Applied Geometrics, Inc.
GD&T: Theory to Reality
www.GDandT.com

Functional Gage Design

2-Day Seminar

(~16 hours of instruction; 1.6 CEU's)

Course Description

Eliminate arbitrary inspection practices. Inspection processes are often developed after the fact, and the parts are then judged by criteria loosely related to the part's specific function. Thus, parts are passed that shouldn't be, and others are rejected that would work. Discussions at the workshop will cover all inspection techniques currently available and show you when to use them.

Objectives

1. Learn about gage design principles/tolerances and allowances
2. Develop ways to avoid commonly used but improper gaging and inspection techniques
3. Study the proper use of Inspection machines (CMM) when designing gages
4. Compare with Surface plate open inspection set-up and much more

Benefits

By learning the proper application of functional gaging and inspection techniques you will increase your production of quality parts. When you understand how to design and build your functional gaging and inspection processes along with the part design, you will be developing inspection criteria directly related to the part's specific application. This means that when your parts are inspected, you can be sure that they will work.

Program Outline

- **Gage Design Principles**
  - Datum reference frames
  - Virtual Boundaries
  - Regardless of feature size fixtures/gages
  - Simultaneous requirements
  - LMC Virtual Condition
  - Datum Targets
- **Gage Tolerancing Principles**
  - Absolute
  - Optimistic
  - Tolerant
  - Practical Absolute
- **Actual Mating Envelopes**
- **Datum Shift**
- **Gaging according to ASME Y14.5**
  - How to inspect/gage each of the geometric characteristics

You may bring your prints to be used in the class.

Who Should Attend

Managers of engineering, quality control and inspection departments, design engineers, product engineers, and mechanical engineers: If you are responsible for any aspect of the manufacturing process from design to inspection, you will benefit by attending.

Prerequisites

A fundamental knowledge of GD&T and its applications is necessary. An Advanced GD&T course or equivalent experience is recommended.

AGI is dedicated to continuing service. Our concern is that the individuals we teach actually retain that which their companies and we have worked so hard to present. This is precisely why we offer, for each participant of any AGI seminar, access to an ASME GDTP Senior certified instructor who will be available to answer follow up questions after the course via e-mail or phone.

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