

Functional Gage Design Seminar

2-Day Seminar (1.6 CEU's)

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.

Learn About:

- Gage design principles/tolerances and allowances
- Ways to avoid commonly used but improper gaging and inspection techniques
- Inspection machines
- Substitute systems
- Surface plate inspection and much more

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. Managers of engineering, quality control and inspection departments, design engineers, product engineers, mechanical engineers: If you are responsible for any aspect of the manufacturing process from design to inspection, you will benefit by attending. Discussions at the workshop will cover all inspection techniques currently available and show you when to use them.

Program Outline

- **Gage Design Principles**
 - o Next assembly analysis
 - o Datum reference frames
- **Surface Plate Gaging Principles**
 - o How to replicate fixtures
 - o How to replicate functional gaging
 - o Inspection & gaging policy
 - o Combining attributes & variables gaging
- **Tooling Hole Fixturing and Inspection**
 - o Maximum material condition fixtures
 - o Regardless of feature size fixtures
- **SPC Gaging Principles**
- **Functional Gaging with Coordinate Measuring Machines**
 - o Software setups
 - o Fixture setups
 - o Process capability studies

This training is carried out using training materials obtained under a license agreement from Applied Geometrics Inc - <http://www.GDandT.com>

GEOMETRIC DRAFTING TRAINING & CONSULTING



- **Gaging according to ASME Y14.5M-1994**
 - o How to inspect/gage each of the 14 geometric characteristics
- **Layout Gaging**
 - o Datum Rotation
 - o Datum Translation
- **Low-Cost Gaging Principles Optical Gaging Thread Gaging**
 - o Principles of chart design
 - o Attributes and variables
 - o Variables data from optical charts gaging & inspection
- **The Six-Step Gage Design Review Methodology**
 - o A team analysis based on transparencies of parts provided by the instructor and attendees