155 Prairie Lake Rd, Suite A
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QVI Multi-Sensor System Training Agenda

- *This training course is intended for students with experience in quality control and with a basic knowledge of computers, blueprint reading and geometric dimensioning and tolerancing.*
- *This syllabus refers to pages from the Basic X Training Workbook, 2008. Actual software may very based on version.*
- *Based on the acknowledgment and Instructor's recommendation TRAINING CERTIFICATES will be issues confirming satisfactory class completion.*

Section 1

Hardware Overview

- Computer
- Stage
- Camera / Optics
- Lighting Options & Lighting Techniques
- Joystick
- Emergency Stop

Software Overview

- Operating System Discussion
- Network Discussion (if applicable)
- Software Overview
  - Start up
  - Menu Setup
  - Available Views
  - Lighting Controls
  - Zoom Controls
  - Digital Readout
  - Saving the Image View
  - Saving the Model View
  - Help Buttons

REFERENCE 1: Exercises Pgs 1-8 to 1-9

Using Manual Targets

- Cross-Hair Target
- Circle Target
- Protractor (Angle) Target
- Box Target
- Multi-Target
- Measuring a Feature with a Manual Target
- Model Window

REFERENCE 2: Exercises Pgs 2-6 to 2-8
REFERENCE 3: Exercises Pgs 5-7 to 5-8

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Using Automatic Targets

- Feature Finder
- Edge Finder
- Min/Max/Average Finder
- Auto-Focus Target
- Measure a Focus Point (get into the model view)

REFERENCE 4: Exercises Pgs 2-9 to 2-11

Sections 2
Routine Creation

- Fixturing/Stabilizing Part
- Routine Creation
  - Circle Measurements
  - Line Measurements
  - Slot Measurements
  - Distance Measurements
- Saving Program / Recalling Program

Constructing & Tolerancing Features

- When to Construct Features Discussion
- Construction Techniques
  - Circles from points and/or other circles
  - Lines from points, circles, or other lines
  - Intersection points from lines
  - Midpoints
  - Tangent Points
- Tolerancing Results (tolerance tab)
- User Inputs

Alignment

- Alignment Discussion - "Why Align?"
- Manual Alignment
  - Program creation using manual alignments
  - Pros and cons of manual alignments
- Automatic Alignment
  - Program creation using automatic alignments
  - Alignment techniques
  - Benefits of automatic alignments
  - Process variation and alignment discussion

REFERENCE 5: Exercises Pgs 3-7 to 3-12

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Section 3
Touch Probe (if applicable)

- Components (TP20/200 Body, DSMs, Tips...)
- Dock Station Setup and Configuration
- Configuring Tips (Star vs. Straight) **REFERENCE 6: Touch Probe Configuration (1 pg)**
- Calibration Sphere Configuration
- Calibrating Tips **REFERENCE 7: Touch Probe Calibration (2 pgs)**

Output Options

- Manipulation of Results
  - Printing Results
  - Saving Results to file (overrides)
- Third Party Programs Discussion
  - Smart Report Option
  - Going into Excel
  - Stats Output

Laser (if applicable)

- DRS Discussion (Triangulation, Capture Range, etc...)
- Laser to Optics Calibration **REFERENCE 8: Laser Exercise**
- Point Capture
- Line Scan
- Grid Scan

REFERENCE 8: Laser Exercise

Application Specific

- Fixturing Options / Suggestions for Customer Parts
- Creating Practice Routines on Customer Parts

REFERENCE 9: Exercise Challenges (if time allows): Pgs 6-10 to 6-12

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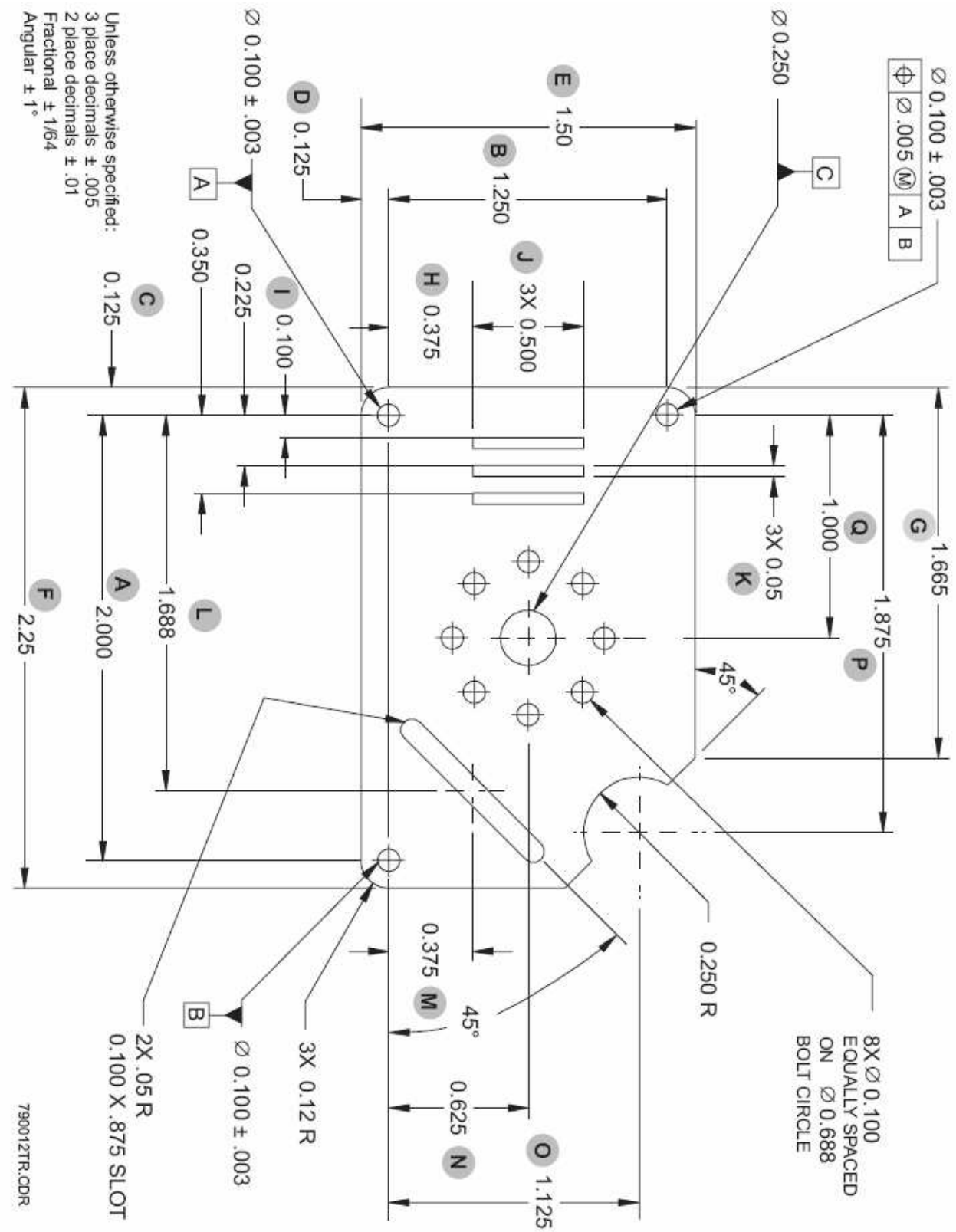

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