

## Facilities List

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### CNC Turning Centers – 14 total

- **New for 2017** - Tsugami BO20 CNC Swiss – 2 spindles, 1/8" to 3/4" diameter capacity
- Tornos Bechler Deco CNC Swiss – 2 spindles, 1/16" to 5/8" diameter capacity
- Tsugami BE 12/20 CNC Swiss – 2 spindles, 1/8" to 3/4" diameter capacity
- Tsugami SS20 CNC Swiss – 2 spindles, 1/8" to 3/4" diameter capacity
- Tsugami SS26 CNC Swiss – 2 spindles, 1/4" to 1" diameter capacity
- Tsugami B038T CNC Swiss – 2 spindles, 1/8" to 1-1/2" diameter capacity
- Miyano ABX-51TH3 – 13 Axis, 2 spindles, 3 turrets, 12 live tools per turret, 3/8" to 2" dia. capacity
- Okuma ES-L10 CNC Chucker Lathe – 12 position turret, 20" turning length, 8" dia. chuck capacity

### CNC Milling Centers – 3 total with Hydraulic Fixturing, 4<sup>th</sup> Axis Machining, and Automated Tool Changers

- **New for 2017** - Haas VF-2SS Vertical Machining Center – Heavy-duty Trunnion System for 4<sup>th</sup> axis machining
- Haas VF-2SS Vertical Machining Center – 30" x 16" x 20" travel, automated 24 tool changer
- Haas DT1 Drill/Tap Machining Center – 20" x 16" x 15-1/2" travel, Midico pallet changer

### Automatic Screw Machines – 32 total

- Brown & Sharpe – single spindle, 1-5/8" diameter capacity
- Davenport – 5 spindle, 7/8" diameter capacity
- Tornos Bechler Swiss – 6 spindle, 5/8" diameter capacity

### Secondary and Assembly Equipment

- Hardinge Super Precision Lathe with CNC Omni Control, single spindle CNC
- Hardinge Conquest GT27SP, single spindle w/ drilling and milling capability
- Ty-Miles High Speed Vertical Broaching Machines
- Cogsdill Burnishing Machine
- Vibratory Finishing Machines – steel polishing pins, stone de-burring media, & abrasive polishing media.
- Automatic Parts Washing Systems
- 12" & 14" Do-All Band Saw – Automatic & Manual Feed
- Assembly Pressing Capability, Multiple Drill Presses, & Bending Machines
- Complete fixturing and tool room including tool sharpening capabilities

### Quality Assurance Inspection Equipment

- **Zeiss Contour Gen 3 CMM, 3-D measuring ( $\pm 0.00002$  accuracy)**
- **Hommel Opticline Contour 305 Optical Scan Measuring System ( $\pm 0.00002$  accuracy)**
- **Oasis Optical Automatic Smart Vision Scan Inspection System ( $\pm 0.0001$  accuracy)**
- DRO Optical Comparators with 10X and 20X lens
- Capability studies and PPAP available via Mini-tab 6-Sigma Statistical Analysis Software
- Electronic Surface Roughness Testers (Profilometers) – Rank Taylor Hobson, Federal Pocket Surf
- Numerous Mounted Equipment including: 10X – 40X LCD Microscopes, Universal Concentricity Gages, Sunnen Bore Gages, 24" Digital Height Gages, & Rockwell Hardness Testers.
- Over 3,000 Hand Held Gages including: I.D. & O.D. micrometers, dial indicators, plain plug gages, plain ring gages, thread plug gages, thread ring gages, & digital indicators.

### Engineering Technical Support – Dedicated to Solving Your Complex Part Challenges

- Autodesk Inventor – part modeling, fixture design
- Delcam PartMaker – complex part programming, full machining simulation