

# *H. & S. Swansons' Tool Company*

## **Facilities List**

Specialists in the Engineered Production of Metal Components  
Requiring Precision Machining, Mil Spec Finishing  
High Reliability Quality Control.

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**CNC MACHINING EQUIPMENT**

## **FLEXIBLE MACHINING SYSTEM**

- 3 Toyoda FA 630 4 axis horizontal machining centers interconnected with a rail guided vehicle and 24 - 24.8" square pallets in a stacker system. Each machine equipped with up to 190 tool magazine, up to 15,000 rpm spindles, 1471 IPM rapid and feed rates, Renishaw probing, through the spindle coolant, linear scales and travels of 39.37" x 33.46" y and 29.52" z

## **FLEXIBLE MACHINING SYSTEM**

- 3 Toyoda FA 450 II 4 axis horizontal machining centers interconnected with a rail guided vehicle and 16.22" square pallets in stacker system. Each machine is equipped with a 200 tool magazine, 14,000 rpm spindle, 1891 IPM rapid and feed rates, Renishaw probing, thru-spindle coolant, linear scales and travels of 23.6" x 22.6" 0 and 22.0" z

## **HORIZONTAL MACHINING CENTERS**

- 1 Toyoda FA 630 with 5<sup>th</sup> axis horizontal machining center with Fanuc 15i control, 190 tools, 5000 rpm spindle, probing and high-pressure through the spindle coolant.
- 1 Mitsui Seiki 63A Fanuc 30iM control 4axis horizontal machining center 120 tools high pressure thru spindle coolant with probing x=39.43" Y=31.5" Z=31.5"
- 1 Mitsui Seiki HU63A with Fanuc 30iM 4axis horizontal machining center 120 tool magazine
- automatic pallet changer thru spindle hp coolant 35.43"x 31.5"Y and 31.5"Z
- 2 Mitsui Seiki HT4A with Fanuc 15MB control, 90 tools, 12,000 rpm spindle, probing, automatic pallet changer, 4th axis, 28.3 x 23.6 x 21.6 XYZ travel
- 1 Kitamura H-400 x=24.02" y=20.08" z=20.08" 100 tool cap. Fanuc 15MA control 10,000 rpm
- 2 Mitsui Seiki HT3A with Fanuc 15MA control, 60 tools, 12,000 rpm spindle, probing, automatic pallet changer, 4<sup>th</sup> axis, 21.6" x 19.6" x 19.6" XYZ travel

## **VERTICAL MACHINING CENTERS**

- 1 Okuma MC-60VA with OSP 7000m control and hard drive, 32 tools, rotary 4th axis, 42" x 24" x 24" XYZ travel
- 4 Okuma MX-55VA with MX 100 control, and hard drive, 32 tools, rotary 4th axis, 25.6" x 16.1" x 17.7" XYZ travel
- 1 Matsuura 760 with Yasnac MX1 control, 25 tools, rotary 4th axis, 30 x 16 x 22 XYZ travel

## **TURNING CENTERS**

- 1 Okuma V 80 R Vertical Turning Center with Milling Option 1250 RPM 12 Tools 39.37" Rotational Diameter
- 1 Hyundai Kia lathe/mill 7Axis capability 10" chucks Fanuc 18I TB control 3500 rpm 19.7 max dia 39.4 max length x=25.6" y= 4.7" z= 45.3"
- 1 Okuma LU-45 4-axis with OSP 7000L-G control, 12 & 10 station turrets, HI-LO chucking, 25.9 x 39.3 turning capacity
- 1 Okuma LU-35 4-axis with OSP 7000-G control, 12 & 10 station turrets, HI-LO chucking 21.65 dia, x 36.28 turning capacity
- 1 Okuma LU-15 4-axis with OSP 7000I control, 12 station top turrets, 10 station bottom turret 4500rpm, 14.7" swing x 23.62" lg. turning capacity with programmable tail stock
- 1 Okuma LR-15 4-axis with OSP500L-G control, 10 and 8 station turrets, 4200 rpm, 18.9" dia x 23.62" turning capacity
- 1 G & L Smart Turn 4-axis with Numeripath 8000 B control, two 12 station turrets, 20" chuck, 30.0 x 34.0 turning capacity

## **PROGRAMMING EQUIPMENT**

- PRO Engineer
- Unigraphics
- Ideas Programming And Design System
- Smart-Cam CNC Programming System
- CADkey Computer Assisted Design System
- Computer Controlled Coordinate Measuring Equipment
- Fully Integrated Program Management Network
- CAD Model File Types: Native Pro Engineer, Native Unigraphics, Native Solid Works, Iges, Step, Acis/Sat And Native CADkey
- 2d Drawing File Types: Pro Engineer.Drw, Adobe, Pdf, Jpg, Dxf, And Hpgl
- Micro Estimating

## CONVENTIONAL EQUIPMENT

### TURNING EQUIPMENT

- 1 Leblond engine lathe (19x54)
- 1 Hardinge HLV engine lathe (10x24)
- 1 Hardinge HCT chucker (10" Swing)
- 1 standard modern lathe (16" swing) x 40" with tailstock

### MILLING EQUIPMENT

- 13 Bridgeport mills (9 with digital readouts)
- 1 Kearney & Trecker 20hp-2ch vertical mill
- 1 Cincinnati 12 x 36 duplex horizontal mill

### DRILLING EQUIPMENT

- 1 Clausing 8 spindle 20" drill press
- 1 Clausing 3 spindle 20" drill press
- 1 Clausing 1 spindle 20" drill press
- 1 Clausing 8 spindle 15" drill press
- 8 Clausing 4 spindle 15" drill press
- 1 Clausing 3 spindle 15" drill press
- 3 Clausing 2 spindle 15" drill press
- 4 Clausing 1 spindle 15" drill press

### GRINDING EQUIPMENT

- 2 ELB rotary 60 NPC-K surface grinder, 24" dia table x 12"high
- 1 ELB rotary 60 NPC-K surface grinder, 20" dia table x 12"high
- 1 Mattison 30" diameter rotary surface grinder
- 1 Okamoto (12 X 24) automatic surface grinder
- 2 Harig (6 X 18) surface grinder
- 1 Boyar- Schultz (16X12) surface grinder
- 1 TOS (6 X 10) ID-OD grinder
- 1 Cincinnati #2 tool and cutter grinders
- 1 G & L WinslowMatic drill grinder
- 1 Cincinnati Monoset tool & cutter grinder
- 1 Sunnen honing machine
- 2 Rockwell belt sanders

### MISCELLANEOUS EQUIPMENT

- 1 36" Lapmaster lapping machine
- 1 Moore #3 jig boring machine
- 1 Excello Model 1212 double end boring machine
- 1 Hoffman tool balancer
- 1 Sweco 20 cubic foot vibratory deburring machine
- 2 Sweco 10 cubic foot vibratory deburring machine
- 2 Sweco 3 cubic foot vibratory deburring machine
- 1 Almco v-16 vibratory finishing machine 17" x 96" tub
- 2 sandblast units up to 48" x 48" with 1000# turntable
- 1 Lapointe Model V.6 vertical broach (40 ton x 60" stroke)
- 1 Hyd-Mech automatic programmable horizontal saw
- 1 roll in band saw
- 1 American Metal parts washer
- 1 Liebherr model l-650 gear hobbing machine, maximum diameter 25-1/2" x 14-1/2" long
- 1 Rockford vertical slotter, 28"rotary table cnc control
- 1 Parlec # 240 tool presetter

## FINISHING OPERATIONS

Anodize Type II and Type III Class I & II  
Chromate conversion per MIL-DTL-5541 Type I Type II Class I, Class IA  
Passivation QQP 35 & ASTM 380  
Impregnation per MIL-1-276 method B  
Painting - Mil Spec qualified Class 1 "a"  
epoxy, urethane, enamel, vinyl, waterbase  
smooth through textured, flat to gloss  
multi-color applications  
electrostatic powder coat paint system  
Preparation  
Complex masking  
Cosmetic filling and sanding  
Marking  
Silk Screening      Electro-Etching      Pad Marking  
Stamping              Vibro-Peening              Dot Matrix

### FINISHING EQUIPMENT

- 1 Nordson powder coat system
- 1 Knox oven
- 1 Binks spray booth 8'W x 8'H x 6'D
- 1 Binks spray booth 15'W x 9'H x 26'D
- 1 Binks BWN 587-G bake oven 450 (gas) 9'H x 6'W x 9'D
- 1 PosiTector® 3000 paint thickness tester
- 1 Gardner 60 gloss meter
- 1 precision beam scale
- 1 Ransburg REA-111 Electrostatic Unit
- 1 Chromate Conversion Coating System
- 1 Loctite Impregnation System
- 1 auto degreaser - American Metal Wash with heater blow dry
- 1 roll pad markers

### INSPECTION EQUIPMENT

- 1 Zeiss (CMM) WMM850 X=33.5" Y=47.2" Z=23.6"
- 1 Starrett (CMM) Endeavor 3 X=23.6" Y=39.5" Z=26"
- 3 Starrett (CMM) Rapid Check II, with off line and on line programming capability
- 1 Numerex direct computer controlled coordinate measuring machines
- 1 Sheffield coordinate measuring machines with M.P.P-2 data processor
- 8 Brown & Sharpe Micro-Hite measuring units
- 2 Bendix Model 1 Micrometrical Profilometers
- 1 Jones & Lamson 14" optical comparator
- 3 Bench super micrometers
- 1 Bausch & Lomb DR 25 gauge measuring instrument 0 - 3
- 1 Mahr Federal Dimentron® electronic plug gauge
- 1 Pneumo-Centric 5500 roundness check
- Surface plates to 48 x 72
- Digital readout height gauges
- Brown & Sharpe height indicators
- gauge blocks (accuracy traceable to Bureau of Standards)
- toolmakers' microscopes
- hardness testers
- indicator bore gauges
- air gauges
- micrometer hole gauges
- Full range of micrometers: indicators, thread, and multi-anvil
- Wide range of plug, thread plug, thread ring gauges/masters
- All required miscellaneous measuring tools and set-up
- Blocks, knees and clamps
- Tabor abrasive tester