

# Astro Manufacturing & Design Inc.

## Equipment Listing

### RAPID PROTOTYPING

- [2] 3D Systems Stereo lithography Stations [250]
- [1] 3D Systems Stereo lithography Stations [500]
- [1] 3D Systems Stereo lithography Stations [5000]
- [1] DTM 2500 Selective Laser Sintering Stations
- [10] Pro Engineer Work Stations (including Engr. Dept.)

### CNC MILLING

- [26] CNC Vertical Mills With Auto Tool Change [max capacity 40"x 84" x 30"]
- [1] Makino V-55, High Speed, CNC Vertical Mach. Ctr.
- [1] Makino SNC-65, High Speed, CNC Graphite Mach tr.
- [1] CNC Vertical Pallet [max capacity 20" x 40"]
- [5] CNC Horizontal Pallet [max cap. 28"x 28"x 34"]
- [1] Haas VF-3 (5 AXIS Rotary Tilt Capacity)  
240 degrees Total "A" Axis, 360 degrees "B" Axis  
17" between head/tail stock
- [1] Haas VF-9 40" x 80" x 30" (Rotary Capable)
- [1] Gun Drilling Machine
- [1] Willemin 5-Axis Mill with Bar feeding (1.5" max.)
- [1] Kitamura HX-300

### CNC TURNING

- [12] CNC Lathes [max capacity 12"Ø x 40" length]
- [8] CNC Lathes w/Live Tooling, 2-Twin Spindle, 3-Dual Turrets  
[max cap. 12" Ø x 22" length]
- [17] CNC Swiss Lathes [max cap. 1.25" Ø x 12"]
- [2] Omni Turns

### SHEET METAL FABRICATING

- [2] Laser Machining [Bystronic BTL 2800] [max capacity 5' x 10' x 1/2"]
- [2] Shears [max capacity 8' x ¼"]
- [4] CNC Punches [max capacity ¼"]
- [2] Time Savers [max capacity 36"]
- [11] Press Brakes [max capacity 190 Ton x 10']
- (2) Haas gantry mills 60"x144" with 360 degree rotary axis
- (1) Flow abrasive water jet system 72"x144" capacity

### WELDING, BRAZING, AND SOLDERING

- [12] Weld Stations - - MIG, TIG, and Spot Welding - to Mil STD 1595A & 9604
- (1) Panasonic TA-1600 Robotic Welding Cell

### GRINDING

- [1] Studer CNC O. D. Grinder [max. capacity 12" D]
- [9] Surface Grinders [max capacity 24" x 40"]
- [2] O. D. Grinders [max capacity 10" x 18"]
- [1] I. D. Grinder [max capacity 20" Ø]
- [1] Blanchard Grinding [max capacity 18" Ø]
- [2] Honing Machines

### ENGINEERING/MACHINE BUILDING/AUTOMATION

Software capabilities include Pro-Engineering, Solid Works, AutoCAD  
Electrical & Mechanical Design Capability  
PLC Programming  
Reverse Engineering

### CONVENTIONAL MACHINING

- [80+] Bridgeport Mills With Readouts
- [5] Horizontal Boring Mills [max capacity 60" x 120"]
- [12] Lathes [max capacity 24" Ø x 84" length]

### QUALITY ASSURANCE

- [1] Zeiss Programmable CMM  
[max capacity 72" x 36" x 24"]
- [5] Brown & Sharp Coordinate Measuring Machines  
[max capacity 30" x 30" x 18"]
- [4] Optical Comparators With Readouts
- [1] [1] Faro Arm / Reverse Engineering / Scanning
- [1] (1) Amada Digital Scanner
- [1] (1) Mycrona CMM w/vision & probe
- [1] (1) Laser engraving system

### THERMOFORMING PLASTIC

- [3] Rotary Thermoforming Machines 5' x 8'
- [4] Single Sta. Thermoforming Machines up to 7' x 10'
- [4] 5-Axis CNC Routers 5' x 10' capacity
- [1] Hot Stamping Machine
- [1] Branson Ultrasonic Welding System
- [2] CNC Vertical Mills with Auto Tool Change (capacity 25" x 50" x 30")
- [2] Paint Spray Booths 7'Deep x 12' Wide x 10' High

### URETHANE MOLDING

- [2] MCP 004 Vacuum Cast Systems
- [4] Michaels Engineering Meter Mix Machines
- [3] Large Capacity Pressure Vessels
- [2] Low Pressure Injection Stations
- [1] Large Grieves Oven
- [1] Michaels Engineering Super E Silicone Injection Machine

### ELECTRICAL DISCHARGE MACHINING [EDM]

- [8] Wire EDM (max capacity 20" x 32" x 18" to 11.875" x 15.75" x 15.75" height)
- [6] Sinkers (max capacity 31.5" x 47.25")
- [1] Small Hole EDM (.015"Ø - 1/8" x 8 ¼" deep)

### PAINTING

- [5] Spray Booths [max capacity 20' x 20' x 16']
- [1] Body Booth ( 18' x 10')
- [1] Grinding Booth (10' x 10')
- [2] Batch Ovens (10' x 6' & 12' x 10')
- Powder Coatings
- Wet Coatings
- Automatic Phosphate Processing
- [2] Wash lines And Vapor Degreasing

### SILK-SCREENING

Custom Screen Printing  
Flat And Variable Shape Capability  
Multicolor Detailing, Camera Work / Artwork For Camera Ready Artwork for Production