

EQUIPMENT LIST

HORIZONTAL MILLING MACHINES

- 1 – HS-4 CNC Horizontal Mill
(3) Axis Programmable
50 Taper 5000 rpm
Table Size 40” x 146” Table Load Capacity 25,000 lbs
Glass Scales X 150” – Y 66”
- 1 – Olympia Horizontal CNC Boring Mill
(4) Axis Programmable
50 Taper Spindle 3000 R.P.M.
Table size 48” x 100” - Table load capacity 33,000 lbs.
Glass Scales - X 102” – Y 79” Travel
- 1 – EC-1600 Horizontal CNC Boring Mill
(3) Axis Programmable
50 Taper 6000 R.P.M Spindle
40 Tool Changer - Table Load Capacity 10,000 lbs.
Glass Scales - X 60” – Y 42” Travel
- 1 – EC -1600 Horizontal CNC Boring Mill
(4) Axis Programmable with Rotary Table
50 Taper 6000 R.P.M Spindle
40 Tool Changer - Table Load Capacity 10,000 lbs.
Glass Scales - X 60” – Y 42” Travel
- 1 – Devlieg CNC Boring Mill
Fully Rebuilt and Retrofitted 2005
Hiedenhain Glass Scales - X 60” – Y 40” Travel
- 1 – Devlieg 43H-72 Spiramatic Boring Mill
Rebuilt 2003
With .0002 (2) Axis Digital Readouts
Table Size 35” x 72” - X 72” – Y 42” Travel
- 1 – Devlieg 3A-48 Boring Mill
With .0001 (2) Axis Digital Readouts
X 48” – Y 36” Travel
- 1 – Devlieg 43H-48 Boring Mill
With .0001 (2) Axis Digital Readouts
X 48” – Y 36” Travel
- 1 – Haas HS-IRP CNC
(4) Axis Horizontal Mill
Dual 16” x 16” Pallet
24 Tool Changer
X 60” – Y 30” Travel

VERTICAL MILLING MACHINES

- 1 – Chiron/Stama MC 331 Twin CNC
High Speed Twin Spindle Vertical Machining Center
Dual 4th Axis Trunion Assemblies Mounted
Dual work piece changer
.9 Second Tool Change/42 Tools
.75 G Acceleration
X 31” – Y 15” Travel
- 2 – Chiron FZ12W CNC
High Speed Vertical Machining Center
Dual 4th Axis Trunion Assemblies Mounted
Dual workpiece changer
1.1 Second Tool Change/20 Tools
.5 G Acceleration
X 21” – Y 12” Travel
- 1 – Chiron FZ15W CNC
High Speed Vertical Machining Center
Dual 4th Axis Trunion Assemblies
Dual workpiece changer
.9 Second Tool Change/20 Tools
.75 G Acceleration
X 21” – Y 15” Travel
- 2 – Chiron FZ08W CNC
High Speed Vertical Machining Center
(1) Dual 4th Axis Trunion Assemblies
Dual workpiece changer
.9 Second Tool Changer / 12 Tools
1 G Acceleration
X 12” – Y 10” Travel
- 1 – Mori Seiki NV5000
Vertical Machining Center
High Speed CNC
4th, 5th Nikken Trunion assembly
High Pressure Coolant (1000 psi)
- 1 – NTC CNC Machining Center
Model CMC-300v
Dual Workpiece Changer
16 Tool Changer
X 20” – Y 12” Travel
- 1 – Haas VF-4 CNC
(3) Axis Vertical Machining Center
4th Axis Rotary Indexer
20 Tool Changer
X 50” – Y 20” Travel
- 1 – Haas VF-3 CNC
Super Speed Model
(3) Axis Vertical Machining Center
25 Tools
X 40” – Y 20” Travel
4th and 5th Axis Capability
Fully Programmable Trunion
- 2 – Fadal 6030 CNC
(3) Axis Vertical Mach. Center
4th Axis Rotary
21 Tool Changer
X 60” – Y 30” Travel

EQUIPMENT LIST

VERTICAL MILLING MACHINES CONTINUED

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|---|---|
| 3 – Trak DPM7V Milling Machine
Prototrak VM – CNC
(3) Axis Controlled Glass Scales
X 60” – Y 20” Travel | 1 – LPM CNC Vertical Milling Machine
Prototrak VMX - CNC
(3) Axis Controlled Glass Scales
X 31” – Y 18.5” Travel |
| 8 – Trak DPM5V Milling Machine
Prototrak VM-CNC
(3) Axis Controlled Glass Scales
X 40” – Y 20” Travel | 1 – Chevalier Milling Machine
MX2 Prototrak - CNC
X40” – Y 16” Travel |
| 4 – Trak DPM5 Milling Machine
Prototrak SM – CNC
(3) Axis Controlled Glass Scales
X 40” – Y 20” Travel | 3 – Alliant Milling Machine
(2) Setup with Prototrak MX2 - CNC
(1) Setup with Prototrak A.G.E.3 – 48” Table
X 30” – Y 12” Travel |
| 6 – Trak DPM3 Milling Machine
Prototrak A.G.E.3 – CNC
4th Axis Programmable Indexer
X 30” – Y 16” Travel | 4 – Alliant Heavy Duty Milling Machine
48” Tables with Heavy Duty Heads
X 30” – Y 12” Travel |
| 1 – Haas TM – 2
3 Axis – CNC
10 Tool Changer
4th Axis Capability
X 40” – Y 16” Travel | |

LATHES

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|--|--|
| 2 – Mori-Seiki Frontier II – CNC Lathe
With MSC -521 Control
16” Diameter Capacity X 16” Max. Length | 1 – Webster-Bennet VTL - Manual
72” Swing With .0005 (2) Axis Digital
Readouts - Rebuilt 2000 |
| 1 – Mori-Seiki SL-15 CNC Lathe with MF-T6 Control
10” Diameter Capacity X 20” Max. Length | 1 – Trak TRL1745P - CNC Lathe
Prototrak LX2 Controller
17” Diameter Capacity X 45” Max. Length |
| 1 – Okuma –L470 Captain
16.50” Diameter Capacity X 49” Max. Length | 1 – Trak TRL 1840CSS-CNC Lathe
Prototrak Controller
18” Diameter Capacity X 40” Max. Length |
| 2 – Okuma Simulturn LC40 - CNC Lathe
Heavy Duty Twin Turret – 4th Axis
12 Fixed Tools Upper Turret – 8 Fixed Tools Lower Turret
18” Diameter Capacity X 30” Max. Length | 1 – Sharpe 1640 - Lathe
With .0005 (2) Axis Digital Readouts
16” Diameter Capacity X 40” Max. Length |
| 1 – Haas SL40 - CNC Lathe
10 Tool Changer
40” Diameter Capacity X 47” Max. Length | 1 – Sharpe #2680C - Lathe
With .0005 (2) Axis Digital Readouts
26” Diameter Capacity X 80” Max. Length
35” Diameter Capacity in Gap X 12” Max. Length |
| 1 – Trak TRL 24605X - CNC Lathe
Prototrak SX CNC Controller
24” Diameter Capacity X 60” Max Length | 1 – Do-All Model 1780 - Lathe
With .0005 (2) Axis Digital Readouts
17” Diameter Capacity X 80” Max. Length |
| 1 – Trak TRL1840CSS - CNC Lathe
Prototrak LX3 Controller
18” Diameter Capacity X 40” Max. Length | |

EQUIPMENT LIST

LATHES CONTINUED

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|---|---|
| 2 – Do-All Model LS 1660 - Heavy Duty Turning Lathe
16” Swing 60” Centers with Taper Attachment
With .0005 (2) Axis Digital Readouts
16” Diameter Capacity X 60” Max. Length | 1 – Do-All Model LD 1340 - Engine Lathe
Collet Attachment
With .0005 (2) Axis Digital Readouts
13” Diameter Capacity X 40” Max. Length |
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GRINDERS

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|---|---|
| 1 – Okamoto Model 6-18 Linear Surface Grinder
With 18” Magna-Lock Vari-Mag Chuck | 1 – Landis H819 O.D. Grinder (Automatic)
Auto Sizer
3” x 20” Wheel with Autodresser |
| 4 – Okamoto 12” x 14” Surface Grinders
With Magna-Lock Vari-Mag Chuck | 1 – Blom Simplex #5
Hydraulic Surface Grinder
with Vari-Mag Chuck Rebuilt with PLC Controller
12” x 30” Capacity |
| 1 – Okamoto Model #OGM-12-24U
I.D. - O.D. Grinder
12” O.D. x 28” Length | 1 – Chevalier Model FSG 1640AD
Hydraulic Surface Grinder
With Vari-Mag Chuck
16” x 40” Capacity |
| 1 – Royal Master 12” x 4” Centerless Grinder
Single Point Dressing and Crush Grind Capabilities
With Readouts .000050 | 3 – Chevalier 6” x 18” Surface Grinder
With Walker Magnetic Chuck |
| 1 – Jones & Shipman Model 1310
I.D.-O.D. Grinder
8” O.D. x 18” Length | 1 – Model 20 Blanchard Grinder
Swing 36”
Vari-Mag Chuck |
| 1 – Parker Majestic
O.D. Grinder
Rebuilt 2003
12” O.D. x 24” Length | 1 – DED-Tru Centerless Grinding Machine
Feed through and End Feed Capabilities |
| 1 – Shigiya Type G-30B
I.D.-O.D. Grinder (Hydraulic)
12” O.D. x 28” Length | |

Jig GRINDERS

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|---|---|
| 1 – Moore G32 Jig Grinder
Bridge Style Rebuilt 2009
X 32” - Y 20”
.00005 Digital Readouts | 2 – #G18 Moore Jig Grinder
Complete with all Tooling
& High Speed Grind Tools
with .00005 Digital Readouts |
| 3 – #3 Moore Jig Grinder
Complete with all Tooling
& High Speed Grind Heads
with .00005 Digital Readouts | |

EQUIPMENT LIST

SAWS

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|---|--|
| 1 – HYD-Mech H-14A CNC Saw
Bundling Capability | 4 – Wilton Model 4200 Belt
And Disc Finishing Machine |
| 1 – HYD-Mech H12 Automatic Cut-Off Saw
Model #H12-A
Bundling Capability | 4 – Roll-In Band Saw |
| 1 – Do-All Heavy Duty Vertical Band Saw
Model 36-2 with Blade Welder | 1 – Jet Cold Saw Model JCS-3150
Ferrous or Non-Ferrous Material
12” Capacity |
| 1 – Wilton Model 8020 Heavy
Duty Vertical Band Saw with Blade Welder | 1 – Spartan Model 812N Cut Off Saw |

BROACHING EQUIPMENT

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|---|--|
| 1 – LaPointe Horizontal Key Broach
30 Ton with 48” travel | 1 – Detroit Vertical Broach
3 Pull Heads
40 Ton with 72” Travel
Contained within a 15’ x 15’ x 10’ Concrete Pit |
| 1 – Colonial Broach
Horizontal Spline Broach
20 Ton with 72” travel | 1 – American Horizontal Broach
20 with 48” Travel |

WELDING EQUIPMENT

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| 2 – Miller CP302 Wire Welder | 1 – Plasma Torch
Thermal Dynamics – Pak Master 100XL |
| 1 – Miller Model 330 A/BP 1987 AC AD
Heli Arc Welding Machine, Steel &
Aluminum Capabilities | 4 – Complete Gas Welding Sets |
| 2 – Model Millermatic #200 Wire
Feed Welder Steel or Aluminum | 1 – 4’ x 4’ Jig Table for Weldments |
| 1 – Model Hobart Aluminum Wire Feed Welding Gun | 1 – 4’ x 12’ Jig Table
Cast Iron for Construction of Large Weldments
Complete with Bolt On Clamping Capabilities |
| 1 – Model Miller CP-200 Wire Welder | 1 – Atlas Pipe Mate Dual Speed |
| 1 – Model Miller Syncrowave 351 Welder | 2 – MBC BP-2 Welding Positioner/200 lb. Capacity |
| 1 – Koike Aronson 1N (Full CNC Controlled)
1K – 1500G Coordinate Drive
Flame Shape Cutting Machine
Cutting Range 60” x 118” with Water Table
Off-line PC for programming | 2 – Ace Smoke Eaters Model 73-601
1 – Ace Smoke Eater Model 73-200 |

EQUIPMENT LIST

INSPECTION EQUIPMENT

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|---|---|
| 1 – Zeiss (Contura G2) CMM
VAST XT Scanning Head
12 Probe change Rack
Fully Programmable X 39” - Y 47”
Calypso V4.0 | 1 – Scherr Tomic Comparator
(2) Axis
Powered Protractor Ring w/ Readouts
10x & 20x Magnification |
| 1 – Zeiss (Spectrum) CMM
6 Probe change rack
Fully programmable X 64” – Y 38”
Calypso V4.0 | 1 – Micro-Vu Optical Comparator
Spectra 14”
Q16 DRO
3x, 6x, 12x Magnification |
| 1 – Zeiss (Eclipse) CMM
4 Probe change rack
Fully Programmable X 27” – Y 27”
Calypso V4.0 | 2 – Mantis - Vision Engineering
Viewing Systems
2x, 4x, 6x, 8x Magnification |
| 1 – Brown & Sharpe Global CMM 555
Renishaw PH10 T Motorized Probe Head
Renishaw TP20 Touch Trigger Probe
Calypso V4.0 Fully Programmable | 2 – Mitutoyo Tool Makers Microscopes
Fiber Optics Light |
| 1 – Brown & Sharpe Model 2000 CMM
With Renishaw Multi-Position Tip Probe | 5 – Mitutoyo Height Masters 12” with Extension Bases |
| 3 – Brown & Sharpe Model 600
Micro-Hite Gage with Printout | 1 – Mitutoyo Height Masters 24” with Extension Bases |
| 1 – Brown & Sharpe Model 900
Micro-Hite Gage with Printout | 7 – Mitutoyo Height Gages 18” |
| 1 – Taylor Hobson Form Talysurf Plus
Small Bore Stylus
Calibration Standard/Profile Printer | 2 – Hawkeye Precision Borescope with One (1) Aqua Snake
Eye Video Camera |
| 1 – Taylor Hobson Talyrond 31C
Laser Printer/Flick Standard/6 Jaw Chuck | 15 – 81 Piece A.A. Jansson/Inspection Grade Jo-Blocks |
| 2 – Starrett Optical Comparator Model HB 400
With Quadra Chek 2000 Display – 10x Magnification | 24 – Deltronic Pin Gage Sets |
| 1 – Mahr Conturoscop C4P
Fully Programmable to check Radii and angles | 26 – Sets Sunnen Bore Gages .107 – 6.125
Gage Setting Fixtures |
| 1 – Mitutoyo 211 Surf Test Surface Finish Analyzer | 20 – ID Micrometers .150 - 6.000 |
| 1 – Mitutoyo SJ-201 Surf Test Surface Finish Analyzer | 11 – 18” x 24” Granite Surface Plates/Inspection Grade |
| | 8 – 24” x 36” Granite Surface Plates/Inspection Grade |
| | 1 – 36” x 48” Starret Pink Surface Plates/Inspection Grade |
| | 1 – 48” x 72” Starret Crystal Pink Surface Plate |
| | 2 – 48” x 72” Granite Surface Plates |
| | 2 – Wilson Rockwell Hardness Testers |

MISCELLANEOUS INSPECTION EQUIPMENT

0”-12” OD micrometers—1”-12” ID micrometers---blade, anvil, thread, point, and groove micrometers---precision v-blocks---height gages---.000050 - .0001 indicators---precision cylinder squares---precision angle and sine plates ---dial and digital calipers 0-24” measurement capability--- verniers 0-50” measurement capability---precision bench centers---thread gages---Myer pin gages---gage balls---precision levels. Deltronics pin sets---concentricity gages---Tri-micrometers---Sunnen bore gages.

EQUIPMENT LIST

ADDITIONAL EQUIPMENT

- 1 – Mitsubishi Wire EDM
FX10K / Self-feeding
Workpiece 31.49" x 22.63" x 8.64"
Offline PC for Espirit Cam Programming Capability
- 1 – Surftran – Thermo Deburr System
C-250 Thermal Energy Machine
6" / 6" Station Thermal Combustion Chamber
- 1 – Eldorado Deep Hole Drilling Machine
High Pressure Oil – 2000 PSI
3/4" Dia. x 48" long
Knee Type
Digital Readout on all 3 Axis
- 1 – Custom-Designed and Built Hydraulic Test Stand
w/ High/Low pressure capabilities
Mobile
- 2 – Custom Designed and Built Hydraulic Test Stand
PLC for Programmable Cycles and High/Low
Pressure Settings
Stationary
- 1 – Cress Electric Heat Treat Furnace Model C122012D/920
With Separate Draw Furnace
- 1 – Cress Electric Heat Treat Furnace Model 601K
With Separate Draw Furnace
- 1 – Cress Electric Heat Treat Furnace Model C1222012/SE4U
With Separate Draw Furnace
- 1 – CAT 5000 lb. Fork Truck
Side Shifter
2 Tier Lift
- 2 – CAT 5000 lb. Fork Truck
Side Shifter
3 Tier Lift
- 1 – Yale 5000 lb. Capacity
Lift Truck
- 1 – Nissan 5000 lb. Capacity
Electric Lift Truck
- 1 – Model #XT-AS 1000 lb
Battery Operated Lift Truck
- 1 – Wesco Broach Lift
1000 lbs. capacity
72" Travel
- 2 – Kaeser BSD50 Air Compressor
50 HP Rotary Screw
Air Dryer
- 2 – Hydrovane Rotary Air Compressor
50 Horsepower
Air Dryer
- 1 – Comp Air Rotary Air Compressor
25 Horsepower
Air Dryer
- 1 – Sunnen Model MBB 1690
Power Stroker Hone Complete
With Gaging and Accessories
- 1 – Balance Technology
VN R-60 Balancer
- 3 – Empire Sand or Glass Bead
Blasting Machine 25" x 30" x 35" Capacity
- 2 – Sweco Vibratory Finishing Machine
Model FMI-2C
- 1 – Alexor Ultrasonic Parts Cleaner
Derusting Cycle
- 3 – 3000 CFM Smoke Eaters
Dayton 1995 Model
- 4 – 900 CFM Mist Collector
- 2 – Yuasa 12" Diameter Rotary Tables for Mills
- 1 – Troyke Model P-25
25" Precision Power Operated Rotary Table
for Boring Mills
- 3 – Darex Drill Sharpeners Model #SP 2500
To 1" Diameter Capacity
- 1 – Cast Iron 4' x 8' Keyed Precision
Work Table, Ground Flat & Parallel
- 2 – Super Spacers
With Index Plates
- 5 – Sets Devlieg Angle Plates
- 2 – Twister Speed Model #LT-1B
Lapping Machine

EQUIPMENT LIST

ADDITIONAL EQUIPMENT CONTINUED

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|--|--|
| 2 – 10,000 PSI Power Team Hydraulic Pump Model #A | 1 – Hydraulics Inc. – Arbor Press
5 Ton Press |
| 1 – Dake Arbor Press 1 1/2 ton #1B | 1 – 30” x 30” Oil Dip Tanks |
| 1 – Dake Arbor Press 1 ton #0 | 1 – Heavy Duty Cutter Grinder |
| 2 – 100 CFM Air Driers | 1 – Excello Precision Center Lap 54” Capacity |
| 1 – Allen 2 Horsepower Drill Press | 5 – Pallet Jacks 1500 Pounds |
| 2 – Cuda Hot Water Parts Washer
With Rotary Table | 12 – Pedestal Floor Grinders |
| 1 – Straightening Table with Fixturing | |

Rotary tables---dividing head---Hartford Super Spacer---Last Word Radius Dressers---high speed attachment for surface grinder---whirligigs---tapping heads---Hardinge Index Units---etchers---demagnetizers---vises, lapping plates, etc