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## BORING EQUIPMENT

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One	(1)	<b>Olympia Horizontal CNC Boring Mill</b> <b>(4) Axis Programmable</b> <b>50 Taper Spindle 3000 R.P.M.</b> <b>Table size 48" x 100"</b> <b>Table load capacity 33,000 lbs.</b> <b>Glass Scales</b> <b>X 102.36" - Y 78.7" Travel</b>
One	(1)	<b>EC-1600 Horizontal CNC Boring Mill</b> <b>(3) Axis Programmable</b> <b>50 Taper 6000 R.P.M Spindle</b> <b>40 Tool Changer</b> <b>Table Load Capacity 10,000 Ibs.</b> <b>Glass Scales</b> <b>X 60" - Y 42" Travel</b>
One	(1)	<b>DeVlieg CNC Boring Mill</b> <b>Fully Rebuilt and Retrofitted 2005</b> <b>Hiedenhain Glass Scales</b> <b>X 60" - Y 40" Travel</b>
One	(1)	<b>De-Vlieg 43H-72 Spiramatic Boring Mill</b> <b>Rebuilt 2003</b> <b>With .0002 (2) Axis Digital Readouts</b> <b>Table Size 35" x 72"</b> <b>X 72" - Y 42" Travel</b>
One	(1)	<b>De-Vlieg 3A-48 Boring Mill</b> <b>With .0001 (2) Axis Digital Readouts</b> <b>X 48" - Y 36" Travel</b>
One	(1)	<b>De-Vlieg 43H-48 Boring Mill</b> <b>With .0001 (2) Axis Digital Readouts</b> <b>X 48" - Y 36" Travel</b>
One	(1)	<b>Wooton Boring Mill model BH 1100</b> <b>With .0001 (3) Axis Digital Readouts</b> <b>Right Angle Boring Head Attachment</b> <b>Built In Rotary Table</b> <b>X 71" - Y 49" Travel</b>

**MILLING MACHINES**

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One	(1)	Chiron/Stama MC 331 Vertical Machining Center High Speed Twin Spindle C.N.C. Dual 4 <sup>th</sup> Axis Trunion Assemblies Mounted .9 Second Tool Change/42 Tools .75 G Acceleration X 31" – Y 15" Travel
Two	(2)	Chiron FZ12W C.N.C. High Speed Vertical Machining Center Dual 4 <sup>th</sup> Axis Trunion Assemblies Mounted 1.1 Second Tool Change/20 Tools .5 G Acceleration X 21" – Y 12" Travel
One	(1)	Chiron FZ15W C.N.C. High Speed Vertical Machining Center Dual 4 <sup>th</sup> Axis Trunion Assemblies Mounted .9 Second Tool Change/20 Tools .75 G Acceleration X 21" - Y 15" Travel
Two	(2)	NTC C.N.C Machining Center Model CMC-300v Dual Workpiece Changer 16 Tool Changer X 20" – Y 12" Travel
One	(1)	Haas VF-4 CNC (3) Axis Vertical Machining Center 4 <sup>th</sup> Axis Rotary Indexer 20 Tool Changer X 50" - Y 20" Travel
One	(1)	Haas HS-IRP C.N.C. (4) Axis Horizontal Mill Dual 16" x 16" Pallets 24 Tool Changer X 60" – Y 30" Travel
Two	(2)	Fadal 6030 C.N.C. (3) Axis Vertical Mach. Center 4 <sup>th</sup> Axis Rotary 21 Tool Changer X 60" - Y 30" Travel
One	(1)	Trak DPM7V Milling Machine Prototrak VM – C.N.C (3) Axis Controlled X 60" - Y 20" Travel
One	(1)	Trak DPM5V Milling Machine Prototrak VM-C.N.C (3) Axis Controlled X 40" – Y 20" Travel
Four	(4)	Trak DPM5 Milling Machine Prototrak SM – C.N.C.

(3) Axis Controlled  
X 40" - Y 20" Travel

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## Milling Machines (Cont.)

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One	(1)	Haas TRM – 2 Visual Quick Code – C.N.C Controlled 10 Tool Changer 4 <sup>th</sup> Axis Capability X 40" – Y 16" Travel
Five	(5)	Trak DPM3 Milling Machine Prototrak A.G.E.3 – C.N.C. Controlled 4 <sup>th</sup> Axis Programmable Indexer X 30" – Y 16" Travel
One	(1)	Chevalier Milling Machine MX2 Prototrak - C.N.C. Controlled X 40" – Y 16" Travel
Three	(3)	Alliant Milling Machine (2) Setup with Prototrak MX2 (1) Setup with Prototrak A.G.E.3 – 48" Table C.N.C. Controlled X 30" – Y 12" Travel
Four	(4)	Alliant Heavy Duty Milling Machine 48" Tables with Heavy Duty Heads X 30" – Y 12" Travel

*All CNC Mills wired to off- line PC for cam programming capability!*

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## LATHES

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Two	(2)	Mori-Seiki Frontier II – C.N.C Lathe With MSC -521 Control 16" Diameter Capacity / 16" Max. Length
One	(1)	Mori-Seiki SL-15 C.N.C. Lathe with MF-T6 Control 10" Diameter Capacity/20" Max. Length
Two	(2)	Cin. Milacron – C.N.C Lathe Series 1210 6 Tool Changer 10" Diameter Capacity /20" Max. Length
Three	(3)	Okuma Simulturn LC40 - C.N.C. Lathe Heavy Duty Twin Turret – 4 <sup>th</sup> Axis 12 Fixed Tools Upper Turret – 8 Fixed Tools Lower Turret 18" Diameter Capacity / 30" Max. Length

One (1) Haas SL40 - C.N.C. Lathe  
10 Tool Changer  
40" Diameter Capacity /47" Max. Length

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## LATHES (Continued)

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One (1) Trak TRL1840CSS - C.N.C Lathe  
Prototrak LX3 Controller  
18" Diameter Capacity / 40" Max. Length

One (1) Trak TRL1745P - C.N.C Lathe  
Prototrak LX2 Controller  
17" Diameter Capacity / 45" Max.Length

One (1) Sharpe 1640 - Lathe  
With .0005 (2) Axis Digital Readouts  
16" Diameter Capacity / 40" Max. Length

One (1) Sharpe #2680C - Lathe  
With .0005 (2) Axis Digital Readouts  
26" Diameter Capacity / 80" Max. Length  
35" Diameter Capacity in Gap / 12" Max.Length

One (1) Do-All Model 1780 -Lathe  
With .0005 (2) Axis Digital Readouts  
17" Diamter Capacity / 80" Max. Length

One (1) Do-All Model LT 1340 - Lathe  
With Collet Attachment and .0005 (2) Axis Digital Readouts  
13" Diameter Capacity / 40" Max.Length

One (1) Do-All Model LD 1340 - Engine Lathe  
Collet Attachment  
With .0005 (2) Axis Digital Readouts  
13" Diameter Capacity / 40" Max.Length

Two (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 / 60" Max. Length

One (1) Webster-Bennet Vertical Turret - Lathe  
72" Swing With .0005 (2) Axis Digital Readouts  
Rebuilt 2000

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## GRINDERS

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One (1) Okamoto Model 6-18 Linear Surface Grinder  
With 18" Magna-Lock Vari-Mag Chuck

Four (4) Okamoto 12" x 14" Surface Grinders  
With Magna-Lock Vari-Mag Chuck

One (1) Okamoto Model #OGM-12-24U  
I.D. - O.D. Grinder  
12" O.D. x 28" Length

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## GRINDERS (CONTINUED)

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One (1) Royal Master 12" x 4" Centerless Grinder  
Single Point Dressing or Crush Grind Capabilities  
With Readouts .000050

One (1) Jones & Shipman Model 1310  
I.D.-O.D. Grinder  
8" O.D. x 18" Length

One (1) Parker Majestic  
O.D. Grinder  
Rebuilt 2003  
12" O.D. x 24" Length

One (1) Shigiya Type G-30B  
I.D.-O.D. Grinder  
12" O.D. x 28 Length

One (1) Landis H819 O.D. Grinder  
Auto Sizer  
3" x 20" Wheel with Autodresser

One (1) Blom Simplex #5  
Hydraulic Surface Grinder  
with Vari-Mag Chuck Rebuilt with PLC Controller  
12" X 30" Capacity

One (1) Chevalier Model FSG 1640AD  
Hydraulic Surface Grinder  
With Vari-Mag Chuck  
16" x 40" Capacity

Three (3) Chevalier 6" x 18" Surface Grinder  
With Walker Magnetic Chuck

One (1) Model 20 Blanchard Grinder  
Swing 36"  
Vari-Mag Chuck

One (1) DED-Tru Centerless Grinding Machine  
Feed through and End Feed Capabilities

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## JIG GRINDERS / JIG BORERS

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Three (3) #3 Moore Jig Grinder  
Complete with all Tooling  
& High Speed Grind Heads  
with .00005 Digital Readouts

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## EDM EQUIPMENT

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One (1) Mitsubishi Wire EDM  
FX10K / Self-feeding  
Workpiece 31.49 x 22.63 x 8.64  
Offline PC for Espirit Cam Programming Capability

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## SAWS

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One (1) HYD-Mech H12 Automatic Cut-Off Saw  
Model #H12-A  
Large Capacity Programmable

One (1) Do-All Heavy Duty Vertical Band Saw  
Model 36-2 with Blade Welder

One (1) Wilton Model 8020 Heavy  
Duty Vertical Band Saw  
With Blade Welder

Four (4) Wilton Model 4200 Belt  
And Disc Finishing Machine

Three (3) Roll-In Band Saw

One (1) Jet Cold Saw Model JCS-3150  
Ferrous or Non-Ferrous Material  
12" Capacity

One (1) Spartan Model 812N Cut Off Saw

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## BROACHING EQUIPMENT

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One (1) LaPointe Horizontal Key Broach  
30 Ton with 48" travel

One (1) Colonial Broach  
Horizontal Spline Broach  
20 Ton with 72" travel

One (1) Detroit Vertical Broach  
3 Pull Heads  
40 Ton with 72" Travel  
Contained within a 15 x 15 Reinforced Concrete Wall Pit

One (1) American Horizontal Broach  
20 with 48" Travel

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## WELDING EQUIPMENT

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Two (2) Miller CP302 Wire Welder

One (1) Miller Model 330 A/BP 1987 AC AD

## Heli Arc Welding Machine, Steel & Aluminum Capabilities

Two (2) Model Millermatic #200 Wire  
Feed Welder Steel or Aluminum

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### WELDING EQUIPMENT (Cont.)

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One (1) Model Hobart Aluminum Wire Feed Welding Gun

One (1) Model Miller CP-200 Wire Welder

One (1) Model Miller Syncrowave 351 Welder

One (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

One (1) Plasma Torch  
Thermal Dynamics – Pak Master 100XL

Four (4) Complete Gas Welding Sets

One (1) 4' x 4' Jig Table for Weldments

One (1) 4' x 12' Jig Table  
Cast Iron for Construction of Large Weldments  
Complete with Bolt On Clamping Capabilities

One (1) Atlas Pipe Mate Duel Speed

Two (2) MBC BP-2 Welding Positioner/200 lb. Capacity

Two (2) Ace Smoke Eaters Model 73-601

One (1) Ace Smoke Eater Model 73-200

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### INSPECTION EQUIPMENT

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One (1) Zeiss (Spectrum) Coordinate Measuring Machine with 6 Probe Changer  
Fully programmable X 64" - Y 38"  
Calypso V4.0

One (1) Zeiss (Eclipse) Coordinate Measuring Machine with 4 Probe Changer  
Fully Programmable X 27" - Y 27"  
Calypso V4.0

One (1) Brown & Sharpe Model 2000 CMM  
With Renishaw Multi-Position Tip Probe

Two (2) Brown & Sharpe Model 600  
Micro-Hite Gage with Printout

One (1) Brown & Sharpe Model 900  
Micro-Hite Gage with Printout

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### INSPECTION EQUIPMENT (CONT.)

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One (1) Taylor Hobson Form Talysurf Plus  
Small Bore Stylus  
Calibration Standard/Profile Printer

One (1) Taylor Hobson Talyrond 31C  
Laser Printer/Flick Standard/6 Jaw Chuck

One (1) Starrett Optical Comparator Model HB 400  
With Quardra Chek 2000 Display

One (1) Mahr Conturoscop C4P  
Fully Programmable to check Radii and angles

One (1) Mitutoyo 211 Surf test Surface Finish Analyzer

One (1) Rank Comparator  
(2) Axis  
Powered Protractor Ring w/ Readouts

Two (2) Mitutoyo Tool Makers Microscopes with Fiber Optics Light Source

Five (5) Mitutoyo Height Masters 12" with Extension Bases

One (1) Mitutoyo Height Masters 24" with Extension Bases

Seven (7) Mitutoyo Height Gages 18"

One (1) Hawkeye Precision Borescope with Aqua Snake Eye Video Camera

Fifteen (15) 81 Piece A.A. Jansson/Inspection Grade Jo-Blocks

Twenty-four (24) Deltronic Pin Gage Sets

Twenty-six (26) Sets Sunnen Bore Gages .107 – 6.125 with Gage Setting Fixtures

Twenty (20) ID Micrometers .150 - 6.000

Eleven (11) 18" x 24" Granite Surface Plates/Inspection Grade

Eight (8) 24" X 36" Granite Surface Plates/Inspection Grade

One (1) 36" X 48" Starret Pink Surface Plates/Inspection Grade

One (1) 48" x 72" Starret Crystal Pink Surface Plate

Two (2) 48" x 72" Granite Surface Plates

Two (2) Wilson Rockwell Hardness Tester

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## MISCELLANEOUS INSPECTION EQUIPMENT

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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.

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## MISCELLANEOUS

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One	(1)	Eldorado Deep Hole Drilling Machine High Pressure Oil – 2000 PSI 1" Dia. X 48" long Knee Type Digital Readout on all 3 Axis
One	(1)	Sunnen Model MBB 1690 Power Stroker Hone Complete With Gaging and Accessories
One	(1)	Balance Technology VN R-60 Balancer
One	(1)	Empire Sand or Glass Bead Blasting Machine 25" x 30" x 35" Capacity
Two	(2)	Sweco Vibratory Finishing Machine Model FMI-2C
One	(1)	Alexor Ultrasonic Parts Cleaner Derusting Cycle
One	(1)	Yale 5000 lb. Capacity Lift Truck
One	(1)	Nissan 5000 lb. Capacity Electric Lift Truck
One	(1)	CAT 5000 lb. Fork Truck Side Shifter 2 Tier Lift
One	(1)	CAT 5000 lb. Fork Truck Side Shifter 3 Tier Lift
One	(1)	Model #XT-AS 1000 lb Battery Operated Lift Truck

One (1) Wesco Broach Lift  
1000 lbs. capacity  
72" Travel

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**MISCELLANEOUS (Continued)**

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One (1) Hydrovane Rotary Air Compressor  
50 Horsepower  
Air Dryer

One (1) Kellogg Rotary Air Compressor  
10 Horsepower  
Air Dryer

One (1) Comp Air Rotary Air Compressor  
25 Horsepower  
Air Dryer

One (1) Comp Air Screw Type Air Compressor  
Cyclon 6,000  
50 Horsepower  
Air Dryer

Three (3) 3000 CFM Smoke Eaters  
Dayton 1995 Model

Four (4) 900 CFM Mist Collector

Two (2) Yuasa 12" Diameter Rotary Tables for Mills

One (1) Troyke Model P-25  
25" Precision Power Operated Rotary Table  
for Boring Mills

Two (2) Darex Drill Sharpeners Model #SP 2500  
To 1" Diameter Capacity

One (1) Cast Iron 4' x 8' Keyed Precision  
Work Table, Ground Flat & Parallel

Two (2) Super Spacers  
With Index Plates

Five (5) Sets DeVlieg Angle Plates

Two (2) Twister Speed Model #LT-1B  
Lapping Machine

Two (2) 10,000 PSI Power Team Hydraulic Pump Model #A

One (1) Dake Arbor Press 1 ½ ton #1B

One (1) Dake Arbor Press 1 ton #0

Two	(2)	100 CFM Air Driers
One	(1)	Cress Electric Heat Treat Furnace Model C122012D/920 With Separate Draw Furnace
One	(1)	Cress electric Heat Treat Furnace Model 601K With Separate Draw Furnace

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**MISCELLANEOUS (Continued)**

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One	(1)	Allen 2 Horsepower Drill Press
Two	(2)	Cuda Hot Water Parts Washer With Rotary Table
One	(1)	Straightening Table with Fixturing
One	(1)	Hydraulics Inc. – Arbor Press 5 Ton Press
One	(1)	30" x 30" Oil Dip Tanks
One	(1)	Heavy Duty Cutter Grinder
One	(1)	Excello Precision Center Lap 54" Capacity
One	(1)	Vocublast Sand Blaster
Five	(5)	Pallet Jacks 1500 Pounds
Ten(10)		Pedestal Floor Grinders

Rotary tables---dividing head---Hartford Super  
Spacer---Last Word Radius Dressers---  
High Speed Attachment for Surface Grinder  
---whirligigs---tapping heads---  
Hardinge index units---etchers---  
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- Microsoft Office™ for communications
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- 1 Encad Cadjjet 2 "E" size inkjet plotter for final plots
- 1 Dart XL120 Blue Print Copier Machine