



Tooling Systems Group
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Equipment List

EDM Machines

Quantity	Equipment	Max. Work Piece	Machine Travel	Other
2	Mitsubishi FA 20 submerged wire EDM	41.5" x 33" x 11.8"	20"x 14"y 11.8"z	Max taper: 45° or 30° in 4" thickness
1	Mitsubishi FA 20S submerged wire EDM	41.34" x 31.5" x 11.61"	19.6"x 13.7"y 11.8"z	
1	Mitsubishi FA 20S Advanced submerged wire EDM	41.5" x 33" x 11.8"	20" x 14"y 11.8"z	
2	Mitsubishi FA 10S submerged wire EDM	32" x 25" x 8.6"	14"x 10"y 8.9"z	Max taper: 45° or 20° in 2" thickness
1	Mitsubishi EA 12V sinker EDM		15.8"x 11"y 11.8"z	
1	Mitsubishi ED-2000M high speed EDM drill	13" thick	11.25"x 7"y 24"z	Min. hole diameter: 0.012" Max. hole diameter: 0.120"
1	Mitsubishi MV2400R Wire EDM	41.3 x 32.3 x 12.0	23.6 x 15.7 x 12.2	

Grinders

Quantity	Equipment
1	Mattison 48" rotary grinder
5	Okamoto 6" x 18" surface grinder
1	Gallmeyer 10" x 30" hydraulic surface grinder
1	Gallmeyer 12" x 24" hydraulic surface grinder
1	Gallmeyer 12" x 36" hydraulic surface grinder
1	Gallmeyer 16" x 72" hydraulic surface grinder
1	Medina end grinder
1	Abrasive 18" knee grinder
1	Powermatic cut-off
2	Gallmeyer 10" x 24" hydraulic surface grinders
1	Brown & Sharpe 6" x 18" surface grinder
1	Brown & Sharpe 18" x 36" hydraulic surface grinder
1	Blanchard 30" rotary grinder
1	Gallmeyer 18" x 60" grinder
1	Gallmeyer 450 12" x 24" hydraulic feed grinder
1	Gallameyer 280 8" x 24" hydraulic feed grinder
1	Clausing 4002 5" x 10" dry grinder
1	Okomoto 6" x 18" dry grinder
1	GMN end grinder
1	Gallmeyer 12" x 36" cylindrical grinder
1	20" x 48" Thompson Surface Grinder
1	6" x 18" Clausing CSG618 Surface grinder
1	18" Lansis Abrasive Knee/Face Grinder
1	Powermatic Snag Grinder
1	GMN Blanchard MPS2K 6" x 10" rotary surface grinder
1	Hariq 612 6" x 12" surface grinder
1	Utility 500 series ball bearing grinder & buffer
4	Dwalt DW758 8" Bench Grinder
1	Gallmeyer 18" x 60" grinder
1	Okamoto 6" x 18" grinder
1	Wilton 20" grinder
1	Stonycraft 6" grinder
1	Hansco SG-6 grinder
1	Gallmeyer 360 10" x 24" hydraulic surface grinder
1	Balldor 8107WD dual pedestal grinder
1	Hariq 612 6" x 12" grinder
2	Chevalier FSG-618M 6" x 18" grinders
1	8" Bench Grinder

Handling Equipment

Quantity	Equipment
1	30-ton overhead crane w/ 15-ton auxiliary
5	25-ton overhead crane w/ 10-ton auxiliary
4	20-ton overhead crane with 10-ton auxiliary
9	10-ton overhead cranes
4	5-ton overhead cranes
1	40-ton crane w/ 10-ton auxiliary hoist
1	25-ton crane
3	20-ton crane
1	3-ton overhead gantry crane w/ 6,000 lb. capacity and 10' craneway
2	3-ton overhead crane
1	1 Ton electric cranes
1	Spacemaster 5s over head crane 20/40 ton
1	8,000 lb. Lift-truck
1	12,000 lb. Hyster Lift-truck
1	5,000 lb. Yale Lift-truck
2	15,000 lb. Hyster lift trucks
1	3,000 lb. propane fork lift
1	12,000 lb. Allis Chalmers hi-lo
1	30,000 lb. Yale die loader
1	15-ton overhead crane
1	Allis Chalmers C40X lift truck w/ 4,000 lb. capacity
1	Crown E-Z lift w/ 1,500 lb. capacity
1	Nissan forklift w/ 6,000 lb. capacity
1	Toyota standup electrical lift w/ 3,500 lb. capacity
1	Toyota forklift w/ 3,000 lb. capacity
1	Hoosier hydraulic boom hoist w/ 1,500 lb. capacity
1	Knight 375 lb. jib crane
1	Allis Chalmers lift truck w/12,000 Lb. capacity
1	Big Joe 2018-A5 Lift W/ 2,000 Lb. Capacity
1	Ford Super Duty Truck
1	Hyster S125A lift truck with 15,000 lb. capacity
1	Clark CGC-25 lift truck with 7,000 lb. capacity
1	Nissan CPJ01A13PV lift truck with 5,000 lb. capacity
1	Ford F-150 pickup truck
1	Caterpillar 5000# Capacity Hil
1	1998 F-150 Pick-up Truck
1	Toyota forklift w/ 4,000 lbs. capacity
1	Ford delivery van
1	Ford F-250 delivery truck

Machining Equipment

Quantity	Equipment	Work Area
1	Enshu JE80 horizontal CNC mill	31.5" x 31.5"y 31.5"z
1	Viper Pro 1000 CNC mill	40" x 24"y 25"z
1	Kent KGS 306 AHD grinder	12" x 24" table
1	Kent grinder	6" x 18" table
1	Bridgeport w/ digital readout	
1	Gallmeyer & Livingston Hydraulic Surface Grinder	14" x 36" table

CAD/CAM

Quantity	Equipment
6	Espirit
7	SolidWorks
1	Unigraphics NX8
13	CATIA V5 licenses
9	Enovia Viewer licenses for Catia
2	MasterCam license
4	Unigraphics V4 licenses
6	NX4 Viewer licenses for Unigraphics
5	Solid Works licenses with edrawings
5	CADKEY/Autocad PC Workstations
7	Cimatron licenses
15	WorkNC licenses
1	Inventor 2013 licenses
11	Gibbscam licenses
1	Smirt NC license
1	HP - C180 UNIX workstation running Gerber/Matra
1	ShopLink DNC Systems
2	Full FTP site capabilities
1	HP 1055CM 36" wide color plotter
1	NX6 / Unigraphics
1	DYNAform incremental draw simulation
2	Unigraphics license
3	Unigraphics viewer licenses
1	Internet Phone Modem
1	Key Creator license
1	Mechanical Desktop license
30	NX7.5
1	Catia V5r19
5	Autoform R3.1
2	Espirit 5 Axis Milling & Turning Software

CMM Machinery

Quantity	Equipment
1	Brown & Sharpe 12 30 10 CMM 47" x 118"y 39"z with PC-DMIS software

CNC Lathe Equipment

Quantity	Equipment	Work Area
1	Monarch 24" swing lathe	
1	Monarch Toolmaker lathe	
1	Mazak QT 350M CNC 4-axis lathe with continuous feed up to diameter of 4"	Up to 16.5" diameter Up to 60" length
1	Samsung SL-35MC/1500 w/ 15" chuck	Up to 16.5" diameter Up to 60" length
1	Mazak SGT 200 CNC lathe	Up to 12" diameter Up to 24" length
1	Clausing 1300 engine lathe w/ digital readout	Up to 36" length
1	LeBlond Regal servo shift lathe	15" x 54"
1	Hardinge HLV-H Super Precision lathe	
1	2012 Mazak 350MY CNC lathe with live tooling and Y axis	Up to 22" diameter Up to 60" length
1	2001 Mazak 250M CNC lathe with live tooling	Up to 14" diameter
1	2001 Mazak Integrex 400-II Y 5-axis CNC lathe	Up to 16" diameter Up to 36" length
1	SMW Space Saver 2000 bar feeder	
1	Mazak Integrex 400	
1	Mazak Quick Turn 350my	
1	Mazak Integrex J-300	
1	Mazak SQT250m	
1	C6236ZK lathe with 39" max swing	
1	LeBlond 42" lathe	
1	Jet 1440-3PGH 4" x 40" lathe	

CNC Machines

Quantity	Equipment	Work Area
1	Hurco VMX50 3-axis CNC mill	48" x 20"y 26"z
1	YCM NSV156A 3-axis CNC mill	60" x 30"y 29"z

Cut-Off Equipment

Quantity	Equipment
3	Marvel 81A universal band saw
1	Leten contour band saw with 20" throat
1	Walker-Turner band saw with 18" throat
1	Tannewitz band saw with 36" throat
1	Cincinnati Shear
1	Wells cut-off saw
1	Marvel cut-off saw
1	Do All bandsaw
1	GROB 4V-18 band saw w/ 11" throat
1	Marvel cut-off saw w/ 10" throat
1	Parma cut-off saw w/ 16" throat
1	Wallace Speedycut 8995 cut-off saw w/ 10" throat
1	W.F. Wells W-9-1 Horizontal Saw
1	Roll*in EF1459 Vertical saw
1	Dake Parma Work-A-Matic bandsaw w/ 12" throat
1	Hem saw w/ automatic feed table 12" x 20'
1	Lehman shear
1	Dake Parma XC Work-A-Matic saw
1	Wells AC-7 12" bandsaw
1	Kalamazoo 10" disc
2	Dake Work-A-Matic cut-off saw w/ 12" throat
1	Kalamazoo cut-off saw
1	Peerless HB-1212A-Auto- Indexing Band Saw
1	Clausing Kalamazoo HB280M cut off saw
1	Clausing Kalamazoo V2612F 12" band saw
1	12" Abrasive Saw
1	7" Metal Cutting band saw

Drill Presses

Quantity	Equipment	
1	Wilton floor model	
1	Fosdick floor model	
2	Cincinnati Bickford square column power feed	21" column
2	Giddings/Lewis Bickford square column power feed	24" column
1	Fosdick square column power feed	25" column
2	Carlton radial drill presses	96" arm
2	Carlton radial drill presses	60" arm
1	Carlton radial drill press	48" arm
4	Cincinnati Bickford radial drill presses	48" arm
1	Cincinnati Bickford square column power feed	24" column
1	Carlton radial drill press	84" arm
1	Carlton radial drill press	72" arm
1	Fosdick square column power feed	24"
1	Carlton radial arm drill	9" column 48" arm
1	Carlton Drill	22" colum 96" arm
1	Cincinnati Bickford radial press	22" colum 96" arm
1	Cleerman Drill Press	
1	4' x 9" Carlton OA randial Arm Drill	
1	Cincinnati 3B radial arm drill	11" column 48" arm
1	Causing 1771 drill press	12" x 18" table
1	Powermatic 1200 pedestal drill press	15" x 18" table
2	Clausing 20 drill presses	20"
1	Carlton radial drill press	17" column 72" arm
1	Cincinnati Bickford radial drill press	4" arm 9" column
1	Sieg ZN5050A vertical drill press	
1	Sieg SB350 vertical drill press	

Milling Machines

Quantity	Equipment	Work Area
1	2004 FPT Area ME CNC boring mill	472"x 137"y 60"z
1	2008 Niigata horizontal machine center with pallet changer	1000mm x 950mm x 850mm
1	Union boring mill with 3,000 RPM spindle (through spindle coolant capable) and 40,000 lb. rotating table †	235"x 135"y 34"z
1	2012 Vision Wide SF-2616 mill with 6,000 RPM spindle (through spindle coolant capable) and 40 ATC †	102" x 63"y 31.5"z
1	Vision Wide VN-2016 mill with 6,000 RPM spindle (through spindle coolant capable) and 40 ATC	78"x 63"y 31.5"z
2	Johnford DMC 1200H CNC mills with 12,000 RPM	47"x 35.5"y 30"z
2	Mazak Nexis 510-C with pallet changer	40"x 20"y 22"z
2	Mazak 250D CNC mills	70"x 25"y 25"z
1	Dah Lih CNC mill	82"x 32"y 27.5"z
1	Droop & Rein LSAF 130ke Fidia CNC, tracing, & digitizing	120"x 60"y 40"z
1	Giddings Lewis CNC DiMill	172"x 72"y
1	Giddings Lewis CNC mill	132"x 84"y 25"z 36"w
1	Giddings Lewis CNC DiMill	72"x 48"y
1	Cincinnati #5 vertical mill	
1	Cincinnati #4 vertical mill	
1	Cincinnati #3 horizontal mill	
1	Cincinnati horizontal mill	54"x 12"y
1	Kearney Trecker #3 horizontal	
2	Bridgeport mills	
4	Willis Microcut jig bore mills with digital readouts	
1	Lagun mill with digital readout	
1	Johnford DMC 1200H high speed CNC machining center w/ 15,000 RPM spindle	47"x 35.5"y 30"z
1	Daewoo Ace V65 CNC mill w/ 4,000 rpm spindle	70"x 33.5"y 32.7"z
1	Mazak 510C high speed machining center w/ 12,000 RPM spindle	40"x 20"y 18"z
1	Giddings & Lewis PC-50 CNC horizontal boring mill w/ 40 HP spindle	168"x 72"y 72"z
1	Viper V1600 CNC machining center w/ 35 hp 6,000 rpm spindle	61"x 31"y 35.5"z
8	Bridgeport mills w/ read out	48"x 9"y
1	Kearney Trecker #4 vertical mill	
1	Cincinnati vertical mill	
1	Vision Wide Bridge Mill	40" x 160" Bed
1	Vision Wide Bridge Mill	98" x 98" Bed
1	Milwaukee #2 vertical mill	56" x 12"y
1	Dah Lih DL-MCV 2100 CNC mill	82"x 32"y 27.5"z
1	Daewoo DMV-500 CNC mill	40"x 19"y 20"z
1	Mazak Nexis 510C CNC mill	41"x 20"y 20"z
1	Johnford DMC 1200H CNC mill	47"x 35"y 30"z
1	Cincinnati No. 550 vertical mill w/ digital readout	94"x 20"y
1	Willis Microcut 1050 w/ readout	50"x 10"y
1	Bridgeport series 1 vertical mill	9" x 48"
1	Causing 2VS08 vertical mill	9" x 49"
1	Fadal VMC 3016 vertical CNC mill 10,000 RPM spindle	30"x 16"y 20"z with 16" x 34" table
1	Fadal VMC 6030 vertical CNC mill	
1	Fadal 4020 CNC mill w/ 4th axis and external Z-axis	20" x 40" table
1	Birmingham BPU-39490 vertical mill w/ digital readout	
1	Bridgeport vertical mill w/ digital readout	9" x 48" table
1	Sharnoia HPM 85 CNC mill w/ laser digitizing	34" x 85"
1	Haas VMC40 CNC mill	26" x 40"
1	HAAS VFG CNC mill	40" x 84"
1	Sharnoia HPM 40 CNC mill w/ laser digitizing	24" x 40"
1	Cincinnati CNC horizontal boring mill w/ FIDIA control	84" x 120"
3	Willis Microcut 1050 vertical knee mills	10" x 50"
1	Kerney & Trecker S-12 horizontal mill	56" x 12"
2	Hurco VMX64 CNC mills	64" x 34"y 30"z
5	Bridgeport mills	9" x 48"
1	Cincinnati No. 4 Horizontal Mill	18" x 80"
1	2011 Hurco VMX42SR – full 5 axis mill	42" x 24"

Milling Machines Con.

Quantity	Equipment	Work Area
1	2001 Hurco BMC 24 – 3 axis mill	24" x 16"
1	Sharnoia SVC-52D vertical CNC mill	50" x 30" x 28"
1	Hurco VMX42SR	
1	Hurco VMX42	
1	Hurco BMC2416	
2	Clousing Bridgeport style mills	49" x 9"
2	Manford Bridgeport style mills	49" x 9"

Miscellaneous

Quantity	Equipment	Work Area
1	Trinco 36/BP media blasting cabinet	
1	Trinco 36/BP media blasting cabinet	
1	Flame hardening table & torch	
1	Kindt Collins Model R 24" Disc Sander	
1	Ridgid 1224 1/4"-4" pipe Threader	
1	Milwaukee 4202 Magnetic drill	
1	Strippit Super 30 /30 punch press	
1	Mr Deburr w/ ceramic and plastic media	
1	Chicago 6L8 mechanical brake press w/ .5" x 8' capacity	
1	Trinco 36/EF2 media blasting cabinet	
1	Ingersol Rand 2475 air compressor w/ 7.5 HP and 80 gallon capacity	
1	Sullair air compressor	
1	Hewlett Packard 750 C+ plotter	
1	25 hp Quincy air compressor	
1	30 hp Sullair air compressor	
1	Lincoln Square Wave TIG Arc 275	
1	Lincoln Idealarc DC-600 MIG welder with arm extension	
1	Trinco 36/BF media blasting cabinet	
1	Tennsmith 48" hand brake	
1	Enclosed trailer	
1	Flat bed trailer	
1	Trinco blast booth with 48" x 24" cabinet	
1	12" Disc Sander	

QC Department

Quantity	Equipment	Work Area
1	Brown & Sharpe XCEL CMM	Machine travel: 40"x 24"y 24"z Max. work piece: 50" x 30" x 20"
1	Mitutoyo CHN 1612-30 CMM	120" x 60" y 40" z
1	Romer 10ft Remote Scanning Arm	
1	40" digital height gauge	
3	24" digital height gauge	
3	12" digital height gauge	
4	Complete sets of gauge pins and gauge blocks	
1	CMM Travel Winzel 70" x 216" w/ PC-DMIS software	
1	FaroArm portable CMM with laser scanner	
1	48" x 96" granite surface plates	
1	Brown & Sharpe	26" x 39"y 18"z w/ PC - Demis software
1	18" height gauge	
1	14" height gauge	
1	White Light Scanner	
1	Brown & Sharpe CMM	40" x 82"
1	Granite table	2' x 3' x 4"
1	Mitutoyo 46" height gauge	
1	Mitutoyo 28" height gauge	
1	Mitutoyo 16" height gauge	
10	4' x 8' granite tables	

Spotting Press

Quantity	Equipment	Bed Size	Shut Height	Other
1	300-ton Dake brake press	61" x 115"	88" max 36" min	

Tryout Equipment

Quantity	Equipment	Bed Size	Shut Height	Other
1	3,000/1,500-ton Clearing dual ram press †	120" x 240"	58" max	400 ton cushion, 4 roll out bolsters
1	1,350-ton Danly press*	100" x 200"	65" max	rollout bolster w/ 56" coil feeder system
1	1,300-ton Clearing 800/500-ton double action straight side press	100" x 180"	90" max	rollout bolster w/ Perfecto 72" coil feeder system
2	900-ton Hamilton straight side press w/ bolster*	100" x 180"	65" max	
1	800-ton Clearing straight side press	66" x 120"	51" max	rollout bolster
1	600-ton Verson straight side press	66" x 132"	56" max	rollout bolster
2	450-ton USI Clearing straight side press*	81" x 126"	48.5" max	w/ 56" coil feeder
2	300-ton Bliss straight side press*	60" x 120"	48.5" max	
1	250-ton USI Clearing straight side press	48" x 132"	48.5" max	w/ Littell feeder
1	250-ton Verson gap frame press	43" x 97"	54" max	w/ rollout bolster
1	200-ton Clearing straight side press	48" x 78"	54" max	
1	200-ton Clearing gap frame press	48" x 84"	54" max	
1	200-ton Verson straight side press	48" x 72"	54" max	
1	2,500-ton Danly straight side press	108" x 200"	62" max	Capable of running 220" x 108" dies
1	450-ton Clearing straight side press	72" x 144"	56" max	56" coil feeder
1	300-ton Clearing straight side press	60" x 108"	40" max	
12	500-ton Bliss	60" x 85"	28" max	30" coil feeder
1	400 ton niagra	48" x 85"	24" max	30" coil feeder
1	1,350-ton Danly press*	100" x 200"	65" max	rollout bolster w/ 56" coil feeder system
1	800-ton USI Clearing straight side press	72" x 156"	96" max	w/ 48" coil feeder
1	250-ton Verson gap frame press	60" x 120"	54" max	
1	200-ton Verson straight side press	60" x 120"	35" max	
1	Infrared Heating Technologies oven			110" x 134" x 100"
2	Fanuc M-900iA Robot			58" 52" 104"
1	ABB Czn 20R2 Robot			60" x 56" x 108"
1	1000-ton Hydraulic Press			Type MPHf w/2 tolling bolsters
1	Water circulation system			

Waterjet Equipment

Quantity	Equipment	Work Area
1	Mitsubishi Suprema 3000 Waterjet w/ 60,000 PSI pump	Max. work piece: 66" x 120"y 6"z

Wire EDM

Quantity	Equipment	Work Area
1	Mitsubishi FA20 wire EDM	19.68" x 13.78"y 11.8"z
1	Charmilles Robofil 290 AWT wire EDM	15.75" x 9.85"y 8"z

Welding Equipment

Quantity	Equipment
1	Lincoln Power Mig 256 Mig Welder
1	Lincoln Precision Tig 275 Tig/Stick Welder
1	OTC Diahen robot w/ plasma welder
1	Miller CP-250TS MIG welder w/ 250 Amp capacity
1	Miller 350P MIG welder w/ 400 Amp capacity
1	Miller 250DX TIG welder w/ 310 Amp capacity
1	Miller 330A/BP tungsten ARC TIG/Stick welder w/ 350 amp capacity
1	Miller 180 MIG welder
1	Lincoln AC Arc welder w/ 225 Amp capacity
1	Thermal Dynamics manual plasma cutting maching
1	Acetylene set up with torch and attachment
1	Gentec 14" welding turn table
1	Profax WP-250 welding positioner
1	Profax WPC-11 welding positioner chuck
3	Welding tables
1	Miller TIG Welder
1	Miller MIG Welder
1	Miller Syncrowave 351 welder
1	Lincoln Idealarc CV-300 MIG welder