

GK MACHINE, INC.

Combining Technology & Tradition Since 1976

PO Box 427

Donald Oregon 97020

503-678-5525

www.GKMachine.com



GK MACHINE, INC. DONALD, OREGON
503-678-5525 www.GKMachine.com

Kinetic K5000 XMC Machining , Plasma & Flame Cutting



Plasma Tolerance

For parts 36" x 36" or smaller. For larger parts, add 0.002"/foot

THICKNESS	TOLERANCE (In Inches)
Gauge	0.017
0.188	0.019
0.250	0.021
0.313	0.023
0.375	0.038
0.500	0.047
0.625	0.056
0.750	0.064
1.000	0.082
1.250	0.099
1.500	0.169
1.750	0.195
2.000	0.222
2.250	0.248
2.500	0.274
2.750	0.300
3.000	0.326

Width 10' Length 40', automatic tool changer and combination plasma/flame bevel, marking systems, flame cutting and multiple torch stations

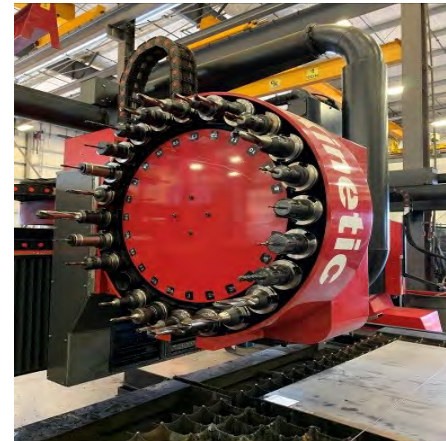


Flame Tolerance

Parts 36" x 36" or smaller. Larger parts, add 0.002"/foot

THICKNESS	TOLERANCE (INCHES)
≤ 3.0"	1/8
> 3.0"	1/4

Notes/Tips: Bevels can be on top and bottom of parts, 10-8" x 40'-8" smaller than sheet size, long, straight sections burn much more accurate than rounds or radiused parts. Slots and tables are not advised on plasma machine, we cannot flame cut stainless steel.



Capabilities :

DRILLING	COUNTERBORING
MILLING	PLASMA CUTTING
TAPPING	FLAME CUTTING
MARKING	BEVEL CUTTING
AUTOMATIC TOOL CHANGING	

Additional Information

Max drilled hole (current tooling on hand)	1.25"
Max drilled hole (check tooling availability)	4"
Max tapped hole	1.25"
Max plasma thickness	3"
Max flame thickness	8"
Max bevel angle	45 degrees
Max bevel "length"	3"
Max plate thickness with 45 degree bevel	2.0"
Tolerance on bevel cuts	+/- 1/8"
Min OD of a feature's profile	.125"
Min material thickness for machining	1/4"
Max weight for skeleton 10 ft wide or less	10 ton
Max weight for skeleton over 10 ft wide	30 ton

Machining Tolerance & Capacity

Feature location:

DISTANCE BETWEEN FEATURES	TOLERANCE (IN INCHES)
≤ 36"	0.006"
> 36"	0.006" + 0.002"/foot

Feature size:

Drilling	+/- 0.010"
Milling	+/- 0.010"

Tap sizes:

≤ 1/2" plate	1/4 min tap size
≤ 3/4" plate	5/16 min tap size

GK MACHINE, INC. DONALD, OREGON
503-678-5525 www.GKLaserandPlasma.com

Laser Trumpf Trumatic 3030 & 3050



Minimum Size Hole to Laser Cut Mild Steel

Thickness	Min Size Hole
Gauge	.85-.9x material thickness
.188-.500	= material thickness
.625-1.00	1.5x material thickness

1. Up to 80% of hole diameter with Stainless, A514 & Aluminum
2. Can cut 1:1, tolerance no longer applies, holes can be saw toothed and have additional kerf angle

Laser Kerf Angle:

.5-1 degrees dependent upon material, consumables and wattage. Tolerance table includes kerf allowance

Laser Tolerance

For parts 36" x 36" or smaller. For larger parts, add 0.002"/foot. Laser Kerf angle = .5-1 degree. The chart below is for carbon

Thickness	Tolerance (In Inches)
GAUGE	0.010
0.188	0.012
0.25	0.013
0.313	0.014
0.375	0.015
0.500	0.015
0.625	0.016
0.75	0.028
1.00	0.031

Facts:

- 1) .50" Max aluminum thickness
- 2) .63" Max stainless thickness 125-250 RMS surface finish @ cut
- 3) 60" x 120" cutting table size, parts must be 1/16" smaller than sheet size
- 4) Etching on SS or Steel only, cannot etch aluminum or galvanized
- 5) Cannot cut copper, brass or plastic



Trumpf Liftmaster (automatic loading & unloading) The Liftmaster is a fast, compact loading and unloading unit. This automation solution is particularly well suited for fast sheet processing and can handle lights out processing to increase efficiency and laser cutting production times.



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Trumpf TruBend 7036 (40 T)



Bend minimum guidelines chart is for steel (A36) up to a 90 degree single bend ONLY.
 See below for other bends or alternate materials. Standard radius is equal to material thickness.

MATERIAL THICKNESS	8X THK	STANDARD DIE WIDTH	MINIMUM ENTITY TO BEND	MINIMUM FLANGE LENGTH	LONGEST BEND	MAX DEGREE	K FACTOR MS / SS
(.048) 18 ga.	0.38	10mm (0.394")	0.281	0.317	40	35	0.208 / 0.065
(.060) 16 ga.	0.48	10mm (0.394")	0.281	0.317	40	35	0.524 / 0.283
(.075) 14 ga.	0.60	12mm (0.472")	0.332	0.361	40	35	0.498 / 0.225
(.105) 12 ga.	0.84	16mm (0.63")	0.406	0.440	40	35	0.481 / 0.350
(.120) 11 ga.	0.96	16mm (0.63")	0.406	0.440	30	35	0.507 / 0.380
(.135) 10 ga.	1.08	16mm (0.63")	0.406	0.440	22	35	0.522 / 0.355
.188 Plate	1.50	30mm (1.181")	0.85	0.875	19	35	0.410 / 0.326
.250 Plate	2.00	50mm (1.969")	1.25	1.375	20	35	0.333 / 0.342
.313 Plate	2.50	50mm (1.969")	1.25	1.375	12	35	0.374 / 0.32
.375 Plate	3.00	70mm (2.756")	1.69	1.875	16.5	55	0.346 / 0.3145

5052 AL K FACTORS	
Thickness	K-Factor
0.0478	0.135
0.063	0.5
0.08	0.41
0.1	0.485
0.125	0.5
0.188	0.415
0.25	0.345
0.313	0.328
0.375	0.3135

Radius Punches Available	
Size	Length (inches)
1mm (0.04" R)	40
4mm (0.16" R)	40
0.375 R	40
0.500 R	40
0.750 R	40
1.000 R	40

86° (90°) Dies Available	
Size	Length
8mm (0.3149)	40"
12mm (0.472")	40"
16mm (0.630")	40"
40mm (1.575")	40"



Notes:
Die bed is 40" and 36.7" between columns
Max interior box ID = 2.625"
Max flange at upright 16"
Stepping Down Dies: Do not step down die size for 10 ga below 16mm, When forming aluminum plate do not step down die size due to cracking risks.

Trumpf TruBend 5320 (360 T)



Bend table minimum guidelines chart is for steel (A36) up to a 90 degree single bend ONLY.
See below for other bends or alternate materials. Standard radius is equal to material thickness.

MATERIAL THICKNESS	8X THK	STANDARD DIE WIDTH	MINIMUM ENTITY TO BEND	MINIMUM LANGE LENGTH	LONGEST BEND	MAX DEGREE	K FACTOR MS / SS
(.048)18 ga	0.38	10mm (0.384")	0.281	0.317	159"	35 OR HEM	0.208 / 0.065
(.060)16 ga	0.48	10mm (0.384")	0.281	0.317	159"	35 OR HEM	0.524 / 0.283
(.075)14 ga	0.60	12mm (0.472")	0.332	0.361	159"	35 OR HEM	0.496 / 0.225
(.105)12 ga	0.84	16mm (0.63")	0.406	0.440	159"	35 OR HEM	0.481 / 0.350
(.120)11 ga	0.96	16mm (0.63")	0.406	0.440	159"	35 OR HEM	0.507 / 0.380
(.135)10 ga	1.08	16mm (.063")	0.406	0.440	159"	35 OR HEM	0.522 / 0.355
.188 Plate	1.50	30mm (1.181")	0.85	0.875	172	35	0.419 / 0.328
.250 Plate	2.00	50mm (1.969")	1.25	1.375	172	35	0.333 / 0.342
.313 Plate	2.50	50mm (1.969")	1.25	1.375	159	35	0.374 / 0.328
.375 Plate	3.00	70mm (2.756")	1.69	1.875	159	55	0.346 / 0.3145
.500 Plate	4.00	100mm (3.937")	2.25	2.563	90	55	0.344 / 0.300
.625Plate	5.00	150mm (5.906")	3.25	3.750	112	85	0.240 / 0.286
.750 Plate	6.00	150mm (5.906")	3.25	3.750	112	85	0.384 / 0.265
1.00 Plate	8.00	150mm (5.906")	3.50	4.00	80	85	0.439 / 0.235



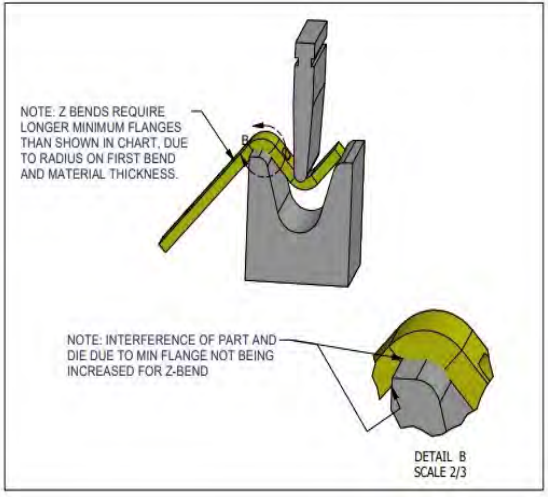
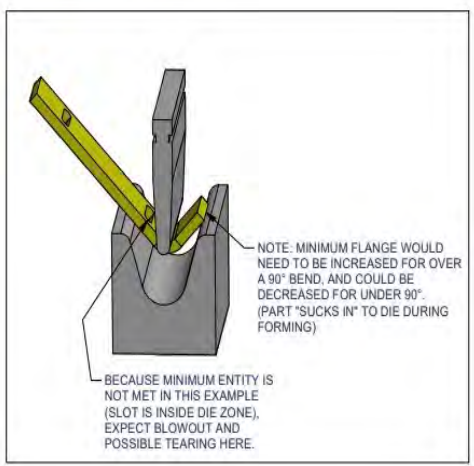
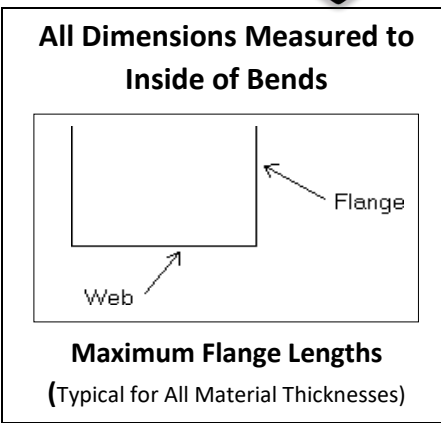
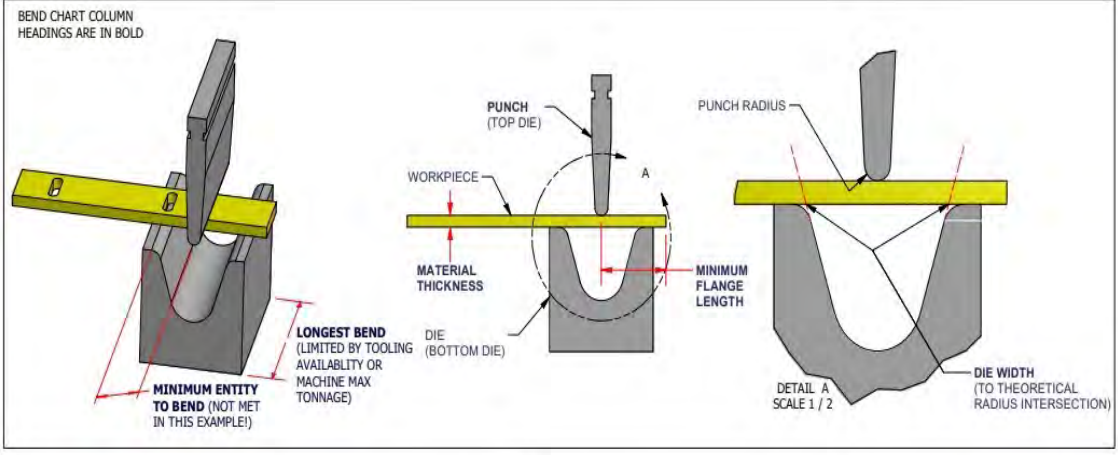
86° (90°) Dies Available	
Size	Length
8mm (0.315")	42
12mm (0.472")	42
16 mm (0.630")	42
40mm (1.575")	159

5052 AL K Factors	
Thickness	K factor
0.0478	0.135
0.063	0.500
0.080	0.410
0.100	0.485
0.125	0.500
0.188	0.415
0.250	0.345
0.313	0.328
0.375	0.3135

Radius Punches Available	
Size	Length
1mm (0.04" R)	159
4mm (0.16" R)	159
0.375 R	78.75
0.500 R	98.50
0.750 R	78.75
1.000 R	98.50
1.500 R	78.75

Notes: Can Hem up to 10 ga sheet at 159.5" long. Die bed is 174" and 145" between the uprights. Max flange at upright 16". 40mm bottoms are for making 90 degree max bend parts. If acute bends needed, must step down to 30mm bottom. Cross brake is 2 deg minimum. Max distance from center of die to rearmost brake stop position is 33.875". Stepping Down Dies: do not step down die size for 10 ga below 16mm, when forming aluminum plate do not step down die sizes due to cracking risks.

Trumpf TruBend 7036 / 5320



Web	Max Flange
0.75	1.25
1.0	2.00
2.0	3.25
3.0	4.25
4.0	5.25
4.5	5.25
5.0	5.25
5.5	5.13
6.0	5.00
6.5	5.00
7.0	5.50
7.5	5.50
8.0	6.00
10.0	7.25
12.0	9.25
15.0	12.2
18.0	15.2
21.0	18.2
24.0	21.2
30.0	27.2
36.0	33.2

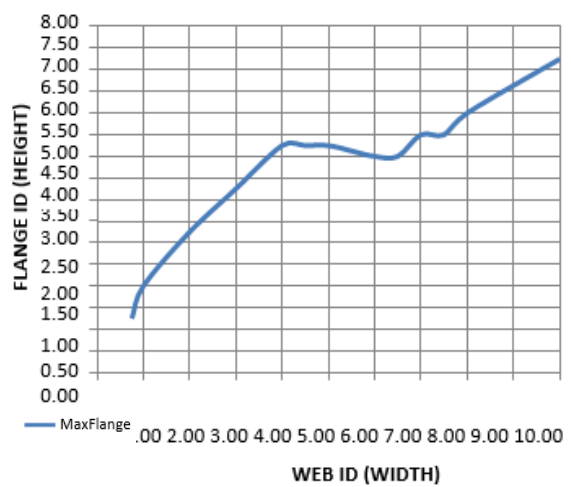


Chart Modifiers

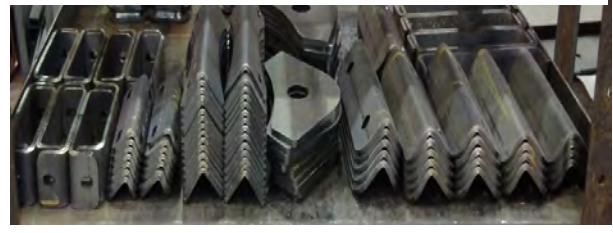
Material	Multiplier
A572 GR50	0.9
A514 GRB	0.6
316SS	0.9

*Instead of limiting your max bend length, consider increasing the flange length to allow stepping up to the next die size. (Multipliers not field tested)

Forming Tolerance

Thickness	+/-
18 ga - 10ga	1/32
3/16 - 1/2	1/16
5/8 +	3/32
Angular = +/- 1 deg.	

*Multiply tolerance by 2 when forming textured plate (diamond, rigidized, etc.)



MAX FLANGE HEIGHT FOR > 10" WEB
FLANGE = WEB-2.8 , TOOL HEIGHT
WITH EXTENSION IS 15 3/4"

Trumpf 260-T Punch



Capabilities	
Tonnage	27 T
Max. Hits per Minute	500 HPM
Min. Width	22 5/8
Max Width	100" (without Reposition)
Max Thickness	10 gauge
Min. Edge to Punch Center Line	4 1/16
Tool Stations	25
Min. Center to Center with Dimple	1.5"

Many intermediate sizes and other shapes are available. Star, Hexagon, Obround, Special, etc. Check with Sales staff for availability.

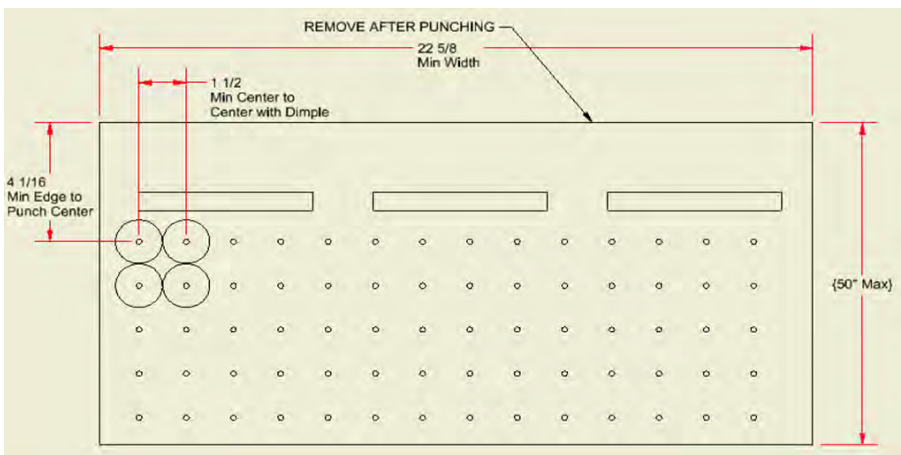


- Can punch up to 0.25", preferred max thickness is 10 gauge.
- Minimum distance to center of a punched "dimple" can be from a 90° bend line is 1.25" (10 ga max for dimples).



Punch Shapes*	
Circle Diagram	.039" - 2"
Oval Diagram	.142" - 1.0"; L 0.203" - 2.0"
Square	0.2" x 0.2"
Rectangle	0.125" x 0.5" - 1" x 2.5"
Dimple	1.5"

- Many intermediate sizes and other shapes are available; star, hexagon, obround, special, etc. (Check with Sales for available shapes and sizes.)



DAVI 4 MCA Roller Model 3022



*ROLLER CAPABILITIES:	
MAX ROLL WIDTH (FT)	10'
MAX ROLL THICKNESS (IN)	3/8"
MAX PREBENDING THICKNESS (IN)**	1/4"
TOP ROLL DIAMETER (IN)	8.5"
BOTTOM CLAMPING ROLL DIAMETER (IN)	8"
Maximum Dia.	N/A
Minimum Dia.	10"
Minimum Width***	30"
ELECTRIC POWER (HP)	12



- * The capacities are based on mild steel with max 65,000 psi, ultimate tensile strength and 40,000 psi yield strength.
- ** No extra material required for lead in, lead out. "Flats" on end
- *** Narrower plates will damage rollers due to "bridging" effect.

POSSIBLE SHAPES:	PIPES/TUBES, CONES, OVALS.
TYPICAL SIZES	10" - 108" DIAMETER
TOLERANCE	1/16"



MISC. Rollers

ROLLER CAPABILITIES:	
MAX ROLL WIDTH (FT)	*6'
MAX ROLL THICKNESS (IN)	*TBD
Maximum Dia.	N/A
Minimum Dia.	*4"
Minimum Width	0"

Notes:
 The small rollers will leave a flat spot on the lead in edge, and the lead out edge. If part requires no flat spots, add material to both ends to be trimmed after roller. (Material under 48" wide requires 2.5" both ends. All other sizes require 7" extra material on both ends)
 *Width, thickness, and diameter capabilities will vary greatly. Consult for tight diameter parts

Small Lip Roller:

- ◆ 16" - 64" DIA MAX
- ◆ 18 GA - 10 GA
- ◆ 3/4" - 1" LIP



Large Lip Roller:

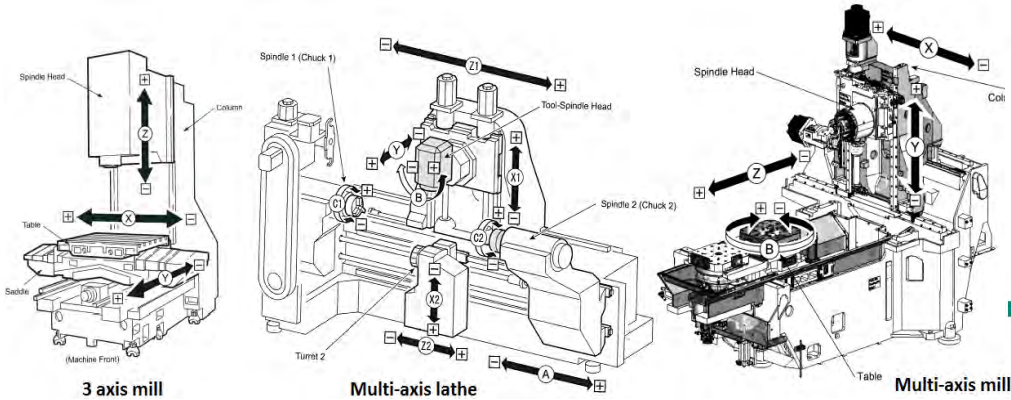
- ◆ 64" - 108" DIA MAX
- ◆ 3/16" - 1/4" THICK
- ◆ 1" - 2" LIP



Machining Capabilities



Machining Capabilities			Max travel			Through spindle		Raw material		Barfeed/ max L ¹	Removable side
			X	Y	Z	Main	Sub	Max L	Max D		
M1001	Mill, 3 ax.	OKK 40	36.0	25.0	12.0						Yes
M1003	Lathe, 2 ax.	Takasawa TC4	15.9		37.5	3.25		48.0	24.0		
M1004	Turn/mill, 5 ax.	CTX 1250TC	17.7	7.80	51.2	3.00	2.00	47.0	15.4	Yes / 60"	
M1005	Mill, 4 ax.	NHX6300	41.3	35.4	40.6			51.1	41.3		
M1006	Turn/mill, 4 ax.	NLX2500	10.2	3.90	31.3	3.00	1.9 ⁵	28.6	3.00	Yes / 48"	
M1007	Mill, 3 ax.	DV 5100	41.5	20.9	20.1						Yes
M1008	Turn/mill, 5 ax.	NT5400	40.9	10.0	76.4	4.20	4.20	75.6	36.2	Yes / 60"	
M1009	Mill, 3 ax.	SMV1370	53.0	27.0	24.0						Yes
Manual lathe						4.00		120.0	24.0		
Simplon Mill			48.0	16.0	16.0						
Manual mill			37.0	27.0	24.0						
Turret drill			20.0	12.5	24.0						



DMG MORI DURAVERTICAL 5100 PRODUCTION MILLING MACHINE
3 Axis vertical
X: 17.7"/450mm Y: 3.94"/100mm Z: 51.2"/1,301mm



DMG MORI NHX6300 PRODUCTION MILLING MACHINE
4 axis horizontal machining center
X: 41.3"/1,050mm Y: 35.4"/900 mm Z: 40.6"/1,030mm



DMG MORI NT5400/1800SY PRODUCTION MILLING MACHINE
5 axis mill-turn with lower turret
X: 40.9"/1,040mm Y: 10"/255mm Z: 76.4"/1,940mm



DMG MORI CTX BETA 1250TC MILL TURN
5 axis and 60" bar feeder
X: 17.7"/450mm Y: 3.94"/100mm Z: 51.2"/1,301mm



DMG MORI NLX 2500/700SY PRODUCTION MILL TURN
4 axis machining center and 48" bar feeder
X: 10.2"/260mm Y: 31.3"/795mm Z: 28.6"/728mm

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Machining Capabilities



Machining Tolerances

Process	Standard	Extreme ⁸	Surface finish
Milling (all)	0.003	0.001	125rms
Face(lathe)	0.003	0.002	63
Turn	0.003	0.0005	63
Bore	0.003	0.0005	63
Ream	0.001	0.0005	63
Tool Radius: 0.015 min (without use of add'l grooving tool)			

Drill Tolerances

Process	Tolerance
hand layout	1/16
etched layout	1/16
drill existing	
layout larger	1/32
Hole size	.010

Notes:

- 1) Max length for UHMW / Nylatron = 36" (deflection at speed) (N/A for barfeed)
- 2) Surface grinding; leave .007-.010" PER machined surface for cleanup
- 3) Typically, centers are used once material stickout exceeds 3x diameter
- 4) Max part size to part off = 6" diameter bar stock OR 3" wall tube
- 5) Sub spindle in NLX does not pass all the way through, only 2.16" deep
- 6) Drill bits will usually drill oversize, .002-.008 depending on headstock play, cl of drill point to bit, etc.
- 7) Through drills are better than blind holes (avoid chip buildup)
- 8) Ability to attain depends on design of part. Do not use these specs unless design requires, they increase cost.
- 9) Max D depends on Max L. (MAX D = 36" @ L<1.00"; 30" @ L<6.00"; 24" @|L<120")
- 10) M1004 can broach keyways

Interpolation Tolerances

Machine	Tolerance
M1005 & M1007	+/-0.003
M1001 & M1009	+/-0.005



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Bead Forming



Capacities

Bead Form 3 H.D.

7/8"	Min O.D.
None	Max O.D. Unlimited as Long as Machine is Mounted on Proper Stand/Table
0.065"	Max Wall Thickness

Lathe Tooling

1 3/8"	Min I.D. *
2"	Max End of Tube to Center of Bead *
0.065"	Max Wall Thickness **

Bead Profiles

Bead Form 3 H.D.

0.065" WALL SS	0.057" Tall X 5/16" Wide X 5/16" From End to Center
0.049" WALL AL	0.063" Tall X 5/16" Wide X 5/16" From End to Center

Lathe Tooling

0.065"	0.1" Tall X 0.2" Wide
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Notes:

- 1) Use Bead Form 3 H.D. when possible. Lathe tooling is less accurate and time consuming.
 - 2) Non hardened material only
- * May decrease depending on wall thickness. Consult machining.
**Increased wall thickness may be possible. Consult machining.

Welding & Fabrication



- UL 142 Tank Certified
- Certified Structural Welders
- All grades of finish work
- All types of alloys and material
- (30) Dual Feed MIG Welders
- (5) Dual Feed TIG Welders
- Dual Feed Track Welders

Door Openings

Assembly Area Doors	W	H
B3 Main Assembly Outer Roll-Up (door 15)	20'	16' ½"
B2 Outer Assembly Roll-Ups (doors 11 & 12)	20'	15' 2"
Interior Roll-Ups between B2 & B3 (13 & 14)	20'	14' 5"

Fab Area Doors	W	H
B3 Outer Fab Roll-Ups (Doors 21 and 24)	20'	15' 1½"
Interior Roll-Up between fab/assy	18'	16'
Interior Roll-Ups between fab/mat processing	20'	15' 6"

Crane Specifications

Fab Area	Capacity	Beam Height (Floor to Beam)	Max Lift (Max Hook Ht)
Jib Cranes (Throughought area at multiple different heights)	1 Ton	TBD	19' Min
Bridge Crane East Aisle	5 Ton	26'	24'6"
Bridge Crane Center Aisle	10 Ton	26' +	24'6" +
Bridge Crane West Aisle (x2)	10 Ton	26'	24'6"

Note that structural beams along fab aisles are the height limiting item, not bridge crane beams height.

Assembly Areas	Capacity	Beam Height (Floor to Beam)	Max Lift (Max Hook Ht)
Jib Cranes (throughought areas)*	1 Ton	14'	12' 2"
Jib Cranes (throughought areas)*	1 Ton	15' 10"	14'
Bridge Cranes in B2 assembly area (x2, 1 per aisle)	10 Ton	23'	19' 4"
Bridge Crane in B3 assembly area	20 Ton	18' 9½"	19' 5"

Note that crane beams are the height limiting items in most of assembly area. B3 assembly has highest ceiling, but will be limited depending on location of bridge crane.

*Some jib cranes are higher than others so that they can swing over

Powder Coat & Paint



Standard Colors

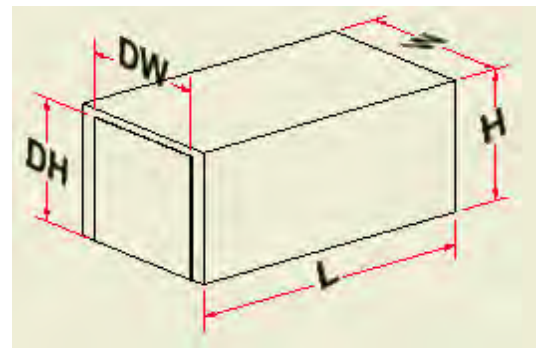
Powder Coat: ** Additional Colors Available*

Color	Name	Stock Code
Black	Gloss SRSF 10108	POWD100
Blue	Powder Blue Streak	POWD113
Gray	SNO-CAT	POWD118
Green	John Deere	POWD125
Green	Reiter	POWD136
Orange	New Orange #10091336	POWD102
Red	International	POWD154
White	Gloss PFW51059	POWD104
Yellow	GK / Cat Yellow	POWD120

Liquid: ** Additional Colors Available*

Color	Name	Stock Code
Black	Imron High Gloss 1640	DUPO803
Blue	Global	DUPO843
Gray	42P-3714 Imron Volve-GM	DUPO500
Green	John Deere Imron	DUPO828
Orange	GK	DUPO101
Red	International	DUPO848
White	Imron Urethane Bright	DUPO804
Yellow	GK / Tracker Urethane	DUPO300

Booth sizes:	L	W	H	DW	DH
Blast	70'	20'	17'	20'	16'
Chemical wash	14'	9'	7'	9'	7'
Powder	35'	14'	16'	14'	16'
Liquid	70'	20'	17'	20'	16'



Notes: Due to baking requirements, maximum material thickness for powder coat is 2" - Material over 1" thick would be better for liquid paint. Oven door is 12' wide. Powder coating is limited by width of oven door.

Saw Cutting



Tolerances	
Length:	+/- 1/16"
Angle:	+/- 1°



Capacities	
Max angle with standard clamping	60°
Max angle with shimming/pre-cambering*	70°
No cut can exceed linear travel	20"
Max material height (between jaws)	18"
Max material width (table to blade)	20"
Max length	60'

* Standard tolerances do not apply due to lack of control over this clamp style

Shearing



- ◆ 12' max width
- ◆ 1/2" max thickness

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Tube Benders



Tube Benders

Small Bend Radius Hyd Tubing Dies ¹			
Manual Powered Hyd Tube Bender			
Tube OD	Size ²	Bend Radius ³	Min Length of Straight After Bend
5/16	5	11/16	1 1/4
1/2	8	1 1/4	1 5/16
5/8	10	1 1/2	1 1/2
3/4	12	1 3/4	1 11/16

Large Bend Radius Dies ¹			
Manual Powered Hyd Tube Bender			
Tube OD	Size ²	Bend Radius ³	Min Length of Straight After Bend
1/4	4	3/4	1 1/4
5/16	5	1	1 1/4
3/8	6	1 1/4	1 3/8
1/2	8	2	1 3/8
5/8	10	2 1/2	1 3/8
3/4	12	3	1 3/4

Hydraulic Powered Hyd Tube Bender			
Tube OD	Size ²	Bend Radius ³	Min Length of Straight After Bend
5/8	10	1 1/2	1 5/8
3/4	12	1 3/4	1 1/2
7/8	14	2	1 3/4
1	16	3	2 1/2
1 1/4	20	3 3/4	3
1 1/2	24	5	3 1/8

Tube Benders	Manufacturer/Model No.
Manual (M)	Parker/412
Hydraulic (H)	JD2/MODEL 32
Hydraulic (H)	Parker/HB633

JD2 MODEL 32* Pipe & Tube Bender					
Hydraulic Powered					
Nominal OD (Actual OD)	MAT	Bend Radius ³	Min Length of Start	Min Length Between Bends After 90° Bend**	Min Length After Bend
3/4 (1.050)	PIPE	3	4 3/16	4 3/16	4 1/2
1 (1.000)	TUBE	3	4 3/16	4 3/16	4 1/2
1 (1.315)	PIPE	3 1/2	4 5/16	4 5/16	4 1/2
1 1/2 (1.900)	PIPE	5 1/2	4 7/16	4 7/16	5 5/8

Stainless Steel Hydraulic Tube Bender Capacity ⁴				
Wall Thickness ⁵ (in)	Tube OD (in)			
	3/4 (12)	1 (16)	1 1/4 (20)	1 1/2 (24)
0.035	M/H ^{6,7}	H ⁷	H ⁷	H ⁷
0.049	M/H ⁷	H ⁷	H ⁷	H ⁷
0.058	H	H ⁷	H ⁷	H ⁷
0.065	H	H ⁷	H ⁷	H ⁷
0.072	H	H	H ⁷	H ⁷
0.083	H	H	H ⁷	H ⁷
0.095	H	H	H	H ⁷
0.109	H	H	H	H
0.120	H	H	H	H
0.134	H	H	H	H
0.156	H	H	H	H
0.188	H	H	H	H

* JD2 MODEL 32 IS THE PRIMARY BENDER.
ONLY USE PARKER BENDERS FOR HYDRAULIC HARDLINES.

**Min length between bends can be reduced depending on bend angle and orientation (Requires testing).

- 1) Dies are notated on the floor by size and bend radius. Ex: "#5 x 11/16"
- 2) Size represents the tube OD in sixteenths. Example: Size 4 Represents a 4/16" or 1/4" OD.
- 3) Bend radius is the centerline radius of the tube.
- 4) The manual bender is able to bend 1/2" OD and lower stainless steel hydraulic tubing regardless of wall thickness.
- 5) Tube wall thickness should be at least 7% of the OD to avoid kinking.
- 6) M and H represent Manual and Hydraulic tube benders respectively.
- 7) These wall thicknesses not recommended for use at GK. ID mandrels are required to avoid kinking when bending.

Tube flaring machine needs at least 2" of straight after bend.

Marking, Labeling, Decals Made In-house



Standard Capabilities

HAND STAMPING WITH CHARACTER PUNCHES

Stamping individual characters: A-Z, 1-9

Character widths available: 1/8", 1/4", 3/16", 3/8"

Metal surfaces only. Depth of indentation depends upon material hardness.

Kerning, spacing and aligning characters tolerance: +/- 1/16"

DECAL PRINTING (DURALABEL TORO)

Standard decal material: Polyester UL969 outdoor rated, silver background

Other materials available on request:

White, yellow, or other colors; tamper evident decals; heat shrink; low-halogen; cold resistant; RTK; etc.

Label length: unlimited (max roll length is 94 ft)

Standard decal width: 4" | Other widths available on request: 1/2", 1", 2", 3"

Font color: Black, thermal transfer | Supports fillable PDFs for SN ags, VIN decals, inspection decals, etc.

Text, symbols, line art, and solid fill art supported. Gradient shading not supported.

SMALL LABEL PRINTING (DYMO OFFICE AND DYMO RHINO PRINTERS)

Standard flat label materials: Vinyl or Polyester

Label length: unlimited (max roll length is 18 ft)

Standard flat label width: 1/4", 3/8", 1/2" (12mm), 3/4" (18mm). Most common sizes are 1/2" and 3/4".

Heat shrink tube label flat width: 1/4" (others available on special request)

Label width tolerance: +/- 1/32" | Font sizes: Small, medium, large scaled by label height

Label colors combinations: Black font on white background, black font on yellow background, white font on black background. Text, ASCII symbols, and common emojis/symbols only.

PERMANENT MARKER

Red or black ink (standard or fine felt tip)

Most permanent marker can be removed with alcohol or some other solvent. Note that some red inks will stain unpainted metal surfaces permanently, regardless of solvent used.

PAINT PEN

Various colors available: red, blue, white, yellow are most common

Stroke width depends on type and user: 1/8" to 1/4"

BLUE TAPE W/ PERMANENT MARKER OR PAINT PEN

Tape Width available: 3/4", 1", 2"

Tape is applied to parts and text written on tape instead of part surface. See above for marker/pen pen spec.

GK MACHINE, INC. DONALD, OREGON

503-678-5525

www.GKMachine.com

Parts & Hydraulic Sales

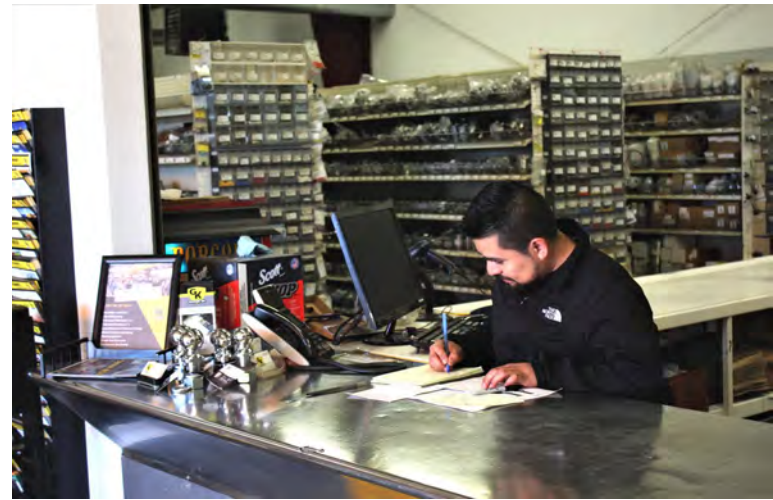


**GK Machine is your location for Parts & Hydraulics for your equipment.
GK carries a large selection of:**

- ◆ Hydraulic fittings & adaptors
- ◆ Pumps and valves
- ◆ Couplings & fittings
- ◆ Spray tips & nozzles
- ◆ Spraying systems parts
- ◆ Gearboxes
- ◆ Hydraulic manifolds
- ◆ Tank accessories
- ◆ Filtration systems
- ◆ Farm and tractor parts



- ◆ Chemical sprayers
- ◆ GPS systems
- ◆ Field computers
- ◆ Liquid handling systems
- ◆ Application & boom controls
- ◆ Flow indicators
- ◆ Caps and adaptors
- ◆ Tubes and fittings
- ◆ Heaters & AC units
- ◆ Safety Gear



**Our technical experts, with over 40 years of experience,
will help you find the part or supplies you need to keep your operation moving.**

Banjo Pipe Fittings - Liquid handling solutions for agricultural and industrial applications; valves, pumps, couplings, fittings; glass injected polypropylene or stainless steel

KZCO - Flow management solutions for systems through motorized valve capabilities

Pentair Hypro-Shurflo - Air Blast Spray Nozzles, Banding & Directed Spray Nozzles, Broadcast Spray Nozzles, Centrifugal Pumps, Clean-load Chemical Systems, Diaphragm Pumps, Express Boom Assembly and Fertilizer Spray Nozzles

TeeJet Technologies - Spray application and precision farming technology including spray nozzles, valves, control systems, and GPS guidance systems

Raven Precision - Field computers, guidance and steering systems, application controls, boom controls, and harvest controls.

Parker Hannifin - Motion and control technologies for a wide variety of mobile and industrial markets: aerospace, climate control, electromechanical, filtration, fluid and gas handling, hydraulics, pneumatics, process control, sealing and shielding.

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Service Department



GK provides maintenance and repair services for almost all brands of agricultural machines and components. We offer specialized repair services for Ag machines, components and hydraulics. GK Machine has the experts to troubleshoot and diagnose your repair issue in our shop or at your job site.



- Ag equipment service and repair
- In-shop parts, repair and installation
- Hydraulic hoses
- Custom machining
- Implement repairs
- Raven/Teejet trouble shooting & repair
- Hydraulic systems diagnostic & repair
- Re-Engineered parts
- Custom fabrication and welding



GK Machine repairs hydraulic cylinders, motors and pumps. GK maintains a large in-house inventory of finished parts and raw material to handle quick turn projects and special modifications to your equipment. GK Machine's Repair Department has fully equipped field service trucks with experienced technicians that will travel to your site and repair your equipment.

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Owner /Sales



Connie Lindsay
Marketing



Mike Mader
Equipment Sales



Charissa Stephens
Sales Assistant



Brent Selnau
Equipment Sales



Derrick Bratton
Greenhouse Sales



Donnie McKechnie
Project Manager



Martha Hill
Sales & Customer
Service Assistant



Kaleb Domeyer
Estimating Mgr

GK Machine Inc. provides full service custom contract manufacturing for a variety agricultural, specialty, and industrial equipment companies.

We specialize in OEM component parts, sub-assemblies, and finished products; laser cutting, CNC punching, forming, welding/fabrication, machining, electrical and mechanical assembly, and finishing (paint/powder coat).

Whether you need parts and pieces or even large production runs, we have the capacity and capabilities for your next manufacturing project.

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Industries include:

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Mark Edwards
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Adam Berreth
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