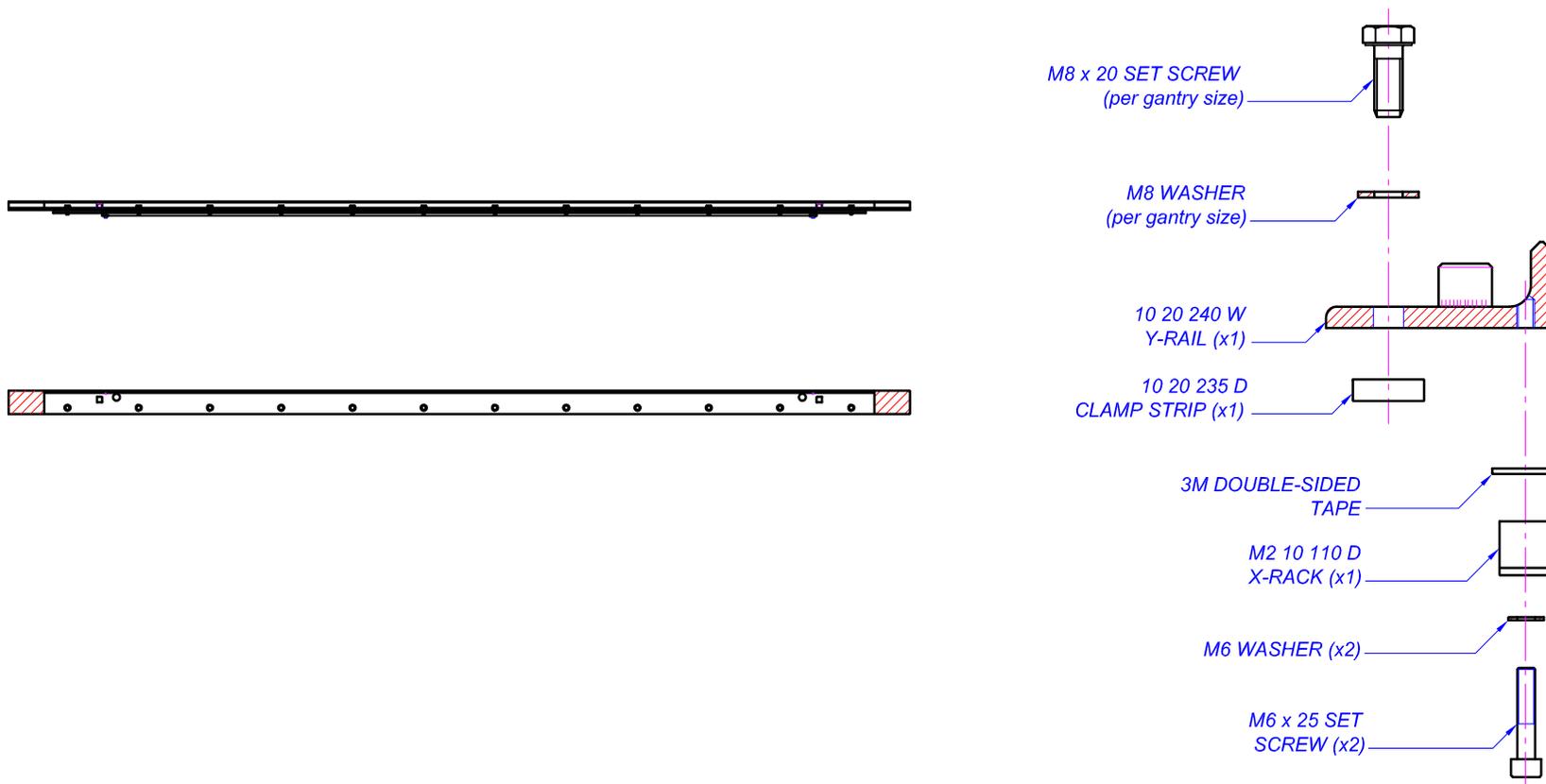


Higher drawing/s:	10 00 000 A	1:15	Cable chains & V-cap rails	09-10-07	B
			First issue	24-11-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	ASSEMBLY		Title		
			GANTRY ASSEMBLY		
Drawing Number			Process	Revision	
10 20 000			A	B	

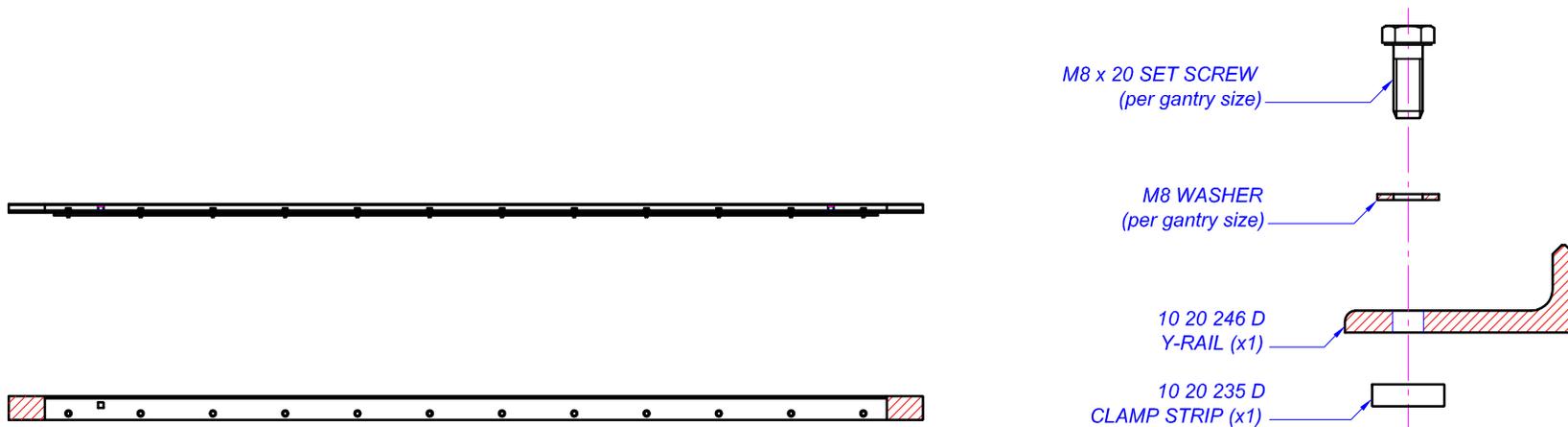
**MechMate**  
www.mechmate.com



**OPTION**

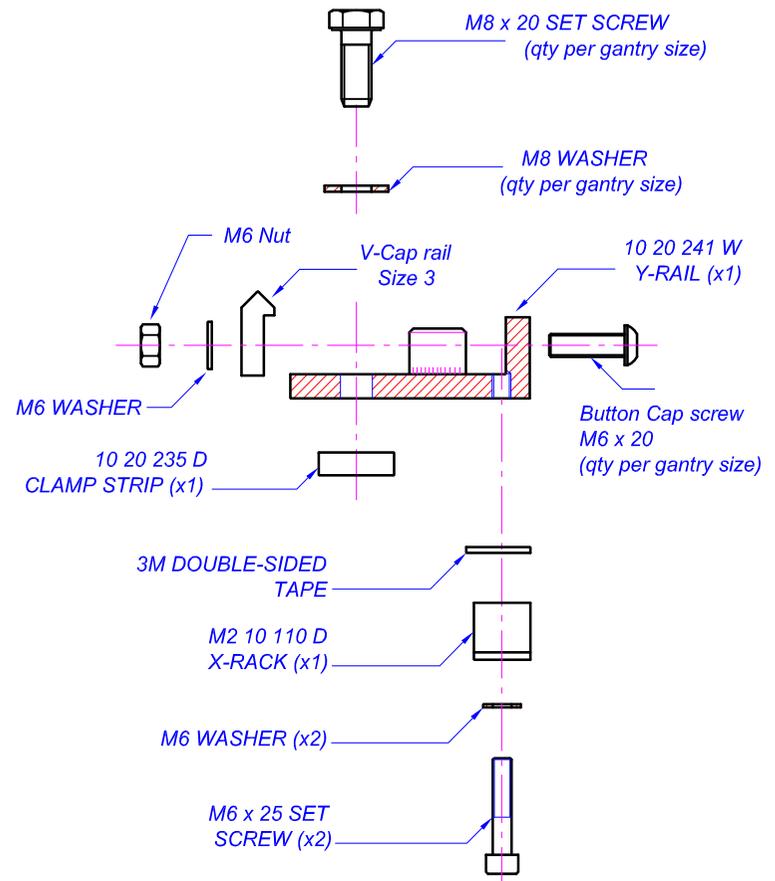
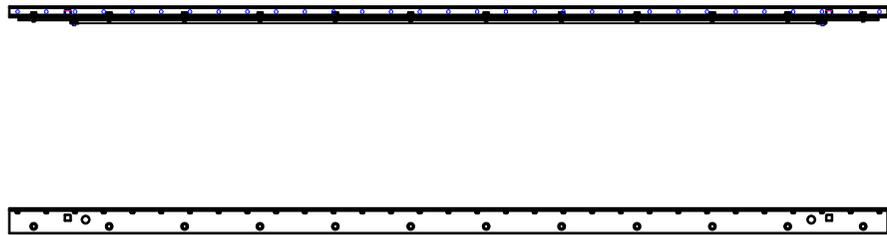
Higher drawing/s:	10 20 000 A	1: 20			
	1x assy / gantry		First issue	15-11-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	ANGLE IRON/STEEL		Title		
			ANGLE IRON Y-RAIL ASSEMBLY W/RACK		
	Drawing Number		Process	Revision	
	10 20 200		A	A	

**MechMate**  
www.mechmate.com



**OPTION**

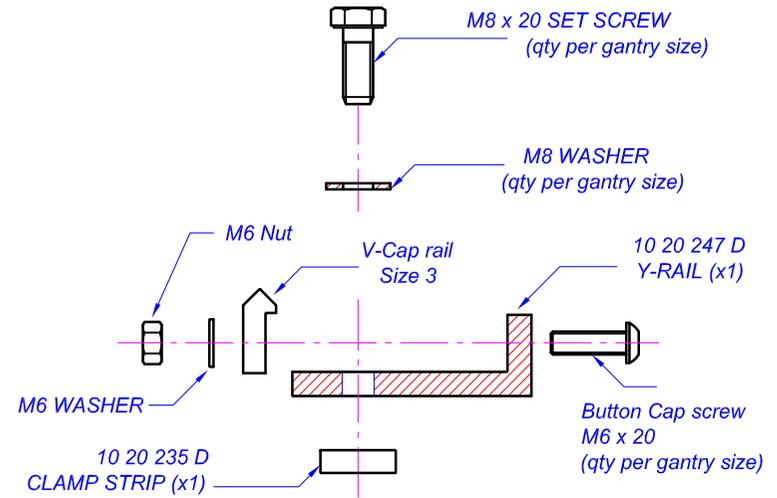
Higher drawing/s:	10 20 000 A	1: 20			
	1x assy / gantry		First issue	15-11-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	ASSEMBLY		Title		
			Y-RAIL ASSEMBLY - (NO RACK)		
	www.mechmate.com		Drawing Number	Process	Revision
			10 20 210	A	A



**OPTION**

Higher drawing/s:	10 20 000 A	1: 20		
	1x assy / gantry		First issue	09-10-07 A
			Description of change	Date (d-m-y) Rev.
Material:	ALU/STEEL	Title		
		ALU / V-CAP Y-RAIL ASSEMBLY WITH RACK		
		Drawing Number	Process	Revision
		10 20 220	A	A

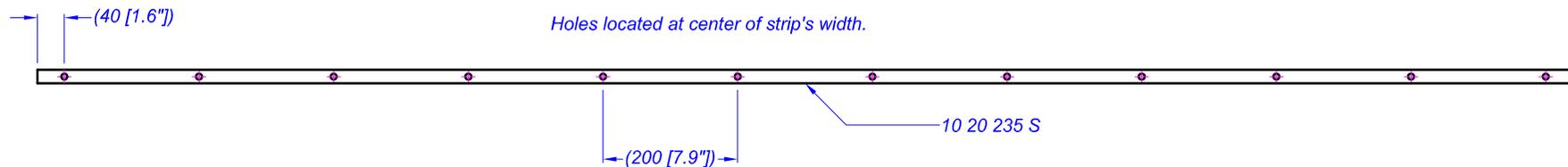
**MechMate**  
www.mechmate.com



**OPTION**

Higher drawing/s:	10 20 000 A	1: 20		
	1x assy / gantry		First issue	09-10-07 A
			Description of change	Date (d-m-y) Rev.
Material:	ALU/STEEL	Title		
		ALU / V-CAP Y-RAIL ASSEMBLY NO RACK		
		Drawing Number	Process	Revision
		10 20 225	A	A

**MechMate**  
www.mechmate.com



Pitch between Ø9mm holes to be 200 to 300mm (8" to 12") for steel rails, or to be 200 to 250mm (8" to 10") for alu rails.

End holes to be located within 25 to 75mm [1" to 3"] of the cut ends.

Notes:

1. Drill Ø6.8mm pilot holes and then use strips as jigs for drilling parts 10 20 440 D & 10 20 246 D.
2. Mark the orientation of the strips used as jigs, in case of inaccuracies
3. Only tap the M8 x 1.25 threads after being used as drill jigs.

Higher drawing/s:	10 20 200 A	1:10			
			First issue	17-10-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	6mm STEEL FLAT BAR		Title		
 www.mechmate.com			Y-RAIL CLAMP STRIP - DRILLED & TAPPED		
			Drawing Number	Process	Revision
			10 20 235	D	A

20 [0.8"]

Y + 450mm [17.7"]

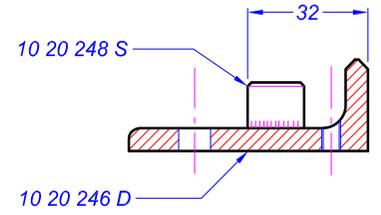
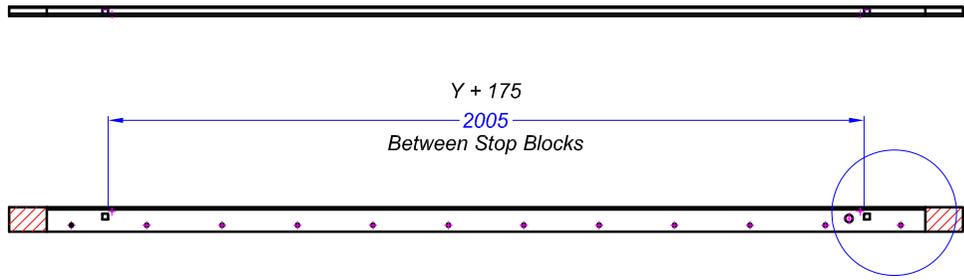
(2280 [89.8"])

6 [0.25"]

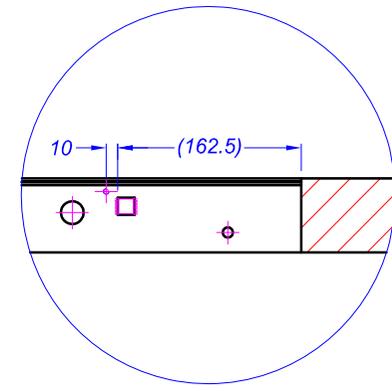
Material:

20 x 6mm Mild Steel Flat Bar [ 3/4 x 1/4 " ]

Higher drawing/s:	10 20 235 D	1:10			
			First issue	17-10-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	20 X 6mm FLAT BAR		Title		
			Y-RAIL CLAMP STRIP - SAWN		
	 www.mechmate.com		Drawing Number	Process	Revision
			10 20 235	S	A



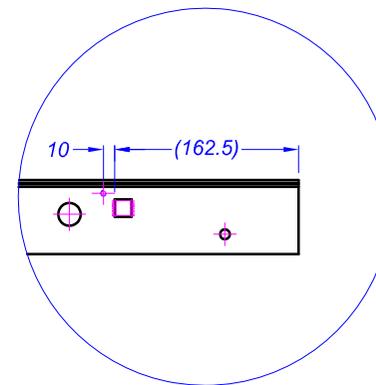
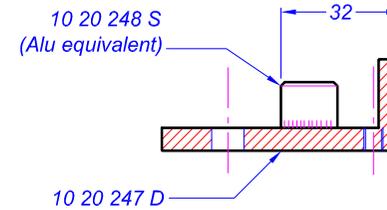
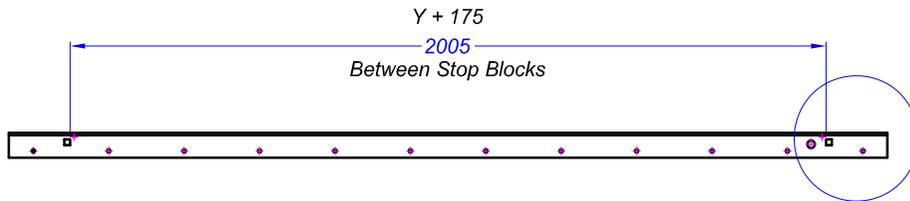
Enlarged below



**OPTION**

Higher drawing/s:	10 20 200 A	1: 20			
			First issue	19-10-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	ANGLE IRON/STEEL		Title		
			ANGLE IRON Y-RAIL - Welded		
Drawing Number			Process	Revision	
10 20 240			W	A	

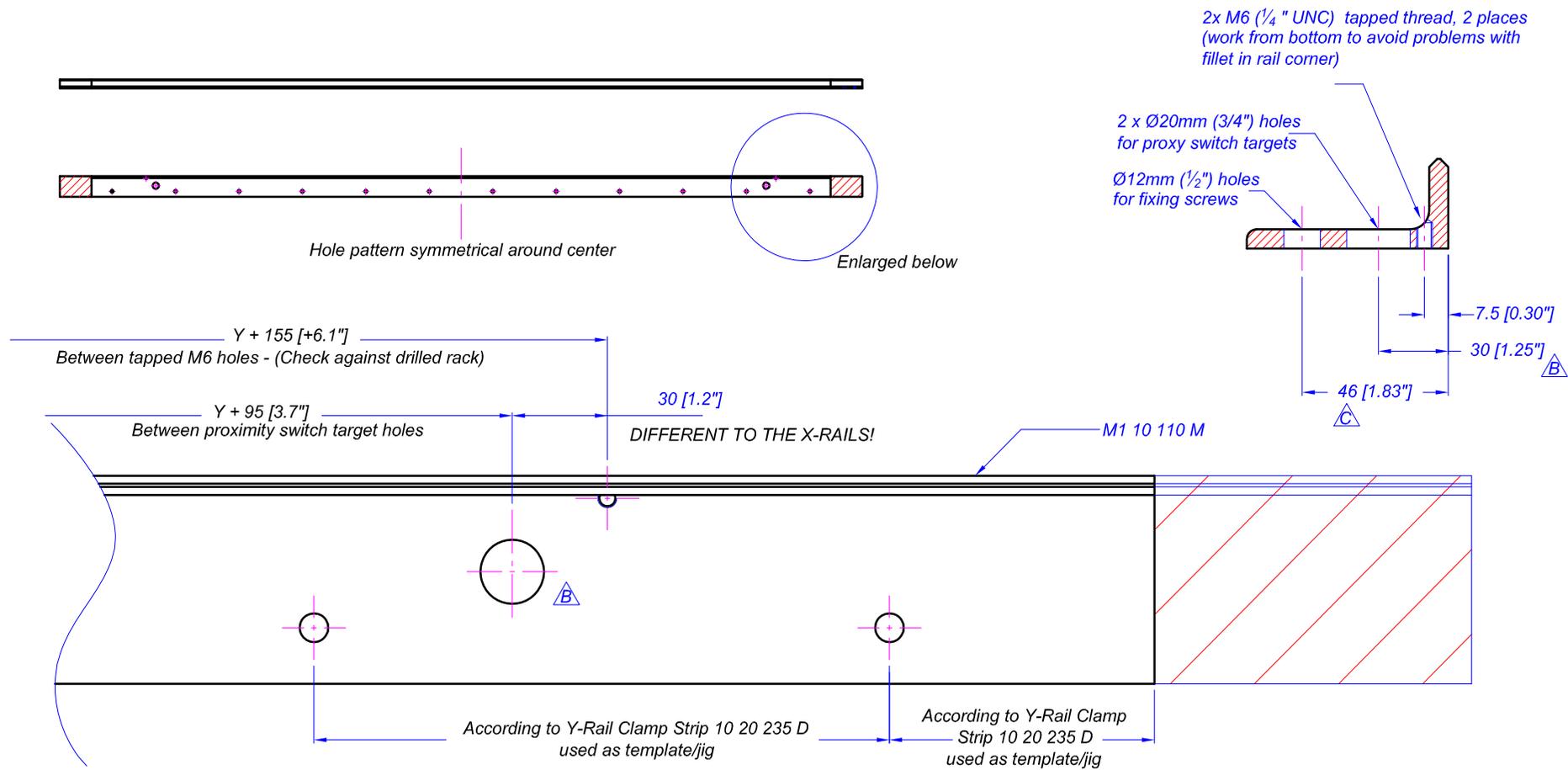
**MechMate**  
www.mechmate.com



**OPTION**

Higher drawing/s:	10 20 220 A	1:20			
			First issue	09-10-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	ALUMINIUM		Title		
			ALU RAIL BASE - Welded		
	Drawing Number		Process	Revision	
	10 20 241		W	A	

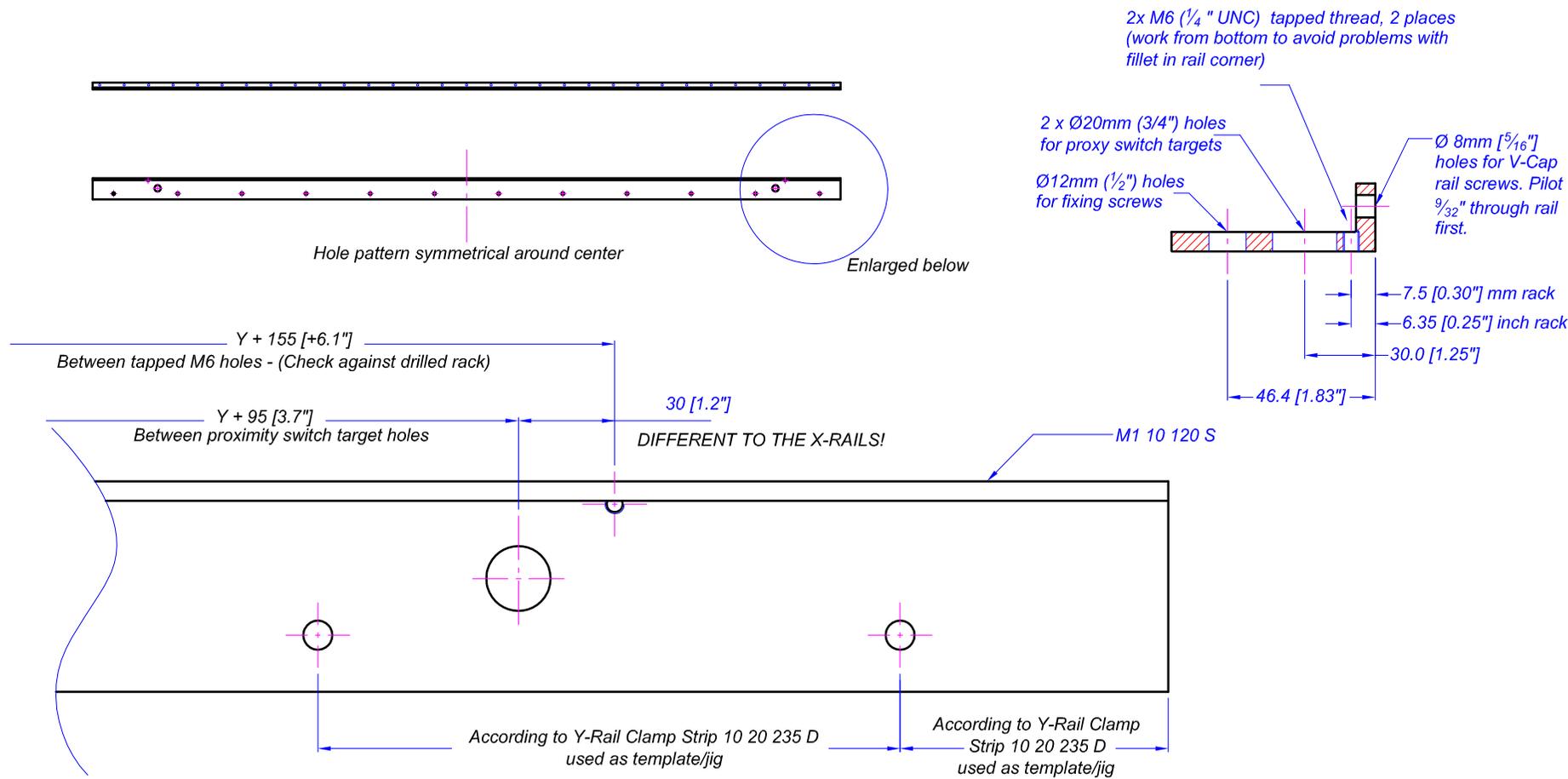
**MechMate**  
www.mechmate.com



1. Match & mark a Y-Rail Clamp Strip 10 20 235 D to be used for each rail. Mark orientation and direction with a permanent marker.
2. Scribe a line on the back of the rail, 46mm [1.81"] from the reference edge.
3. Clamp un-tapped Y-Rail Clamp Strip 10 20 235 D to the rail, centered in the length and on the scribed line.
4. Use the un-tapped Y-Rail Clamp Strip 10 20 235 D as a drill jig to drill Ø6.8mm [1/4"] pilot holes in the rail.
5. Remove "jig" and enlarge holes in rail to Ø12mm [1/2"].

**OPTION**

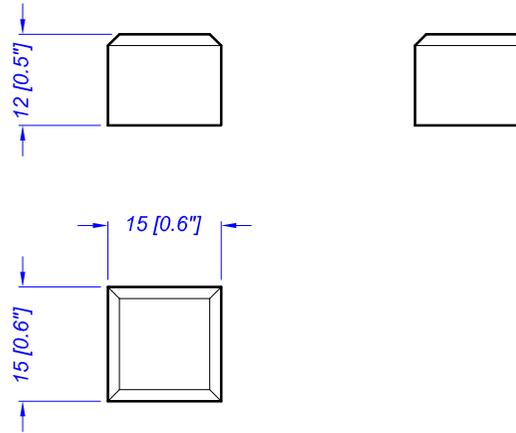
Higher drawing/s:	10 20 240 W	1: 20	Move proxy target hole inboard	06-10-07	B
			Removed unnecessary decimal	27-06-08	C
			Description of change	Date (d-m-y)	Rev.
Material:	ANGLE IRON/STEEL		Title		
	MechMate		ANGLE IRON Y-RAIL - Drilled & Tapped		
	www.mechmate.com		Drawing Number	Process	Revision
			10 20 246	D	C



1. Match & mark a Y-Rail Clamp Strip 10 20 235 D to be used for each rail. Mark orientation and direction with a permanent marker.
2. Scribe a line on the back of the rail, 46mm [1.81"] from the reference edge.
3. Clamp un-tapped Y-Rail Clamp Strip 10 20 235 D to the rail, centered in the length and on the scribed line.
4. Use the un-tapped Y-Rail Clamp Strip 10 20 235 D as a drill jig to drill Ø6.8mm [1/4"] pilot holes in the rail.
5. Remove "jig" and enlarge holes in rail to Ø12mm [1/2"].

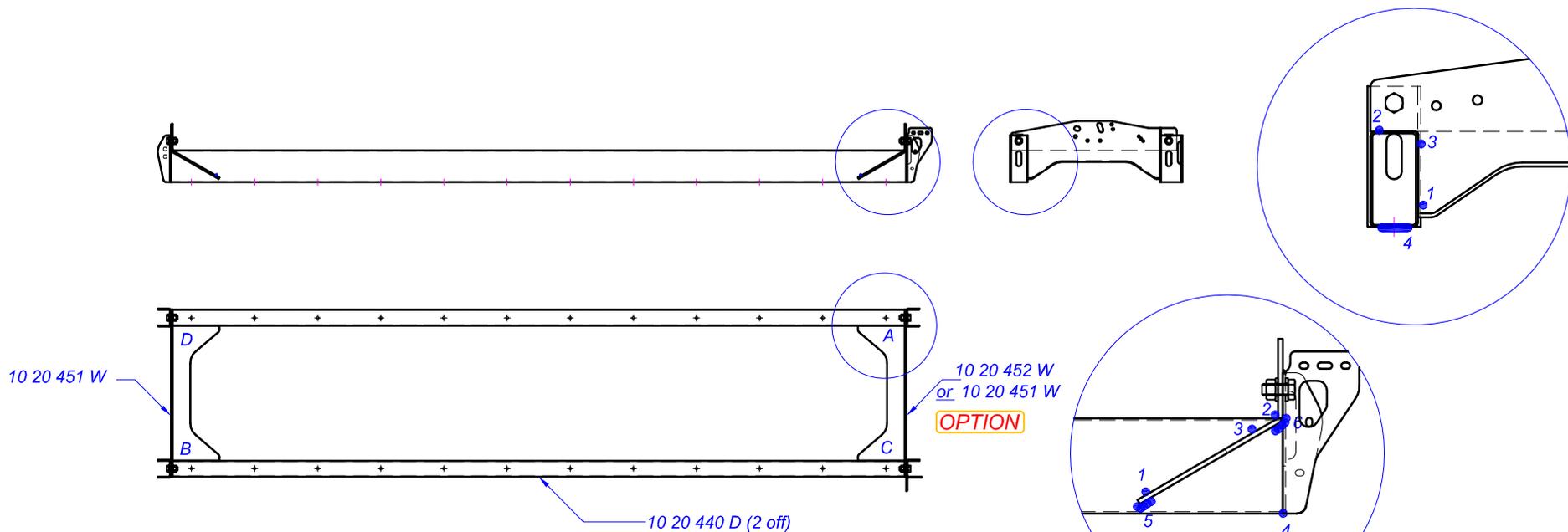
**OPTION**

Higher drawing/s:	10 20 242 W	1: 20			
			First issue	08-10-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	ALUMINIUM		Title		
MechMate			Y-RAIL SUPPORT ALU - Drilled & Tapped		
www.mechmate.com			Drawing Number	Process	Revision
			10 20 247	D	A



**OPTION**

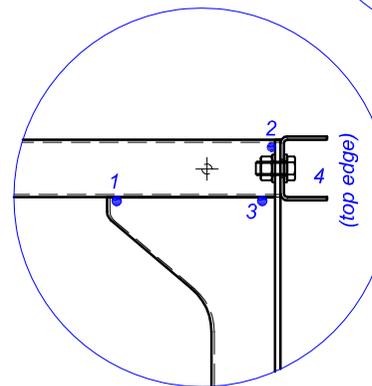
Higher drawing/s:	10 20 240 W	1:1		
			First issue	20-10-06 A
			Description of change	Date (d-m-y) Rev.
Material:	15mm STEEL SQ BAR		Title	
			Y-RAIL STOPPER BLOCK -SAWN	
	MechMate www.mechmate.com		Drawing Number	Process Revision
			10 20 248	S A



**Notes:**

1. Lay the two Cross Member Tubes 01 20 440 D across a firm workbench with the DRILLED HOLES AT THE BOTTOM. Clamp the tubes to the bench with 4 large g-clamps. (Construction starts upside down)
2. Using an accurate spirit level, framing square, shims and the sub-weldments 10 20 450 W as distance gauges, get the tubes very precisely in position BEFORE any welding is done. They must be level, parallel and square to each other. Use the framing square from one tube over to the other to get the ends in line. Keep within 1mm tolerance.
3. Put in TACK welds (small!) in the following sequence: A1, B1, C1, D1, A2, B2, C2, D2, A3, B3, C3, D3.
4. Un-clamp gantry from bench, gently turn it over, re-clamp and check square/parallel/level again. This is (almost) the last chance to correct "propellor twist". (shimming the rails is the last resort)
5. Lay full welds 40mm long in pos. 4 where the (now) top of the cross member meets 01 20 456 B. The rail will lie over this position and the weld must be ground flat down to be flush with the top of the cross-members. Keep to the ABCD sequence for this step and hereafter. . . . .
6. Lay welds 15mm long from opposite pos. 1 up to the tip of the gusset (marked as 5). Same size weld at pos. 6 . Un-clamp and turn gantry over again.
7. Join welds 1 and 5 together. Join welds 2 & 3 together.
8. Turn gantry on its edge and do 20mm welds opposite pos. 6

SEE FORUM FOR PHOTOS



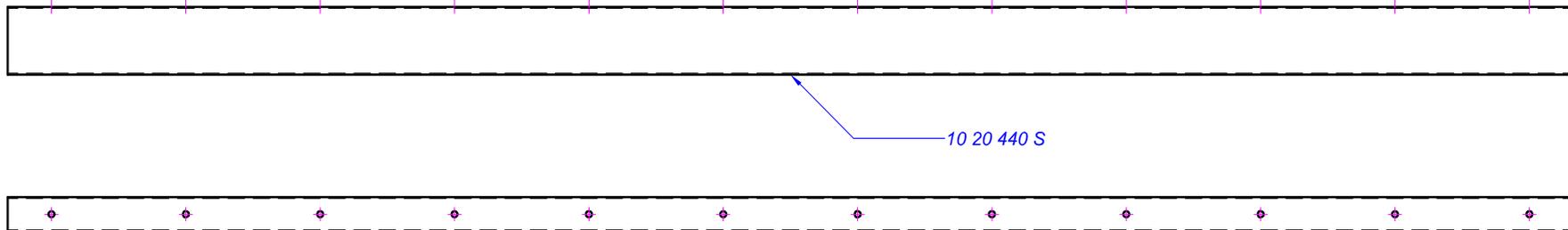
**Note:**

This drawing shows the optional 10 20 452W gantry end for attaching x-axis cable chain.

Higher drawing/s:	10 20 000 A	1:20	For wiring & cable chain	08-10-07	B
			First issue	20-10-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	STEEL		Title		
 www.mechmate.com			GANTRY FRAME - WELDED		
			Drawing Number	Process	Revision
			10 20 400	W	B



Tube seam - position away from drilled side 



10 20 440 S

1. Match & mark a Y-Rail Clamp Strip 10 20 235 D to be used for each tube. Mark orientation and direction with a permanent marker. ie. Mark the mating pairs that will eventually be assembled together.

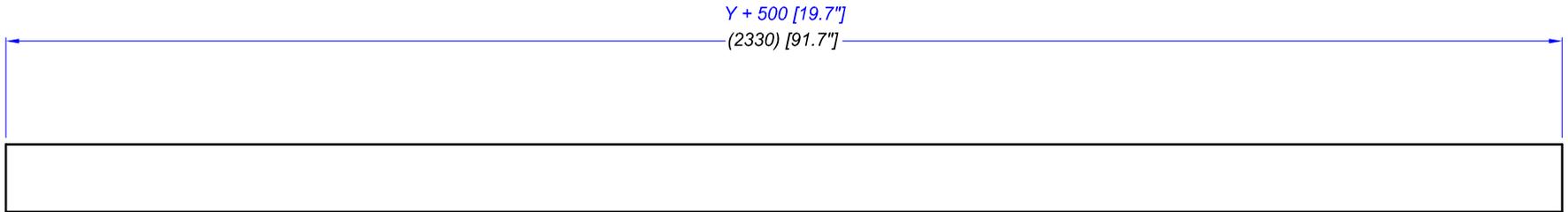
2. Use un-tapped Y-Rail Clamp Strip 10 20 235 D as a drill jig to drill  $\text{Ø}6.8\text{mm}$  pilot holes in the center of the tube narrow face (away from seam). 

3. Remove "jig" and enlarge holes in tube to  $\text{Ø}12\text{mm}$ . Use a sharp drill to minimise the burr on the inside of the tube. 

4. Remove remaining burrs from the inside of the tube.

5. De-grease the inside of tube. (the next step will see the ends being partly closed, but wires & cables will still pass through.)

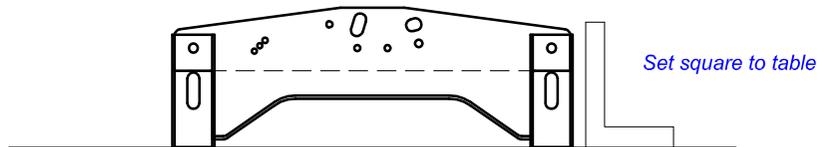
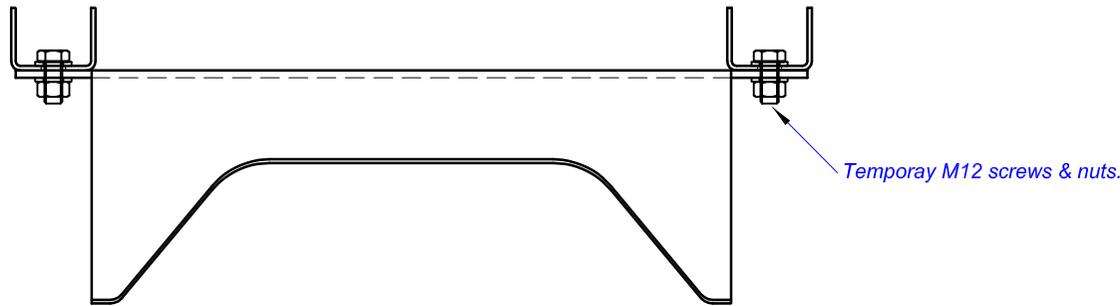
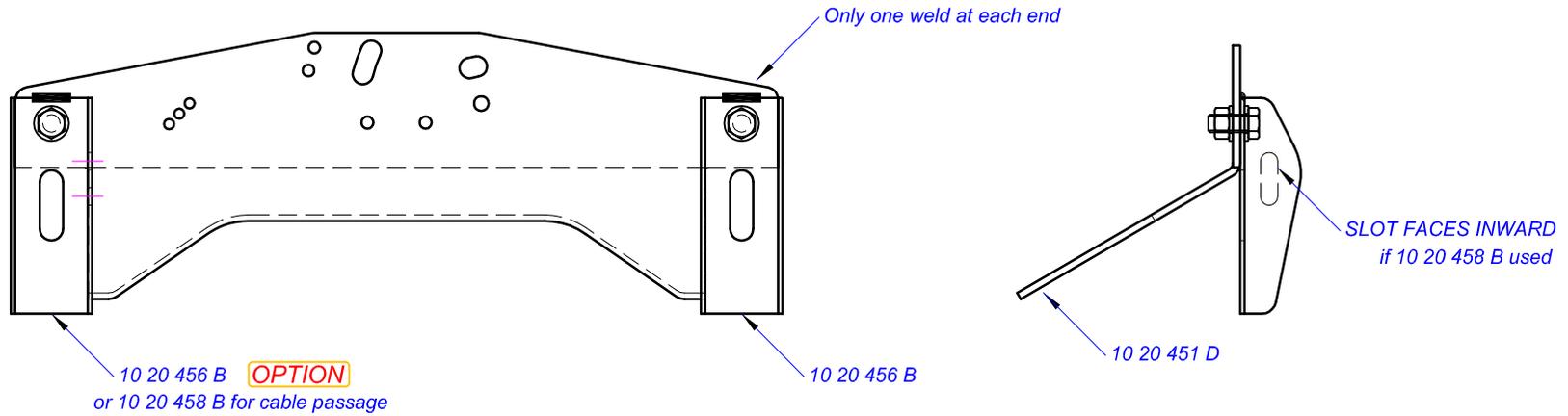
Higher drawing/s:	10 20 400 W	1:10	Note on tube seam location, larger hole	27-06-08	B
			First issue	17-10-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	2-3mm Steel Tubing		Title		
			CROSS MEMBER TUBE - DRILLED		
	Drawing Number		Process	Revision	
	10 20 440		D	B	
 <a href="http://www.mechmate.com">www.mechmate.com</a>					



*Material:*  
 100 x 50mm Rectangular Steel  
 tubing. Wall thickness 2mm

- Notes:*
1. Tubes to be cut in matching pairs.
  2. Ends to be square within 1mm.

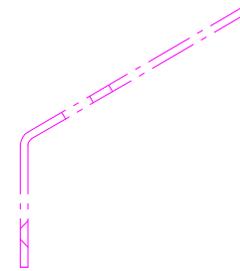
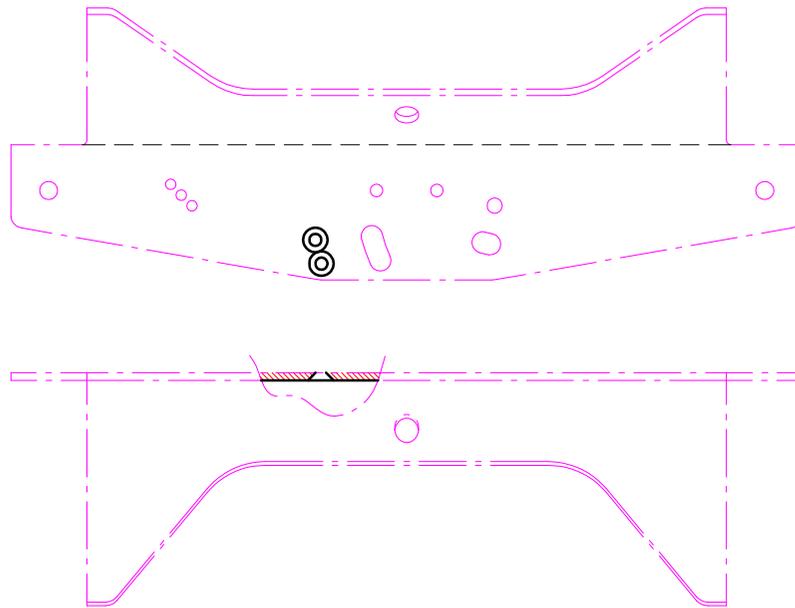
Higher drawing/s:	10 20 440 D	1:10			
			First issue	17-10-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	100 X 50 X 2mm Rect. Tubing		Title		
			CROSS MEMBER TUBE - SAWN		
 www.mechmate.com		Drawing Number		Process	Revision
		10 20 440		S	A



THIS SUB-ASSEMBLY IS BEST WELDED WHILE UPSIDE DOWN ON A FLAT BENCH. IT WILL LIE BACK AT A SLIGHT ANGLE, BUT THIS DOES NOT INFLUENCE THE SQUARING OF THE CLOSING PLATES.

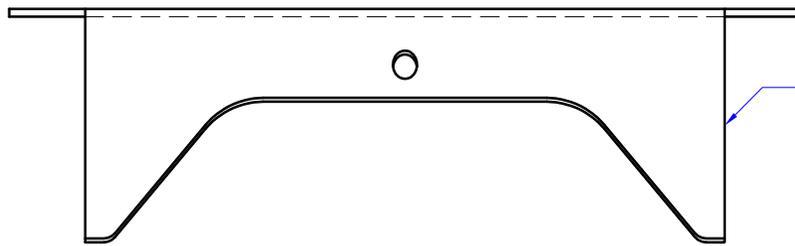
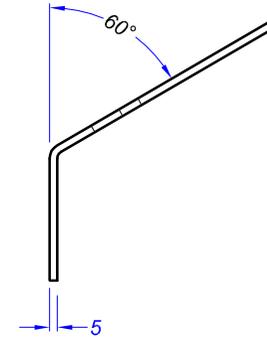
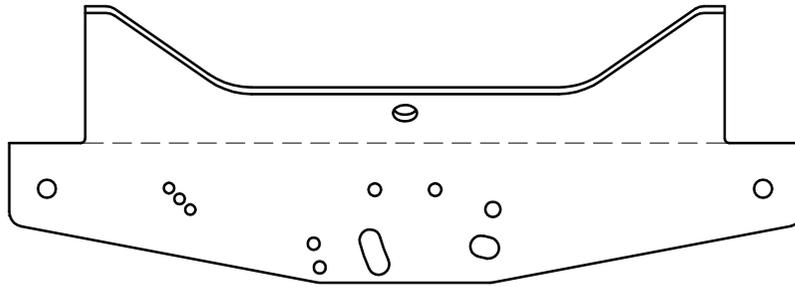
Higher drawing/s:	10 20 400 W	1:5		
			First issue	26-09-07 A
			Description of change	Date (d-m-y) Rev.
Material:	STEEL		Title	
			NEAR GANTRY END SUB-WELDMENT	
Drawing Number		Process	Revision	
10 20 451		W	A	

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www.mechmate.com



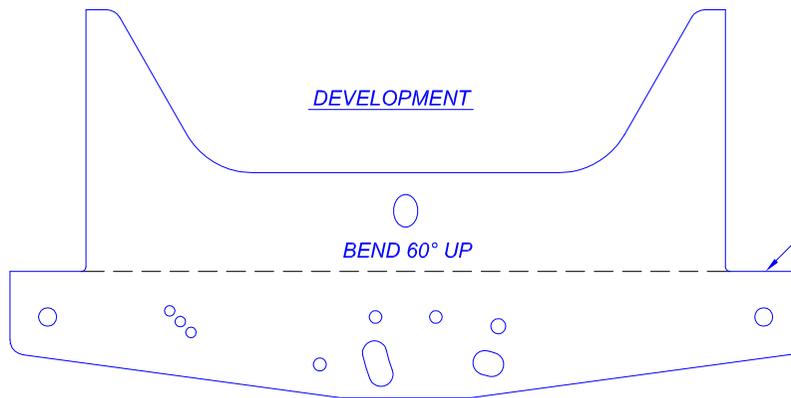
COUNTERSINK ONLY THE TWO HOLES FROM  
INSIDE THE BEND

Higher drawing/s:	10 20 451 W	1:5			
			First issue	08-10-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	STEEL		Title		
			NEAR CARRIER PLATE - DRILLED CSK		
 <a href="http://www.mechmate.com">www.mechmate.com</a>		Drawing Number		Process	Revision
		10 20 451		D	A



10 20 451 P

Note that this plate should be drilled after bending and before welding.

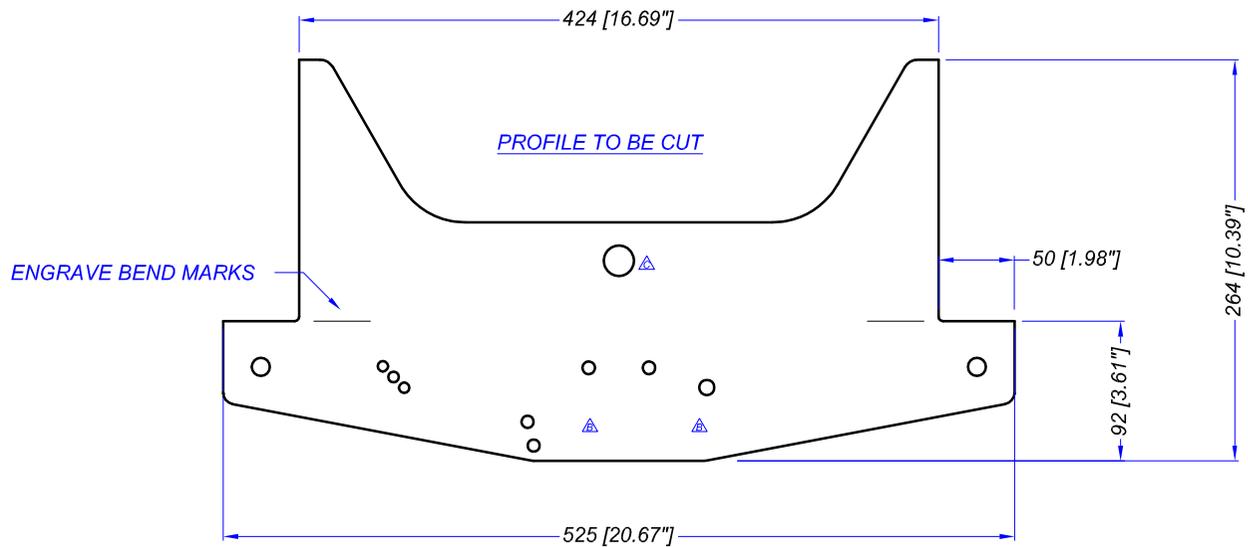


DEVELOPMENT

BEND 60° UP

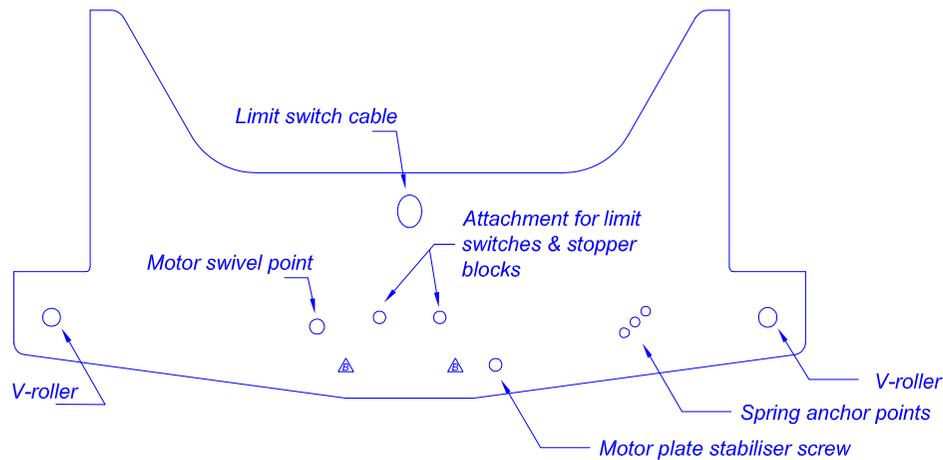
THIS FACE ON CENTER OF BEND

Higher drawing/s:	10 20 451 D	1:5			
			First issue	08-10-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	5mm STEEL 300MPa	Title			
		NEAR CARRIER PLATE - BENT			
 <a href="http://www.mechmate.com">www.mechmate.com</a>		Drawing Number		Process	Revision
		10 20 451		B	A



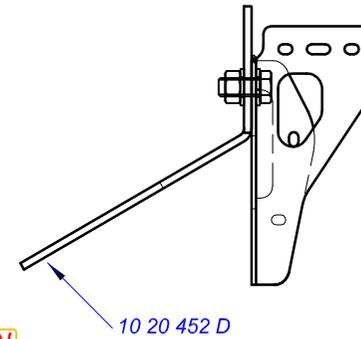
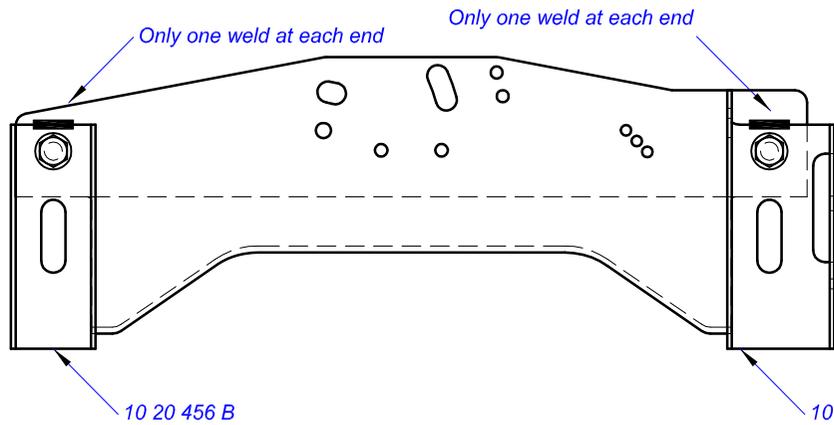
SUPPLY .dxf VERSION OF THIS DRAWING TO THE LASER CUTTING CONTRACTOR FOR REMAINDER OF DIMENSIONS. THE GIVEN DIMENSIONS ARE TO CHECK SCALE.

EXPLANATION OF HOLES - DO NOT CUT THIS PROFILE

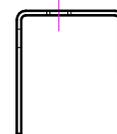
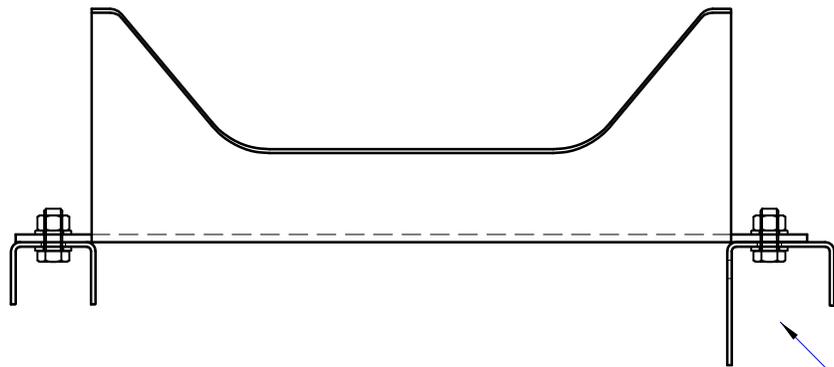


Higher drawing/s:	10 20 451 B	1:5	Deleted slots for geared screw heads	17-04-08	B
		△	Increased proxy cable hole size	17-06-08	C
			Description of change	Date (d-m-y)	Rev.

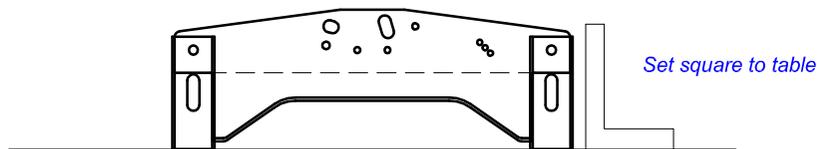
Material:	5mm [3/16"] STEEL 300MPa	Title			
 <a href="http://www.mechmate.com">www.mechmate.com</a>		NEAR CARRIER PLATE - PROFILE CUT			
		Drawing Number	Process	Revision	
		10 20 451	P	C	



10 20 457 B **OPTION**  
or 10 20 456 B for no cable facilities

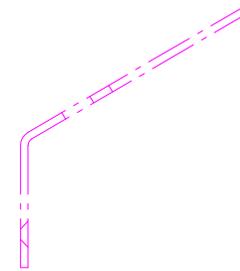
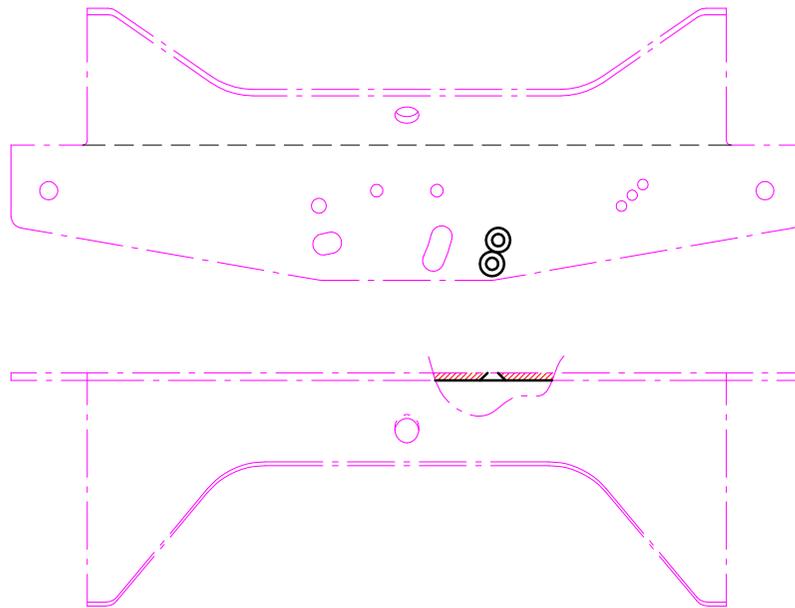


THIS SUB-ASSEMBLY IS BEST WELDED WHILE UPSIDE DOWN ON A FLAT BENCH. IT WILL LIE BACK AT A SLIGHT ANGLE, BUT THIS DOES NOT INFLUENCE THE SQUARING OF THE CLOSING PLATES.



**OPTION**

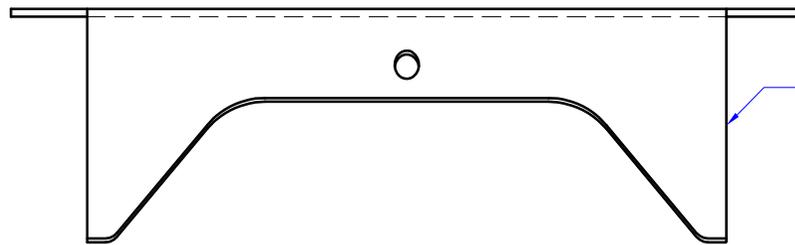
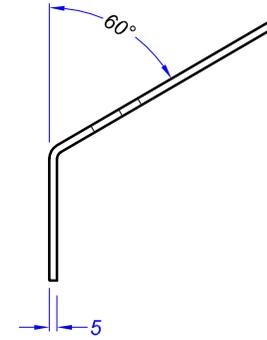
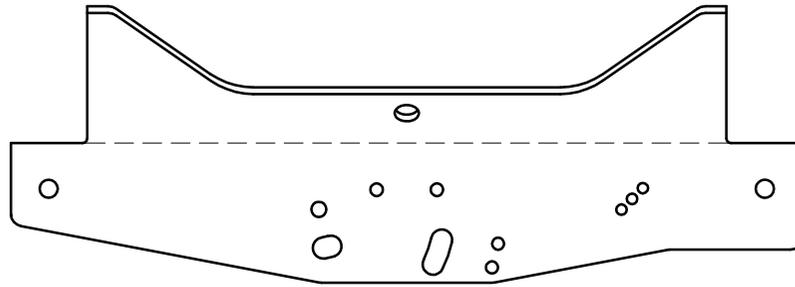
Higher drawing/s:	10 20 400 W	1:5		
			First issue	26-09-07 A
			Description of change	Date (d-m-y) Rev.
Material:	STEEL		Title	
			FAR GANTRY END SUB-WELDMENT	
	Drawing Number		Process	Revision
	10 20 452		W	A
	www.mechmate.com			



COUNTERSINK ONLY THE TWO HOLES FROM  
INSIDE THE BEND

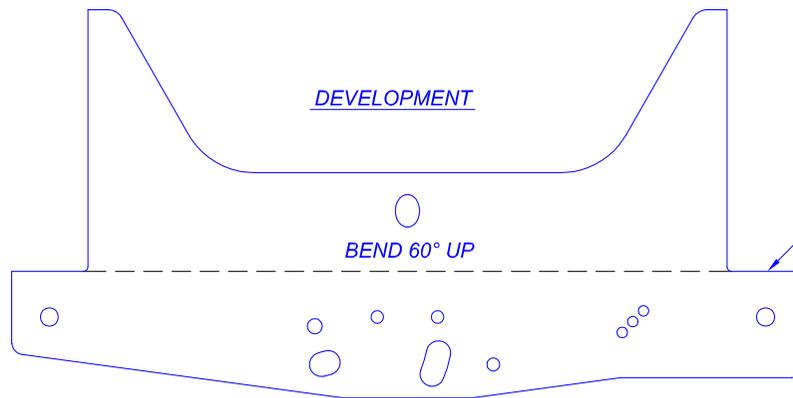
**OPTION**

Higher drawing/s:	10 20 452 W	1:5		
			First issue	08-10-07 A
			Description of change	Date (d-m-y) Rev.
Material:	STEEL		Title	
			FAR CARRIER PLATE - DRILLED CSK	
	Drawing Number		Process	Revision
	10 20 452		D	A
	www.mechmate.com			



10 20 452 P

Note that this plate should be drilled after bending and before welding.



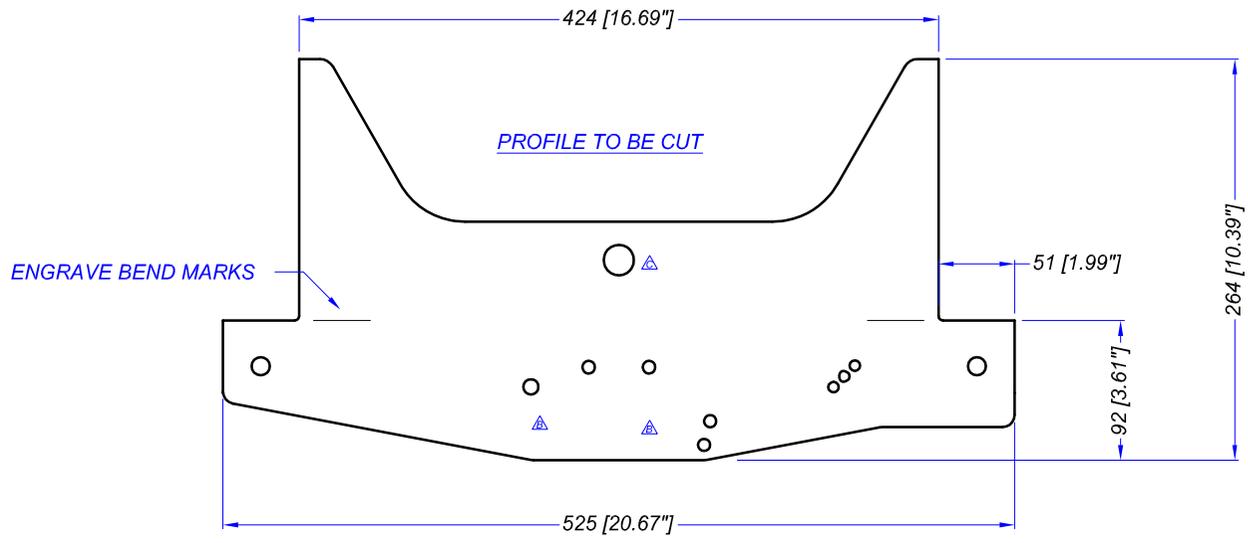
DEVELOPMENT

BEND 60° UP

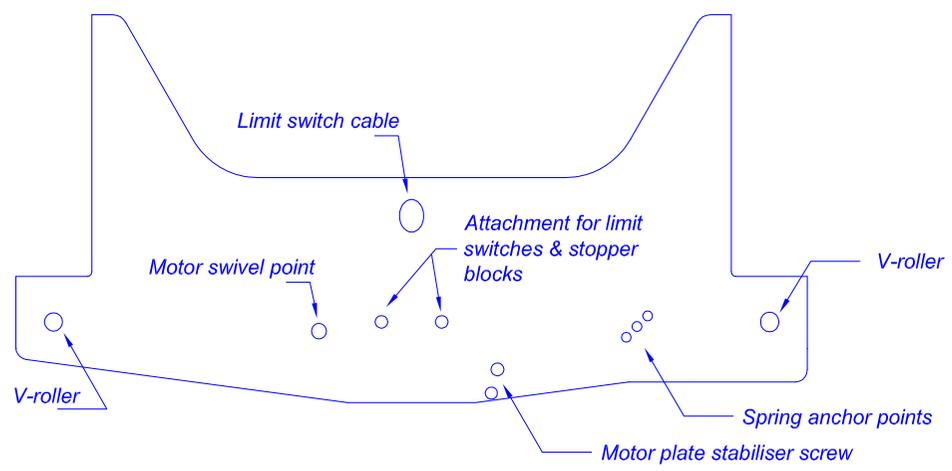
THIS FACE ON CENTER OF BEND

**OPTION**

Higher drawing/s:	10 20 452 D	1:5			
			First issue	08-10-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	5mm STEEL 300MPa	Title		FAR CARRIER PLATE - BENT	
 <a href="http://www.mechmate.com">www.mechmate.com</a>		Drawing Number		Process	Revision
		10 20 452		B	A



EXPLANATION OF HOLES - DO NOT CUT THIS PROFILE

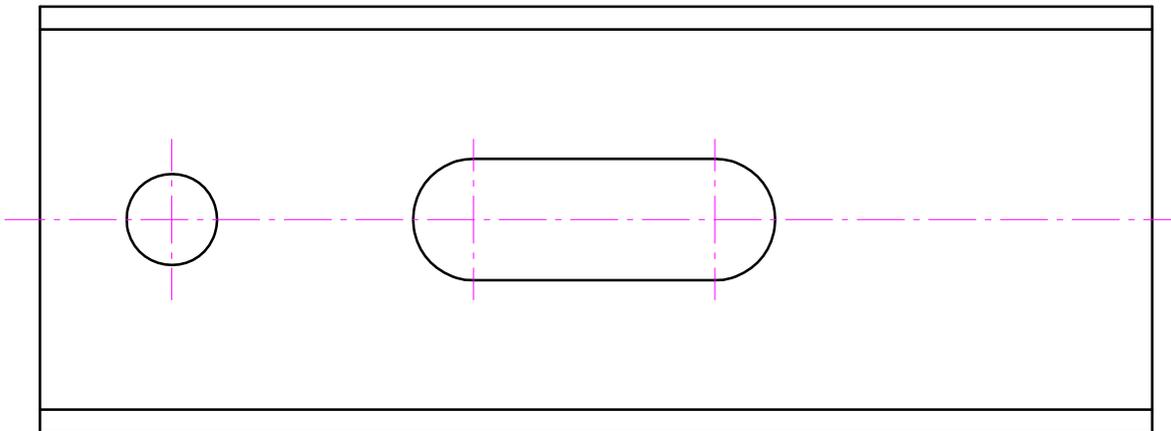
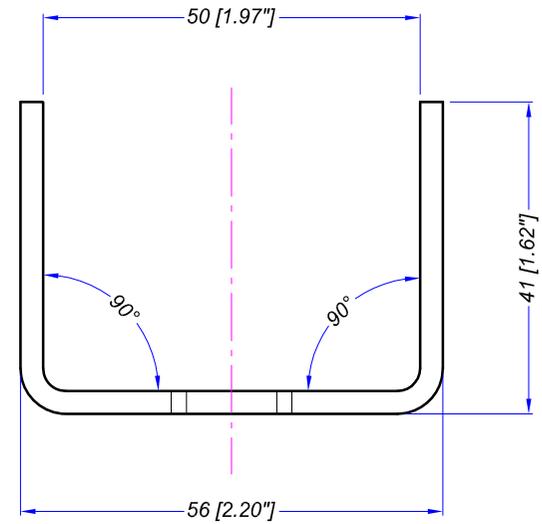
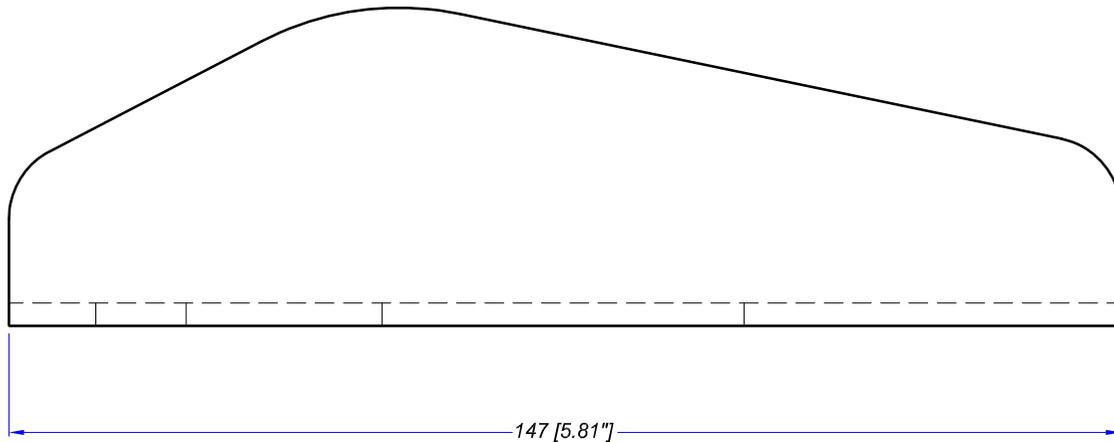


SUPPLY .dxf VERSION OF THIS DRAWING TO THE LASER CUTTING CONTRACTOR FOR REMAINDER OF DIMENSIONS. THE GIVEN DIMENSIONS ARE TO CHECK SCALE.

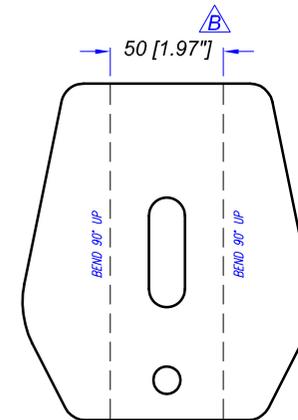
**OPTION**

Higher drawing/s:	10 20 452 B	1:5	Deleted slots for geared screw heads	17-04-08	B
			Increase proxy hole size	17-06-08	C
			Description of change	Date (d-m-y)	Rev.
Material:	5mm [3/16"] STEEL 300MPa		Title		
			FAR CARRIER PLATE - PROFILE CUT		
Drawing Number		Process	Revision		
10 20 452		P	C		

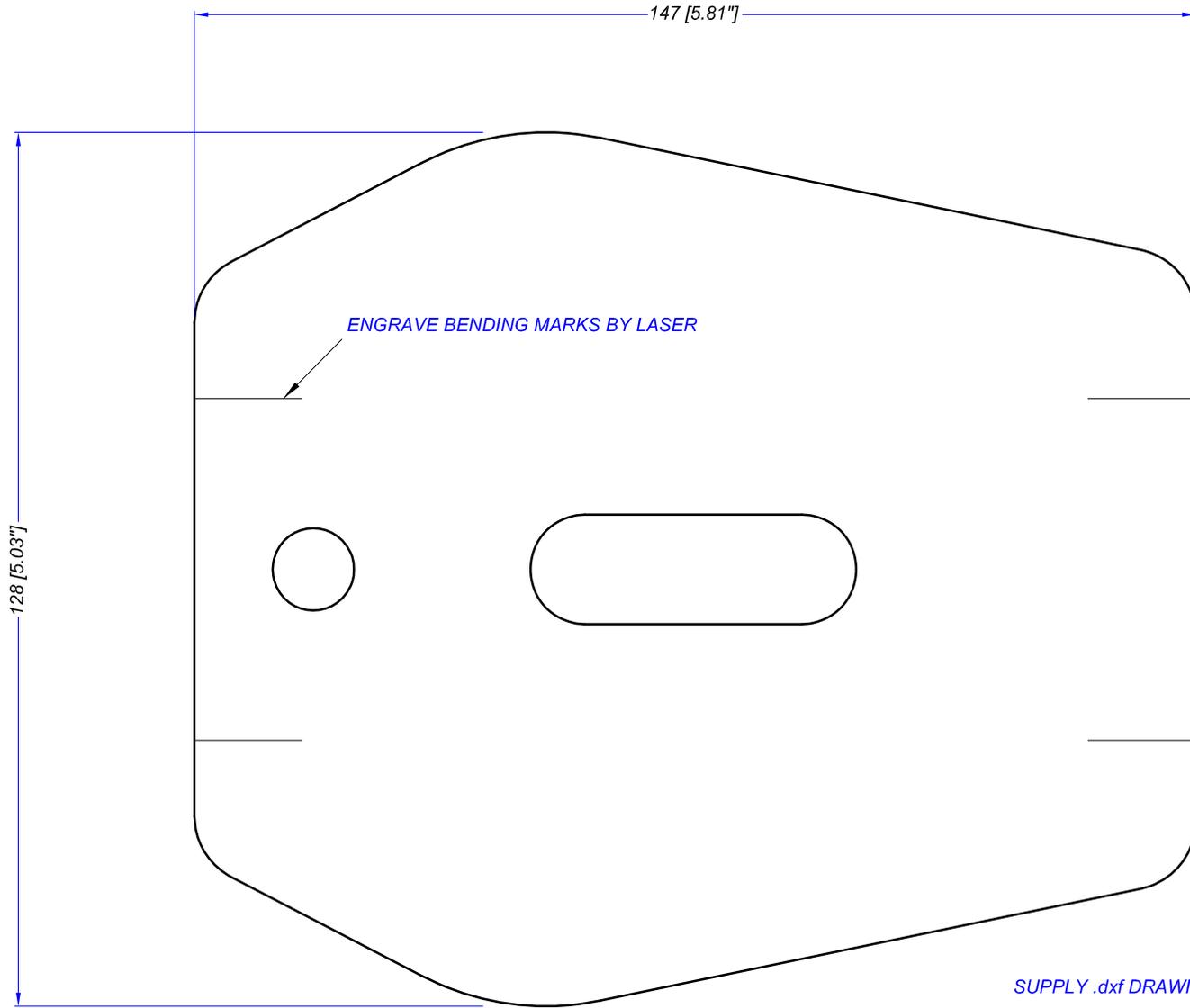
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10 20 256 P

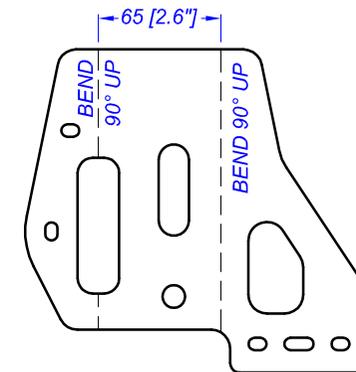
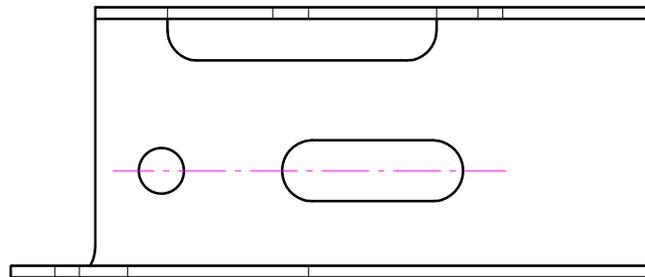
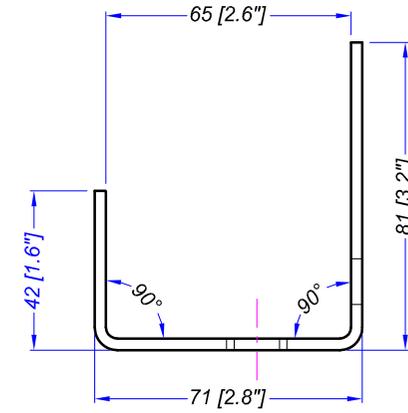
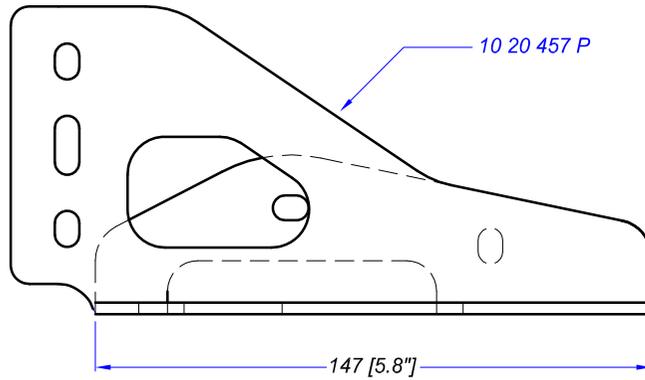


Higher drawing/s:	10 20 451 W 10 20 452 W	1:1	Corrected error caused by scale view	18-05-07	B
			First issue	14-07-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	3mm MILD STEEL PLATE		Title		
 <a href="http://www.mechmate.com">www.mechmate.com</a>			STIFFENING CLOSURE		
Drawing Number		Process	Revision		
10 20 456		B	B		



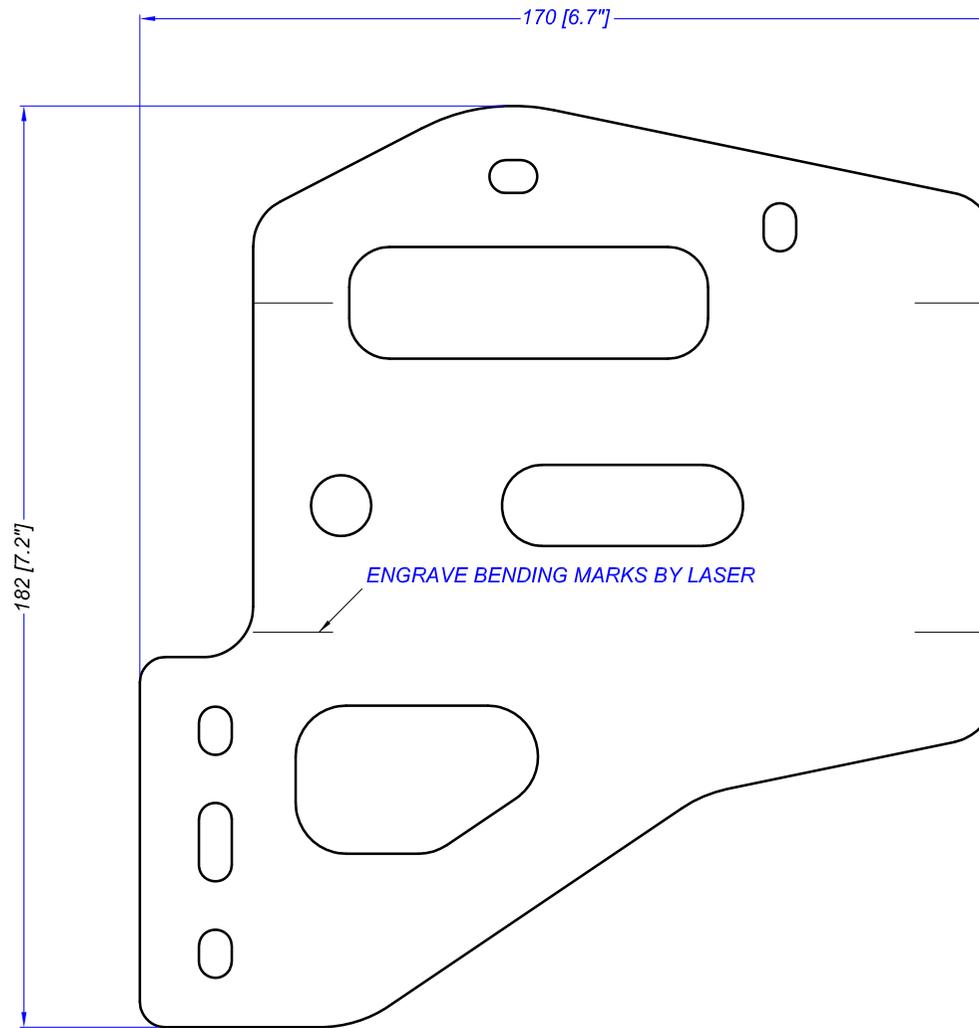
SUPPLY .dxf DRAWING TO CNC CUTTING COMPANY

Higher drawing/s:	10 20 456 B	1:1			
			First issue	14-07-06	A
			Description of change	Date (d-m-y)	Rev.
Material:	3mm STEEL 300MPa	Title		STIFFENING CLOSURE - PROFILE CUT	
 <a href="http://www.mechmate.com">www.mechmate.com</a>		Drawing Number		Process	Revision
		10 20 456		P	A



**OPTION**

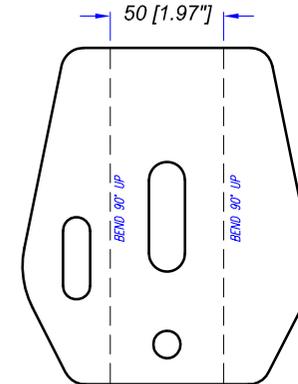
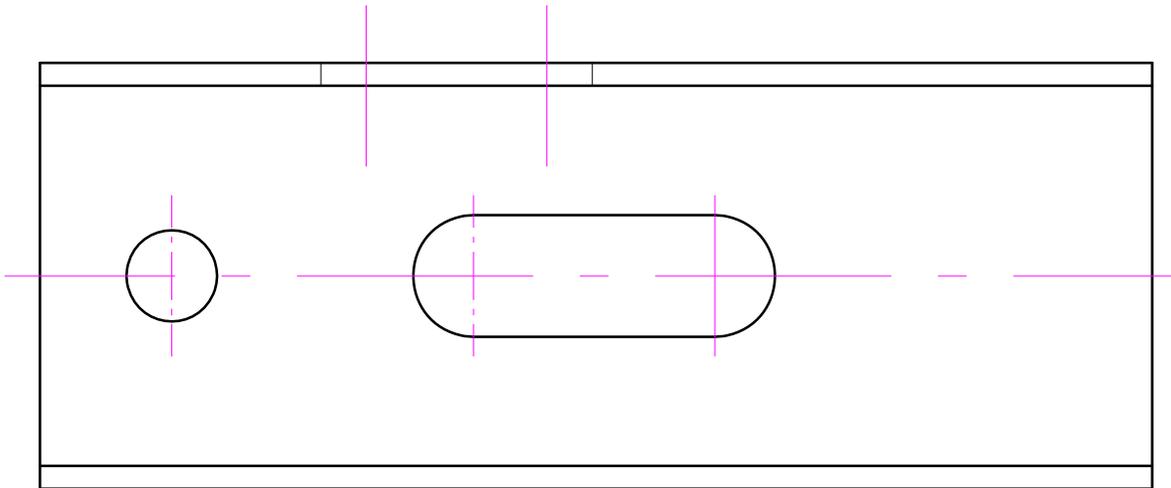
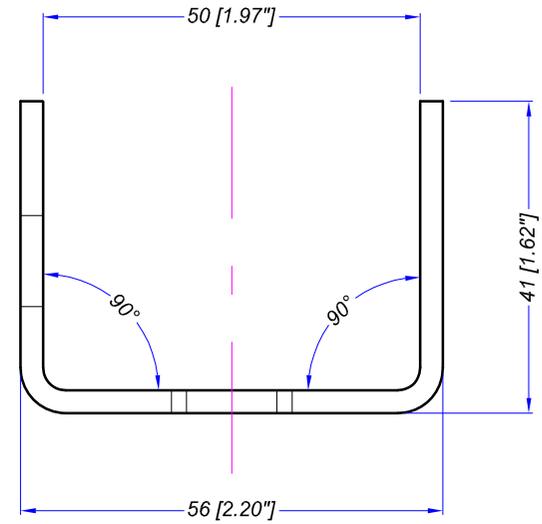
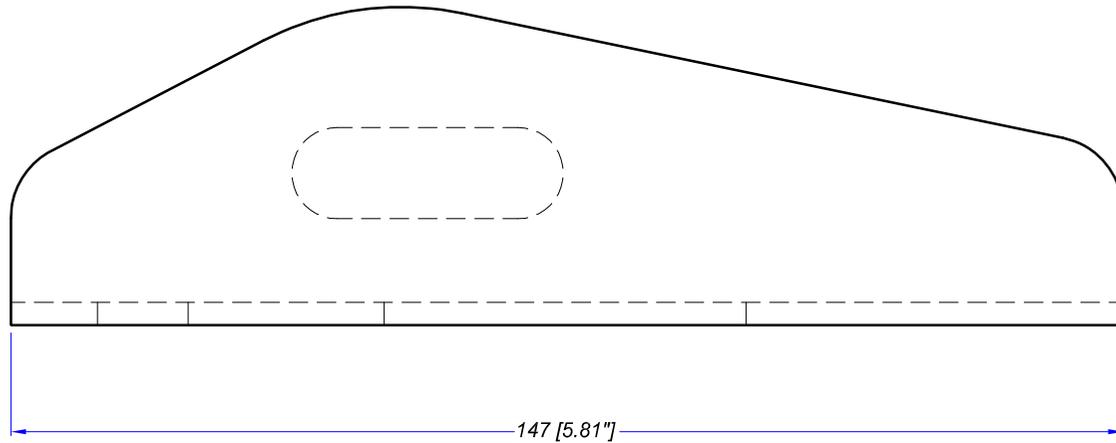
Higher drawing/s:	10 20 452 W	1:2			
			First issue	26-09-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	3mm MILD STEEL PLATE		Title		
			STIFFENING CLOSURE - CABLE CARRIER		
	Drawing Number		Process	Revision	
	10 20 457		B	A	
	www.mechmate.com				



SUPPLY .dxf DRAWING TO CNC CUTTING COMPANY

Higher drawing/s:	10 20 457 B	1:1.5			
			First issue	26-09-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	3mm [1/8"] STEEL 300MPa		Title STIFFENING CLOSURE - PROFILE CUT (AT CABLE CARRIER CORNER)		
 <a href="http://www.mechmate.com">www.mechmate.com</a>		Drawing Number		Process	Revision
		10 20 457		P	A

**OPTION**

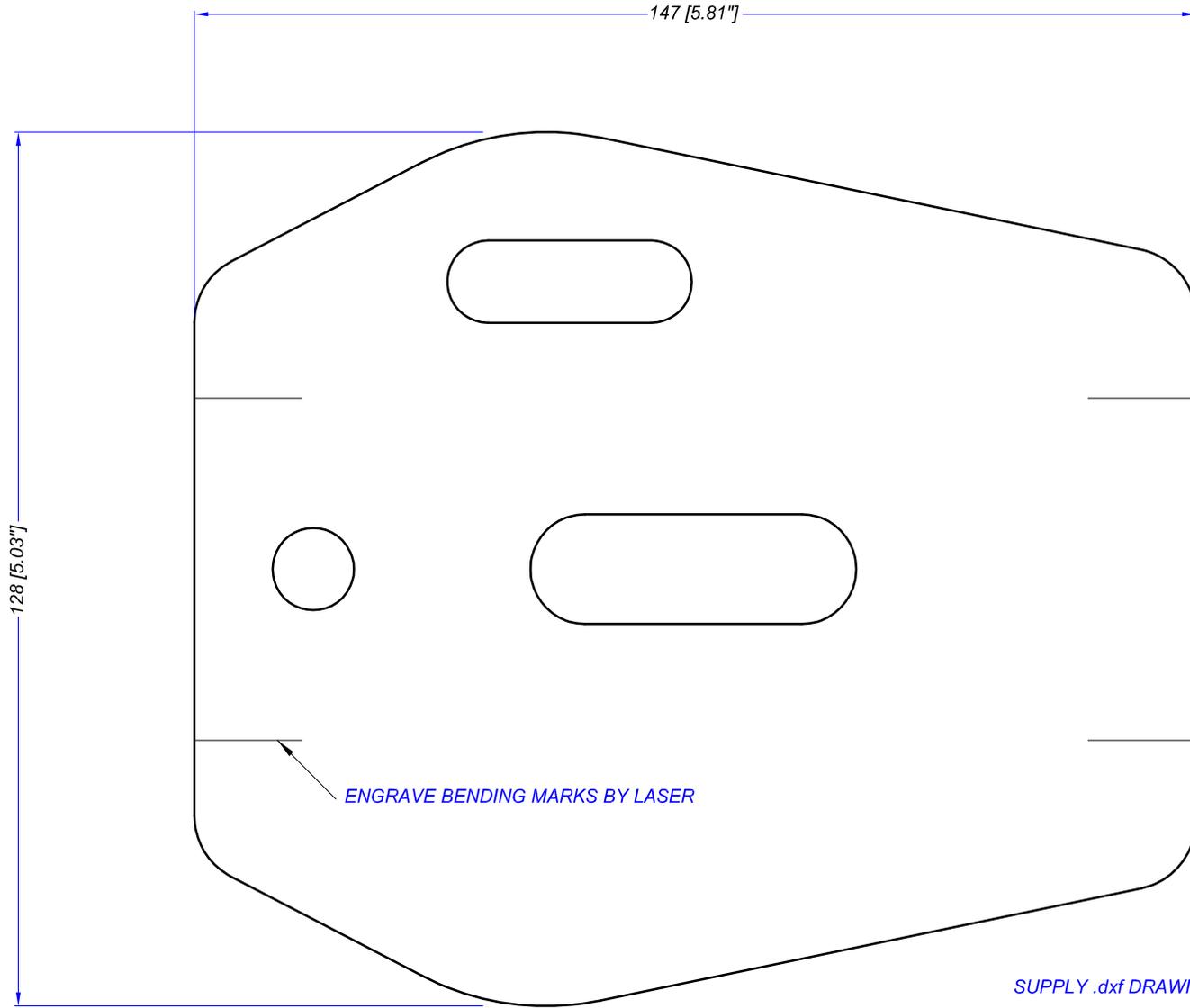


10 20 458 P

**OPTION**

Higher drawing/s:	10 20 451 W	1:1			
			First issue	26-09-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	3mm MILD STEEL PLATE		Title		
			STIFFENING CLOSURE - RH		
Drawing Number			Process	Revision	
10 20 458			B	A	

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SUPPLY .dxf DRAWING TO CNC CUTTING COMPANY

**OPTION**

Higher drawing/s:	10 20 458 B	1:1			
			First issue	25-09-07	A
			Description of change	Date (d-m-y)	Rev.
Material:	3mm [1/8"] STEEL 300MPa	Title		STIFFENING CLOSURE - PROFILE CUT	
Drawing Number		Process		Revision	
10 20 458		P		A	

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