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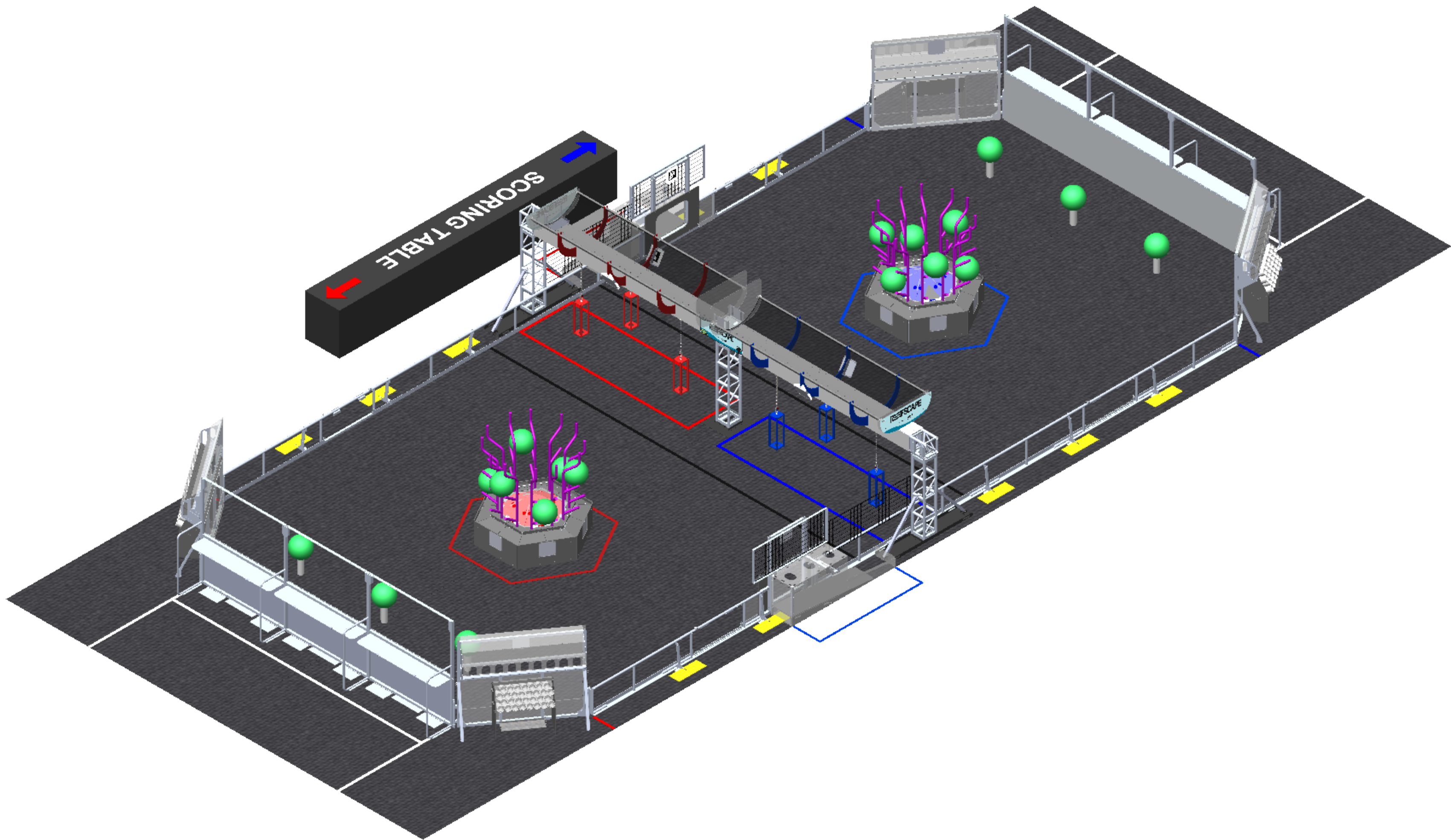
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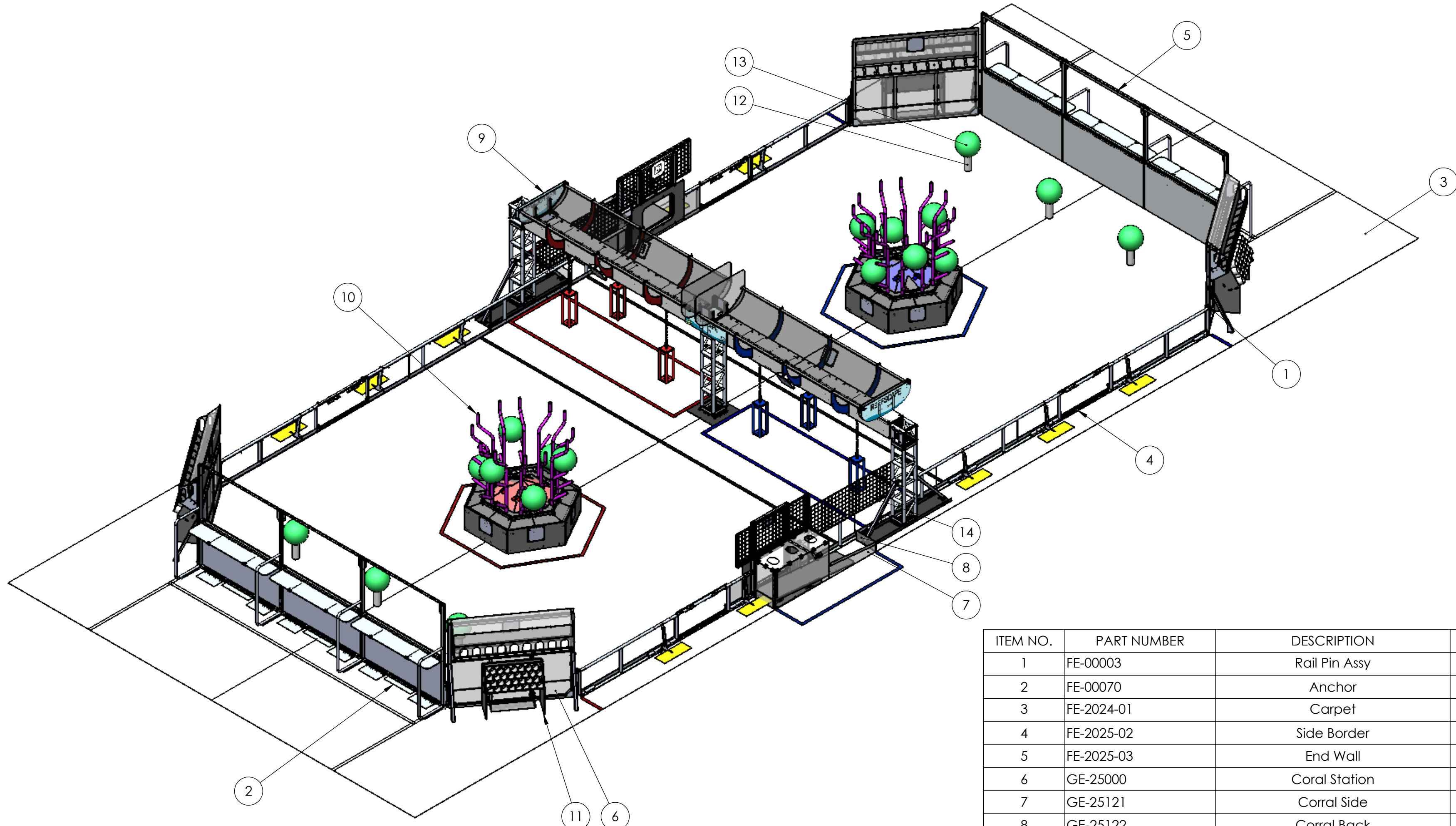
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$  <b>MATERIAL/FINISH:</b>    <b>DO NOT SCALE DRAWING</b>	FIELD	NAME	DATE	 
	DRAWN	DF	12/20/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			2025 Field Layout and Marking
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				<b>C</b>
				FE-2025
				SCALE: 1:50
				SHEET 1 OF 5

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00003	Rail Pin Assy	8
2	FE-00070	Anchor	3
3	FE-2024-01	Carpet	2
4	FE-2025-02	Side Border	2
5	FE-2025-03	End Wall	2
6	GE-25000	Coral Station	4
7	GE-25121	Corral Side	2
8	GE-25122	Corral Back	2
9	GE-25200	Barge	1
10	GE-25300	Reef	2
11	GE-25410	Coral Holder	4
12	GE-25500	Coral	126
13	GE-25501	Algae	18
14	fence 2x6	ULINE Grid (Part# - H-4297)	2

UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$		DRAWN	DF	12/20/2024
MATERIAL/FINISH:		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.		
DO NOT SCALE DRAWING		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
				TITLE: <b>2025 Field Layout and Marking</b>
SIZE	DWG. NO.	REV		
<b>C</b>	FE-2025			
SCALE: 1:50		SHEET 2 OF 5		

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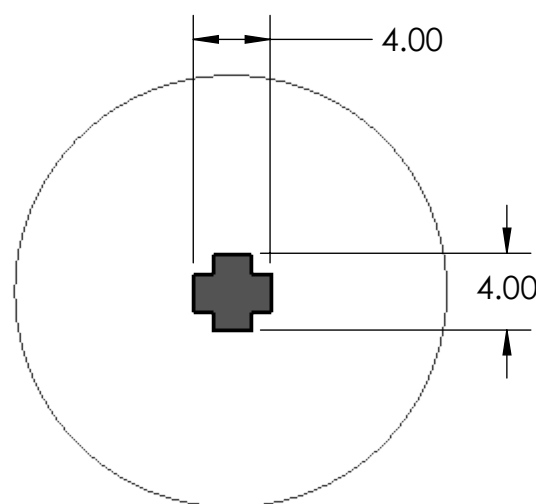
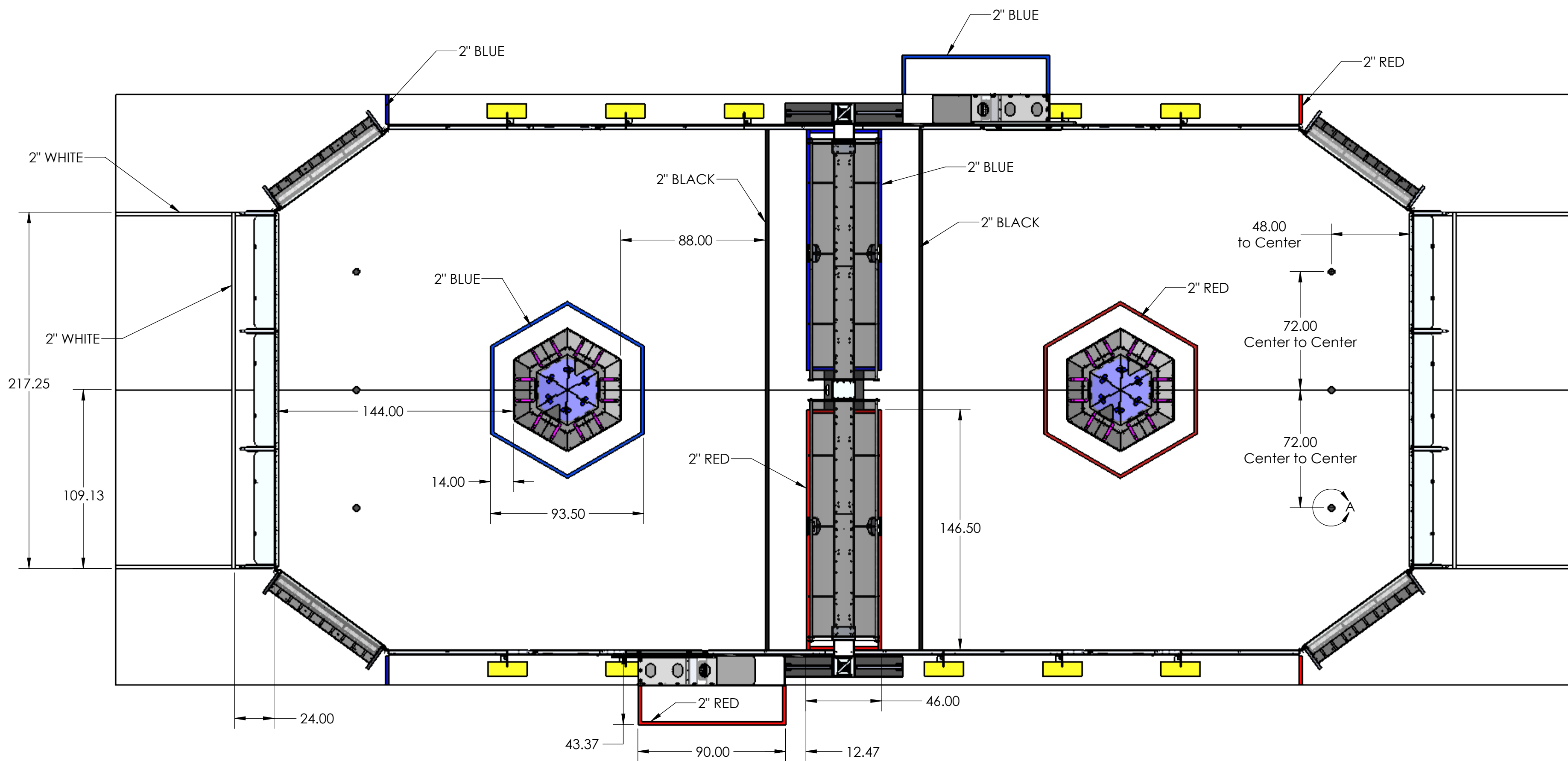
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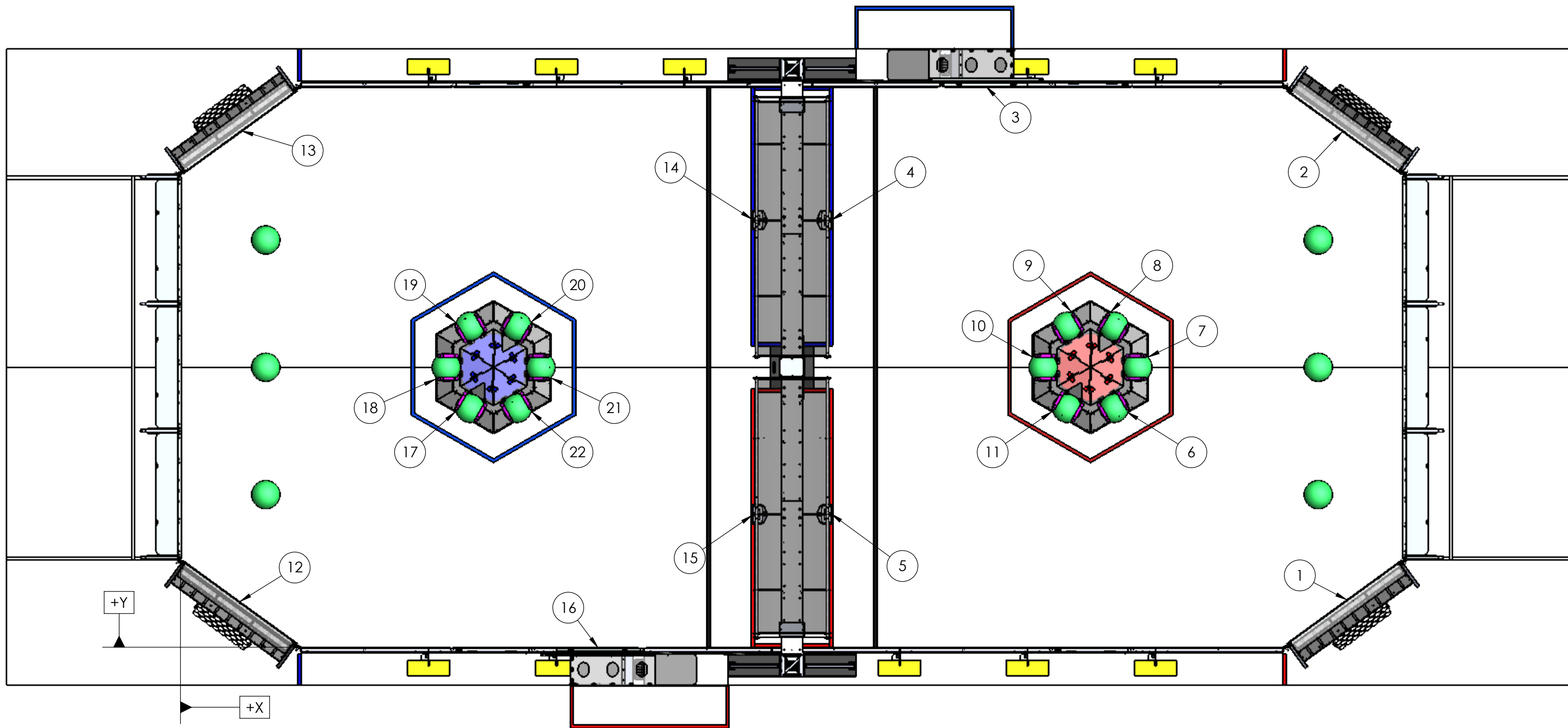
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DETAIL A  
SCALE 1 : 10  
TYP. 6 PLACES

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 
	DRAWN	DF	12/20/2024	
MATERIAL/FINISH:	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE: <b>2025 Field Layout and Marking</b>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			
DO NOT SCALE DRAWING	COMMENTS:			SIZE DWG. NO. REV <b>C</b> FE-2025
	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:50 SHEET 3 OF 5



### April Tag Coordinates

The XYZ Origin is established in the bottom left corner of the field (as viewed in the image above). An x coordinate of 0 is aligned with the Blue Alliance Station diamond plate. A y coordinate of 0 is aligned with the side border polycarbonate on the Scoring Table side of the field. A z coordinate of 0 is on the carpet.

+Z is up into the air from the carpet, +X is horizontal to the right (in this image above) toward the opposing alliance stations, and +Y runs from the Field Border towards the REEFS. The face-pose of the tags is denoted with 1 degree representation, the Z-rotation. 0° faces the red alliance station, 90° faces the non-scoring table side, and 180° faces the blue alliance station. For the X-Rotation, 0° is perpendicular to the Z plane, and 90 degrees is facing the carpet. Distances are measured to the center of the tag.

ID	X	Y	Z	Z-Rotation	X-Rotation
1	657.37	25.80	58.50	126°	0°
2	657.37	291.20	58.50	234°	0°
3	455.15	317.15	51.25	270°	0°
4	365.20	241.64	73.54	0°	30°
5	365.20	75.39	73.54	0°	30°
6	530.49	130.17	12.13	300°	0°
7	546.87	158.50	12.13	0°	0°
8	530.49	186.83	12.13	60°	0°
9	497.77	186.83	12.13	120°	0°
10	481.39	158.50	12.13	180°	0°
11	497.77	130.17	12.13	240°	0°
12	33.51	25.80	58.50	54°	0°
13	33.51	291.20	58.50	306°	0°
14	325.68	241.64	73.54	180°	30°
15	325.68	75.39	73.54	180°	30°
16	235.73	-0.15	51.25	90°	0°
17	160.39	130.17	12.13	240°	0°
18	144.00	158.50	12.13	180°	0°
19	160.39	186.83	12.13	120°	0°
20	193.10	186.83	12.13	60°	0°
21	209.49	158.50	12.13	0°	0°
22	193.10	130.17	12.13	300°	0°

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL ± 1/2  
ANGULAR: MACH ± 1° BEND ± 1°  
TWO PLACE DECIMAL ± .50

MATERIAL/FINISH:

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	JO	12/20/2024

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**COMMENTS:**

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**2025 Field Layout and Marking**

SIZE DWG. NO. REV

**C** FE-2025

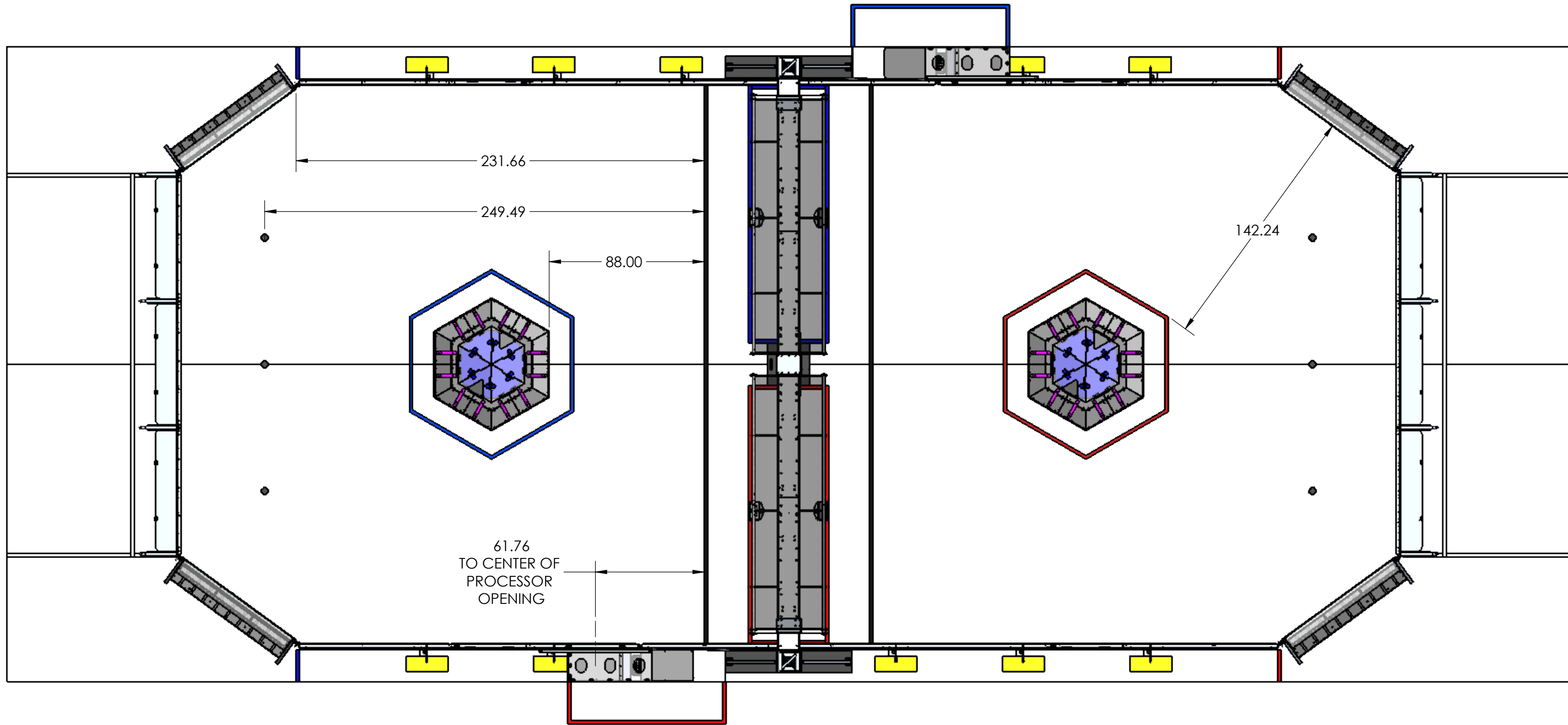
SCALE: 1:50 SHEET 4 OF 5



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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 
	DRAWN	DF	12/20/2024	
MATERIAL/FINISH:	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			2025 Field Layout and Marking
DO NOT SCALE DRAWING	COMMENTS:			SIZE
	REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO.
				REV
				<b>C</b> FE-2025
				SCALE: 1:50 SHEET 5 OF 5

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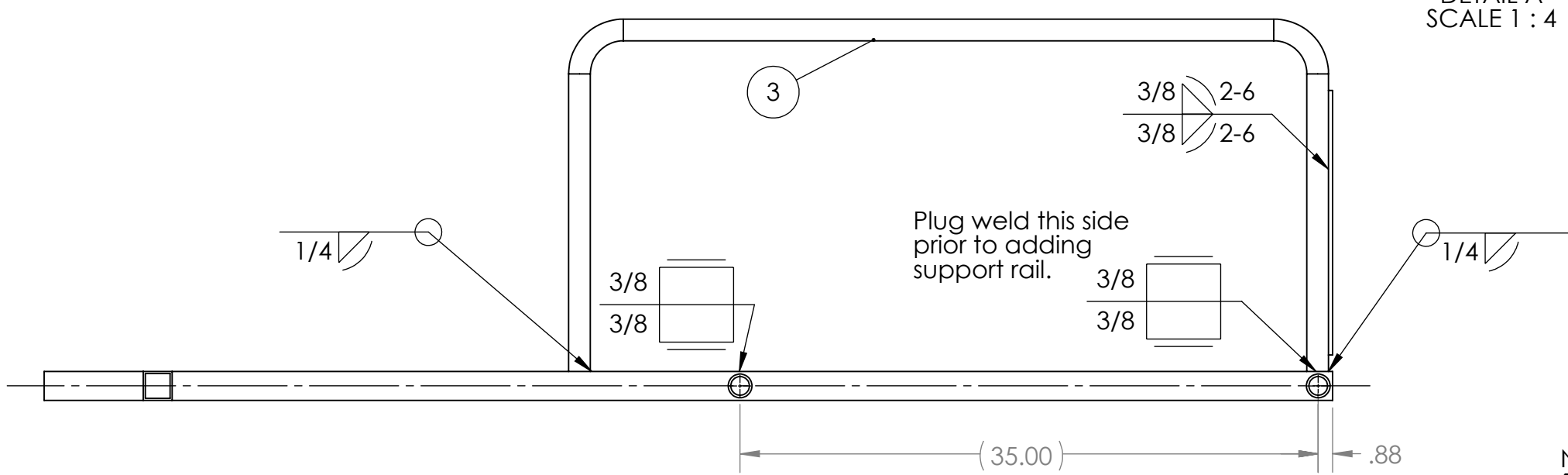
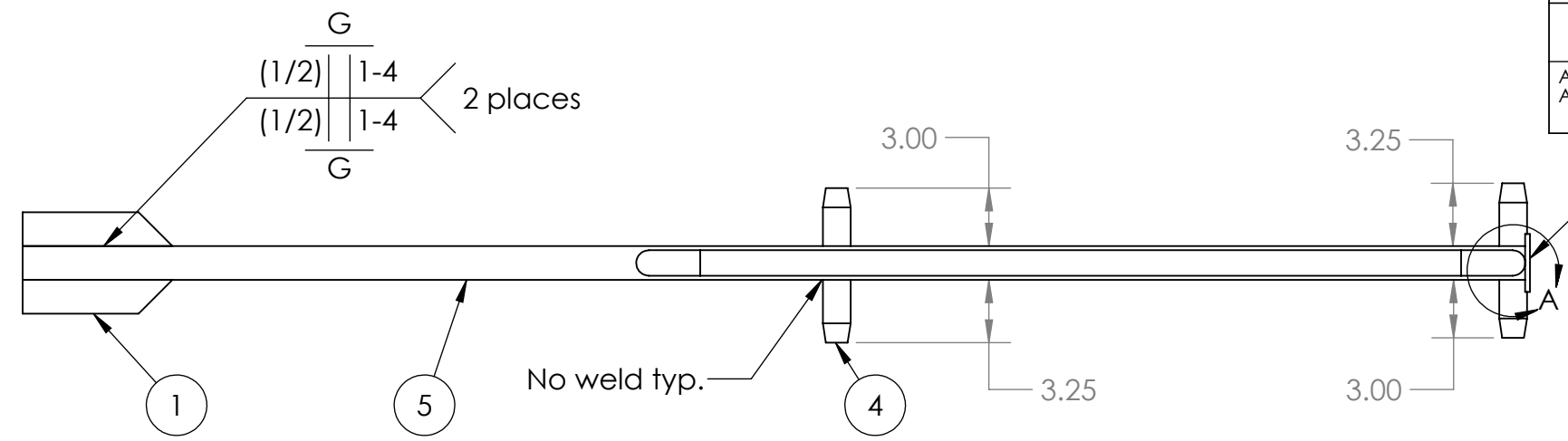
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REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redraw	5/14/2008	narosenberg
A4, 2-A2, 2-B4	B	Items renumbered, solid rod diameter updated, drawing reformatted.	3/19/2020	CPO



Notes:  
1. Remove all sharp edges

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00001-01	1 3/4" x 1 3/4" x 1/8" 6061 Aluminum Tubing	2
2	FE-00001-02	1/4" 6061 Aluminum Plate	1
3	FE-00001-03	1" Schedule 40 Aluminum Tube	1
4	FE-00001-04	1 7/16" Dia. 6061 Aluminum Solid Rod	2
5	FE-00001-05	1 3/4" x 1 3/4" x 1/8" 6061 Aluminum Tubing	1

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL: ±1/16		ENG APPR.	
ANGULAR: MACH ±1° BEND ±1°		MFG APPR.	
TWO PLACE DECIMAL ±.01		Q.A.	
THREE PLACE DECIMAL ±.001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE:  
**Drivers Station Support**

SIZE **B** DWG. NO. **FE-00001** REV **B**

SCALE: 1:9 WEIGHT: SHEET 1 OF 3

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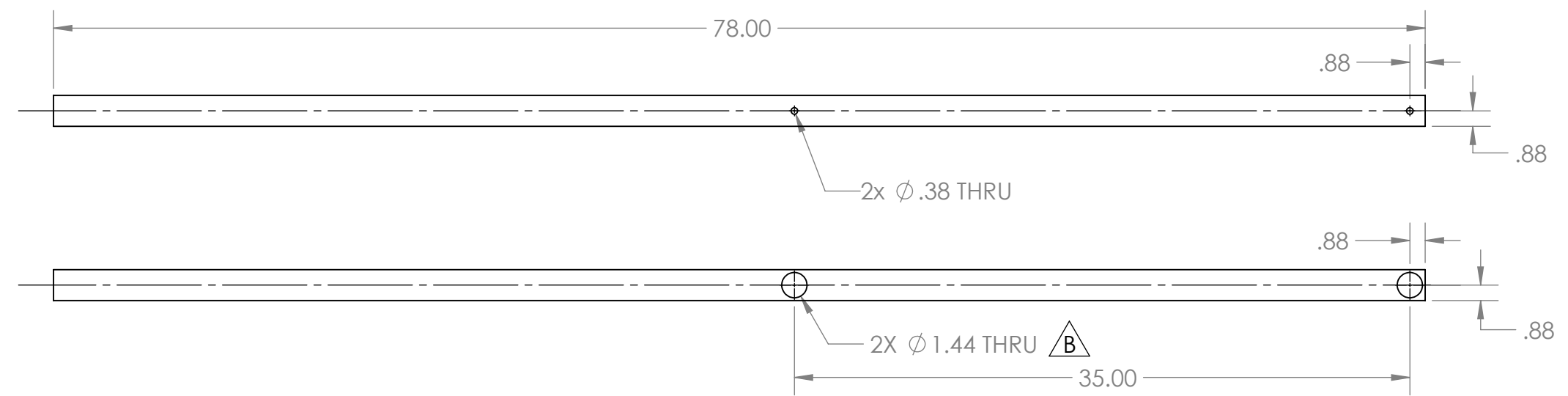
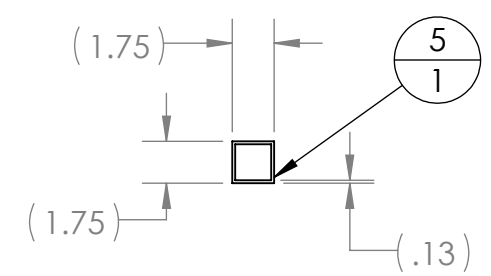
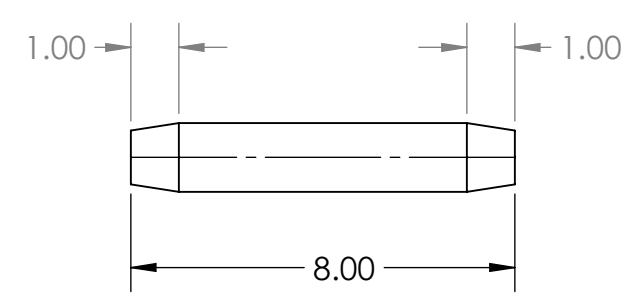
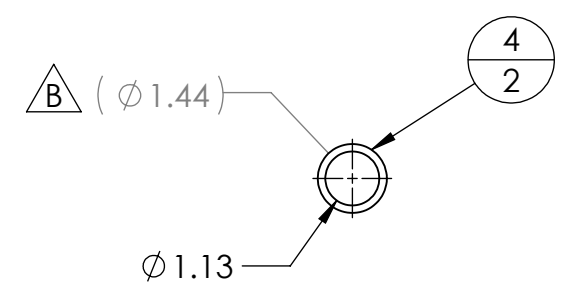
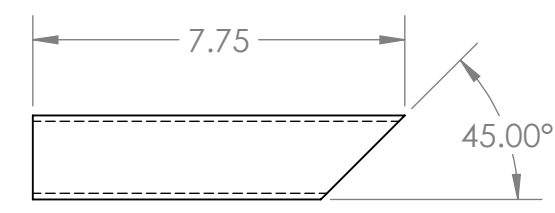
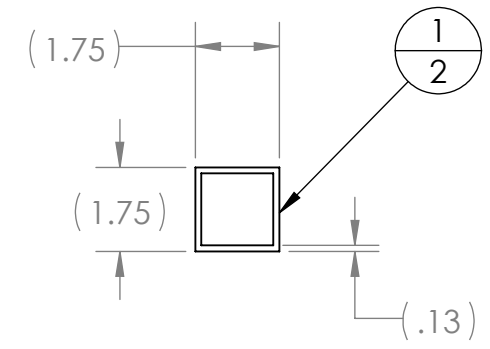
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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL $\pm 1/16$		ENG APPR.	
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$		MFG APPR.	
TWO PLACE DECIMAL $\pm .01$		Q.A.	
THREE PLACE DECIMAL $\pm .001$		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			



TITLE:  
**Drivers Station Support**

SIZE **B** DWG. NO. **FE-00001** REV **B**

SCALE: 1:2 WEIGHT: SHEET 2 OF 3

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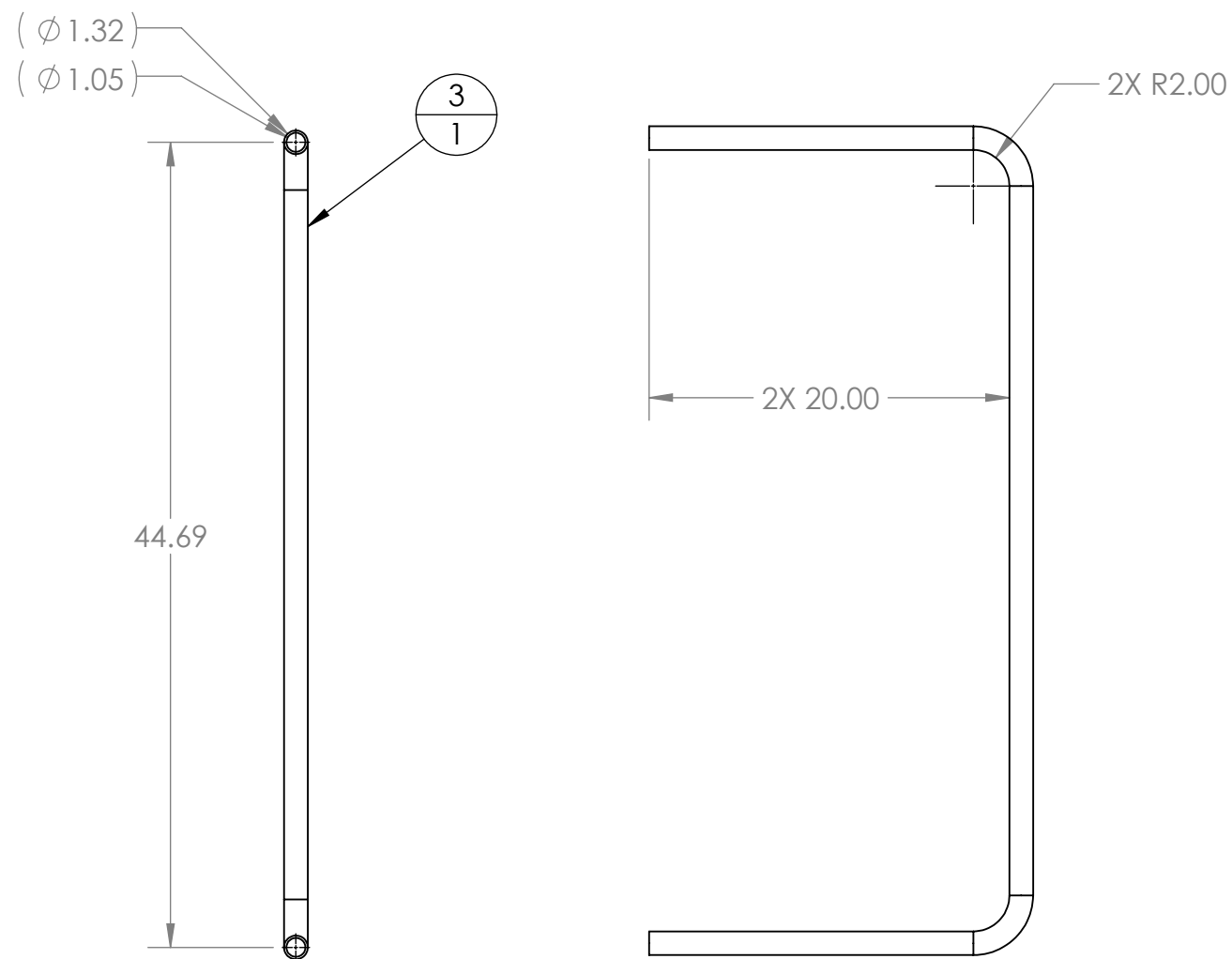
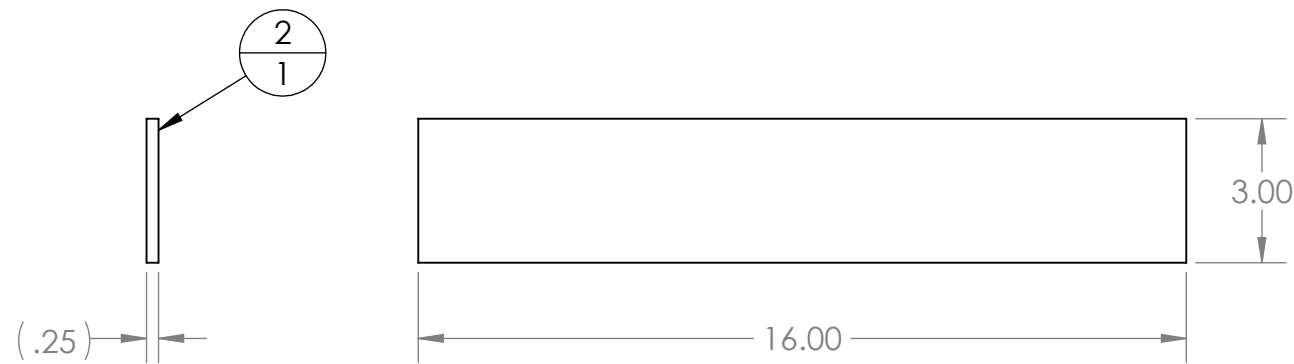
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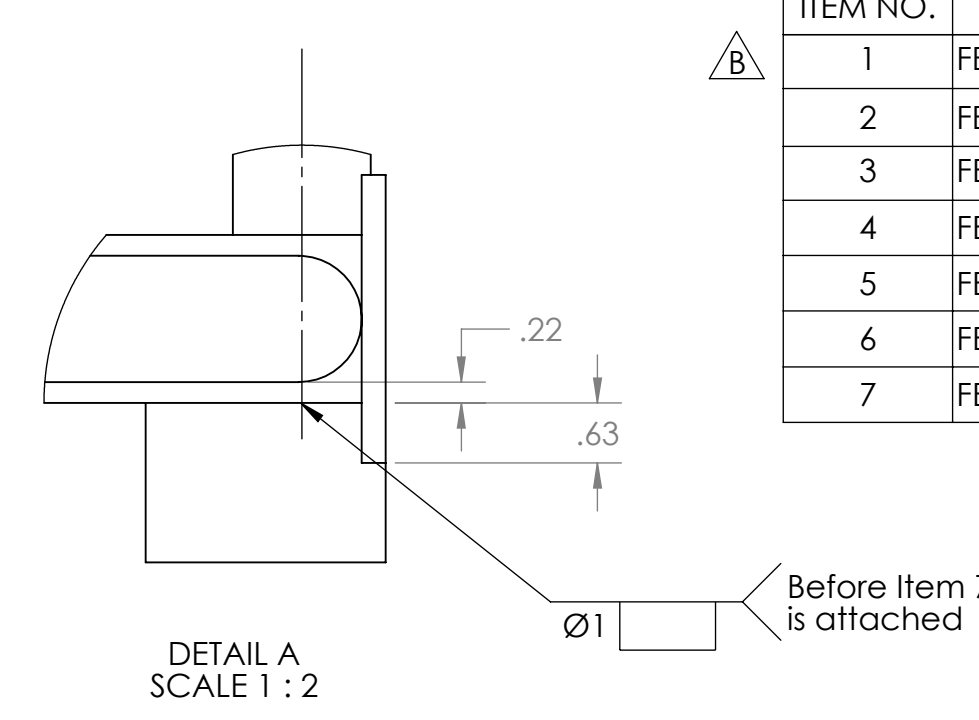
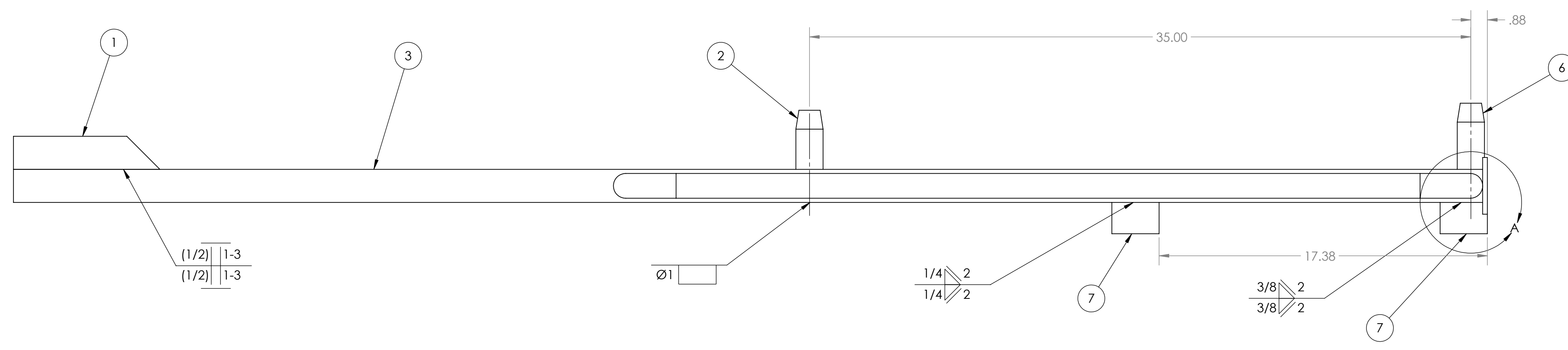
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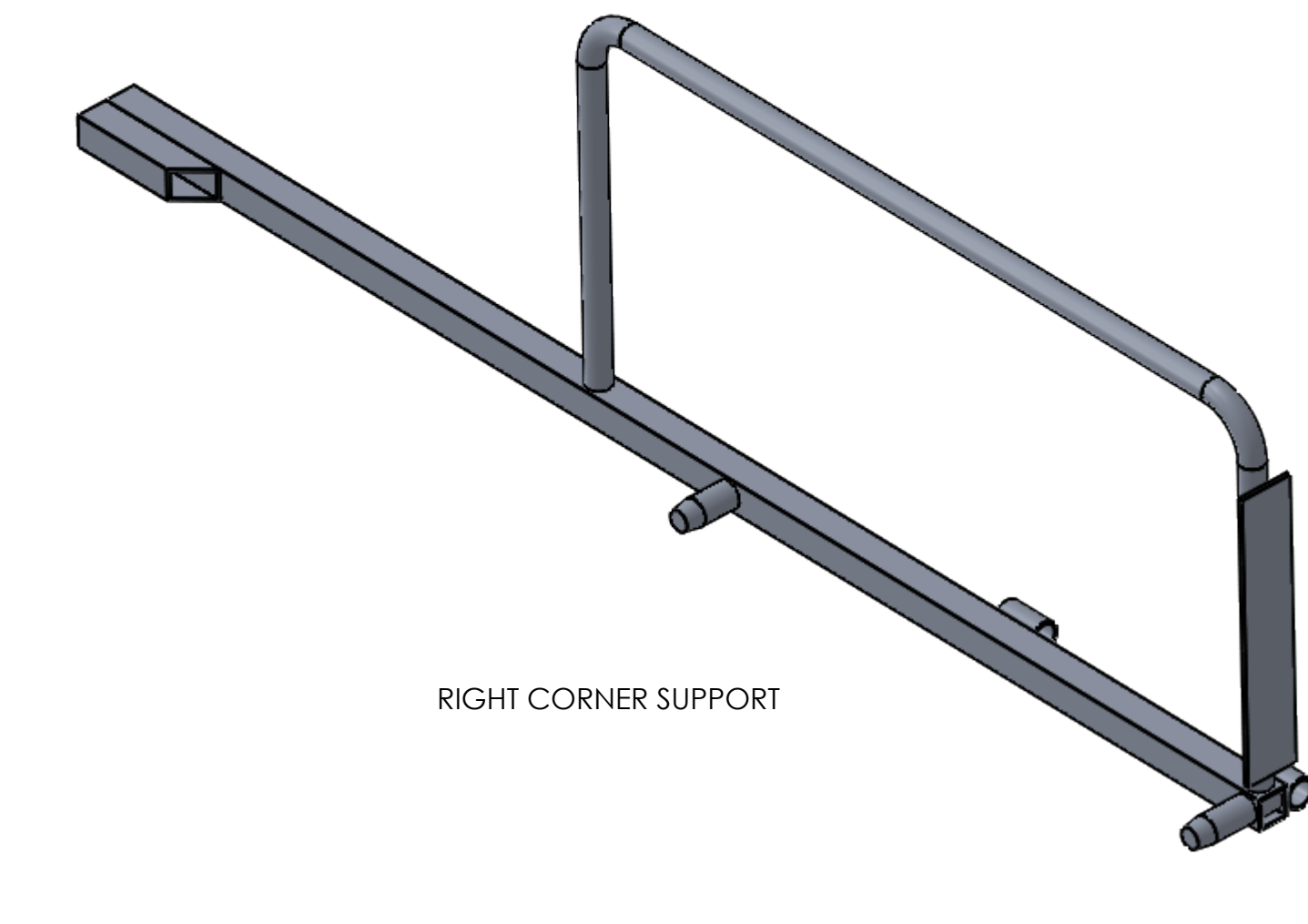
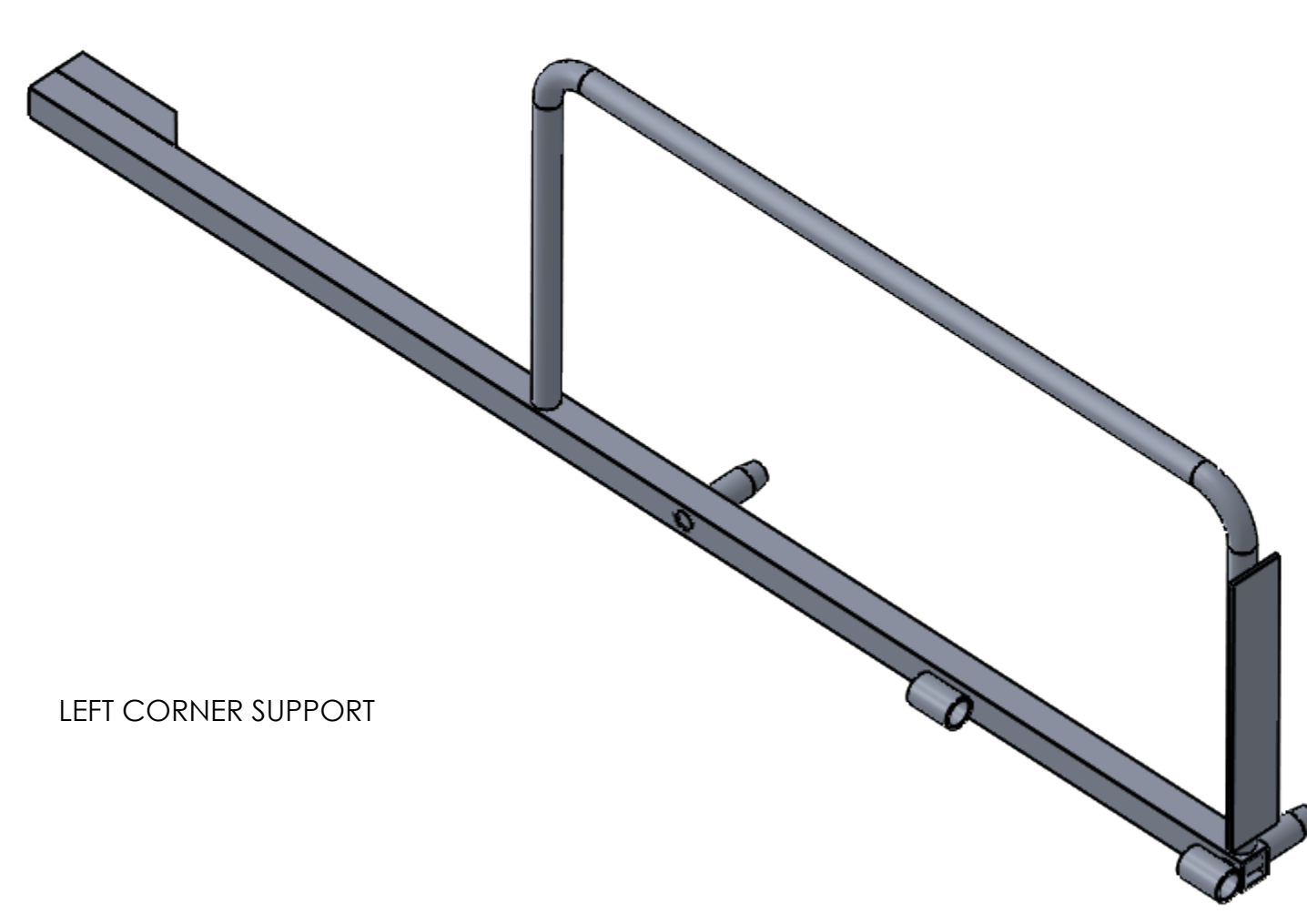
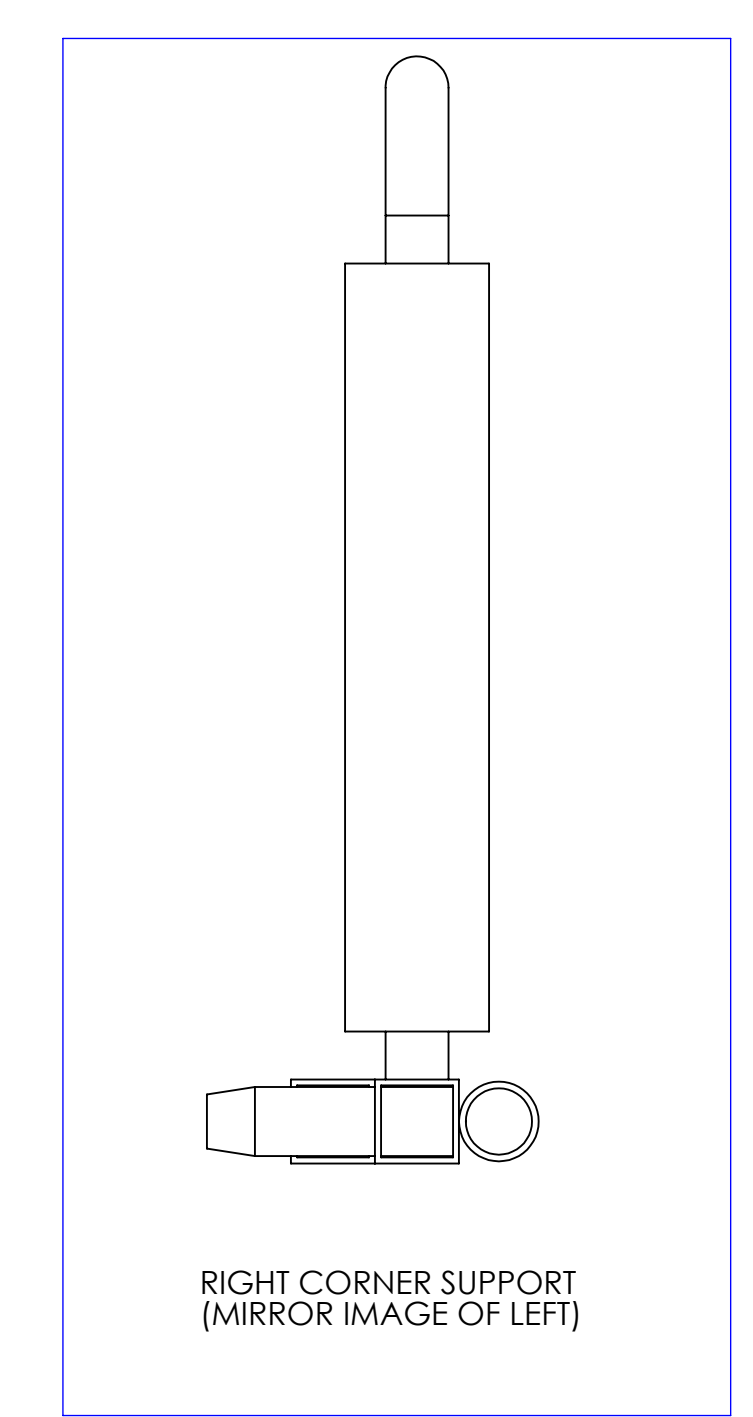
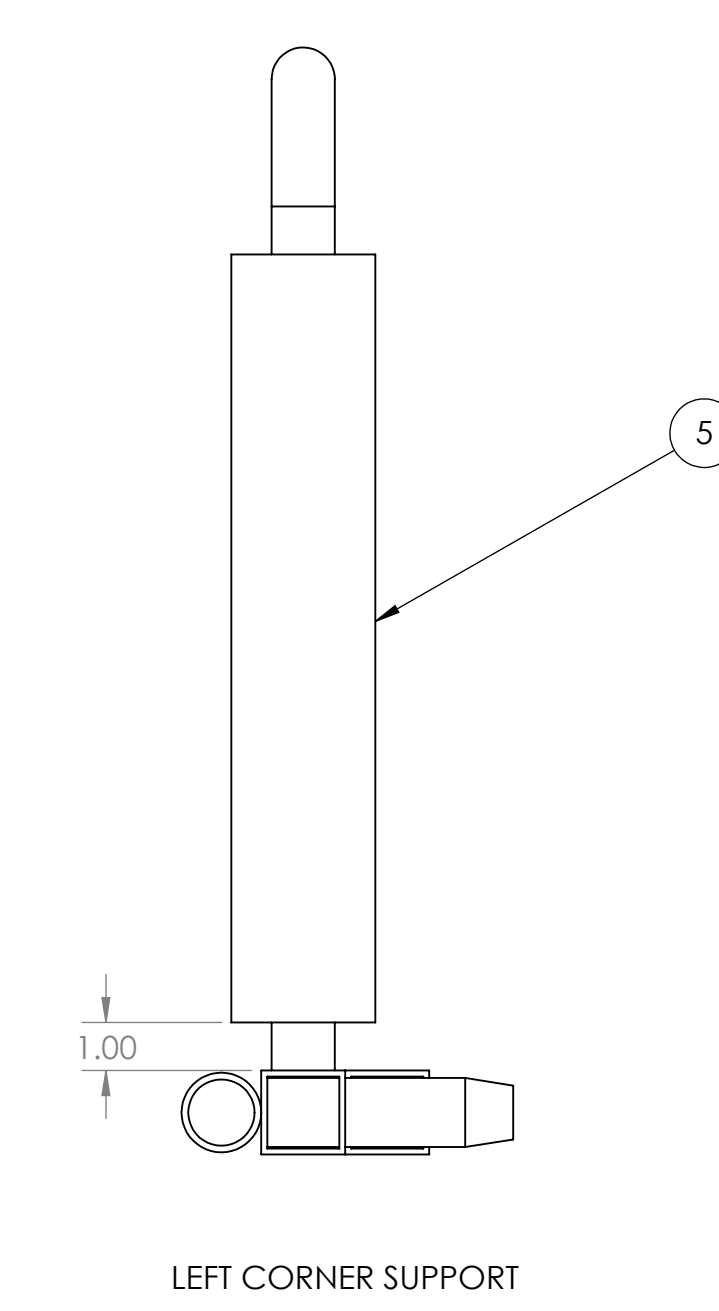
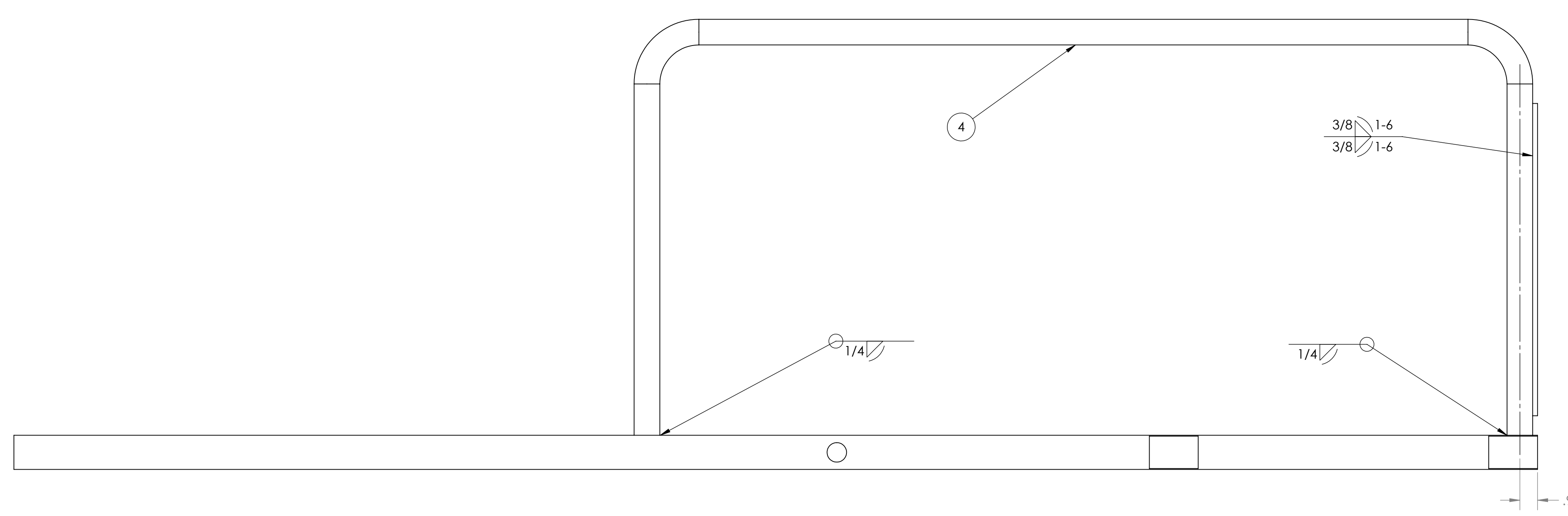
		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN		
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		SIZE <b>B</b> DWG. NO. <b>FE-00001</b> REV <b>B</b>
		MATERIAL	ENG APPR.		
NEXT ASSY	USED ON	FINISH	MFG APPR.		SHEET 3 OF 3
APPLICATION		DO NOT SCALE DRAWING	Q.A.	COMMENTS:	





REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	Redraw	5/19/2008	narosenberg
D2	B	Items renumbered, drawing reformatted	3/19/2020	CPO

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00002-01	1 3/4" x 1 3/4" x 1/8" 6061 Aluminum Tubing	1
2	FE-00002-02	1 7/16" Dia. 6061 Aluminum Solid Rod	1
3	FE-00002-03	1 3/4" x 1 3/4" x 1/8" 6061 Aluminum Tubing	1
4	FE-00002-04	1" Schedule 40 Aluminum Tube	1
5	FE-00002-05	3" x 1/4" 6061 Aluminum Bar	1
6	FE-00002-06	1 7/16" Dia. 6061 Aluminum Solid Rod	1
7	FE-00002-07	1 1/4" Schedule 40 Aluminum Tube	2



- Notes:
1. Left corner support shown, right is same components, mirror image assy
  2. Remove all sharp edges

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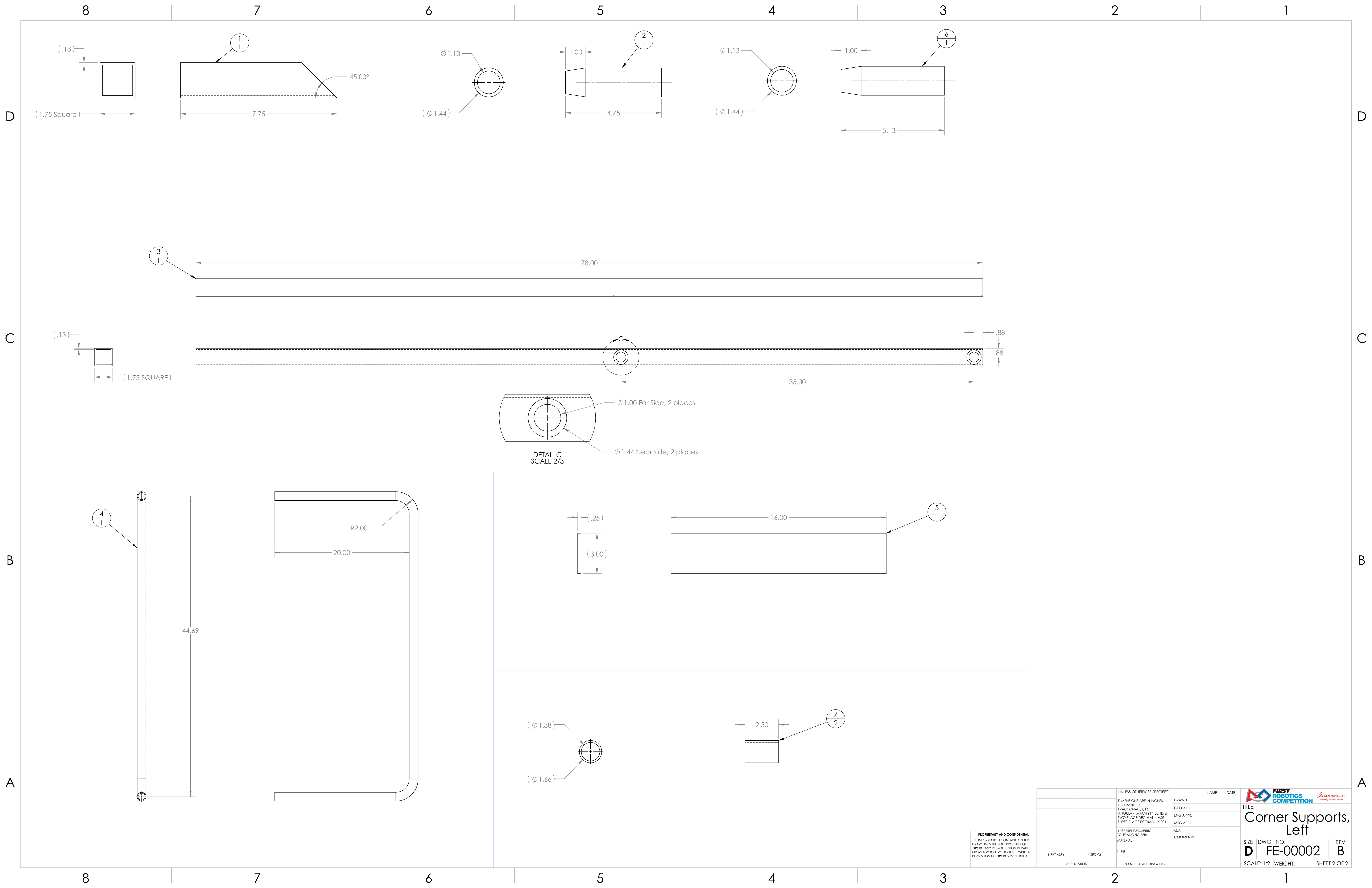
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: 1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001		DRAWN	NAME	DATE
INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL FINISH		CHECKED		
NEXT ASSY USED ON APPLICATION DO NOT SCALE DRAWING		ENG APPR.		
		MFG APPR.		
		Q.A. COMMENTS:		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Corner Supports, Left**

SIZE DWG. NO. REV  
**D FE-00002 B**

SCALE: 1:4 WEIGHT: SHEET 1 OF 2



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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DRAWN			
CHECKED			
ENG APPR.			
MFG APPR.			
TOLERANCES:			
FRACTIONAL: 1/16			
ANGULAR: MACH ±1° BEND ±1°			
TWO PLACE DECIMAL ±.01			
THREE PLACE DECIMAL ±.001			
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
FINISH:			
APPLICATION	DO NOT SCALE DRAWING		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS**  
 TITLE: **Corner Supports, Left**  
 SIZE DWG. NO. REV  
**D FE-00002 B**  
 SCALE: 1:2 WEIGHT: SHEET 2 OF 2

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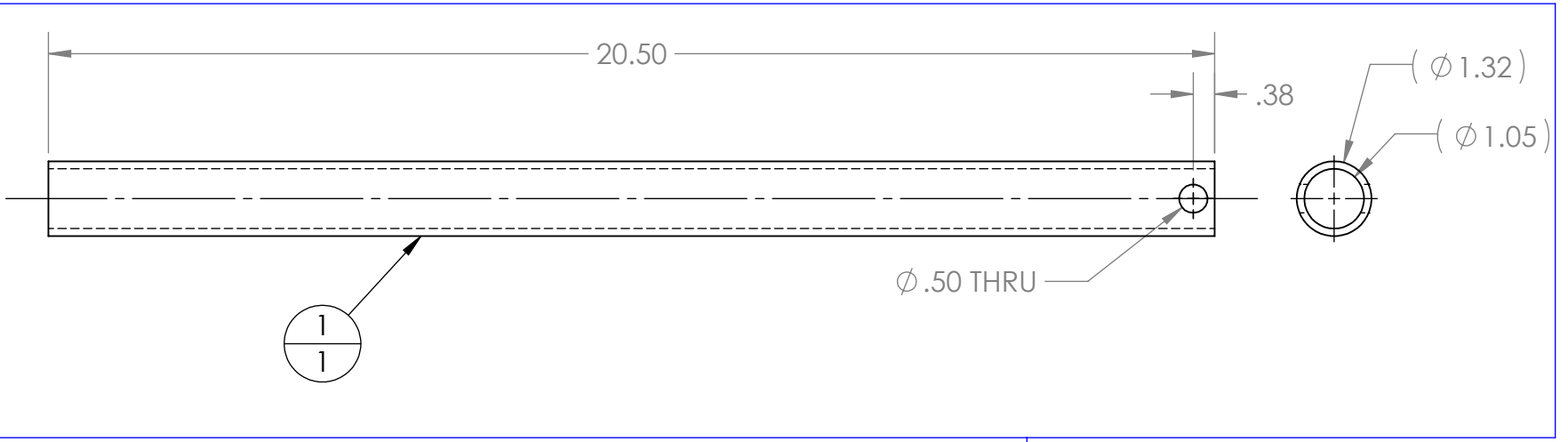
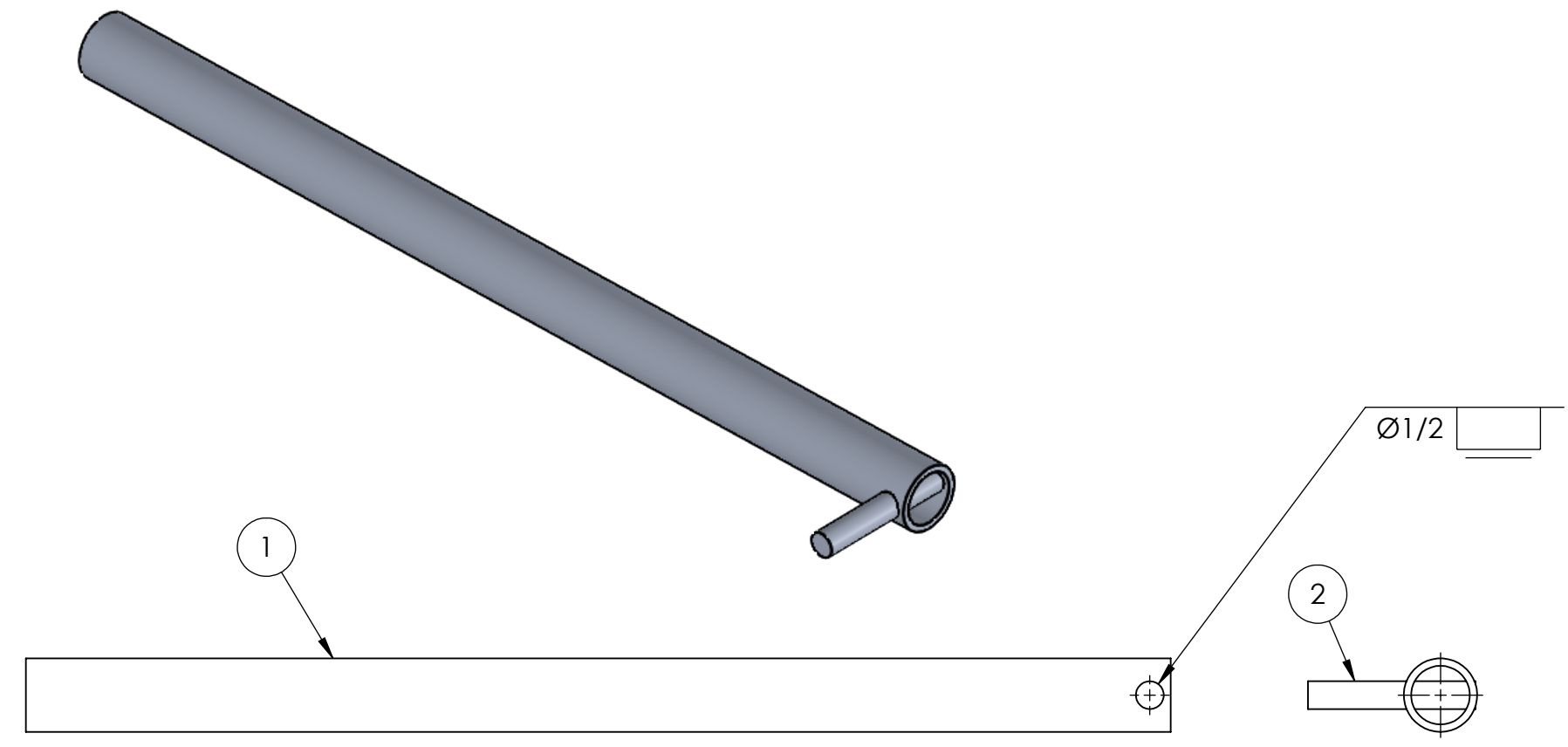
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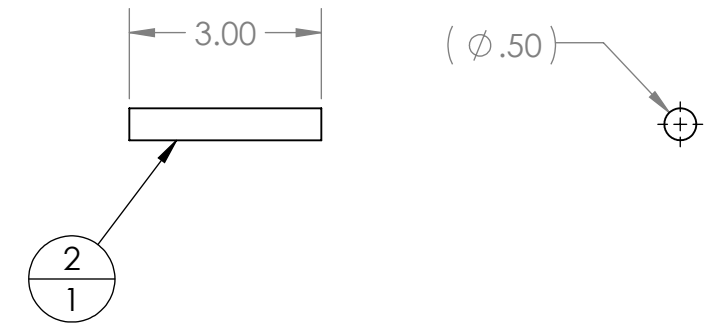
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redraw	5/20/2008	narosenberg
	B	Drawing reformatted	3/19/2020	CPO

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00003-01	1" Schedule 40 6061 Aluminum Tube	1
2	FE-00003-02	1/2" 6061 Aluminum Rod	1



Notes:  
1. Remove all sharp edges



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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL: ±1/16		ENG APPR.	
ANGULAR: MACH ±1° BEND ±1°		MFG APPR.	
TWO PLACE DECIMAL ±.01		Q.A.	
THREE PLACE DECIMAL ±.001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Rail Pin Assy**

SIZE **B** DWG. NO. **FE-00003** REV **B**

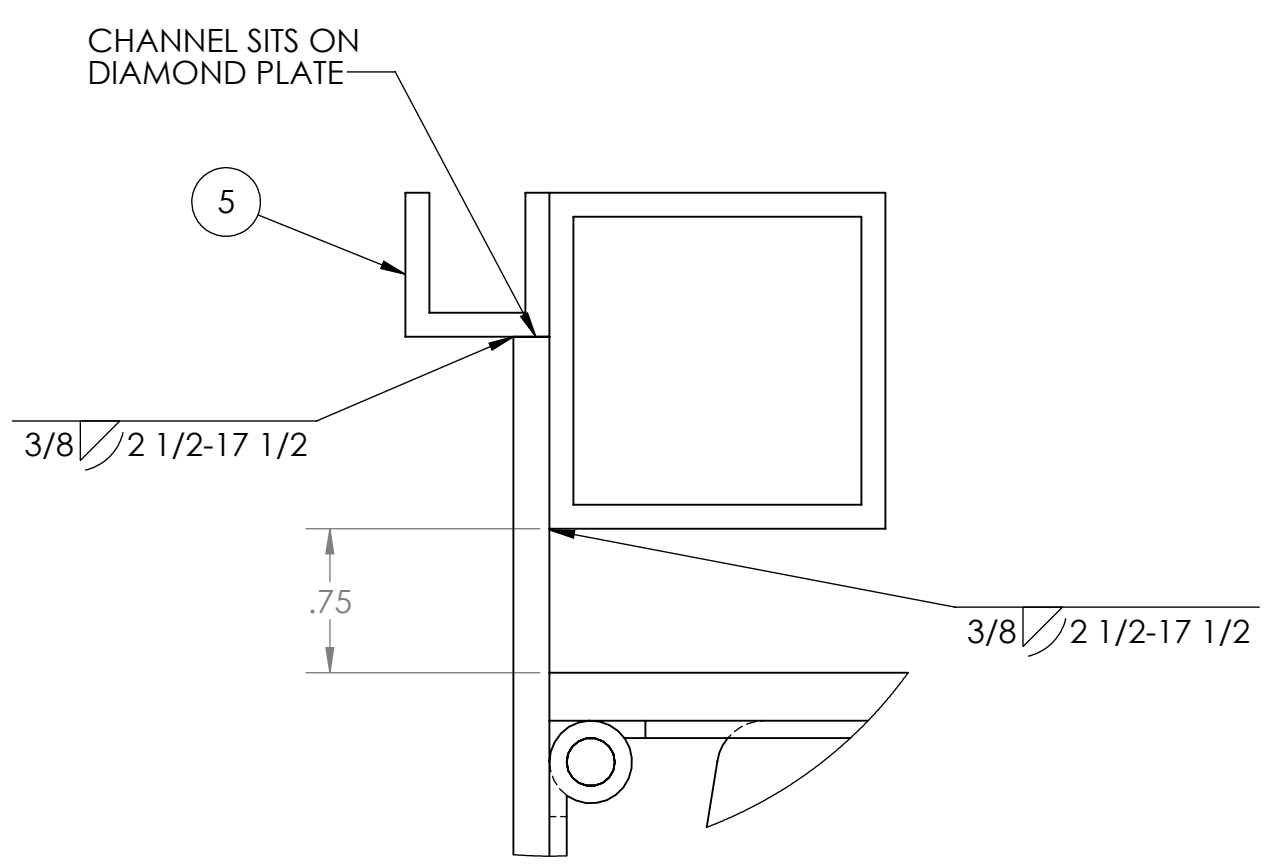
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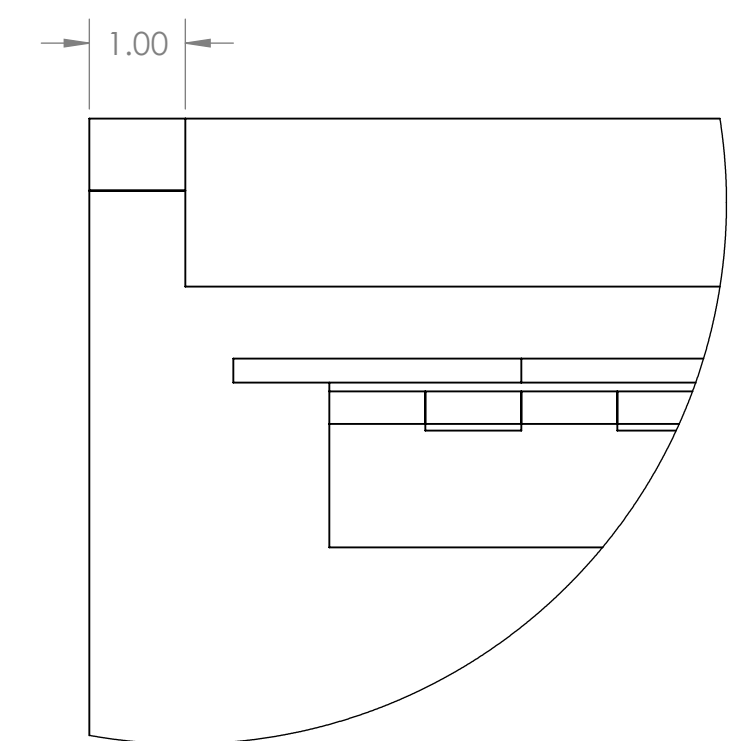
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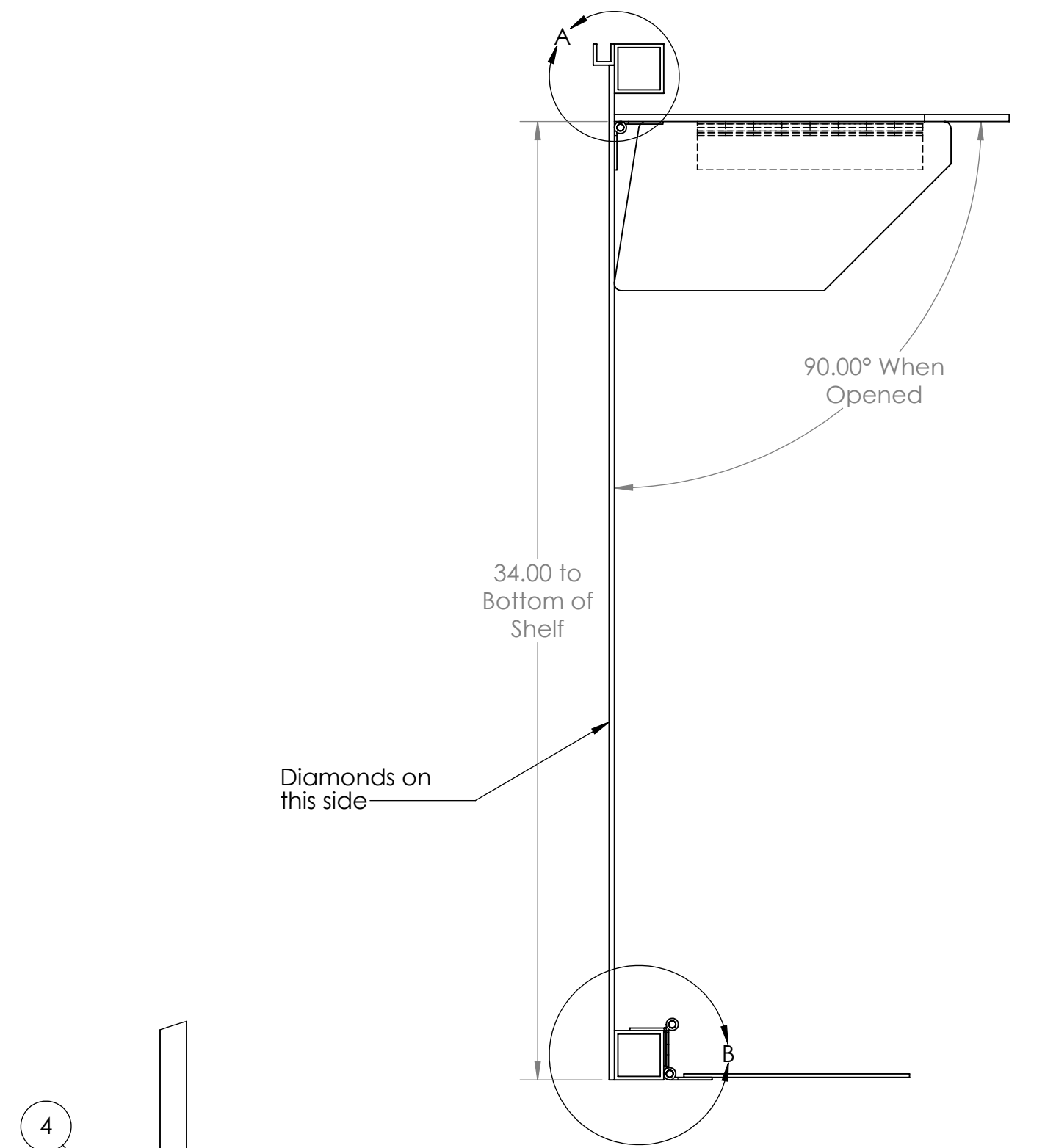
DETAIL A  
SCALE 1 : 1



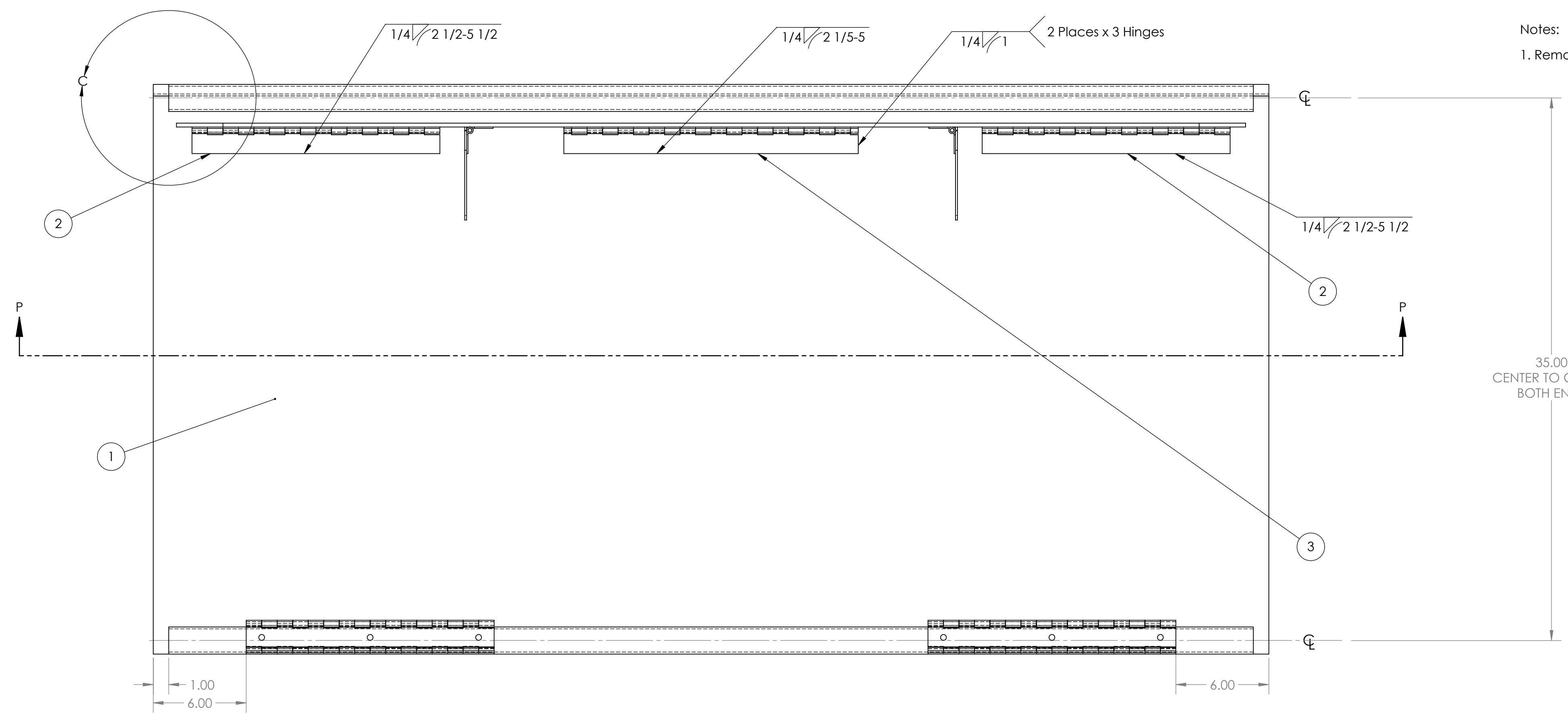
DETAIL C  
SCALE 1 : 2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	Redraw	5/20/2008	narosenberg
2-D7	2	Weld size changed for consistency, drawing reformatted.	3/19/2020	CPO

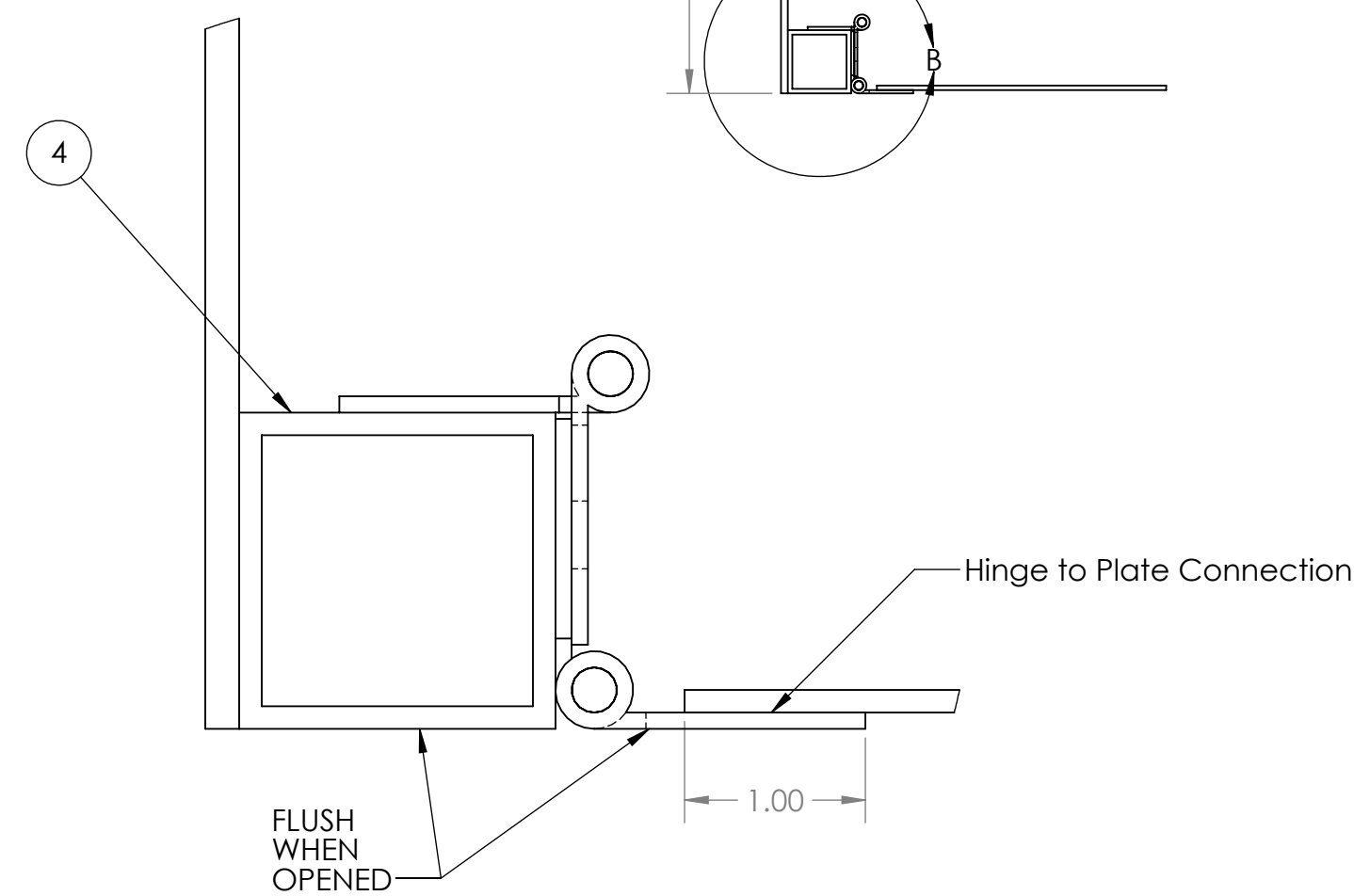
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00004-01	3/16 Aluminum Diamond Plate	1
2	FE-00004-02	Hinge, Aluminum 3" x .09", 1/4" Pin	2
3	FE-00004-03	Hinge, Aluminum 3" x .09", 1/4" Pin	1
4	FE-00004-04	1 3/4" x 1 3/4" x 1/8" Square 6061 Aluminum Tubing	2
5	FE-00004-05	3/4" x 3/4" x 1/8" 6061 Aluminum 'U' Channel	1
6	FE-00004-06	1/4" 6061 Aluminum Plate	1
7	FE-00004-07	Hinge, Aluminum 3" x .09", 1/4" Pin (2 Pieces Welded)	2
8	FE-00004-08	Hinge, Aluminum 3" x .09", 1/4" Pin	2
9	FE-00004-09	1/8" 6061 Aluminum Plate	2
10	FE-00004-10	1/8" 6061 Aluminum Plate	2



DETAIL B  
SCALE 1 : 1



Notes:  
1. Remove all sharp edges and burrs

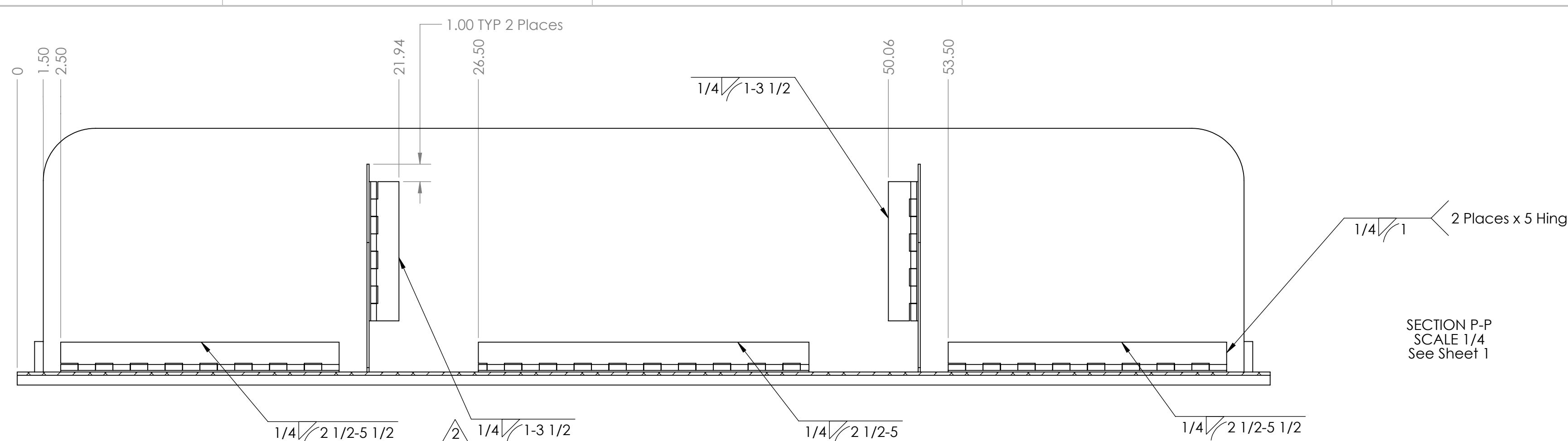


DETAIL B  
SCALE 1 : 1

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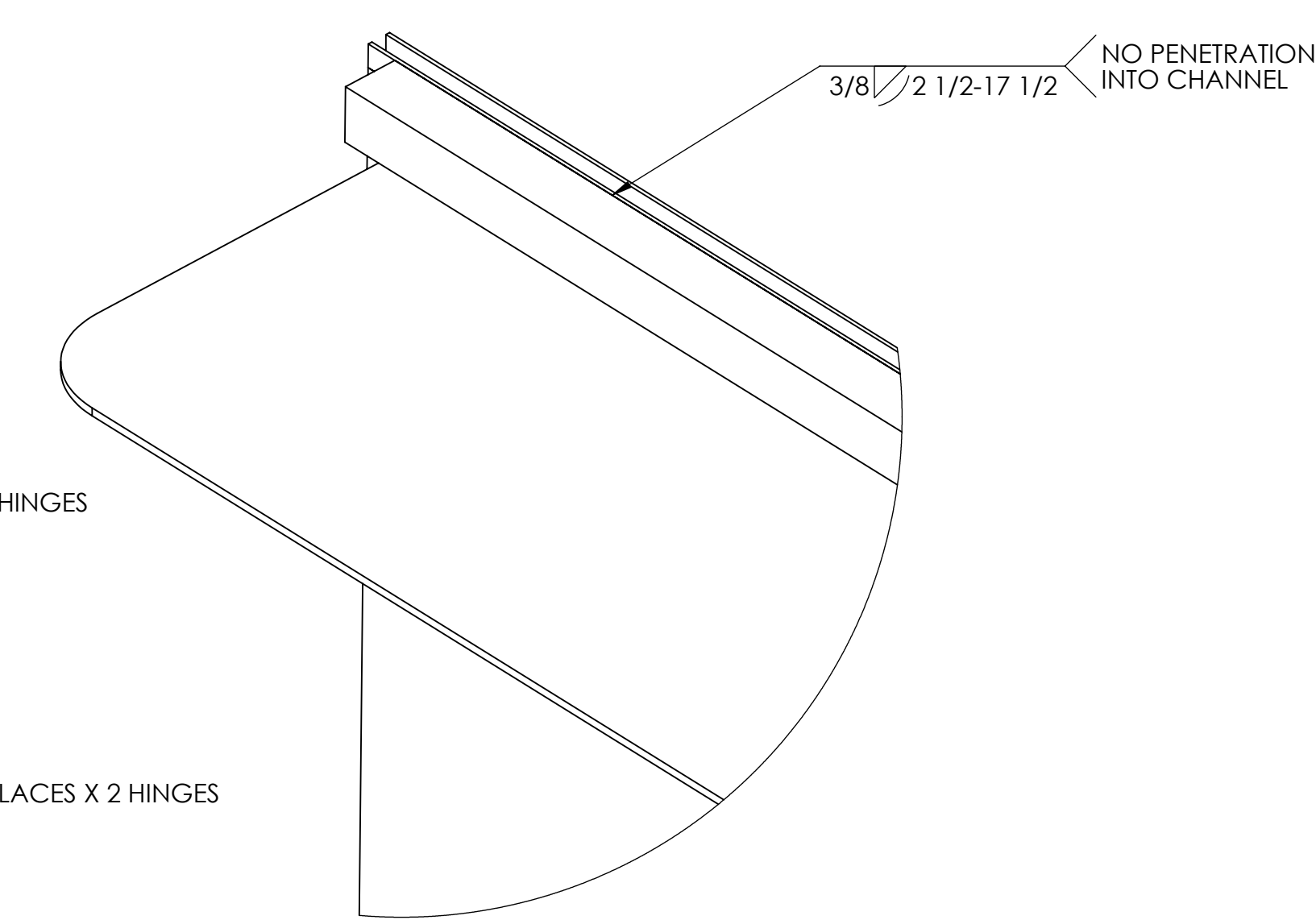
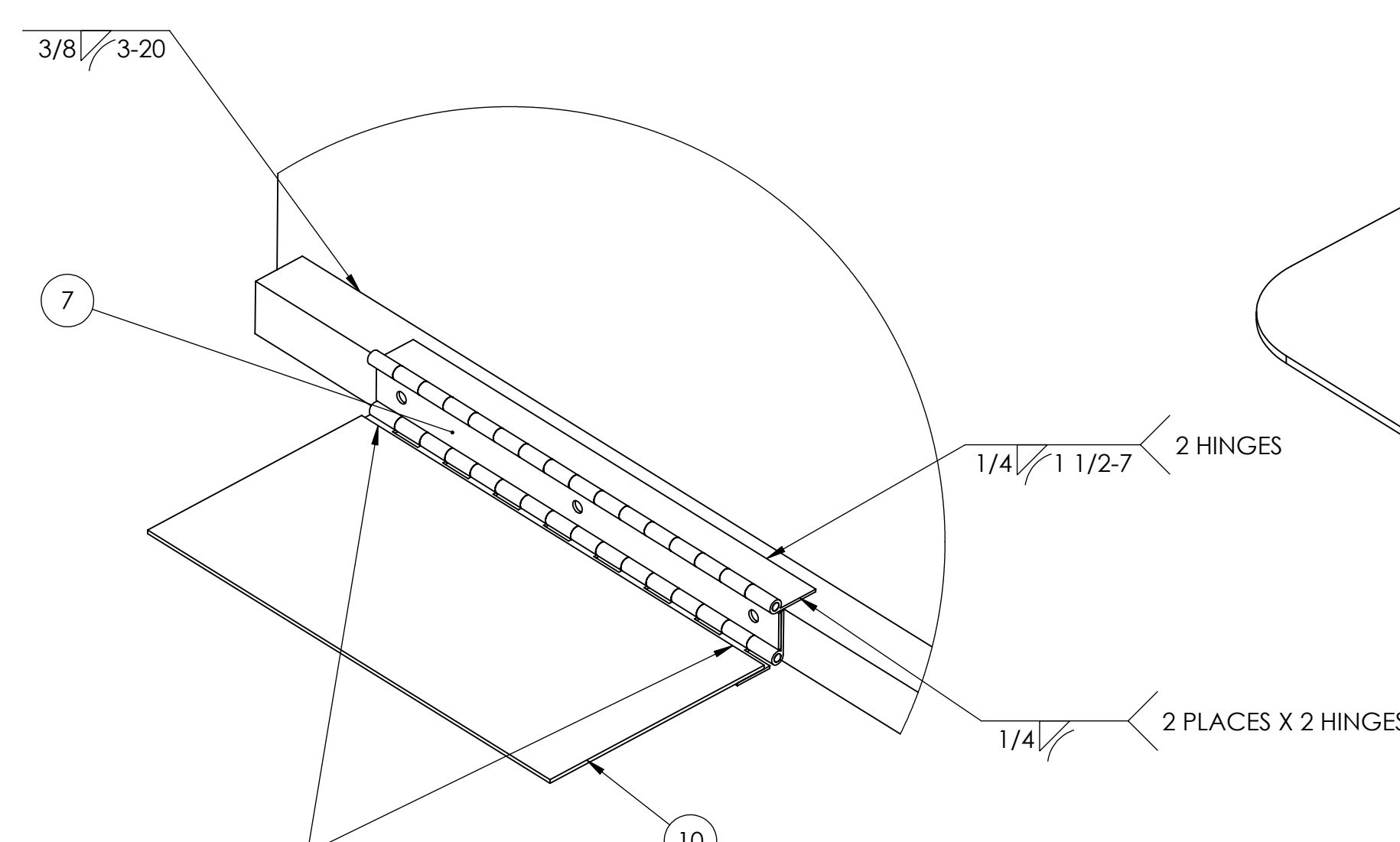
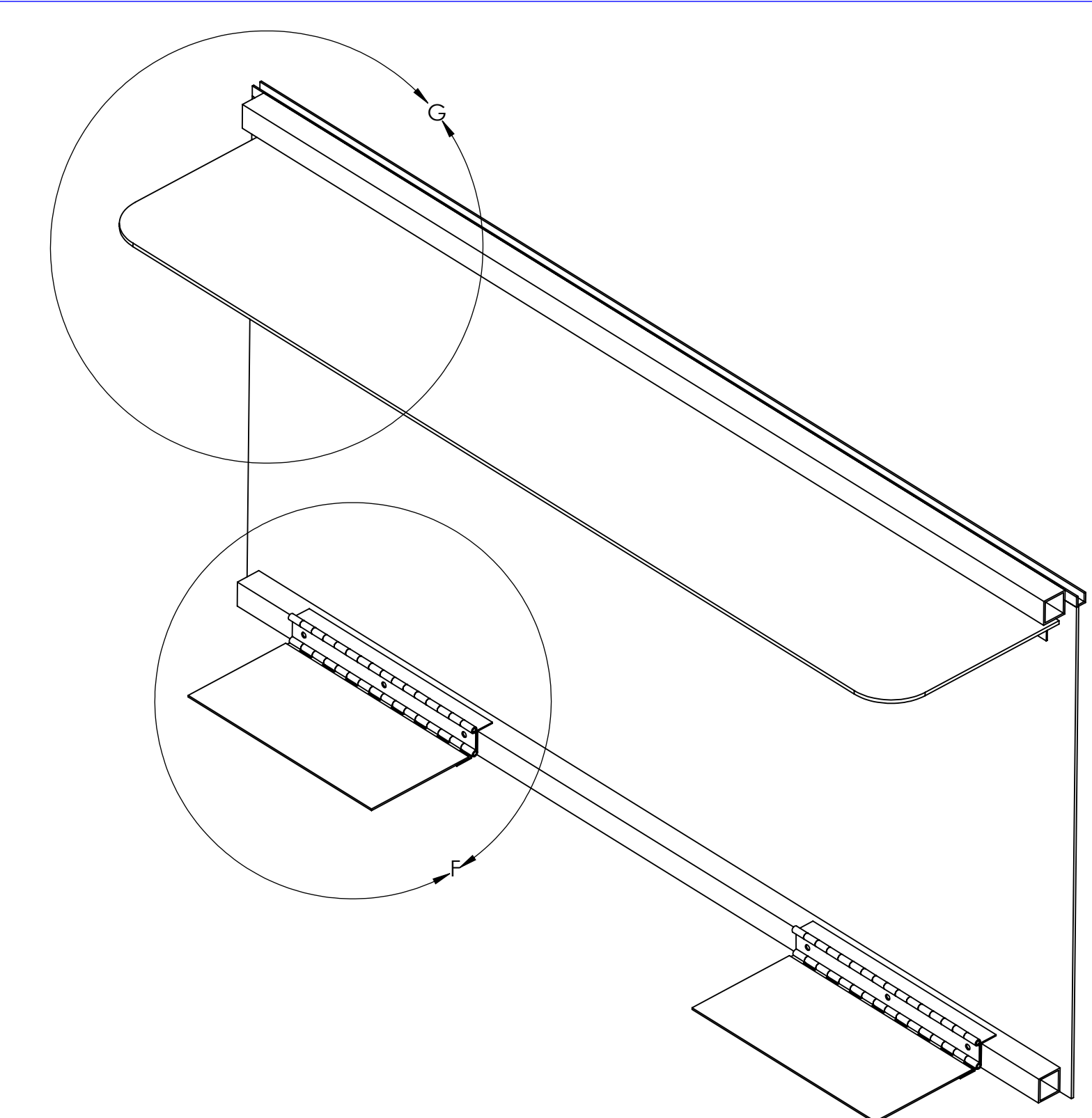
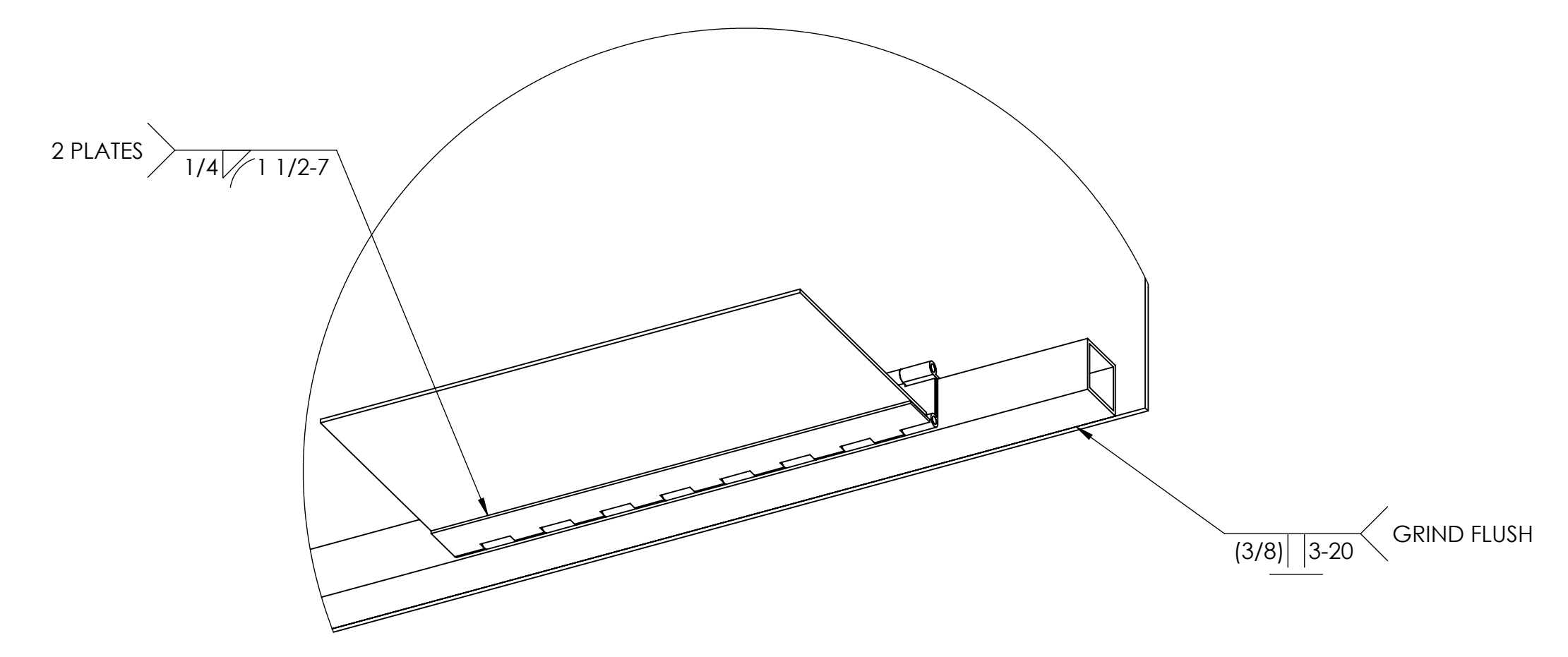
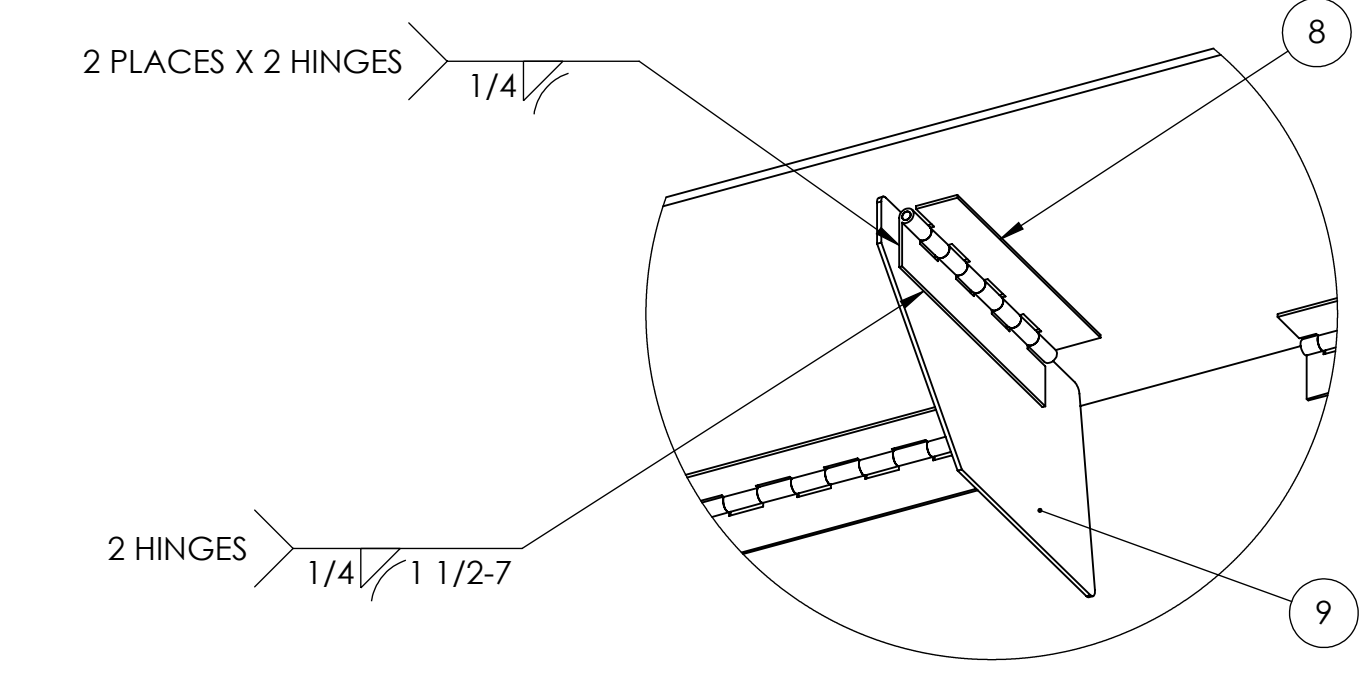
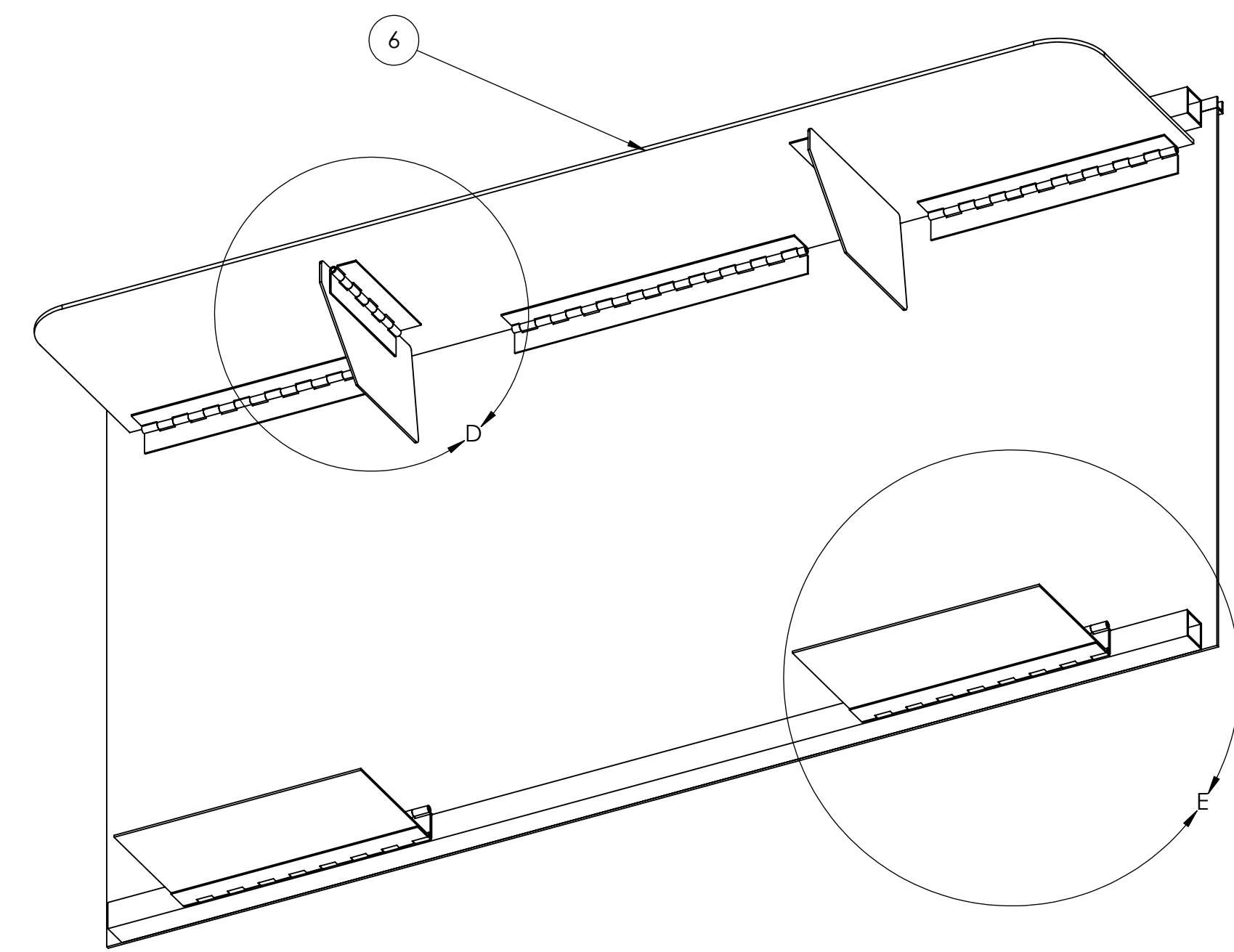
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ANGULAR: MACH ±1° BEND ±1°		MEG APPR.					
TWO PLACE DECIMAL ±.01							
THREE PLACE DECIMAL ±.001							
INTERPRET GEOMETRIC TOLERANCING PER:		Q.A.					
MATERIAL:		COMMENTS:					
FINISH:							
NEXT ASSY USED ON:							
APPLICATION:		DO NOT SCALE DRAWING					

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS**  
 TITLE: **End Panel**  
 SIZE DWG. NO. REV  
**D FE-00004 B**  
 SCALE: 1:5 WEIGHT: SHEET 1 OF 3



Notes:  
1. Remove all sharp edges and burrs

SECTION P-P  
SCALE 1/4  
See Sheet 1

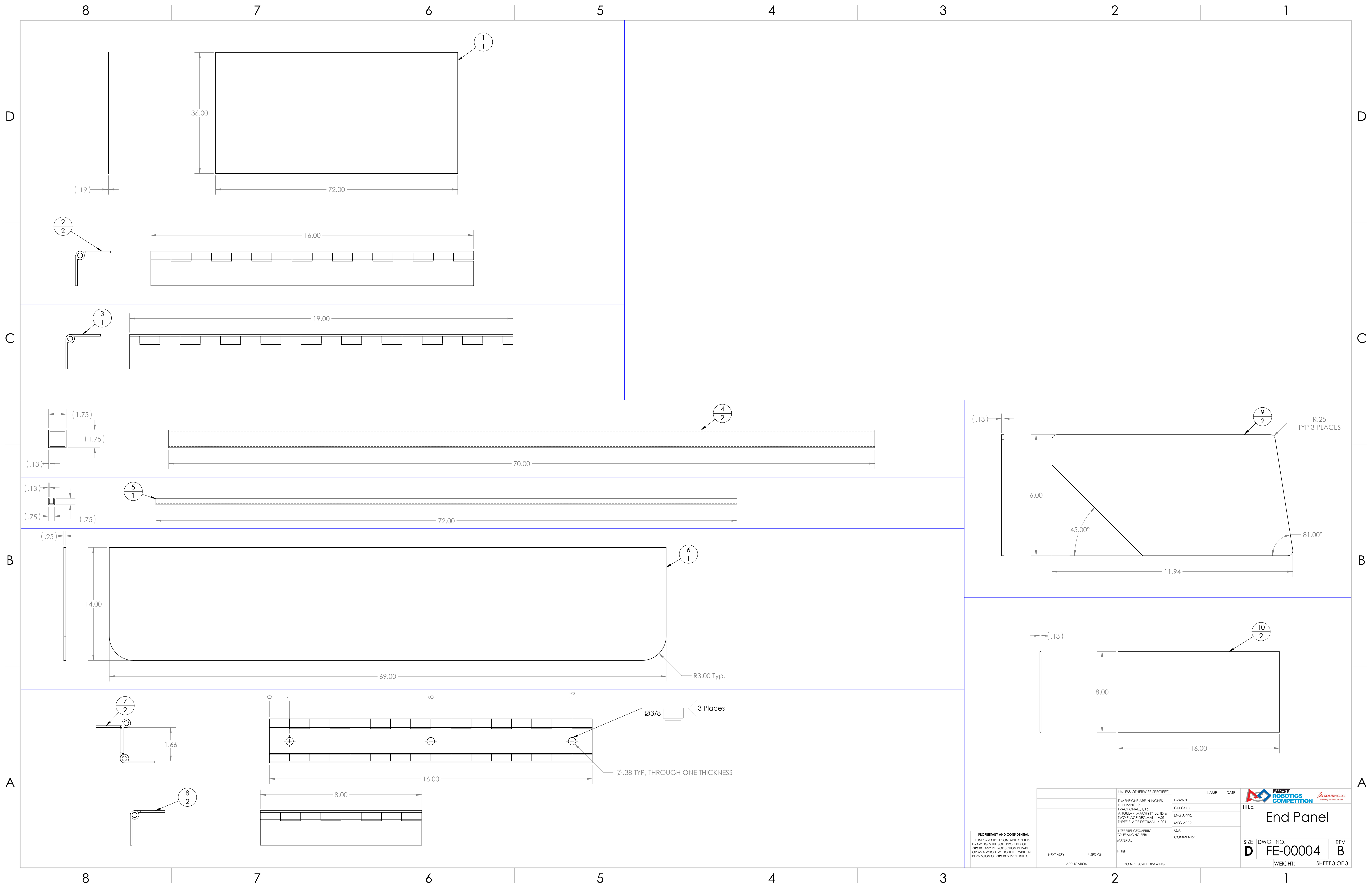


WELD APPLICABLE  
HINGE FINGERS,  
2 PER STOP PLATE HINGE

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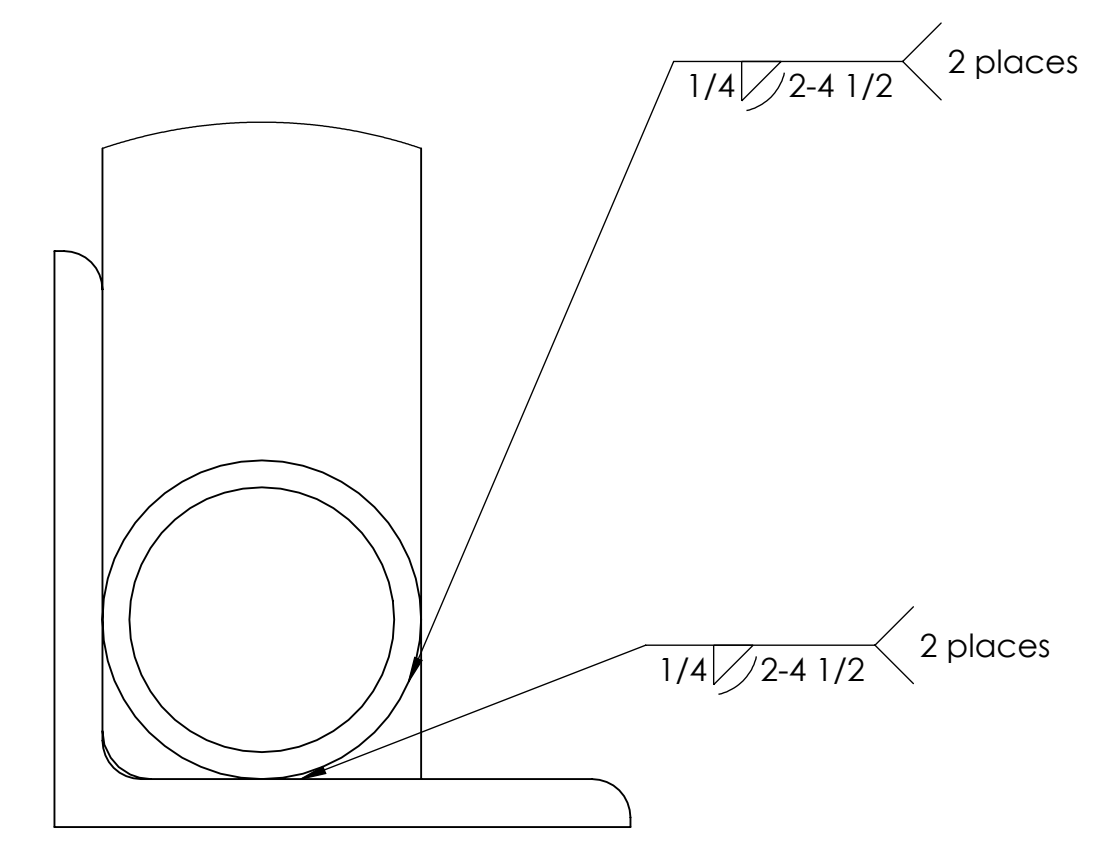
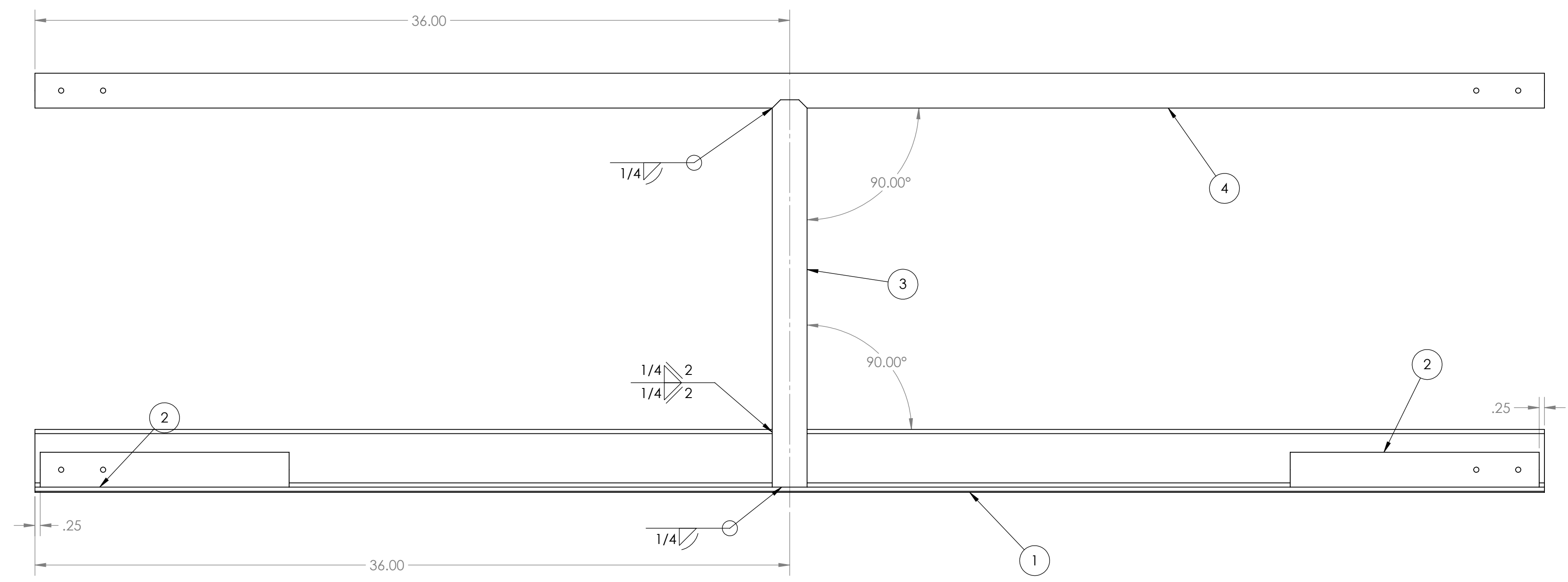
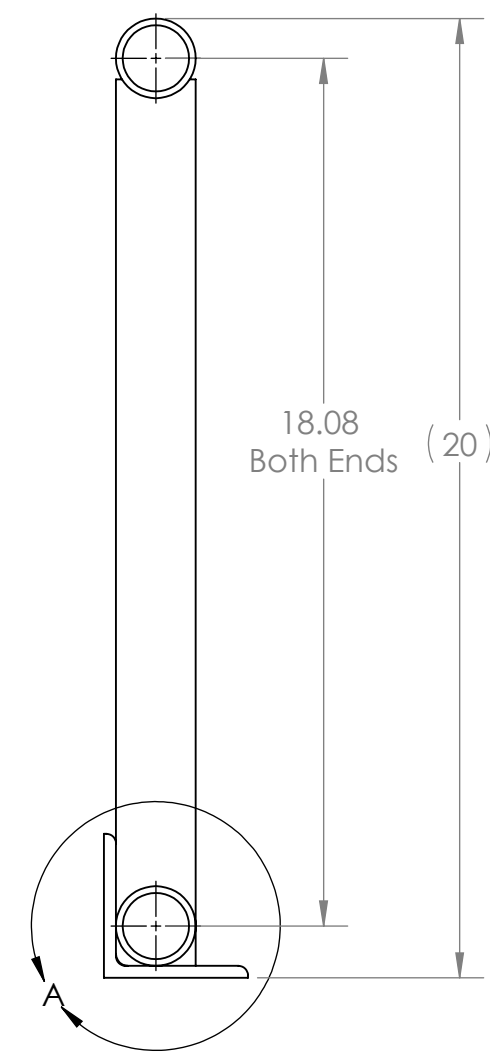
UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN		
TOLERANCES:	CHECKED		
FRACTIONAL: 1/16	ENG APPR.		
ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
TWO PLACE DECIMAL ±.01	Q.A.		
THREE PLACE DECIMAL ±.001	COMMENTS:		
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
FINISH:			
APPLICATION:	DO NOT SCALE DRAWING		

TITLE:		FIRST ROBOTICS COMPETITION SOLIDWORKS	
End Panel		SIZE	DWG. NO.
		D	FE-00004
		REV	B
		WEIGHT:	SHEET 2 OF 3

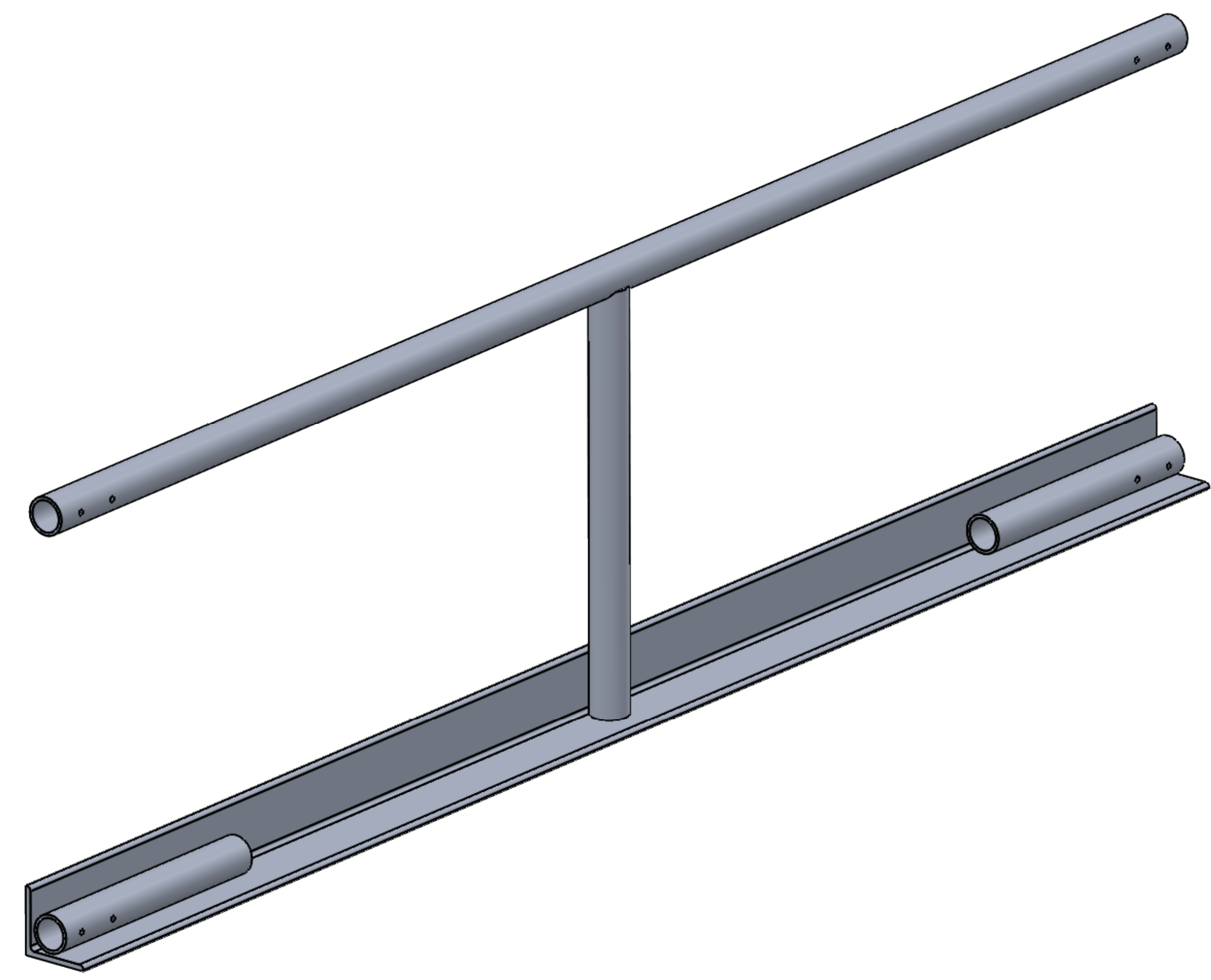


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<small>NEXT ASSY</small> <small>USED ON</small> <small>APPLICATION</small>	<small>FINISH</small> <small>DO NOT SCALE DRAWING</small>	<small>INTERPRET GEOMETRIC TOLERANCING PER:</small> <small>MATERIAL</small> <small>FINISH</small>	<small>Q.A.</small> <small>COMMENTS:</small>	<small>TITLE:</small> <b>End Panel</b>	<small>SIZE DWG. NO.</small> <b>D FE-00004</b>
				<small>REV</small> <b>B</b>	<small>WEIGHT:</small> <small>SHEET 3 OF 3</small>

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	5/28/2008	narosenberg
	B	Drawing reformatted	3/19/2020	CPO



DETAIL A  
SCALE 1:1

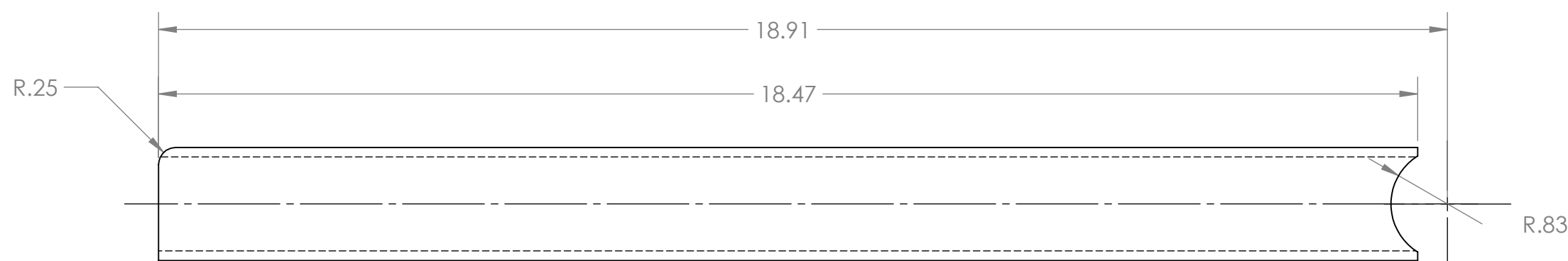
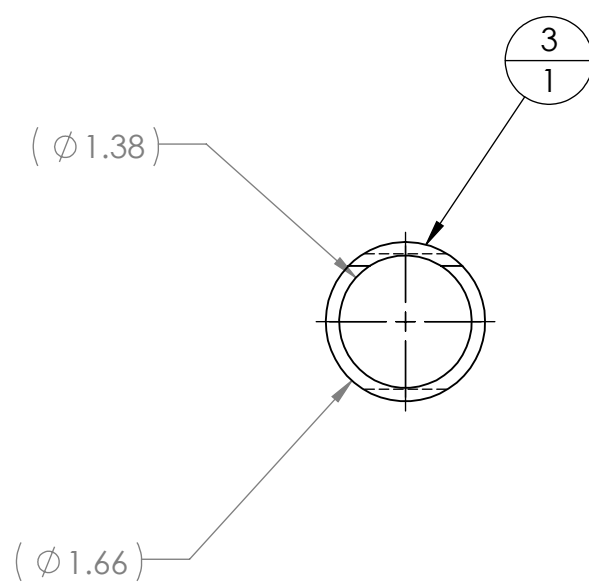
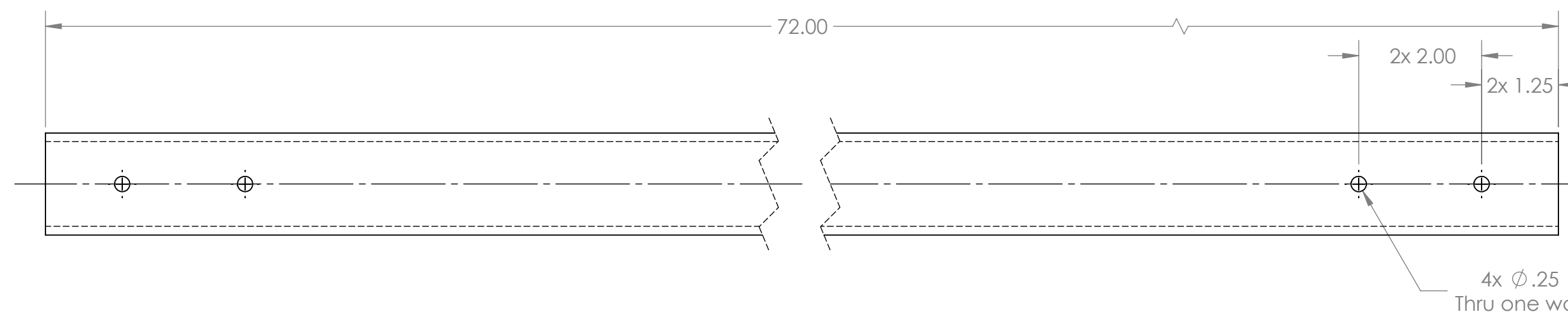
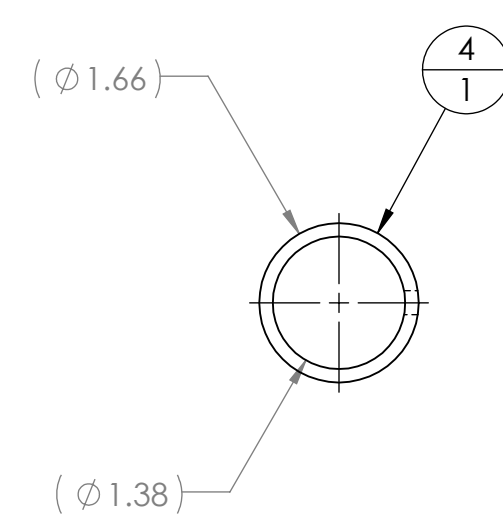
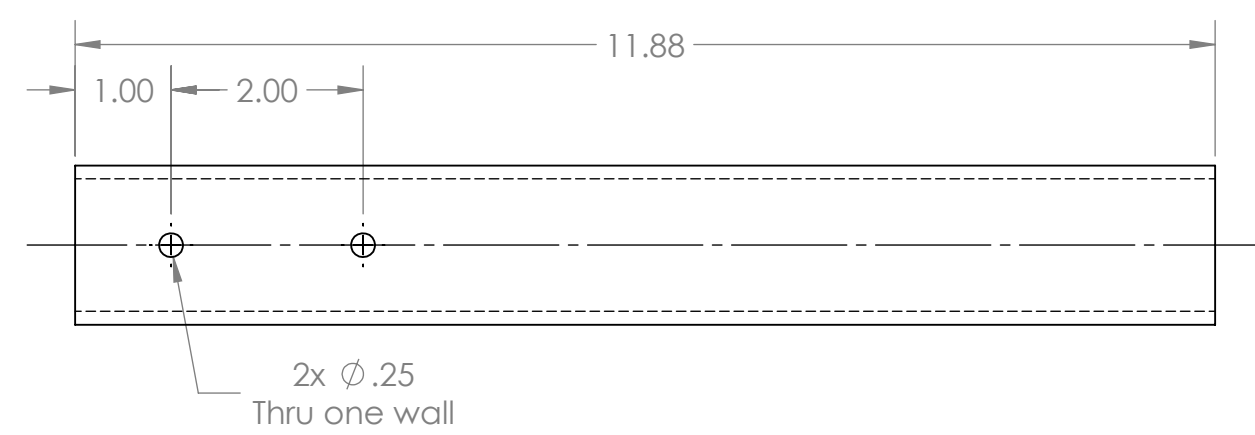
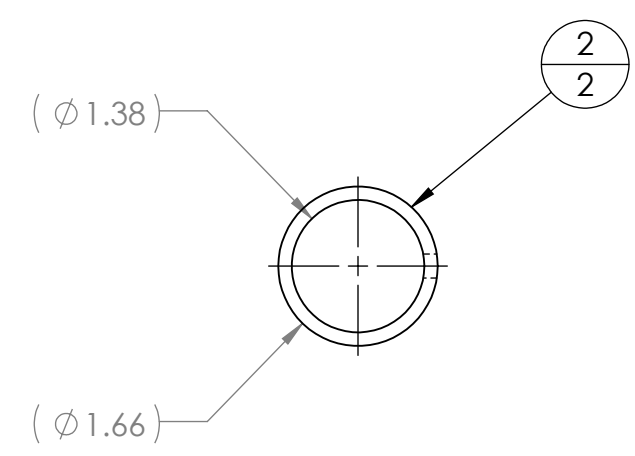
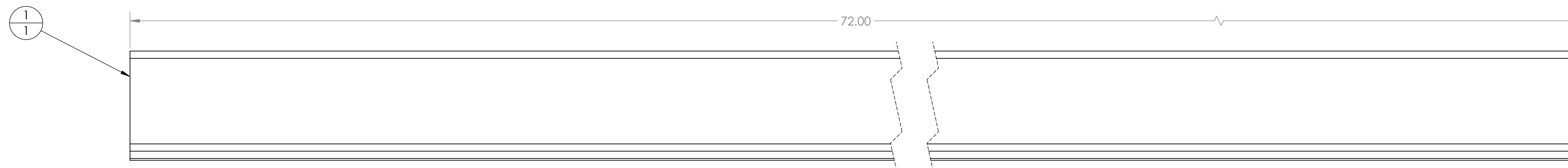
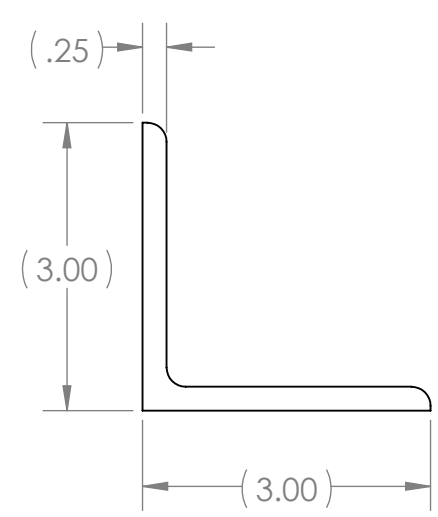


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00005-01	3" x 3" x 1/4" 6061-T6 Aluminum Angle	1
2	FE-00005-02	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	2
3	FE-00005-03	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
4	FE-00005-04	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1

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DIMENSIONS ARE IN INCHES			
TOLERANCES:	CHECKED		
FRACTIONAL: 1/16	ENG APPR.		
ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
TWO PLACE DECIMAL ±.01			
THREE PLACE DECIMAL ±.001			
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
FINISH:			
APPLICATION:			
DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS**  
**Field Rail**  
 SIZE DWG. NO. REV  
**D FE-00005 B**  
 SCALE: 1:4 WEIGHT: SHEET 1 OF 2



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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DRAWN			
CHECKED			
ENG APPR.			
MFG APPR.			
INTERPRET GEOMETRIC TOLERANCING PER:		Q.A. COMMENTS:	
MATERIAL			
FINISH			
APPLICATION	DO NOT SCALE DRAWING		



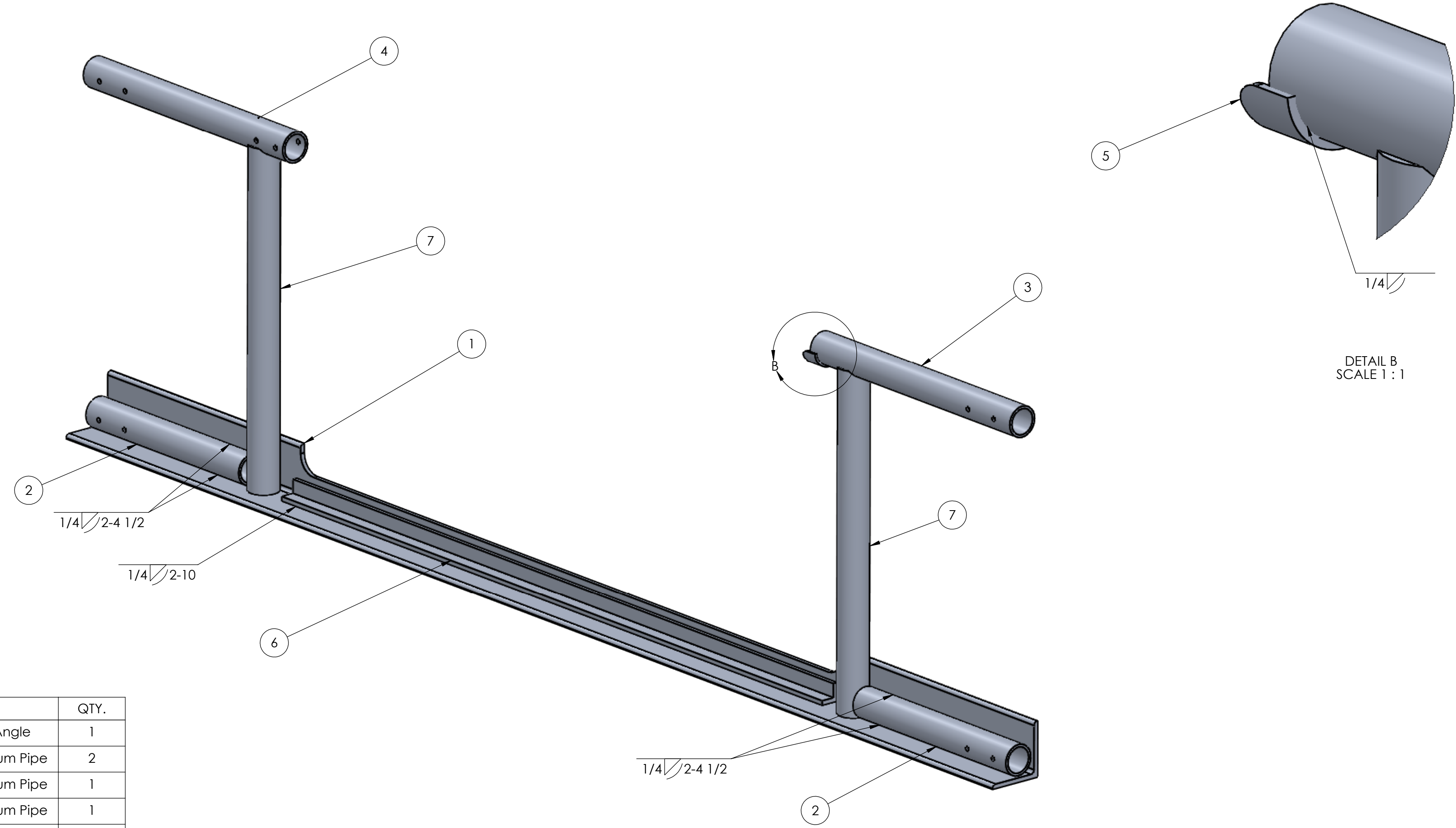
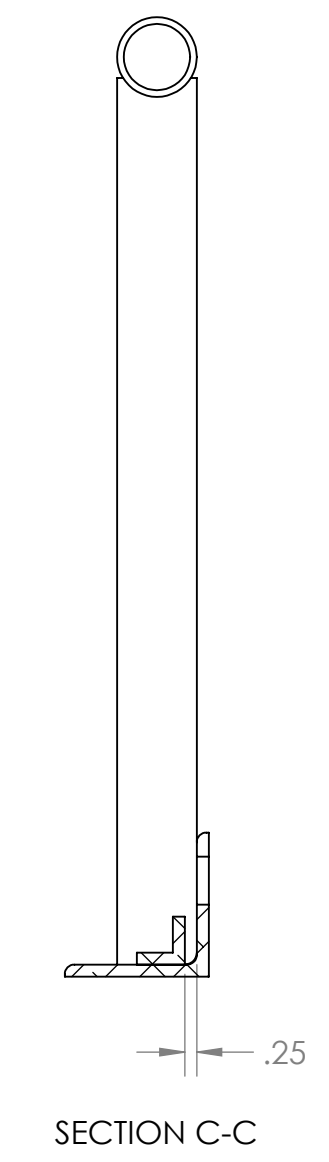
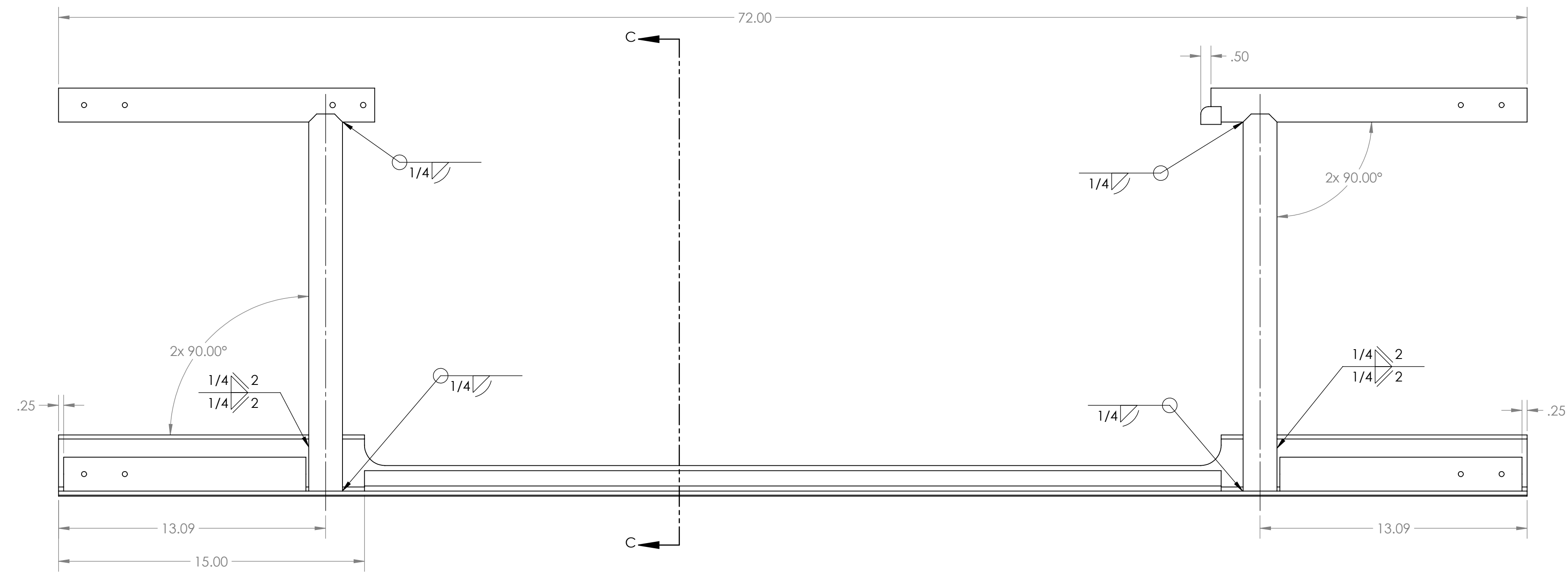
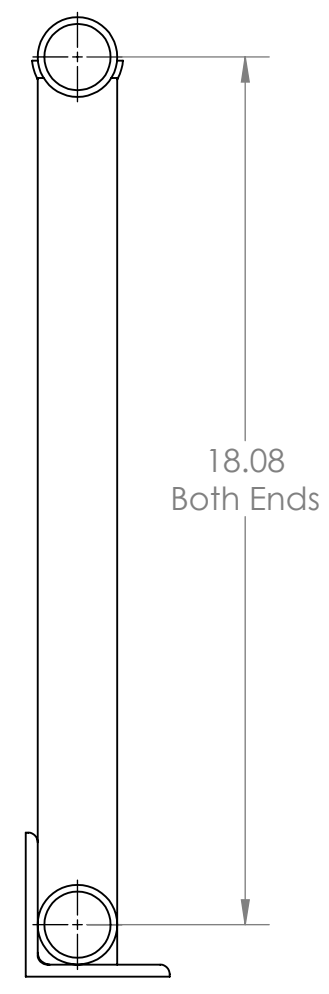

TITLE: **Field Rail**

SIZE DWG. NO. REV  
**D** FE-00005 **B**

SCALE: 1:2 WEIGHT: SHEET 2 OF 2



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	8/7/2008	narosenberg
A7, 2-B6, 3-C6	B	Parts renumbered, drawing reformatted, hole diameter updated, hole changed to thru one wall for consistency.	3/20/2020	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00006-01	3" x 3" x 1/4" 6061-T6 Aluminum Angle	1
2	FE-00006-02	1-1/4" Schedule 40 6061-T6 Aluminum Pipe	2
3	FE-00006-03	1-1/4" Schedule 40 6061-T6 Aluminum Pipe	1
4	FE-00006-04	1-1/4" Schedule 40 6061-T6 Aluminum Pipe	1
5	FE-00006-05	1-1/2" Schedule 40 6061-T6 Aluminum Pipe	1
6	FE-00006-06	1" x 1" x 1/4" 6061-T6 Aluminum Angle	1
7	FE-00006-07	1-1/4" Schedule 40 6061-T6 Aluminum Pipe	2

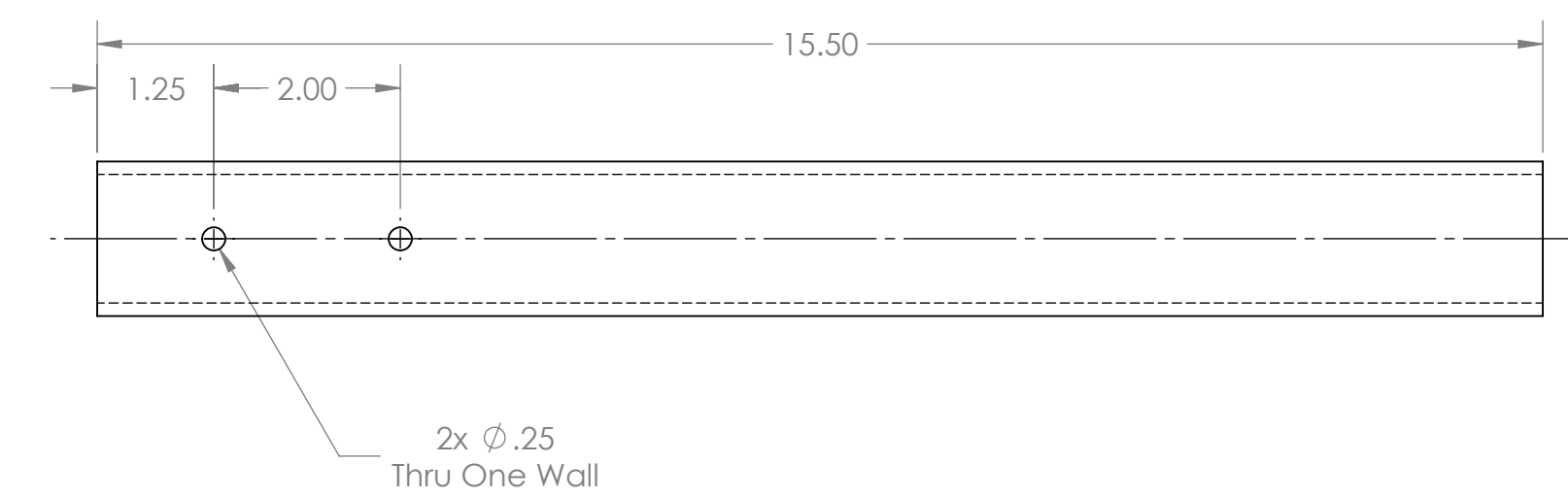
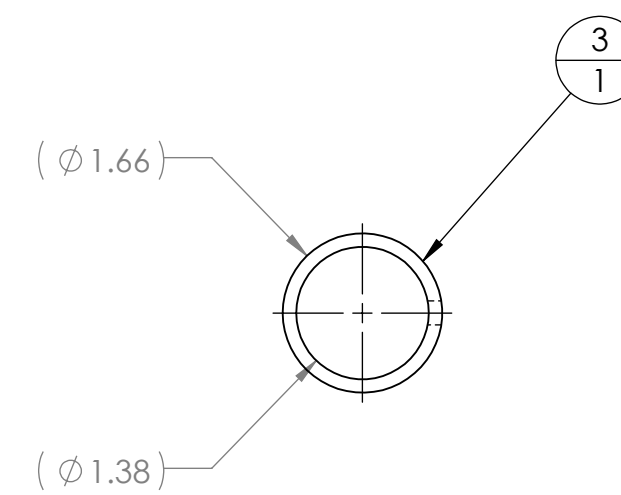
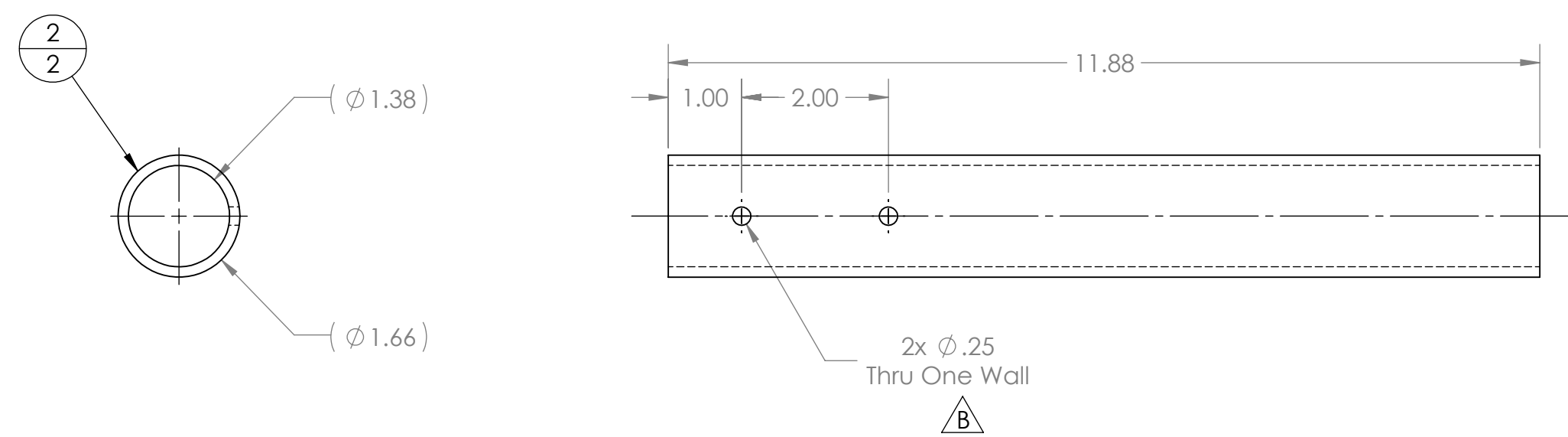
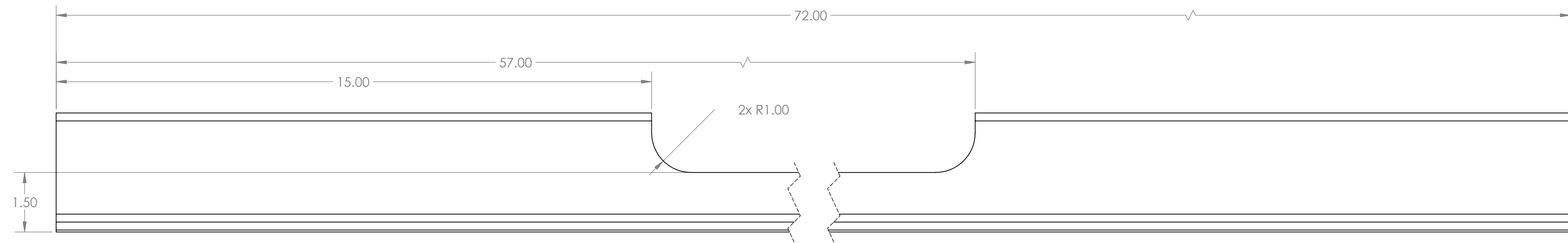
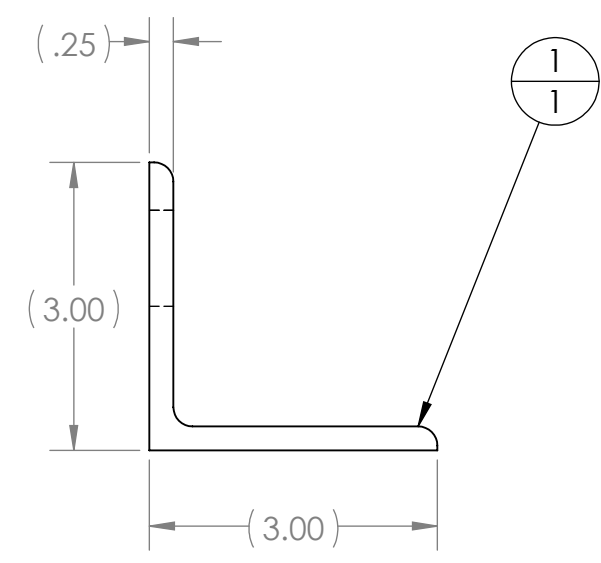
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INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL	CHECKED		
FINISH		ENG APPR.		
APPLICATION	DO NOT SCALE DRAWING	MFG APPR.		
		Q.A. COMMENTS:		

TITLE: **Field Gate, Weldment**

SIZE DWG. NO. **D FE-00006** REV **B**

SCALE: 1:4 WEIGHT: SHEET 1 OF 3



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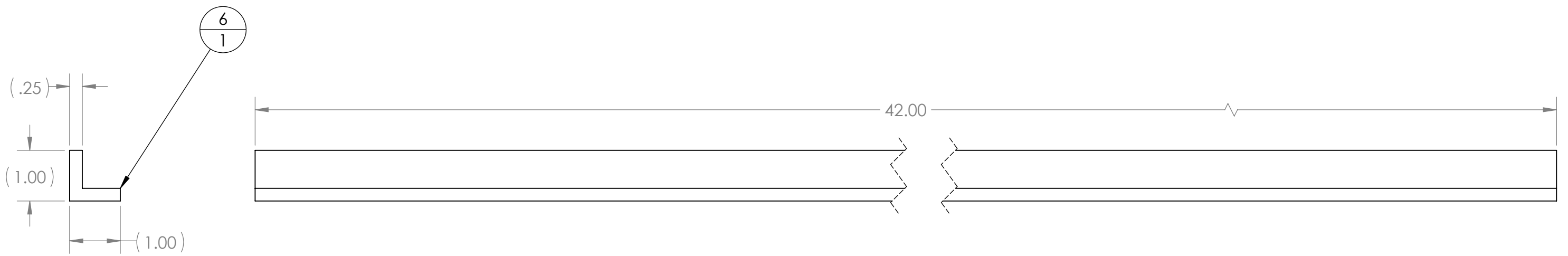
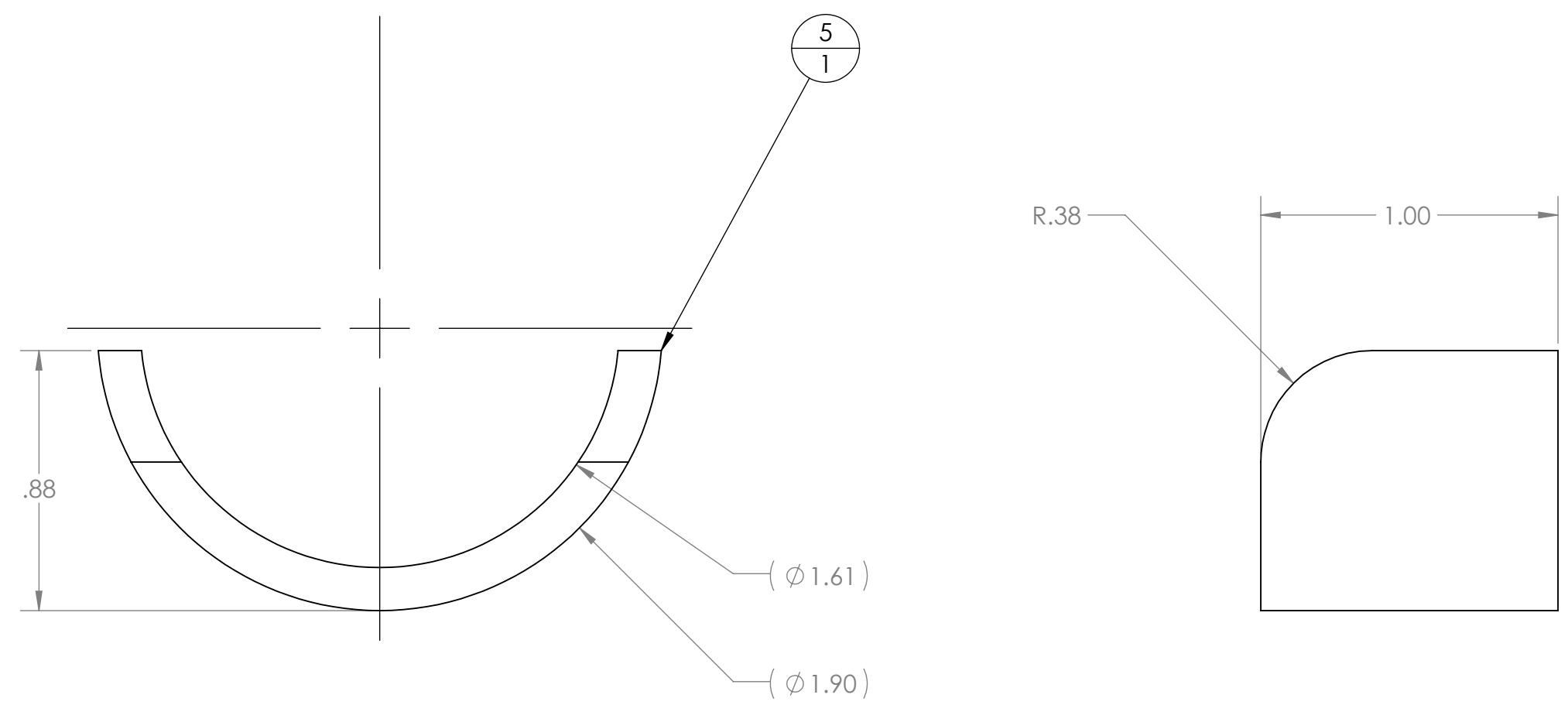
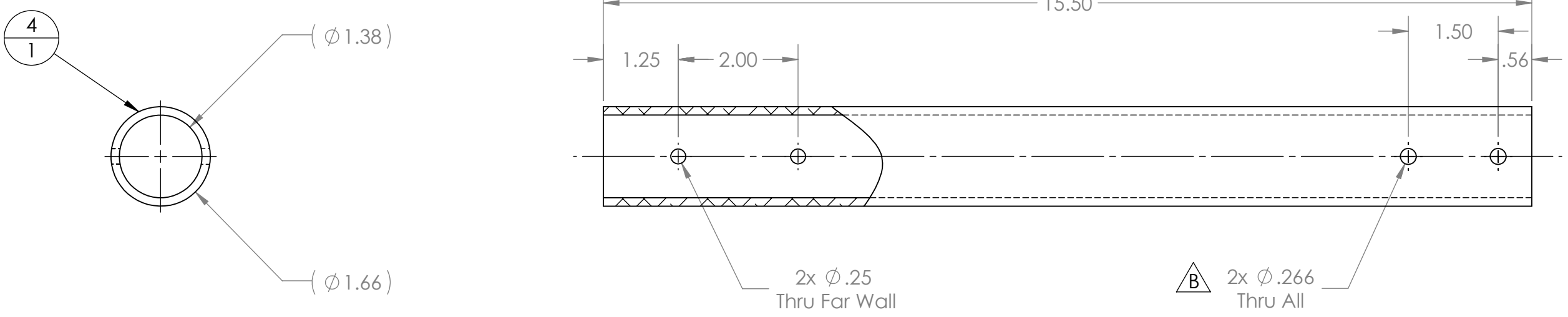
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TOLERANCES:		ENG APPR.		
FRACTIONAL: 1/16		MEG APPR.		
ANGULAR: MACH ±1° BEND ±1°		Q.A.		
TWO PLACE DECIMAL ±.01		COMMENTS:		
THREE PLACE DECIMAL ±.001				
INTERPRET GEOMETRIC TOLERANCING PER:				
MATERIAL:				
FINISH:				
APPLICATION:	DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Field Gate, Weldment**

SIZE DWG. NO. REV  
**D FE-00006 B**

WEIGHT: SHEET 2 OF 3



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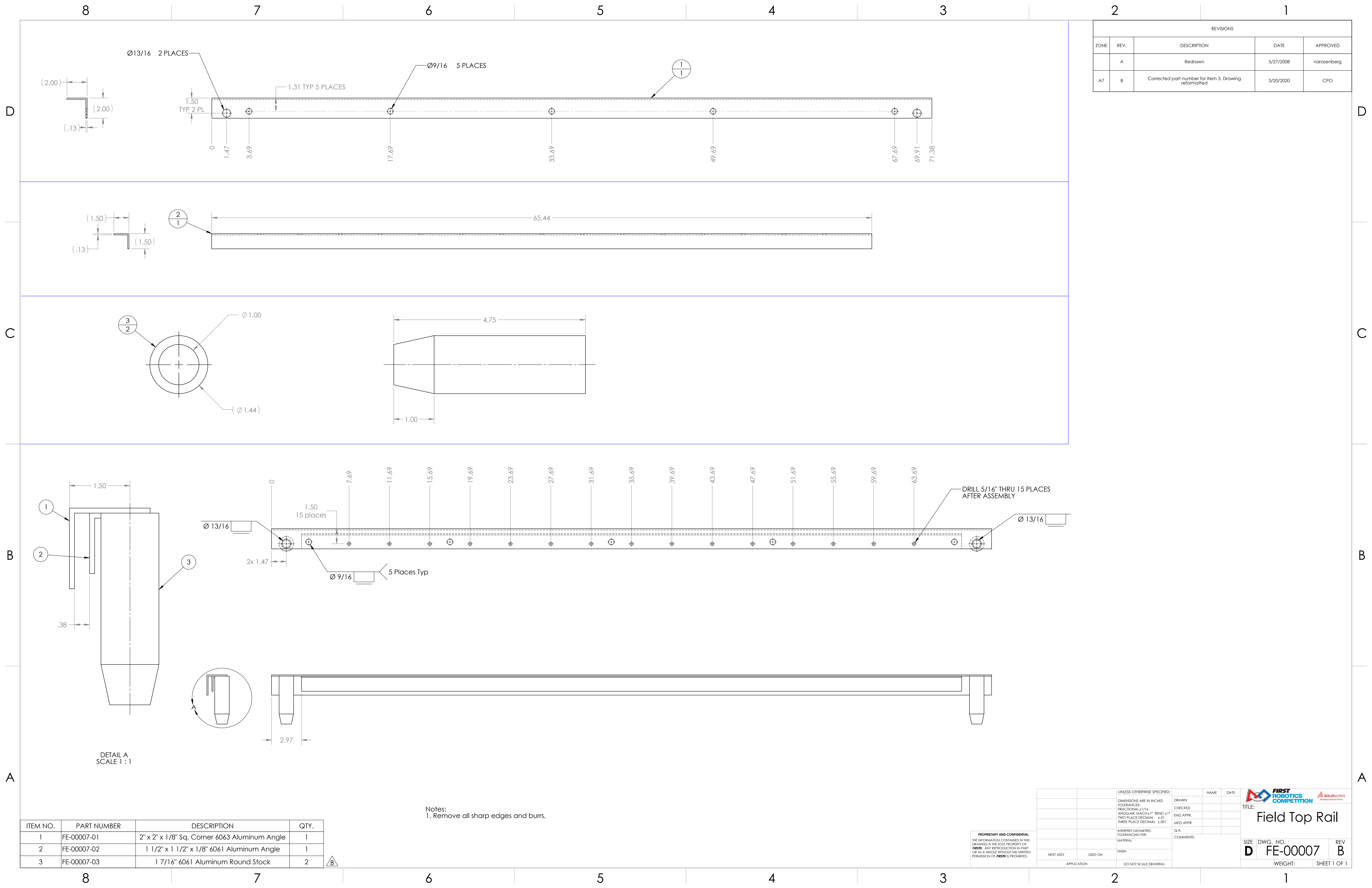
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TOLERANCES:	CHECKED		
FRACTIONAL: 1/16	ENG APPR.		
ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
TWO PLACE DECIMAL ±.01	Q.A.		
THREE PLACE DECIMAL ±.001	COMMENTS:		
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL:			
FINISH:			
APPLICATION	DO NOT SCALE DRAWING		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS**  
 Welding Solution Partner

TITLE: **Field Gate, Weldment**

SIZE DWG. NO. REV  
**D FE-00006 B**

WEIGHT: SHEET 3 OF 3



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	5/27/2008	narosenberg
A7	B	Corrected part number for item 3. Drawing reformatted	3/20/2020	CPO

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00007-01	2" x 2" x 1/8" Sq. Corner 6063 Aluminum Angle	1
2	FE-00007-02	1 1/2" x 1 1/2" x 1/8" 6061 Aluminum Angle	1
3	FE-00007-03	1 7/16" 6061 Aluminum Round Stock	2

Notes:  
1. Remove all sharp edges and burrs.

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UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DRAWN		
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

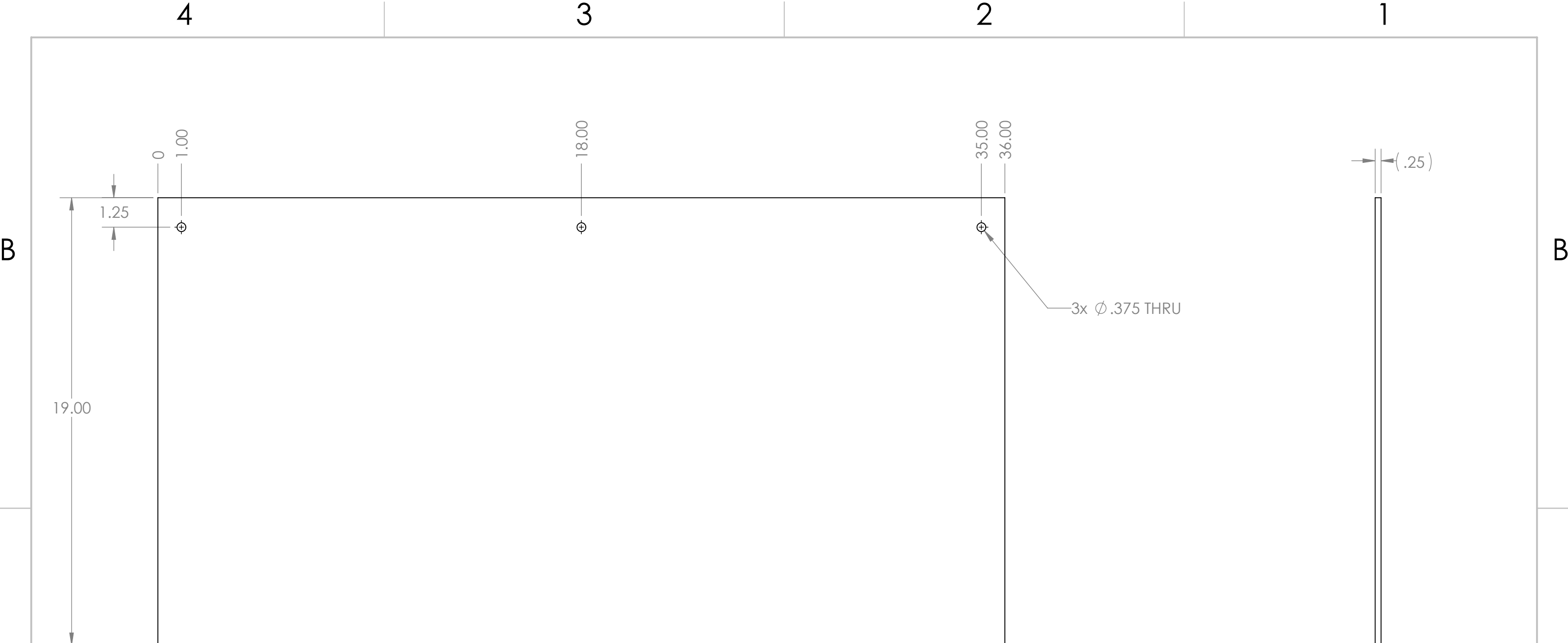
APPLICATION: DO NOT SCALE DRAWING

TITLE: **Field Top Rail**

SIZE DWG. NO. **D FE-00007** REV **B**

WEIGHT: SHEET 1 OF 1







Notes:

1. Material: 1/4" Thick Clear Polycarbonate.
2. Remove all sharp edges.

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL ± 1/16		ENG APPR.	
ANGULAR: MACH ± 1° BEND ± 1°		MFG APPR.	
TWO PLACE DECIMAL ± .01		Q.A.	
THREE PLACE DECIMAL ± .001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			

TITLE: **Field Plastic "A"**

SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00008</b>	

SCALE: 1:4 WEIGHT: SHEET 1 OF 1

4

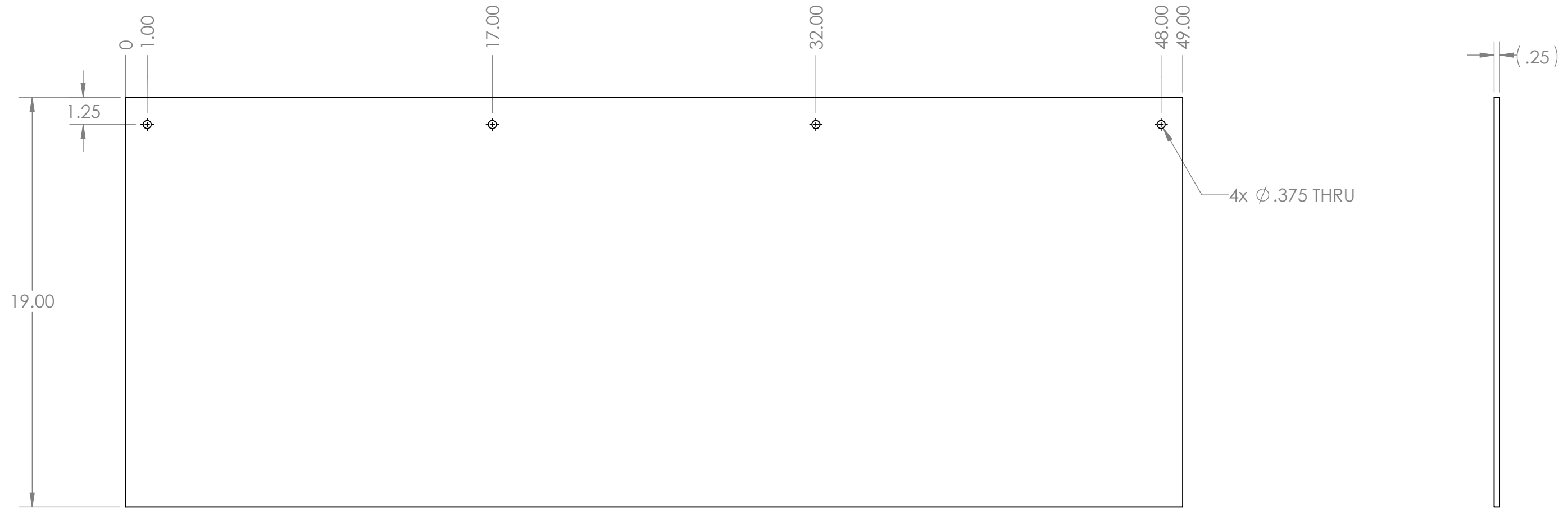
3

2

1

B

B





Notes:

- 1. Material: 1/4" Thick Clear Polycarbonate.
- 2. Remove all sharp edges.

A

A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001		DRAWN	
		INTERPRET GEOMETRIC TOLERANCING PER:		CHECKED	
		MATERIAL		ENG APPR.	
		FINISH		MFG APPR.	
NEXT ASSY	USED ON			Q.A.	
APPLICATION		DO NOT SCALE DRAWING		COMMENTS:	
 					
TITLE: <b>Field Plastic "B"</b>					
SIZE	DWG. NO.	REV			
<b>B</b>	<b>FE-00009</b>				
SCALE: 1:5		WEIGHT:		SHEET 1 OF 1	

4

3

2

1

4

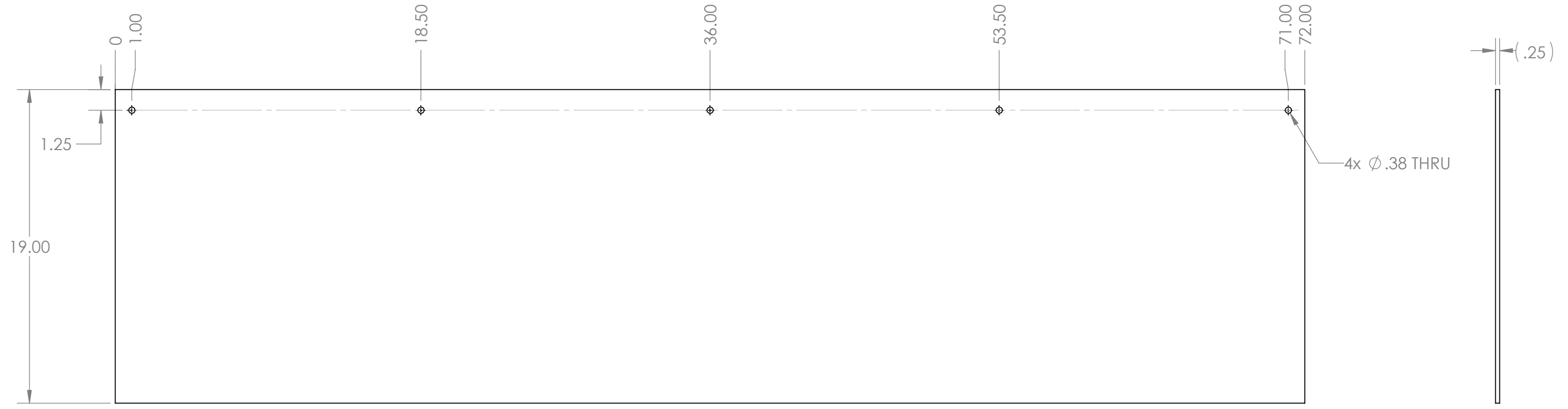
3

2

1

B

B



Notes:

- 1. Material: 1/4" Thick Clear Polycarbonate.
- 2. Remove all sharp edges.

A

A

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	
		TOLERANCES:	CHECKED	
		FRACTIONAL ±1/16	ENG APPR.	
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.	
		TWO PLACE DECIMAL ±.01	Q.A.	
		THREE PLACE DECIMAL ±.001	COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
NEXT ASSY	USED ON	FINISH		
APPLICATION		DO NOT SCALE DRAWING		



TITLE: <b>Field Plastic "C"</b>		
SIZE <b>B</b>	DWG. NO. <b>FE-00010</b>	REV
SCALE: 1:6	WEIGHT:	SHEET 1 OF 1

4

3

2

1

4

3

2

1

B

B

A

A





Notes:  
 1. Material: 3/8" Thick Acrylic Sheet

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL ±1/16	ENG APPR.		
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
		TWO PLACE DECIMAL ±.01	Q.A.		
		THREE PLACE DECIMAL ±.001	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

 		
TITLE: <b>Drivers Station Acrylic</b>		
SIZE <b>B</b>	DWG. NO. <b>FE-00012</b>	REV
SCALE: 1:8	WEIGHT:	SHEET 1 OF 1

4

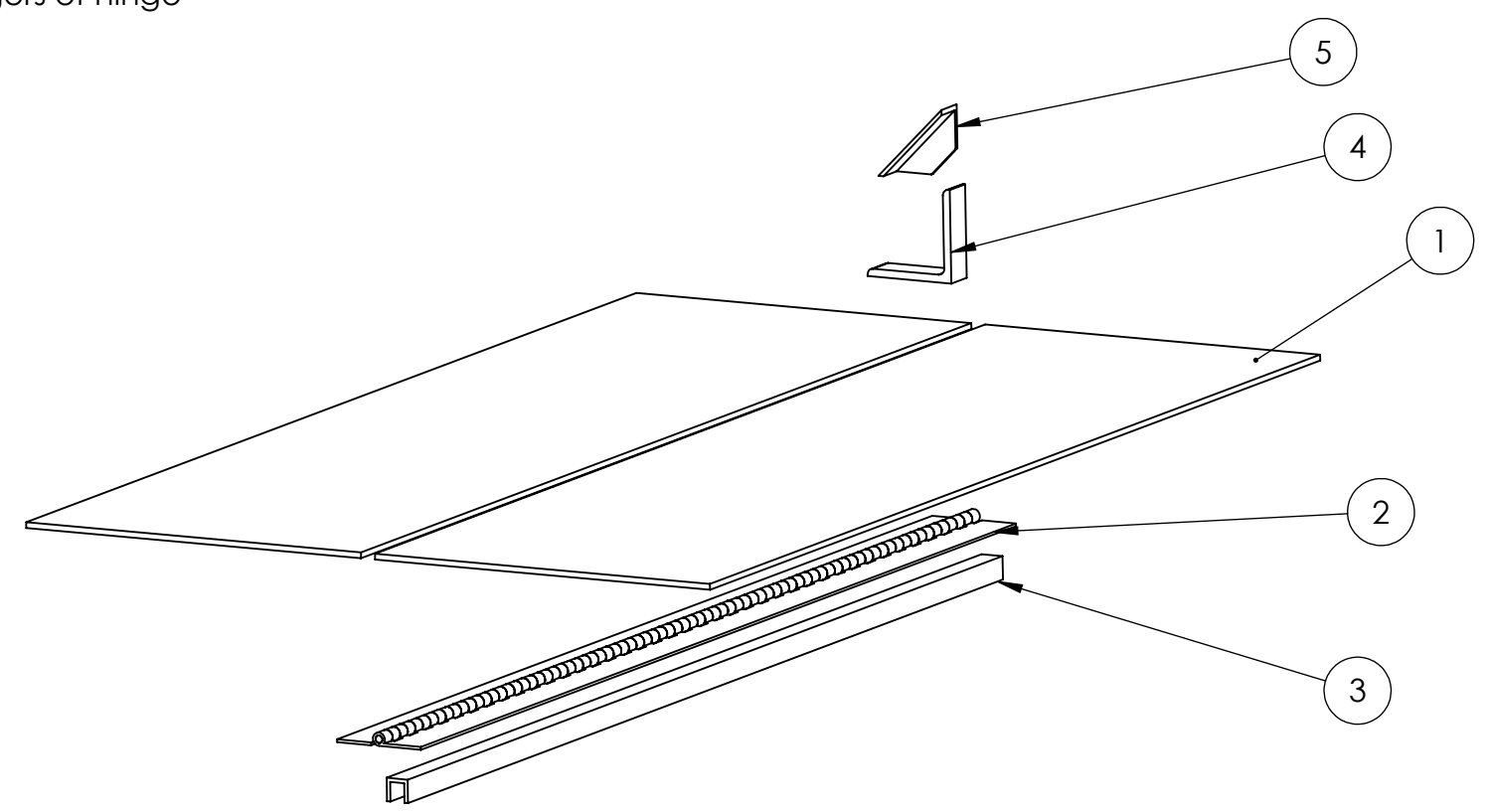
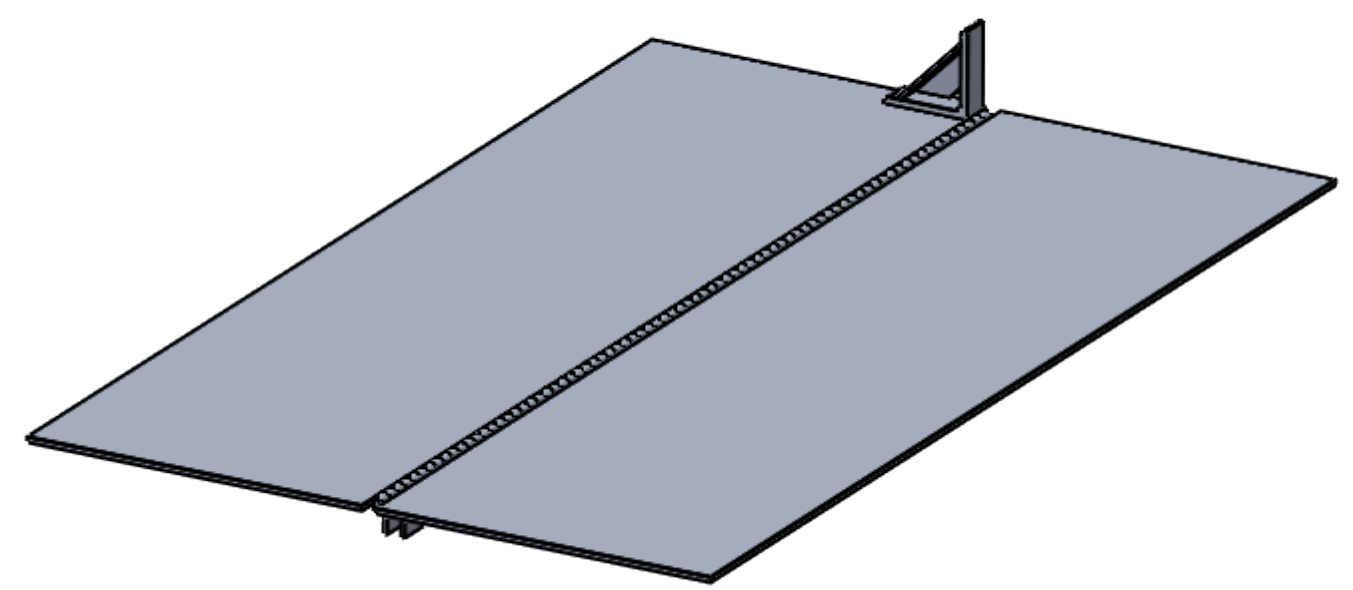
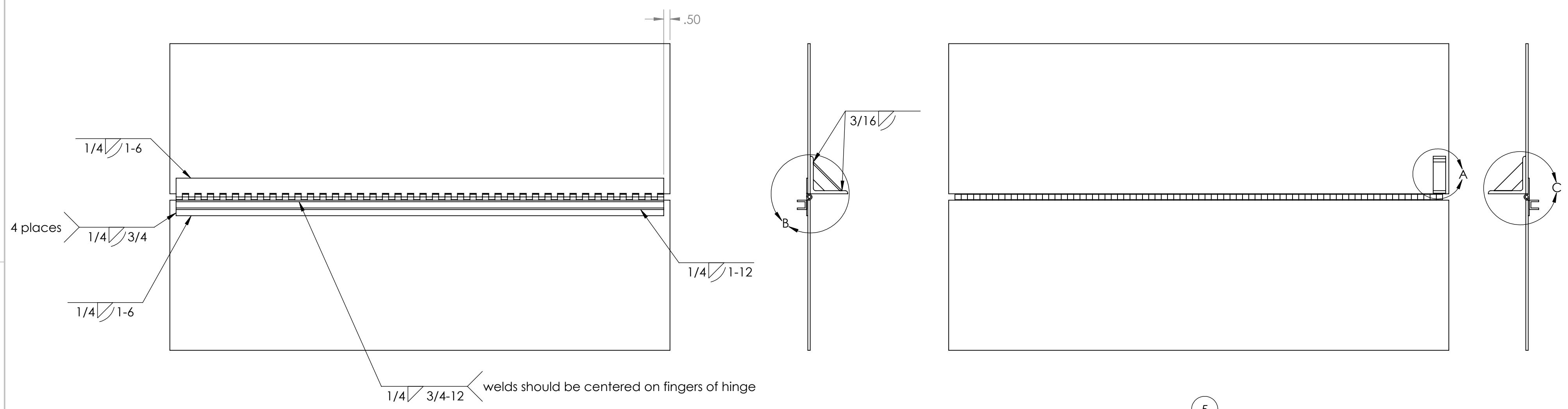
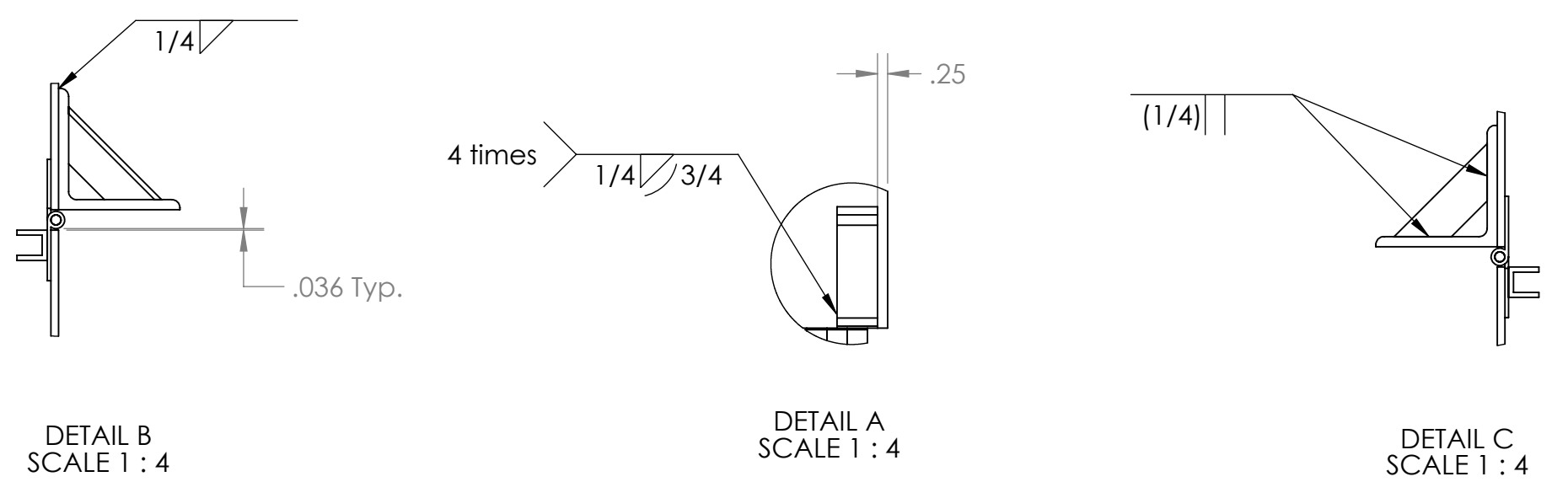
3

2

1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	5/27/2008	narosenberg
	B	Drawing Reformatted	3/20/2020	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00014-01	3/16" 3003 Aluminum Diamond Plate	2
2	FE-00014-02	3" Aluminum Hinge, 1/4" Pin	1
3	FE-00014-03	3/4" x 3/4" x 1/8" 6061-T6 Aluminum 'U' Channel	1
4	FE-00014-04	3" x 3" x 1/4" 6061-T6 Aluminum Angle	1
5	FE-00014-05	1" x 1" x 1/8" 6061-T6 Aluminum Angle	1

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001		DRAWN	NAME	DATE
NEXT ASSY	USED ON	CHECKED		
APPLICATION		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
		TITLE: <b>Field Entry Ramp</b>		
		SIZE DWG. NO. <b>C FE-00014</b>		REV <b>B</b>
		SCALE: 1:6 WEIGHT:		SHEET 1 OF 2



4

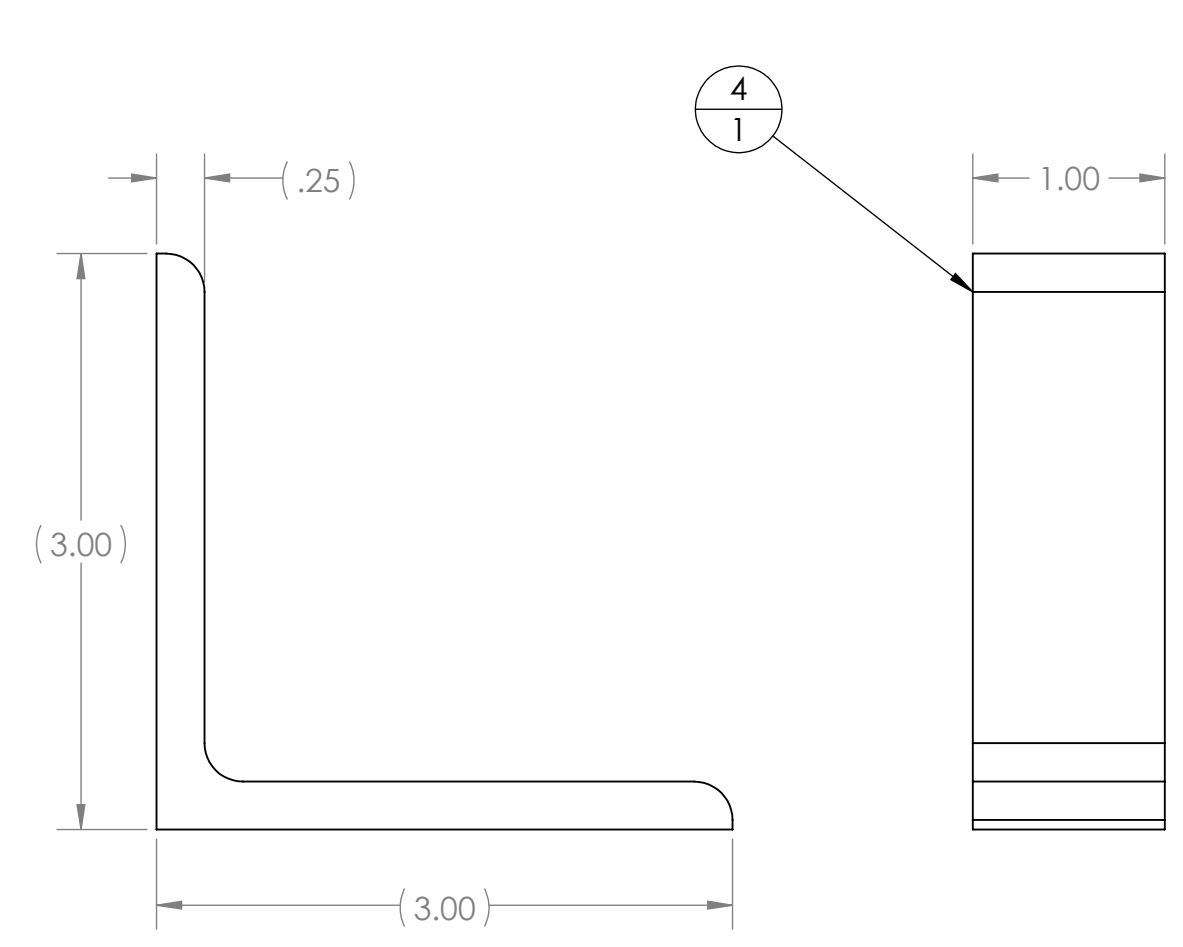
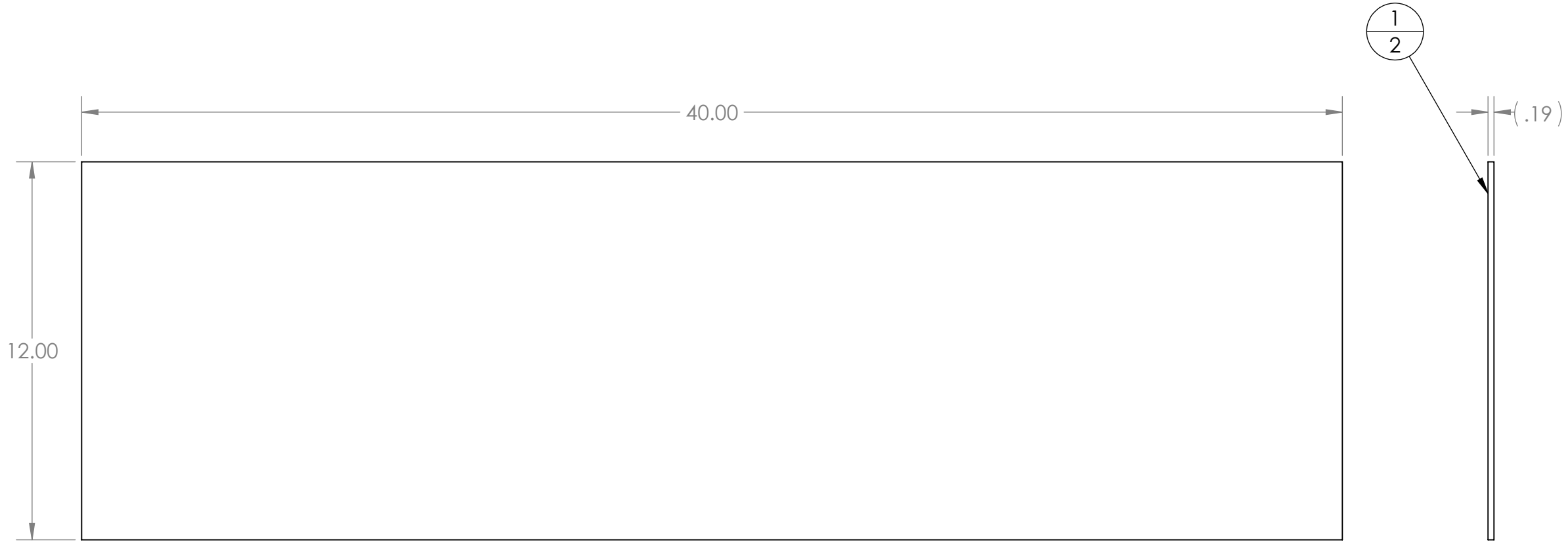
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2

1

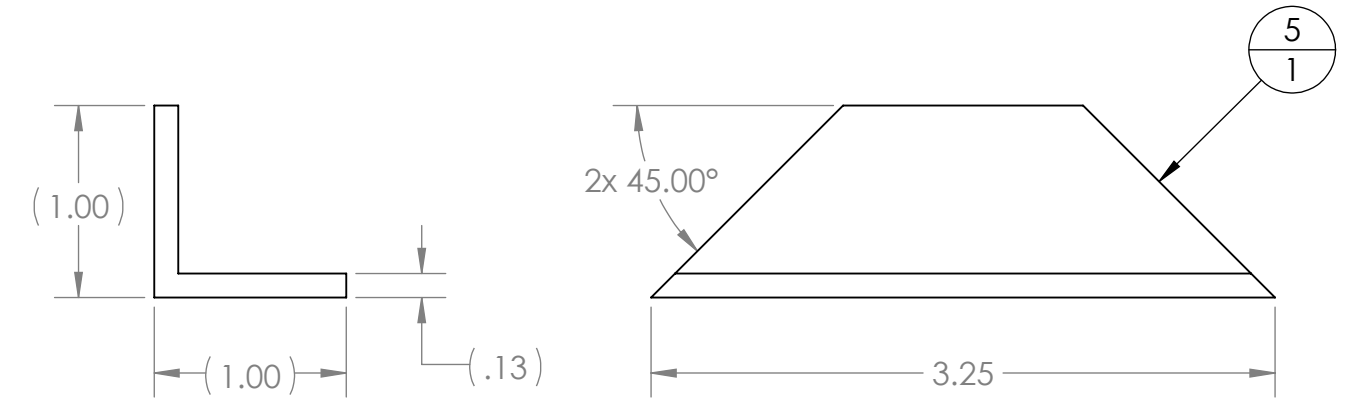
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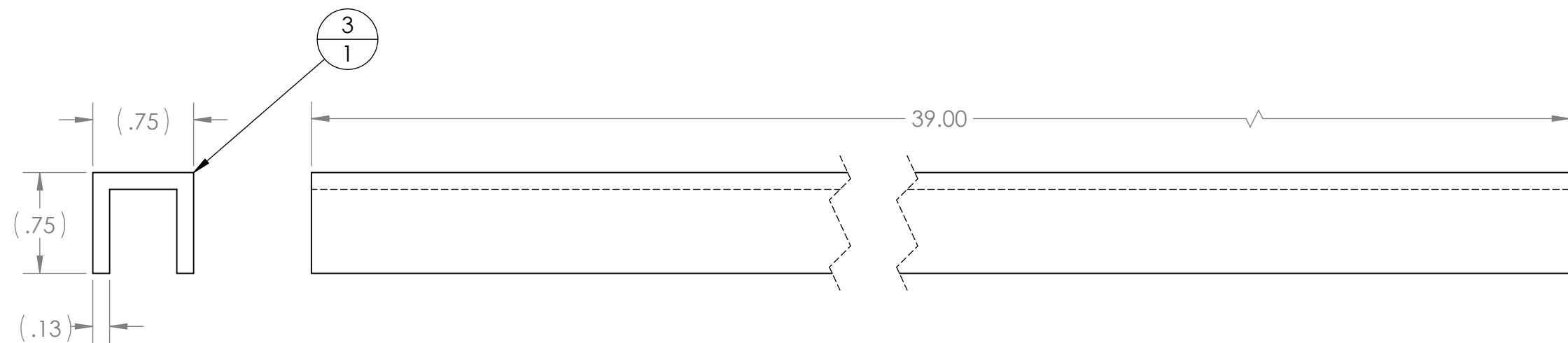
C

C



B

B



Note: Remove all sharp edges.

A

A

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UNLESS OTHERWISE SPECIFIED:		DRAWN	NAME	DATE
DIMENSIONS ARE IN INCHES		CHECKED		
TOLERANCES:		ENG APPR.		
FRACTIONAL: 1/16		MFG APPR.		
ANGULAR: MACH ±1° BEND ±1°		Q.A.		
TWO PLACE DECIMAL ±.01		COMMENTS:		
THREE PLACE DECIMAL ±.001				
INTERPRET GEOMETRIC TOLERANCING PER:				
MATERIAL:				
FINISH:				
NEXT ASSY	USED ON			
APPLICATION				
DO NOT SCALE DRAWING				

TITLE:		FIRST ROBOTICS COMPETITION		SOLIDWORKS	
Field Entry Ramp					
SIZE	DWG. NO.	REV			
C	FE-00014	B			
WEIGHT:		SHEET 2 OF 2			

4

3

2

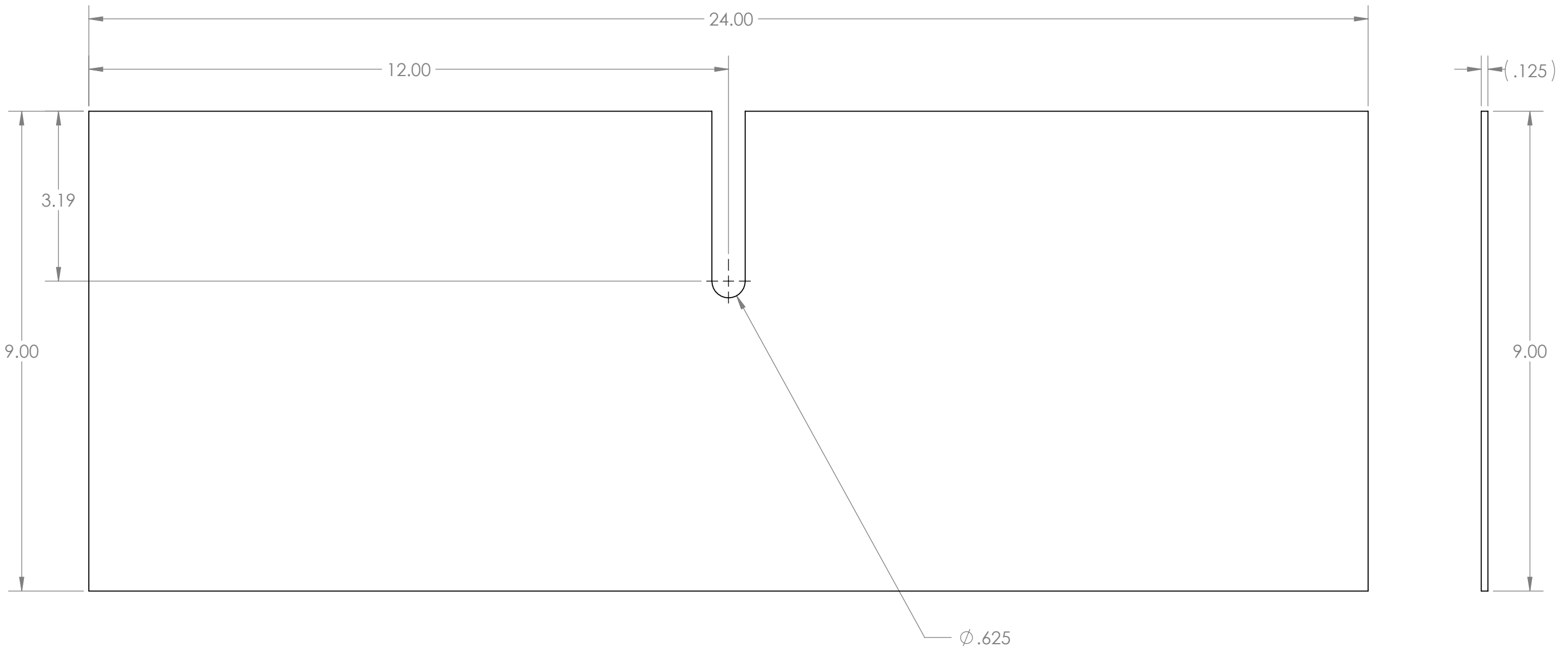
1

4

3

2

1



- Notes:
1. Material: 1/8" Thick HDPE, Yellow.
  2. Remove all sharp edges.

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	
		TOLERANCES:	CHECKED	
		FRACTIONAL $\pm 1/16$	ENG APPR.	
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.	
		TWO PLACE DECIMAL $\pm .01$	Q.A.	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
NEXT ASSY	USED ON	FINISH		
APPLICATION		DO NOT SCALE DRAWING		



TITLE:		
<h1>Trip Guard</h1>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00015</b>	
SCALE: 1:2	WEIGHT:	SHEET 1 OF 1

4

3

2

1

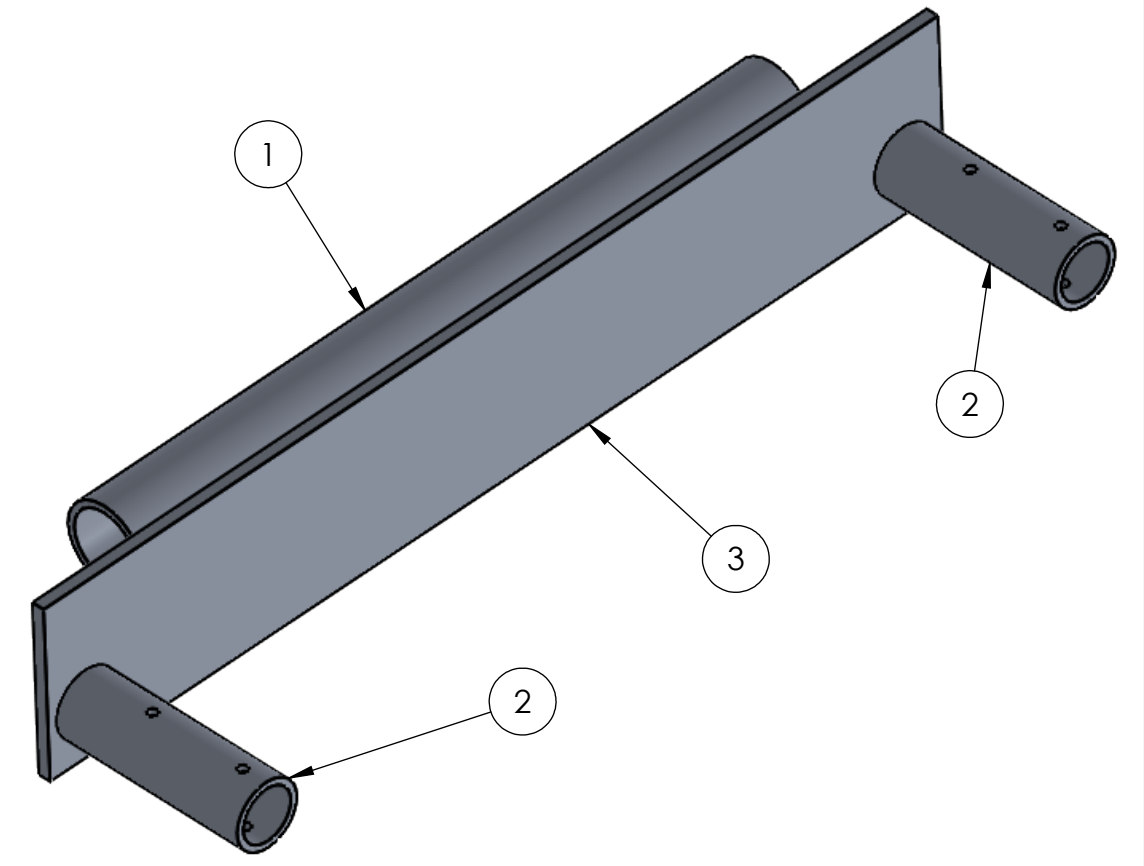
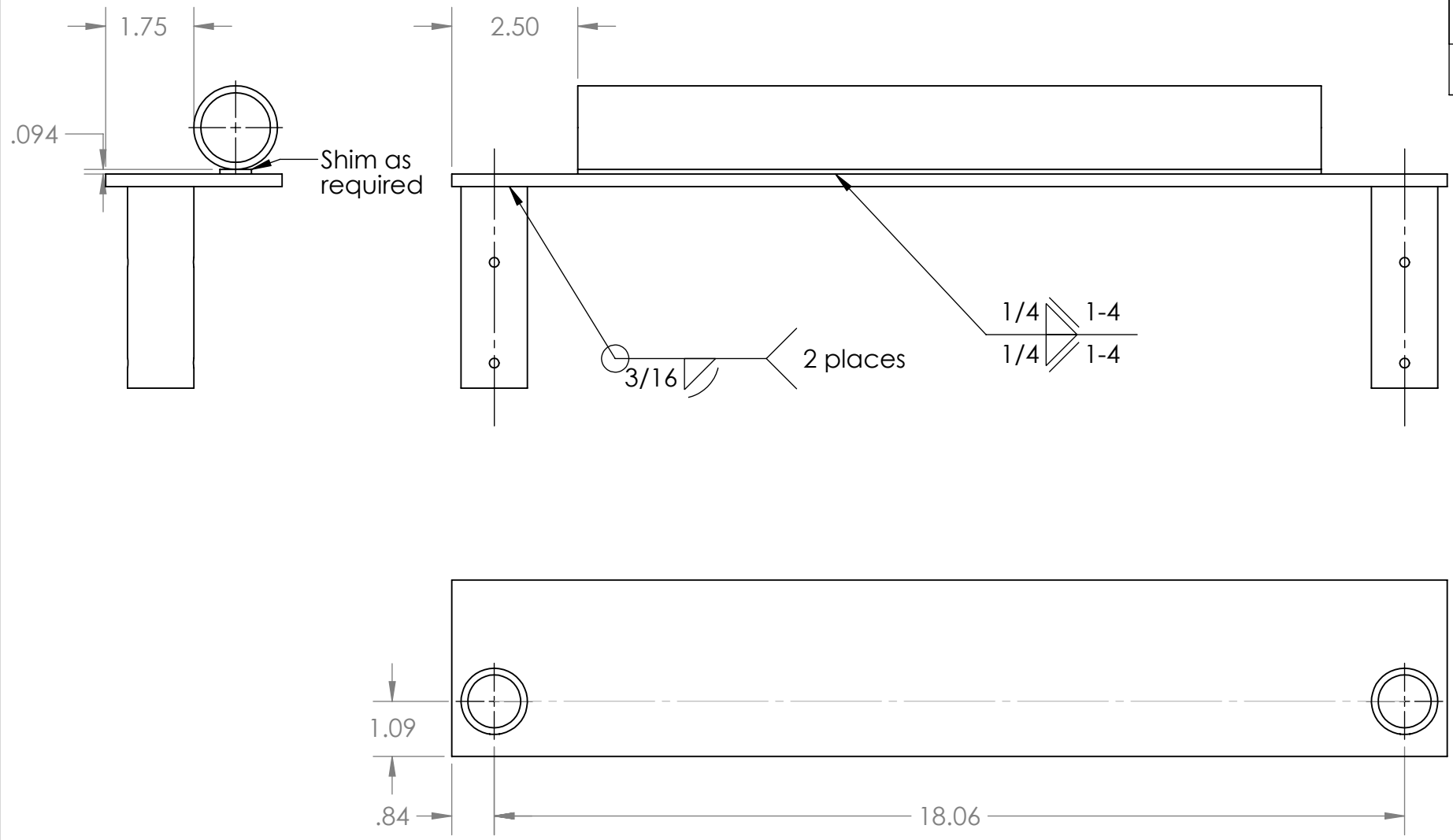
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3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	5/30/2008	narosenberg
	B	Drawing reformatted.	3/20/2020	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00018-01	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
2	FE-00018-02	1" Schedule 40 6061-T6 Aluminum Pipe	2
3	FE-00018-03	3 1/2" x 1/4" 6061-T6 Aluminum Bar	1

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL: ±1/16		ENG APPR.	
ANGULAR: MACH ±1° BEND ±1°		MFG APPR.	
TWO PLACE DECIMAL ±.01		Q.A.	
THREE PLACE DECIMAL ±.001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL		
FINISH			
NEXT ASSY	USED ON		
APPLICATION	DO NOT SCALE DRAWING		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Corner Connector**

SIZE **B** DWG. NO. **FE-00018** REV **B**

SCALE: 1:3 WEIGHT: SHEET 1 OF 2

4

3

2

1

B

B

A

A

4

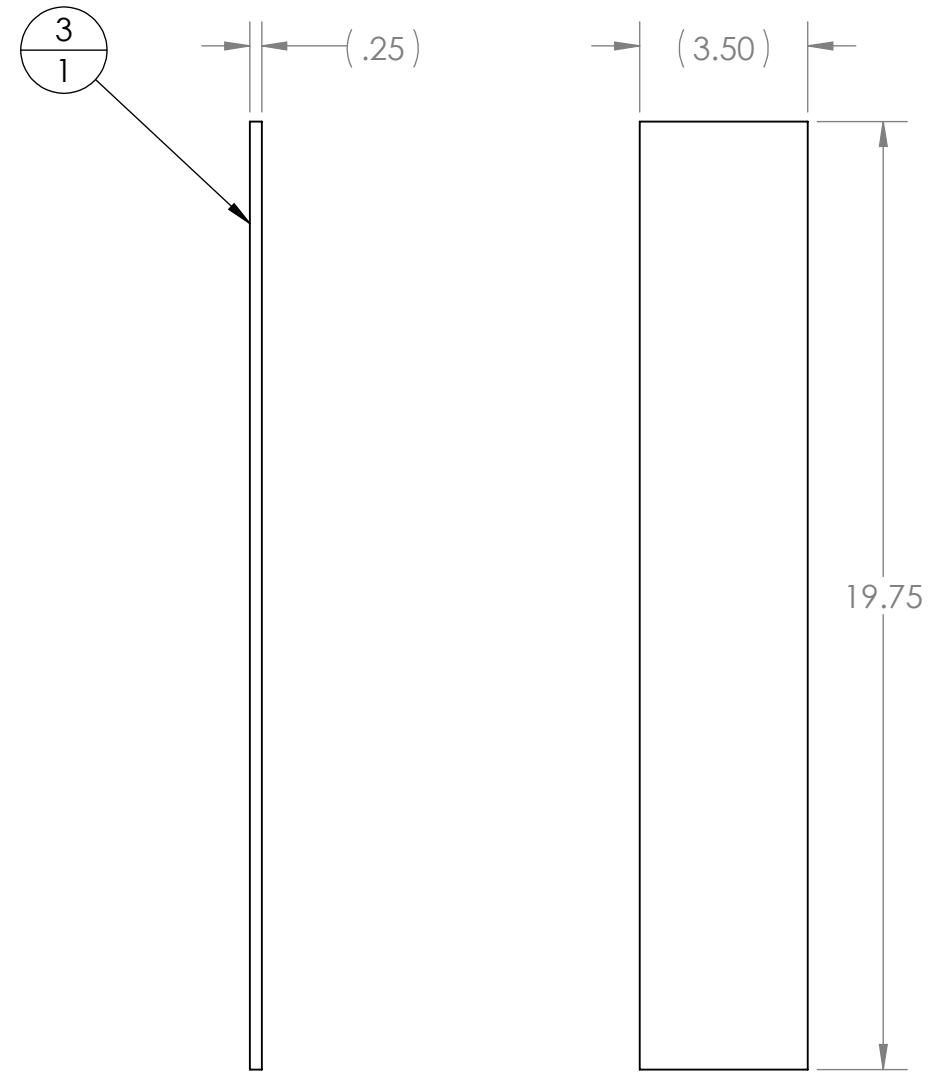
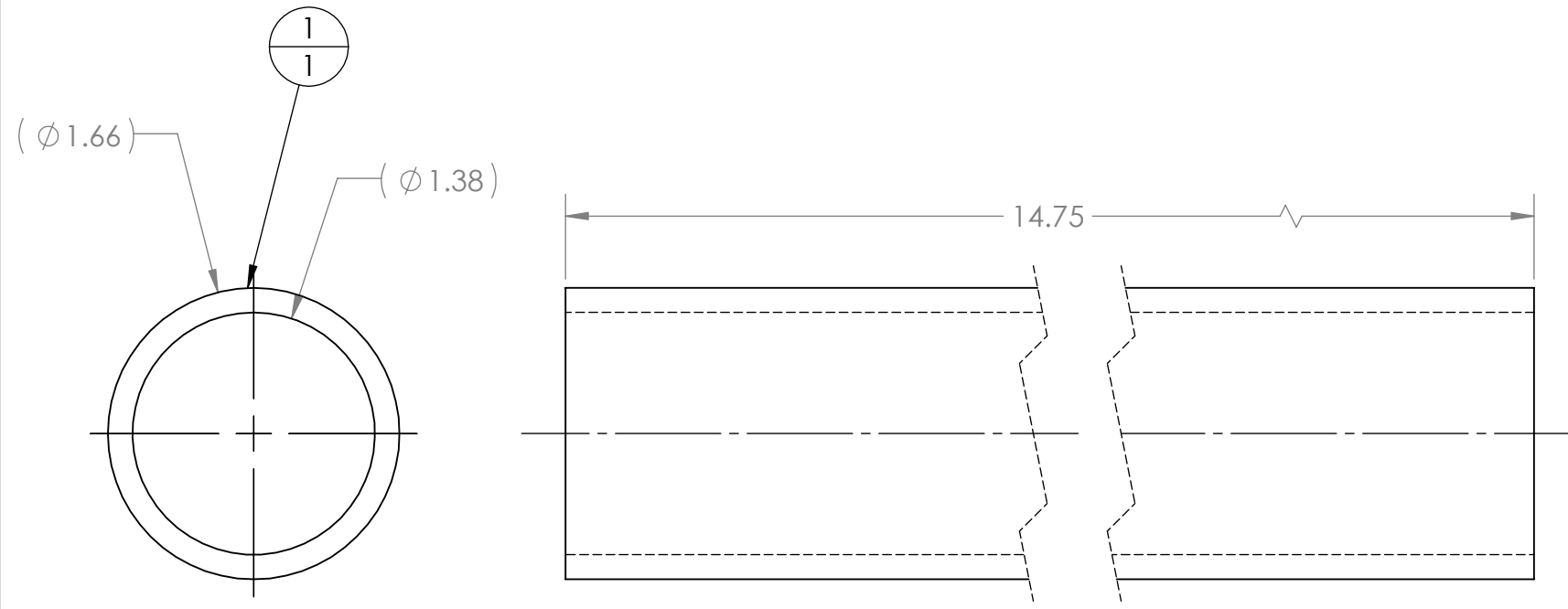
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2

1

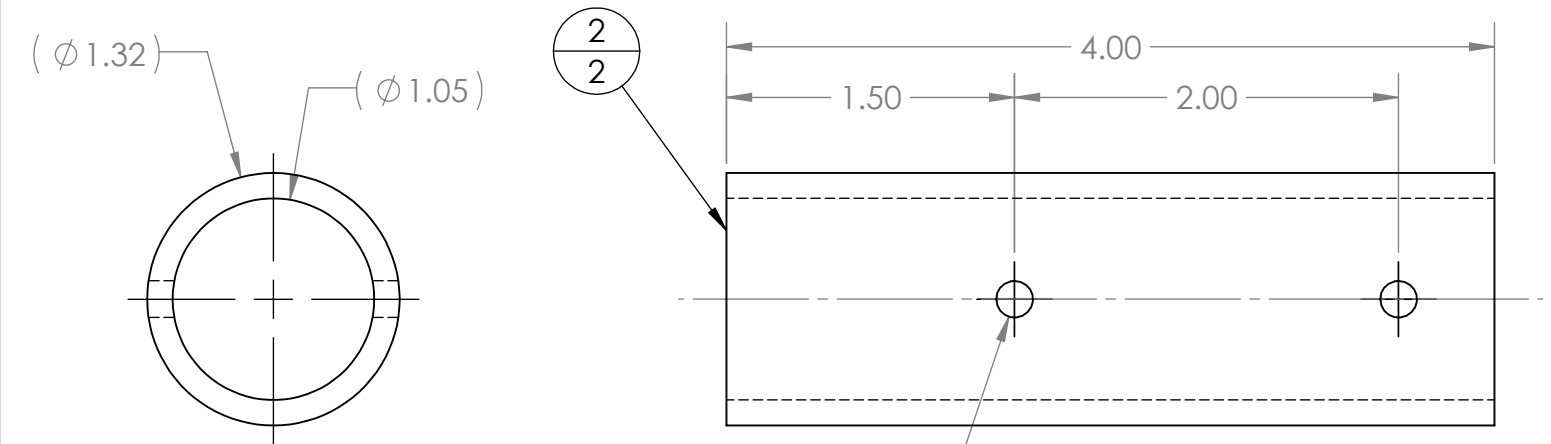
B

B



A

A



2x  $\phi$ .191 THRU  
#11 Drill

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES		DRAWN	
		TOLERANCES:		CHECKED	
		FRACTIONAL $\pm 1/16$		ENG APPR.	
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$		MFG APPR.	
		TWO PLACE DECIMAL $\pm .01$		Q.A.	
		THREE PLACE DECIMAL $\pm .001$		COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

TITLE:		
<h1>Corner Connector</h1>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00018</b>	<b>B</b>
WEIGHT:		SHEET 2 OF 2

4

3

2

1

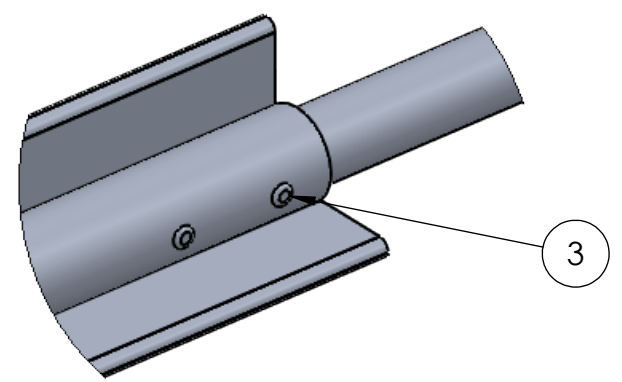
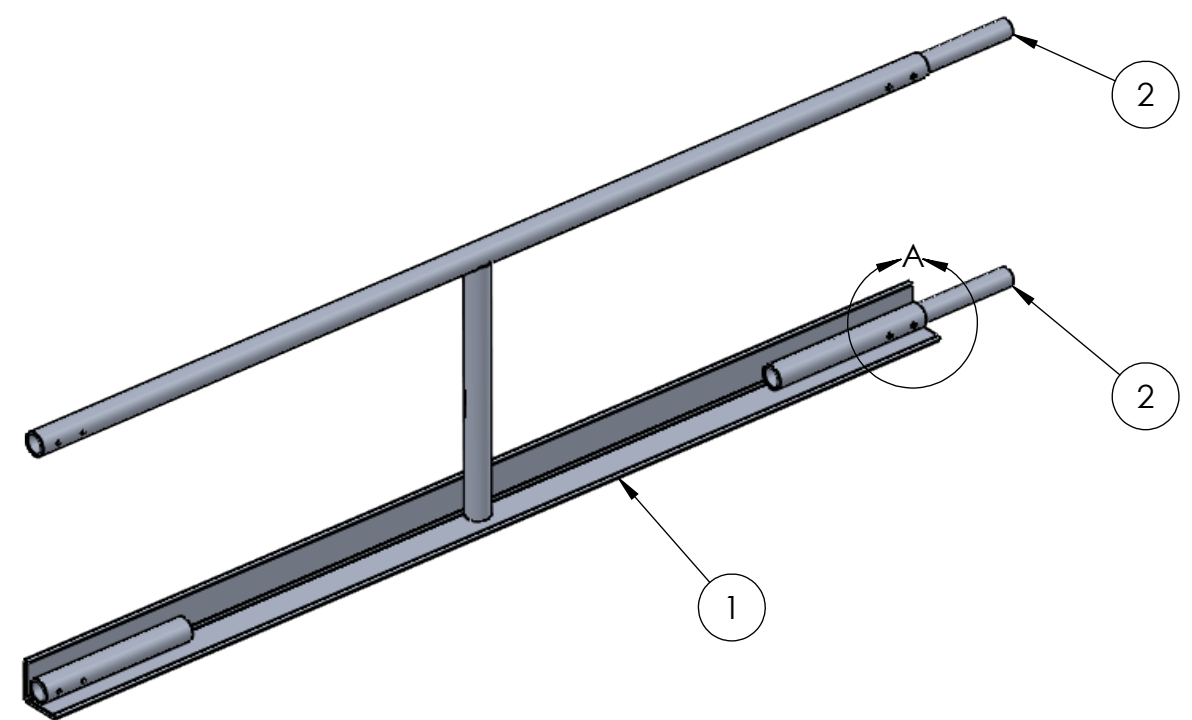
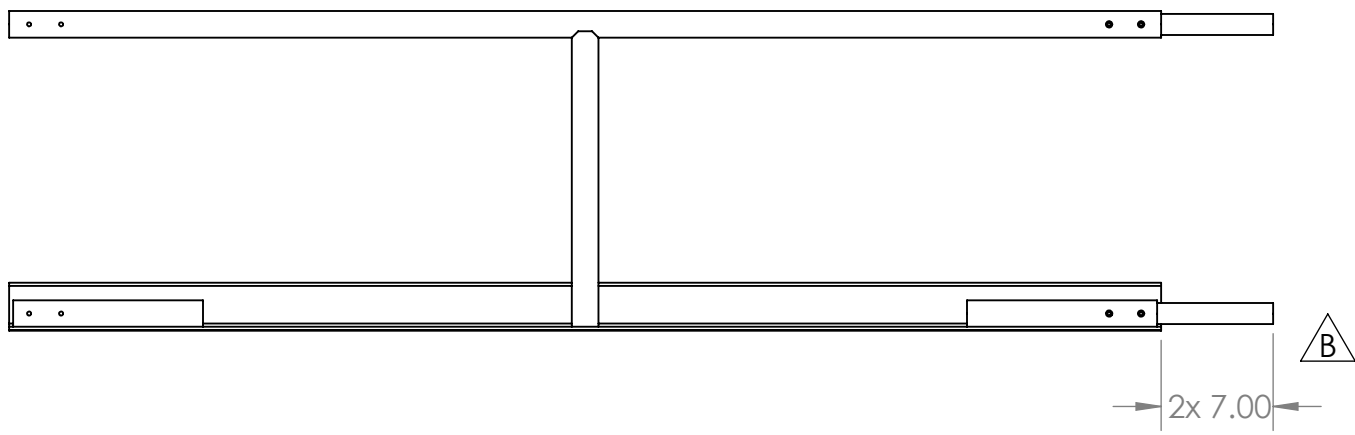
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2	B	Connector Pin moved so both are on same side of assembly	3/15/2018	CPO
A4	C	Rivet description and part number changed to add more detail.	3/20/2020	CPO



DETAIL A  
SCALE 1 : 3

△  
C

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00005	Field Rail	1
2	FE-00026	Connector Pin	2
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	4

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN	
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED	
		MATERIAL	ENG APPR.	
		FINISH	MFG APPR.	
NEXT ASSY	USED ON		Q.A.	
APPLICATION		DO NOT SCALE DRAWING	COMMENTS:	



TITLE: <b>Field Rail Assy - Mid</b>		
SIZE <b>B</b>	DWG. NO. <b>FE-00022</b>	REV <b>C</b>
SCALE: 1:12 WEIGHT:		SHEET 1 OF 1

4

3

2

1

B

B

A

A

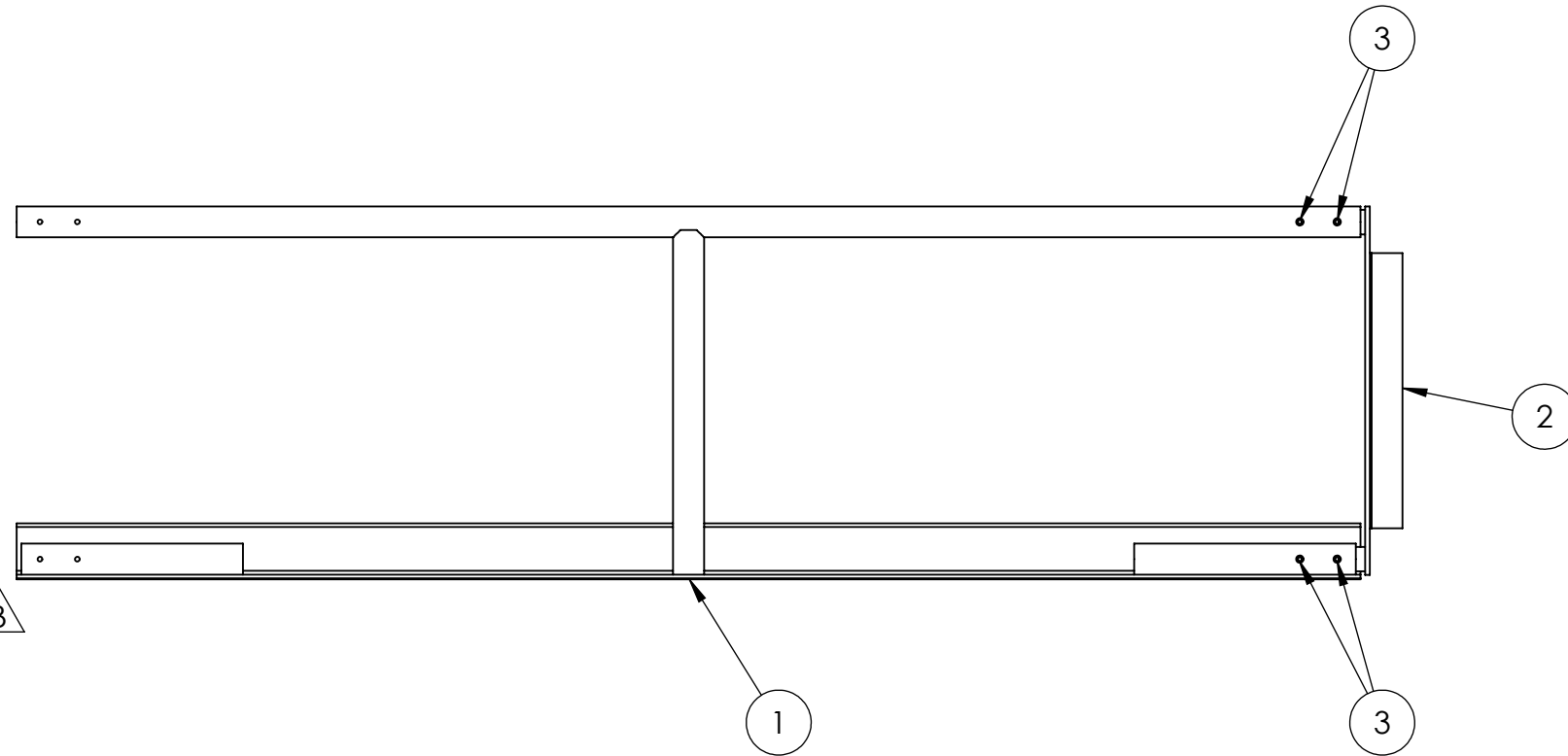
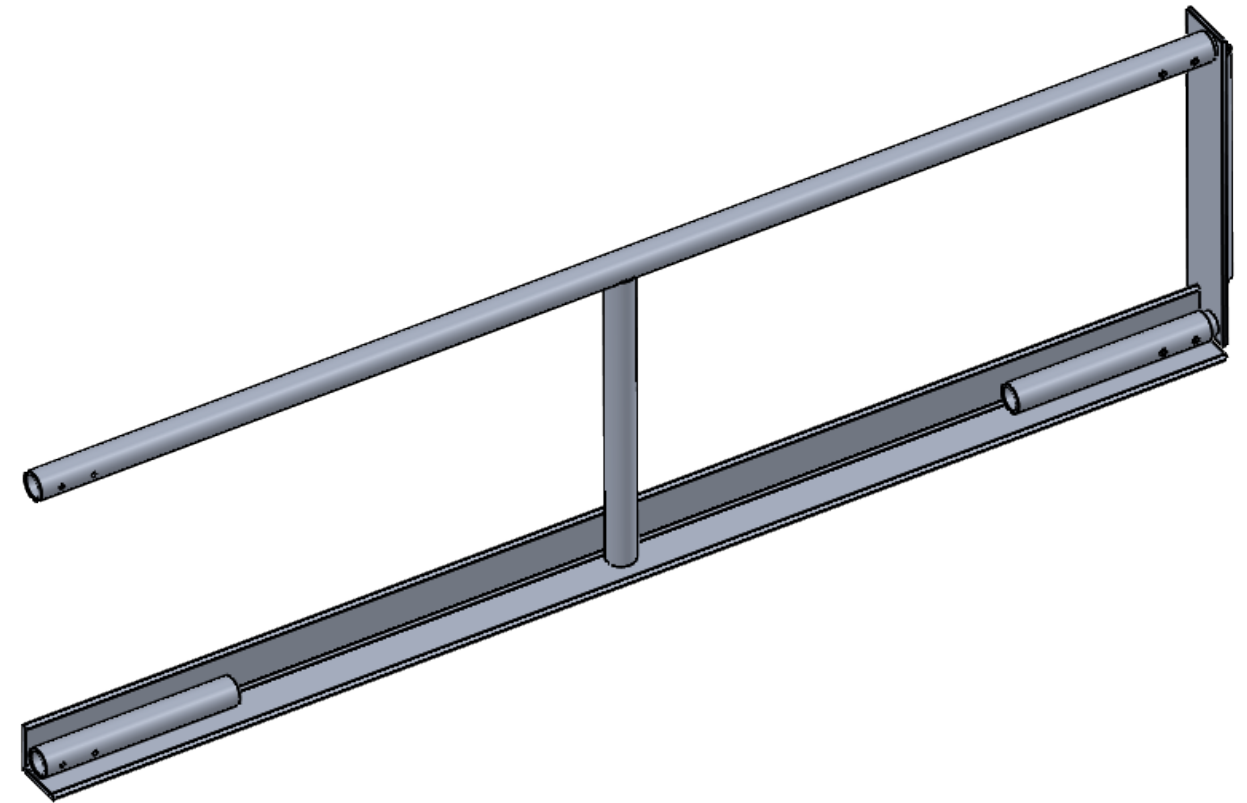
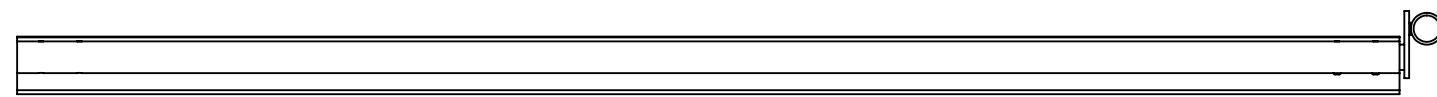
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A4	B	Removed use of FE-00018 Connector Pin, modified rivet part number and description.	3/20/2020	CPO



B

B

B

A

A

B

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00005	Field Rail	1
2	FE-00018	Corner Connector	1
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	4

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DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL ±1/16		ENG APPR.	
ANGULAR: MACH ±1° BEND ±1°		MFG APPR.	
TWO PLACE DECIMAL ±.01		Q.A.	
THREE PLACE DECIMAL ±.001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Field Rail Assy - Left**

SIZE **B** DWG. NO. **FE-00023** REV **B**

SCALE: 1:10 WEIGHT: SHEET 1 OF 1

4

3

2

1

4

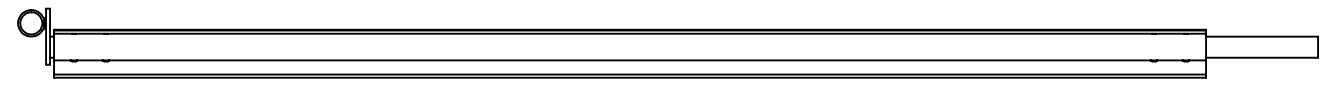
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2

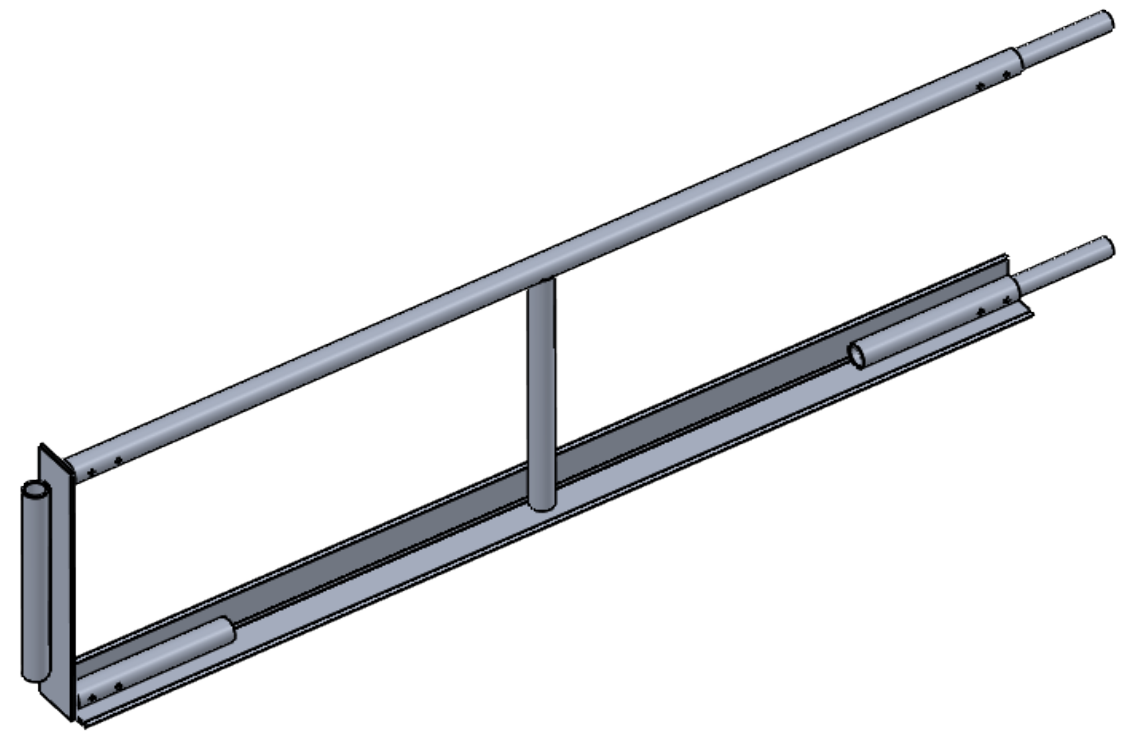
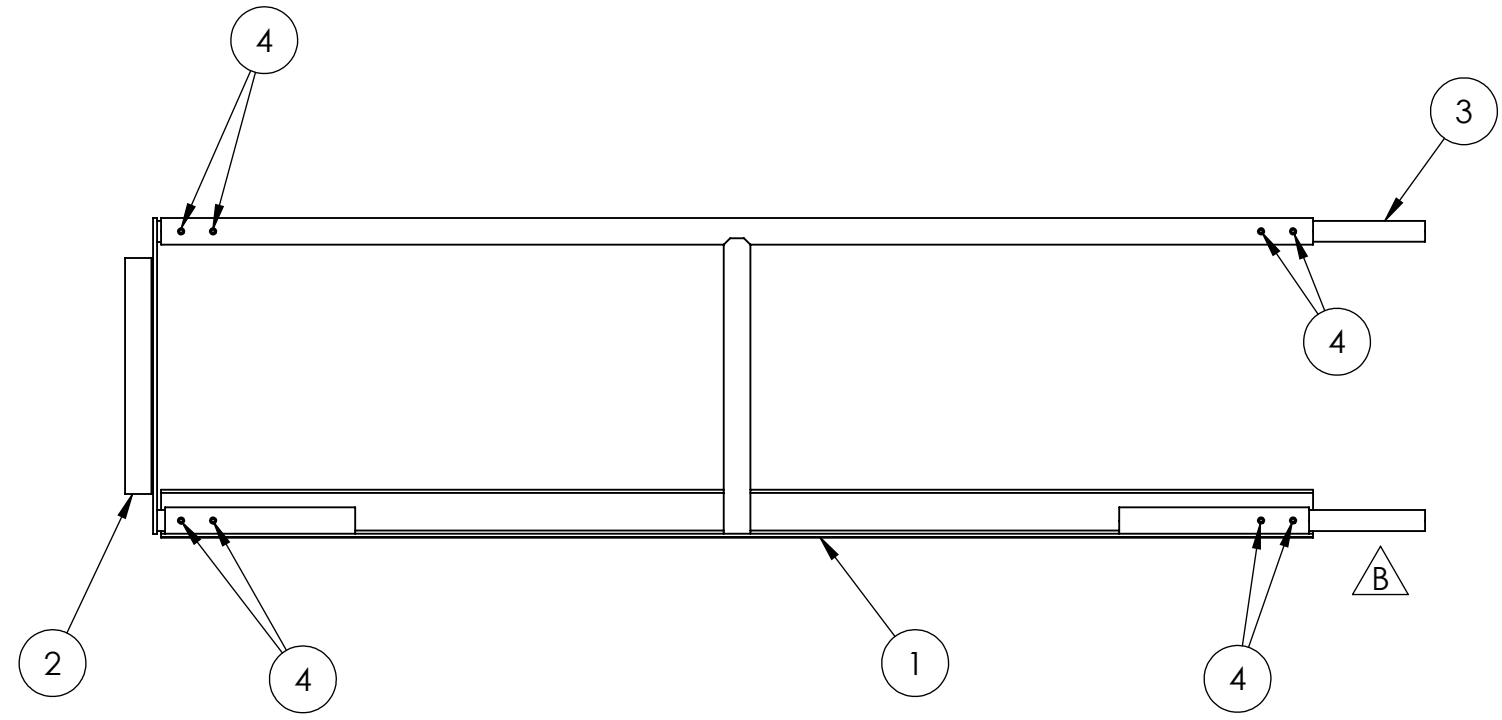
1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3, A4	B	Additional FE-00026 Connector Pin added to assembly, rivet part number and description modified	3/20/2020	CPO

B



B



A

A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00005	Field Rail	1
2	FE-00018	Corner Connector	1
3	FE-00026	Connector Pin	2
4	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	8

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN	
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED	
		MATERIAL	ENG APPR.	
NEXT ASSY	USED ON	FINISH	MFG APPR.	
APPLICATION		DO NOT SCALE DRAWING	Q.A.	
			COMMENTS:	



TITLE: <b>Field Rail Assy - Right</b>		
SIZE <b>B</b>	DWG. NO. <b>FE-00024</b>	REV <b>B</b>
SCALE: 1:12 WEIGHT:		SHEET 1 OF 1

4

3

2

1



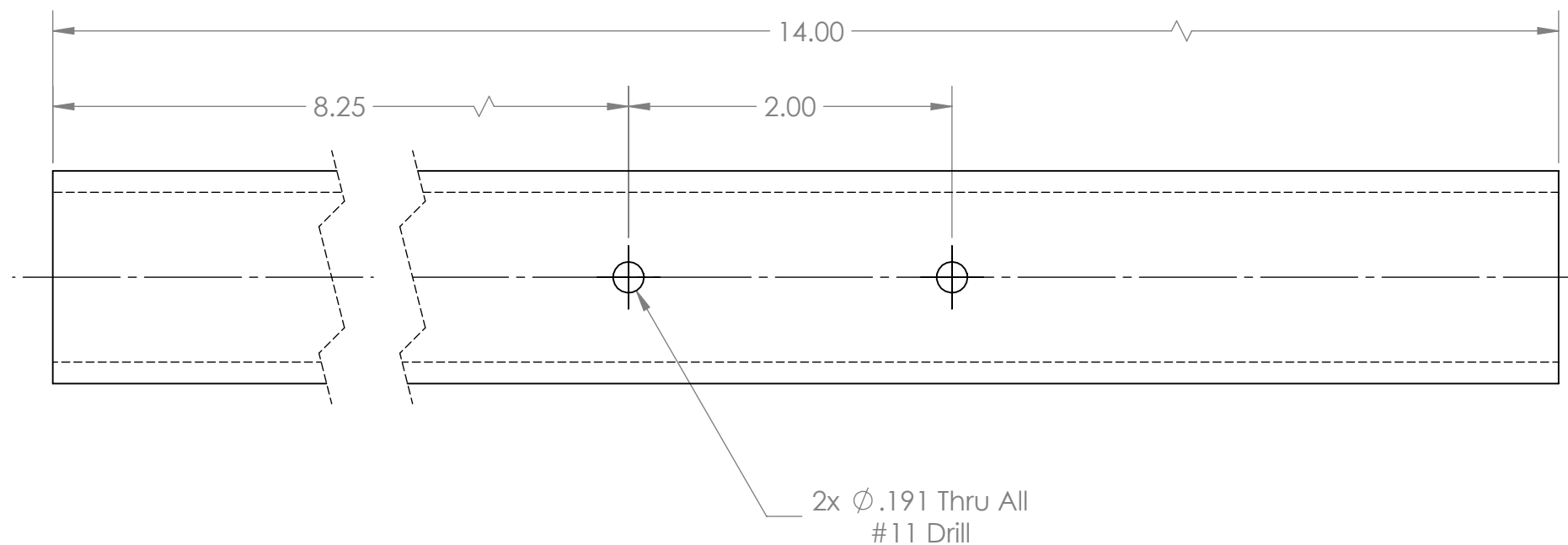
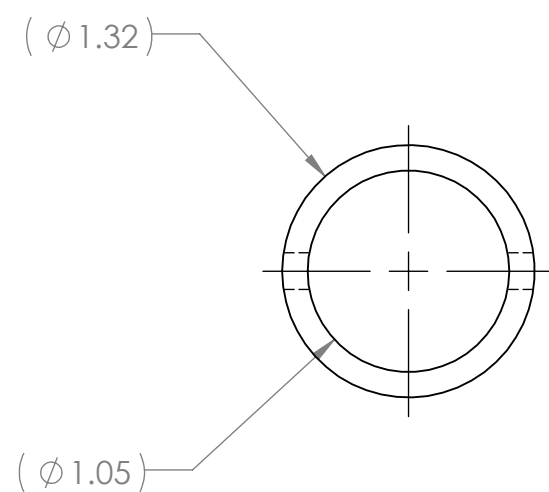
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	redrawn	6/5/2008	dfoster



- Notes:
1. Material: 1" Schedule 40 Pipe, 6061-T6 Aluminum
  2. Remove all sharp edges

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	
		TOLERANCES:	CHECKED	
		FRACTIONAL ±1/16	ENG APPR.	
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.	
		TWO PLACE DECIMAL ±.01	Q.A.	
		THREE PLACE DECIMAL ±.001	COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
NEXT ASSY	USED ON	FINISH		
APPLICATION		DO NOT SCALE DRAWING		



TITLE:		
<b>Connector Pin</b>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00026</b>	<b>A</b>
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

4

3

2

1

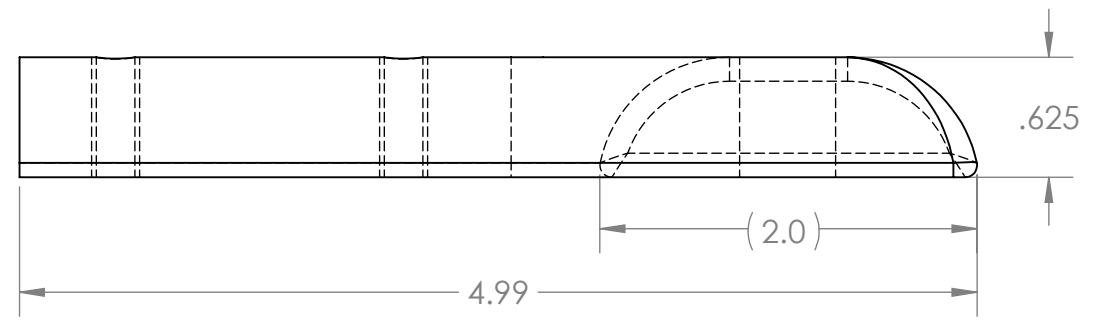
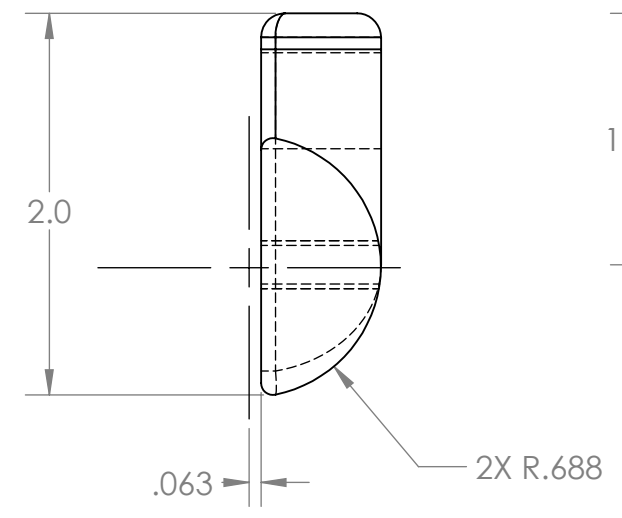
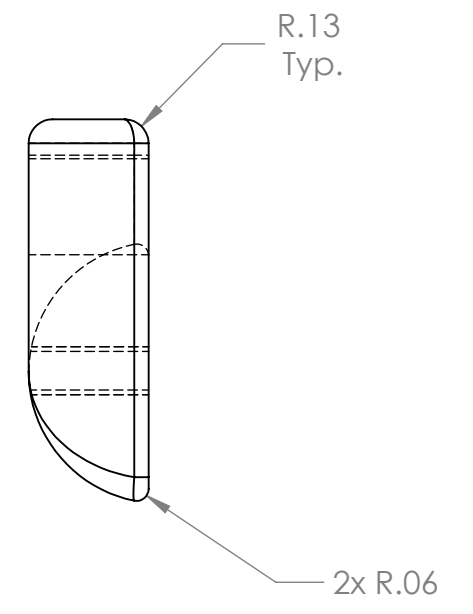
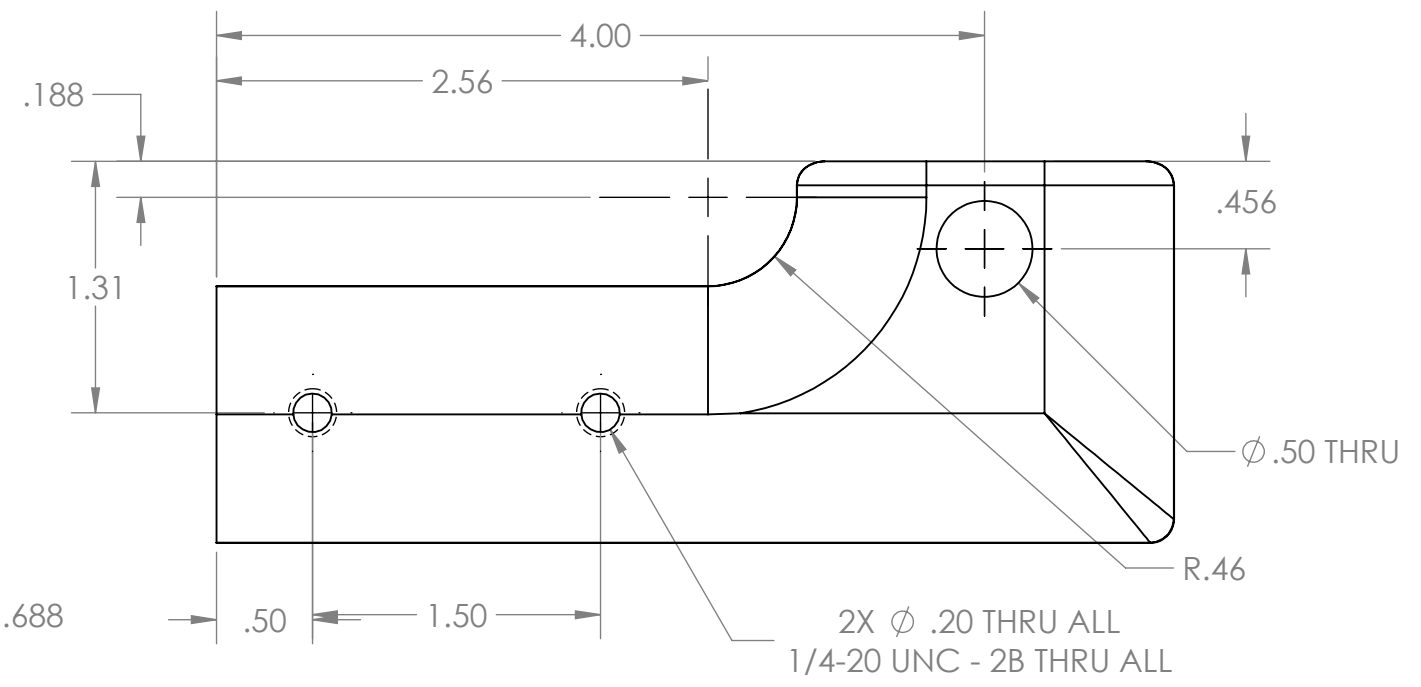
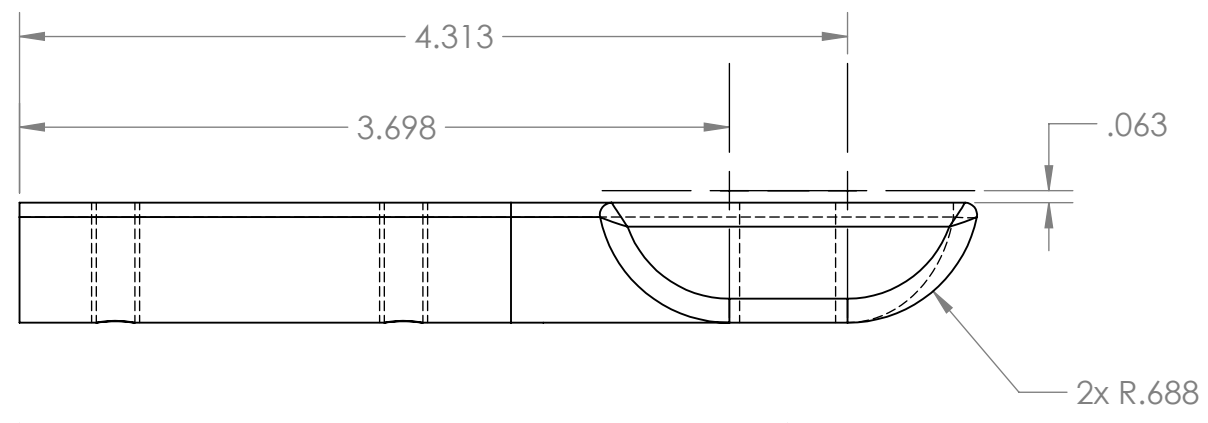
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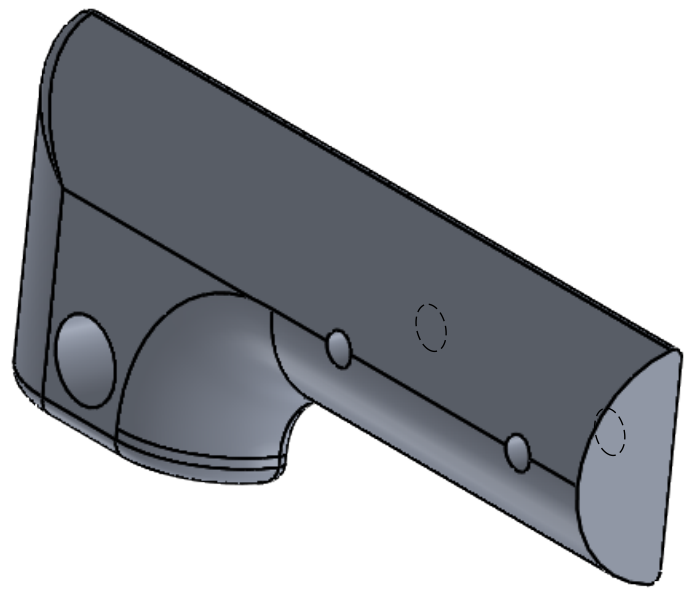
2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	redrawn	8/8/2008	dfoster



- Notes:
1. Material: 6063 Aluminum
  2. Remove all sharp edges



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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL ±1/16		ENG APPR.	
ANGULAR: MACH ±1° BEND ±1°		MFG APPR.	
TWO PLACE DECIMAL ±.01		Q.A.	
THREE PLACE DECIMAL ±.001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Hinge, Insert**

SIZE <b>B</b>	DWG. NO. <b>FE-00027</b>	REV <b>A</b>
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

4

3

2

1

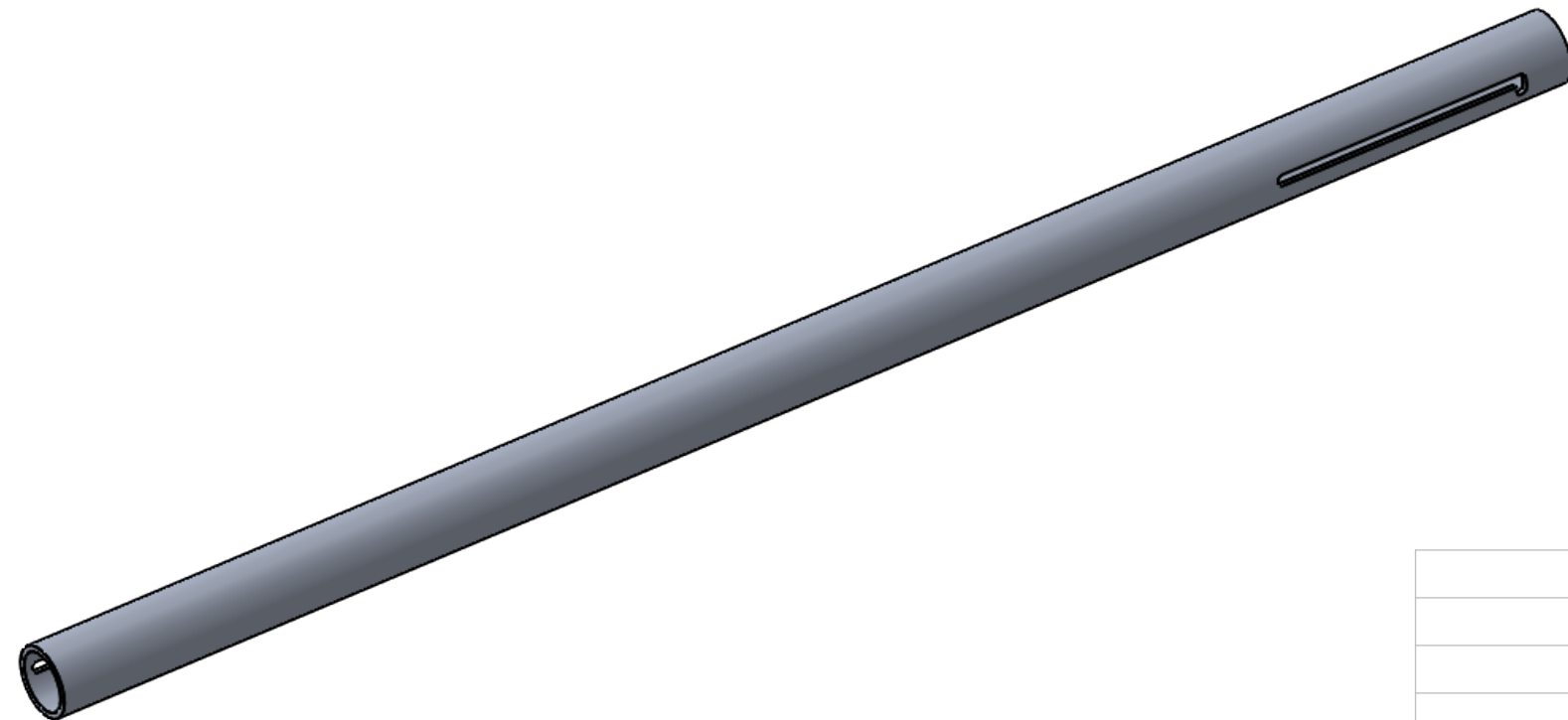
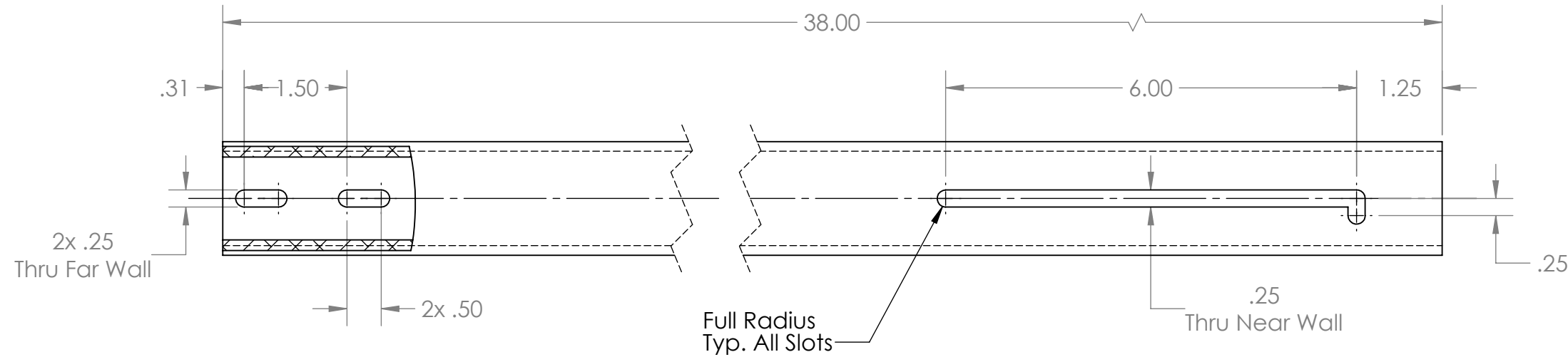
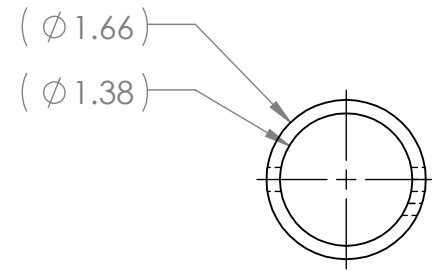
4

3

2



1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	8/6/2008	dfoster



- Notes:
1. Material: 1-1/4" Aluminum 6061-T6 Schedule 40 Pipe
  2. Remove all sharp edges.

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001		DRAWN		
INTERPRET GEOMETRIC TOLERANCING PER:		CHECKED		TITLE:
MATERIAL		ENG APPR.		Arm, Field Gate
FINISH		MFG APPR.		SIZE DWG. NO. REV
NEXT ASSY	USED ON	Q.A.		<b>B</b> FE-00028 <b>A</b>
APPLICATION		COMMENTS:		WEIGHT: SHEET 1 OF 1
DO NOT SCALE DRAWING				

4

3

2

1

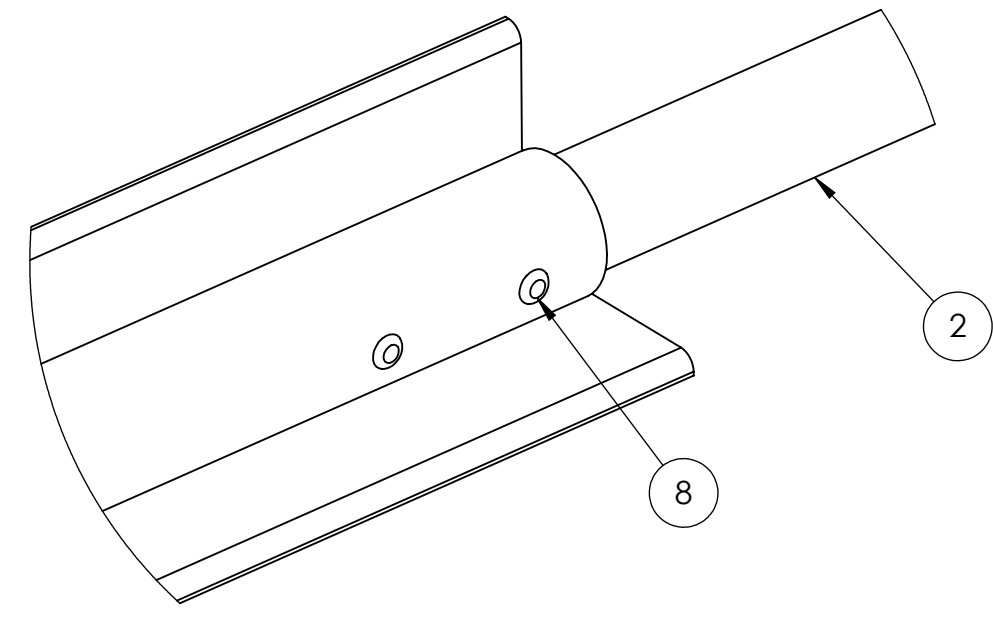
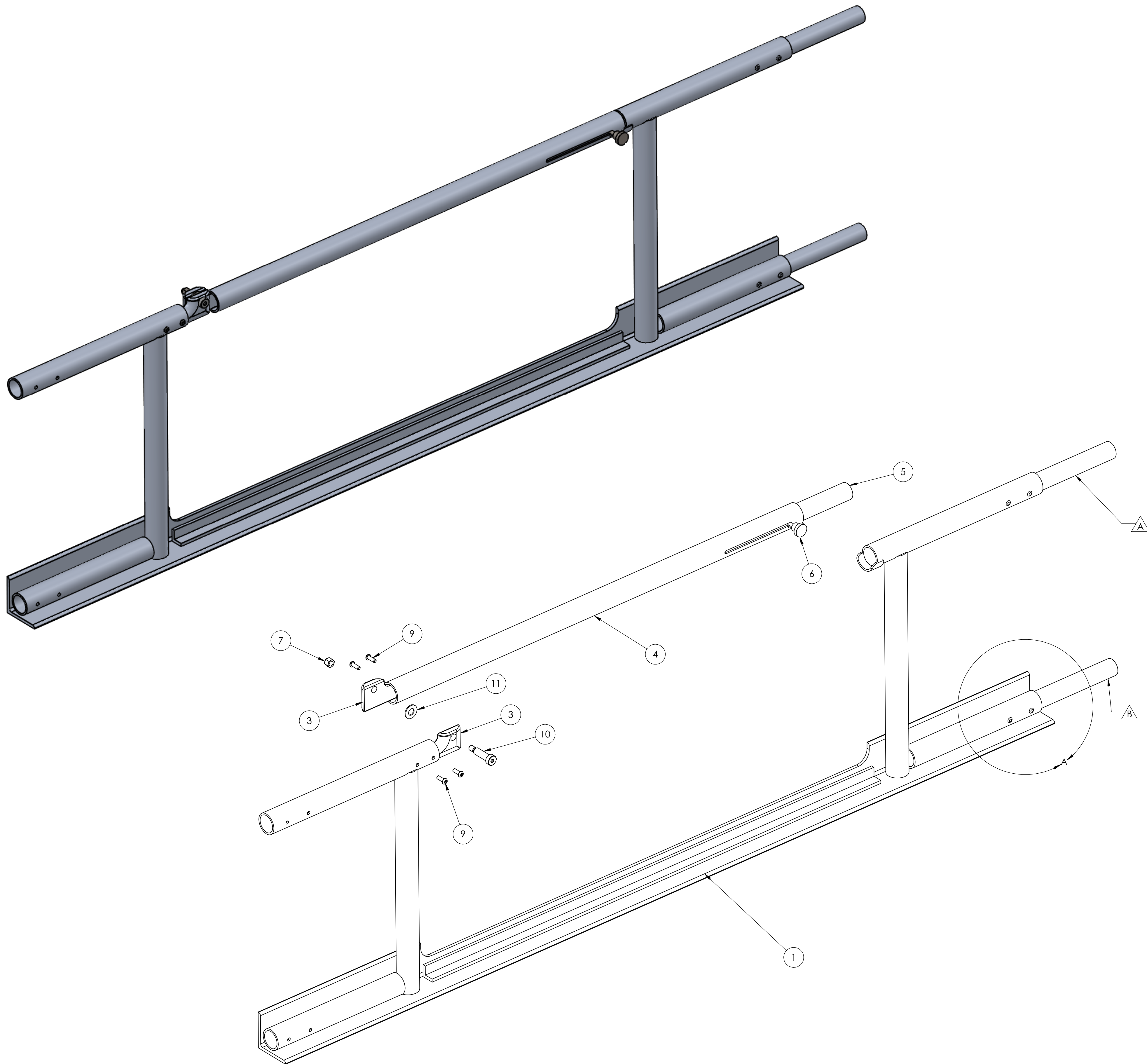
B

B

A

A

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A7, C2, C3	A	Relocated Item 3 (x2), Relocated Detail A	1/7/2009	dfoster
A2, B3	B	Relocated Item 2, renumbered items, hardware part number and descriptions modified.	3/23/2020	CPO



DETAIL A  
SCALE 1 : 2  
Typ. 2 Places

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00006	Field Gate, Weldment	1
2	FE-00026	Connector Pin	2
3	FE-00027	Hinge, Insert	2
4	FE-00028	Arm, Field Gate	1
5	FE-00031	Slide, Gate	1
6	FE-00054	Knob, Round Knurled with threaded Stud McMaster Carr 6091K61	1
7	nylock_.375_16	Steel Nylon-Insert Locknut, 3/8"-16	1
8	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	4
9	round_hex_.25_20_.75_full	Steel Button Head Hex Drive Screw, 1/4"-20 x 3/4" long, fully threaded	4
10	shoulder_.375_16_.5_1.5	3/8-16 Socket Head Shoulder Screw, 1/2" x 1.5"	1
11	washer_flat_.5	Flat Washer for 1/2" Screw	1

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UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN INCHES		
TOLERANCES:	DRAWN	
FRACTIONAL: 1/16	CHECKED	
ANGULAR: MACH ±1° BEND ±1°	ENG APPR.	
TWO PLACE DECIMAL ±.01	MFG APPR.	
THREE PLACE DECIMAL ±.001	Q.A.	
INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:	
MATERIAL		
FINISH		
NEXT ASSY	USED ON	
APPLICATION	DO NOT SCALE DRAWING	

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS**  
**Field Gate, Assembly**  
 SIZE DWG. NO. REV  
**D FE-00029 B**  
 SCALE: 1:4 WEIGHT: SHEET 1 OF 1

4

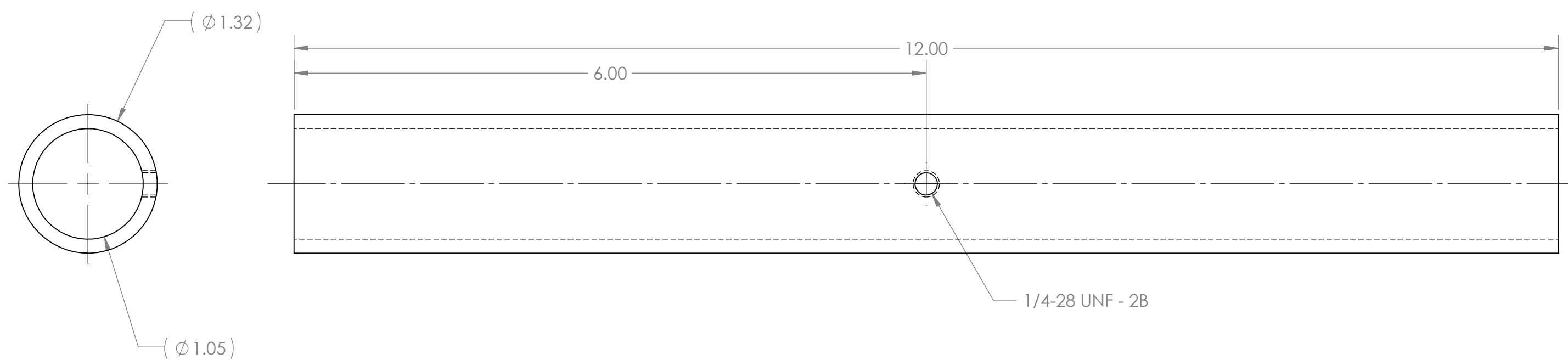
3

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Notes:

- 1. Material: 1" Schedule 40 Aluminum 6061-T6.
- 2. Remove all sharp edges.

A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001		DRAWN	
		INTERPRET GEOMETRIC TOLERANCING PER:		CHECKED	
		MATERIAL		ENG APPR.	
NEXT ASSY	USED ON	FINISH		MFG APPR.	
APPLICATION		DO NOT SCALE DRAWING		Q.A.	
				COMMENTS:	
				 	
				TITLE: Slide, Gate	
SIZE	DWG. NO.			REV	
<b>B</b>	FE-00031				
SCALE: 1:1		WEIGHT:		SHEET 1 OF 1	

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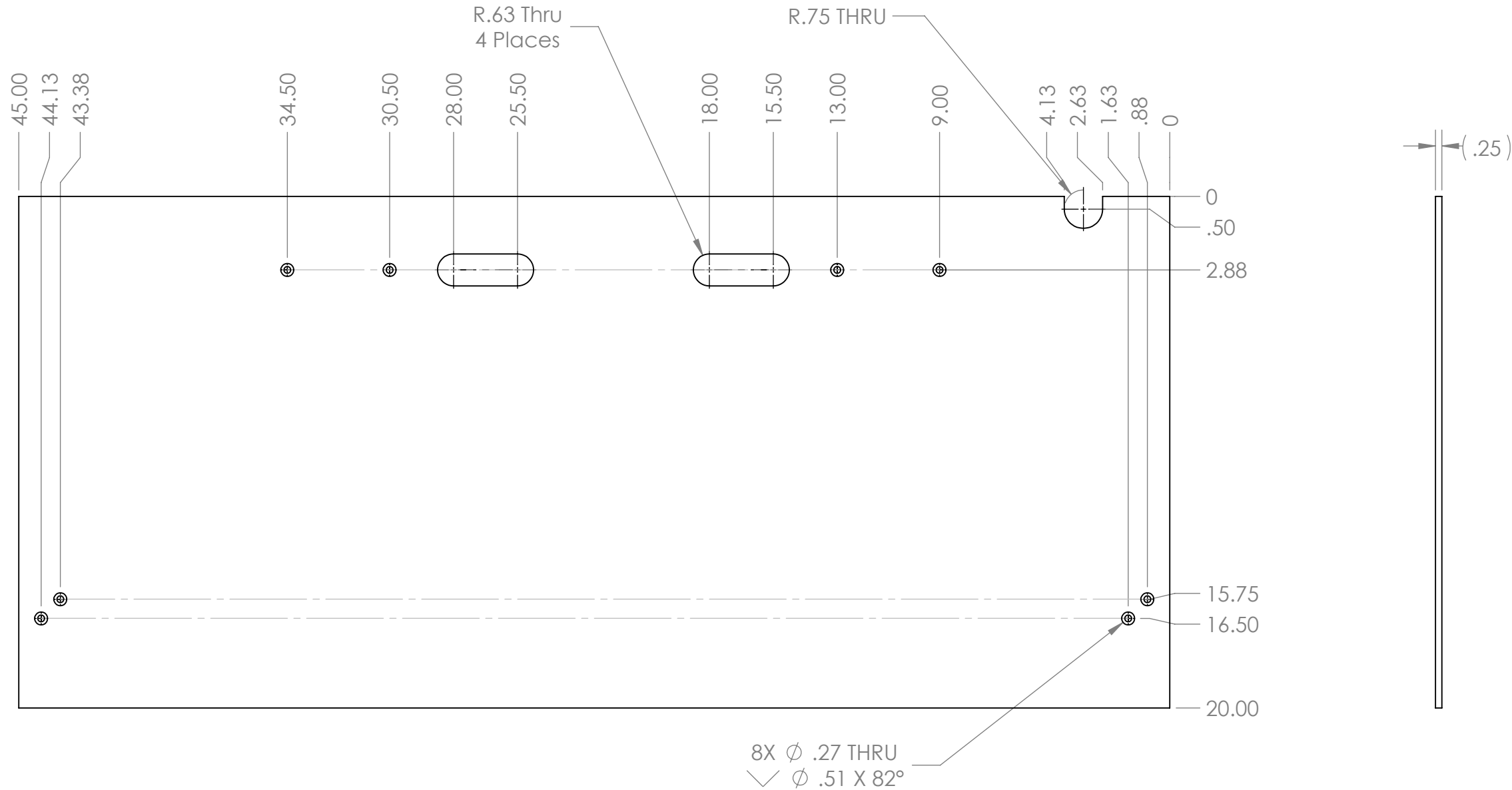
3

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Added counter sinks, hand holes and a notch	9/23/14	MLC

B



B

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- Notes:
- Material: 1/4" Clear Polycarbonate
  - Remove all burrs and sharp edges.

8X Ø .27 THRU  
 ✓ Ø .51 X 82°

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	
TOLERANCES:		CHECKED	
FRACTIONAL ±1/16		ENG APPR.	
ANGULAR: MACH ±1° BEND ±1°		MFG APPR.	
TWO PLACE DECIMAL ±.01		Q.A.	
THREE PLACE DECIMAL ±.001		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH			
NEXT ASSY	USED ON		
APPLICATION			
DO NOT SCALE DRAWING			



TITLE:  
**Field Plastic "G"**

SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00044</b>	<b>A</b>

SCALE: 1:5 WEIGHT: SHEET 1 OF 1

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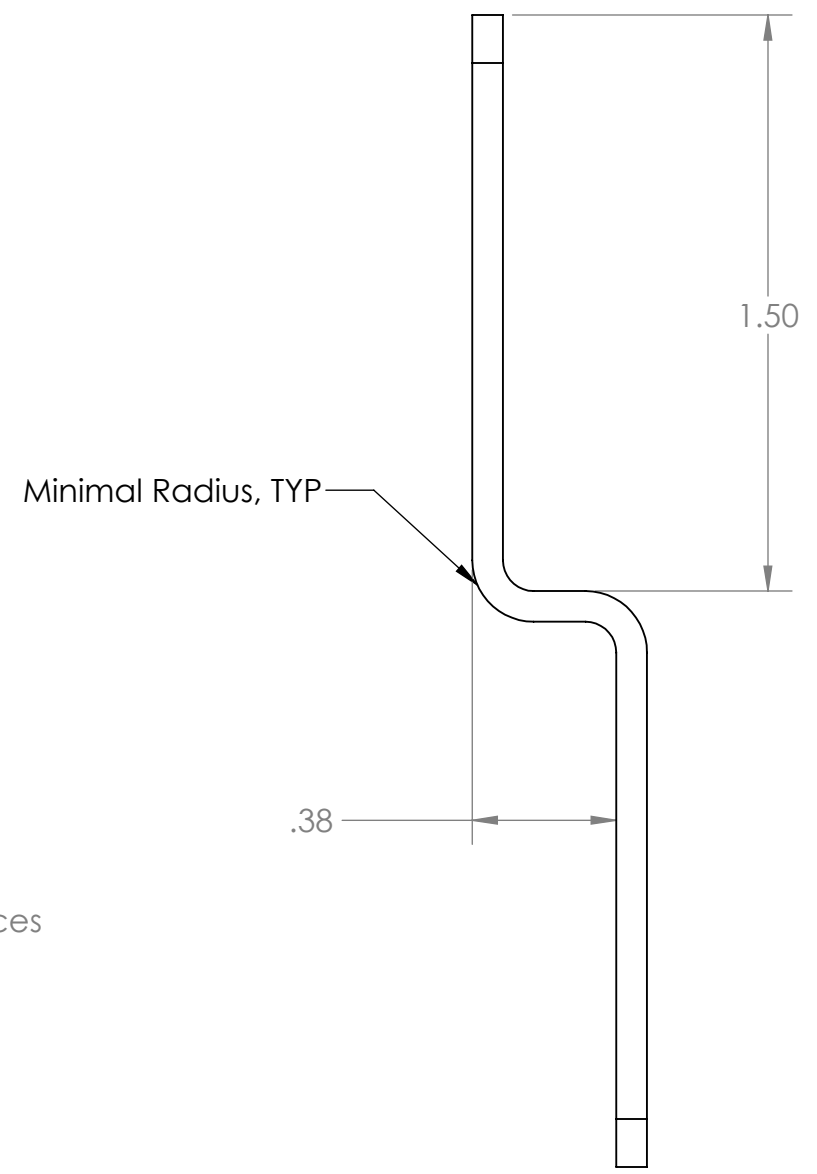
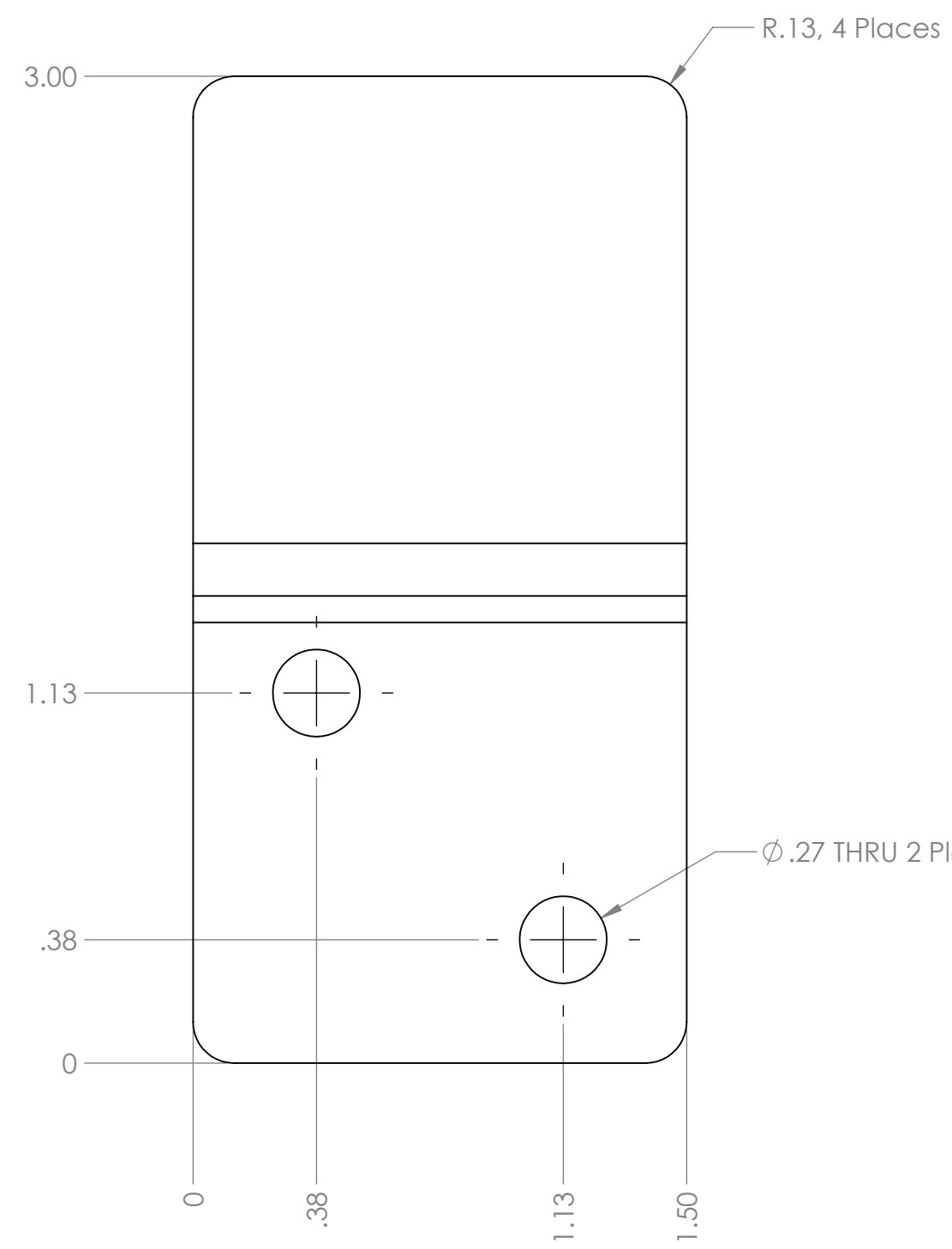
1

B

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- Notes:
- 12 Gauge 5052 Aluminum
  - Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	
		TOLERANCES:	CHECKED	
		FRACTIONAL ± 1/16	ENG APPR.	
		ANGULAR: MACH ± 1° BEND ± 1°	MFG APPR.	
		TWO PLACE DECIMAL ± .01	Q.A.	
		THREE PLACE DECIMAL ± .001	COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
		FINISH		
NEXT ASSY	USED ON			
APPLICATION		DO NOT SCALE DRAWING		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE:  
**Lower Z-Bracket, Gate Plastic**

SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00045</b>	

SCALE: 2:1 WEIGHT: SHEET 1 OF 1

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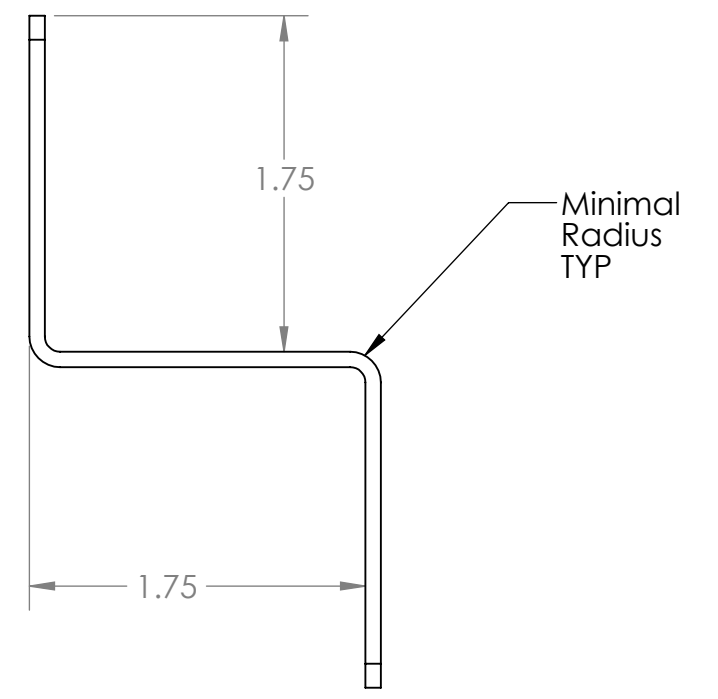
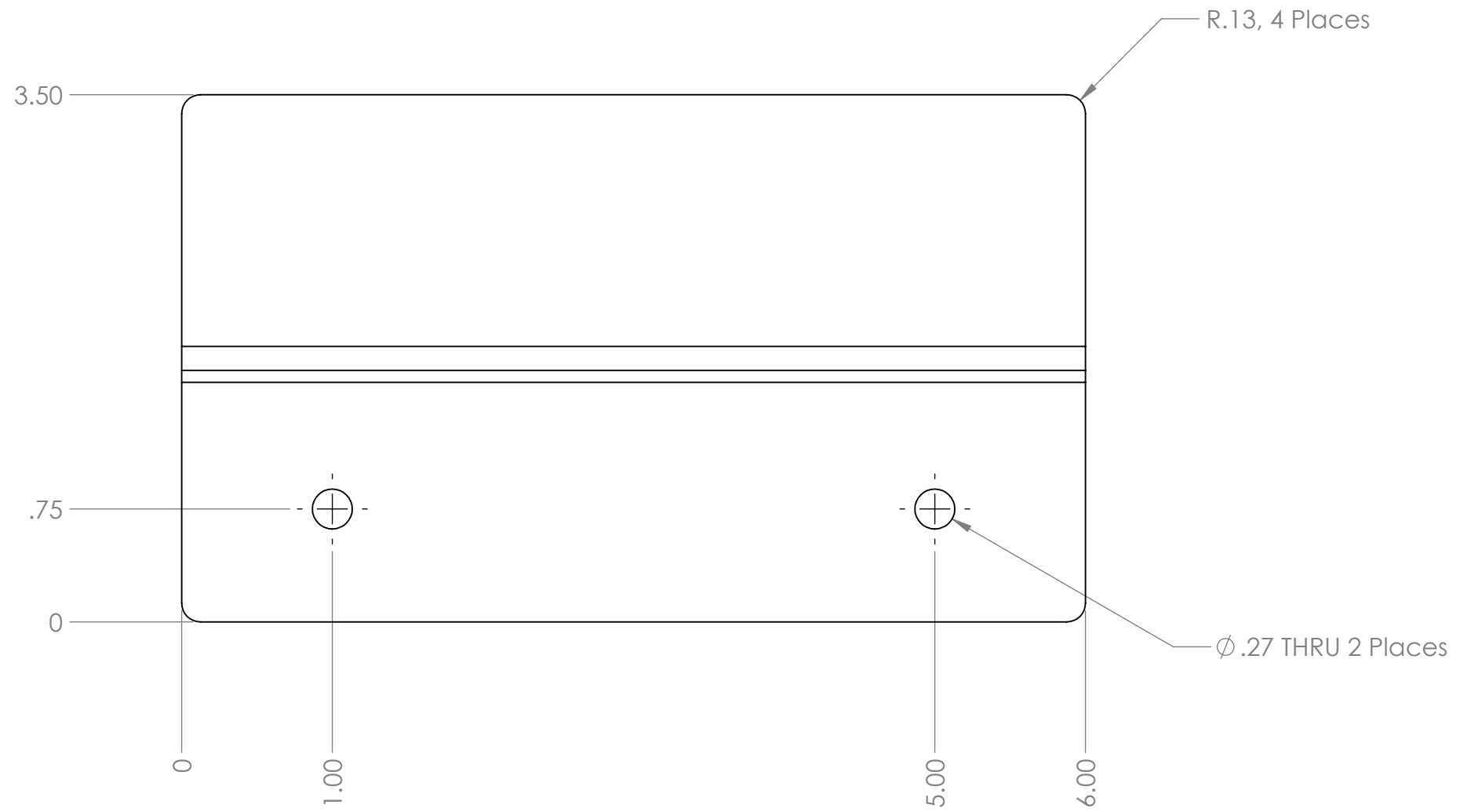
1

B

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- Notes:
- 12 Gauge 5052 Aluminum
  - Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL ±1/16	ENG APPR.		
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
		TWO PLACE DECIMAL ±.01	Q.A.		
		THREE PLACE DECIMAL ±.001	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			



TITLE:  
**Upper Z-Bracket,  
 Gate Plastic**

SIZE DWG. NO. REV  
**B FE-00046**

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

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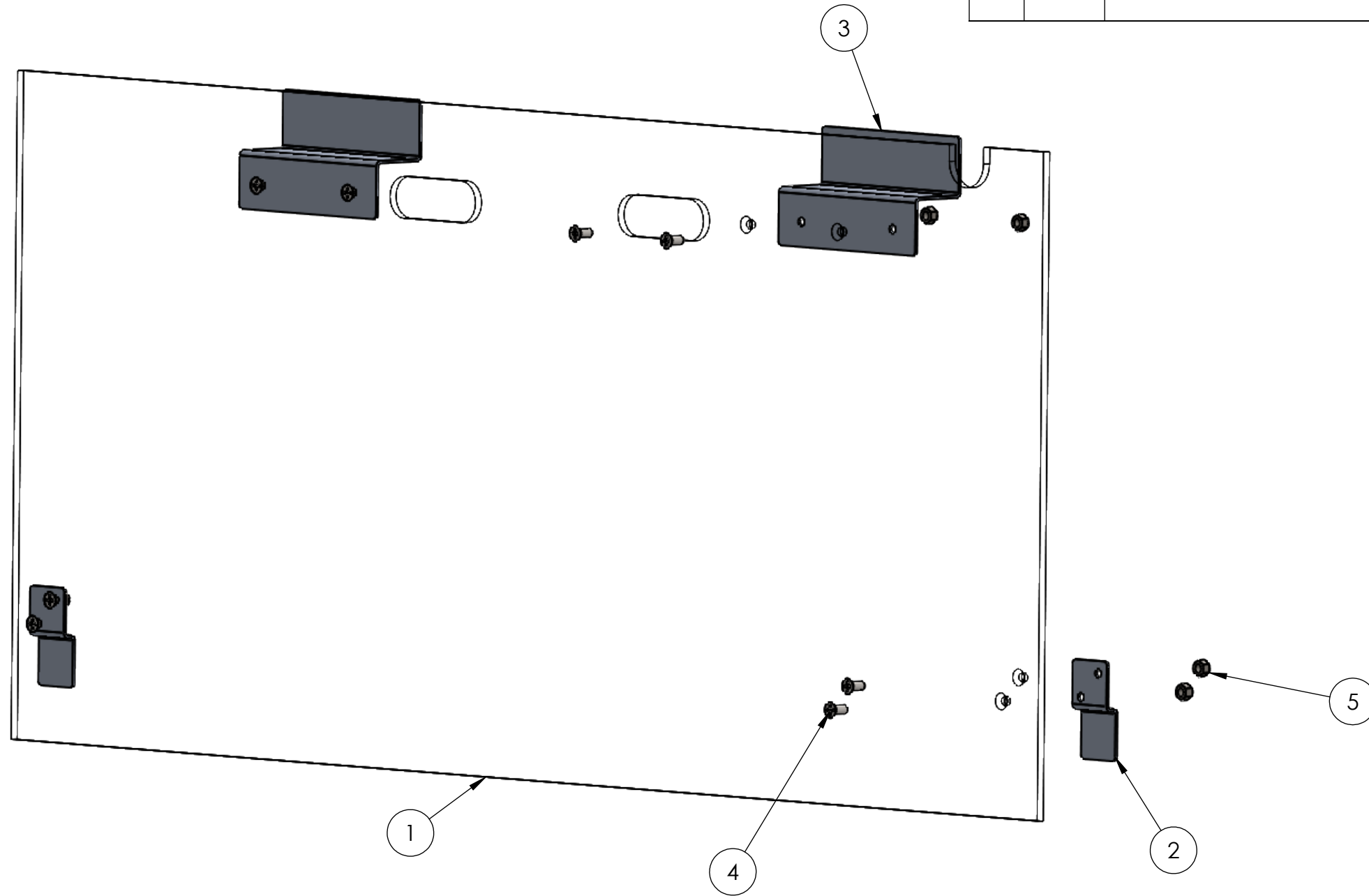
3

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## REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
A4	A	Fastener part number and descriptions modified.	3/23/2020	CPO





A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00044	Field Plastic "G"	1
2	FE-00045	Lower Z-Bracket, Gate Plastic	2
3	FE-00046	Upper Z-Bracket, Gate Plastic	2
4	flat_phil_.25_20_.625	Steel Phillips Flat Head Screw, 1/4"x20 x 5/8" long, fully threaded	8
5	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	8

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	
		TOLERANCES:	CHECKED	
		FRACTIONAL $\pm 1/16$	ENG APPR.	
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.	
		TWO PLACE DECIMAL $\pm .01$	Q.A.	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
		FINISH		
NEXT ASSY	USED ON			
APPLICATION		DO NOT SCALE DRAWING		

TITLE:

# Gate Plastic Assembly

SIZE **B**

SCALE: 1:4

DWG. NO. **FE-00047**

WEIGHT:

REV **A**

SHEET 1 OF 1

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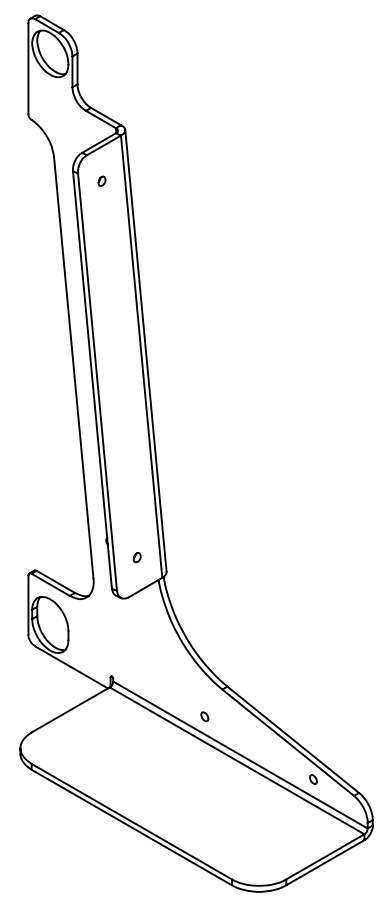
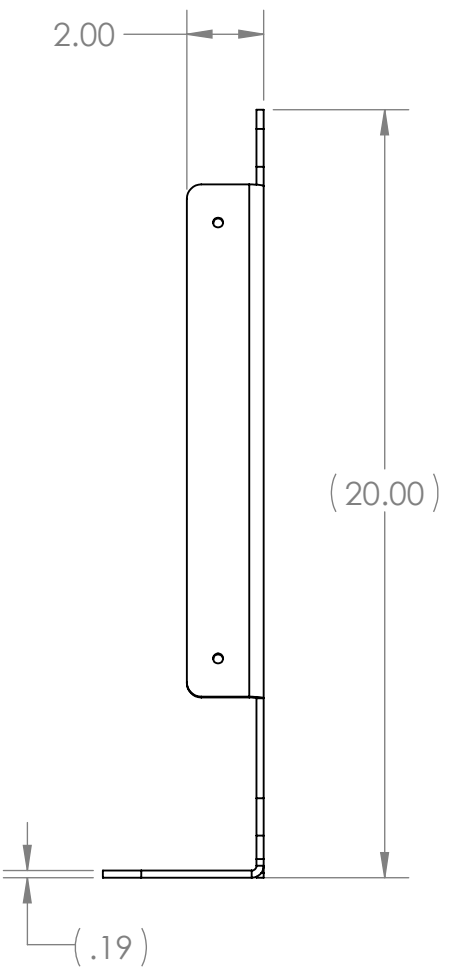
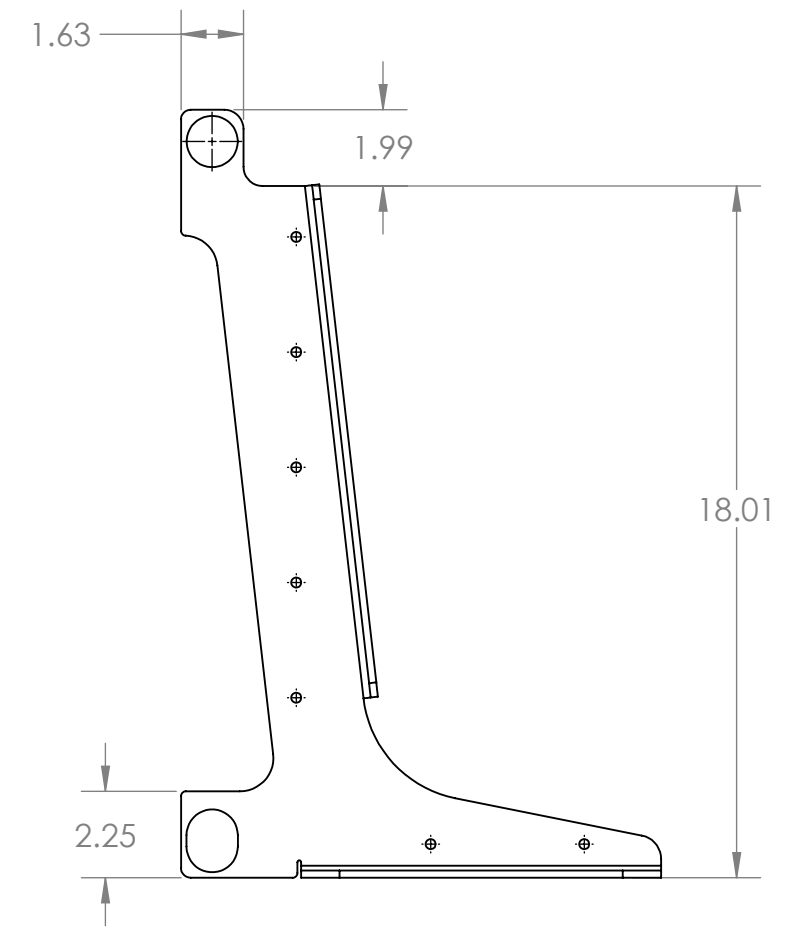
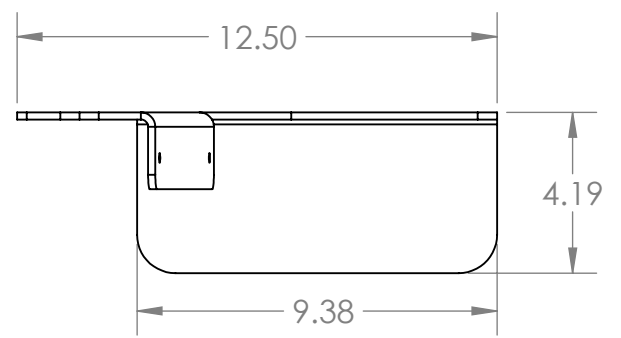
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Note:

Material: 5052 Aluminum Sheet, 3/16" Thick

This drawing represents overall dimensions for AndyMark AM-2810. Please see the AndyMark website for more details regarding part dimensions.

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	
		TOLERANCES:	CHECKED	
		FRACTIONAL ±1/16	ENG APPR.	
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.	
		TWO PLACE DECIMAL ±.01	Q.A.	
		THREE PLACE DECIMAL ±.001	COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
		FINISH		
NEXT ASSY	USED ON			
APPLICATION		DO NOT SCALE DRAWING		



TITLE:		
<h1>Outrigger</h1>		
SIZE	DWG. NO.	REV
<b>B</b>	<b>FE-00050</b>	
SCALE: 1:5	WEIGHT:	SHEET 1 OF 1

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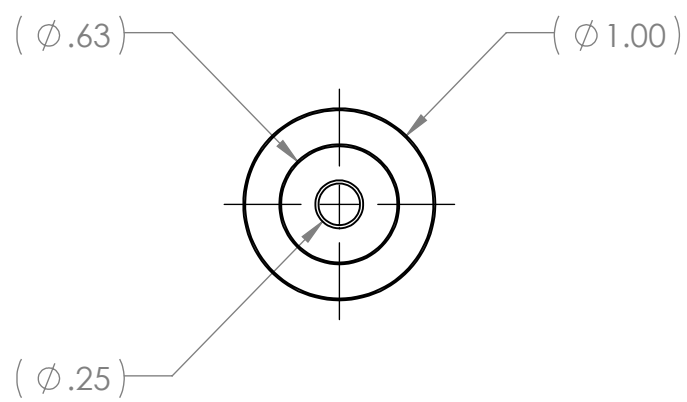
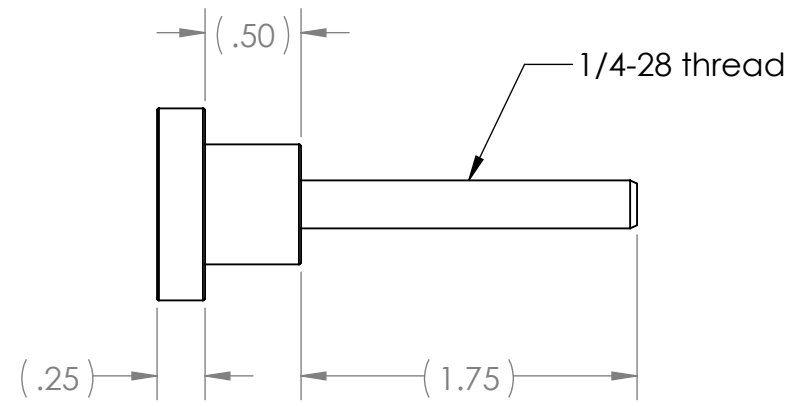
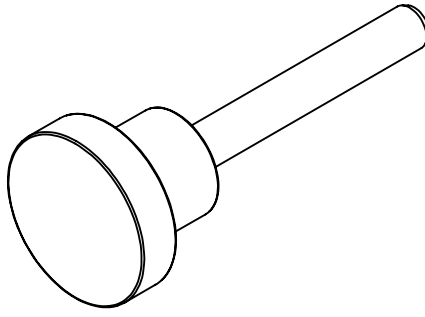
3

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Notes:

1. Description: 303 Stainless Steel Knurled Knob with 1/4"-28 Thread 1-3/4" Long Stud, 1" Head Diameter
2. Vendor: McMaster-Carr
3. Part Number: 6091K61
4. Equivalent substitutions allowed

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN		
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		Knob, Round Knurled with threaded Stud McMaster Carr 6091K61
		MATERIAL	ENG APPR.		
NEXT ASSY	USED ON	FINISH	MFG APPR.		SIZE DWG. NO. REV
APPLICATION		DO NOT SCALE DRAWING	Q.A.		<b>B</b> FE-00054
			COMMENTS:		SCALE: 1:1 WEIGHT: SHEET 1 OF 1

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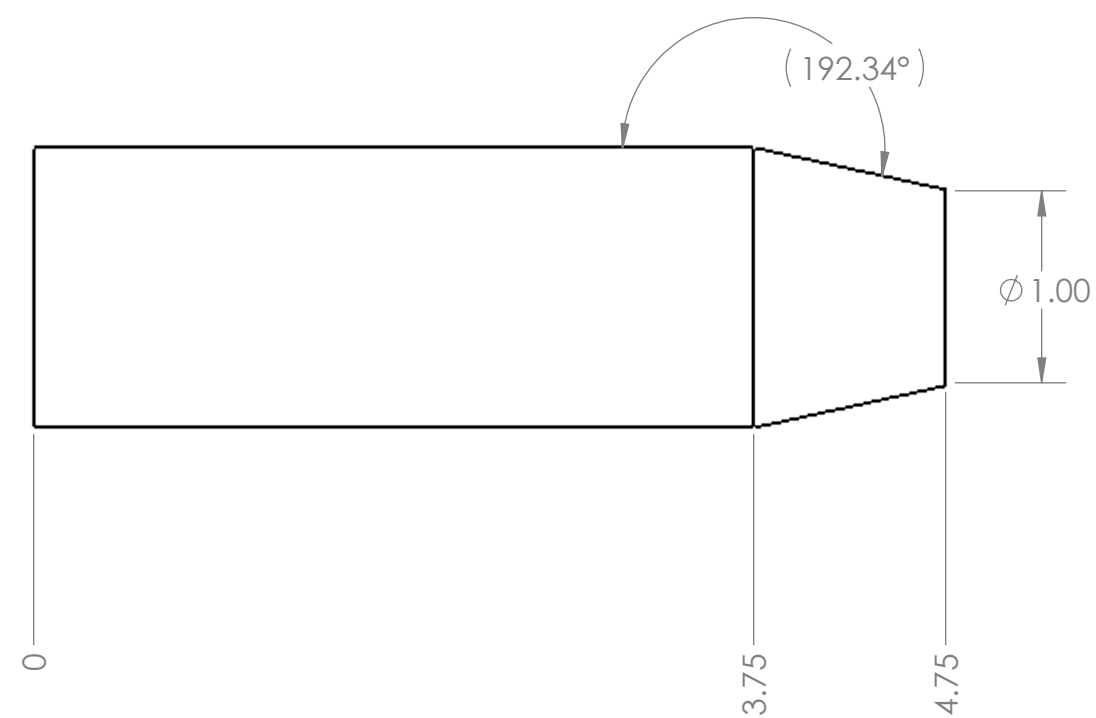
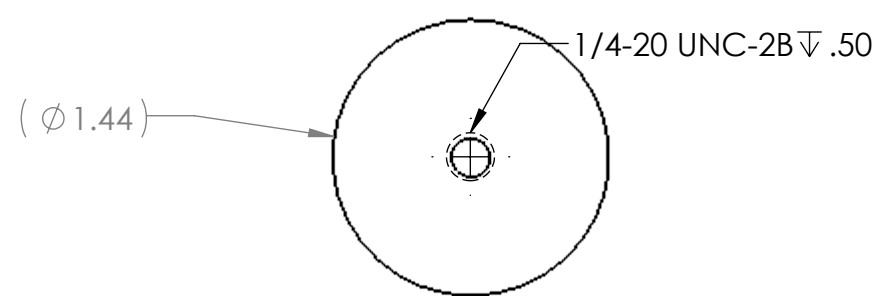
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm$  1/16  
 ANGULAR: MACH  $\pm$  1° BEND  $\pm$  1°  
 TWO PLACE DECIMAL  $\pm$  .01  
 THREE PLACE DECIMAL  $\pm$  .005

**MATERIAL/FINISH:**  
 1-7/16" round 6061

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NW	8/22/2022

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Top Rail, Post**

SIZE	DWG. NO.	REV
<b>C</b>	FE-00060	

SCALE: 1:1 SHEET 1 OF 1

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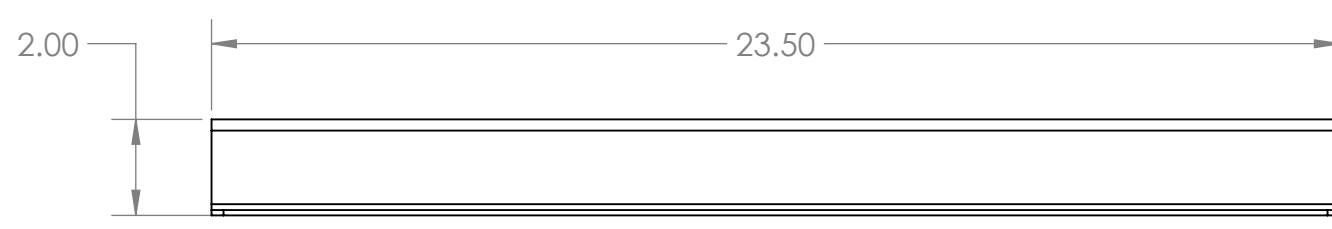
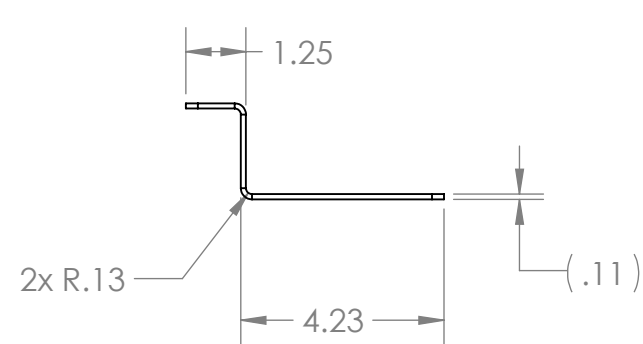
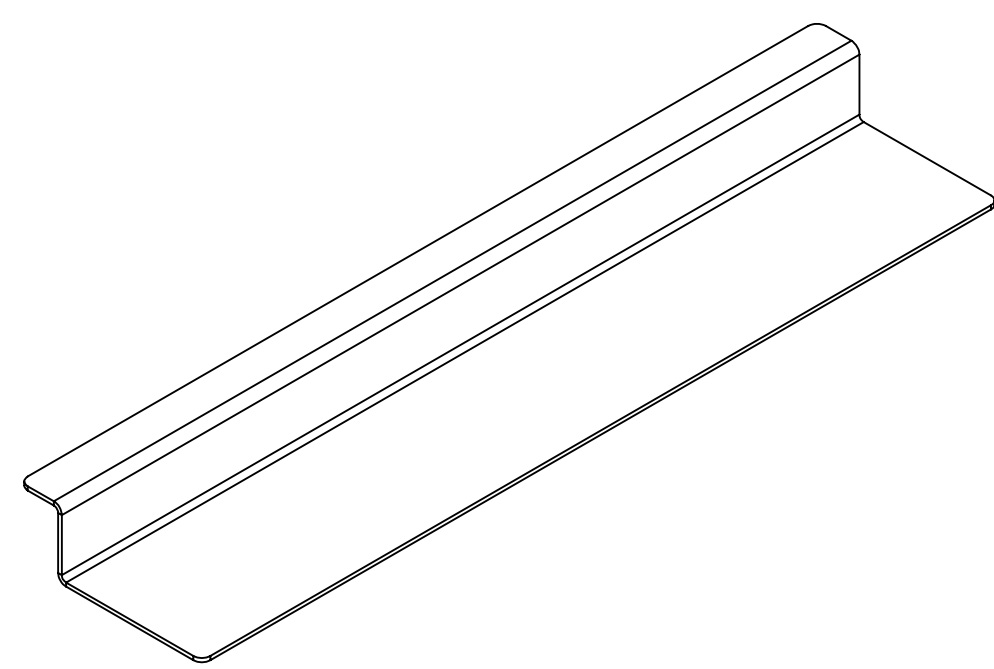
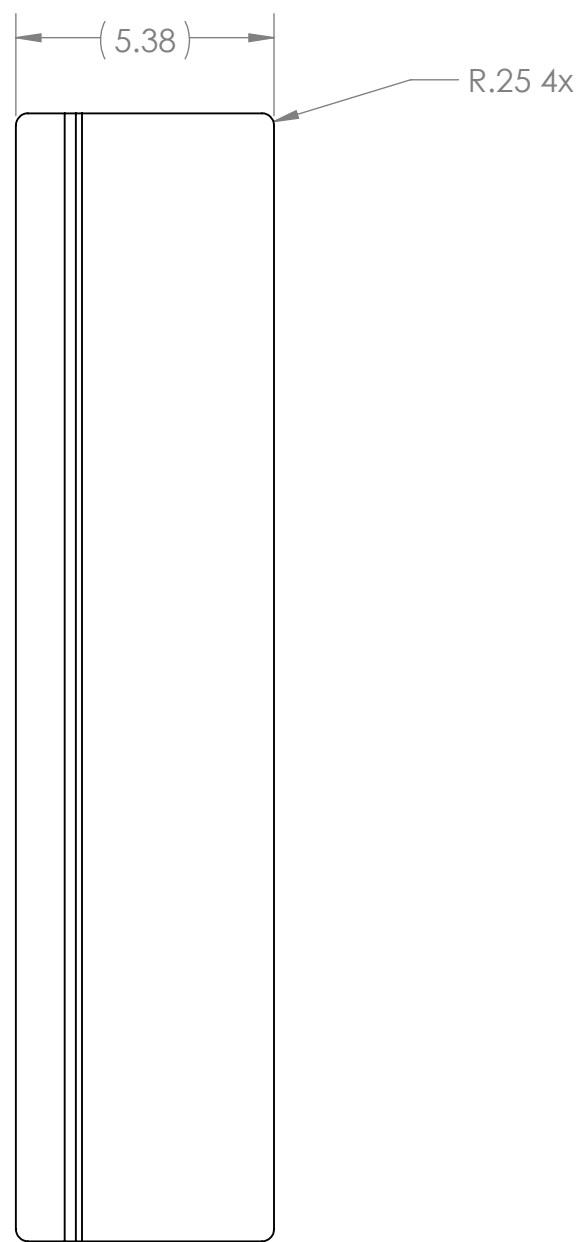
C



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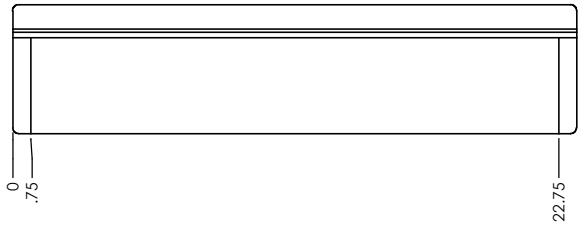
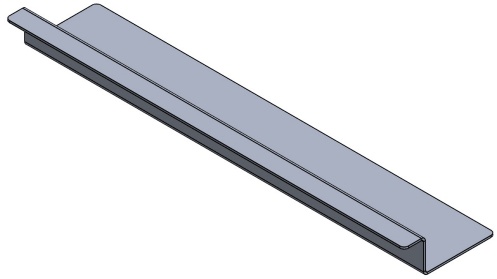
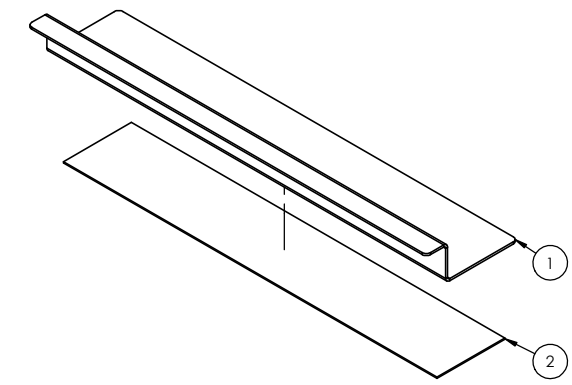
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE	 
	DRAWN	NW	8/24/2022	
<b>MATERIAL/FINISH:</b> 12 ga pre-plated steel	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <b>Anchor</b>
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			SIZE DWG. NO. REV <b>C</b> FE-00070
SCALE: 1:4			SHEET 1 OF 1	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00070	Anchor	1
2	Hook_4_22	4" x 22" Hook, Adhesive Backed	1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE
	DRAWN	NW	10/3/2022
MATERIAL/FINISH:	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.		
DO NOT SCALE DRAWING	COMMENTS:		TITLE:
	REMOVE ALL BURRS AND SHARP EDGES.		FE-00070 w/ hook
		SIZE	DWG. NO.
		<b>C</b>	FE-00071
		SCALE: 1:4	SHEET 1 OF 1



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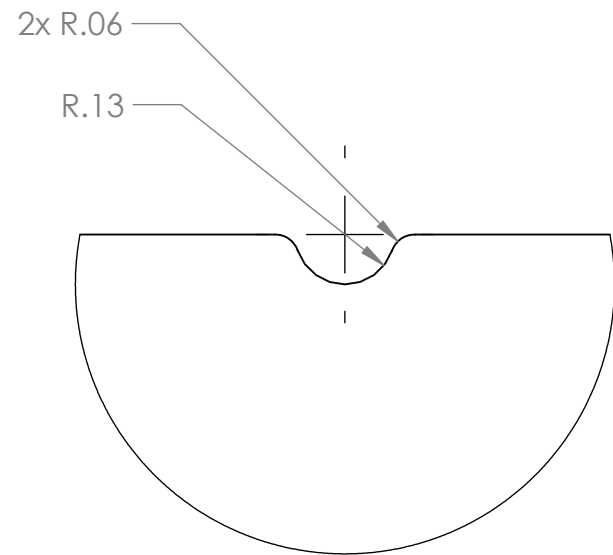
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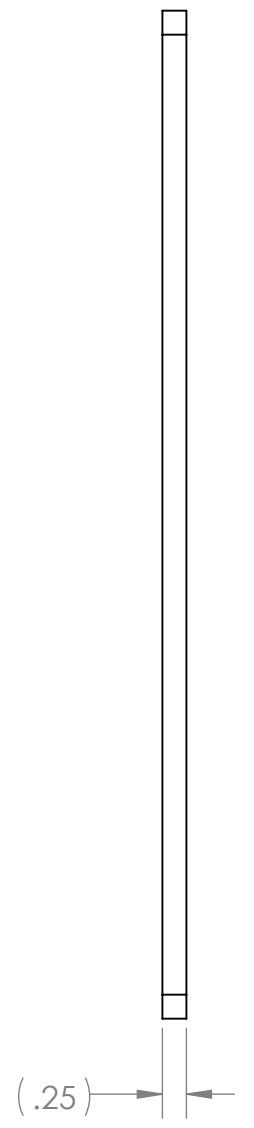
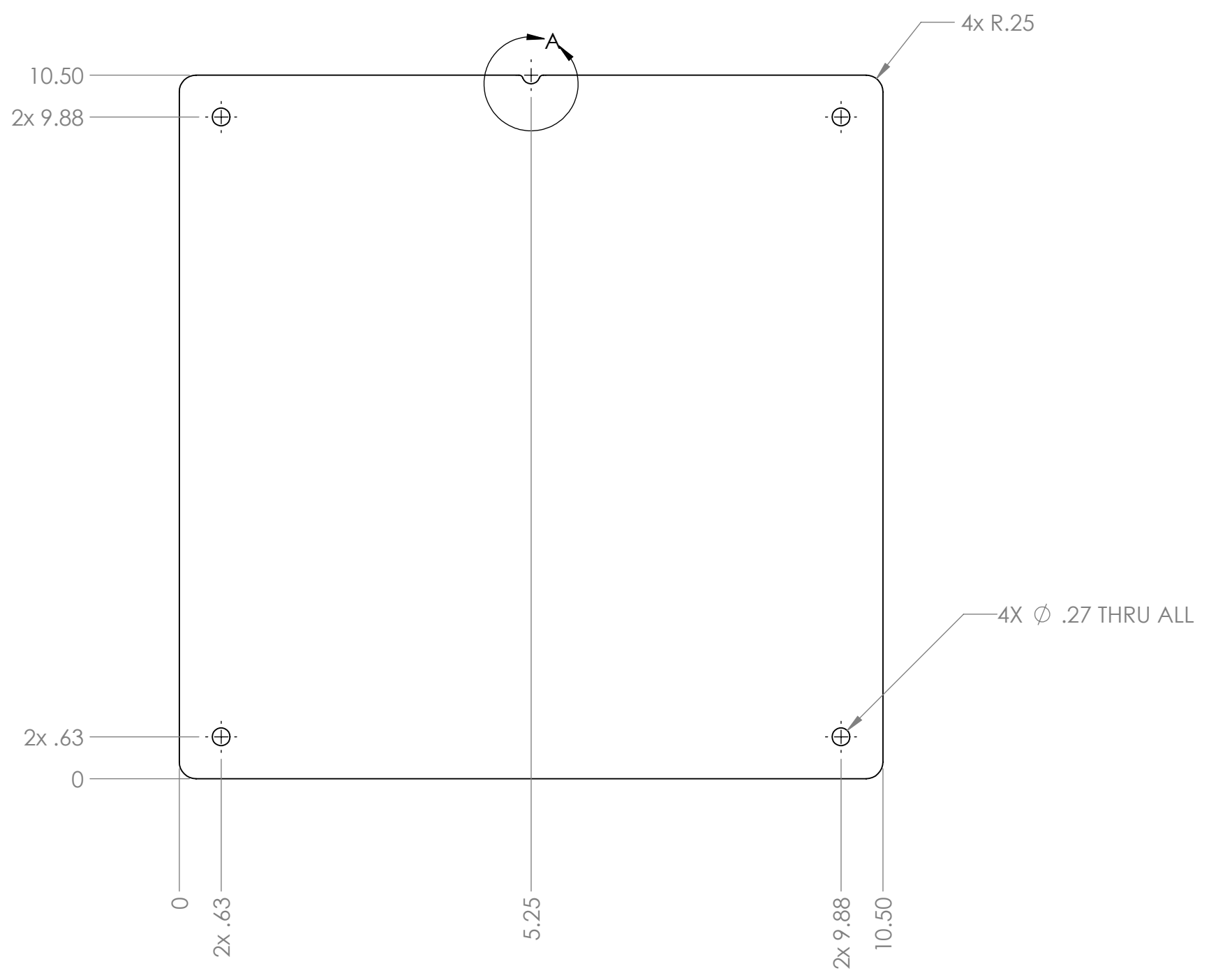
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DETAIL A  
SCALE 2 : 1



Notes:  
1. Vinyl to be applied to face.

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	CO	8/29/2023		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
					AprilTag Base Poly
		SIZE	DWG. NO.	REV	
		<b>C</b>	FE-00082		
SCALE: 1:2			SHEET 1 OF 1		

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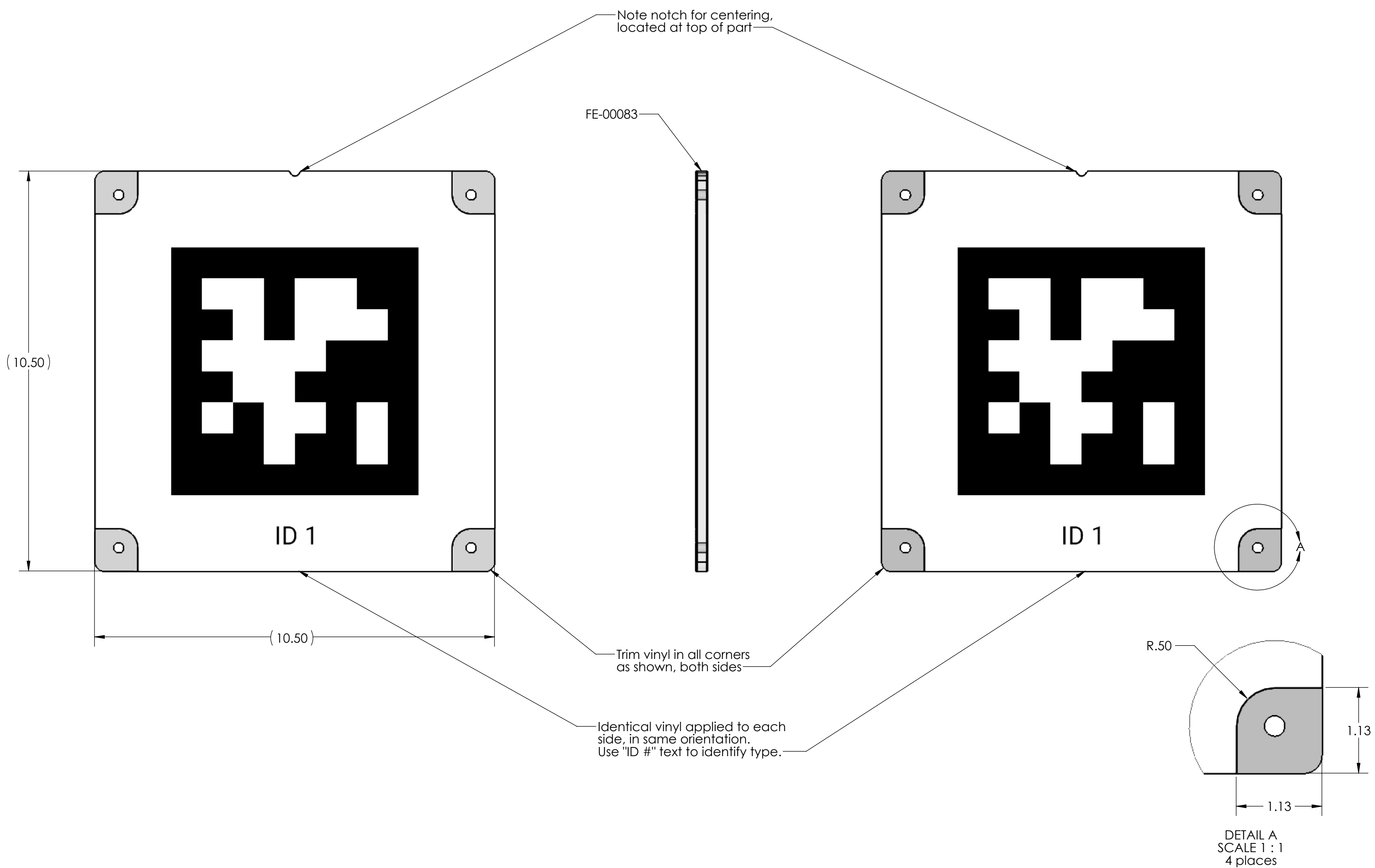
C

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Notes:  
1. Matte vinyl

Tag Variations			
Part Number	Vinyl Image	Vinyl QTY per field	Part QTY per field
FE-00083-ID1	FE-00083-ID1-Vinyl	2	1
FE-00083-ID2	FE-00083-ID2-Vinyl	2	1
FE-00083-ID3	FE-00083-ID3-Vinyl	2	1
FE-00083-ID4	FE-00083-ID4-Vinyl	2	1
FE-00083-ID5	FE-00083-ID5-Vinyl	2	1
FE-00083-ID6	FE-00083-ID6-Vinyl	2	1
FE-00083-ID7	FE-00083-ID7-Vinyl	2	1
FE-00083-ID8	FE-00083-ID8-Vinyl	2	1
FE-00083-ID9	FE-00083-ID9-Vinyl	2	1
FE-00083-ID10	FE-00083-ID10-Vinyl	2	1

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE
	DRAWN	CO	9/6/2023
MATERIAL/FINISH:  Polycarbonate/Vinyl	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		TITLE:  <b>AprilTag</b>
	SIZE <b>C</b>	DWG. NO. <b>FE-00083</b>	REV
SCALE: 1:2		SHEET 1 OF 3	



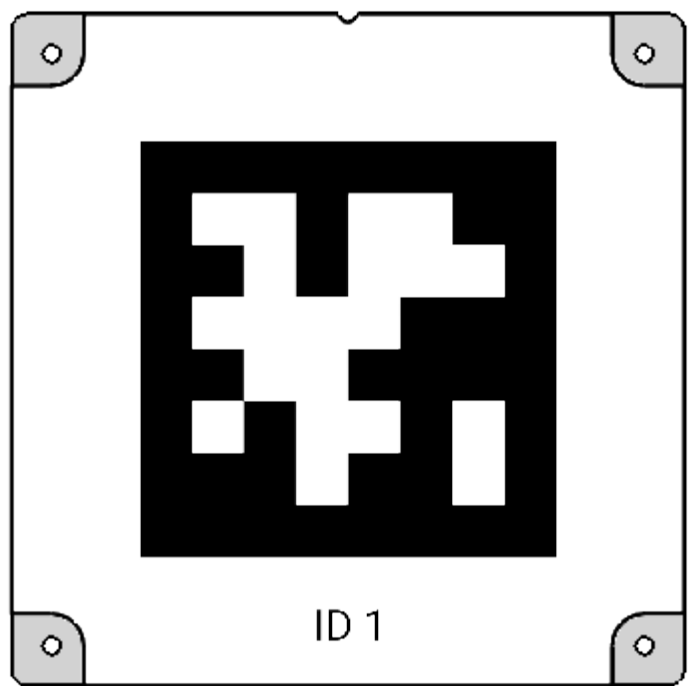


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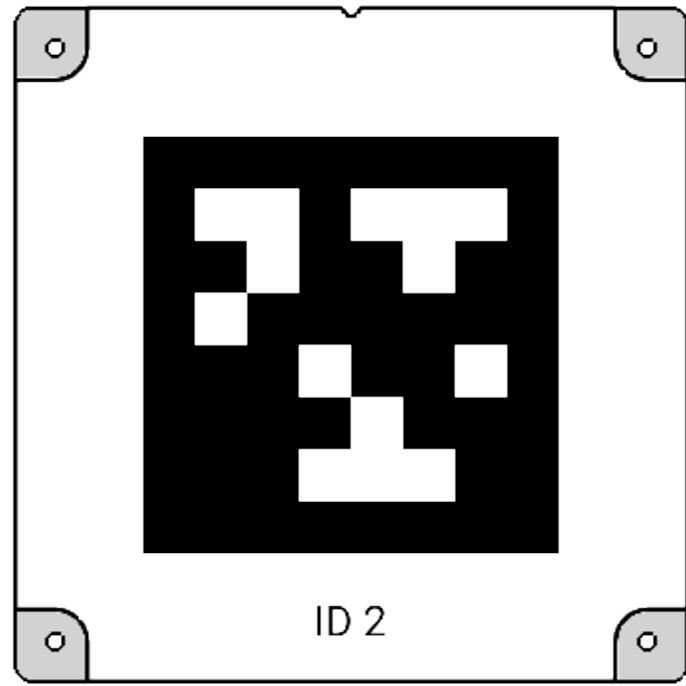
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1



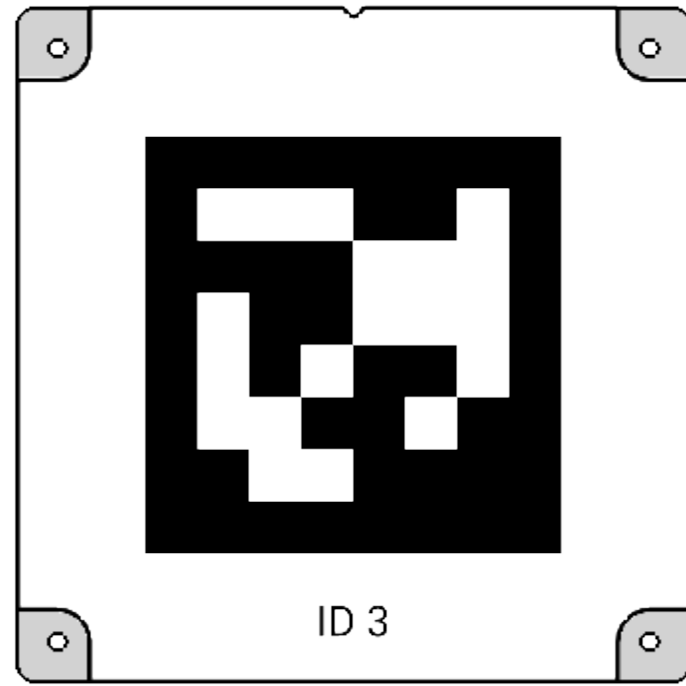
ID 1

FE-00083-ID1



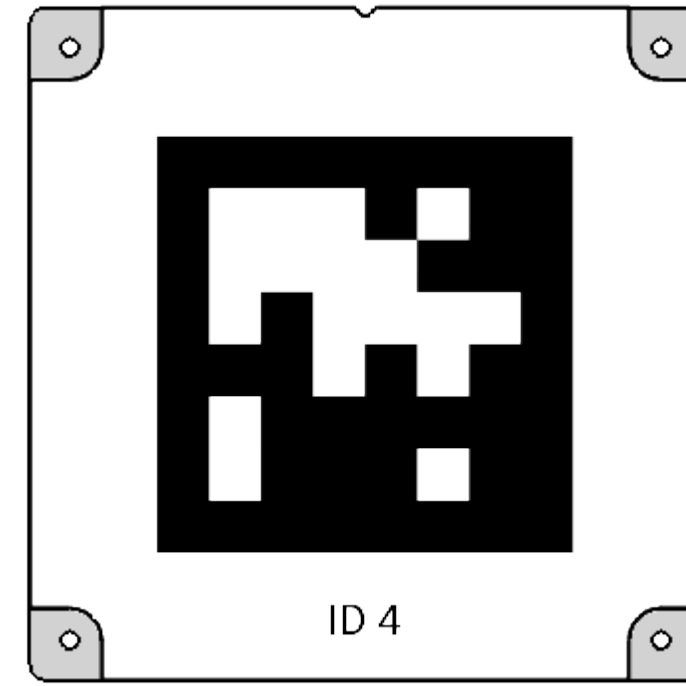
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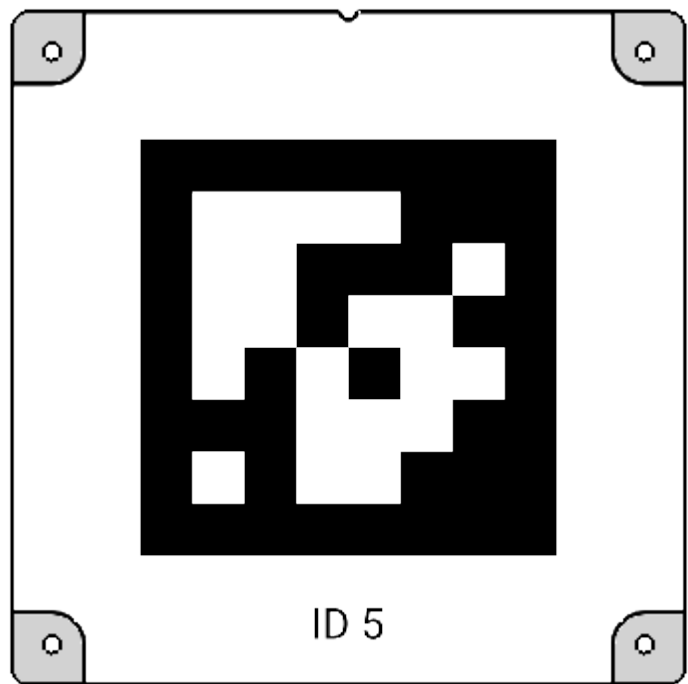
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FE-00083-ID3



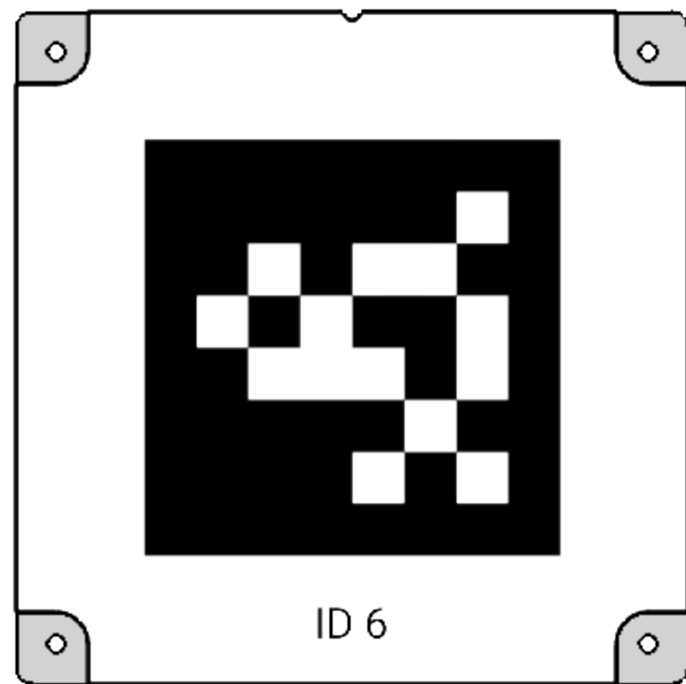
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FE-00083-ID4



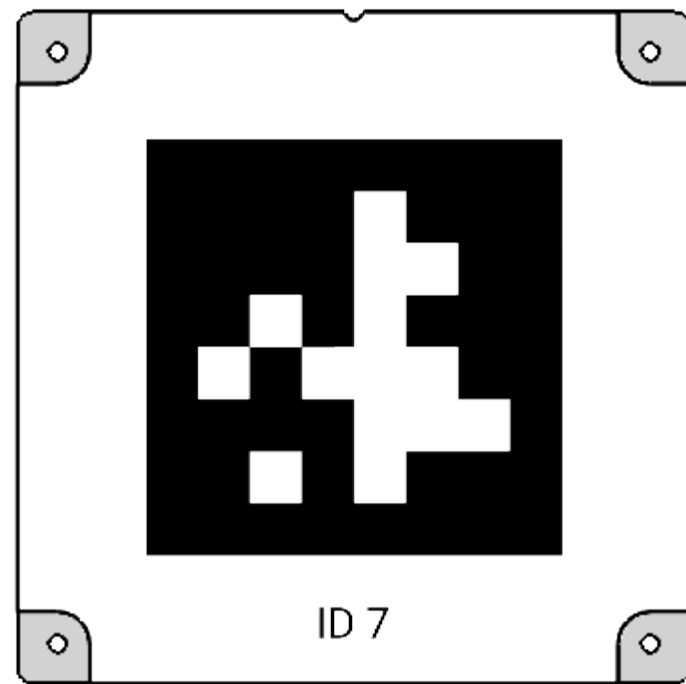
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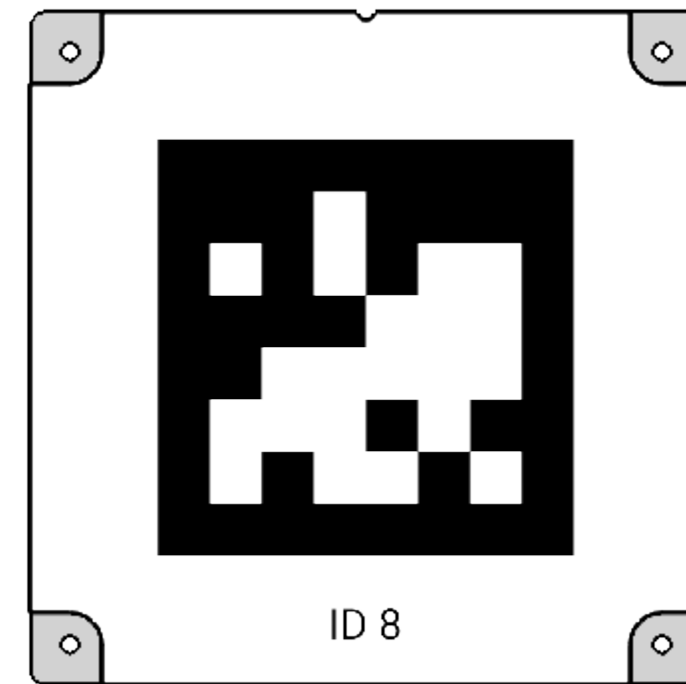
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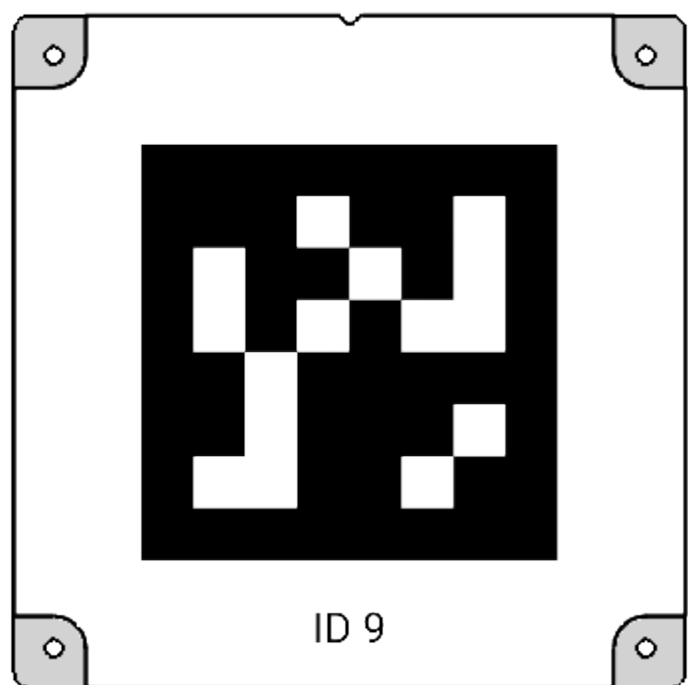
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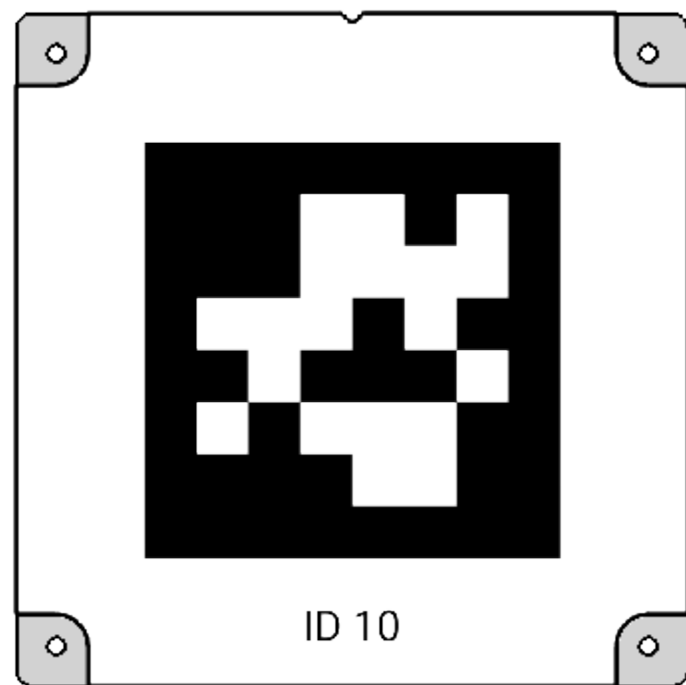
ID 8

FE-00083-ID8



ID 9

FE-00083-ID9



ID 10

FE-00083-ID10

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
	DRAWN	CO	9/6/2023
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
<b>MATERIAL/FINISH:</b>	Polycarbonate/Vinyl		
<b>COMMENTS:</b>	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			



TITLE: <b>AprilTag</b>		
SIZE	DWG. NO.	REV
<b>C</b>	<b>FE-00083</b>	
SCALE: 1:3		SHEET 2 OF 3

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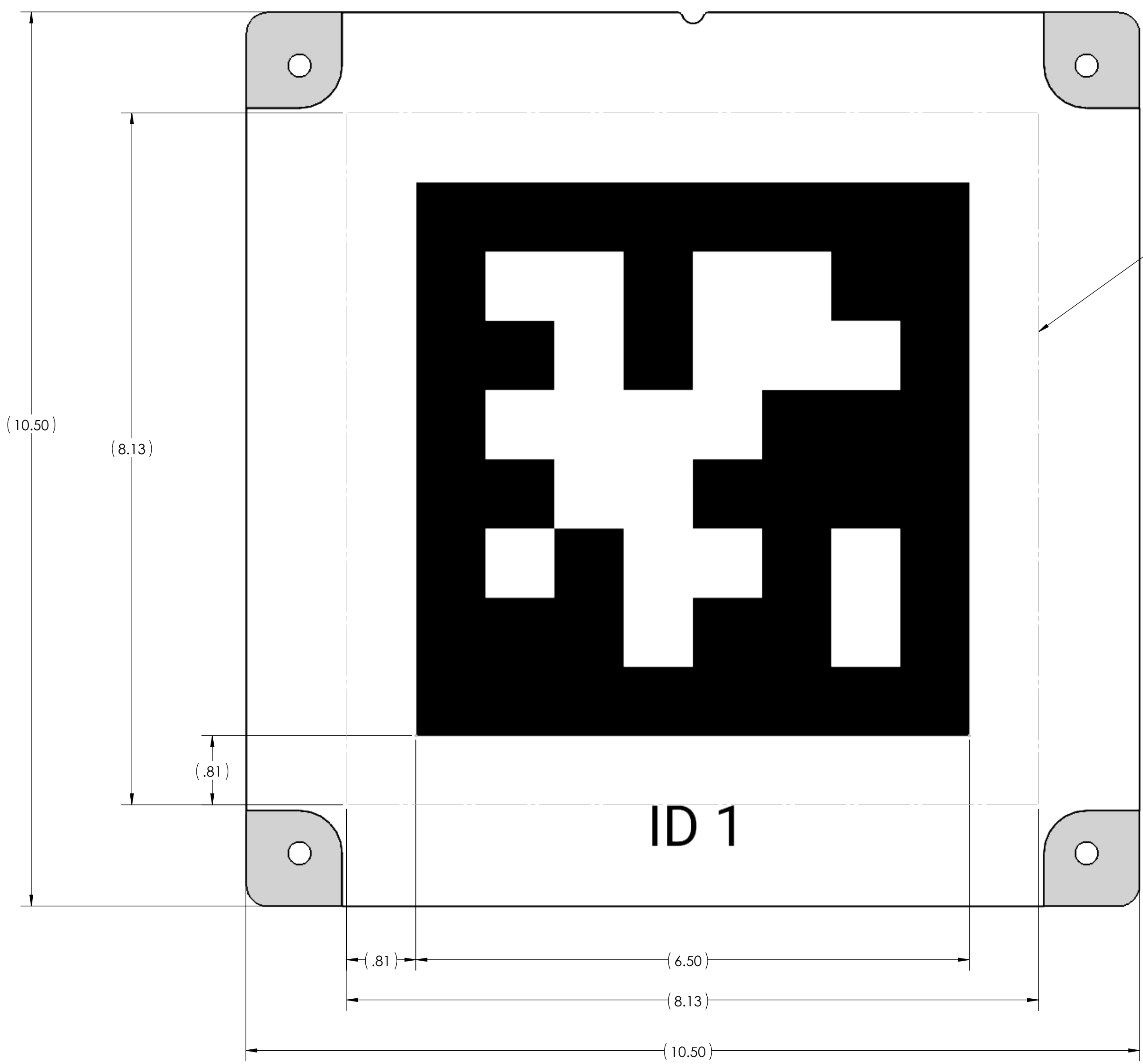
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Square added for drawing reference only. Square represents outer border of AprilTag feature.

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$  <b>MATERIAL/FINISH:</b> Polycarbonate/Vinyl  DO NOT SCALE DRAWING	FIELD	NAME	DATE		
	DRAWN	CO	9/6/2023		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				AprilTag  SIZE DWG. NO. REV <b>C</b> FE-00083 SCALE: 1:1 SHEET 3 OF 3

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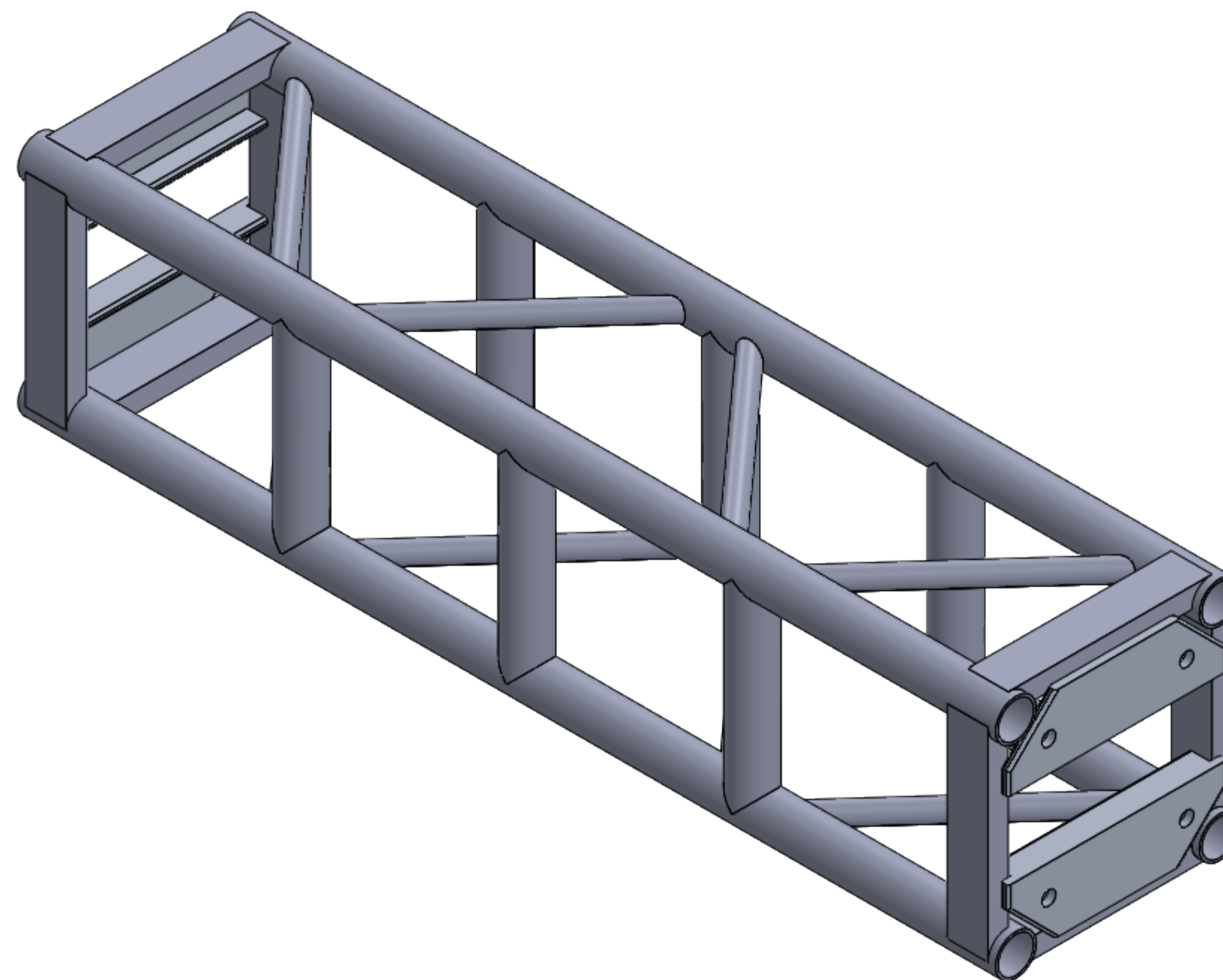
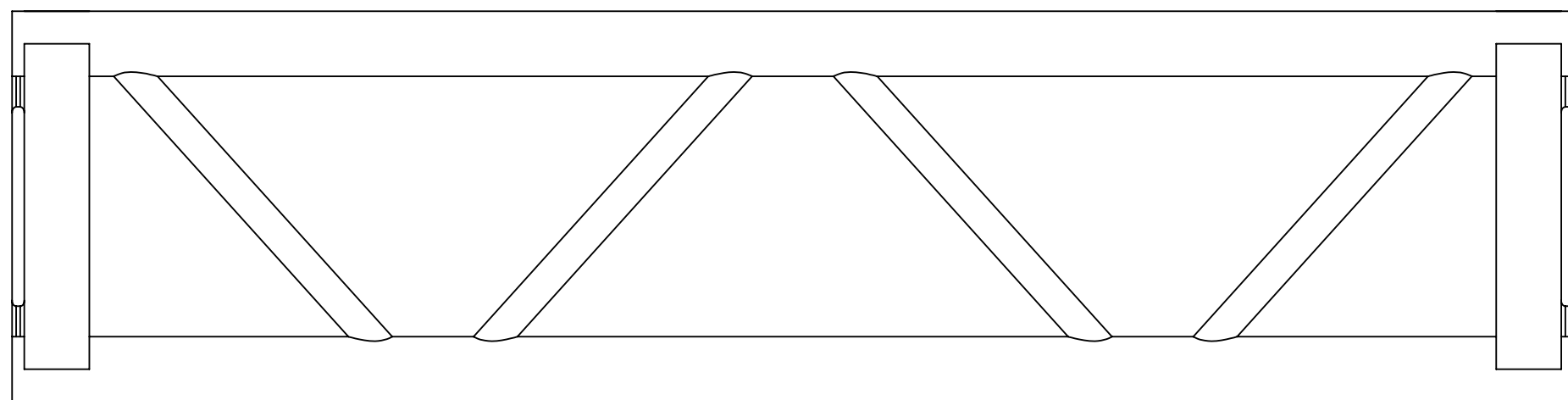
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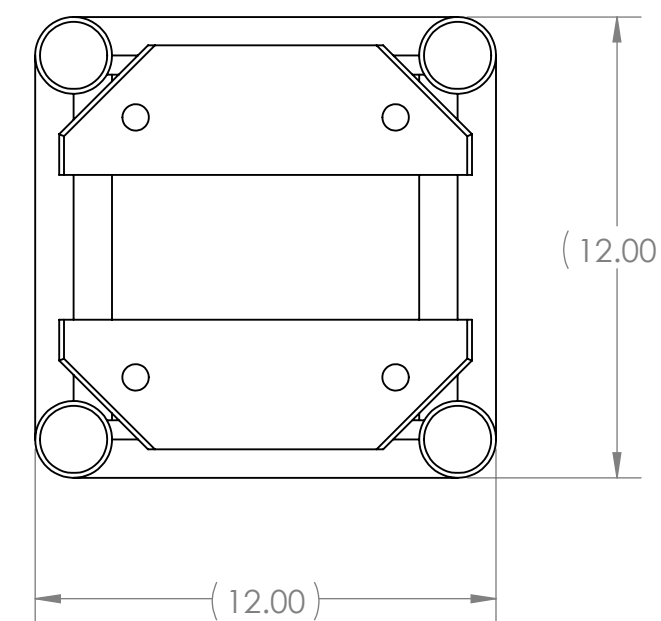
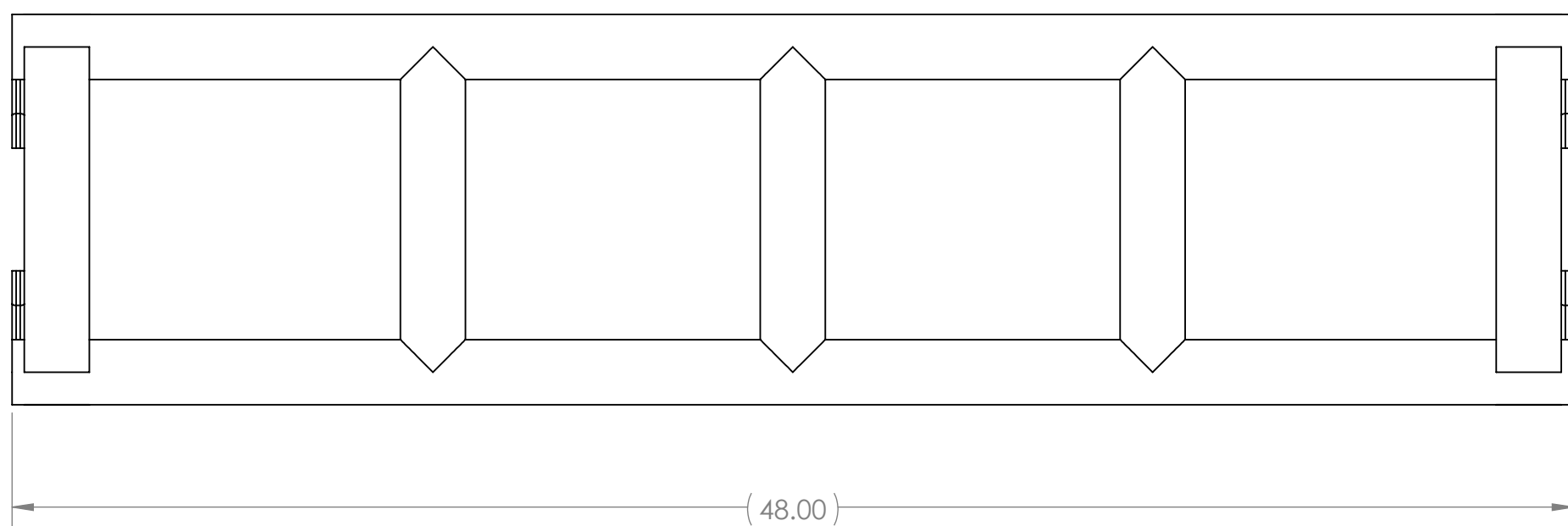
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**DESCRIPTION:** 6061-T6 ALUMINUM - LIGHT DUTY TRUSS,  
48" X 12" X 12"

**VENDOR:** TOTAL STRUCTURES

**PART NUMBER:** TS 1212LD-048P

**NOTE:** SUBSTITUTIONS NOT ALLOWED

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b>   DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	kcarlson	3/23/2020	
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<b>4' x 1' x 1' Square Truss</b>
SIZE		DWG. NO.	REV	
<b>C</b>		FE-01002		
SCALE: 1:5		SHEET 1 OF 1		

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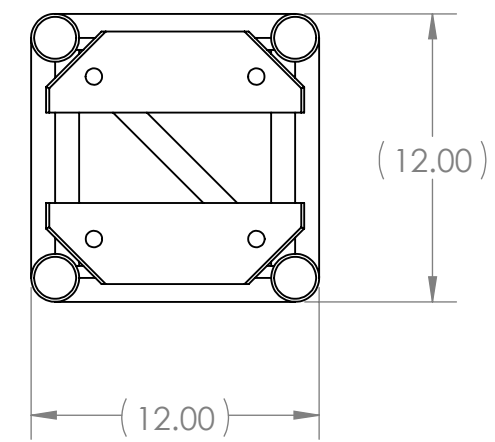
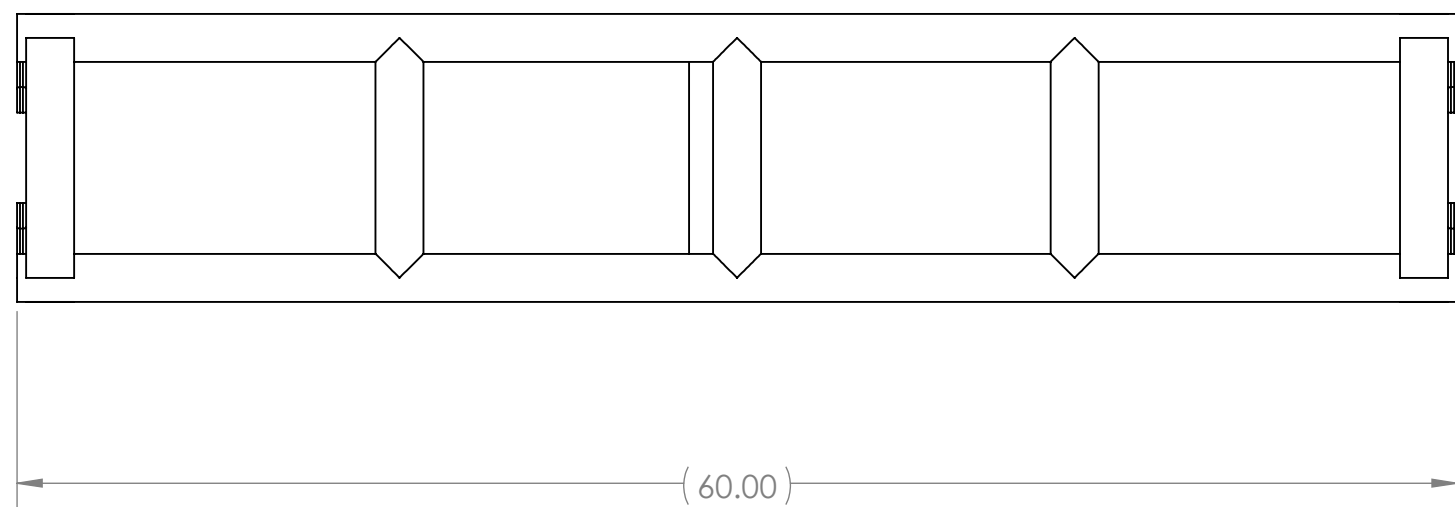
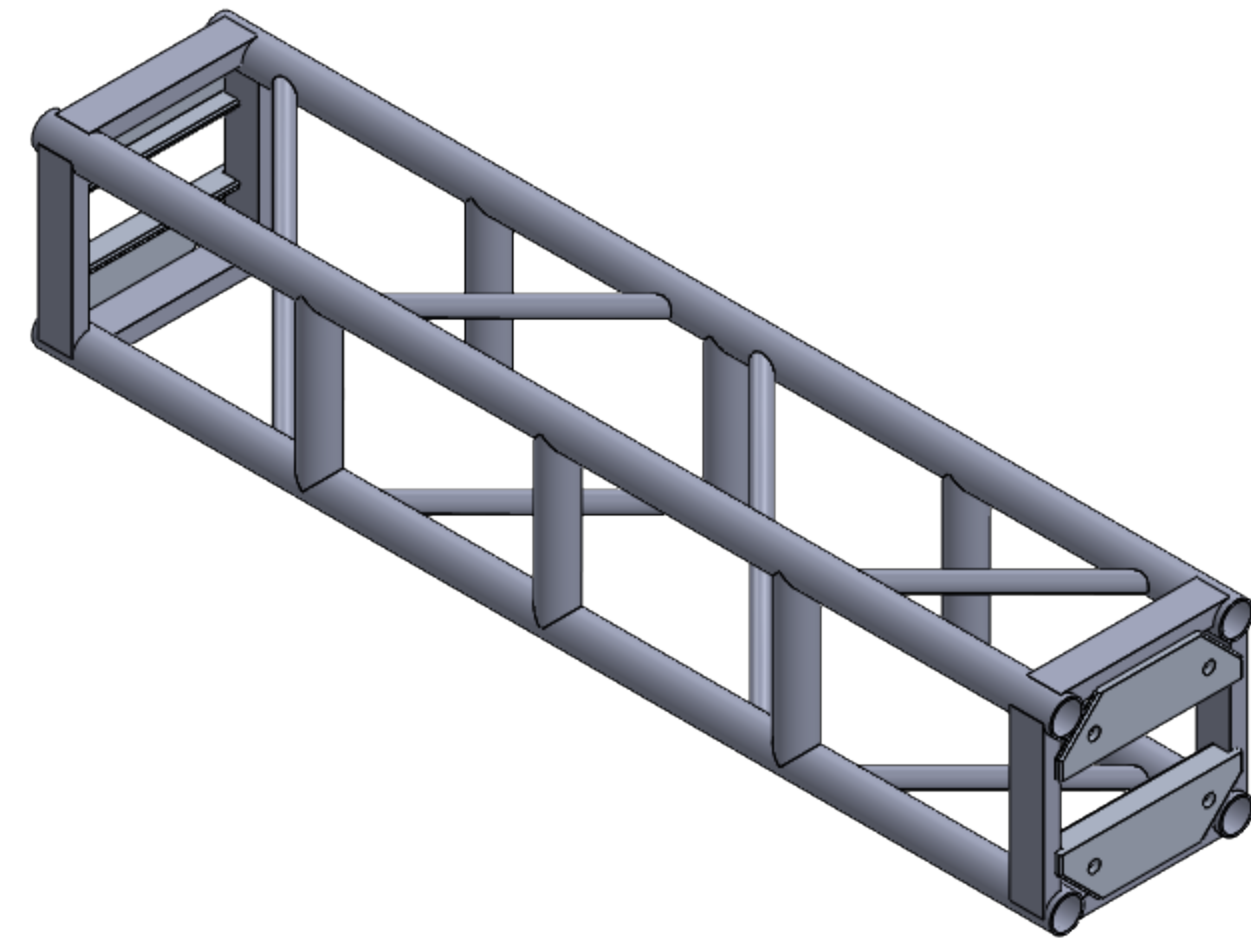
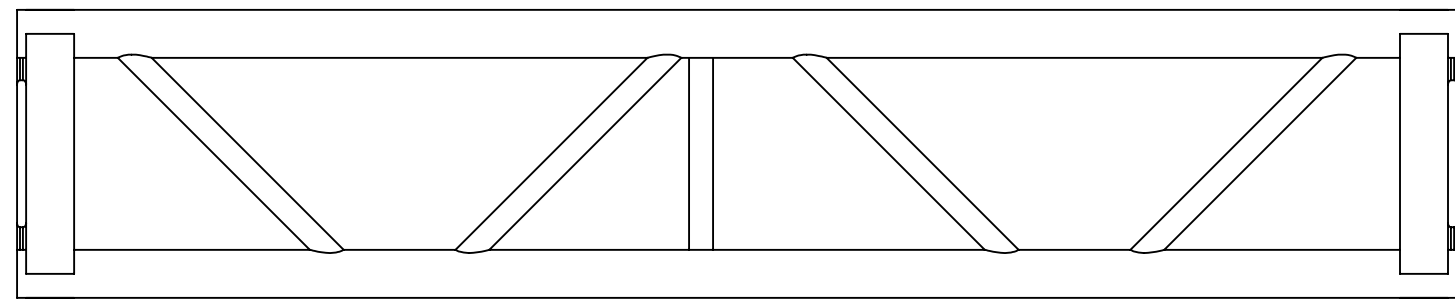
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**DESCRIPTION:** 6061-T6 ALUMINUM - LIGHT DUTY TRUSS,  
60" X 12" X 12"

**VENDOR:** TOTAL STRUCTURES

**PART NUMBER:** TS 1212LD-060P

**NOTE:** SUBSTITUTIONS NOT ALLOWED

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	VEND	NAME	DATE	 
	DRAWN	kcarlson	3/23/2020	
<b>MATERIAL/FINISH:</b>	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			5' x 1' x 1' Square Truss
<b>COMMENTS:</b>	REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
DO NOT SCALE DRAWING				<b>C</b> FE-01003
				SCALE: 1:8 SHEET 1 OF 1

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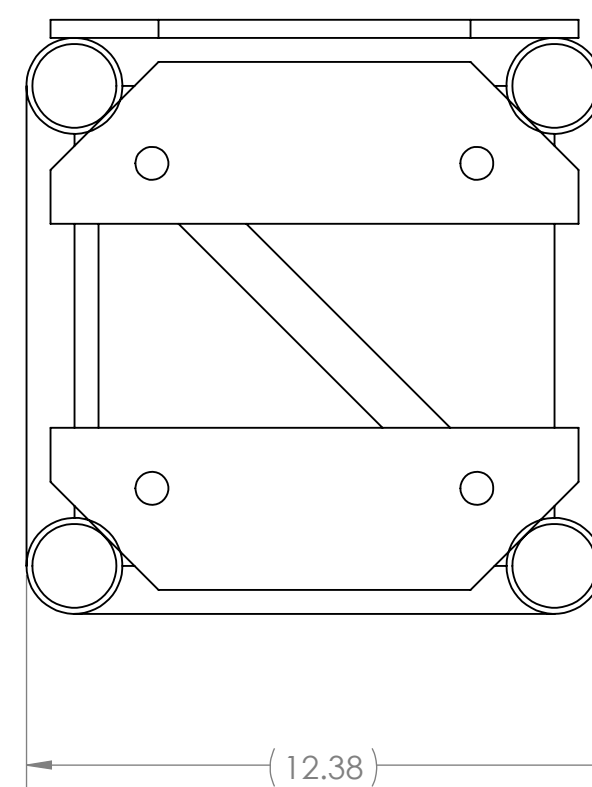
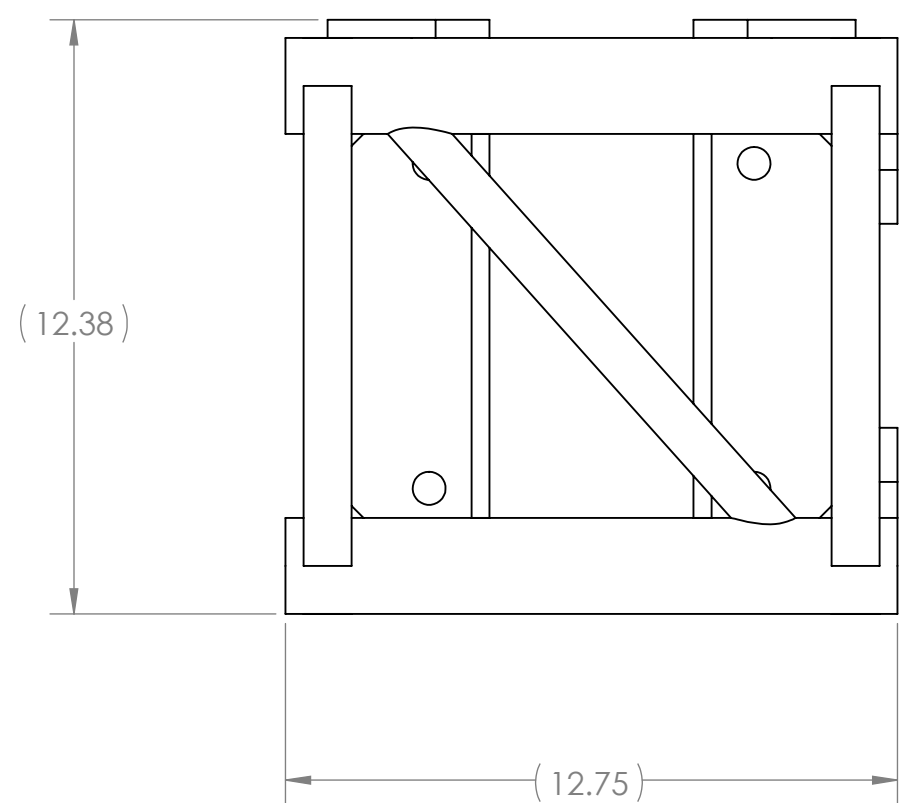
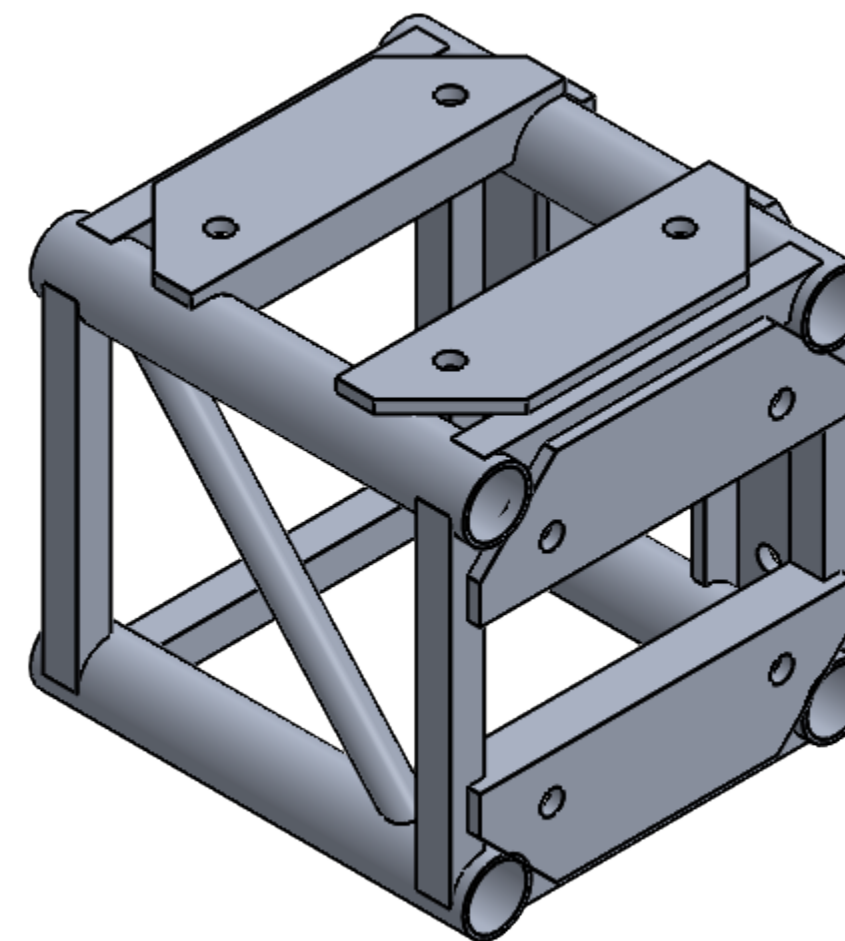
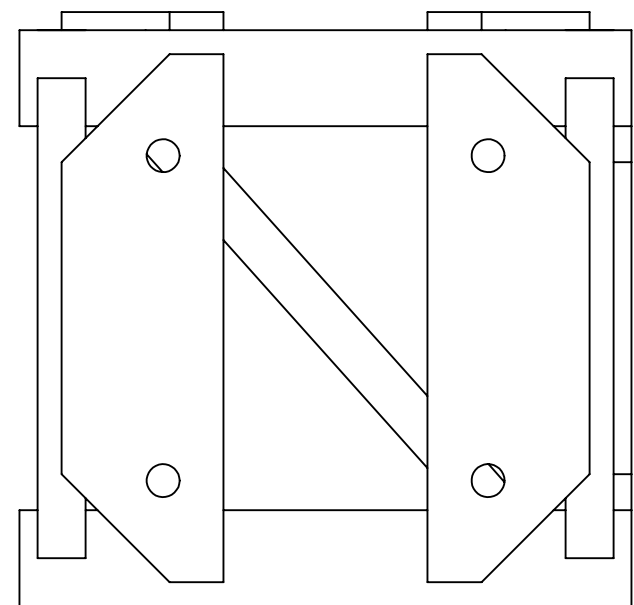
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**DESCRIPTION:** 6061-T6 ALUMINUM - LIGHT DUTY TRUSS, 3-SIDED CORNER BLOCK

**VENDOR:** TOTAL STRUCTURES

**PART NUMBER:** TS 1212LD-C3P

**NOTE:** SUBSTITUTIONS NOT ALLOWED

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b>     DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	kcarlson	3/23/2020
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		



TITLE:  
**3 Way Corner Block**

SIZE DWG. NO. REV

**C** FE-01012

SCALE: 1:4 SHEET 1 OF 1

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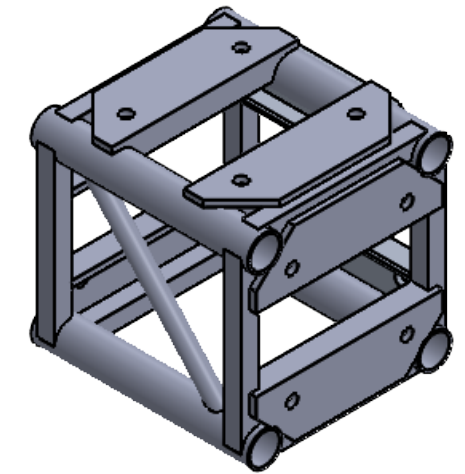
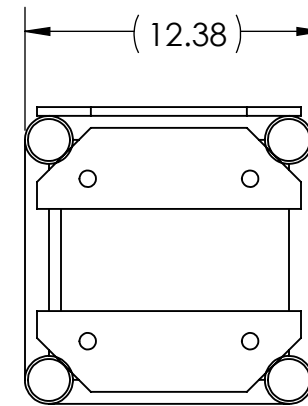
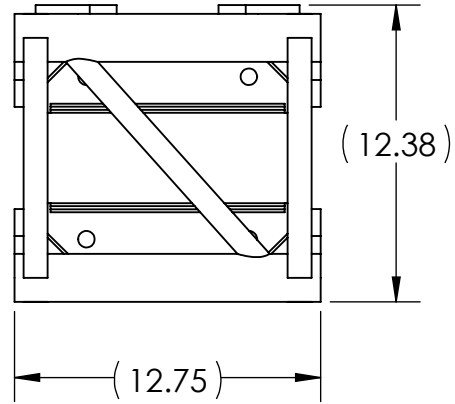
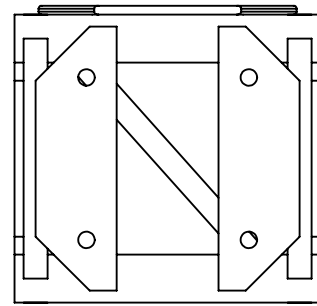
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3	A	Added Note	10/28/2019	KAMC



**DESCRIPTION:** 6061-T6 ALUMINUM - LIGHT DUTY TRUSS, 4-SIDED CORNER BLOCK



**VENDOR:** TOTAL STRUCTURES

**PART NUMBER:** TS 1212LD-C4P

**NOTE:** SUBSTITUTIONS NOT ALLOWED



**PROPRIETARY AND CONFIDENTIAL**  
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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 	
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN	KAMC		9/23/19
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED			TITLE: TS 1212LD-C4P, 4 Way Corner Block Light Duty Truss, Total Structures
		MATERIAL	ENG APPR.			
		FINISH	MFG APPR.			
NEXT ASSY	USED ON		Q.A.			SIZE DWG. NO. REV <b>B</b> FE-01013
APPLICATION		DO NOT SCALE DRAWING	COMMENTS:		SCALE: 1:8	WEIGHT: SHEET 1 OF 1

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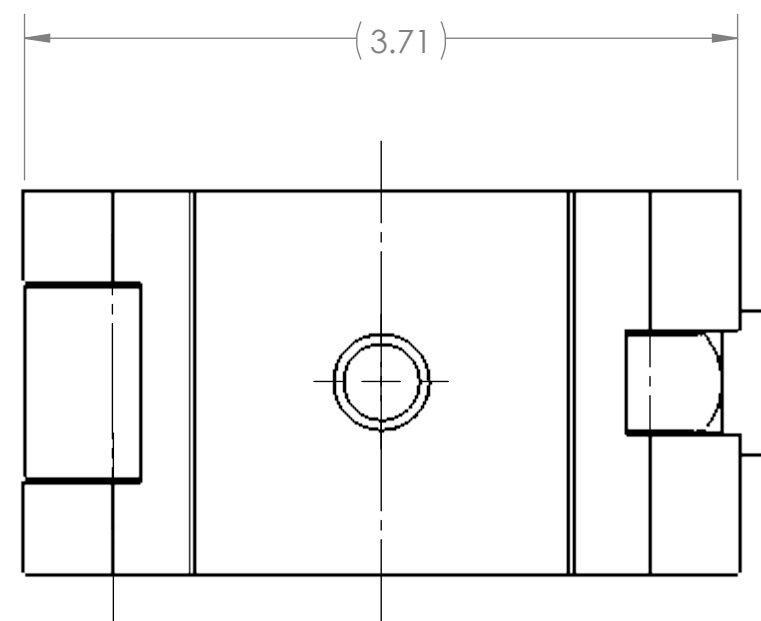
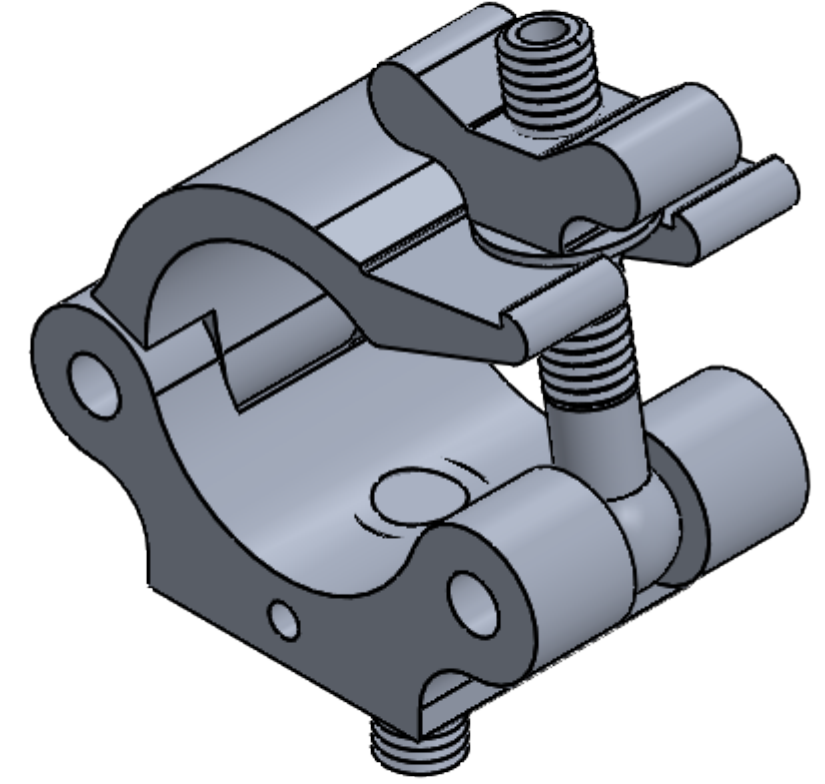
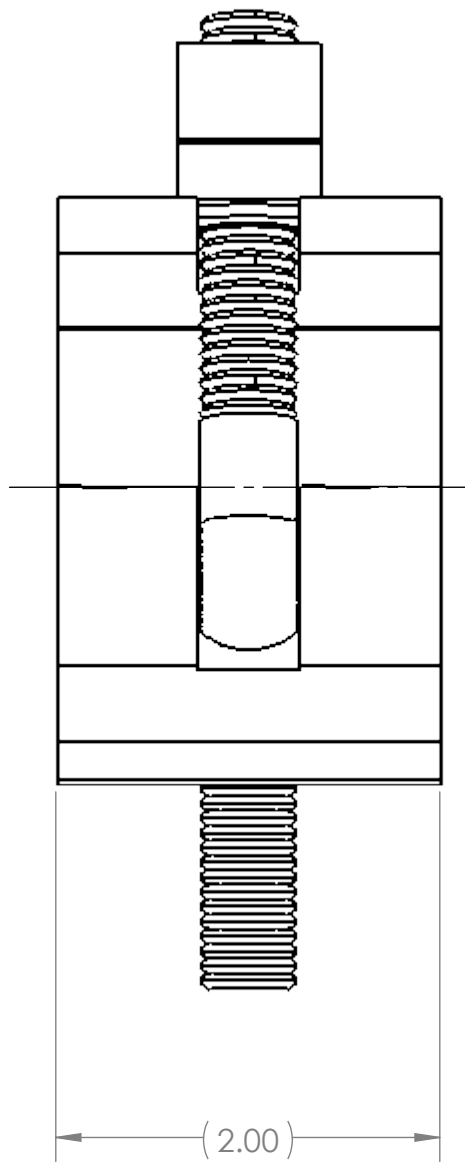
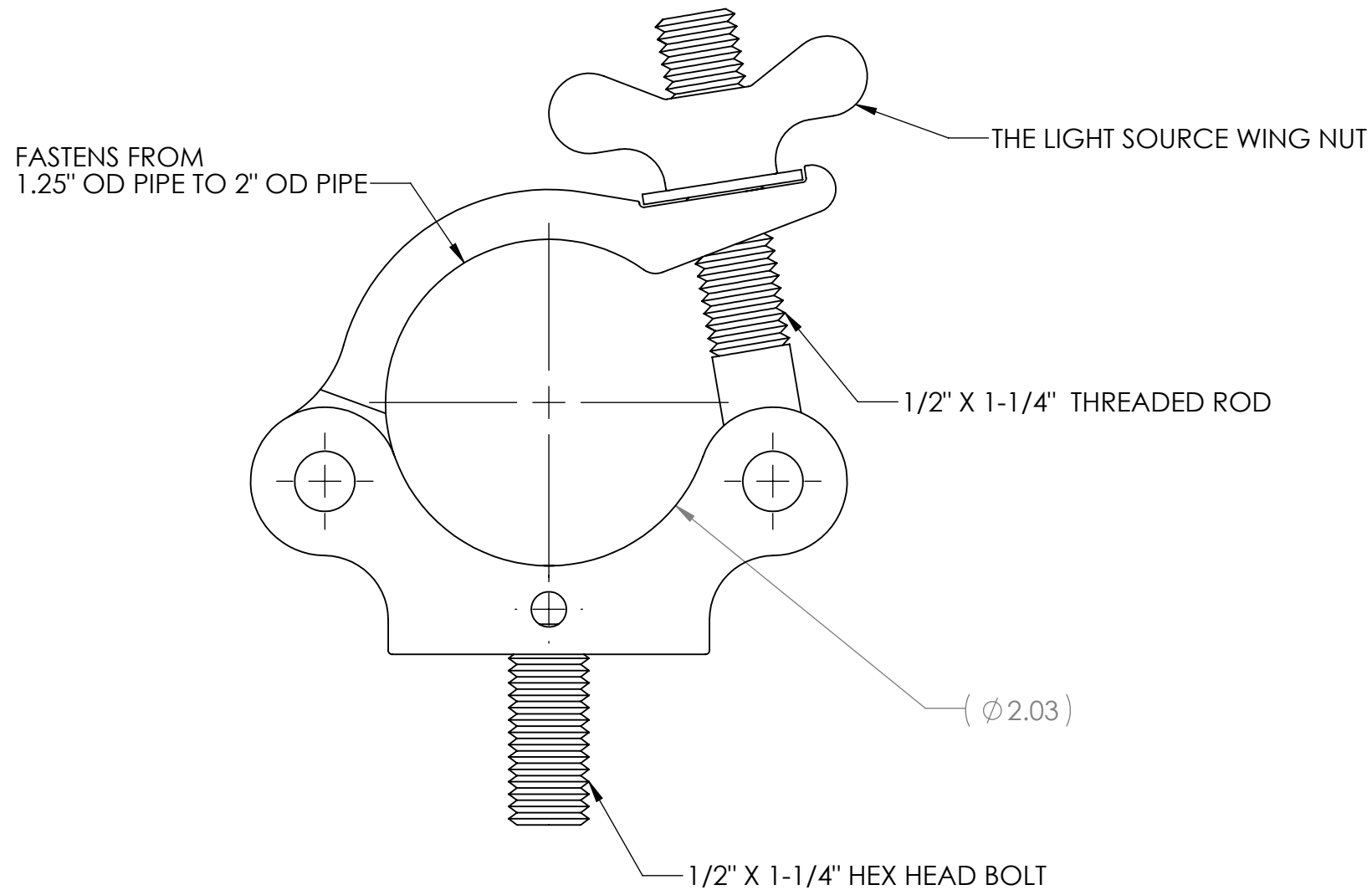
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**DESCRIPTION:** CHEESE BOROUGH FOR TRUSS - MLM MEGA COUPLER, SILVER  
**VENDOR:** TOTAL STRUCTURES VIA THE LIGHT SOURCE  
**PART NUMBER:** MLM MEGA COUPLER  
**NOTE:** SUBSTITUTIONS NOT ALLOWED

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b>  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	kcarlson	3/23/2020		
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:	
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			Cheeseborough for Truss _ Single	
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE	DWG. NO.	REV
			<b>C</b>	FE-01016	
			SCALE: 1:1	SHEET 1 OF 1	

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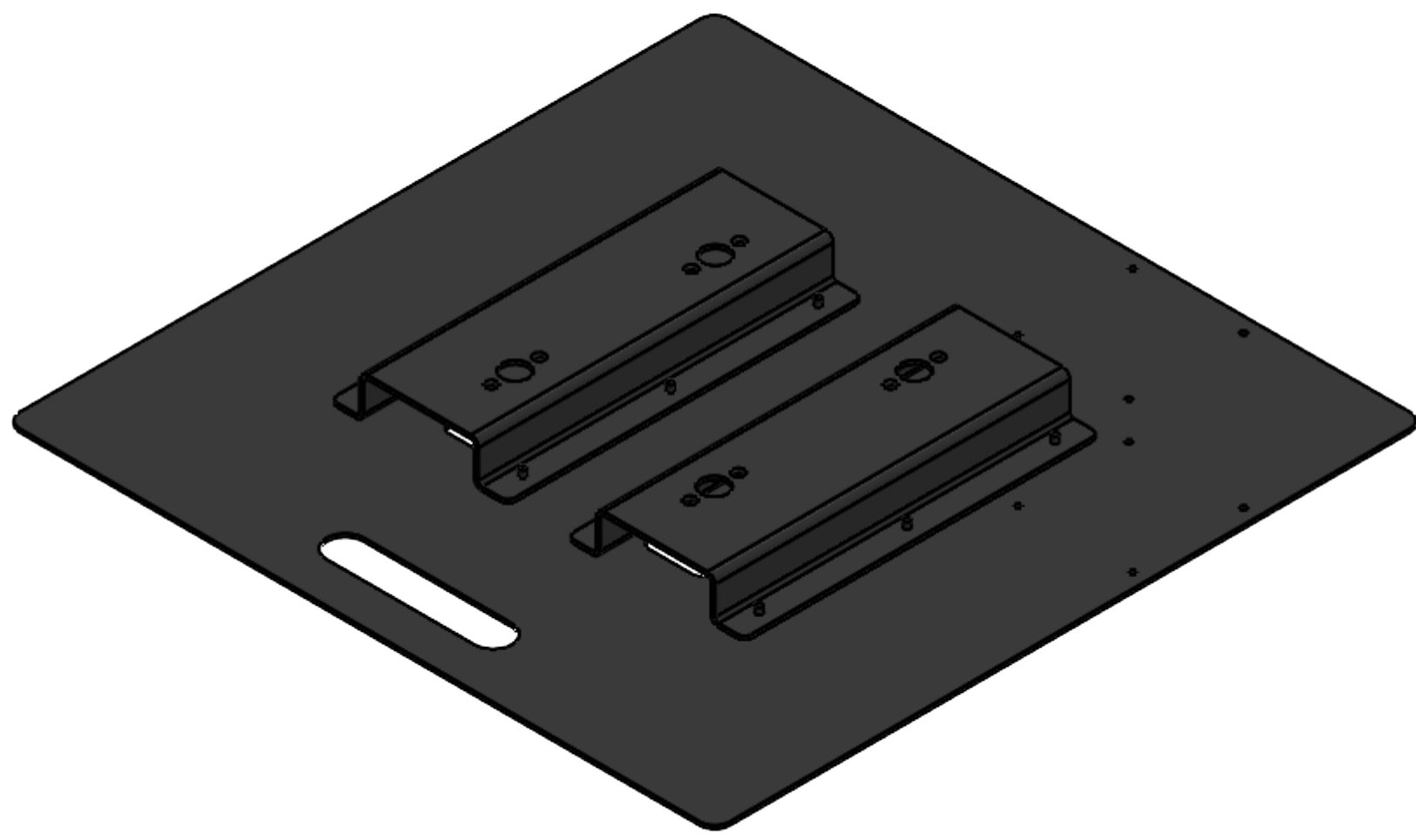
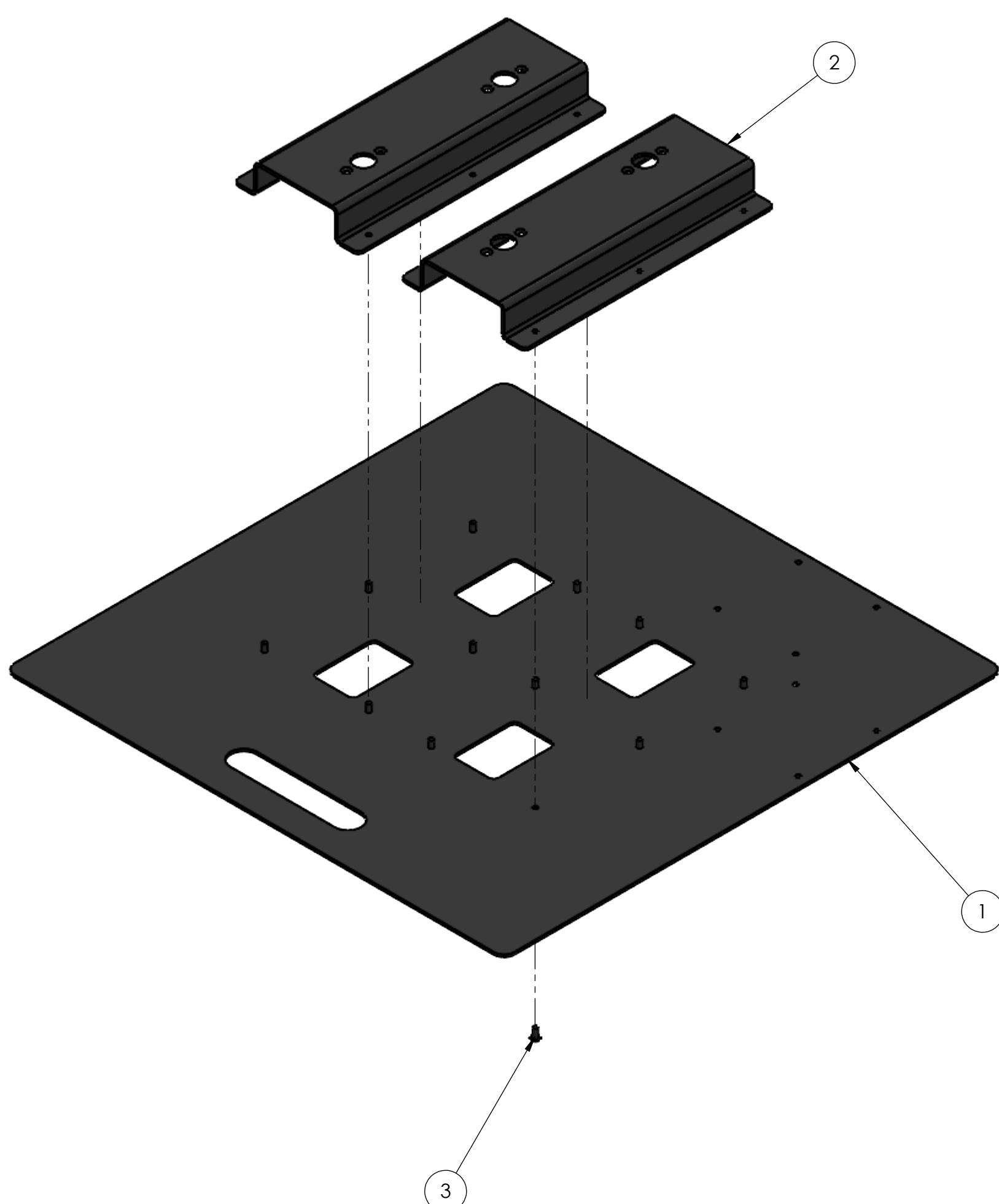
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- Notes:
1. Rivets should be plated or stainless steel
  2. Tag or label with part number.
  3. Powder Coated Black (Full Assembly).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-01020-01	Truss Base - Sheet Metal Assembly, Base Plate	1
2	FE-01020-02	Truss Base - Sheet Metal Assembly, Truss Feet	2
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	12

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .02  
 THREE PLACE DECIMAL ± .010



**MATERIAL/FINISH:**  
 Low Carbon Steel, Powder Coat Black

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	JO	7/18/2023

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE: **Truss Base - Sheet Metal Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	FE-01020	

SCALE: 1:4 SHEET 1 OF 4

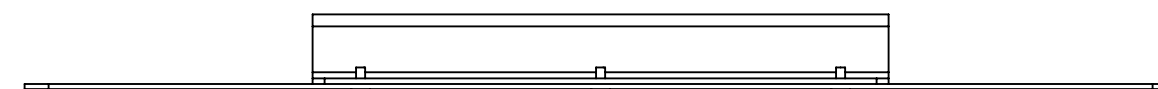
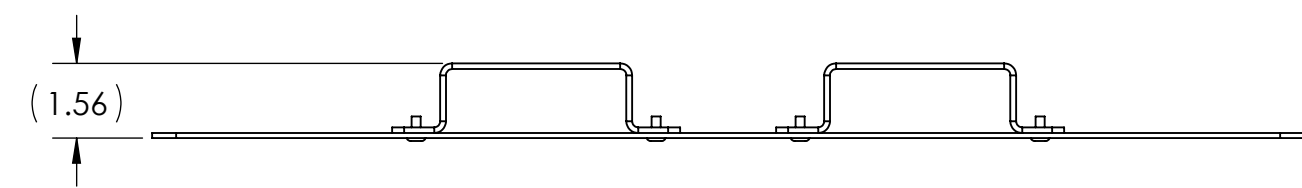
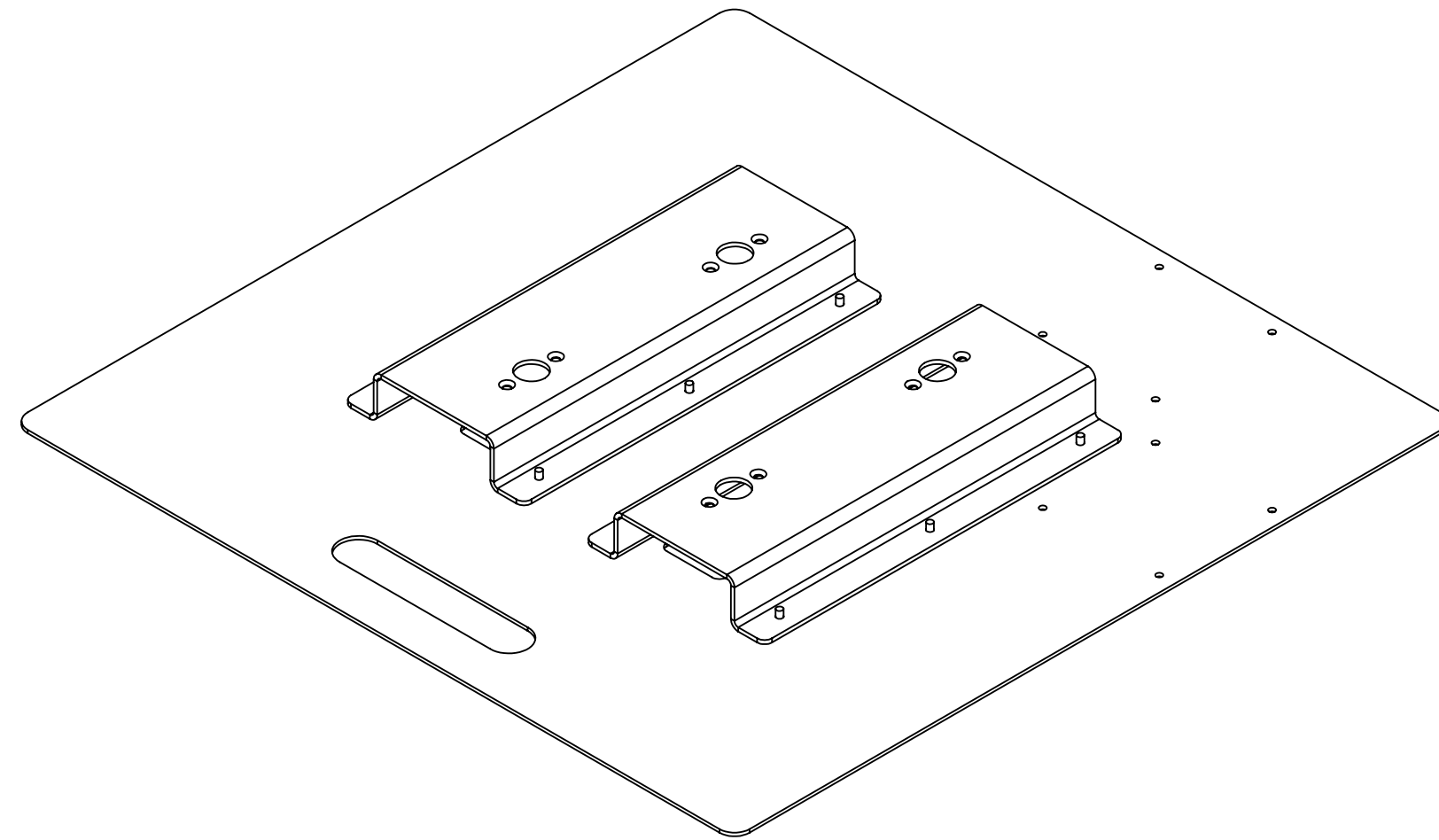
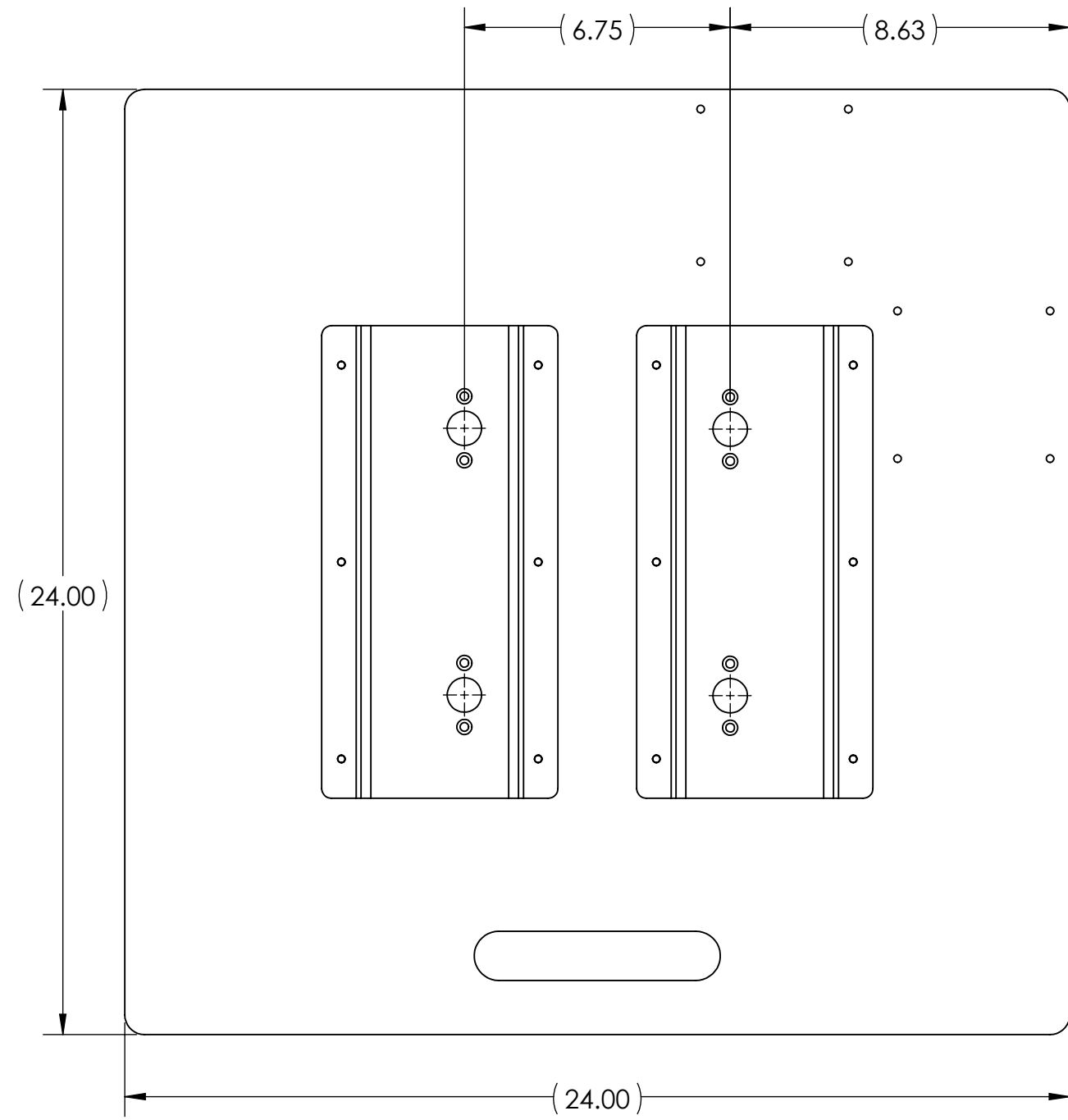




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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$  <b>MATERIAL/FINISH:</b> Low Carbon Steel, Powder Coat Black  DO NOT SCALE DRAWING	BEND	NAME	DATE	 	
	DRAWN	JO	7/18/2023		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE: <b>Truss Base - Sheet Metal Assembly</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				SIZE DWG. NO. REV <b>C</b> FE-01020 SCALE: 1:4 SHEET 2 OF 4

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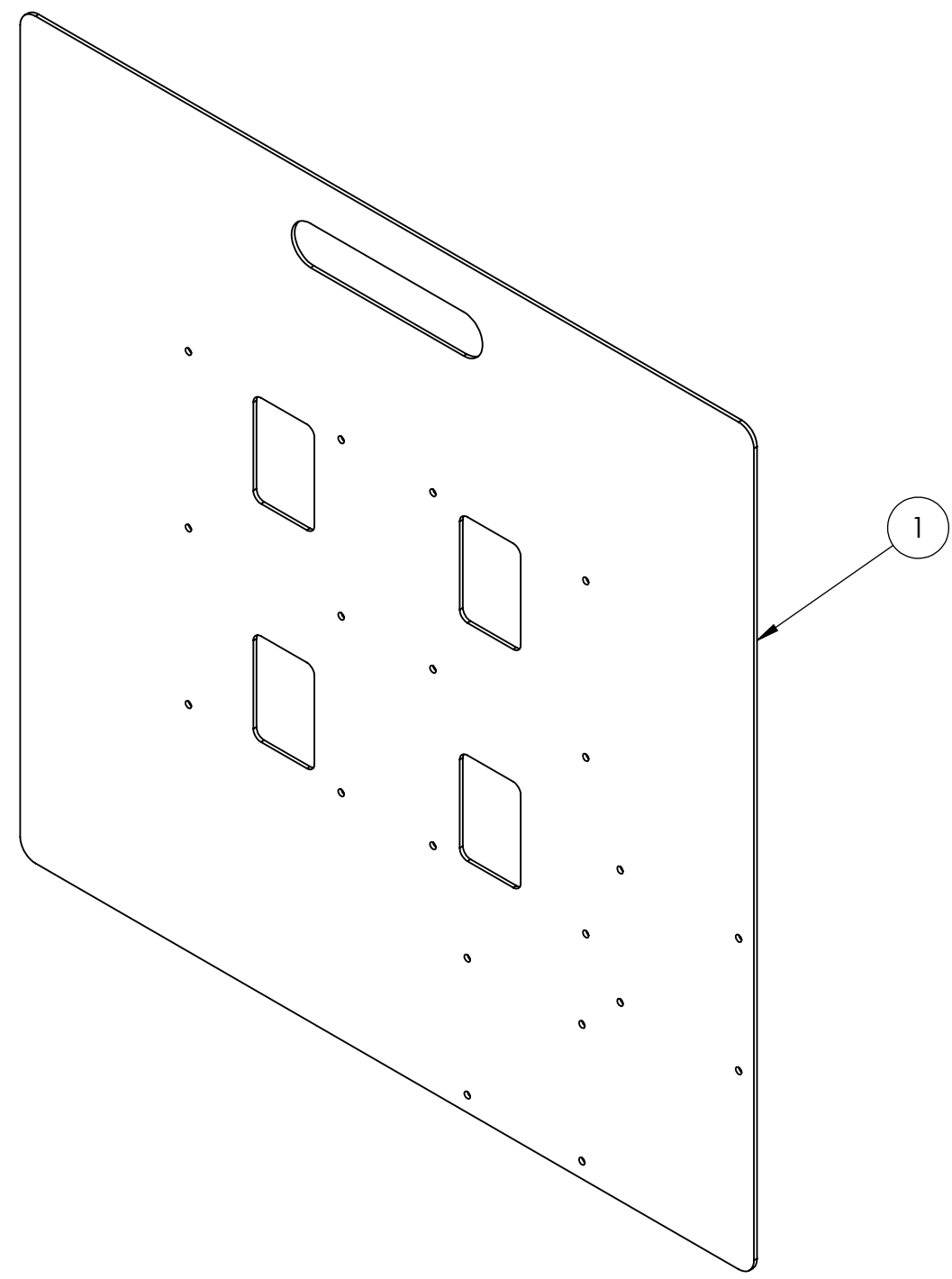
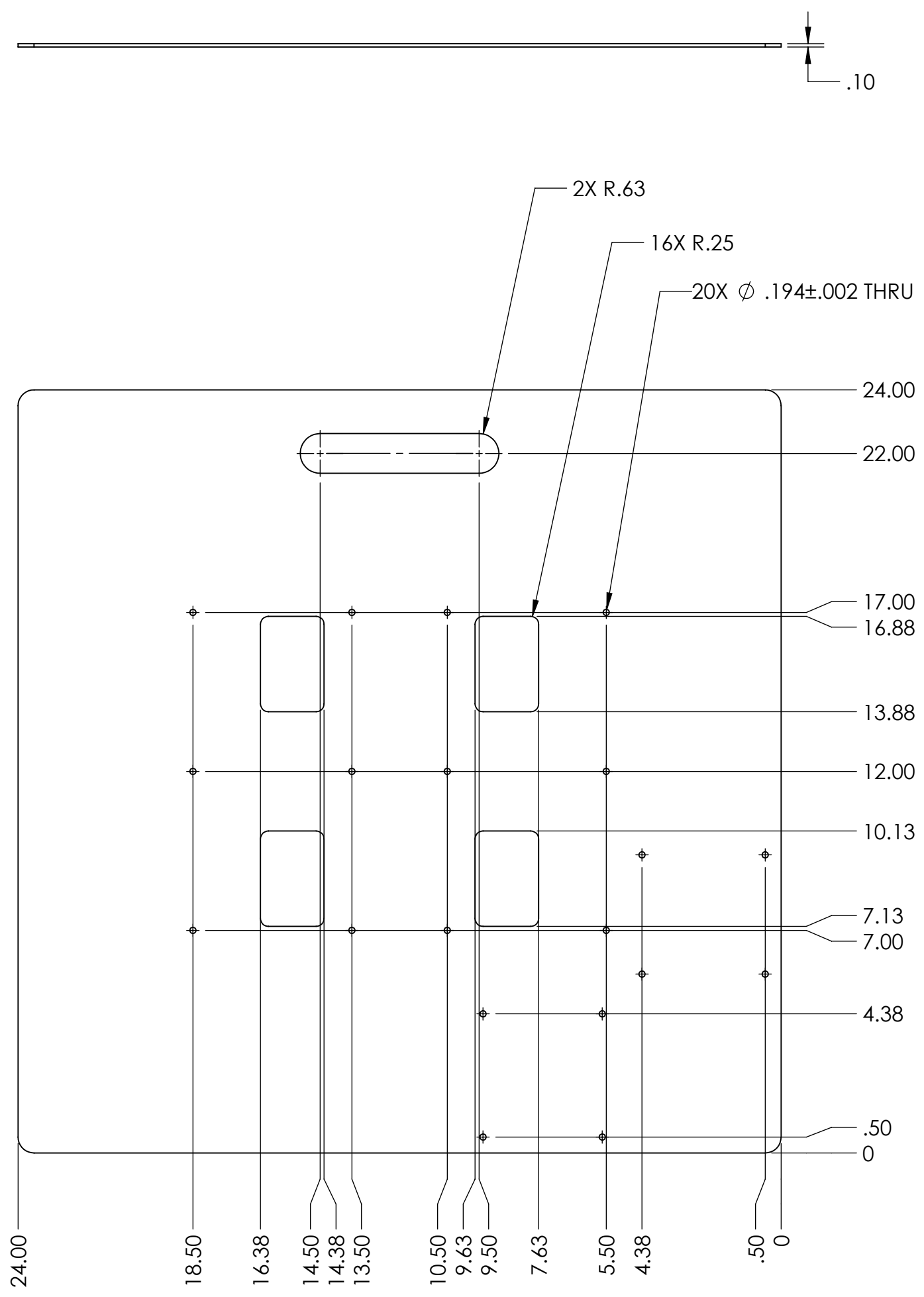
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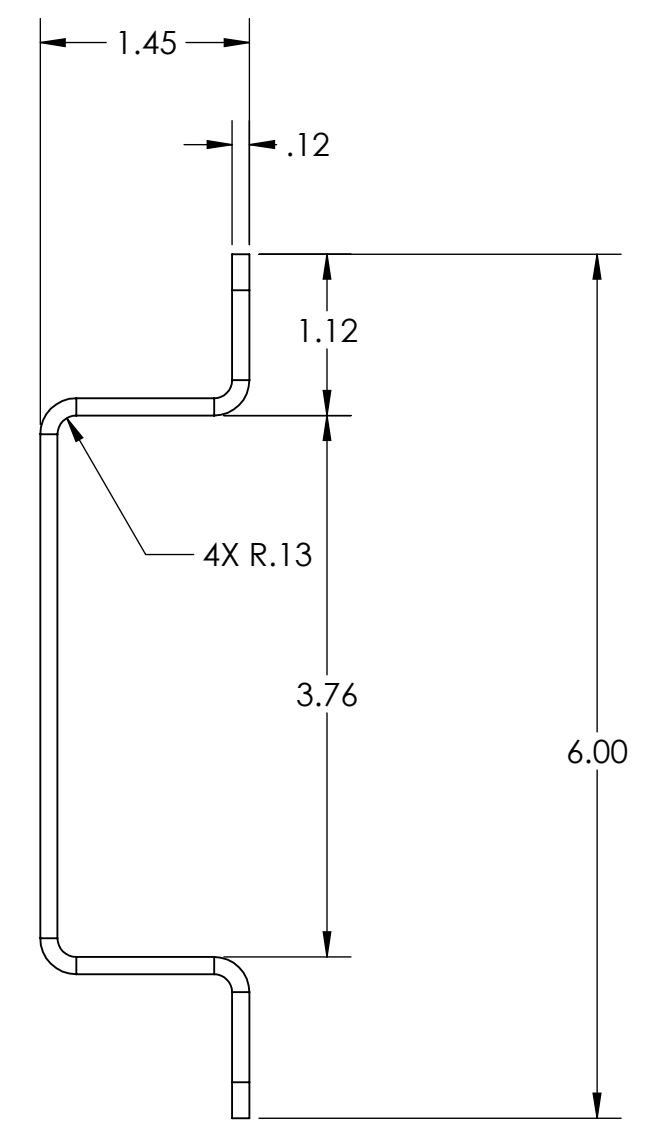
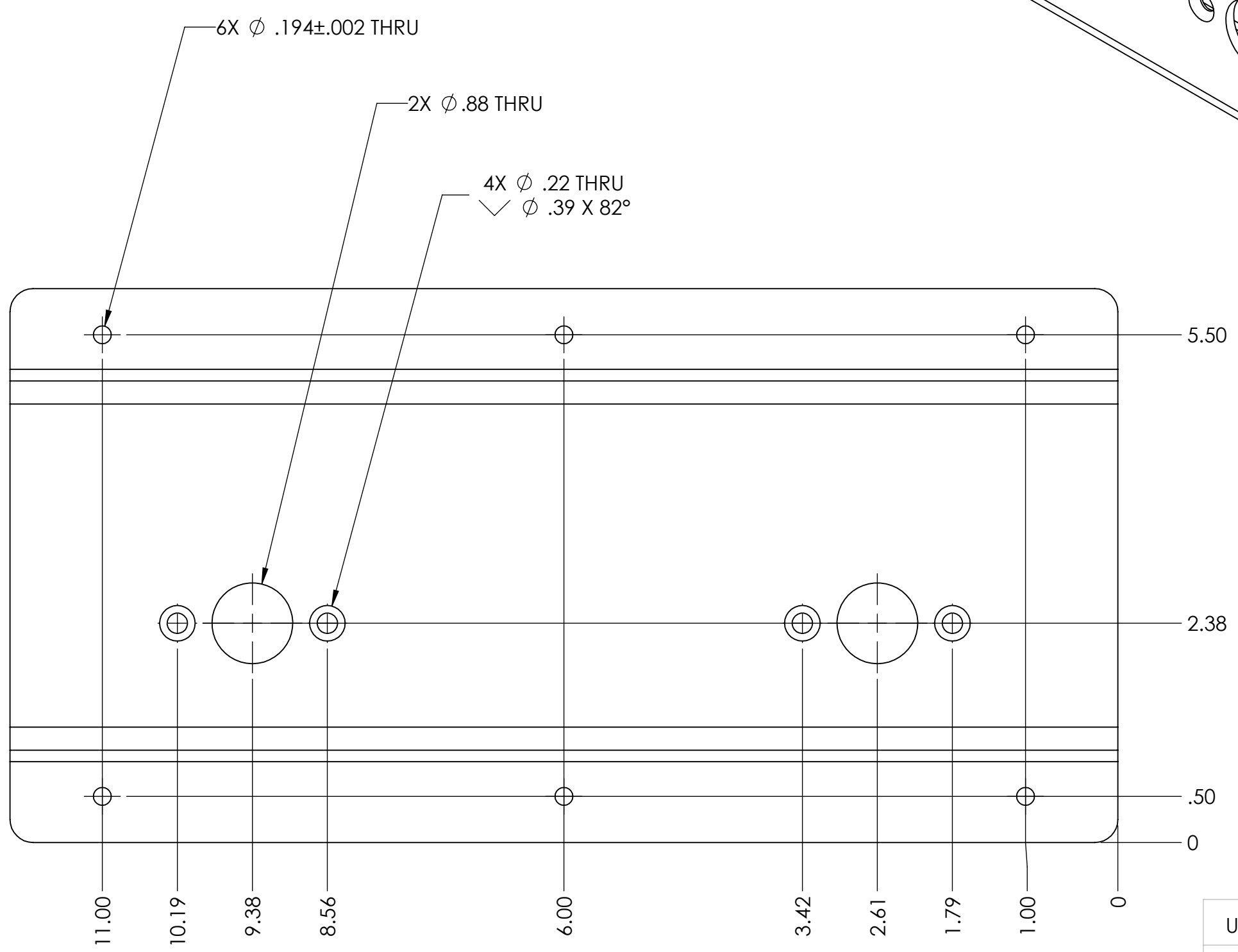
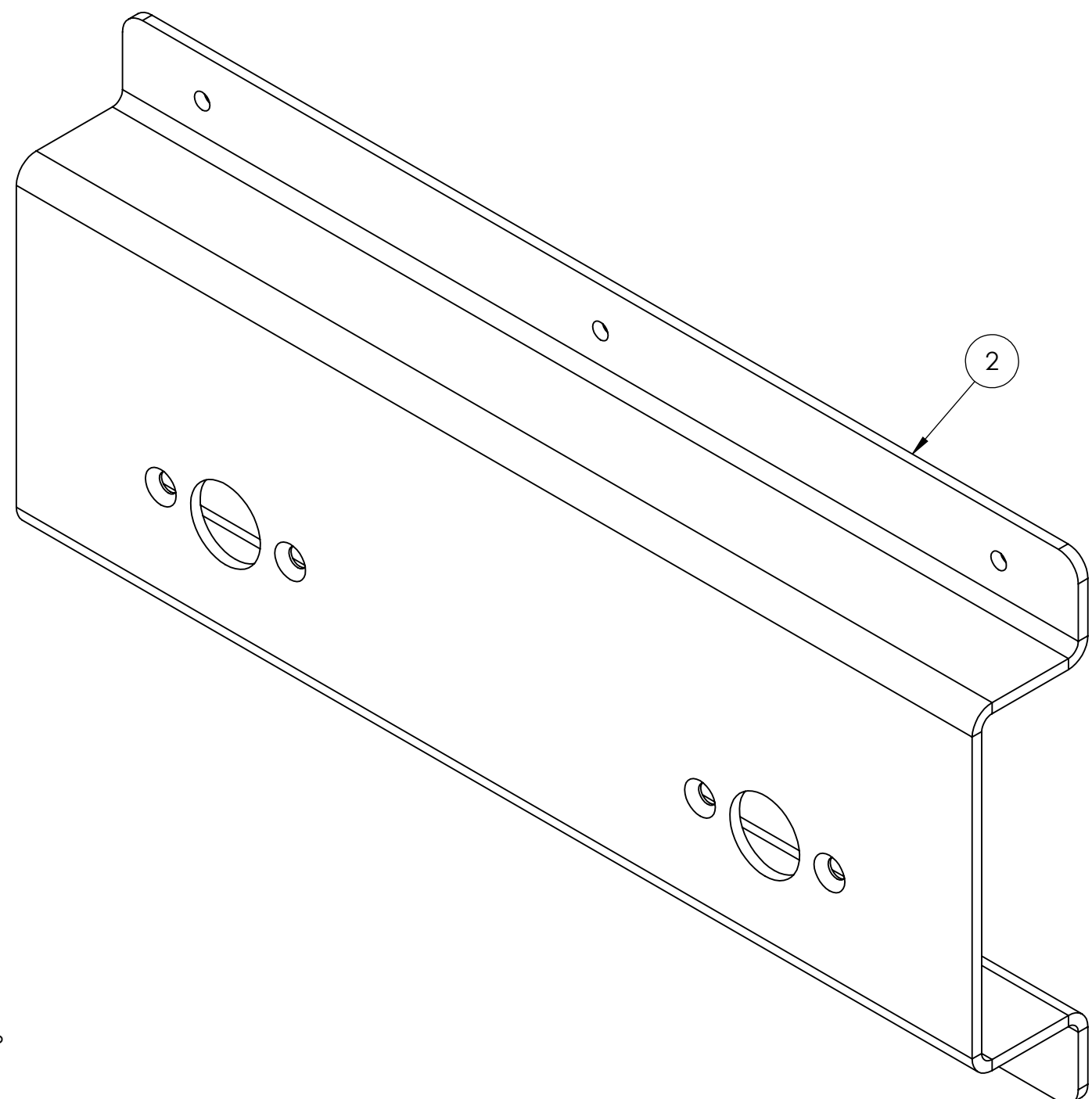
UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE	
	DRAWN	JO	7/18/2023	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE: <b>Truss Base - Sheet Metal Assembly</b>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			
<b>MATERIAL/FINISH:</b>	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<b>C</b> FE-01020
DO NOT SCALE DRAWING				SCALE: 1:4 SHEET 3 OF 4

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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH±1° BEND ±1°  
 TWO PLACE DECIMAL ±.02  
 THREE PLACE DECIMAL ±.010

**MATERIAL/FINISH:**  
 Low Carbon Steel, Powder Coat Black

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	JO	7/18/2023

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION**

**SOLIDWORKS**  
 Modeling Solutions Partner

TITLE: **Truss Base - Sheet Metal Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	<b>FE-01020</b>	

SCALE: 3:4 SHEET 4 OF 4

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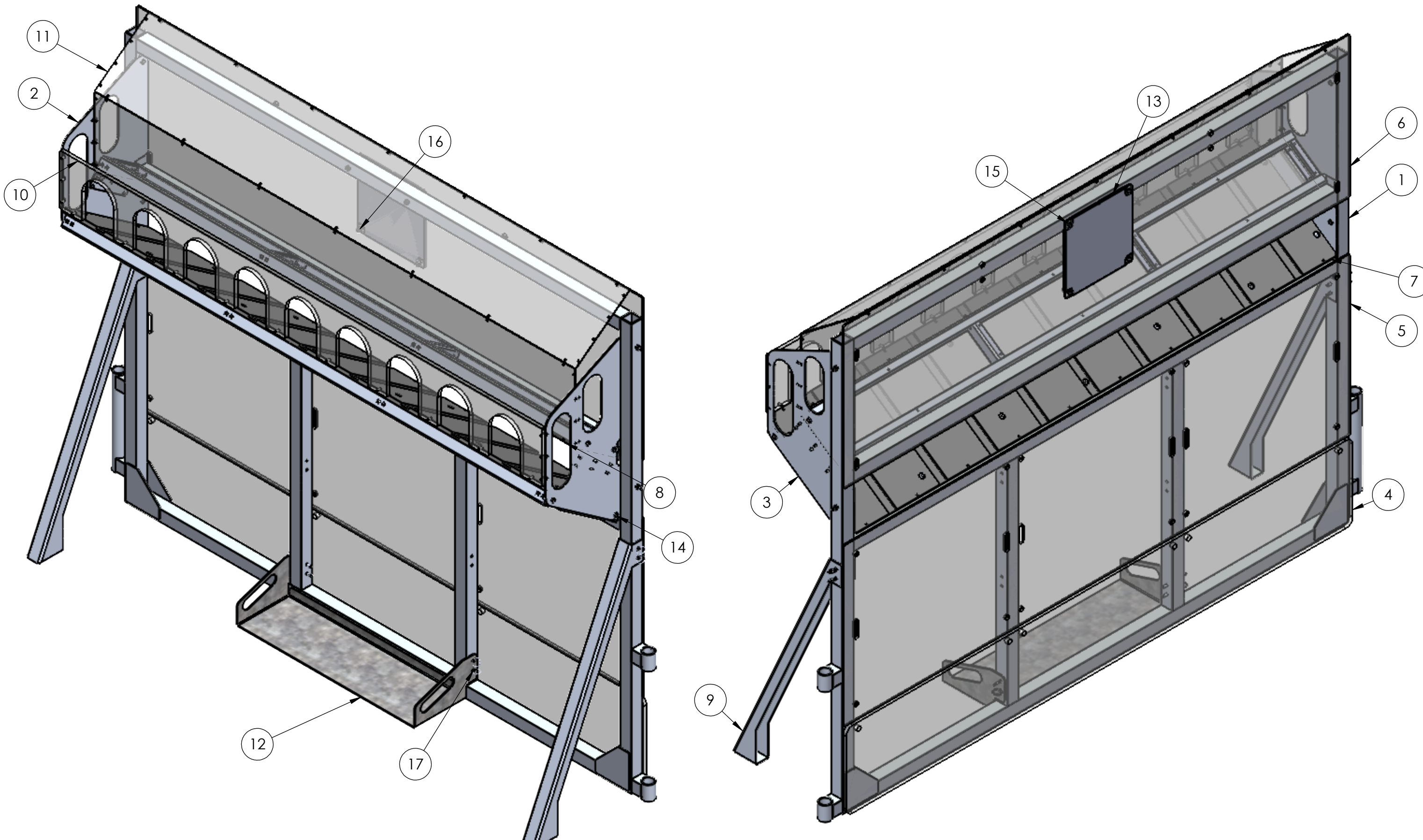
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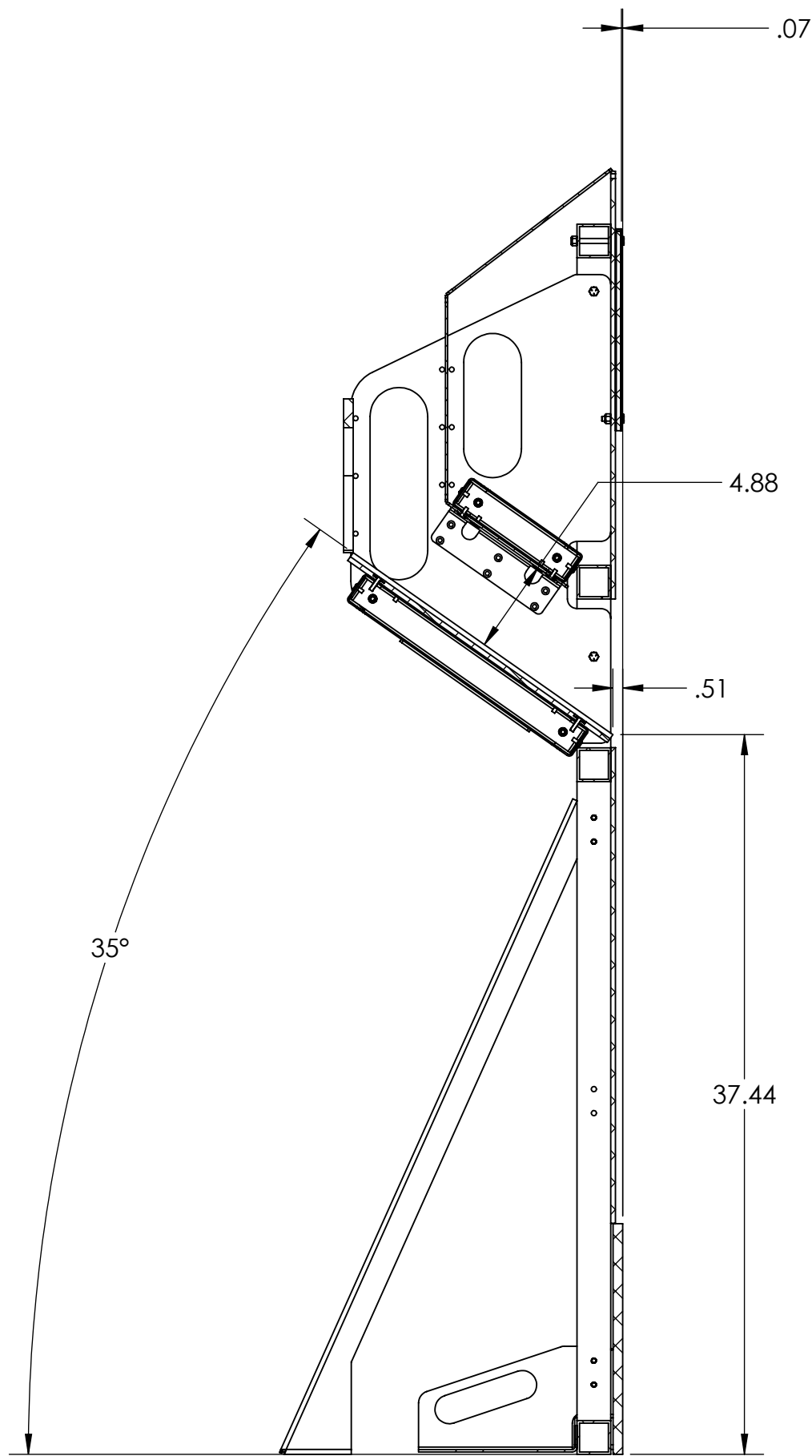
Note: April Tag ID # changes depending on which Coral Station it is on. See the Field Layout and Marking Diagram for more details.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25001	Field Border Frame	1
2	GE-25002	Left Side Plate Assembly	1
3	GE-25003	Right Side Plate Assembly	1
4	GE-25007	Bumper Plastic	1
5	GE-25008	Lower Front Plastic	1
6	GE-25009	Upper Front Plastic	1
7	GE-25010	Chute Ramp Assembly	1
8	GE-25015	Chute Cover Assembly	1
9	GE-25019	Frame Support Leg	2
10	GE-25020	Back Divider Plastic	1
11	GE-25021	Top Cover Plastic	2
12	GE-25022	Floor Support - 2025 Specific	1
13	FE-00083-ID2	AprilTag	1
14	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	10
15	Configurable Bolt	2.5" Long 1/4-20 Hex Head Bolt	6
16	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	8
17	98320A143	Zinc-Plated Steel Ring-Grip Quick-Release Pin	8

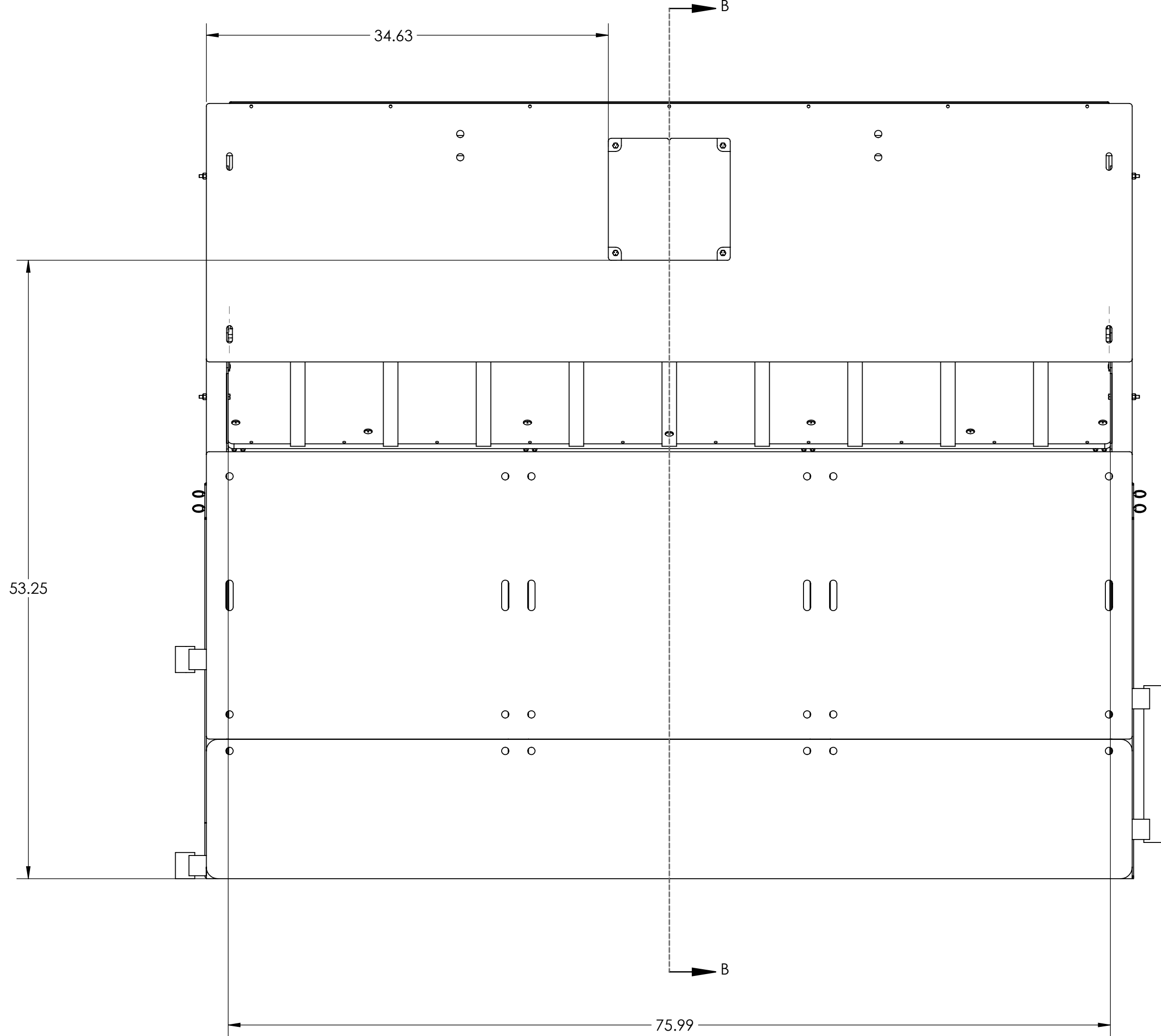
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50  MATERIAL/FINISH:    DO NOT SCALE DRAWING	FIELD	NAME	DATE
	DRAWN	JO	10/28/2024
	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
<b>COMMENTS:</b>			
REMOVE ALL BURRS AND SHARP EDGES.			



TITLE: **Coral Station**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25000</b>	
SCALE: 1:10		SHEET 1 OF 2



SECTION B-B



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 
	DRAWN	JO	10/28/2024	
MATERIAL/FINISH:	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			Coral Station
DO NOT SCALE DRAWING	SCALE: 1:8		SHEET 2 OF 2	



TITLE: Coral Station

SIZE: C DWG. NO.: GE-25000 REV:

SCALE: 1:8 SHEET 2 OF 2

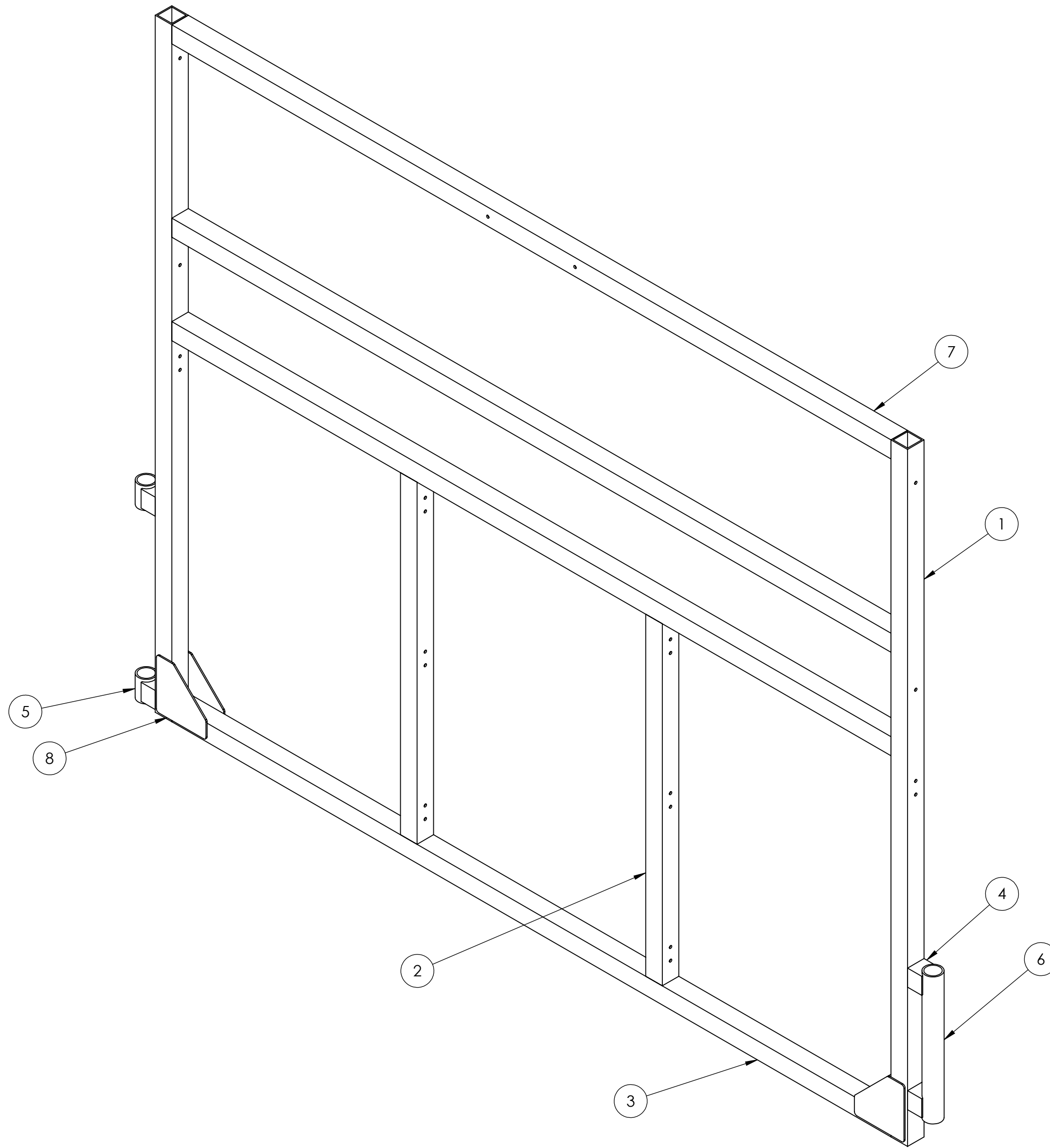
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-A1, 2-A3	A	Gusset moved off edge, Tube tolerance spacing updated	9/30/2024	JO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25001-01	Field Border Frame Outer Upright	2
2	GE-25001-02	Field Border Frame Inner Upright	2
3	GE-25001-03	Field Border Frame Horizontal	3
4	GE-25001-04	Field Border Frame Pin Shell Connectors	4
5	GE-25001-05	Field Border Frame Short Pin Shell	2
6	GE-25001-06	Field Border Frame Long Pin Shell	1
7	GE-25001-07	Field Border Frame Top Horizontal	1
8	GE-25001-08	Field Border Frame Gusset	4

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .02$   
 THREE PLACE DECIMAL  $\pm .015$

**MATERIAL/FINISH:**  
 6061 Aluminum - 1.75" x  
 .125" Square Box Tube  
 and 1-1/4" Sch 40 Pipe



DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	JO	8/12/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE: **Field Border Frame**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25001	<b>A</b>

SCALE: 1:7      SHEET 1 OF 5

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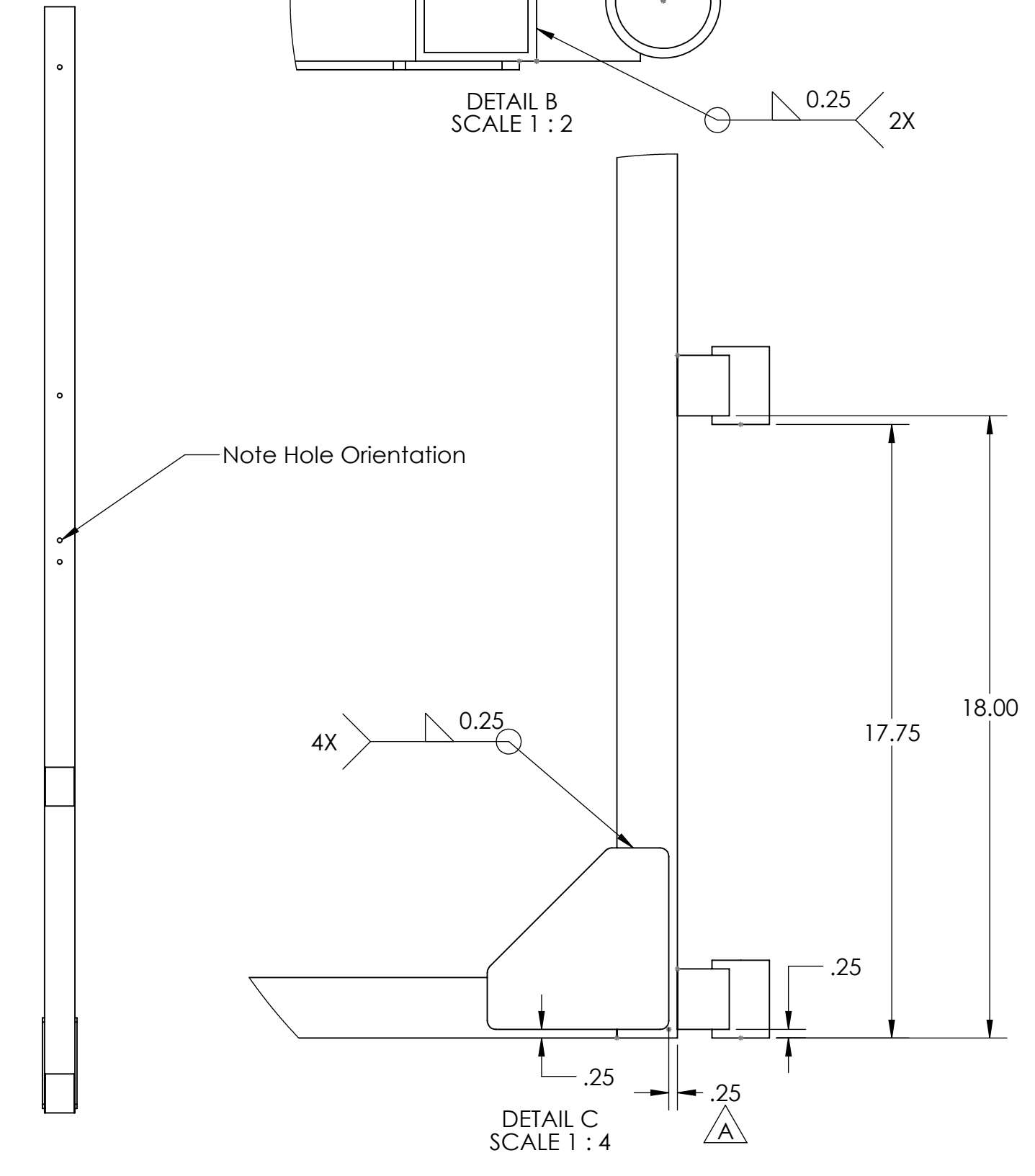
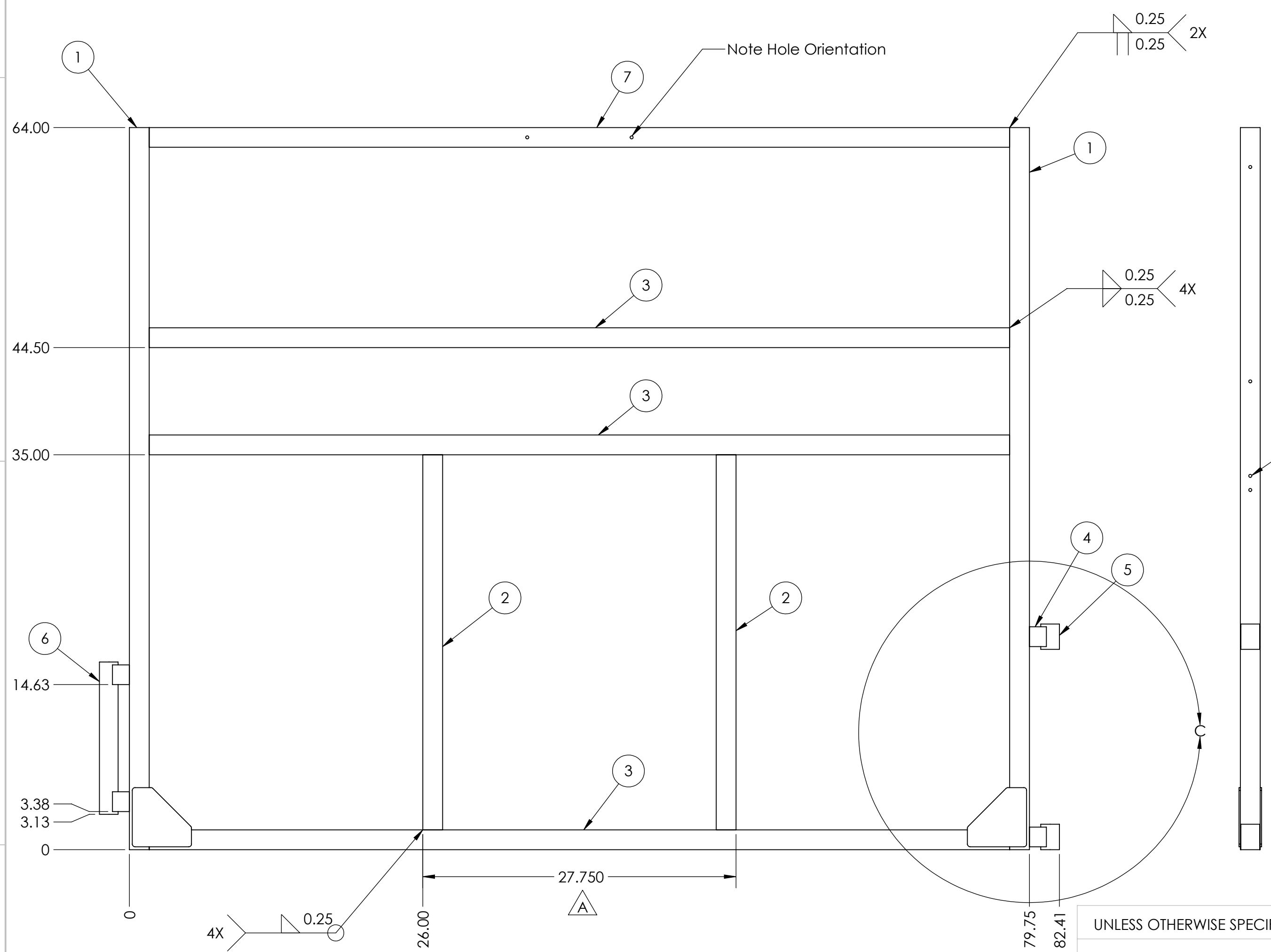
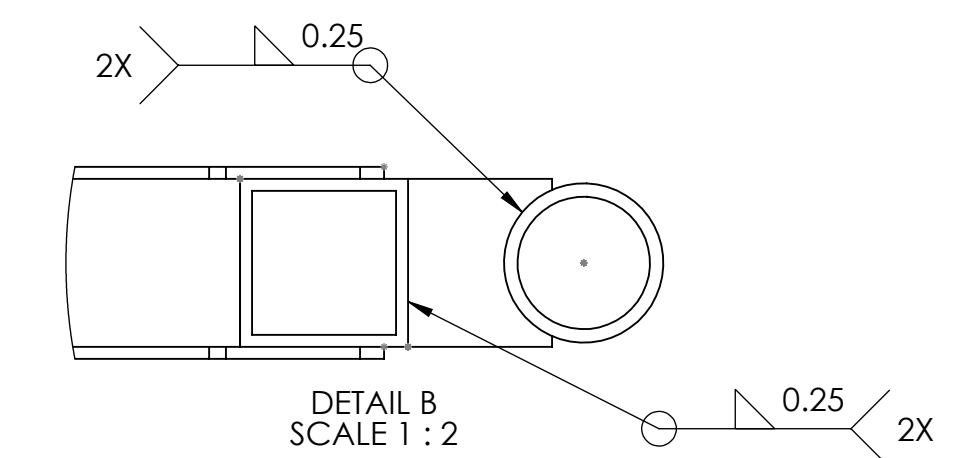
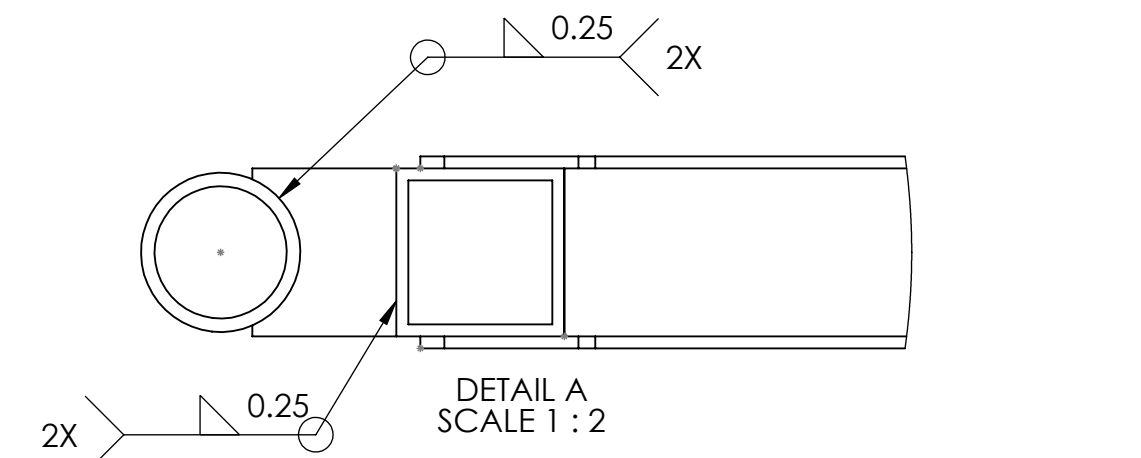
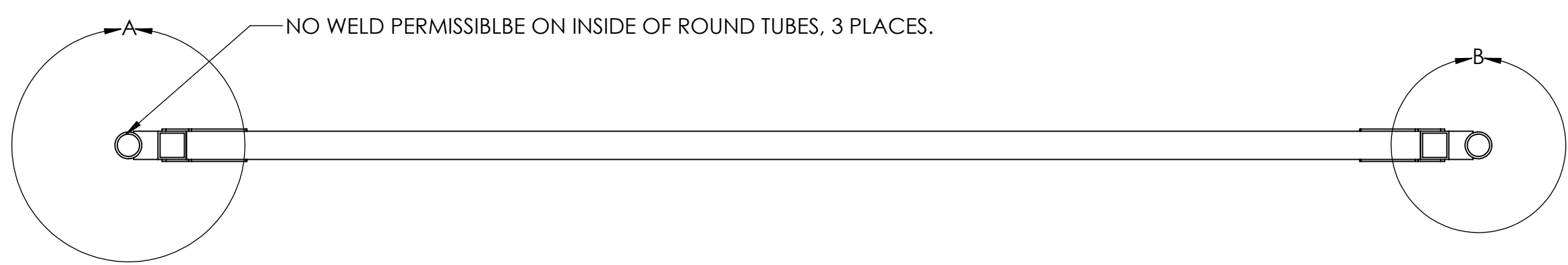
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DETAIL C  
SCALE 1 : 4

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .015  <b>MATERIAL/FINISH:</b> 6061 Aluminum - 1.75" x .125" Square Box Tube and 1-1/4" Sch 40 Pipe  DO NOT SCALE DRAWING	WELD	NAME	DATE	
	DRAWN	JO	8/12/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE: <h2 style="text-align: center;">Field Border Frame</h2>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			
	<b>COMMENTS:</b>			SIZE <b>C</b>
	REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. <b>GE-25001</b>
			REV <b>A</b>	
			SCALE: 1:8	
			SHEET 2 OF 5	

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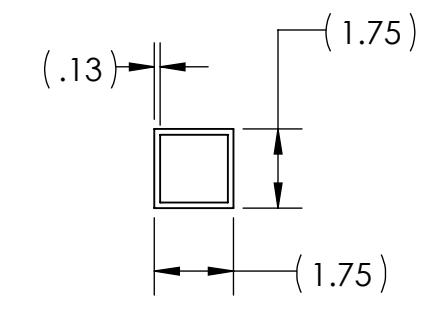
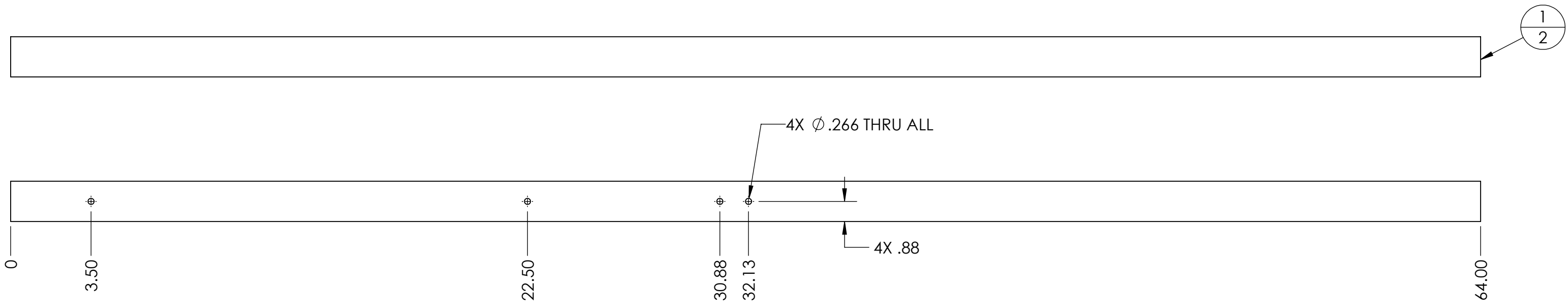
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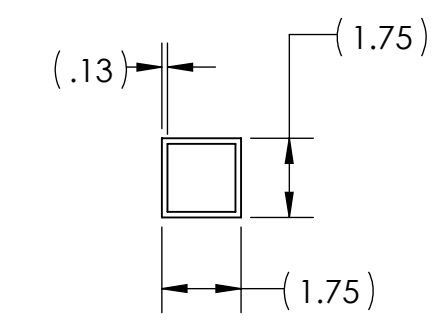
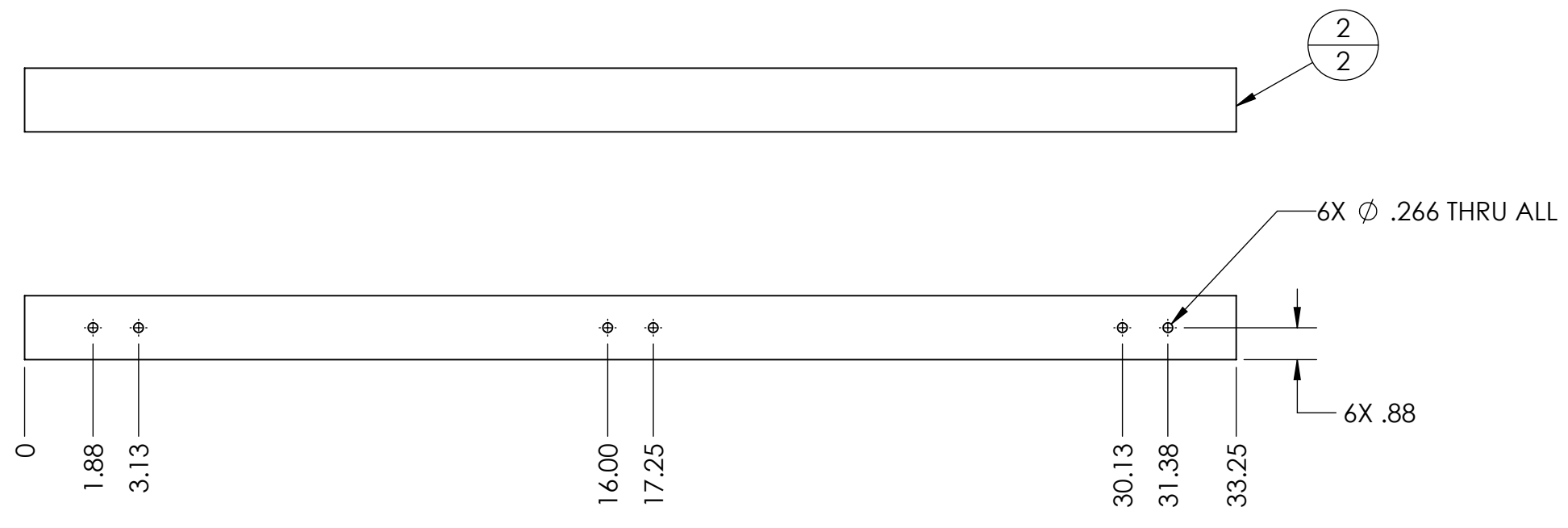
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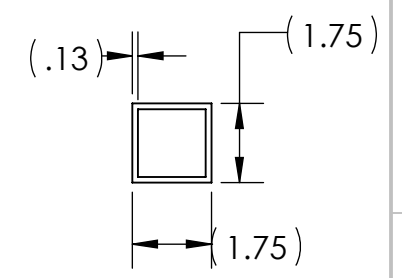
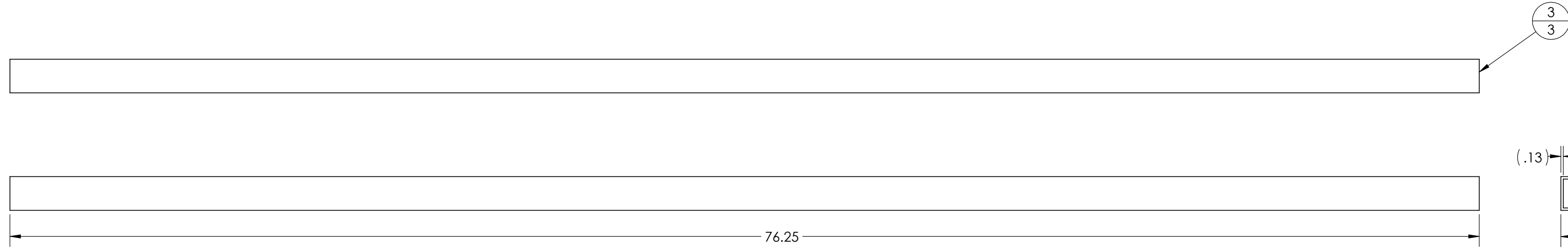
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b>  6061 Aluminum 1.75" x 1.75" x .125" Square Box Tube  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	JO	8/12/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b>  THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE:	<h2 style="text-align: center;">Field Border Frame</h2>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE <b>C</b>	
SCALE: 1:4.25		SHEET 3 OF 5			

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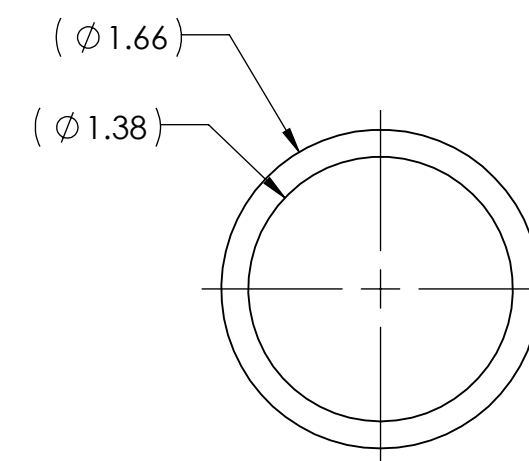
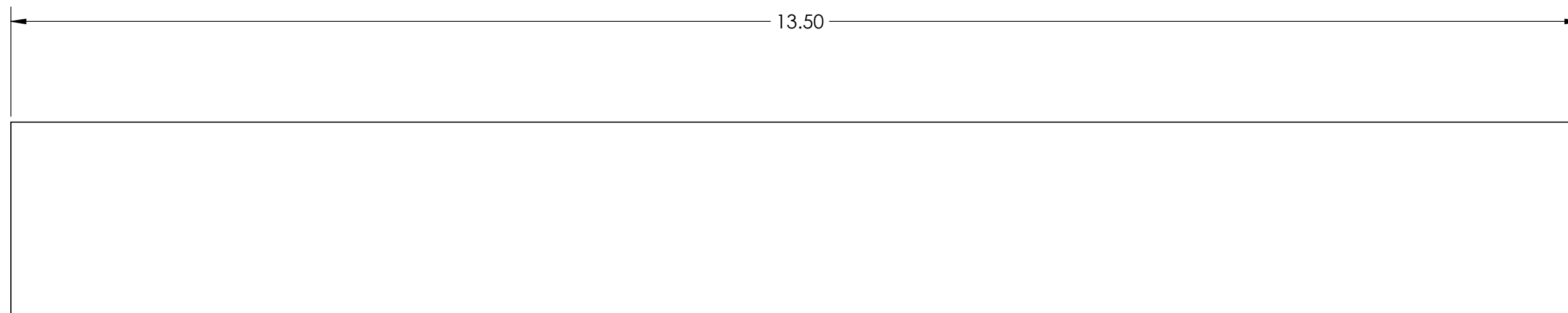
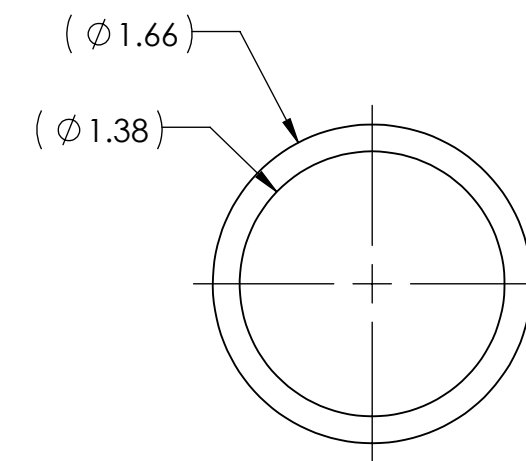
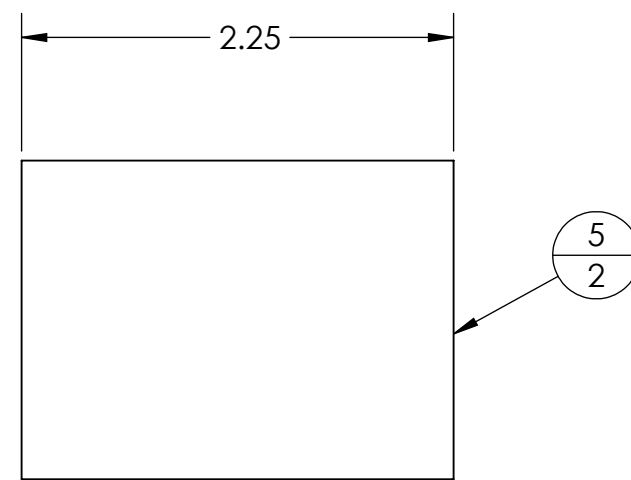
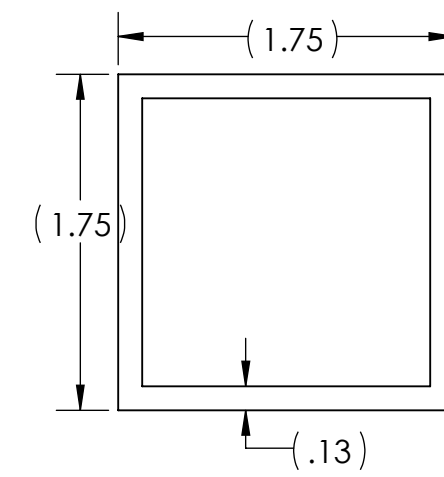
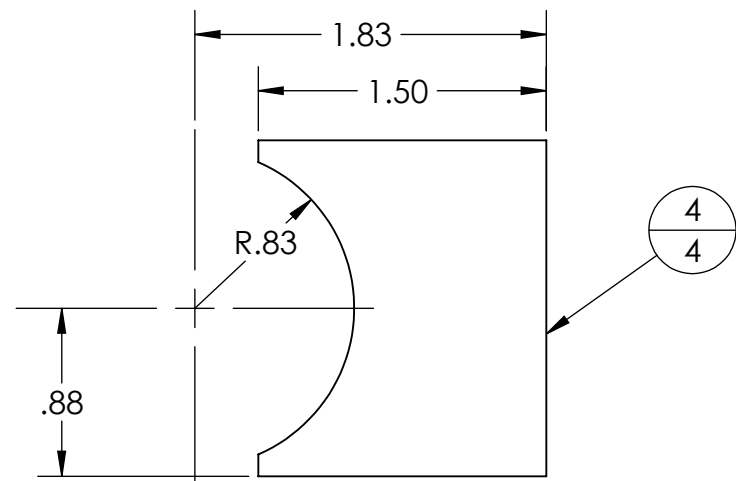




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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 6061 Aluminum - 1.75" x .125" Square Box Tube and 1-1/4" Sch 40 Pipe  DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	JO	8/12/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE:	<b>Field Border Frame</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE <b>C</b>	
			SCALE: 1:1	SHEET 4 OF 5	

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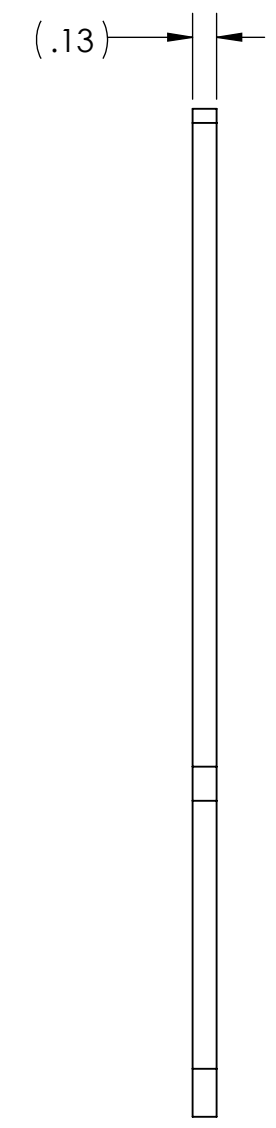
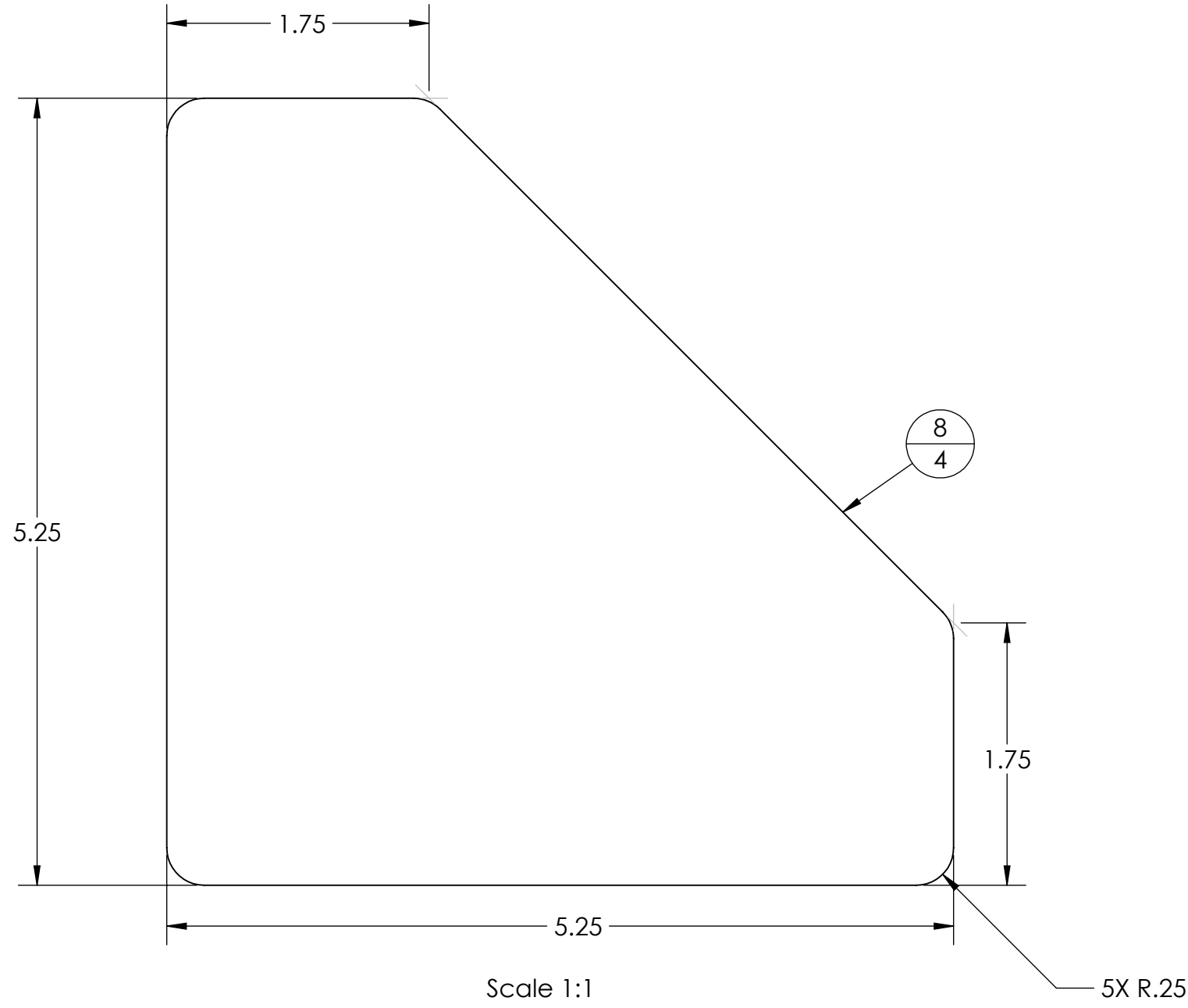
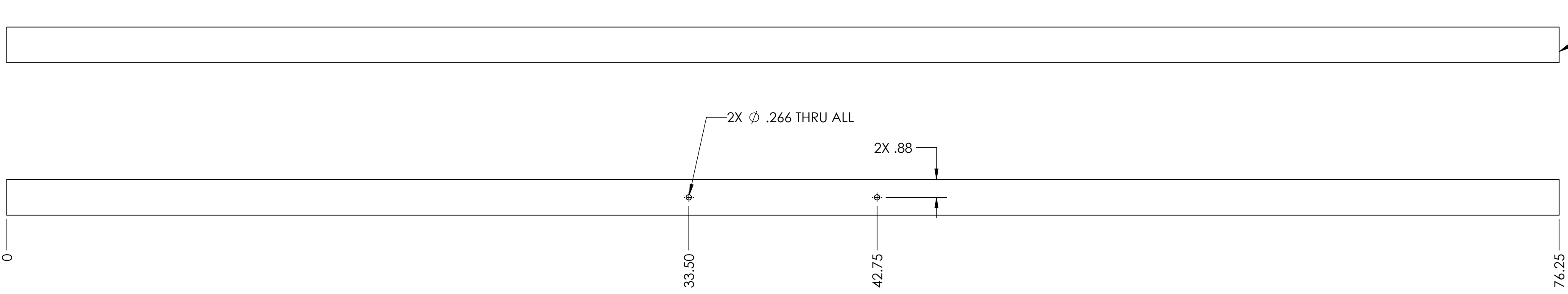
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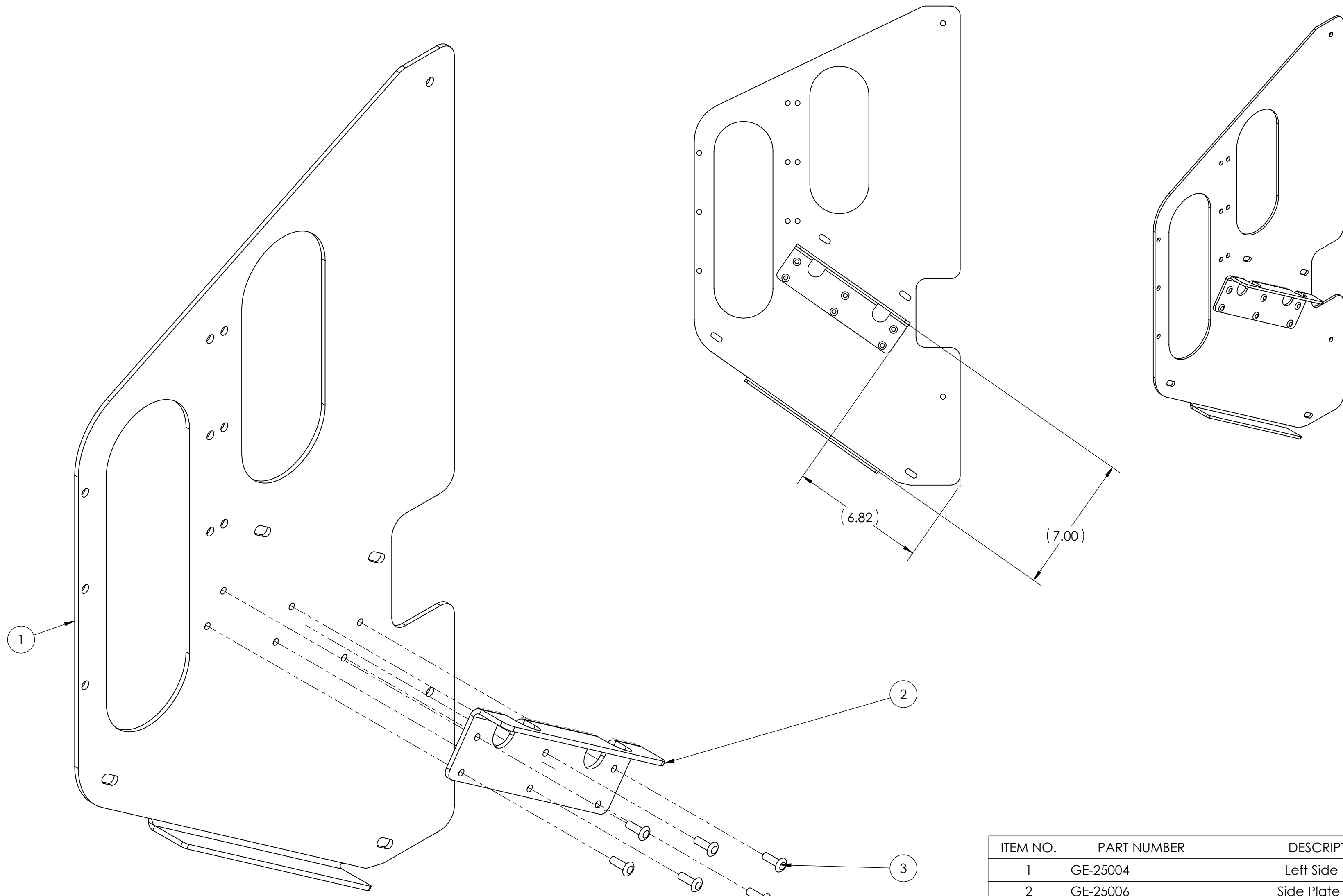
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1.75" x 1.75" x .125" 6061 Aluminum Square Box Tube and 1/8" 6061 Aluminum Plate  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	8/12/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
				Field Border Frame
SIZE		DWG. NO.	REV	
C		GE-25001	A	
SCALE: 1:4			SHEET 5 OF 5	

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NOTE: ASSEMBLE AS SHOWN  
 LABEL WITH PART NUMBER

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25004	Left Side Plate	1
2	GE-25006	Side Plate Angle	1
3	rivet_1875_251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	6

UNLESS OTHERWISE SPECIFIED:			VEND	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005			DRAWN	BB	8/13/2024
MATERIAL/FINISH:			<b>PROPRIETARY AND CONFIDENTIAL</b>		
DO NOT SCALE DRAWING			THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
			<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
				TITLE:	
				<h1>Left Side Plate Assembly</h1>	
SIZE	DWG. NO.			REV	
<b>C</b>	GE-25002				
SCALE: 1:8		SHEET 1 OF 1			

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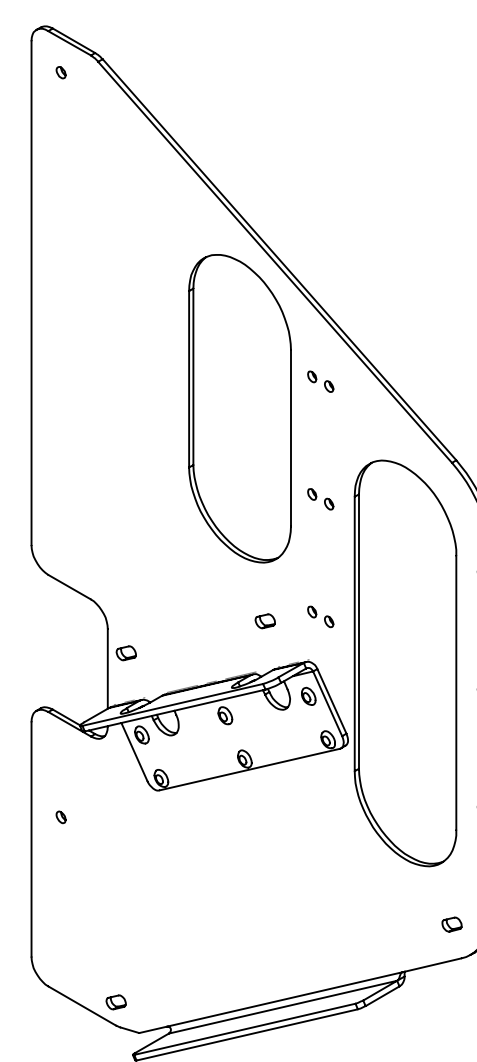
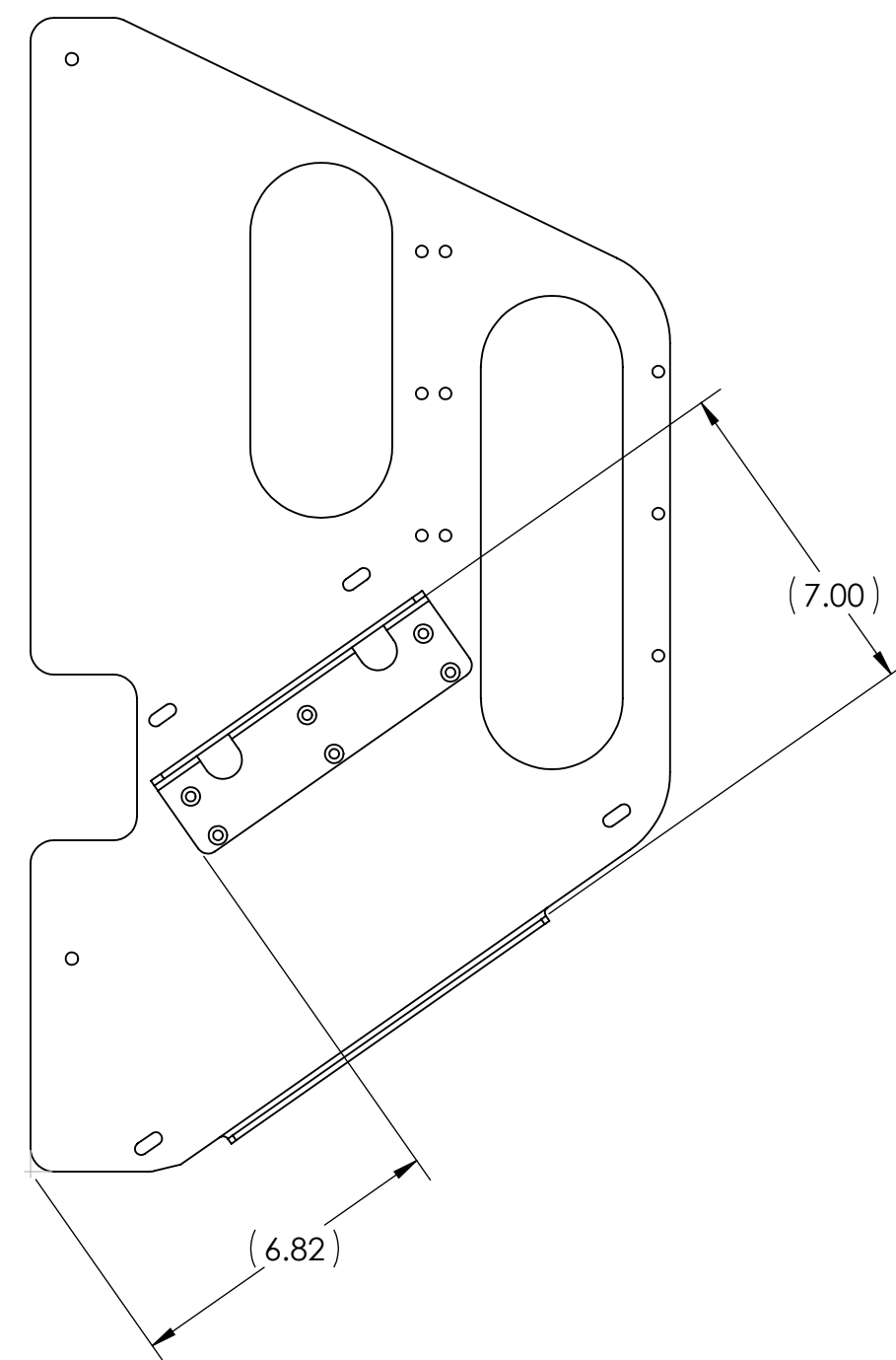
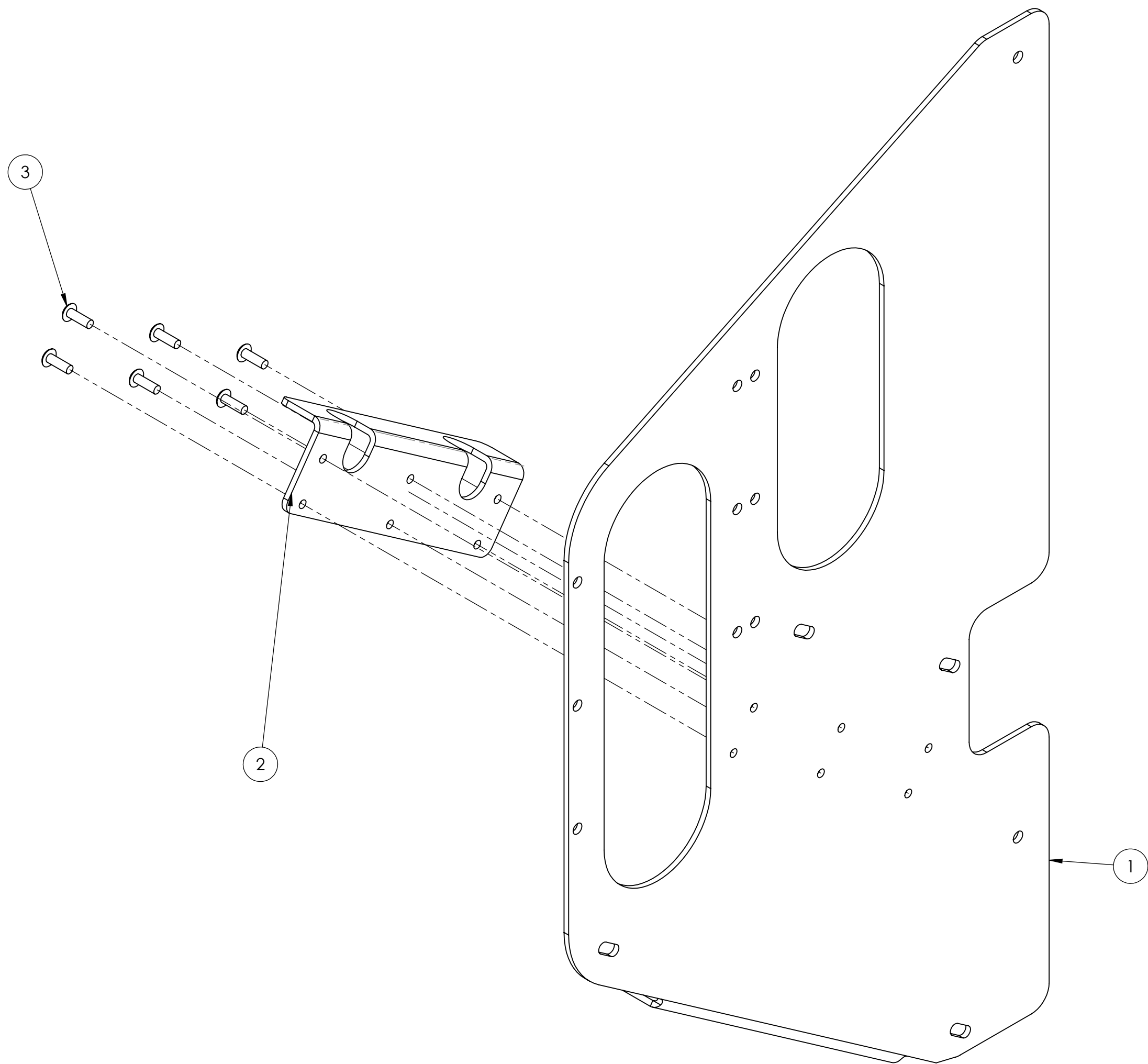
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NOTE: ASSEMBLE AS SHOWN  
LABEL WITH PART NUMBER

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25005	Right Side Plate	1
2	GE-25006	Side Plate Angle	1
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	6

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL  $\pm 1/16$   
ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
TWO PLACE DECIMAL  $\pm .01$   
THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	BB	8/13/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Right Side Plate Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25003	

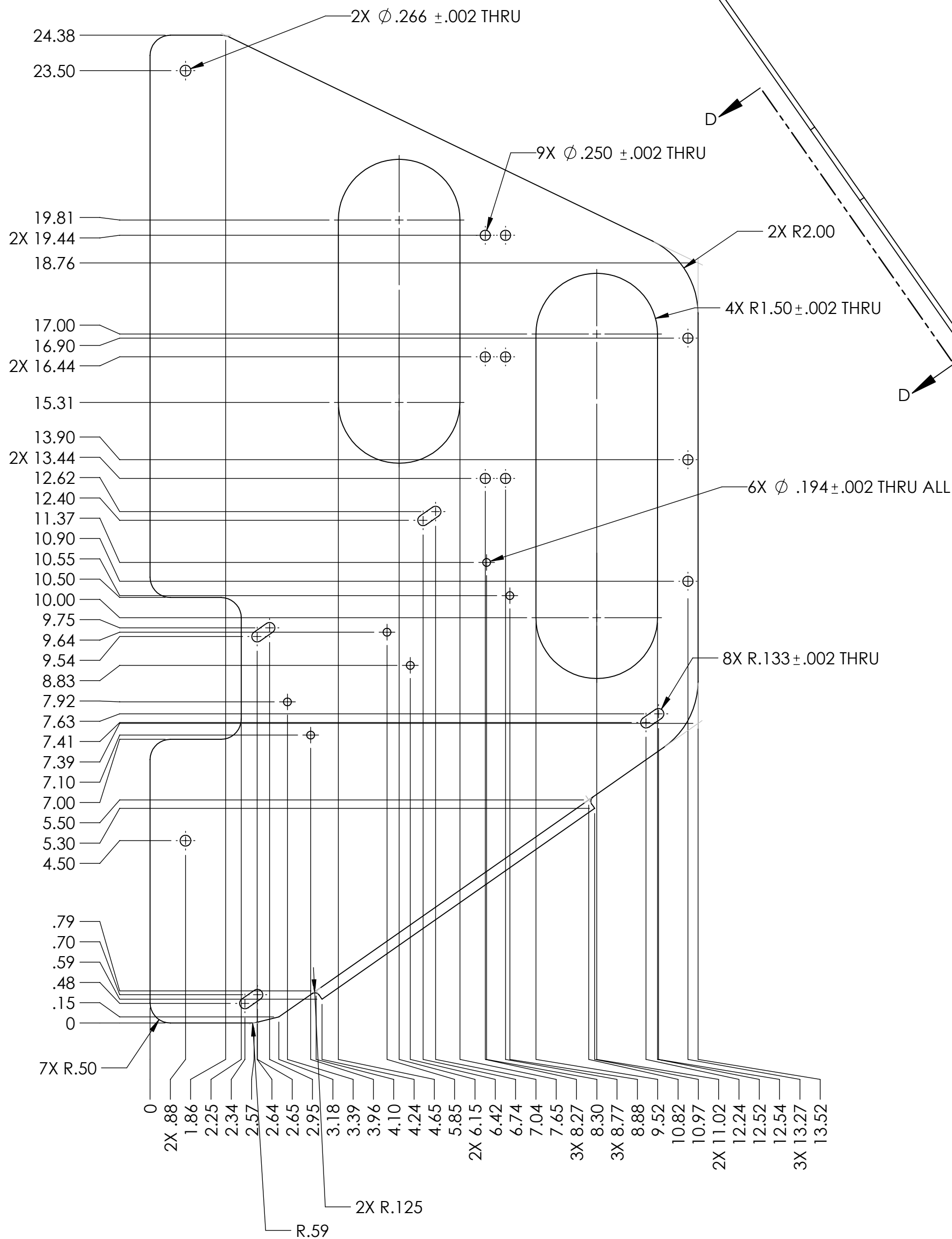
SCALE: 1:8 SHEET 1 OF 1

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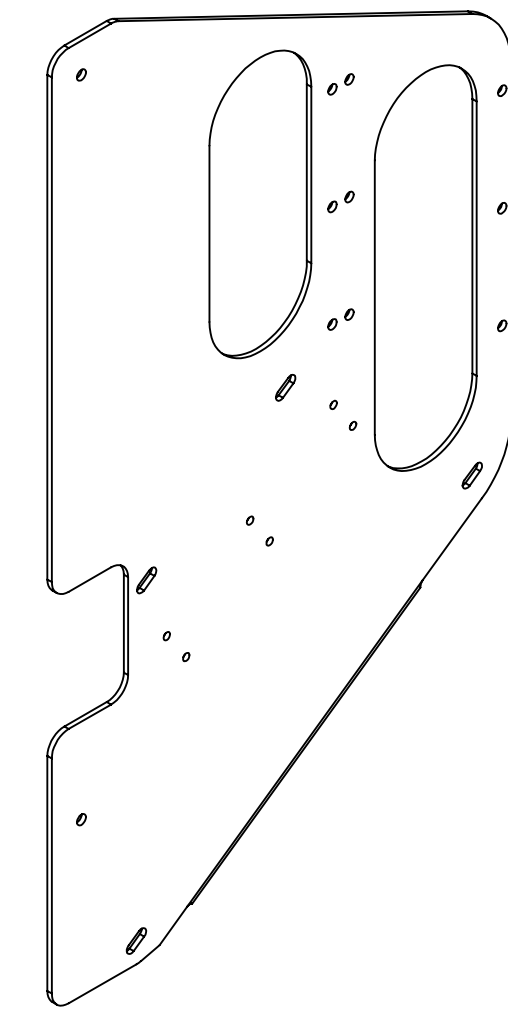
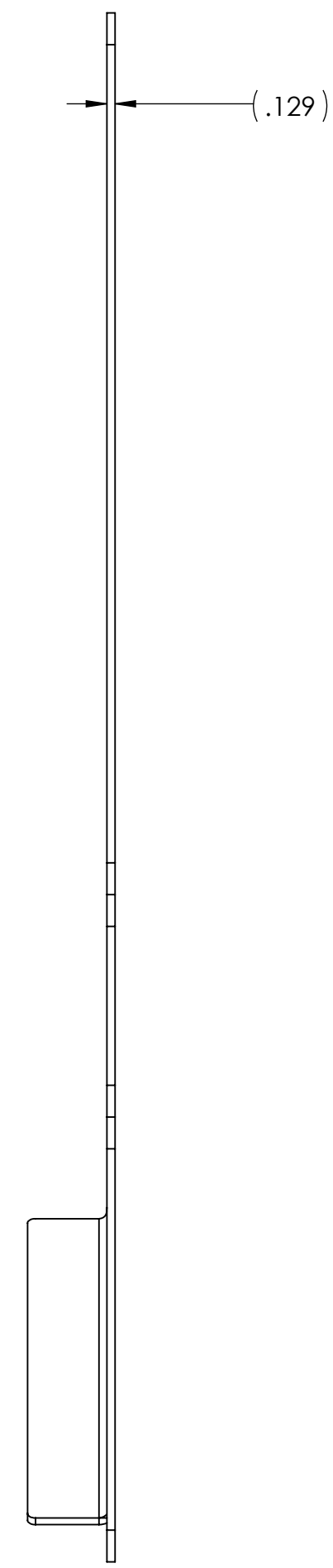
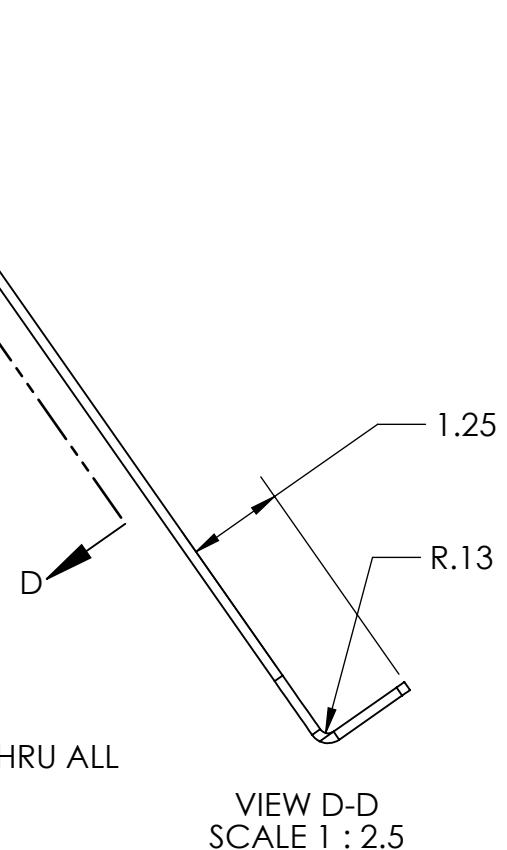
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NOTE: FOLLOW DXF FILE FOR CUTS



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$	BEND	NAME	DATE	 
	DRAWN	BB	8/12/2024	
<b>MATERIAL/FINISH:</b> 8 Ga 5052 Aluminum	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Left Side Plate</b>
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			SIZE DWG. NO. REV <b>C</b> <b>GE-25004</b> SCALE: 1:8 SHEET 1 OF 1

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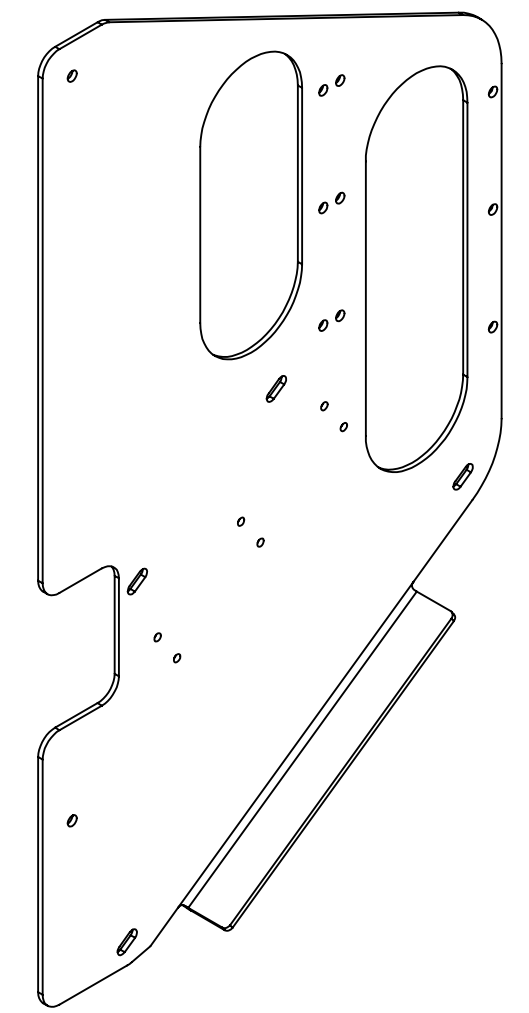
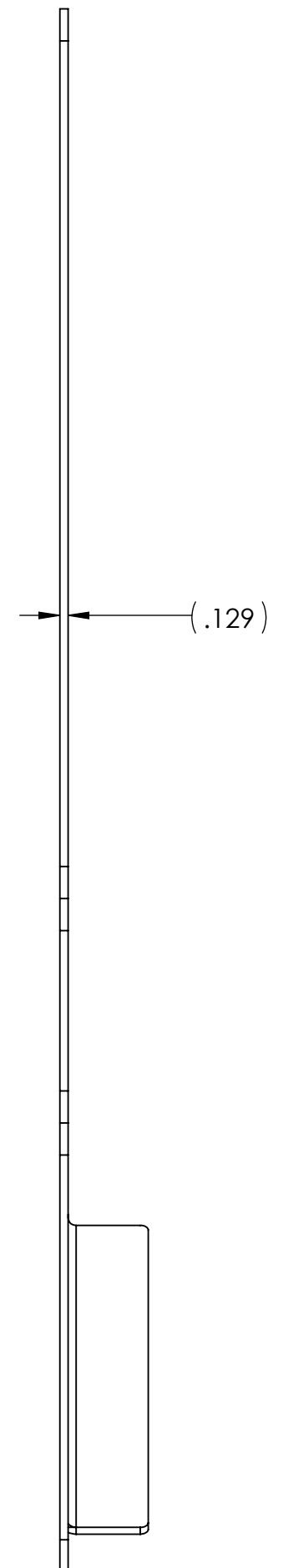
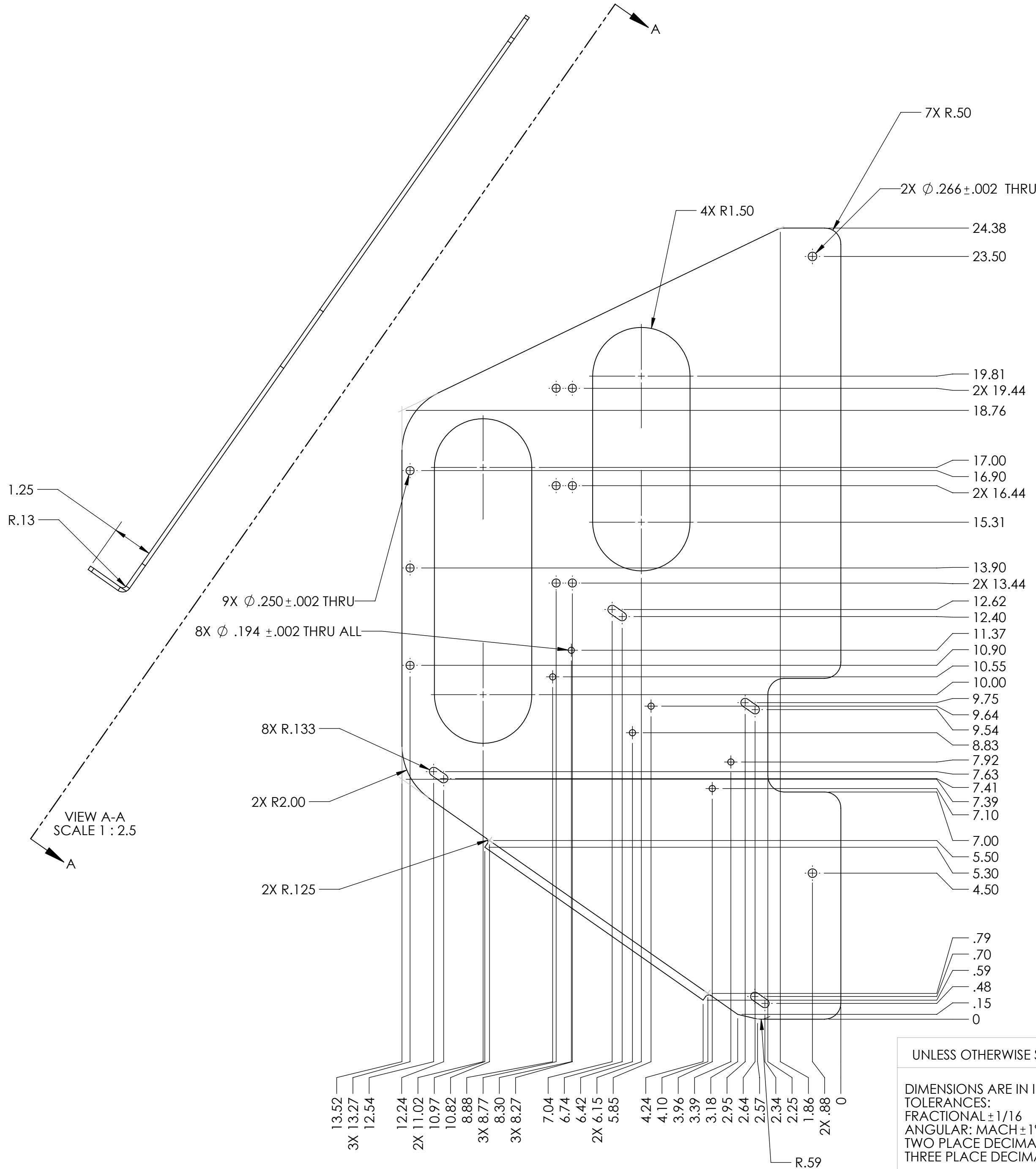
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NOTE: FOLLOW DXF FILE FOR CUTS



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL  $\pm$  1/16  
ANGULAR: MACH  $\pm$  1° BEND  $\pm$  1°  
TWO PLACE DECIMAL  $\pm$  .01  
THREE PLACE DECIMAL  $\pm$  .005

**MATERIAL/FINISH:**  
8 Ga 5052 Aluminum

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	BB	8/13/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.		
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: <b>Right Side Plate</b>		
SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25005</b>	
SCALE: 1:8		SHEET 1 OF 1

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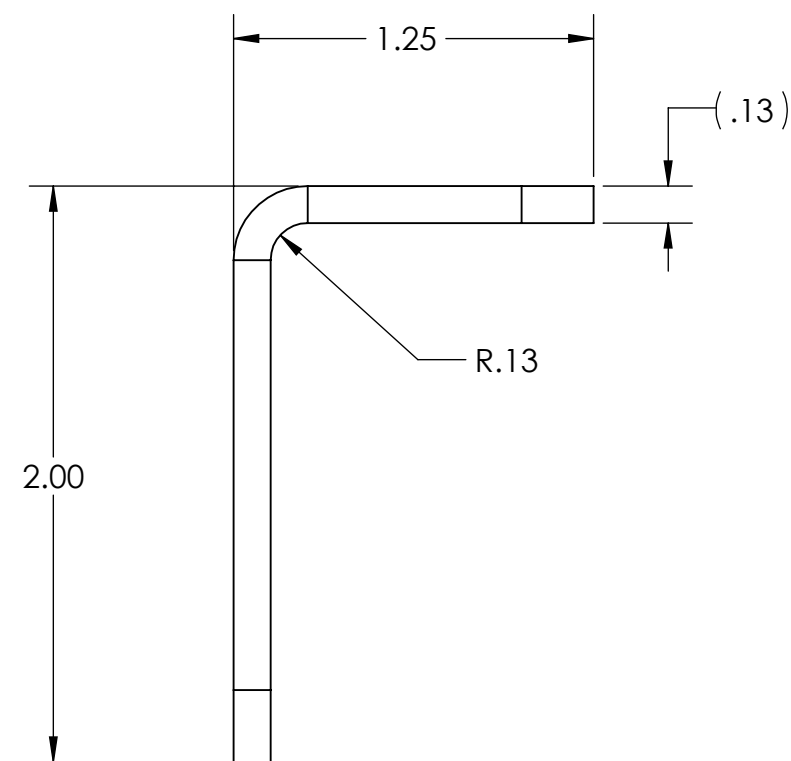
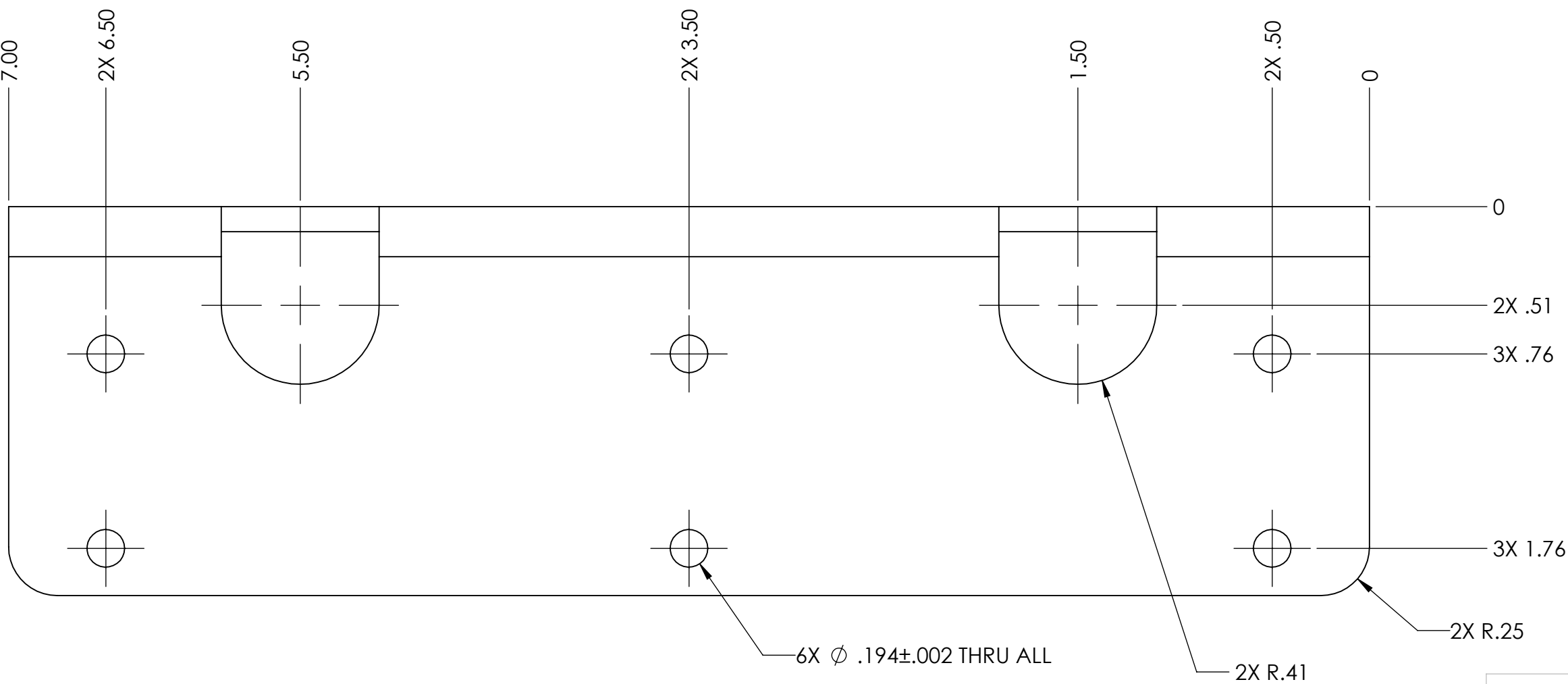
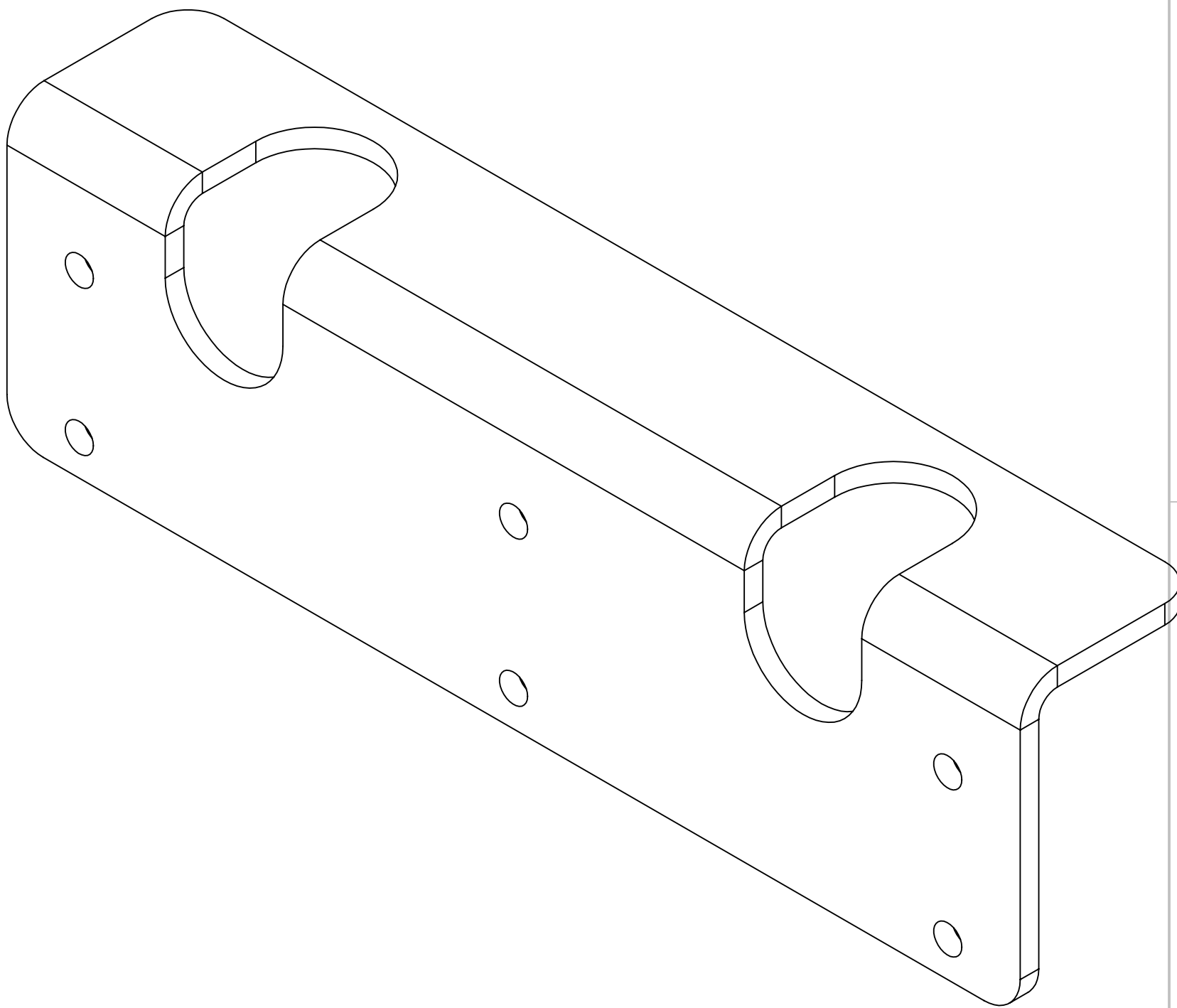
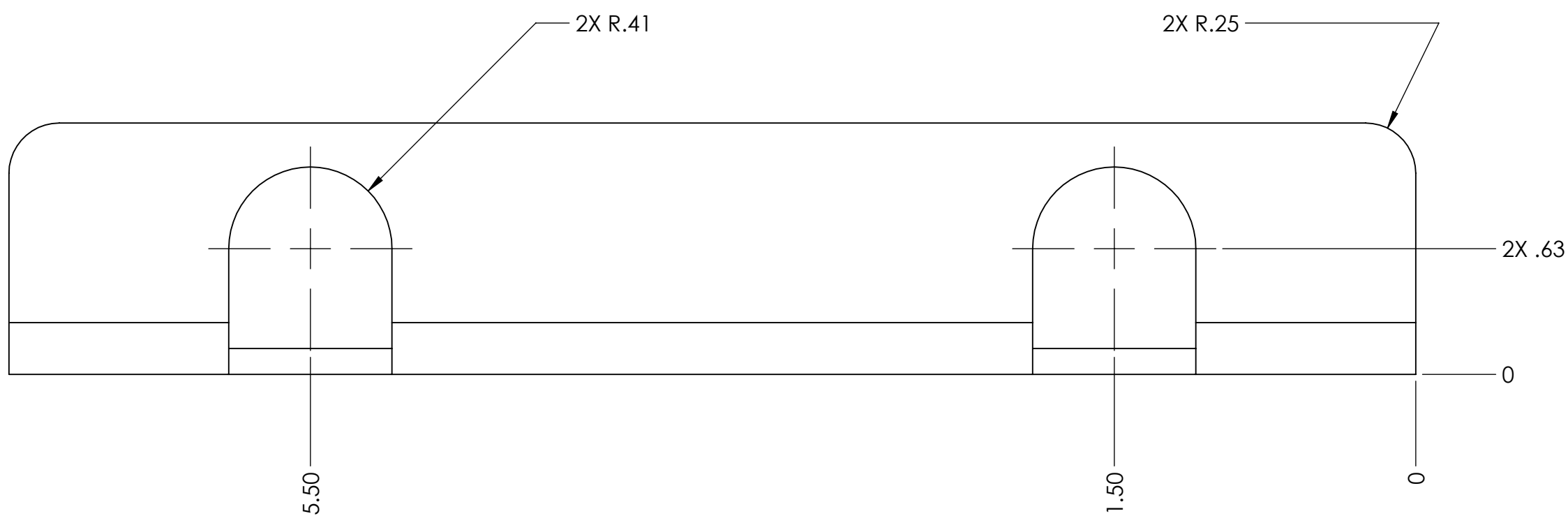
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .02  
 THREE PLACE DECIMAL ± .010

**MATERIAL/FINISH:**  
 8 Ga 5052 Aluminum

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	JO	8/12/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Side Plate Angle**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25006	

SCALE: 1.5:1 SHEET 1 OF 1

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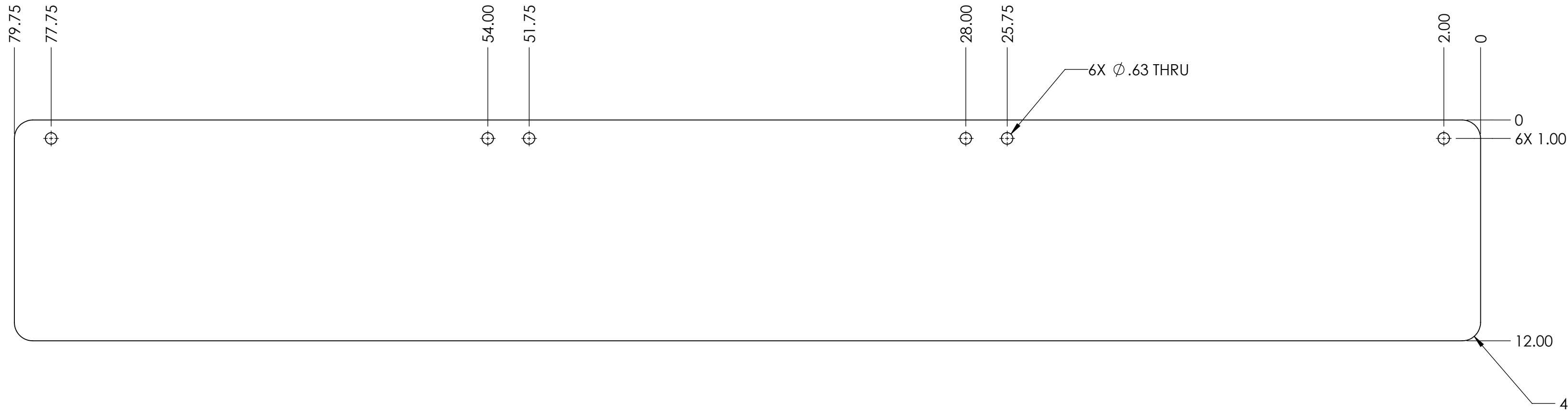
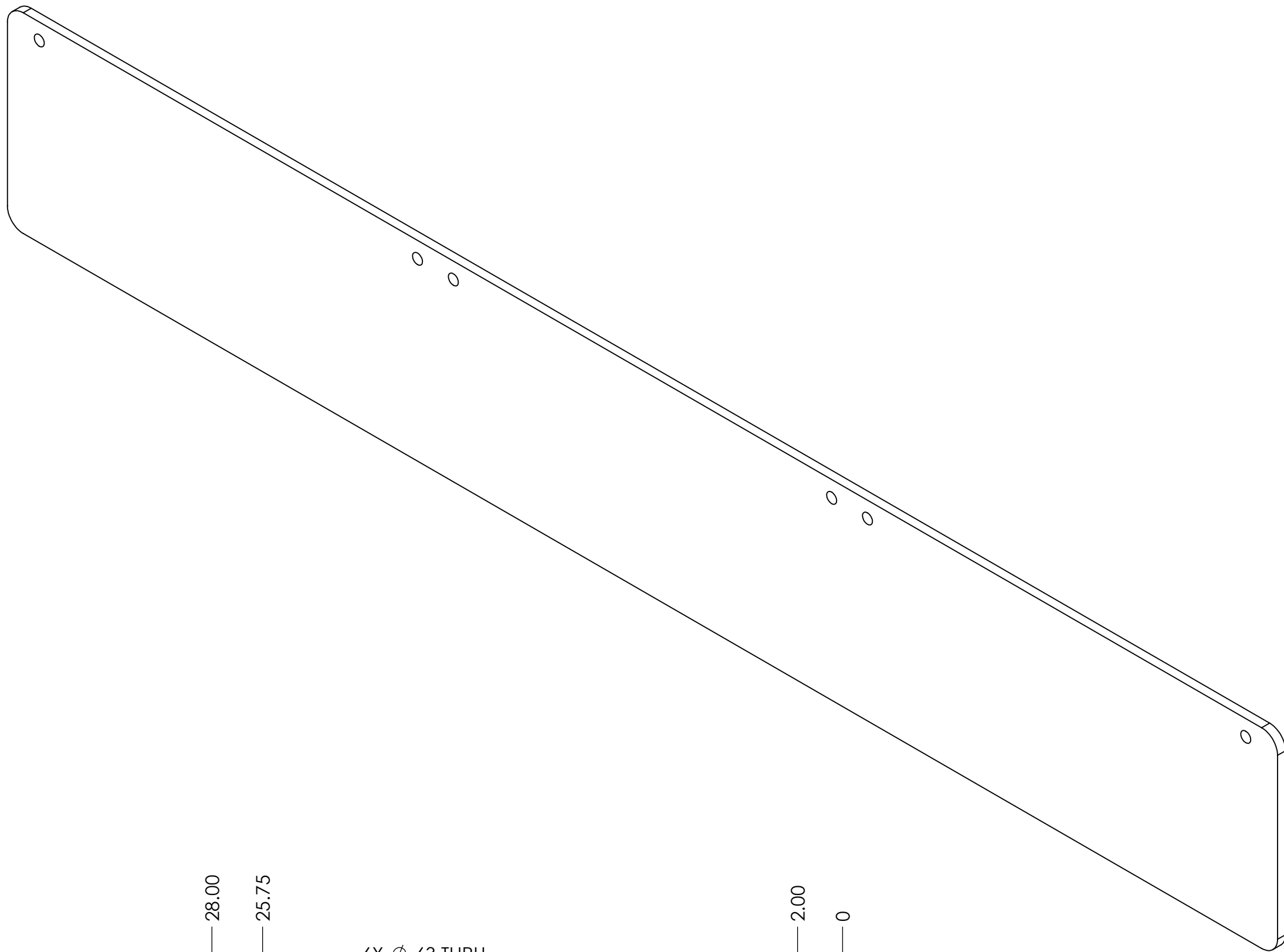
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NOTE: LABEL WITH PART NUMBER

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005  <b>MATERIAL/FINISH:</b> 1/2" Polycarbonate  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	8/12/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE: <b>Bumper Plastic</b>
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		SIZE <b>C</b>	DWG. NO. <b>GE-25007</b>	REV
SCALE: 1:5		SHEET 1 OF 1		

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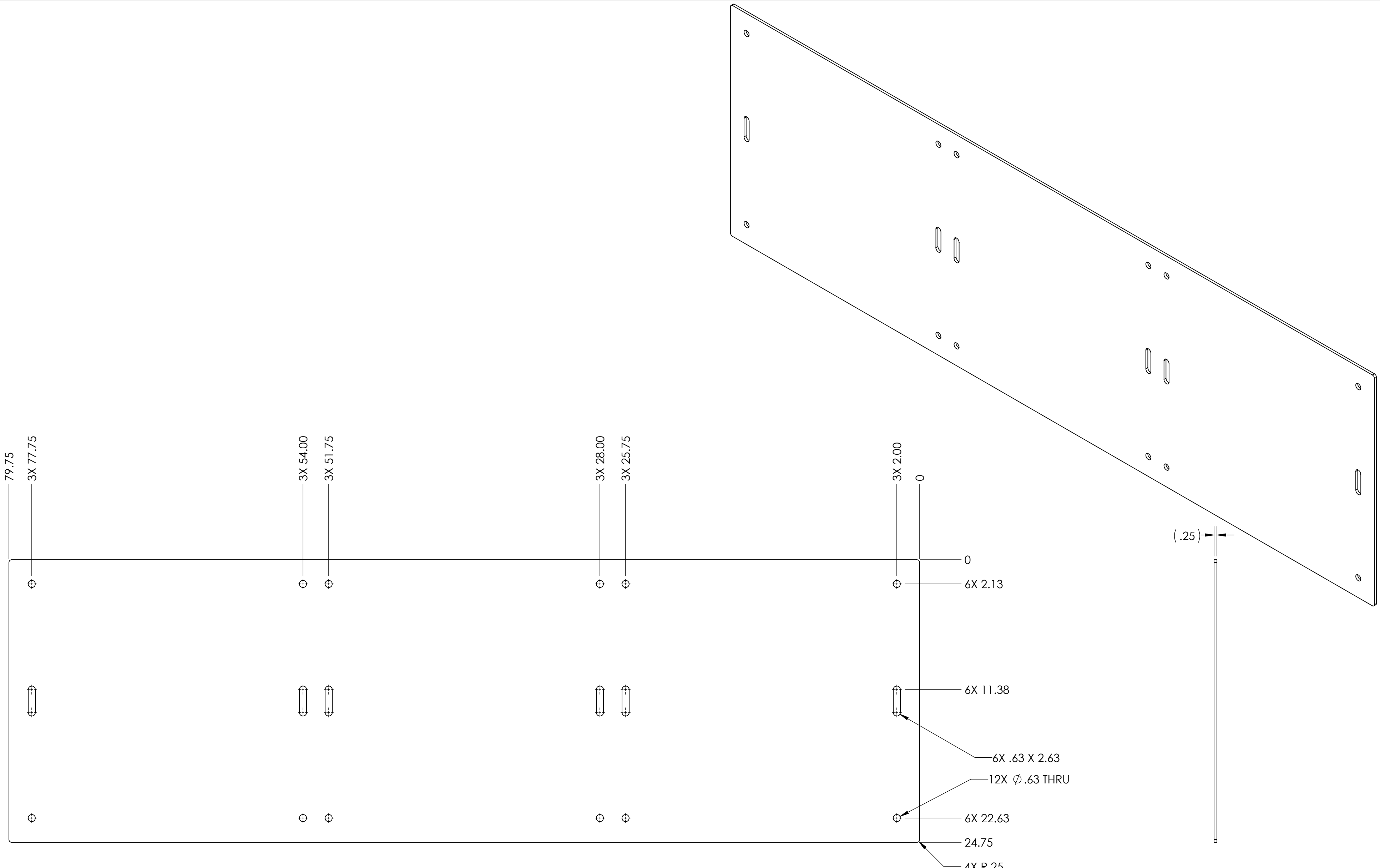
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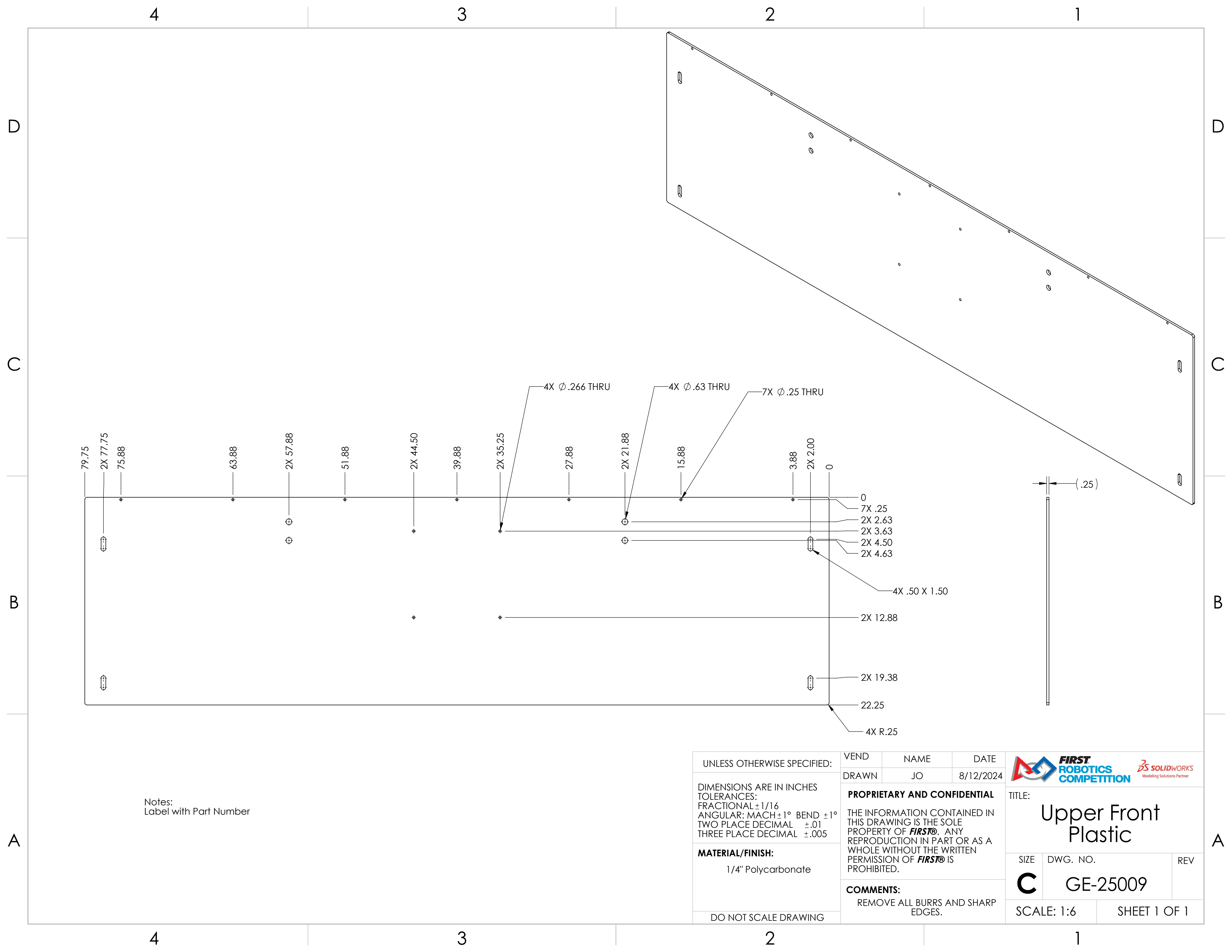
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NOTE: LABEL WITH PART NUMBER

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate  DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	JO	8/12/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Lower Front Plastic  SIZE DWG. NO. REV <b>C</b> GE-25008 SCALE: 1:6 SHEET 1 OF 1



- 79.75
- 2X 77.75
- 75.88
- 63.88
- 2X 57.88
- 51.88
- 2X 44.50
- 39.88
- 2X 35.25
- 27.88
- 2X 21.88
- 15.88
- 3.88
- 2X 2.00
- 0
- 7X .25
- 2X 2.63
- 2X 3.63
- 2X 4.50
- 2X 4.63
- 4X .50 X 1.50
- 2X 12.88
- 2X 19.38
- 22.25
- 4X R.25


4X  $\phi$  .266 THRU

4X  $\phi$  .63 THRU

7X  $\phi$  .25 THRU

(.25)

Notes:  
Label with Part Number

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	JO	8/12/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Upper Front Plastic  SIZE DWG. NO. REV <b>C</b> GE-25009 SCALE: 1:6 SHEET 1 OF 1

4

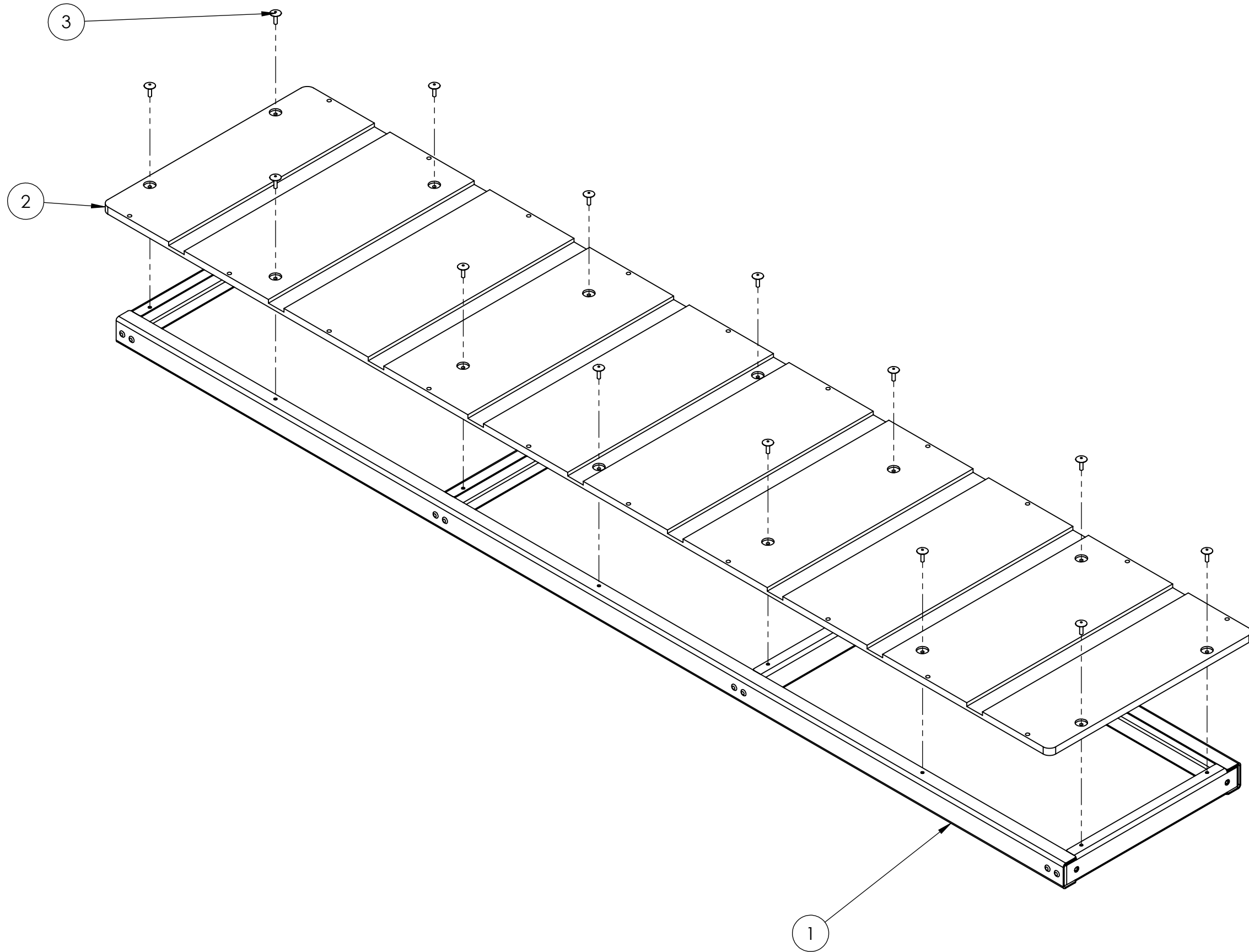
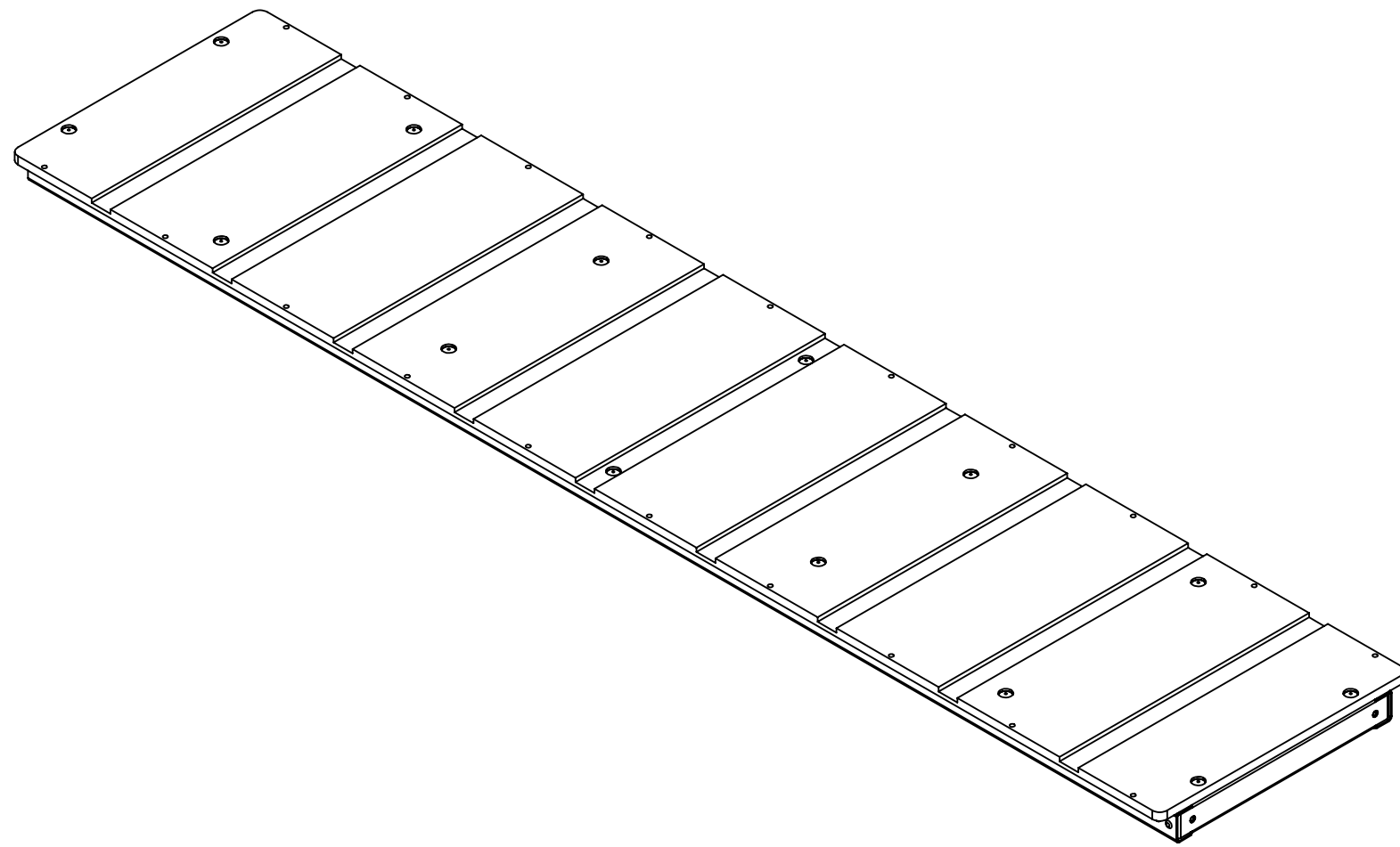
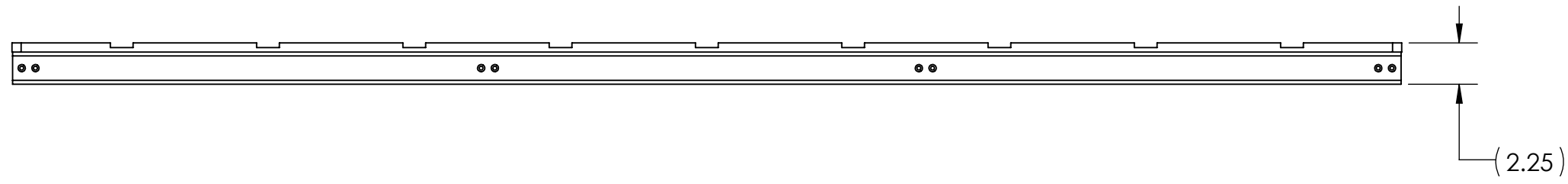
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25011	Chute Ramp Frame	1
2	GE-25014	Chute Ramp HDPE	1
3	rivet_.1875_.376-.500_largeHead	3/16" Large Head Aluminum Rivet, .251-.375 Grip Range	14

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
	BB	8/13/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Chute Ramp Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25010	

SCALE: 1:8 SHEET 1 OF 1

NOTES:  
 1. ASSEMBLE AS SHOWN  
 2. LABEL ASSEMBLY WITH PART NUMBER

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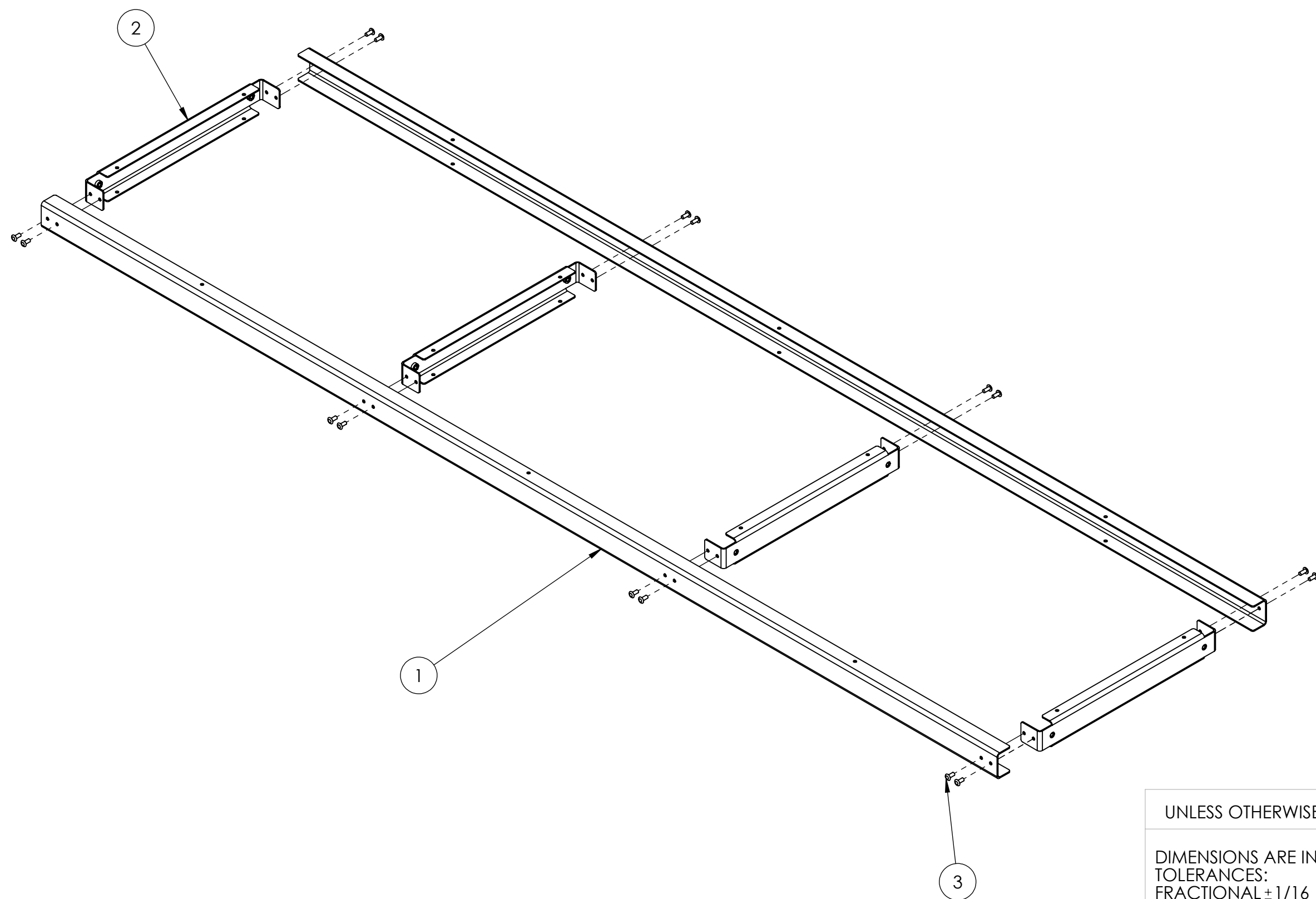
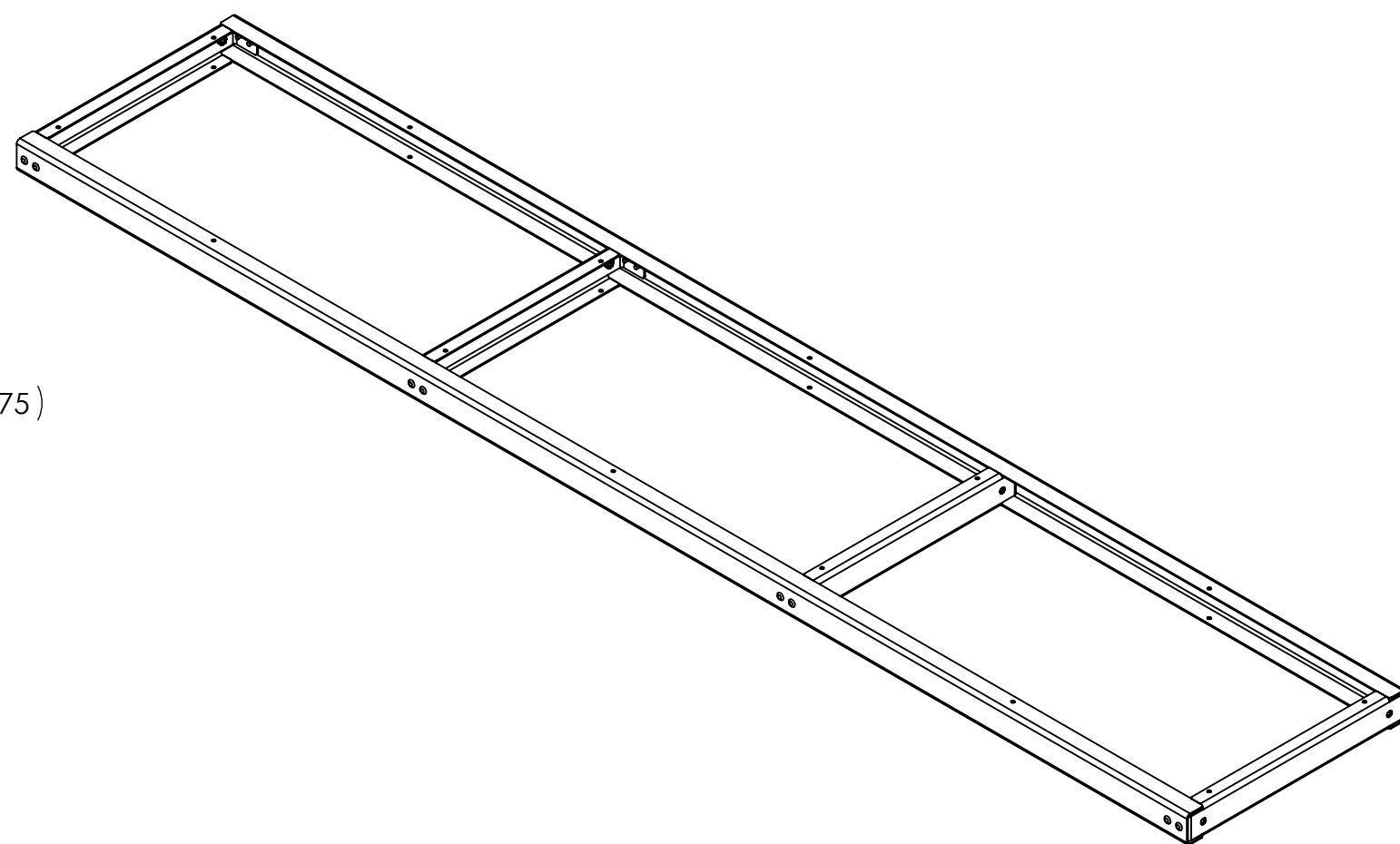
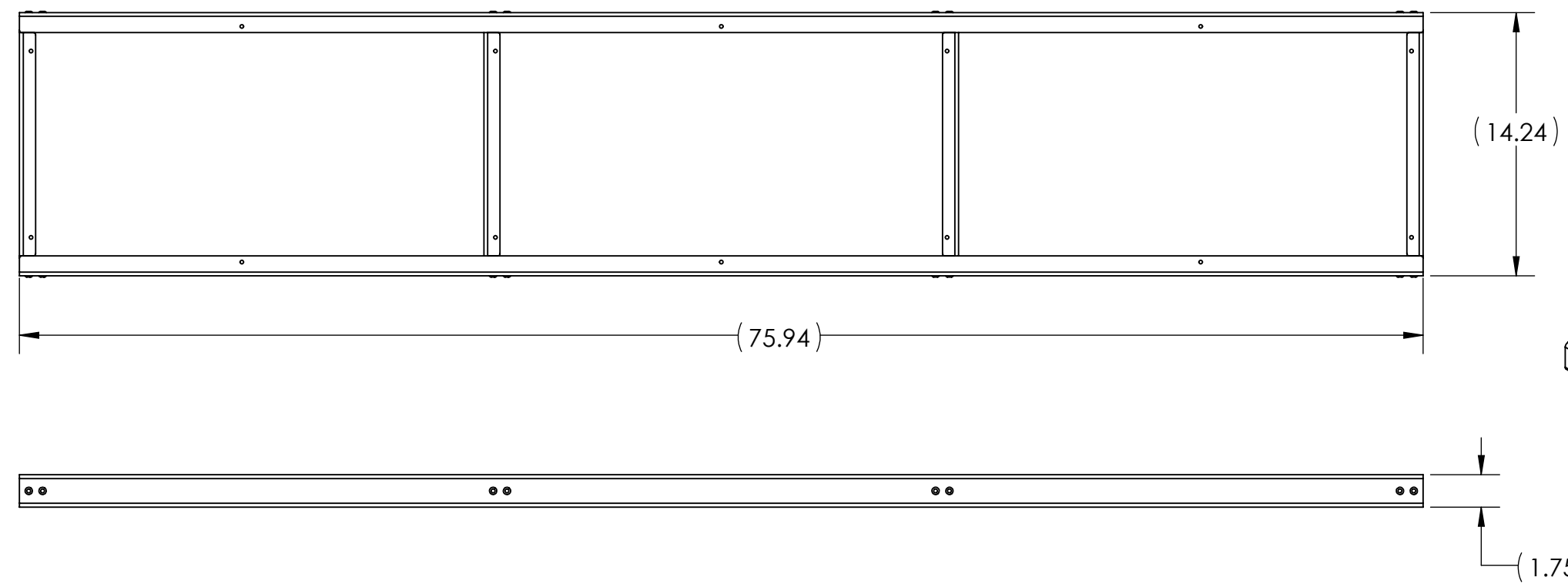
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NOTE: ASSEMBLE AS SHOWN

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25012	Chute Frame Long	2
2	GE-25013	Chute Ramp Frame Short with PEMs	4
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	16

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN BB 8/13/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Chute Ramp Frame**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25011	

SCALE: 1:12 SHEET 1 OF 1

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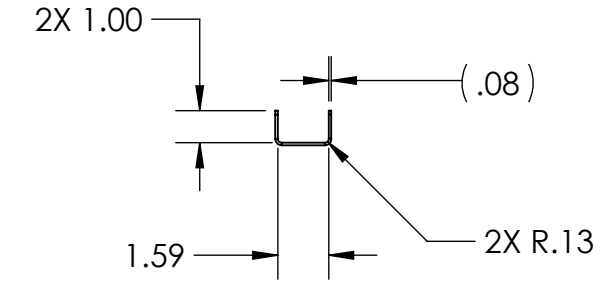
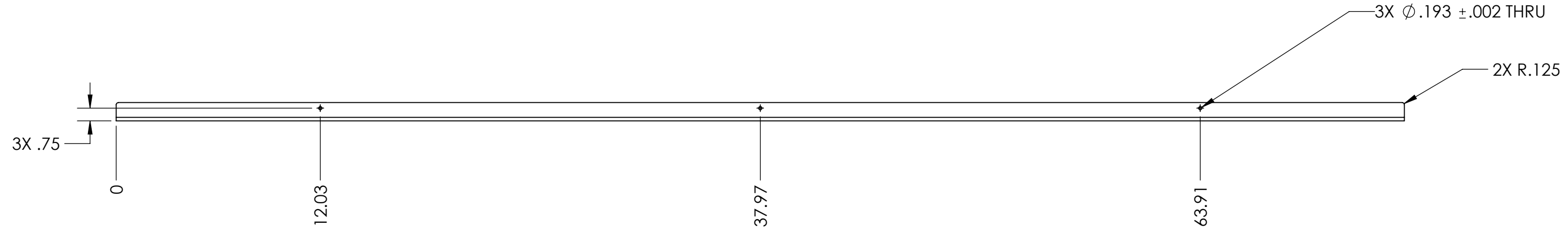
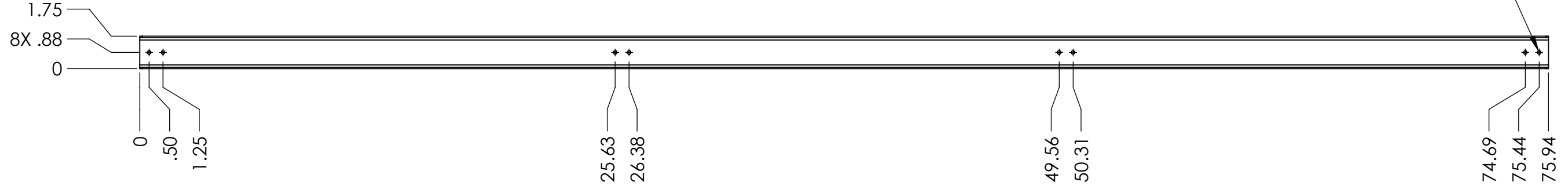
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .02$   
 THREE PLACE DECIMAL  $\pm .010$

**MATERIAL/FINISH:**  
 12 Gauge (0.08") 5052  
 Aluminum

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	BB	8/13/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Chute Frame Long**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25012	

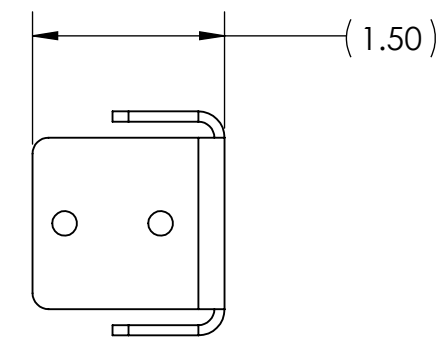
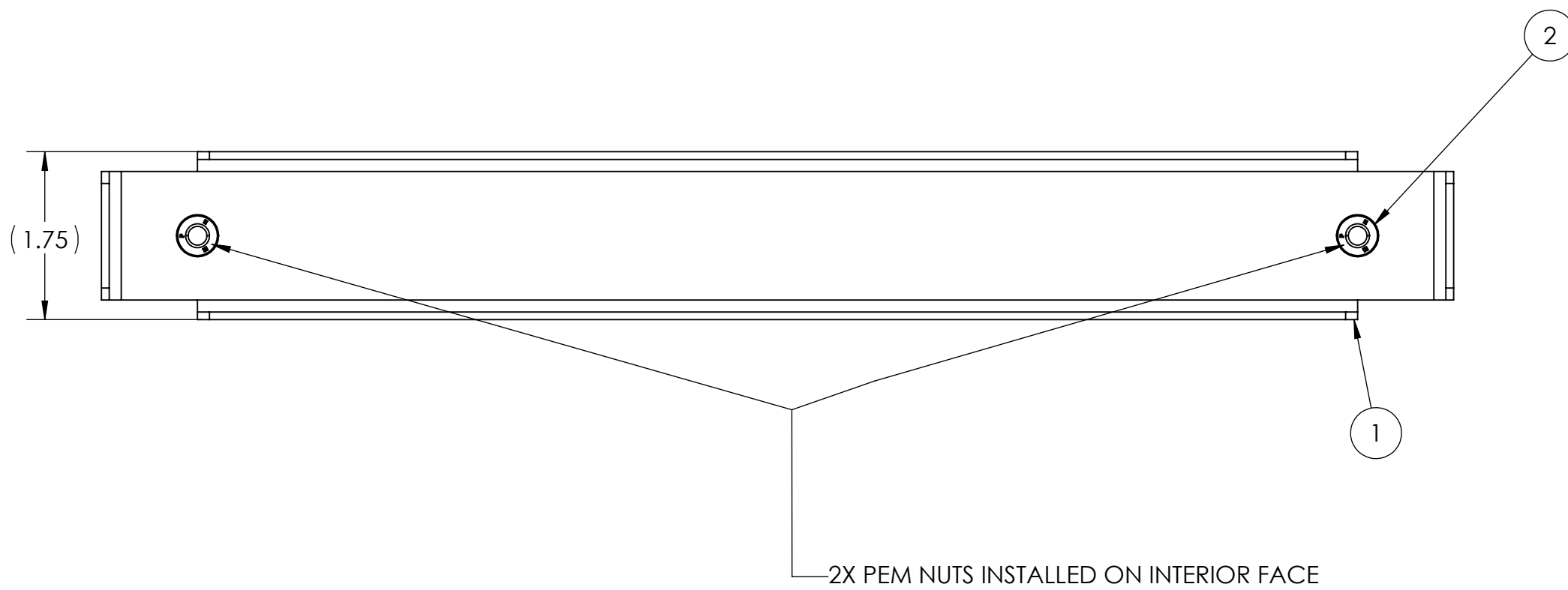
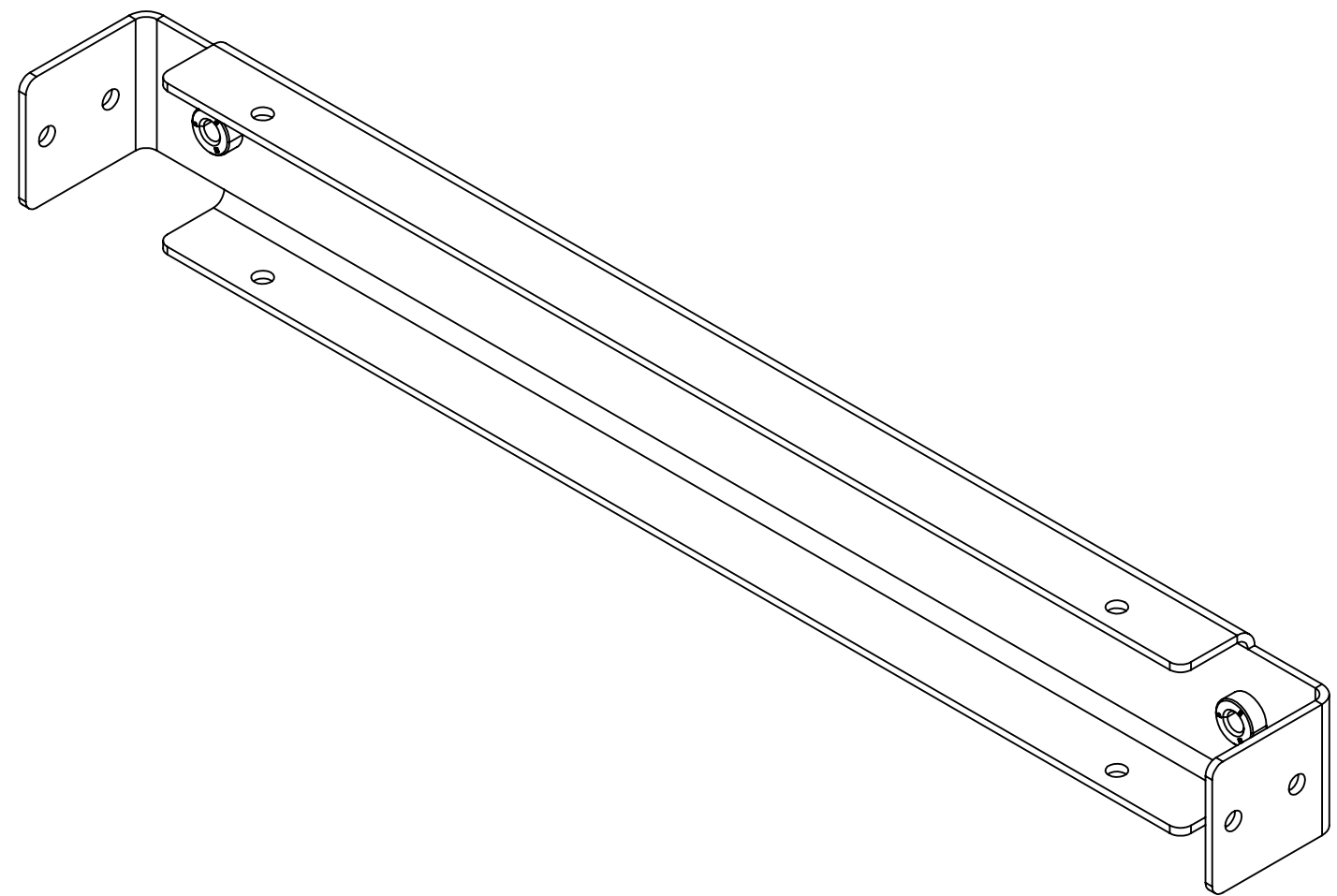
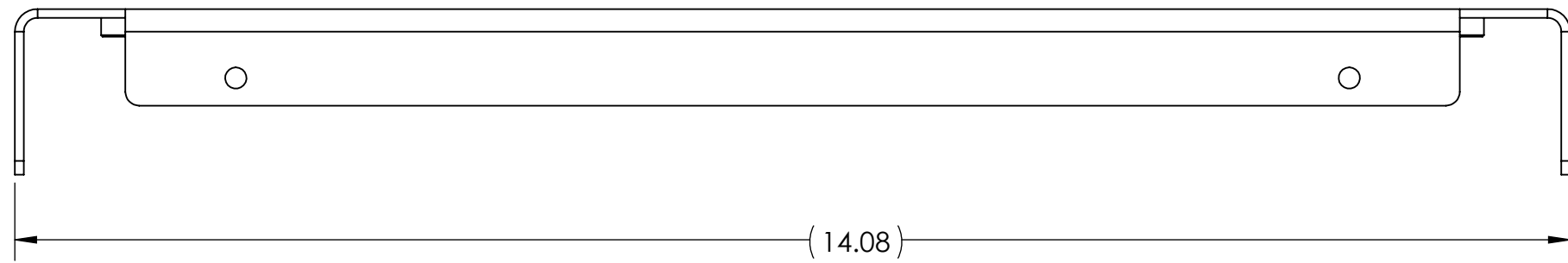
SCALE: 1:8 SHEET 1 OF 1

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1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25013-01	Chute Ramp Frame Short	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**  
 12 Gauge (0.08") 5052  
 Aluminum

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN BB 8/13/2024

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Chute Ramp Frame Short with PEMs**

SIZE DWG. NO. REV  
**C** GE-25013

SCALE: 1:2 SHEET 1 OF 1

NOTES:  
 1. REMOVE ALL BURRS AND SHARP EDGES

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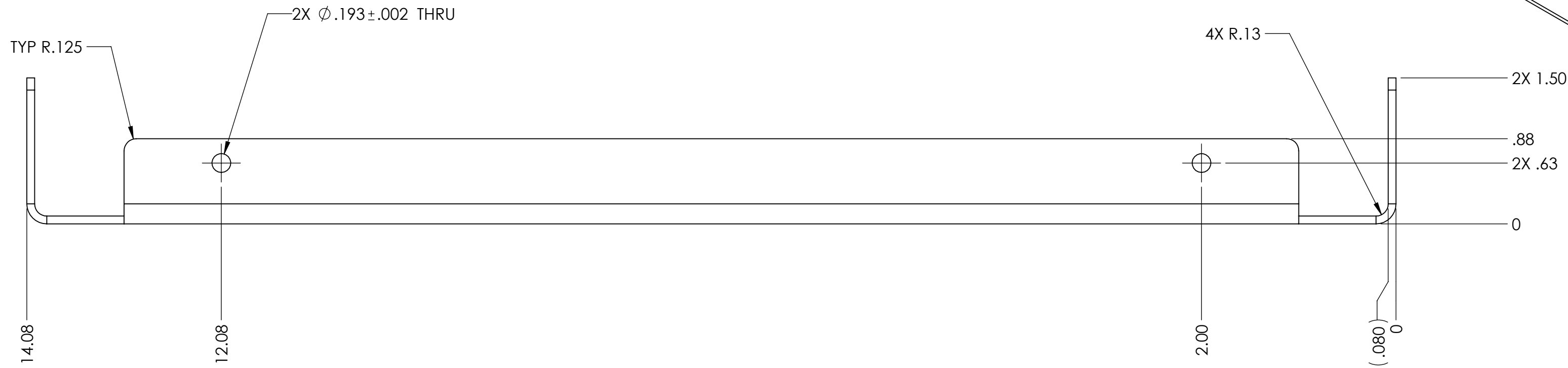
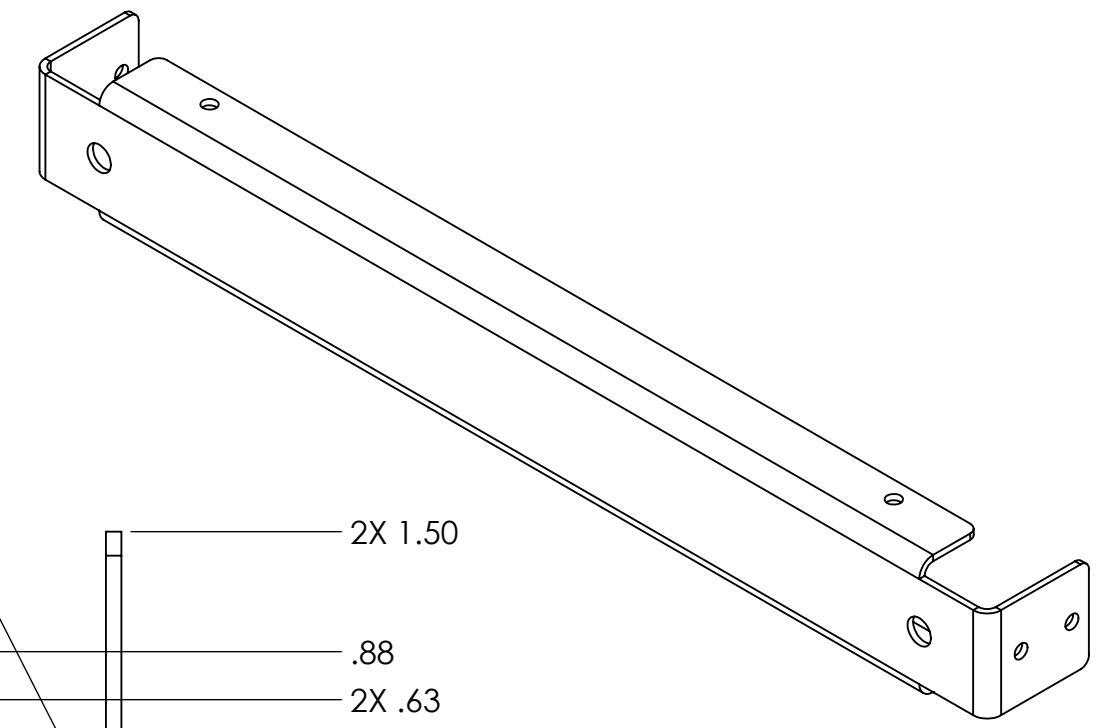
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH±1° BEND ±1°  
 TWO PLACE DECIMAL ±.02  
 THREE PLACE DECIMAL ±.010

**MATERIAL/FINISH:**  
 12 Gauge (0.08") 5052  
 Aluminum

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	BB	8/13/2024

**PROPRIETARY AND CONFIDENTIAL**  
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 REPRODUCTION IN PART OR AS A  
 WHOLE WITHOUT THE WRITTEN  
 PERMISSION OF **FIRST®** IS  
 PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP  
 EDGES.



TITLE:  
**Chute Ramp  
 Frame Short**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25013-01	

SCALE: 1:2 SHEET 1 OF 1

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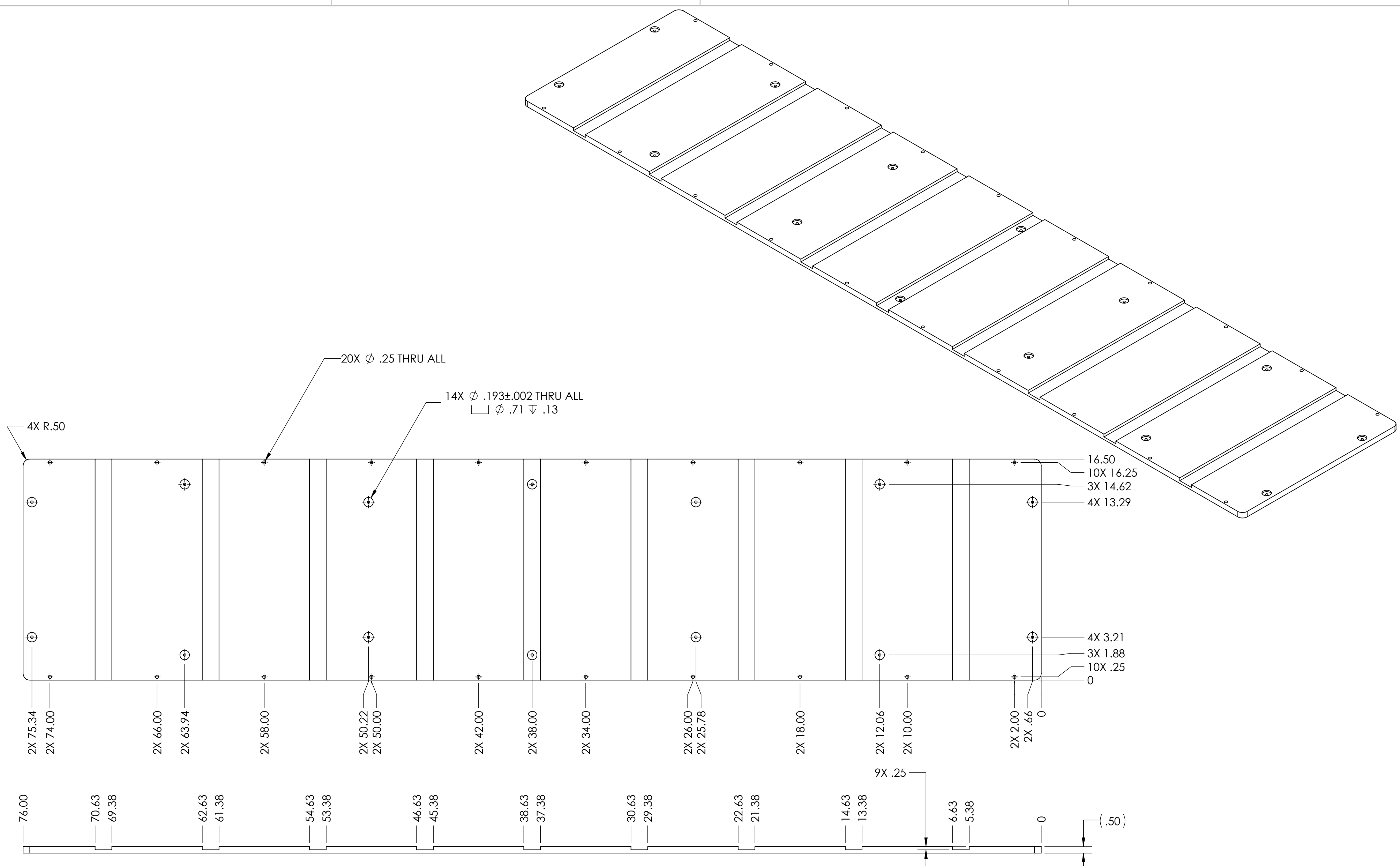
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .01 THREE PLACE DECIMAL $\pm$ .005  <b>MATERIAL/FINISH:</b> 1/2" Black HDPE, Orange Peel Texture  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	8/12/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b>		TITLE: <b>Chute Ramp HDPE</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.		SIZE	DWG. NO.	REV
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		<b>C</b>	GE-25014	
		SCALE: 1:5		SHEET 1 OF 1

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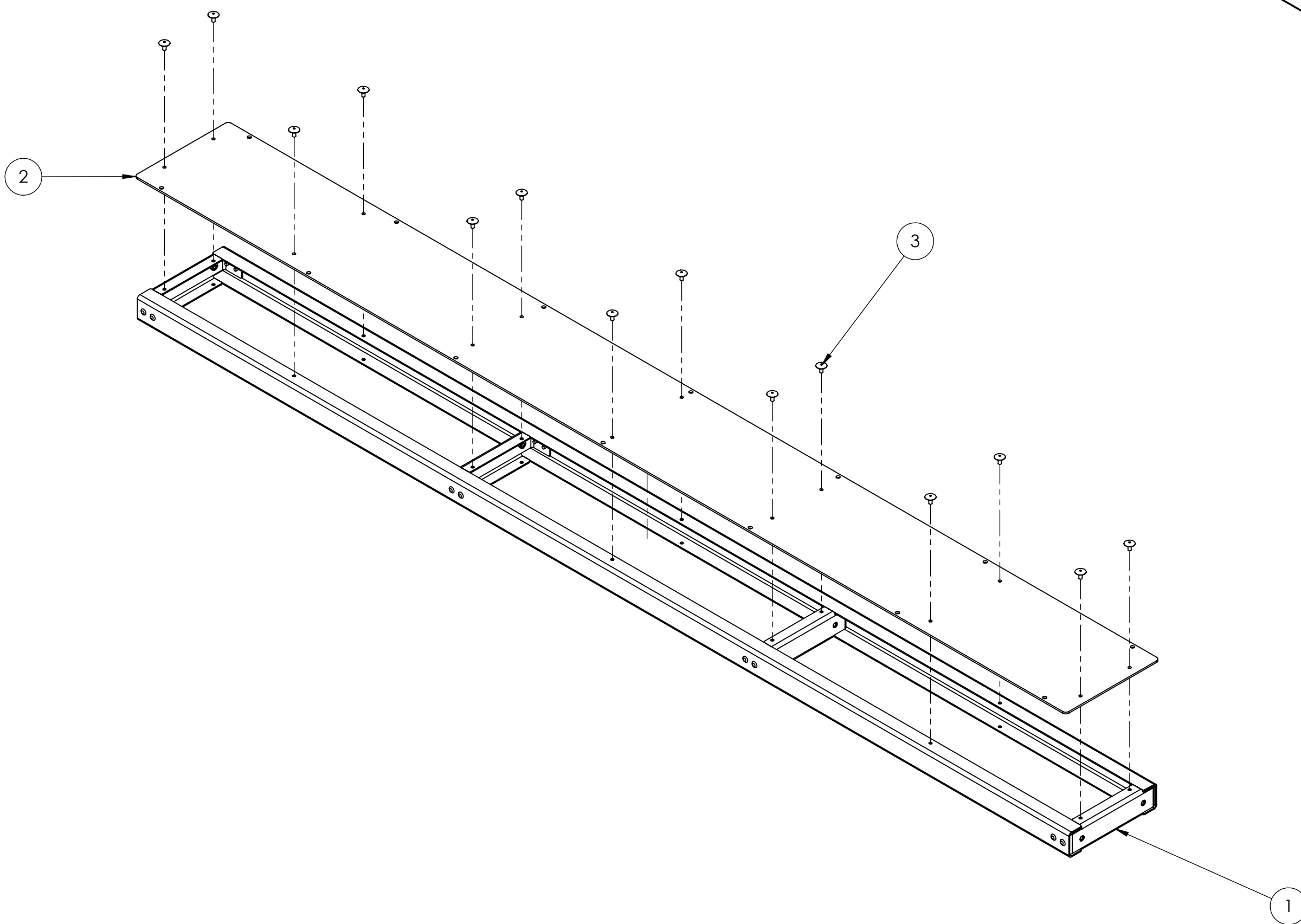
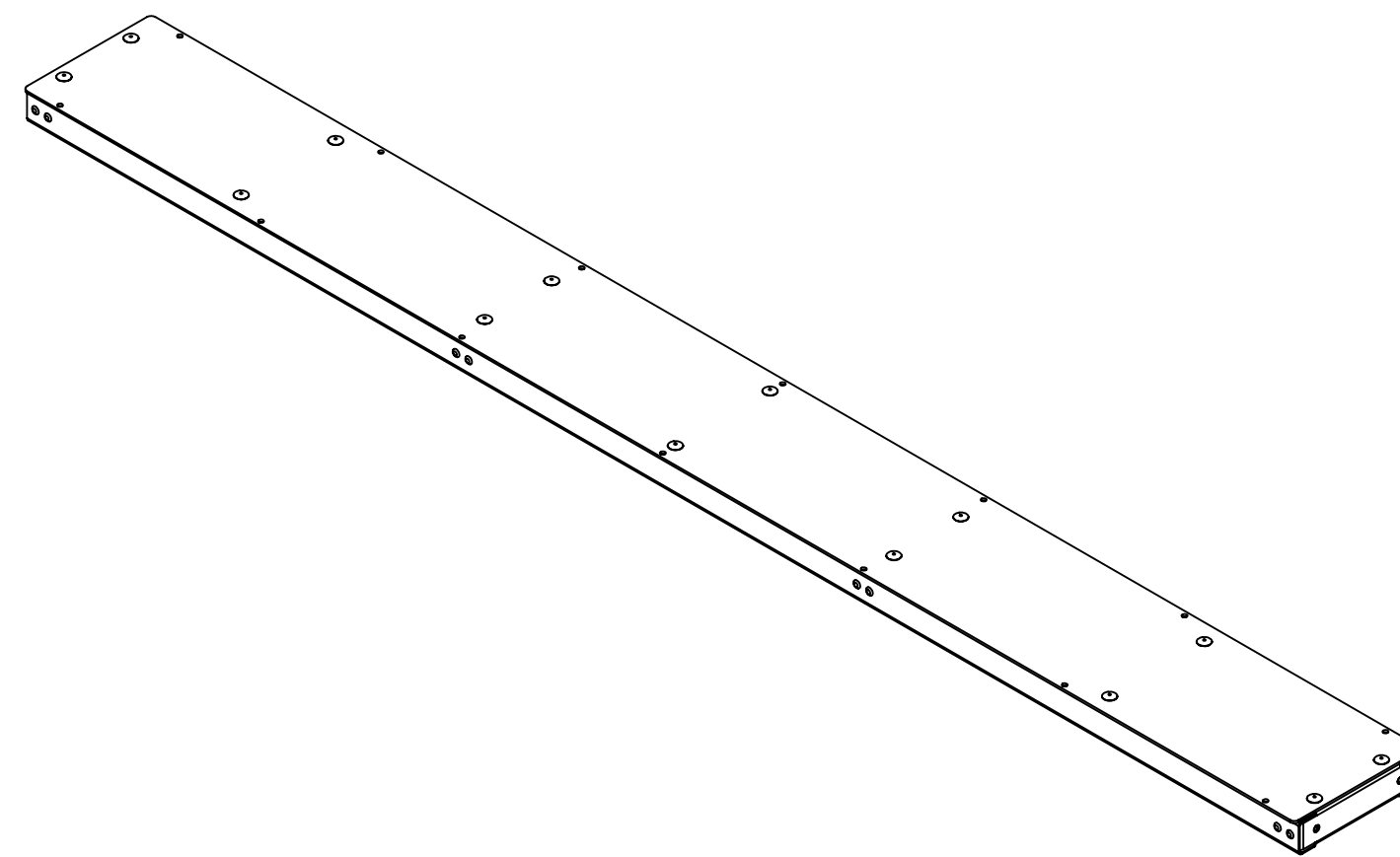


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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25016	Chute Cover Frame	1
2	GE-25017	Chute Cover Plastic	1
3	rivet_.1875_.125-.25_largeHead	3/16" Large Head Aluminum Rivet, .126-.26 Grip Range	14

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	BB	8/13/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Chute Cover Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25015	

SCALE: 1:8 SHEET 1 OF 1

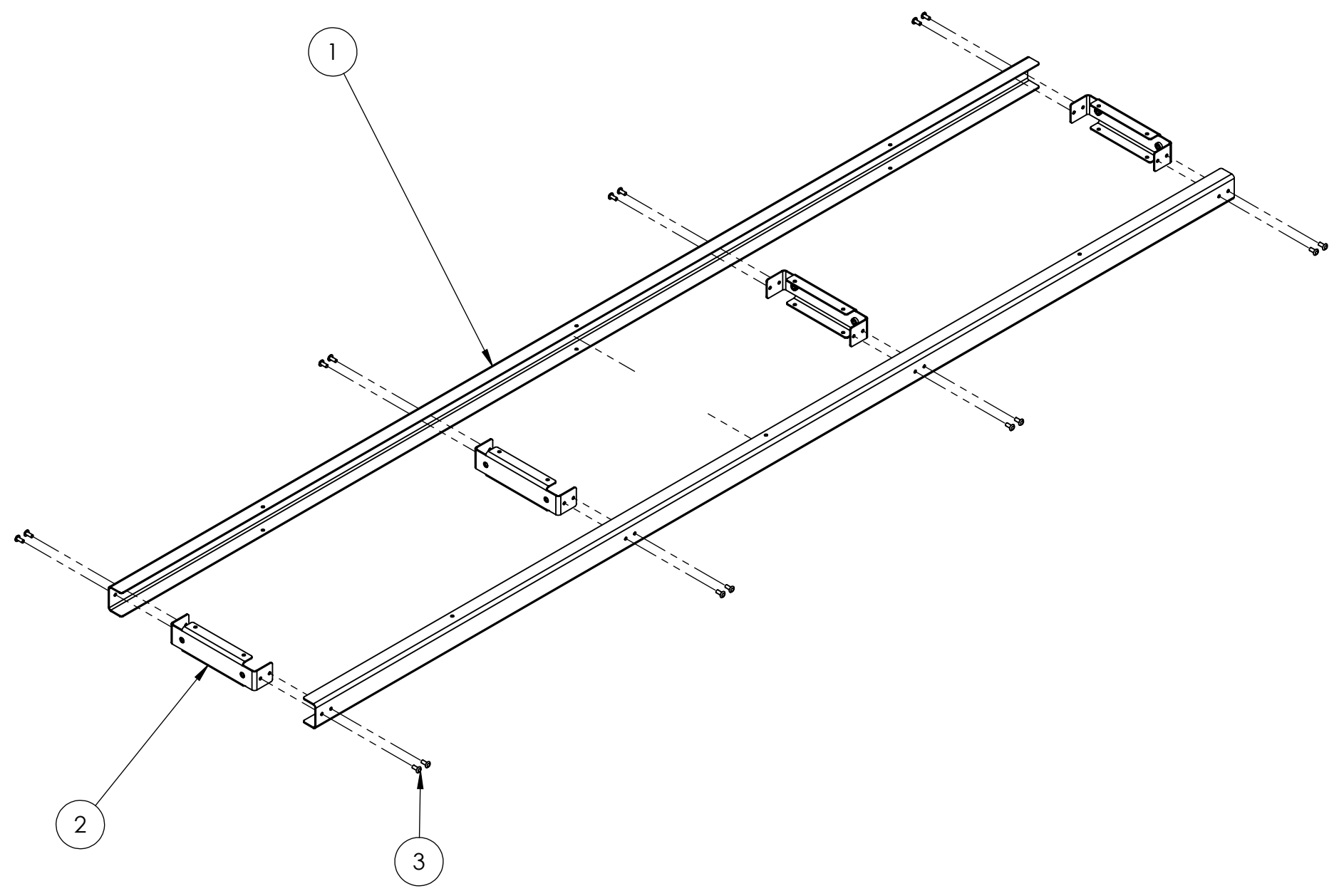
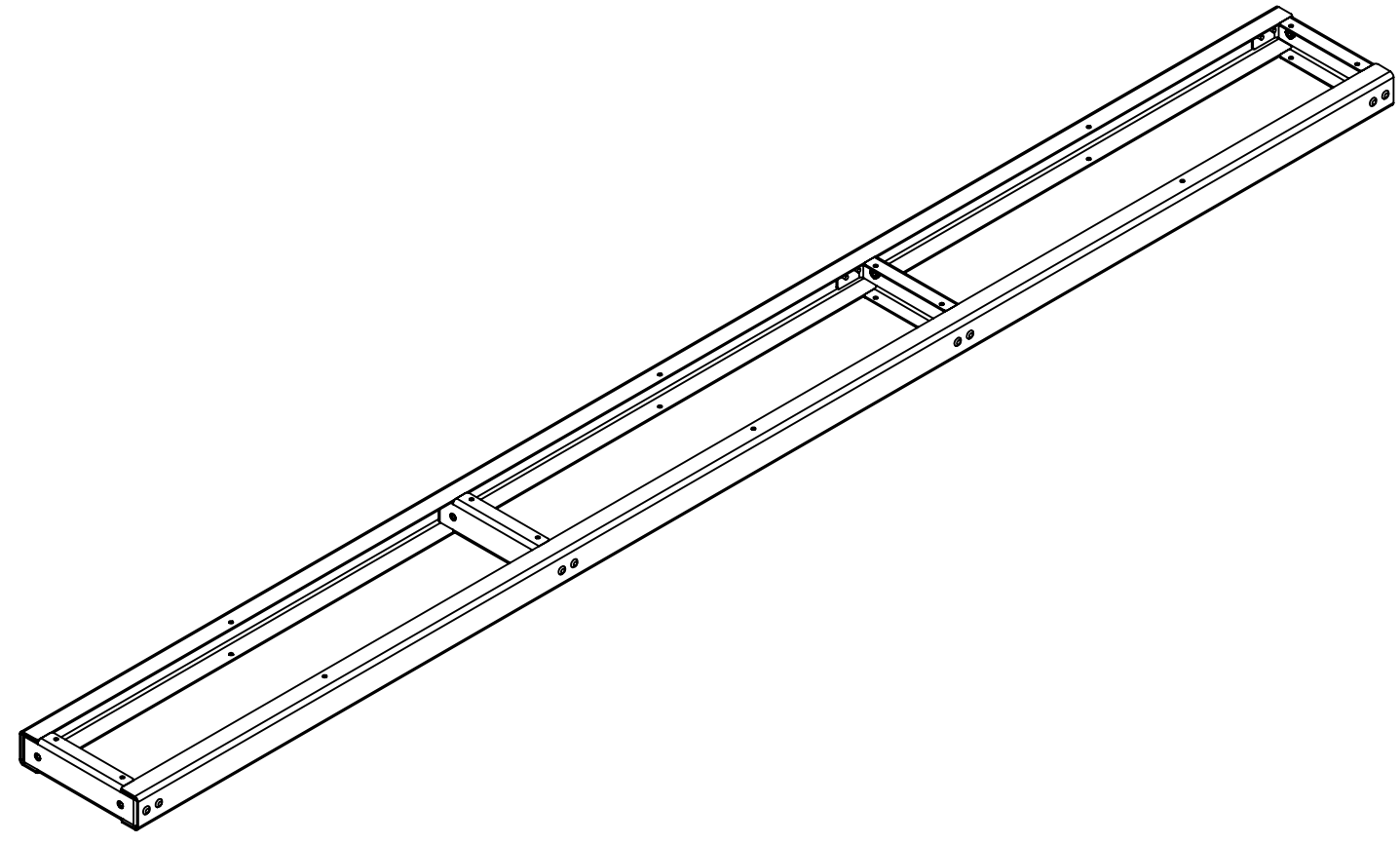
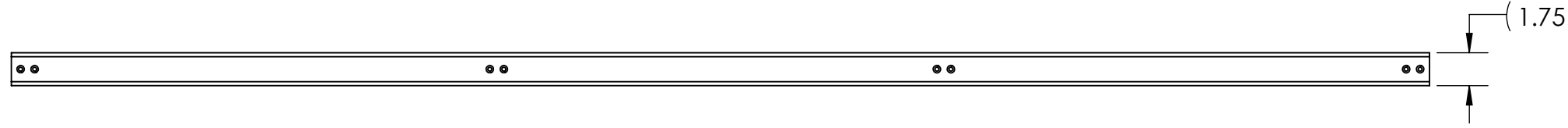
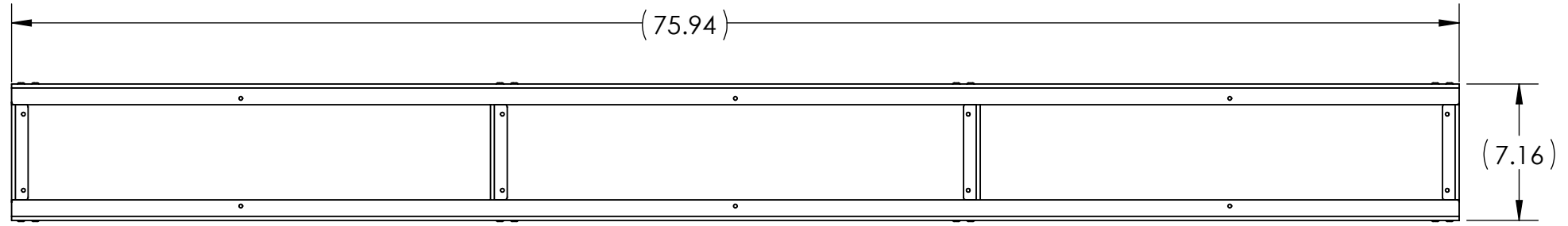
NOTES:  
 1. ASSEMBLE AS SHOWN  
 2. LABEL ASSEMBLY WITH PART NUMBER

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NOTE: ASSEMBLE AS SHOWN

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25012	Chute Frame Long	2
2	GE-25018	Chute Cover Frame Short with PEMs	4
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	16

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
	BB	8/13/2024

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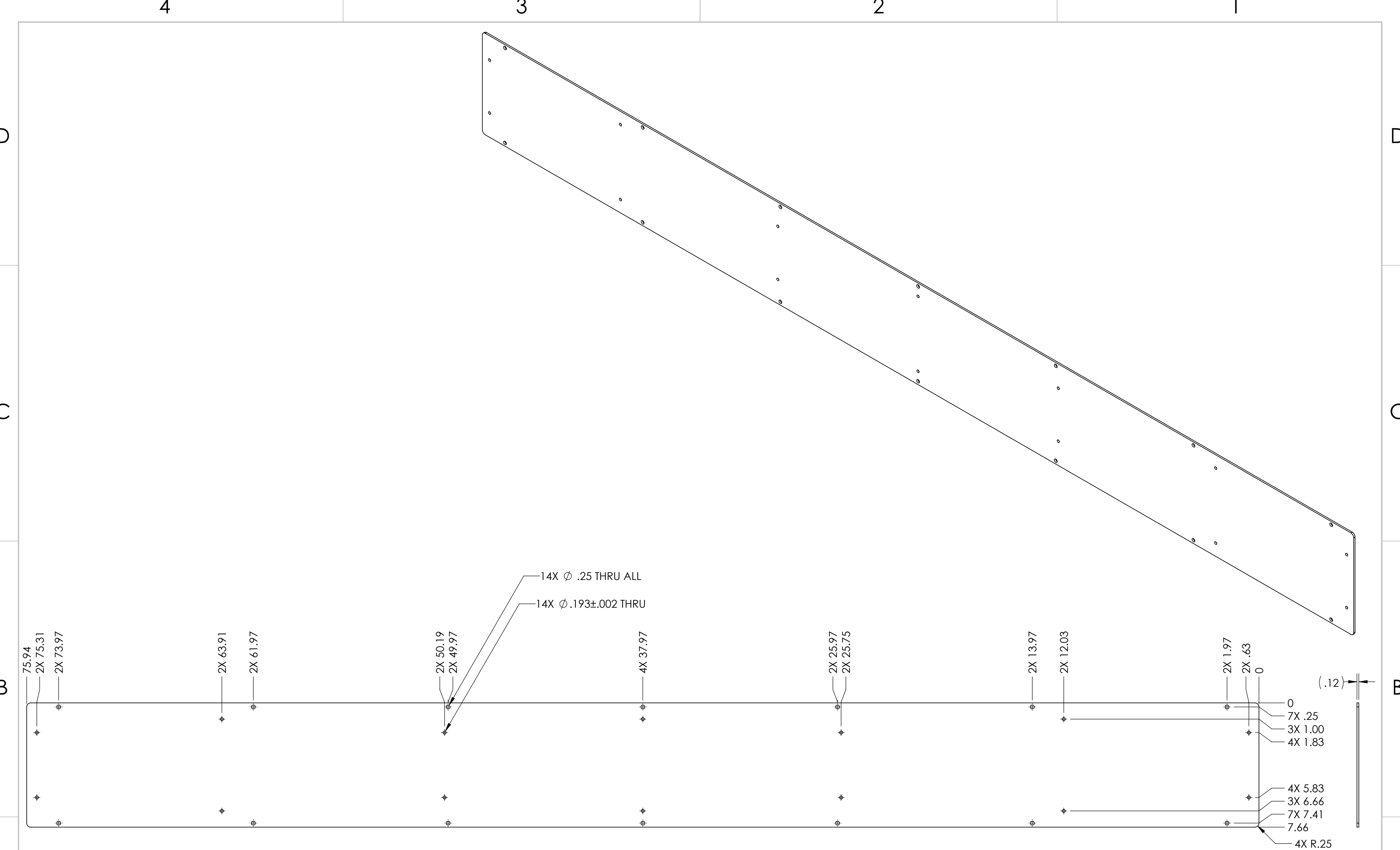
**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Chute Cover Frame**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25016	

SCALE: 1:12 SHEET 1 OF 1



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**  
 0.125" Polycarbonate

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	8/12/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Chute Cover Plastic**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25017	

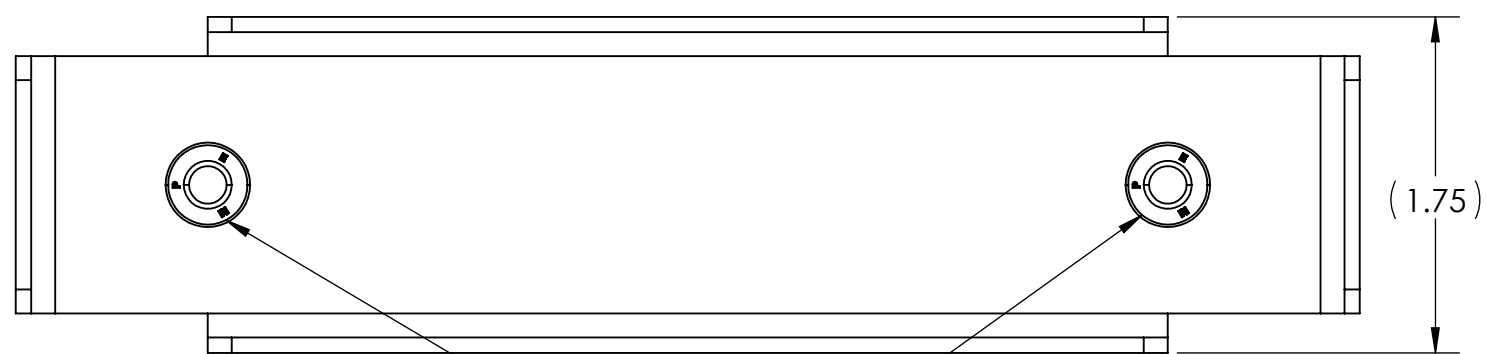
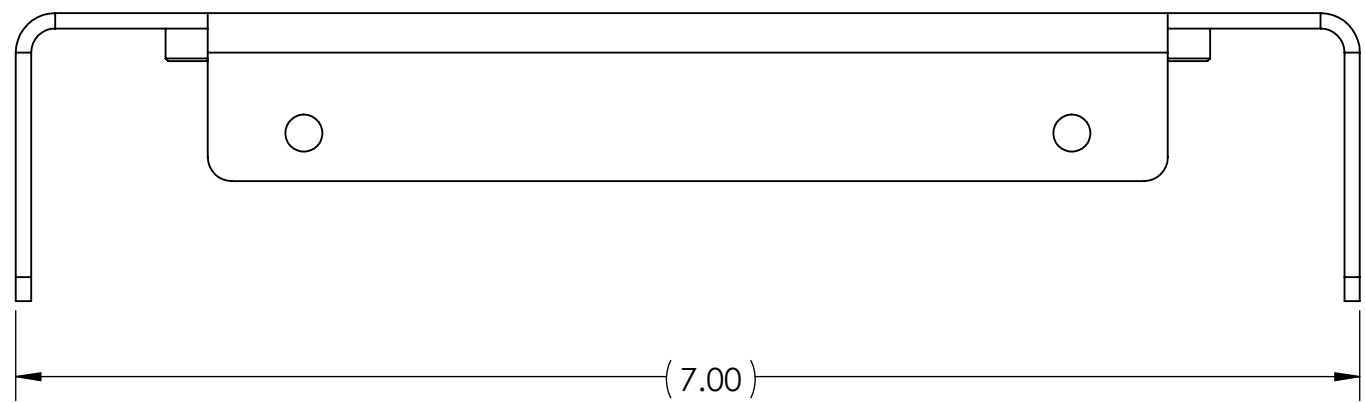
SCALE: 1:4 SHEET 1 OF 1

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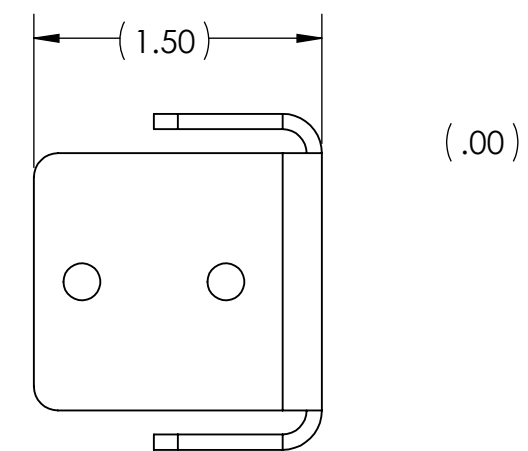
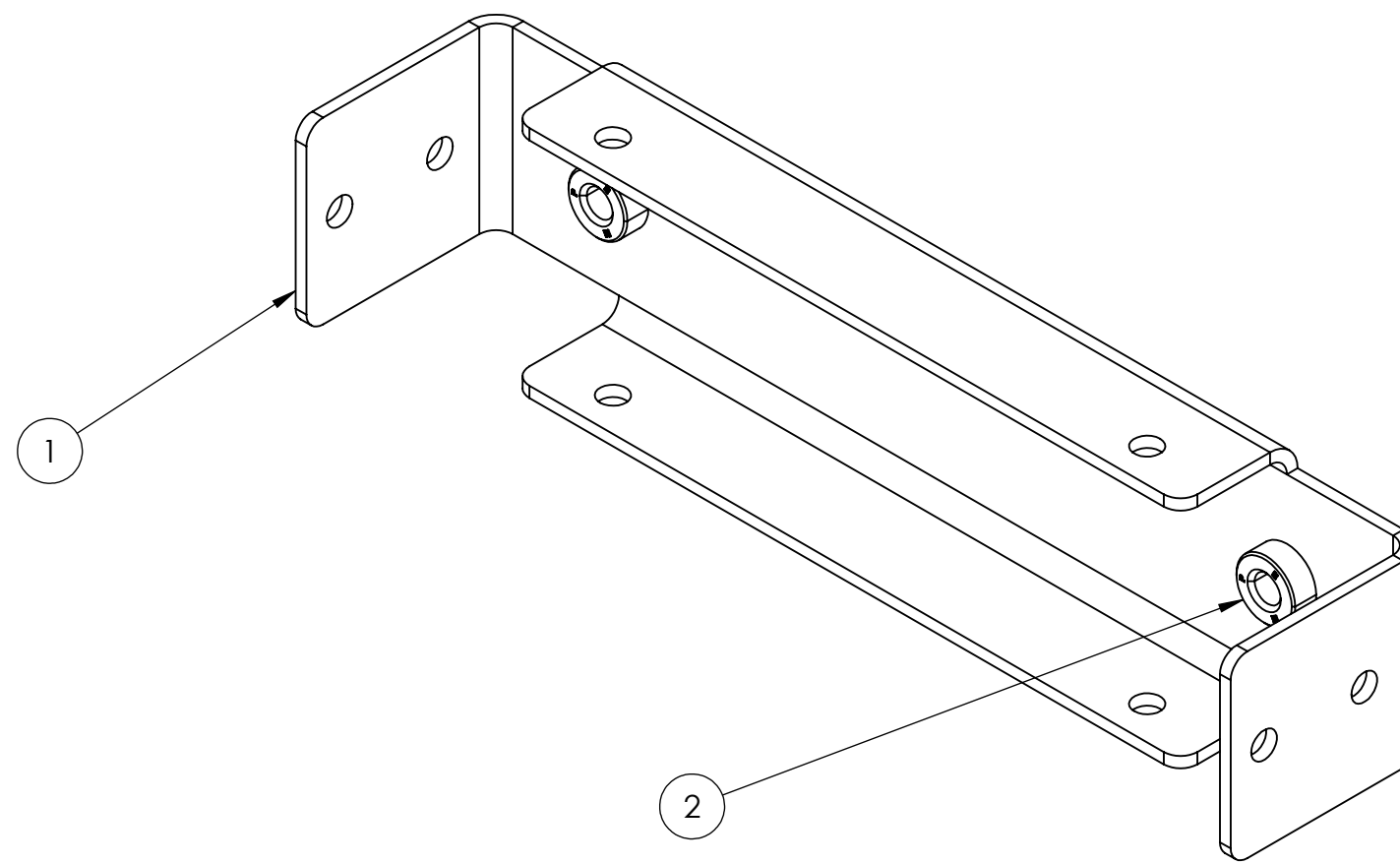
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2X PEM NUTS INSTALLED ON INTERIOR FACE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25018-01	Chute Cover Frame Short	1
2	pem_clinchnut_.25_20_.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	BB	8/13/2024	
<b>MATERIAL/FINISH:</b> 12 Gauge (0.08") 5052 Aluminum		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: Chute Cover Frame Short with PEMs
DO NOT SCALE DRAWING		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25018
		SCALE: 1:1			SHEET 1 OF 1

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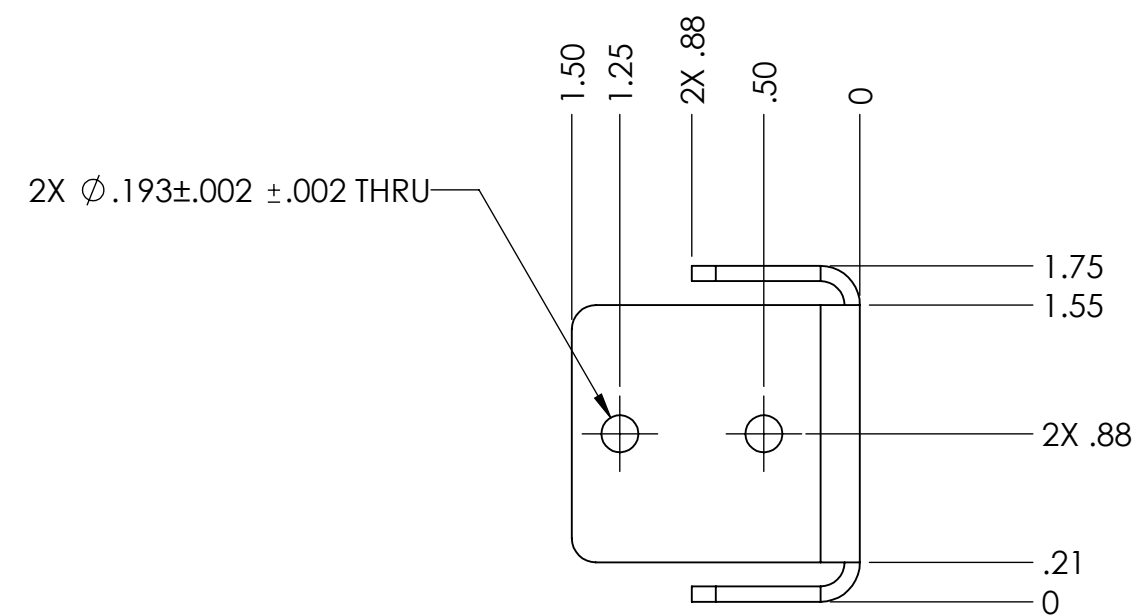
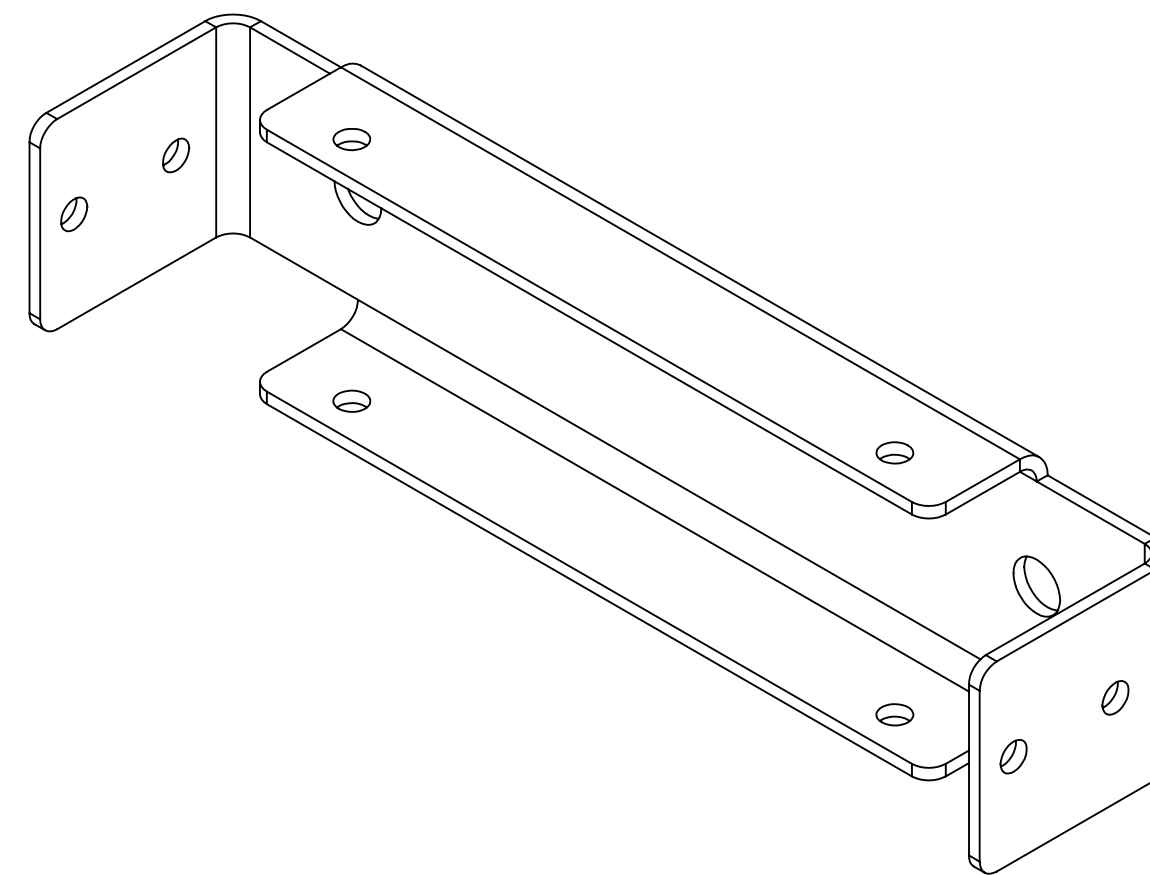
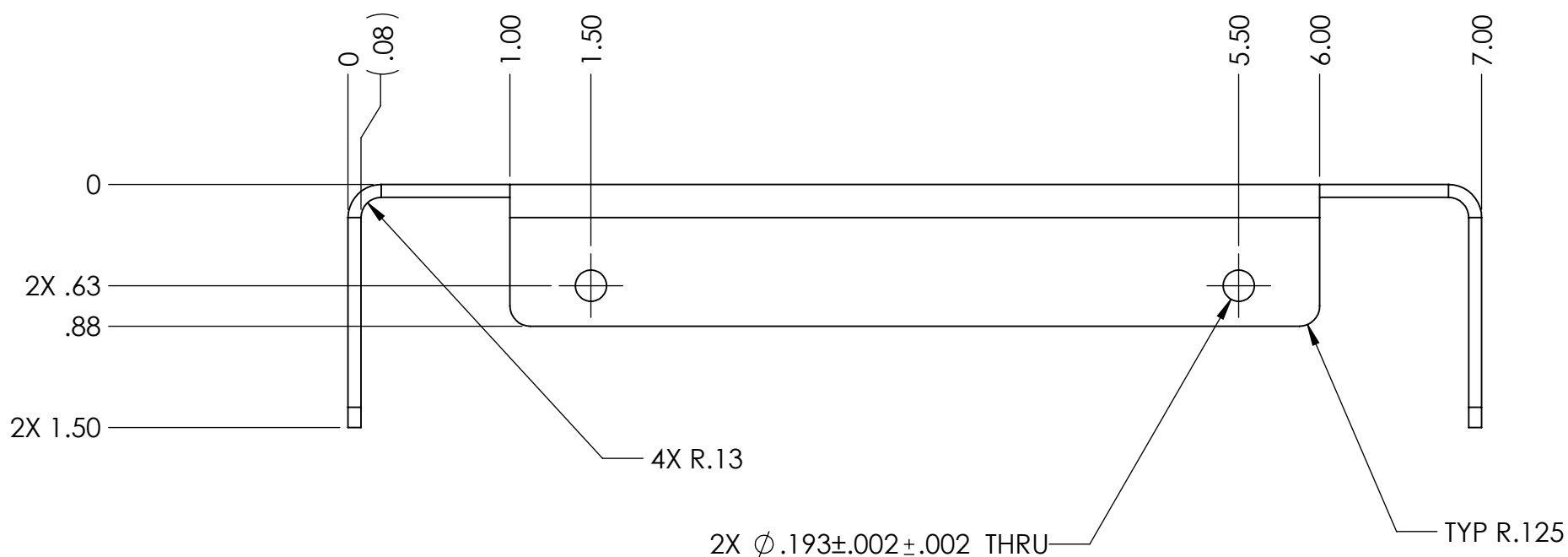
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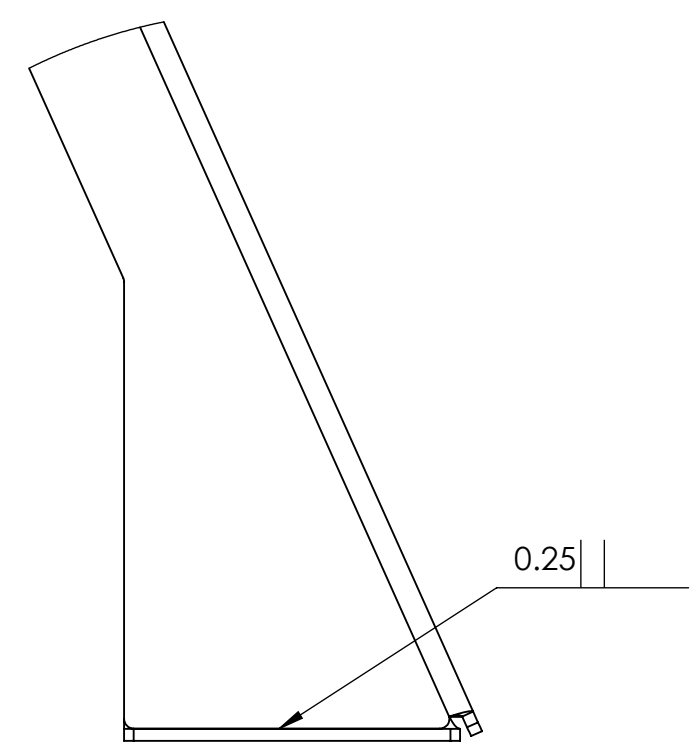
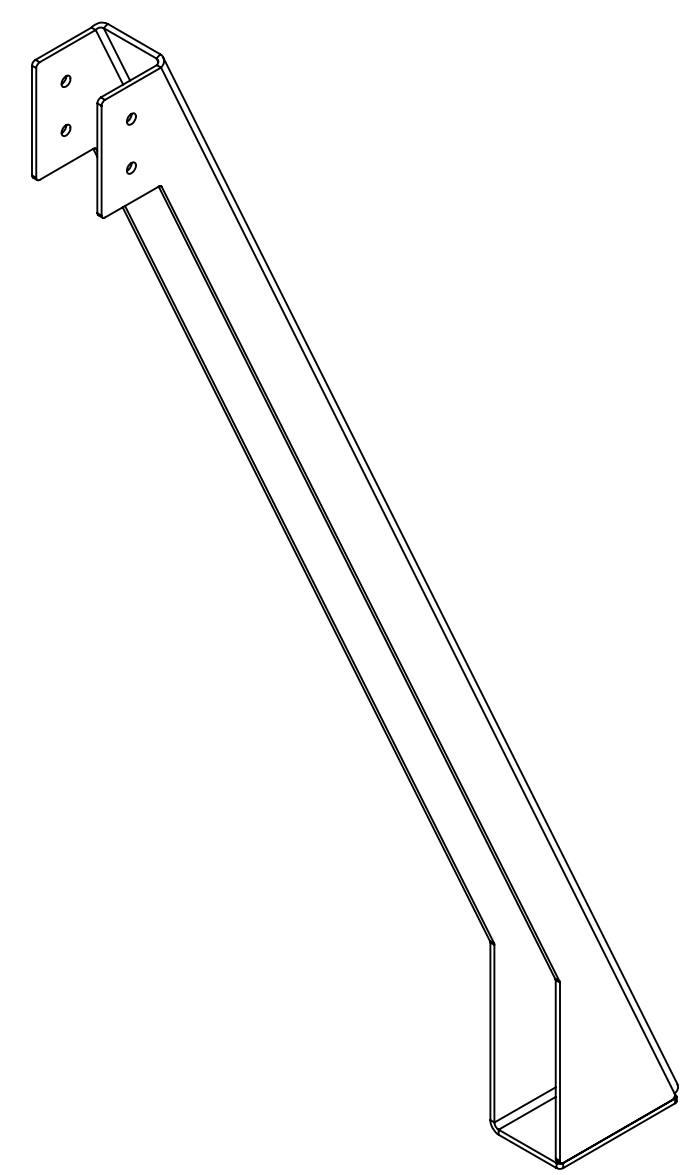
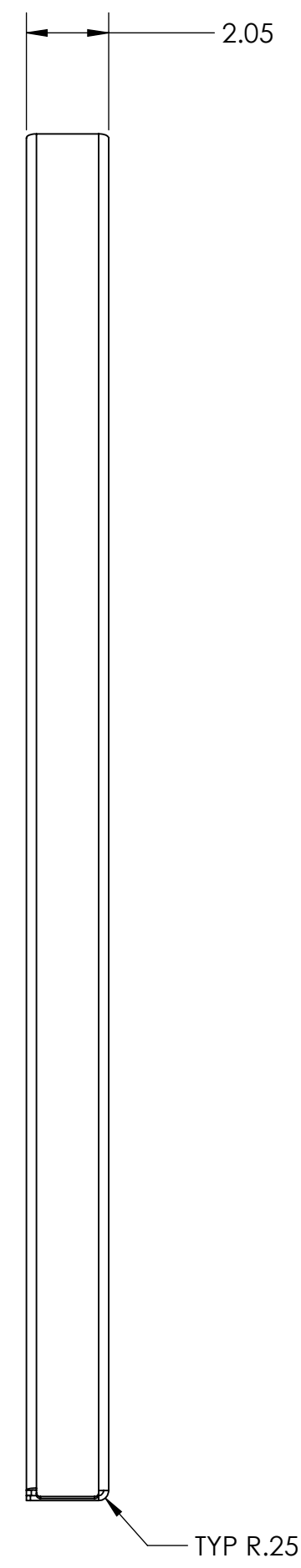
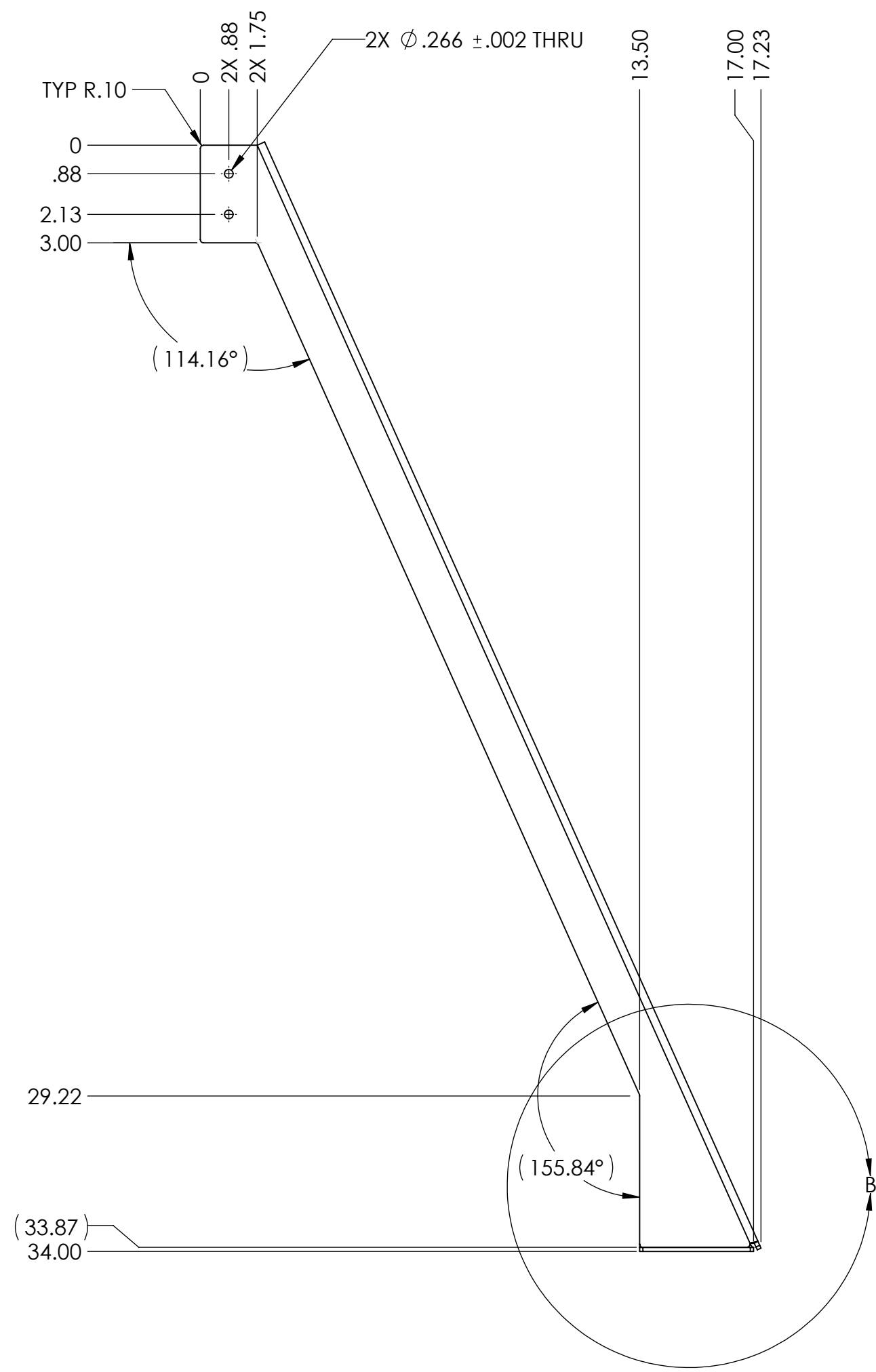
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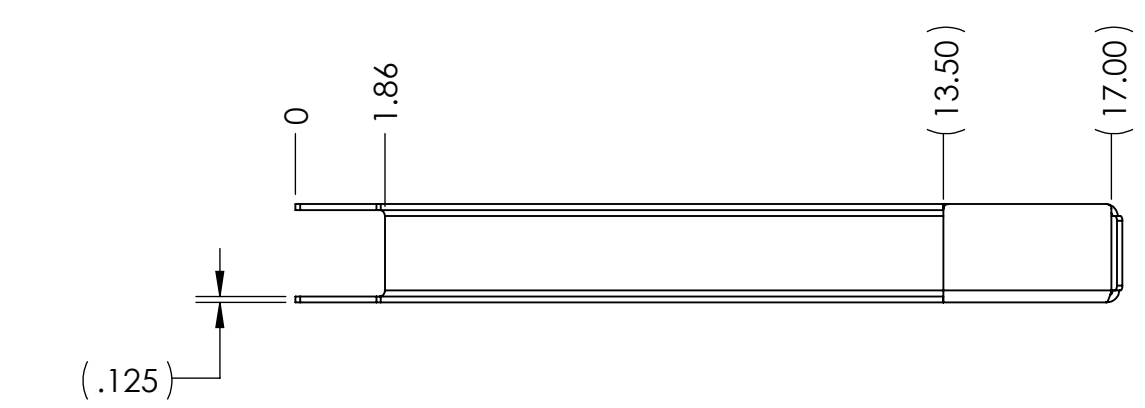
A



UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE	 
	DRAWN	BB	8/13/2024	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.010	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE:
	<b>MATERIAL/FINISH:</b> 12 Gauge (0.08") 5052 Aluminum			<b>Chute Cover Frame Short</b>
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25018-01
	SCALE: 1:1		SHEET 1 OF 1	



DETAIL B  
SCALE 1 : 2



UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	BB	8/13/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .02 THREE PLACE DECIMAL $\pm$ .010	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
<b>MATERIAL/FINISH:</b>	0.125" 5052 Aluminum		
<b>COMMENTS:</b>	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			

TITLE: <b>Frame Support Leg</b>	
SIZE	DWG. NO.
<b>C</b>	<b>GE-25019</b>
SCALE: 1:8	SHEET 1 OF 1

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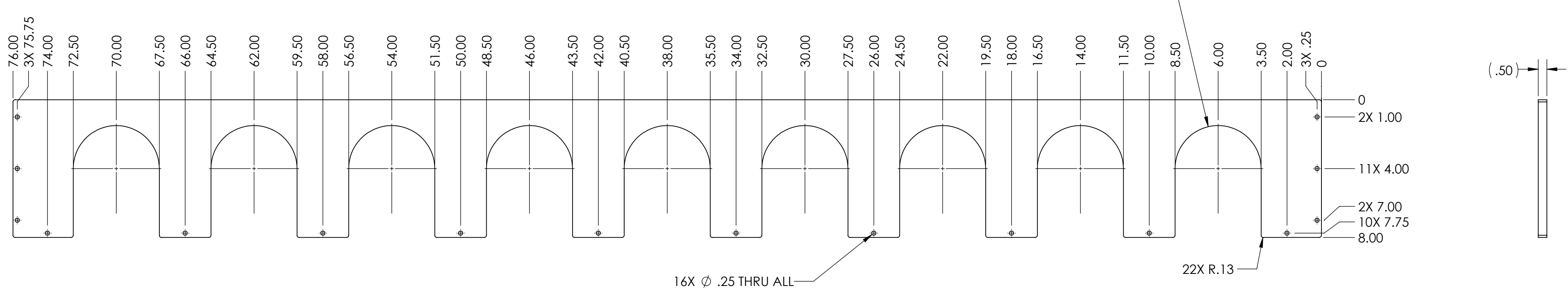
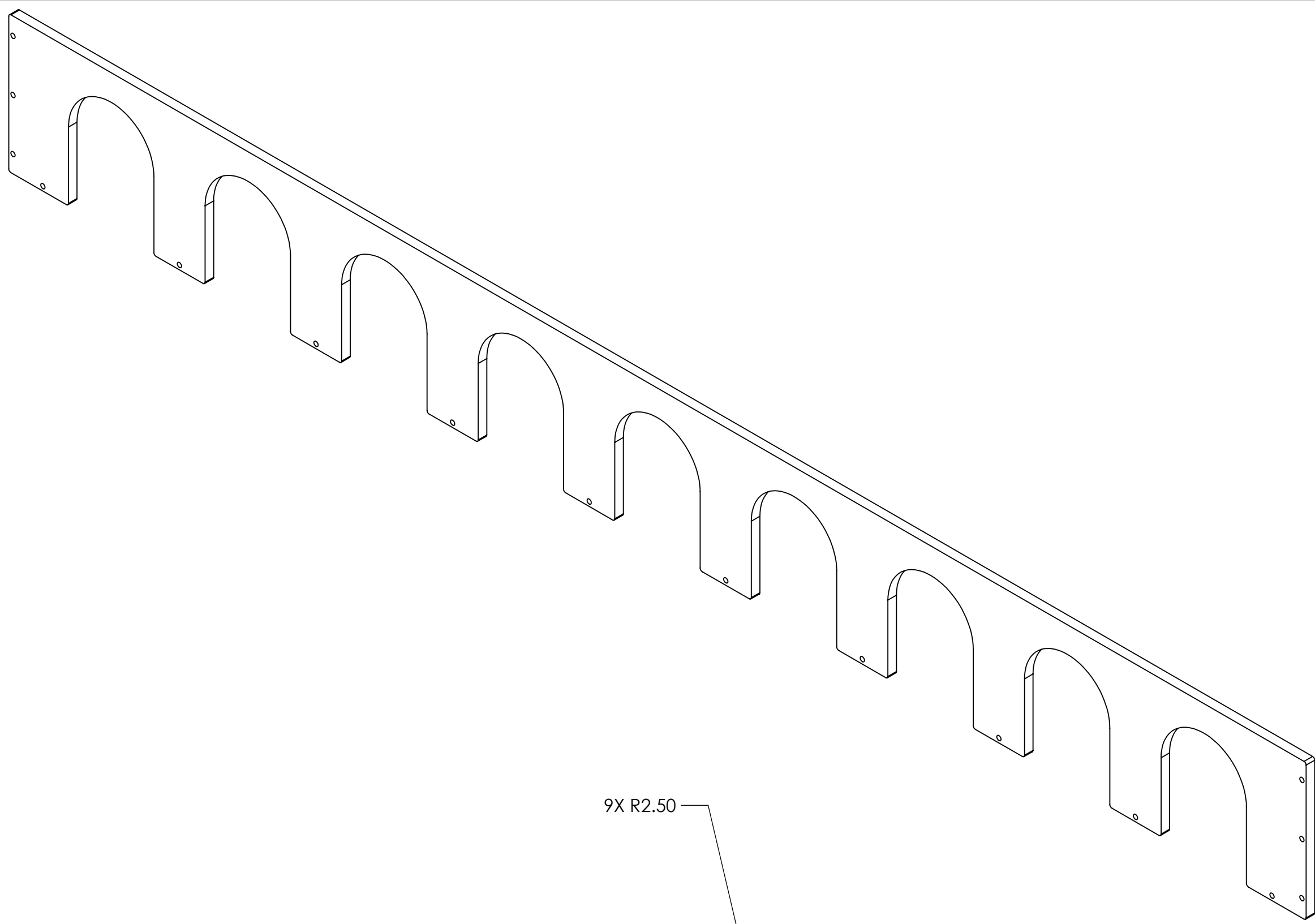
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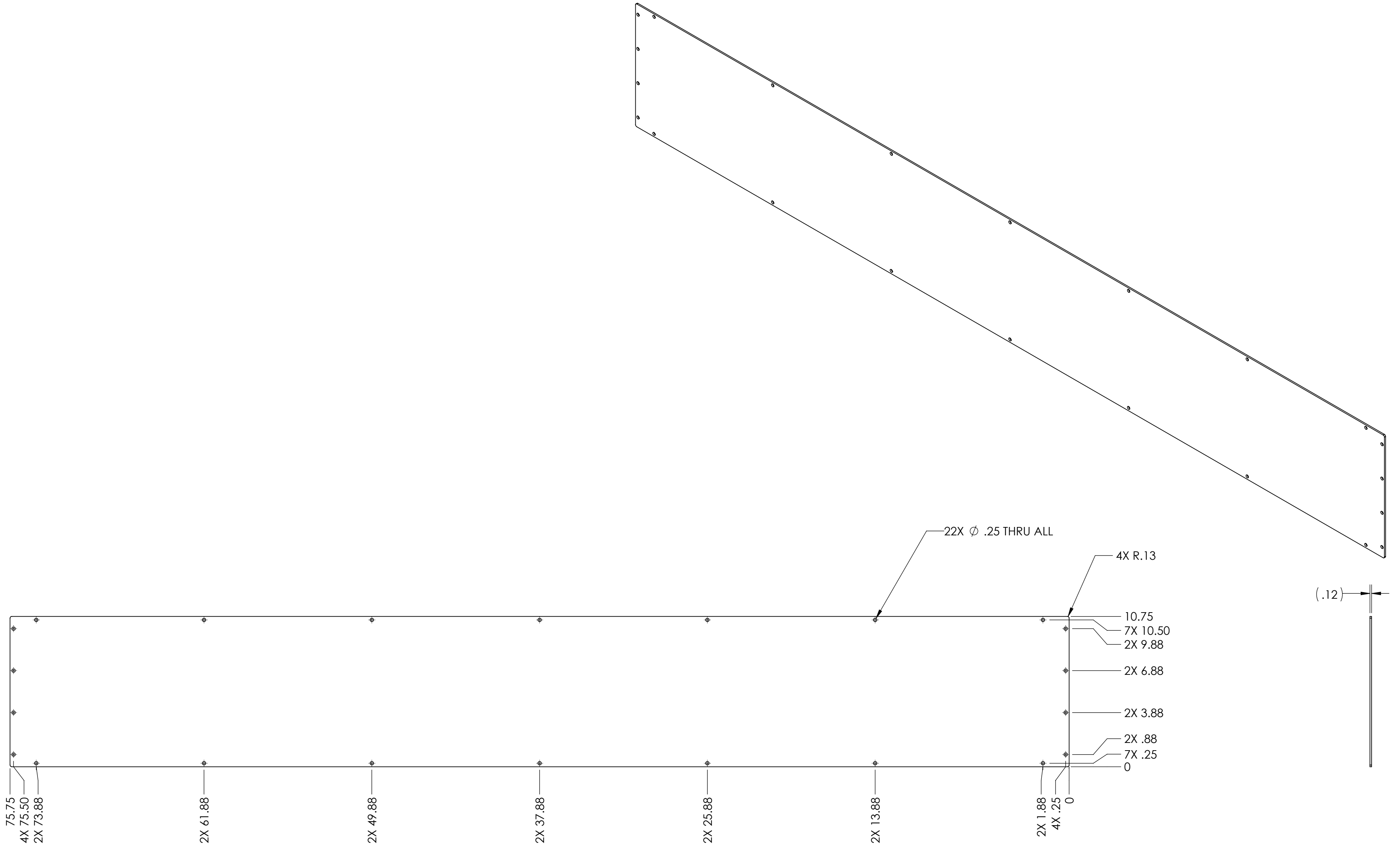
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NOTE: LABEL WITH PART NUMBER

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005	VEND	NAME	DATE	
	DRAWN	JO	8/12/2024	
<b>MATERIAL/FINISH:</b> 1/2" Polycarbonate	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <b>Back Divider Plastic</b>
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> <b>GE-25020</b>
	SCALE: 1:4.5		SHEET 1 OF 1	



Notes:  
Label with Part Number

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/8" Polycarbonate  DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	JO	8/12/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Top Cover Plastic  SIZE DWG. NO. REV <b>C</b> GE-25021 SCALE: 1:5 SHEET 1 OF 1



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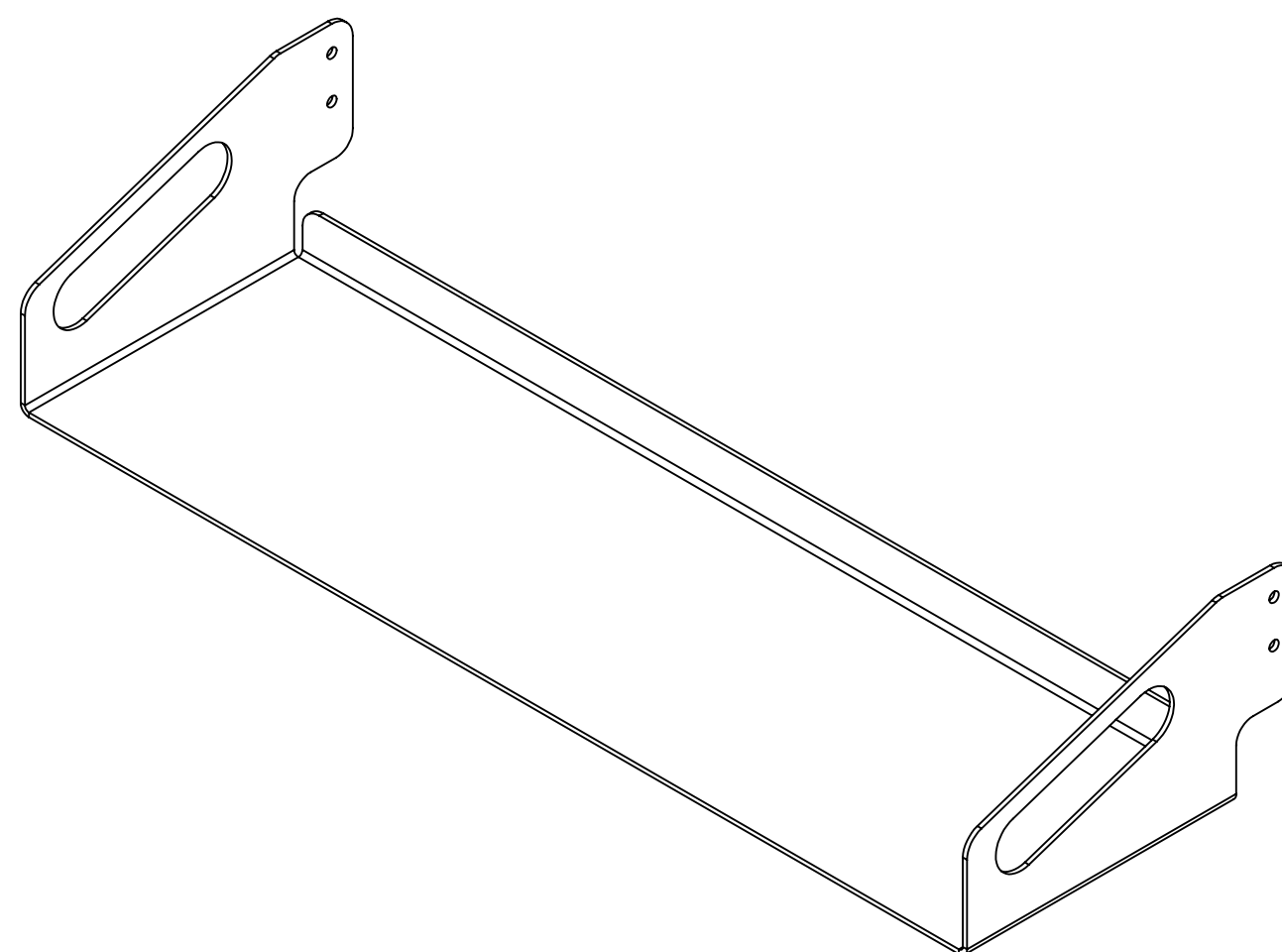
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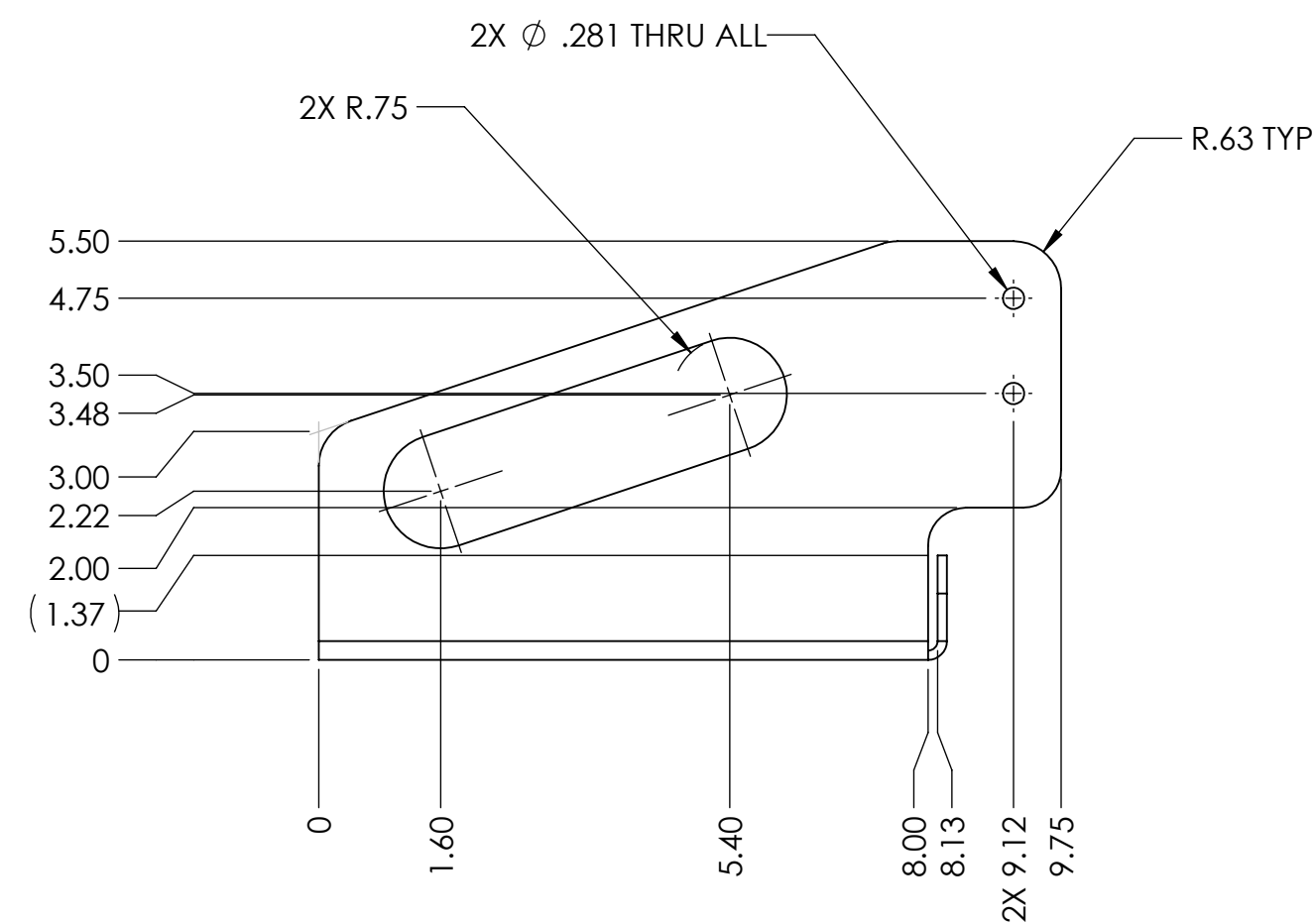
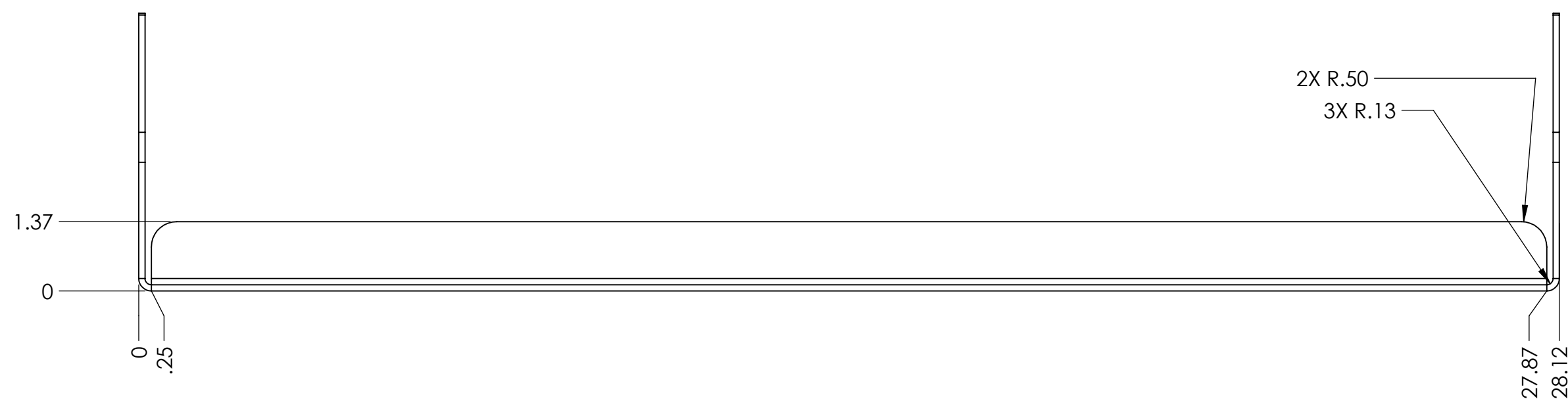


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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE	 
	DRAWN	JO	8/13/2024	
<b>MATERIAL/FINISH:</b> 11 Gauge (.1233") Galvanized Steel	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <b>Floor Support - 2025 Specific</b>
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25022 SCALE: 1:4 SHEET 1 OF 1

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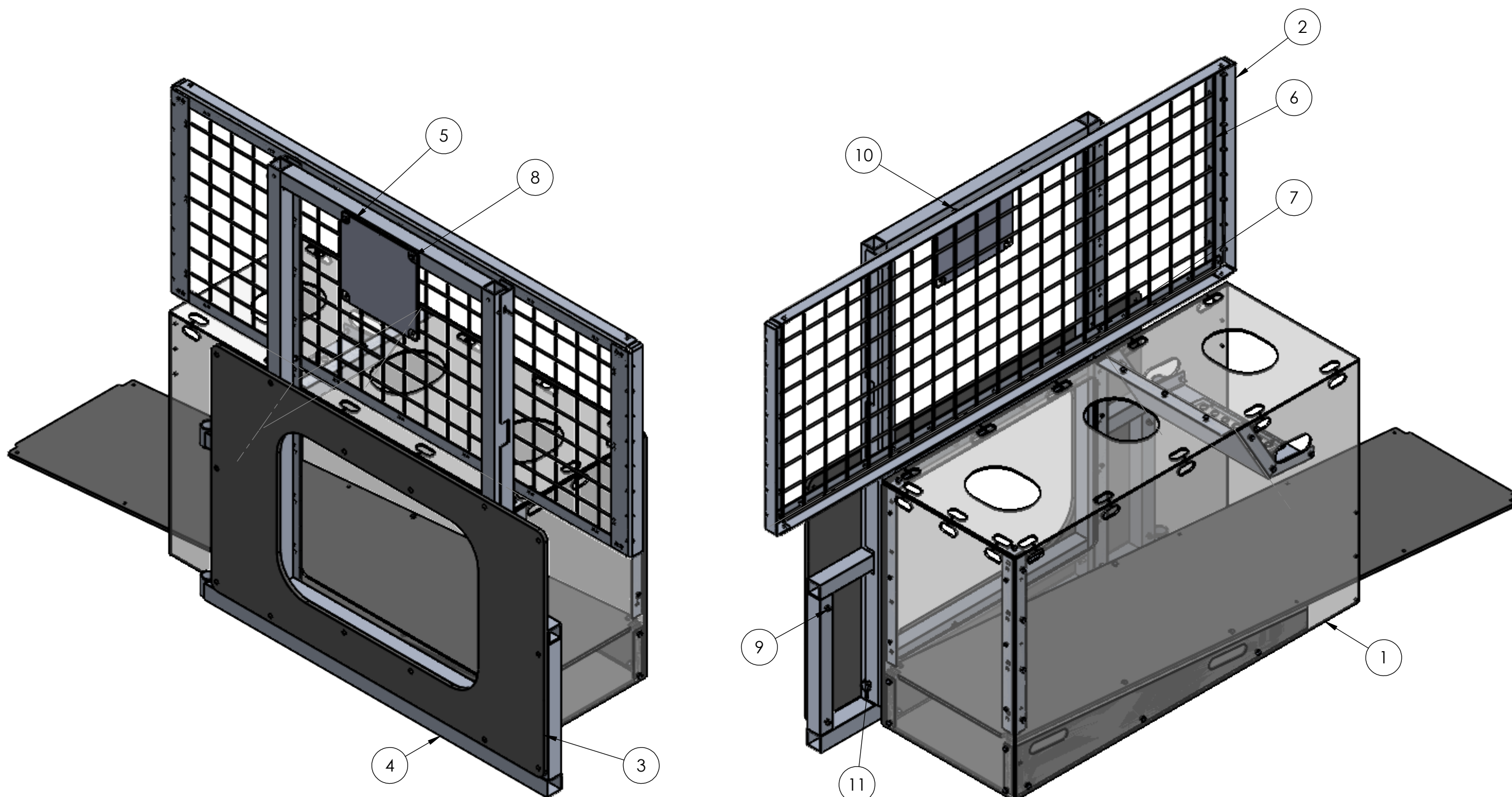
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Note: April Tag ID # changes depending on which Processor it is on. See the Field Layout and Marking Diagram for more details.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25101	Ramp Assembly	1
2	GE-25116	Fence Frame	1
3	GE-25119	Processor Opening	1
4	GE-25120	Processor Weldment	1
5	FE-00083-ID3	AprilTag	1
6	fence	ULINE Grid	1
7	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	4
8	Configurable Bolt	2.5" Long 1/4-20 Hex Head Bolt	2
9	flat_phil_.25_20_2.75	Steel Phillips Flat Head Screw, 1/4"-20 x 2-3/4" long, fully threaded	12
10	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	14
11	pin_quick_ring_.25_2.3125	Pin, Ring-Grip Quick-Release with SS Ring, 1/4" Diameter, 2.3125" Usable Length	6

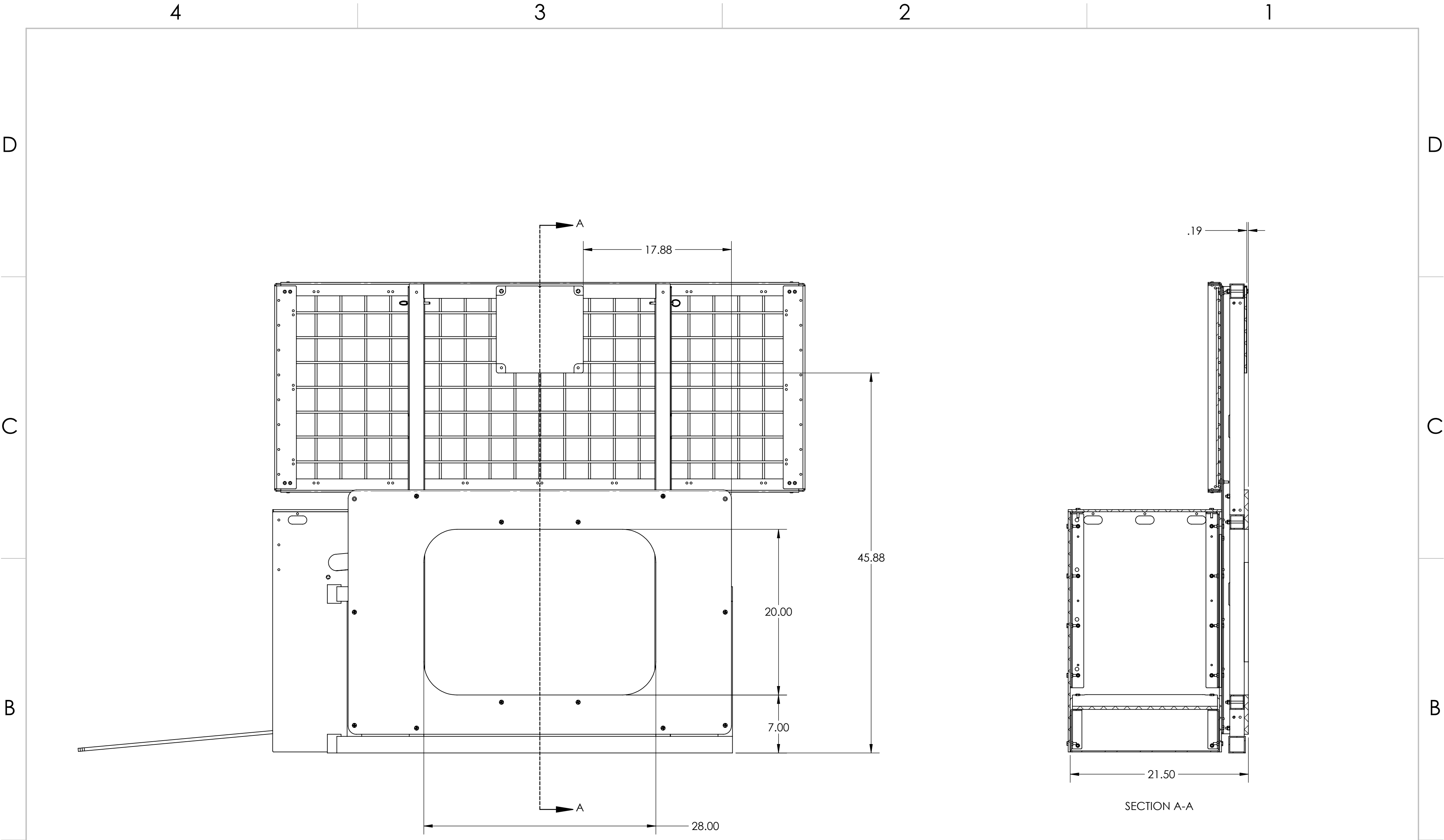
UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50		DRAWN	JO	10/28/2024	
MATERIAL/FINISH:		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE:
DO NOT SCALE DRAWING		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Processor
		SIZE	DWG. NO.	REV	
		<b>C</b>	GE-25100		
		SCALE: 1:10		SHEET 1 OF 2	

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE
	DRAWN	JO	10/28/2024
MATERIAL/FINISH:	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.		
DO NOT SCALE DRAWING	<b>COMMENTS:</b>		TITLE:
	REMOVE ALL BURRS AND SHARP EDGES.		<b>Processor</b>
	SIZE	DWG. NO.	REV
	<b>C</b>	GE-25100	
	SCALE: 1:8		SHEET 2 OF 2



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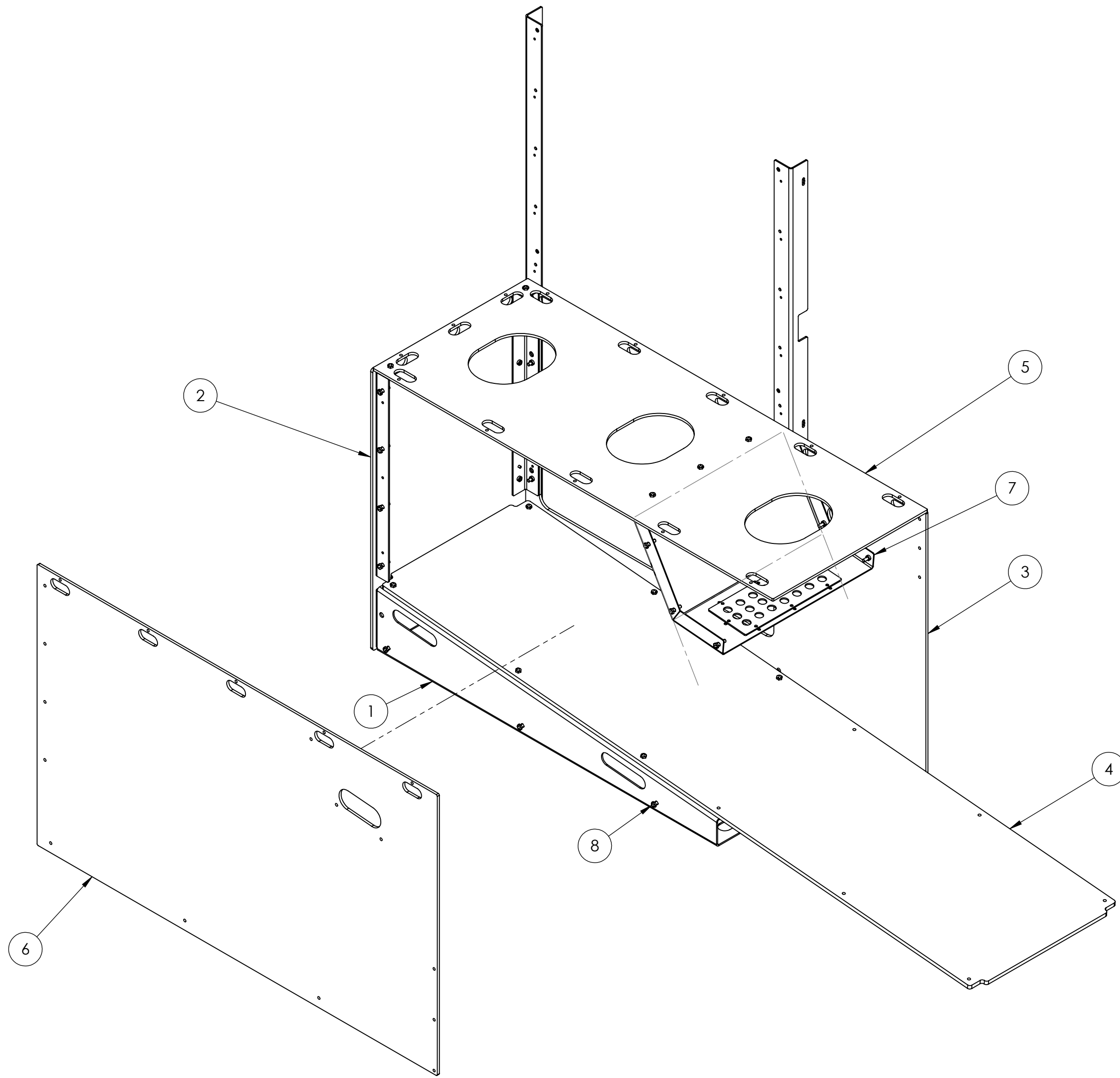
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25102	Processor Ramp Sheetmetal with PEMs	1
2	GE-25104	Processor Ramp Back Assembly	1
3	GE-25107	Processor Fieldside Assembly	1
4	GE-25110	Processor Ramp	1
5	GE-25111	Processor Top Panel	1
6	GE-25112	Processor Humanside Panel	1
7	GE-25113	Sensor Assembly	1
8	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	35

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL  $\pm 1/2$   
ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
TWO PLACE DECIMAL  $\pm .50$

MATERIAL/FINISH:

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	JO	12/6/2024

**PROPRIETARY AND CONFIDENTIAL**  
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

**COMMENTS:**  
REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Ramp Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25101	

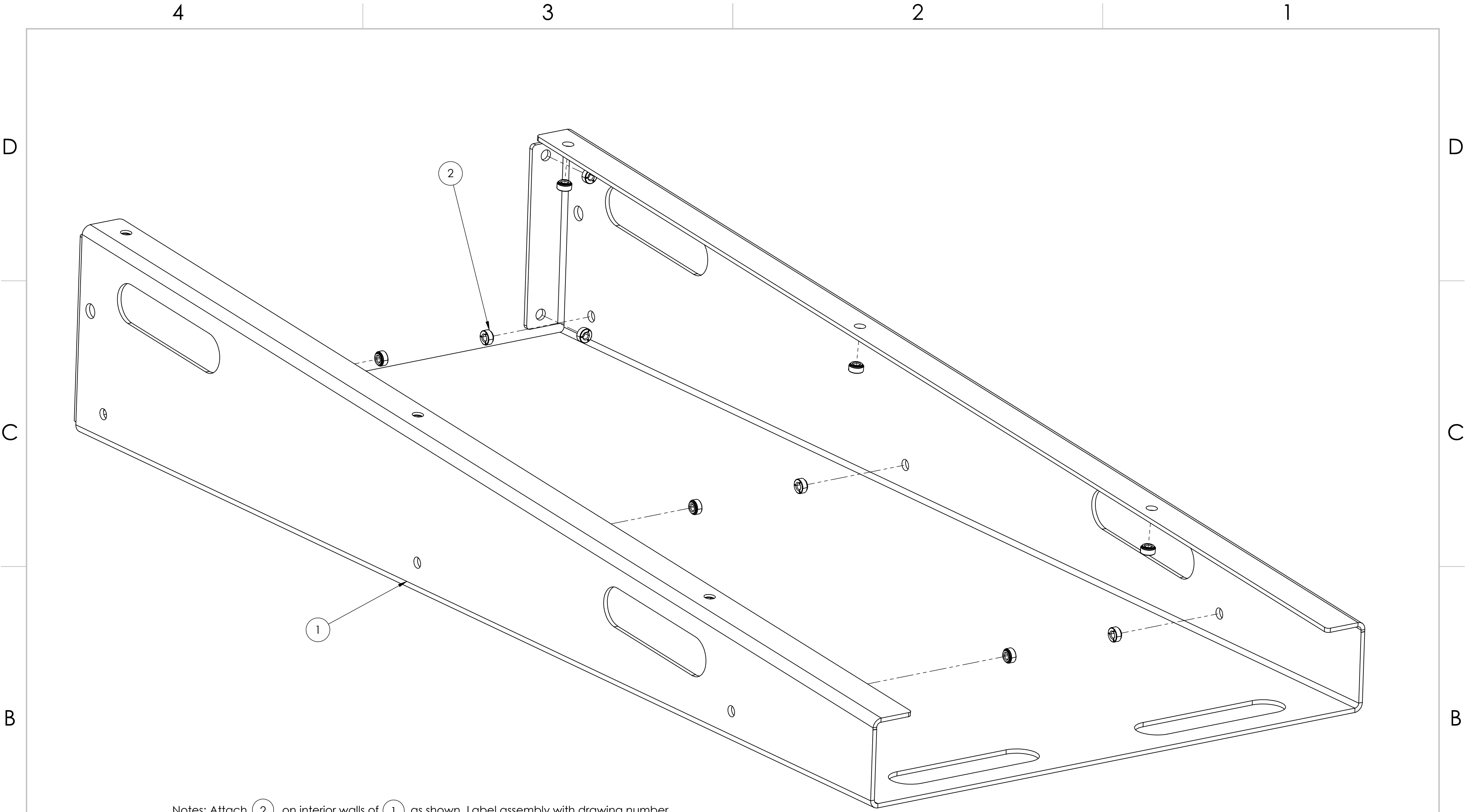
SCALE: 1:8 SHEET 1 OF 1

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Notes: Attach (2) on interior walls of (1) as shown. Label assembly with drawing number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25102-01	Processor Ramp Sheetmetal	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	16

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**



DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	10/2/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

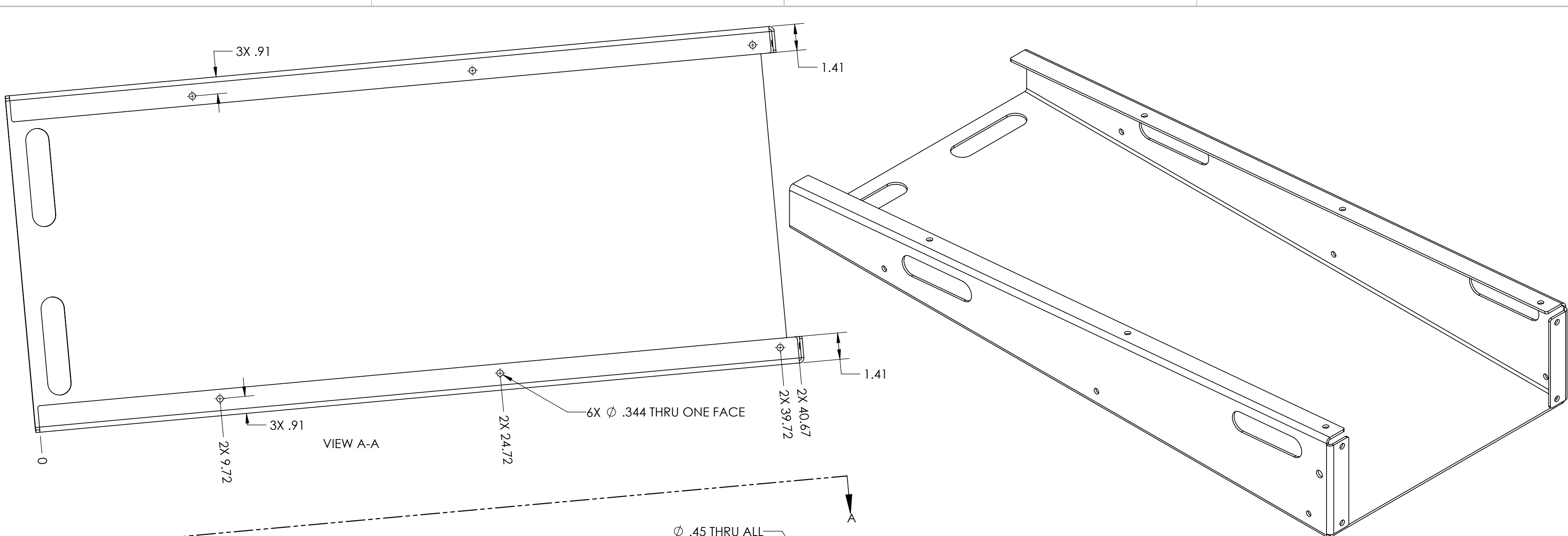
 		
<b>TITLE: Processor Ramp Sheetmetal with PEMs</b>		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25102	
SCALE: 1:2		SHEET 1 OF 1

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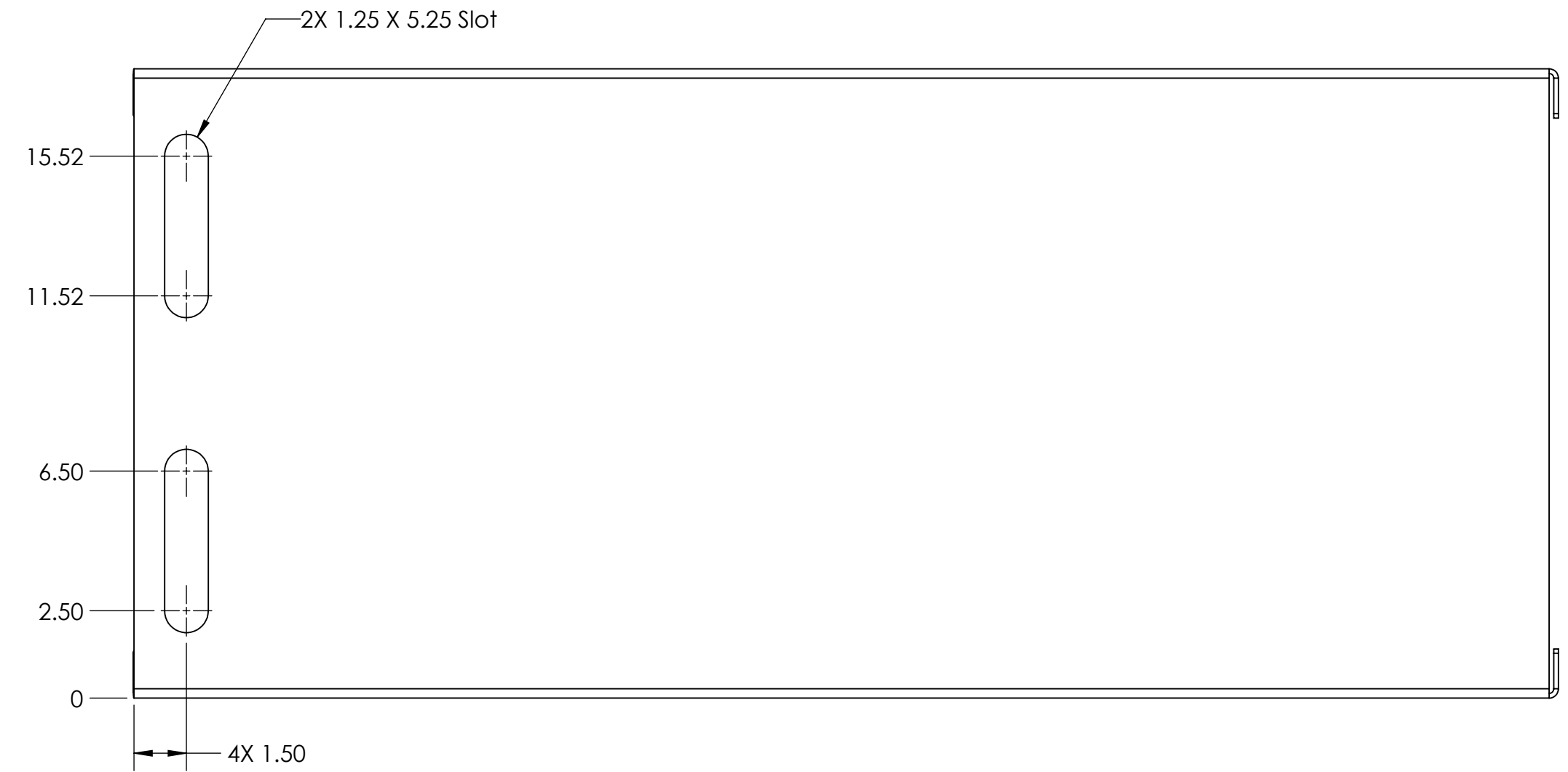
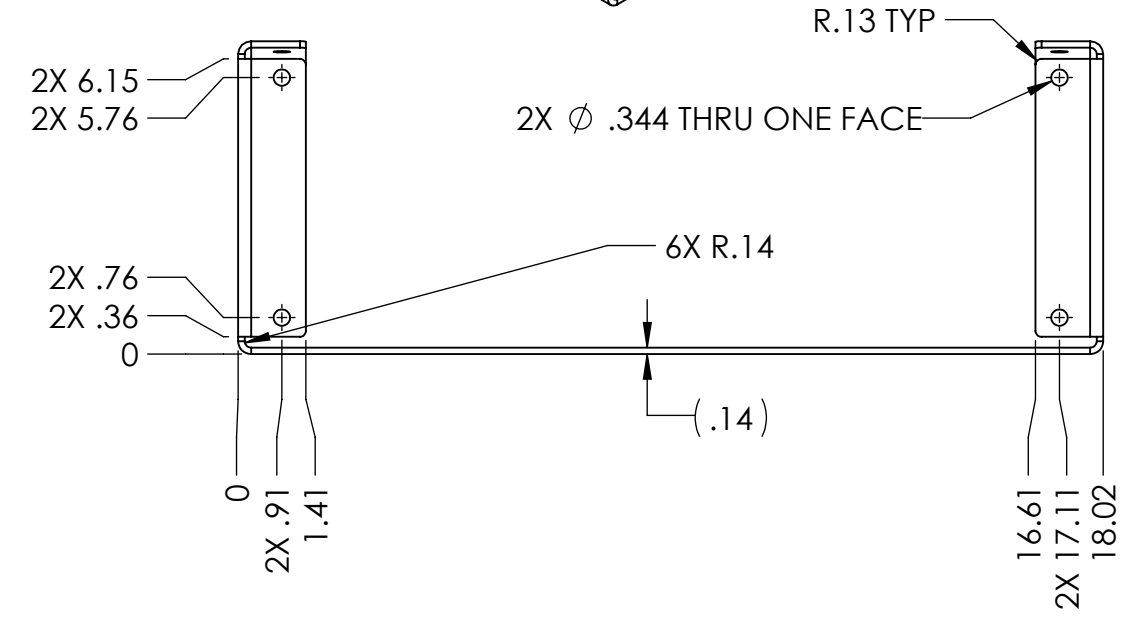
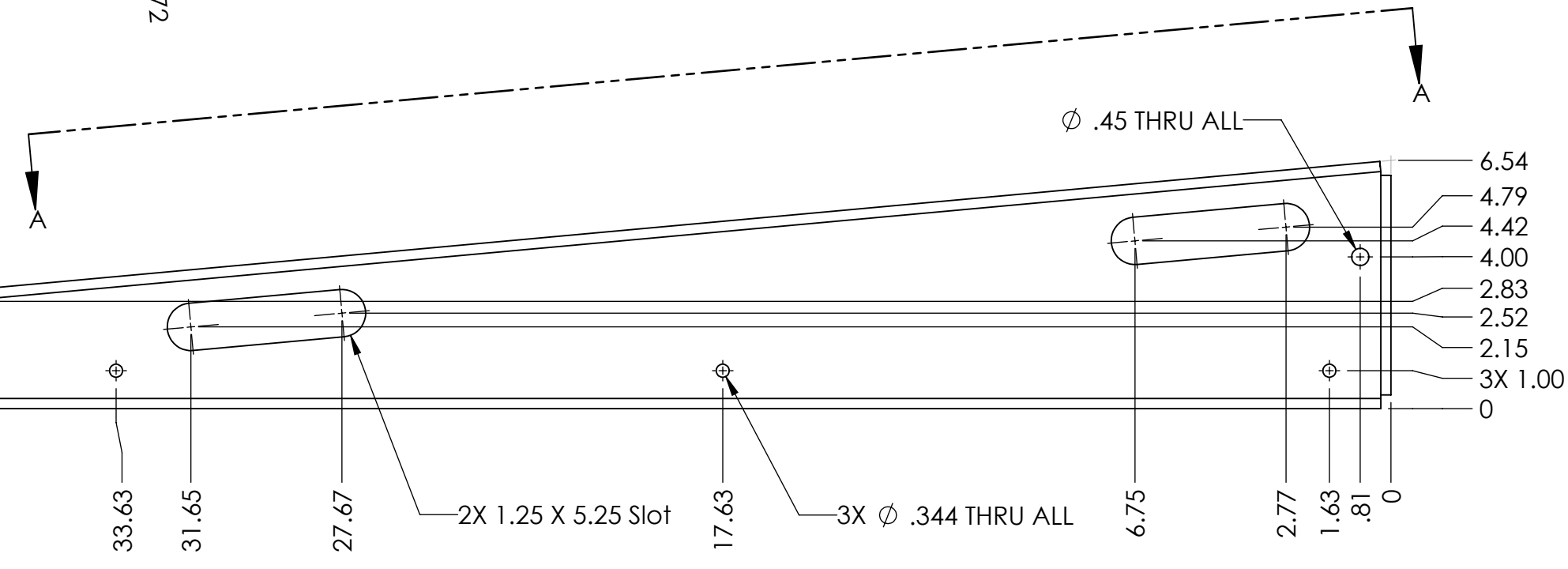
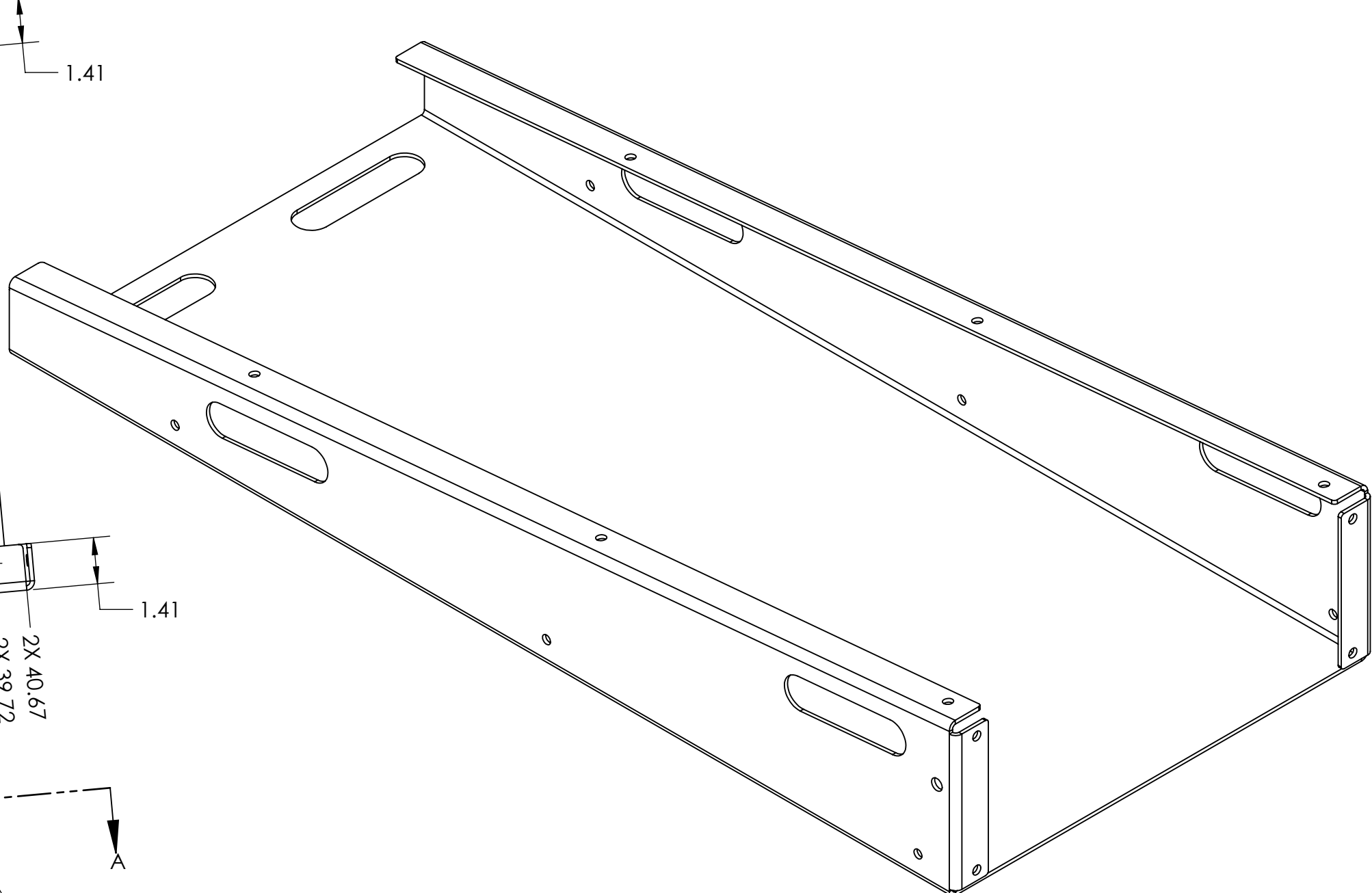
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VIEW A-A



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 10 Ga Mild Steel, Painted Matte Black Finish  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	JO	9/30/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			Processor Ramp Sheetmetal
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				<b>C</b> GE-25102-01
				SCALE: 1:4
				SHEET 1 OF 1

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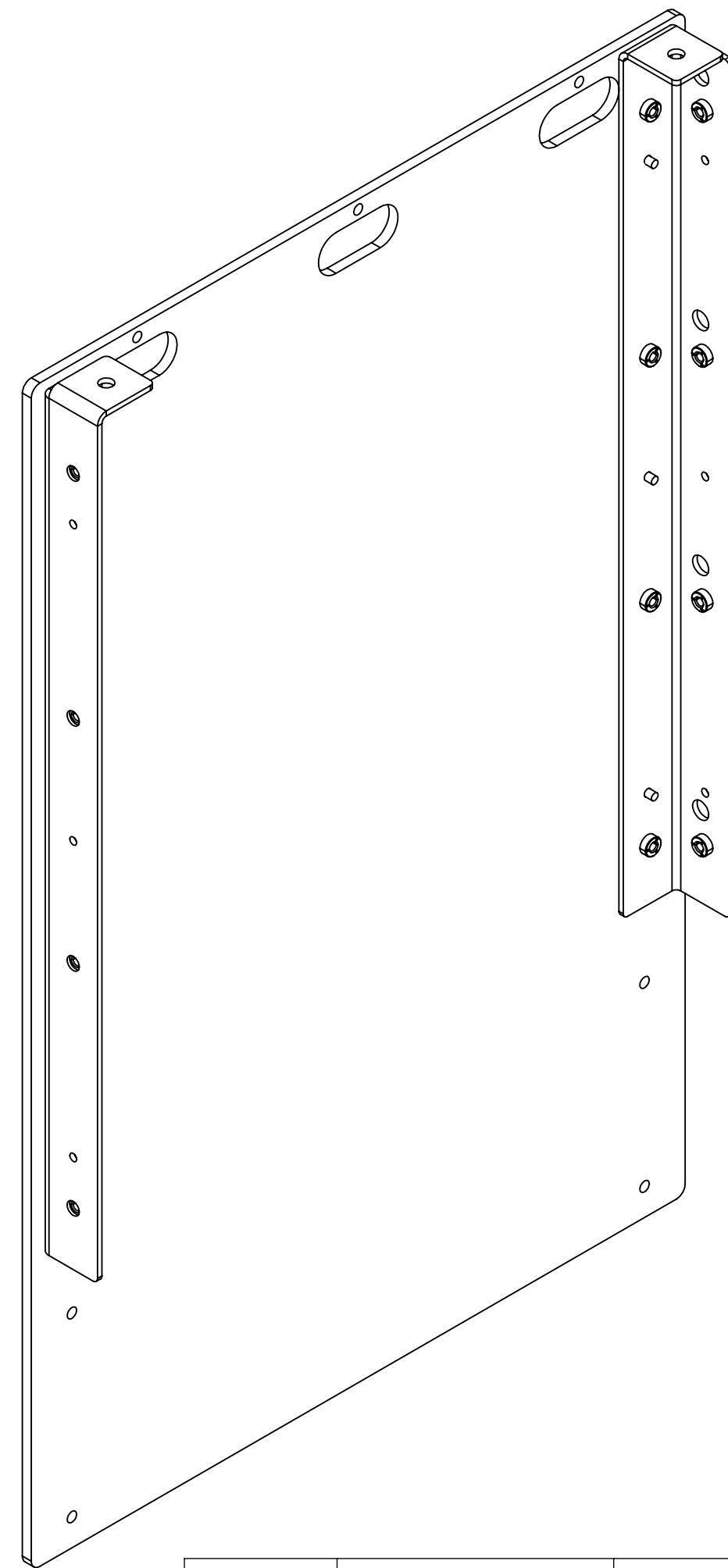
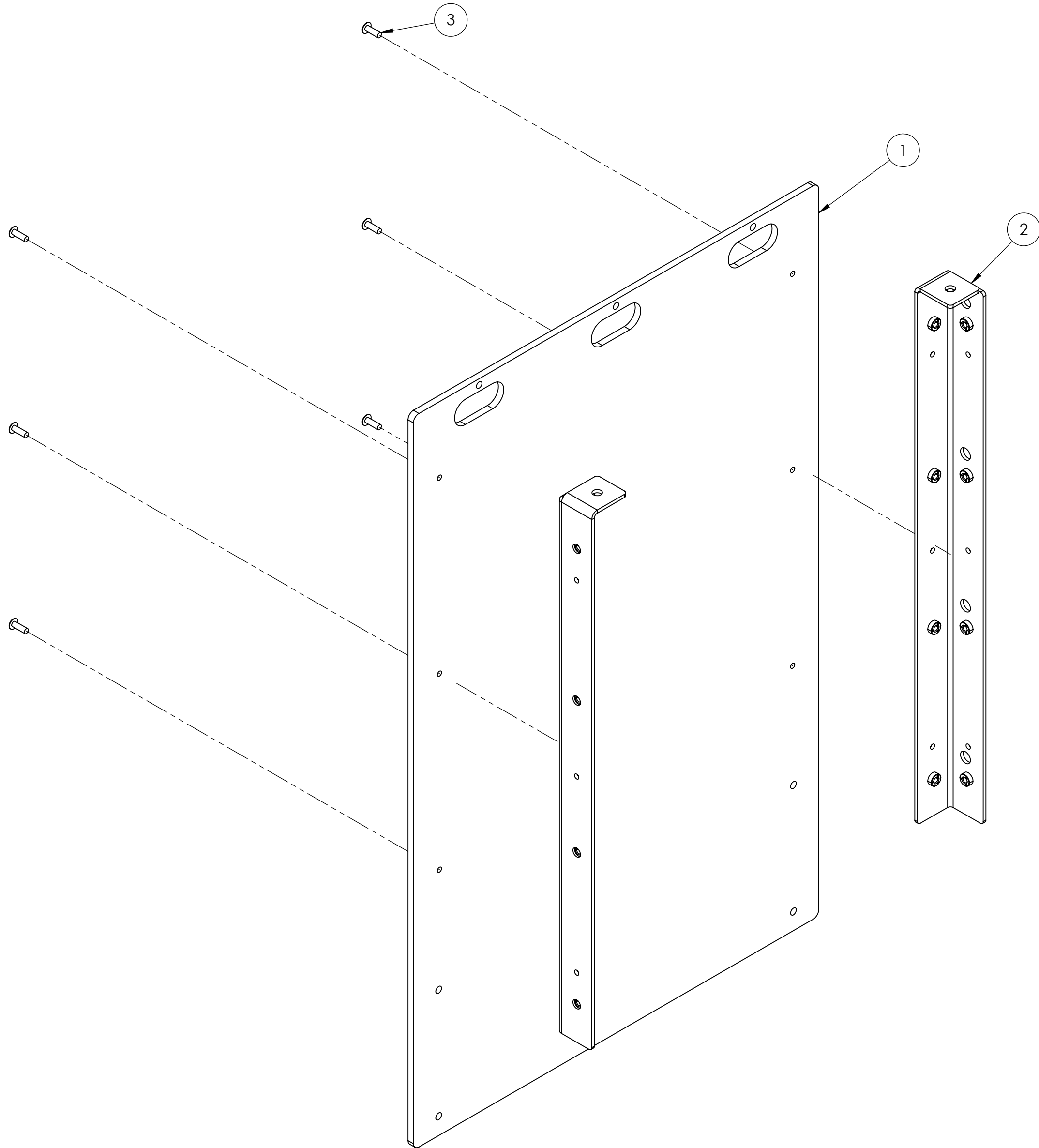
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Notes: Attach ① to ② using ③ as shown. Label assembly with drawing number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25105	Processor Ramp Back Panel	1
2	GE-25106	Processor Inner Corner Bracket w/ PEMS	2
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	6

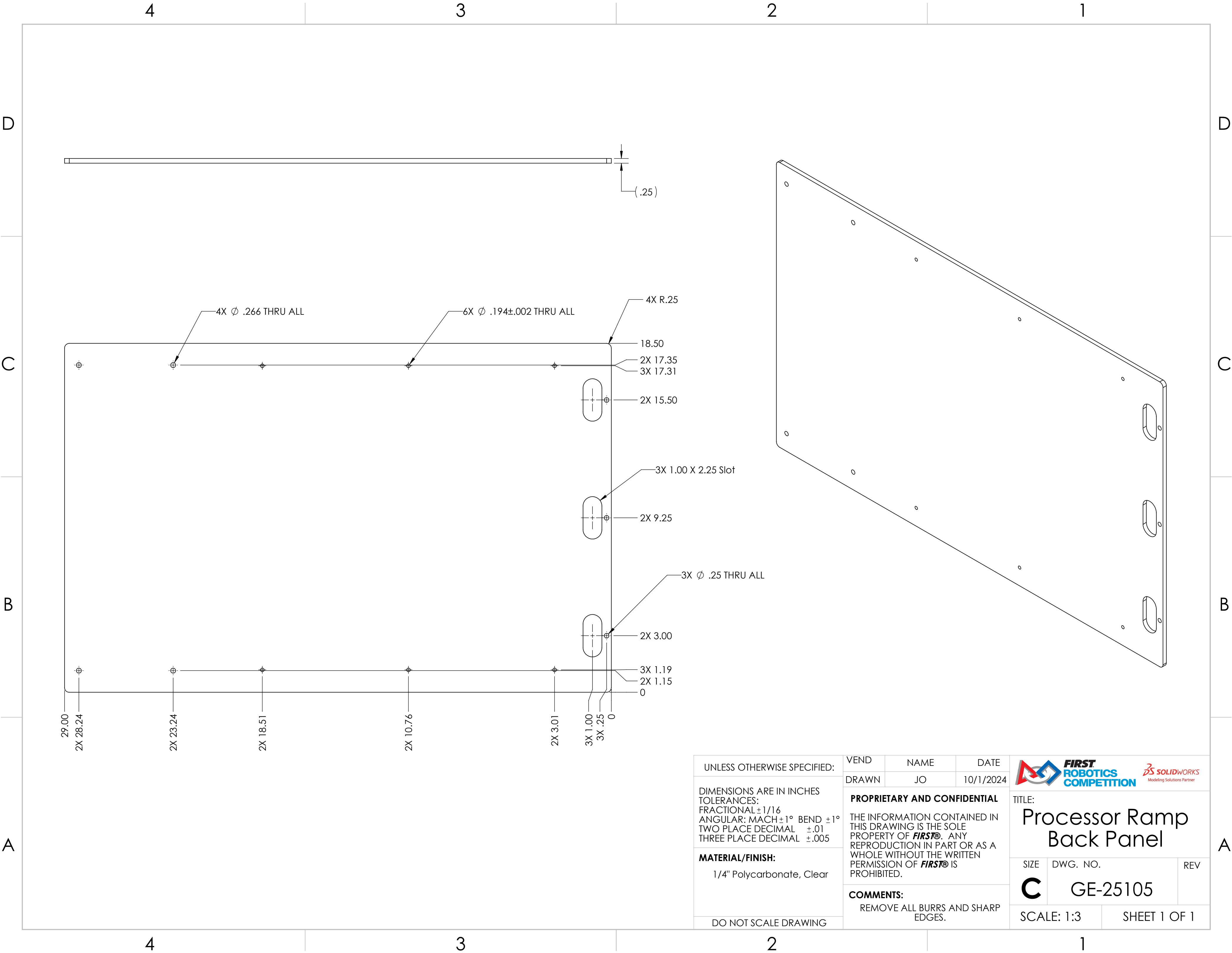
UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005		DRAWN	JO	10/2/2024
MATERIAL/FINISH:		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
COMMENTS:				
DO NOT SCALE DRAWING		 		
		TITLE: <h1>Processor Ramp Back Assembly</h1>		
		SIZE	DWG. NO.	REV
		<b>C</b>	GE-25104	
		SCALE: 1:3		SHEET 1 OF 1



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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .01 THREE PLACE DECIMAL $\pm$ .005  <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	10/1/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.			Processor Ramp Back Panel
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25105
	SCALE: 1:3		SHEET 1 OF 1	

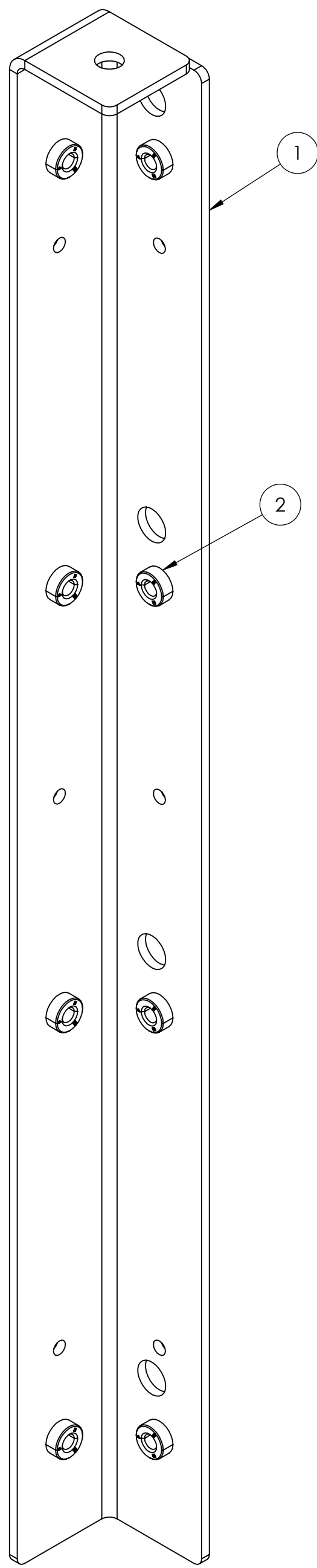


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Notes: Attach (2) to (1) as shown.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25106-01	Processor Inner Corner Bracket	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	8

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	10/2/2024

**PROPRIETARY AND CONFIDENTIAL**

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

**COMMENTS:**

REMOVE ALL BURRS AND SHARP EDGES.



TITLE: Processor Inner Corner Bracket w/ PEMs

SIZE	DWG. NO.	REV
<b>C</b>	GE-25106	

SCALE: 3:4 SHEET 1 OF 1

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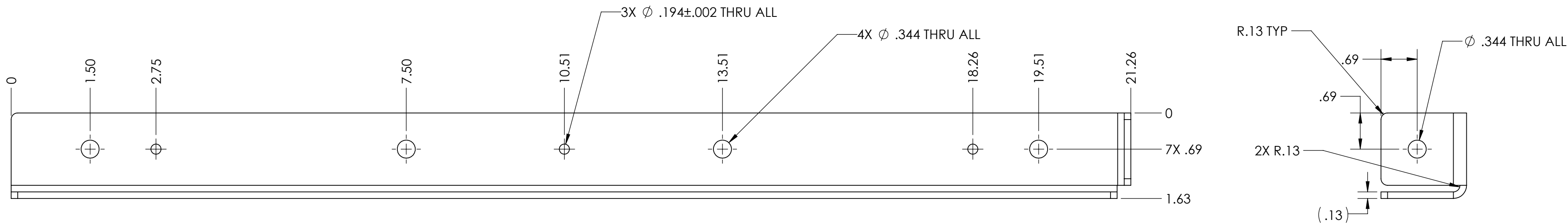
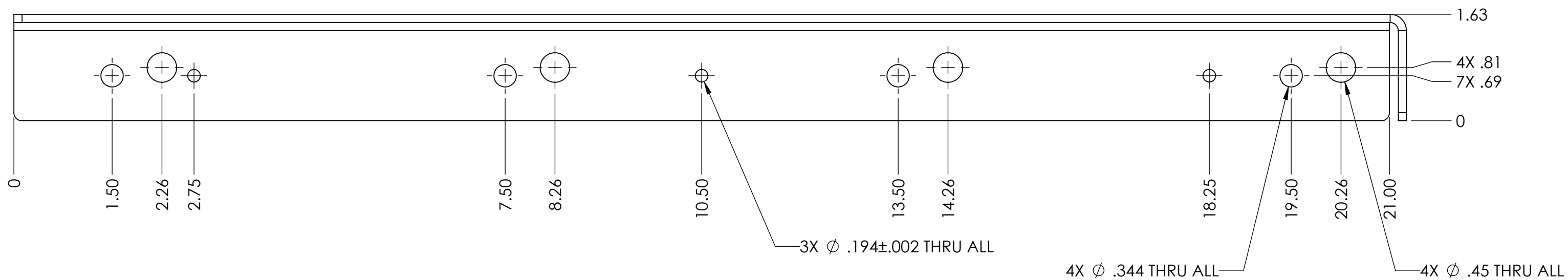
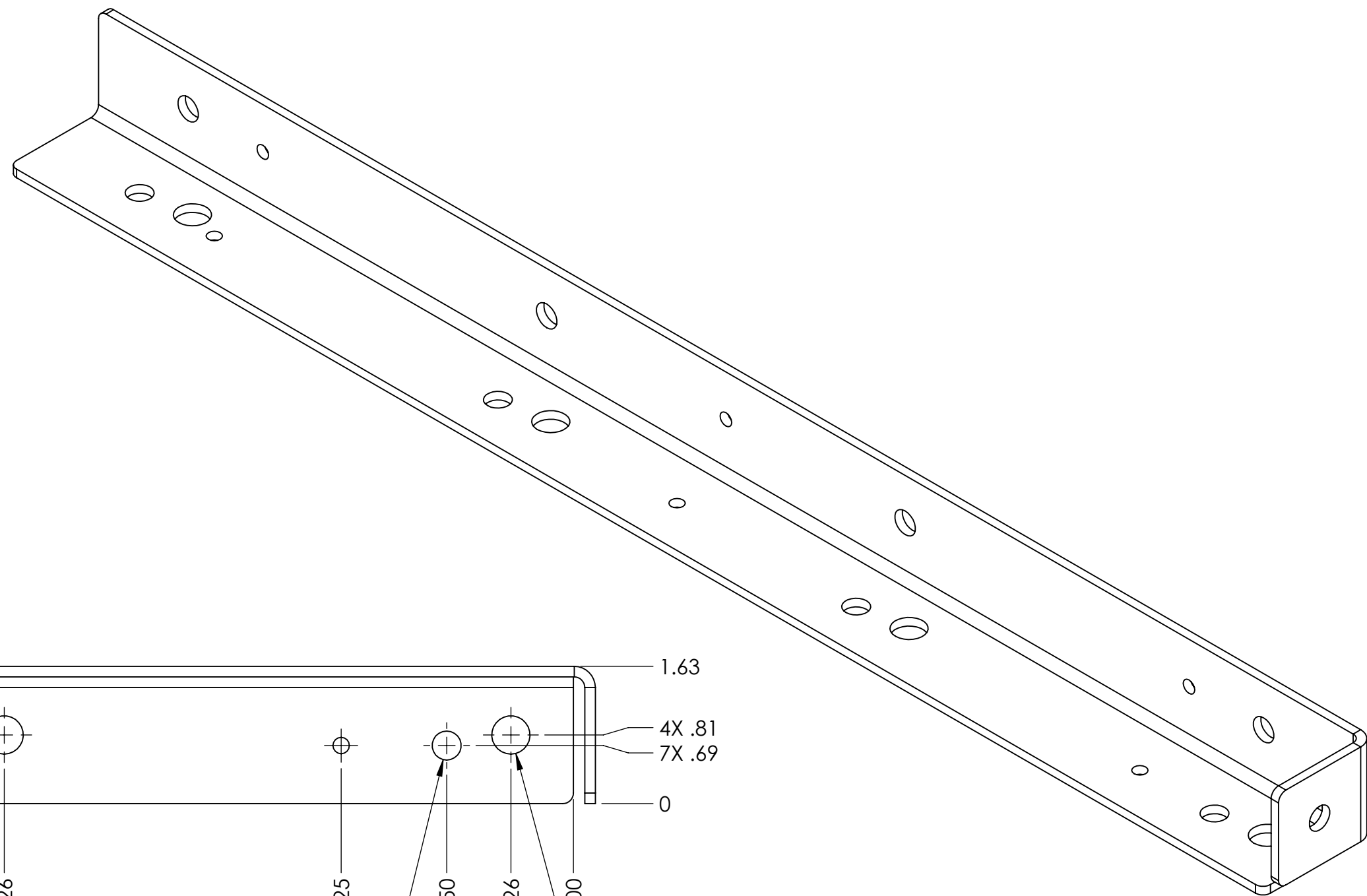
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	JO	10/1/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .02 THREE PLACE DECIMAL $\pm$ .010	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.		
<b>MATERIAL/FINISH:</b> 8 Ga 5052 Aluminum	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			



TITLE: <b>Processor Inner Corner Bracket</b>		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25106-01	
SCALE: 2:3	SHEET 1 OF 1	

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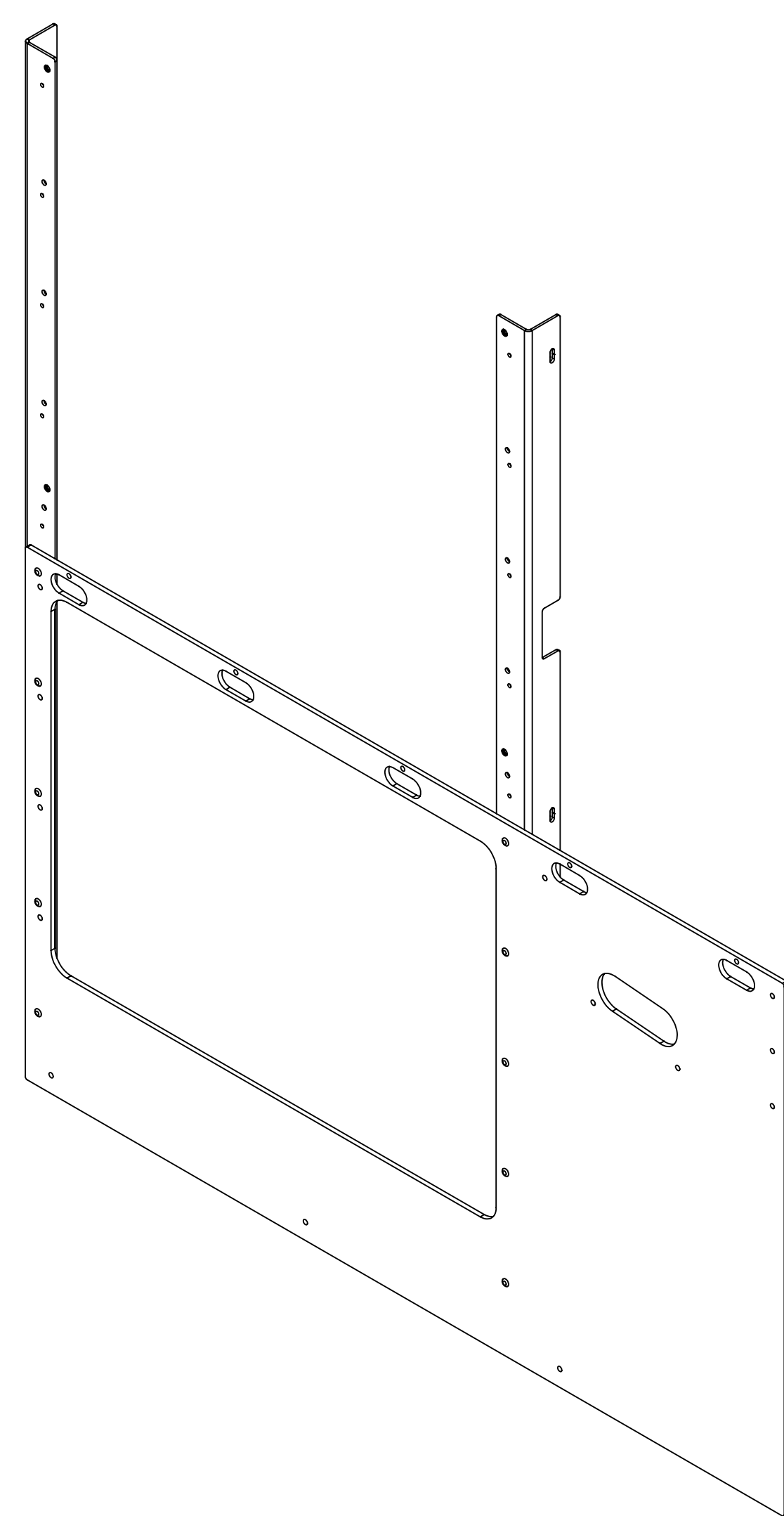
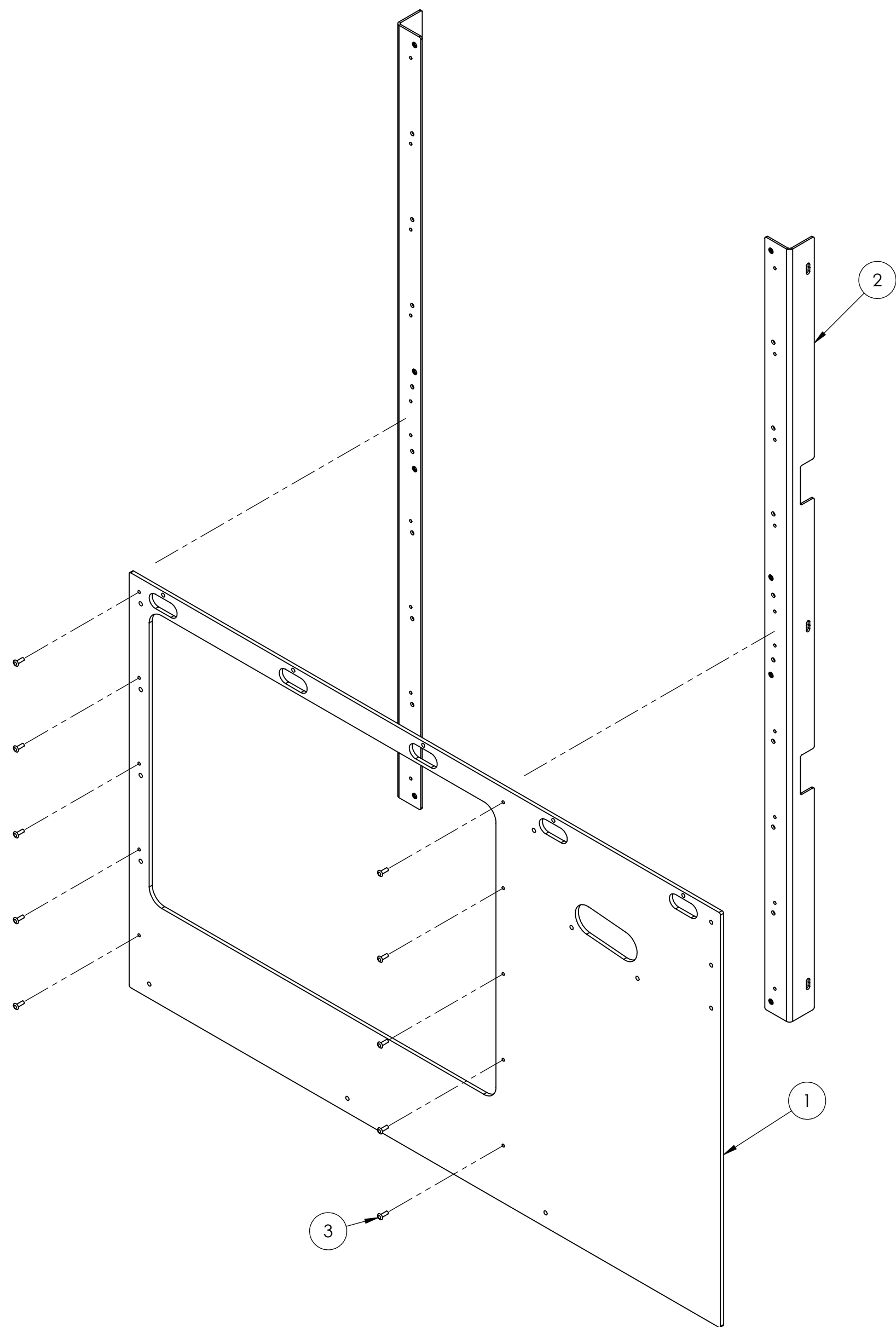
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Notes: Attach (2) to (1) with (3). Label Assembly with drawing number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25108	Processor Fieldside Panel	1
2	GE-25109	Upright Sheetmetal w/ PEMs	2
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	10

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	JO	10/2/2024
TOLERANCES:		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
FRACTIONAL ± 1/16				
ANGULAR: MACH ± 1° BEND ± 1°				
TWO PLACE DECIMAL ± .01				
THREE PLACE DECIMAL ± .005		<b>FIRST ROBOTICS COMPETITION</b> 		
<b>MATERIAL/FINISH:</b>		TITLE: <b>Processor Fieldside Assembly</b>		
<b>COMMENTS:</b>		SIZE	DWG. NO.	REV
REMOVE ALL BURRS AND SHARP EDGES.		<b>C</b>	GE-25107	
DO NOT SCALE DRAWING		SCALE: 1:6		SHEET 1 OF 1

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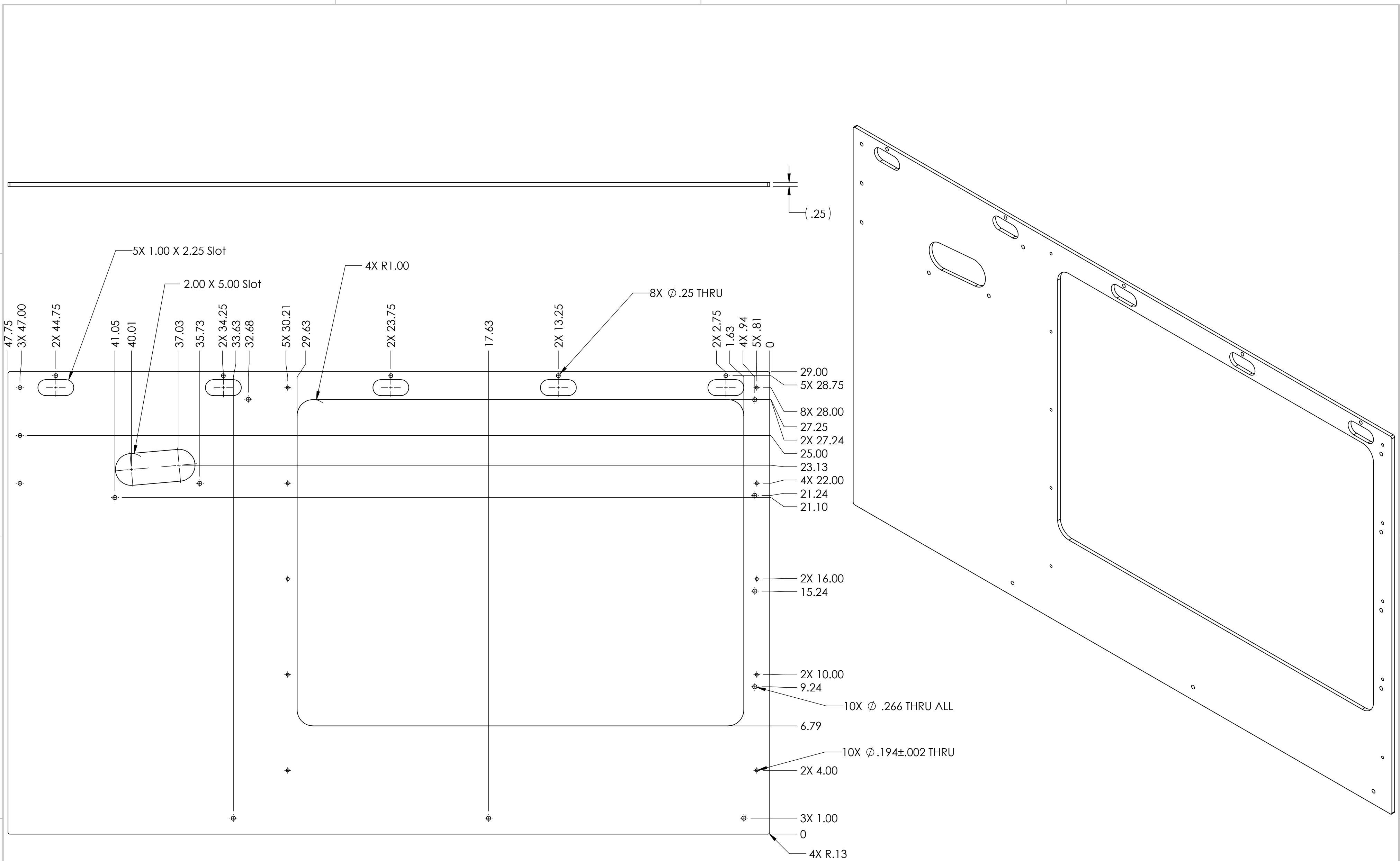
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .01 THREE PLACE DECIMAL $\pm$ .005 <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear	VEND	NAME	DATE	 
	DRAWN	JO	10/1/2024	
DO NOT SCALE DRAWING	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.			Processor Fieldside Panel
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE	DWG. NO.
			<b>C</b>	GE-25108
			SCALE: 12:50	SHEET 1 OF 1

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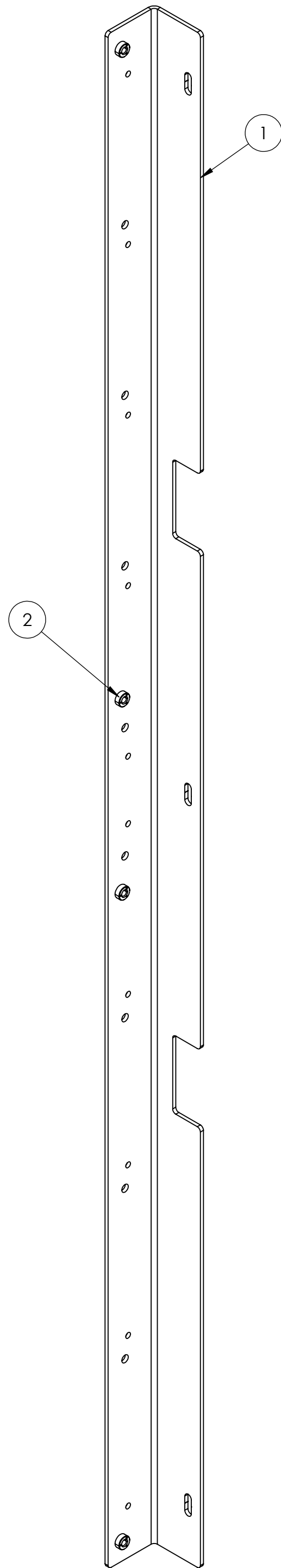
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Notes: Attach (2) to (1) as shown.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25109-01	Upright Sheetmetal	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	4

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	10/2/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: Upright Sheetmetal w/ PEMS

SIZE	DWG. NO.	REV
<b>C</b>	GE-25109	

SCALE: 1:3 SHEET 1 OF 1

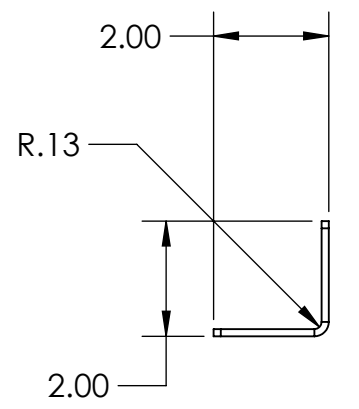
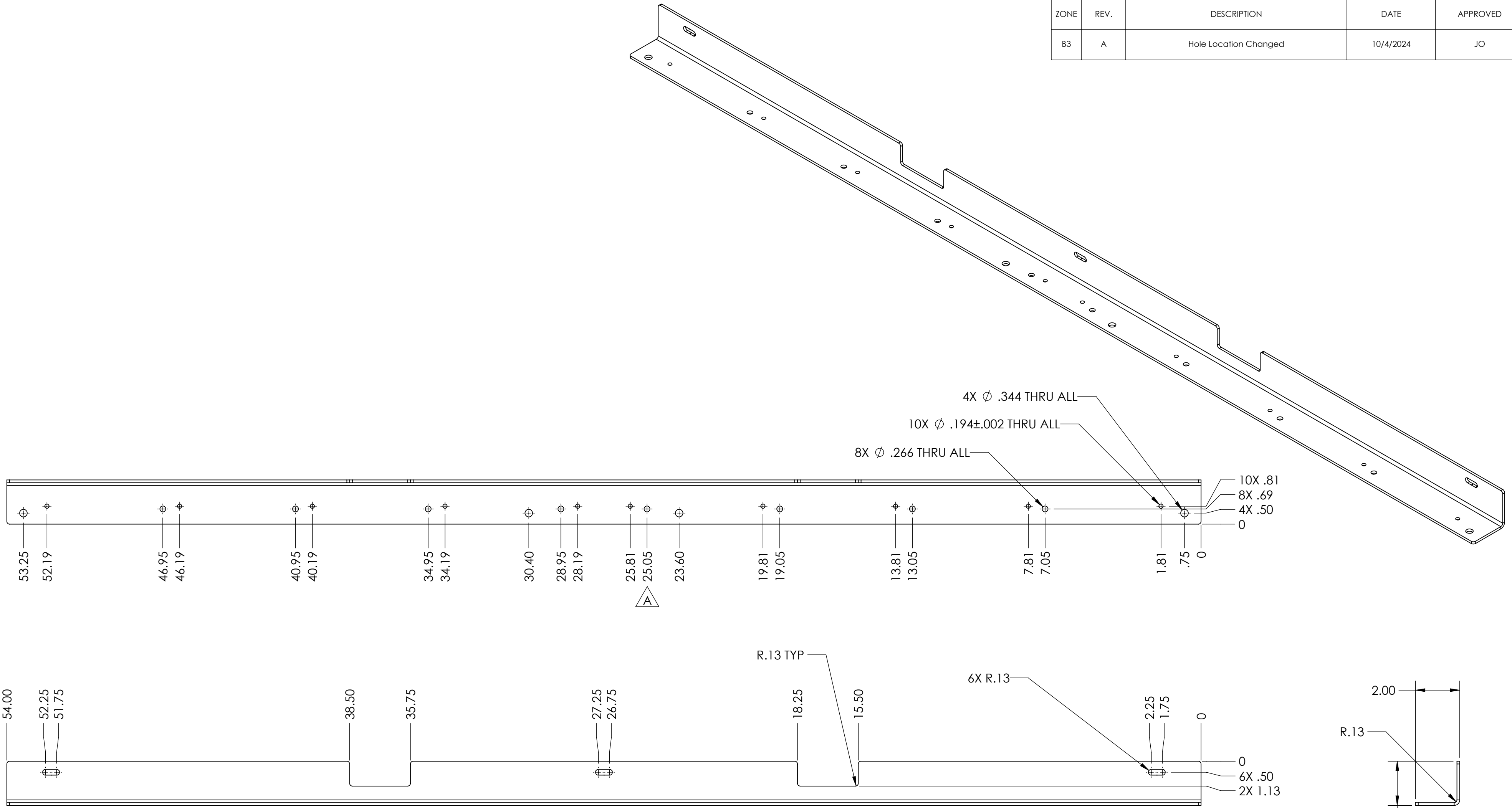
4



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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	A	Hole Location Changed	10/4/2024	JO



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .02 THREE PLACE DECIMAL $\pm$ .010	BEND	NAME	DATE	 						
	DRAWN	JO	9/30/2024							
<b>MATERIAL/FINISH:</b> 8 Ga 5052 Aluminum	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <b>Upright Sheetmetal</b>						
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td><b>C</b></td> <td>GE-25109-01</td> <td><b>A</b></td> </tr> </table>	SIZE	DWG. NO.	REV	<b>C</b>	GE-25109-01	<b>A</b>
SIZE	DWG. NO.	REV								
<b>C</b>	GE-25109-01	<b>A</b>								
SCALE: 3:10			SHEET 1 OF 1							

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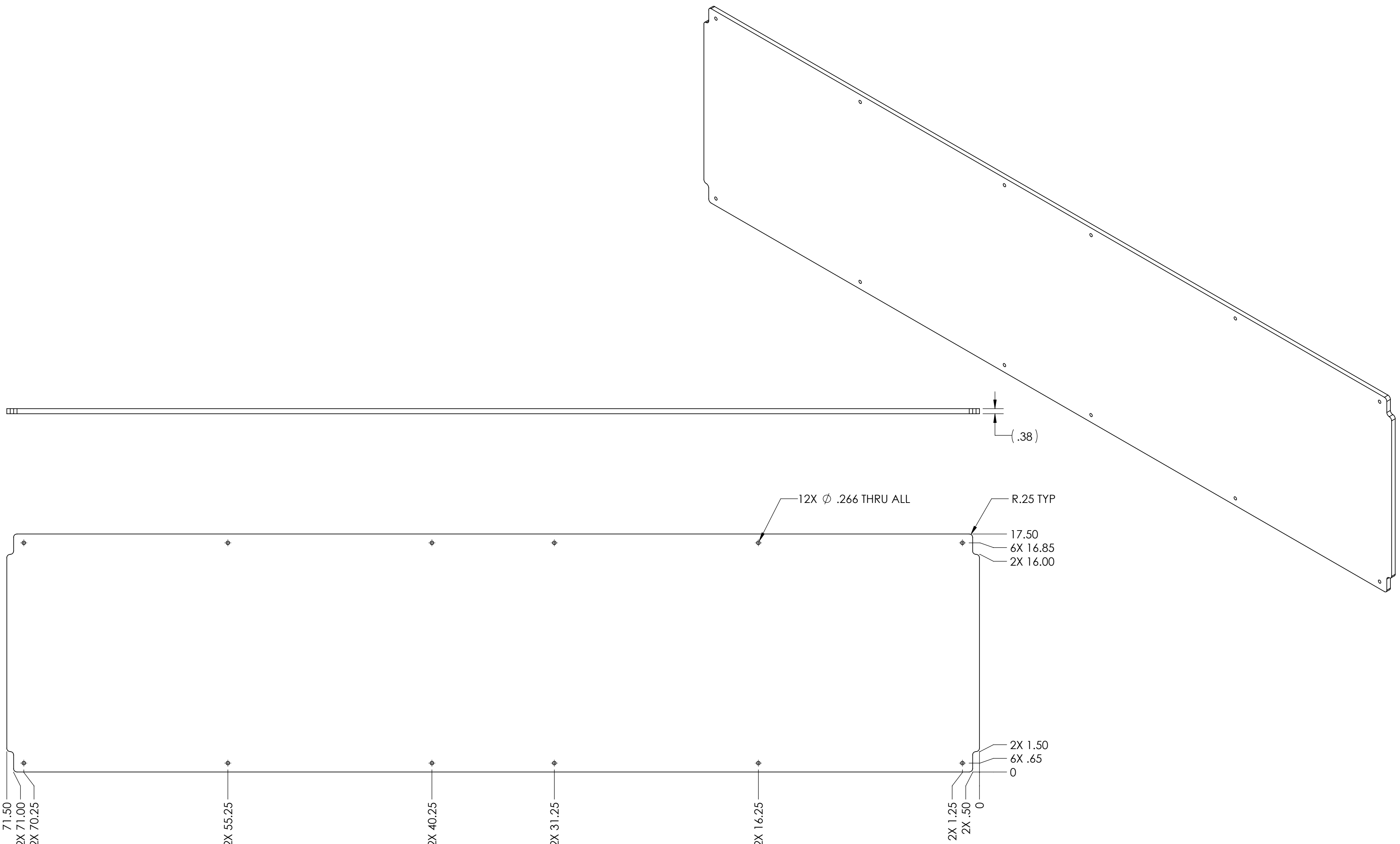
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 3/8" HDPE, Matte Black Finish  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	9/30/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<b>C</b> GE-25110  SCALE: 1:5 SHEET 1 OF 1

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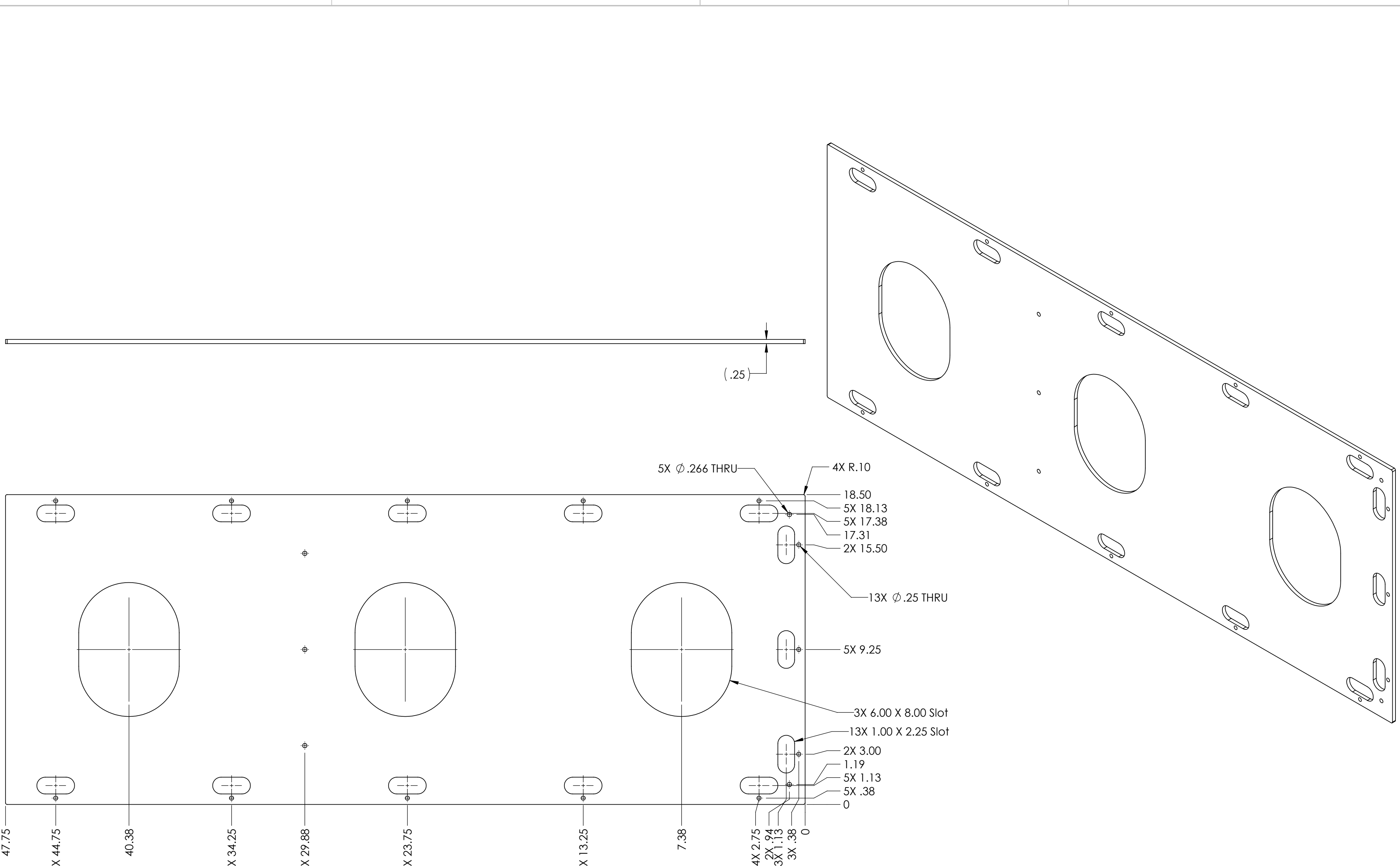
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear  DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	JO	9/30/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Processor Top Panel  SIZE DWG. NO. REV <b>C</b> GE-25111 SCALE: 1:4 SHEET 1 OF 1



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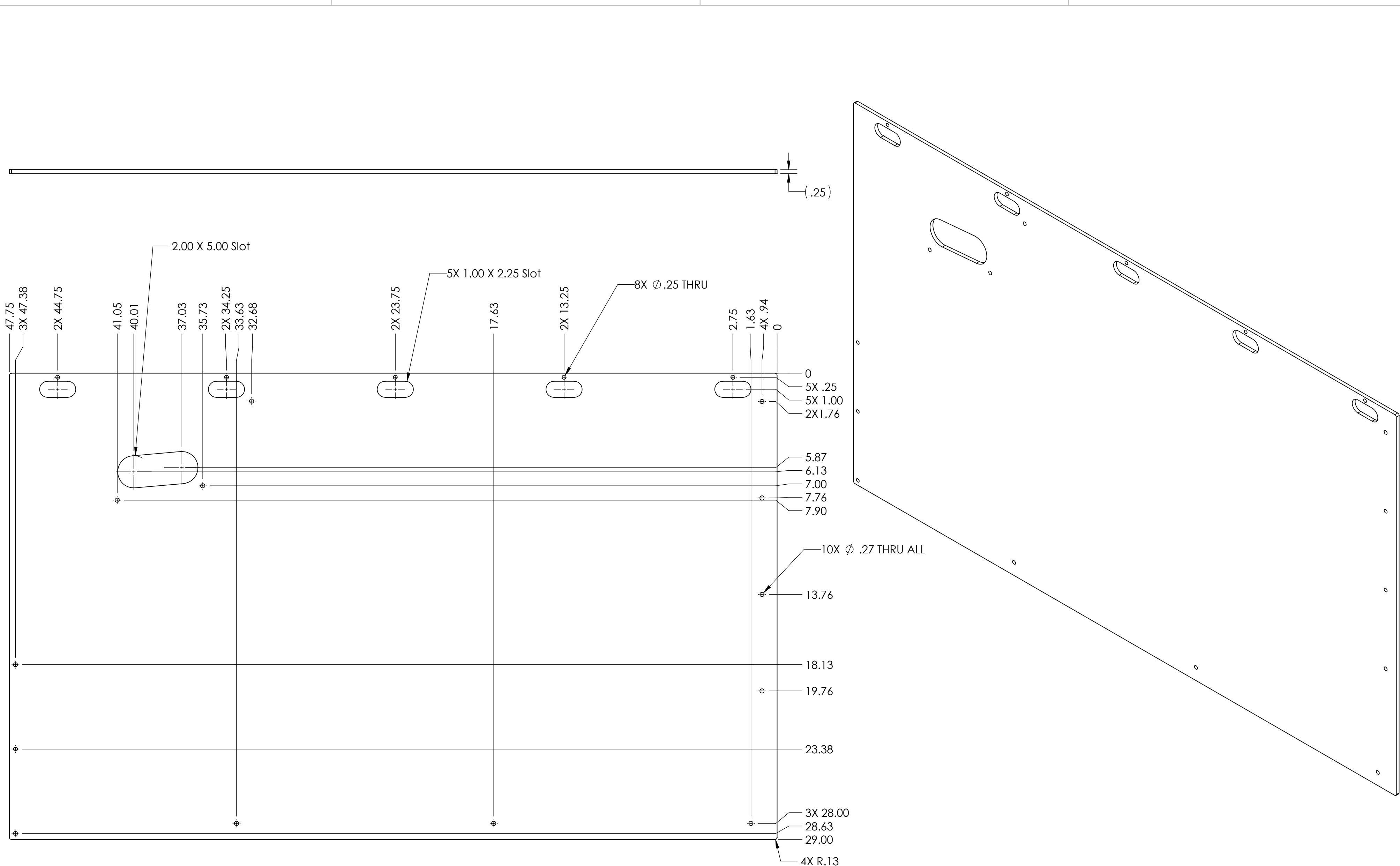
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<p>UNLESS OTHERWISE SPECIFIED:</p> <p>DIMENSIONS ARE IN INCHES  TOLERANCES:  FRACTIONAL ± 1/16  ANGULAR: MACH ± 1° BEND ± 1°  TWO PLACE DECIMAL ± .01  THREE PLACE DECIMAL ± .005</p> <p><b>MATERIAL/FINISH:</b>  1/4" Polycarbonate, Clear</p> <p>DO NOT SCALE DRAWING</p>	VEND	NAME	DATE	 	
	DRAWN	JO	10/1/2024		
	<p><b>PROPRIETARY AND CONFIDENTIAL</b></p> <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b>. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.</p>				TITLE:
	<p><b>COMMENTS:</b>  REMOVE ALL BURRS AND SHARP EDGES.</p>				<p>Processor Humanside Panel</p>
<p>SIZE</p>		<p>DWG. NO.</p>		<p>REV</p>	
<p><b>C</b></p>		<p>GE-25112</p>			
<p>SCALE: 6:25</p>			<p>SHEET 1 OF 1</p>		

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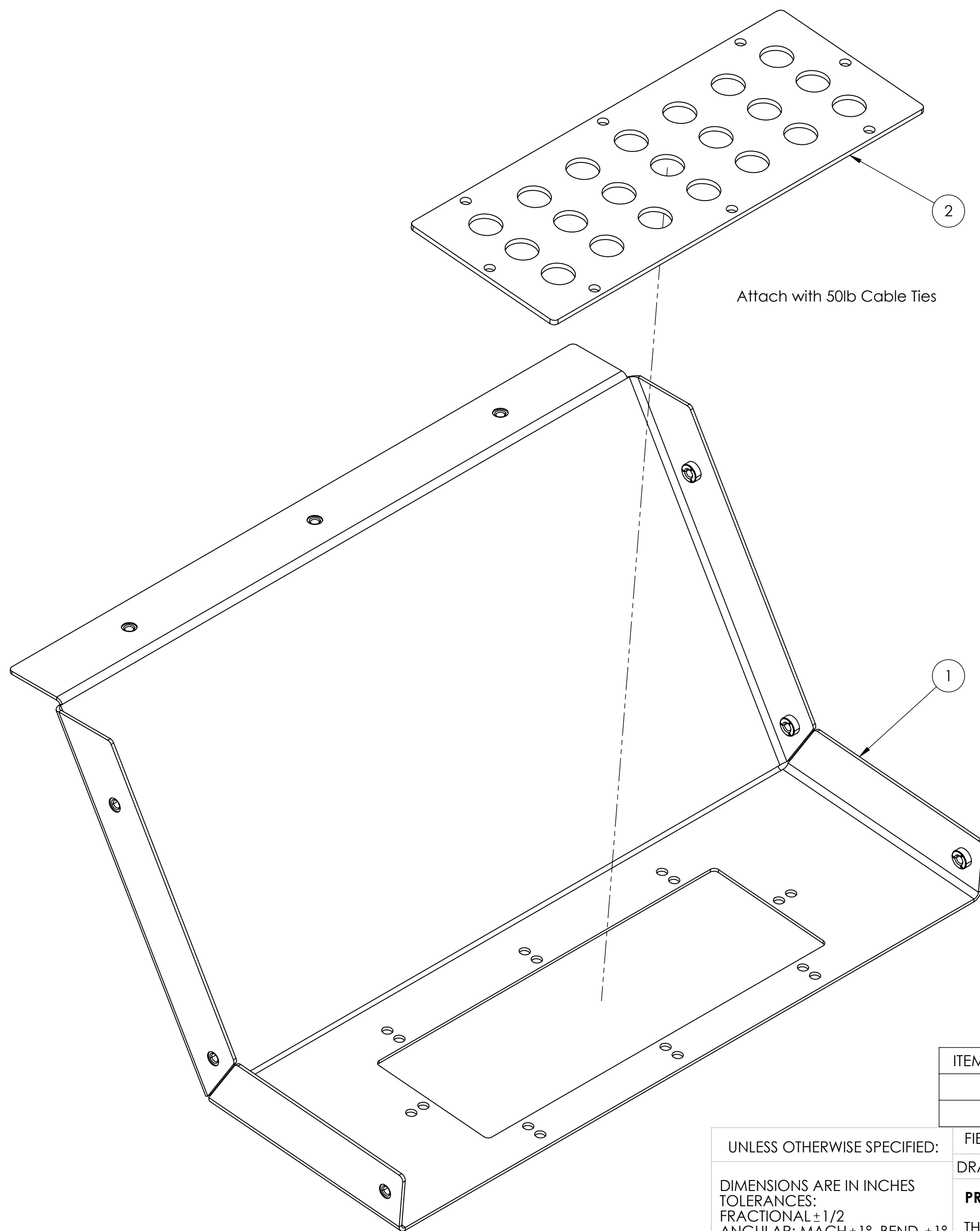
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Attach with 50lb Cable Ties

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25114	Sensor Mount	1
2	GE-25115	Processor Sensor Plate	1

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/2$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .50$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	JO	12/6/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE: **Sensor Assembly**

SIZE	DWG. NO.	REV
C	GE-25113	

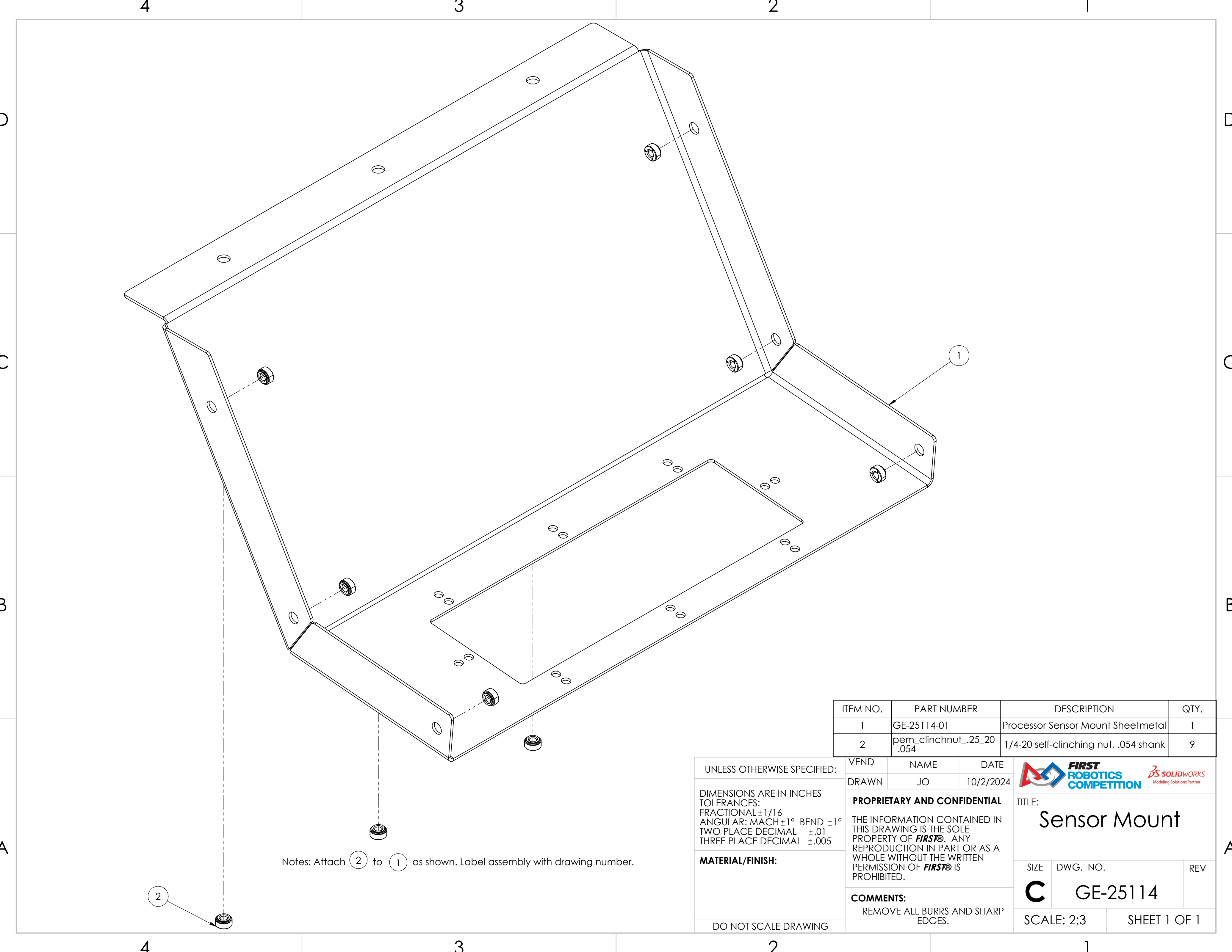
SCALE: 1:2      SHEET 1 OF 1

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Notes: Attach ② to ① as shown. Label assembly with drawing number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25114-01	Processor Sensor Mount Sheetmetal	1
2	pem_clinchnut_.25_20 -.054	1/4-20 self-clinching nut, .054 shank	9

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**



DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	10/2/2024

**PROPRIETARY AND CONFIDENTIAL**

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

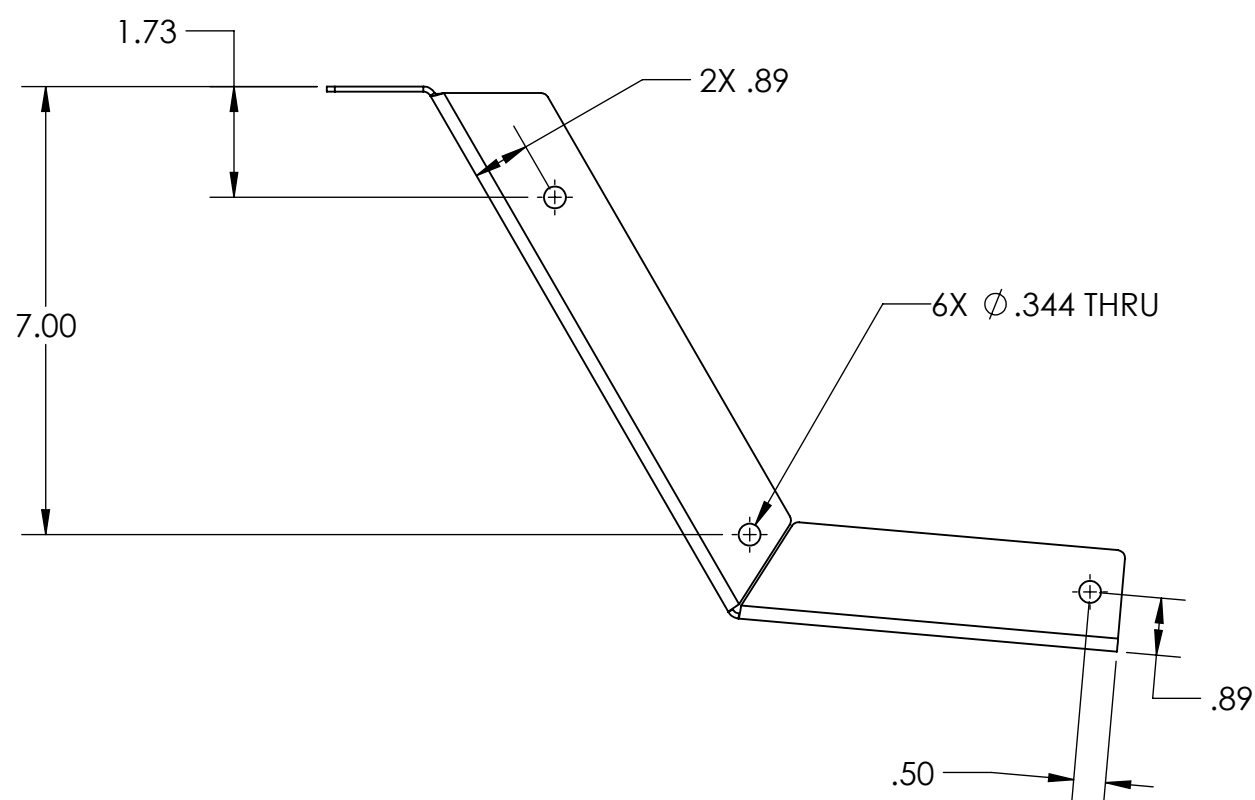
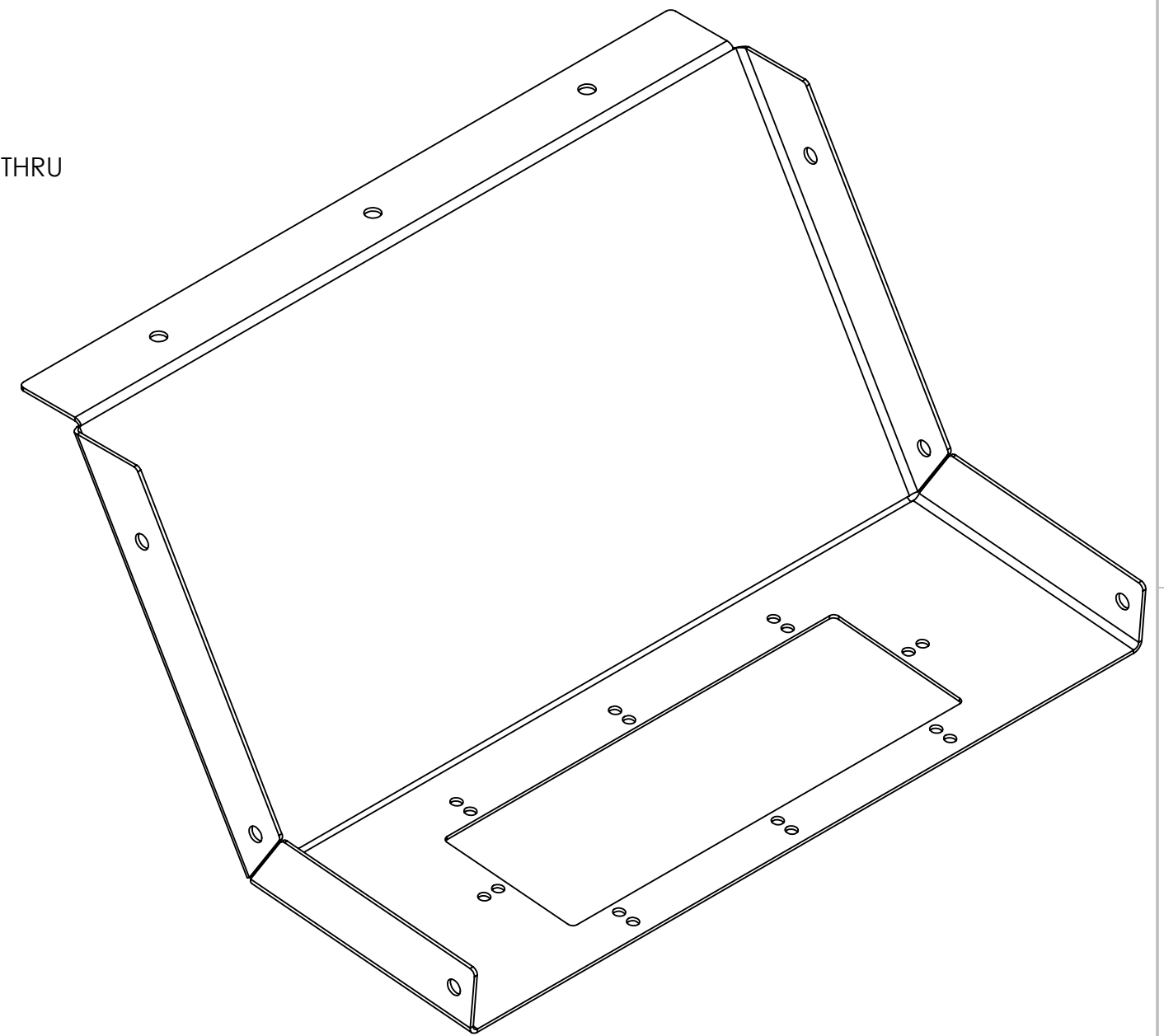
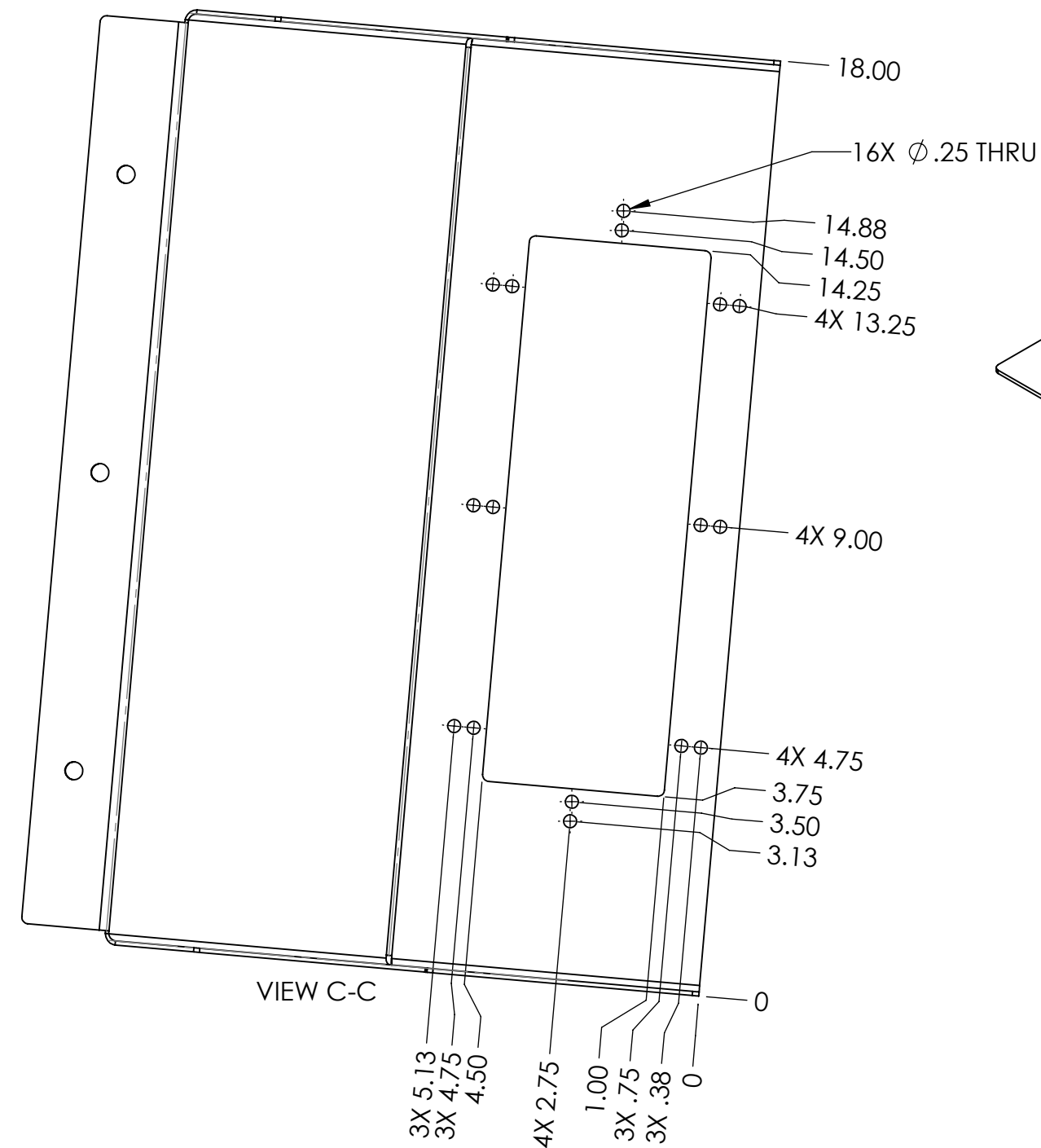
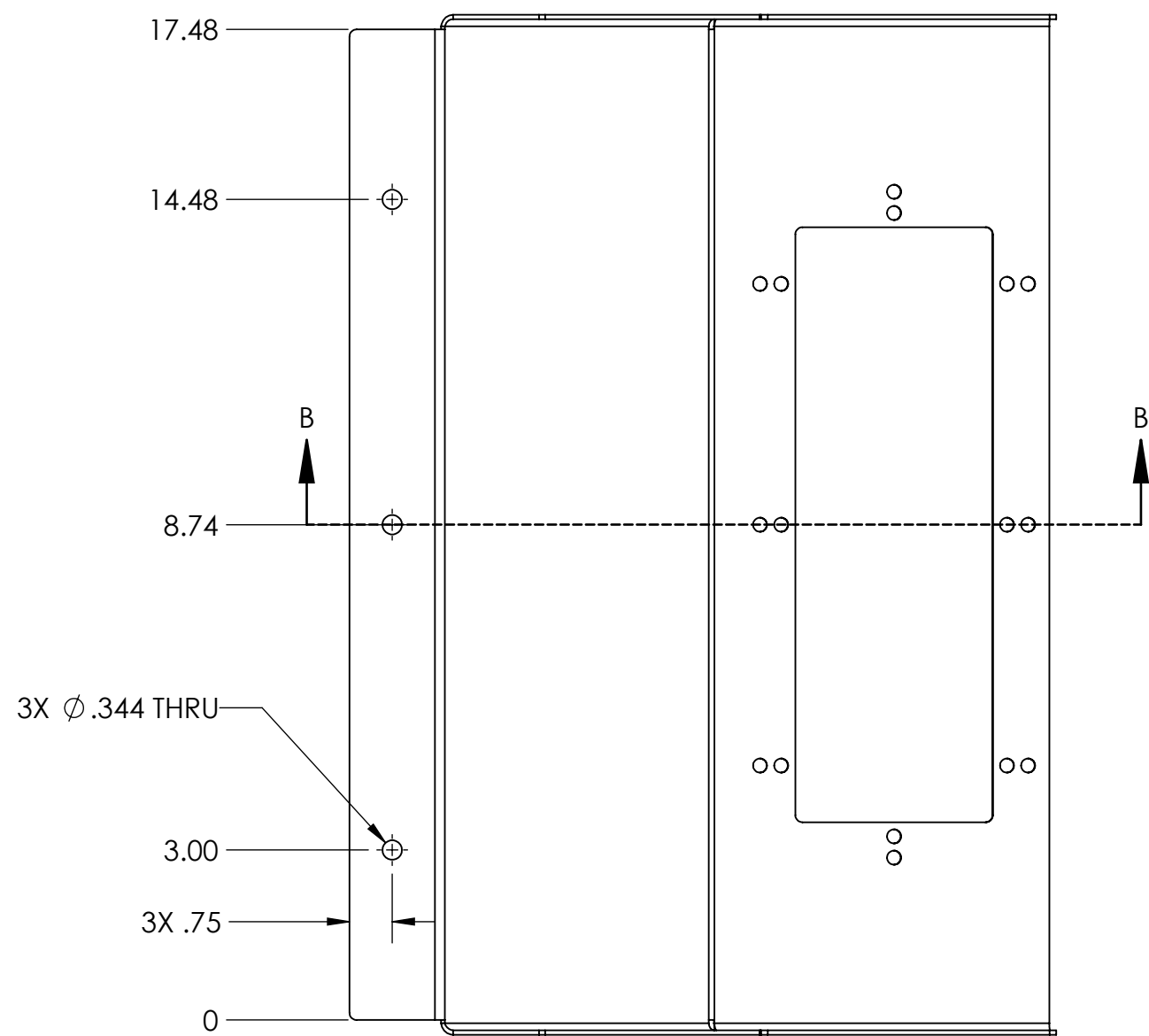
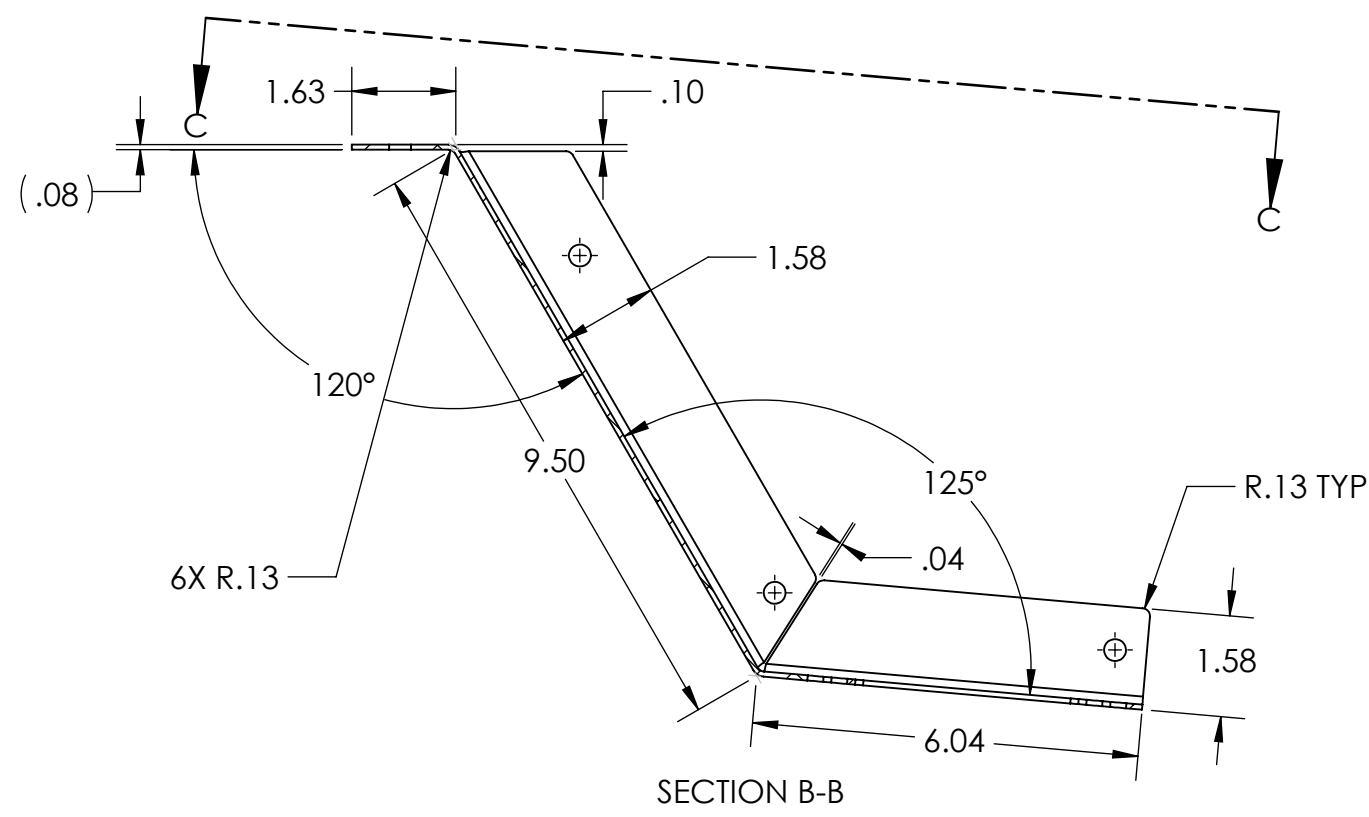
**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.





TITLE:  
**Sensor Mount**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25114	

SCALE: 2:3      SHEET 1 OF 1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ <b>MATERIAL/FINISH:</b> 12 Ga 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 <b>FIRST ROBOTICS COMPETITION</b> TITLE: Processor Sensor Mount Sheetmetal SIZE DWG. NO. REV <b>C</b> GE-25114-01 SCALE: 1:3 SHEET 1 OF 1
	DRAWN	JO	9/30/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				

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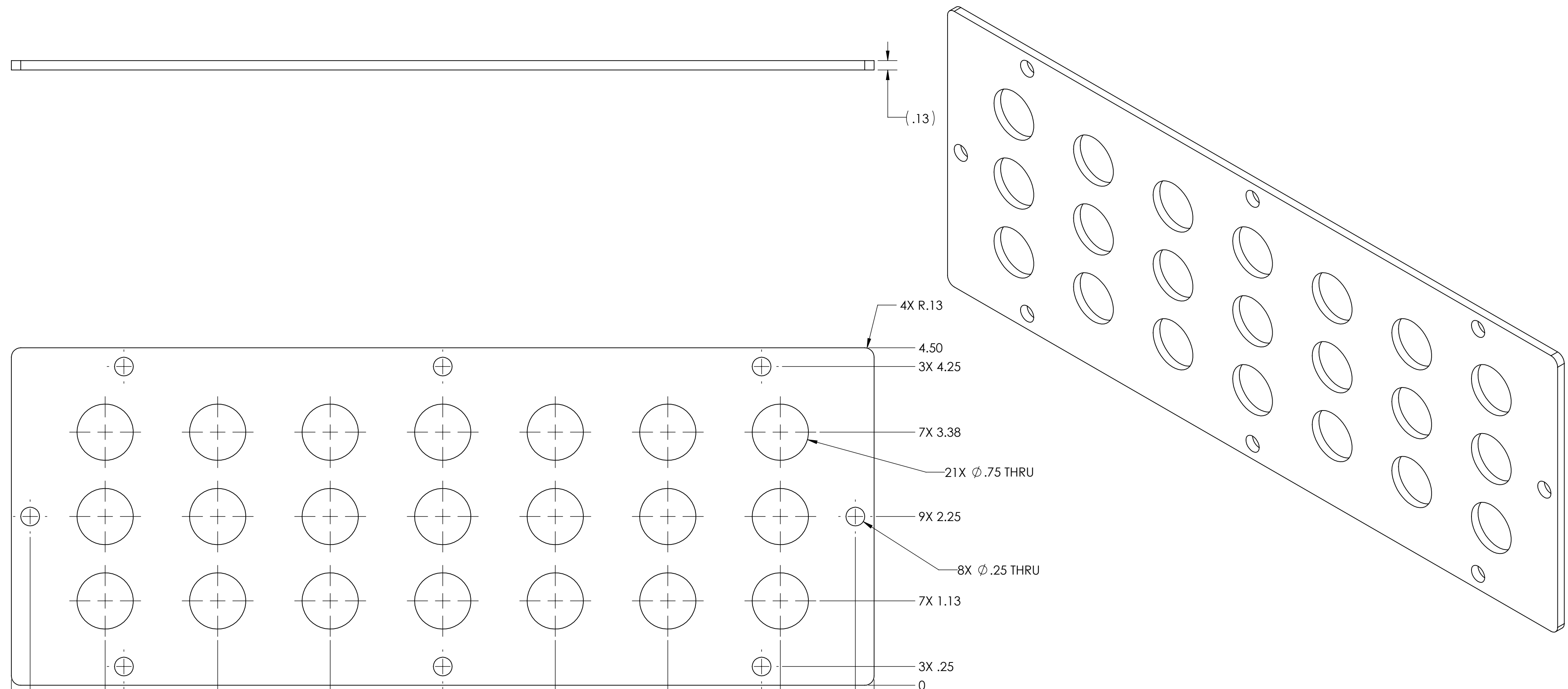
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 1/8" Polycarbonate, Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	9/30/2024

**PROPRIETARY AND CONFIDENTIAL**

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

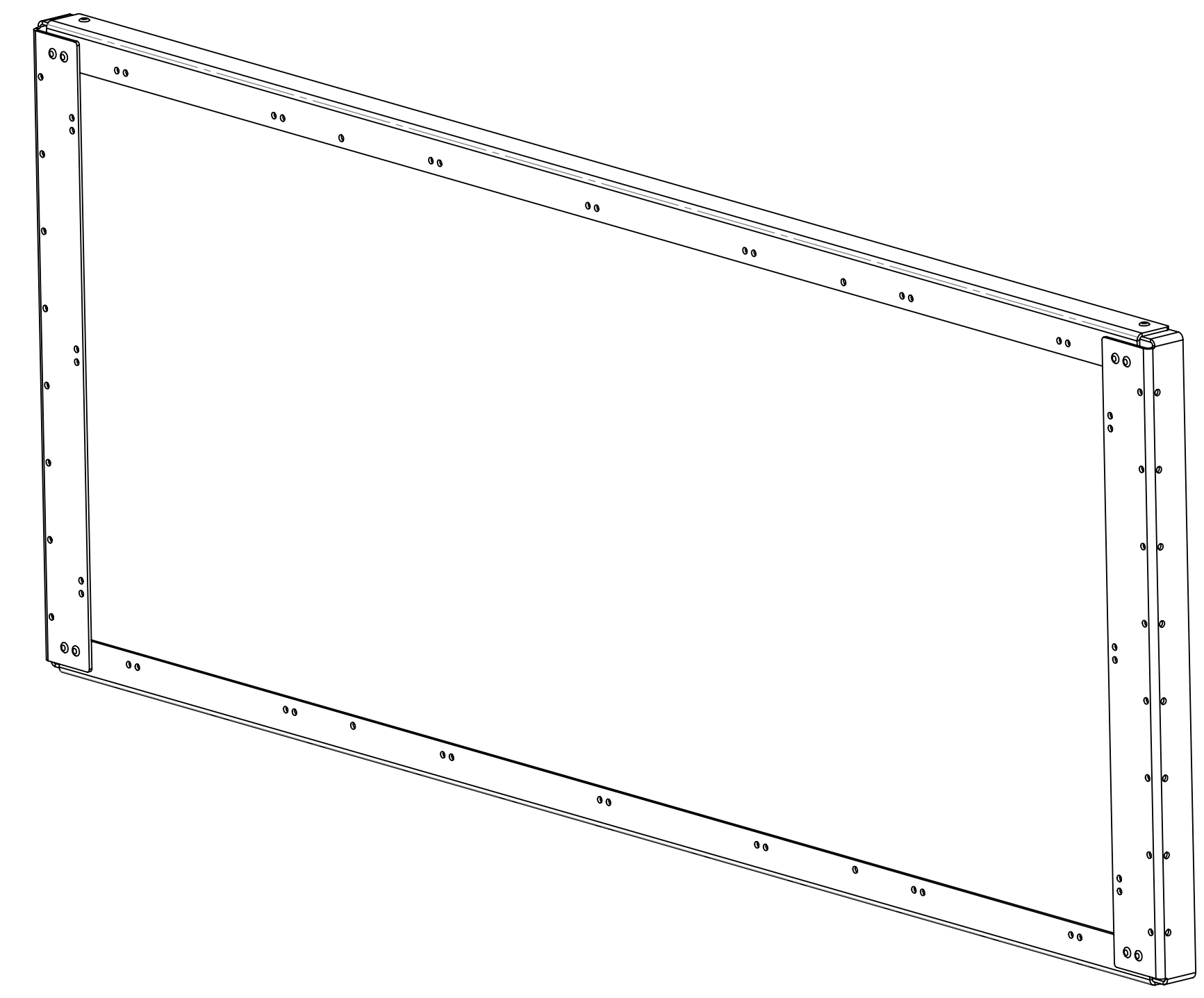
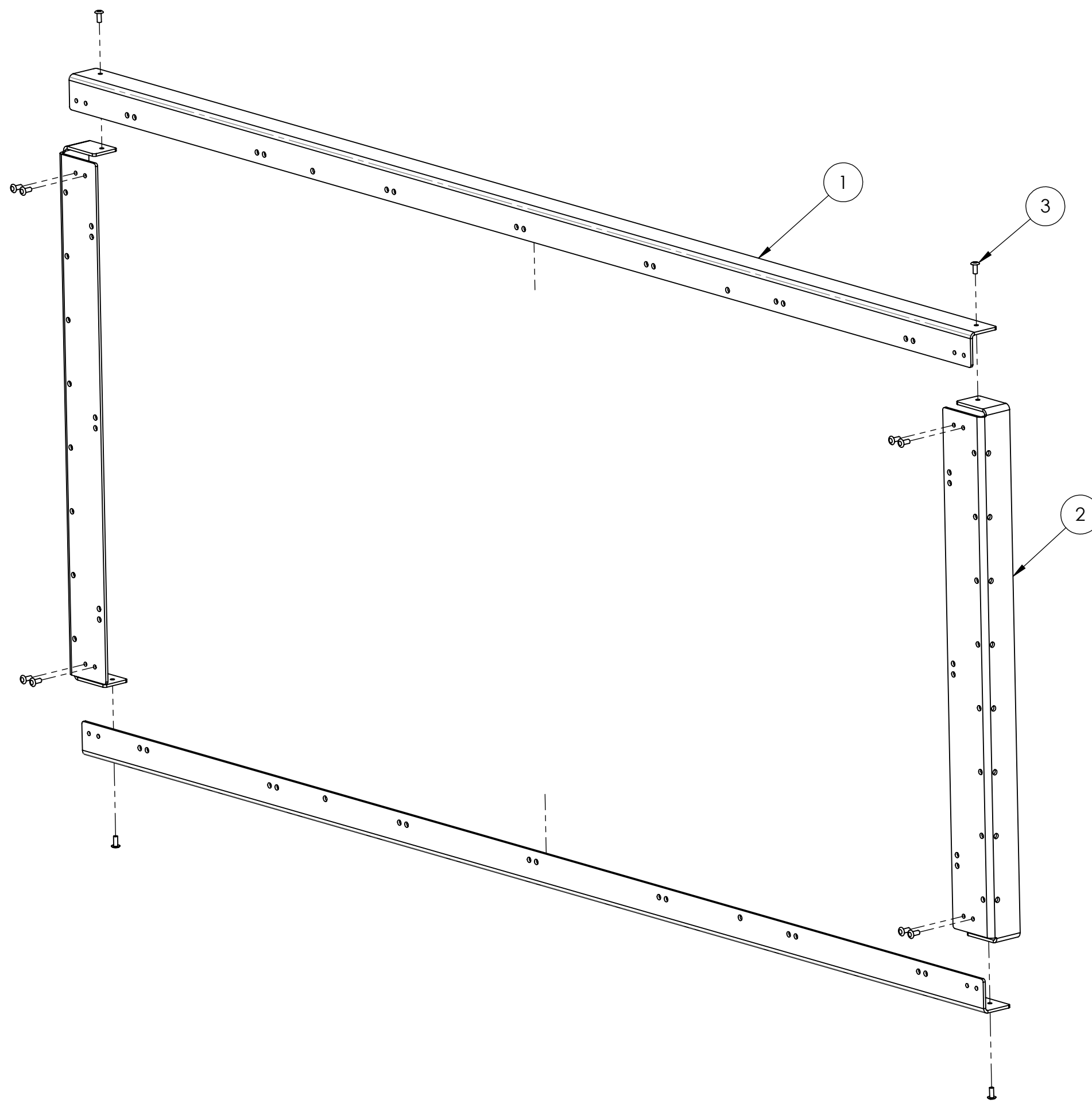
**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Processor Sensor Plate**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25115	

SCALE: 1:1 SHEET 1 OF 1



Notes: Attach (1) to (2) with (3). Label assembly with drawing number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25117	Fence Long Rail	2
2	GE-25118	Fence Short Rail	2
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	12

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
	JO	10/2/2024

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Fence Frame**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25116	

SCALE: 1:5 SHEET 1 OF 1

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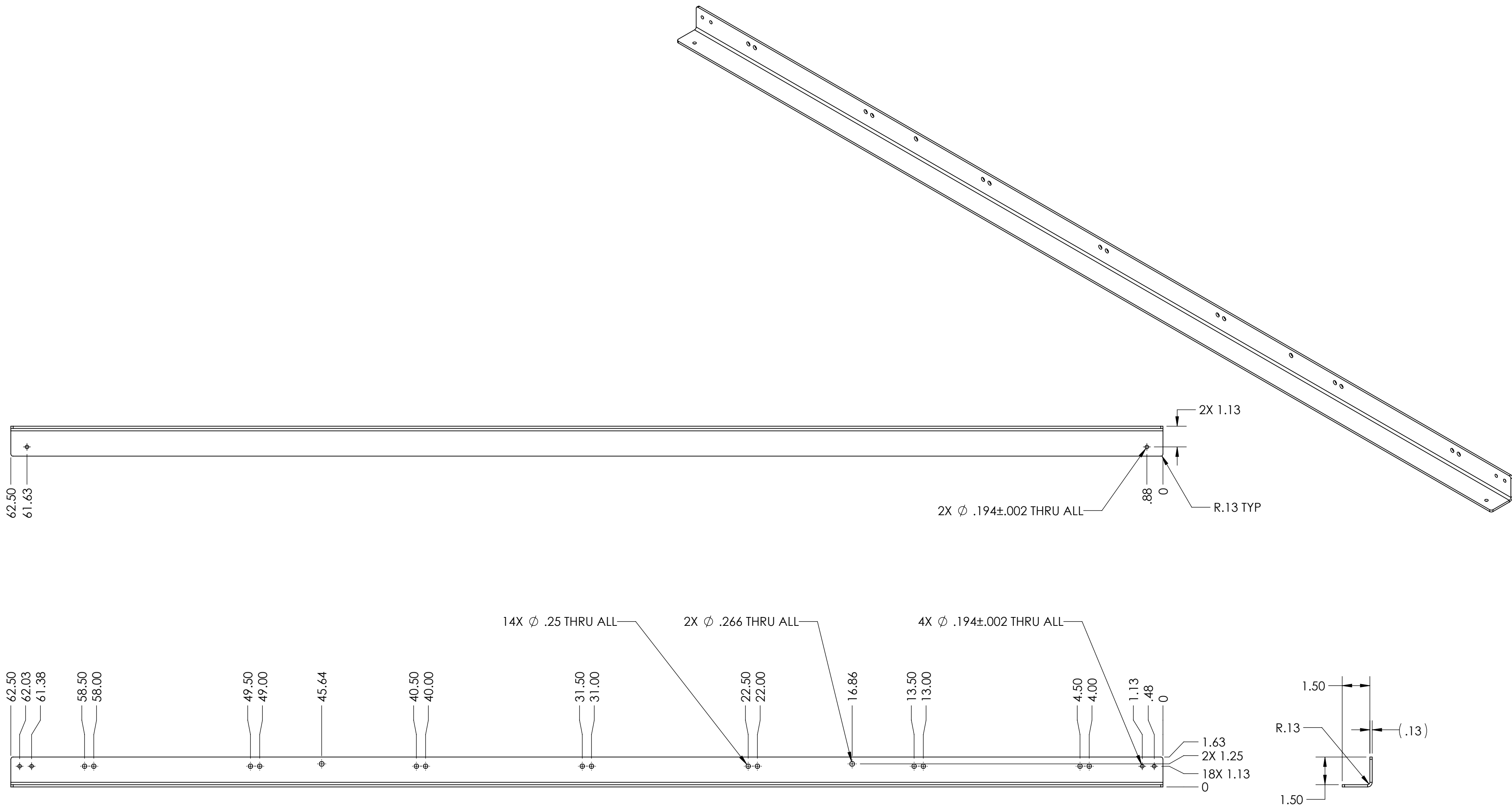
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE
	DRAWN	JO	9/30/2024
<b>MATERIAL/FINISH:</b> 8 Ga 5052 Aluminum	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Fence Long Rail**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25117	
SCALE: 1:4		SHEET 1 OF 1

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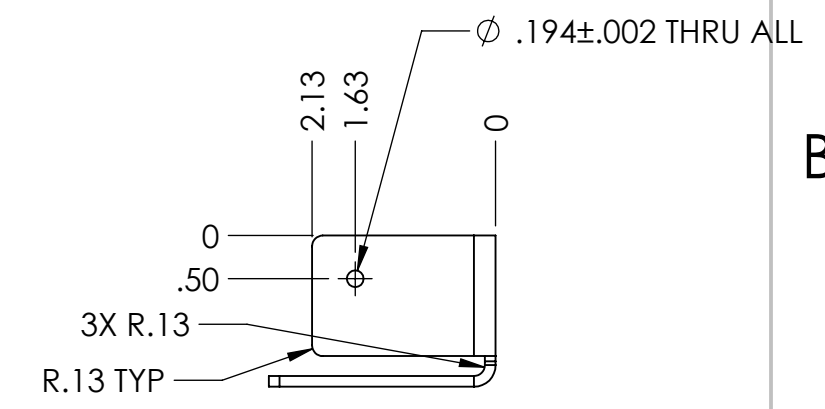
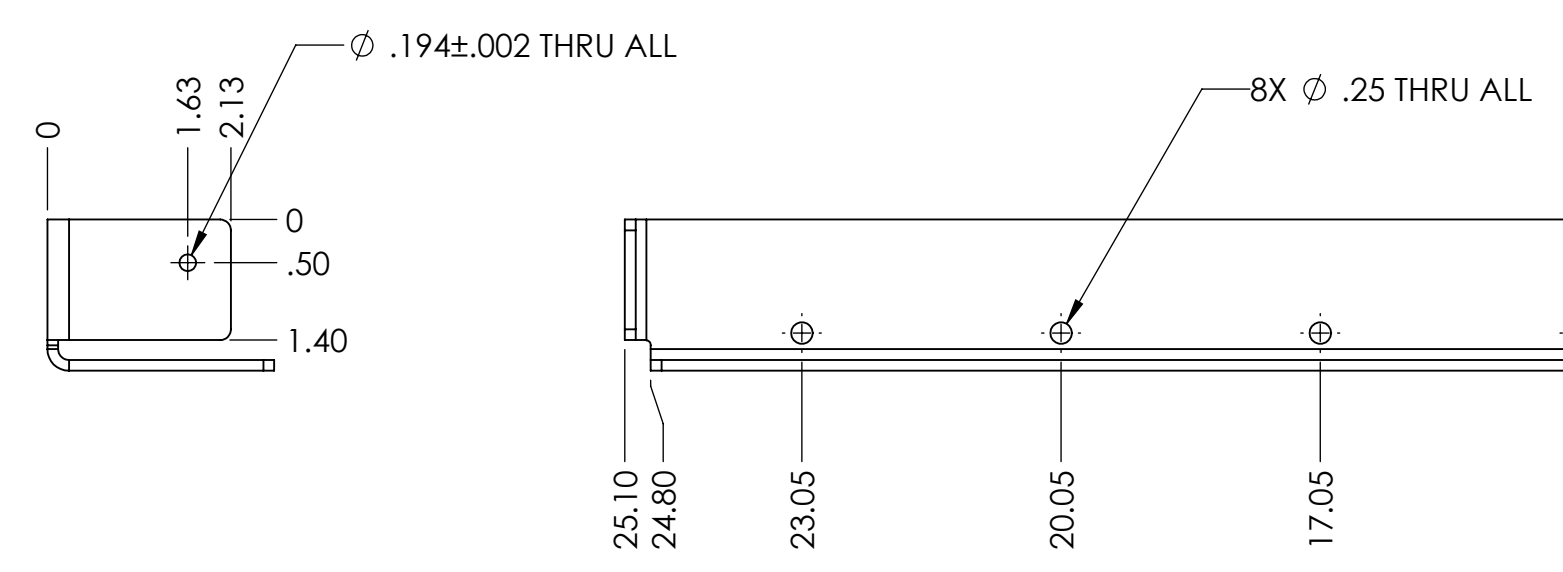
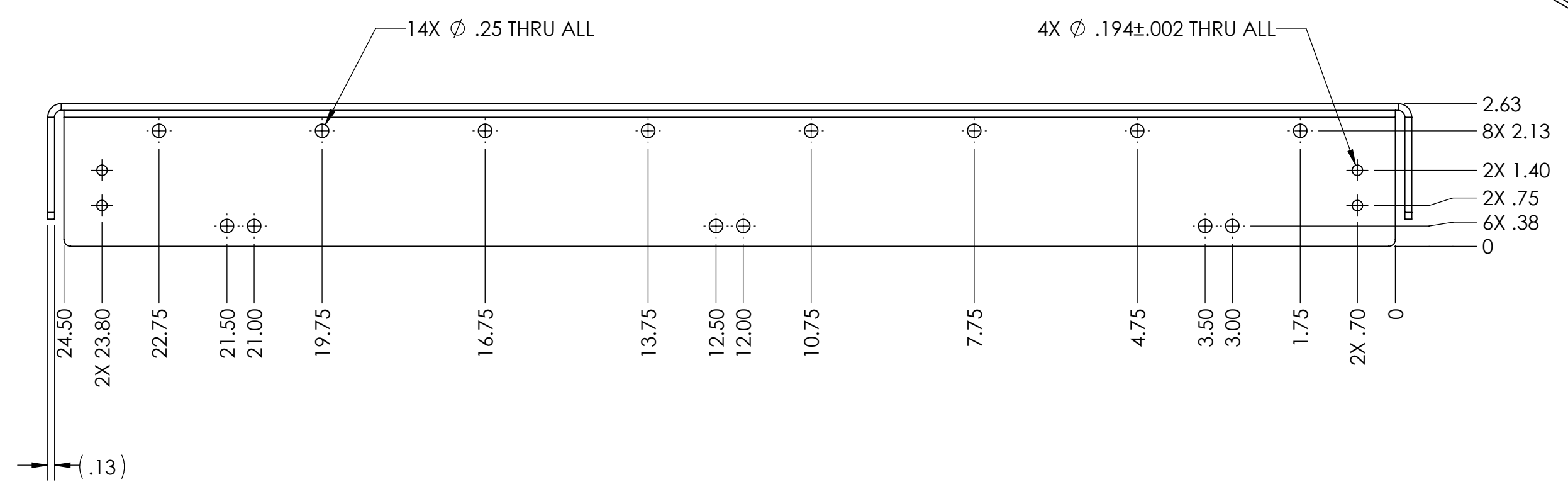
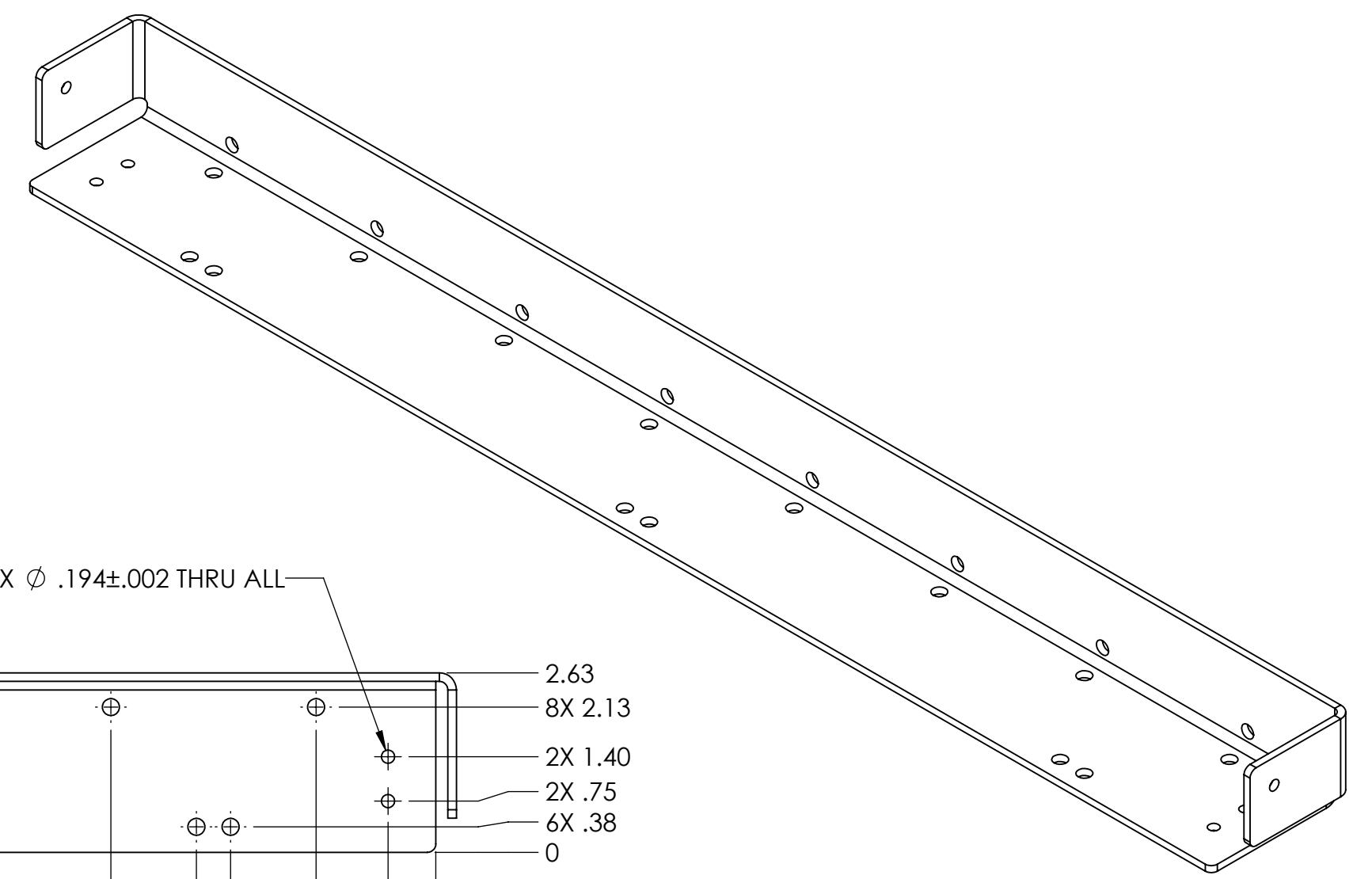
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	JO	9/30/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .02 THREE PLACE DECIMAL $\pm$ .010	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.		
<b>MATERIAL/FINISH:</b> 8 Ga 5052 Aluminum	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Fence Short Rail**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25118</b>	
SCALE: 9:20		SHEET 1 OF 1



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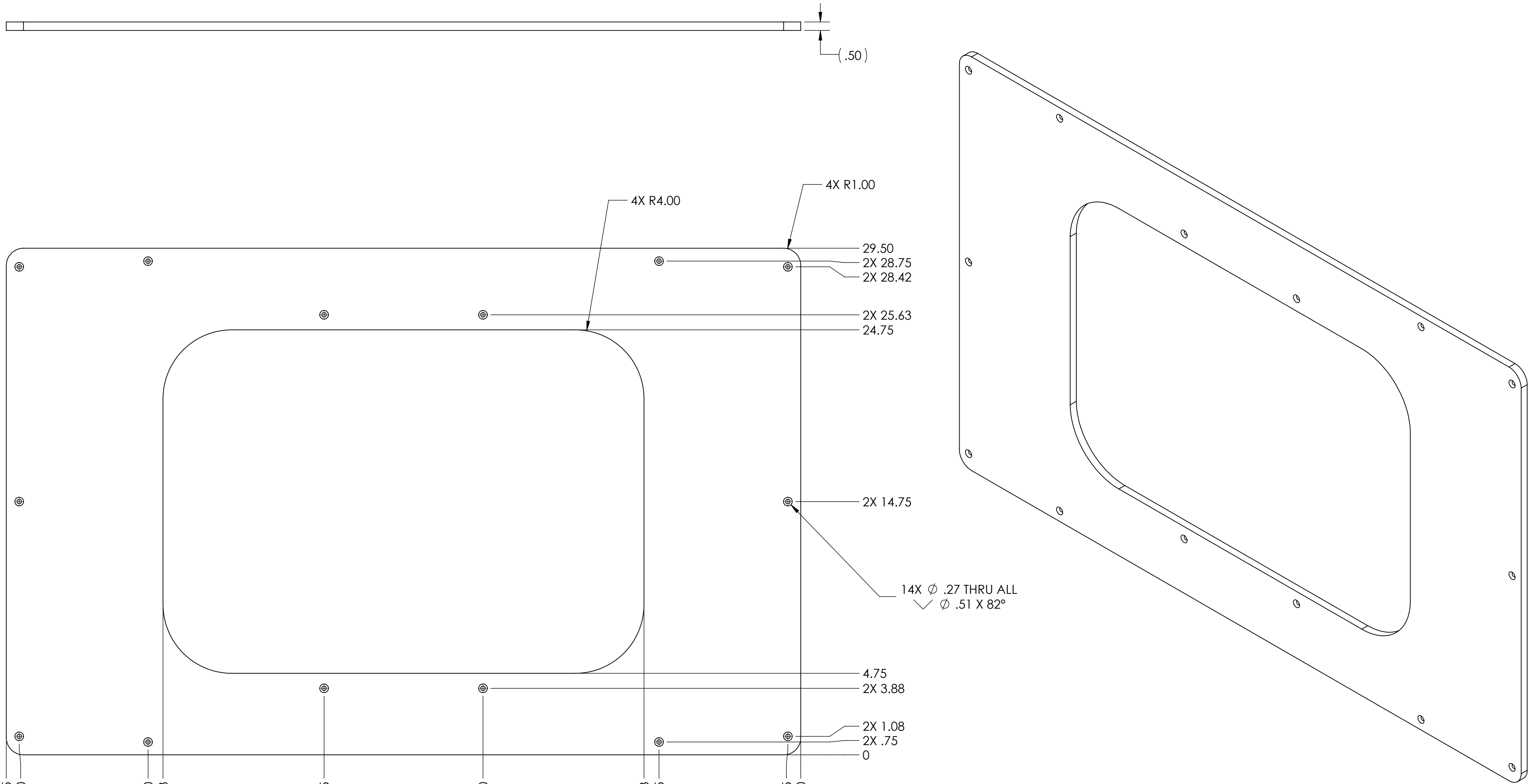
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46.25  
3X 45.50

2X 38.00  
37.13

2X 27.75

2X 18.50

9.13  
2X 8.25

3X .75  
0

4.75  
2X 3.88

2X 1.08  
2X .75  
0

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL ± 1/16  
ANGULAR: MACH ± 1° BEND ± 1°  
TWO PLACE DECIMAL ± .01  
THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**  
1/2" HDPE, Black Matte Finish

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	9/30/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Processor Opening**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25119	

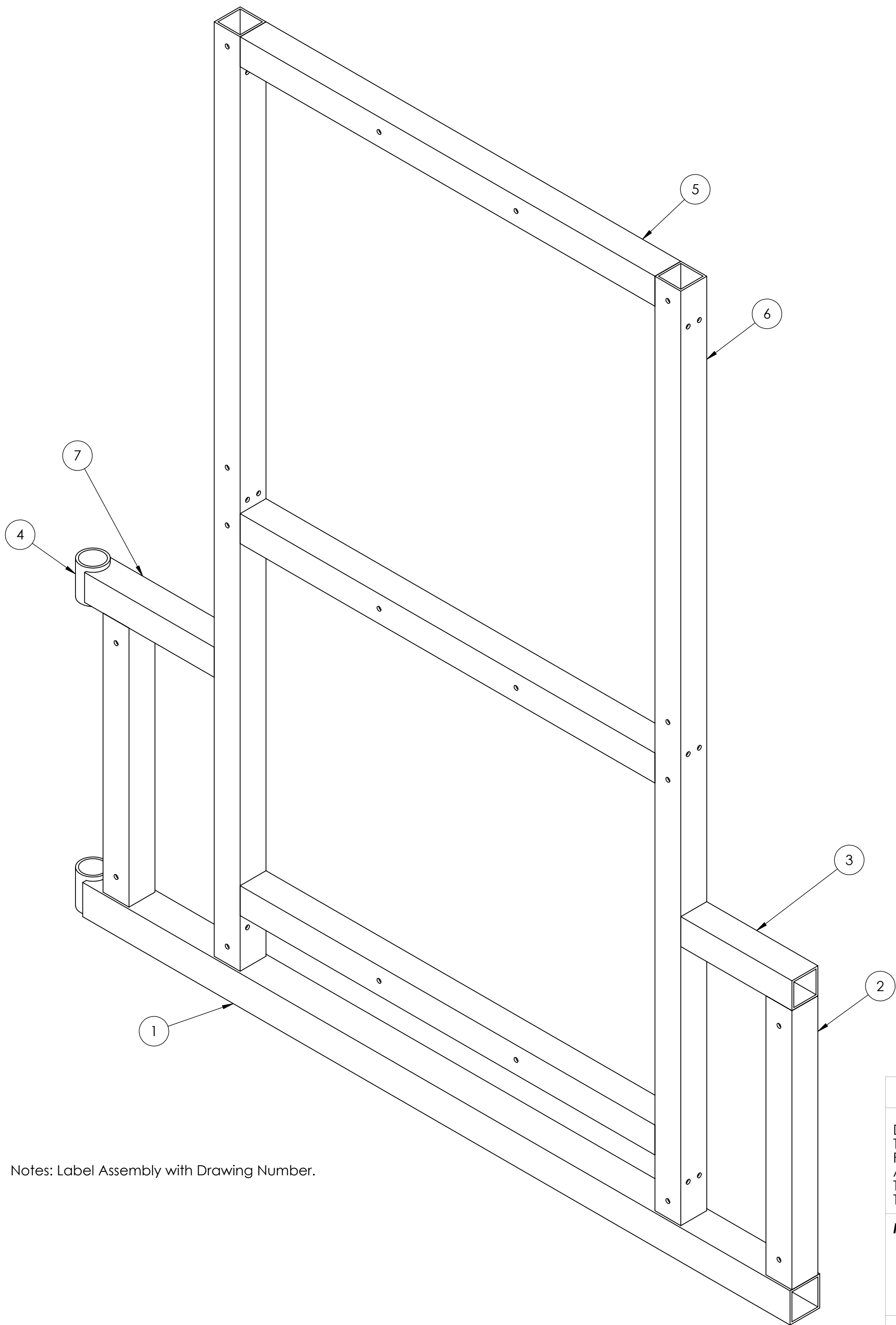
SCALE: 23:100 SHEET 1 OF 1

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Notes: Label Assembly with Drawing Number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25120-01	Floor Beam	1
2	GE-25120-02	Short Height Beam	2
3	GE-25120-03	Female Connector Tube	1
4	GE-25120-04	Pin Connector Tube	2
5	GE-25120-05	Crossbar	3
6	GE-25120-06	Full Height Beam	2
7	GE-25120-07	Pin Connector Horizontal	1

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.02  
 THREE PLACE DECIMAL ±.015

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	JO	10/1/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: **Processor Weldment**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25120	

SCALE: 1:4 SHEET 1 OF 3

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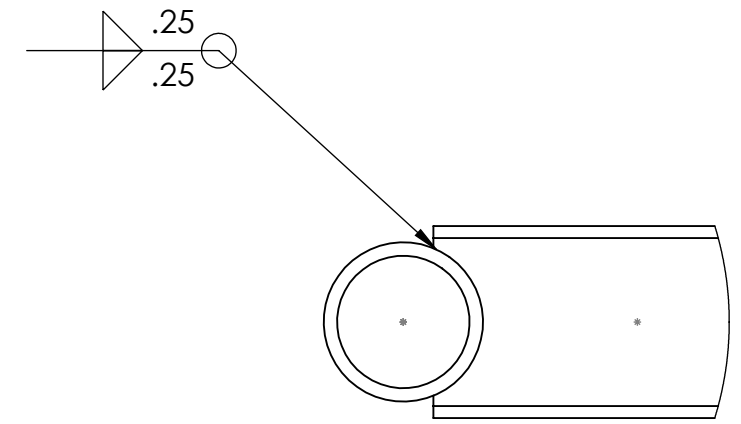
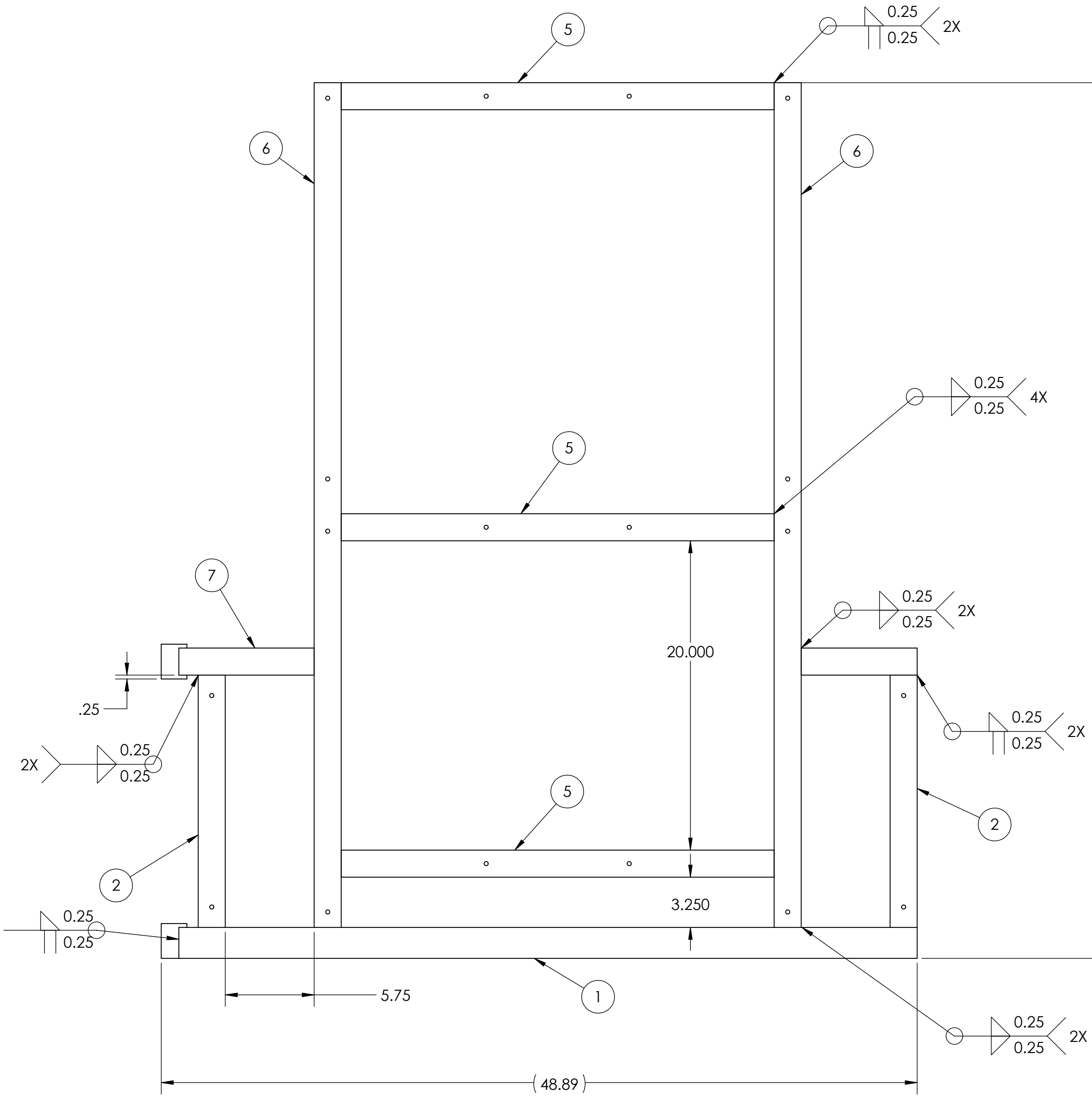
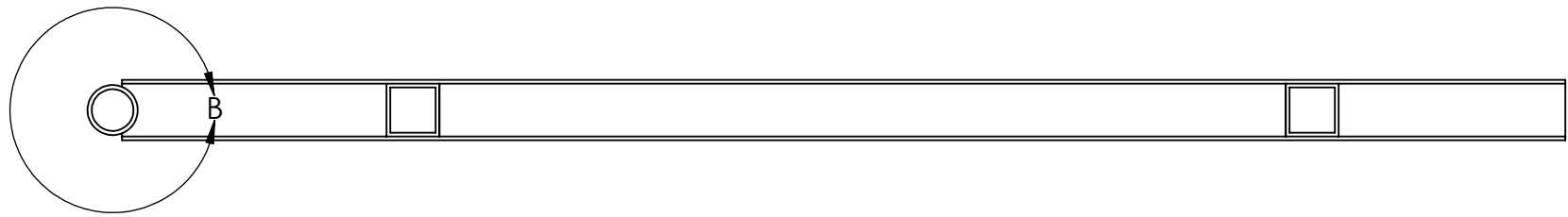
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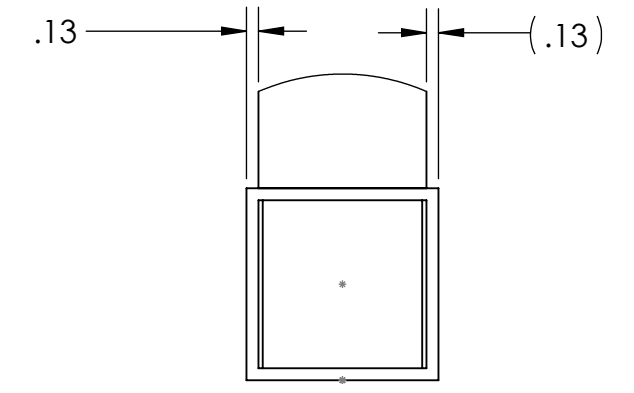
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DETAIL B  
SCALE 1 : 2



DETAIL A  
SCALE 1 : 2

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$	WELD	NAME	DATE	
	DRAWN	JO	10/1/2024	
<b>MATERIAL/FINISH:</b>	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			<b>Processor Weldment</b>
<b>COMMENTS:</b>	REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
DO NOT SCALE DRAWING				<b>C</b> GE-25120
				REV
				SCALE: 1:6
				SHEET 2 OF 3

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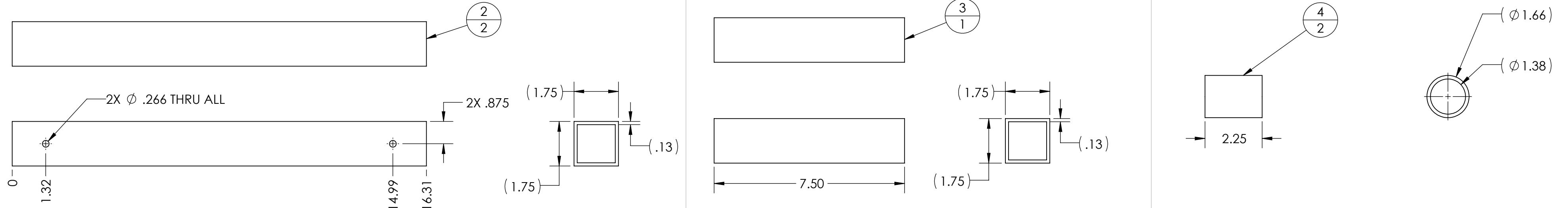
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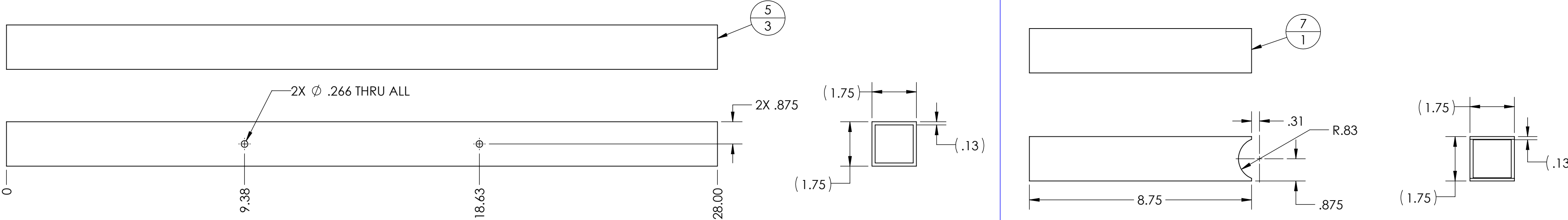
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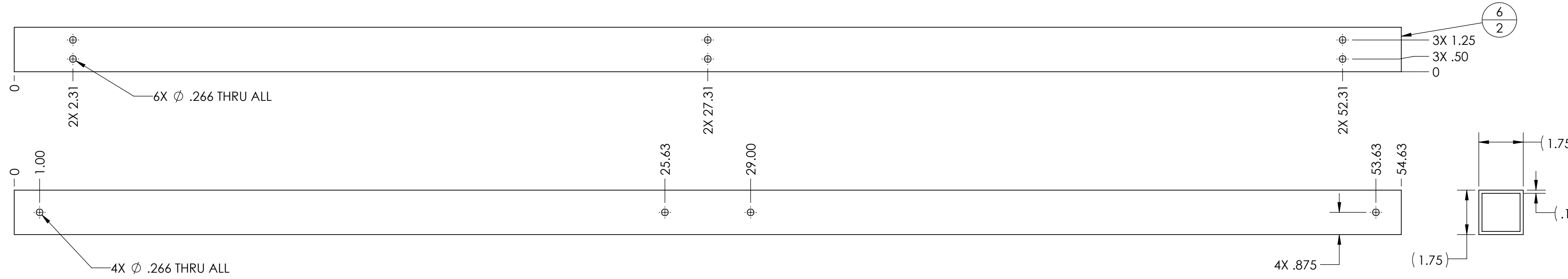
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 2" x 1/8" Square Box Tube, 1.75" x 1/8" Square Box Tube and 1.25" Schedule 40 Round Tube - All 6061 Aluminum  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	JO	10/1/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Processor Weldment
SIZE		DWG. NO.	REV		
C		GE-25120			
SCALE: 1:3		SHEET 3 OF 3			

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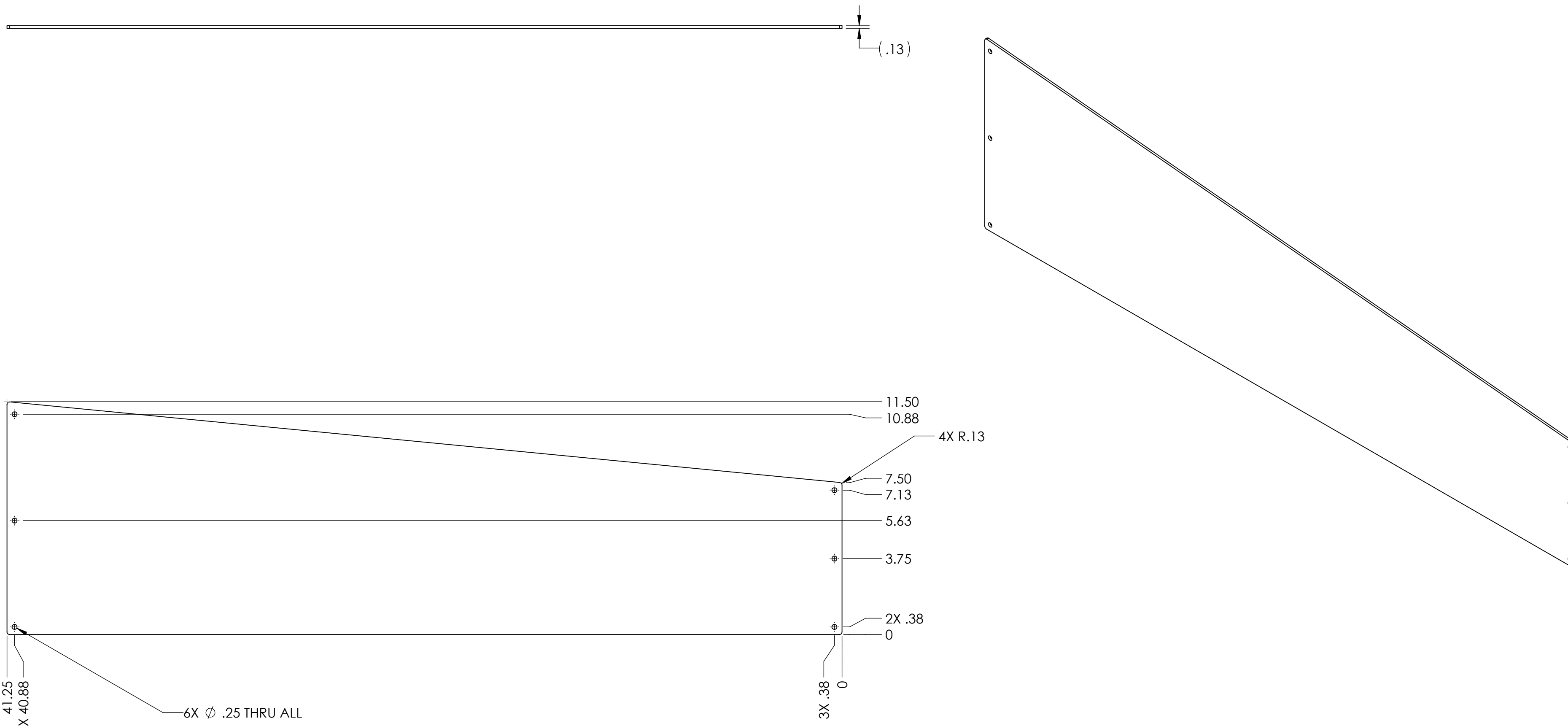
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 1/8" Polycarbonate, Clear  <b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	9/30/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Corral Side
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25121		
SCALE: 1:4		SHEET 1 OF 1		

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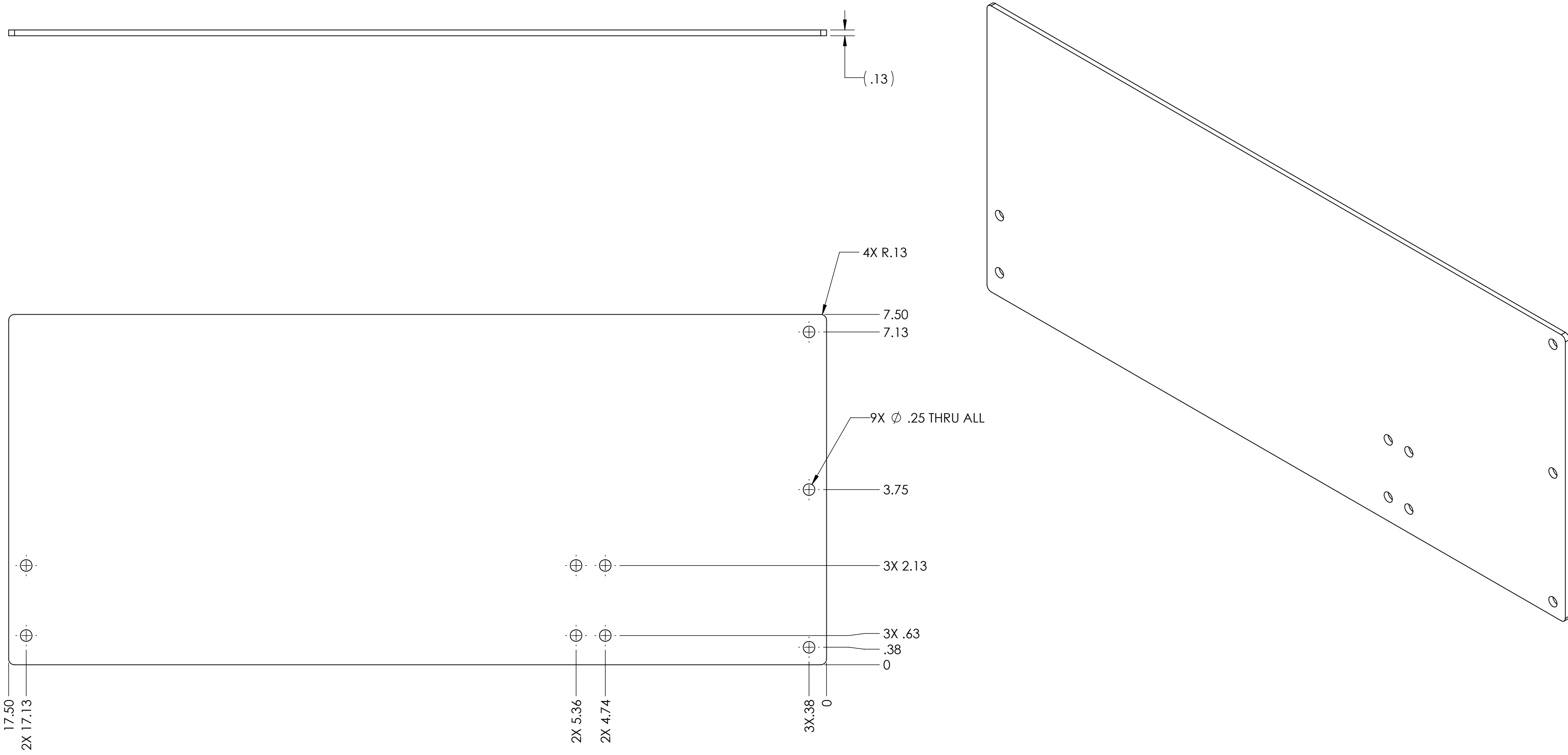
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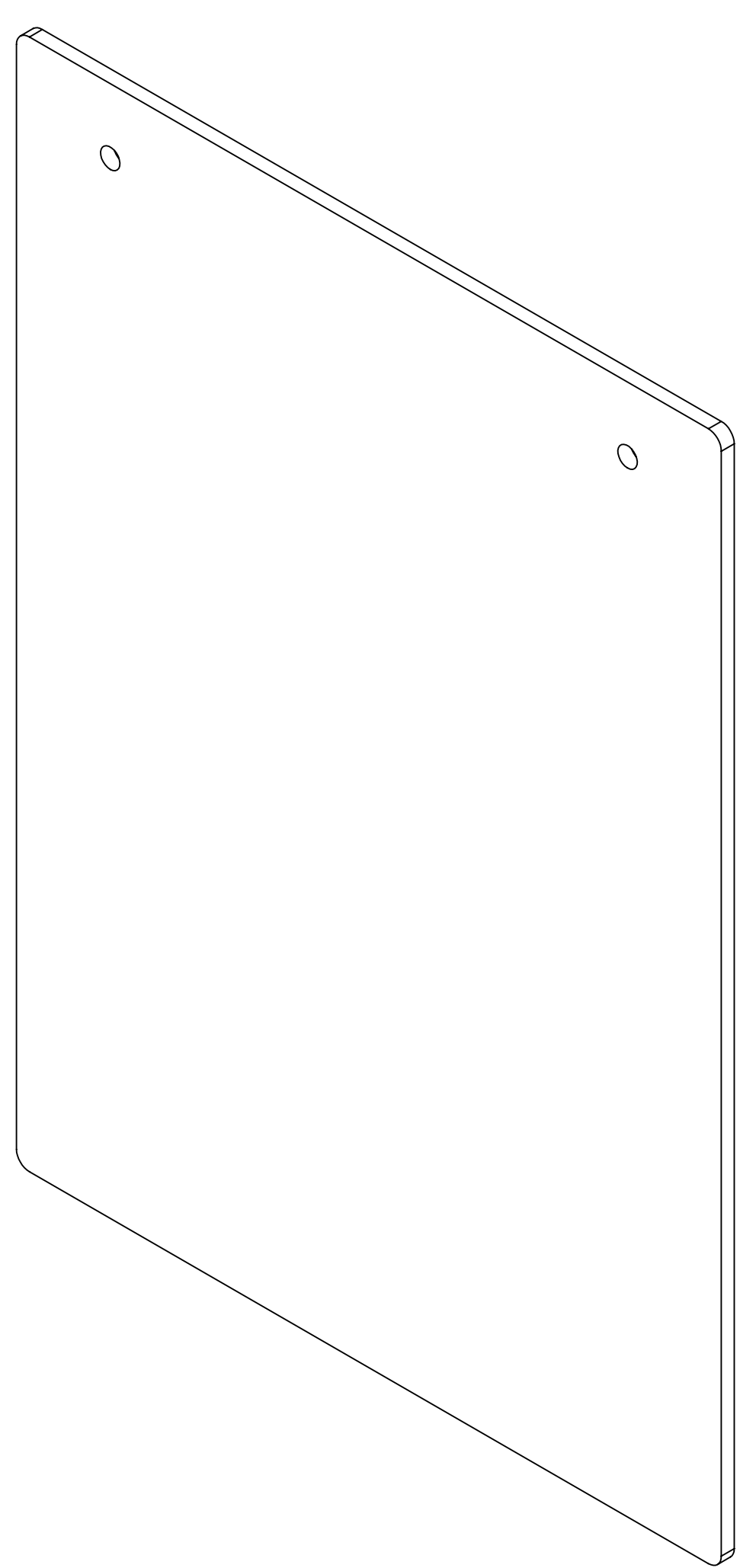
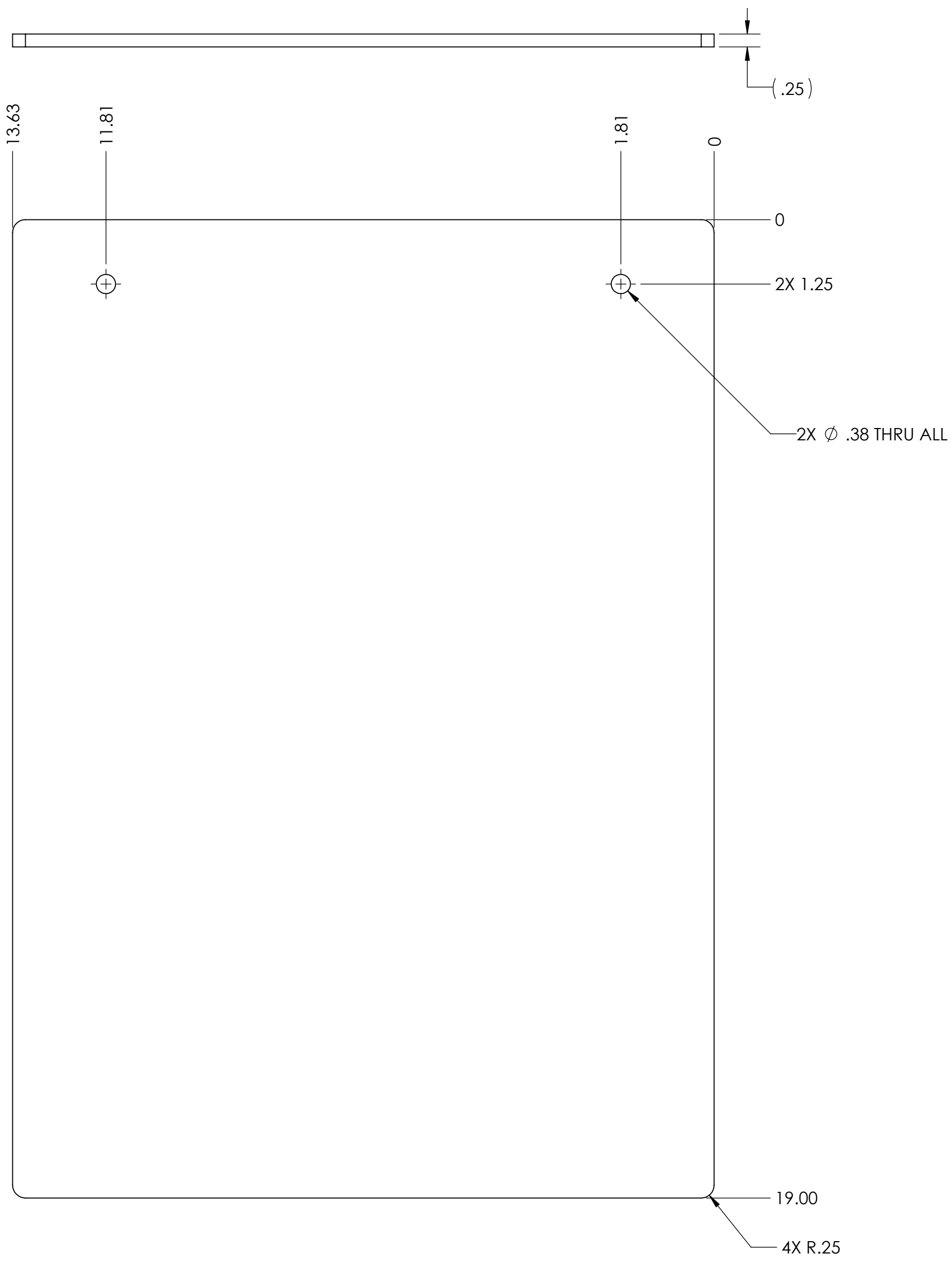
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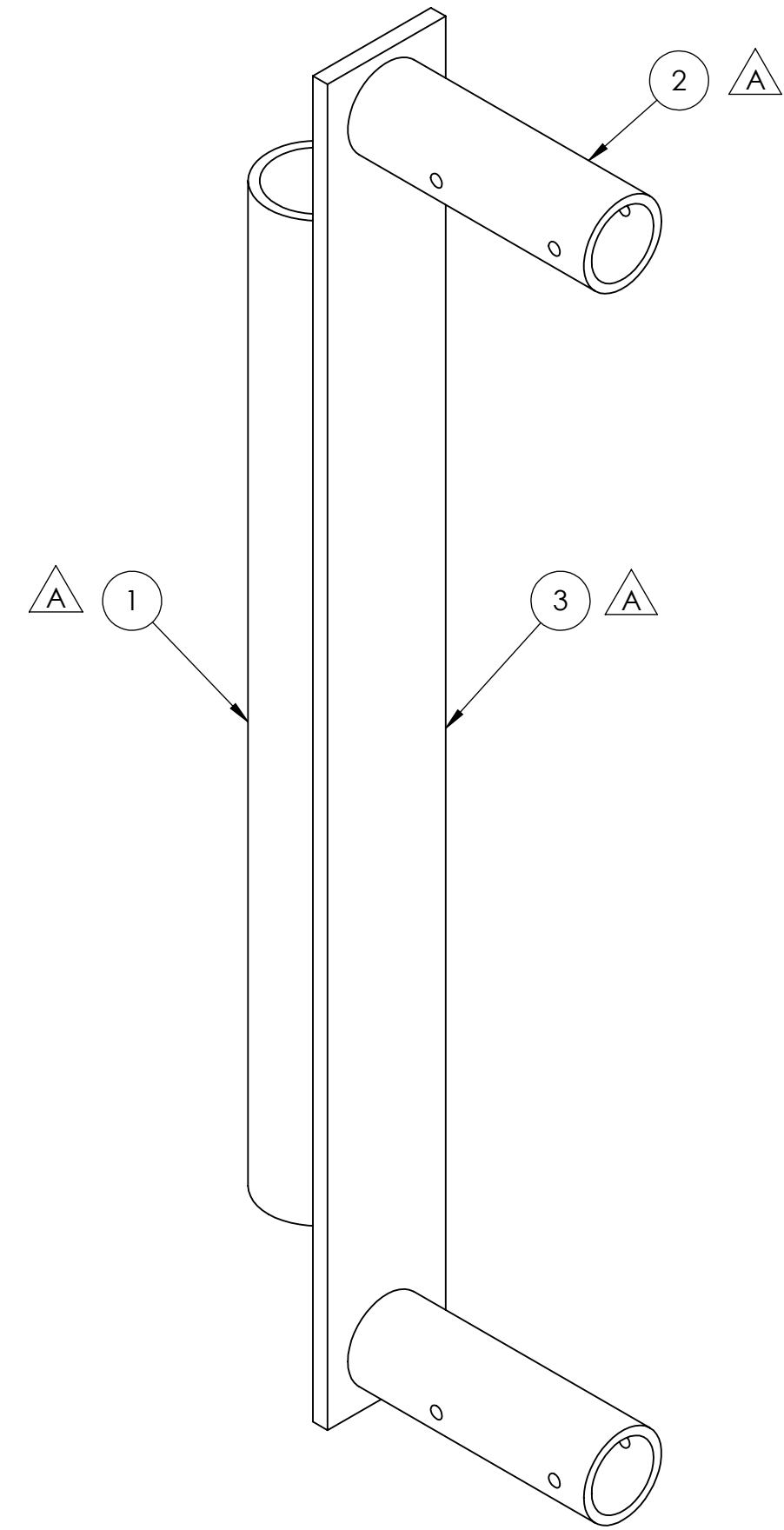
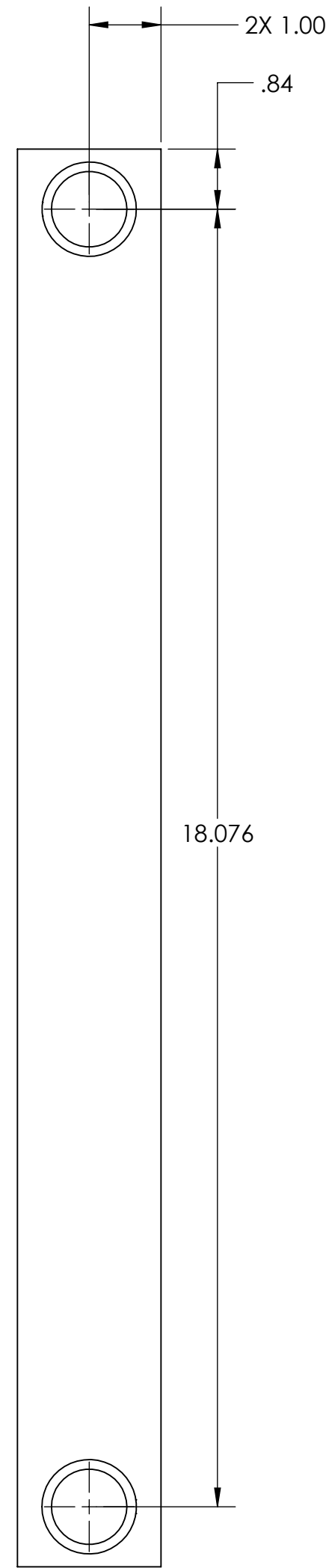
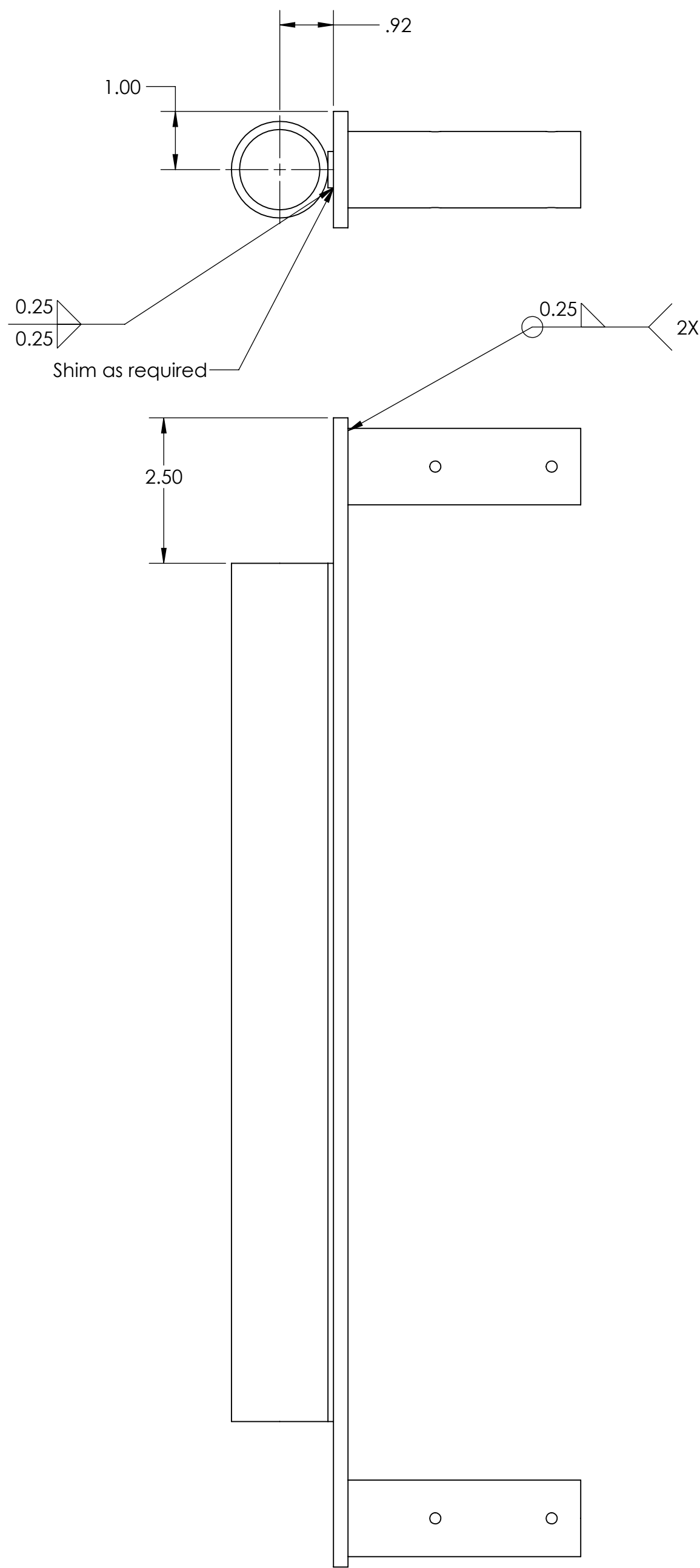


UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 1/8" Polycarbonate, Clear  <b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	JO	9/30/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Corral Back
SIZE		DWG. NO.	REV	
C		GE-25122		
SCALE: 3:5		SHEET 1 OF 1		



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 <b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear <b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	JO	9/30/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE: <b>Extra Wall Panel Briweld</b>
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25123		
SCALE: 1:2			SHEET 1 OF 1	

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A2, C1, C2, D1	A	Added missing BOM table and balloons	10/7/2024	JO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00018-01	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
2	FE-00018-02	1" Schedule 40 6061-T6 Aluminum Pipe	2
3	GE-25126	Thinner Connector Plate	1

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .02$   
 THREE PLACE DECIMAL  $\pm .015$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

WELD NAME DATE  
 DRAWN JO 10/3/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Processor Pin Connector - Briweld Field**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25124	<b>A</b>

SCALE: 1:2 SHEET 1 OF 1

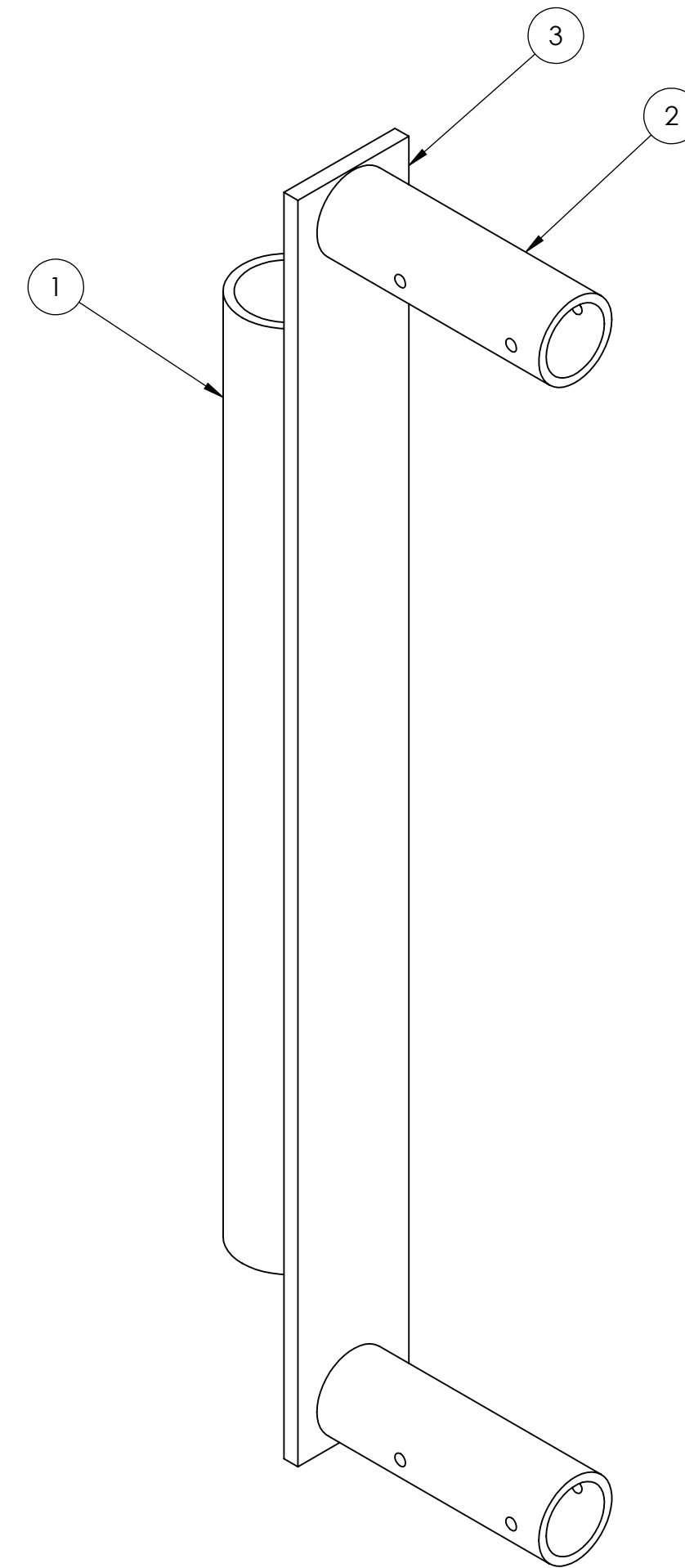
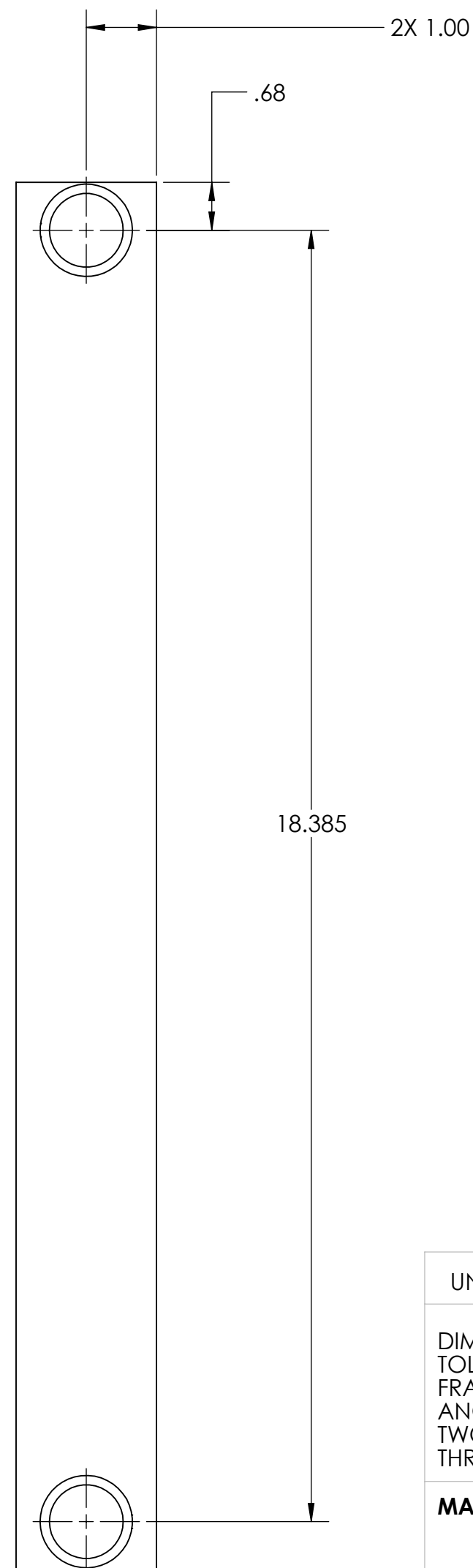
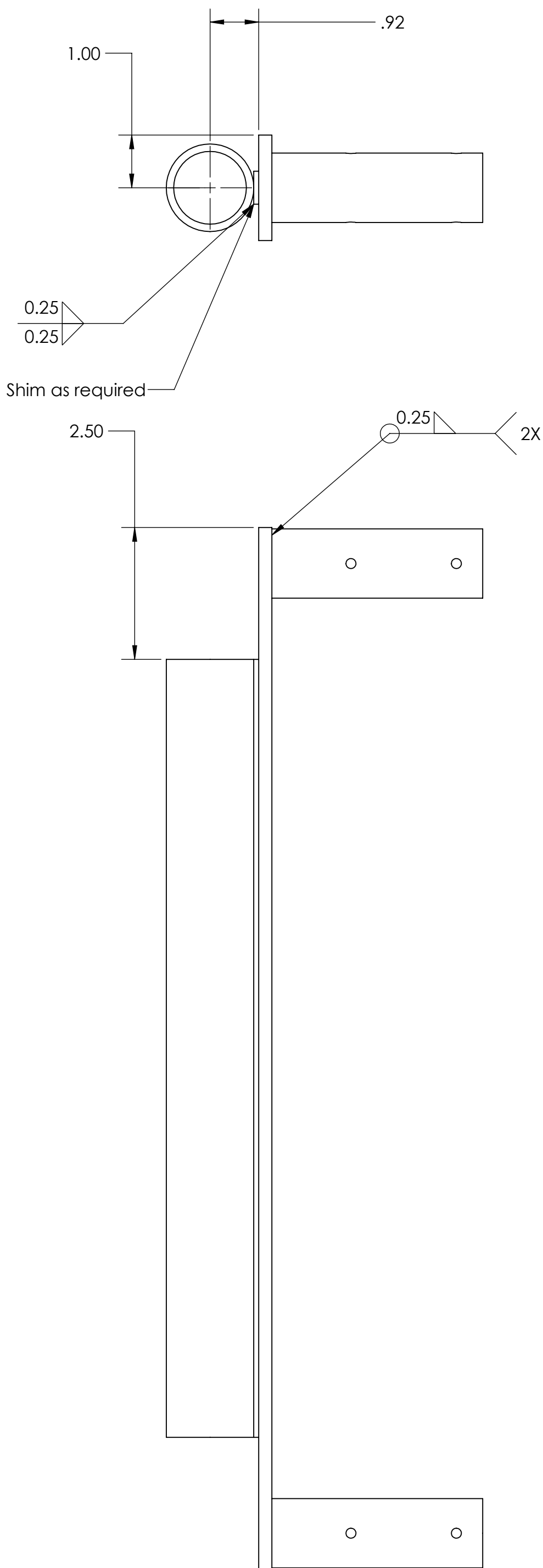


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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00018-01	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
2	FE-00018-02	1" Schedule 40 6061-T6 Aluminum Pipe	2
3	GE-25126	Thinner Connector Plate	1

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL  $\pm 1/16$

ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$

TWO PLACE DECIMAL  $\pm .02$

THREE PLACE DECIMAL  $\pm .015$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	JO	10/3/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**

REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION**

**3D SOLIDWORKS**  
Modeling Solutions Partner

TITLE: **Processor Pin Connector - AndyMark Field**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25125	

SCALE: 1:2      SHEET 1 OF 1

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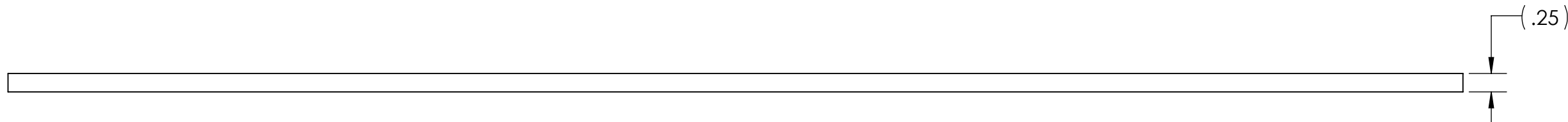
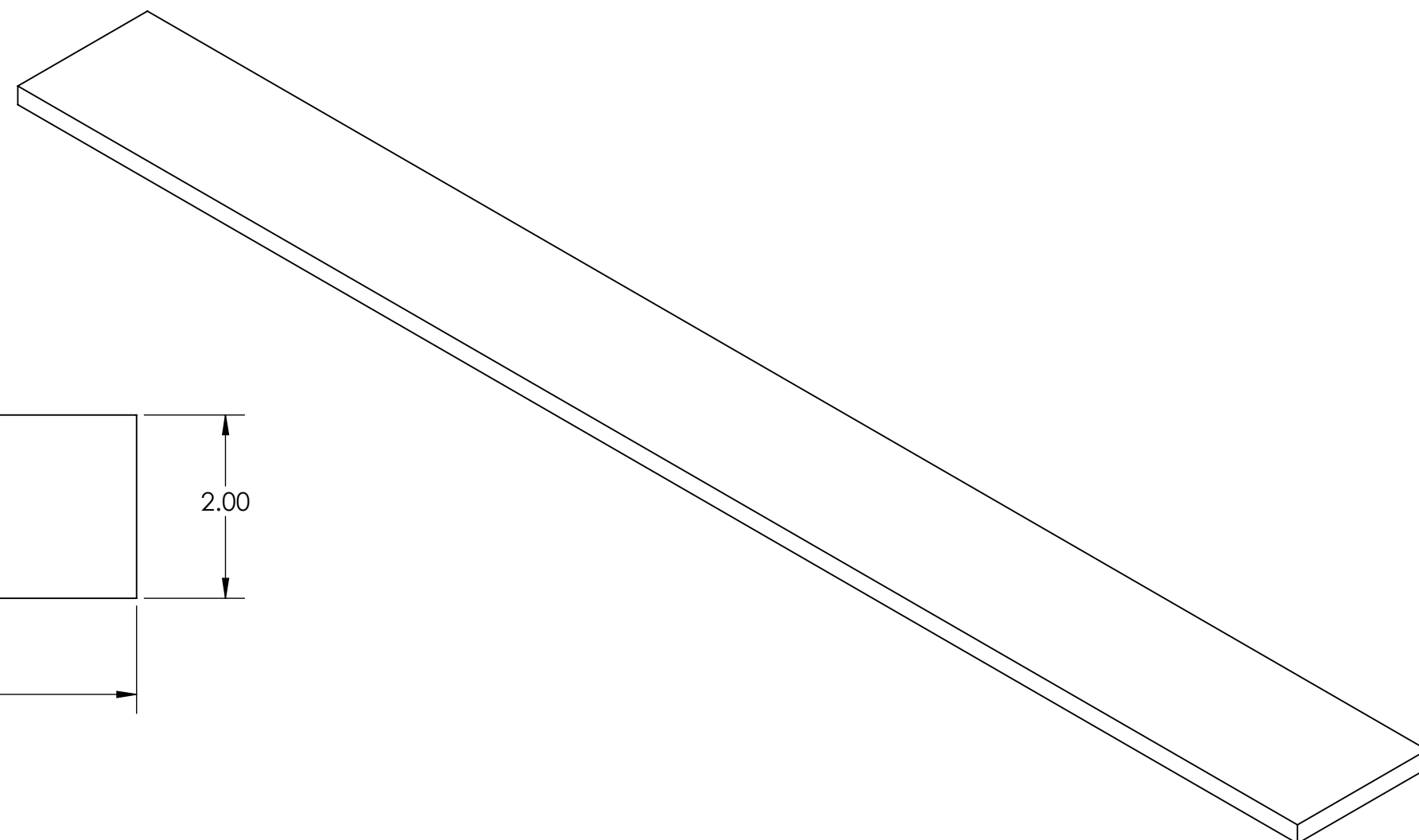
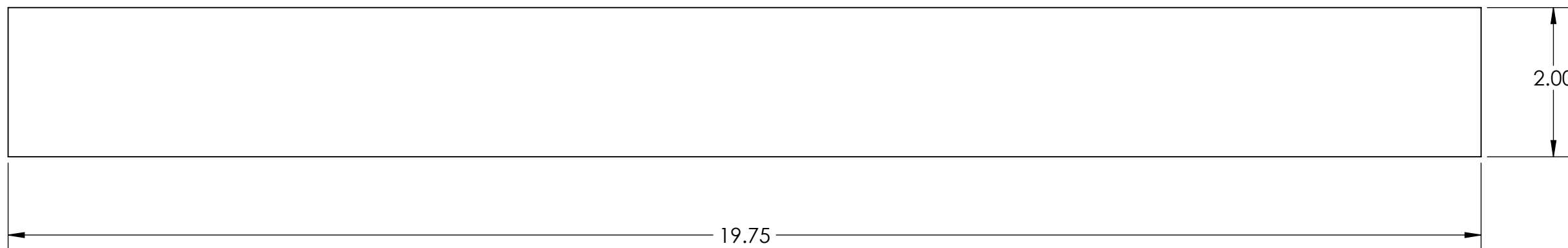
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 1/4" 6061 Aluminum Plate

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	JO	10/3/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: **Thinner Connector Plate**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25126	

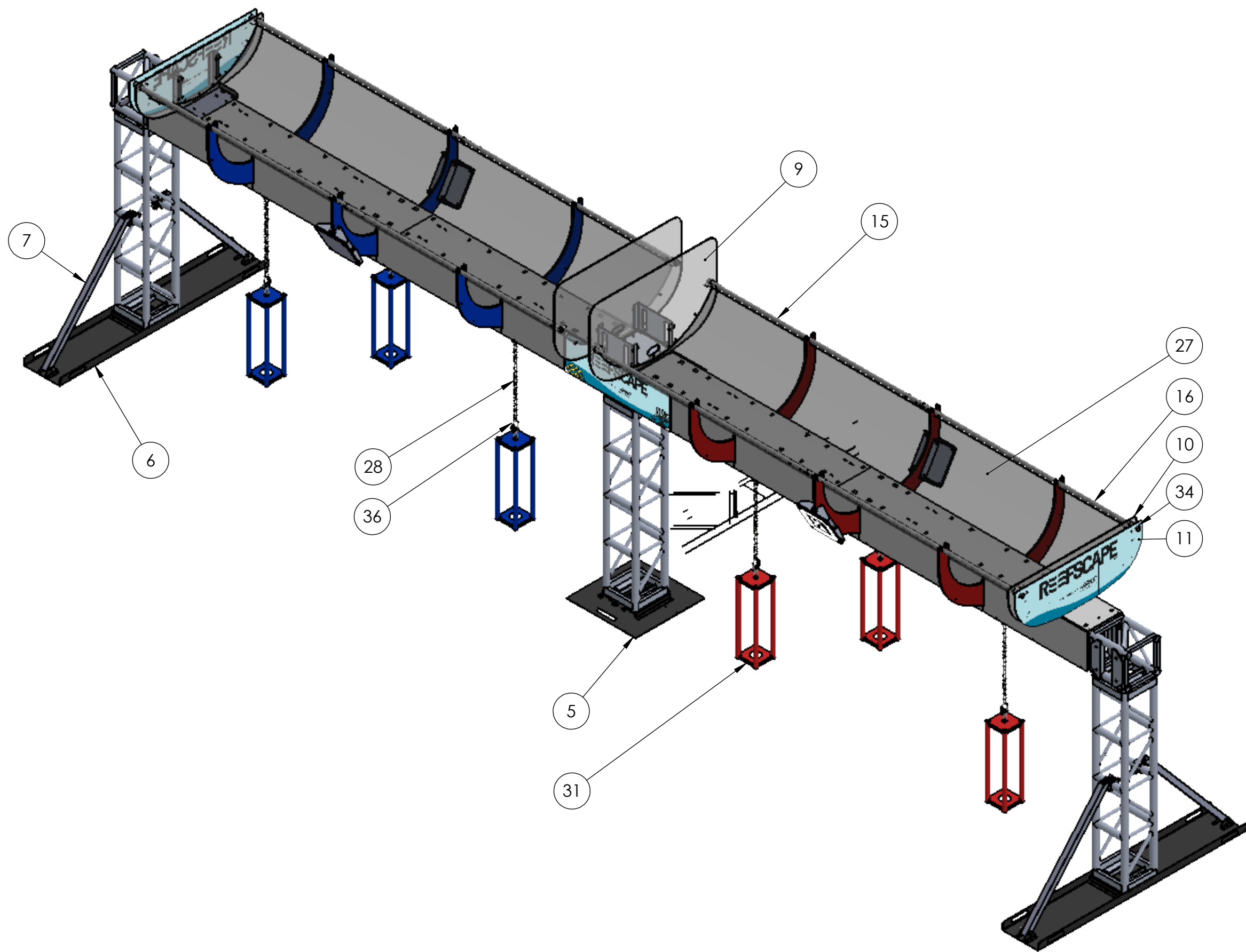
SCALE: 3:5 SHEET 1 OF 1

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1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-01002	4' x 1' x 1' Square Truss	4
2	FE-01003	5' x 1' x 1' Square Truss	5
3	FE-01012	3 Way Corner Block	2
4	FE-01013	TS 1212LD-C4P, 4 Way Corner Block Light Duty Truss, Total Structures	1
5	FE-01021		1
6	GE-25203	Truss Base, Long - Sheet Metal Assembly	2
7	GE-25205	Truss Brace Assembly	4
8	GE-25206	Backboard Brace	1
9	GE-25207	Backboard	2
10	GE-25208	Inner Front	2
11	GE-25209	Outer Front w/Vinyl	2
12	GE-25211	Side Panel w/Vinyl	2
13	GE-25213	Rib, Blue	3
14	GE-25214	Rib, Red	3
15	GE-25215	Net Tube Assembly	4
16	GE-25216	Net Tube, Outer	4
17	GE-25218	Brace, Barge End	2
18	GE-25220-ID14	April Tag Assembly, Truss (ID14)	1
19	GE-25220-ID15	April Tag Assembly, Truss (ID15)	1
20	GE-25220-ID4	April Tag Assembly, Truss (ID4)	1
21	GE-25220-ID5	April Tag Assembly, Truss (ID5)	1
22	GE-25221	Top Diffuser	4
23	GE-25222	Side Diffuser 1	4
24	GE-25223	Side Diffuser 2	8
25	GE-25224	Side Diffuser 3	4
26	GE-25227	Diffuser Top, Small	2
27	GE-25228	Net	2
28	GE-25229	Cage Chain	4
29	GE-25230	Eye Nut Assembly	6
30	GE-25231-Blue	Cage Assembly, Blue	3
31	GE-25231-Red	Cage Assembly, Red	3
32	hex_.625_11_2.00	Hex Head Bolt, 5/8"-11 Thread, 2" length	56
33	hexnut_.625_11	5/8"-11 hex nut	52
34	pin_quick_ring_.25_2.3 125	Pin, Ring-Grip Quick-Release with SS Ring, 1/4" Diameter, 2.3125" Usable Length	24
35	washer_flat_.625	Flat washer for 5/8" screw	108
36	3216T41_Carabiner	Carabiner, Locking Steel, .38 thick	10
37	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	8

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50  <b>MATERIAL/FINISH:</b>   DO NOT SCALE DRAWING	FIELD	NAME	DATE		
	DRAWN	JO	12/16/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.	TITLE:			<b>Barge</b>
		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			
DWG. NO.: <b>GE-25200</b>			REV:	SCALE: 1:25	
SHEET 1 OF 3					

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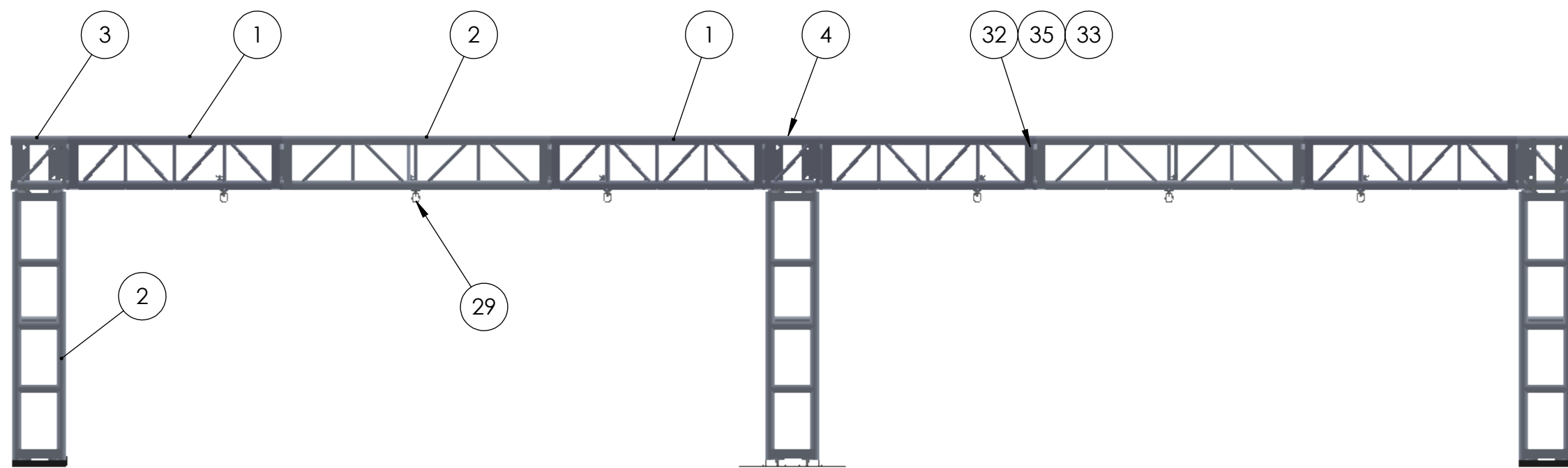
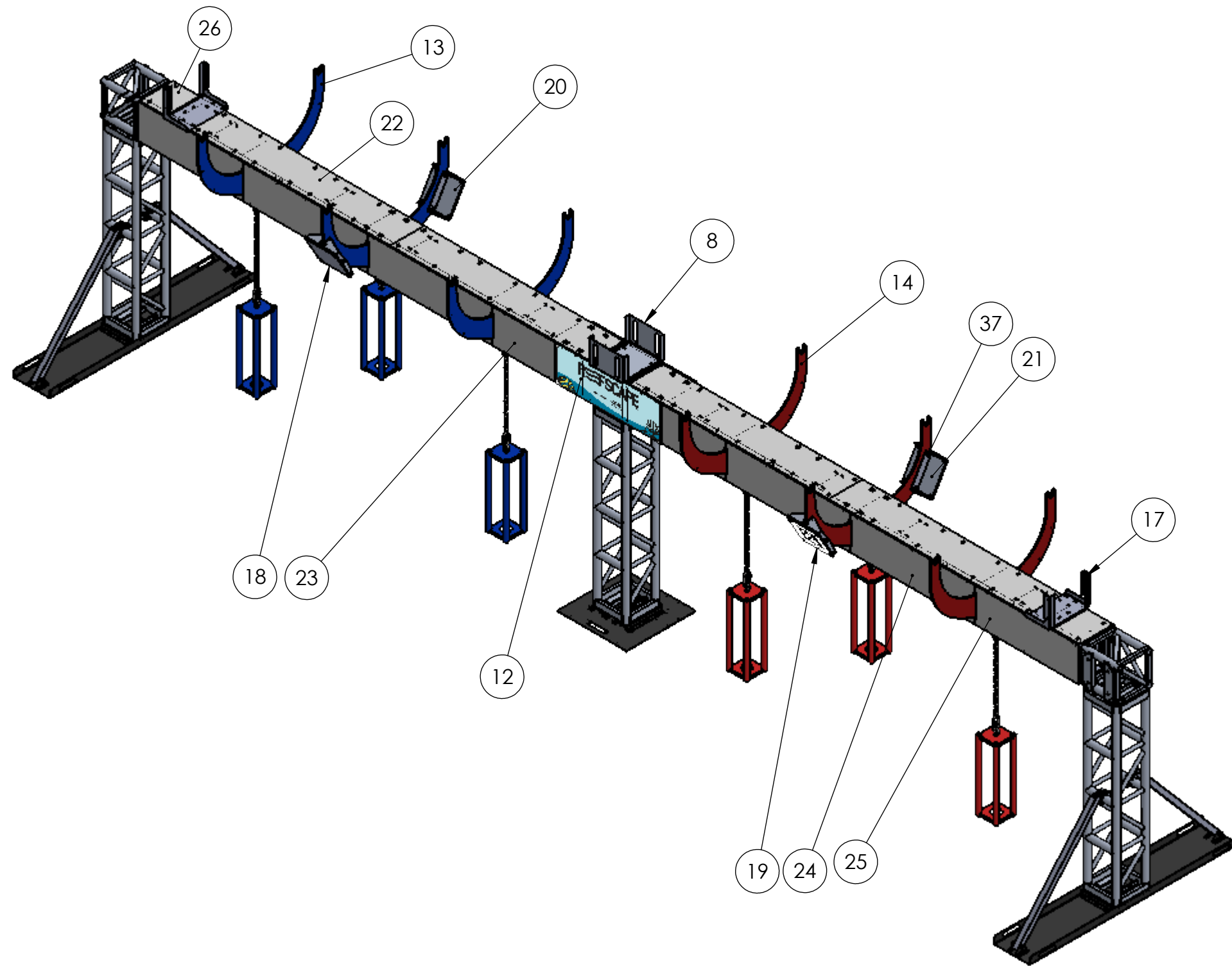
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Truss Layout

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$  <b>MATERIAL/FINISH:</b>   DO NOT SCALE DRAWING	FIELD	NAME	DATE
	DRAWN	JO	12/16/2024
	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
<b>COMMENTS:</b>		REMOVE ALL BURRS AND SHARP EDGES.	



TITLE:		
<h1>Barge</h1>		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25200	
SCALE: 1:30		SHEET 2 OF 3

4

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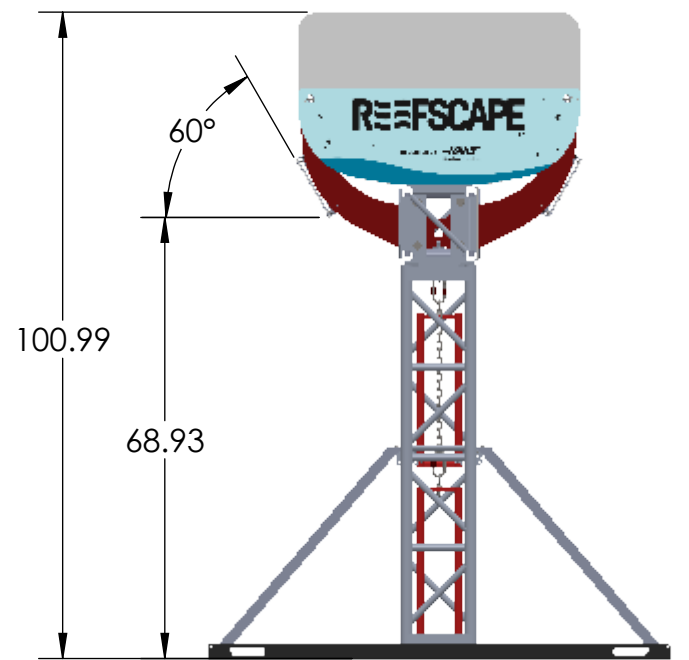
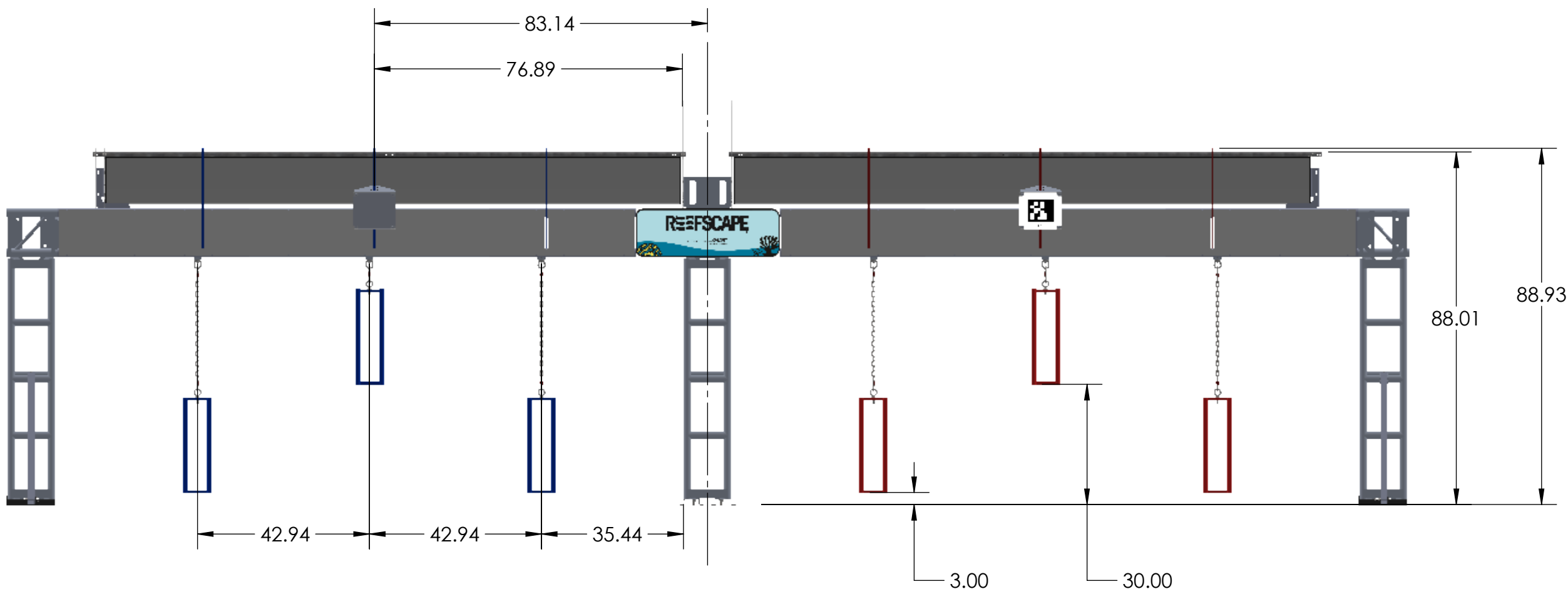
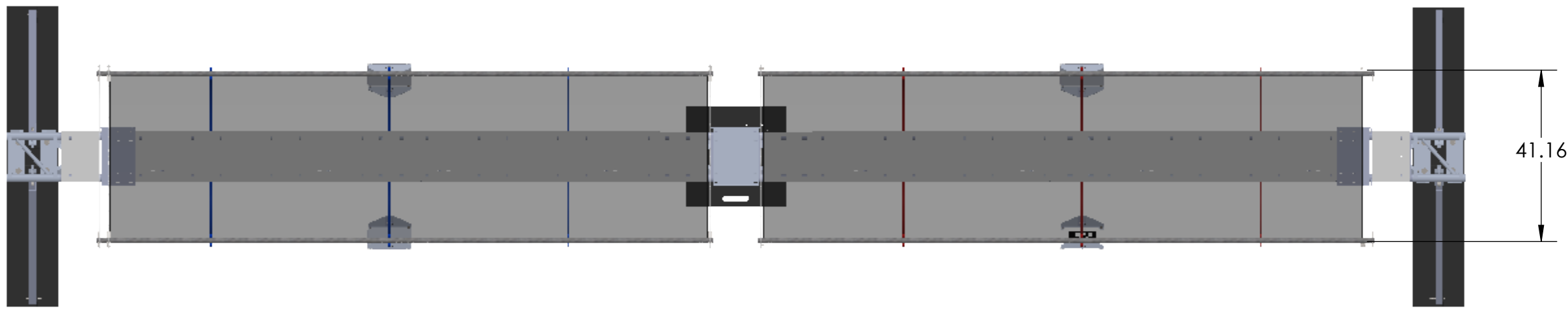
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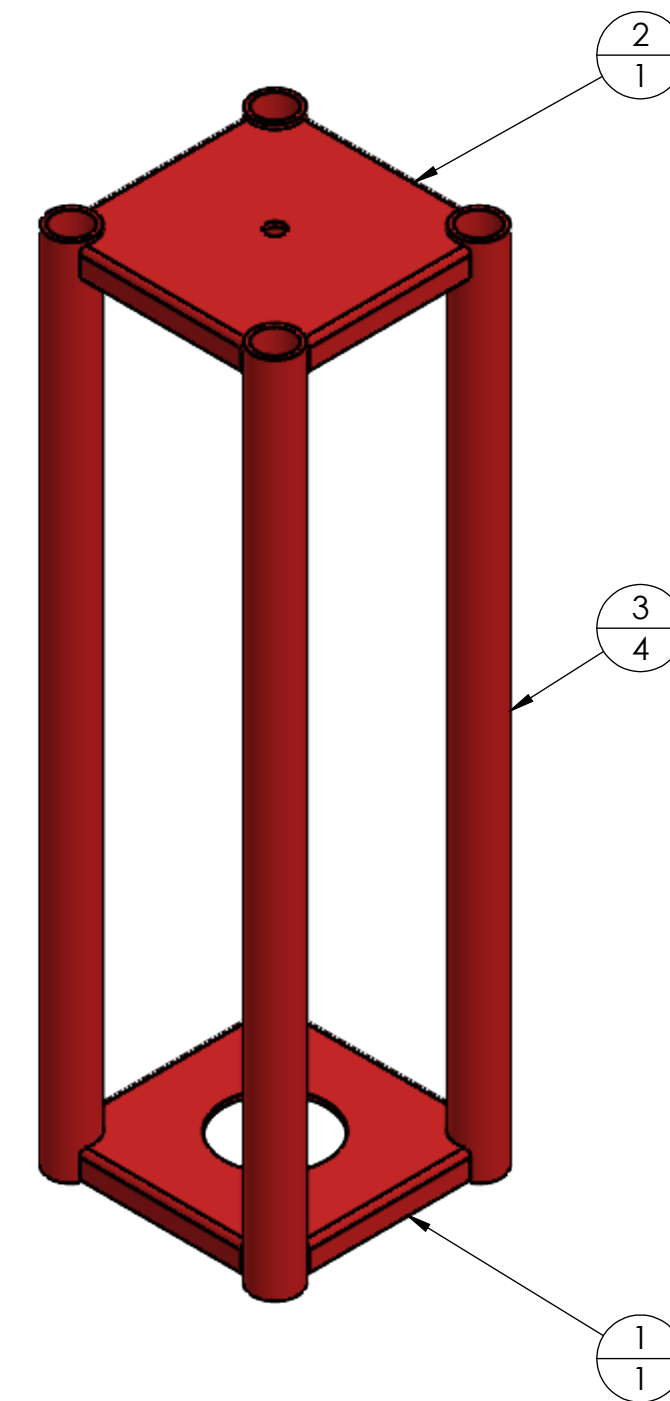
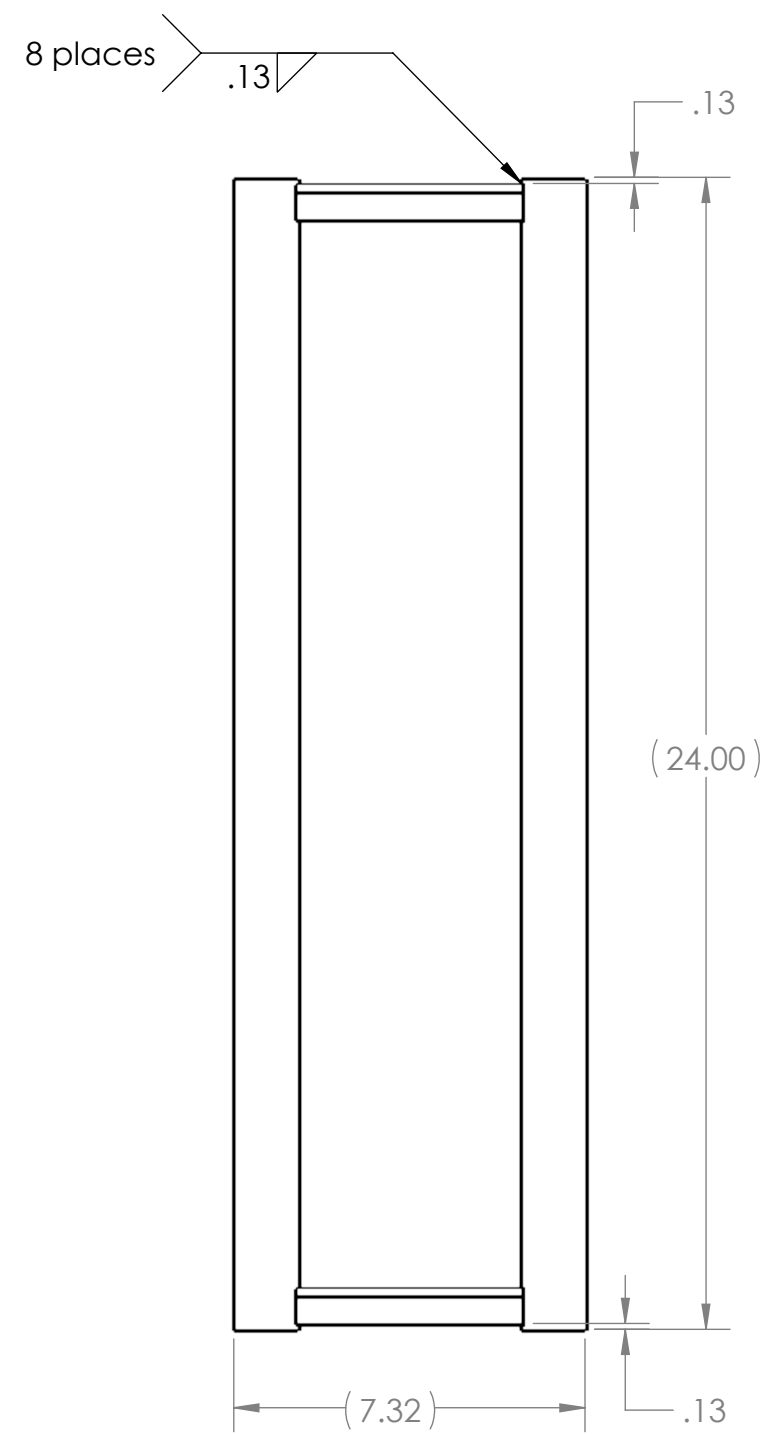
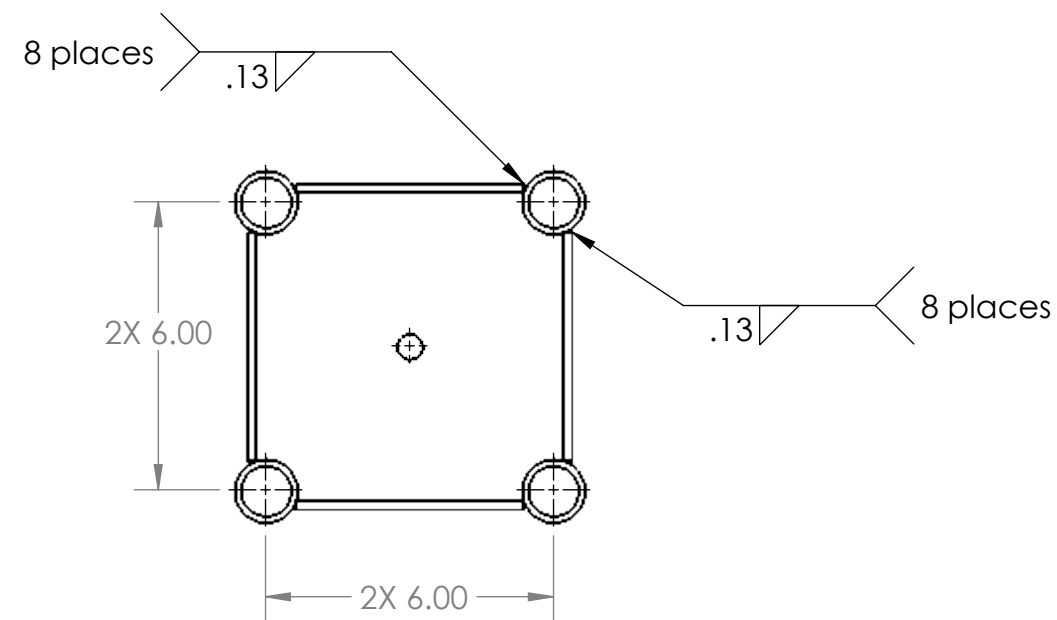
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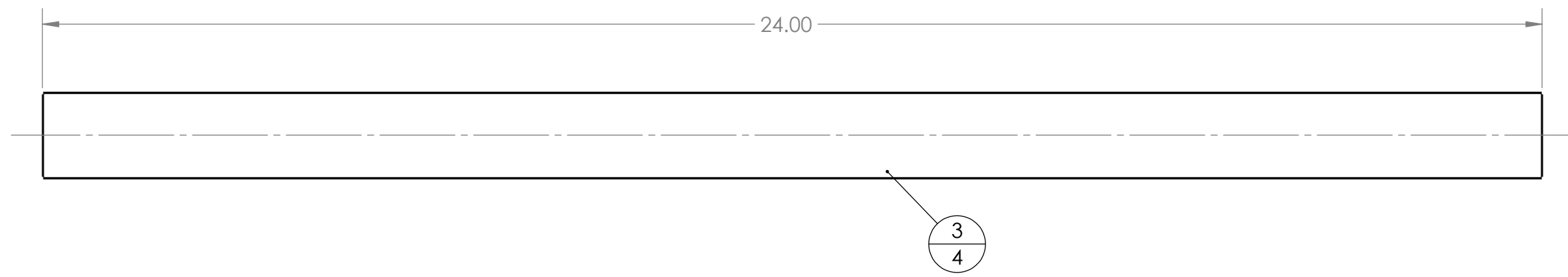
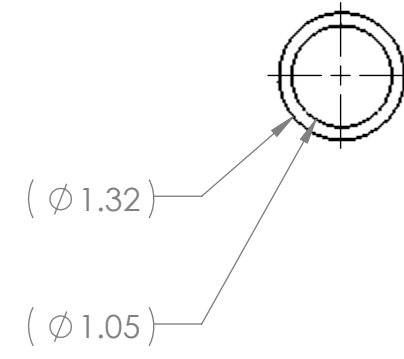
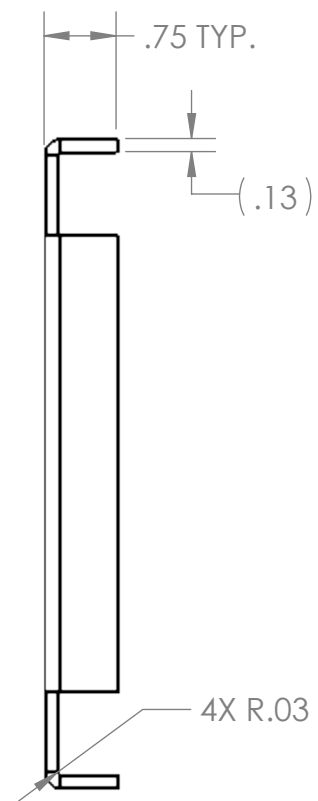
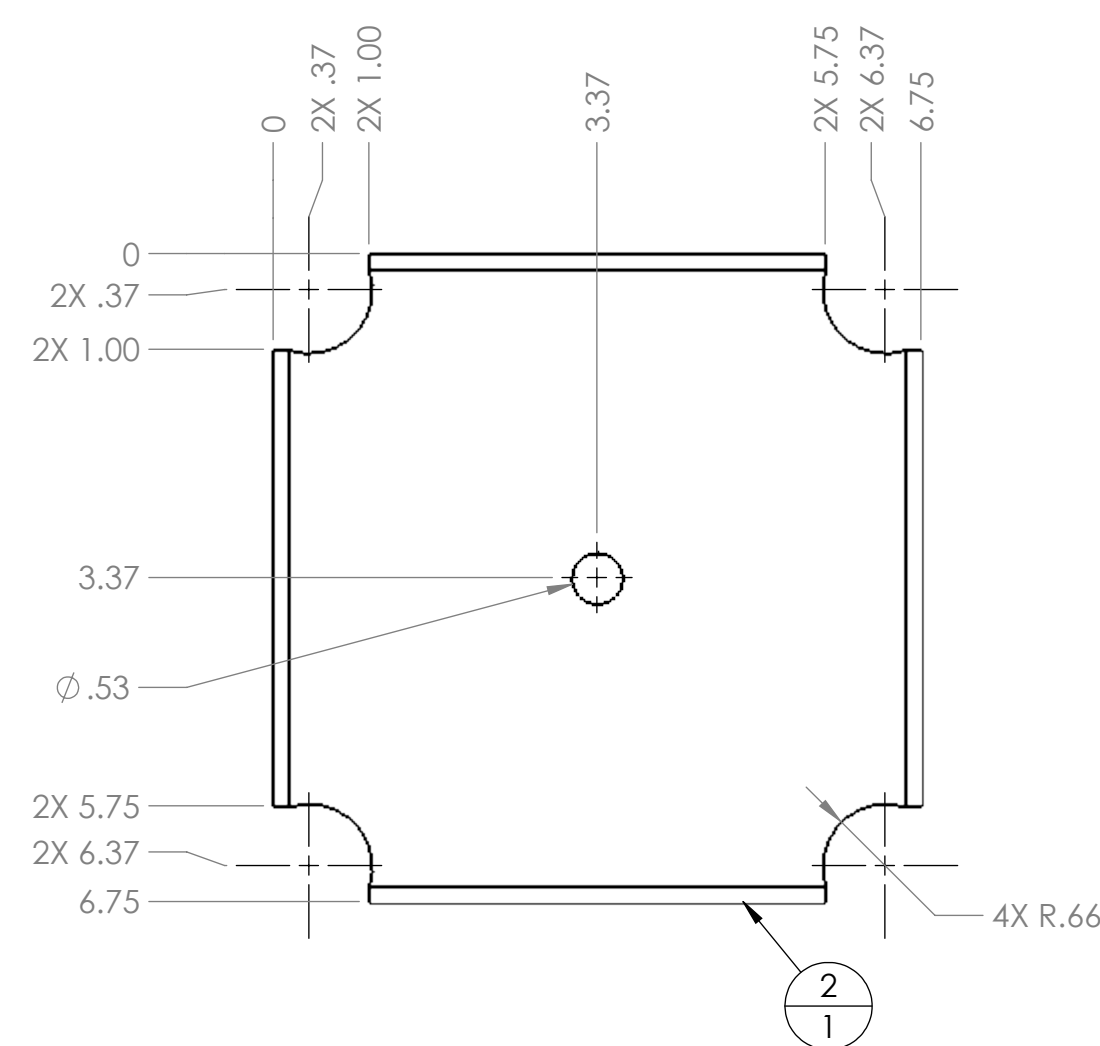
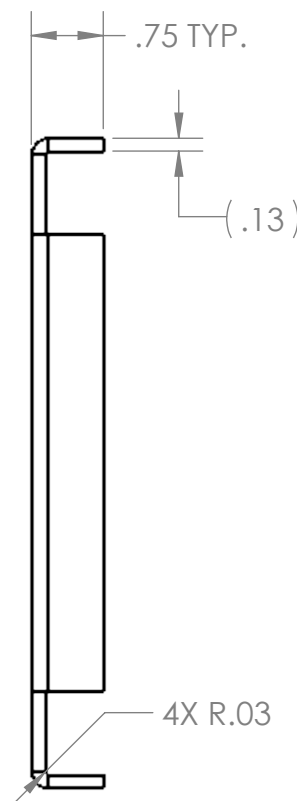
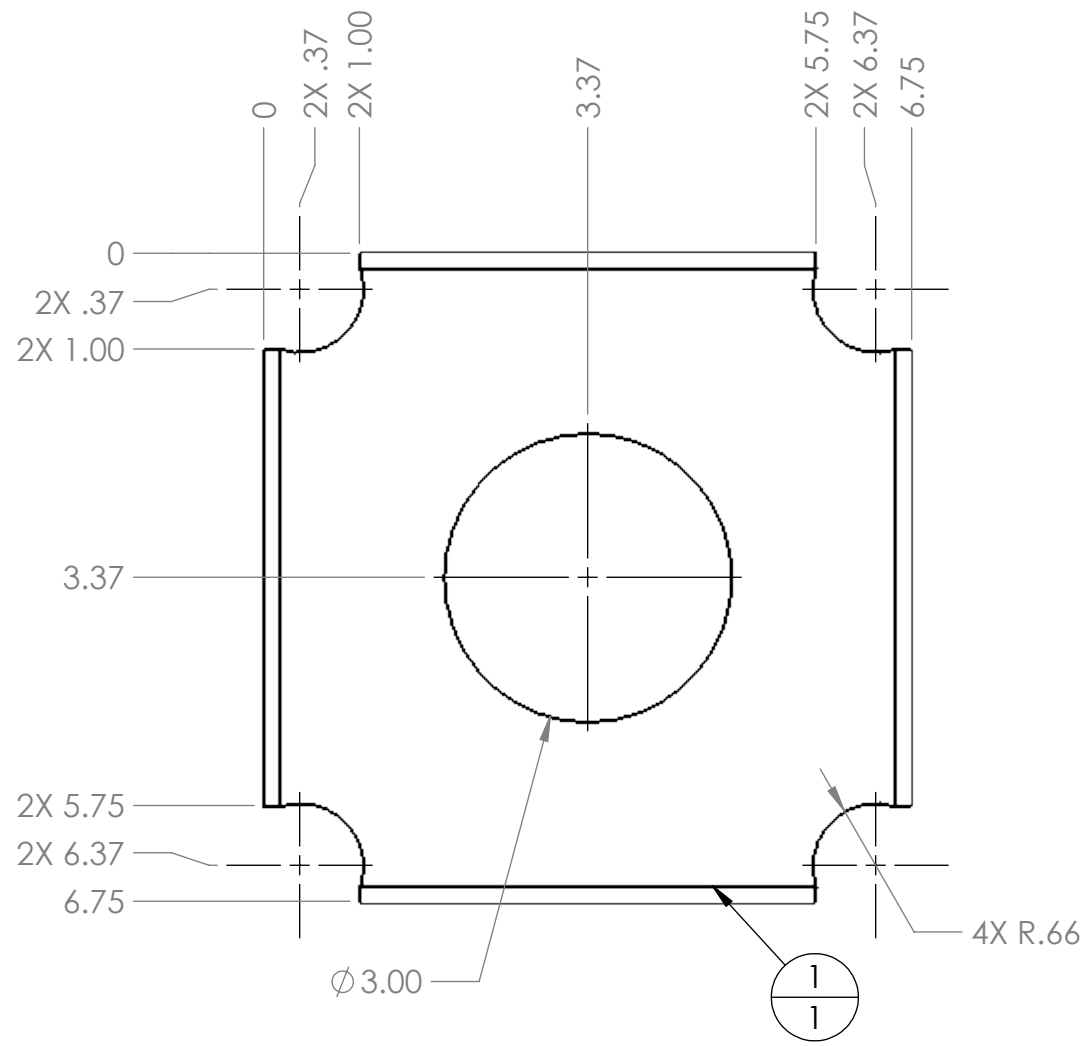
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	DRAWN	JO	12/16/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Barge
SIZE		DWG. NO.	REV		
C		GE-25200			
SCALE: 1:30		SHEET 3 OF 3			




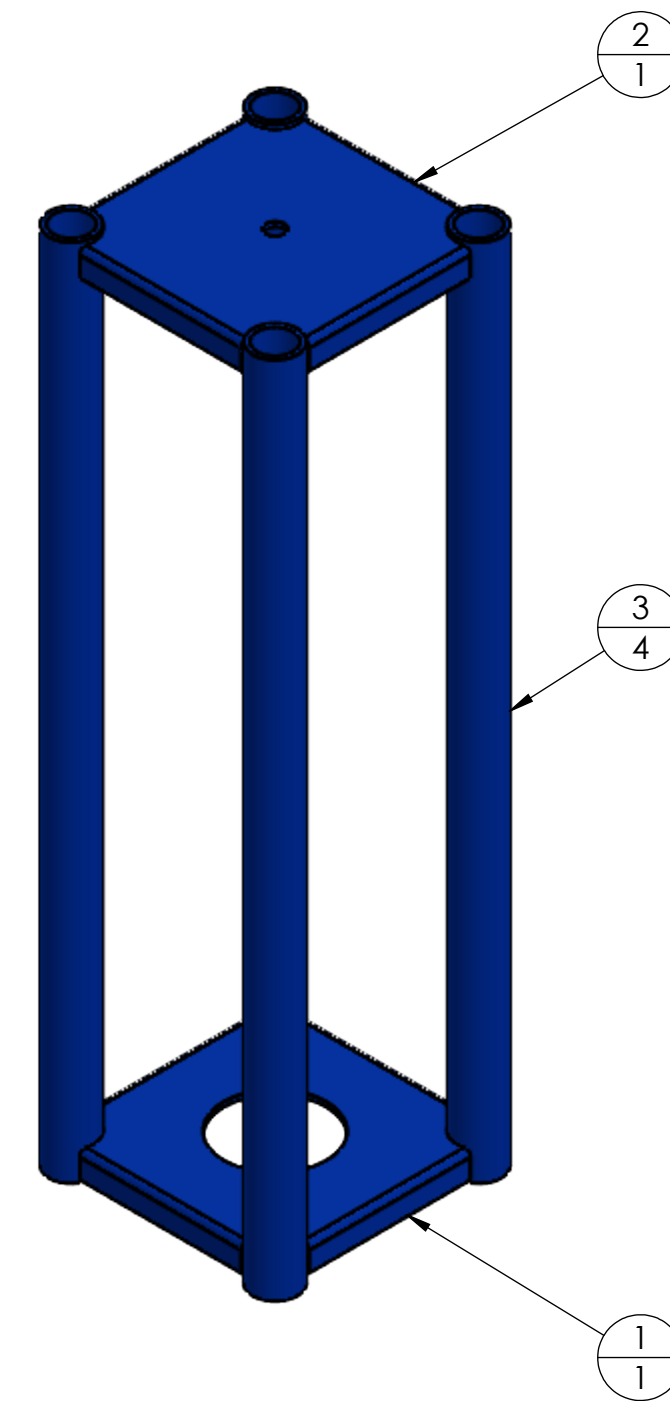
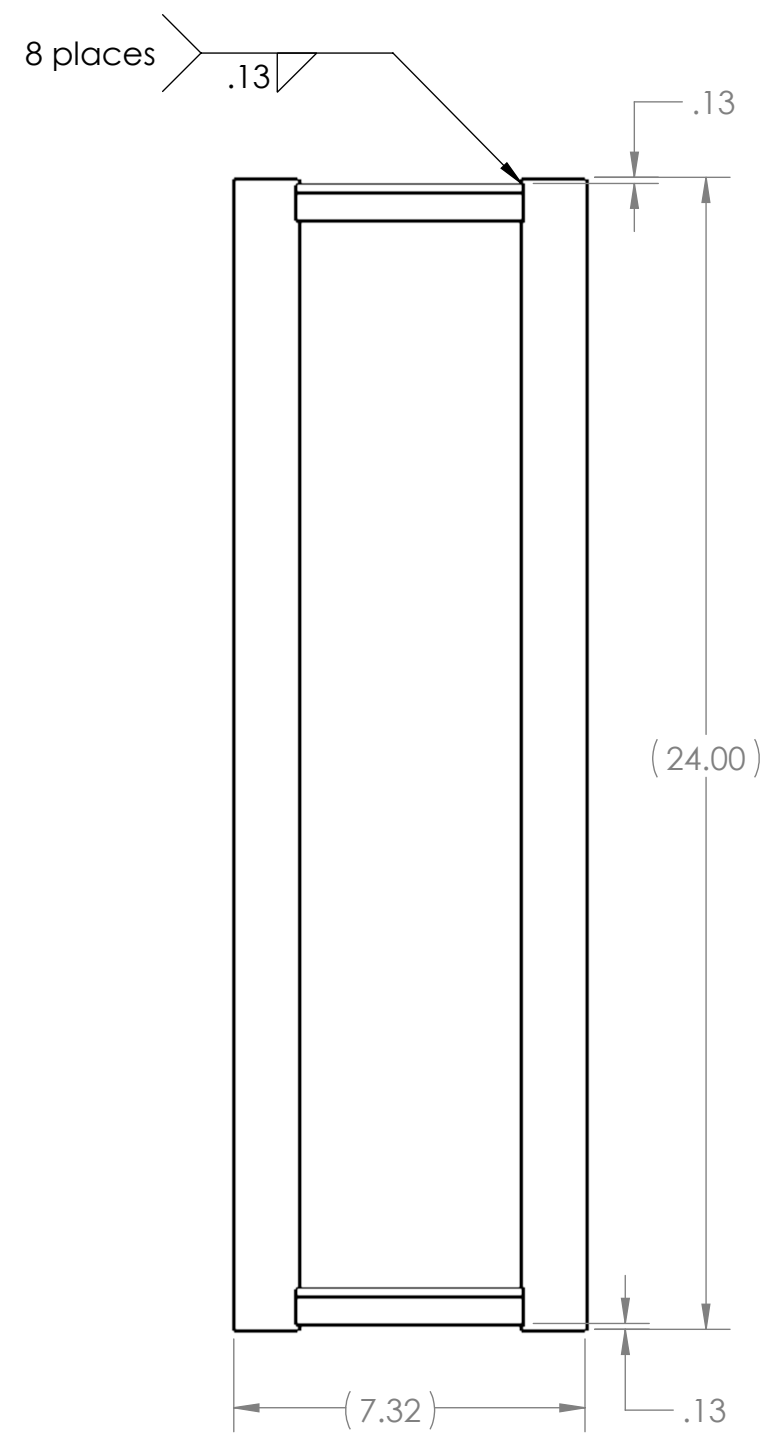
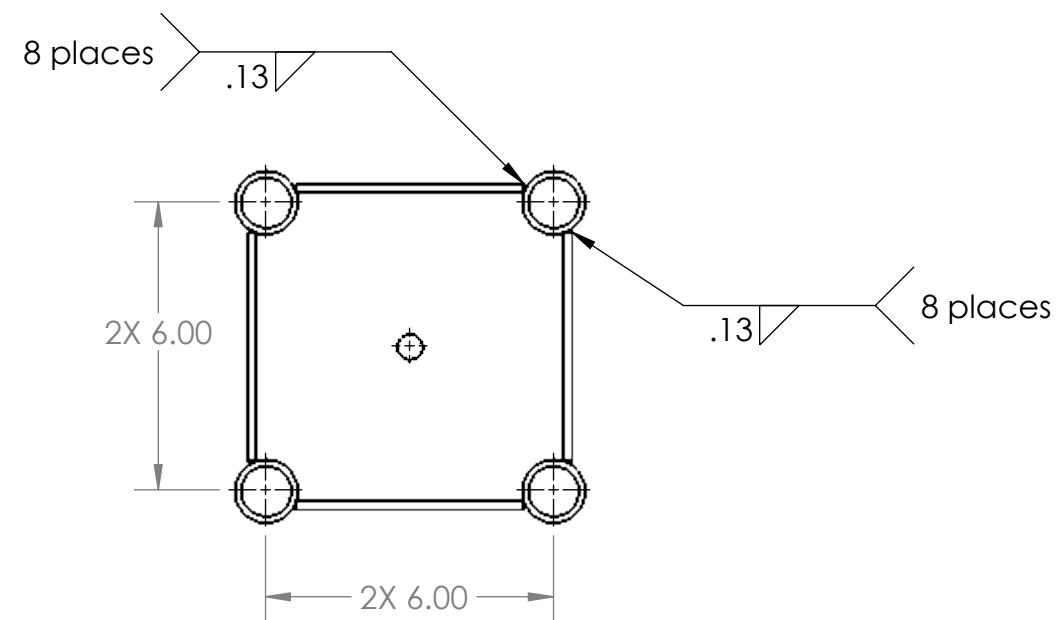
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25201-01	10 ga. A36/1008 Mild Steel Sheet	1
2	GE-25201-02	10 ga. A36/1008 Mild Steel Sheet	1
3	GE-25201-03	1" Schedule 40 Pipe, A500 Steel	4

UNLESS OTHERWISE SPECIFIED:		WELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$		DRAWN	DF	7/10/2024
<b>MATERIAL/FINISH:</b> Steel, welded and powder coated RAL# 3020		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
DO NOT SCALE DRAWING		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
		TITLE:		
		Cage Weldment, Red		
SIZE	DWG. NO.	REV		
<b>C</b>	GE-25201			
SCALE: 1:4		SHEET 1 OF 2		





UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$  <b>MATERIAL/FINISH:</b> Steel, welded and powder coated RAL# 3020  DO NOT SCALE DRAWING	WELD	NAME	DATE		
	DRAWN	DF	7/10/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:	<h1>Cage Weldment, Red</h1>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE: <b>C</b> DWG. NO.: GE-25201 REV:	
SCALE: 1:2		SHEET 2 OF 2			



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25202-01	10 ga. A36/1008 Mild Steel Sheet	1
2	GE-25202-02	10 ga. A36/1008 Mild Steel Sheet	1
3	GE-25202-03	1" Schedule 40 Pipe, A500 Steel	4

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .02$   
 THREE PLACE DECIMAL  $\pm .015$

**MATERIAL/FINISH:**  
 Steel, welded and  
 powder coated RAL#  
 5017

DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	DF	7/10/2024

**PROPRIETARY AND CONFIDENTIAL**  
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 PROPERTY OF **FIRST**. ANY  
 REPRODUCTION IN PART OR AS A  
 WHOLE WITHOUT THE WRITTEN  
 PERMISSION OF **FIRST** IS  
 PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP  
 EDGES.



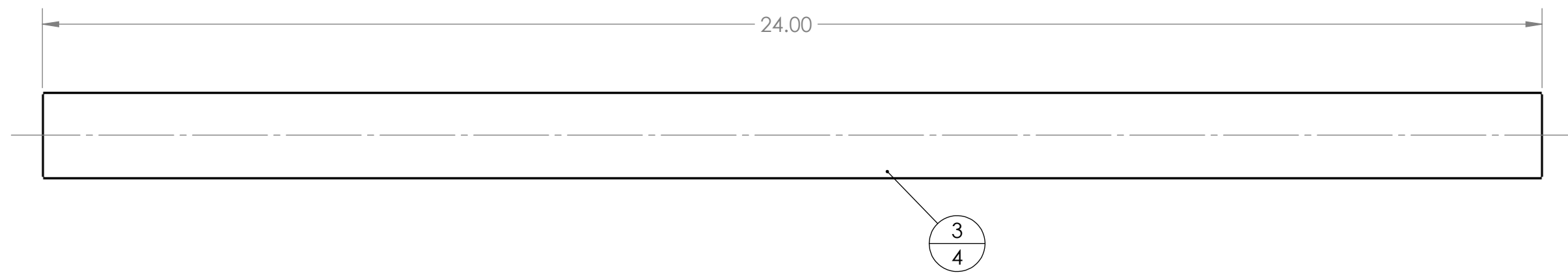
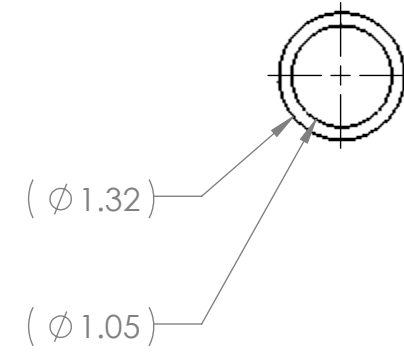
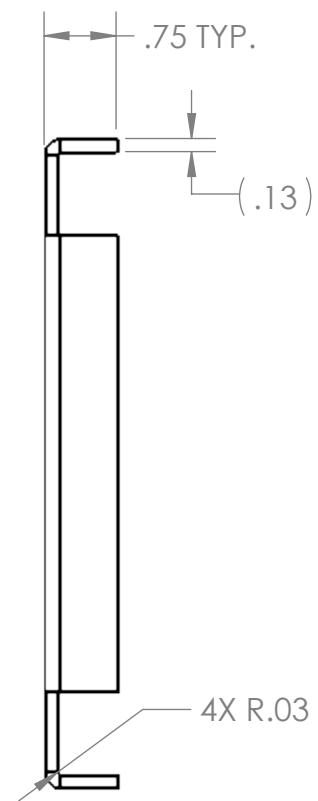
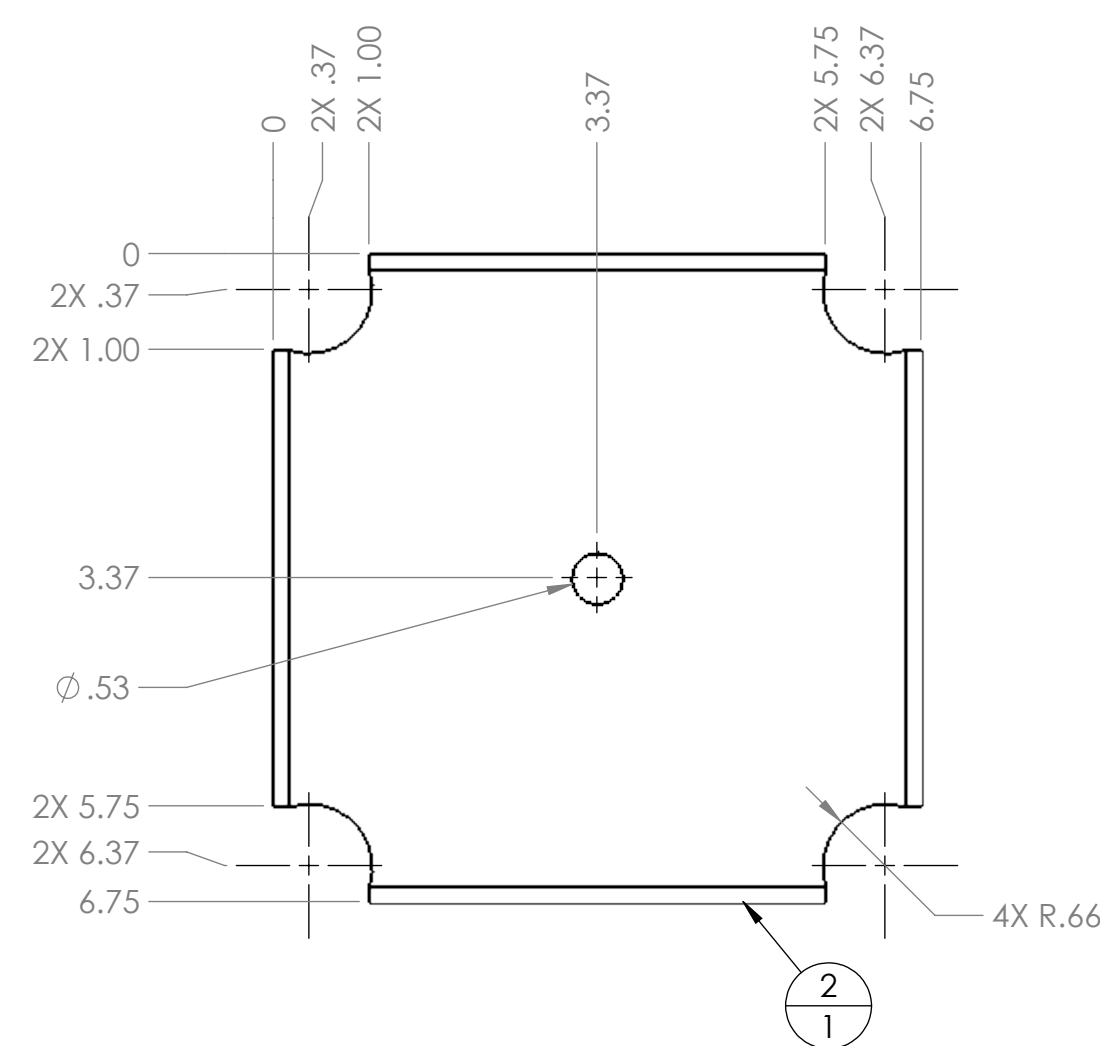
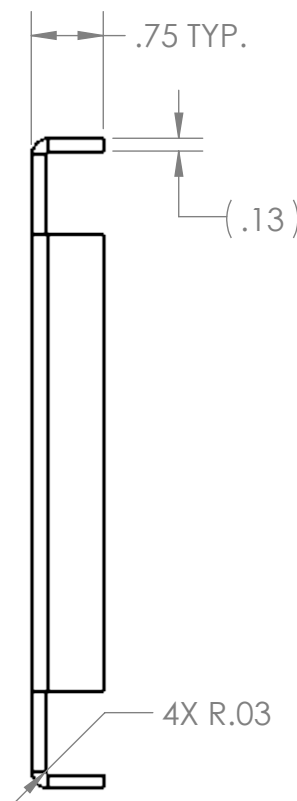
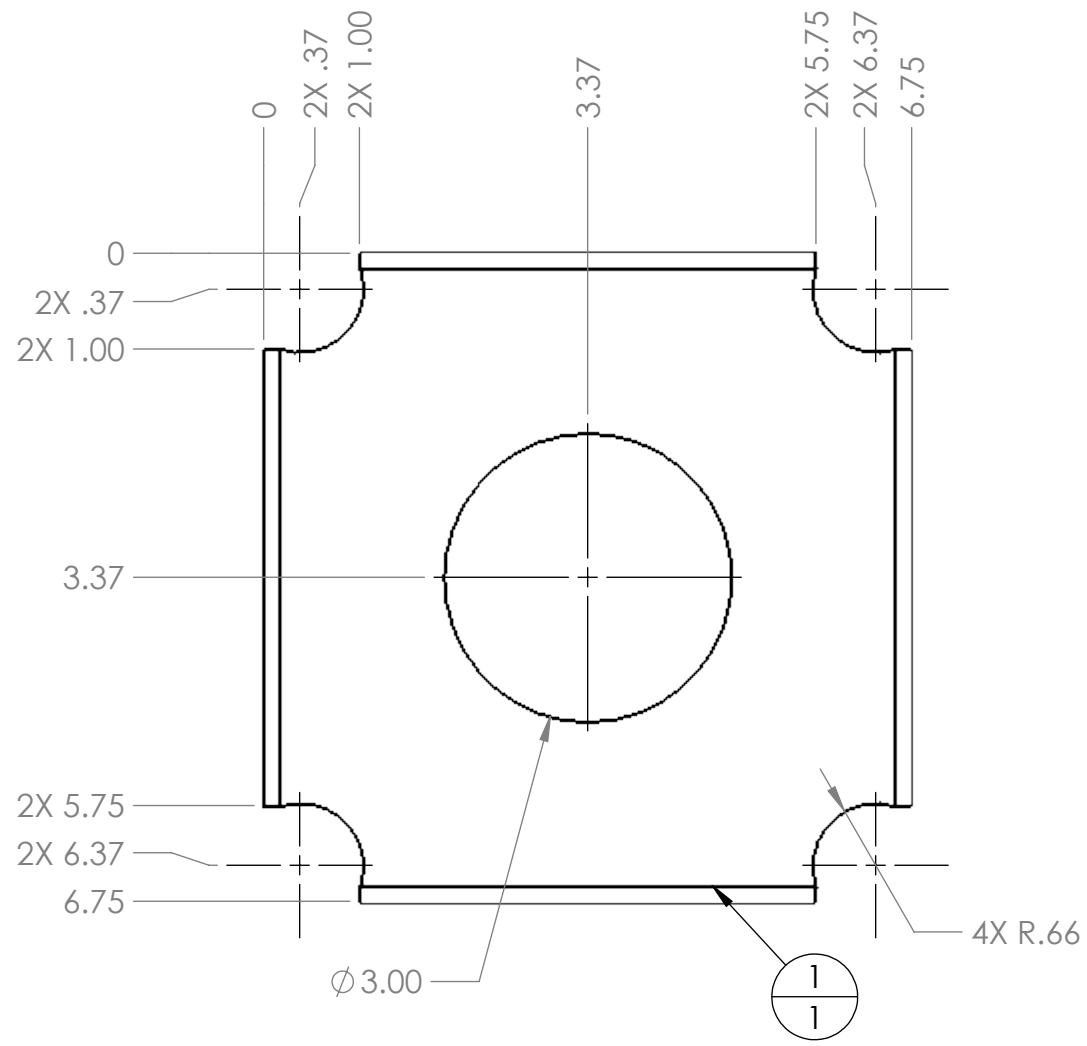
TITLE:  
**Cage  
 Weldment, Blue**


SIZE	DWG. NO.	REV
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<b>C</b>	GE-25202	
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SCALE: 1:4	SHEET 1 OF 2
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$  <b>MATERIAL/FINISH:</b> Steel, welded and powder coated RAL# 5017  DO NOT SCALE DRAWING	WELD	NAME	DATE		
	DRAWN	DF	7/10/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:	<b>Cage Weldment, Blue</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE: <b>C</b>	
			SCALE: 1:2	SHEET 2 OF 2	

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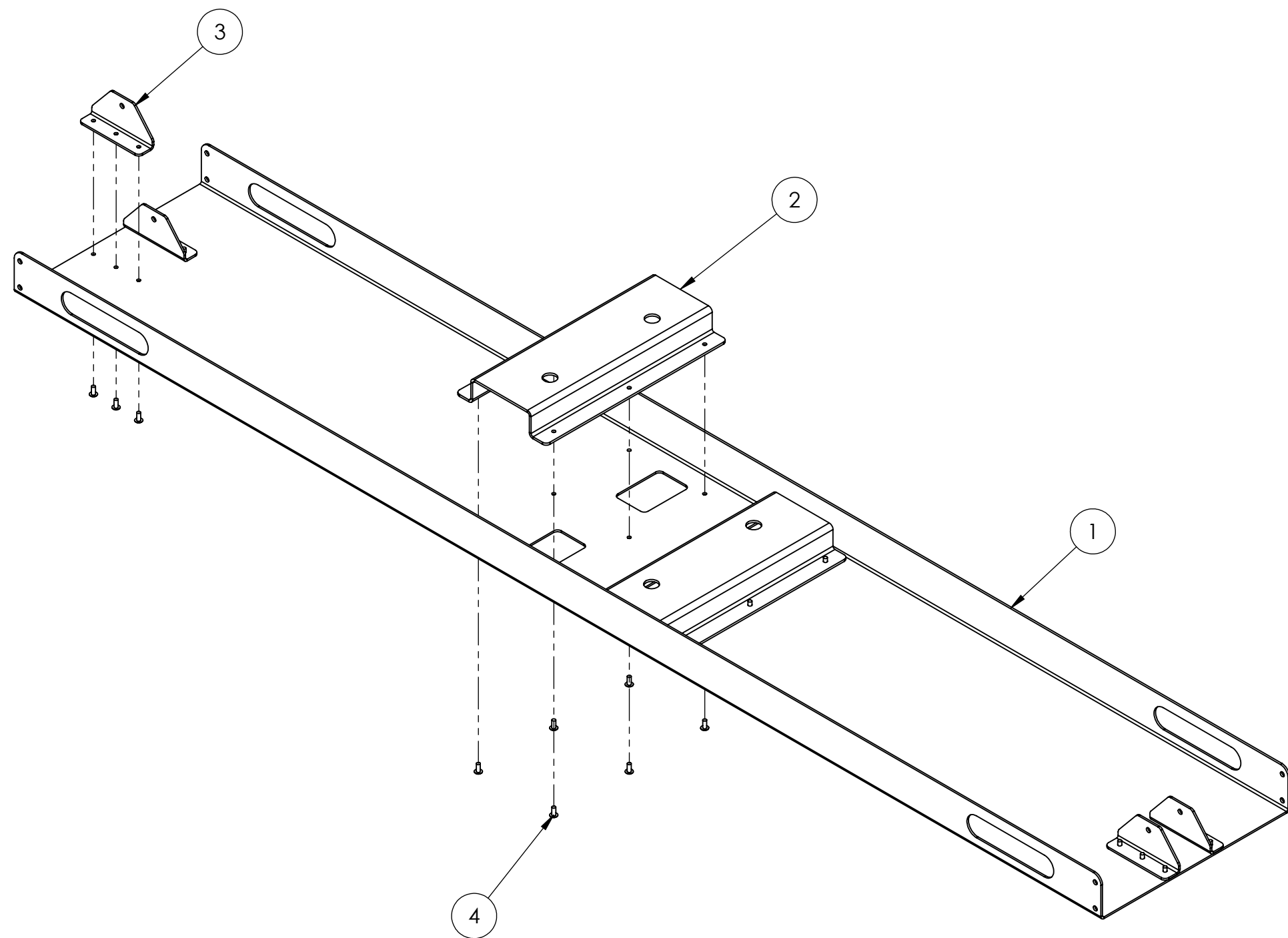
4

3



2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-B4	A	2X $\phi$ .75 was 2X $\phi$ .88	8/28/2024	DAF
2-C2, 2-C4	B	Added 4X $\phi$ .27 THRU ALL holes.	9/10/2024	DAF



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25203-01	Truss Base - Sheet Metal Assembly, Base Plate	1
2	GE-25203-02	Truss Base - Sheet Metal Assembly, Truss Feet	2
3	GE-25203-03	Truss Base - Sheet Metal Assembly, Angle	4
4	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	24

UNLESS OTHERWISE SPECIFIED:		BEND	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .02 THREE PLACE DECIMAL $\pm$ .010		DRAWN	DF	8/19/2024
<b>MATERIAL/FINISH:</b> 11 and 12 Gauge Steel, Paint or Powder Coat Black		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
DO NOT SCALE DRAWING		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
		 		TITLE: Truss Base, Long - Sheet Metal Assembly
SIZE	DWG. NO.	REV		
<b>C</b>	GE-25203	<b>B</b>		
SCALE: 1:6		SHEET 1 OF 2		

4

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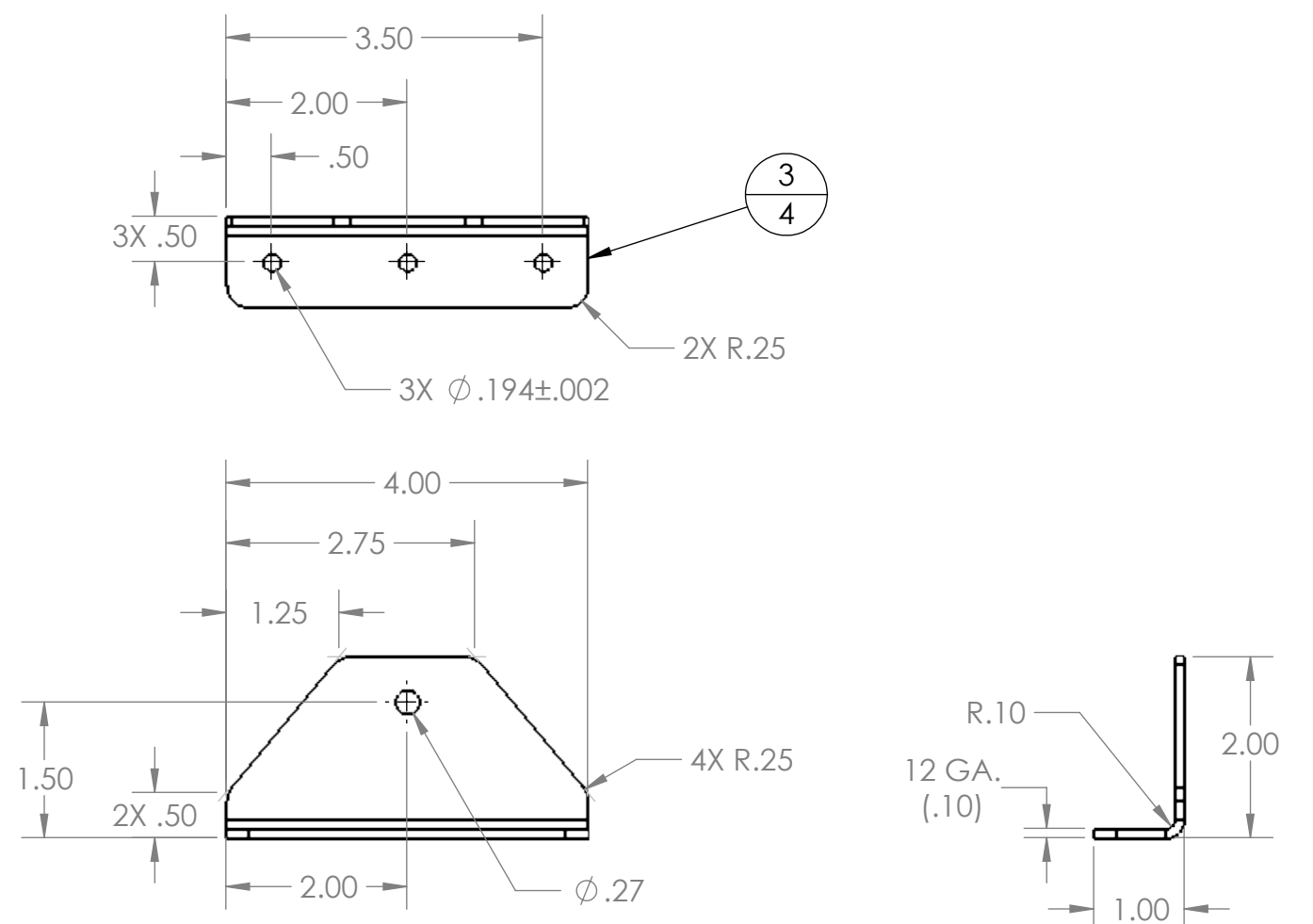
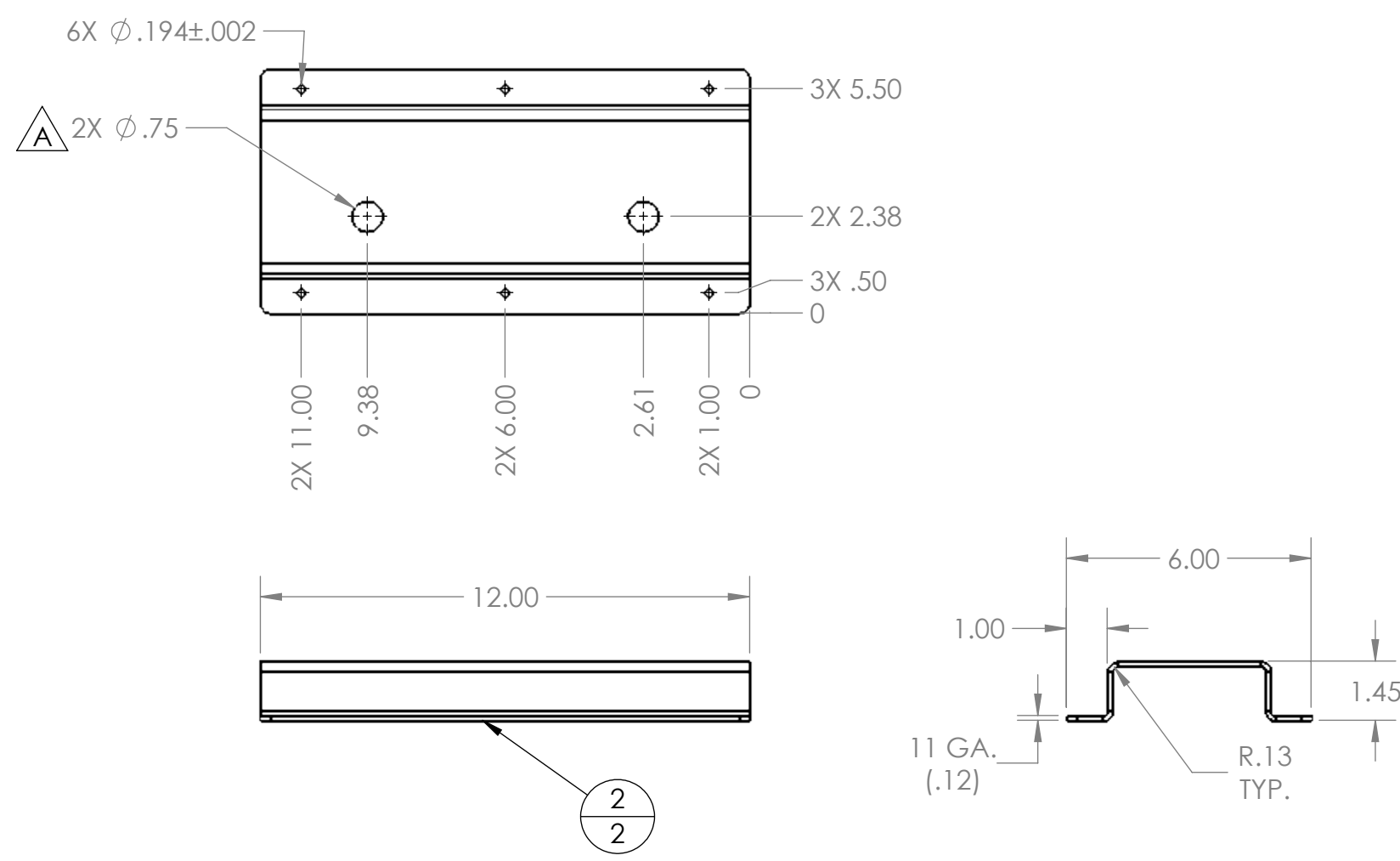
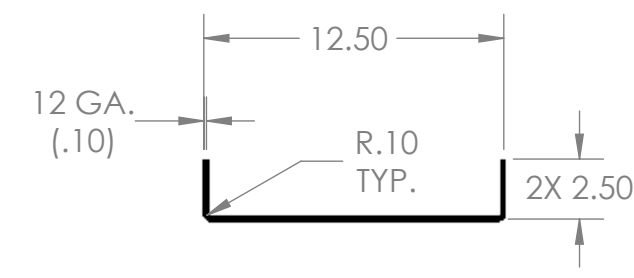
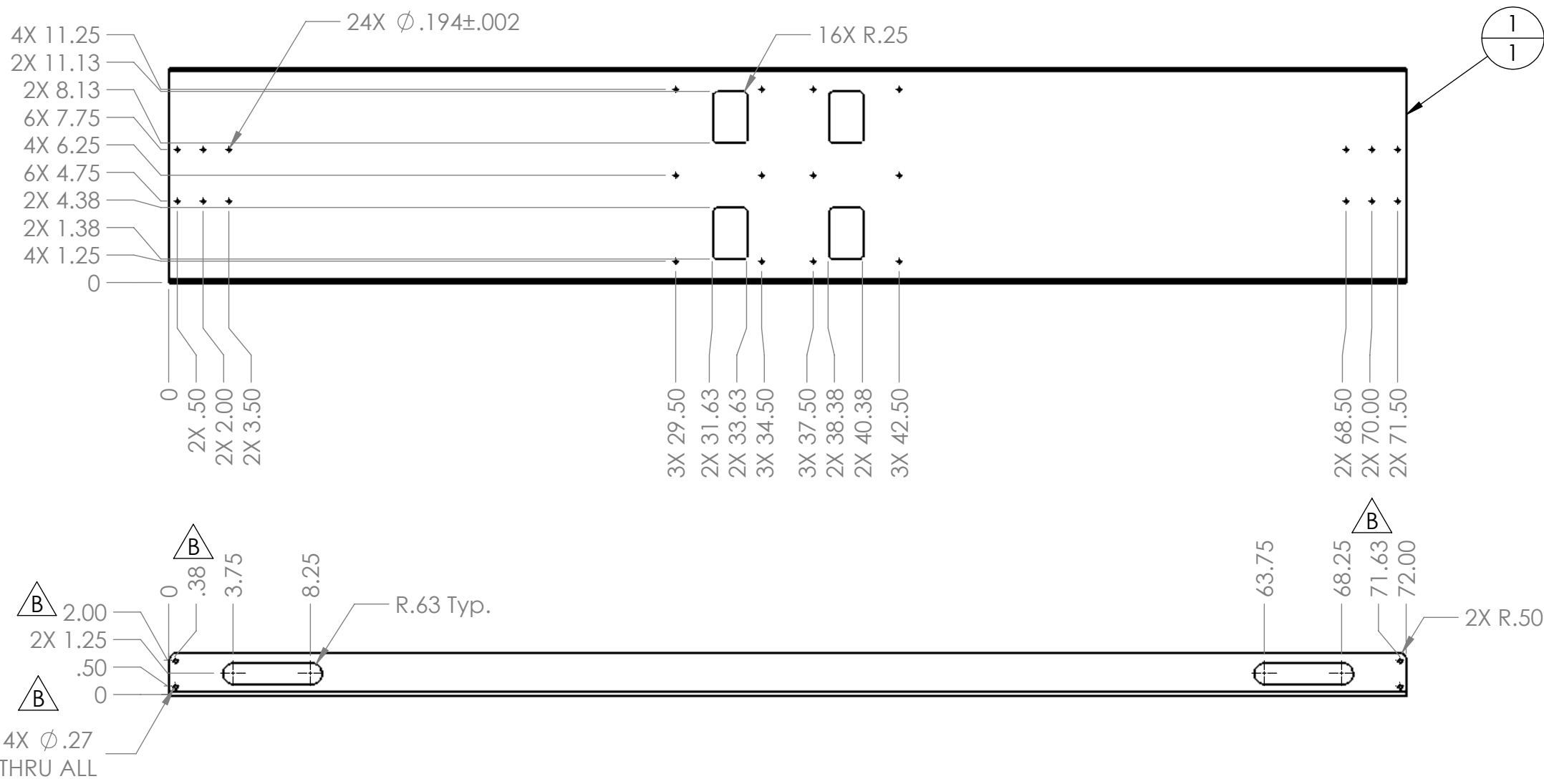
C

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	DF	8/19/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
<b>MATERIAL/FINISH:</b>	11 and 12 Gauge Steel, Paint or Powder Coat Black		
DO NOT SCALE DRAWING	<b>COMMENTS:</b>		
	REMOVE ALL BURRS AND SHARP EDGES.		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Truss Base, Long - Sheet Metal Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25203</b>	<b>B</b>

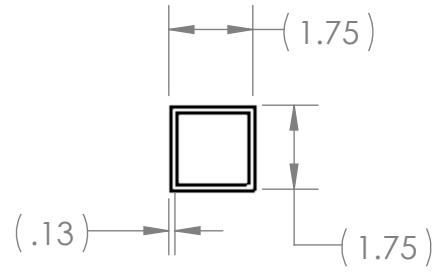
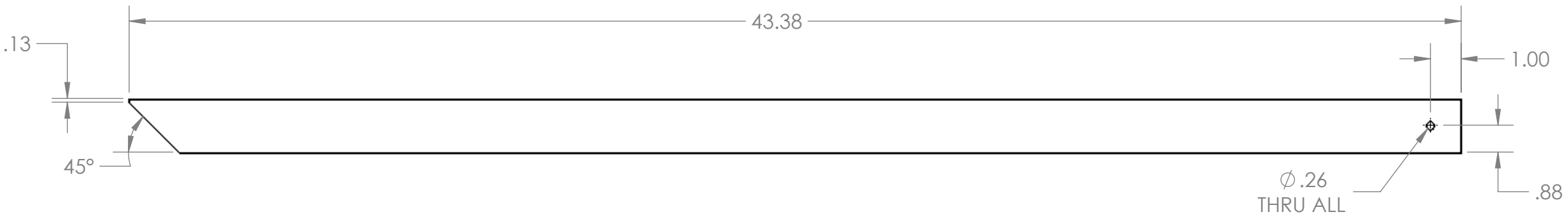
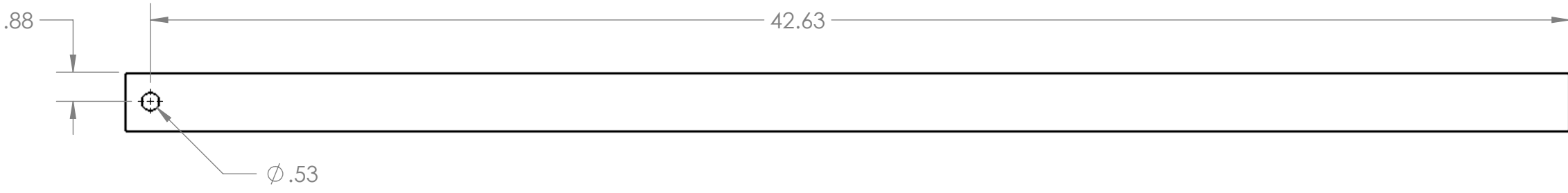
SCALE: 1:8 SHEET 2 OF 2

4

3

2



1



Notes:  
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$   
**MATERIAL/FINISH:**  
 1.75 X .125 Square Tubing,  
 6061 Aluminum  
 DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	8/23/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: <b>Truss Brace</b>		
SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25204</b>	
SCALE: 1:4		SHEET 1 OF 1

4

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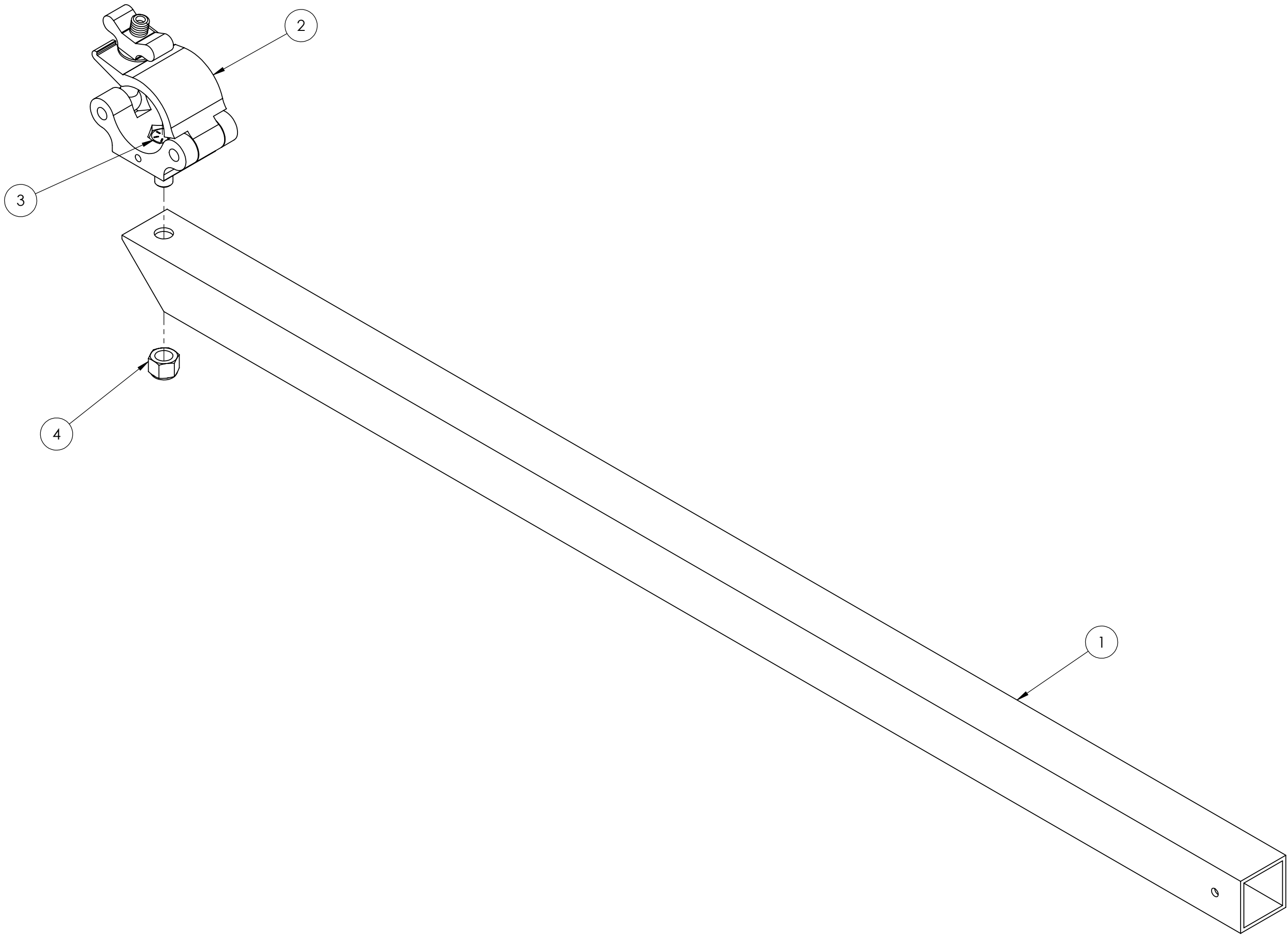
C

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25204	Truss Brace	1
2	FE-01016	Cheeseborough for Truss_Single	1
3	hex_.5_13_1.25	Steel Hex Head Screw, 1/2"-13 x 1.25" long, fully threaded	1
4	nylock_.5_13	steel nylon-insert locknut, 1/2" - 13	1

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/2$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .50$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	JO	12/16/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

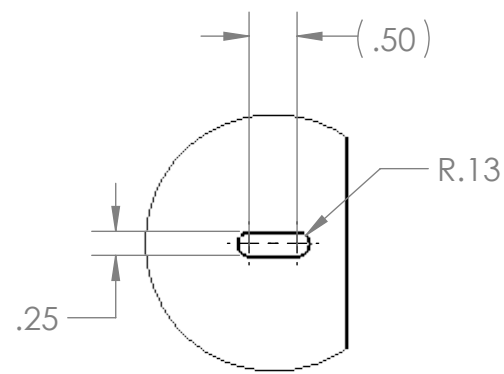
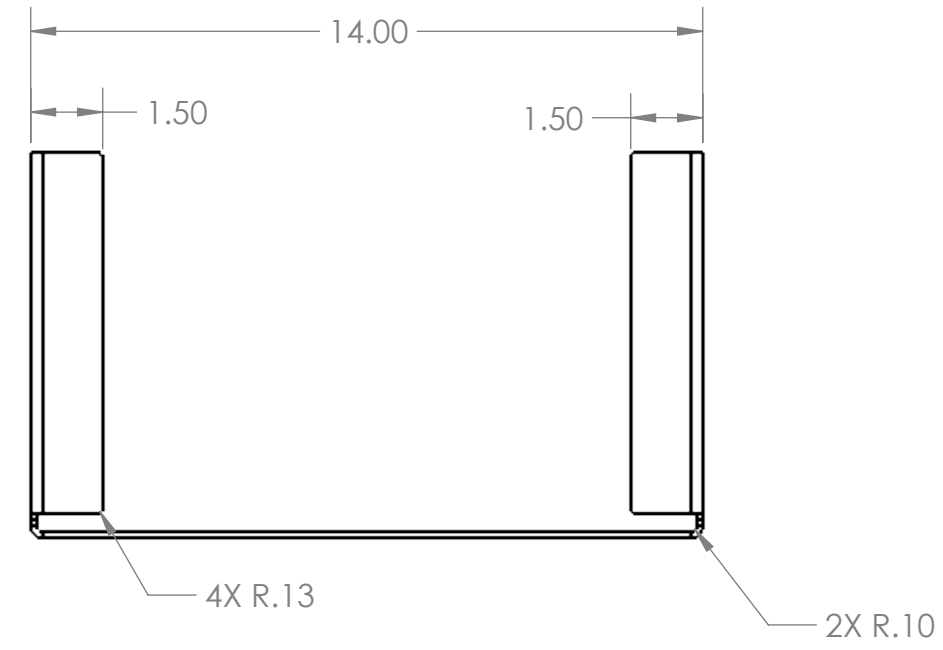
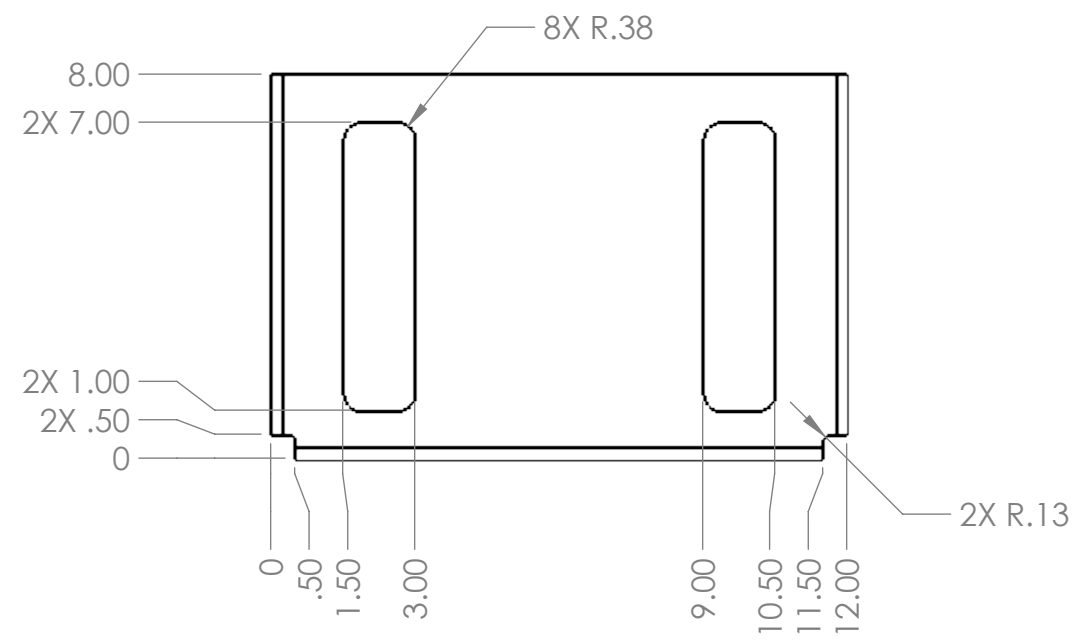
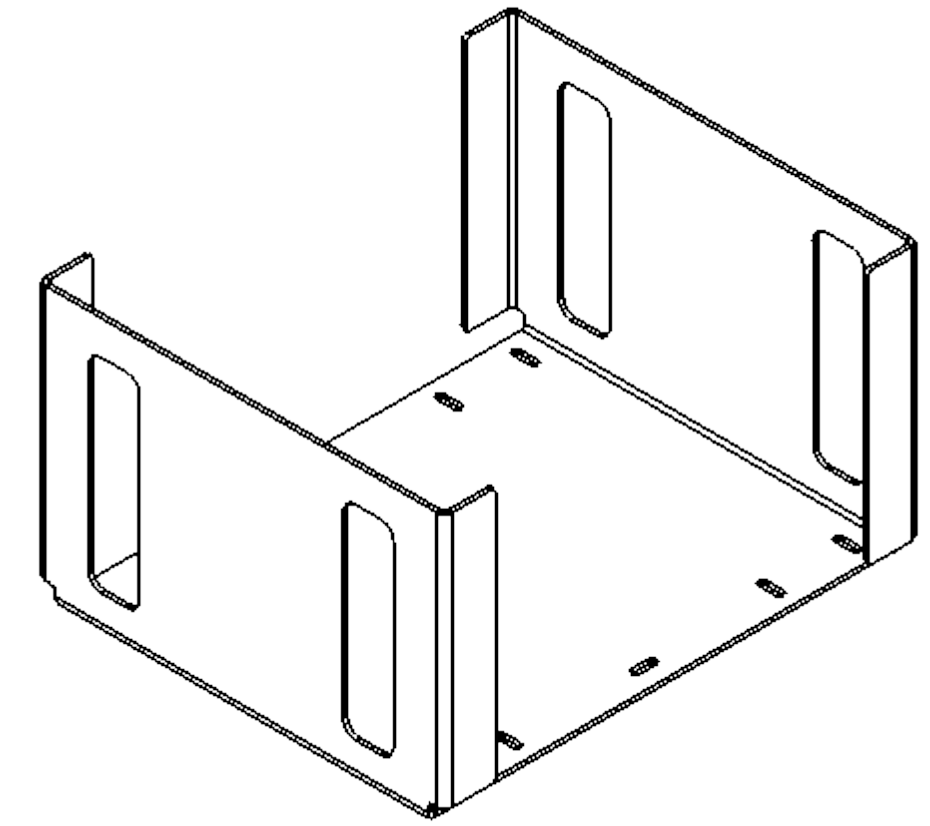
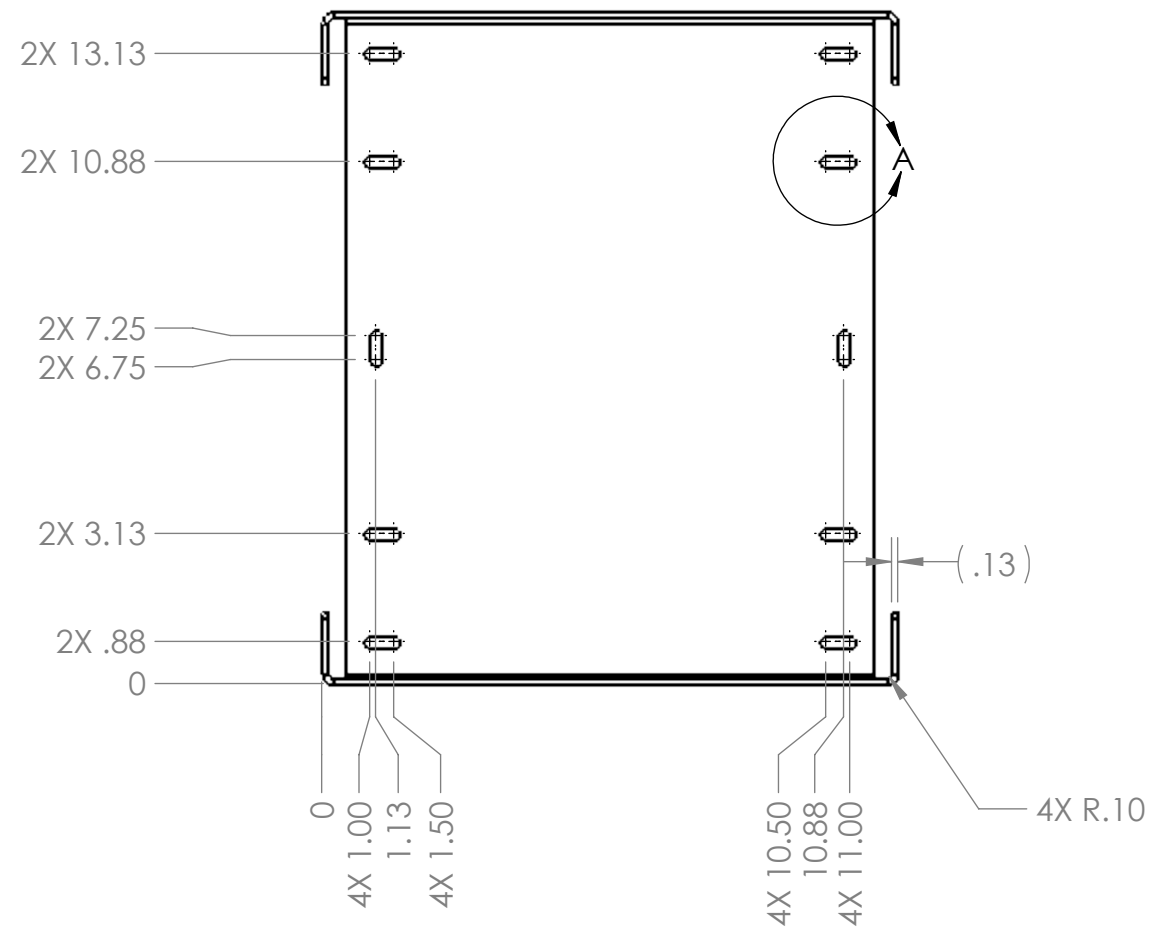
**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.





TITLE:  
**Truss Brace Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25205	

SCALE: 1:2.5 SHEET 1 OF 1



DETAIL A  
SCALE 1 : 2  
TYP. 10 PLACES

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$  <b>MATERIAL/FINISH:</b> 8 ga. 5052 Aluminum Sheet  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	DF	10/3/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Backboard Brace
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25206		
SCALE: 1:4			SHEET 1 OF 1	

4

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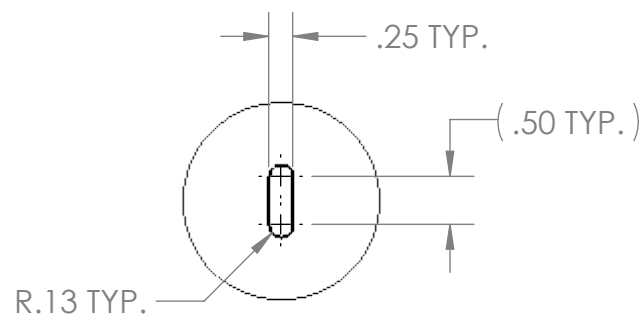
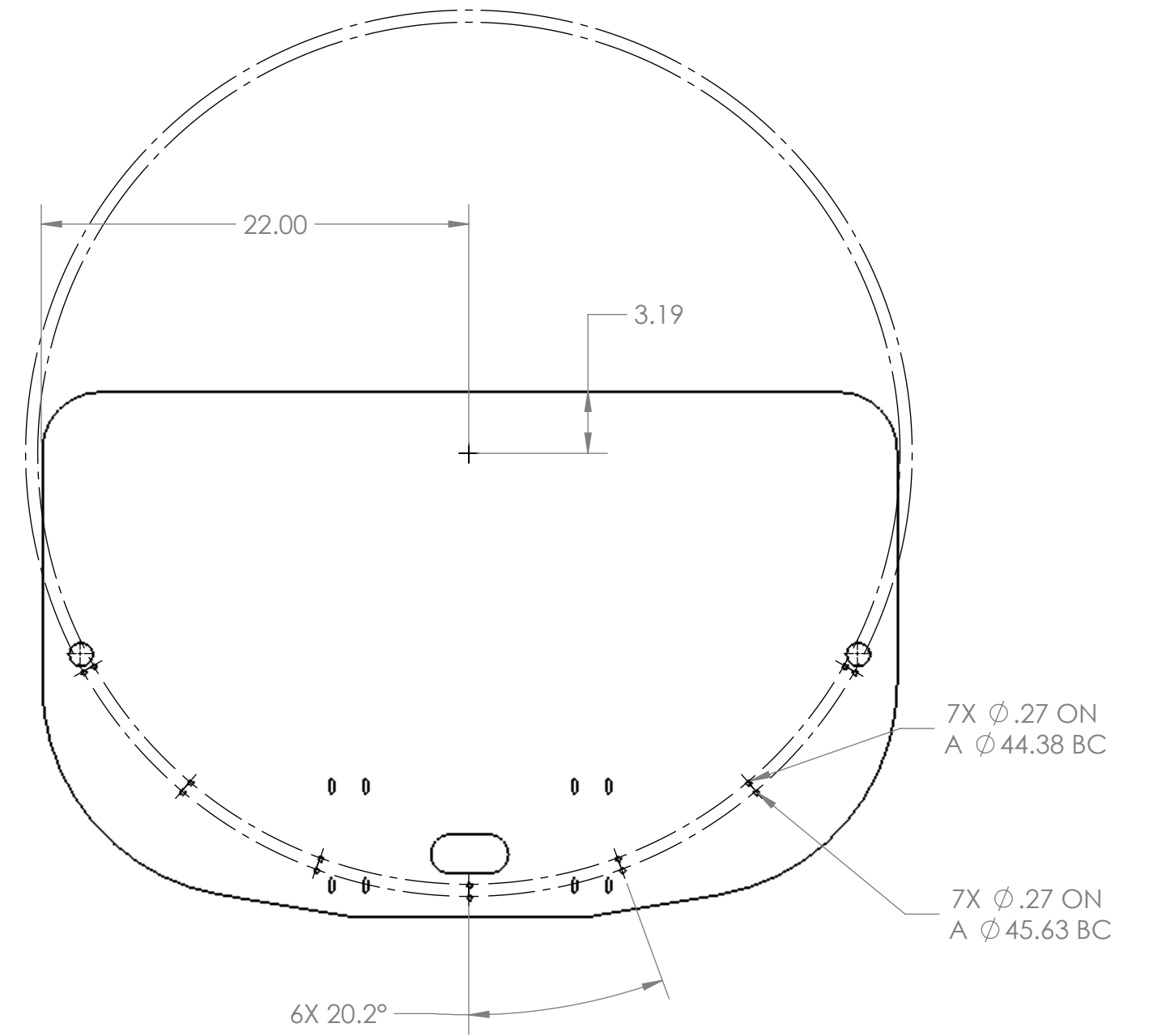
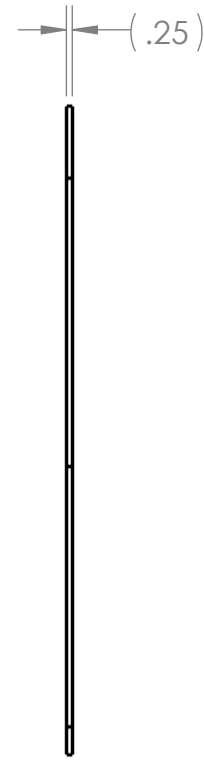
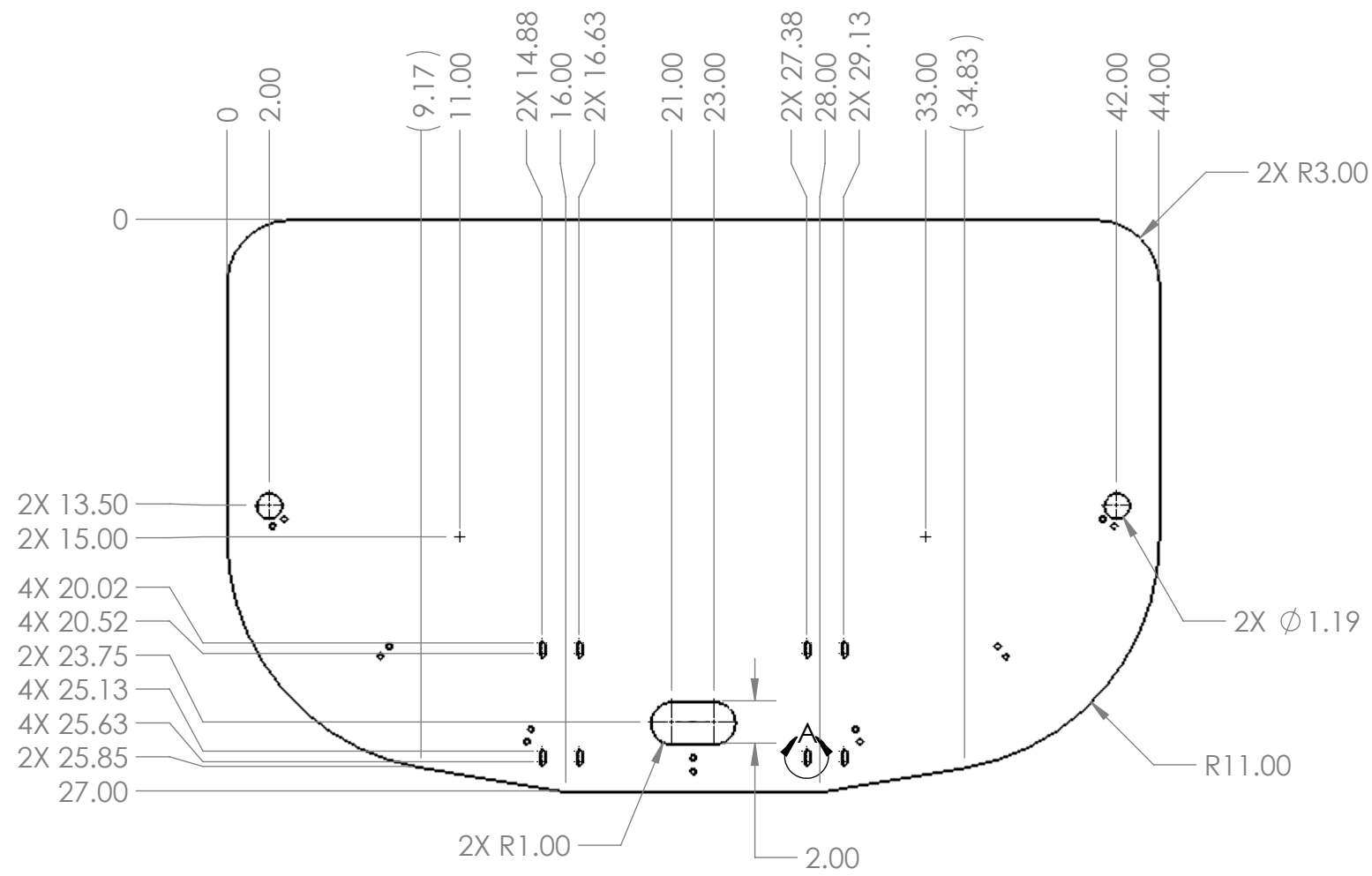
C

B

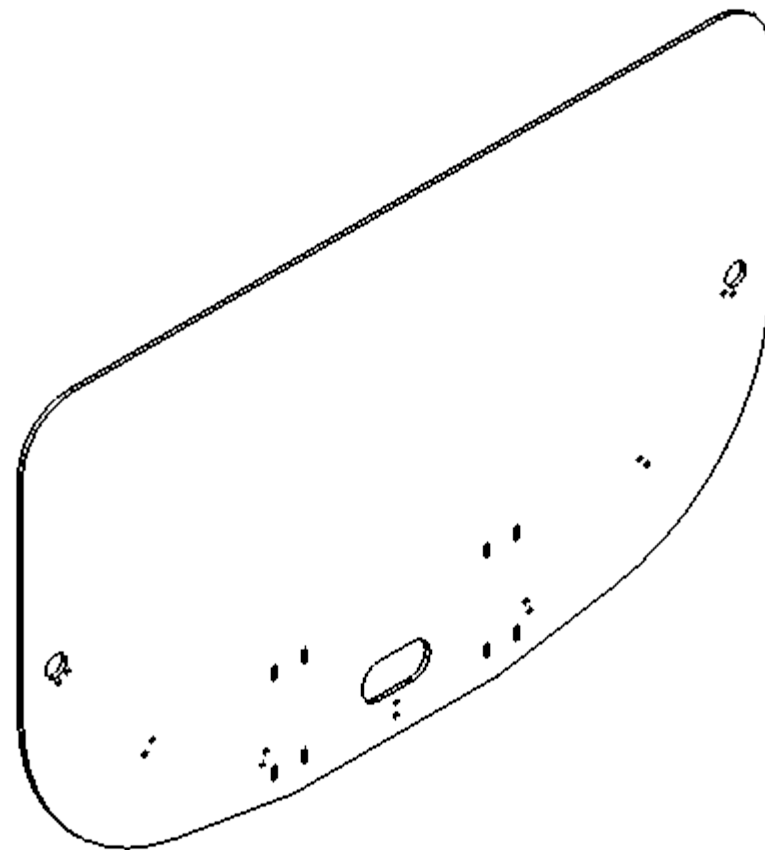
B



A

A

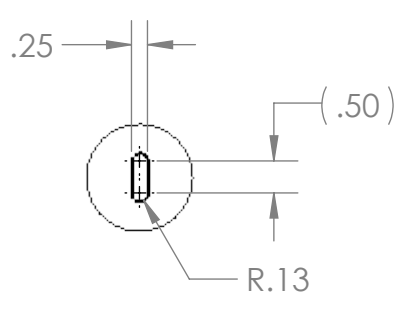
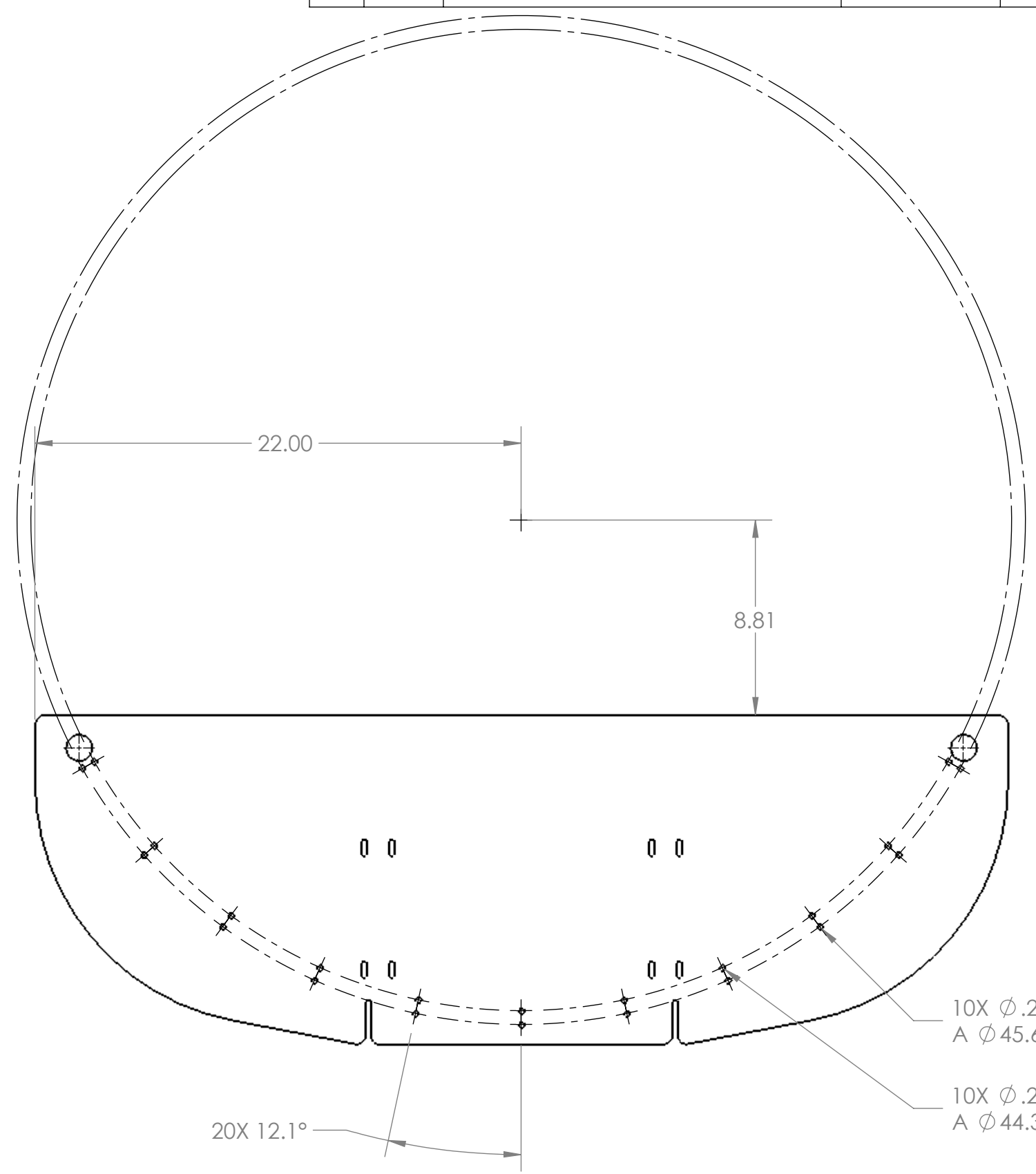
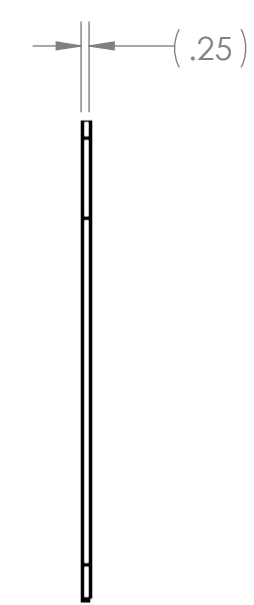
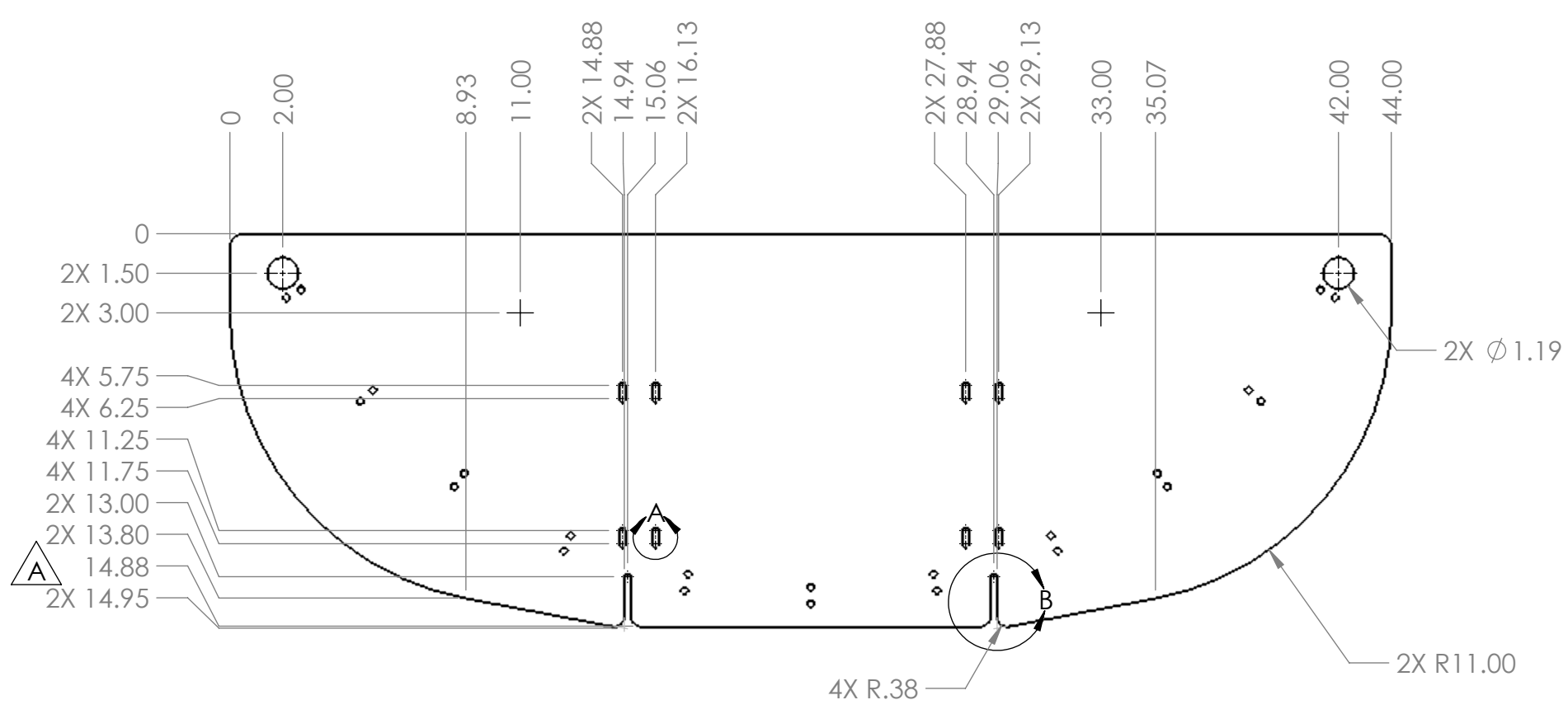


DETAIL A  
SCALE 1 : 2

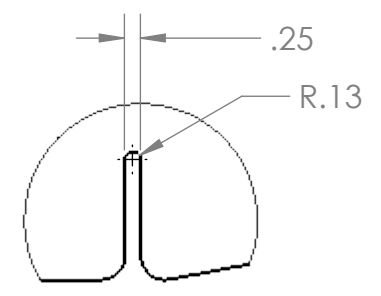


UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	DF	10/2/2024	
<b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Backboard</b>
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> <b>GE-25207</b>
	SCALE: 1:8		SHEET 1 OF 1	

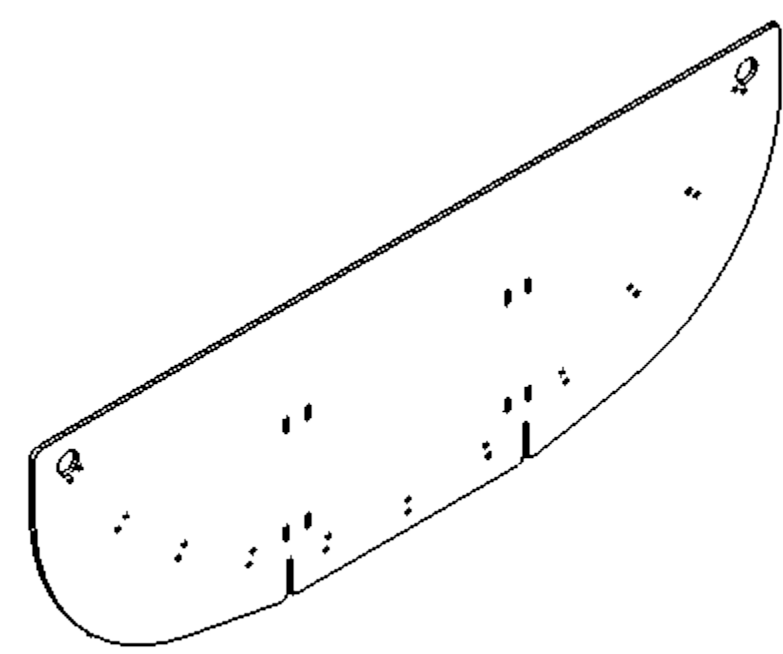
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B4	A	14.88 was 15.00	10/3/2024	DF




DETAIL A  
SCALE 1 : 3  
TYP. 8 PLACES



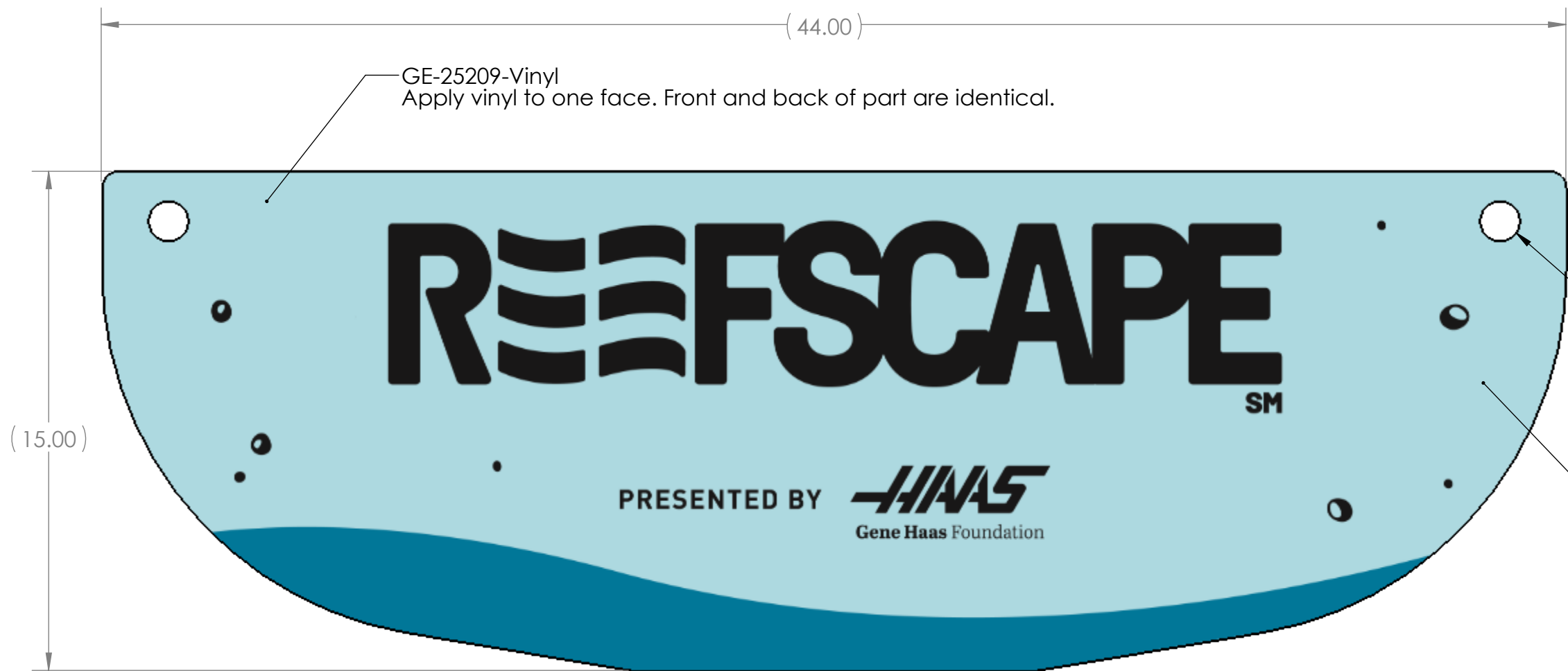
DETAIL B  
SCALE 1 : 3  
TYP. 2 PLACES



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE							
	DRAWN	DF	10/3/2024							
<b>MATERIAL/FINISH:</b> 1/4" Polycarbonate, Clear	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Inner Front</b>						
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td><b>C</b></td> <td><b>GE-25208</b></td> <td><b>A</b></td> </tr> </table>	SIZE	DWG. NO.	REV	<b>C</b>	<b>GE-25208</b>	<b>A</b>
SIZE	DWG. NO.	REV								
<b>C</b>	<b>GE-25208</b>	<b>A</b>								
SCALE: 1:6			SHEET 1 OF 1							



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2	A	Updated graphics	10/21/2024	DF



Cut out vinyl at hole locations. 2 places.



- Notes:
- QTY per field: 2
  - Gloss Vinyl finish.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	
	DRAWN	DF	10/7/2024	
<b>MATERIAL/FINISH:</b>	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			Outer Front w/Vinyl
<b>COMMENTS:</b>	REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
DO NOT SCALE DRAWING				REV
				<b>C</b> GE-25209 <b>A</b>
				SCALE: 1:4 SHEET 1 OF 1

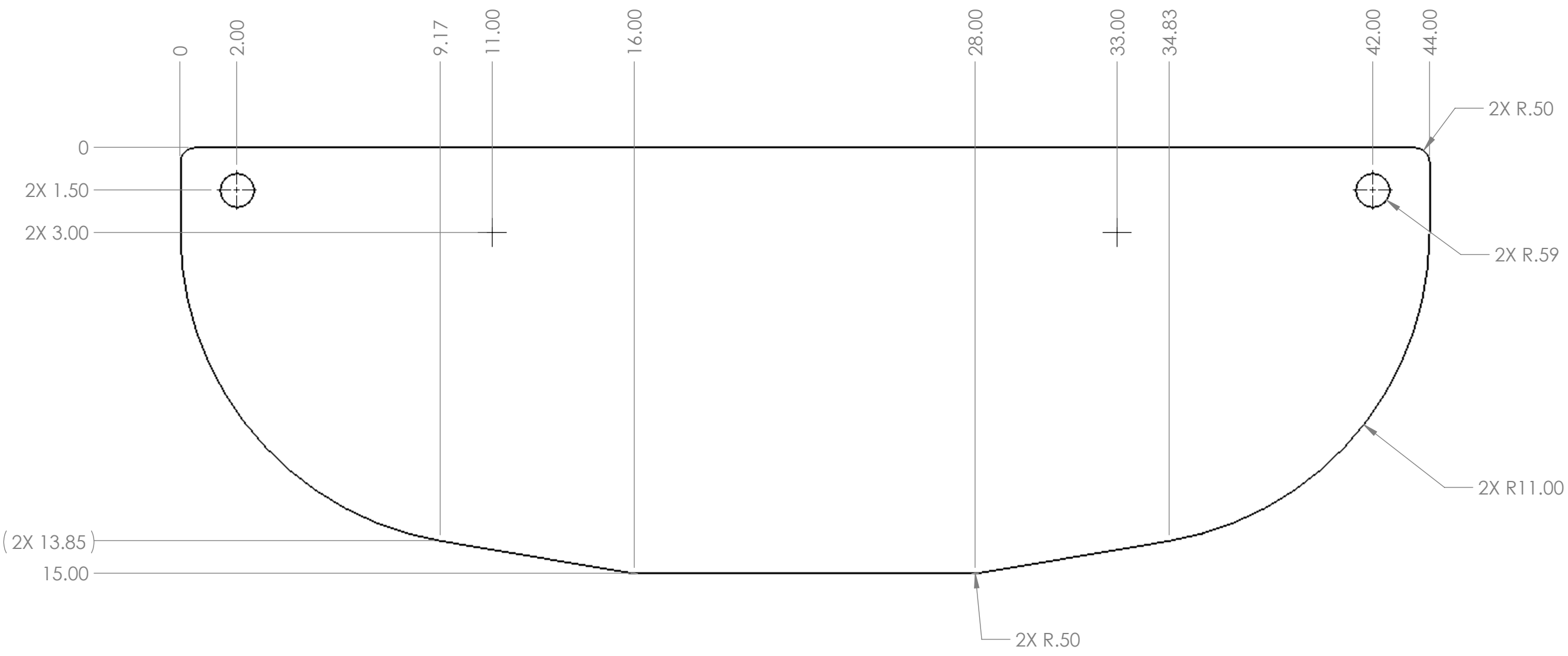
4



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(.13)



UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/8" Polycarbonate, Clear  DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	DF	10/1/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				Outer Front  SIZE DWG. NO. REV <b>C</b> GE-25210 SCALE: 1:4 SHEET 1 OF 1

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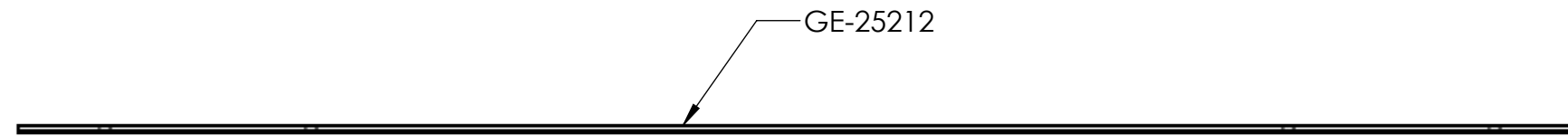
B

B



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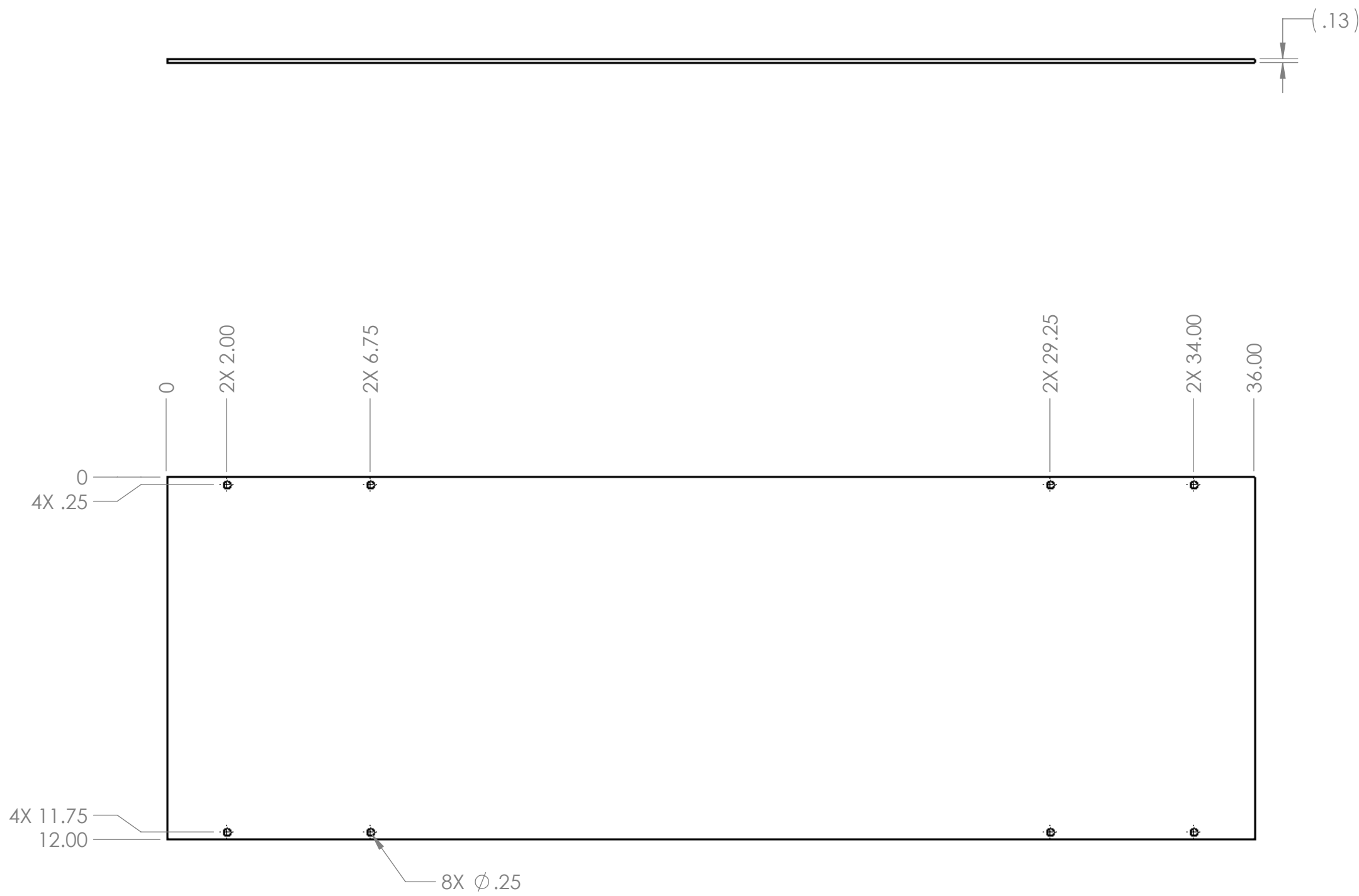
A

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2	A	Updated graphics	10/21/2024	DF



- Notes:
- QTY per field: 2
  - Gloss Vinyl finish.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	DF	10/8/2024	
<b>MATERIAL/FINISH:</b>	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			Side Panel w/Vinyl
<b>COMMENTS:</b>	REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
DO NOT SCALE DRAWING				REV
				<b>C</b>
				GE-25211
				A
	SCALE: 1:4		SHEET 1 OF 1	



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 1/8" Polycarbonate, Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	10/1/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Side Panel**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25212	<b>A</b>

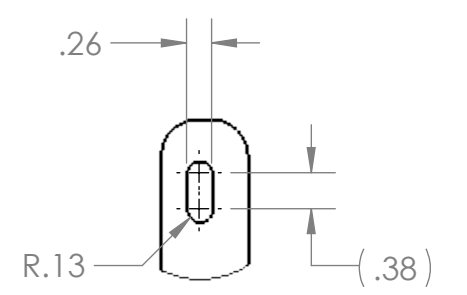
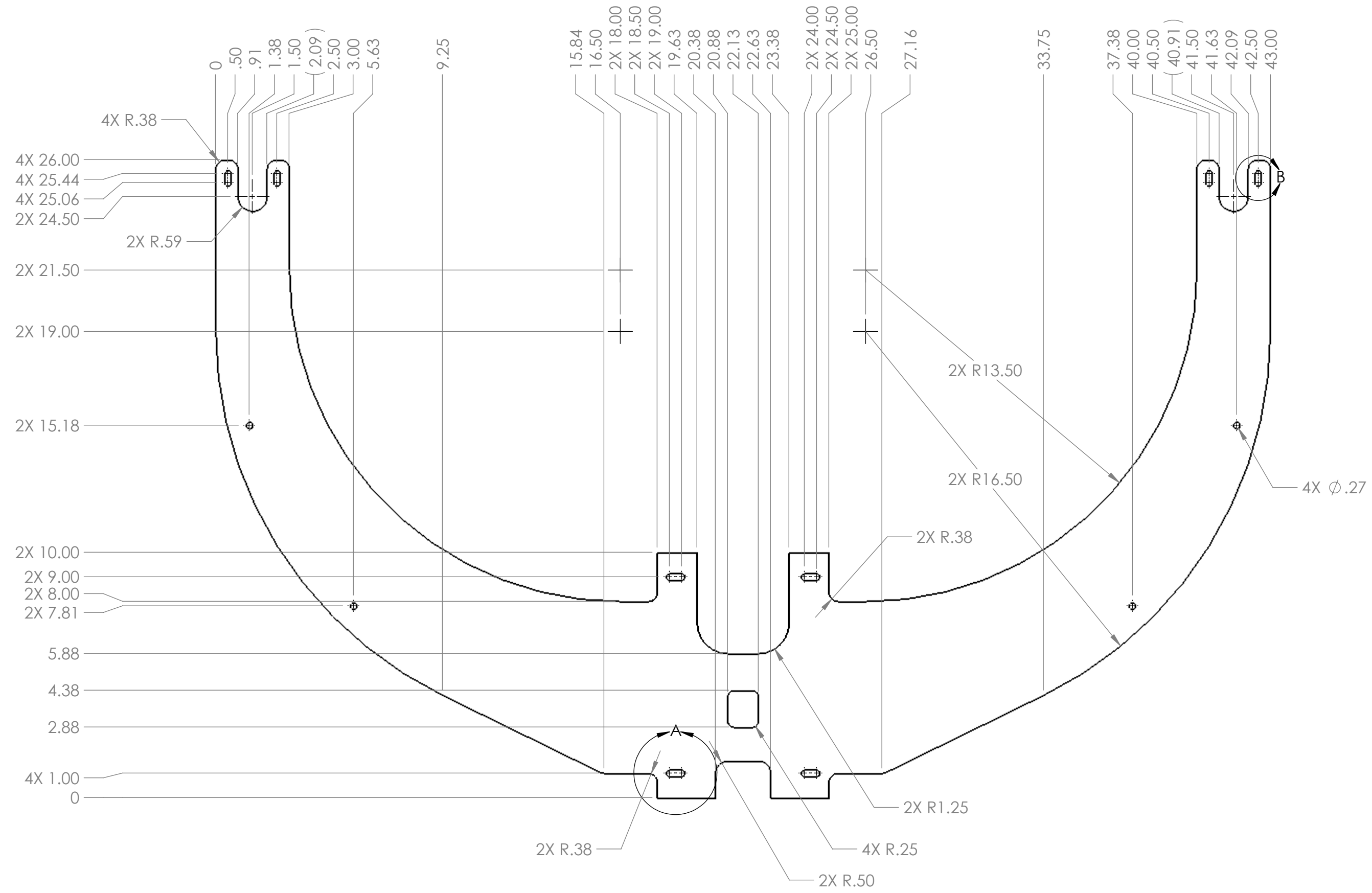
SCALE: 1:4 SHEET 1 OF 1

4

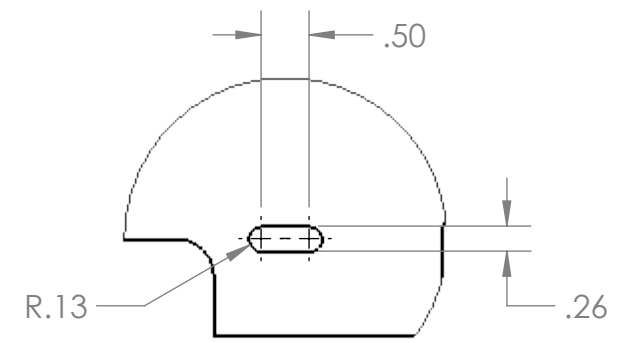
3

2

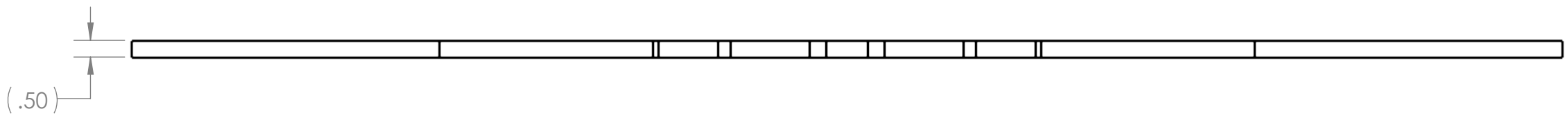
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DETAIL B  
SCALE 1 : 2  
TYPICAL 4 PLACES



DETAIL A  
SCALE 1 : 2  
TYPICAL 4 PLACES



UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 1/2" HDPE, blue with matte finish  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	DF	10/2/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <h2 style="text-align: center;">Rib, Blue</h2>	
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE <h1 style="font-size: 2em;">C</h1>	DWG. NO. <h2 style="text-align: center;">GE-25213</h2>
			SCALE: 1:4	REV SHEET 1 OF 1	

4

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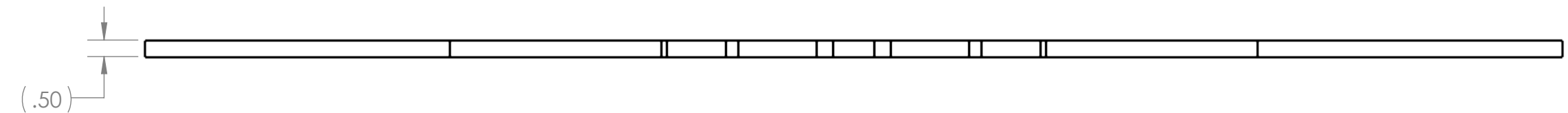
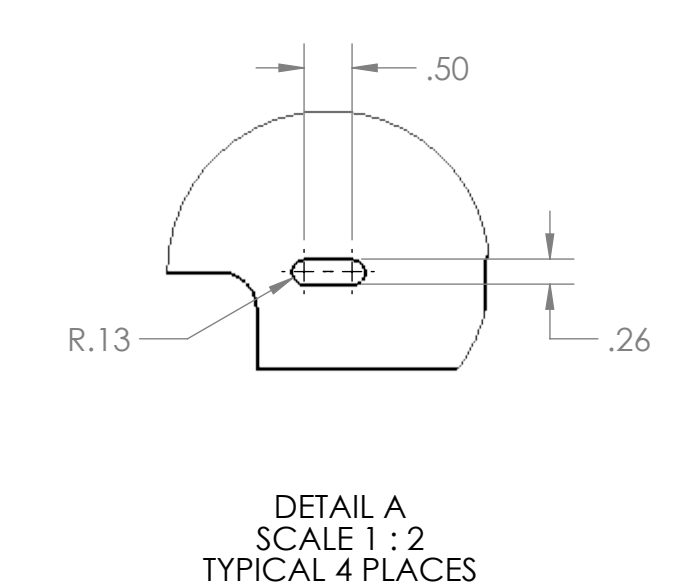
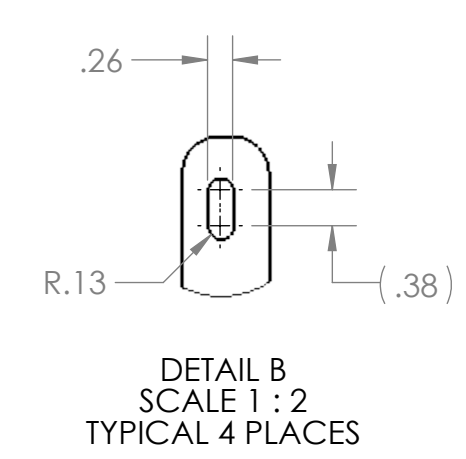
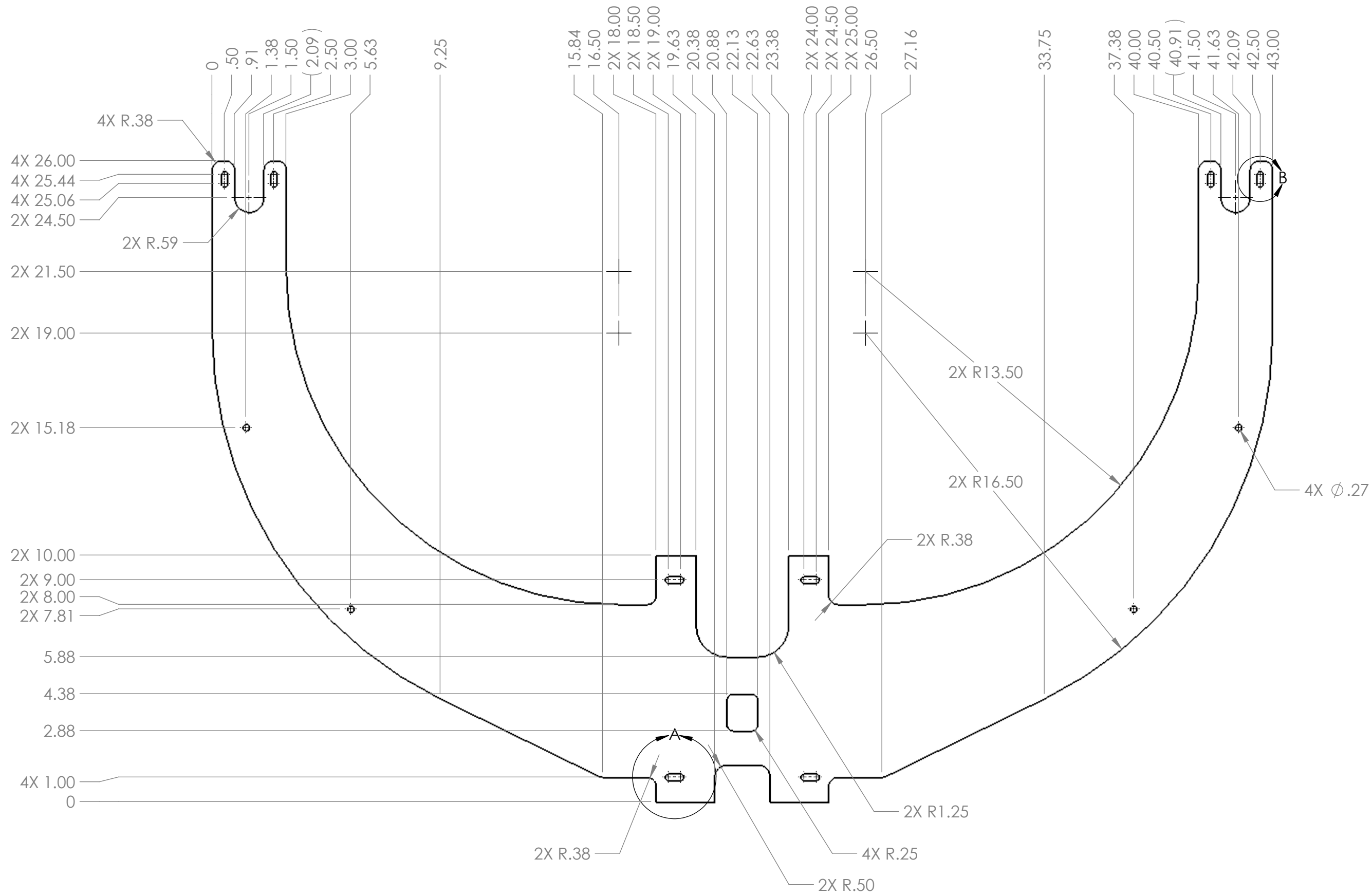
A


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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 1/2" HDPE, red with matte finish  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	DF	10/2/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b>  THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.	TITLE:			Rib, Red
		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			
DWG. NO. <b>GE-25214</b>			REV	SCALE: 1:4	
SHEET 1 OF 1					

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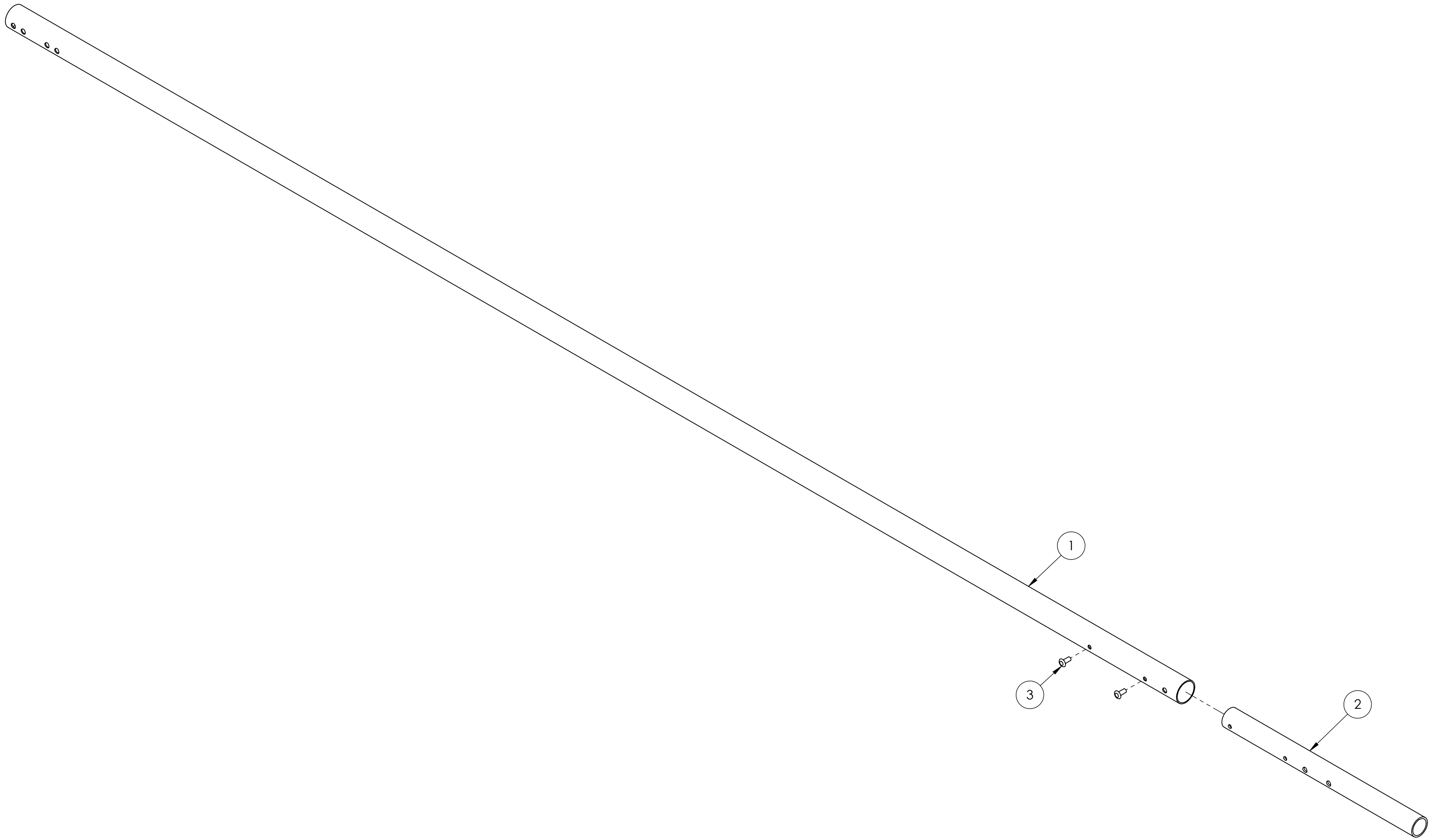
C

B

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25216	Net Tube, Outer	1
2	GE-25217	Net Tube, Inner	1
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/2$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .50$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	JO	12/16/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Net Tube Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25215	

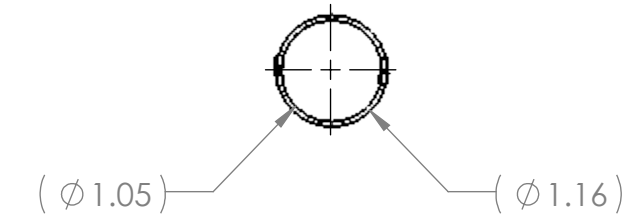
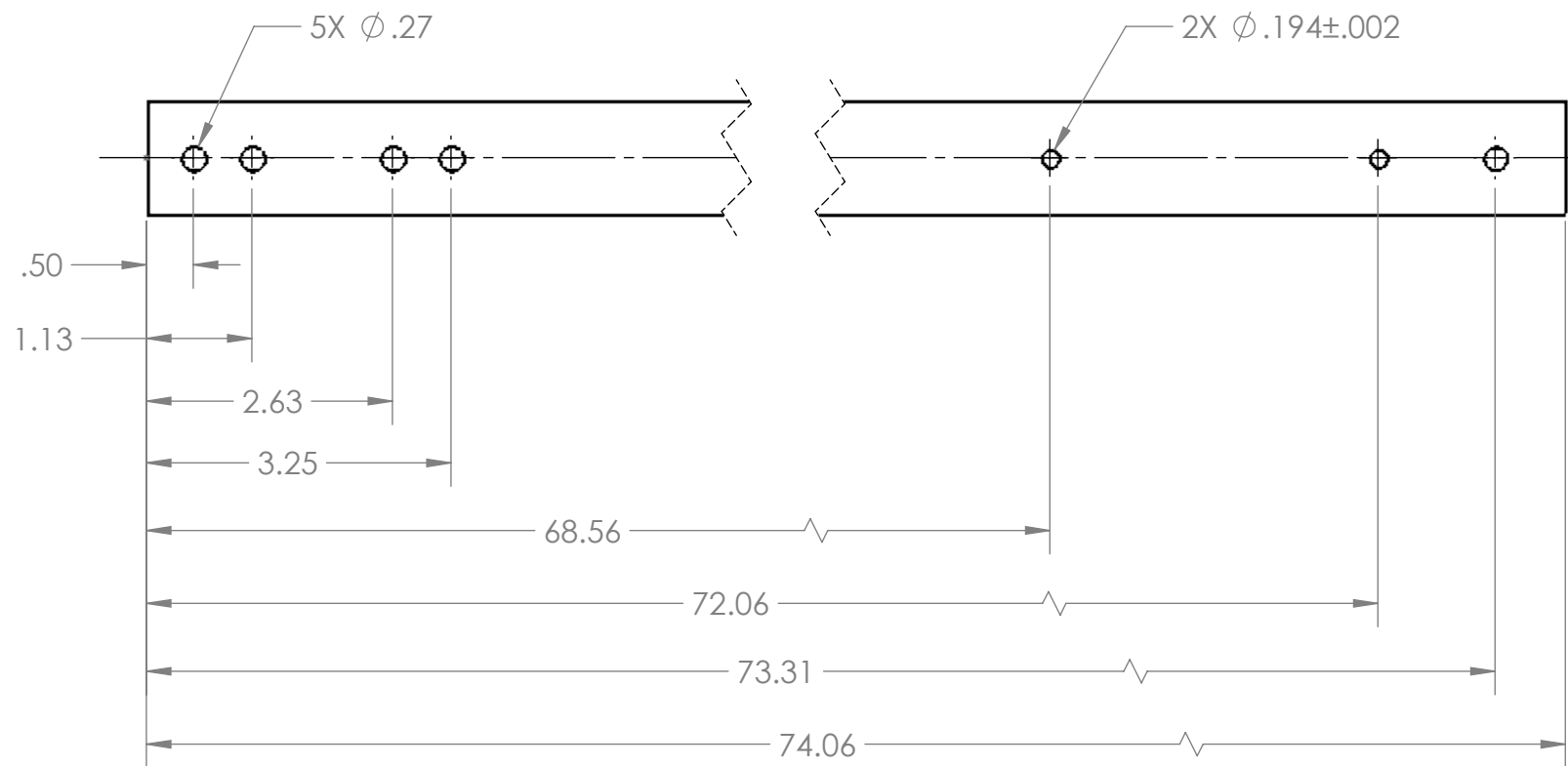
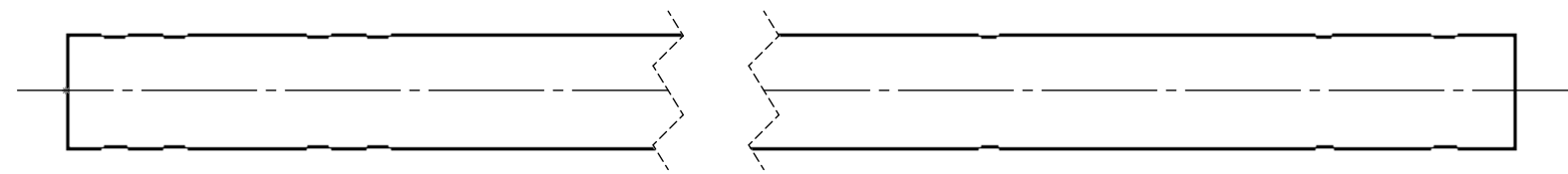
SCALE: 1:3.5 SHEET 1 OF 1



4

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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 1" EMT Conduit, Galvanized  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	10/2/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			Net Tube, Outer
	COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.
			<b>C</b>	GE-25216
			SCALE: 1:2	SHEET 1 OF 1

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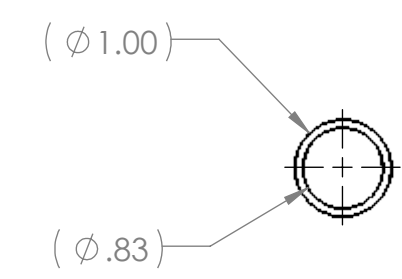
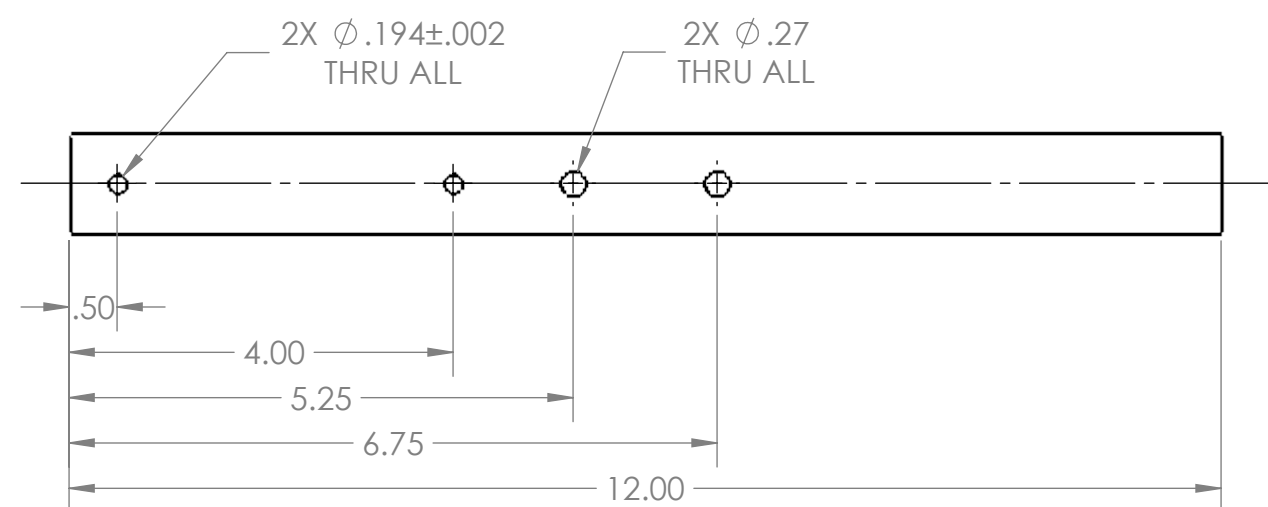
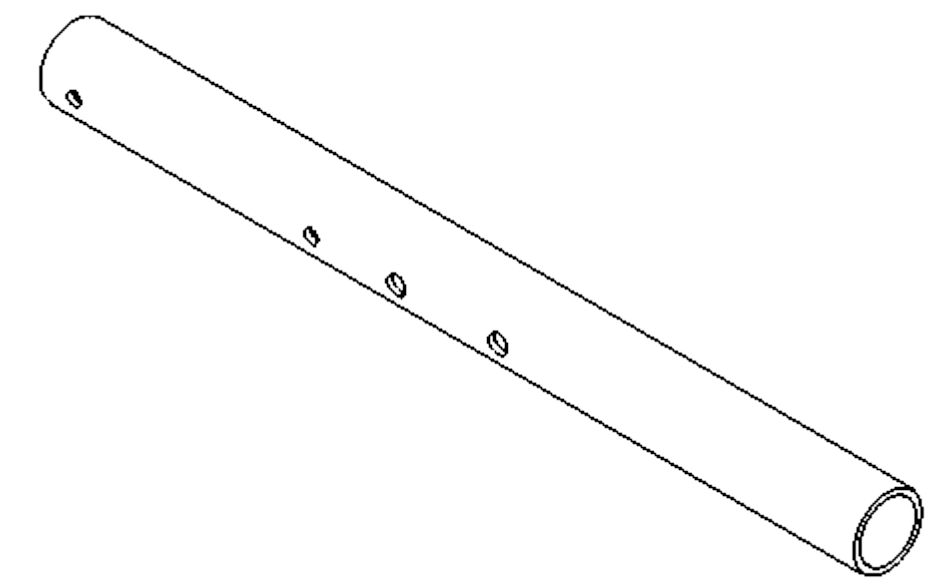
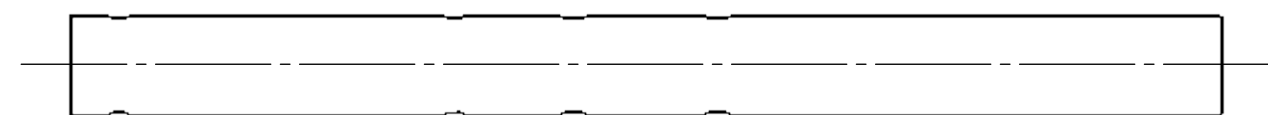
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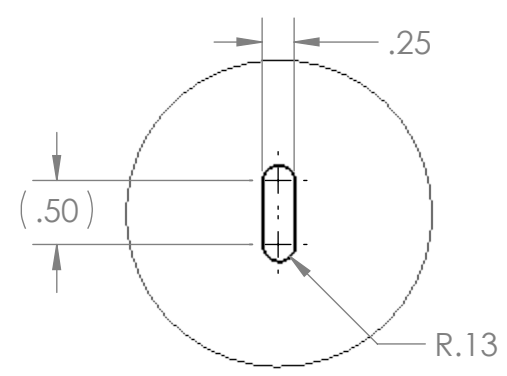
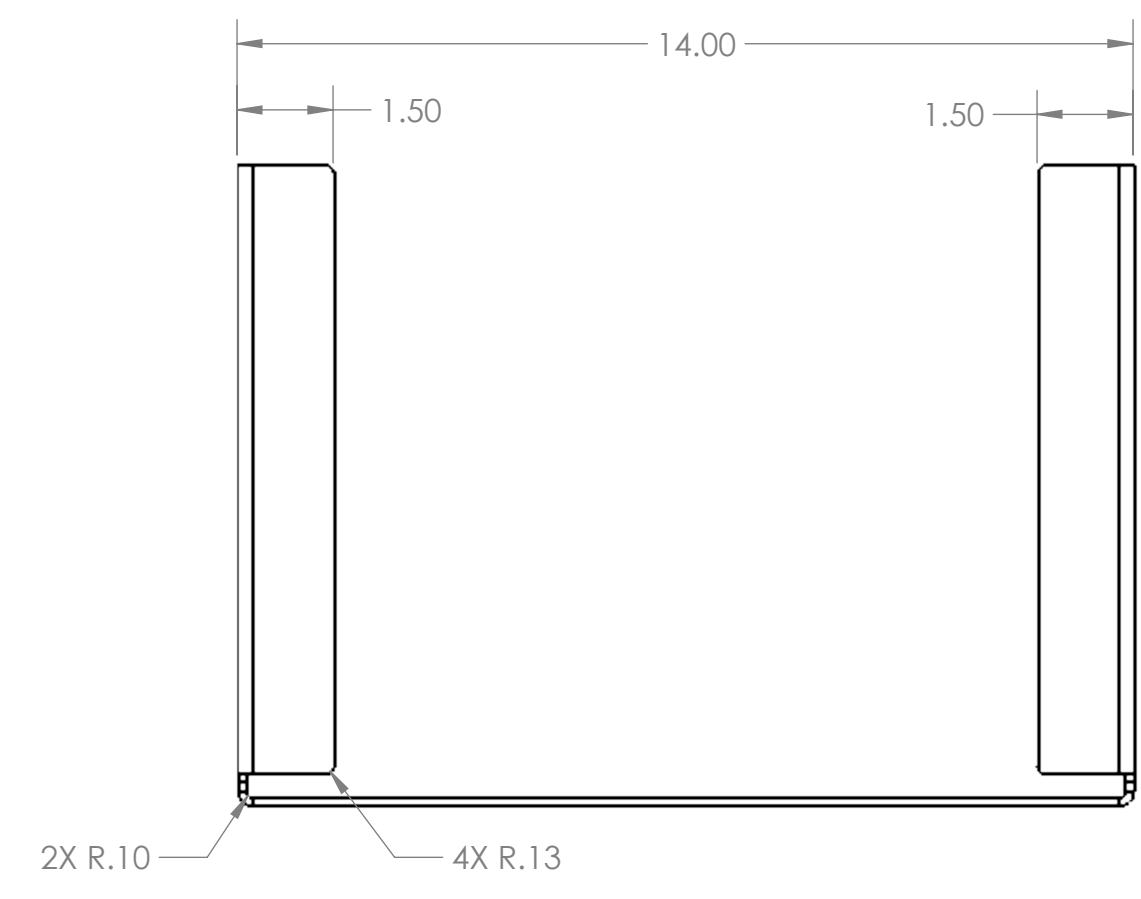
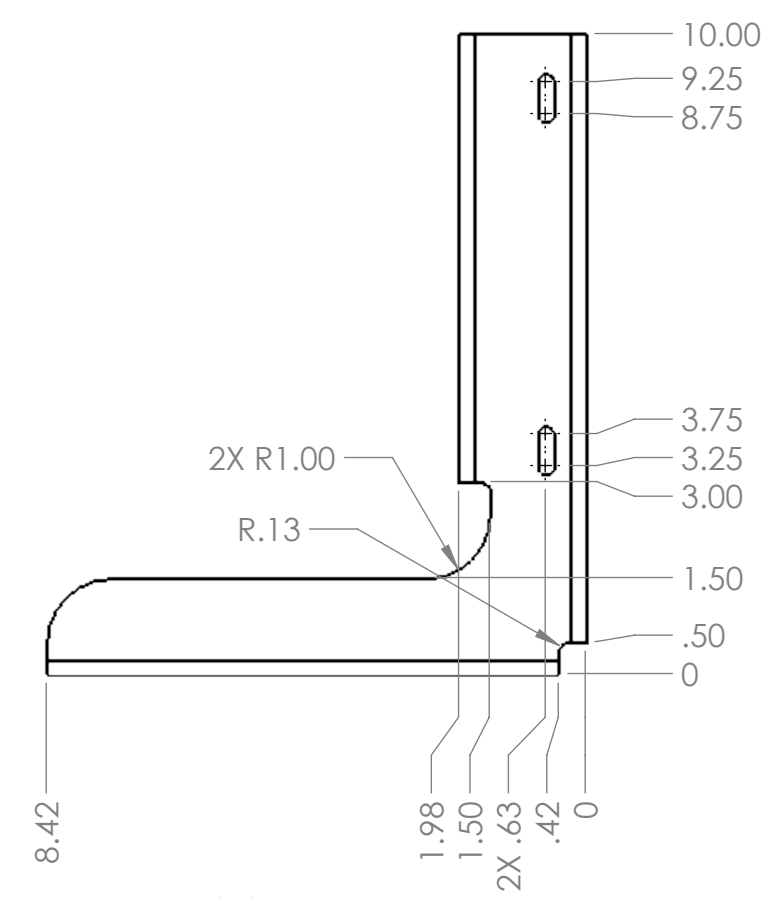
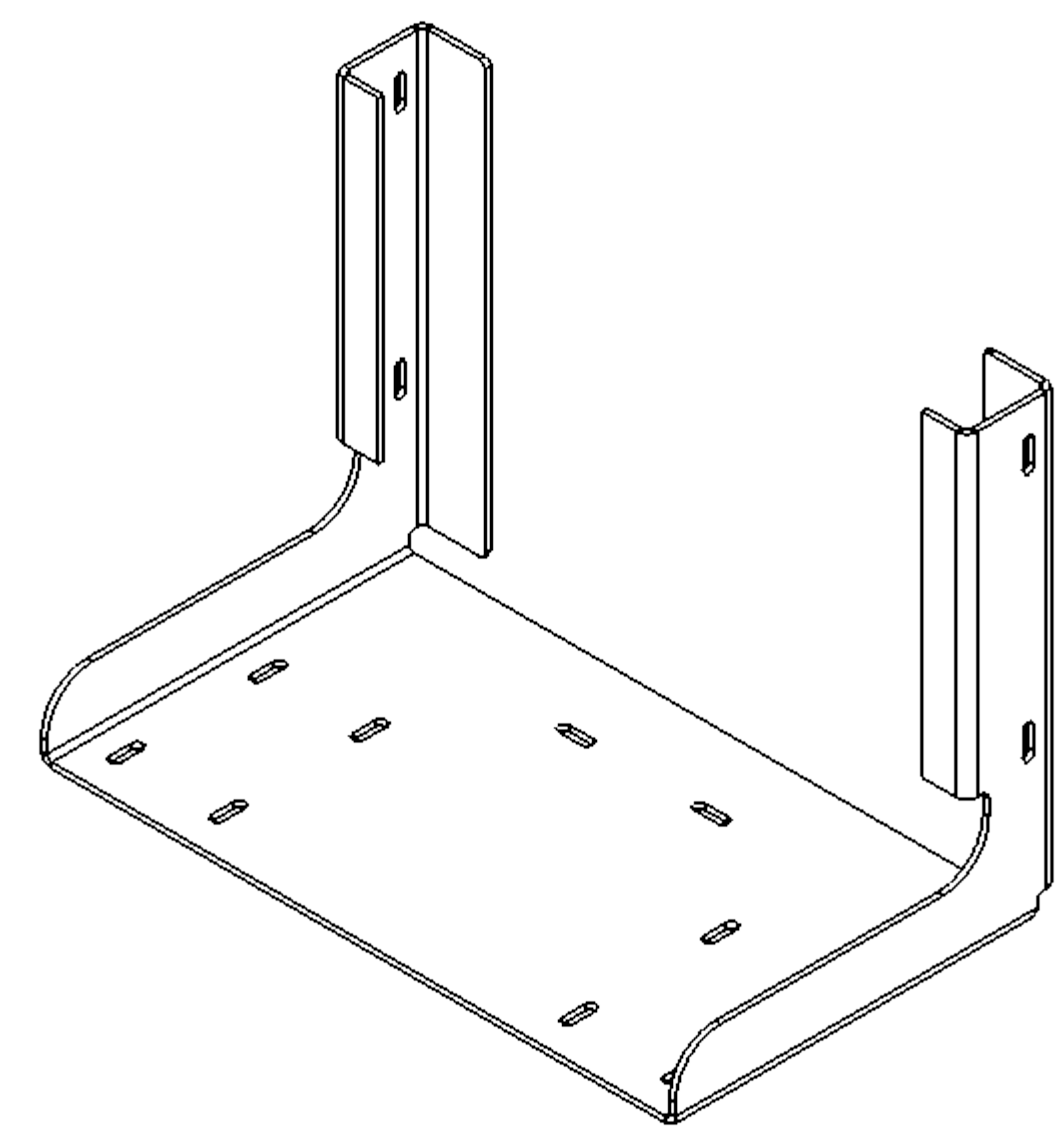
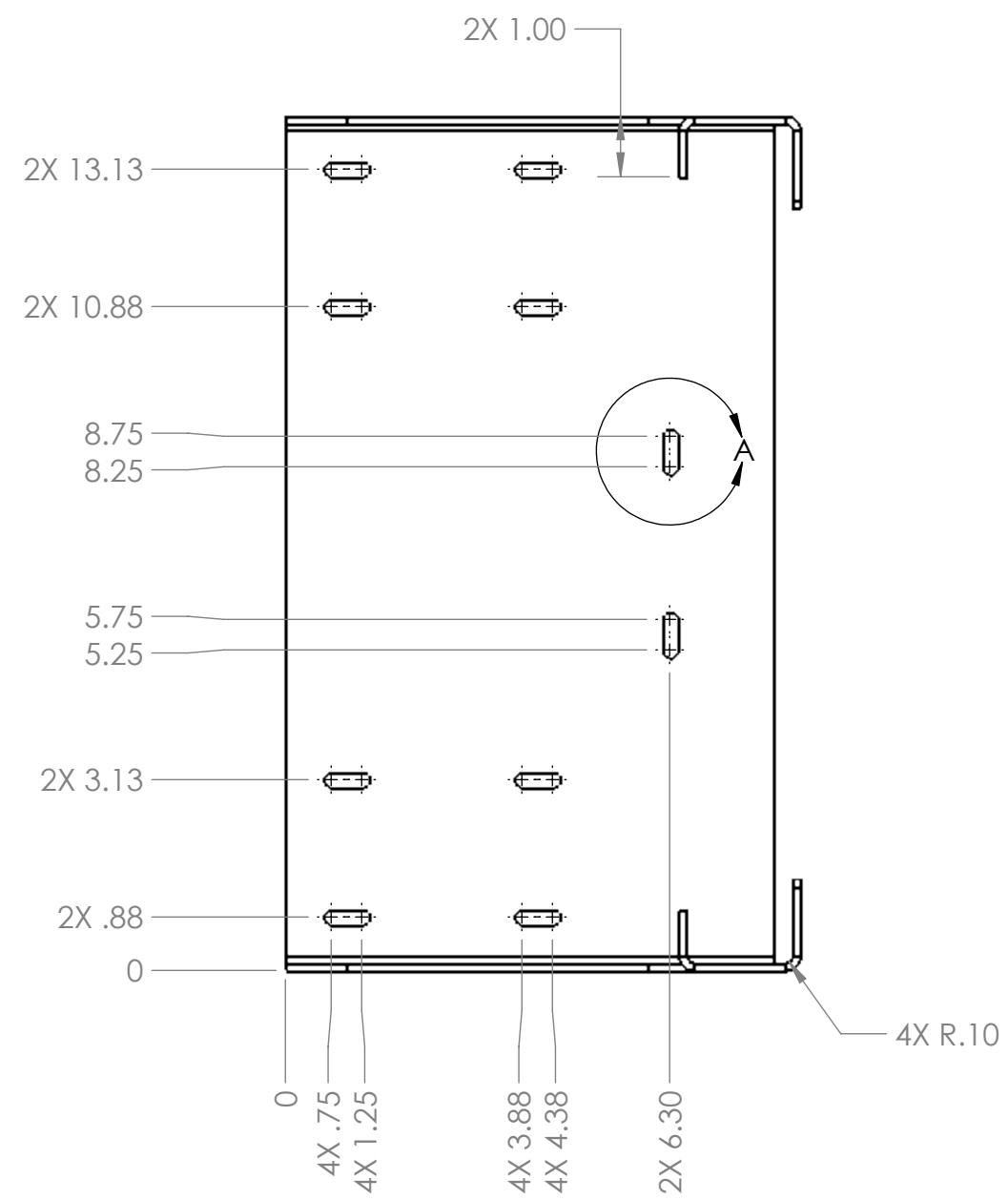
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1" OD x 0.083" Wall x 0.834" ID Carbon Steel Round Tube  DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	DF	10/2/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			Net Tube, Inner
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25217
	SCALE: 1:2		SHEET 1 OF 1	

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DETAIL A  
SCALE 2 : 3  
TYP. 14 PLACES

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8 ga. 5052 Aluminum Sheet  DO NOT SCALE DRAWING	BEND	NAME	DATE	
	DRAWN	DF	10/3/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Brace, Barge End
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25218		
SCALE: 1:3			SHEET 1 OF 1	

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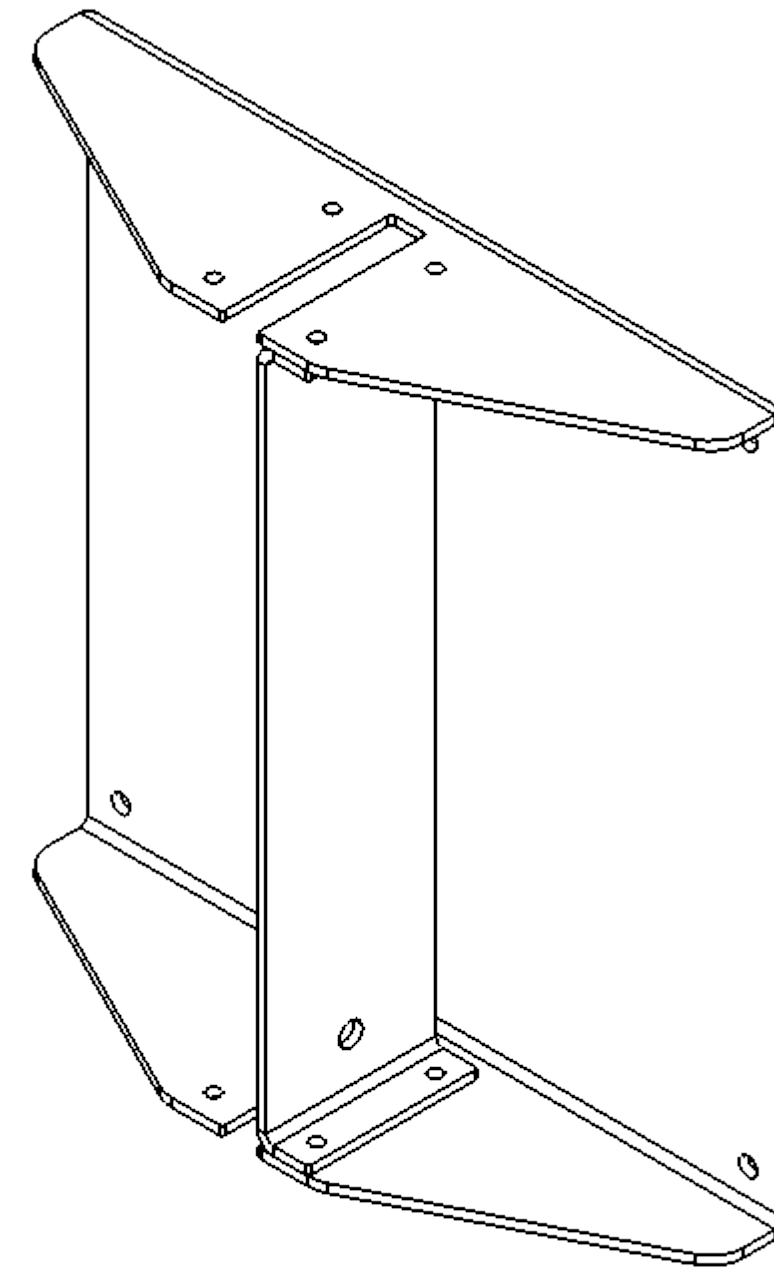
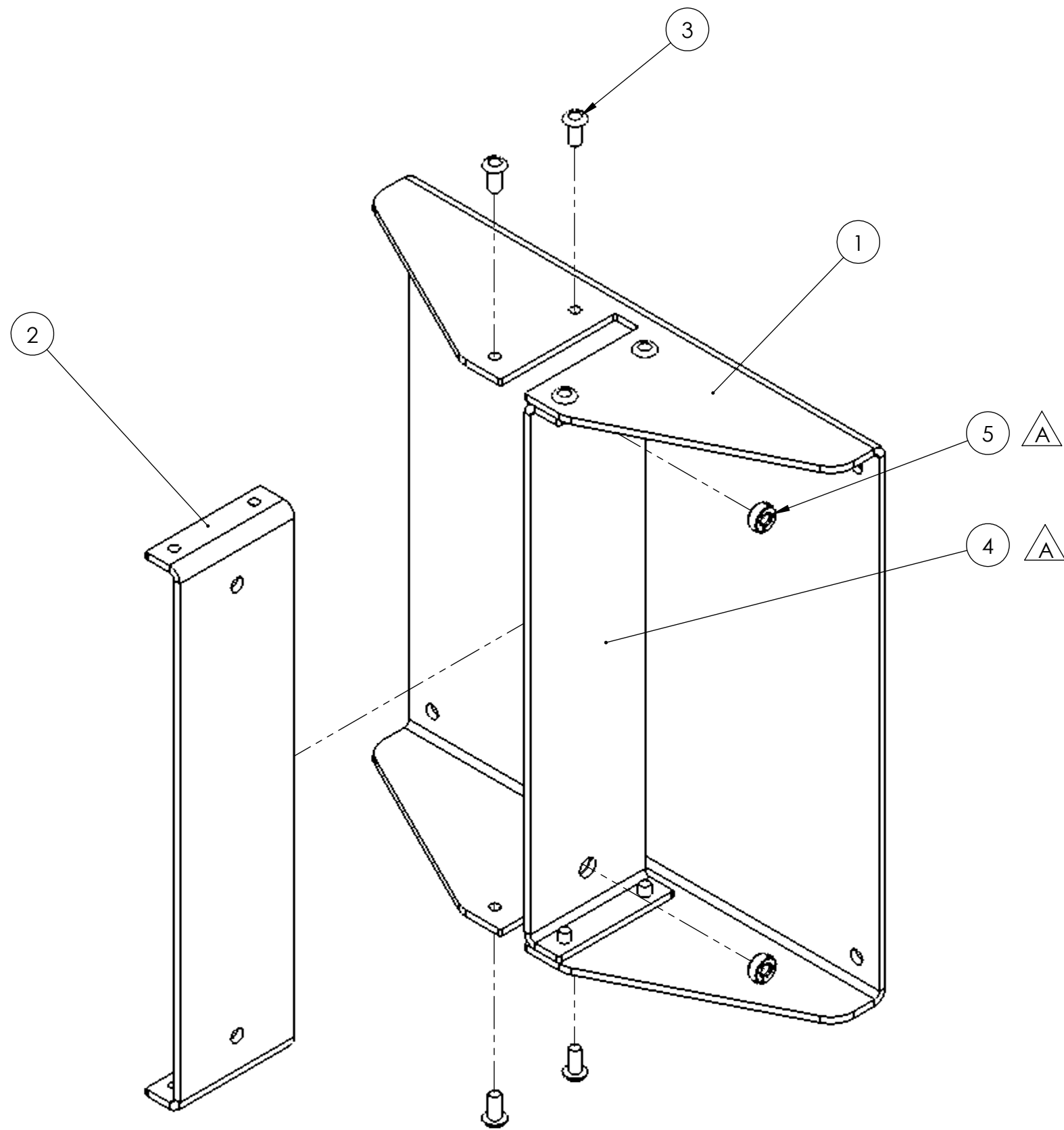
4

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C2, 4-B3	A	Added Items 4 and 5. Added detail views of Item 4 to Sheet 4.	10/10/2024	DAF



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25219-01	Mount Face	1
2	GE-25219-02	Bracket	1
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	8
4	GE-25219-03	Bracket with PEM nuts	1
5	pem_clinchnut_.25_20_.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .02  
 THREE PLACE DECIMAL ± .010

**MATERIAL/FINISH:**  
 8 ga. 5052 Aluminum Sheet

DO NOT SCALE DRAWING

BEND	NAME	DATE
DF	DF	10/3/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Holder, April Tag**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25219	<b>A</b>

SCALE: 1:2 SHEET 1 OF 4

4

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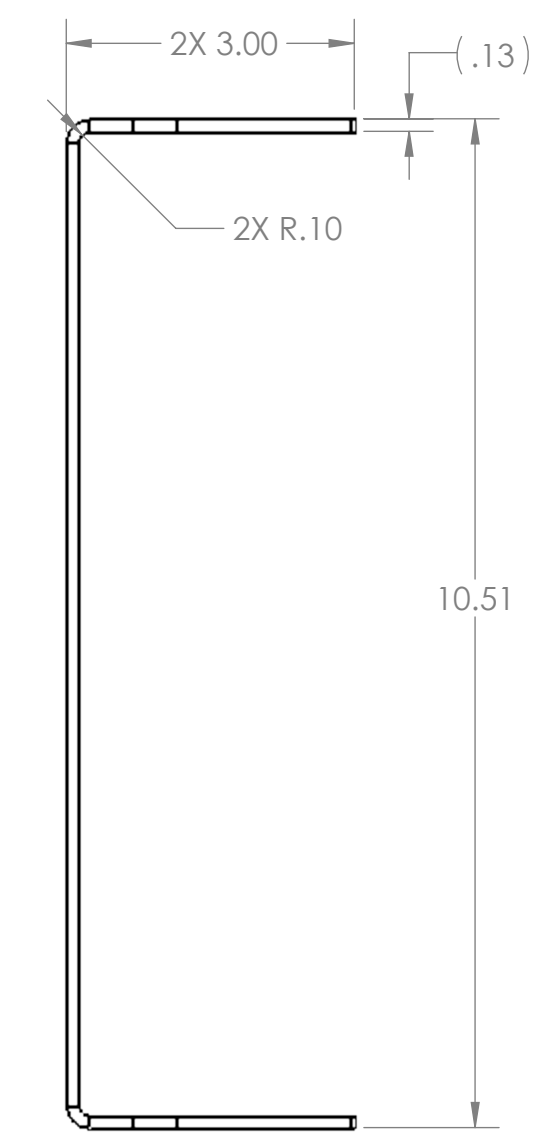
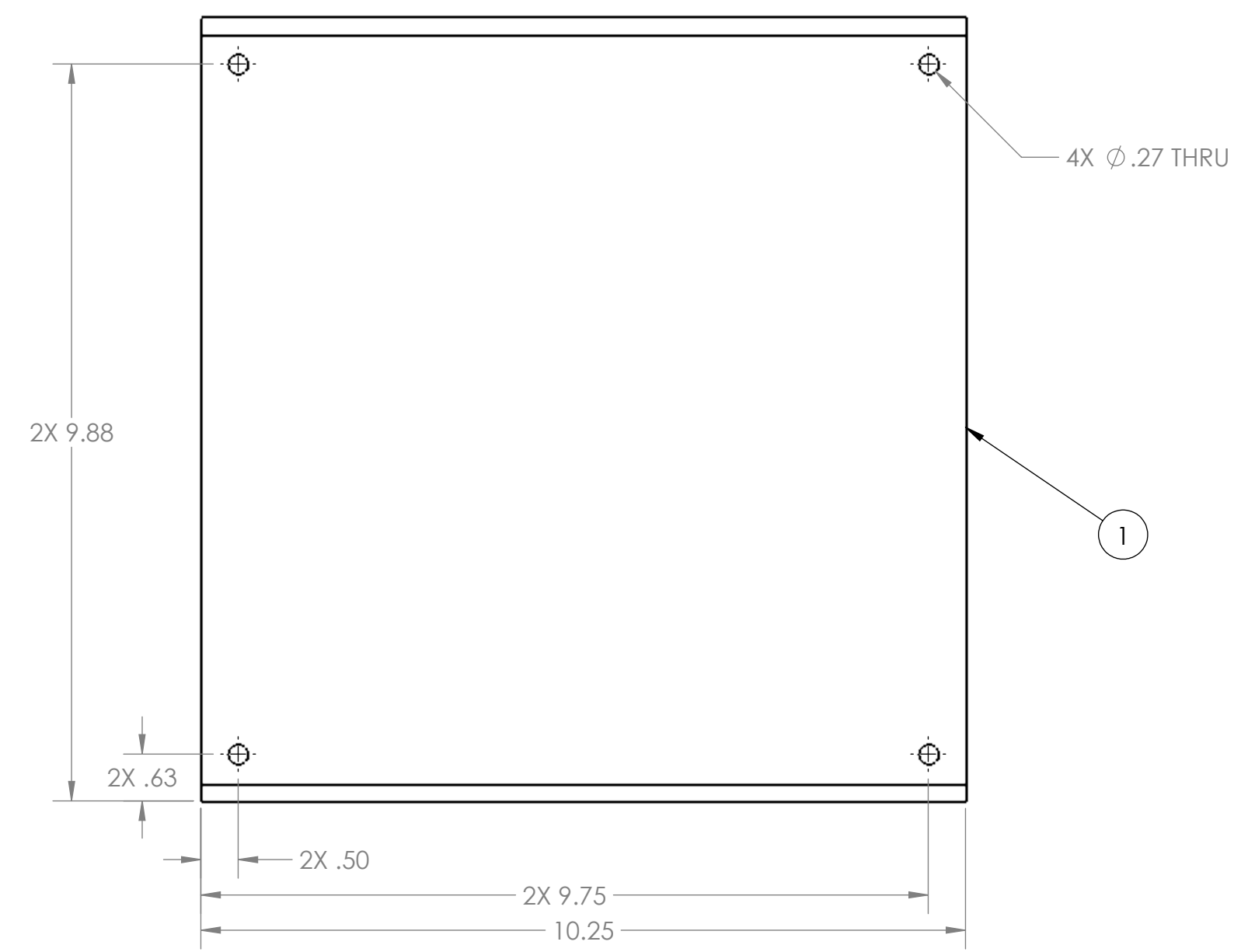
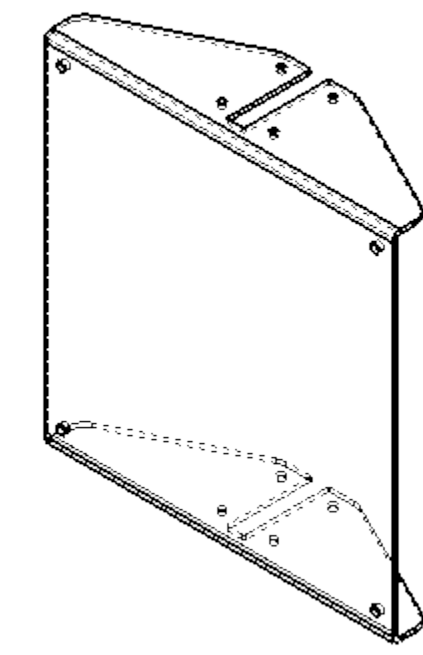
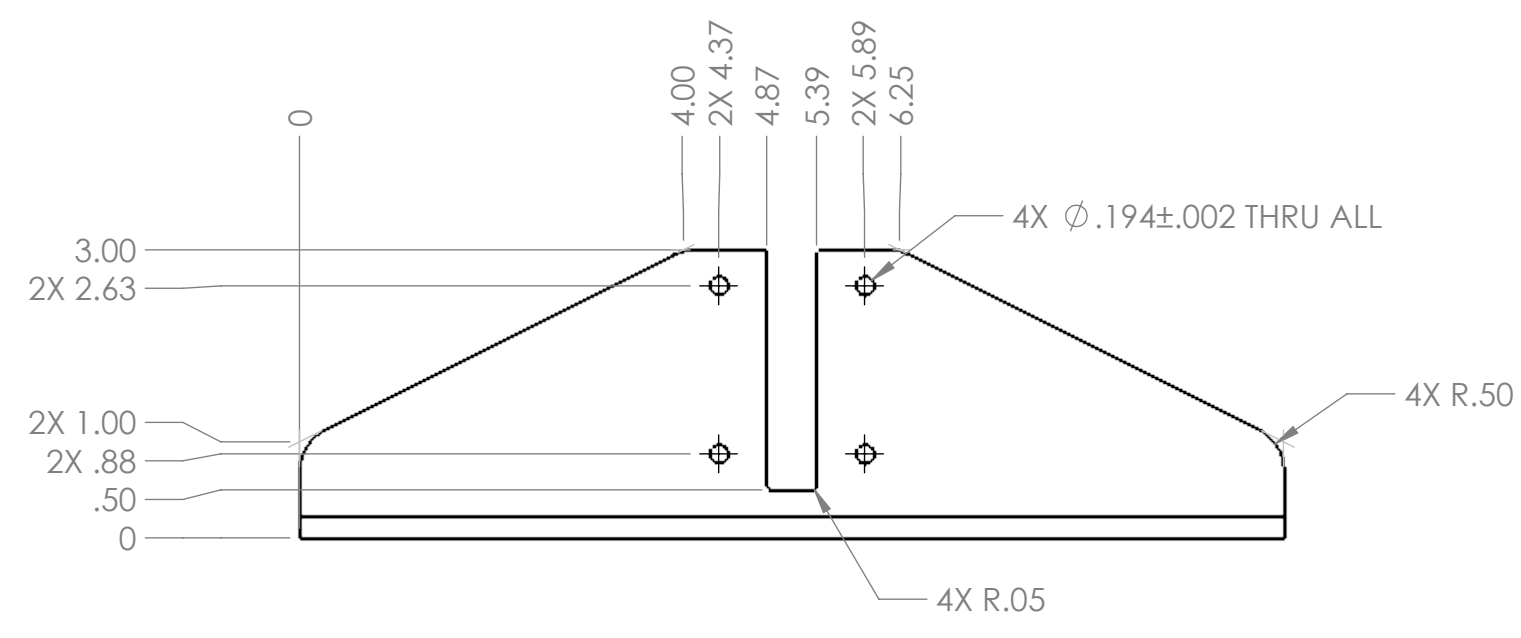
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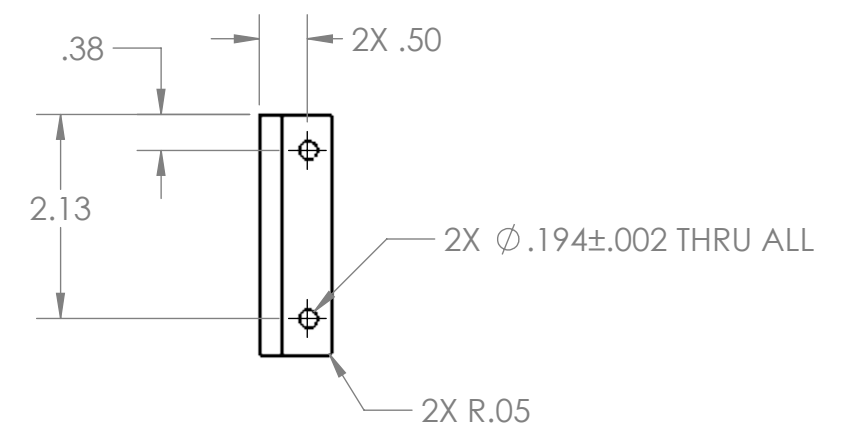
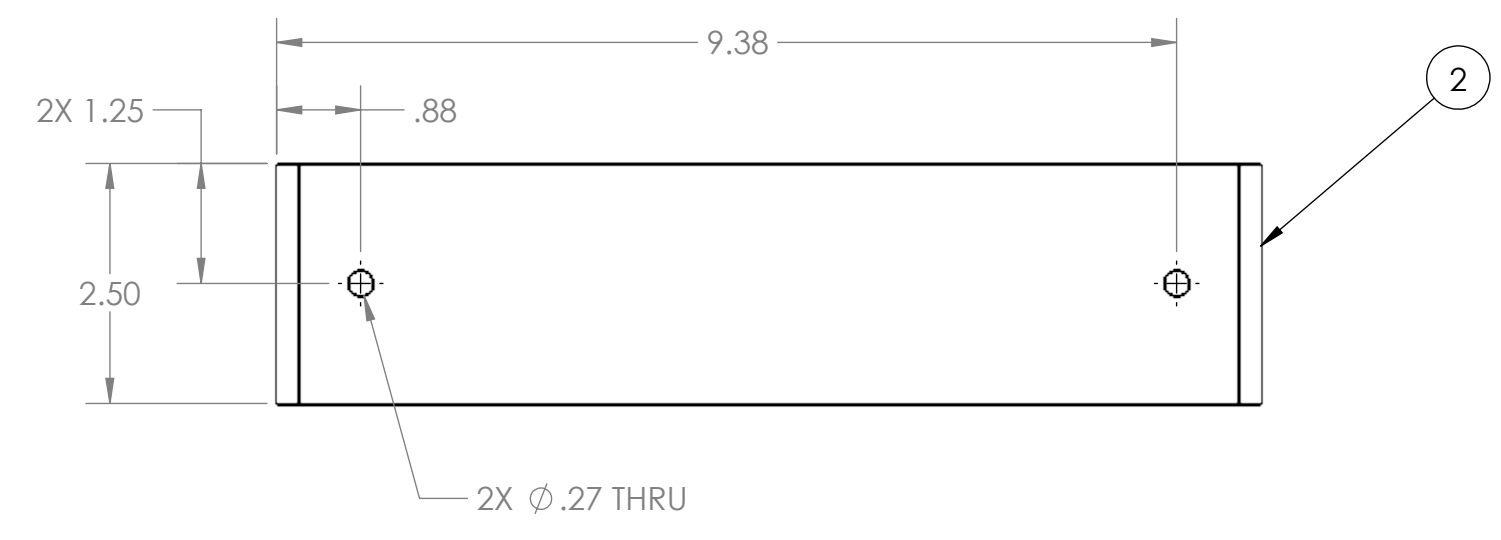
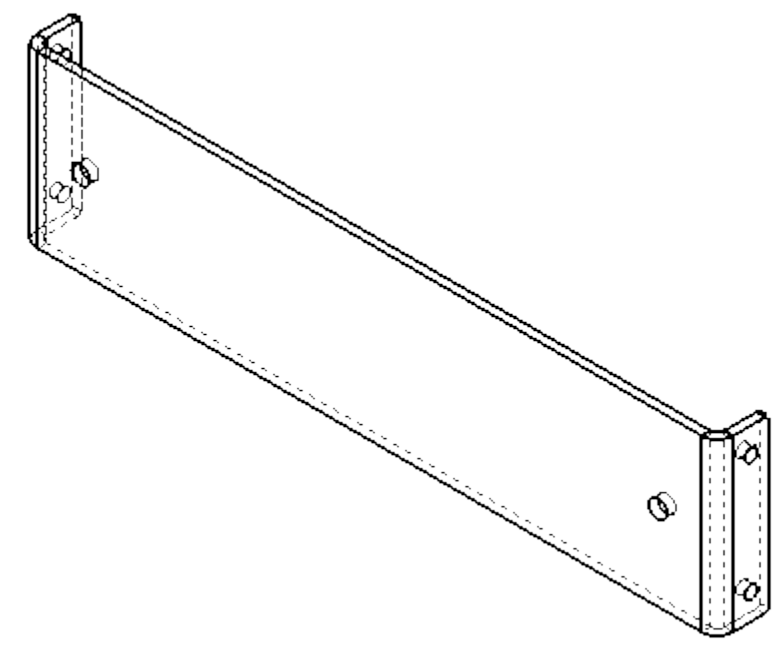
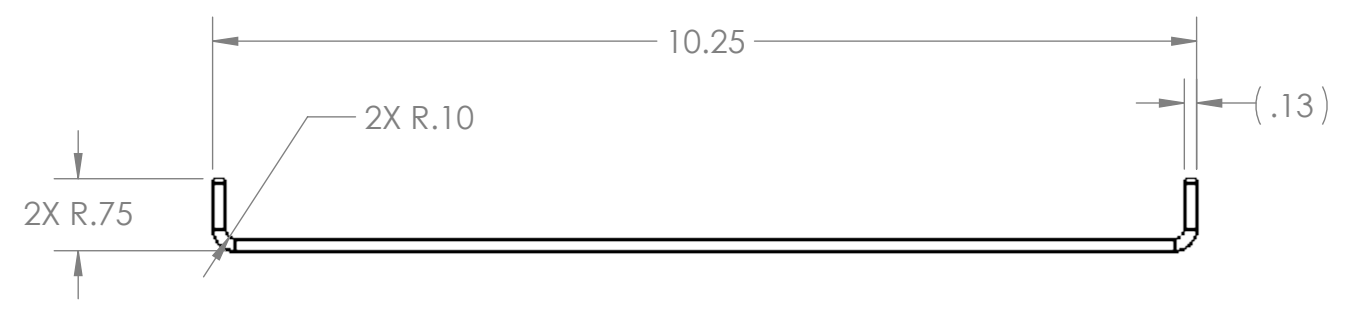
C

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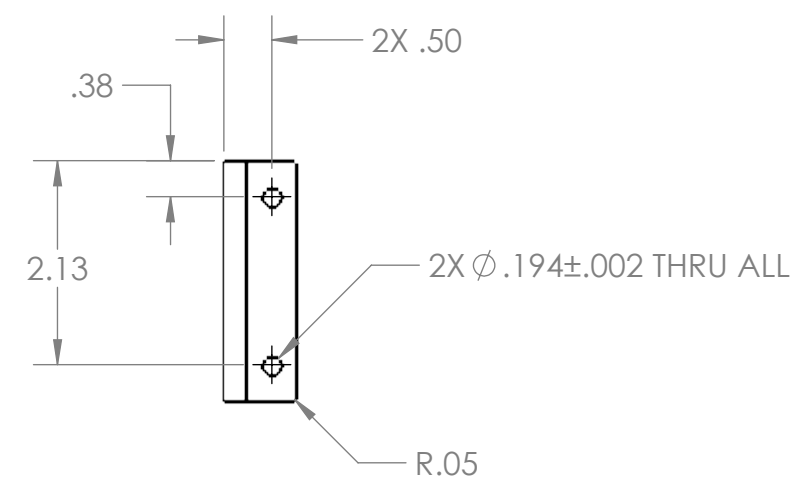
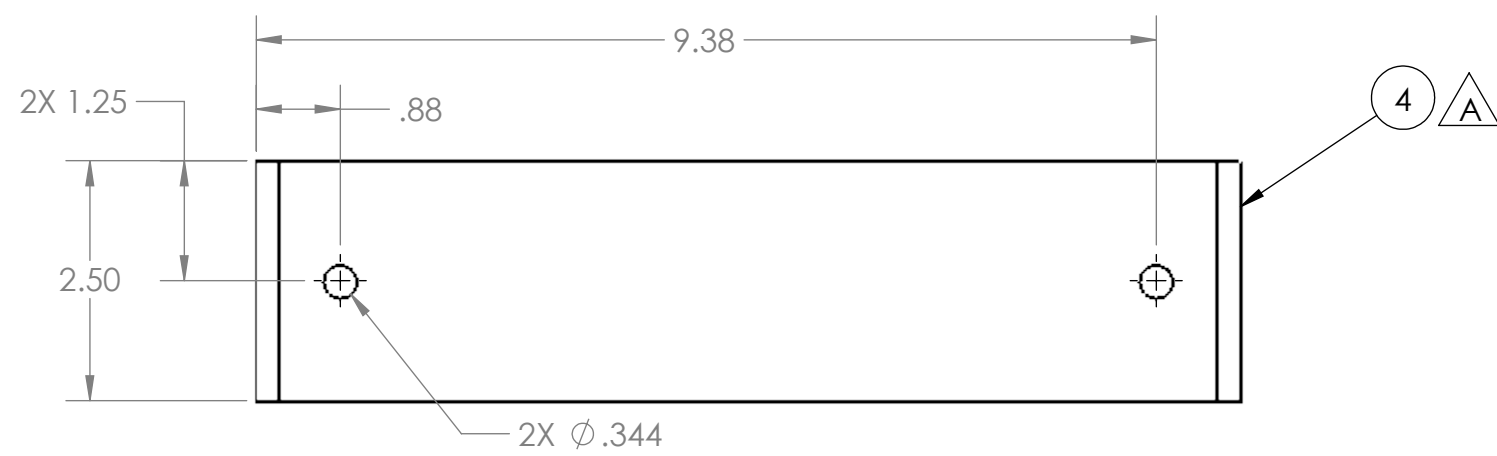
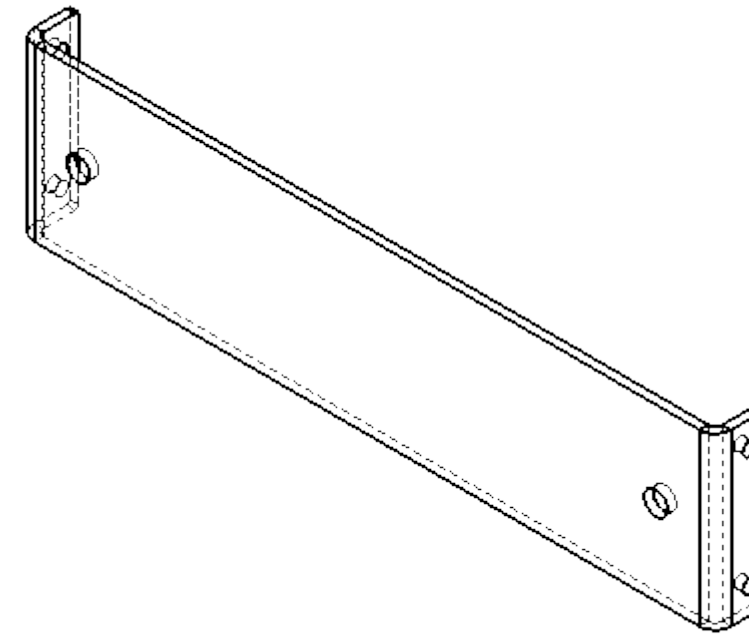
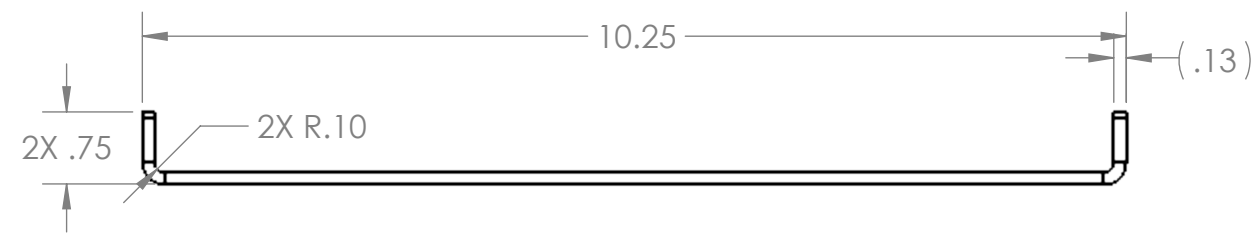
A



UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$  <b>MATERIAL/FINISH:</b> 8 ga. 5052 Aluminum Sheet  DO NOT SCALE DRAWING	BEND	NAME	DATE	TITLE: <b>Mount Face</b>
	DRAWN	DF	10/3/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			SIZE
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. <b>C</b> GE-25219-01
				REV <b>A</b>
	SCALE: 1:2		SHEET 2 OF 4	



UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.010  <b>MATERIAL/FINISH:</b> 8 ga. 5052 Aluminum Sheet  <b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.  DO NOT SCALE DRAWING	BEND	NAME	DATE	TITLE: <h1>Bracket</h1>
	DRAWN	DF	10/3/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			SIZE
				DWG. NO.
				REV
				<b>C</b> GE-25219-02 <b>A</b>
	SCALE: 1:1		SHEET 3 OF 4	



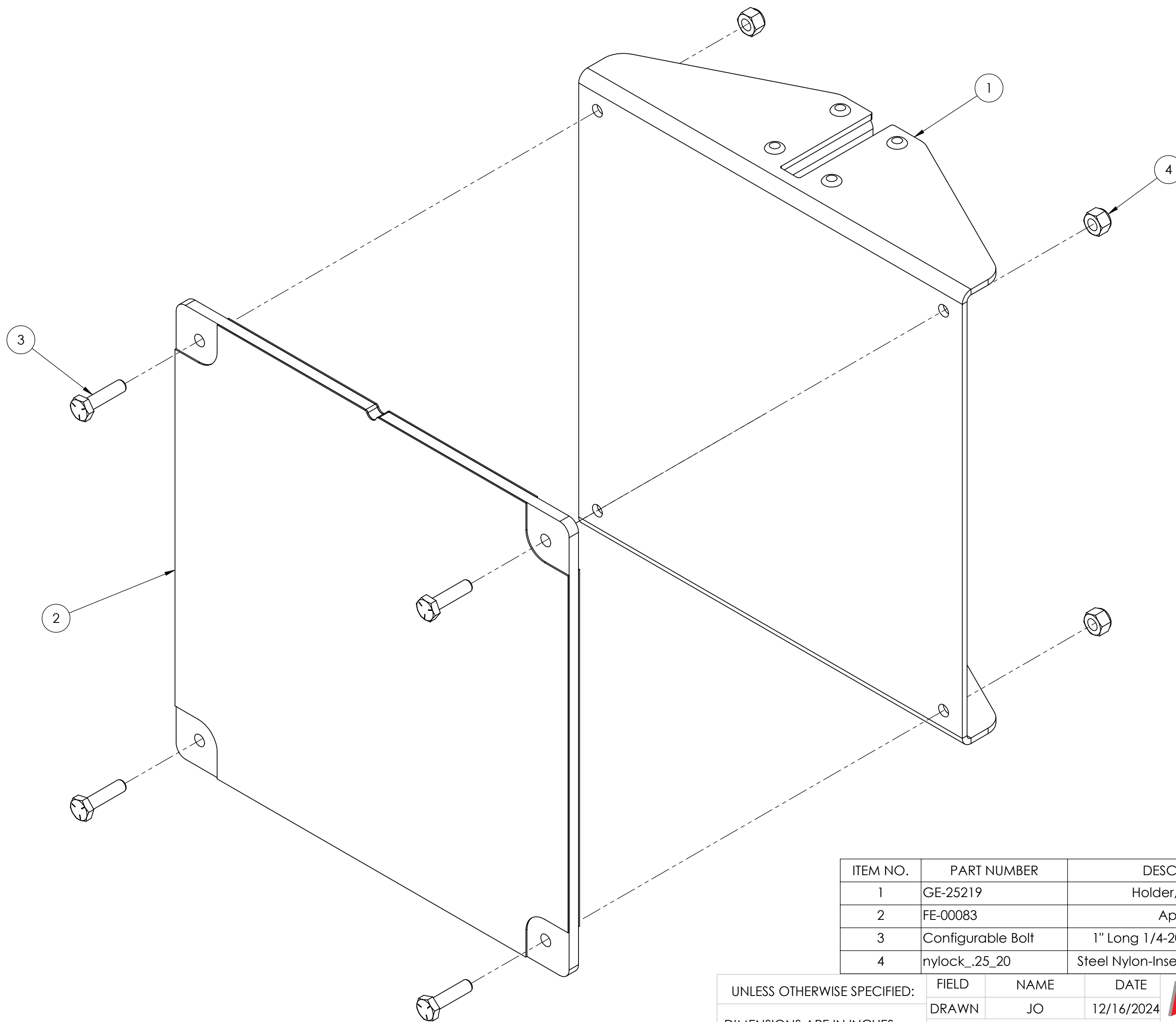
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8 ga. 5052 Aluminum Sheet  DO NOT SCALE DRAWING	BEND	NAME	DATE	TITLE: <h2 style="text-align: center;">Bracket with PEM nuts</h2>			
	DRAWN	DF	10/3/2024				
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				SIZE <b>C</b>	DWG. NO. <b>GE-25219-03</b>	REV <b>A</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				SCALE: 1:1	SHEET 4 OF 4	

4

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1



Notes:

1. AprilTag ID#'s 4, 5, 14, 15 will be used in this assembly.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25219	Holder, April Tag	1
2	FE-00083	AprilTag	1
3	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	4
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	4

UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$		DRAWN	JO	12/16/2024	
<b>MATERIAL/FINISH:</b>		<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			<b>April Tag Assembly, Truss</b>
<b>COMMENTS:</b>		REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25220
DO NOT SCALE DRAWING					SCALE: 2:3 SHEET 1 OF 1

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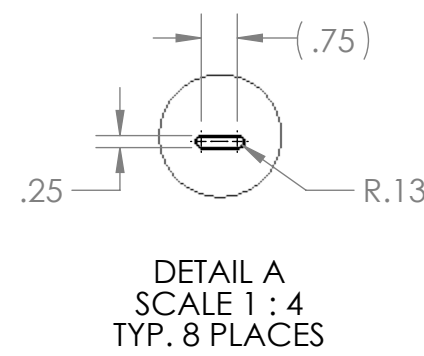
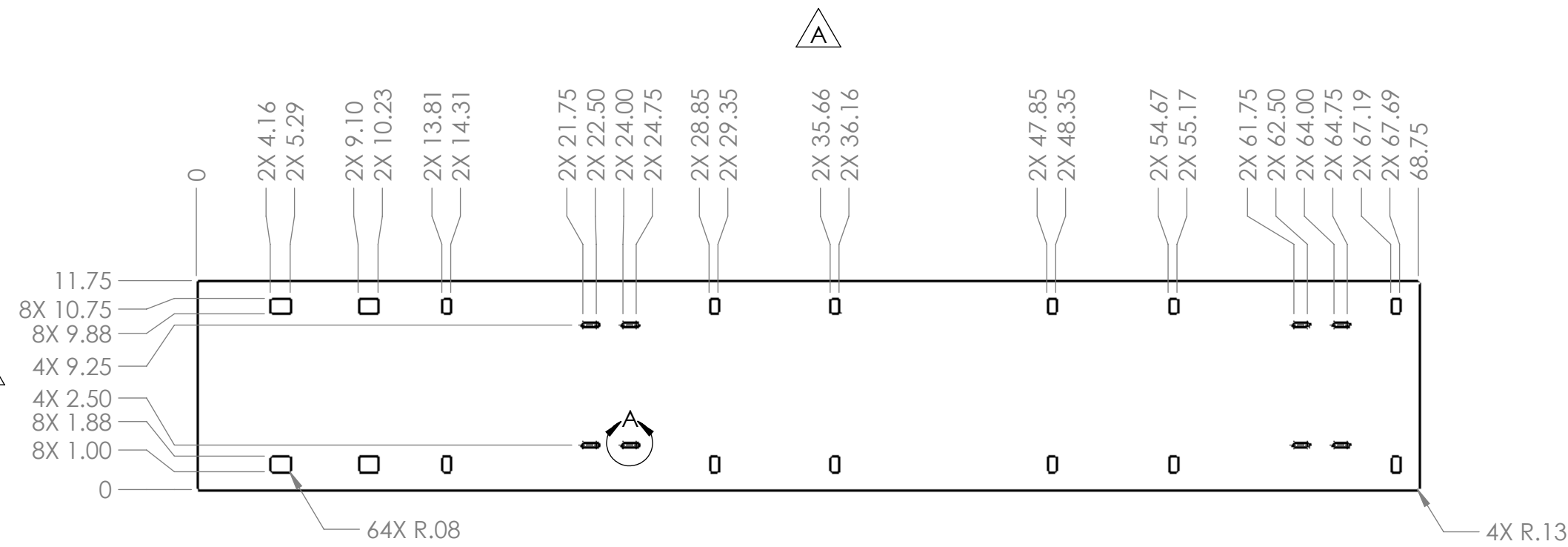
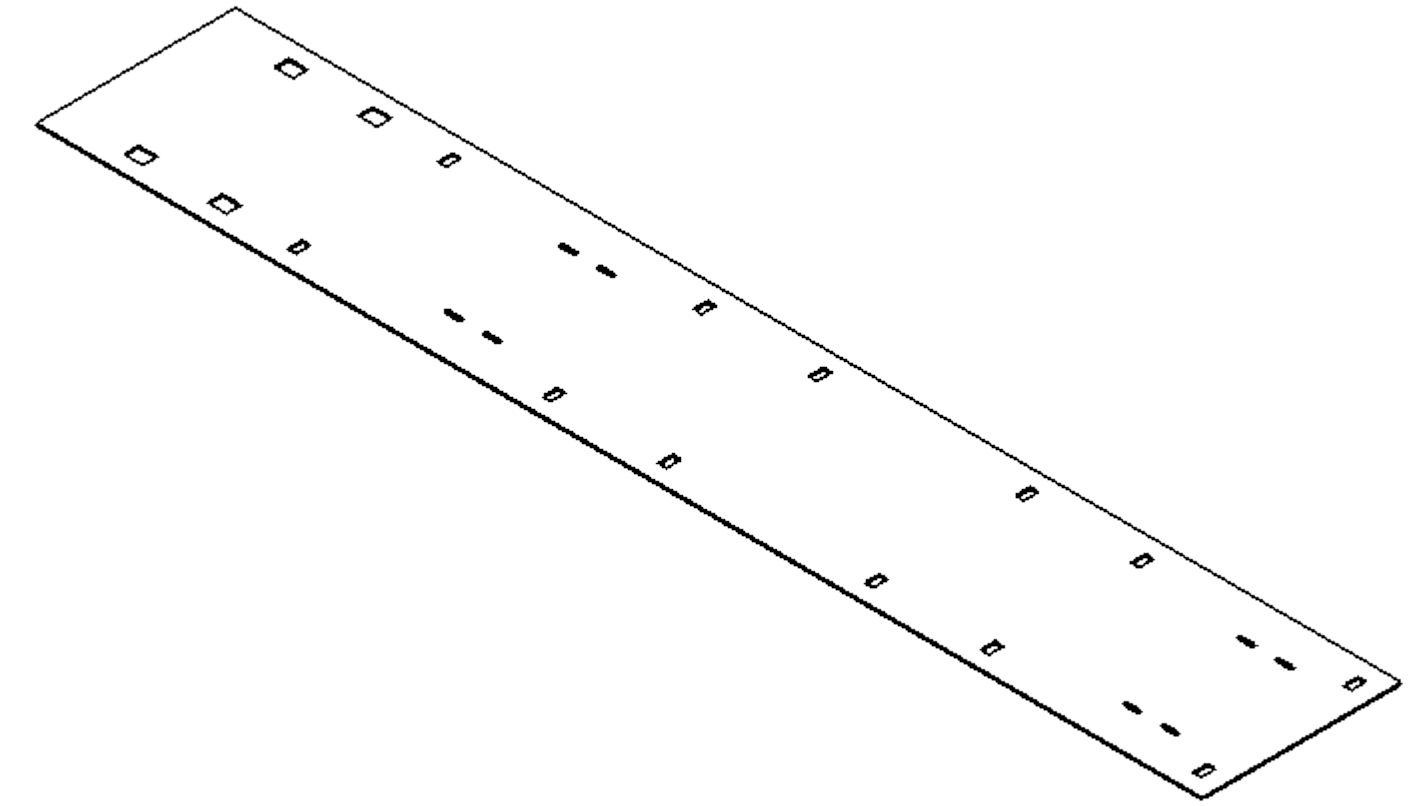
D



C

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B4, C3	A	Replaced 16X Ø.25 THRU holes with rectangular slots. All dimensions updated accordingly.	10/15/2024	DF



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ <b>MATERIAL/FINISH:</b> 1/8" HDPE, Natural, Smooth	VEND	NAME	DATE	 
	DRAWN	DF	10/4/2024	
DO NOT SCALE DRAWING	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE: <h1>Top Diffuser</h1>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE: <b>C</b>	DWG. NO.: <h1>GE-25221</h1>
			REV: <h1>A</h1>	SCALE: 1:8
			SHEET 1 OF 1	



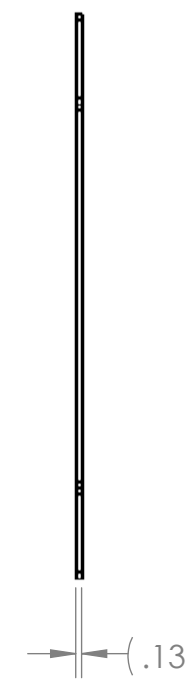
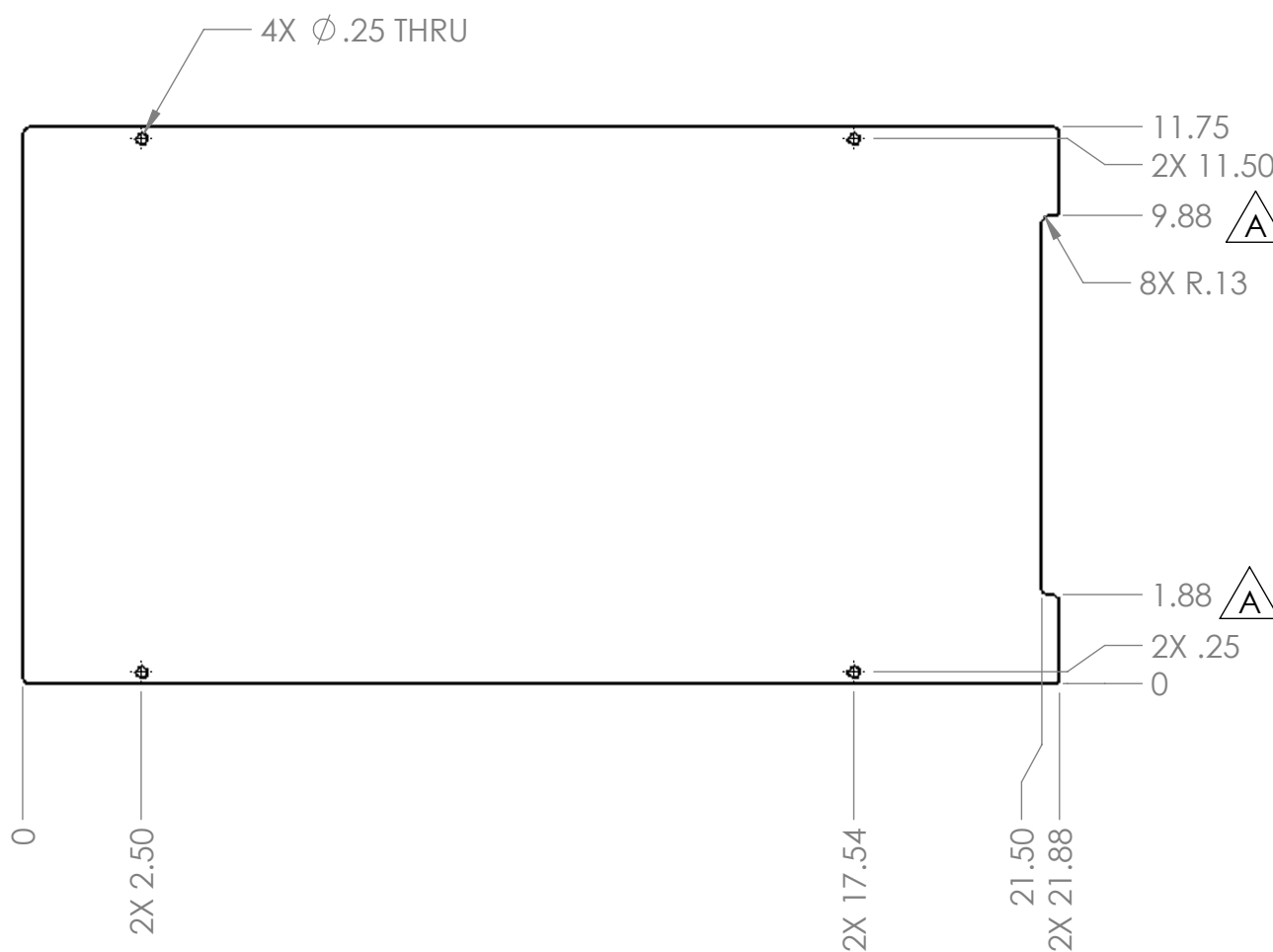
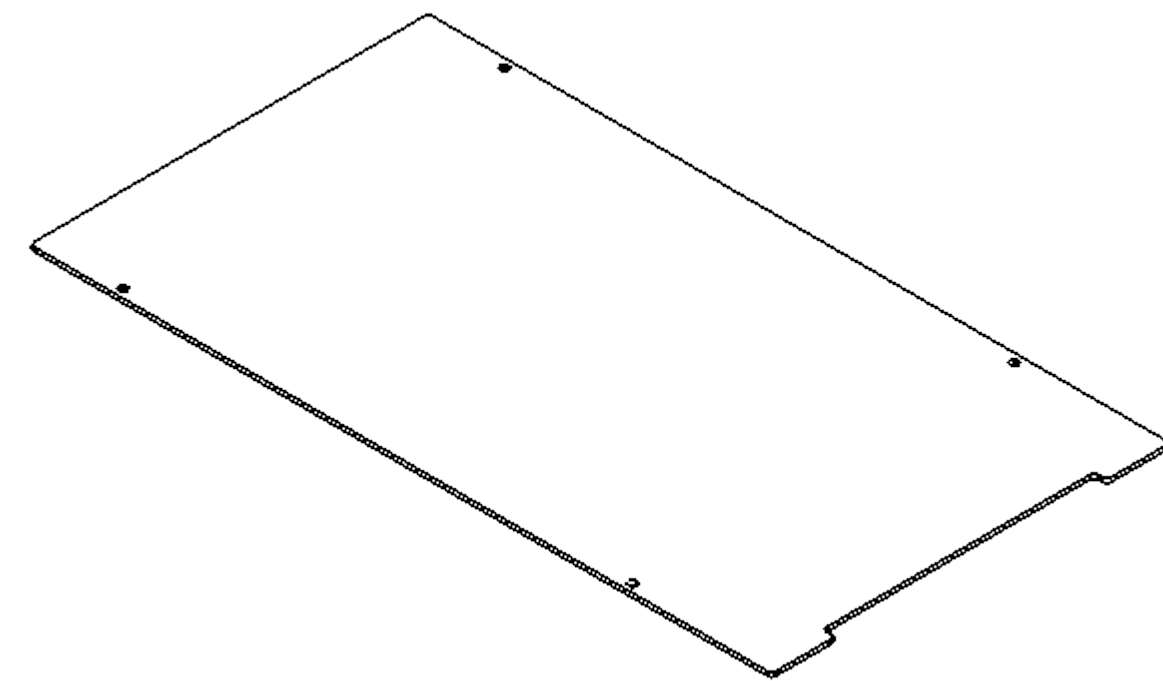
4



3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3, C3	A	9.88 was 9.25, 1.88 was 2.5	10/15/2024	DAF



UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .01 THREE PLACE DECIMAL $\pm$ .005  <b>MATERIAL/FINISH:</b> 1/8" HDPE, Natural, Smooth  <b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	10/4/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.				TITLE:
				Side Diffuser 1
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25222	<b>A</b>	
SCALE: 1:4			SHEET 1 OF 1	

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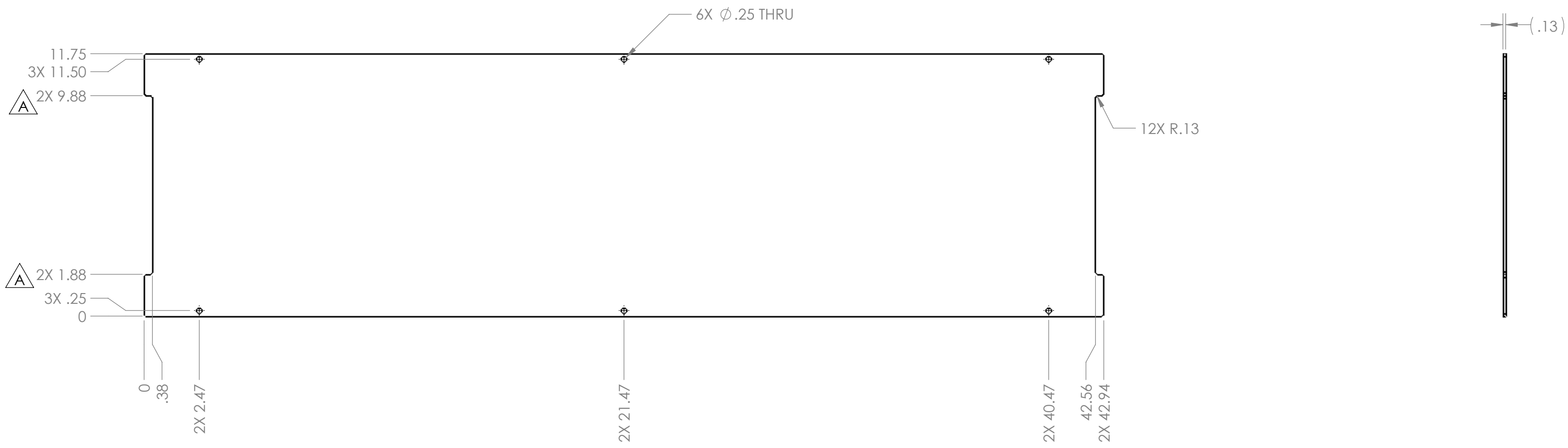
B

B

A

A

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B4, C4	A	9.88 was 9.25, 1.88 was 2.5	10/15/2024	DF





UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 1/8" HDPE, Natural, Smooth

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	10/4/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: <b>Side Diffuser 2</b>		
SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25223</b>	<b>A</b>
SCALE: 1:4		SHEET 1 OF 1

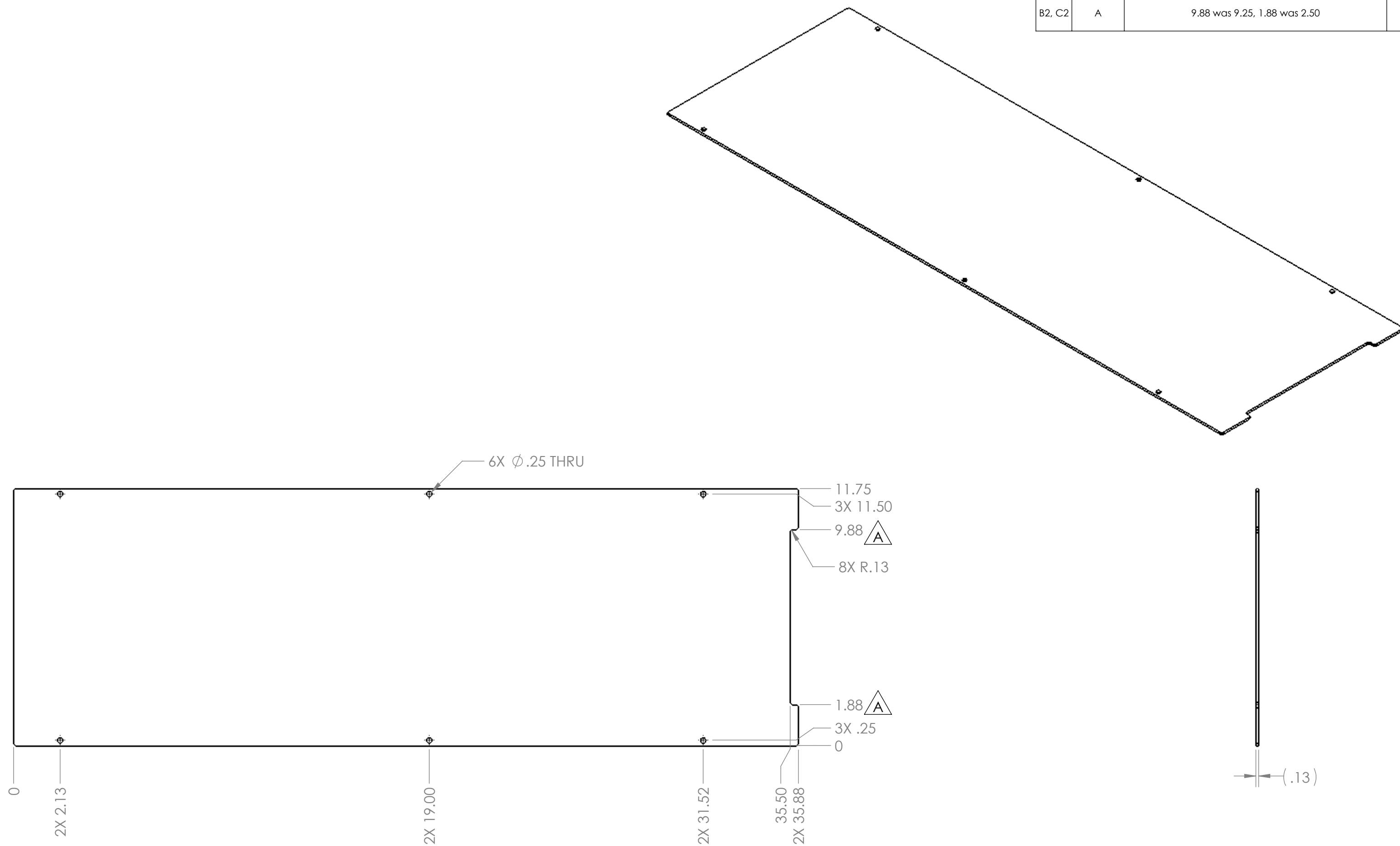
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, C2	A	9.88 was 9.25, 1.88 was 2.50	10/15/2024	DF



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**  
 1/8" HDPE, Natural, Smooth

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	10/4/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: Side Diffuser 3

SIZE	DWG. NO.	REV
<b>C</b>	GE-25224	<b>A</b>

SCALE: 1:4 SHEET 1 OF 1

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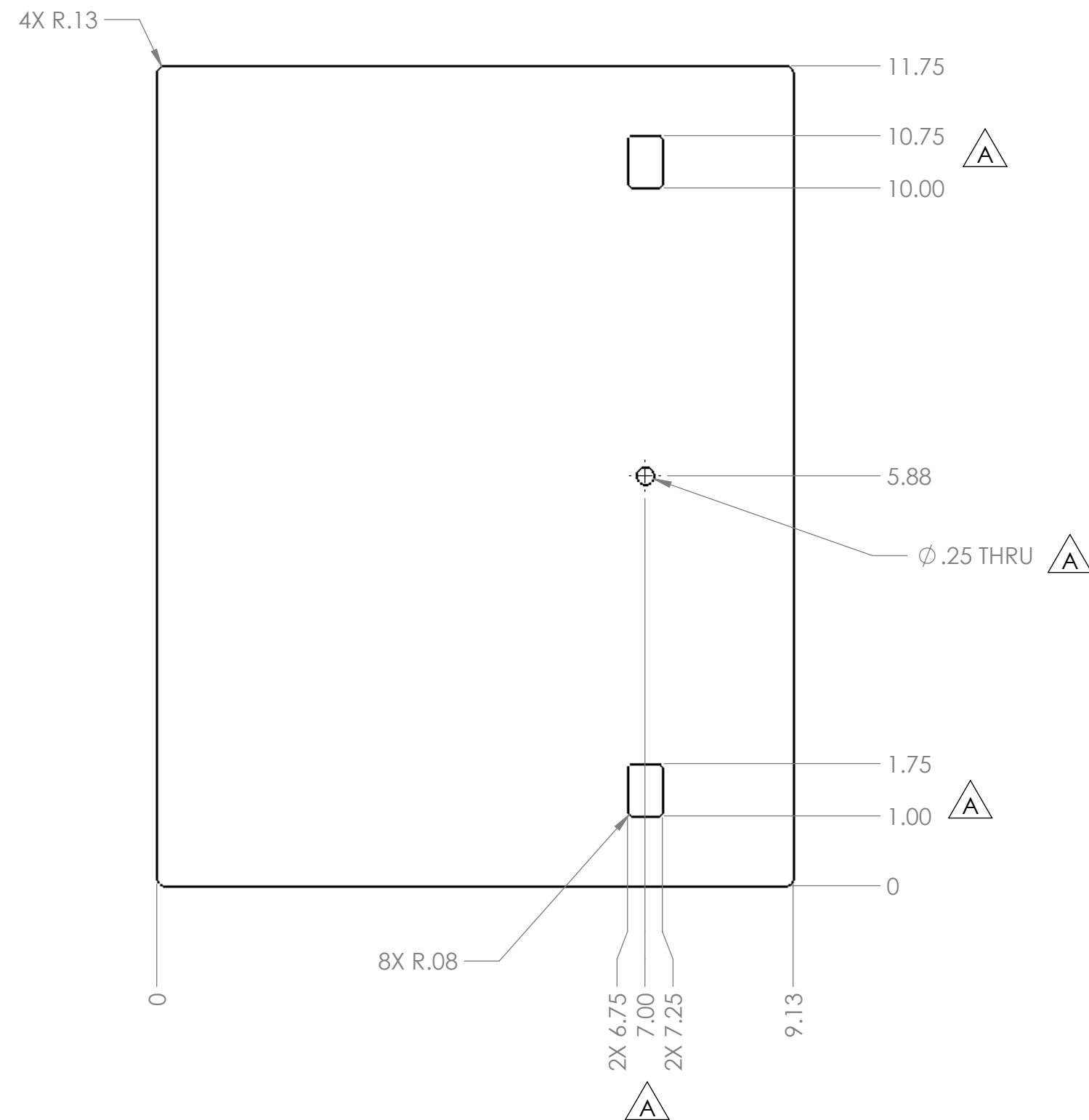
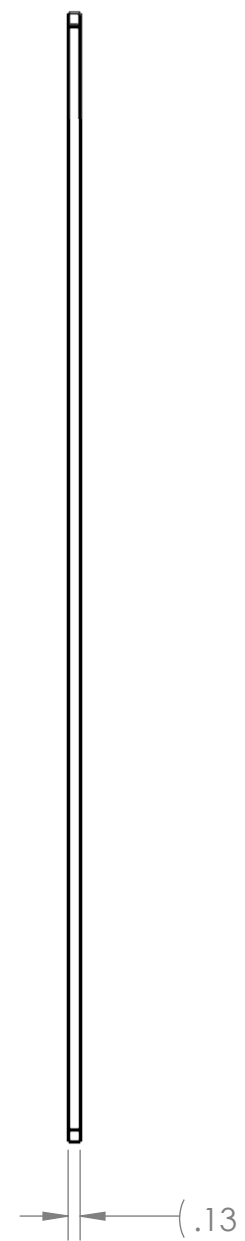
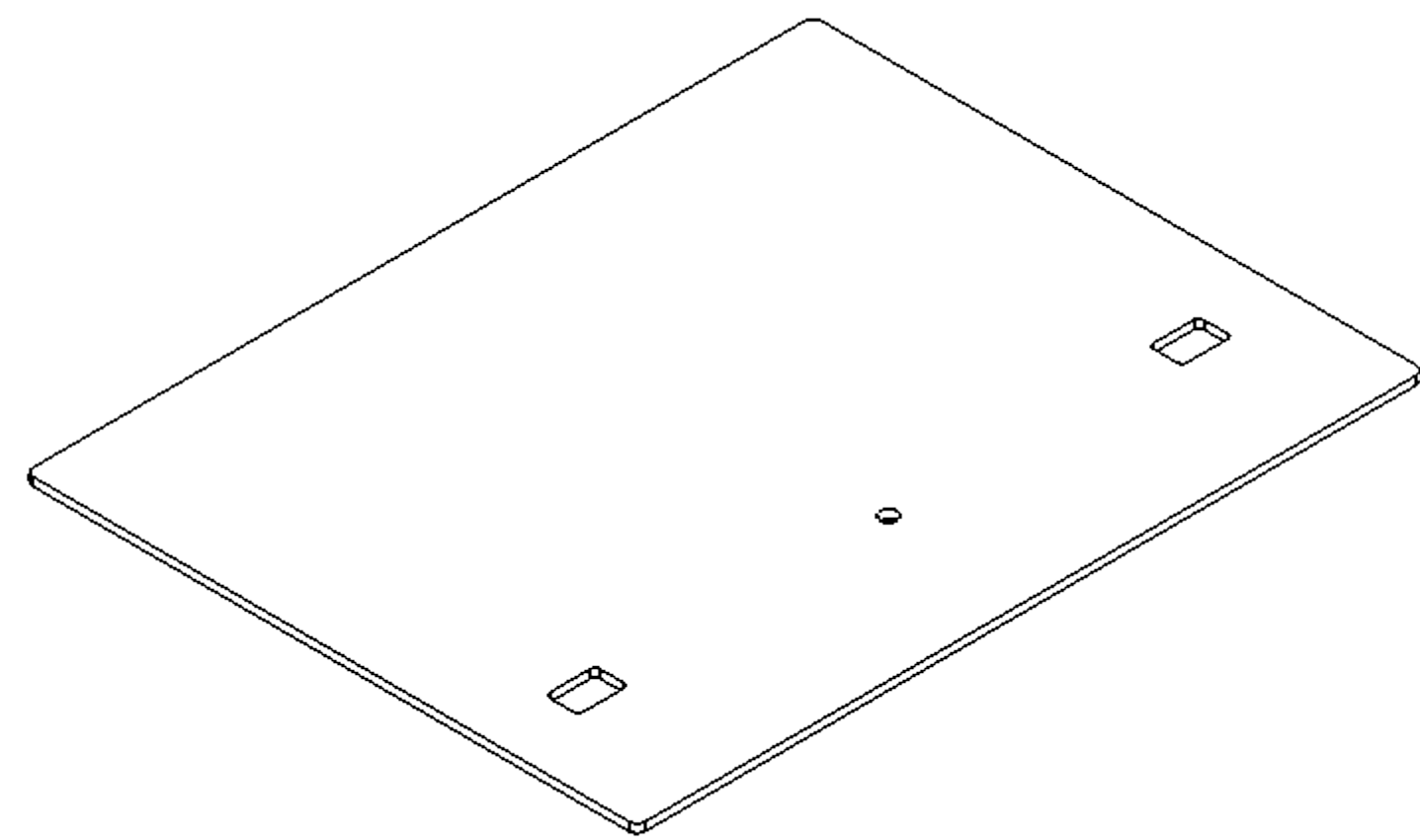
B

B

A

A

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3, B3, C3	A	Removed 2X $\phi$ .25 THRU holes, added two rectangular cut outs.	10/15/2024	DF



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 1/8" HDPE, Natural, Smooth

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	10/4/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		



TITLE: <b>Diffuser Top, Small</b>		
SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25227</b>	<b>A</b>
SCALE: 1:2		SHEET 1 OF 1

4

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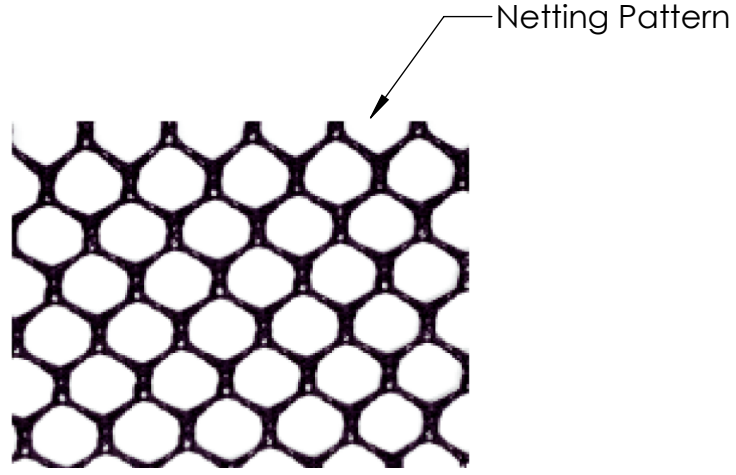
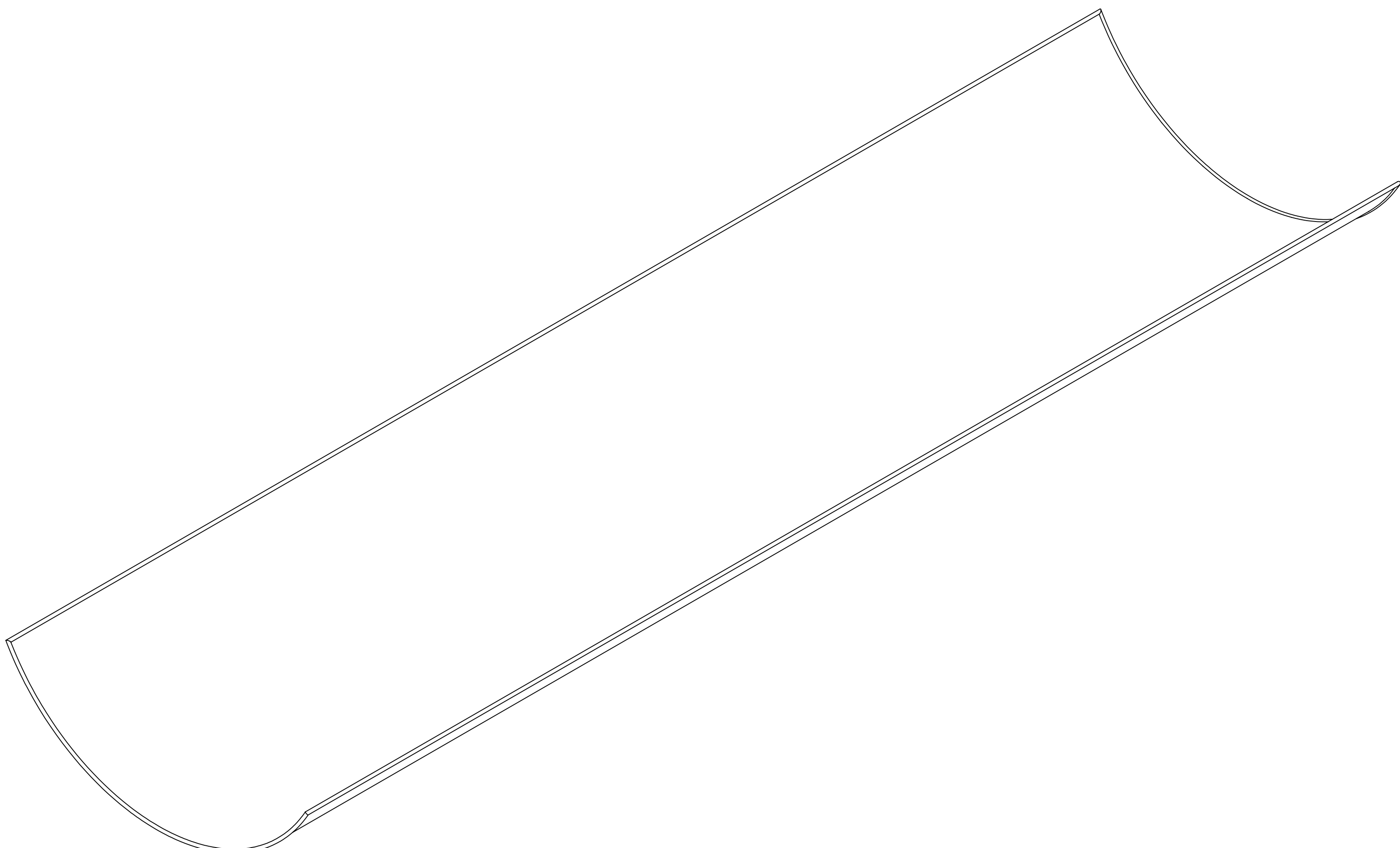
C

B

B



A

A



Vendor: All Sport Netting  
 Website: [www.allsportnetting.com](http://www.allsportnetting.com)  
 Size: 48" x 144"  
 Net Material: Knit Polyester, 1/4" mesh  
 Border: 3/8" Sewn Cord

**PRODUCT ALSO AVAILABLE AT ANDYMARK.COM (SUPPLIES LIMITED)**

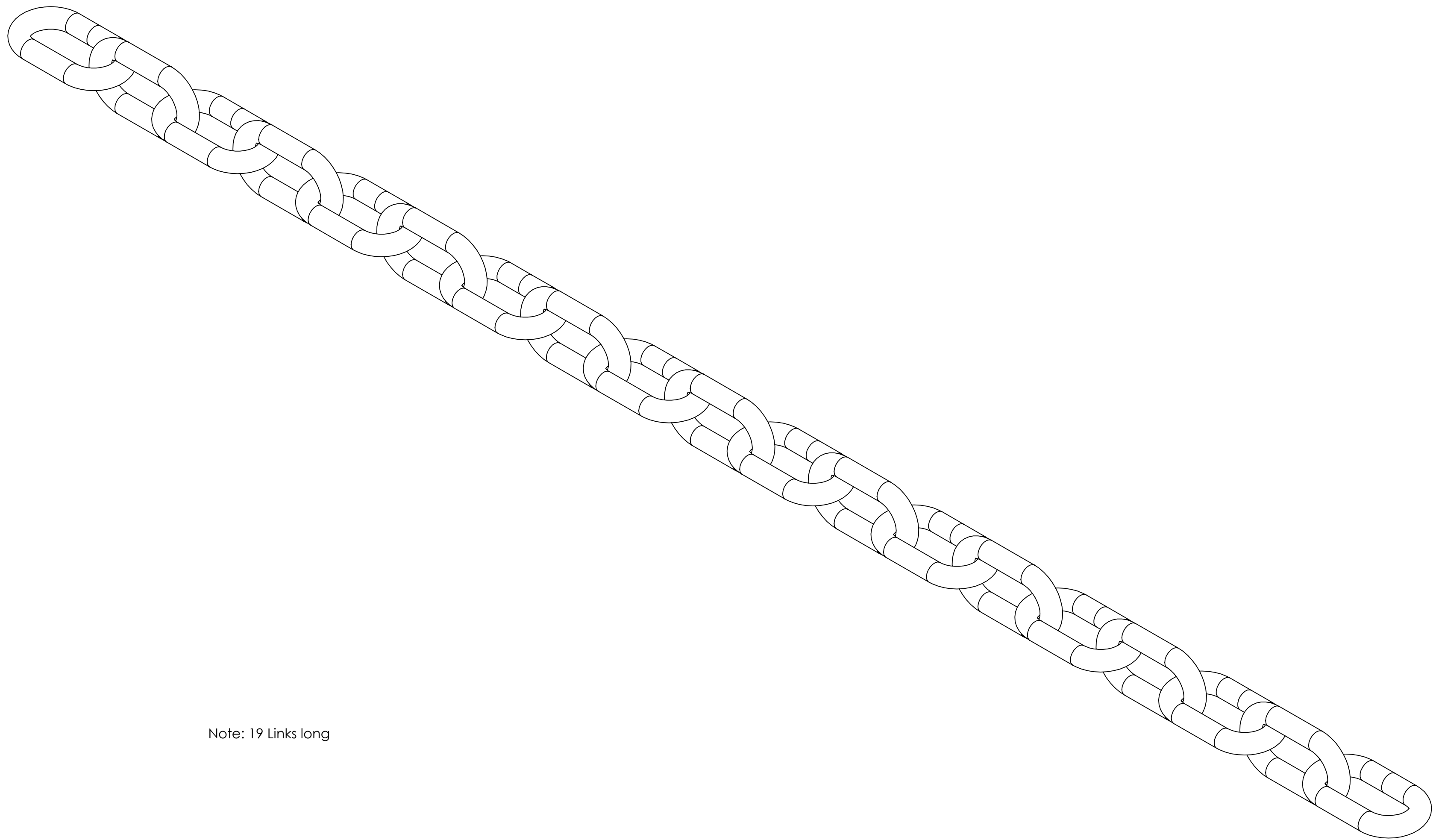
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 
	DRAWN	JO	12/16/2024	
<b>MATERIAL/FINISH:</b>	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE: Net
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			SIZE DWG. NO. REV
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<b>C</b> GE-25228
DO NOT SCALE DRAWING	SCALE: 1:8		SHEET 1 OF 1	

4



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Note: 19 Links long

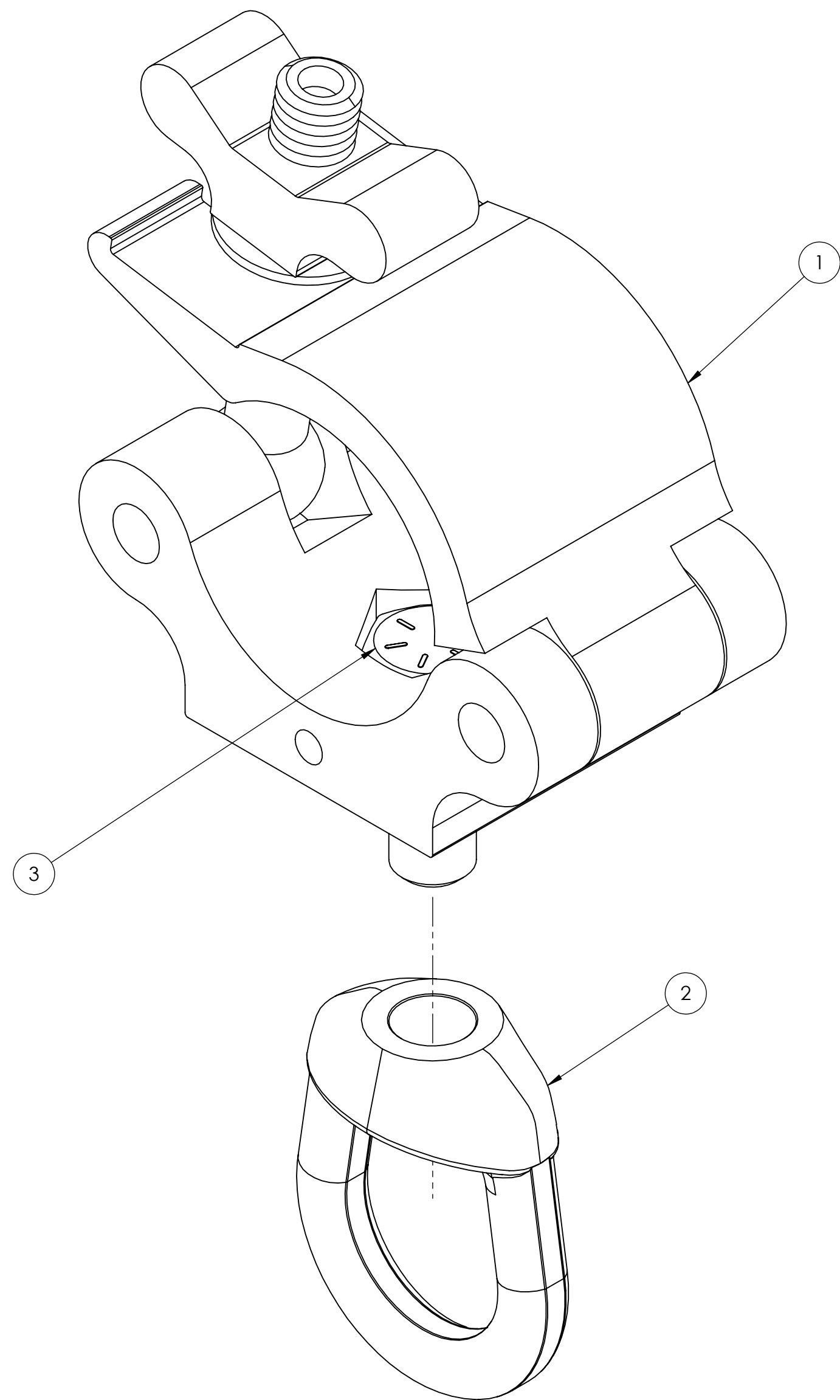
UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$  <b>MATERIAL/FINISH:</b> Grade 43 Zinc Plated Chain, 1/4" Trade Size  DO NOT SCALE DRAWING	FIELD	NAME	DATE	 	
	DRAWN	JO	12/16/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:	<b>Cage Chain</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE <b>C</b>	
SCALE: 1:1		SHEET 1 OF 1			

4

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-01016	Cheeseborough for Truss _ Single	1
2	3019T18	1/2-13 Galvanized Steel Eye Nut - for Lifting	1
3	hex_.5_13_1.25	Steel Hex Head Screw, 1/2"-13 x 1.25" long, fully threaded	1

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/2  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .50

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	JO	12/16/2024

**PROPRIETARY AND CONFIDENTIAL**

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST®**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST®** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Eye Nut Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25230</b>	

SCALE: 3:2 SHEET 1 OF 1

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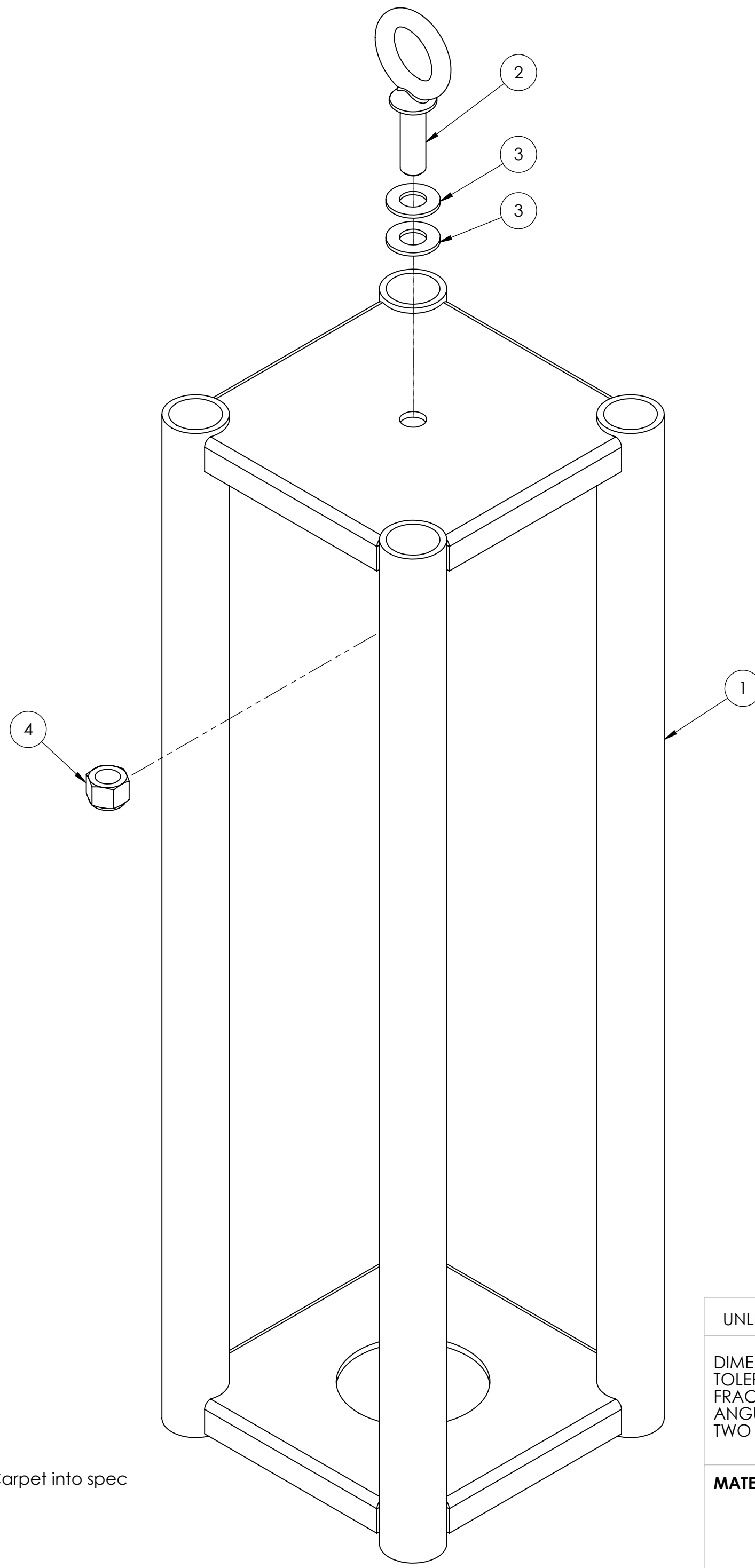
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1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25202	Cage Weldment, Blue	1
2	3014T491	Steel Eyebolt with Shoulder, 1/2"-13 x 1.5" long, fully threaded	1
3	washer_flat_.5	Flat Washer for 1/2" Screw	2
4	nylock_.5_13	steel nylon-insert locknut, 1/2" - 13	1

Notes:  
 - Washers may be removed to get Cage height from Carpet into spec  
 - Assembly is the same for all colors of Cages

UNLESS OTHERWISE SPECIFIED:			FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50			DRAWN	JO	12/16/2024
<b>MATERIAL/FINISH:</b>			<b>PROPRIETARY AND CONFIDENTIAL</b>		
			THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
<b>COMMENTS:</b>			 		
			TITLE: <b>Cage Assembly</b>		
		SIZE	DWG. NO.	REV	
		<b>C</b>	GE-25231		
DO NOT SCALE DRAWING			SCALE: 1:2		SHEET 1 OF 1

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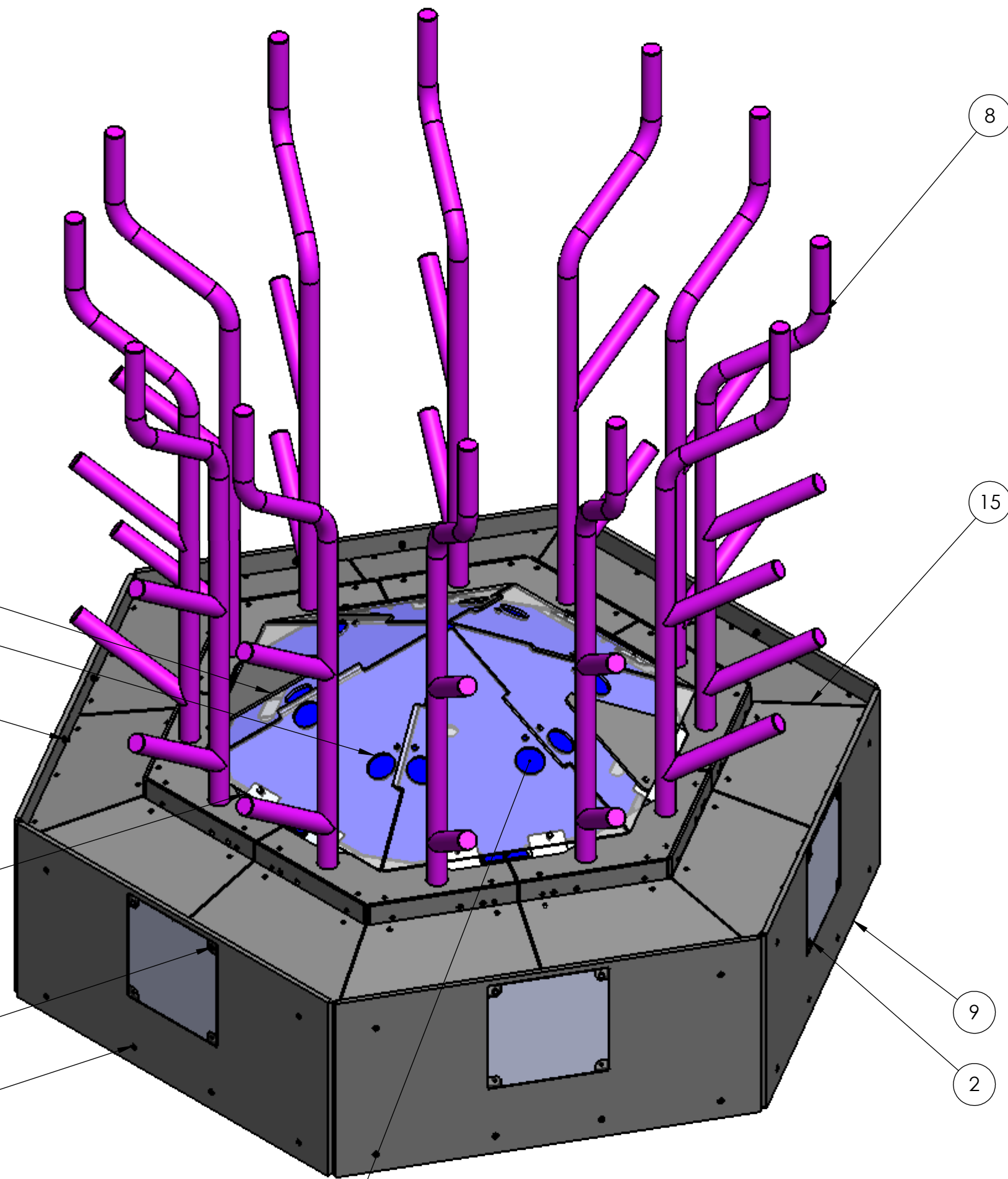
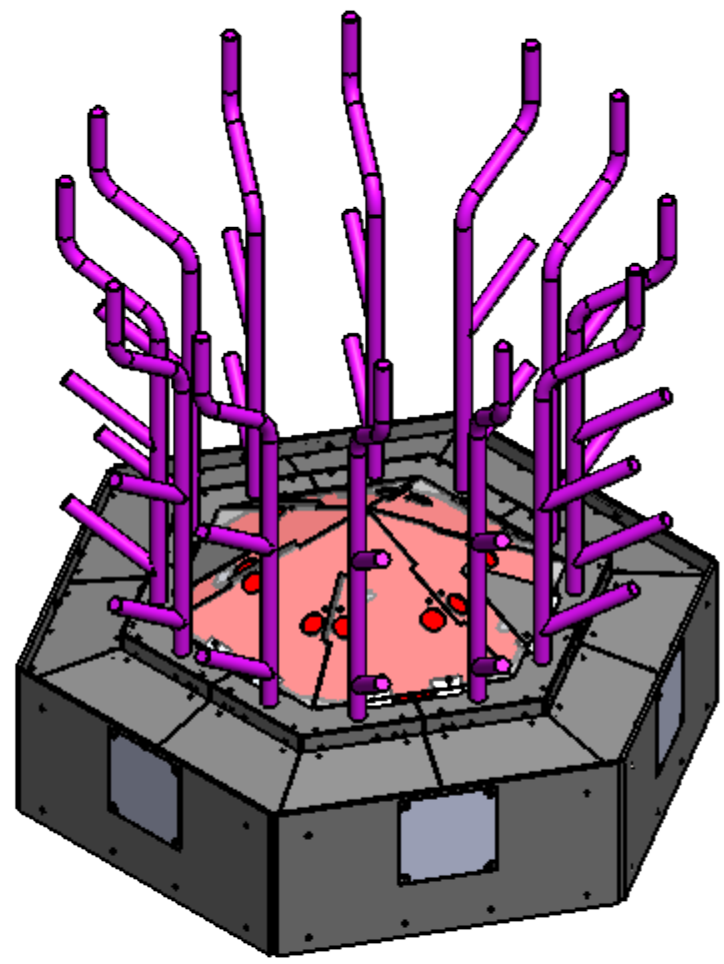
B

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	66
2	FE-00083	AprilTag	1
3	FE-00083	AprilTag	1
4	FE-00083	AprilTag	1
5	FE-00083	AprilTag	1
6	FE-00083	AprilTag	1
7	FE-00083	AprilTag	1
8	GE-25301	Scoring Pipe	12
9	GE-25302	Bumper Plastic	6
10	GE-25303	Hexagon Base Plate	1
11	GE-25304	Scorekeeper Triangle	2
12	GE-25305	Coral Catcher Bracket W PEMs	6
13	GE-25306	Coral Catcher Side	6
14	GE-25308	Hexagon Cover - Blue	1
15	GE-25310	Goal Slice Assembly	6
16	flat_phil_25_20_75	Steel Phillips Flat Head Screw, 1-4"-20 x 3/4" long, fully threaded	36
17	nylock_25_20	Steel Nylon-Insert Locknut, 1/4"-20	12
18	pin_quick_ring_25_2.5	Pin, Ring-Grip Quick-Release with SS Ring, 1/4" Diameter, 2.5" Usable Length	24

BLUE CONFIGURATION SHOWN THROUGHOUT

Note: April Tag ID # changes depending on which Reef is being considered. See the Field Layout and Marking Diagram for more details.

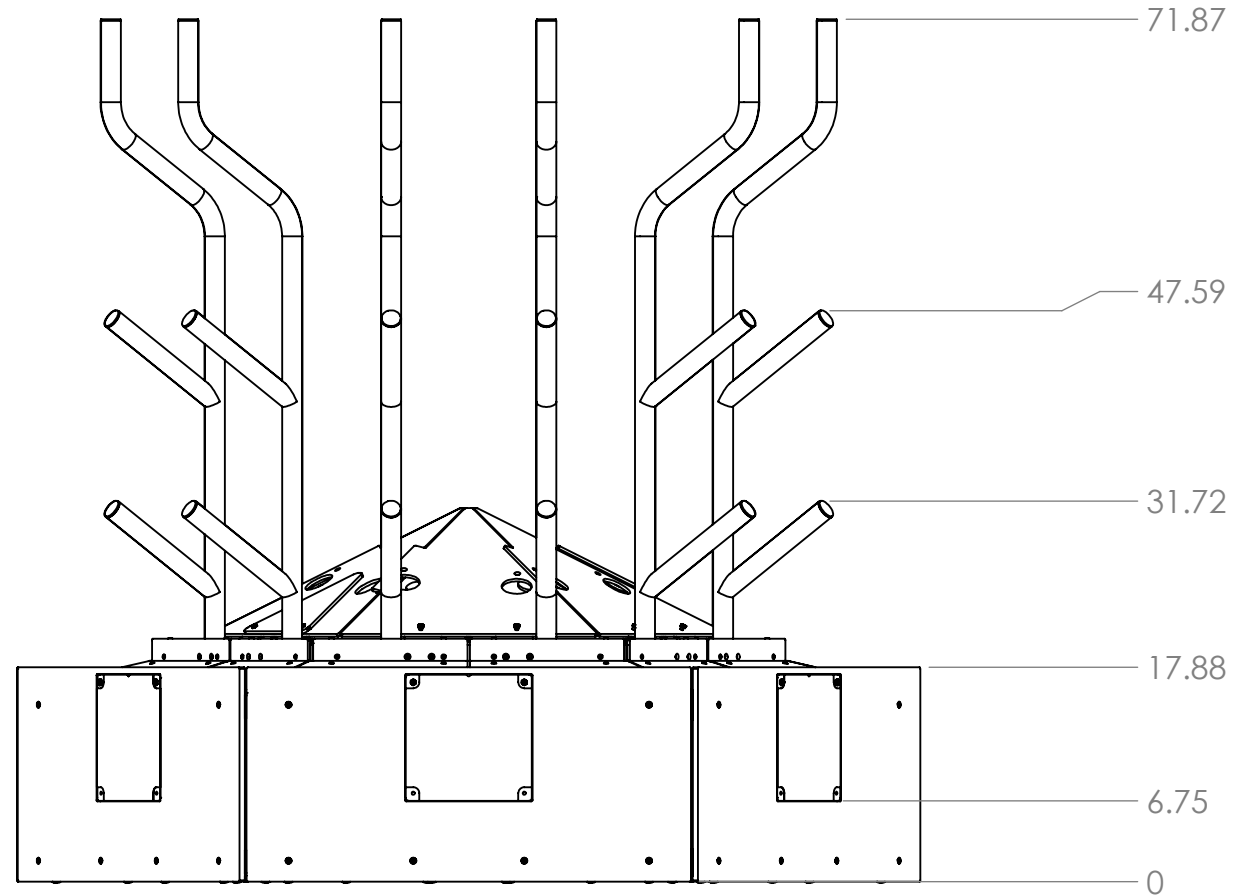
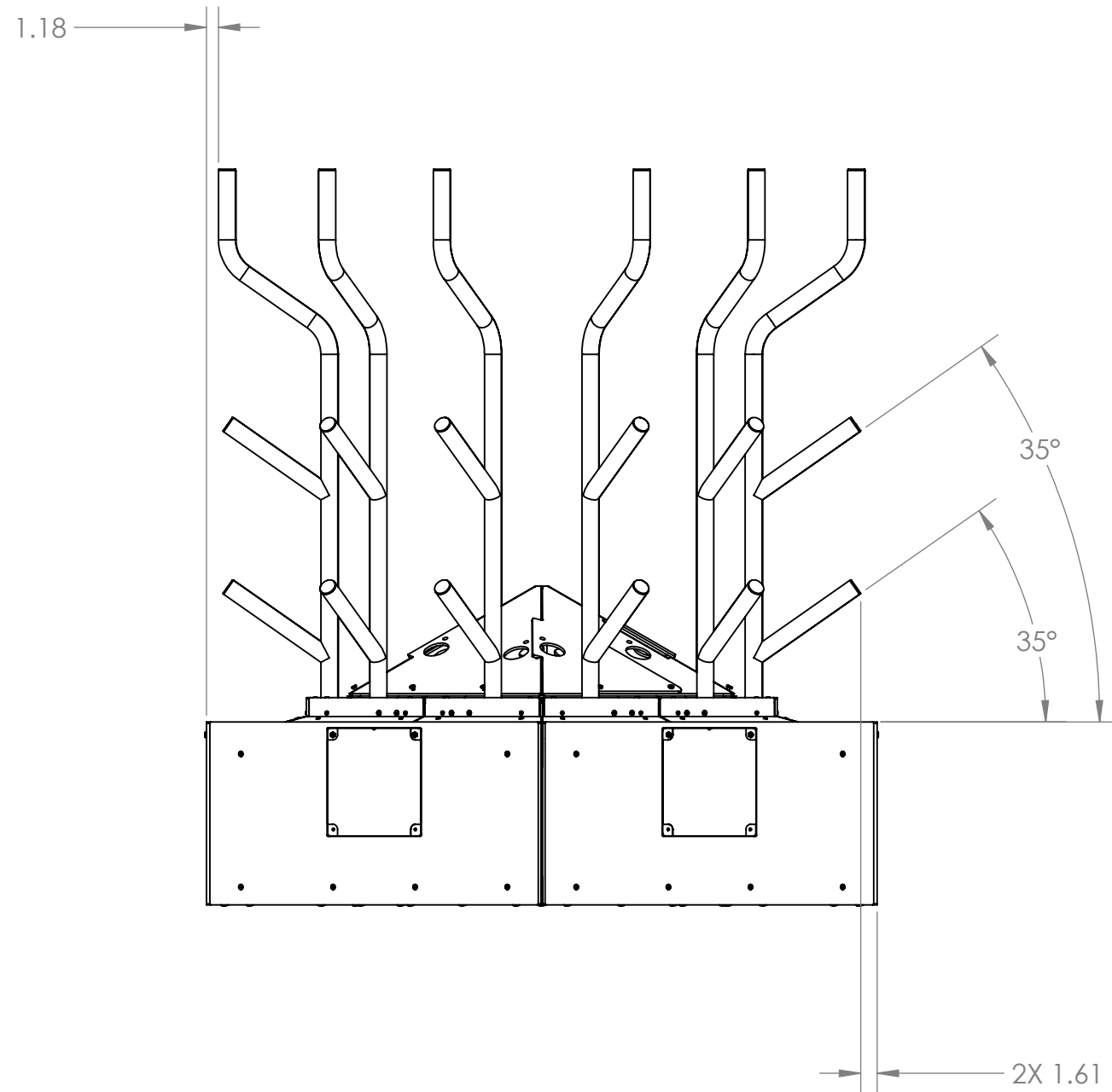
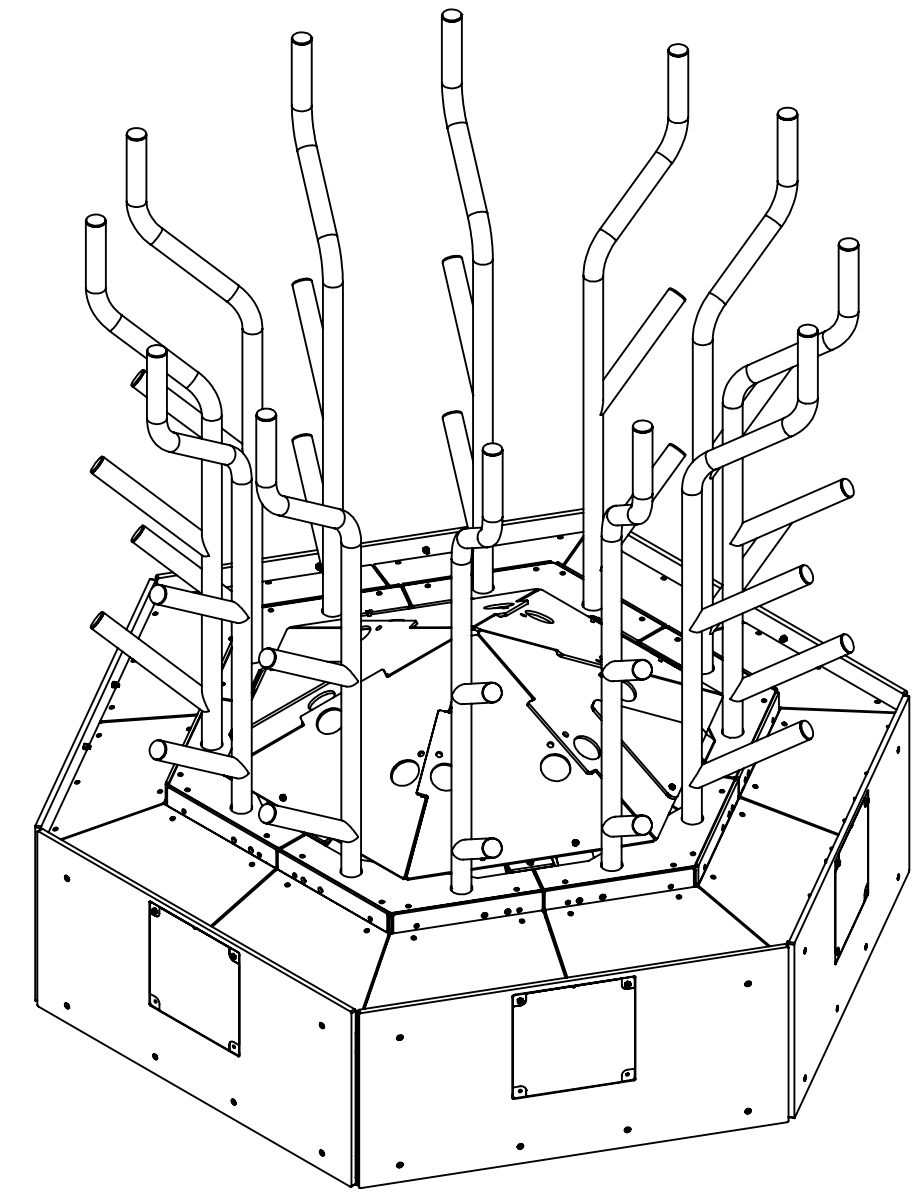
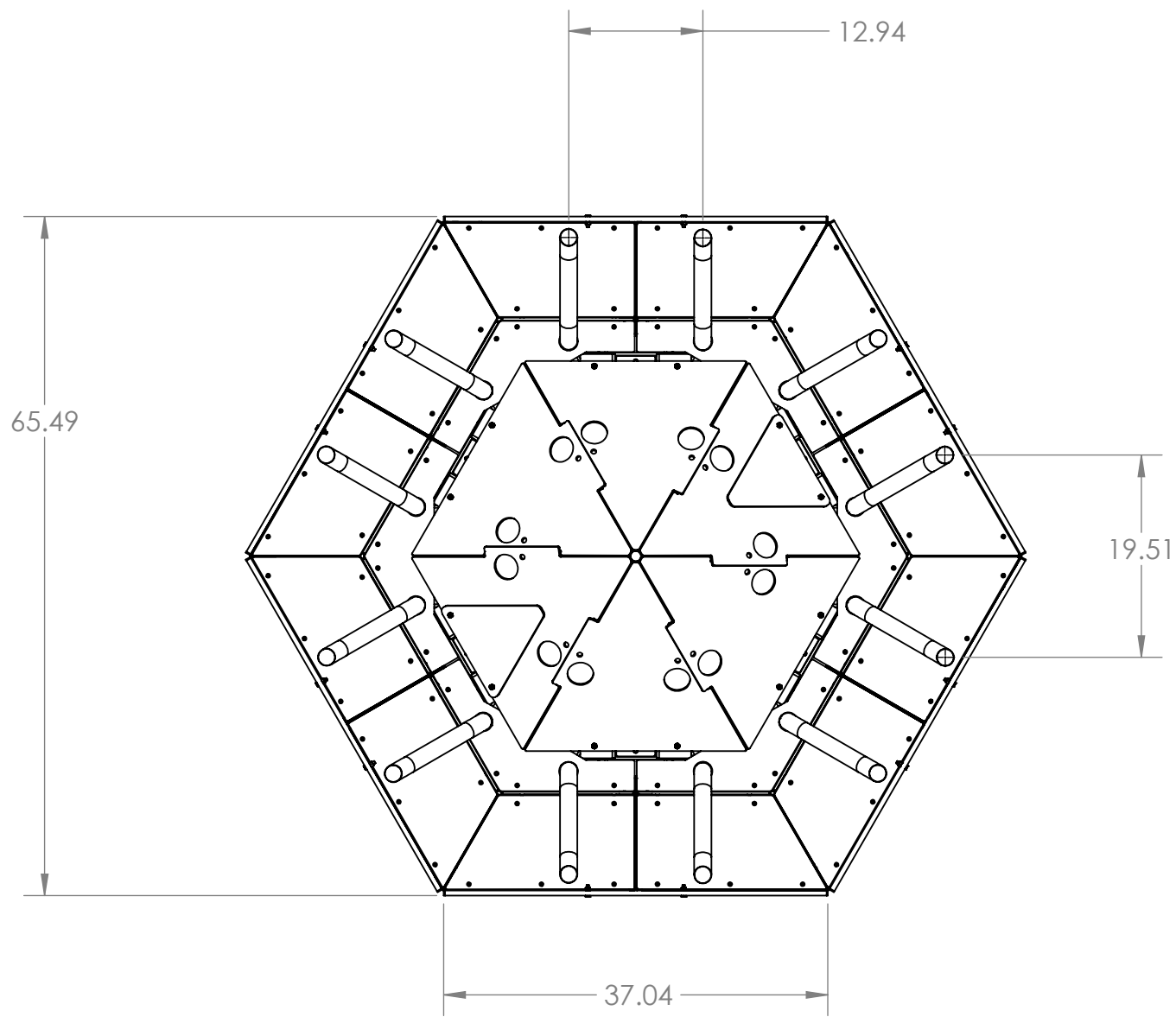
UNLESS OTHERWISE SPECIFIED:			FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$			DRAWN	NE	12/6/2024
MATERIAL/FINISH:			<b>PROPRIETARY AND CONFIDENTIAL</b>		
DO NOT SCALE DRAWING			THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
			<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
		TITLE:		<b>FIRST ROBOTICS COMPETITION</b>	
		Reef		<b>SOLIDWORKS</b> Modeling Solutions Partner	
SIZE	DWG. NO.	REV			
<b>C</b>	GE-25300				
SCALE: 1:10		SHEET 1 OF 2			



4

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 	
	DRAWN	NE	12/6/2024		
MATERIAL/FINISH:	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <b>Reef</b>	
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		SIZE	DWG. NO.	REV
			<b>C</b>	GE-25300	
			SCALE: 1:16	SHEET 2 OF 2	

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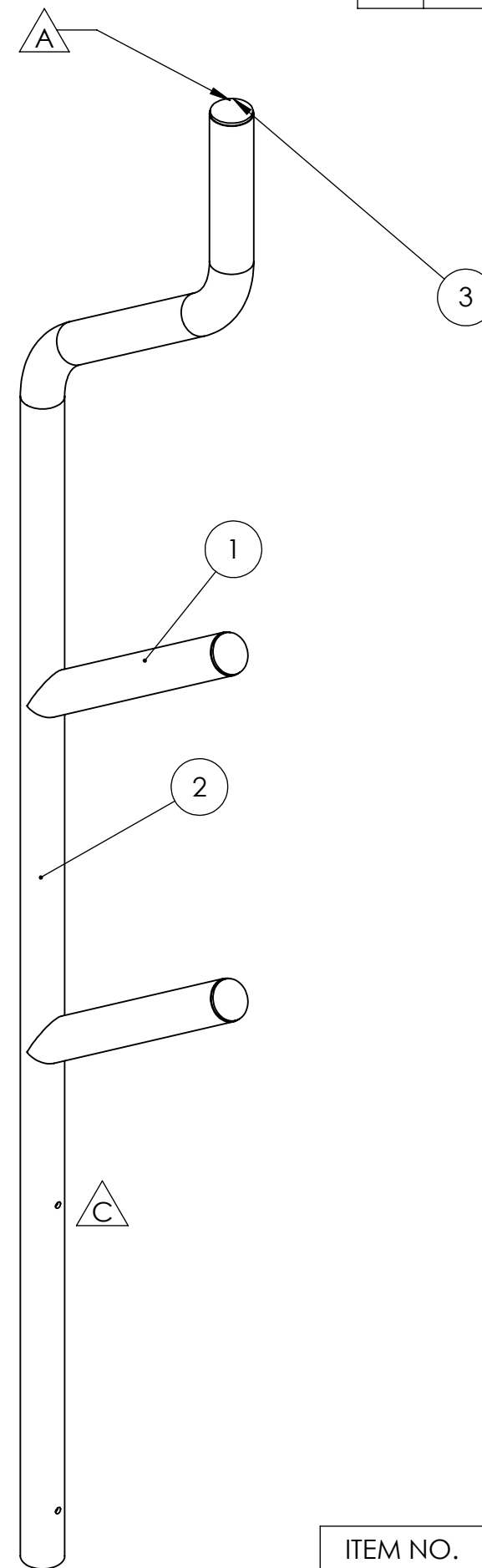
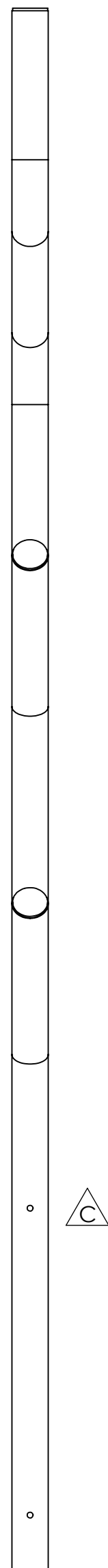
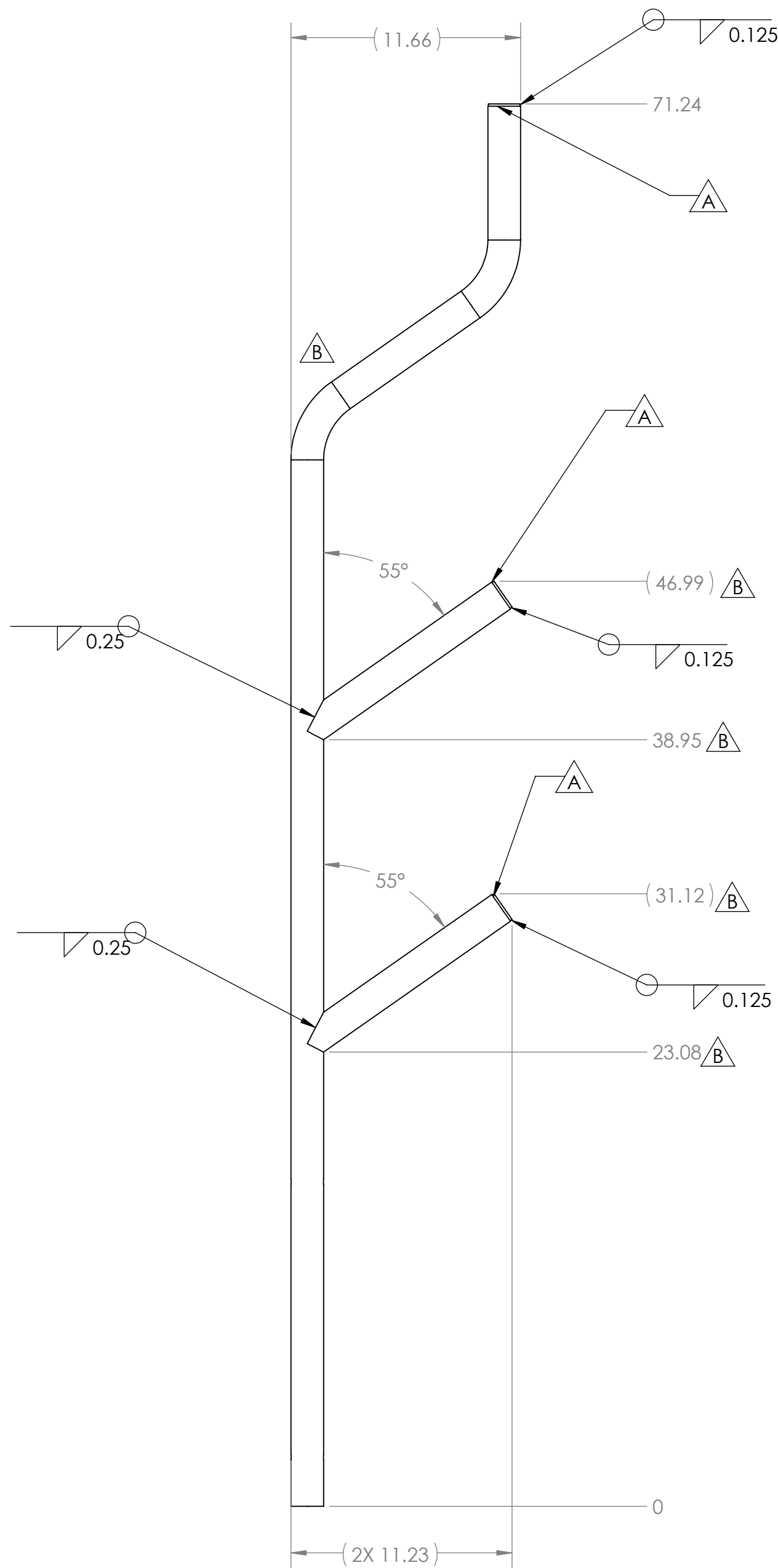
4

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A2, C3, D2, D3	A	ADDED GE-25301-03 TO ASSEMBLY AND ASSOCIATED WELD CALLOUTS	8/1/2024	NE
B3, C3, D4	B	GE-25301-02 GEOMETRIC CHANGES AND WELD LOCATIONS WERE ALTERED	8/15/2024	NE
A2, B2, B3	C	REFLECTING GEOMETRY CHANGES TO GE-25301-02 AT THE ASSEMBLY LEVEL	9/19/2024	NE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25301-01	Small Scoring Pipe	2
2	GE-25301-02	Bent Scoring Pipe	1
3	GE-25301-03	GoalPipeCap	3

UNLESS OTHERWISE SPECIFIED:	WELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .015	DRAWN	NE	5/6/2024
<b>MATERIAL/FINISH:</b> 1.25" Sch. 40 Steel Tube, Powder Coated	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Scoring Pipe**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25301	<b>C</b>

SCALE: 1:6 SHEET 1 OF 1

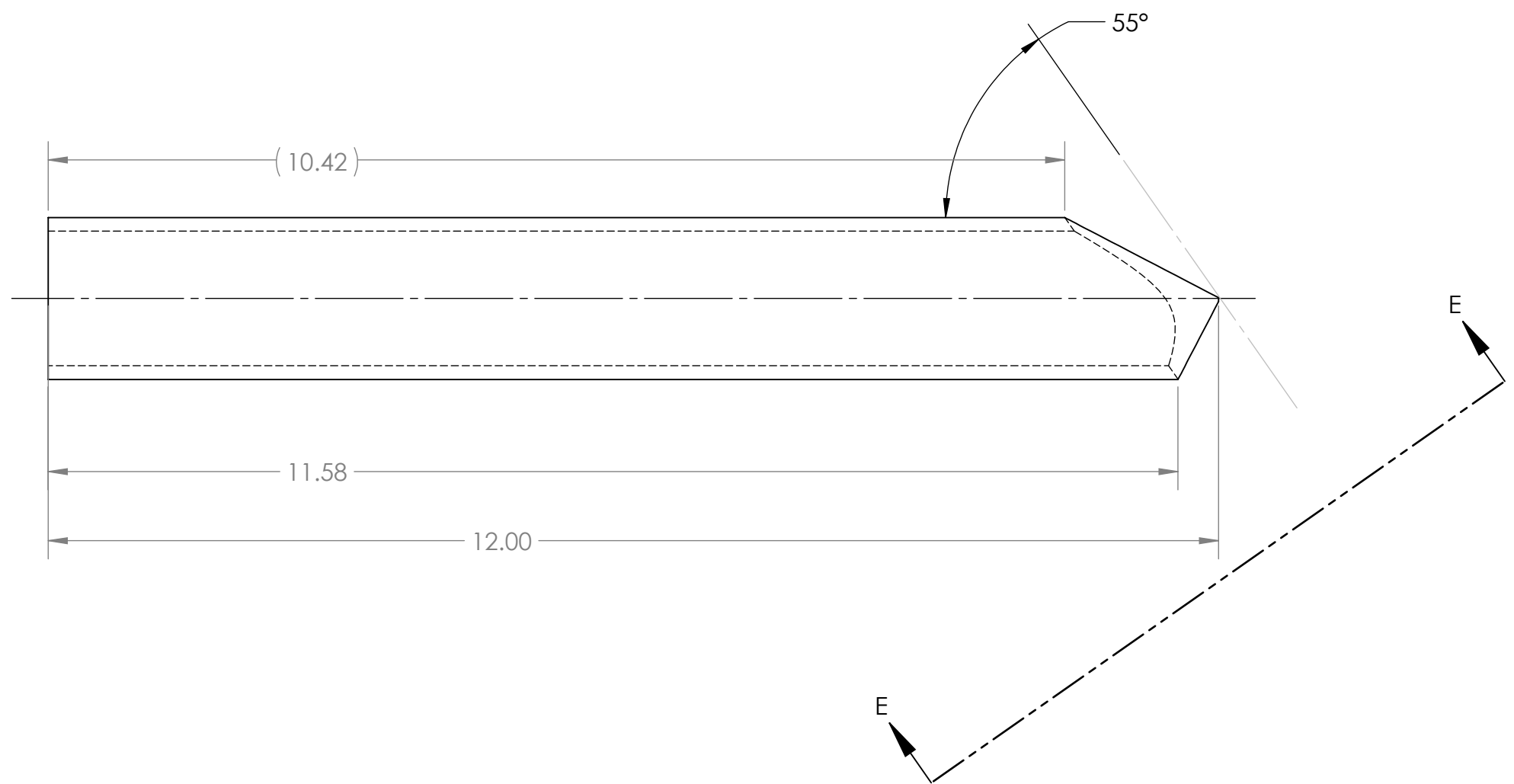
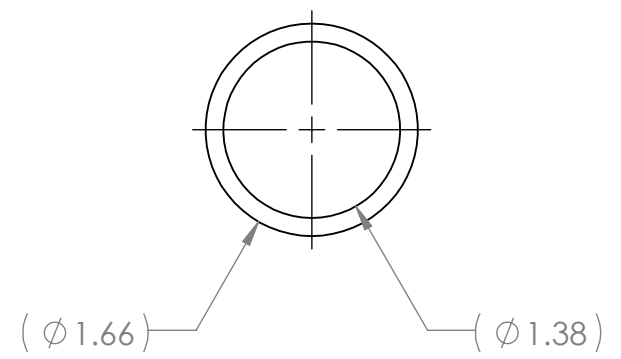
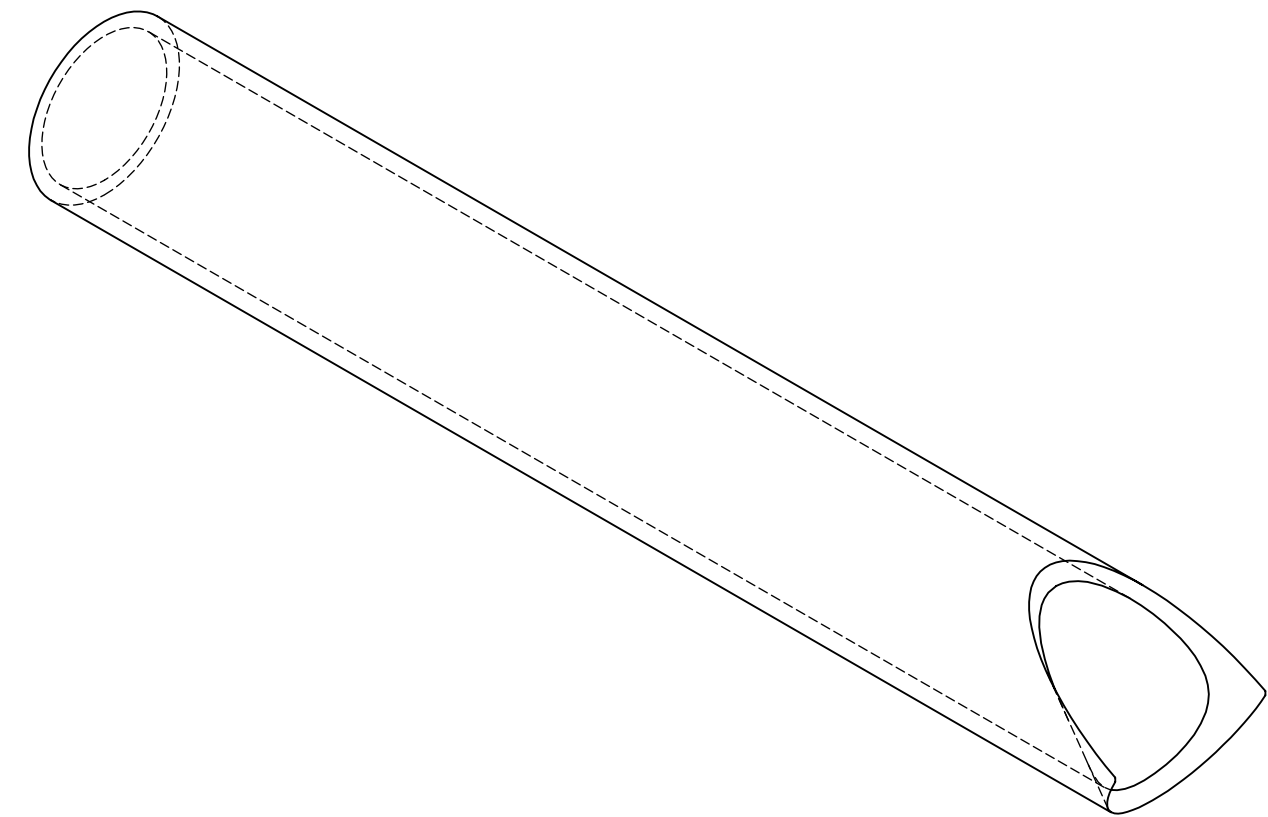
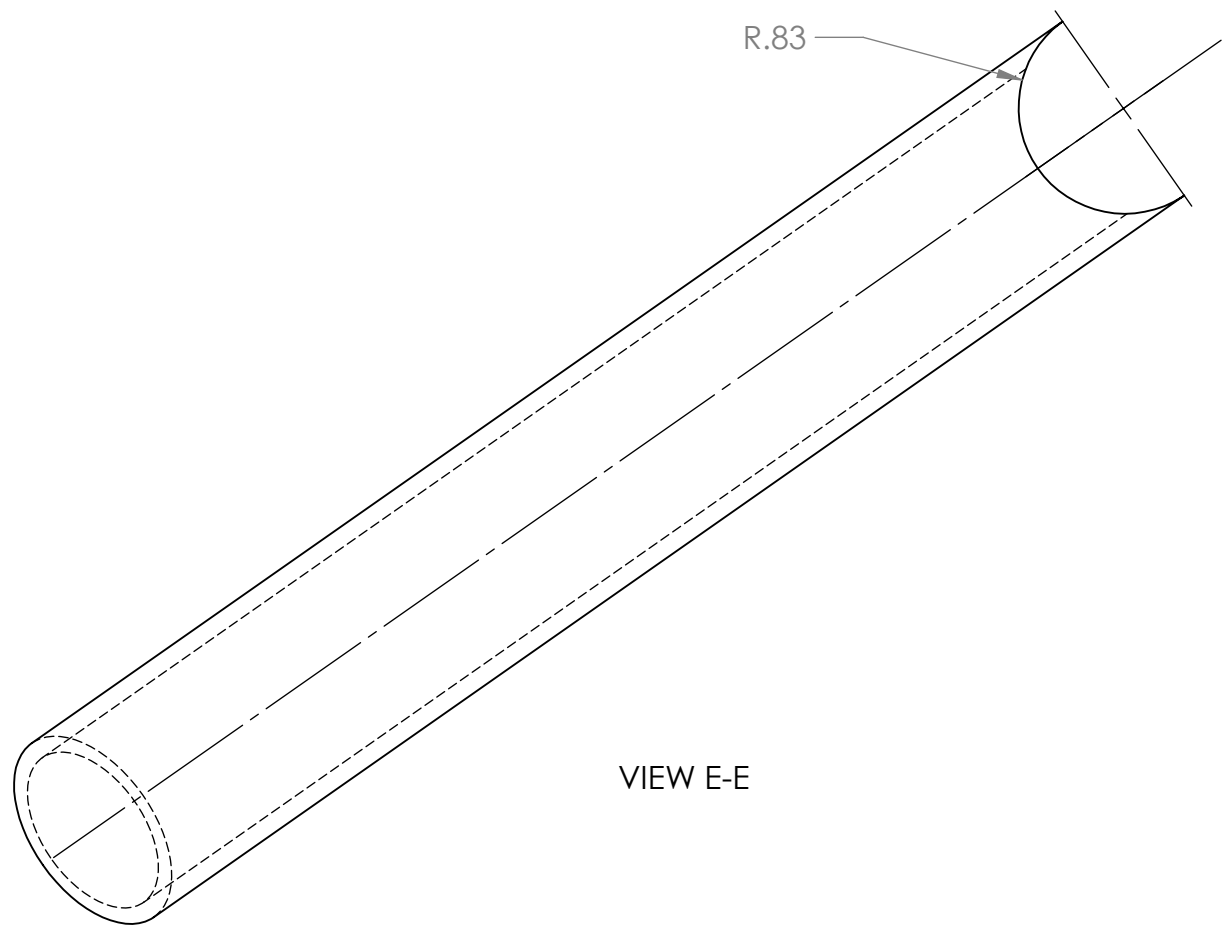
Notes:  
1. Powder coat color: RAL-4003 "Heather Violet", or equivalent

4



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LOOKING FOR QUOTING ON THE SELECTION OF MATERIALS/FINISHES DISCUSSED 5/3/2024

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 <b>MATERIAL/FINISH:</b> 1.25" Sch. 40 Steel Tube  DO NOT SCALE DRAWING	VEND	NAME	DATE	 						
	DRAWN	NE	5/3/2024							
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:						
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			Small Scoring Pipe						
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td><b>C</b></td> <td>GE-25301-01</td> <td><b>B</b></td> </tr> </table>	SIZE	DWG. NO.	REV	<b>C</b>	GE-25301-01	<b>B</b>
SIZE	DWG. NO.	REV								
<b>C</b>	GE-25301-01	<b>B</b>								
	SCALE: 2:3		SHEET 1 OF 1							

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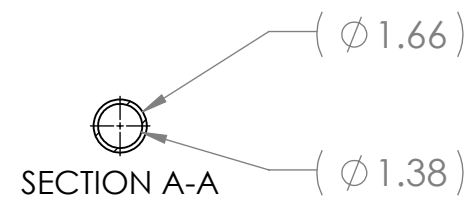
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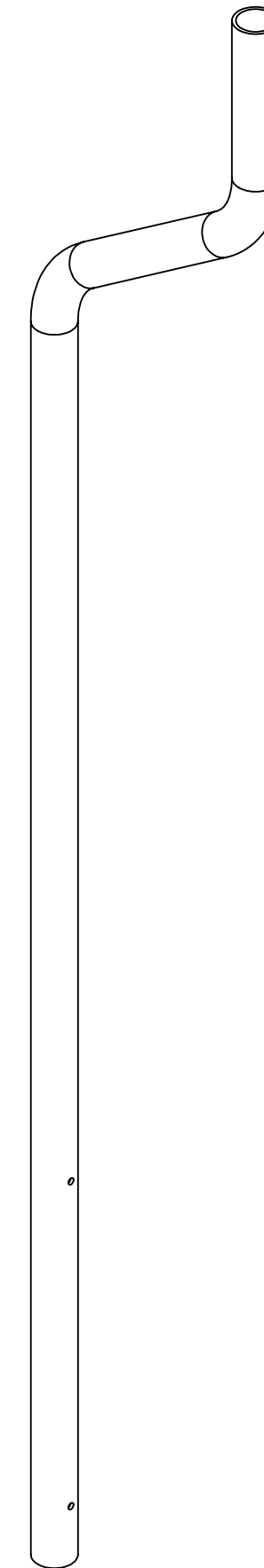
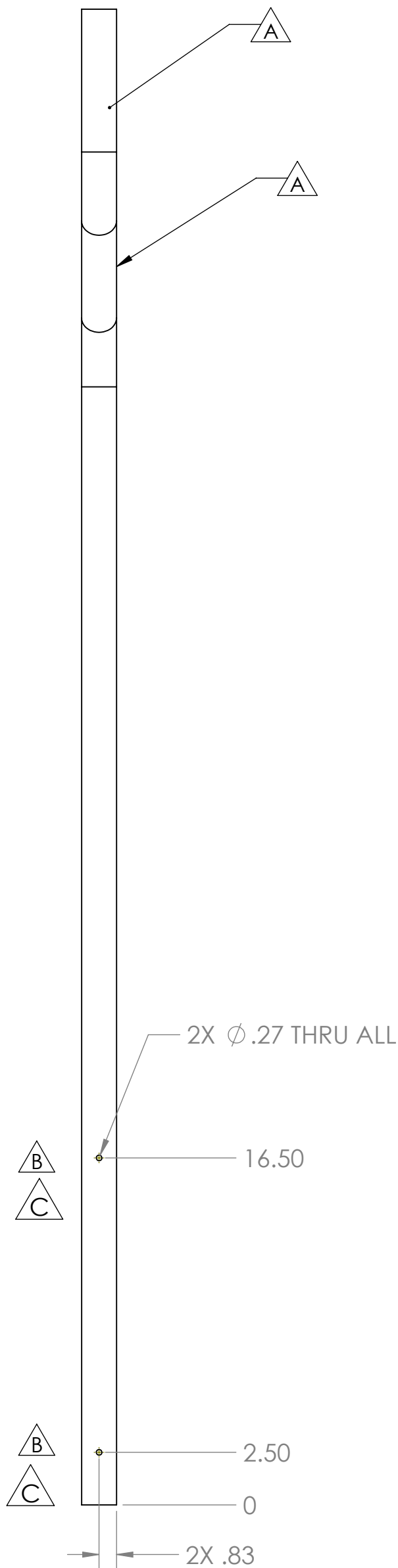
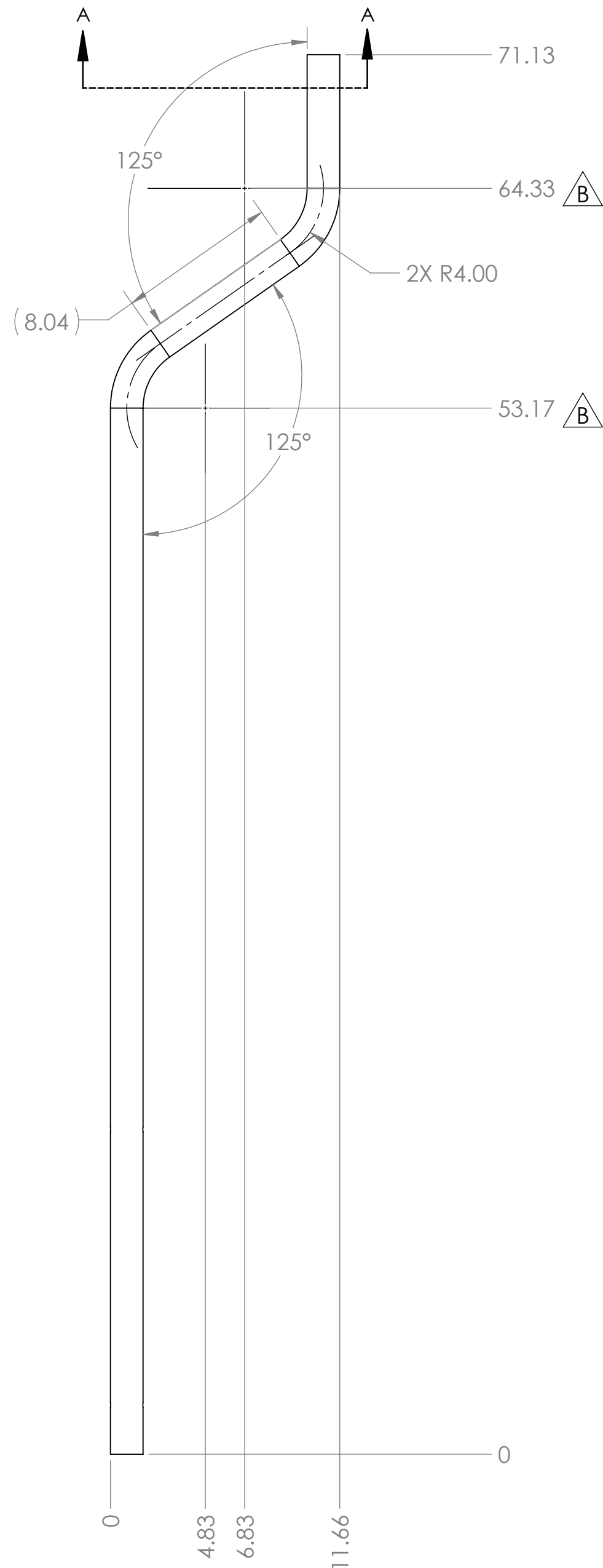
3

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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C3, D3	A	REMOVED SEVERAL HOLES AND RELOCATED REMAINING THRU HOLES	8/1/2024	NE
A3, B3, C3	B	ALTERED BEND LOCATIONS AND CHANGED HOLES TO SLOTS	8/15/2024	NE
A3	C	REVERTED SLOTS BACK TO HOLES AND REMOVED DETAIL VIEW	9/19/2024	NE



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**  
 1.25" Sch. 40 Steel Tube

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	5/3/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Bent Scoring Pipe**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25301-02	<b>C</b>

SCALE: 1:6 SHEET 1 OF 1

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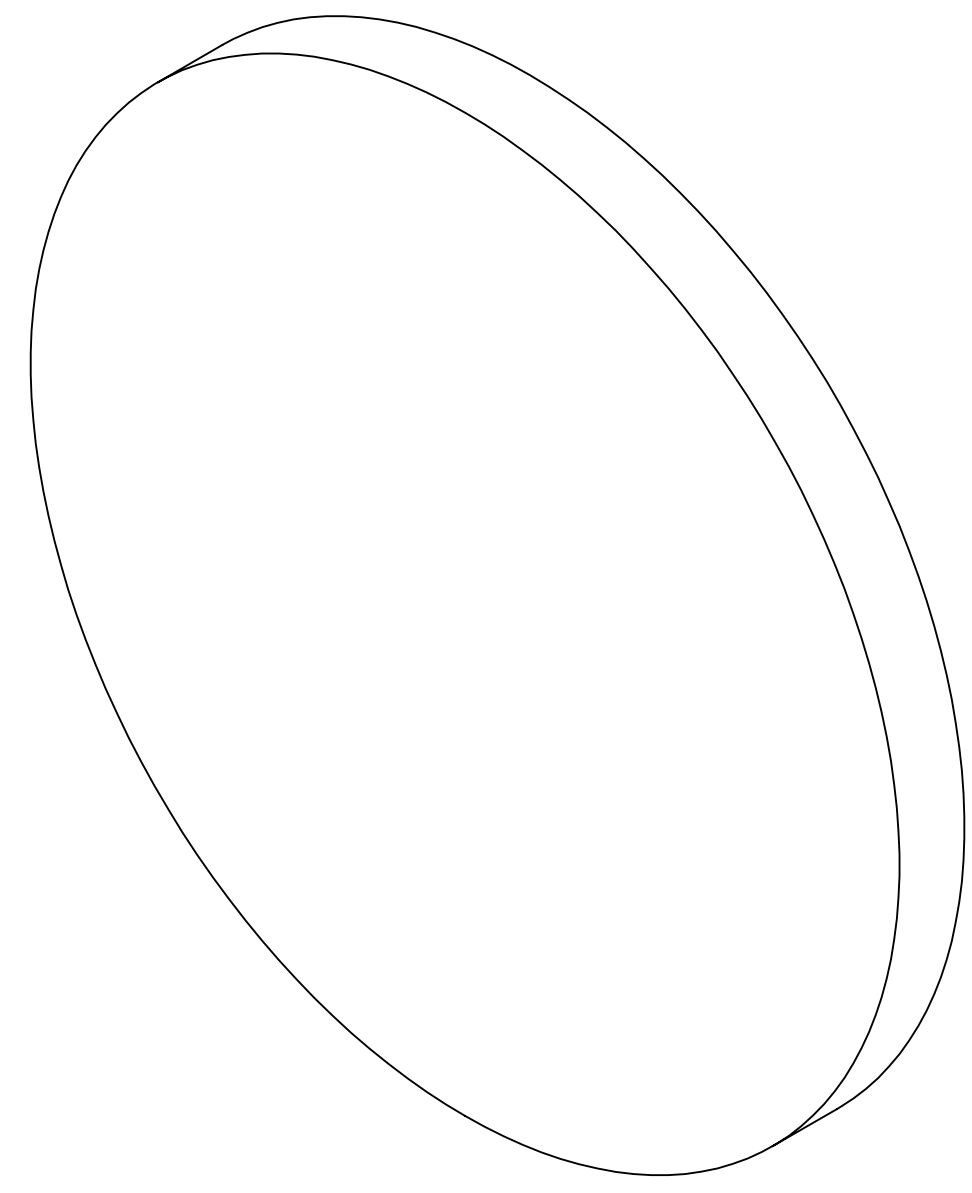
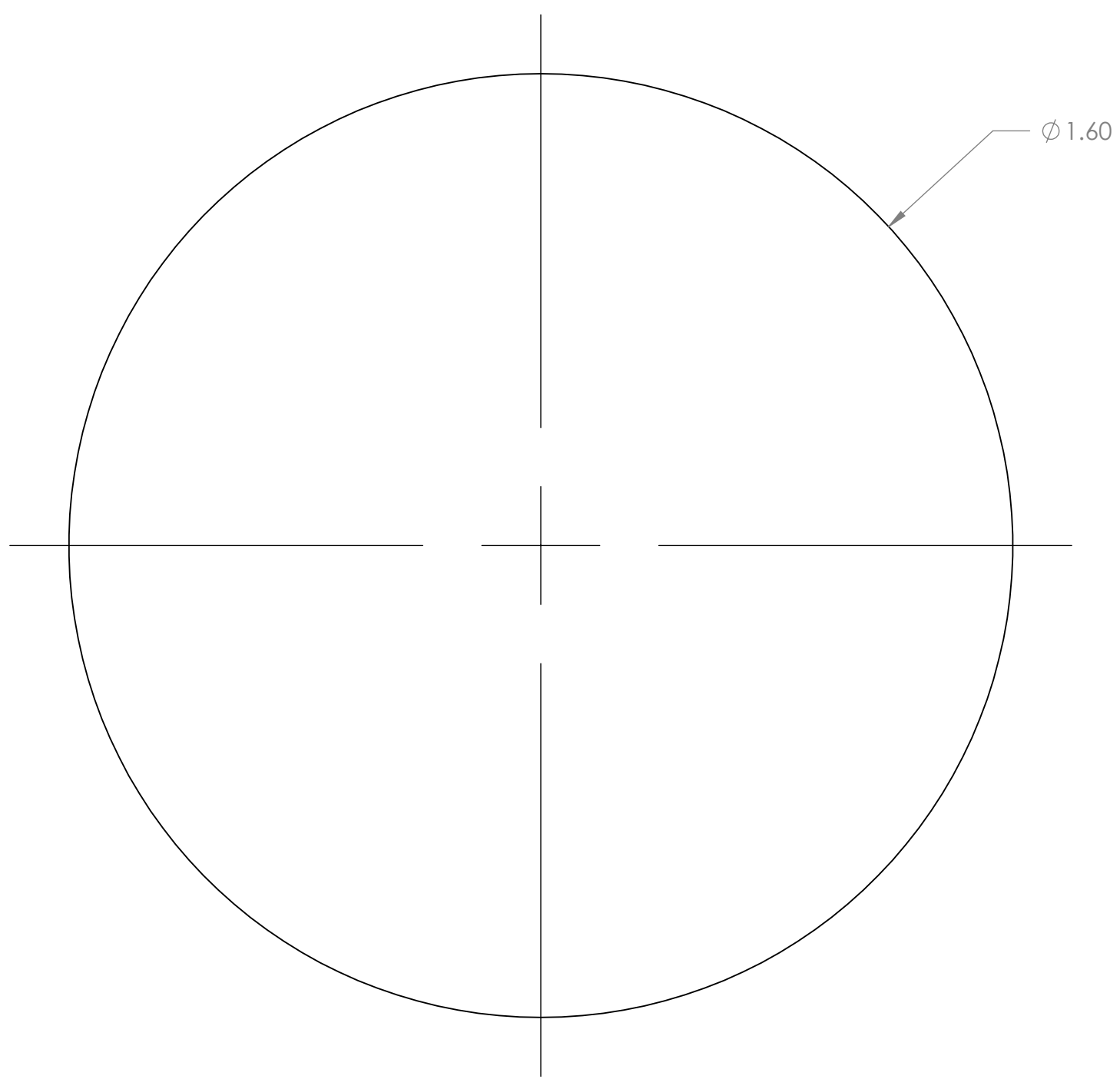
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**  
 11 GA STEEL

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	8/1/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**GoalPipeCap**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25301-03	<b>A</b>

SCALE: 4:1 SHEET 1 OF 1

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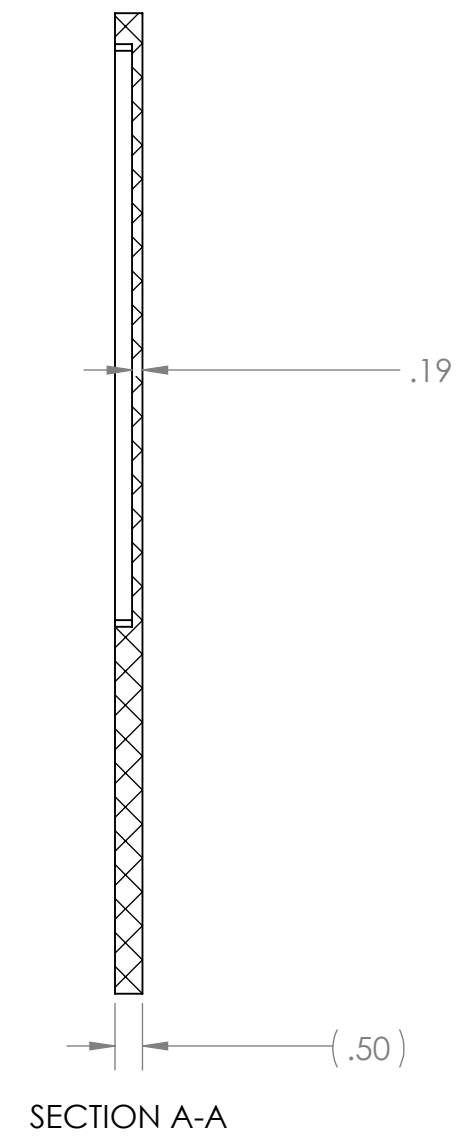
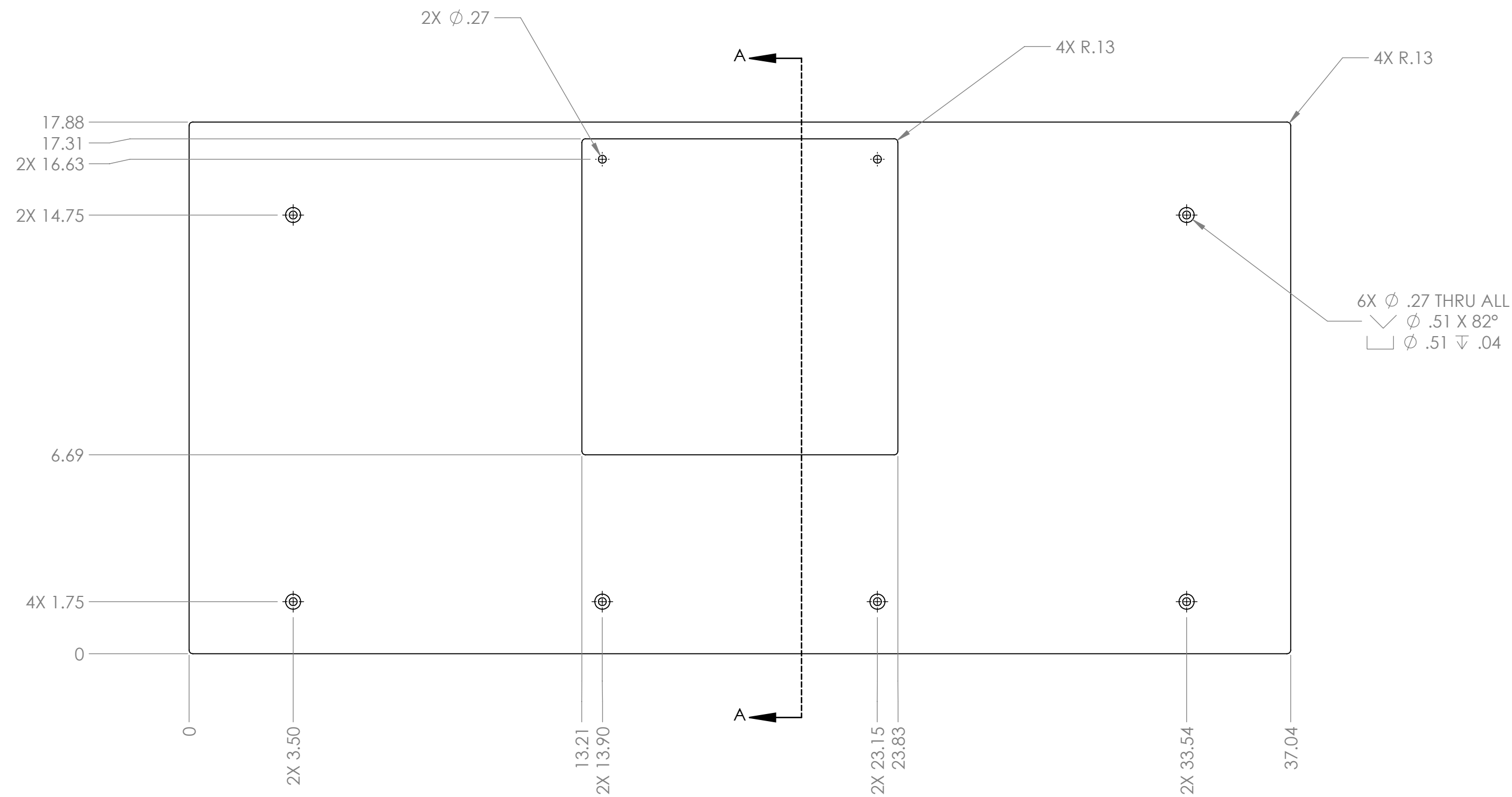
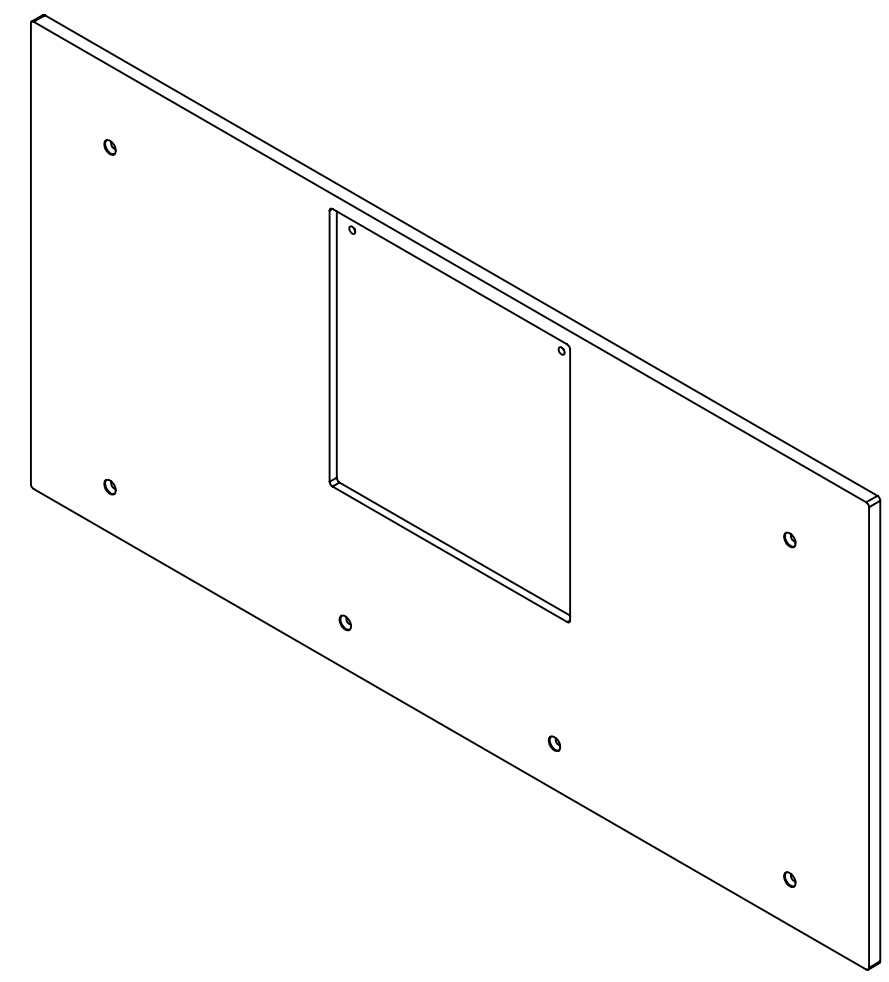
C


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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .01 THREE PLACE DECIMAL $\pm$ .005  <b>MATERIAL/FINISH:</b> 0.5" HDPE, Black Matte Finish  DO NOT SCALE DRAWING	VEND	NAME	DATE			
	DRAWN	NE	10/1/2024			
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:	<b>Bumper Plastic</b>	
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE		DWG. NO.
			<b>C</b>	GE-25302		
			SCALE: 2:7	SHEET 1 OF 1		

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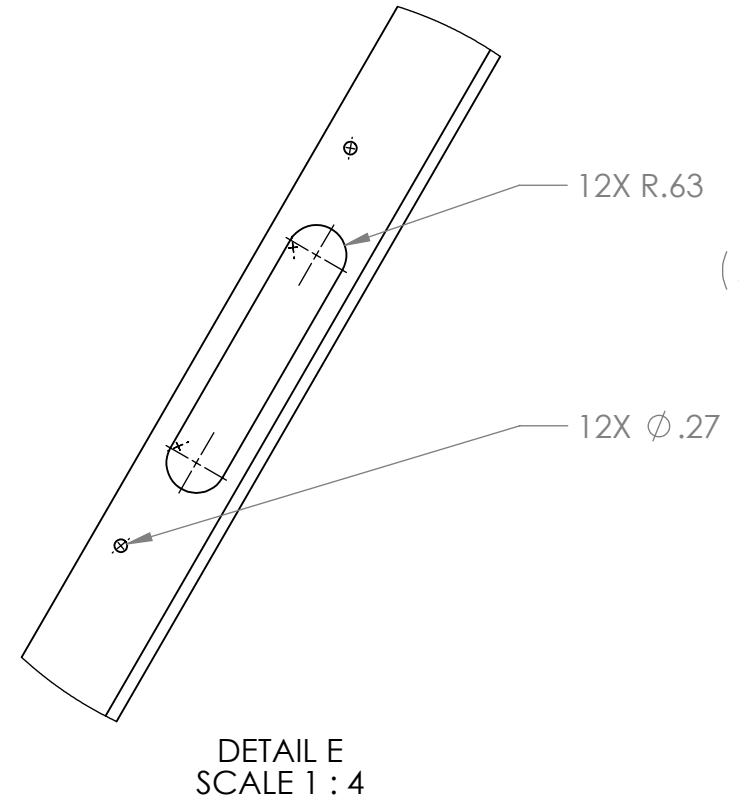
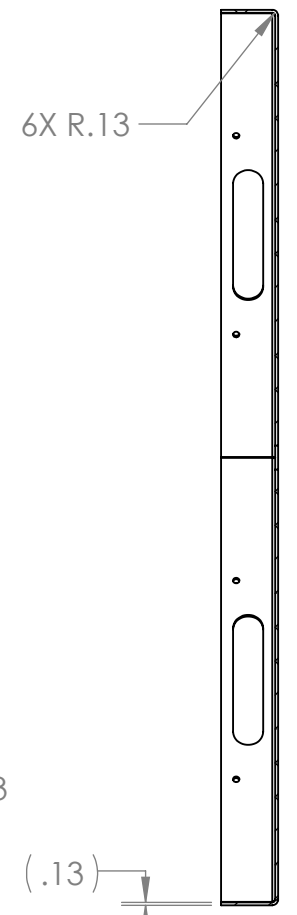
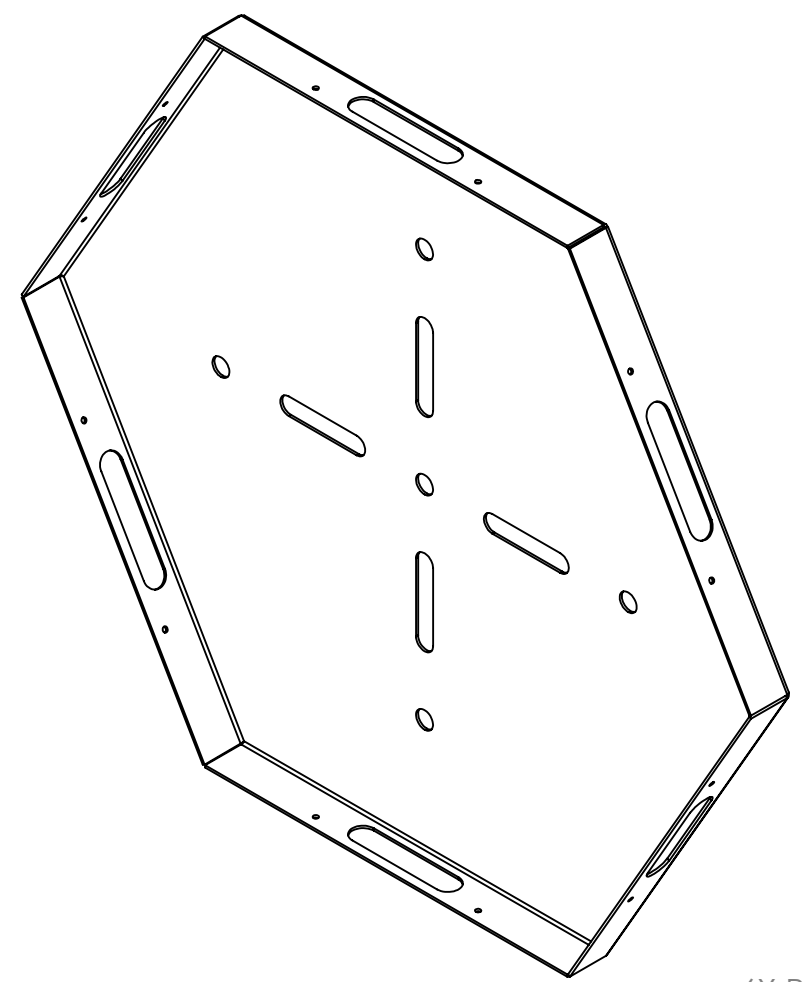
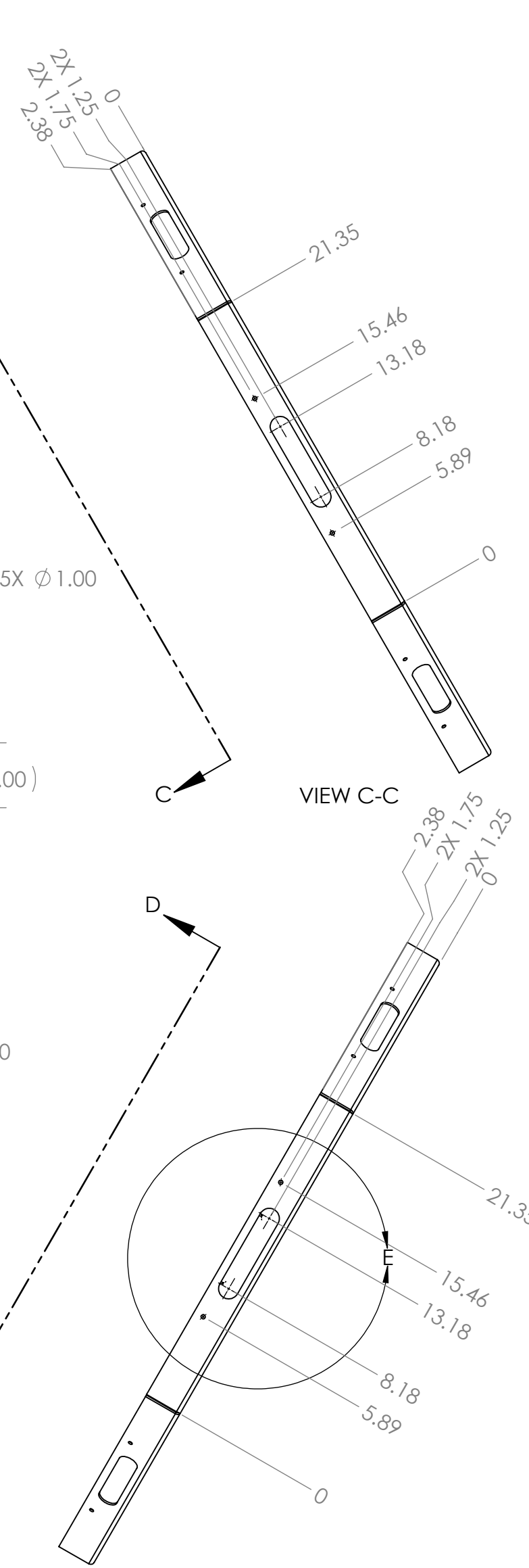
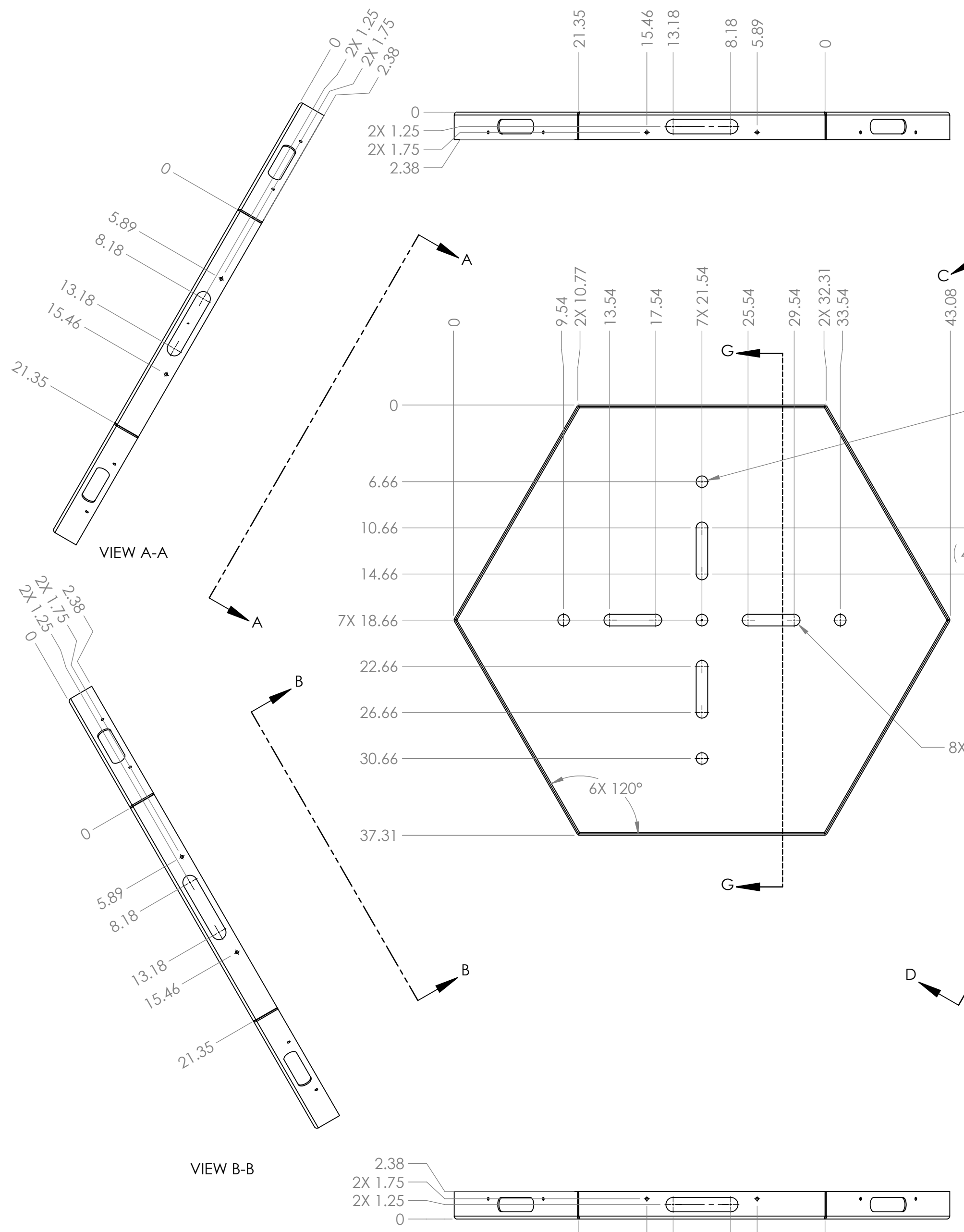
C

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VIEW B-B

VIEW C-C

VIEW D-D

DETAIL E  
SCALE 1 : 4

SECTION G-G

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.02  
 THREE PLACE DECIMAL ±.010

**MATERIAL/FINISH:**  
 8GA 5052 Aluminum

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	NE	10/1/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

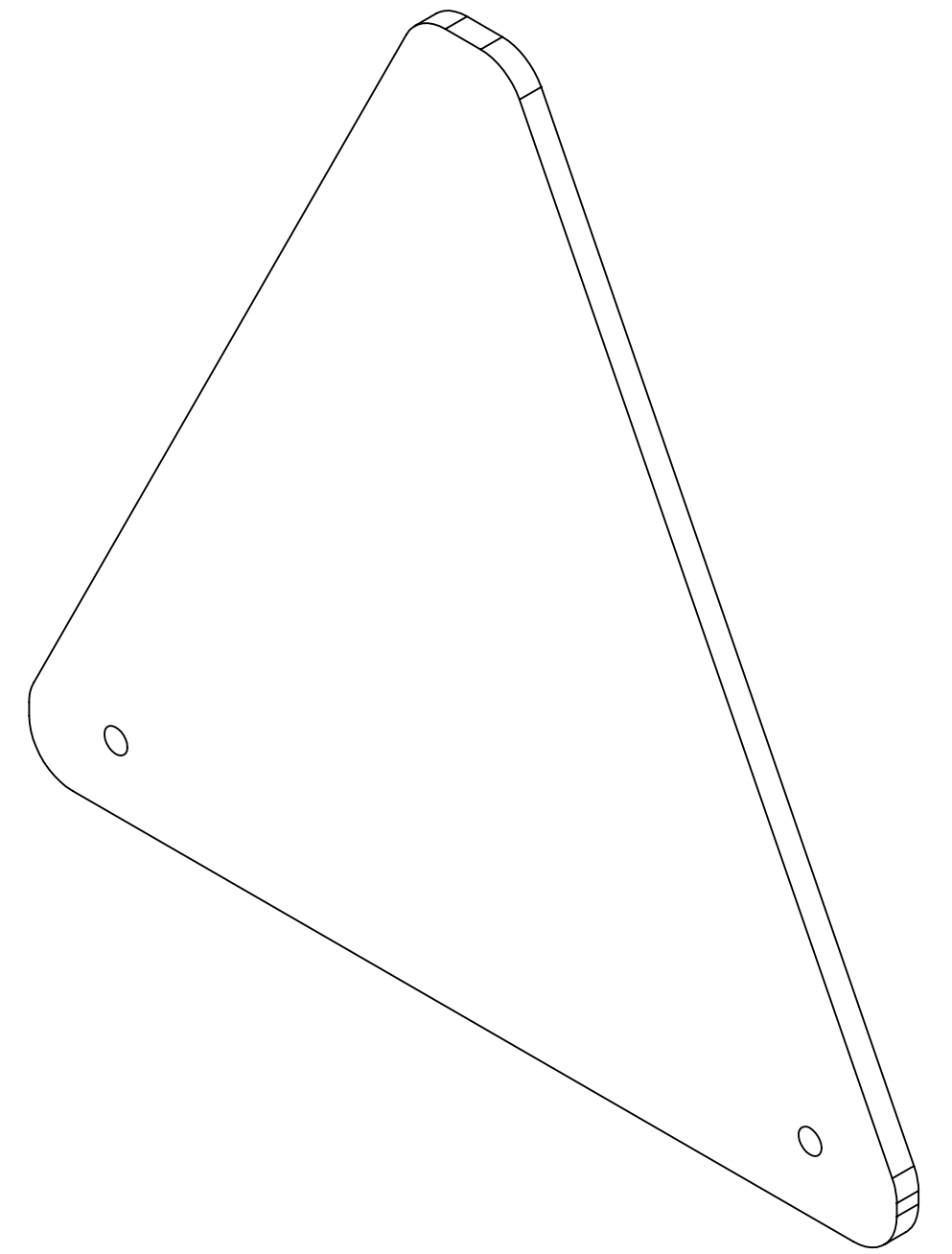
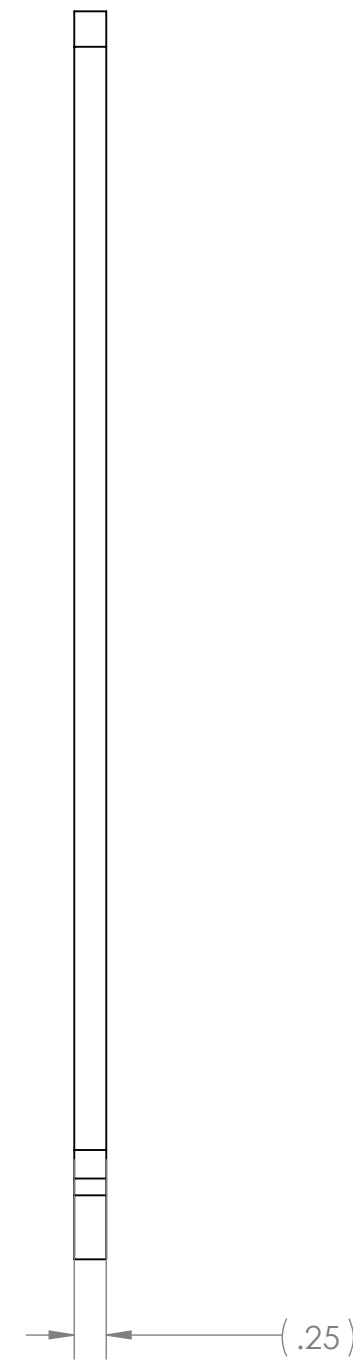
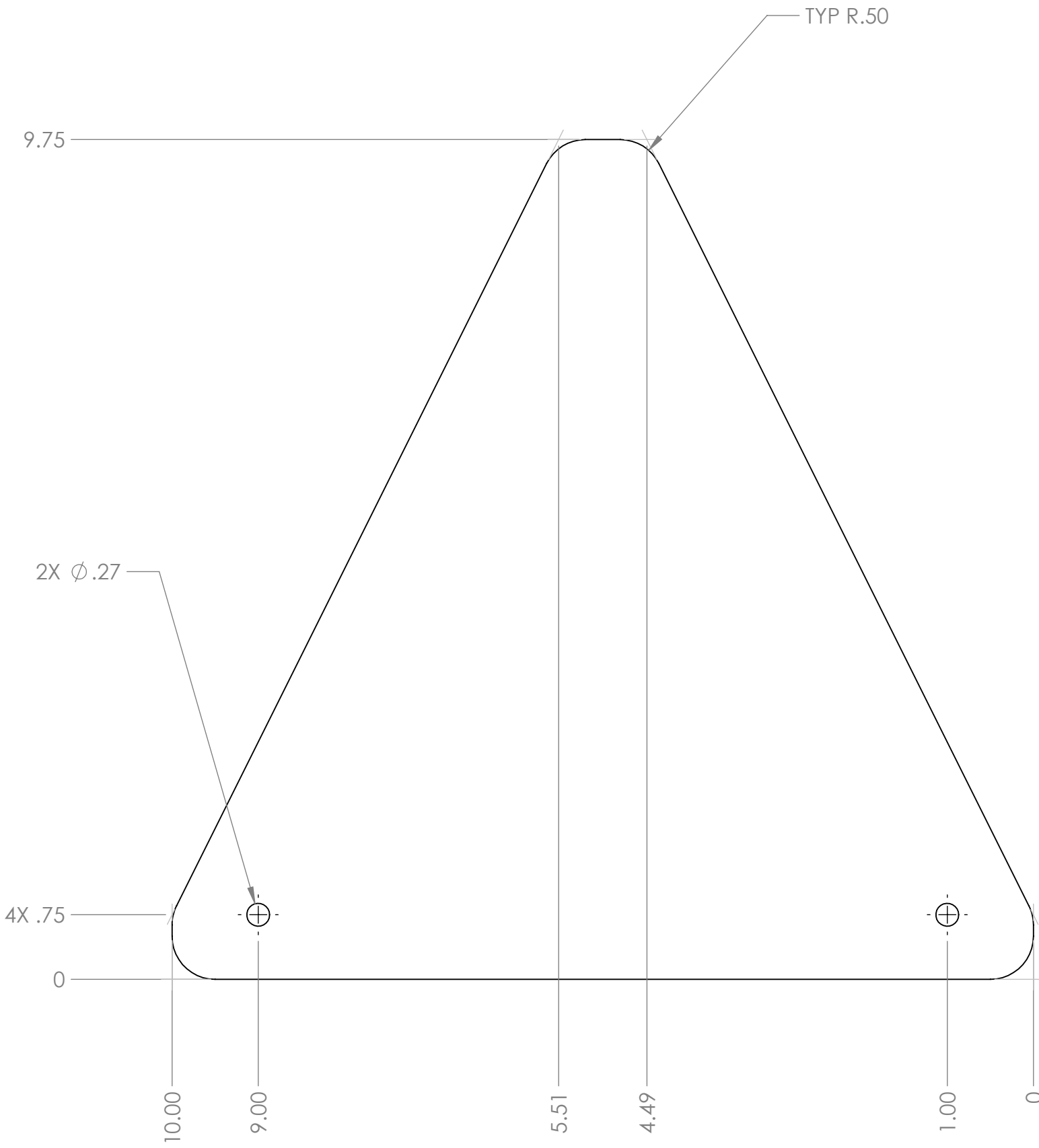




TITLE:  
**Hexagon Base Plate**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25303</b>	

SCALE: 1:8 SHEET 1 OF 1





UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	NE	10/1/2024	
<b>MATERIAL/FINISH:</b> 0.25" HDPE, Black Matte Finish	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Scorekeeper Triangle</b>
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.	REV	
DO NOT SCALE DRAWING	<b>C</b>	GE-25304		
	SCALE: 2:3		SHEET 1 OF 1	

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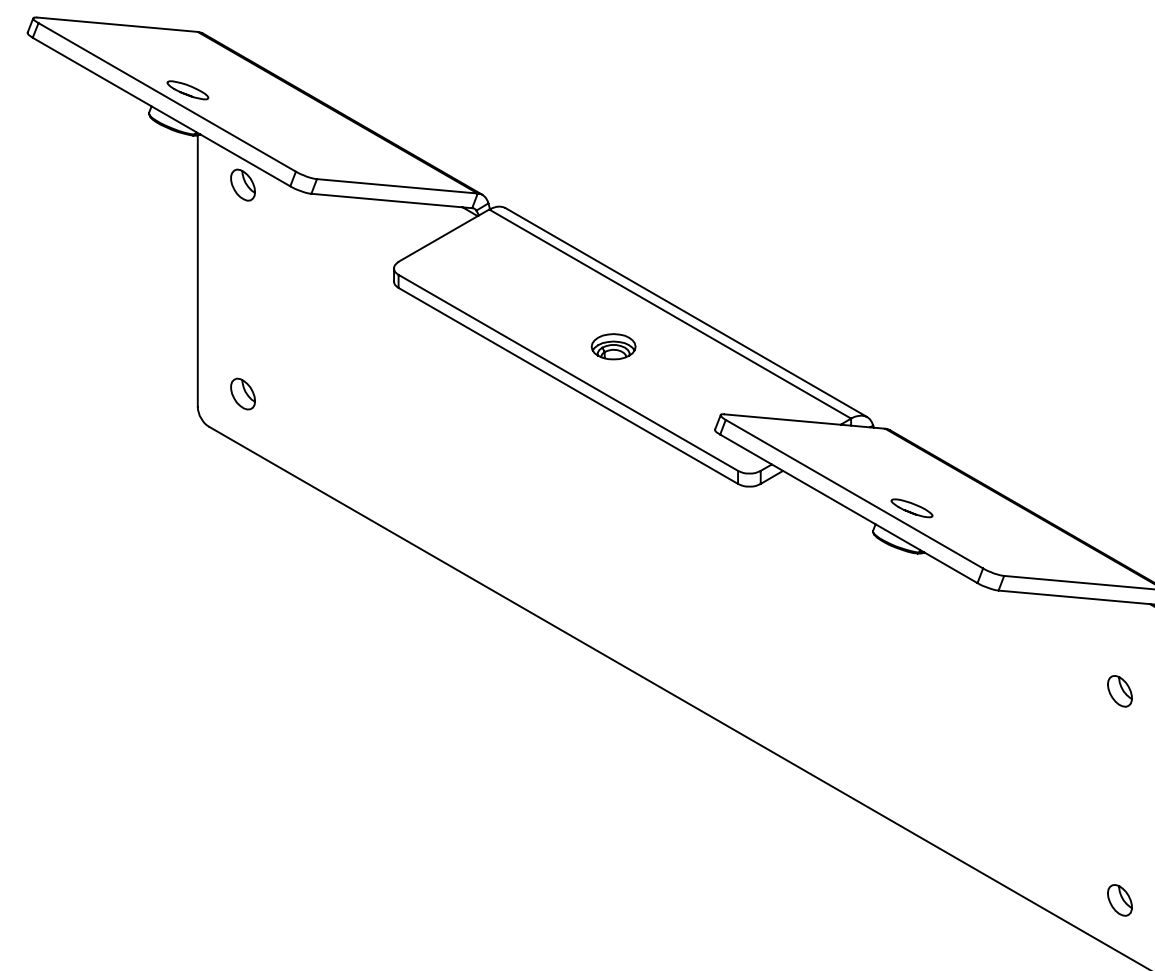
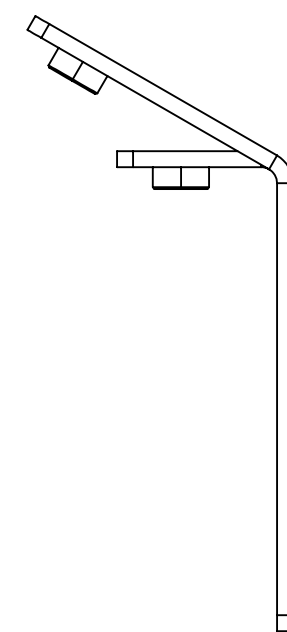
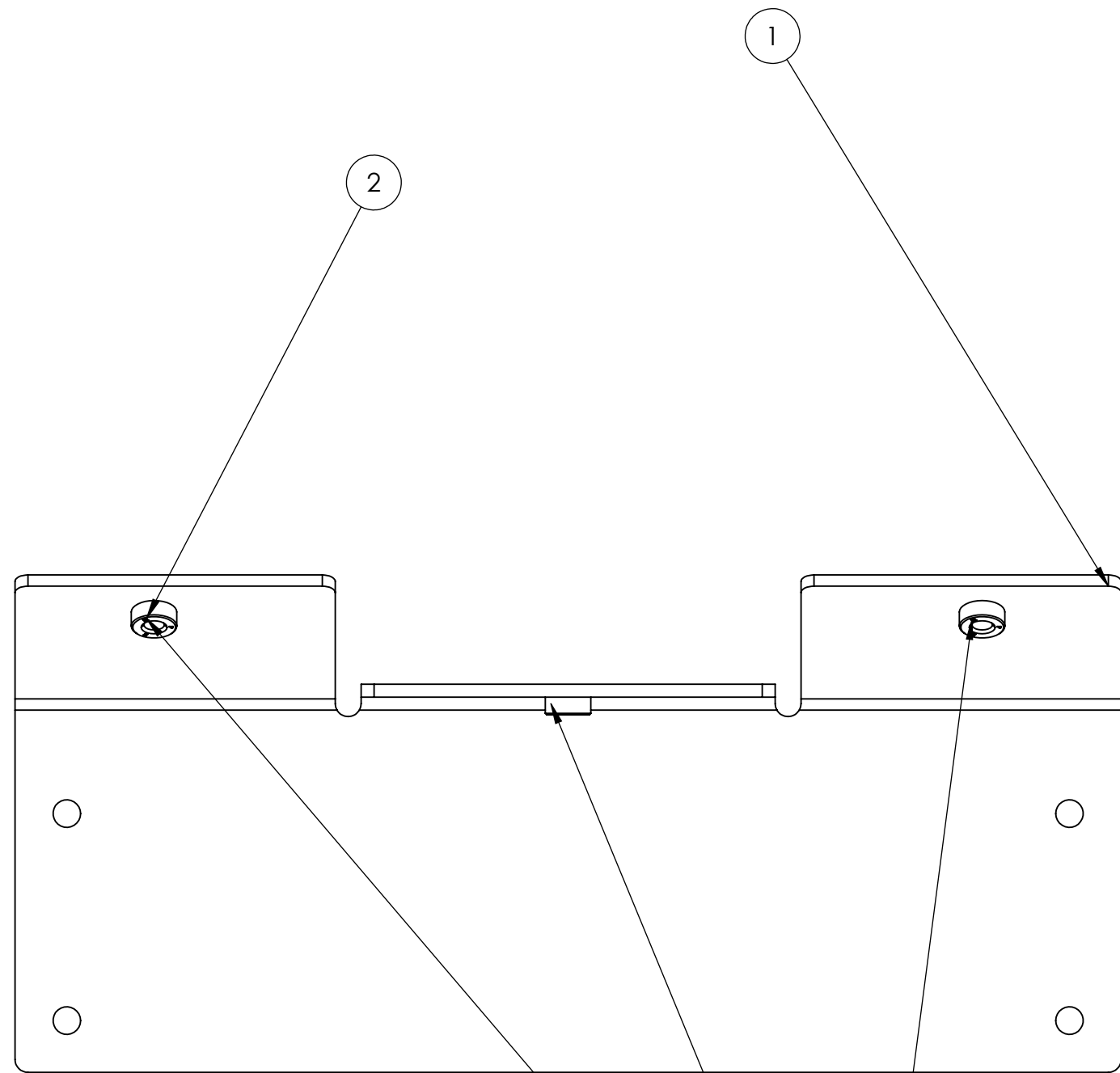
C

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3X PEM NUTS INSTALLED ON INTERIOR FACE

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25305-01	Coral Catcher Bracket	1
2	pem_clinchnut_.25_20 -.054	1/4-20 self-clinching nut, .054 shank	3

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
	NE	10/1/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Coral Catcher Bracket W PEMs**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25305	

SCALE: 2:3 SHEET 1 OF 1

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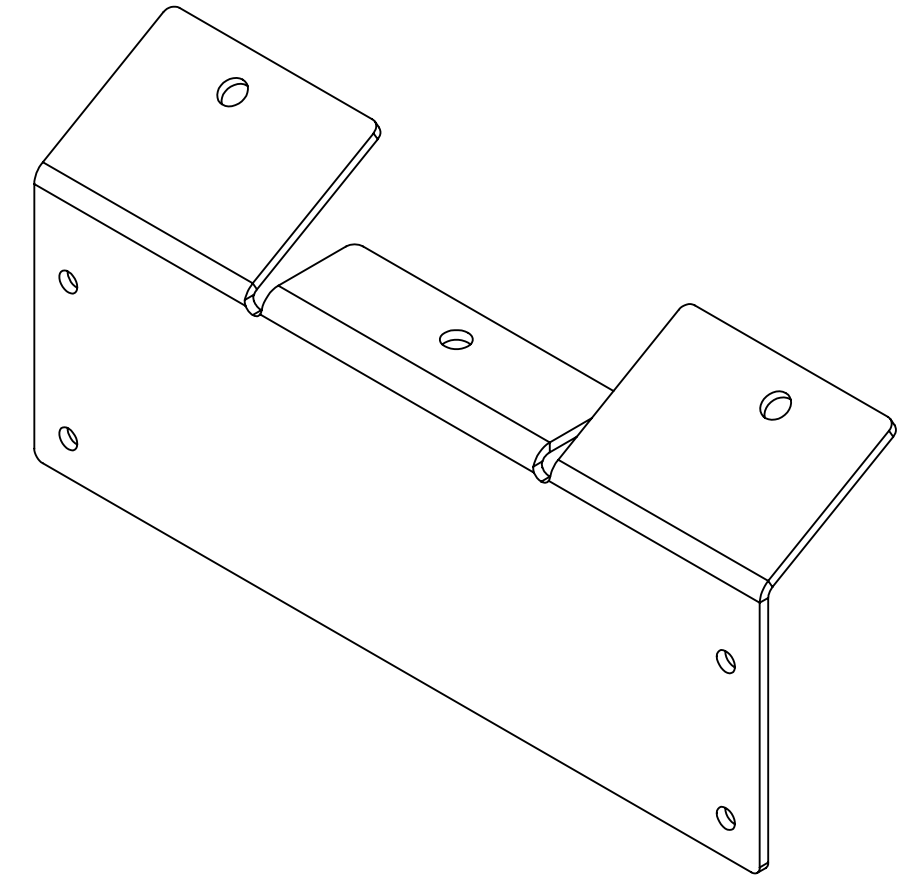
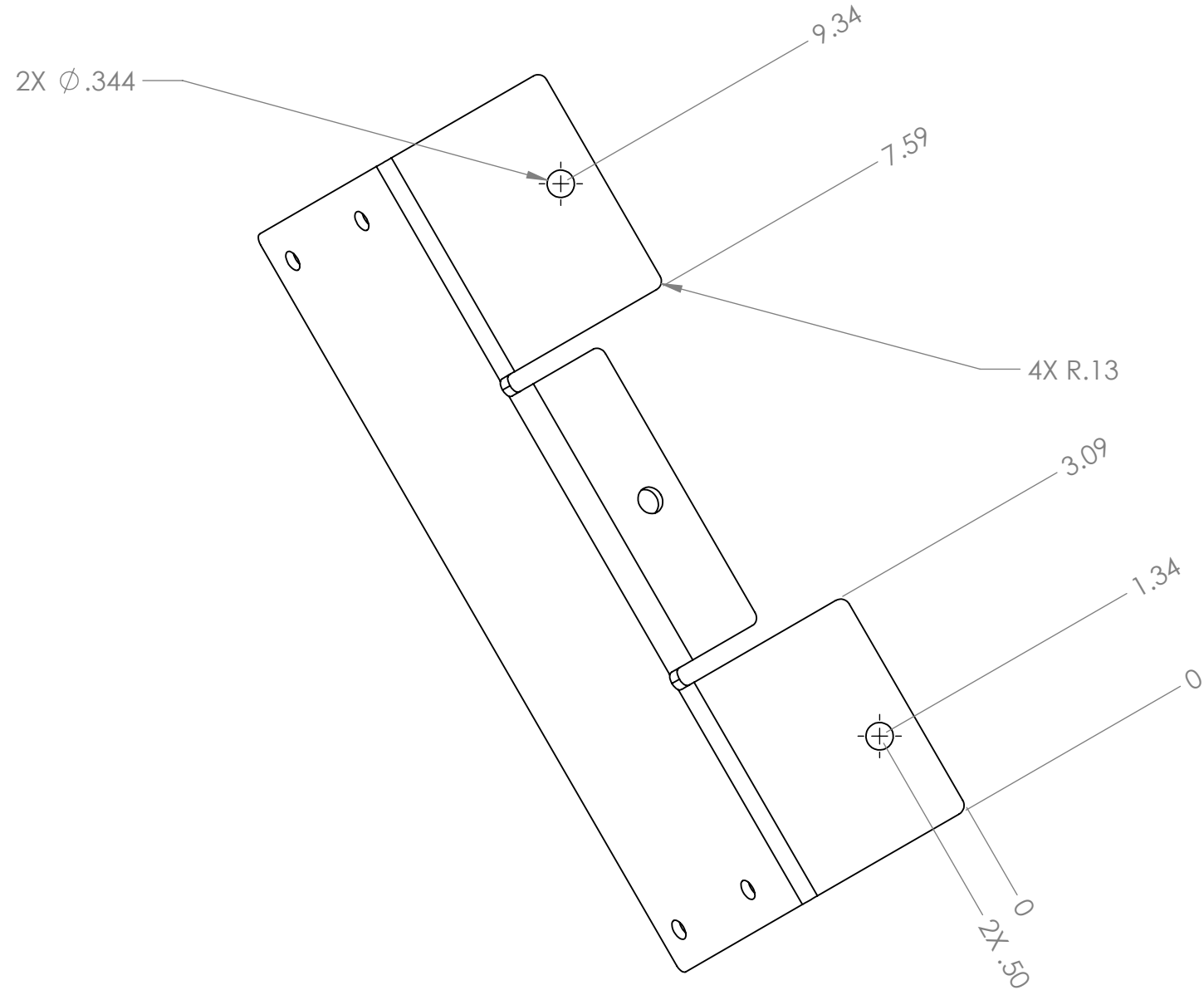
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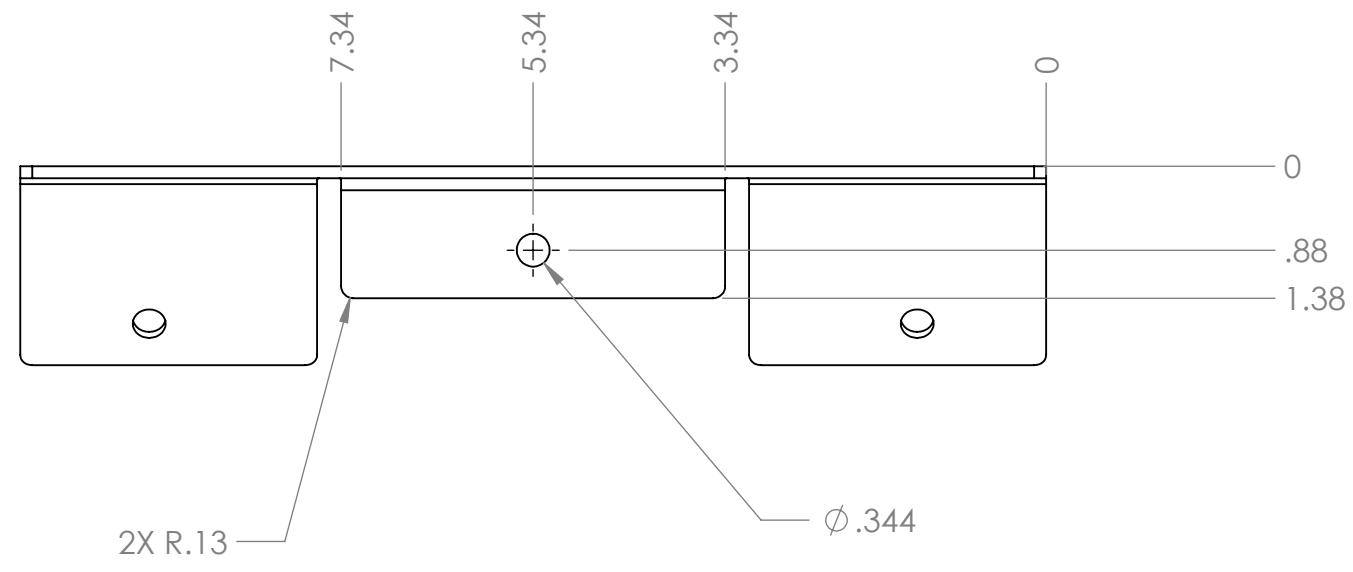
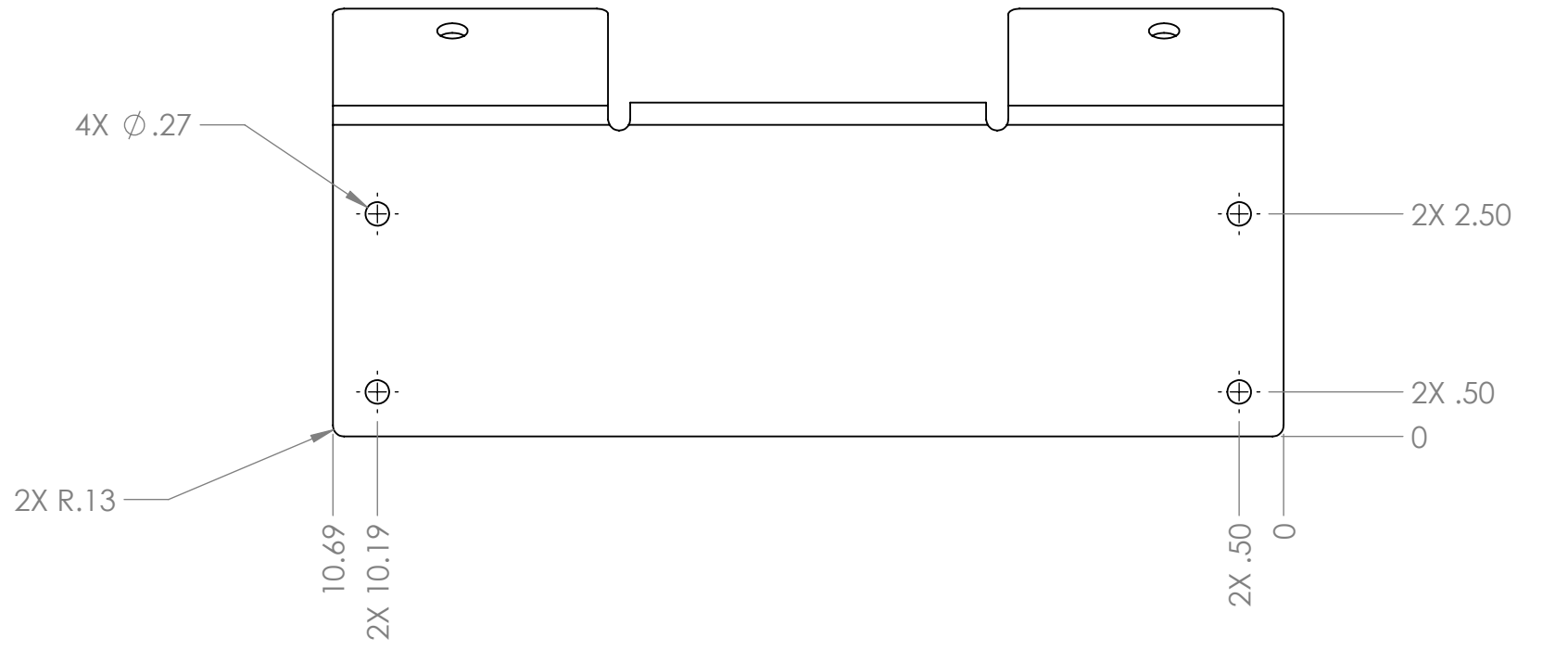
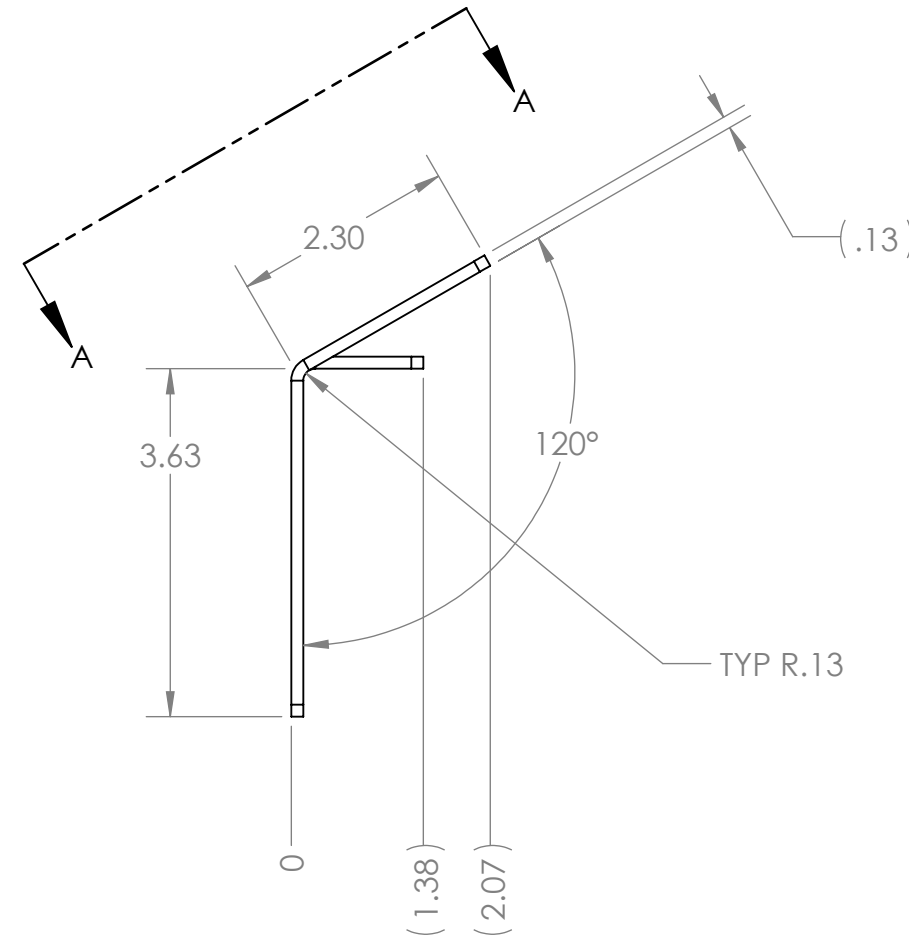
3

2

1



VIEW A-A



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE
	DRAWN	NE	10/1/2024
<b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			



TITLE: <b>Coral Catcher Bracket</b>		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25305-01	
SCALE: 1:2		SHEET 1 OF 1

4

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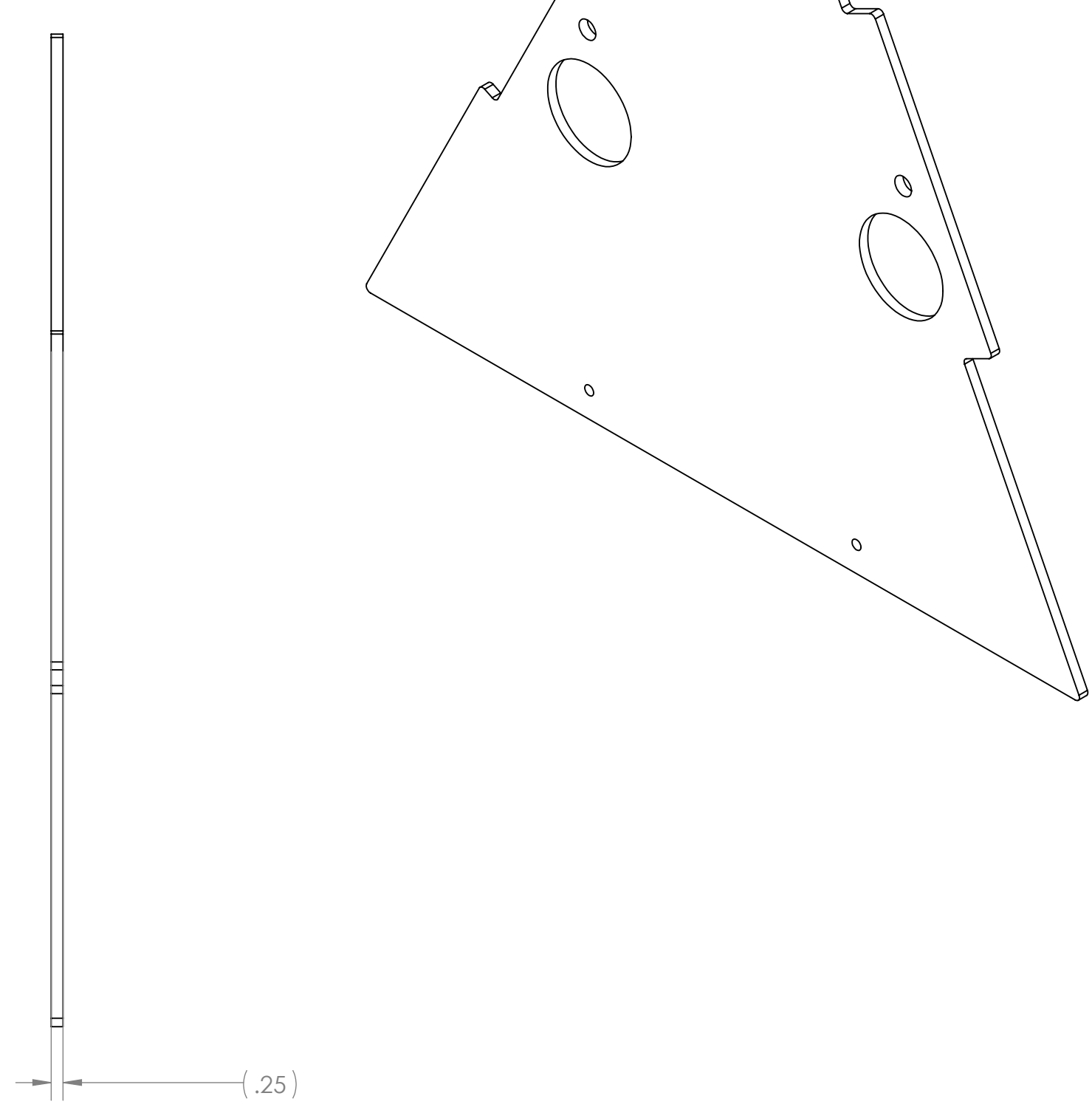
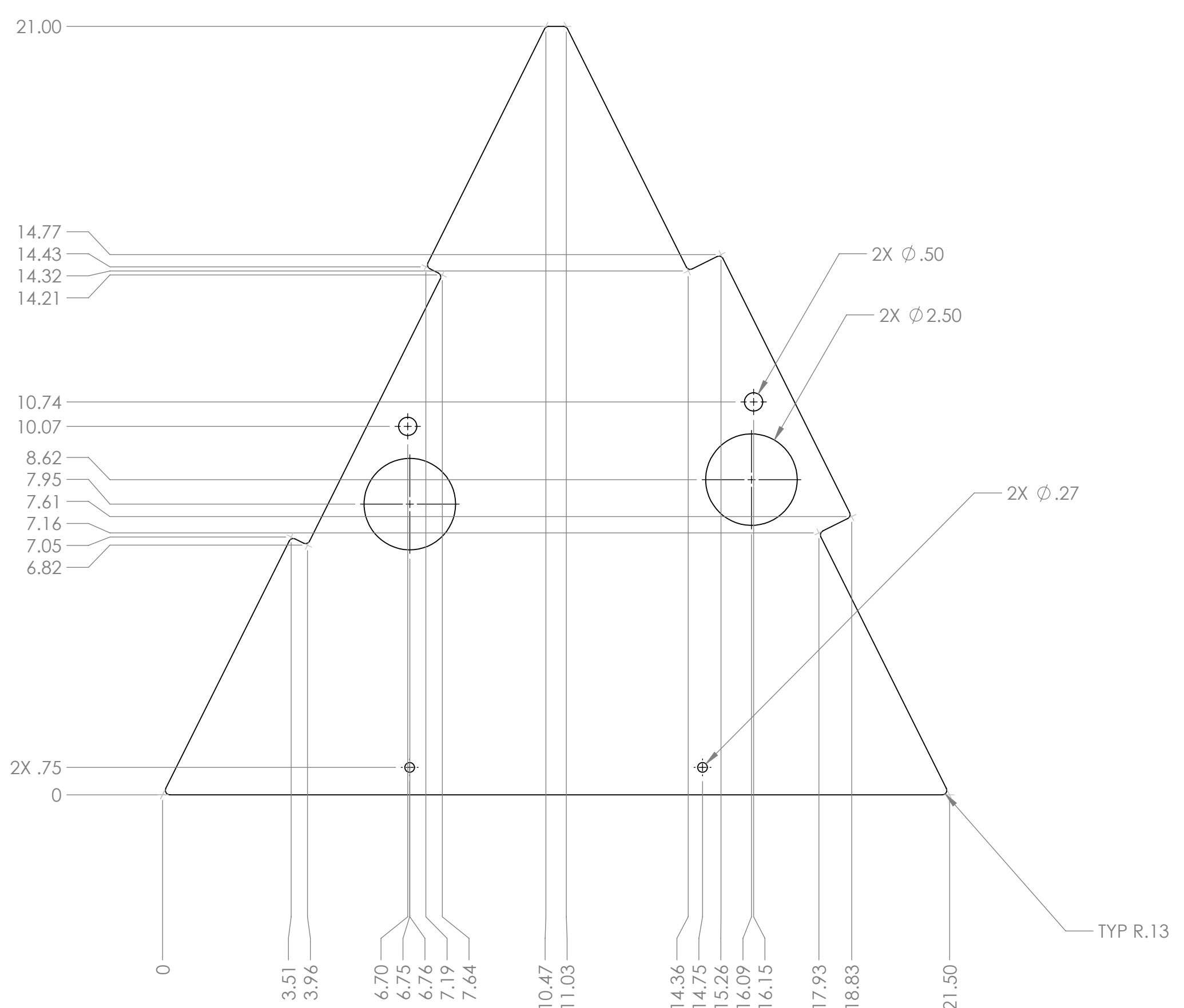
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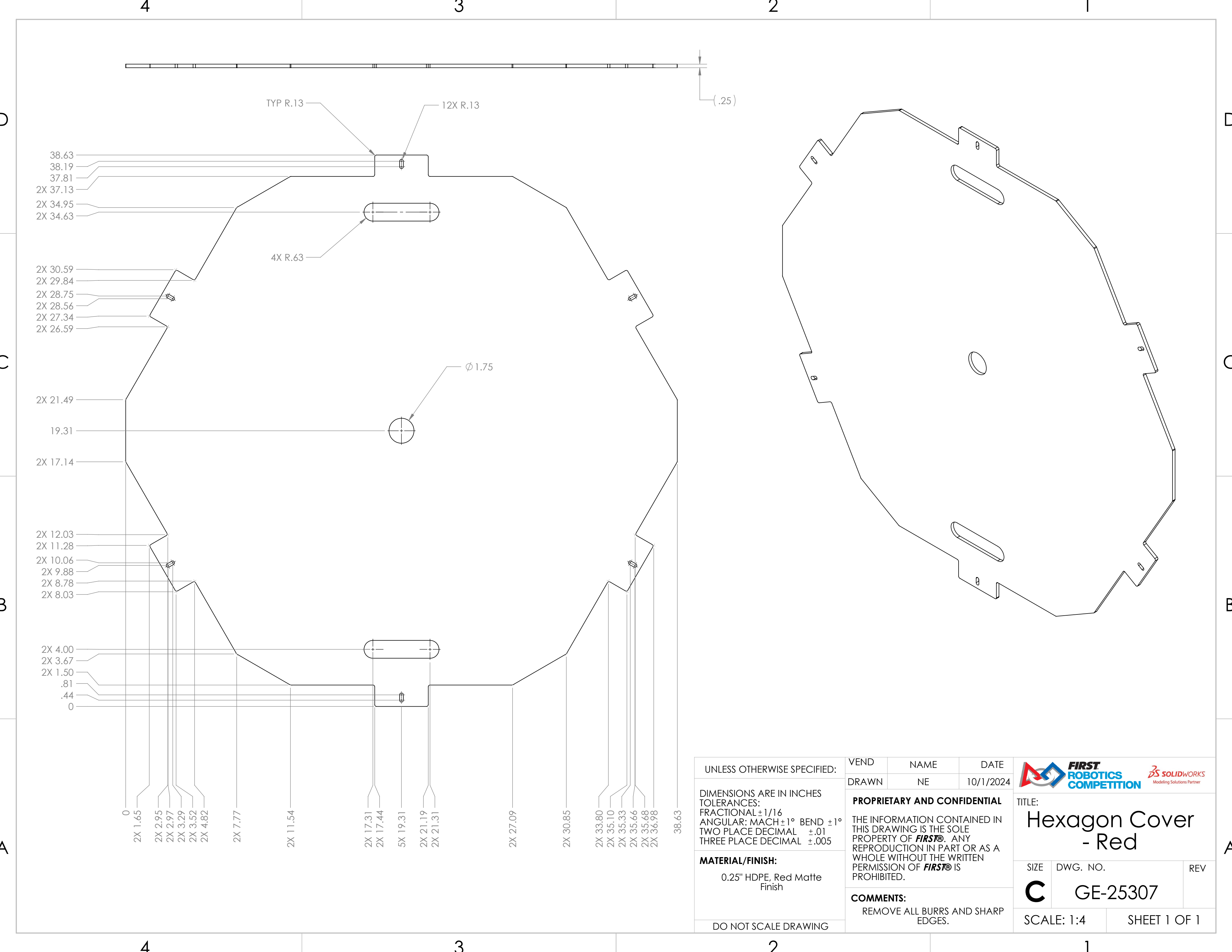
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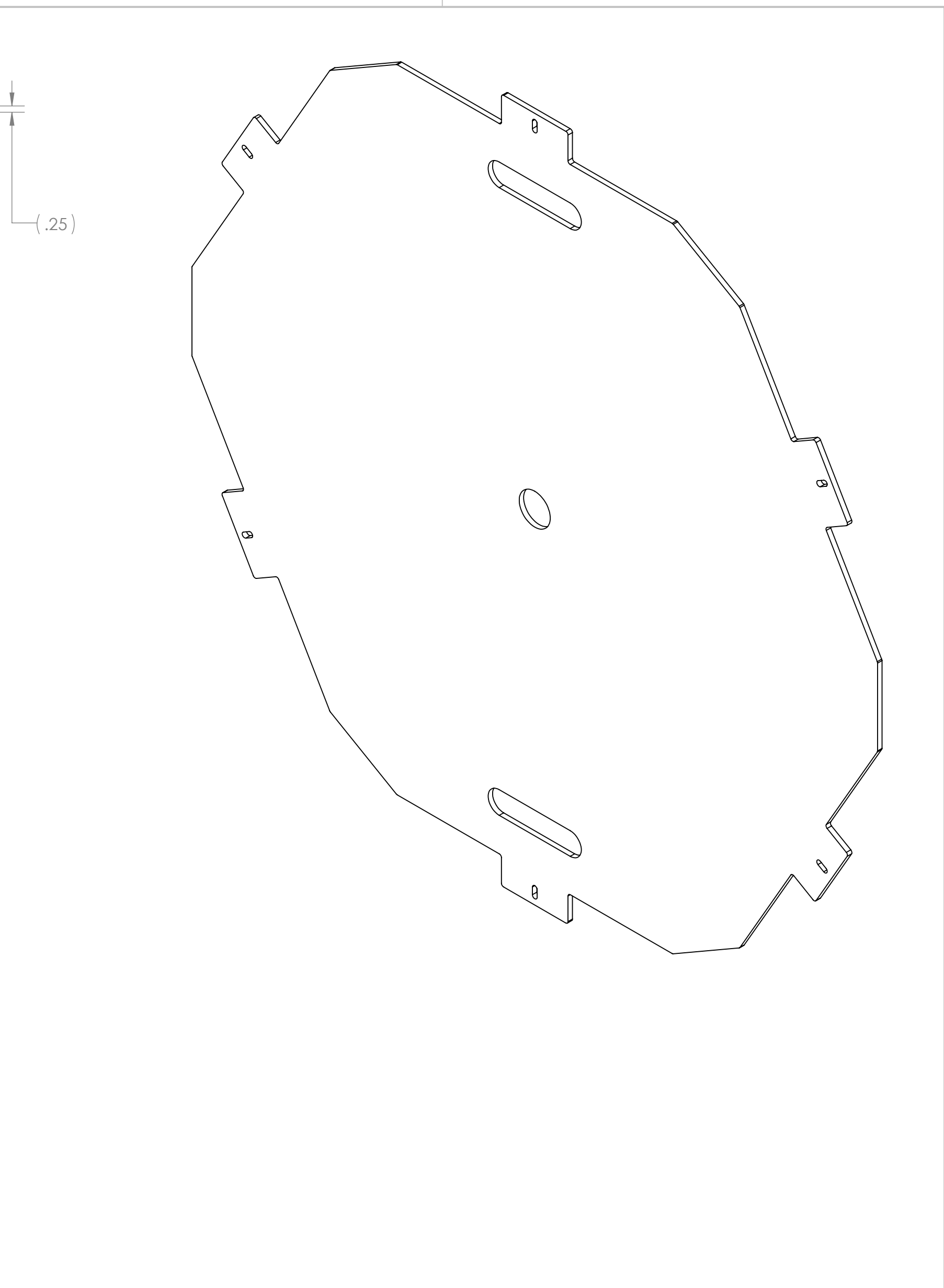
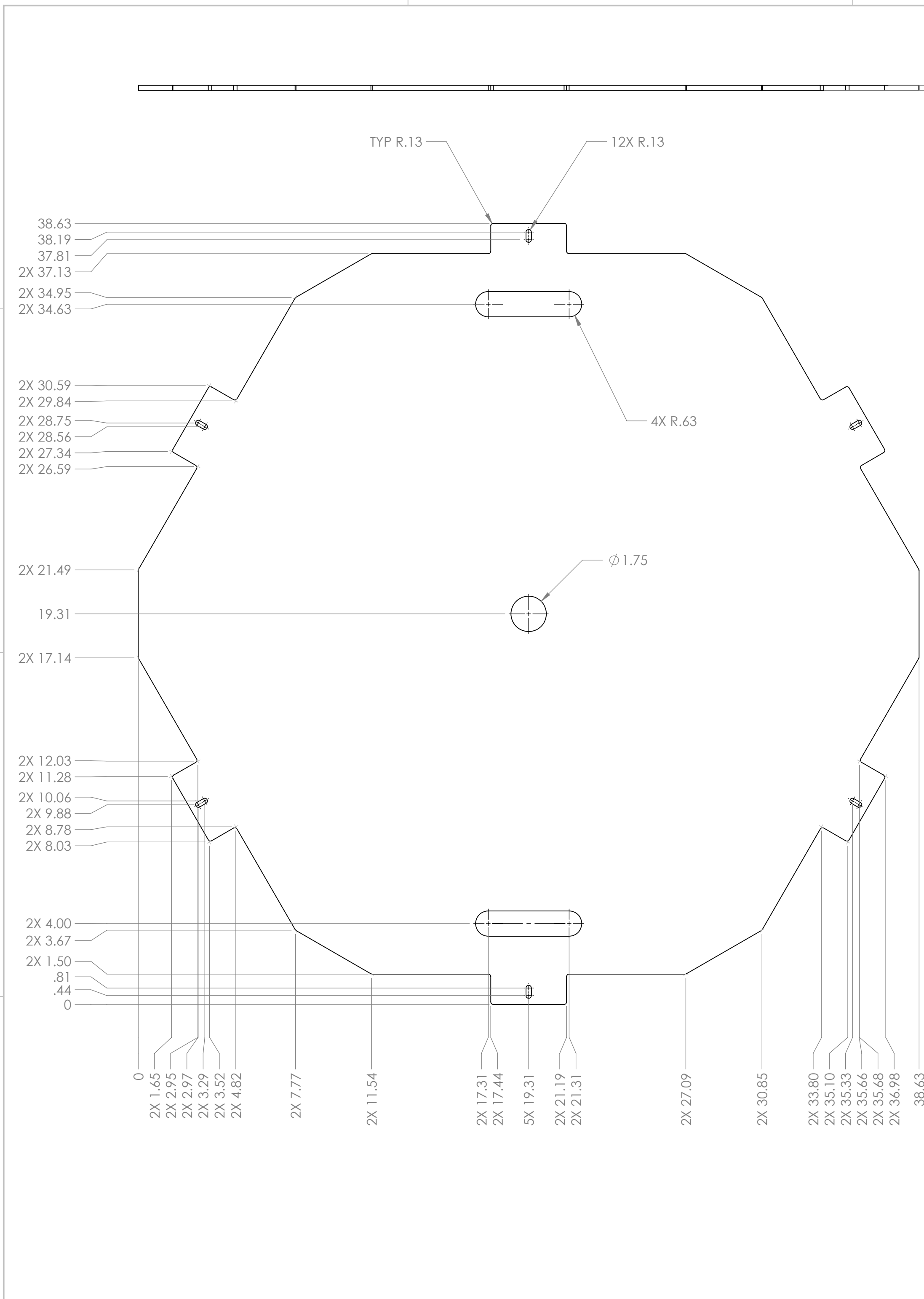
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 0.25" Polycarbonate  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	NE	10/1/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.				<b>C</b> Coral Catcher Side
SCALE: 1:3		SHEET 1 OF 1		SIZE DWG. NO. REV <b>C</b> GE-25306	





UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 0.25" HDPE, Blue Matte Finish

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	10/1/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **FIRST**. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **FIRST** IS PROHIBITED.

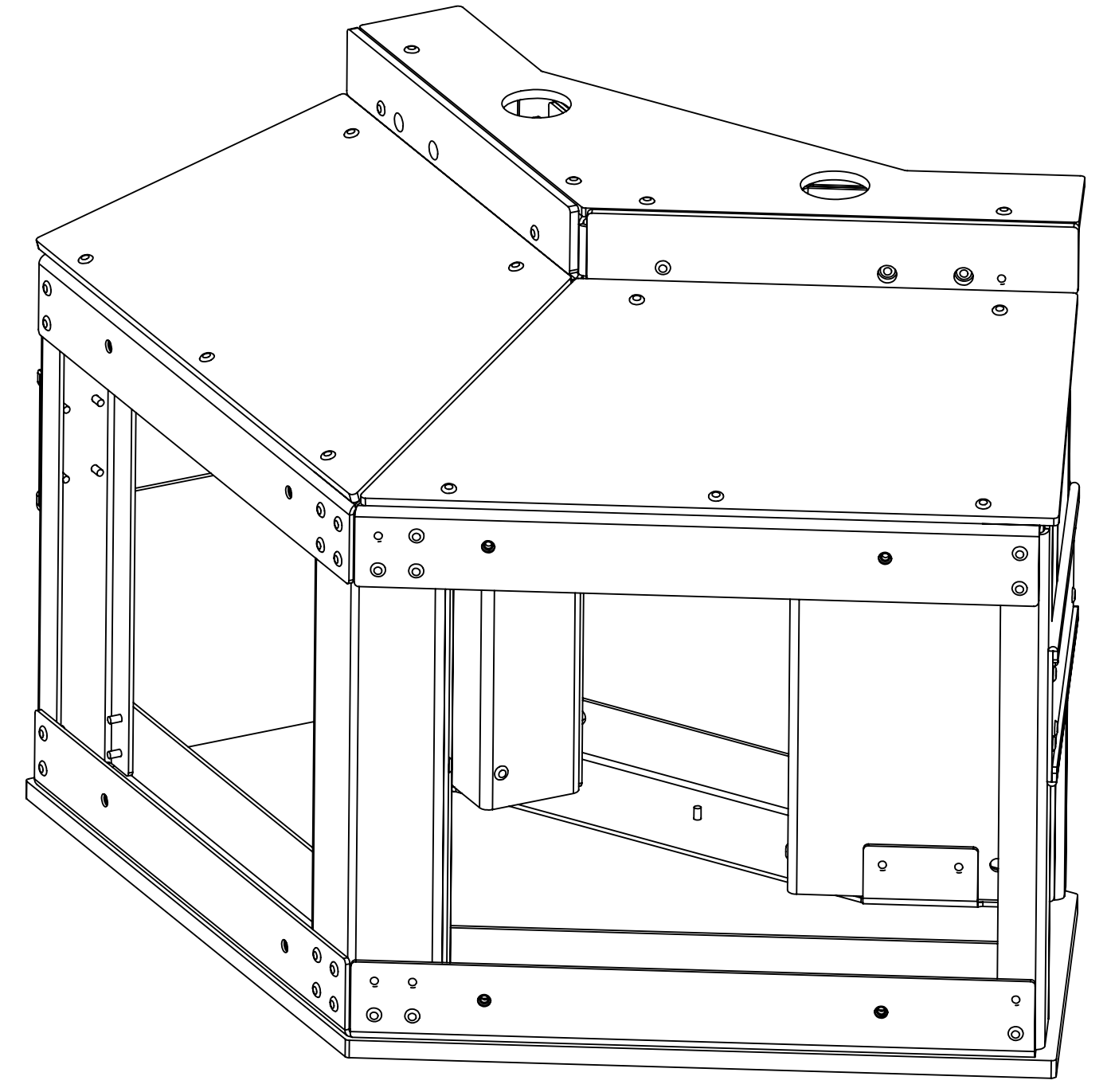
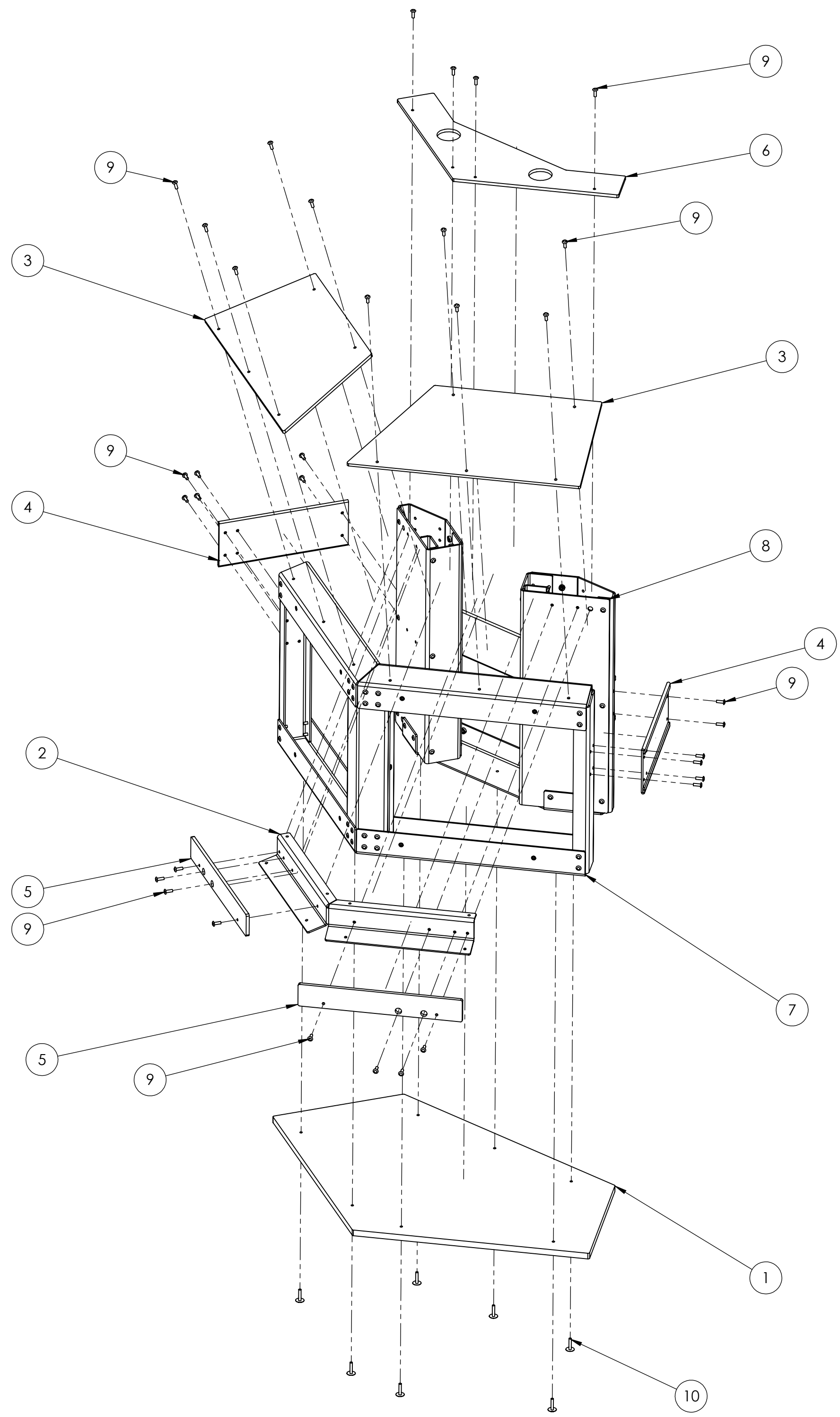
**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Hexagon Cover - Blue**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25308	

SCALE: 1:4 SHEET 1 OF 1



NOTES:  
1. ASSEMBLE COMPONENTS IN DISPLAYED ORIENTATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25311	Slice Base	1
2	GE-25312	Trough Floor Bracket	1
3	GE-25313	Trough Floor	2
4	GE-25314	Slice Outside Depth Support	2
5	GE-25315	Trough Back	2
6	GE-25316	Slice Top Cover	1
7	GE-25320	Outer Slice Assembly	1
8	GE-25330	Inner Slice Assembly	1
9	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	34
10	rivet_.1875_.625-.0.75_largeHead	rivet_.1875_.625-0.75_largeHead	7

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$   
**MATERIAL/FINISH:**  
 DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN NE 10/1/2024  
**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

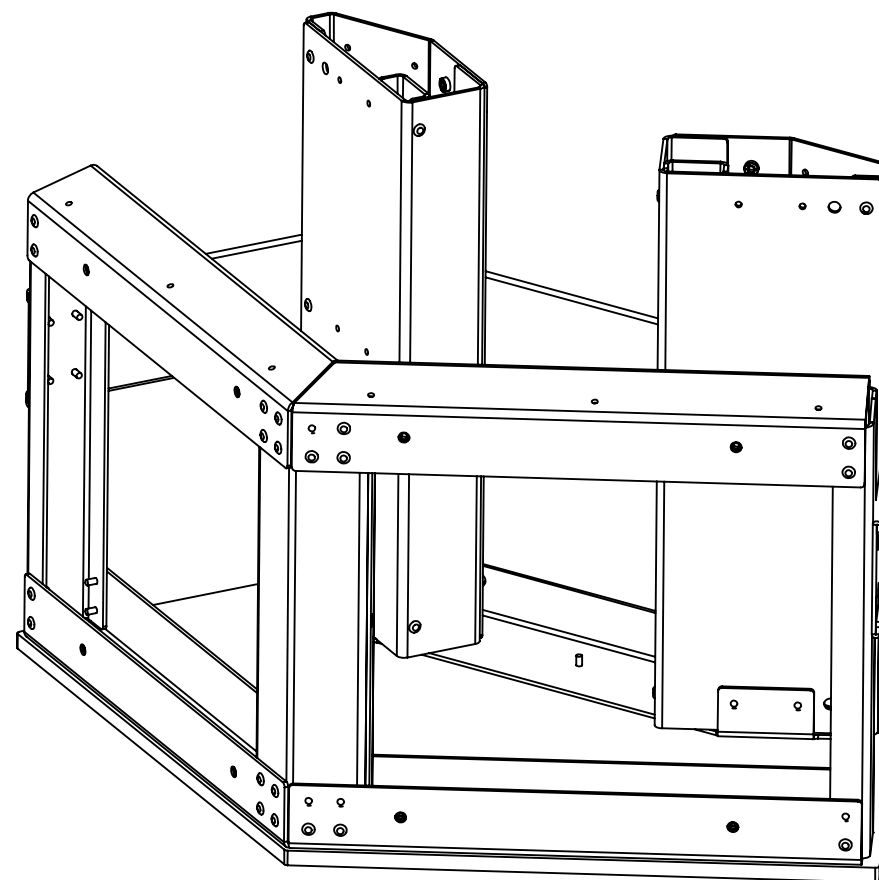
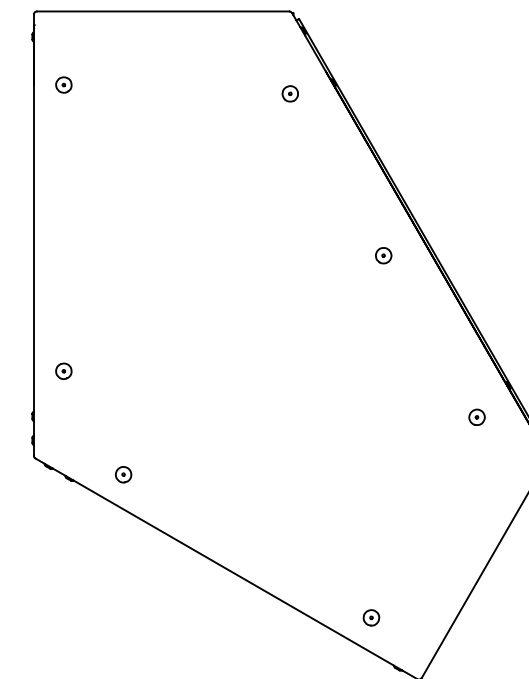
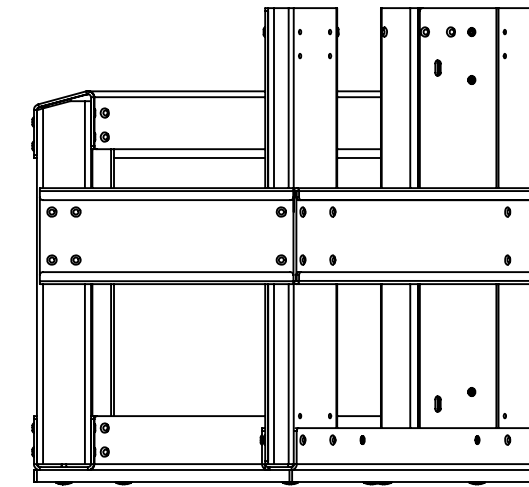
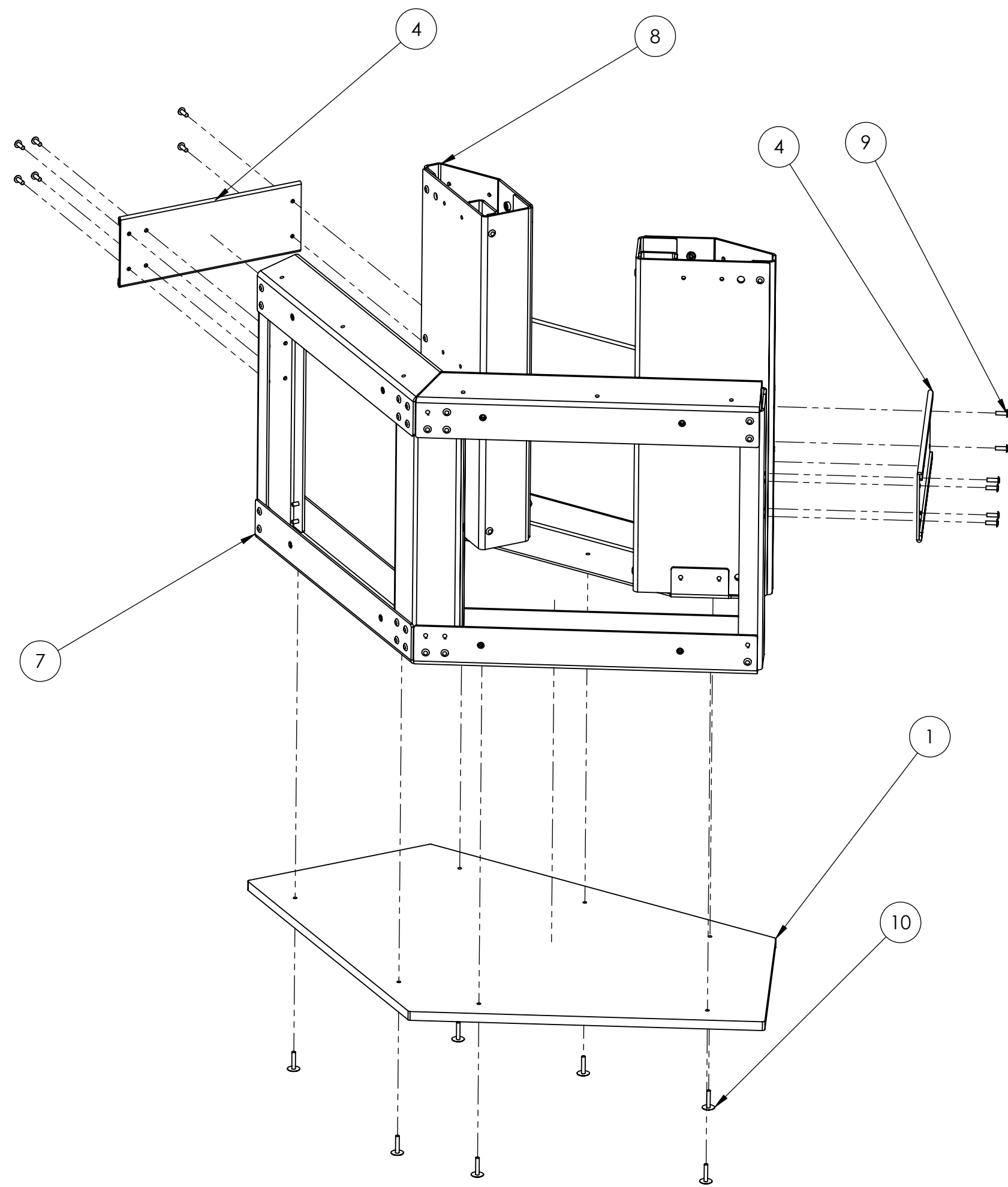
TITLE:  
**Goal Slice Assembly**  
 SIZE DWG. NO. REV  
**C** GE-25310  
 SCALE: 1:6 SHEET 1 OF 5

4

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1



STARTING WITH (1), FASTEN (8) AND (7) TO (1) THROUGH THE  
 BOTTOM WITH 7X (10). ON THE SIDES OF THE STRUCTURE ADD 2X (4) TO  
 (8) AND (7) WITH 6X (9) ON EACH SIDE.

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE	TITLE:
	DRAWN	NE	10/1/2024	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	<b>PROPRIETARY AND CONFIDENTIAL</b>			SIZE
<b>MATERIAL/FINISH:</b>	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			DWG. NO.
DO NOT SCALE DRAWING	<b>COMMENTS:</b>			REV
	REMOVE ALL BURRS AND SHARP EDGES.			<b>C</b> GE-25310
	SCALE: 1:6		SHEET 2 OF 5	

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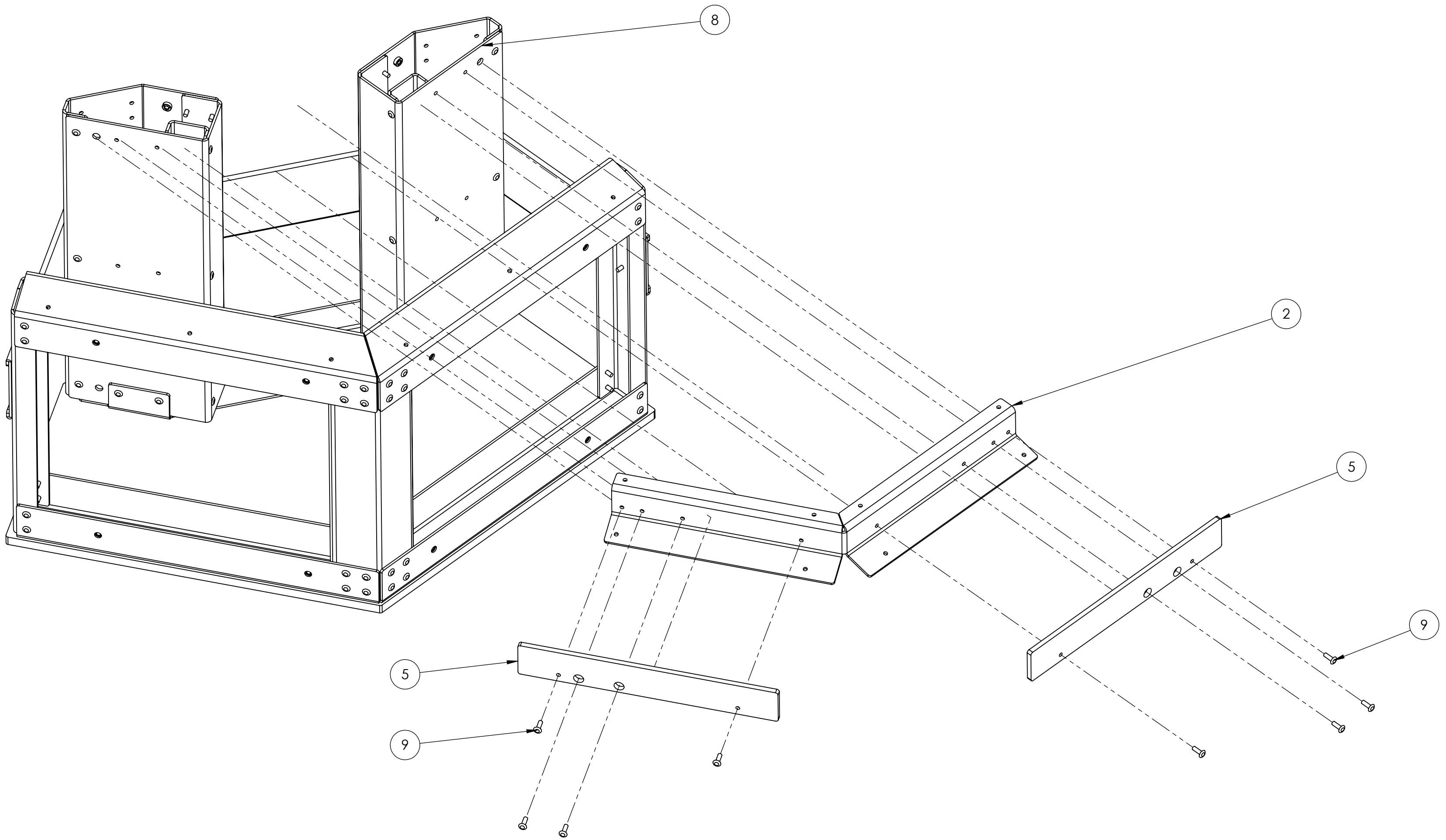


4

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1



ATTACH 2X (5) TO (2) WITH 2X (9) EACH. THEN, ATTACH (2) TO (8) WITH 4X MORE (9).

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE	TITLE: <b>Goal Slice Assembly</b>
	DRAWN	NE	10/1/2024	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			SIZE
<b>MATERIAL/FINISH:</b>	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. <b>C GE-25310</b>
DO NOT SCALE DRAWING				REV
				SCALE: 1:12
				SHEET 3 OF 5

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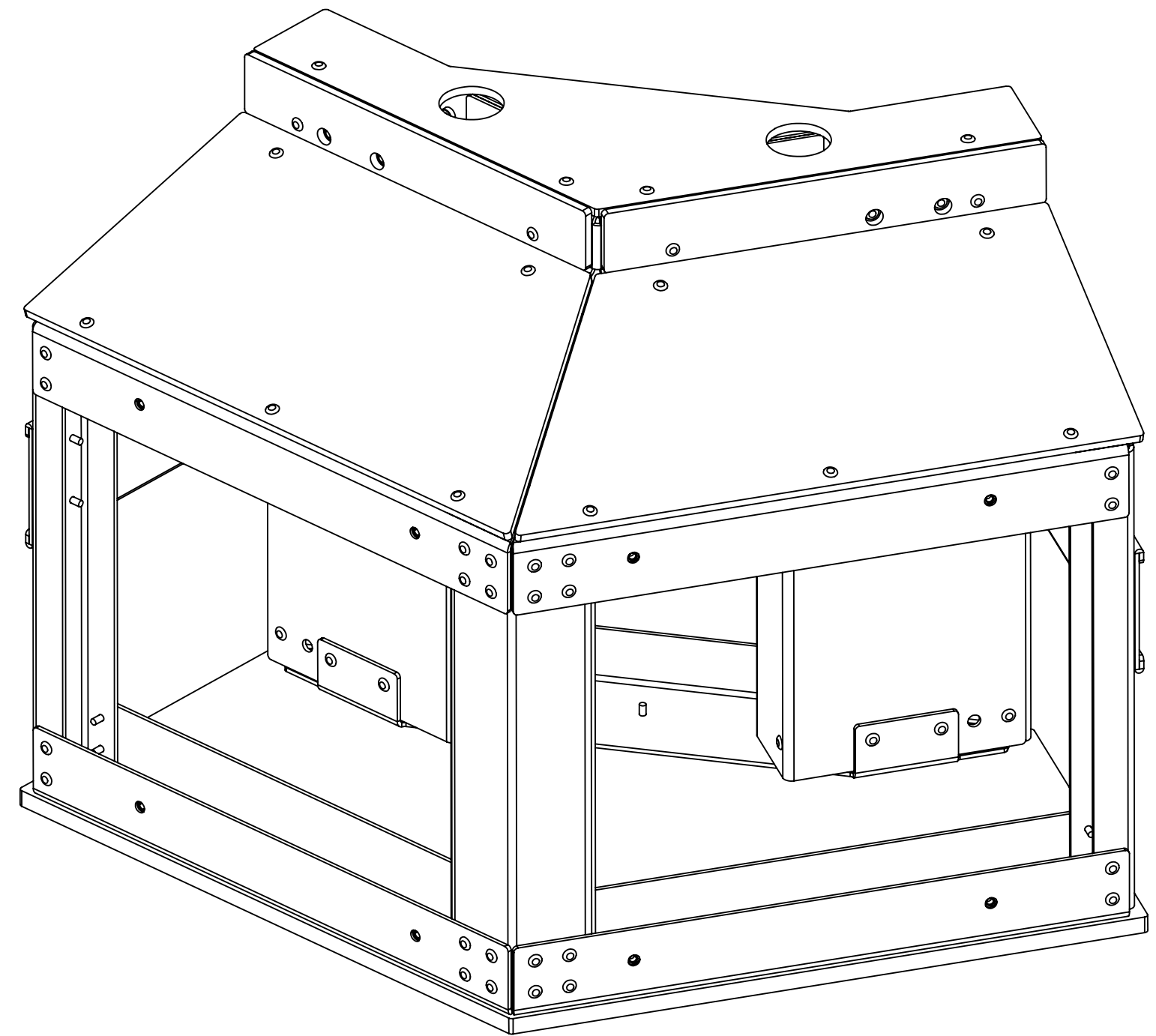
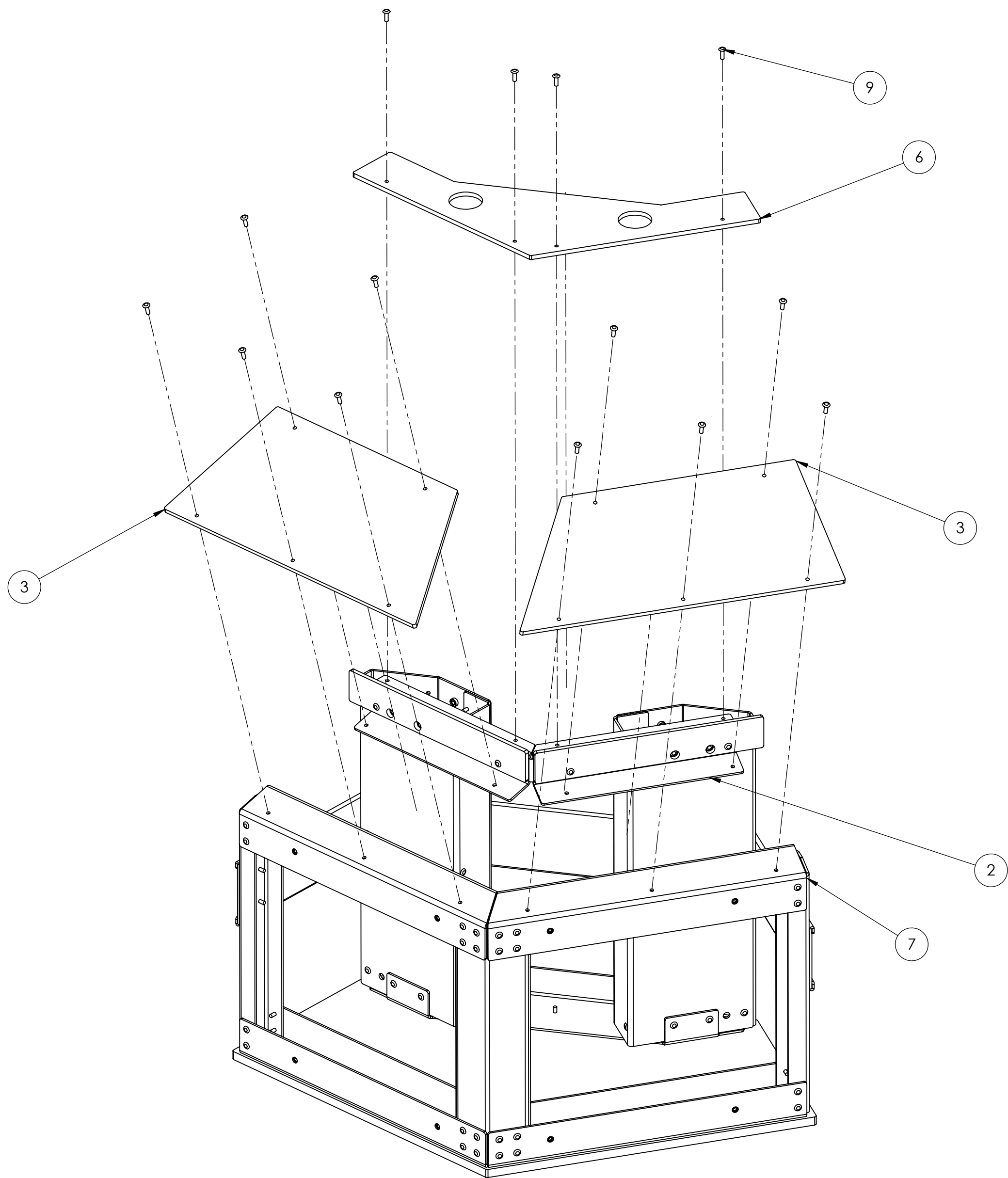
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FASTEN 2X (3) TO (2) AND (7) WITH 5X (9)  
 EACH. FINALLY, ATTACH (6) TO (2) WITH 4X (9)

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005  <b>MATERIAL/FINISH:</b>     <b>DO NOT SCALE DRAWING</b>	VEND	NAME	DATE	TITLE:  <b>Goal Slice Assembly</b>
	DRAWN	NE	10/1/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			SIZE
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. <b>C</b> GE-25310
				REV
	SCALE: 1:12		SHEET 4 OF 5	

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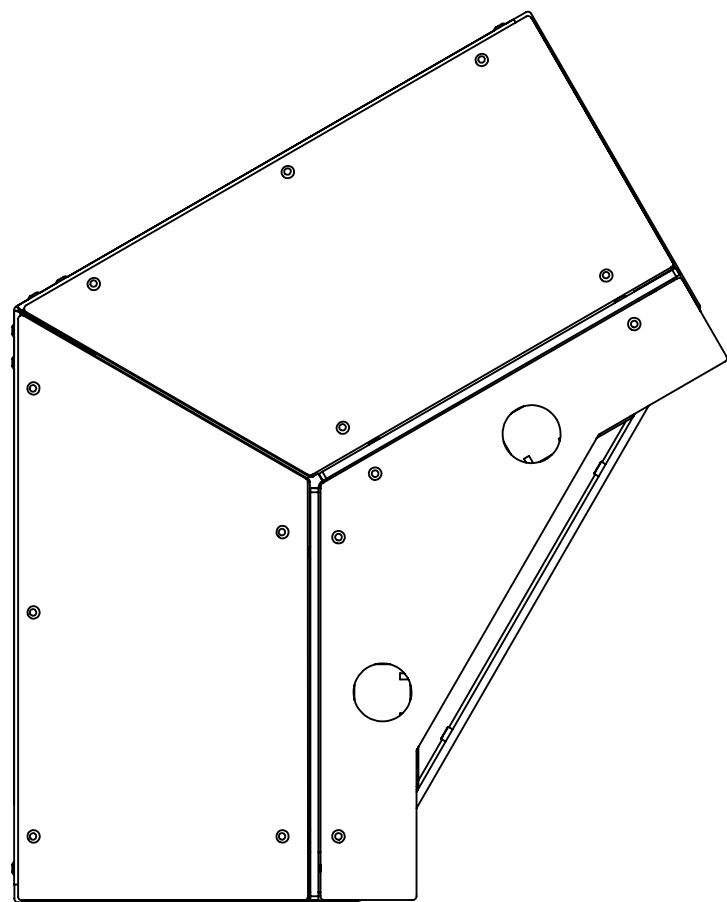
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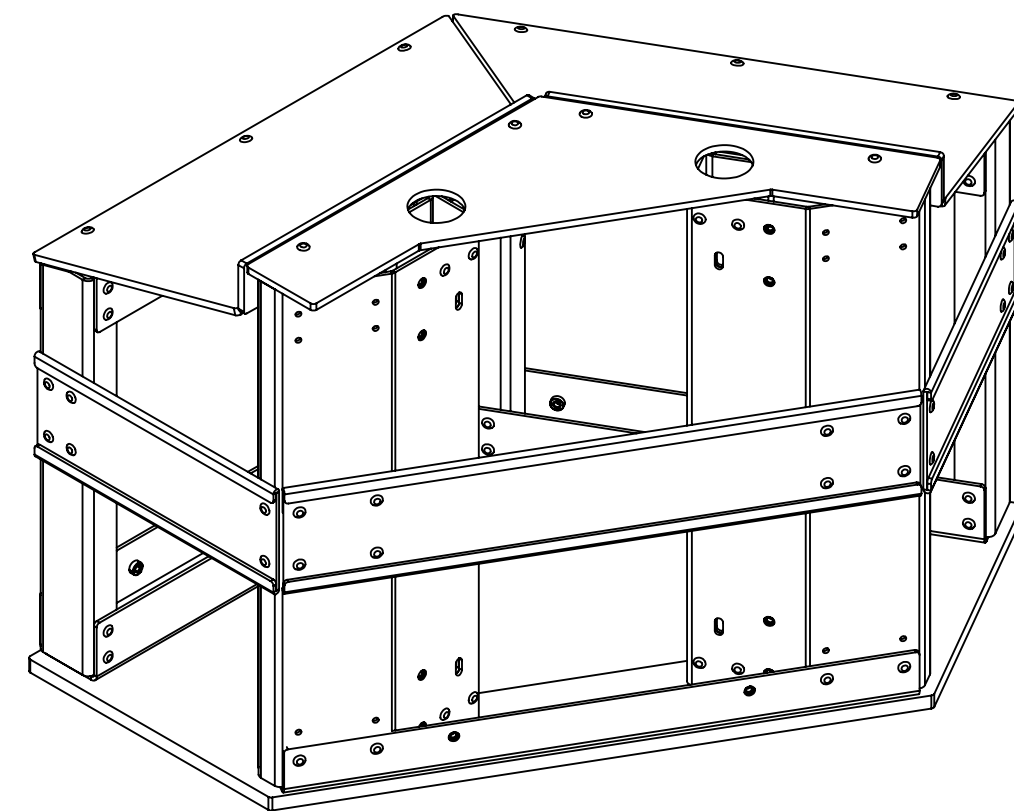
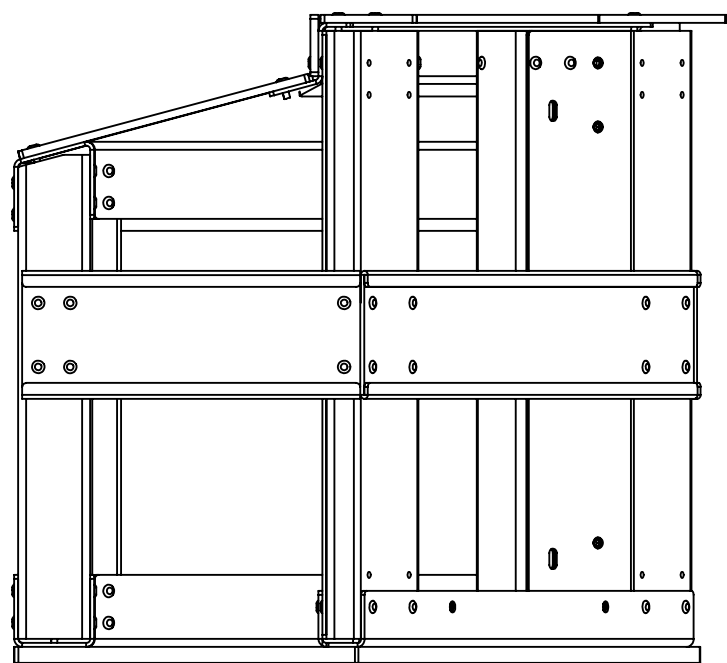
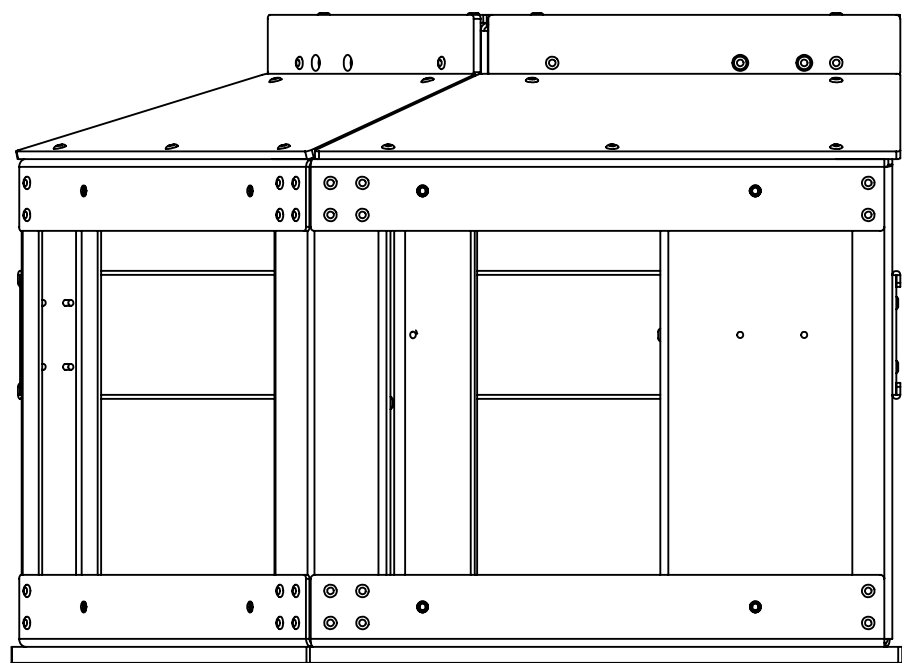
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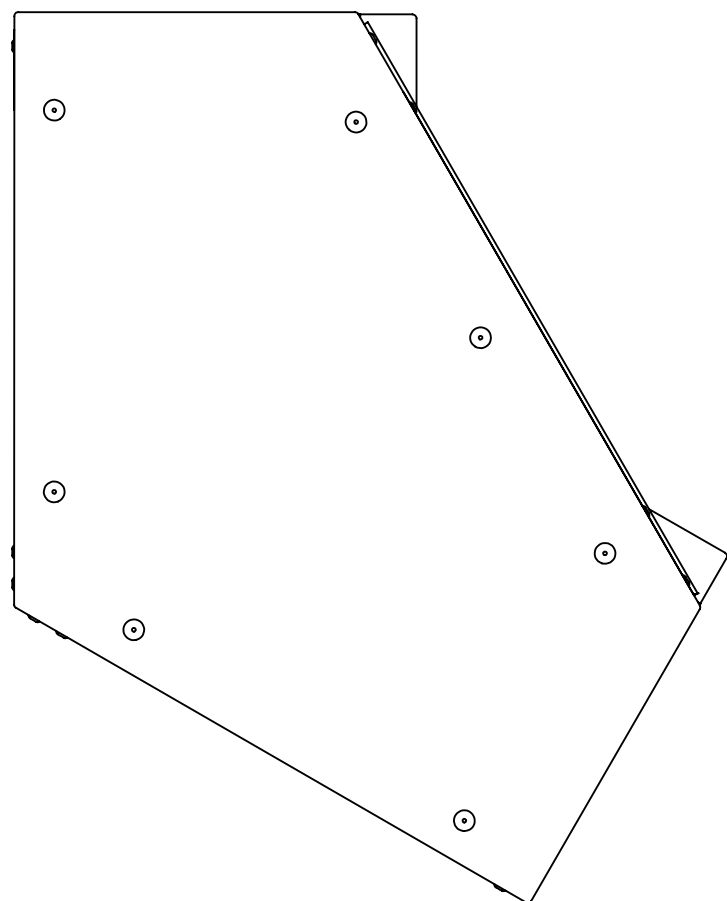
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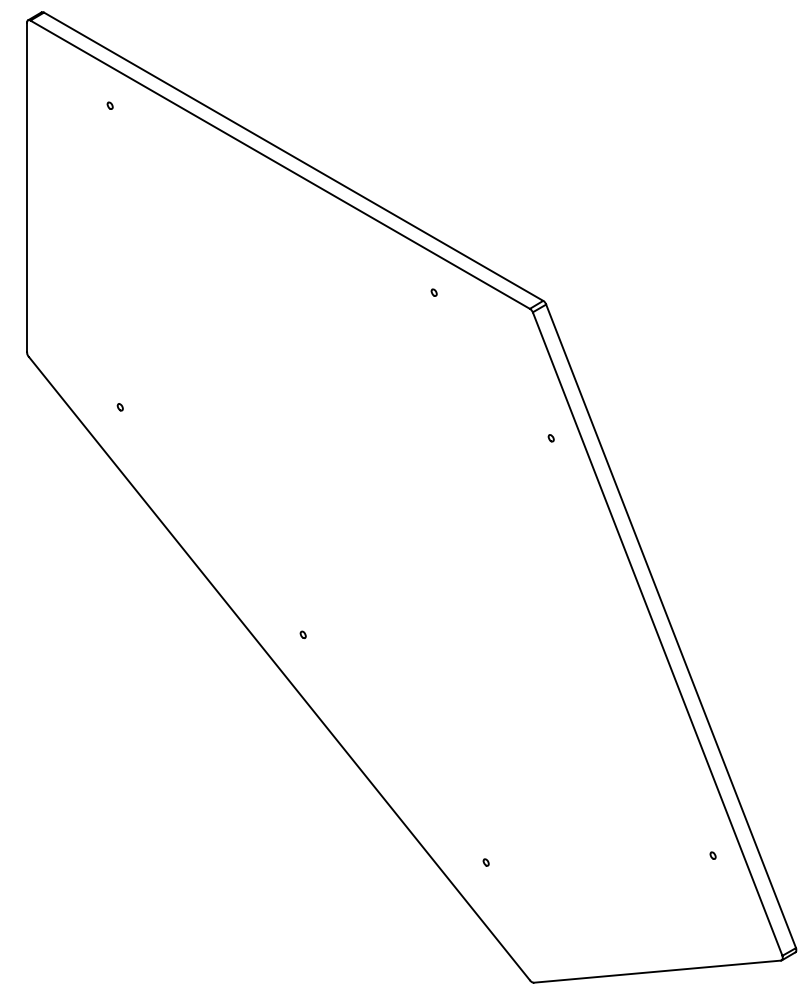
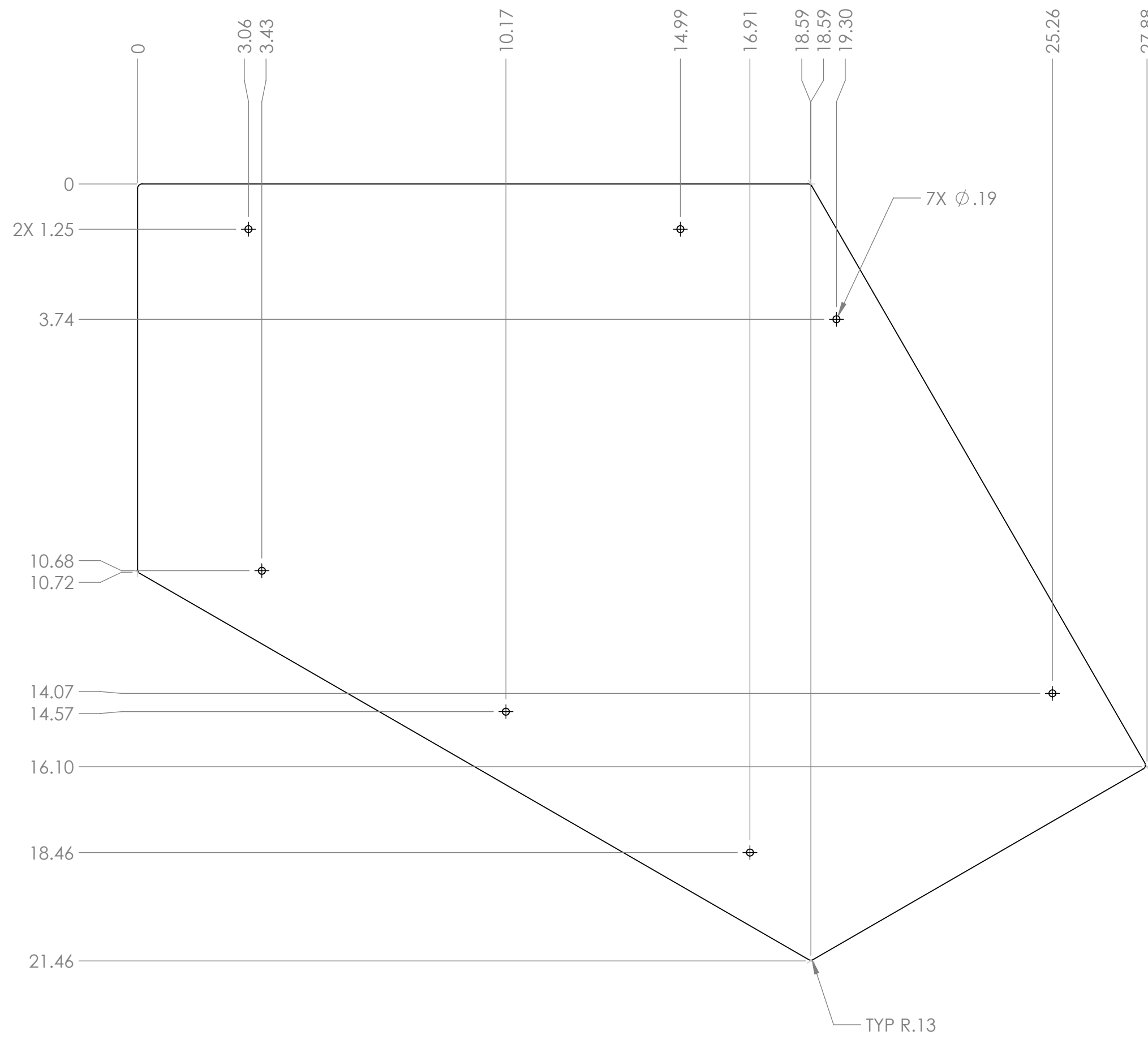
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	DRAWN	NE	10/1/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			Goal Slice Assembly
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25310
	SCALE: 1:6		SHEET 5 OF 5	


4

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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 0.5" HDPE, Black Matte Finish  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	NE	10/1/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:	Slice Base
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE: <b>C</b> DWG. NO.: GE-25311 REV:	
SCALE: 1:3		SHEET 1 OF 1			

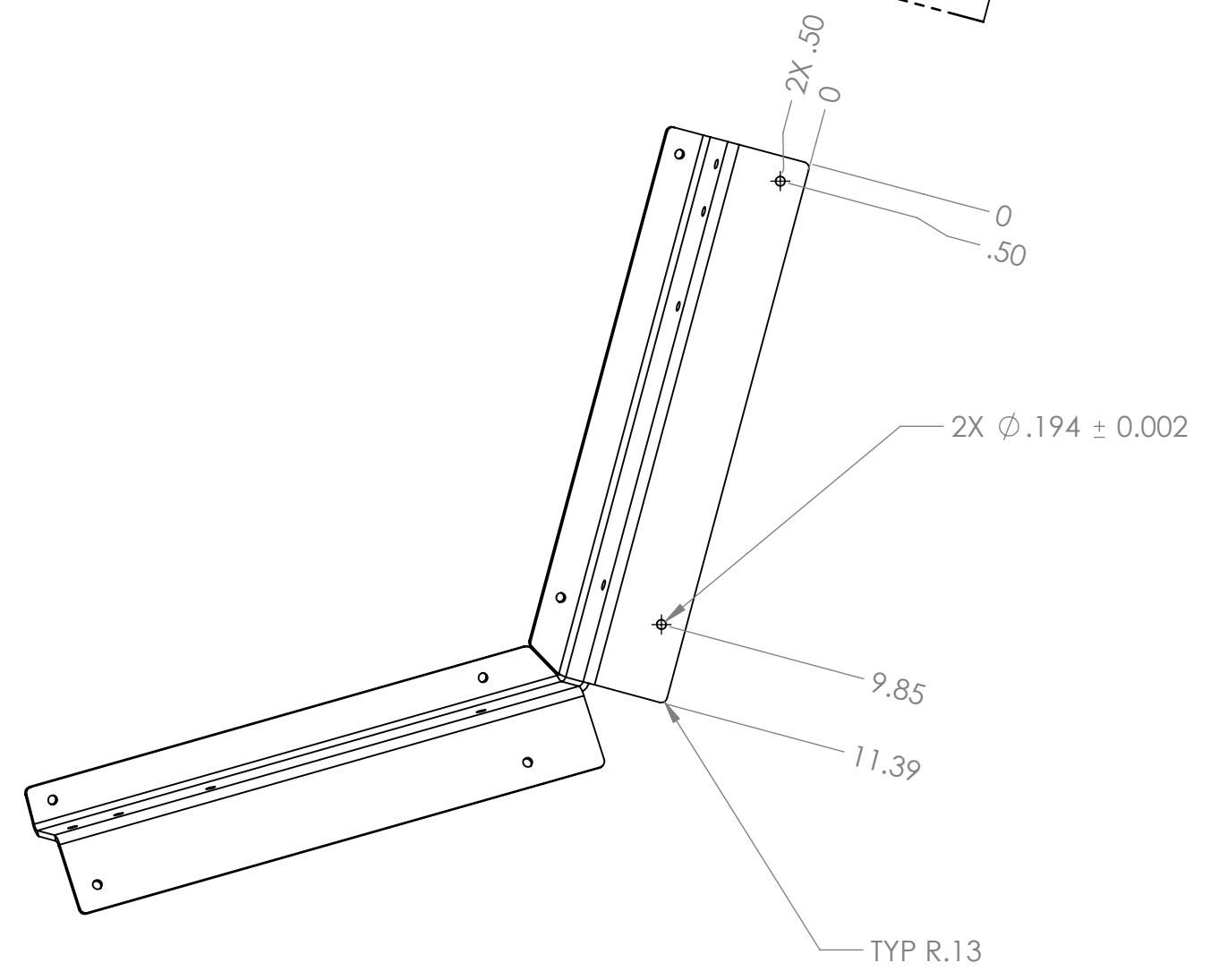
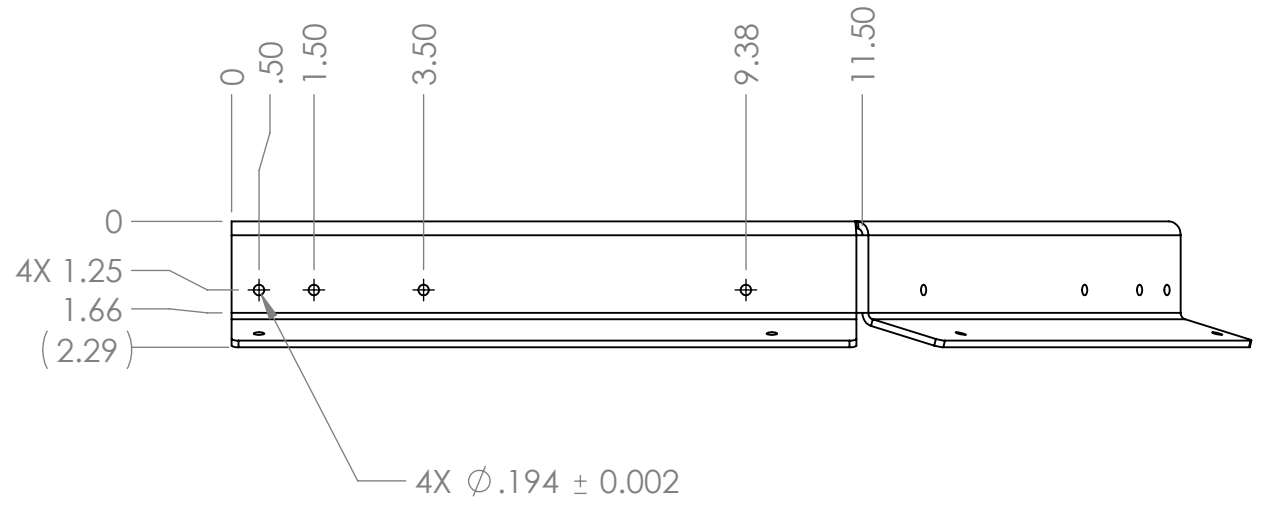
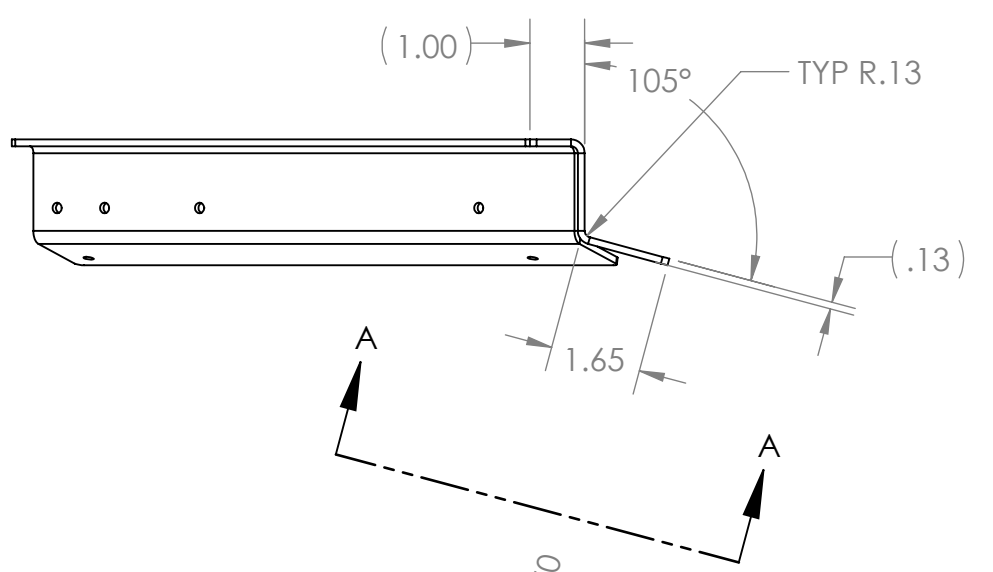
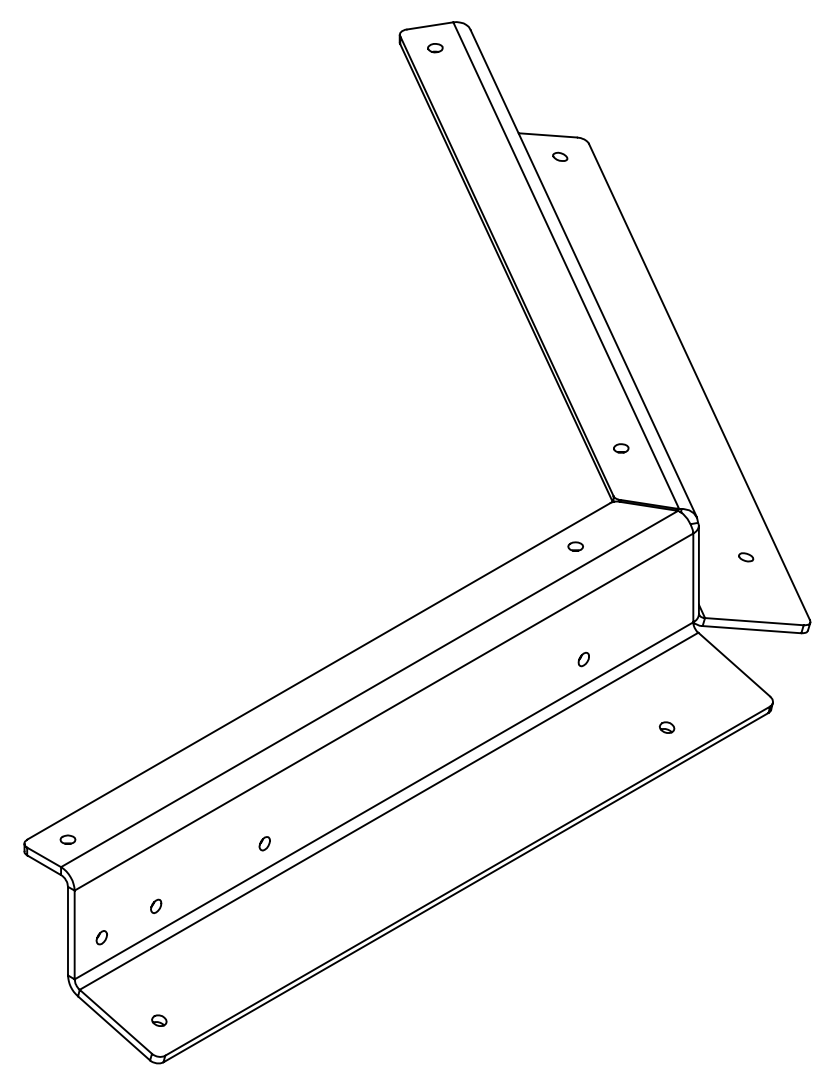
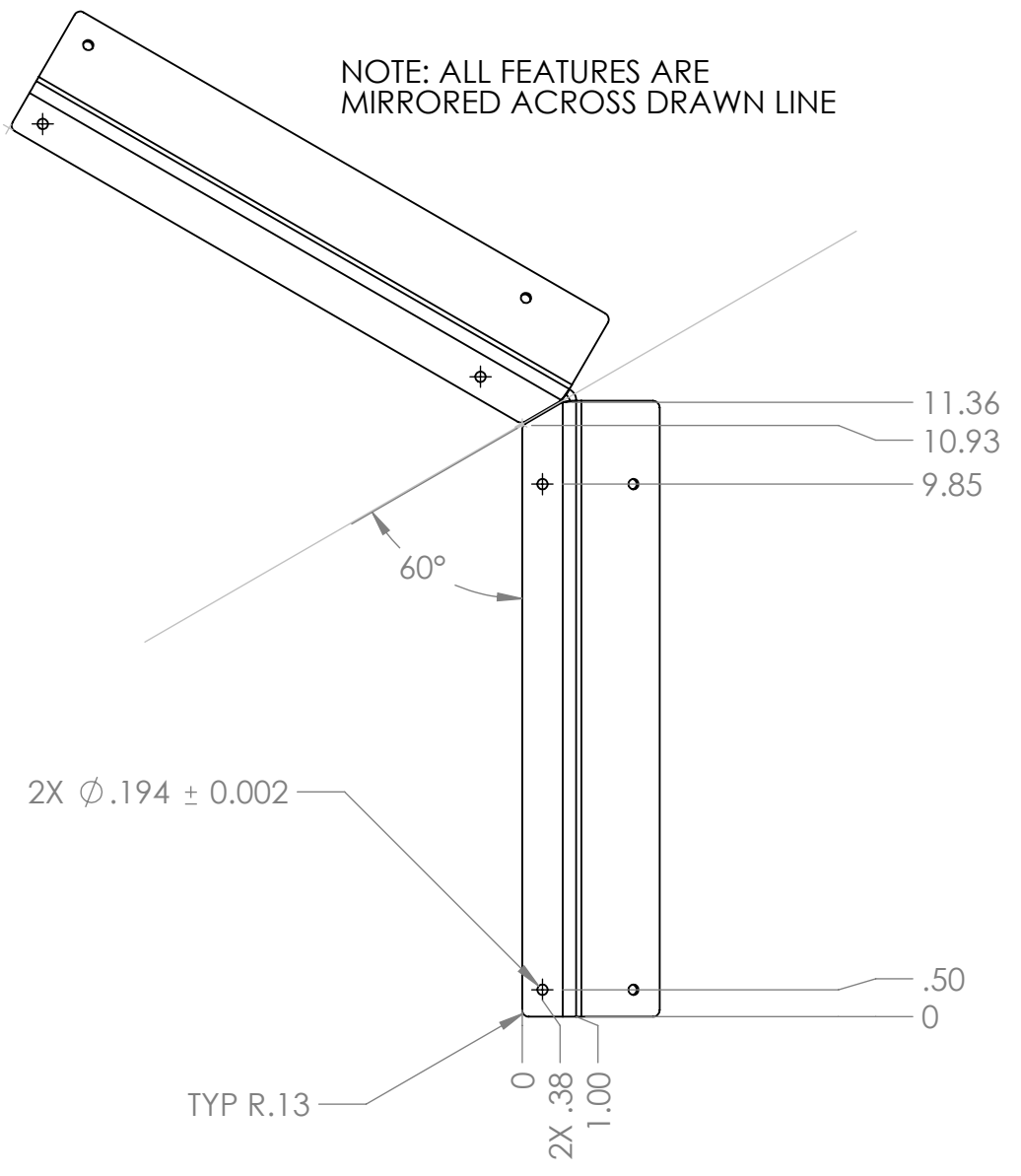
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NOTE: ALL FEATURES ARE MIRRORED ACROSS DRAWN LINE



VIEW A-A

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 <b>FIRST ROBOTICS COMPETITION</b>  <small>Modeling Solutions Partner</small>
	DRAWN	NE	10/1/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Trough Floor Bracket
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25312		
SCALE: 2:7			SHEET 1 OF 1	

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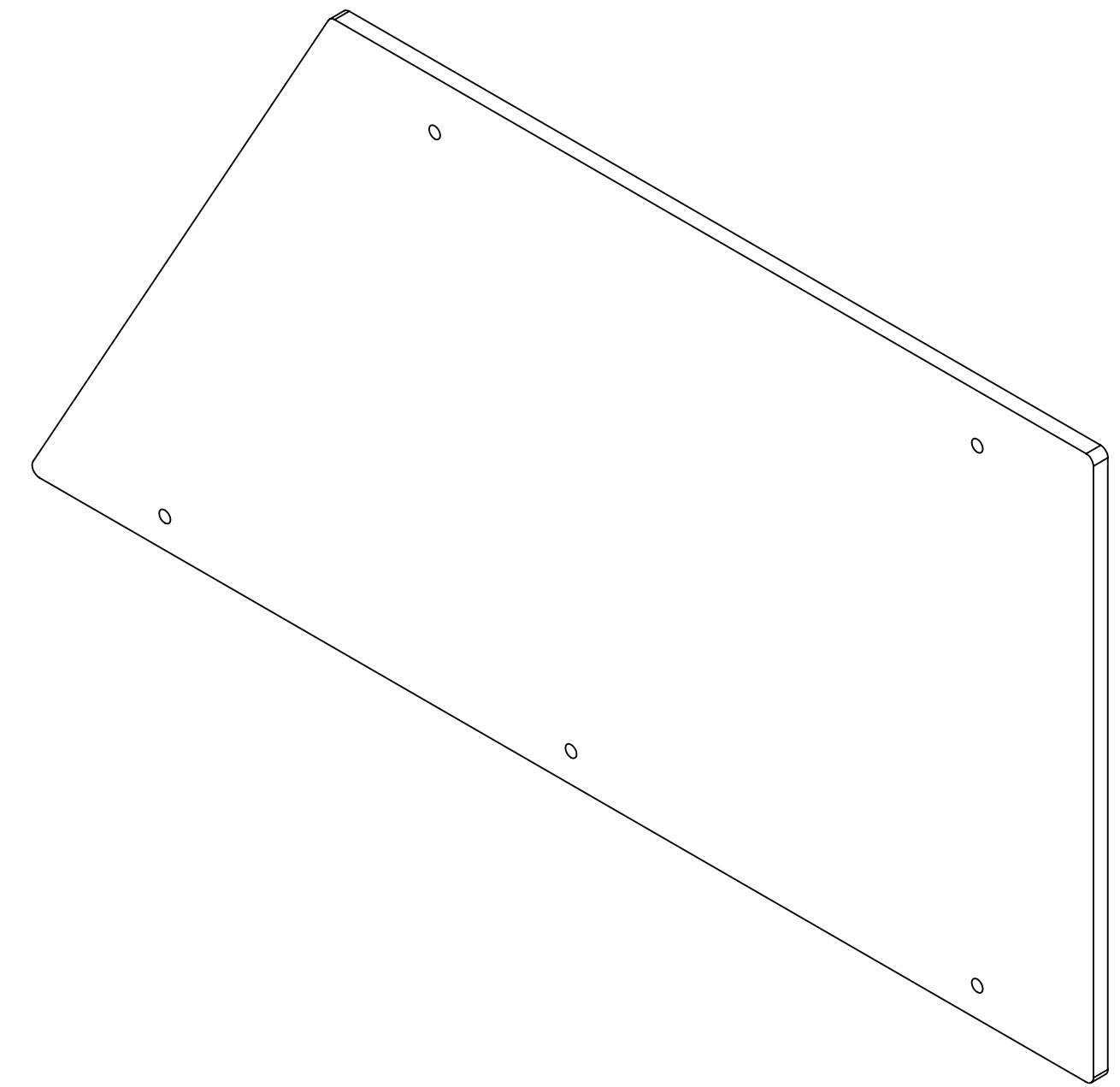
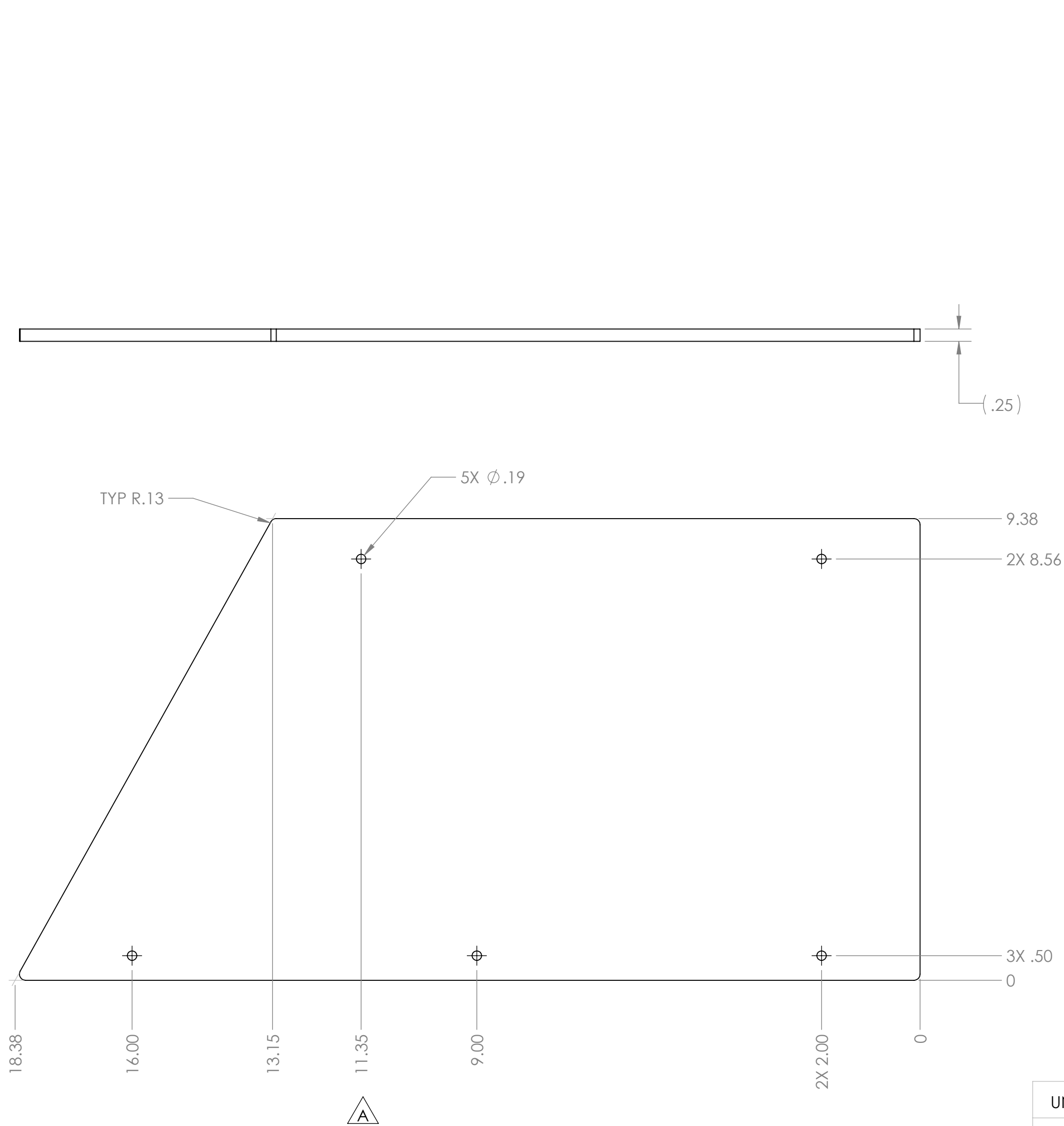
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3	A	GEOMETRY CHANGE FOR HOLE LOCATION	11/8/2024	NWE



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 0.25" HDPE, Black Matte Finish

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	10/1/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.		
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: Trough Floor		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25313	<b>A</b>
SCALE: 1:2		SHEET 1 OF 1

4

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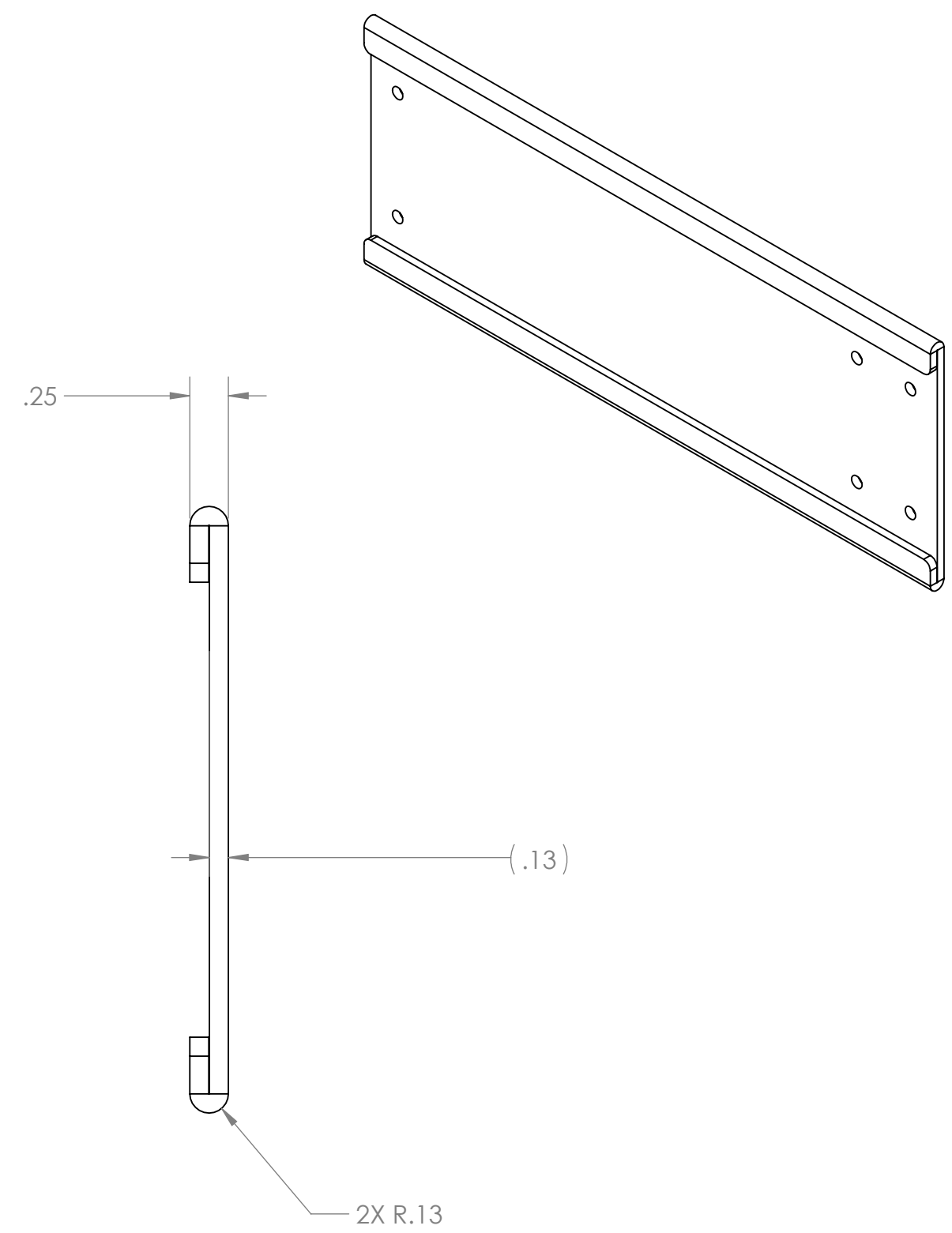
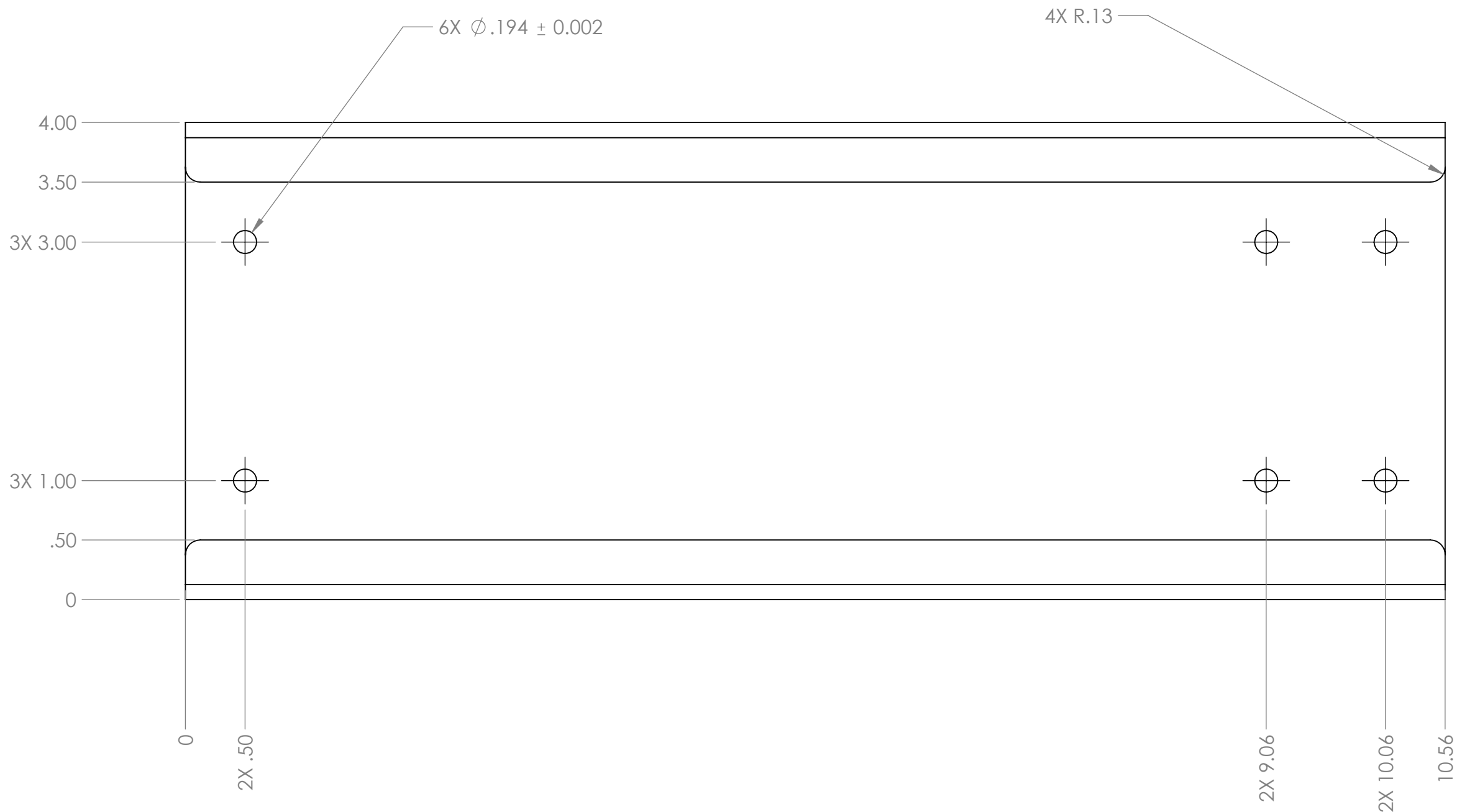
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$	BEND	NAME	DATE	 
	DRAWN	NE	10/1/2024	
<b>MATERIAL/FINISH:</b> 8GA 5052 Alumimum	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Slice Outside Depth Support</b>
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			SIZE DWG. NO. REV <b>C</b> GE-25314 SCALE: 1:1 SHEET 1 OF 1

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B

B

A

A

4X R.13

2X  $\phi$ .194  $\pm$  0.002

2X  $\phi$ .50

1.91

4X .41

0

12.88

10.88



9.88

7.88

2.00

0

.25

<p>UNLESS OTHERWISE SPECIFIED:</p> <p>DIMENSIONS ARE IN INCHES  TOLERANCES:  FRACTIONAL <math>\pm</math> 1/16  ANGULAR: MACH <math>\pm</math> 1° BEND <math>\pm</math> 1°  TWO PLACE DECIMAL <math>\pm</math>.01  THREE PLACE DECIMAL <math>\pm</math>.005</p> <p><b>MATERIAL/FINISH:</b>  0.25" HDPE, Black Matte Finish</p> <p>DO NOT SCALE DRAWING</p>	VEND	NAME	DATE	 	
	DRAWN	NE	10/1/2024		
	<p><b>PROPRIETARY AND CONFIDENTIAL</b></p> <p>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b>®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b>® IS PROHIBITED.</p> <p><b>COMMENTS:</b>  REMOVE ALL BURRS AND SHARP EDGES.</p>				<p>TITLE:  Trough Back</p>
	<p>SIZE  <b>C</b></p>		<p>DWG. NO.  GE-25315</p>	<p>REV</p>	<p>SCALE: 1:1</p>



TITLE:  
Trough Back

SIZE: C  
DWG. NO.: GE-25315  
REV:  
SCALE: 1:1  
SHEET 1 OF 1

4

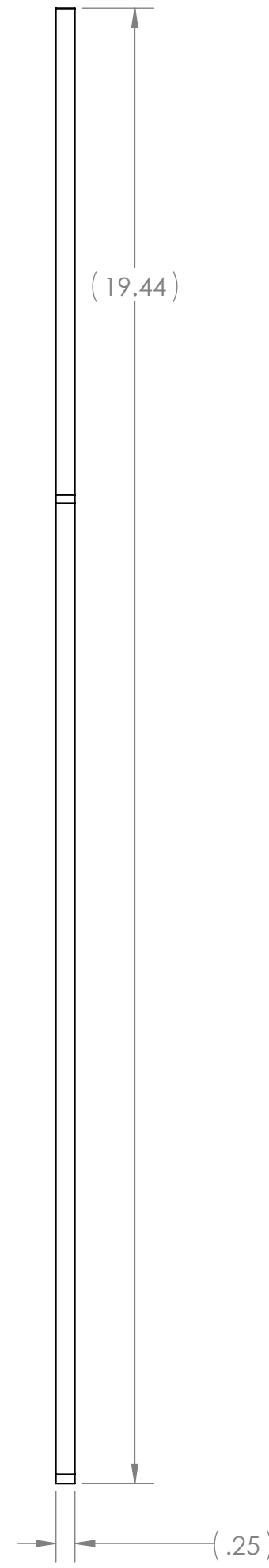
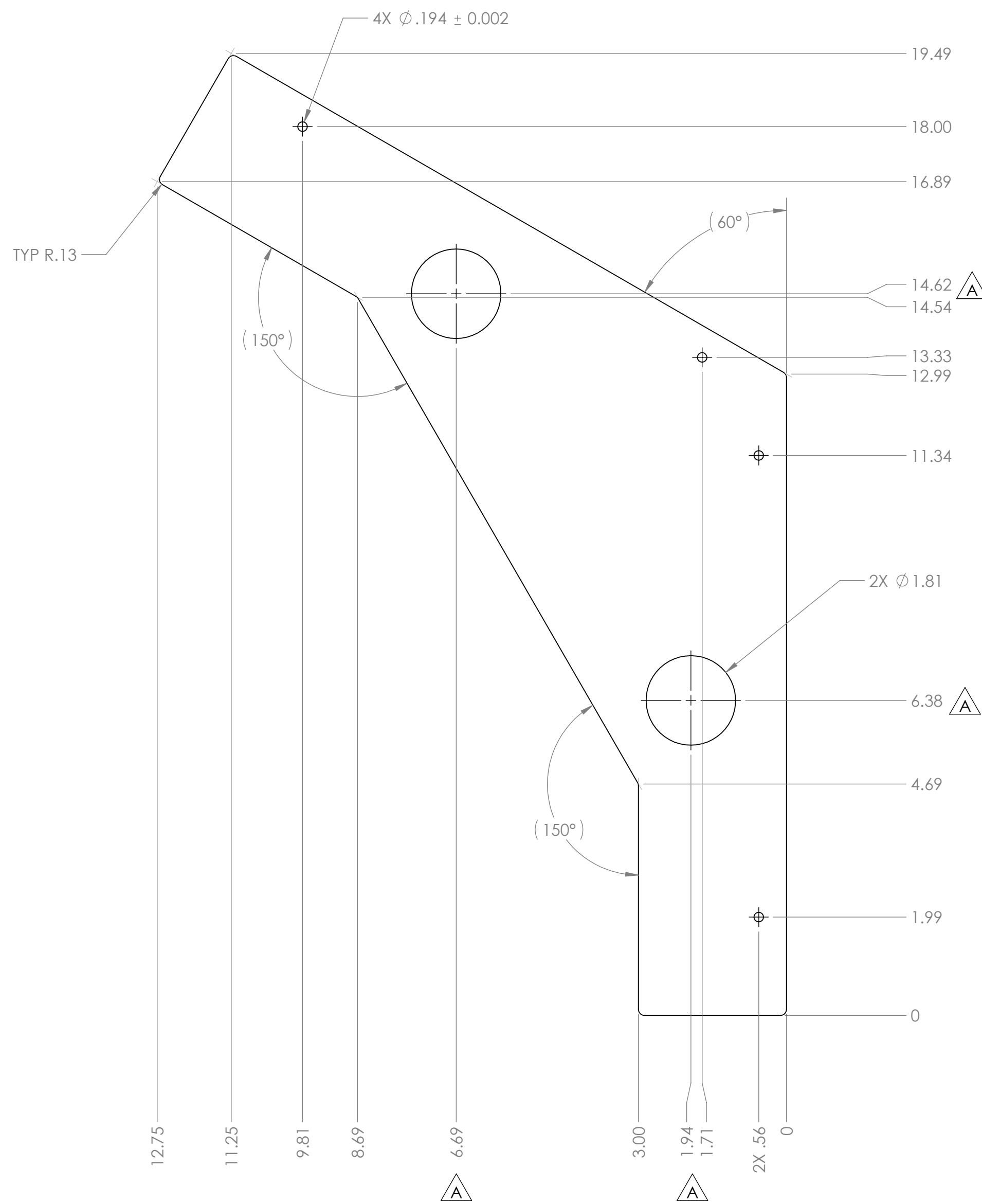
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2

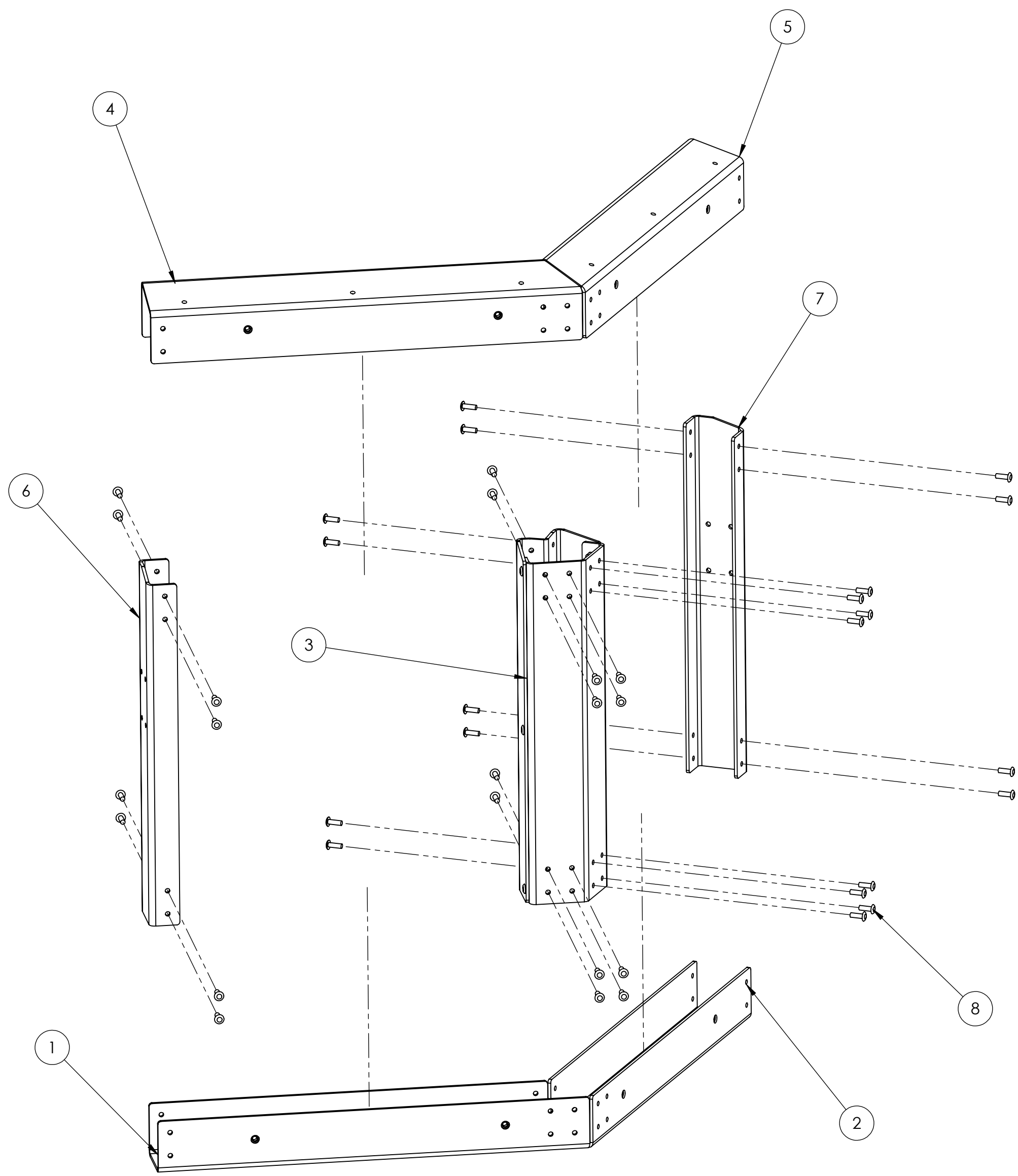
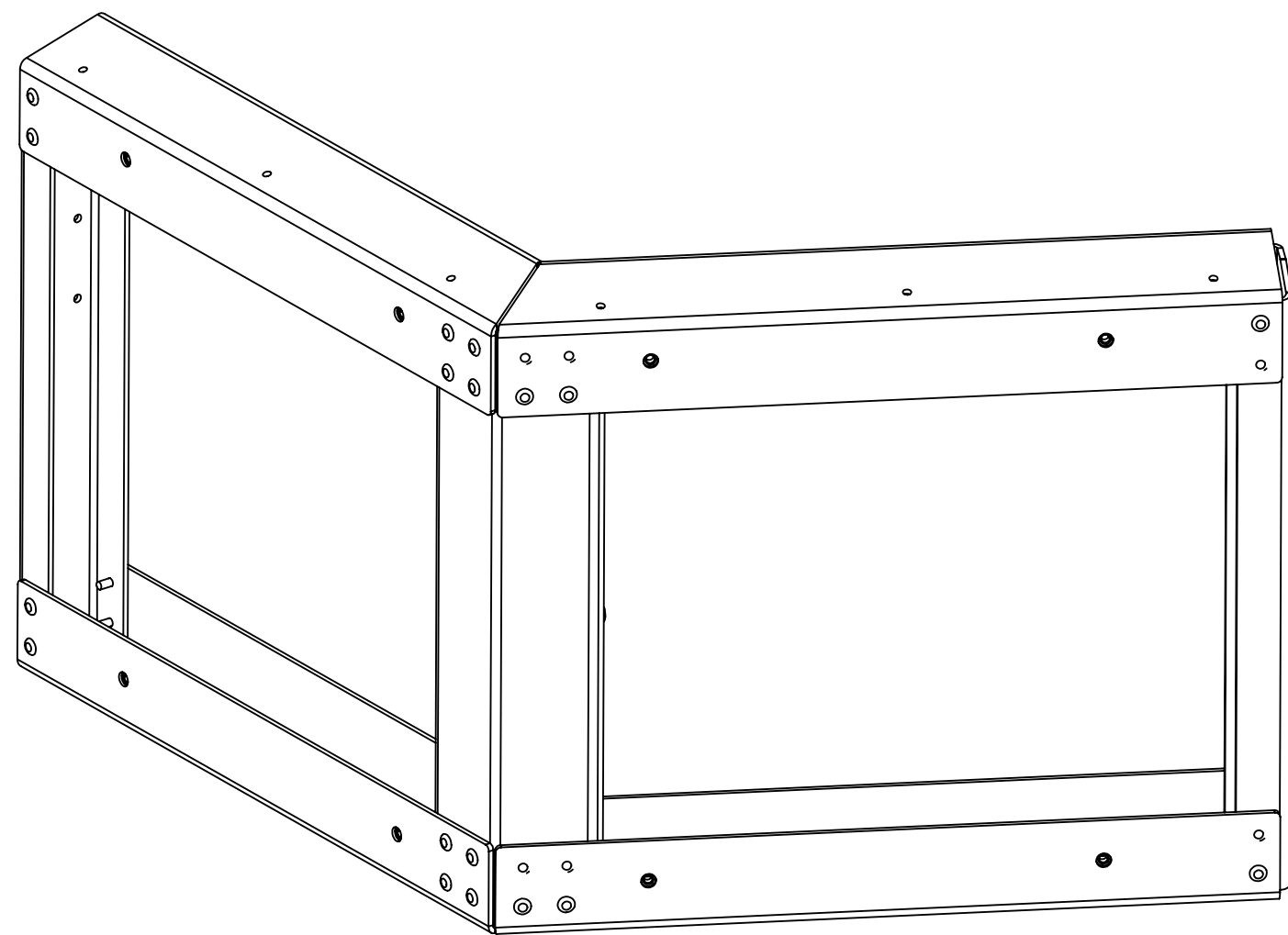
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3, B3, C3	A	ALTERED CLEARANCE HOLE LOCATION	11/4/2024	NWE



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 						
	DRAWN	NE	10/1/2024							
<b>MATERIAL/FINISH:</b> 0.25" HDPE, Black Matte Finish	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Slice Top Cover</b>						
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td><b>C</b></td> <td>GE-25316</td> <td><b>A</b></td> </tr> </table>	SIZE	DWG. NO.	REV	<b>C</b>	GE-25316	<b>A</b>
SIZE	DWG. NO.	REV								
<b>C</b>	GE-25316	<b>A</b>								
	SCALE: 1:2		SHEET 1 OF 1							



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25321	Outer Slice Left Bottom Channel W PEMs	1
2	GE-25322	Outer Slice Right Bottom Channel W PEMs	1
3	GE-25323	Outer Slice Center Vertical	1
4	GE-25326	Outer Slice Left Top Channel W PEMs	1
5	GE-25327	Outer Slice Right Top Channel W PEMs	1
6	GE-25328	Outer Slice End Vertical Left	1
7	GE-25329	Outer Slice End Vertical Right	1
8	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	40

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	NE	10/1/2024
TOLERANCES:		<b>PROPRIETARY AND CONFIDENTIAL</b>		
FRACTIONAL ±1/16		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
ANGULAR: MACH ±1° BEND ±1°		 		
TWO PLACE DECIMAL ±.01				
THREE PLACE DECIMAL ±.005		TITLE: <b>Outer Slice Assembly</b>		
<b>MATERIAL/FINISH:</b>		SIZE DWG. NO. REV		
		<b>C</b> GE-25320		
<b>COMMENTS:</b>		SCALE: 1:4 SHEET 1 OF 1		
REMOVE ALL BURRS AND SHARP EDGES.				
DO NOT SCALE DRAWING				

4

3

2

1

D

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C

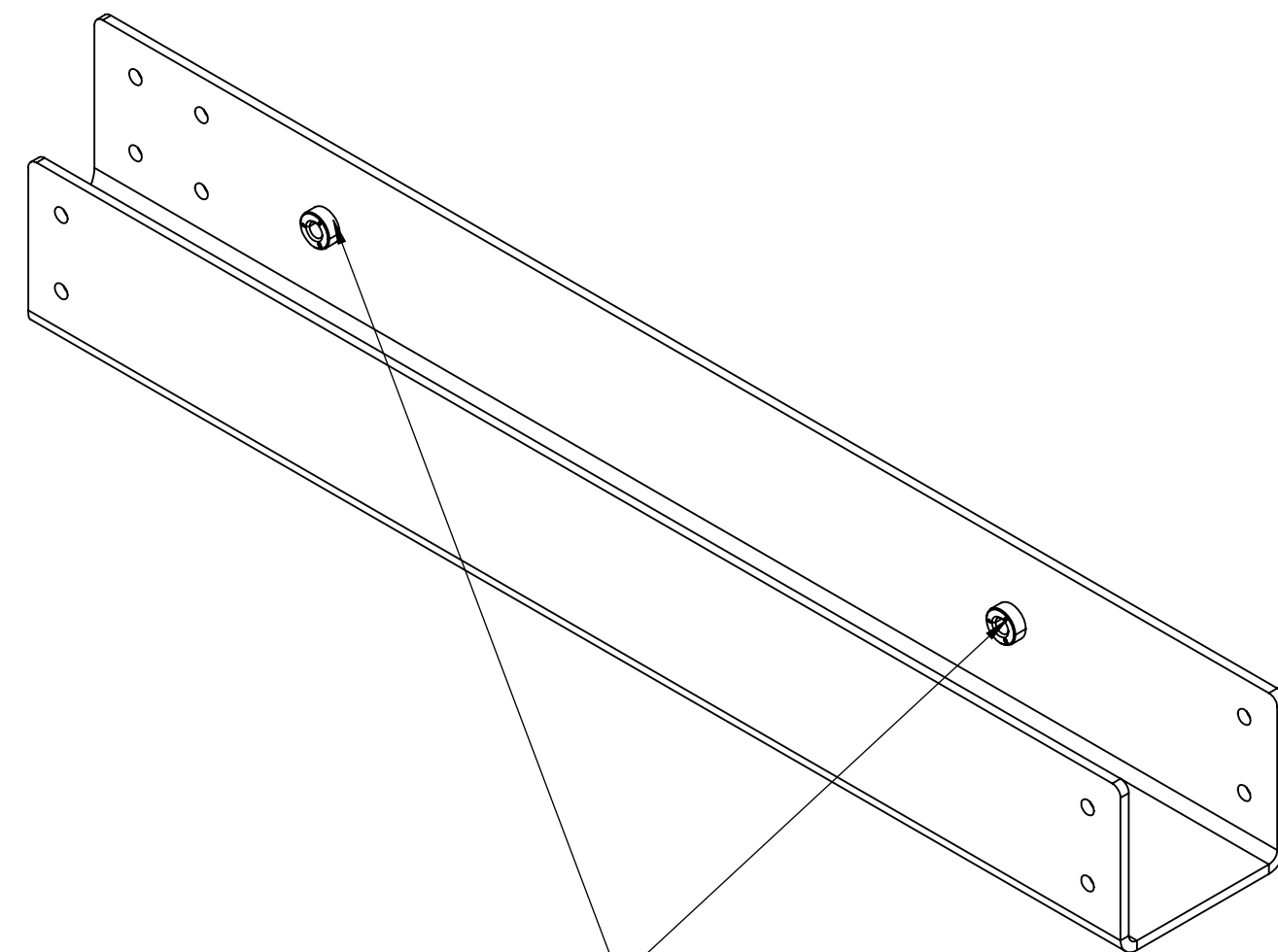
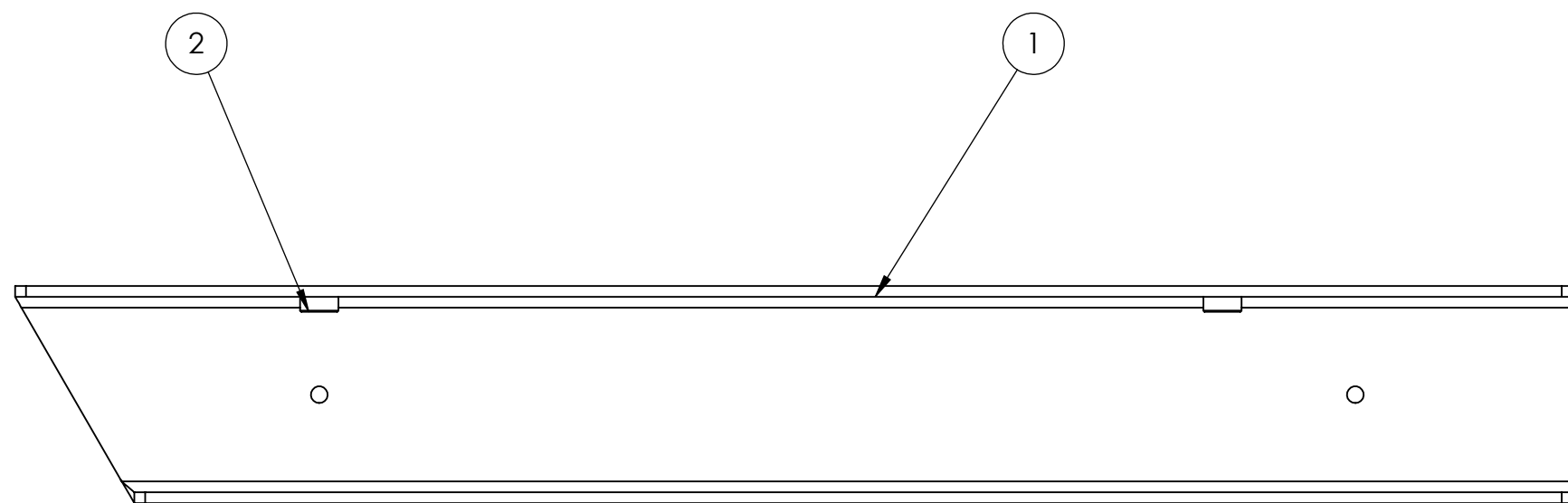
C

B

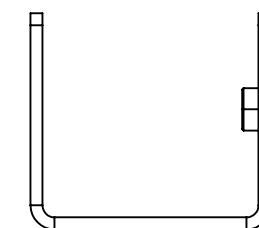
B

A

A



2X PEM NUTS INSTALLED ON INTERIOR FACE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25321-01	Outer Slice Left Bottom Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN NE 9/30/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Outer Slice Left Bottom Channel W PEMs**

SIZE DWG. NO. REV

**C** GE-25321

SCALE: 1:2 SHEET 1 OF 1

4

3

2

1

4

3

2

1

D

D

C

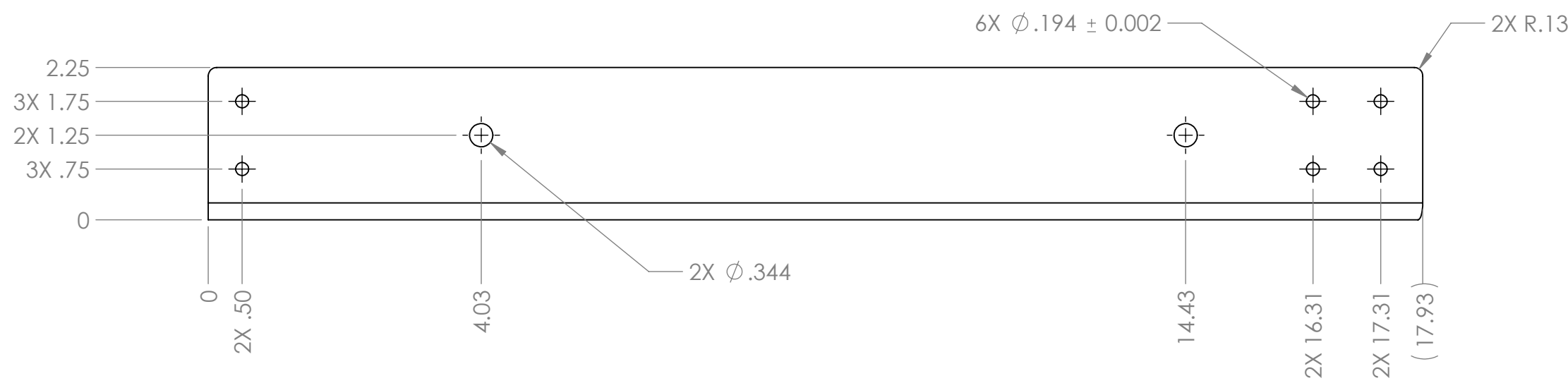
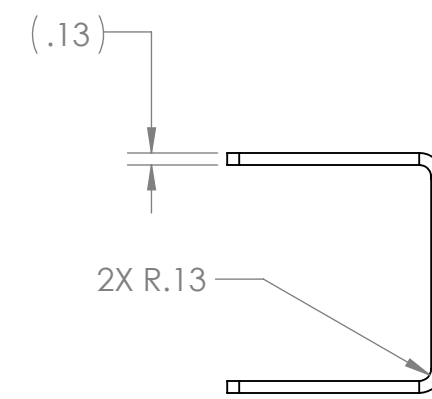
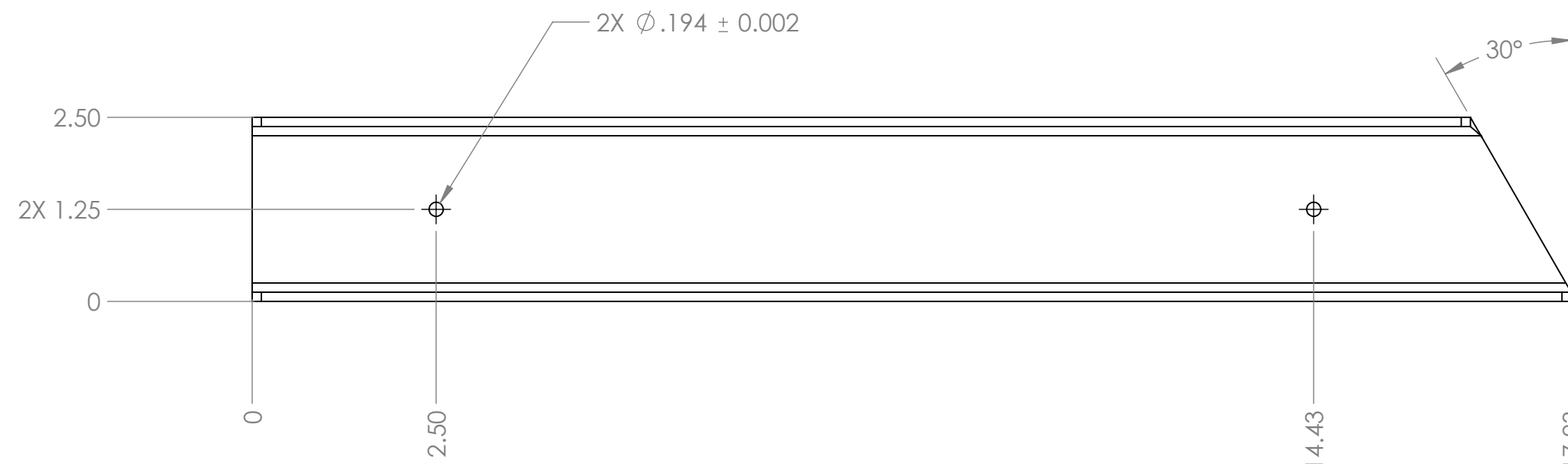
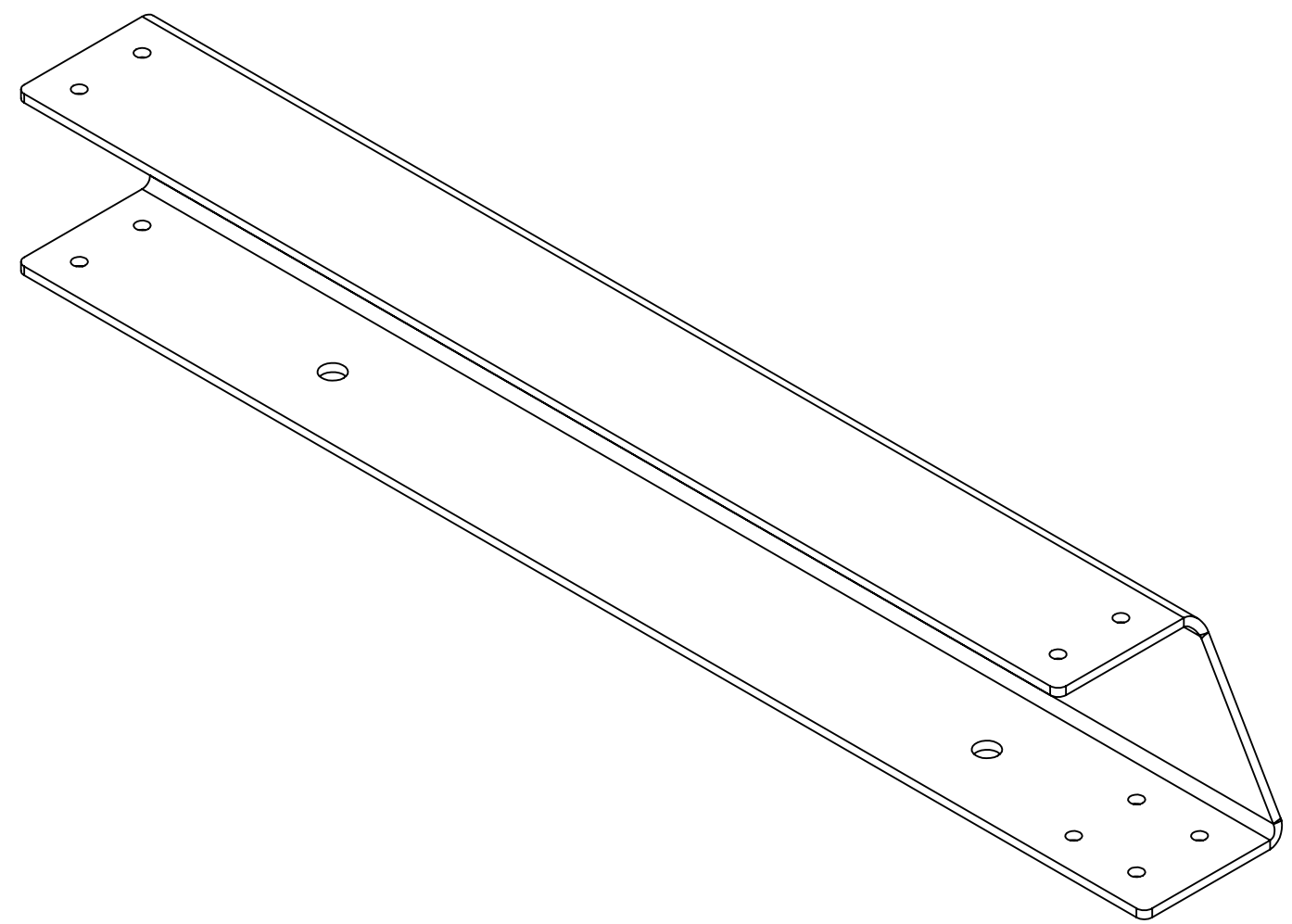
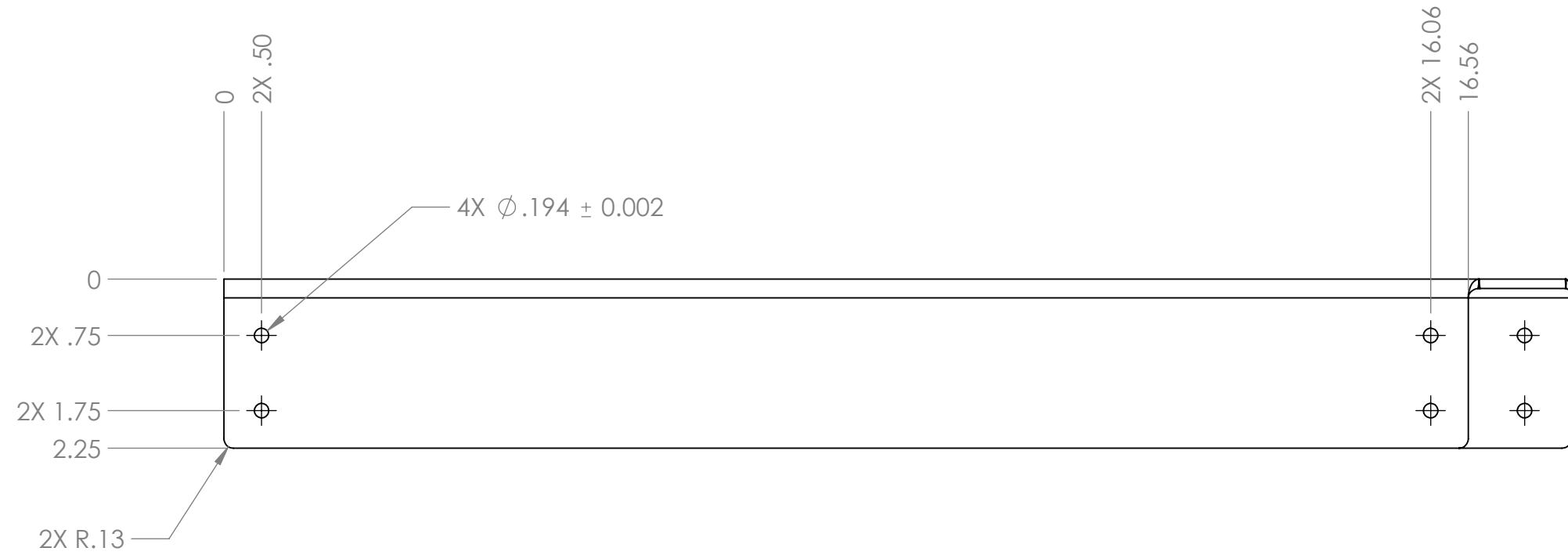
C



B

B

A

A



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NE	9/30/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			Outer Slice Left Bottom Channel
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				<b>C</b> GE-25321-01
				SCALE: 1:2
				SHEET 1 OF 1

4

3

2

1

4

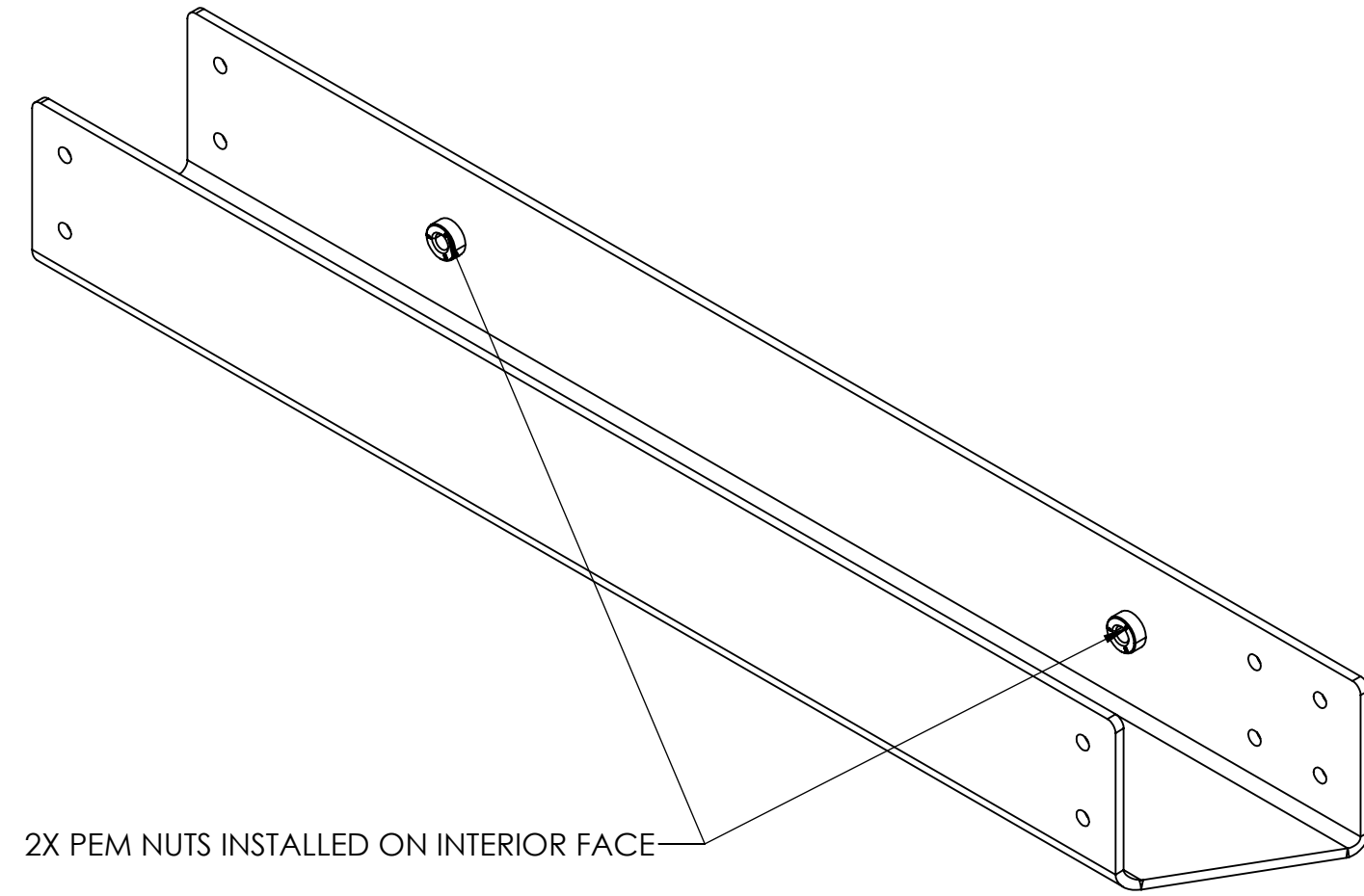
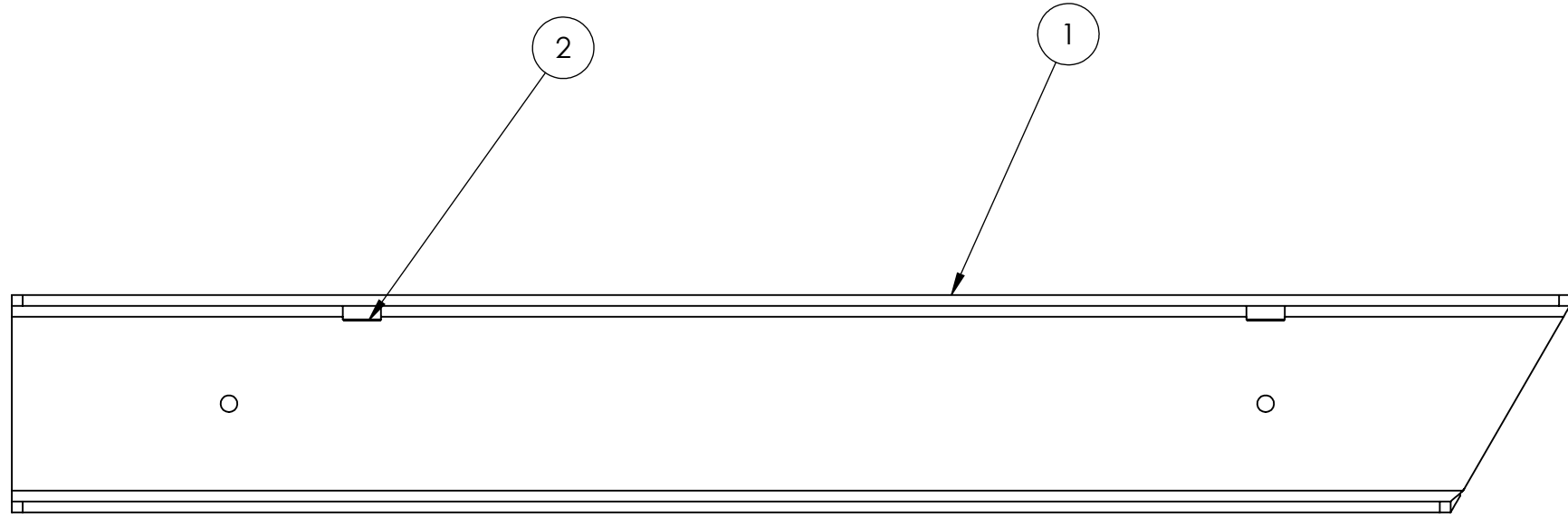
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2

1

D

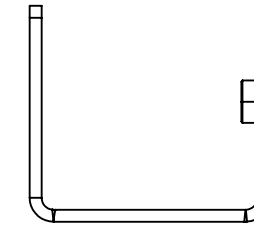
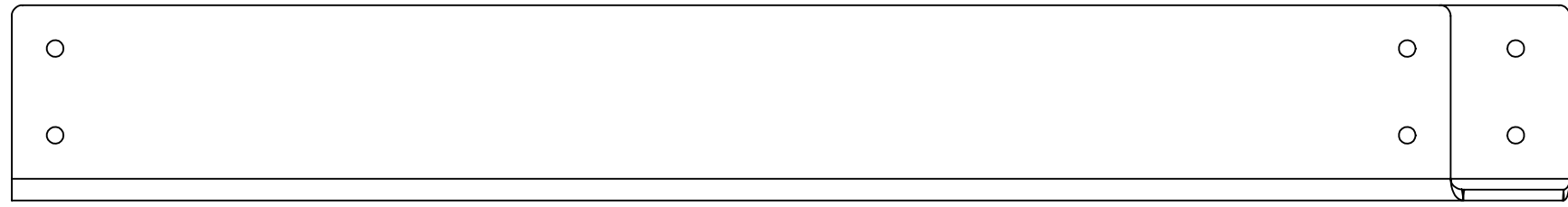
D



2X PEM NUTS INSTALLED ON INTERIOR FACE

C

C



B

B

A

A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25322-01	Outer Slice Right Bottom Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	9/30/2024

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: Outer Slice Right Bottom Channel W PEMs

SIZE	DWG. NO.	REV
<b>C</b>	GE-25322	

SCALE: 1:2 SHEET 1 OF 1

4

3

2

1

4

3

2

1

D

D

C

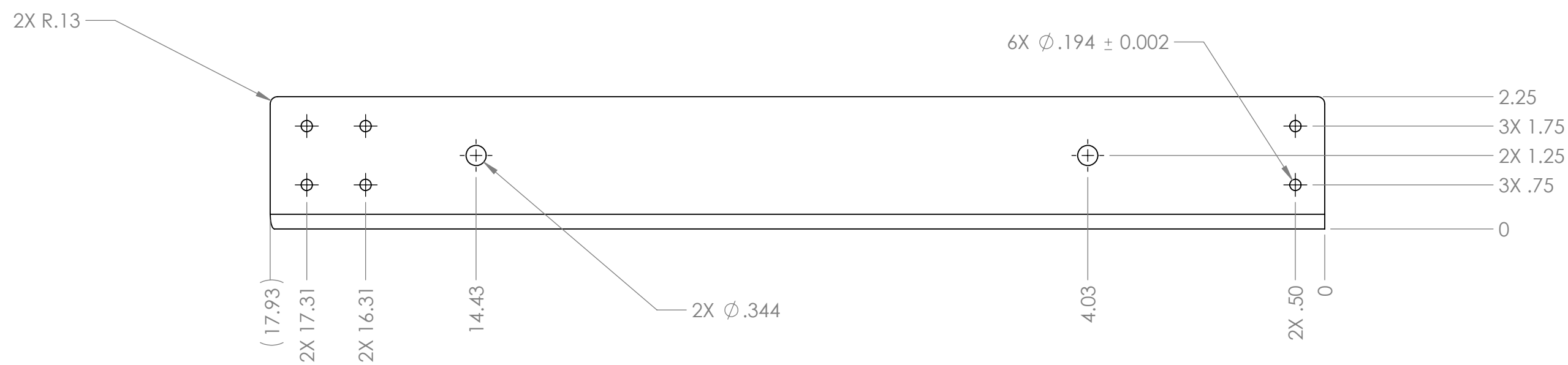
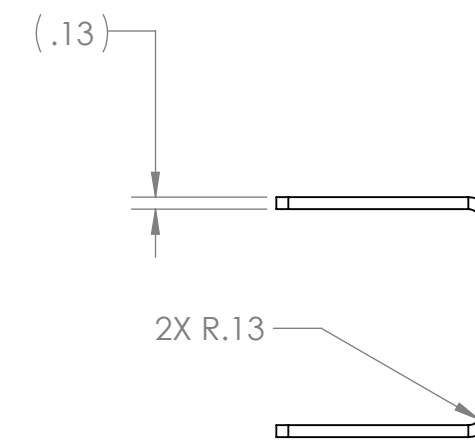
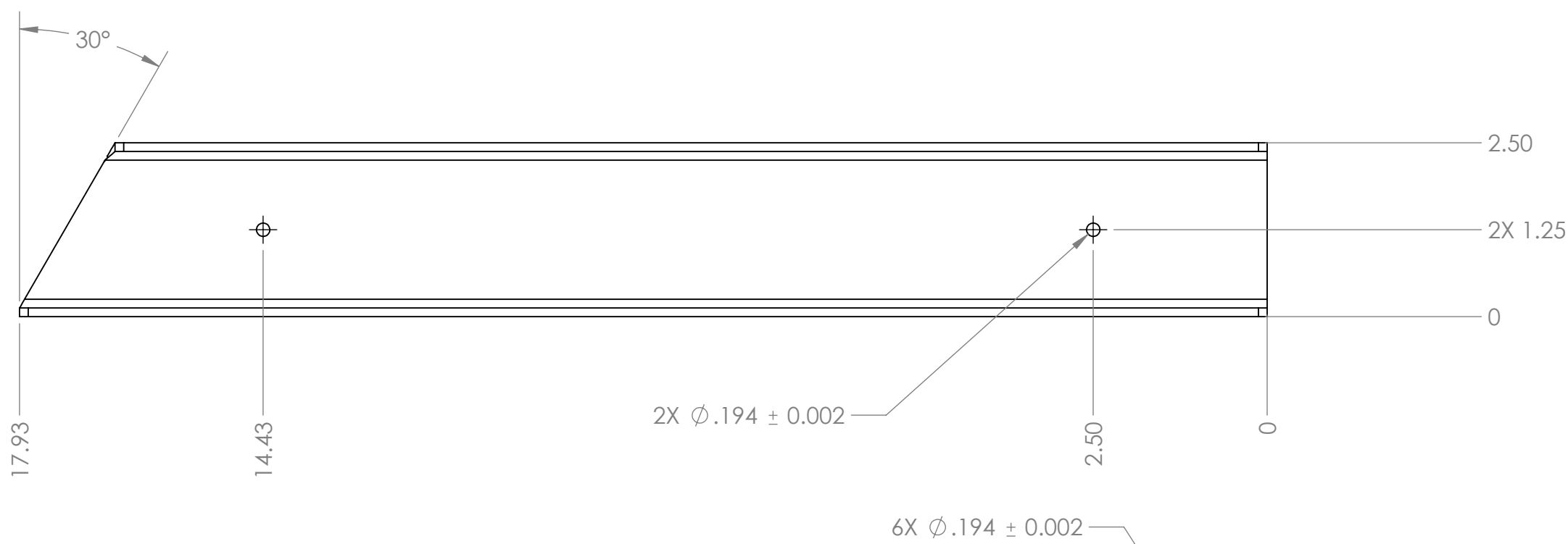
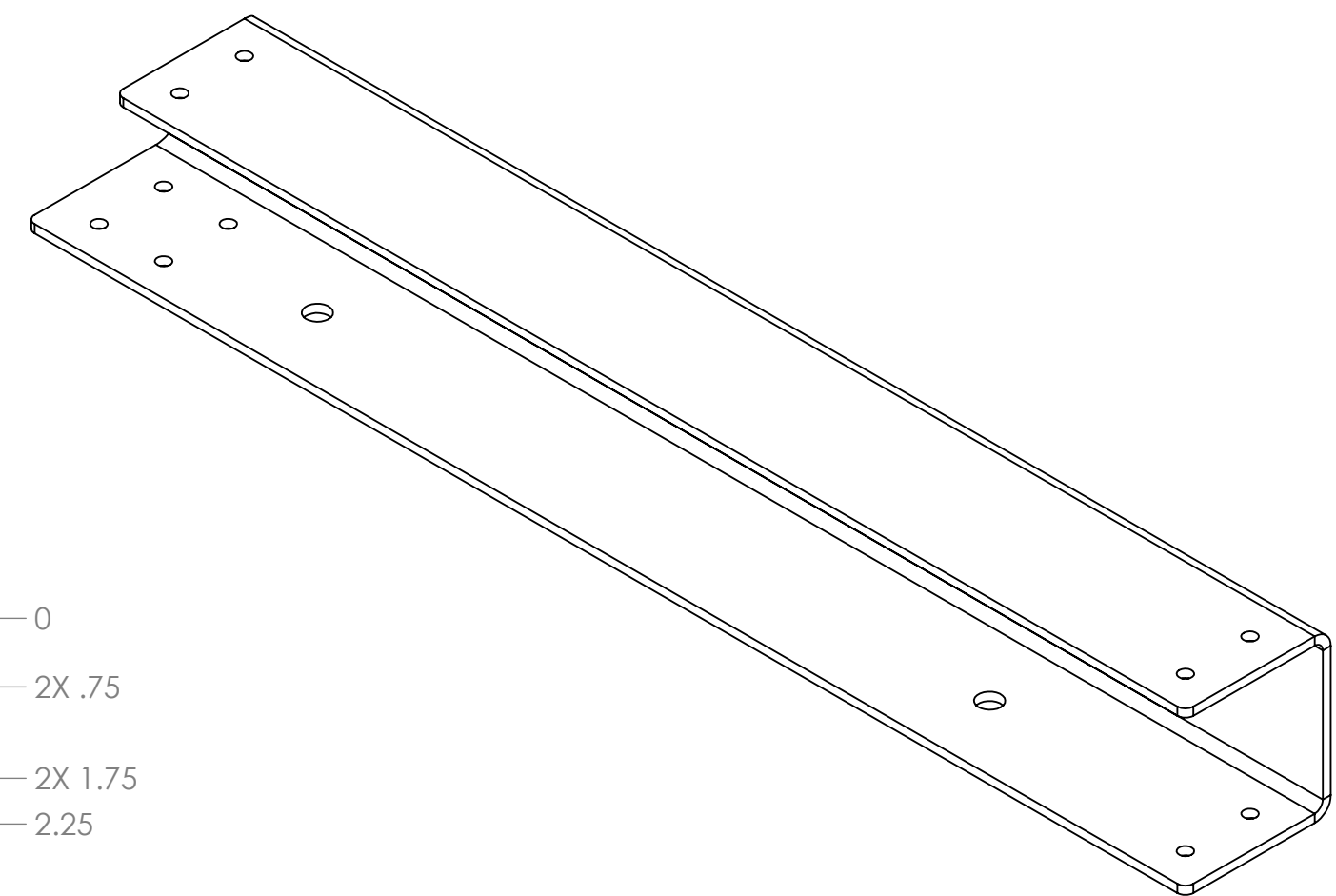
C



B

B

A

A



UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm$ 1/16 ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1° TWO PLACE DECIMAL $\pm$ .02 THREE PLACE DECIMAL $\pm$ .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NE	9/30/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> ®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> ® IS PROHIBITED.			Outer Slice Right Bottom Channel
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				<b>C</b> GE-25322-01
	SCALE: 1:2		SHEET 1 OF 1	

4

3

2

1

D

D

C

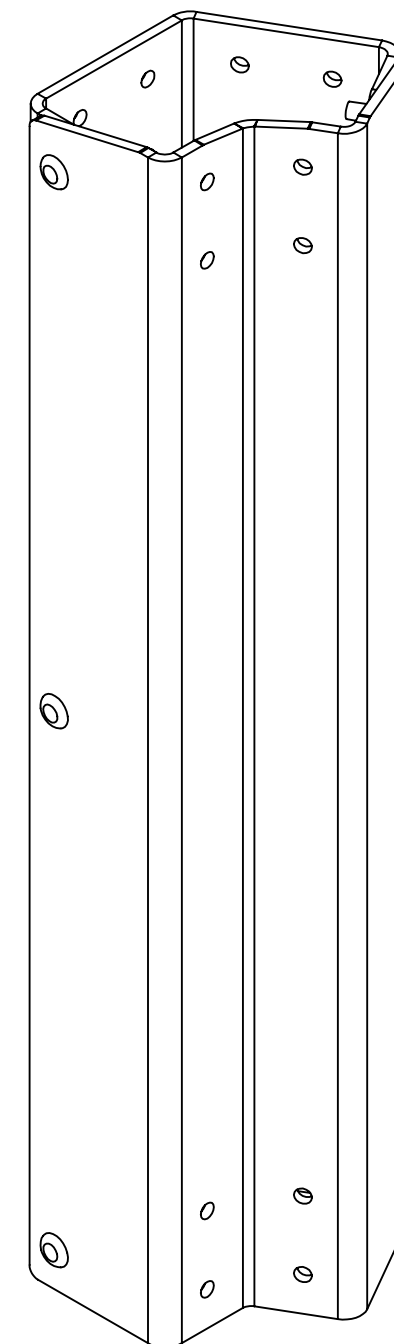
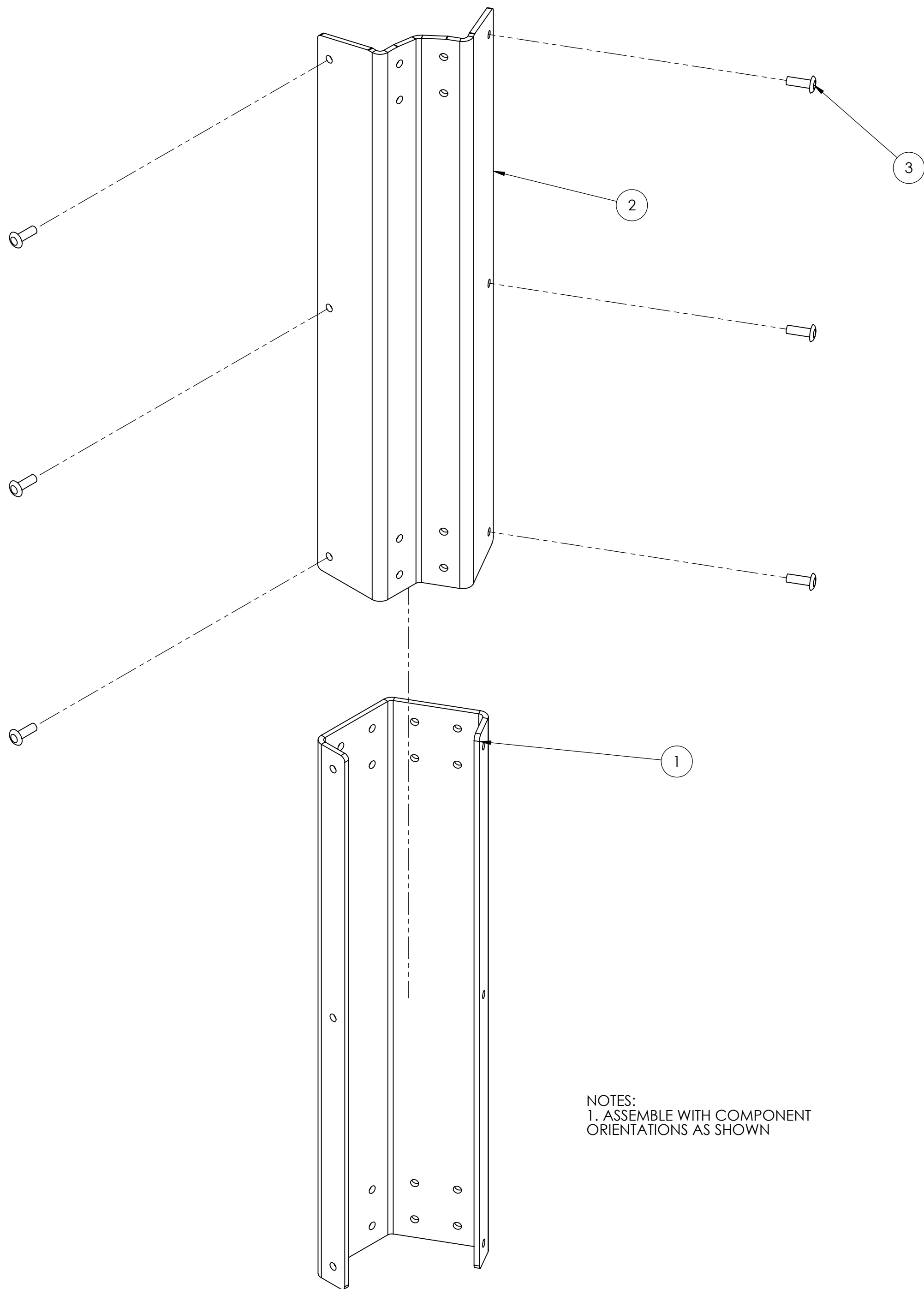
C

B

B

A

A



NOTES:  
 1. ASSEMBLE WITH COMPONENT ORIENTATIONS AS SHOWN

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25324	Outer Slice Center Vertical Outer	1
2	GE-25325	Outer Slice Center Vertical Inner	1
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	6

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
	NE	9/30/2024

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Outer Slice Center Vertical**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25323	

SCALE: 1:2 SHEET 1 OF 1

4

3

2

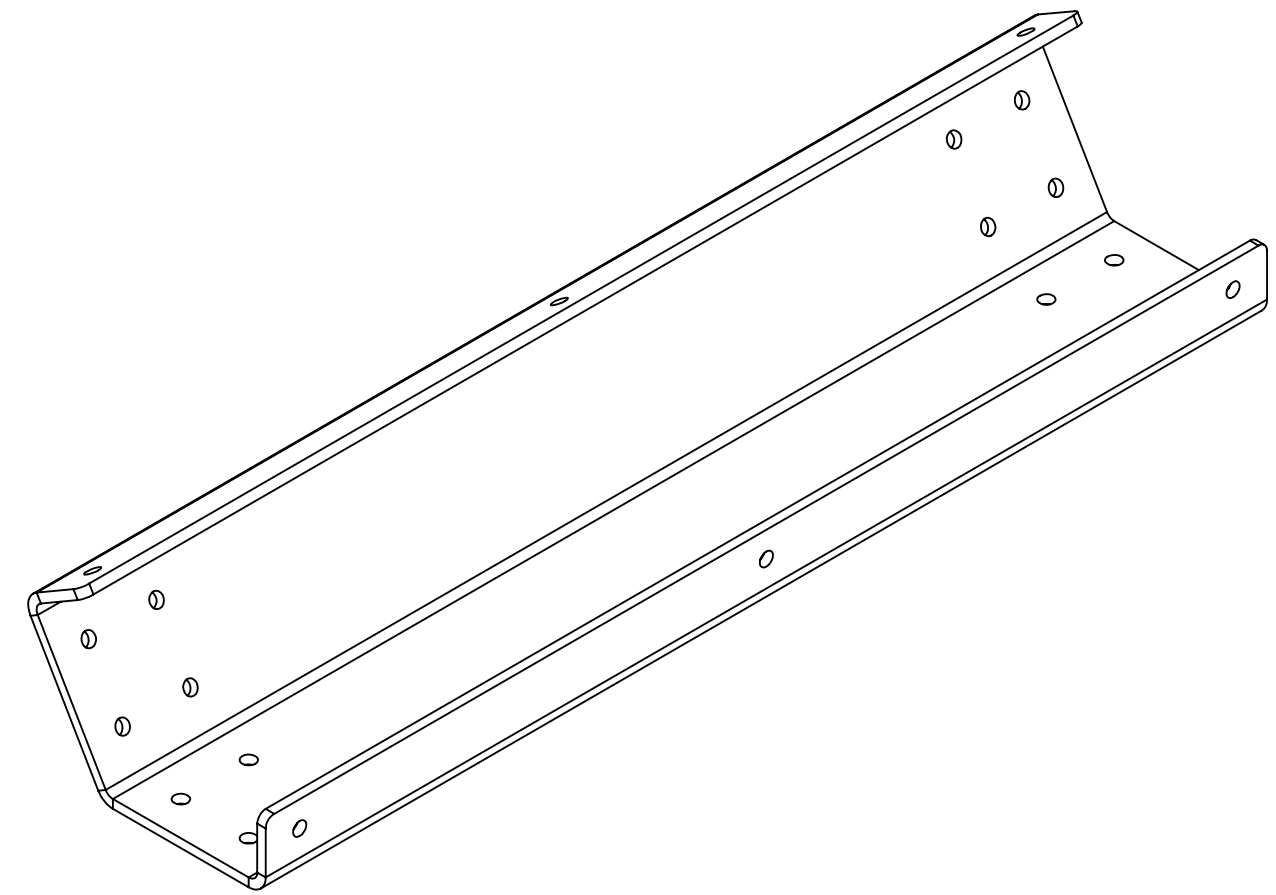
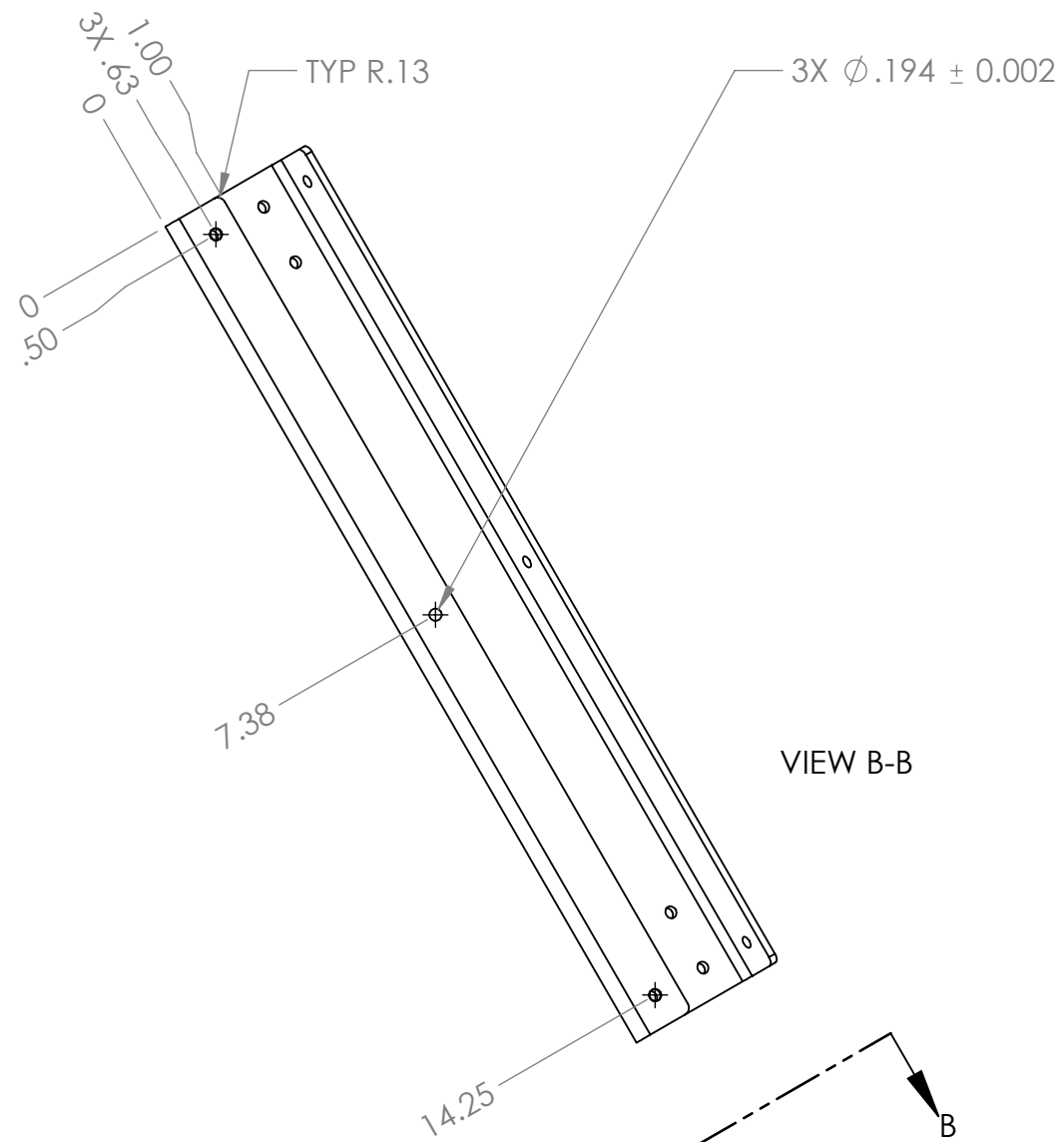
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4

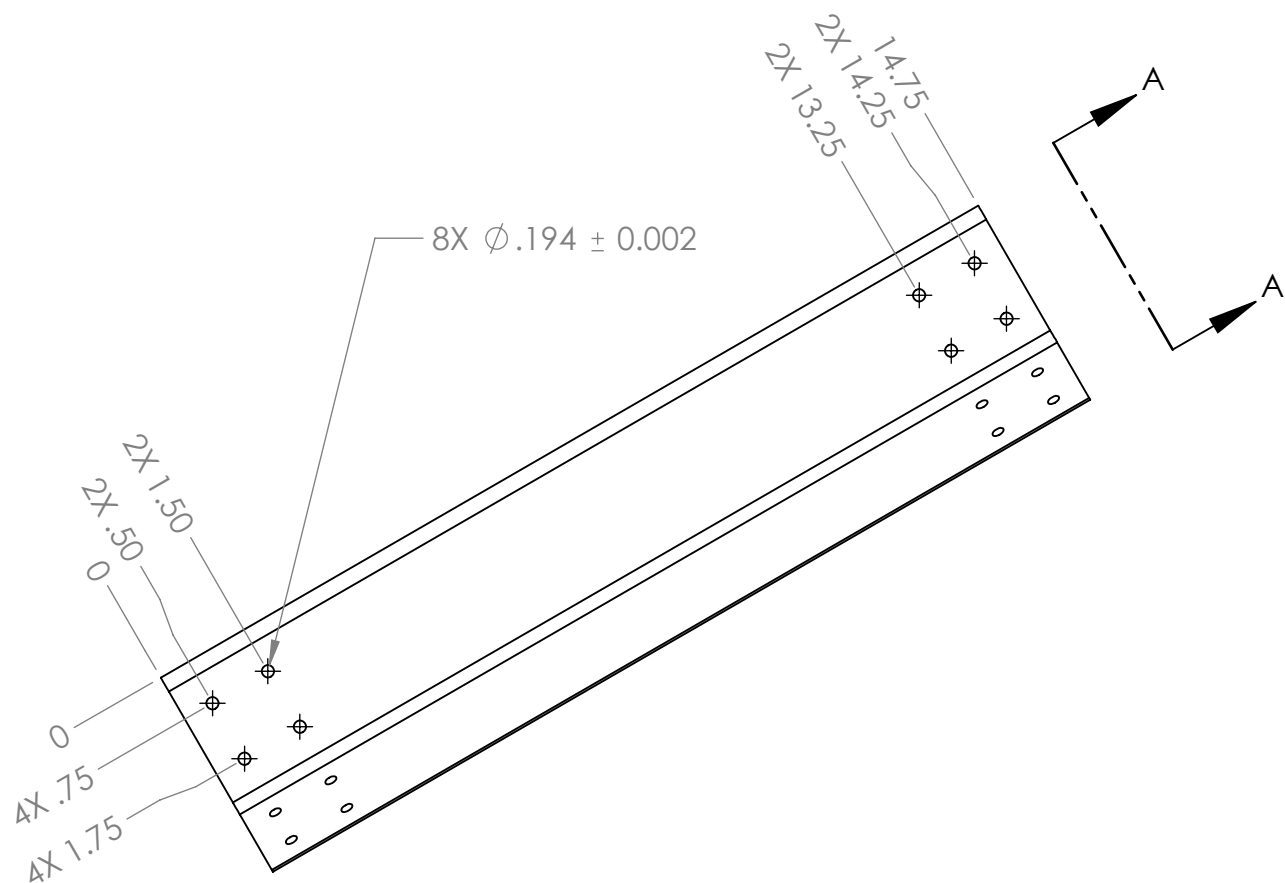
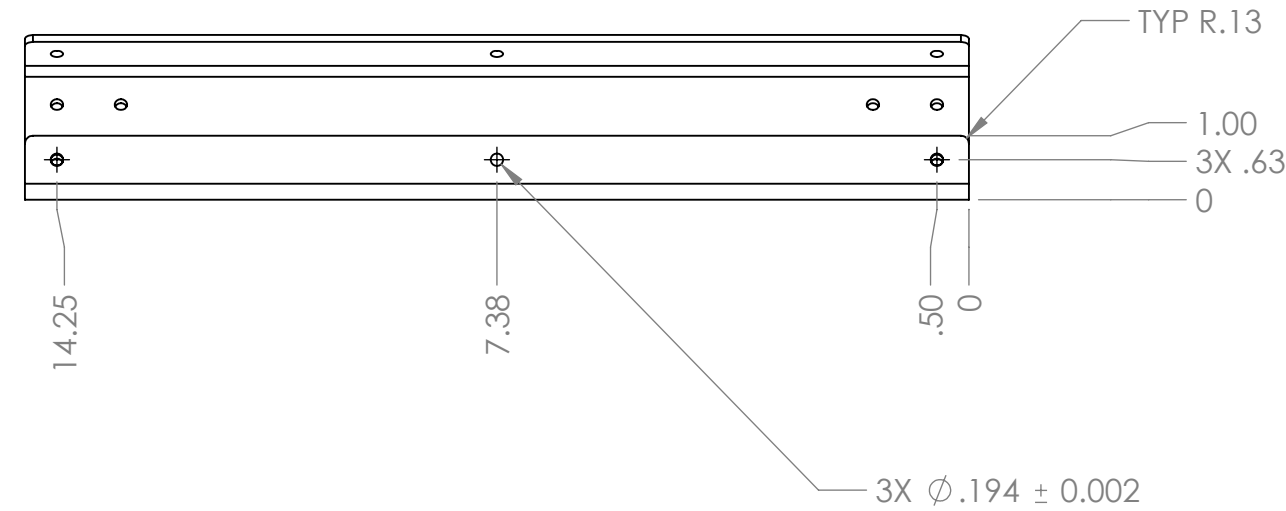
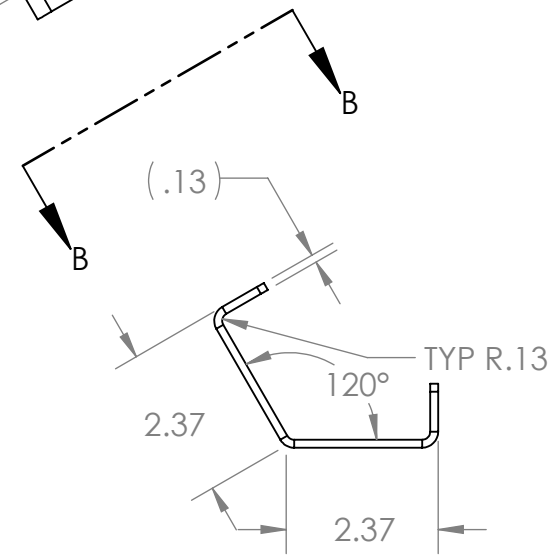
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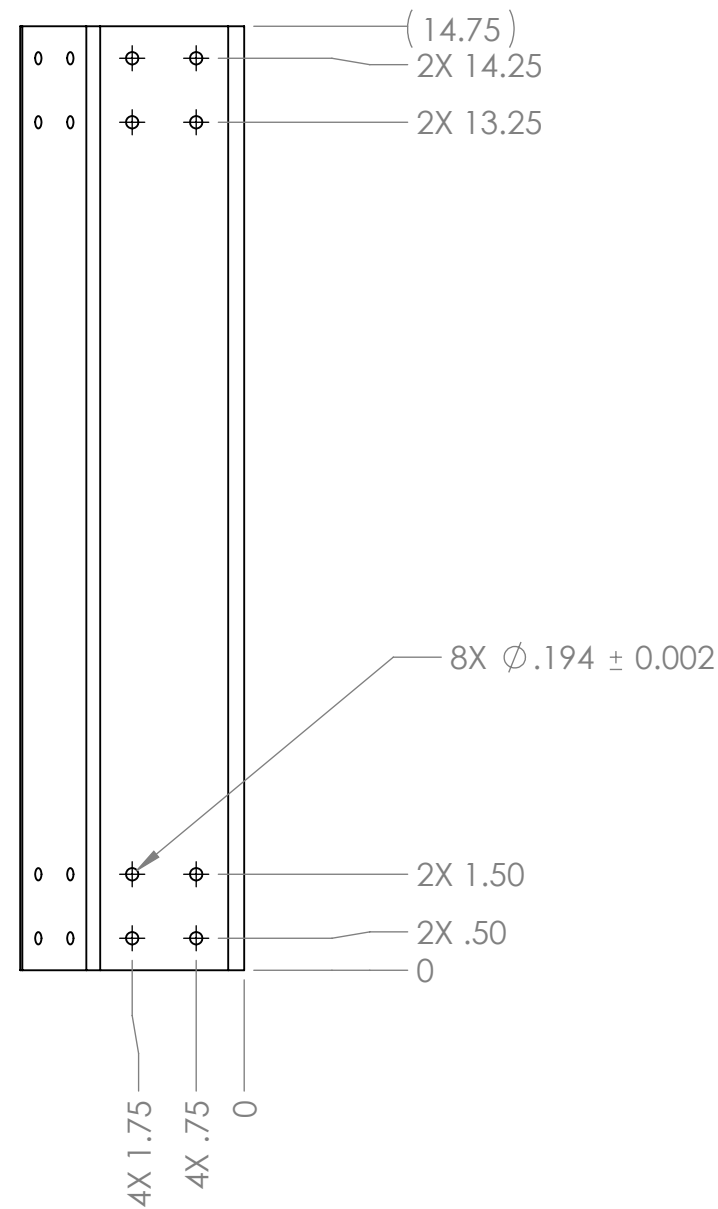
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VIEW B-B



VIEW A-A



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .02  
 THREE PLACE DECIMAL ± .010

**MATERIAL/FINISH:**  
 8GA 5052 Aluminum

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	NE	9/30/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
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<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		



TITLE:  
**Outer Slice Center Vertical Outer**

SIZE DWG. NO. REV

**C** GE-25324

SCALE: 1:3 SHEET 1 OF 1

4

3

2

1

D

D

C

C

B

B

A

A

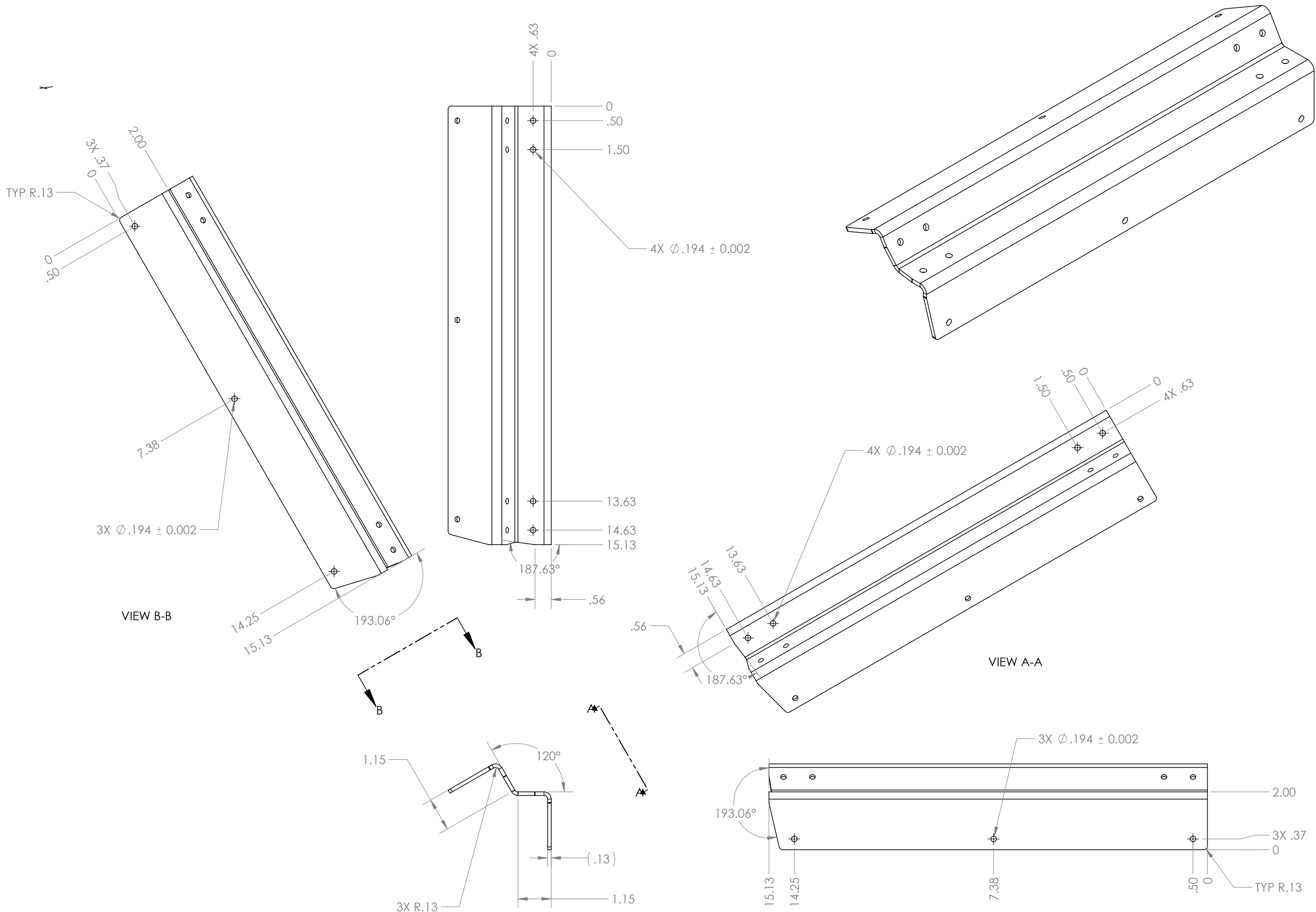


4

3

2

1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE
	DRAWN	NE	9/30/2024
<b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
DO NOT SCALE DRAWING	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		



TITLE: Outer Slice Center Vertical Inner		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25325	
SCALE: 2:5		SHEET 1 OF 1

4

3

2

1

D

D

C

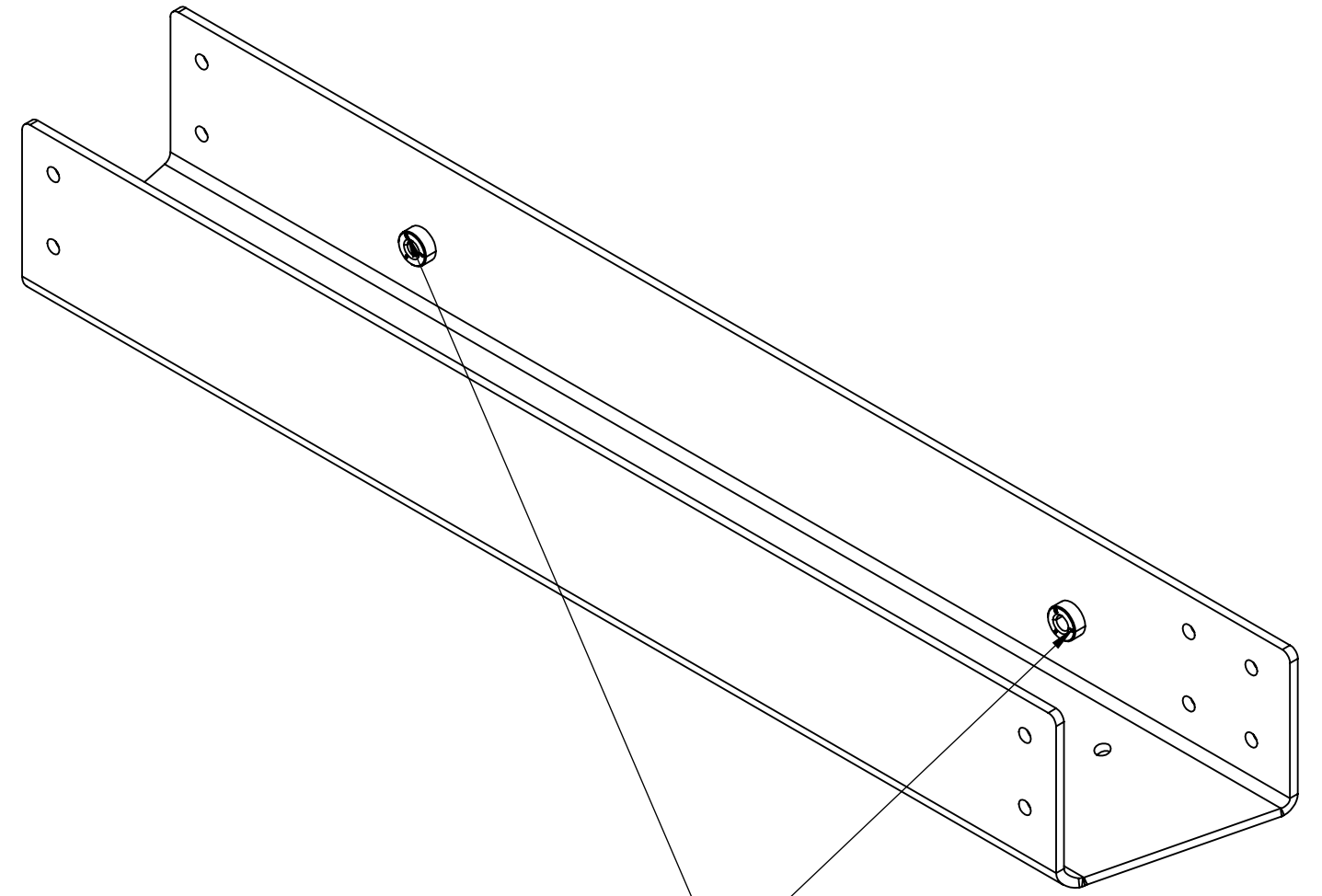
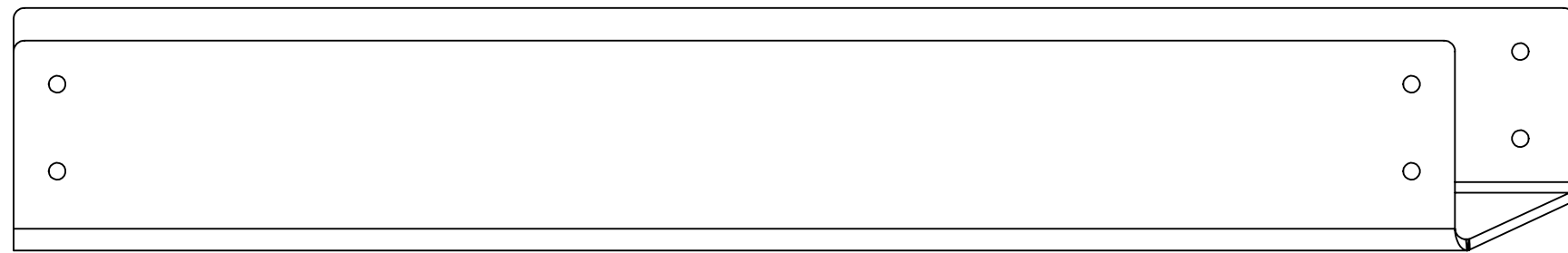
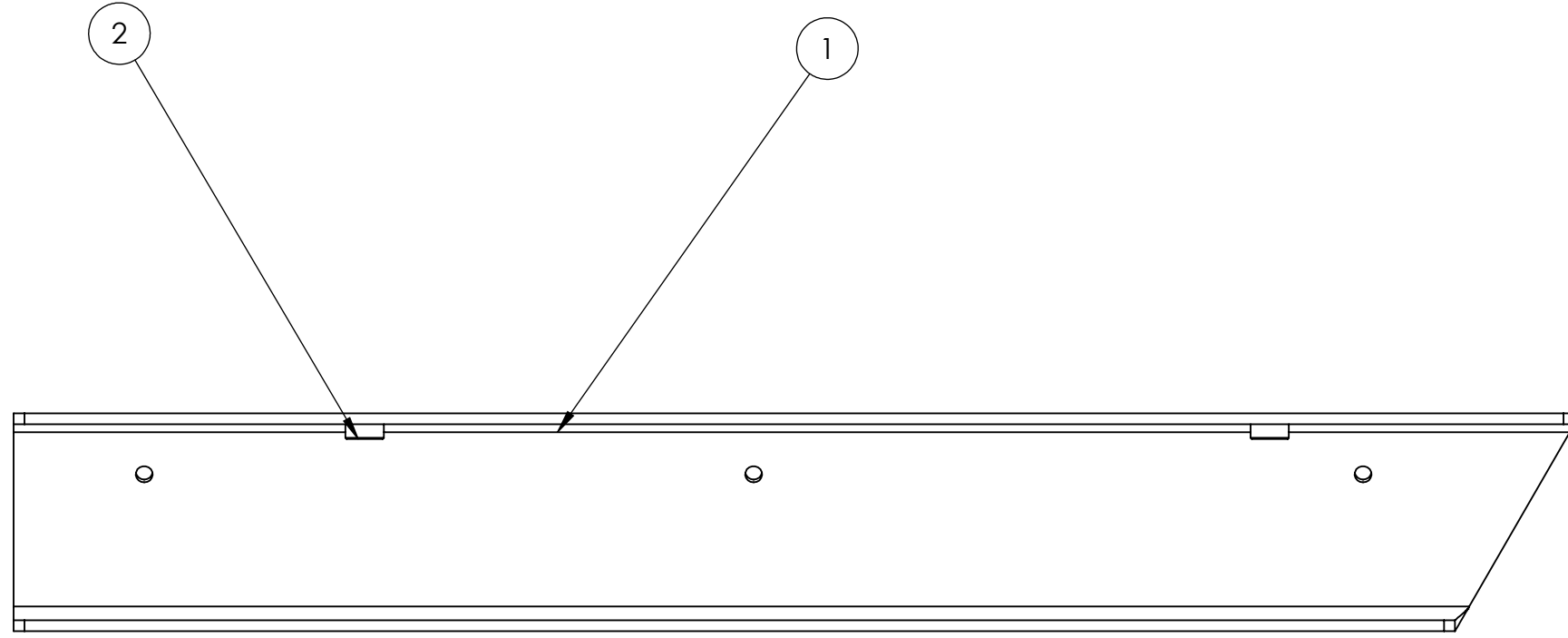
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B

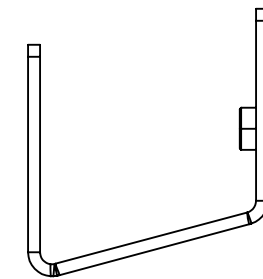
B

A

A



2X PEM NUTS INSTALLED ON INTERIOR FACE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25326-01	Outer Slice Left Top Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN NE 9/30/2024

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**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE:  
**Outer Slice Left Top Channel W PEMs**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25326</b>	

SCALE: 1:2 SHEET 1 OF 1

4

3

2

1

4

3

2

1

D

D

C

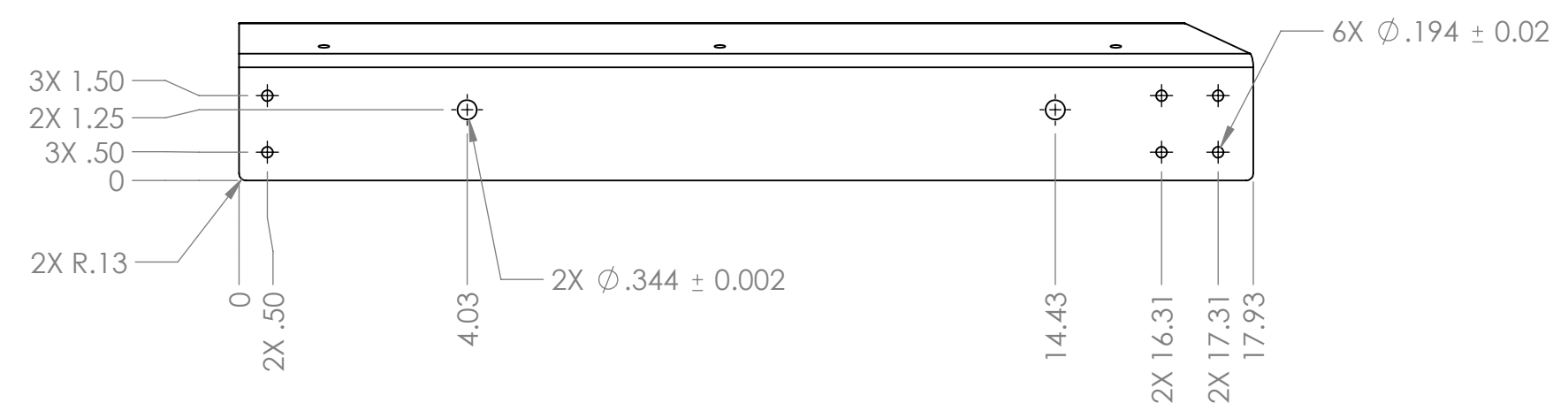
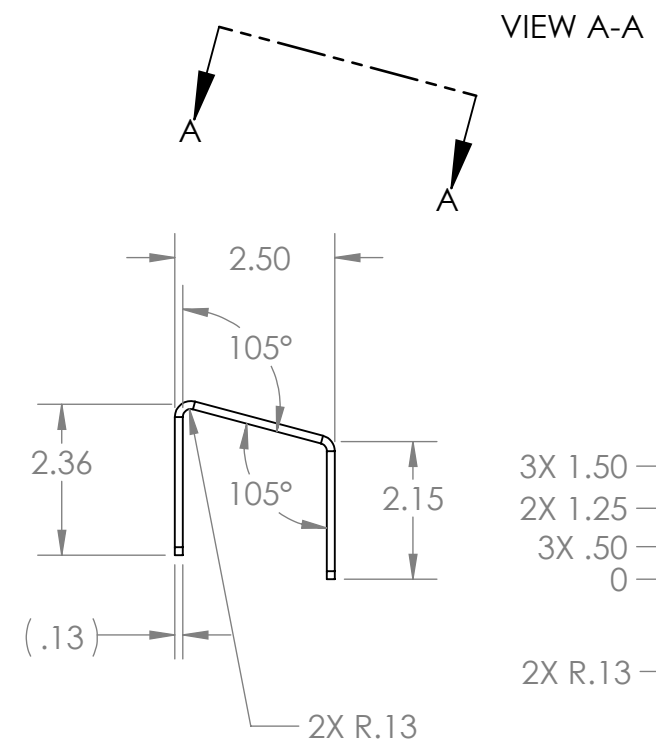
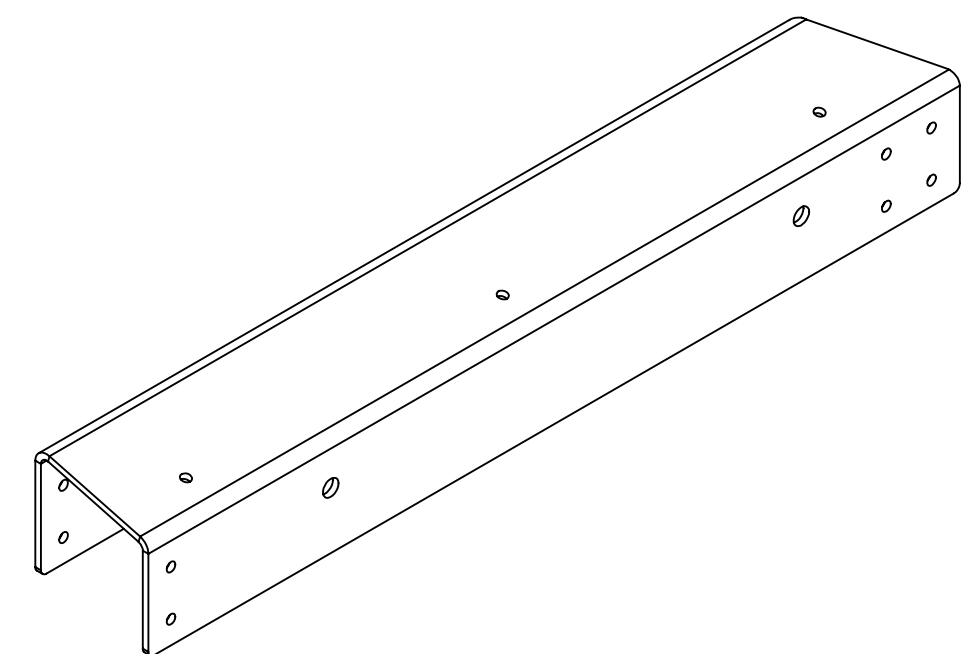
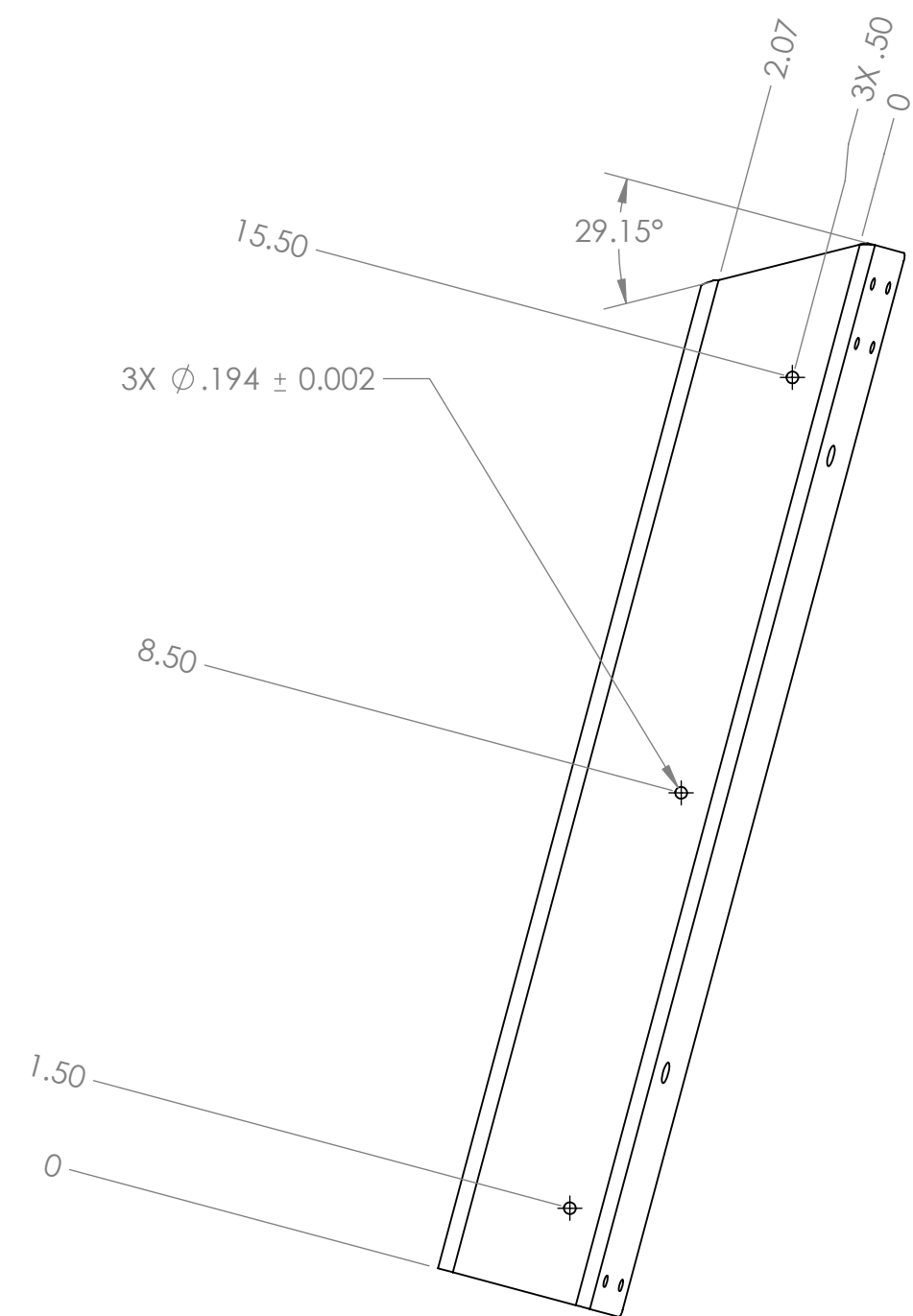
C



B

B

A

A



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NE	9/30/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			Outer Slice Left Top Channel
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				<b>C</b> GE-25326-01
				SCALE: 1:3 SHEET 1 OF 1

4

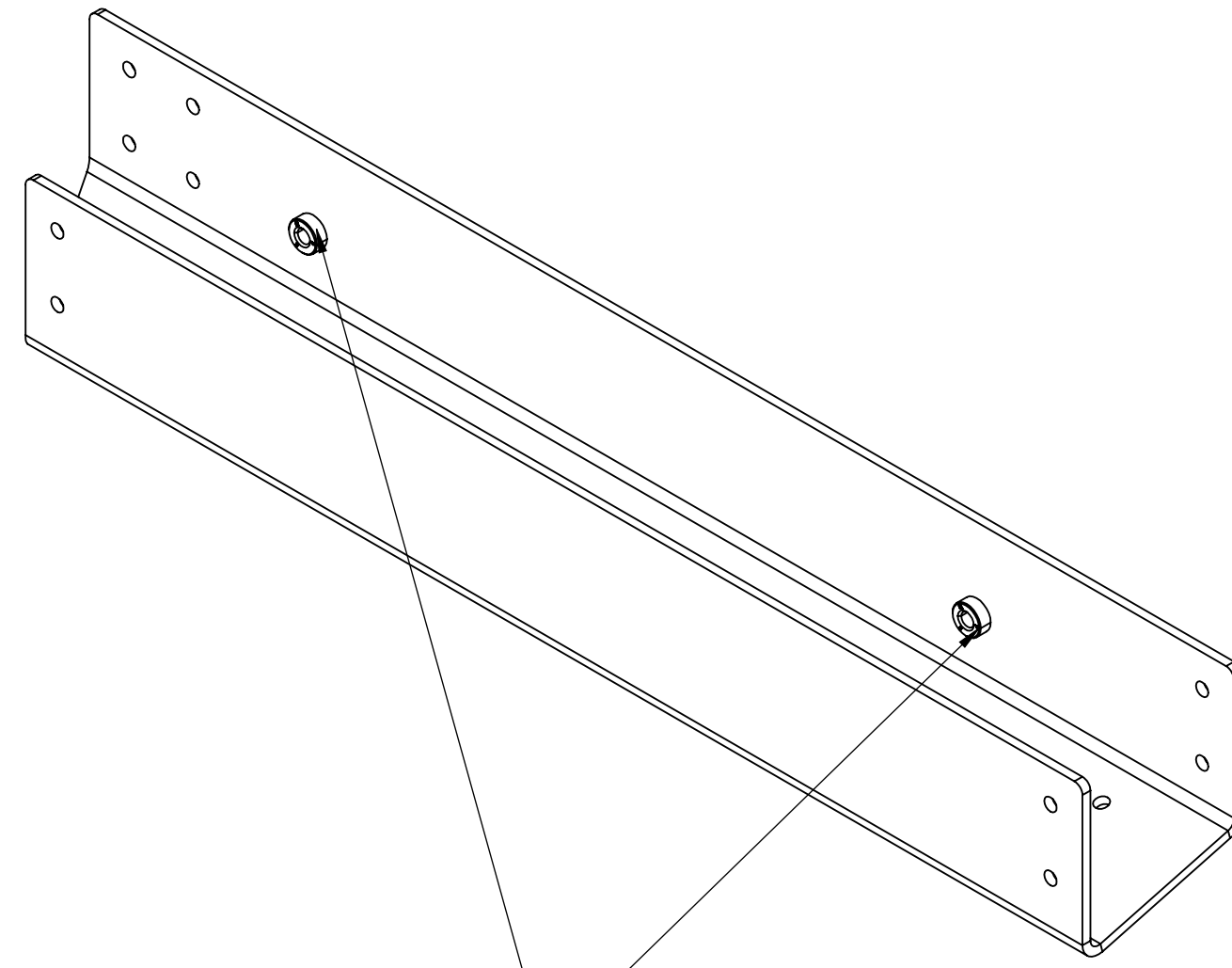
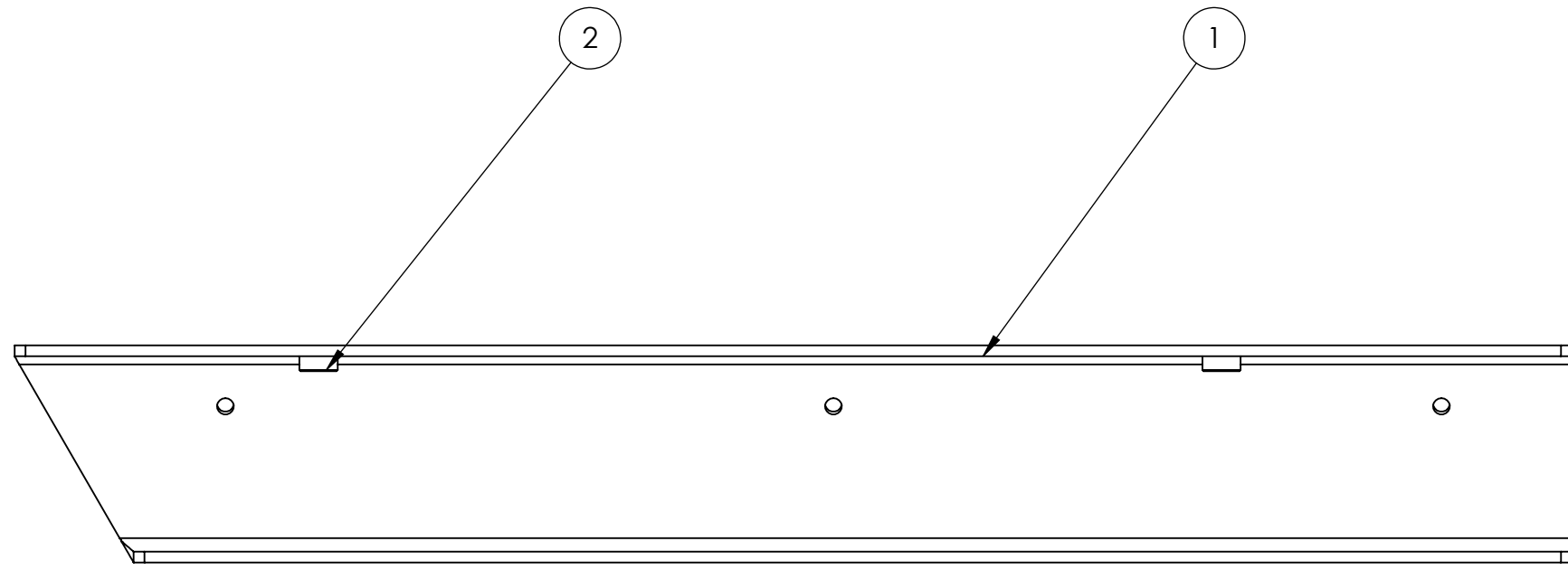
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2

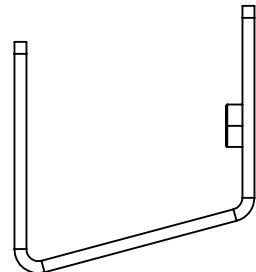
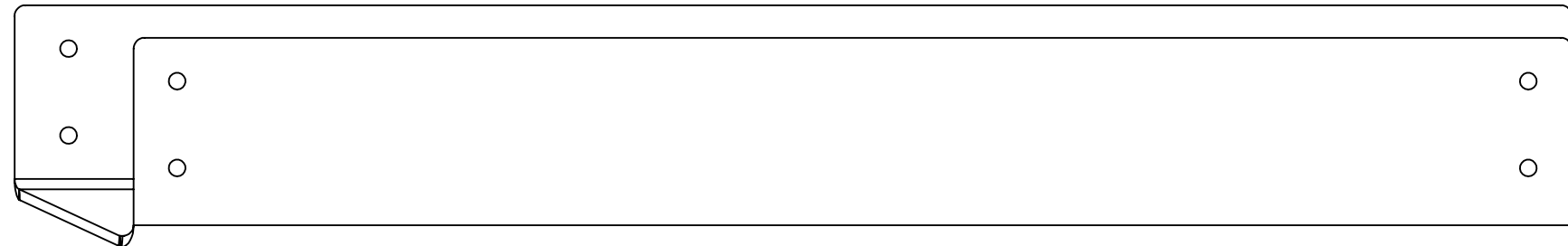
1

D

D



2X PEM NUTS INSTALLED ON INTERIOR FACE



C

C

B

B

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A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25327-01	Outer Slice Right Top Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

**COMMENTS:**  
REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN NE 9/30/2024

**PROPRIETARY AND CONFIDENTIAL**  
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**COMMENTS:**  
REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Outer Slice Right Top Channel W PEMs**

SIZE DWG. NO. REV  
**C** GE-25327

SCALE: 1:2 SHEET 1 OF 1

4

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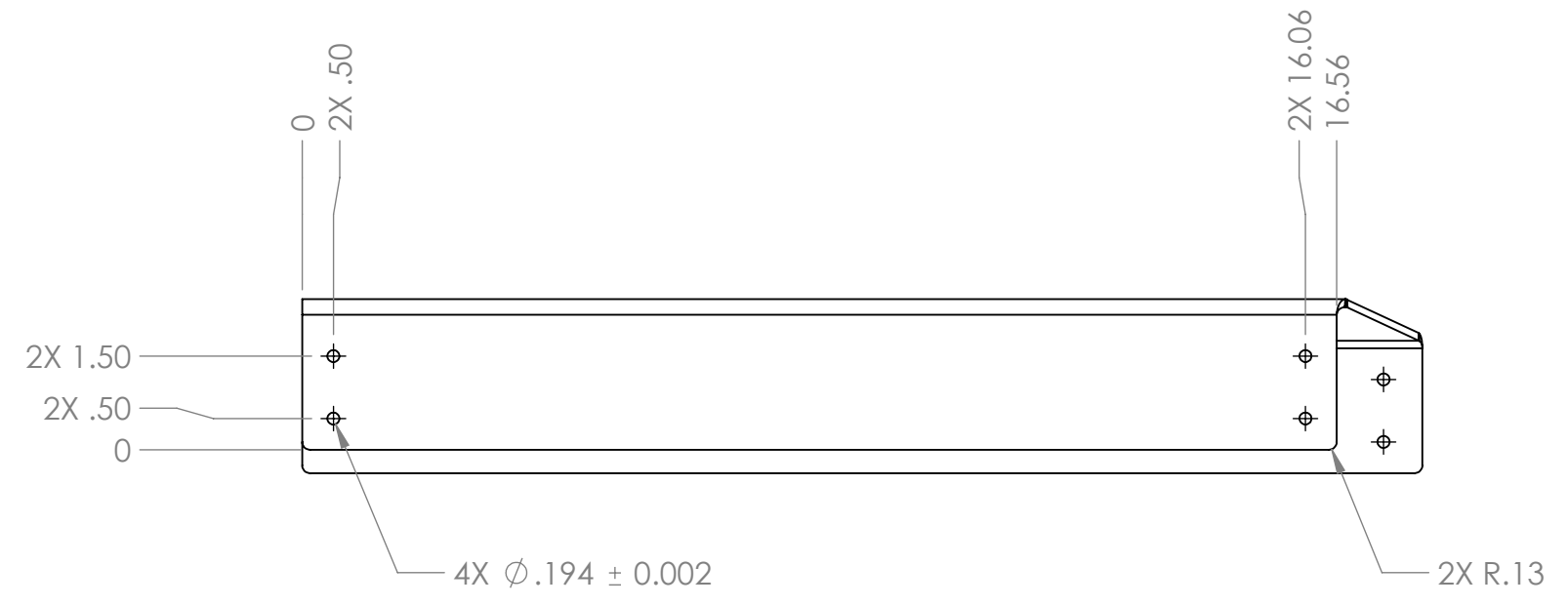
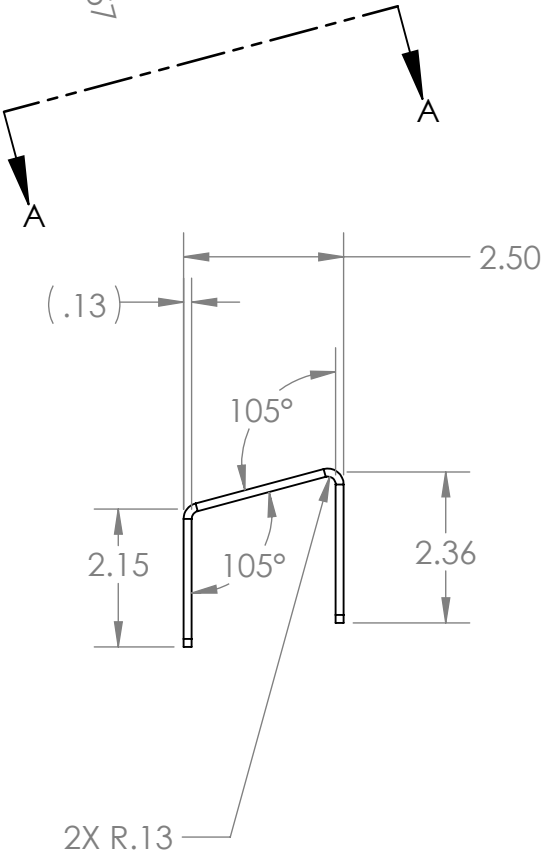
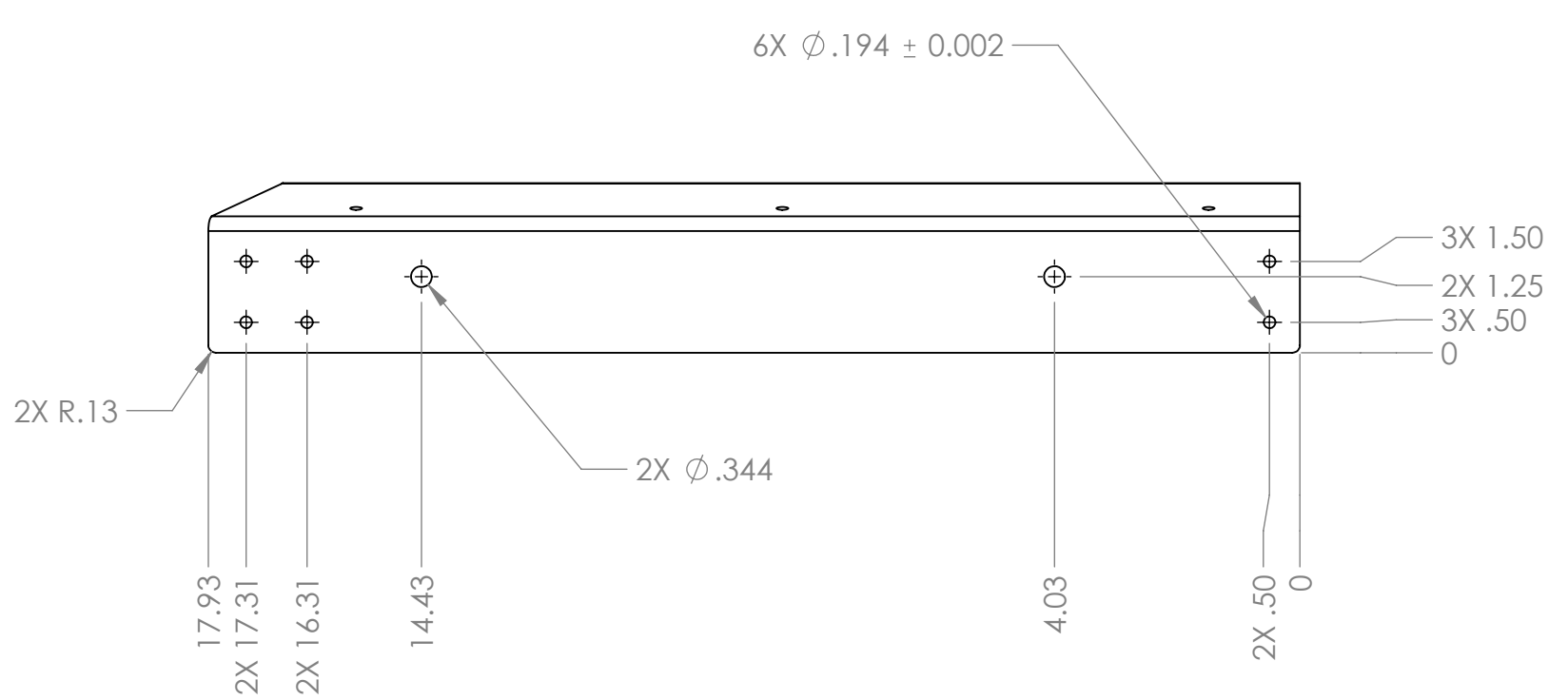
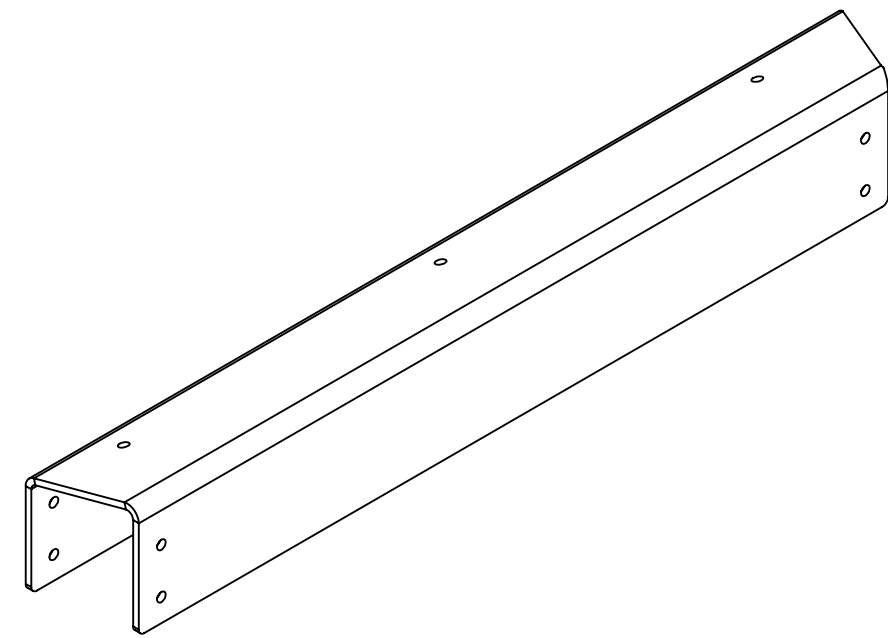
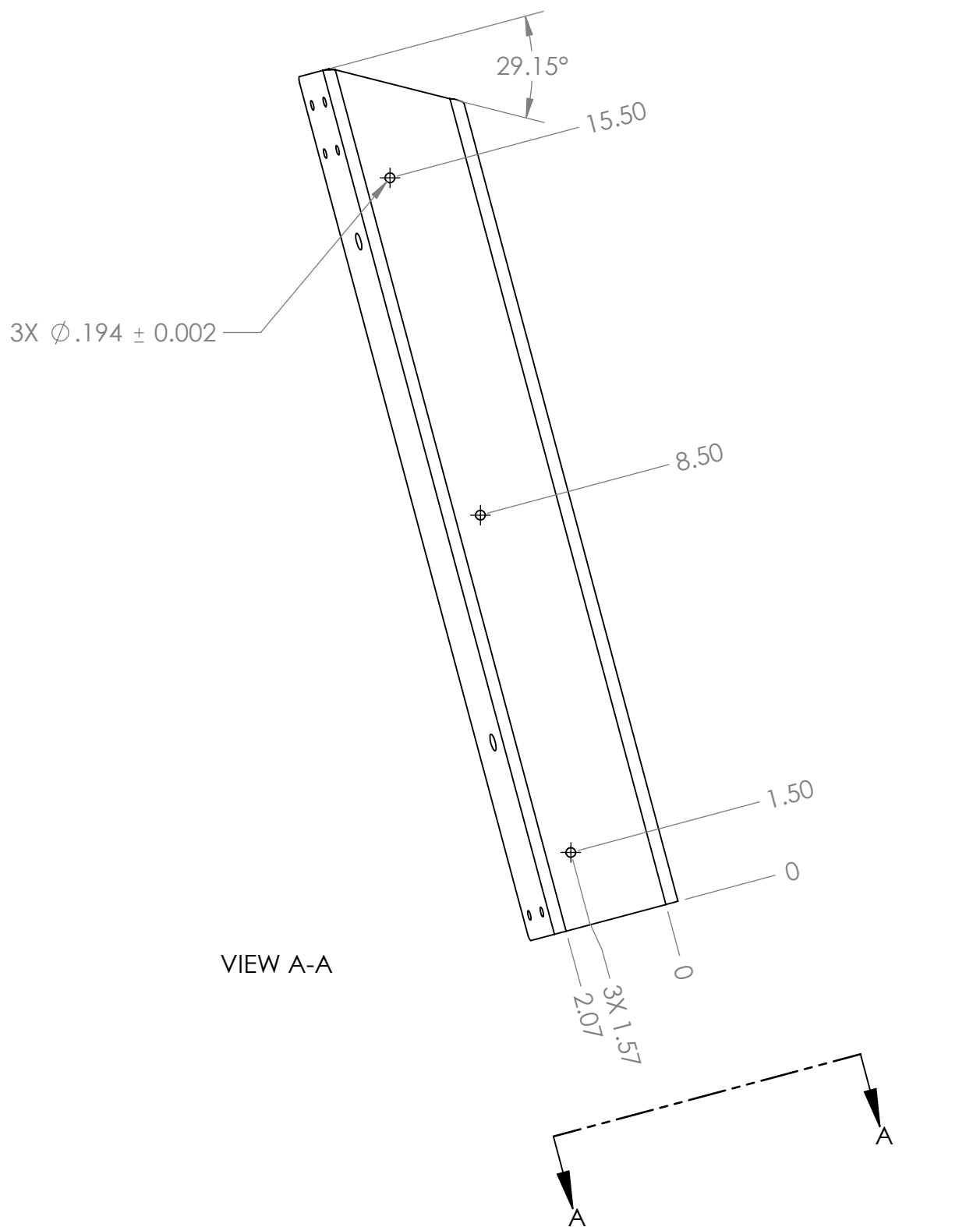
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NE	9/30/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Outer Slice Right Top Channel
SIZE		DWG. NO.	REV	
<b>C</b>		GE-25327-01		
SCALE: 1:3			SHEET 1 OF 1	

4

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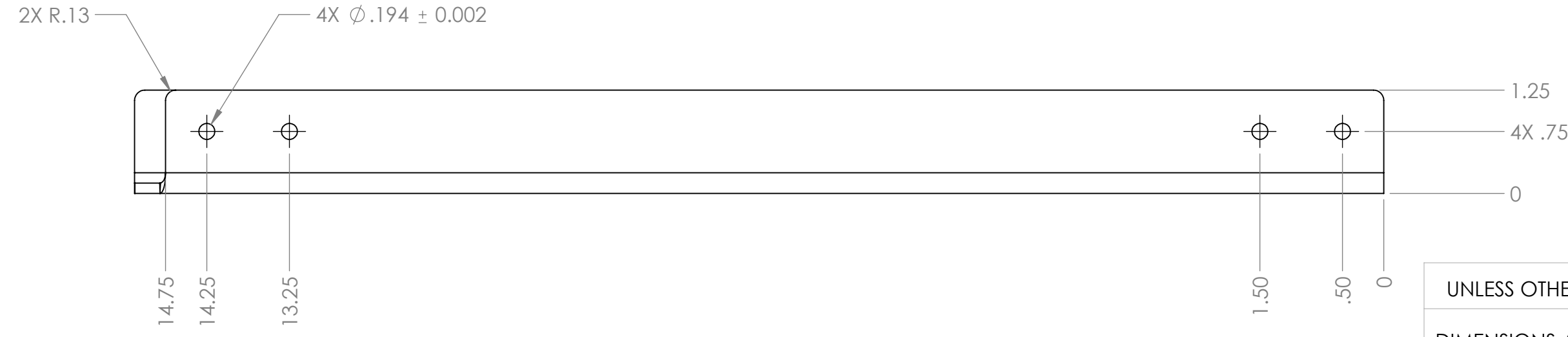
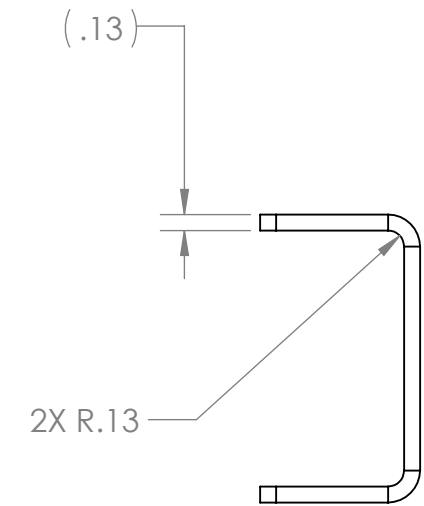
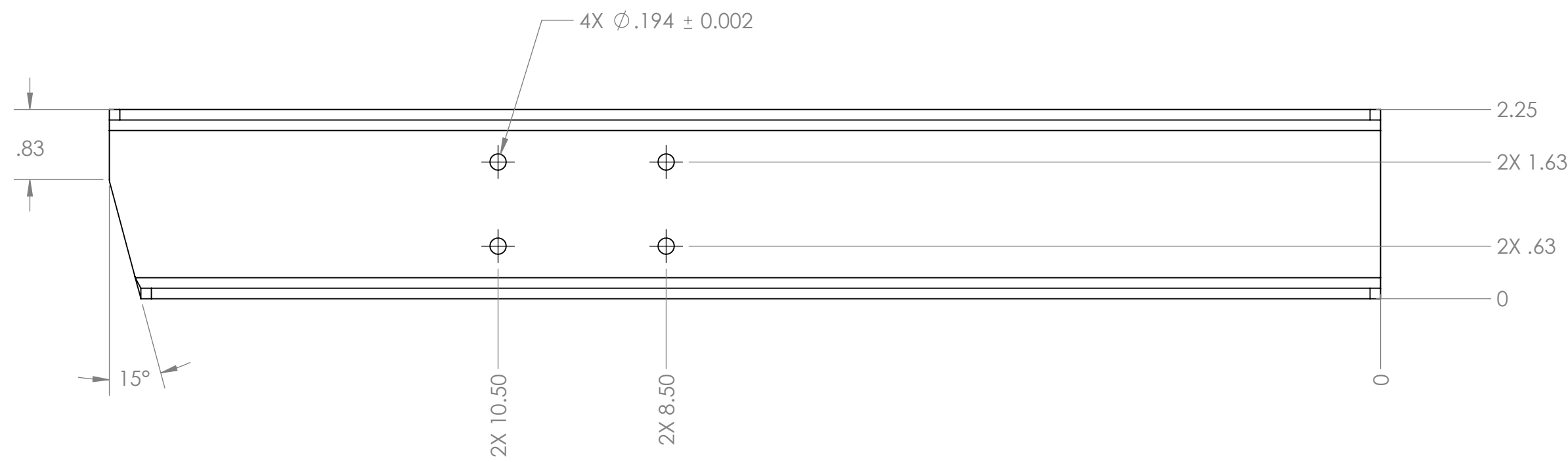
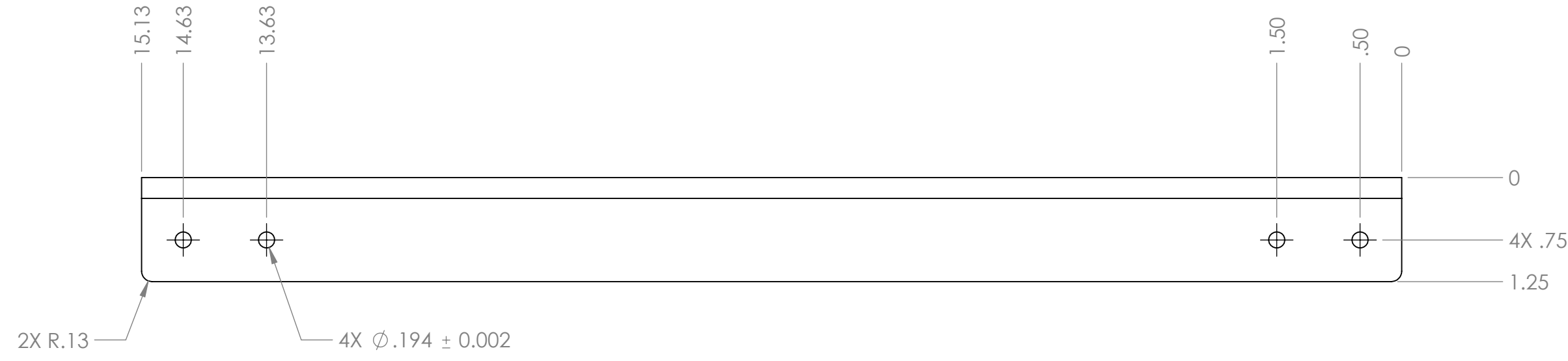
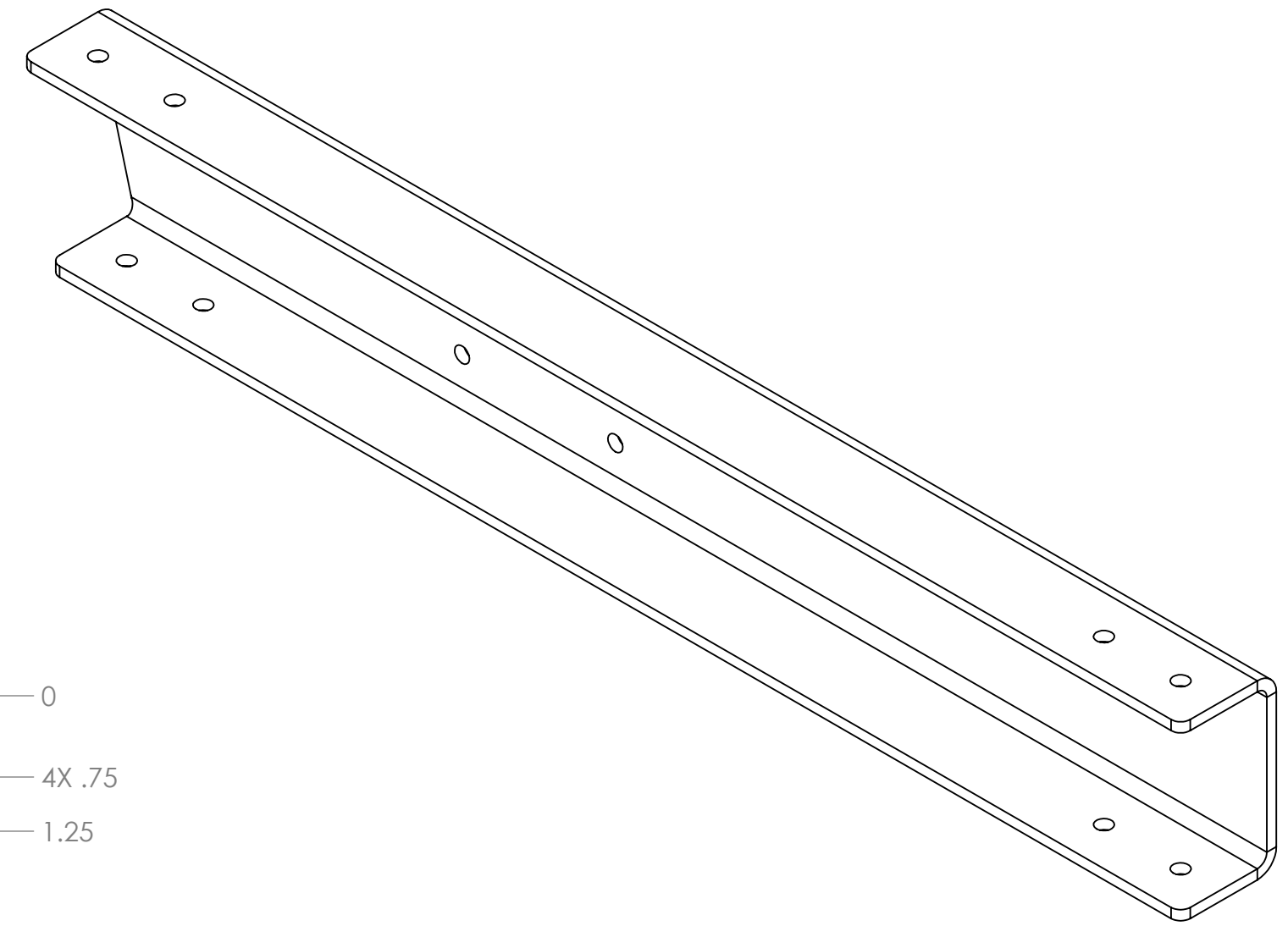
C



B

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NE	9/30/2024	
<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				TITLE:
				Outer Slice End Vertical Left
SIZE		DWG. NO.	REV	
C		GE-25328		
SCALE: 2:3			SHEET 1 OF 1	

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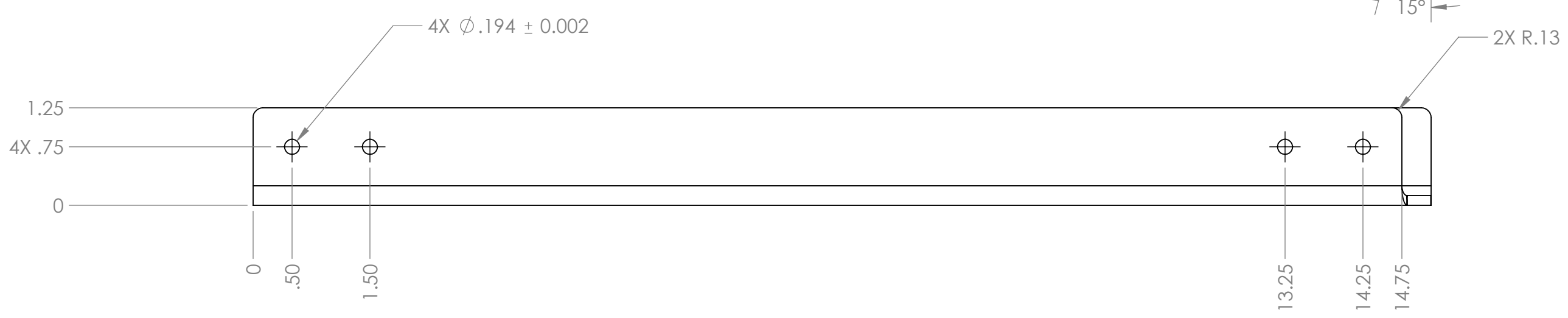
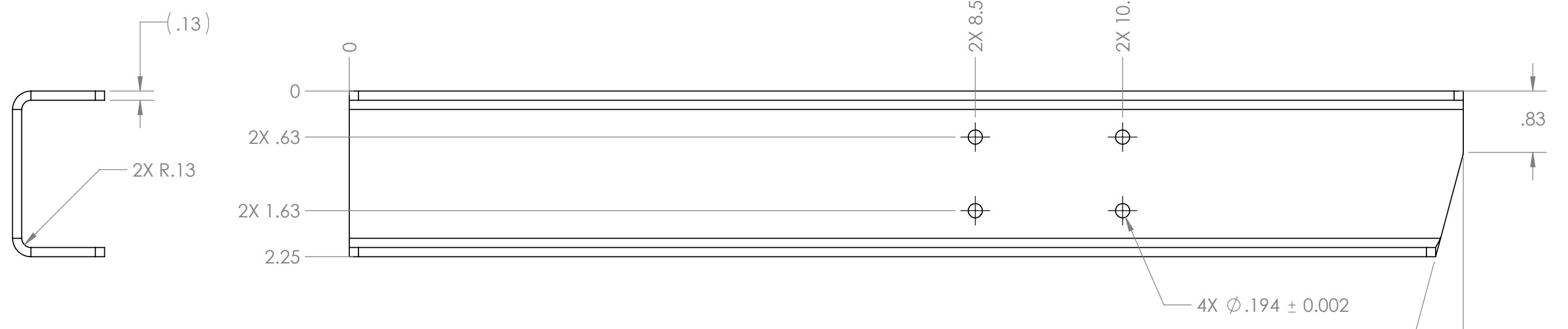
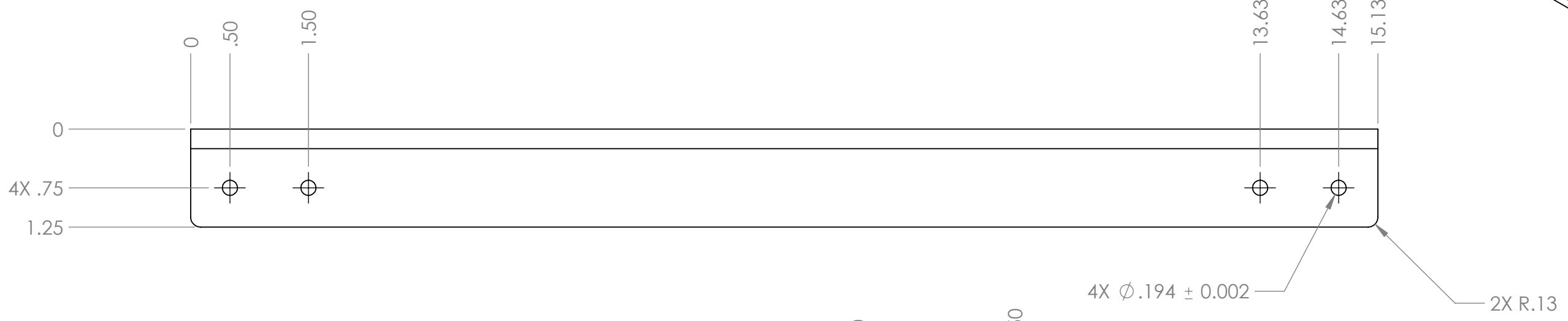
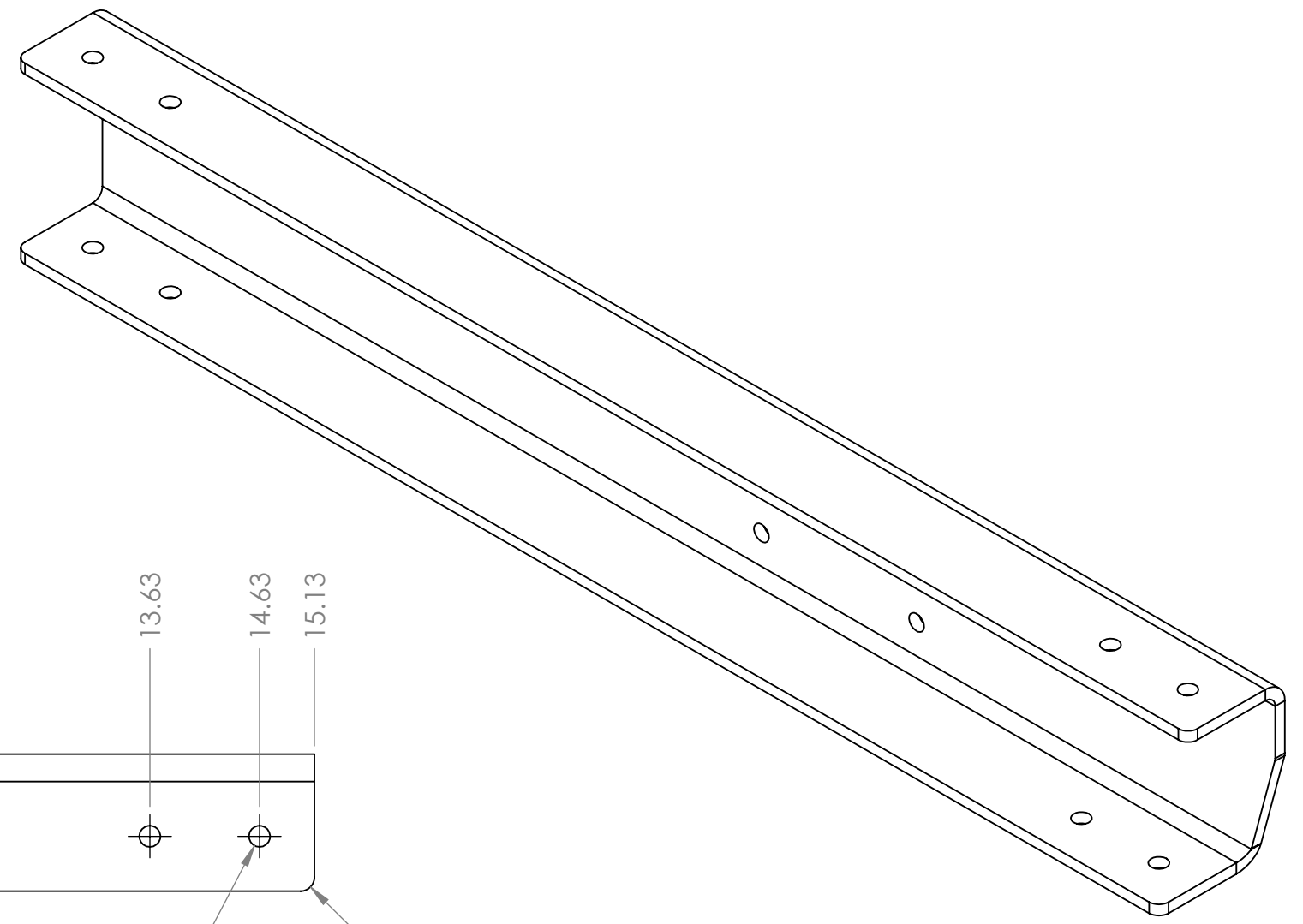
C



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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 	
	DRAWN	NE	9/30/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE:	<b>Outer Slice End Vertical Right</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE: <b>C</b>	
			SCALE: 2:3	SHEET 1 OF 1	

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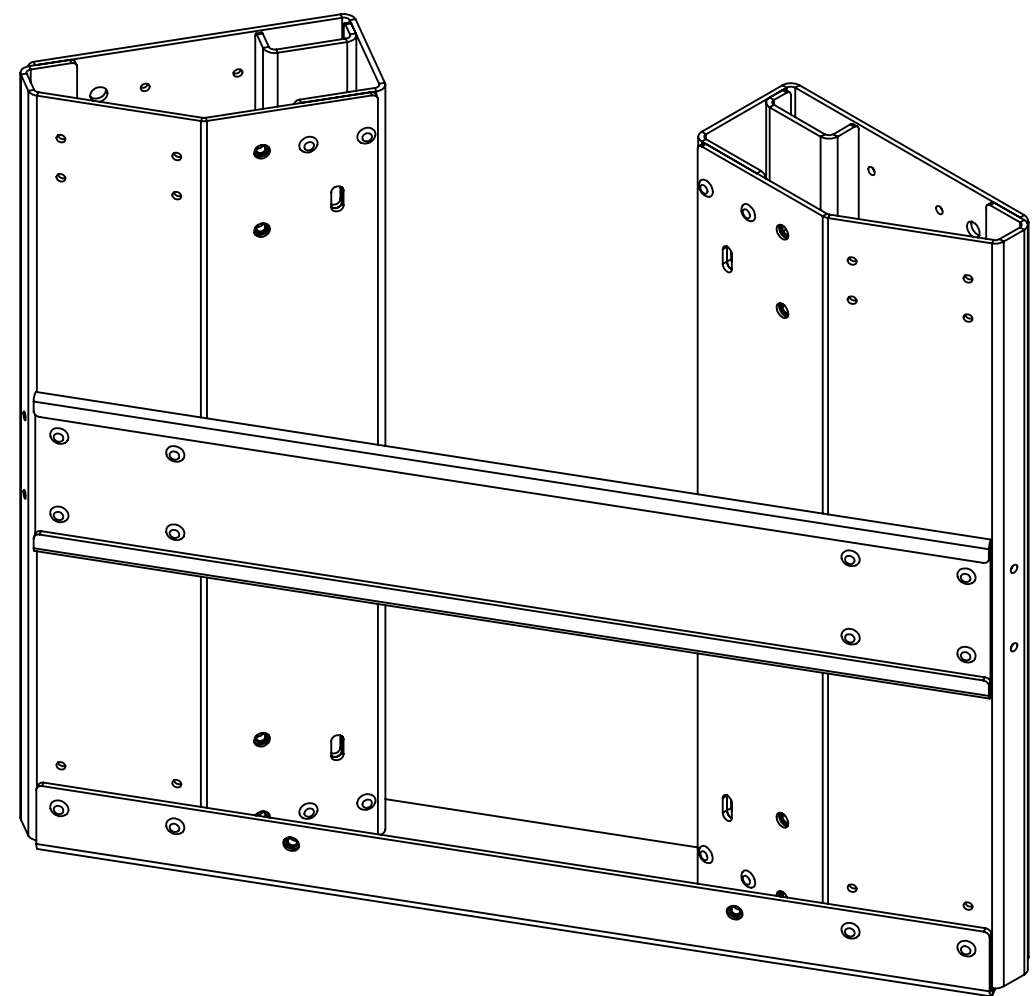
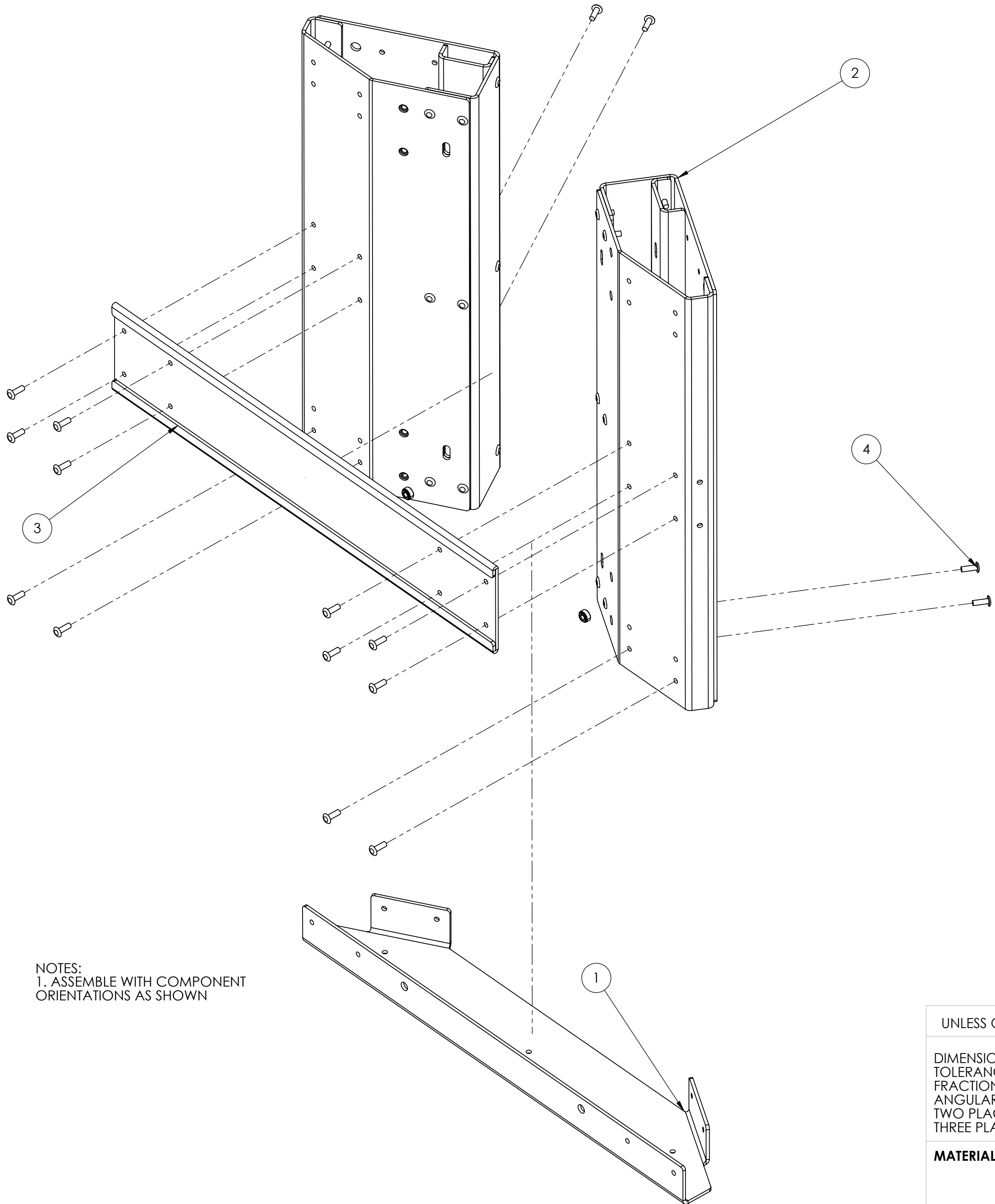
C

B

B

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A



NOTES:  
 1. ASSEMBLE WITH COMPONENT ORIENTATIONS AS SHOWN

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25331	Inner Slice Base Channel W PEMs	1
2	GE-25332	Inner Slice Pipe Vertical	2
3	GE-25336	Inner Slice Back Support	1
4	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	16

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	9/30/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE:  
**Inner Slice Assembly**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25330	

SCALE: 1:3      SHEET 1 OF 1



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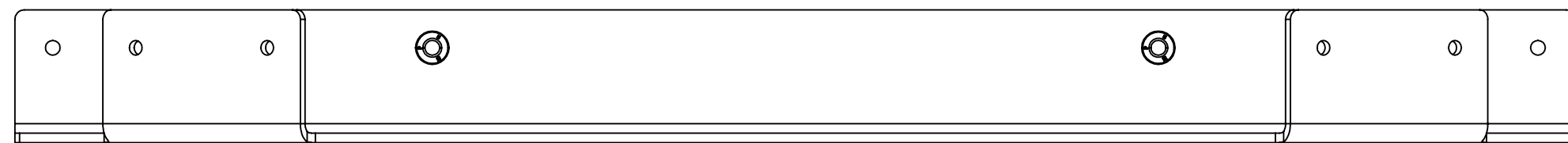
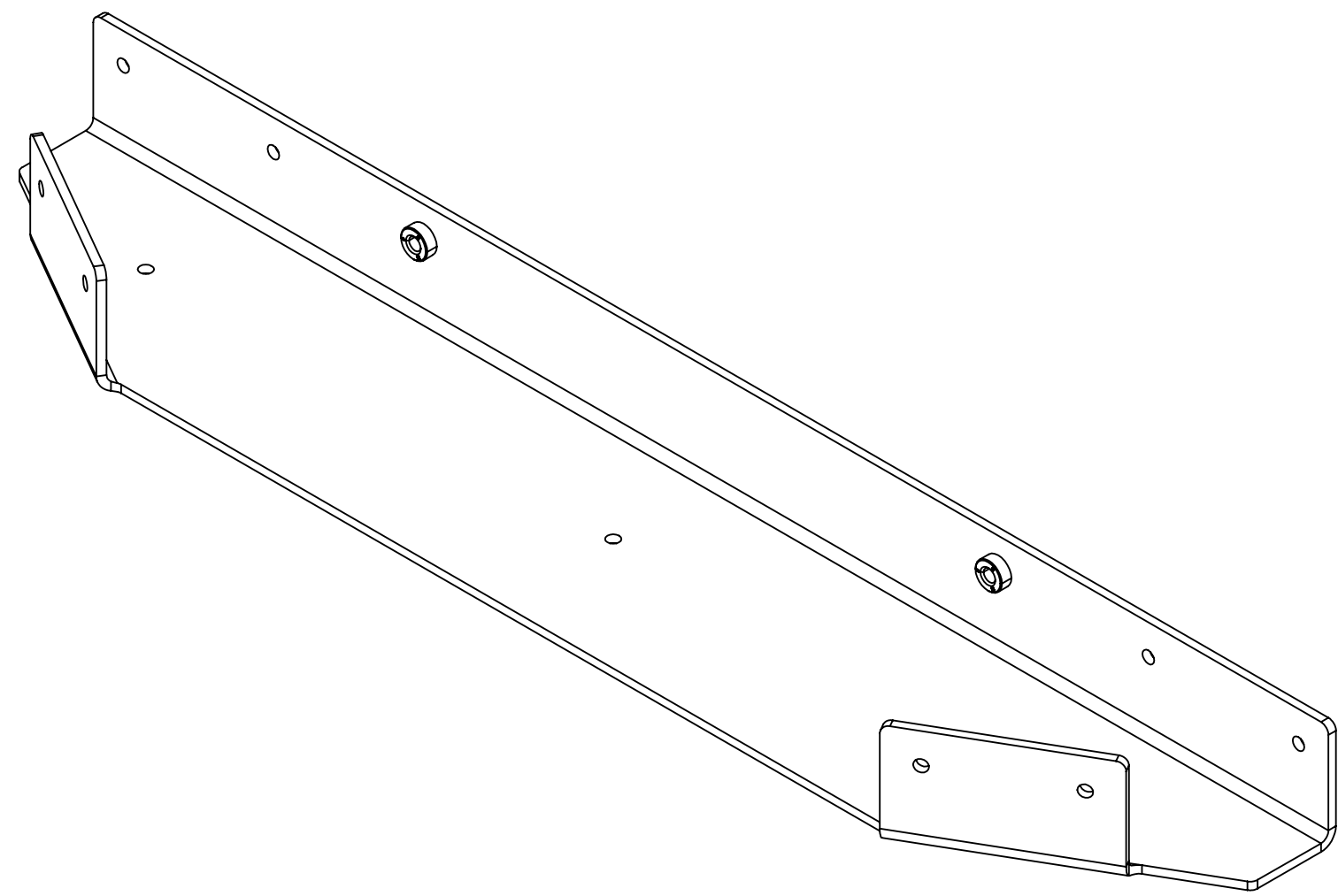
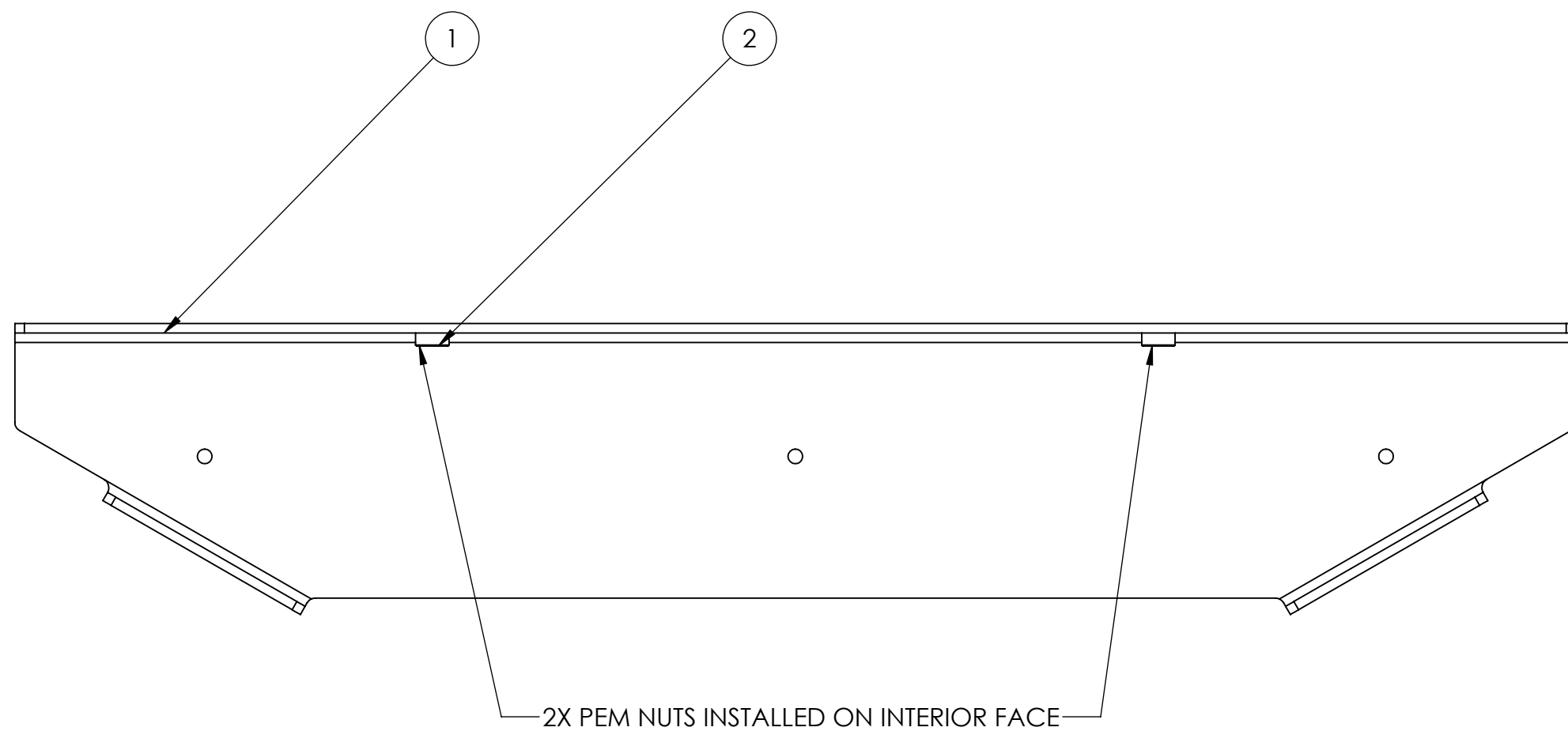
C

B

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A



NOTES:  
1. REMOVE ALL BUTTS AND SHARP EDGES

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25331-01	Inner Slice Base Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	NE	9/30/2024	
<b>MATERIAL/FINISH:</b>  DO NOT SCALE DRAWING		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Inner Slice Base Channel W PEMs</b>
		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		SIZE: <b>C</b> DWG. NO.: <b>GE-25331</b> REV:	
		SCALE: 1:2		SHEET 1 OF 1	

4

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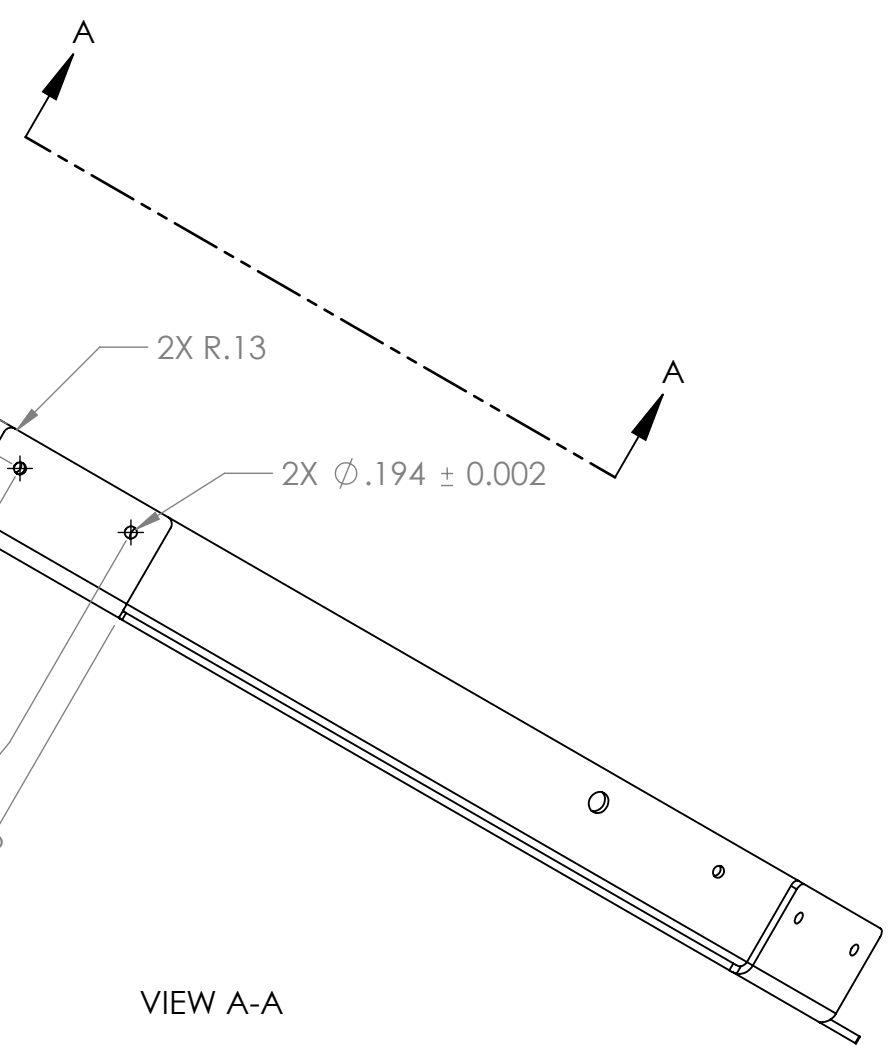
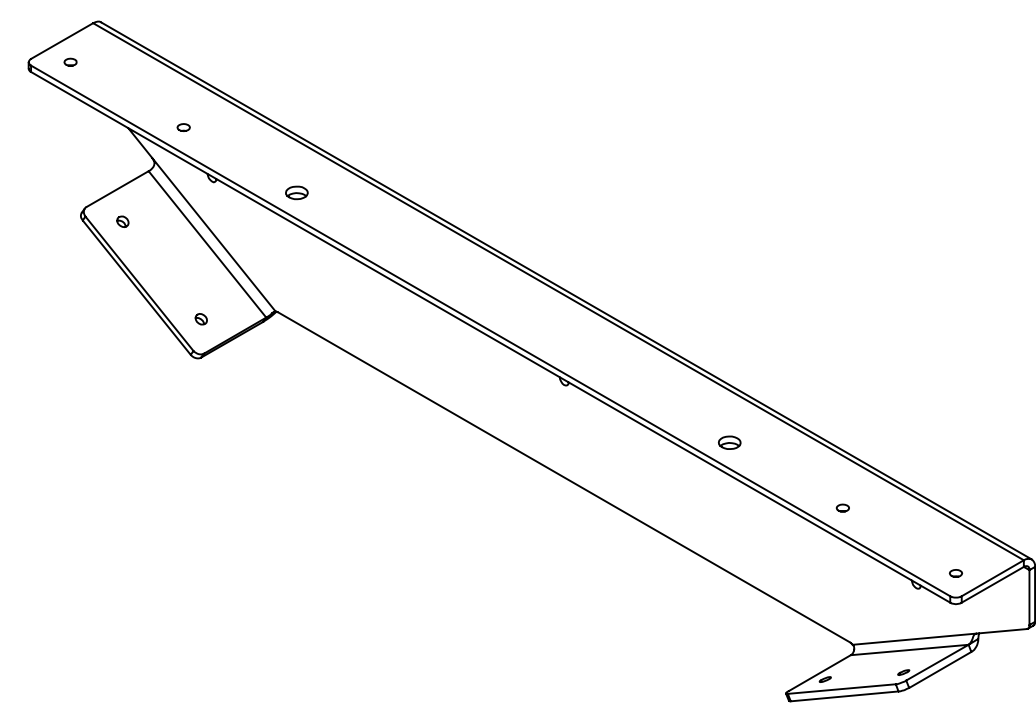
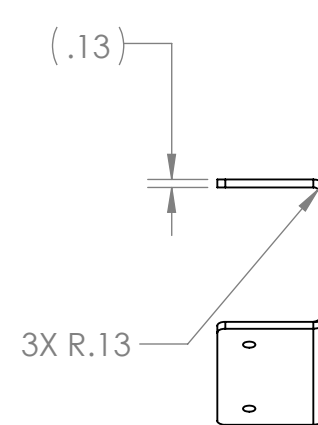
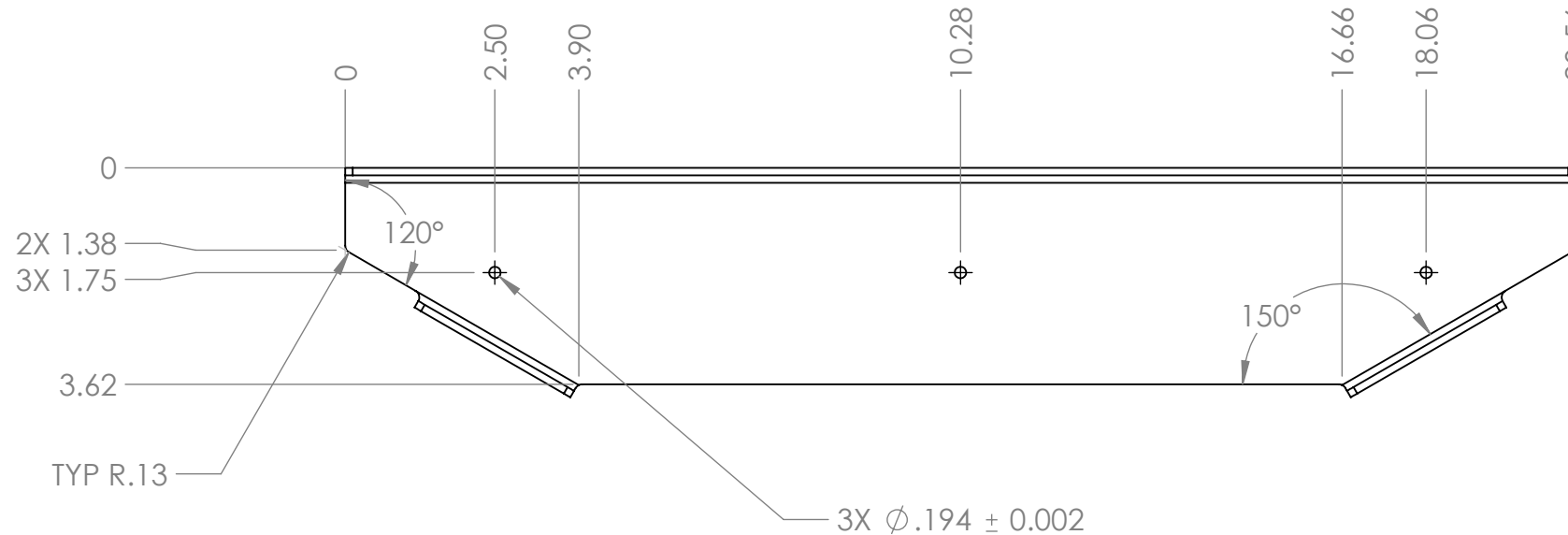
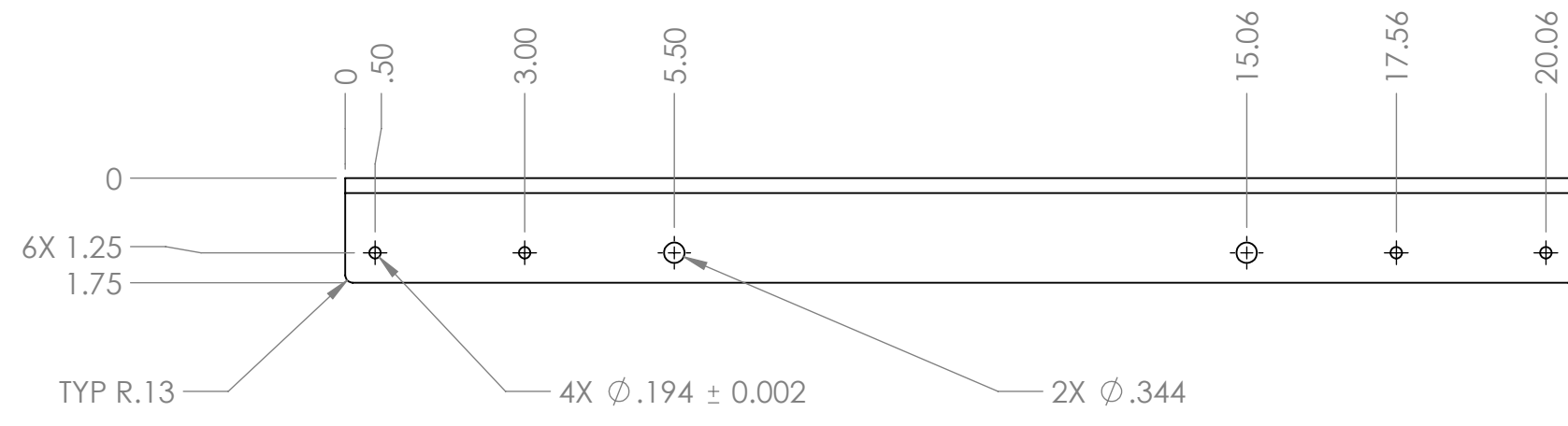
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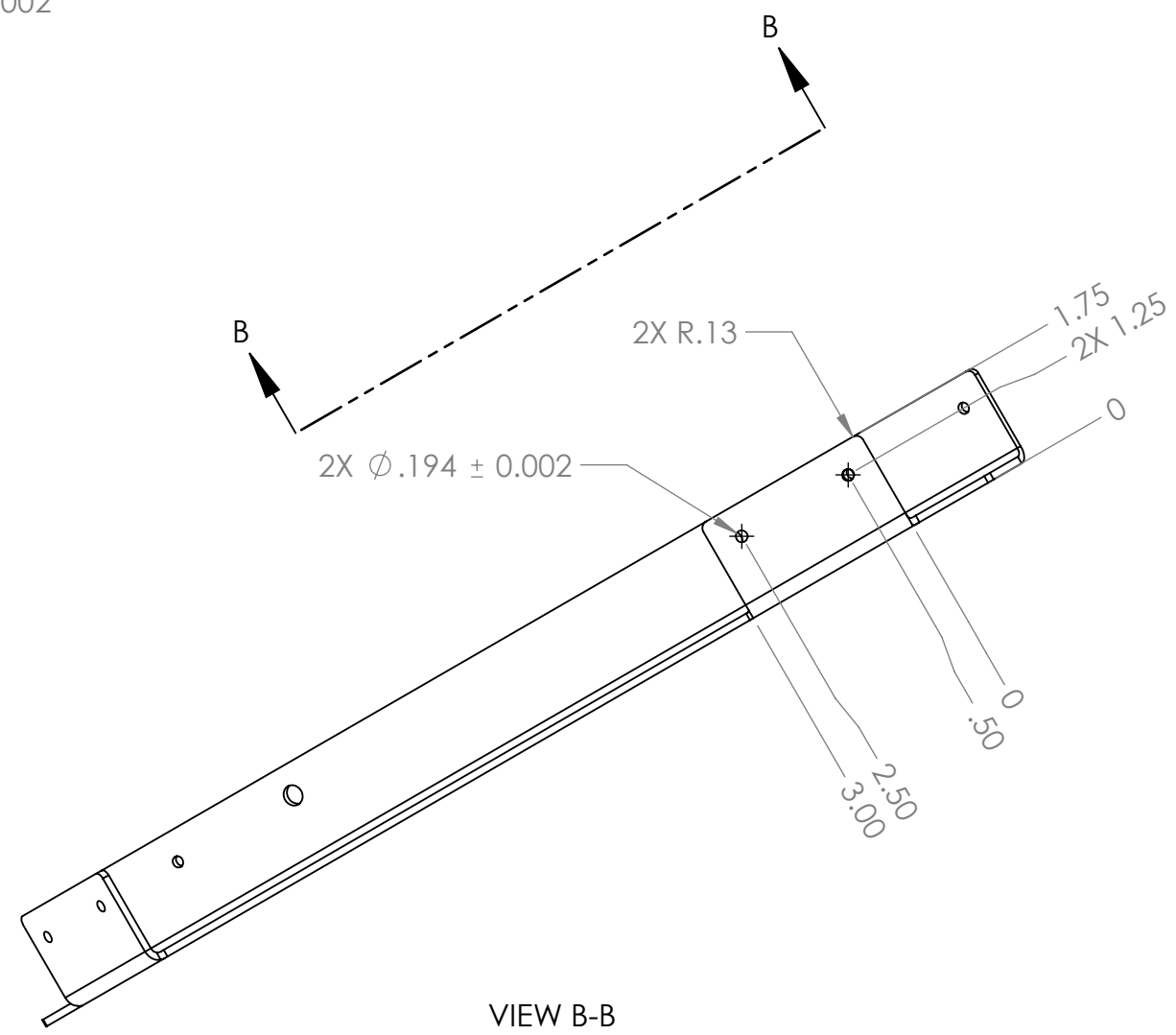
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2

1



VIEW A-A



VIEW B-B

UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	NE	9/30/2024
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		



TITLE:  
**Inner Slice Base Channel**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25331-01	

SCALE: 1:3 SHEET 1 OF 1

4

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C

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C

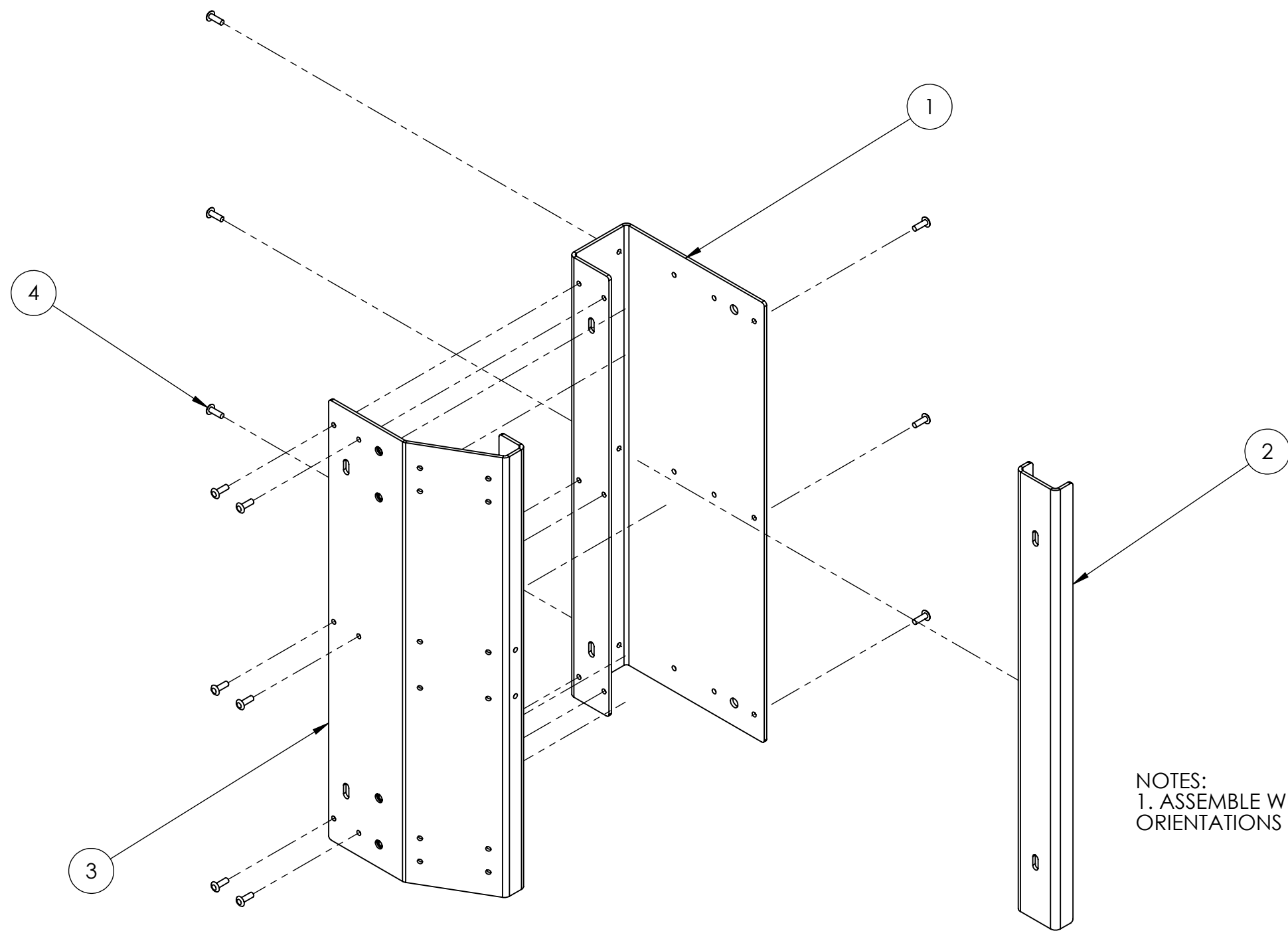
C

B

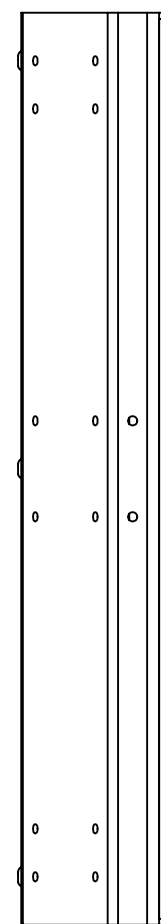
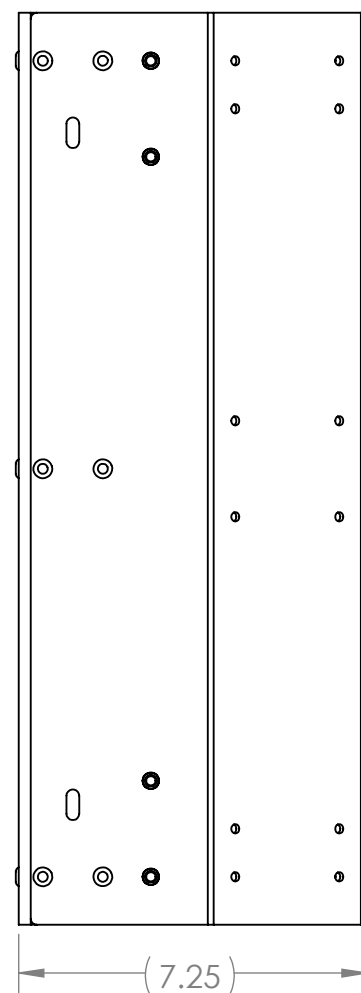
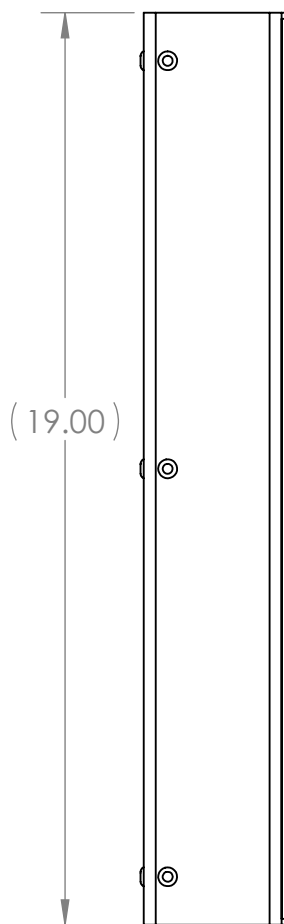
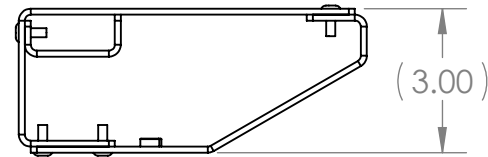
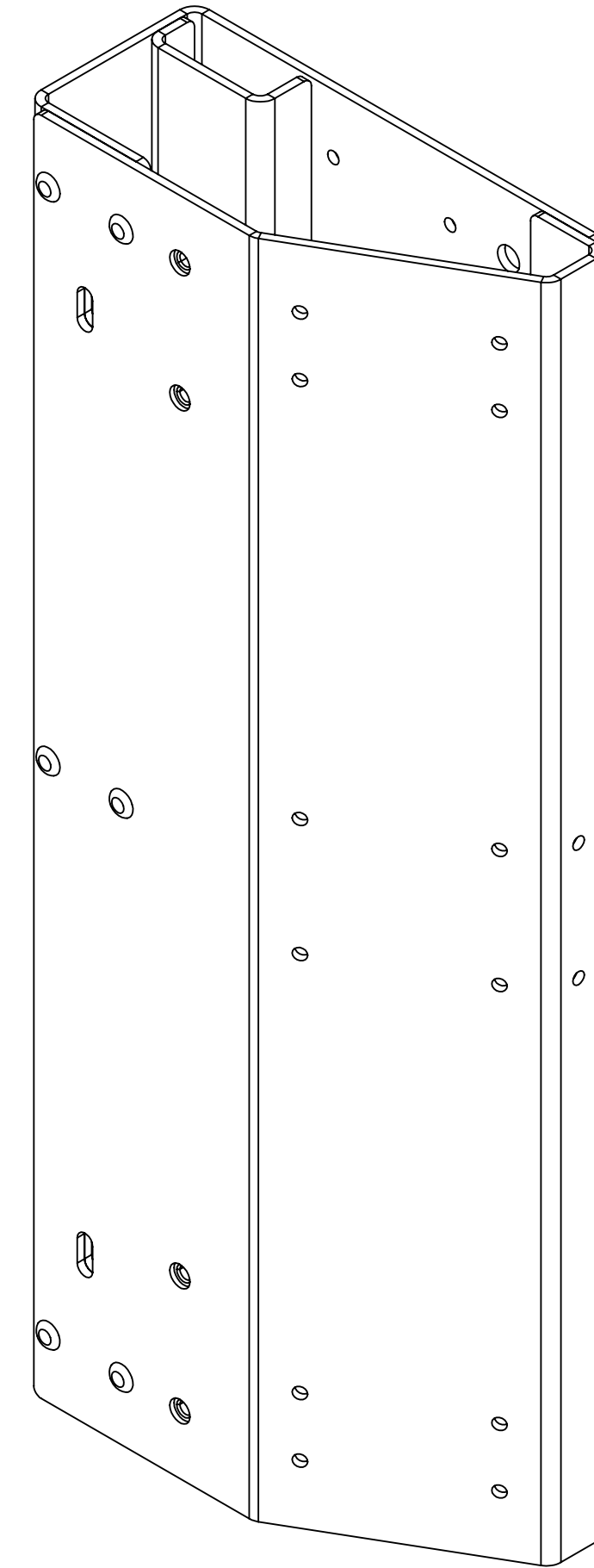
B

A

A



NOTES:  
 1. ASSEMBLE WITH COMPONENT ORIENTATIONS AS SHOWN



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25335	Inner Slice Pipe Vertical Inner Shell	1
2	GE-25333	Inner Slice Pipe Backing	1
3	GE-25334	Inner Slice Pipe Vertical Outer Shell W PEMs	1
4	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	12

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ±1/16  
 ANGULAR: MACH ±1° BEND ±1°  
 TWO PLACE DECIMAL ±.01  
 THREE PLACE DECIMAL ±.005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN NE 9/27/2024

**PROPRIETARY AND CONFIDENTIAL**

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

TITLE:  
**Inner Slice Pipe Vertical**

SIZE DWG. NO. REV  
**C** GE-25332

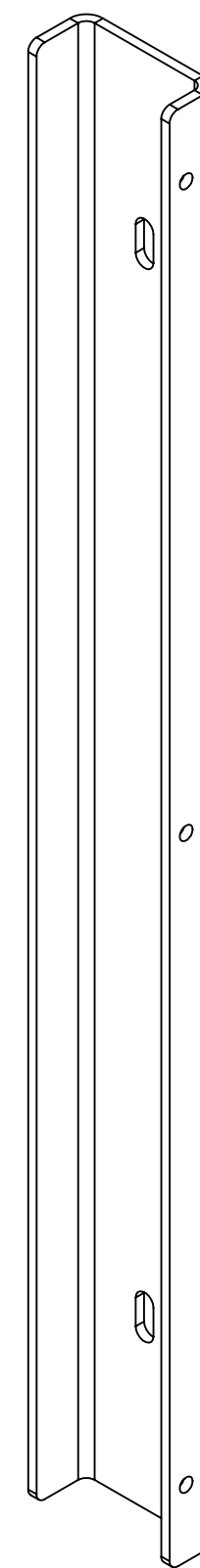
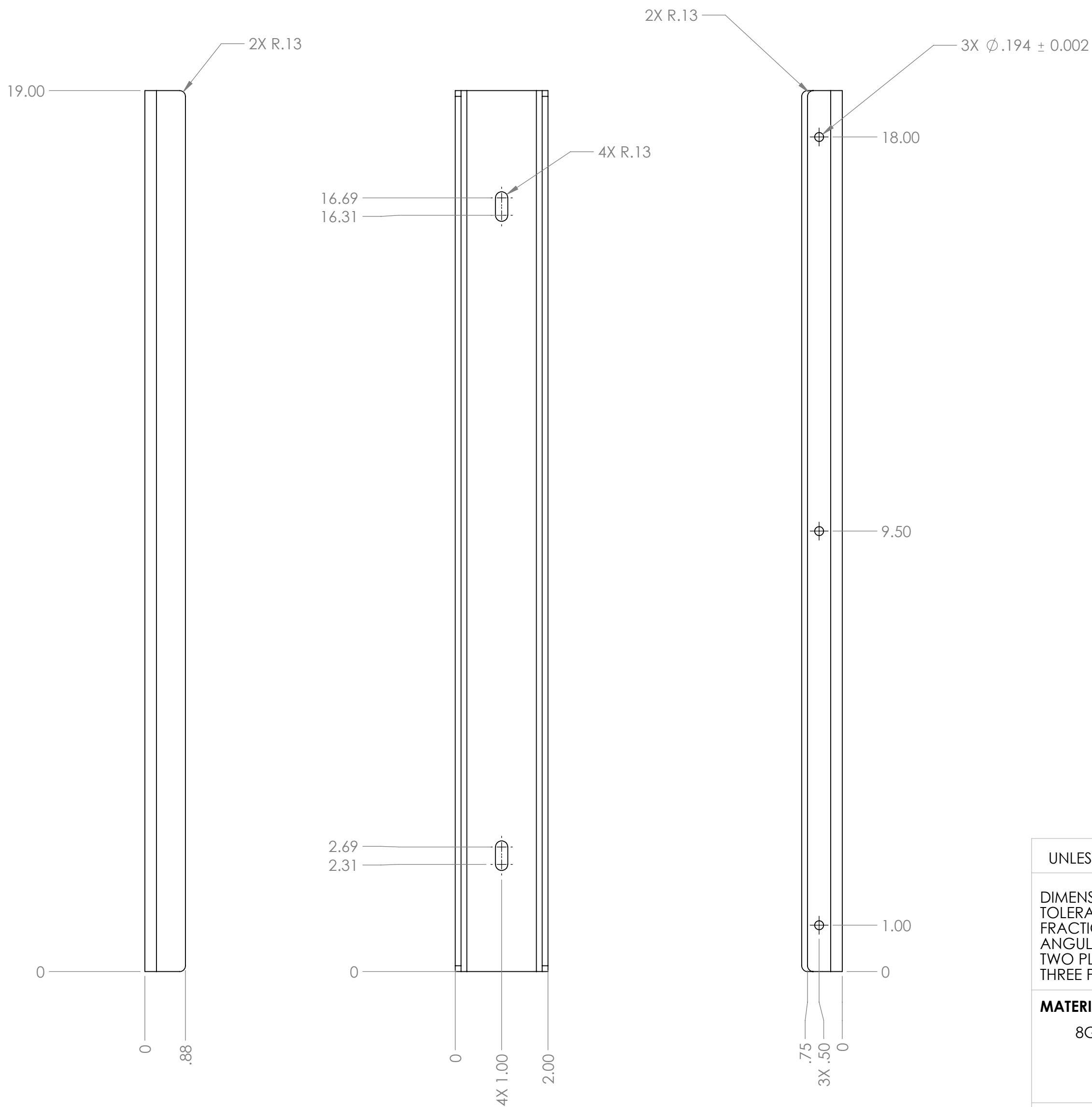
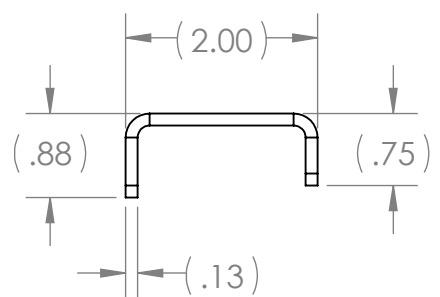
SCALE: 1:4 SHEET 1 OF 1

4

3

2

1



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .02  
 THREE PLACE DECIMAL ± .010

**MATERIAL/FINISH:**  
 8GA 5052 Aluminum

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	NE	9/27/2024

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**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:  
**Inner Slice Pipe Backing**

SIZE	DWG. NO.	REV
<b>C</b>	GE-25333	

SCALE: 1:2 SHEET 1 OF 1

D

D

C

C

B

B

A

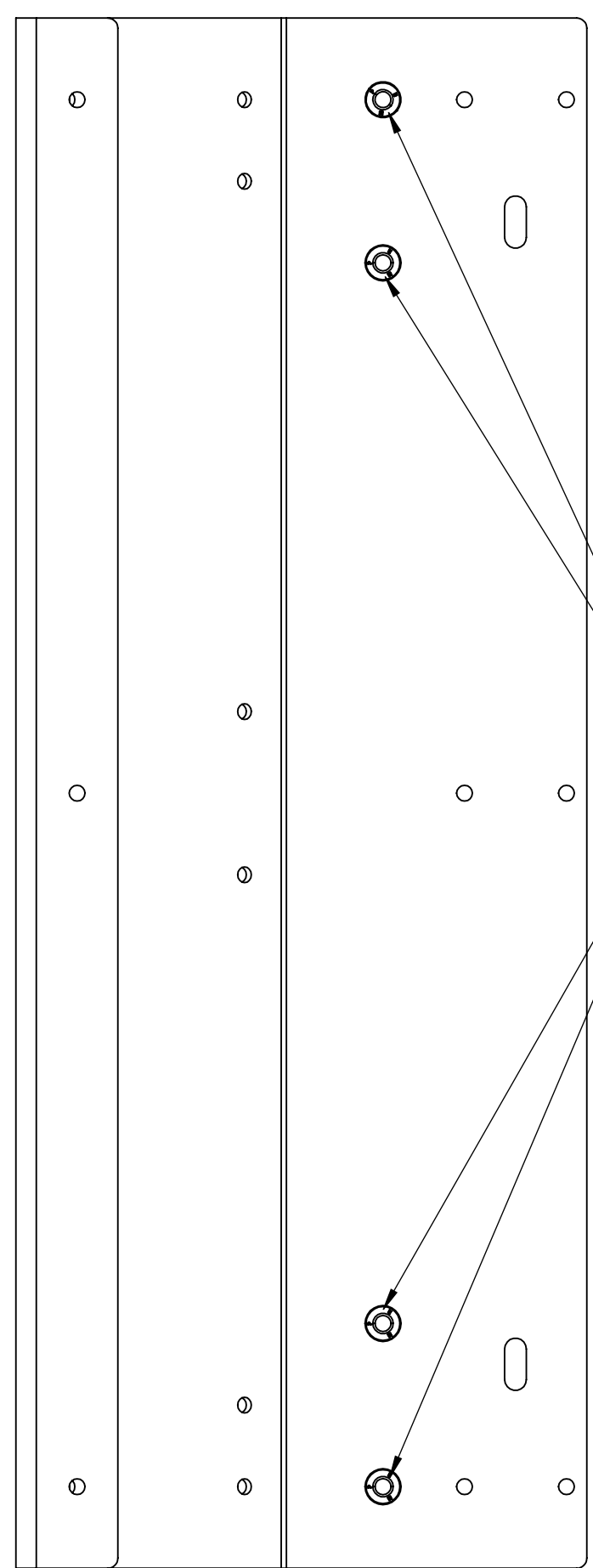
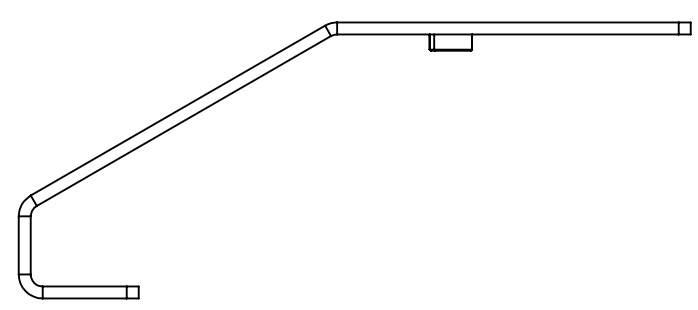
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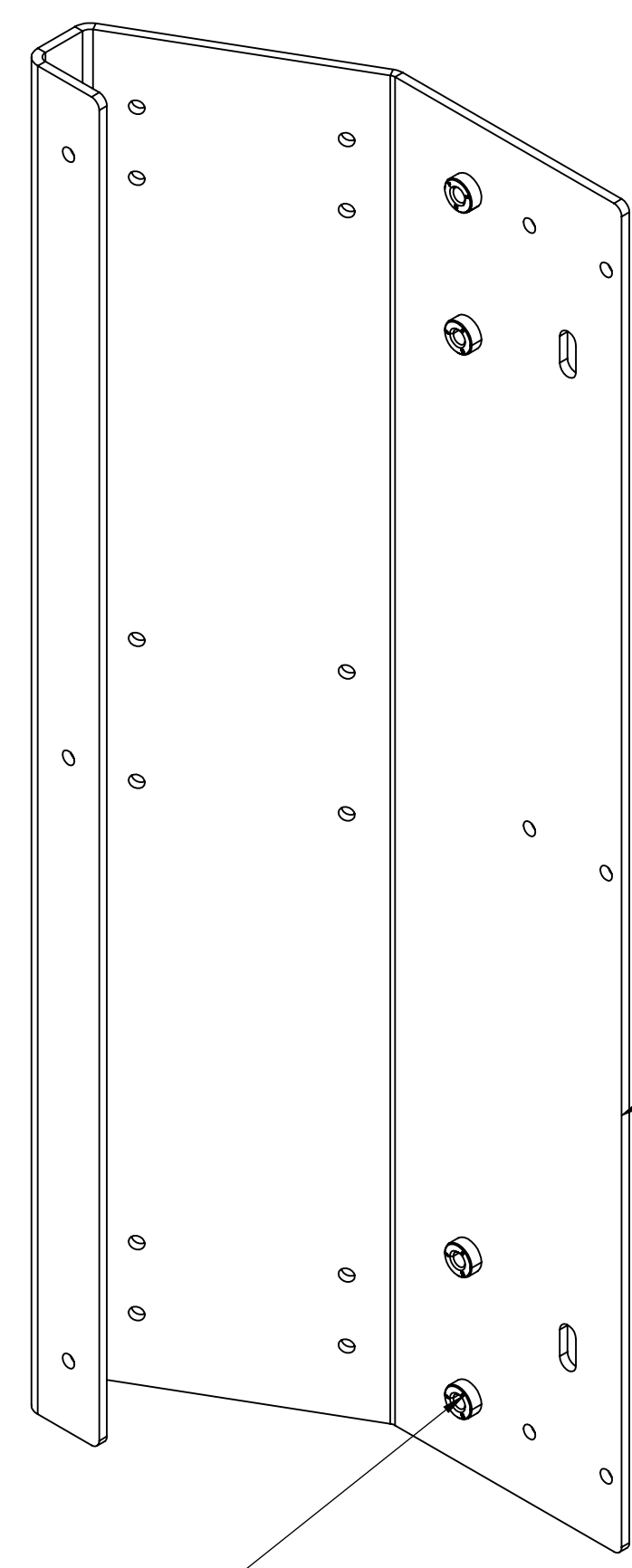
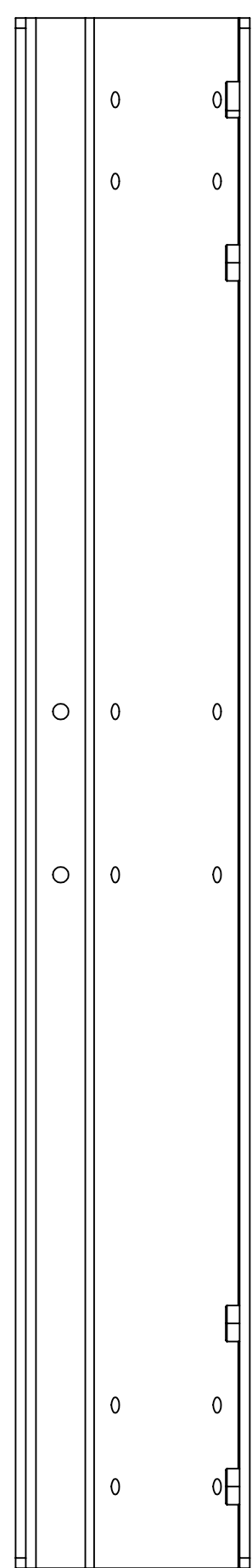
3

2

1



4X INSTALL PEMS ON INTERIOR FACE



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25334-01	Inner Slice Pipe Vertical Outer Shell	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	4

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .01  
 THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**

DO NOT SCALE DRAWING

VEND NAME DATE  
 DRAWN NE 9/27/2024

**PROPRIETARY AND CONFIDENTIAL**  
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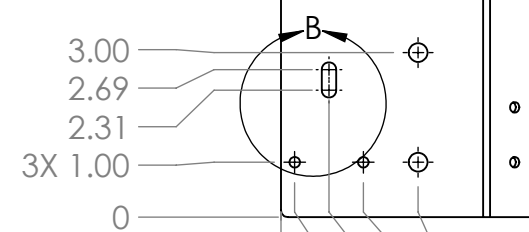
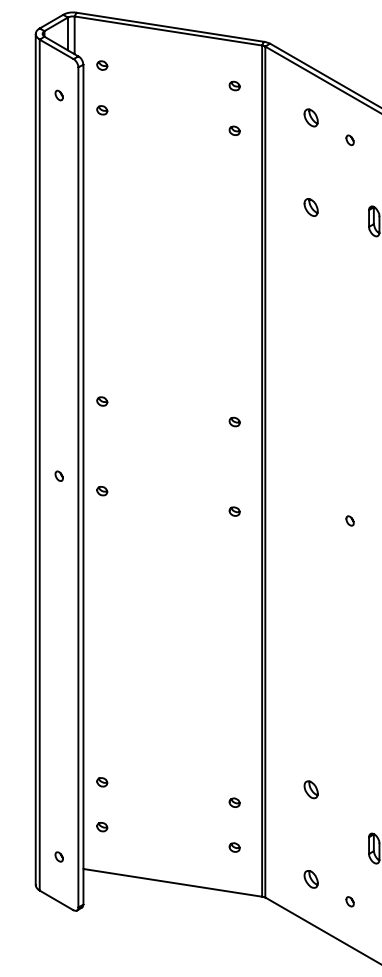
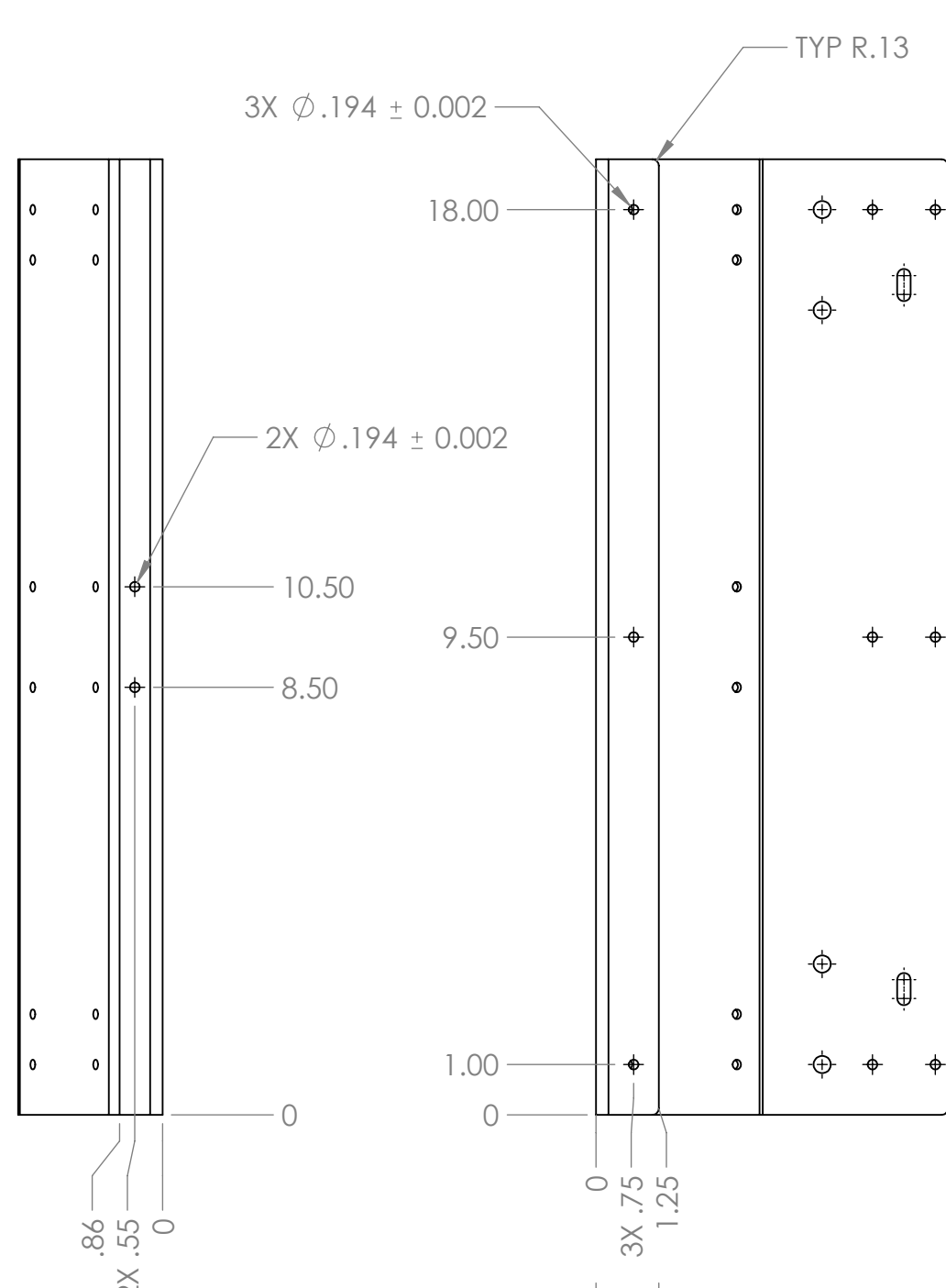
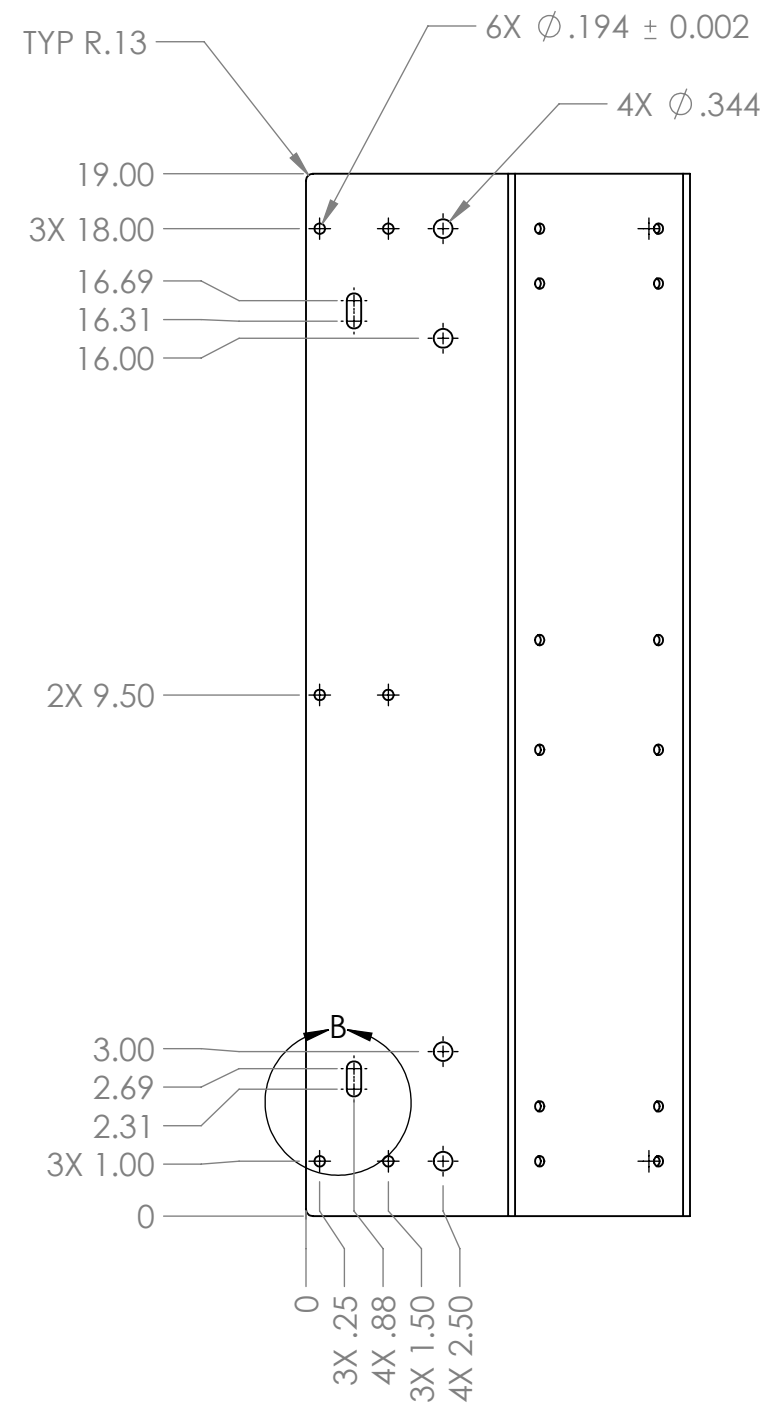
**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP EDGES.

**FIRST ROBOTICS COMPETITION** **SOLIDWORKS** Modeling Solutions Partner

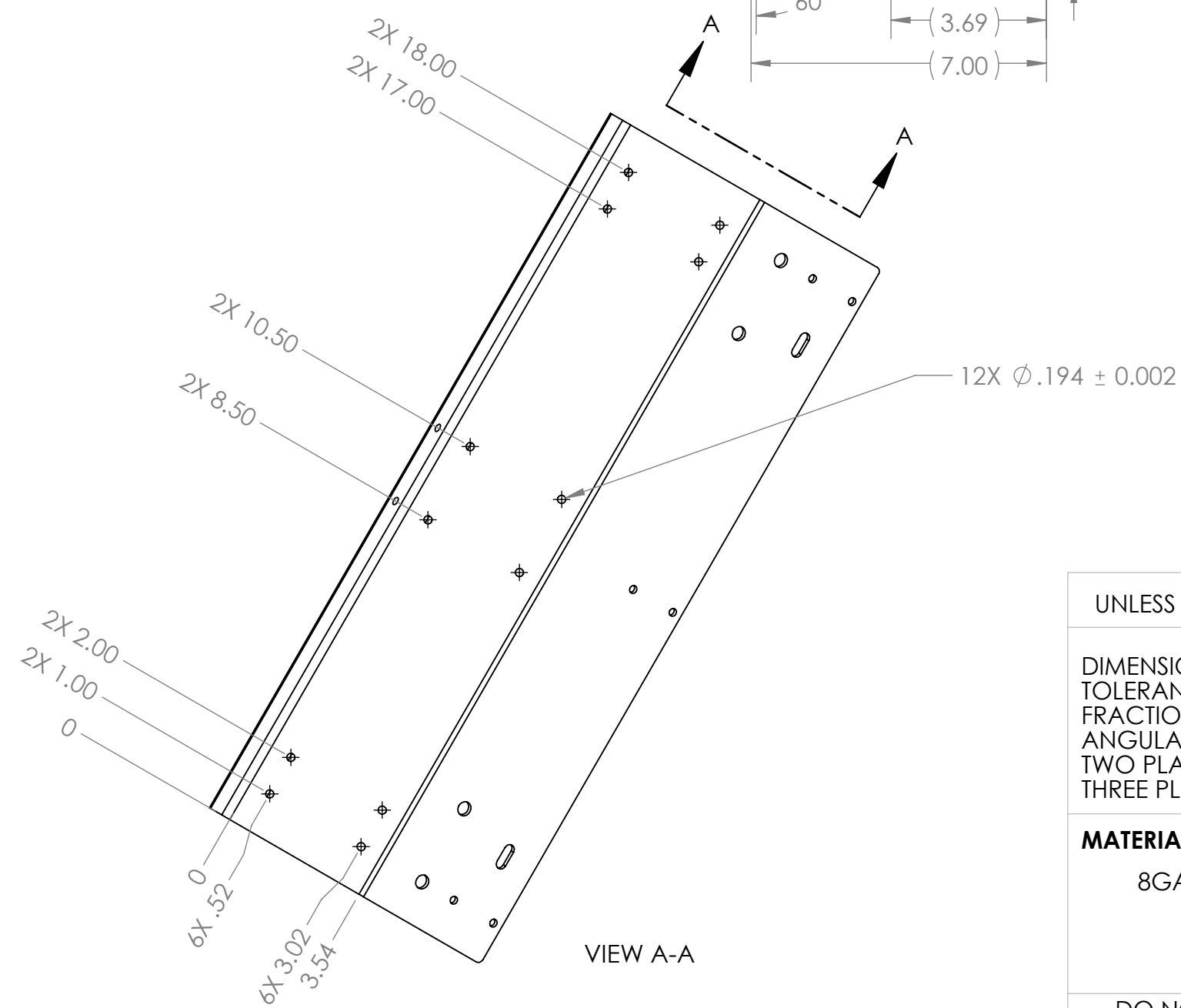
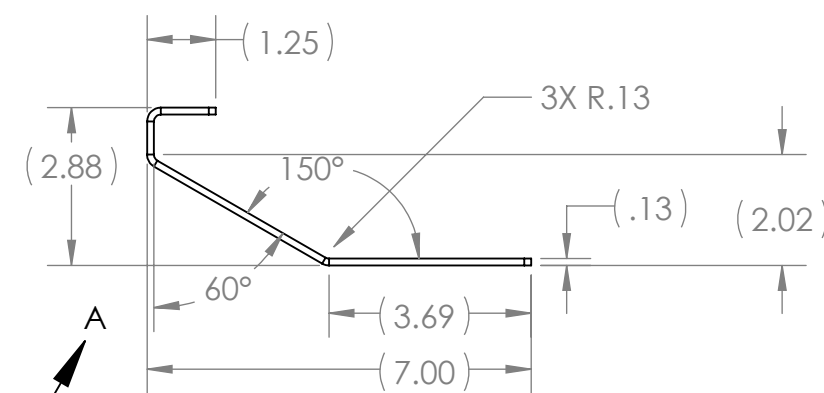
TITLE:  
**Inner Slice Pipe Vertical Outer Shell W PEMs**

SIZE	DWG. NO.	REV
<b>C</b>	<b>GE-25334</b>	

SCALE: 1:2 SHEET 1 OF 1





DETAIL B  
SCALE 4:7



VIEW A-A

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/16  
 ANGULAR: MACH ± 1° BEND ± 1°  
 TWO PLACE DECIMAL ± .02  
 THREE PLACE DECIMAL ± .010  
**MATERIAL/FINISH:**  
 8GA 5052 Aluminum  
 DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	NE	9/27/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
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<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

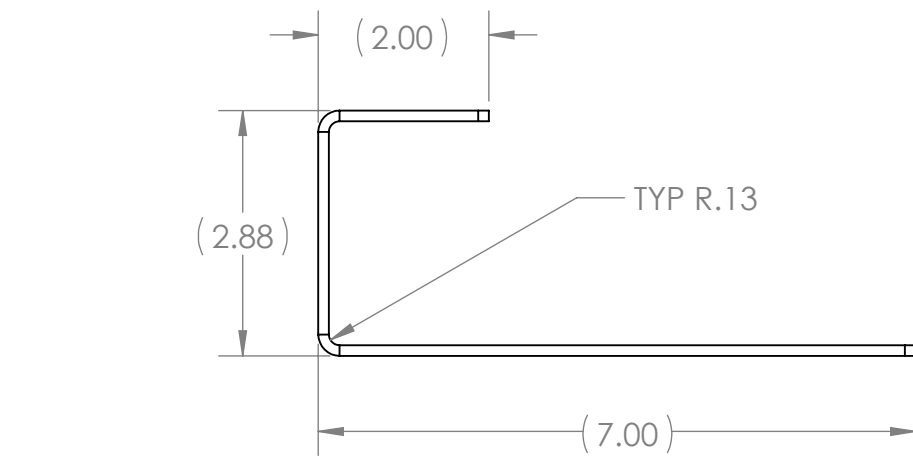
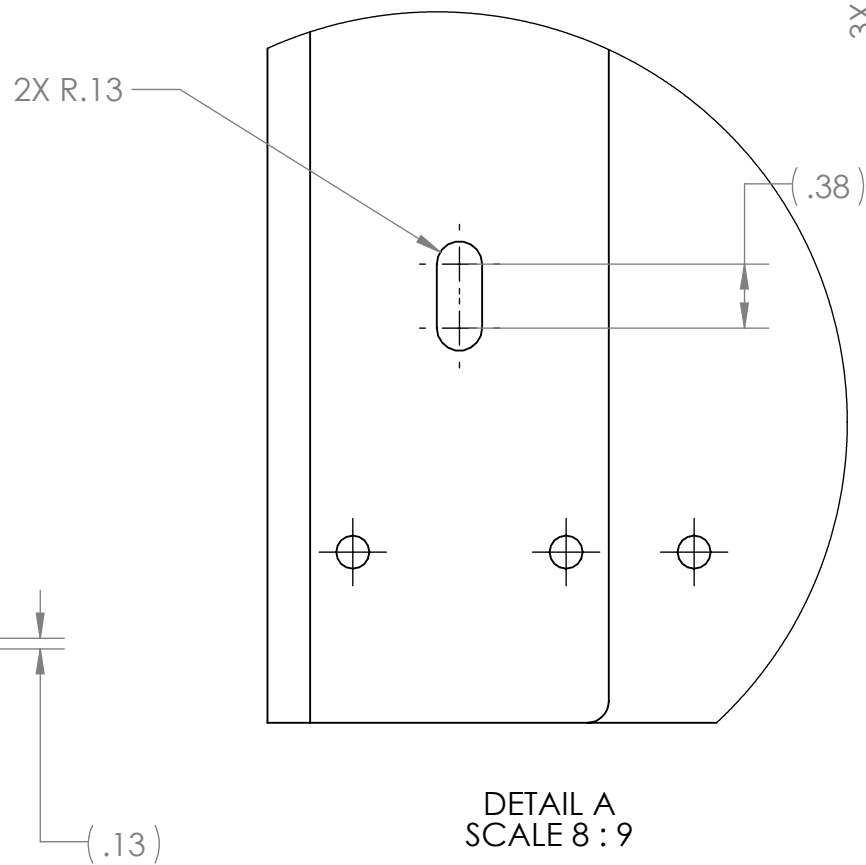
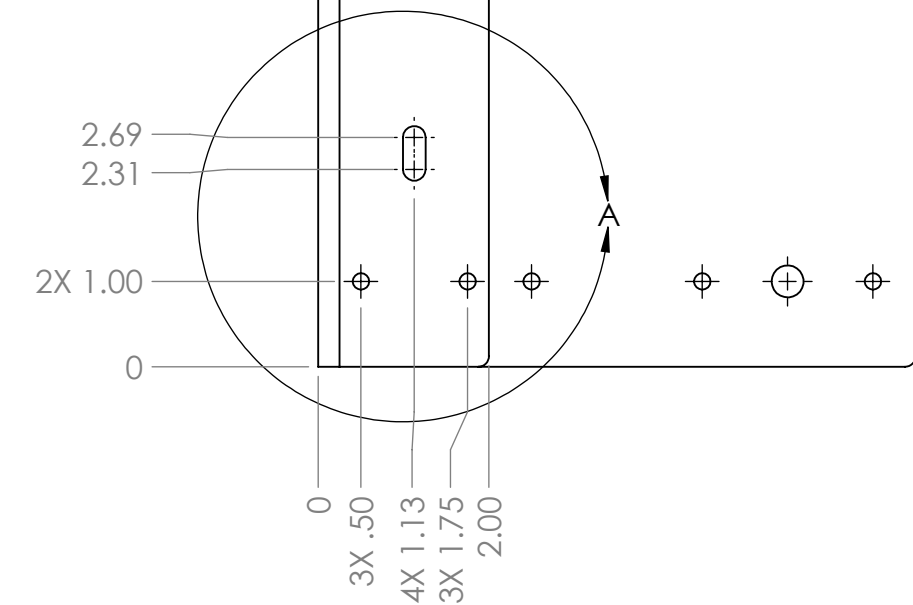
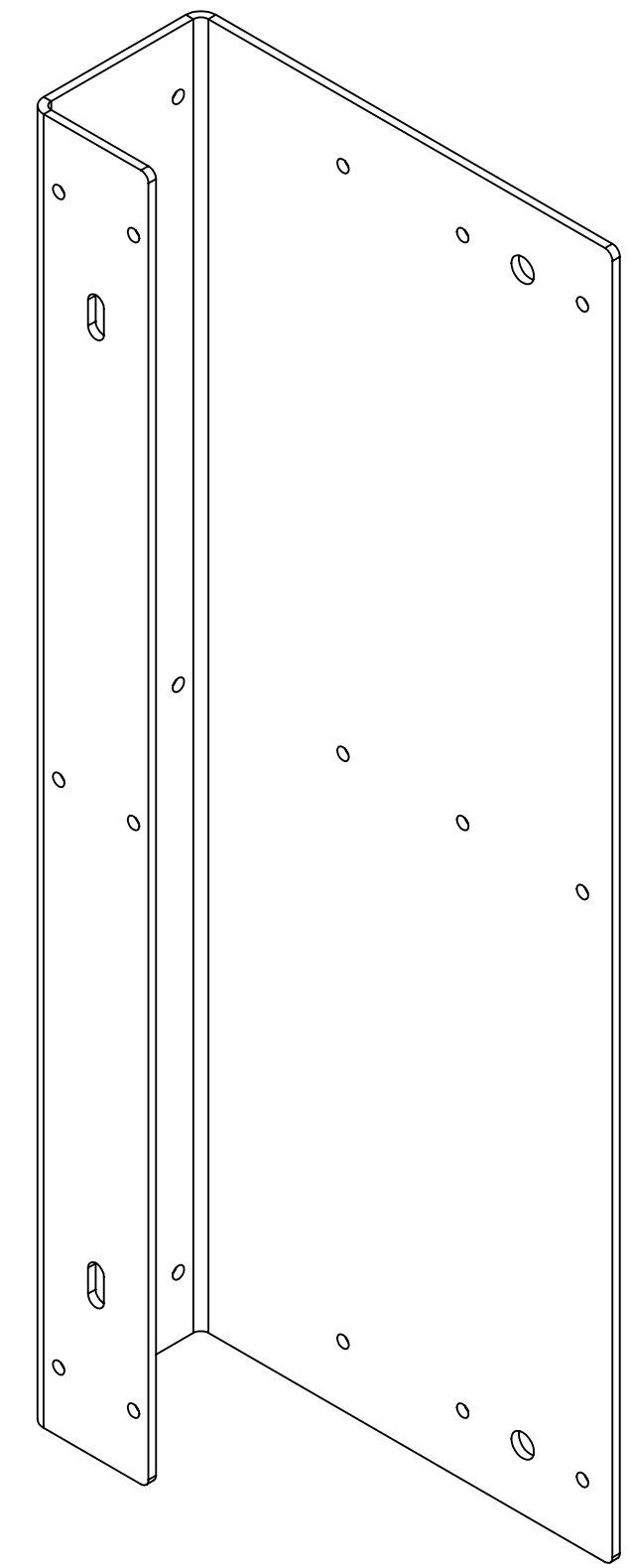
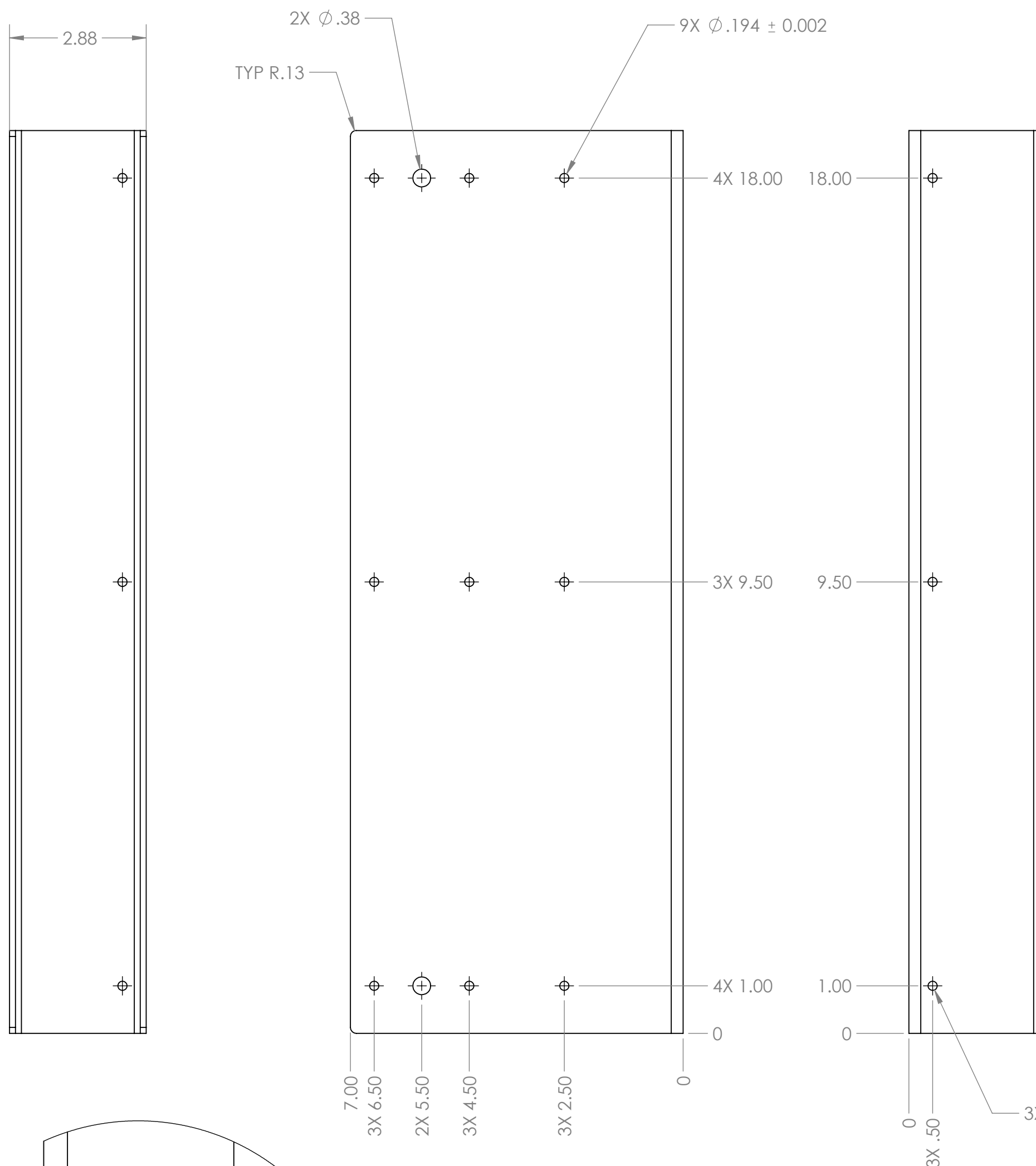
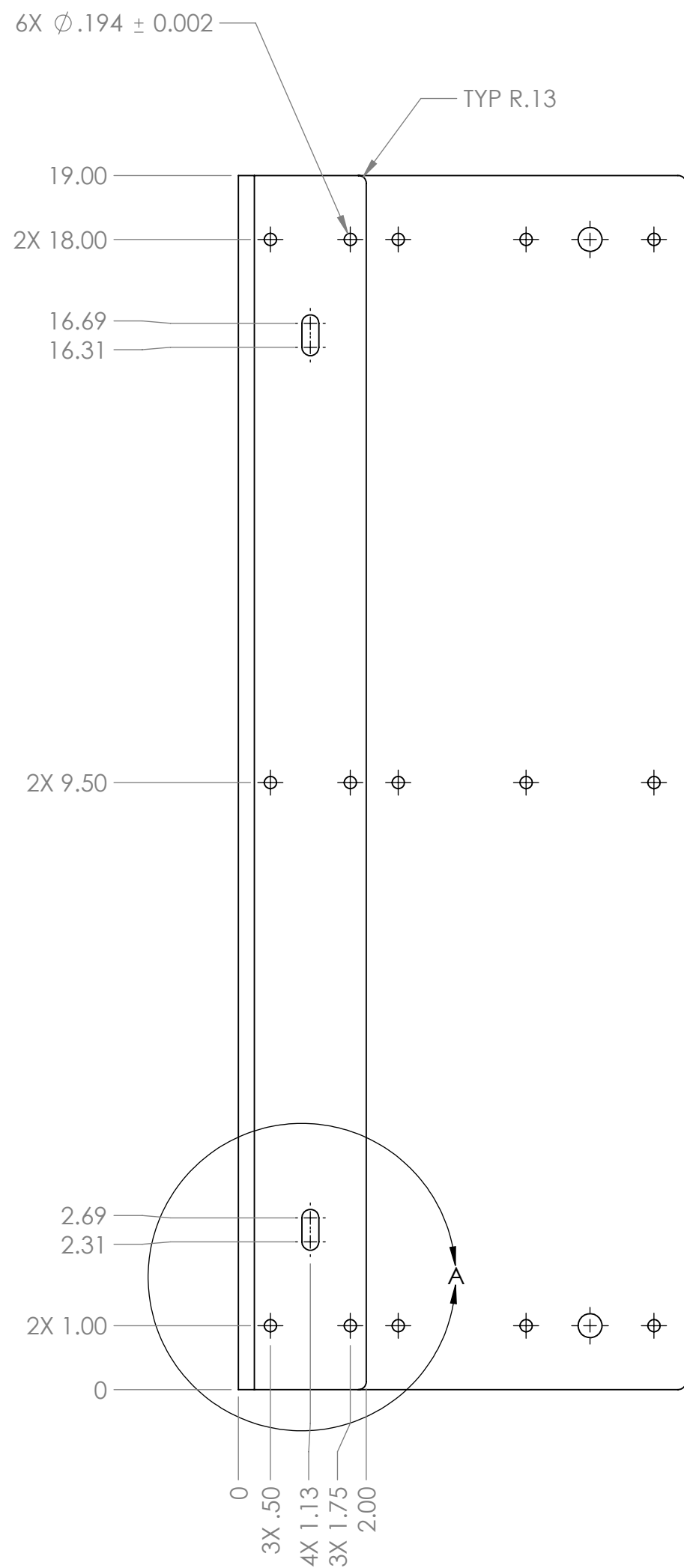
 		
TITLE: Inner Slice Pipe Vertical Outer Shell		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25334-01	
SCALE: 2:7		SHEET 1 OF 1

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	NE	9/26/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	<b>PROPRIETARY AND CONFIDENTIAL</b>		
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
<b>MATERIAL/FINISH:</b>	8GA 5052 Aluminum		
DO NOT SCALE DRAWING	<b>COMMENTS:</b>		
	REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: Inner Slice Pipe Vertical Inner Shell		
SIZE	DWG. NO.	REV
<b>C</b>	GE-25335	
SCALE: 4:9		SHEET 1 OF 1

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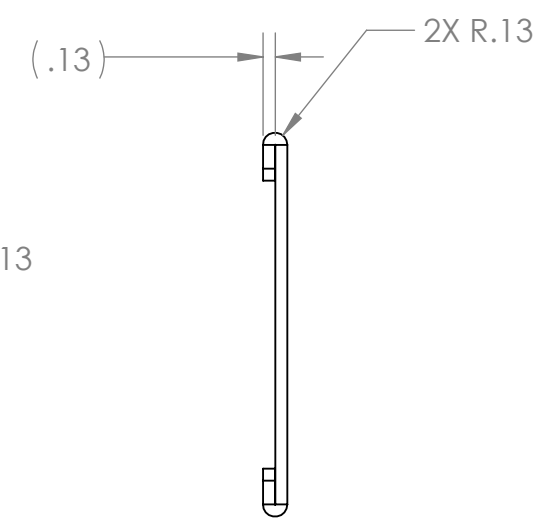
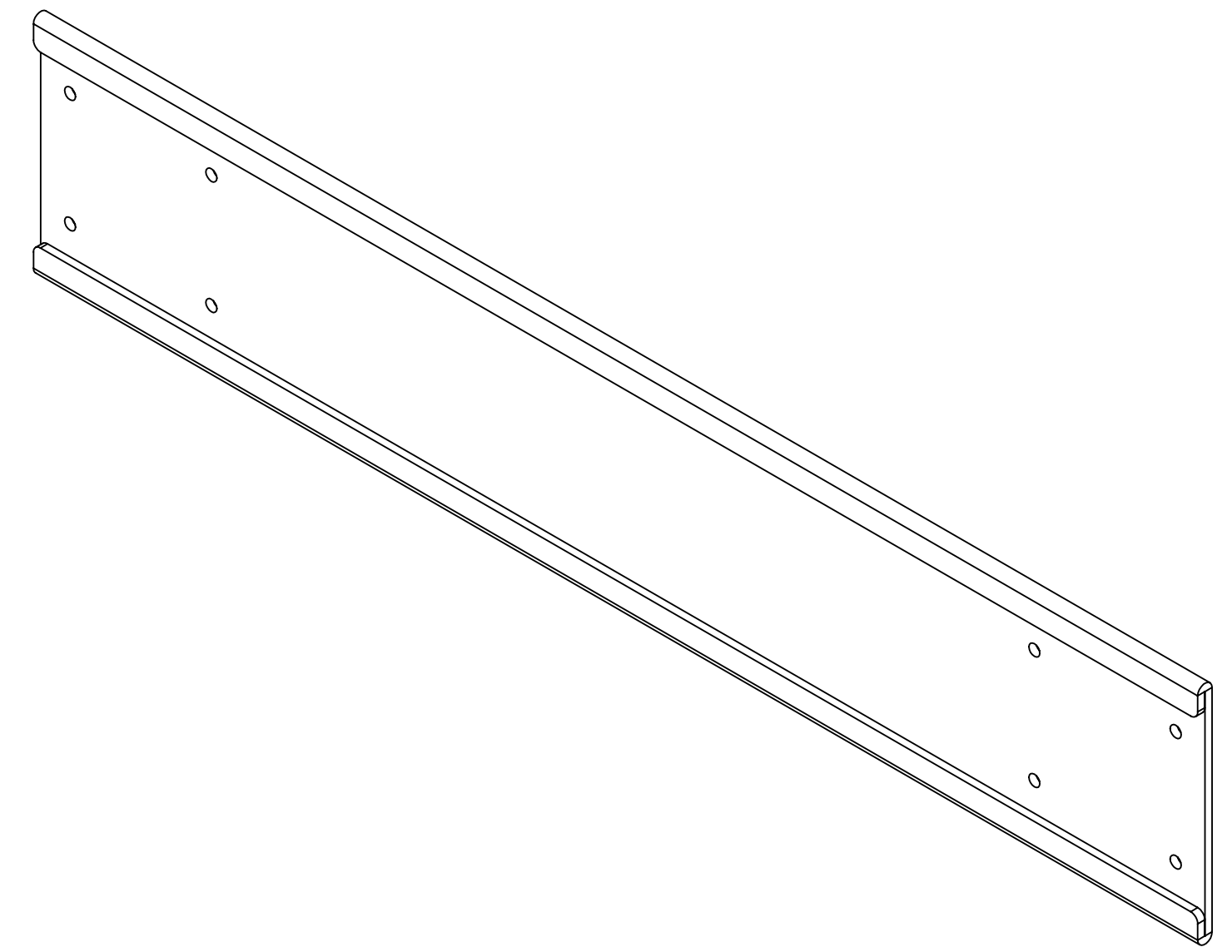
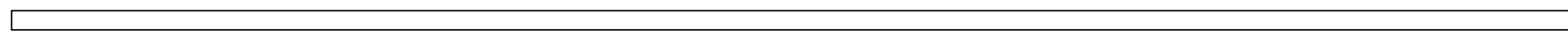
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$  <b>MATERIAL/FINISH:</b> 8GA 5052 Aluminum  DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NE	9/30/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <b>Inner Slice Back Support</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE: <b>C</b> DWG. NO.: <b>GE-25336</b> REV:
SCALE: 1:2		SHEET 1 OF 1		

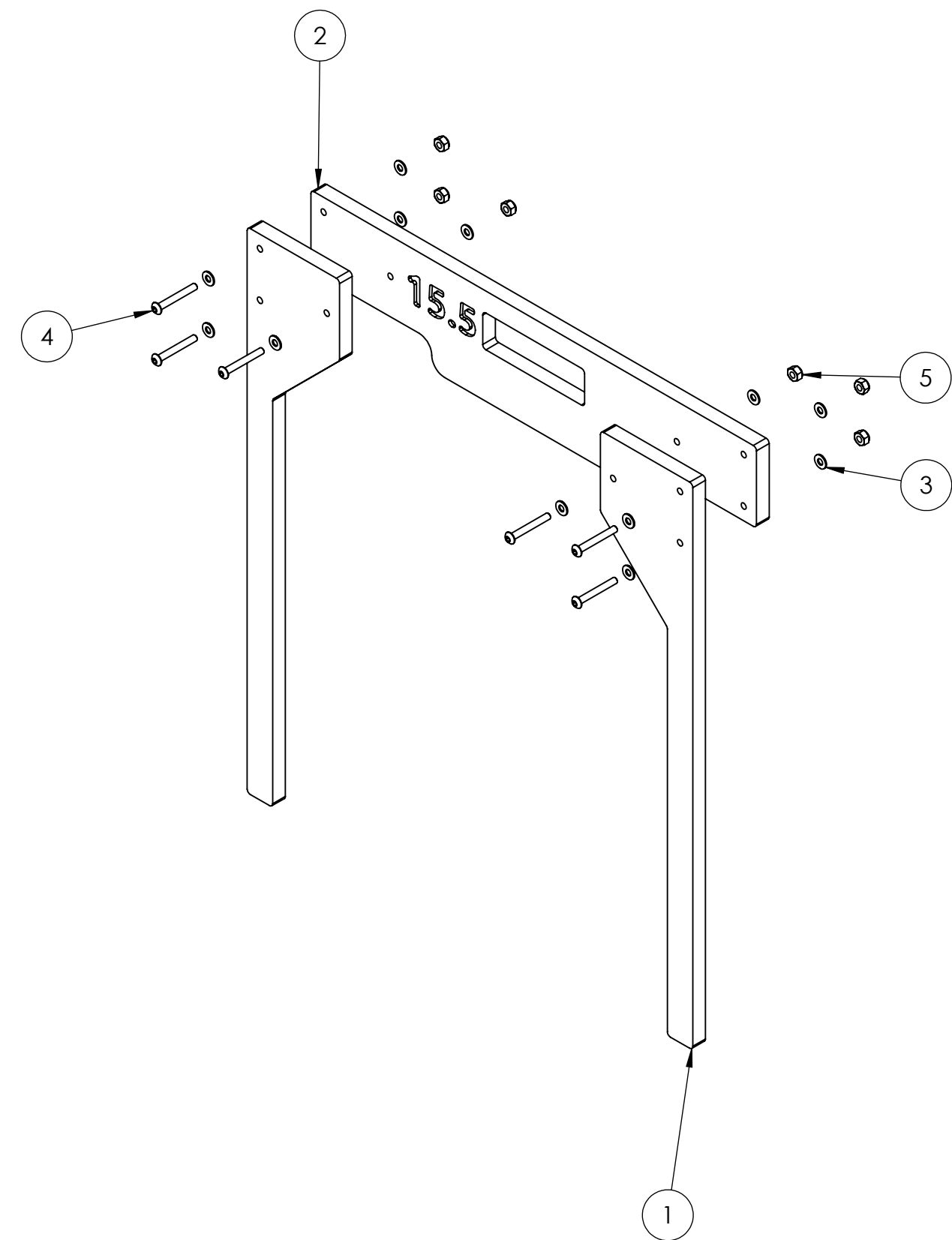
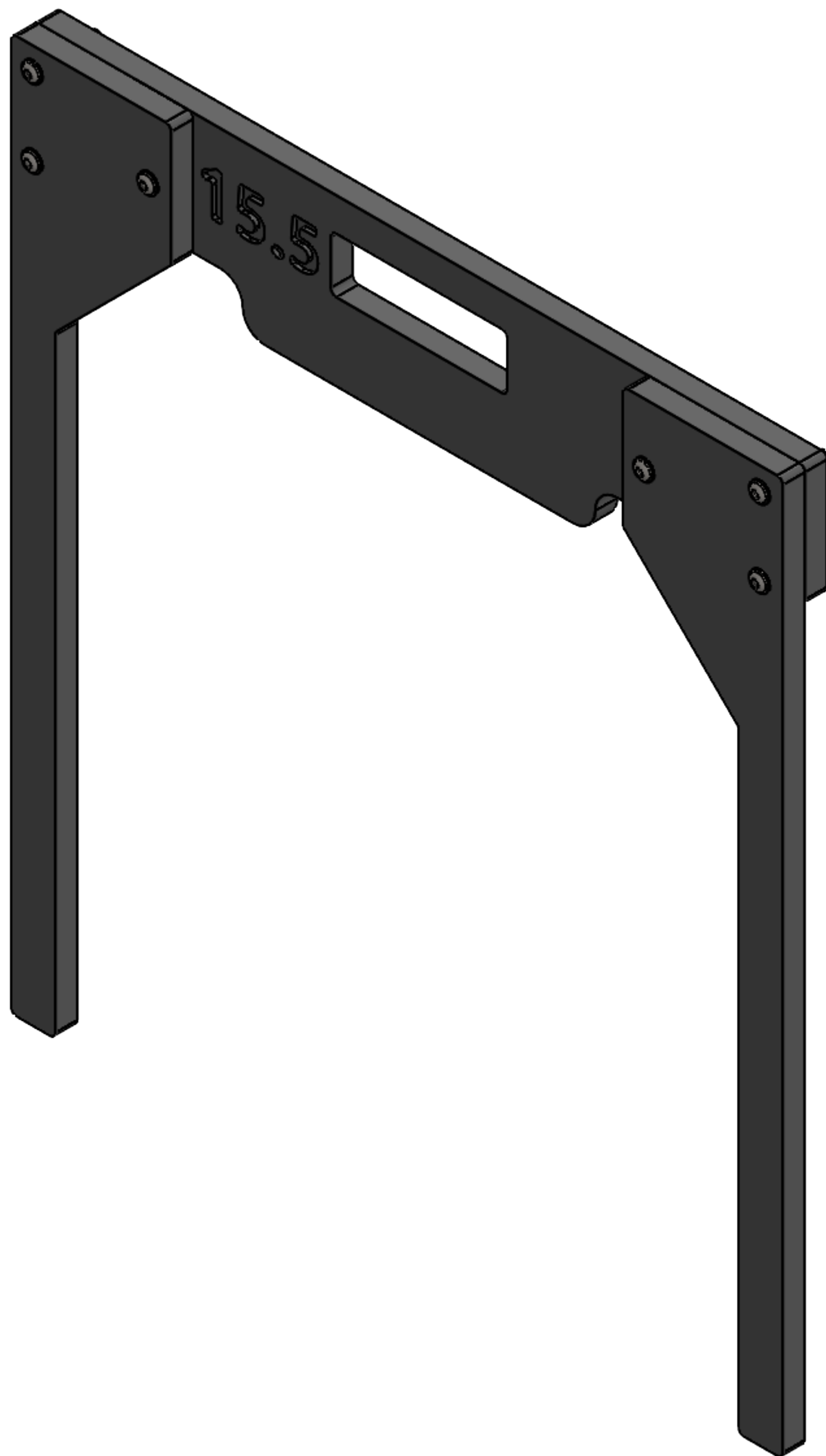


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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25402	Ball Inflation Jig Side	2
2	GE-25403	Ball Inflation Jig 15.5" Handle	1
3	washer_flat_10	Flat Washer for #10 Screw	12
4	Button_hex_10_32_1.5	Button Head Socket Screw, #10-32, 1.5" long	6
5	nylock_10_32	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 10-32 Thread Size	6

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	BB	7/23/2024	
<b>MATERIAL/FINISH:</b>  DO NOT SCALE DRAWING		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <h1>15.5" Ball Inflation Jig</h1>
		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		SIZE: <b>C</b> DWG. NO.: <b>GE-25400</b> REV:	
		SCALE: 1:4		SHEET 1 OF 1	

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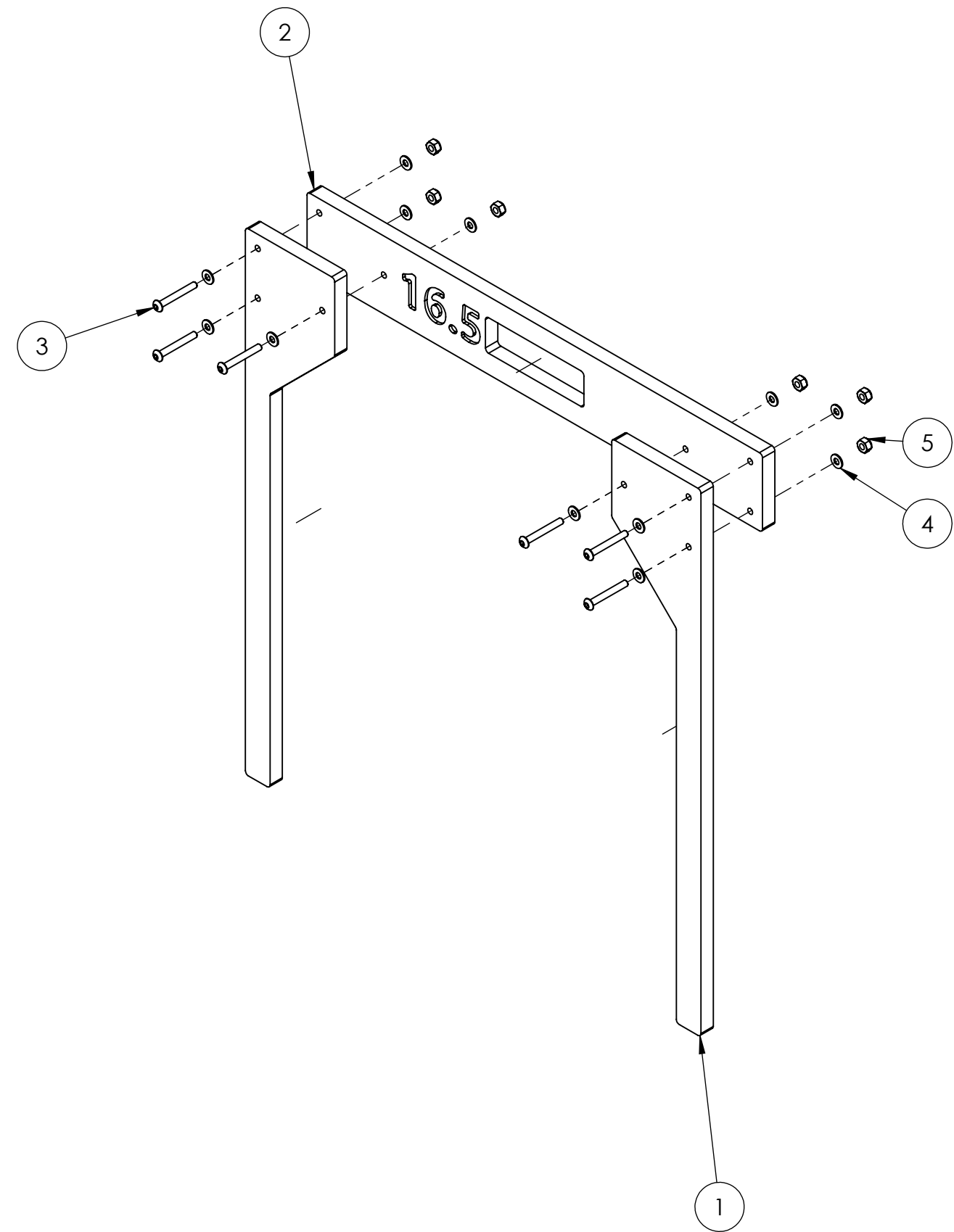
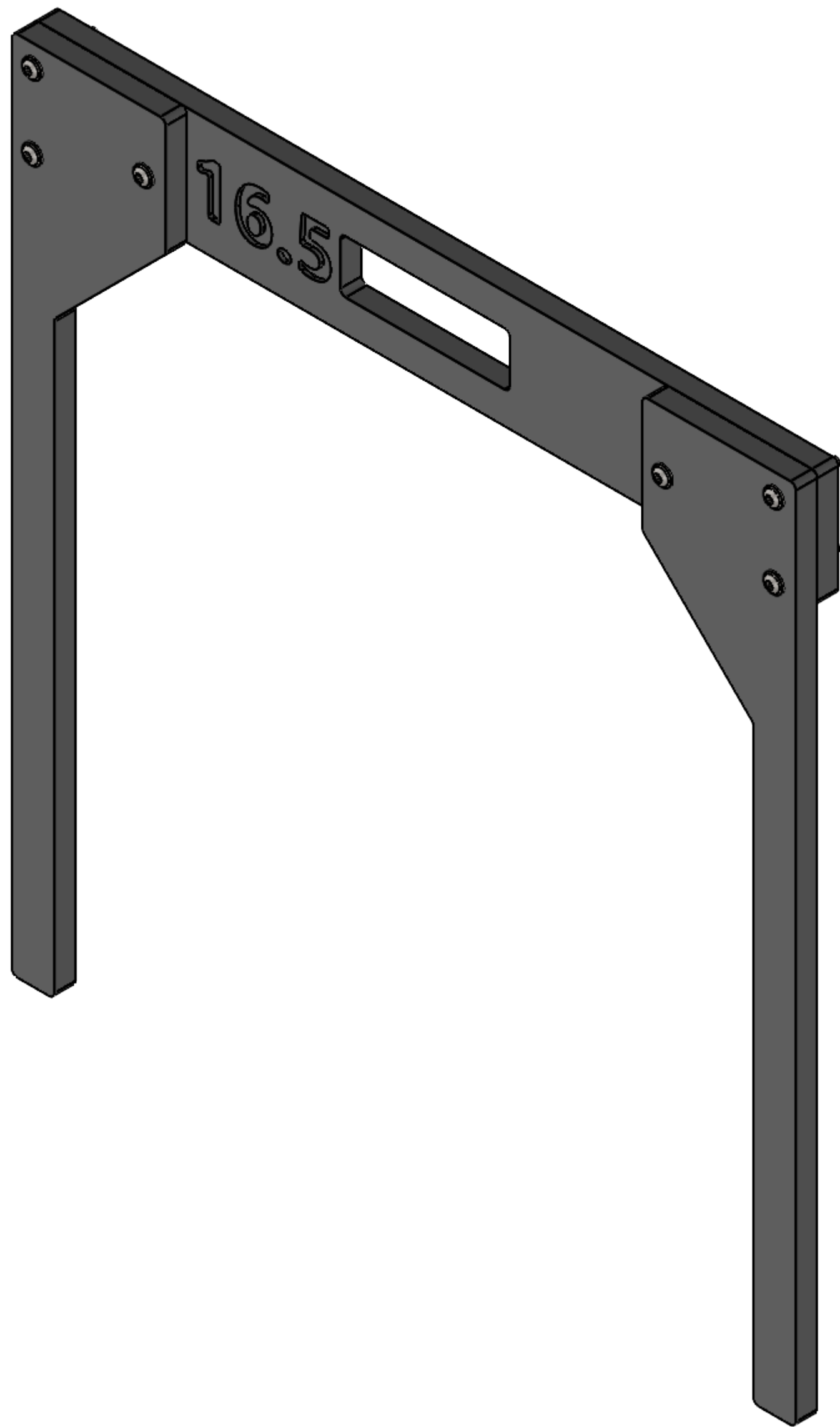
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25402	Ball Inflation Jig Side	2
2	GE-25404	Ball Inflation Jig 16.5" Handle	1
3	Button_hex_10_32_1.5	Button Head Socket Screw, #10-32, 1.5" long	6
4	washer_flat_10	Flat Washer for #10 Screw	12
5	nylock_10_32	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 10-32 Thread Size	6

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	BB	7/23/2024	
<b>MATERIAL/FINISH:</b>  DO NOT SCALE DRAWING		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE: <h1>16.5" Ball Inflation Jig</h1>
		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25401
		SCALE: 1:4			SHEET 1 OF 1

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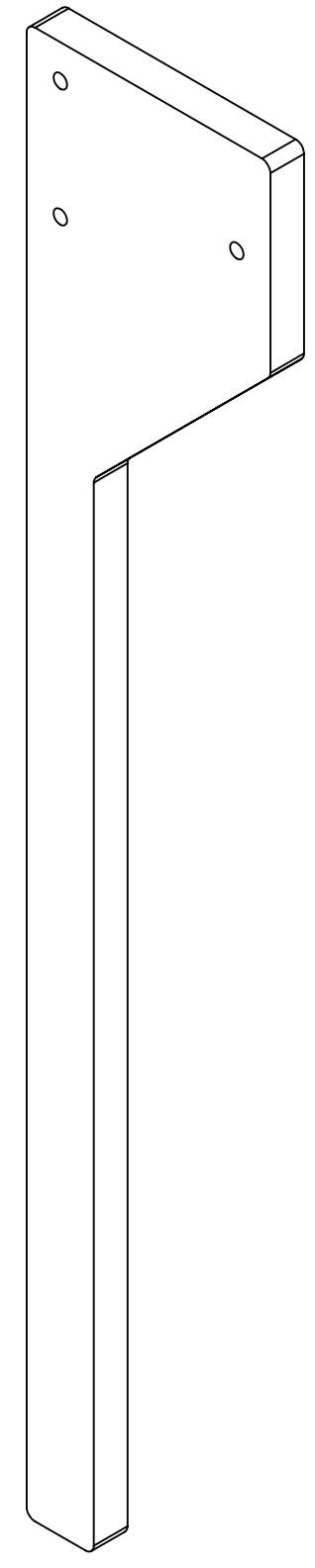
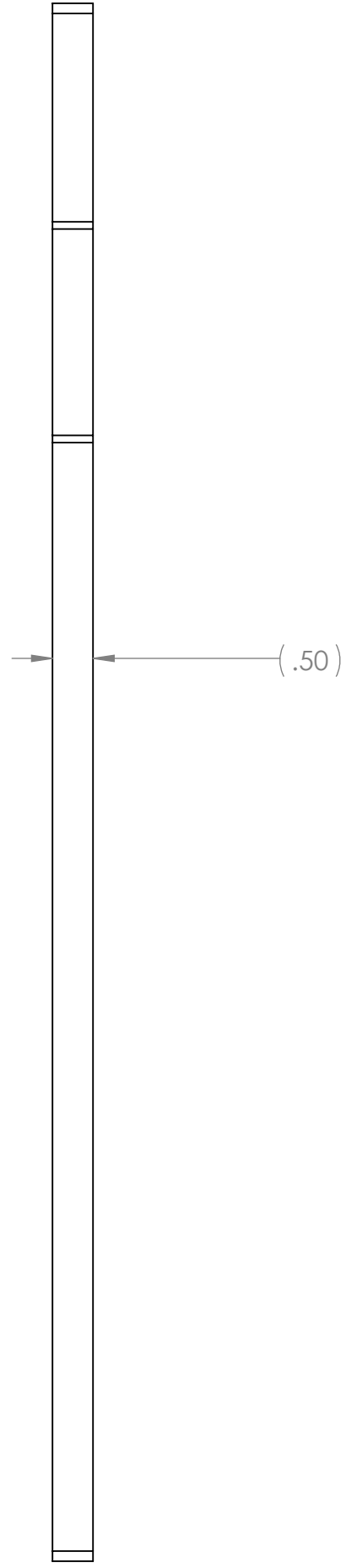
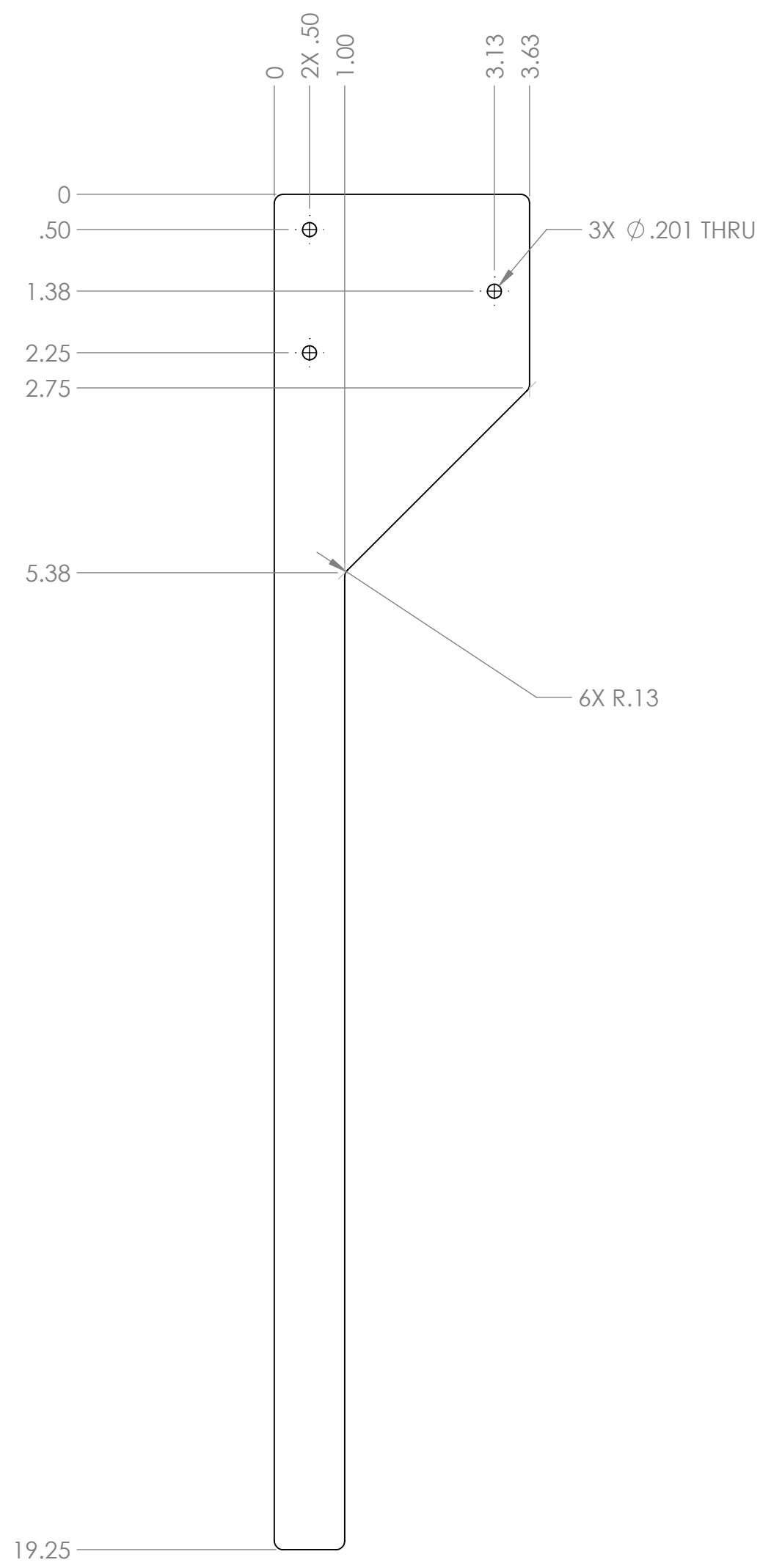
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/2" Black HDPE, Orange Peel Texture	VEND	NAME	DATE	
	DRAWN	BB	7/22/2024	
DO NOT SCALE DRAWING	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <b>Ball Inflation Jig Side</b>
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV <b>C</b> GE-25402
SCALE: 1:4			SHEET 1 OF 1	

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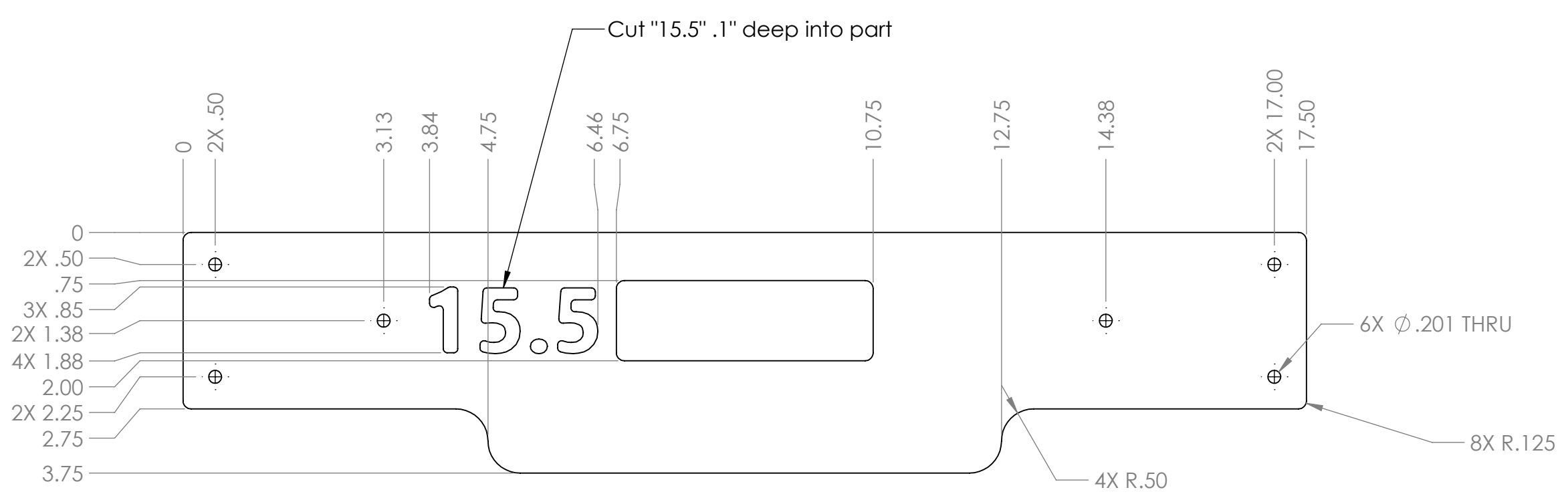
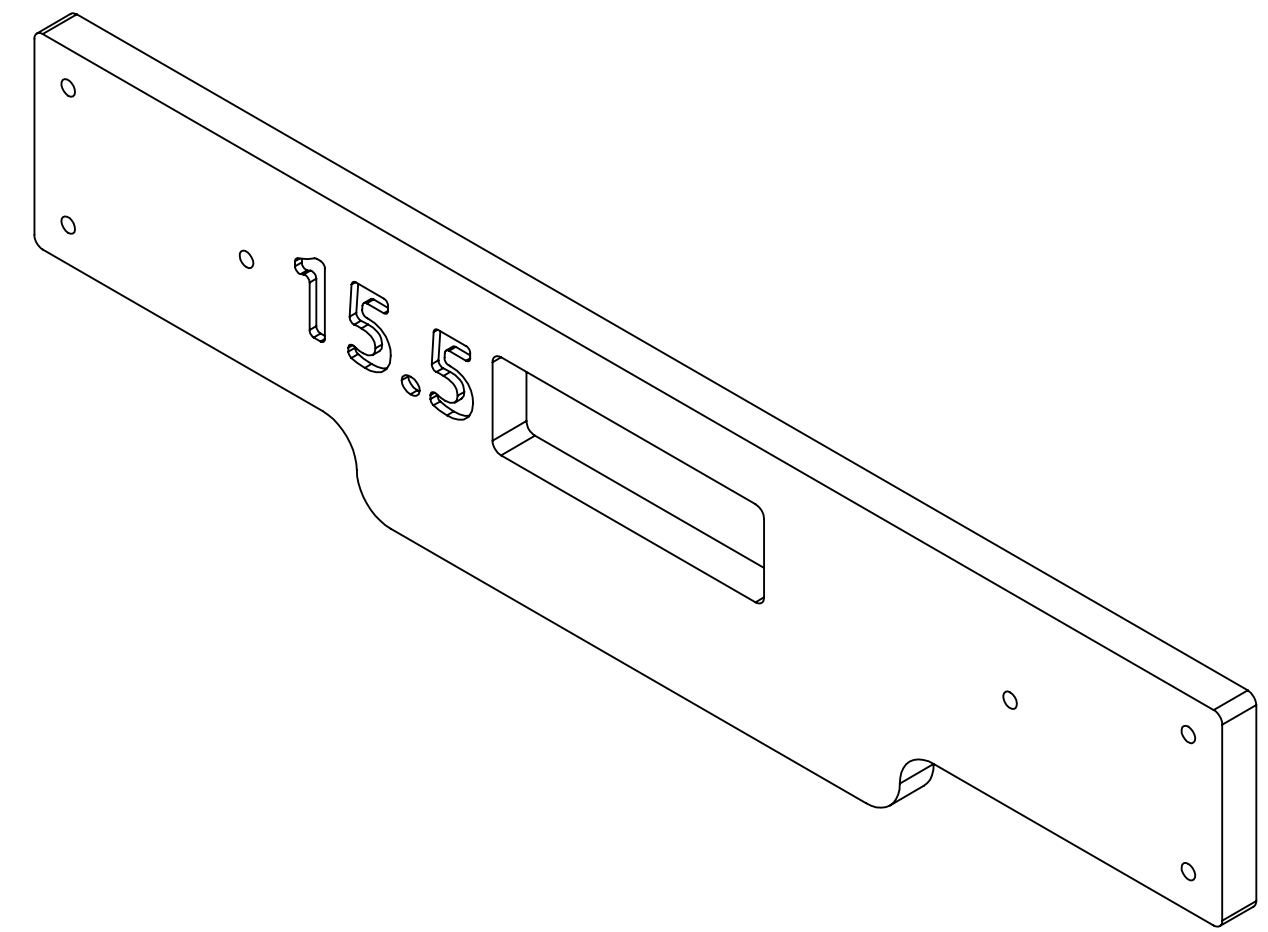
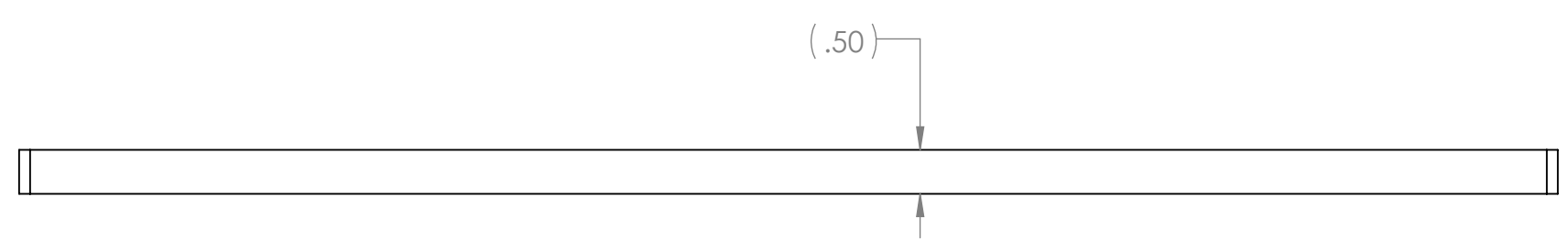
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005  <b>MATERIAL/FINISH:</b> 1/2" Black HDPE, Orange Peel Texture  DO NOT SCALE DRAWING	VEND	NAME	DATE		
	DRAWN	BB	7/22/2024		
	<b>PROPRIETARY AND CONFIDENTIAL</b>			<b>TITLE:</b> Ball Inflation Jig 15.5" Handle	
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.				
	<b>COMMENTS:</b>		SIZE	DWG. NO.	REV
	REMOVE ALL BURRS AND SHARP EDGES.		<b>C</b>	GE-25403	
			SCALE: 1:2	SHEET 1 OF 1	

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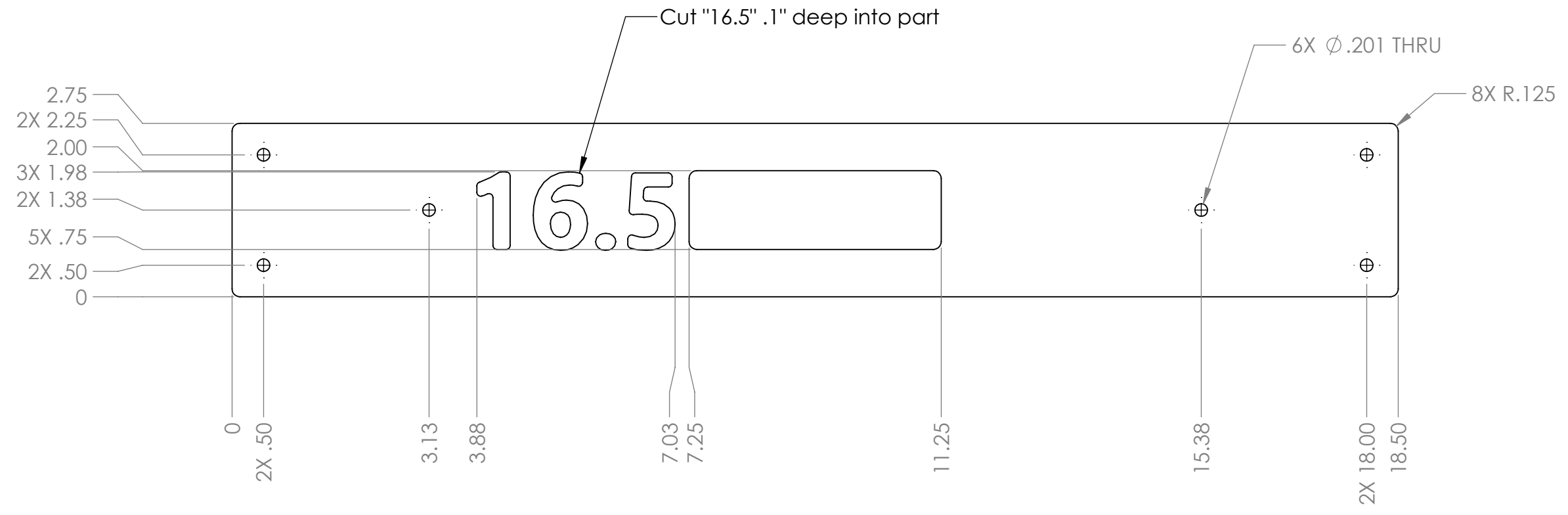
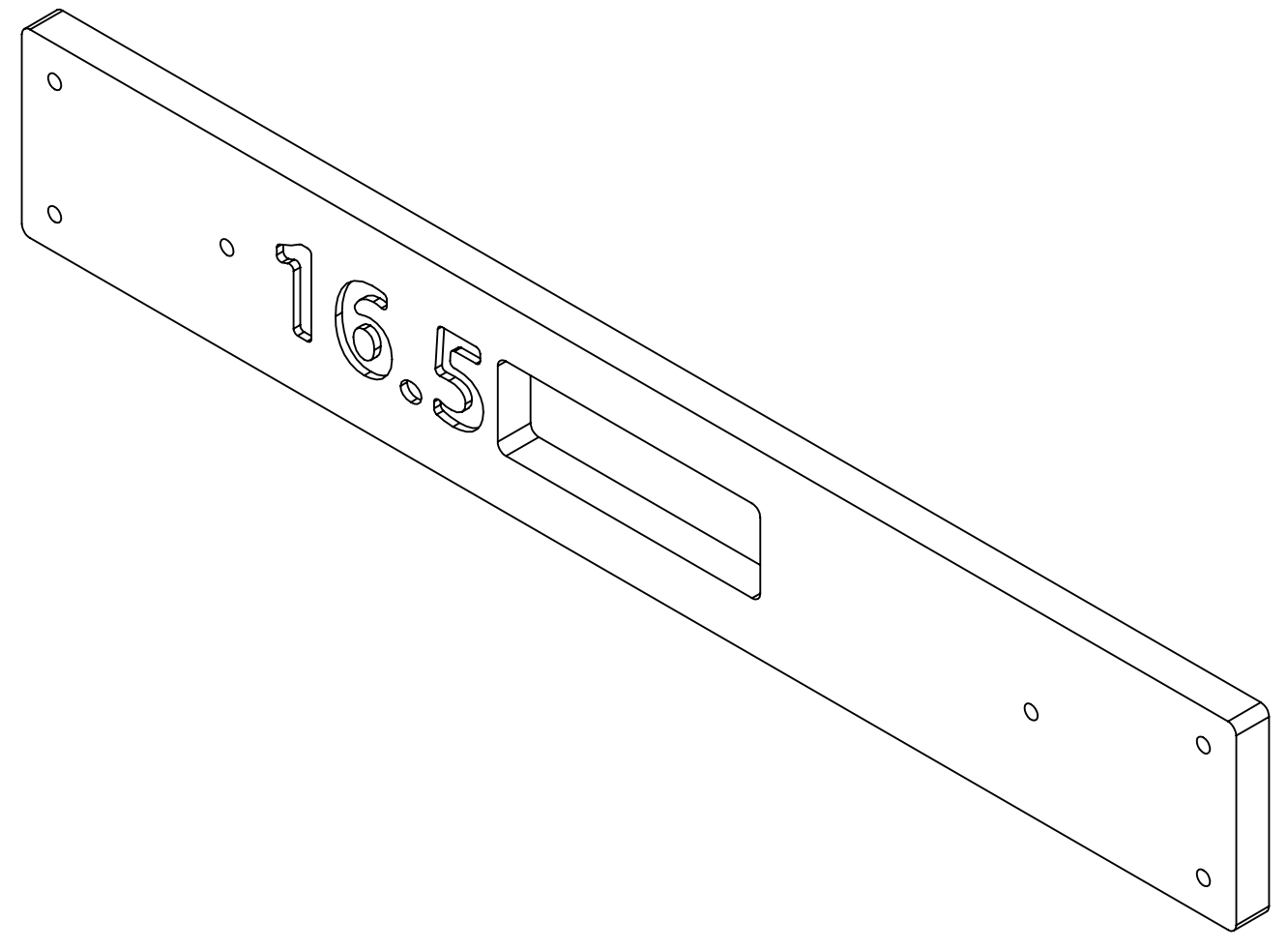
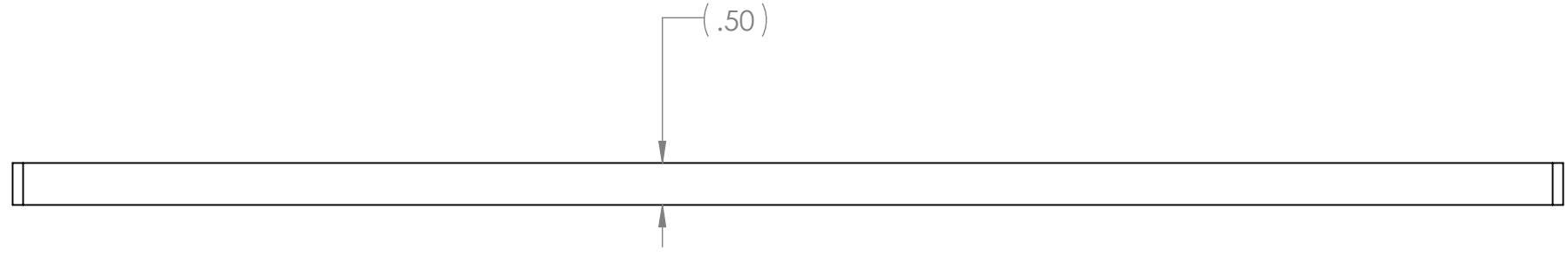
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/2" Black HDPE, Orange Peel Texture  DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	BB	7/22/2024	
	<b>PROPRIETARY AND CONFIDENTIAL</b>			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			Ball Inflation Jig 16.5" Handle
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
	SCALE: 1:2			C GE-25404
	SHEET 1 OF 1			

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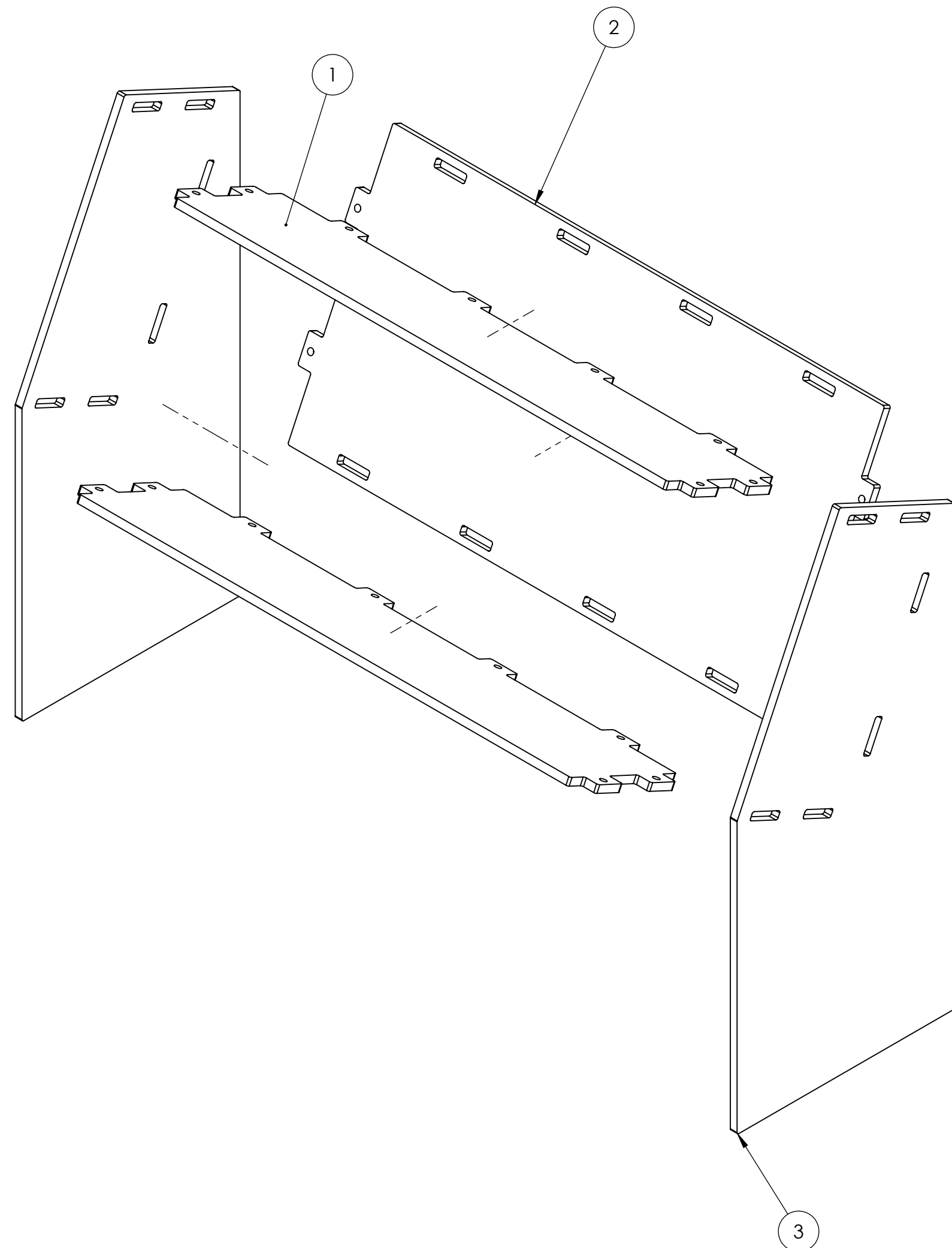
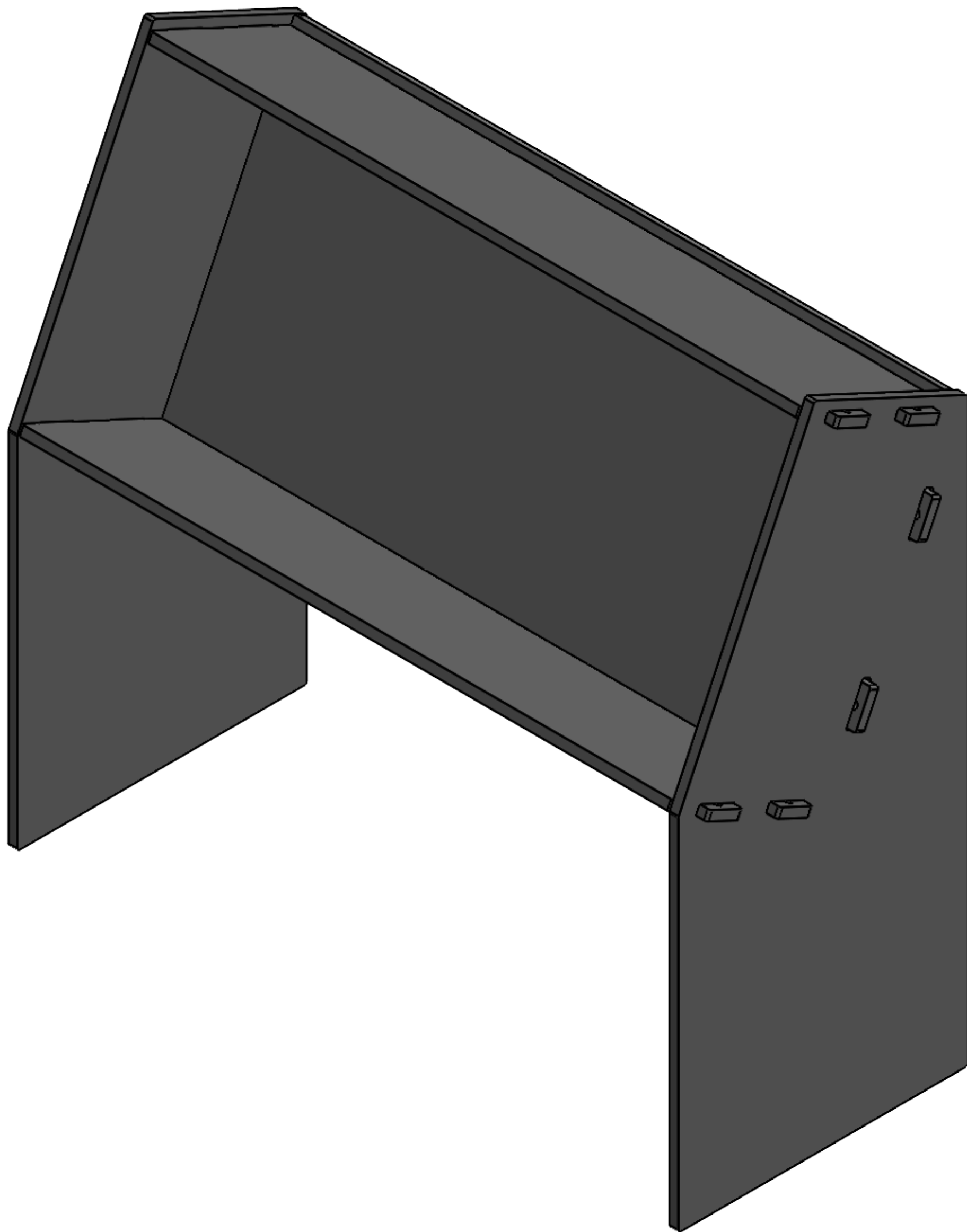
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Assemble with 120 lb. cable ties



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25411	Coral Holder Top & Bottom Panel	2
2	GE-25412	Coral Holder Back Panel	1
3	GE-25413	Coral Holder Side Panel	2

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	BB	7/23/2024	
<b>MATERIAL/FINISH:</b>  DO NOT SCALE DRAWING		<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.			TITLE: <h1>Coral Holder</h1>
		<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		SIZE DWG. NO. REV <b>C</b> GE-25410	
		SCALE: 1:12		SHEET 1 OF 1	

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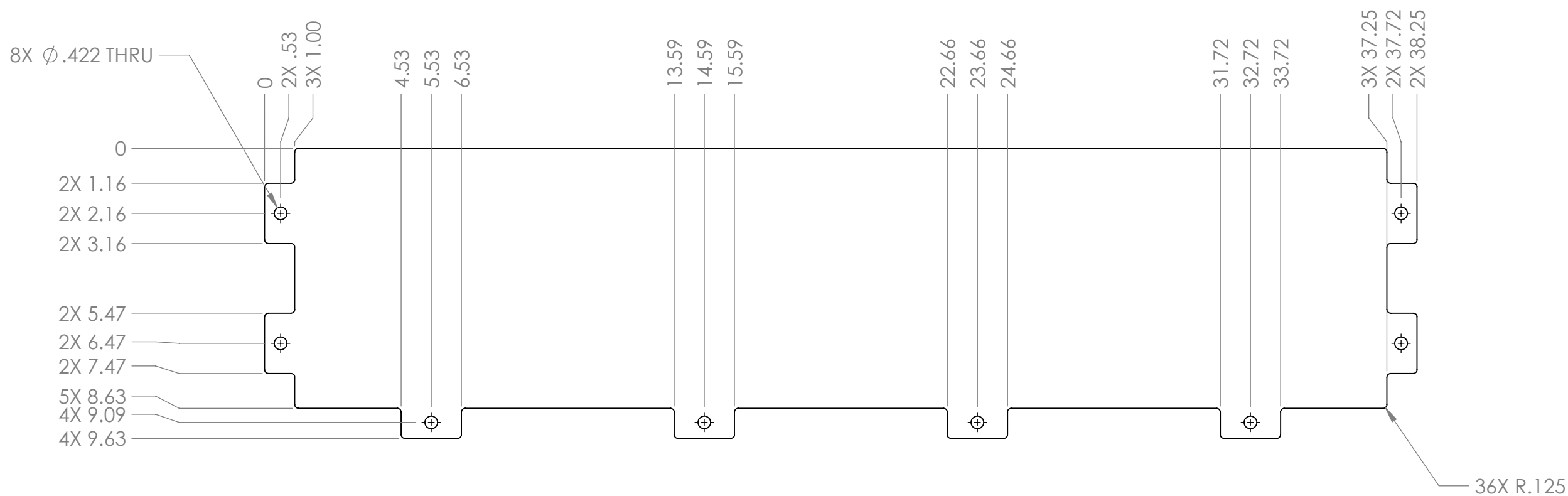
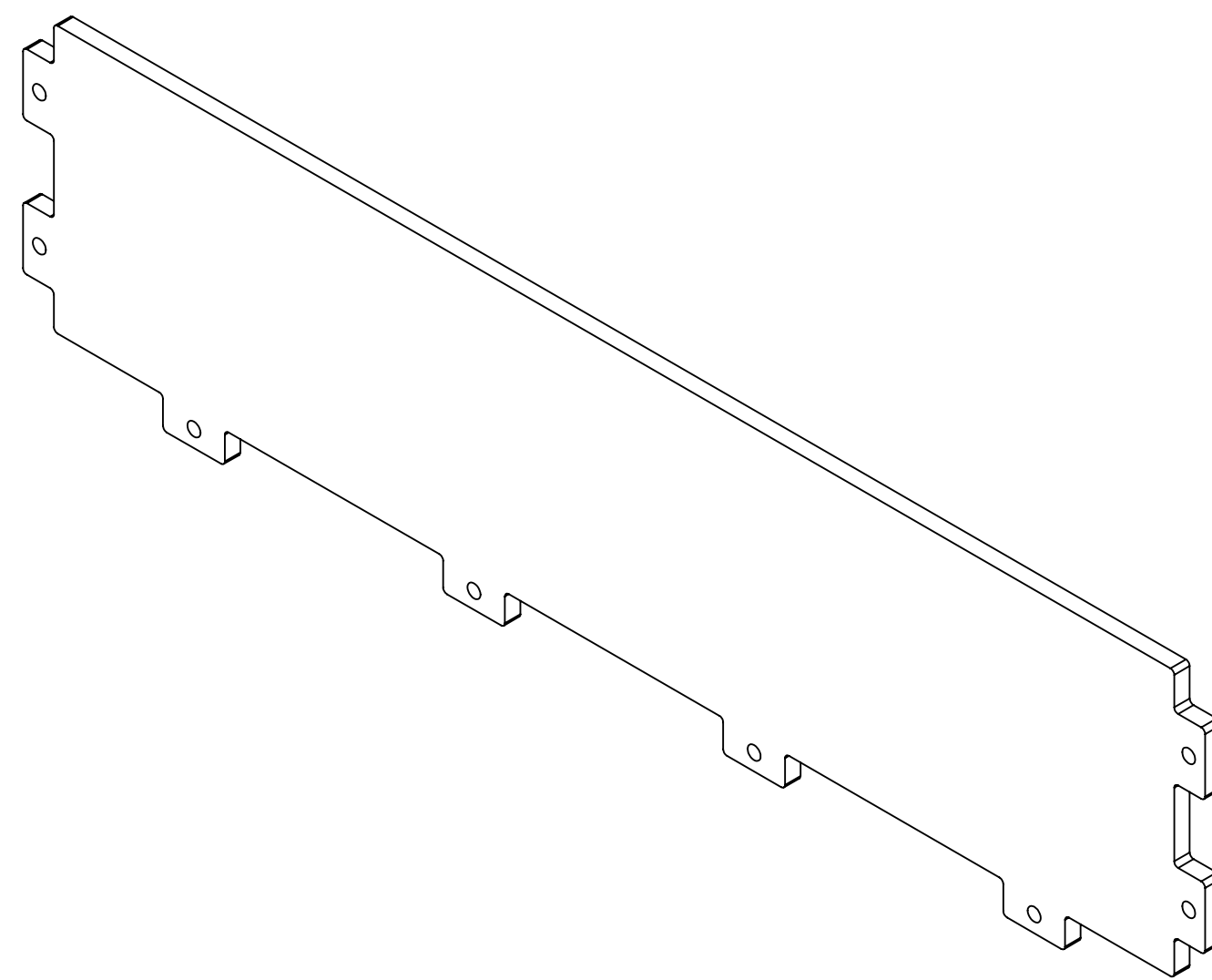
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .005$

**MATERIAL/FINISH:**  
 1/2" Black HDPE, Orange  
 Peel Texture

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	BB	7/22/2024

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN  
 THIS DRAWING IS THE SOLE  
 PROPERTY OF **FIRST**. ANY  
 REPRODUCTION IN PART OR AS A  
 WHOLE WITHOUT THE WRITTEN  
 PERMISSION OF **FIRST** IS  
 PROHIBITED.

**COMMENTS:**  
 REMOVE ALL BURRS AND SHARP  
 EDGES.



TITLE: Coral Holder  
 Top & Bottom  
 Panel

SIZE	DWG. NO.	REV
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**C** GE-25411

SCALE: 1:4	SHEET 1 OF 1
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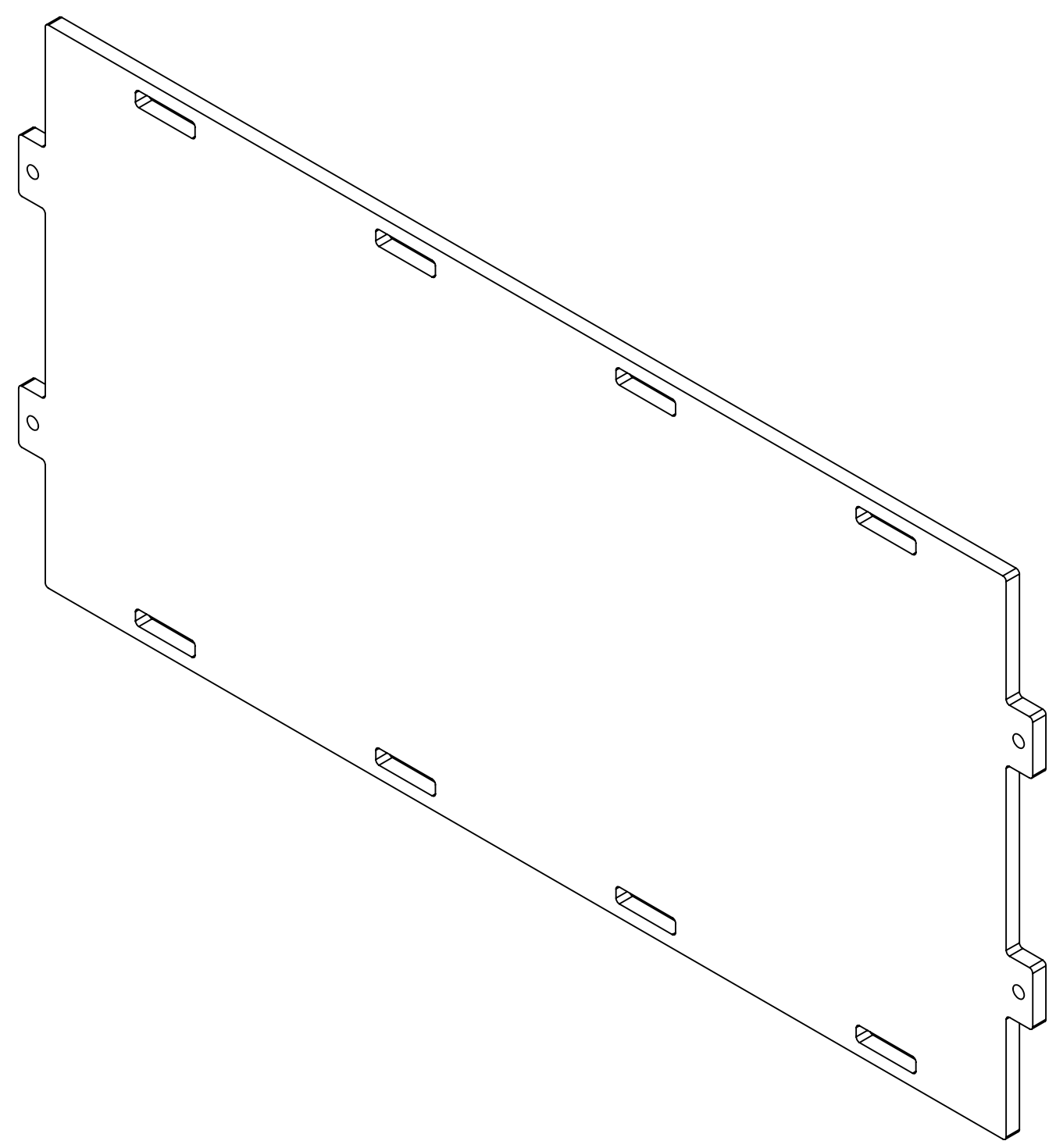
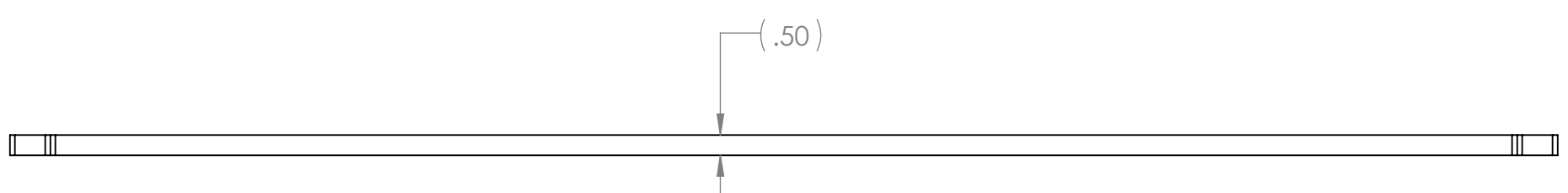
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL ± 1/16  
ANGULAR: MACH ± 1° BEND ± 1°  
TWO PLACE DECIMAL ± .01  
THREE PLACE DECIMAL ± .005

**MATERIAL/FINISH:**  
1/2" Black HDPE, Orange Peel Texture

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	BB	7/22/2024
<b>PROPRIETARY AND CONFIDENTIAL</b>		
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.		
<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: <b>Coral Holder Back Panel</b>		
SIZE <b>C</b>	DWG. NO. <b>GE-25412</b>	REV
SCALE: 1:4		SHEET 1 OF 1



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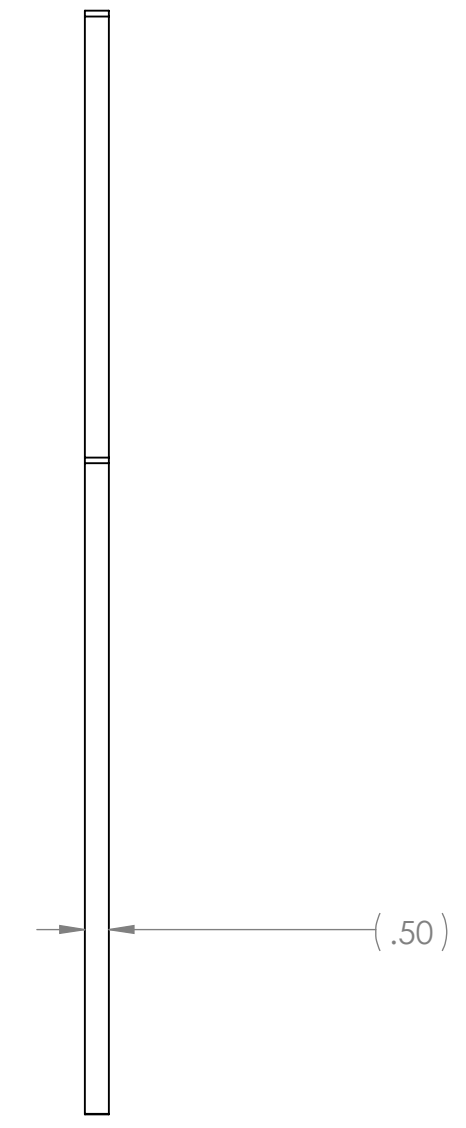
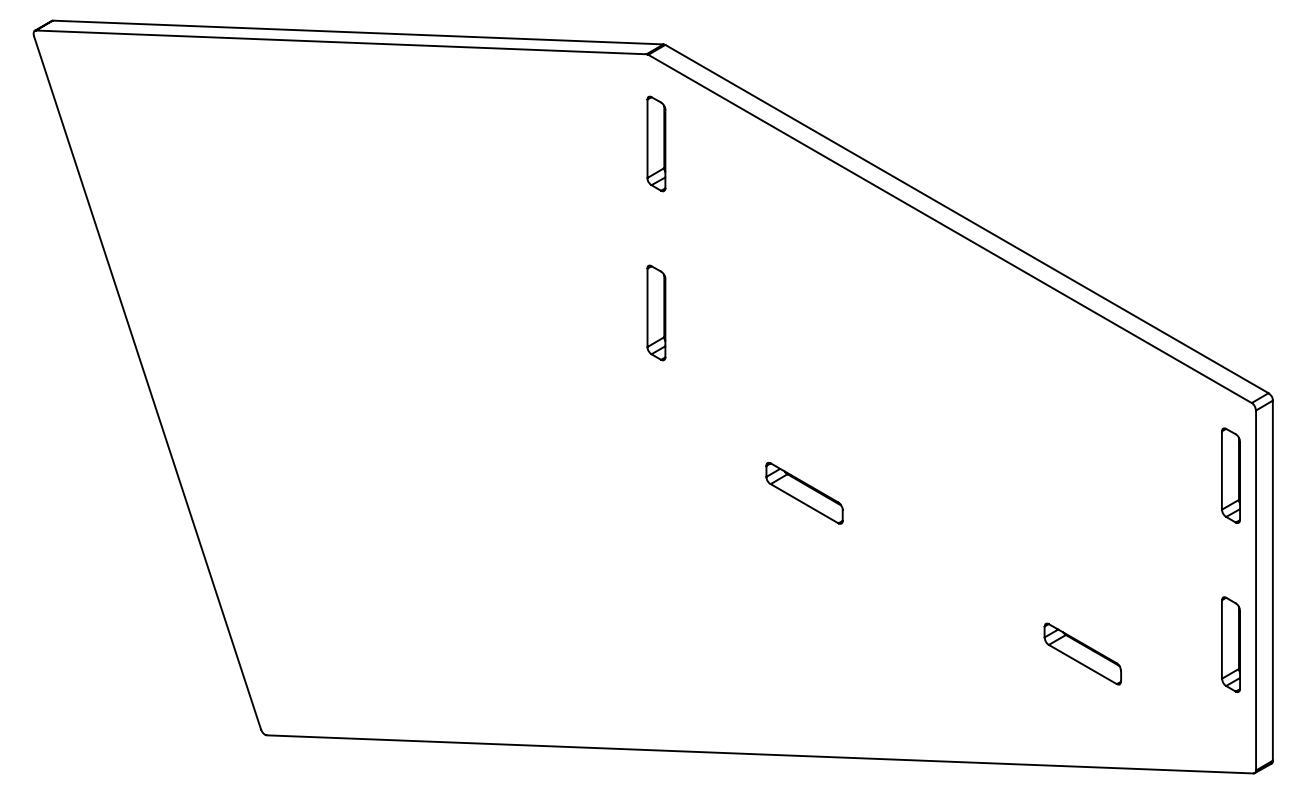
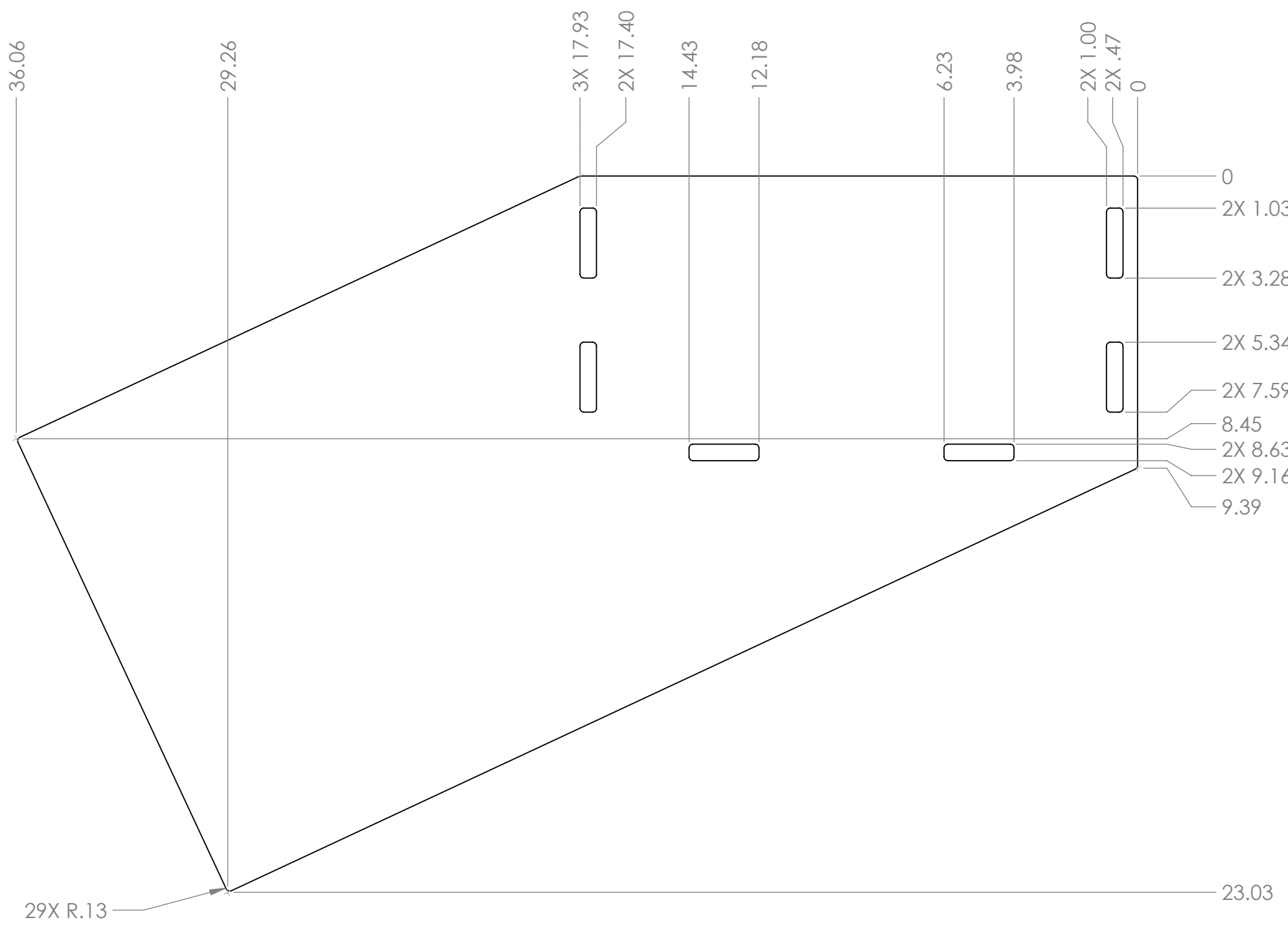
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UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$  <b>MATERIAL/FINISH:</b> 1/2" Black HDPE, Orange Peel Texture  DO NOT SCALE DRAWING	VEND	NAME	DATE			
	DRAWN	BB	7/22/2024			
	<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST</b> . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST</b> IS PROHIBITED.			TITLE:	<b>Coral Holder Side Panel</b>	
	<b>COMMENTS:</b> REMOVE ALL BURRS AND SHARP EDGES.			SIZE <b>C</b>		DWG. NO. <b>GE-25413</b>
			SCALE: 1:8	SHEET 1 OF 1		