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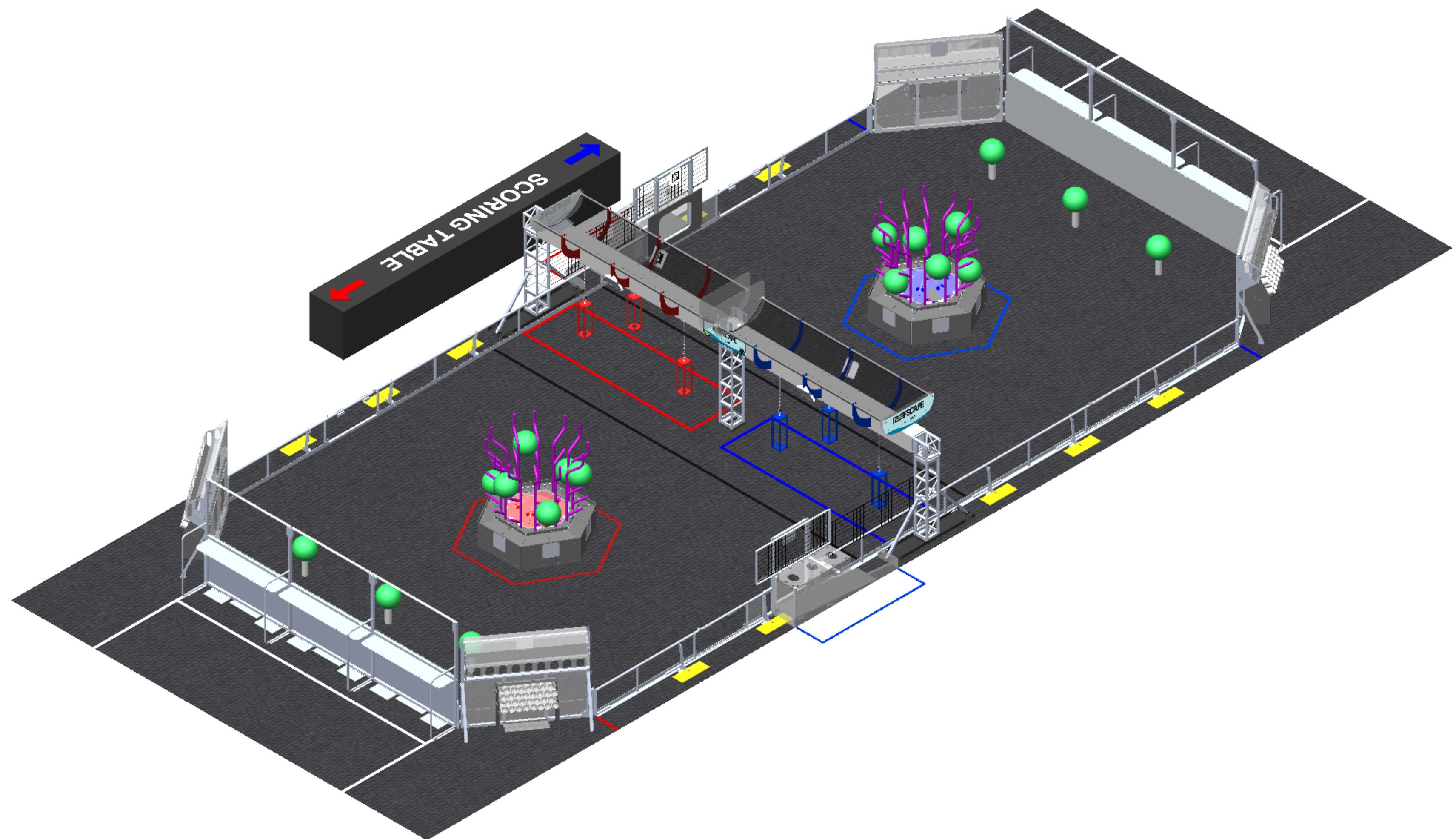
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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	DRAWN	DF	12/20/2024
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
2025 Field Layout and Marking

SIZE DWG. NO. REV
C FE-2025

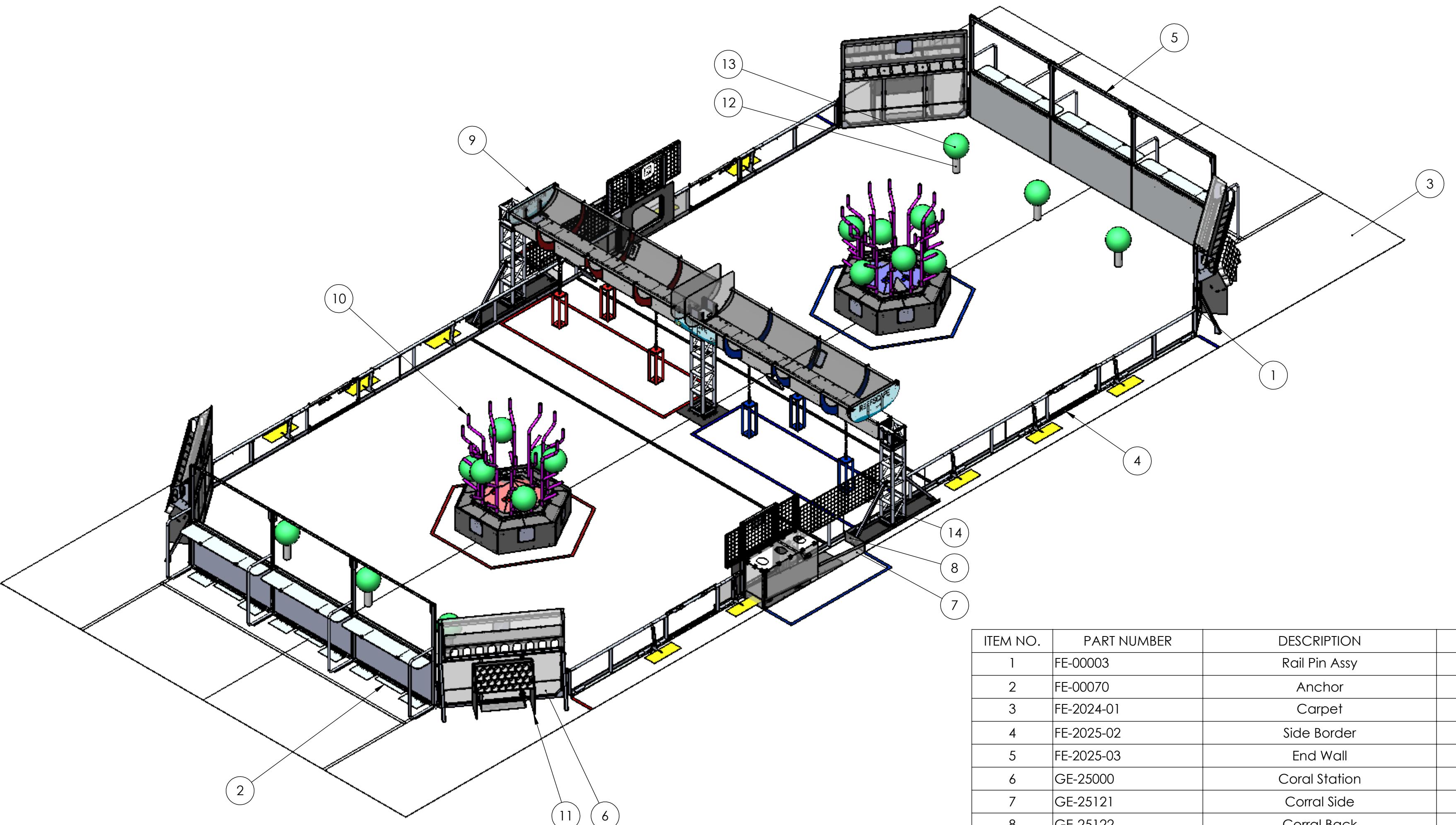
SCALE: 1:50 SHEET 1 OF 5

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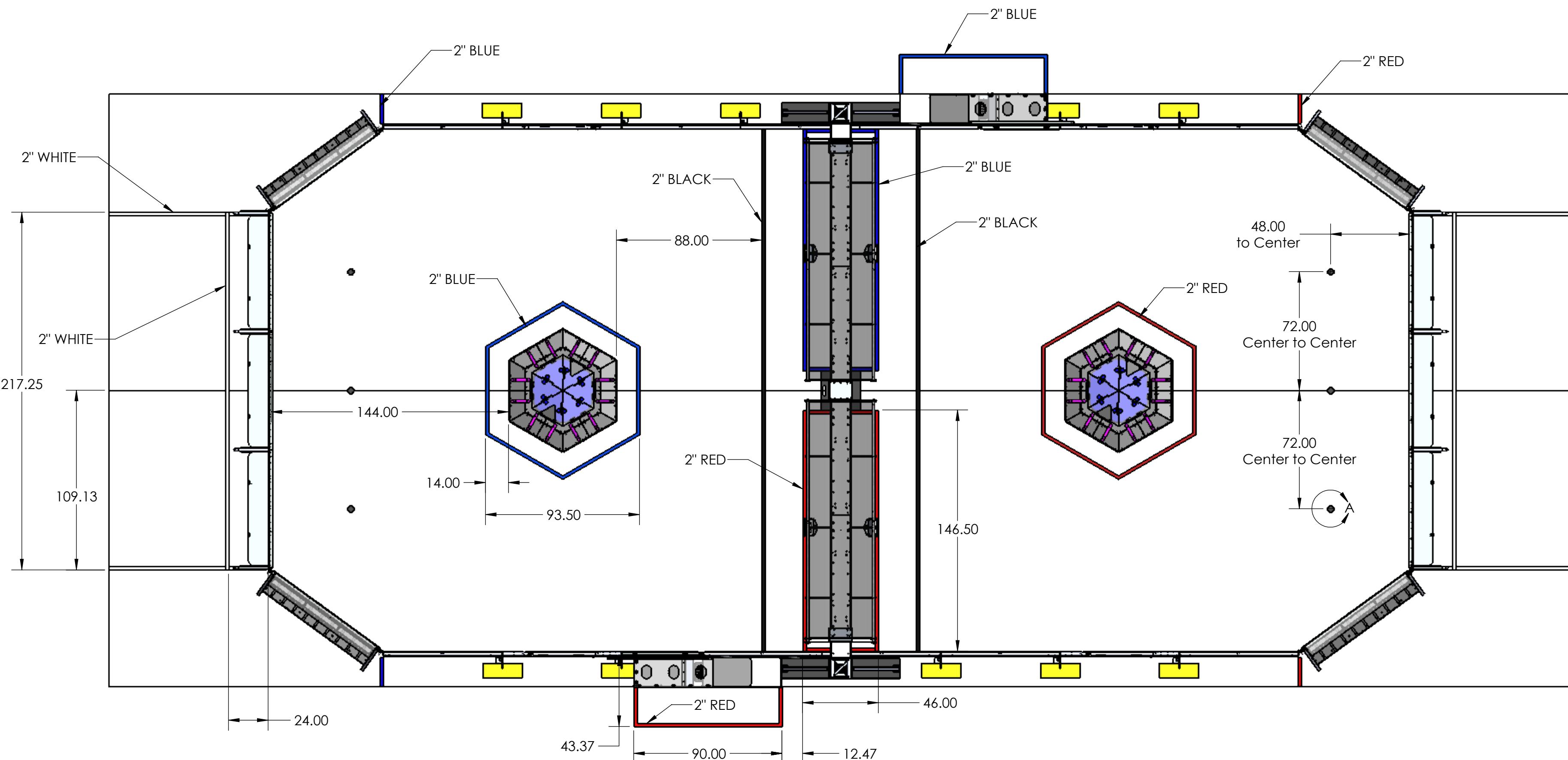
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00003	Rail Pin Assy	8
2	FE-00070	Anchor	3
3	FE-2024-01	Carpet	2
4	FE-2025-02	Side Border	2
5	FE-2025-03	End Wall	2
6	GE-25000	Coral Station	4
7	GE-25121	Corral Side	2
8	GE-25122	Corral Back	2
9	GE-25200	Barge	1
10	GE-25300	Reef	2
11	GE-25410	Coral Holder	4
12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

UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE
		DRAWN	DF	12/20/2024
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MATERIAL/FINISH:				
DO NOT SCALE DRAWING				
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				

FIRST ROBOTICS COMPETITION
SOLIDWORKS
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TITLE: 2025 Field Layout and Marking
SIZE DWG. NO. REV
C FE-2025

SCALE: 1:50 **SHEET** 2 OF 5



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:

DO NOT SCALE DRAWING

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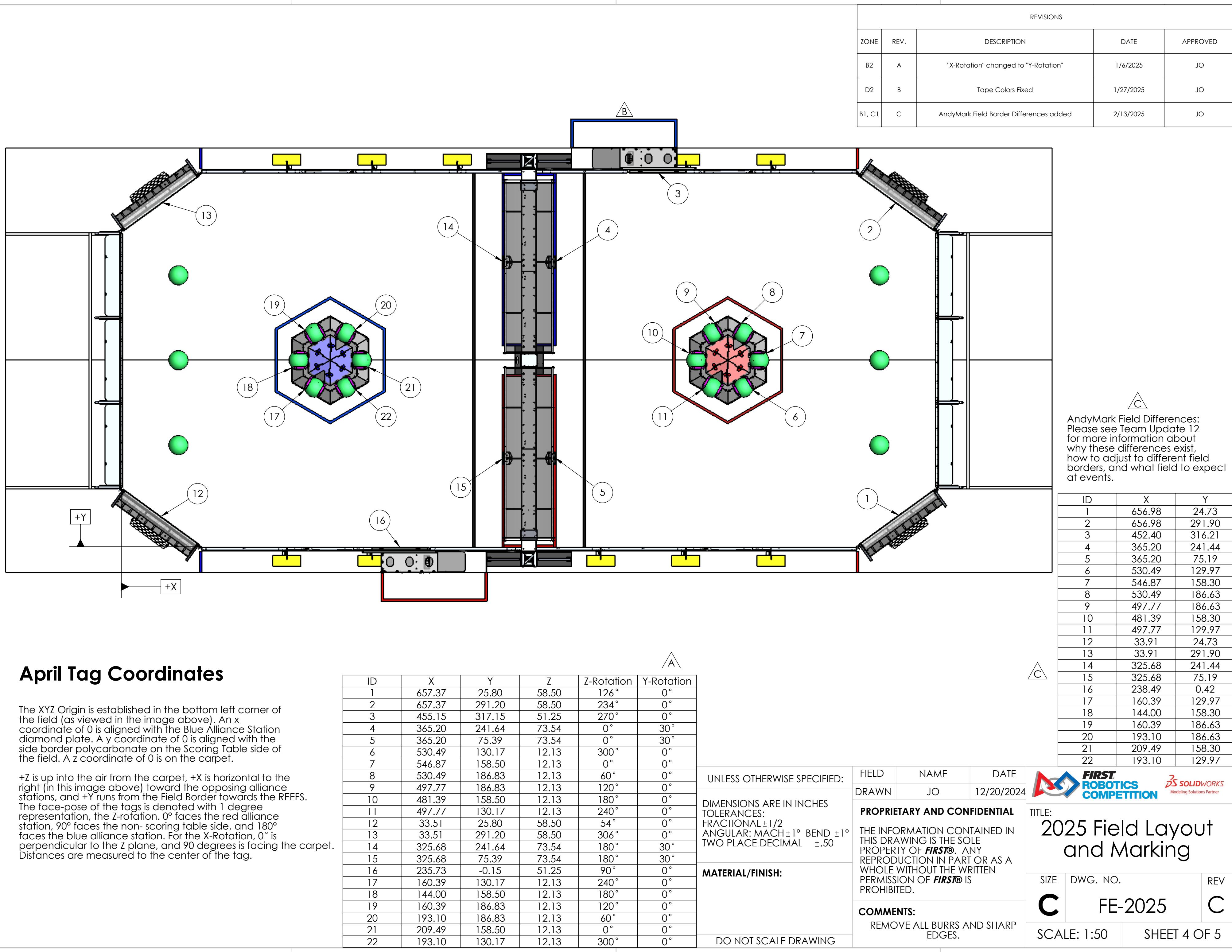
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FIRST ROBOTICS COMPETITION
SOLIDWORKS Modeling Solutions Partner

TITLE: 2025 Field Layout and Marking

SIZE DWG. NO. REV
C FE-2025

SCALE: 1:50 SHEET 3 OF 5



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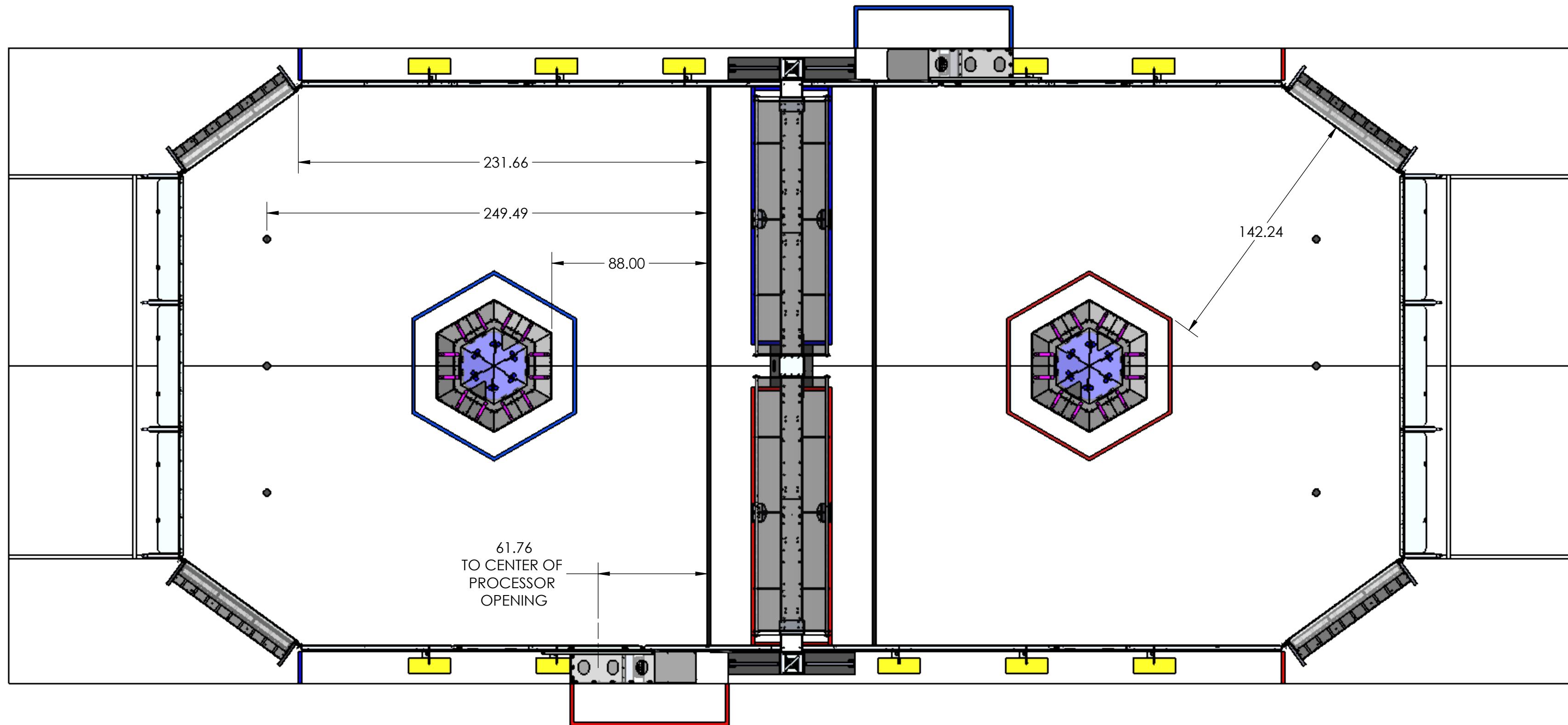
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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DRAWN	DF	12/20/2024	
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MATERIAL/FINISH:			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
2025 Field Layout
and Marking

SIZE DWG. NO. REV
C FE-2025

SCALE: 1:50 SHEET 5 OF 5

4

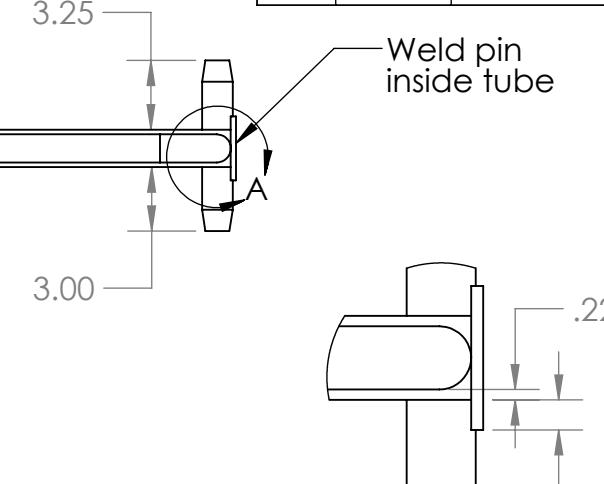
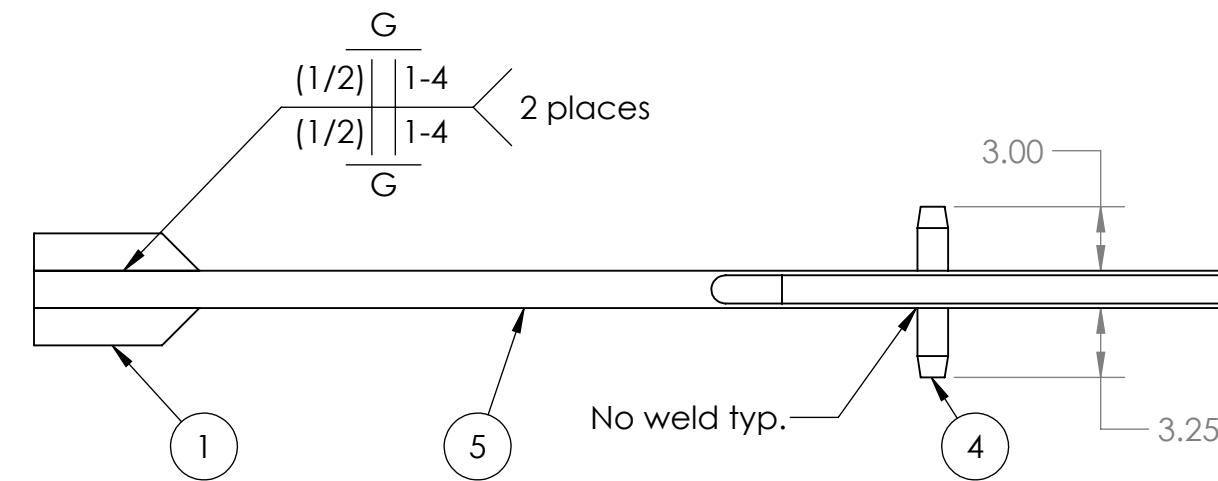
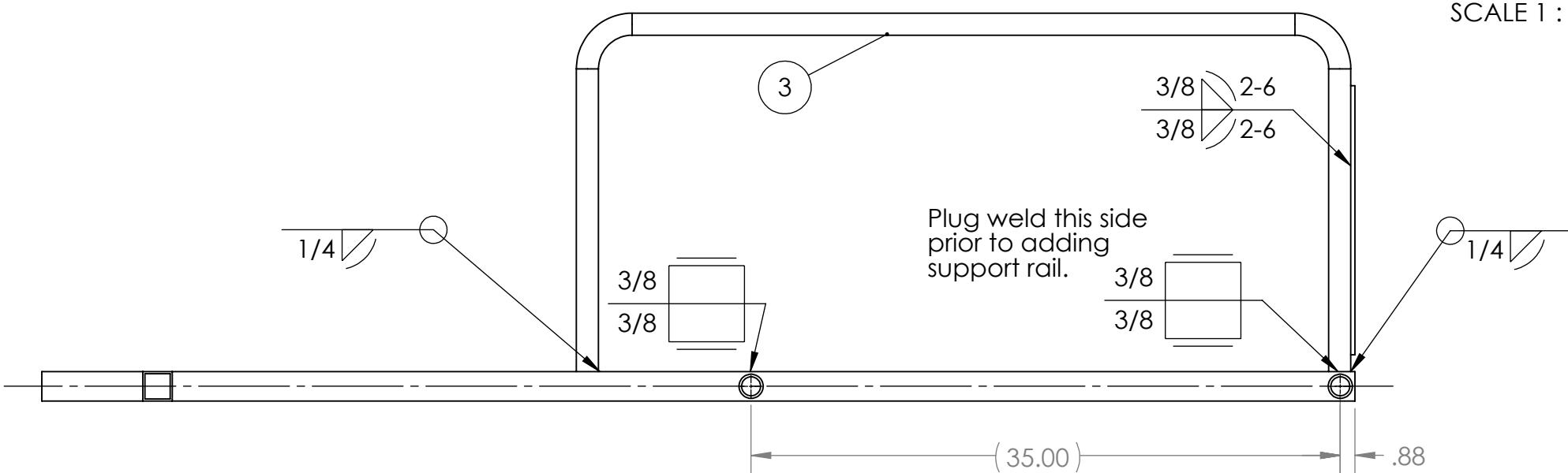
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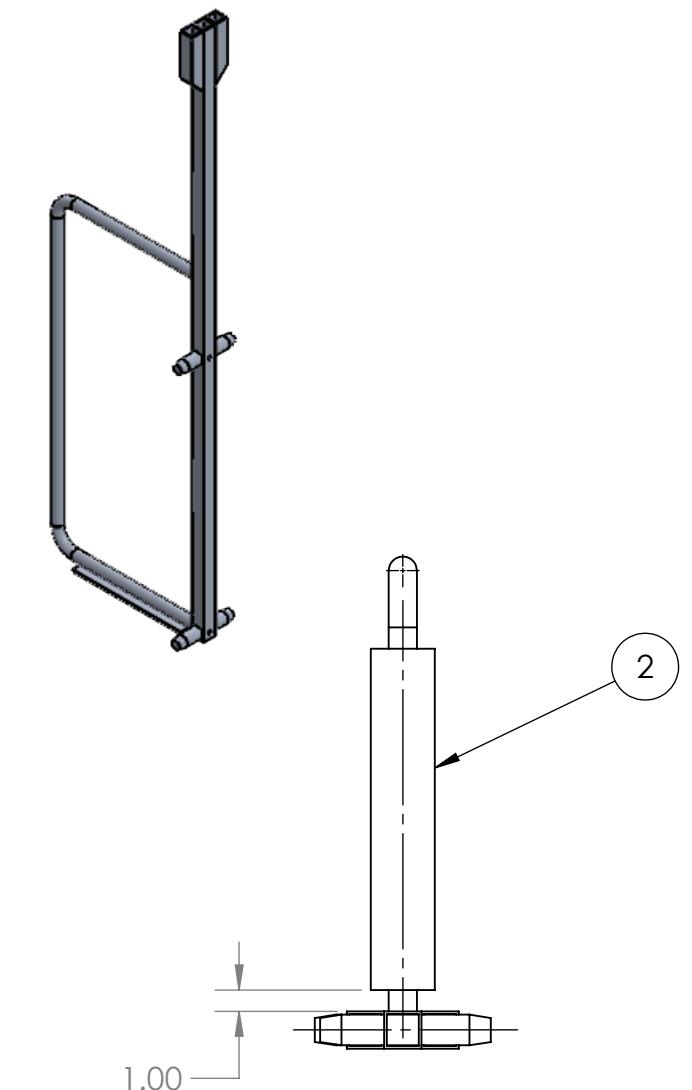
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REVISIONS

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

DETAIL A
SCALE 1 : 4

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				
TOLERANCES:				
FRACTIONAL ±1/16				
ANGULAR: MACH ±1° BEND ±1°				
TWO PLACE DECIMAL ±.01				
THREE PLACE DECIMAL ±.001				
		INTERPRET GEOMETRIC TOLERANCING PER:		
		MATERIAL		
NEXT ASSY	USED ON	FINISH		
		APPLICATION	DO NOT SCALE DRAWING	

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

Drivers Station Support

SIZE	DWG. NO.	REV
B	FE-00001	B
SCALE: 1:9	WEIGHT:	SHEET 1 OF 3

4

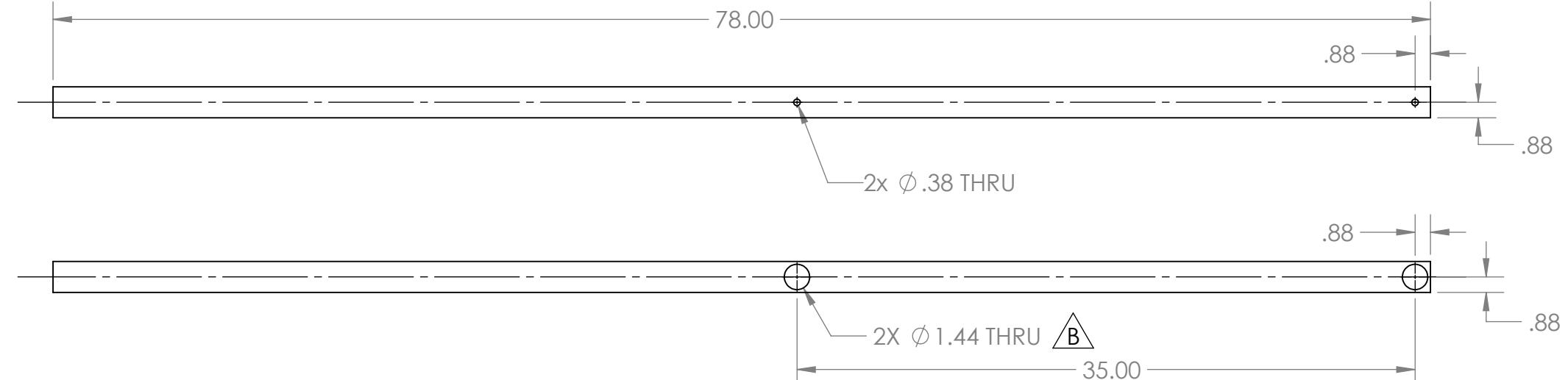
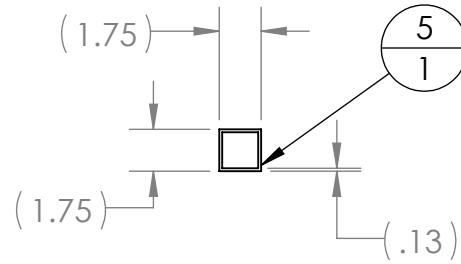
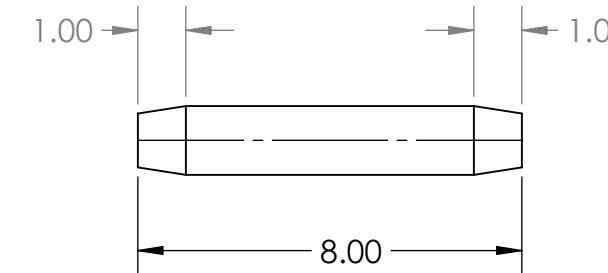
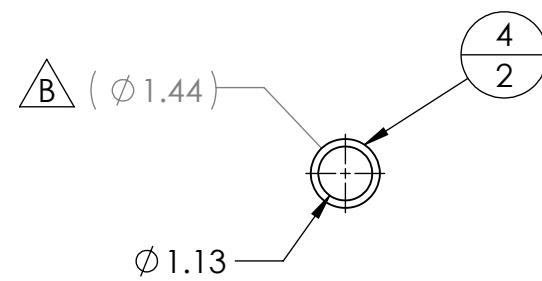
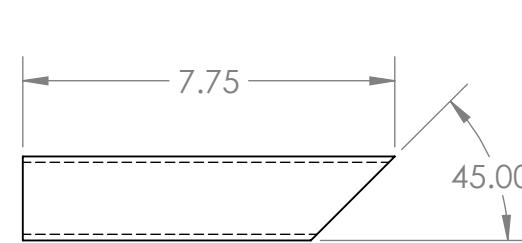
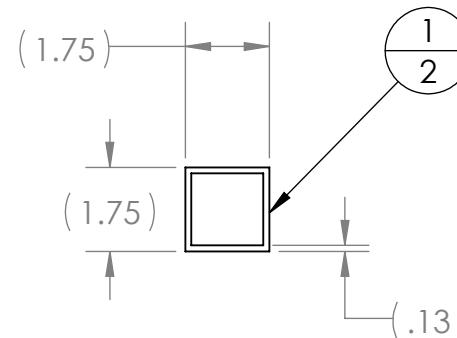
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		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$		NAME	DATE
		DRAWN			
		CHECKED			
		ENG APPR.			
		MFG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

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

Drivers Station Support

SIZE DWG. NO. REV
B FE-00001 B

SCALE: 1:2 WEIGHT: SHEET 2 OF 3

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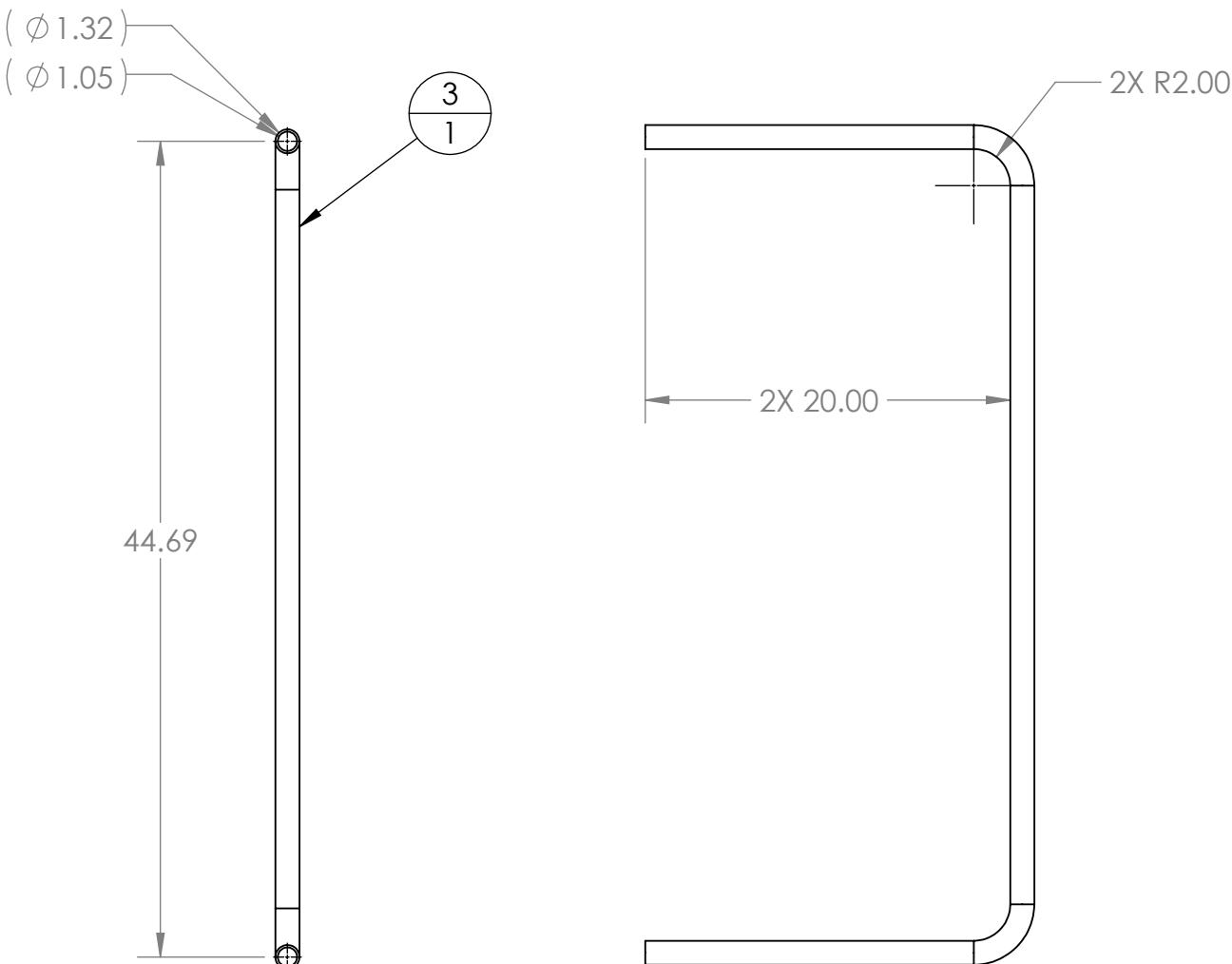
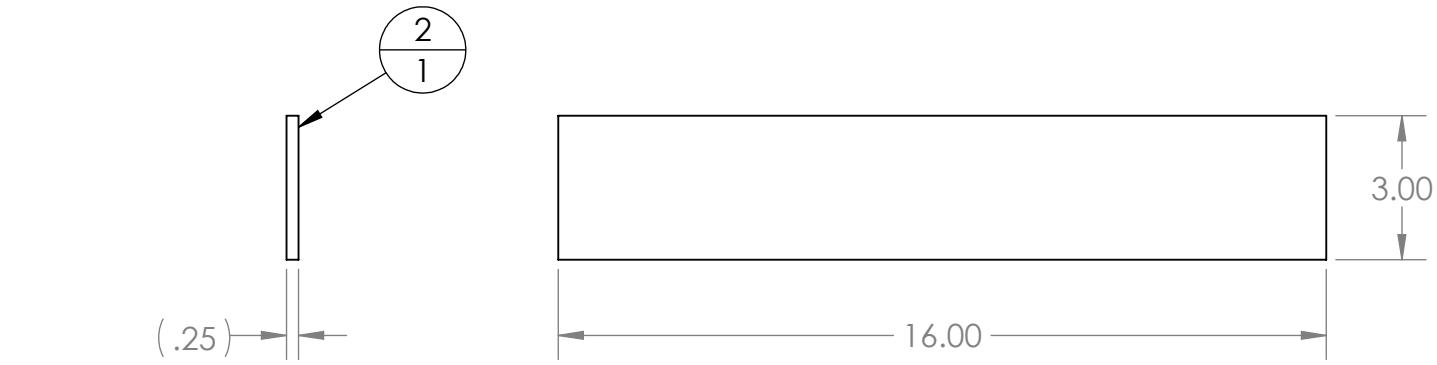
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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN		
TOLERANCES:		CHECKED		
FRACTIONAL $\pm 1/16$		ENG APPR.		
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$		MFG APPR.		
TWO PLACE DECIMAL $\pm .01$		Q.A.		
THREE PLACE DECIMAL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

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

Drivers Station Support

SIZE	DWG. NO.	REV
B	FE-00001	B
	WEIGHT:	SHEET 3 OF 3

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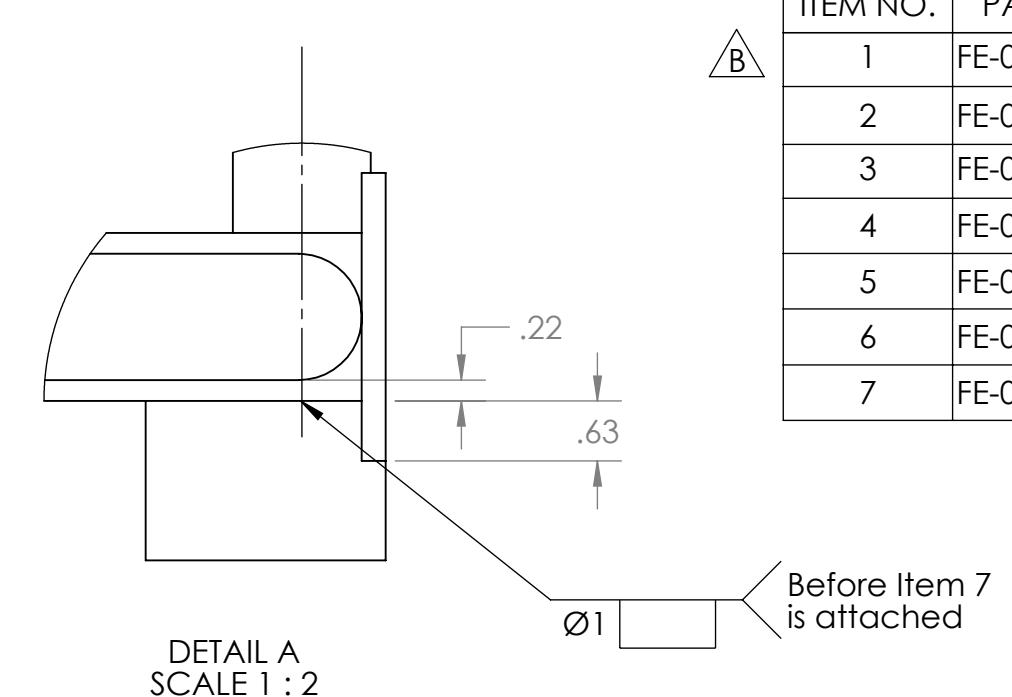
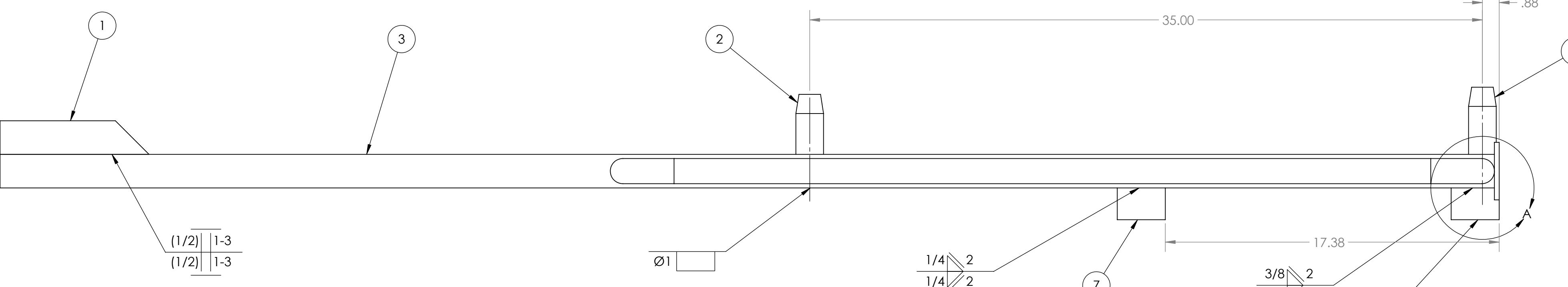
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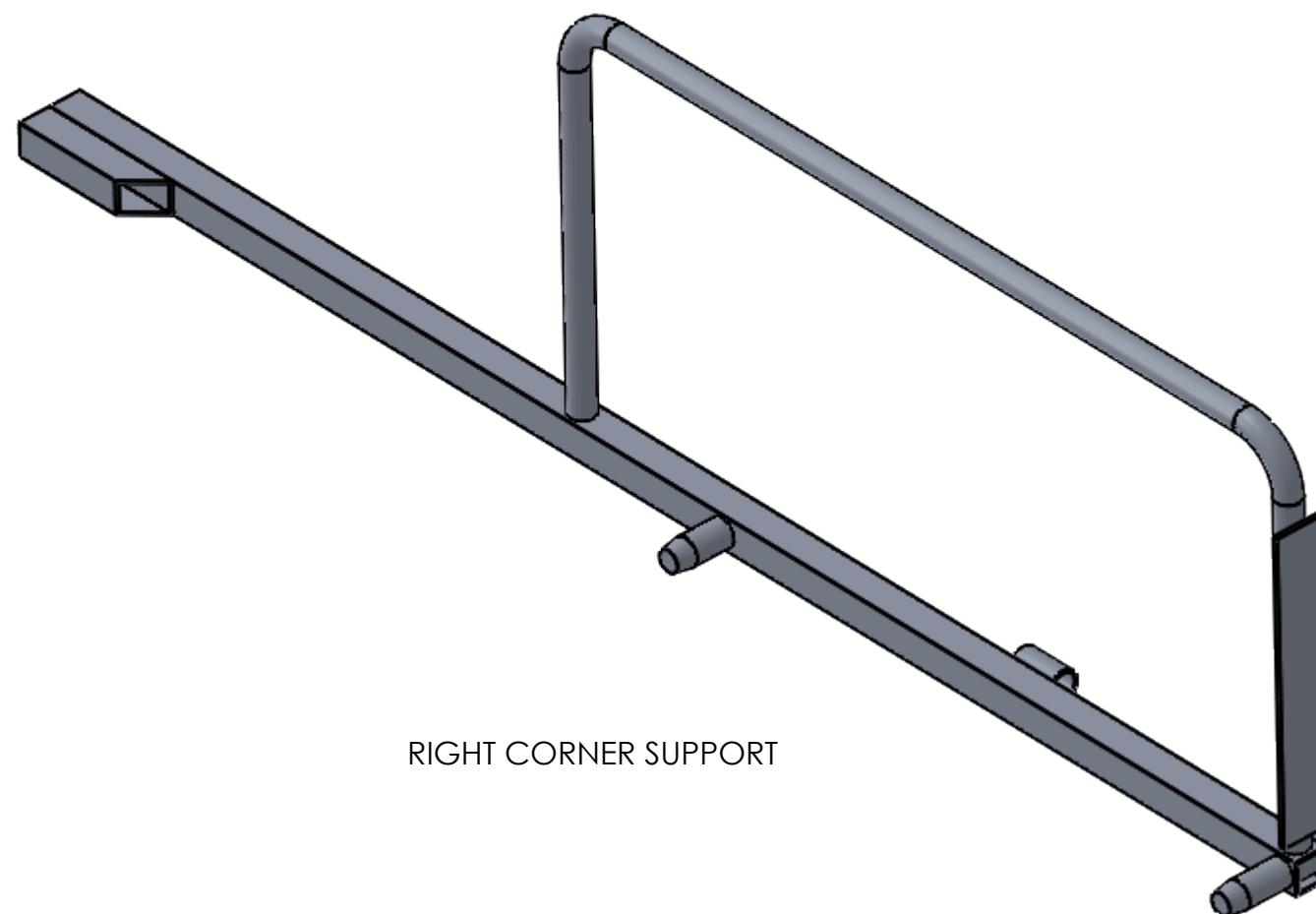
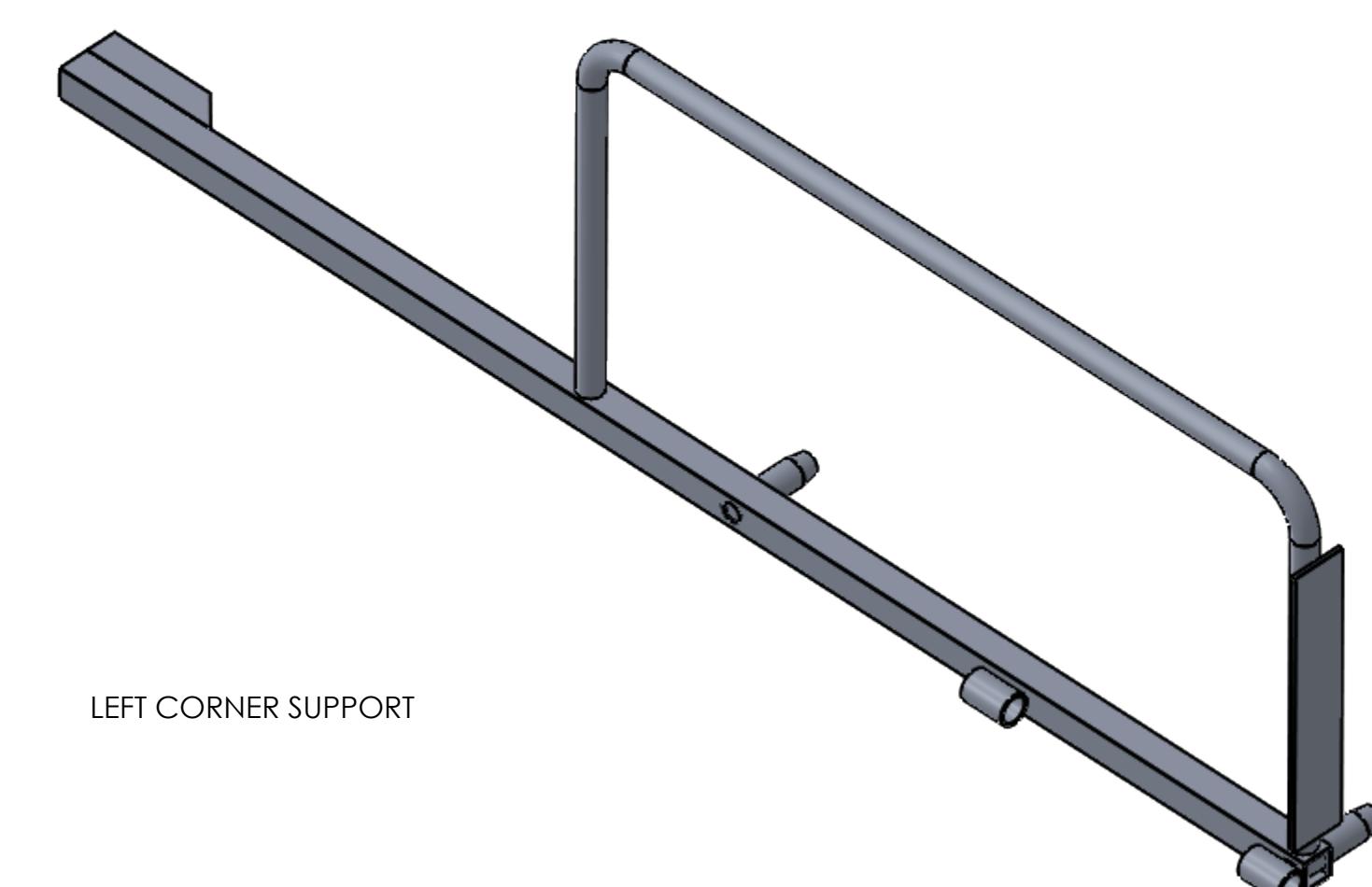
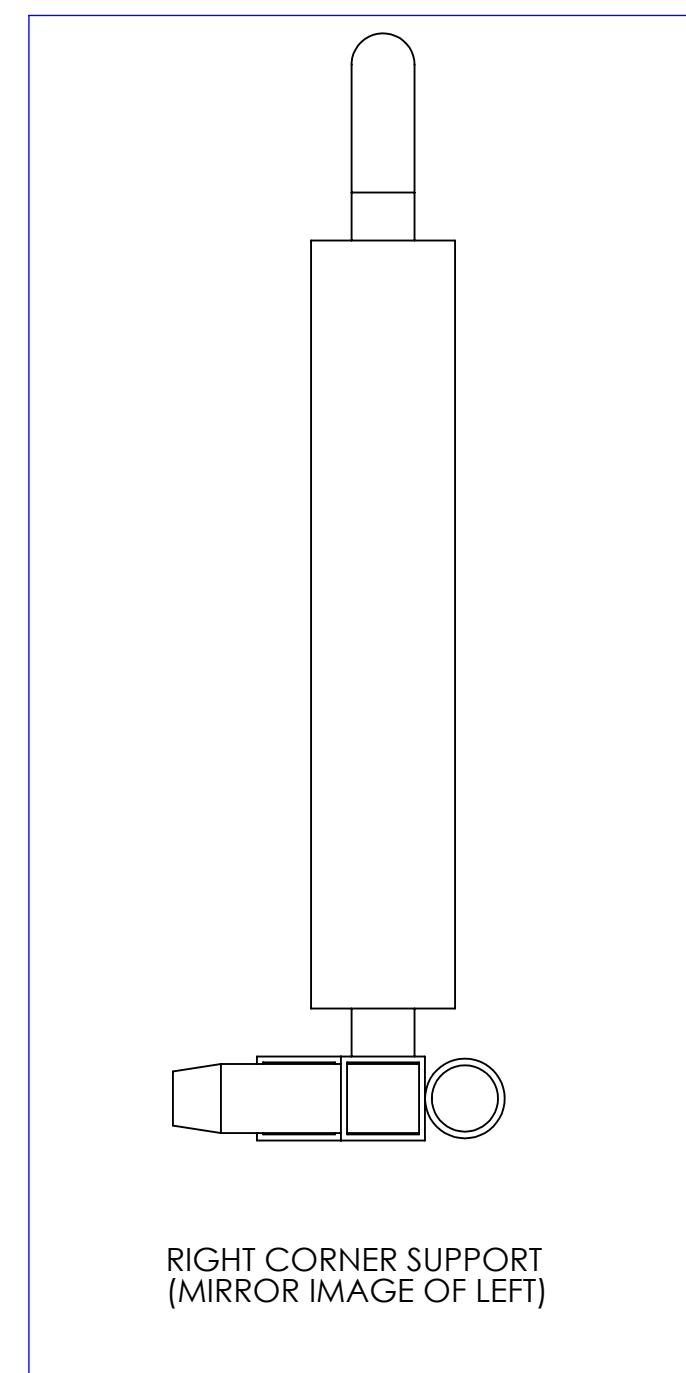
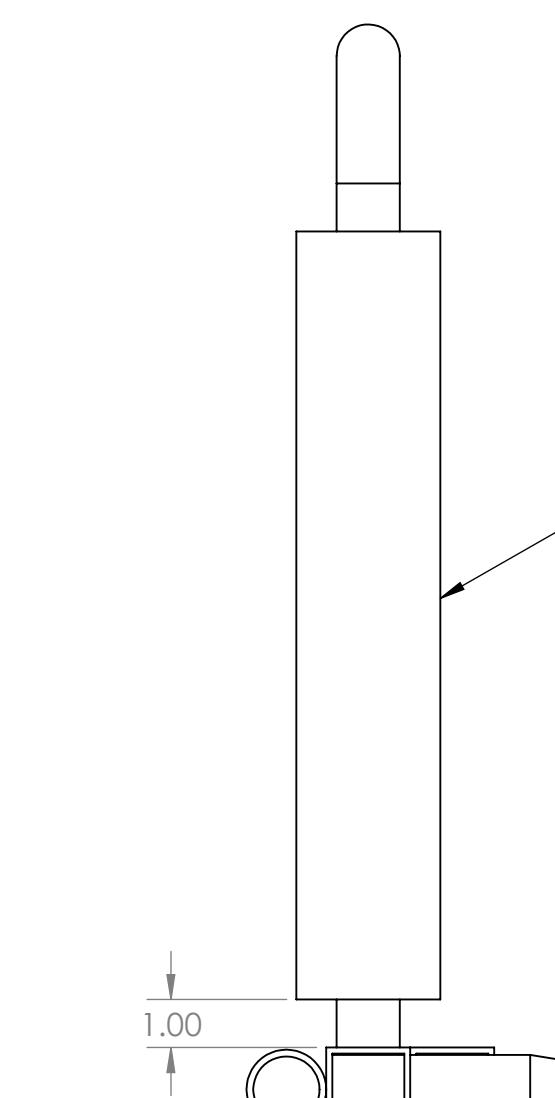
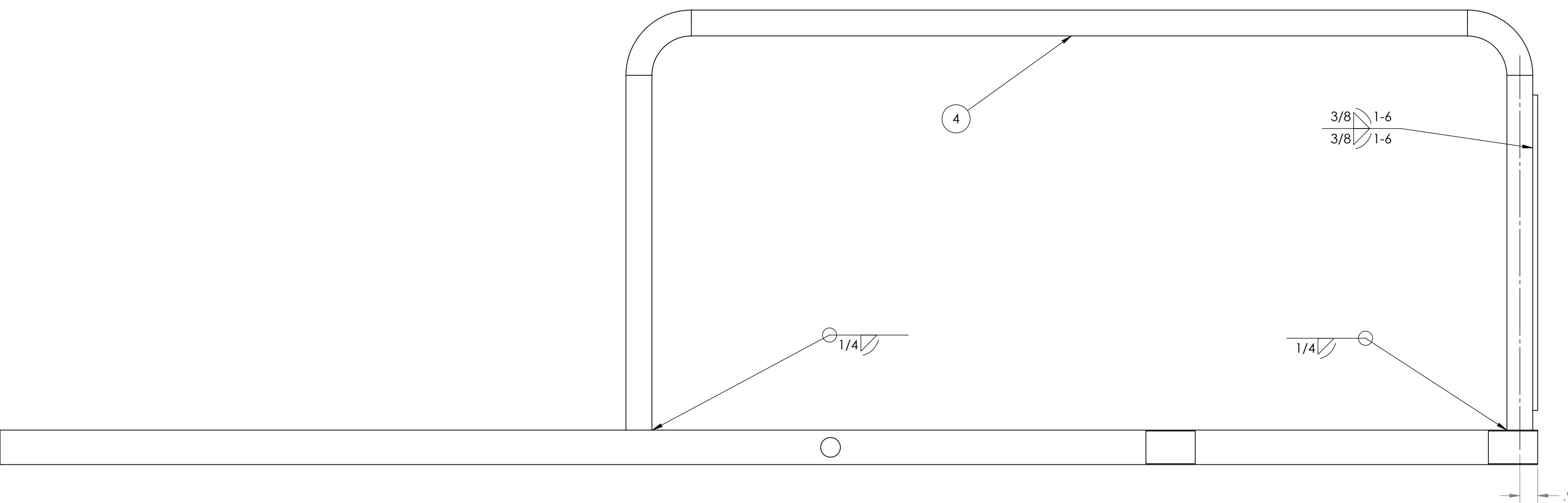
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	Redraw	5/19/2008	narosenberg
D2	B	Items renumbered, drawing reformatted	3/19/2020	CPO

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

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

FIRST
ROBOTICS
COMPETITION

TITLE: Corner Supports,
Left

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

SCALE: 1:4 WEIGHT: SHEET 1 OF 2

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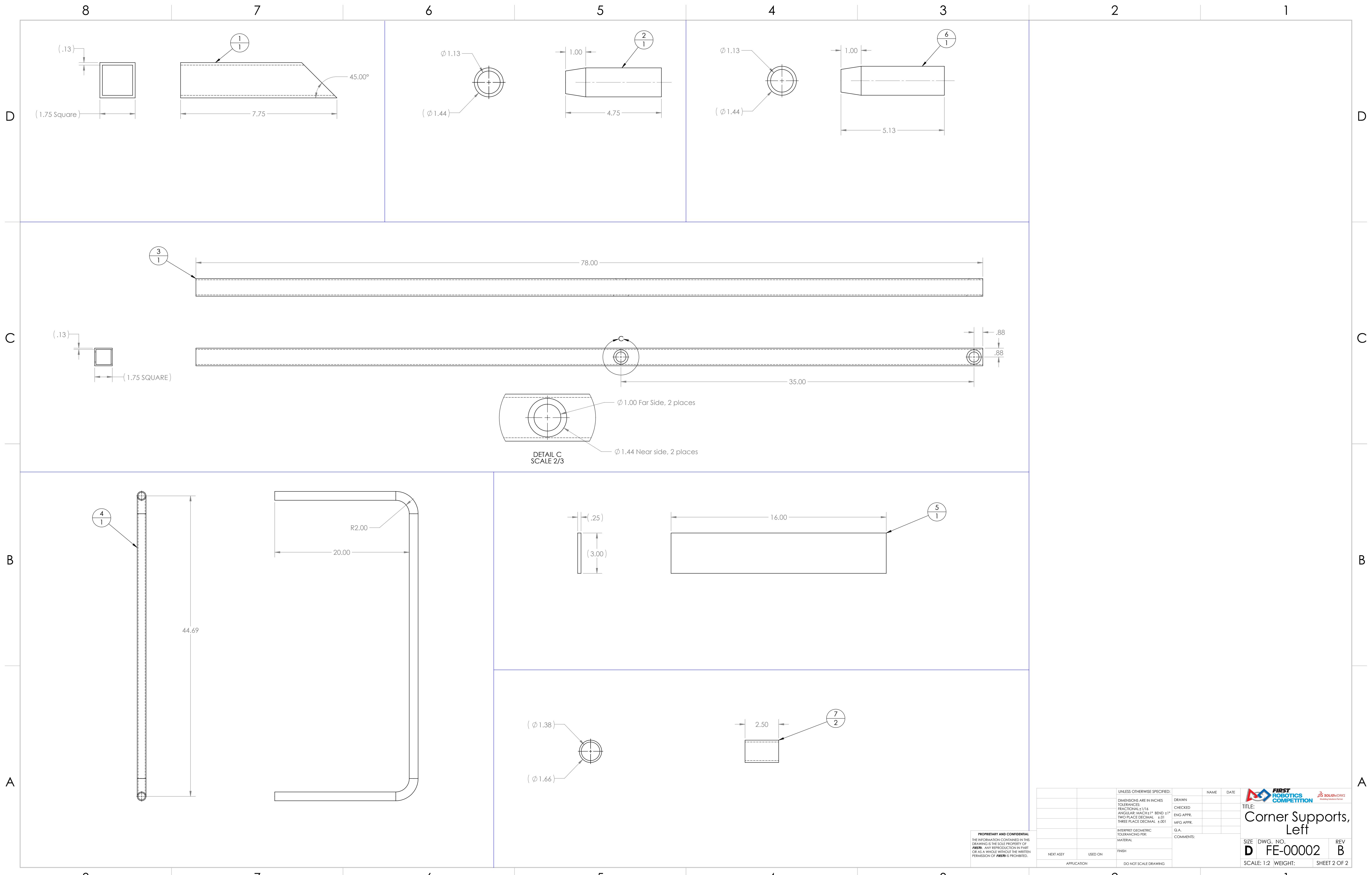
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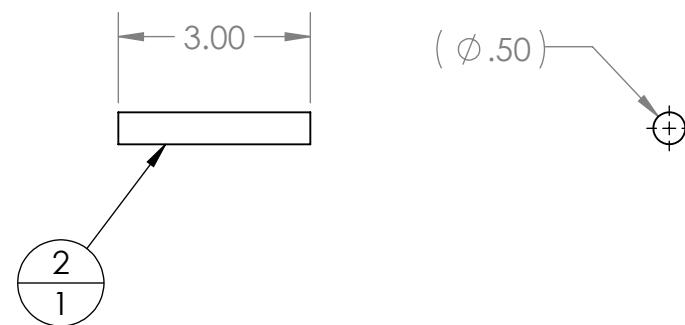
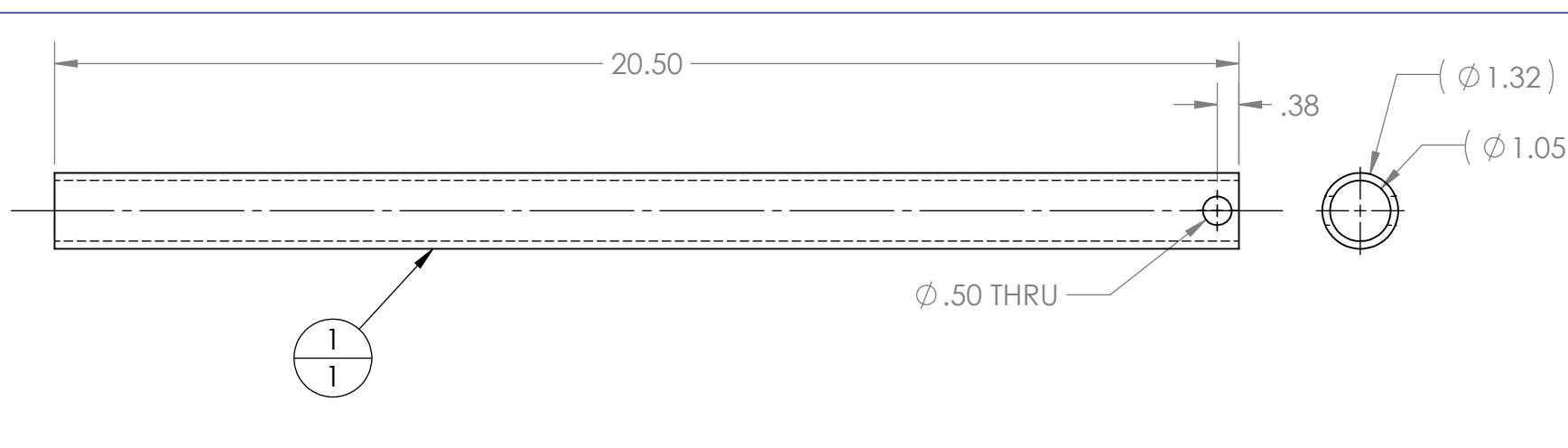
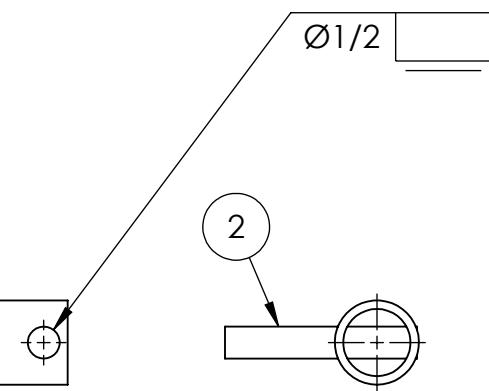
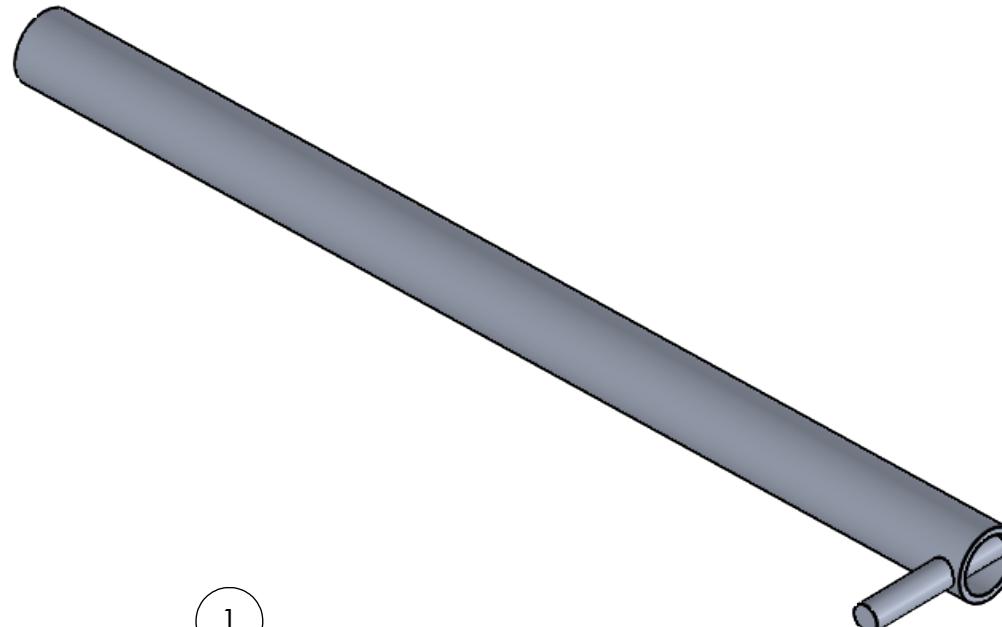


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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redraw	5/20/2008	narosenberg
	B	Drawing reformatted	3/19/2020	CPO

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

		UNLESS OTHERWISE SPECIFIED:			DRAWN CHECKED ENG APPR. MFG APPR.	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 $\pm .001$						
NEXT ASSY	USED ON	INTERPRET GEOMETRIC TOLERANCING PER:			Q.A.	COMMENTS:		
		MATERIAL						
APPLICATION	FINISH	DO NOT SCALE DRAWING						

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Rail Pin Assy

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

SCALE: 1:3 WEIGHT: SHEET 1 OF 1

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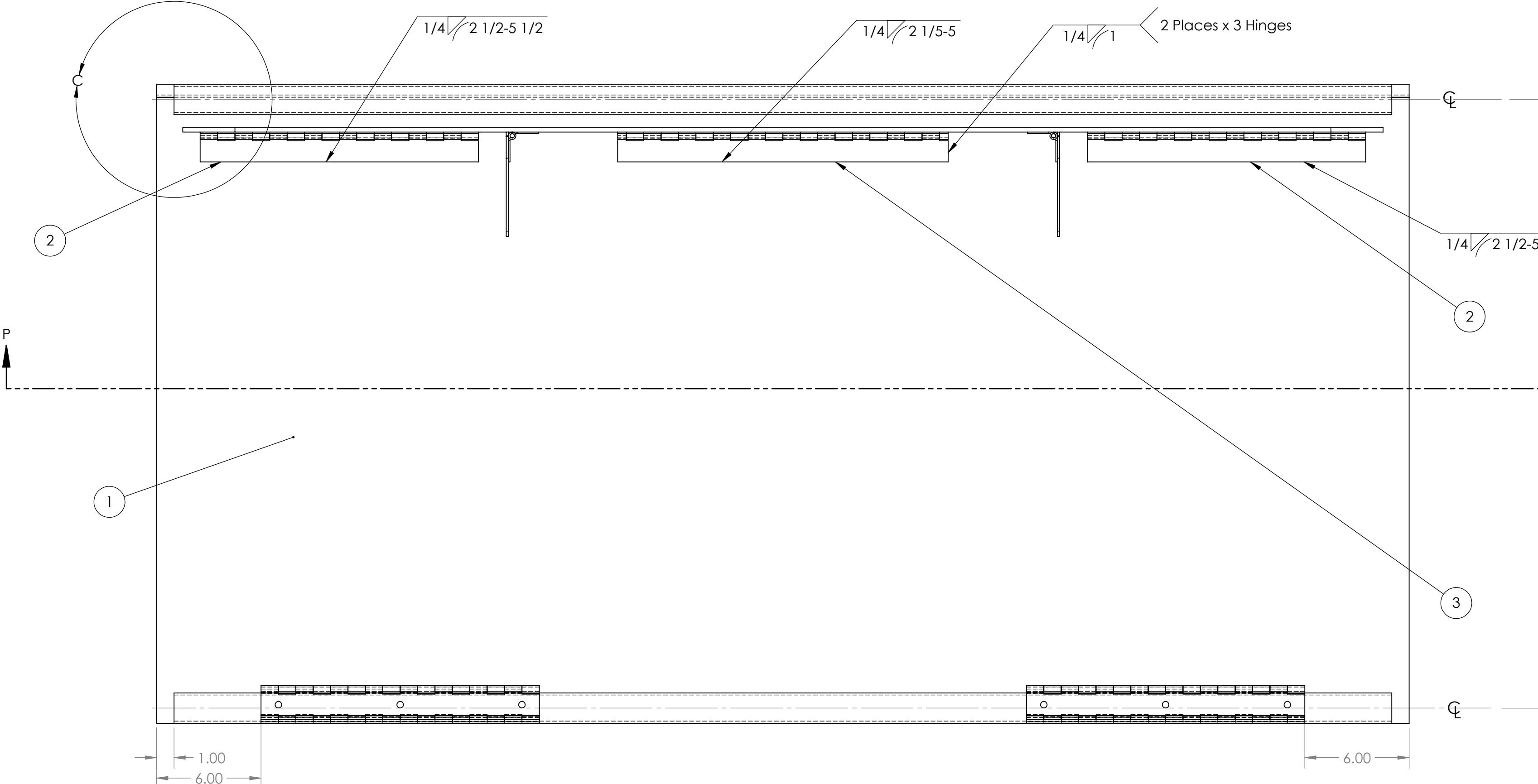
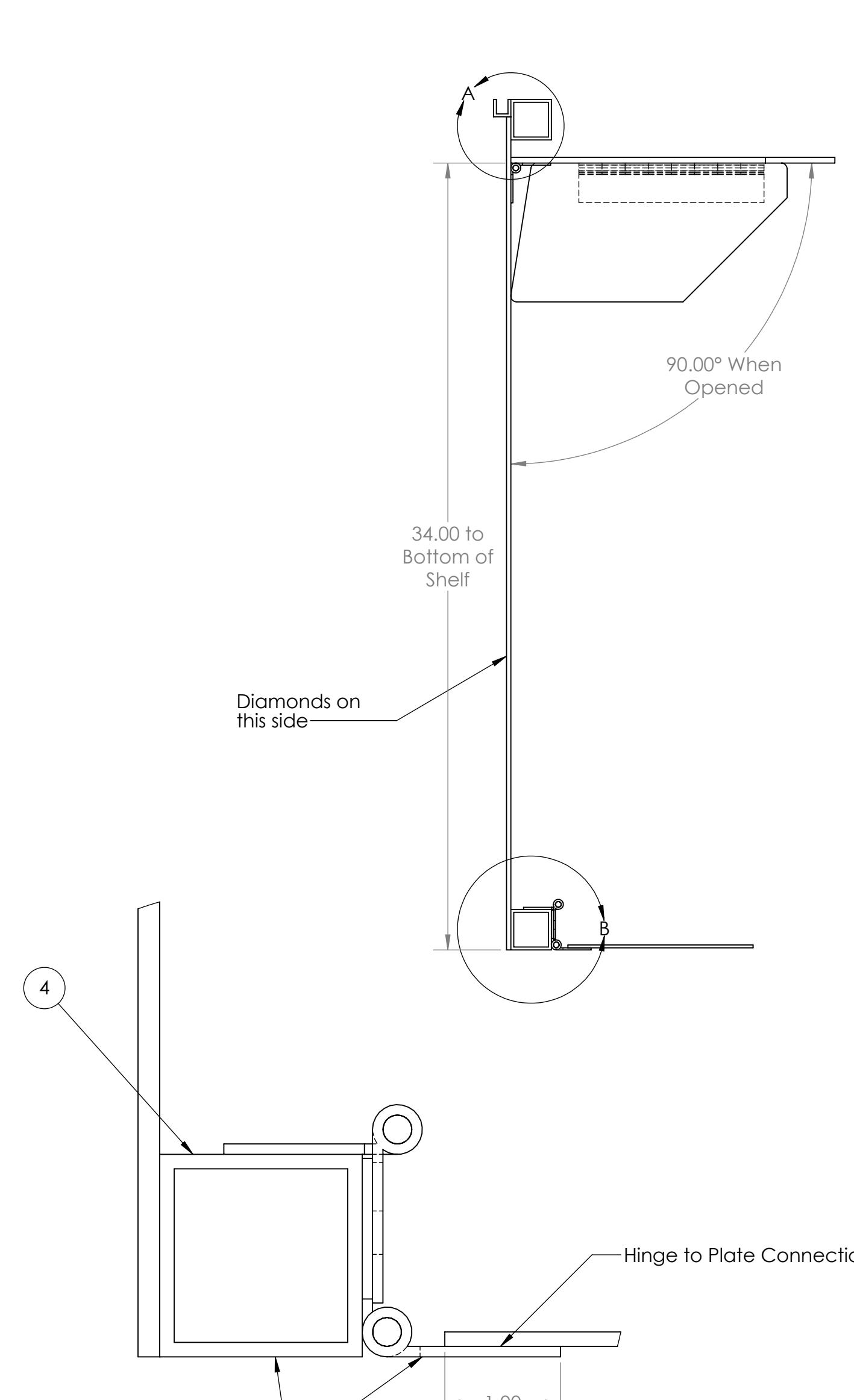
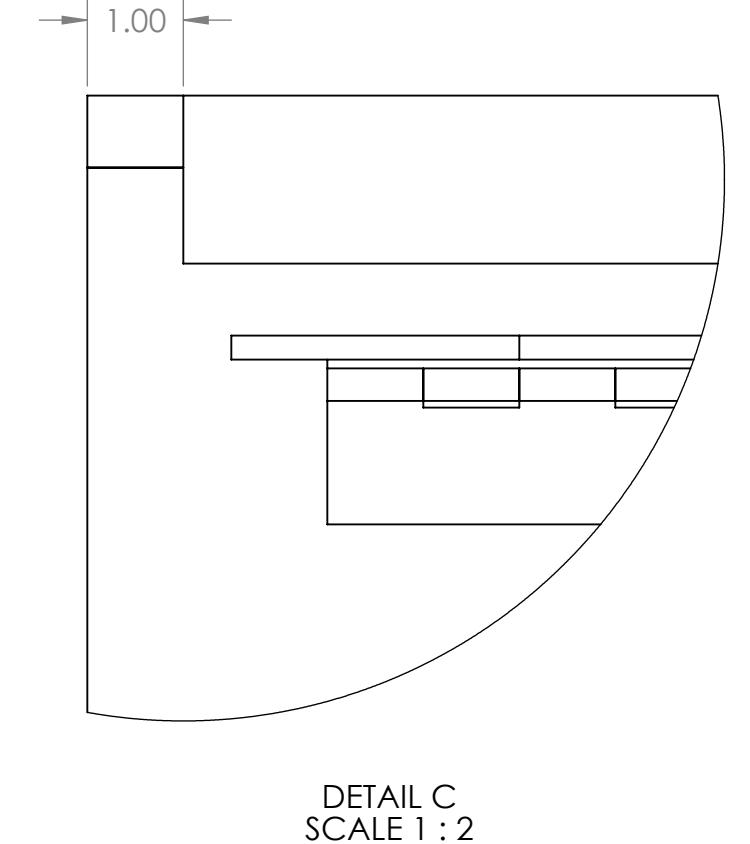
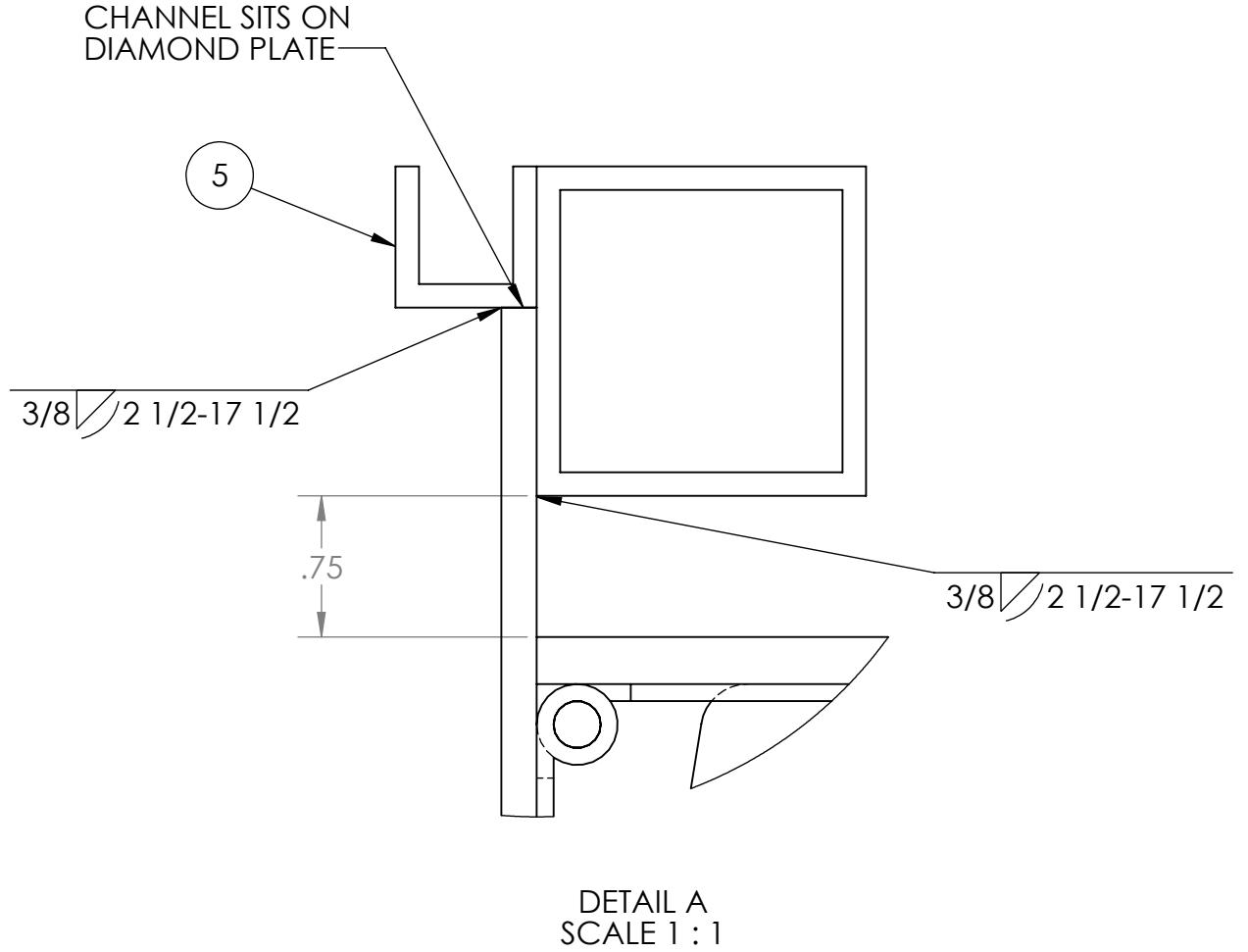
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REVISIONS

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

Notes:
1. Remove all sharp edges and burrs

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:	
PROPRIETARY AND CONFIDENTIAL		
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INTERPRET GEOMETRIC		
TOLERANCING PER:		
MATERIAL		
NEXT ASSY	USED ON	
	FINISH	
APPLICATION	DO NOT SCALE DRAWING	

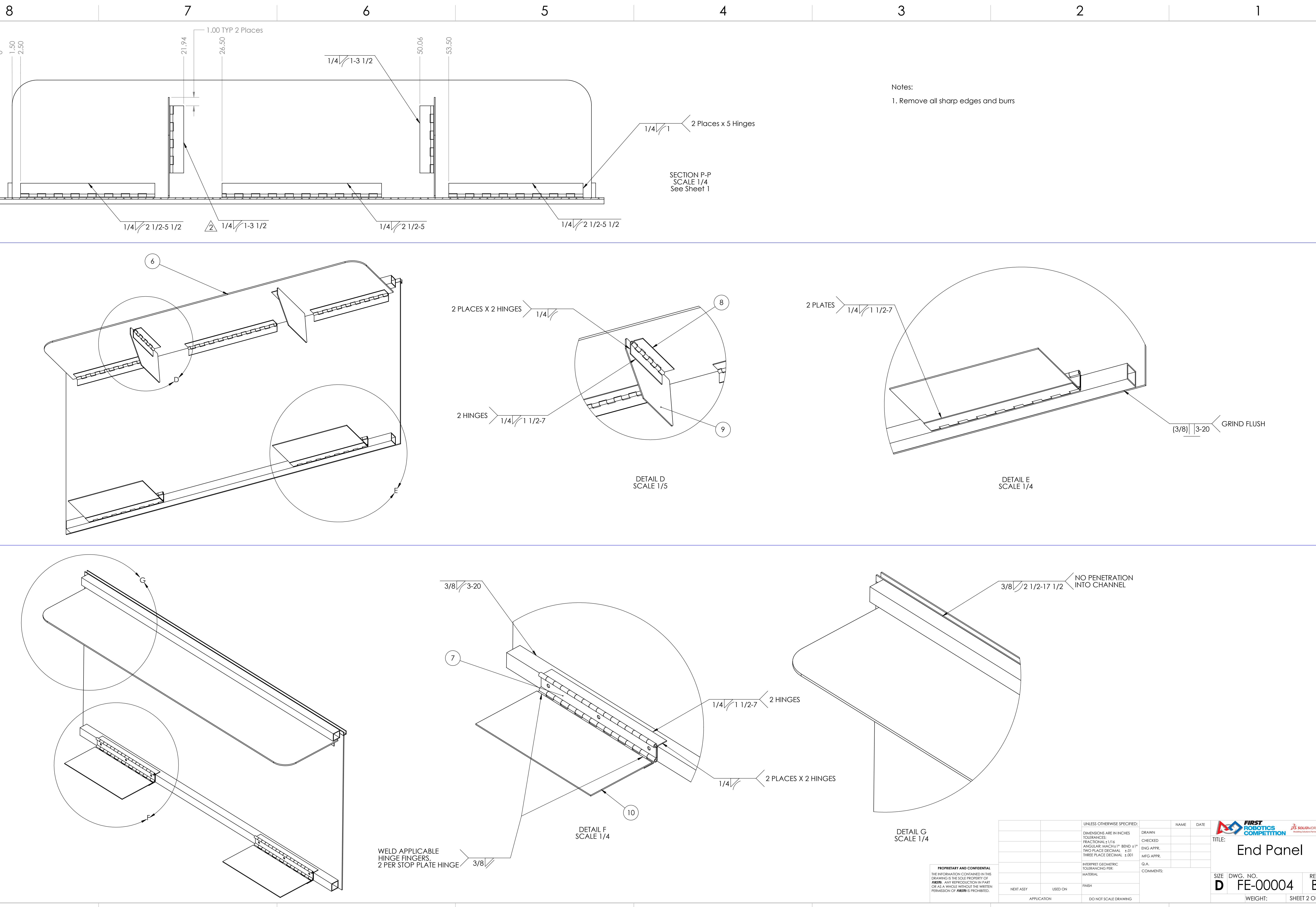
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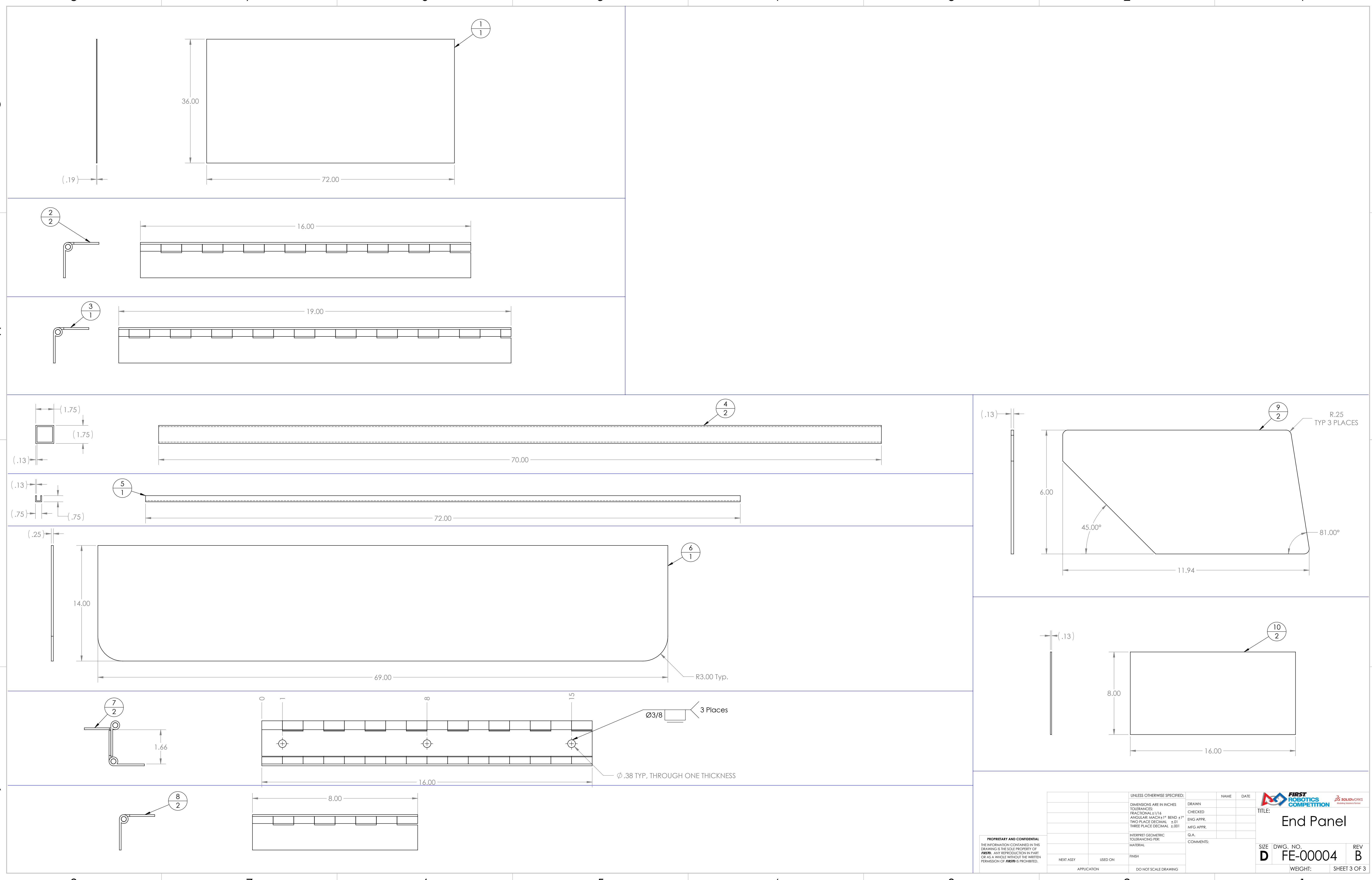
SOLIDWORKS

FIRST ROBOTICS COMPETITION

SIZE DWG. NO. D FE-00004 REV. B

SCALE: 1:5 WEIGHT: SHEET 1 OF 3





REVISIONS

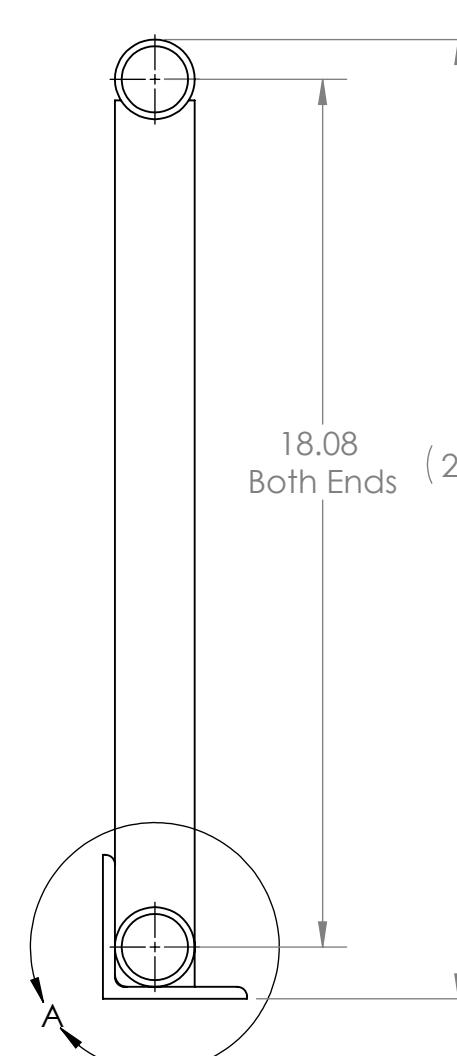
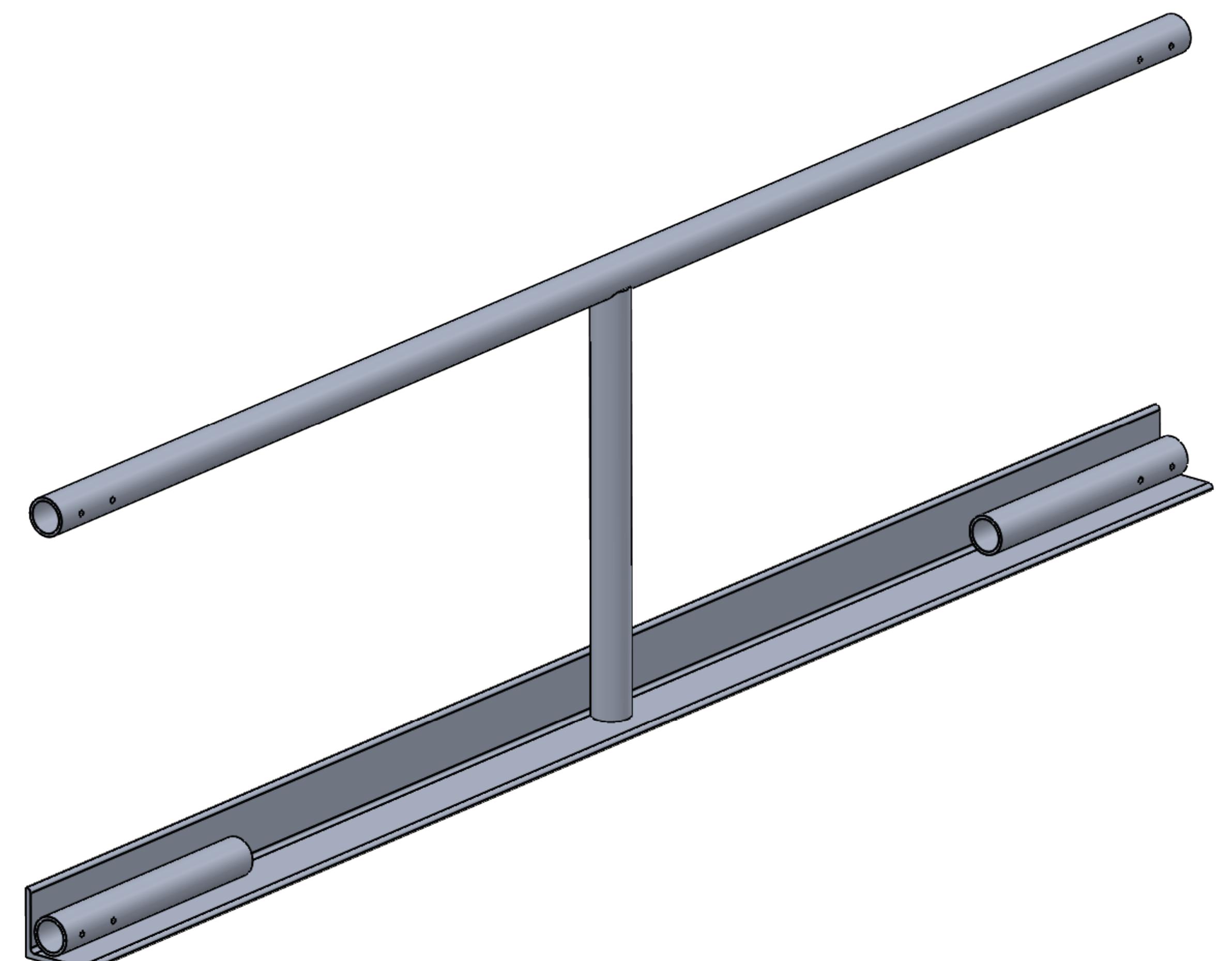
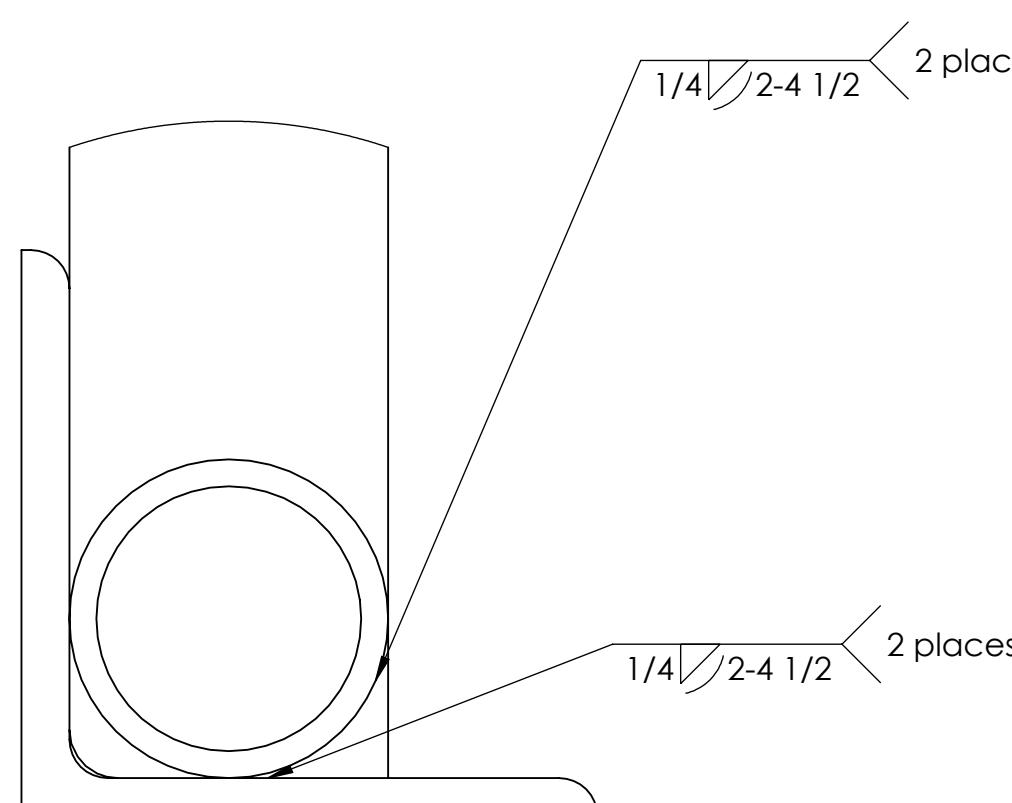
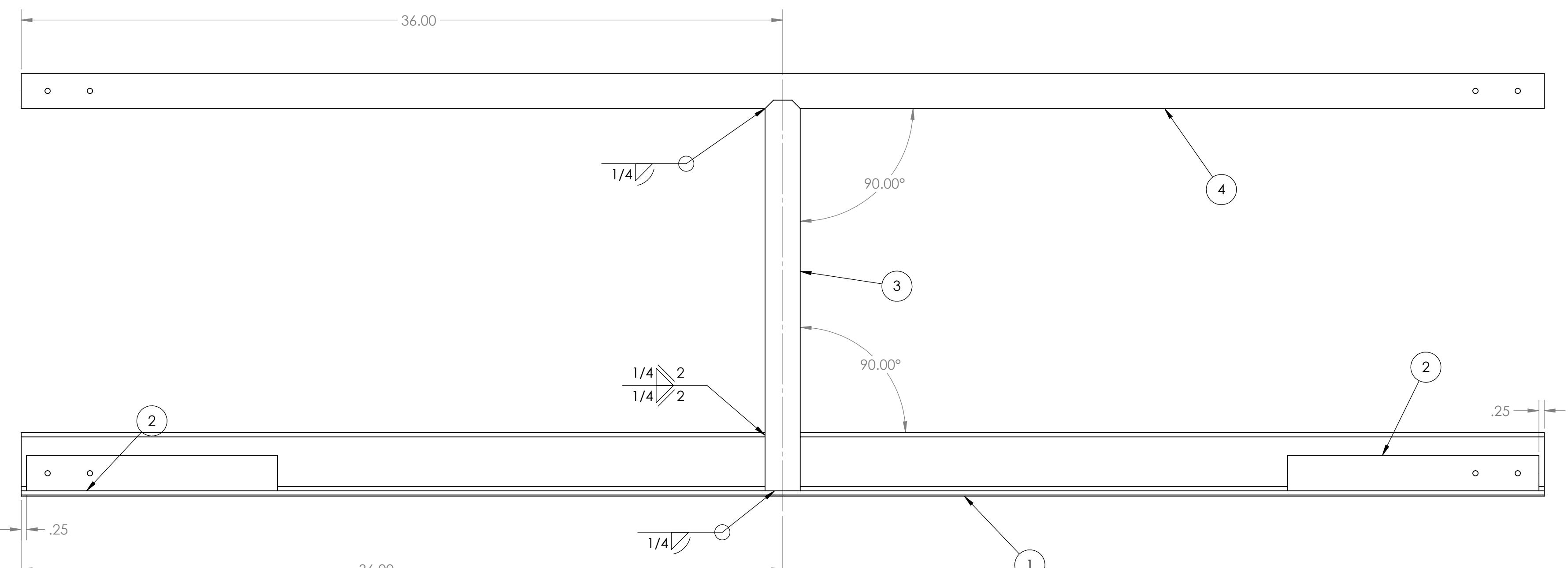
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	5/28/2008	narosenberg
	B	Drawing reformatted	3/19/2020	CPO

D D

C C

B B

A A

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

FIRST
ROBOTICS
COMPETITION
SOLIDWORKS
Building solutions faster

TITLE: Field Rail

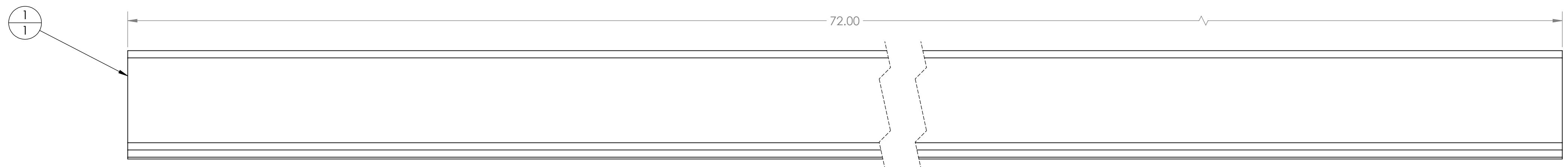
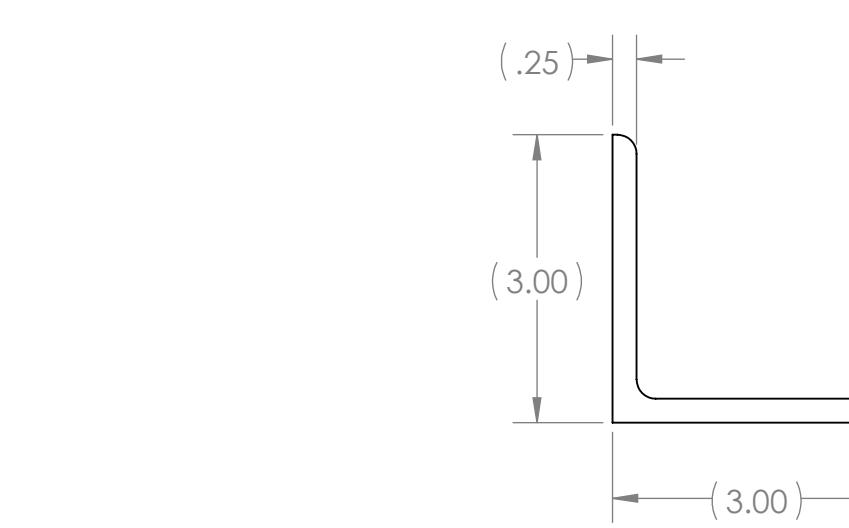
SIZE DWG. NO. REV.
D FE-00005 **B**

SCALE: 1:4 WEIGHT: SHEET 1 OF 2

8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

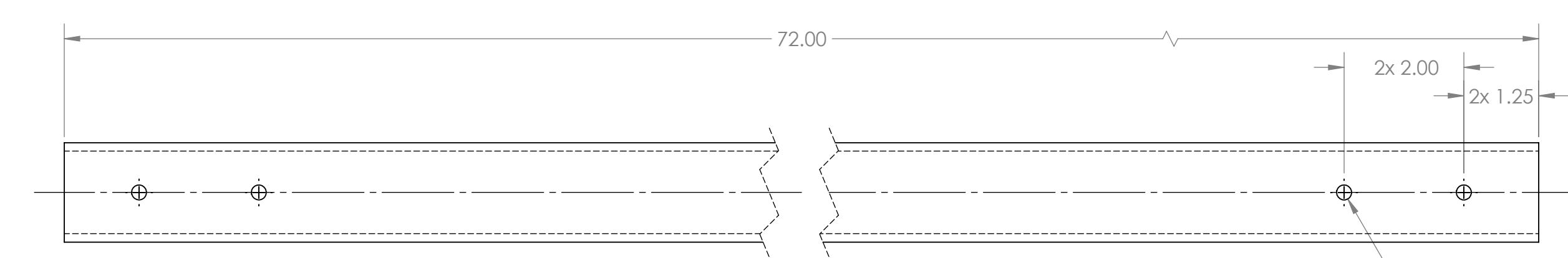
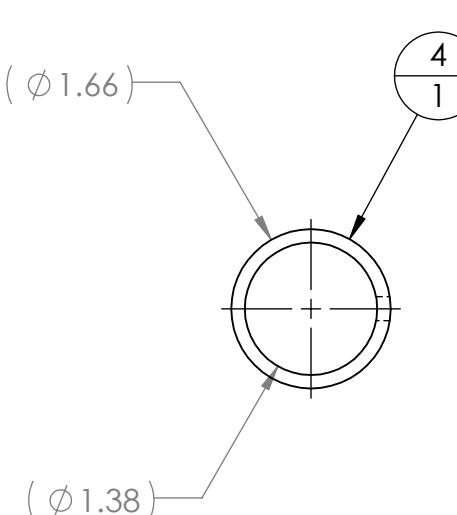
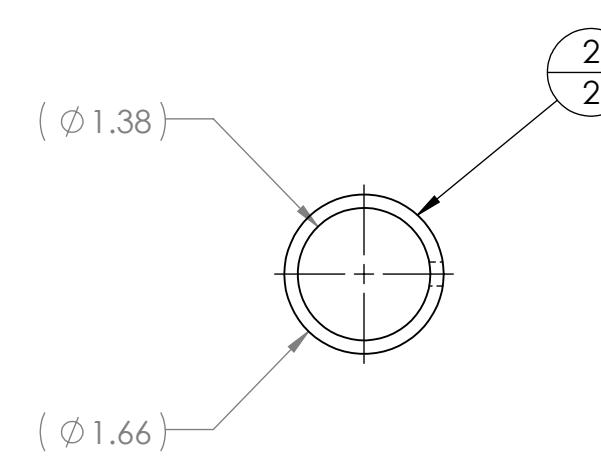
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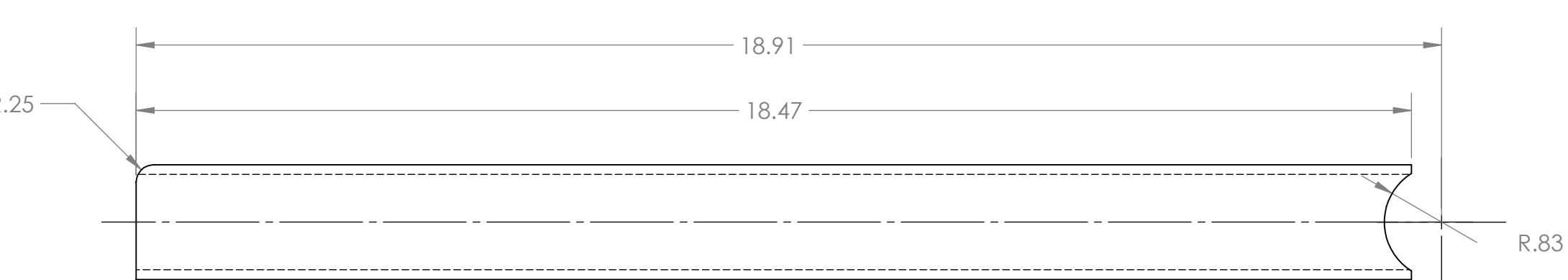
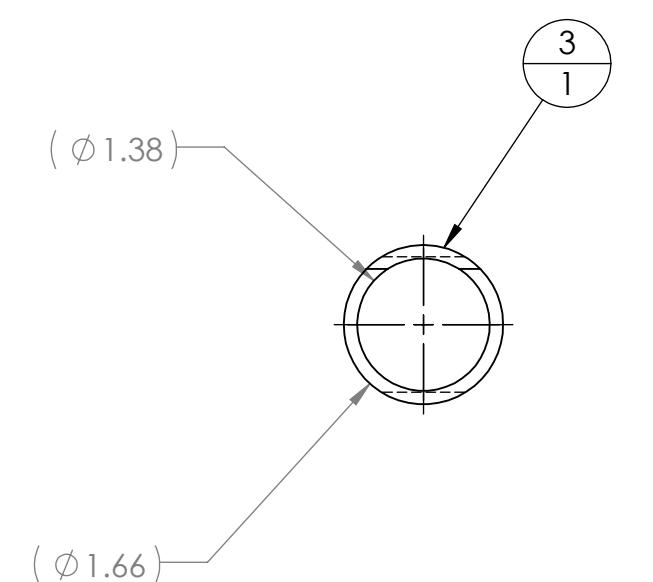
C

C



B

B



A

A

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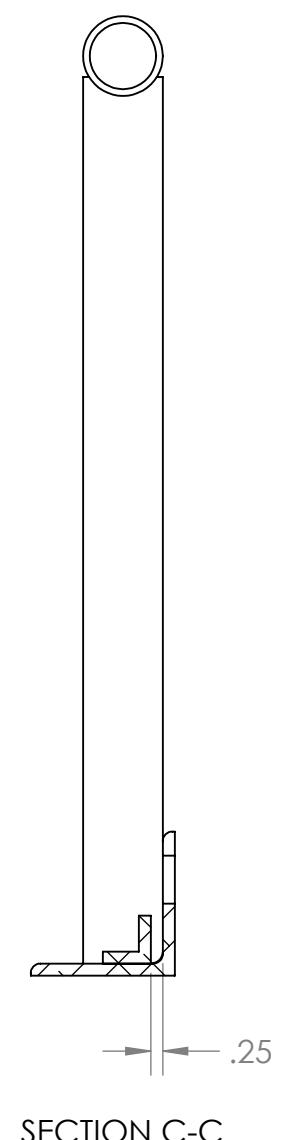
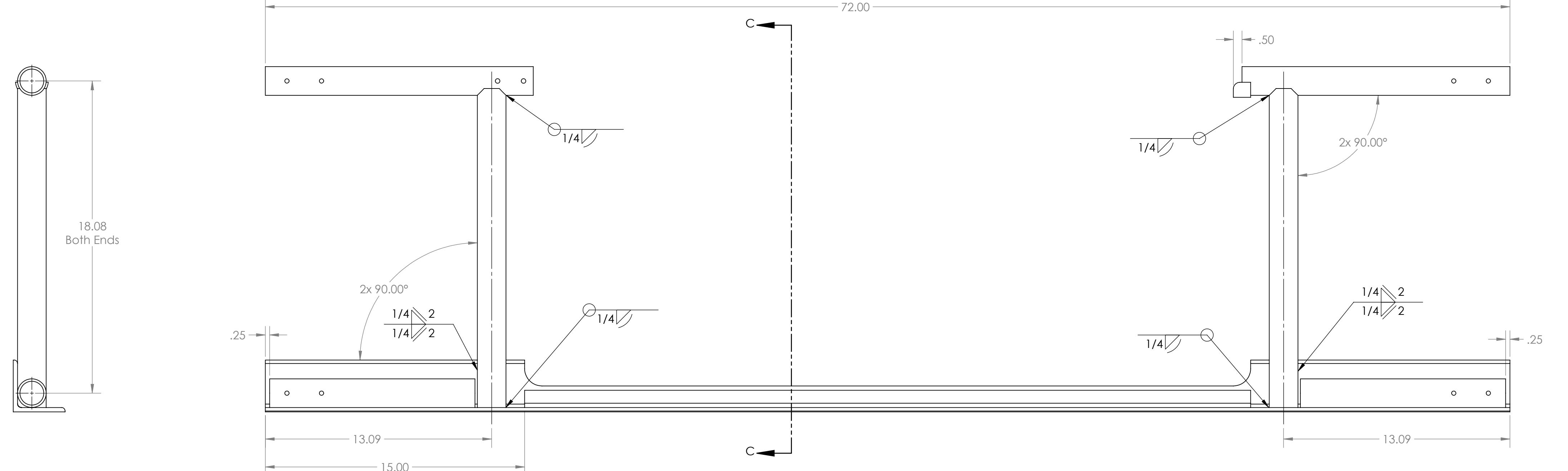
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		ANGULAR: MACH 1° BEND ±1°	ENG APPR.	
		TWO PLACE DECIMAL: ±.01	MFG APPR.	
		THREE PLACE DECIMAL: ±.001		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.	
		MATERIAL	COMMENTS:	
NEXT ASSY	USED ON	FINISH		
APPLICATION	DO NOT SCALE DRAWING			

SIZE	DWG. NO.	REV
D	FE-00005	B
SCALE: 1:2	WEIGHT:	SHEET 2 OF 2

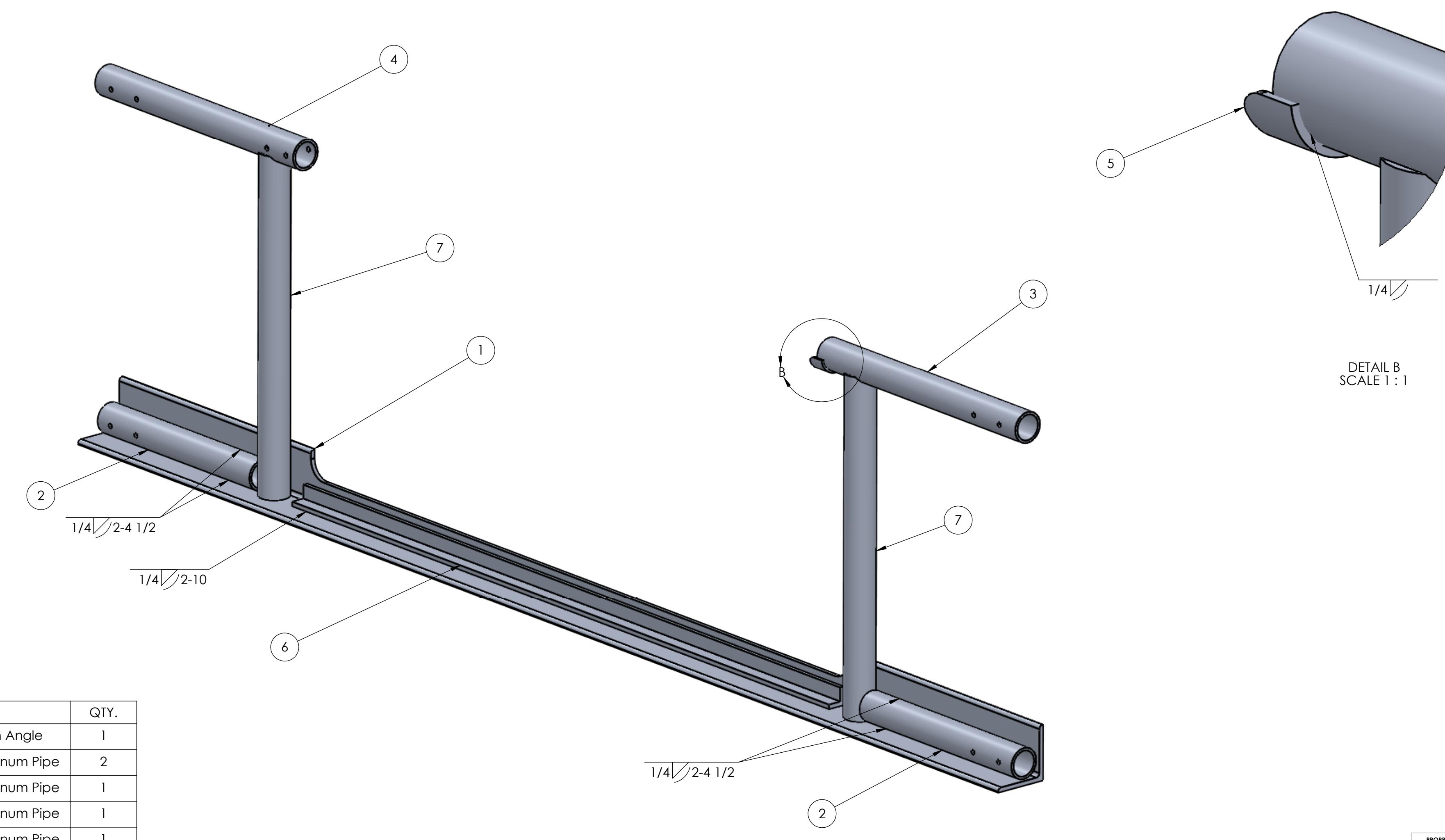
Field Rail		
FIRST [®] ROBOTICS COMPETITION		

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



SECTION C-C



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

B

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UNLESS OTHERWISE SPECIFIED:	DRAWN	NAME	DATE
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		
APPLICATION	FINISH		
		DO NOT SCALE DRAWING	

FIRST[®]
ROBOTICS
COMPETITION
SolidWorks
Building Solutions Better

TITLE:
Field Gate,
Weldment

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

SCALE: 1:4 WEIGHT: SHEET 1 OF 3

8

D

D

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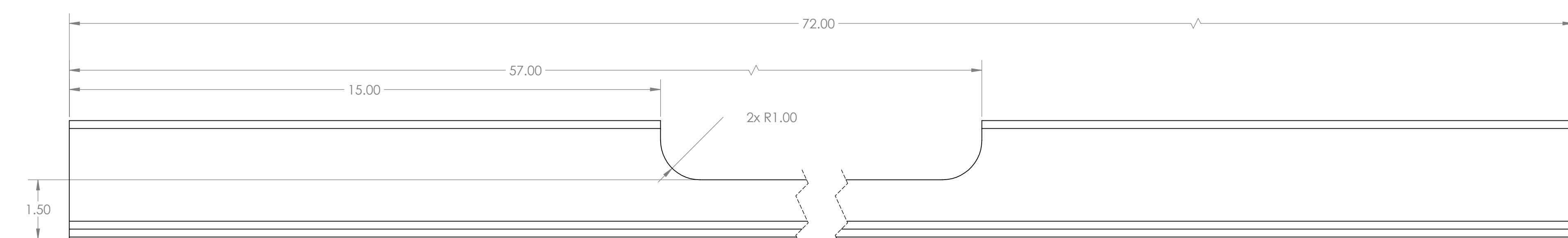
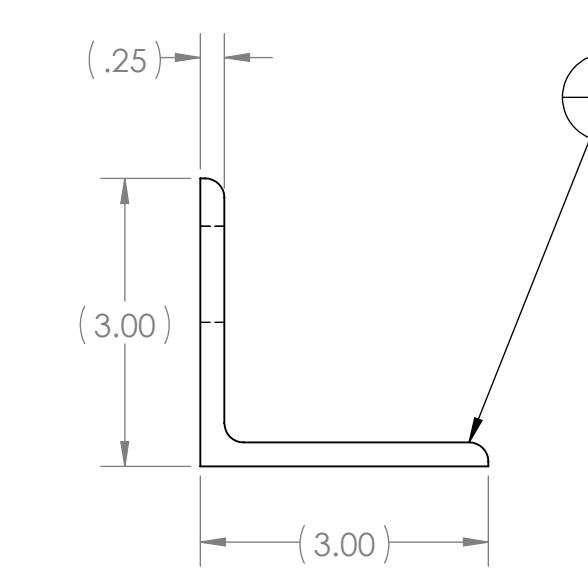
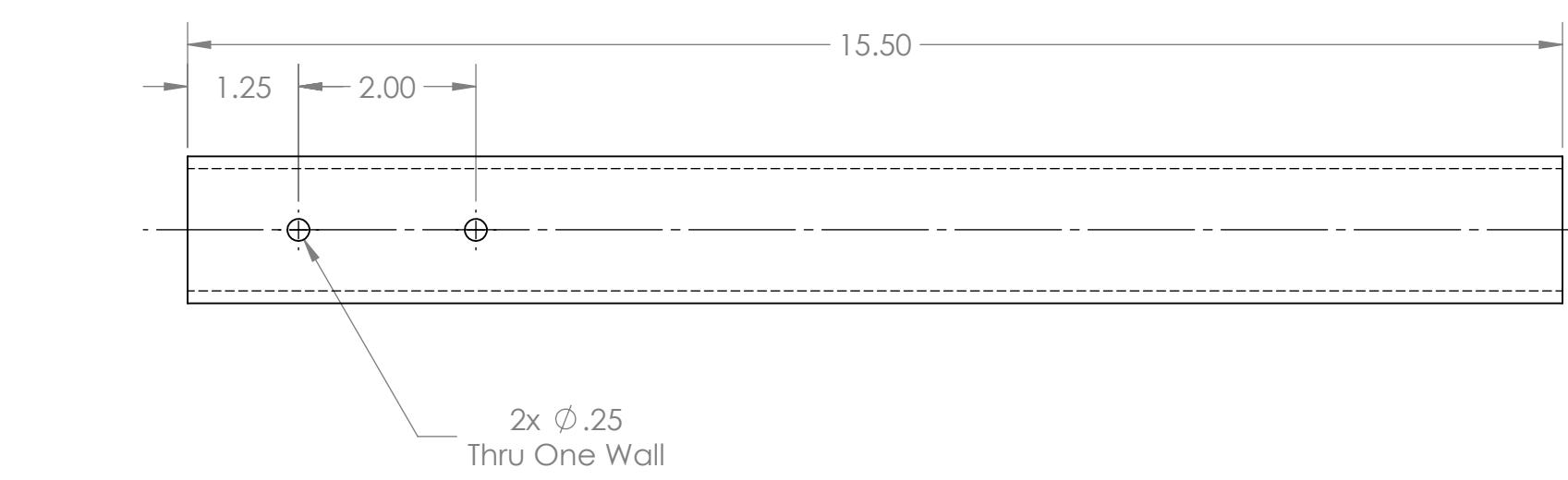
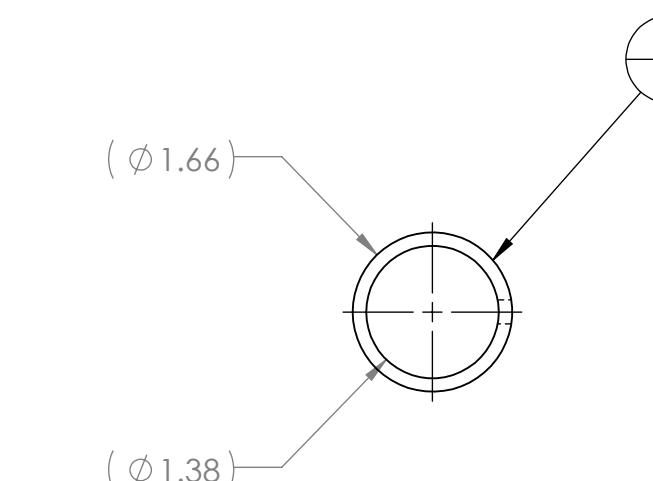
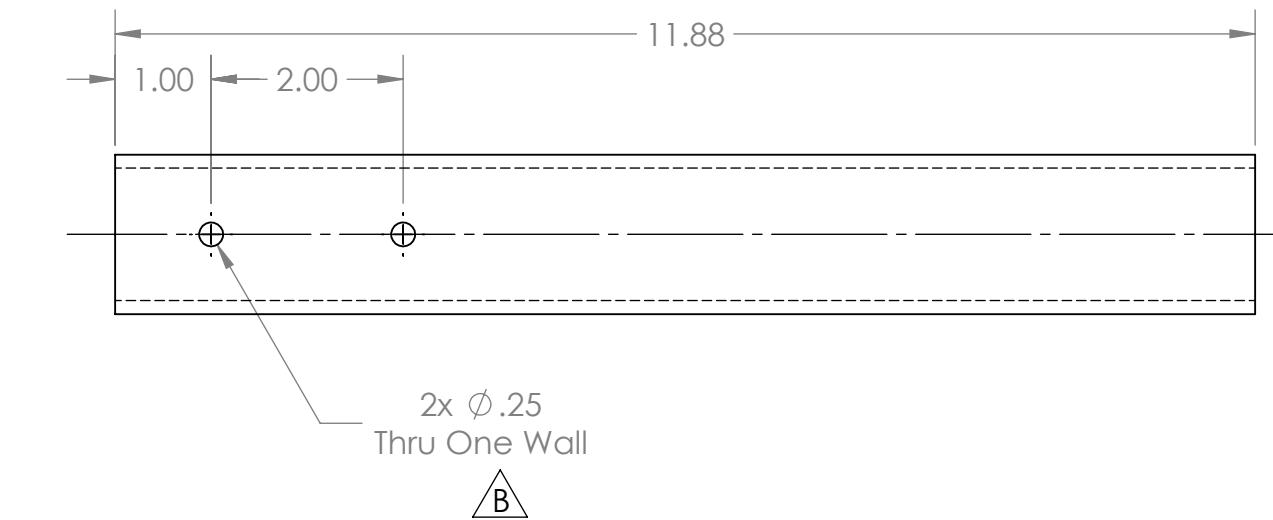
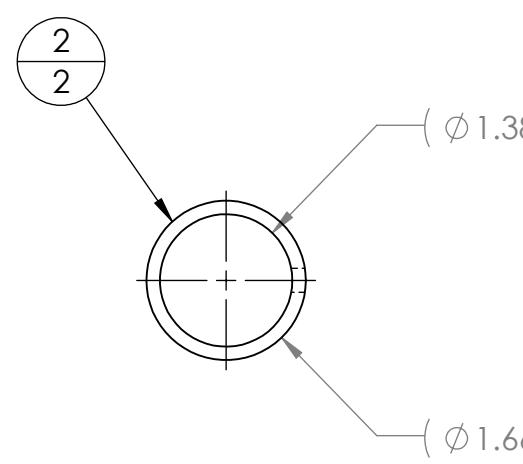
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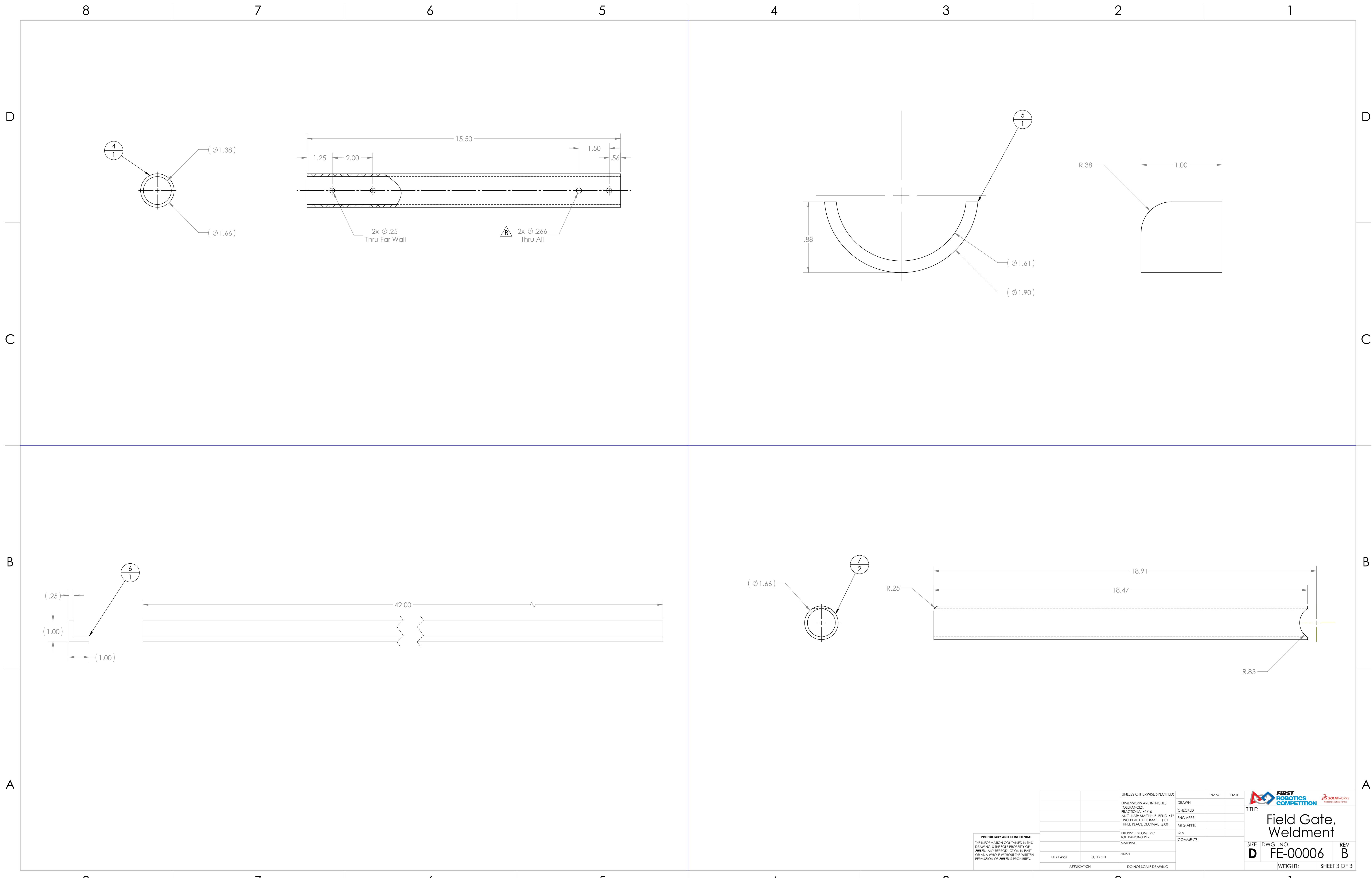
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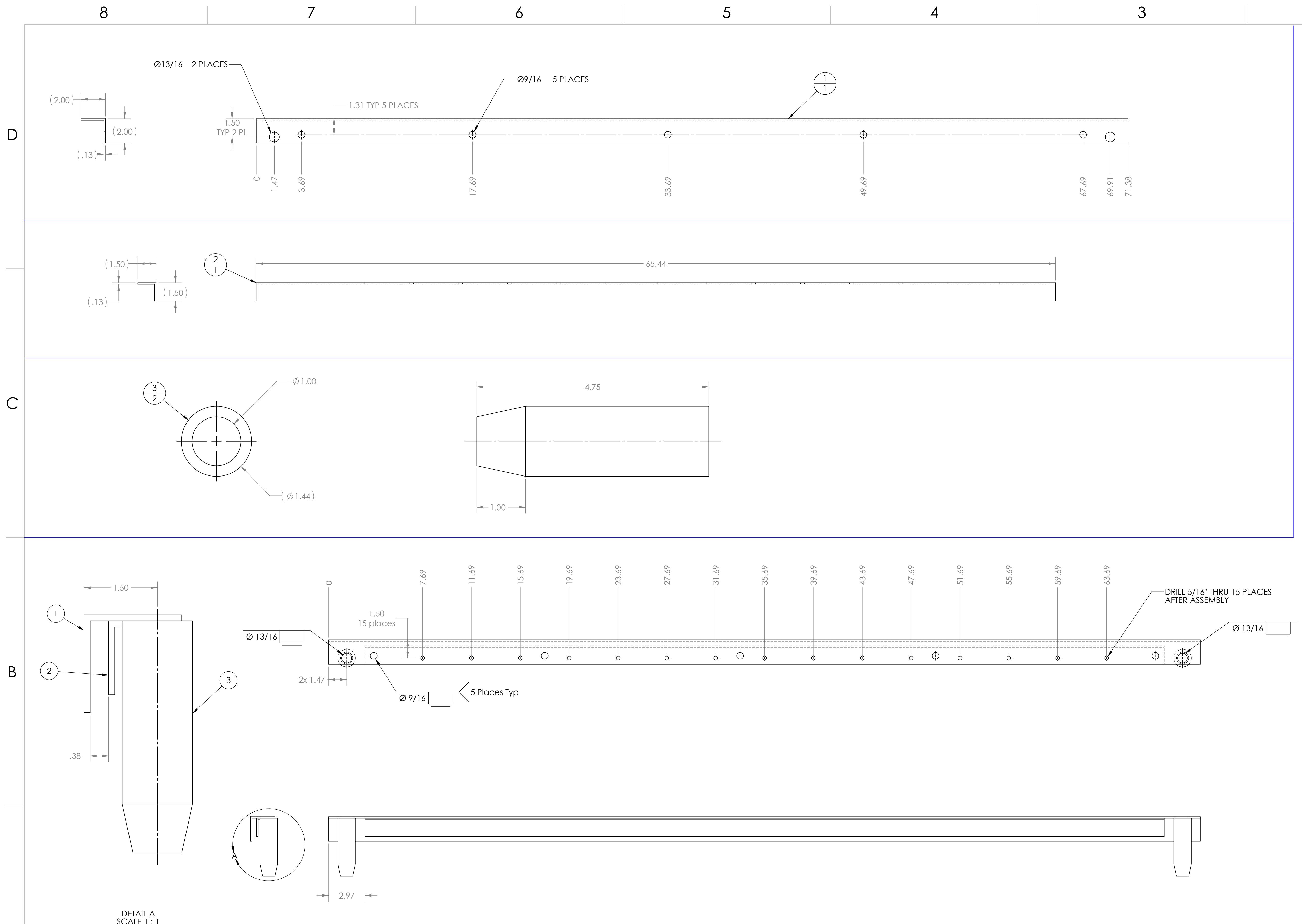
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 FIRST ROBOTICS COMPETITION	TITLE: Field Gate, Weldment
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN				
			CHECKED				
			ENG APPR.				
			MFG APPR.				
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.				
			COMMENTS:				
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			FINISH				
	APPLICATION		DO NOT SCALE DRAWING				WEIGHT:



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



DETAIL A
SCALE 1 : 1

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:

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		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				
ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING			WEIGHT:	SHEET 1 OF 1
			SIZE	DWG. NO.		REV
			D	FE-00007		B

4

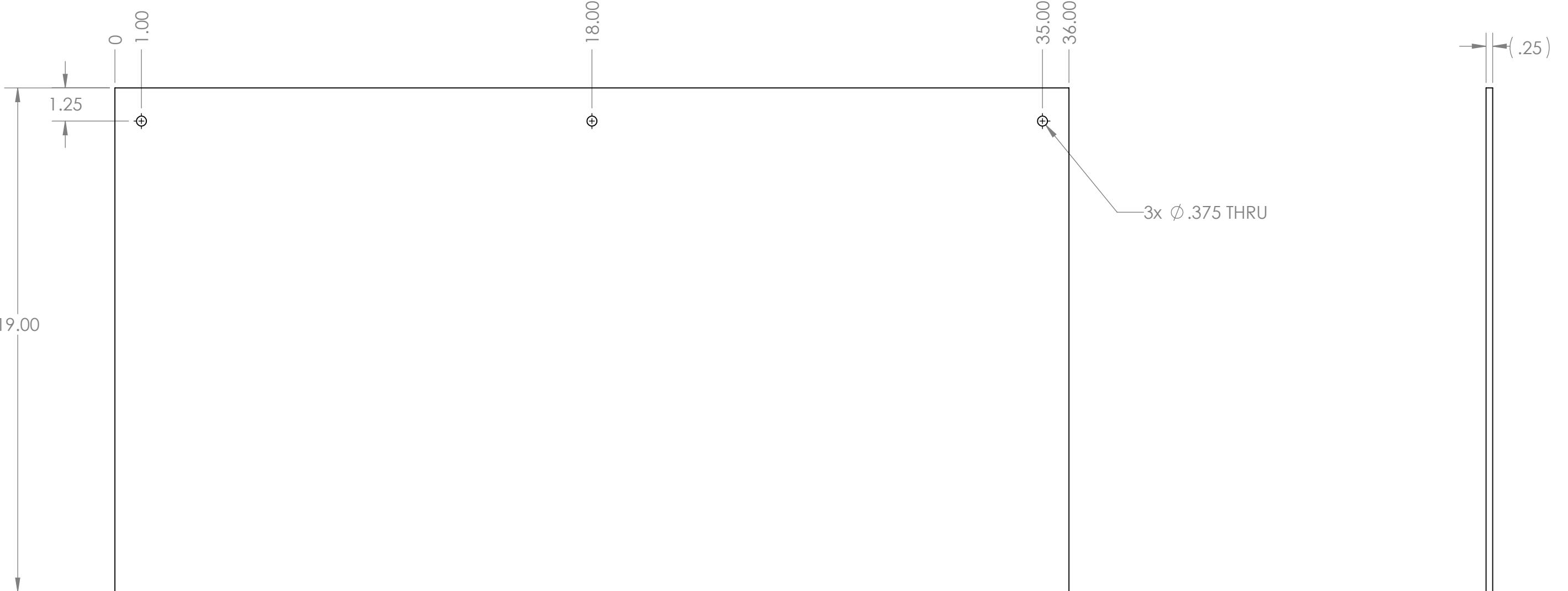
3

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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 TOLERANCES: FRACTIONAL: ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL: ±.01 THREE PLACE DECIMAL: ±.001				
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				
NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				
A	B	Field Plastic "A"			SOLIDWORKS Modeling Solutions Partner	
SIZE	DWG. NO.	FE-00008			REV	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1				

4

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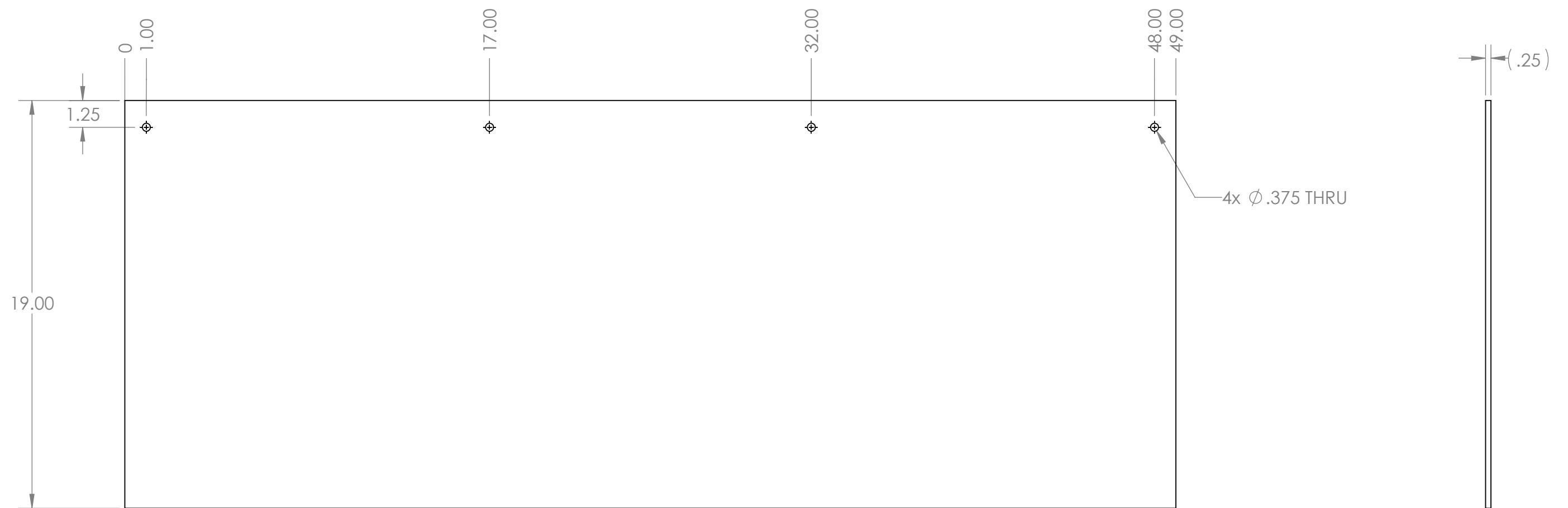
1

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Notes:

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

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 $\pm .001$		NAME	DATE
		DRAWN			
		CHECKED			
		ENG APPR.			
		MFG APPR.			
		Q.A.			
		COMMENTS:			
		MATERIAL			
		NEXT ASSY	USED ON	FINISH	
		APPLICATION		DO NOT SCALE DRAWING	
SIZE	DWG. NO.		REV		
B	FE-00009				
SCALE: 1:5	WEIGHT:		SHEET 1 OF 1		

 **FIRST
ROBOTICS
COMPETITION** 
SOLIDWORKS
Modeling Solutions Partner

TITLE:
Field Plastic "B"

4

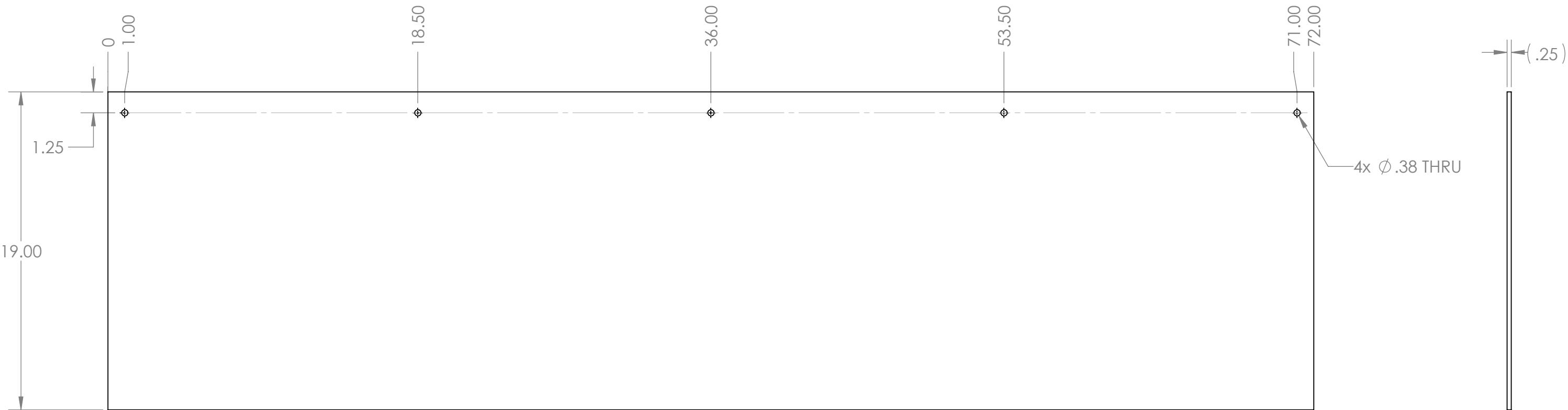
3

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Notes:

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

A

A

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		DRAWN		
		CHECKED		
		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
		MATERIAL		
NEXT ASSY	USED ON	FINISH		
APPLICATION		DO NOT SCALE DRAWING		

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

Field Plastic "C"

SIZE	DWG. NO.	REV
B	FE-00010	
SCALE: 1:6	WEIGHT:	SHEET 1 OF 1

4

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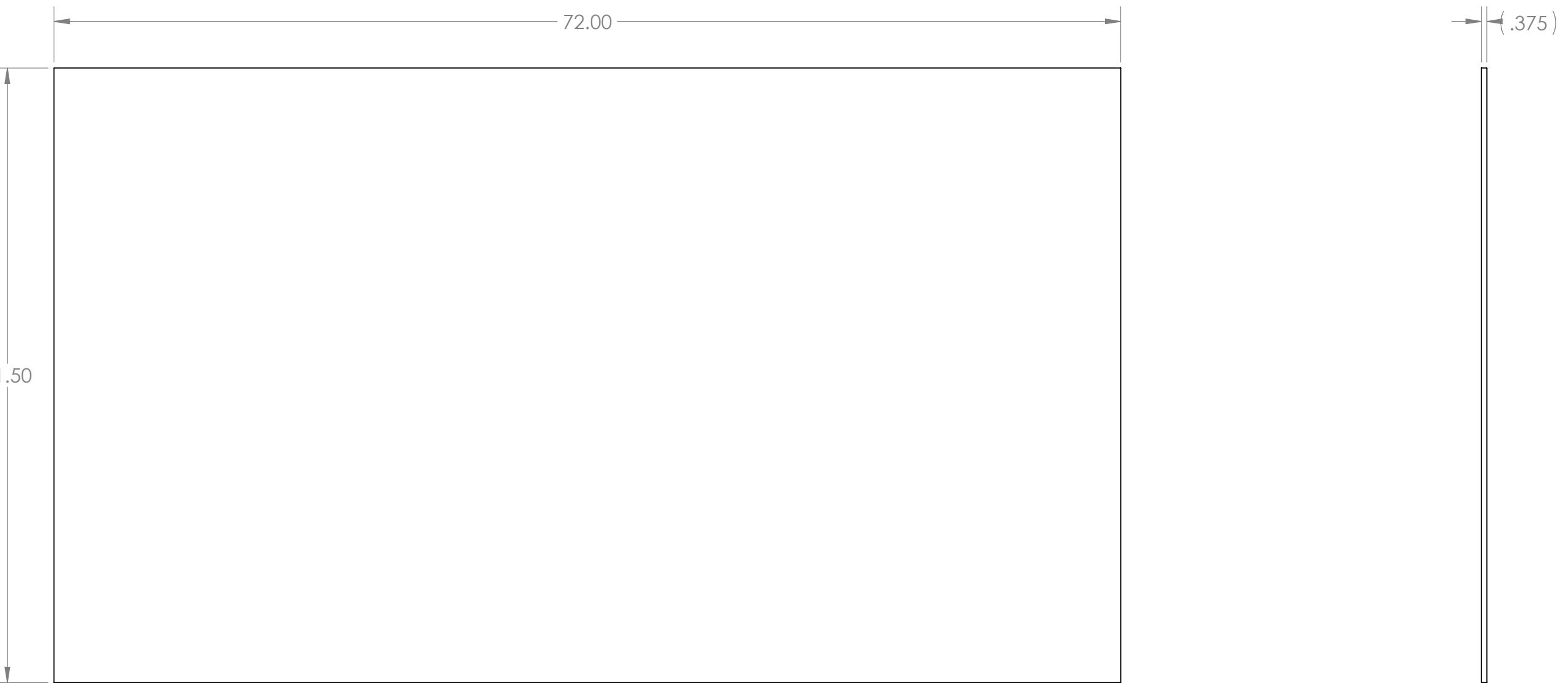
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B

B

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Notes:

- Material: 3/8" Thick Acrylic Sheet

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		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 $\pm .001$					
INTERPRET GEOMETRIC TOLERANCING PER:		Q.A.		COMMENTS:			
		MATERIAL					
NEXT ASSY		FINISH					
APPLICATION		DO NOT SCALE DRAWING					

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Drivers Station Acrylic

B	FE-00012	REV
SCALE: 1:8	WEIGHT:	SHEET 1 OF 1

4

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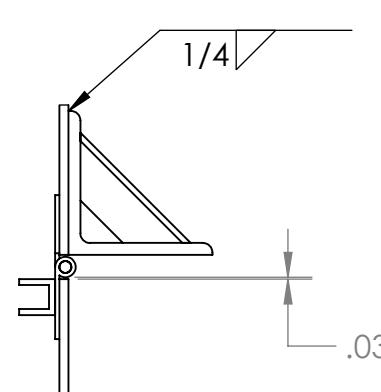
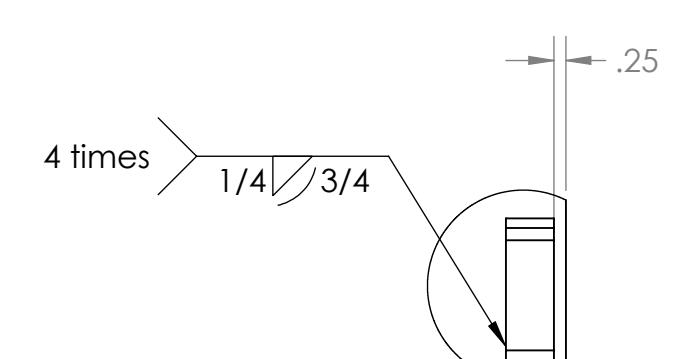
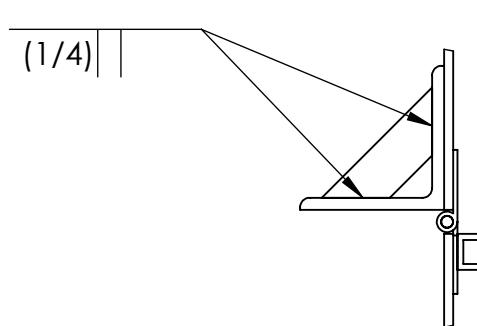
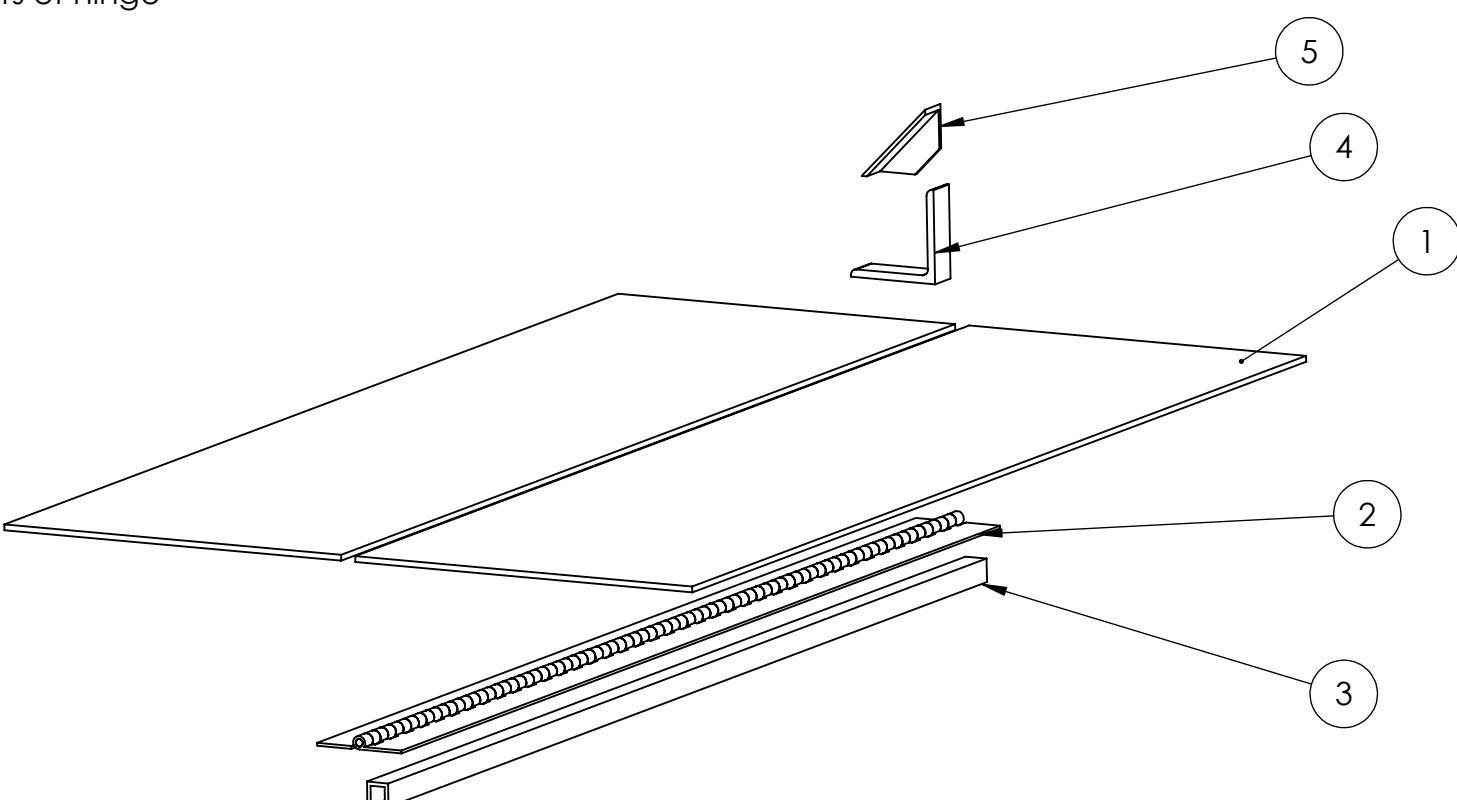
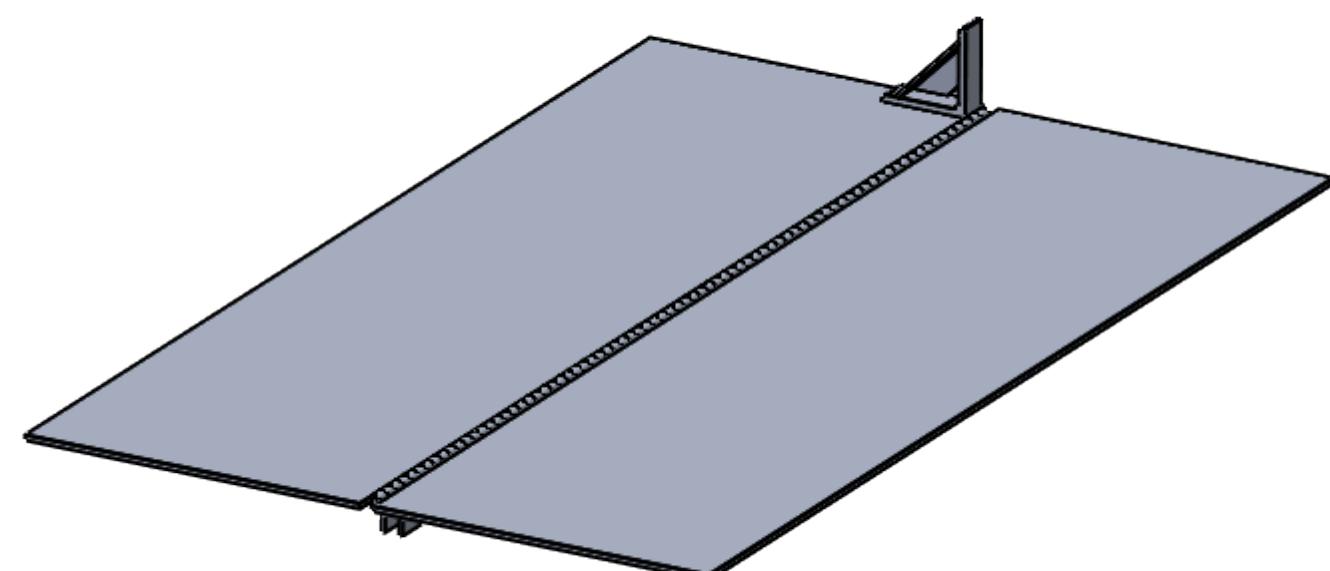
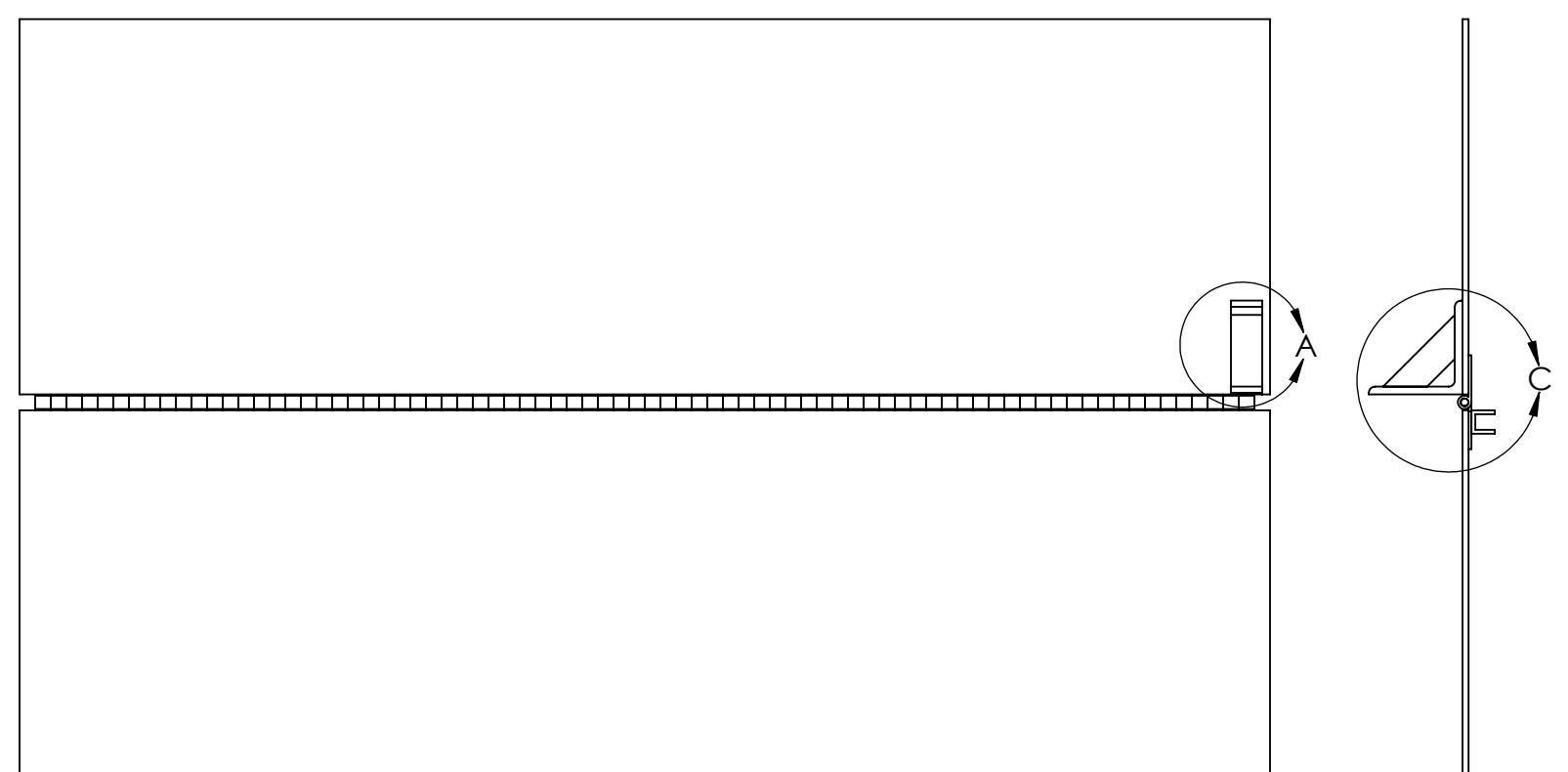
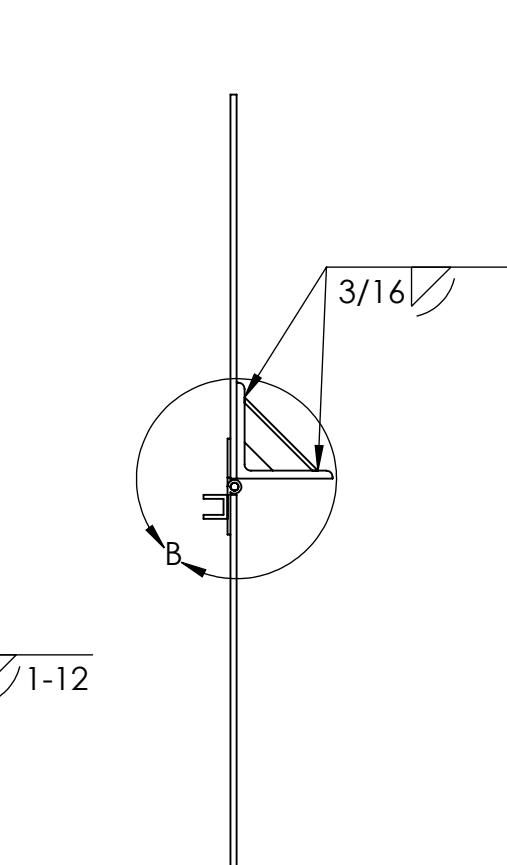
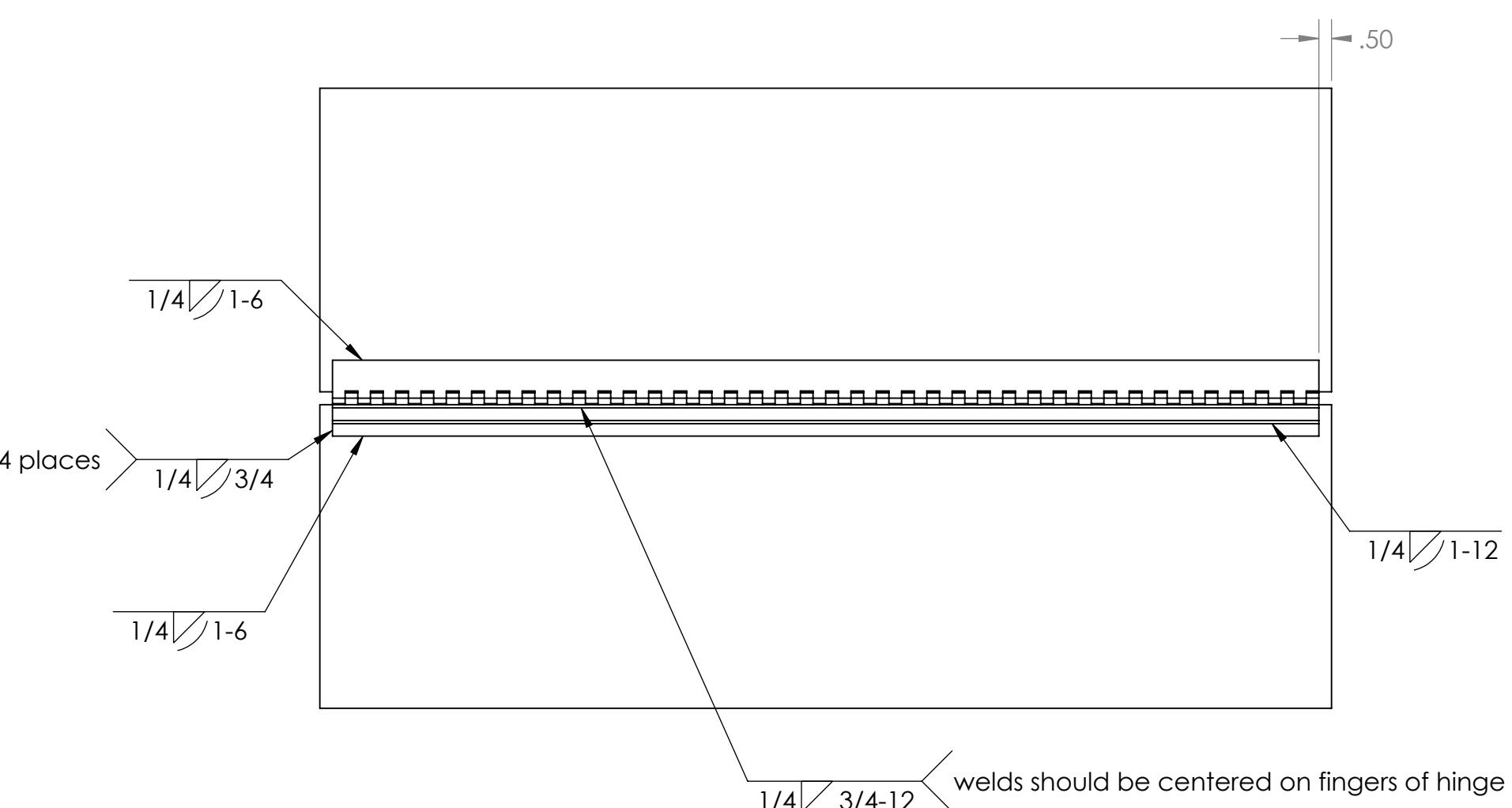
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1

REVISIONS

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

D

DETAIL B
SCALE 1 : 4DETAIL A
SCALE 1 : 4DETAIL C
SCALE 1 : 4

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

FIRST[®] ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

Field Entry Ramp

SIZE DWG. NO. REV.
C FE-00014 B

SCALE: 1:6 WEIGHT: SHEET 1 OF 2

4

3

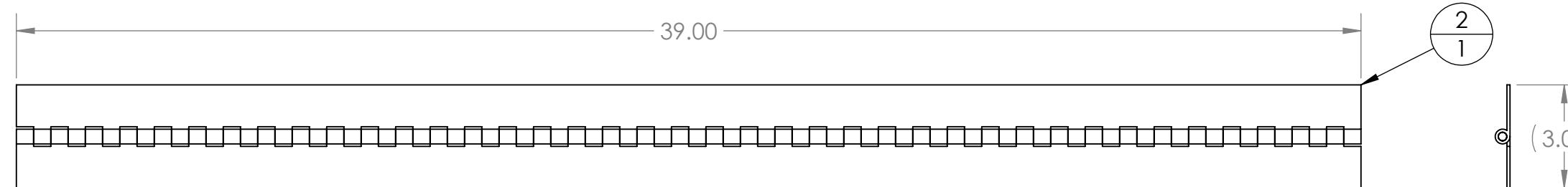
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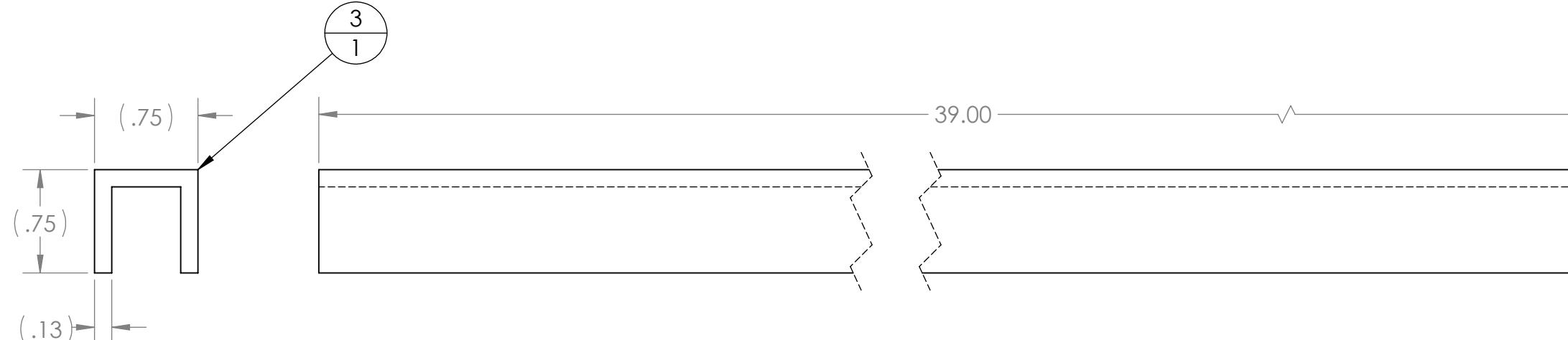
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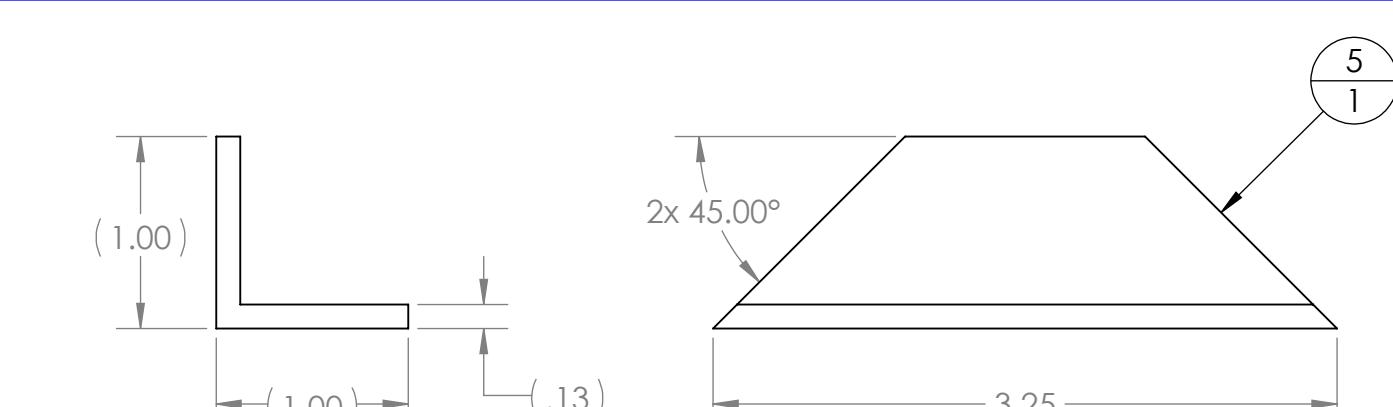
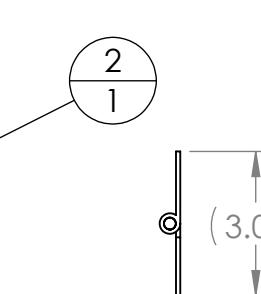
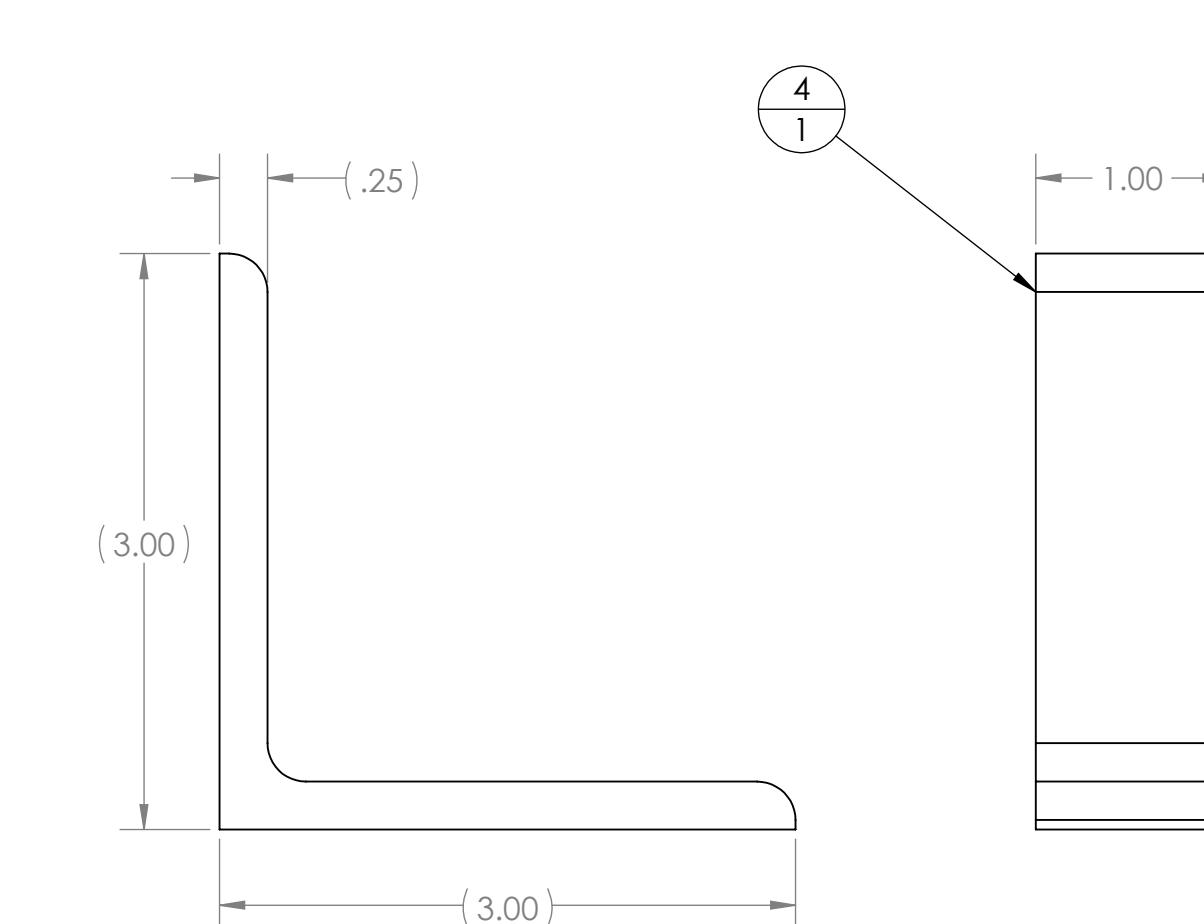
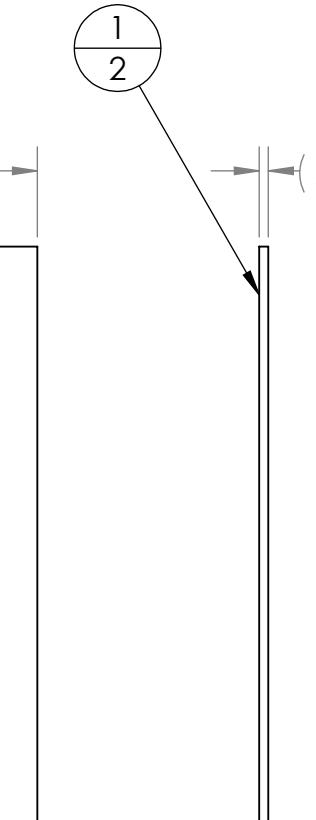
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Note: Remove all sharp edges.

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		TOLERANCES							
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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$							
		TWO PLACE DECIMAL: $\pm .01$							
		THREE PLACE DECIMAL: $\pm .001$							
INTERPRET GEOMETRIC TOLERANCING PER:		MATERIAL							
NEXT ASSY		FINISH							
APPLICATION		DO NOT SCALE DRAWING							

FIRST[®] ROBOTICS COMPETITION SOLIDWORKS
Modeling Solutions Partner

TITLE: Field Entry Ramp

SIZE DWG. NO. REV
C FE-00014 **B**

WEIGHT: SHEET 2 OF 2

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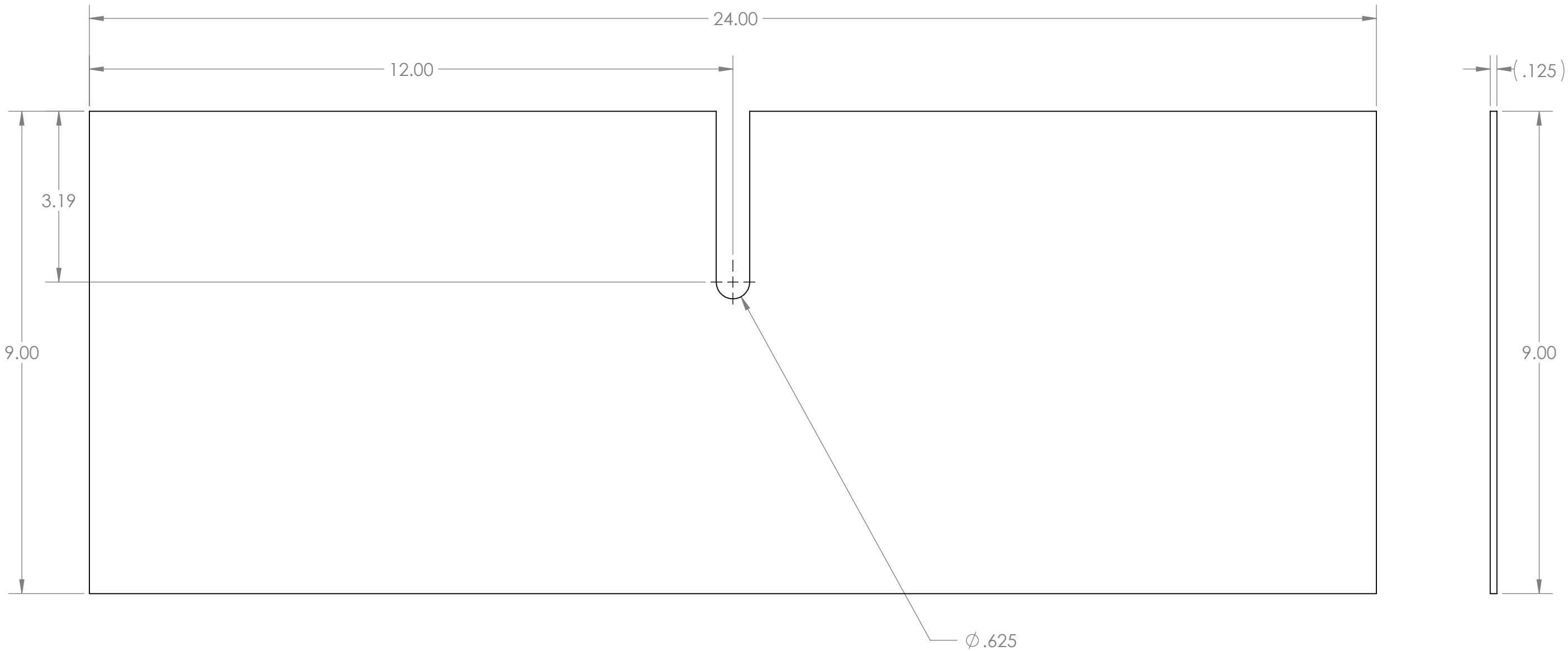
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Notes:

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

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		UNLESS OTHERWISE SPECIFIED:			TITLE: Trip Guard					
		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 $\pm .001$								
		INTERPRET GEOMETRIC TOLERANCING PER:			COMMENTS:					
		MATERIAL								
		NEXT ASSY								
		USED ON								
		FINISH								
		APPLICATION			DO NOT SCALE DRAWING		SIZE B DWG. NO. FE-00015		REV	
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2

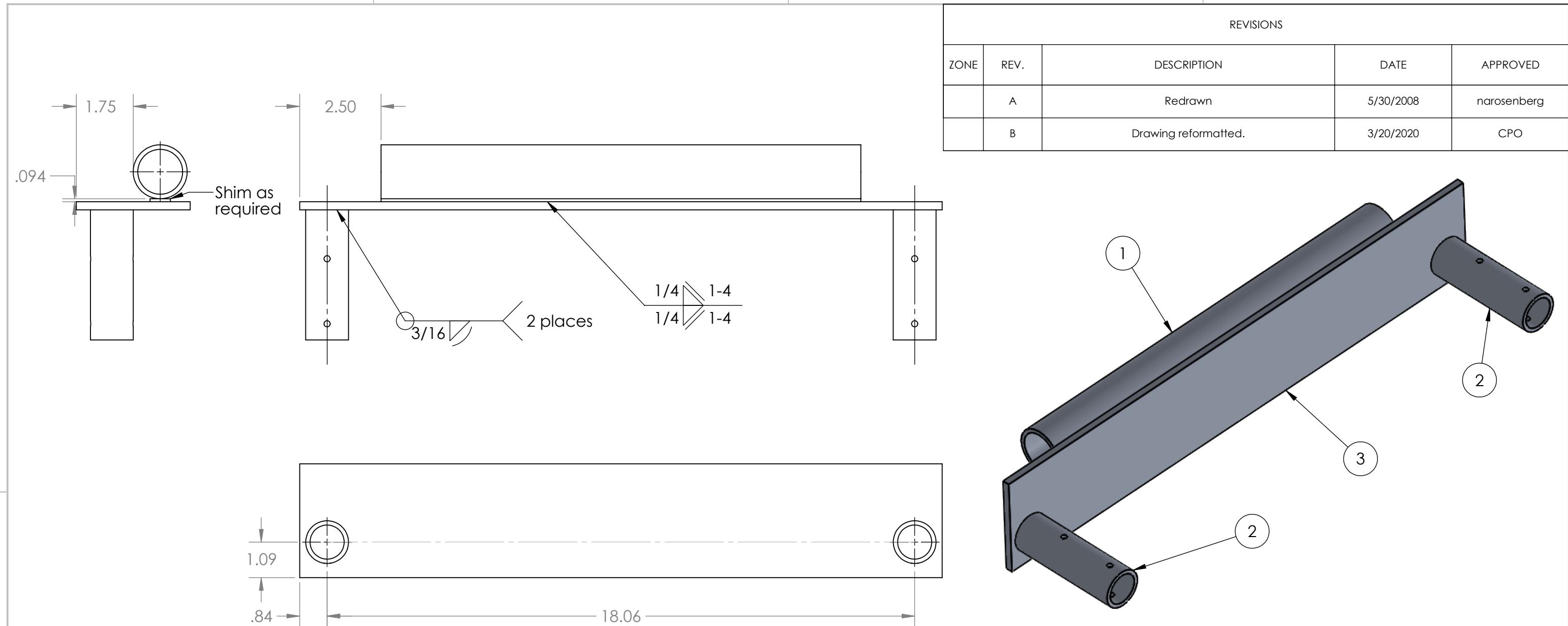
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00018-01	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
2	FE-00018-02	1" Schedule 40 6061-T6 Aluminum Pipe	2
3	FE-00018-03	3 1/2" x 1/4" 6061-T6 Aluminum Bar	1

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DIMENSIONS ARE IN INCHES		TOLERANCES:			
FRACTIONAL: $\pm 1/16$		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$			
TO TWO PLACE DECIMAL $\pm .01$		THREE PLACE DECIMAL $\pm .001$			
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING	COMMENTS:		

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Corner Connector

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

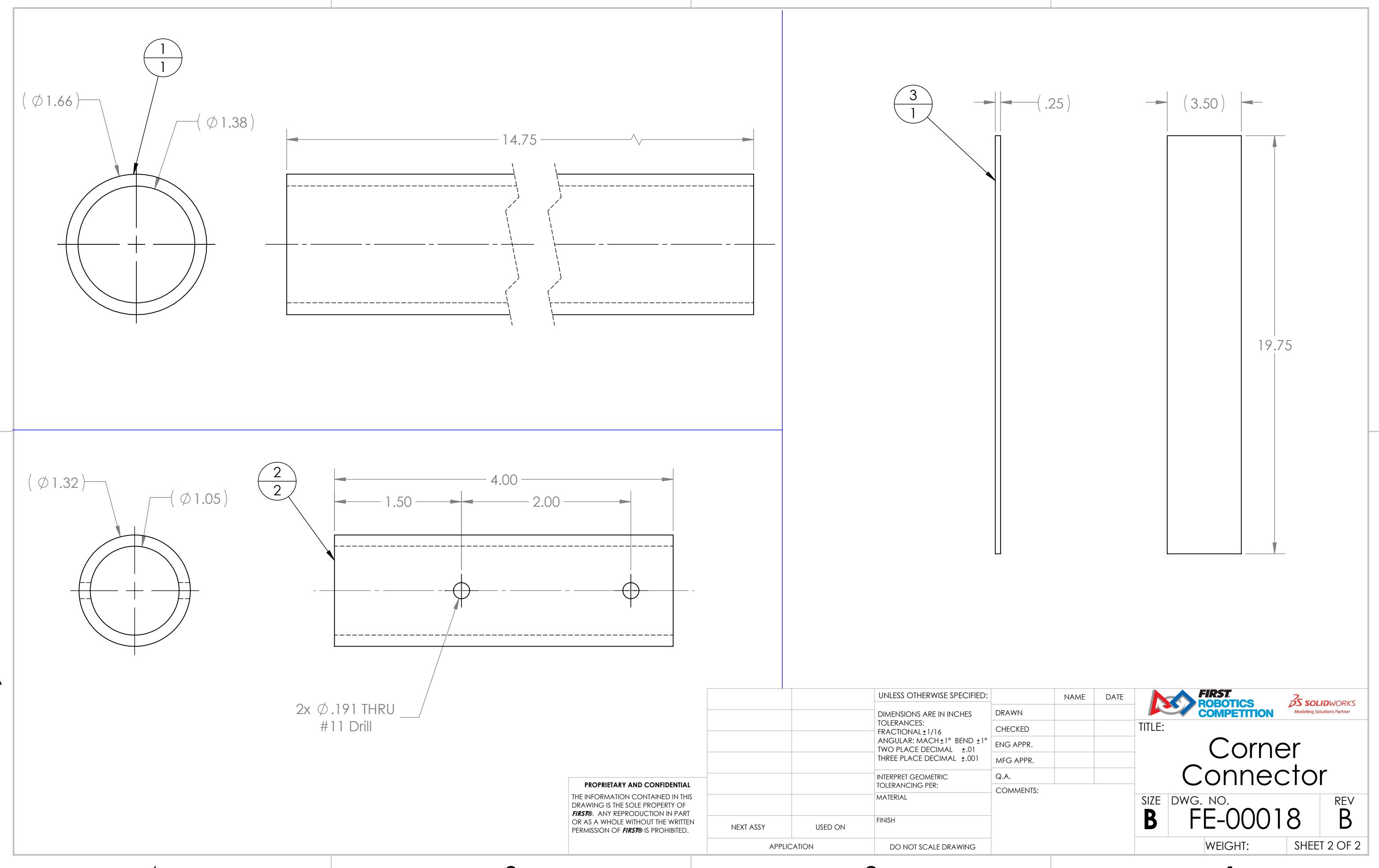
SCALE: 1:3 WEIGHT: SHEET 1 OF 2

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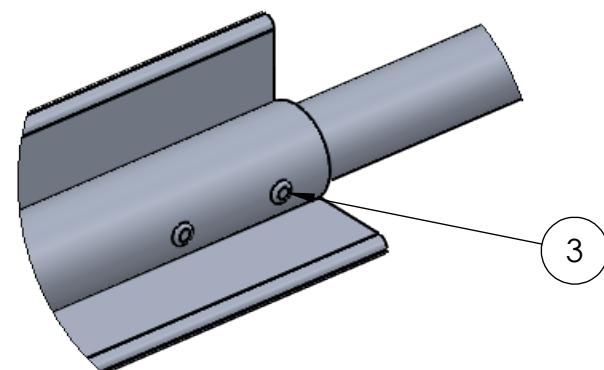
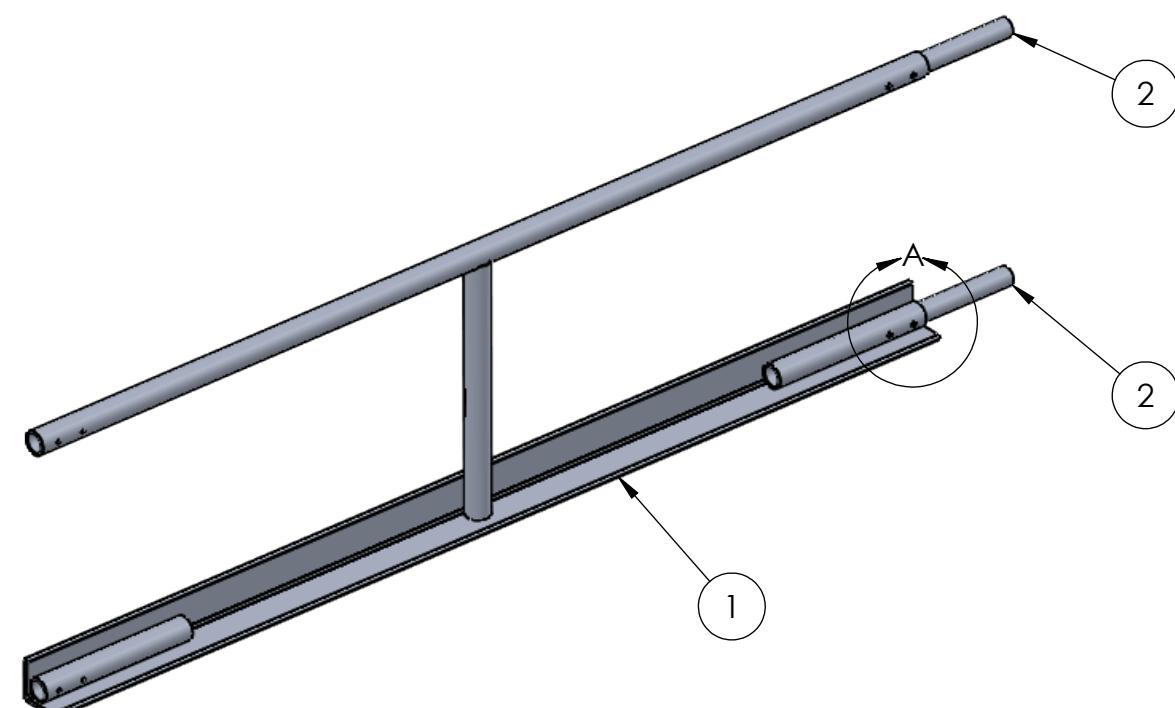
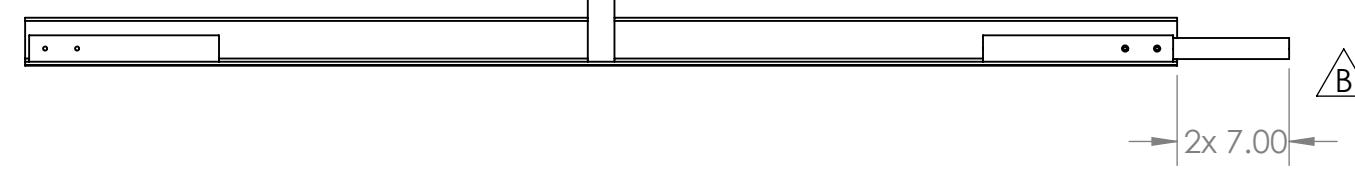
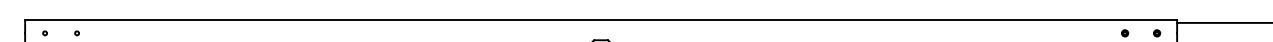
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DETAIL A
SCALE 1 : 3

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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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

		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
			CHECKED		
			ENG APPR.		
			MFG APPR.		
			Q.A.		
			COMMENTS:		
			MATERIAL		
			FINISH		
			APPLICATION	DO NOT SCALE DRAWING	
SIZE	DWG. NO.		REV		
B	FE-00022		C		
SCALE: 1:12	WEIGHT:		SHEET 1 OF 1		

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Field Rail Assy - Mid

SIZE DWG. NO. REV
B **FE-00022** **C**
SCALE: 1:12 WEIGHT: SHEET 1 OF 1

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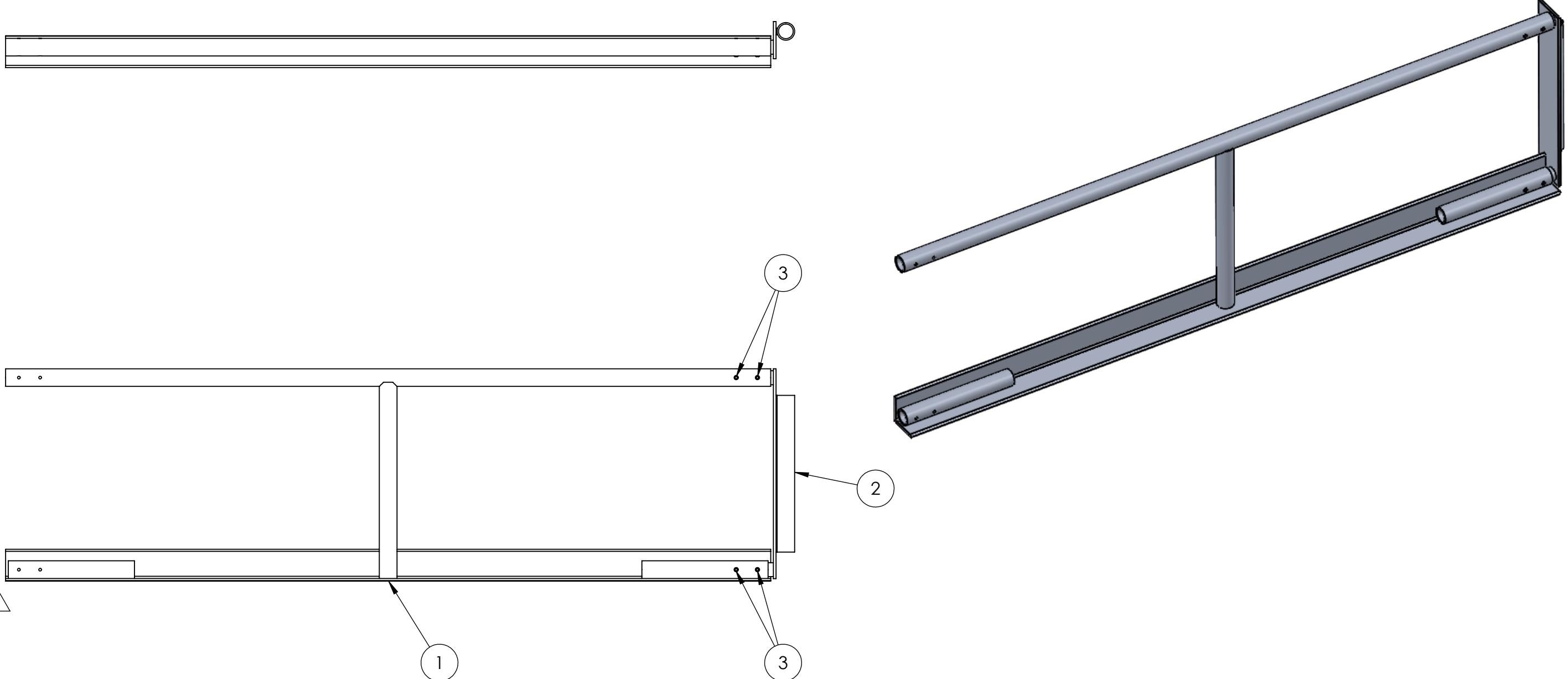
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REVISIONS

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



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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		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:		
			MATERIAL		
			INTERPRET GEOMETRIC TOLERANCING PER:		
			NEXT ASSY	USED ON	FINISH
			APPLICATION		DO NOT SCALE DRAWING

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

Field Rail Assy - Left

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

SCALE: 1:10 WEIGHT: SHEET 1 OF 1

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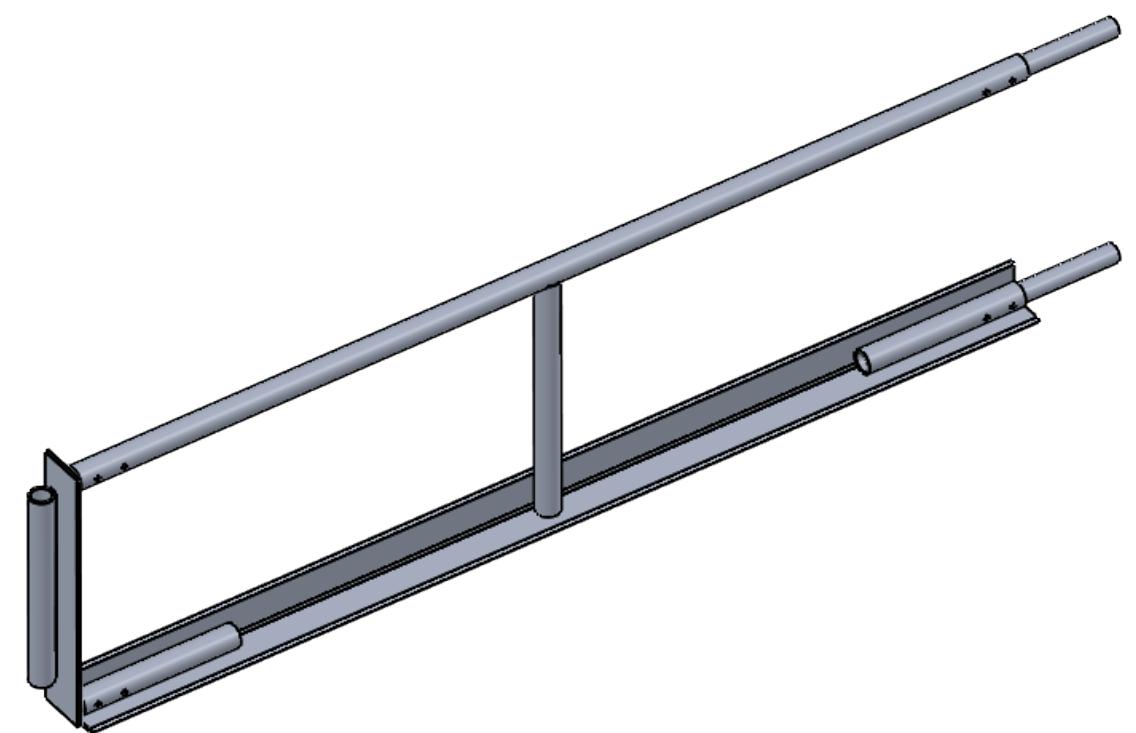
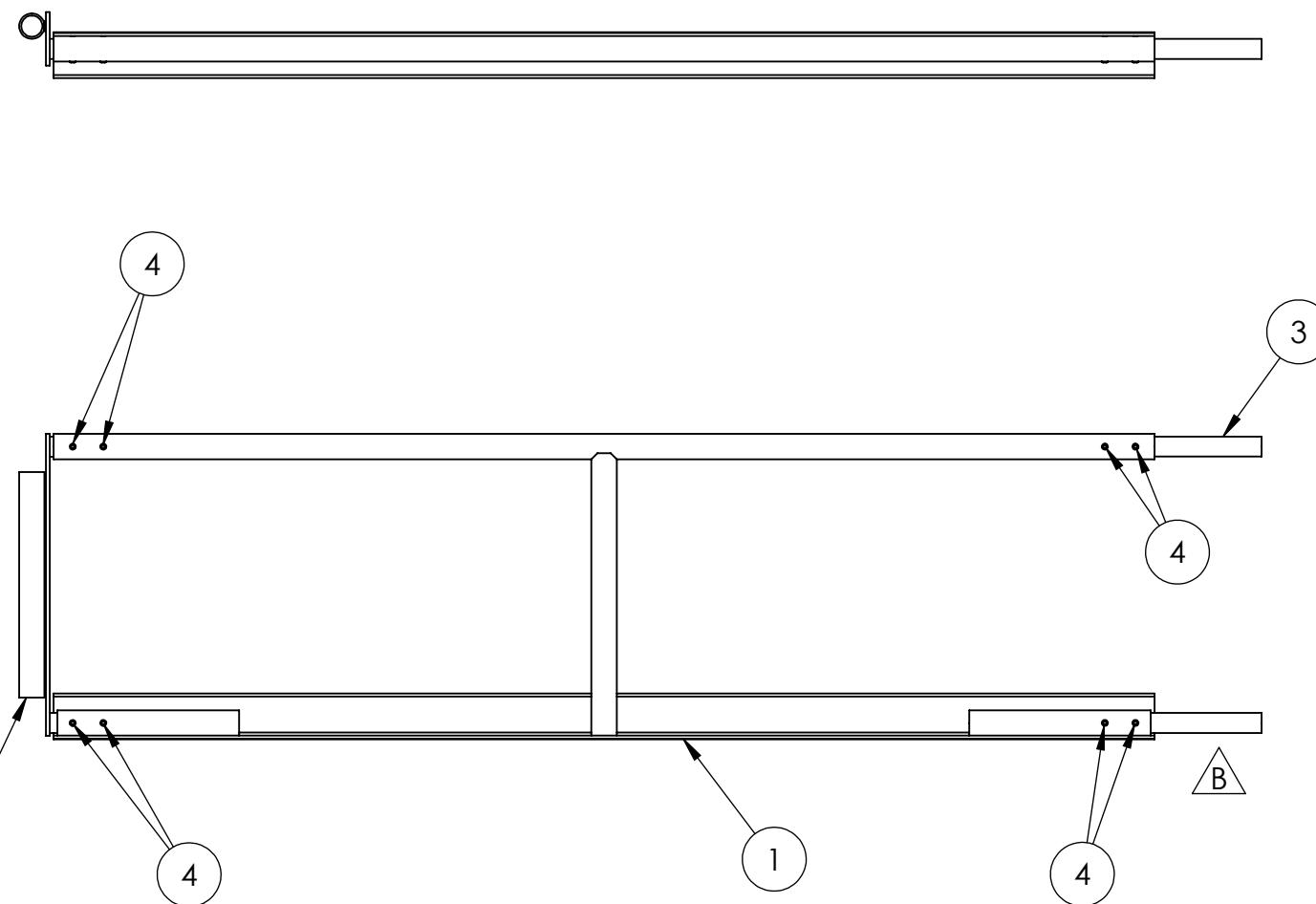
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REVISIONS

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



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	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:		
			MATERIAL		
			FINISH		
			APPLICATION	DO NOT SCALE DRAWING	
TITLE:		FIRST ROBOTICS COMPETITION			SOLIDWORKS Modeling Solutions Partner
Field Rail Assy - Right					
SIZE	DWG. NO.	REV			
B	FE-00024	B			
SCALE: 1:12	WEIGHT:	SHEET 1 OF 1			

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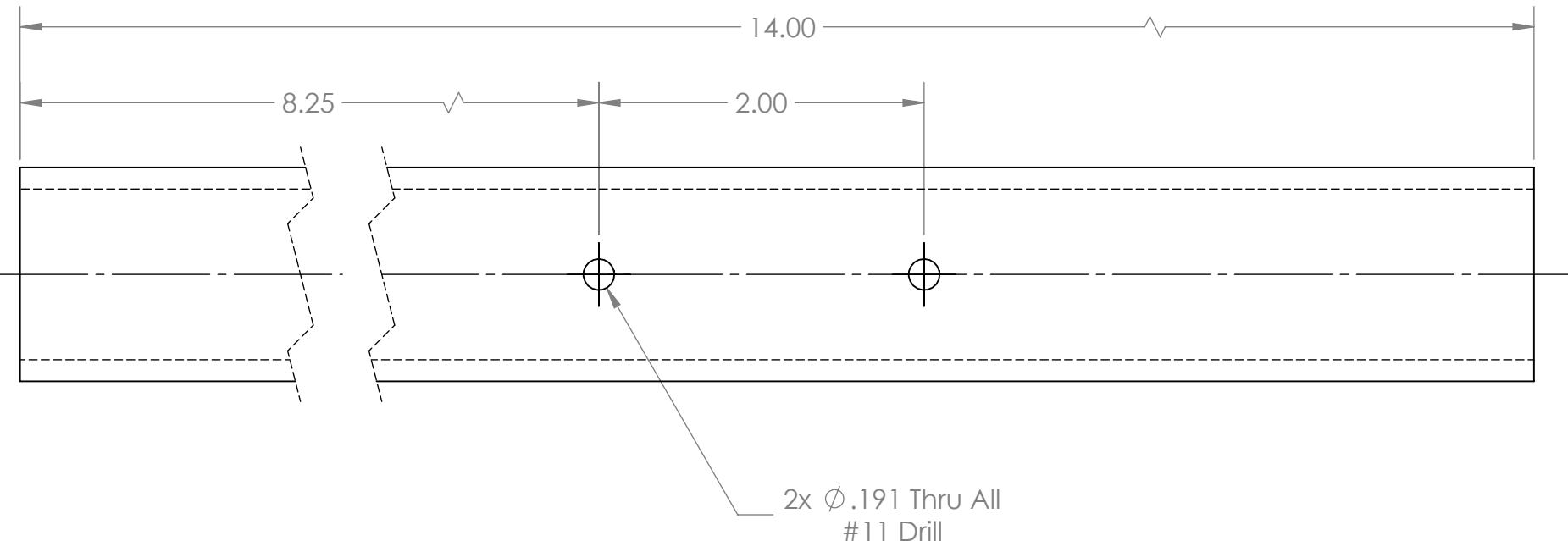
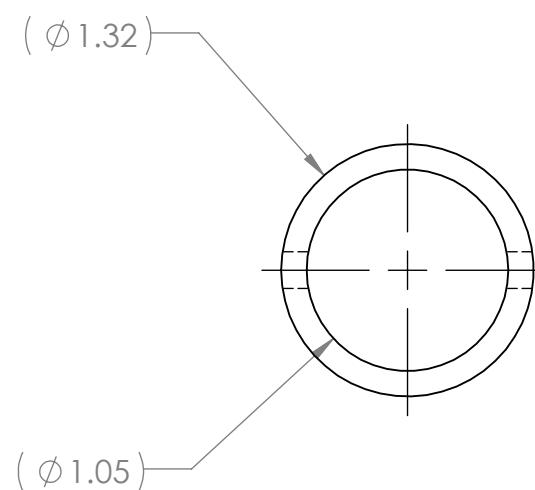
2

1

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

B

B



Notes:

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

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 FIRST ROBOTICS COMPETITION	TITLE: <h1>Connector Pin</h1>
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$	DRAWN				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	CHECKED				
		TWO PLACE DECIMAL $\pm .01$	ENG APPR.				
		THREE PLACE DECIMAL $\pm .001$	MFG APPR.				
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.				
		MATERIAL	COMMENTS:				
NEXT ASSY	USED ON	FINISH				SIZE DWG. NO. B FE-00026 REV A	
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:1		WEIGHT:		SHEET 1 OF 1

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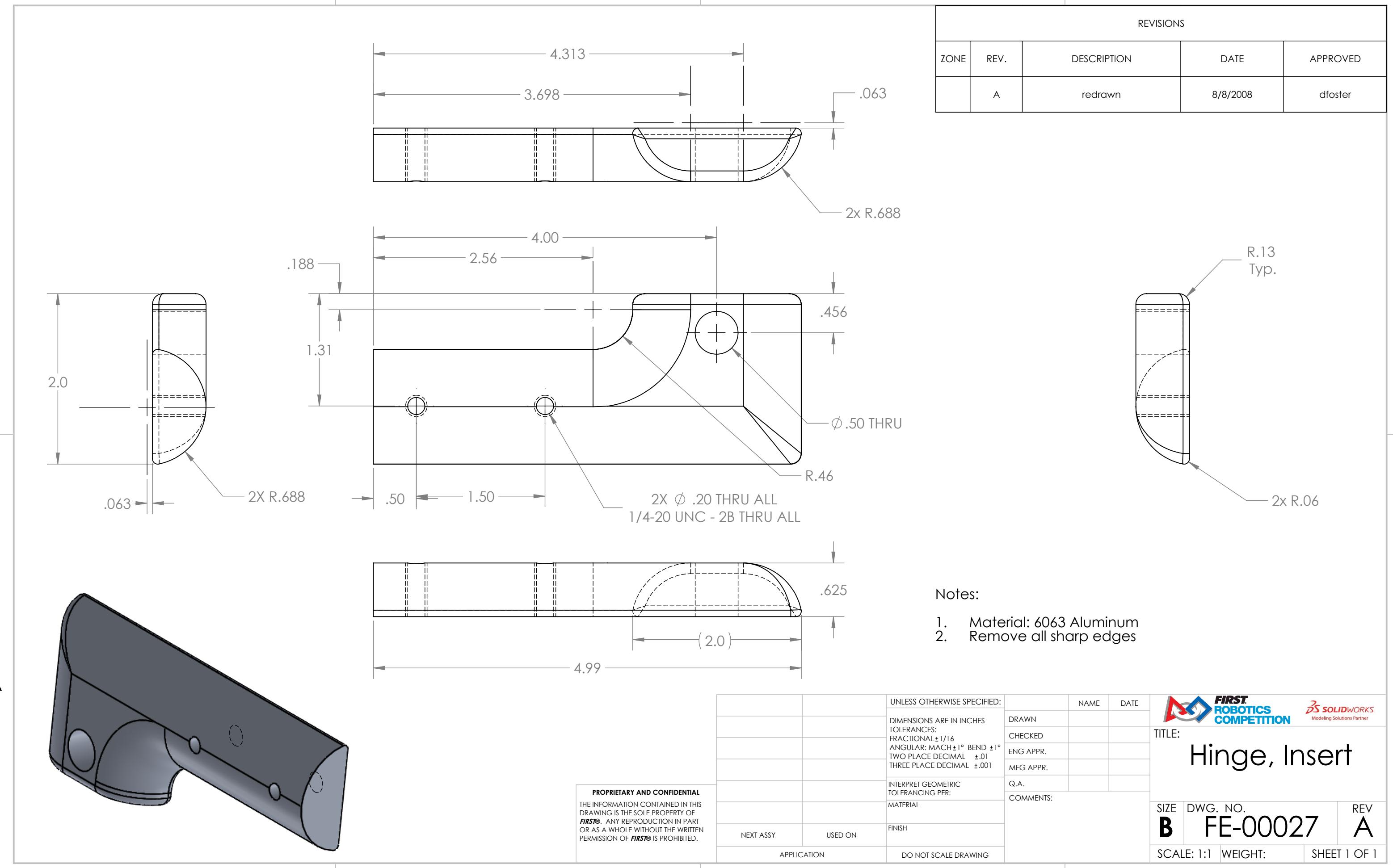
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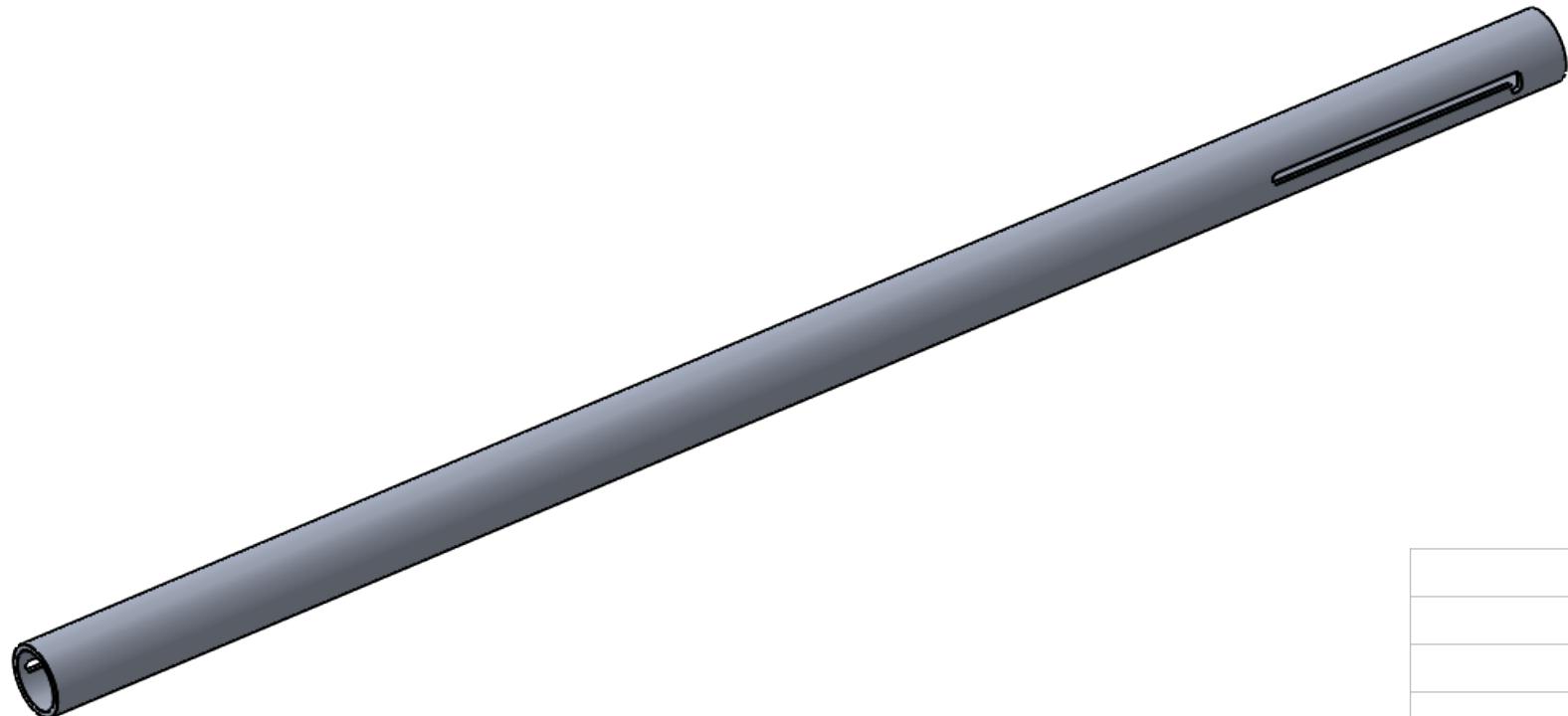
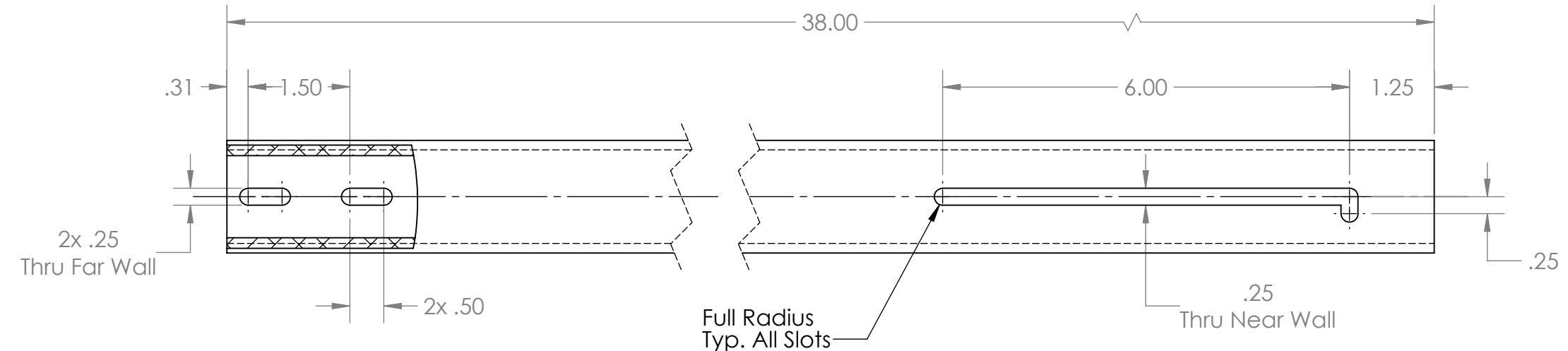
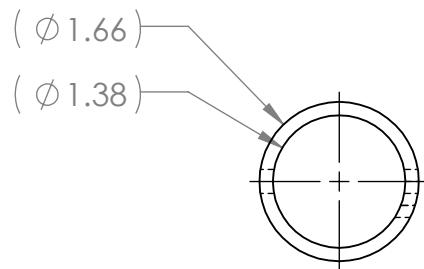
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	8/6/2008	dfoster

B

B



Notes:

- NOTES:**

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

A

A

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PERMISSION OF **FIRST®** IS PROHIBITED.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 FIRST ROBOTICS COMPETITION  SOLIDWORKS <small>Modeling Solutions Partner</small>
		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 $\pm .001$	DRAWN			
			CHECKED			
			ENG APPR.			
			MFG APPR.			
			Q.A.			
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			
		MATERIAL				
NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				
SIZE DWG. NO. REV B FE-00028 A WEIGHT: SHEET 1 OF 1						

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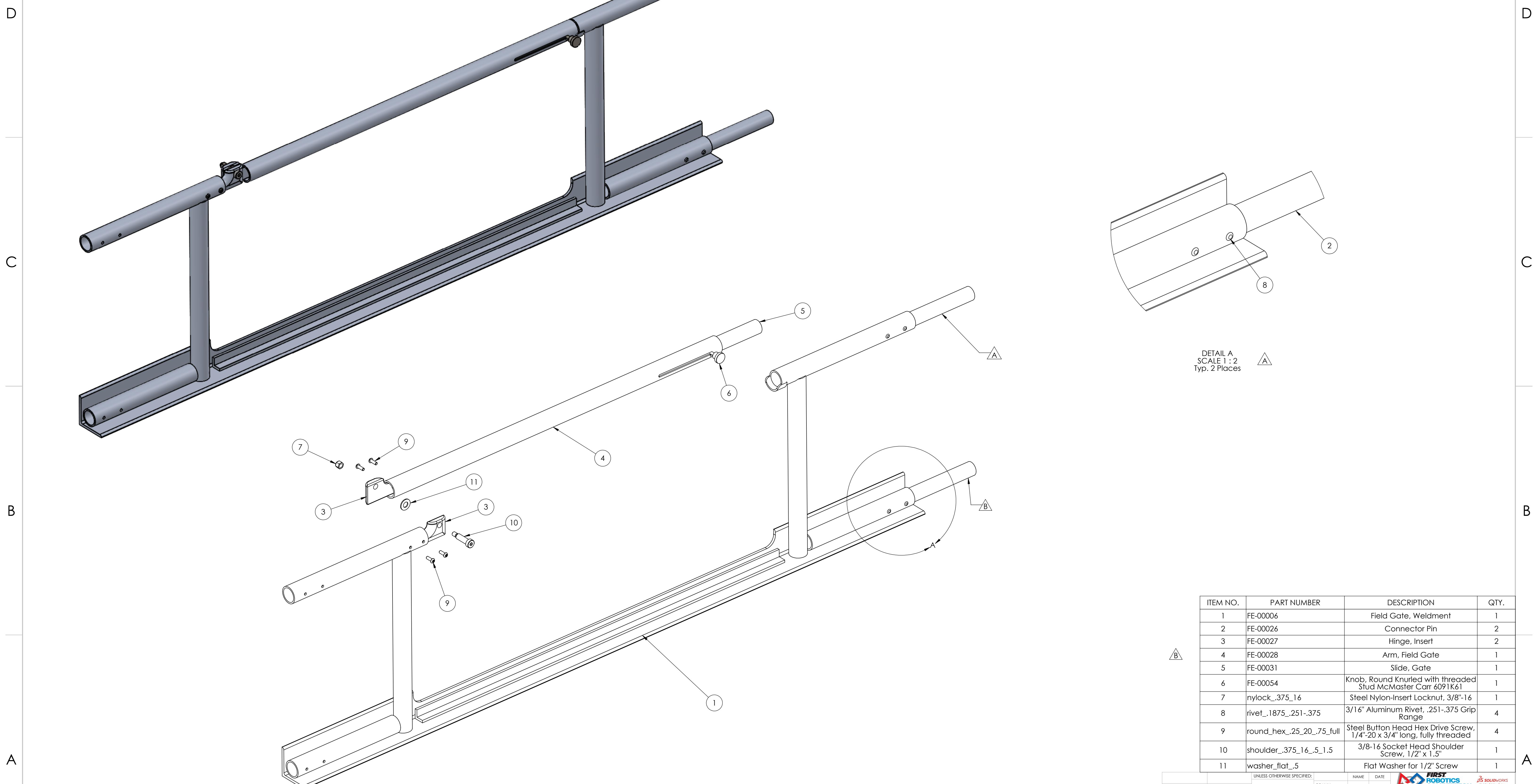
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REVISIONS

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



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

NAME	DATE	
TITLE: Field Gate, Assembly		
SIZE	DWG. NO.	REV.
D	FE-00029	B
SCALE: 1:4 WEIGHT:		
SHEET 1 OF 1		

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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: +/-
ANGULAR: MACH+1° BEND ±1°
TWO PLACE DECIMAL: ±.01
THREE PLACE DECIMAL: ±.001

DRAWN
CHECKED
ENG APPR.
MFG APPR.
QA.
COMMENTS:

INTERPRET GEOMETRIC
TOLERANCING PER:
MATERIAL

NEXT ASSY

USED ON

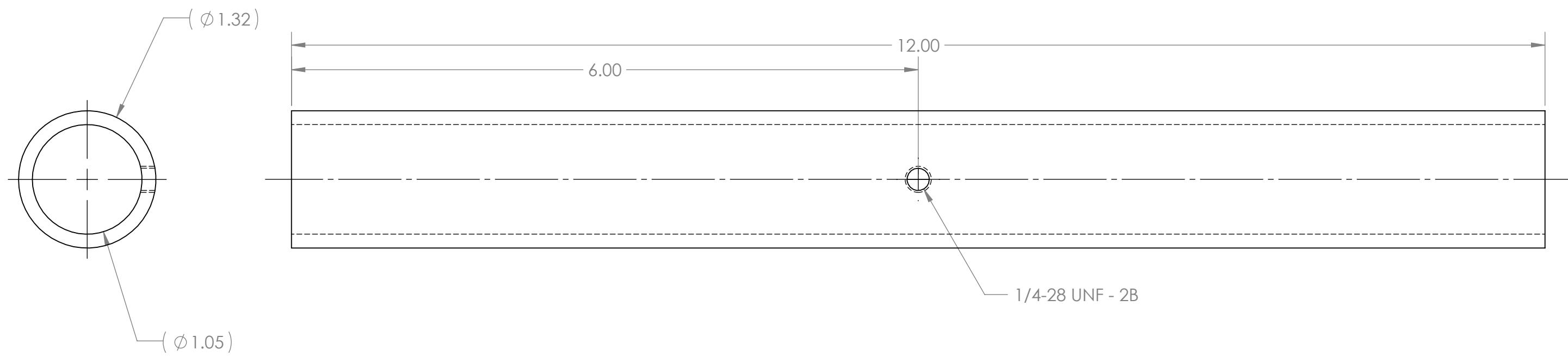
FINISH

APPLICATION

DO NOT SCALE DRAWING

B

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Notes:

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

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		DRAWN		
		CHECKED		
		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
		MATERIAL		
		FINISH		
NEXT ASSY	USED ON	APPLICATION		
		DO NOT SCALE DRAWING		

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

Slide, Gate

SIZE	DWG. NO.	REV
B	FE-00031	
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

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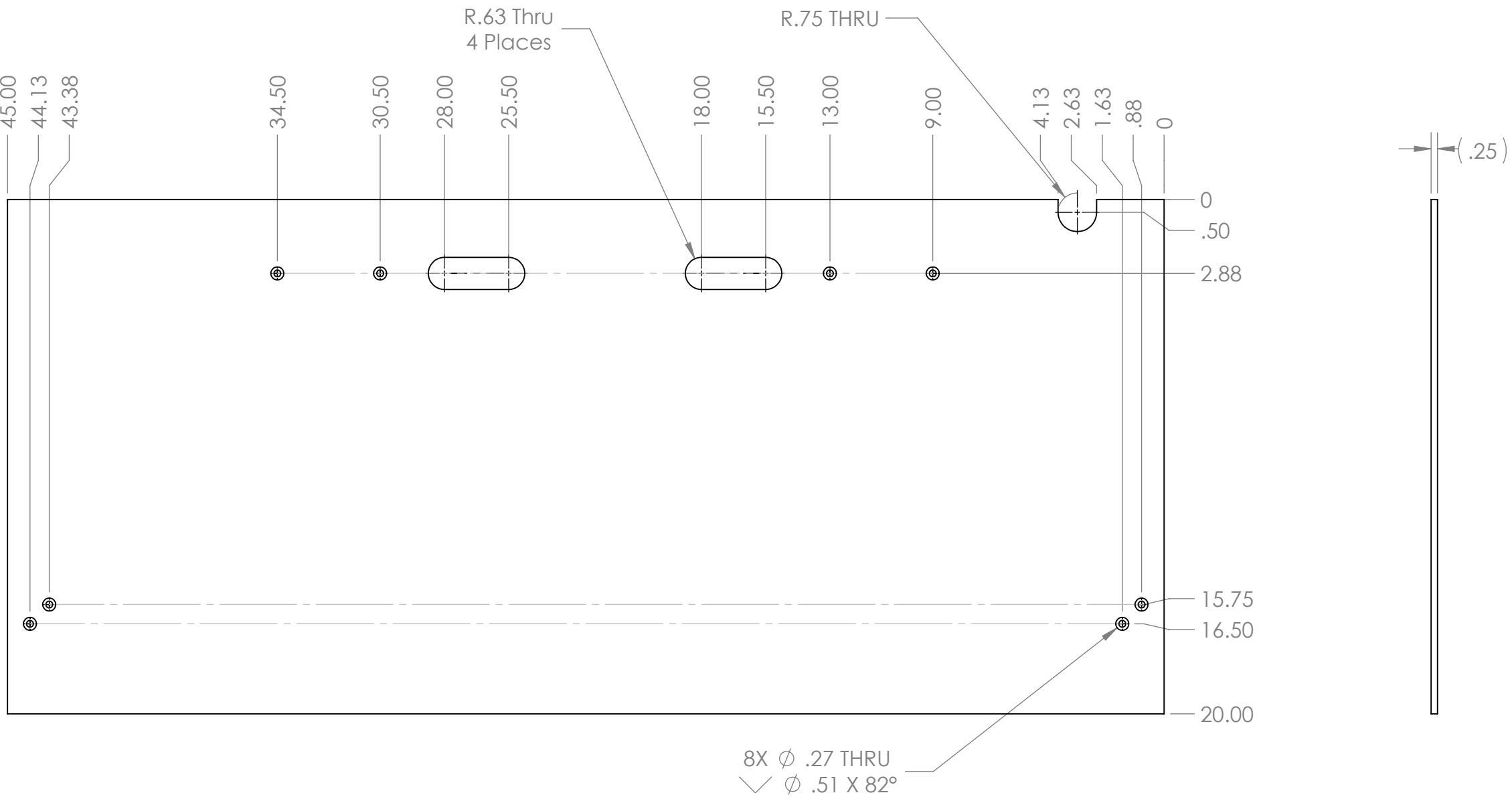
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REVISIONS

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



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

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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 $\pm .001$	NAME	DATE
		DRAWN		
		CHECKED		
		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
SIZE	DWG. NO.			
B	FE-00044	A		
SCALE: 1:5		WEIGHT:	SHEET 1 OF 1	



SOLIDWORKS
Modeling Solutions Partner

Field Plastic "G"

4

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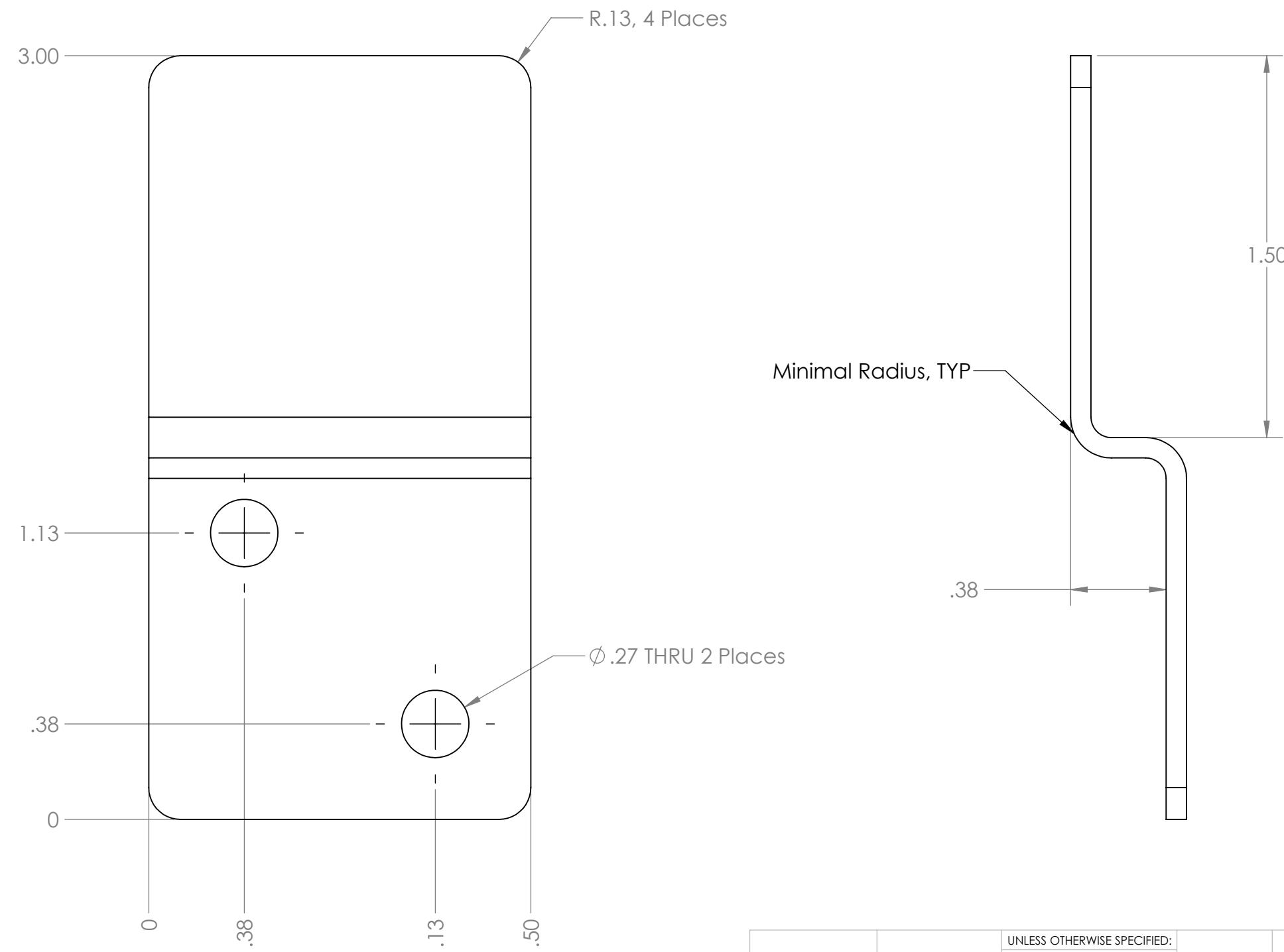
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B

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- Notes:
1. 12 Gauge 5052 Aluminum
 2. Remove all burrs and 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			
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			
TITLE: Lower Z-Bracket, Gate Plastic					
SIZE	DWG. NO.		REV		
B	FE-00045				
SCALE: 2:1	WEIGHT:	SHEET 1 OF 1			

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3.50

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1.00

5.00

6.00

R.13, 4 Places

∅ .27 THRU 2 Places

1.75

1.75

Minimal
Radius
TYP

Notes:

1. 12 Gauge 5052 Aluminum
2. Remove all burrs and sharp edges

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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 $\pm .001$	NAME	DATE
		DRAWN		
		CHECKED		
		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
		MATERIAL		
		FINISH		
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING	
		SIZE	DWG. NO.	
B		FE-00046		
		REV		
		SCALE: 1:1	WEIGHT:	
		SHEET 1 OF 1		

SOLIDWORKS
Modeling Solutions Partner

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

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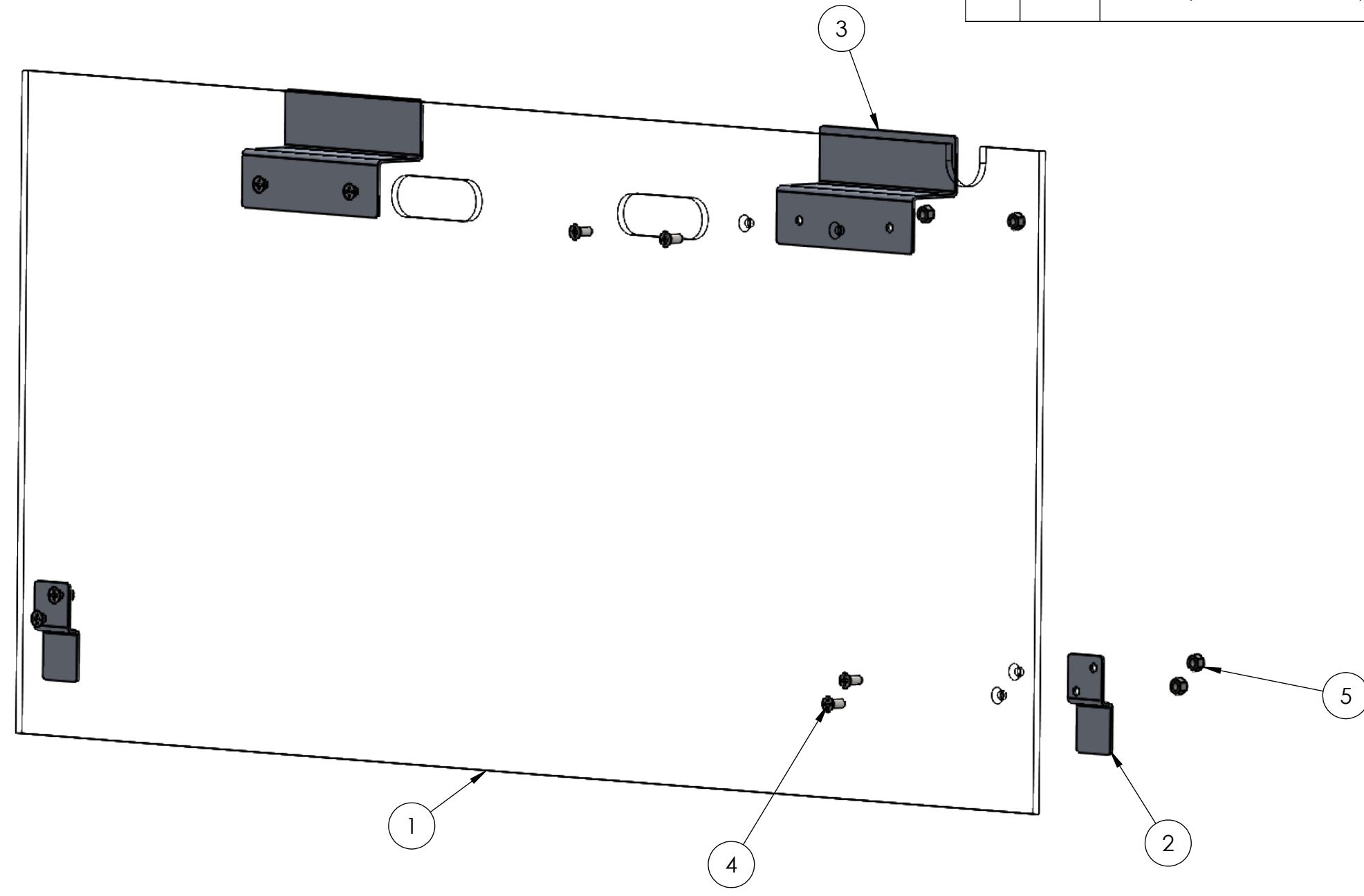
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REVISIONS

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



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

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

Gate Plastic Assembly

B **FE-00047** **A**

SIZE DWG. NO. REV.
SCALE: 1:4 WEIGHT: SHEET 1 OF 1

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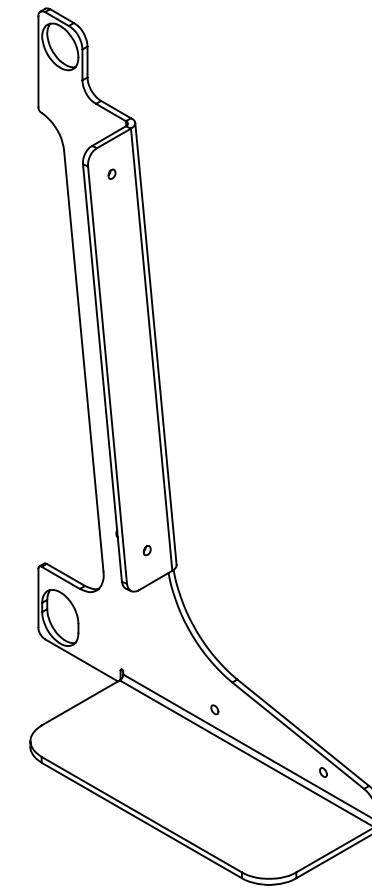
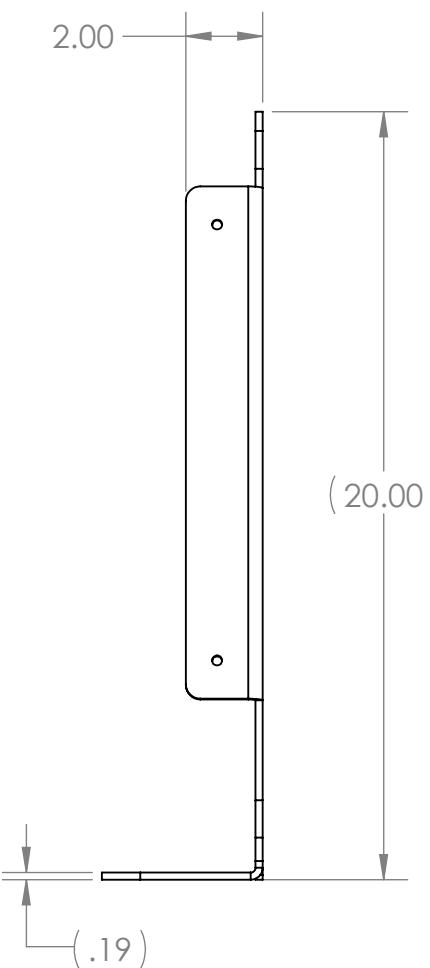
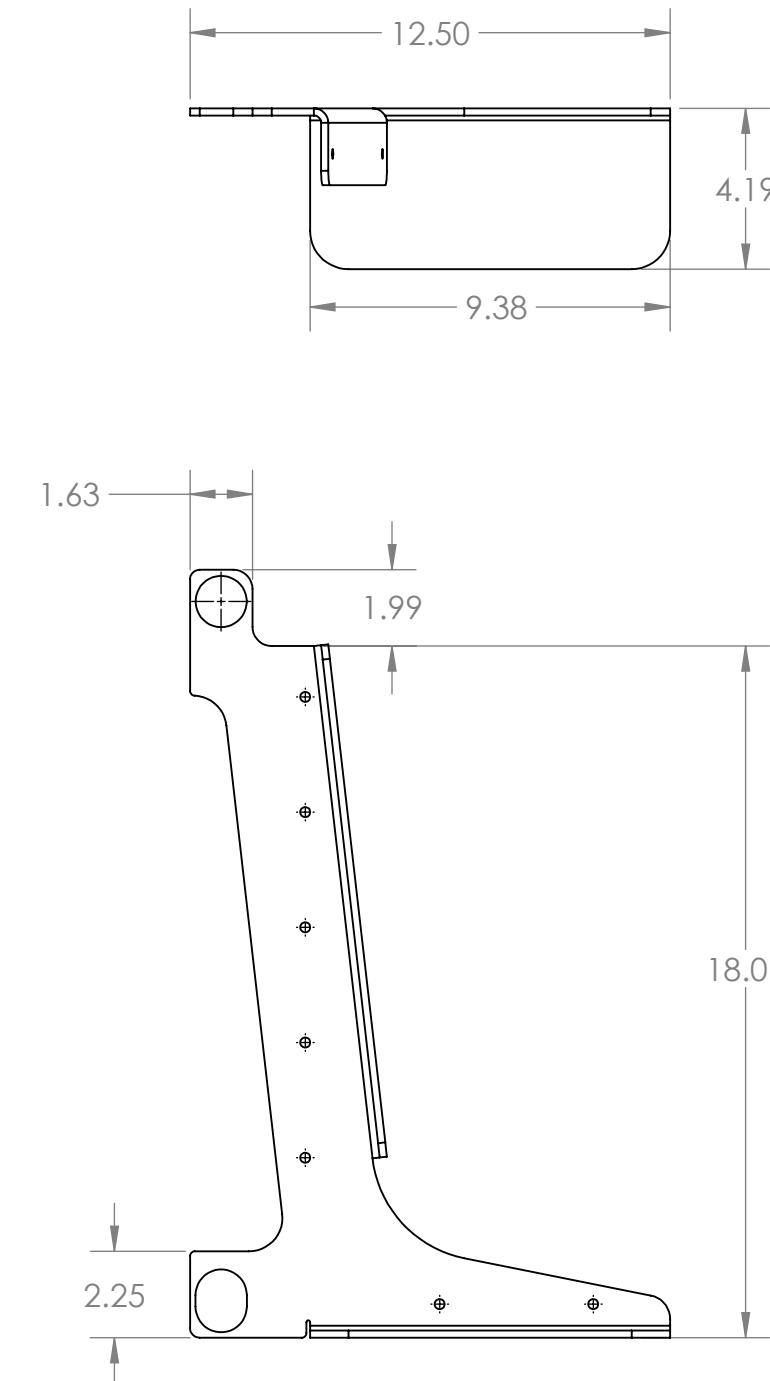
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Note:

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: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	NAME	DATE
		DRAWN		
		CHECKED		
		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
SIZE	DWG. NO.			
B	FE-00050			
SCALE: 1:5		WEIGHT:	SHEET 1 OF 1	

FIRST[®] ROBOTICS COMPETITION
SOLIDWORKS
Modeling Solutions Partner

Title: Outrigger

4

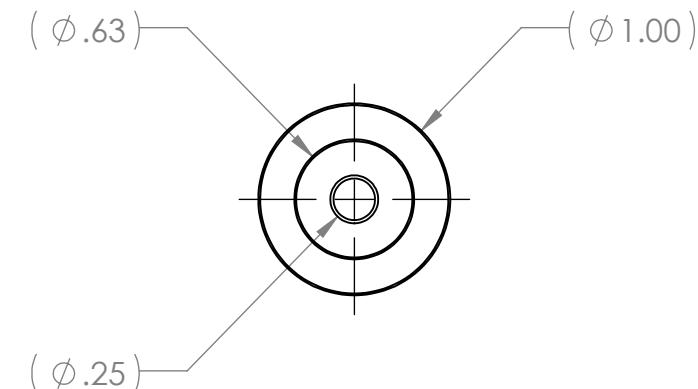
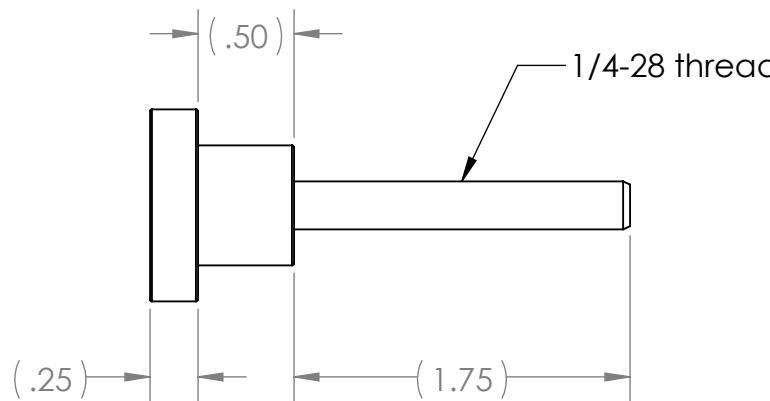
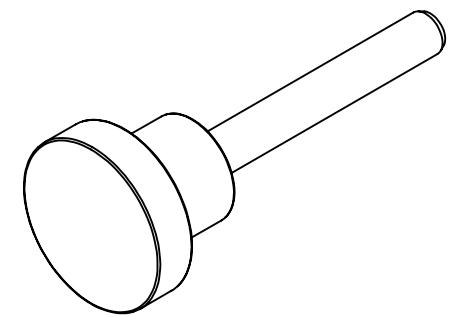
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Notes:

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

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Knob, Round Knurled with threaded Stud McMaster Carr 6091K61

SIZE DWG. NO. **B** FE-00054 **REV**

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

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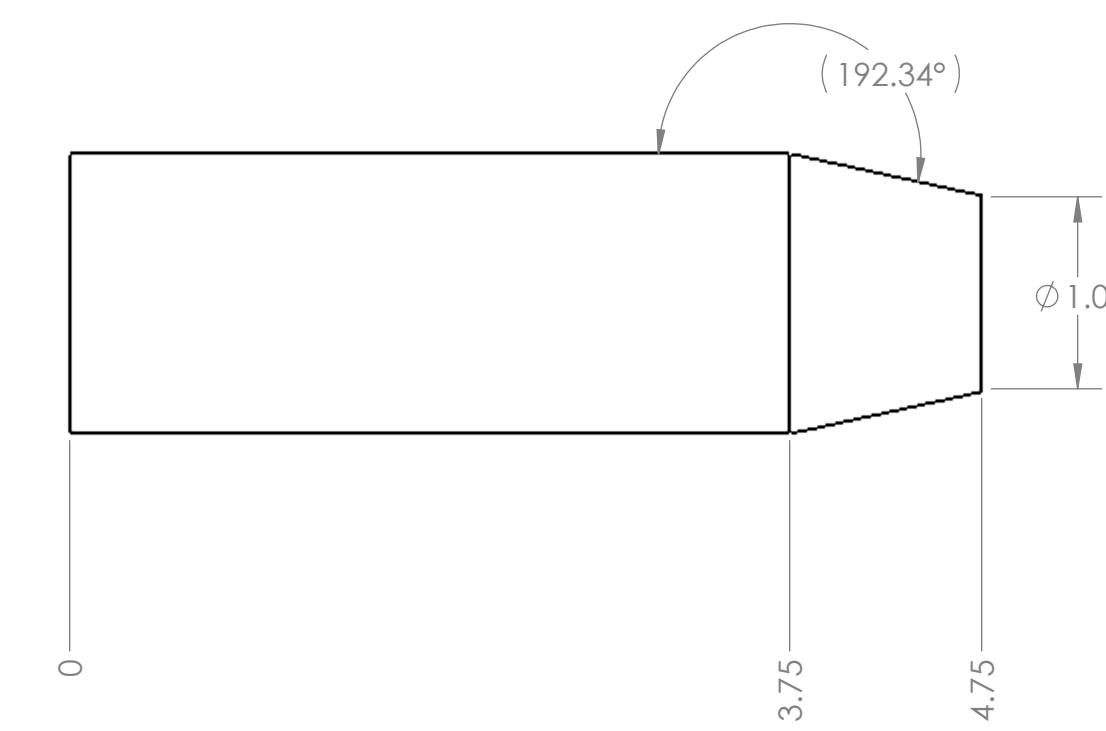
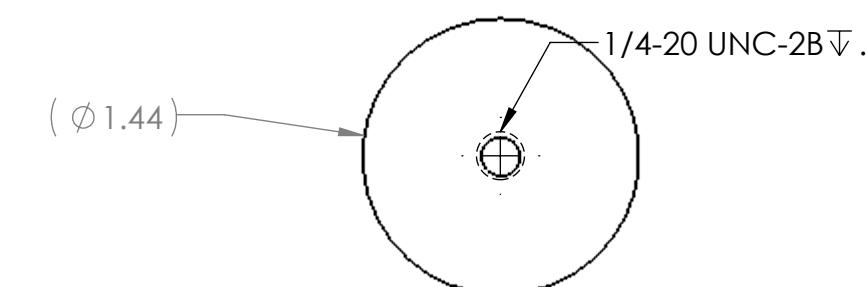
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B

B

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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	NW	8/22/2022	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1-7/16" round 6061	C	FE-00060	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING		SCALE: 1:1	SHEET 1 OF 1

4

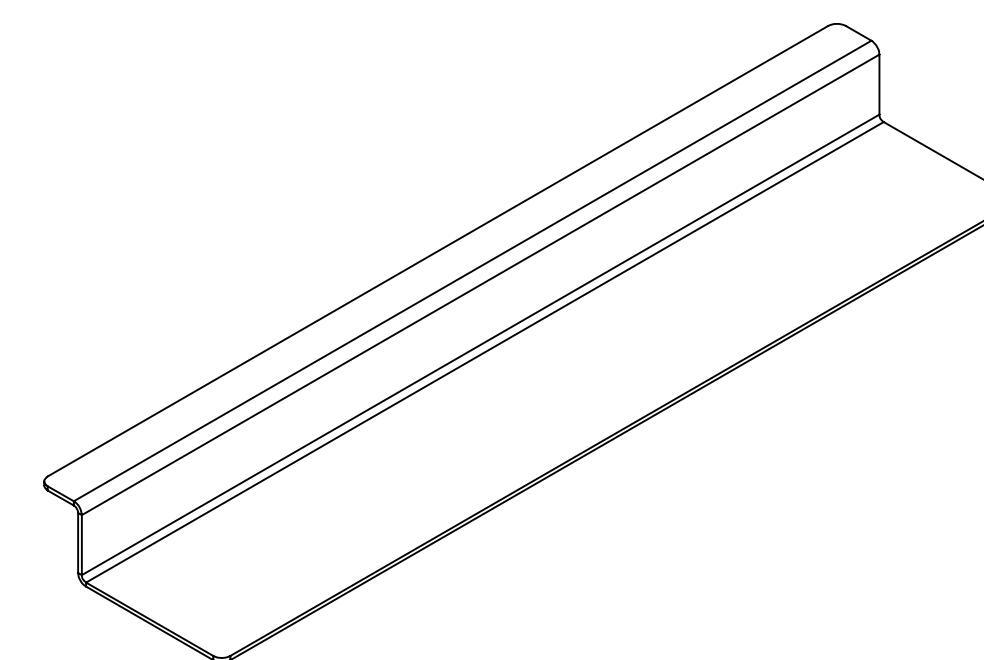
3

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(5.38) R.25 4x



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1.25
2x R.13 (.11)
4.23

2.00 23.50

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	NW	8/24/2022	
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.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
12 ga pre-plated steel	C	FE-00070	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:4	SHEET 1 OF 1	



Anchor

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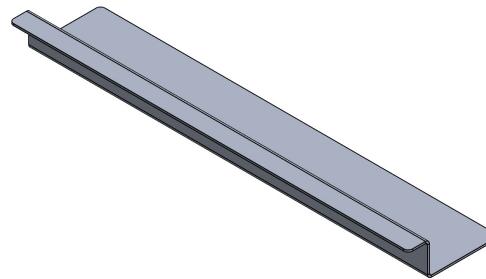
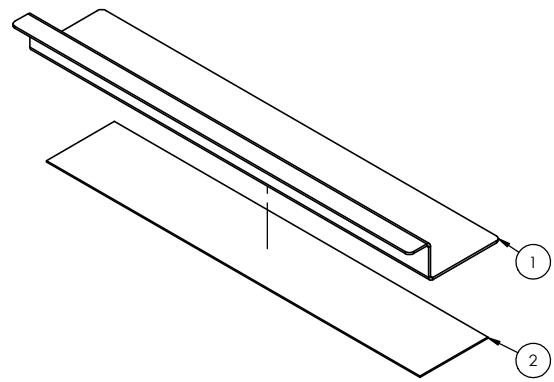
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00070	Anchor	1
2	Hook_4_22	4"x 22" Hook, Adhesive Backed	1

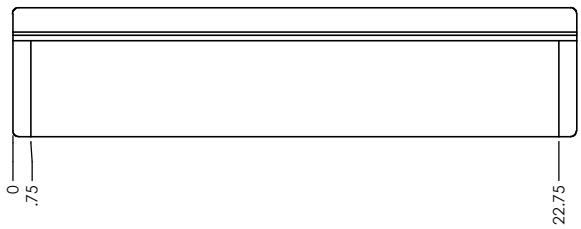
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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	DRAWN	NW	10/3/2022
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: FE-00070 w/
hook

SIZE DWG. NO. REV

C FE-00071

SCALE: 1:4 SHEET 1 OF 1

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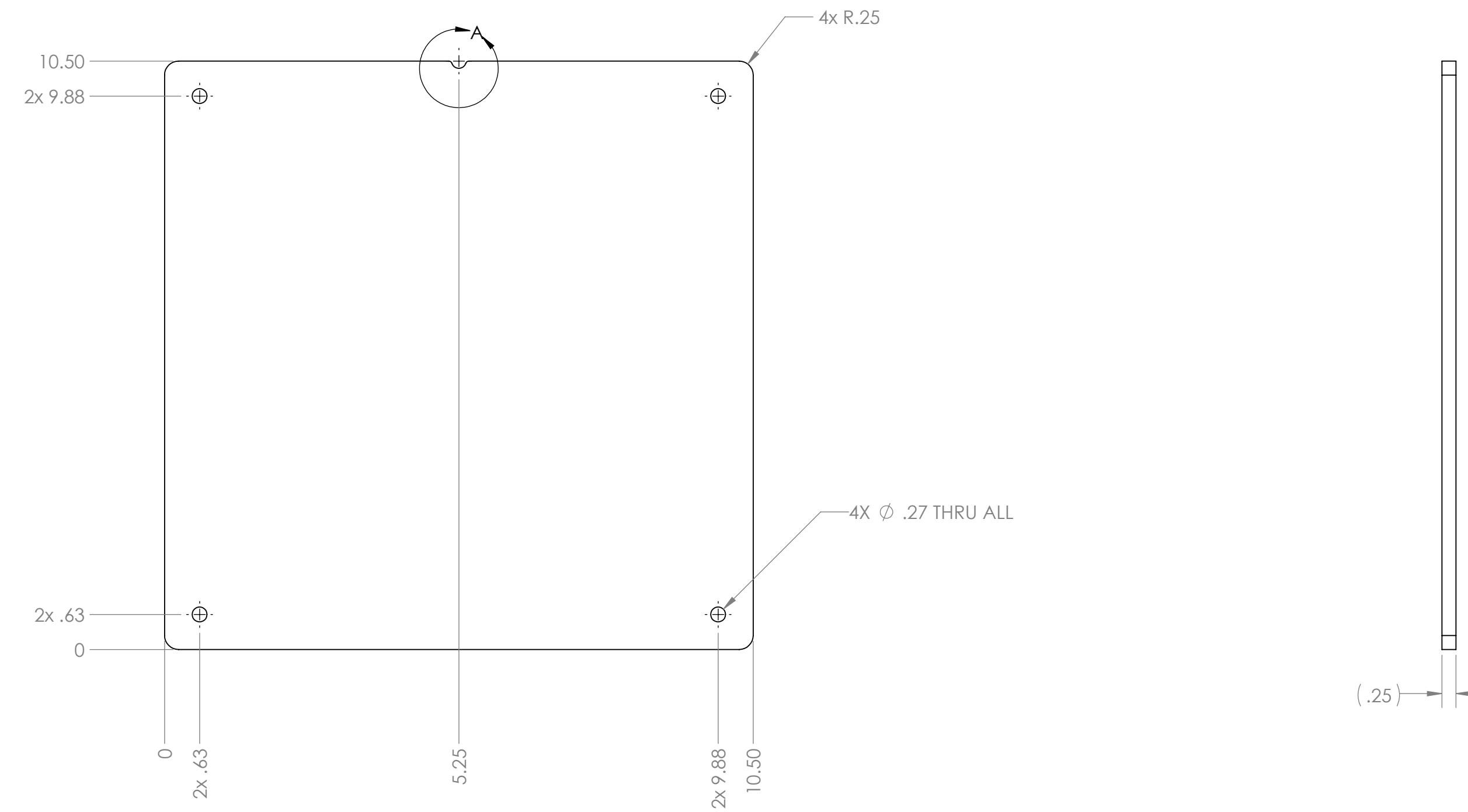
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Notes:
1. Vinyl to be applied to face.



UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	CO	8/29/2023
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.			
MATERIAL/FINISH: 1/4" Polycarbonate, Clear			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			



TITLE: AprilTag Base Poly

SIZE DWG. NO. REV
C FE-00082

SCALE: 1:2 SHEET 1 OF 1

4

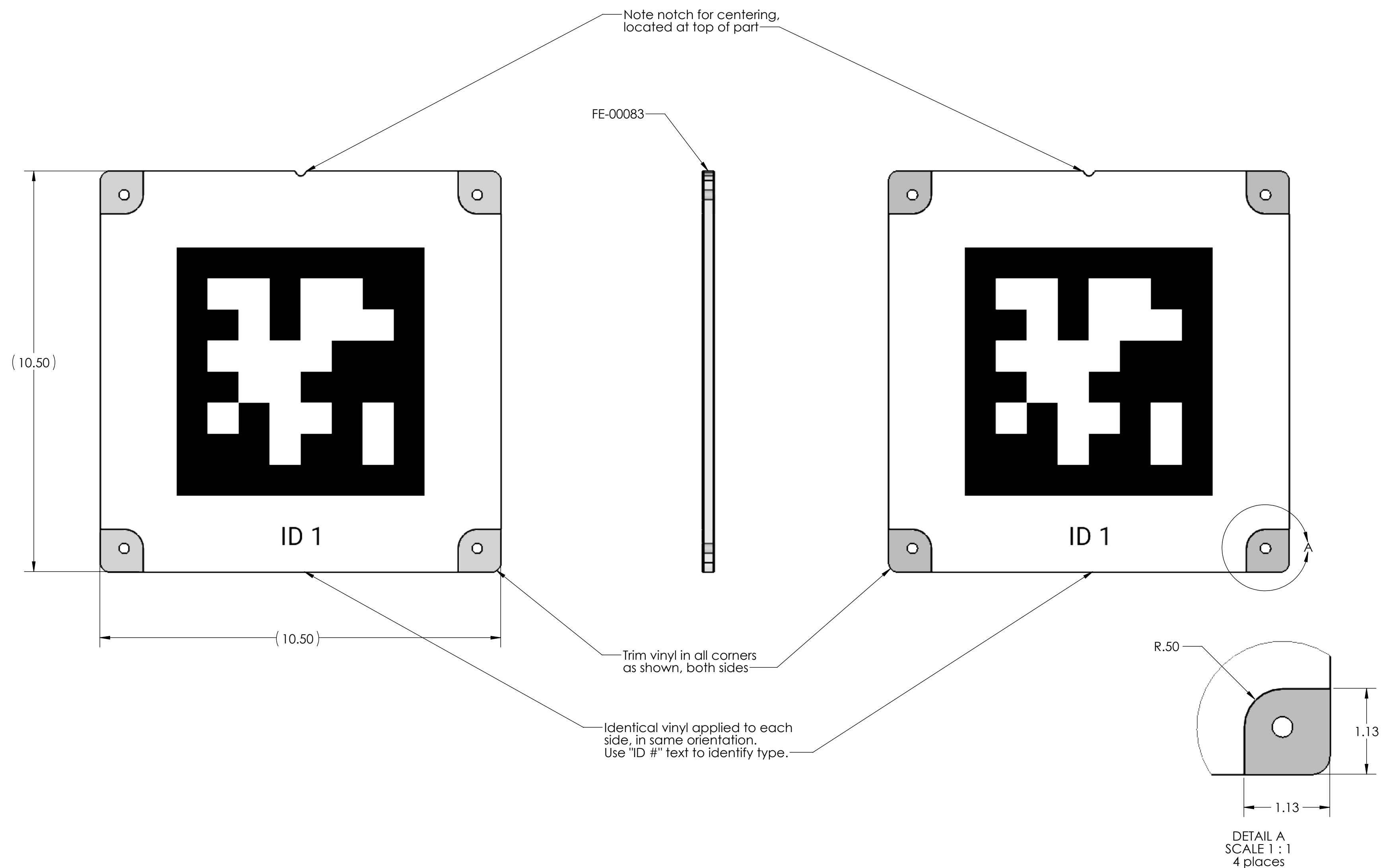
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Notes:
1. Matte vinyl

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:	FIELD	NAME	DATE
DRAWN	CO	9/6/2023	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: Polycarbonate/Vinyl			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

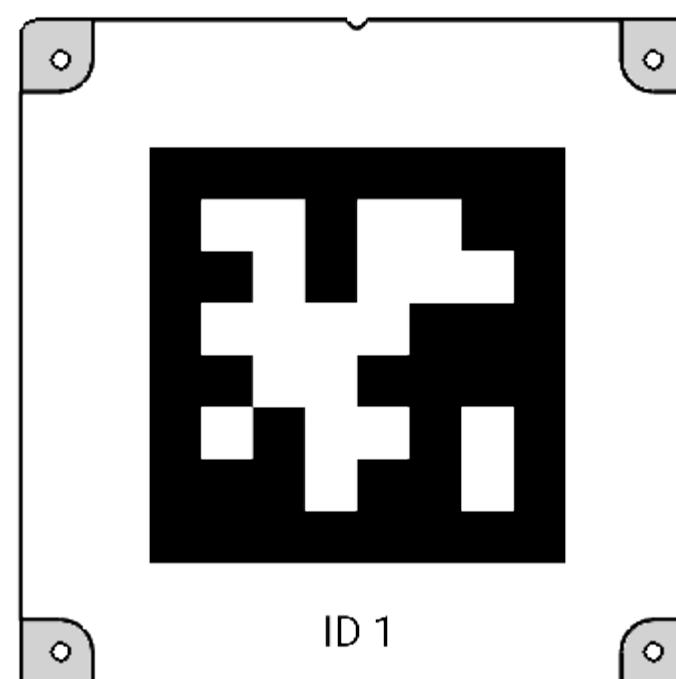
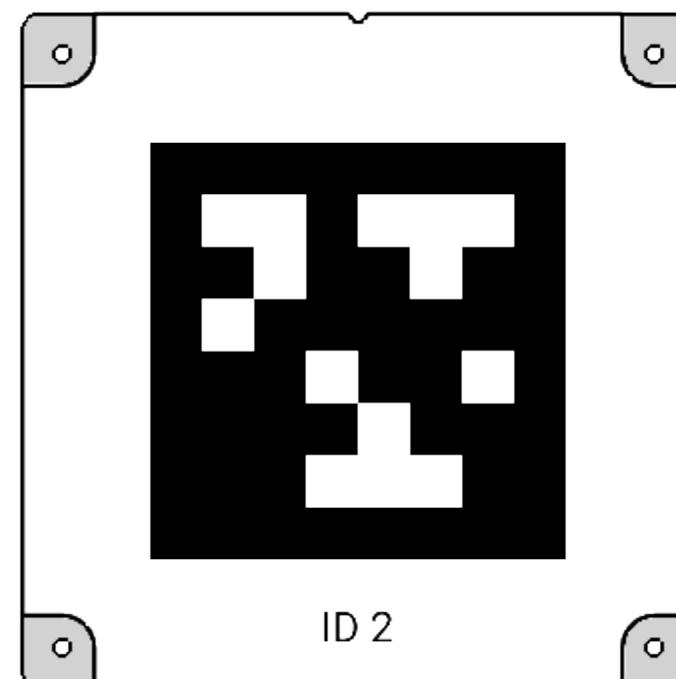
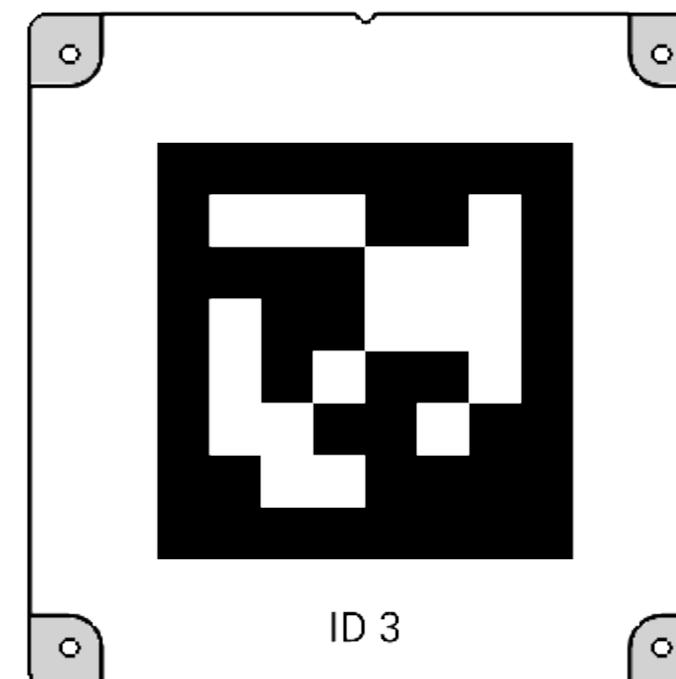
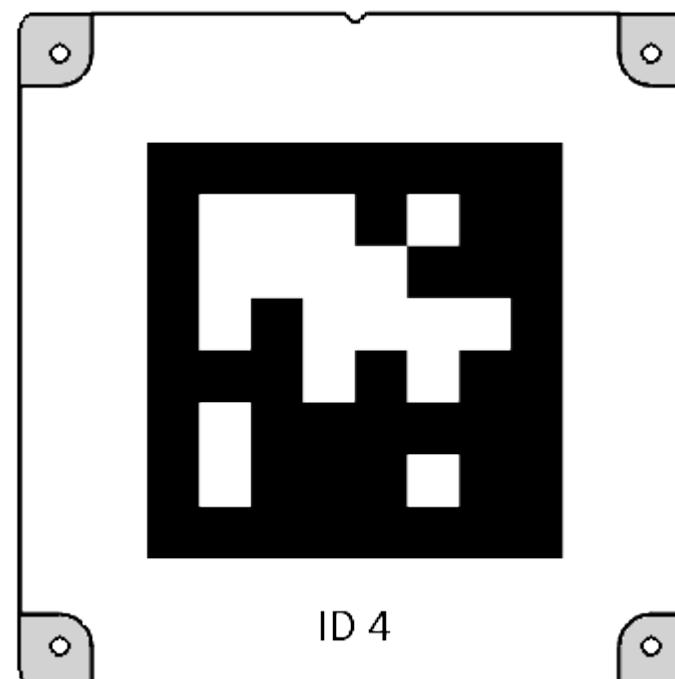
FIRST ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions Partner

AprilTag

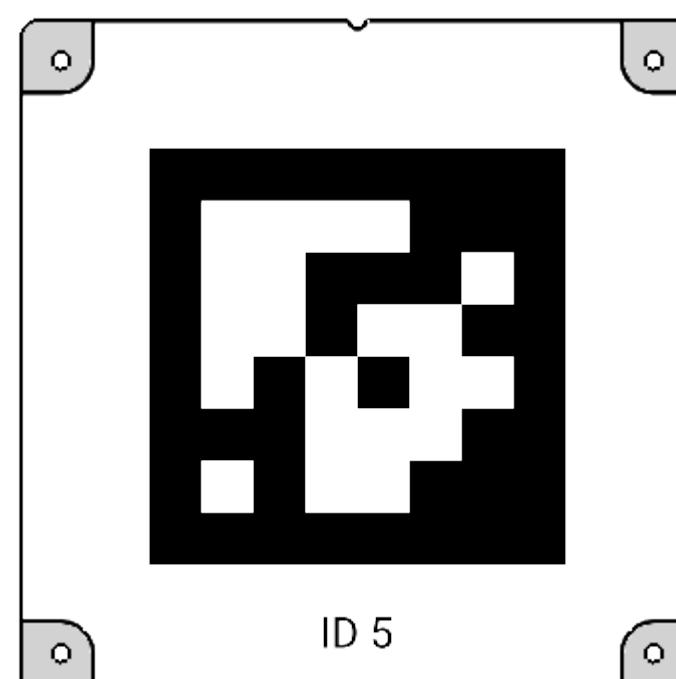
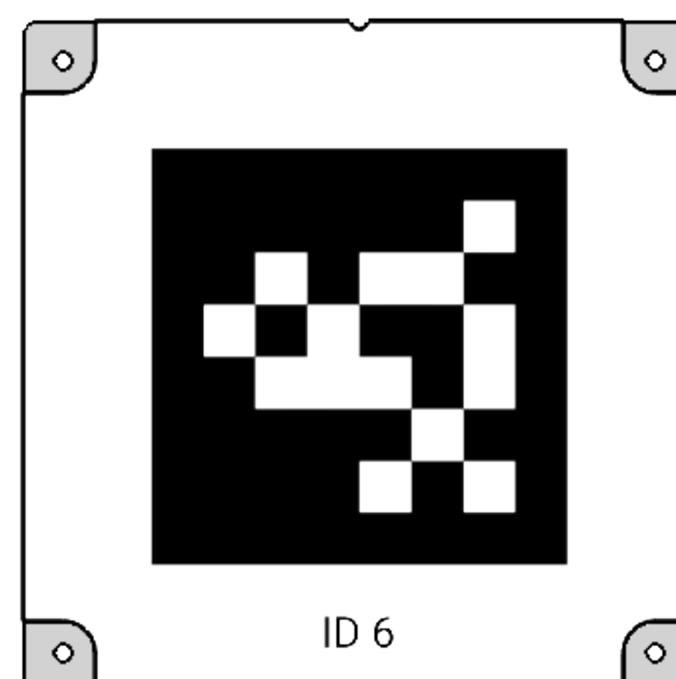
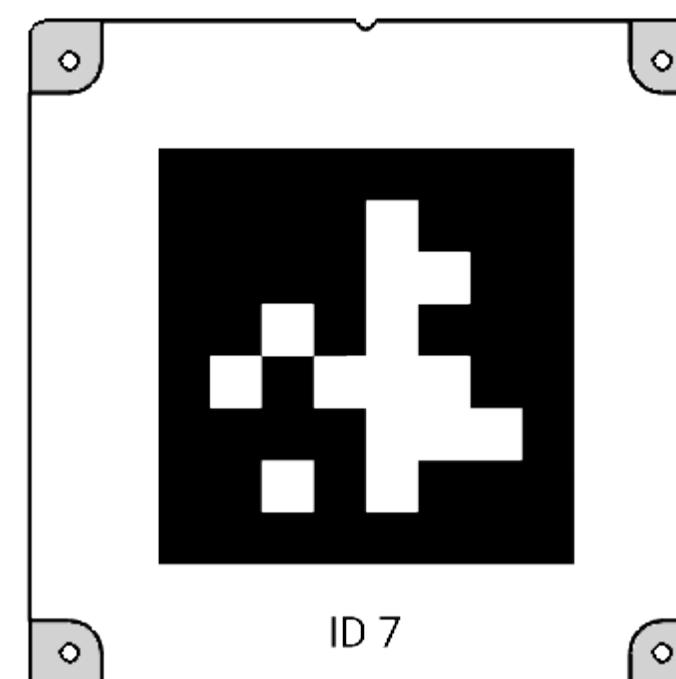
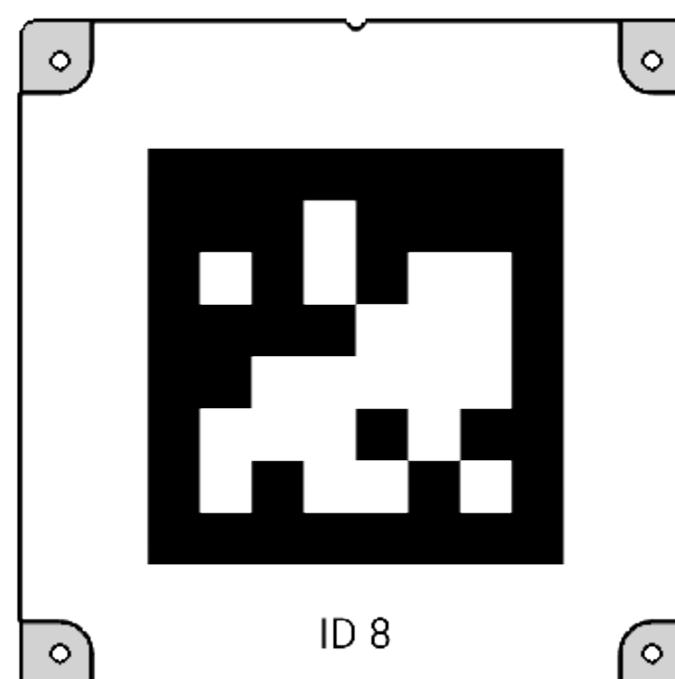
C **FE-00083**

SIZE DWG. NO. REV
SCALE: 1:2 SHEET 1 OF 3

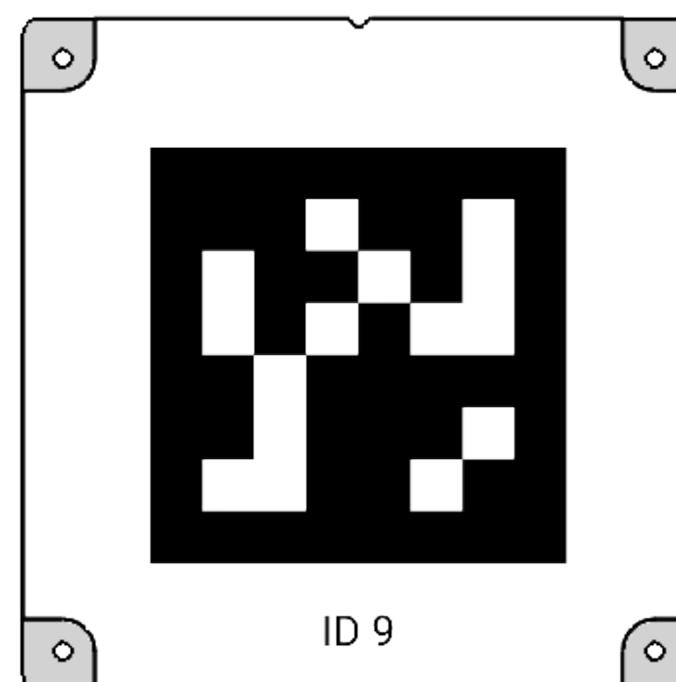
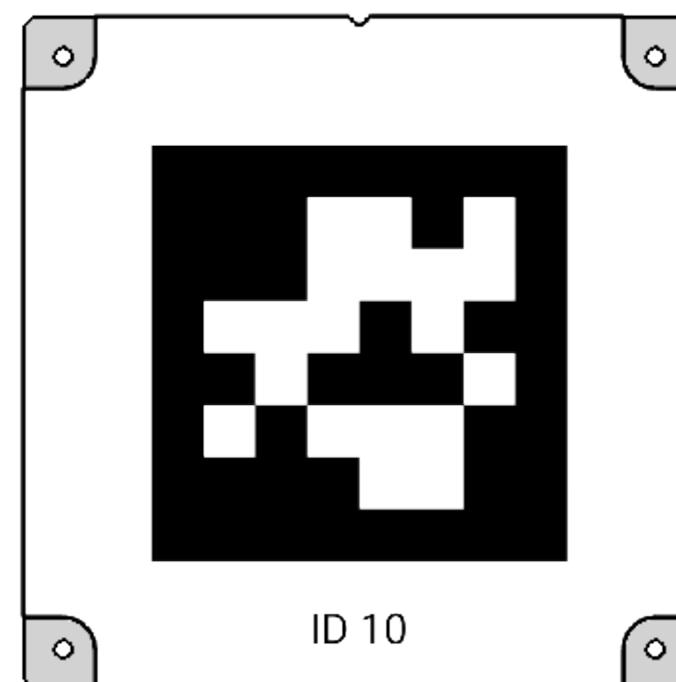
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ID 1
FE-00083-ID1ID 2
FE-00083-ID2ID 3
FE-00083-ID3ID 4
FE-00083-ID4

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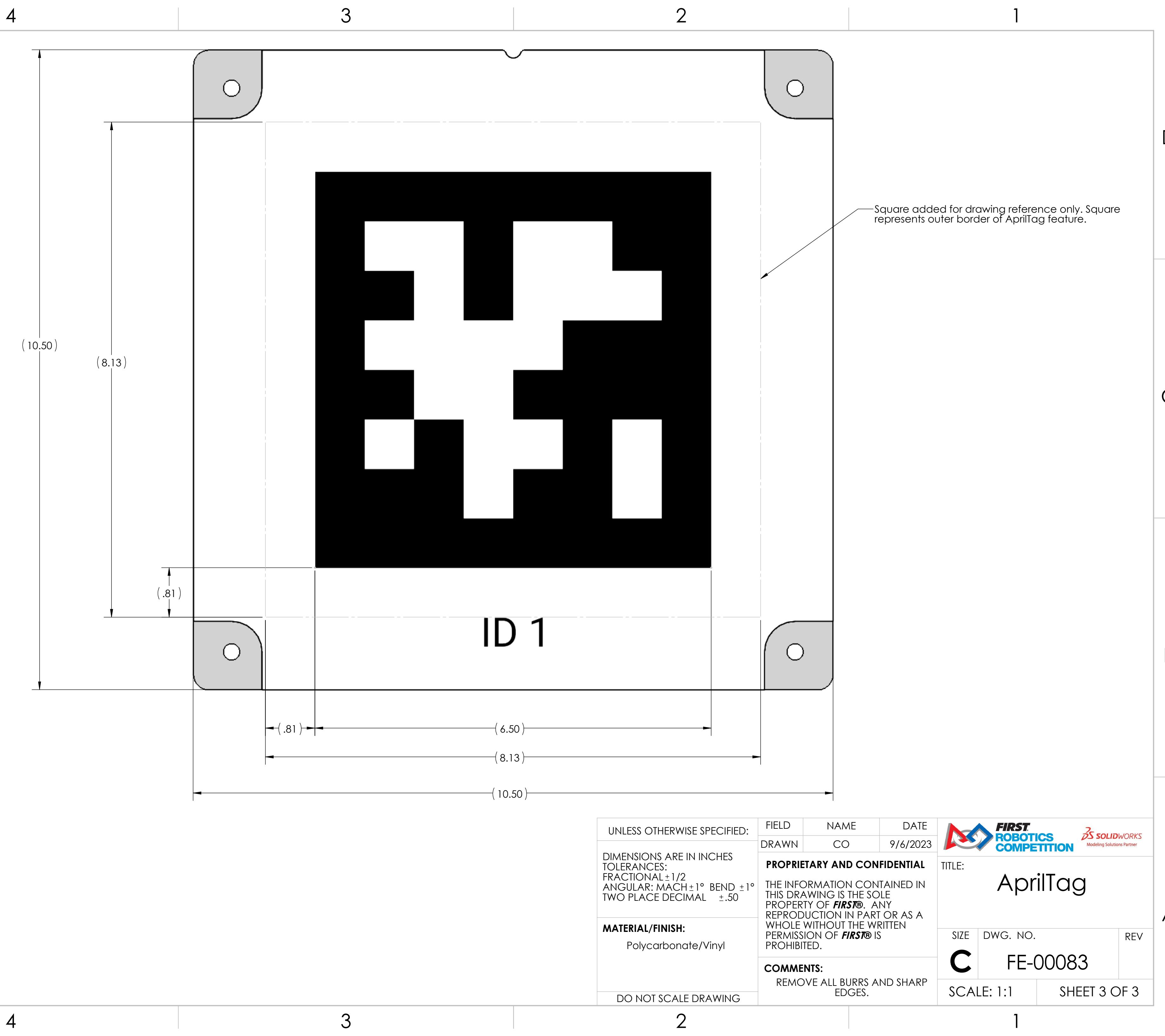
ID 5
FE-00083-ID5ID 6
FE-00083-ID6ID 7
FE-00083-ID7ID 8
FE-00083-ID8

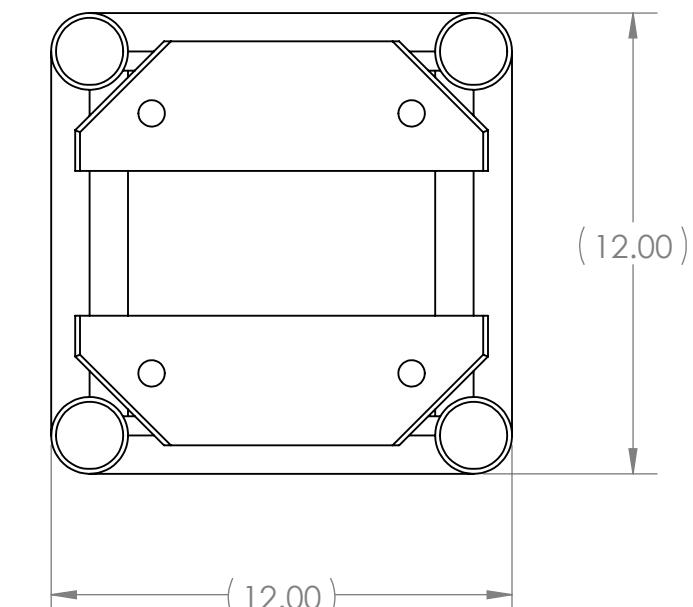
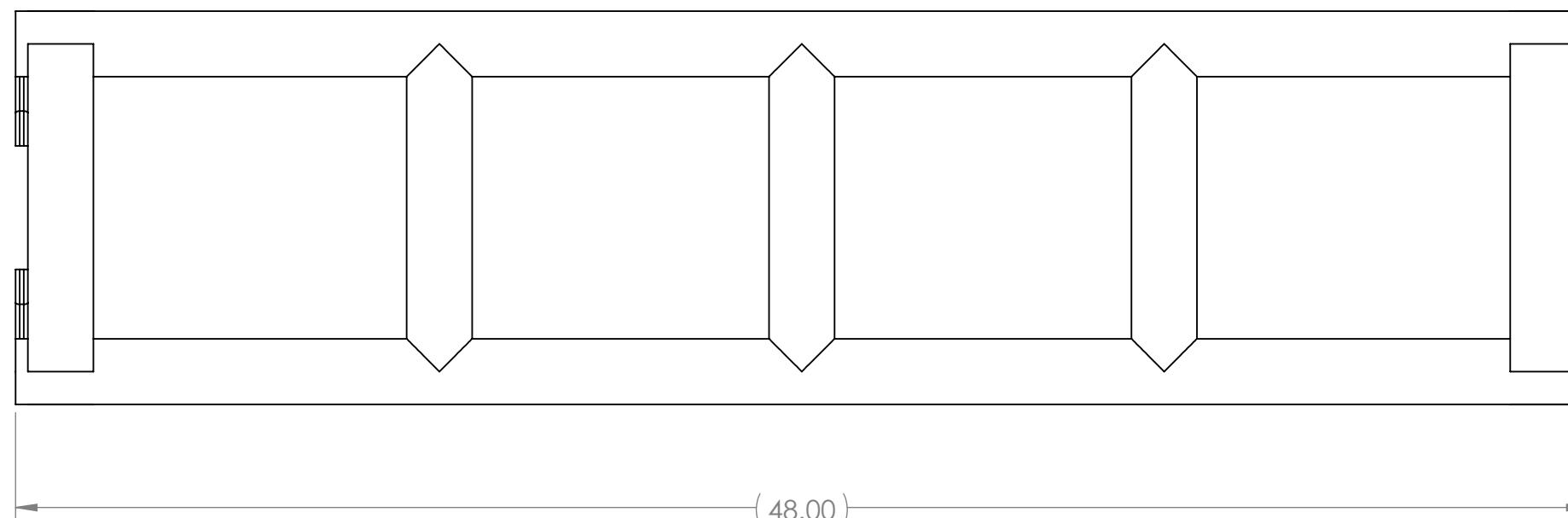
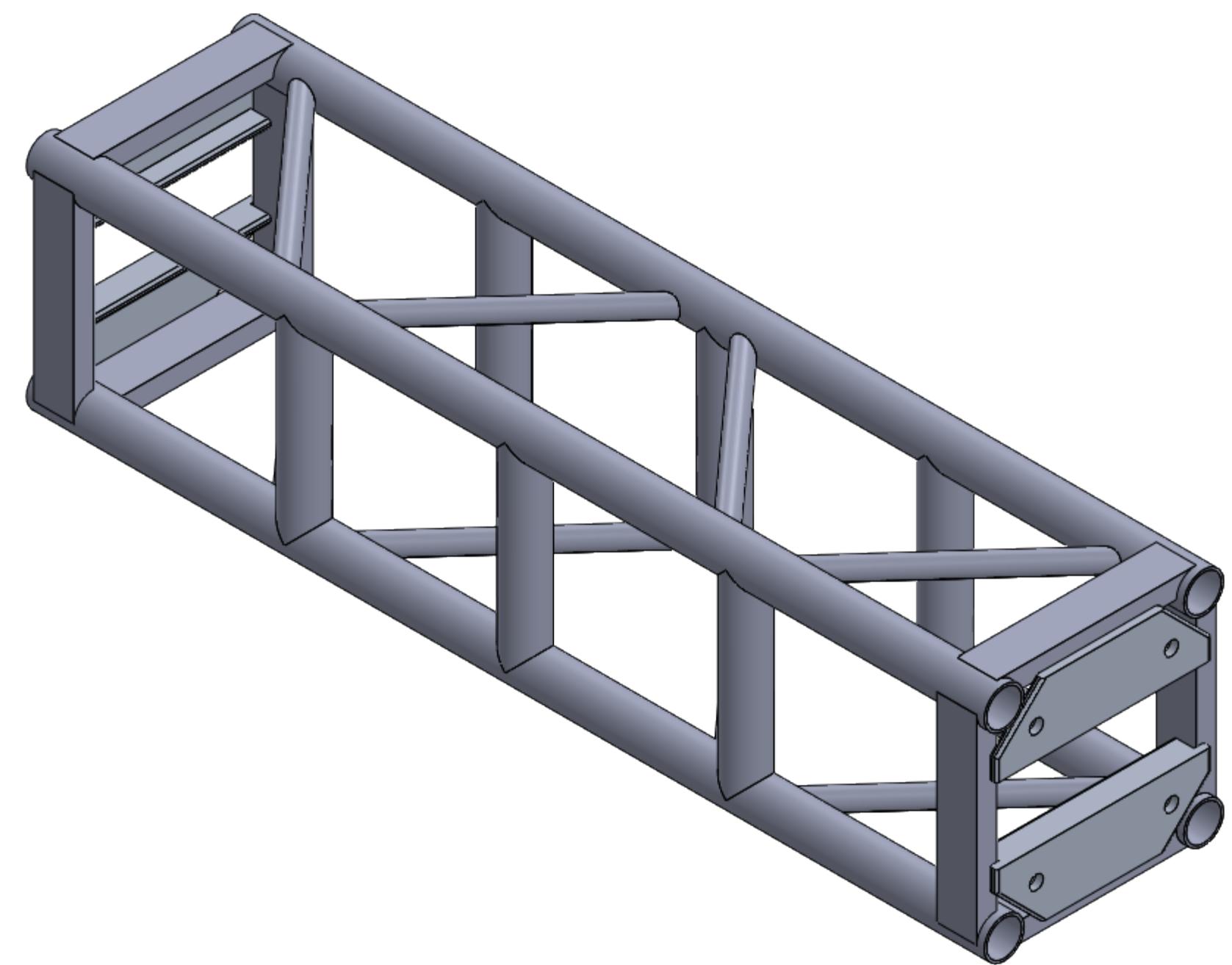
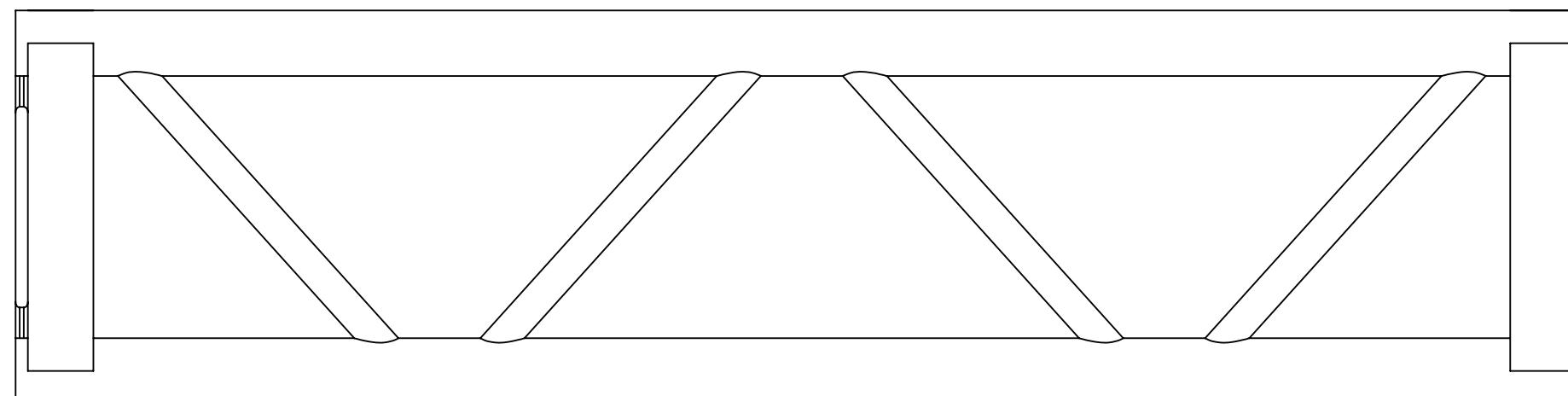
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ID 9
FE-00083-ID9ID 10
FE-00083-ID10

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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	CO	9/6/2023
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SOLIDWORKS	SOLIDWORKS	Modeling Solutions Partner
Polycarbonate/Vinyl	FIRST	ROBOTICS	COMPETITION
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV
	C	FE-00083	
	SCALE: 1:3	SHEET 2 OF 3	





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 $\pm 1/16$

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 kcarlson 3/23/2020

PROPRIETARY AND CONFIDENTIAL

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WHOLE WITHOUT THE WRITTEN
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PROHIBITED.

COMMENTS:

REMOVE ALL BURRS AND SHARP
EDGES.

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

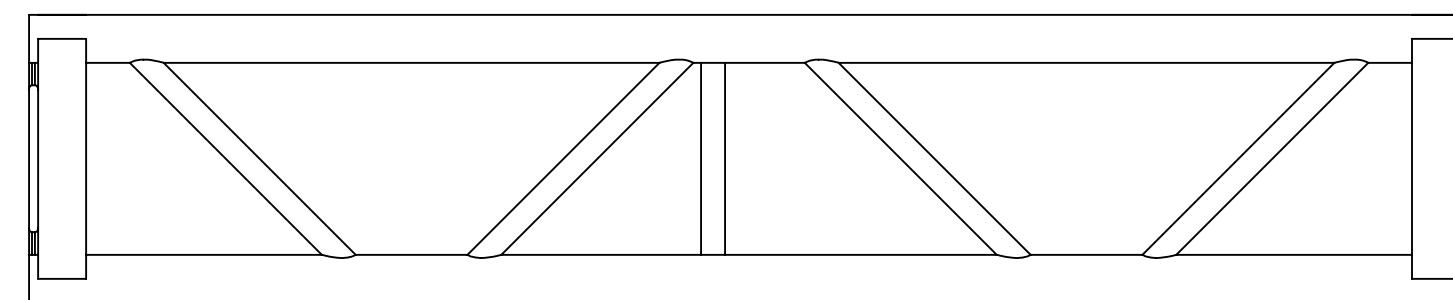
TITLE:
4' x 1' x 1'
Square Truss

SIZE DWG. NO. REV

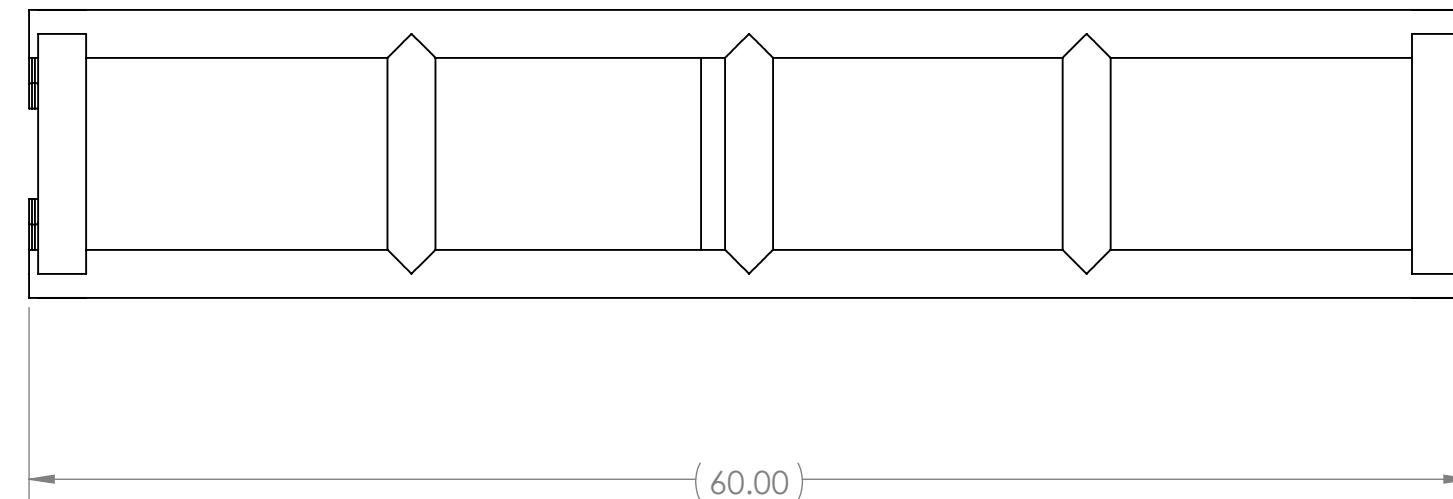
C FE-01002

SCALE: 1:5 SHEET 1 OF 1

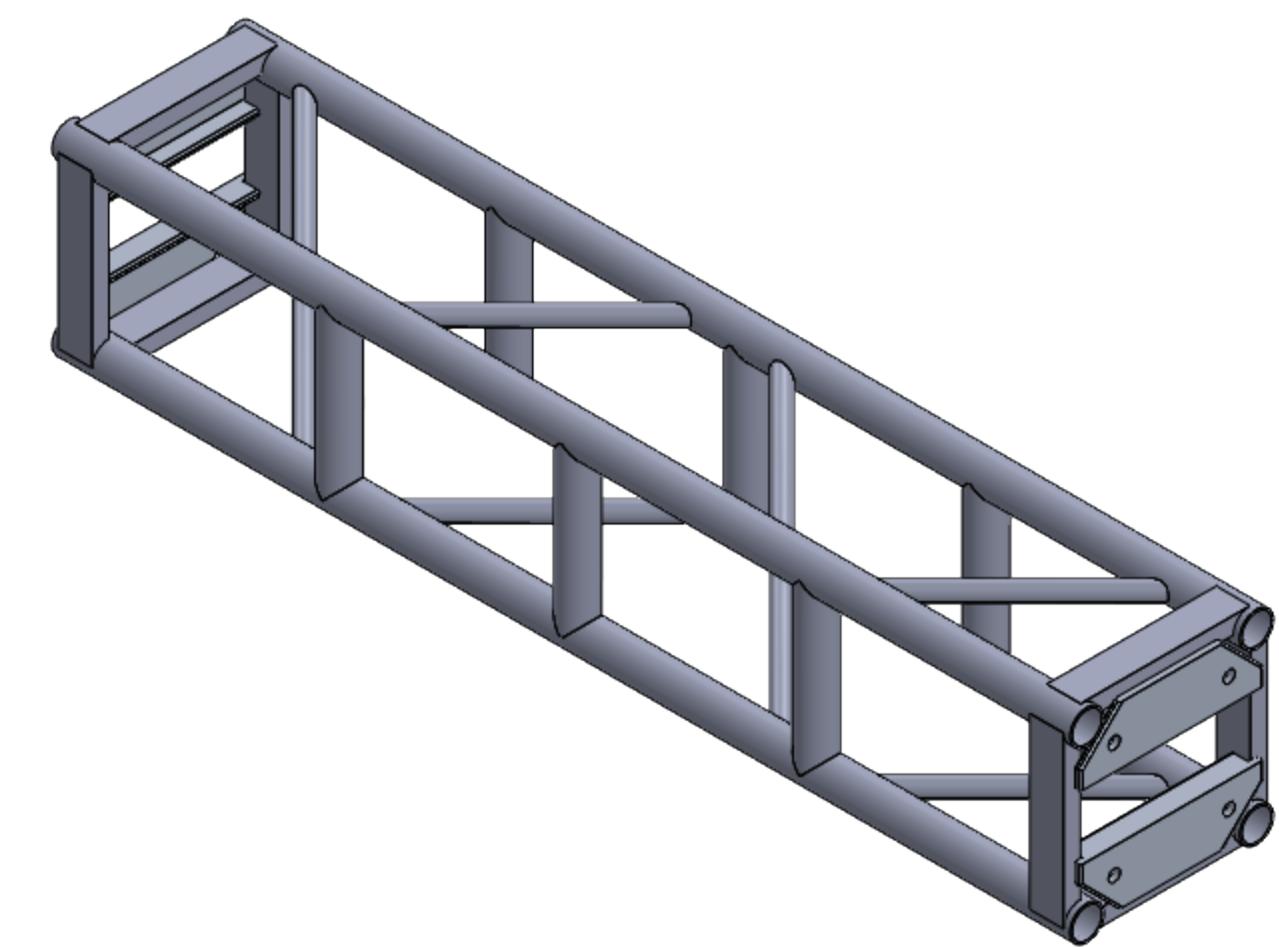
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DESCRIPTION: 6061-T6 ALUMINUM - LIGHT DUTY TRUSS,
60" X 12" X 12"

VENDOR: TOTAL STRUCTURES

PART NUMBER: TS 1212LD-060P

NOTE: SUBSTITUTIONS NOT ALLOWED

UNLESS OTHERWISE SPECIFIED:	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	kcarlson	3/23/2020
PROPRIETARY AND CONFIDENTIAL			
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COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
FIRST ROBOTICS COMPETITION			
SOLIDWORKS Modeling Solutions Partner			
TITLE: 5' x 1' x 1' Square Truss			
SIZE DWG. NO. REV			
C FE-01003			
SCALE: 1:8 SHEET 1 OF 1			

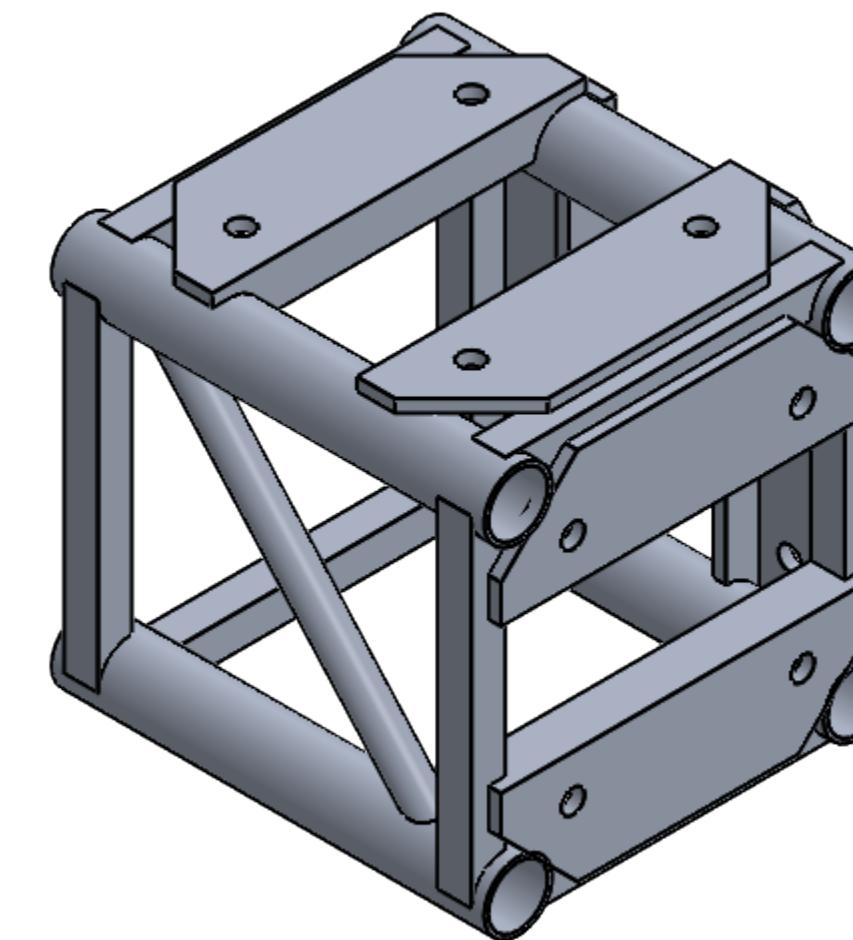
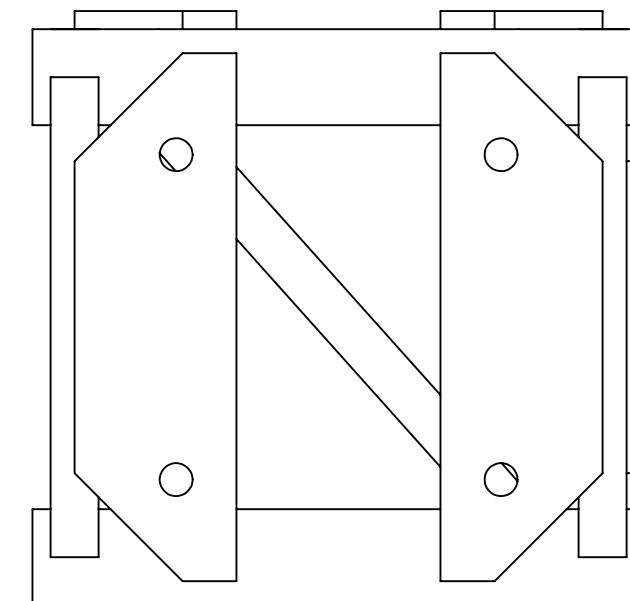
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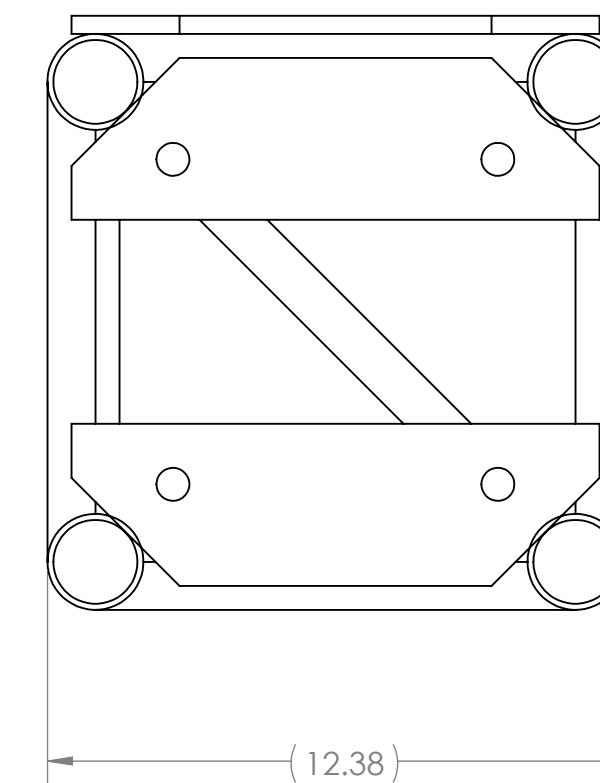
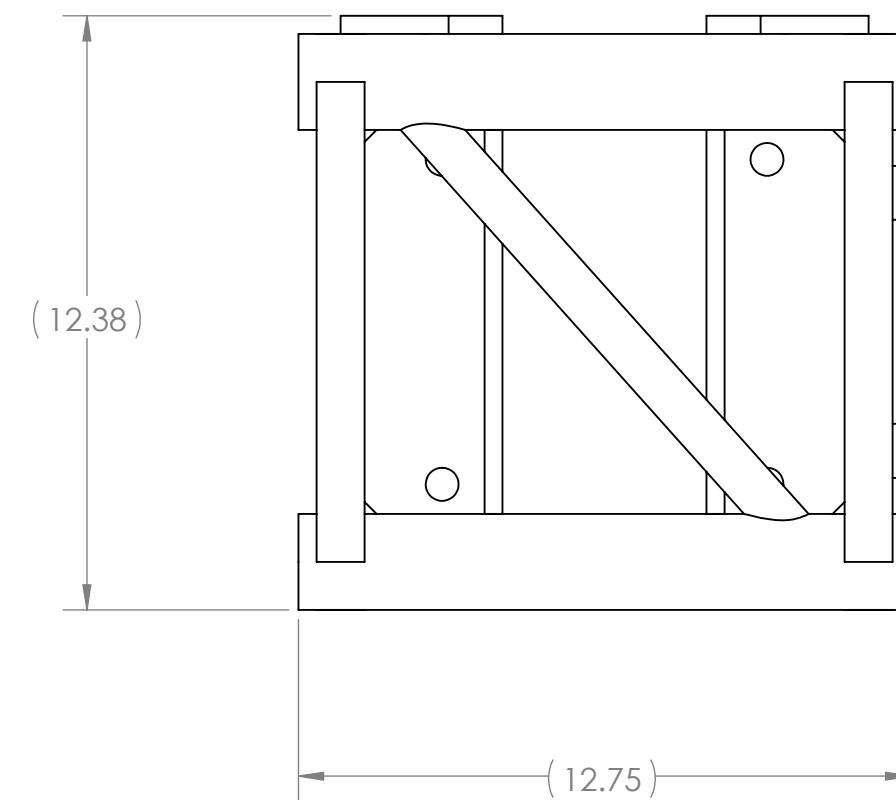
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DESCRIPTION: 6061-T6 ALUMINUM - LIGHT DUTY TRUSS,
3-SIDED CORNER BLOCK

VENDOR: TOTAL STRUCTURES

PART NUMBER: TS 1212LD-C3P

NOTE: SUBSTITUTIONS NOT ALLOWED

UNLESS OTHERWISE SPECIFIED:			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 $\pm .005$					
PROPRIETARY AND CONFIDENTIAL					
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MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
3 Way Corner
Block

SIZE DWG. NO. REV

C FE-01012

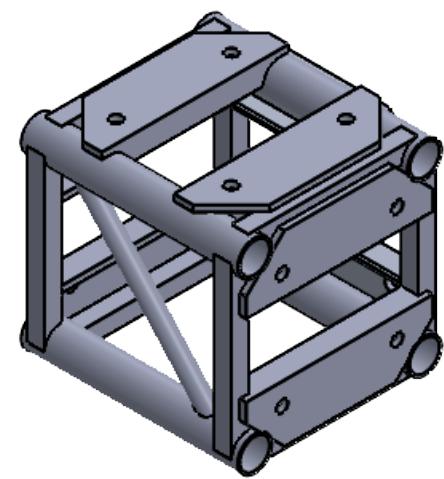
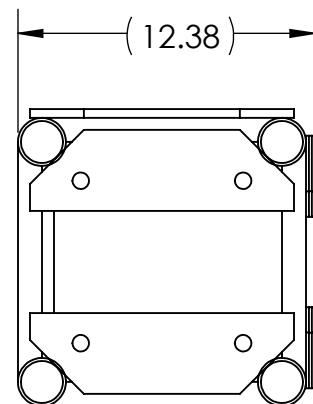
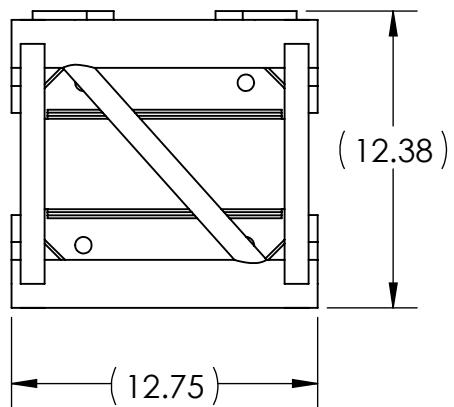
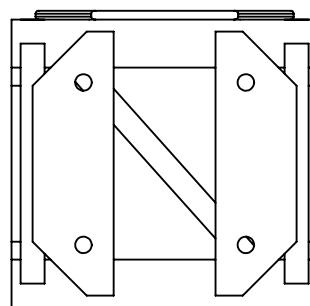
SCALE: 1:4 SHEET 1 OF 1

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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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OR AS A WHOLE WITHOUT THE WRITTEN
PERMISSION OF **FIRST®** IS PROHIBITED.

		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL: ±.01 THREE PLACE DECIMAL: ±.001	NAME	DATE
		DRAWN	KAMC	9/23/19
		CHECKED		
		ENG APPR.		
		MFG APPR.		
		Q.A.		
		COMMENTS:		
		MATERIAL		
NEXT ASSY	USED ON	FINISH		
APPLICATION		DO NOT SCALE DRAWING		

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

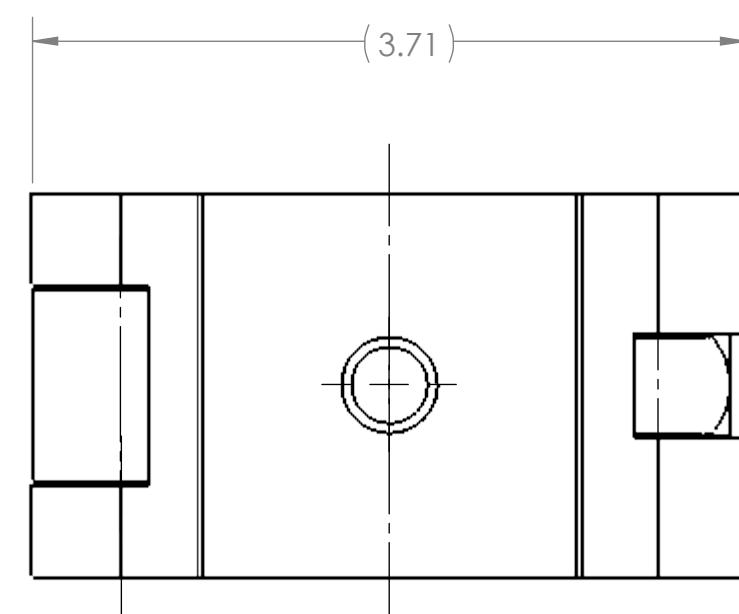
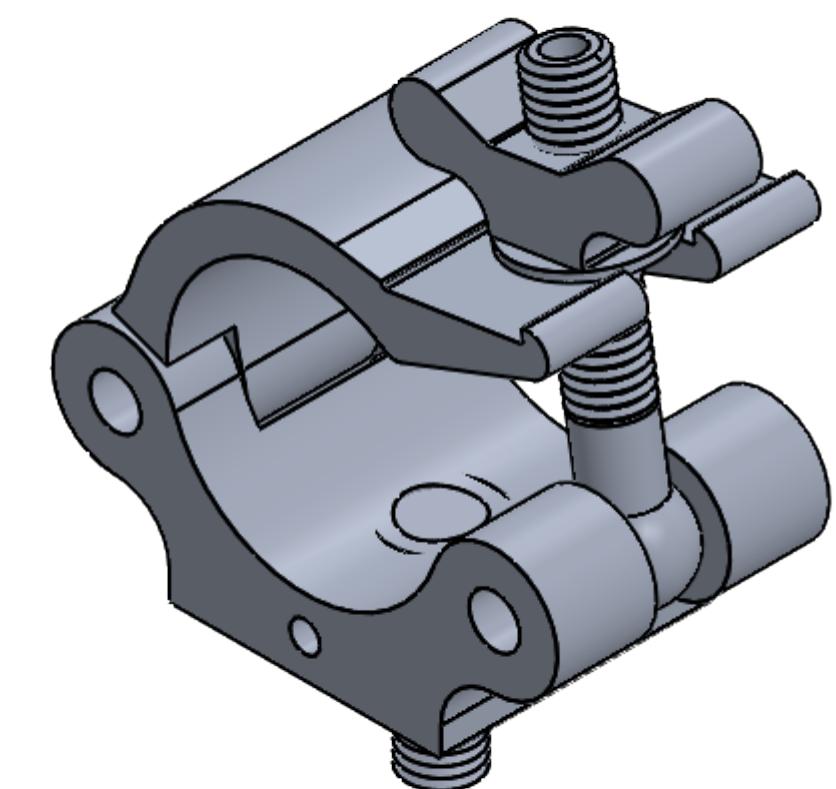
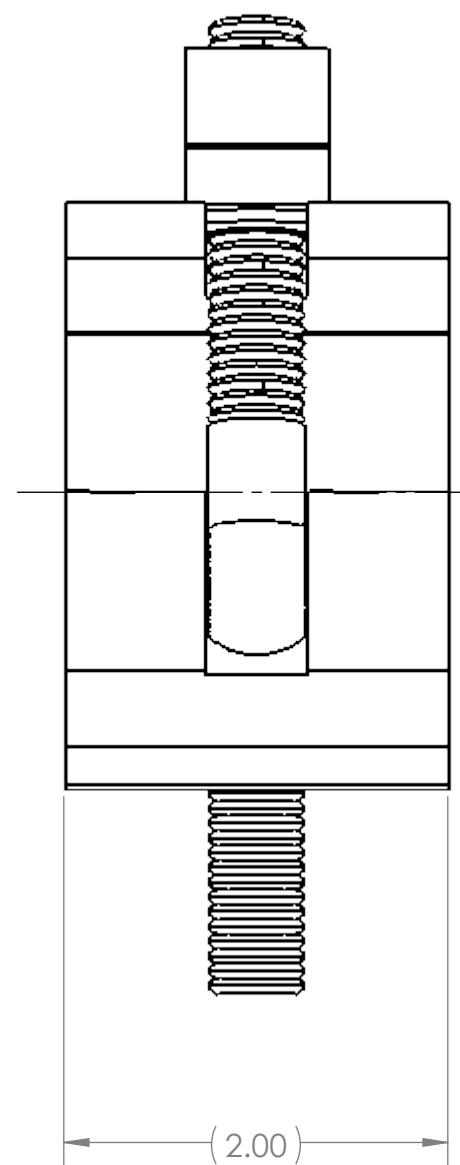
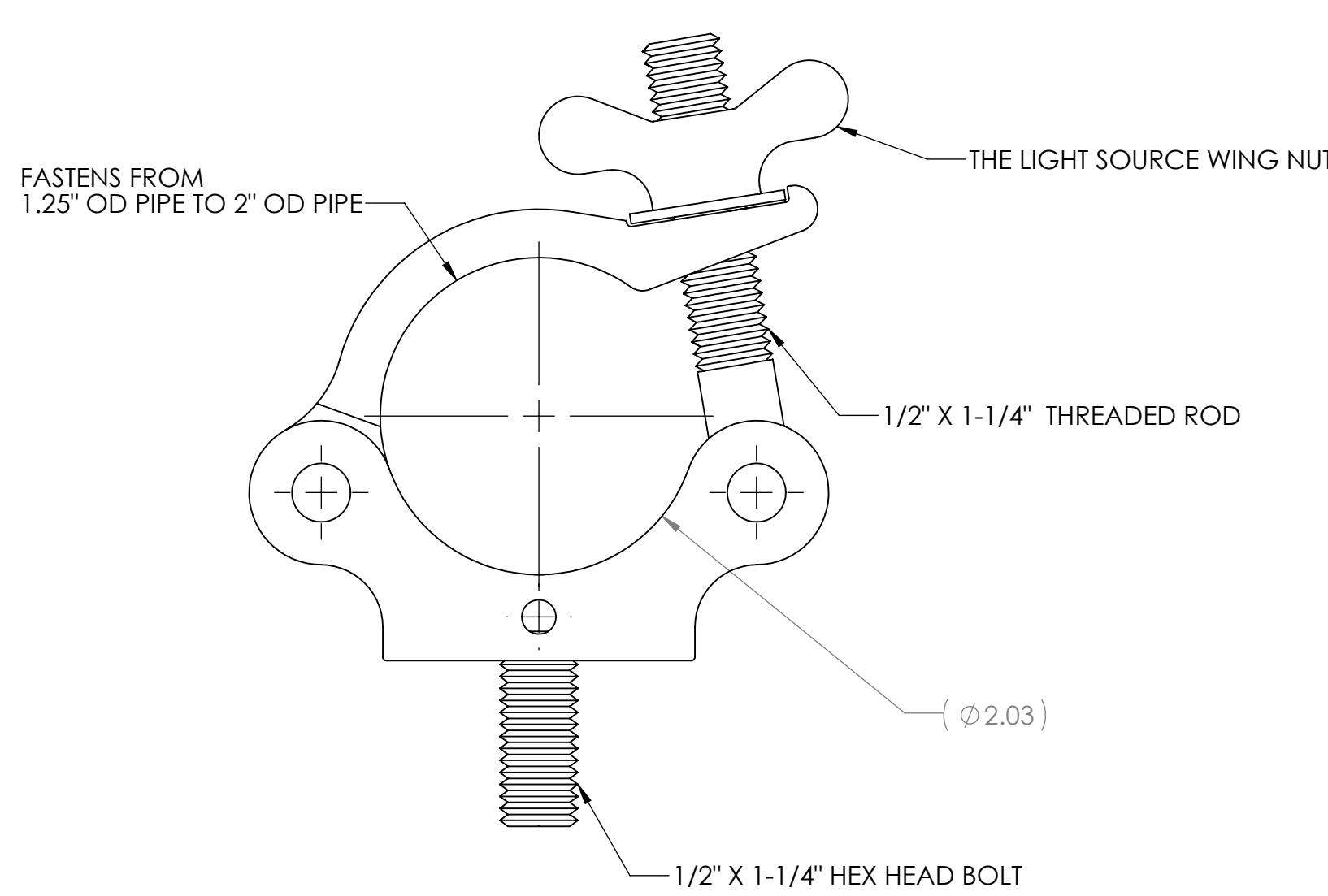
TITLE: TS 1212LD-C4P, 4 Way Corner Block Light Duty Truss, Total Structures

SIZE DWG. NO. **B** FE-01013 **REV**

SCALE: 1:8 WEIGHT: SHEET 1 OF 1

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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 $\pm 1/16$

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 kcarlson 3/23/2020

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: Cheeseborough for Truss _ Single

SIZE DWG. NO. REV

C FE-01016

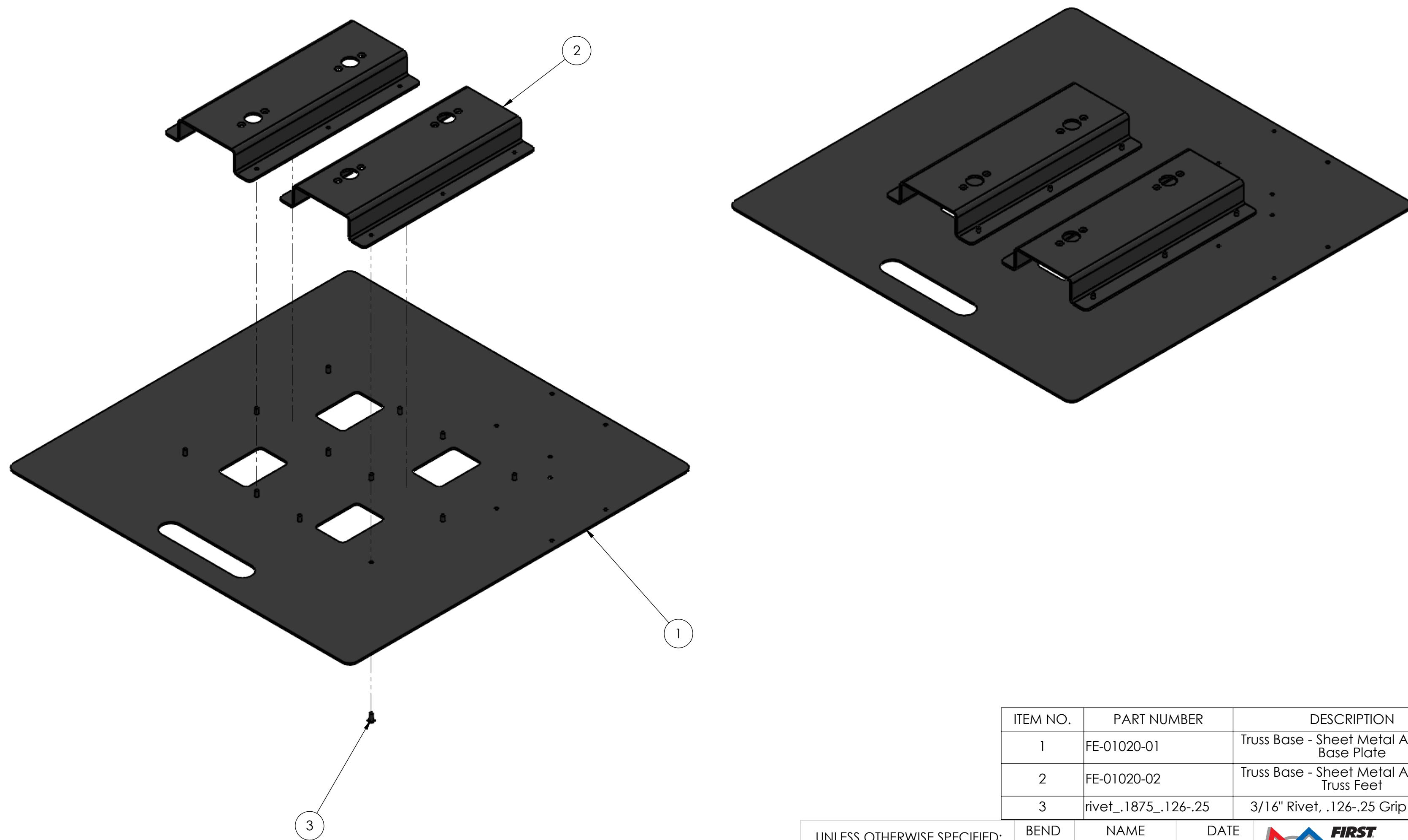
SCALE: 1:1 SHEET 1 OF 1

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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).

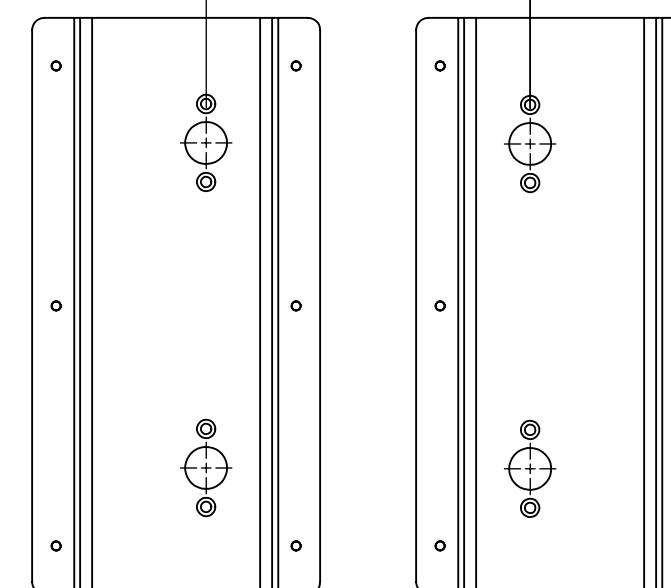
ITEM NO.	PART NUMBER	DESCRIPTION		QTY.			
1	FE-01020-01	Truss Base - Sheet Metal Assembly, Base Plate		1			
2	FE-01020-02	Truss Base - Sheet Metal Assembly, Truss Feet		2			
3	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range		12			
UNLESS OTHERWISE SPECIFIED:		BEND	NAME	DATE			
		DRAWN	JO	7/18/2023			
PROPRIETARY AND CONFIDENTIAL							
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MATERIAL/FINISH:		Low Carbon Steel, Powder Coat Black					
COMMENTS:							
REMOVE ALL BURRS AND SHARP EDGES.							
DO NOT SCALE DRAWING							

**FIRST
ROBOTICS
COMPETITION** SOLIDWORKS
Modeling Solutions Partner
 TITLE: Truss Base - Sheet Metal Assembly
 SIZE DWG. NO. REV
C FE-01020
 SCALE: 1:4 SHEET 1 OF 4

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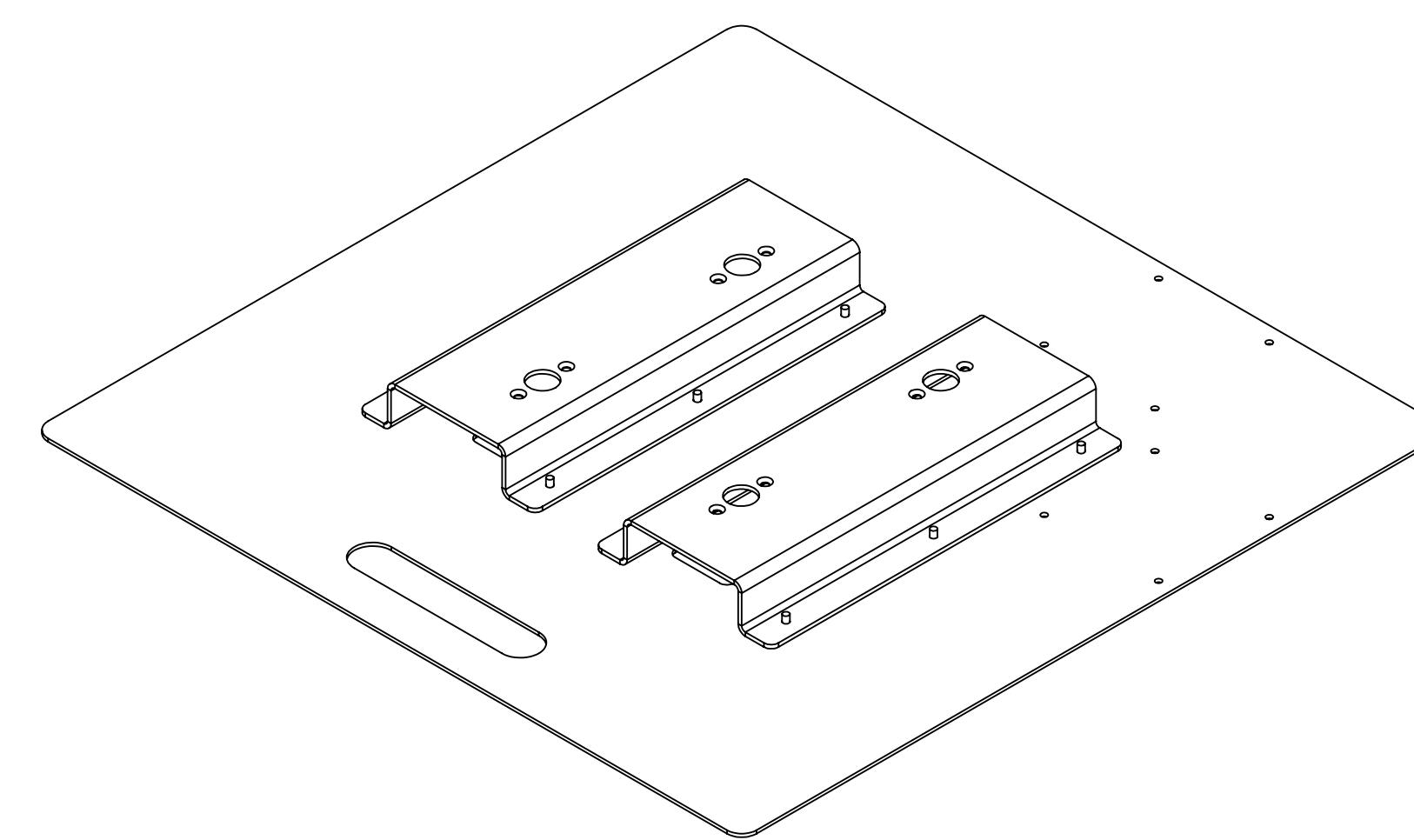
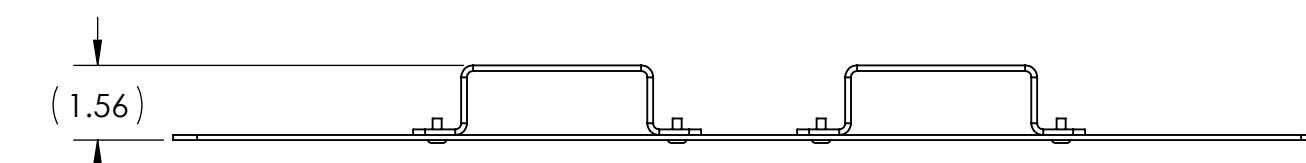
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(24.00)



(24.00)

(1.56)



UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	7/18/2023	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: Low Carbon Steel, Powder Coat Black			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

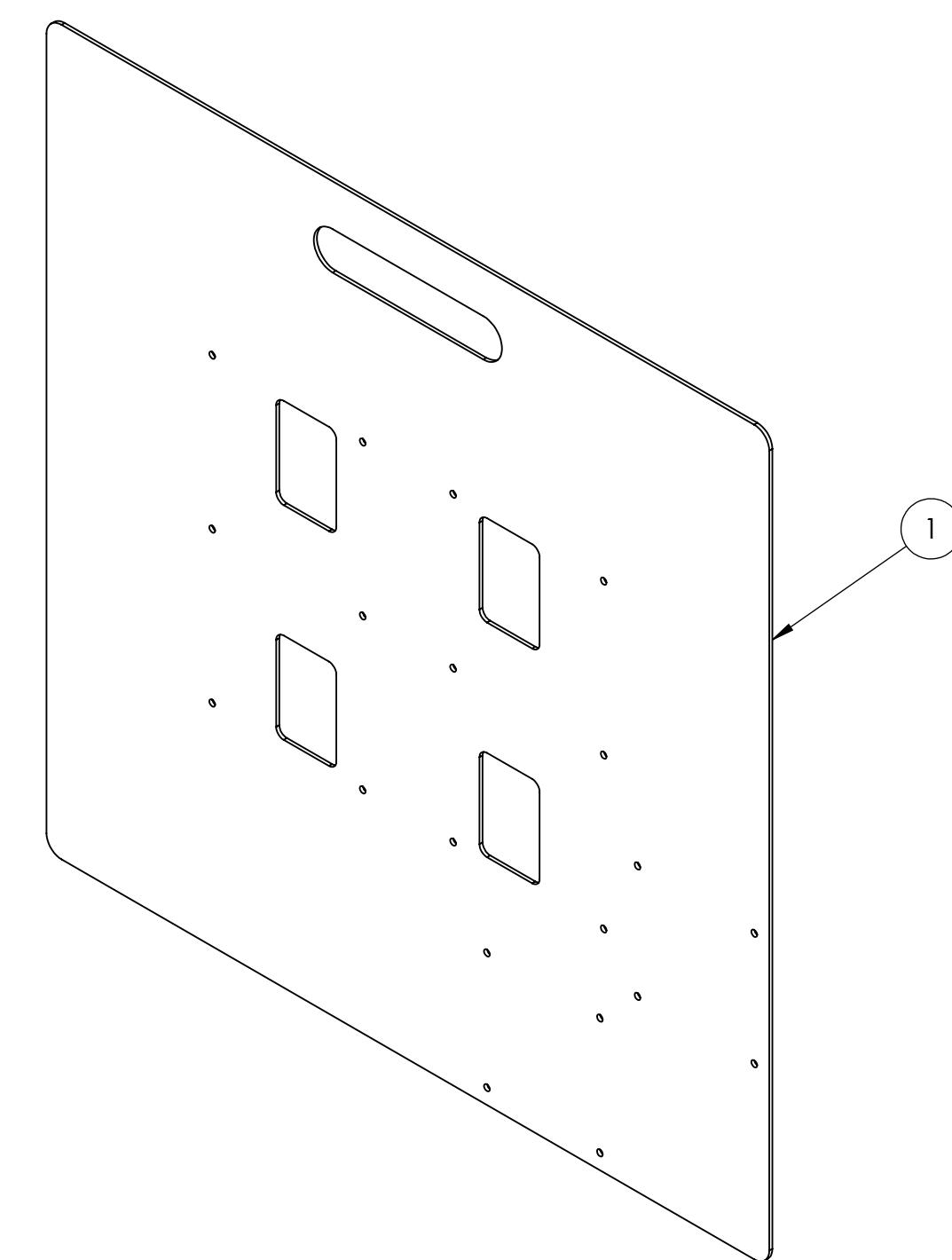
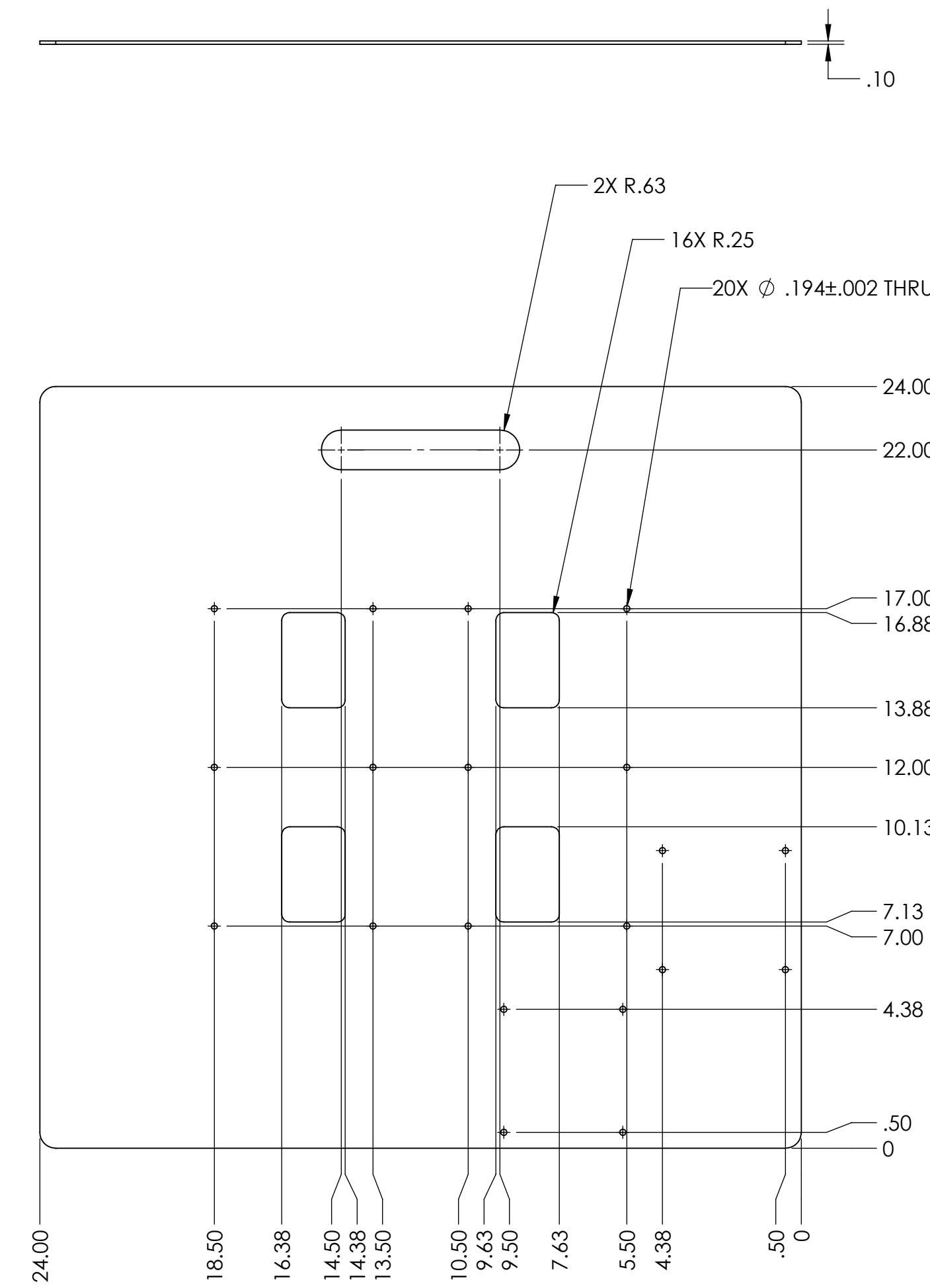
 **FIRST
ROBOTICS
COMPETITION**  **SOLIDWORKS**
Modeling Solutions Partner

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

SIZE DWG. NO. REV
C FE-01020

SCALE: 1:4 SHEET 2 OF 4

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	7/18/2023	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: Low Carbon Steel, Powder Coat Black			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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

TITLE: **Truss Base -
Sheet Metal
Assembly**
SIZE DWG. NO. REV
C FE-01020

SCALE: 1:4 SHEET 3 OF 4

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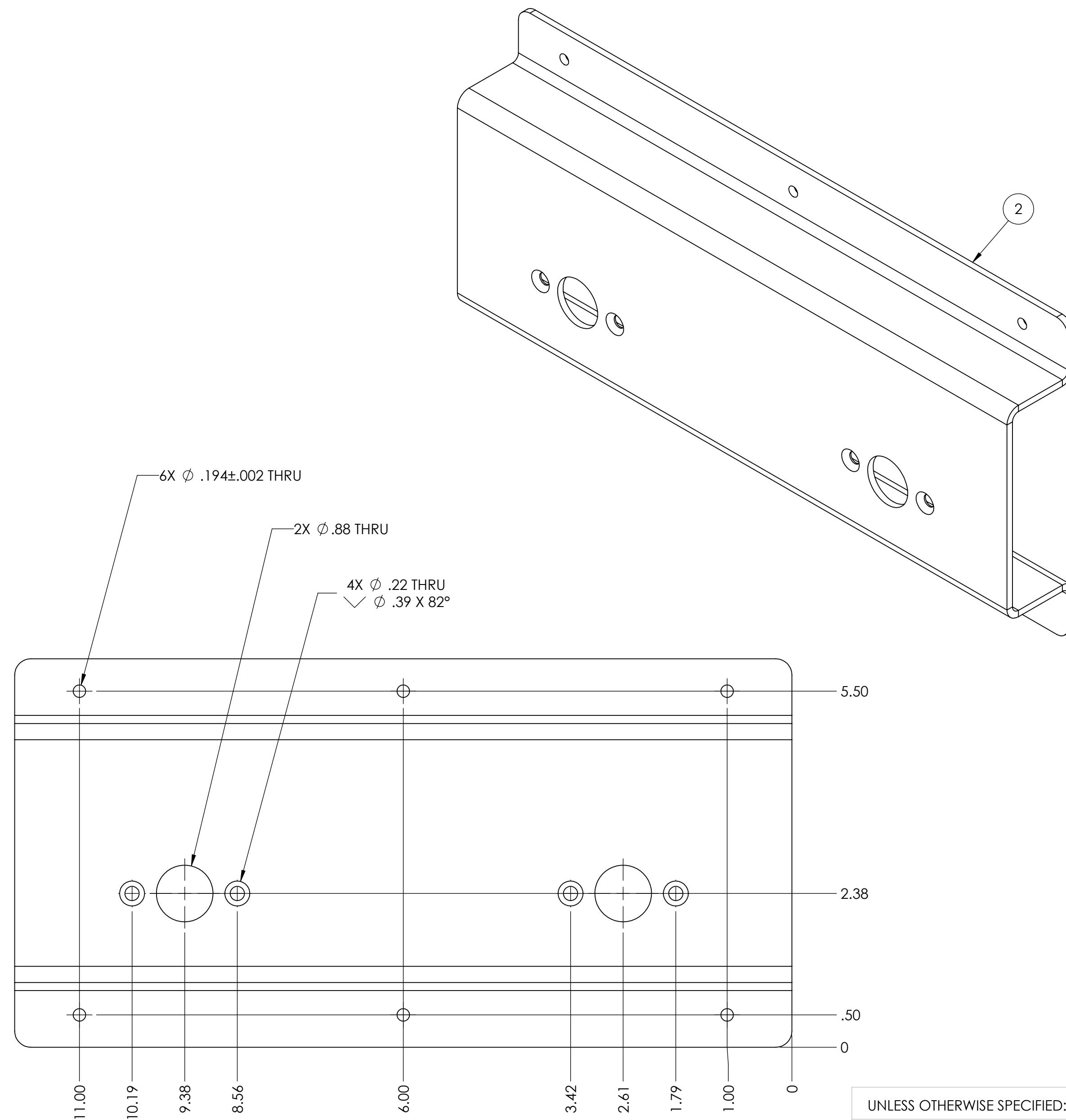
C

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UNLESS OTHERWISE SPECIFIED:

BEND NAME DATE

DRAWN JO 7/18/2023

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:

Low Carbon Steel, Powder Coat Black

DO NOT SCALE DRAWING

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: Truss Base -
 Sheet Metal
 Assembly
 SIZE DWG. NO. REV
C FE-01020

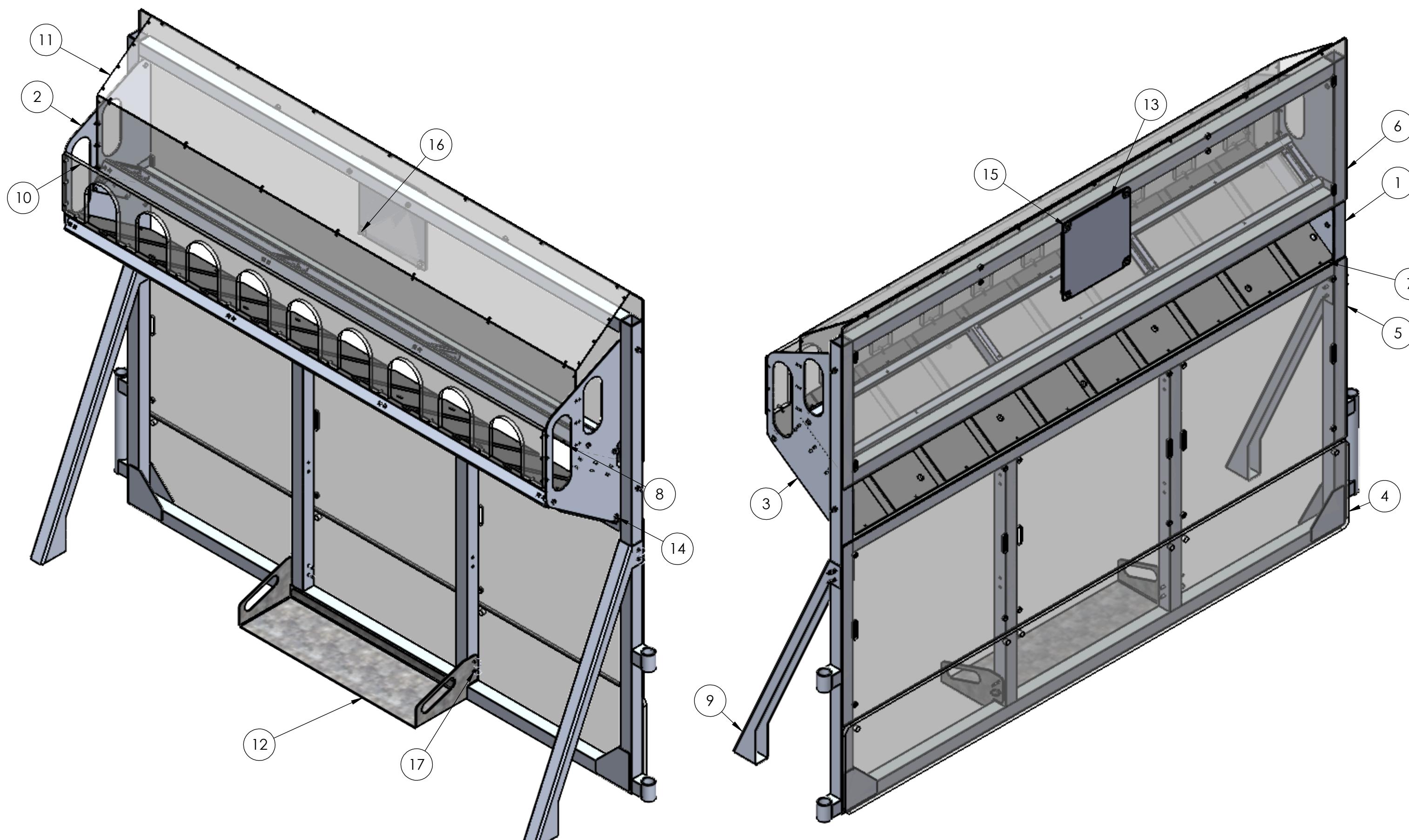
SCALE: 3:4 SHEET 4 OF 4

4

3

2

1



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

UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE
		DRAWN	JO	10/28/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$				
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.				
MATERIAL/FINISH:				
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				
DO NOT SCALE DRAWING				

FIRST
ROBOTICS
COMPETITION

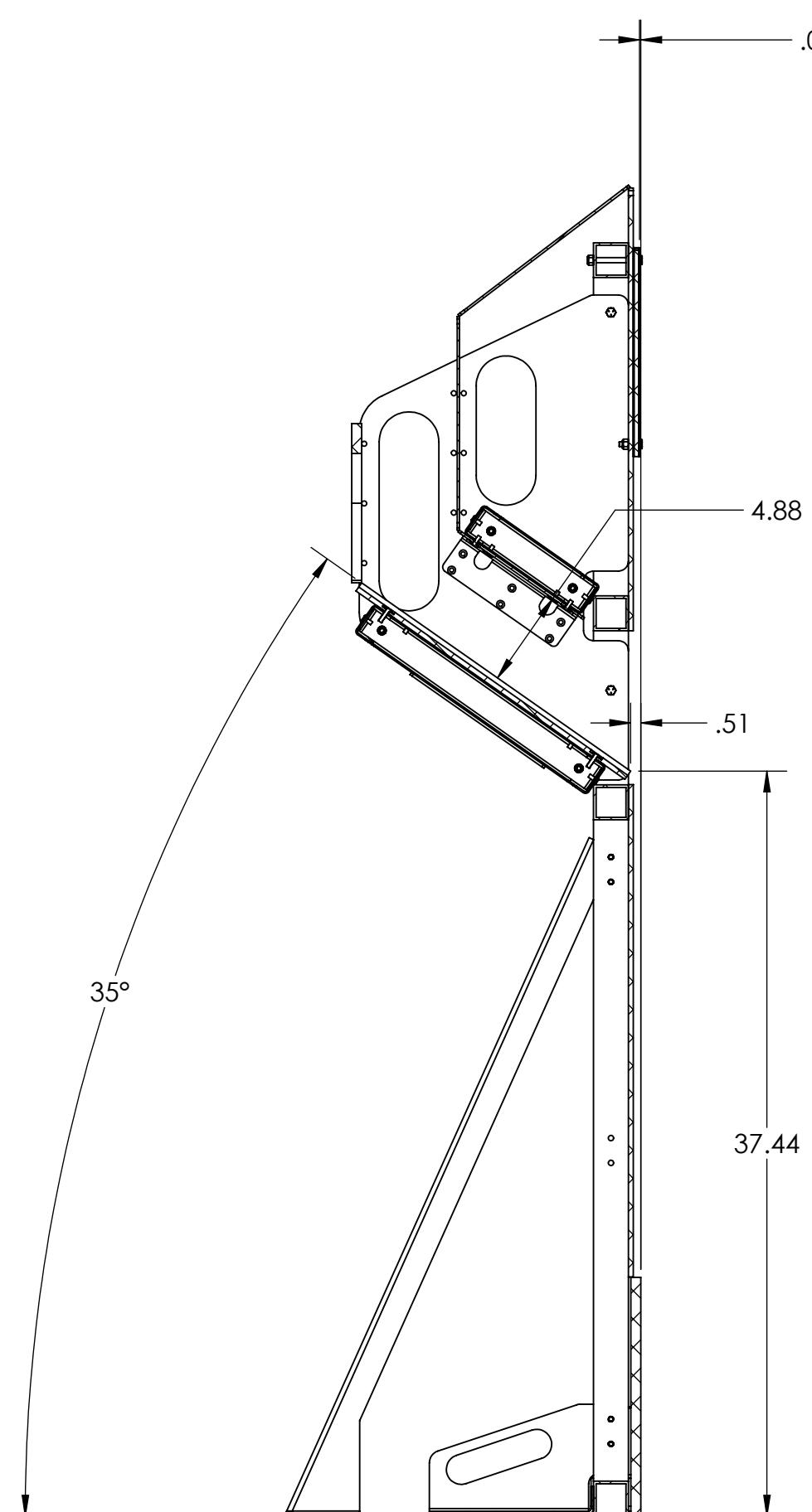
SOLIDWORKS
Modeling Solutions Partner

TITLE:
Coral Station

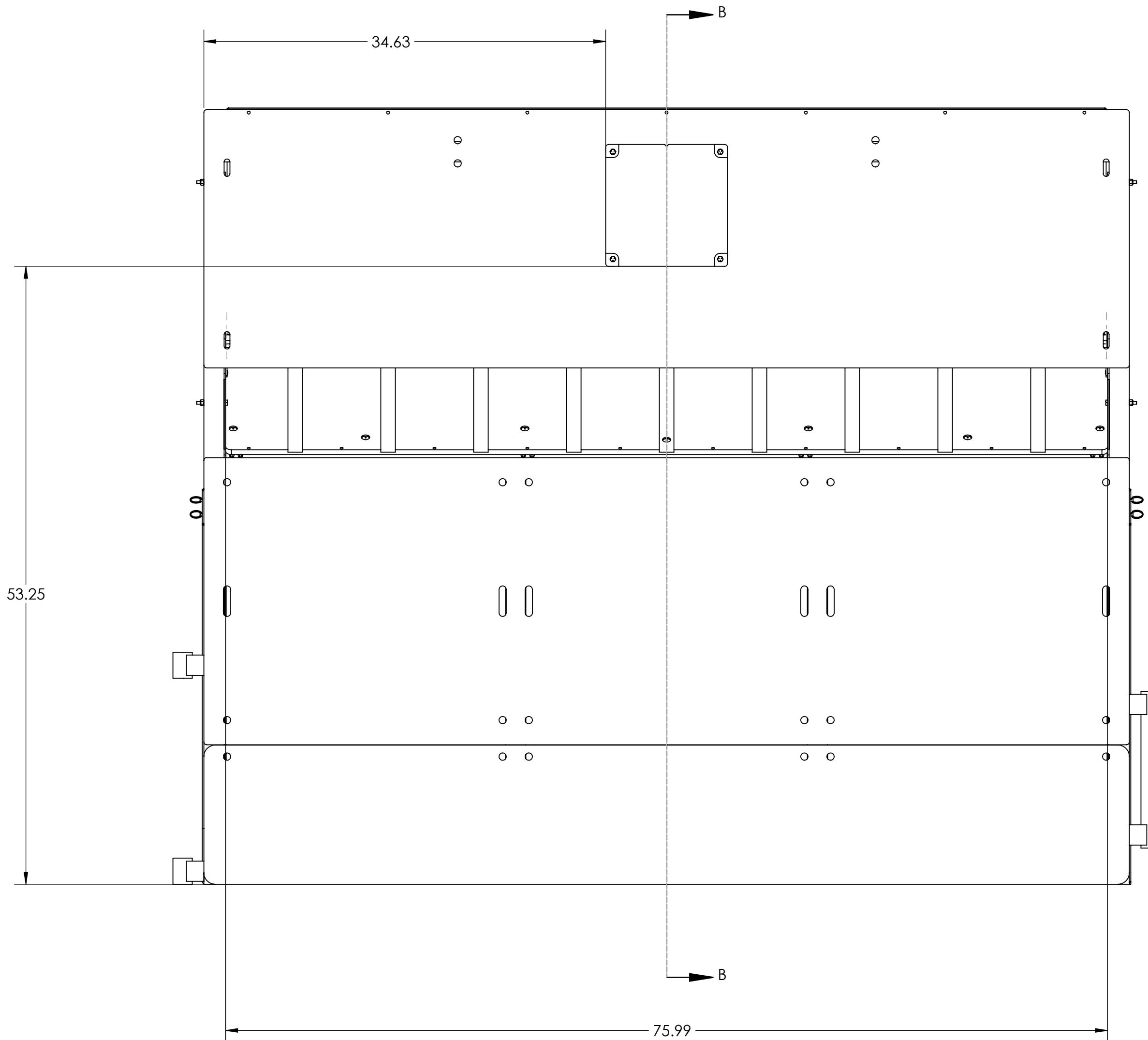
SIZE DWG. NO. REV

C GE-25000

SCALE: 1:10 SHEET 1 OF 2



SECTION B-B



UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DRAWN	JO	10/28/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

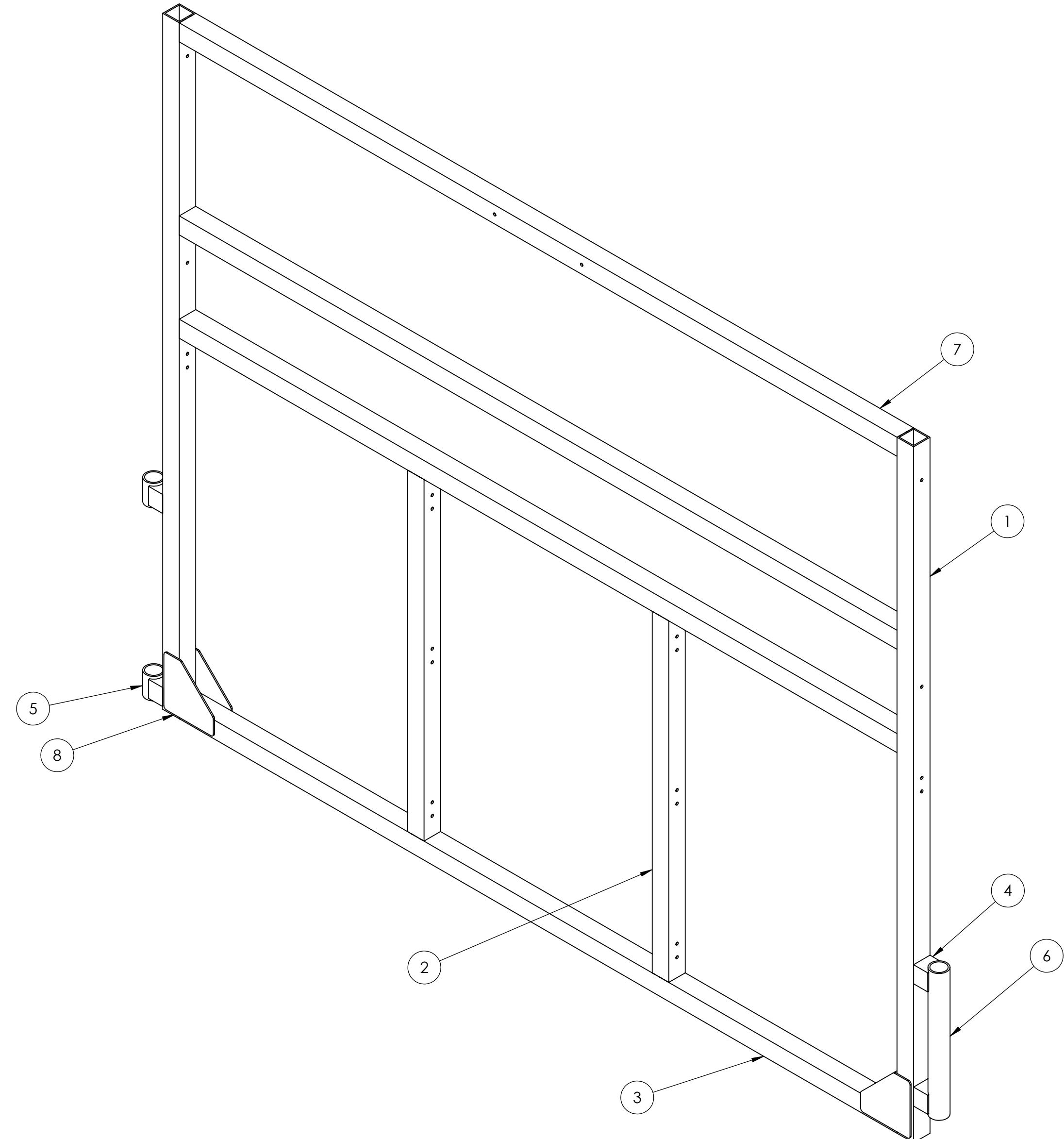
 **FIRST
ROBOTICS
COMPETITION**  **SOLIDWORKS**
Modeling Solutions Partner

TITLE:
Coral Station

SIZE DWG. NO. REV

C GE-25000

SCALE: 1:8 SHEET 2 OF 2



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:			WELD	NAME	DATE
			DRAWN	JO	8/12/2024
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.					
MATERIAL/FINISH:					
6061 Aluminum - 1.75" x .125" Square Box Tube and 1-1/4" Sch 40 Pipe					
COMMENTS:					
REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING			SCALE: 1:7 SHEET 1 OF 5		
SIZE	DWG. NO.	REV	C	GE-25001	A

 FIRST
ROBOTICS
COMPETITION

 SOLIDWORKS
Modeling Solutions Partner

Field Border Frame

4

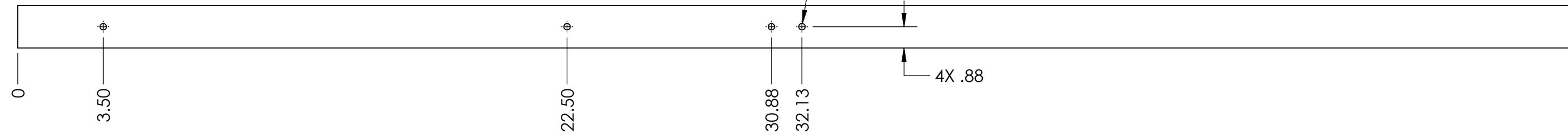
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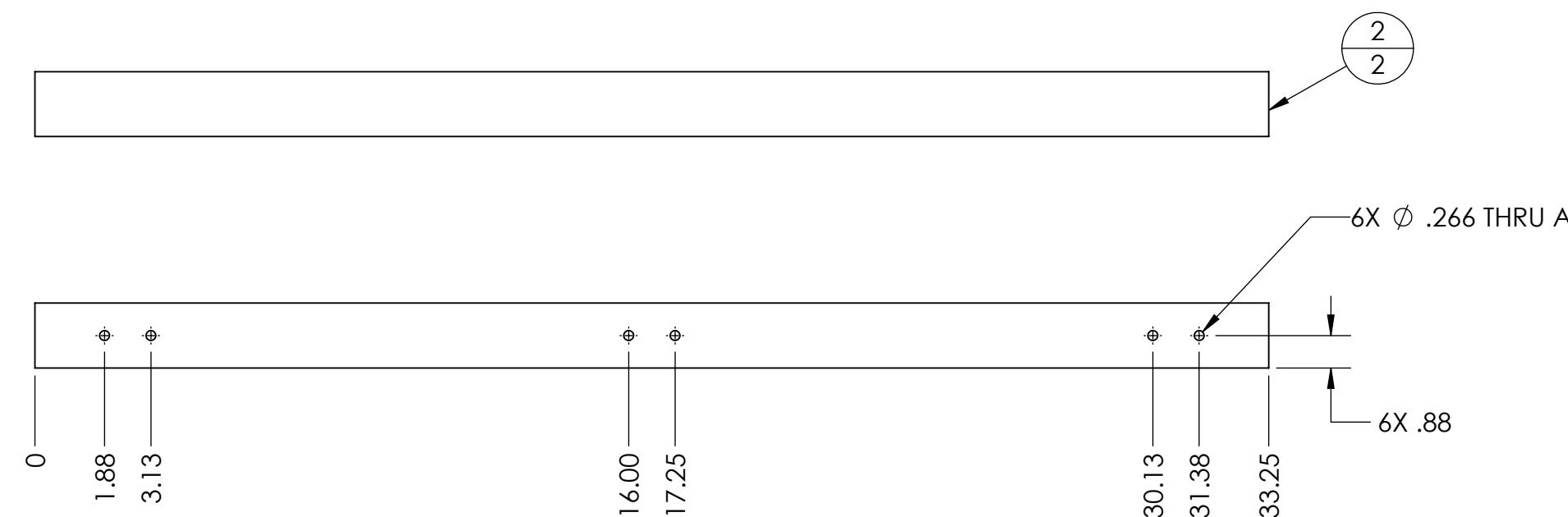
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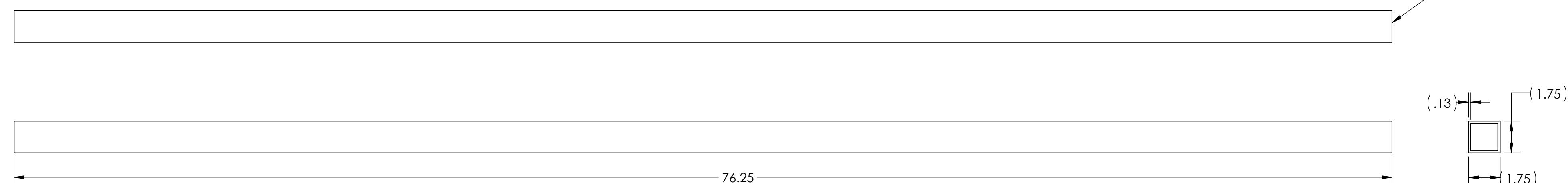
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	8/12/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$			
TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$			
PROPRIETARY AND 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.			
MATERIAL/FINISH: 6061 Aluminum 1.75" x 1.75" x .125" Square Box Tube			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			



TITLE: Field Border Frame

SIZE DWG. NO. REV
C GE-25001 **A**

SCALE: 1:4.25 SHEET 3 OF 5

4

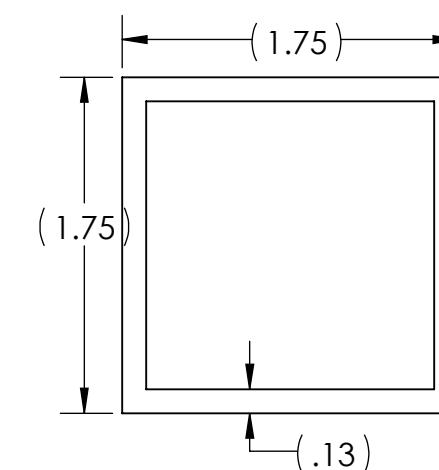
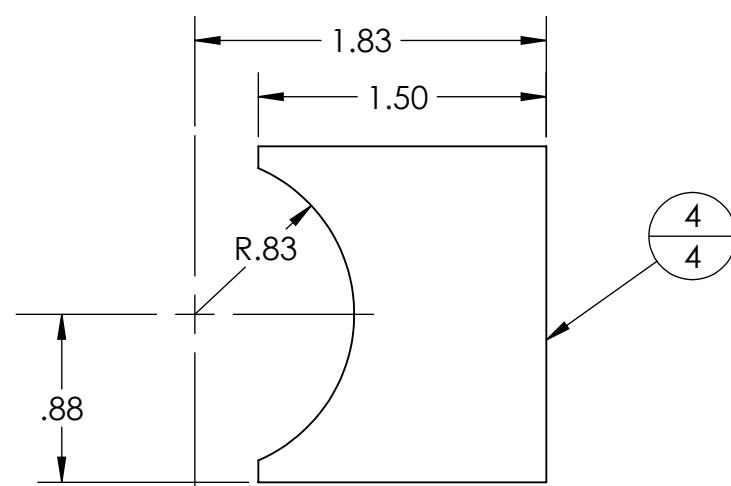
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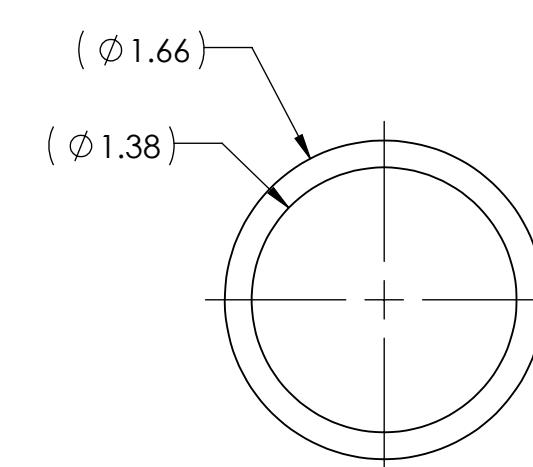
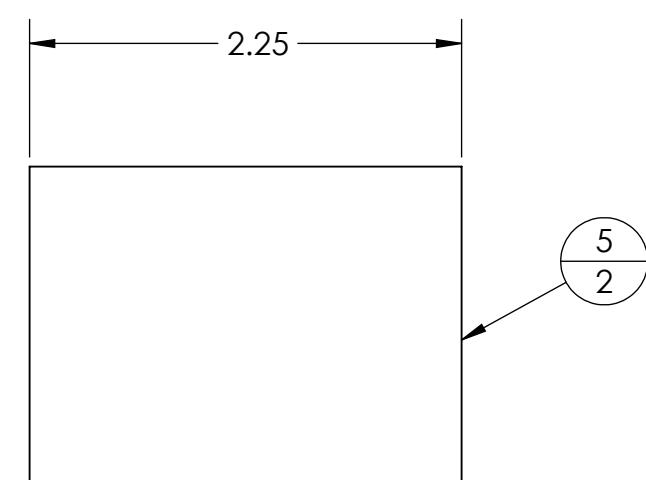
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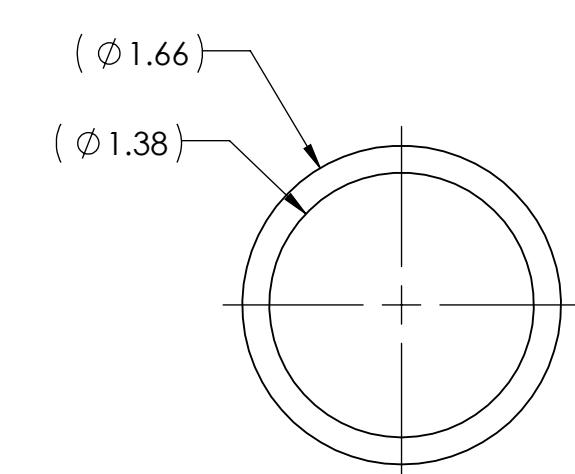
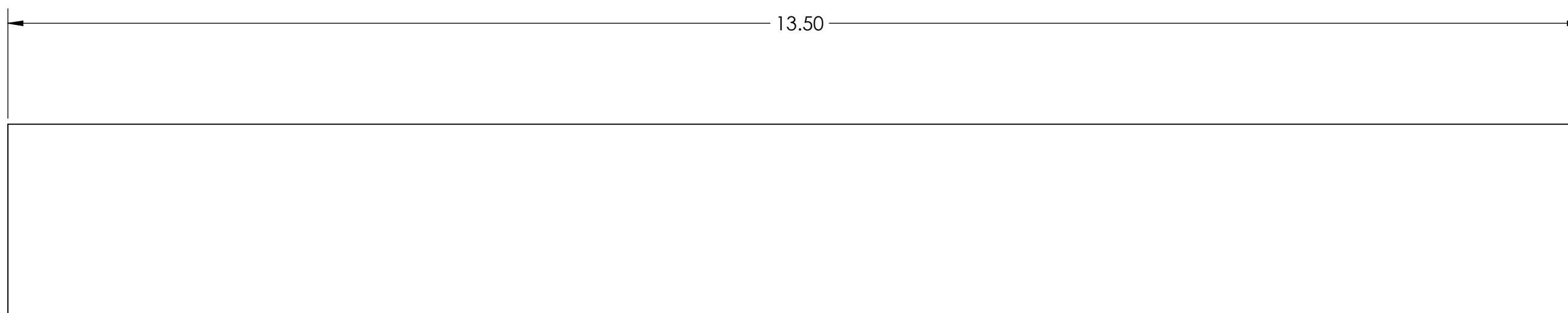
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UNLESS OTHERWISE SPECIFIED:

VEND DATE
DRAWN JO 8/12/2024SOLIDWORKS
Modeling Solutions Partner

PROPRIETARY AND CONFIDENTIAL

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

MATERIAL/FINISH:

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

DO NOT SCALE DRAWING

TITLE:
**Field Border
Frame**

SIZE DWG. NO. REV

C GE-25001 **A**

SCALE: 1:1 SHEET 4 OF 5

4

3

2

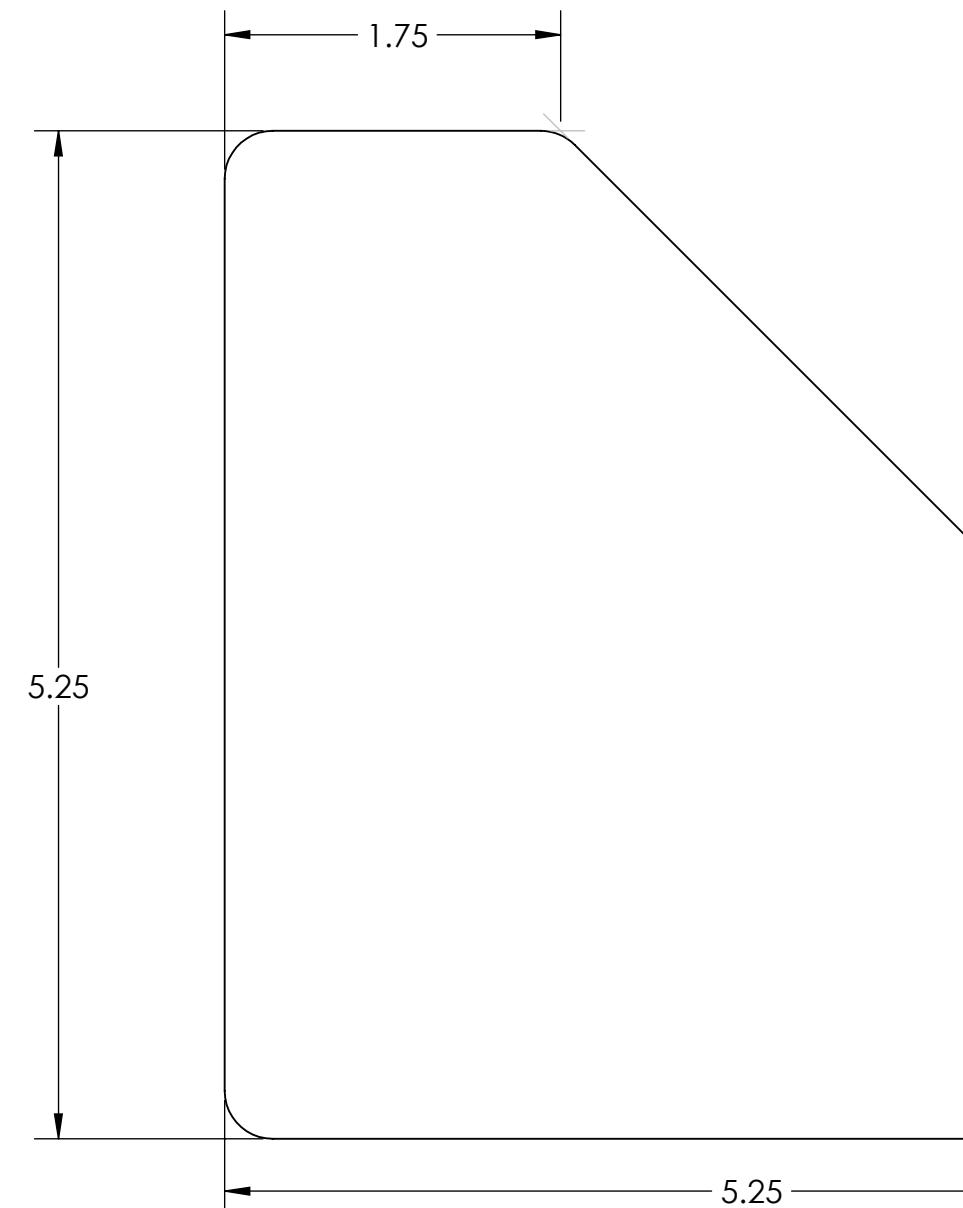
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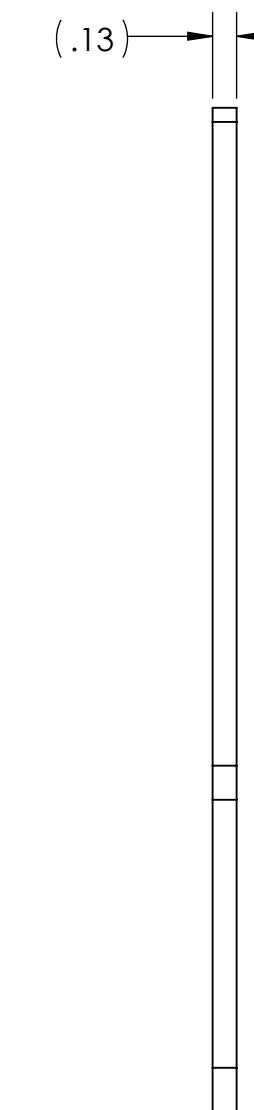


2X ϕ .266 THRU ALL
33.50
42.75
2X .88

8
4

1.75

5X R.25



4

3

2

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:

1.75" x 1.75" x .125" 6061
Aluminum Square Box Tube
and 1/8" 6061 Aluminum Plate

DO NOT SCALE DRAWING

VEND
DRAWN
NAME
JO
DATE
8/12/2024



TITLE:
Field Border Frame

SIZE DWG. NO. REV

C GE-25001 **A**

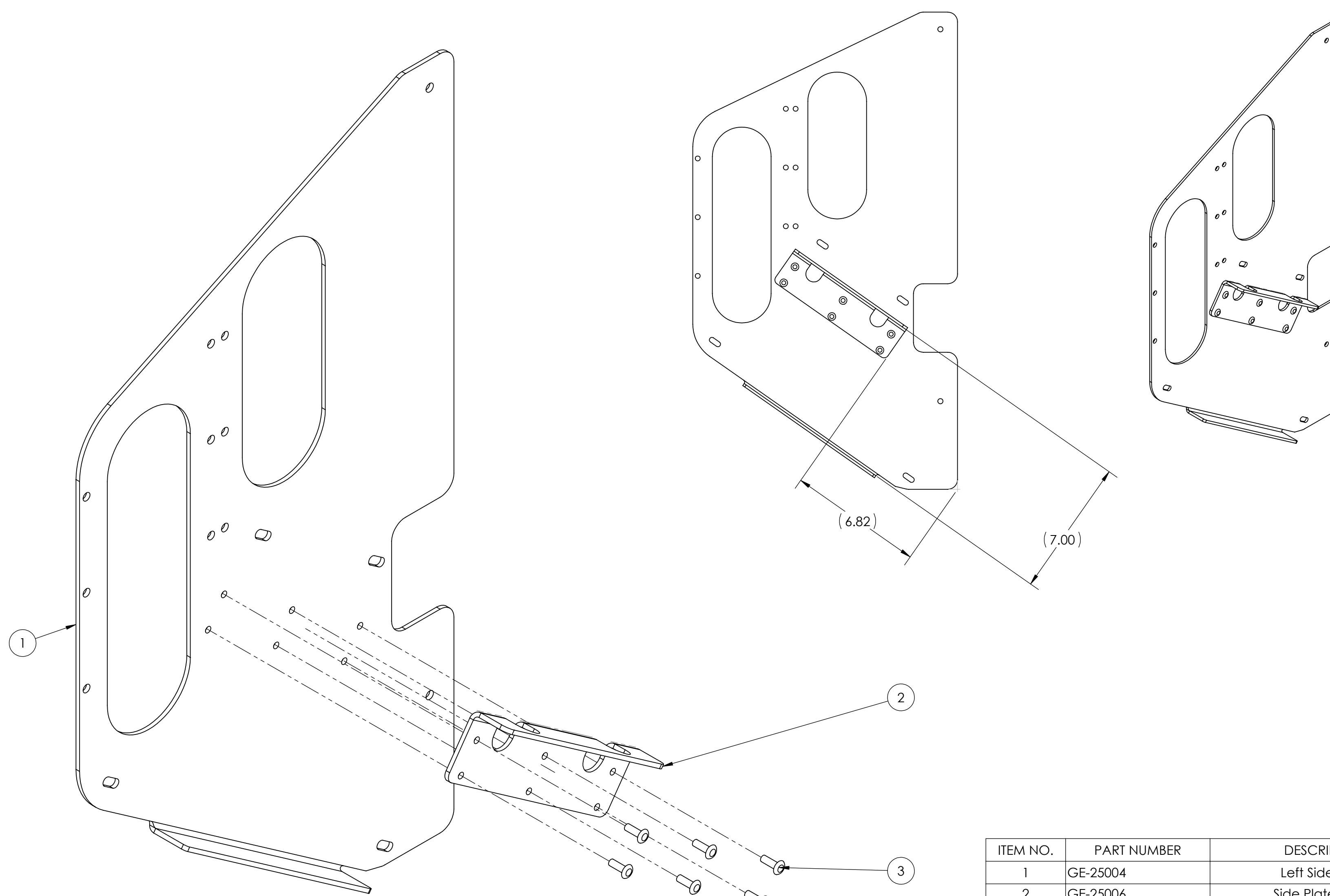
SCALE: 1:4 SHEET 5 OF 5

4

3

2

1



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			DRAWN	BB	8/13/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$					
PROPRIETARY AND CONFIDENTIAL					
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COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

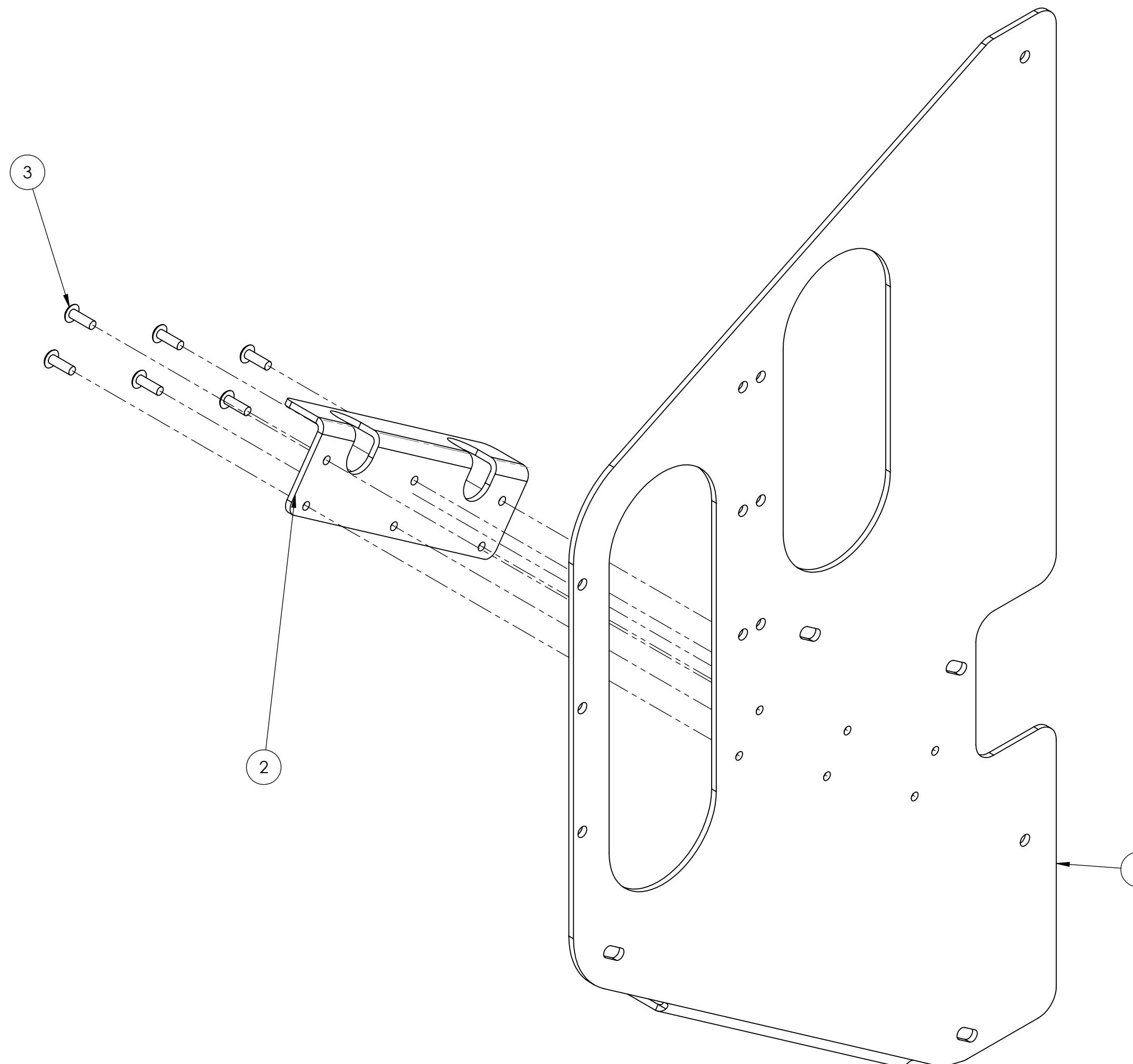
FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

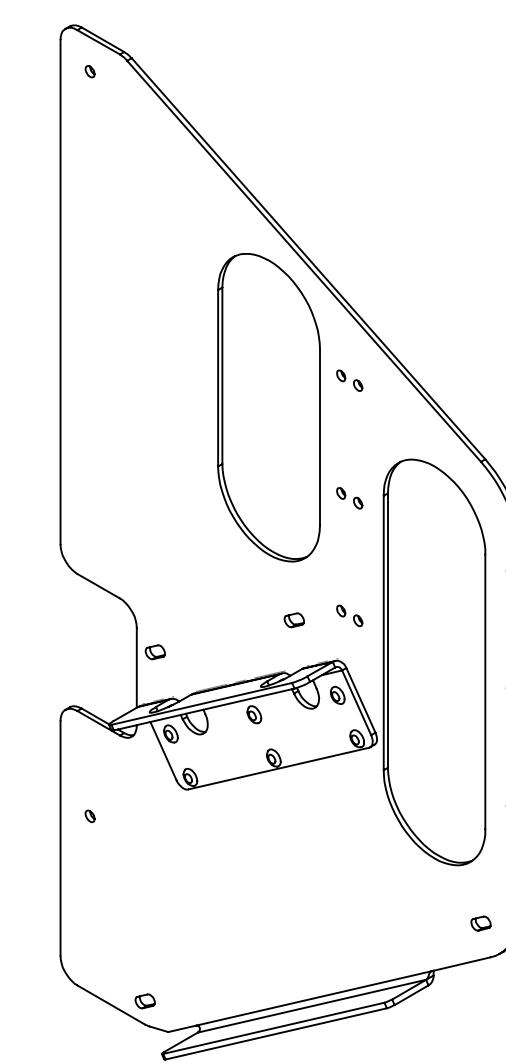
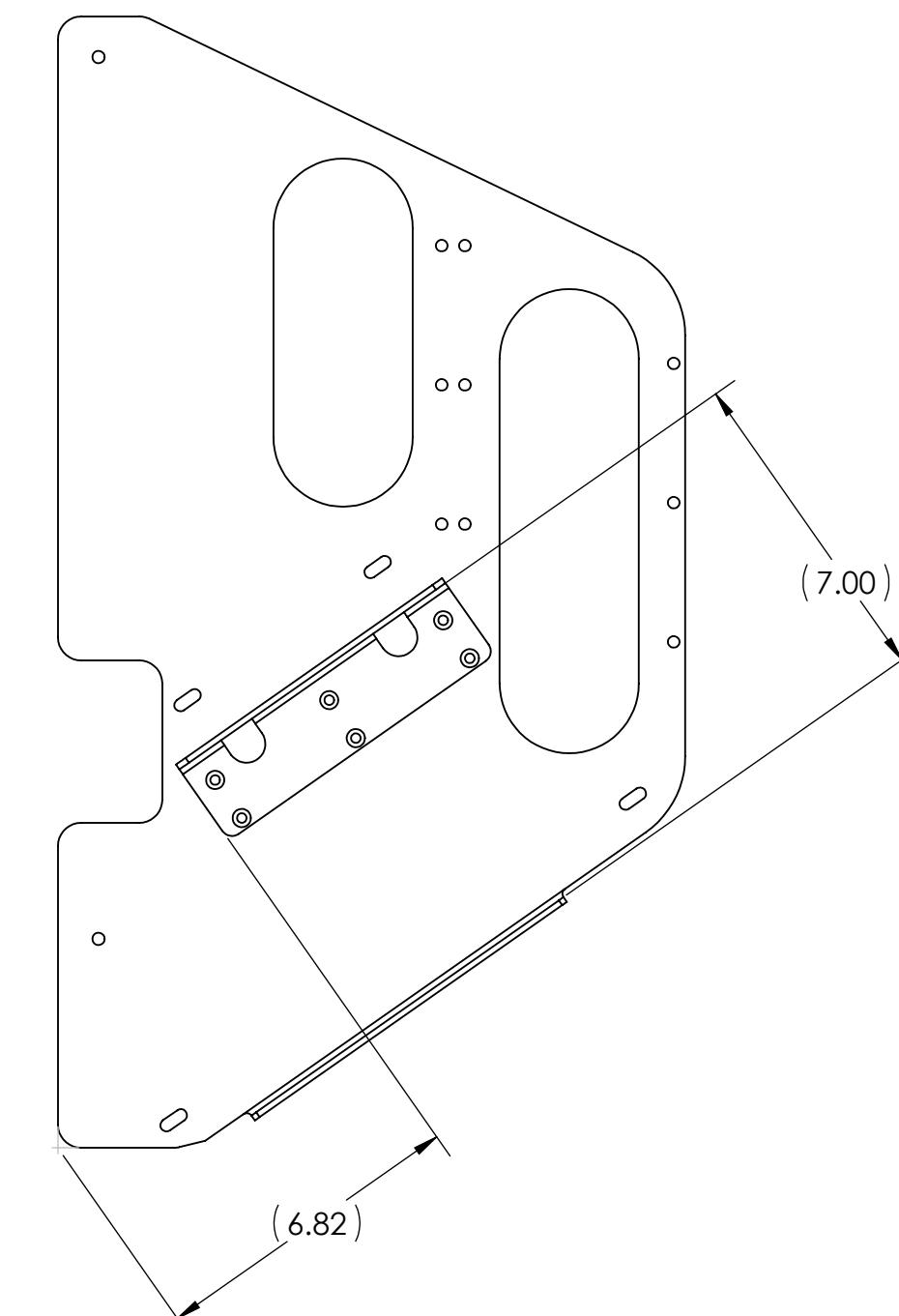
TITLE:
**Left Side Plate
Assembly**

SIZE	DWG. NO.	REV
C	GE-25002	
SCALE: 1:8	SHEET 1 OF 1	

D



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.



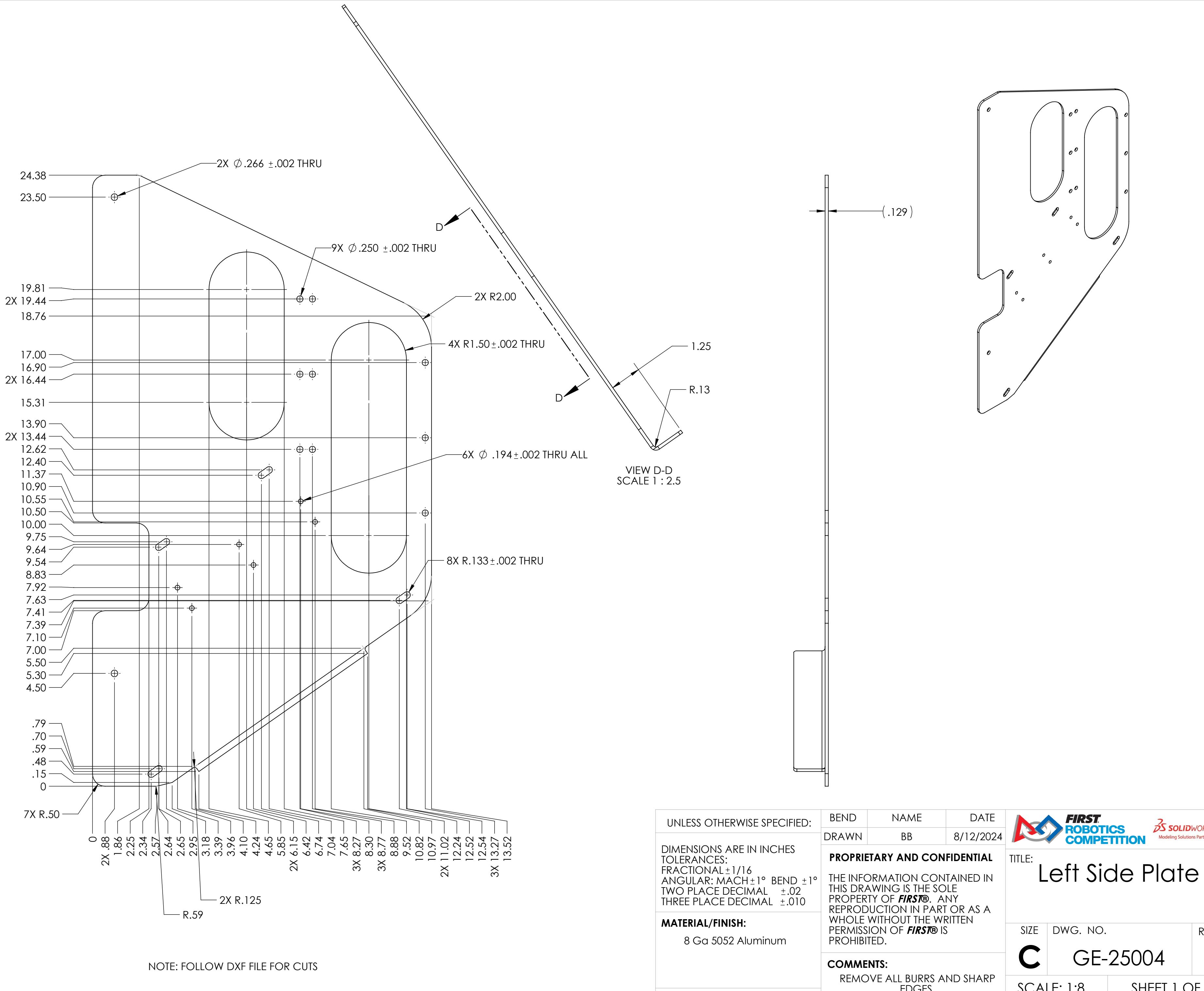
SOLIDWORKS
Modeling Solutions Partner

TITLE:
Right Side Plate Assembly

SIZE DWG. NO. REV

C GE-25003

SCALE: 1:8 SHEET 1 OF 1



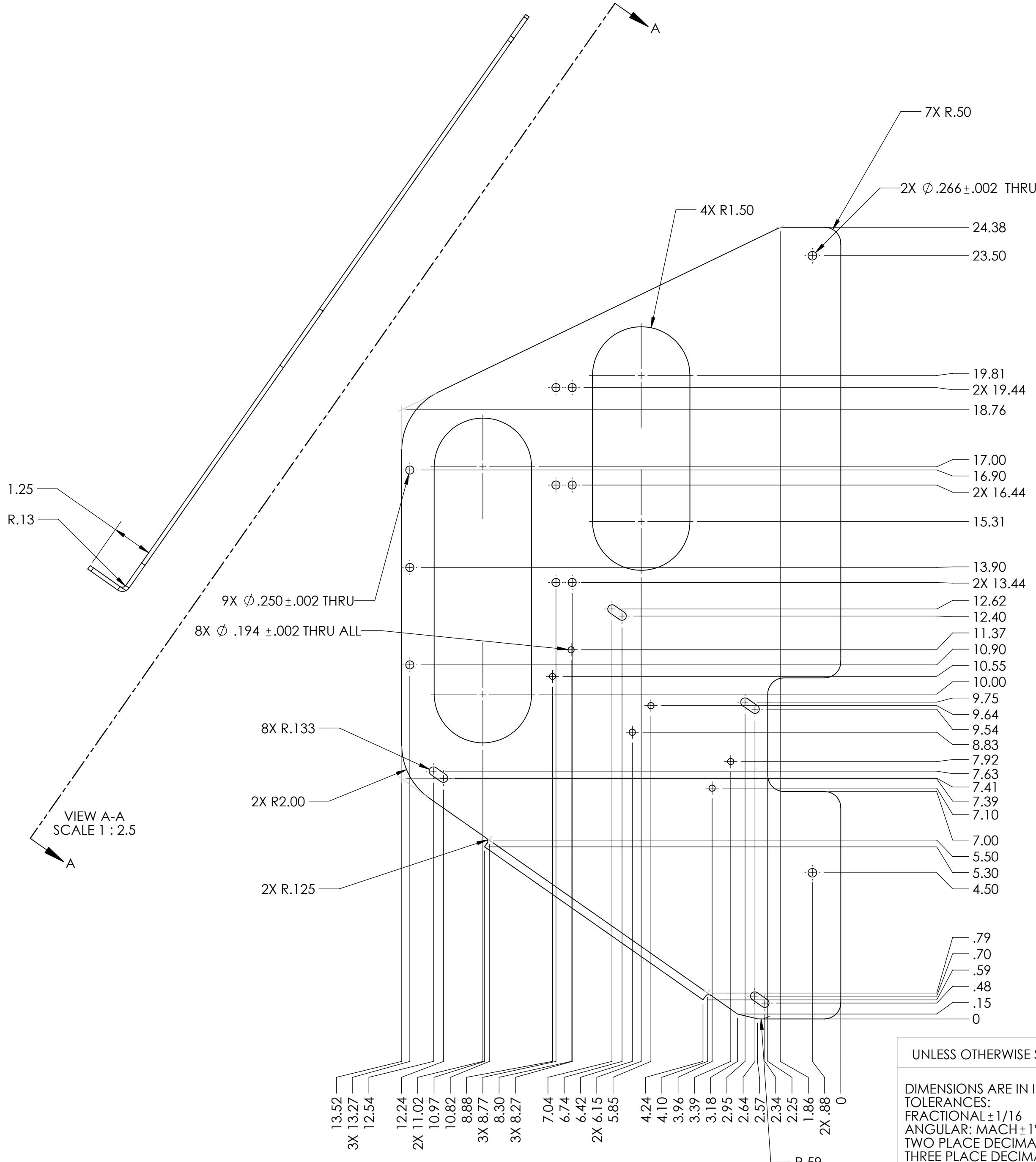
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NOTE: FOLLOW DXF FILE FOR CUTS

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

MATERIAL/FINISH:
8 Ga 5052 Aluminum

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

SIZE DWG. NO. REV

C GE-25005

SCALE: 1:8 SHEET 1 OF 1

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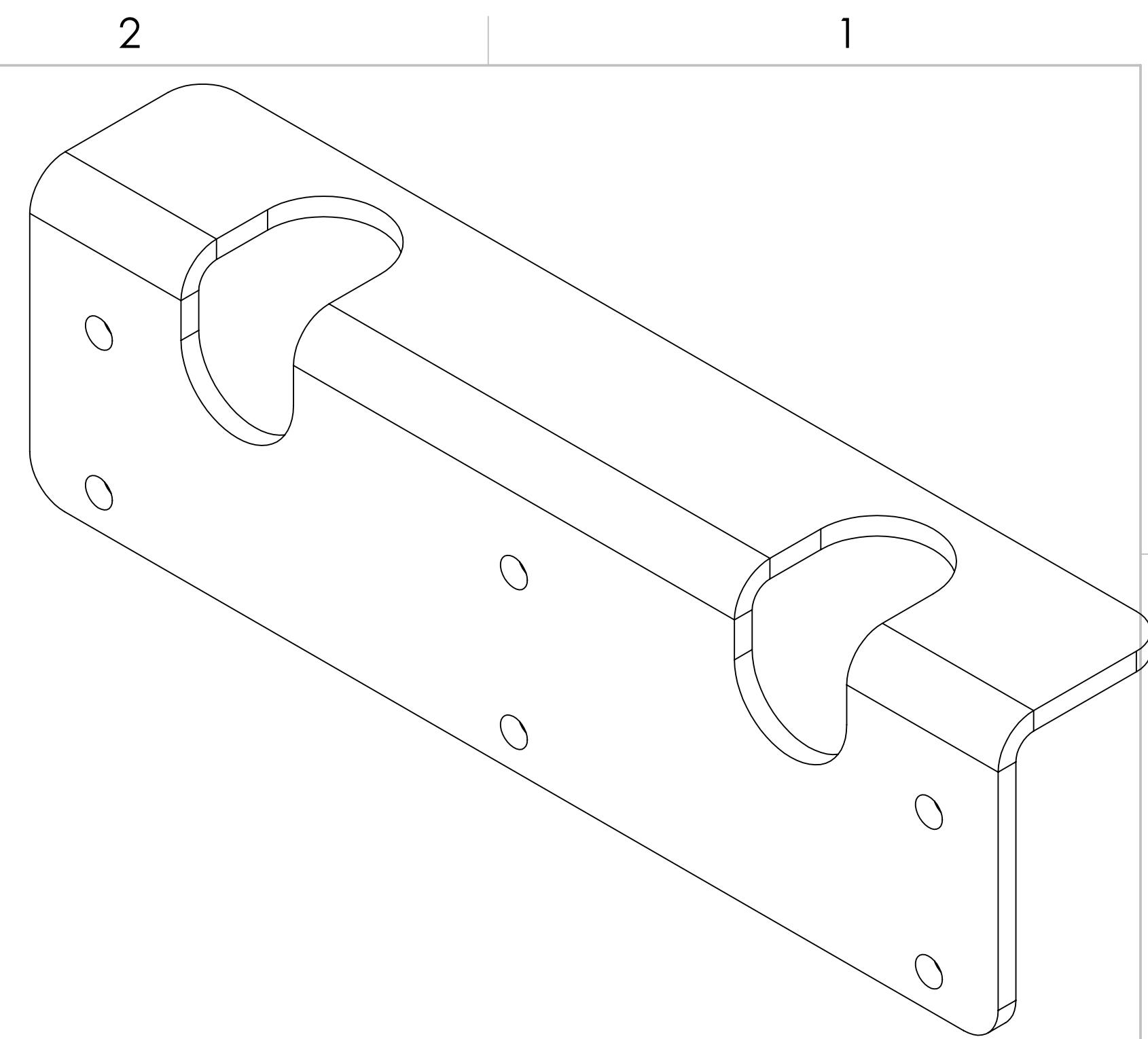
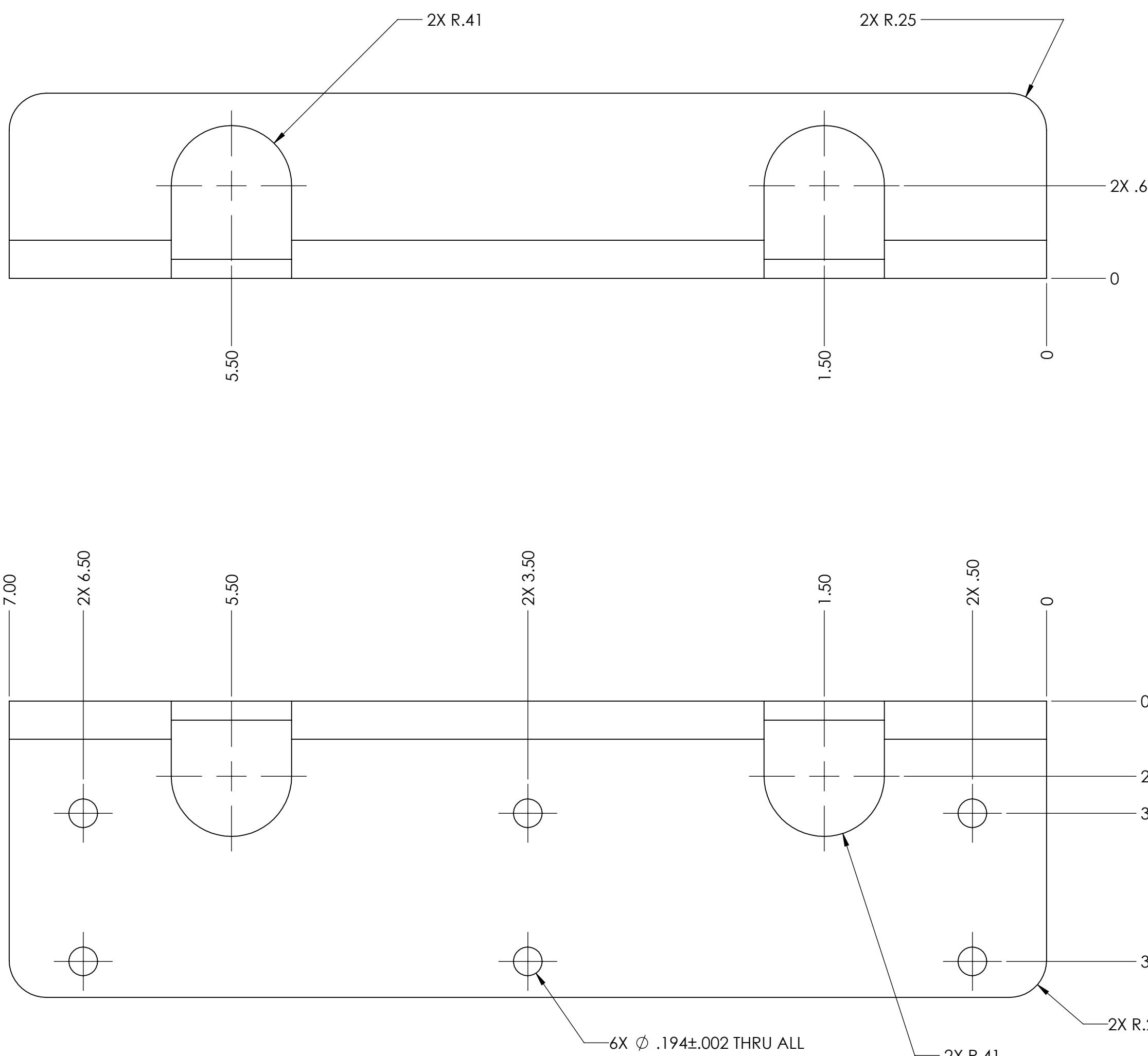
4

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	8/12/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: 8 Ga 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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

TITLE: Side Plate Angle

SIZE DWG. NO. REV

C GE-25006

SCALE: 1.5:1 SHEET 1 OF 1

4

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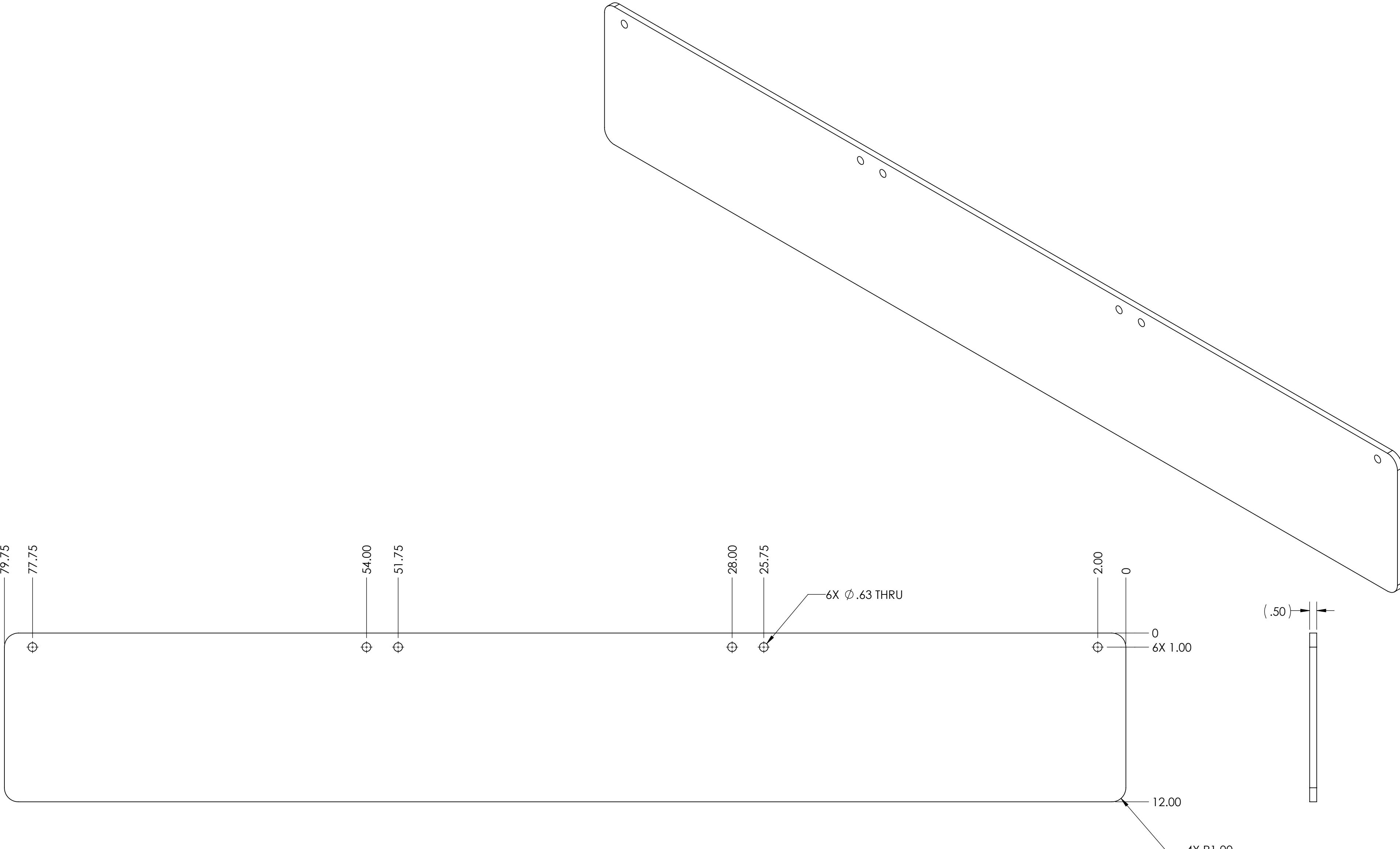
B

B

A

A

79.75

54.00
51.7528.00
25.750
0
2.00
0
0
6X 1.00(.50) ← →
12.00
4X R1.00

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 $\pm .005$ MATERIAL/FINISH:
1/2" Polycarbonate

DO NOT SCALE DRAWING

VEND
DRAWNNAME
JODATE
8/12/2024TITLE:
Bumper PlasticSIZE DWG. NO. REV
C GE-25007

SCALE: 1:5 SHEET 1 OF 1

4

3

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C

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A

A

79.75
3X 77.75

3X 54.00
3X 51.75

3X 28.00
3X 25.75

3X 2.00
0
0
6X 2.13

6X 11.38
6X .63 X 2.63
12X Ø .63 THRU
6X 22.63
24.75
4X R.25

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 $\pm .005$

MATERIAL/FINISH:

1/4" 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:
Lower Front Plastic

SIZE DWG. NO. REV
C GE-25008

SCALE: 1:6 SHEET 1 OF 1

4

3

2

1

79.75
2X 77.75
75.88

63.88
2X 57.88

51.88

2X 44.50

39.88

2X 35.25

4X Ø .266 THRU

2X 21.88

4X Ø .63 THRU

7X Ø .25 THRU

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

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 $\pm .005$

MATERIAL/FINISH:
1/4" Polycarbonate

DO NOT SCALE DRAWING
COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

VEND NAME DATE
DRAWN JO 8/12/2024

PROPRIETARY AND CONFIDENTIAL

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TITLE: Upper Front Plastic

SIZE DWG. NO. REV

C GE-25009

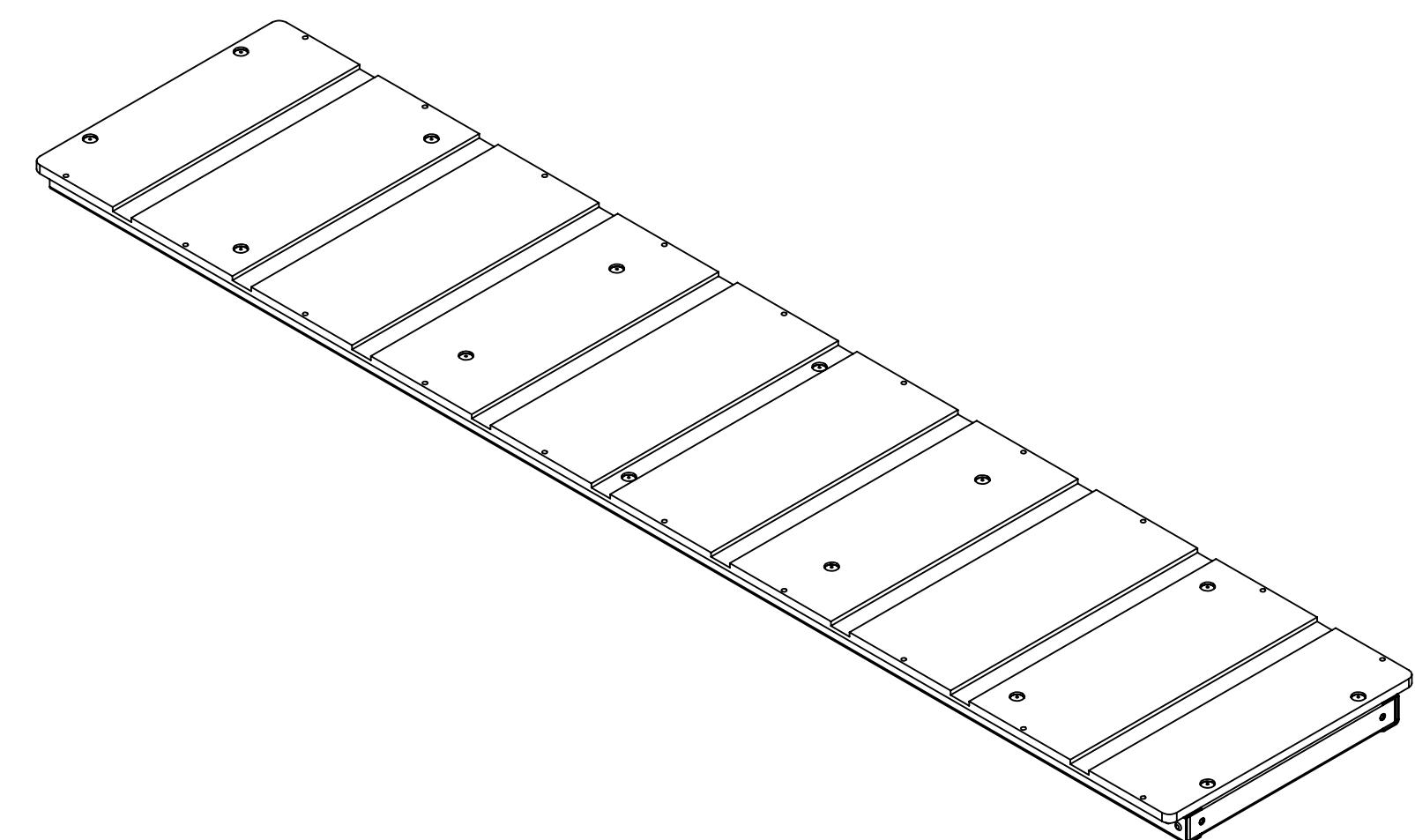
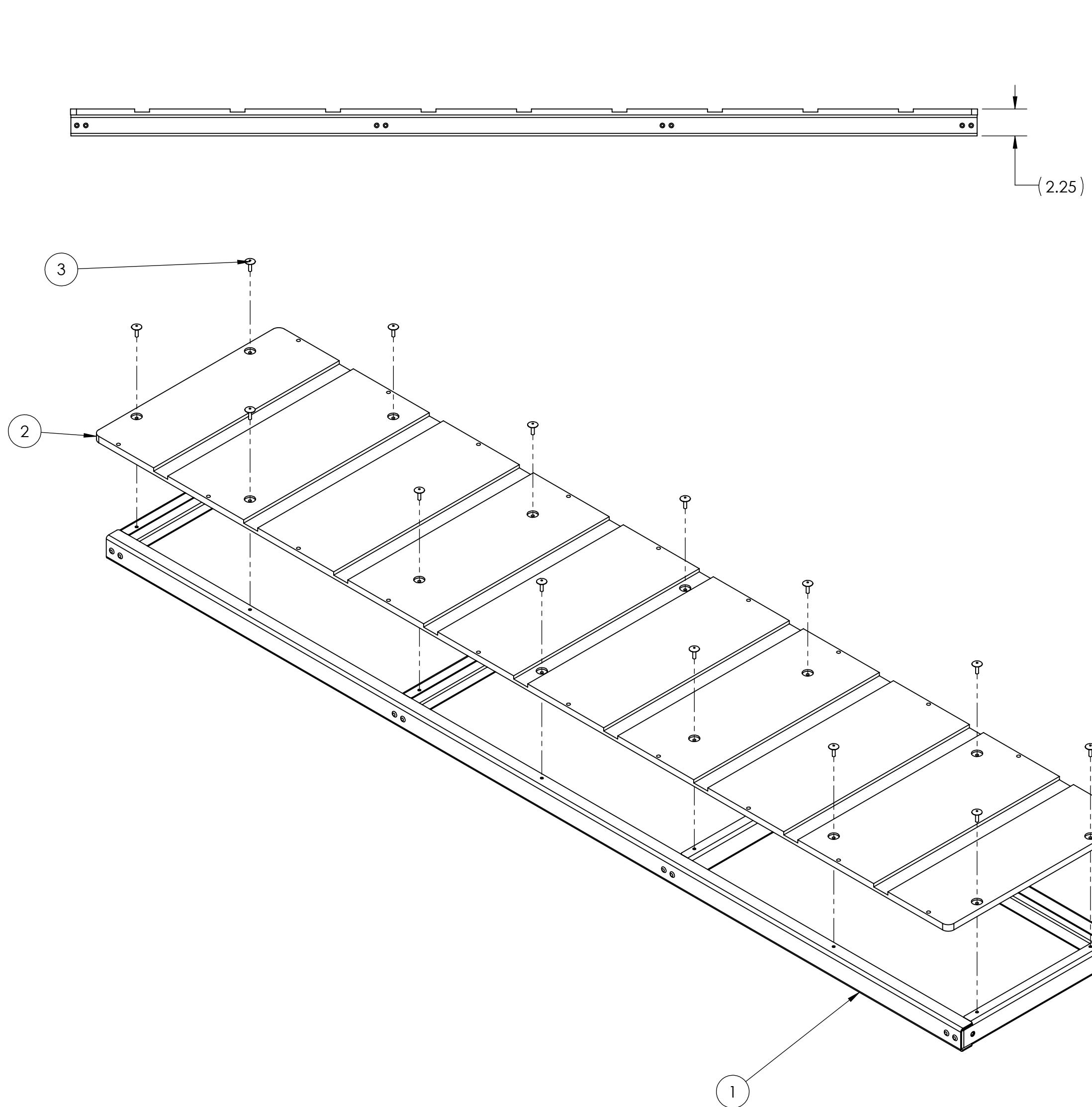
SCALE: 1:6 SHEET 1 OF 1

FIRST ROBOTICS COMPETITION

SOLIDWORKS

Modeling Solutions Partner

D



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

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	BB	8/13/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$				
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.				
MATERIAL/FINISH:	COMMENTS:			
DO NOT SCALE DRAWING				

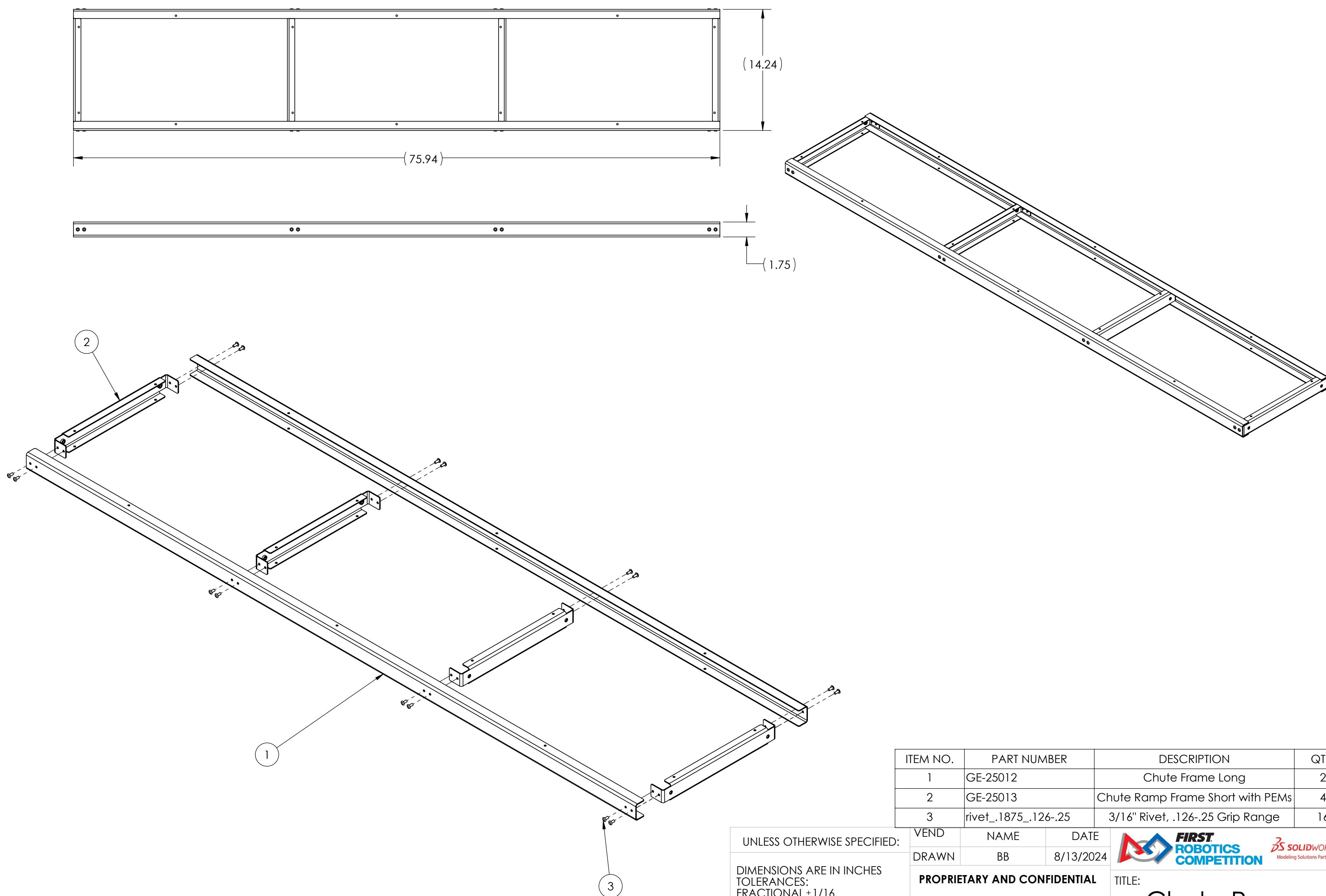
FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Chute Ramp
Assembly**

SIZE DWG. NO. REV
C GE-25010

SCALE: 1:8 SHEET 1 OF 1



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:****COMMENTS:**

REMOVE ALL BURRS AND SHARP EDGES.

VEND
DRAWN
NAME
BB
DATE
8/13/2024**FIRST ROBOTICS COMPETITION****SOLIDWORKS**
Modeling Solutions Partner

TITLE: Chute Ramp Frame

SIZE DWG. NO. REV

C GE-25011

SCALE: 1:12 SHEET 1 OF 1

NOTE: ASSEMBLE AS SHOWN

DO NOT SCALE DRAWING

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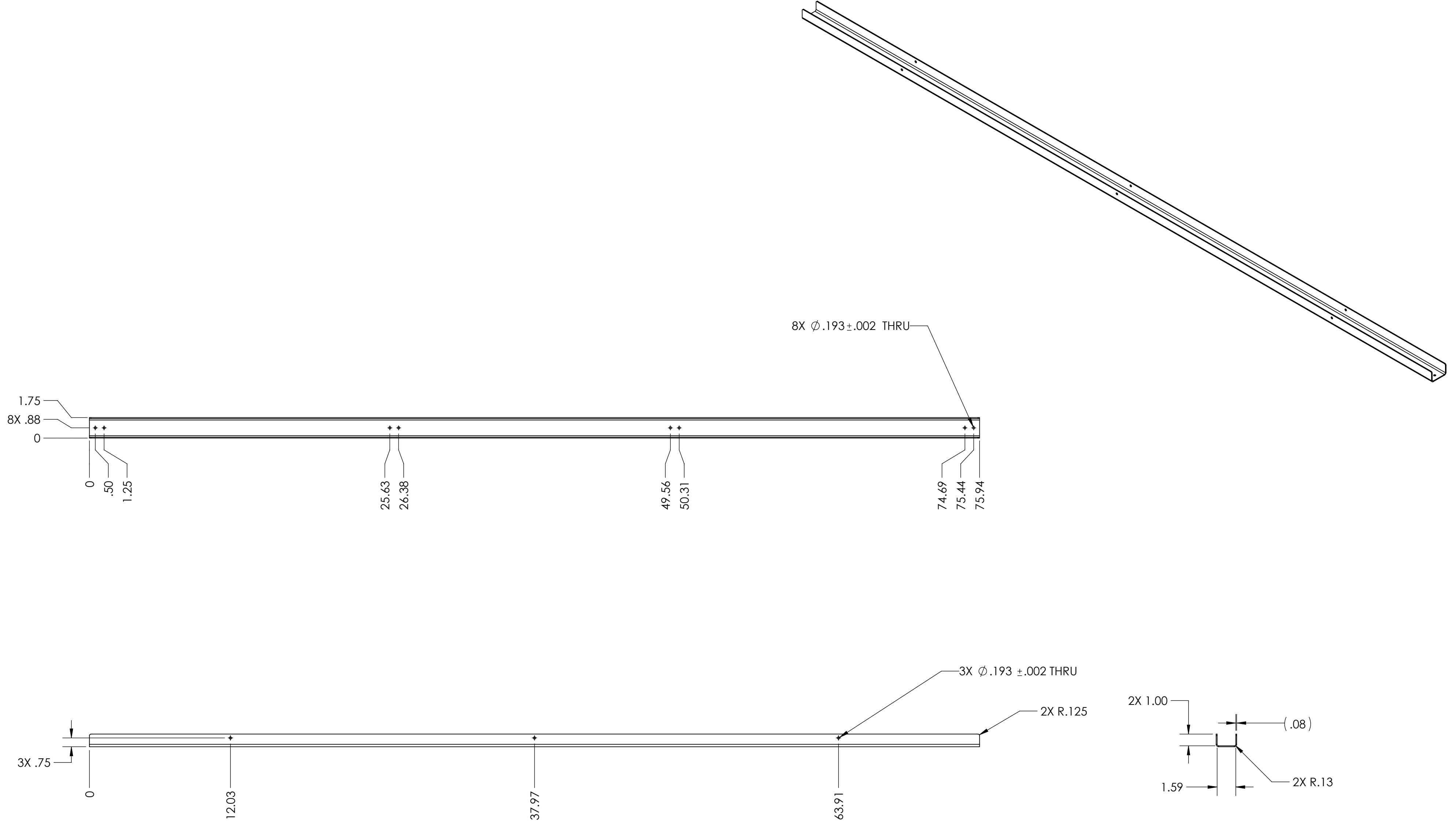
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	BB	8/13/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 12 Gauge (.08") 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Chute Frame
Long

SIZE DWG. NO. REV
C GE-25012

SCALE: 1:8 SHEET 1 OF 1

D

D

C

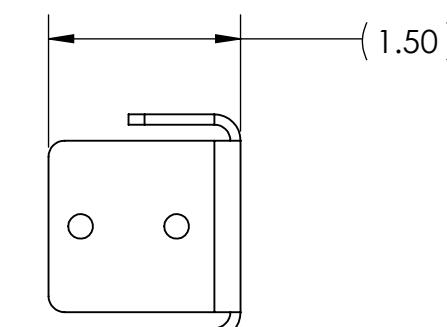
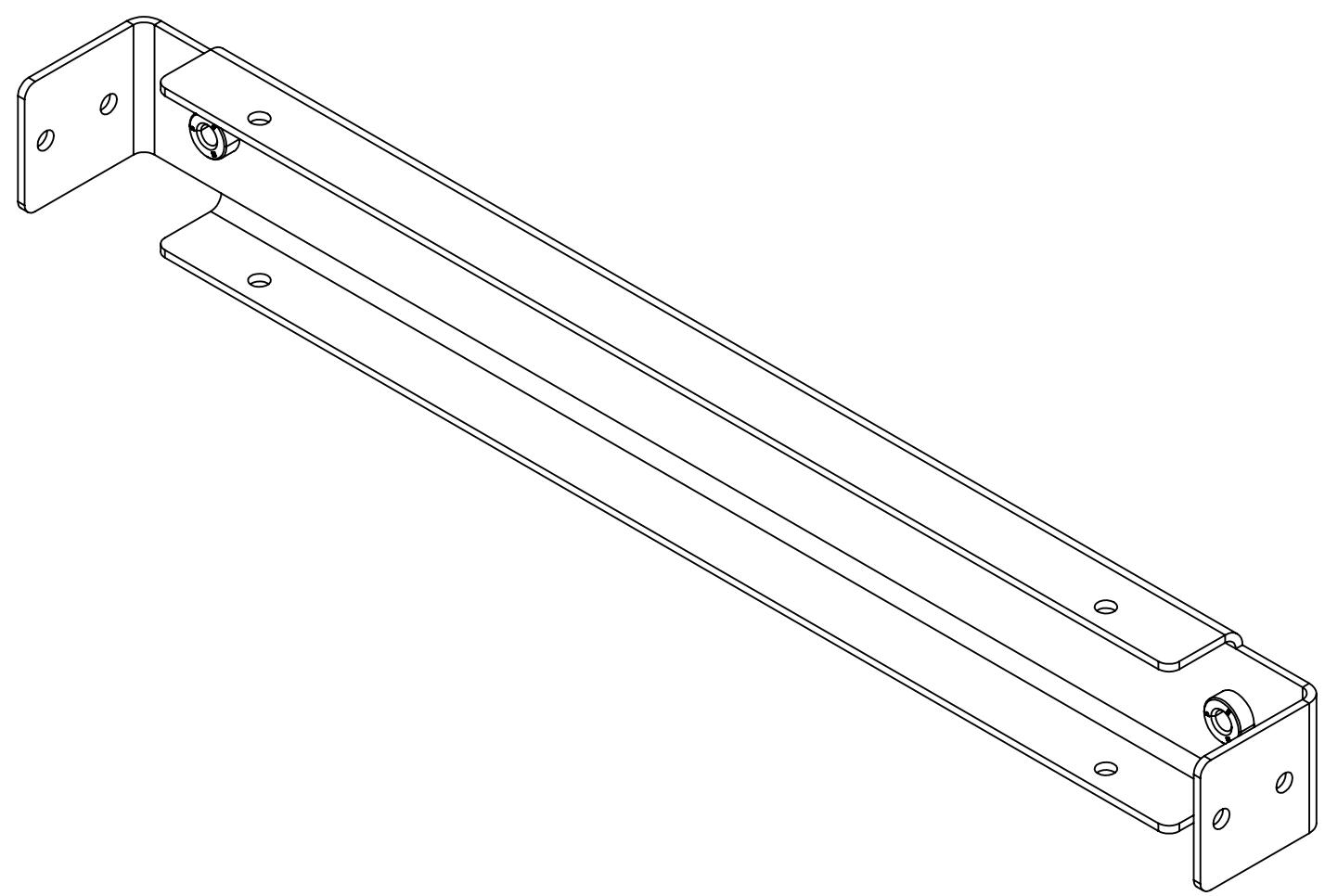
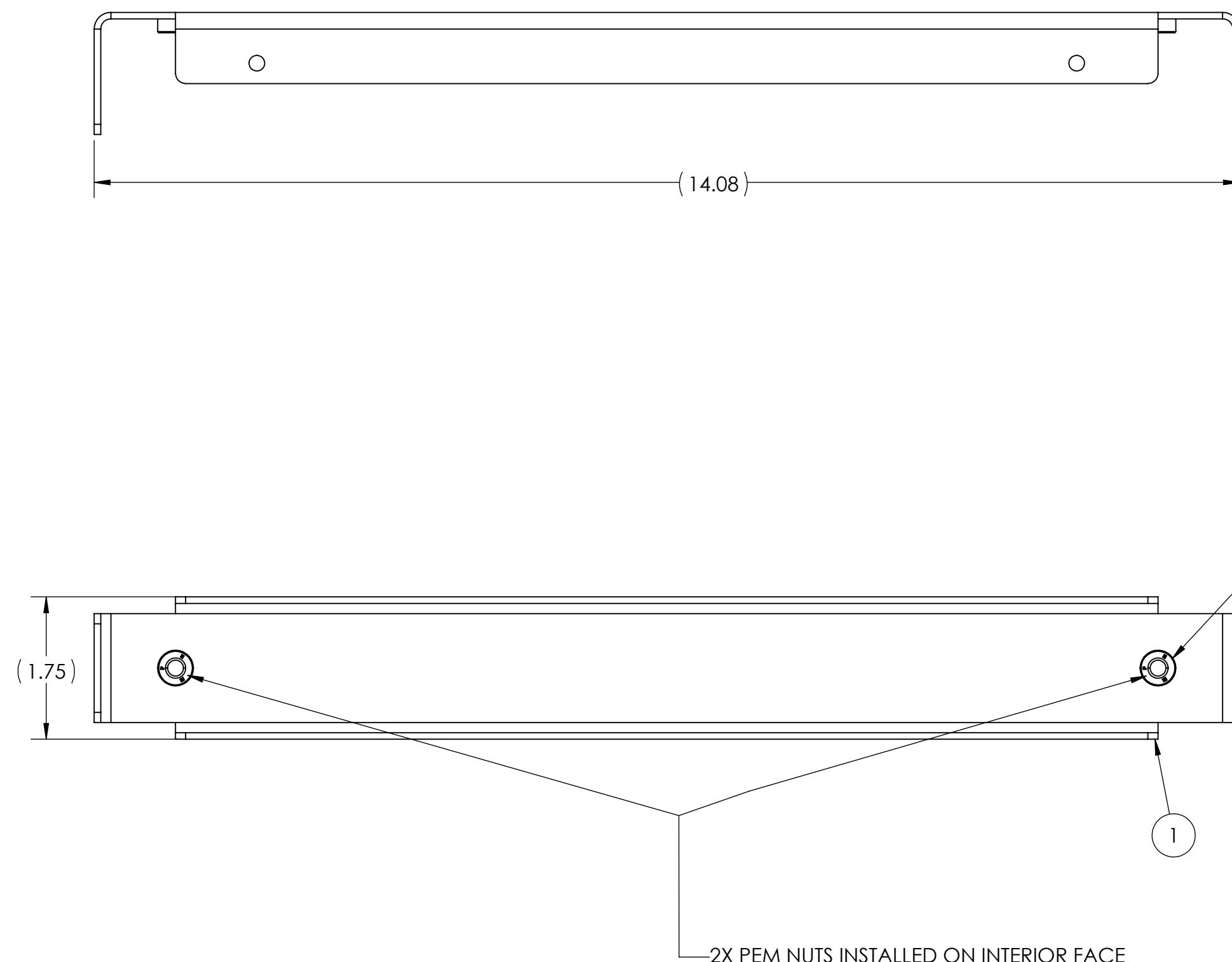
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25013-01	Chute Ramp Frame Short	1
2	pem_clinchnut_.25_20 .054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:			VEND	NAME	DATE
DIMENSIONS ARE IN INCHES			DRAWN	BB	8/13/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$					
TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$					
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.					
MATERIAL/FINISH:			COMMENTS:		
12 Gauge (0.08") 5052 Aluminum			REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING					

NOTES:
1. 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

4

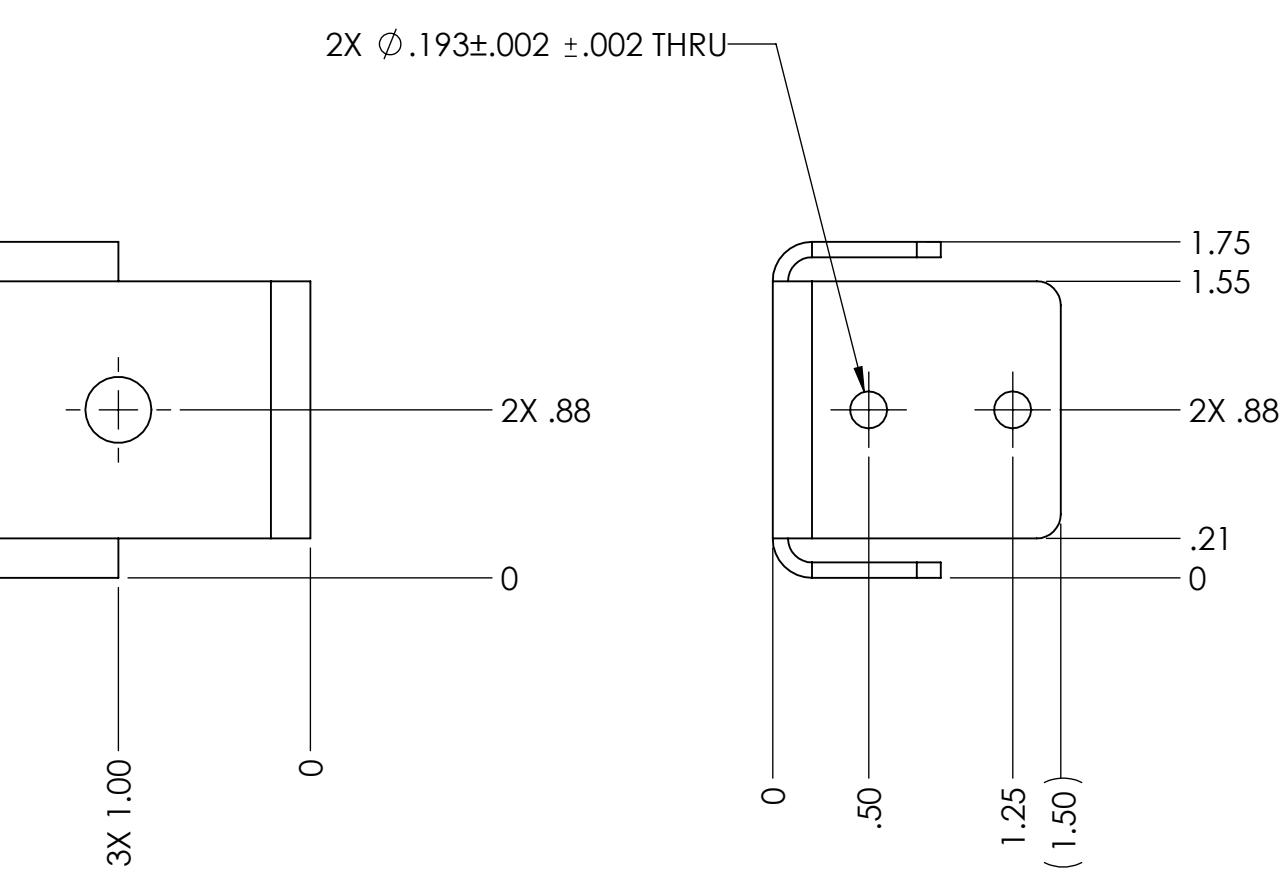
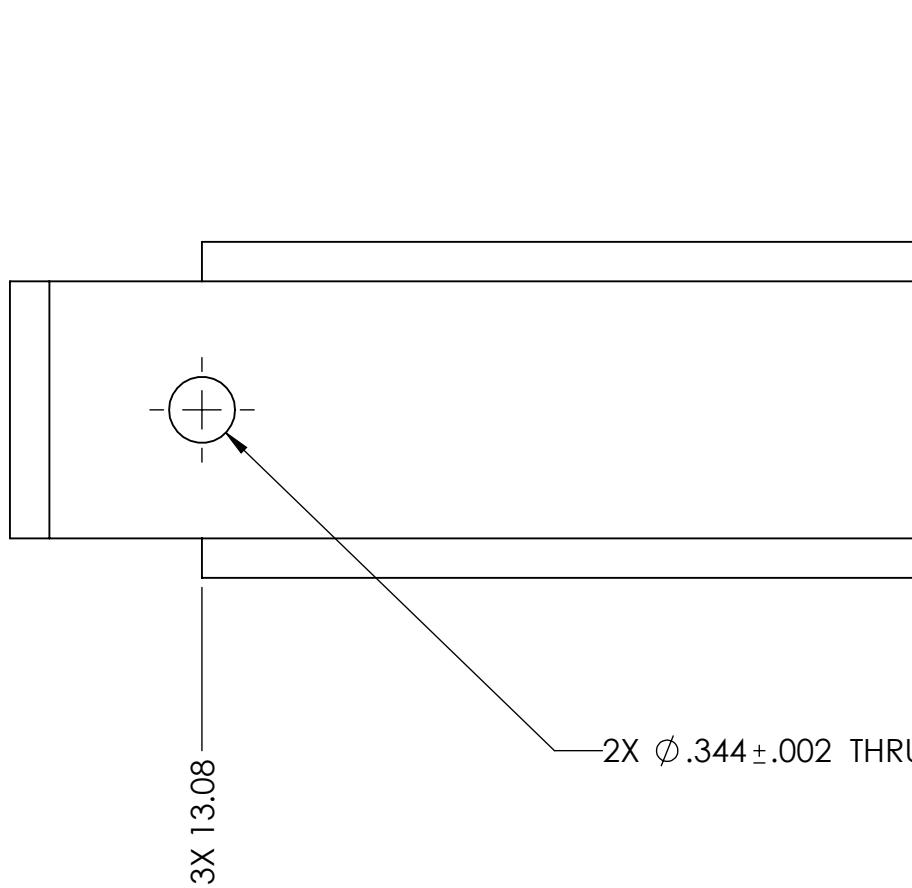
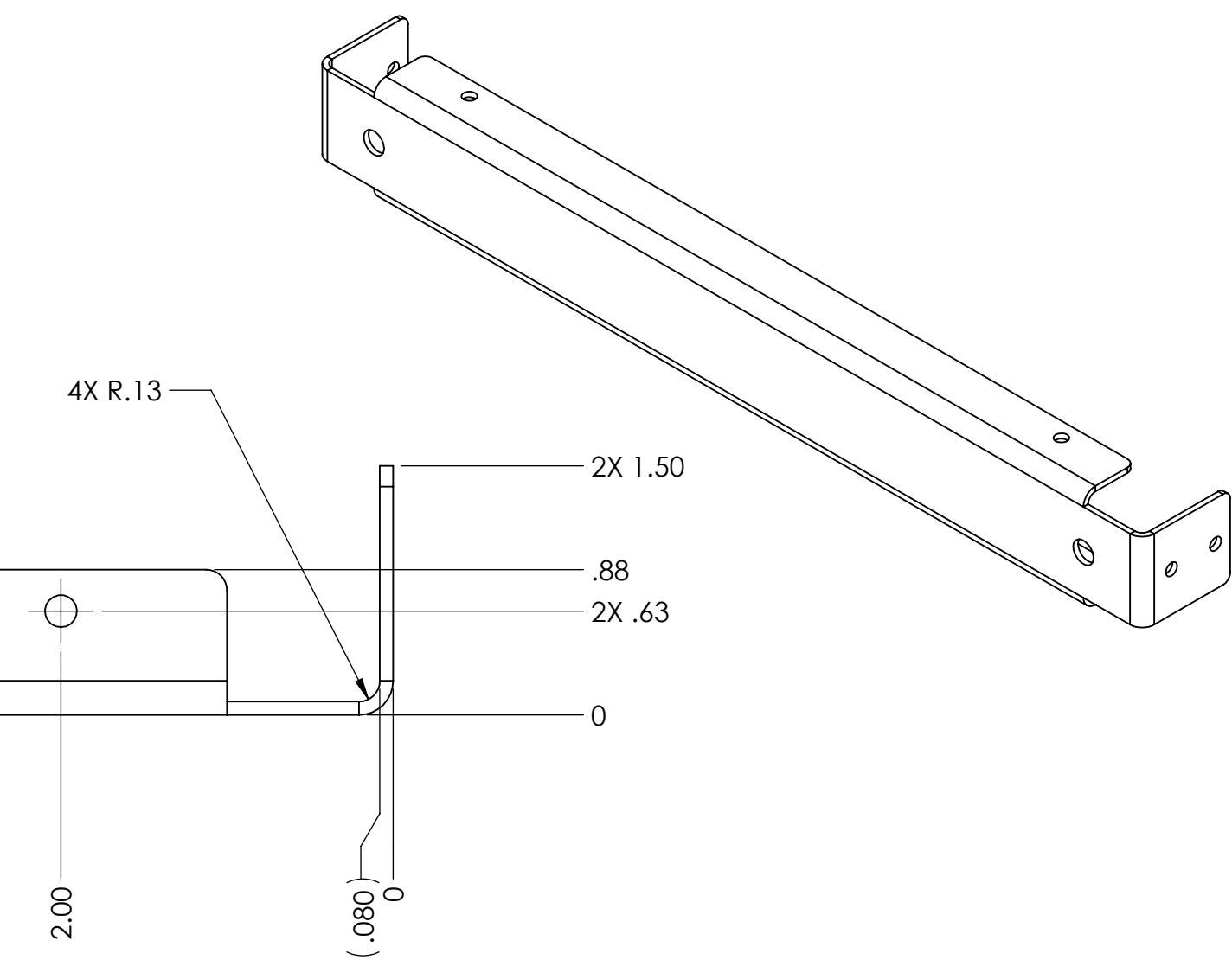
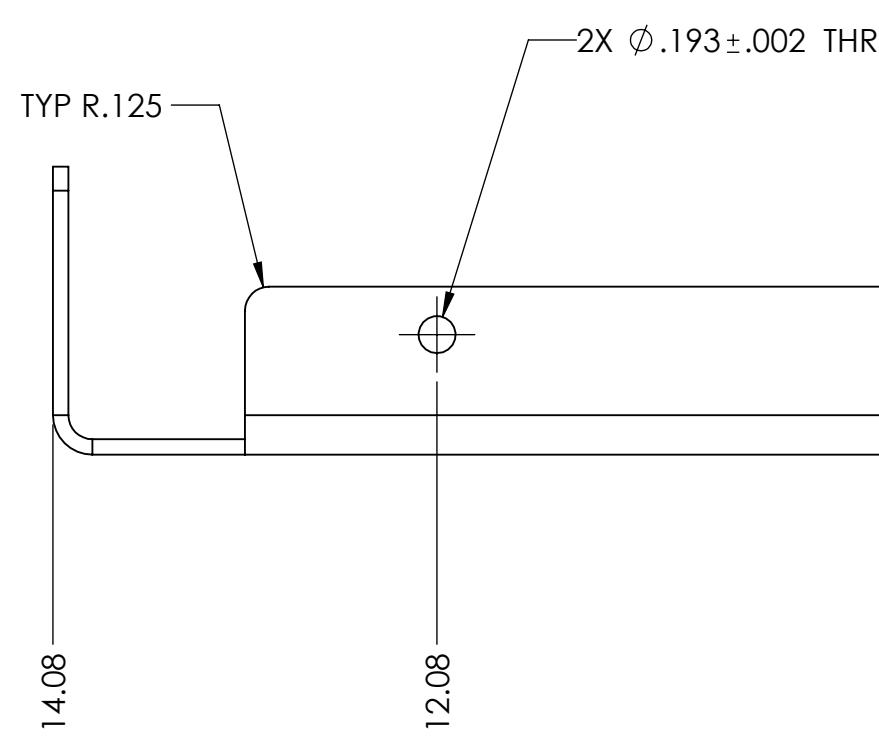
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	BB	8/13/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH:			
12 Gauge (.08") 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Chute Ramp
Frame Short**

SIZE DWG. NO. REV
C GE-25013-01

SCALE: 1:2 SHEET 1 OF 1

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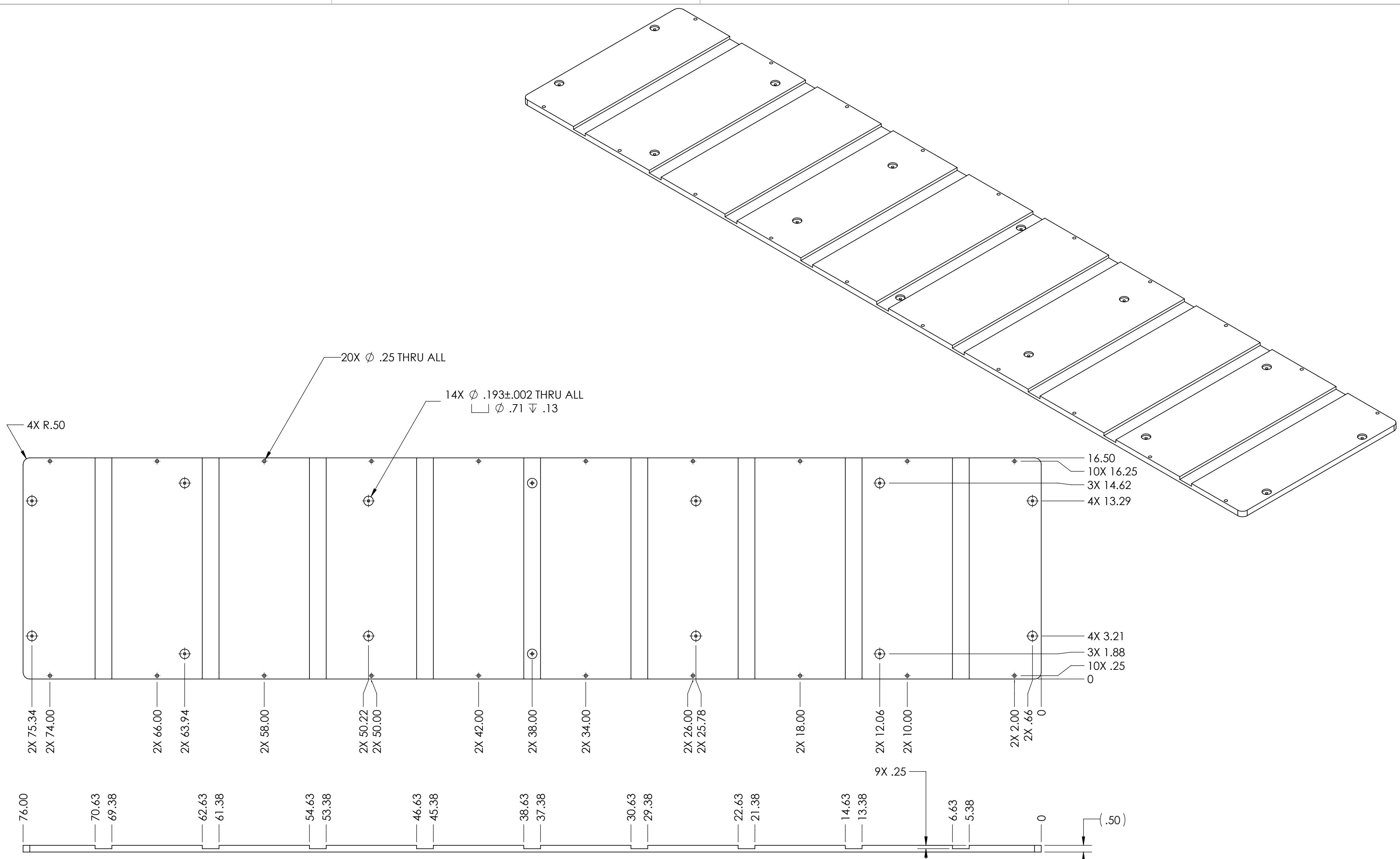
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	JO	8/12/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 1/2" Black HDPE, Orange Peel Texture			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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

TITLE:
**Chute Ramp
HDPE**

SIZE DWG. NO. REV
C GE-25014

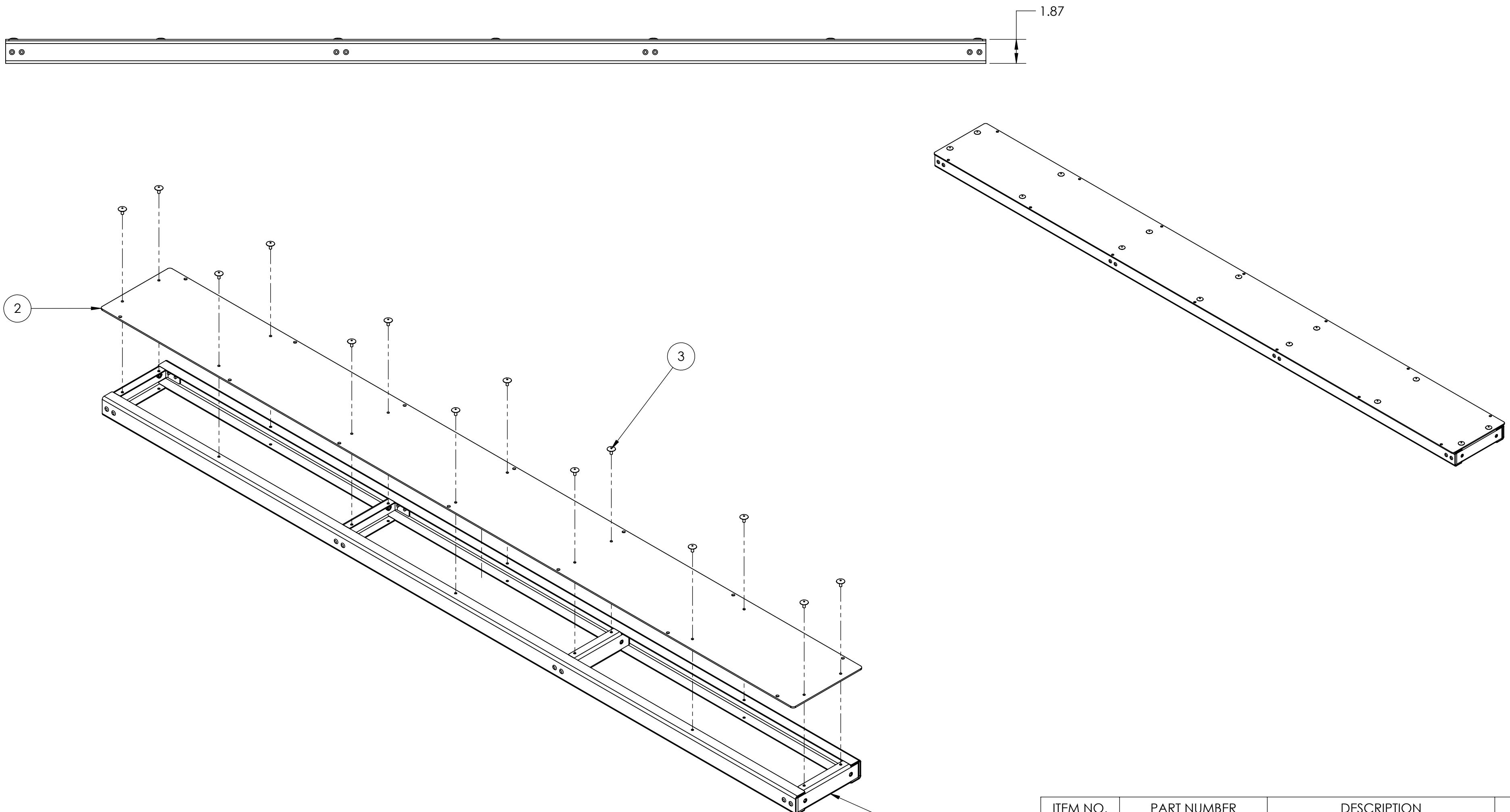
SCALE: 1:5 SHEET 1 OF 1

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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:			VEND	NAME	DATE
DIMENSIONS ARE IN INCHES			DRAWN	BB	8/13/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$					
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.					
MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

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

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

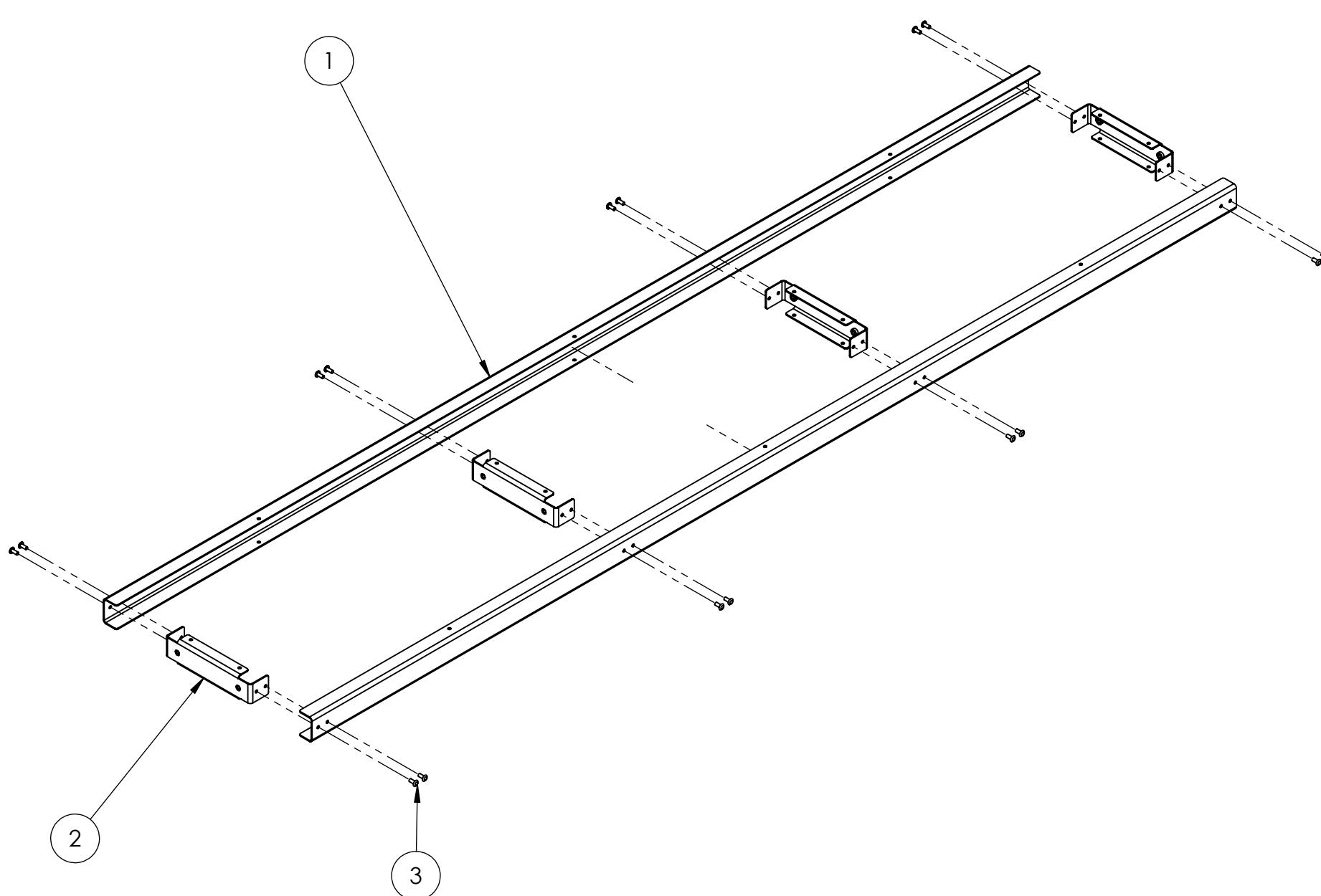
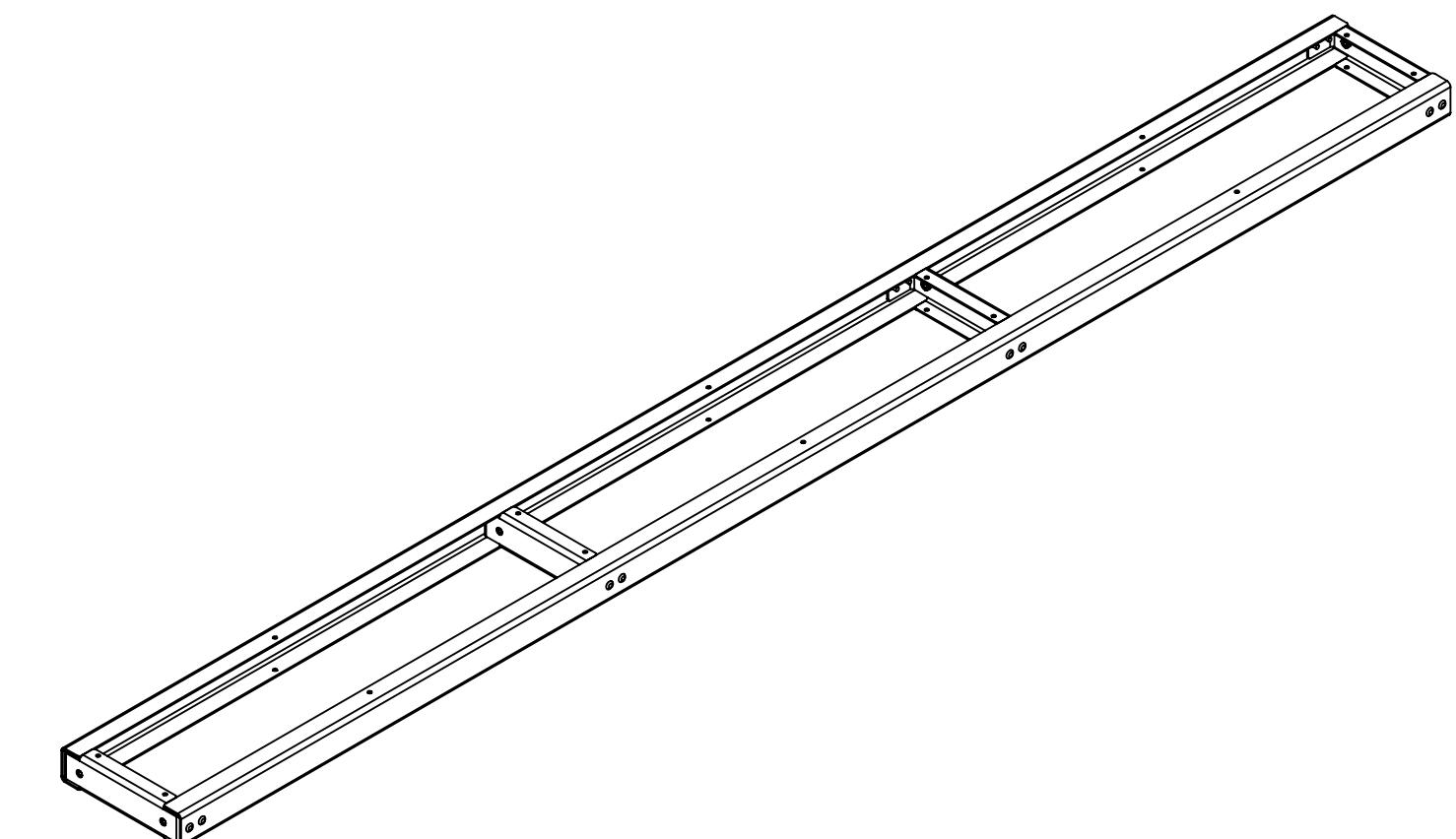
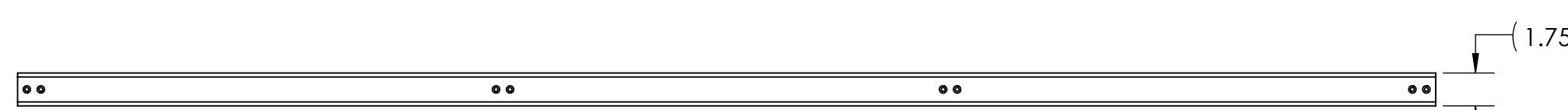
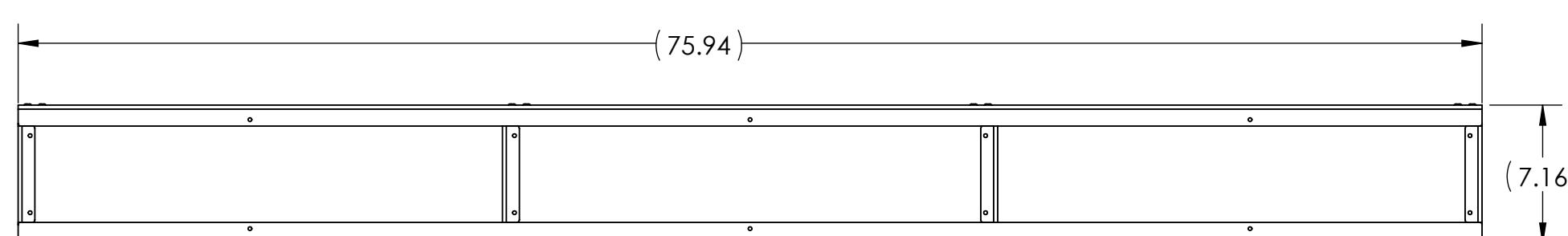
Chute Cover Assembly

SIZE DWG. NO. REV
C GE-25015

SCALE: 1:8 SHEET 1 OF 1

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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
VEND	NAME	DATE				
DRAWN	BB	8/13/2024				

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 $\pm .005$

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.

MATERIAL/FINISH:

COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

Chute Cover Frame

SIZE DWG. NO. REV
C GE-25016

SCALE: 1:12 SHEET 1 OF 1

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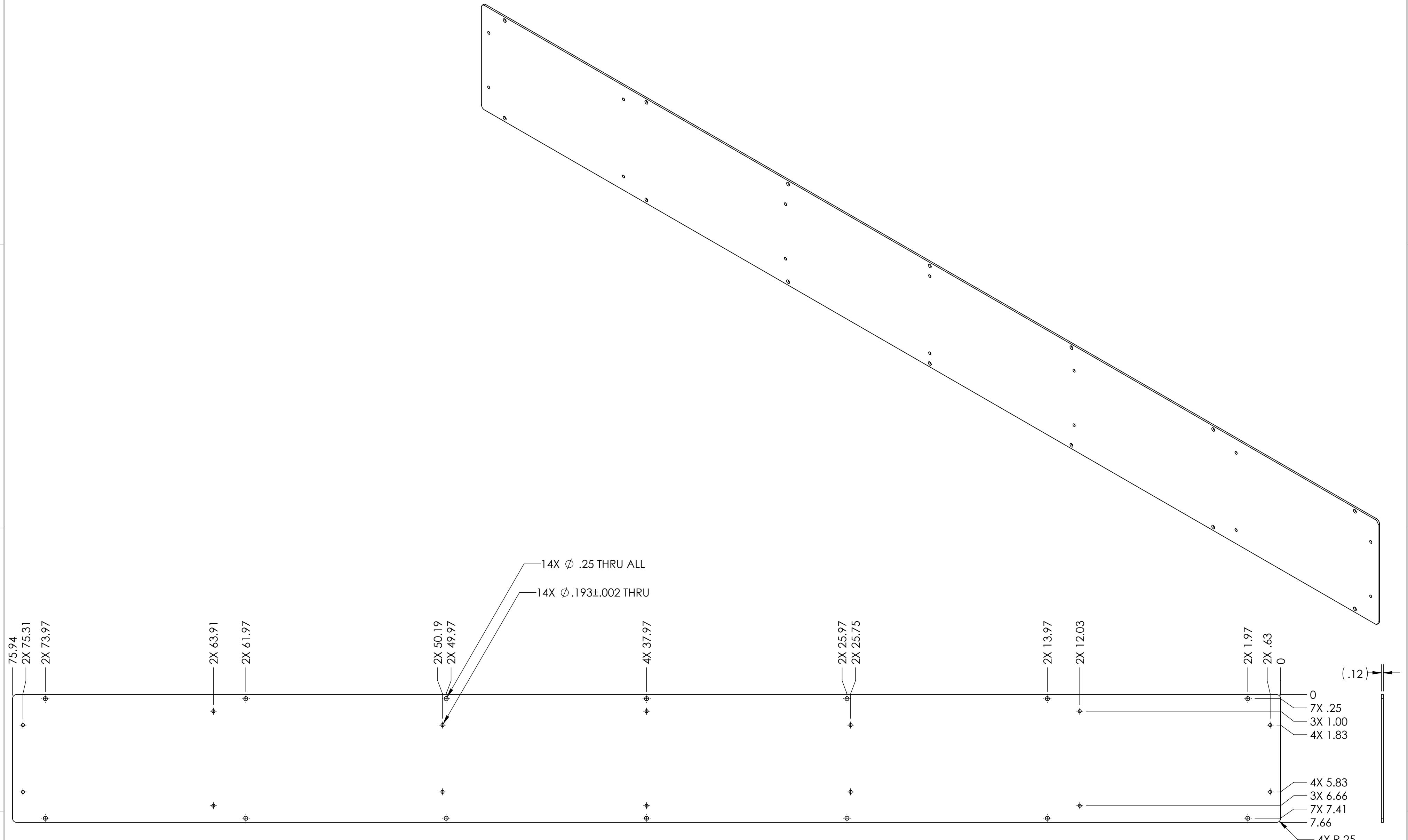
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UNLESS OTHERWISE SPECIFIED:

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:

0.125" Polycarbonate

DO NOT SCALE DRAWING

VEND

NAME

DATE

DRAWN

JO

8/12/2024



SOLIDWORKS

Modeling Solutions Partner

TITLE:

Chute Cover
Plastic

SIZE DWG. NO. REV

C GE-25017

SCALE: 1:4 SHEET 1 OF 1

4

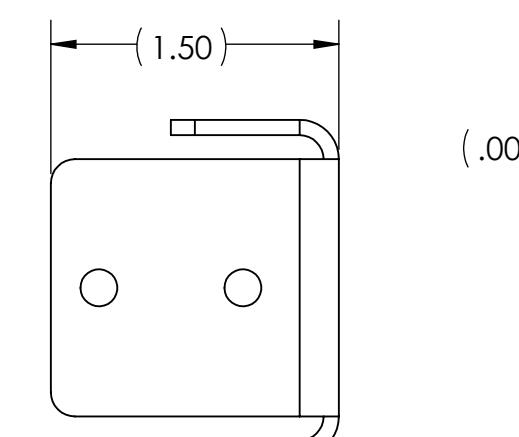
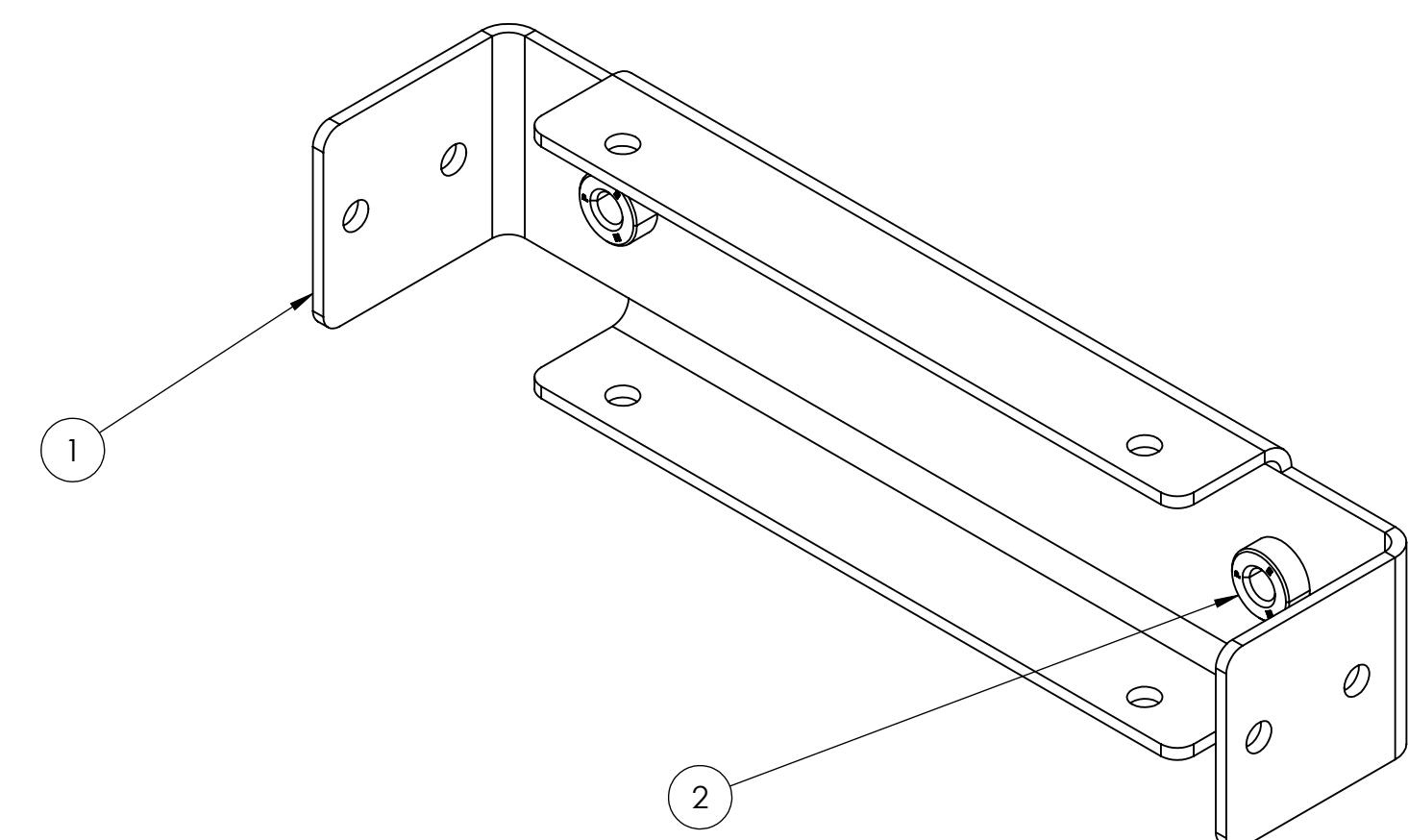
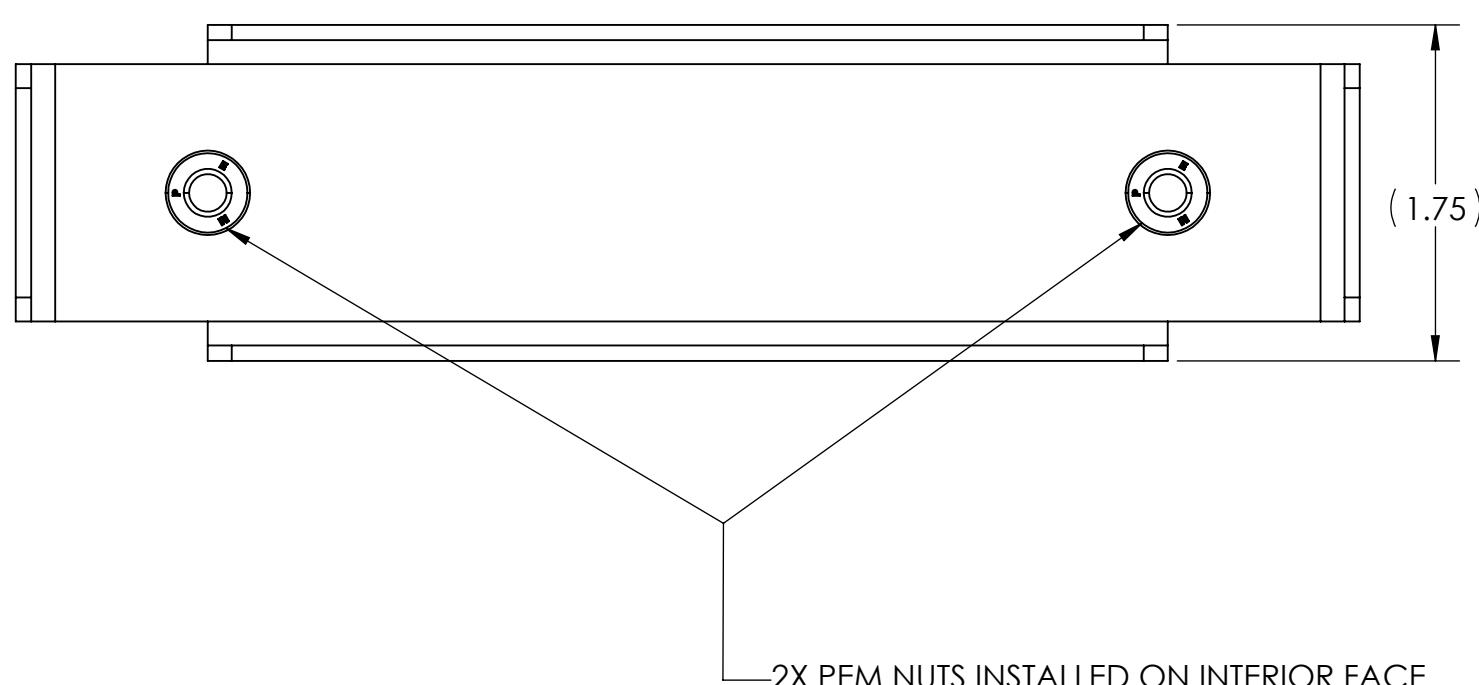
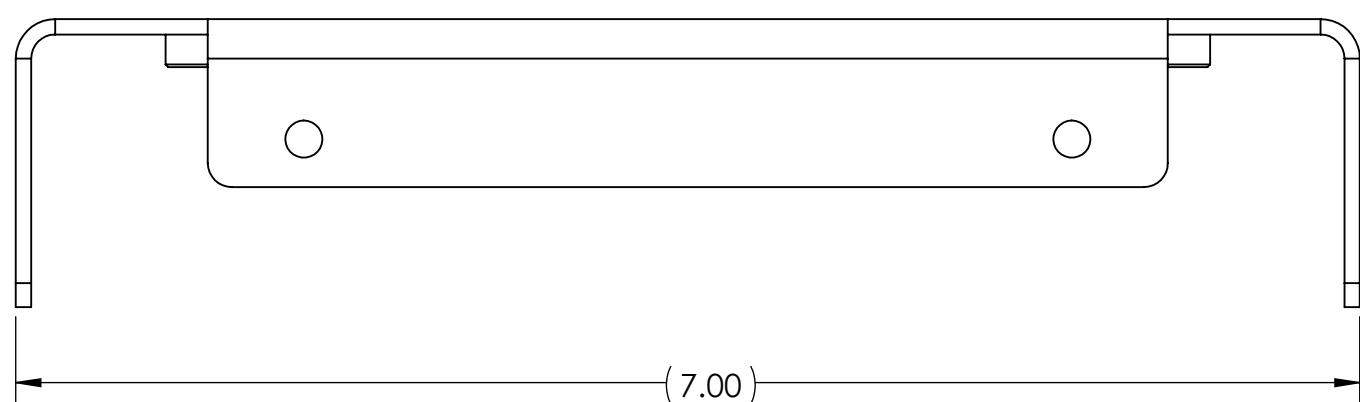
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25018-01	Chute Cover Frame Short	1
2	pem_clinchnut_.25_20 .054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:			VEND	NAME	DATE
			DRAWN	BB	8/13/2024
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.					
MATERIAL/FINISH:			SIZE DWG. NO. REV		
12 Gauge (0.08") 5052 Aluminum			C GE-25018		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

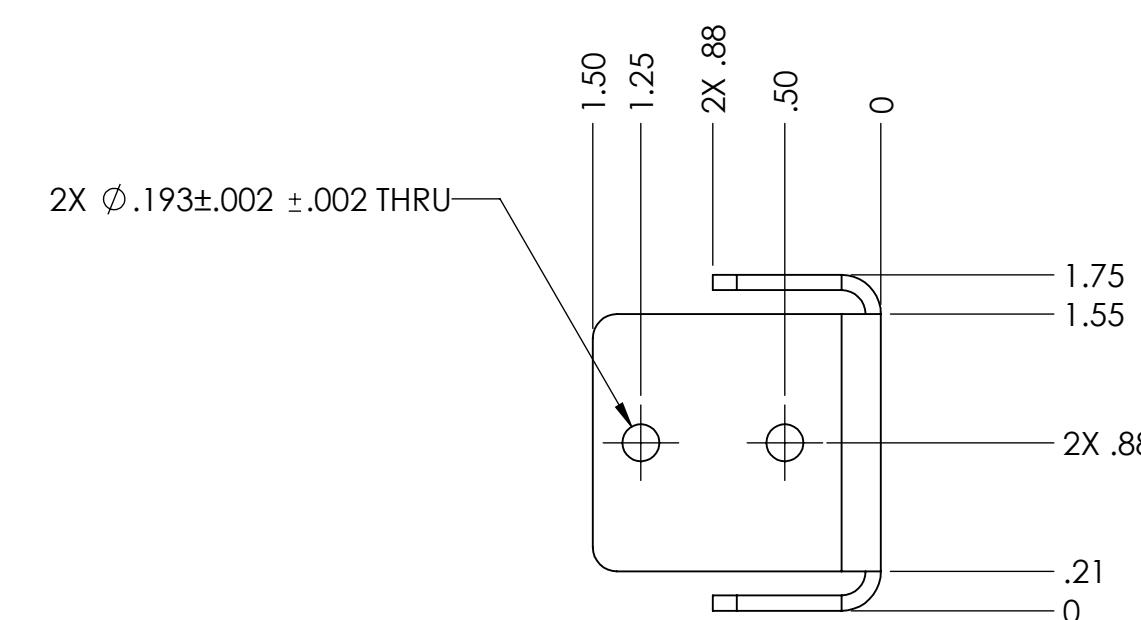
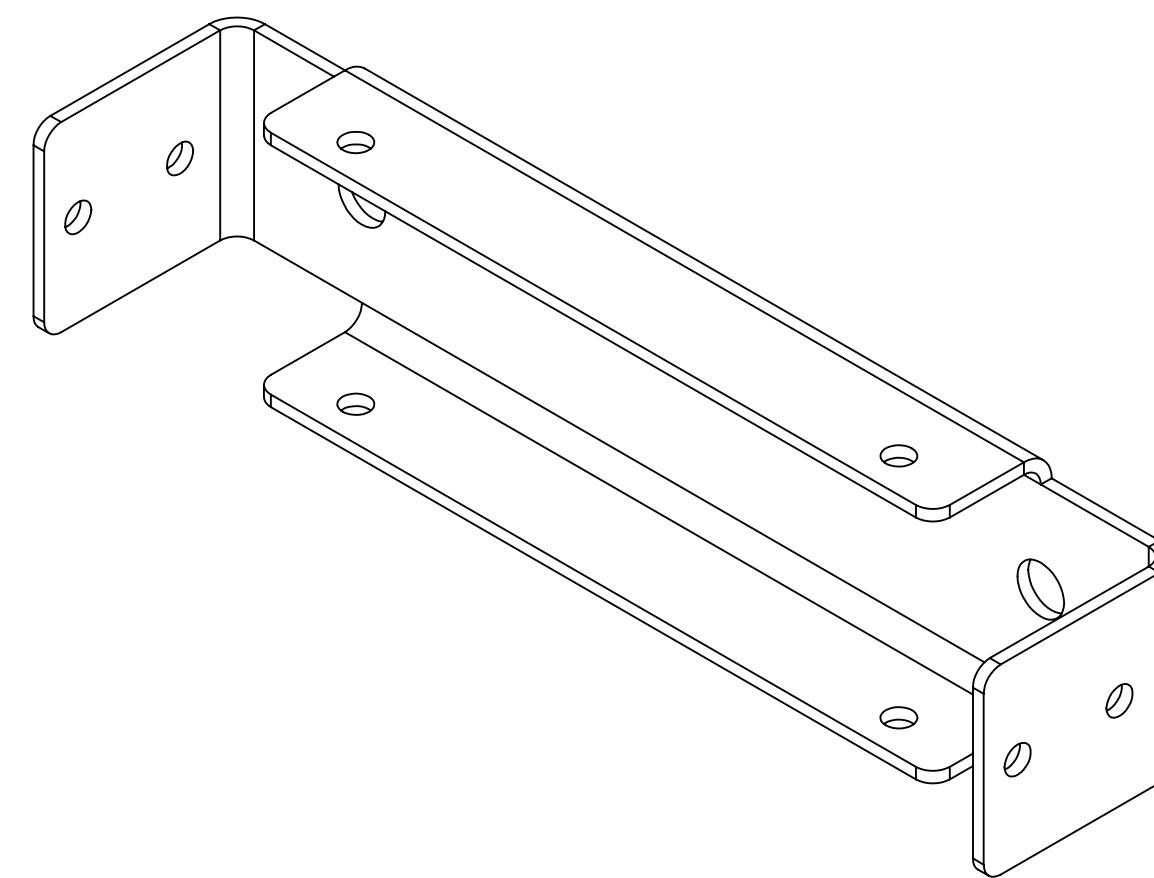
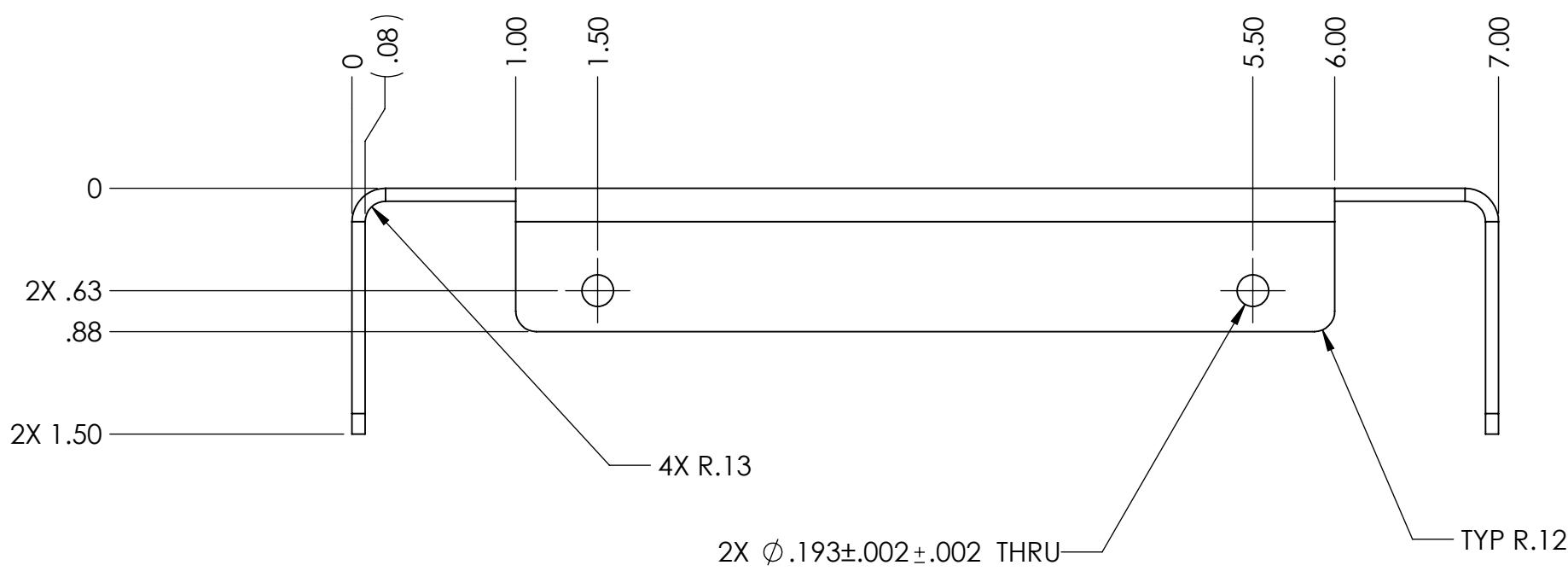
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	BB	8/13/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 12 Gauge (.08") 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

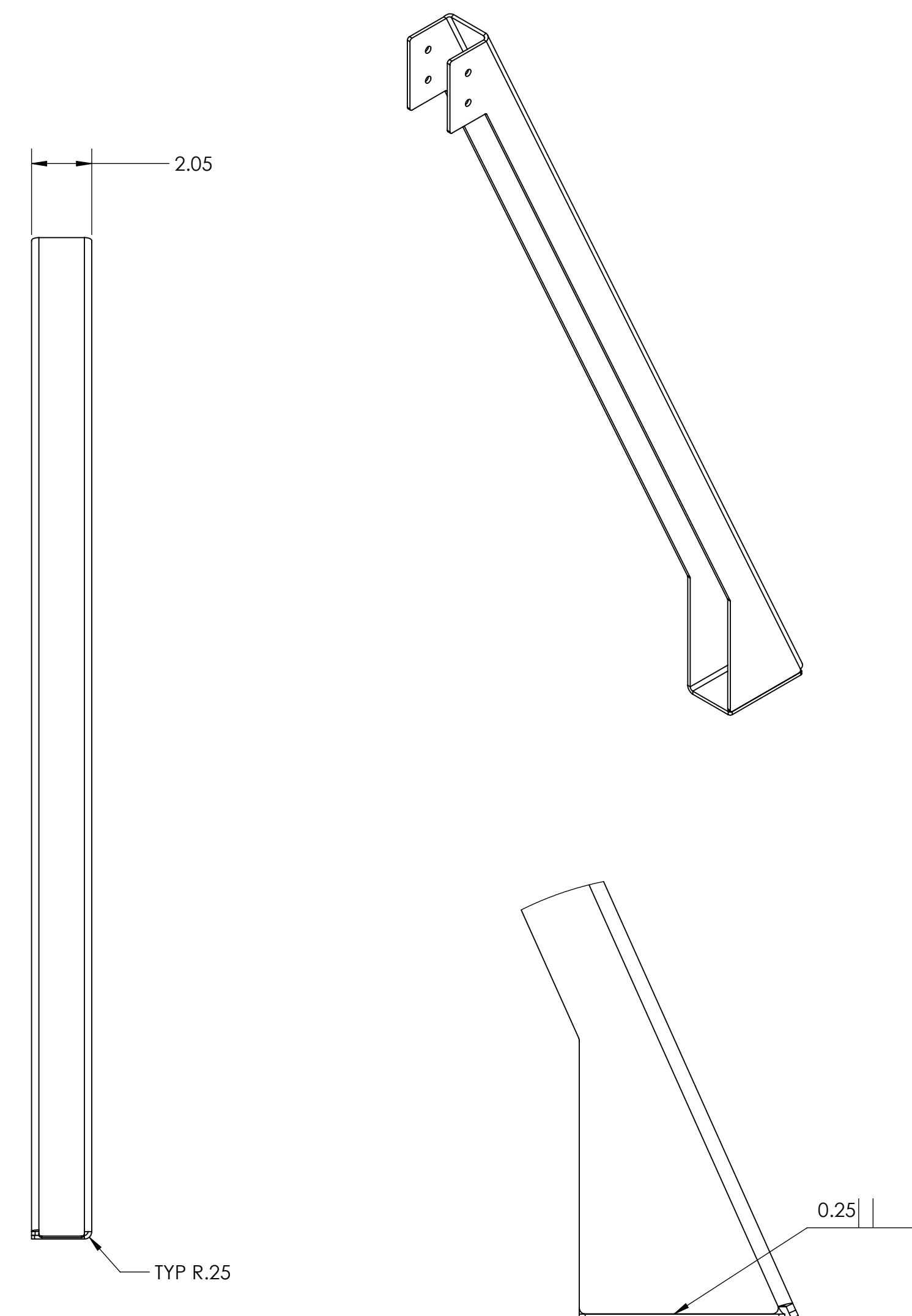
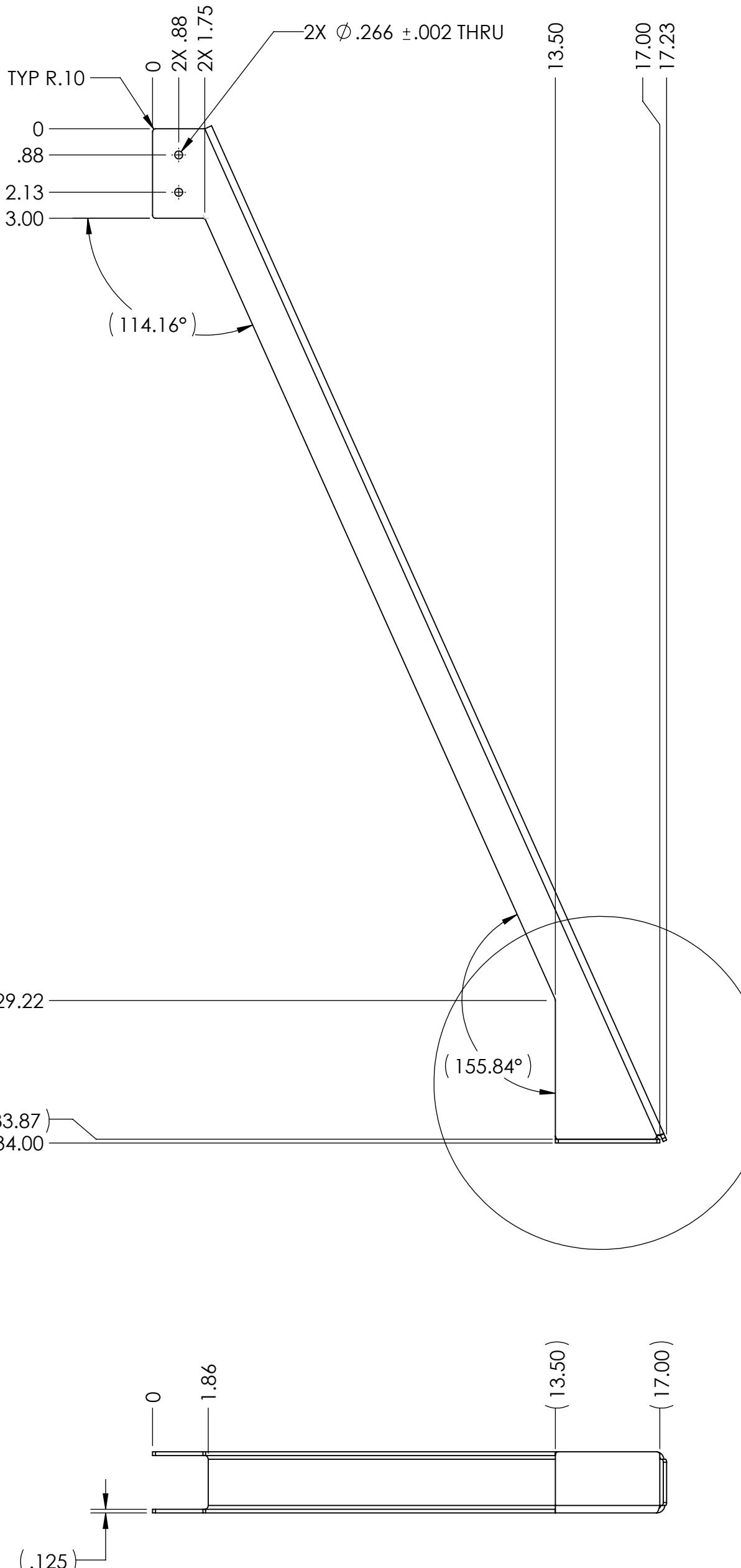
FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Chute Cover
Frame Short**

SIZE DWG. NO. REV
C GE-25018-01

SCALE: 1:1 SHEET 1 OF 1



UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	BB	8/13/2024	
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.			
MATERIAL/FINISH:	0.125" 5052 Aluminum		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

DETAIL B
SCALE 1 : 2

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

TITLE: Frame Support Leg

SIZE	DWG. NO.	REV
C	GE-25019	

SCALE: 1:8 SHEET 1 OF 1

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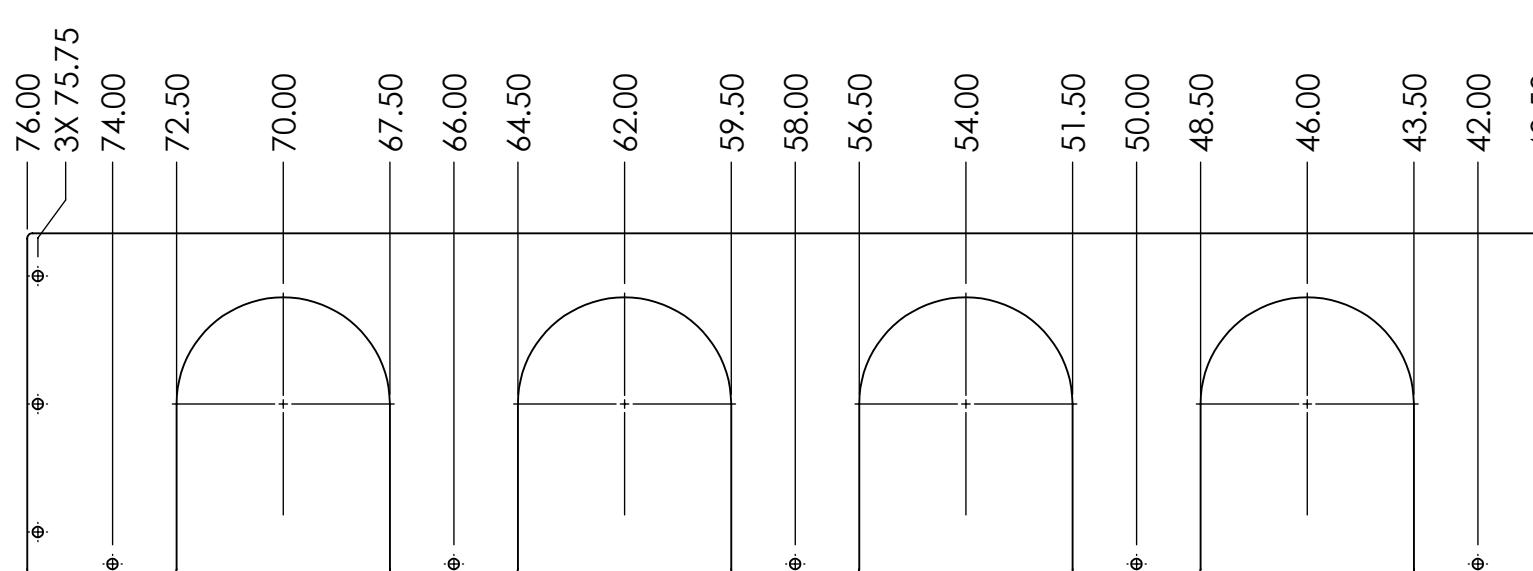
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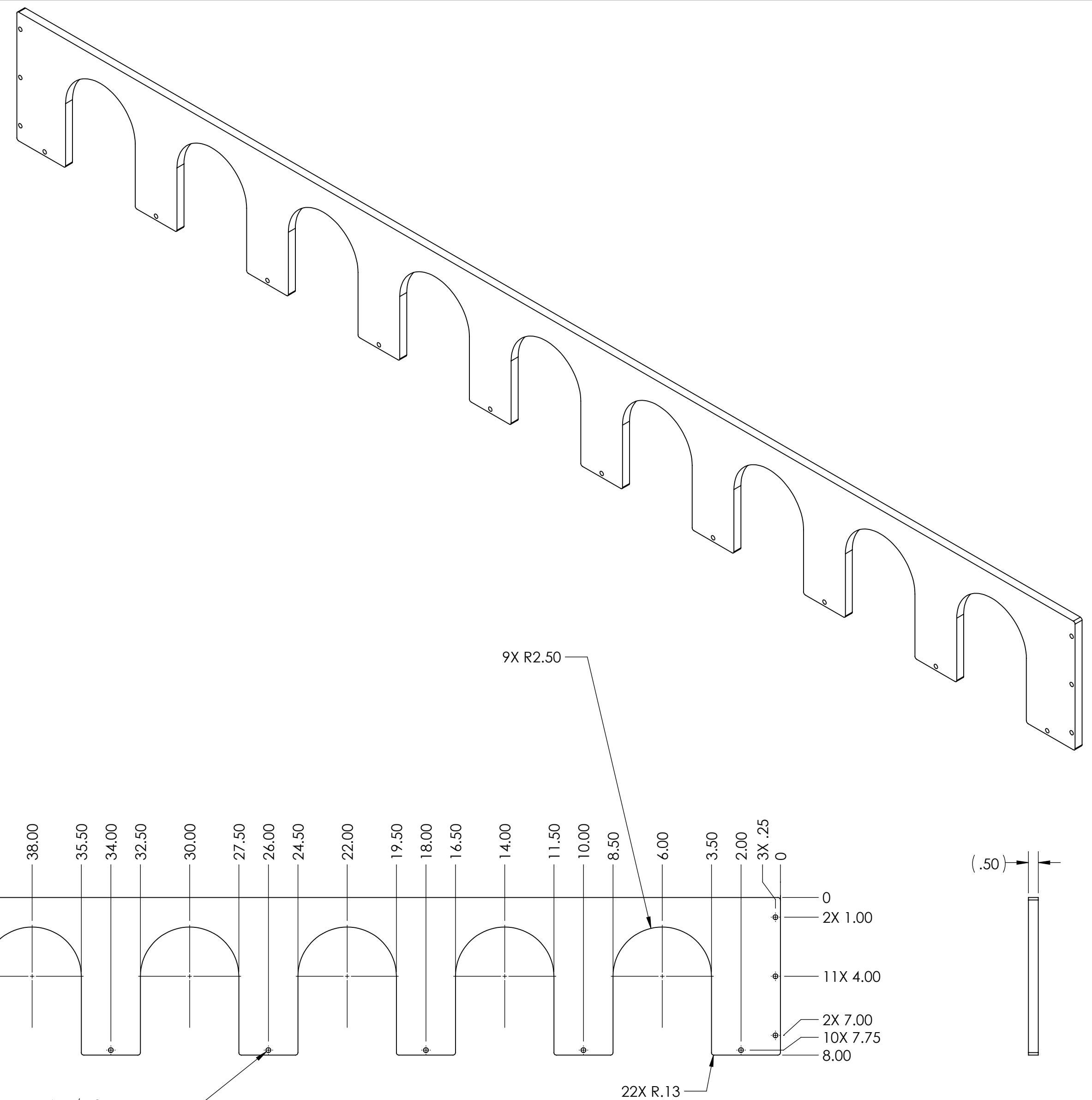
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16X Ø .25 THRU ALL



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 $\pm .005$

MATERIAL/FINISH:

1/2" Polycarbonate

VEND

NAME

DATE

DRAWN

JO

8/12/2024



SOLIDWORKS

Modeling Solutions Partner

TITLE:
Back Divider
Plastic

SIZE DWG. NO. REV

C GE-25020

SCALE: 1:4.5 SHEET 1 OF 1

DO NOT SCALE DRAWING

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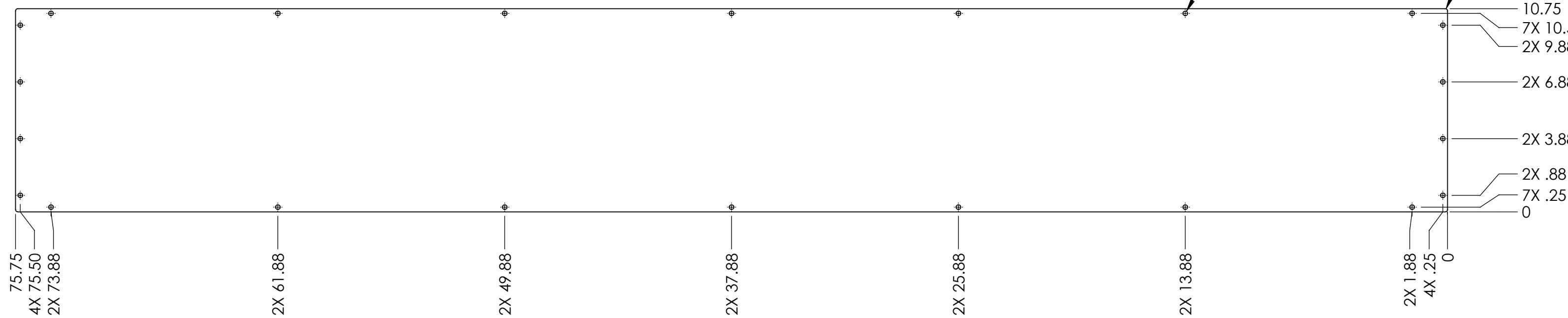
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Notes:
Label with Part Number

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	JO	8/12/2024	
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.			
MATERIAL/FINISH: 1/8" Polycarbonate			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
 FIRST ROBOTICS COMPETITION  SOLIDWORKS <small>Modeling Solutions Partner</small>			
TITLE: Top Cover Plastic			
SIZE	DWG. NO.	REV	
C	GE-25021		
SCALE: 1:5	SHEET 1 OF 1		

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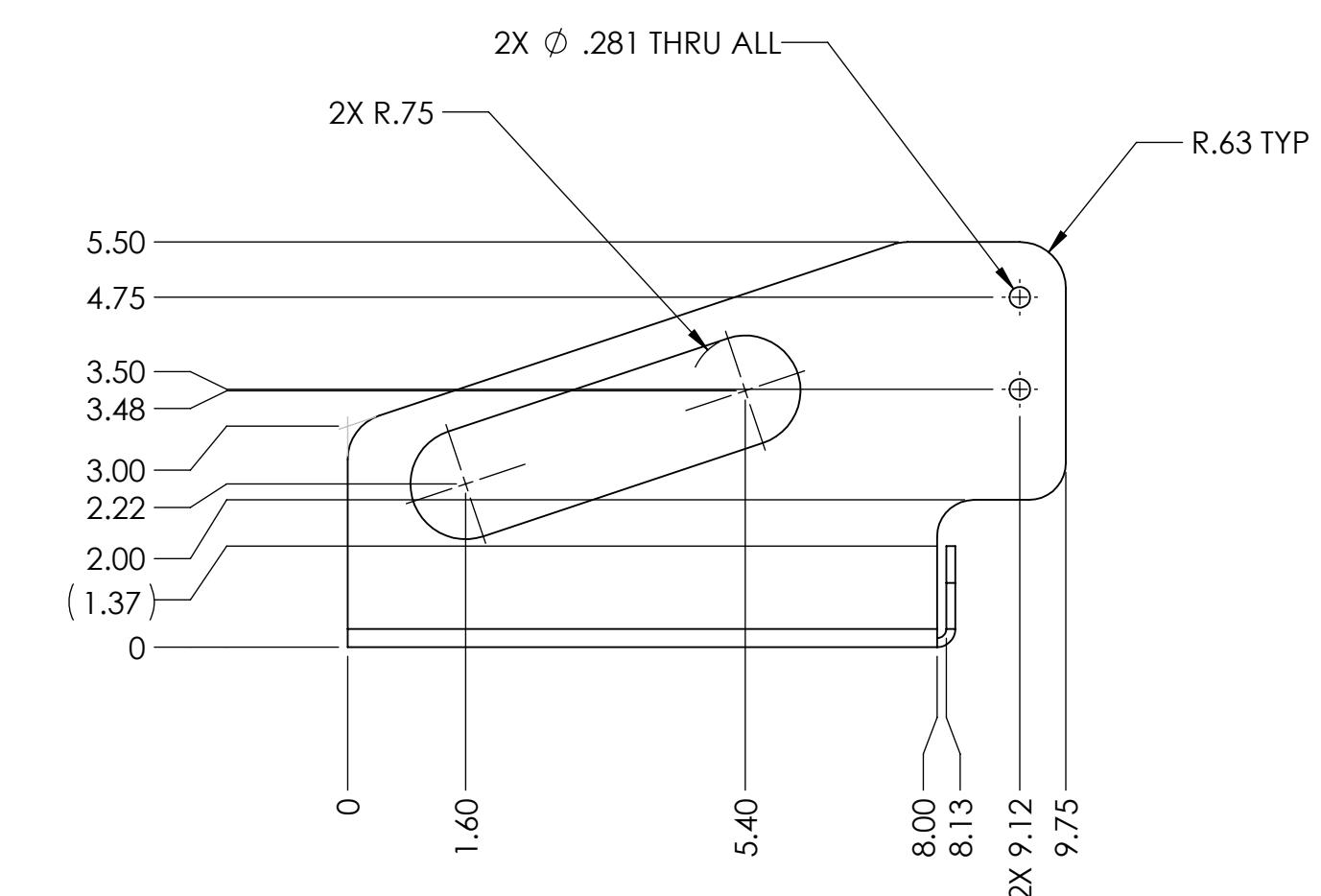
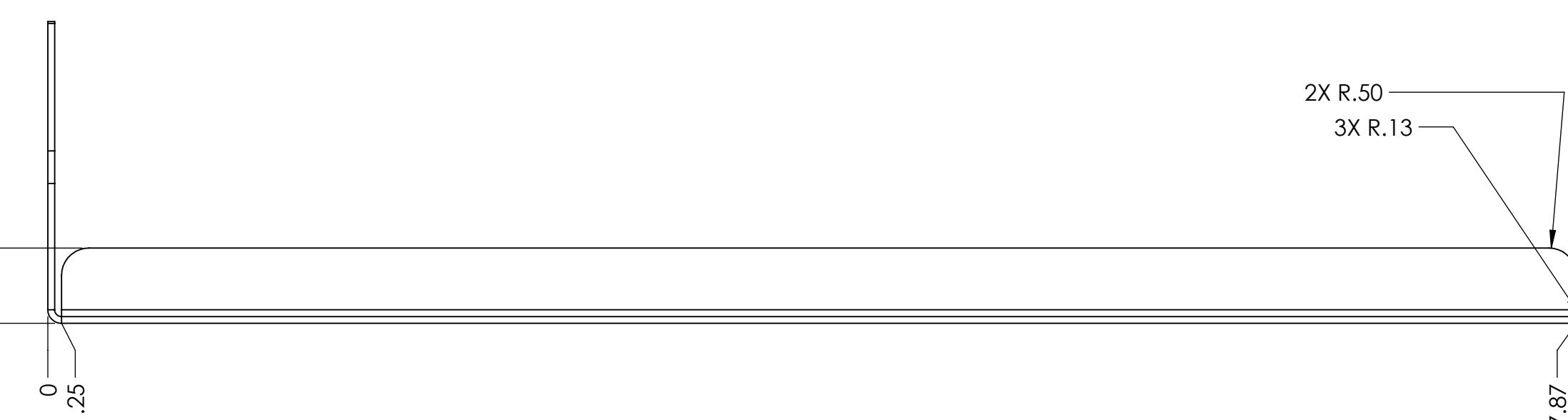
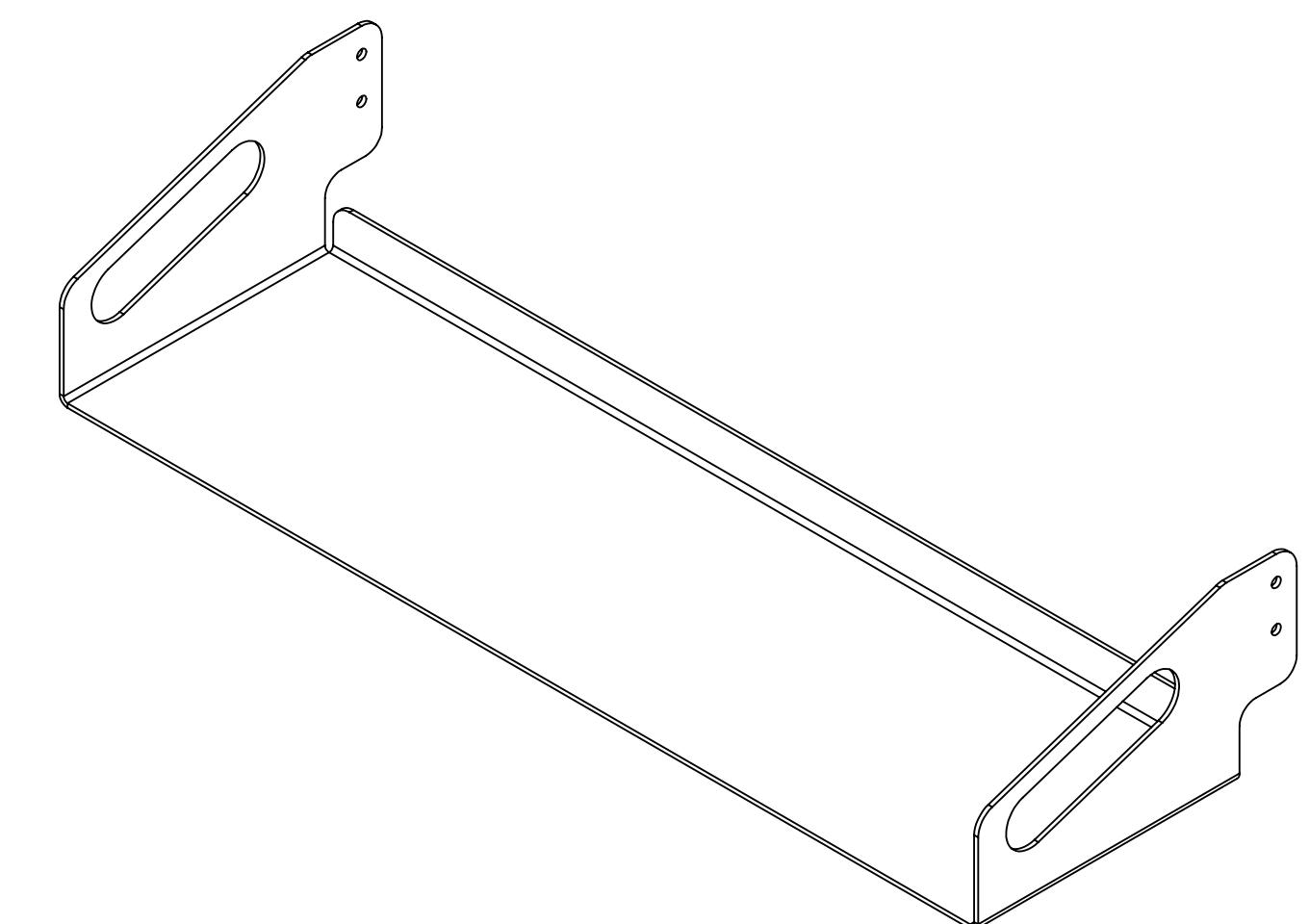
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	8/13/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 11 Gauge (.1233") Galvanized Steel			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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

TITLE:
**Floor Support -
2025 Specific**

SIZE DWG. NO. REV
C GE-25022

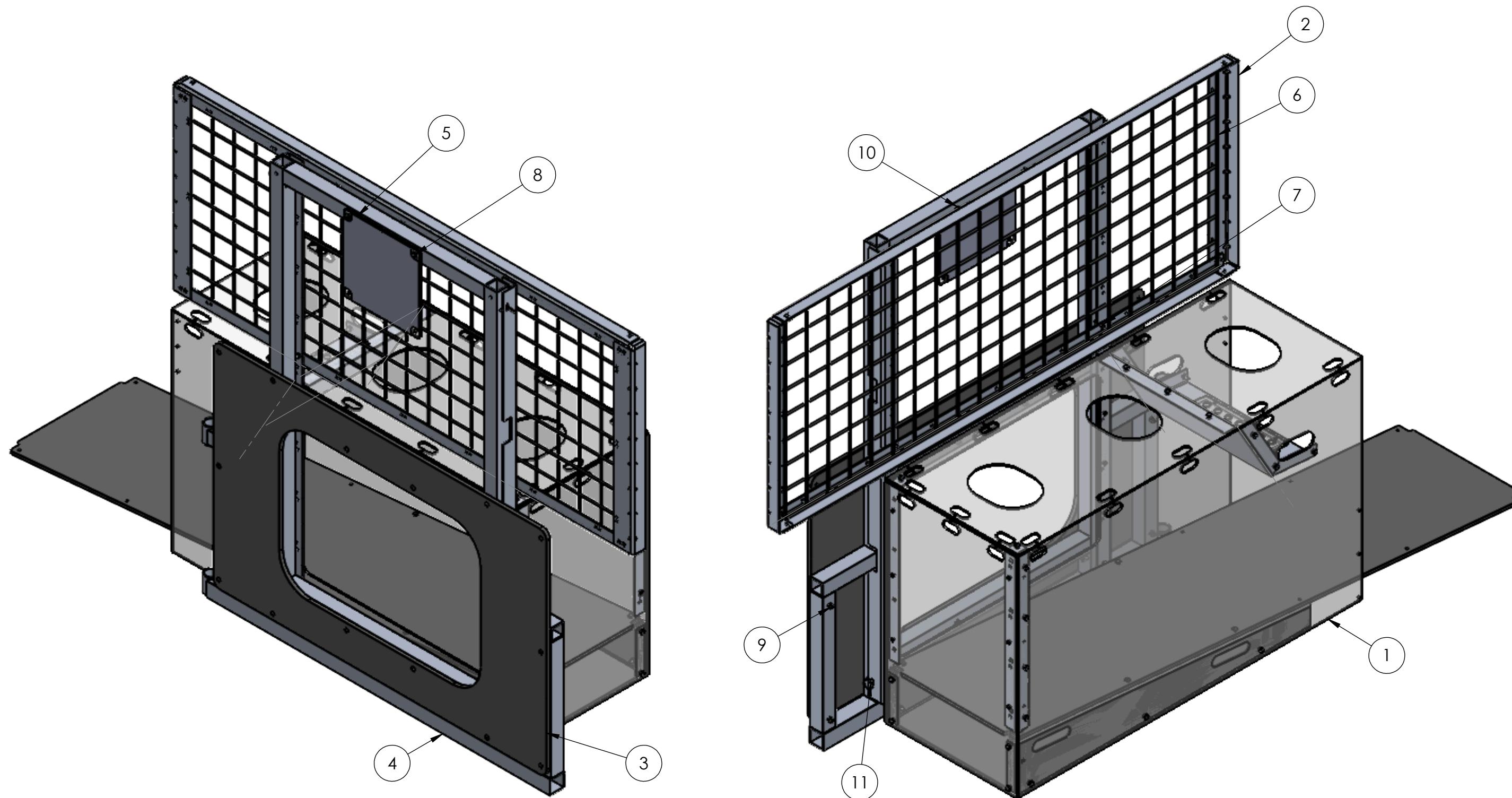
SCALE: 1:4 SHEET 1 OF 1

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1



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_2.3	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	DRAWN	JO	10/28/2024
TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	PROPRIETARY AND CONFIDENTIAL		
MATERIAL/FINISH:	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.			
DO NOT SCALE DRAWING			

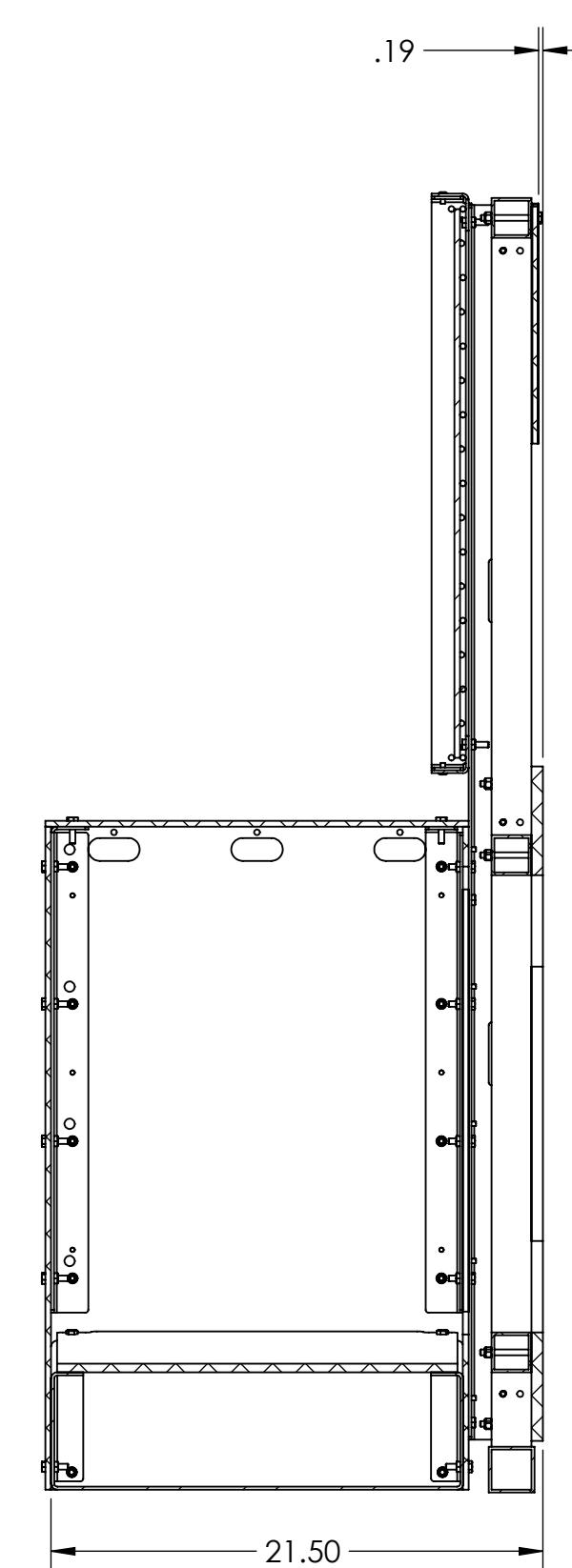
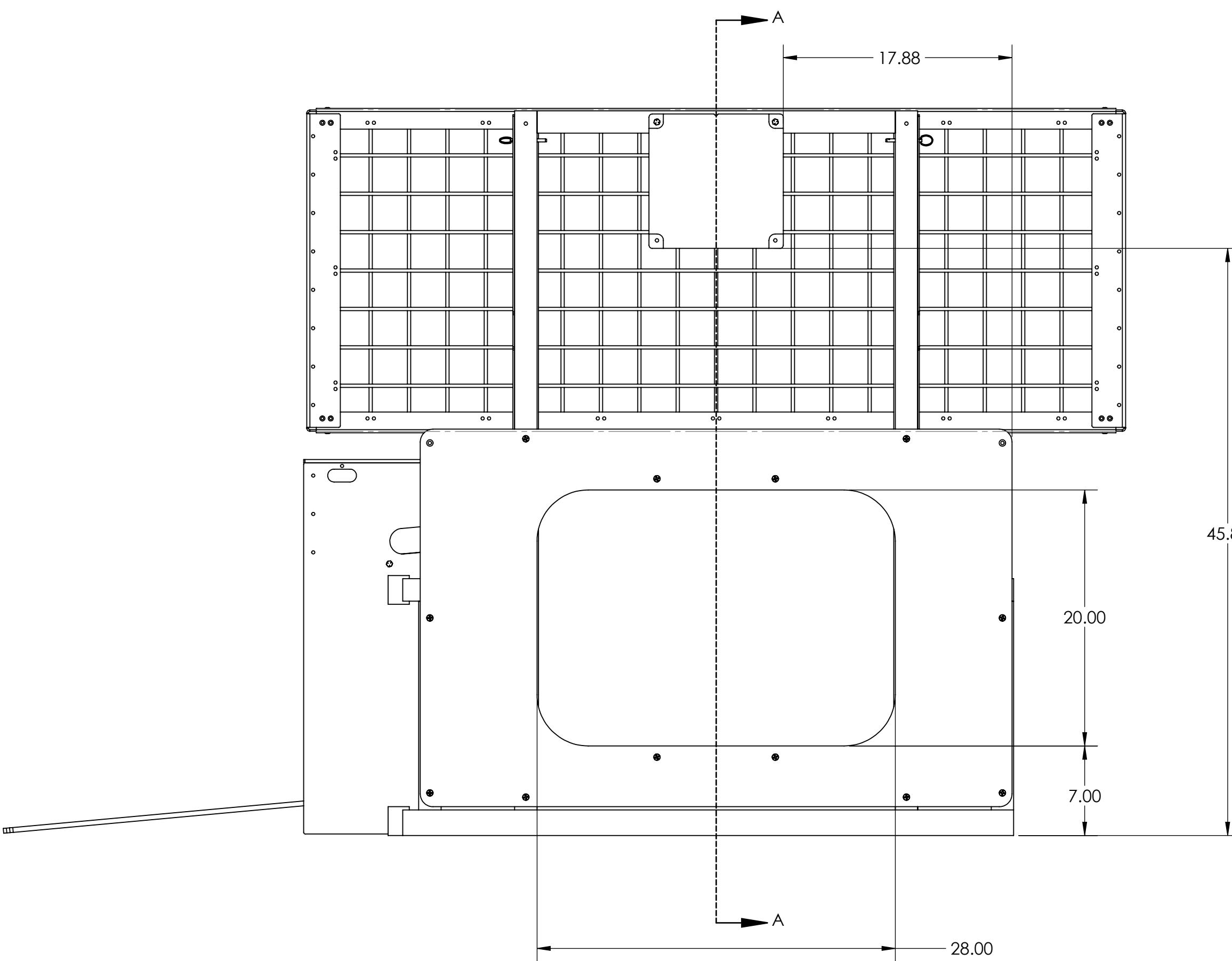
FIRST ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions Partner

Processor

SIZE	DWG. NO.	REV
C	GE-25100	

SCALE: 1:10 SHEET 1 OF 2

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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DRAWN	JO	10/28/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

 **FIRST
ROBOTICS
COMPETITION**  SOLIDWORKS
Modeling Solutions Partner

TITLE:
Processor

SIZE DWG. NO. REV

C GE-25100

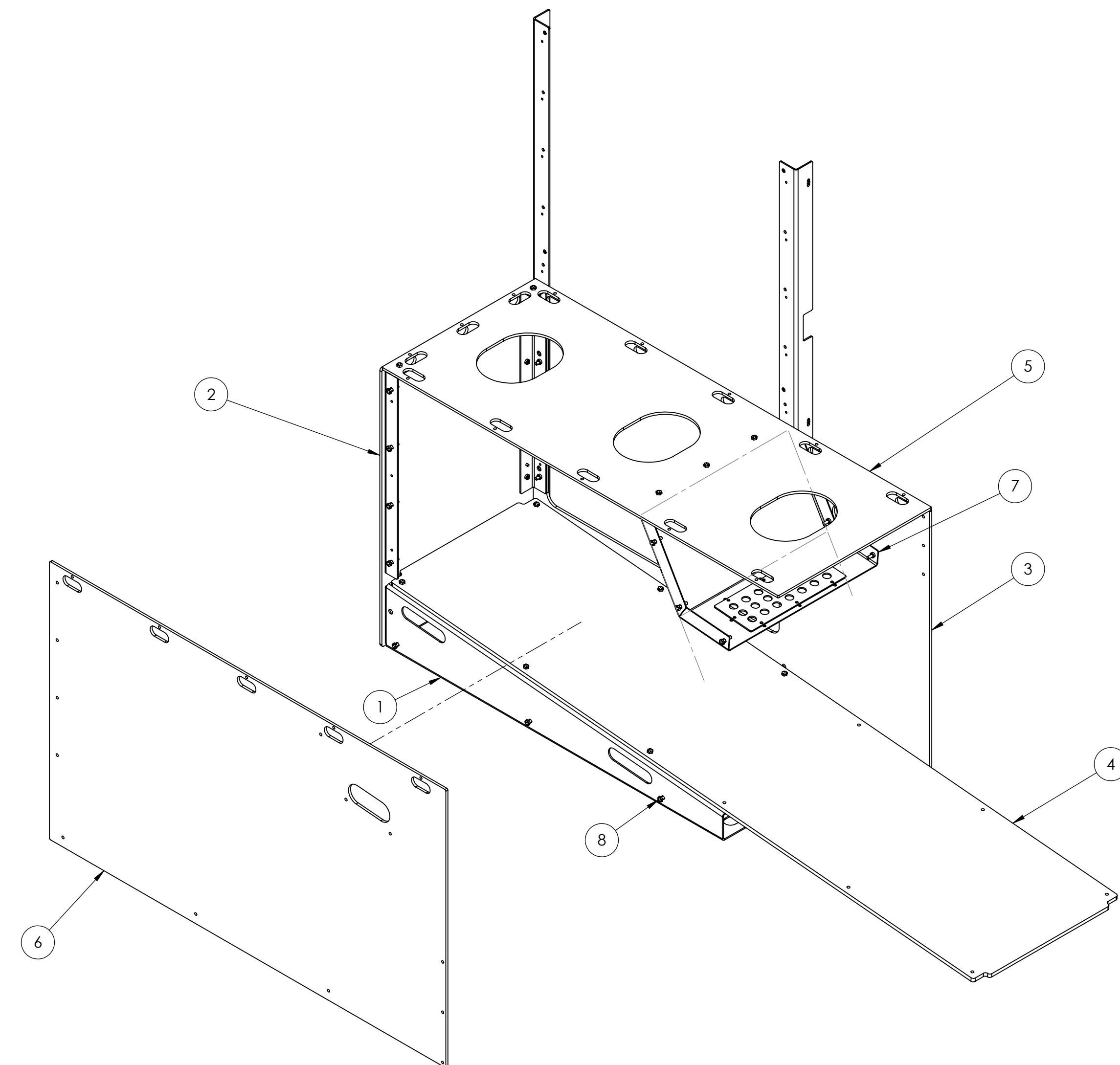
SCALE: 1:8 SHEET 2 OF 2

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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:		
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.		
DO NOT SCALE DRAWING		
TITLE: Ramp Assembly		A
SIZE DWG. NO. REV		
C	GE-25101	
SCALE: 1:8		SHEET 1 OF 1

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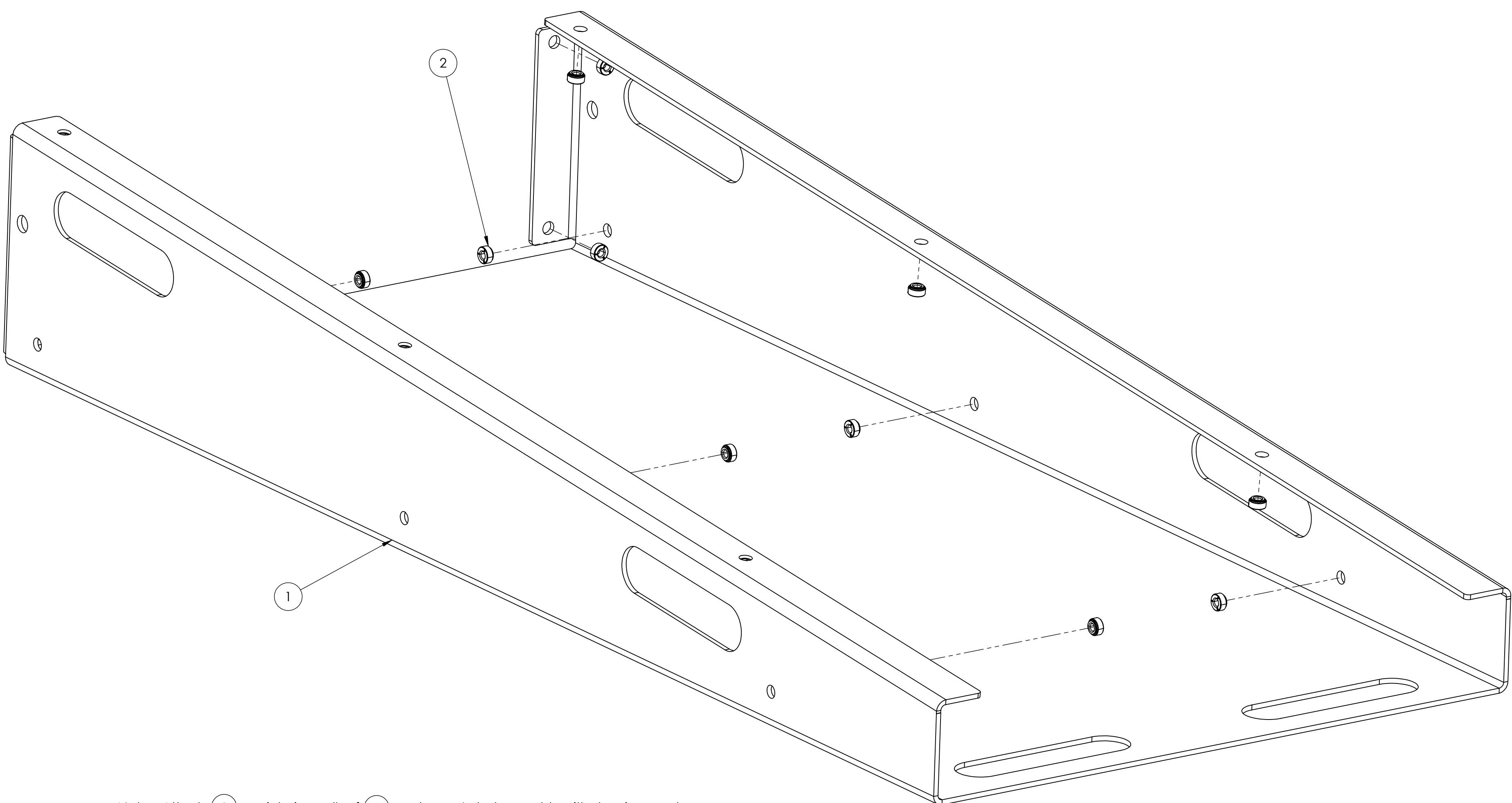
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Notes: Attach (2) on interior walls of (1) as shown. Label assembly with drawing number.

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:			VEND	NAME	DATE
DIMENSIONS ARE IN INCHES			DRAWN	JO	10/2/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$					
TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$					
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.					
DO NOT SCALE DRAWING					

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: Processor Ramp
Sheetmetal with
PEMs

SIZE DWG. NO. REV

C GE-25102

SCALE: 1:2 SHEET 1 OF 1

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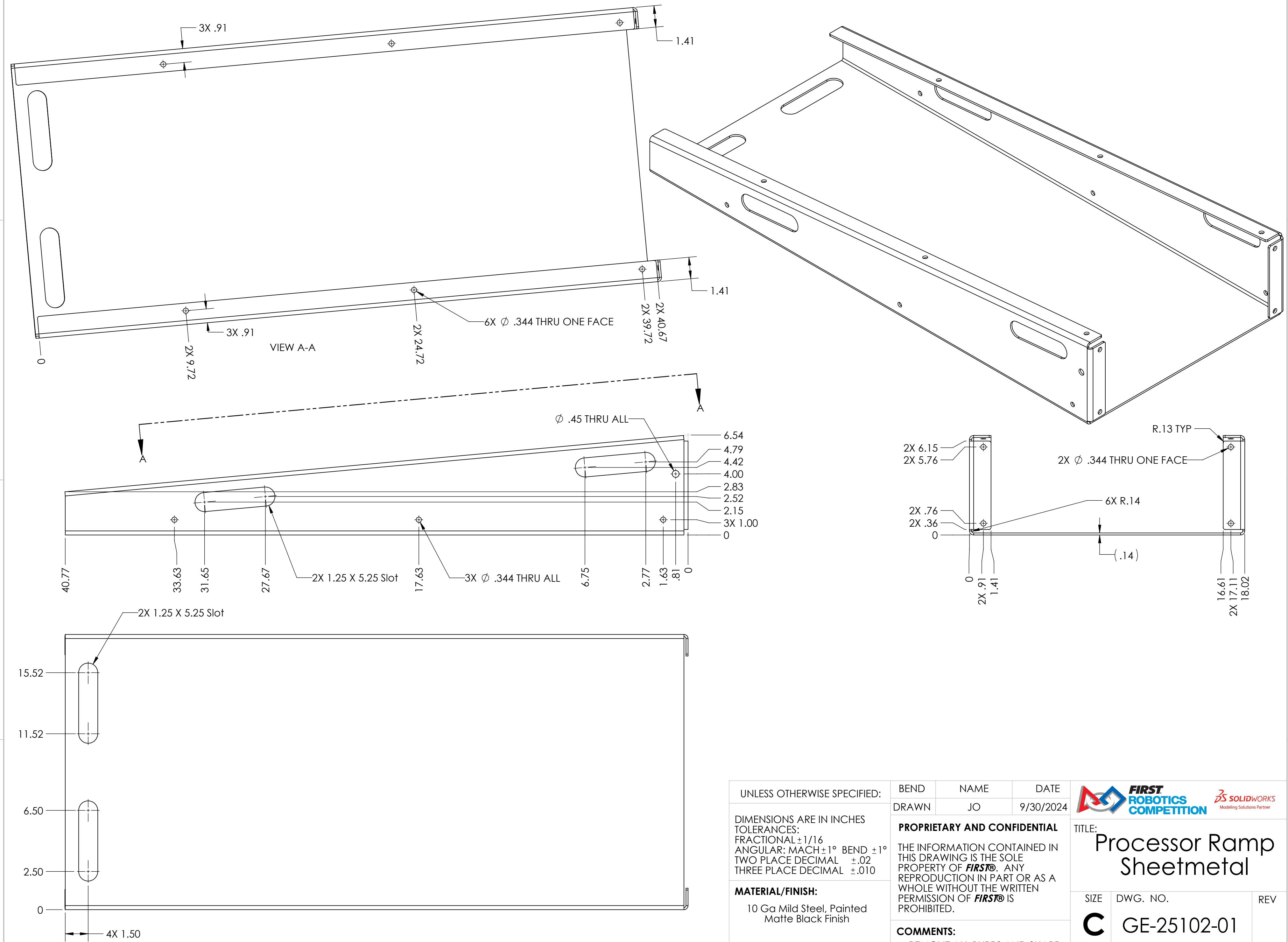
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH:	10 Ga Mild Steel, Painted Matte Black Finish		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
SIZE	DWG. NO.	REV	
C	GE-25102-01		
SCALE: 1:4	SHEET 1 OF 1		

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

Processor Ramp
Sheetmetal

4

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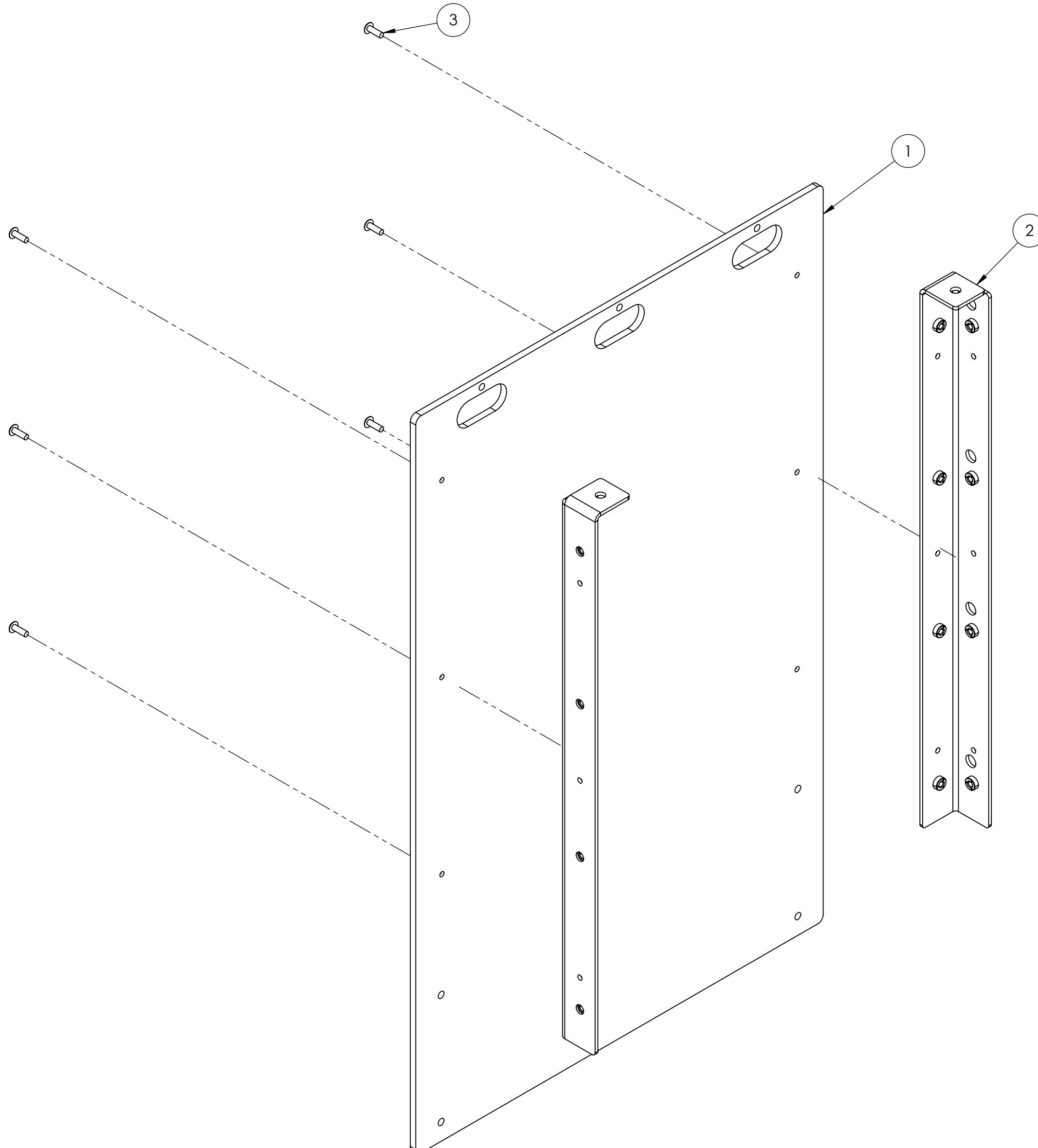
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Notes: Attach (1) to (2) using (3) as shown. Label assembly with drawing number.

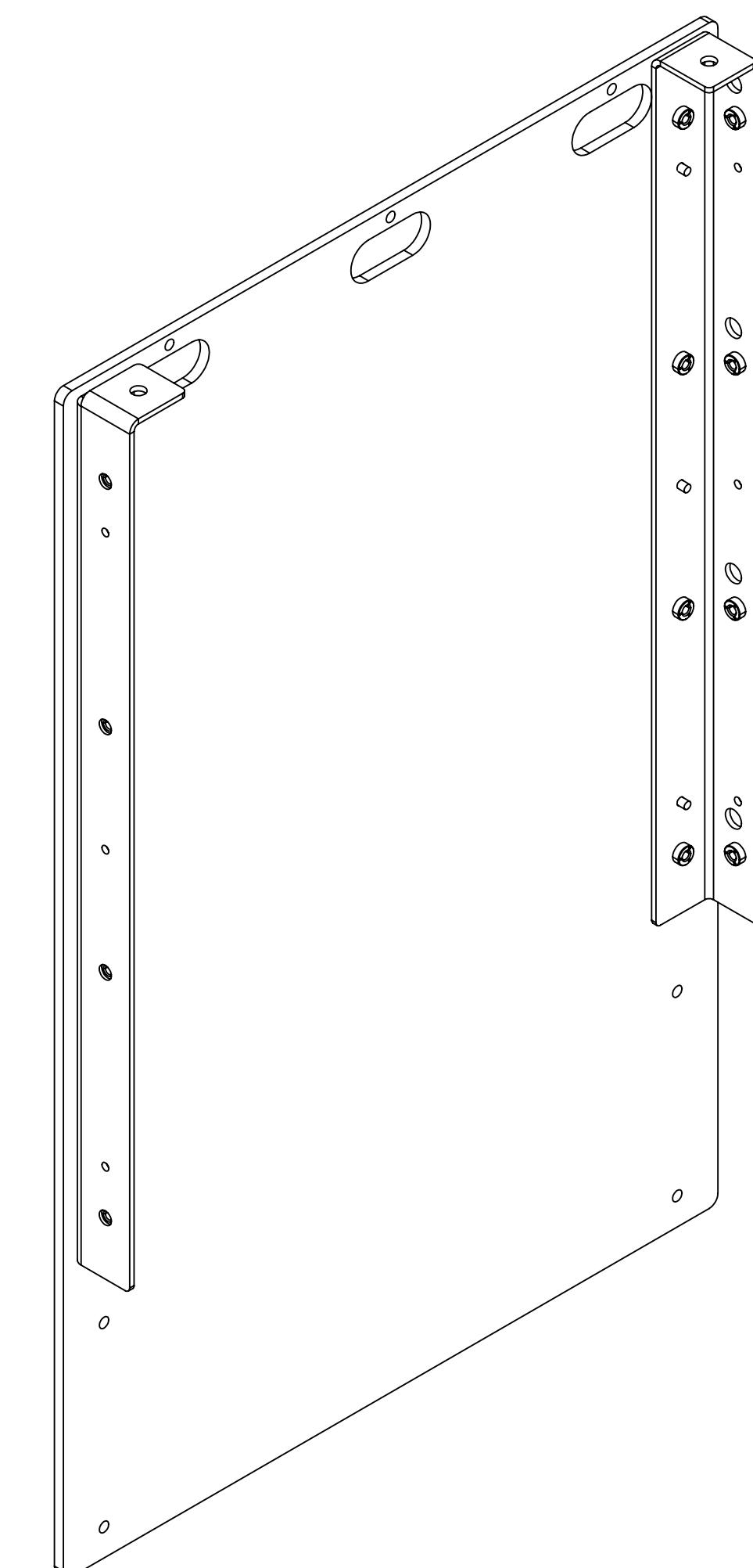
UNLESS OTHERWISE SPECIFIED:

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:

DO NOT SCALE DRAWING



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

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 Ramp Back Assembly

SIZE DWG. NO. REV

C GE-25104

SCALE: 1:3 SHEET 1 OF 1

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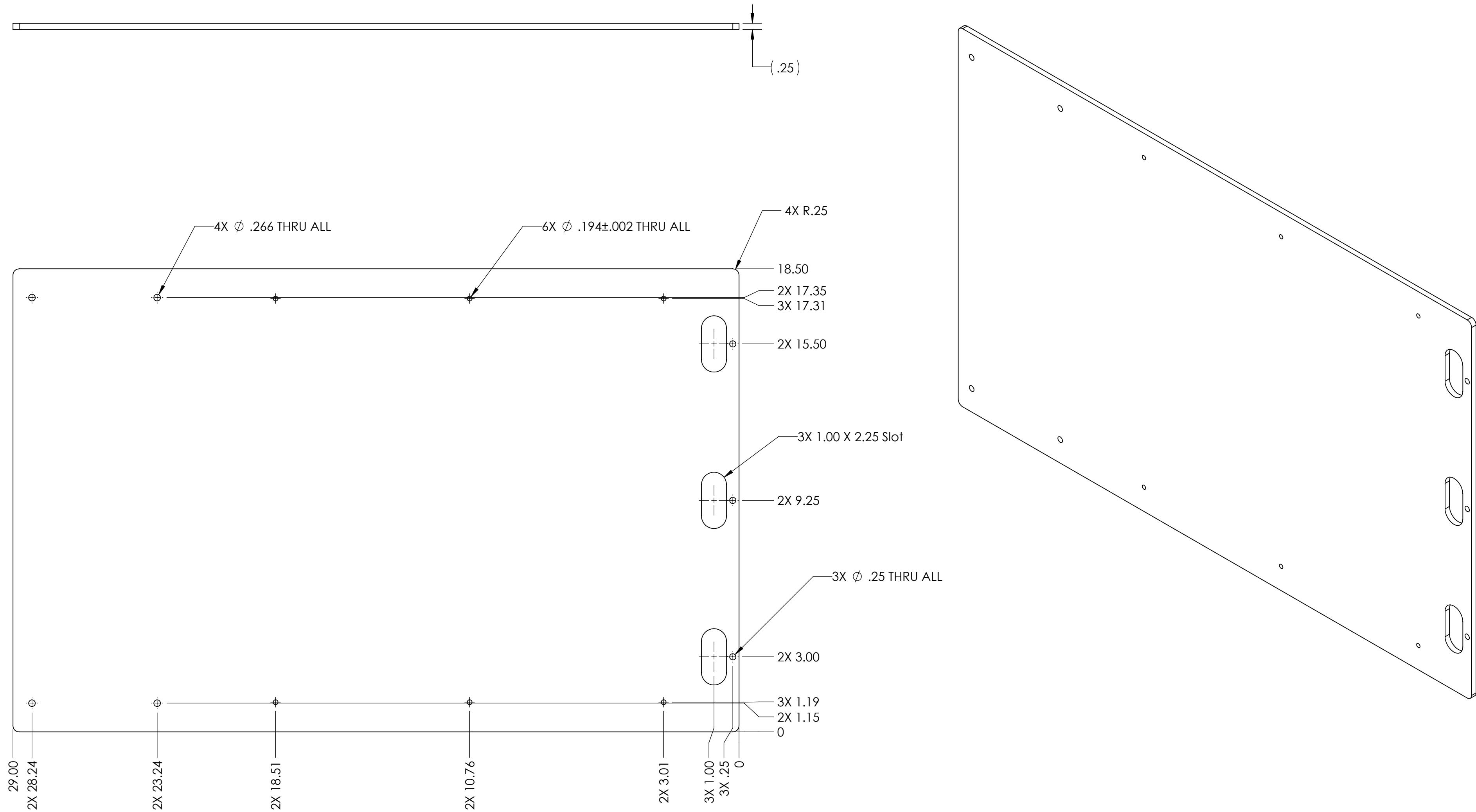
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	10/1/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$			
PROPRIETARY AND CONFIDENTIAL 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.			
MATERIAL/FINISH: 1/4" Polycarbonate, Clear			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Processor Ramp
Back Panel**

SIZE DWG. NO. REV
C GE-25105

SCALE: 1:3 SHEET 1 OF 1

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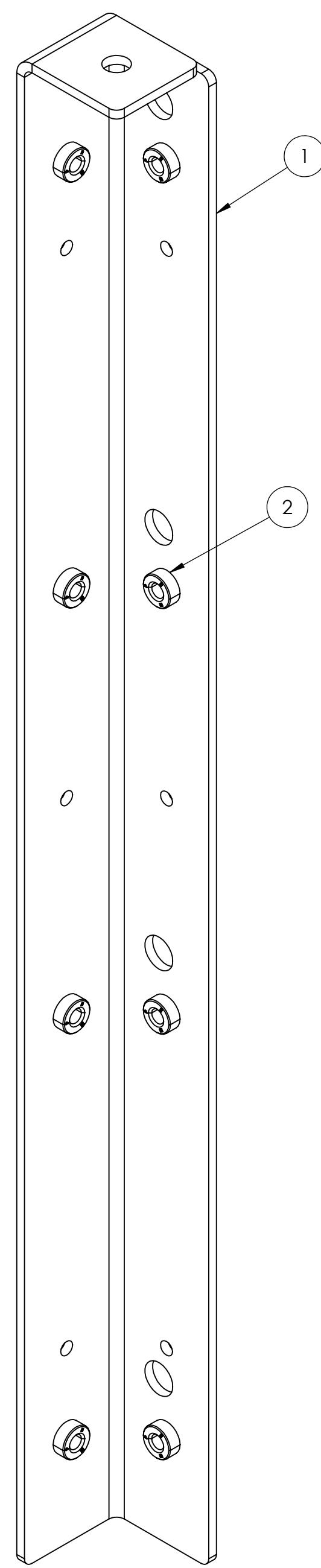
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Notes: Attach (2) to (1) as shown.



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

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

VEND	NAME	DATE
DRAWN	JO	10/2/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.



SOLIDWORKS
Modeling Solutions Partner

TITLE: Processor Inner Corner Bracket w/ PEMs

SIZE DWG. NO. REV

C GE-25106

SCALE: 3:4 SHEET 1 OF 1

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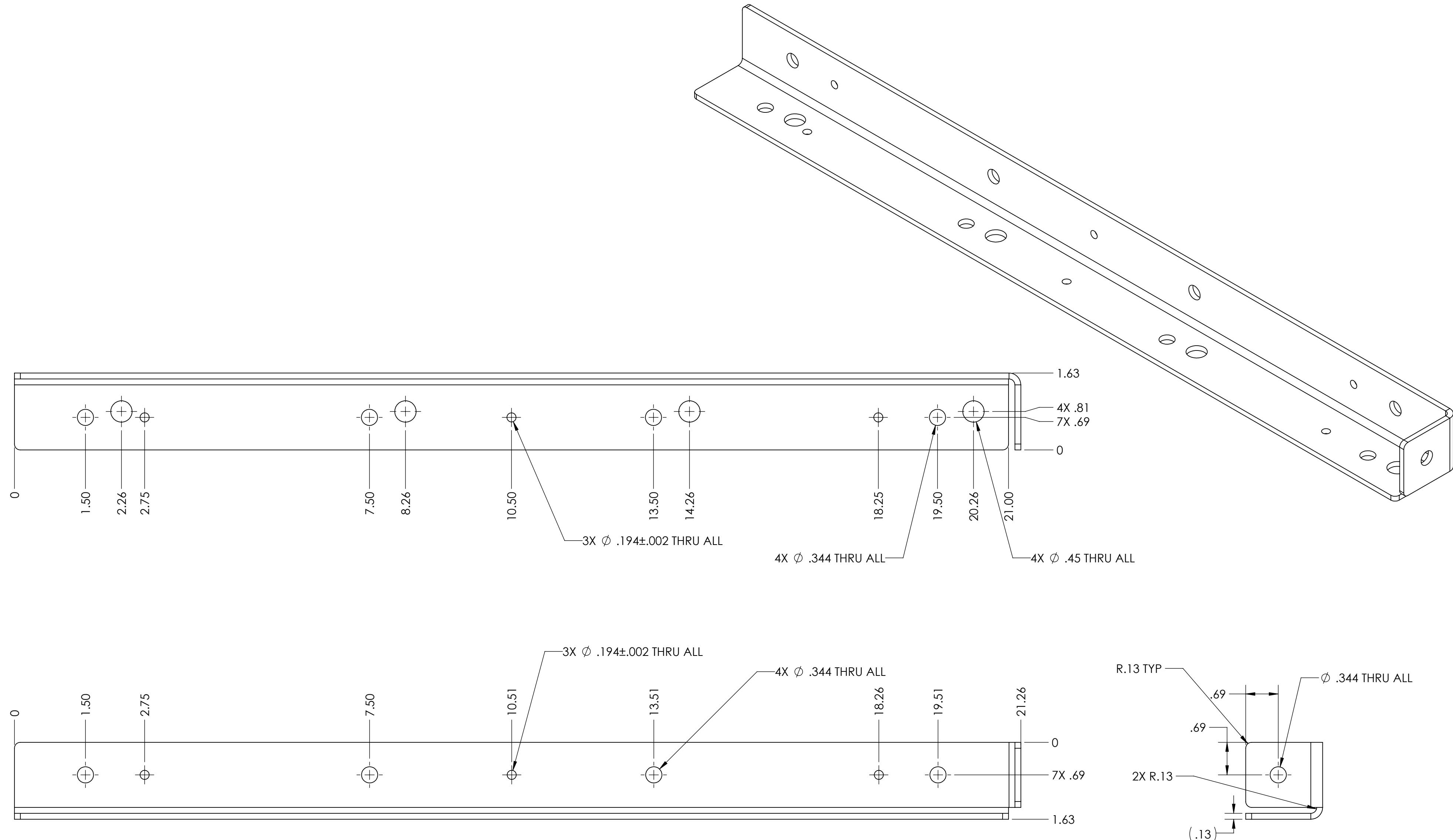
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	10/1/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 8 Ga 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Processor Inner
Corner Bracket

SIZE DWG. NO. REV
C GE-25106-01

SCALE: 2:3 SHEET 1 OF 1

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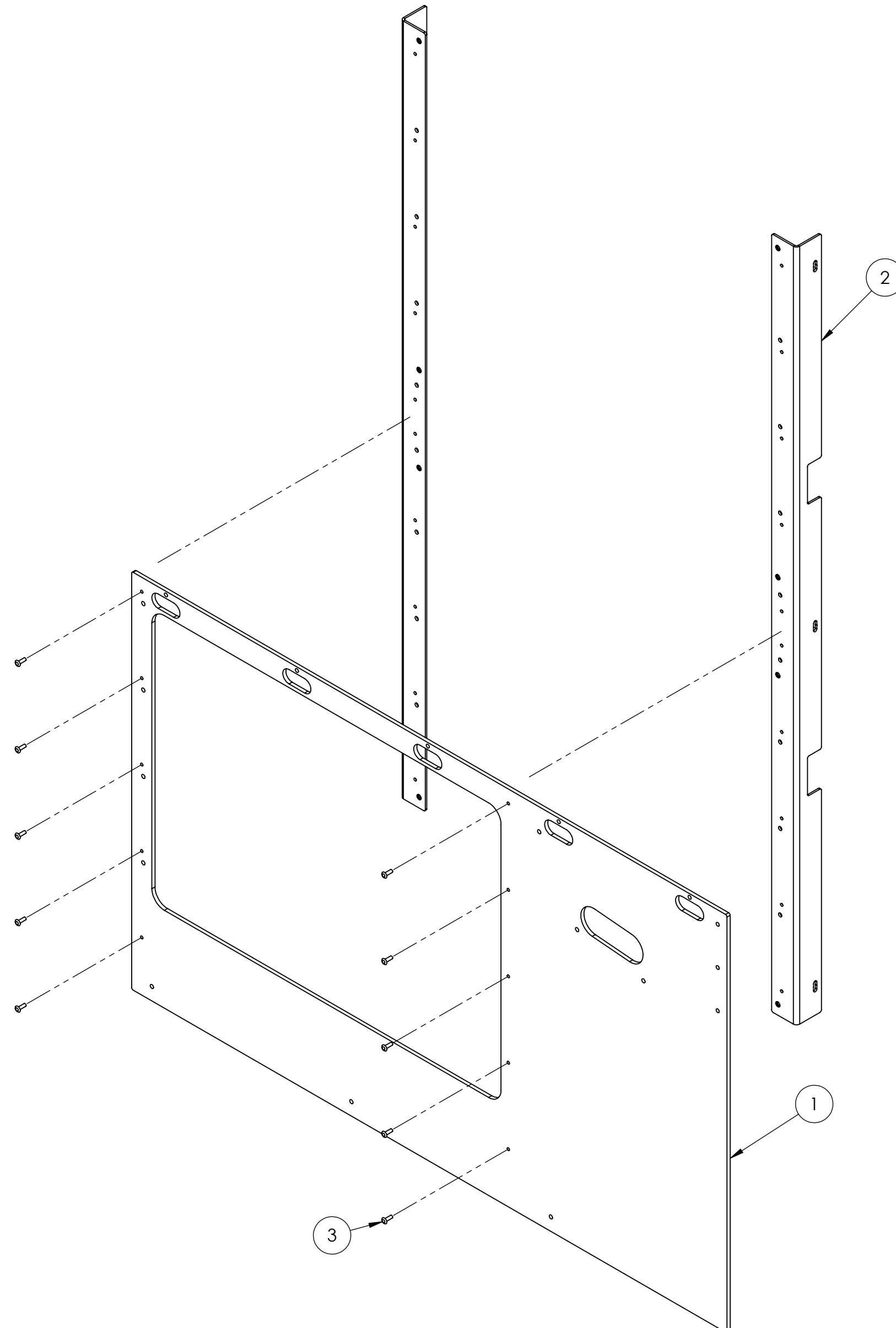
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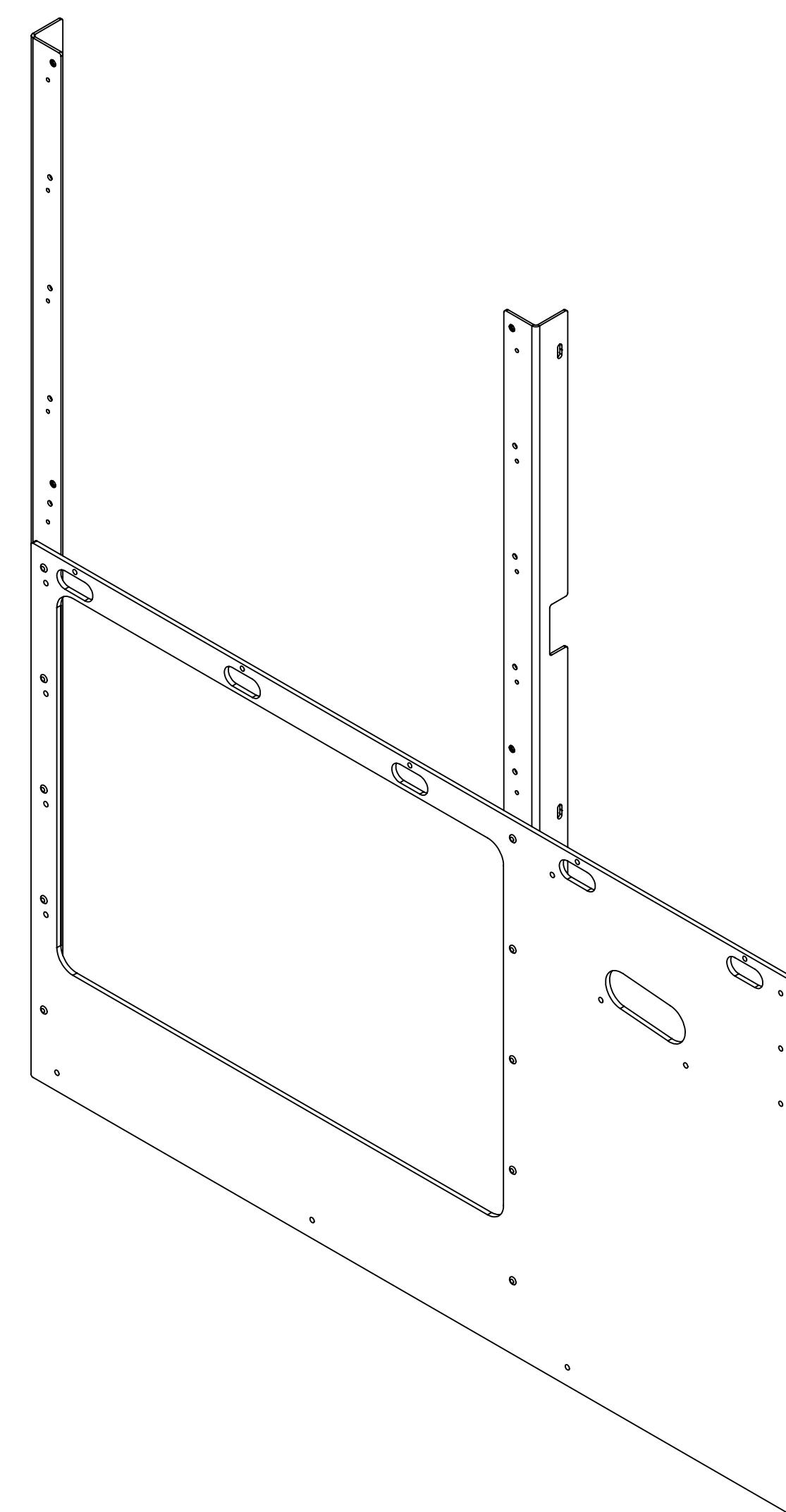
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Notes: Attach (2) to (1) with (3). Label Assembly with drawing number.



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:

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:

VEND	NAME	DATE
DRAWN	JO	10/2/2024
TITLE:		SOLIDWORKS
SIZE	DWG. NO.	REV
C	GE-25107	
SCALE: 1:6	SHEET 1 OF 1	

DO NOT SCALE DRAWING



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS

Modeling Solutions Partner

Processor Fieldside Assembly

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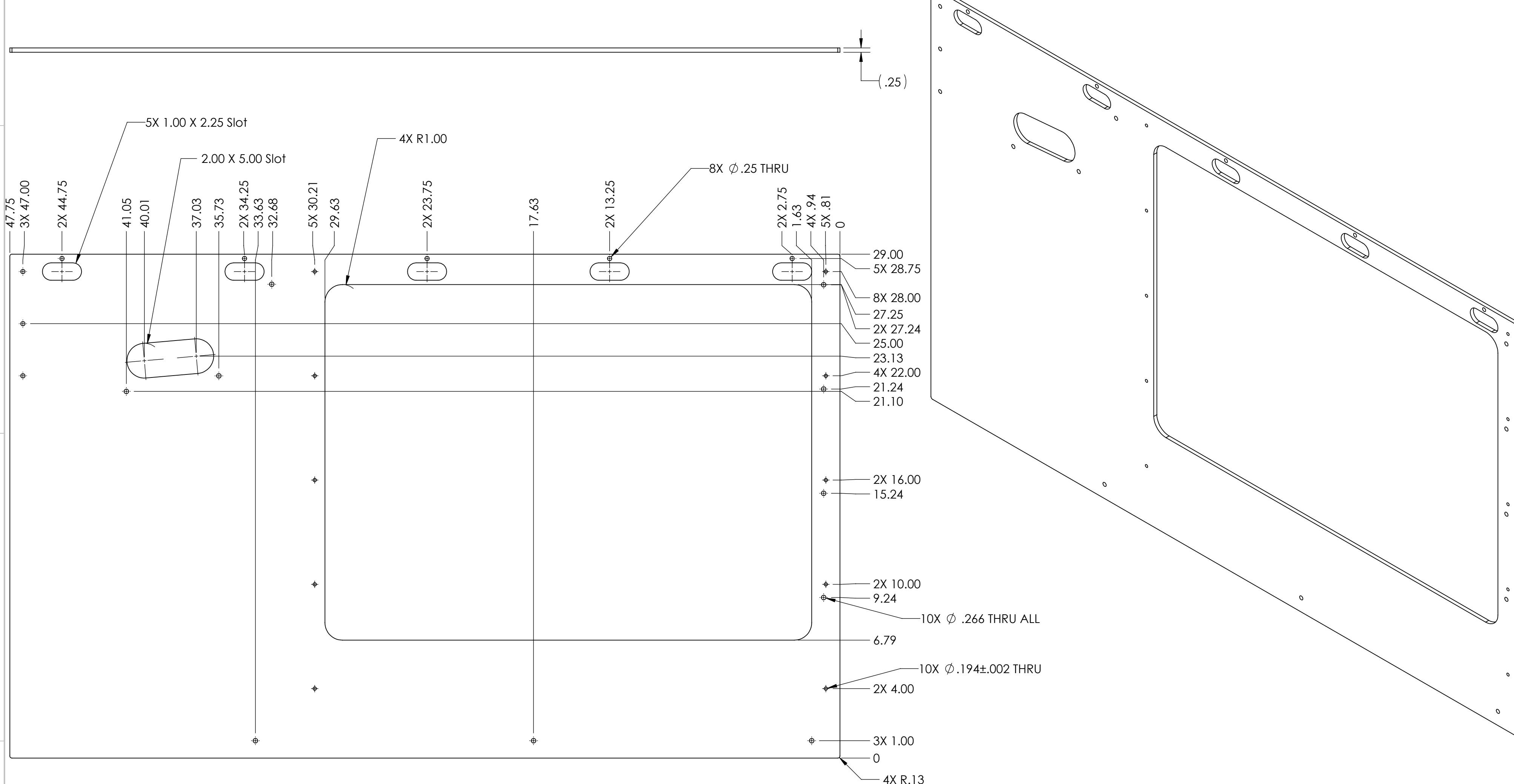
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	10/1/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	PROPRIETARY AND CONFIDENTIAL		
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.			
MATERIAL/FINISH:	1/4" Polycarbonate, Clear		
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			



TITLE:

Processor Fieldside Panel

SIZE DWG. NO. REV

C GE-25108

SCALE: 12:50 SHEET 1 OF 1

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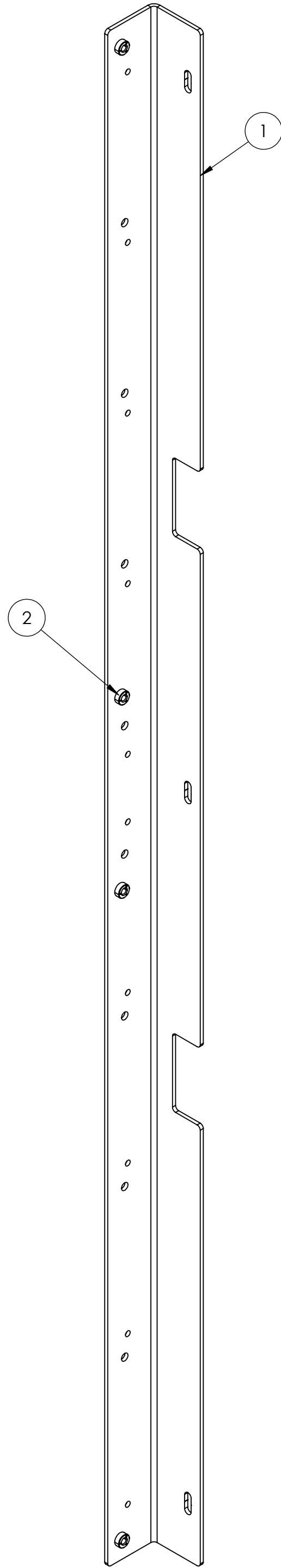
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Notes: Attach (2) to (1) as shown.



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:			VEND	NAME	DATE
			DRAWN	JO	10/2/2024
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 $\pm .005$					
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.					
MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

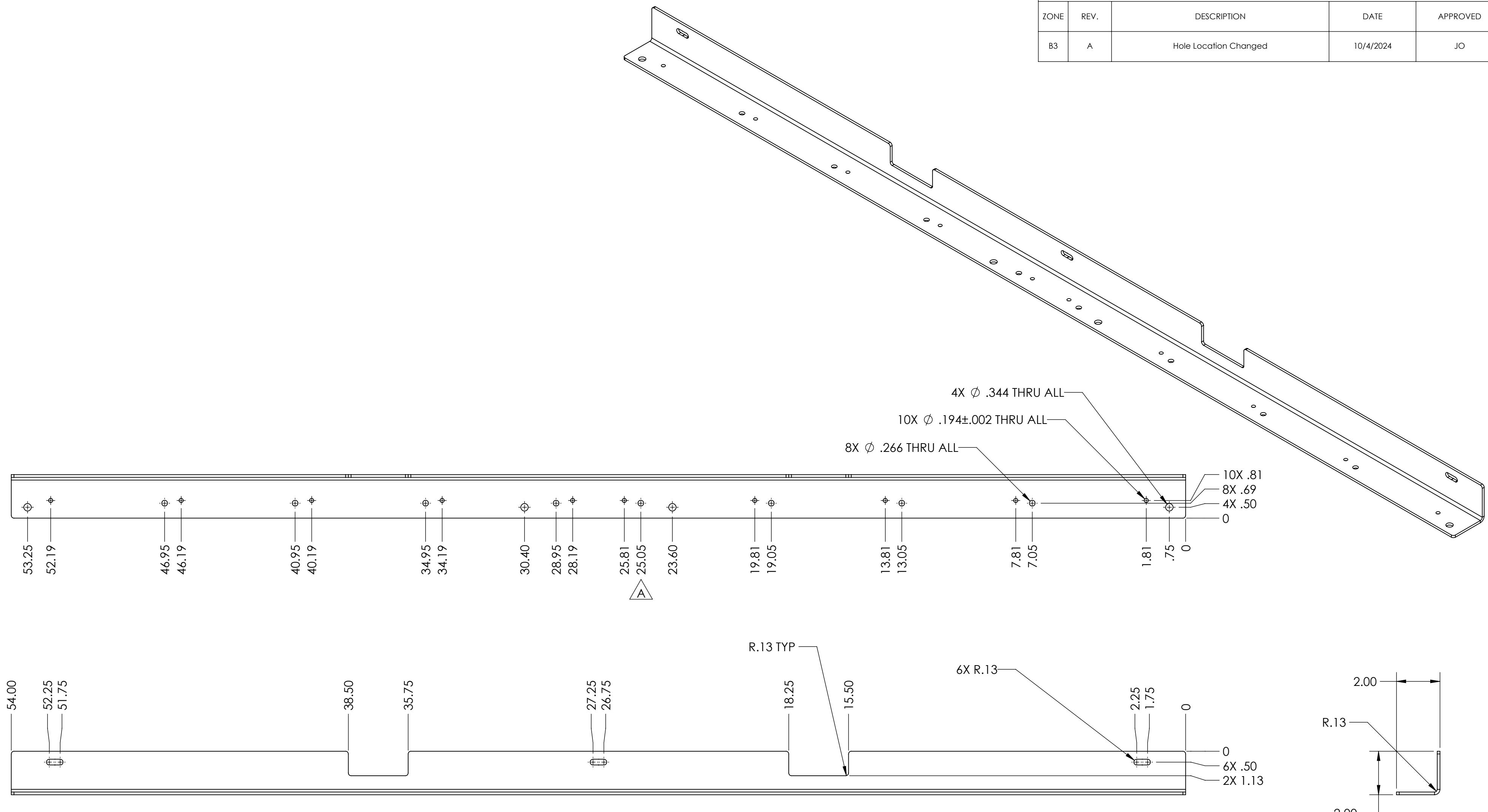
 **FIRST
ROBOTICS
COMPETITION**  **SOLIDWORKS**
 Modeling Solutions Partner

TITLE: Upright Sheetmetal w/
PEMs
SIZE DWG. NO. REV
C GE-25109

SCALE: 1:3 **SHEET 1 OF 1**

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 $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ **MATERIAL/FINISH:**

8 Ga 5052 Aluminum

DO NOT SCALE DRAWING

BEND NAME DATE

DRAWN JO 9/30/2024



TITLE:

Upright Sheetmetal

SIZE DWG. NO. REV

C GE-25109-01 A

SCALE: 3:10 SHEET 1 OF 1

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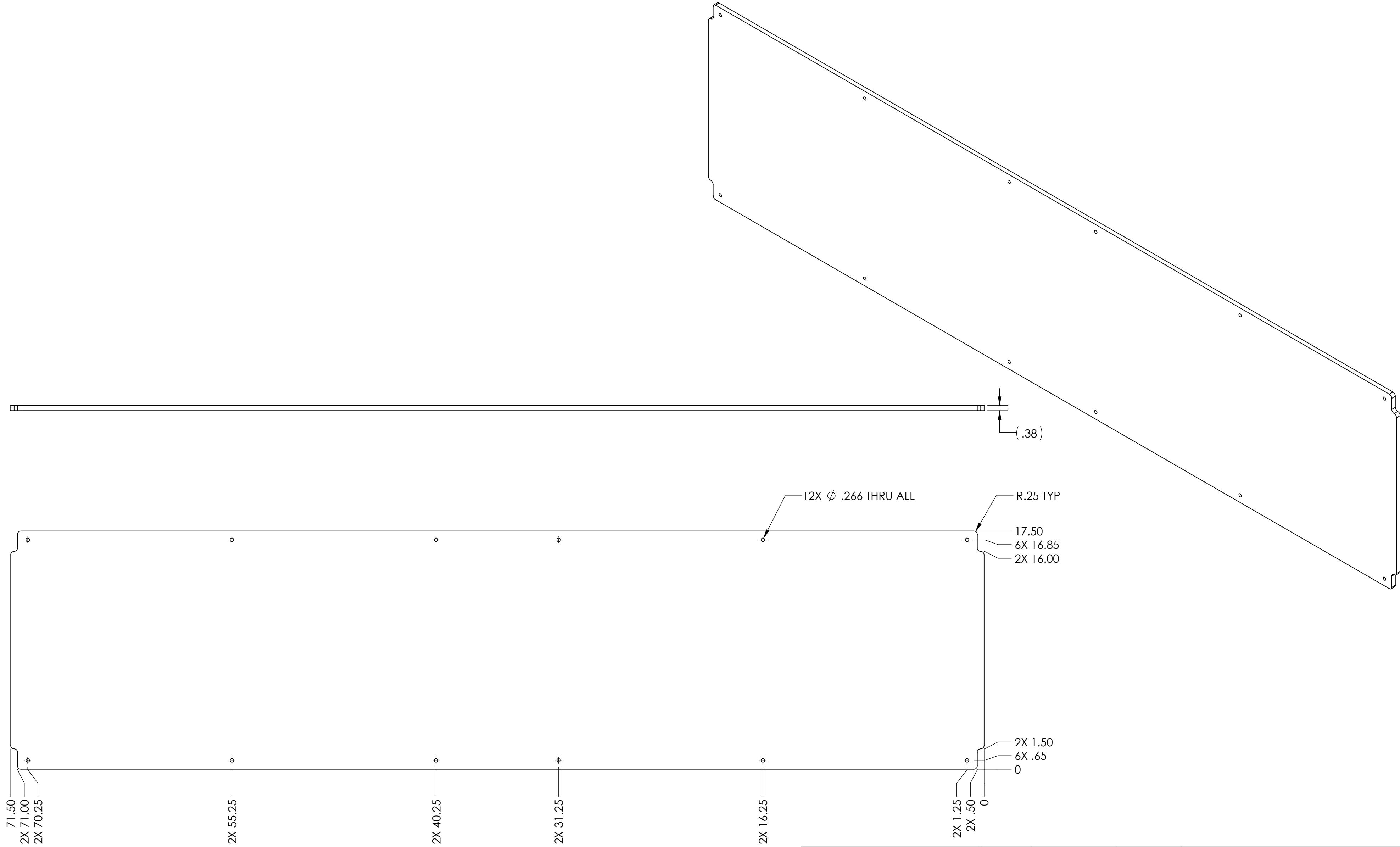
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	JO	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 3/8" HDPE, Matte Black Finish			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

 **FIRST ROBOTICS COMPETITION**  SOLIDWORKS Modeling Solutions Partner

TITLE:
Processor Ramp

SIZE DWG. NO. REV
C GE-25110

SCALE: 1:5 SHEET 1 OF 1

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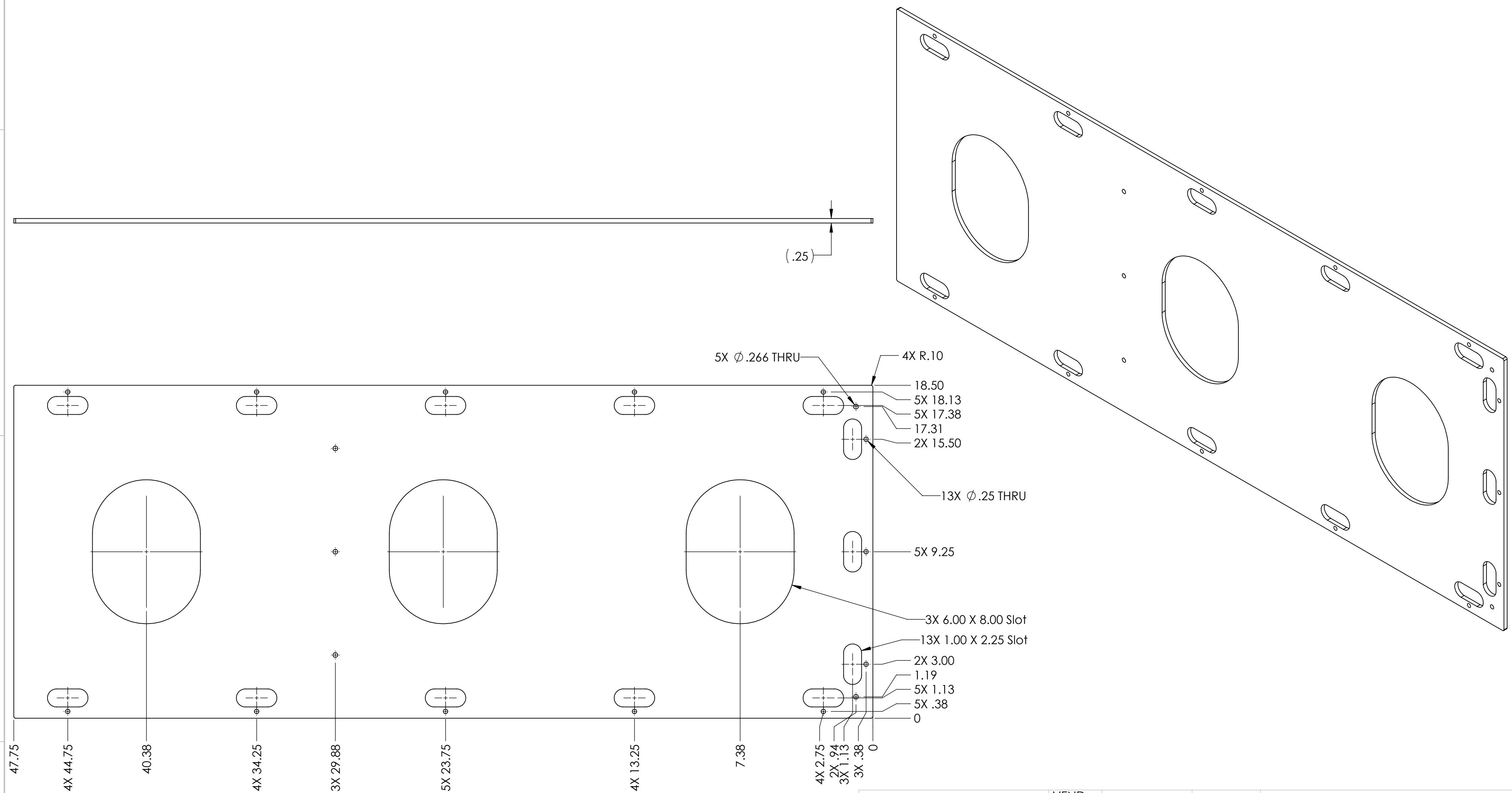
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	JO	9/30/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 1/4" Polycarbonate, Clear			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Processor Top
Panel**

SIZE DWG. NO. REV

C GE-25111

SCALE: 1:4 SHEET 1 OF 1

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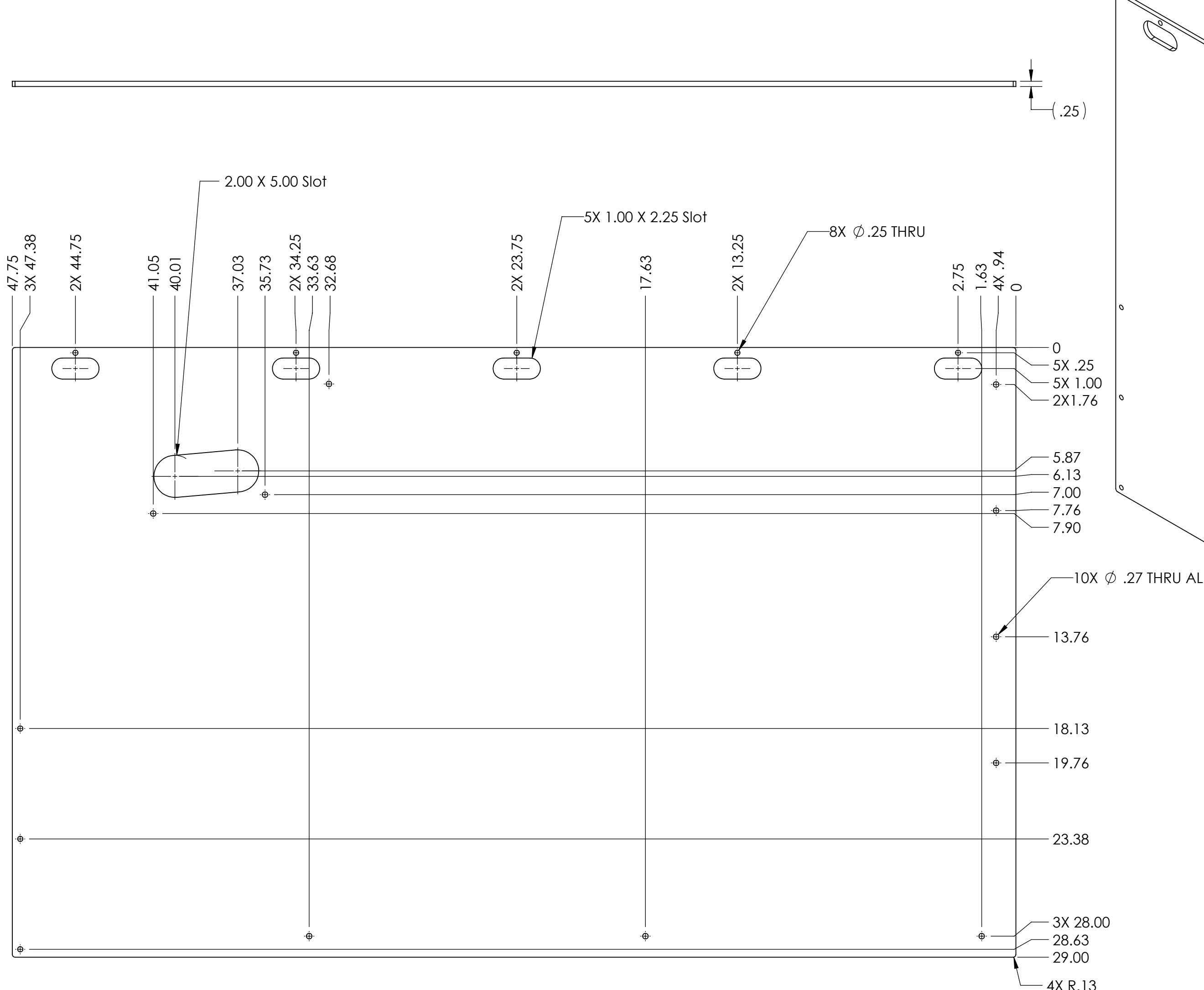
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	10/1/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$			
PROPRIETARY AND CONFIDENTIAL 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.			
MATERIAL/FINISH: 1/4" Polycarbonate, Clear			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			



TITLE: Processor Humanside Panel
SIZE DWG. NO. REV
C GE-25112

SCALE: 6:25 SHEET 1 OF 1

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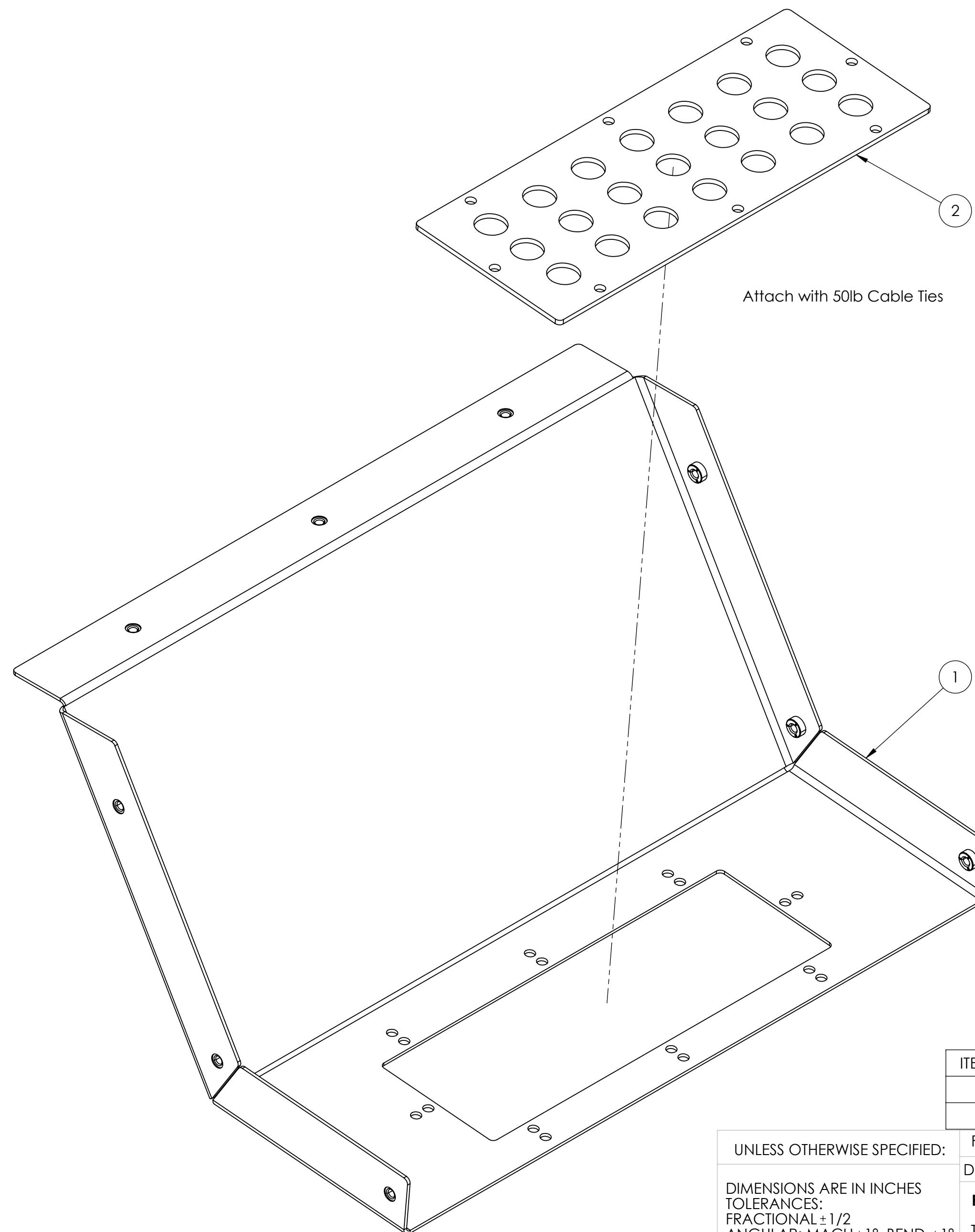
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.		
1	GE-25114	Sensor Mount	1		
2	GE-25115	Processor Sensor Plate	1		
UNLESS OTHERWISE SPECIFIED:		FIELD	NAME		
		DRAWN	JO		
		DATE			
		12/6/2024			
PROPRIETARY AND CONFIDENTIAL					
THE INFORMATION CONTAINED IN 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.					
DO NOT SCALE DRAWING					

 FIRST
ROBOTICS
COMPETITION  SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Sensor
Assembly**

SIZE DWG. NO. REV
C GE-25113

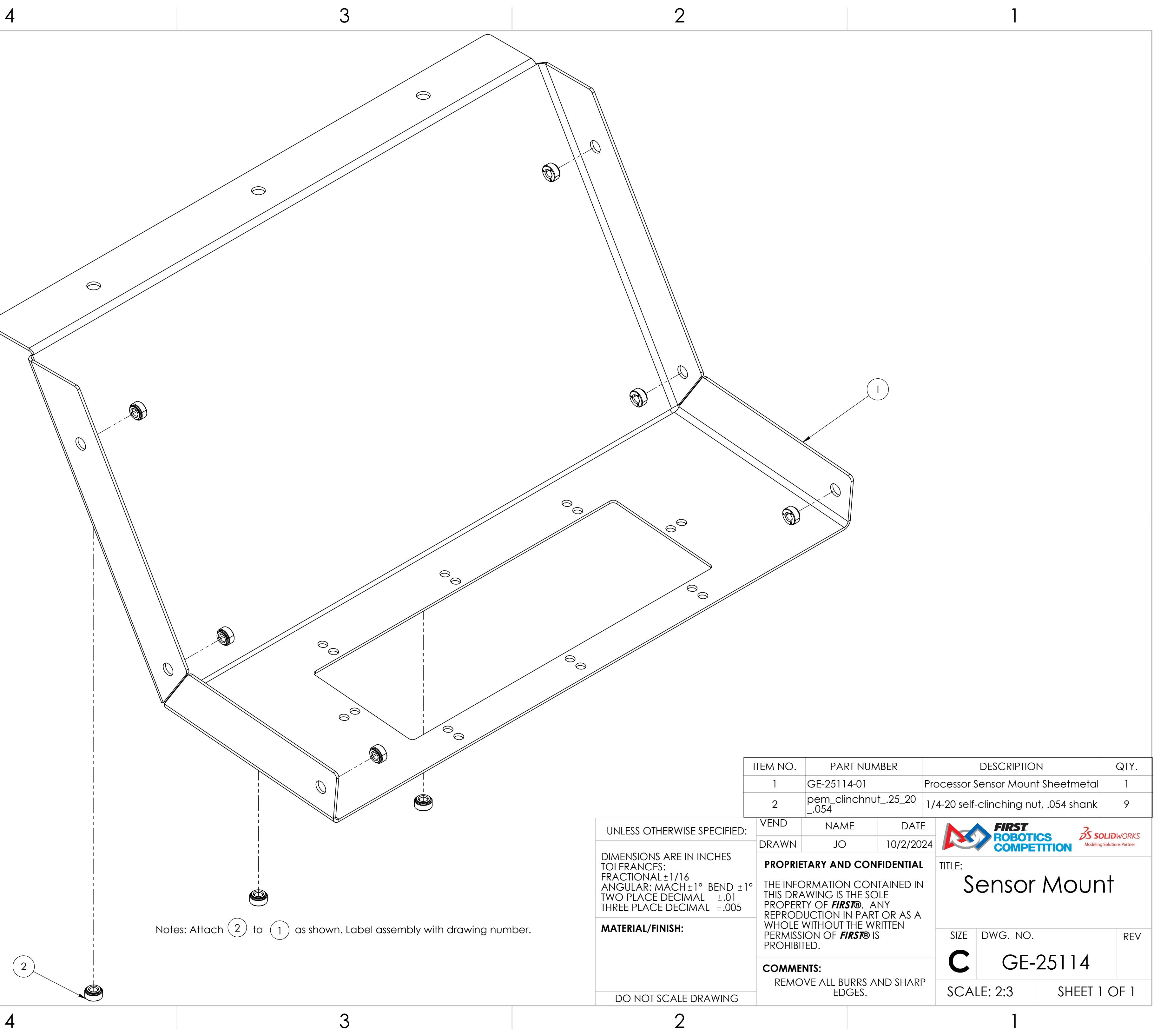
SCALE: 1:2 SHEET 1 OF 1

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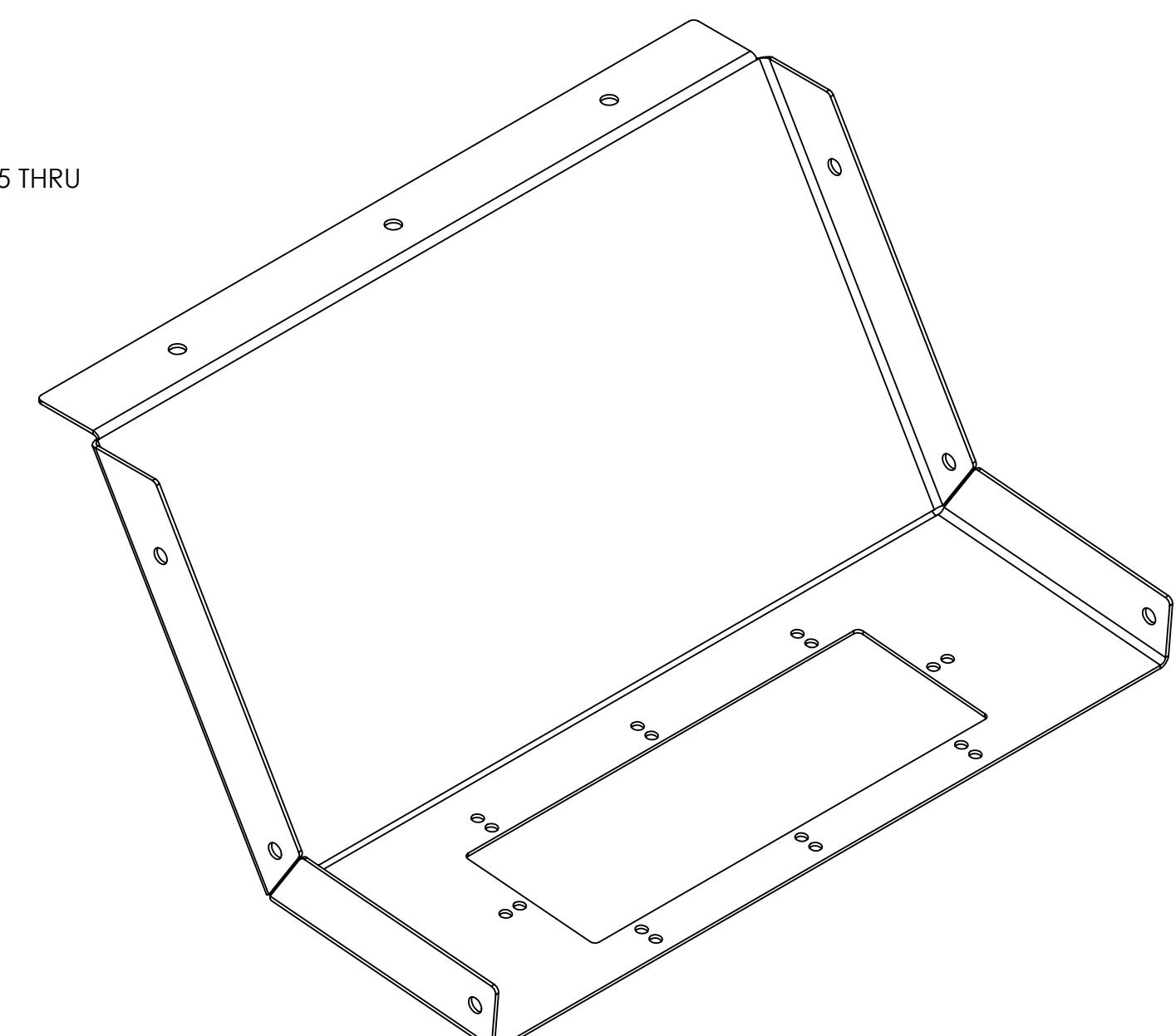
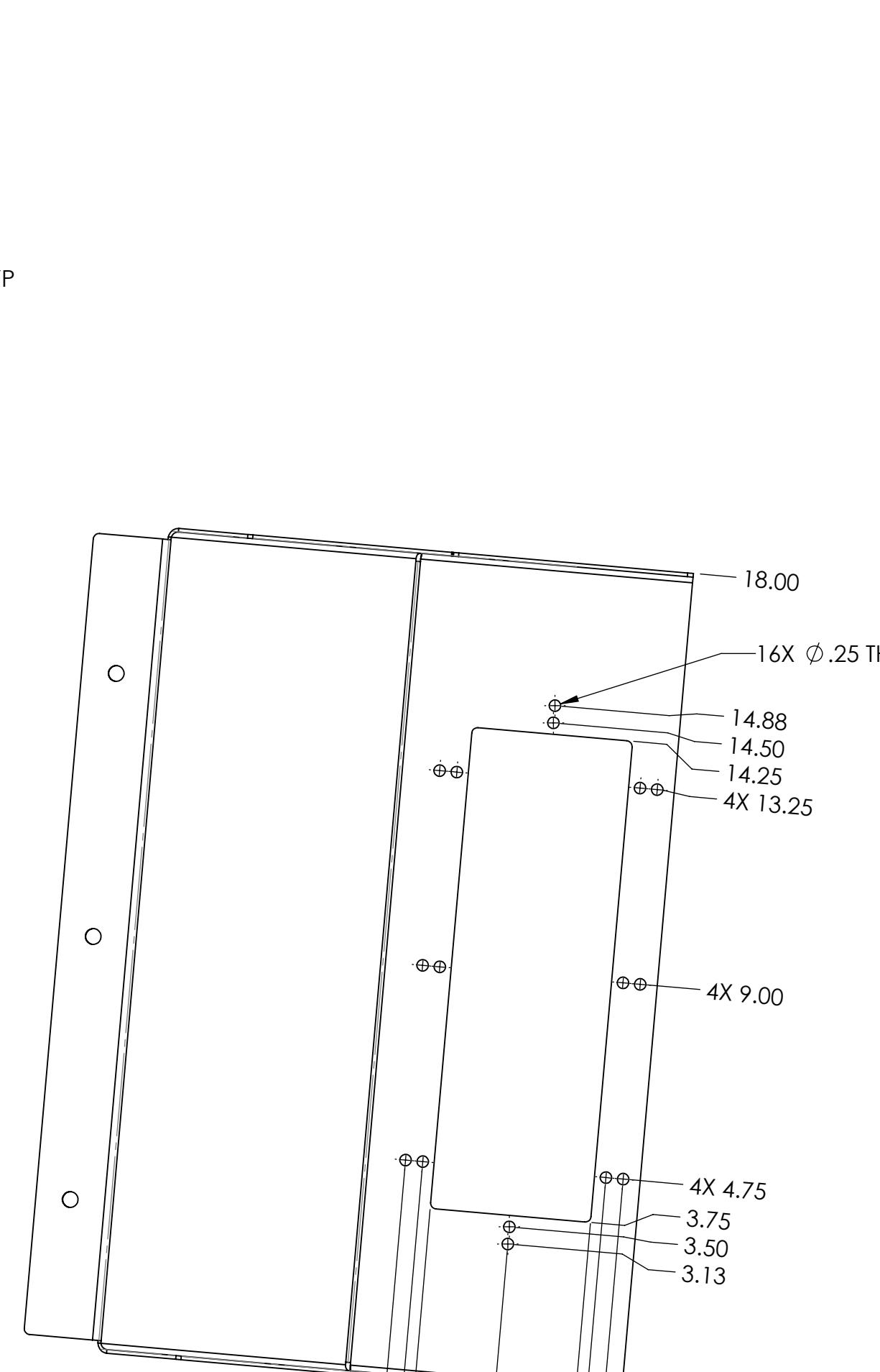
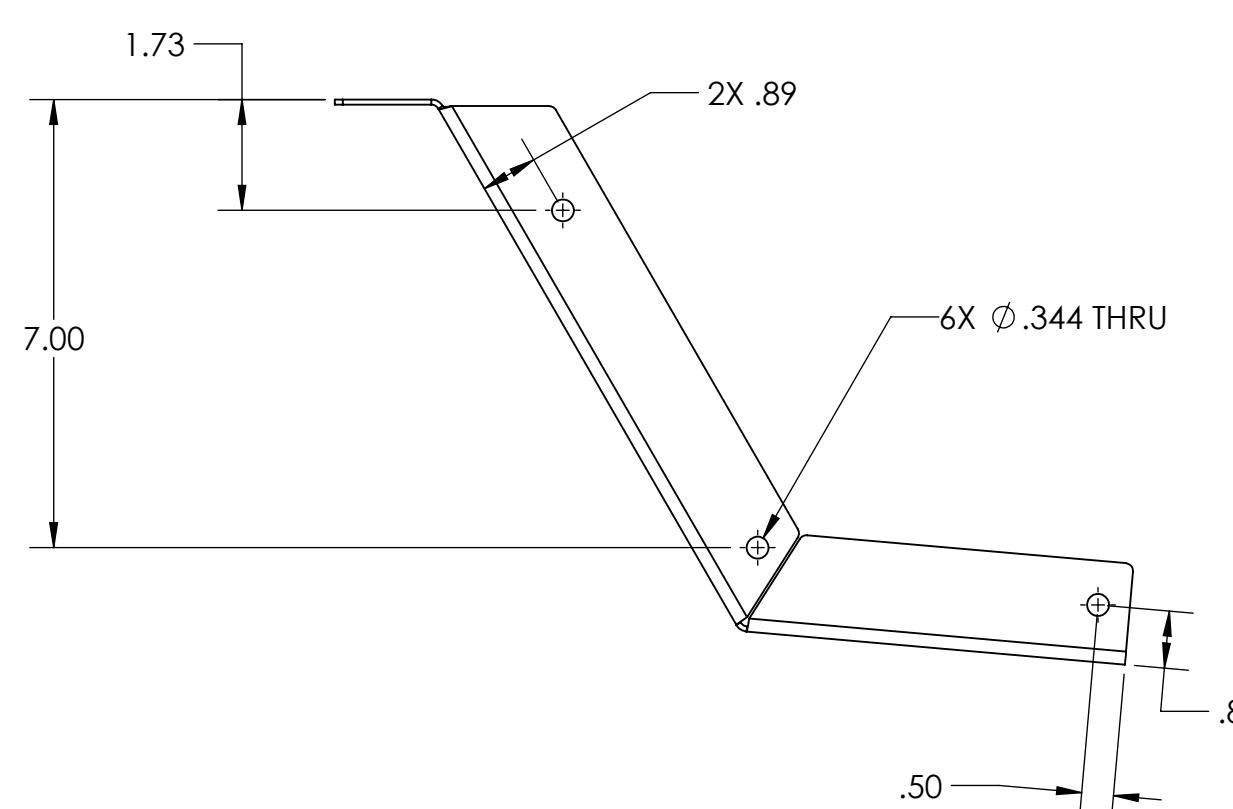
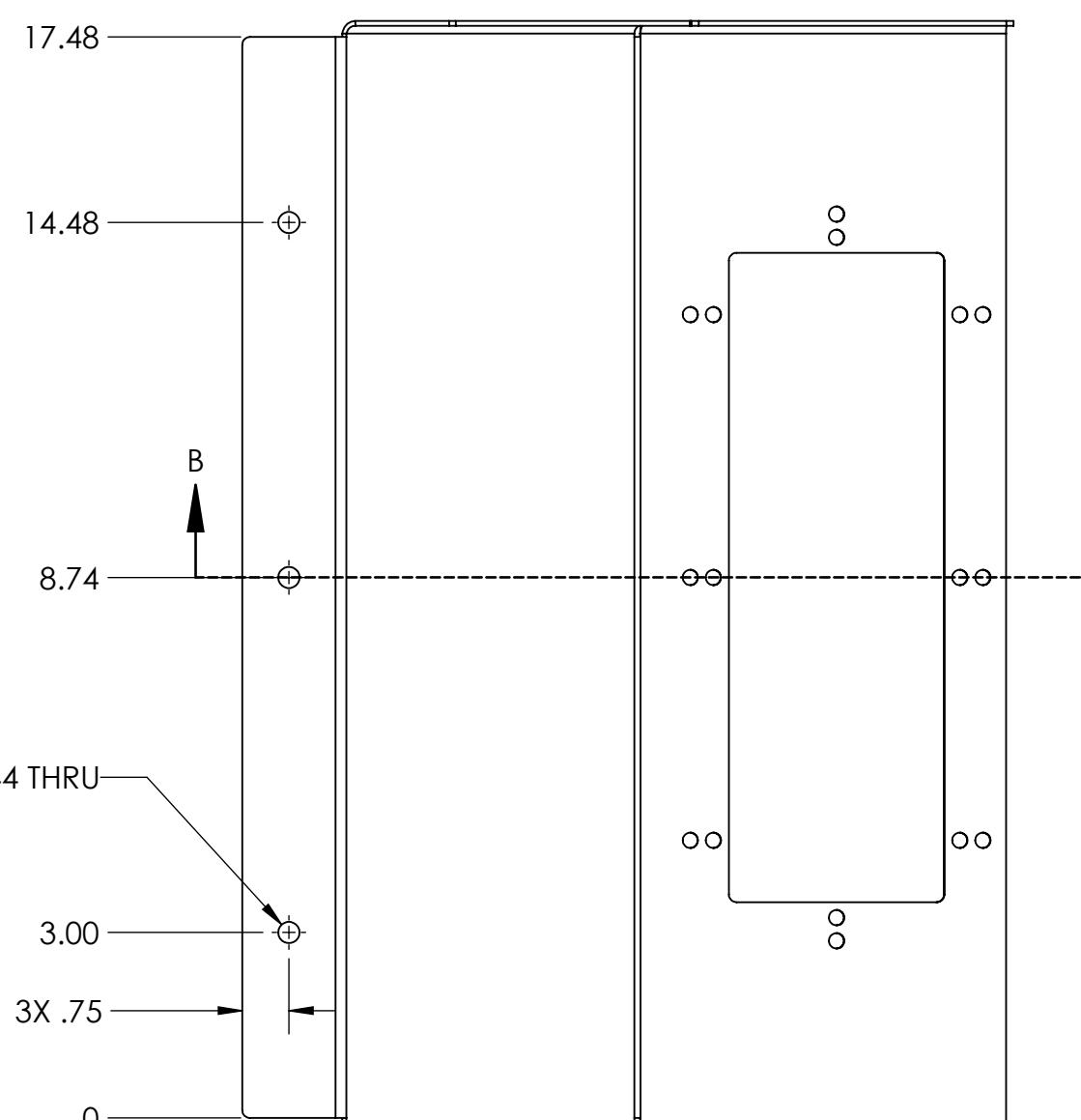
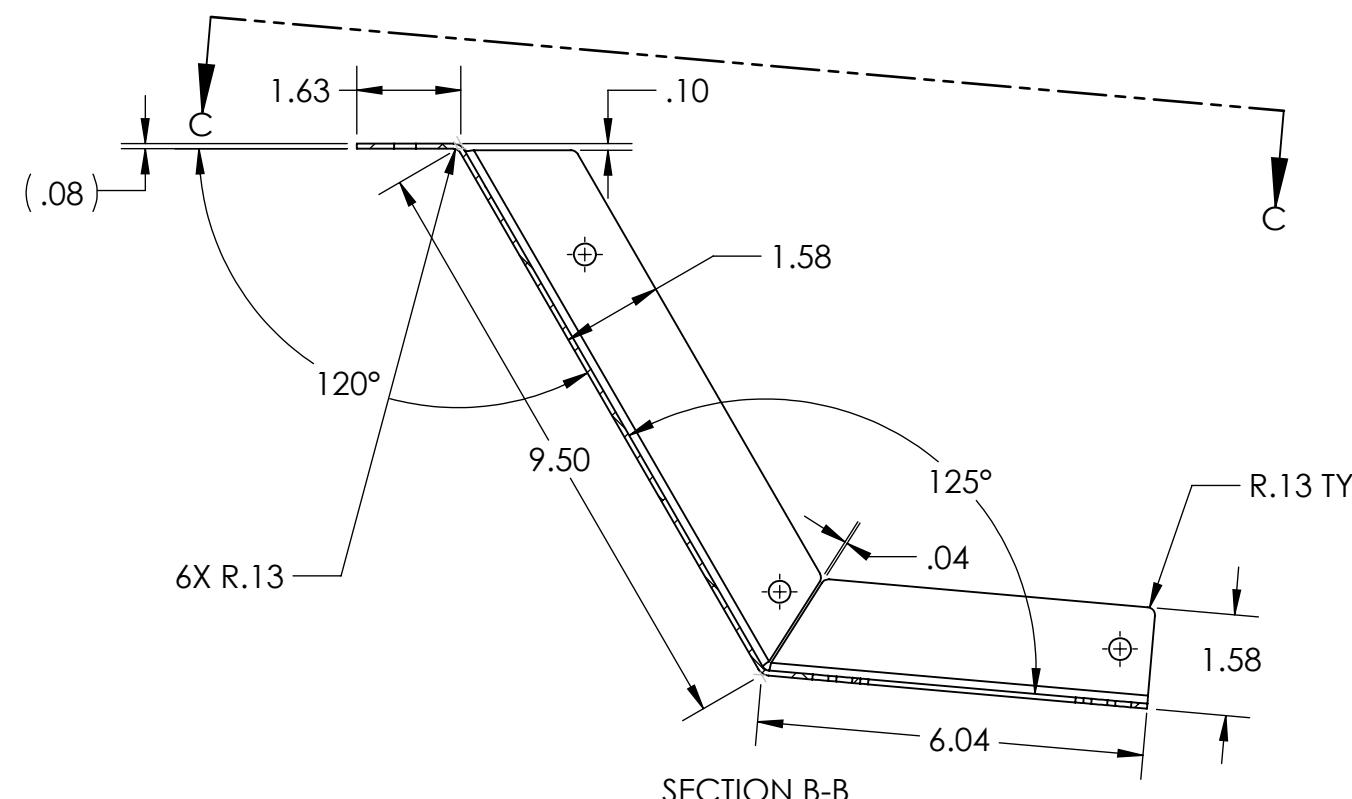
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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .02$
THREE PLACE DECIMAL $\pm .010$

MATERIAL/FINISH:
12 Ga 5052 Aluminum

DO NOT SCALE DRAWING

BEND 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.

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: Processor Sensor Mount Sheetmetal

SIZE DWG. NO. REV
C GE-25114-01

SCALE: 1:3 SHEET 1 OF 1

4

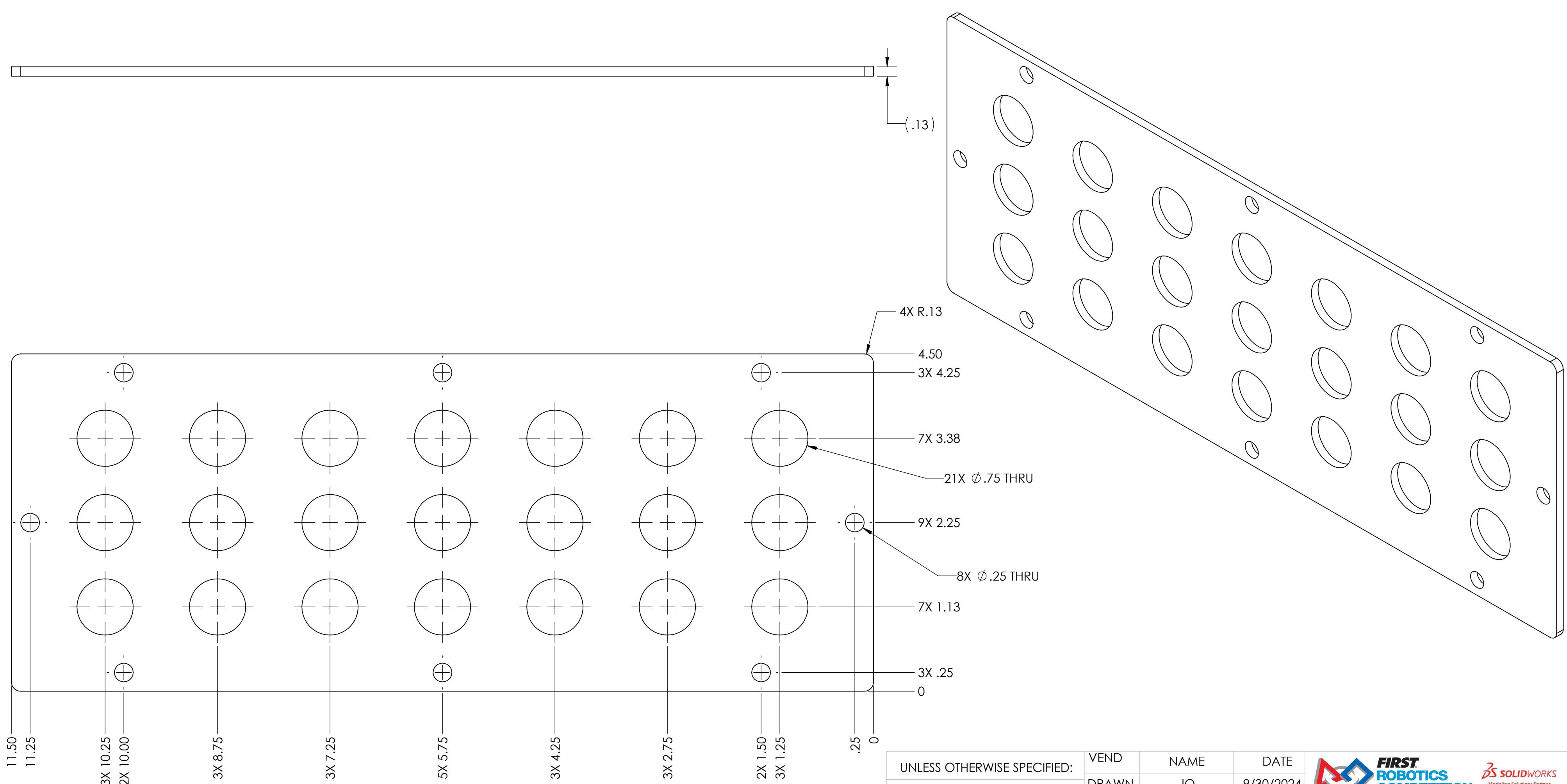
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	JO	9/30/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 1/8" Polycarbonate, Clear			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			



TITLE:

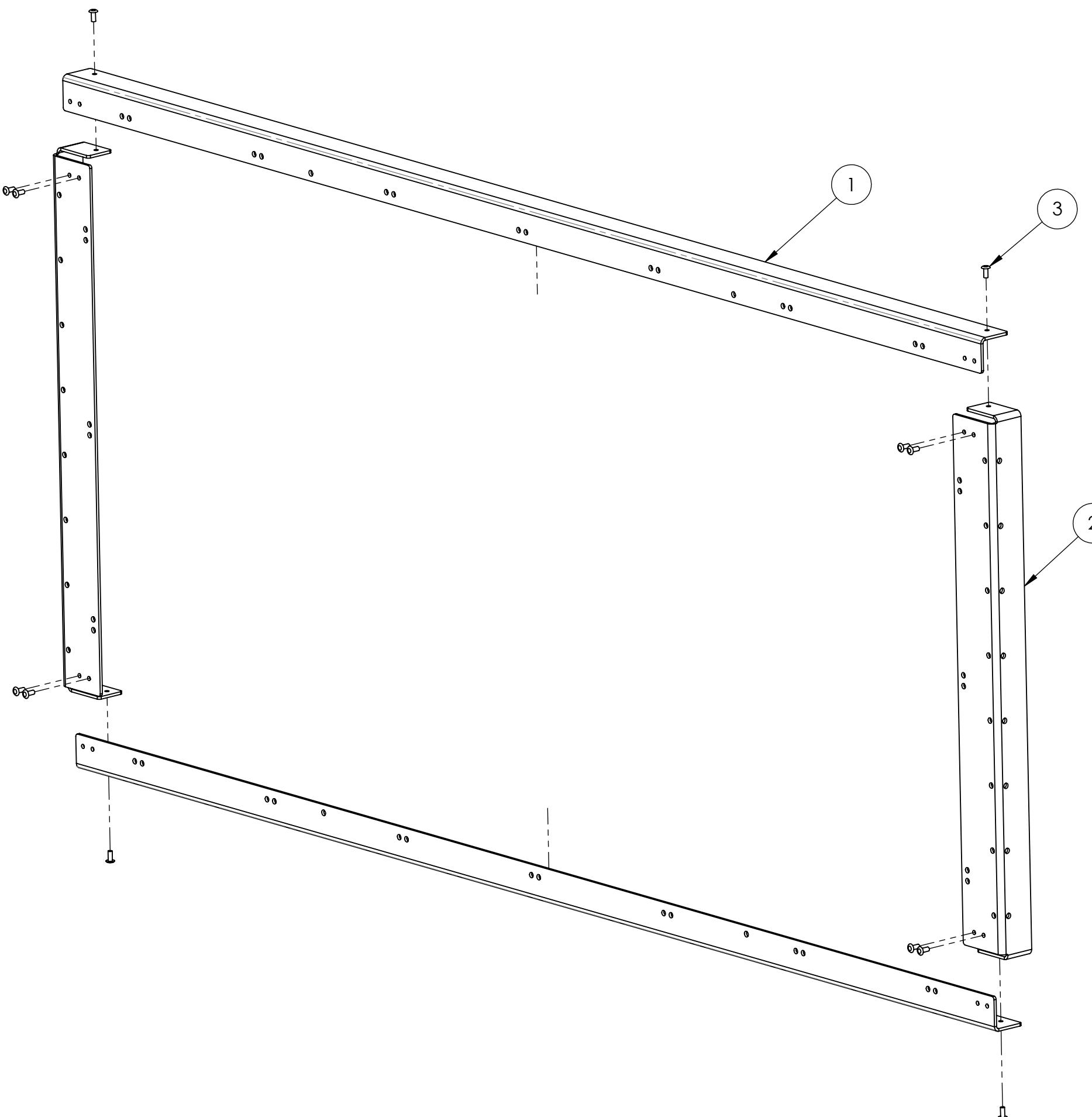
Processor Sensor Plate

SIZE DWG. NO. REV

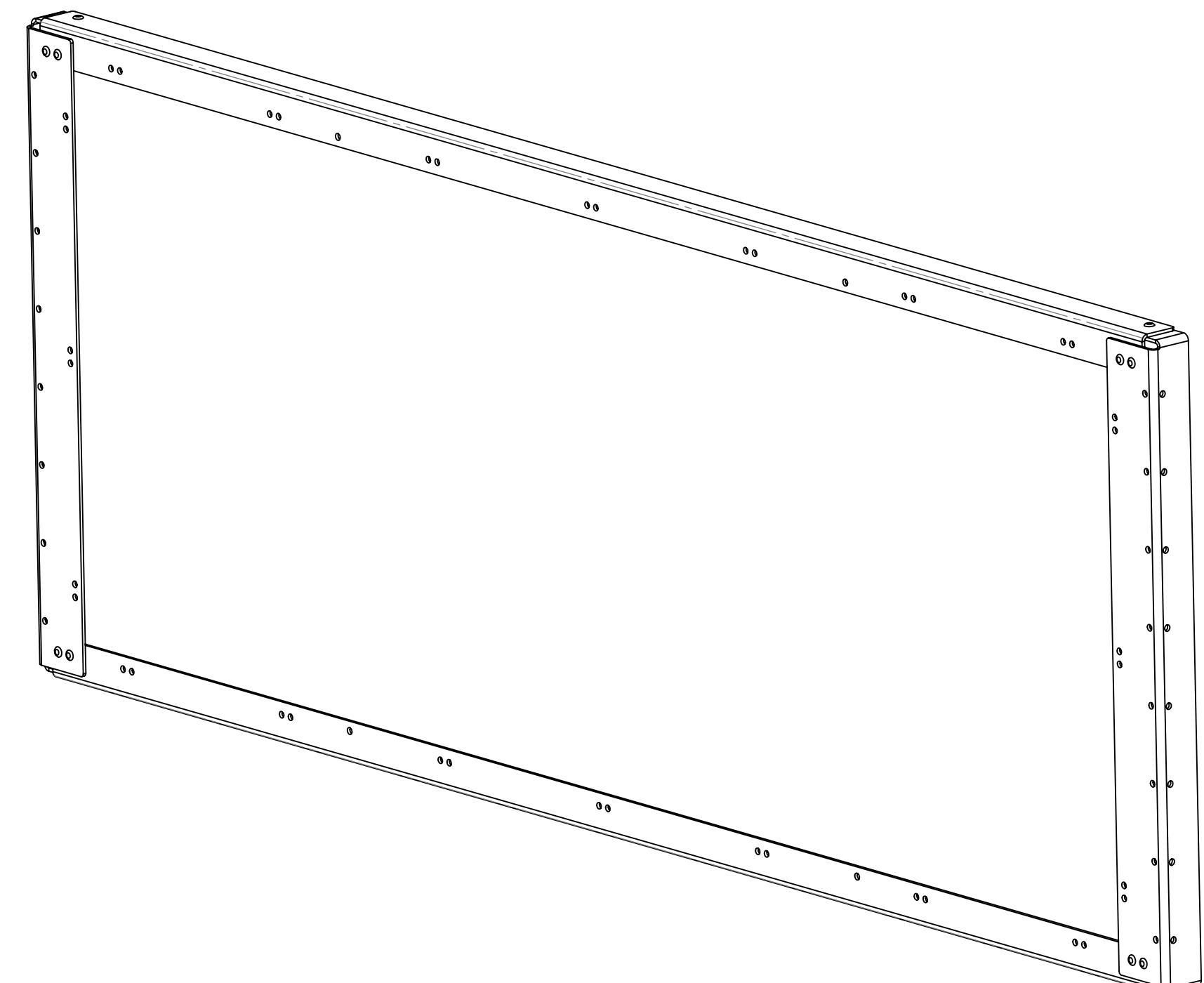
C GE-25115

SCALE: 1:1 SHEET 1 OF 1

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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:

VEND	NAME	DATE
DRAWN	JO	10/2/2024

PROPRIETARY AND CONFIDENTIAL

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MATERIAL/FINISH:

DO NOT SCALE DRAWING



TITLE:
Fence Frame

SIZE DWG. NO. REV
C GE-25116

SCALE: 1:5 SHEET 1 OF 1

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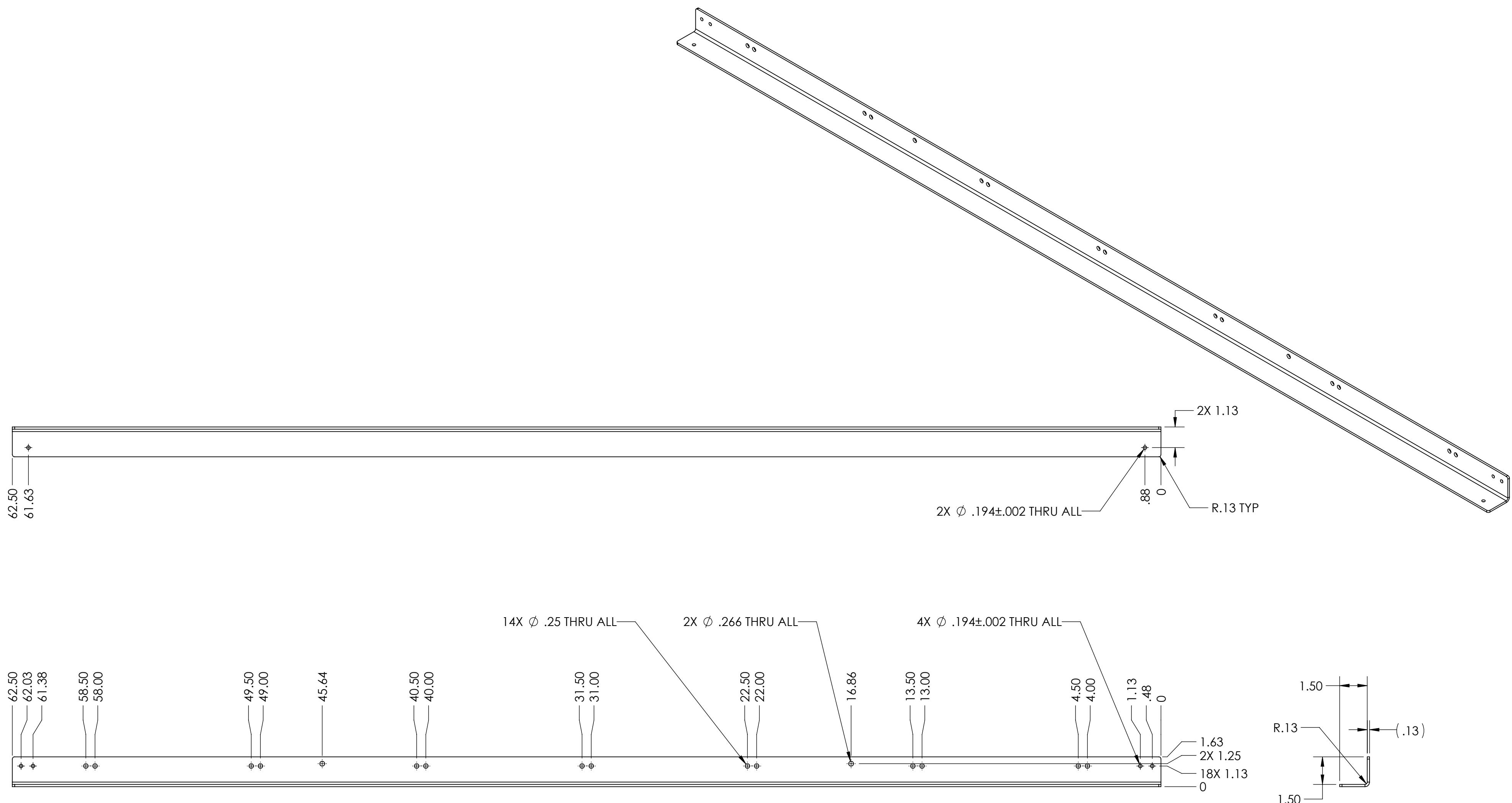
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 8 Ga 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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

TITLE:
Fence Long Rail

SIZE DWG. NO. REV

C GE-25117

SCALE: 1:4 SHEET 1 OF 1

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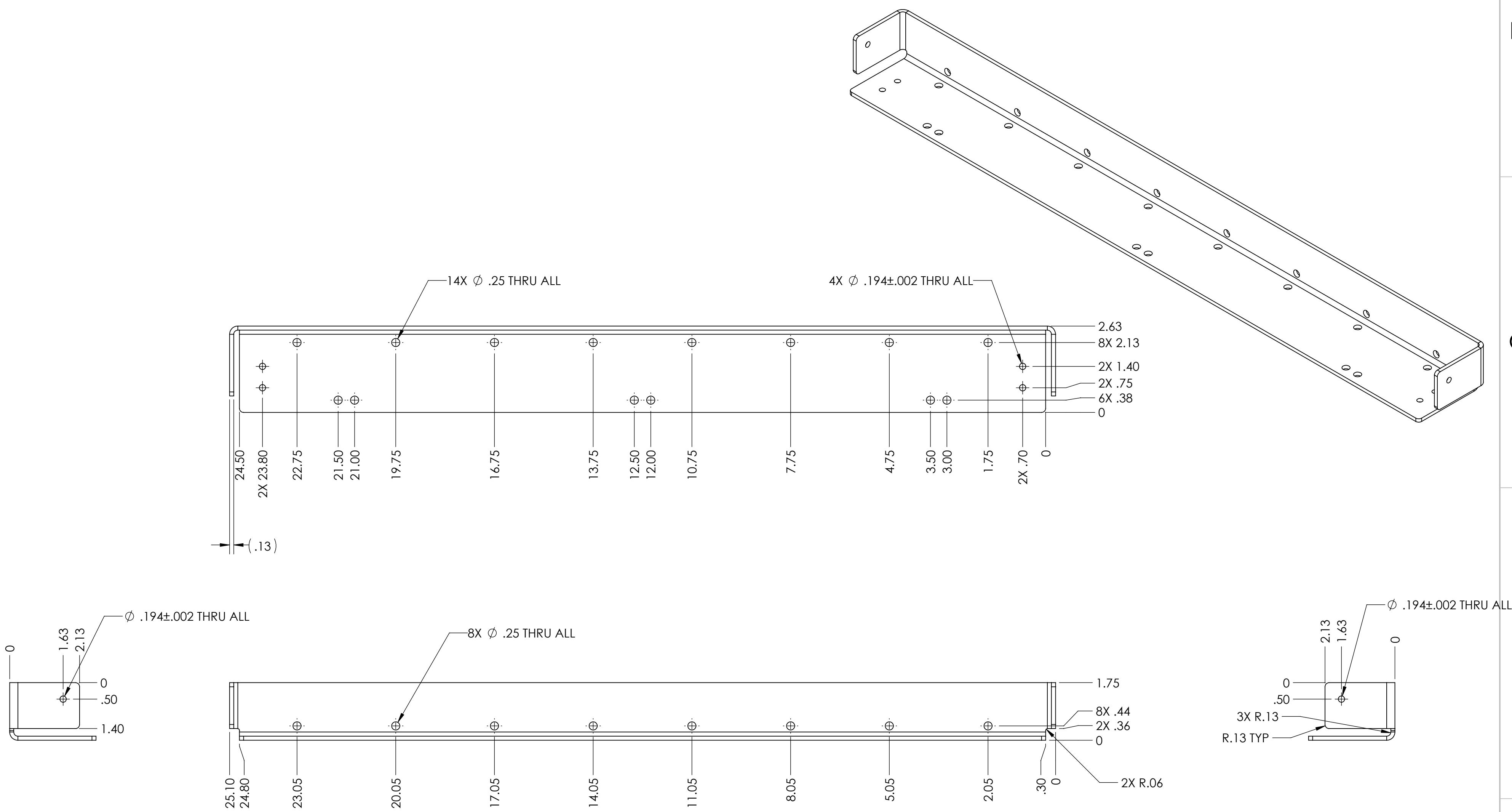
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	JO	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH:			
8 Ga 5052 Aluminum			
COMMENTS:			
REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
TITLE: Fence Short Rail			
SIZE	DWG. NO.	REV	
C	GE-25118		
SCALE: 9:20		SHEET 1 OF 1	

SOLIDWORKS
Modeling Solutions Partner

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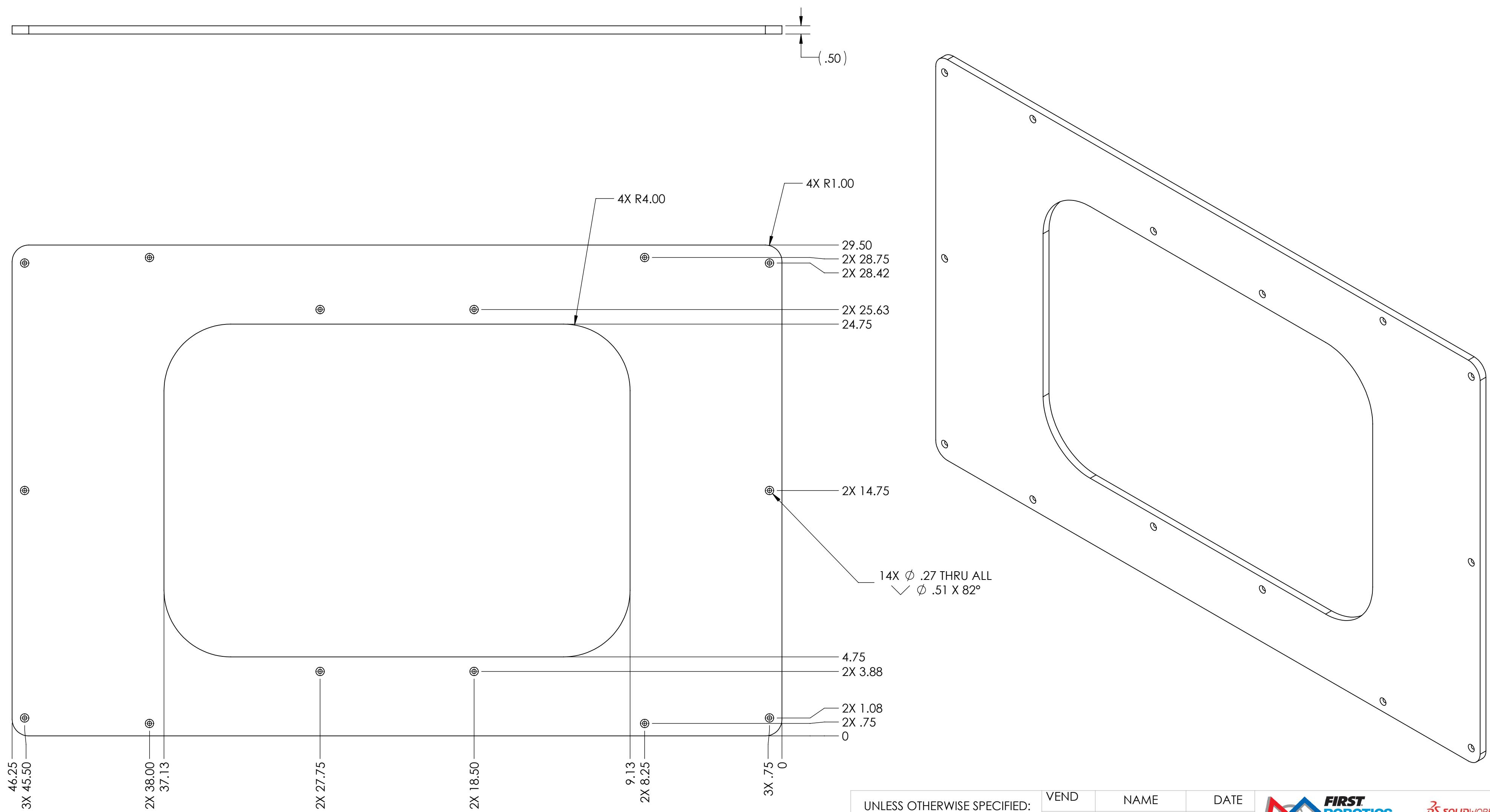
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	JO	9/30/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 1/2" HDPE, Black Matte Finish			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

SOLIDWORKS
Modeling Solutions Partner

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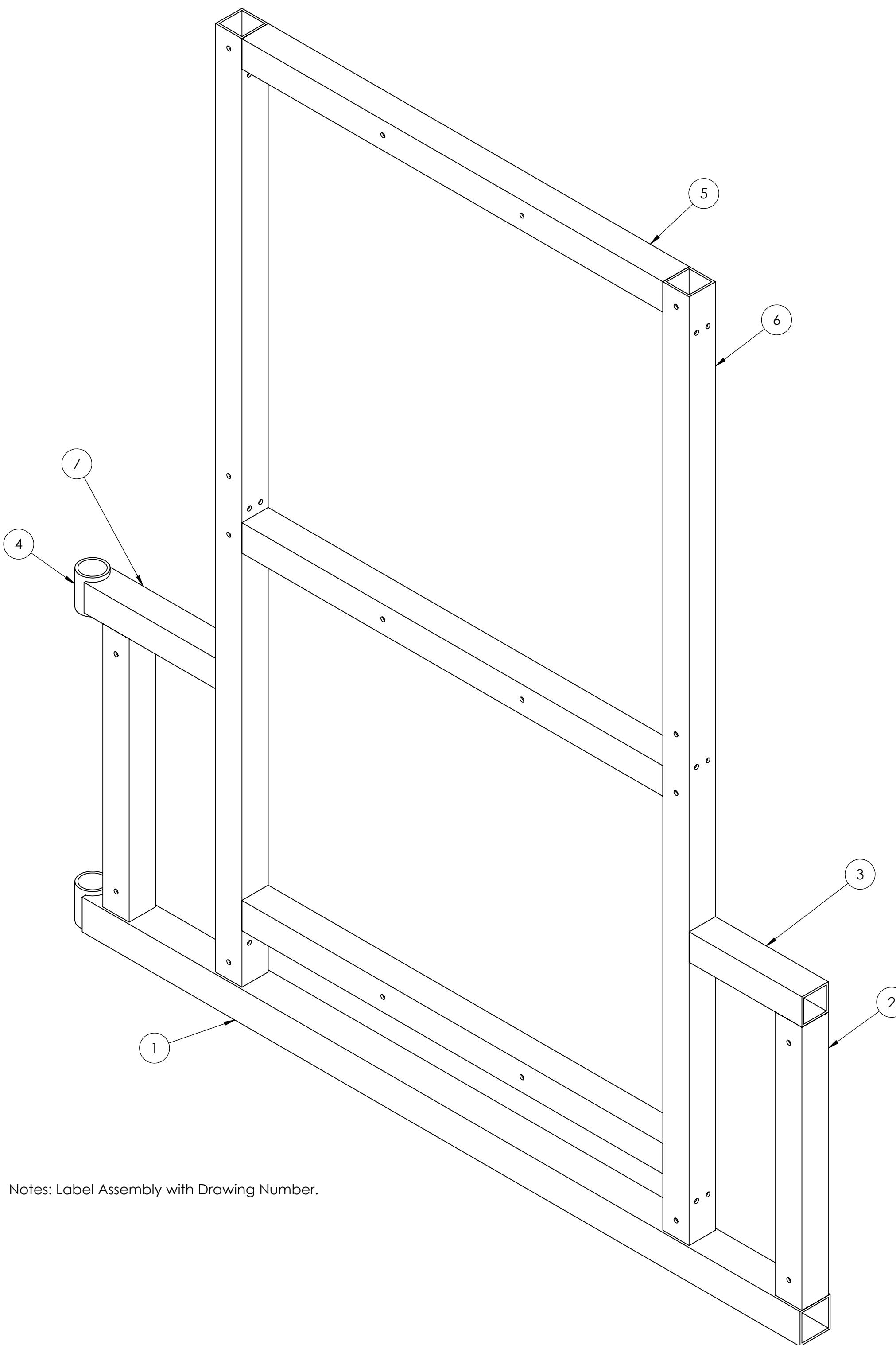
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UNLESS OTHERWISE SPECIFIED:

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 $\pm .015$

MATERIAL/FINISH:

DO NOT SCALE DRAWING

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

WELD	NAME	DATE
DRAWN	JO	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.



SOLIDWORKS

Modeling Solutions Partner

TITLE:
Processor
Weldment

SIZE DWG. NO. REV
C GE-25120

SCALE: 1:4 SHEET 1 OF 3

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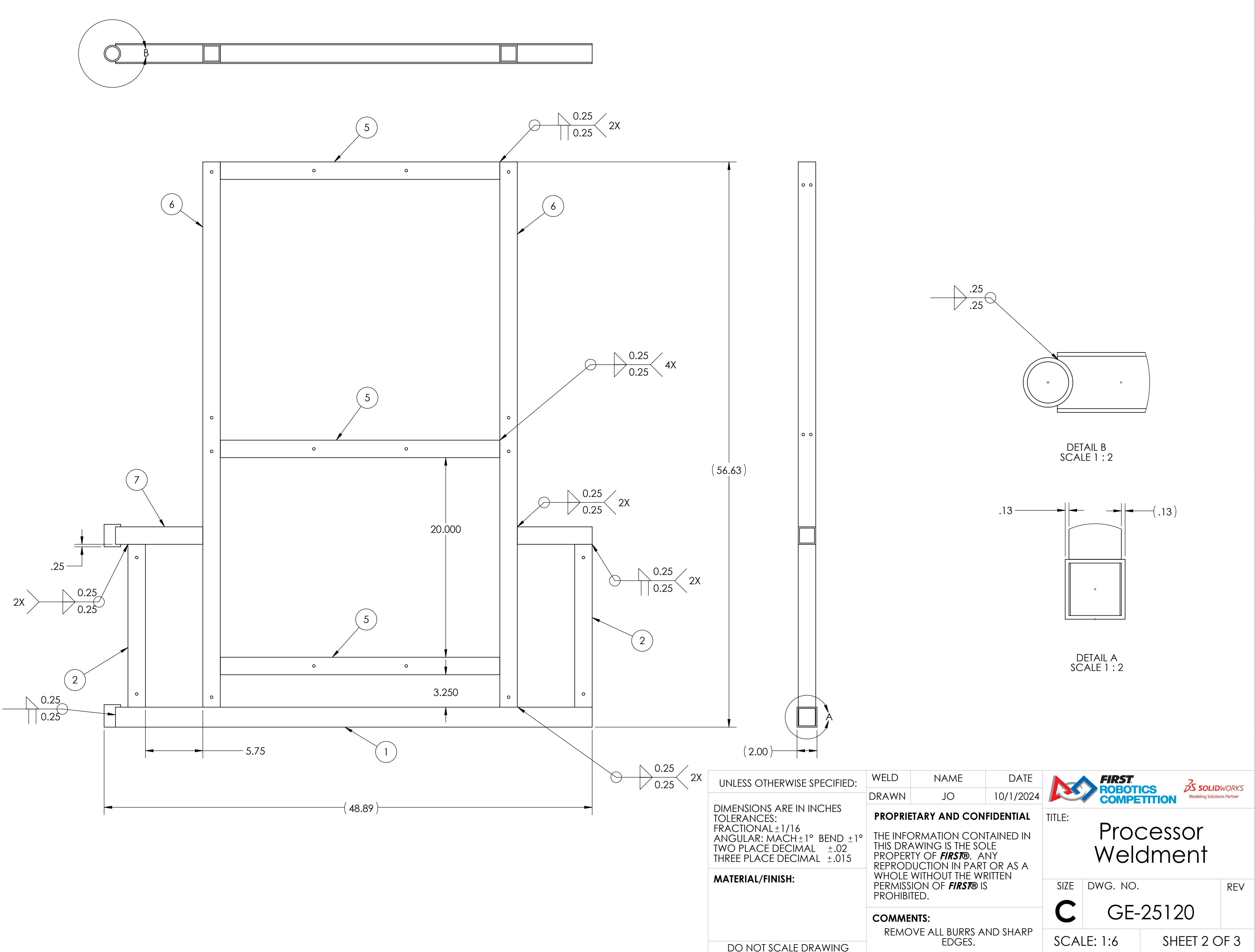
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UNLESS OTHERWISE SPECIFIED:

WELD NAME DATE

DRAWN JO 10/1/2024

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 $\pm .015$

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.

MATERIAL/FINISH:

DO NOT SCALE DRAWING

 FIRST ROBOTICS COMPETITION
  SOLIDWORKS Modeling Solutions Partner

TITLE:
Processor
Weldment

SIZE DWG. NO. REV
C GE-25120

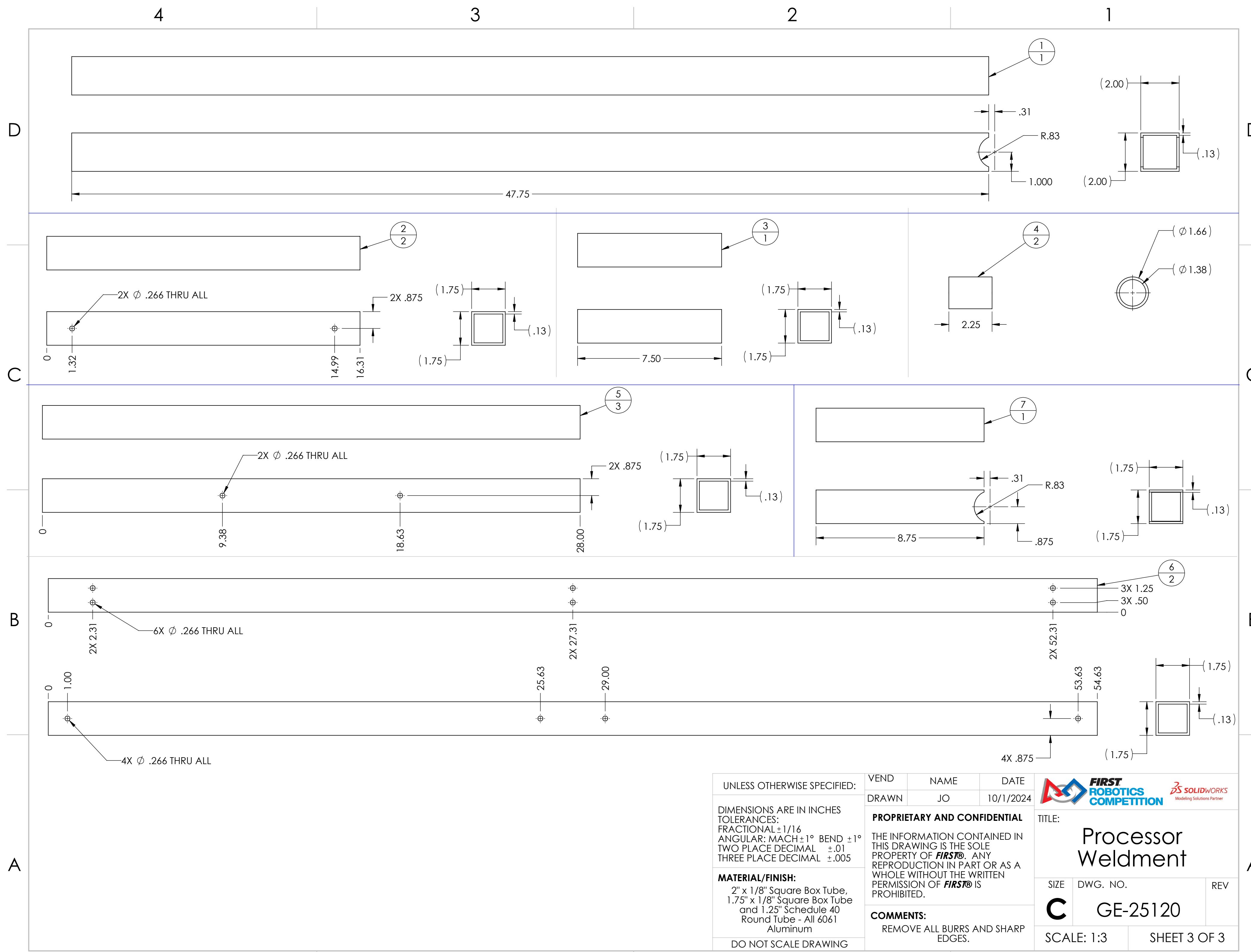
SCALE: 1:6 SHEET 2 OF 3

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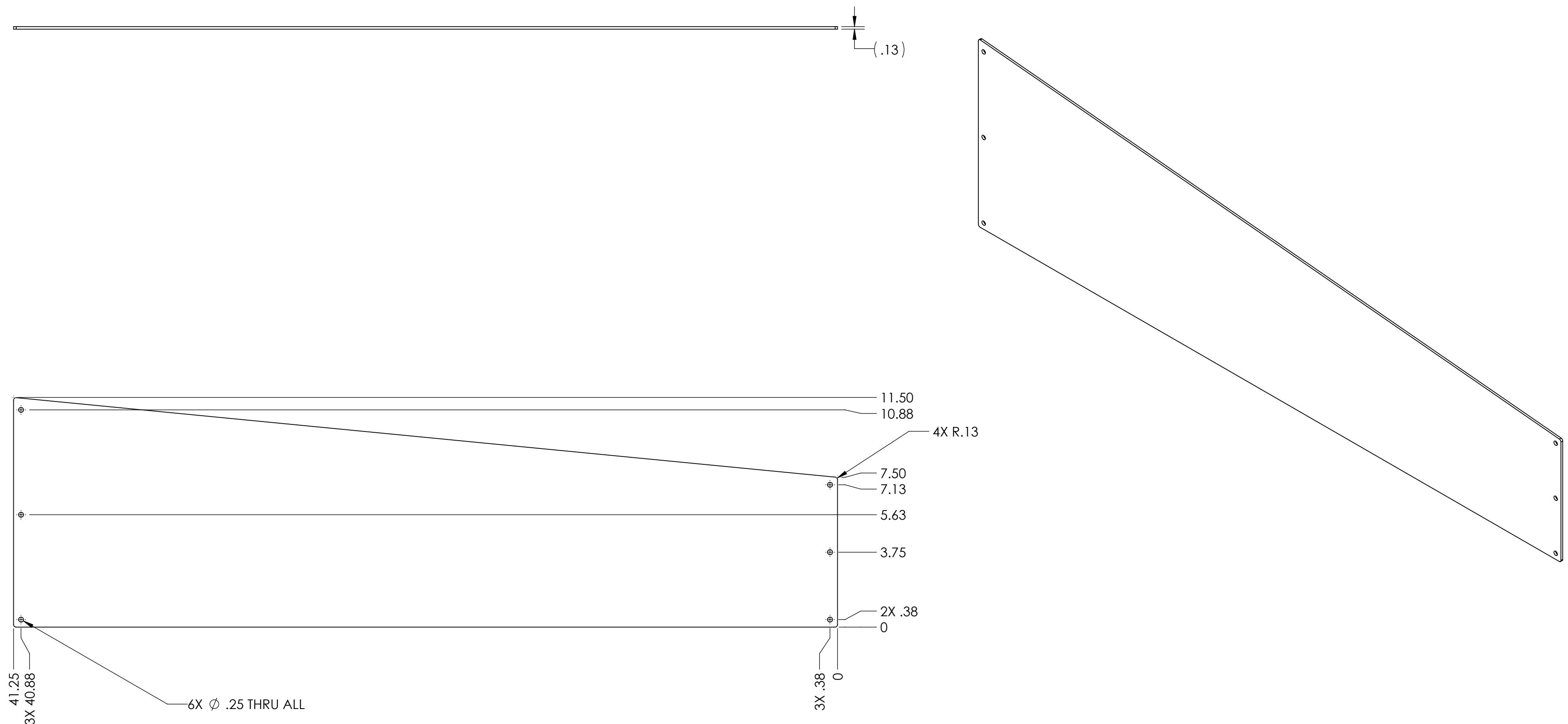
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	9/30/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	PROPRIETARY AND CONFIDENTIAL		
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.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1/8" Polycarbonate, Clear	C	GE-25121	
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING	SCALE: 1:4	SHEET 1 OF 1	

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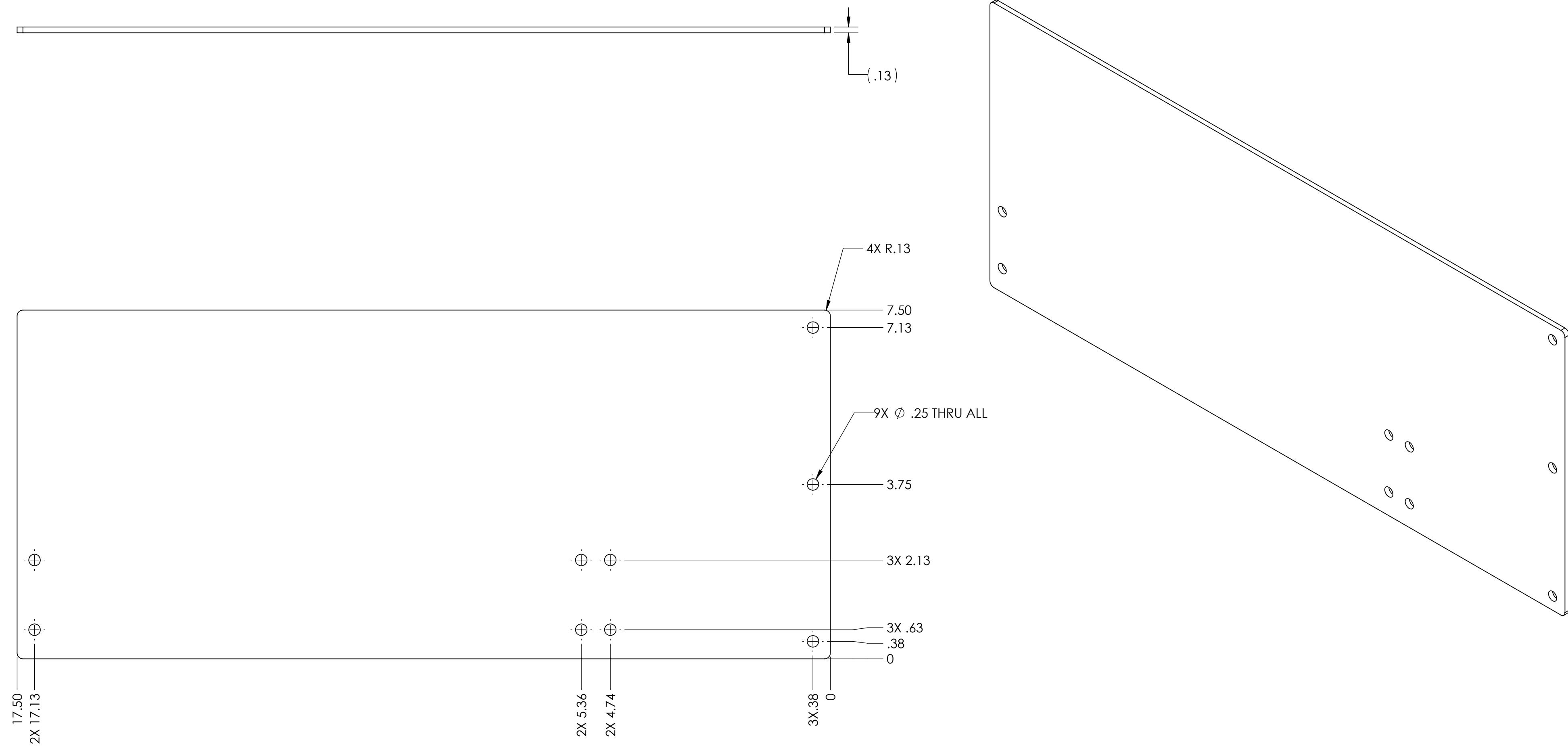
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UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE			
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	JO	9/30/2024	 FIRST ROBOTICS COMPETITION		
MATERIAL/FINISH: 1/8" Polycarbonate, Clear		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.			TITLE: Corral Back		
		SIZE	DWG. NO.			REV	
		C	GE-25122				
DO NOT SCALE DRAWING		SCALE: 3:5			SHEET 1 OF 1		

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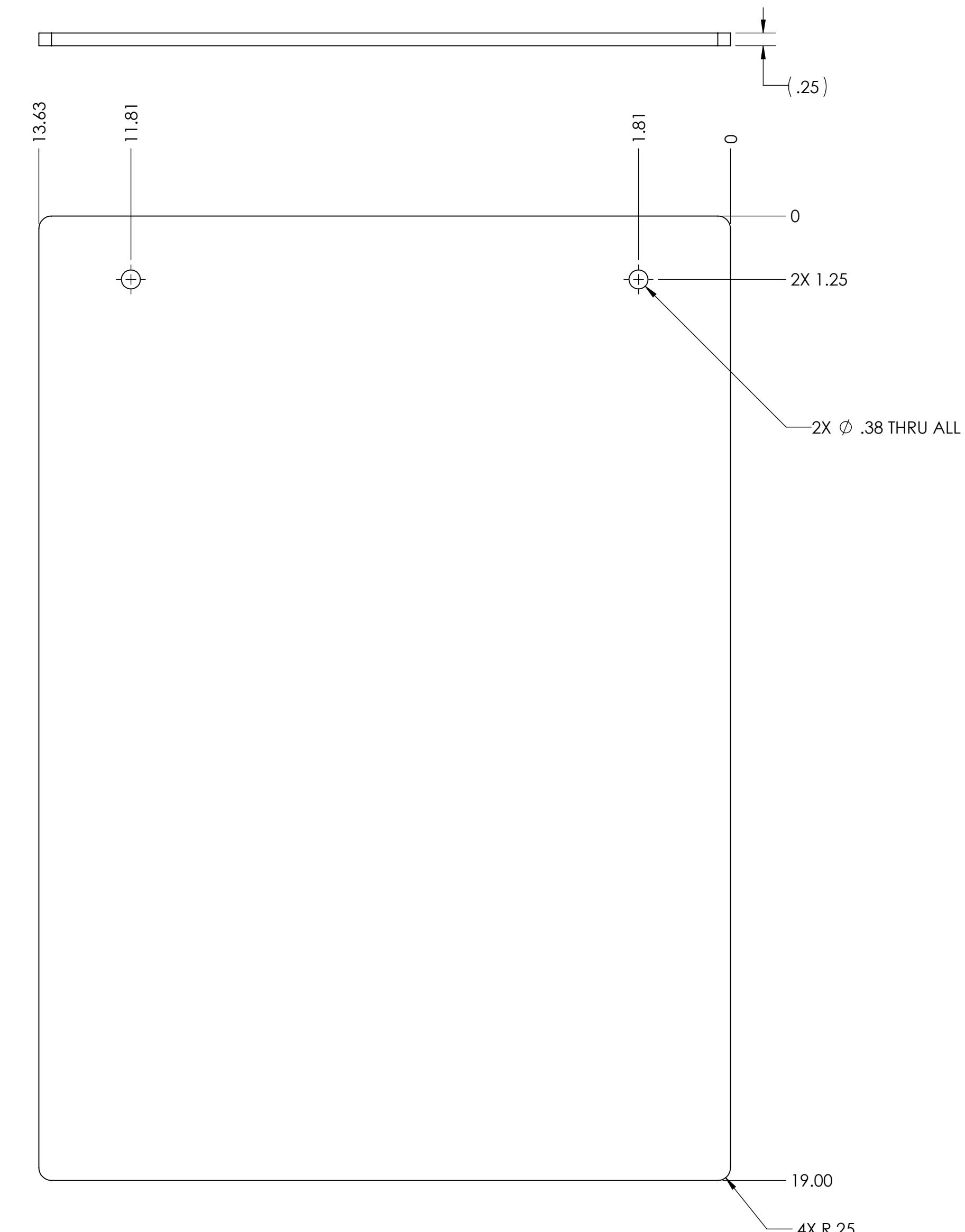
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UNLESS OTHERWISE SPECIFIED:

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 $\pm .005$

MATERIAL/FINISH:

1/4" Polycarbonate, Clear

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:
**Extra Wall Panel
Briweld**

SIZE DWG. NO. REV

C GE-25123

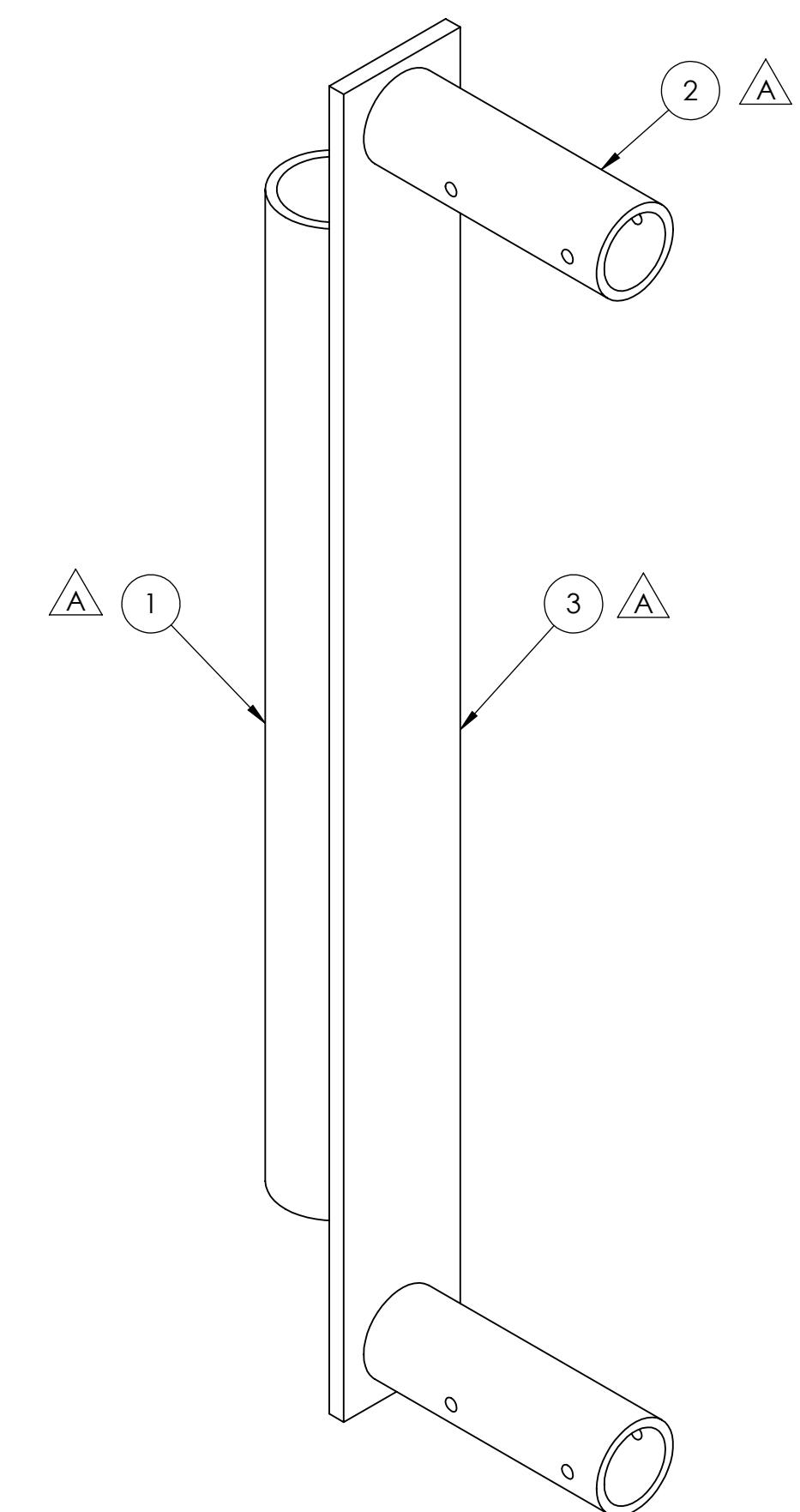
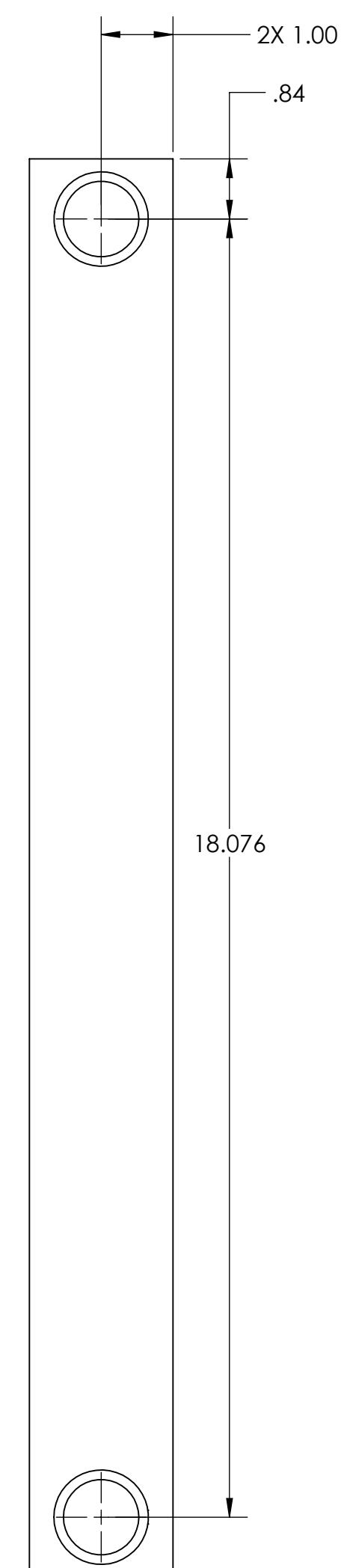
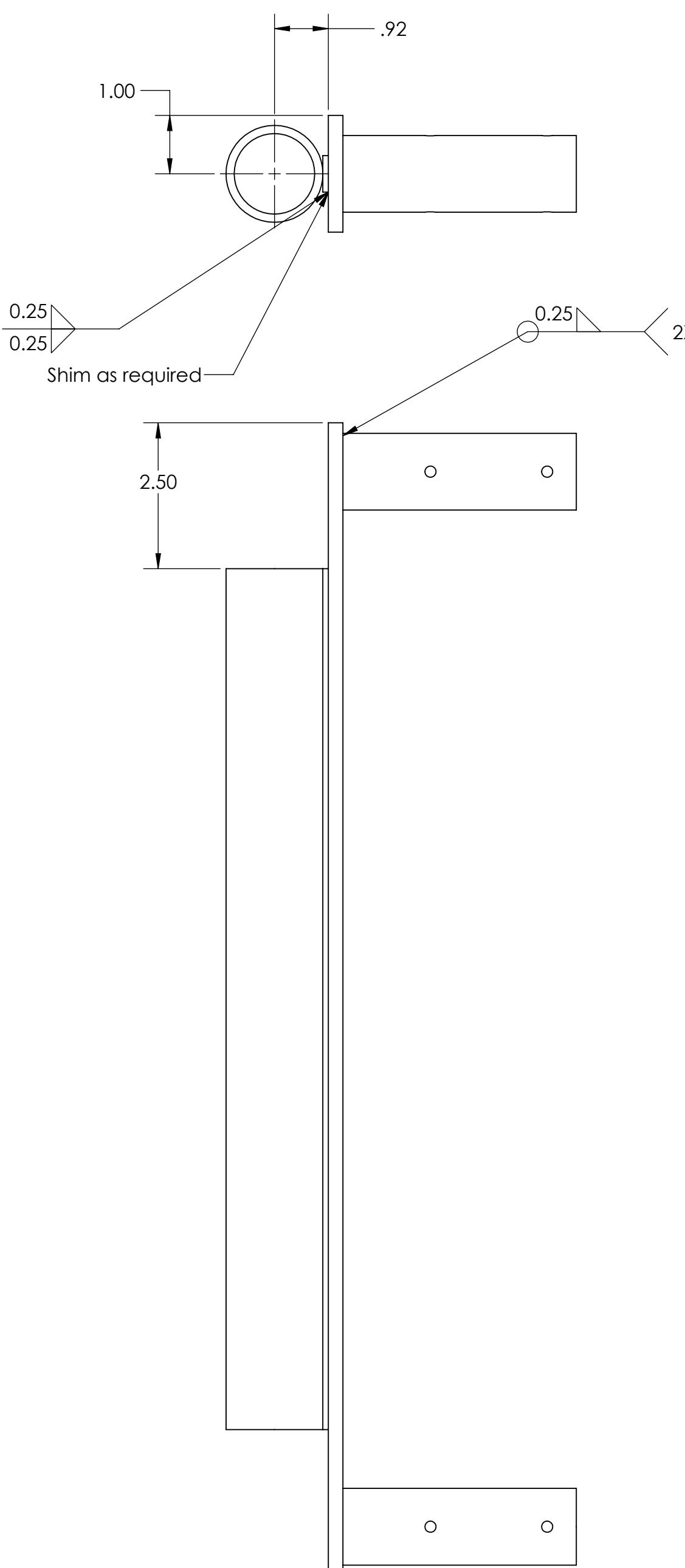
SCALE: 1:2 SHEET 1 OF 1

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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:			WELD	NAME	DATE
			DRAWN	JO	10/3/2024
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 $\pm .015$					
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.					
MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Processor Pin Connector - Briweld Field

SIZE DWG. NO. REV
C GE-25124 **A**

SCALE: 1:2 SHEET 1 OF 1

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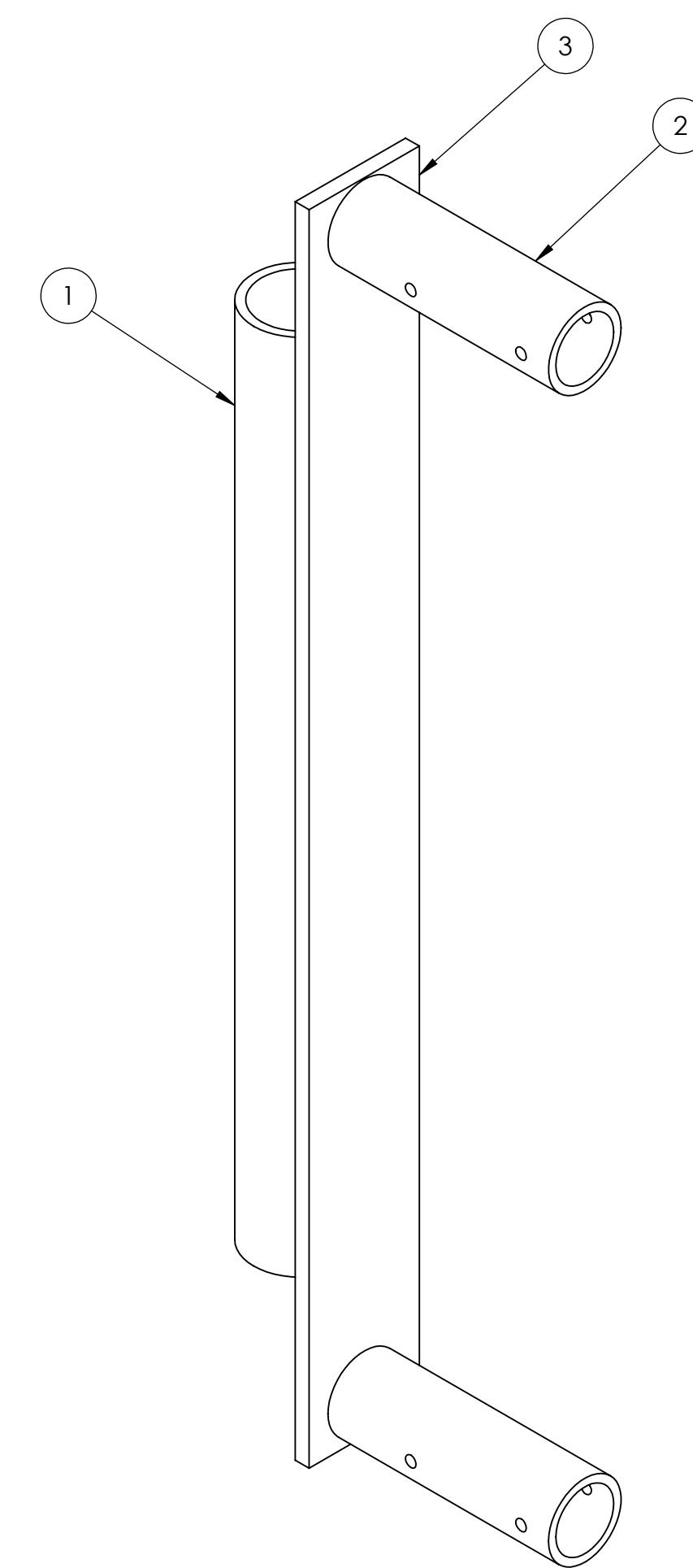
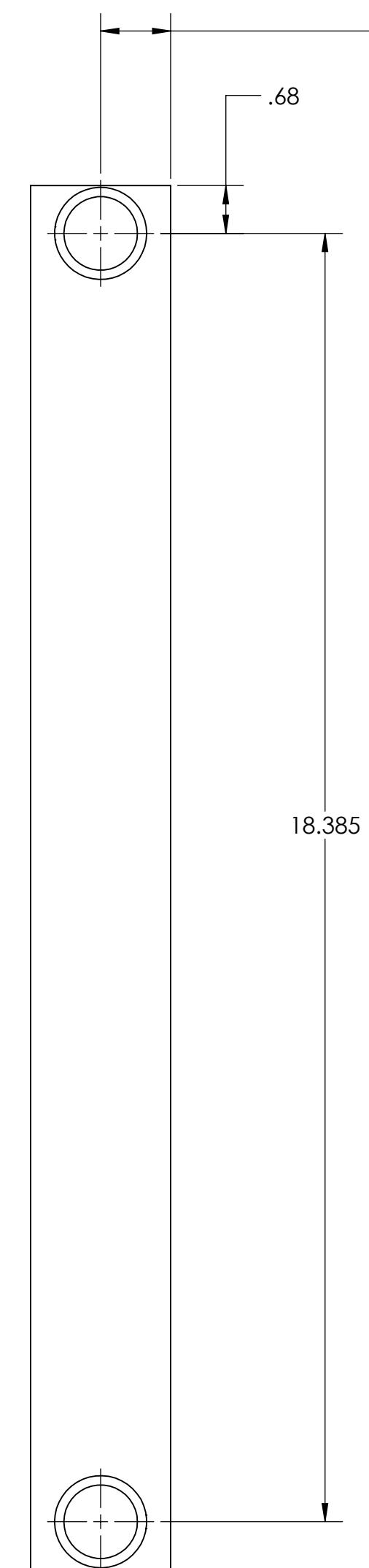
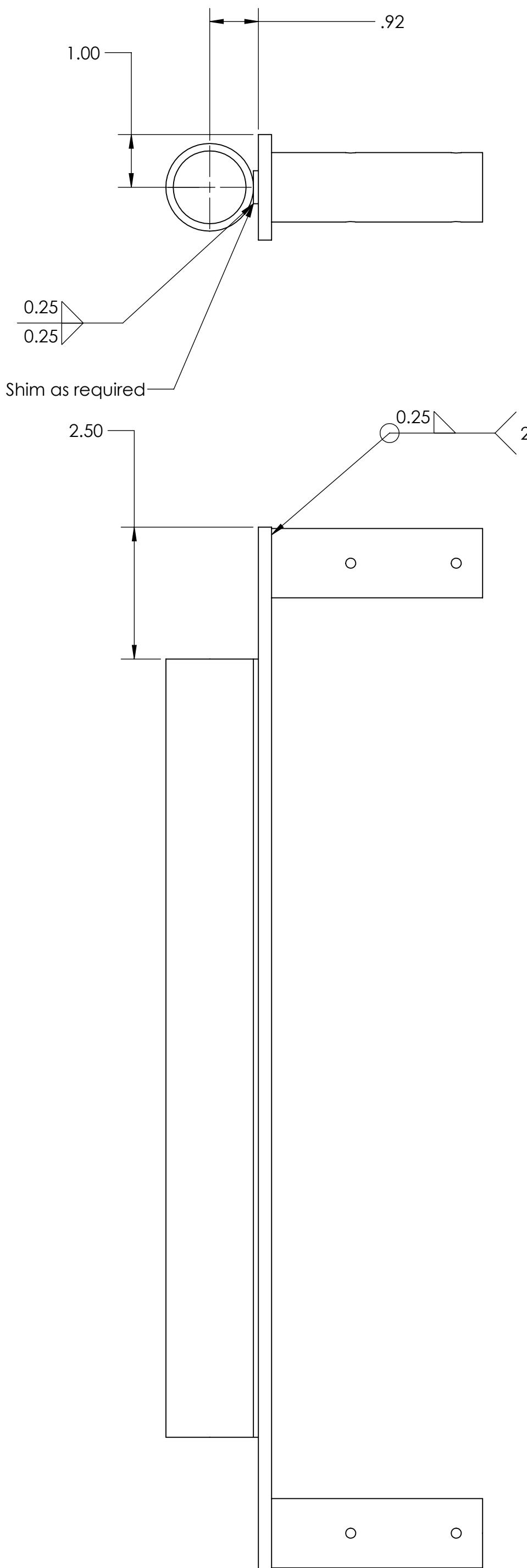
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00018-01	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
2	FE-00018-02	1" Schedule 40 6061-T6 Aluminum Pipe	2
3	GE-25126	Thinner Connector Plate	1

UNLESS OTHERWISE SPECIFIED:		
WELD	NAME	DATE
DRAWN	JO	10/3/2024
PROPRIETARY AND CONFIDENTIAL		
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MATERIAL/FINISH:		
COMMENTS:		
REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING		

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Processor Pin Connector - AndyMark Field

SIZE DWG. NO. REV

C GE-25125

SCALE: 1:2 SHEET 1 OF 1

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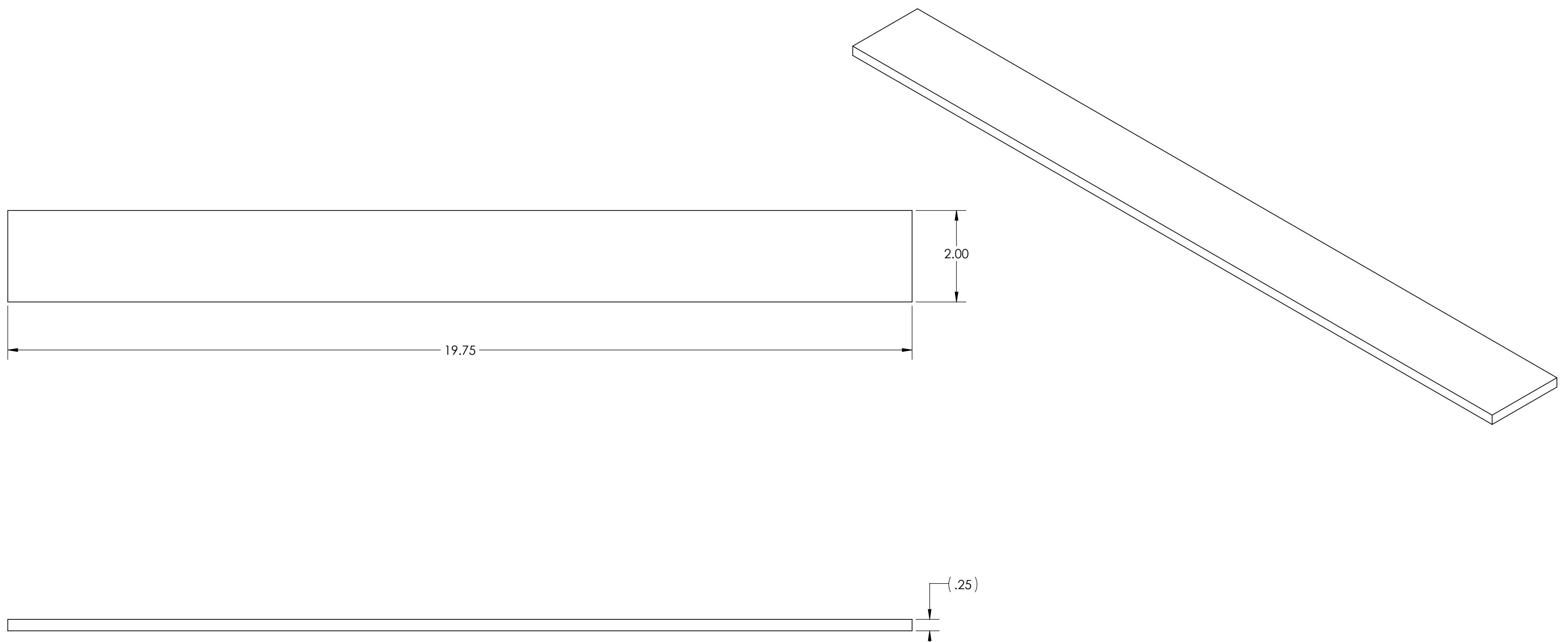
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	DRAWN	JO	10/3/2024
PROPRIETARY AND CONFIDENTIAL			
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.			
MATERIAL/FINISH: 1/4" 6061 Aluminum Plate			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

 FIRST ROBOTICS COMPETITION  SOLIDWORKS Modeling Solutions Partner

TITLE: Thinner Connector Plate

SIZE DWG. NO. REV

C GE-25126

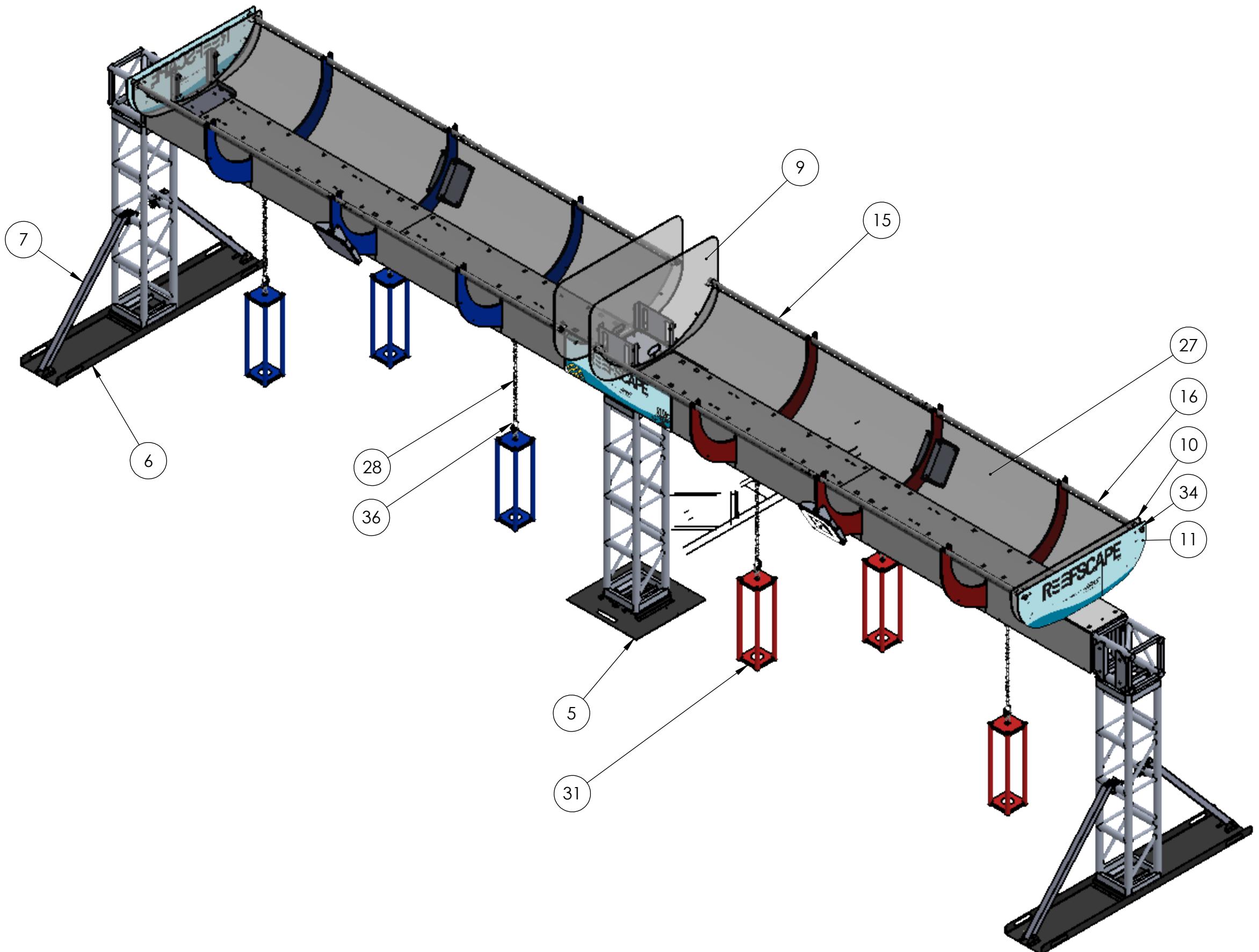
SCALE: 3:5 SHEET 1 OF 1

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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	Pin, Ring-Grip Quick-Release with SS Ring, 17/4" 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:		FIELD	NAME	DATE
		DRAWN	JO	12/16/2024
PROPRIETARY AND CONFIDENTIAL				
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MATERIAL/FINISH:				
COMMENTS:				
REMOVE ALL BURRS AND SHARP EDGES.				
DO NOT SCALE DRAWING				

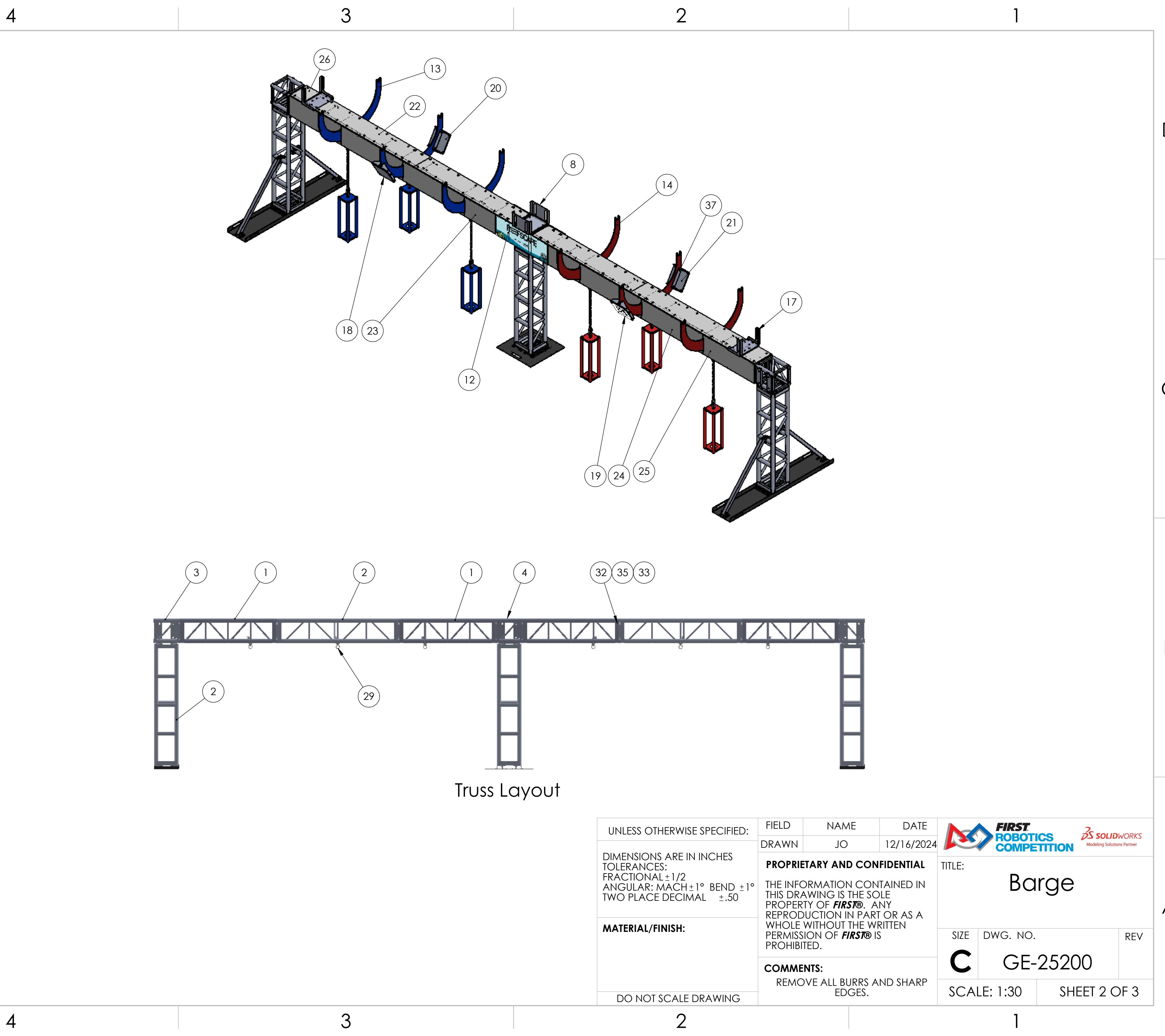
FIRST ROBOTICS COMPETITION Modeling Solutions Partner

TITLE: Barge

SIZE DWG. NO. REV

C GE-25200

SCALE: 1:25 SHEET 1 OF 3



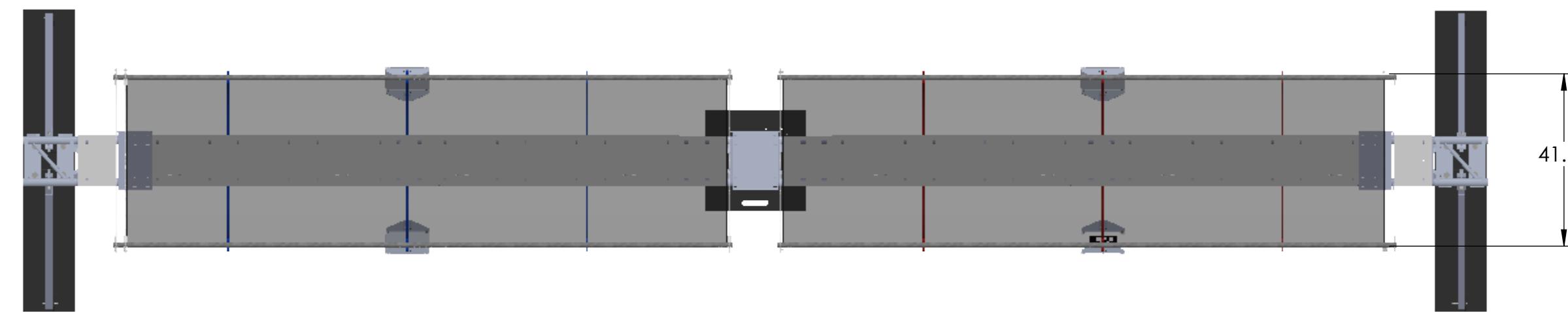
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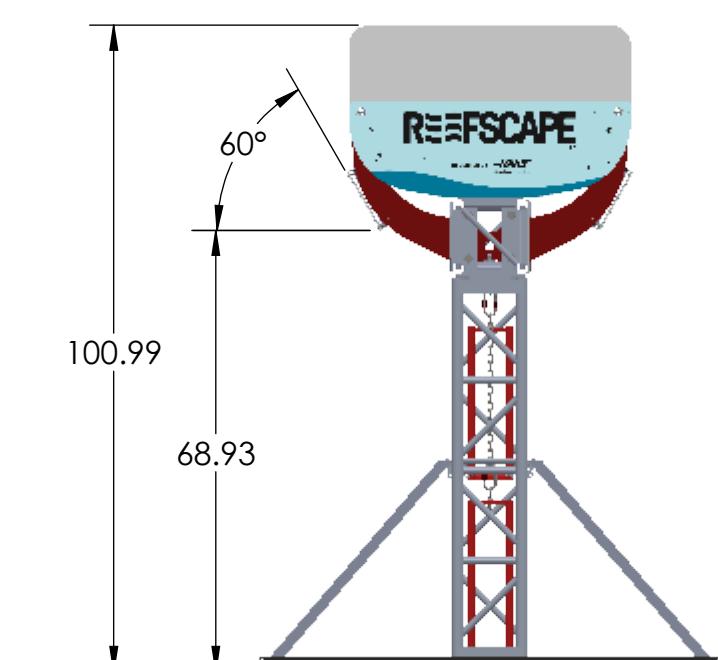
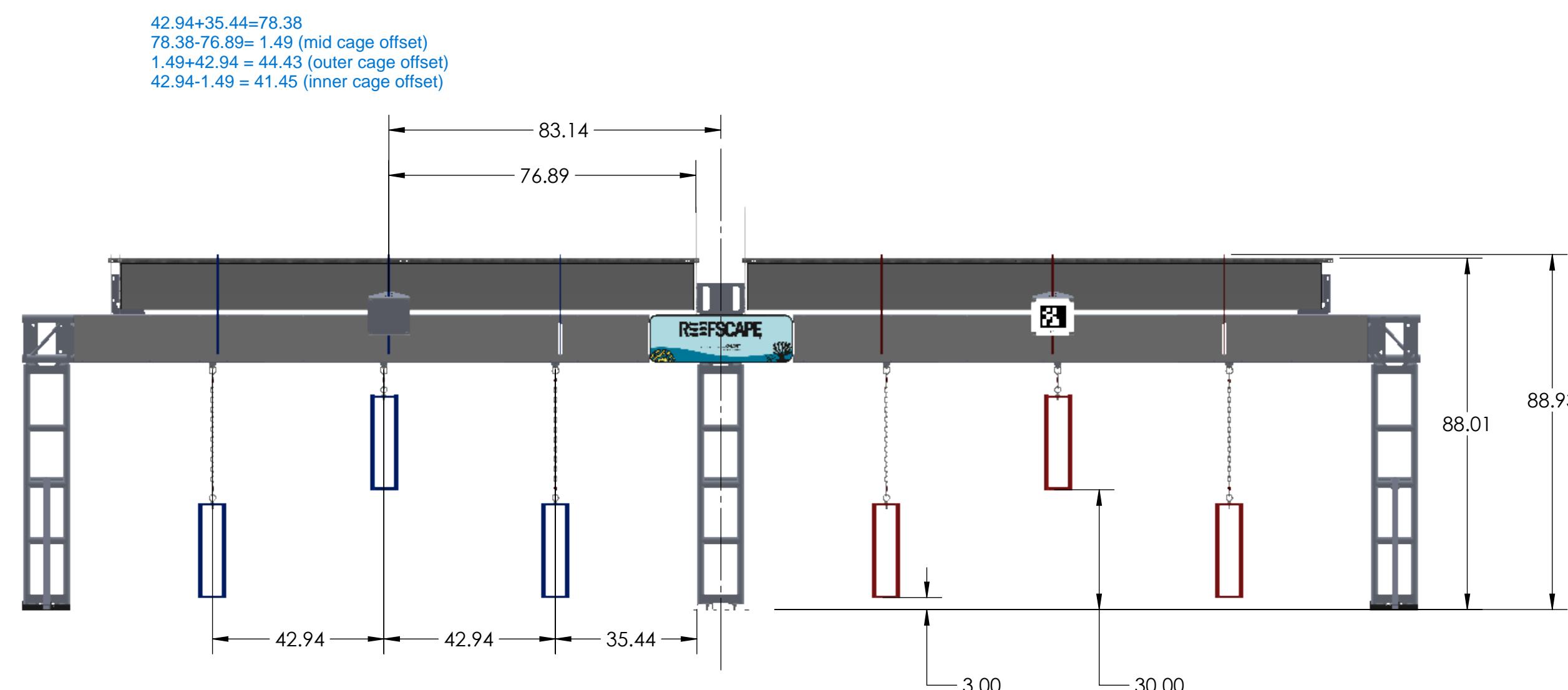
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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DRAWN	JO	12/16/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
DO NOT SCALE DRAWING	C	GE-25200	
SCALE: 1:30		SHEET 3 OF 3	

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE:
Barge

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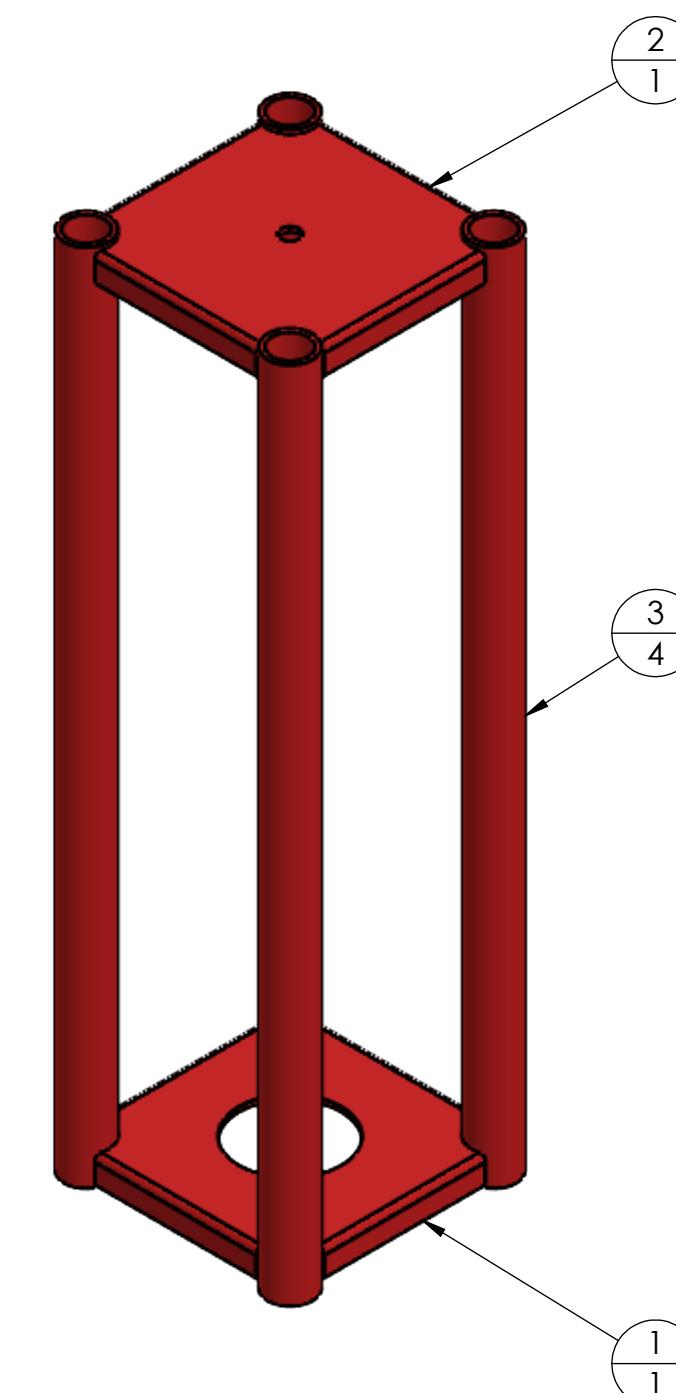
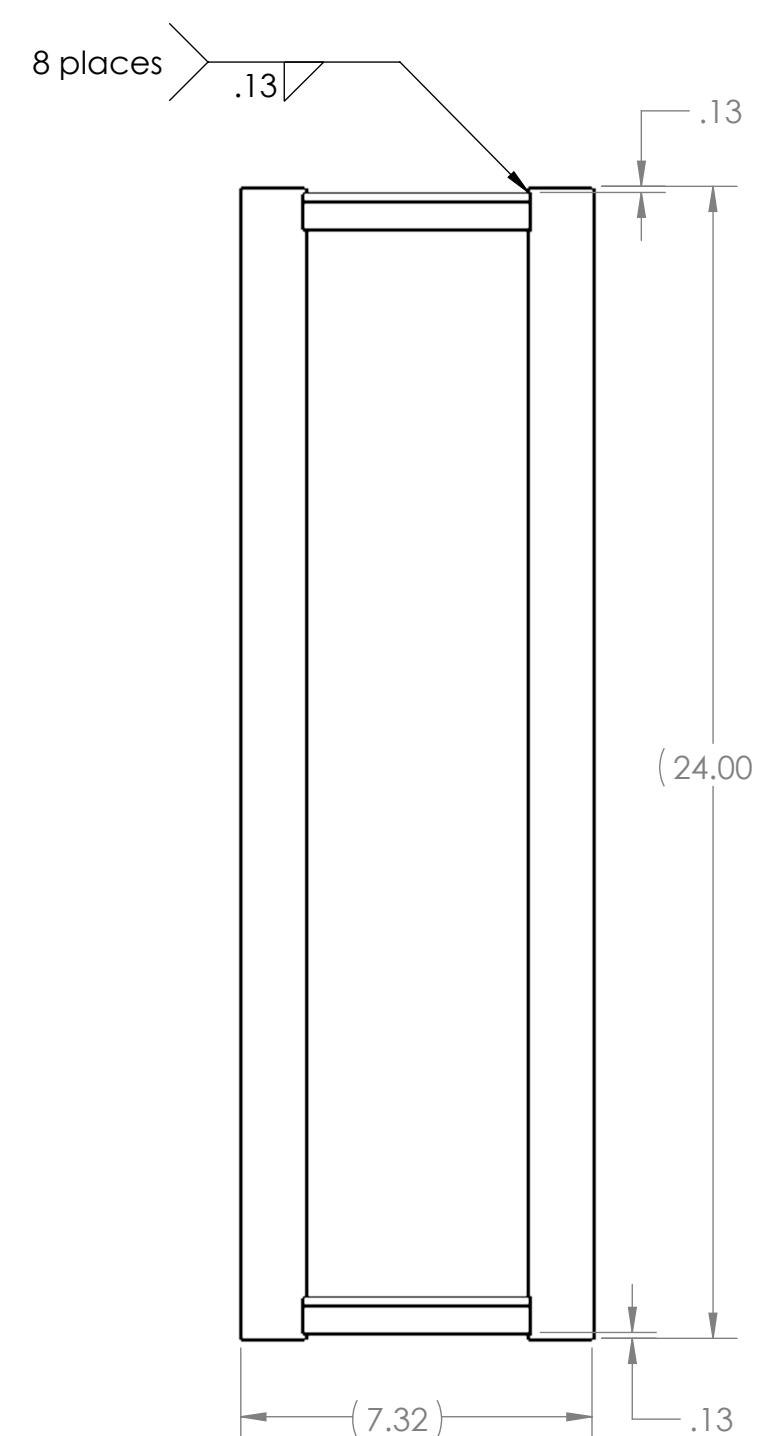
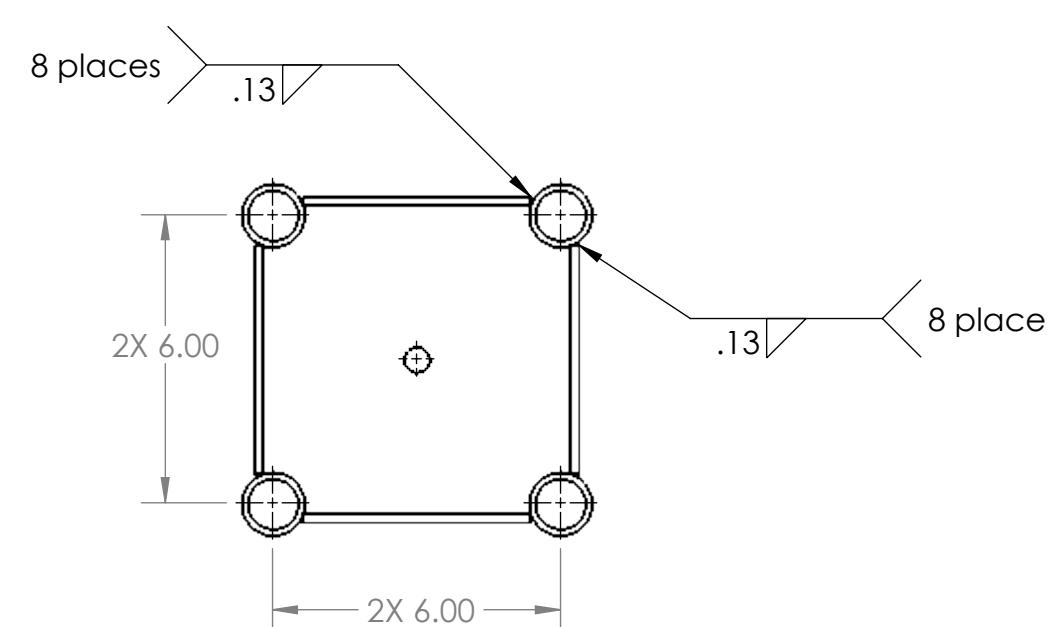
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25201-01	10 ga. A36/1008 Mild Steel Sheet	1
2	GE-25201-02	10 ga. A36/1008 Mild Steel Sheet	1
3	GE-25201-03	1" Schedule 40 Pipe, A500 Steel	4

UNLESS OTHERWISE SPECIFIED:

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#
3020

DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	DF	7/10/2024

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: Cage Weldment, Red

SIZE DWG. NO. REV
C GE-25201

SCALE: 1:4 SHEET 1 OF 2

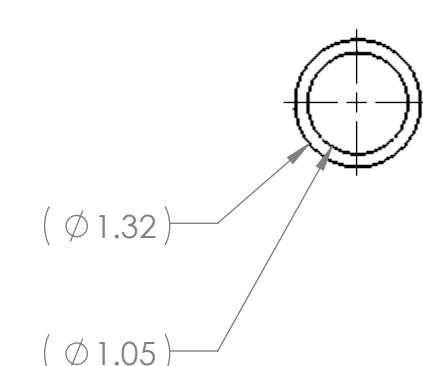
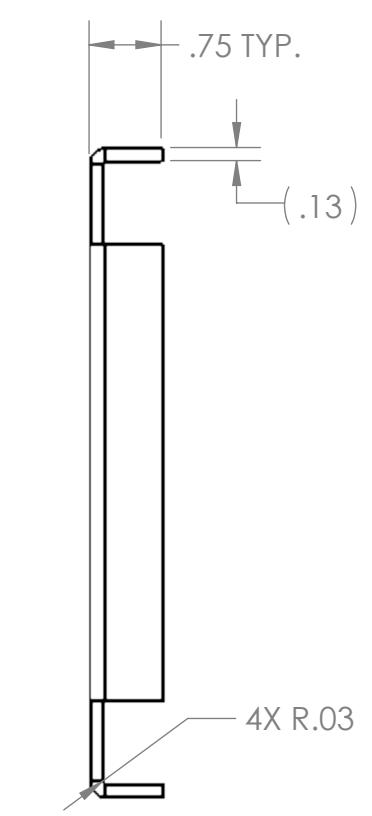
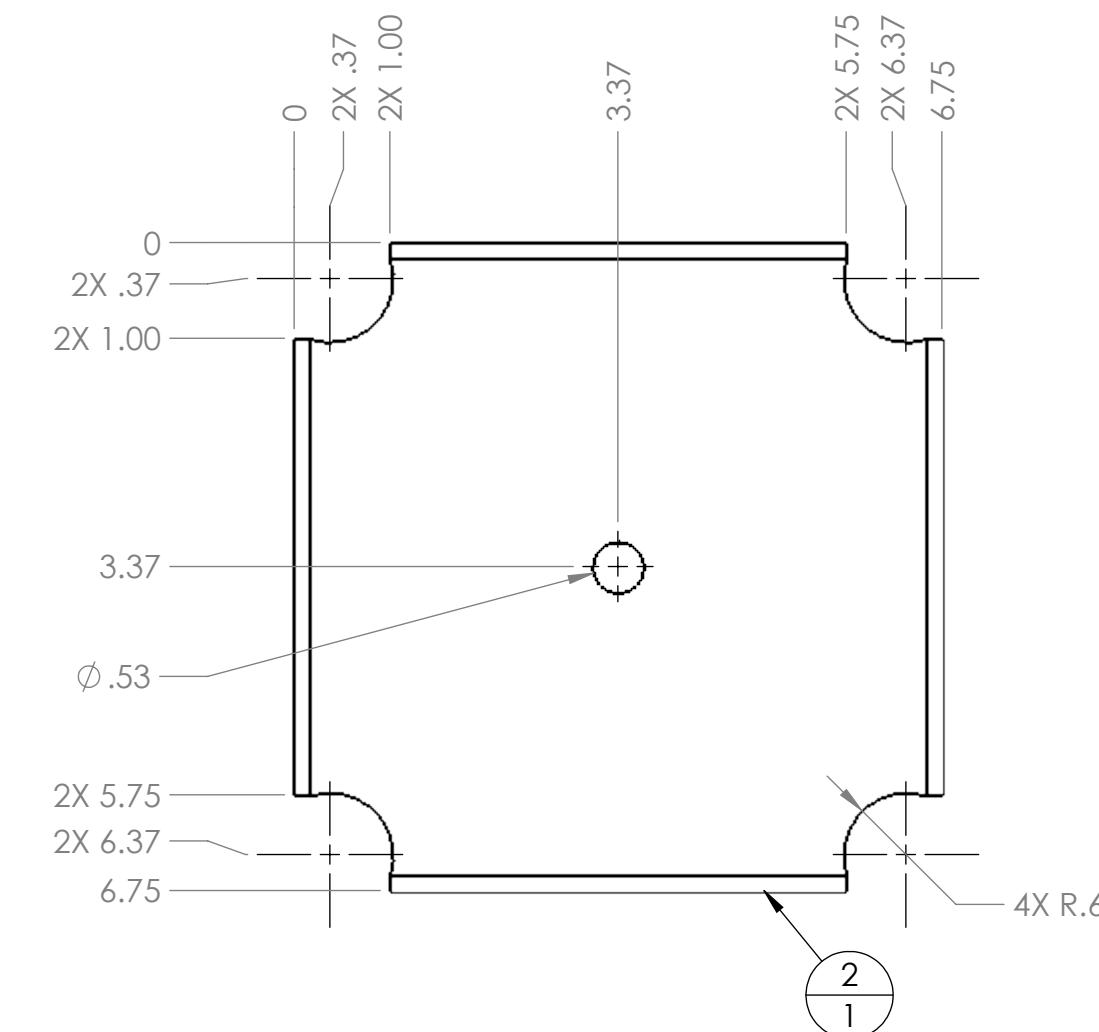
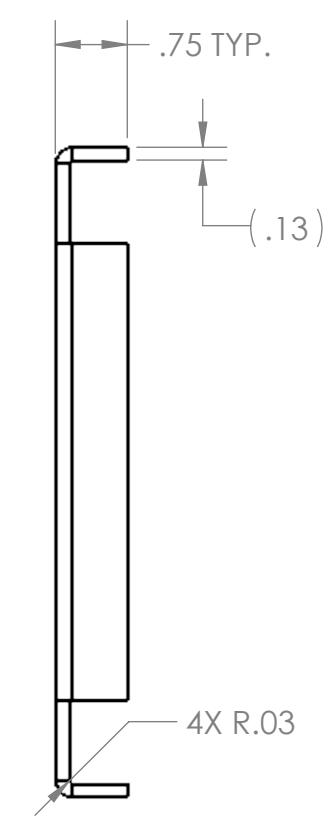
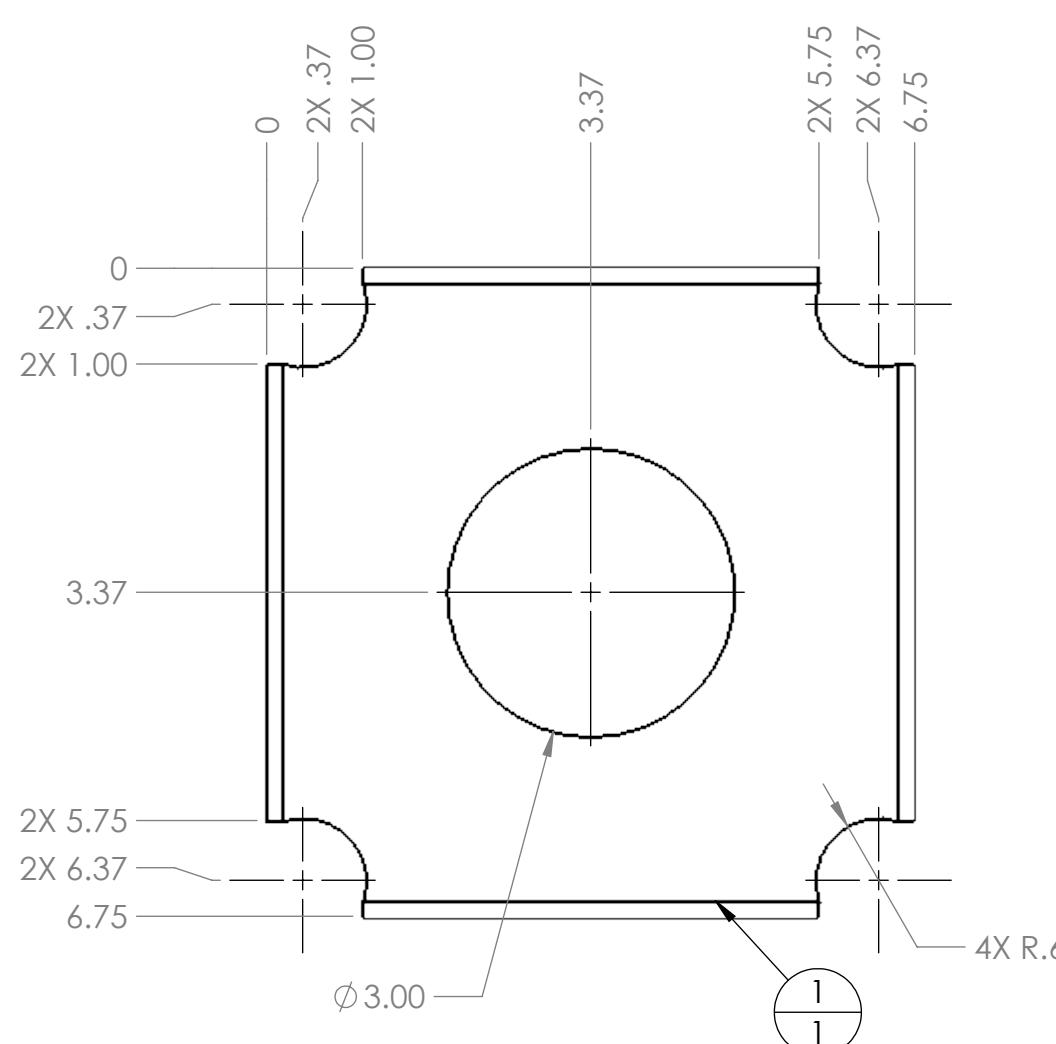
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UNLESS OTHERWISE SPECIFIED:

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 $\pm .015$ **MATERIAL/FINISH:**Steel, welded and
powder coated RAL#
3020

DO NOT SCALE DRAWING

WELD NAME DATE

DRAWN DF 7/10/2024

PROPRIETARY AND CONFIDENTIALTHE INFORMATION CONTAINED IN
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PROHIBITED.**COMMENTS:**REMOVE ALL BURRS AND SHARP
EDGES.
FIRST
ROBOTICS
COMPETITION
SOLIDWORKS
 Modeling Solutions Partner

TITLE:

Cage
Weldment, Red

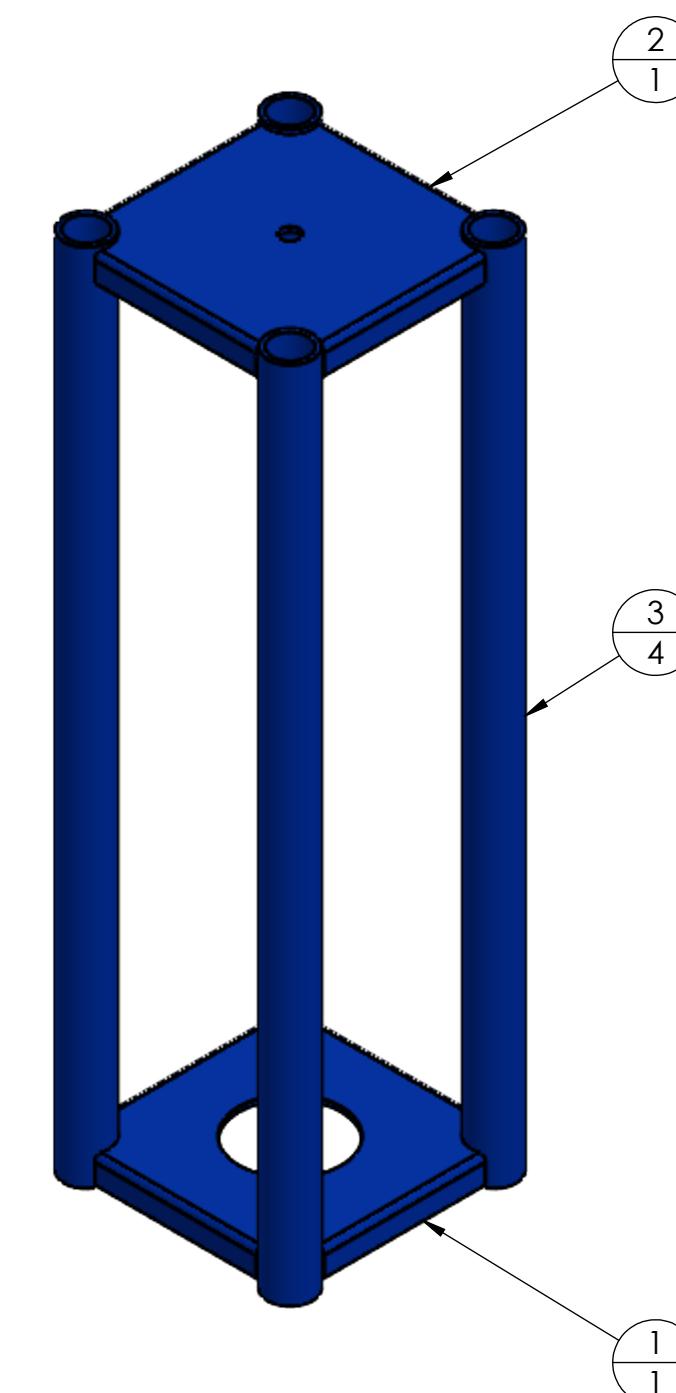
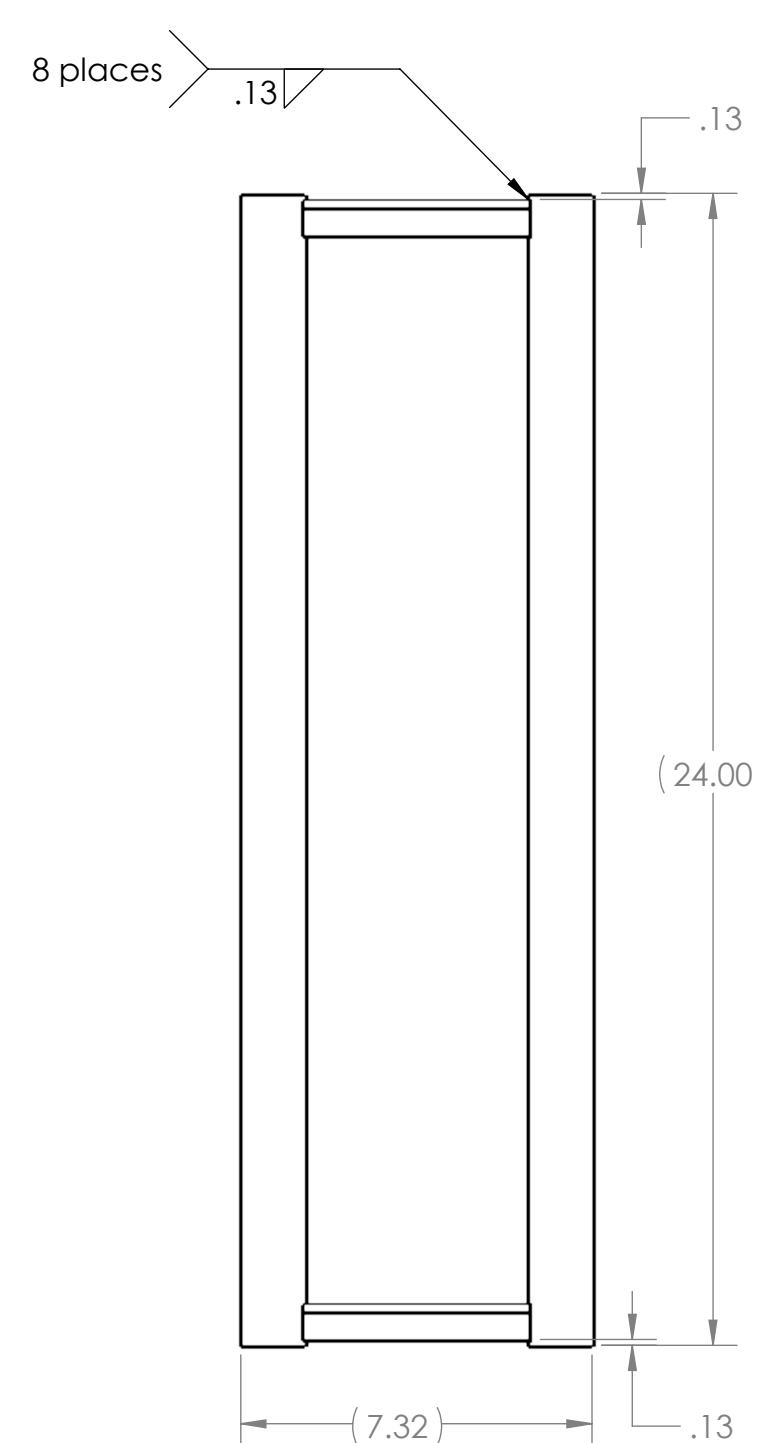
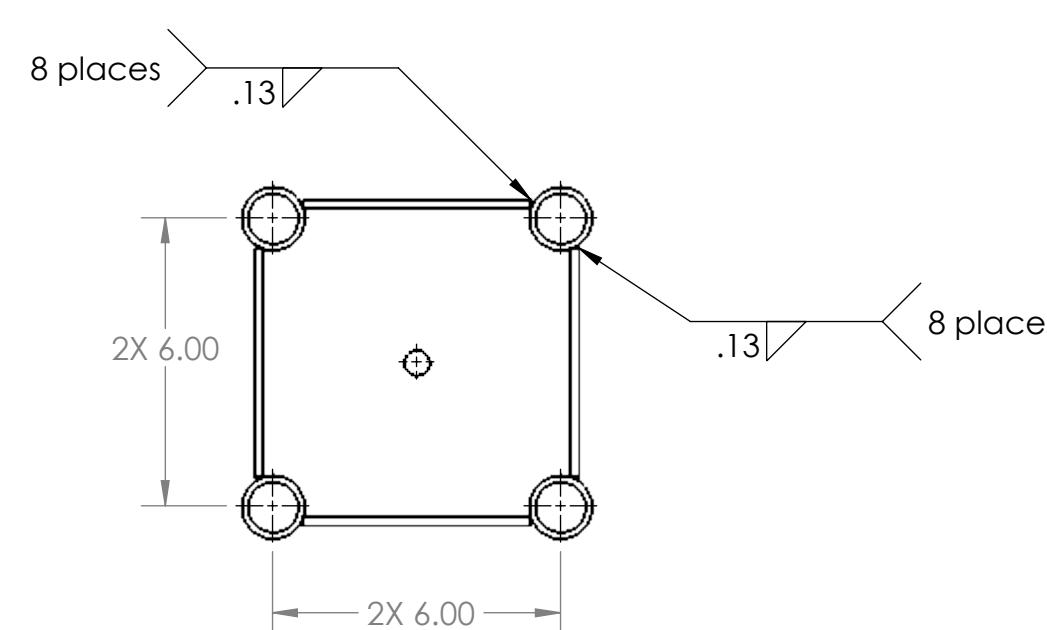
SIZE DWG. NO.

REV
C GE-25201

SCALE: 1:2 SHEET 2 OF 2

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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

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: Cage Weldment, Blue

SIZE	DWG. NO.	REV
C	GE-25202	

SCALE: 1:4 SHEET 1 OF 2

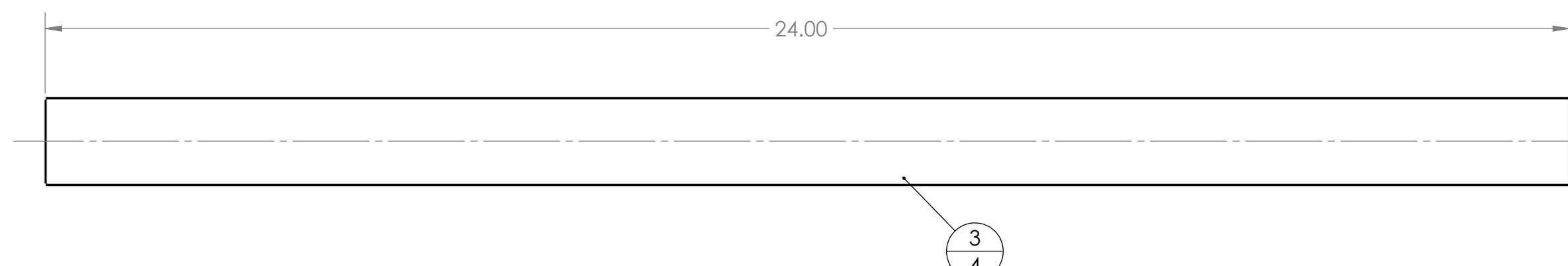
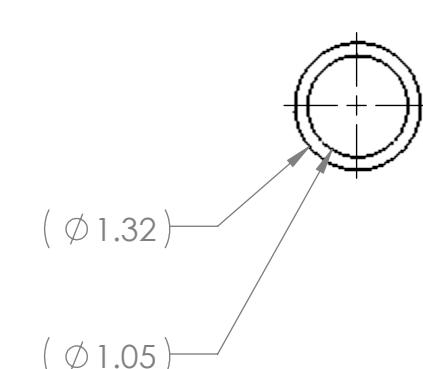
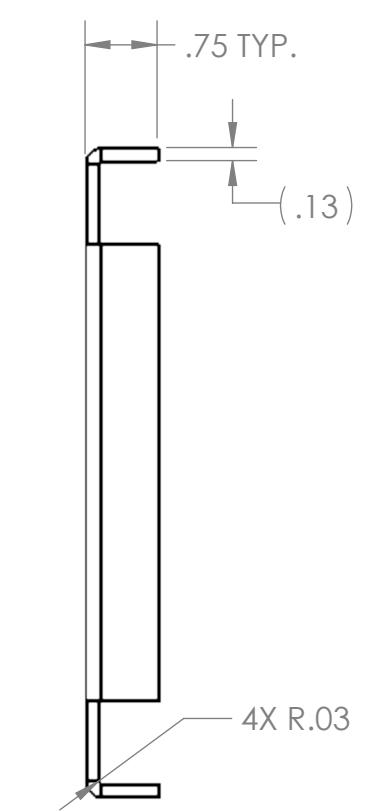
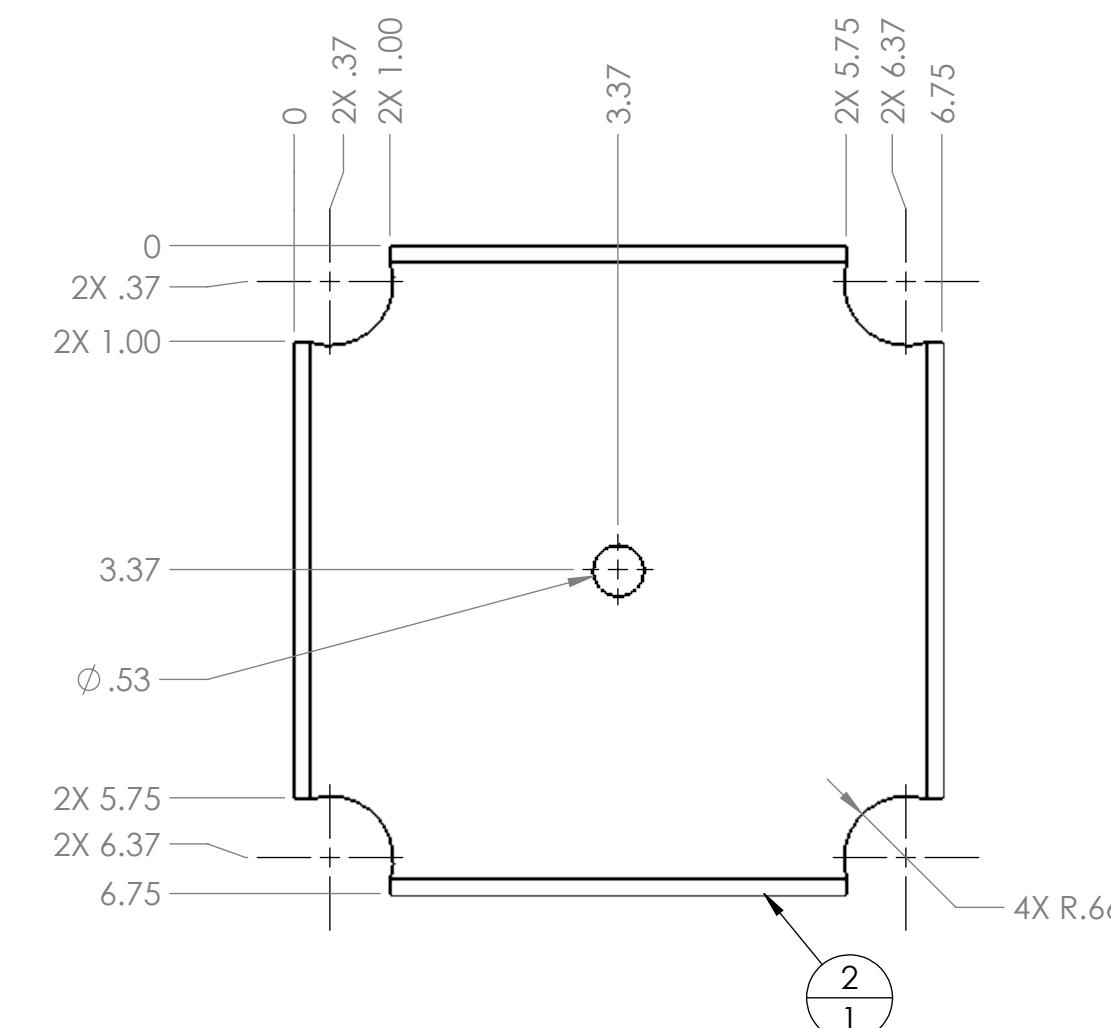
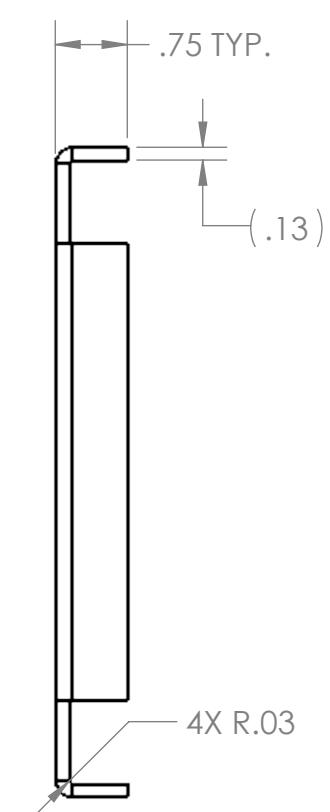
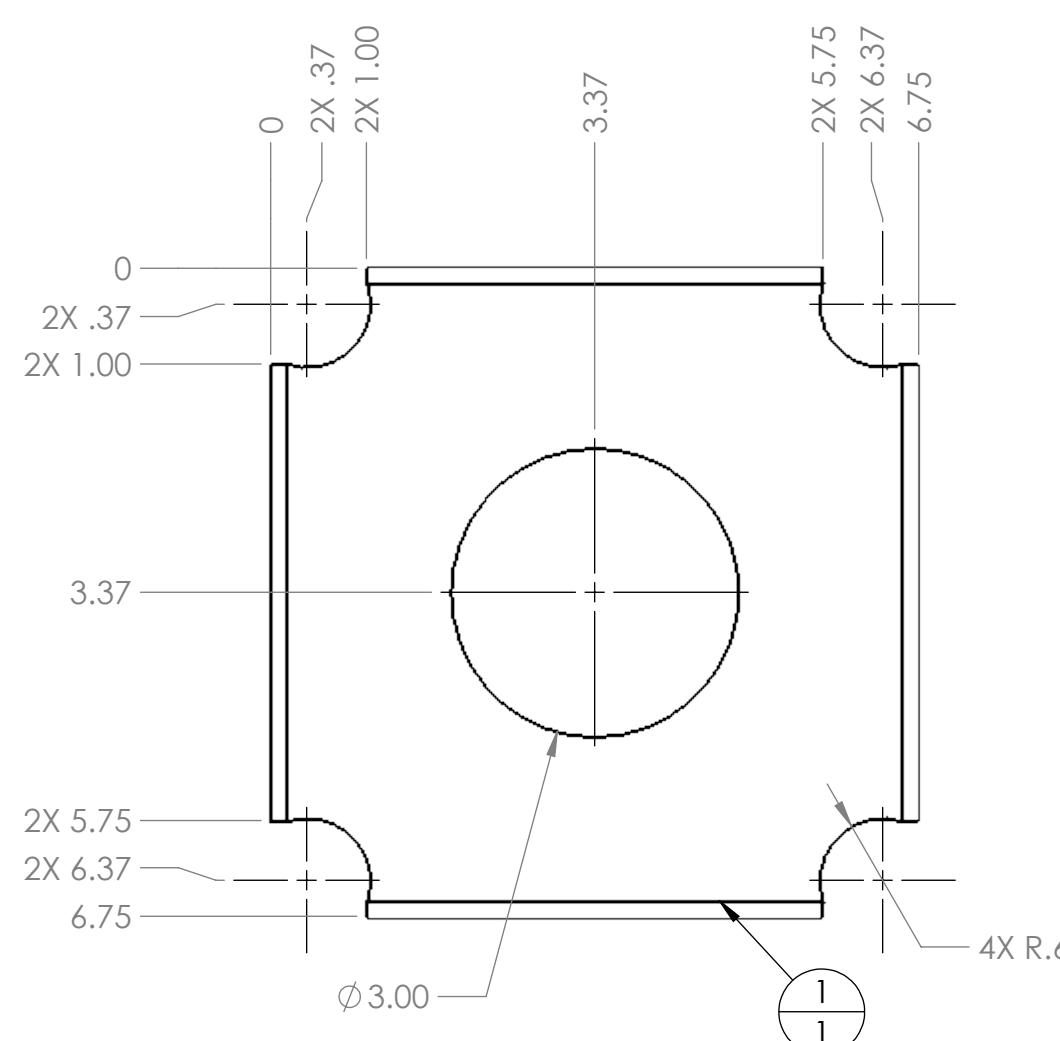
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UNLESS OTHERWISE SPECIFIED:

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 $\pm .015$ **PROPRIETARY AND CONFIDENTIAL**

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MATERIAL/FINISH:

Steel, welded and powder coated RAL# 5017

DO NOT SCALE DRAWING

WELD

DRAWN

NAME

DF

DATE

7/10/2024



SOLIDWORKS
Modeling Solutions Partner

TITLE: Cage Weldment, Blue

SIZE DWG. NO. REV

C GE-25202

SCALE: 1:2 SHEET 2 OF 2

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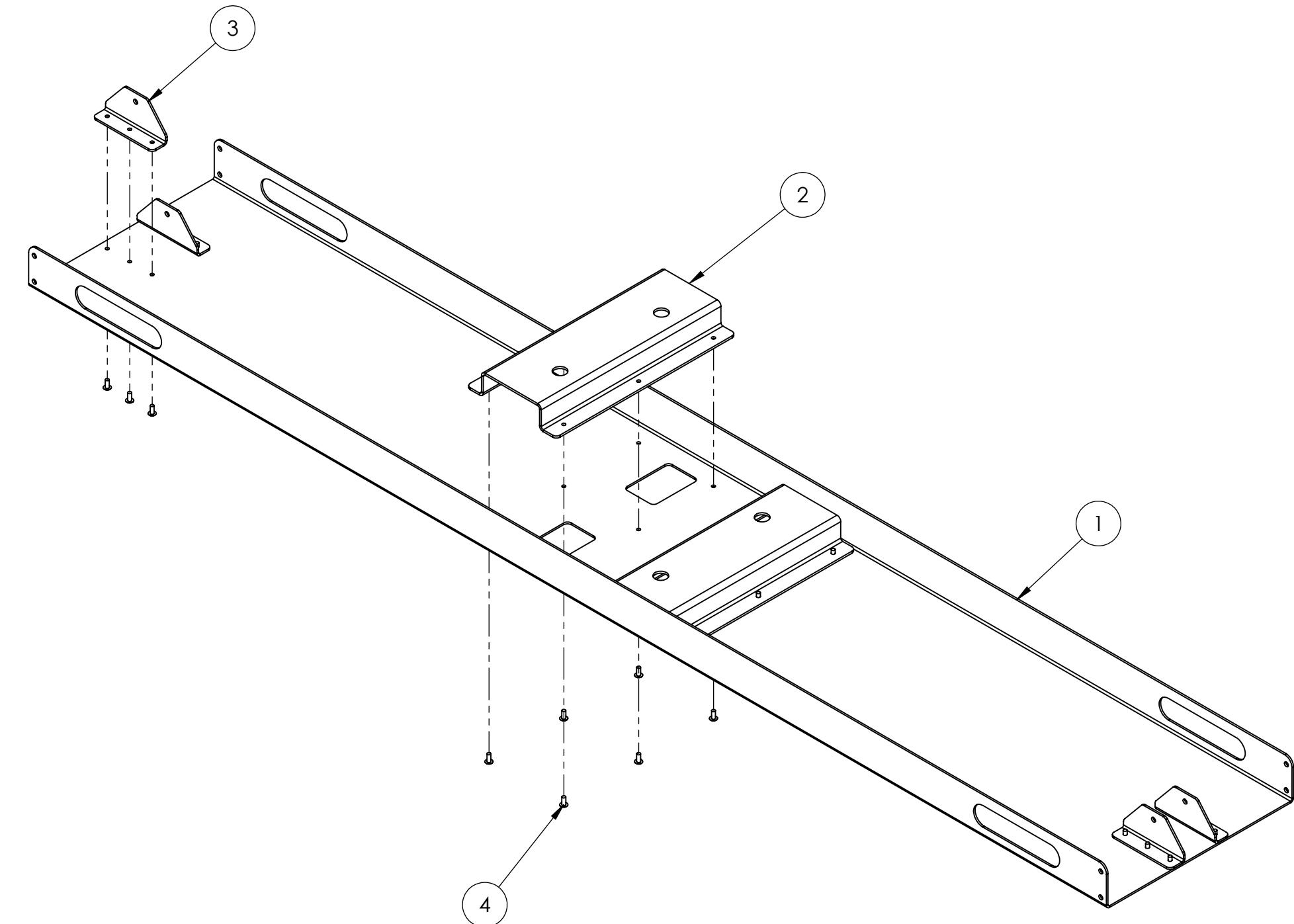
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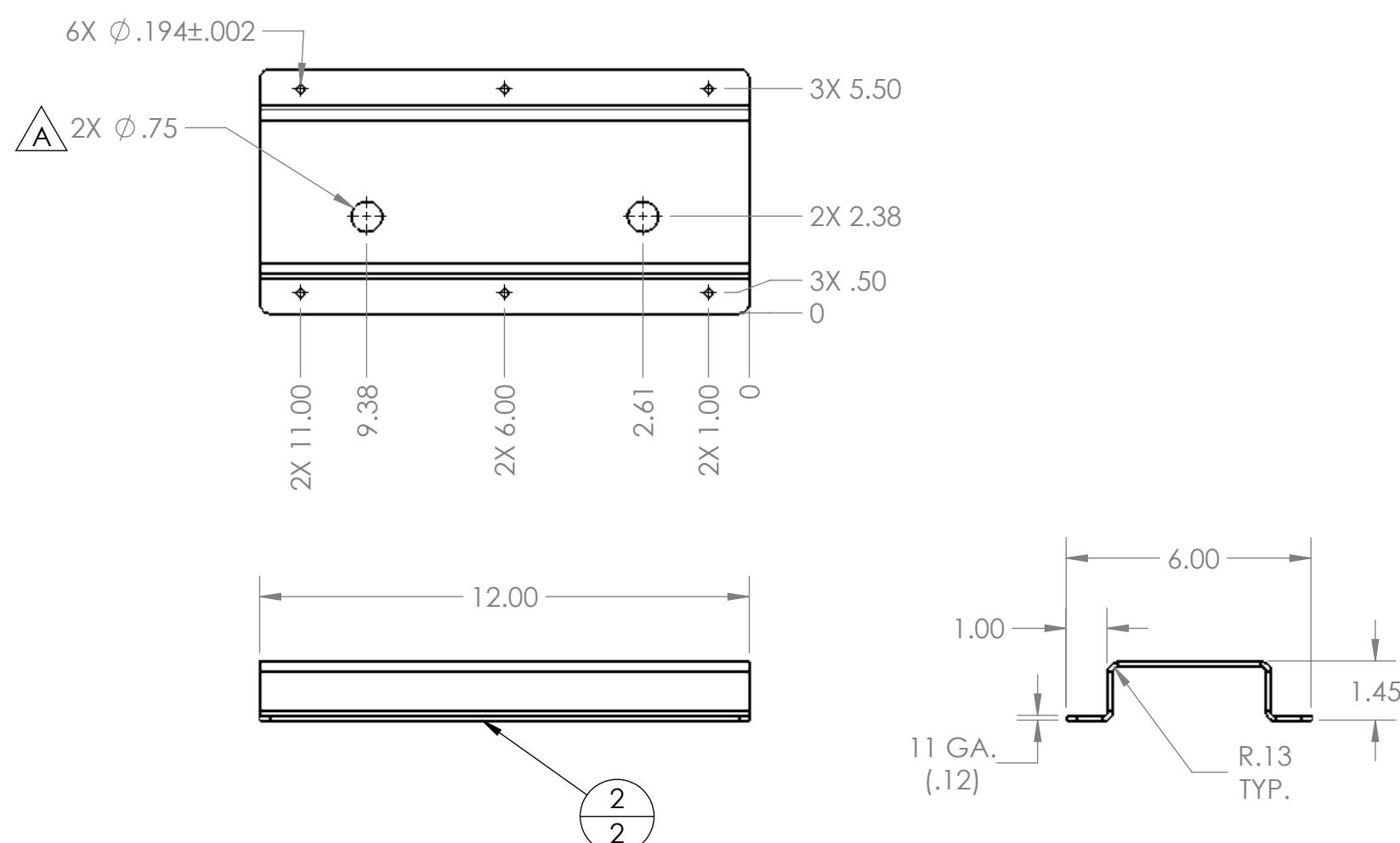
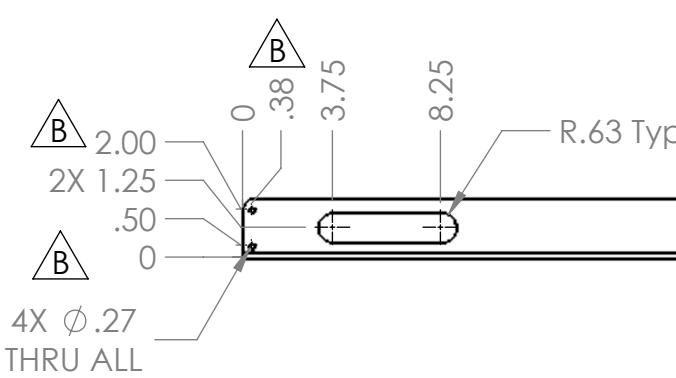
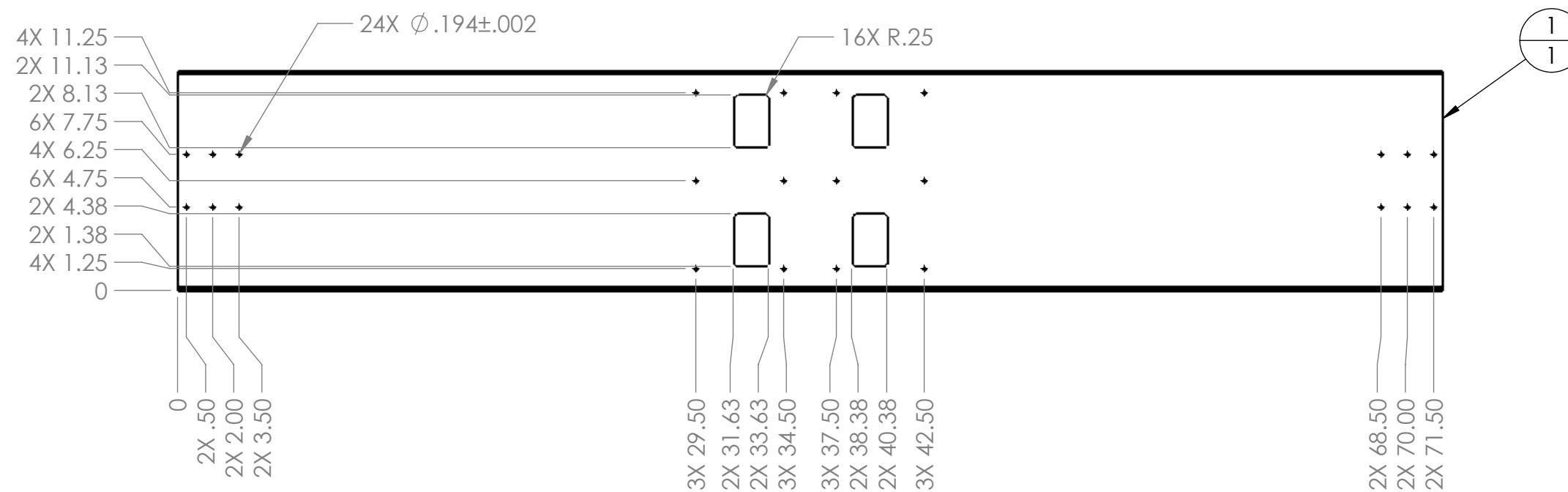
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-B4	A	2X Ø .75 was 2X Ø .88	8/28/2024	DAF
2-C2, 2-C4	B	Added 4X Ø .27 THRU ALL holes.	9/10/2024	DAF

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: 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	DF	8/19/2024
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.			
MATERIAL/FINISH: 11 and 12 Gauge Steel, Paint or Powder Coat Black			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
 FIRST ROBOTICS COMPETITION 			
TITLE: Truss Base, Long - Sheet Metal Assembly			
SIZE DWG. NO. REV			
C GE-25203 B			
SCALE: 1:6 SHEET 1 OF 2			

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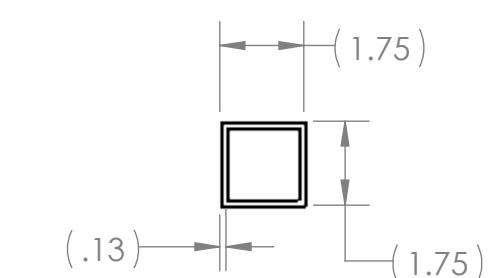
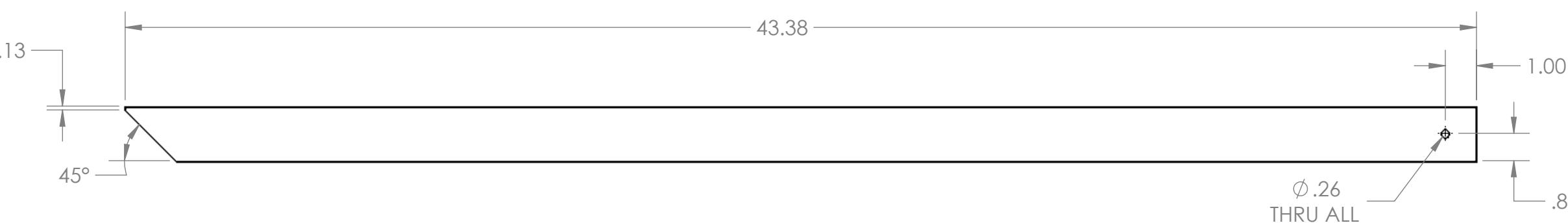
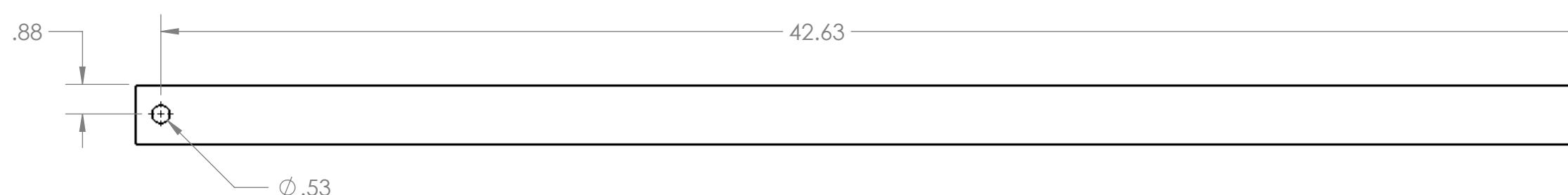
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DRAWN	DF	8/19/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 11 and 12 Gauge Steel, Paint or Powder Coat Black			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION
SOLIDWORKS
Modeling Solutions Partner

TITLE: Truss Base, Long - Sheet Metal Assembly
SIZE DWG. NO. REV
C GE-25203 **B**

SCALE: 1:8 SHEET 2 OF 2

D



Notes:

1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DF	8/23/2024
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.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1.75 X .125 Square Tubing, 6061 Aluminum	C	GE-25204	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:4	SHEET 1 OF 1	

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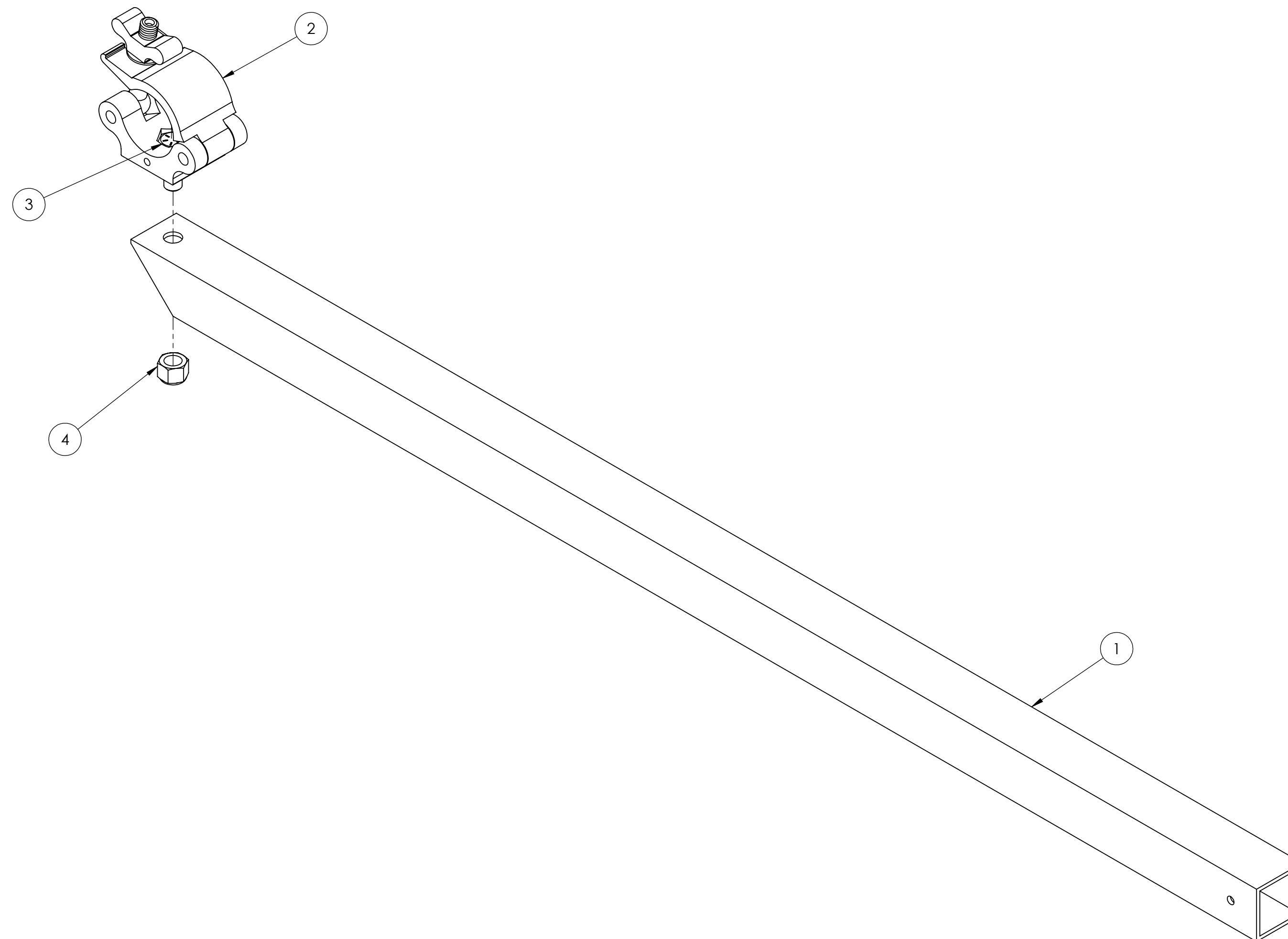
C

B

B

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A



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:			FIELD	NAME	DATE
			DRAWN	JO	12/16/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$					
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.					
MATERIAL/FINISH: COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST ROBOTICS COMPETITION Modeling Solutions Partner

Truss Brace Assembly

SIZE	DWG. NO.	REV
C	GE-25205	

SCALE: 1:2.5 SHEET 1 OF 1

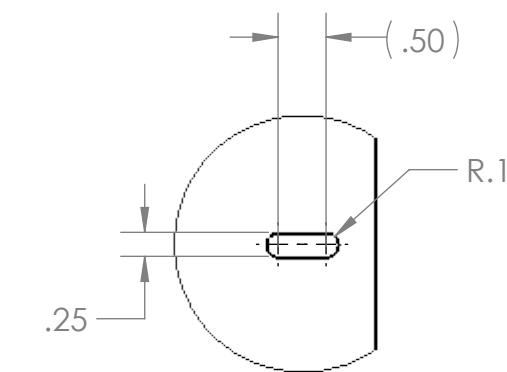
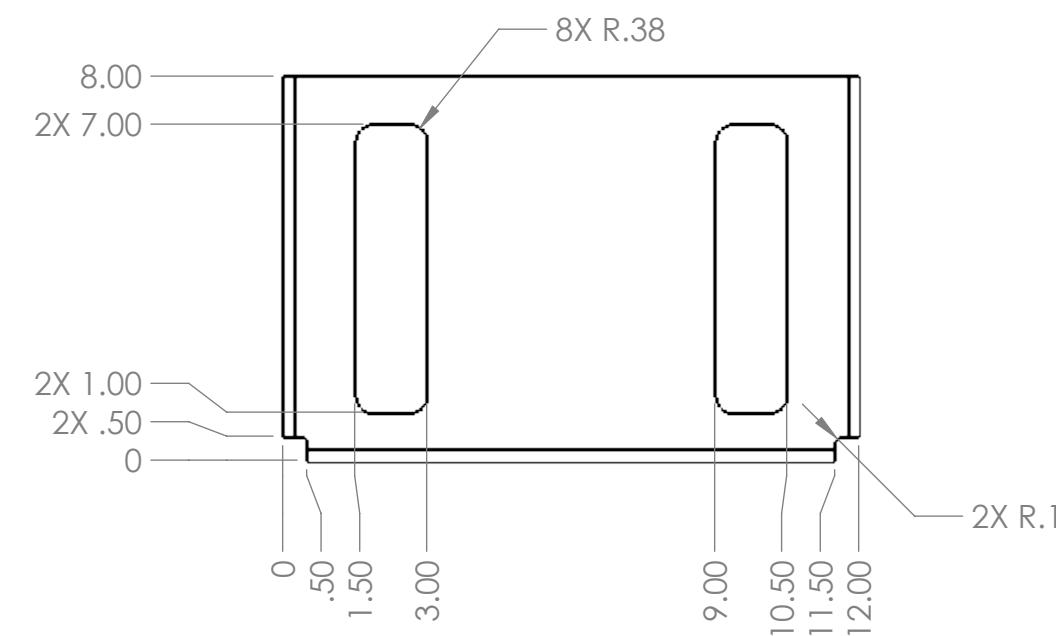
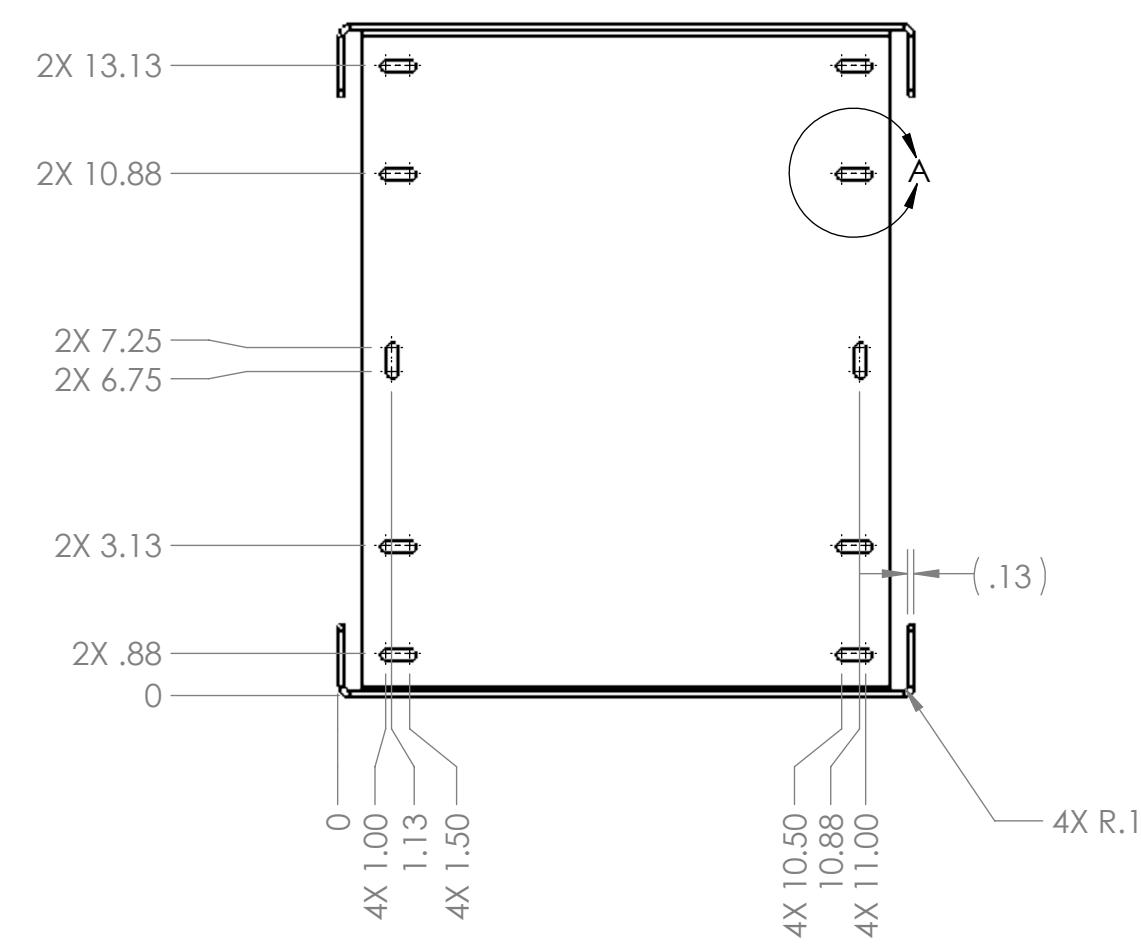
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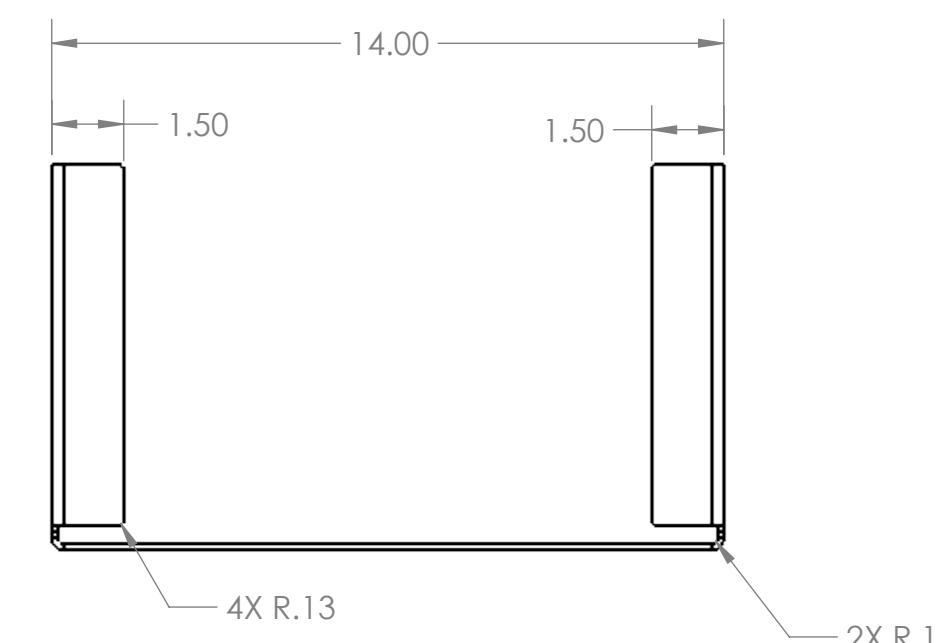
2

1

D



DETAIL A
SCALE 1 : 2
TYP. 10 PLACES



UNLESS OTHERWISE SPECIFIED:

DRAWN

BEND

NAME

DATE

DF

10/3/2024

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:

8 ga. 5052 Aluminum Sheet



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

TITLE:
**Backboard
Brace**

SIZE DWG. NO. REV
C GE-25206

SCALE: 1:4 SHEET 1 OF 1

DO NOT SCALE DRAWING

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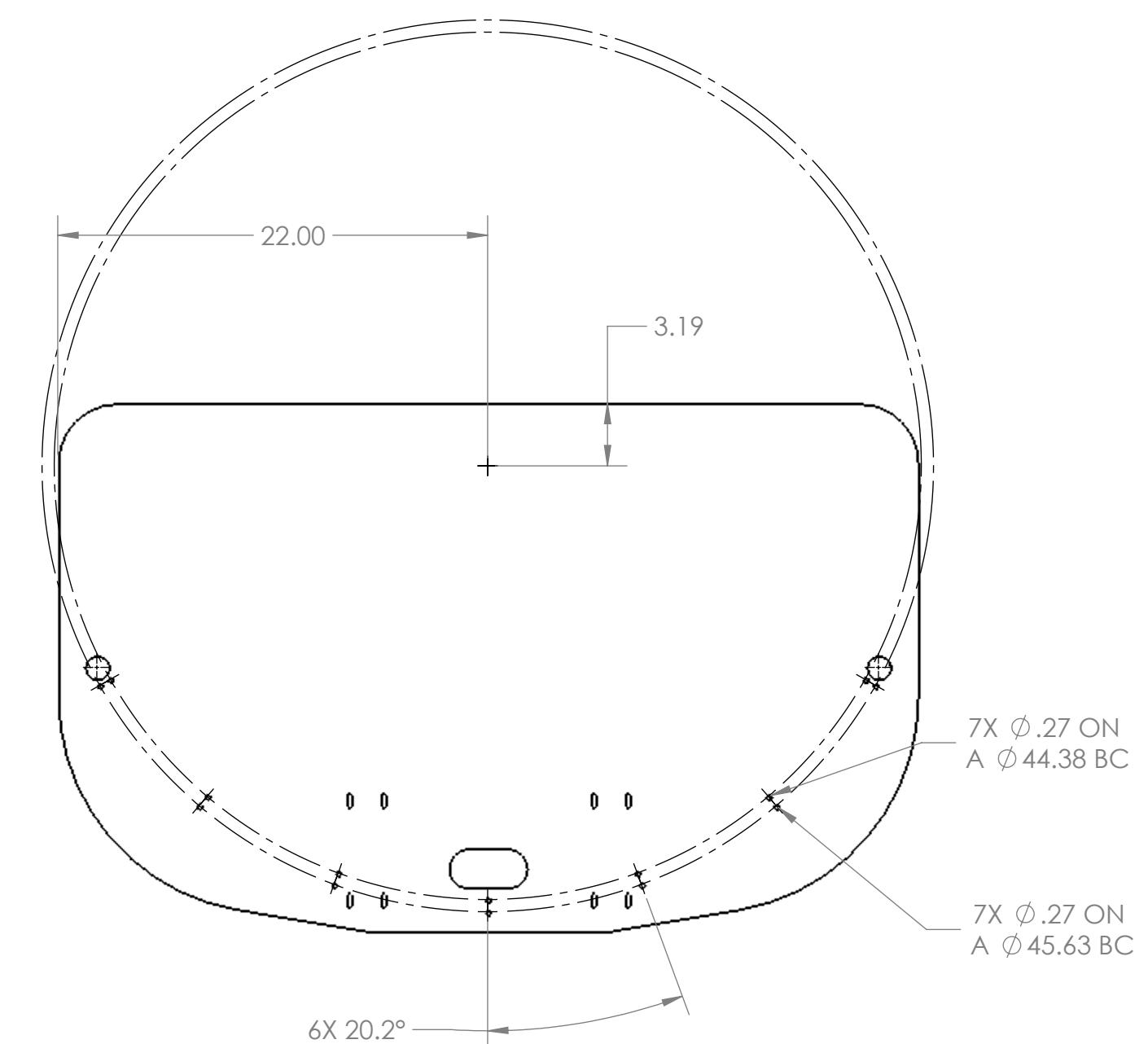
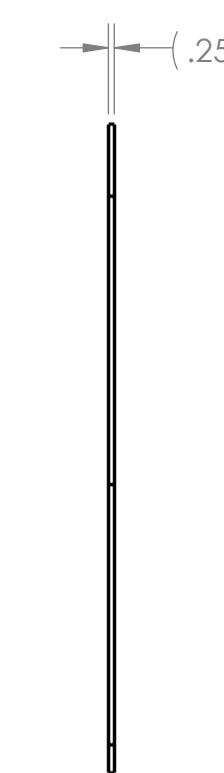
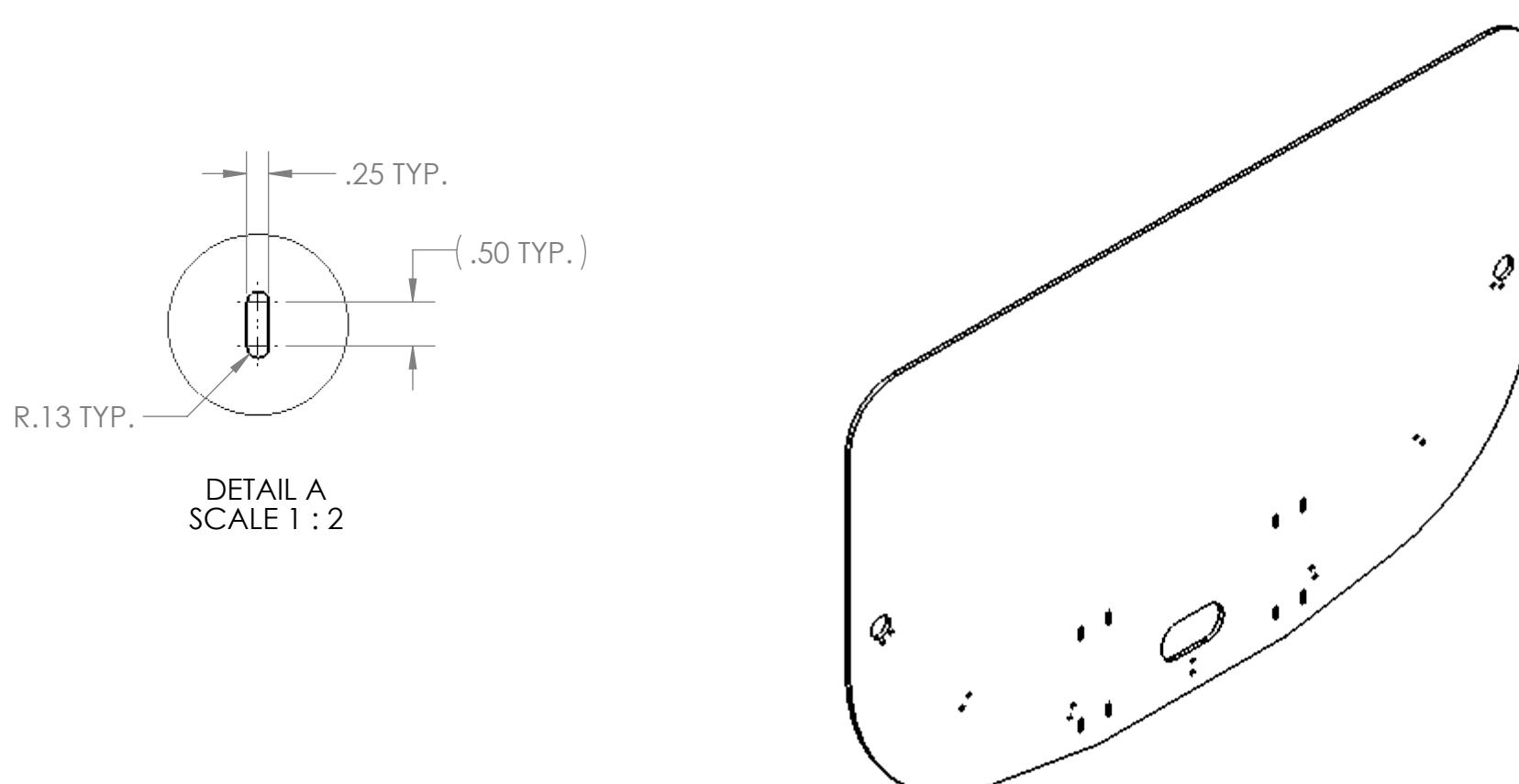
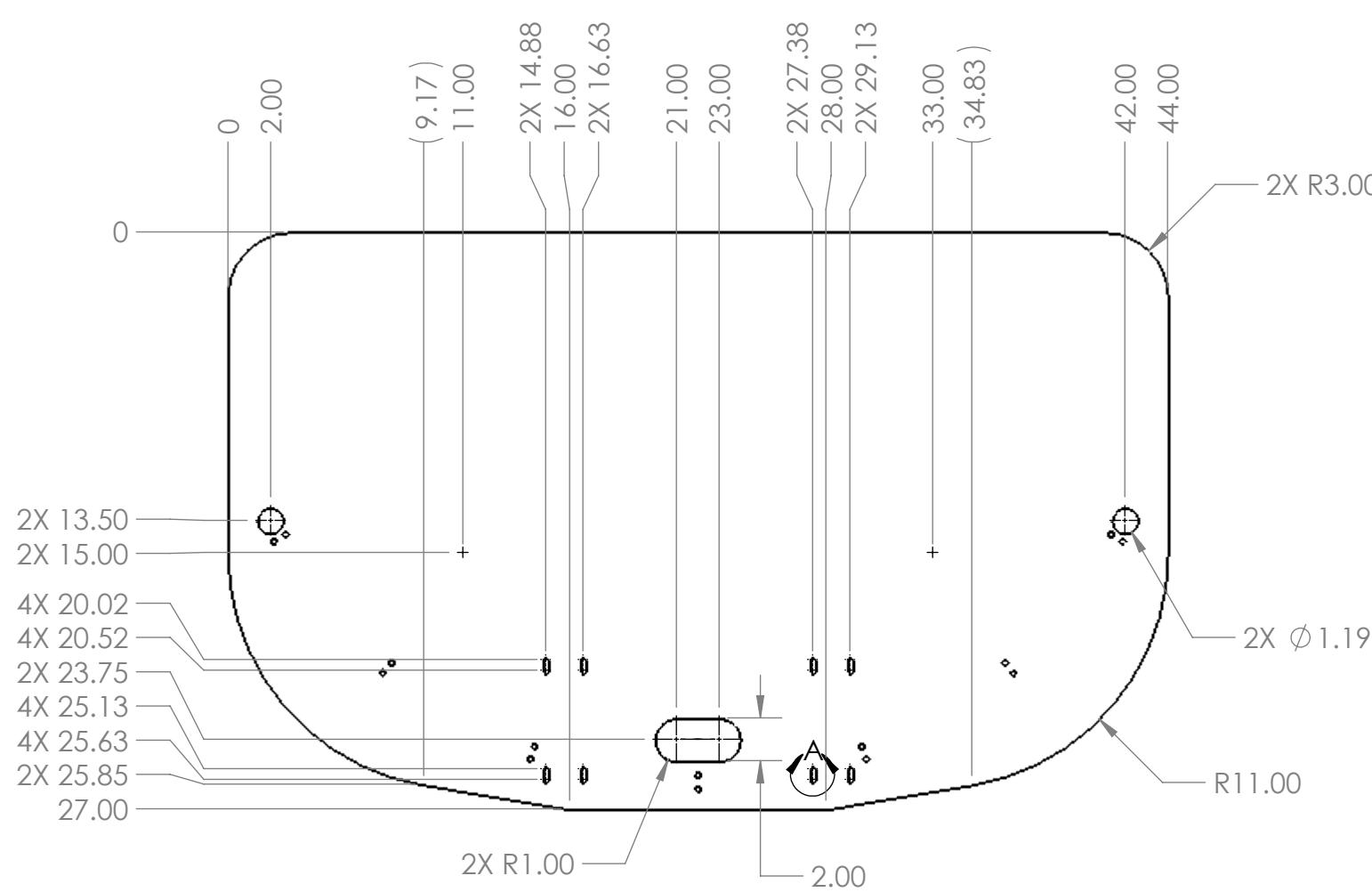
C

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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DF	10/2/2024
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" Polycarbonate, Clear		
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			

TITLE:	Backboard	
SIZE	DWG. NO.	REV
C	GE-25207	
SCALE: 1:8	SHEET 1 OF 1	

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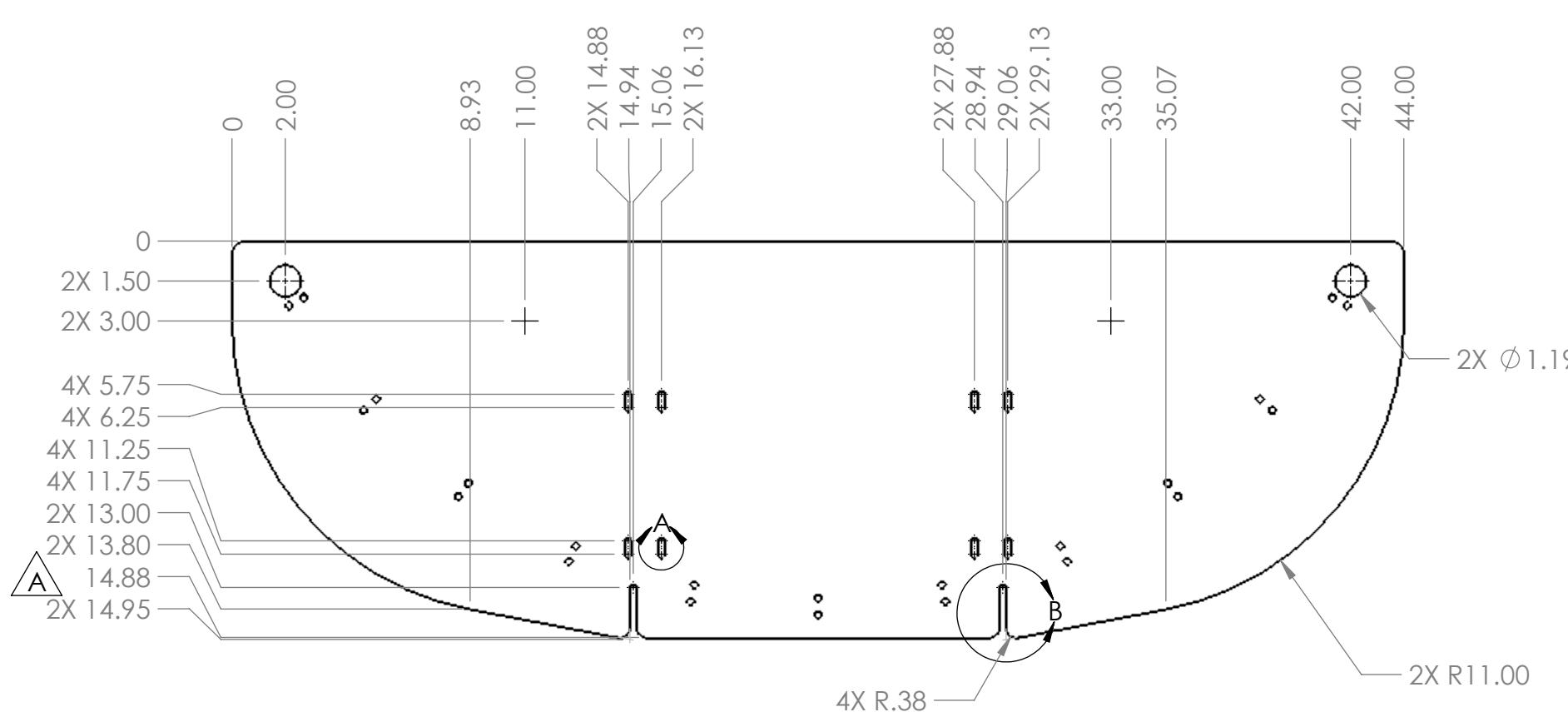
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D

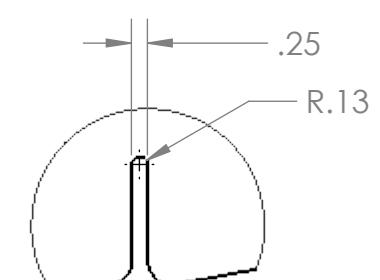
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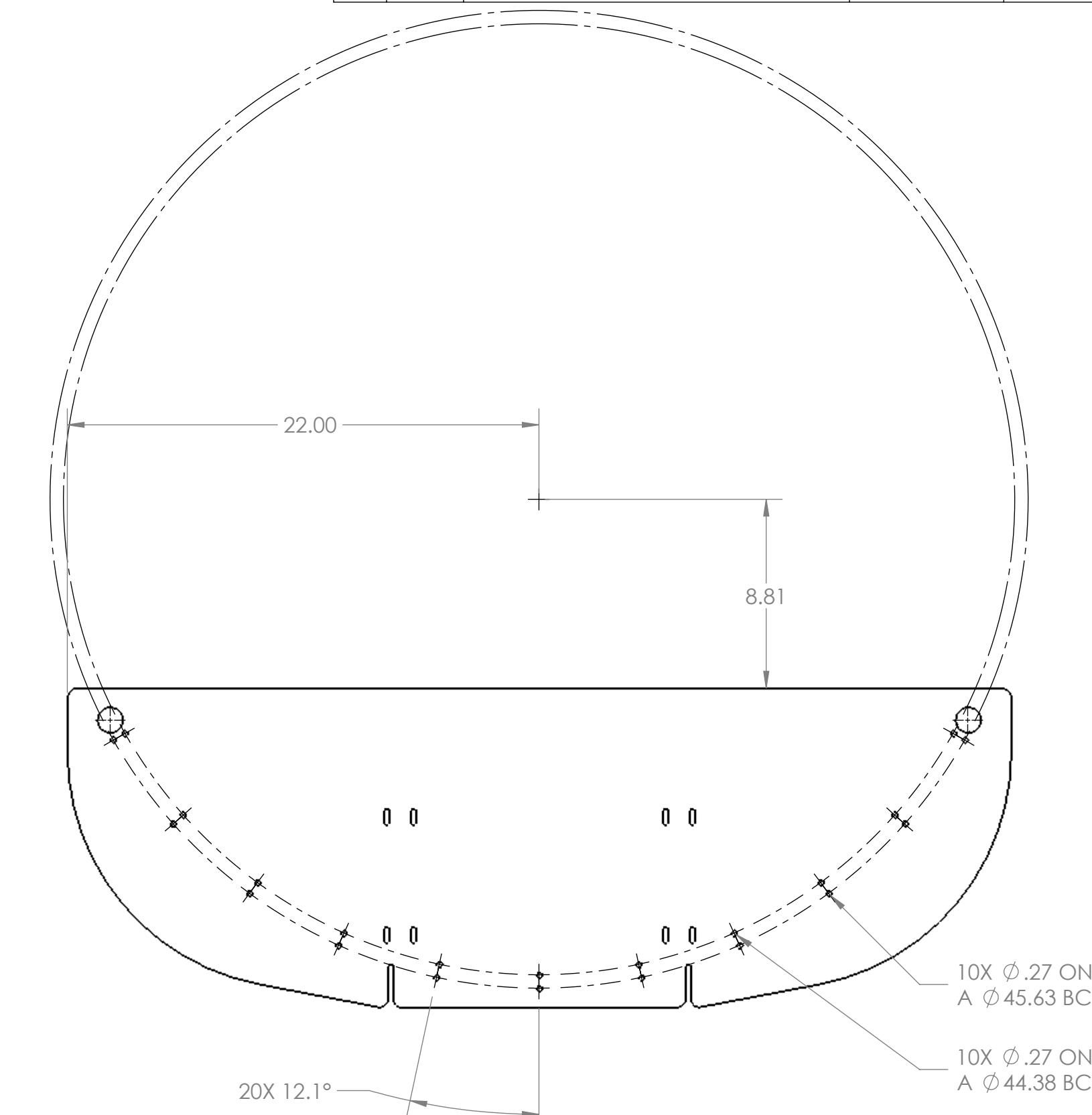
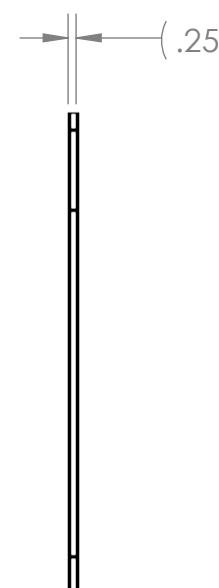
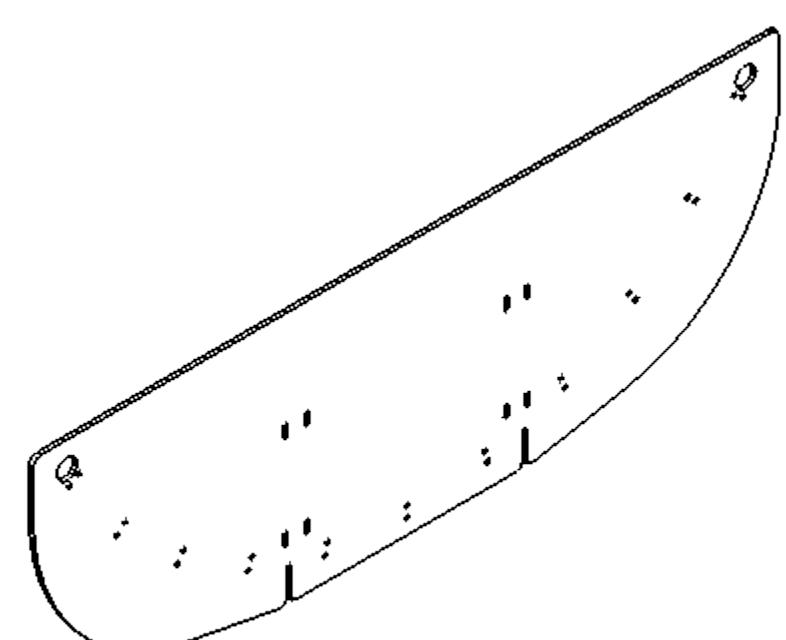
A



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 $\pm .005$

MATERIAL/FINISH:

1/4" Polycarbonate, Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	10/3/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

REVISIONS

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

 FIRST ROBOTICS COMPETITION  SOLIDWORKS Modeling Solutions Partner

TITLE:

Inner Front

SIZE DWG. NO.

C GE-25208 A

SCALE: 1:6 SHEET 1 OF 1

REVISIONS

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

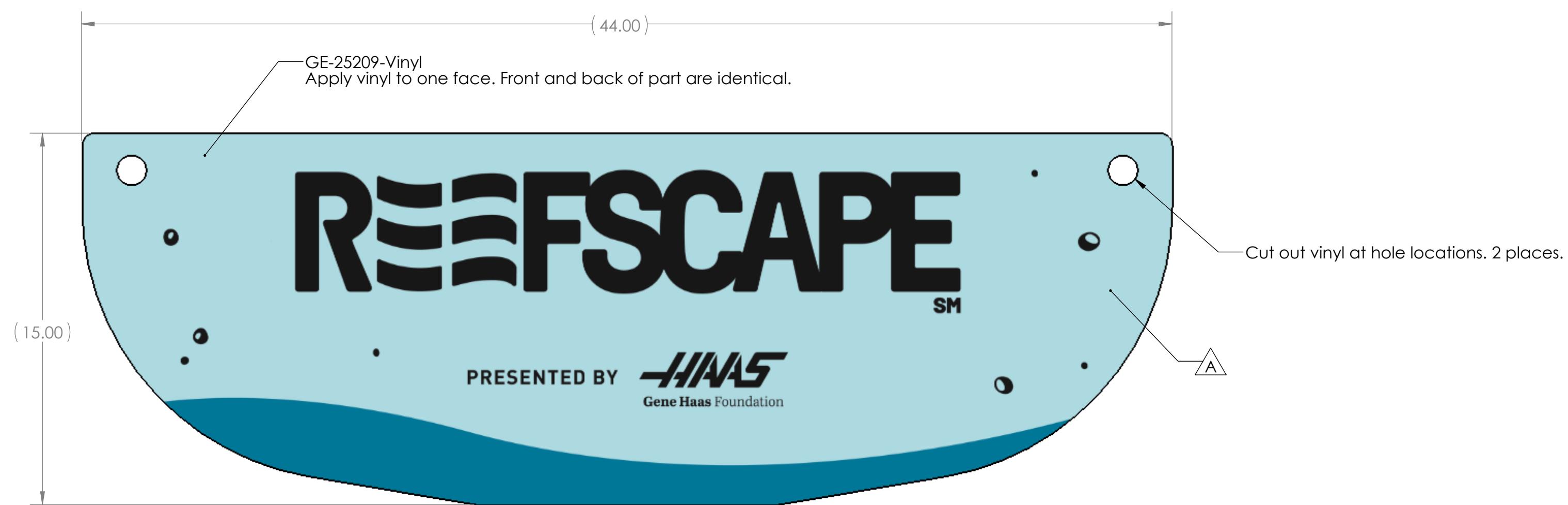
D

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C

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B

B

- Notes:
1. QTY per field: 2
 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 $\pm .005$

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND DATE

DRAWN DF 10/7/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

NAME

TITLE:

Outer Front w/Vinyl

SIZE DWG. NO. REV

C GE-25209 A

SCALE: 1:4 SHEET 1 OF 1

FIRST ROBOTICS COMPETITION

SOLIDWORKS

Modeling Solutions Partner

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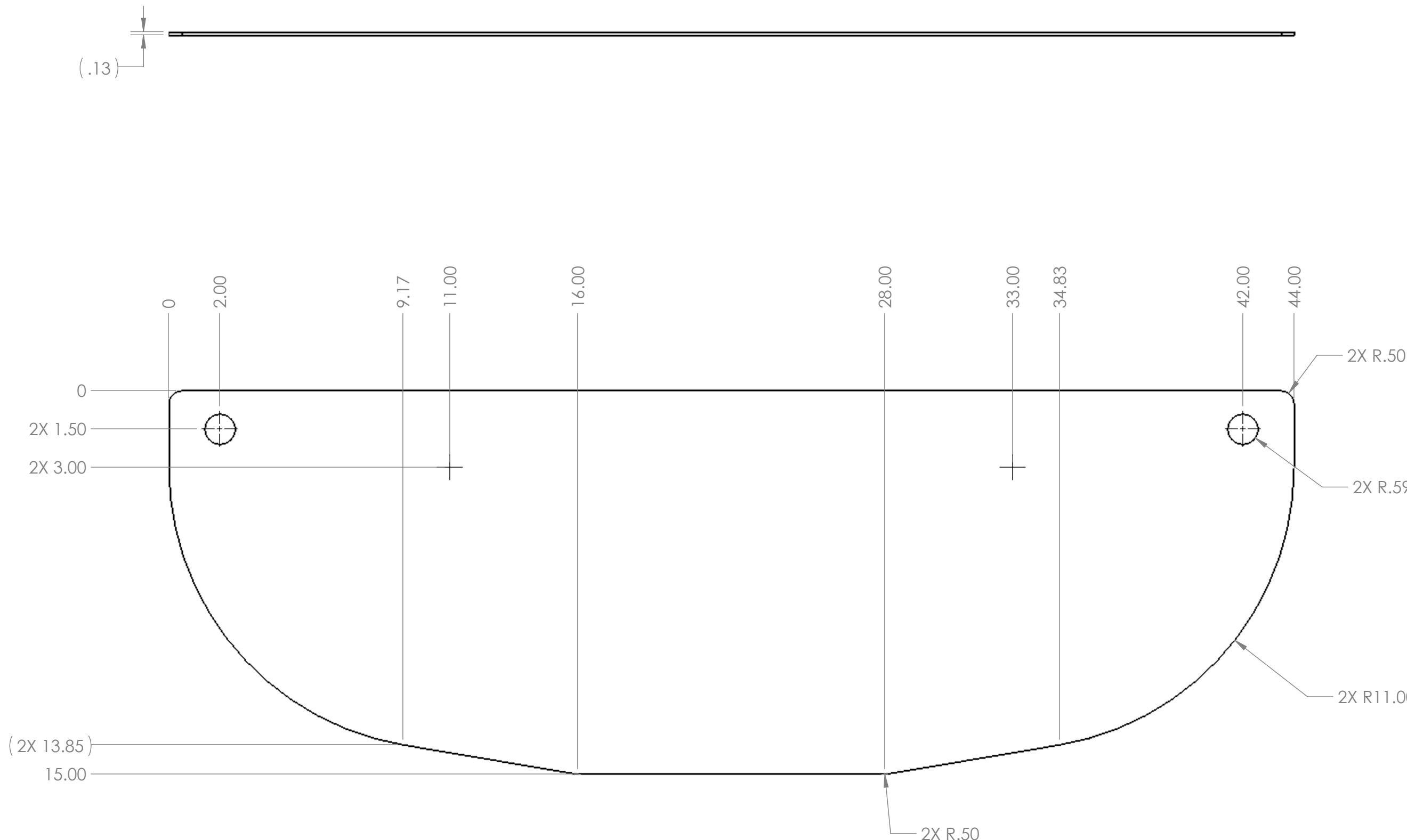
C

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UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

1/8" Polycarbonate, Clear

VEND	NAME	DATE	
DRAWN	DF	10/1/2024	
PROPRIETARY AND CONFIDENTIAL			SOLIDWORKS Modeling Solutions Partner
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.			
SIZE	DWG. NO.	REV	C GE-25210
SCALE: 1:4			SHEET 1 OF 1

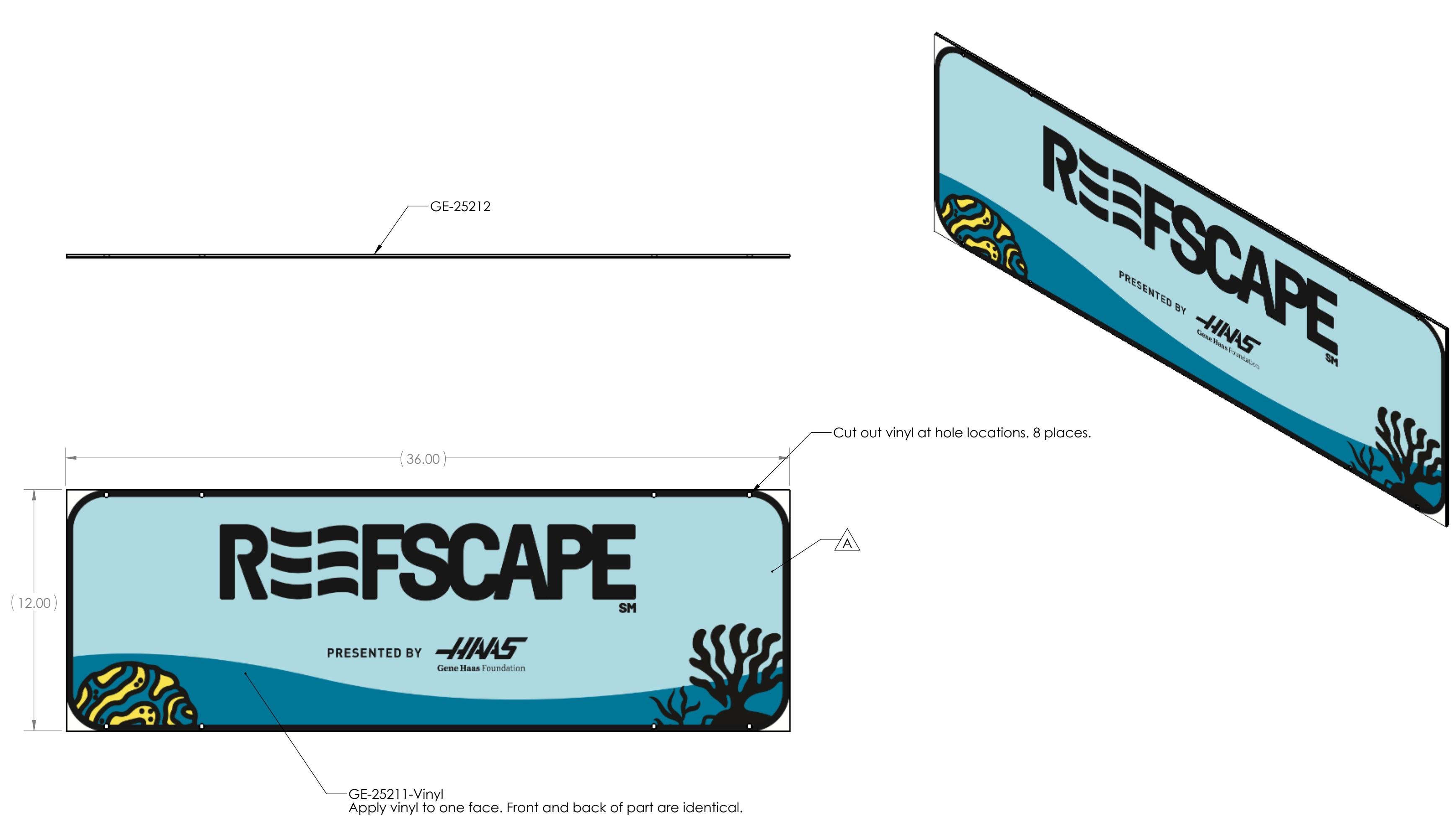
4

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



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

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	DF	10/8/2024	
PROPRIETARY AND CONFIDENTIAL			
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COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
C SOLIDWORKS Modeling Solutions Partner			
FIRST ROBOTICS COMPETITION			
TITLE: Side Panel w/Vinyl			
SIZE DWG. NO. REV			
C GE-25211 A			
SCALE: 1:4 SHEET 1 OF 1			

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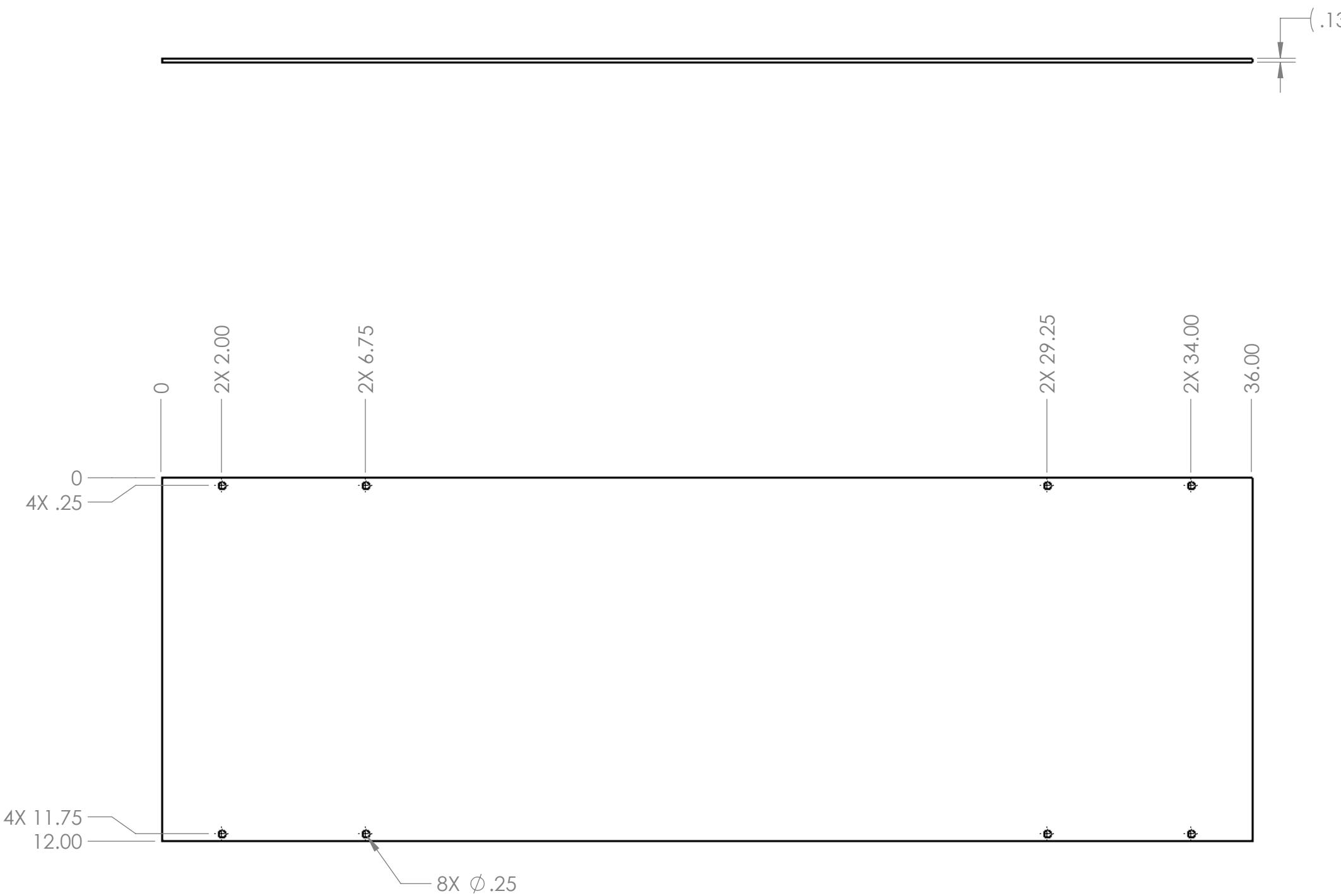
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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .01$
THREE PLACE DECIMAL $\pm .005$

MATERIAL/FINISH:
1/8" Polycarbonate, Clear

DO NOT SCALE DRAWING

VEND NAME DATE
DRAWN DF 10/1/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

FIRST[®] ROBOTICS COMPETITION DS SOLIDWORKS Modeling Solutions Partner

TITLE: Side Panel

SIZE DWG. NO. REV
C GE-25212 **A**

SCALE: 1:4 SHEET 1 OF 1

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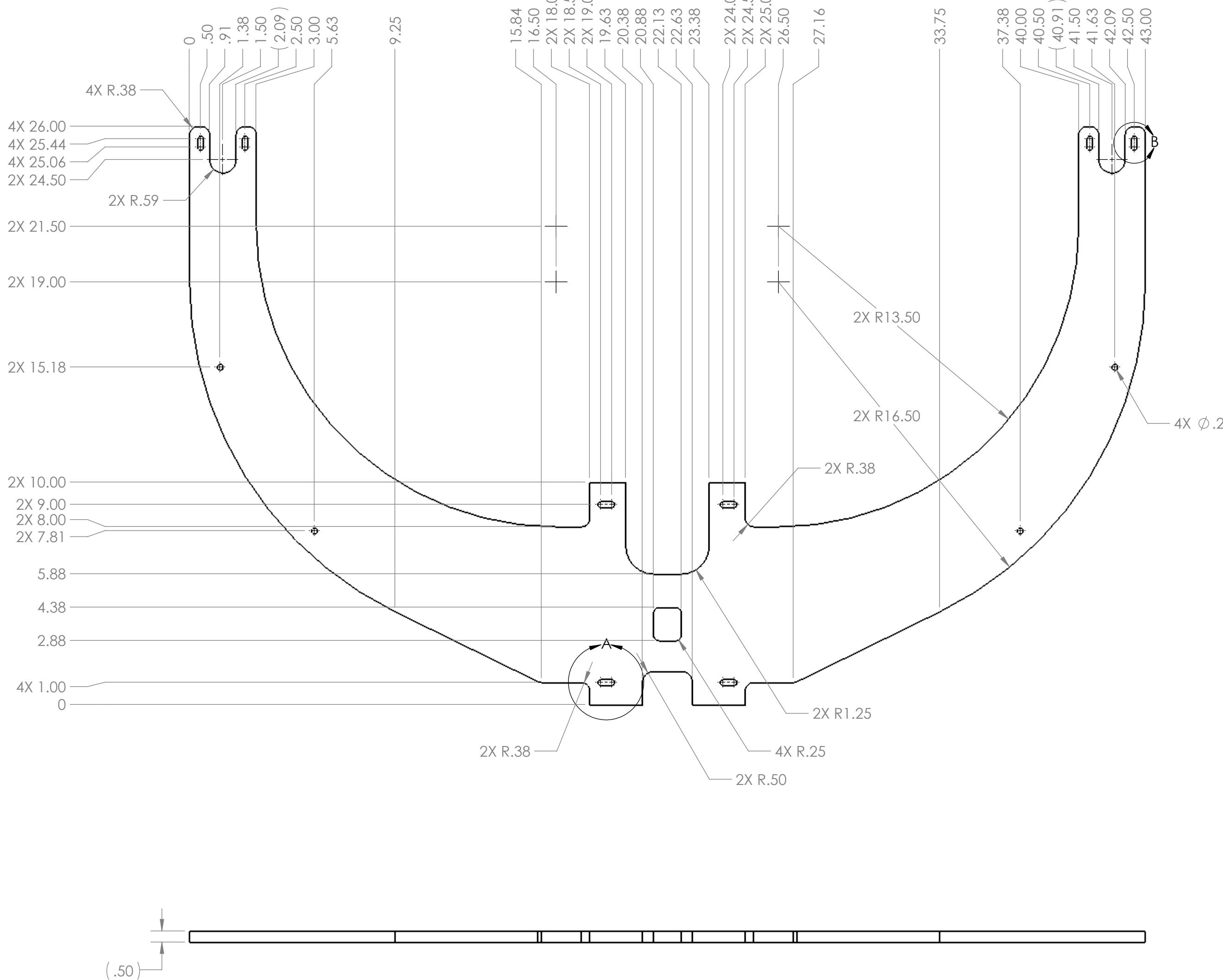
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DF	10/2/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 1/2" HDPE, blue with matte finish			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Rib, Blue

SIZE DWG. NO. REV

C GE-25213

SCALE: 1:4 SHEET 1 OF 1

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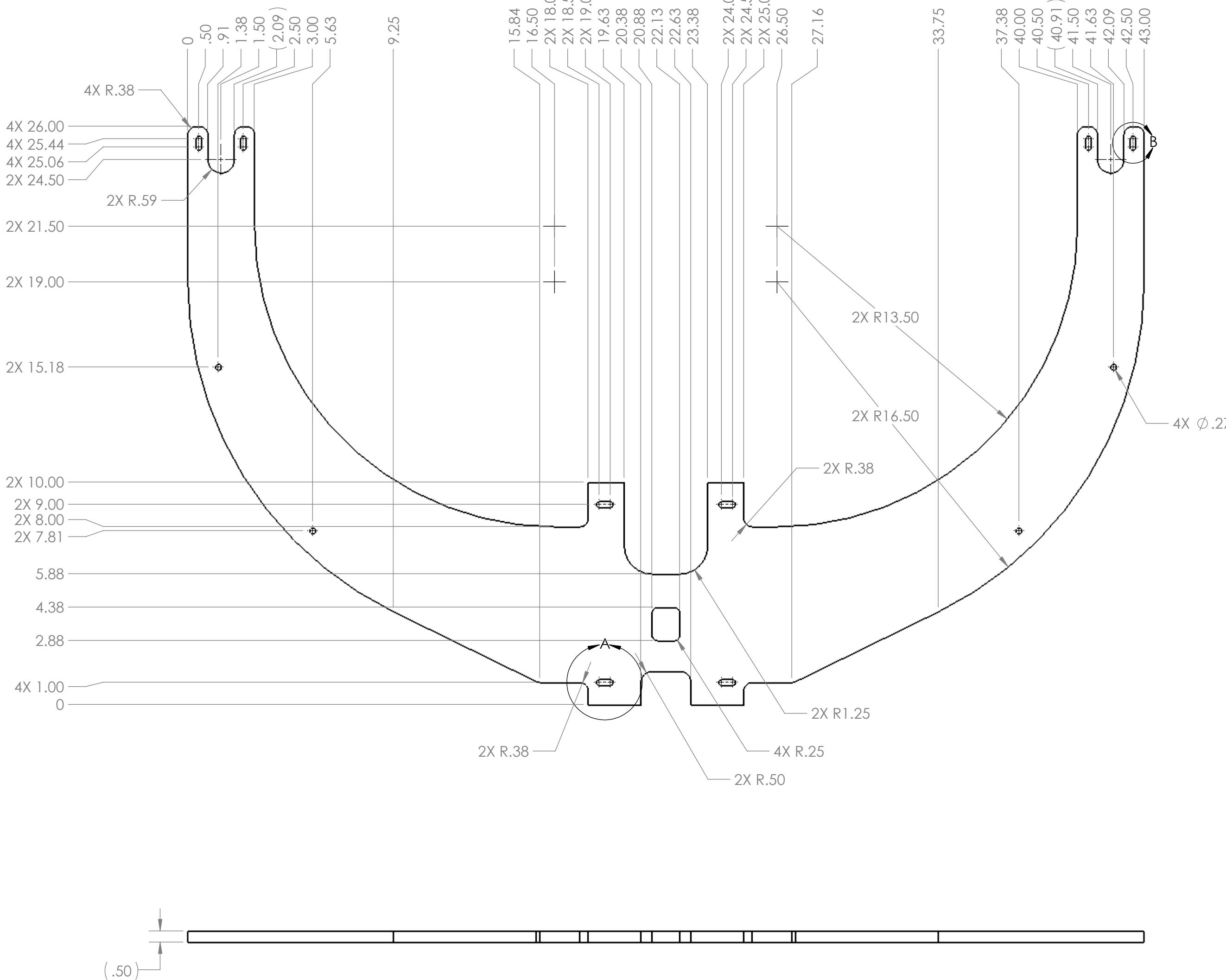
C

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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DF	10/2/2024
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1/2" HDPE, red with matte finish	C	GE-25214	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:4	SHEET 1 OF 1	

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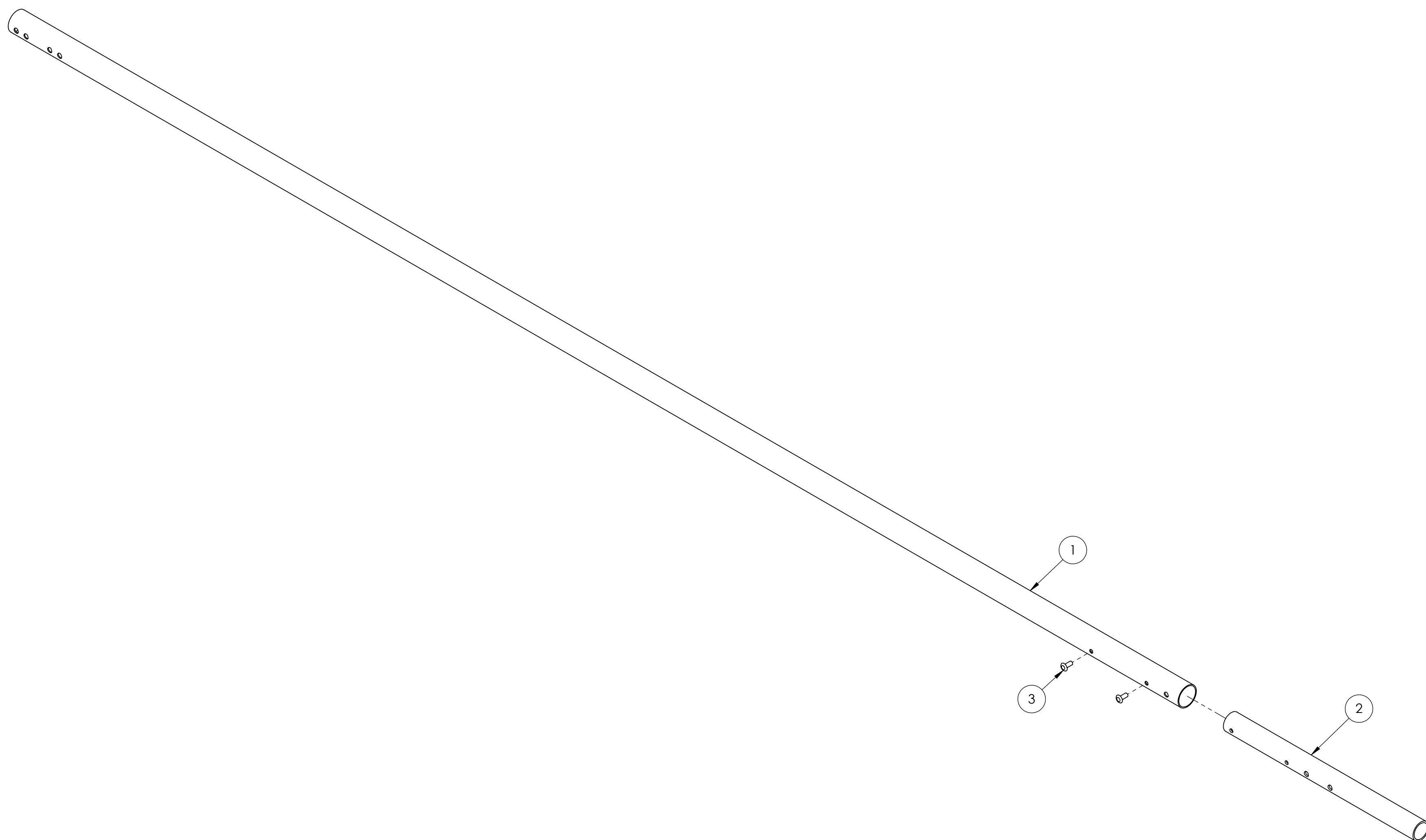
C

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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:			FIELD	NAME	DATE
			DRAWN	JO	12/16/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$					
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.					
MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

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

TITLE: **Net Tube Assembly**
 SIZE: **C** DWG. NO. **GE-25215** REV.

SCALE: **1:3.5** SHEET **1 OF 1**

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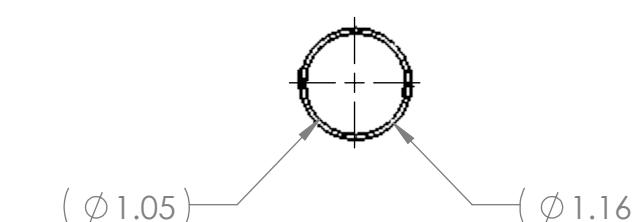
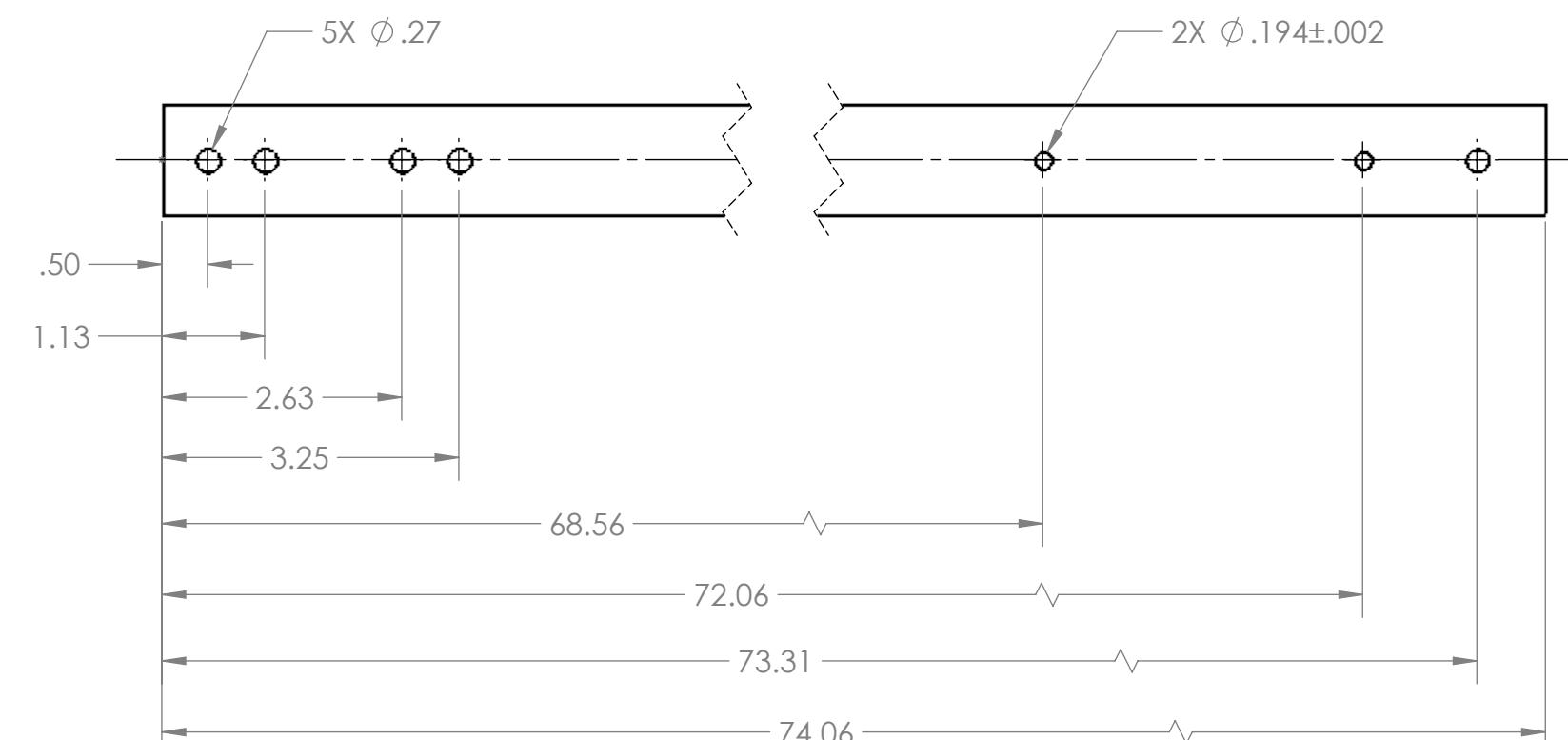
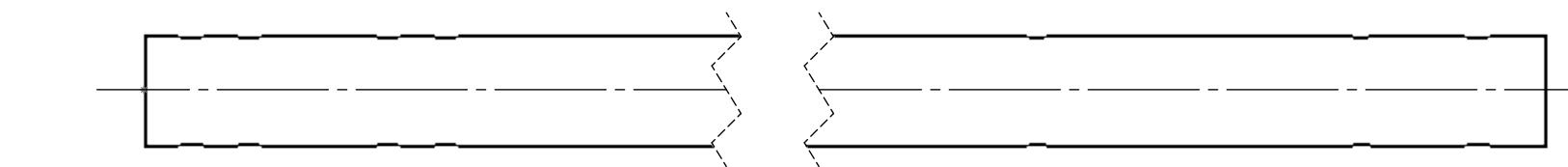
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DF	10/2/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1" EMT Conduit, Galvanized	C	GE-25216	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:2	SHEET 1 OF 1	

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Net Tube, Outer

SIZE DWG. NO. REV
C GE-25216

SCALE: 1:2 SHEET 1 OF 1

4

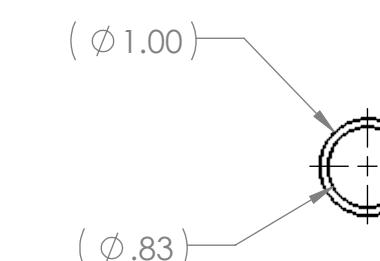
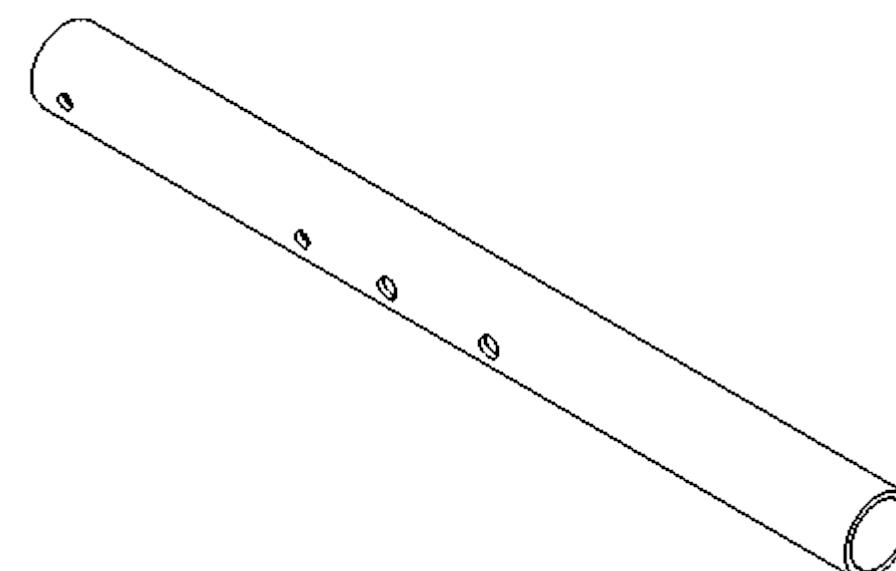
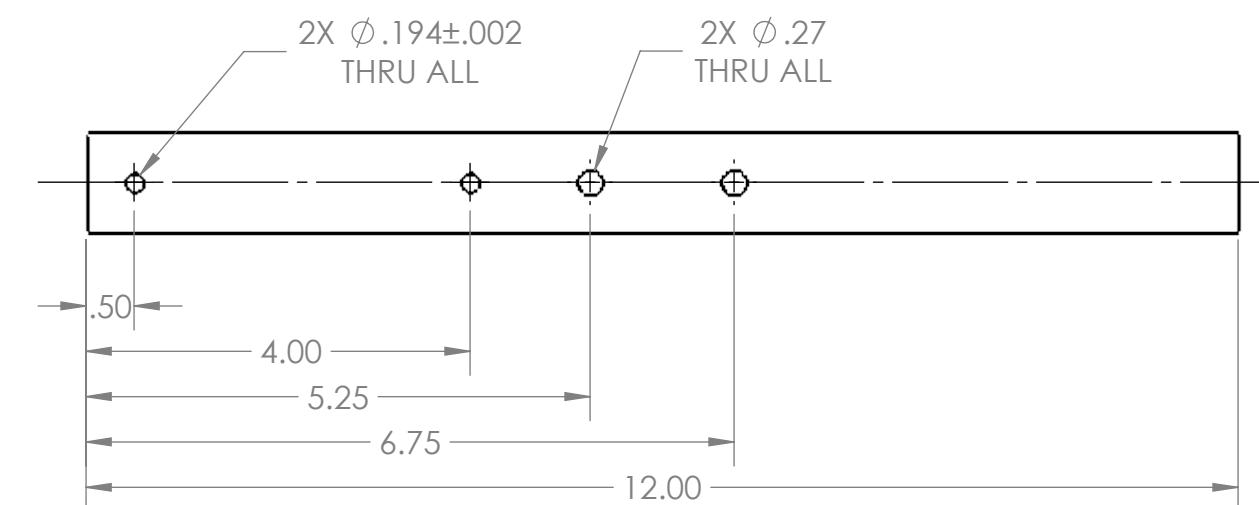
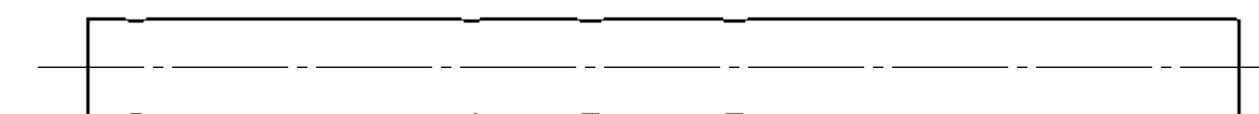
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2

1

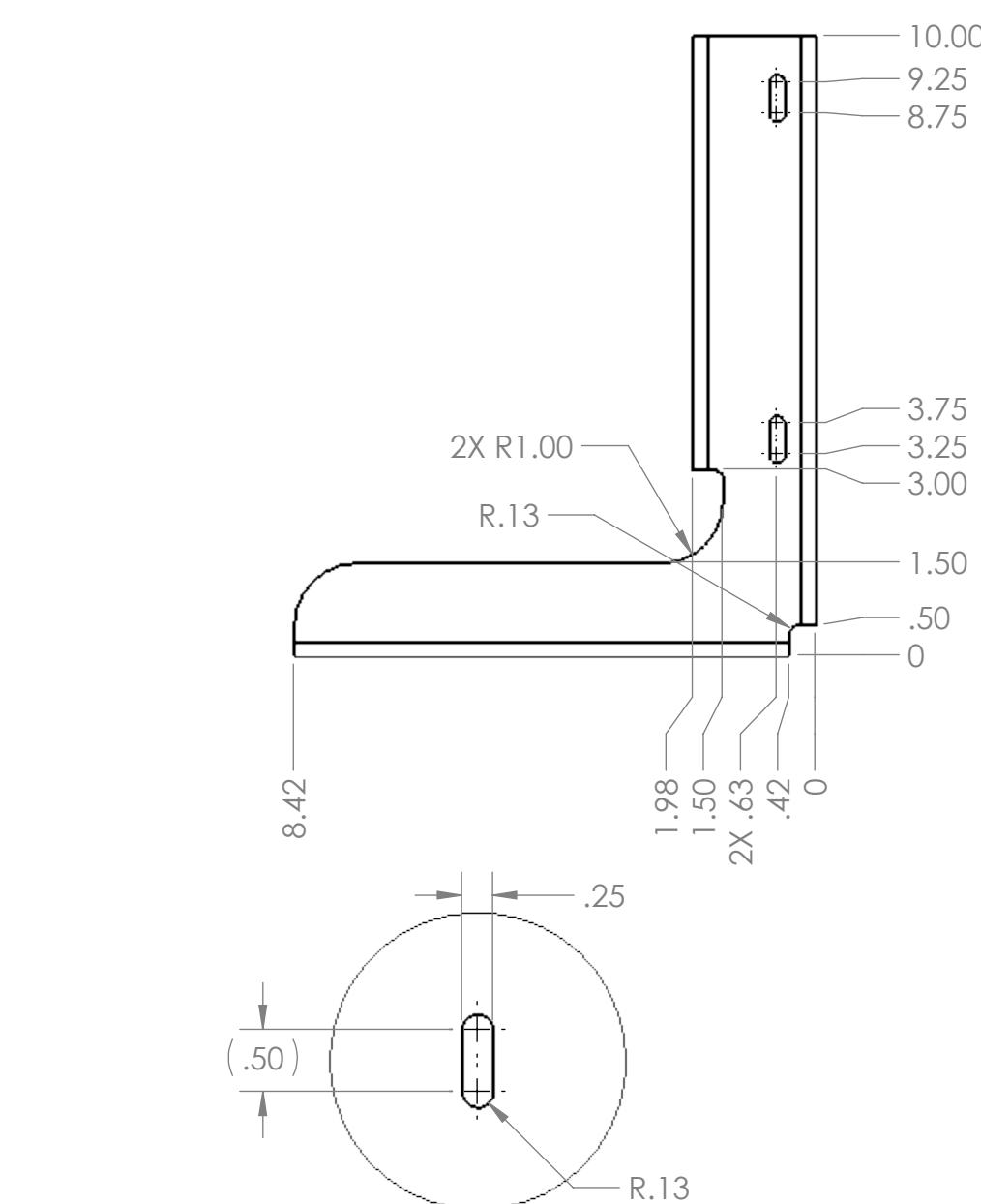
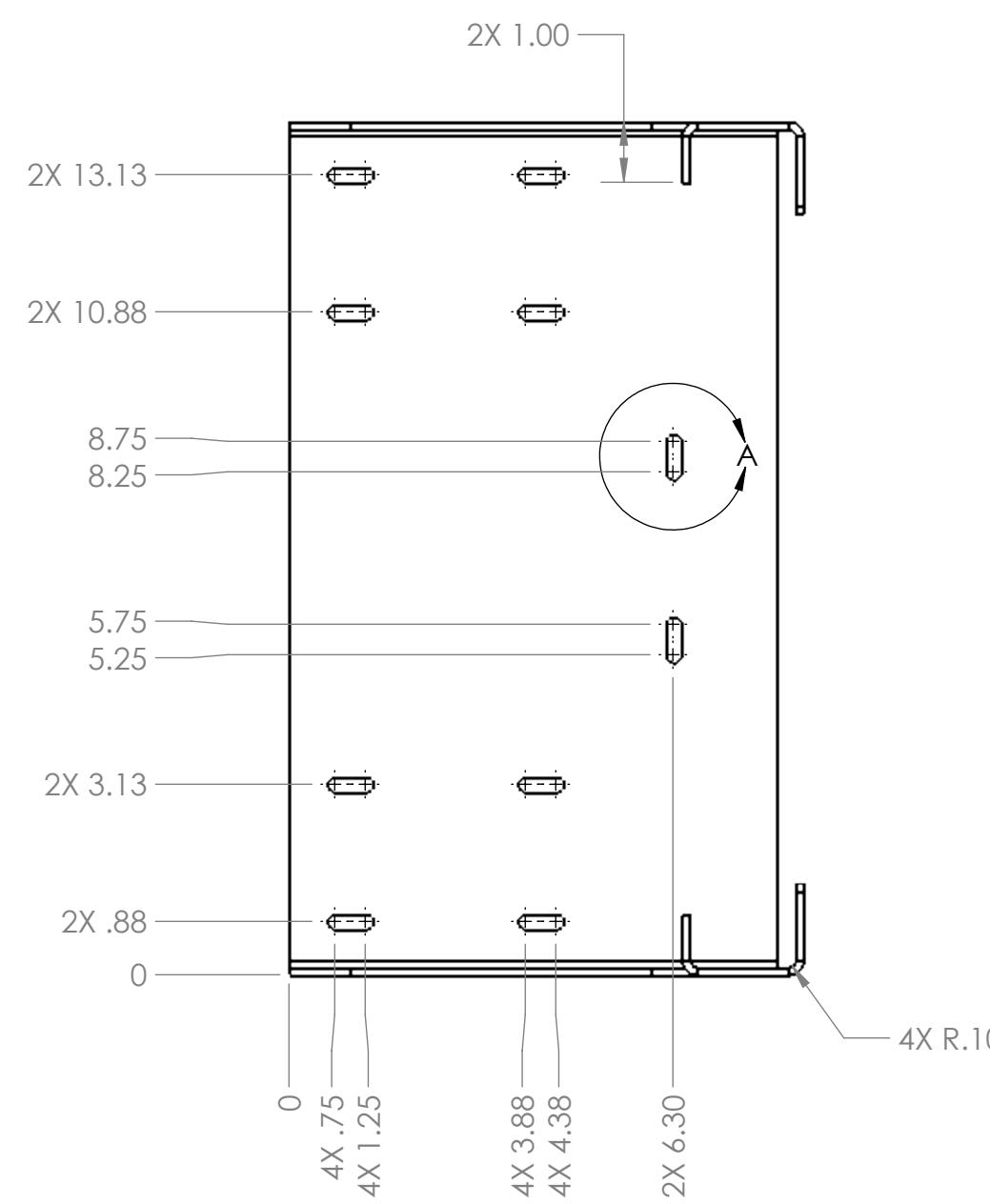
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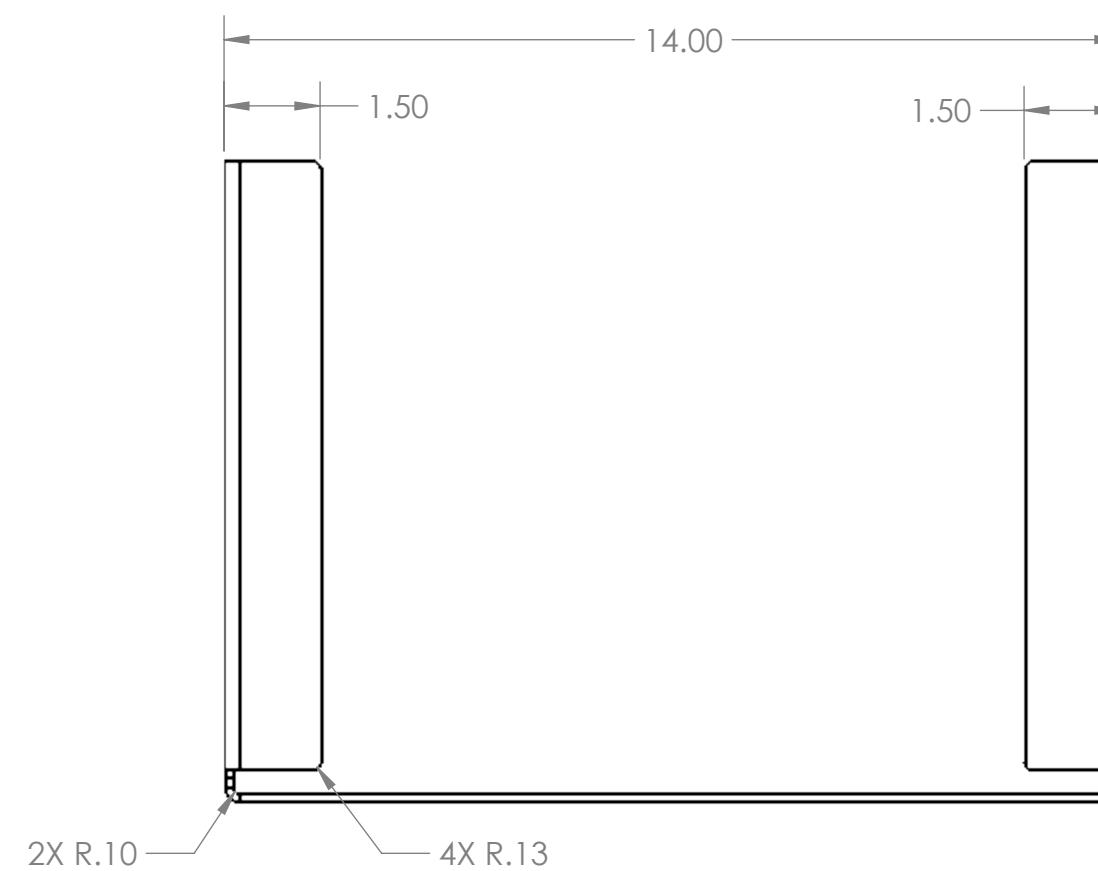


UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	DF	10/2/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1" OD x 0.083" Wall x 0.834" ID Carbon Steel Round Tube	C	GE-25217	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:2	SHEET 1 OF 1	

D



DETAIL A
SCALE 2 : 3
TYP. 14 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 $\pm .010$

BEND NAME DATE

DRAWN DF 10/3/2024

PROPRIETARY AND CONFIDENTIAL

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MATERIAL/FINISH:

8 ga. 5052 Aluminum Sheet

COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING



TITLE:
Brace, Barge End

SIZE DWG. NO. REV

C GE-25218

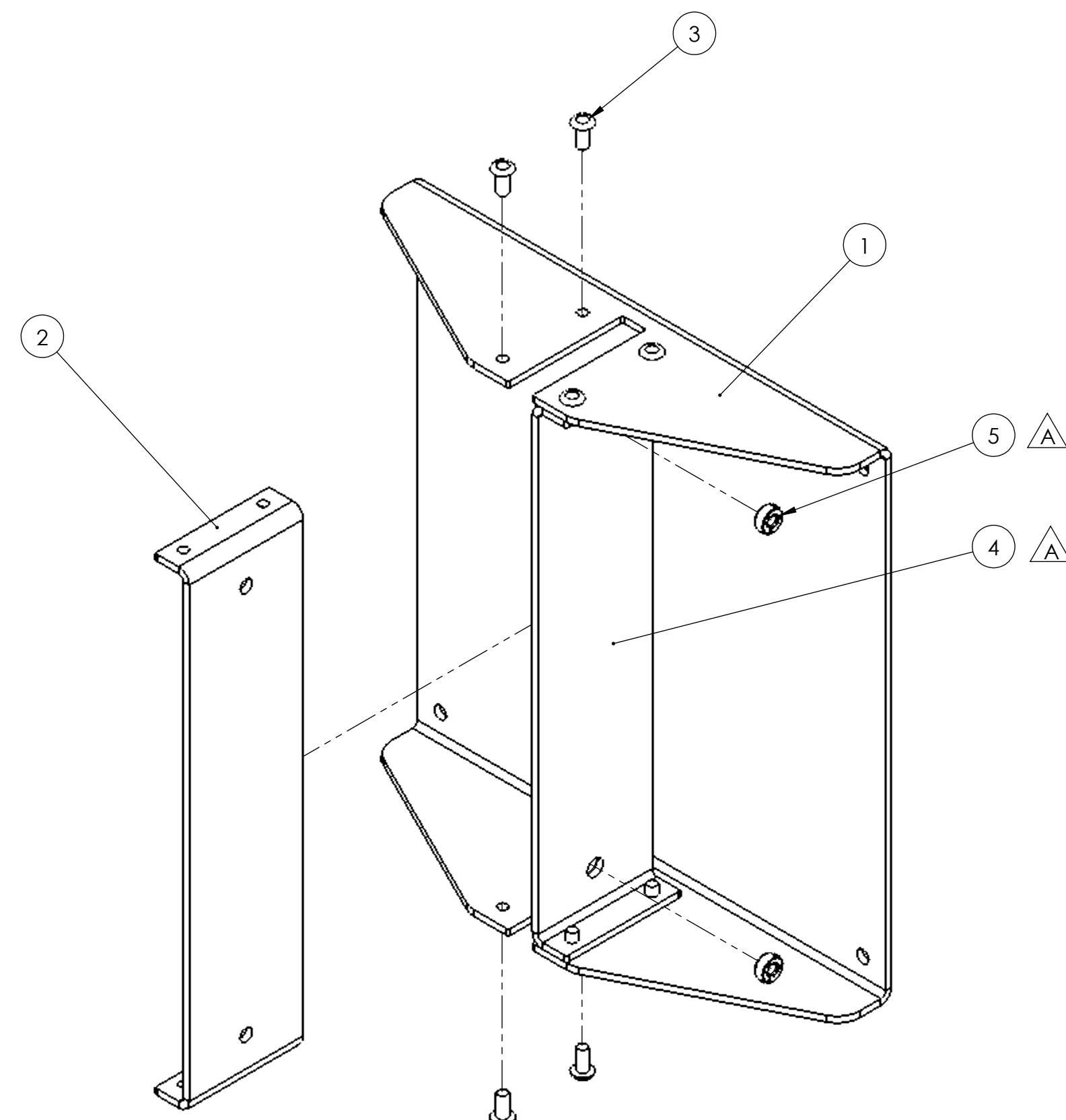
SCALE: 1:3 SHEET 1 OF 1

D

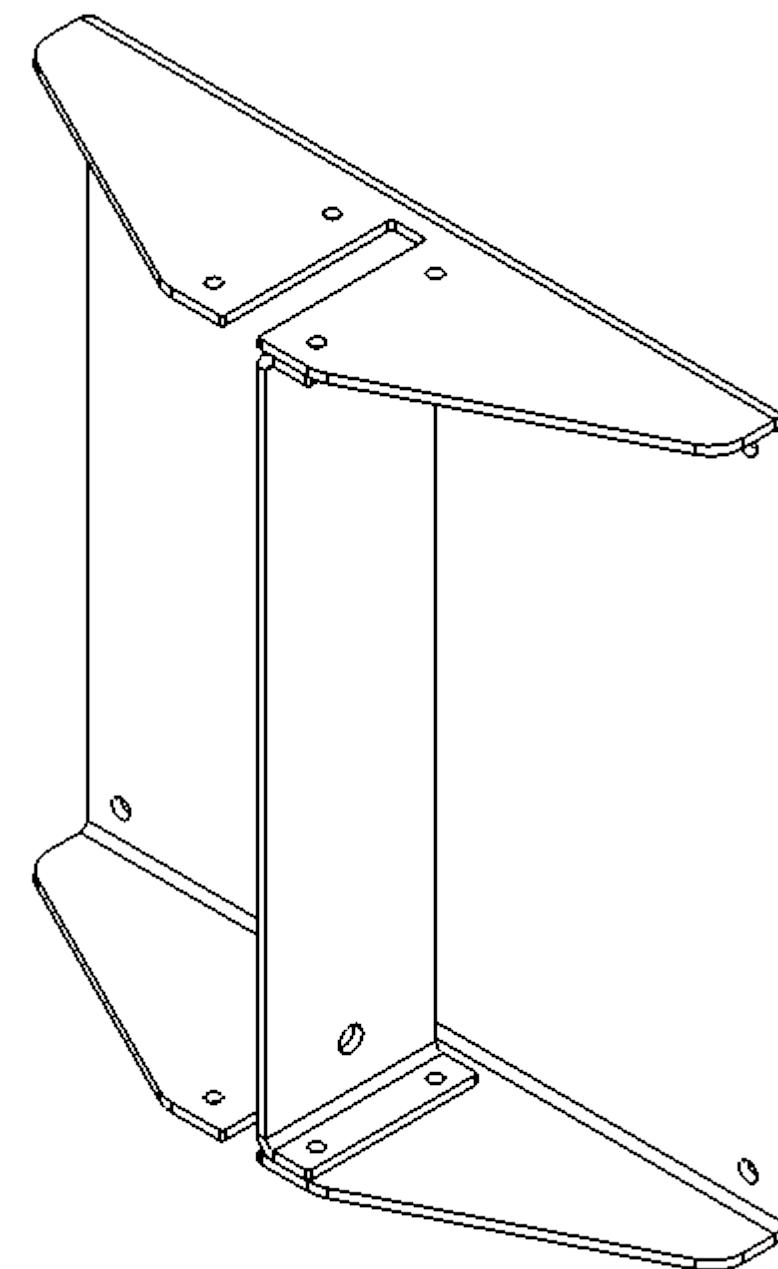
C

B

A



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:		BEND	NAME	DATE
		DRAWN	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.				
MATERIAL/FINISH: 8 ga. 5052 Aluminum Sheet				
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				
DO NOT SCALE DRAWING				

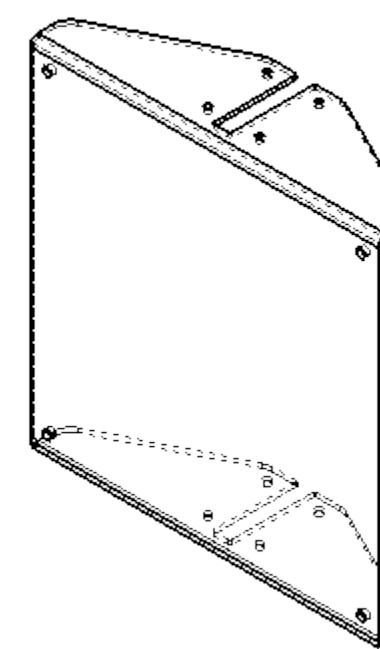
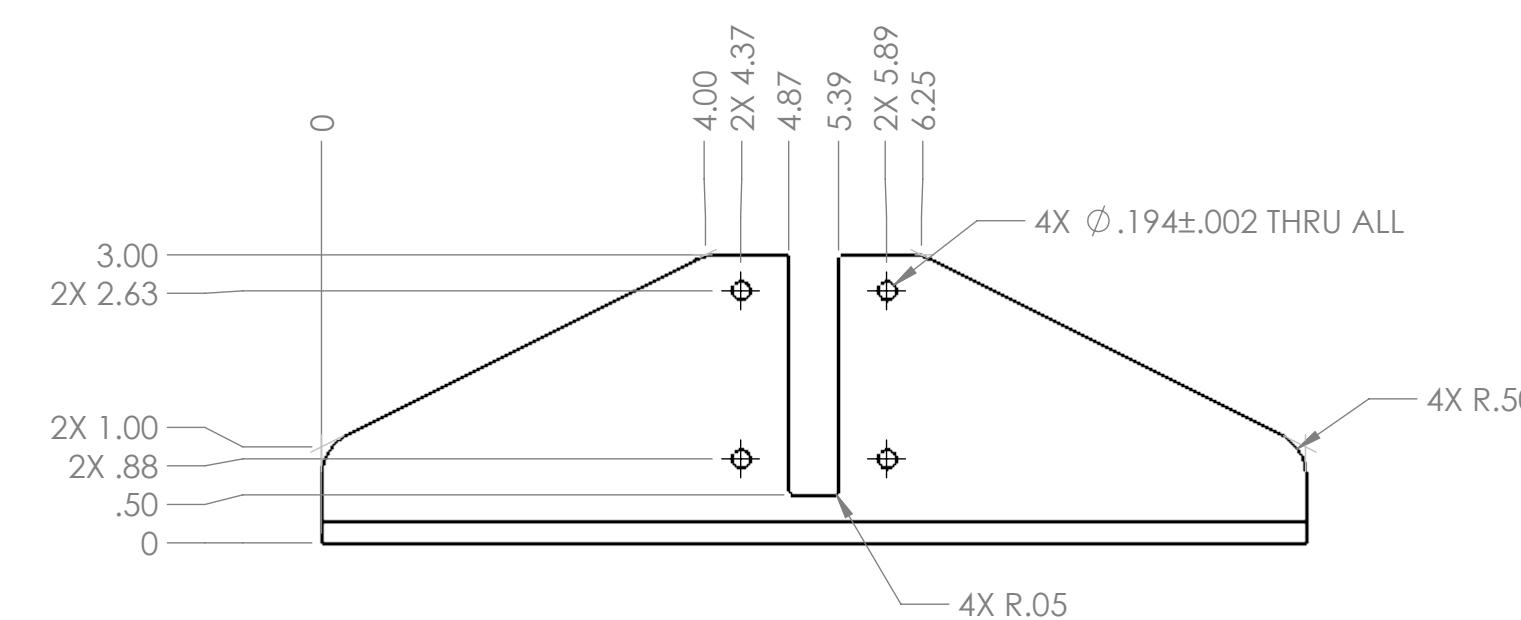
FIRST ROBOTICS COMPETITION Modeling Solutions Partner

TITLE: Holder, April Tag

SIZE	DWG. NO.	REV
C	GE-25219	A
SCALE: 1:2		SHEET 1 OF 4

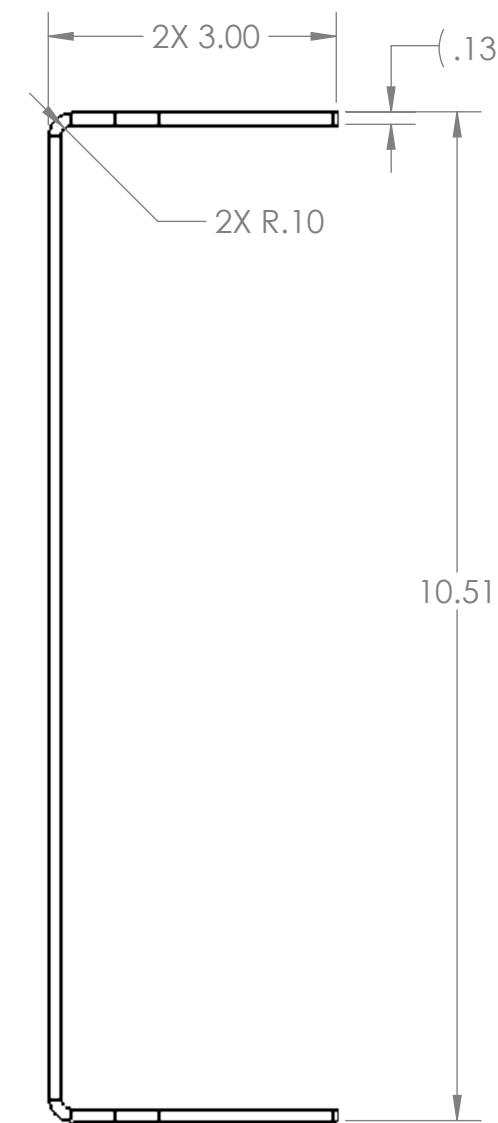
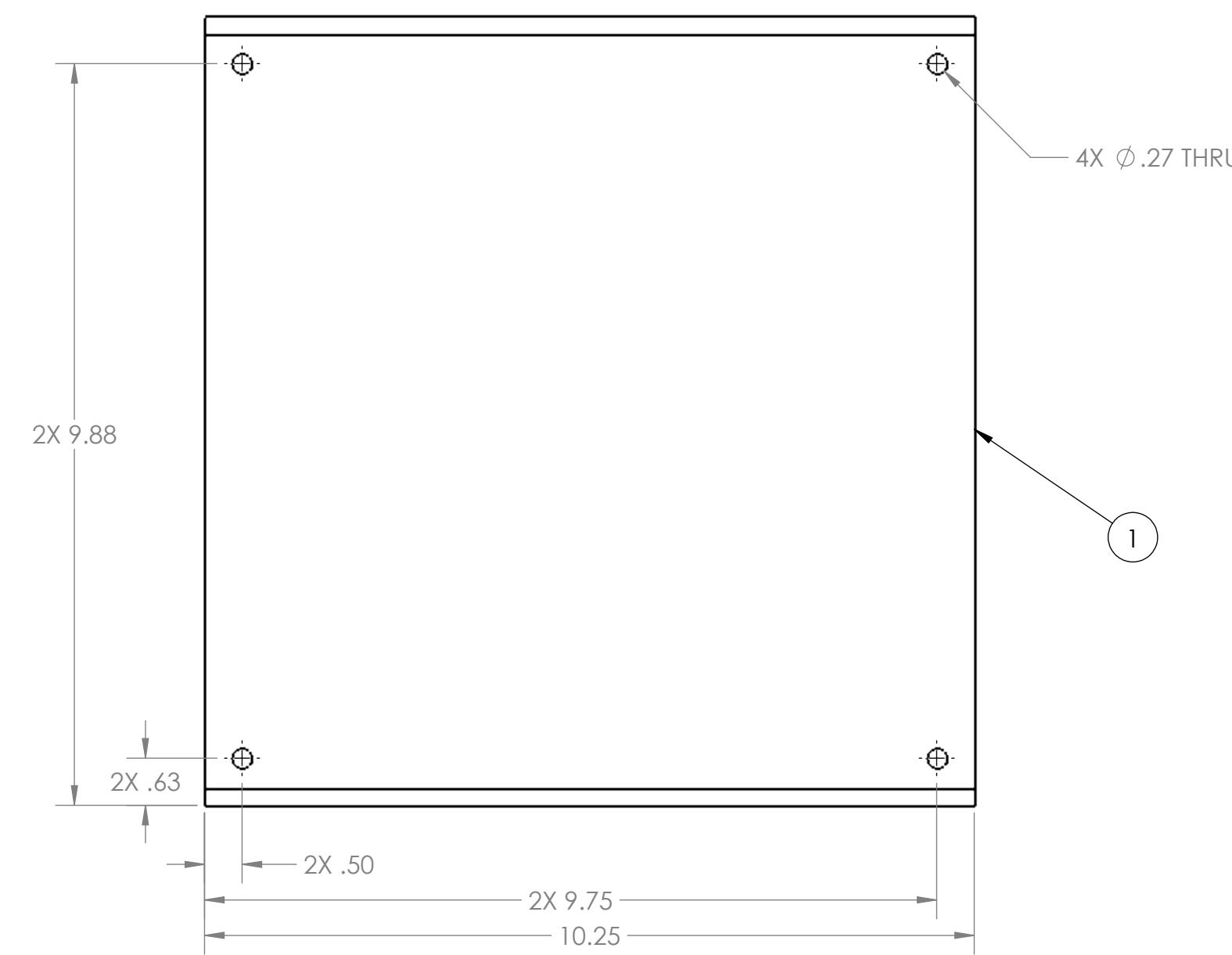
D

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B

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	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.

MATERIAL/FINISH:
 8 ga. 5052 Aluminum Sheet

COMMENTS:
 REMOVE ALL BURRS AND SHARP
 EDGES.

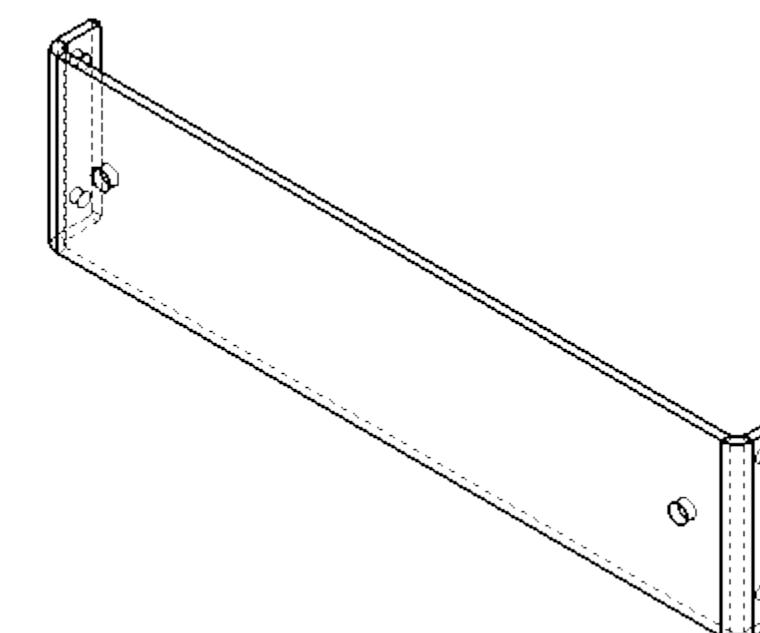
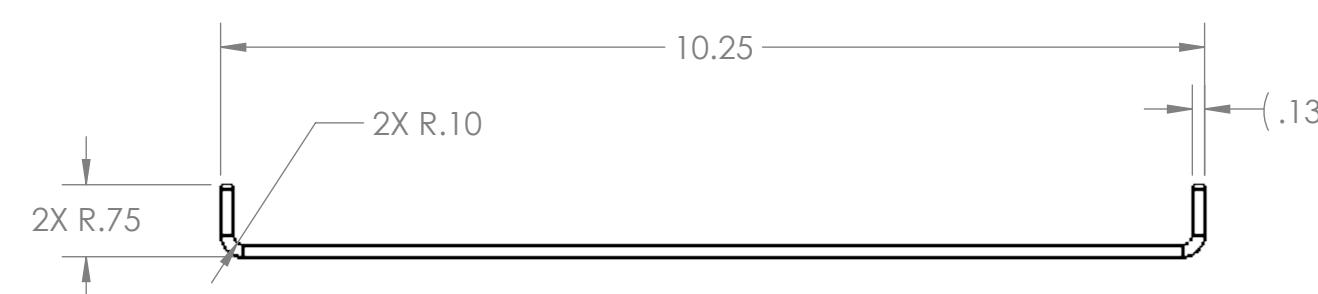
DO NOT SCALE DRAWING

TITLE: Mount Face

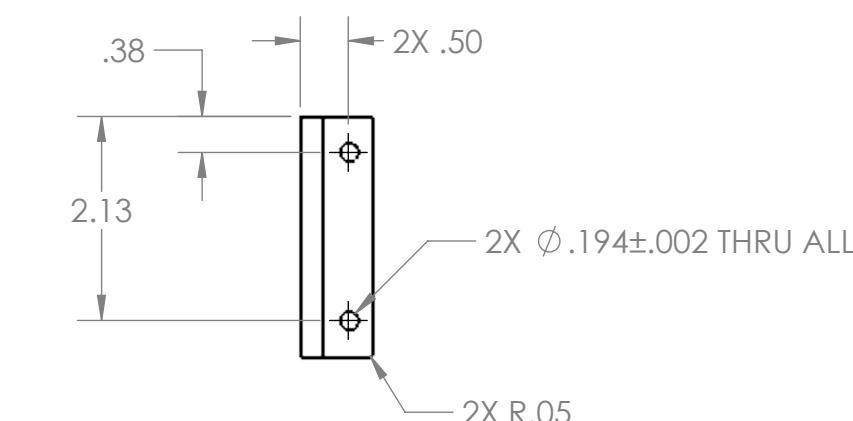
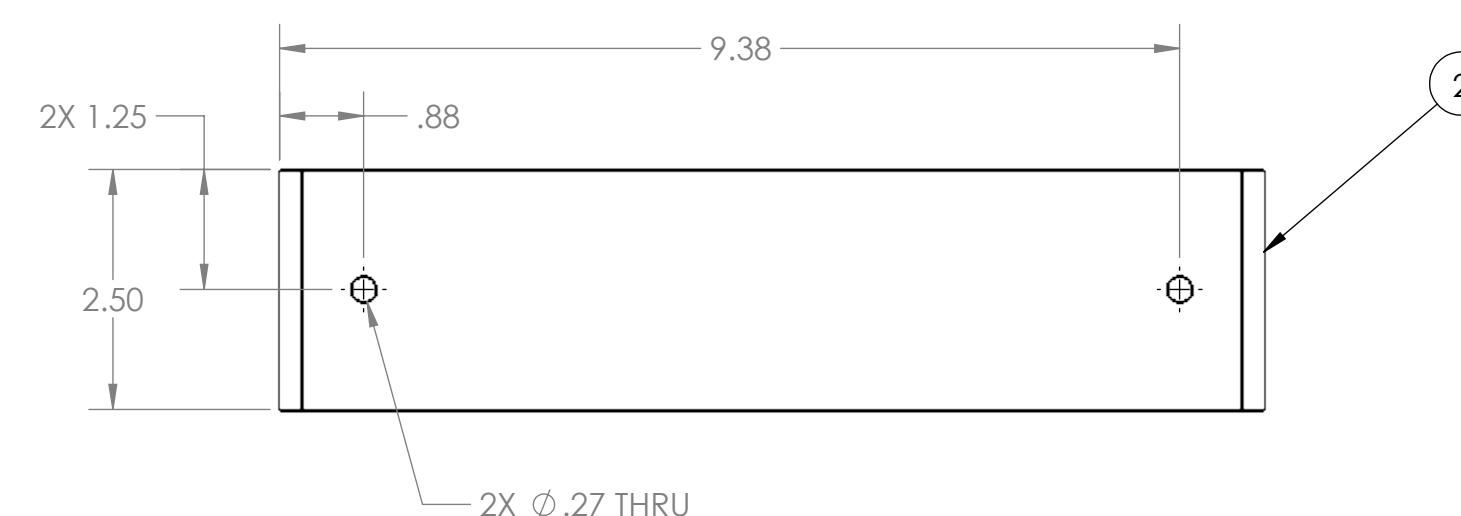
SIZE DWG. NO. REV
C GE-25219-01 **A**

SCALE: 1:2 SHEET 2 OF 4

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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE	
DRAWN	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.				
MATERIAL/FINISH:	SIZE	DWG. NO.	REV	
8 ga. 5052 Aluminum Sheet	C	GE-25219-02	A	
DO NOT SCALE DRAWING	SCALE: 1:1	SHEET 3 OF 4		

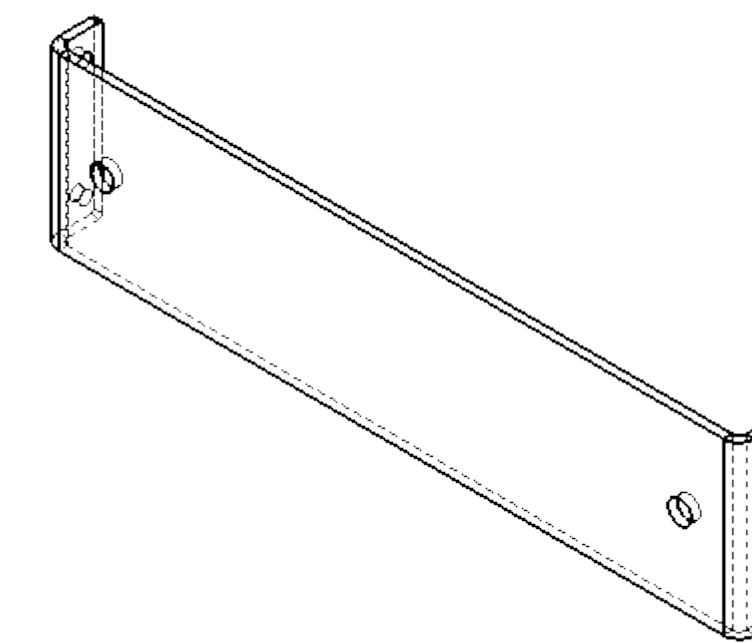
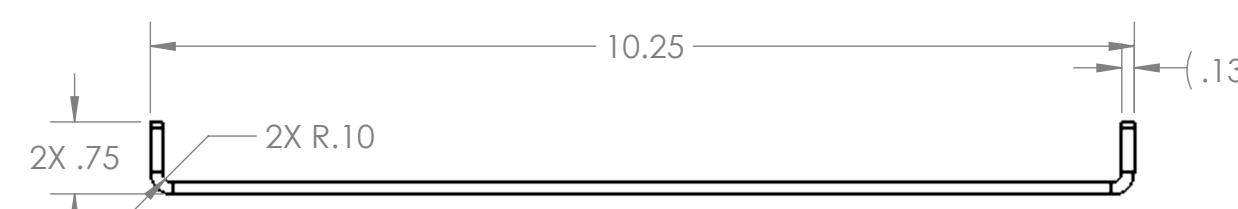
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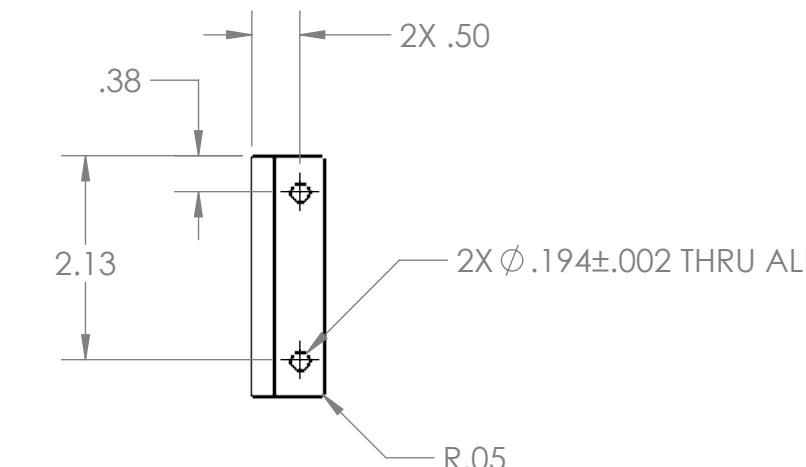
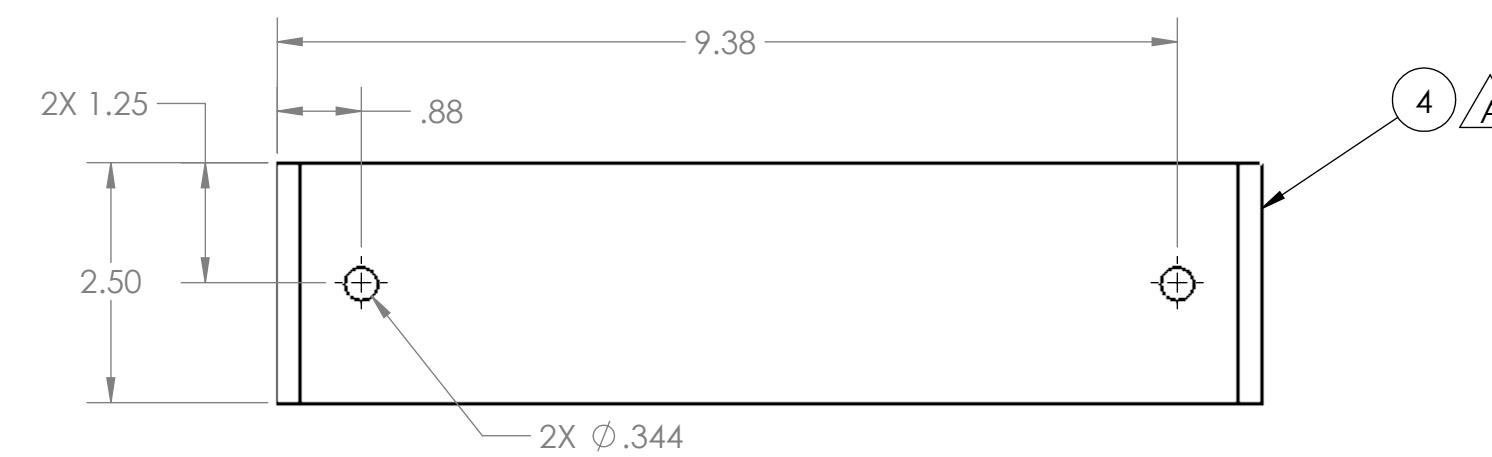
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE	
DRAWN	DF	10/3/2024		
PROPRIETARY AND CONFIDENTIAL				
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.				
MATERIAL/FINISH:	SIZE	DWG. NO.	REV	
8 ga. 5052 Aluminum Sheet	C	GE-25219-03	A	
DO NOT SCALE DRAWING	SCALE: 1:1	SHEET 4 OF 4		

Bracket with
PEM nuts

4

3

2

1

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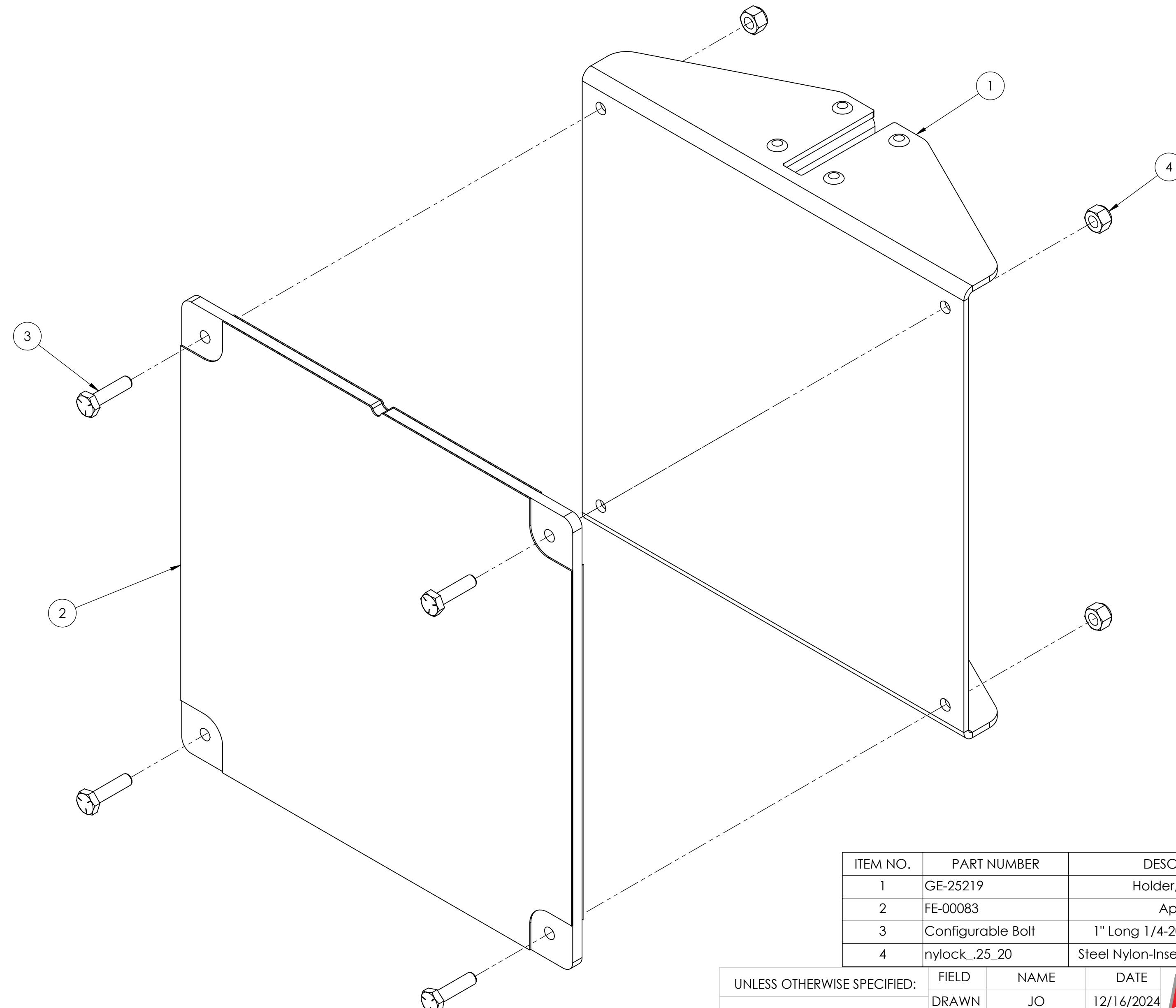
C

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A



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
			DRAWN	JO	12/16/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm\frac{1}{2}$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$					
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.					
MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE: April Tag Assembly, Truss

SIZE DWG. NO. REV
C GE-25220

SCALE: 2:3 SHEET 1 OF 1

4

3

2

1

REVISIONS

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

D

D

C

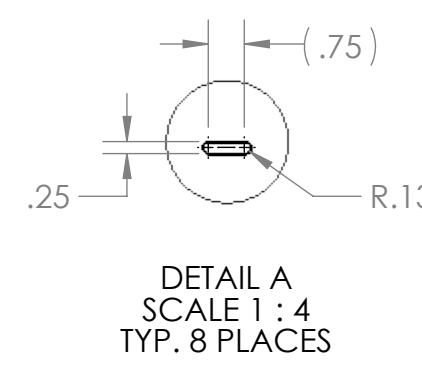
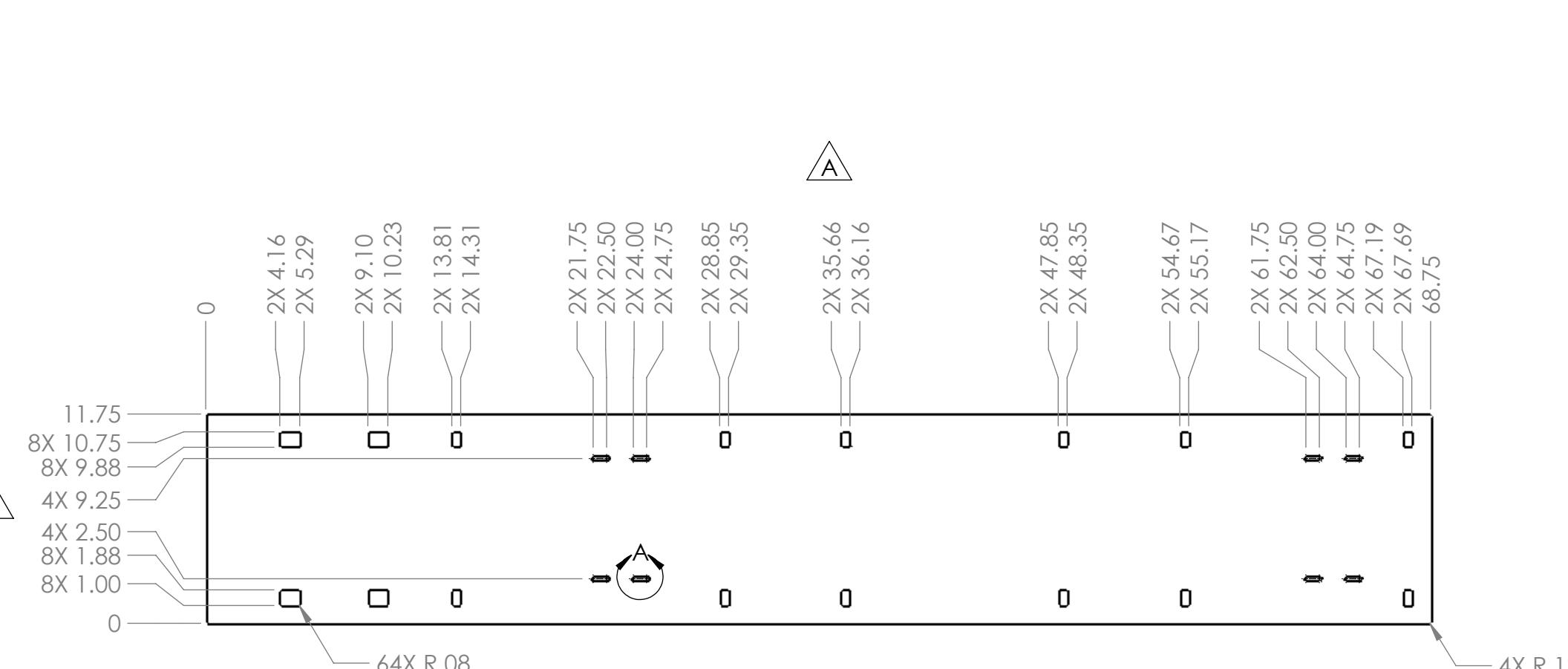
C

B

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A



UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE			
DIMENSIONS ARE IN INCHES	DRAWN	DF	10/4/2024			
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	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.						
MATERIAL/FINISH: 1/8" HDPE, Natural, Smooth						
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.						
DO NOT SCALE DRAWING						

FIRST
ROBOTICS
COMPETITION

TITLE:
Top Diffuser

SIZE DWG. NO. REV
C GE-25221 A

SCALE: 1:8 SHEET 1 OF 1

REVISIONS

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

D

D

C

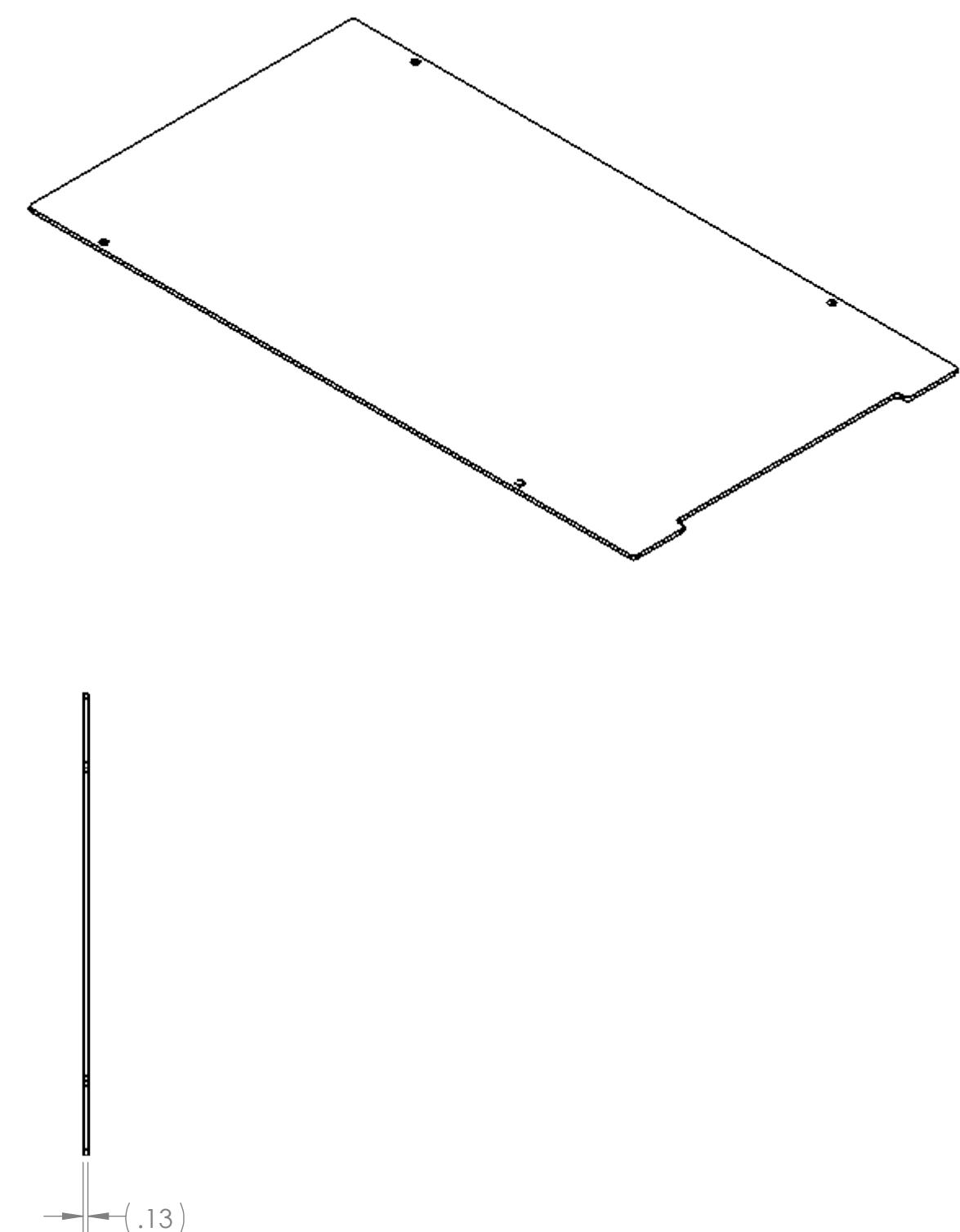
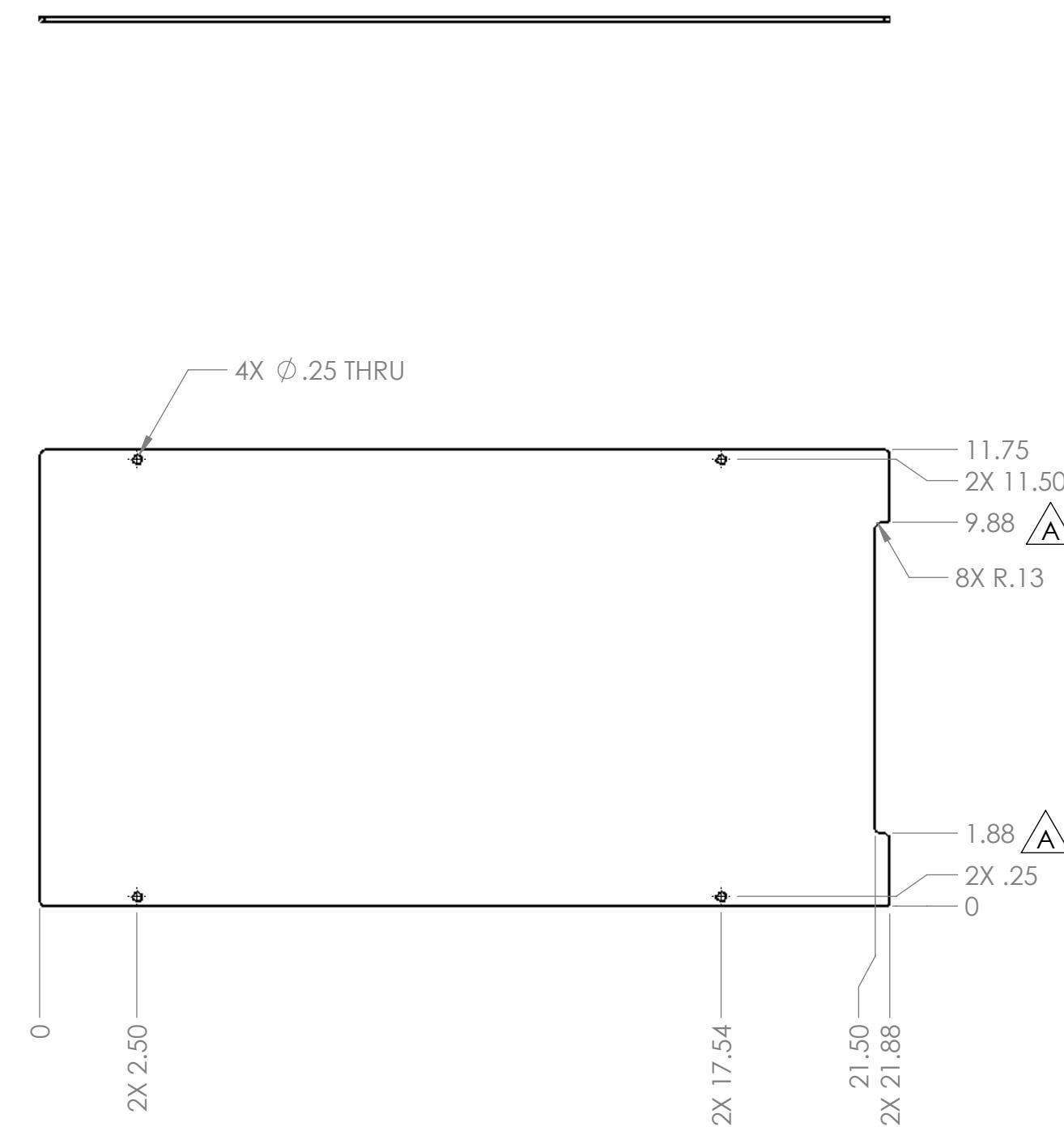
C

B

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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 $\pm .01$
THREE PLACE DECIMAL $\pm .005$

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

DO NOT SCALE DRAWING

VEND
DRAWN
NAME
DF
DATE
10/4/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

FIRST
ROBOTICS
COMPETITION
SOLIDWORKS
Modeling Solutions Partner

TITLE:

Side Diffuser 1

SIZE DWG. NO. REV

C GE-25222 A

SCALE: 1:4 SHEET 1 OF 1

REVISIONS

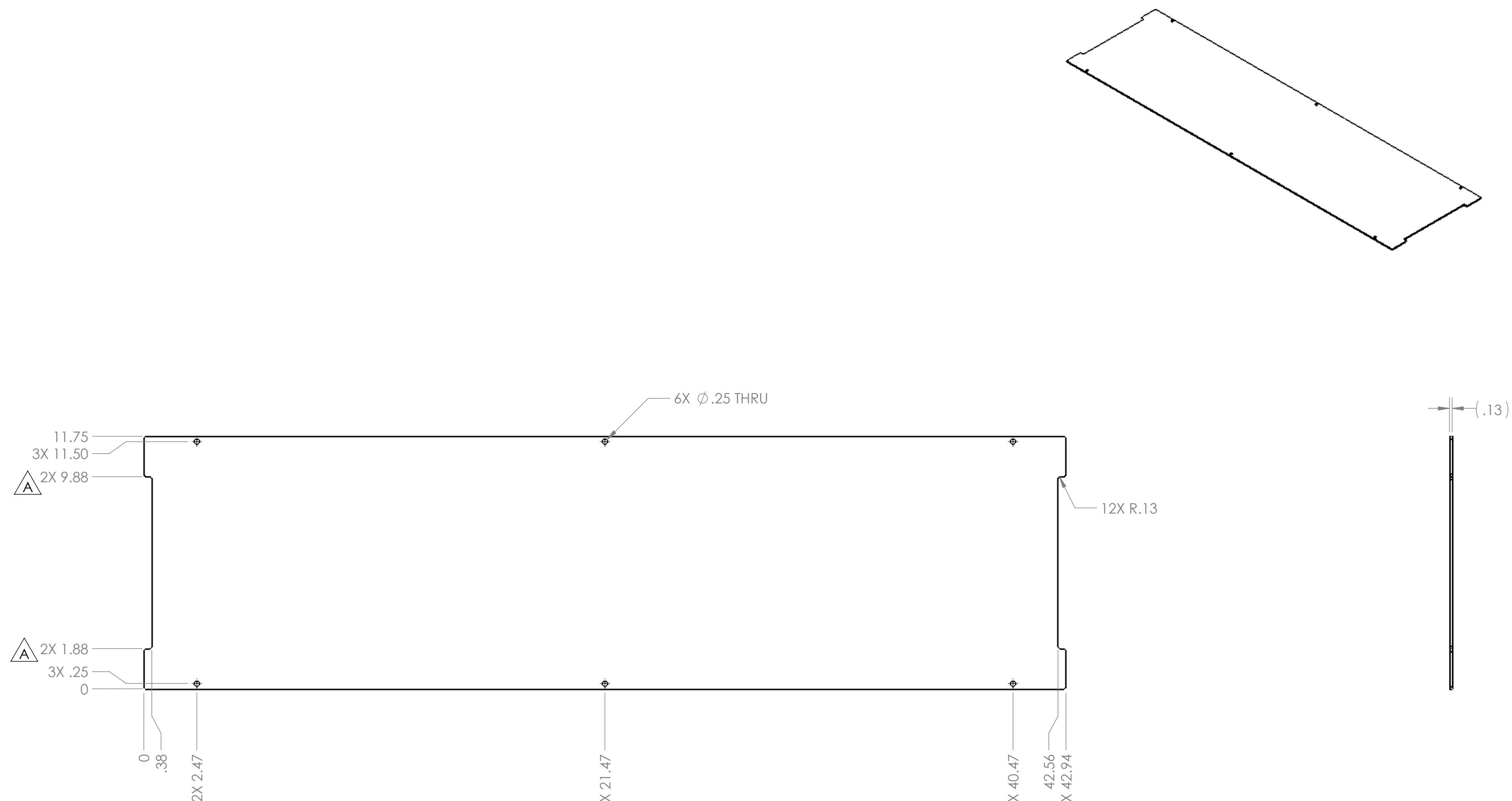
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B4, C4	A	9.88 was 9.25, 1.88 was 2.5	10/15/2024	DF

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 $\pm .01$ THREE PLACE DECIMAL $\pm .005$ **MATERIAL/FINISH:**

1/8" HDPE, Natural, Smooth

DO NOT SCALE DRAWING

VEND DATE

DRAWN DF 10/4/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

FIRST ROBOTICS COMPETITION

SOLIDWORKS

Modeling Solutions Partner

TITLE:

Side Diffuser 2

SIZE

DWG. NO.

REV

C GE-25223 A

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

D

D

C

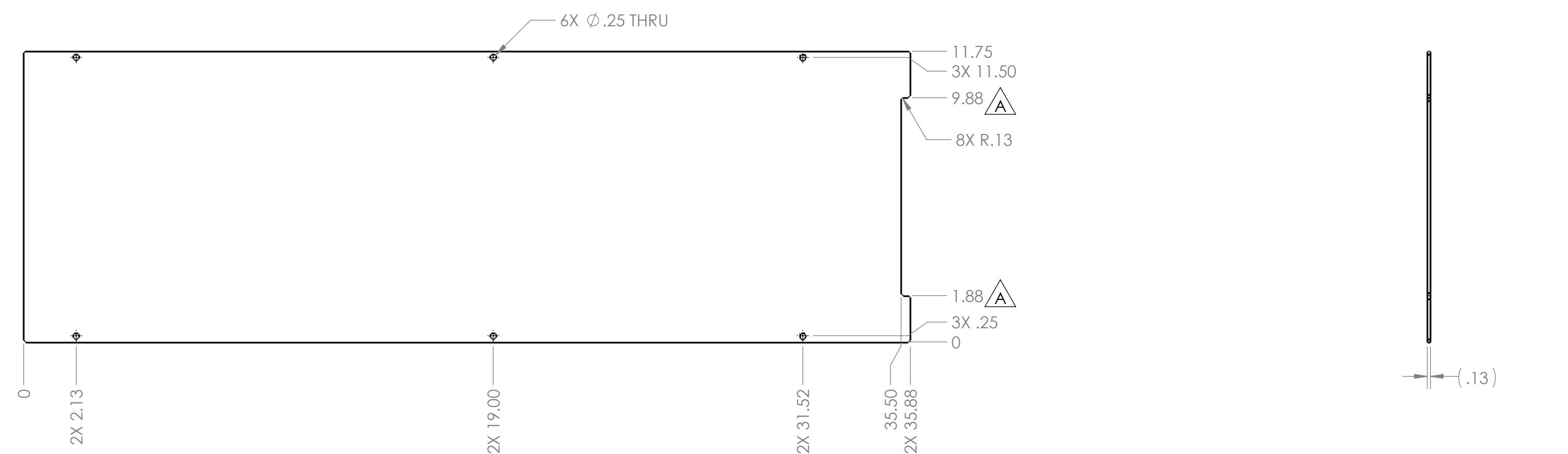
C

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 $\pm .01$ THREE PLACE DECIMAL $\pm .005$

MATERIAL/FINISH:

1/8" HDPE, Natural, Smooth

DO NOT SCALE DRAWING

VEND DATE
DRAWN DF 10/4/2024

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

FIRST ROBOTICS COMPETITION
SOLIDWORKS
Modeling Solutions Partner

TITLE:
Side Diffuser 3

SIZE DWG. NO. REV
C GE-25224 A

SCALE: 1:4 SHEET 1 OF 1

4

3

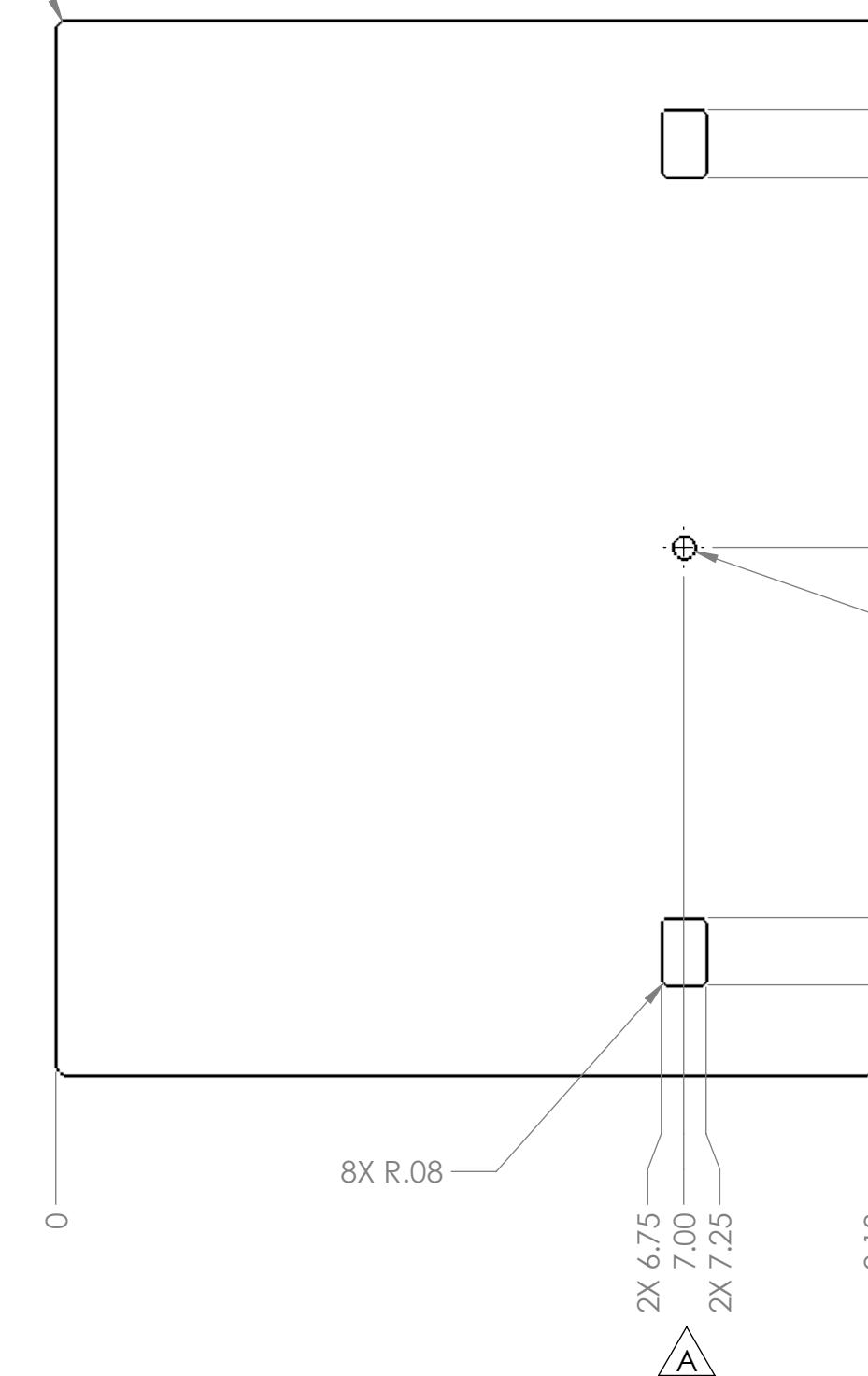
2

1

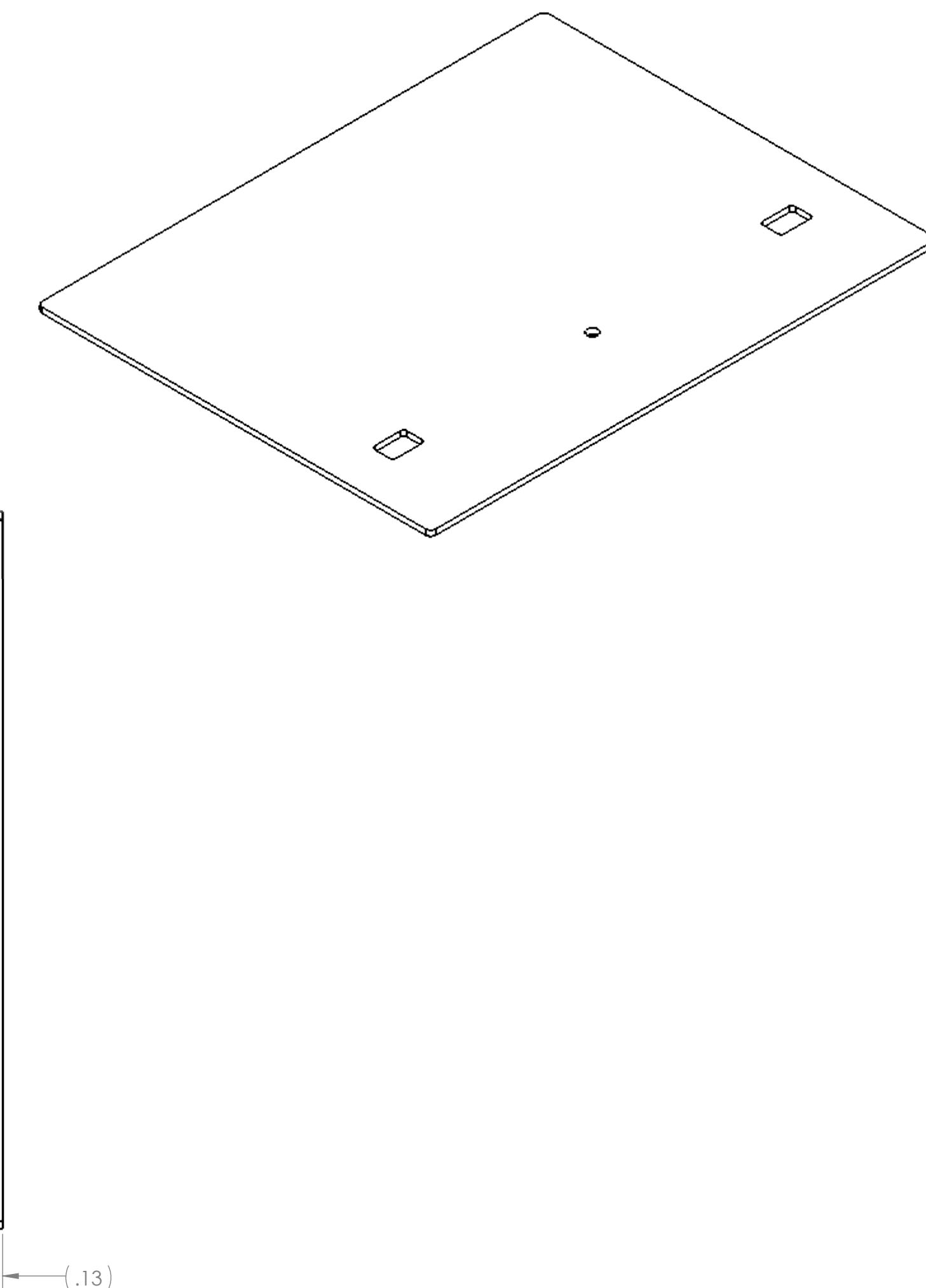
D

D

4X R.13



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



UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	DF	10/4/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1/8" HDPE, Natural, Smooth	C	GE-25227	A
COMMENTS:		SCALE: 1:2	
REMOVE ALL BURRS AND SHARP EDGES.		SHEET 1 OF 1	
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Diffuser Top,
Small

4

3

2

1

D

D

C

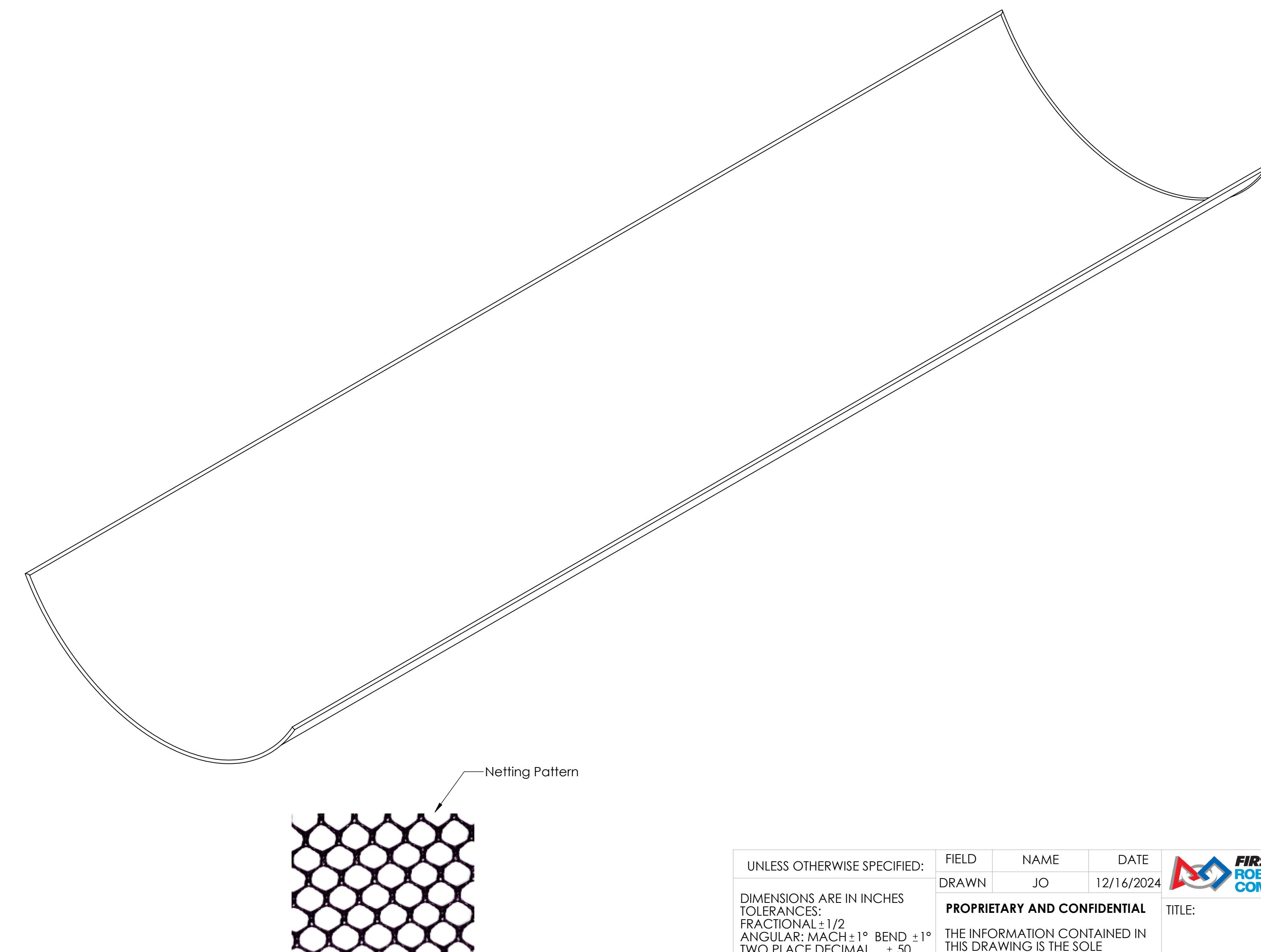
C

B

B

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A



Vendor: All Sport Netting
 Website: 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:	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
PROPRIETARY AND CONFIDENTIAL			
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COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			
 FIRST ROBOTICS COMPETITION  SOLIDWORKS Modeling Solutions Partner			
TITLE: Net			
SIZE DWG. NO. REV			
C GE-25228			
SCALE: 1:8 SHEET 1 OF 1			

4

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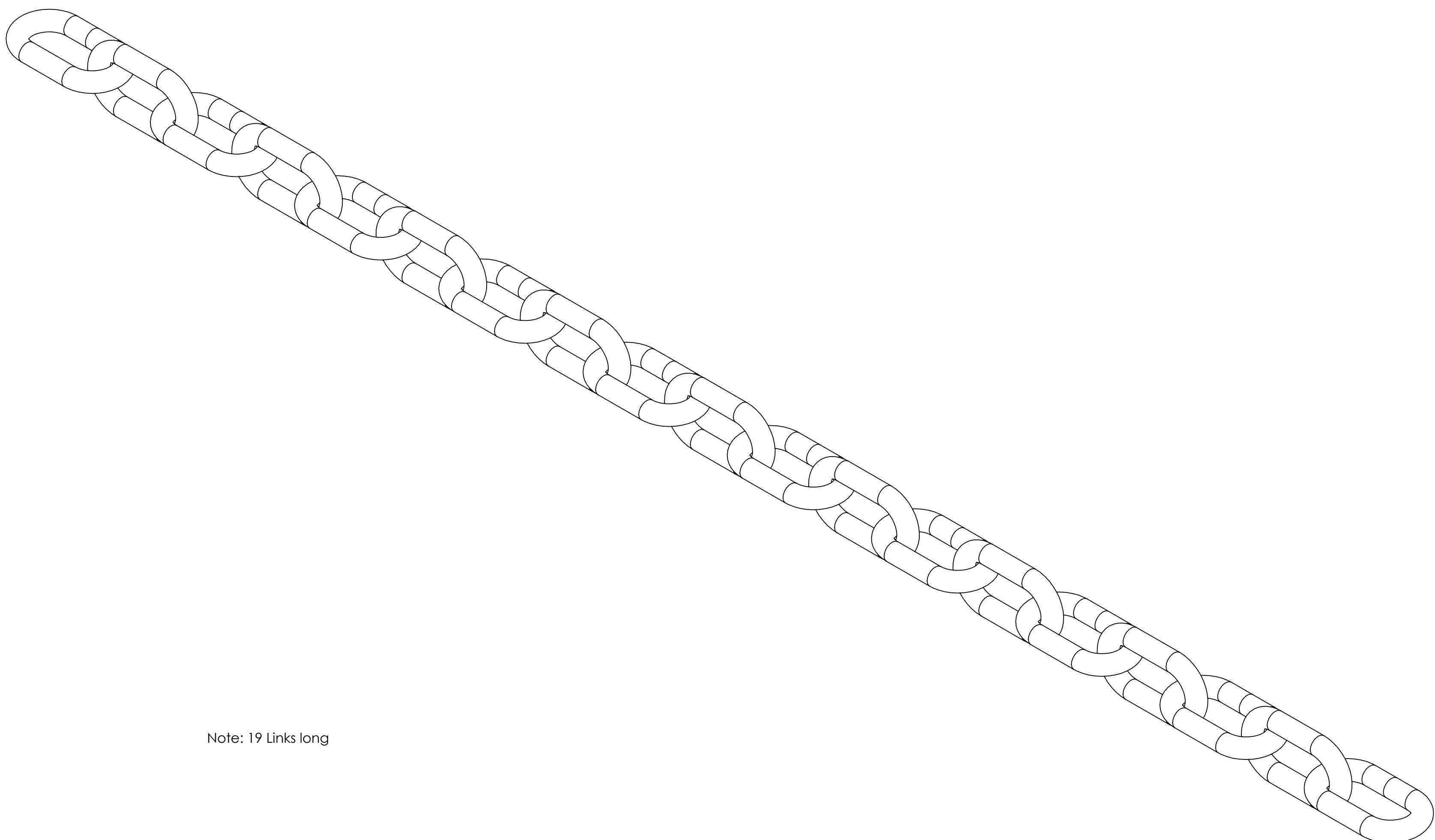
C

C

B

B

Note: 19 Links long



UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
DRAWN	JO	12/16/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
Grade 43 Zinc Plated Chain, 1/4" Trade Size	C	GE-25229	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:1	SHEET 1 OF 1	

4

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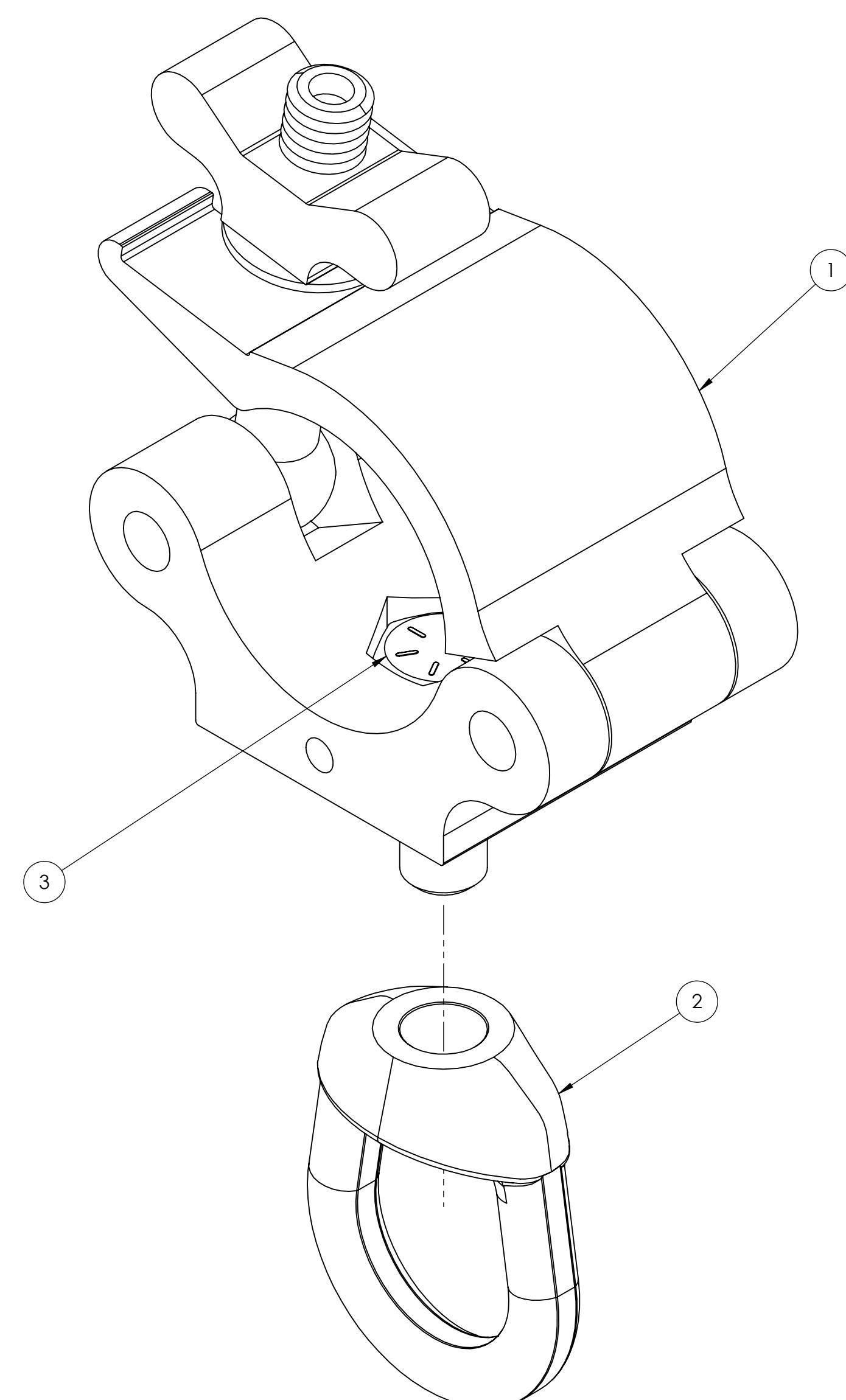
C

B

B

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A



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:			FIELD	NAME	DATE
			DRAWN	JO	12/16/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$					
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.					
MATERIAL/FINISH:					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST ROBOTICS COMPETITION Modeling Solutions Partner
EYE NUT ASSEMBLY
GE-25230
SCALE: 3:2 **SHEET 1 OF 1**

4

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2

1

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2

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C

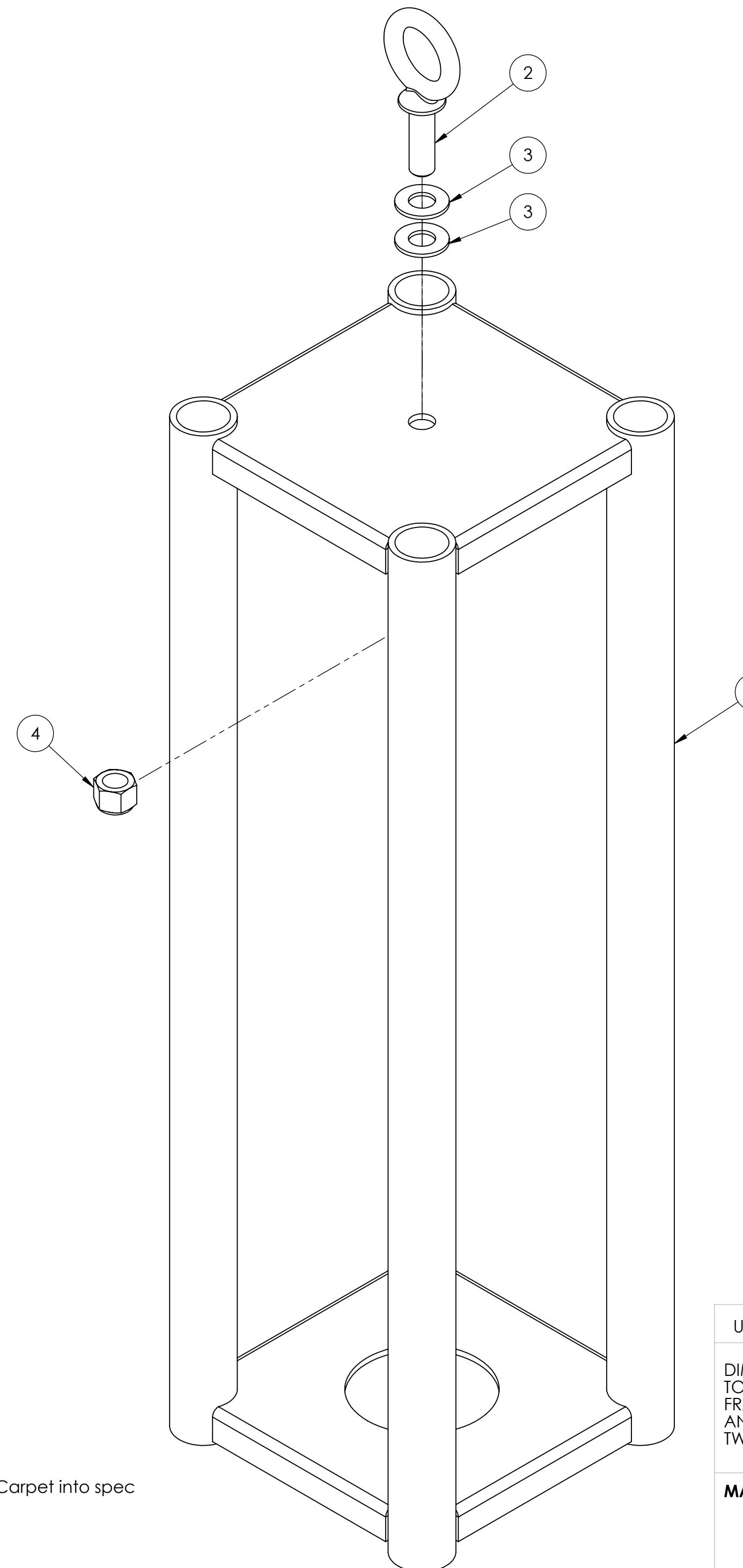
B

B

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A

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



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

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
	DRAWN	JO	12/16/2024
PROPRIETARY AND CONFIDENTIAL			
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COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST ROBOTICS COMPETITION	SOLIDWORKS Modeling Solutions Partner
----------------------------------	------------------------------------------

TITLE: Cage Assembly

SIZE	DWG. NO.	REV
C	GE-25231	

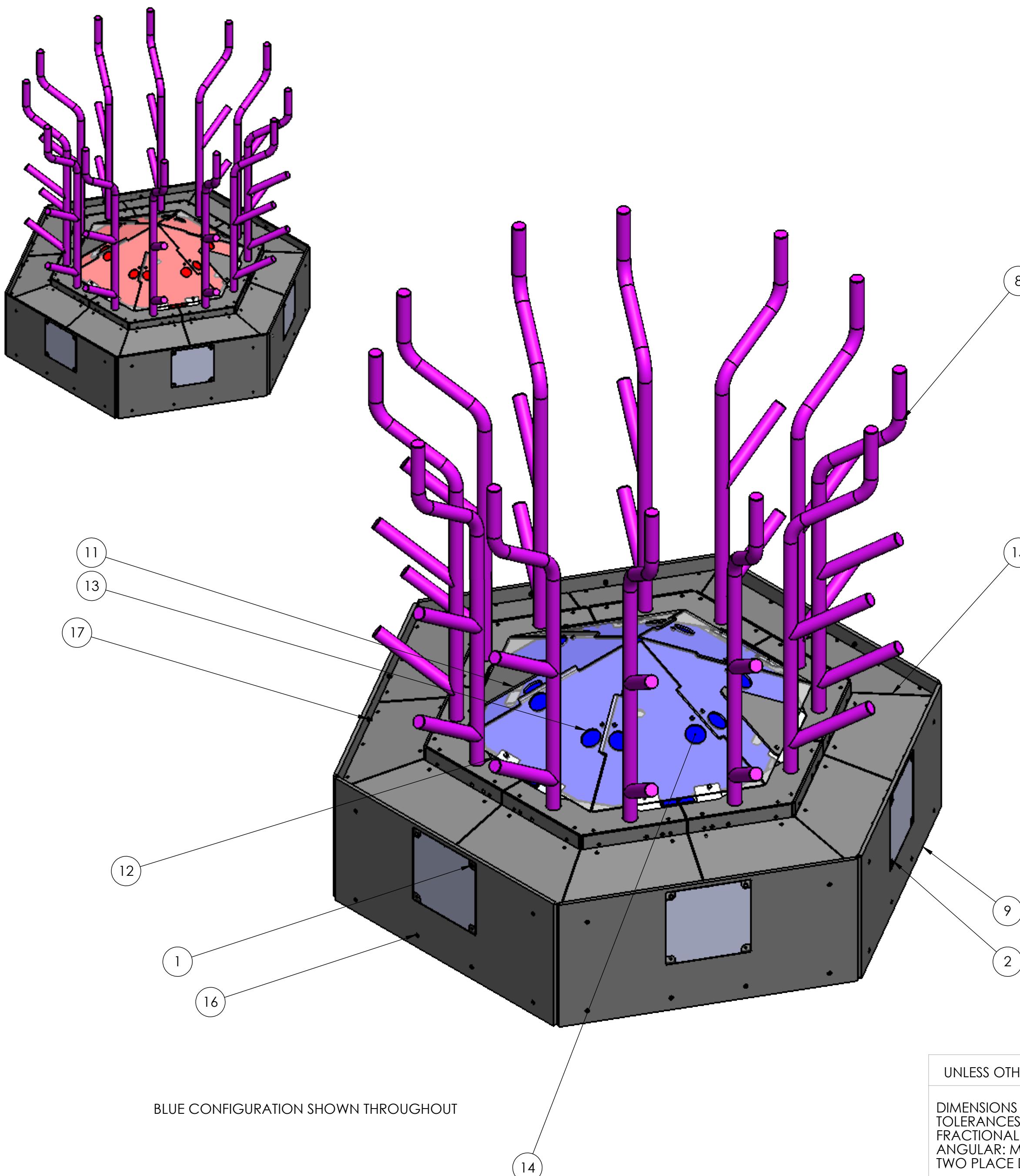
SCALE: 1:2 **SHEET 1 OF 1**

4

3

2

1



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:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$

TWO PLACE DECIMAL

 $\pm .50$

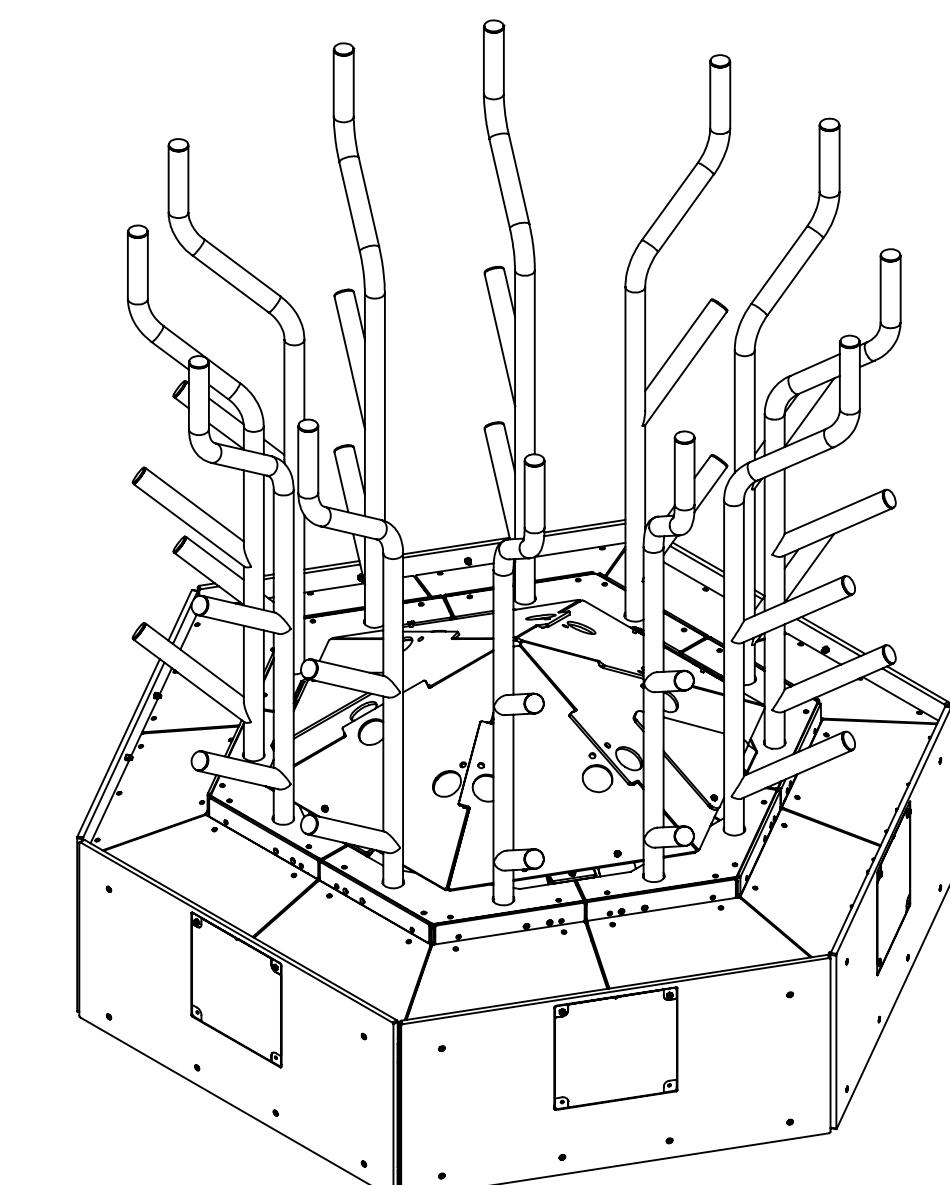
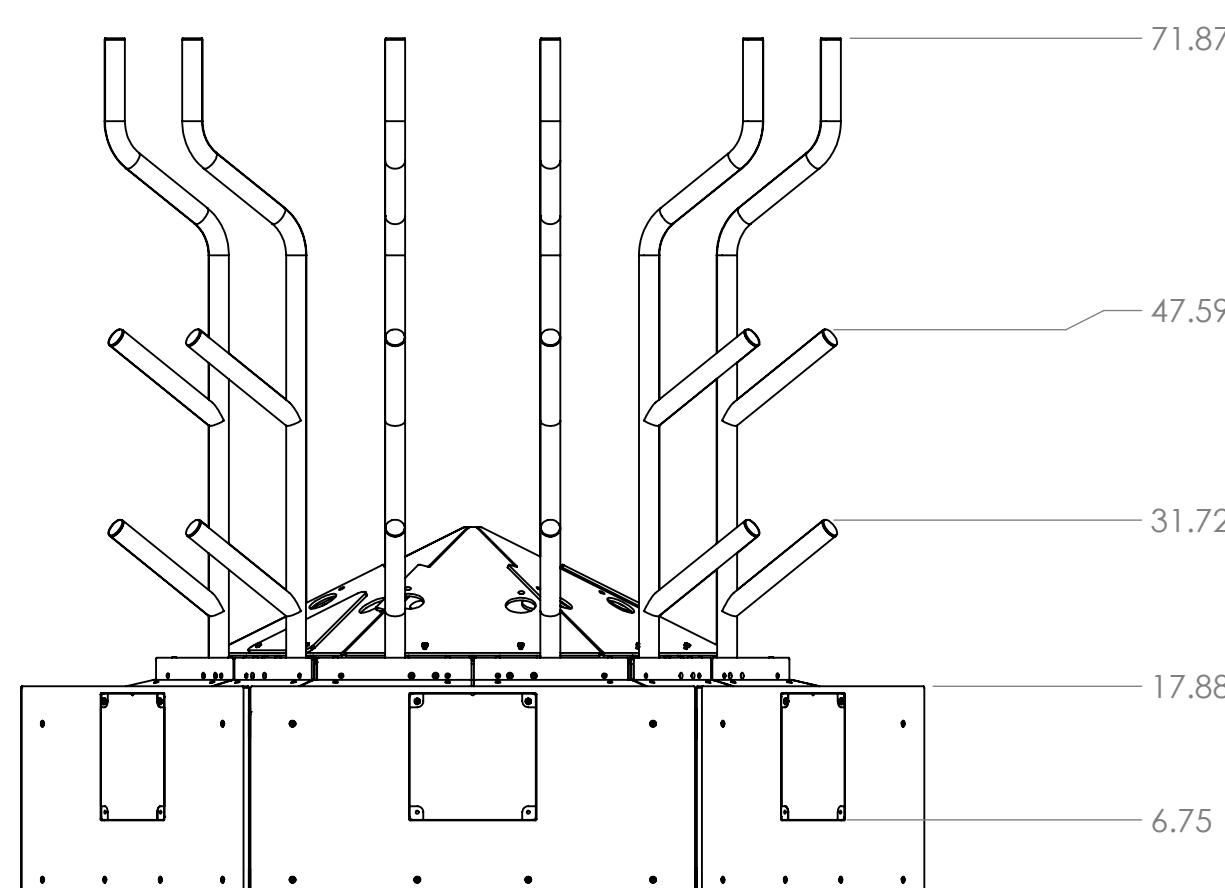
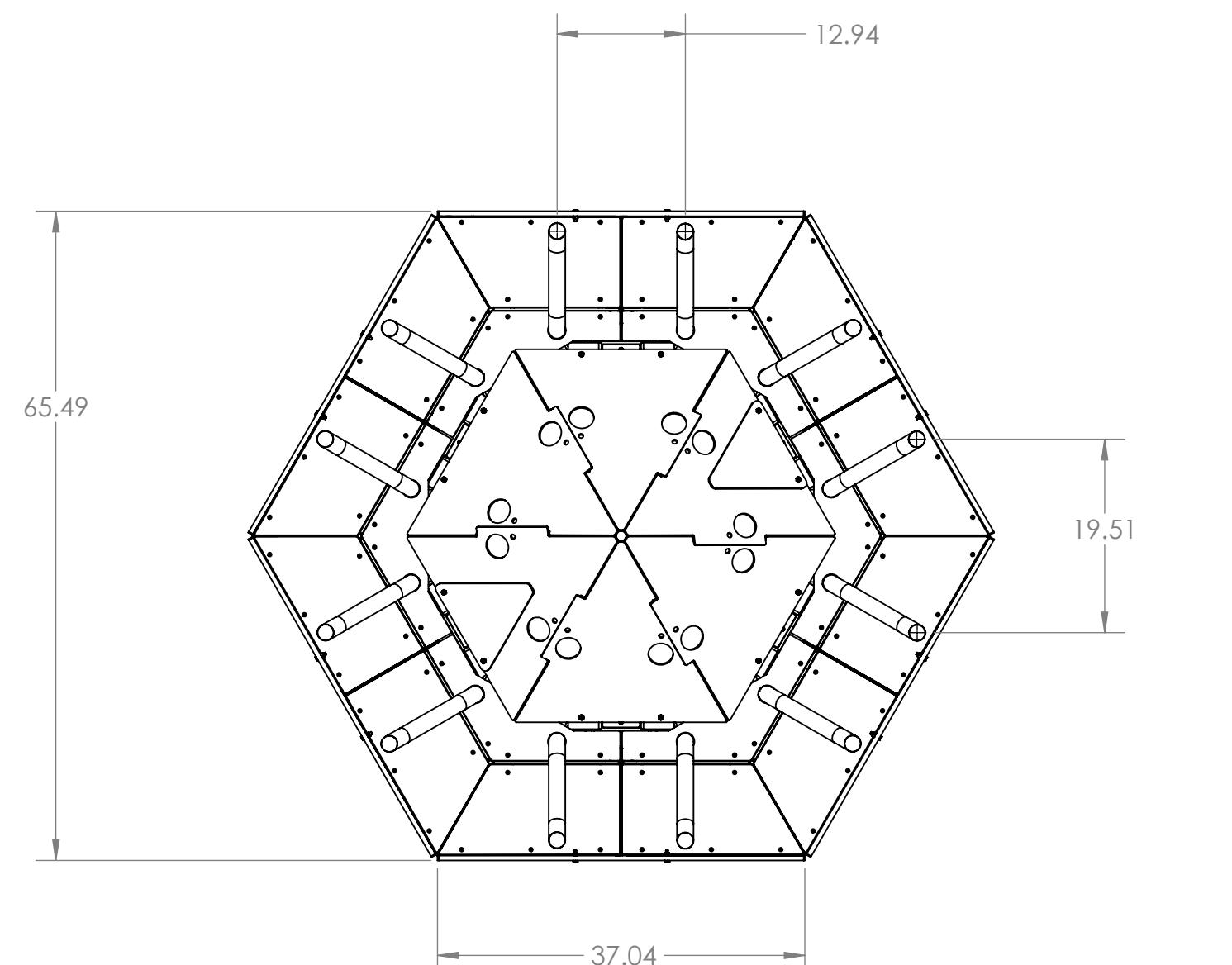
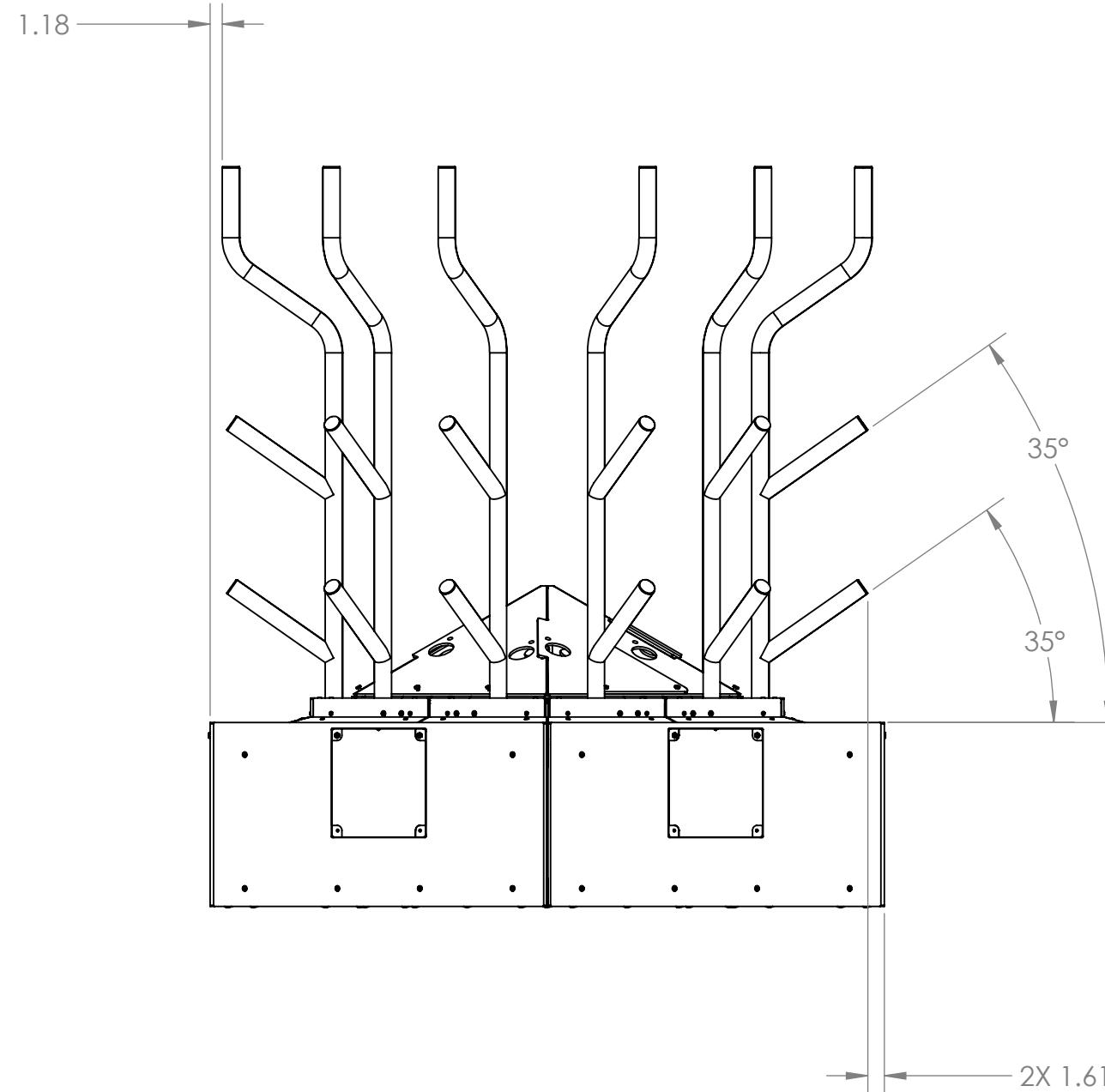
MATERIAL/FINISH:

DO NOT SCALE DRAWING

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

FIELD	NAME	DATE	FIRST ROBOTICS COMPETITION		
DRAWN	NE	12/6/2024	SOLIDWORKS Modeling Solutions Partner		
TITLE: Reef					
SIZE	DWG. NO.	REV			
C	GE-25300				
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:10 SHEET 1 OF 2		

D



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 NE 12/6/2024

PROPRIETARY AND CONFIDENTIAL

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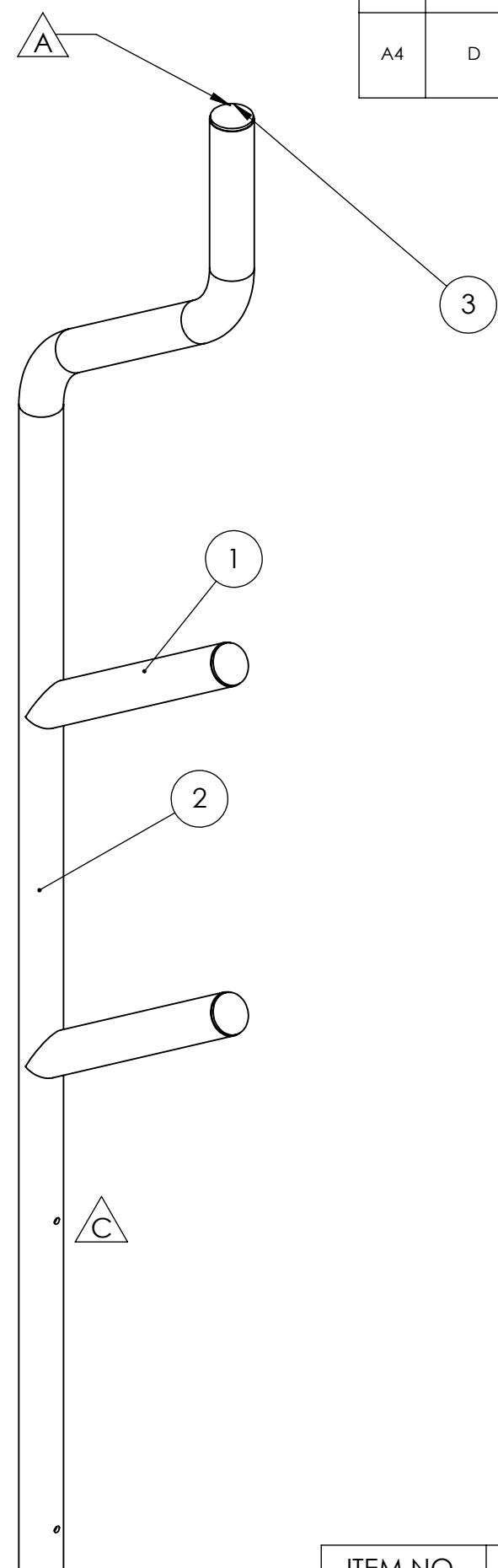
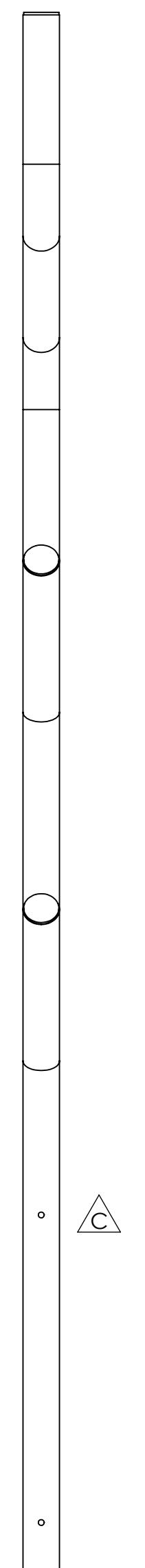
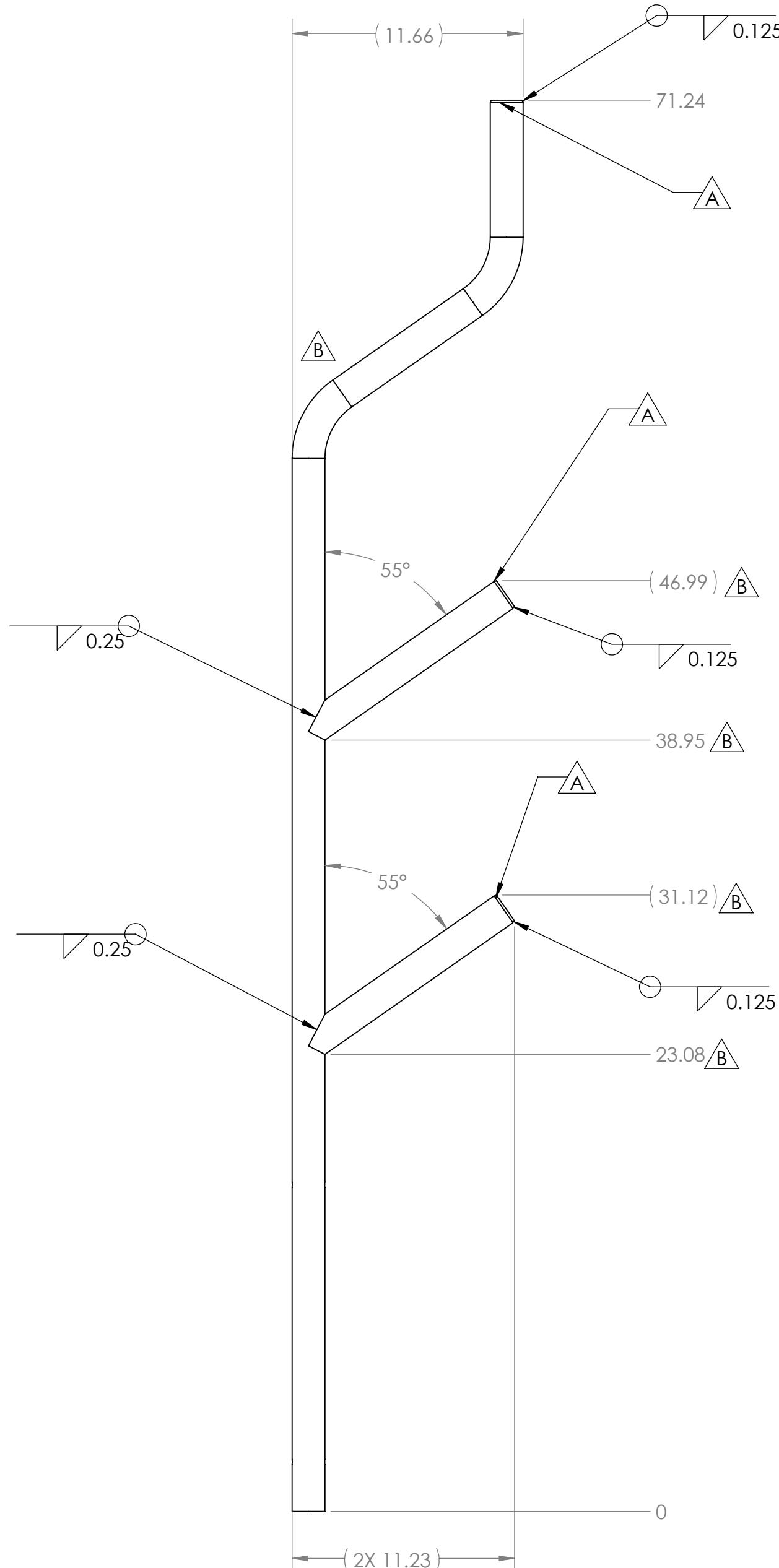
COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: **Reef**

SIZE	DWG. NO.	REV
C	GE-25300	
SCALE: 1:16	SHEET 2 OF 2	

D



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			DRAWN	NE	5/6/2024
TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$					
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.					
MATERIAL/FINISH:	1.25" Sch. 40 Steel Tube, Powder Coated				
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.				
DO NOT SCALE DRAWING			SIZE	DWG. NO.	REV
			C	GE-25301	D
			SCALE: 1:6	SHEET 1 OF 1	



TITLE:
Scoring Pipe

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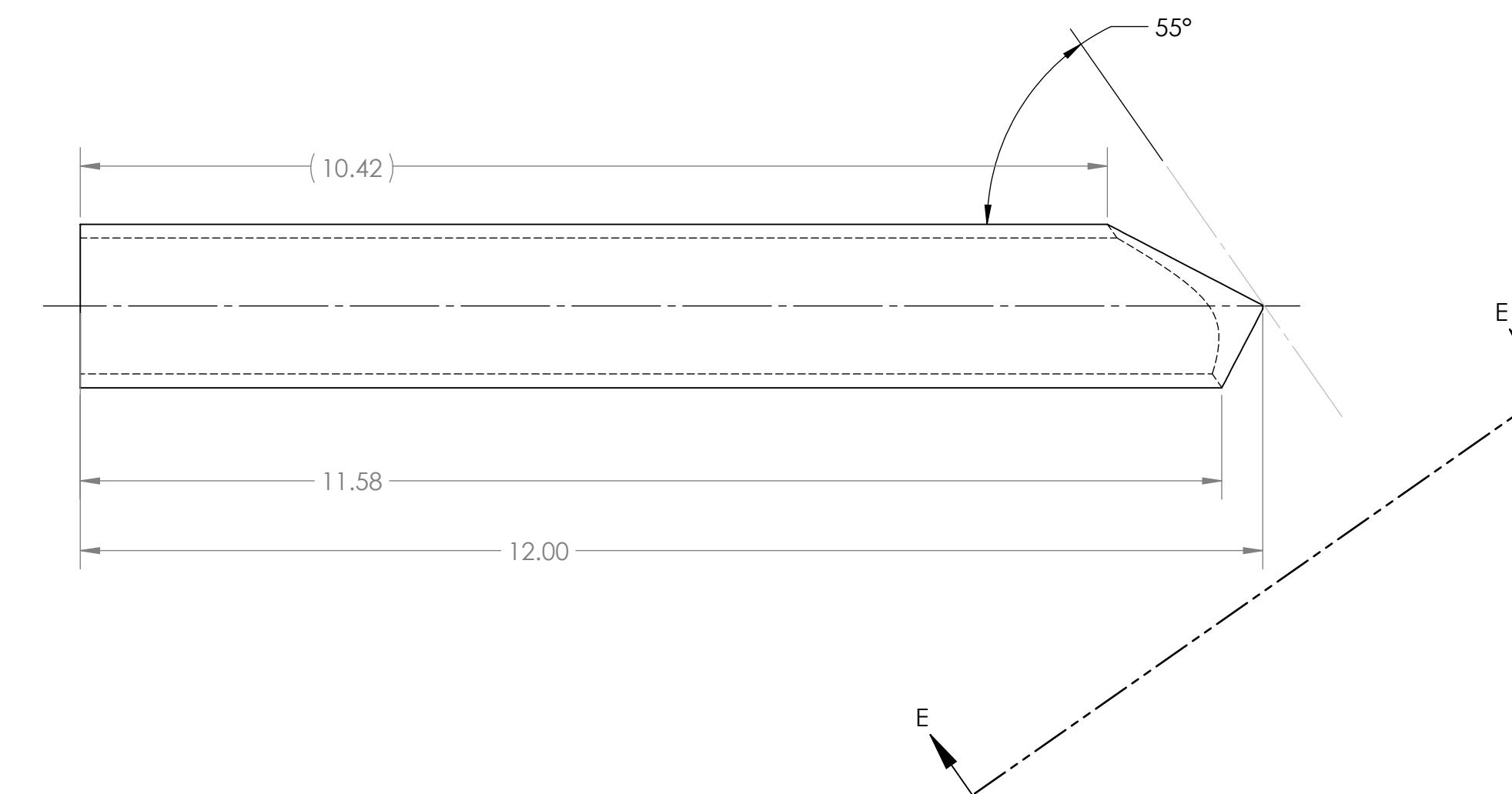
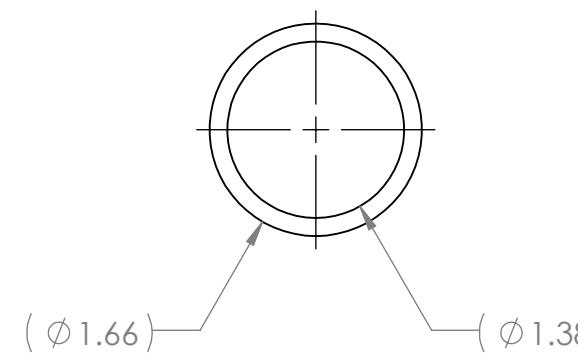
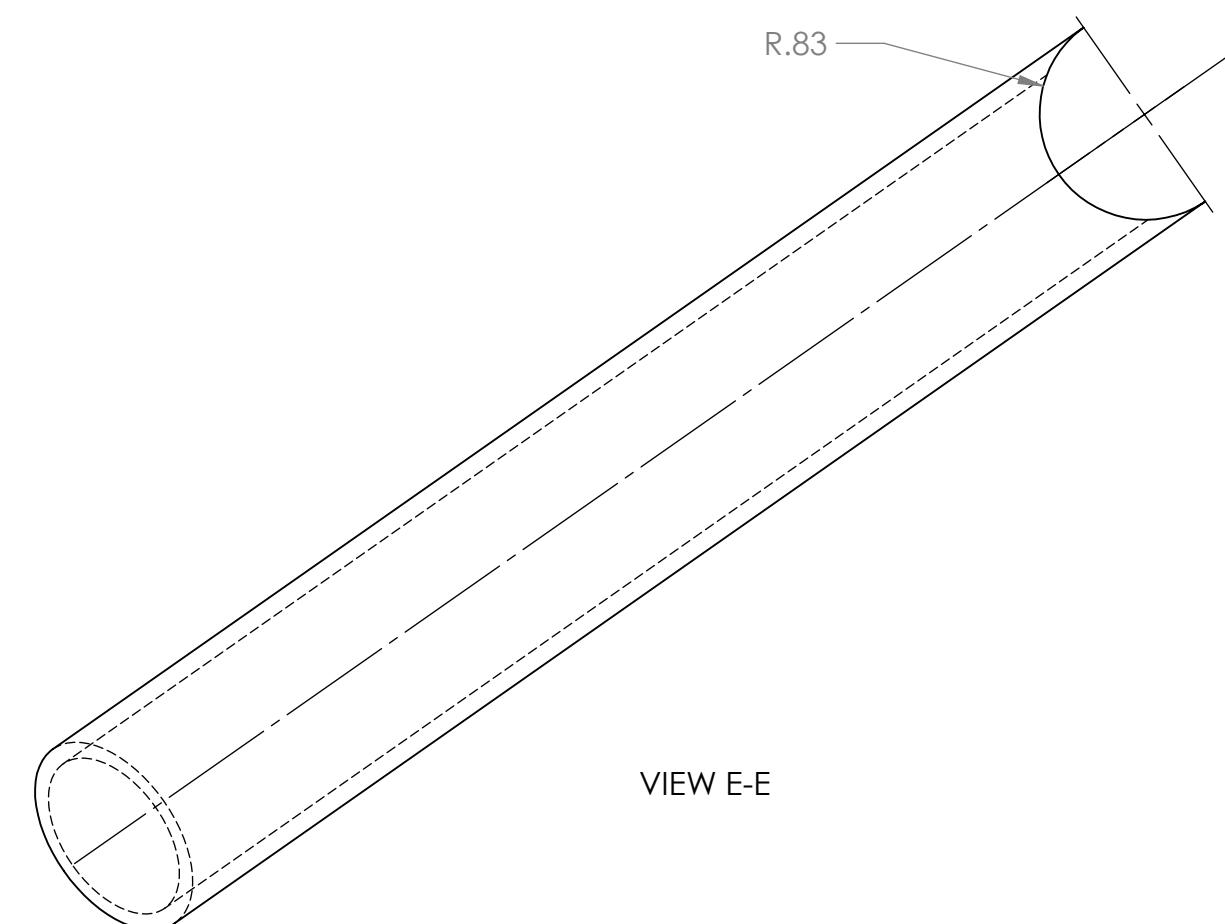
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LOOKING FOR QUOTING ON
THE SELECTION OF
MATERIALS/FINISHES
DISCUSSED 5/3/2024

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$

TWO PLACE DECIMAL $\pm .01$
THREE PLACE DECIMAL $\pm .005$

MATERIAL/FINISH:
1.25" Sch. 40 Steel Tube

DO NOT SCALE DRAWING

VEND NAME DATE
DRAWN NE 5/3/2024

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.

FIRST
ROBOTICS
COMPETITION
SOLIDWORKS
Modeling Solutions Partner

TITLE:

Small Scoring Pipe

SIZE DWG. NO. REV
C GE-25301-01 **B**

SCALE: 2:3 SHEET 1 OF 1

4

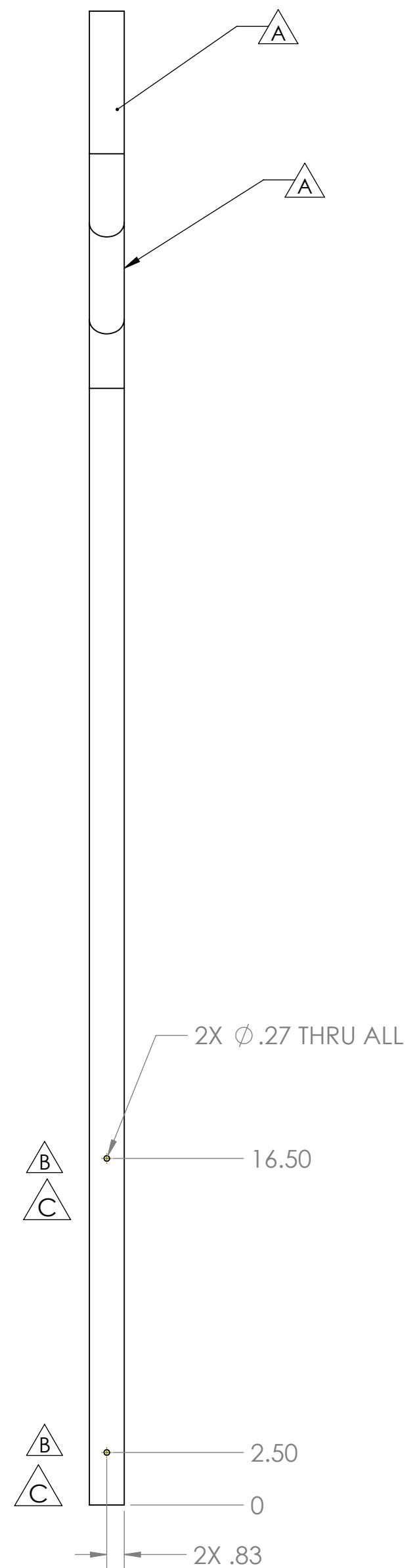
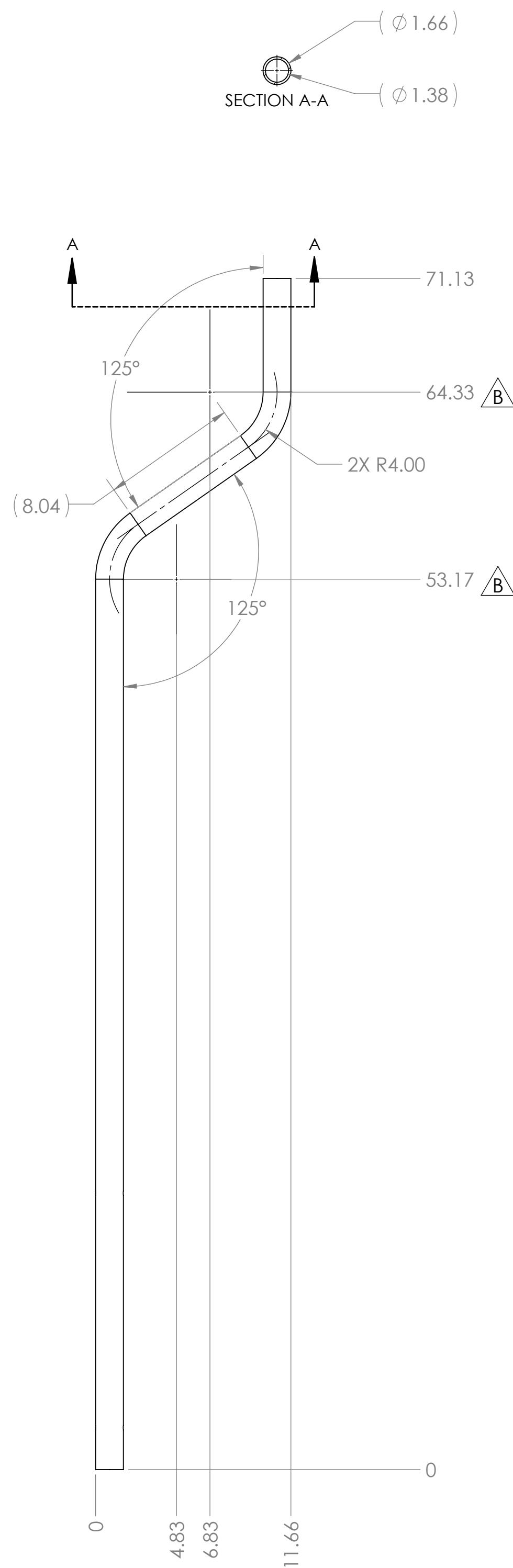
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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .01$
THREE PLACE DECIMAL $\pm .005$

PROPRIETARY AND CONFIDENTIAL
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MATERIAL/FINISH:
1.25" Sch. 40 Steel Tube

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NE	5/3/2024

COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

FIRST[®] ROBOTICS COMPETITION
SOLIDWORKS
Modeling Solutions Partner

TITLE: Bent Scoring Pipe

SIZE	DWG. NO.	REV
C	GE-25301-02	C

SCALE: 1:6 SHEET 1 OF 1

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

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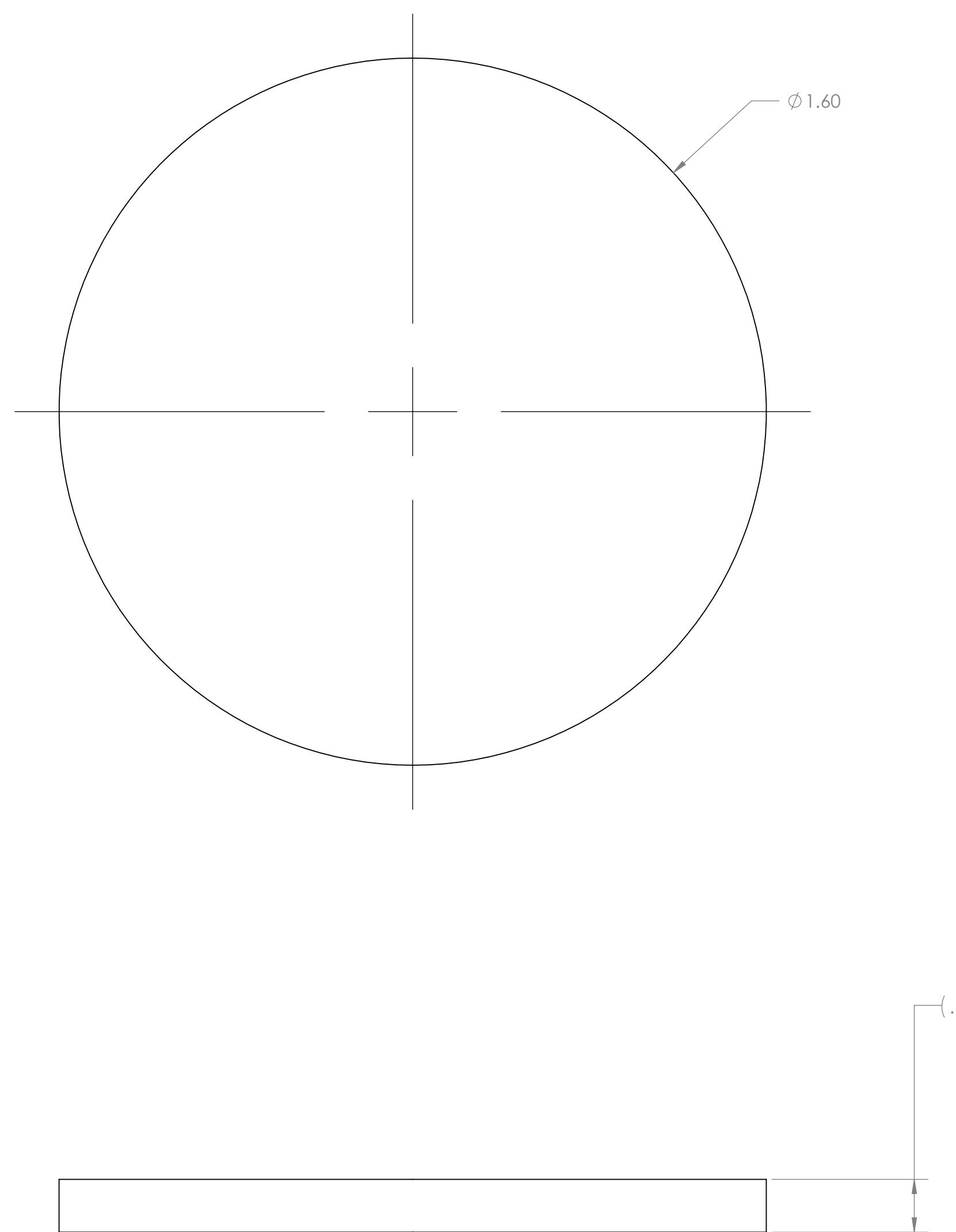
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	NE	8/1/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 11 GA STEEL			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

 **FIRST
ROBOTICS
COMPETITION**  SOLIDWORKS
Modeling Solutions PartnerTITLE:
GoalPipeCapSIZE DWG. NO. REV
C GE-25301-03 A

SCALE: 4:1 SHEET 1 OF 1

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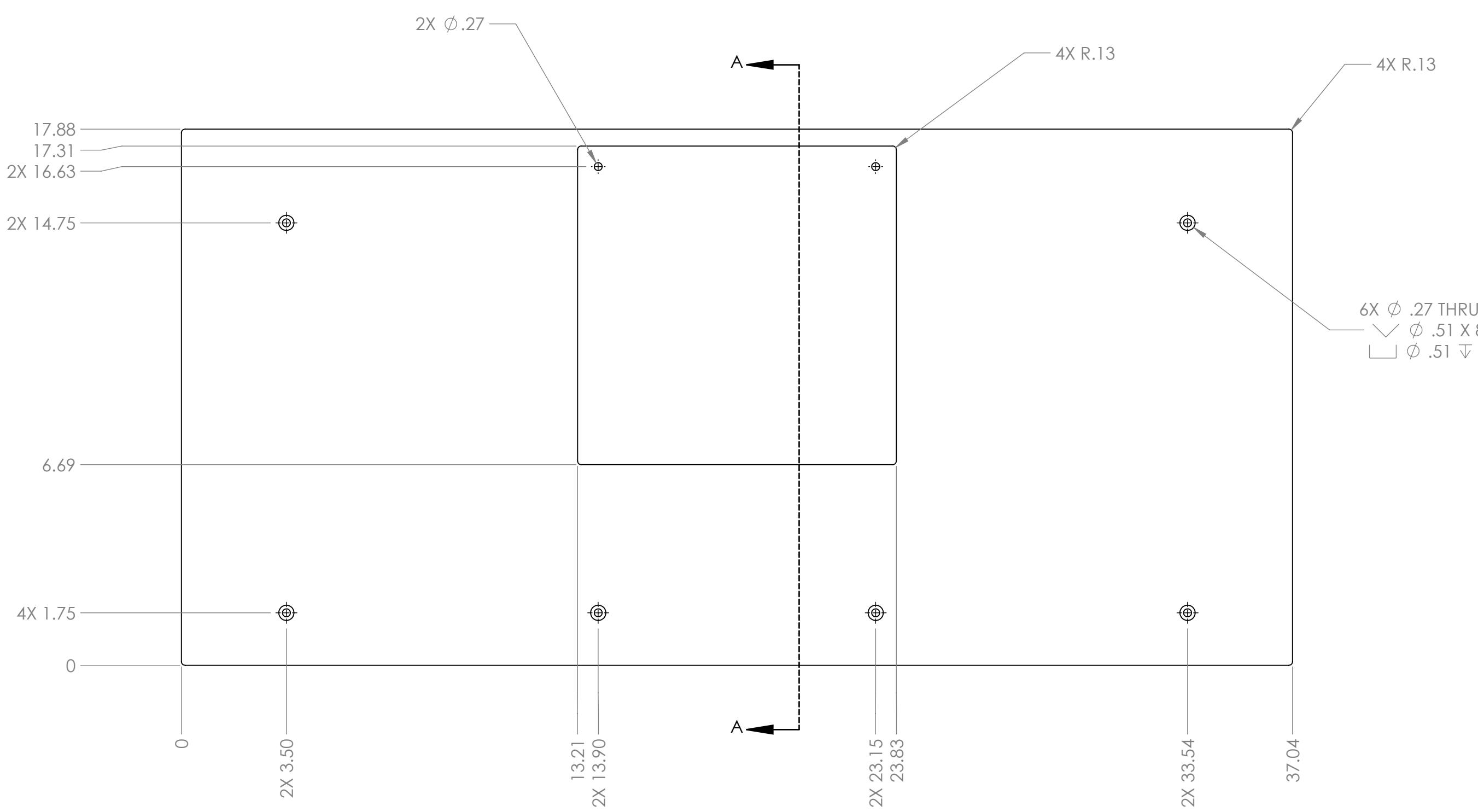
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DRAWN	NE	10/1/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
0.5" HDPE, Black Matte Finish	C	GE-25302	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING		SCALE: 2:7	SHEET 1 OF 1

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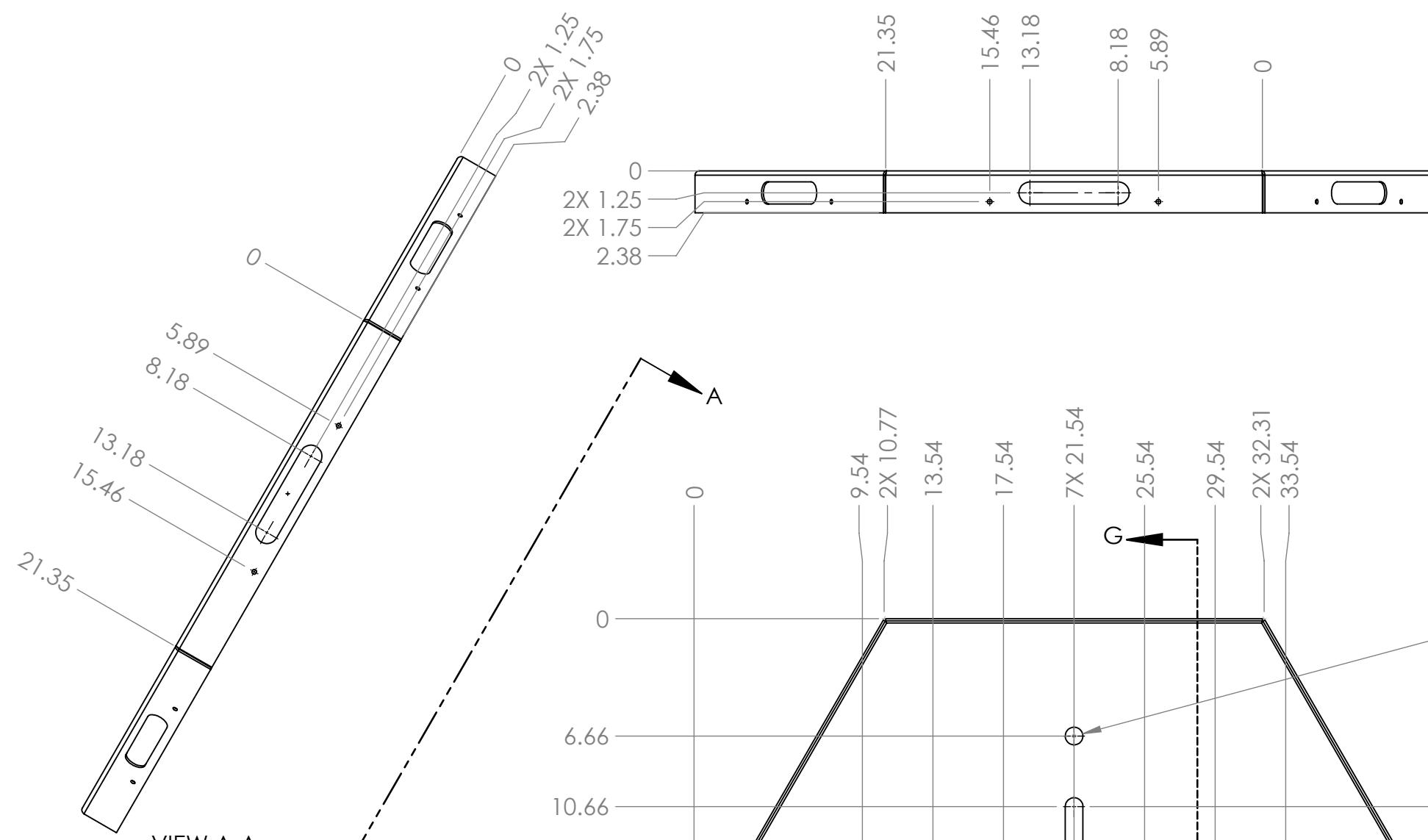
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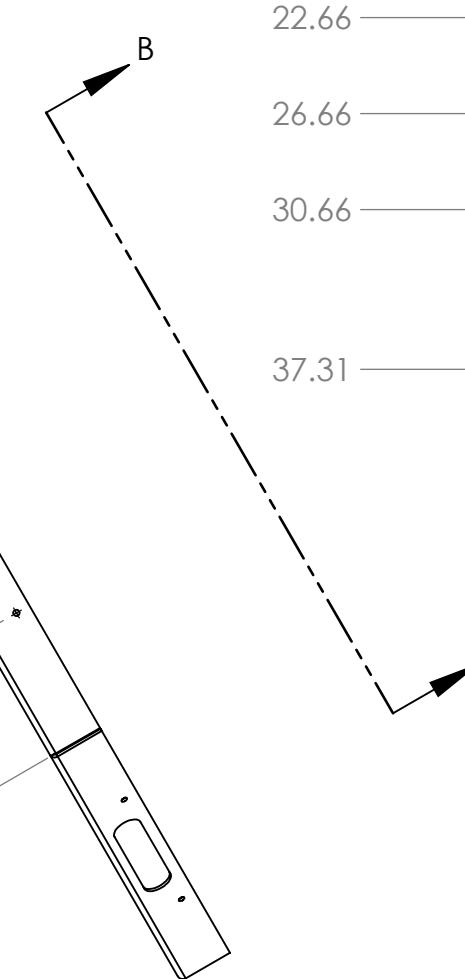
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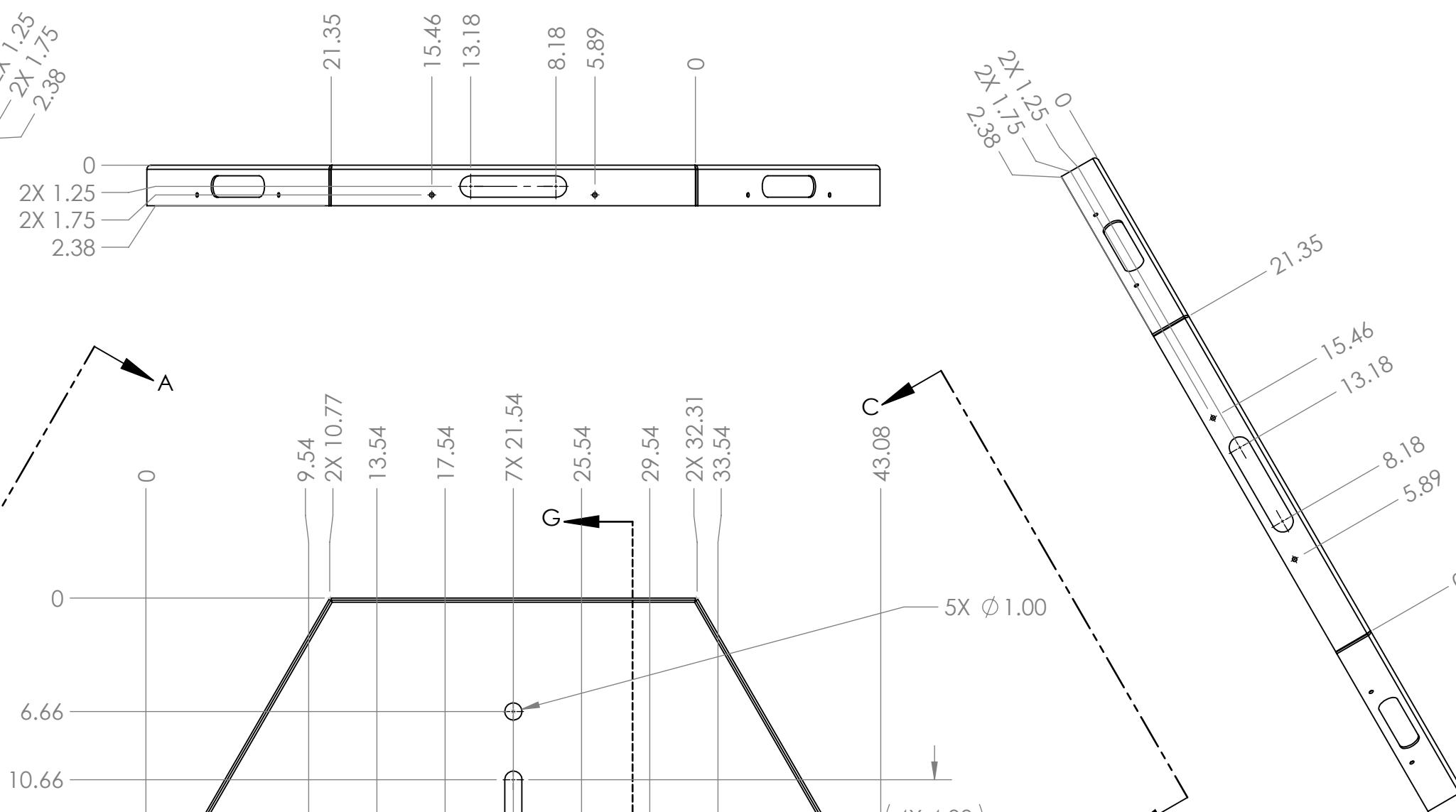
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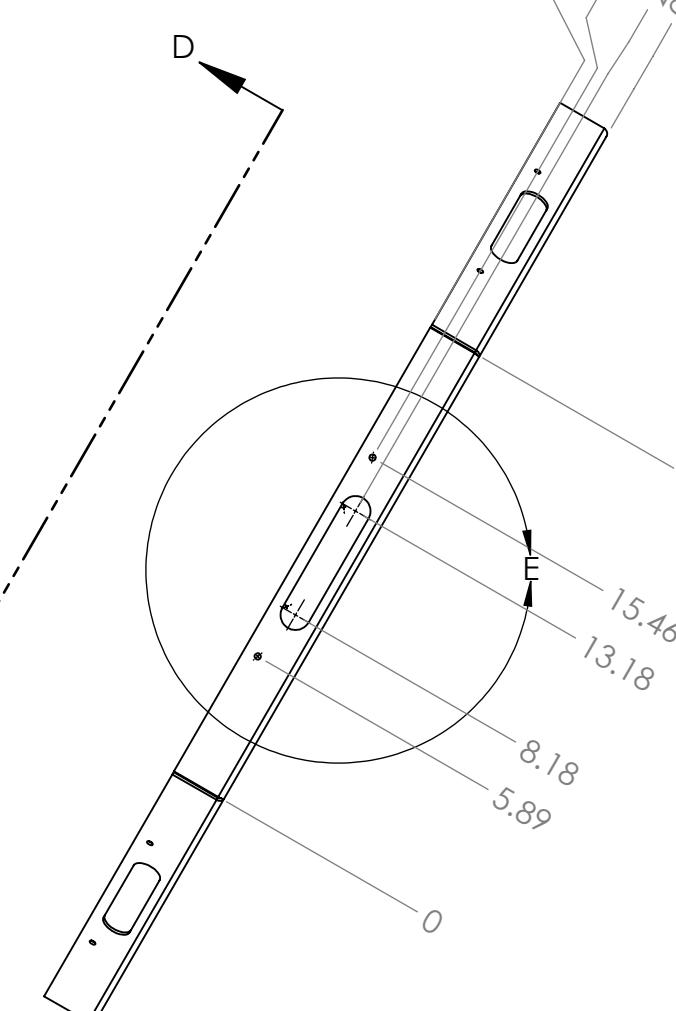
VIEW A-A



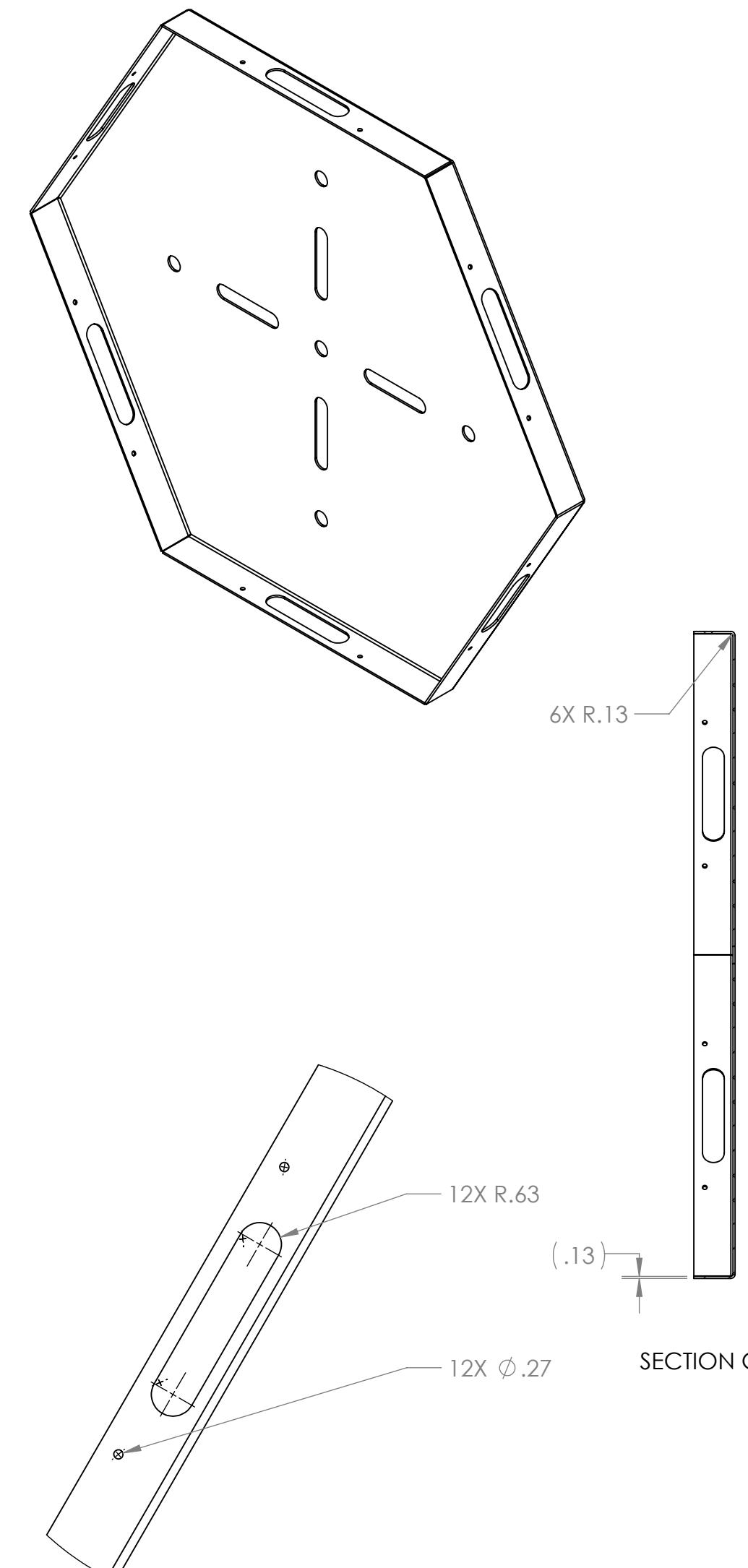
VIEW B-B



VIEW C-C



VIEW D-D

DETAIL E
SCALE 1:4

 FIRST ROBOTICS COMPETITION  SOLIDWORKS
Modeling Solutions Partner

TITLE: Hexagon Base Plate

SIZE DWG. NO. REV

C GE-25303

SCALE: 1:8 SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED:

BEND NAME DATE

DRAWN NE 10/1/2024

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:

8GA 5052 Aluminum

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN

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PROPERTY OF FIRST®. ANY

REPRODUCTION IN PART OR AS A

WHOLE WITHOUT THE WRITTEN

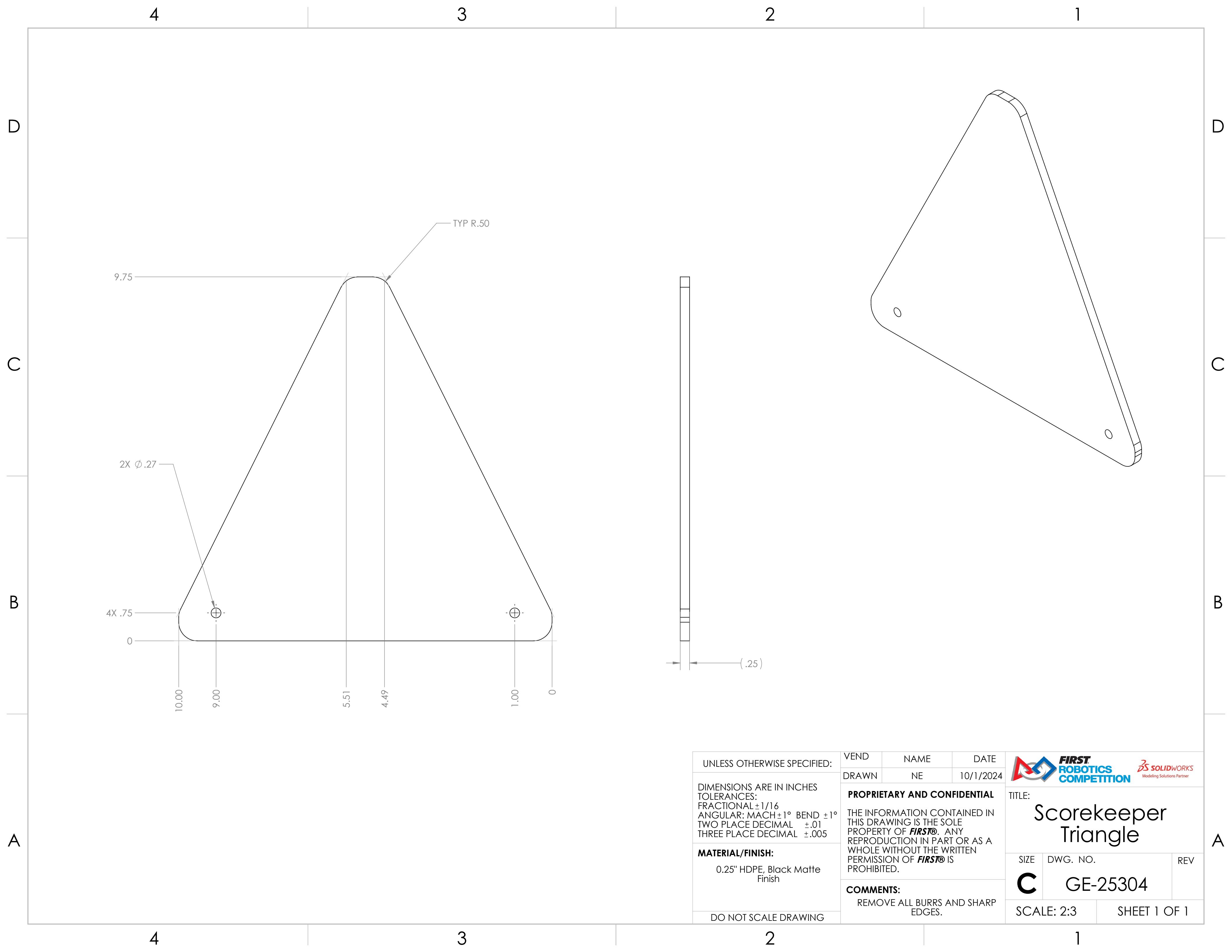
PERMISSION OF FIRST® IS

PROHIBITED.

COMMENTS:

REMOVE ALL BURRS AND SHARP
EDGES.

DO NOT SCALE DRAWING



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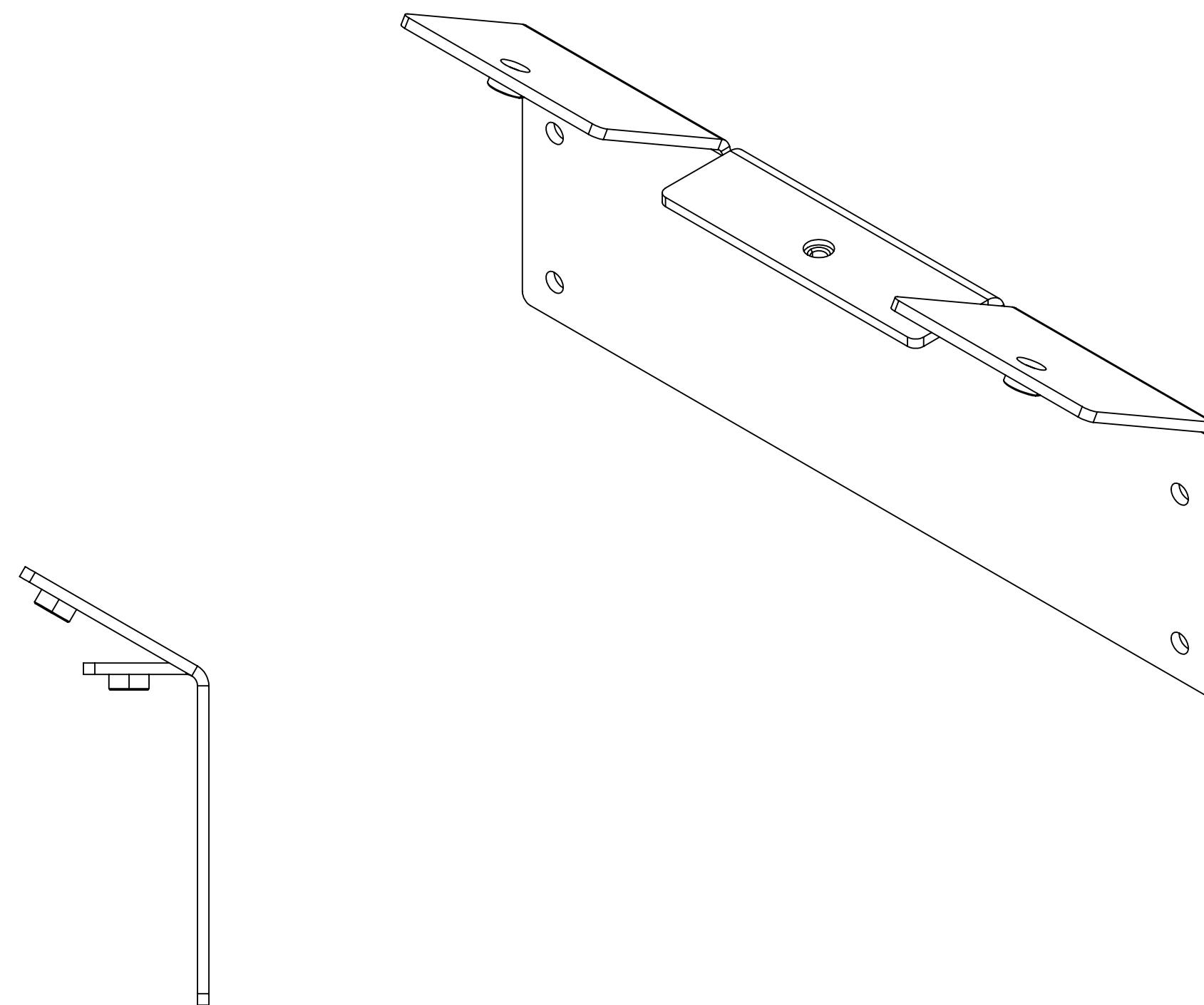
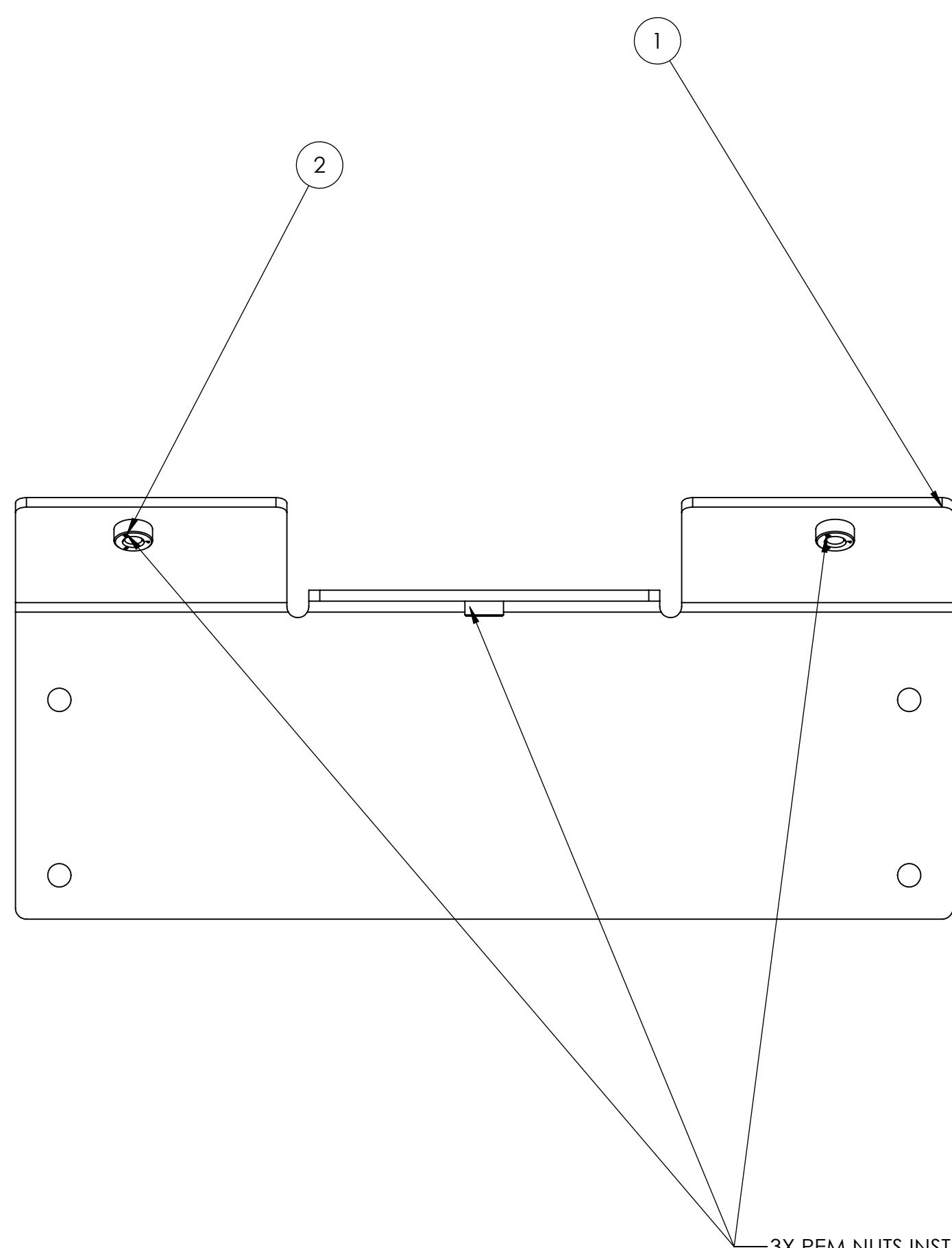
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25305-01	Coral Catcher Bracket	1
2	pem_clinchnut_.25_20 .054	1/4-20 self-clinching nut, .054 shank	3

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:

PROPRIETARY AND CONFIDENTIAL
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COMMENTS:

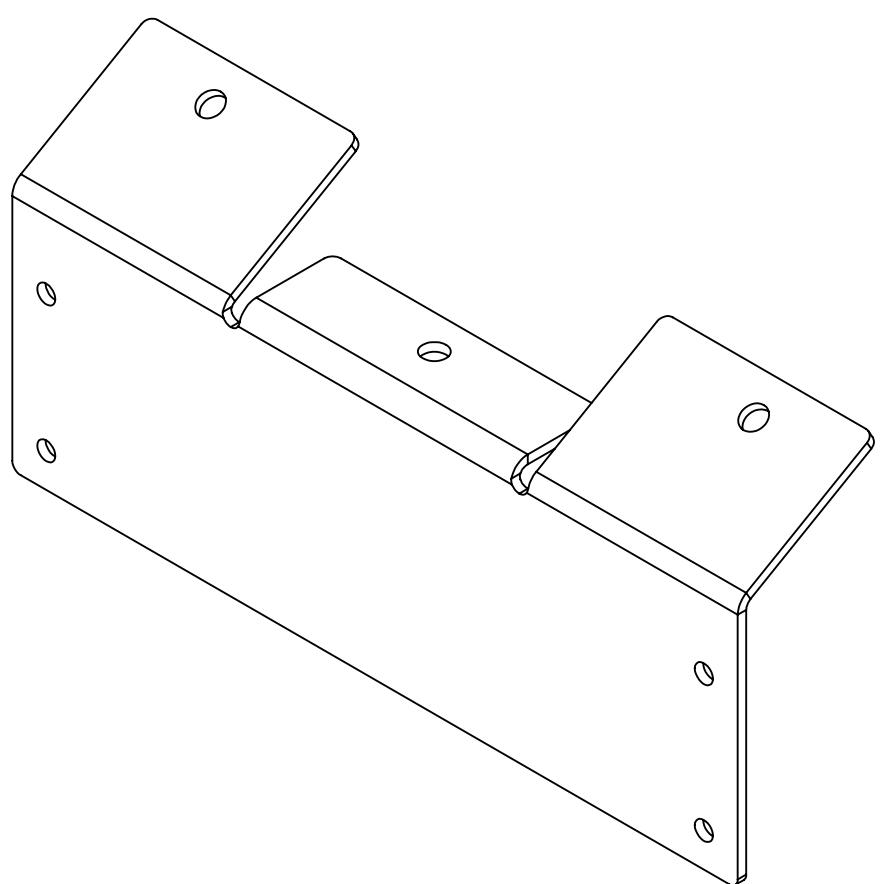
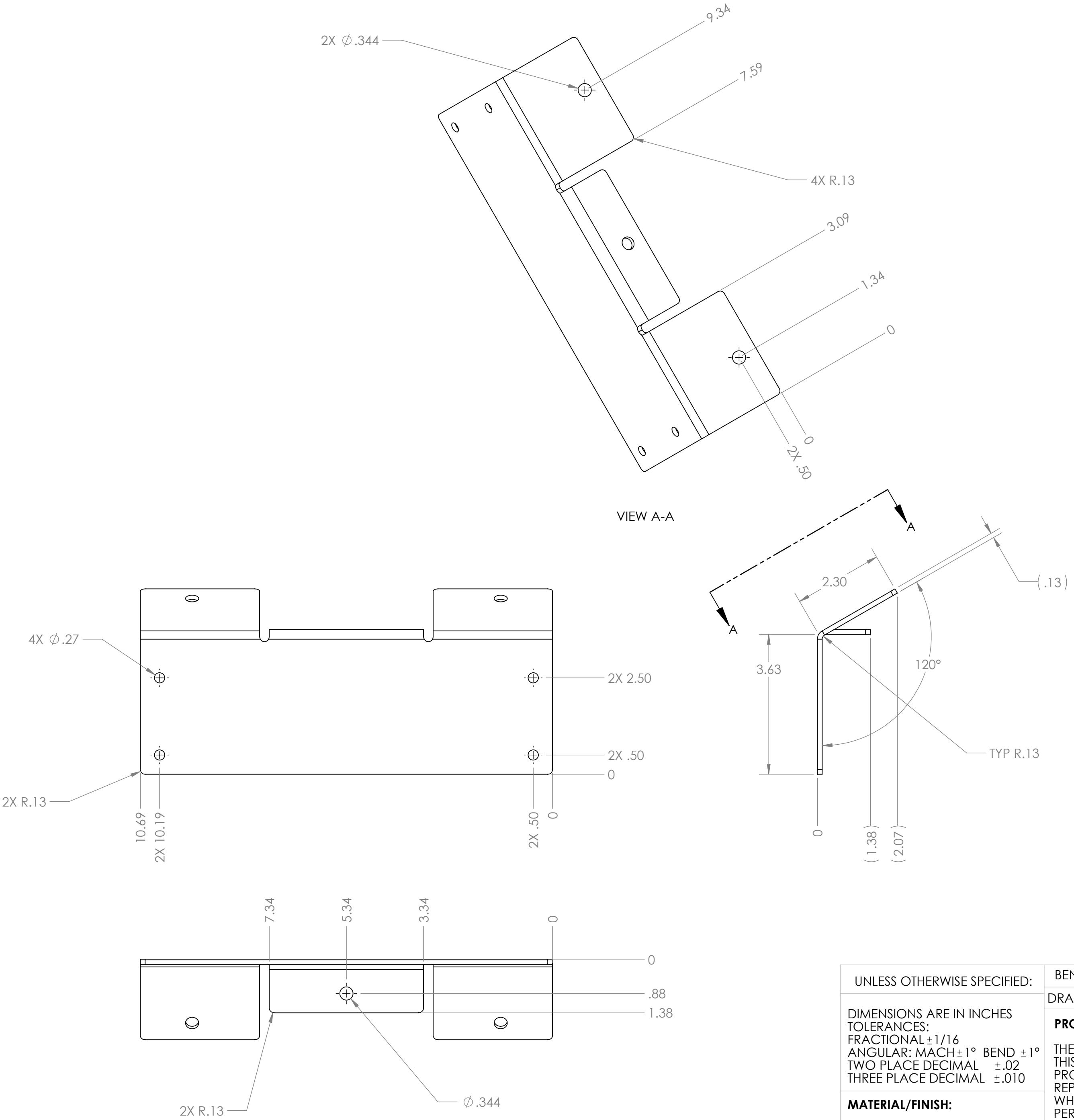
REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING



SOLIDWORKS

Modeling Solutions Partner



VIEW A-A

UNLESS OTHERWISE SPECIFIED:		BEND	NAME	DATE
		DRAWN	NE	10/1/2024
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 $\pm .010$		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.		
MATERIAL/FINISH: 8GA 5052 Aluminum		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING		SCALE: 1:2		SHEET 1 OF 1

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21.00

14.77
14.43
14.32
14.2110.74
10.078.62
7.95
7.61
7.167.05
6.822X .75
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0

3.51

3.96

6.70

6.75

6.76

7.19

7.64

10.47

11.03

14.36

14.75

15.26

16.09

16.15

17.93

18.83

21.50

2X Ø .50

2X Ø 2.50

2X Ø .27

TYP R.13

UNLESS OTHERWISE SPECIFIED:

VEND NAME DATE



DRAWN NE 10/1/2024

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:

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

0.25" Polycarbonate

COMMENTS:

REMOVE ALL BURRS AND SHARP
EDGES.

DO NOT SCALE DRAWING

TITLE:

Coral Catcher
Side

SIZE DWG. NO. REV

C GE-25306

SCALE: 1:3 SHEET 1 OF 1

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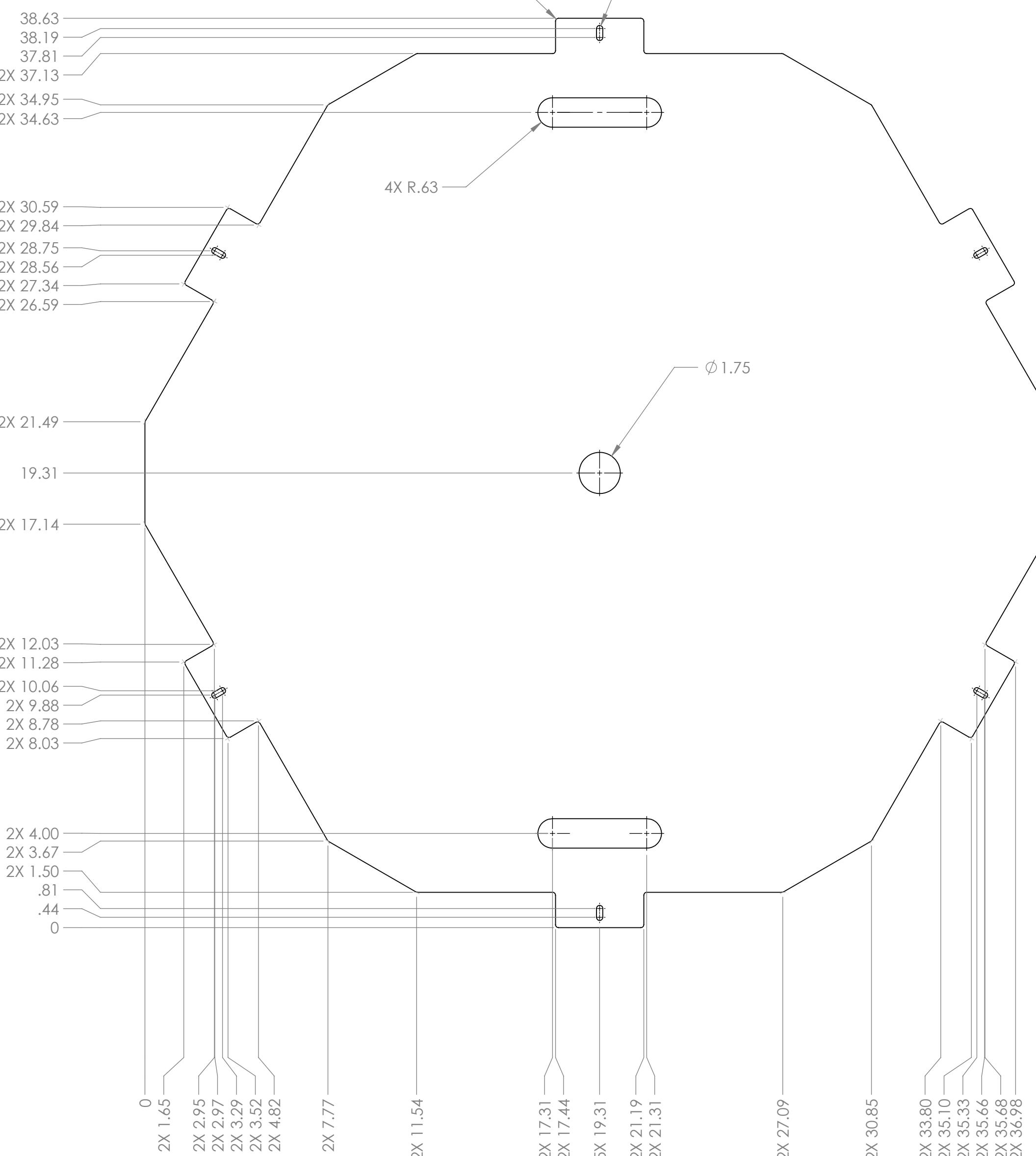
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UNLESS OTHERWISE SPECIFIED:

VEND NAME DATE

DRAWN NE 10/1/2024

PROPRIETARY AND CONFIDENTIAL

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MATERIAL/FINISH:

0.25" HDPE, Red Matte Finish

DO NOT SCALE DRAWING

SOLIDWORKS
Modeling Solutions Partner

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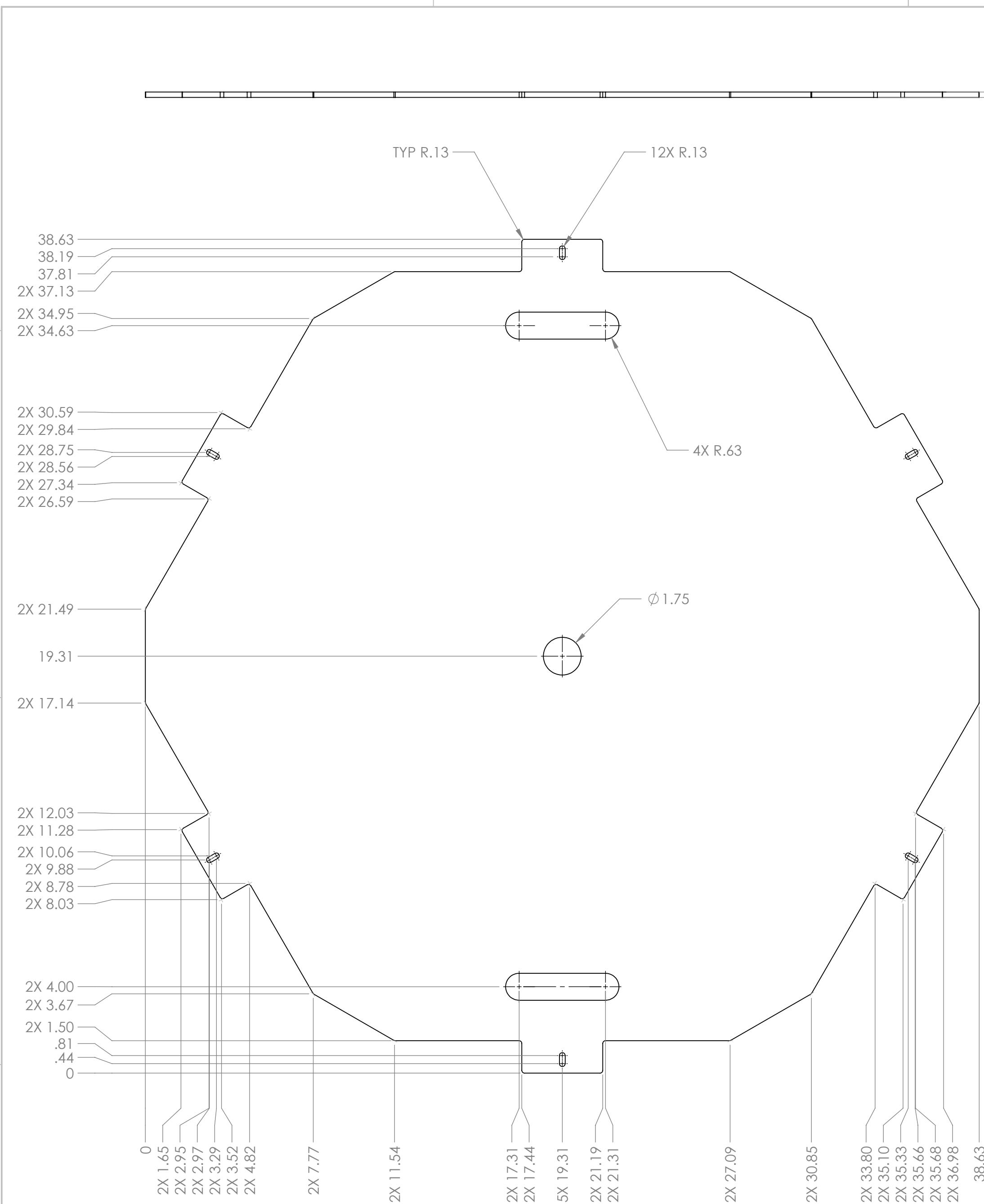
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	NE	10/1/2024
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 0.25" HDPE, Blue Matte Finish			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

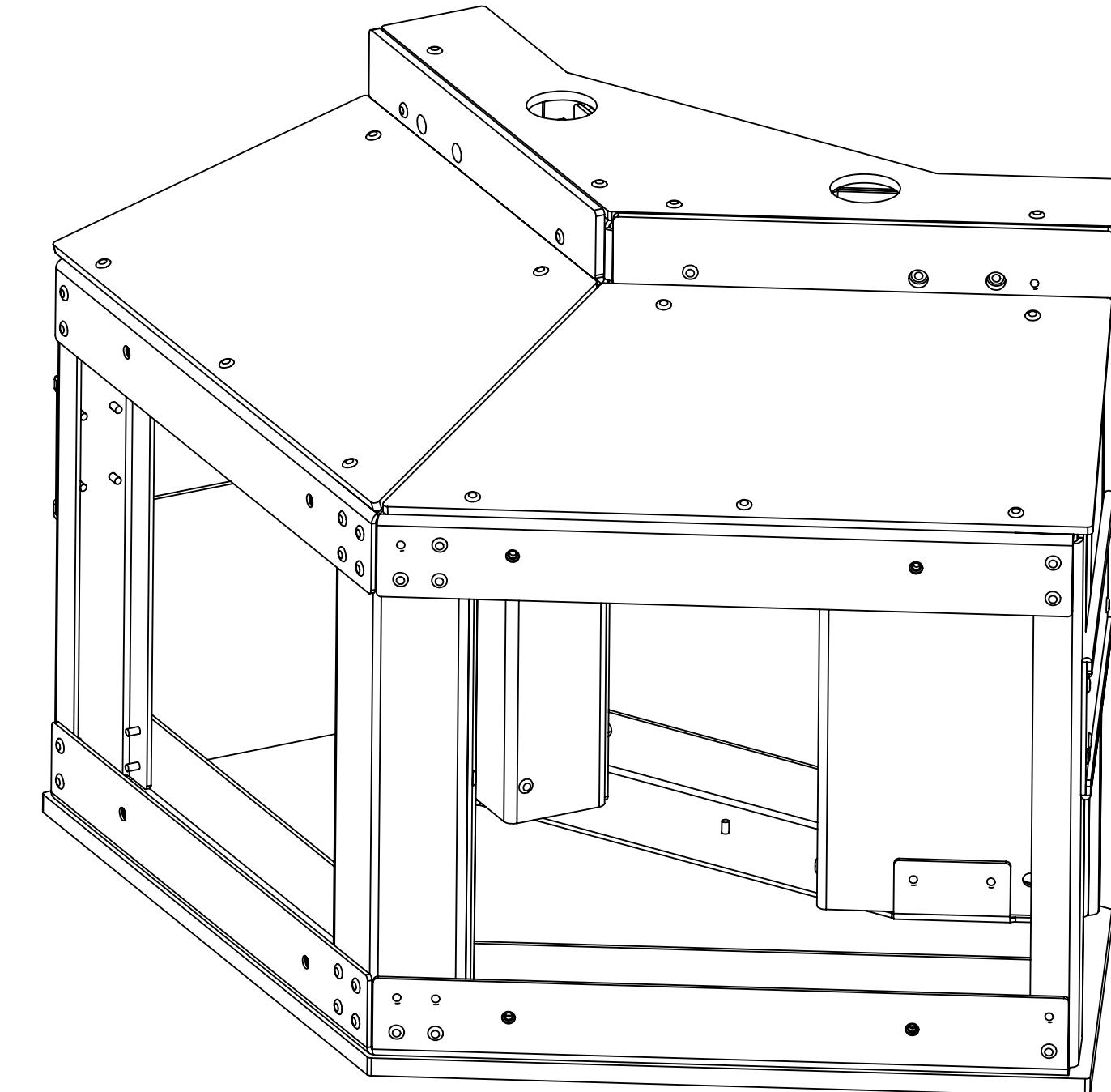
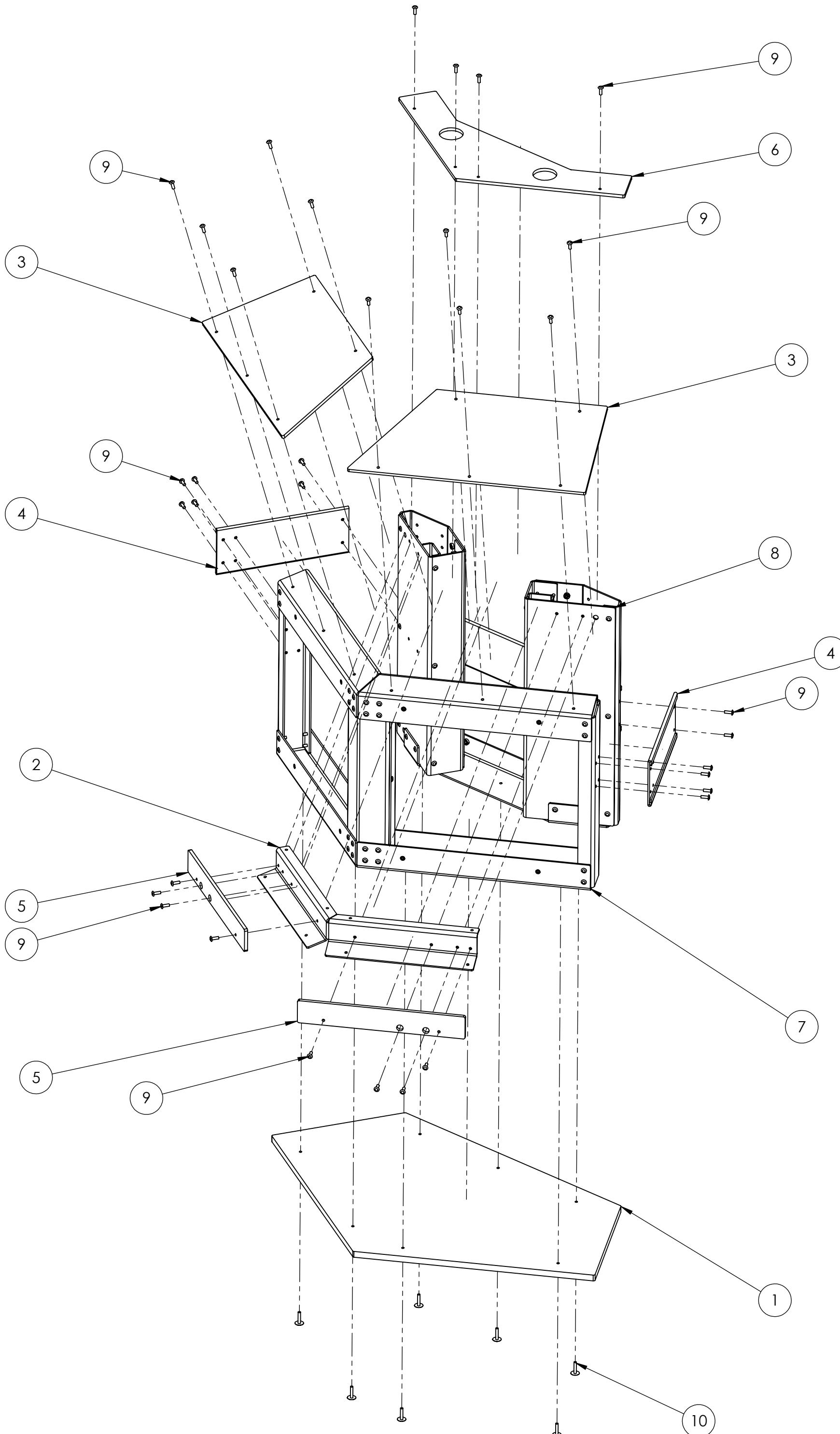
FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Hexagon Cover
- Blue**

SIZE DWG. NO. REV
C GE-25308

SCALE: 1:4 SHEET 1 OF 1

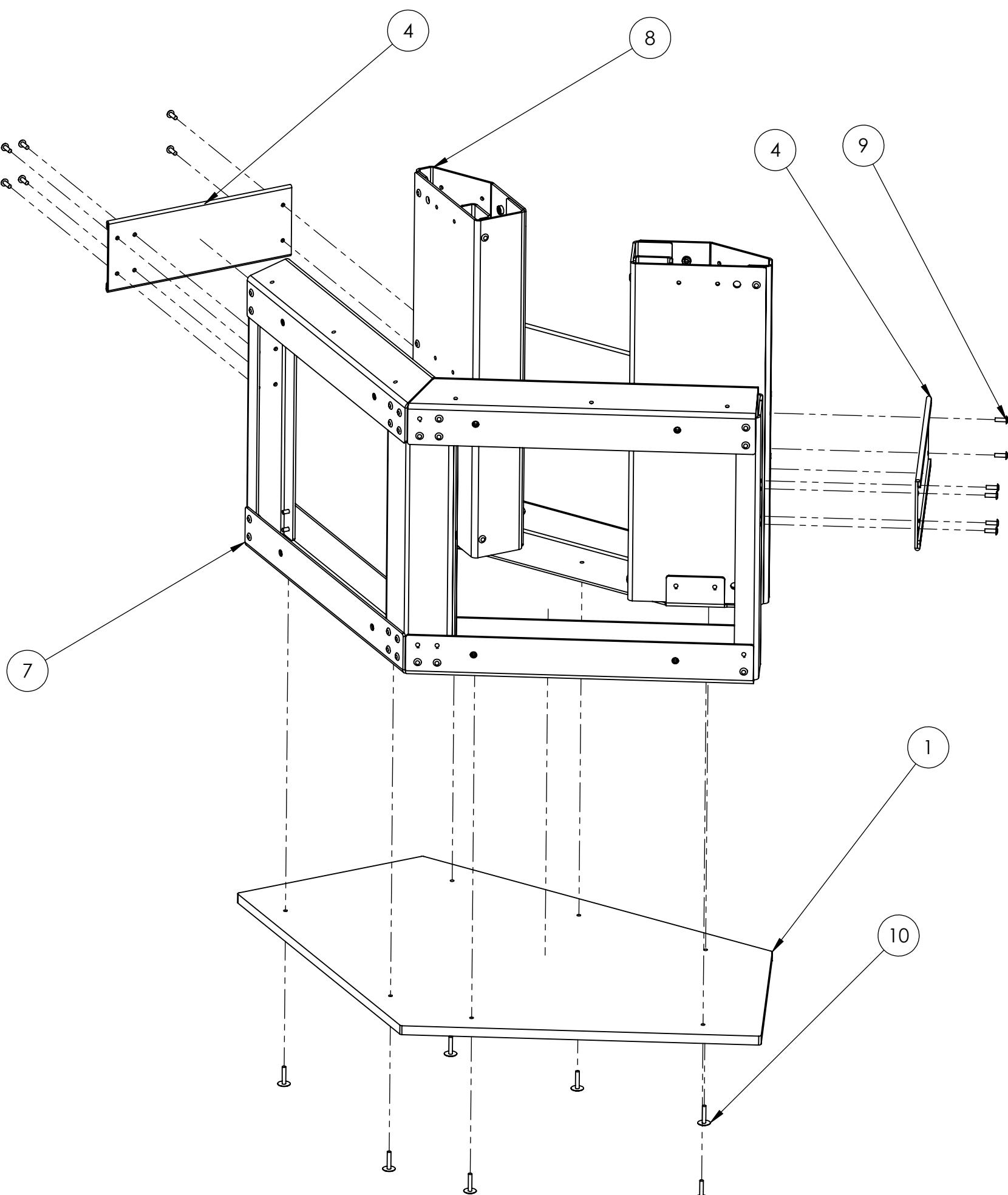


NOTES:
1. ASSEMBLE COMPONENTS IN DISPLAYED ORIENTATION

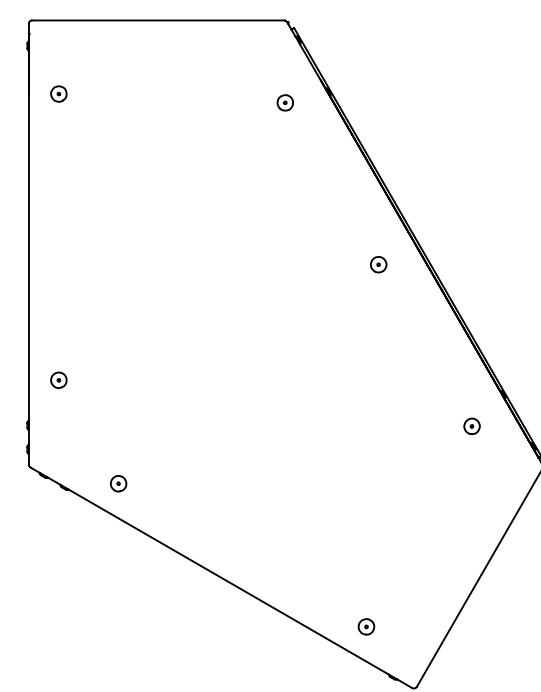
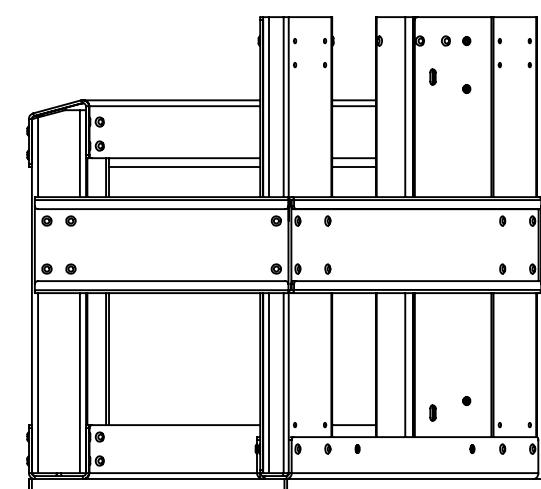
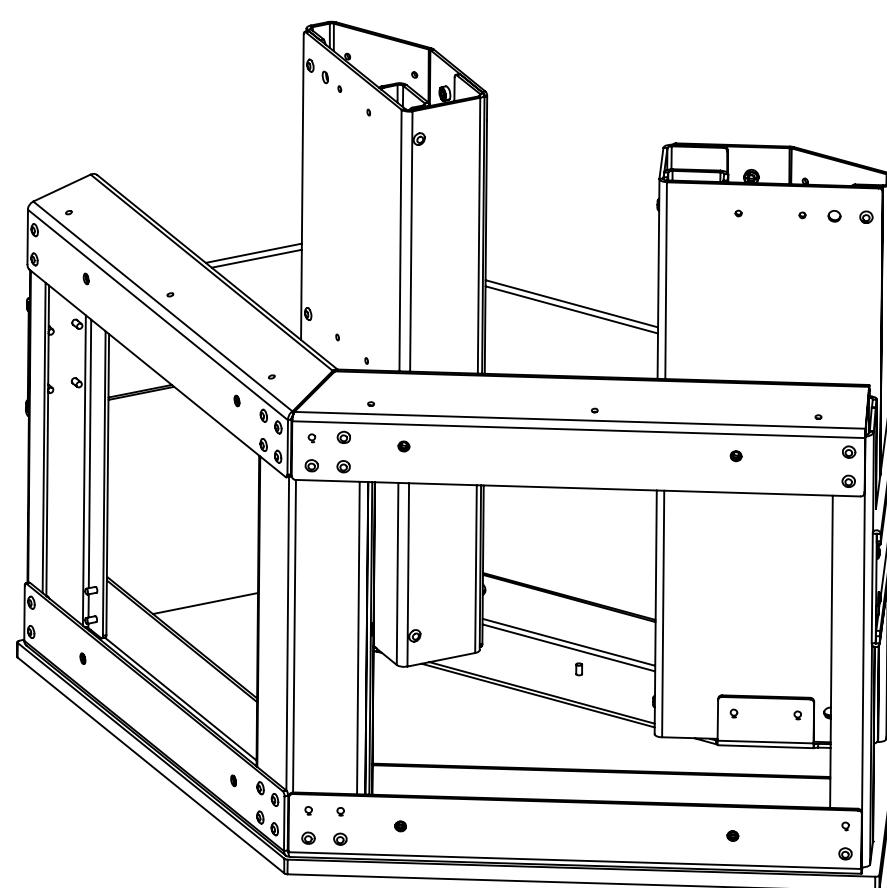
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1	GE-25311	Slice Base	1
2	GE-25312	Trough Floor Bracket	1
3	GE-25313	Trough Floor	2
4	GE-25314	Slice Outside Depth Support	2
5	GE-25315	Trough Back	2
6	GE-25316	Slice Top Cover	1
7	GE-25320	Outer Slice Assembly	1
8	GE-25330	Inner Slice Assembly	1
9	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	34
10	rivet_.1875_.625-.075_largeHead	rivet_.1875_.625-0.75_largeHead	7

UNLESS OTHERWISE SPECIFIED:		
VEND	NAME	DATE
DRAWN	NE	10/1/2024
PROPRIETARY AND CONFIDENTIAL		
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COMMENTS:		
REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING		
SIZE	DWG. NO.	REV
C	GE-25310	
SCALE: 1:6		SHEET 1 OF 5

D



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	
DRAWN	NE	10/1/2024		
PROPRIETARY AND CONFIDENTIAL				
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV	
COMMENTS:	C	GE-25310		
DO NOT SCALE DRAWING	SCALE: 1:6	SHEET 2 OF 5		

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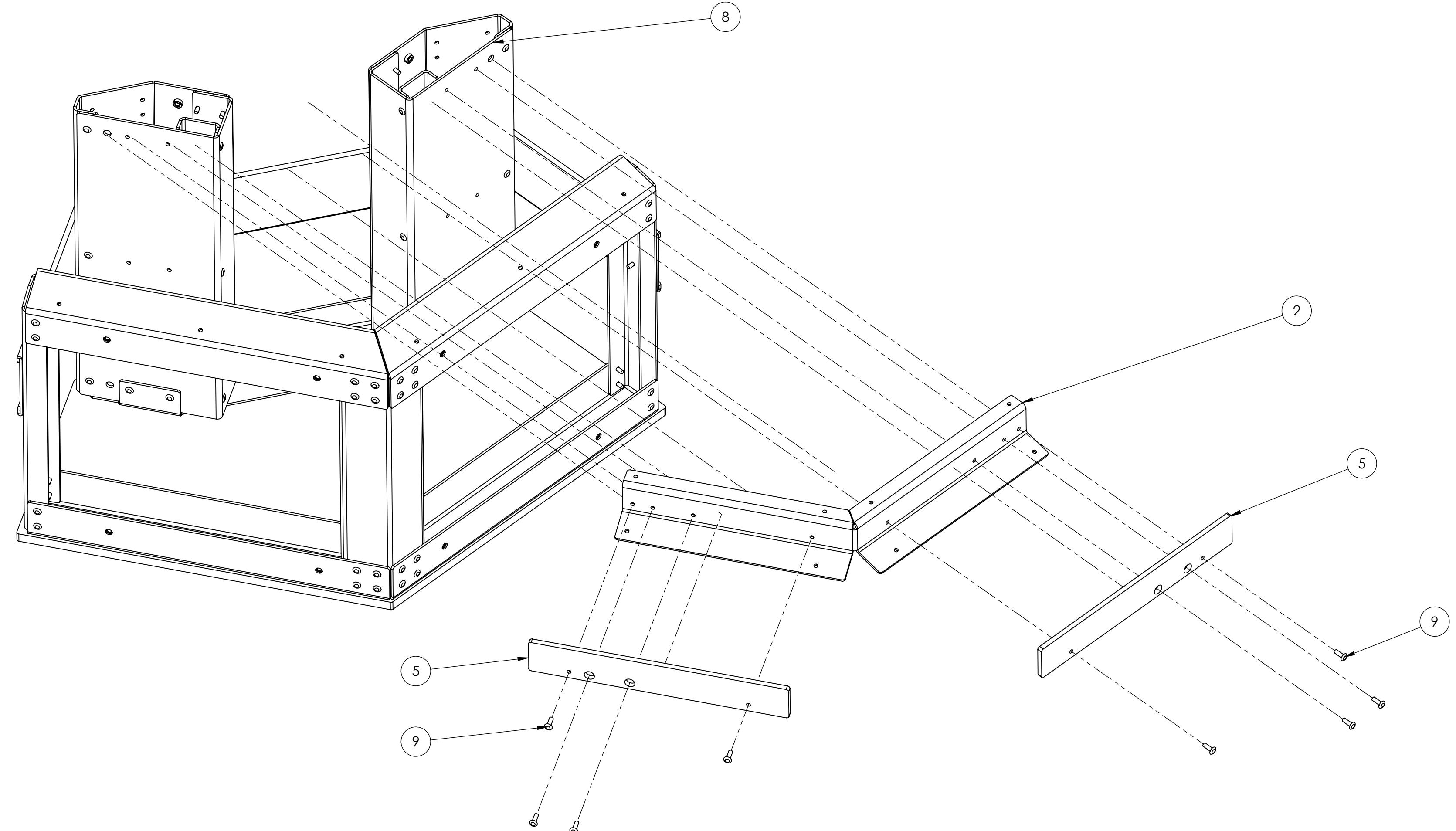
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ATTACH 2X (5) TO (2) WITH 2X (9) EACH. THEN, ATTACH (2) TO (8) WITH 4X MORE (9).

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.

C GE-25310

REV

SCALE: 1:12 SHEET 3 OF 5

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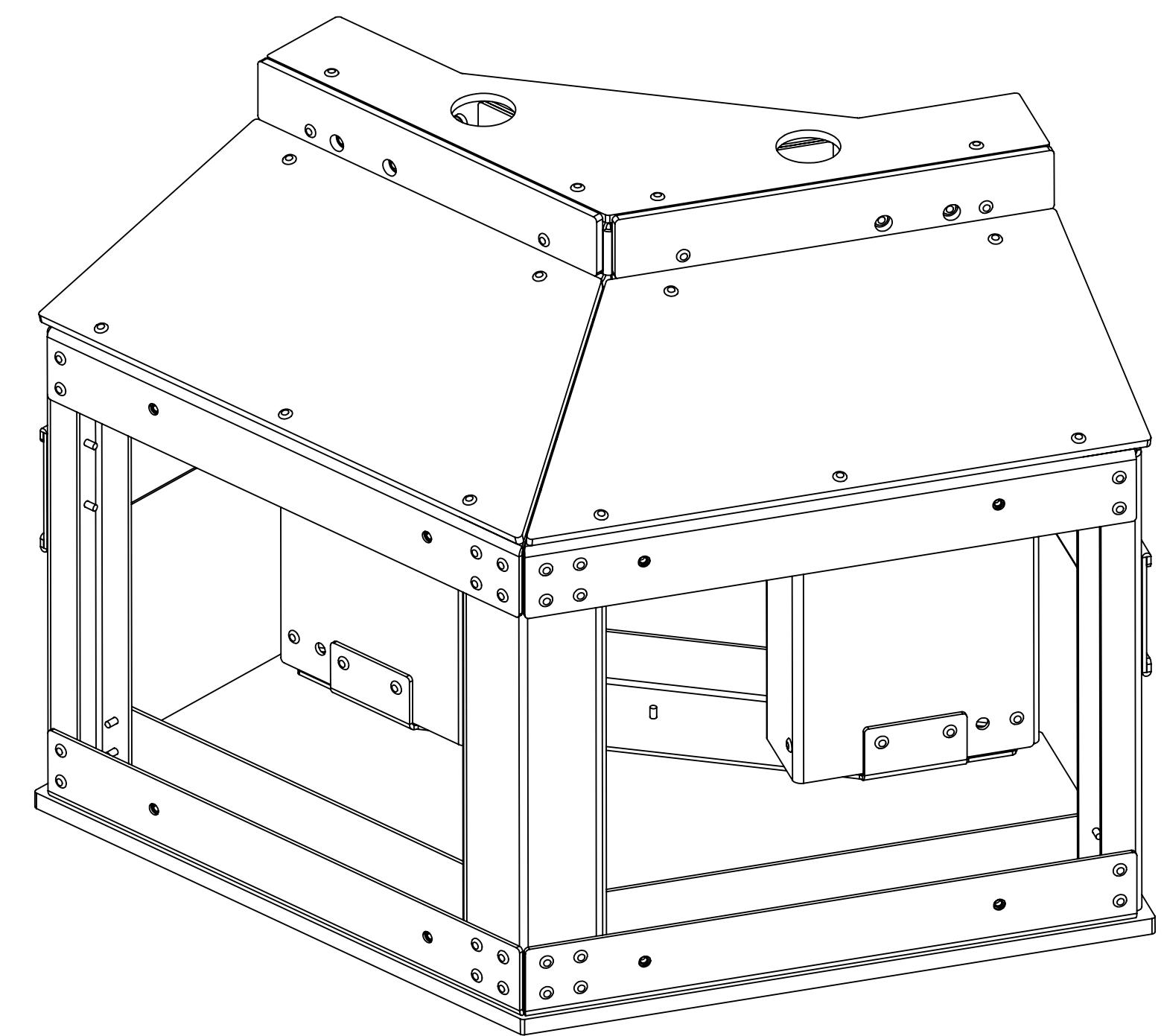
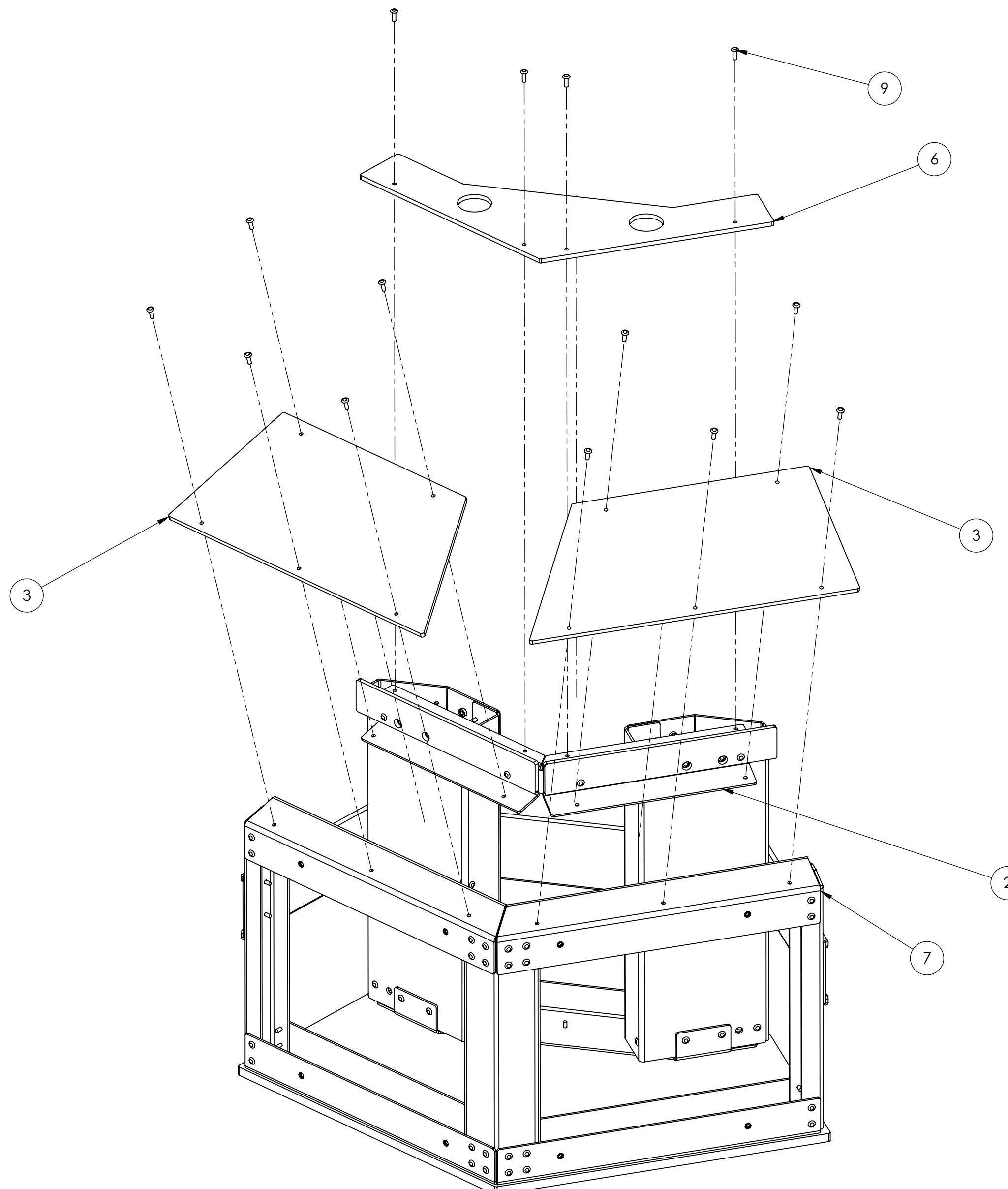
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FASTEN 2X (3) TO (2) AND (7) WITH 5X (9)
EACH. FINALLY, ATTACH (6) TO (2) WITH 4X (9)

UNLESS OTHERWISE SPECIFIED:			VEND	NAME	DATE	TITLE:	
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.							
MATERIAL/FINISH:							
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.							
DO NOT SCALE DRAWING							

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SCALE: 1:12 SHEET 4 OF 5

C GE-25310

SIZE DWG. NO. REV

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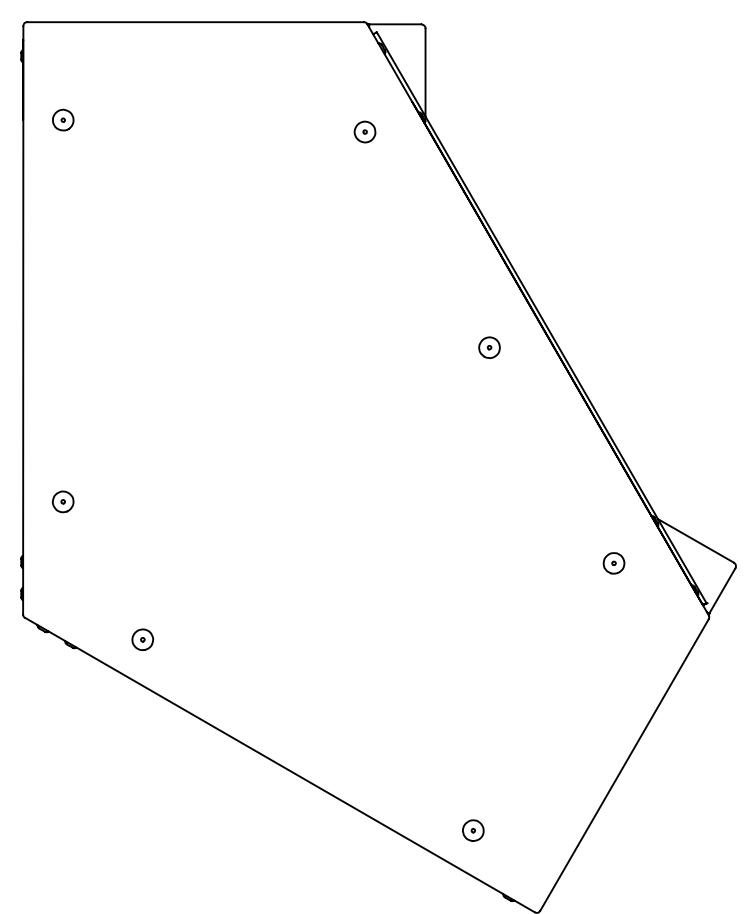
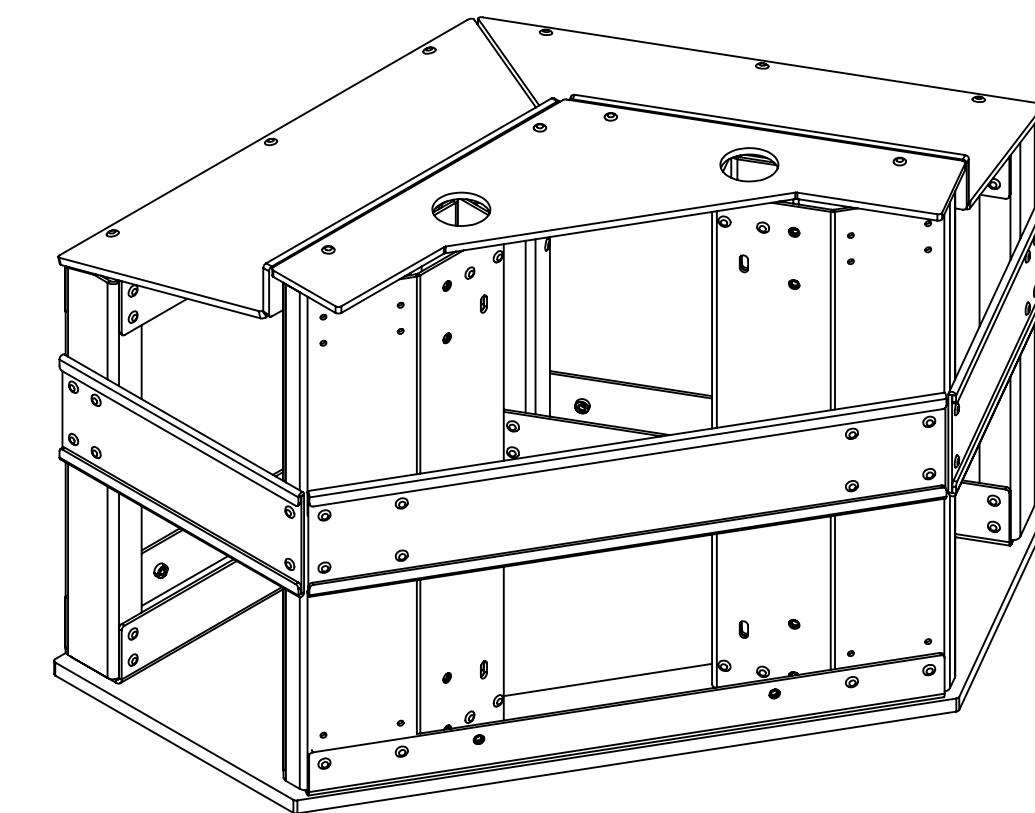
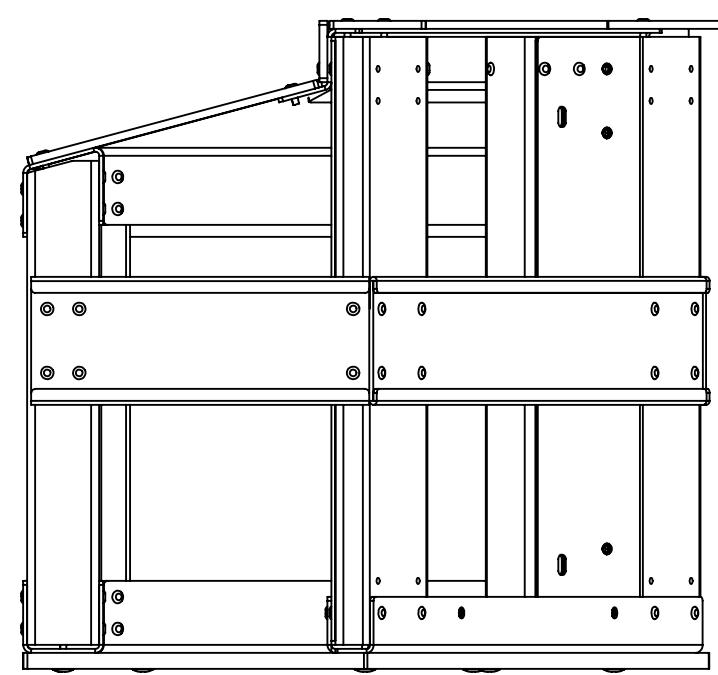
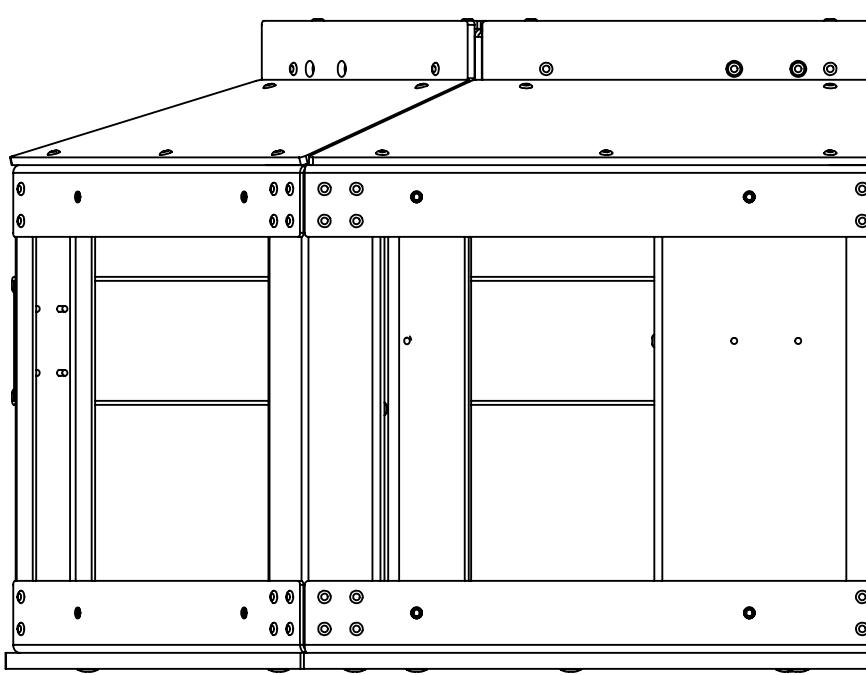
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UNLESS OTHERWISE SPECIFIED:

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:

PROPRIETARY AND CONFIDENTIAL
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PROHIBITED.

COMMENTS:
REMOVE ALL BURRS AND SHARP
EDGES.

DO NOT SCALE DRAWING

VEND NAME DATE

DRAWN NE 10/1/2024



TITLE:

Goal Slice Assembly

SIZE DWG. NO. REV

C GE-25310

SCALE: 1:6 SHEET 5 OF 5

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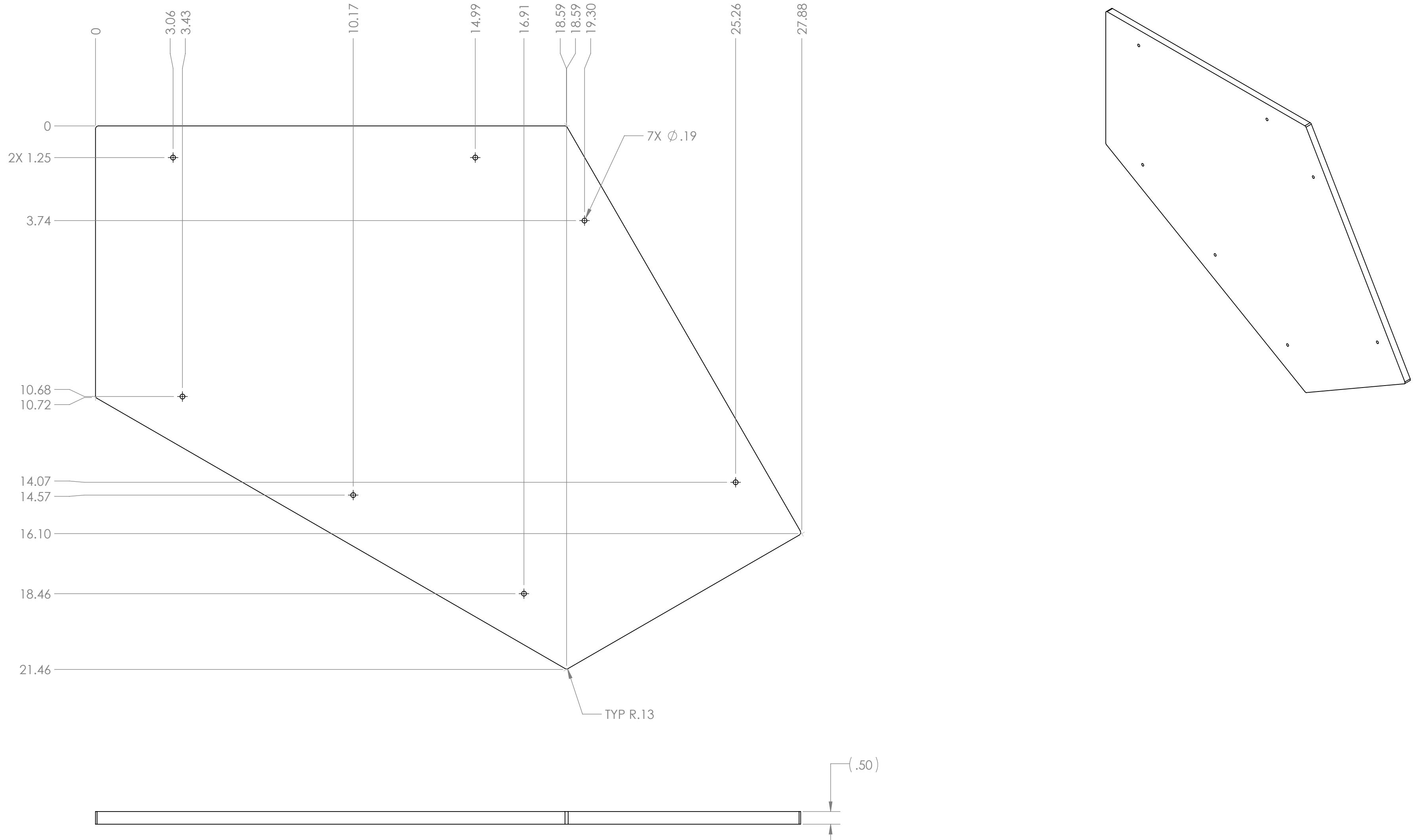
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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .01$
THREE PLACE DECIMAL $\pm .005$

DO NOT SCALE DRAWING

VEND NAME DATE
DRAWN NE 10/1/2024

PROPRIETARY AND CONFIDENTIAL
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MATERIAL/FINISH:
0.5" HDPE, Black Matte Finish

COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

FIRST ROBOTICS COMPETITION DS SOLIDWORKS Modeling Solutions Partner

TITLE: Slice Base

SIZE	DWG. NO.	REV
C	GE-25311	

SCALE: 1:3 SHEET 1 OF 1

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NOTE: ALL FEATURES ARE MIRRORED ACROSS DRAWN LINE

Front View:

- Vertical height: 11.36, 10.93, 9.85
- Bottom horizontal width: .50
- Bottom vertical height: 0
- Bottom horizontal width: 0
- Bottom vertical height: .38, 1.00
- Bottom horizontal width: TYP R.13
- Top horizontal width: 2X $\phi .194 \pm 0.002$
- Angle: 60°

Top View:

- Left vertical height: (1.00)
- Right vertical height: TYP R.13
- Bottom horizontal width: 1.65
- Bottom vertical height: (.13)
- Bottom horizontal width: 105°
- Bottom vertical height: A
- Bottom horizontal width: A

View A-A:

- Vertical height: 0
- Vertical height: .50
- Vertical height: 0
- Vertical height: 2X $\phi .194 \pm 0.002$
- Vertical height: 9.85
- Vertical height: 11.39
- Bottom horizontal width: TYP R.13

The technical drawing illustrates a mechanical component with the following dimensions and features:

- Vertical height: 0
- Left side height: 0
- Left side width: .50
- Left side thickness: 1.50
- Width of main body: 3.50
- Right side height: 9.38
- Right side thickness: 11.50
- Bottom left corner height: 0
- Bottom left corner width: 1.25
- Bottom left corner thickness: 1.66
- Bottom left corner hole diameter: $\phi .194 \pm 0.002$
- Bottom left corner hole depth: (2.29)

A technical line drawing of a U-shaped metal bracket. The bracket consists of three main parts: a vertical leg on the left, a horizontal base at the bottom, and a diagonal support on the right. The vertical leg has two circular holes near its top edge. The horizontal base has four circular holes arranged in a cross pattern. The diagonal support has two circular holes near its top edge. All components are drawn with thin black lines on a white background.

VIEW A-A

UNLESS OTHERWISE SPECIFIED:		BEND	NAME	DATE
		DRAWN	NE	10/1/2024
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 $\pm .010$		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.		
MATERIAL/FINISH: 8GA 5052 Aluminum		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING		TITLE: Trough Floor Bracket		
		SIZE	DWG. NO.	REV
		C	GE-25312	
		SCALE: 2:7		SHEET 1 OF 1

REVISIONS

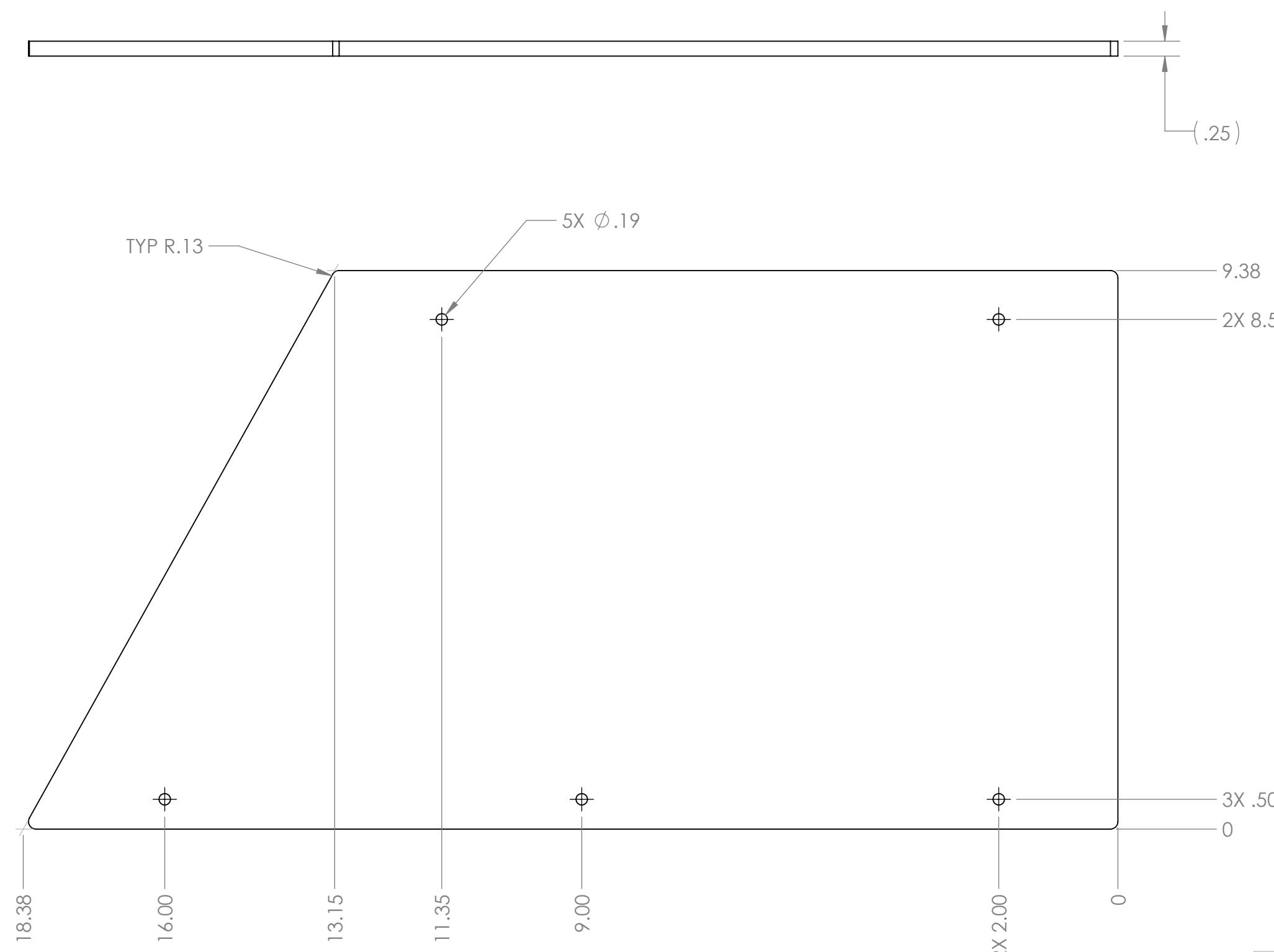
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3	A	GEOMETRY CHANGE FOR HOLE LOCATION	11/8/2024	NWE

D D

C C

B B

A 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 $\pm .01$ 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



SOLIDWORKS

Modeling Solutions Partner

TITLE:

Trough Floor

SIZE

DWG. NO.

REV

C

GE-25313

A

SCALE: 1:2

SHEET 1 OF 1

4

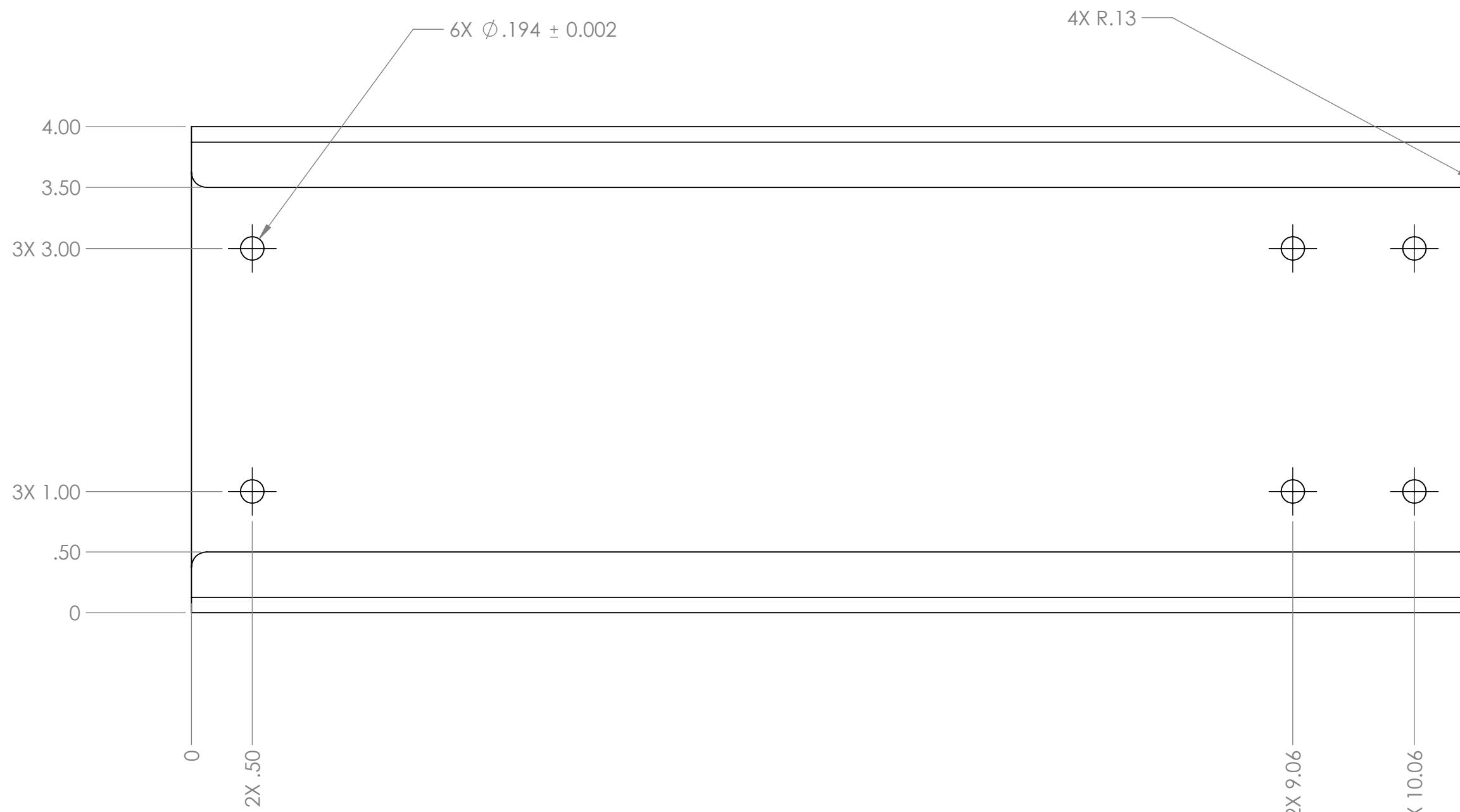
3

2

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D

D



C

C

B

B

A

A

UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	NE	10/1/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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

TITLE:
Slice Outside Depth Support

SIZE DWG. NO. REV
C GE-25314

SCALE: 1:1 SHEET 1 OF 1

4

3

2

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4

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D

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C

C

4X R.13
12.88

10.88

9.88

7.88

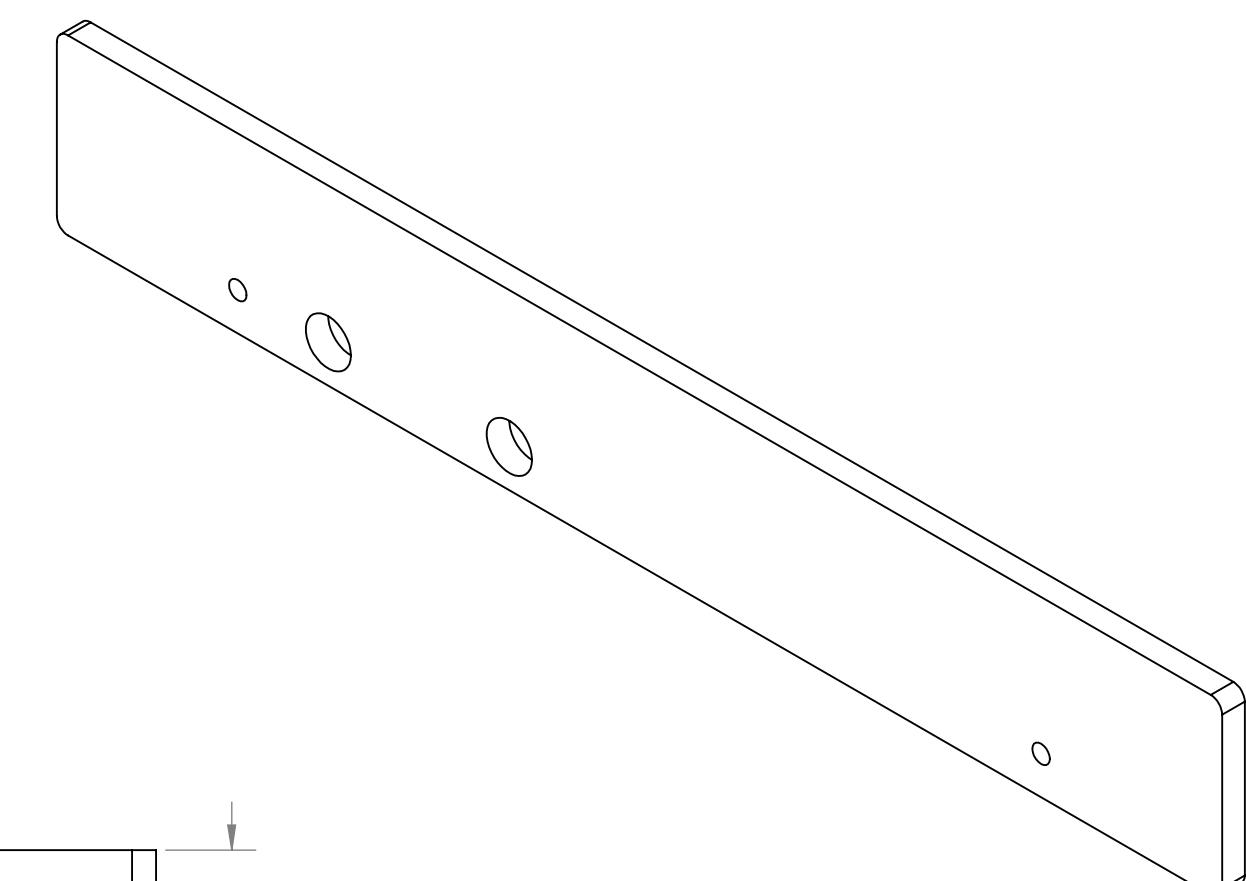
2X $\phi .194 \pm 0.002$ 2X $\phi .50$

1.91

4X .41

0

2.00



UNLESS OTHERWISE SPECIFIED:	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.			
MATERIAL/FINISH:	SIZE	DWG. NO.	REV
0.25" HDPE, Black Matte Finish	C	GE-25315	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 1:1	SHEET 1 OF 1	

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Trough Back

4

3

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4

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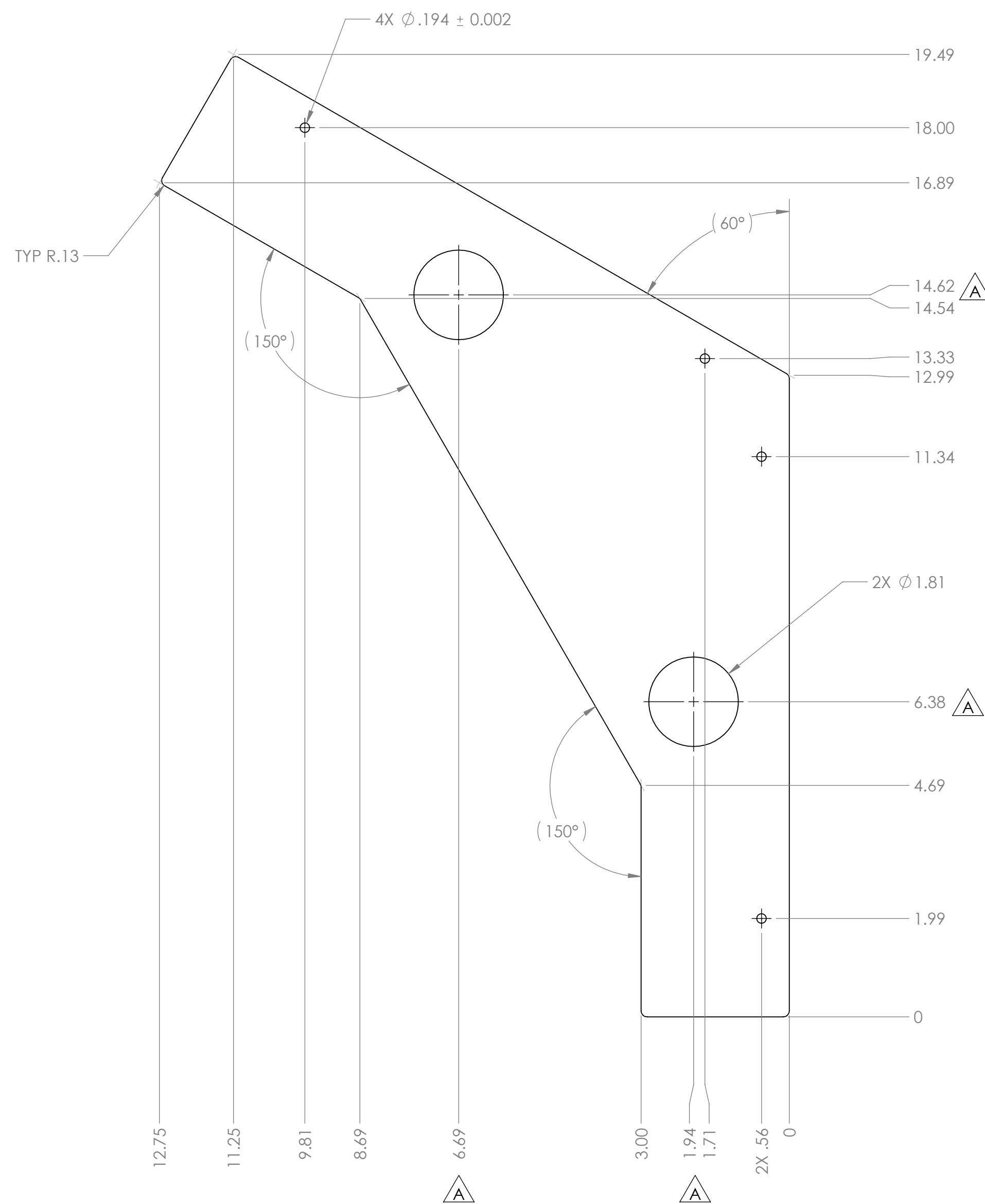
C

B

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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 $\pm .01$
THREE PLACE DECIMAL $\pm .005$

MATERIAL/FINISH:

0.25" HDPE, Black Matte Finish

COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

VEND

NAME

DATE

DRAWN

NE

10/1/2024

PROPRIETARY AND CONFIDENTIAL

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SOLIDWORKS
Modeling Solutions Partner

TITLE: Slice Top Cover

SIZE DWG. NO. REV

C GE-25316 A

SCALE: 1:2 SHEET 1 OF 1

4

3

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1

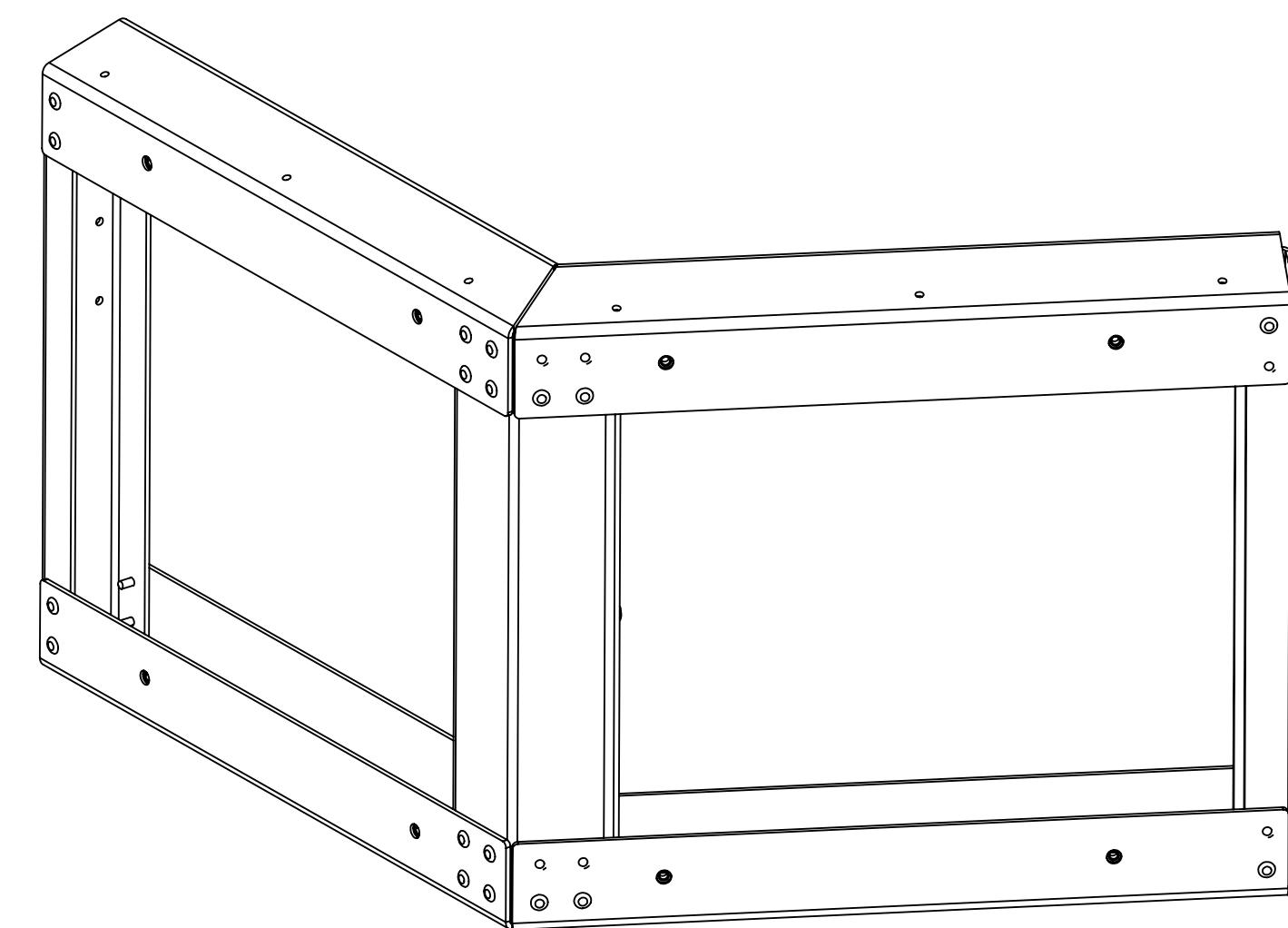
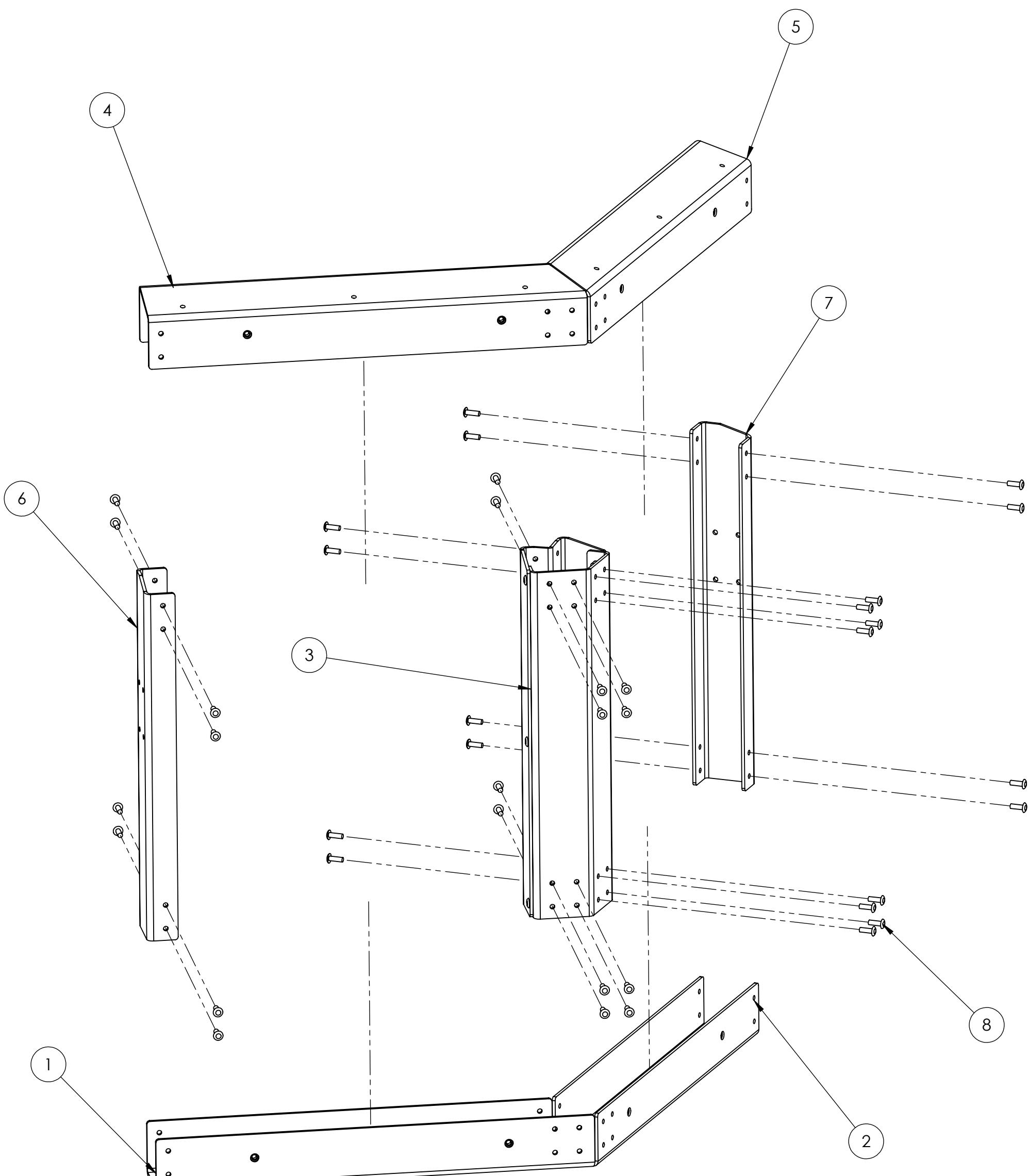
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3

2

1

D



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

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.

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

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.		
SIZE	DWG. NO.	REV
C	GE-25320	
SCALE: 1:4	SHEET 1 OF 1	

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

TITLE:
**Outer Slice
Assembly**

4

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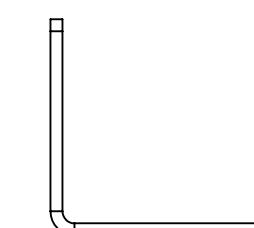
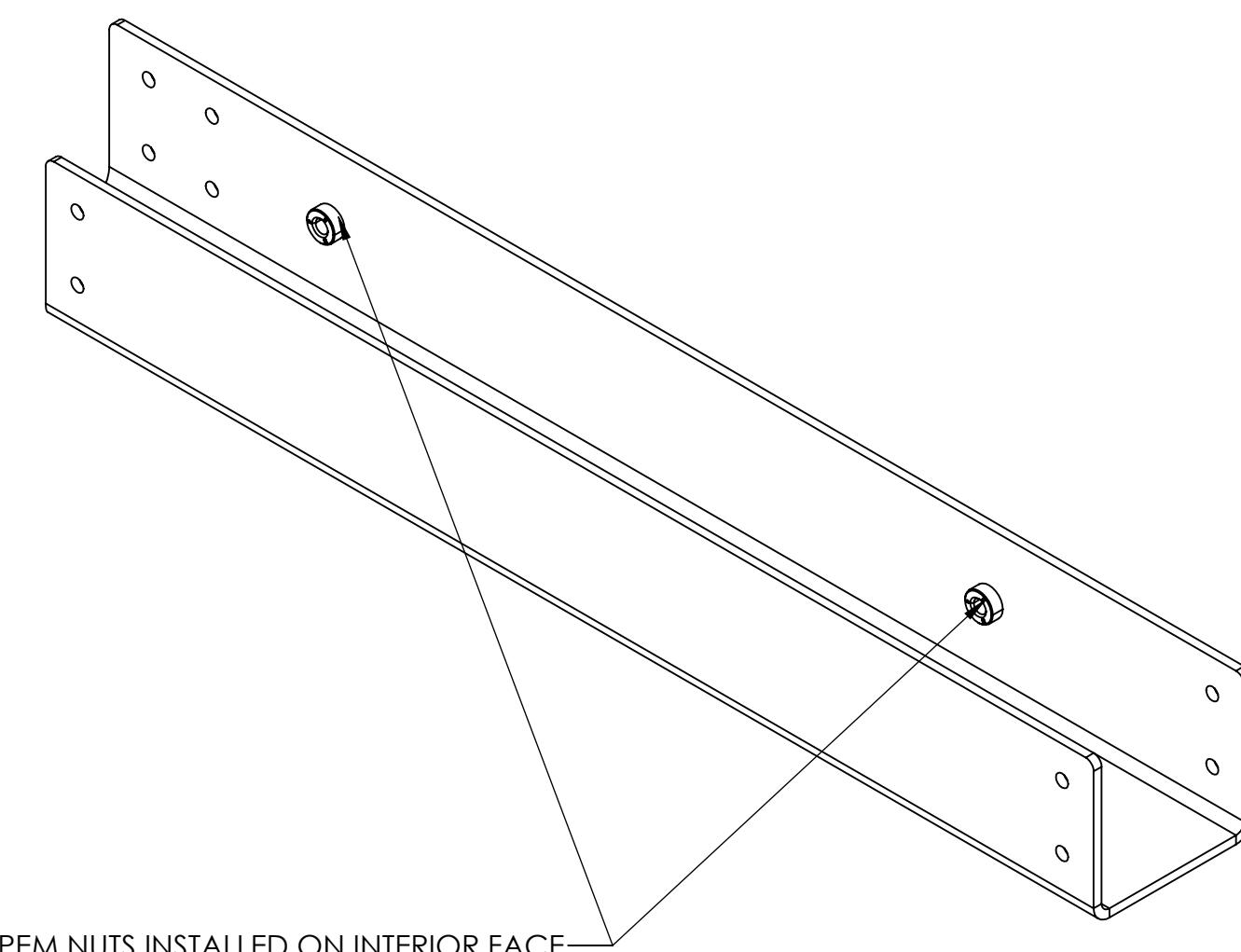
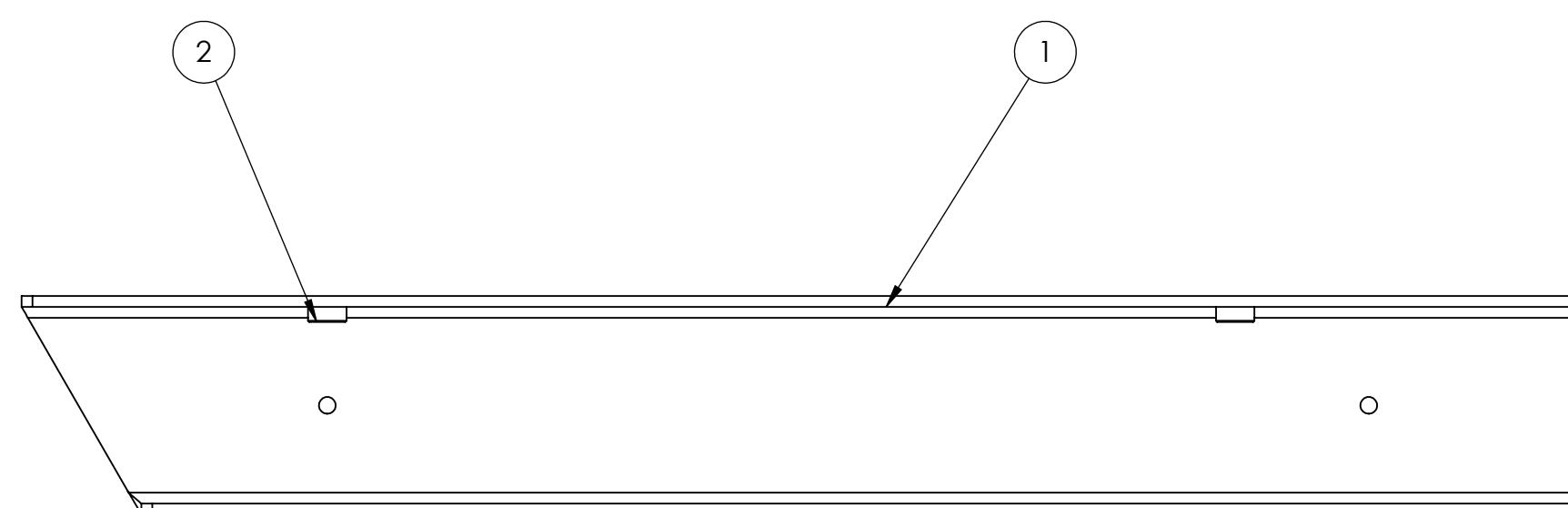
C

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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:		VEND	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	NE	9/30/2024
PROPRIETARY AND CONFIDENTIAL				

FRACTIONAL $\pm 1/16$	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.		
ANGULAR: MACH $\pm 1^\circ$			
TWO PLACE DECIMAL $\pm .01$			
THREE PLACE DECIMAL $\pm .005$			
MATERIAL/FINISH:			

COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING		SIZE	DWG. NO.
C	GE-25321	REV	
SCALE: 1:2	SHEET 1 OF 1		



TITLE:

Outer Slice Left Bottom
Channel W PEMsSIZE DWG. NO. REV
C GE-25321

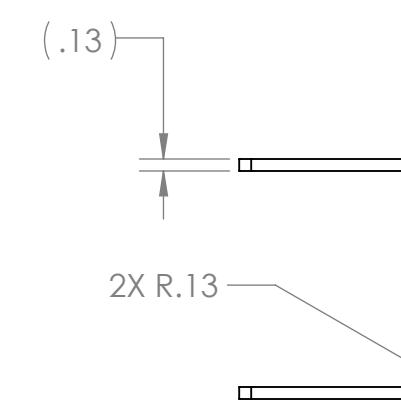
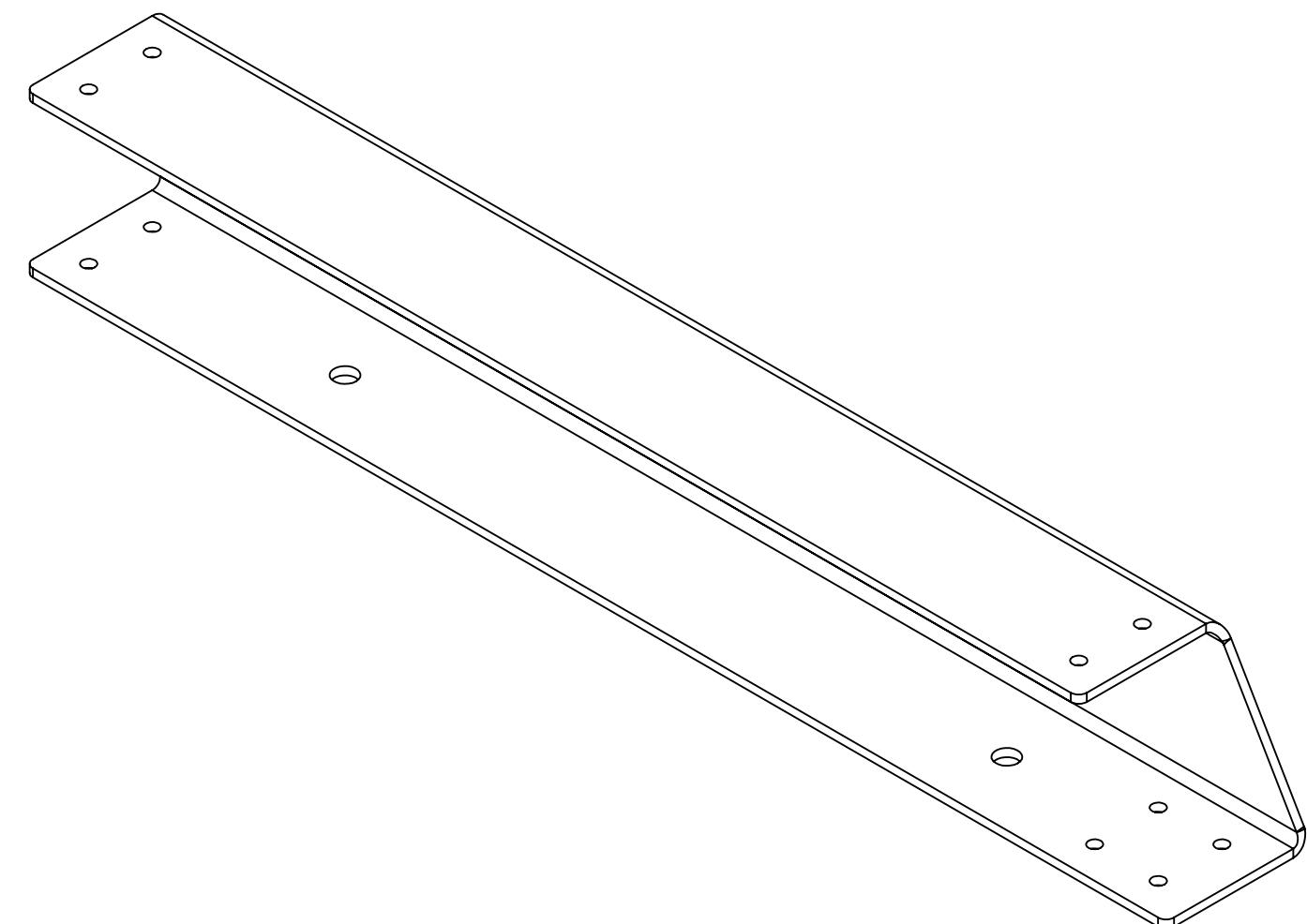
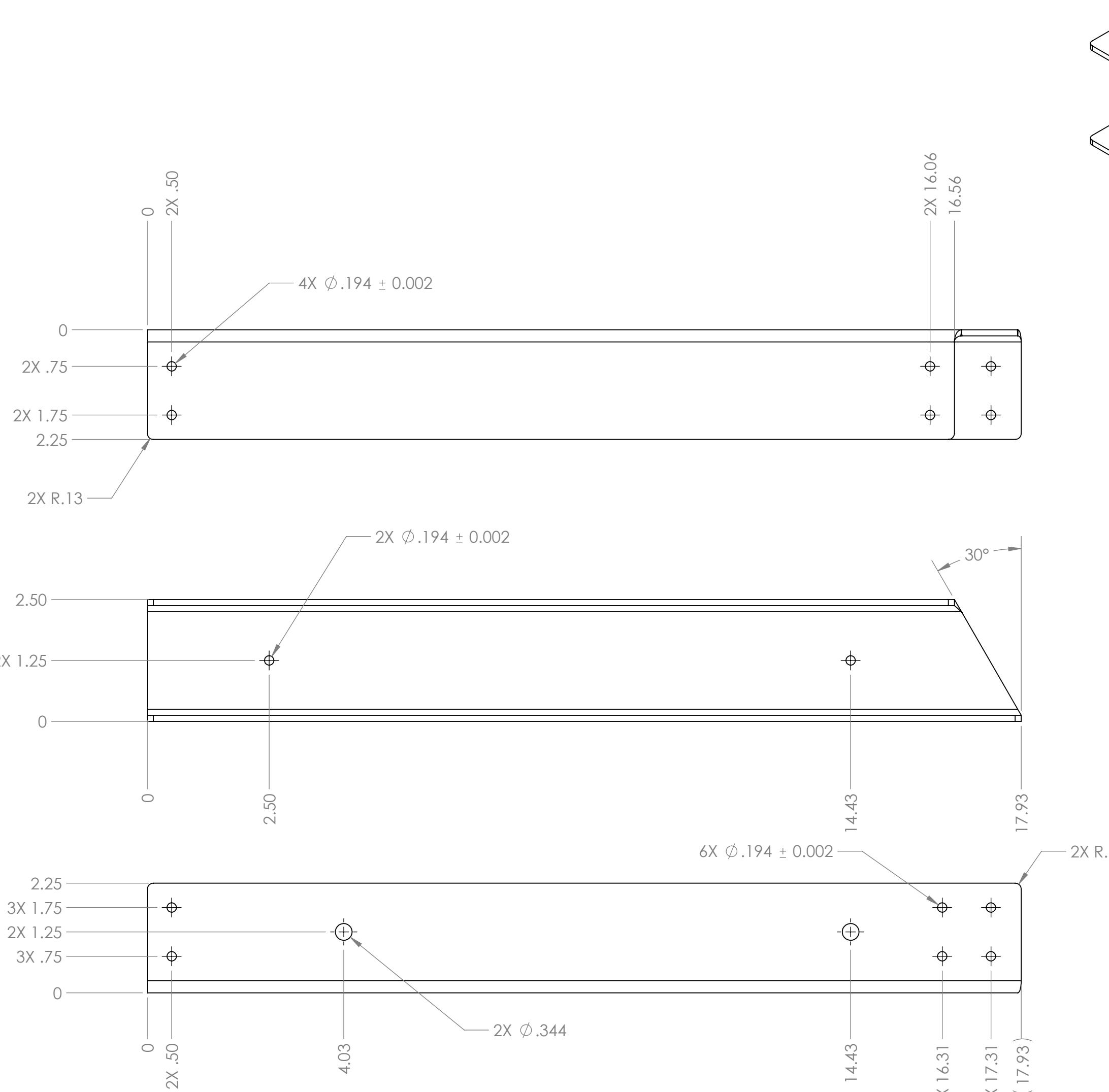
SCALE: 1:2 SHEET 1 OF 1

4

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1



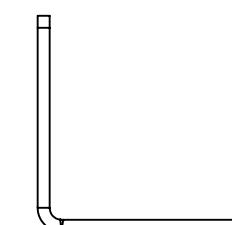
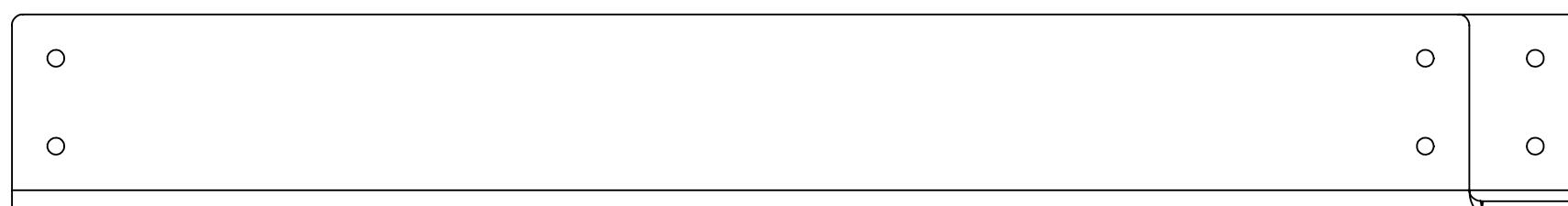
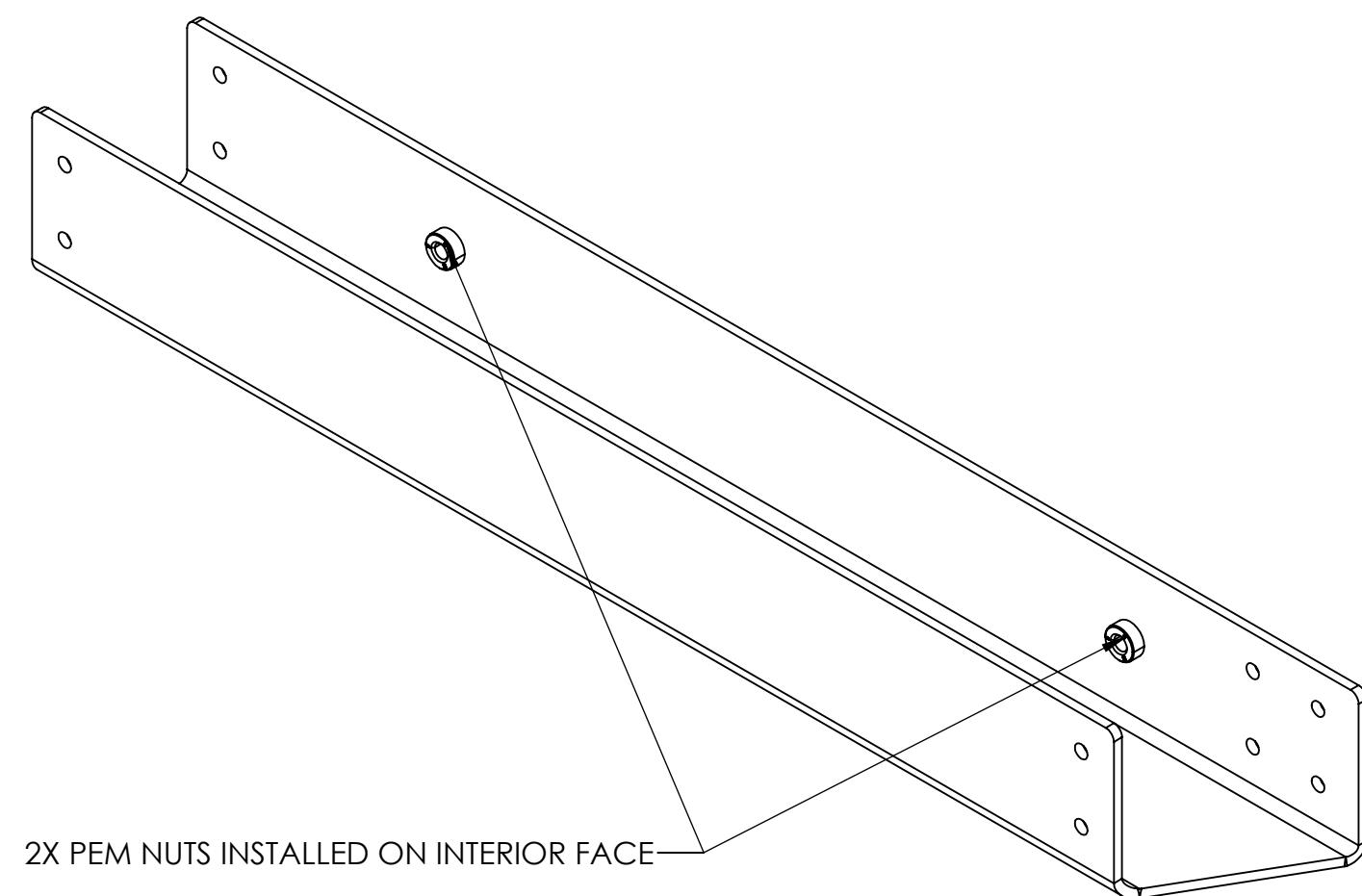
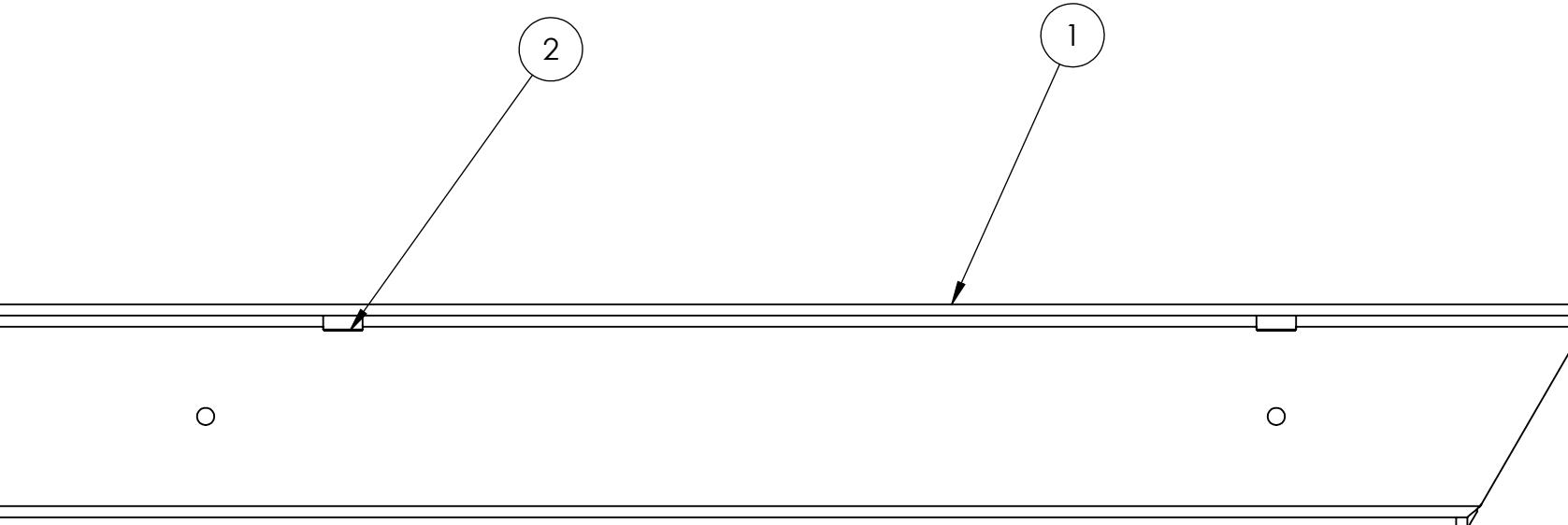
UNLESS OTHERWISE SPECIFIED:		BEND	NAME	DATE
		DRAWN	NE	9/30/2024
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING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

4

3

2

1



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:			VEND	NAME	DATE
			DRAWN	NE	9/30/2024
PROPRIETARY AND CONFIDENTIAL					
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COMMENTS:					
REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions Partner
 TITLE: Outer Slice Right Bottom Channel W PEMs
 SIZE DWG. NO. REV
C GE-25322
 SCALE: 1:2 SHEET 1 OF 1

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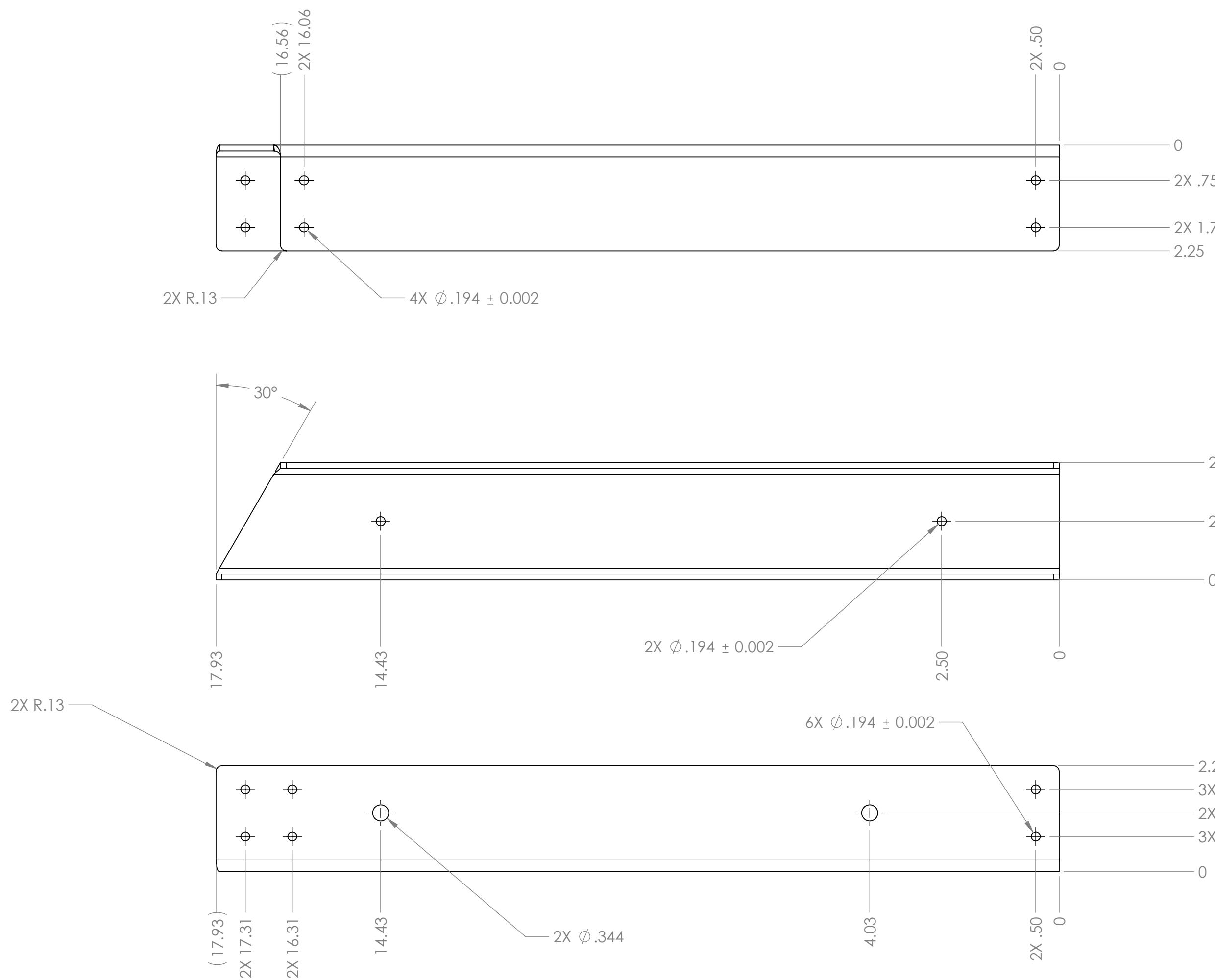
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	NE	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Outer Slice Right
Bottom Channel**

SIZE DWG. NO. REV
C GE-25322-01

SCALE: 1:2 SHEET 1 OF 1

4

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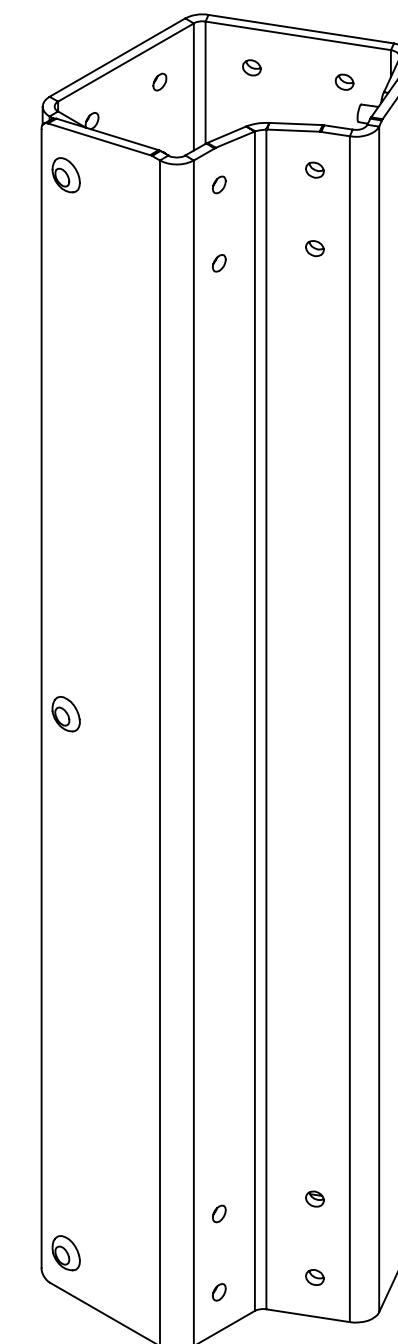
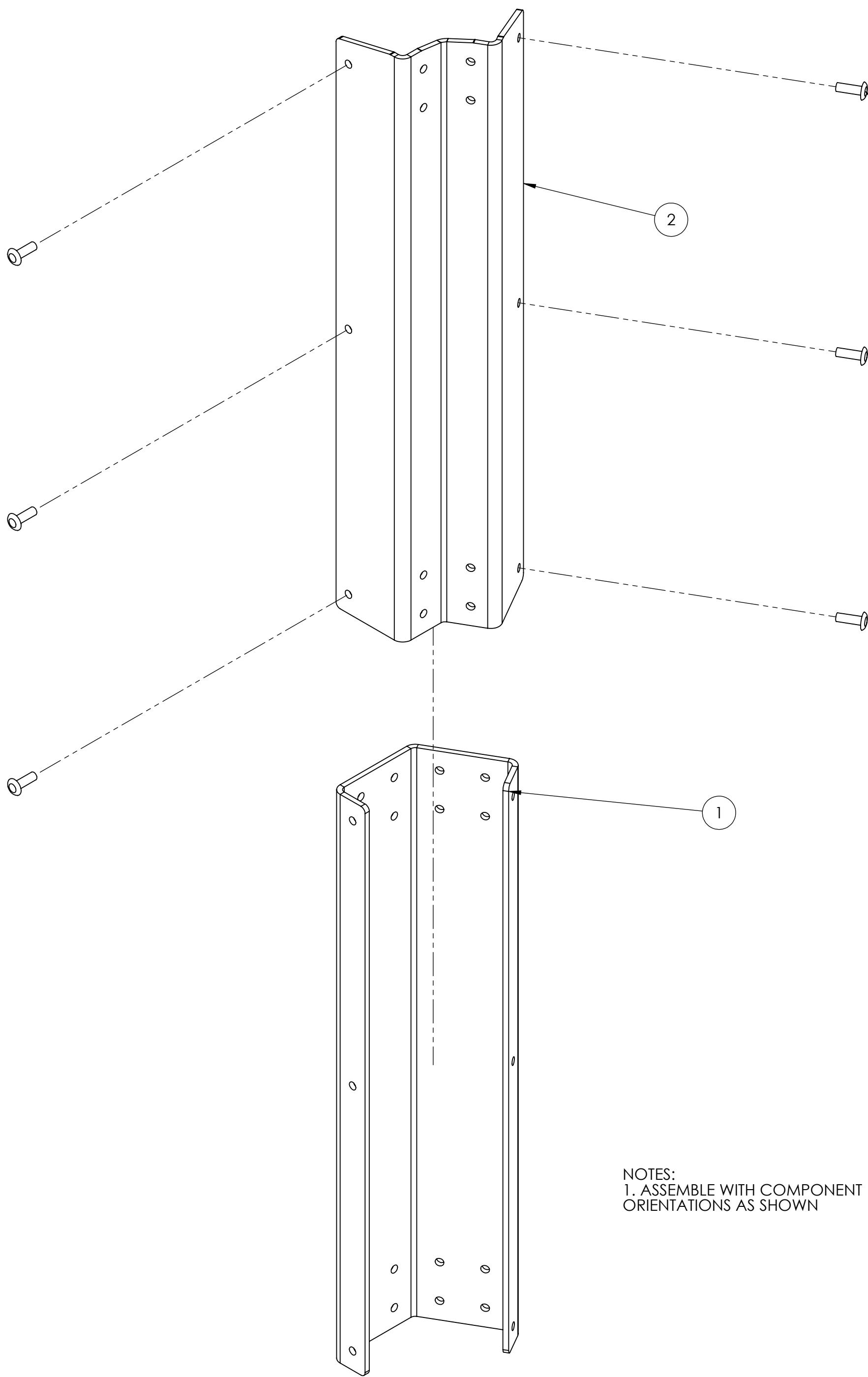
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25324	Outer Slice Center Vertical Outer	1
2	GE-25325	Outer Slice Center Vertical Inner	1
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	6

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	NE	9/30/2024
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST ROBOTICS COMPETITION	SOLIDWORKS Modeling Solutions Partner	
TITLE: Outer Slice Center Vertical		
SIZE	DWG. NO.	REV
C	GE-25323	
SCALE: 1:2		SHEET 1 OF 1

4

3

2

1

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D

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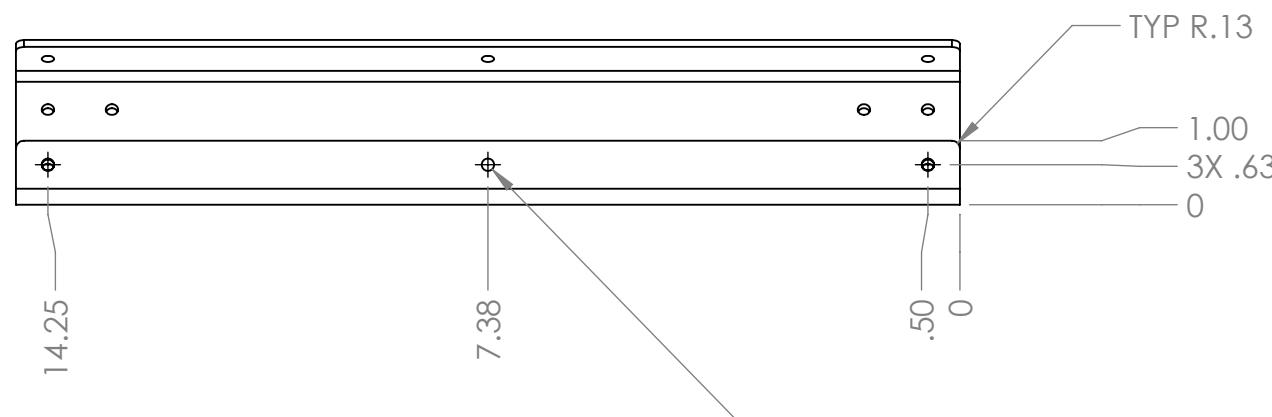
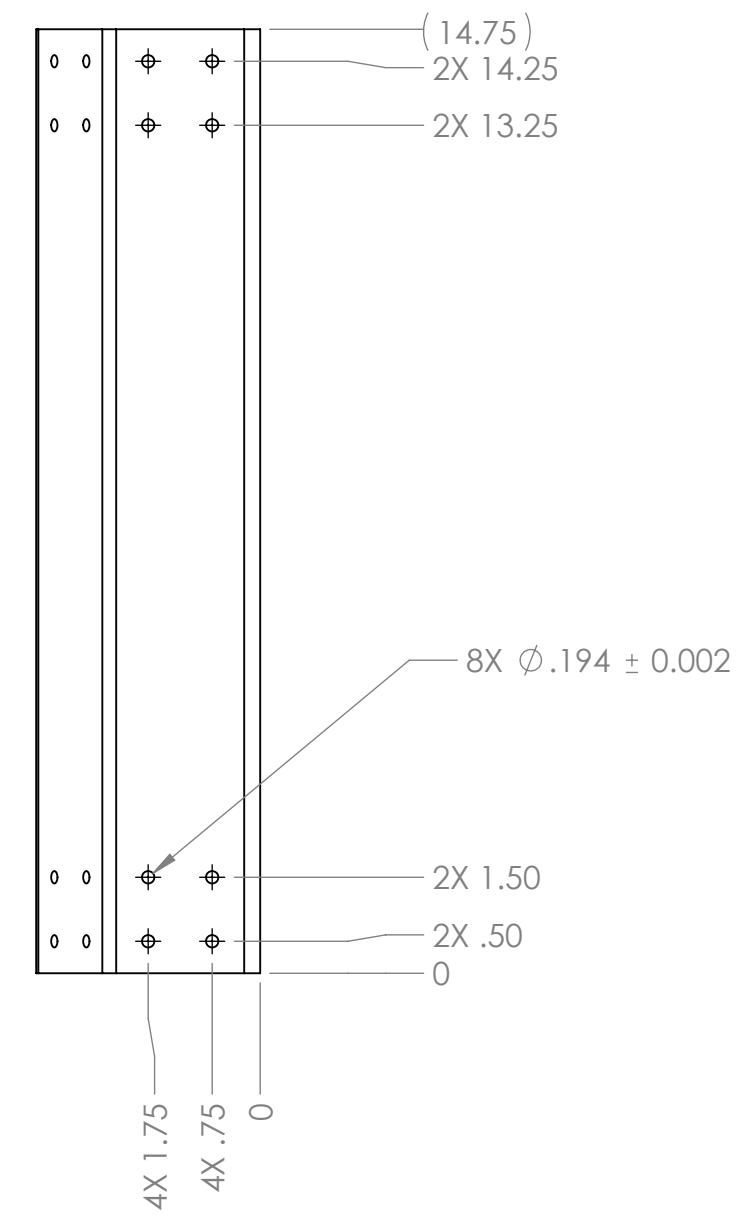
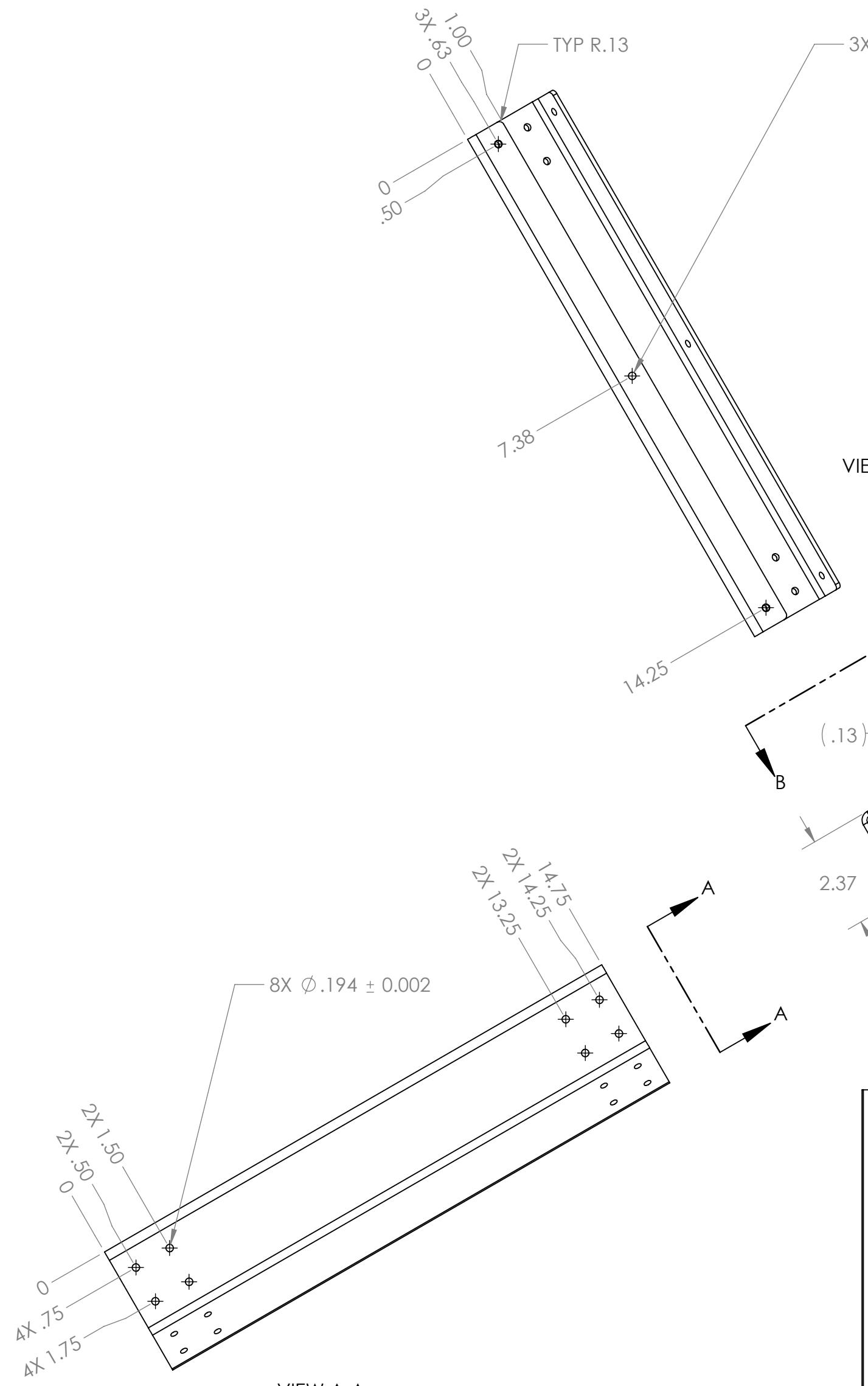
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UNLESS OTHERWISE SPECIFIED:			BEND	NAME	DATE
			DRAWN	NE	9/30/2024
PROPRIETARY AND CONFIDENTIAL					
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MATERIAL/FINISH: 8GA 5052 Aluminum					
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Outer Slice Center
Vertical Outer

SIZE DWG. NO. REV

C GE-25324

SCALE: 1:3 SHEET 1 OF 1

4

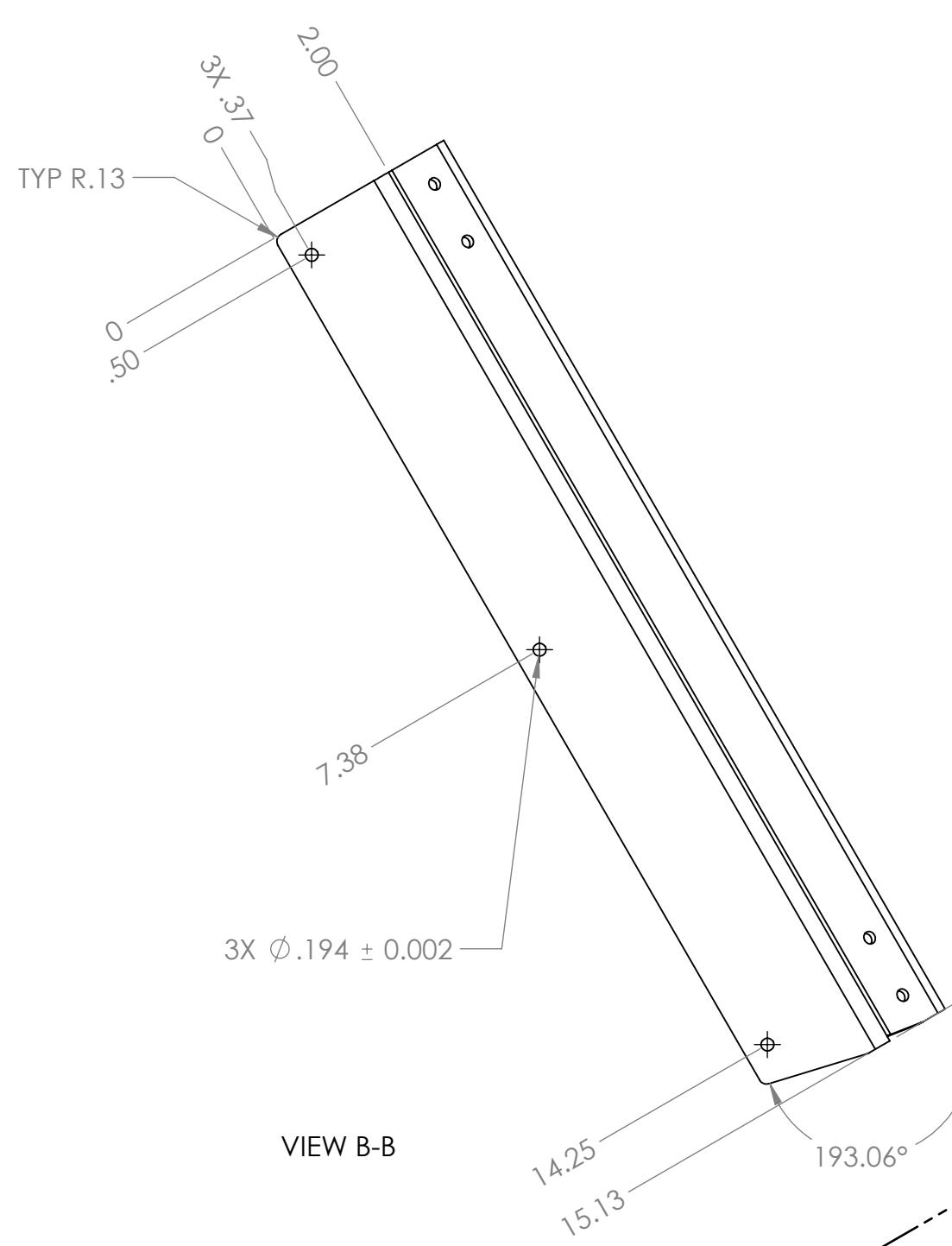
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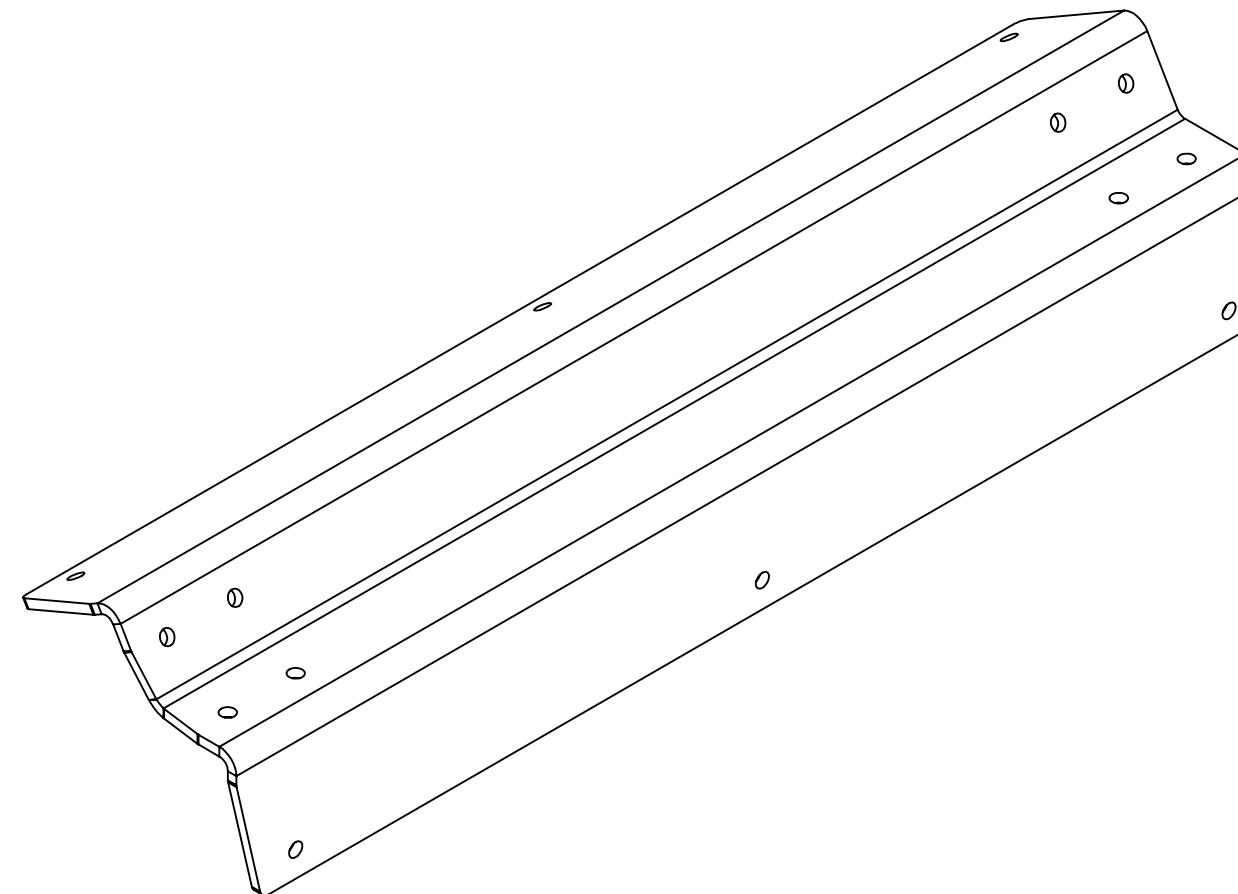
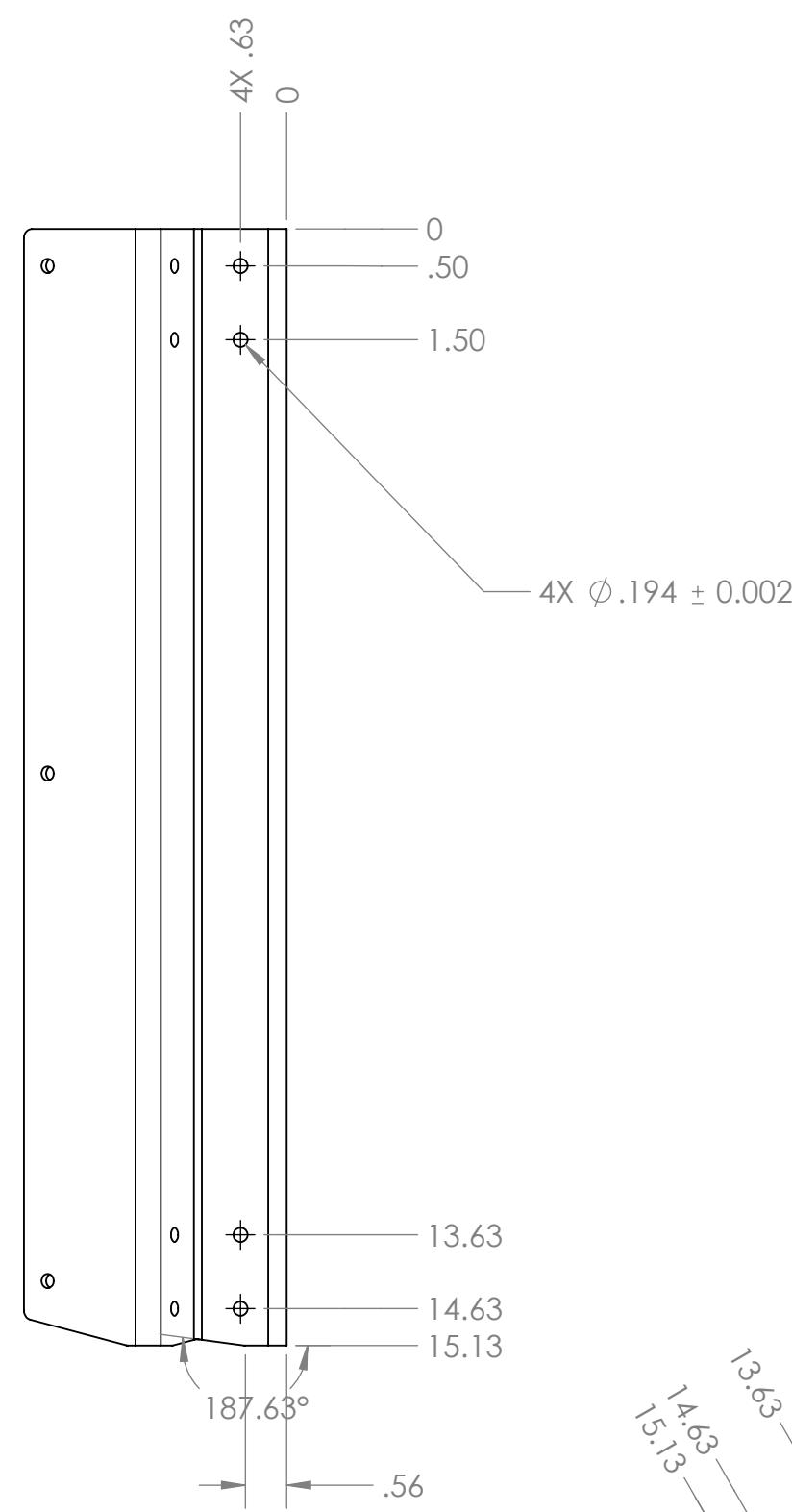
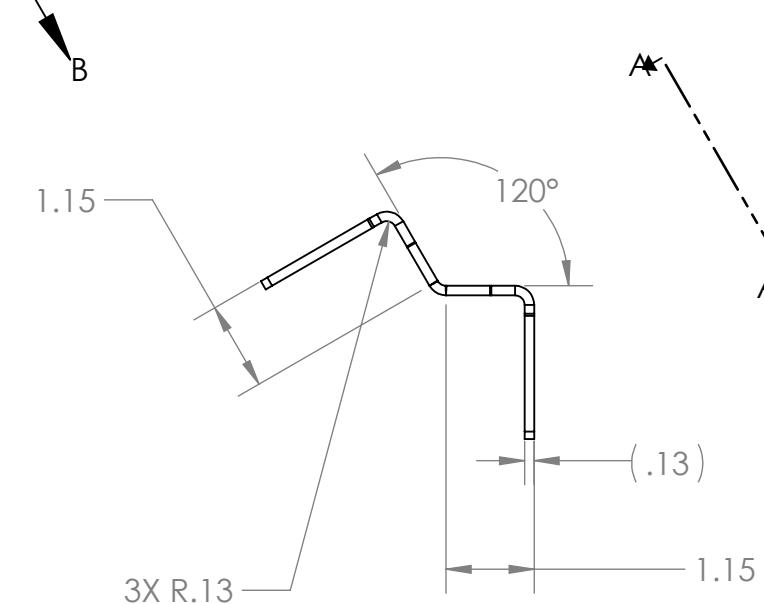
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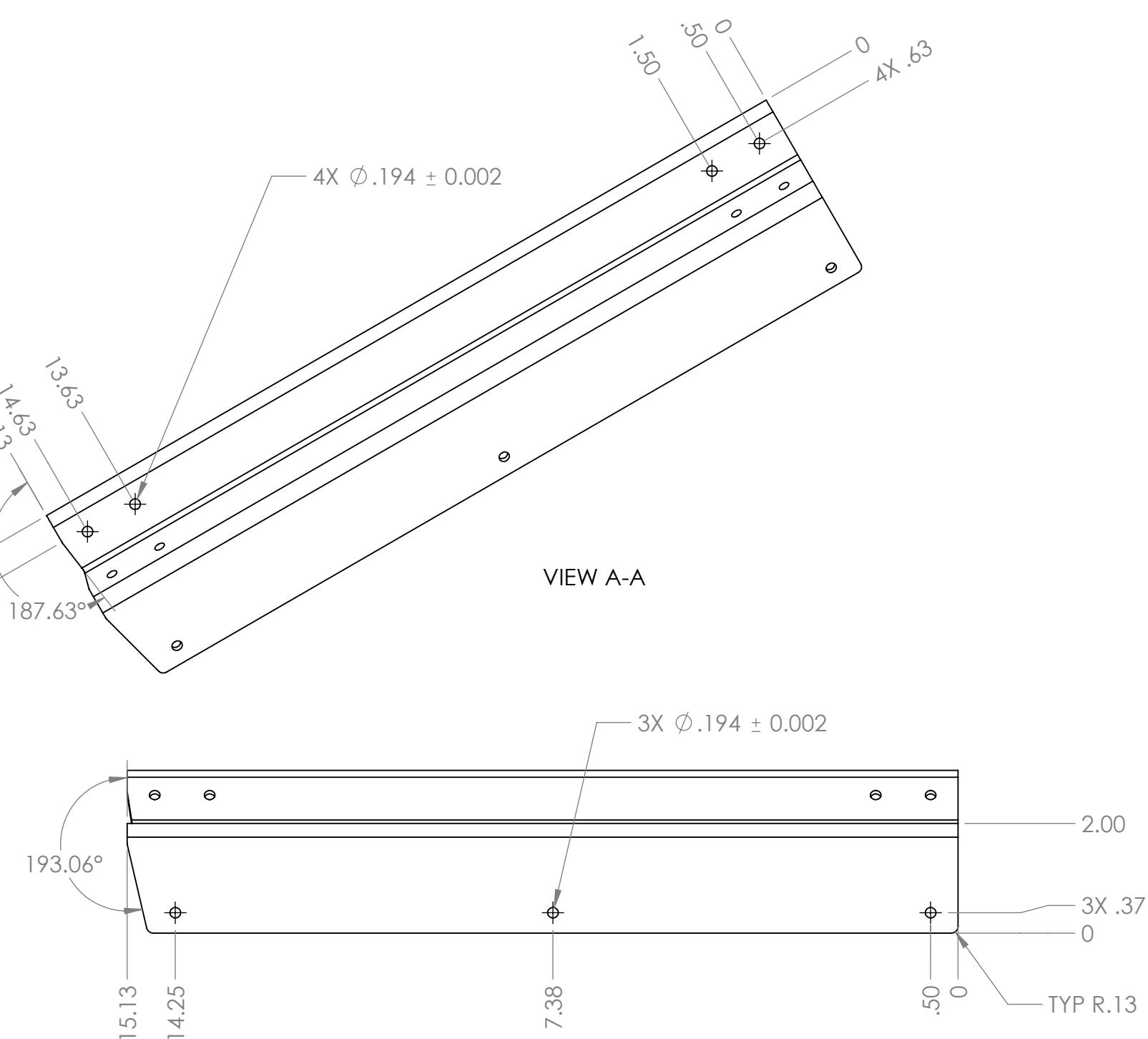


VIEW B-B

14.25
 15.13
 193.06°



VIEW A-A



UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	NE	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Outer Slice Center
Vertical Inner

SIZE DWG. NO. REV

C GE-25325

SCALE: 2:5 SHEET 1 OF 1

4

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D

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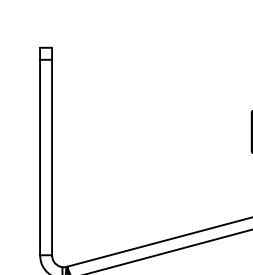
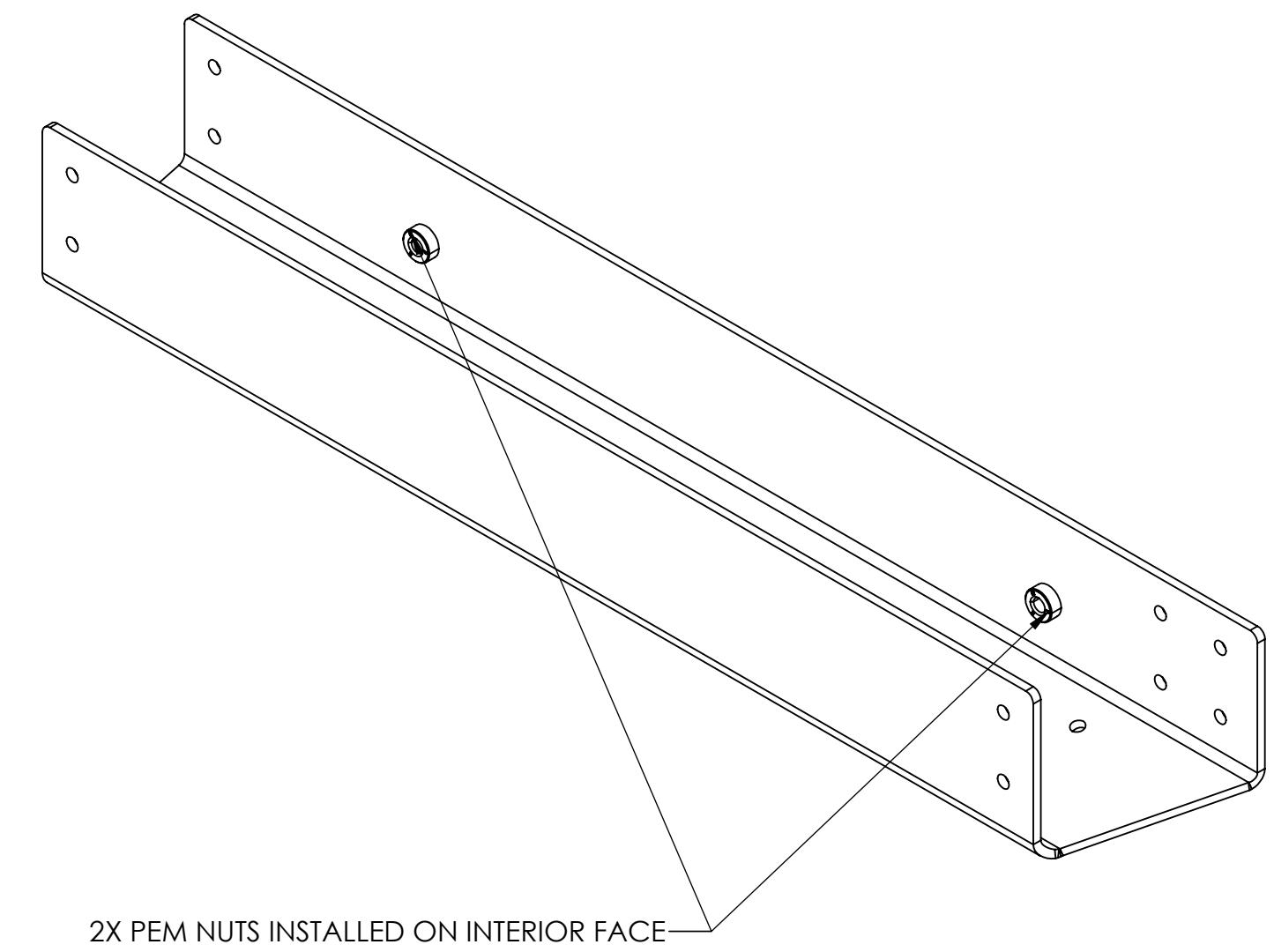
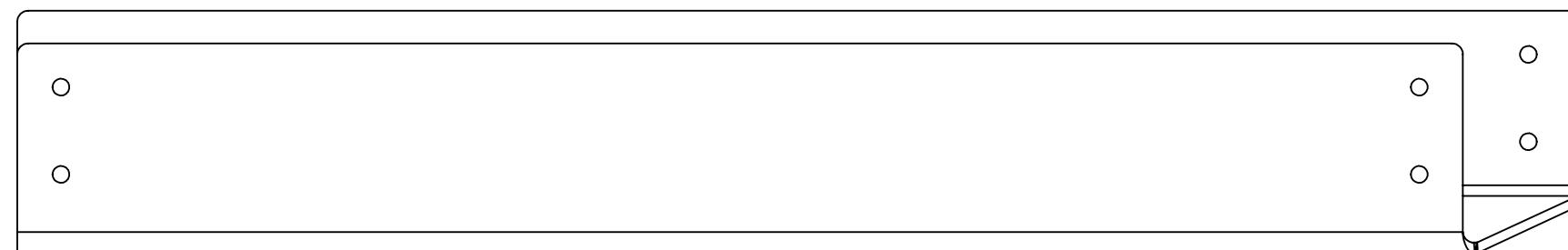
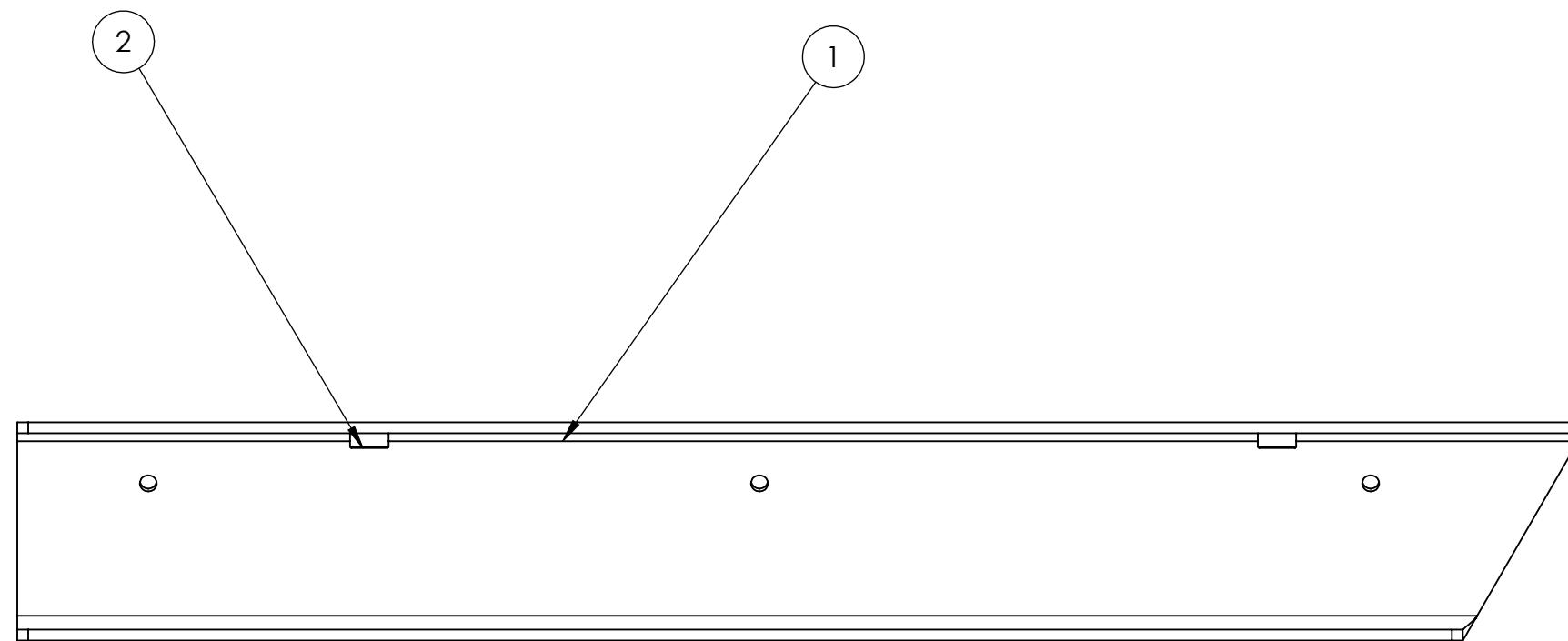
C

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A



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:	VEND	NAME	DATE
DRAWN	NE	9/30/2024	

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 $\pm .005$	PROPRIETARY AND CONFIDENTIAL	TITLE:
	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.	Outer Slice Left Top Channel W PEMs

MATERIAL/FINISH:	COMMENTS:	SIZE	DWG. NO.	REV
	REMOVE ALL BURRS AND SHARP EDGES.	C	GE-25326	
DO NOT SCALE DRAWING	SCALE: 1:2	SHEET 1 OF 1		

4

3

2

1

4

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1

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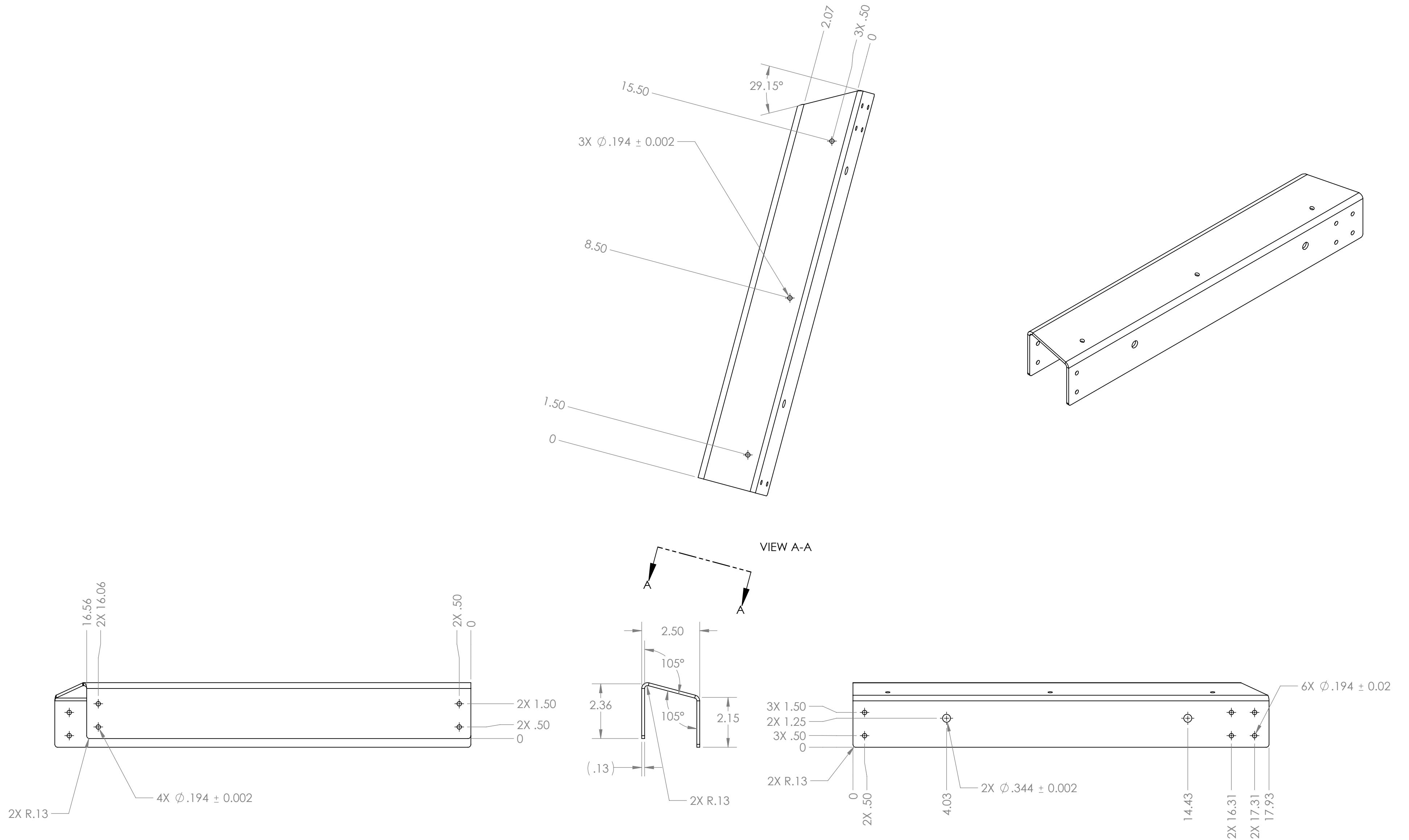
C

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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

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

MATERIAL/FINISH:

8GA 5052 Aluminum

DO NOT SCALE DRAWING

BEND NAME DATE
DRAWN NE 9/30/2024**PROPRIETARY AND CONFIDENTIAL**

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

FIRST[®] ROBOTICS COMPETITION DS SOLIDWORKS Modeling Solutions Partner

TITLE: Outer Slice Left Top Channel

SIZE DWG. NO. REV
C GE-25326-01

SCALE: 1:3 SHEET 1 OF 1

4

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D

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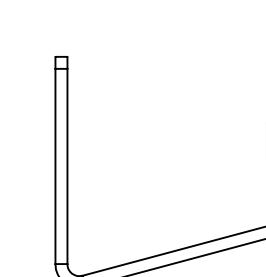
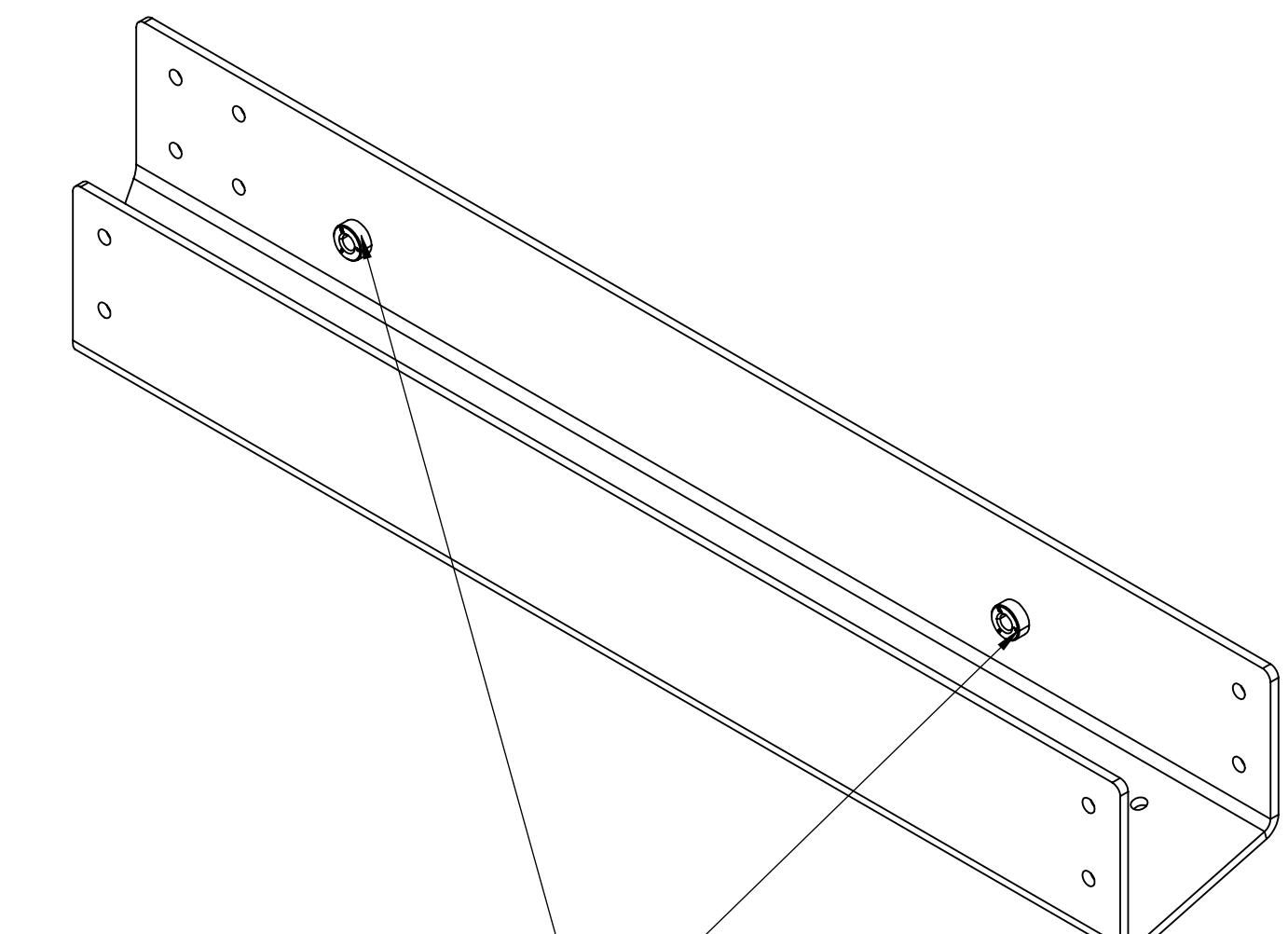
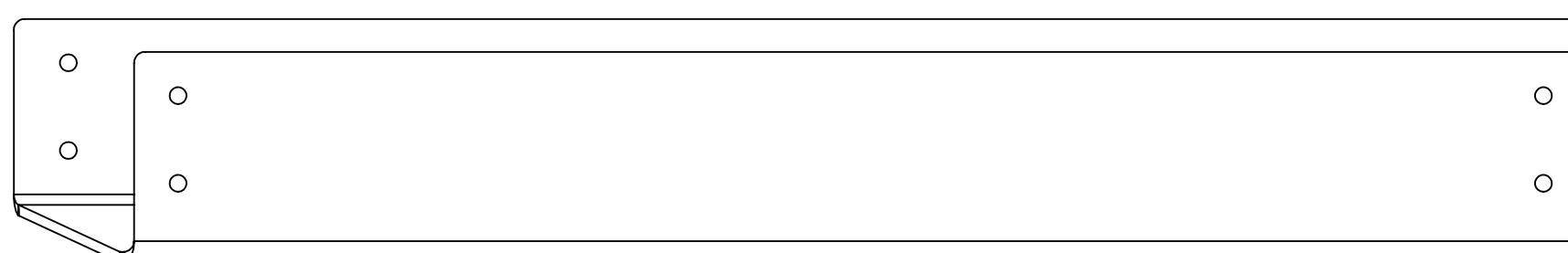
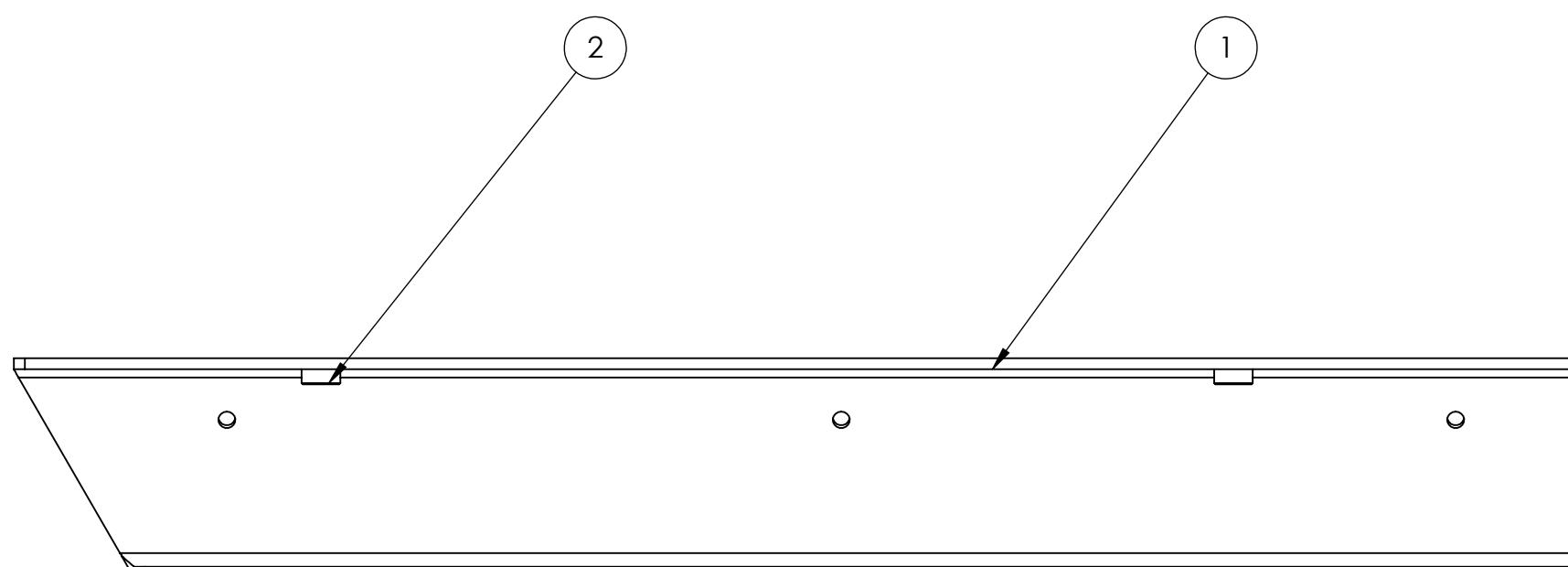
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25327-01	Outer Slice Right Top Channel	1
2	pem_clinchnut_.25_20 .054	1/4-20 self-clinching nut, .054 shank	2

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	NE	9/30/2024
PROPRIETARY AND CONFIDENTIAL				
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MATERIAL/FINISH:	COMMENTS:
	REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV
	C	GE-25327	

SCALE: 1:2	SHEET 1 OF 1
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FIRST
ROBOTICS
COMPETITION



SOLIDWORKS
Modeling Solutions Partner

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

SIZE DWG. NO. REV

C GE-25327

SCALE: 1:2 SHEET 1 OF 1

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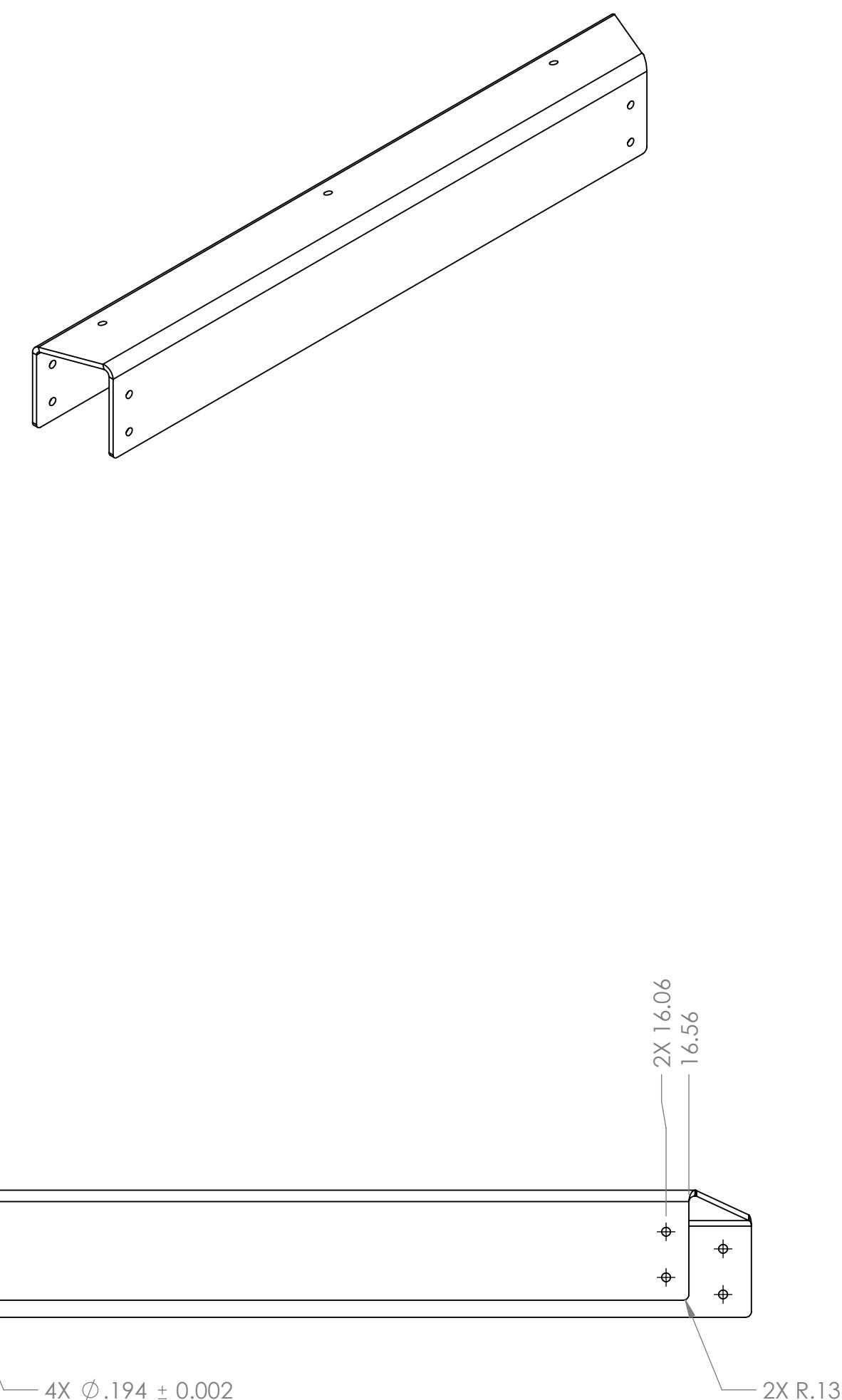
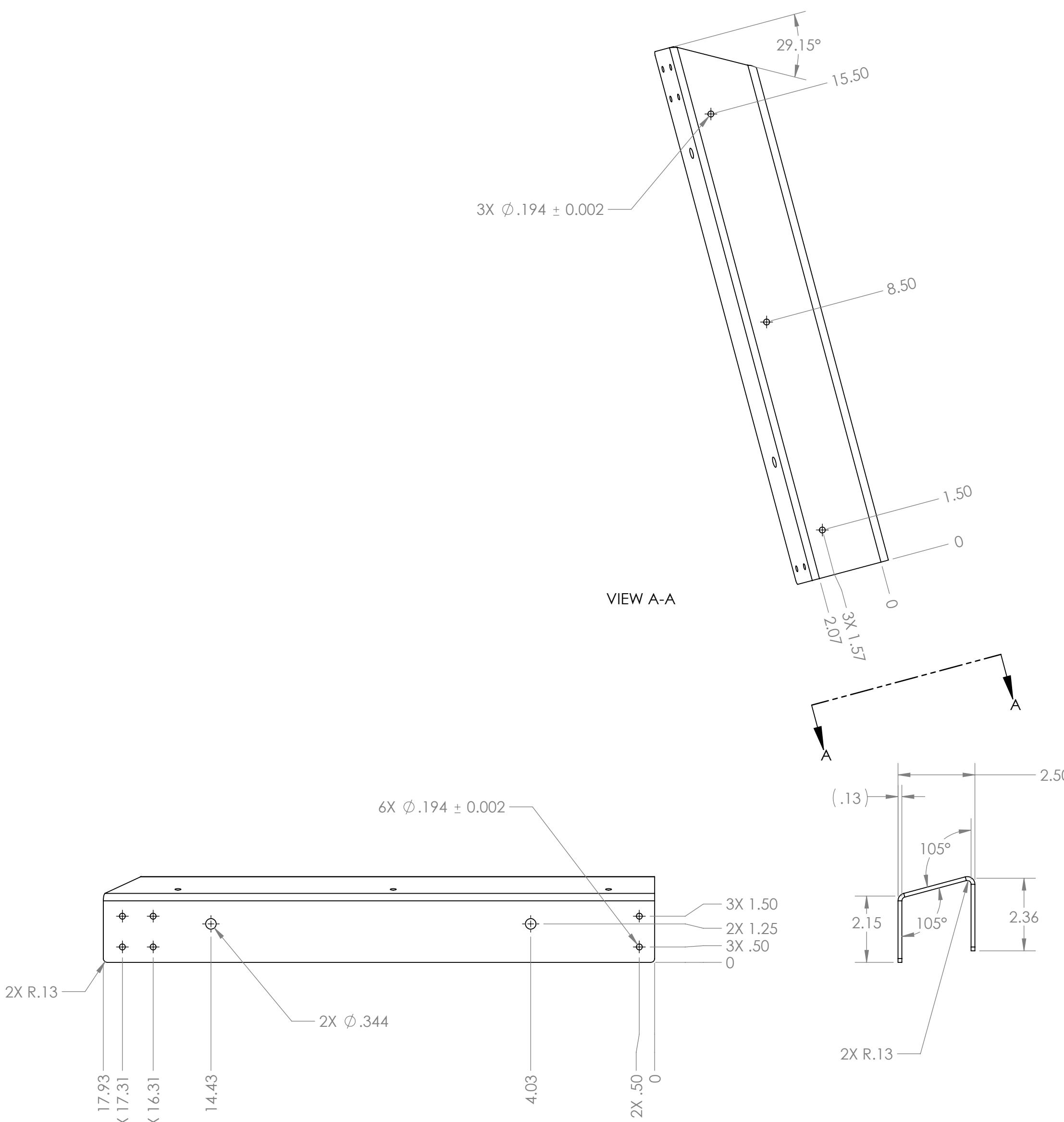
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	NE	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Outer Slice Right
Top Channel**

SIZE DWG. NO. REV
C GE-25327-01

SCALE: 1:3 SHEET 1 OF 1

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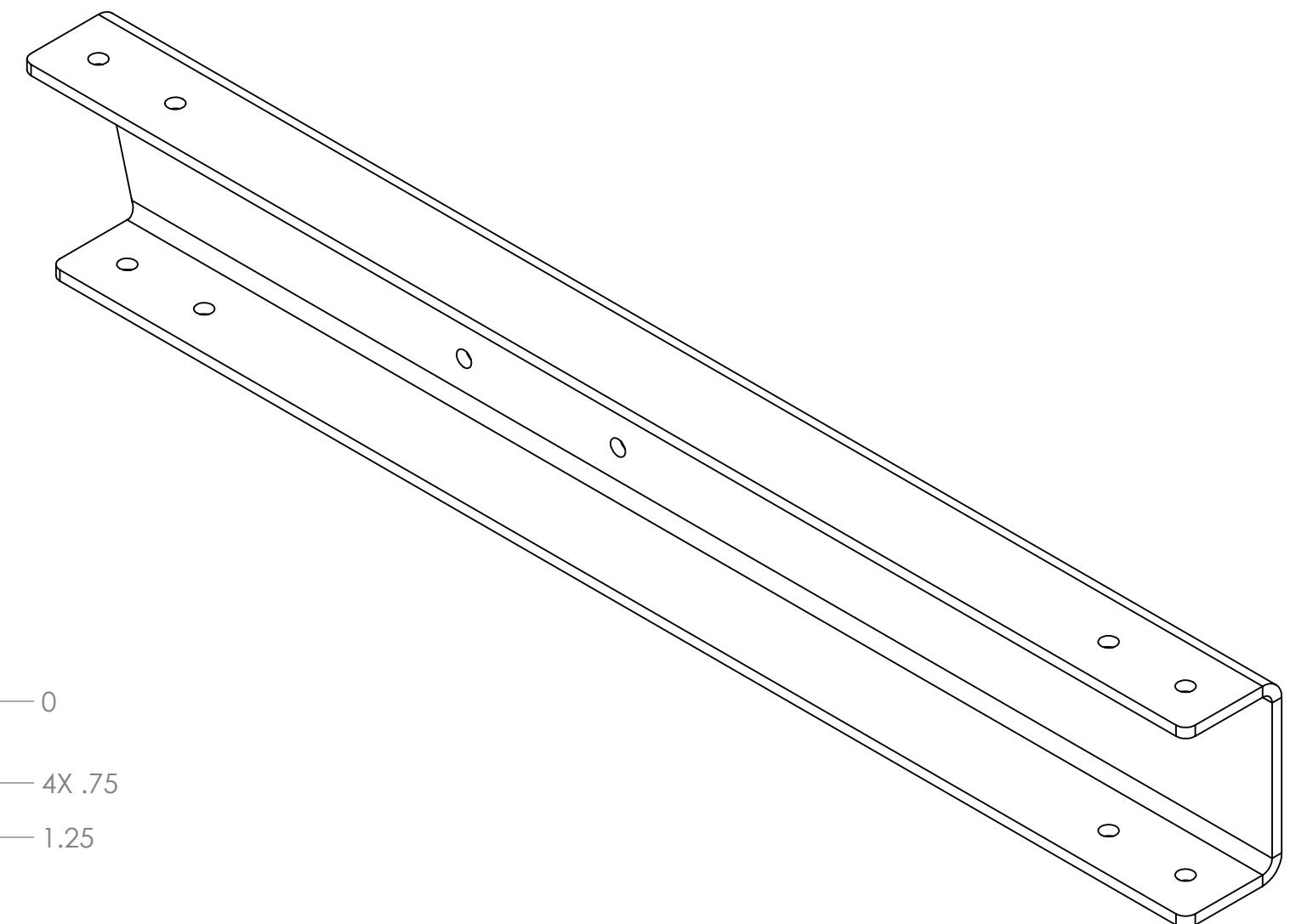
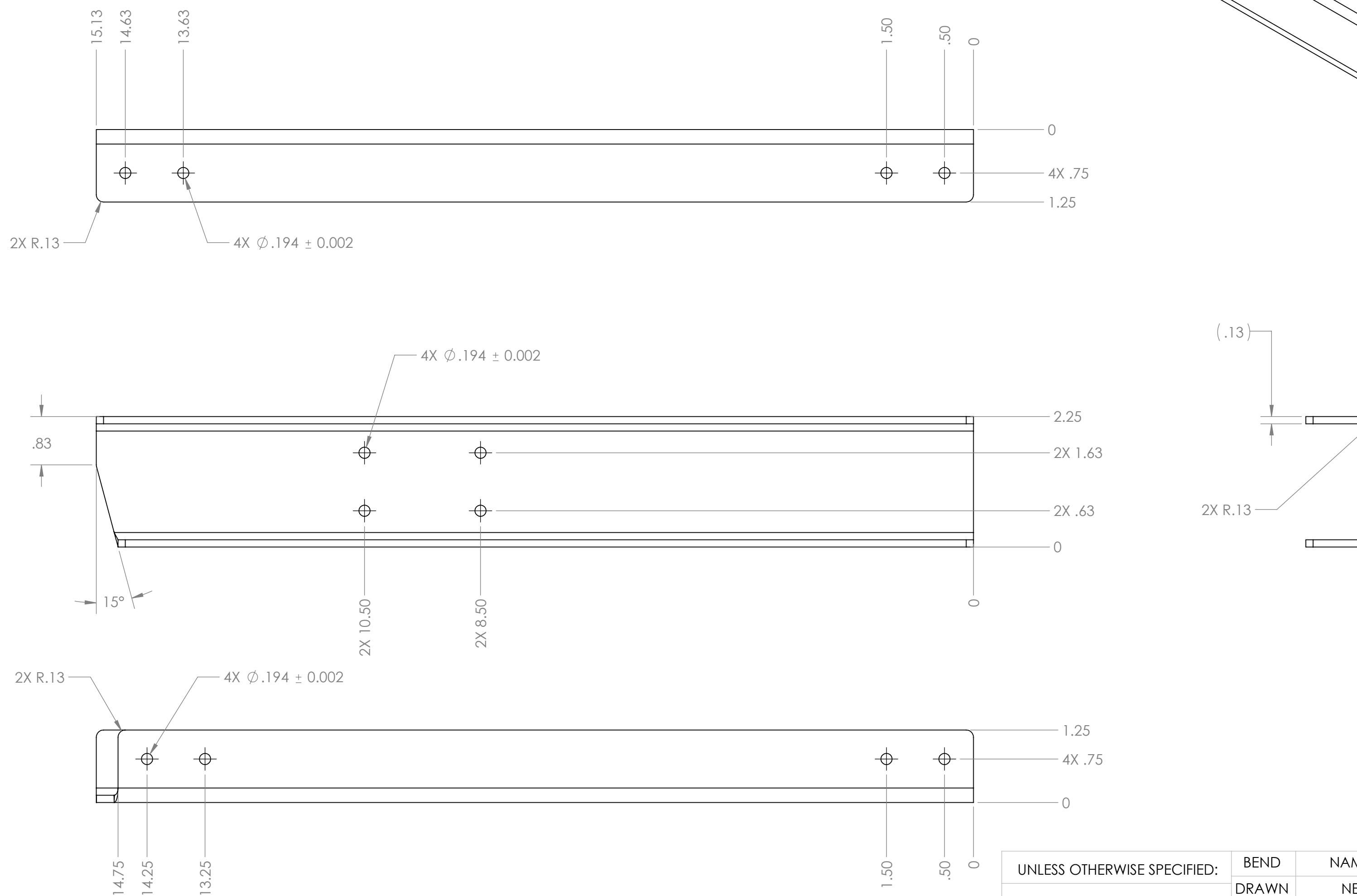
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
	DRAWN	NE	9/30/2024
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST ROBOTICS COMPETITION	SOLIDWORKS Modeling Solutions Partner	
TITLE: Outer Slice End Vertical Left		
SIZE	DWG. NO.	REV
C	GE-25328	
SCALE: 2:3		SHEET 1 OF 1

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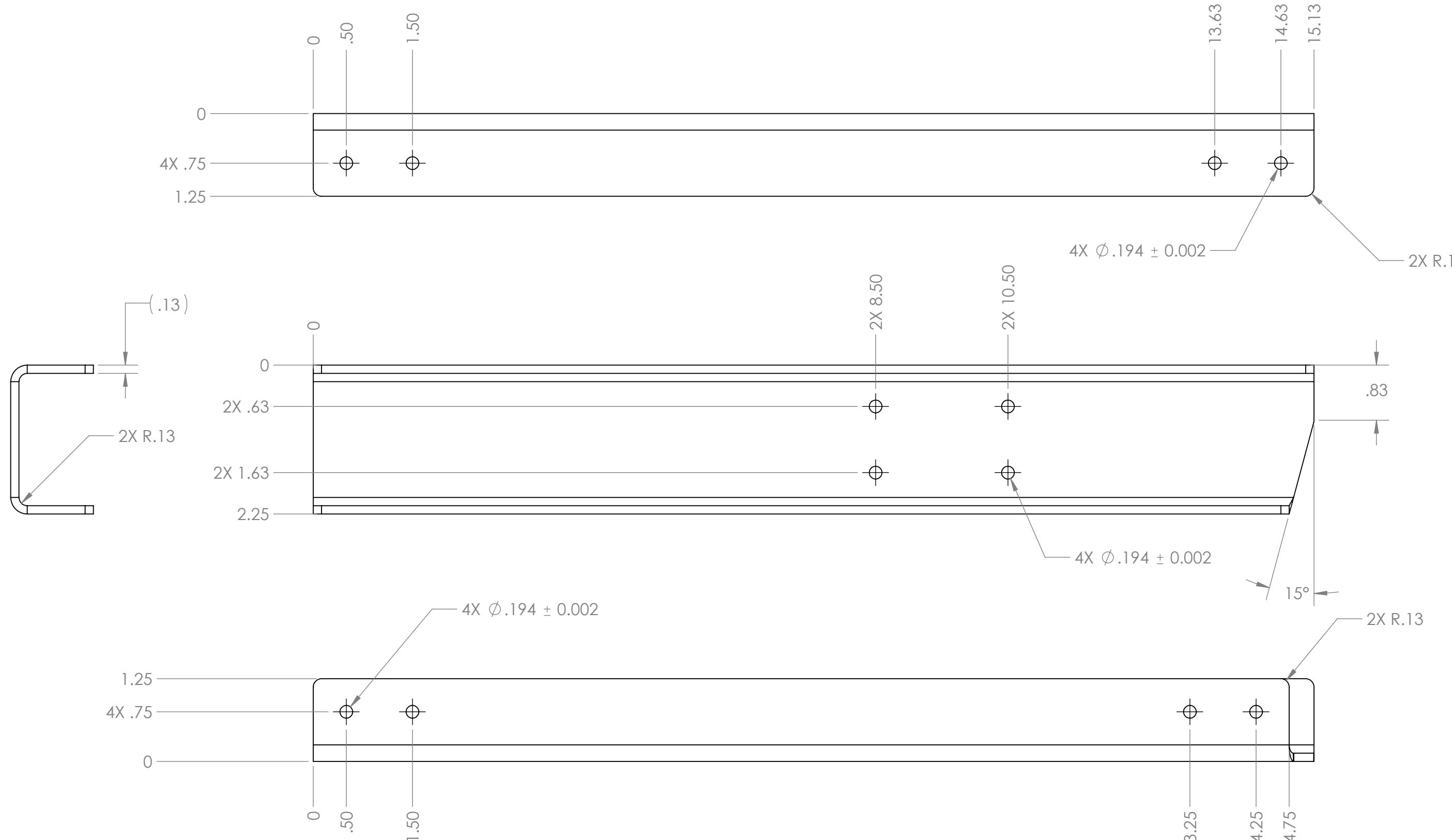
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
DRAWN	NE	9/30/2024	
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	8GA 5052 Aluminum		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Outer Slice End
Vertical Right**

SIZE DWG. NO. REV

C GE-25329

SCALE: 2:3 SHEET 1 OF 1

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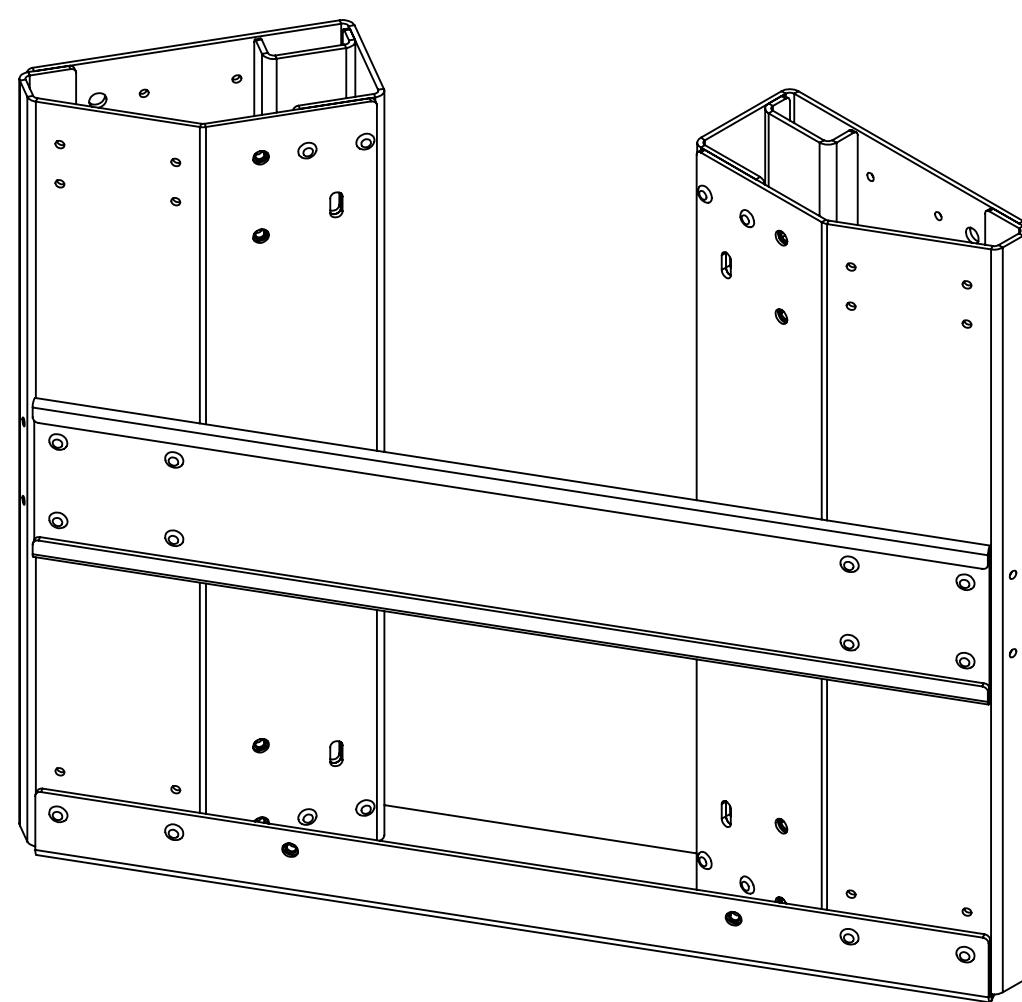
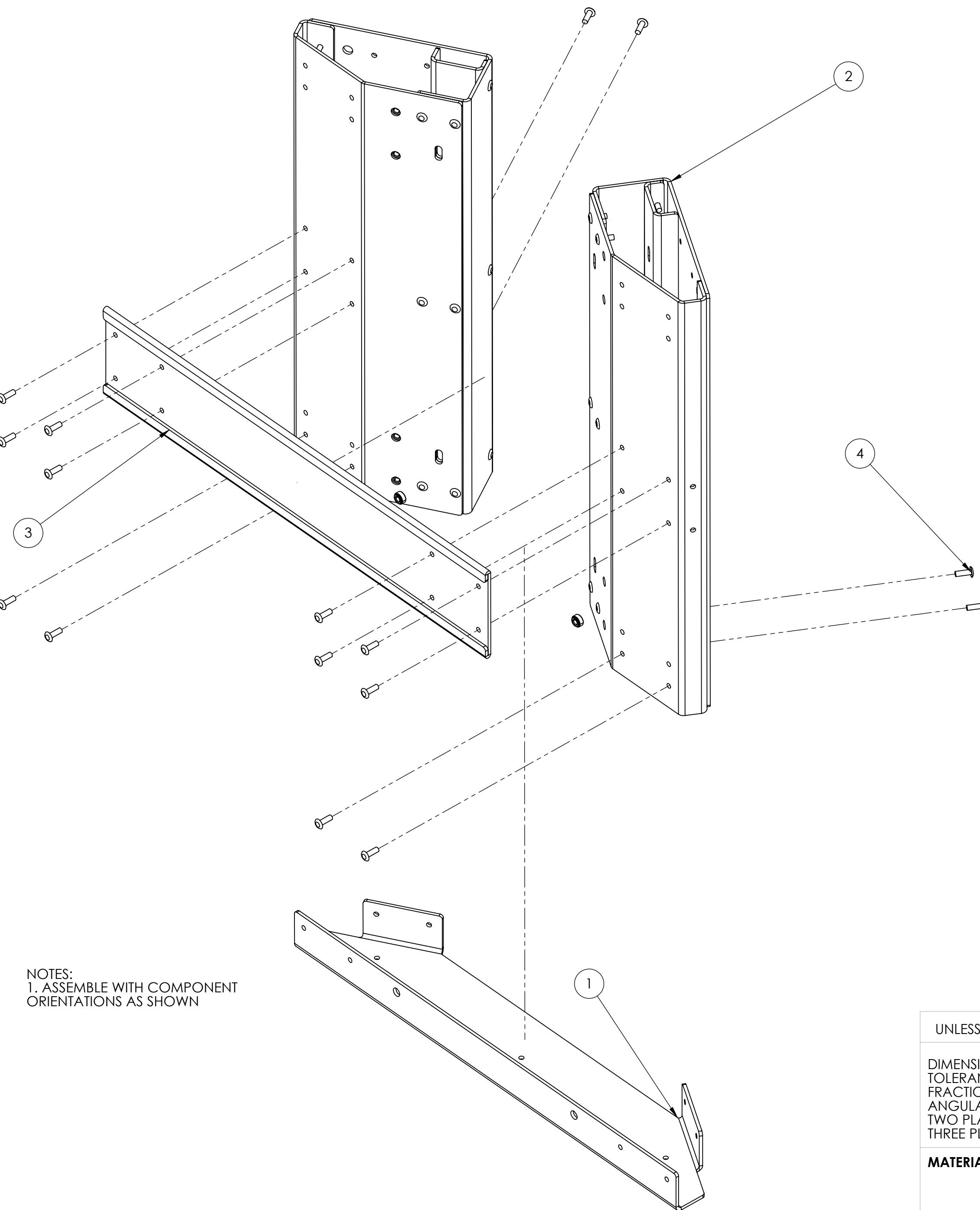
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25331	Inner Slice Base Channel W PEMs	1
2	GE-25332	Inner Slice Pipe Vertical	2
3	GE-25336	Inner Slice Back Support	1
4	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	16

UNLESS OTHERWISE SPECIFIED:

VEND NAME DATE

DRAWN NE 9/30/2024



TITLE:

Inner Slice Assembly

SIZE DWG. NO.

C GE-25330

REV

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:

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

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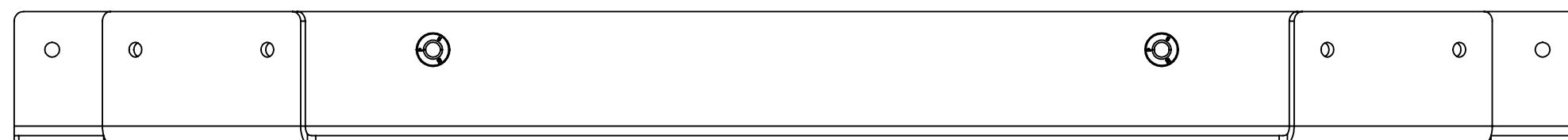
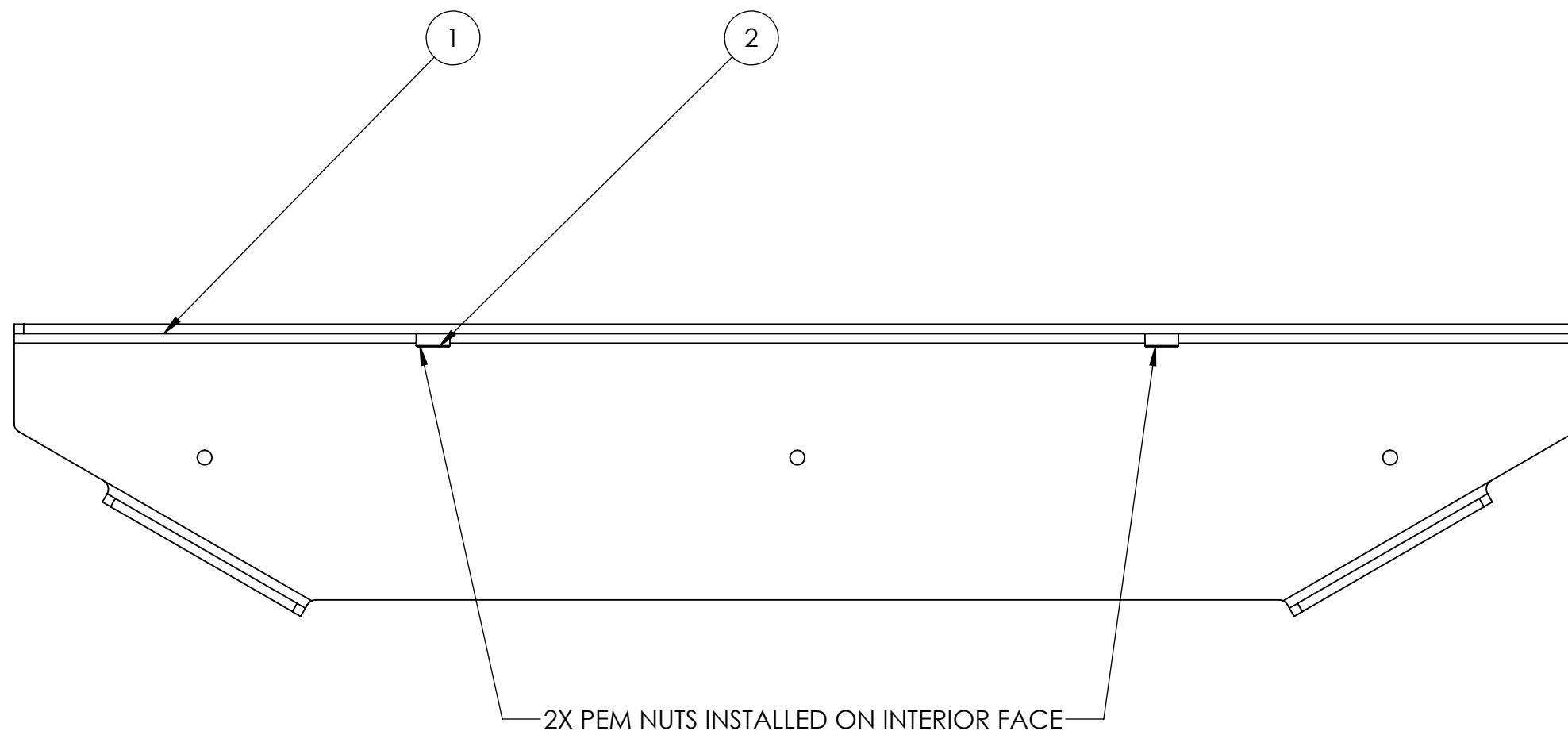
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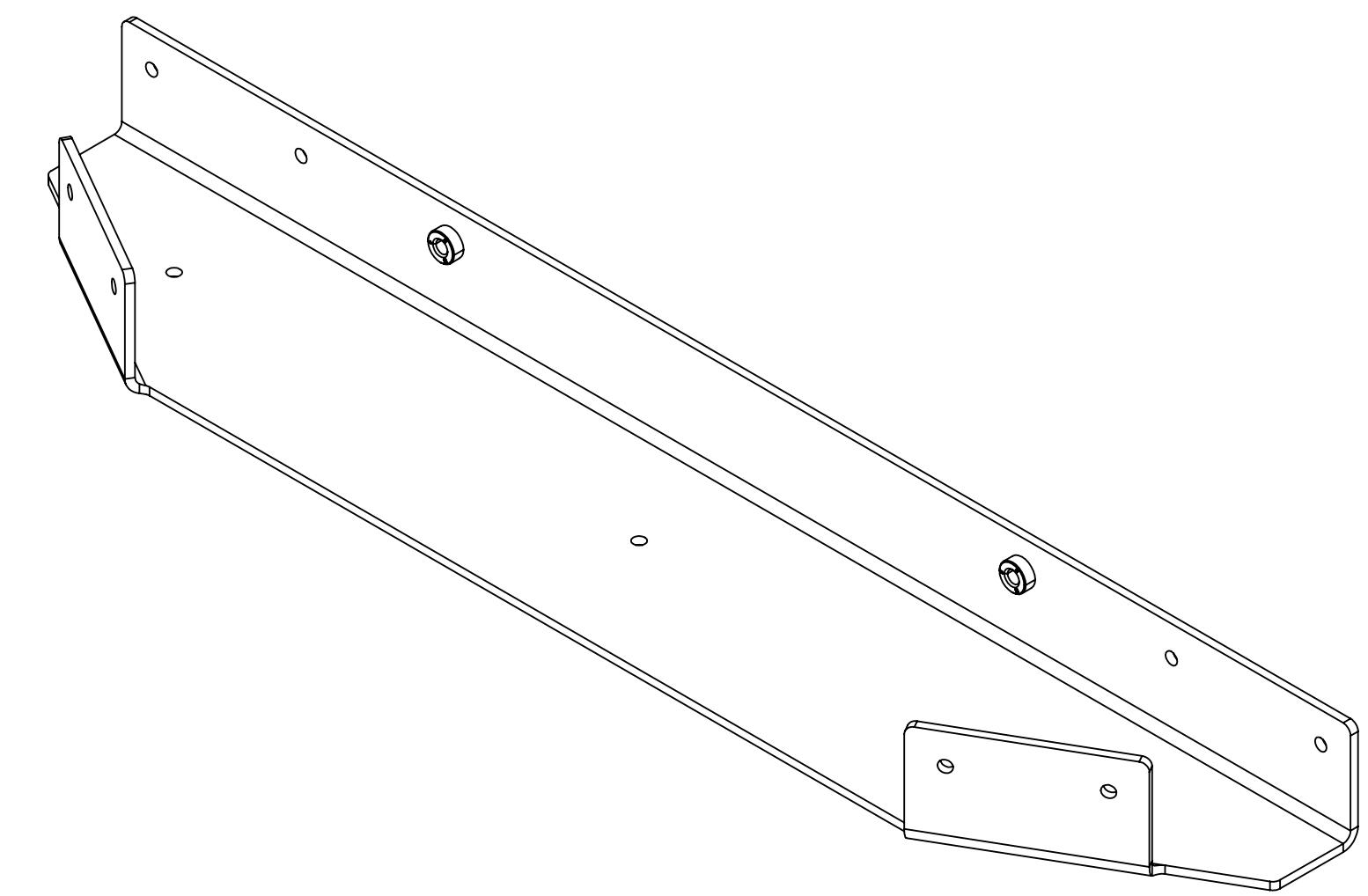
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NOTES:
1. REMOVE ALL BUTTS AND SHARP EDGES



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			
DRAWN	NAME	DATE	NE			
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 $\pm .005$						
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.			
MATERIAL/FINISH:			TITLE: Inner Slice Base Channel W PEMs			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE	DWG. NO.	REV	C
DO NOT SCALE DRAWING			GE-25331			
			SCALE: 1:2		SHEET 1 OF 1	



SOLIDWORKS
Modeling Solutions Partner

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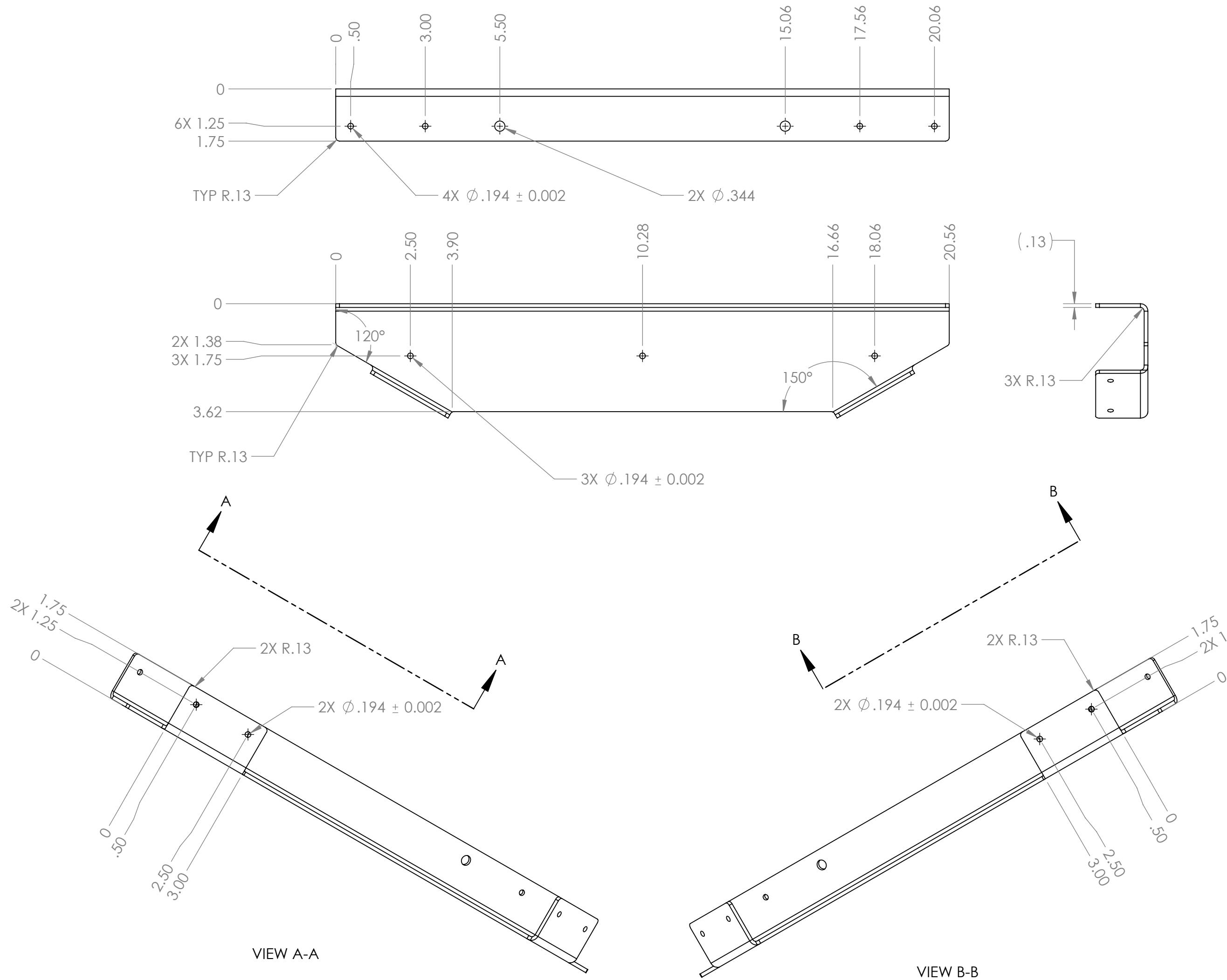
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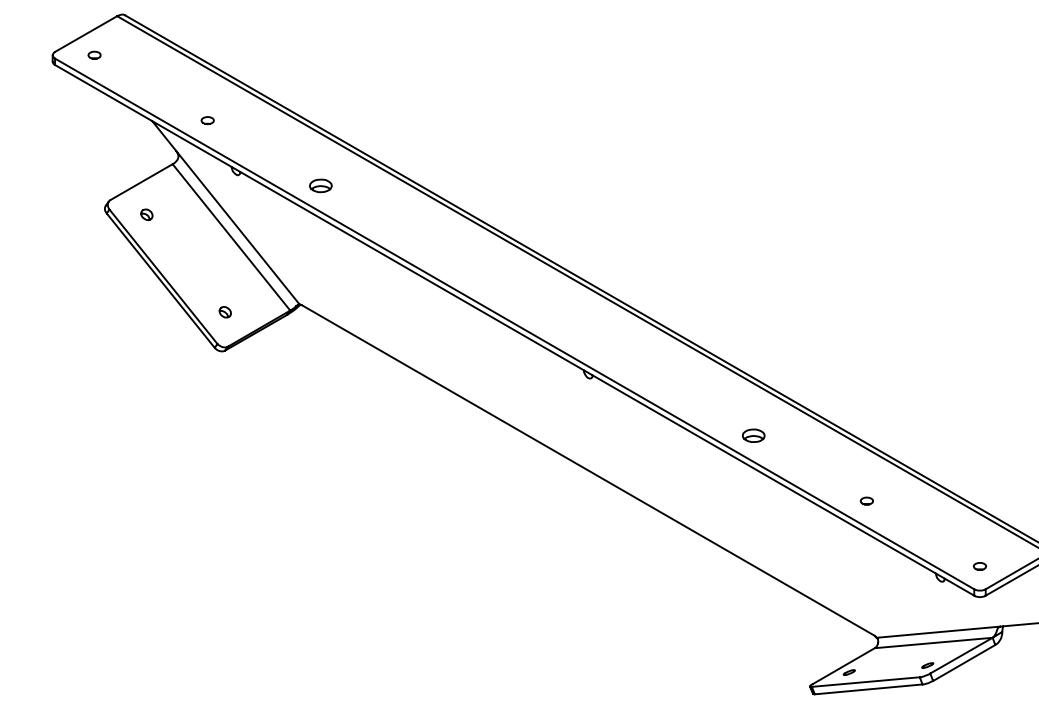
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VIEW A-A

VIEW B-B



UNLESS OTHERWISE SPECIFIED:			BEND	NAME	DATE
			DRAWN	NE	9/30/2024
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 $\pm .010$					
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MATERIAL/FINISH:	8GA 5052 Aluminum	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING					

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
Inner Slice Base
Channel

SIZE DWG. NO. REV
C GE-25331-01

SCALE: 1:3 SHEET 1 OF 1

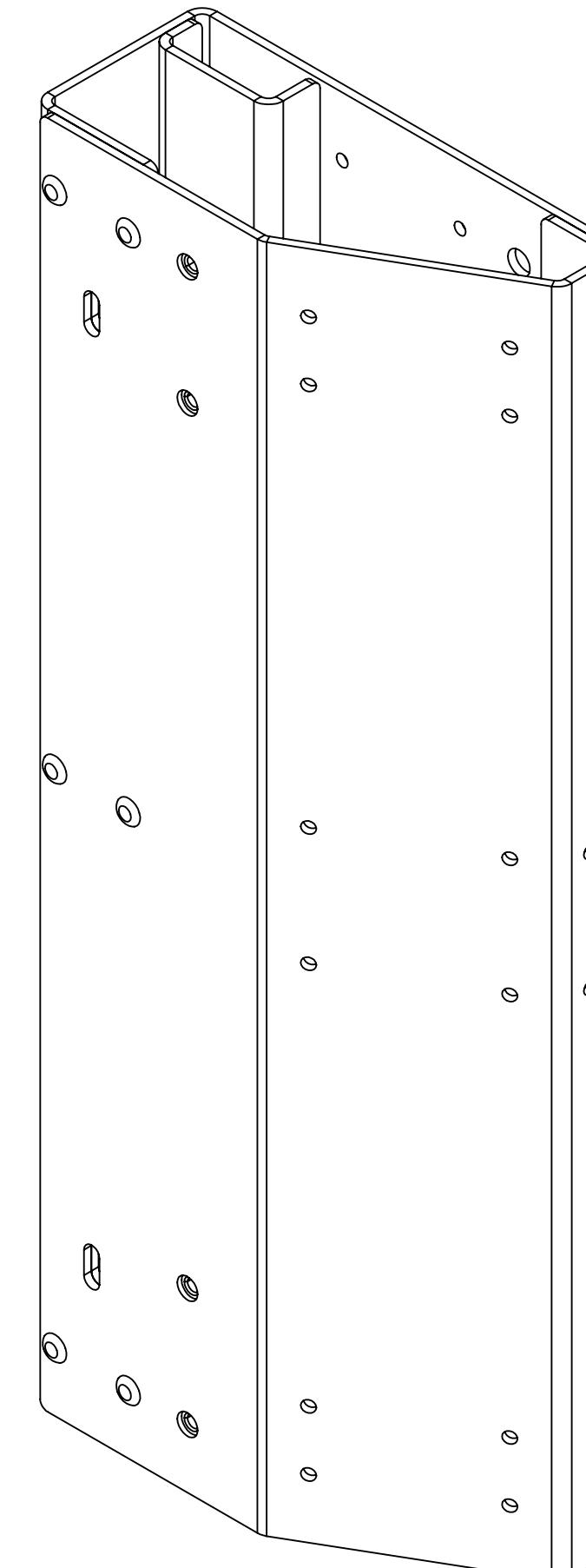
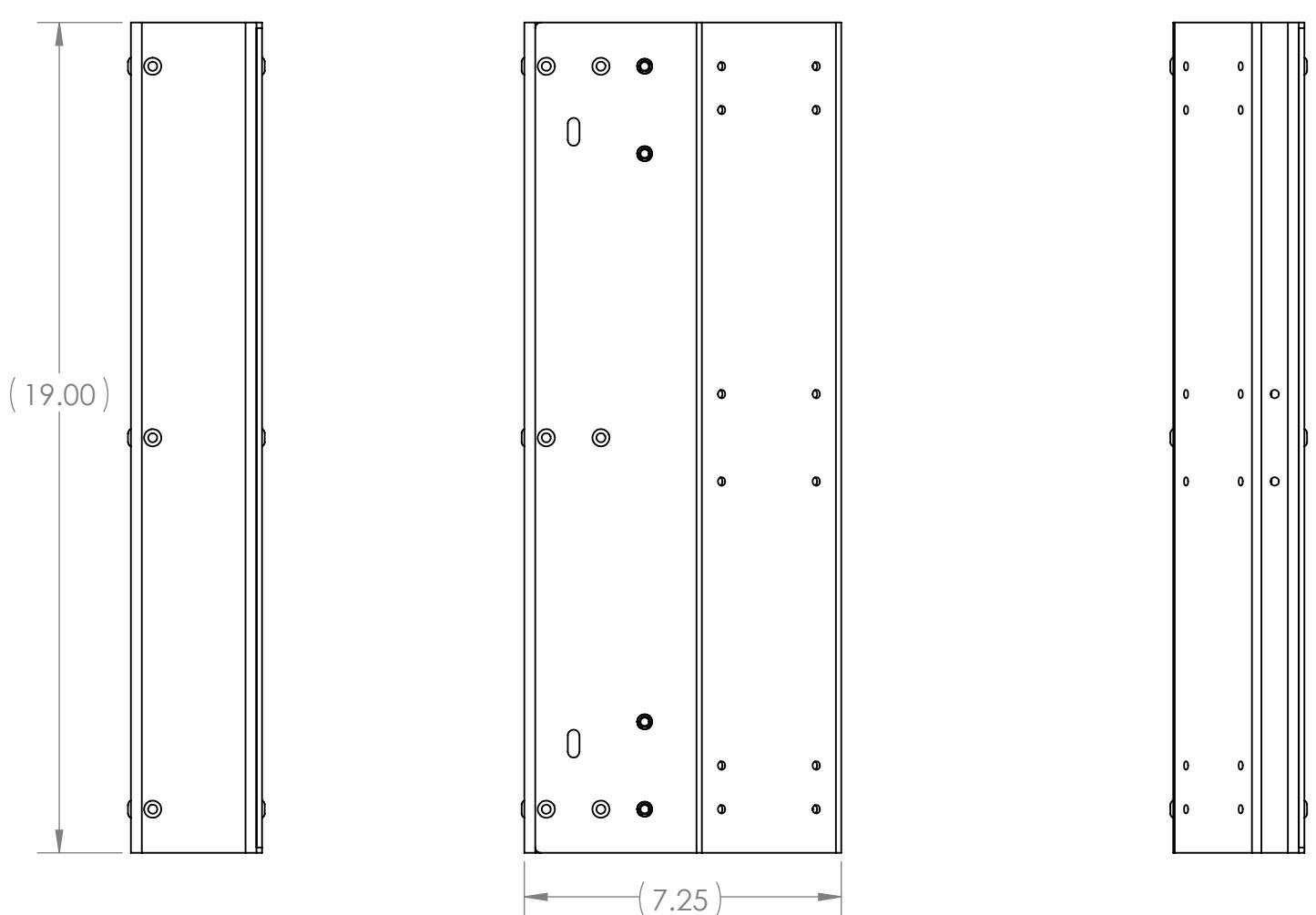
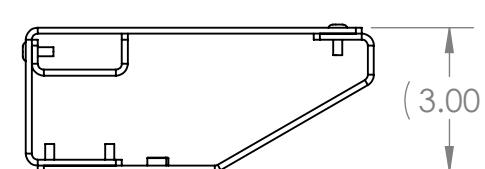
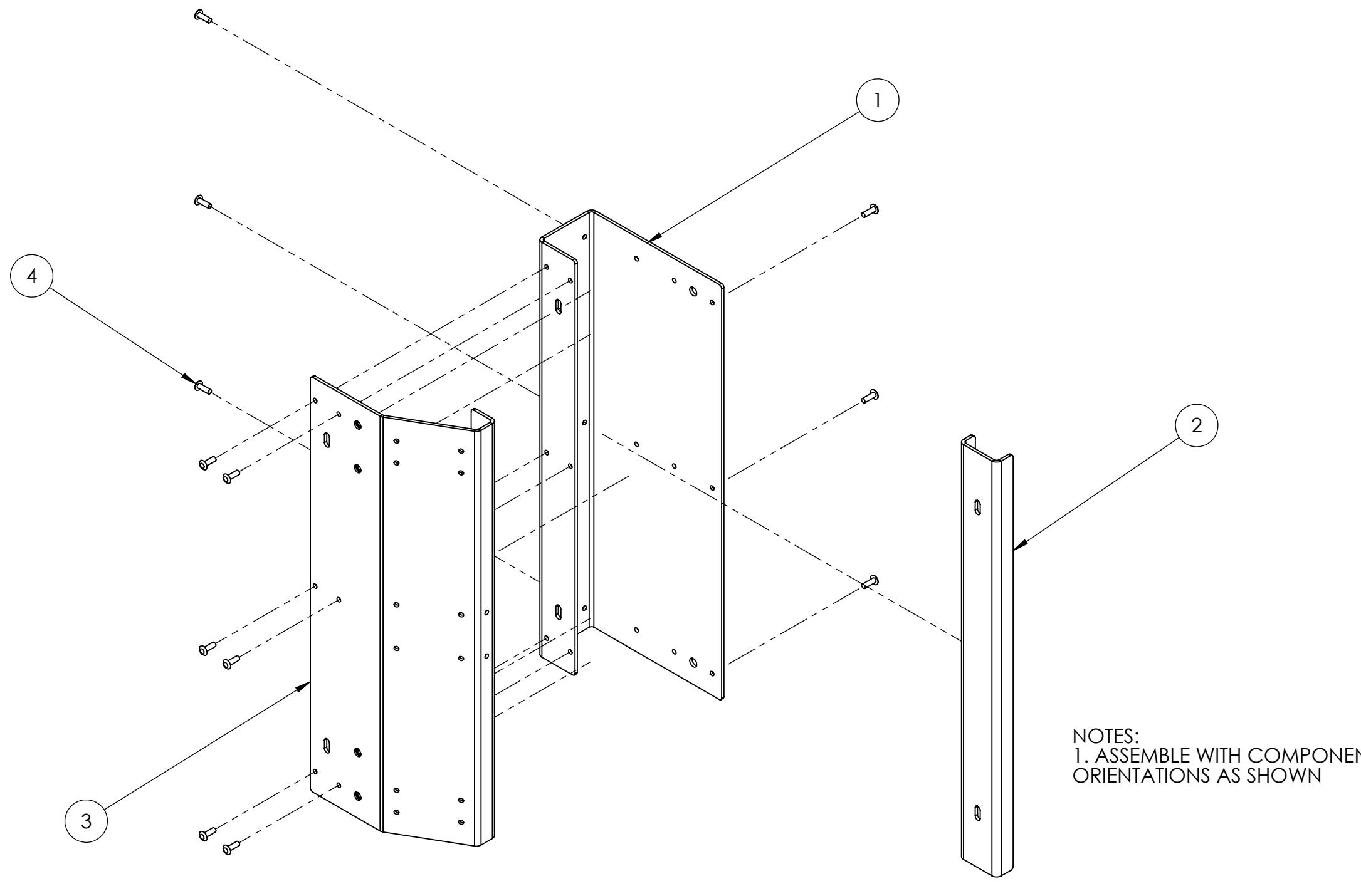
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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

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

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
Inner Slice Pipe Vertical

SIZE DWG. NO. REV

C GE-25332

SCALE: 1:4 SHEET 1 OF 1

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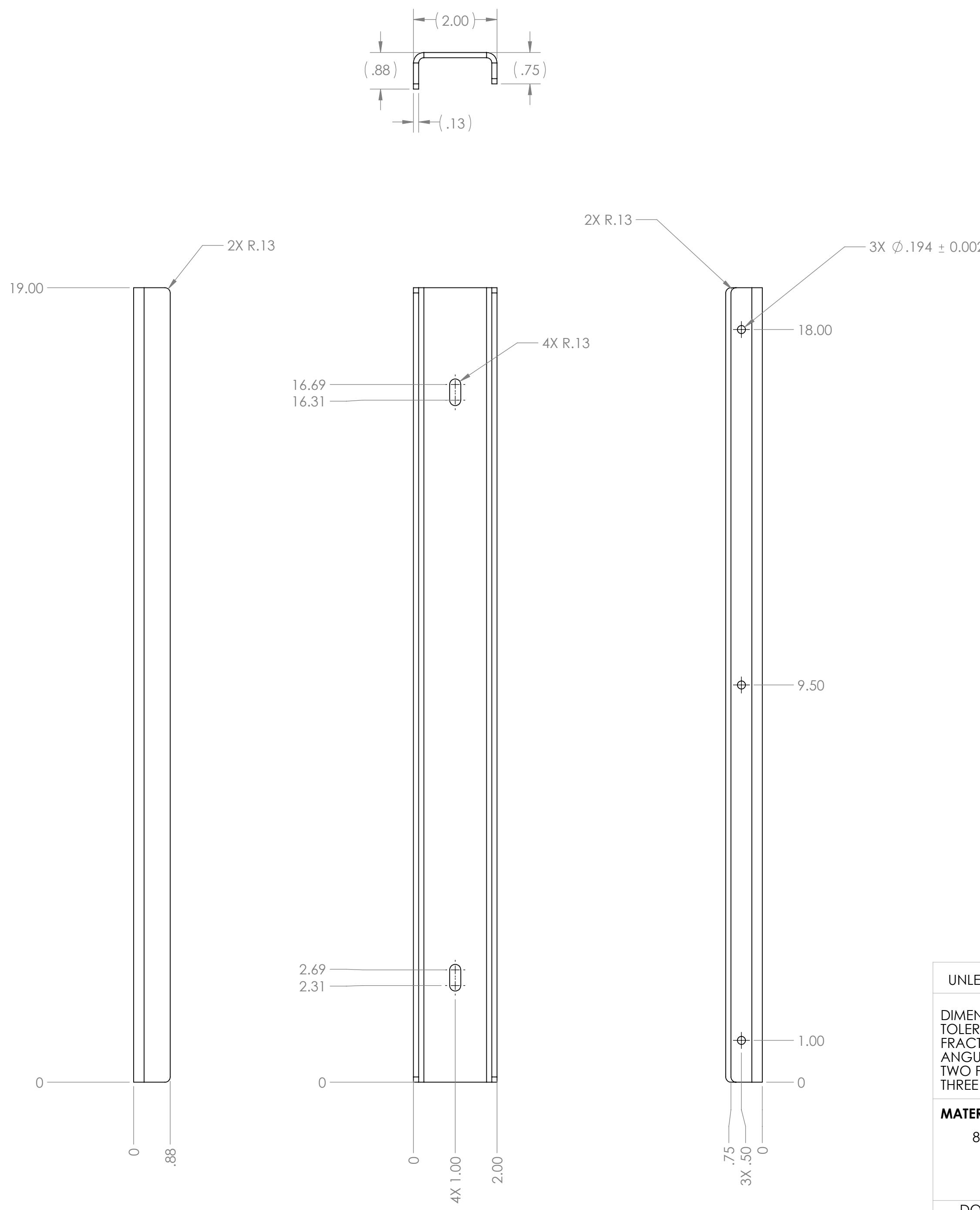
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DRAWN	NE	9/27/2024	
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MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:
**Inner Slice Pipe
Backing**

SIZE DWG. NO. REV
C GE-25333

SCALE: 1:2 SHEET 1 OF 1

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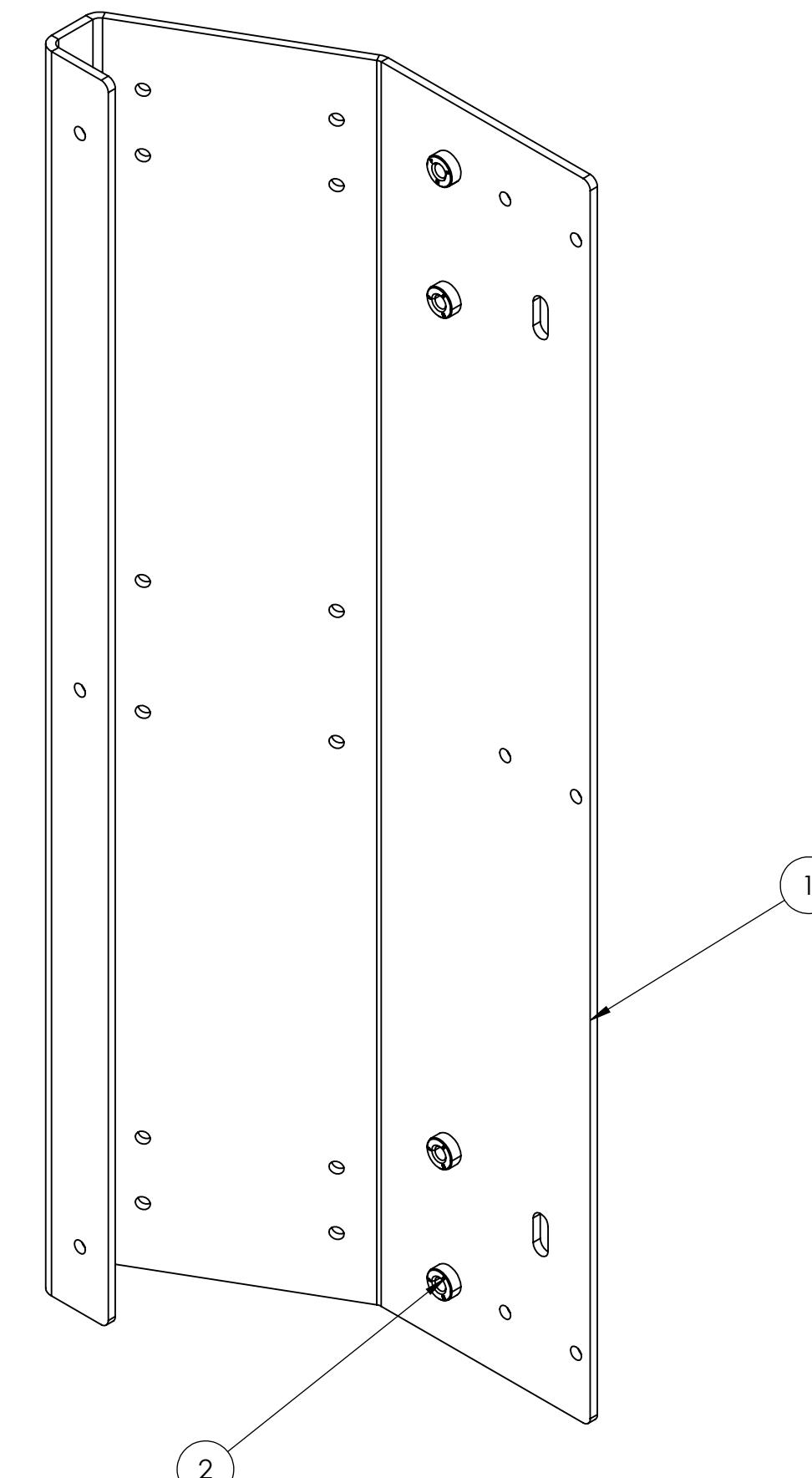
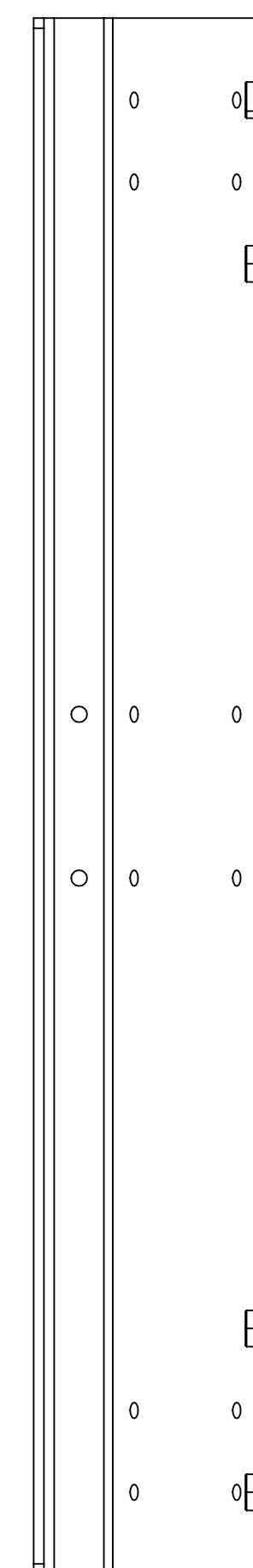
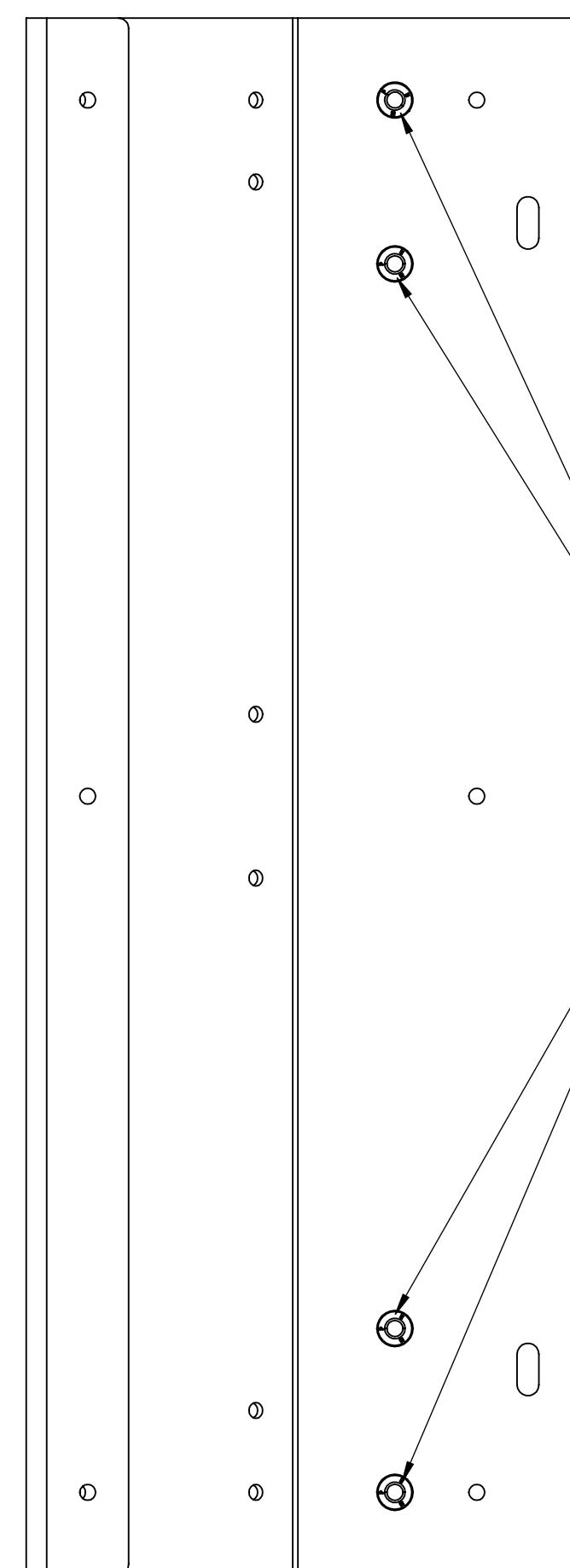
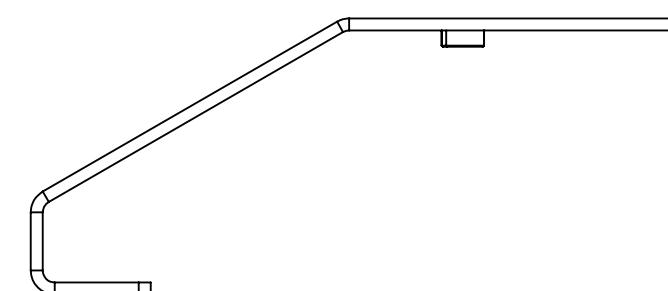
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25334-01	Inner Slice Pipe Vertical Outer Shell	1
2	pem_clinchnut_.25_20 .054	1/4-20 self-clinching nut, .054 shank	4

UNLESS OTHERWISE SPECIFIED:

VEND NAME DATE

DRAWN NE 9/27/2024

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:

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COMMENTS:

REMOVE ALL BURRS AND SHARP
EDGES.

DO NOT SCALE DRAWING

SOLIDWORKS
Modeling Solutions Partner

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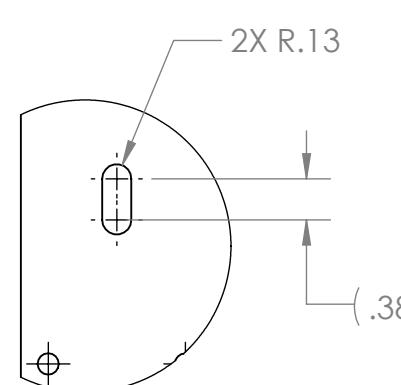
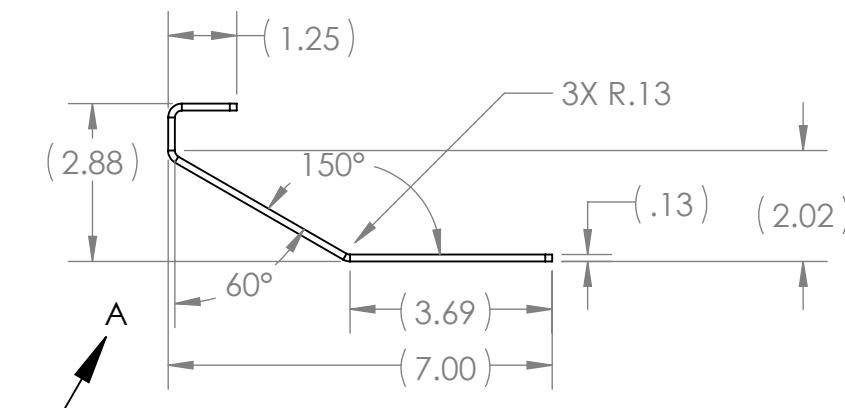
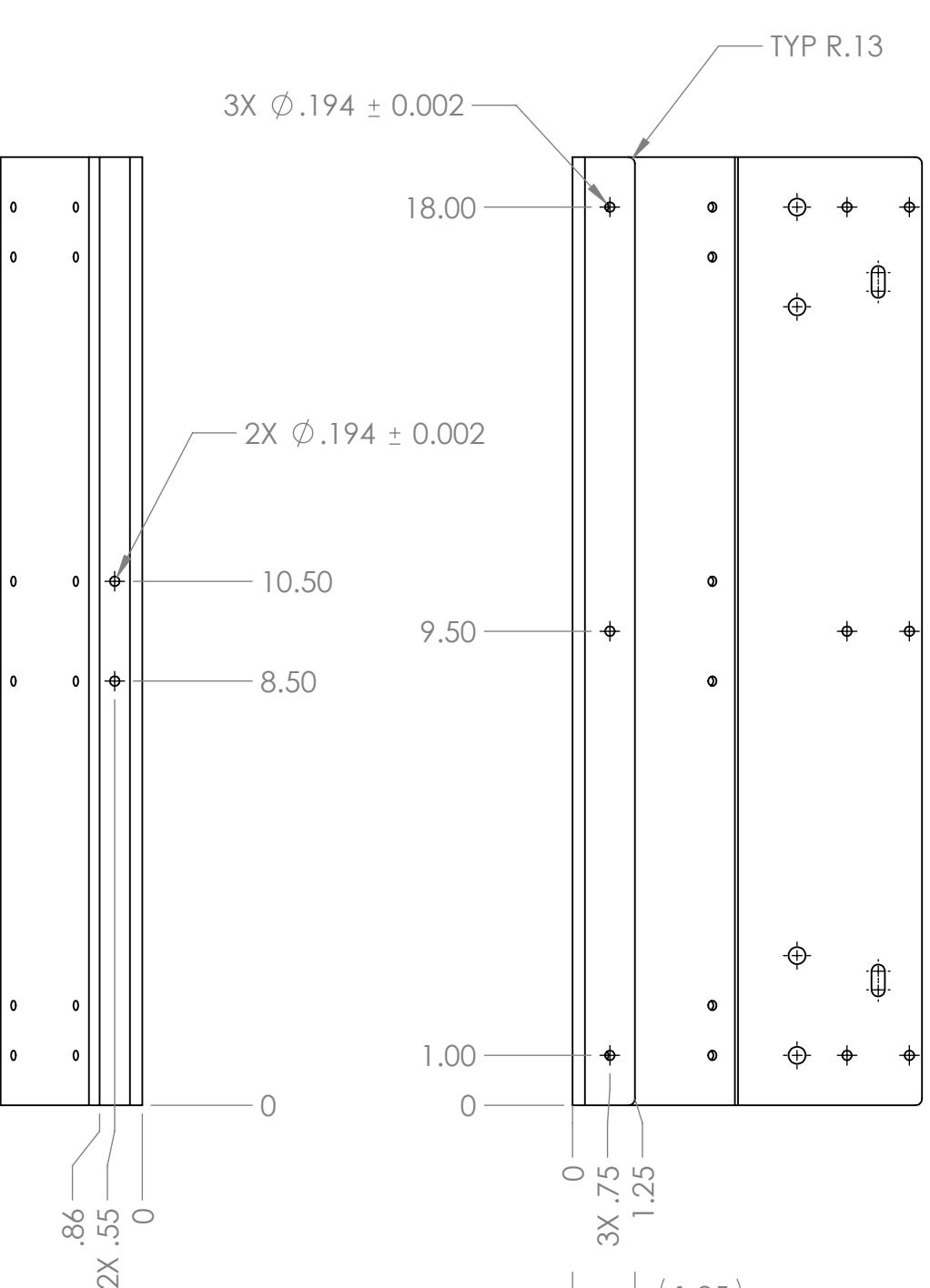
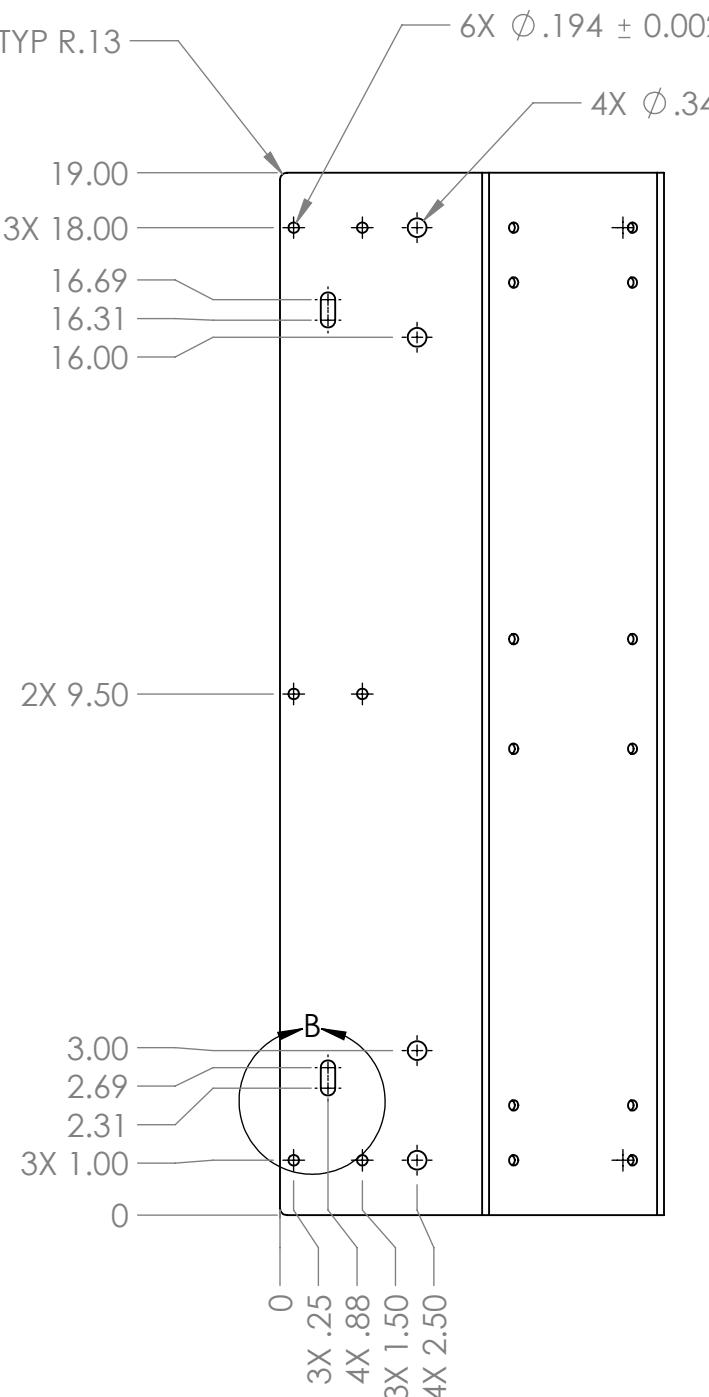
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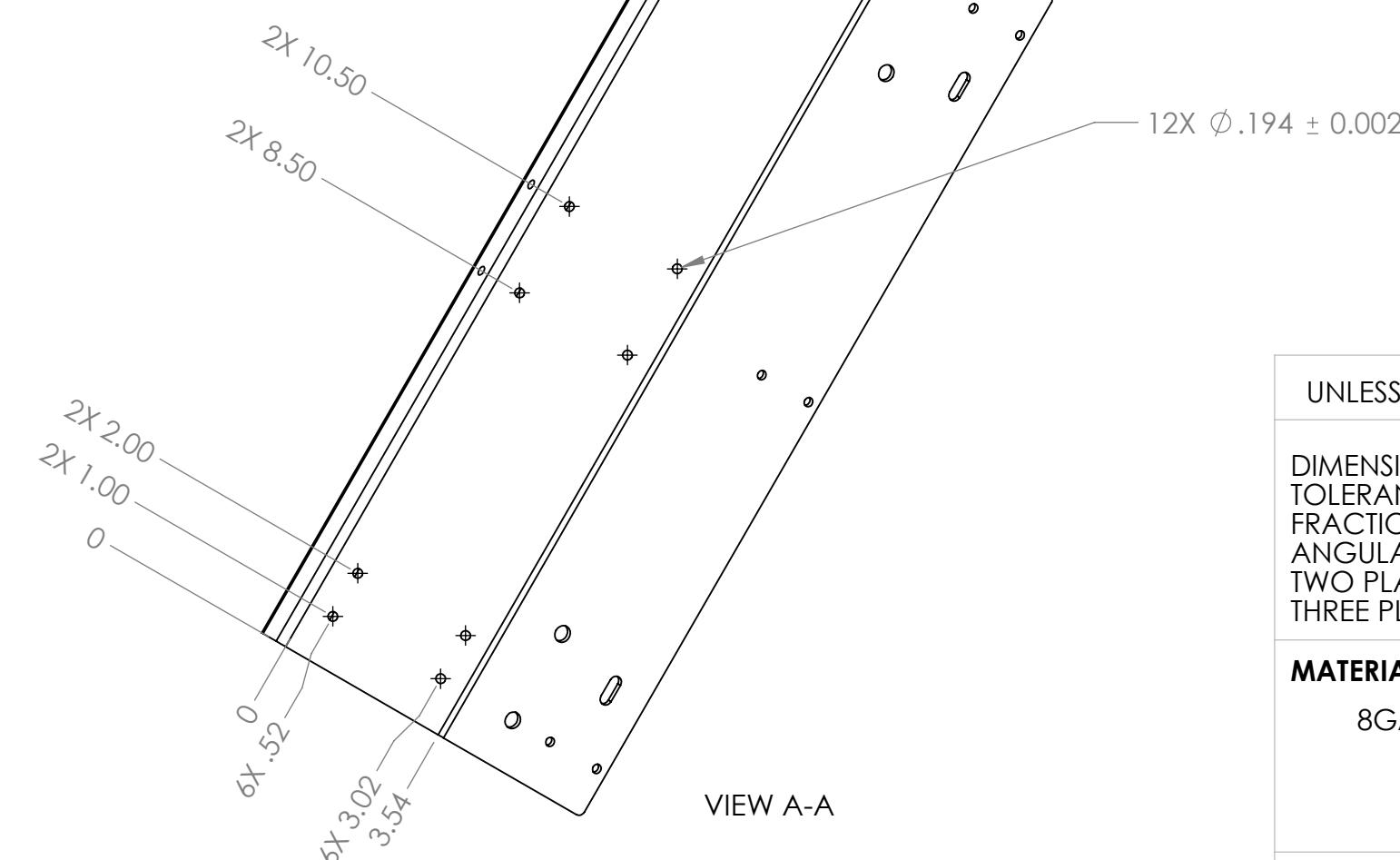
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DETAIL B
SCALE 4 : 7



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DRAWN	NE	9/27/2024	
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MATERIAL/FINISH: 8GA 5052 Aluminum			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			

DO NOT SCALE DRAWING

FIRST	ROBOTICS	COMPETITION
SOLIDWORKS	Modeling Solutions Partner	
TITLE: Inner Slice Pipe Vertical Outer Shell		
SIZE	DWG. NO.	REV
C	GE-25334-01	
SCALE: 2:7		SHEET 1 OF 1

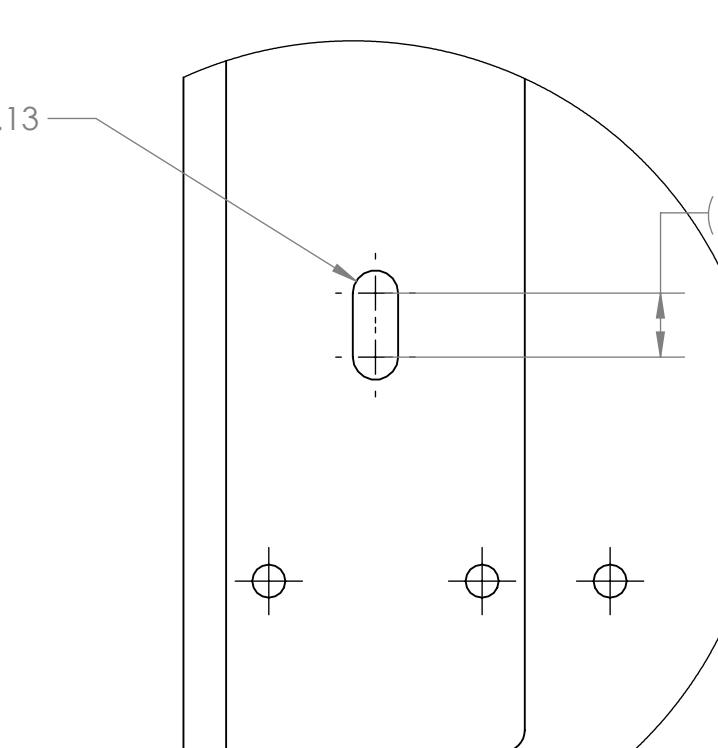
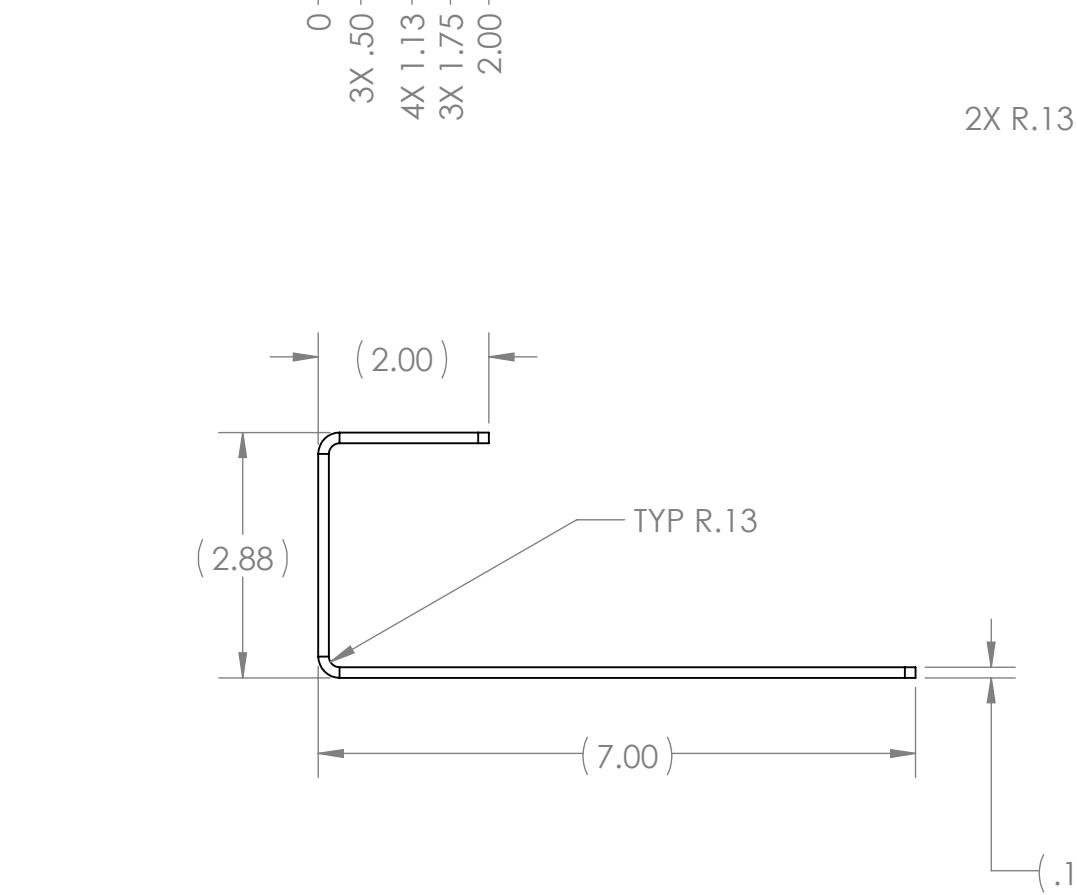
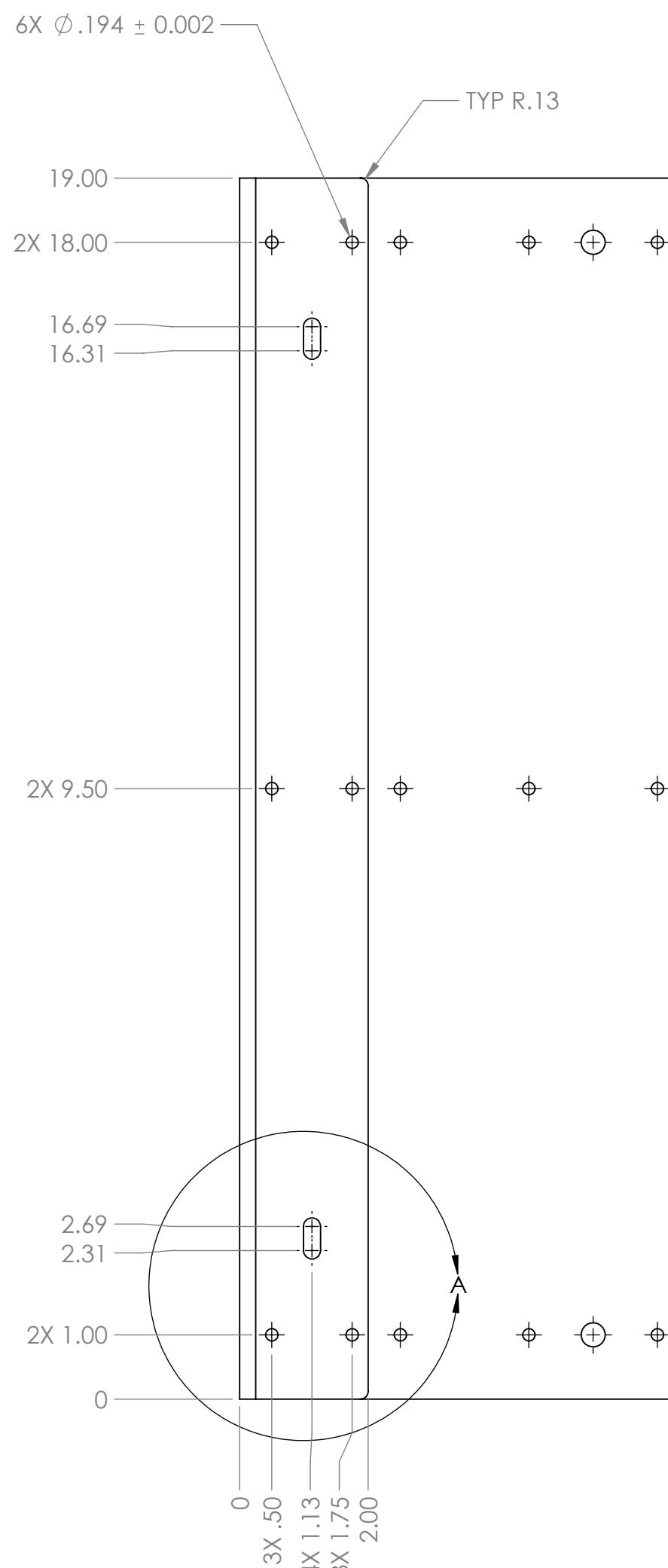
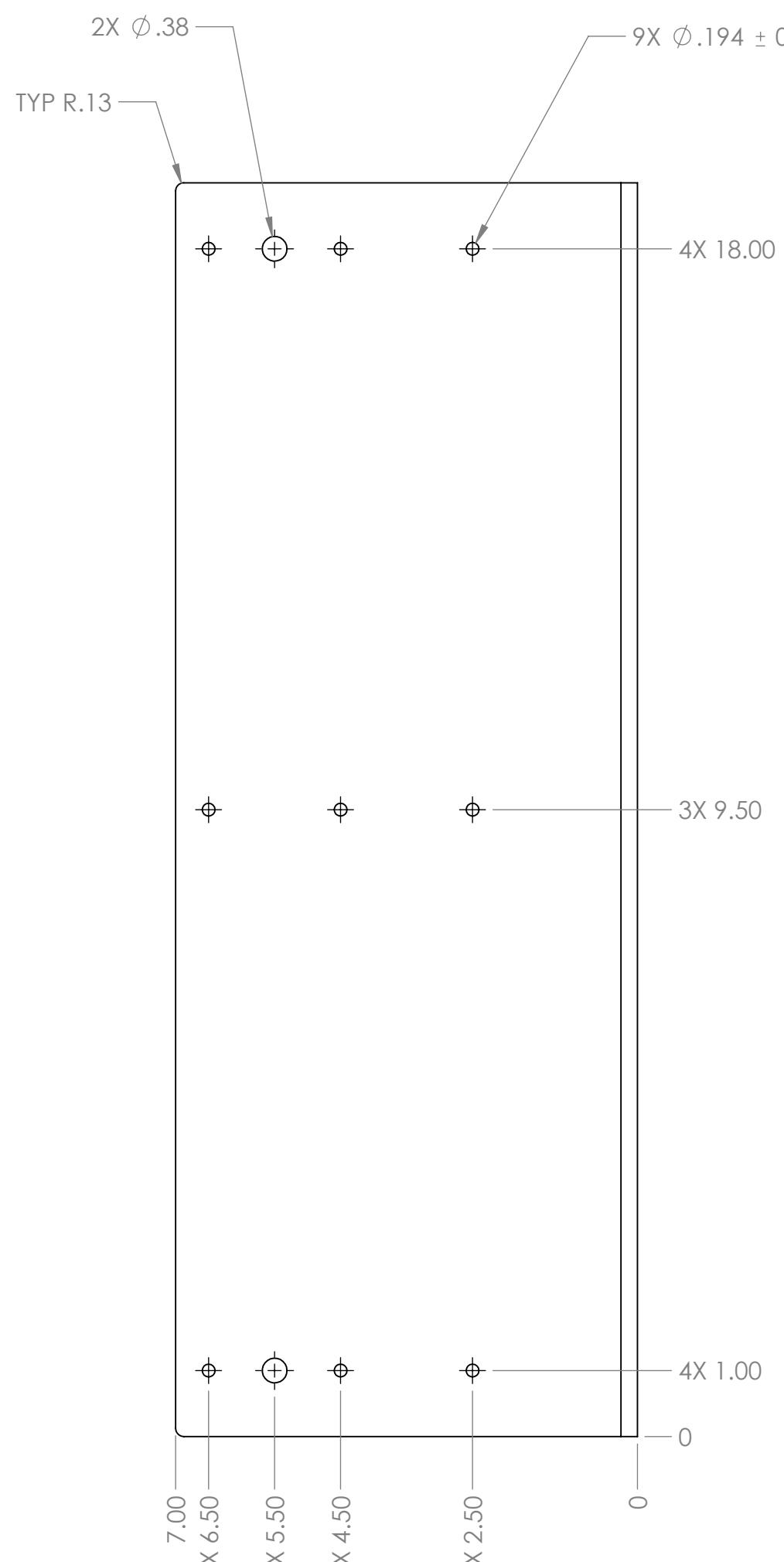
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DETAIL A
SCALE 8:9

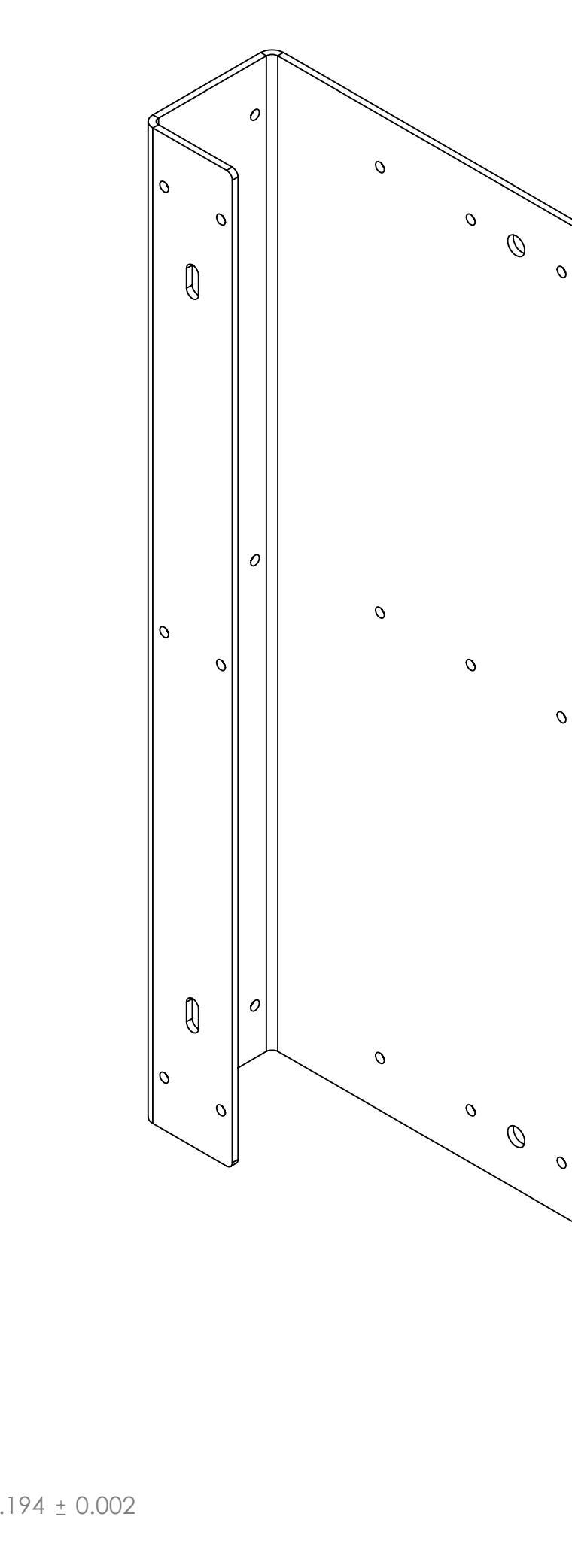
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .02$
THREE PLACE DECIMAL $\pm .010$

BEND NAME DATE
DRAWN NE 9/26/2024

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MATERIAL/FINISH:
8GA 5052 Aluminum

COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.



FIRST ROBOTICS COMPETITION **SOLIDWORKS**
Modeling Solutions Partner

TITLE: Inner Slice Pipe Vertical Inner Shell

SIZE	DWG. NO.	REV
C	GE-25335	
SCALE: 4:9		SHEET 1 OF 1

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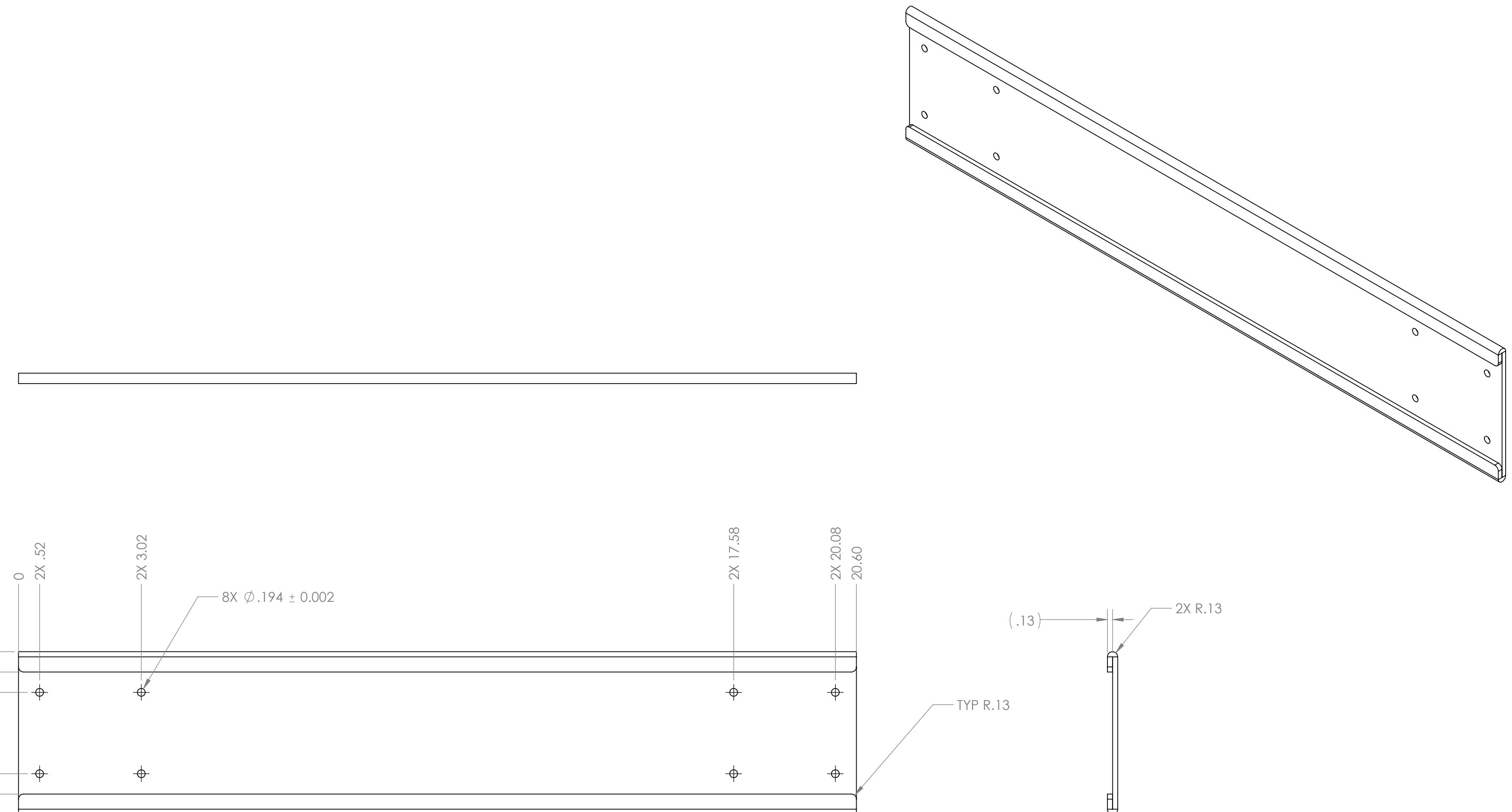
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DRAWN	NE	9/30/2024	
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
8GA 5052 Aluminum	C	GE-25336	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING		SCALE: 1:2	SHEET 1 OF 1

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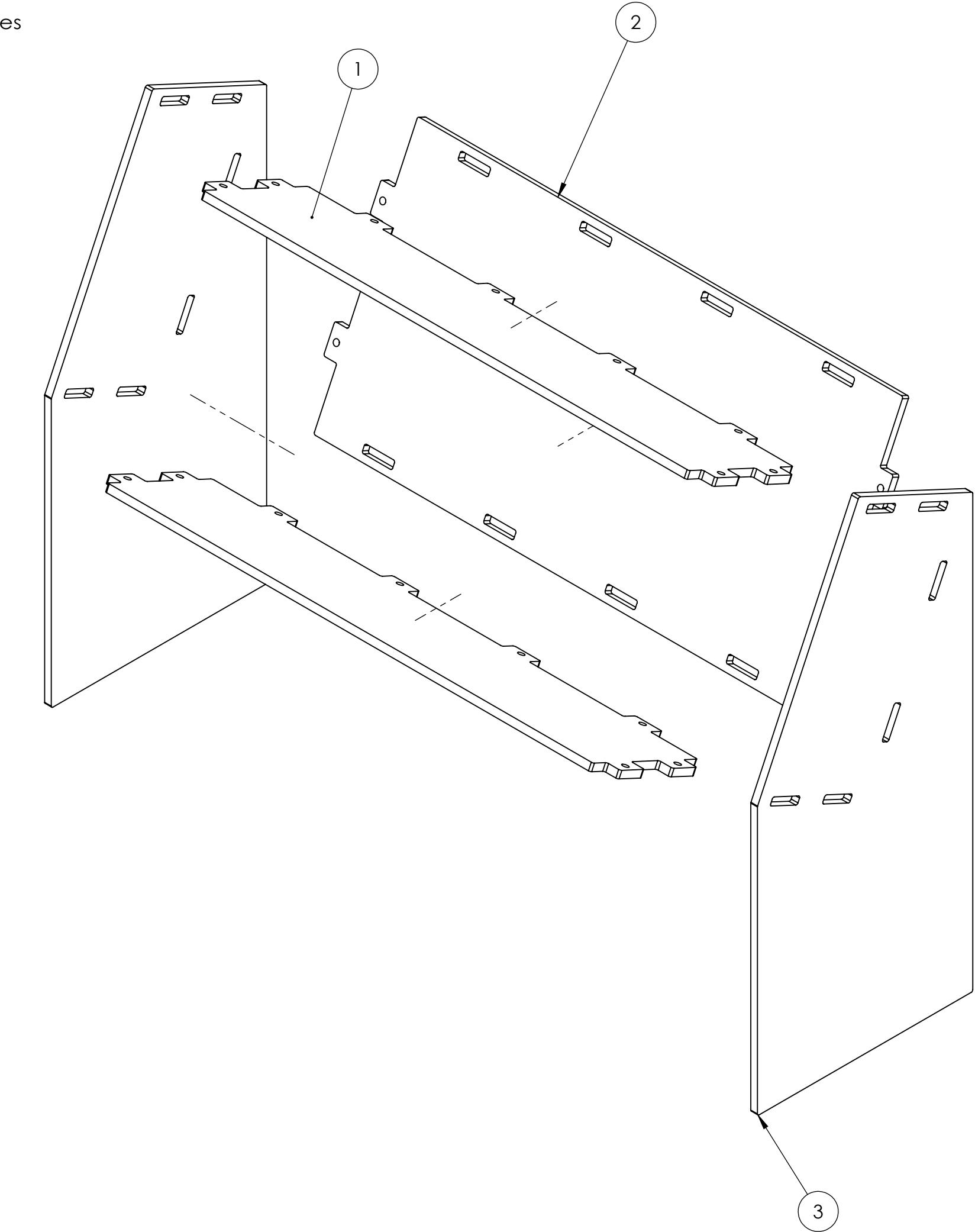
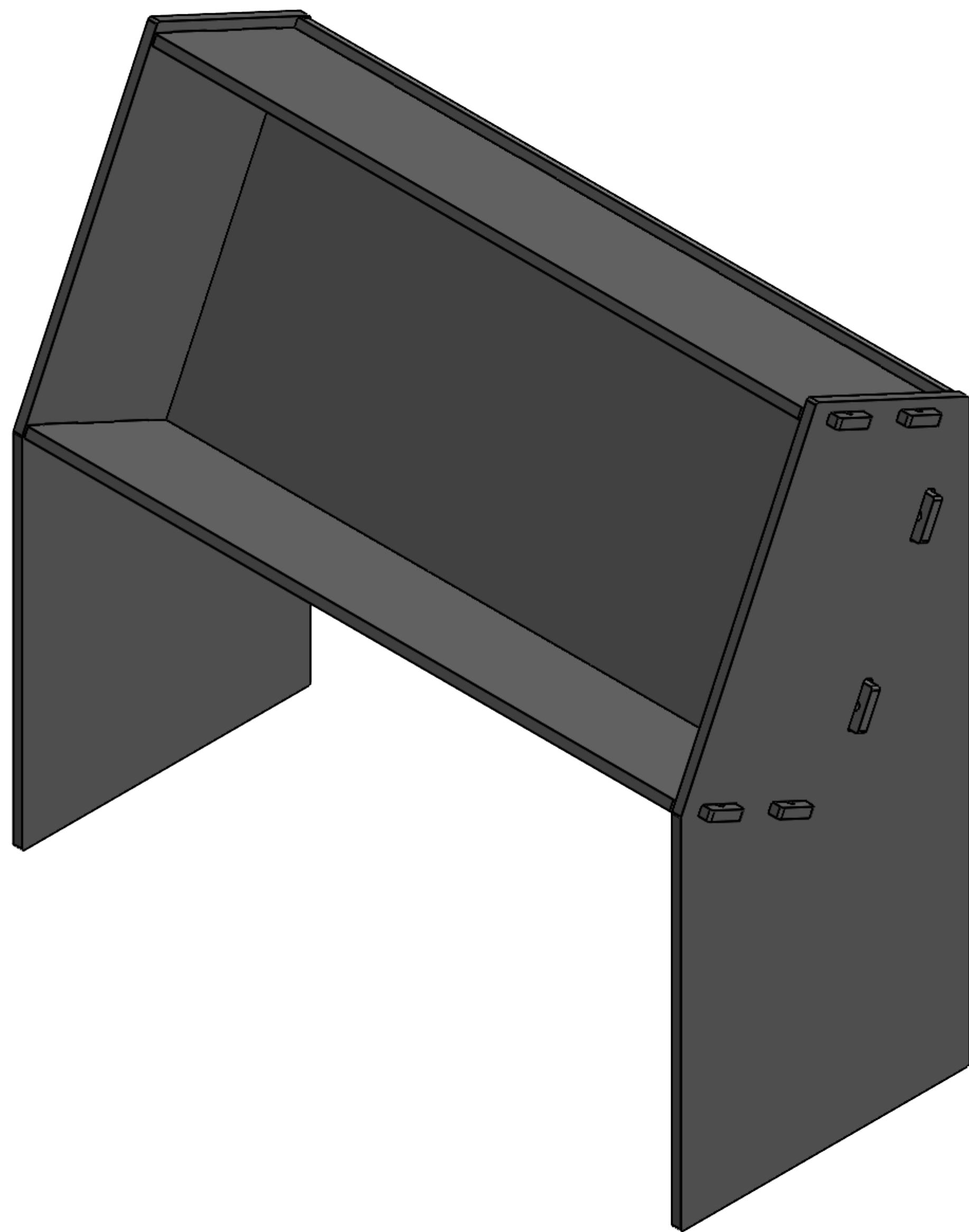
4

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1

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
			DRAWN	BB	7/23/2024
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COMMENTS:					
REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

FIRST ROBOTICS COMPETITION Modeling Solutions Partner
Coral Holder
 SIZE DWG. NO. REV
C GE-25410
 SCALE: 1:12 SHEET 1 OF 1

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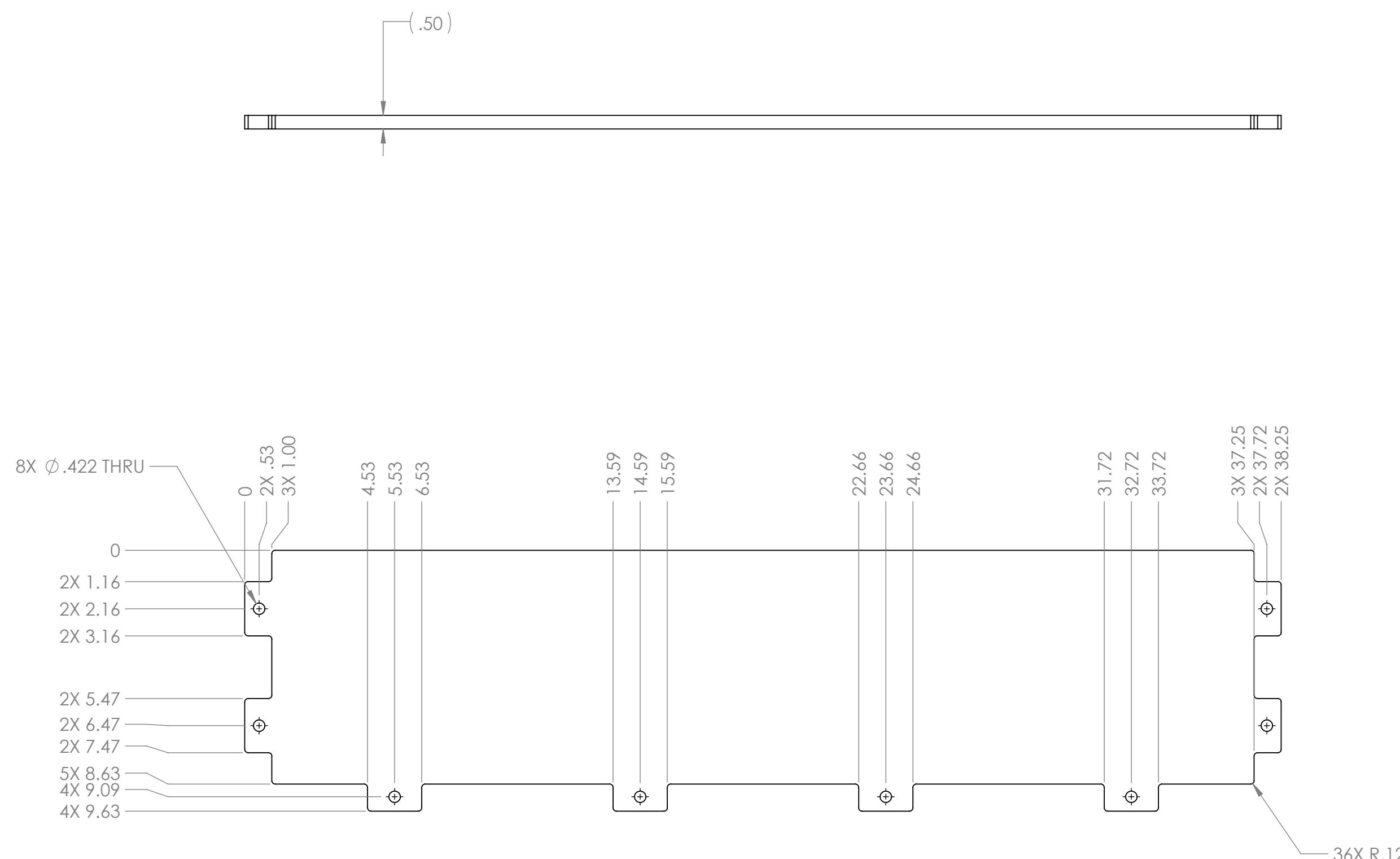
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UNLESS OTHERWISE SPECIFIED:

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**

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

FIRST[®] ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions PartnerTITLE: Coral Holder
Top & Bottom
Panel

SIZE DWG. NO. REV

C GE-25411

SCALE: 1:4 SHEET 1 OF 1

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3X 1.00
2X 4.41
2X 6.66

2X 13.47
2X 15.72

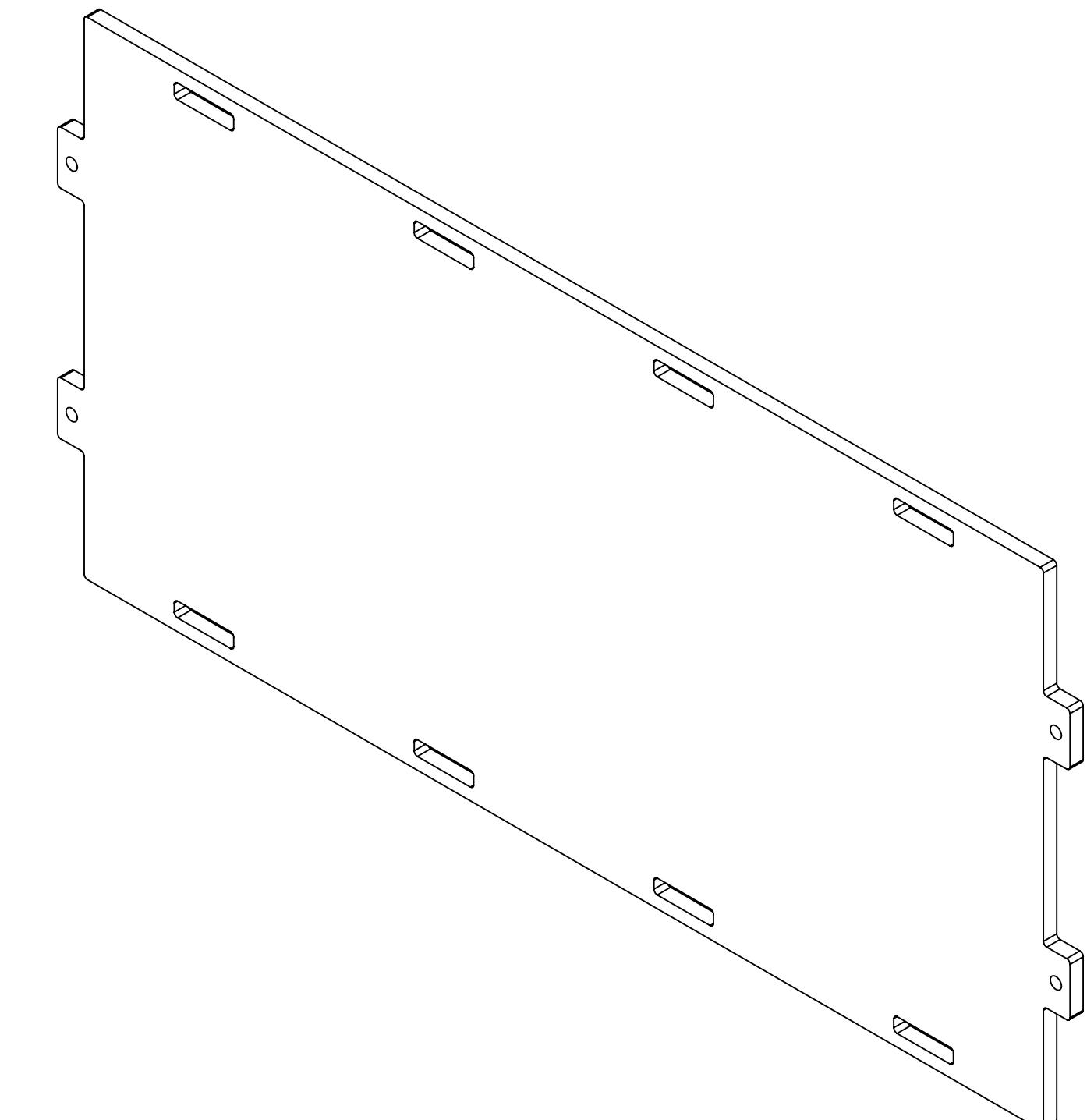
2X 22.53
2X 24.78

2X 31.59
2X 33.84

3X 37.25
2X 37.72
2X 38.25

52X R.13
4X Ø .422 THRU
2X Ø .45
4X 1.00
4X .45
2X 4.10
2X 5.10
2X 6.10
2X 12.30
2X 13.30
2X 14.30
4X 17.40
4X 17.95
18.40

(.50)



UNLESS OTHERWISE SPECIFIED:

VEND	NAME	DATE
DRAWN	BB	7/22/2024

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 $\pm .005$

PROPRIETARY AND CONFIDENTIAL

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MATERIAL/FINISH:

1/2" Black HDPE, Orange Peel Texture

COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

FIRST ROBOTICS COMPETITION SOLIDWORKS Modeling Solutions Partner

Coral Holder Back Panel

SIZE	DWG. NO.	REV
C	GE-25412	

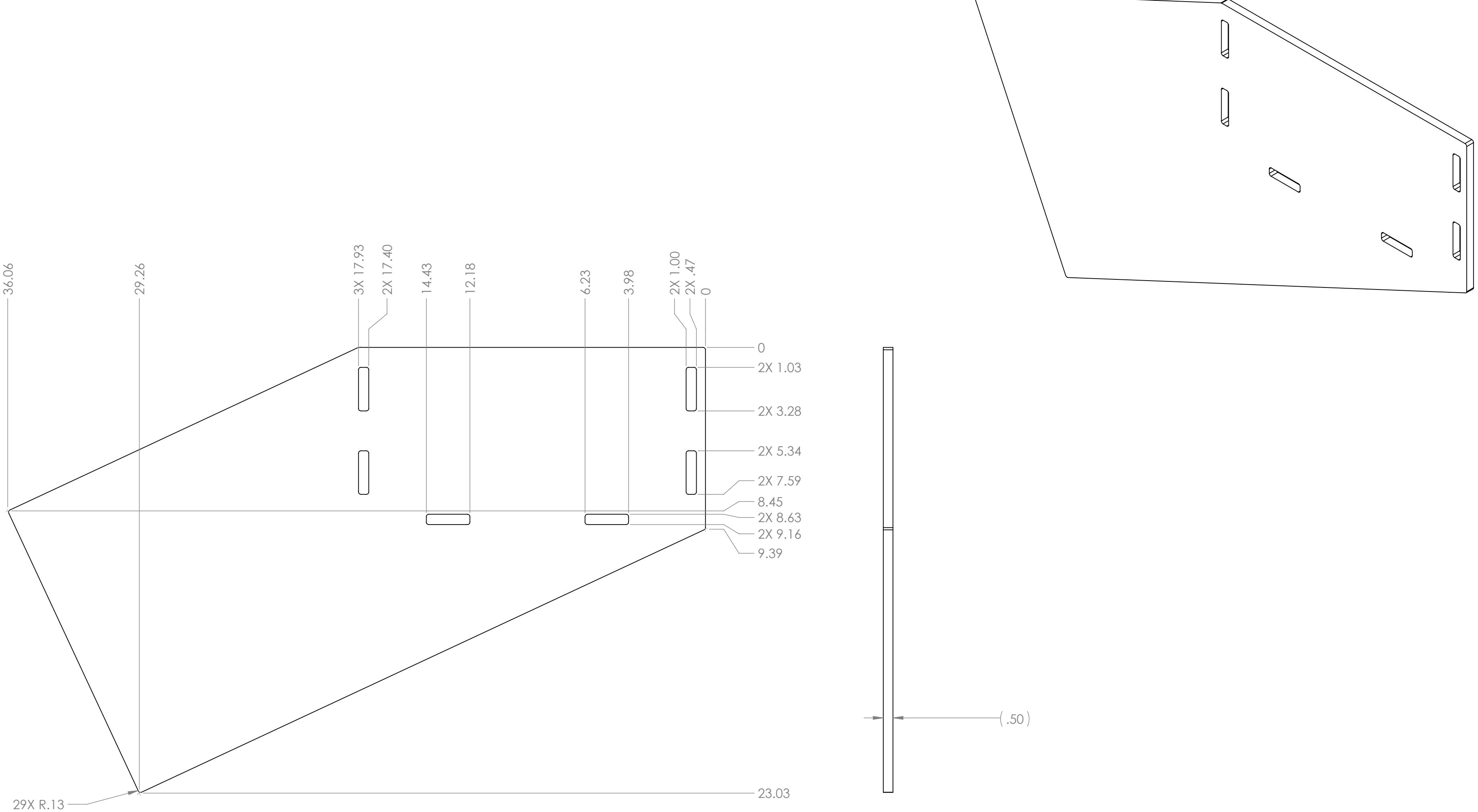
SCALE: 1:4	SHEET 1 OF 1
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4

3

2

1



UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	BB	7/22/2024
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			
PROPRIETARY AND CONFIDENTIAL			
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COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			

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TITLE:
Coral Holder
Side Panel

SIZE DWG. NO. REV
C GE-25413

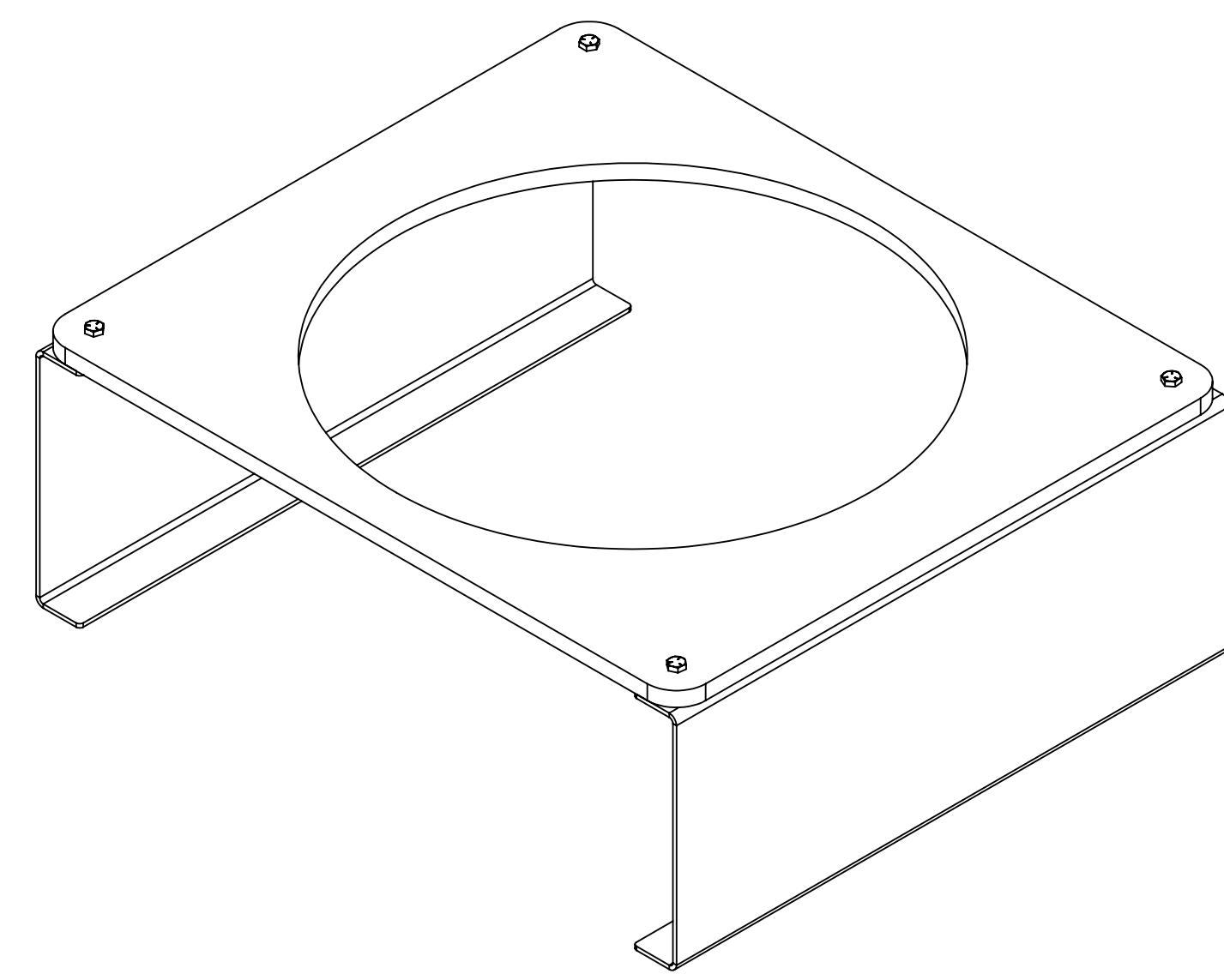
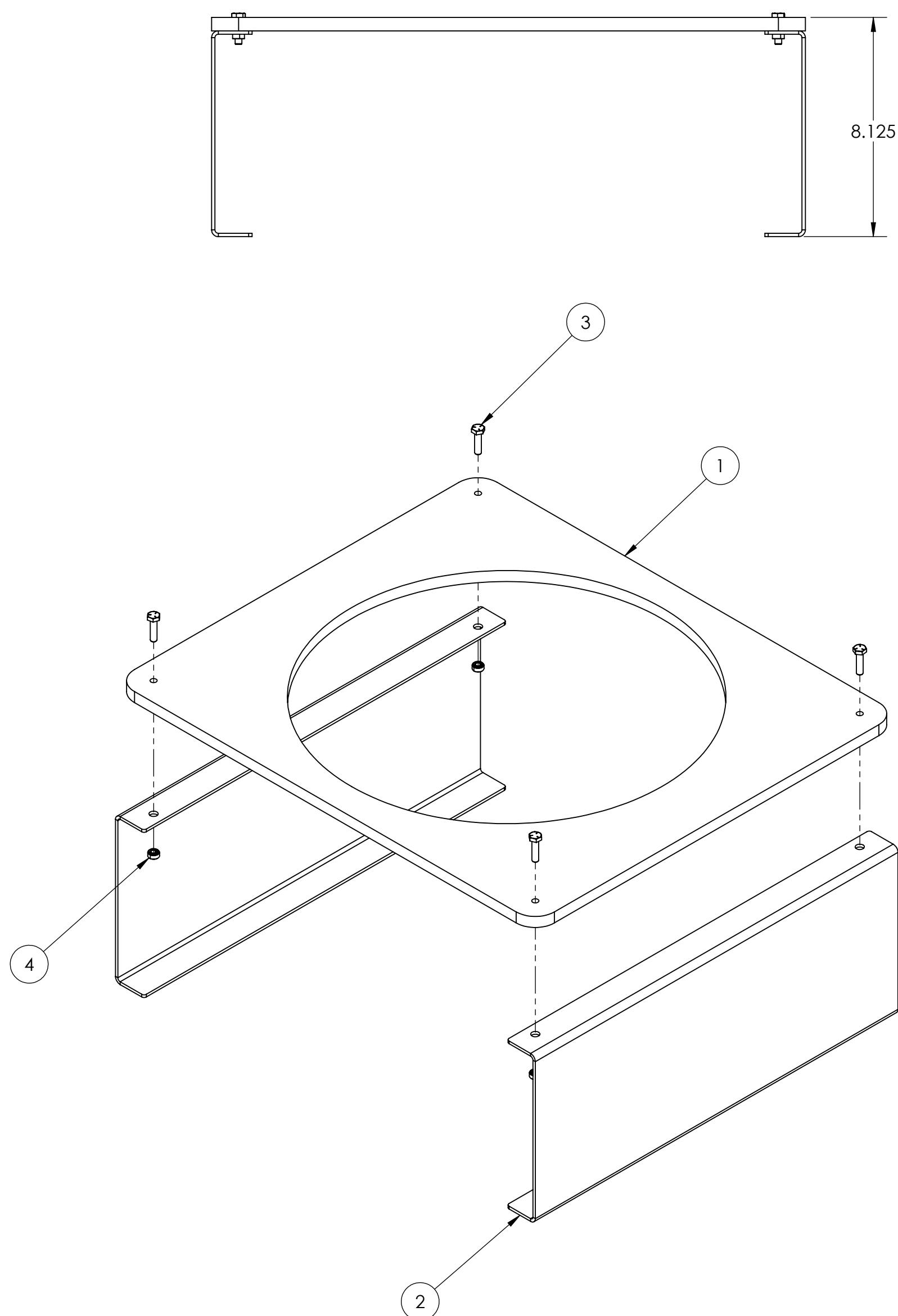
SCALE: 1:8 SHEET 1 OF 1

4

3

2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-25421	Algae Inflation Jig Panel	1
2	GE-25422	Algae Inflation Jig Foot	2
3	Configurable Bolt	1" Long 1/4-20 Hex Head Bolt	4
4	pem_clinchnut_.25_20 .054	1/4-20 self-clinching nut, .054 shank	4

UNLESS OTHERWISE SPECIFIED:			VEND	NAME	DATE
			DRAWN	JO	1/9/2025
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COMMENTS:					
REMOVE ALL BURRS AND SHARP EDGES.					
DO NOT SCALE DRAWING					

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TITLE: Algae Inflation Jig

SIZE DWG. NO. REV

C GE-25420

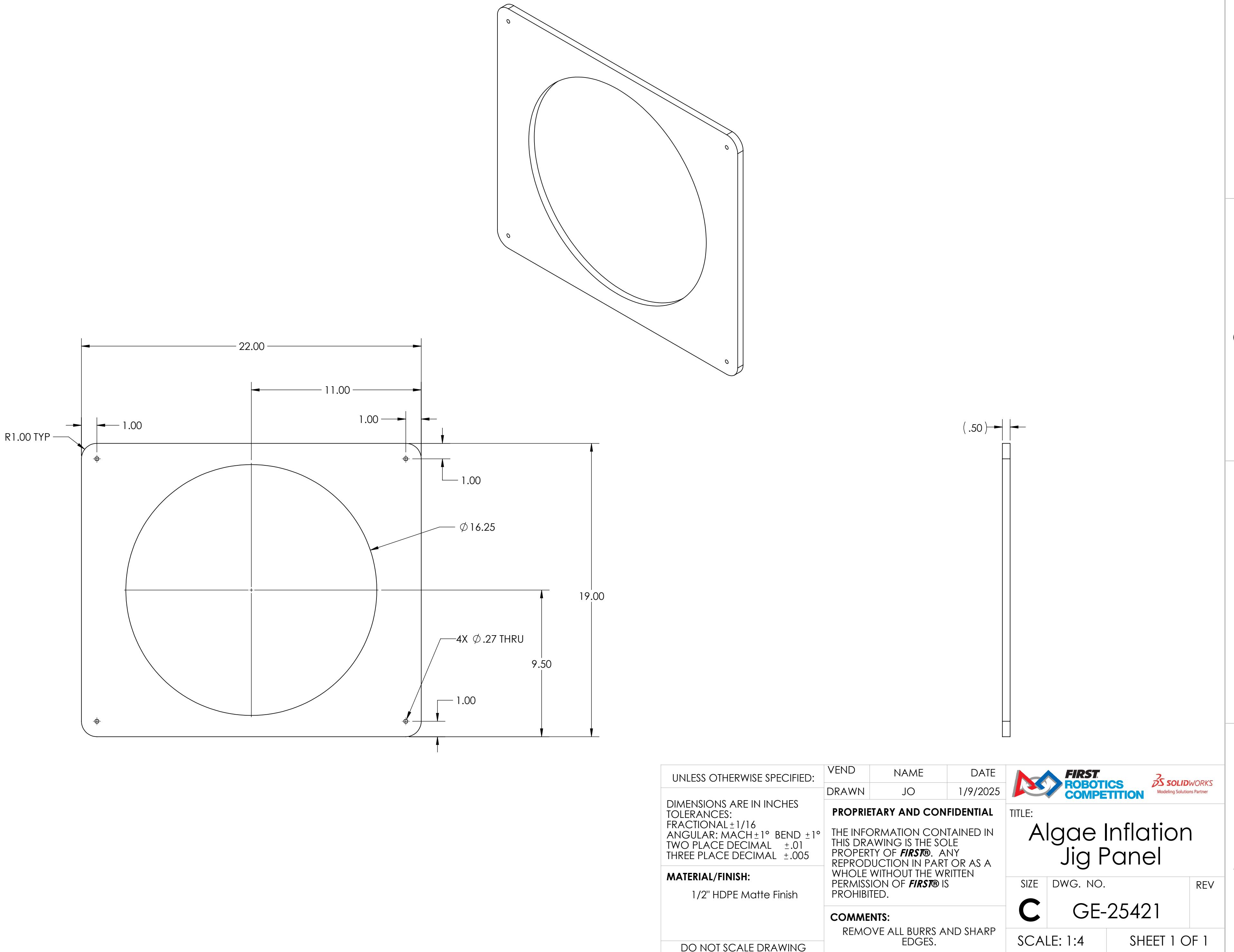
SCALE: 1:4 SHEET 1 OF 1

4

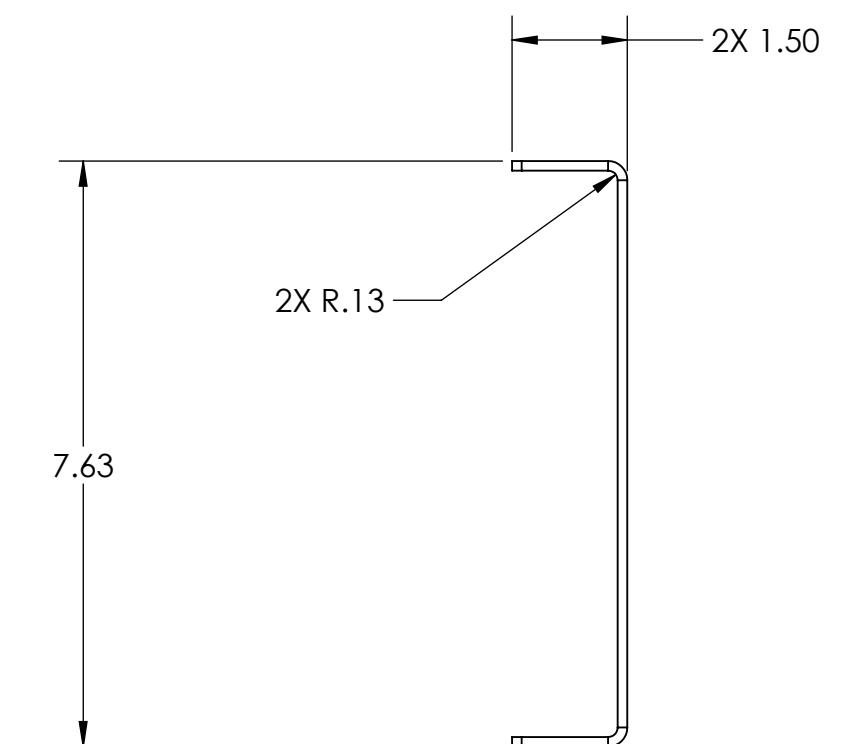
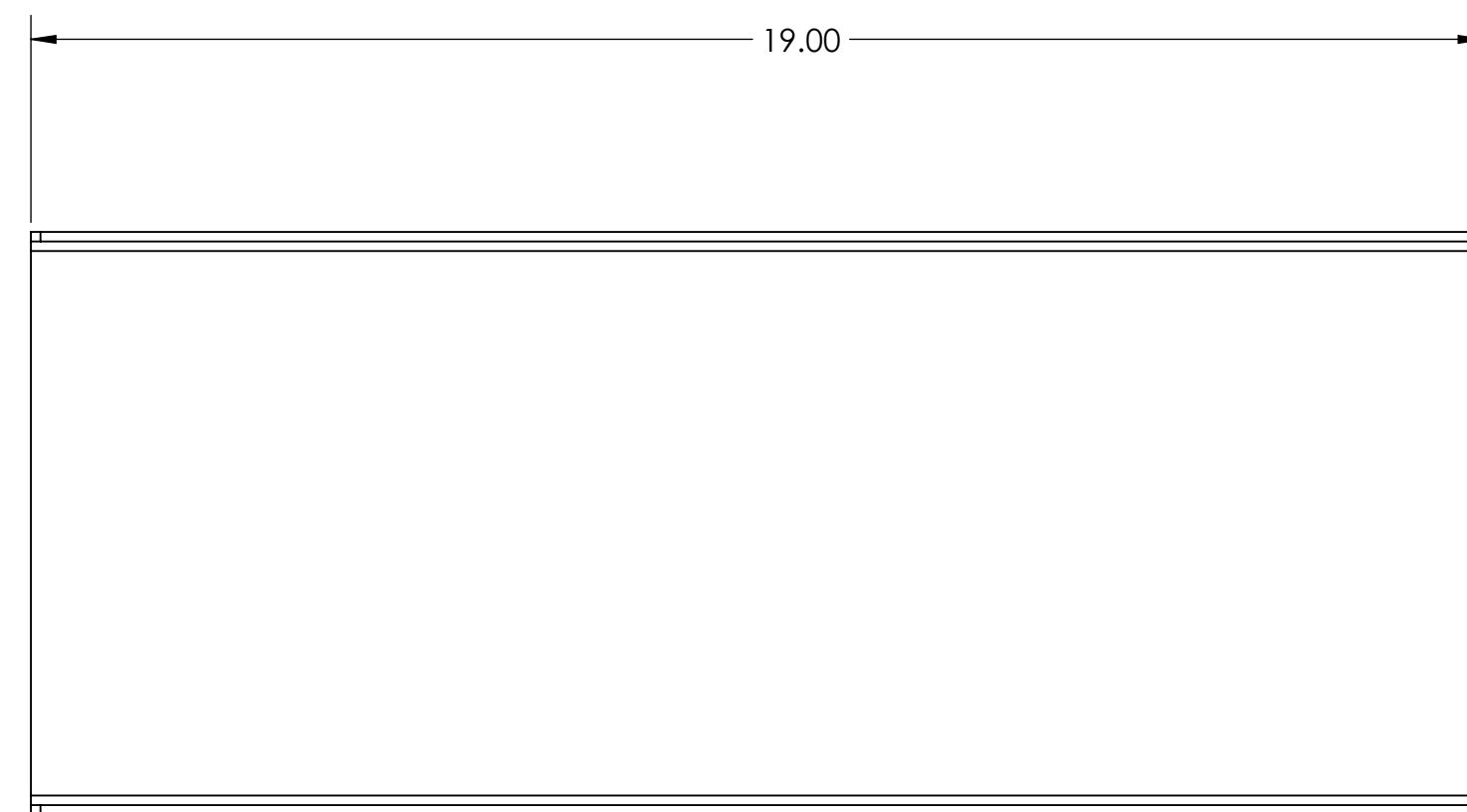
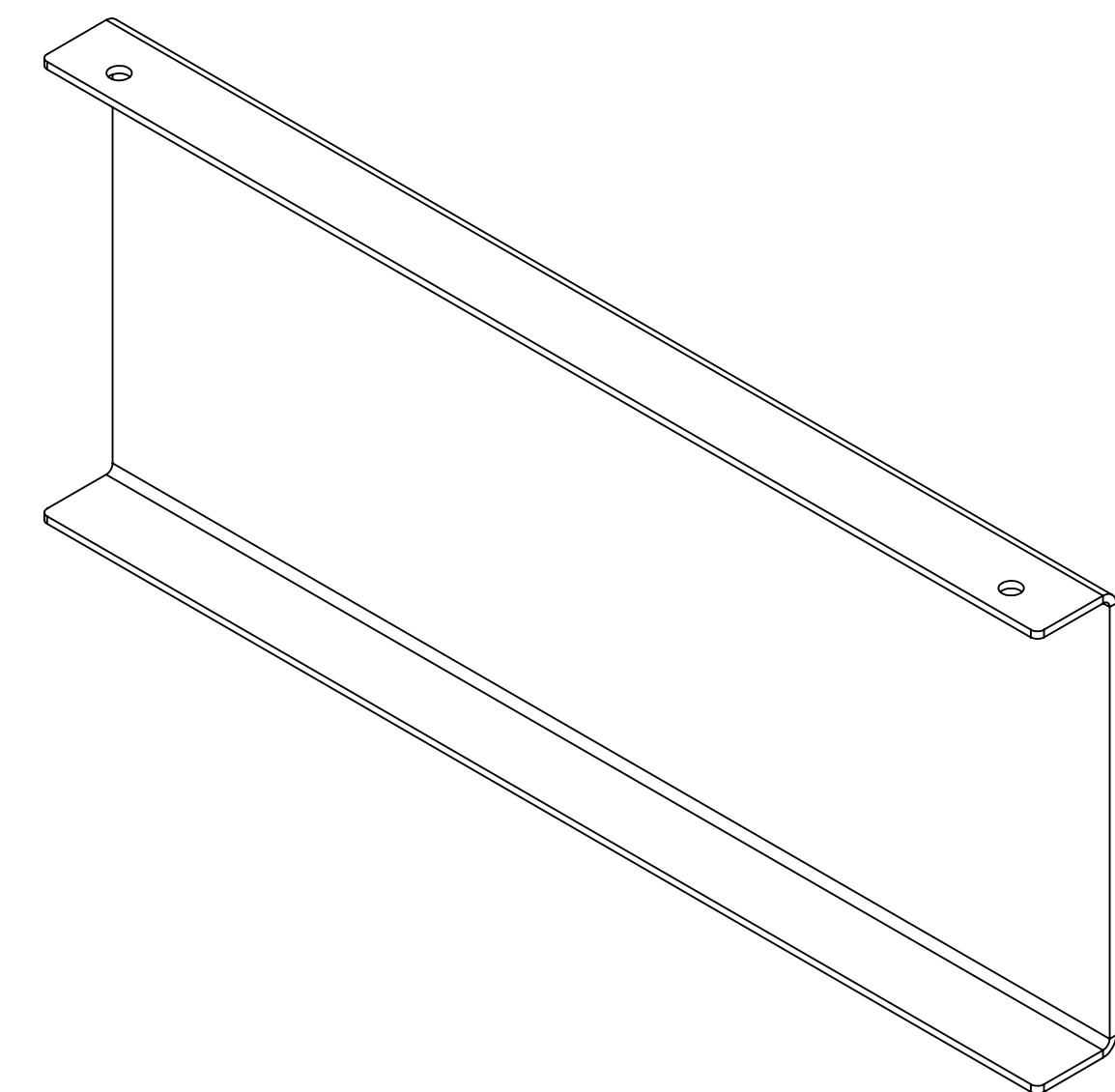
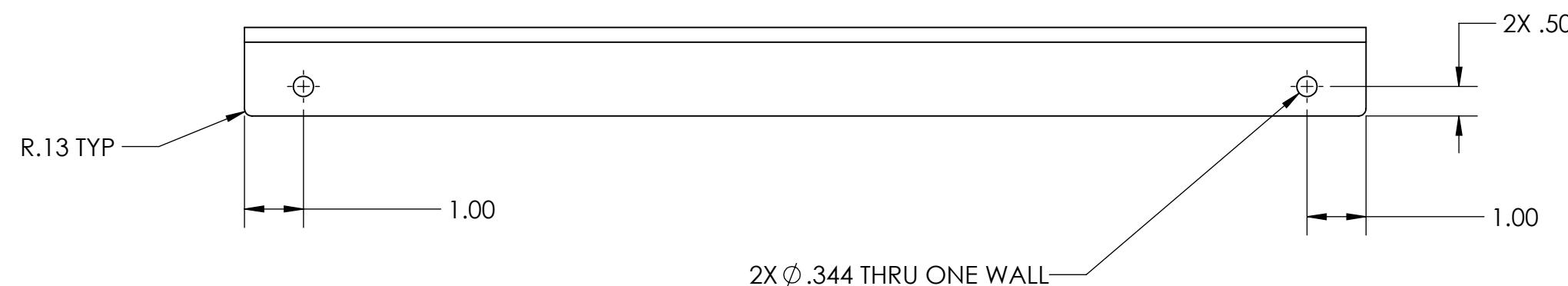
3

2

1



D



UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN	JO	1/9/2025
PROPRIETARY AND CONFIDENTIAL			
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MATERIAL/FINISH:	SIZE	DWG. NO.	REV
1/8" 5052 Aluminum	C	GE-25422	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	SCALE: 2:5	SHEET 1 OF 1	

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TITLE:
**Algae Inflation
Jig Foot**

SIZE DWG. NO. REV
C GE-25422

SCALE: 2:5 SHEET 1 OF 1