



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22001	Side Frame, Terminal	2
2	GE-22002	Front Frame, Terminal	1
3	GE-22003	Horizontal Support, Terminal	2
4	GE-22004	Chute Assembly, Terminal	2
5	GE-22007	Conduit, Terminal	2
6	GE-22008	Plastic, Purple Plane	2
7	GE-22009	Guard Assembly, Terminal	1
8	GE-22013	Side Plastic, Terminal	2
9	GE-22014	Front Plastic, Terminal	1
10	GE-22016	Outer Ramp Assembly, Left	1
11	GE-22017	Outer Ramp Assembly, Right	1
12	GE-22022	Inner Ramp	2
13	GE-22024	Edge Protector 46"	4
14	GE-22026	Terminal Chain	1
15	GE-22027	Roof	2
16	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	4
17	pin_quick_ring_.25_2.3125	Pin, Ring-Grip Quick-Release with SS Ring, 1/4" Diameter, 2.3125" Usable Length	8

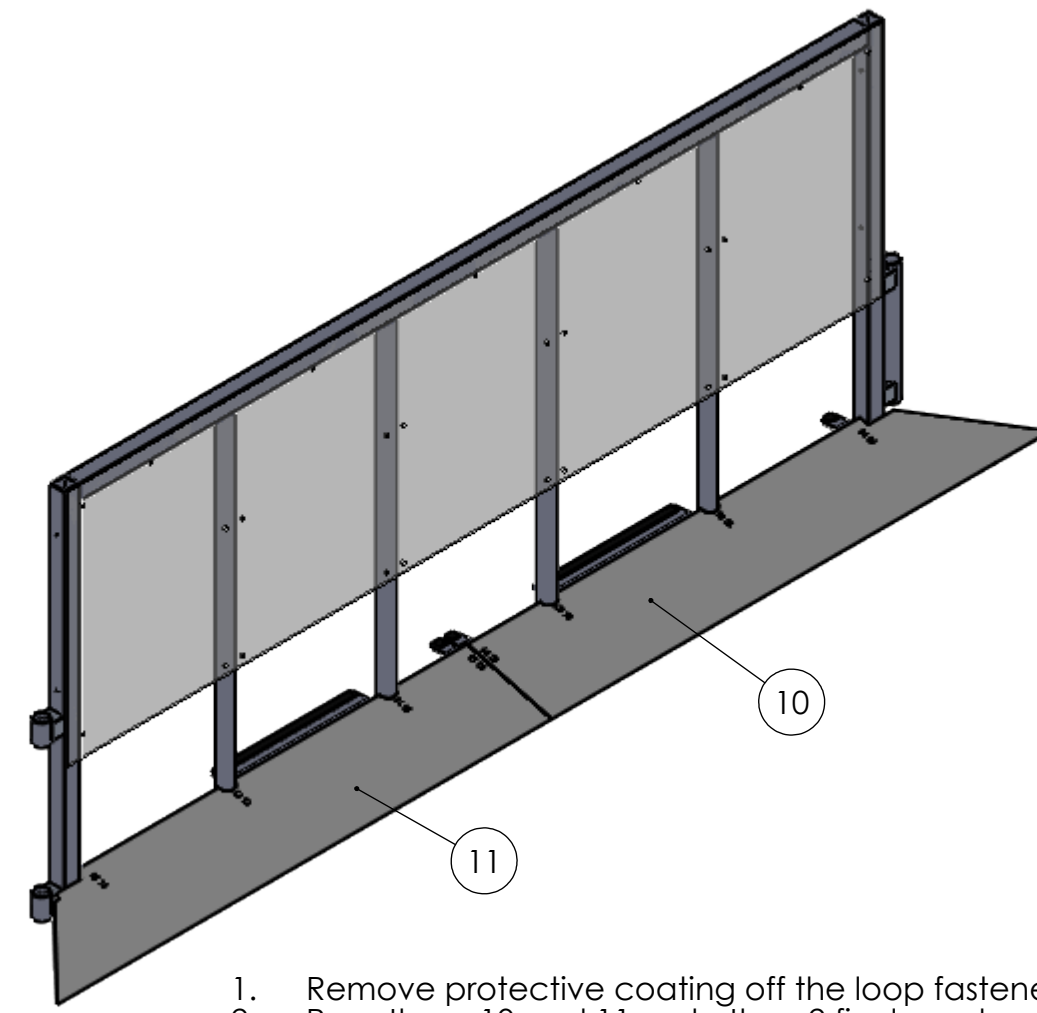
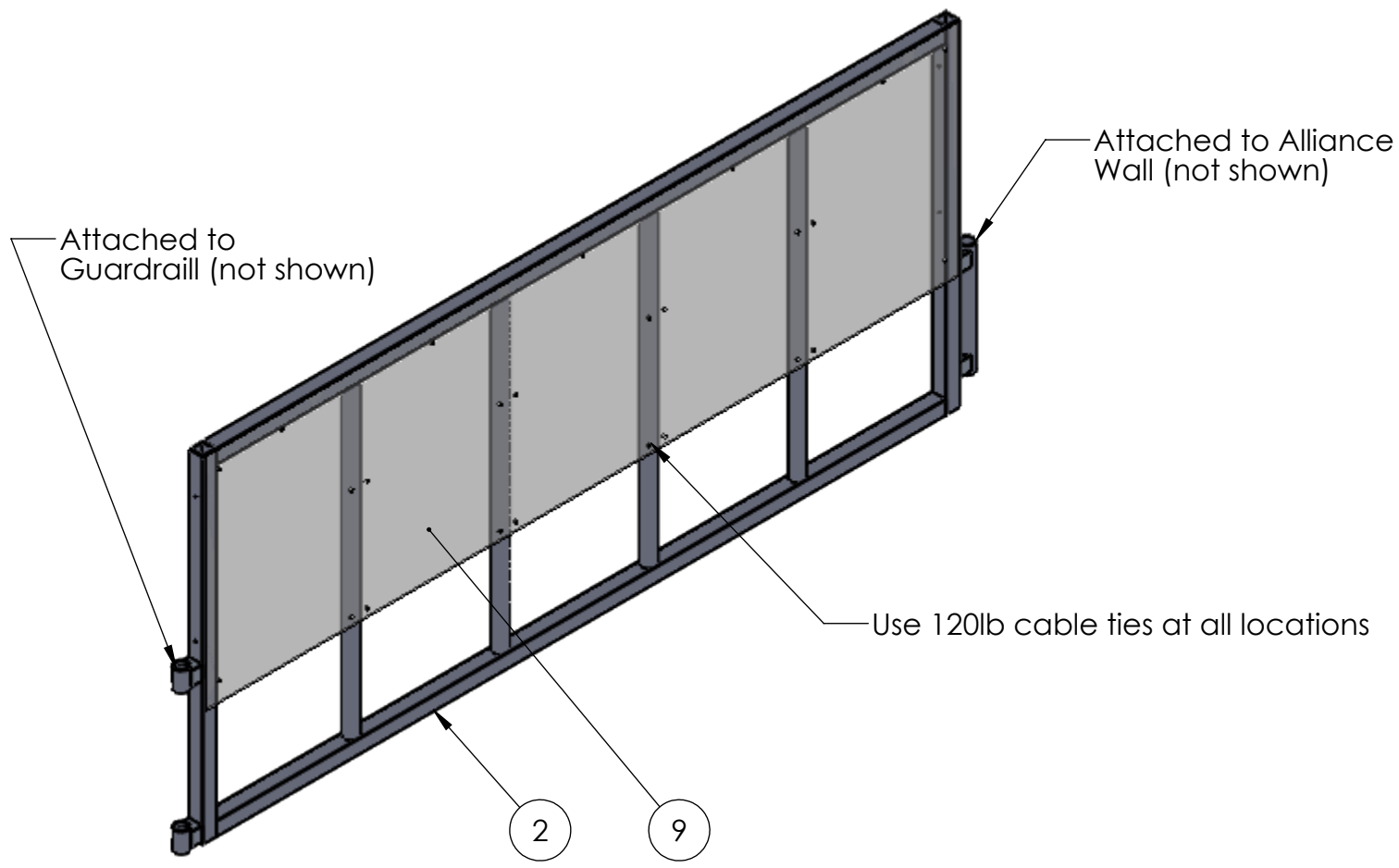
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	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.		
MATERIAL/FINISH:	 		
DO NOT SCALE DRAWING	TITLE: <h1>Terminal Assembly</h1>		
	SIZE	DWG. NO.	REV
	C	GE-22000	
	SCALE: 1:12	SHEET 1 OF 5	

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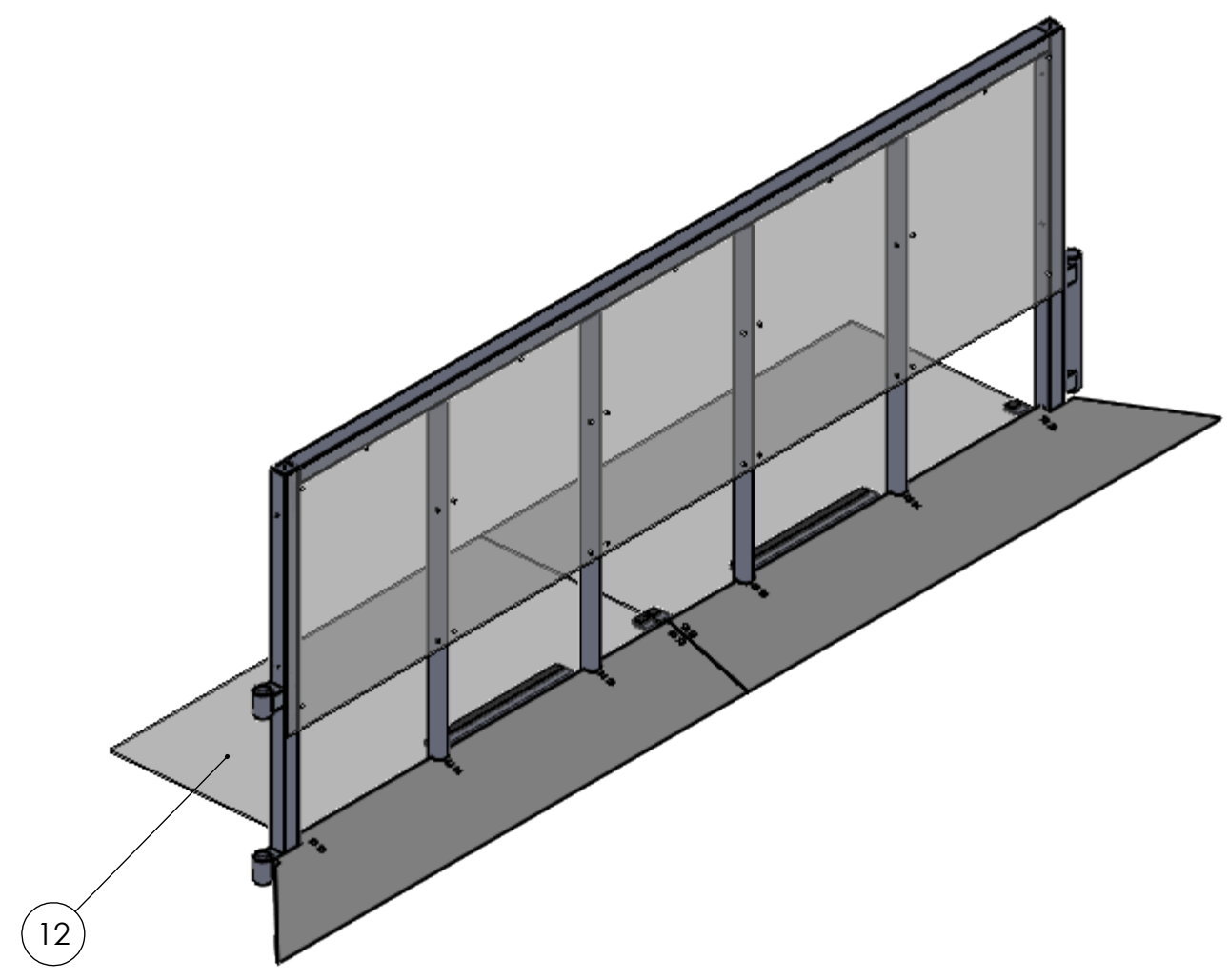
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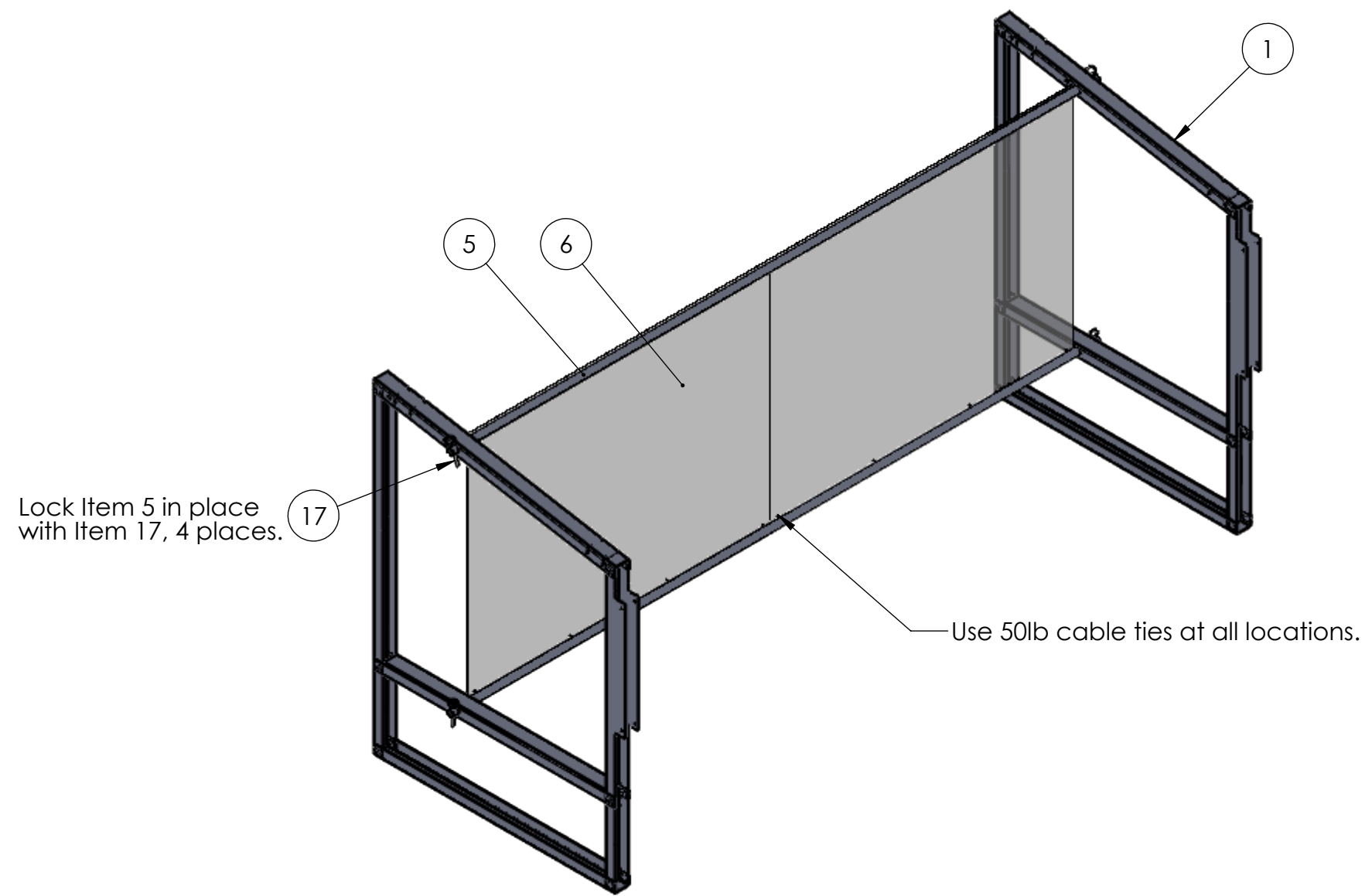
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1. Remove protective coating off the loop fastener on Items 10 and 11.
2. Press Items 10 and 11 on to Item 2 firmly as shown to adhere the fastener.



Press Item 12 (x2) to Items 10 and 11 as shown to ensure loop fastener adheres to Item 12.



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	TITLE:		
	DRAWN	DF	1/2/2022		Terminal Assembly	
	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.
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			C	GE-22000	
			SCALE: 1:16	SHEET 2 OF 5		

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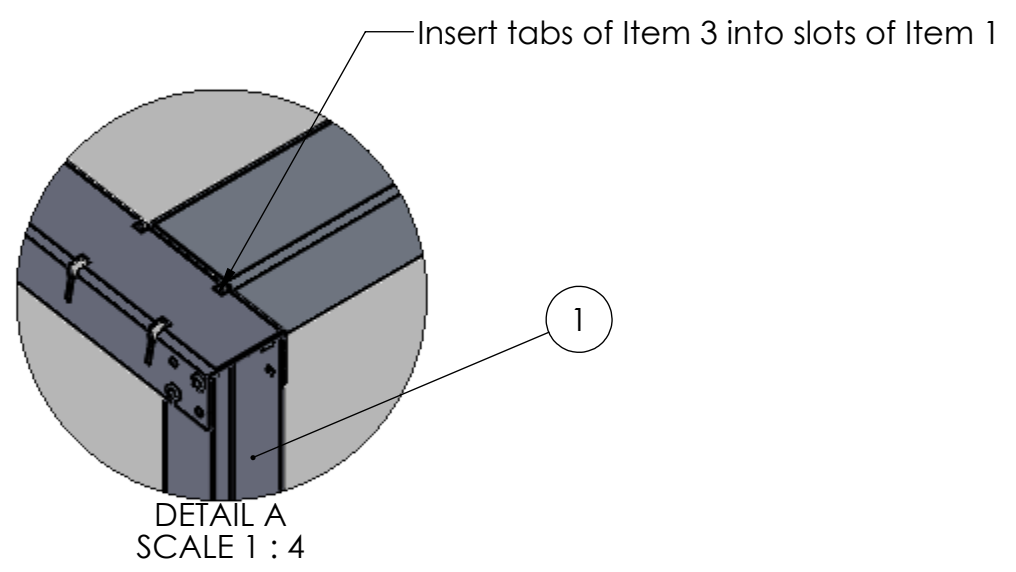
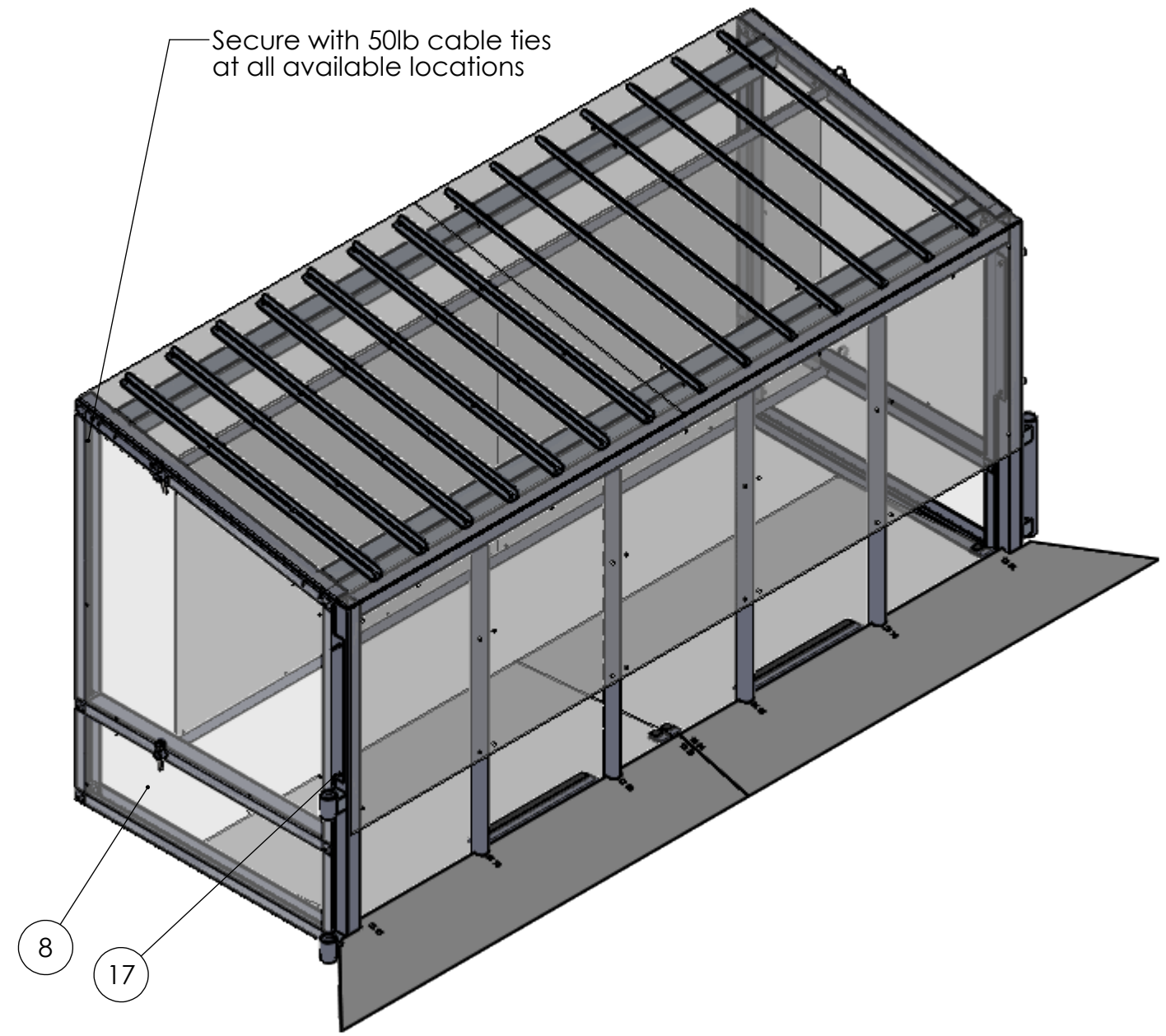
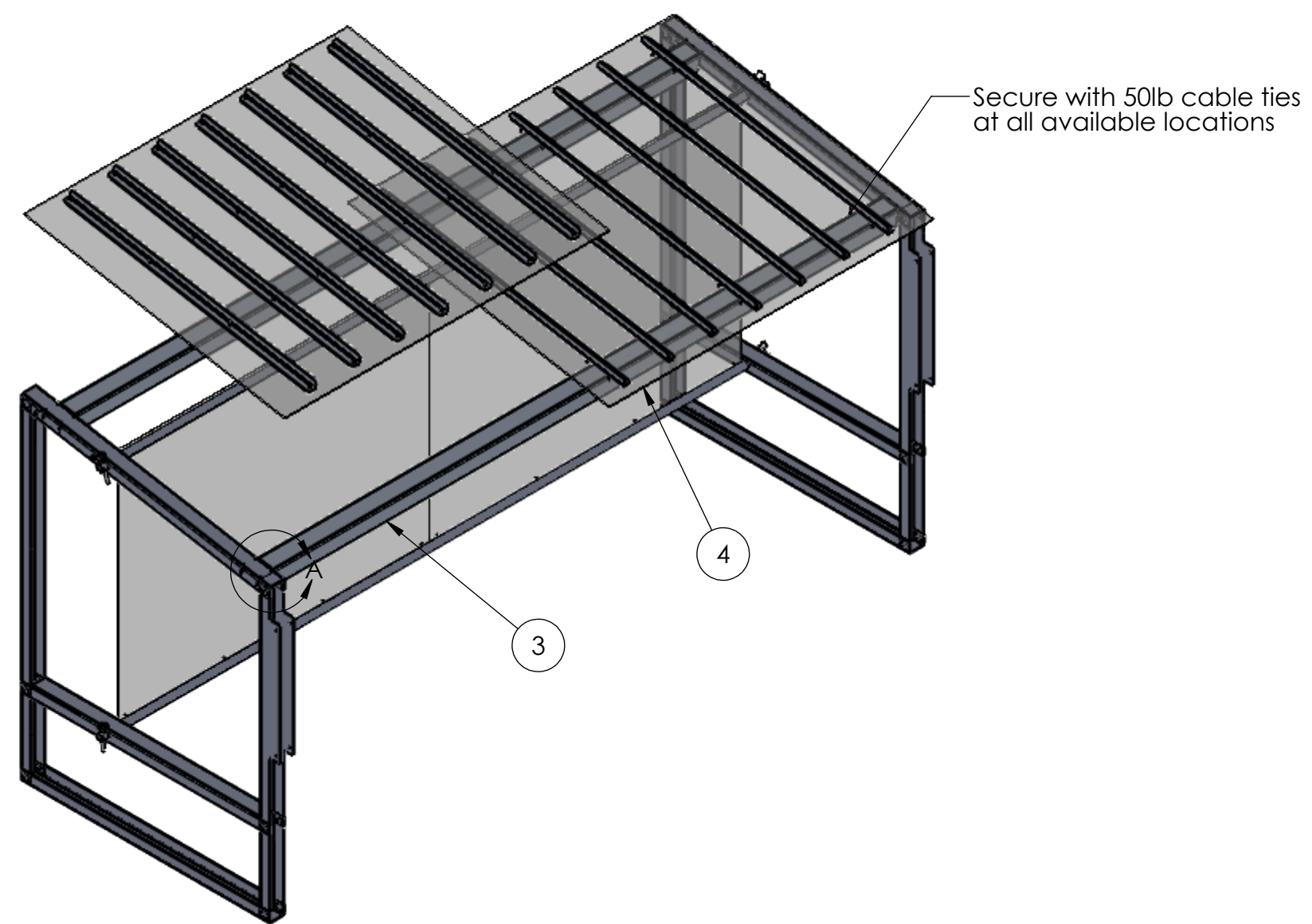
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Secure subassembly from last step to Item 2 using Item 17 (X4)

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE	TITLE: Terminal Assembly
	DRAWN	DF	1/2/2022	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	PROPRIETARY AND CONFIDENTIAL			SIZE DWG. NO. REV
	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:			SCALE: 1:16 SHEET 3 OF 5
	REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING				

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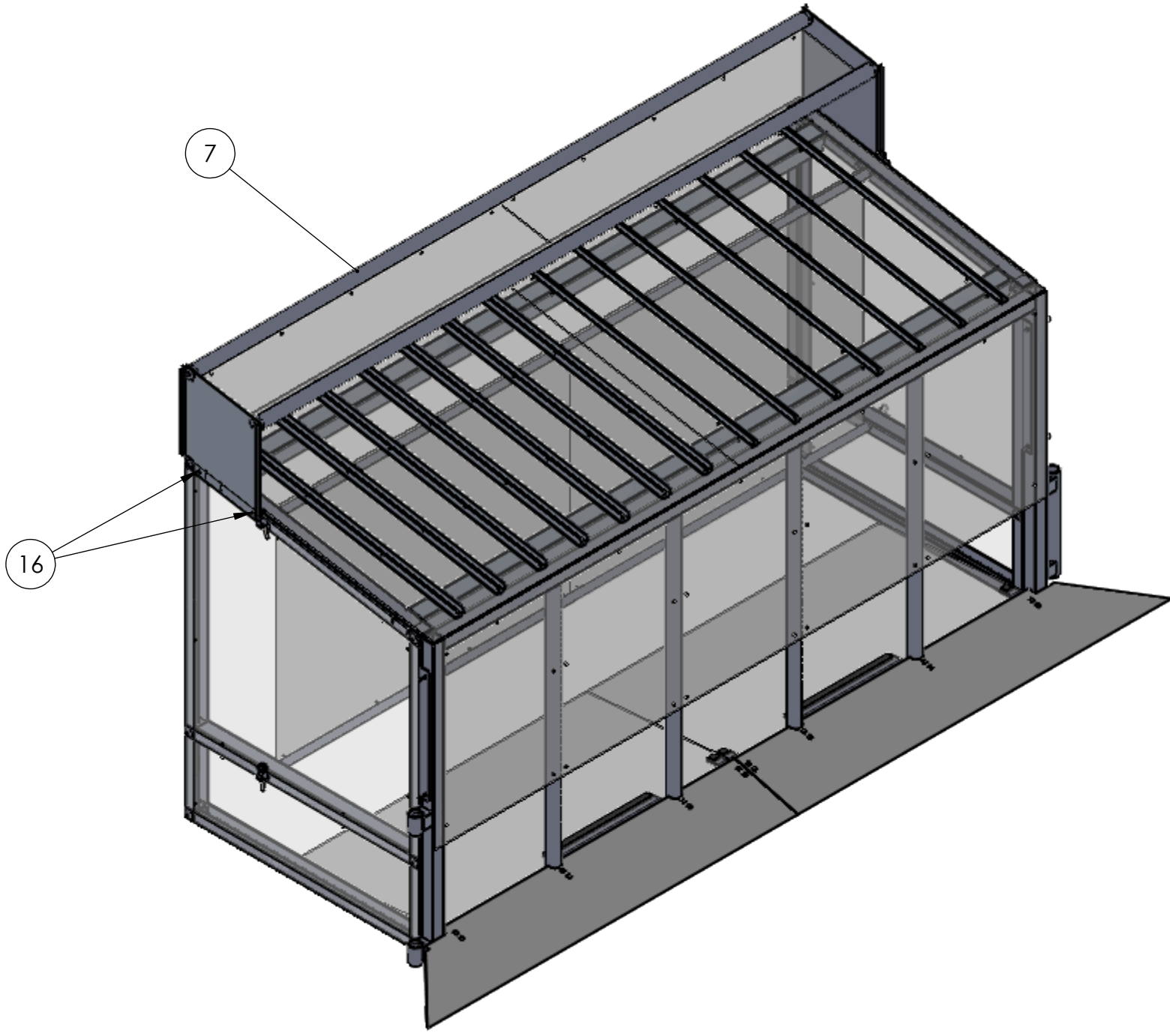
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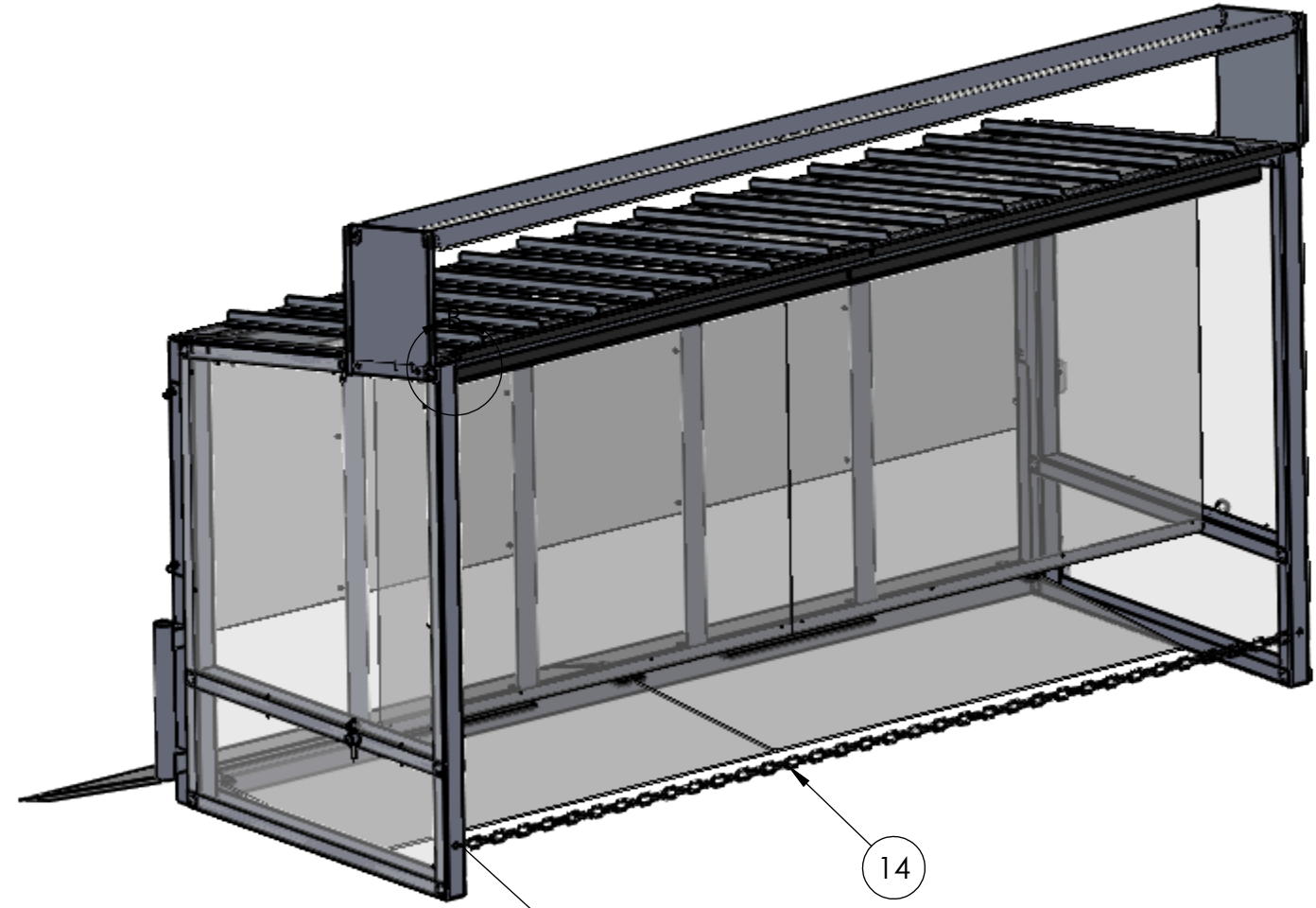
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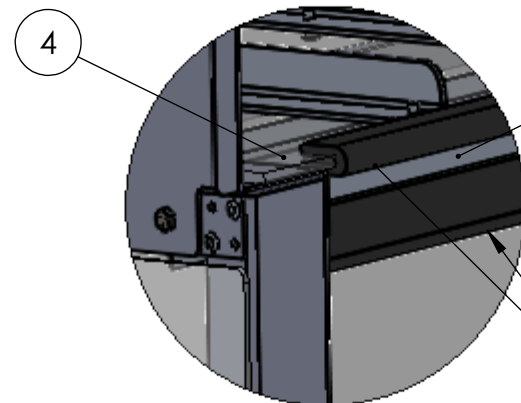
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Attach Item 7 using Item 16



Secure using 50lb cable ties



DETAIL B
SCALE 1 : 4

Attach Item 13 to the edges of Item 3 and 4 that are closest to the human player.

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE	TITLE: Terminal Assembly
	DRAWN	DF	1/2/2022	
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			SIZE C
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MATERIAL/FINISH:	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			REV
DO NOT SCALE DRAWING	SCALE: 1:16		SHEET 4 OF 5	

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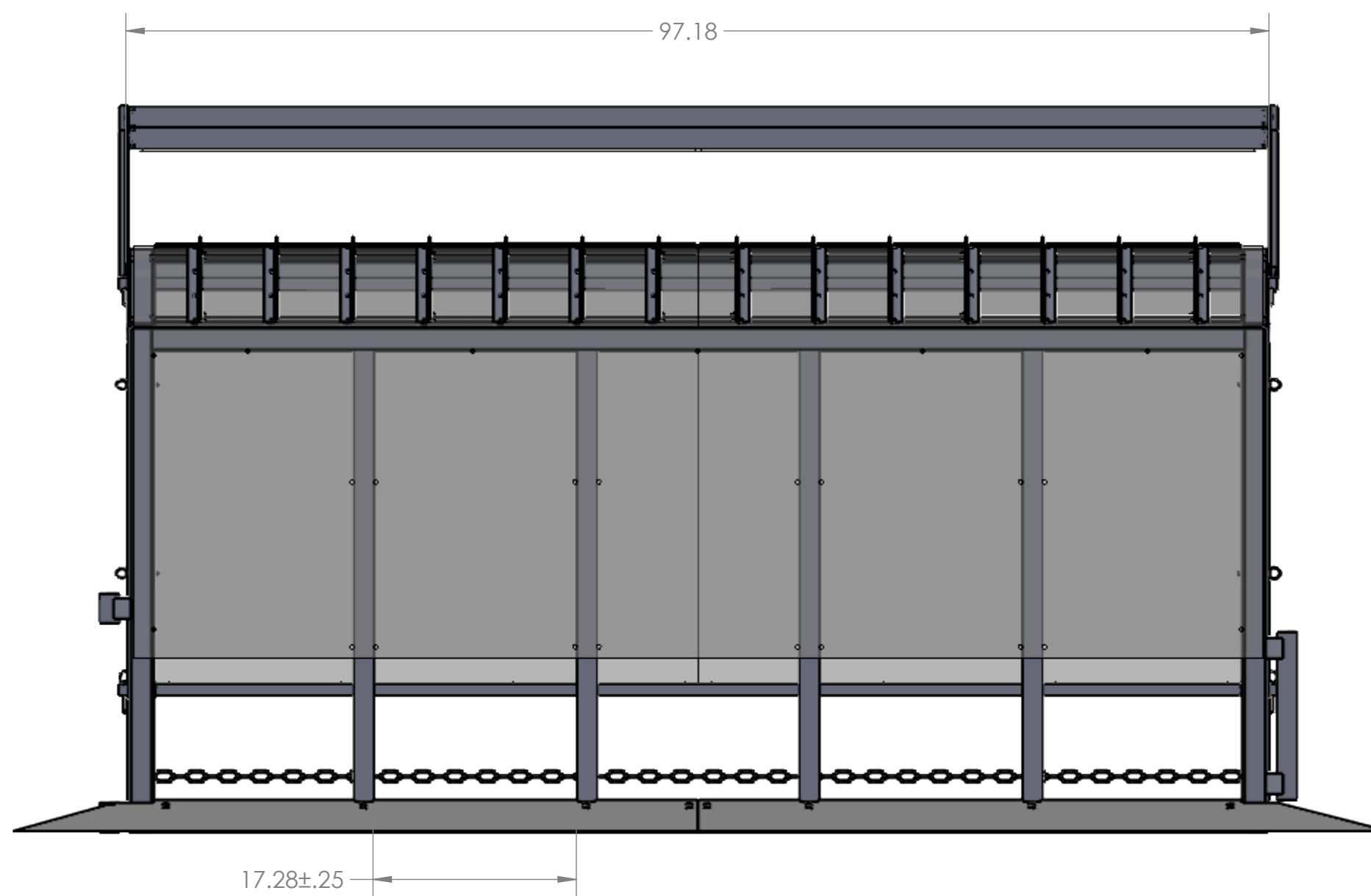
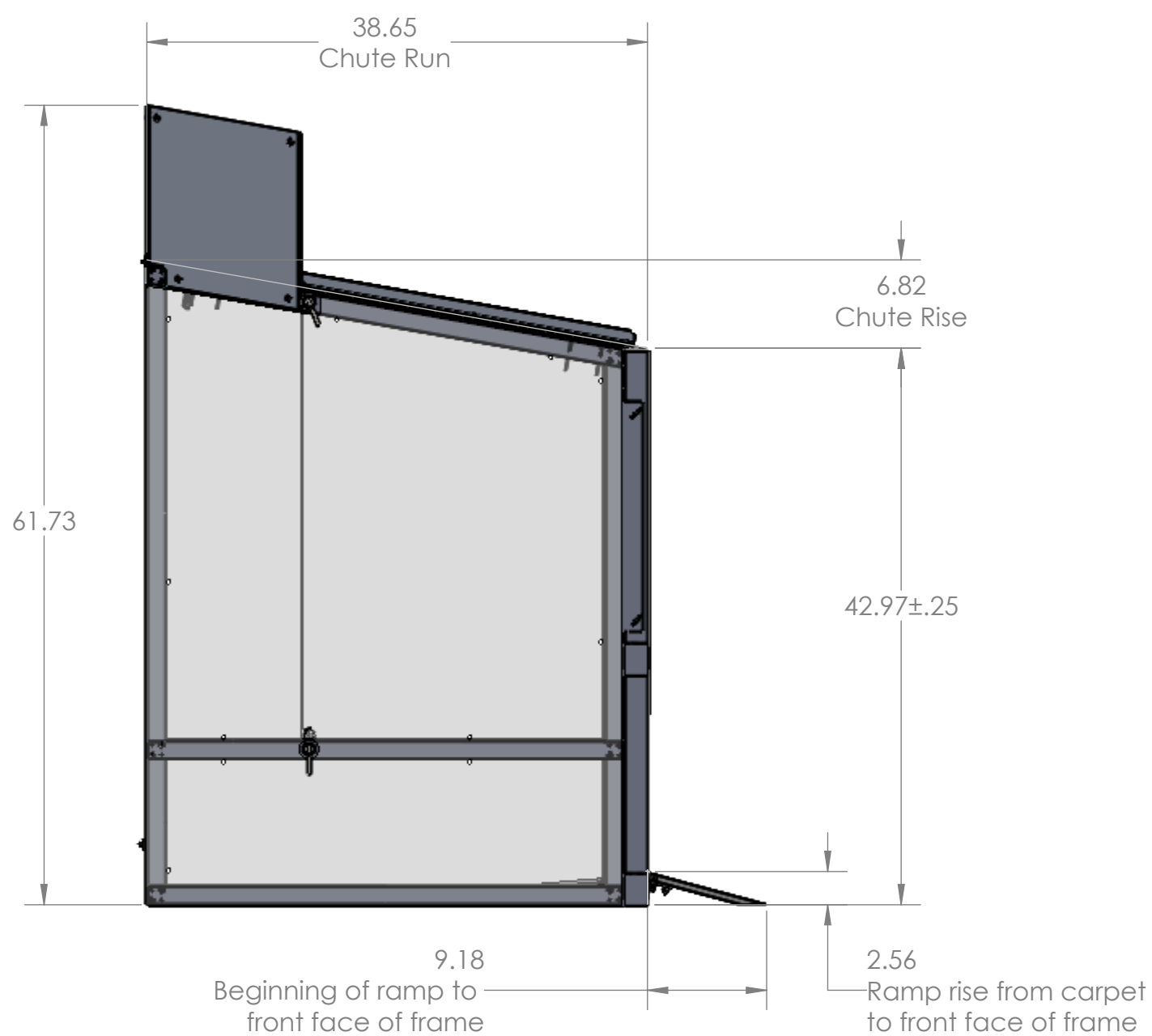
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MATERIAL/FINISH:	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. GE-22000
DO NOT SCALE DRAWING				REV
				SCALE: 1:24
				SHEET 5 OF 5

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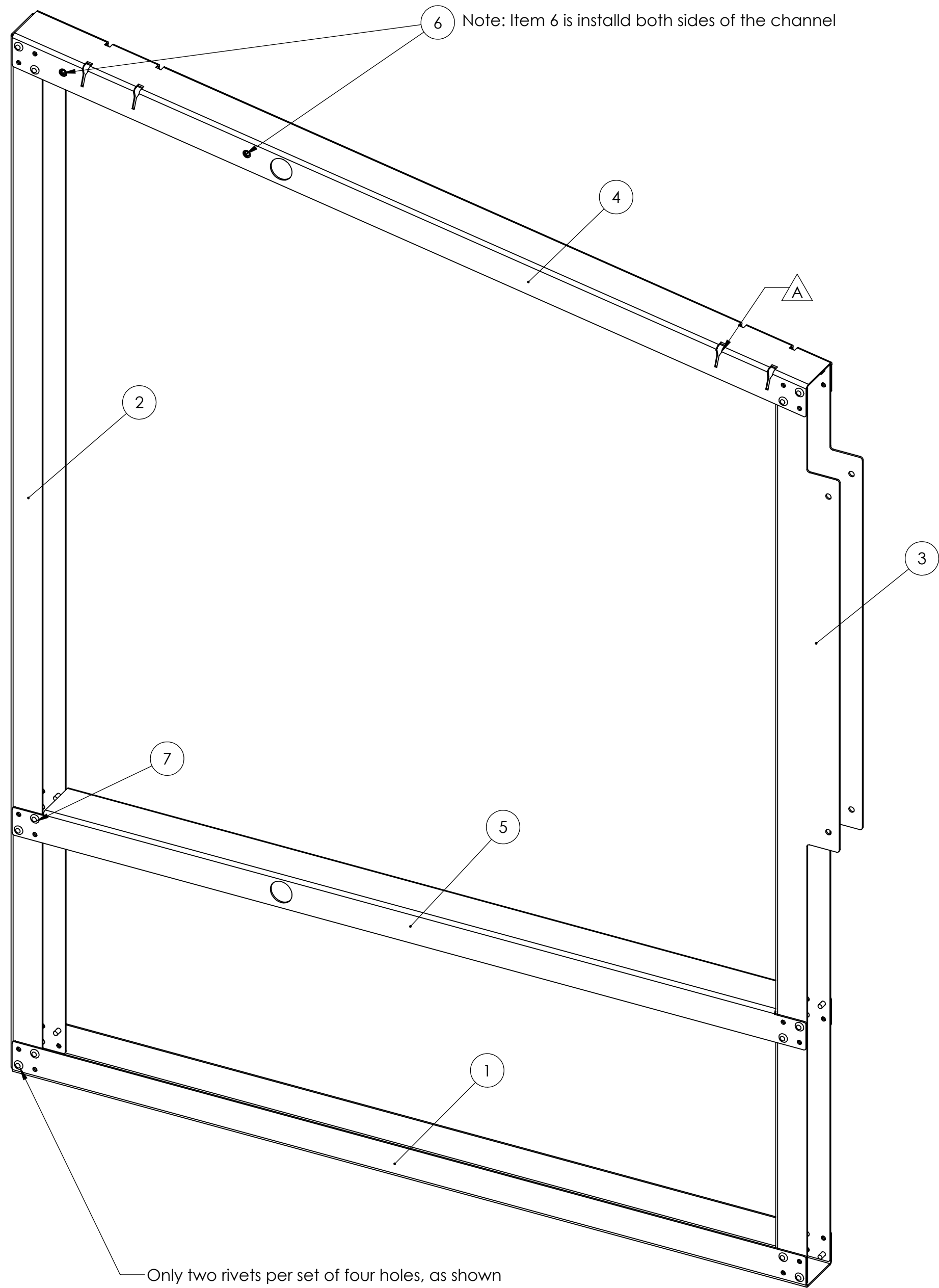
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C3	A	Redesigned slot shape.	8/27/2021	DAF



Notes:
1. Tag or label with part number

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22001-01	14 GA Steel, Preplated	1
2	GE-22001-02	14 GA. Steel, Preplated	1
3	GE-22001-03	14 GA. Steel, Preplated	1
4	GE-22001-04	14 GA. Steel, Preplated	1
5	GE-22001-05	14 GA Steel, Preplated	1
6	pem_clinchnut_.25_20_.054	1/4-20 self-clinching nut, .054 shank	4
7	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	24

UNLESS OTHERWISE SPECIFIED:		BEND	NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	DF	3/30/2021
TOLERANCES:		PROPRIETARY AND CONFIDENTIAL		
FRACTIONAL ±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 ±1° BEND ±1°		 		
TWO PLACE DECIMAL ±.02				
THREE PLACE DECIMAL ±.010		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
MATERIAL/FINISH:		TITLE: Side Frame, Terminal		
DO NOT SCALE DRAWING		SIZE DWG. NO. REV C GE-22001 A		
		SCALE: 1:8 SHEET 1 OF 3		

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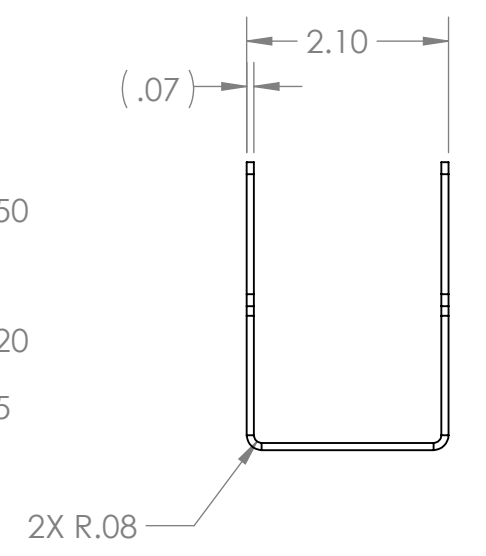
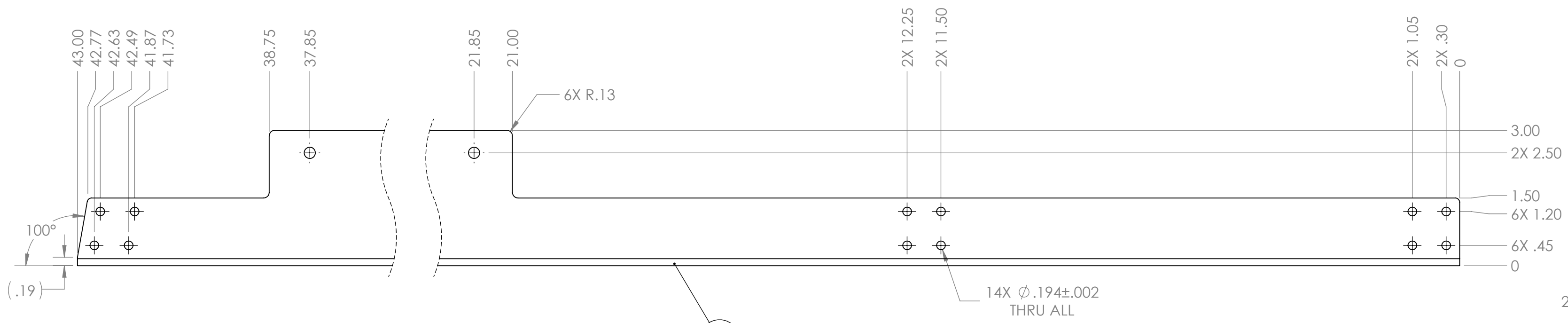
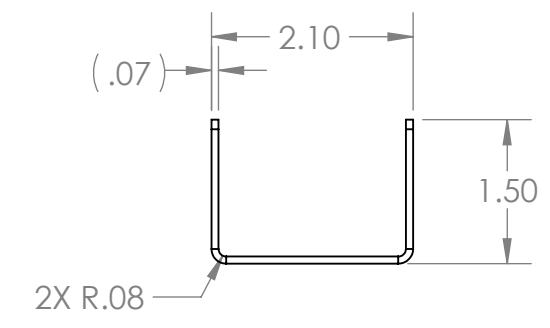
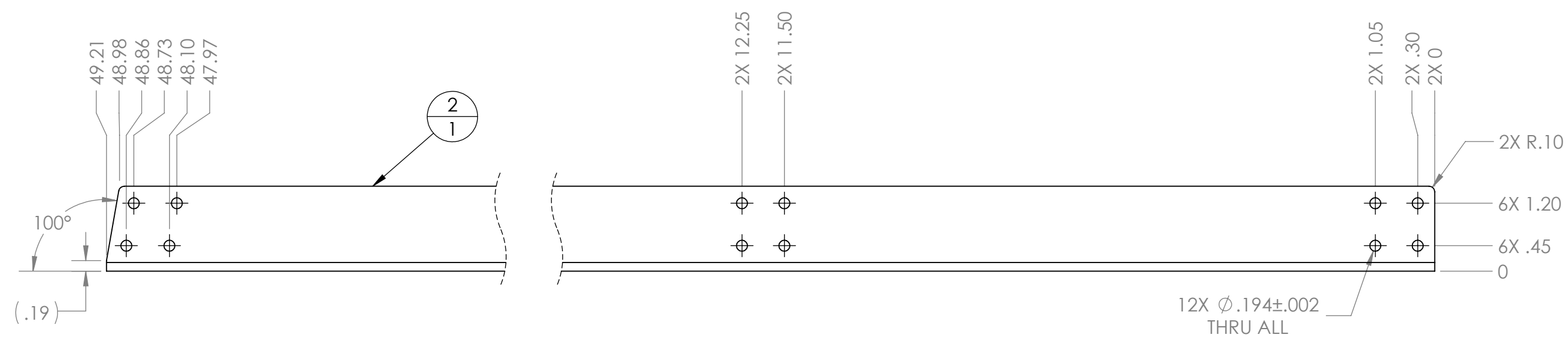
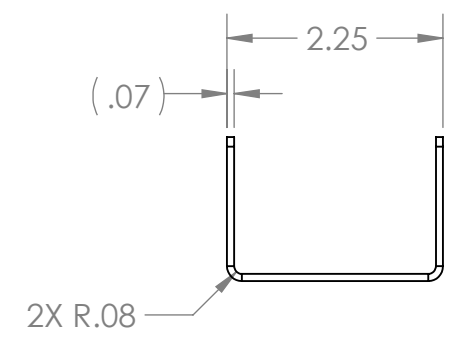
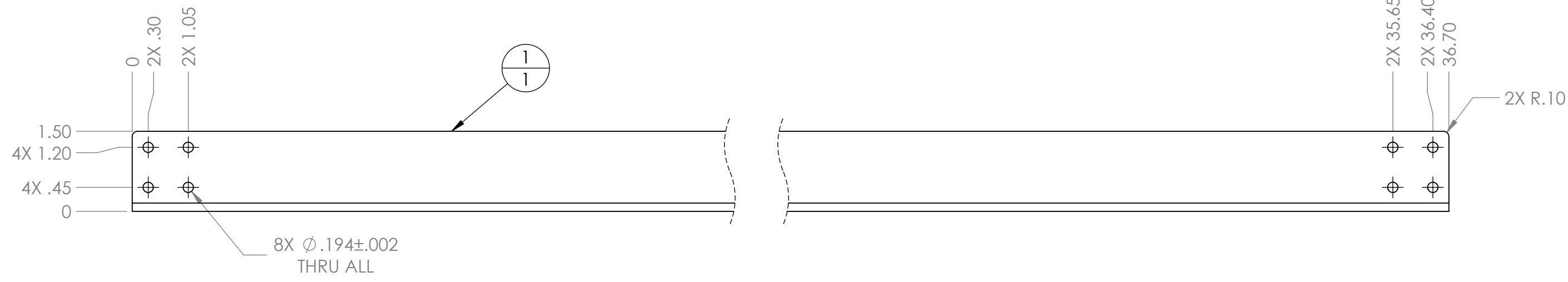
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UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE
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DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	PROPRIETARY AND CONFIDENTIAL		
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DO NOT SCALE DRAWING			
TITLE:		Side Frame, Terminal	
SIZE	DWG. NO.	REV	
C	GE-22001	A	
SCALE: 1:8		SHEET 2 OF 3	

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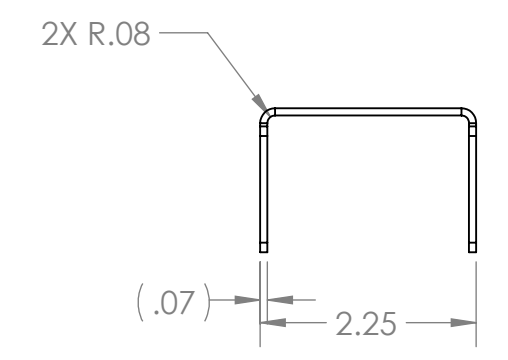
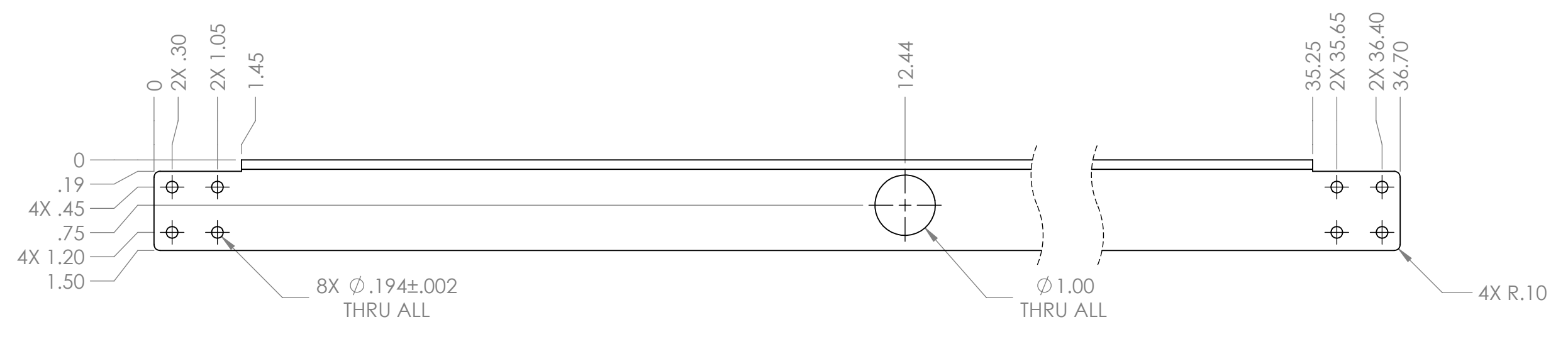
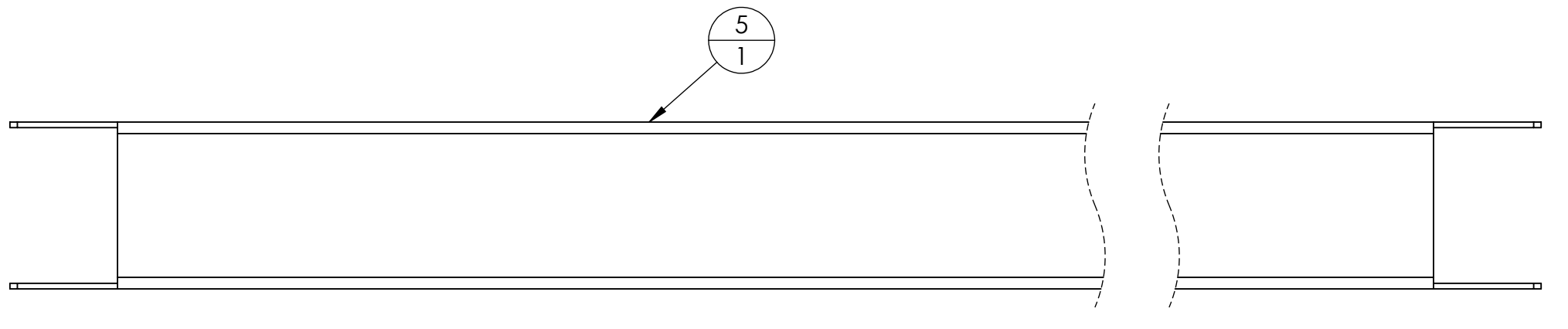
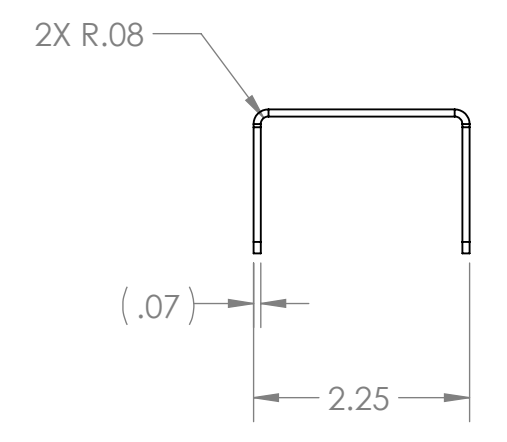
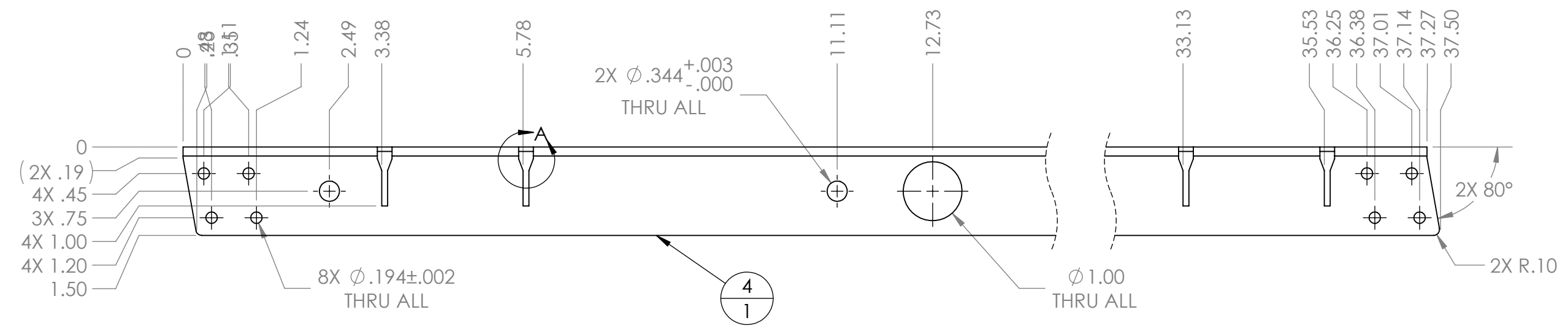
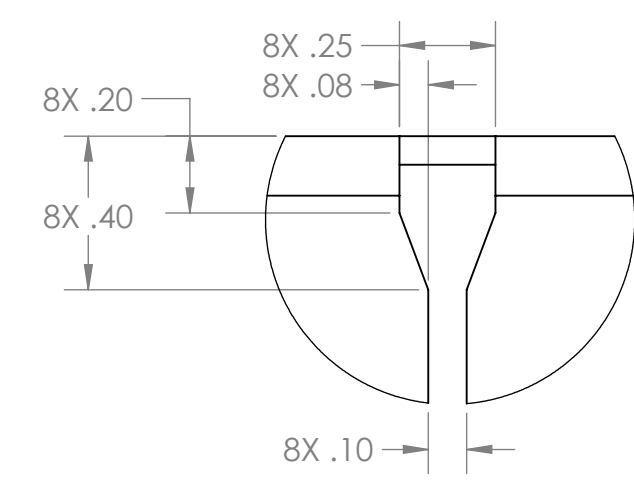
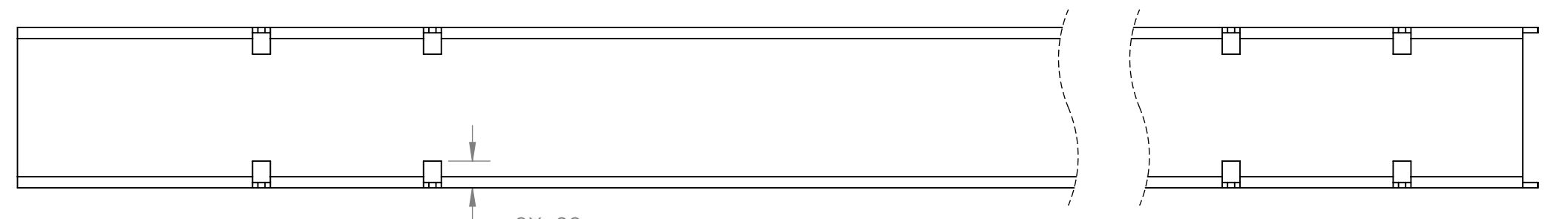
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	DRAWN	DF	3/30/2021	
	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			SIZE
				DWG. NO.
				REV
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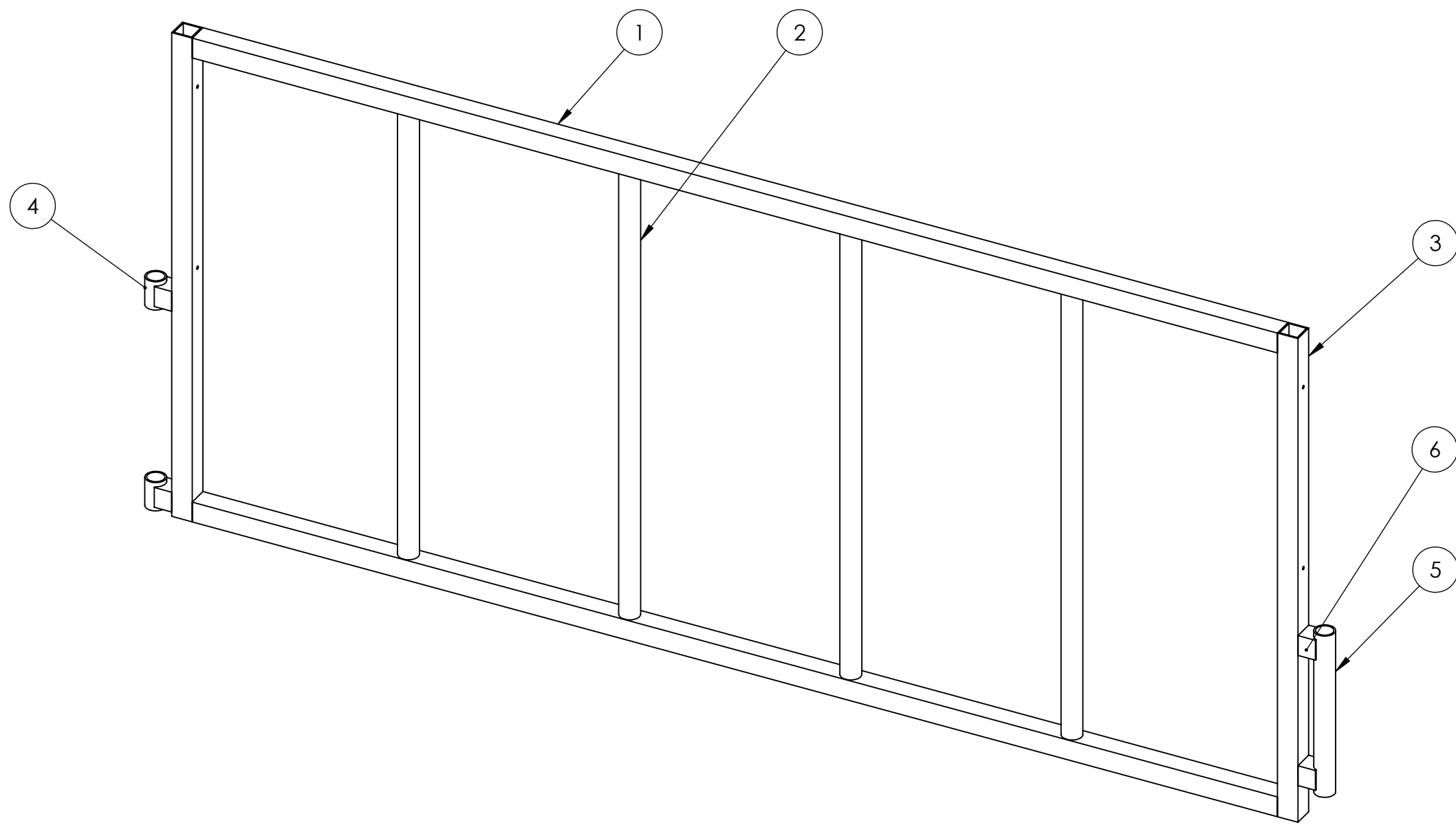
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22002-01	1.75" x .125" thk. Square Tube, 6061 Aluminum	2
2	GE-22002-02	1-1/4" Schedule 40 Pipe, 6061 Aluminum	4
3	GE-22002-03	1.75" x .125" thk. Square Tube, 6061 Aluminum	2
4	GE-22002-04	1-1/4" Schedule 40 Pipe, 6061 Aluminum	2
5	GE-22002-05	1-1/4" Schedule 40 Pipe, 6061 Aluminum	1
6	GE-22002-06	1.75" x .125" thk. Square Tube, 6061 Aluminum	4

Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED:		WELD	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$		DRAWN	DF	5/21/2021	
MATERIAL/FINISH:		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: <h2>Front Frame, Terminal</h2>
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		DO NOT SCALE DRAWING			SIZE: C DWG. NO.: GE-22002 REV:
SCALE: 1:10				SHEET 1 OF 4	

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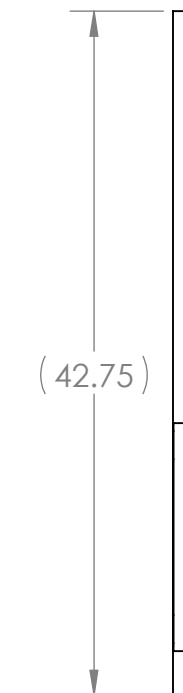
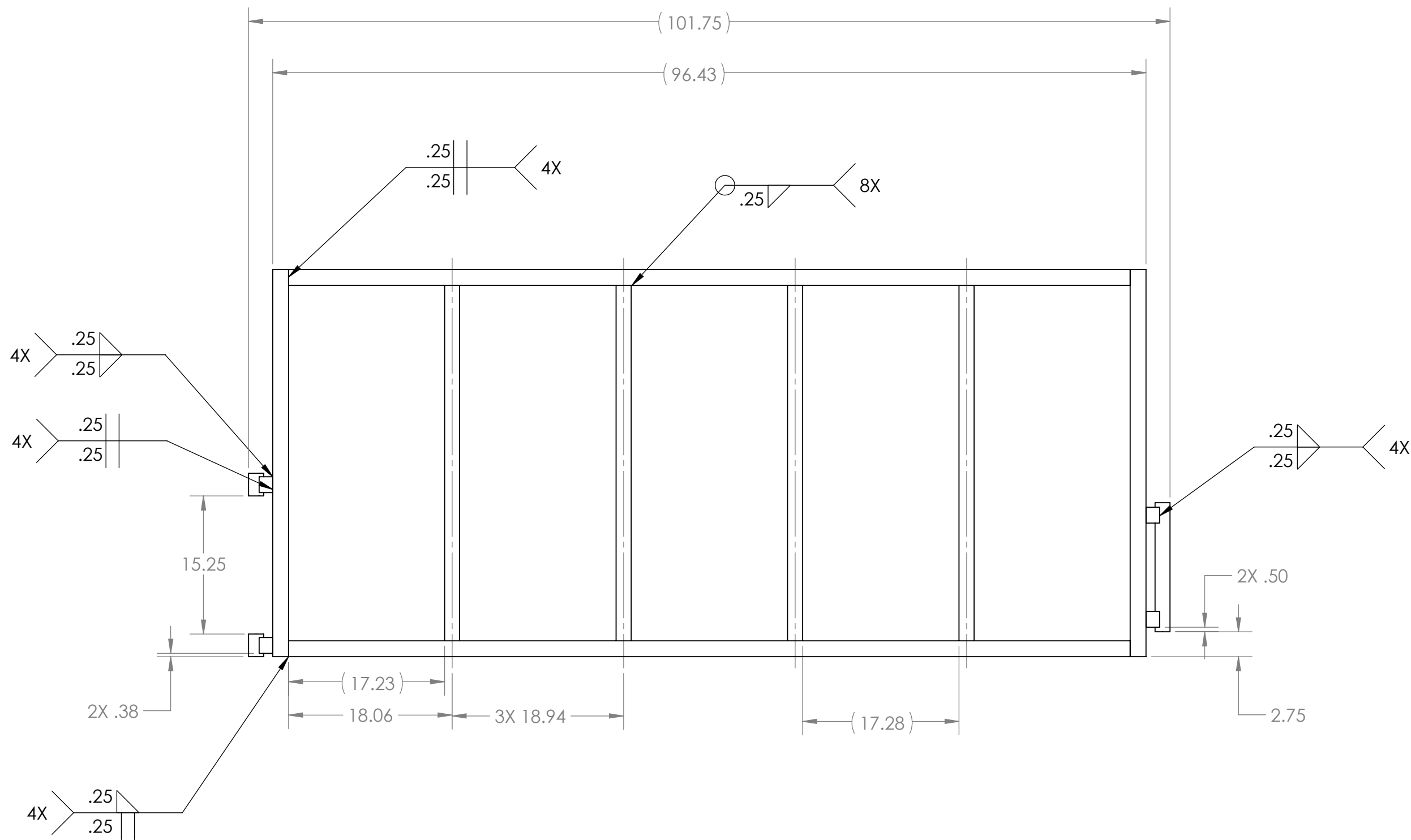
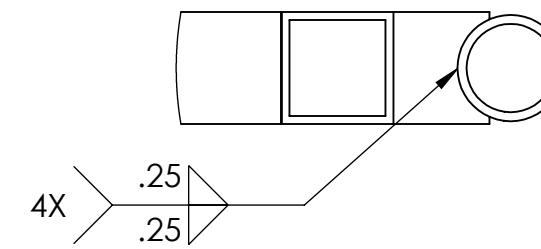
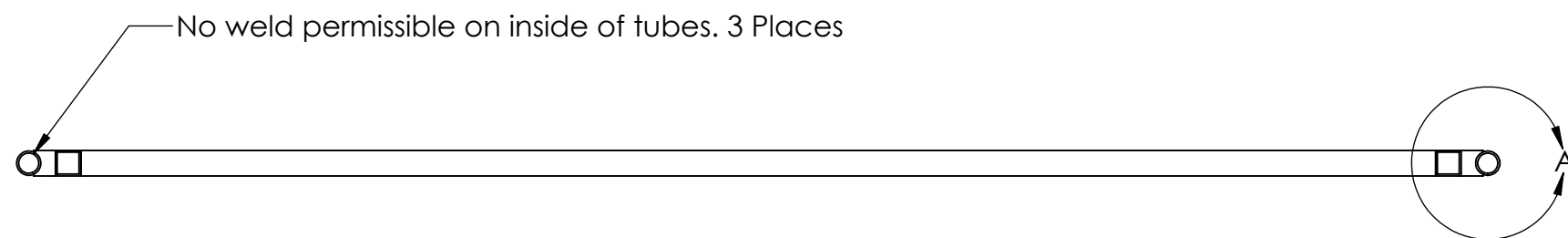
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UNLESS OTHERWISE SPECIFIED:	WELD	NAME	DATE
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MATERIAL/FINISH:	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			



TITLE: Front Frame, Terminal		
SIZE	DWG. NO.	REV
C	GE-22002	
SCALE: 1:12		SHEET 2 OF 4

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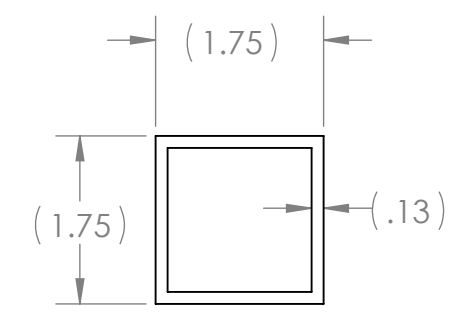
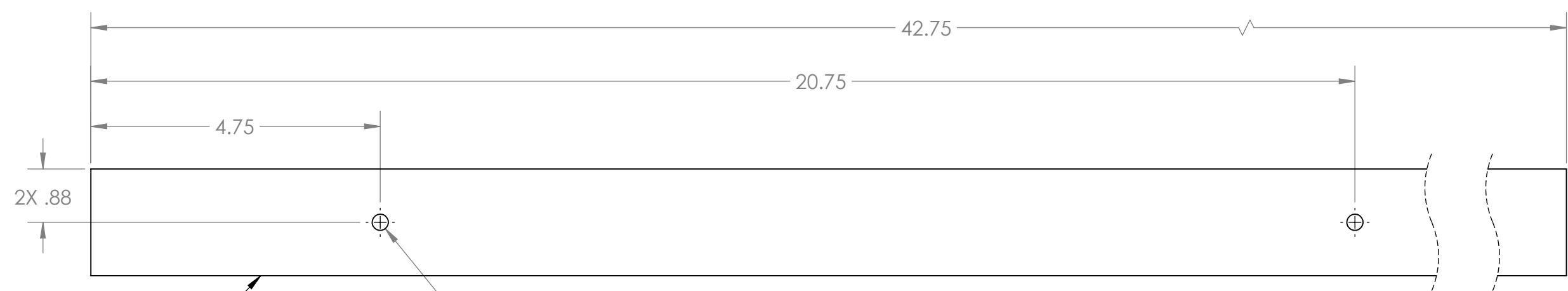
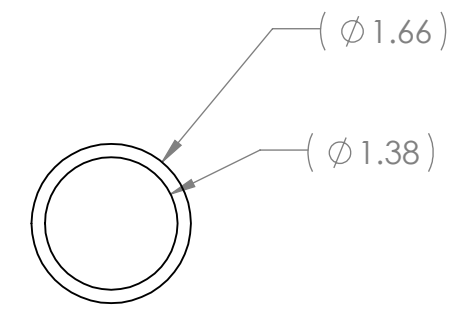
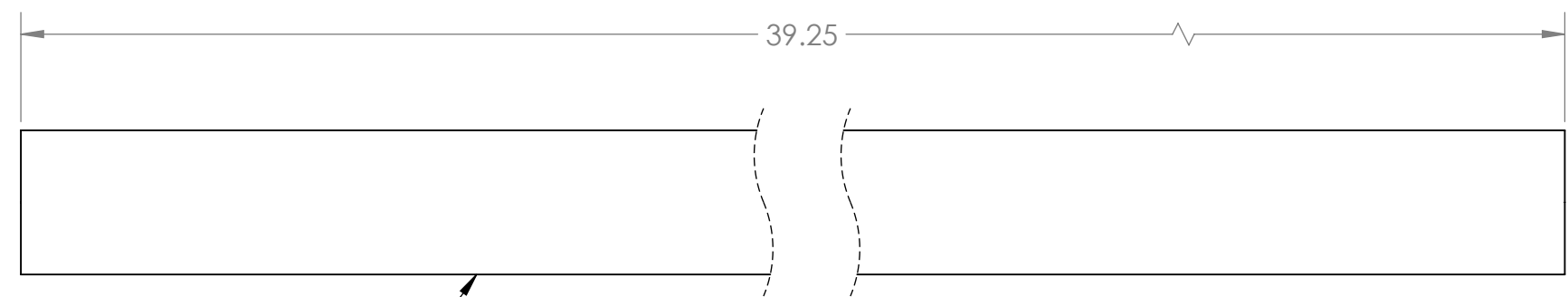
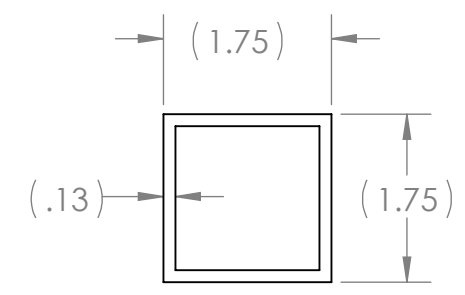
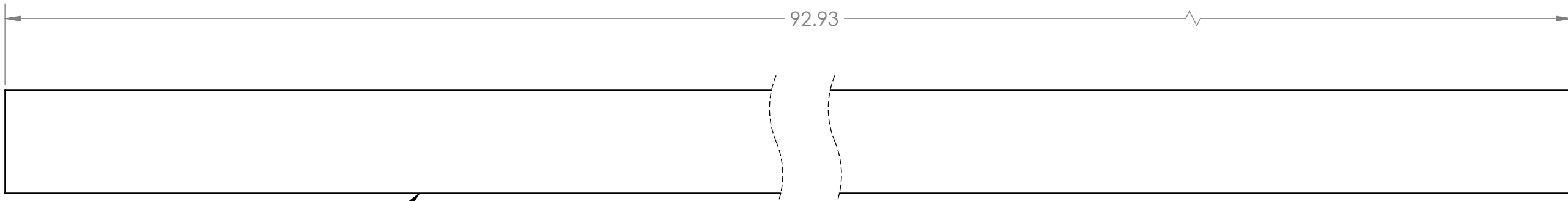
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .015 MATERIAL/FINISH: DO NOT SCALE DRAWING	WELD	NAME	DATE	
	DRAWN	DF	5/21/2021	
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	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE: C DWG. NO.: GE-22002 REV:
			SCALE: 1:12	SHEET 3 OF 4

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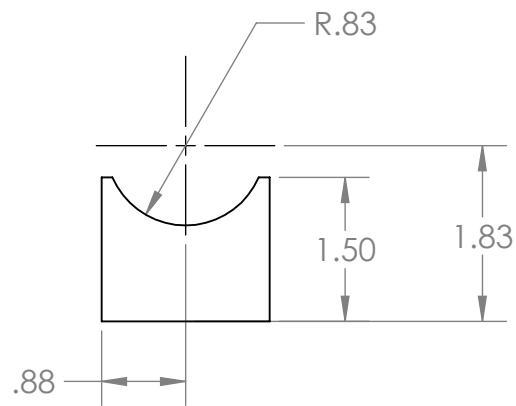
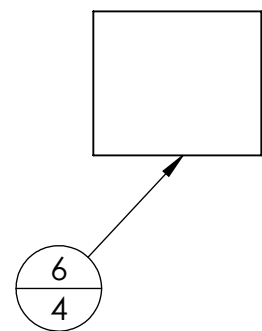
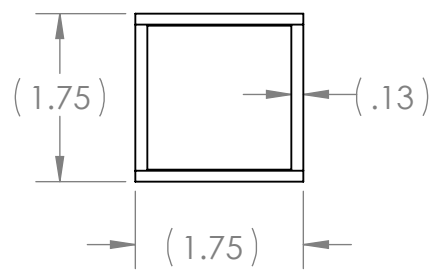
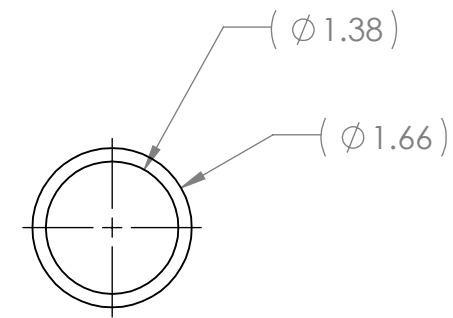
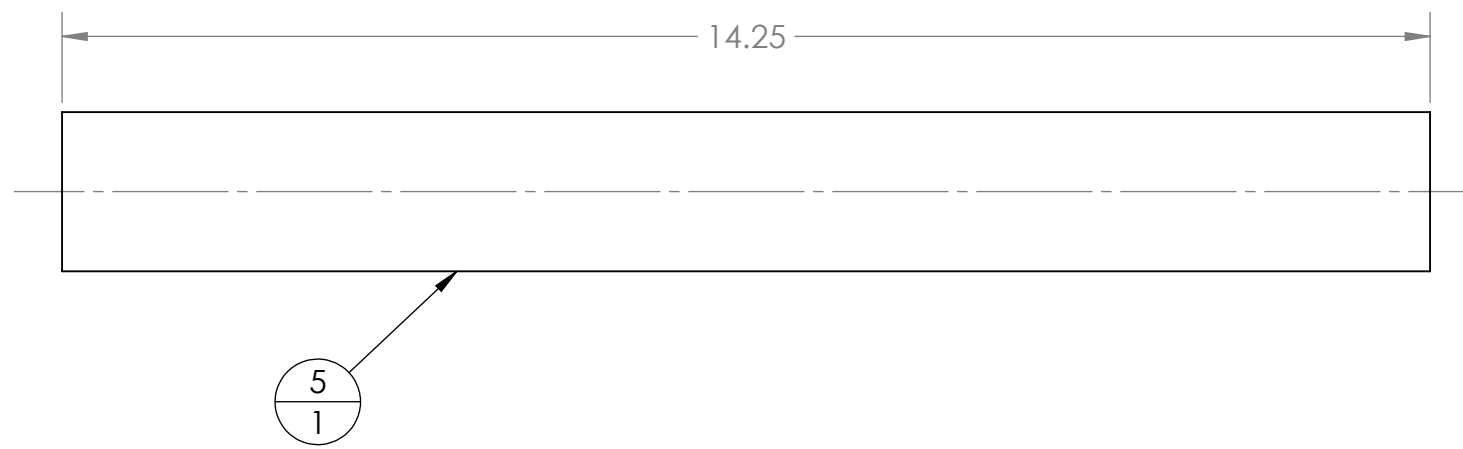
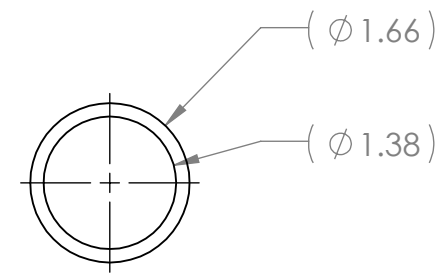
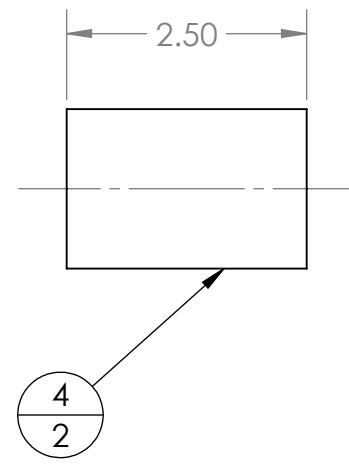
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .015	WELD	NAME	DATE
	DRAWN	DF	5/21/2021
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL		
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DO NOT SCALE DRAWING	COMMENTS:		
	REMOVE ALL BURRS AND SHARP EDGES.		



TITLE: Front Frame, Terminal		
SIZE	DWG. NO.	REV
C	GE-22002	
SCALE: 1:12		SHEET 4 OF 4

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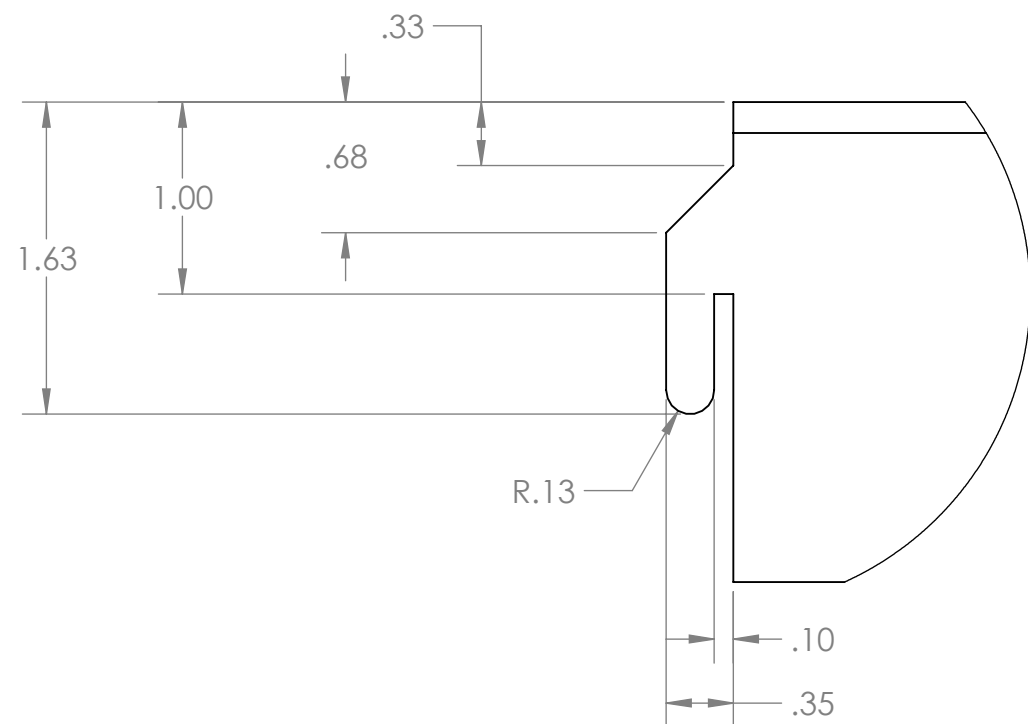
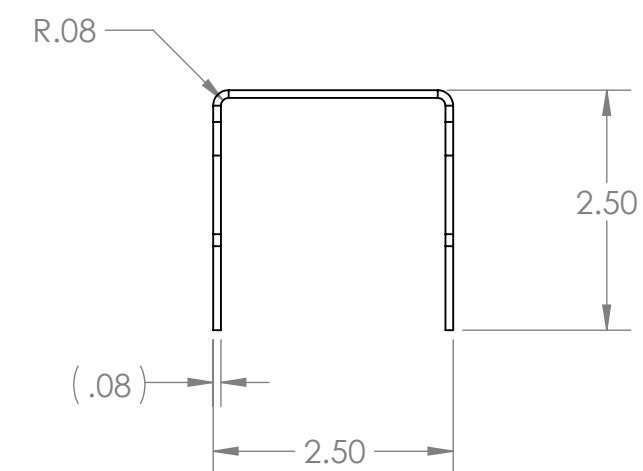
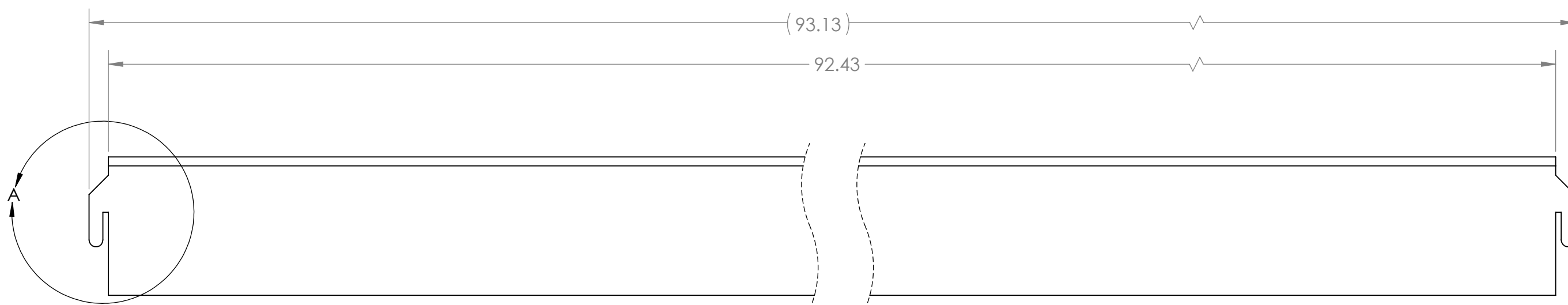
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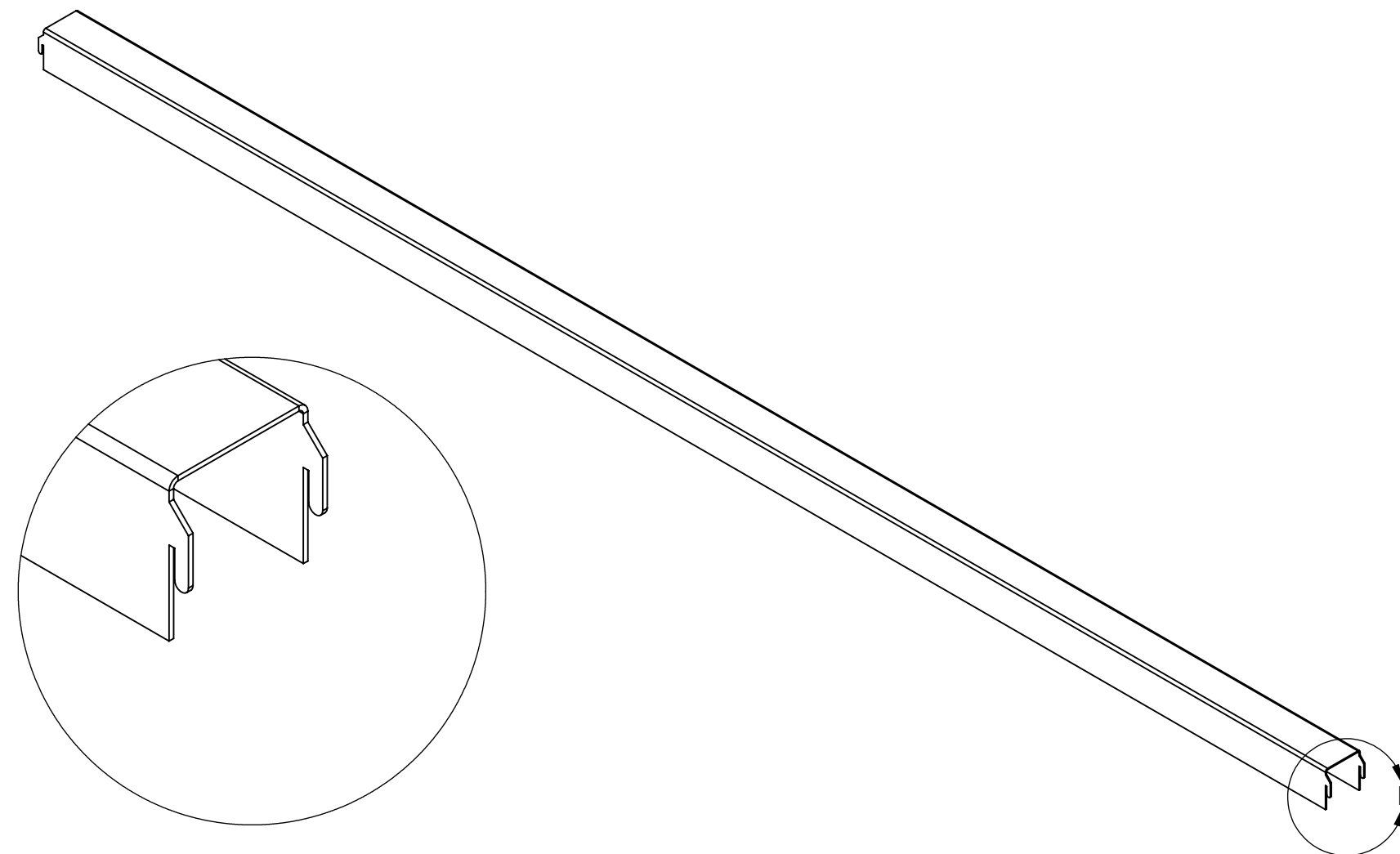
1

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DETAIL A
SCALE 1 : 1
(BOTH ENDS)



DETAIL B

Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 12 ga. 5052 Aluminum DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	DF	4/2/2021	
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:
				Horizontal Support, Terminal
SIZE		DWG. NO.	REV	
C		GE-22003		
SCALE: 1:2			SHEET 1 OF 1	

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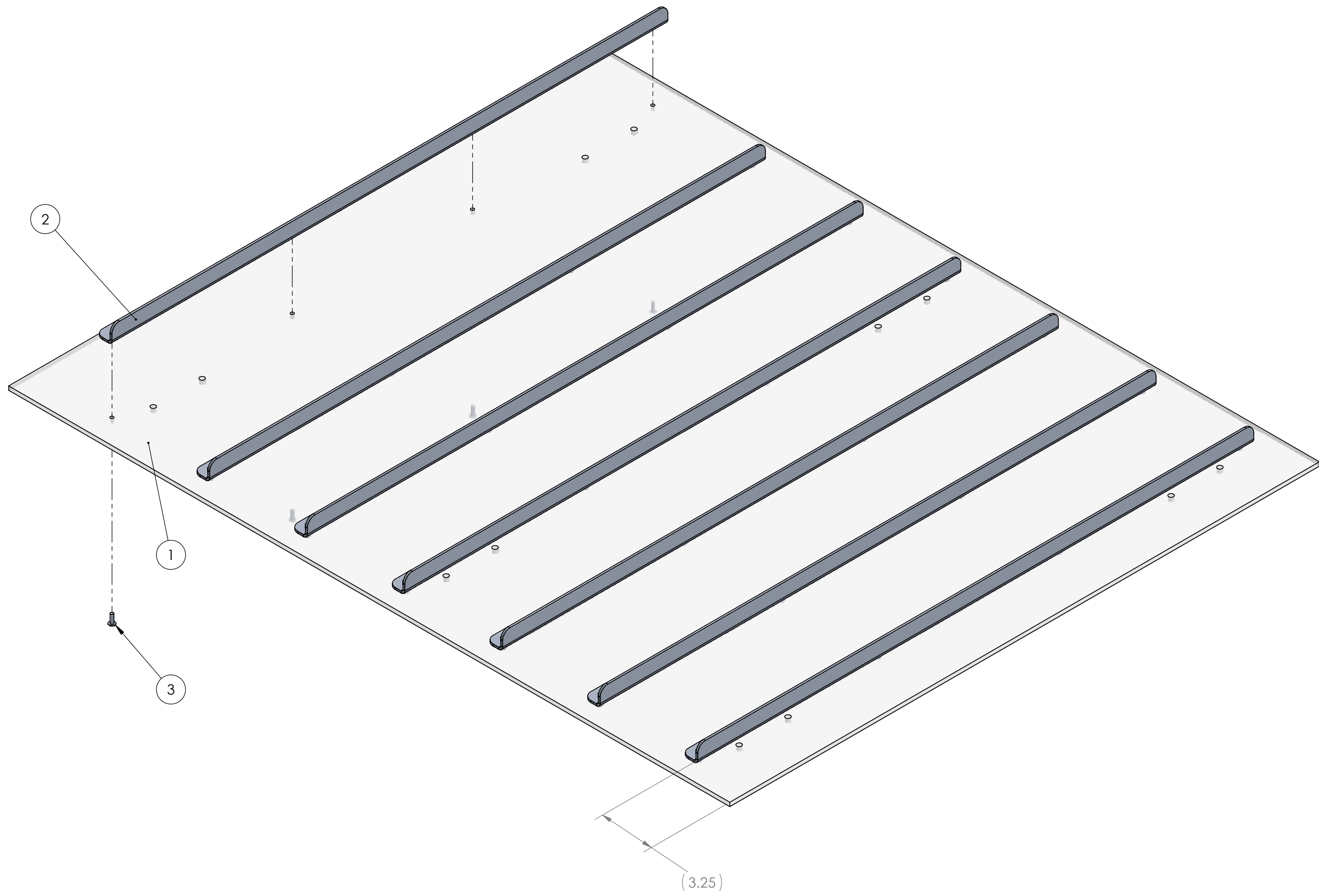
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22005	Bed, Chute Assembly	1
2	GE-22006	Angle, Chute Assembly	7
3	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	28

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:
 Tag or Label with Part Number

DO NOT SCALE DRAWING

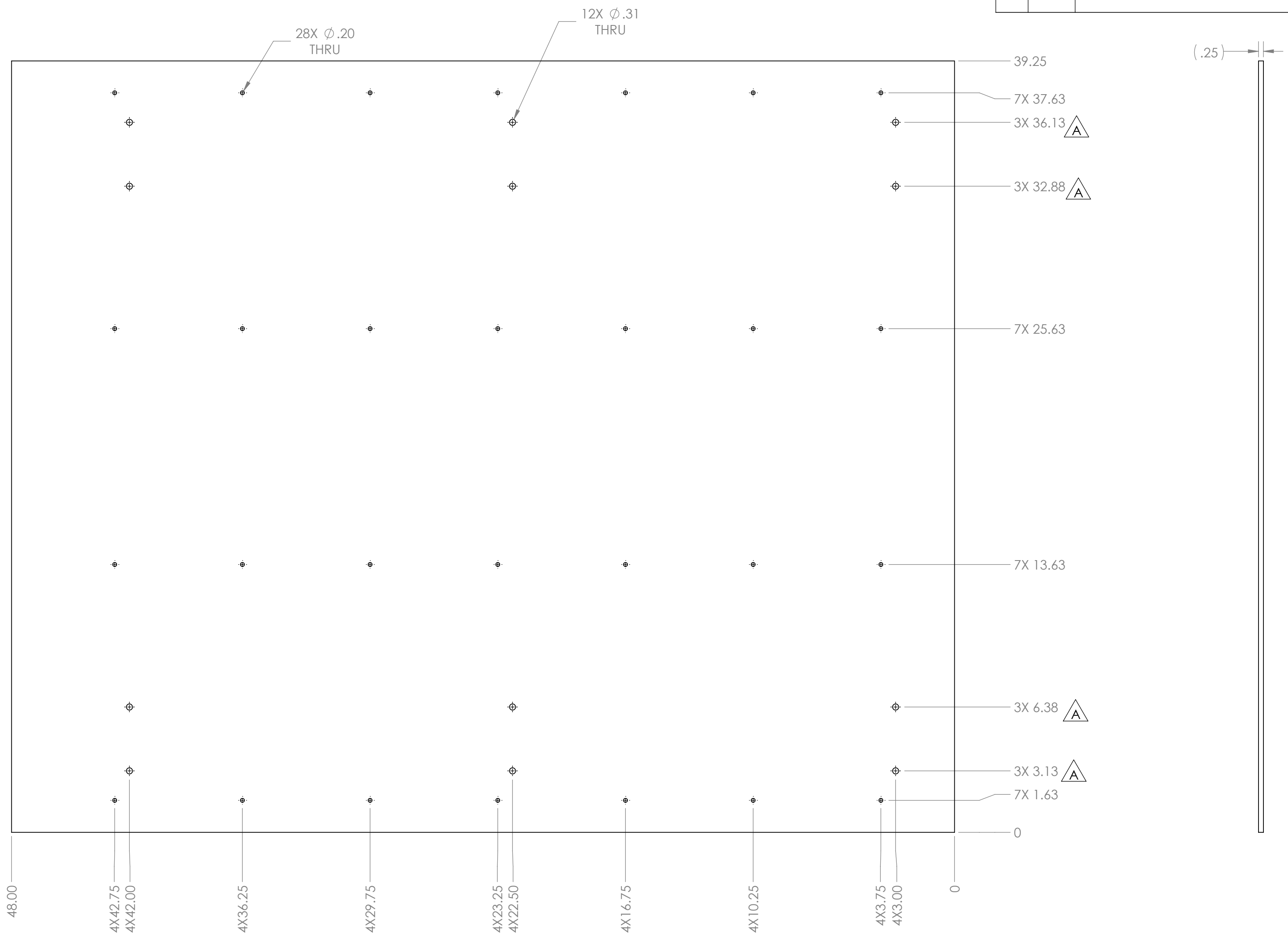
FIELD	NAME	DATE
DRAWN	DF	8/13/2021

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: Chute Assembly, Terminal		
SIZE	DWG. NO.	REV
C	GE-22004	
SCALE: 1:4		SHEET 1 OF 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, D2	A	36.13 was 35.63, 32.88 was 32.38, 6.38 was 6.88, 3.13 was 3.63	8/27/2021	DAF



Notes:
1. Label or tag 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, Clear	VEND	NAME	DATE	
	DRAWN	DF	5/21/2021	
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.			TITLE: <h2>Bed, Chute Assembly</h2>
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
		DWG. NO.: GE-22005		REV: A
		SCALE: 1:4		SHEET 1 OF 1

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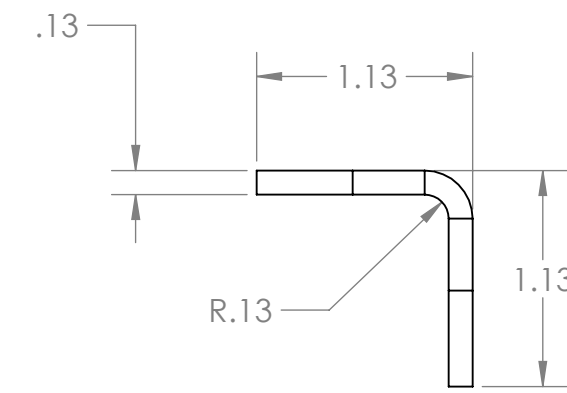
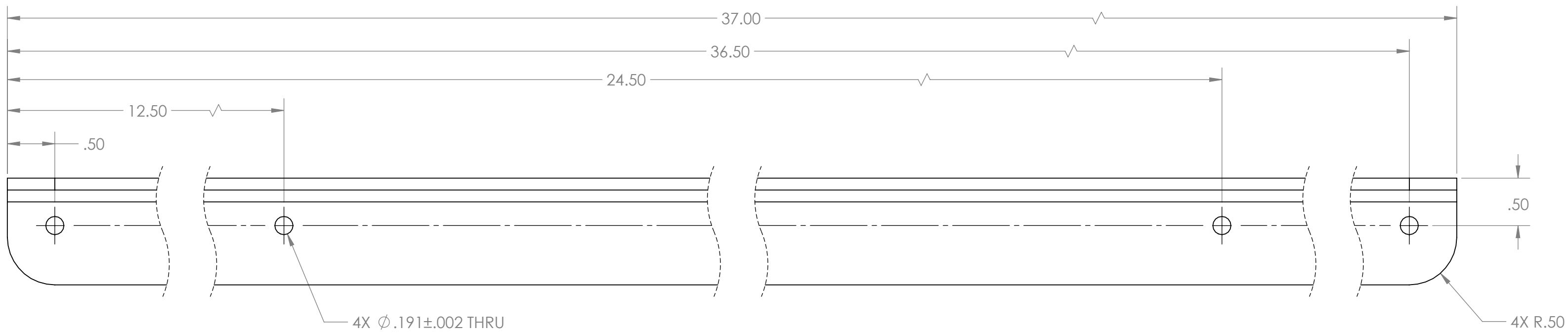
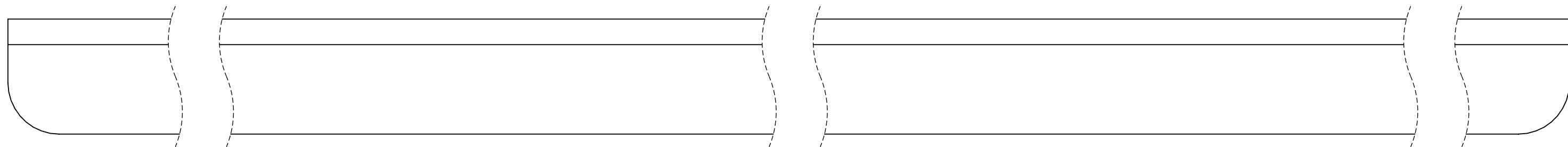
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Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.010 MATERIAL/FINISH: 12 ga. 5052 Aluminum DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	DF	4/9/2021
	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: Angle, Chute Assembly		
SIZE	DWG. NO.	REV
C	GE-22006	
SCALE: 1:1		SHEET 1 OF 1

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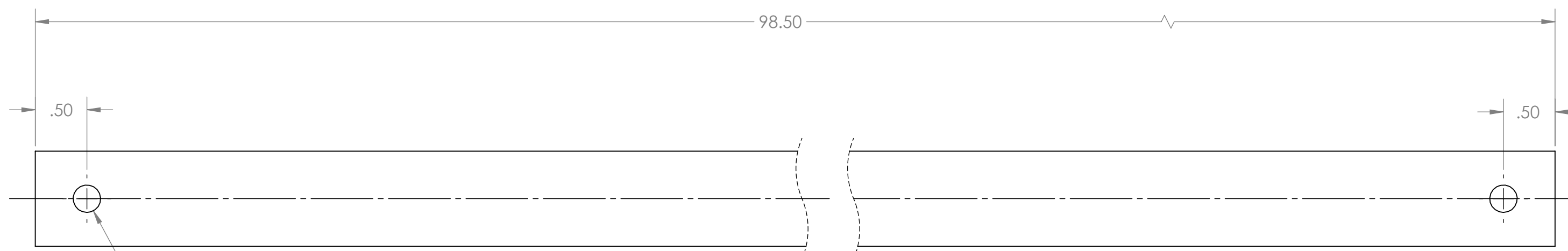
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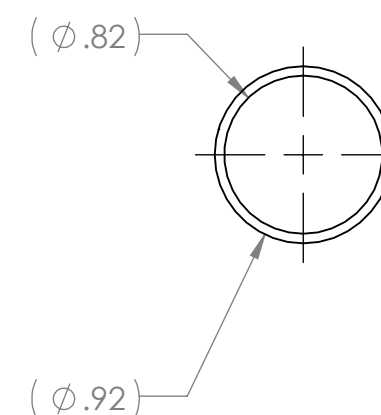
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Tag or label with part number.

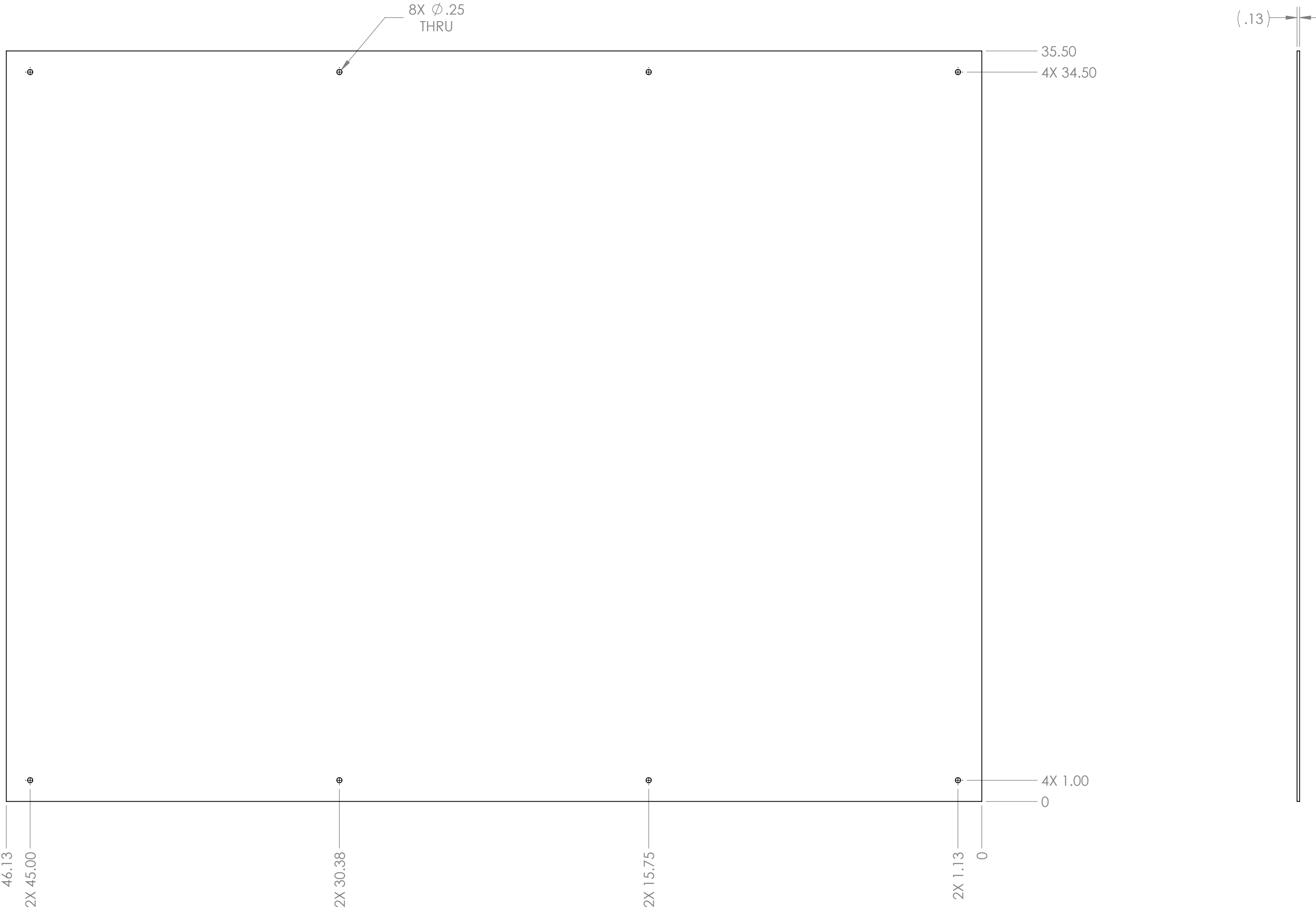
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 3/4" Galvanized Steel EMT COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	5/21/2021	
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:
				<h1>Conduit, Terminal</h1>
SIZE		DWG. NO.	REV	
C		GE-22007		
SCALE: 1:12			SHEET 1 OF 1	

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Label or tag with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/8" Polycarbonate, Clear COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	5/21/2021	
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:
				Plastic, Purple Plane
SIZE		DWG. NO.	REV	
C		GE-22008		
SCALE: 1:4			SHEET 1 OF 1	

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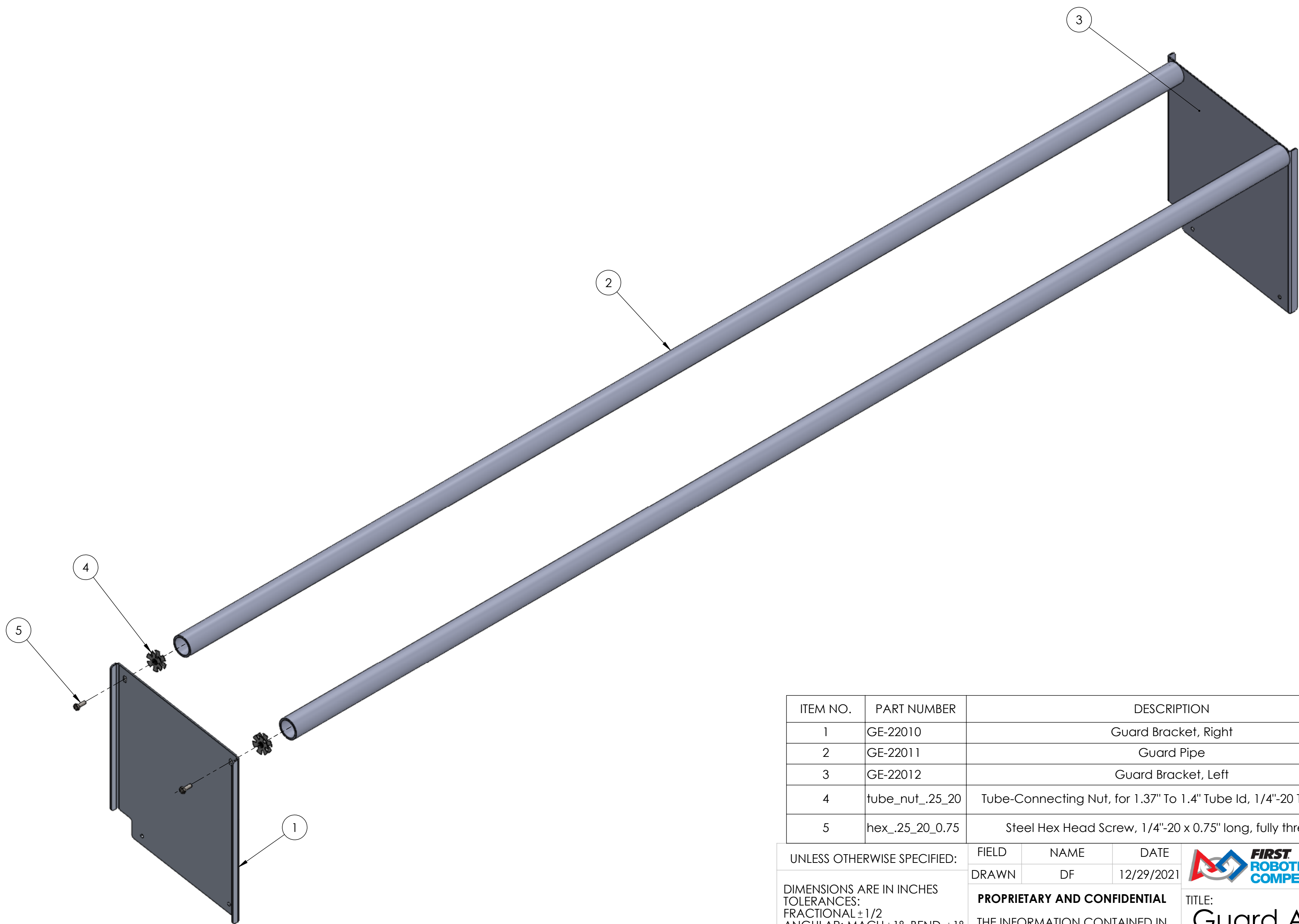
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22010	Guard Bracket, Right	1
2	GE-22011	Guard Pipe	2
3	GE-22012	Guard Bracket, Left	1
4	tube_nut_.25_20	Tube-Connecting Nut, for 1.37" To 1.4" Tube Id, 1/4"-20 Thread Size	4
5	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	4

UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50		DRAWN	DF	12/29/2021	
MATERIAL/FINISH:		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: Guard Assembly, Terminal
COMMENTS:		REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22009
DO NOT SCALE DRAWING		SCALE: 1:5			SHEET 1 OF 1

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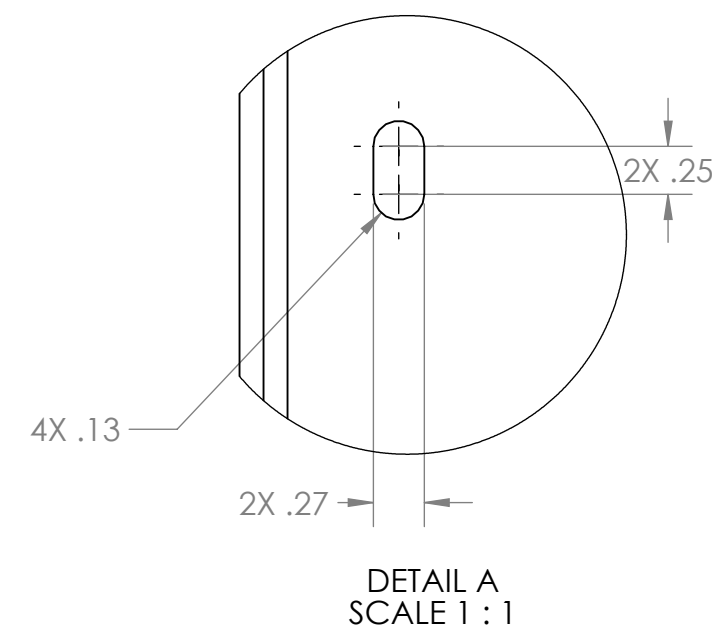
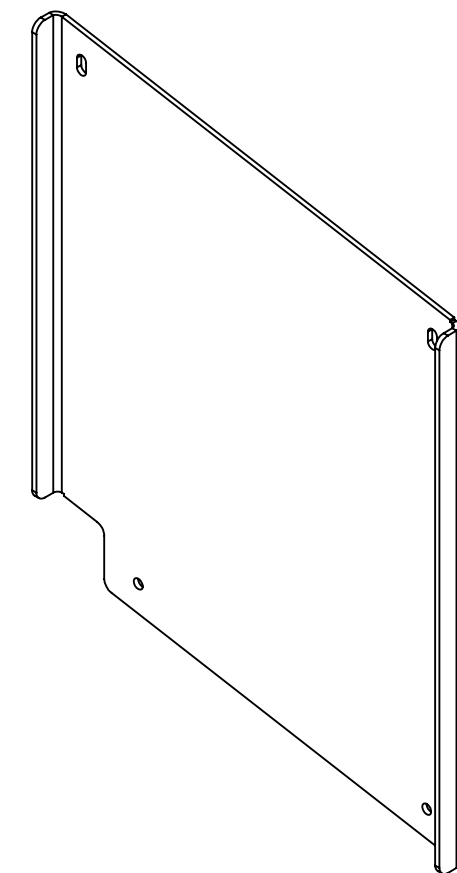
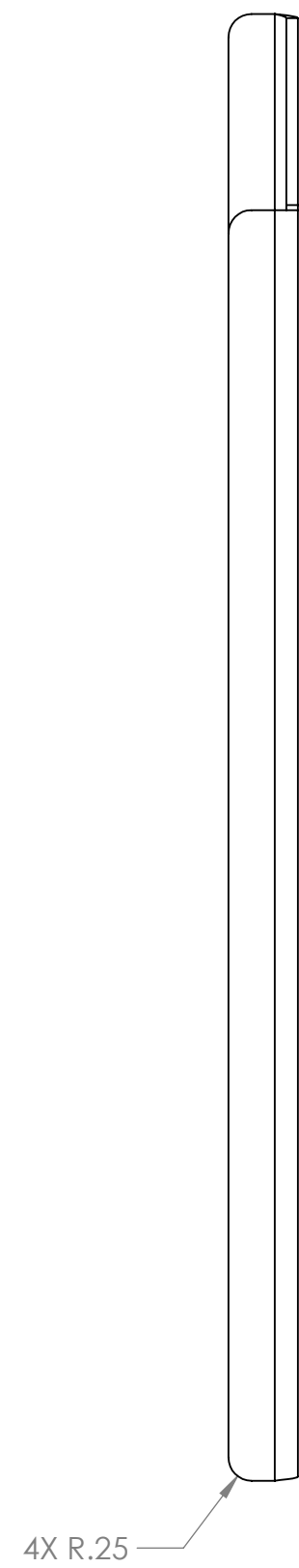
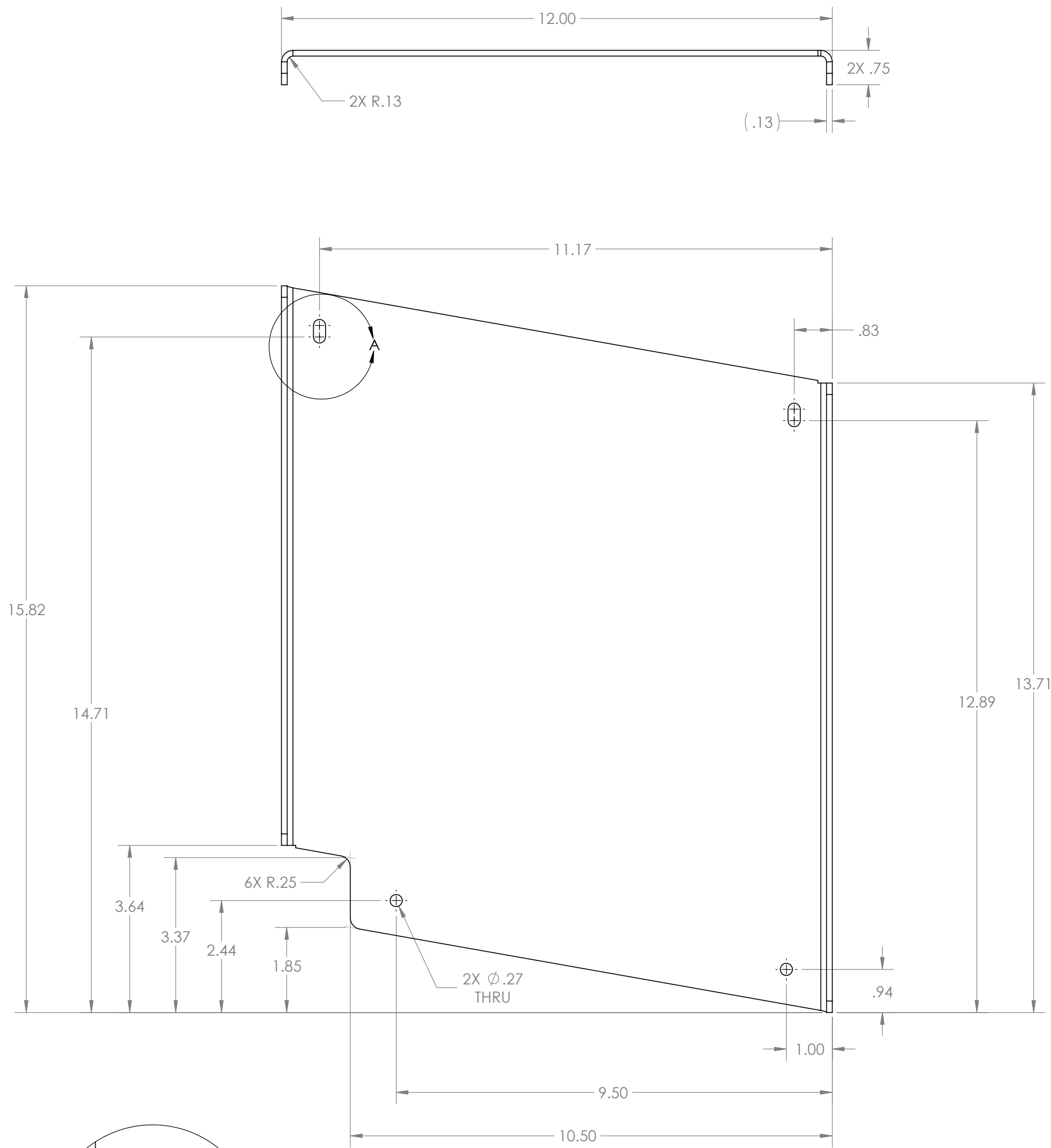
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Label or tag with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE	 
	DRAWN	DF	4/7/2021	
MATERIAL/FINISH: 14 ga. Pre-plated Steel	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: Guard Bracket, Right
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			SIZE: C DWG. NO.: GE-22010 REV:
	SCALE: 1:2			SHEET 1 OF 1

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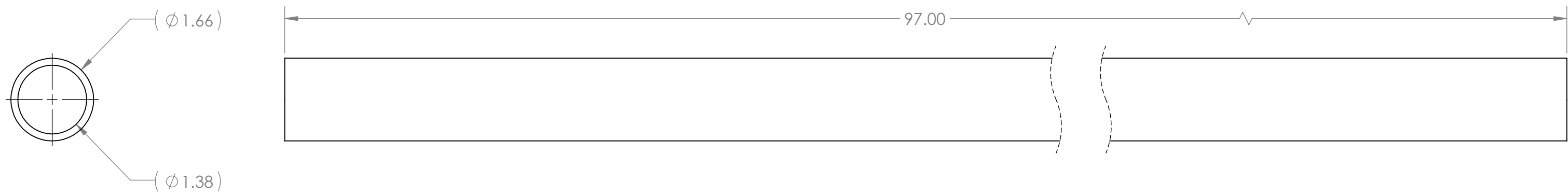
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Tag or label with part number.

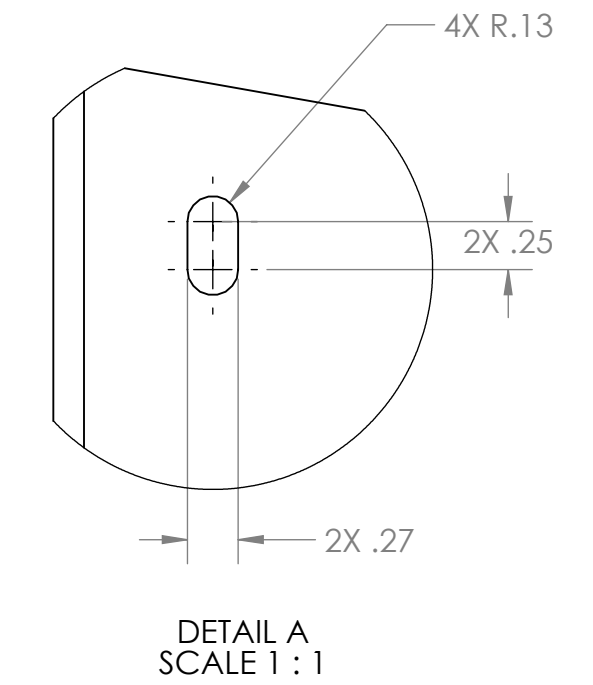
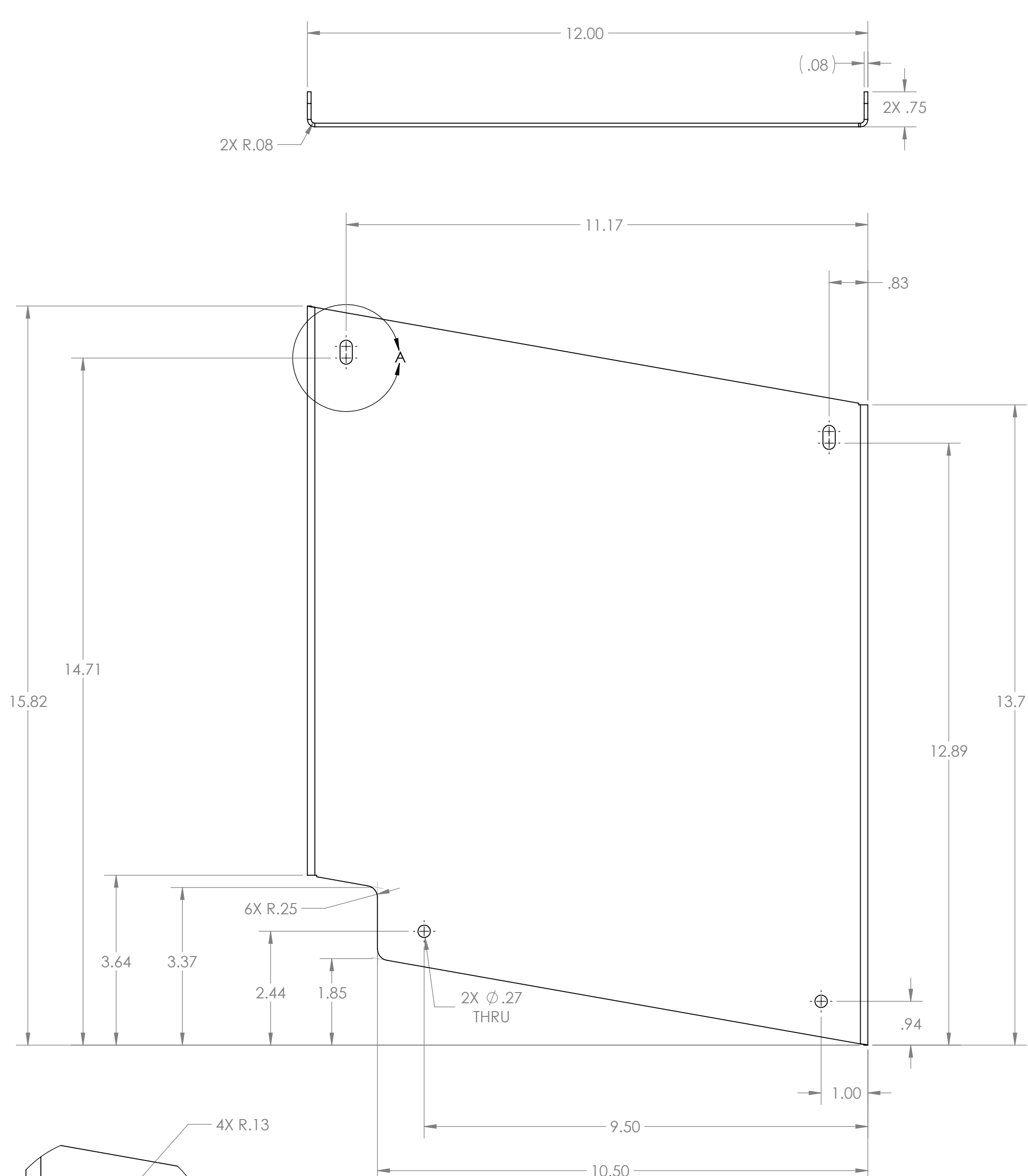
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1-1/4" Schedule 40 Pipe, 6061 Aluminum DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	8/13/2021	
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: <h1>Guard Pipe</h1>
SIZE		DWG. NO.	REV	
C		GE-22011		
SCALE: 1:2		SHEET 1 OF 1		

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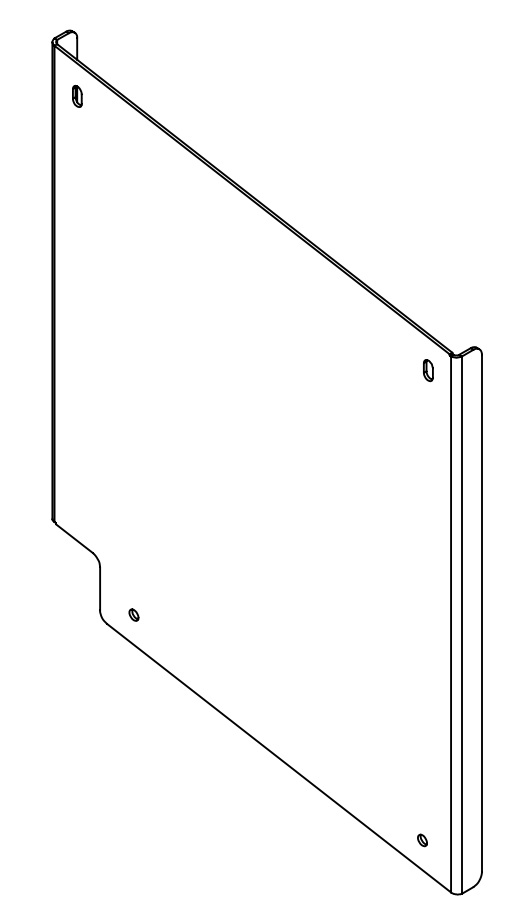
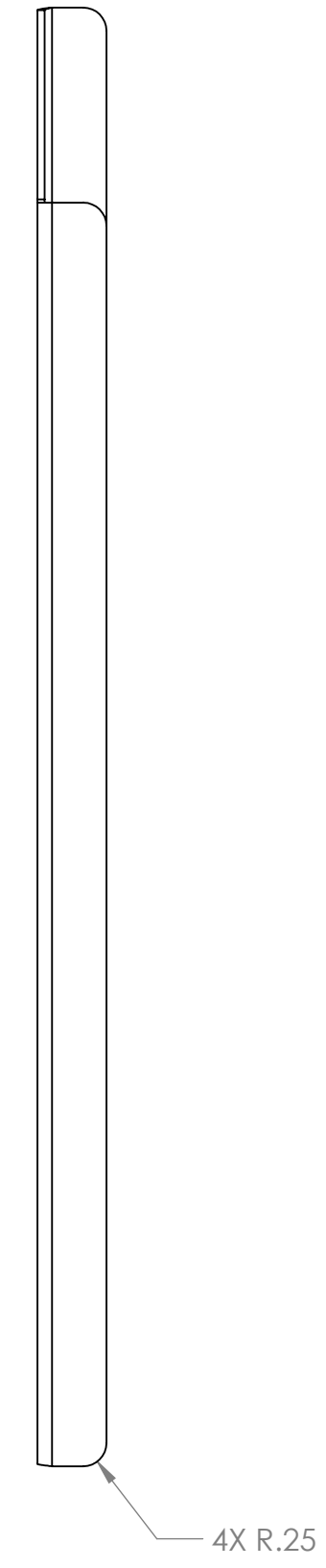
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Label or tag with part number

DETAIL A
SCALE 1:1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$	BEND	NAME	DATE	 
	DRAWN	DF	5/20/2021	
MATERIAL/FINISH: 14 ga. Pre-Plated Steel	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: Guard Bracket, Left
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			SIZE: C DWG. NO.: GE-22012 REV:
SCALE: 1:2			SHEET 1 OF 1	

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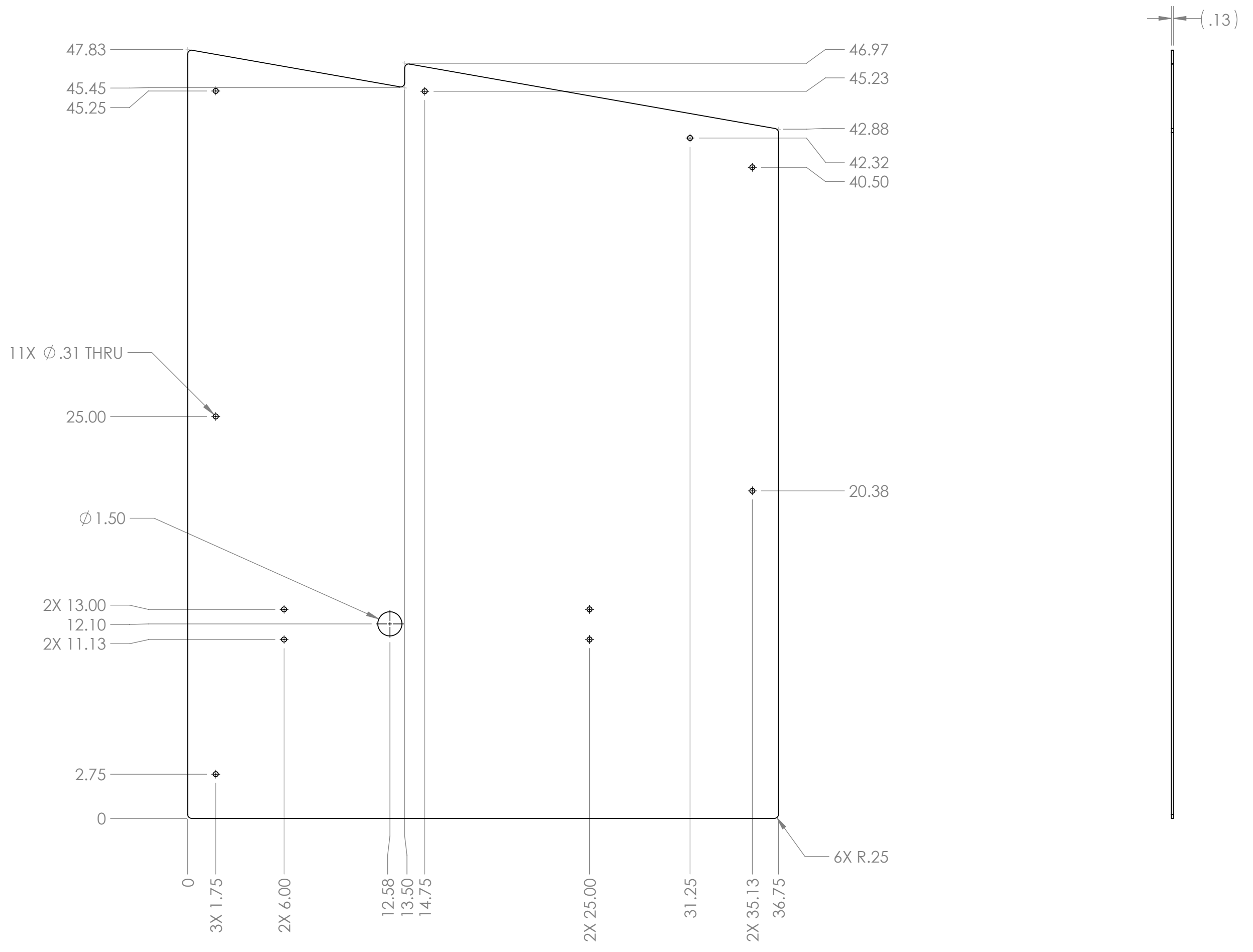
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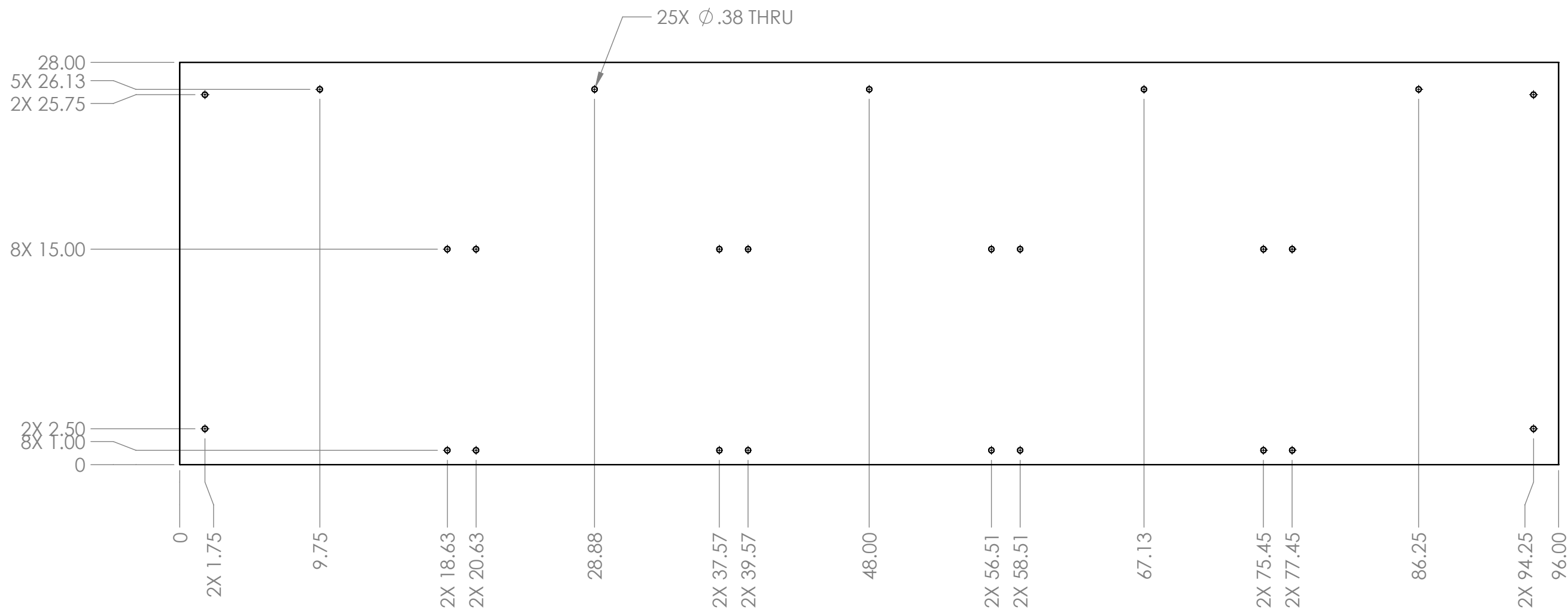
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/8" Polycarbonate, Clear COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	8/13/2021	
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:
				Side Plastic, Terminal
SIZE		DWG. NO.	REV	
C		GE-22013		
SCALE: 1:6			SHEET 1 OF 1	

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- Notes:
1. Tag or label with part number.
 2. Part will receive vinyl graphics.

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 COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	DF	8/13/2021	
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:
				Front Plastic, Terminal
		SIZE	DWG. NO.	REV
		C	GE-22014	
SCALE: 1:8			SHEET 1 OF 1	

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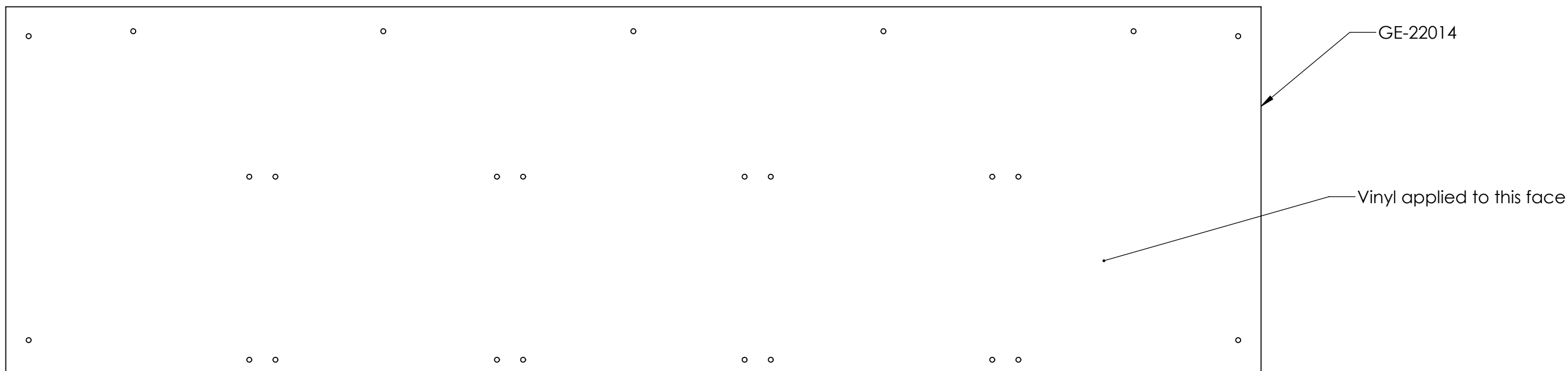
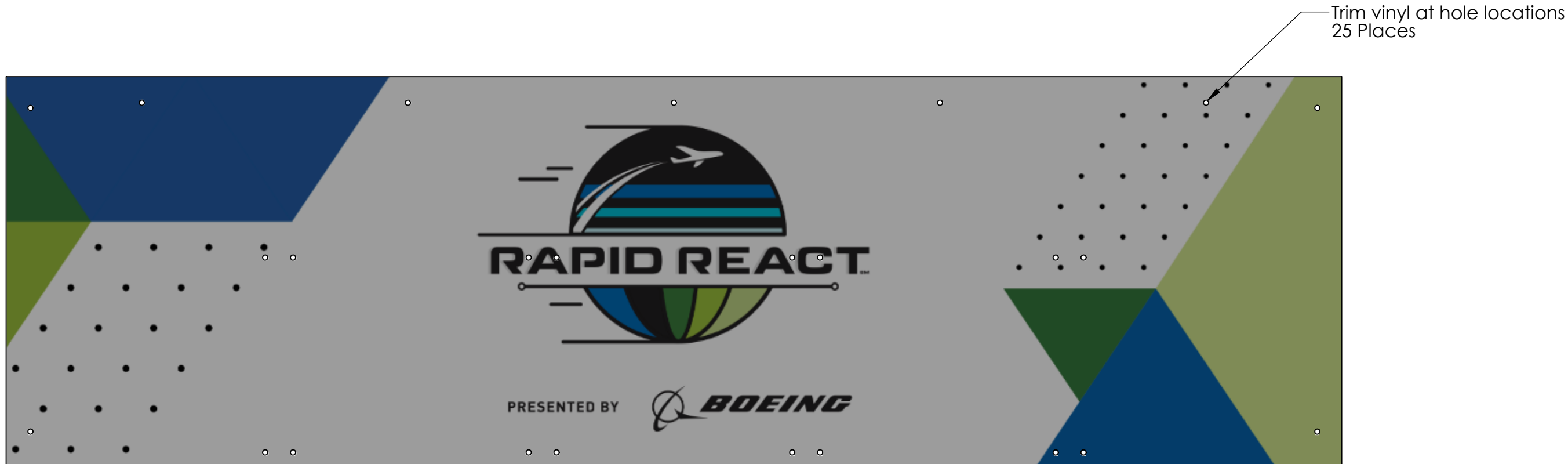
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- Notes:
1. Tag or label with part number
 2. Vinyl: 50/50 Mesh with clear protective coating.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	DF	9/28/2021	
MATERIAL/FINISH: See note	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: Front Plastic with Vinyl
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22015
	SCALE: 1:8		SHEET 1 OF 1	

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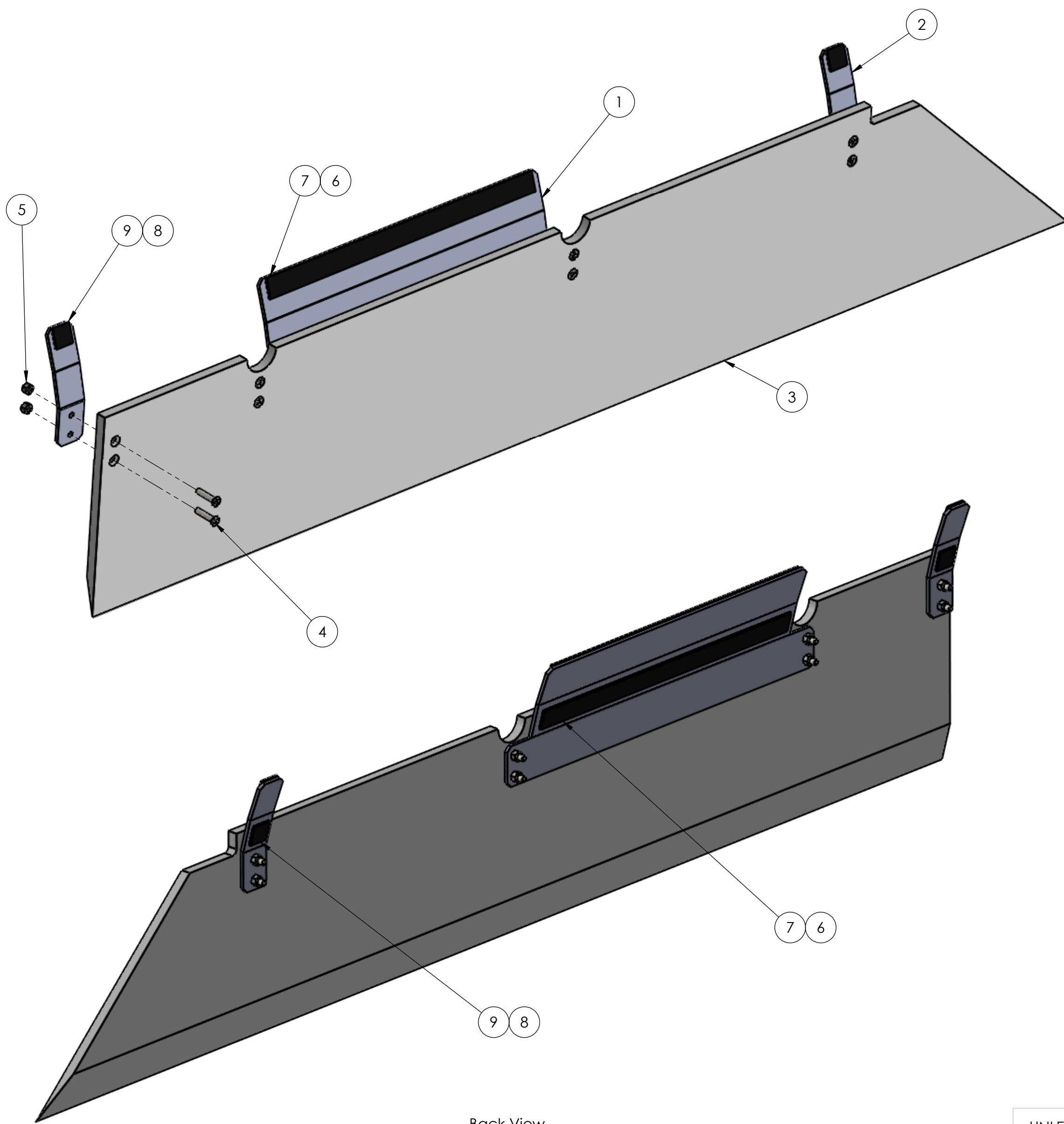
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Back View

Notes:

- 1. Attach hook fastener to the ramp brackets.
- 2. Attach loop fastener to the hook fastener, but leave the protective plastic backing on until final assembly of the TERMINAL.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22018	Ramp Bracket, Mid	1
2	GE-22019	Ramp Bracket, Edge	2
3	GE-22020	Outer Ramp, Left	1
4	flat_phil_.25_20_1.25	Steel Phillips Flat Head Screw, 1/4"x20 x 1.25" long, fully threaded	8
5	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	8
6	Hook_1_16	1" x 16" Hook, Adhesive Backed	2
7	Loop_1_16	1" x 16" Loop, Adhesive Backed	2
8	Hook_1_1	1" x 1" Hook, Adhesive Backed	4
9	Loop_1_1	1" x 1" Loop, Adhesive Backed	4

UNLESS OTHERWISE SPECIFIED:		FIELD	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50		DRAWN	DF	12/30/2021	
MATERIAL/FINISH:		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 Ramp Assembly, Left
		COMMENTS:			SIZE
		REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO.
DO NOT SCALE DRAWING					REV
					C GE-22016
					SCALE: 1:4
					SHEET 1 OF 1

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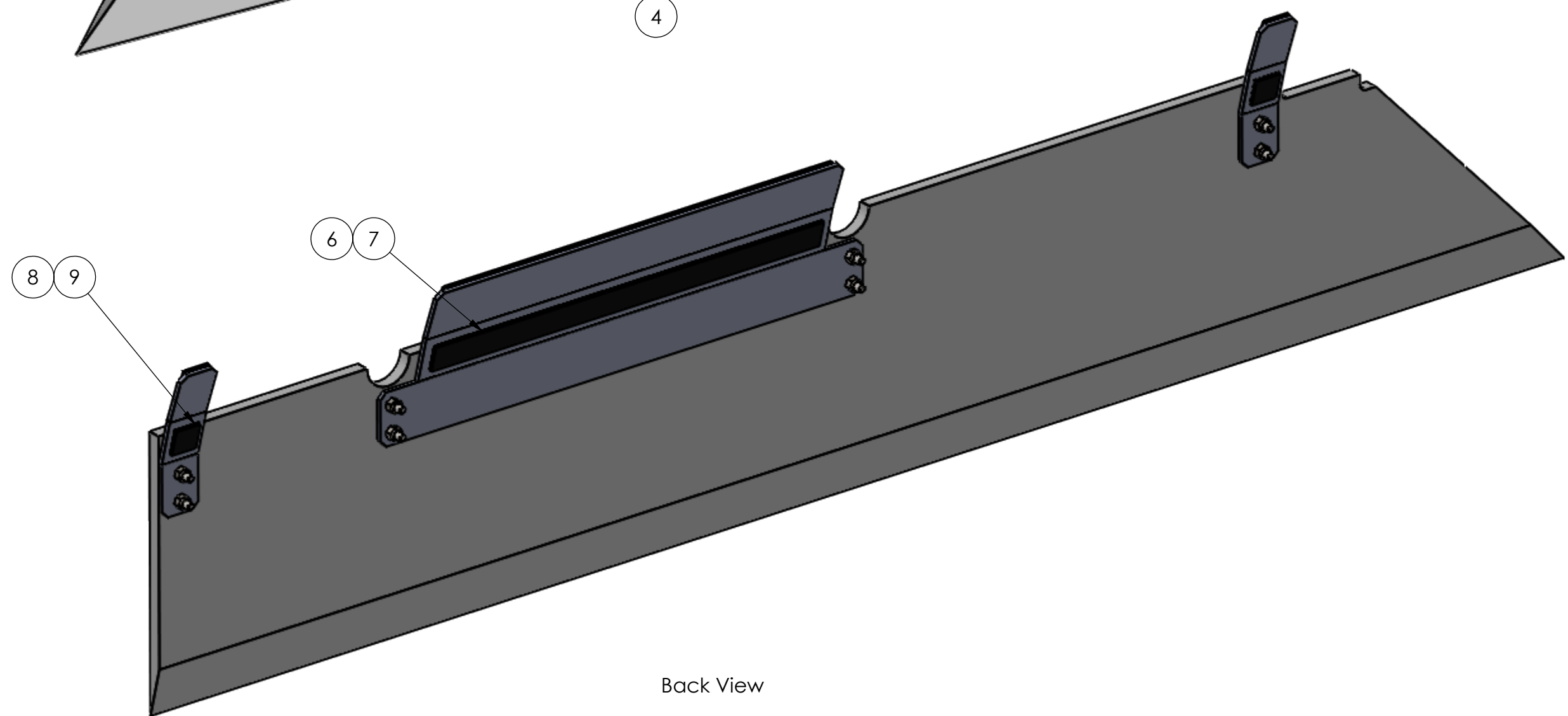
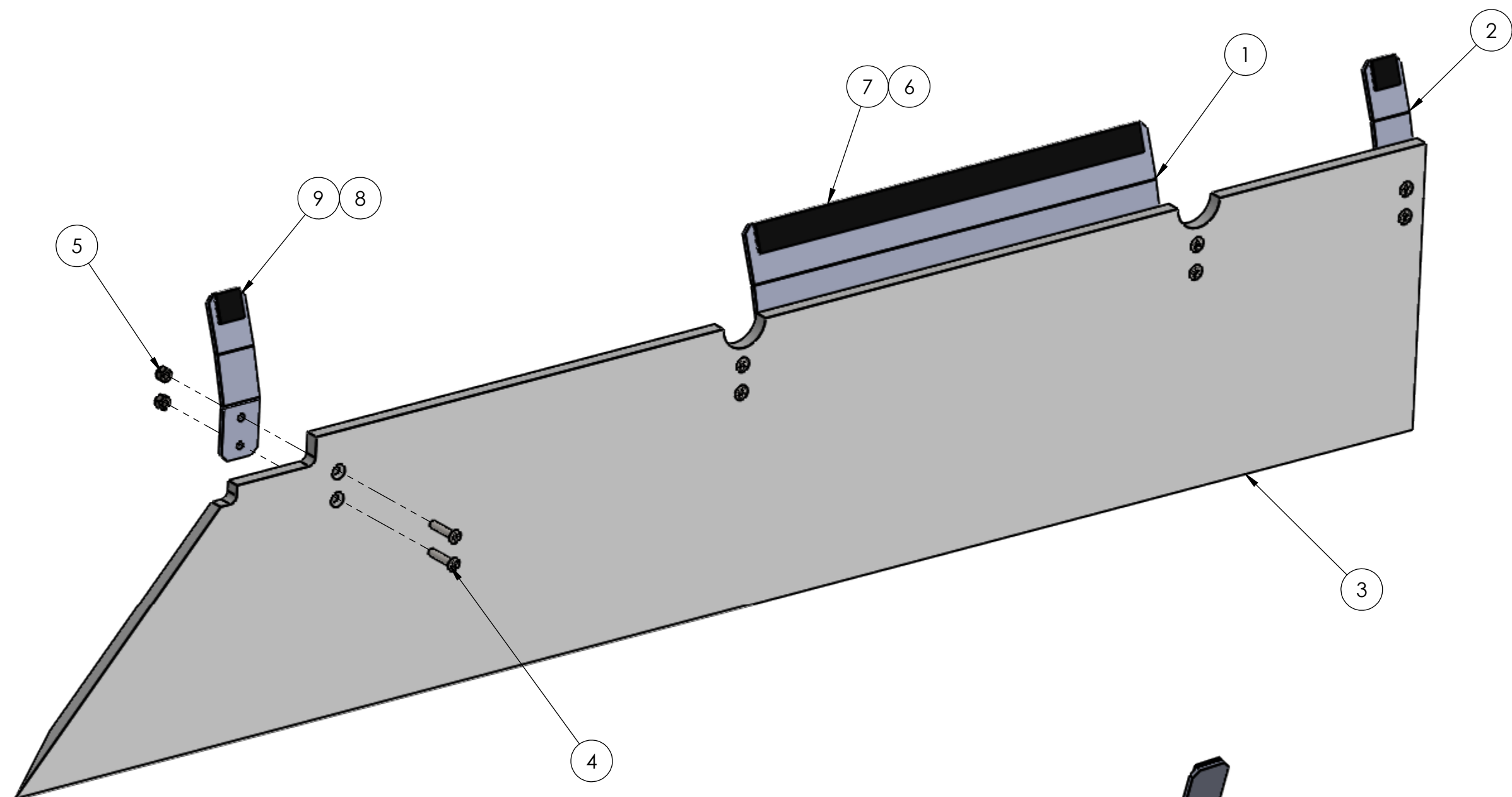
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Back View

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22018	Ramp Bracket, Mid	1
2	GE-22019	Ramp Bracket, Edge	2
3	GE-22021	Outer Ramp, Right	1
4	flat_phil_.25_20_1.25	Steel Phillips Flat Head Screw, 1/4"x20 x 1.25" long, fully threaded	8
5	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	8
6	Hook_1_16	1" x 16" Hook, Adhesive Backed	2
7	Loop_1_16	1" x 16" Loop, Adhesive Backed	2
8	Hook_1_1	1" x 1" Hook, Adhesive Backed	4
9	Loop_1_1	1" x 1" Loop, Adhesive Backed	4

Notes:

1. Attach hook fastener to the ramp brackets.
2. Attach loop fastener to the hook fastener, but leave the protective backing on until final assembly of the TERMINAL.

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	DF	12/31/2021

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: **Outer Ramp Assembly, Right**

SIZE	DWG. NO.	REV
C	GE-22017	

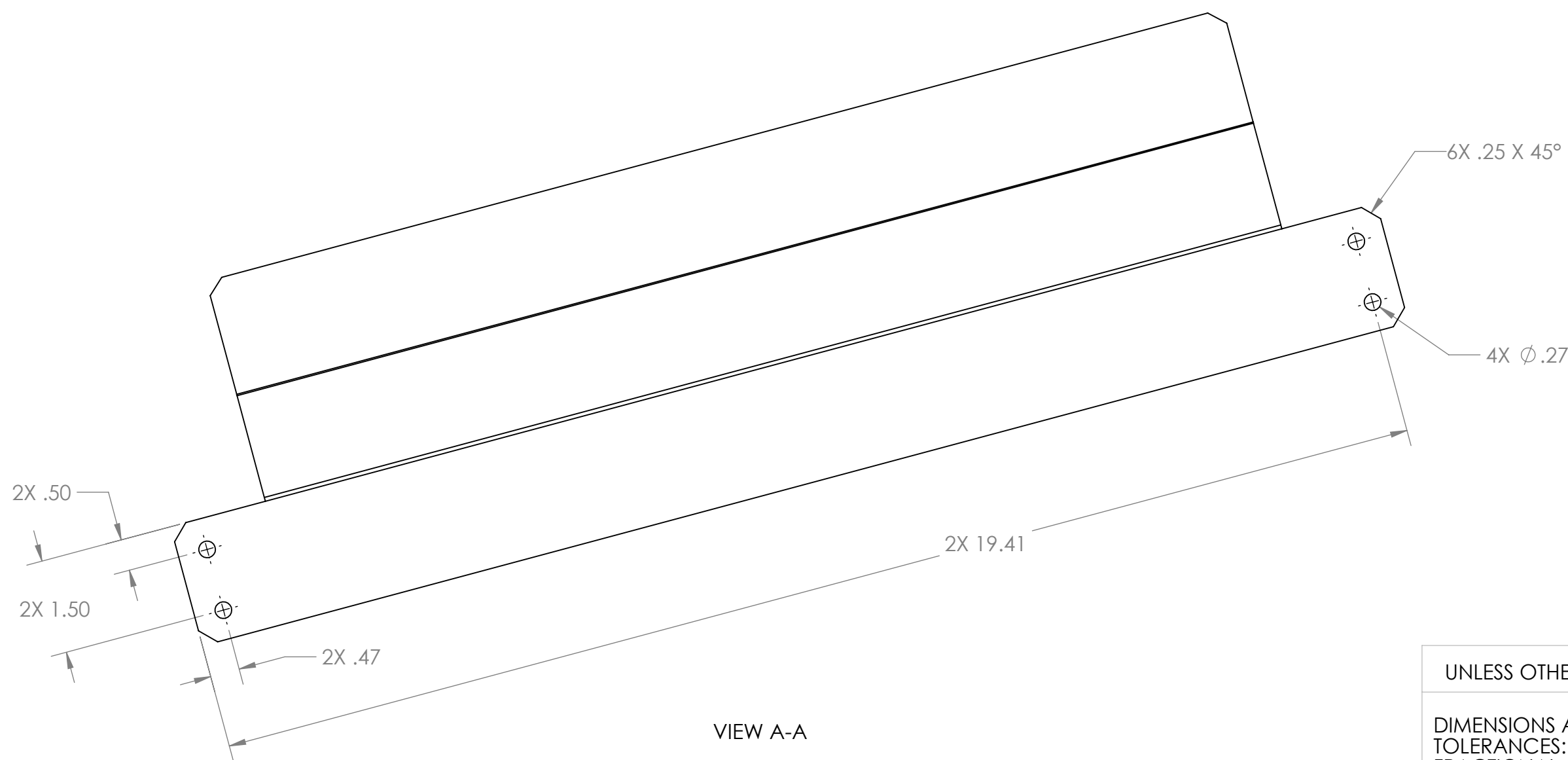
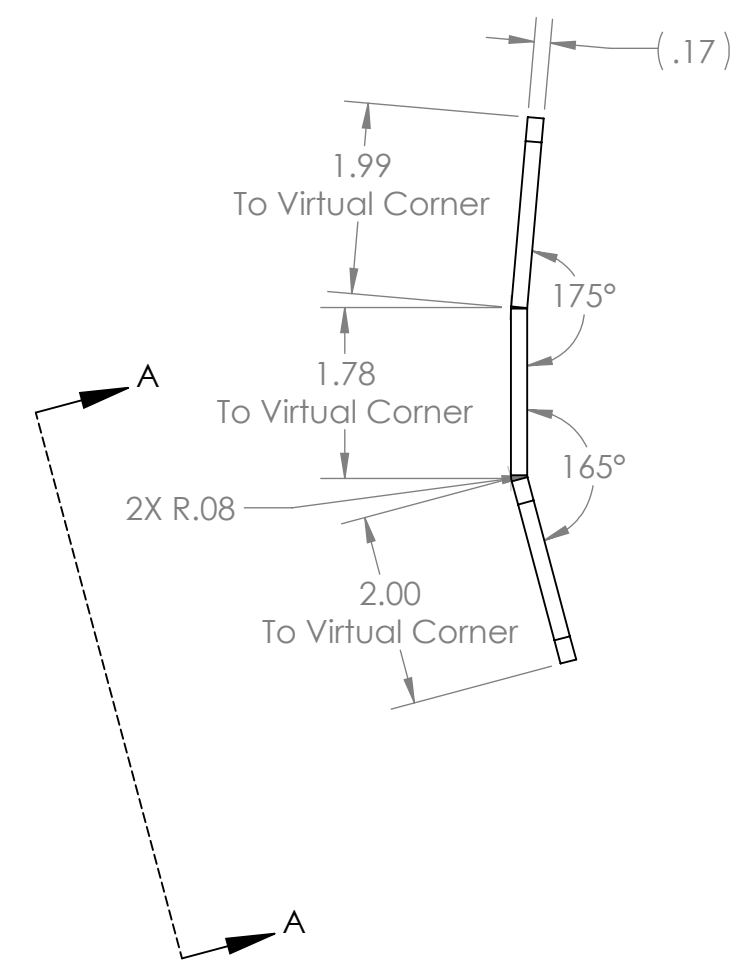
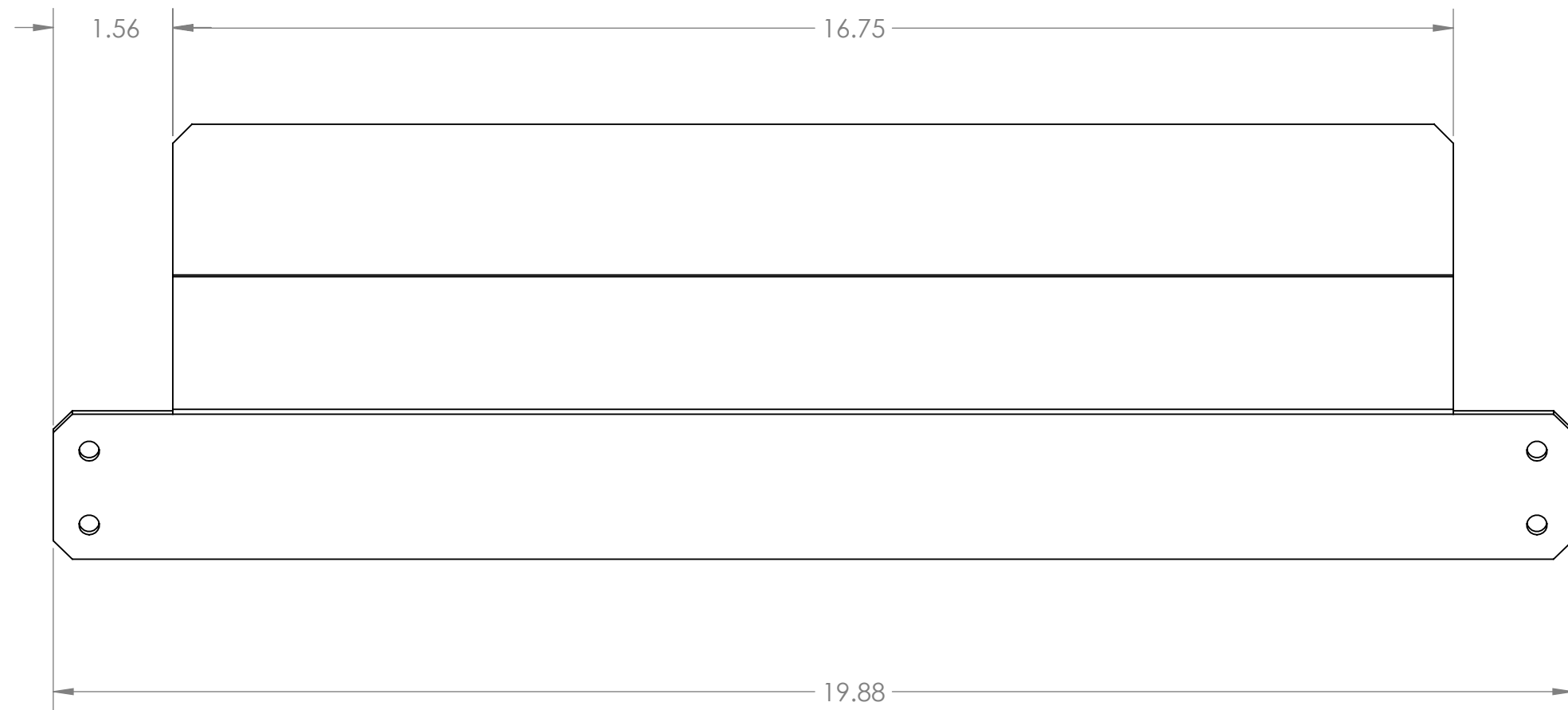
SCALE: 1:4 SHEET 1 OF 1

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Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 8 ga, Pre-plated Steel DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	DF	4/9/2021	
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:
				Ramp Bracket, Mid
SIZE		DWG. NO.	REV	
C		GE-22018		
SCALE: 1:2			SHEET 1 OF 1	

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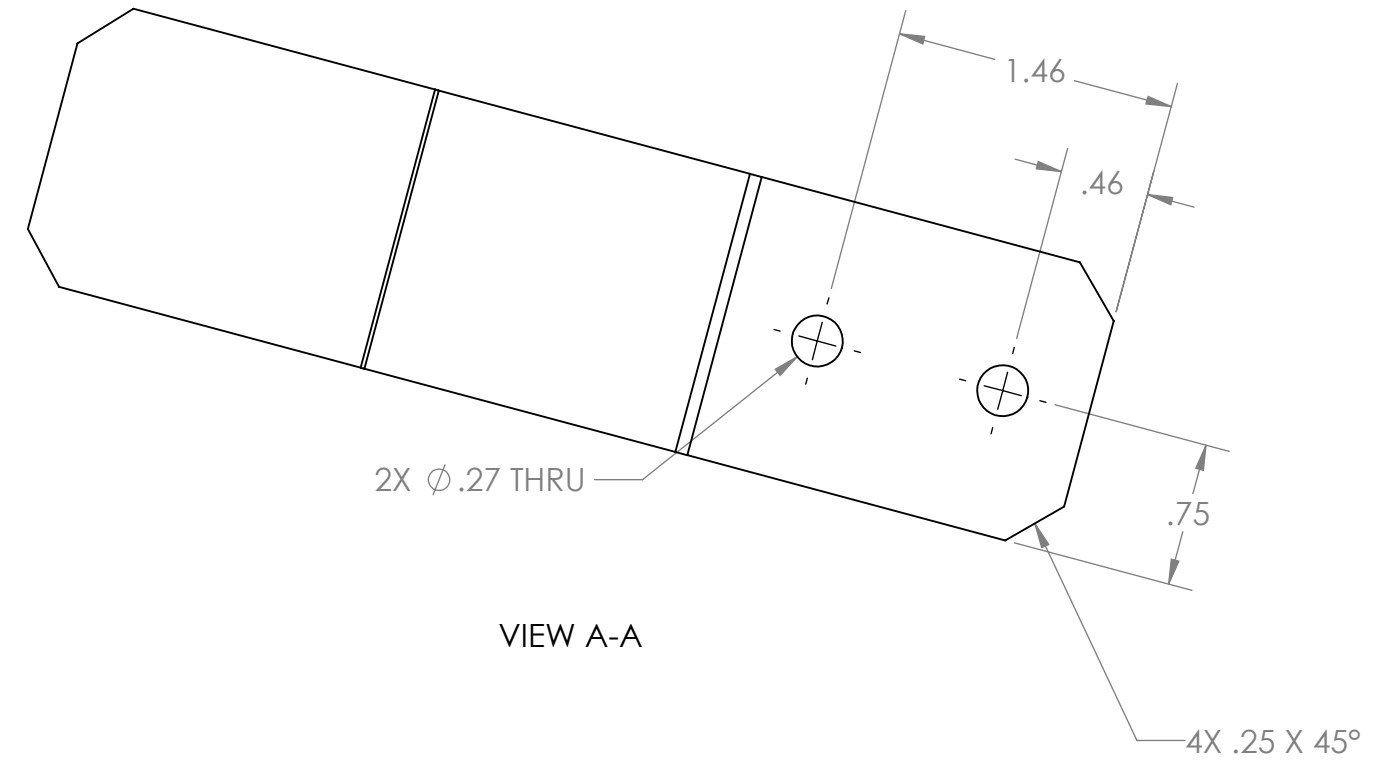
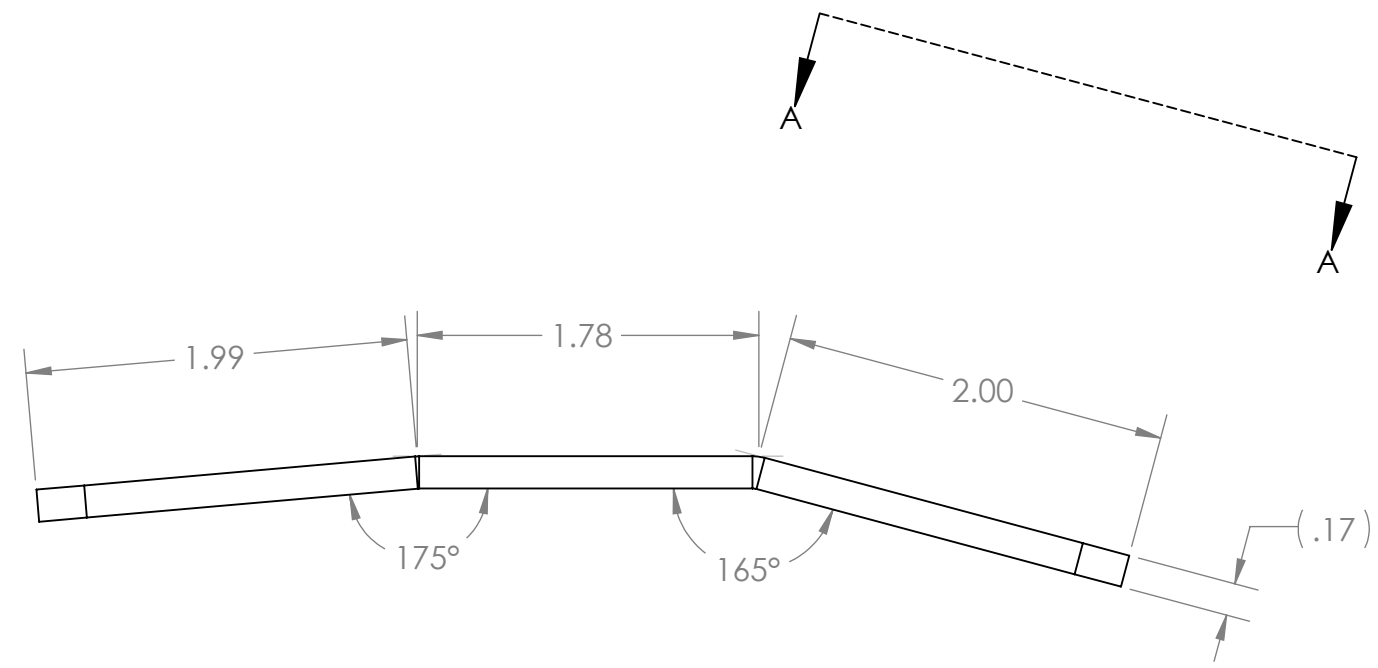
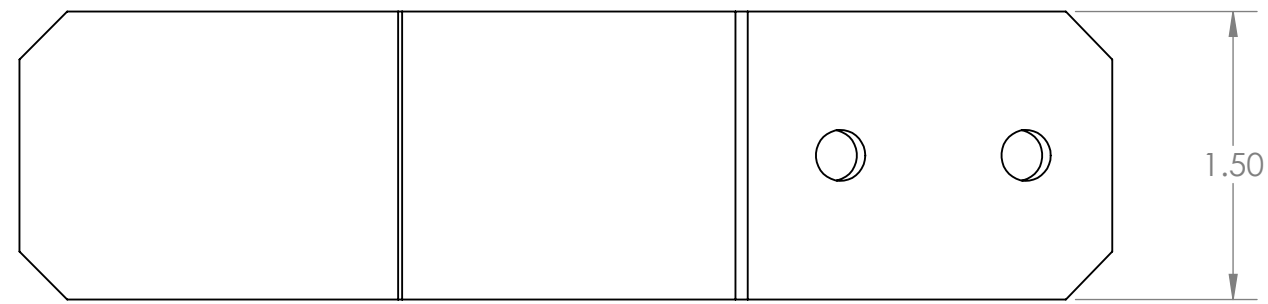
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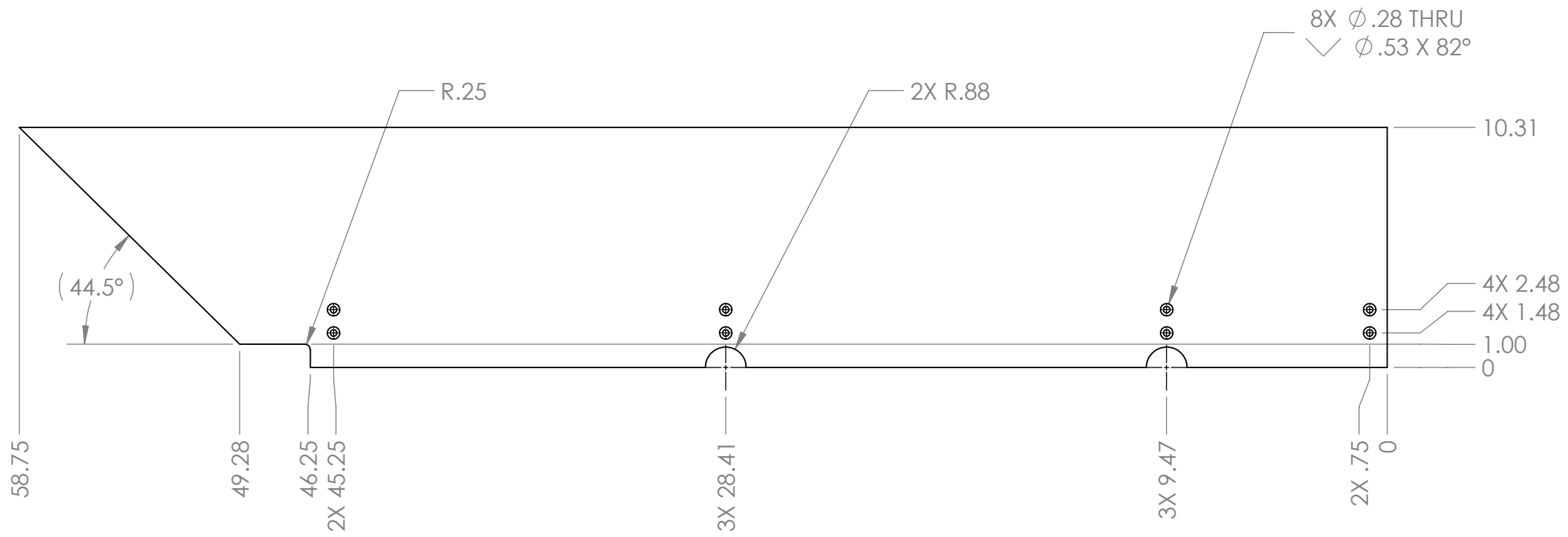
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VIEW A-A





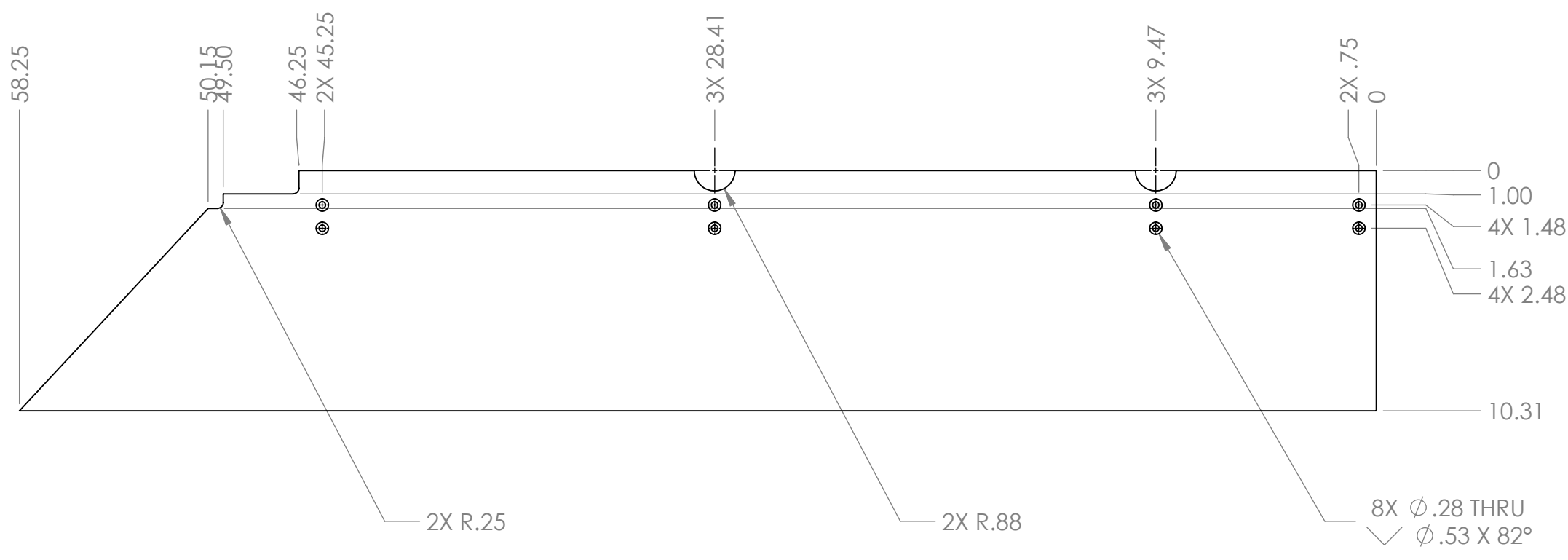
Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED:	BEND	NAME	DATE	 
	DRAWN	DF	4/9/2021	
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			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.			Ramp Bracket, Edge
MATERIAL/FINISH:	8 ga. Pre-plated Steel			SIZE DWG. NO. REV C GE-22019
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:1
DO NOT SCALE DRAWING				SHEET 1 OF 1




Notes:
1. Tag or Label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/2" HDPE, Natural DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	8/16/2021	
	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 Ramp, Left
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22020
	SCALE: 1:6		SHEET 1 OF 1	



Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/2" HDPE, Natural DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	DF	8/16/2021	
	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 Ramp, Right
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				C GE-22021
				SCALE: 1:6
				SHEET 1 OF 1

4X R.25

2X R.88

22.63

46.00

28.41

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(.25)

Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
1/4" Polycarbonate, Clear

DO NOT SCALE DRAWING

VEND NAME DATE
DRAWN DF 8/16/2021

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:
Inner Ramp

SIZE DWG. NO. REV
C GE-22022

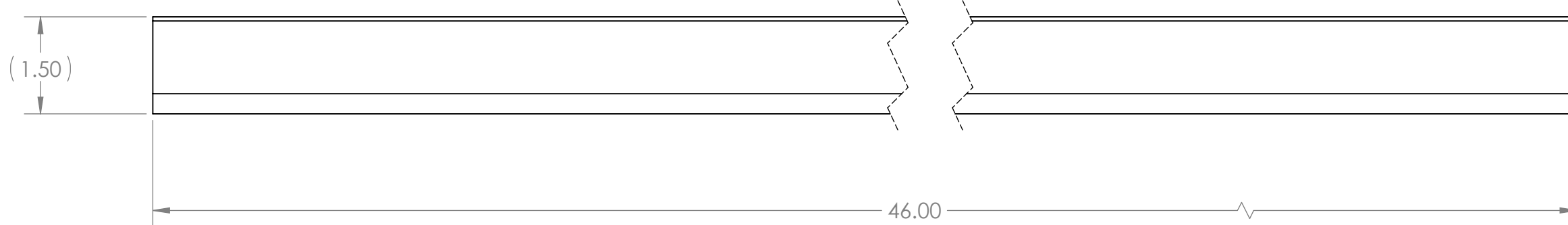
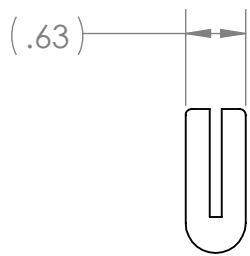
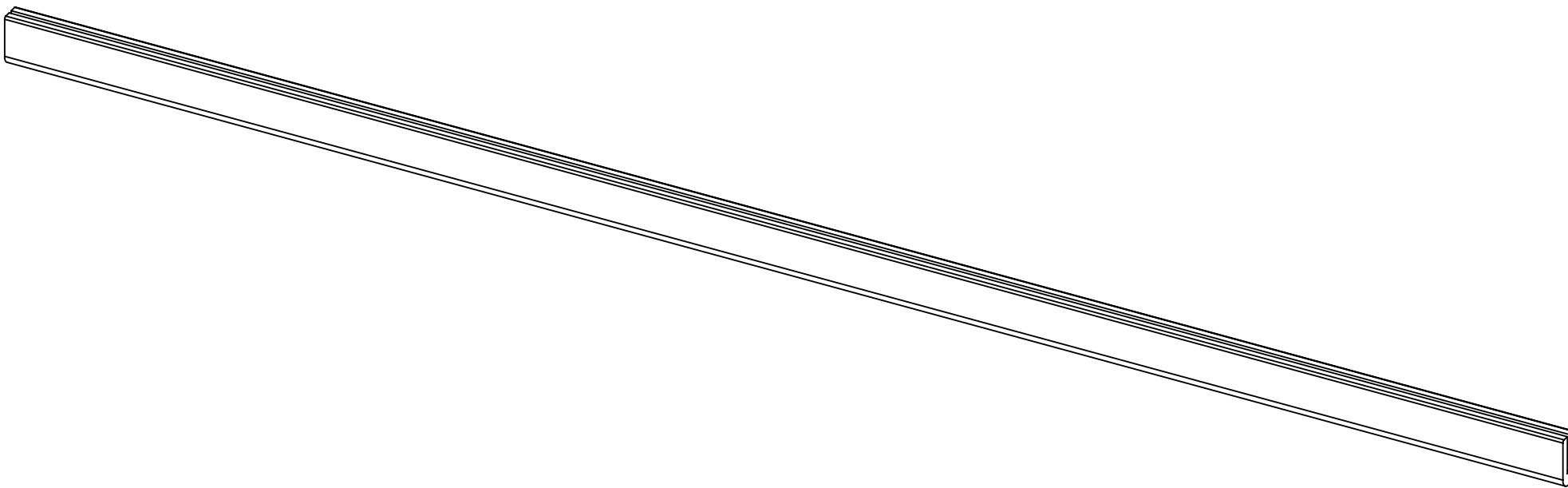
SCALE: 1:8 SHEET 1 OF 1

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DESCRIPTION: U SHAPE EDGE PROTECTORS
VENDOR: M2CBRIDGE VIA AMAZON
COLOR: BLACK
PACKAGE QUANTITY: 1 - 6.5 FEET
NOTES:
 1. SUBSTITUTIONS ALLOWED
 2. CUT TO LENGTH

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	DF	12/29/2021	
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: Edge Protector 46"
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		SIZE	DWG. NO.	REV
		C	GE-22024	
		SCALE: 1:2		SHEET 1 OF 1

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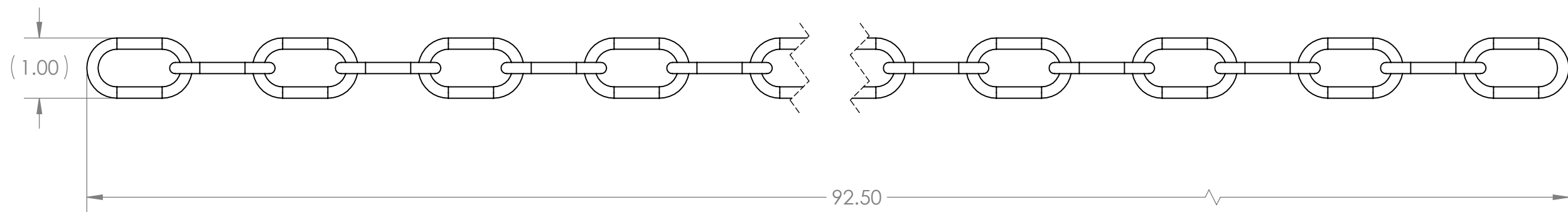
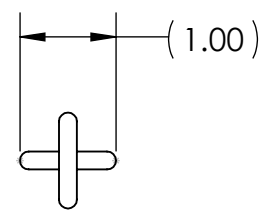
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Description: CHAINBOSS Plastic Chain: US Weight 2 in., Black
Vendor: The Home Depot
Part Number: [internet] 315968945

Substitutions allowed with permission from FIRST HQ.

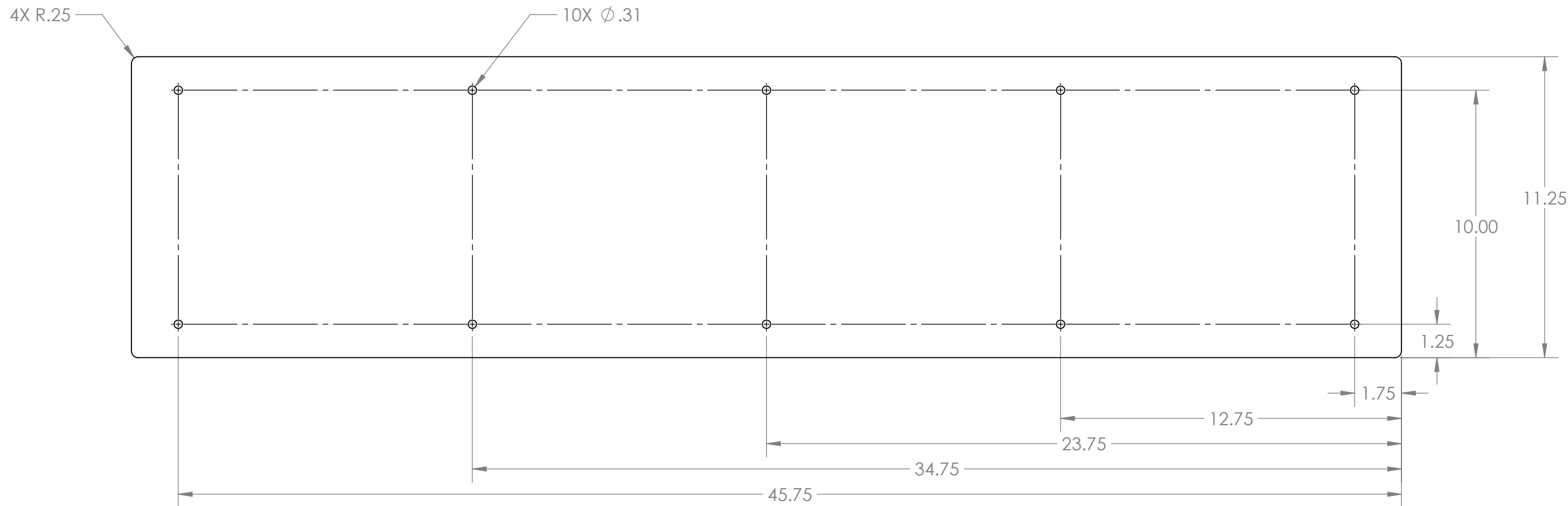
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 						
	DRAWN	DF	12/29/2021							
MATERIAL/FINISH: Black	PROPRIETARY AND CONFIDENTIAL THE INFORMATION 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: Terminal Chain						
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td>C</td> <td>GE-22026</td> <td></td> </tr> </table>	SIZE	DWG. NO.	REV	C	GE-22026	
	SIZE	DWG. NO.	REV							
C	GE-22026									
	SCALE: 1:2		SHEET 1 OF 1							

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Notes:
1. Bag or tag 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, Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	DF	8/16/2021

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:
Roof

SIZE	DWG. NO.	REV
C	GE-22027	

SCALE: 1:4 SHEET 1 OF 1

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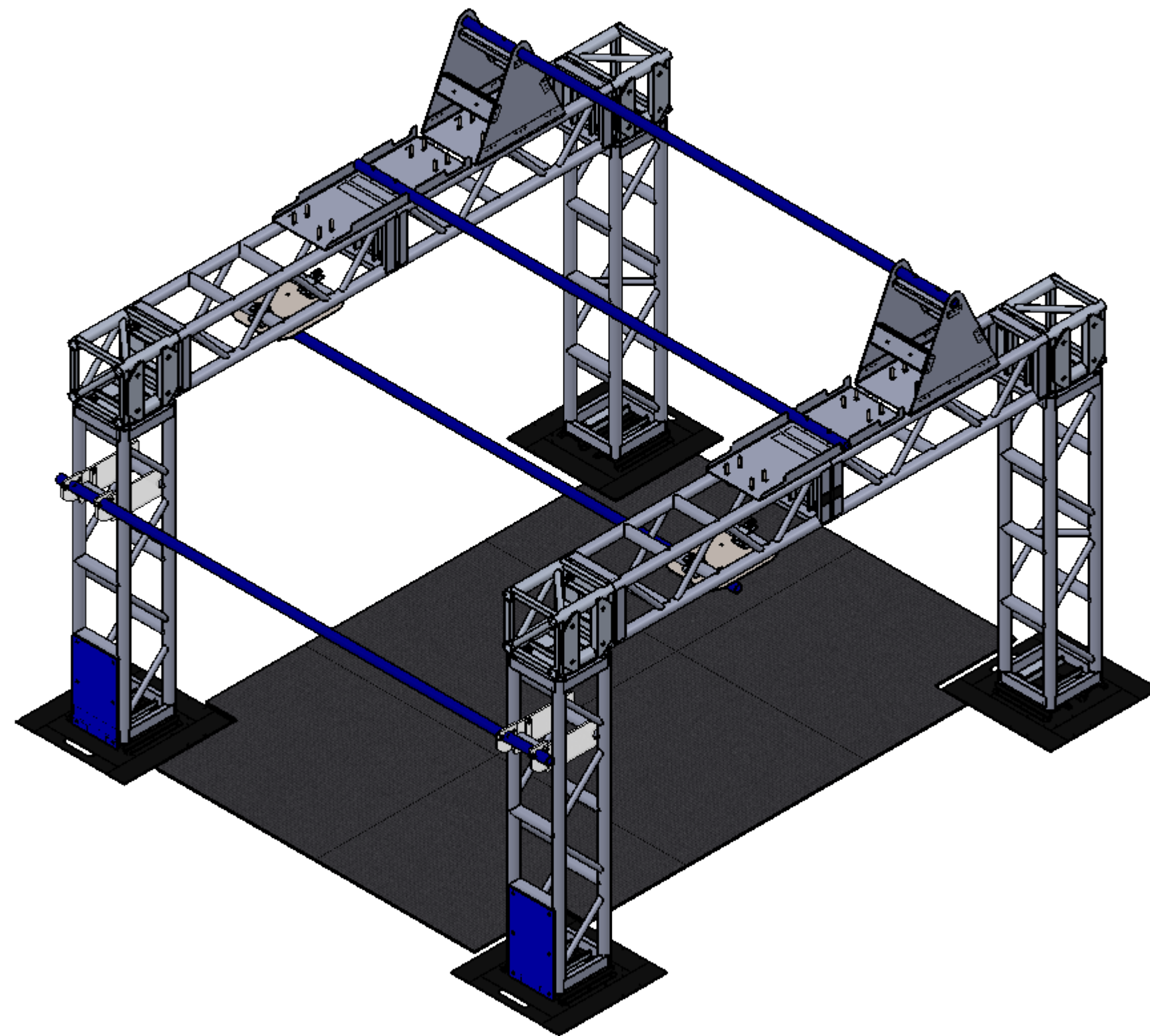
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ITEM NO.	PART NUMBER	DESCRIPTION	
1	FE-01002	4' x 1' x 1' Square Truss	4
2	FE-01003	5' x 1' x 1' Square Truss	4
3	FE-01012	3 Way Corner Block	4
4	GE-22101	Floor Protection Assembly	1
5	GE-22107	Launch pad blue	2
6	GE-22111	Low bar holder	4
7	GE-22112	Low bar clamp	4
8	GE-22120	under hung assembly	2
9	GE-22130	Upper transition bar holder	2
10	GE-22140	mid transition bar holder	2
11	GE-22150	Rung	4
12	GE-22170	Truss Base - Sheet Metal Assembly	4
13	hex_.25_20_1.25	Steel Hex Head Screw, 1/4"-20 x 1.25" long, fully threaded	16
14	hex_.375_16_3_partial	Steel Hex Head Screw, 3/8"-16, 3" long	13
15	hex_.625_11_2.00	Hex Head Bolt, 5/8"-11 Thread, 2" length	56
16	hexnut_.625_11	5/8"-11 hex nut	40
17	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	16
18	nylock_.375_16	Steel Nylon-Insert Locknut, 3/8"-16	12
19	tapeline_HANGARHeight	2" Gaffers Tape, Black	2
20	Ubolt_.375_2.4375_4.4375	U-Bolt 3/8-16 x 2-7/16 ID x 4-7/16 height	16
21	washer_flat_.25	Flat Washer for 1/4" Screw	32
22	washer_flat_.625	Flat washer for 5/8" screw	96



Notes:

- Assembly exists in Red and Blue configurations.

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	9/29/2020
	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			

			
TITLE: Hangar			
SIZE	DWG. NO.	REV	
C	GE-22100		
SCALE: 1:20		SHEET 1 OF 5	

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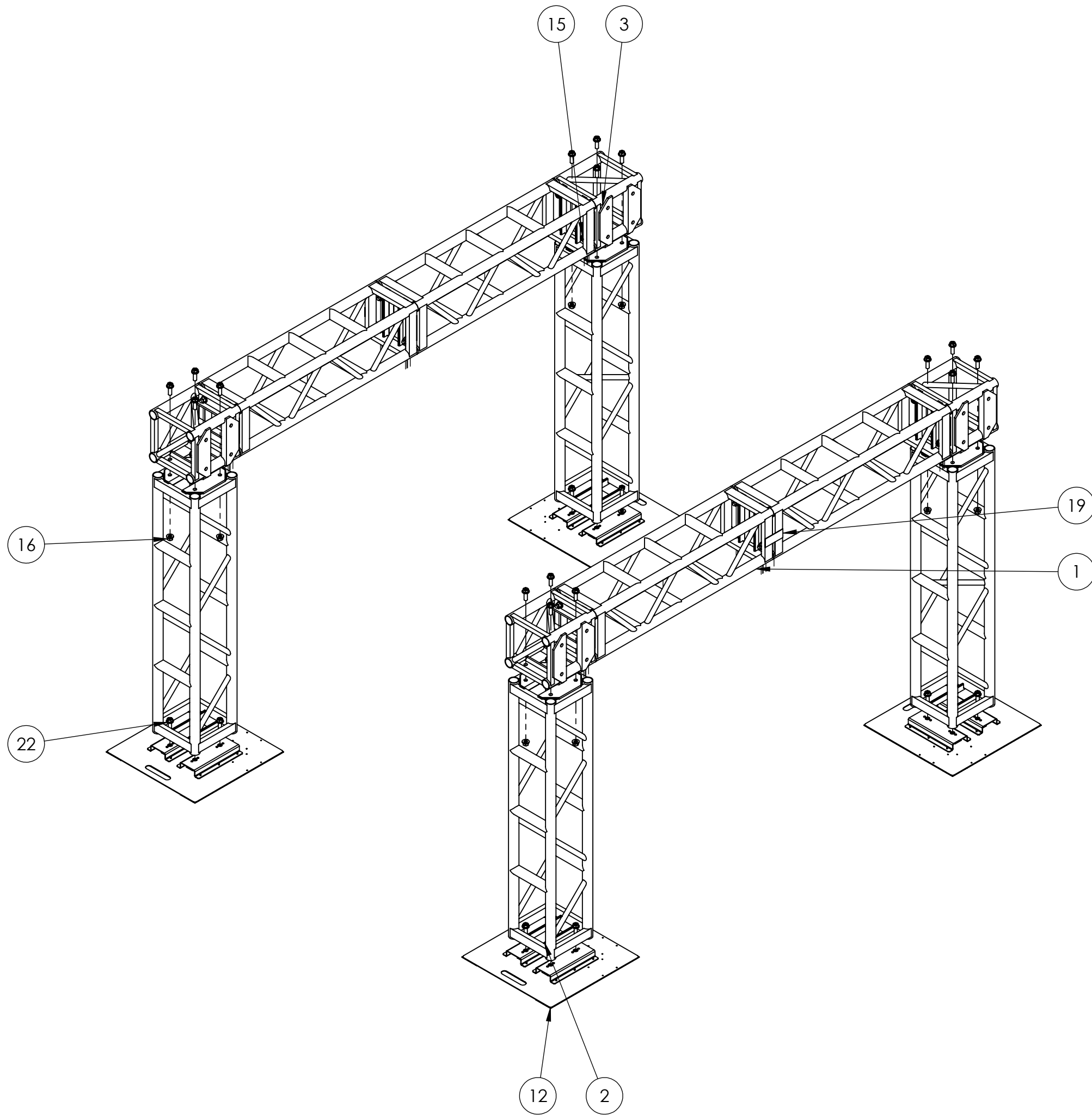
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UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
	DRAWN	NW	9/29/2020
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	PROPRIETARY AND CONFIDENTIAL		
	THE INFORMATION CONTAINED 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			



TITLE: Hangar		
SIZE	DWG. NO.	REV
C	GE-22100	
SCALE: 1:20		SHEET 2 OF 5

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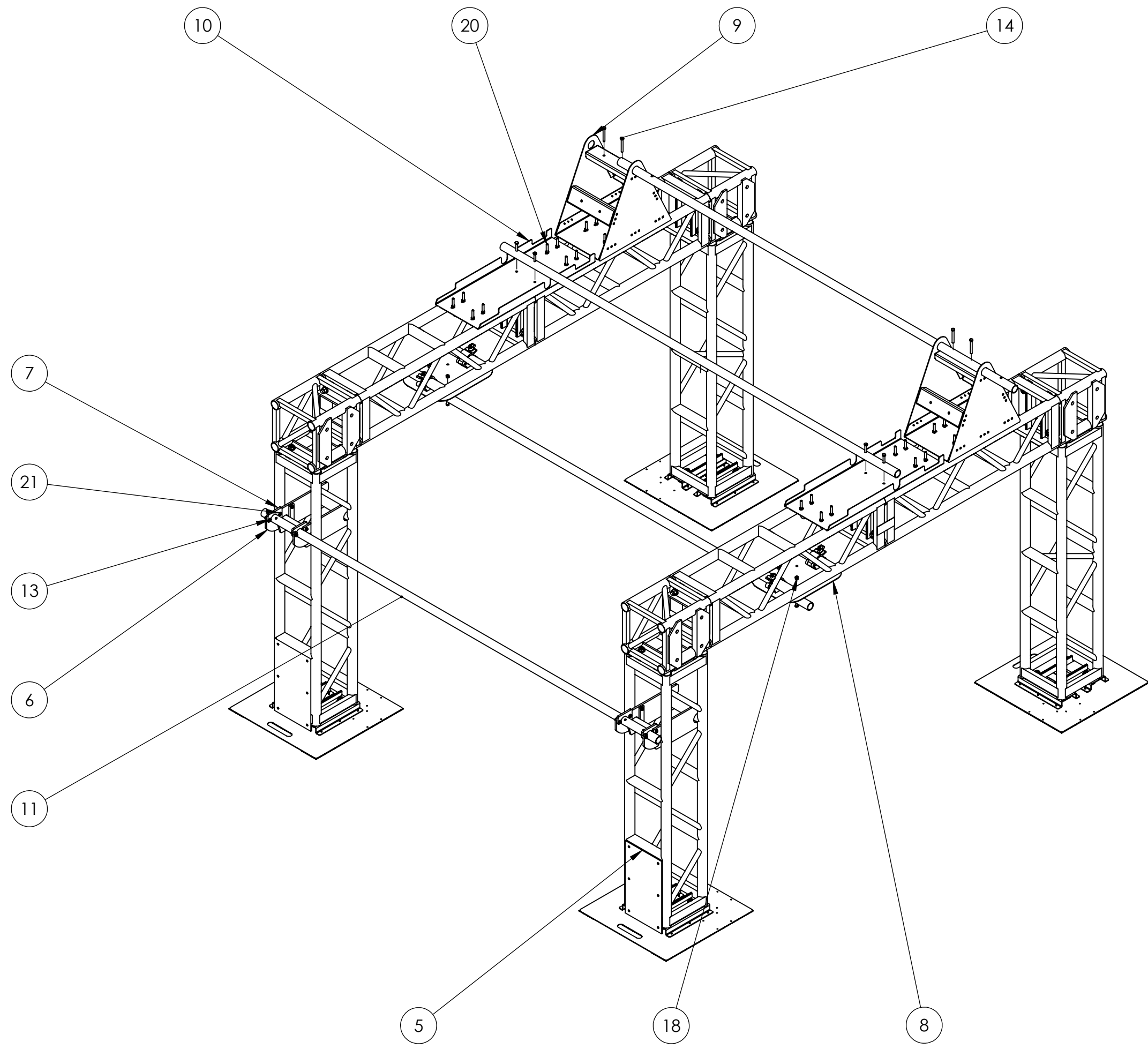
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$ MATERIAL/FINISH: DO NOT SCALE DRAWING	FIELD	NAME	DATE	 	
	DRAWN	NW	9/29/2020		
	PROPRIETARY 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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				Hangar SIZE DWG. NO. REV C GE-22100 SCALE: 1:20 SHEET 3 OF 5

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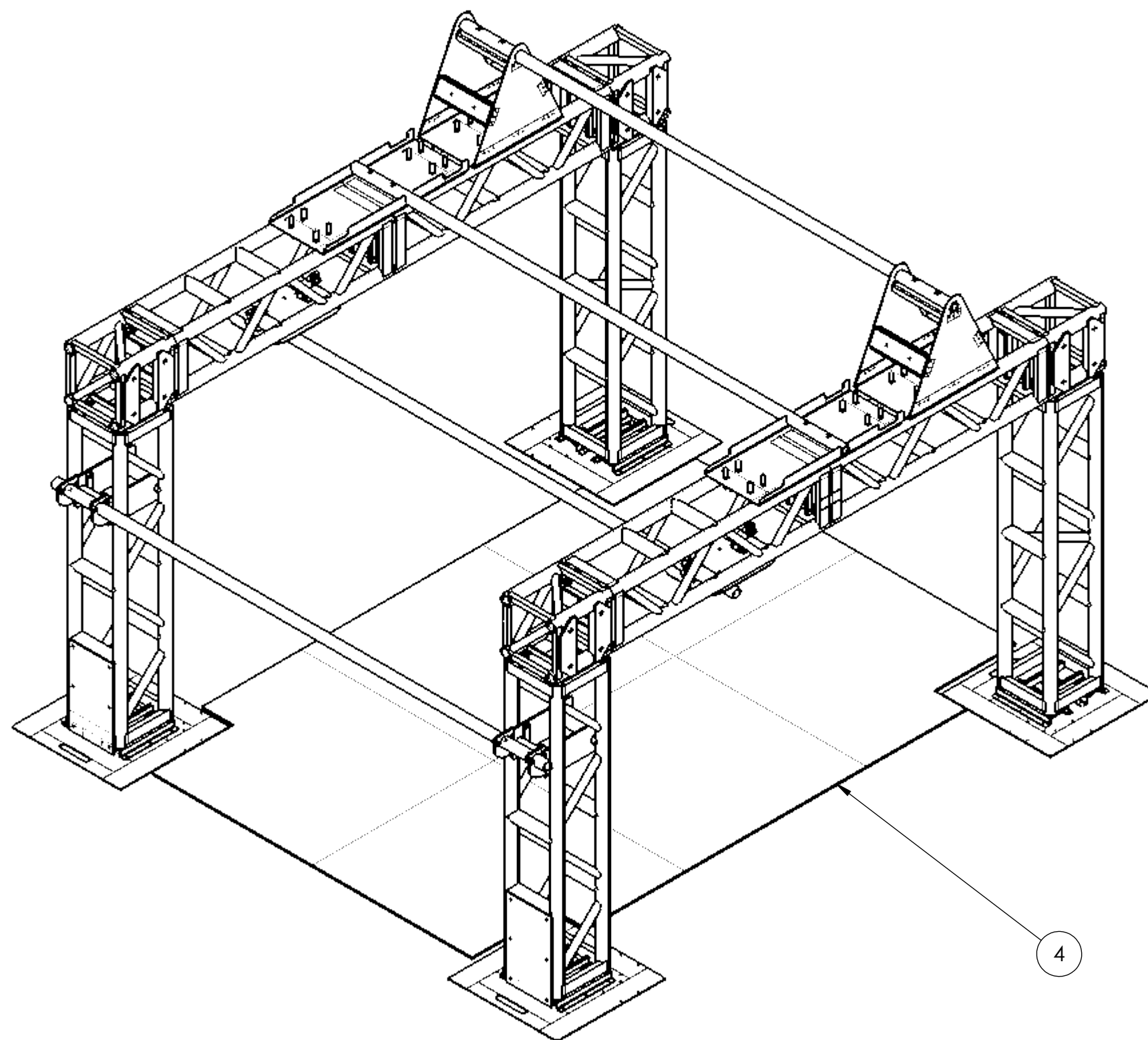
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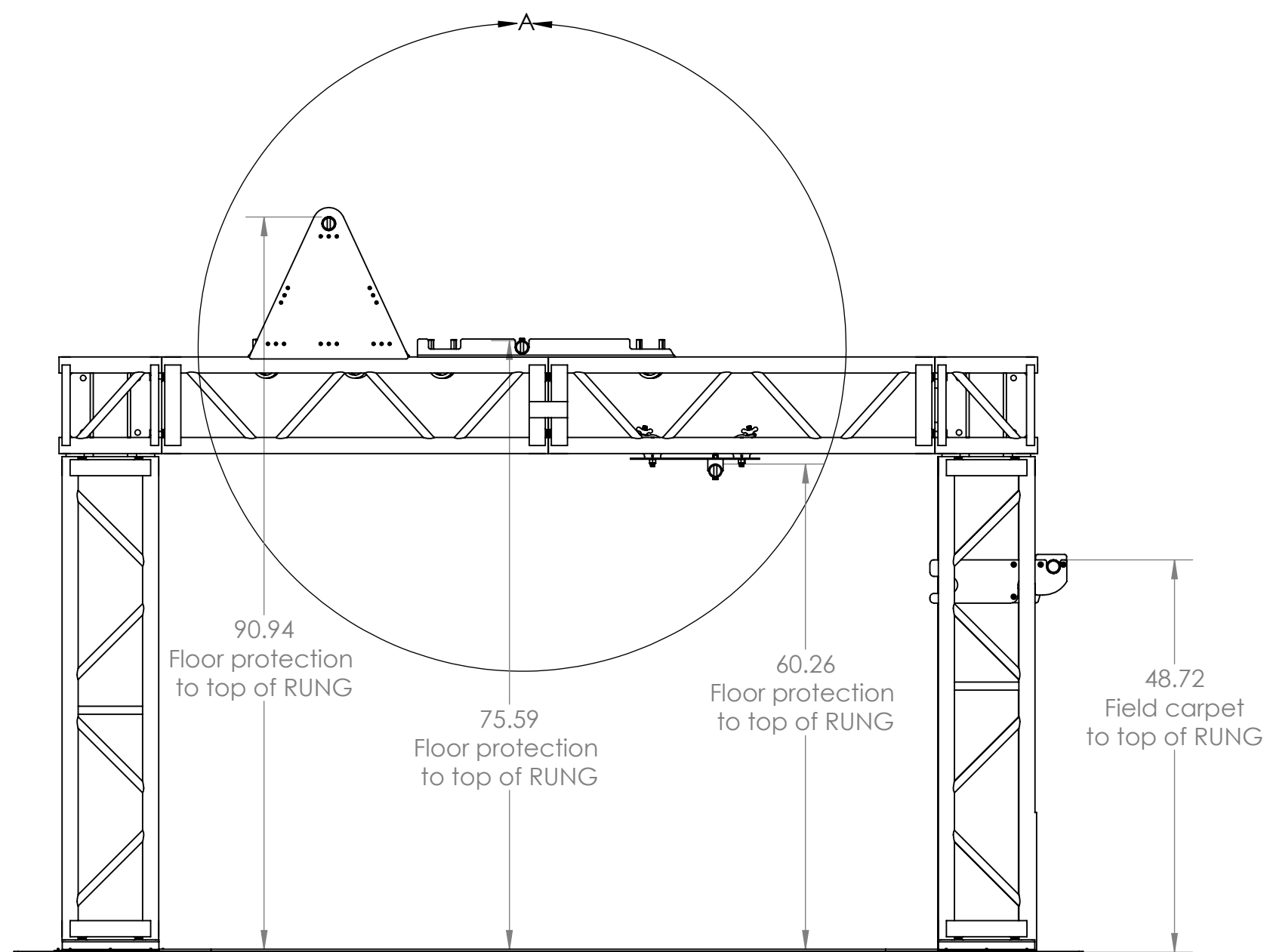
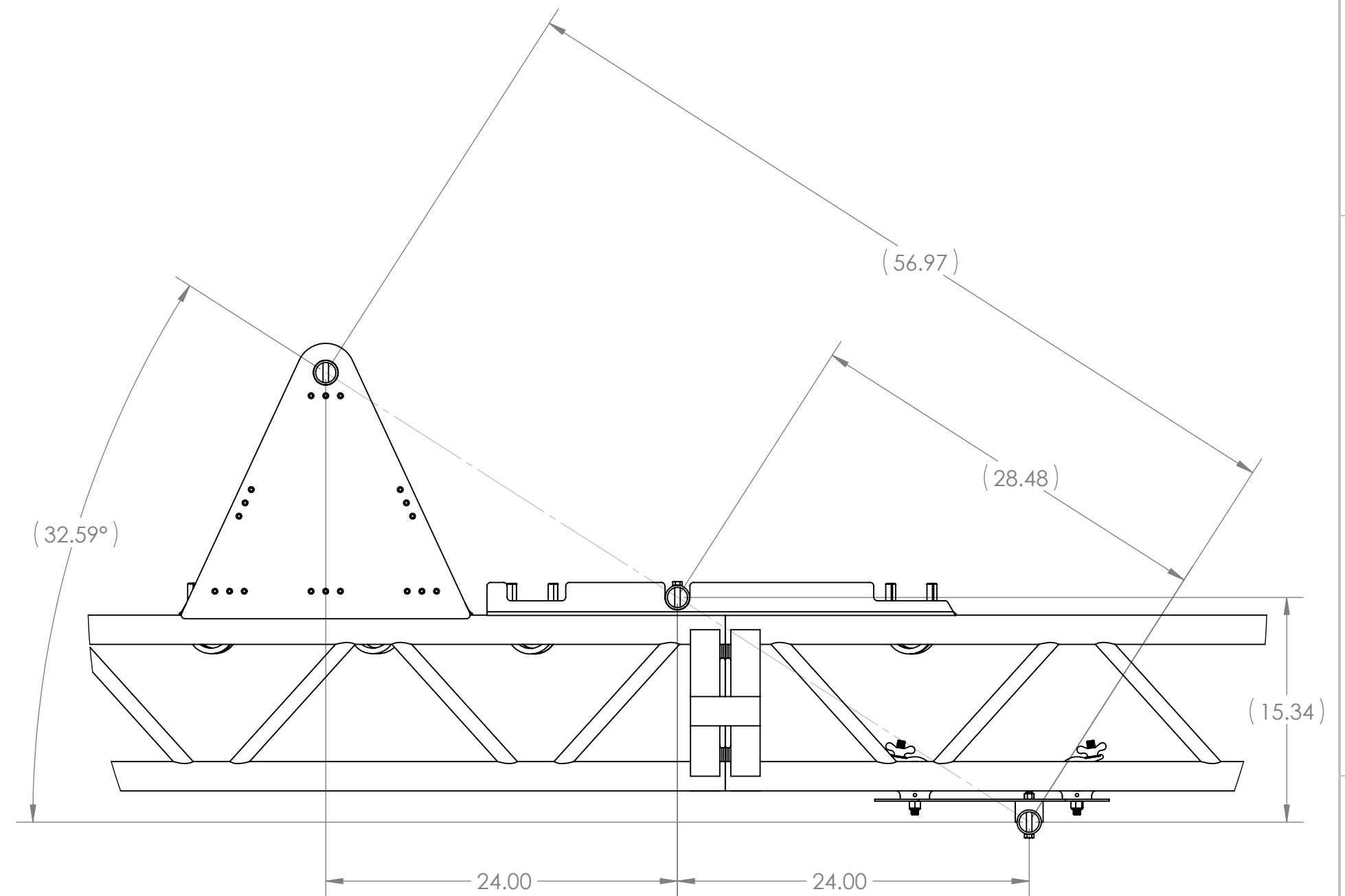
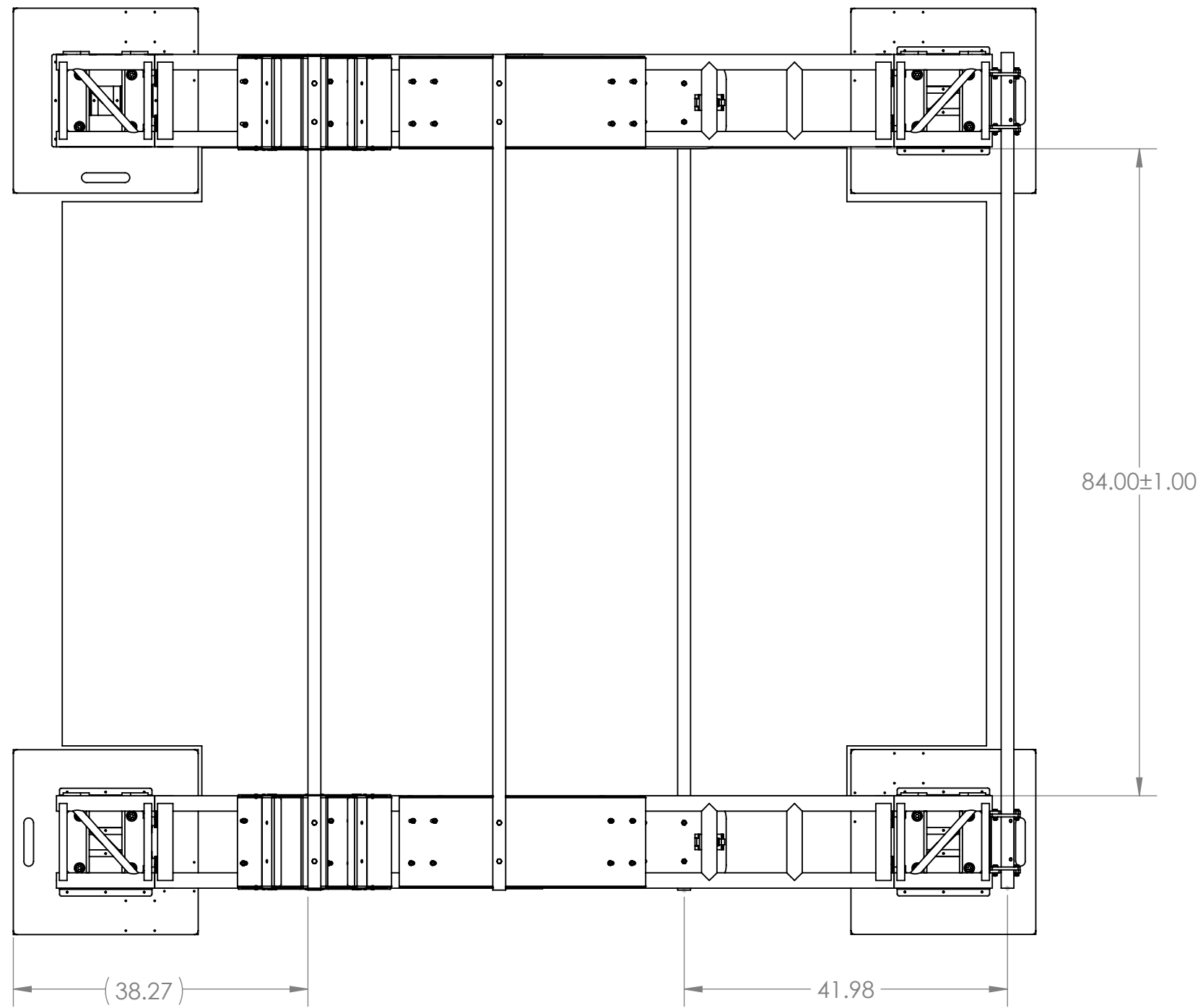
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 
	DRAWN	NW	9/29/2020	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.			Hangar
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
DO NOT SCALE DRAWING				REV
				C GE-22100
				SCALE: 1:20
				SHEET 4 OF 5

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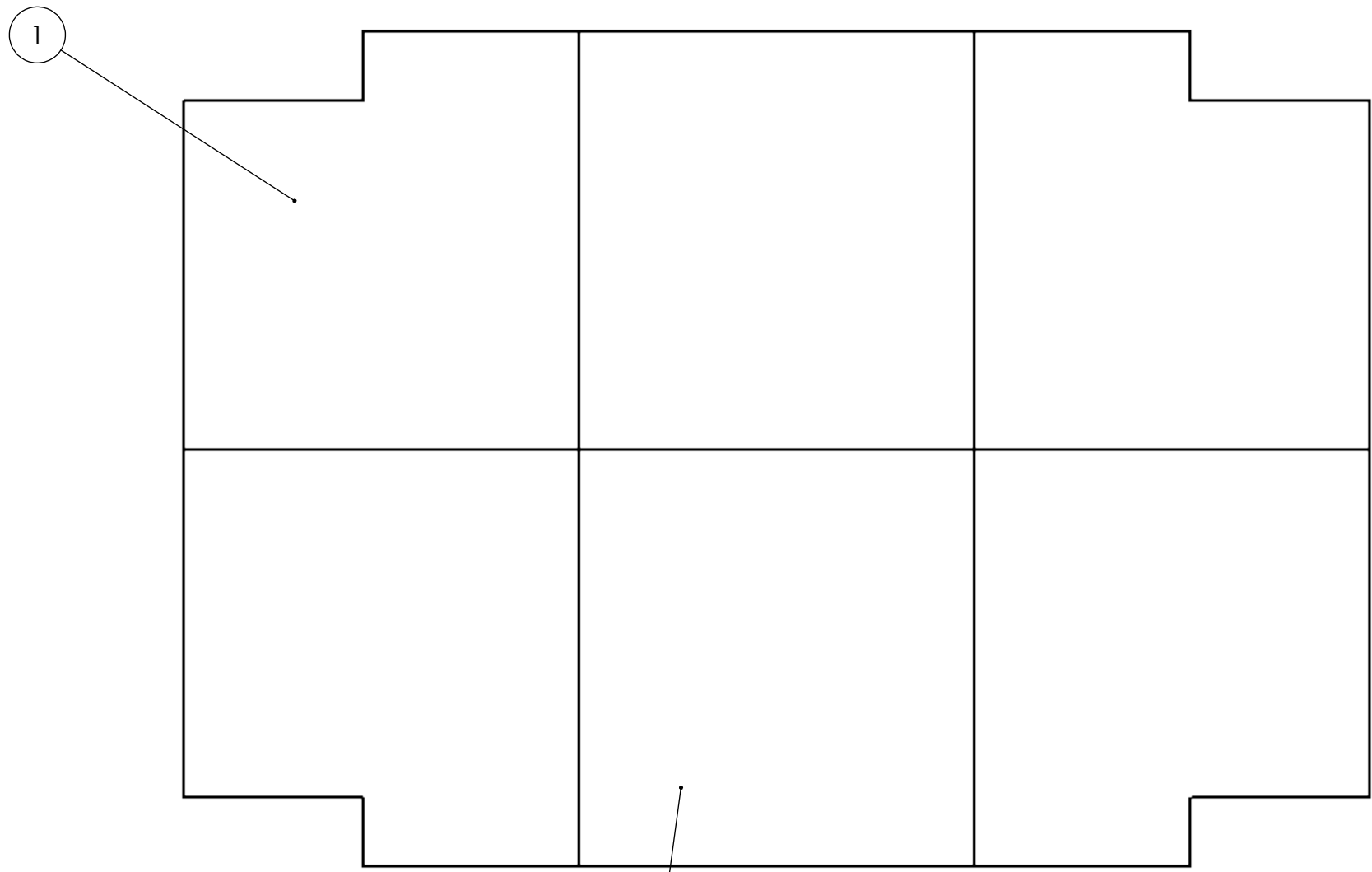
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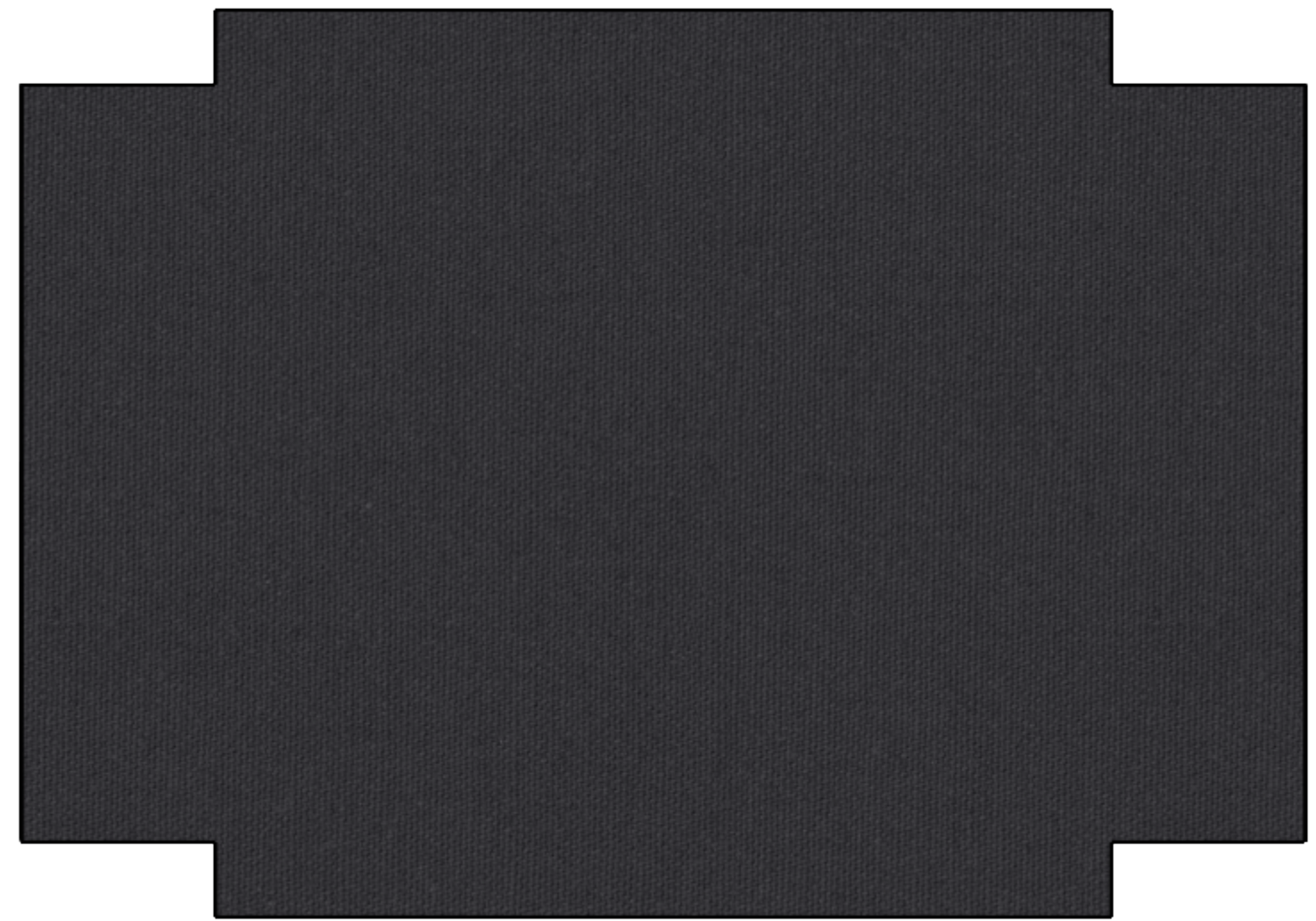
Notes:
1. Dimensions in parentheses are for reference only.



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	NW	9/29/2020	
MATERIAL/FINISH:	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.			Hangar
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22100
			SCALE: 1:18	SHEET 5 OF 5

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22102	notched floor protection section	4
2	GE-22105	floor protection carpet	1
3	GE-22104	Floor protection full	2



Item 2 hidden for clarity



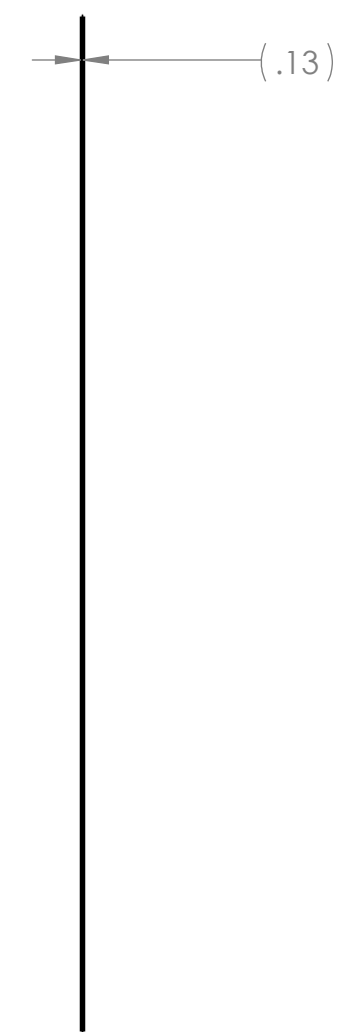
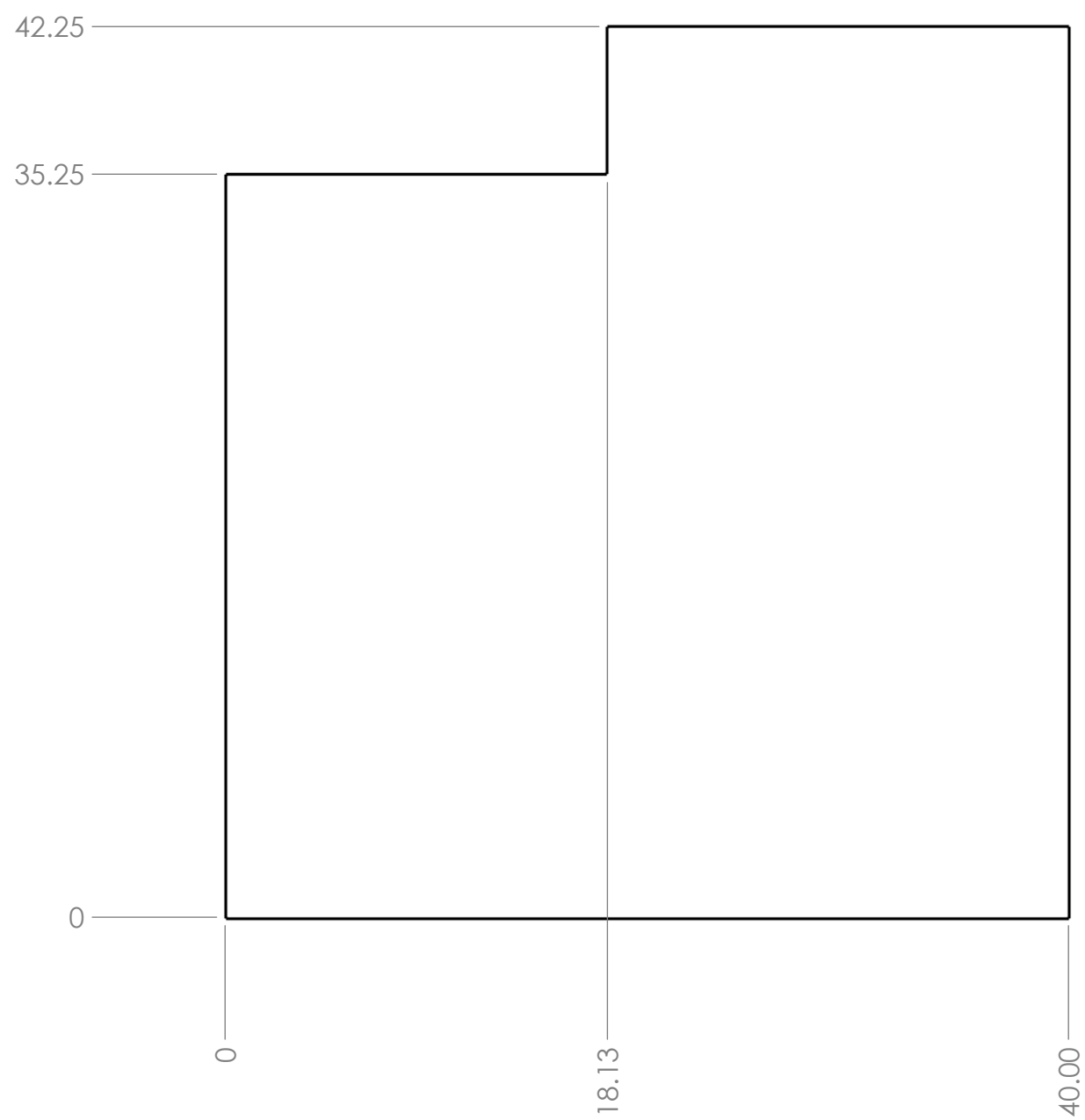
UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE
	DRAWN	NW	6/8/2020
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	PROPRIETARY AND CONFIDENTIAL		 
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.		
MATERIAL/FINISH:	COMMENTS:		TITLE:
	REMOVE ALL BURRS AND SHARP EDGES.		Floor Protection Assembly
DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV
	C	GE-22101	
	SCALE: 1:48	SHEET 1 OF 1	

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Notes:
 1. Label or tag part.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 						
	DRAWN	NW	6/3/2020							
MATERIAL/FINISH: 0.125" Hardboard/ Masonite	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: notched floor protection section						
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td>C</td> <td>GE-22102</td> <td></td> </tr> </table>	SIZE	DWG. NO.	REV	C	GE-22102	
	SIZE	DWG. NO.	REV							
C	GE-22102									
SCALE: 1:16			SHEET 1 OF 1							

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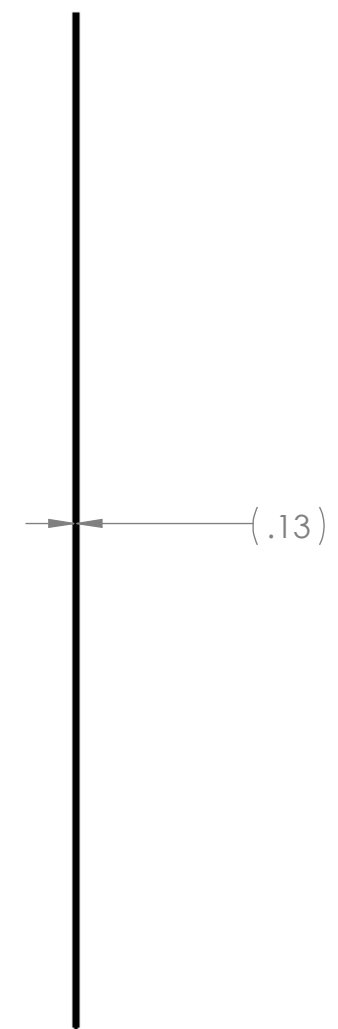
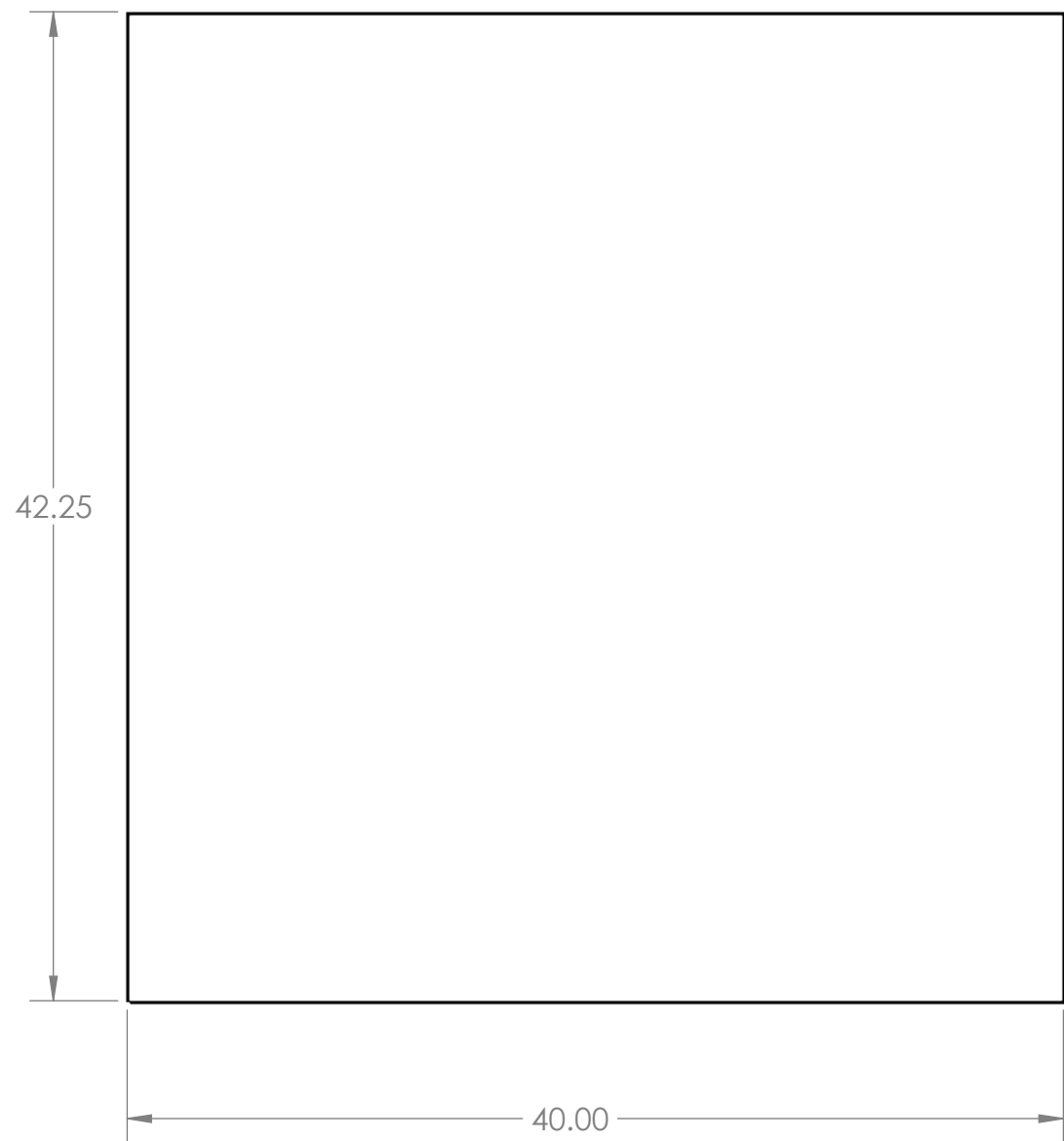
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Notes:
 1. Label or tag part.

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" hardboard/ masonite	VEND	NAME	DATE	 
	DRAWN	NW	6/3/2020	
DO NOT SCALE DRAWING	PROPRIETARY AND CONFIDENTIAL			TITLE: Floor protection full SIZE DWG. NO. REV C GE-22104 SCALE: 1:16 SHEET 1 OF 1
	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.			

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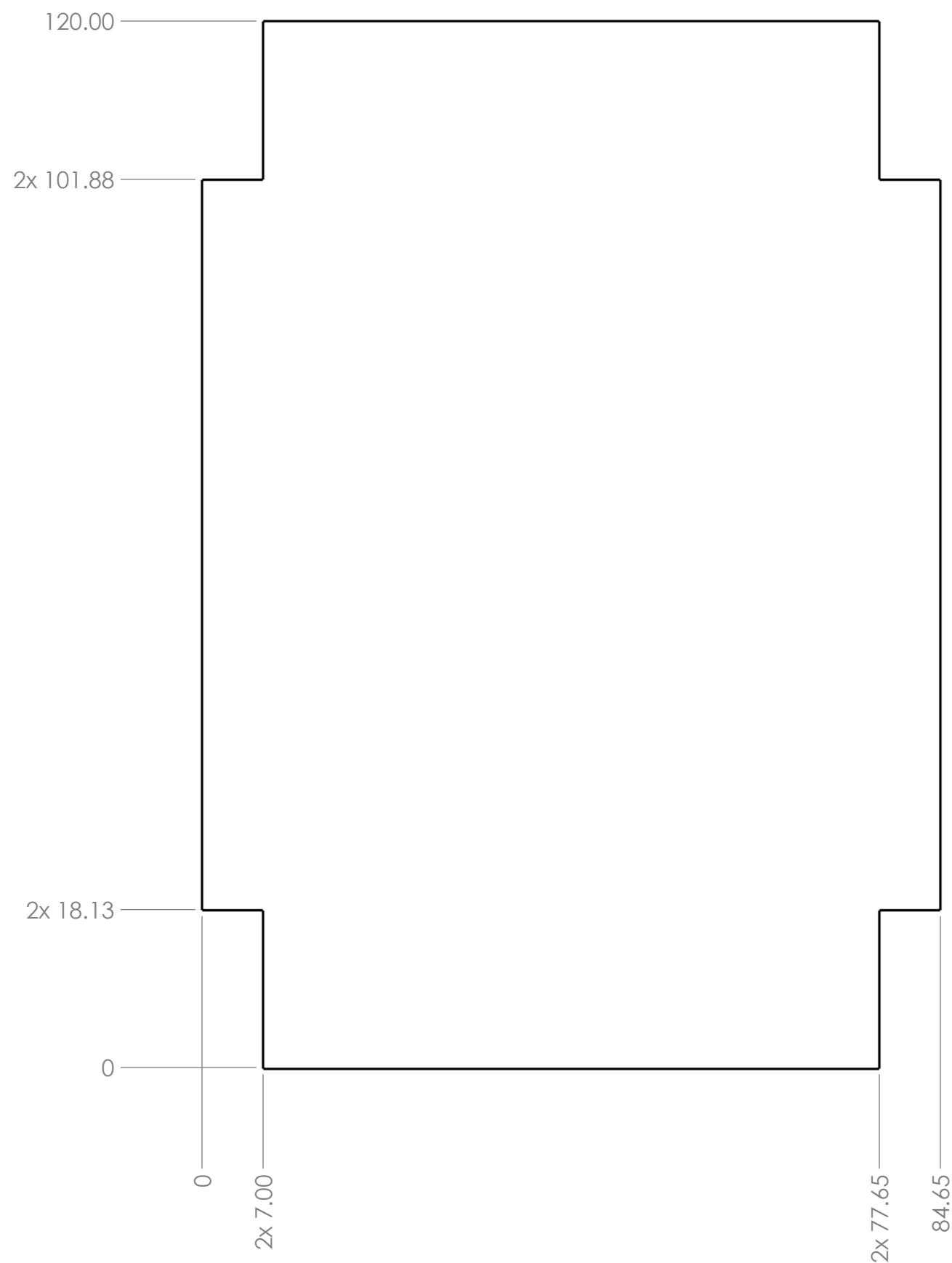
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	NW	6/8/2020	
MATERIAL/FINISH: Shaw Neyland II	PROPRIETARY AND CONFIDENTIAL THE INFORMATION 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: floor protection carpet
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22105
	SCALE: 1:32		SHEET 1 OF 1	

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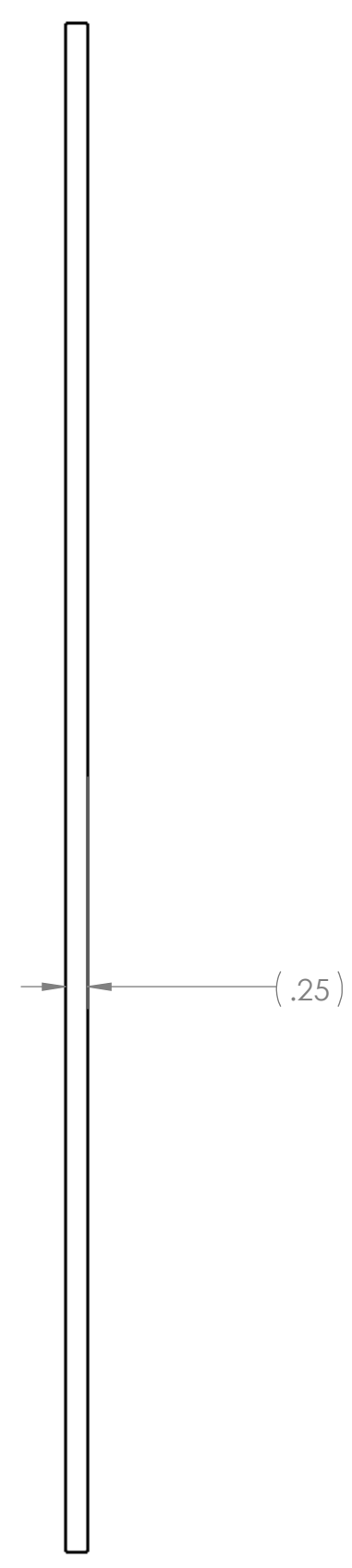
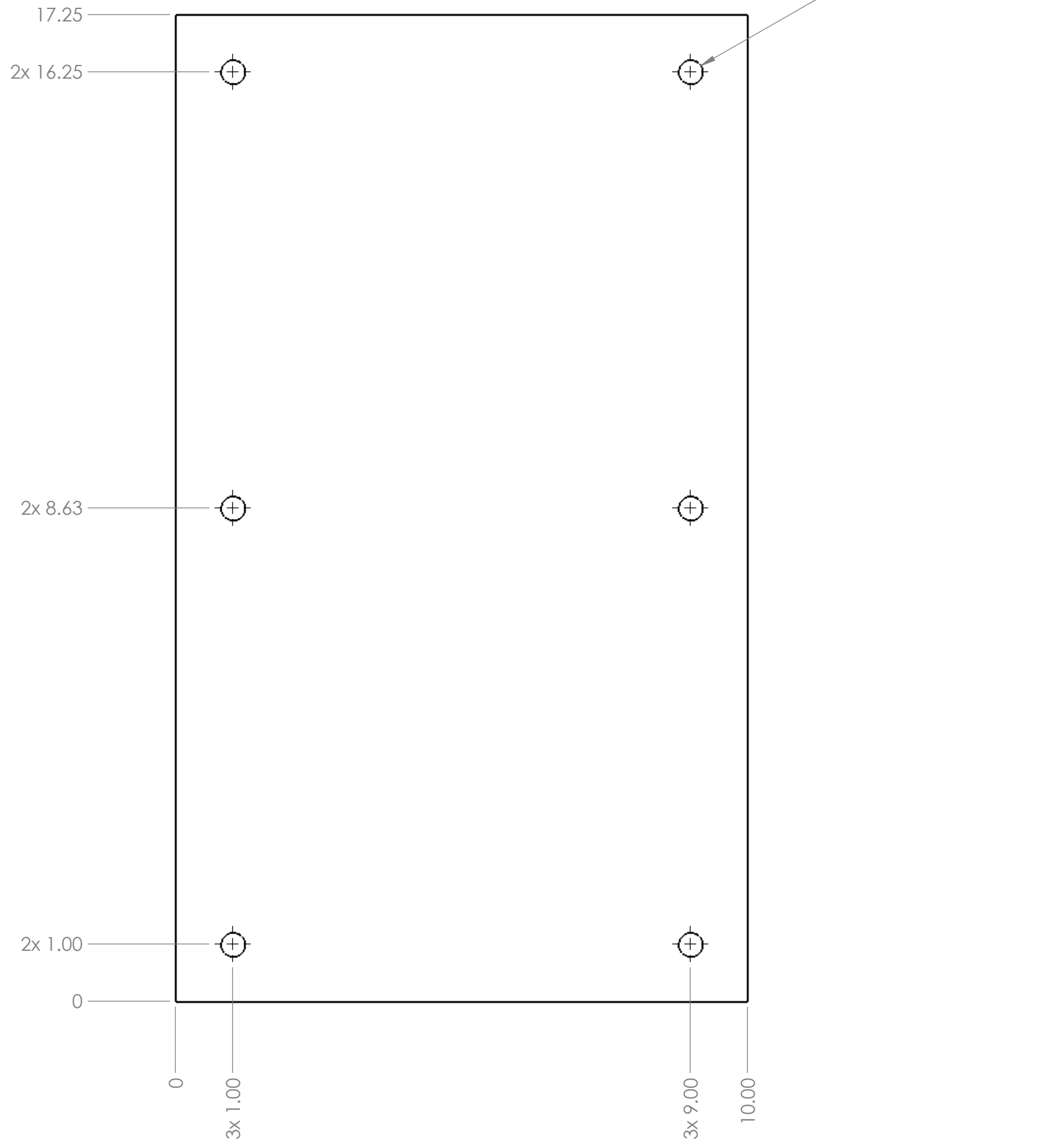
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Notes:
 1. Label or mark with part number.

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: .25" Red HDPE, smooth	VEND	NAME	DATE	
	DRAWN	NW	7/1/2021	
DO NOT SCALE DRAWING	PROPRIETARY AND CONFIDENTIAL			TITLE: <h2 style="text-align: center;">Launch Pad Red</h2>
	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.			SCALE: 1:2	SHEET 1 OF 1

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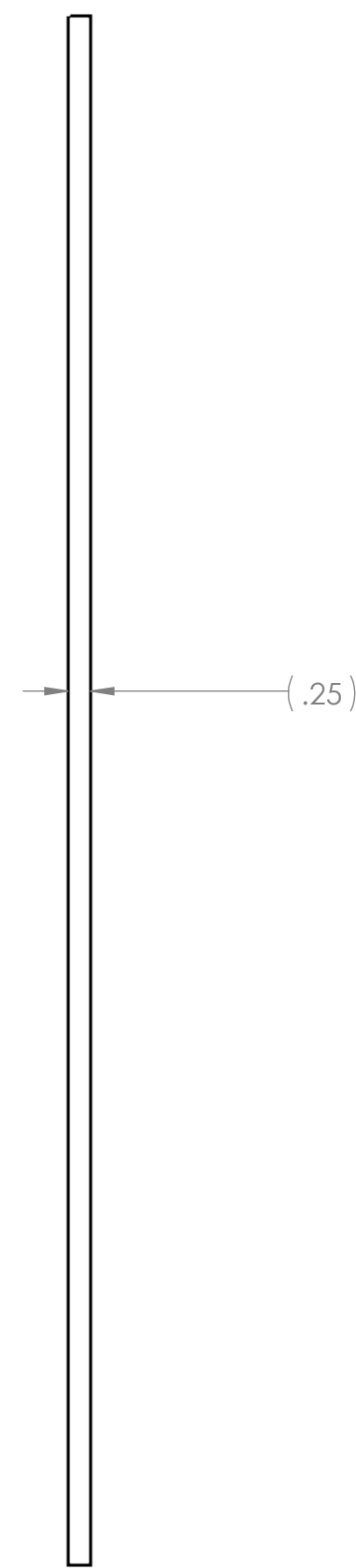
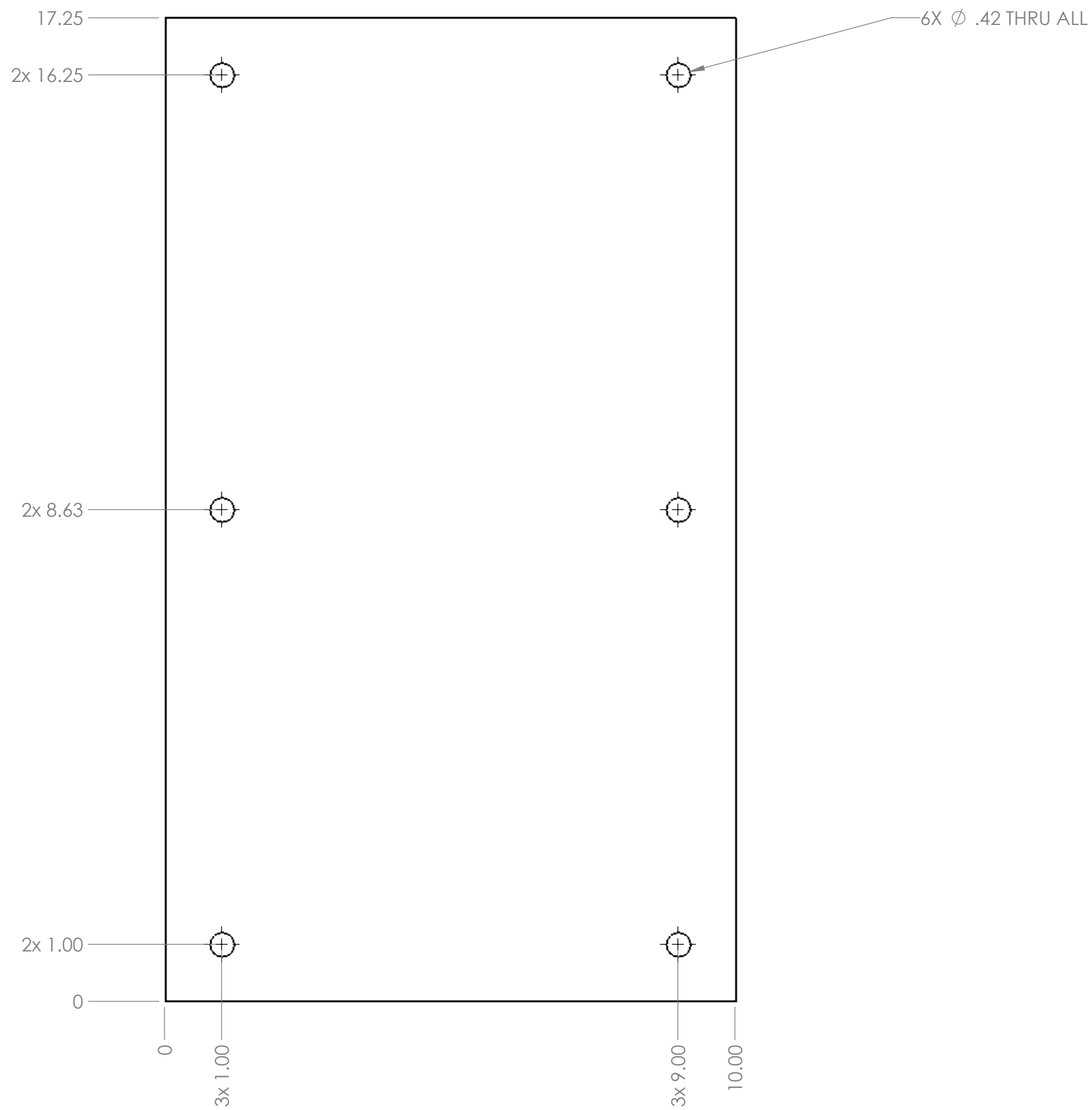
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Notes:
1. Label or mark with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: .25" Blue HDPE, smooth COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	NW	7/1/2021	
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: Launch pad blue
SIZE		DWG. NO.	REV	
C		GE-22107		
SCALE: 1:2		SHEET 1 OF 1		

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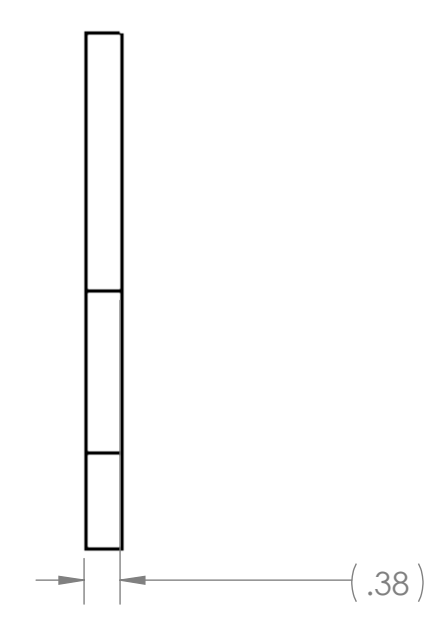
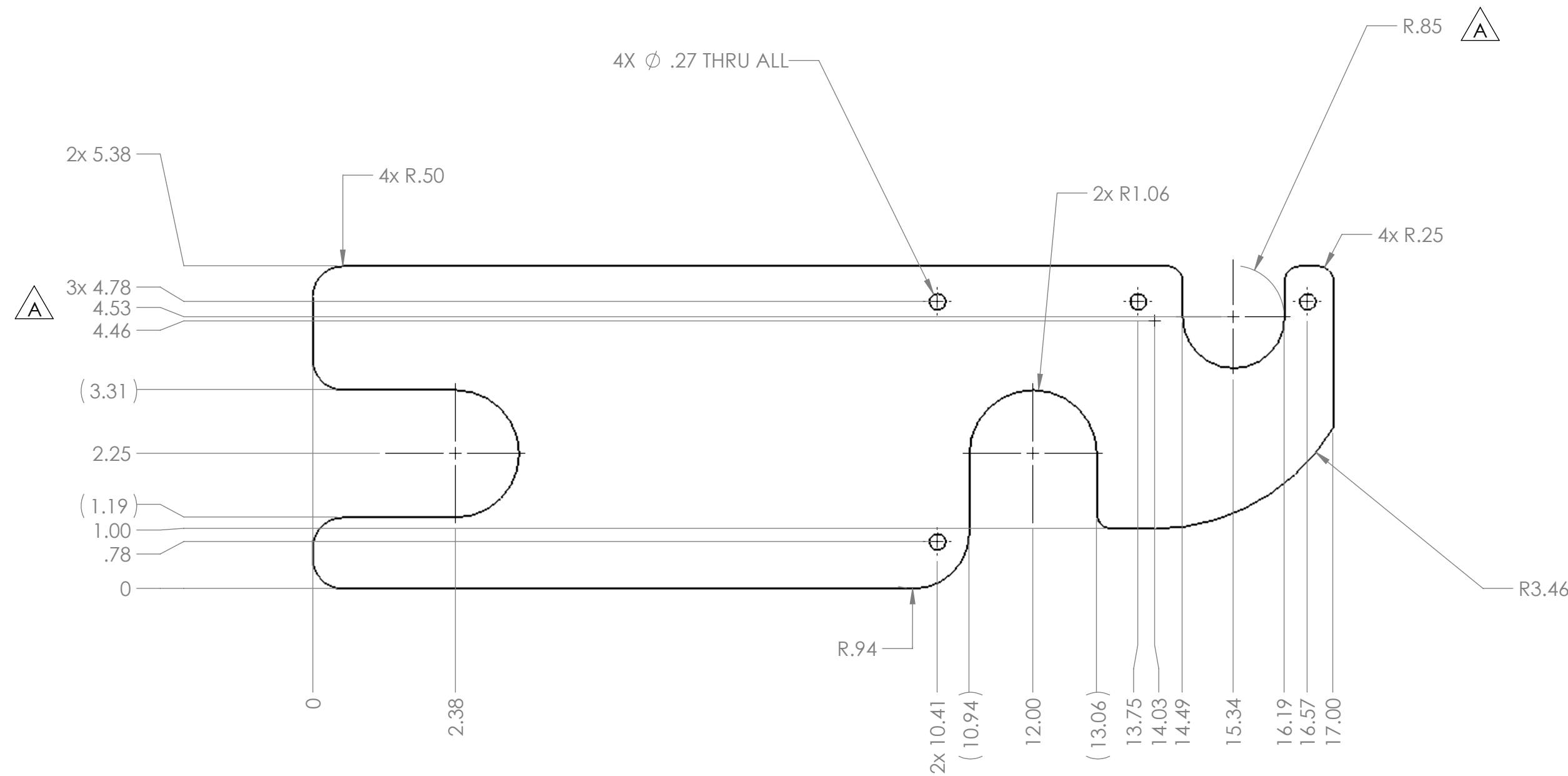
B

B

A

A

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C4, D2	A	R .85 was R.83 4.53 was 4.55	11/18/2021	NTW



Notes:
1. Label or tag with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 3/8" Polycarbonate, Clear COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	NW	6/5/2020
	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: Low bar holder		
SIZE	DWG. NO.	REV
C	GE-22111	A
SCALE: 1:4		SHEET 1 OF 1

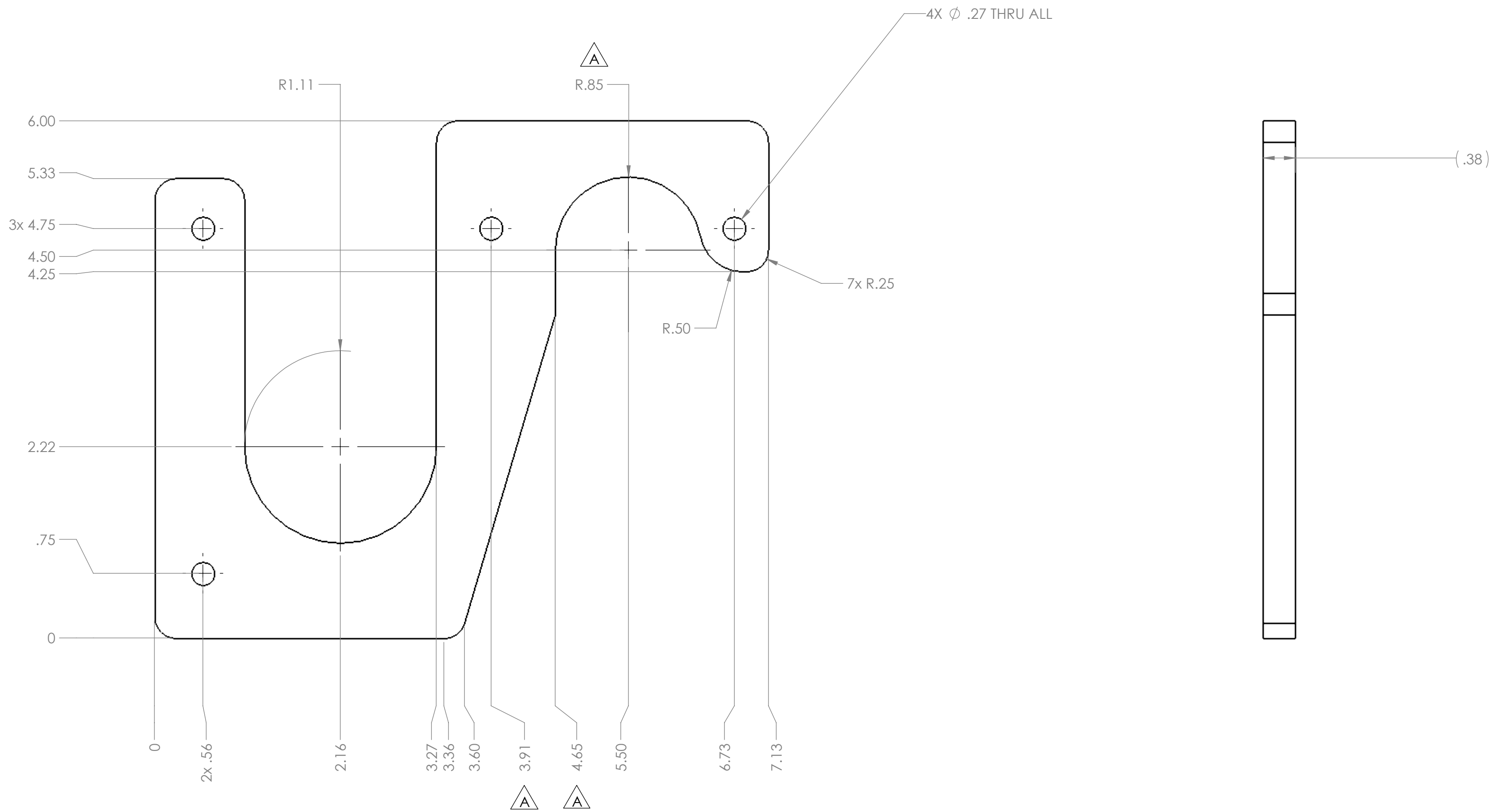
4

3



2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3, D3	A	R .85 was R .83, 3.91 was 3.93, 4.65 was 4.67	11/18/2021	NTW



Notes:
 1. Label or tag with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 3/8" Polycarbonate, clear DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	NW	6/5/2020		
	PROPRIETARY AND CONFIDENTIAL			TITLE: <h2>Low bar clamp</h2>	
	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:		SIZE	DWG. NO.	REV
	REMOVE ALL BURRS AND SHARP EDGES.		C	GE-22112	A
			SCALE: 1:4	SHEET 1 OF 1	

4

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C

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B

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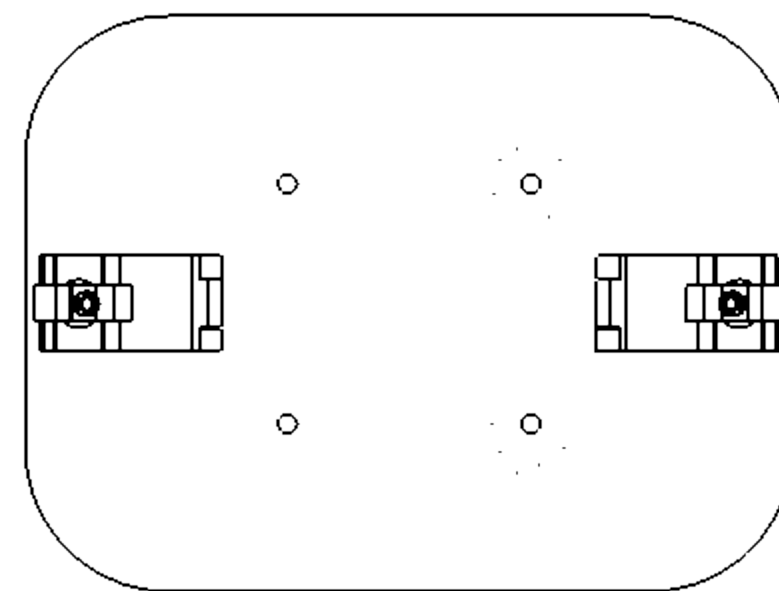
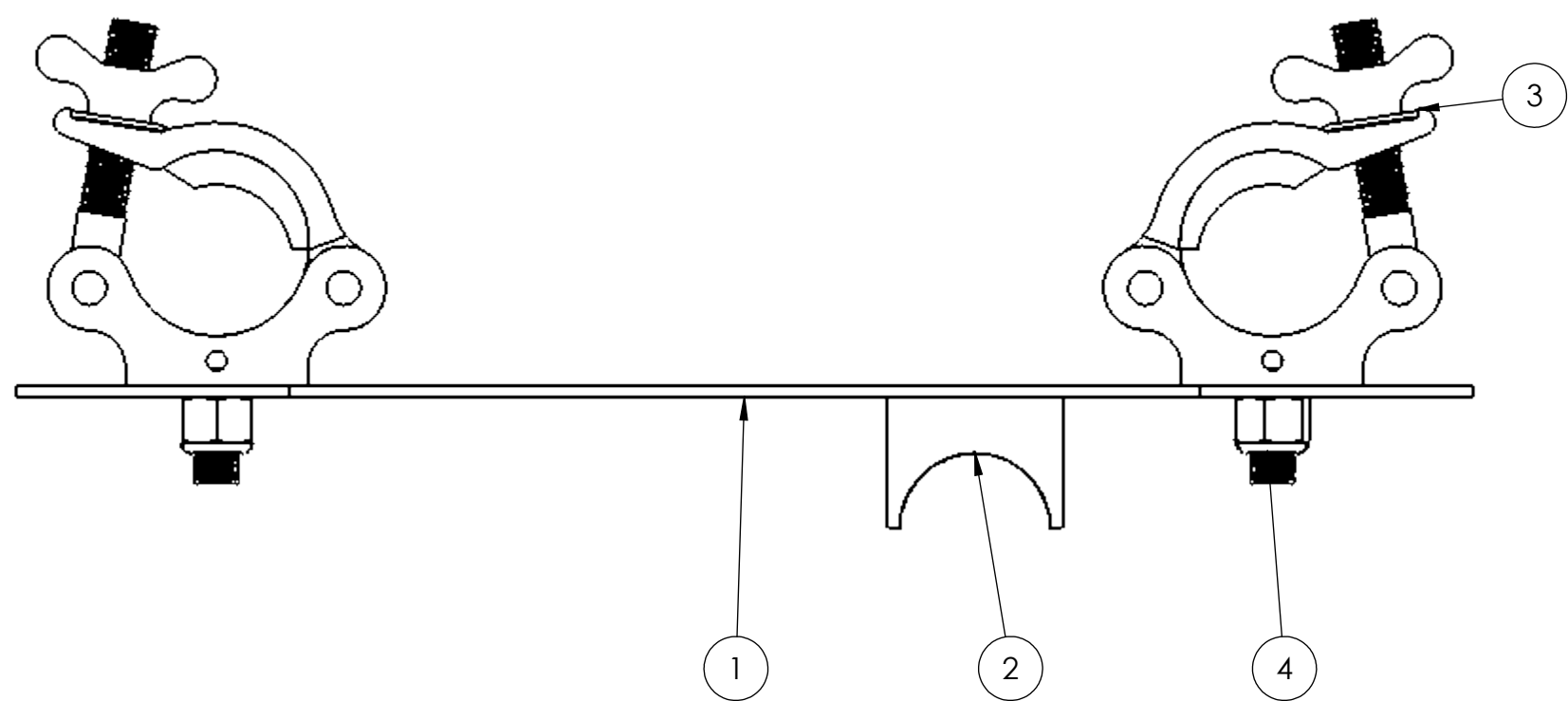
4



3

2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22121	Under hung plate	1
2	GE-22123	Pipe Saddle	2
3	FE-01016	Cheeseborough for Truss _ Single	2
4	nylock_5_13	steel nylon-insert locknut, 1/2" - 13	2



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	NW	3/4/2021	
MATERIAL/FINISH:	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.			under hung assembly
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
DO NOT SCALE DRAWING				C GE-22120
				SCALE: 1:4 SHEET 1 OF 1

4

3

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C

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4

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C

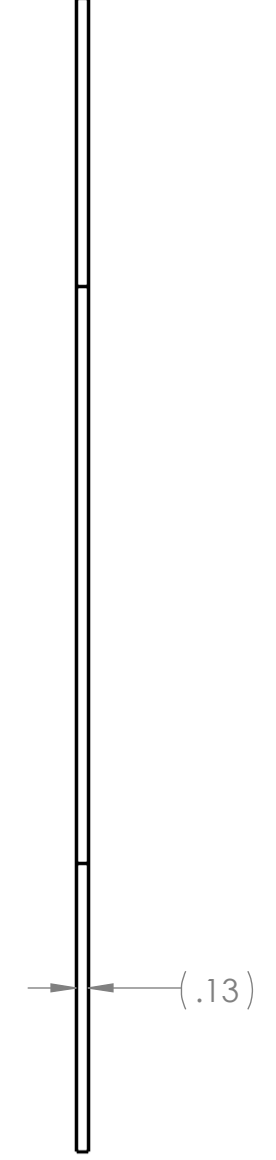
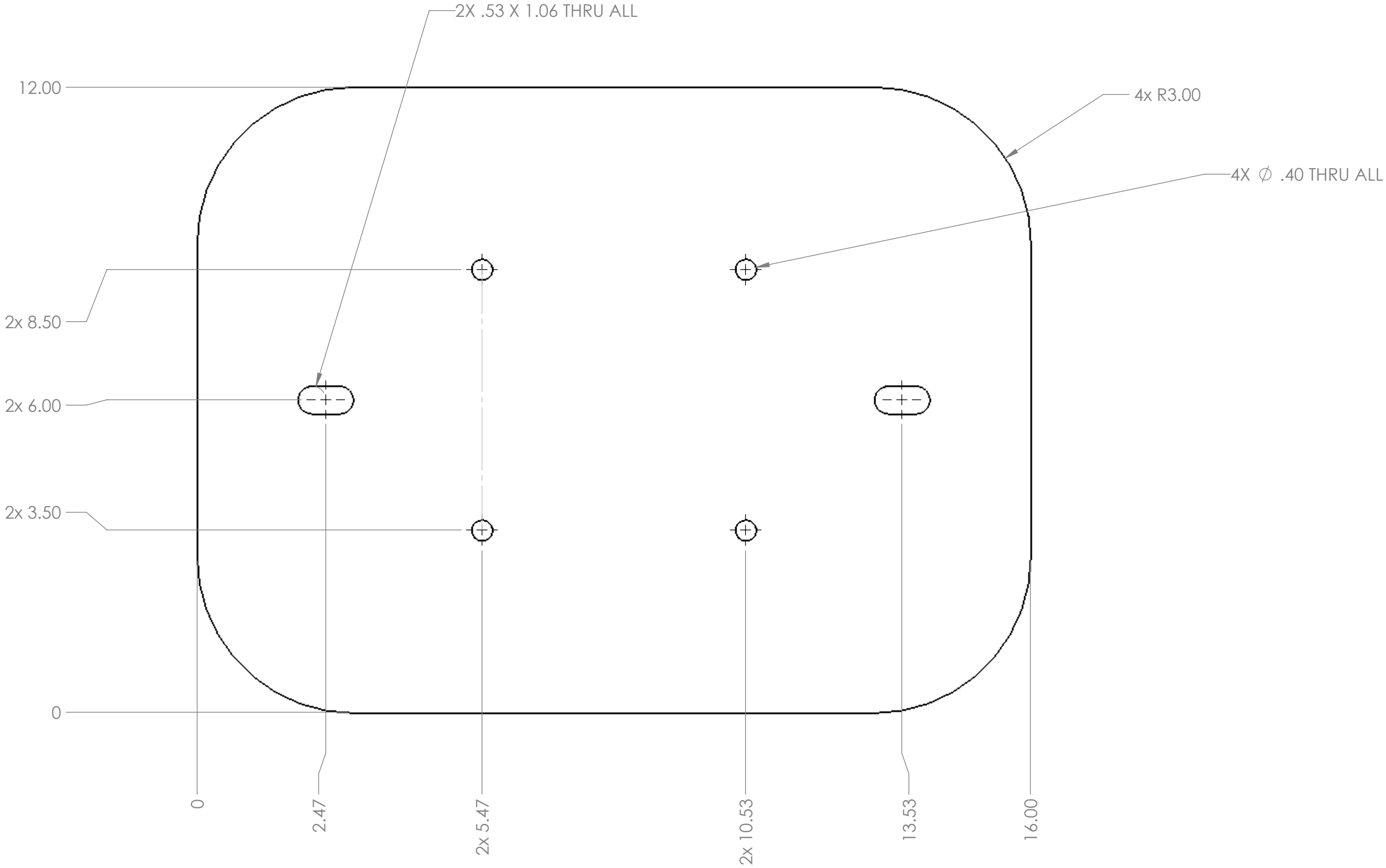
C

B


B

A

A



Notes:
 1. Label or tag part.

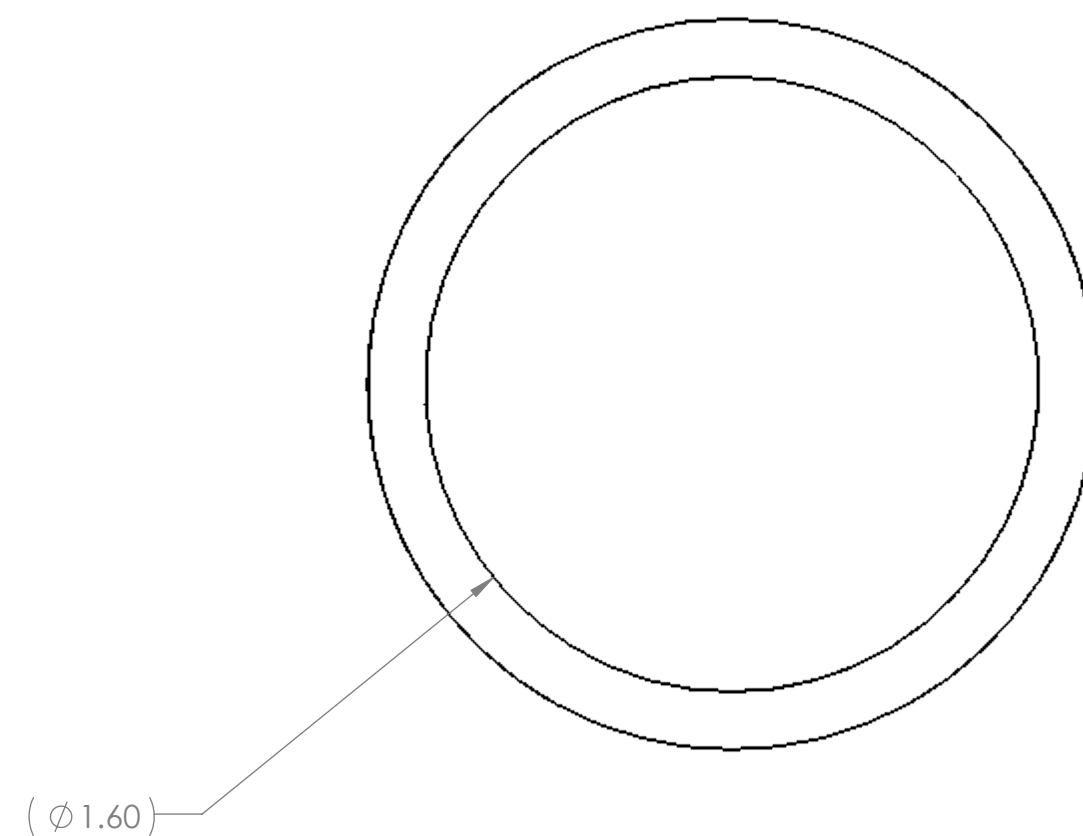
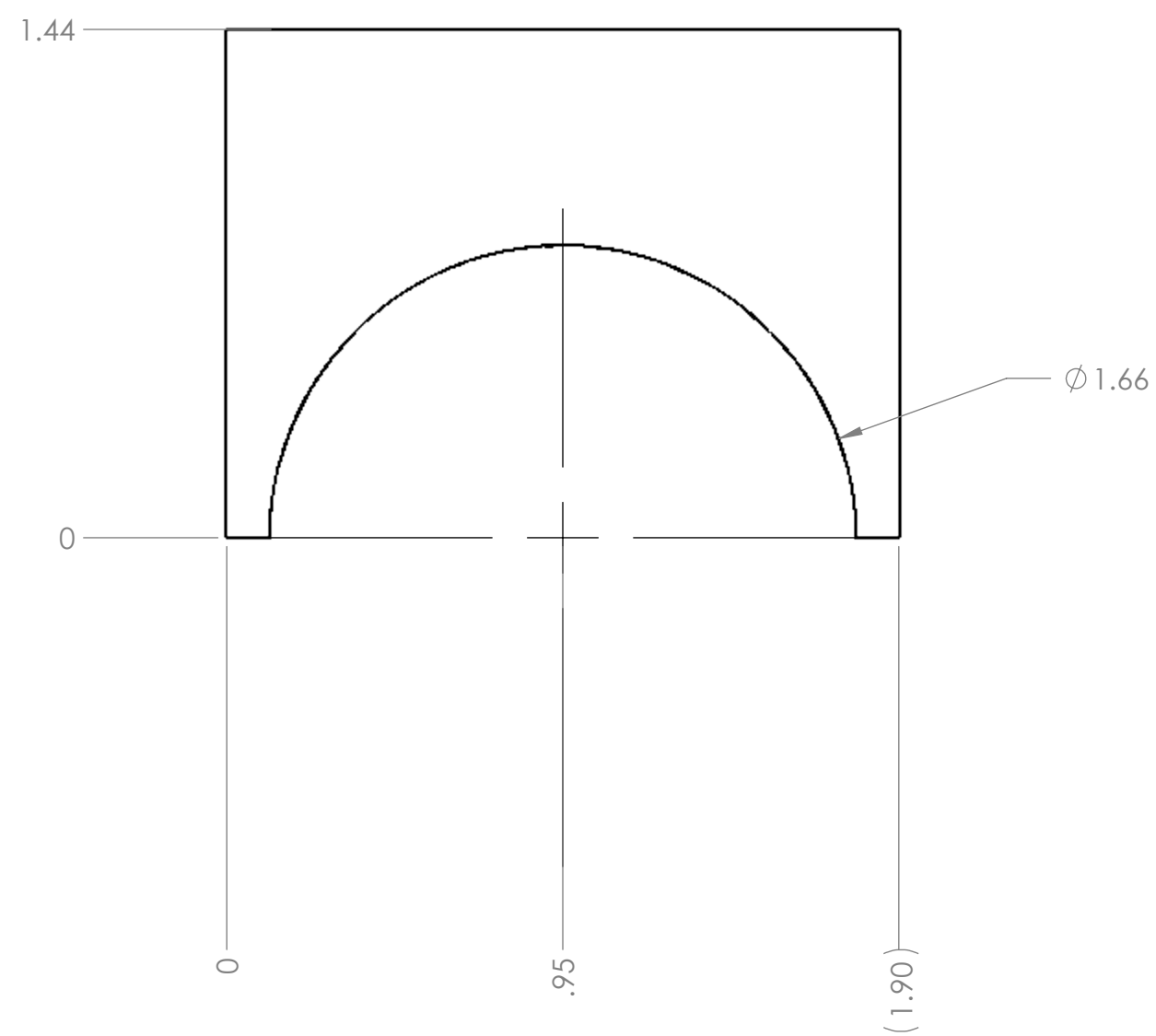
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: .125" Pre-plated steel DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	NW	1/15/2021	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION 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: <h2 style="text-align: center;">Under hung plate</h2>
SIZE		DWG. NO.	REV	
C		GE-22121		
SCALE: 1:4			SHEET 1 OF 1	

4

3

2

1



Notes:
1. Label or tag with part number.

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
1.5" sch 40 aluminum

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NW	2/18/2021

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

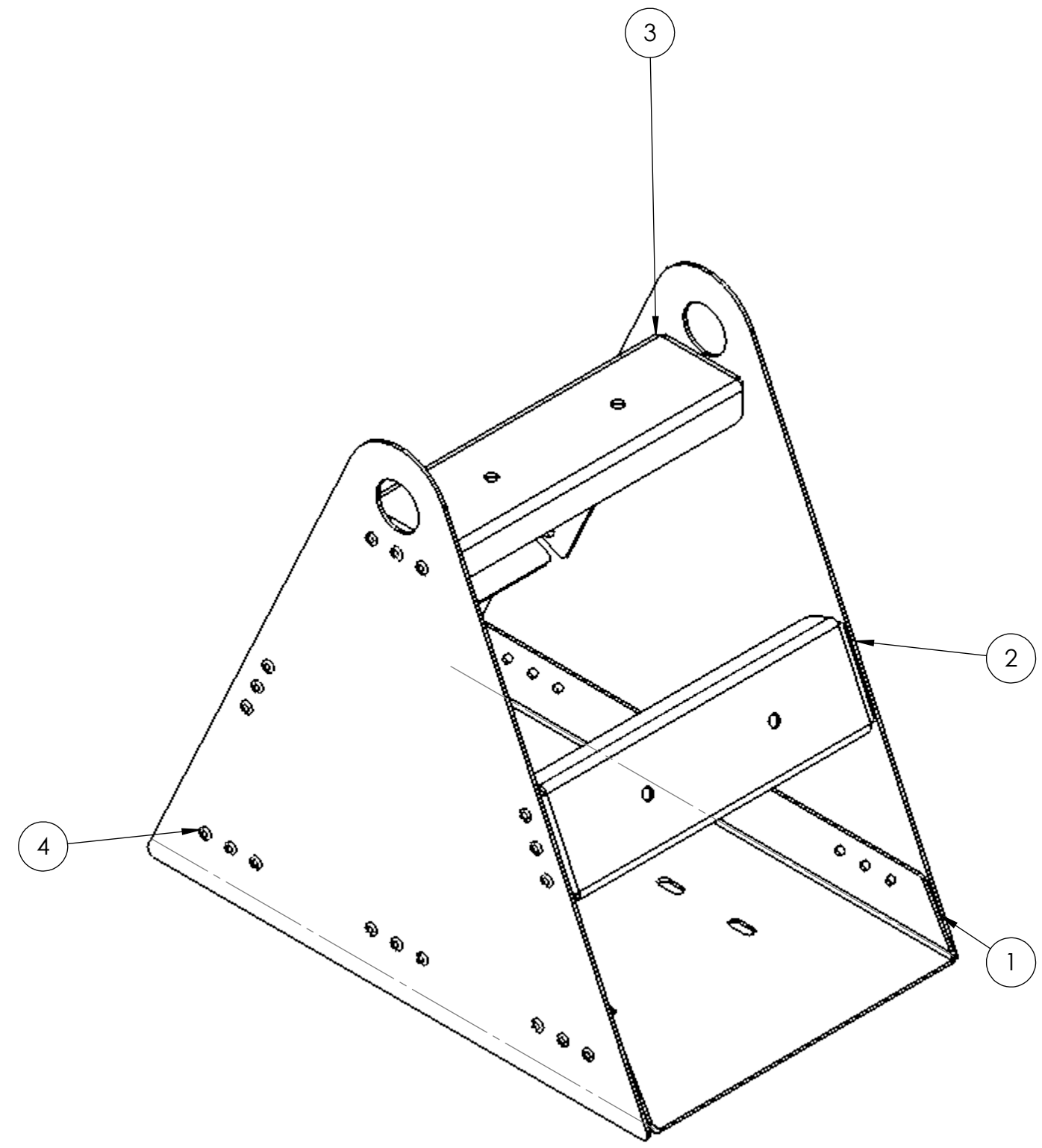
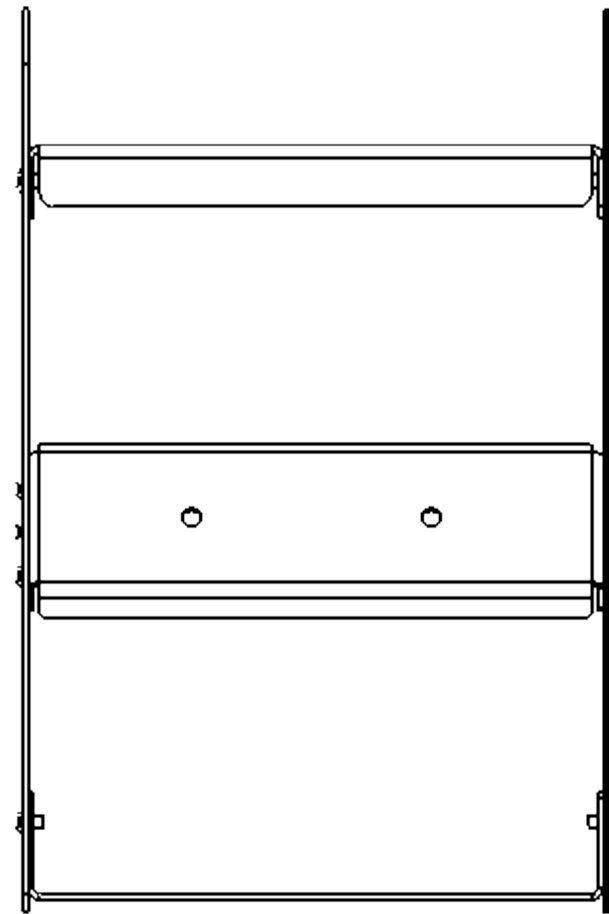
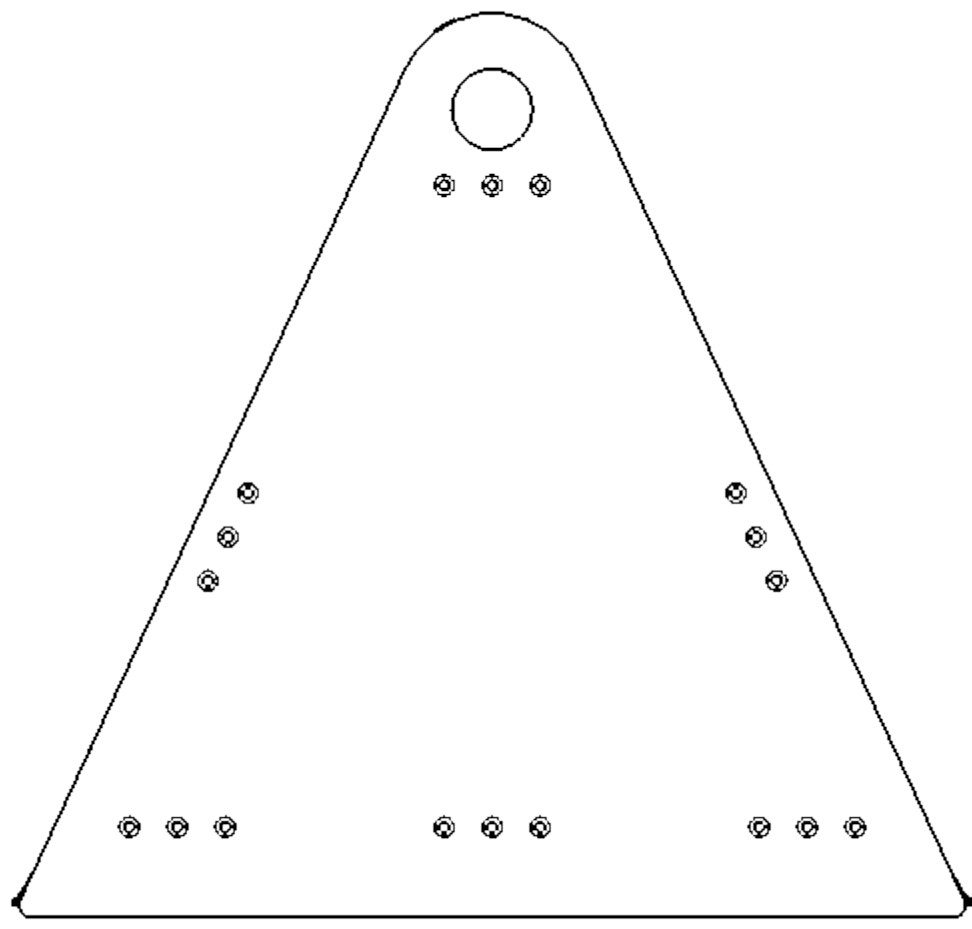


TITLE:
Pipe Saddle



SIZE	DWG. NO.	REV
------	----------	-----

C GE-22123

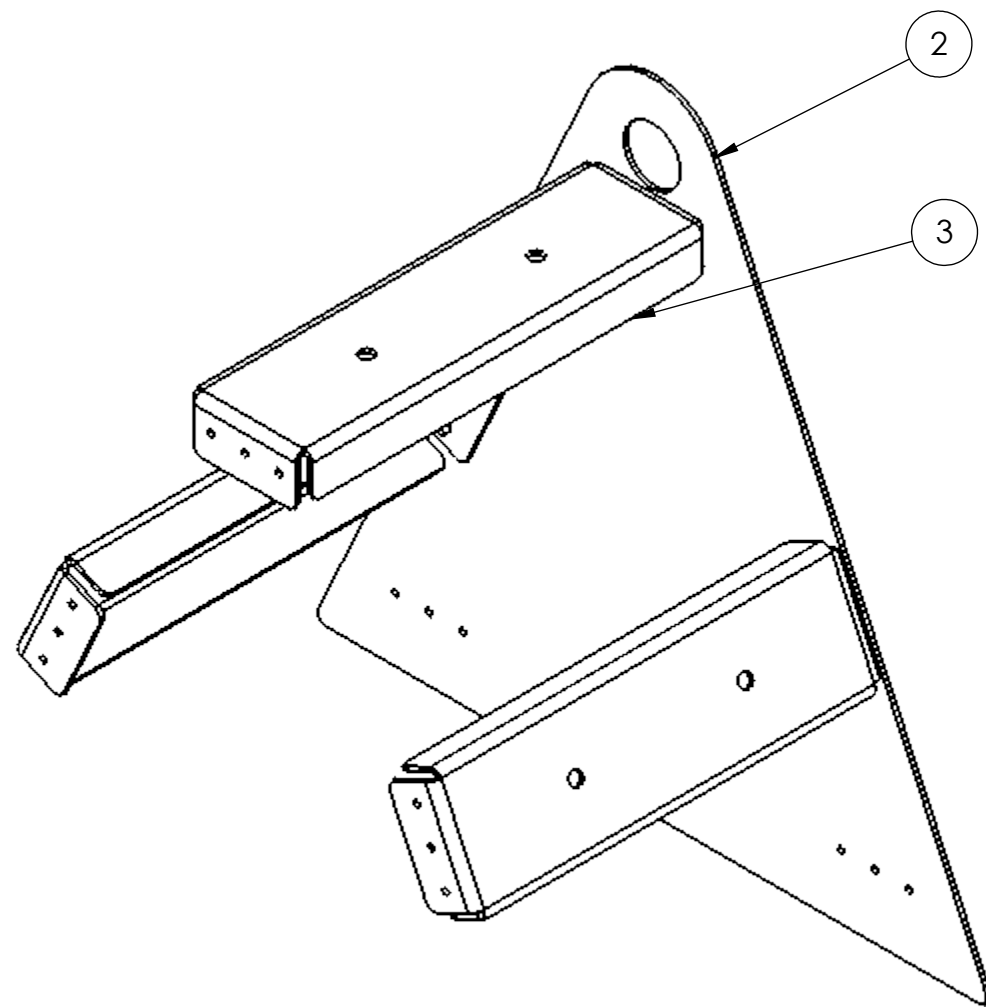
SCALE: 1:1 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22131	upper bar base	1
2	GE-22132	High bar side plate	2
3	GE-22133	Upper holder cross	3
4	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	36

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	NW	1/15/2021	
MATERIAL/FINISH:		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.			Upper transition bar holder
COMMENTS:		REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22130
DO NOT SCALE DRAWING					SCALE: 1:8 SHEET 1 OF 3

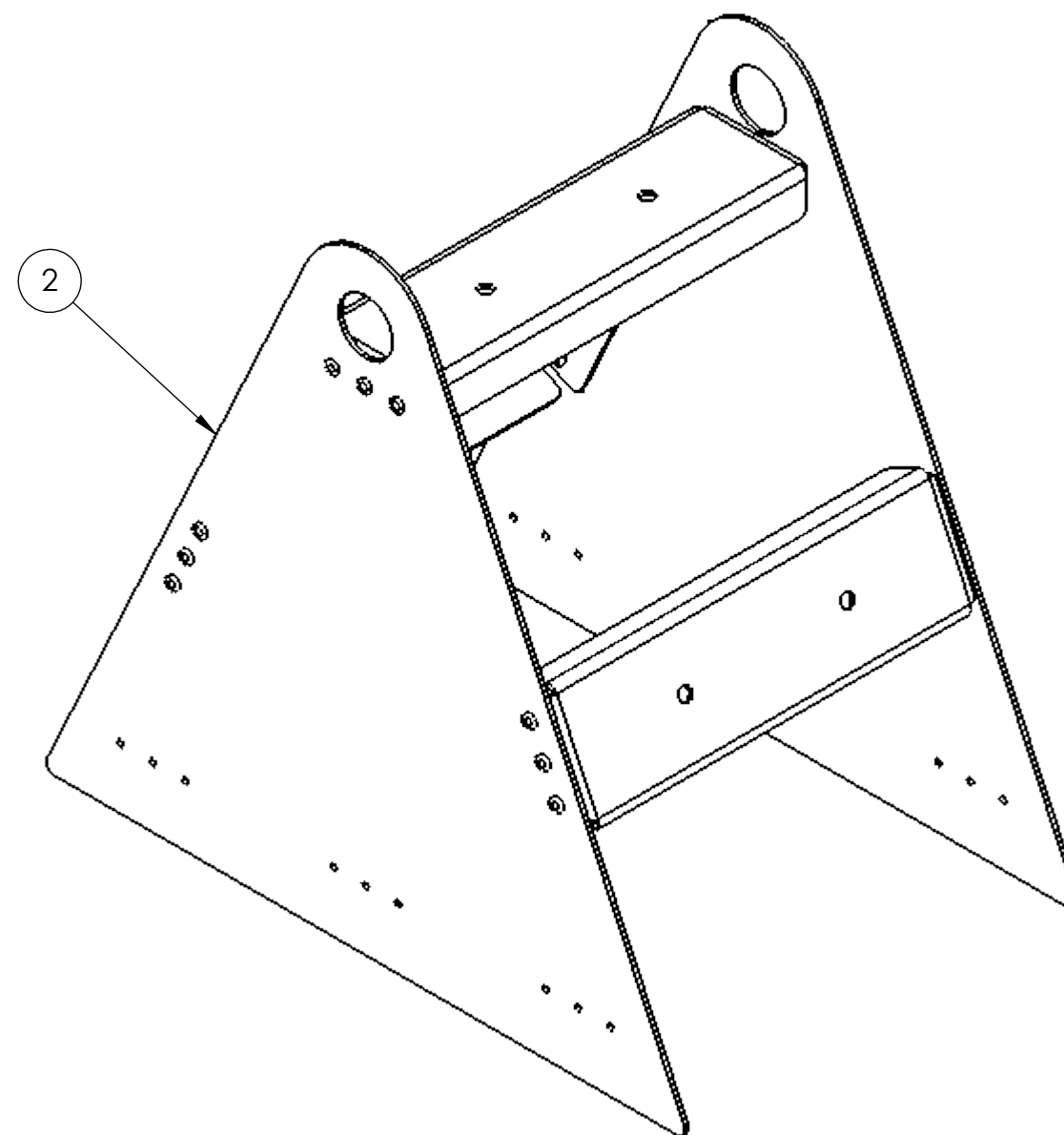
Step 1



Notes:



- 1. Rivet (3) to (2) with 3/16" steel rivets in three locations.

Step 2



Notes:

- 1. Rivet (2) to step 1 with 3/16" steel rivets.

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	NW	1/15/2021		
	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				Upper transition bar holder SIZE DWG. NO. REV C GE-22130 SCALE: 1:8 SHEET 2 OF 3

4

3

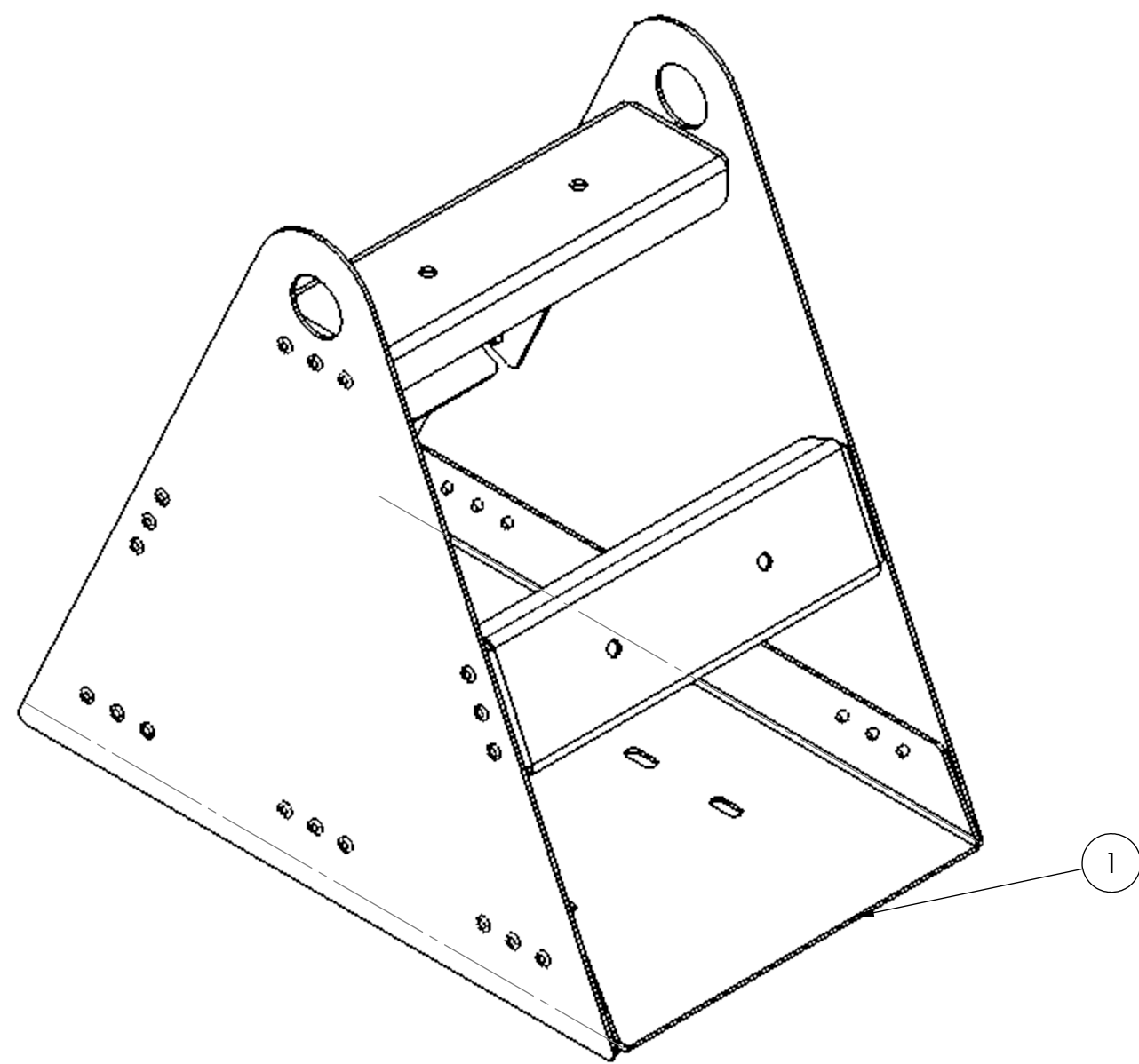
2

1

D

D

Step 3:



C

C

B



B

Notes:

- 1. Rivet 1 to step 2 with 3/16 steel rivets.

A

A

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	NW	1/15/2021	
	PROPRIETARY AND CONFIDENTIAL			TITLE: Upper transition bar holder
	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:			SIZE DWG. NO. REV
	REMOVE ALL BURRS AND SHARP EDGES.			C GE-22130
	SCALE: 1:8		SHEET 3 OF 3	

4

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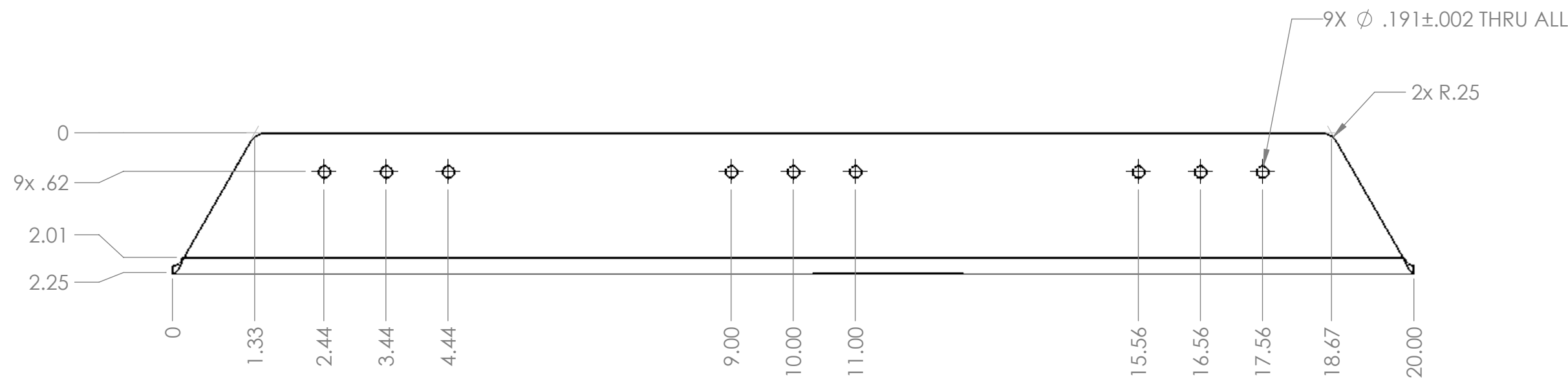
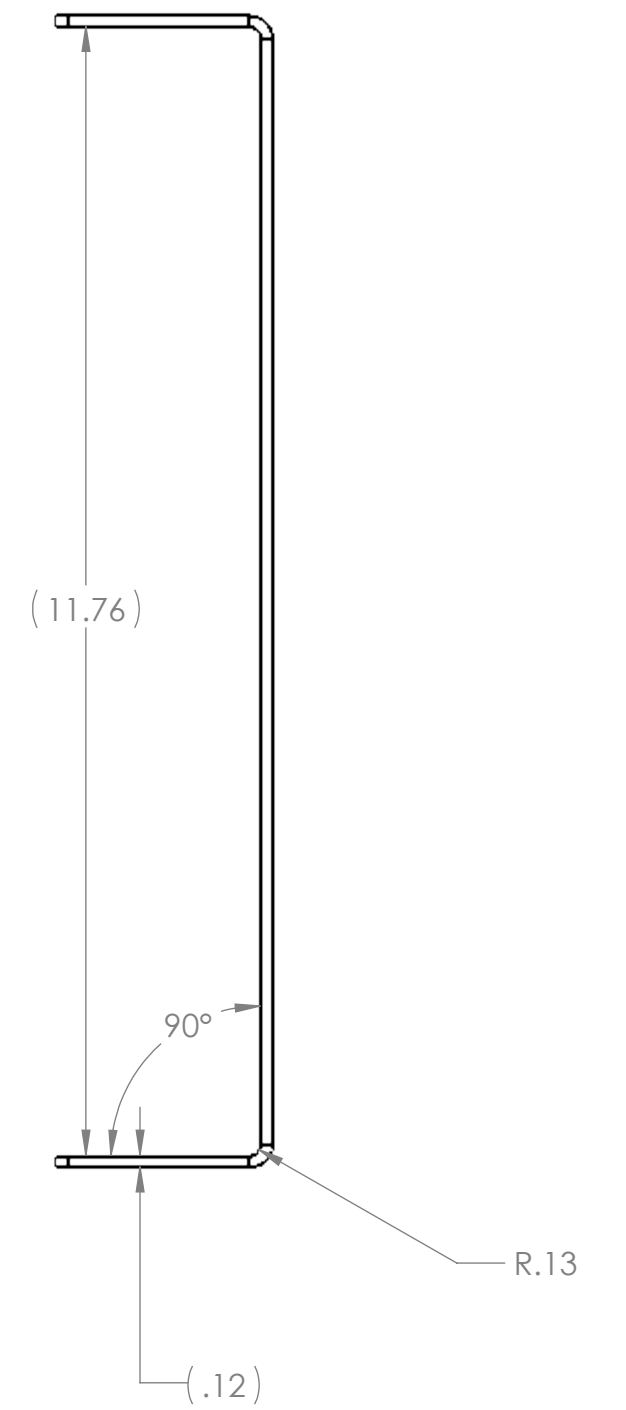
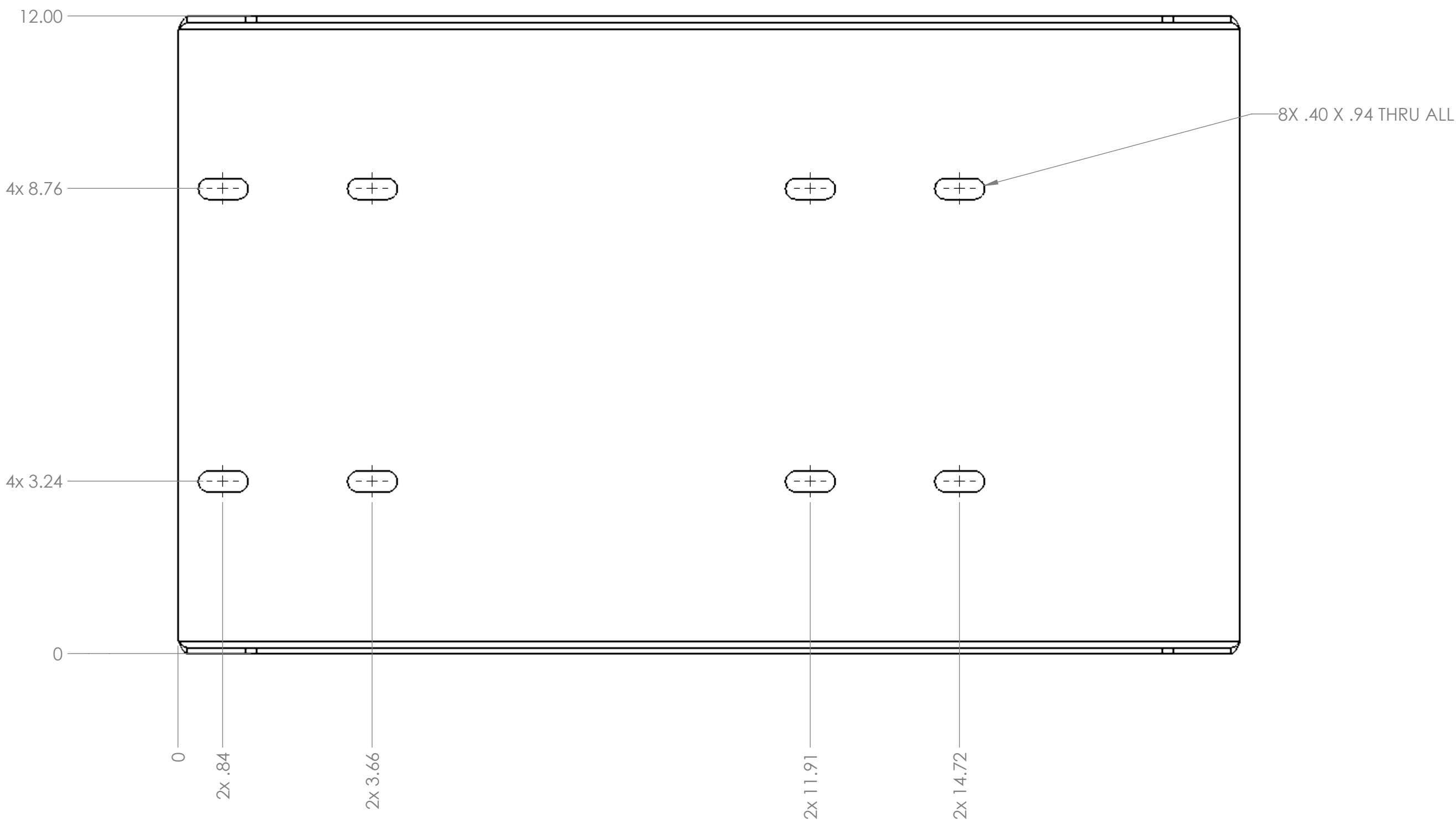
1

4



3

2

1



Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 11 ga. pre-plated steel DO NOT SCALE DRAWING	BEND	NAME	DATE	 	
	DRAWN	NW	10/1/2020		
	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.			upper bar base	
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE	DWG. NO.	REV
			C	GE-22131	
			SCALE: 1:2	SHEET 1 OF 1	

4

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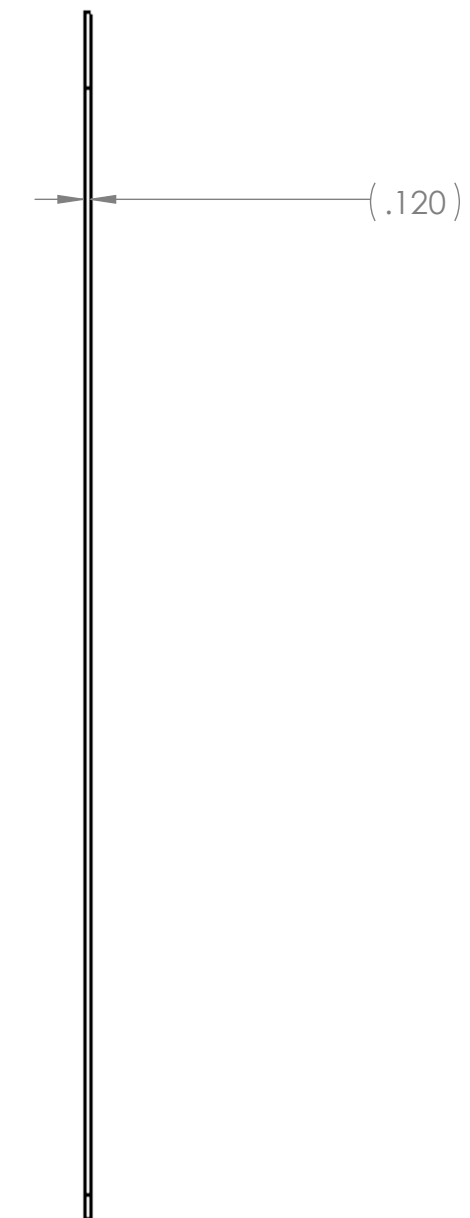
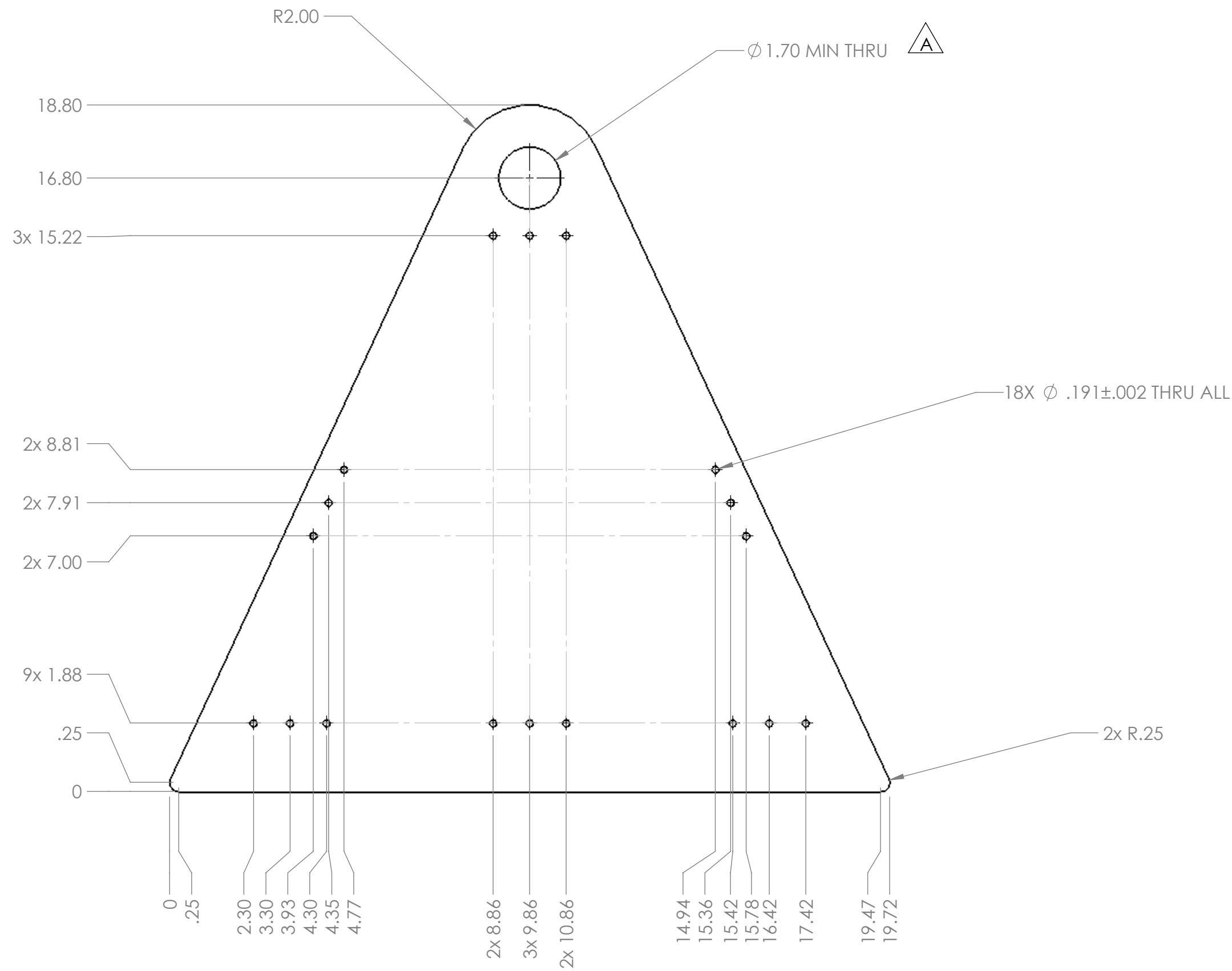
4

3



2

1

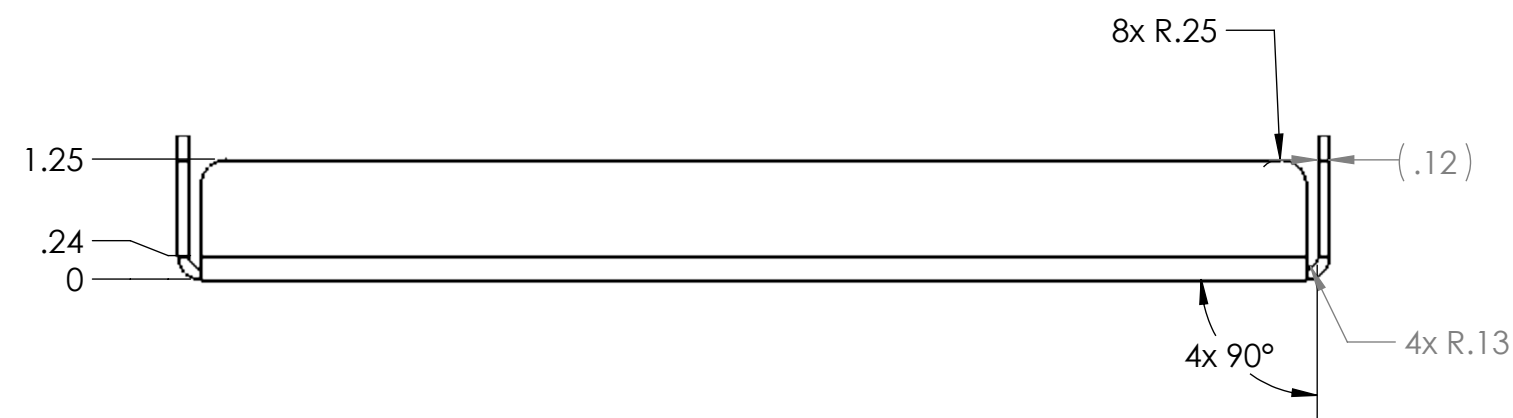
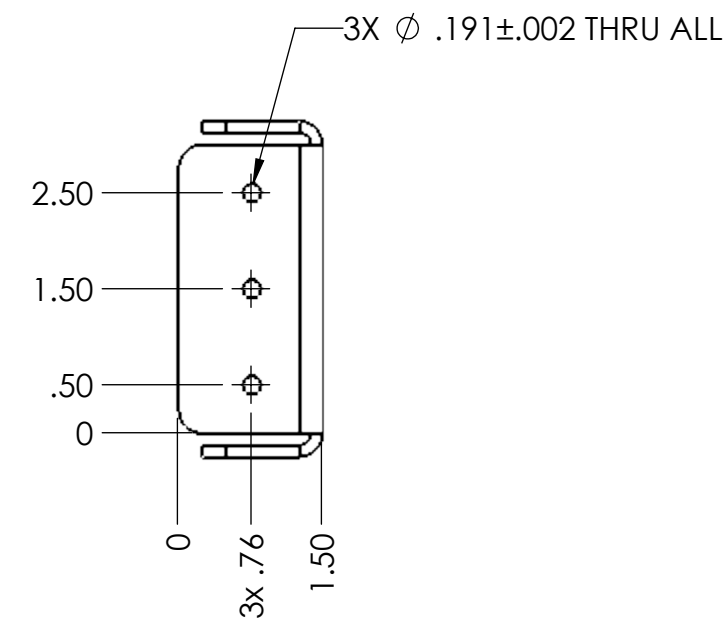
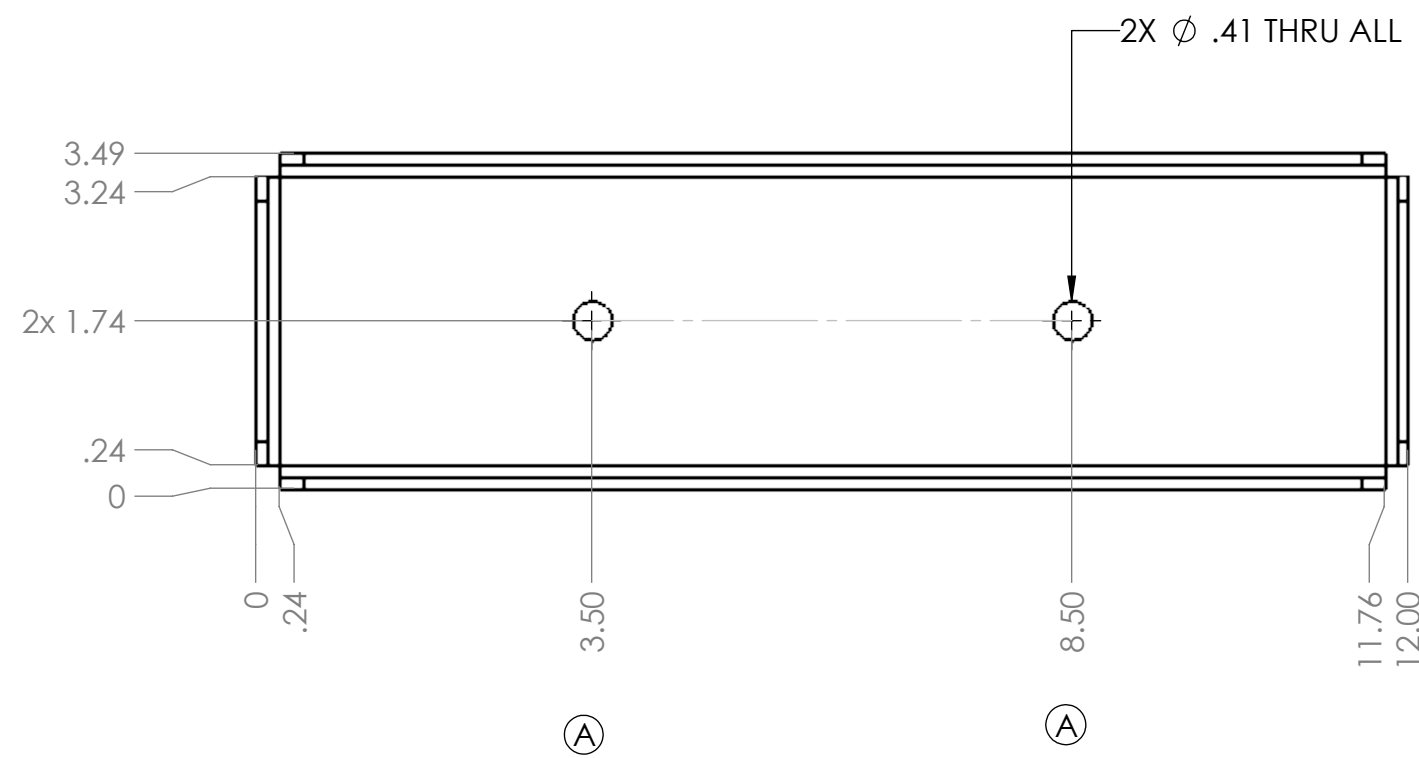
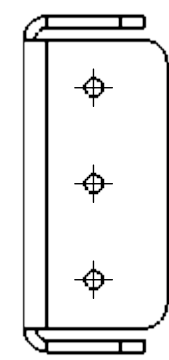
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
D3	A	1.7" was 1.68"	11/18/2021	NTW





Notes:
1. Tag or label part with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 11 ga., Pre-plated steel sheet DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	NW	9/30/2020		
	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:			<h2>High bar side plate</h2>
		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.	
	C	GE-22132	A	SCALE: 1:8	SHEET 1 OF 1

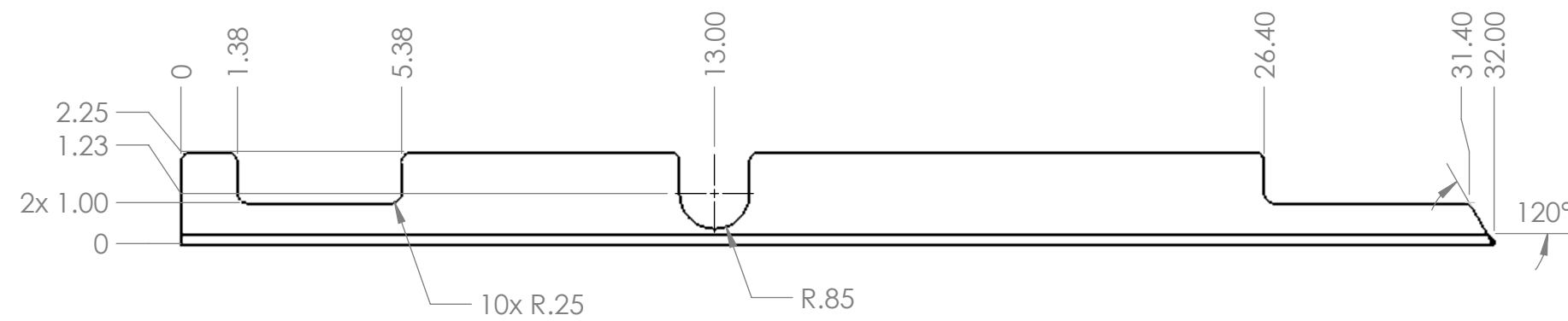
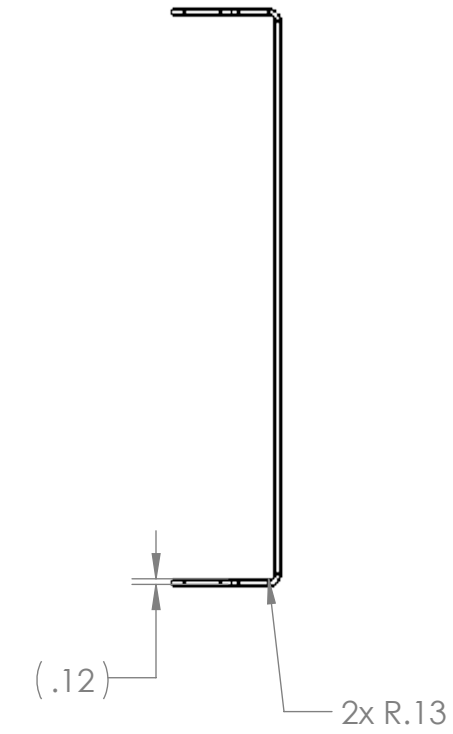
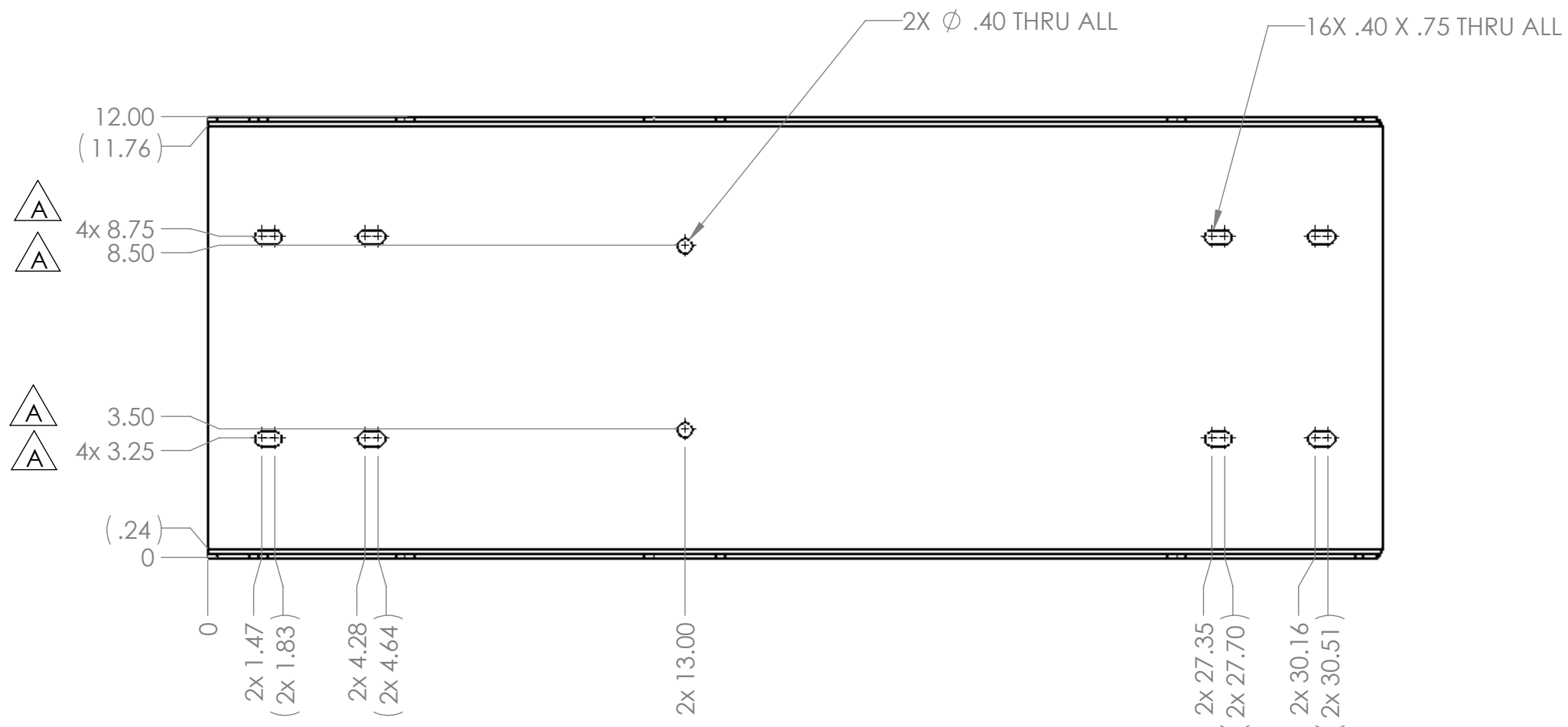
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C3	A	3.50 was 3.41 and 8.50 was 8.41	10/27/2021	NTW





Notes
1. Tag or label part with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL \pm 1/16 ANGULAR: MACH \pm 1° BEND \pm 1° TWO PLACE DECIMAL \pm .02 THREE PLACE DECIMAL \pm .010 MATERIAL/FINISH: 11 ga. pre-plated steel DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NW	10/1/2020	
PROPRIETARY AND CONFIDENTIAL				TITLE: Upper holder cross SIZE DWG. NO. REV C GE-22133 A
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.				SCALE: 1:2 SHEET 1 OF 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
C4, D4	A	3.25 was 3.24, 3.5 was 3.37, 8.5 was 8.37, 8.75 was 8.74	10/29/2021	NTW



Notes:
1. Tag or label part 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 $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 11 gau, Pre-plated steel COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	NW	10/1/2020	
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:
				mid transition bar holder
SIZE		DWG. NO.	REV	
C		GE-22140	A	
SCALE: 1:4			SHEET 1 OF 1	

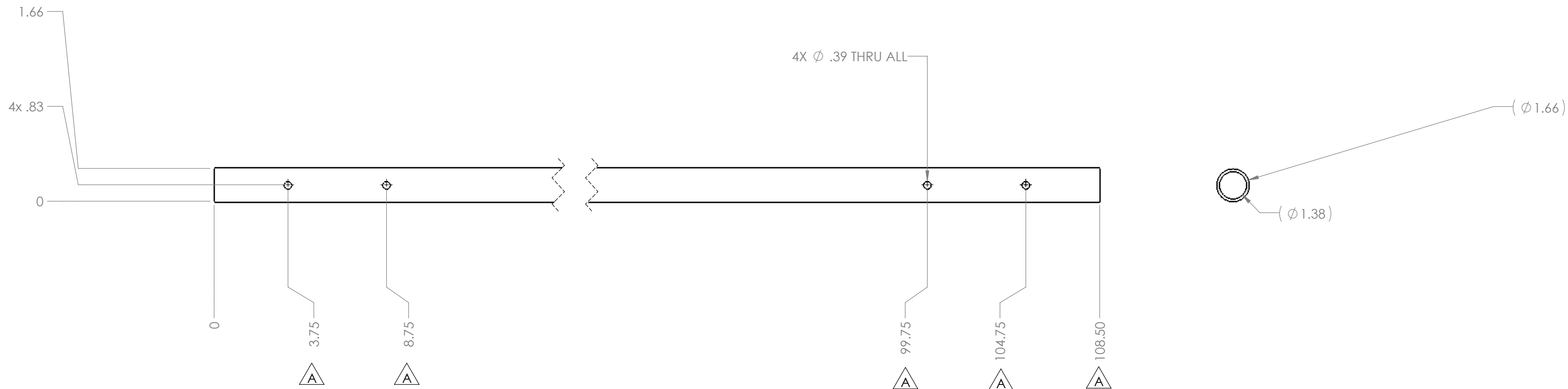
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, B3, B4	A	Addition 0.5" added to overall length. Holes moved to center new length.	9/2/2021	NTW



Notes:
 1. Tag or label part with part number.

Part Number	Color
GE-22150-RED	Bengal Red 49/33333
GE-22150-BLU	Mercury Blue 59/40653
GE-22150-BLK	Bengal Black 49/88888

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

MATERIAL/FINISH:
 1.25" SCH 40 pipe steel,
 Powder coated



DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NW	6/3/2020

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.

			
TITLE: Rung			
SIZE C	DWG. NO. GE-22150	REV A	
SCALE: 1:4		SHEET 1 OF 1	

4

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C

C

B

B

A

A

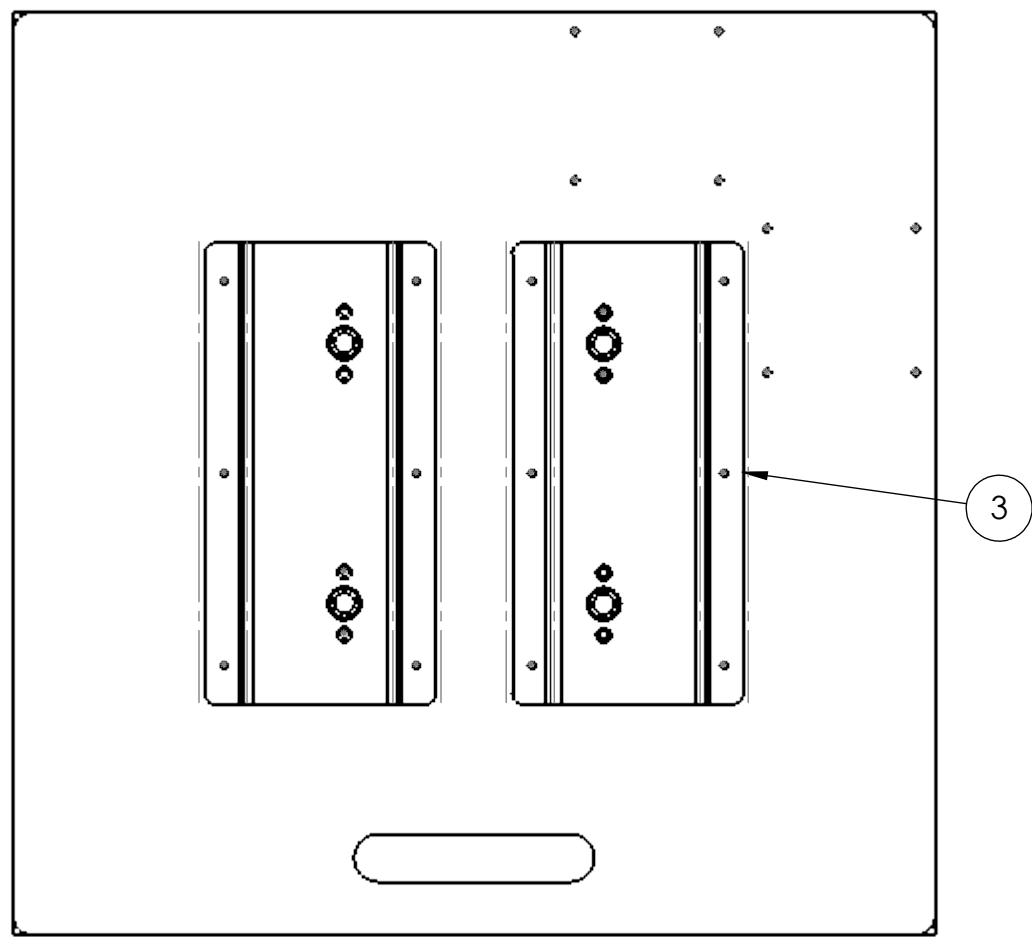
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3

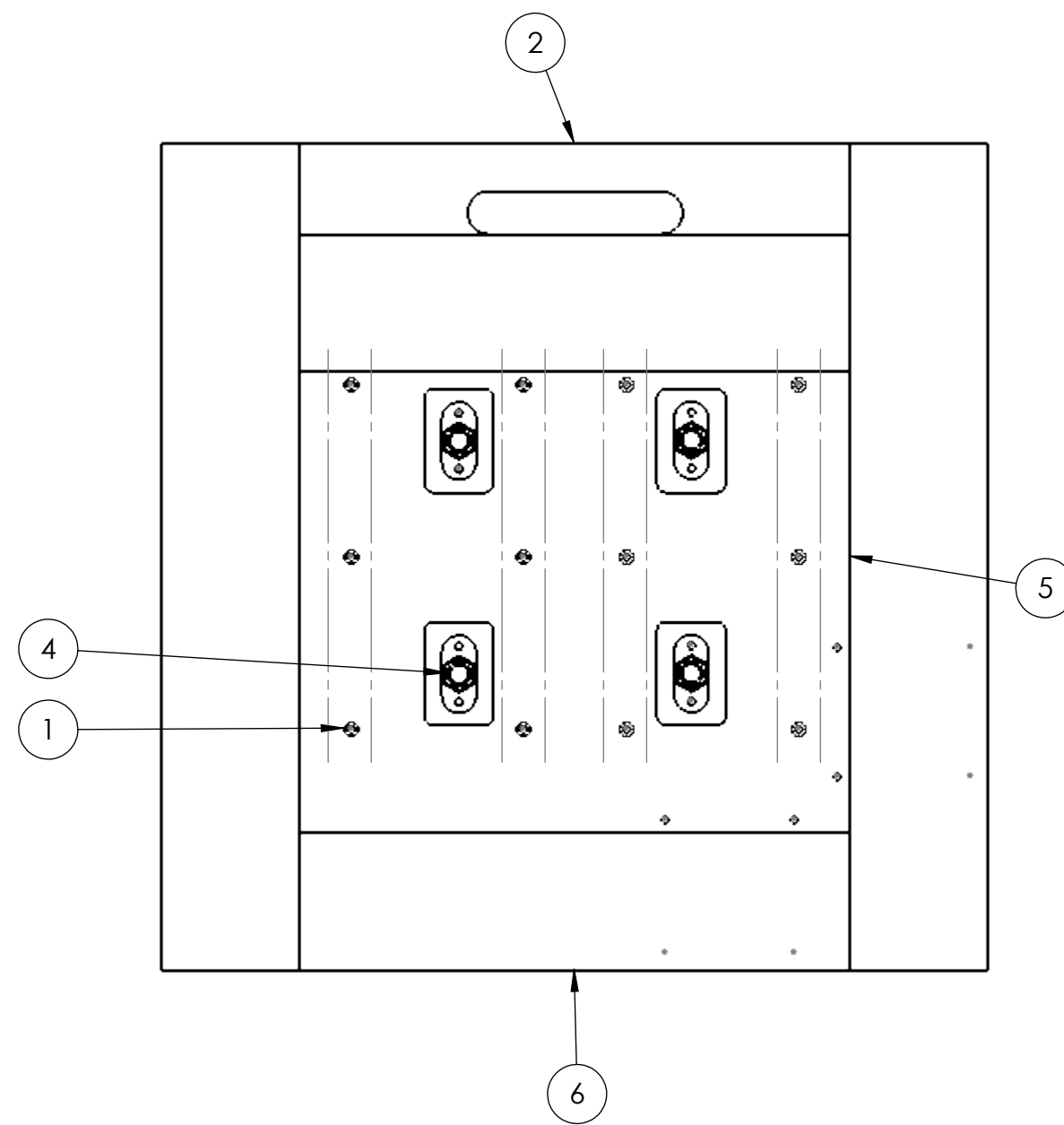
2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	12
2	GE-20030 - 01	Truss Base - Sheet Metal Assembly, Base Plate	1
3	GE-20030 - 02	Truss Base - Sheet Metal Assembly, Truss Feet	2
4	nut_chassis_.625_11	Nut, Chassis, 5/8-11	4
5	Hook_4_24	4" x 24" Hook, Adhesive Backed	2
6	Hook_4_16	4" x 16" Hook, Adhesive Backed	2



Top



Bottom

Notes:

- Made from part GE-20030.
- Remove parts GE-20030-03 from assembly.
- Attach (4).
- Place (6) and (5) or replace missing.

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	NW	1/4/2022

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Truss Base - Sheet Metal Assembly

SIZE	DWG. NO.	REV
------	----------	-----

C GE-22170

SCALE: 1:5 SHEET 1 OF 1

4

3

2

1

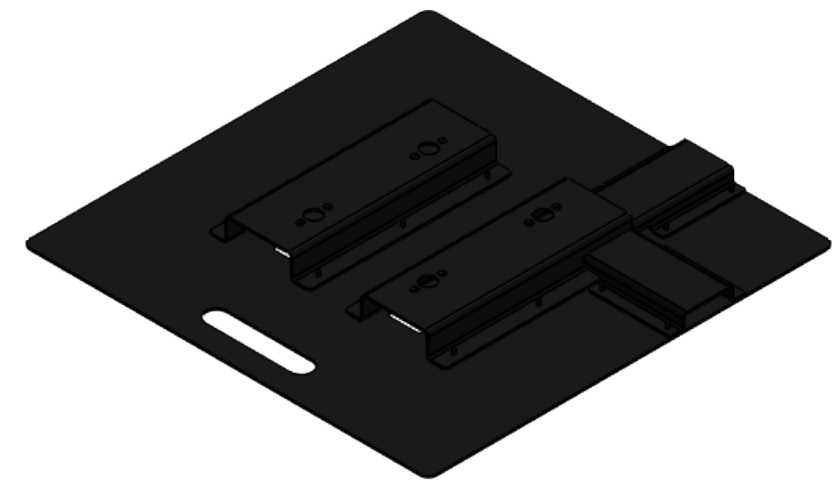
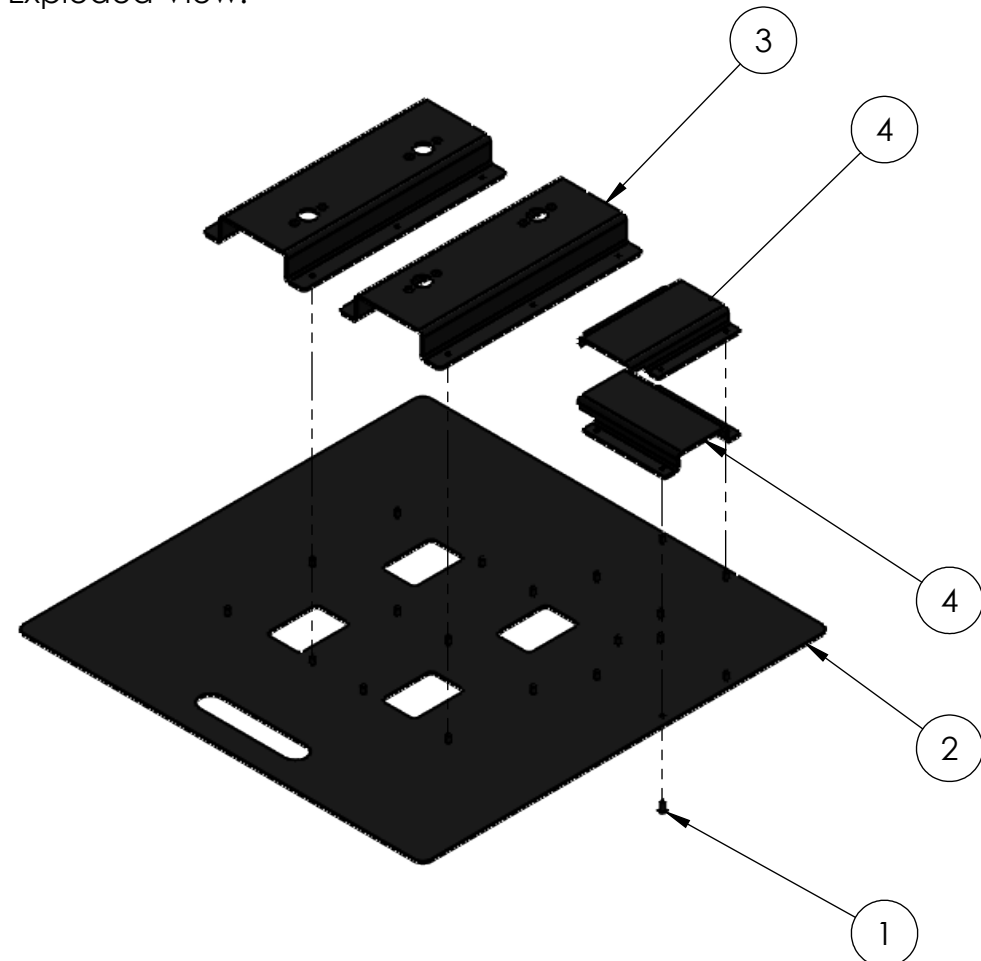
4

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2

1



Exploded View:



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	20
2	GE-20030 - 01	Truss Base - Sheet Metal Assembly, Base Plate	1
3	GE-20030 - 02	Truss Base - Sheet Metal Assembly, Truss Feet	2
4	GE-20030 - 03	Truss Base - Sheet Metal Assembly, Berm - Red	2

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

PROPRIETARY AND CONFIDENTIAL
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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001		DRAWN	KAMC	
INTERPRET GEOMETRIC TOLERANCING PER:		CHECKED		
MATERIAL		ENG APPR.		
FINISH POWDER COAT BLACK		MFG APPR.		
NEXT ASSY	USED ON	Q.A.		
APPLICATION		COMMENTS:	WEIGHT: 24.93 LBS	
DO NOT SCALE DRAWING		TITLE: Truss Base - Sheet Metal Assembly		
		SIZE	DWG. NO.	REV
		B	GE-20030	0
		SCALE: 1:8	WEIGHT:	SHEET 1 OF 2

4

3

2

1

B

B

A

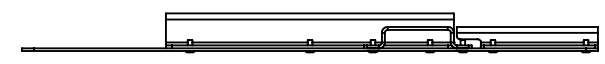
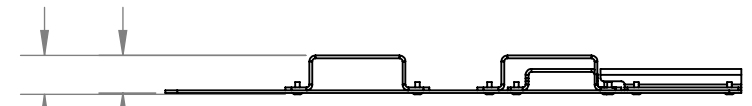
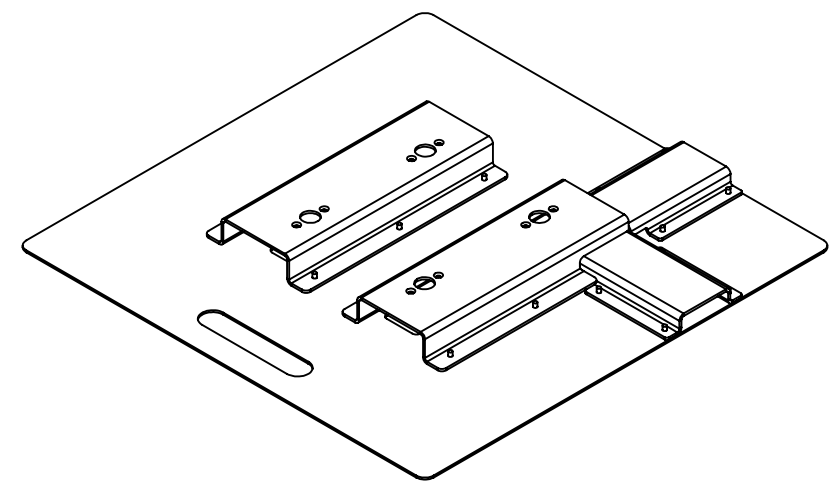
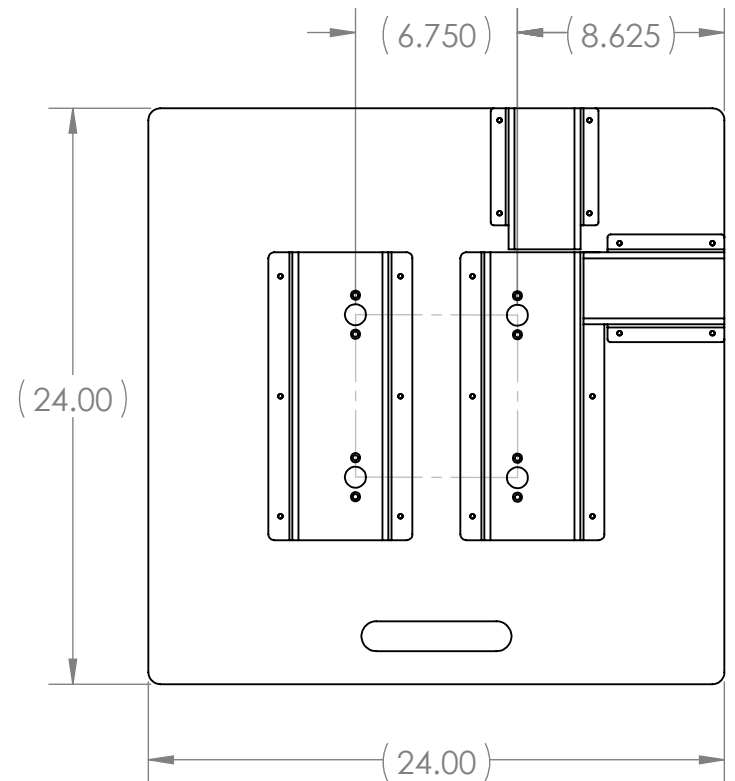
A

4

3

2

1



1.62
(INCLUDES RIVET HEAD)

1.56

DIMENSIONS SHOWN FOR REFERENCE

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN	KAMC
		TOLERANCES:	CHECKED	9/2/19
		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:	WEIGHT: 24.93 LBS	
		MATERIAL		
NEXT ASSY	USED ON	FINISH POWDER COAT BLACK		
APPLICATION		DO NOT SCALE DRAWING		

FIRST ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

TITLE:
Truss Base - Sheet Metal Assembly

SIZE	DWG. NO.	REV
B	GE-20030	0
SCALE: 1:8	WEIGHT:	SHEET 2 OF 2

4

3

2

1

B

B

A

A

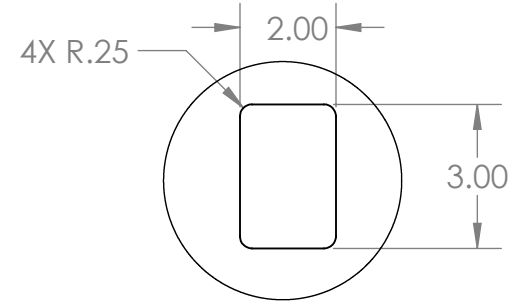
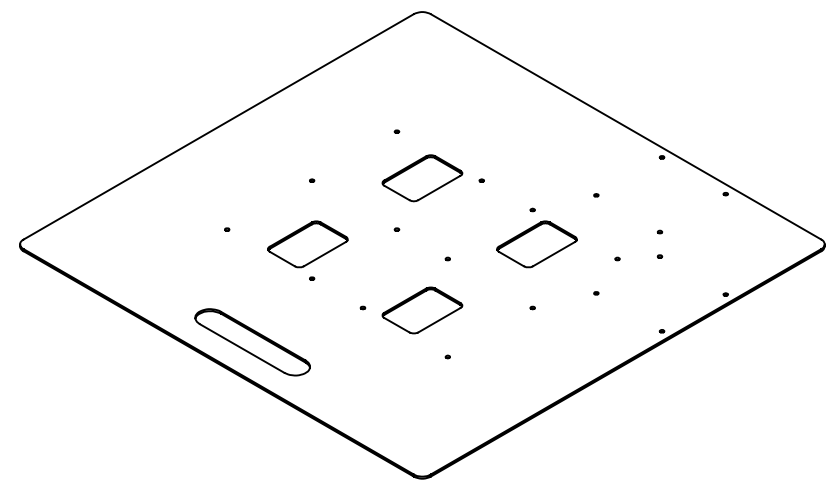
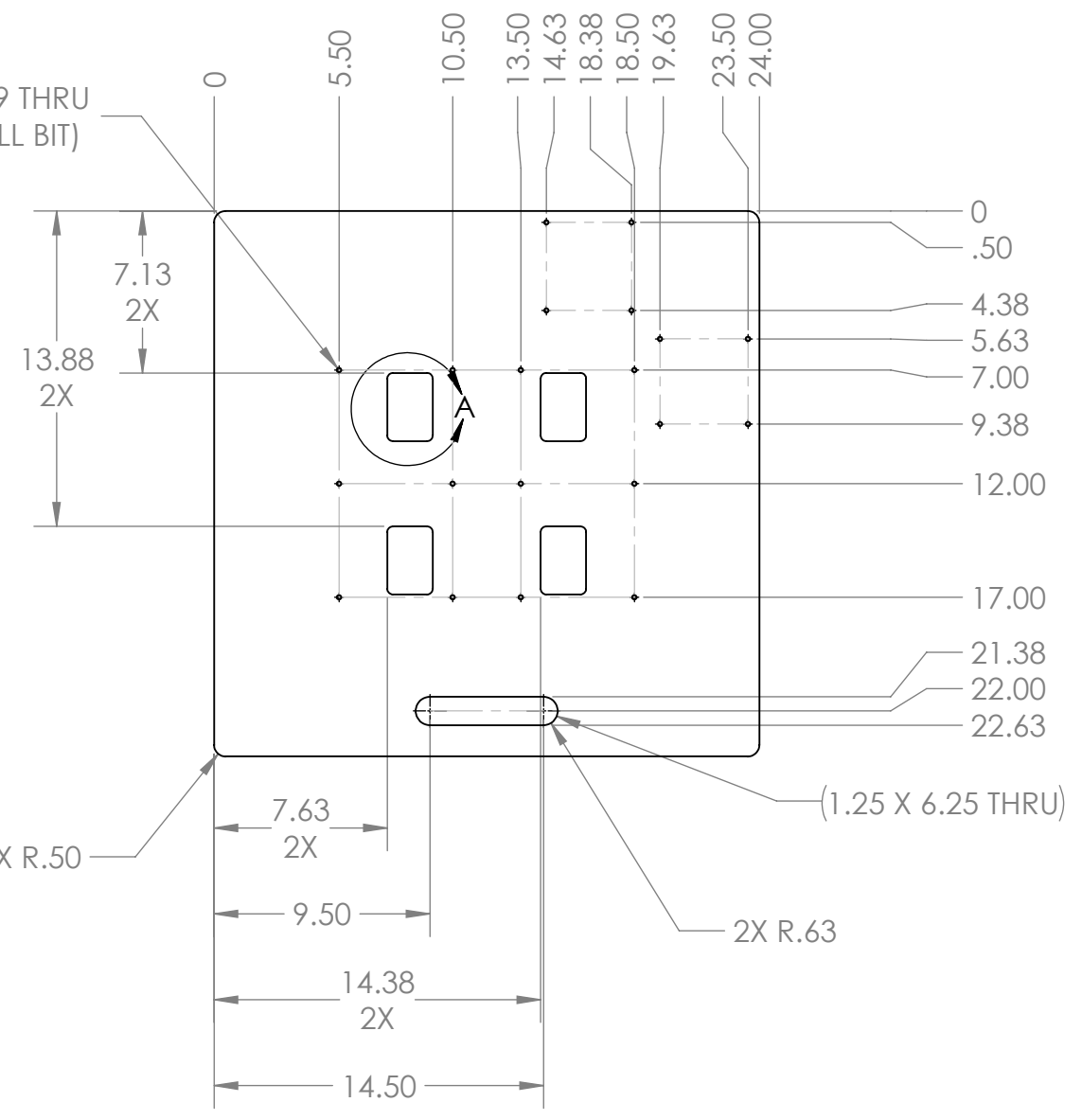
4

3

2

1

20X ϕ .19 THRU
(#10 DRILL BIT)





DETAIL A
SCALE 1 : 4
4X



- Notes:
1. Material: 12 Ga. (0.105") Mild Steel Sheet A366/1008 Cold Roll
 2. Remove all burrs and sharp edges.

PROPRIETARY AND CONFIDENTIAL
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 	
		DIMENSIONS ARE IN INCHES		DRAWN	KAMC	9/2/19	TITLE:
		TOLERANCES:		CHECKED			Truss Base - Sheet Metal Assembly, Base Plate
		FRACTIONAL $\pm 1/16$		ENG APPR.			
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$		MFG APPR.			
		TWO PLACE DECIMAL $\pm .01$		Q.A.			SIZE DWG. NO. REV
		THREE PLACE DECIMAL $\pm .001$		COMMENTS:			B GE-20030 - 01 0
GE-20030		INTERPRET GEOMETRIC TOLERANCING PER:	MATERIAL				SCALE: 1:8 WEIGHT: SHEET 1 OF 1
NEXT ASSY	USED ON		STEEL SHEET				
		FINISH	BARE				
APPLICATION		DO NOT SCALE DRAWING					

4

3

2

1

B

B

A

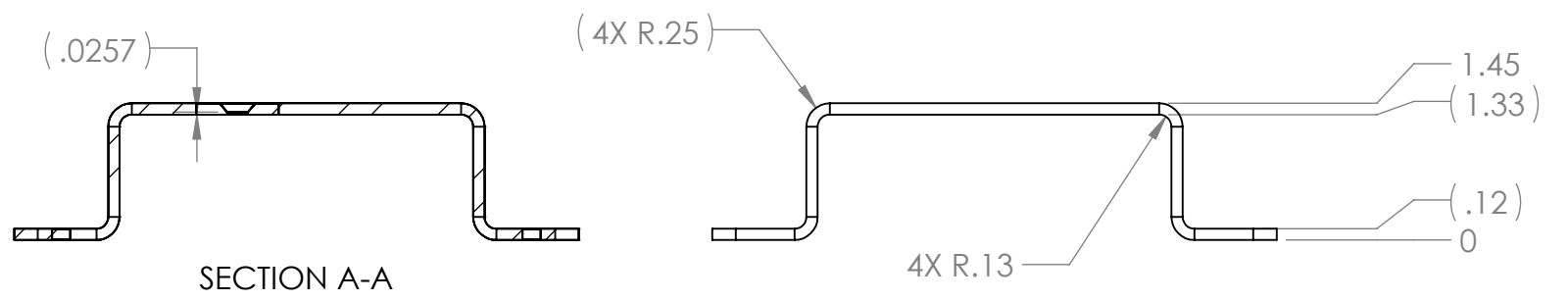
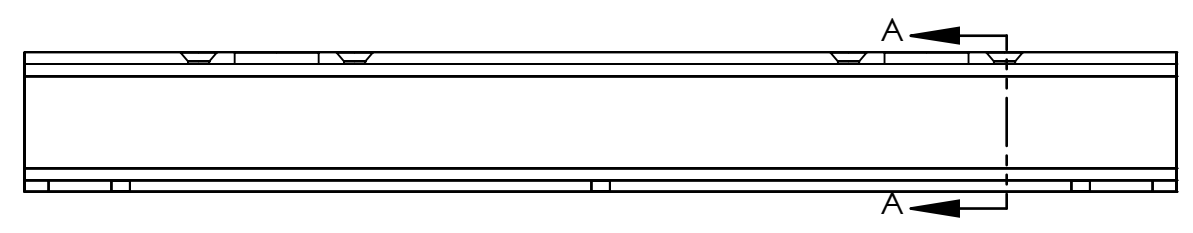
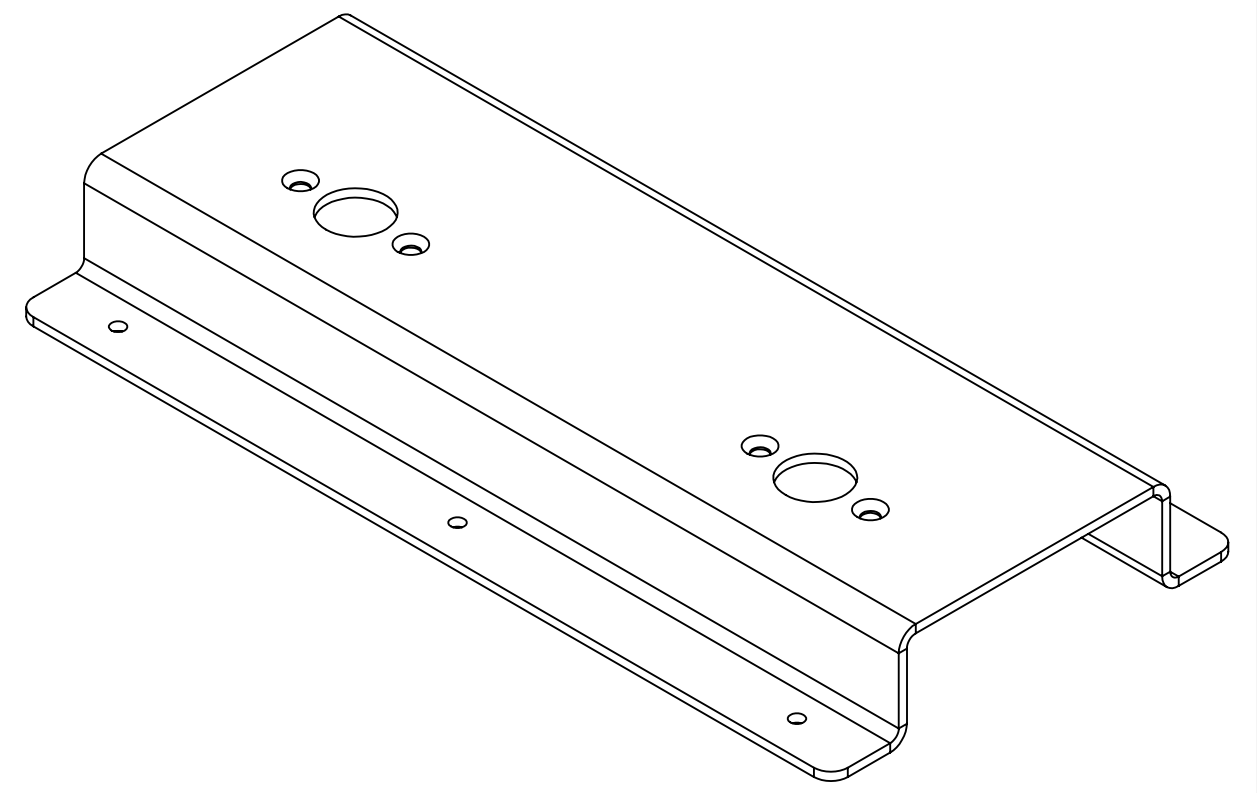
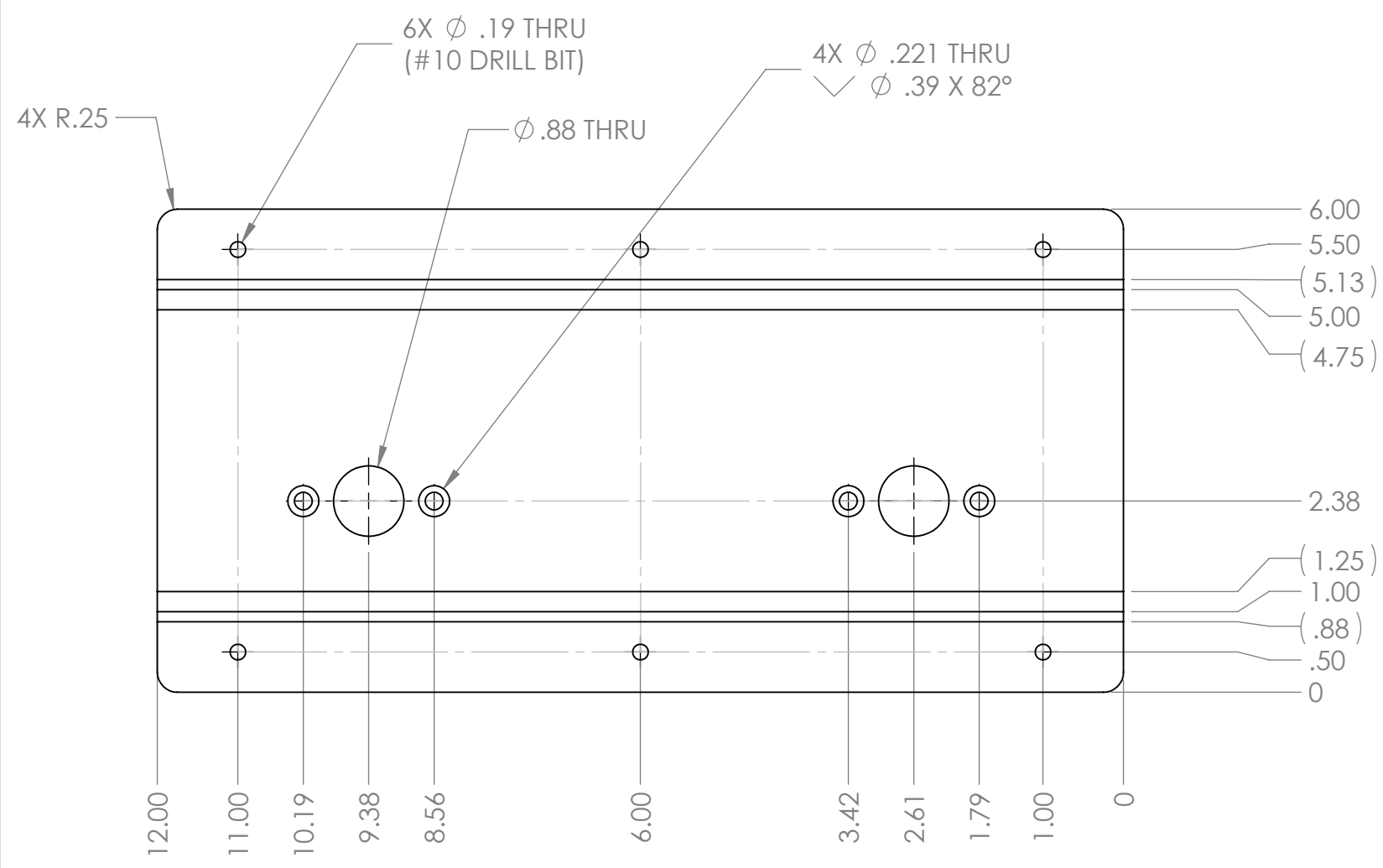
A

4

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2

1



- Notes:
1. Material: 0.125" Mild Steel Sheet A366/1008 Cold Roll
 2. Remove all burrs and sharp edges.

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		UNLESS OTHERWISE SPECIFIED:		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 $\pm .001$		DRAWN	KAMC	
				CHECKED		
				ENG APPR.		
				MFG APPR.		
				Q.A.		
				COMMENTS:		
GE-20030		MATERIAL STEEL SHEET		TITLE:		Truss Base - Sheet Metal Assembly, Truss Feet
NEXT ASSY	USED ON	FINISH BARE		SIZE	DWG. NO.	REV
APPLICATION		DO NOT SCALE DRAWING		B	GE-20030 - 02	0
				SCALE: 1:2	WEIGHT:	SHEET 1 OF 1

4

3

2

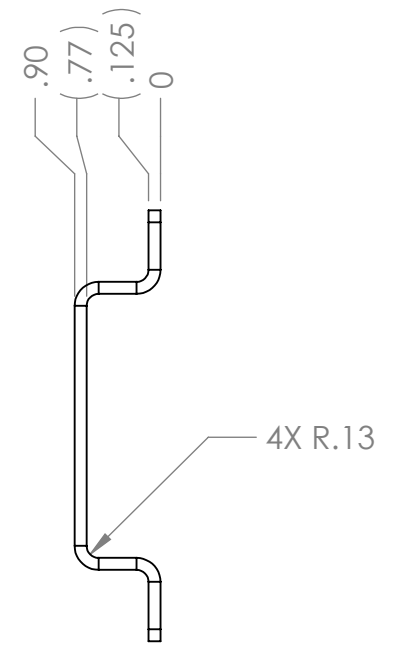
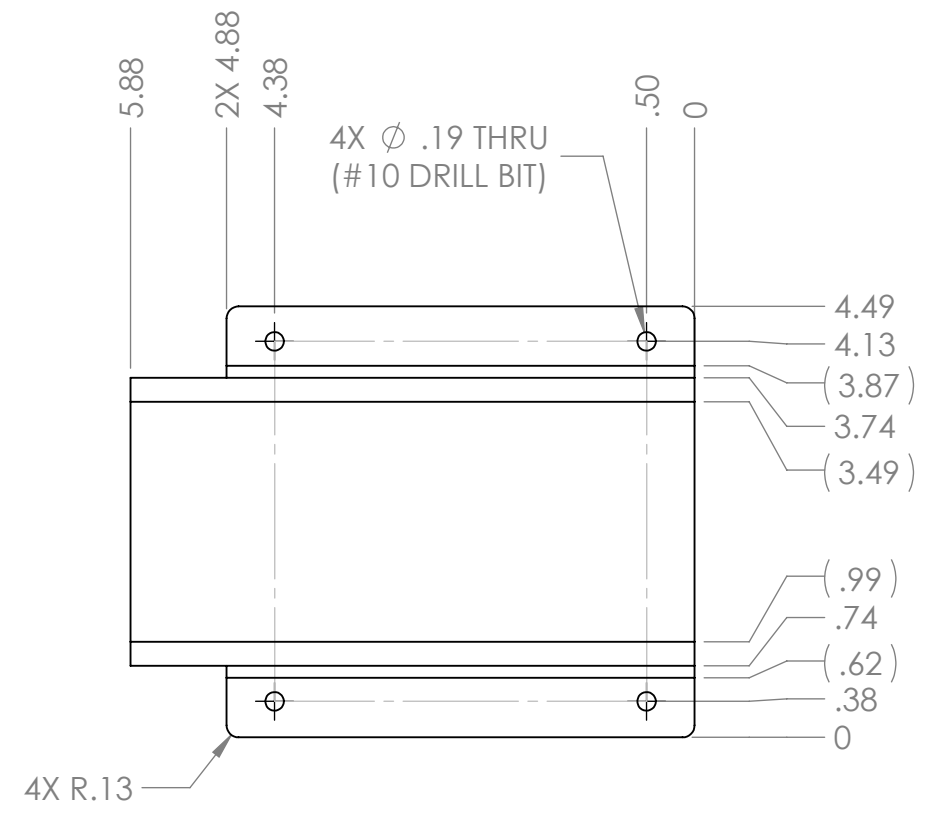
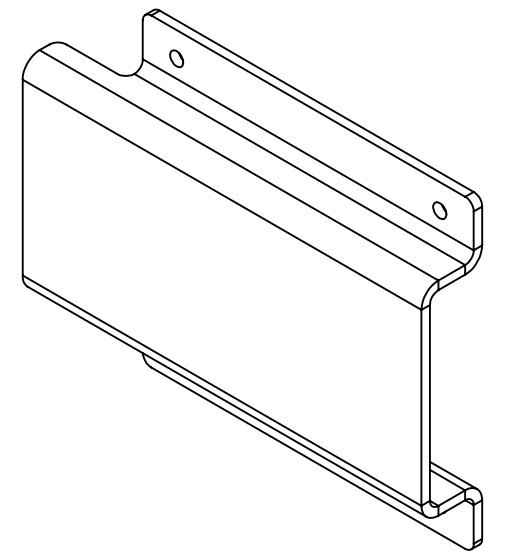
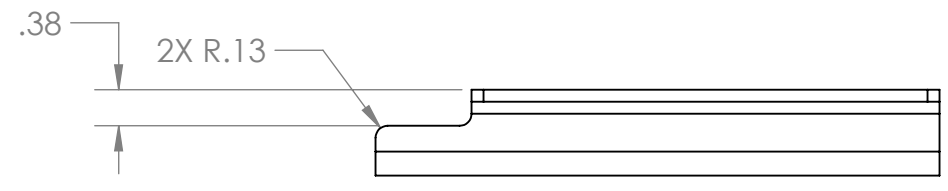
1

4

3



2

1



- Notes:
1. Material: 0.125" Mild Steel Sheet A366/1008 Cold Roll
 2. Remove all burrs and sharp edges.

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		UNLESS OTHERWISE SPECIFIED:		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 $\pm .001$		DRAWN	KAMC	
				CHECKED		
				ENG APPR.		
				MFG APPR.		
				Q.A.		
				COMMENTS:		
GE-20030				MATERIAL		TITLE:
NEXT ASSY		USED ON		SHEET STEEL		Truss Base - Sheet Metal Assembly, Berm
APPLICATION				FINISH		SIZE DWG. NO. REV
				BARE		B GE-20030 - 03 0
				DO NOT SCALE DRAWING		SCALE: 1:2 WEIGHT: SHEET 1 OF 1

4

3

2

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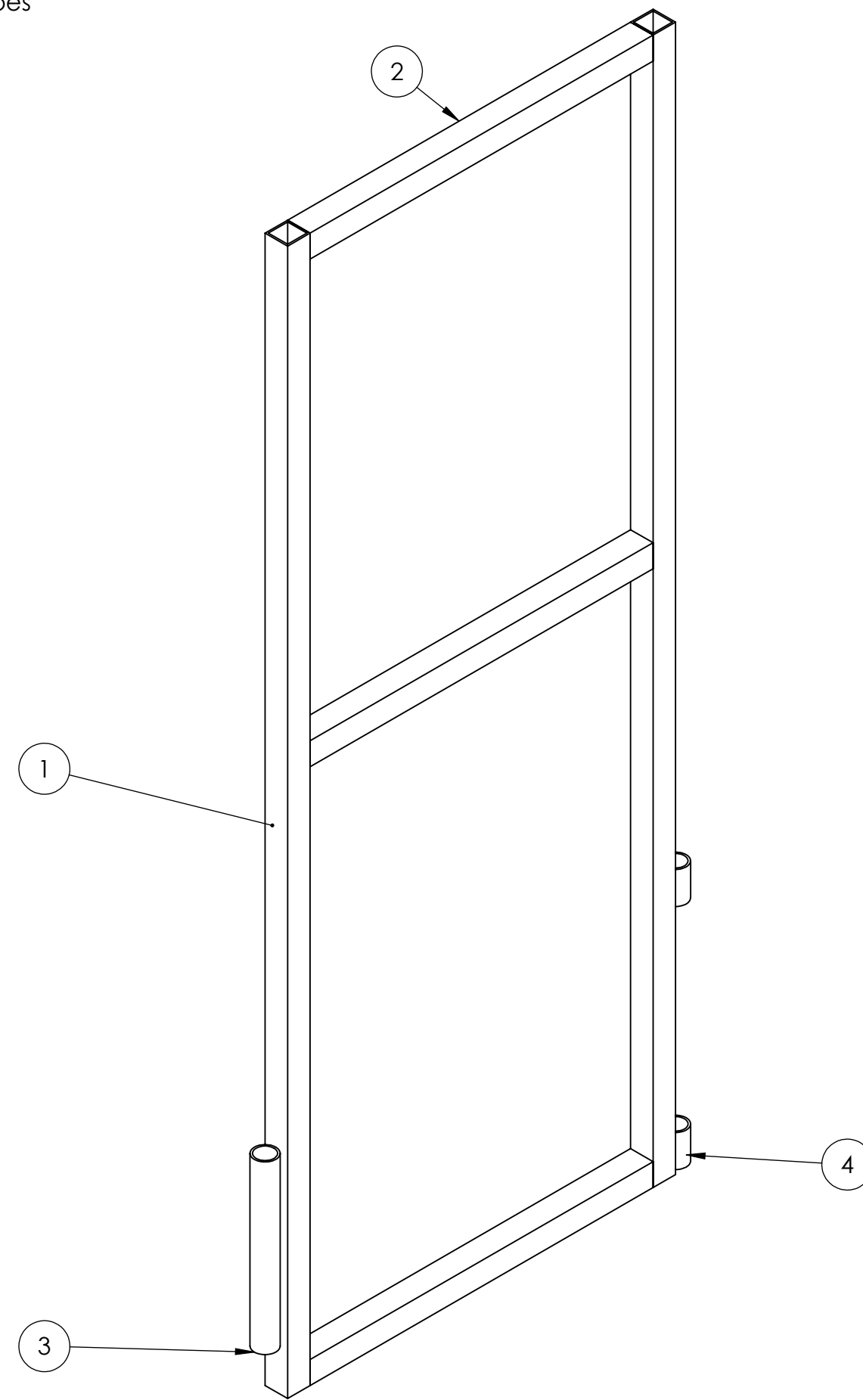
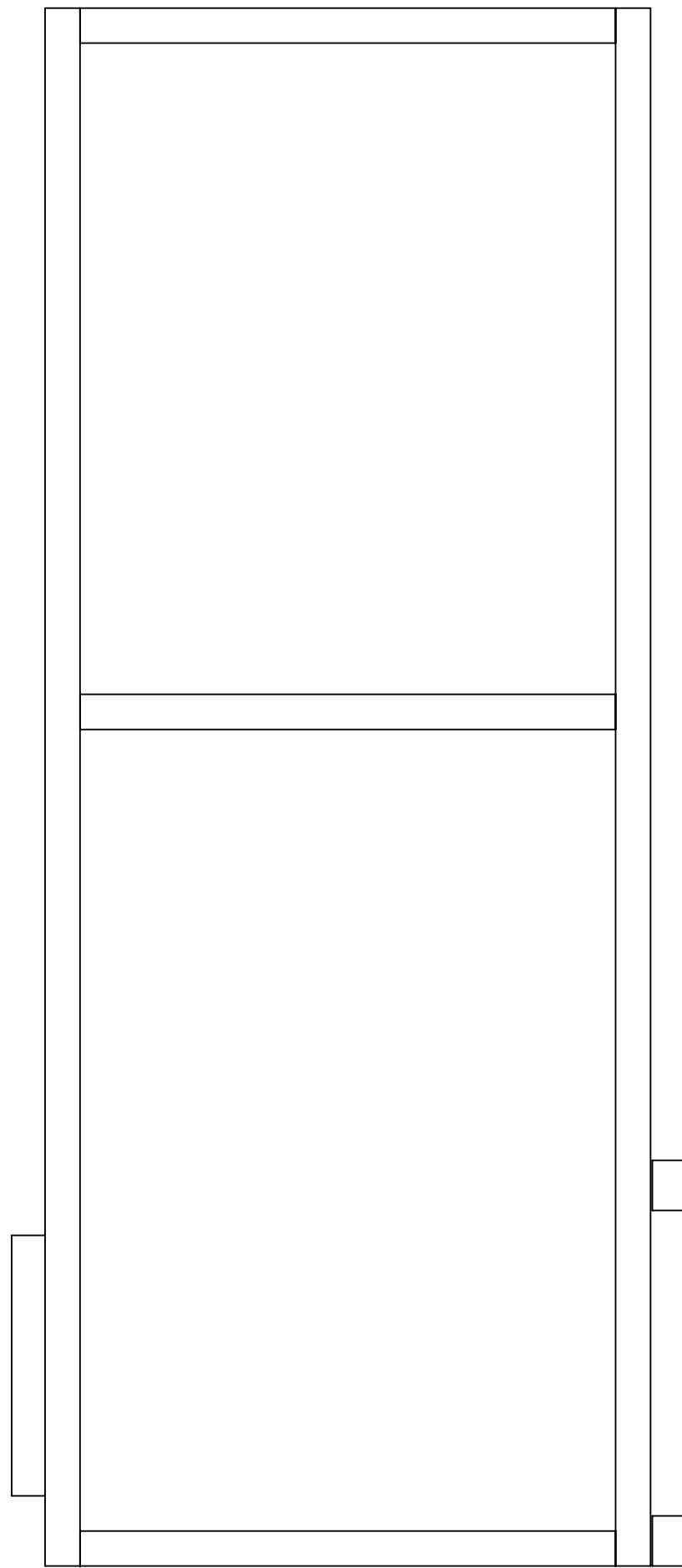
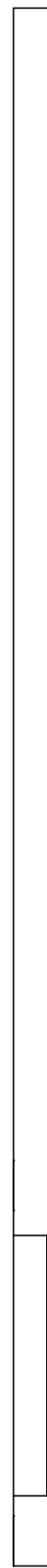
3

2

1

No weld inside tubes

No weld inside tubes



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22200-01	1.75 x 1.75 x 77.75 6061 Aluminum Tube	2
2	GE-22200-02	1.75 x 1.75 x 26.75 6061 Aluminum Tube	3
3	GE-22200-03	1.25 6061 Schedule 40 Alluminium Pipe	1
4	GE-22200-04	1.25 6061 Schedule 40 Alluminiumn Pipe	2

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

MATERIAL/FINISH:
 Tag or label with part number



DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	MS	5/19/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE: Alliance Station Panel

SIZE	DWG. NO.	REV
C	GE-22200	

SCALE: 1:10 SHEET 1 OF 3

4

3

2

1

D

D

C

C

B

B

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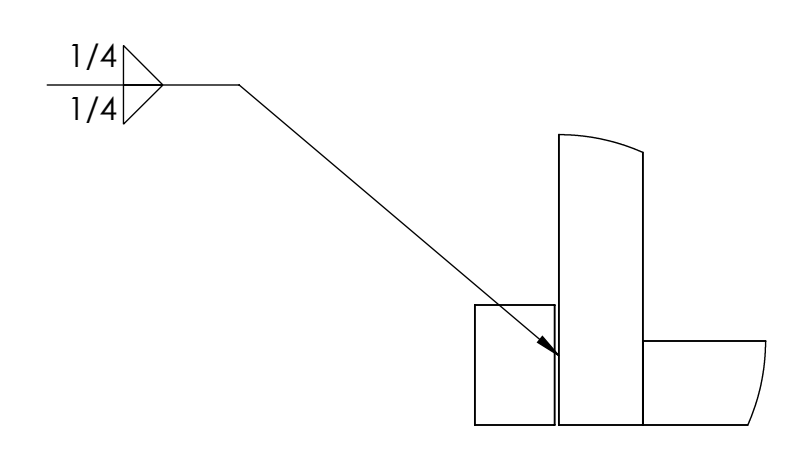
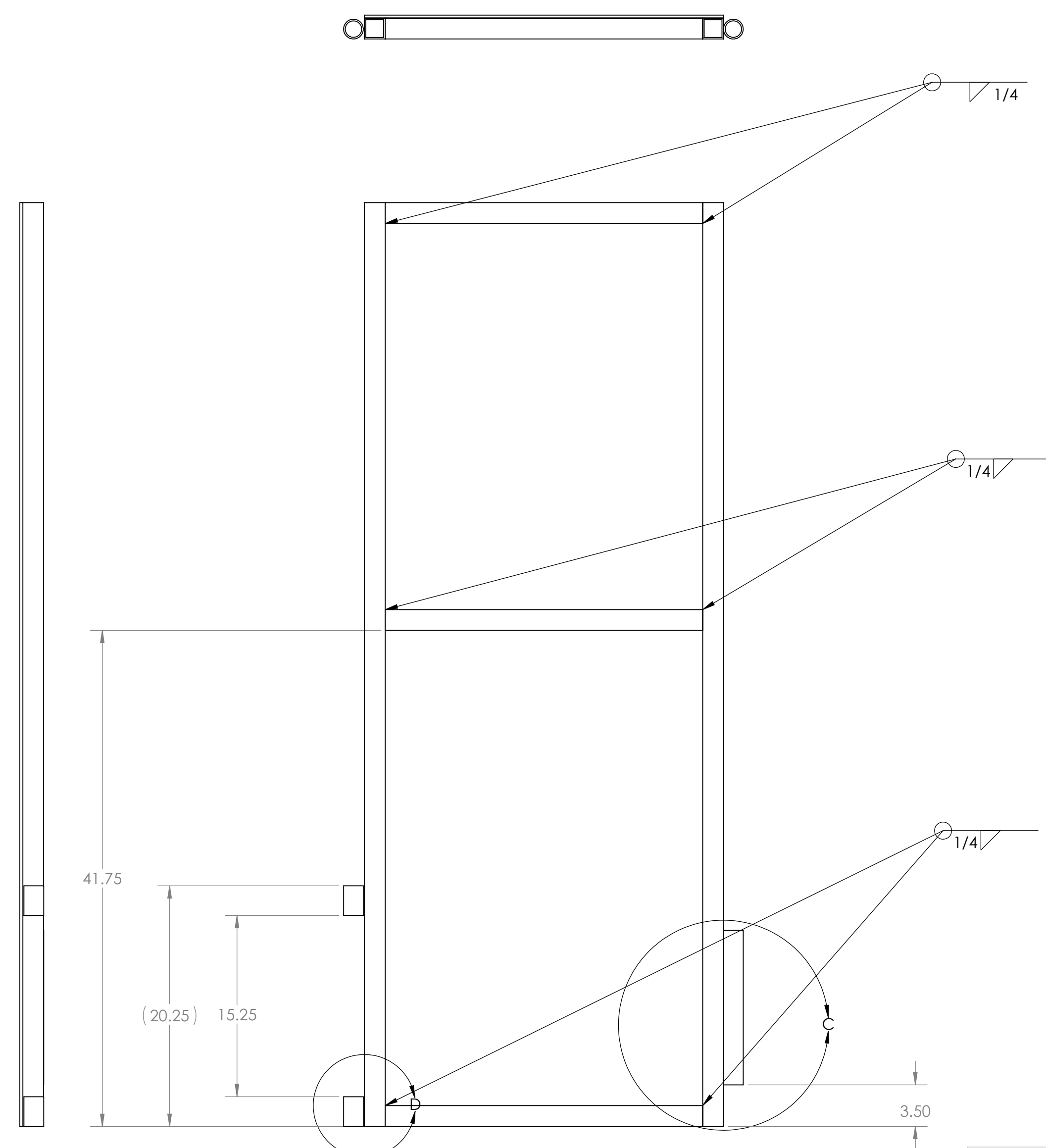
4 3 2 1

D

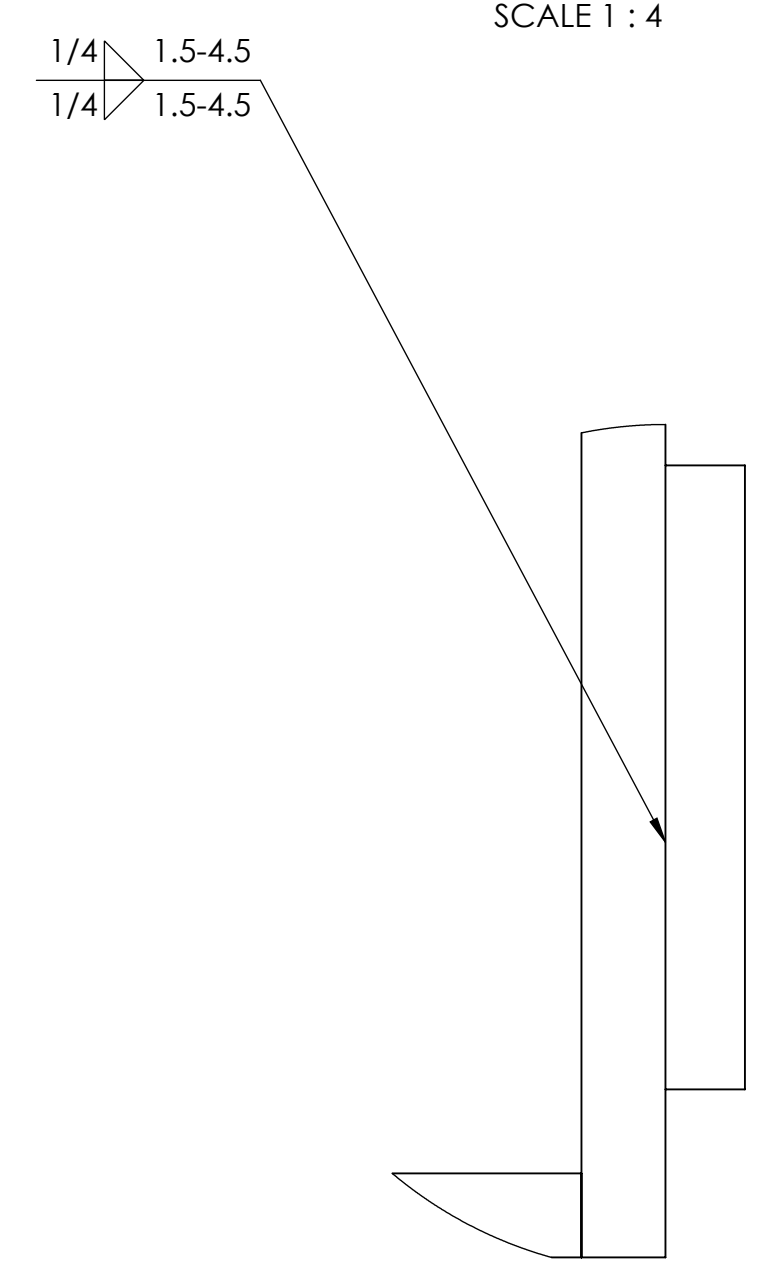
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DETAIL D
SCALE 1 : 4



DETAIL C
SCALE 1 : 4

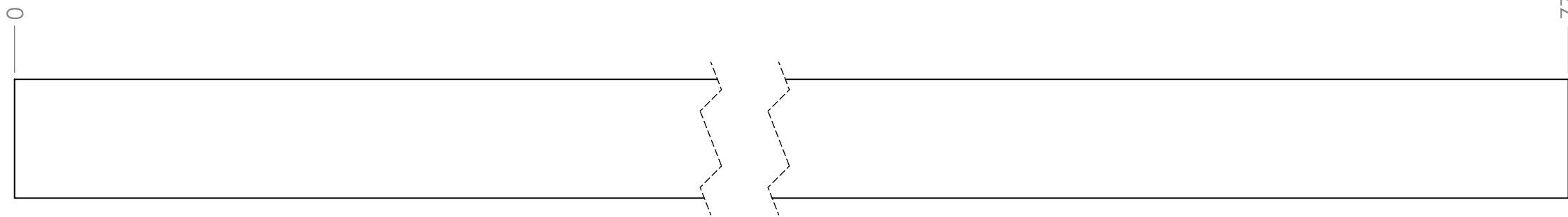
<p>UNLESS OTHERWISE SPECIFIED:</p> <p>DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$</p> <p>MATERIAL/FINISH: Tag or label with part number</p> <p>DO NOT SCALE DRAWING</p>	WELD	NAME	DATE		
	DRAWN	MS	5/19/2021		
	<p>PROPRIETARY AND CONFIDENTIAL</p> <p>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.</p>				TITLE:
	<p>COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.</p>				<p>Alliance Station Panel</p>
SIZE		DWG. NO.	REV		
C		GE-22200			
SCALE: 1:24		SHEET 2 OF 3			

4

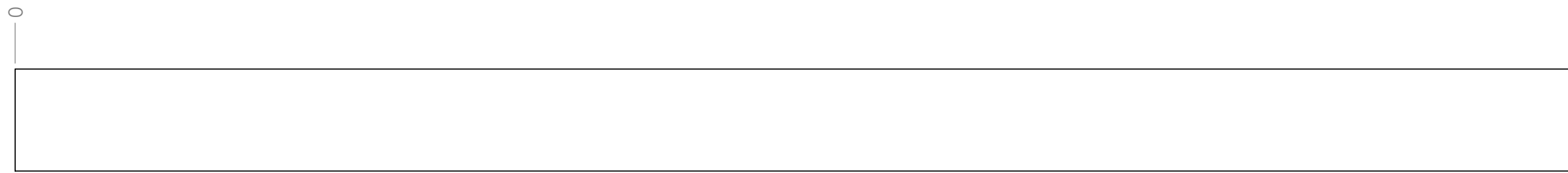
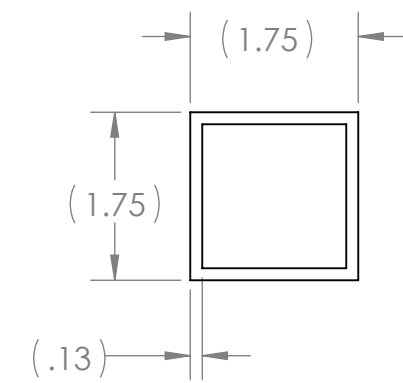
3

2

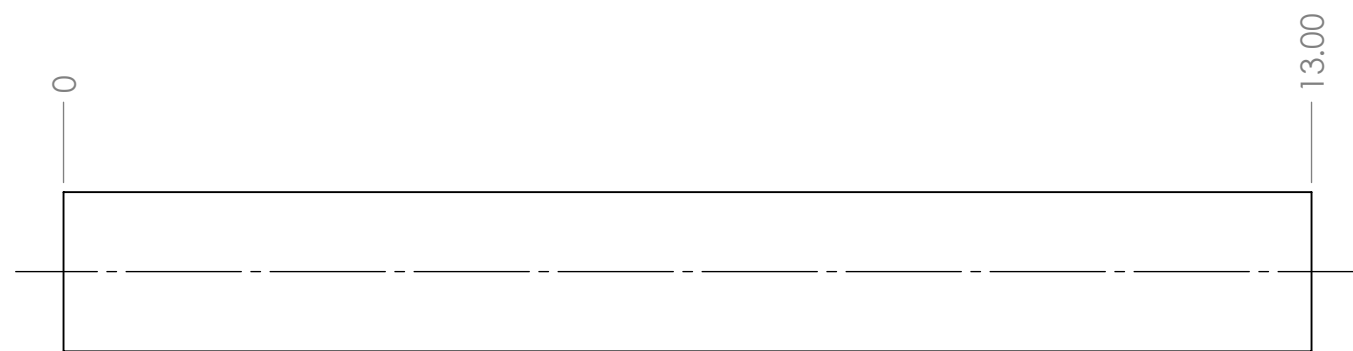
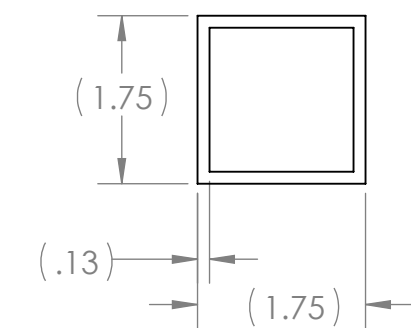
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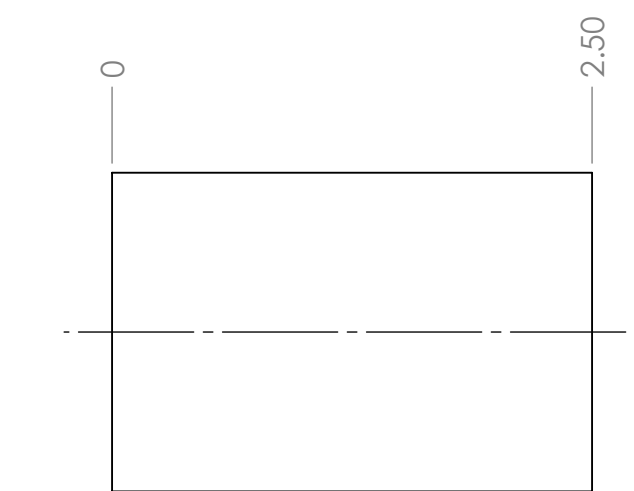
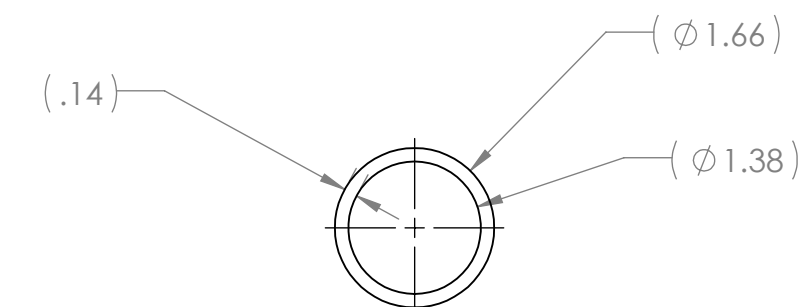
Note:
Item Number: GE-22200-01
QTY:2



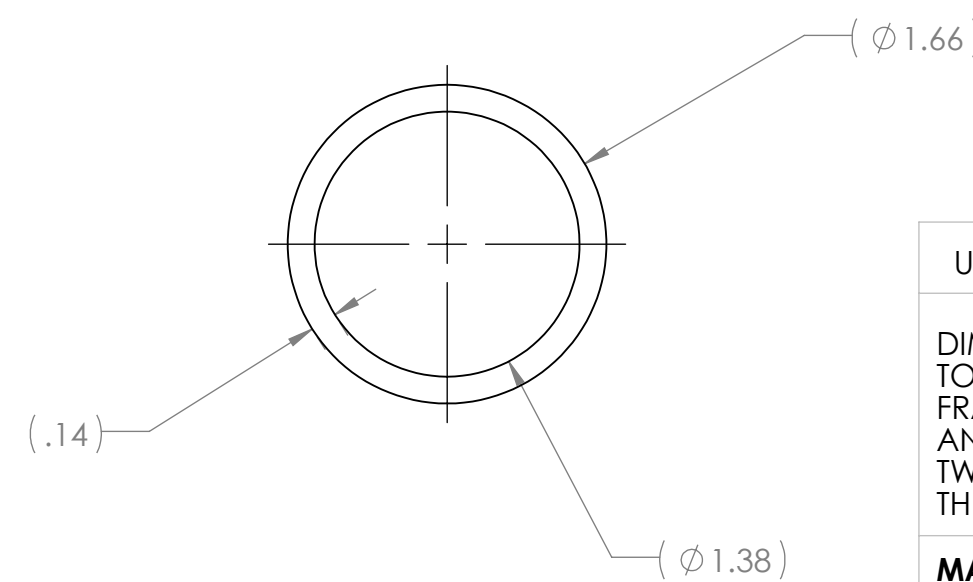
Note:
Item Number: GE-22200-02
QTY:3



Note:
Item Number: GE-22200-03
QTY:1



Note:
Item Number: GE-22200-04
QTY:2



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .015	WELD	NAME	DATE
	DRAWN	MS	5/19/2021
MATERIAL/FINISH: Tag or label with part number	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: Alliance Station Panel

SIZE	DWG. NO.	REV
C	GE-22200	
SCALE: 1:8		SHEET 3 OF 3

4

3

2

1

D

D

C

C

B

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D

C

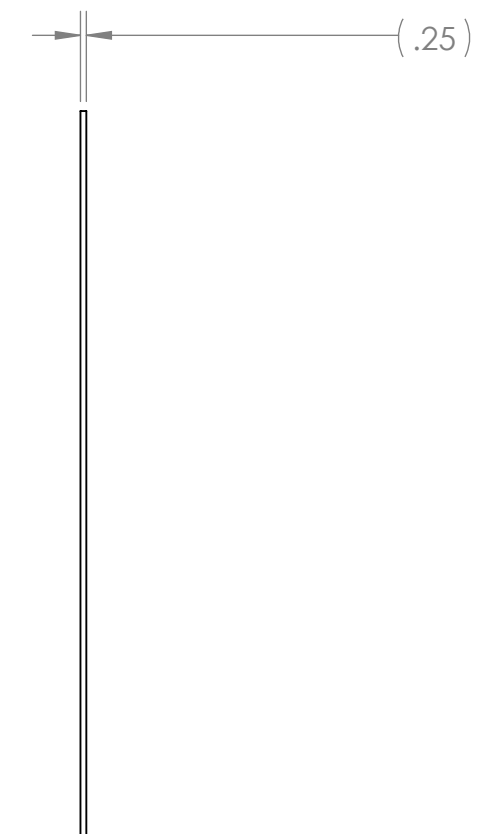
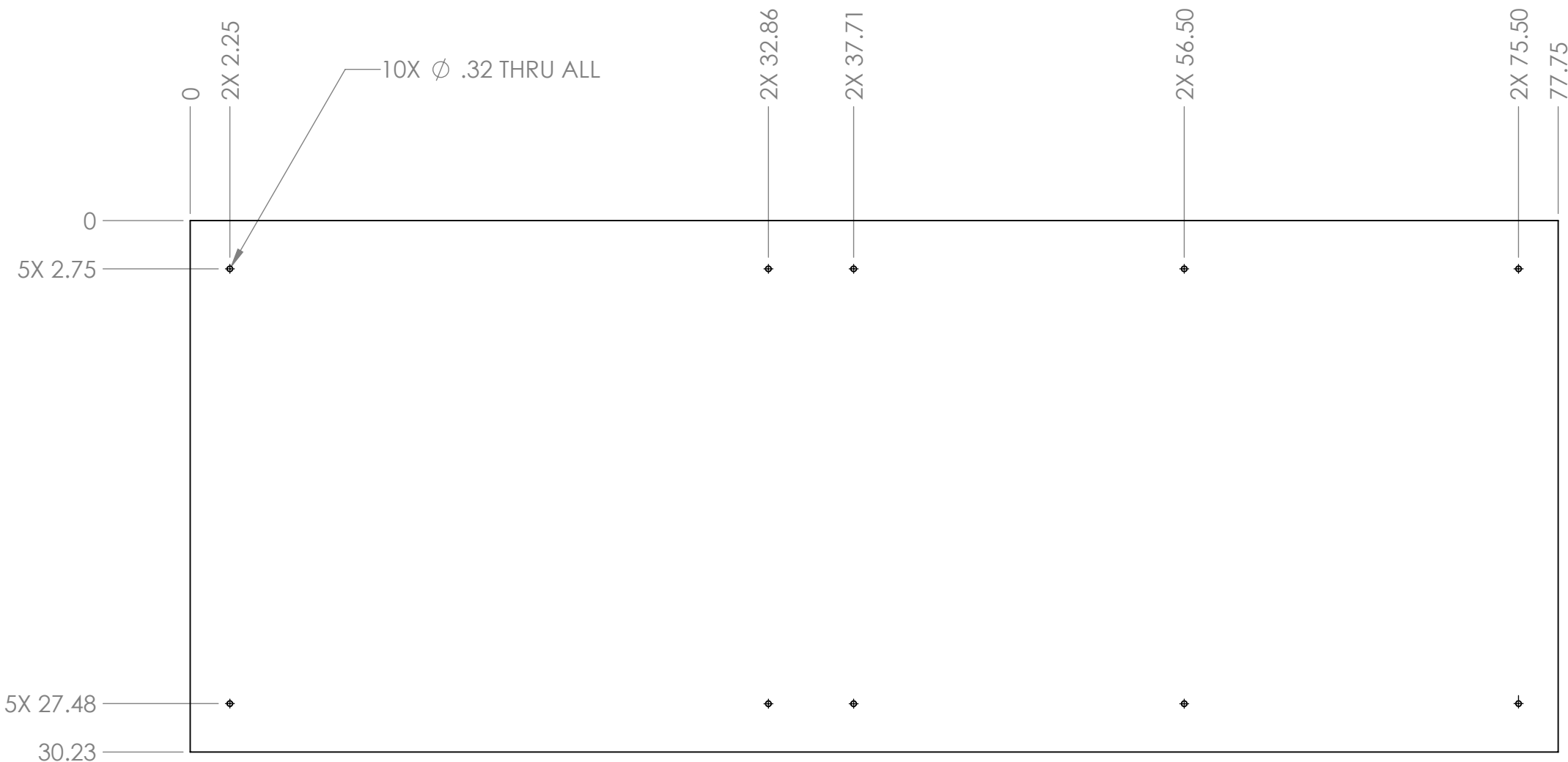
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UNLESS OTHERWISE SPECIFIED:

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:
 .25 Inch Thick
 Polycarbonate Clear Sheet
 Tag or label with part number

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	MS	8/3/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Alliance Polycarbonate Face

SIZE	DWG. NO.	REV
------	----------	-----

C GE-22201

SCALE: 1:12 SHEET 1 OF 1

4

3

2

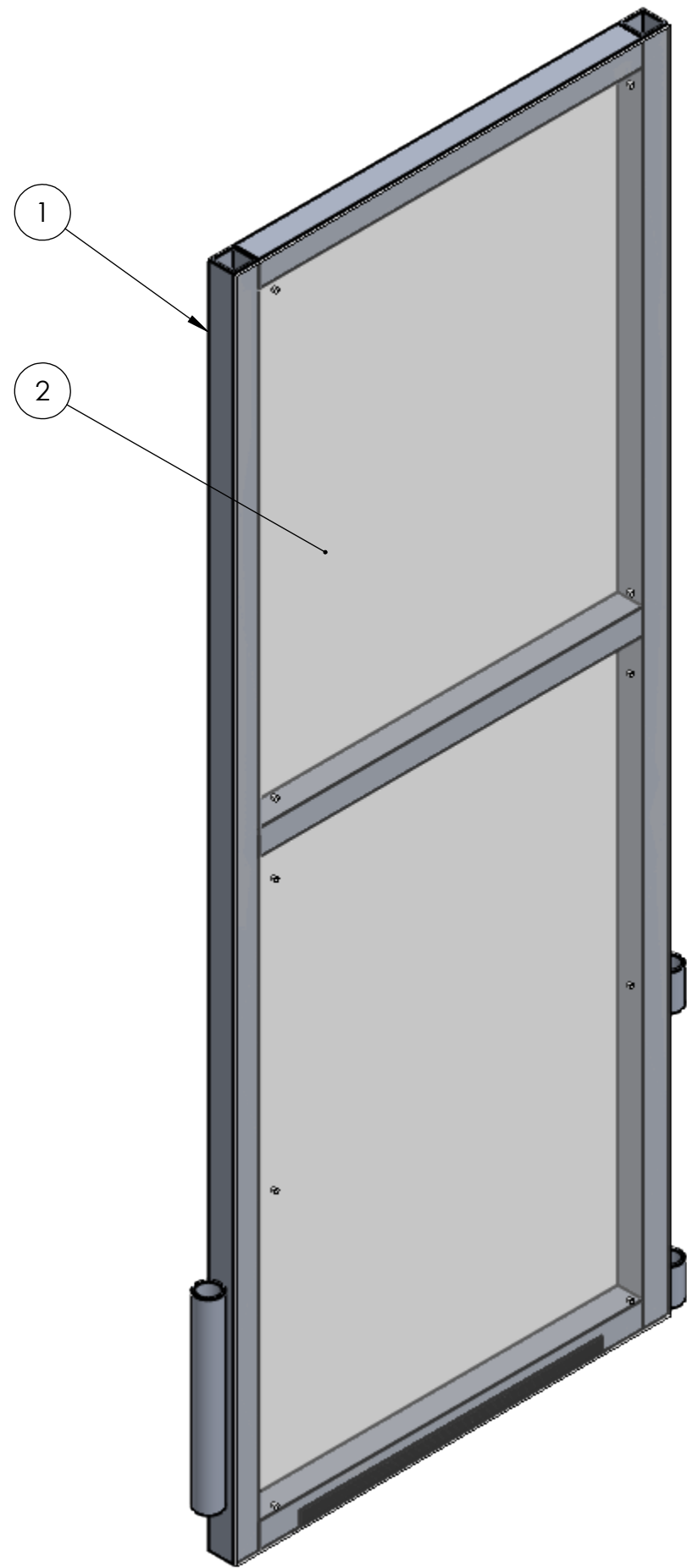
1

4



3

2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22200	GE-22200	1
2	GE-22201	Alliance Polycarbonate Face	1
3	Hook_2_22	2" x 22" Hook, Adhesive Backed	1
4	Hook_1_21	1" x 21" Hook, Adhesive Backed	1
5	Loop_1_21	1" x 21" Loop, Adhesive Backed	1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/2$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .50$	FIELD	NAME	DATE	 
	DRAWN	DF	1/5/2022	
MATERIAL/FINISH: Tag or label with part number	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: <h2 style="text-align: center;">Alliance Station Panel</h2>
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING			DWG. NO.: GE-22202	REV:
			SCALE: 1:8	SHEET 1 OF 2

4

3

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C

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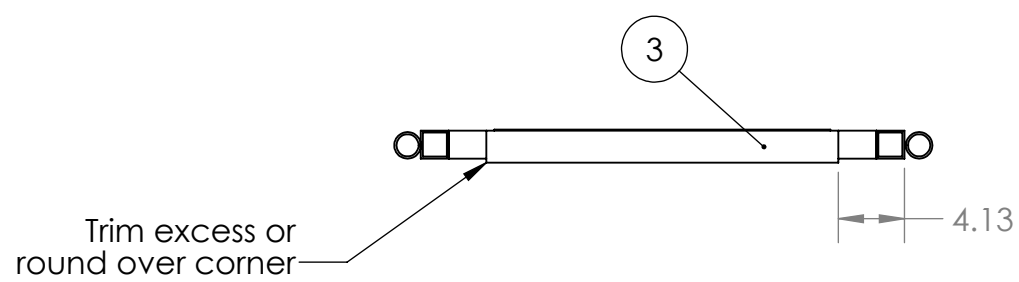
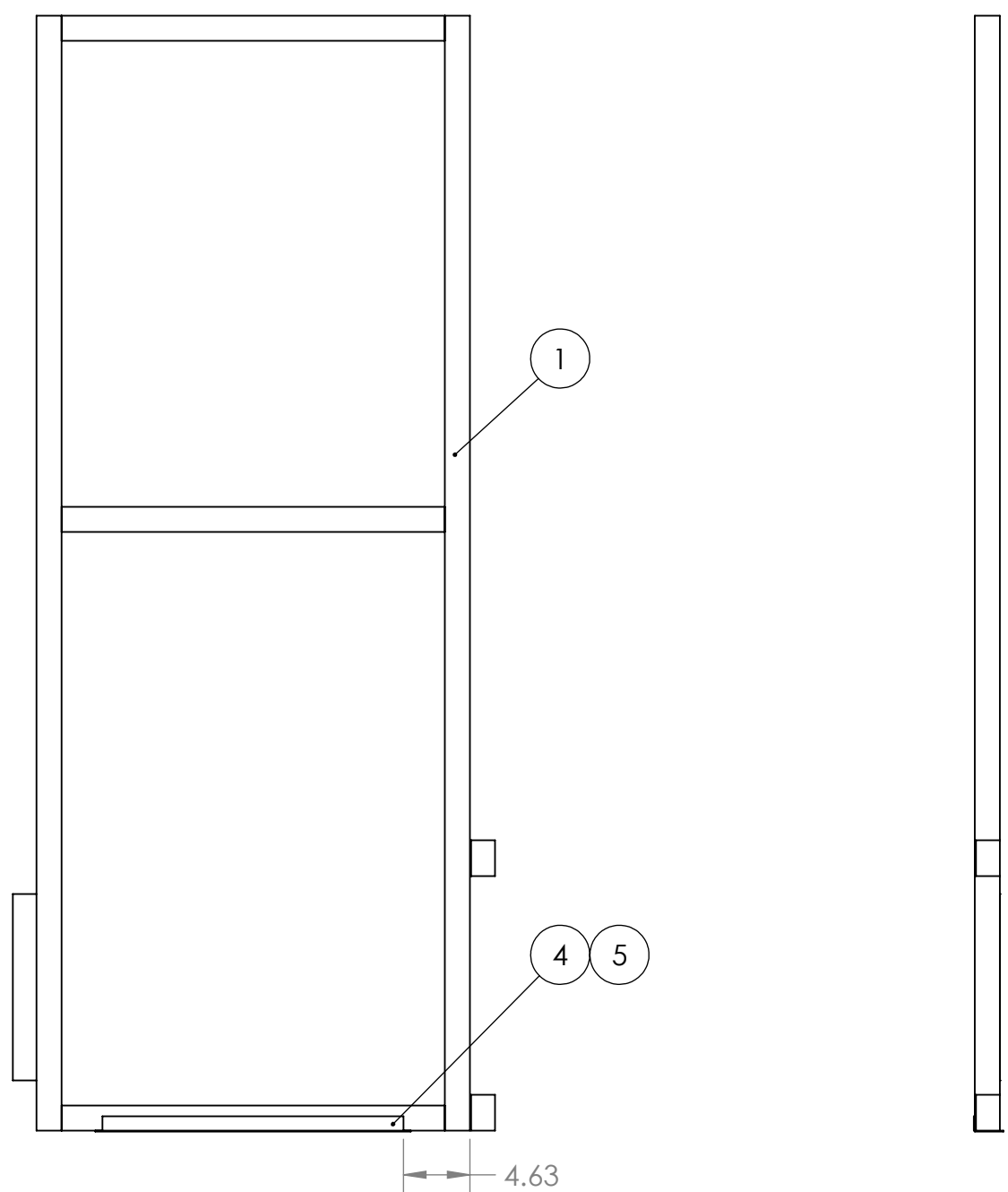
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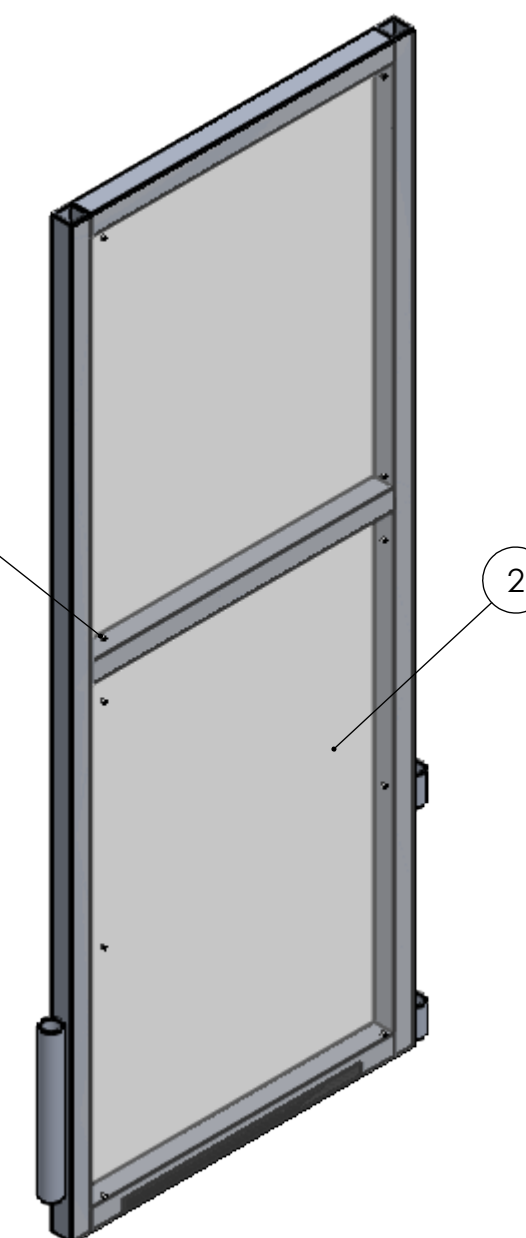
2

1





- Assembly Steps:
1. Apply Item 4 to Item 1 as shown.
 2. Apply Item 5 to Item 4, but keep the protective backing on the adhesive.
 3. Apply Item 3 to Item 1 as shown, trim excess material or round over the edge.

Attach using 50 lb cable ties



Assembly Steps:

1. Remove protective backing from the loop adhesive.
2. Place Item 2 in place and press against the loop.
3. Secure Item 2 with 50 lb. cable ties.

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE	 
	DRAWN	DF	1/5/2022	
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			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.			Alliance Station Panel
MATERIAL/FINISH:	Tag or label with part number			SIZE DWG. NO. REV C GE-22202
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:12 SHEET 2 OF 2
DO NOT SCALE DRAWING				

4

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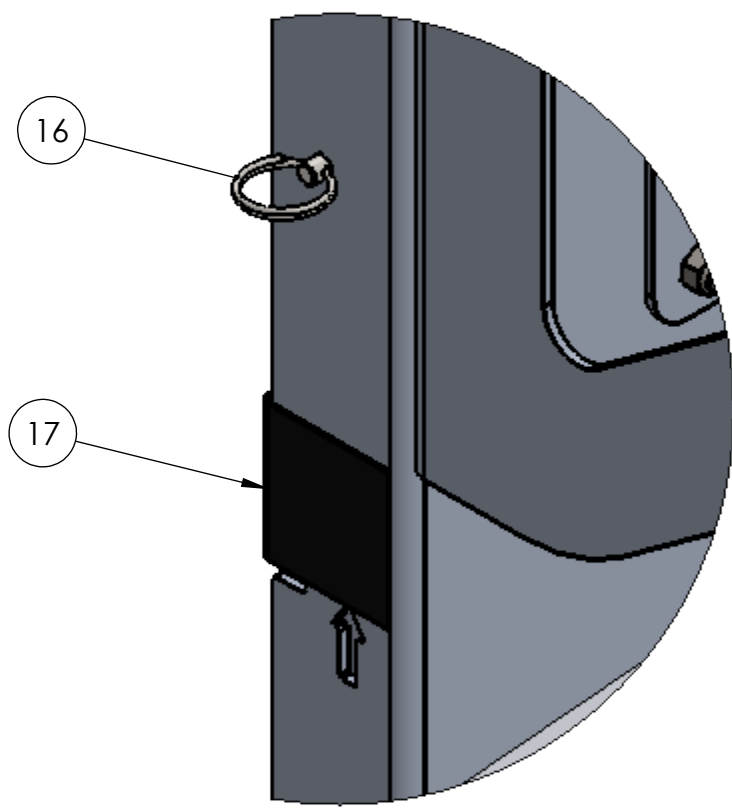
1

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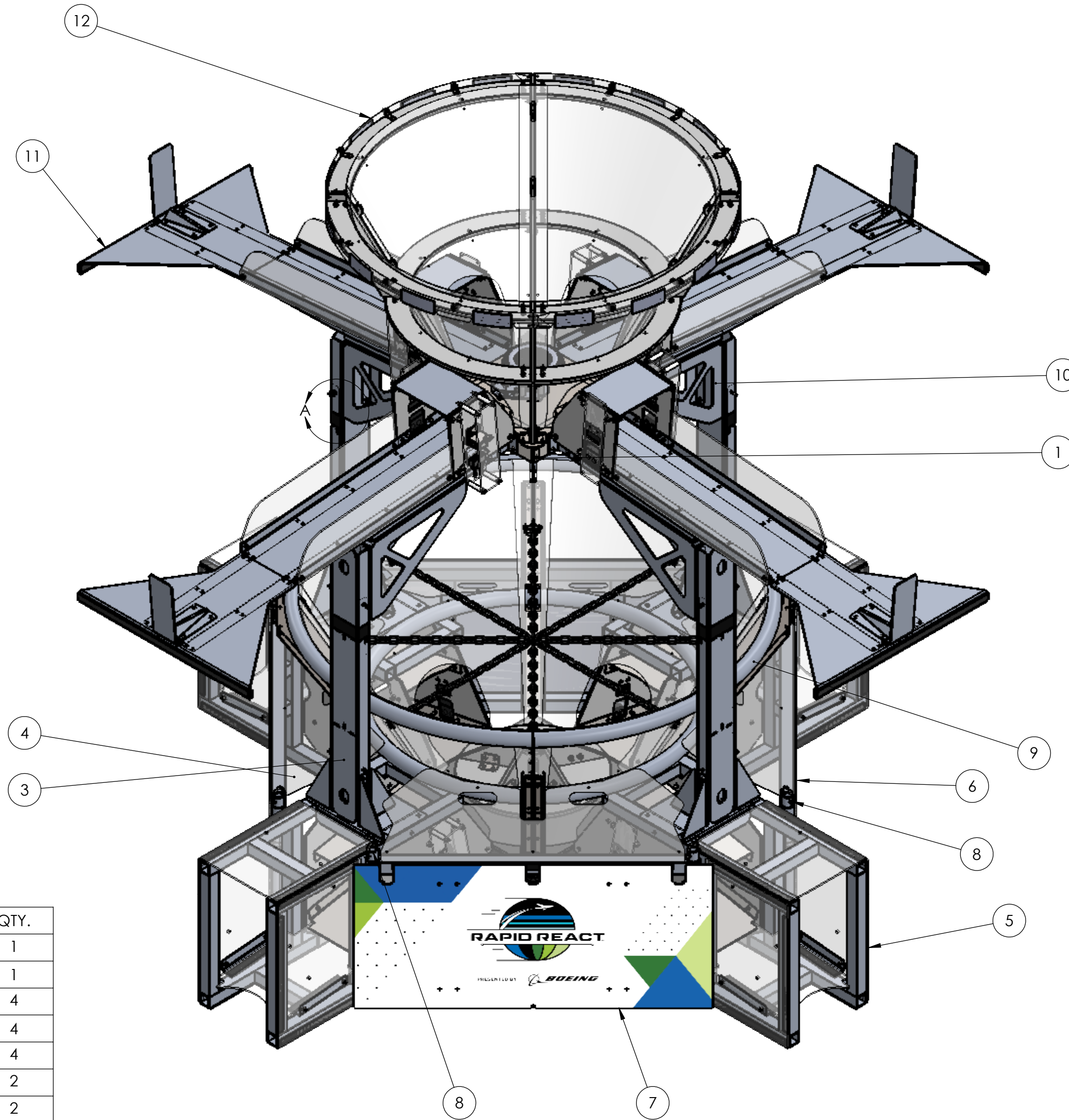
3

2

1



DETAIL A
SCALE 1 : 2



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22302	Leg to Upper Hub Box	1
2	GE-22303	Hub Base with Hook	1
3	GE-22305	Leg Vertical Channel Cover	4
4	GE-22306	Hub Fender Skirt	4
5	GE-22311	Lower Exit Assembly	4
6	GE-22341-Clear	Fender Assembly - Clear	2
7	GE-22341-Vinyl	Fender Assembly - Vinyl	2
8	GE-22346	Fender Pipe Assembly	8
9	GE-22351	Lower Hub	1
10	GE-22371	Hub Leg Assembly	4
11	GE-22391	Upper Exit Assembly	4
12	GE-22411	Upper Hub	1
13	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	36
14	hex_.25_20_2.5_partial	Steel Hex Head Screw, 1/4"-20 x 2-1/2" long, partially threaded	16
15	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	24
16	pin_quick_ring_.25_0.375	Pin, Ring-Grip Quick-Release with SS Ring, 1/4" Diameter, 0.375" Usable Length	16
17	tapeline_HUBLEGROBOTHEIGHT	2" Gaffers Tape, Black	5

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	CO	12/17/2021

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COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.

TITLE: **Hub**

SIZE	DWG. NO.	REV
C	GE-22300	

SCALE: 1:12 SHEET 1 OF 7

4

3

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1

D

D

C

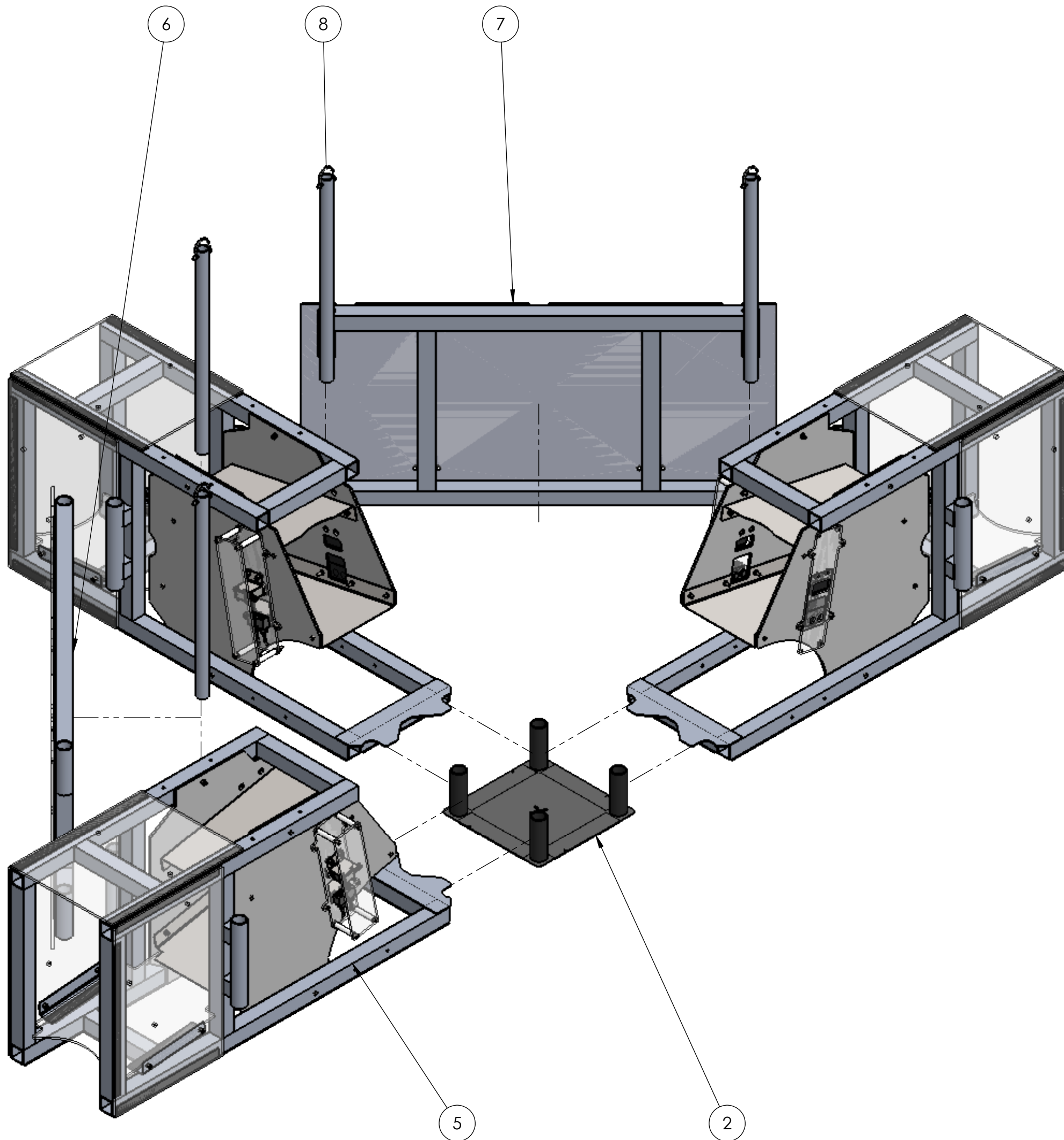
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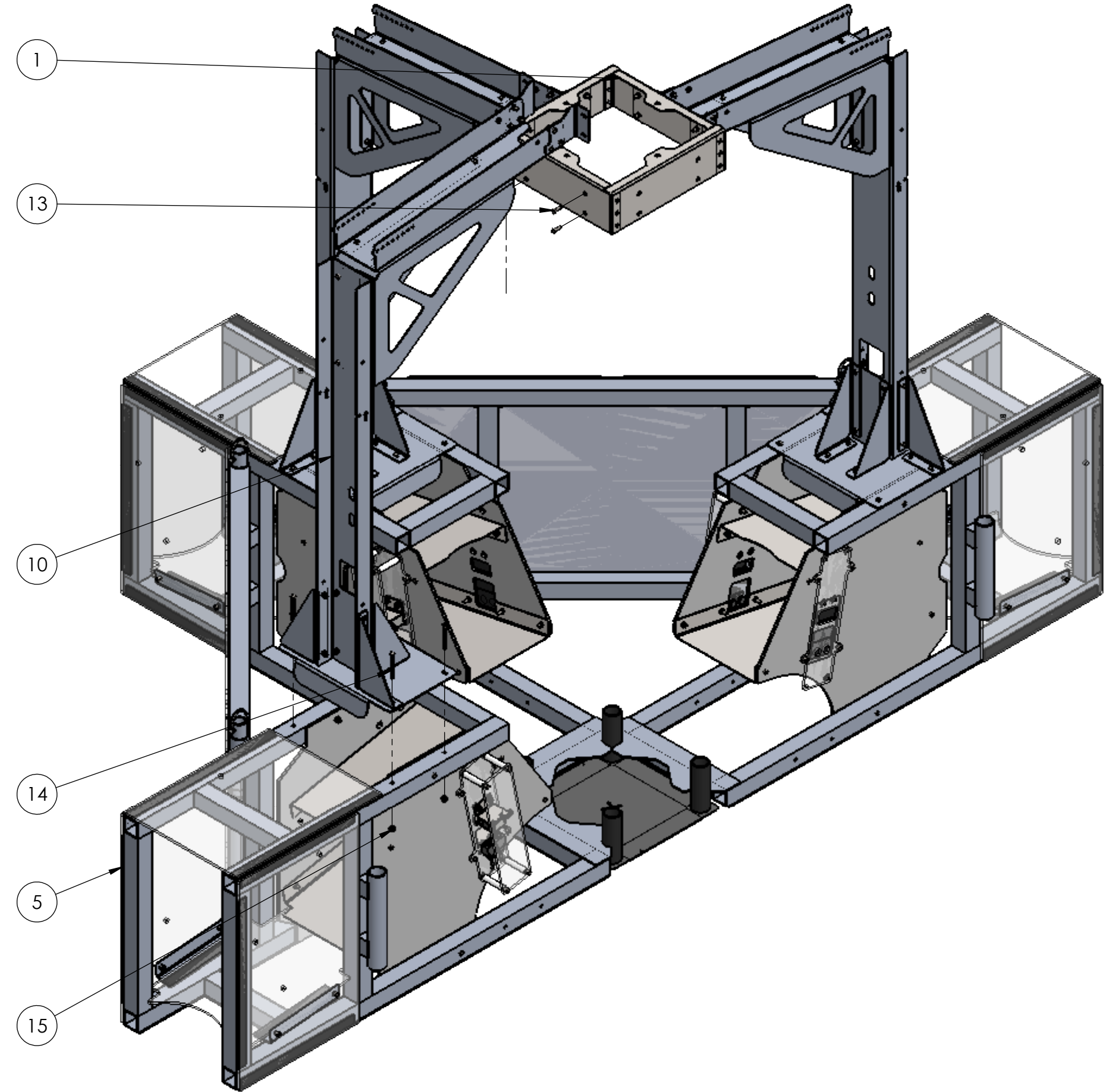
A

A





Notes:

1. Place (2) down.
2. Slide (5) in place against (2), aligning cutouts to pipes.
3. Attach (6) and (7) to (5) using (8).



Notes:

1. Attach (10) to (15) using (14) and (15).
2. Attach (10) to (1) using (13).

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	CO	12/17/2021	
MATERIAL/FINISH:	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Hub
DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV	
	C	GE-22300		
	SCALE: 1:10	SHEET 2 OF 7		

4

3

2

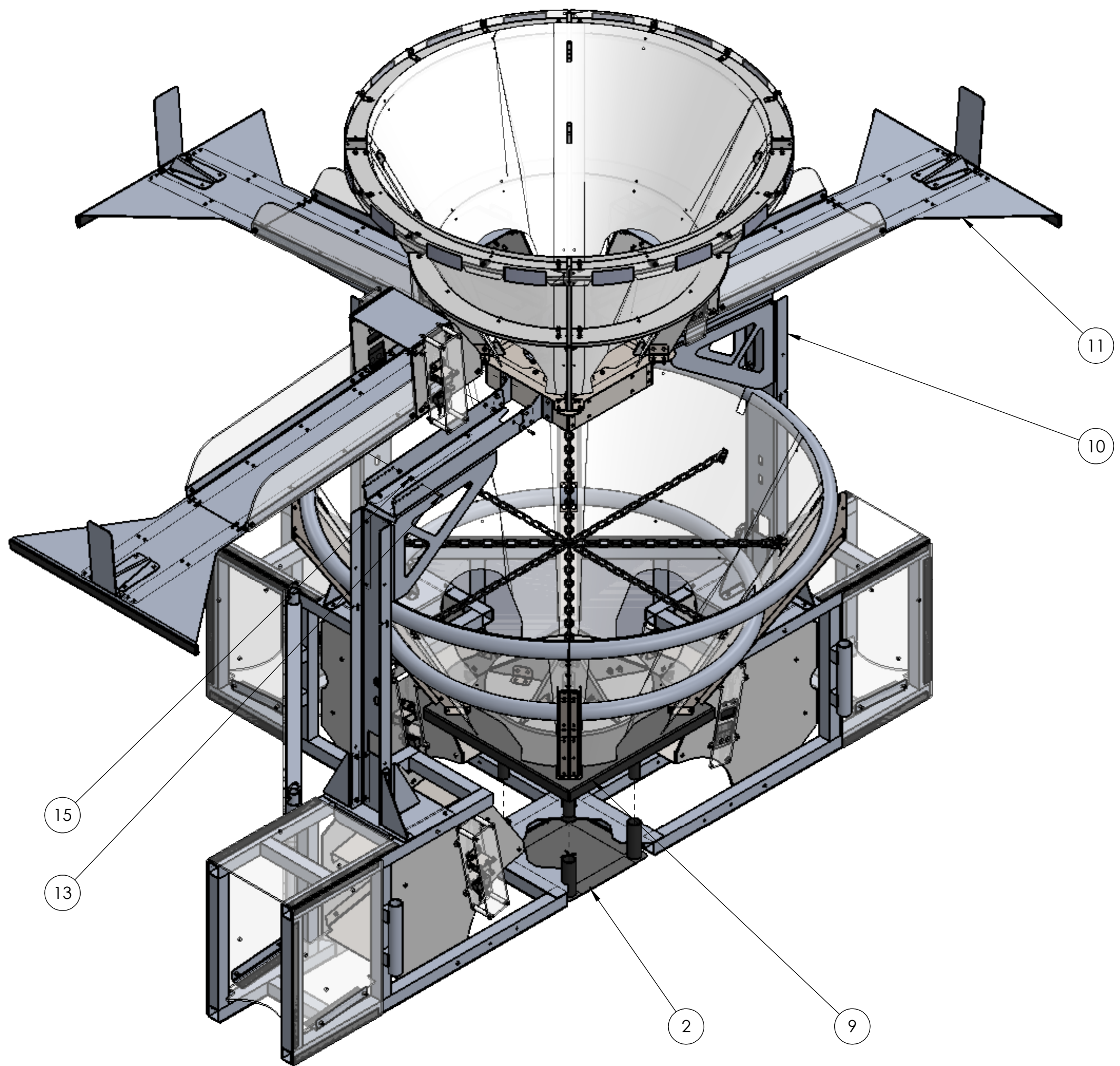
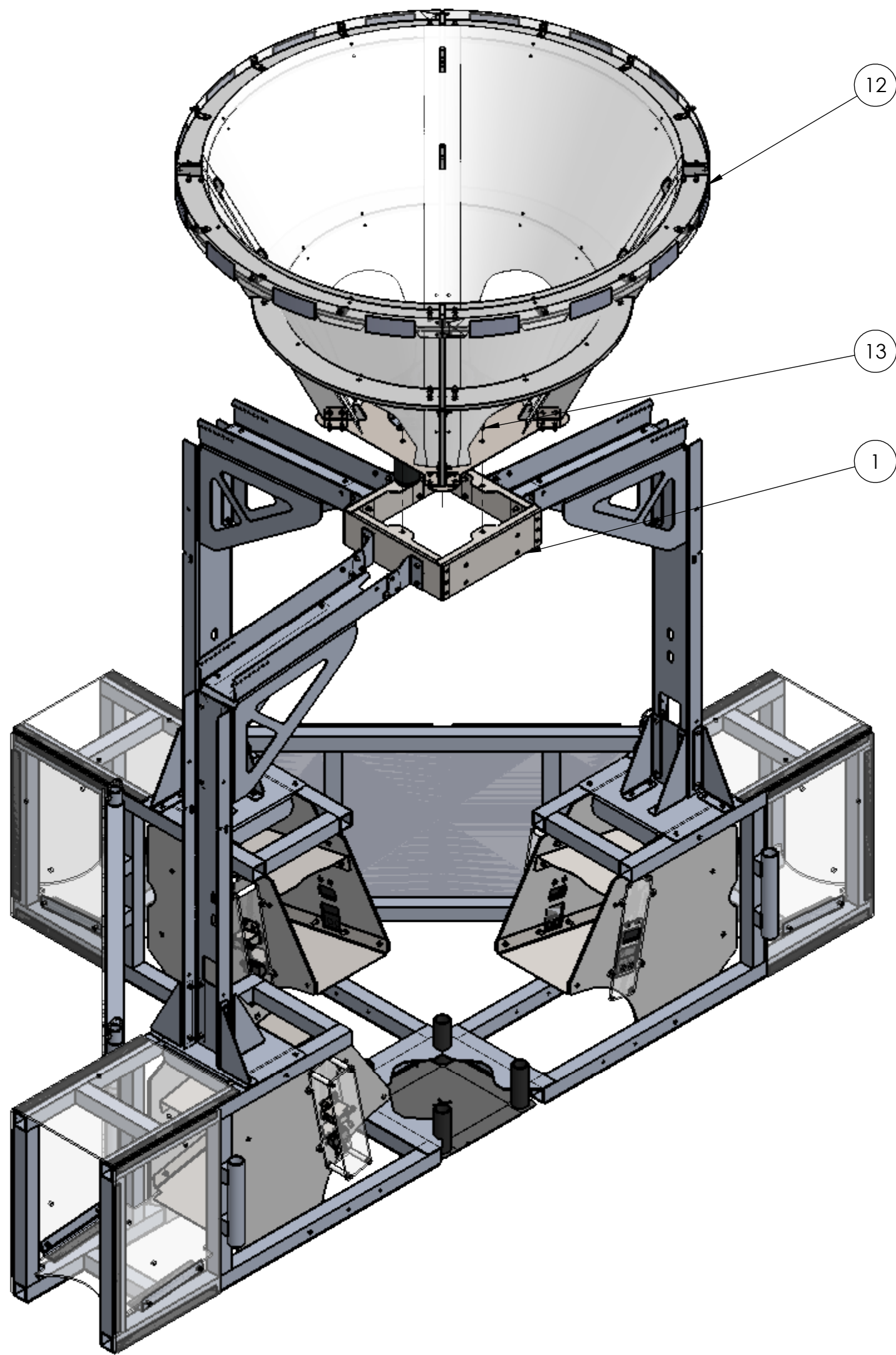
1

4

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Notes:

- 1. Attach 12 to 1 using 13.

Notes:

- 1. Attach 11 to 10 using 13 and 15.
- 2. Insert 9 into receiving tubes of 2.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	CO	12/17/2021	
MATERIAL/FINISH:	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.			Hub
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22300
			SCALE: 1:12	SHEET 3 OF 7

4

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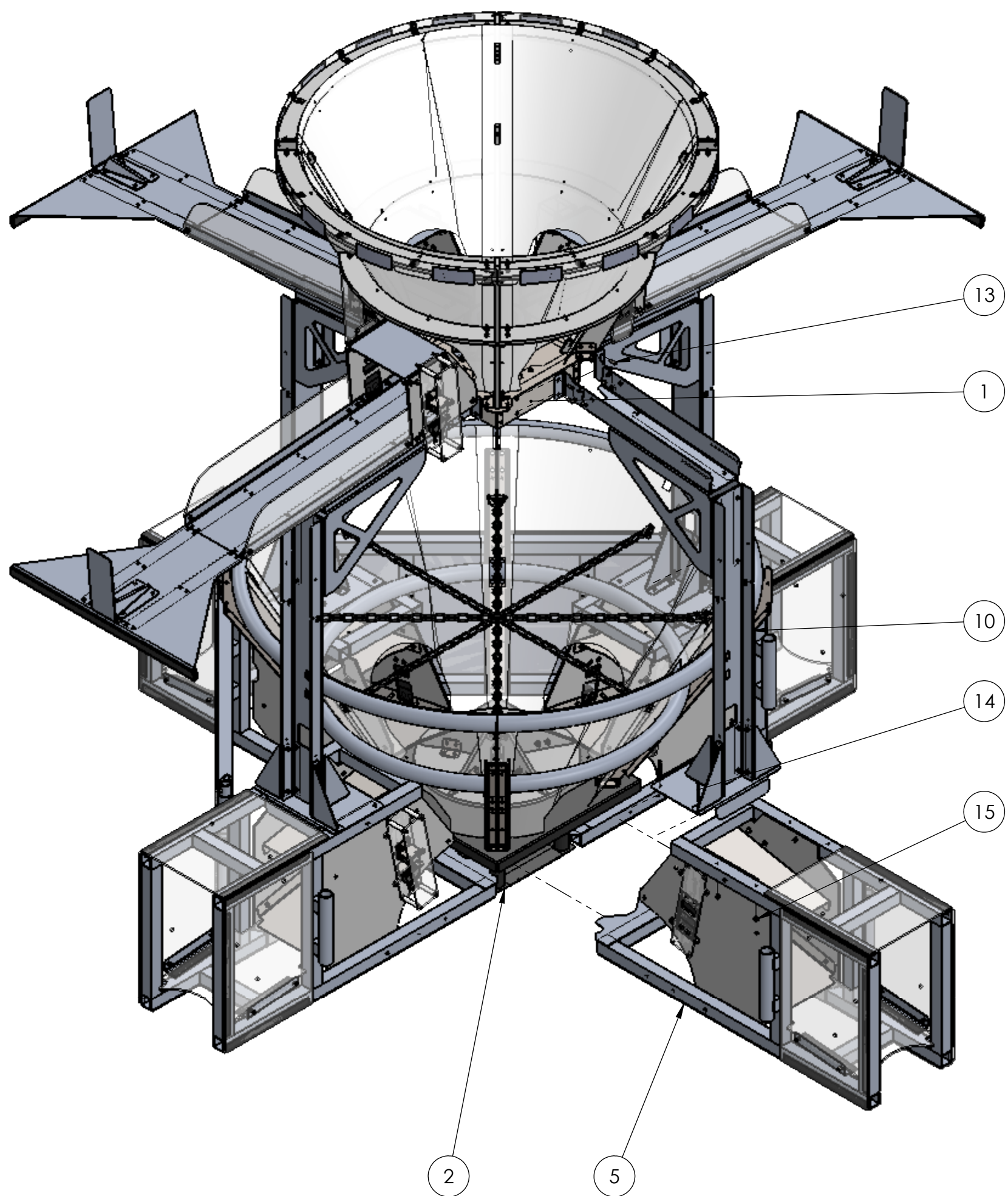
C

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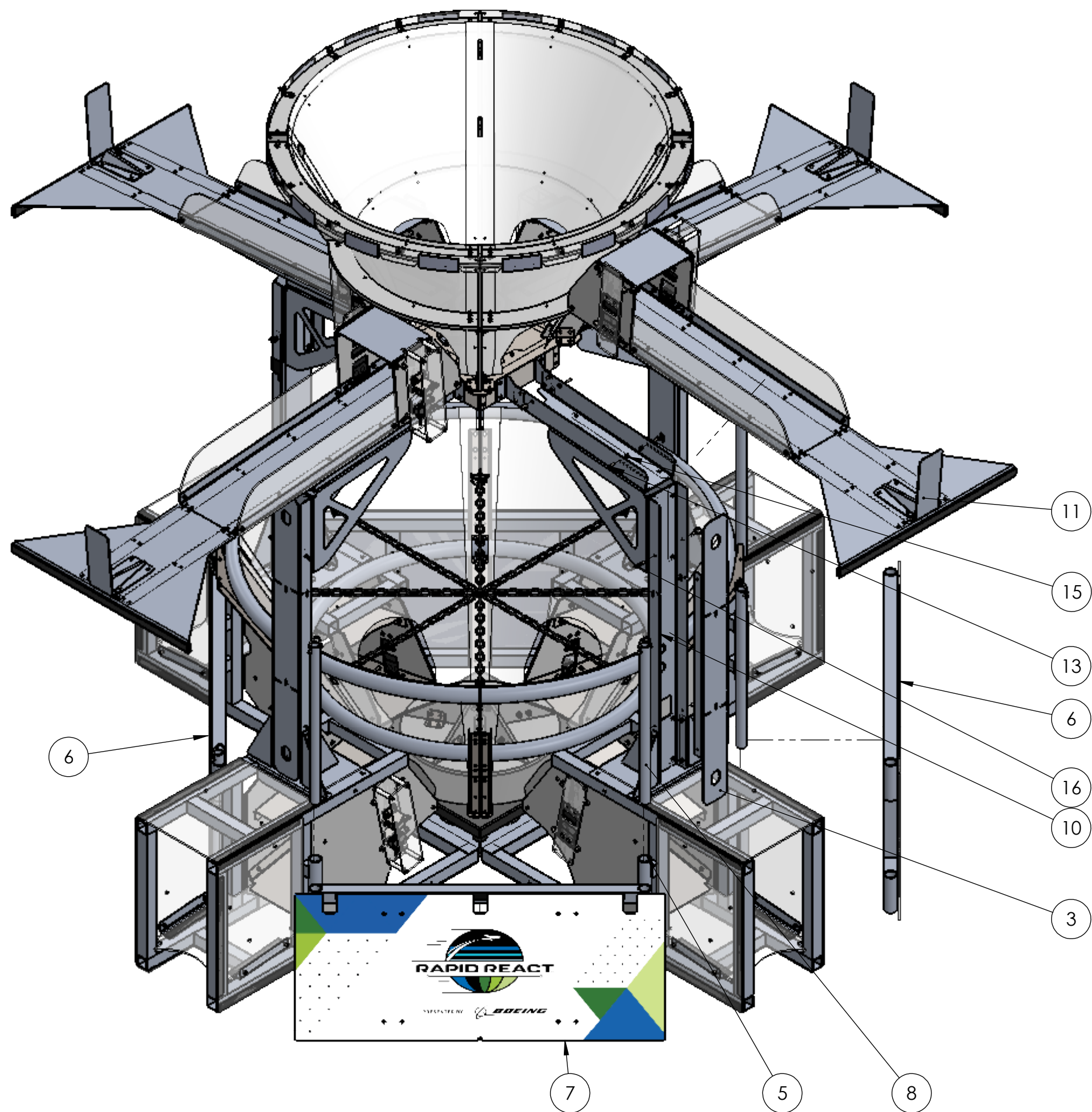
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Notes:

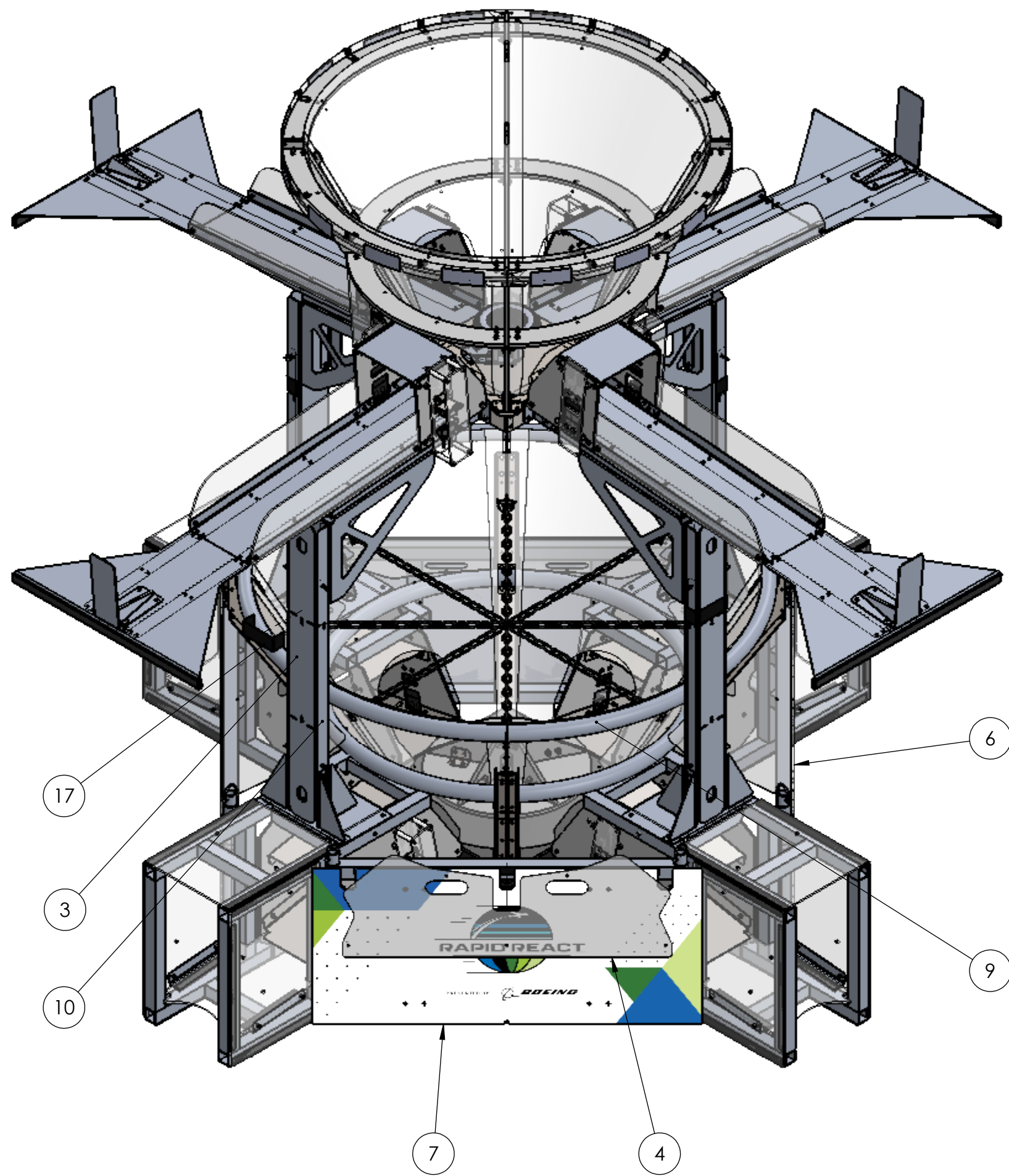
- Slide (5) into place flush against (2).
- Attach (10) to (5) using (14) and (15).
- Attach (10) to (1) using (13).



Notes:



- Attach (6) and (7) to assembly using (8) to connect to (5) . (7) should oppose other (7) , and (6) should oppose other (6) .
- Attach (3) to (10) using (16) .
- Attach (11) to (10) using (13) and (15) .

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50 MATERIAL/FINISH: DO NOT SCALE DRAWING	FIELD	NAME	DATE	 
	DRAWN	CO	12/17/2021	
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:
				Hub
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		SIZE	DWG. NO.	REV
		C	GE-22300	
SCALE: 1:14			SHEET 4 OF 7	



Notes:

1. Attach (4) to assembly, using cable ties to connect to (9) and either (6) or (7).
2. Attach (17) to (3) and (10), aligning bottom of (17) to notches on (3) and (10).

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	CO	12/17/2021	
MATERIAL/FINISH:	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.			Hub
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				C GE-22300
DO NOT SCALE DRAWING				SCALE: 1:14
				SHEET 5 OF 7

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65.62±1.00

(13.68)

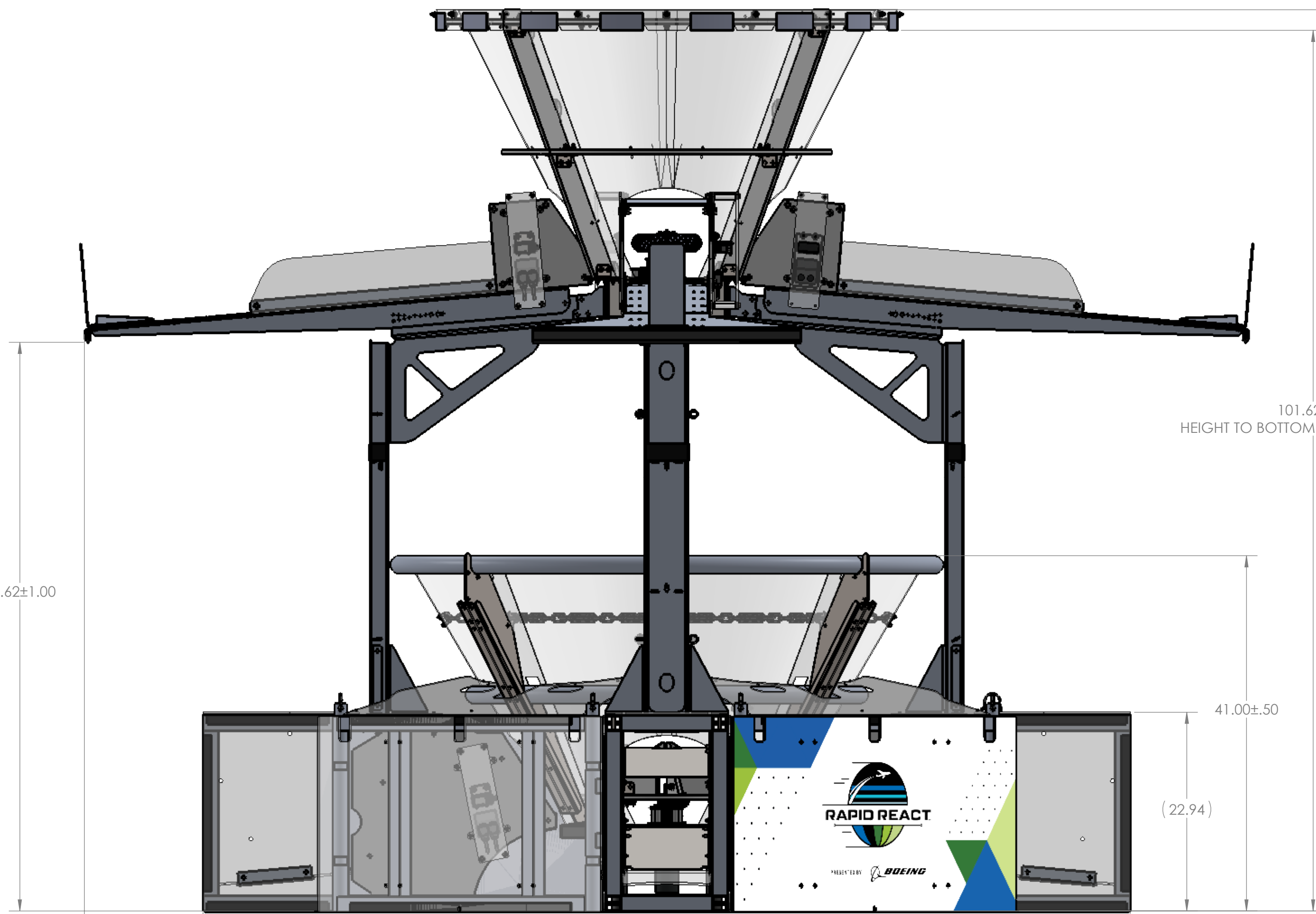
(107.00)



(22.94)

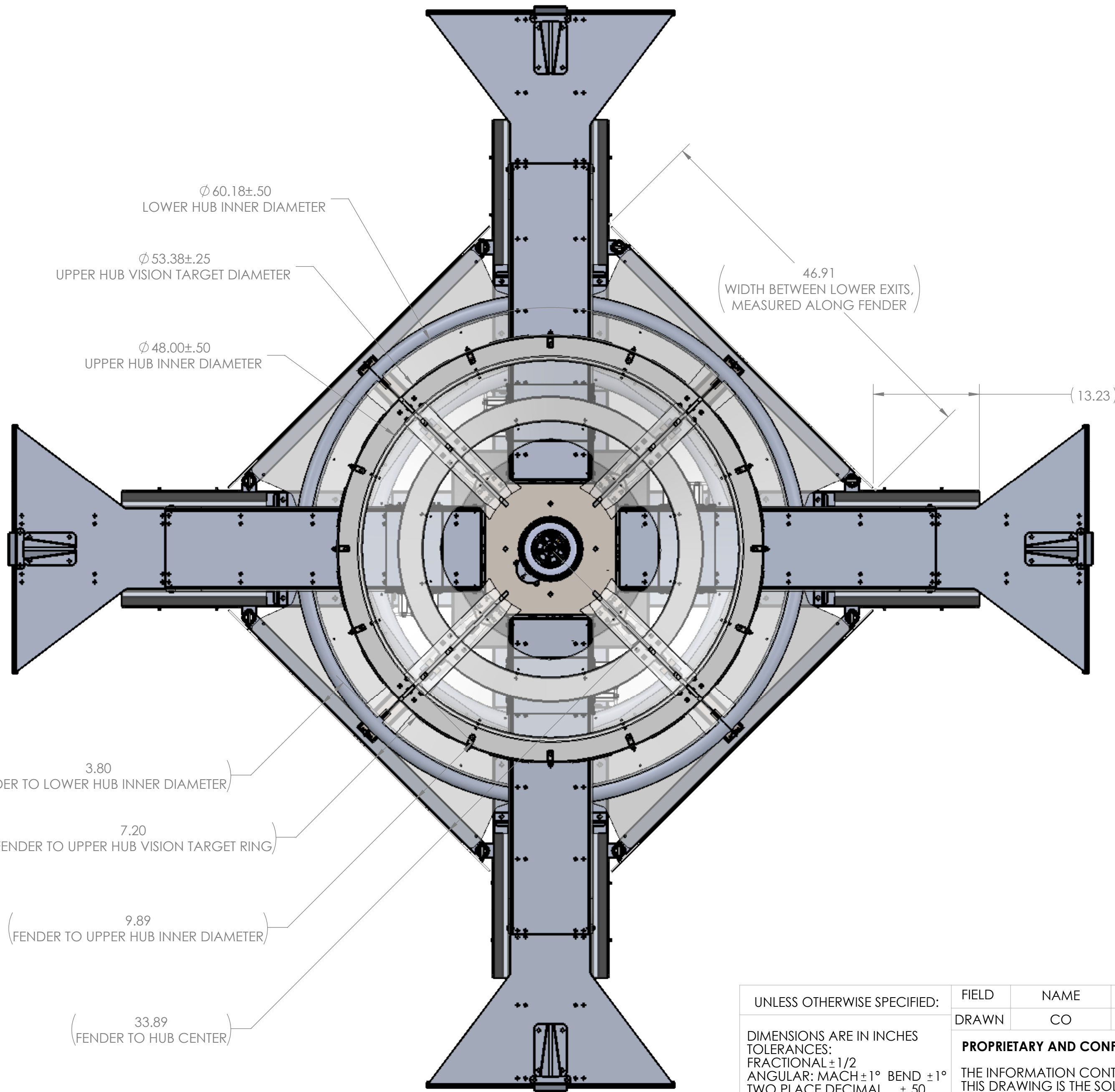
41.00±.50

101.62±.50
HEIGHT TO BOTTOM OF VISION TARGET

104.00±.50
HEIGHT TO TOP OF UPPER HUB



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	CO	12/17/2021	
MATERIAL/FINISH:	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: Hub
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22300
	SCALE: 1:10			SHEET 6 OF 7



$\varnothing 60.18 \pm .50$
LOWER HUB INNER DIAMETER

$\varnothing 53.38 \pm .25$
UPPER HUB VISION TARGET DIAMETER

$\varnothing 48.00 \pm .50$
UPPER HUB INNER DIAMETER

46.91
(WIDTH BETWEEN LOWER EXITS,
MEASURED ALONG FENDER)

(13.23)

3.80
(FENDER TO LOWER HUB INNER DIAMETER)

7.20
(FENDER TO UPPER HUB VISION TARGET RING)

9.89
(FENDER TO UPPER HUB INNER DIAMETER)

33.89
(FENDER TO HUB CENTER)

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	CO	12/17/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS:		
	REMOVE ALL BURRS AND SHARP EDGES.		



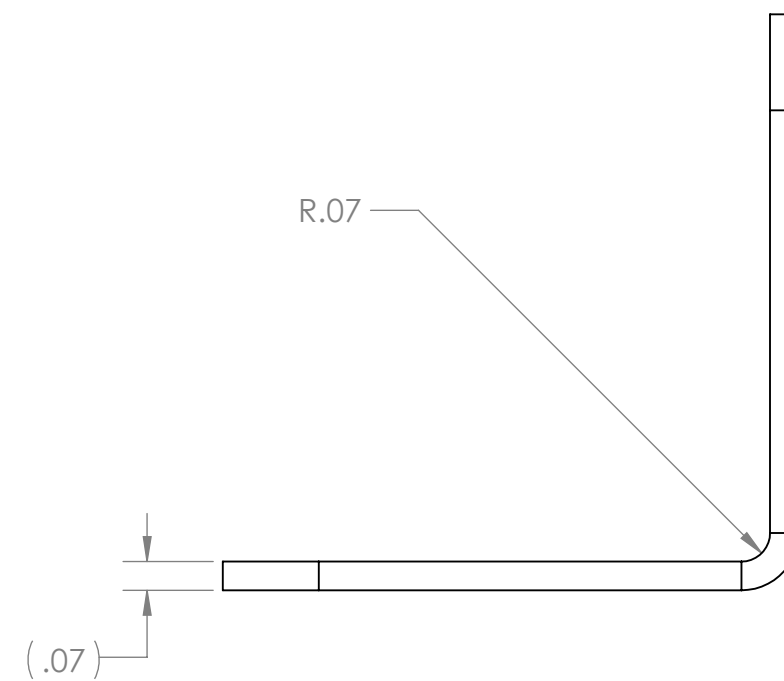
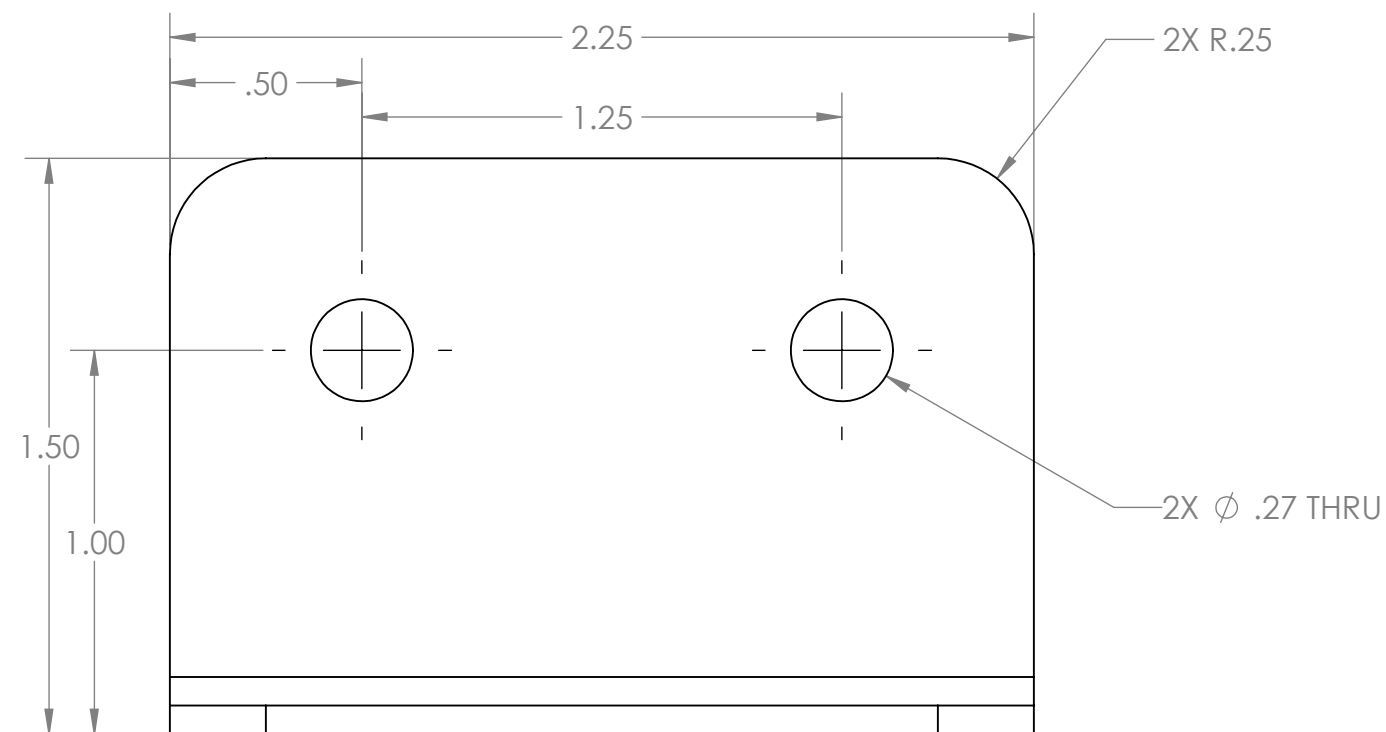
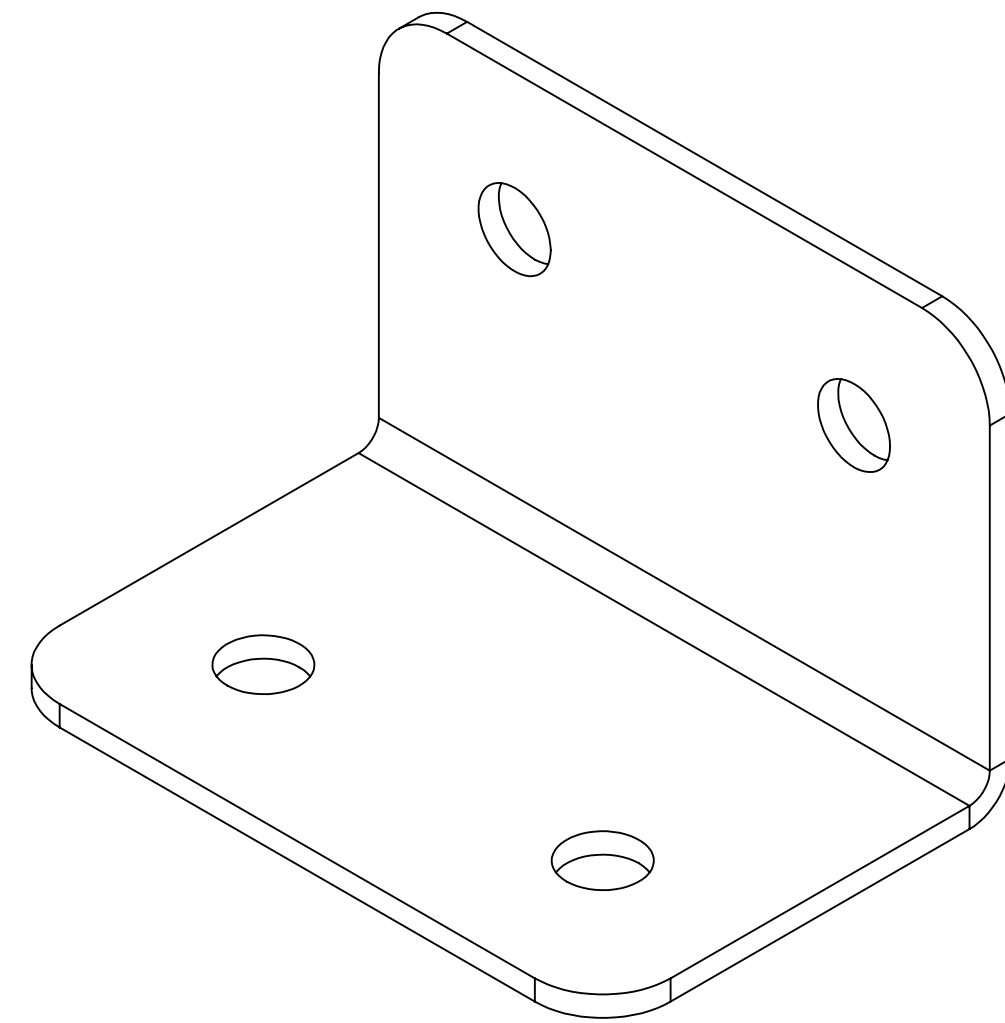
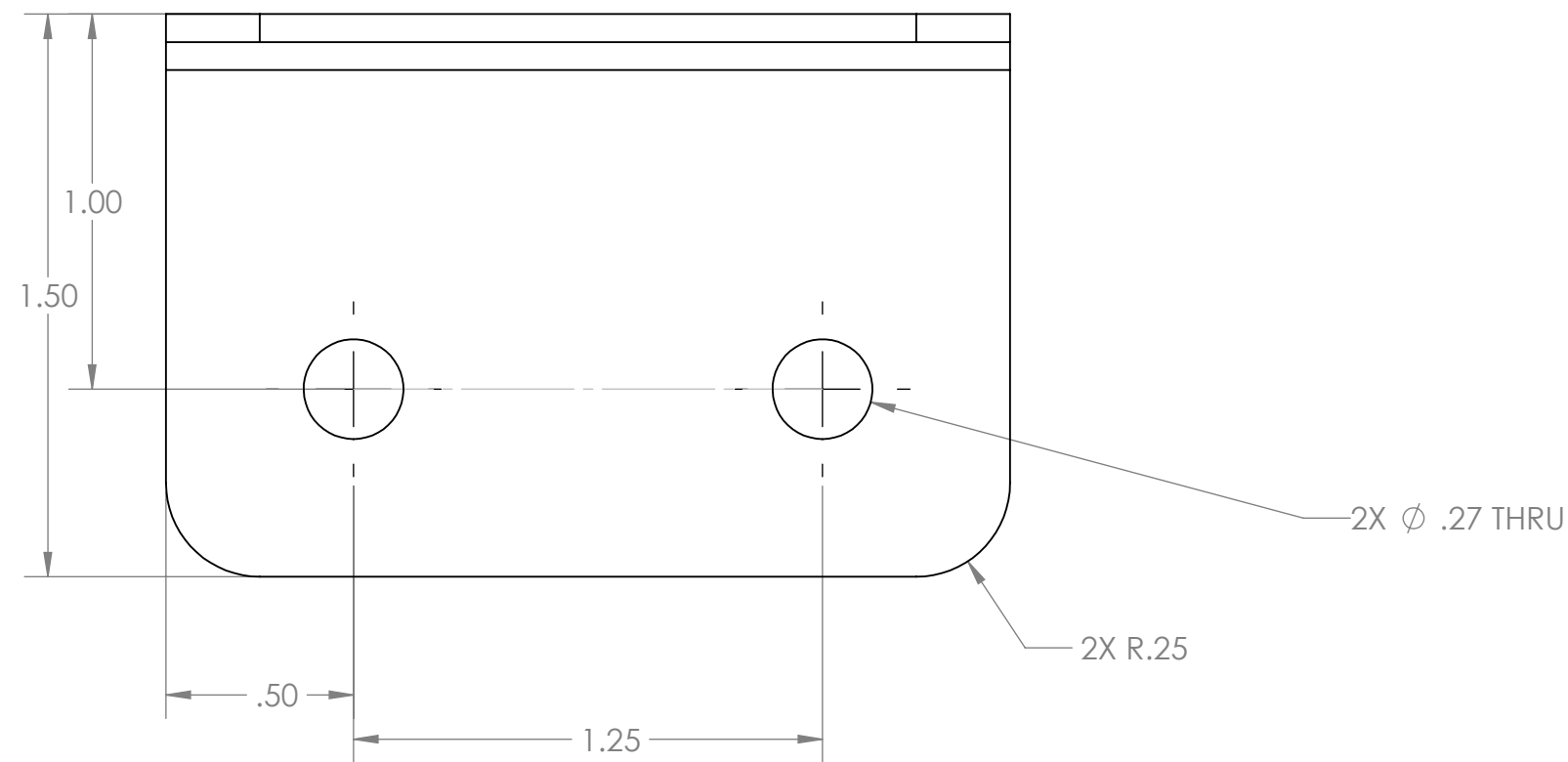
TITLE: Hub		
SIZE	DWG. NO.	REV
C	GE-22300	
SCALE: 1:10		SHEET 7 OF 7

4



3

2

1



Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 14 ga. Pre-Plated Steel DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	6/17/2021	
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:
				Hub Angle Bracket
SIZE		DWG. NO.	REV	
C		GE-22301		
SCALE: 2:1			SHEET 1 OF 1	

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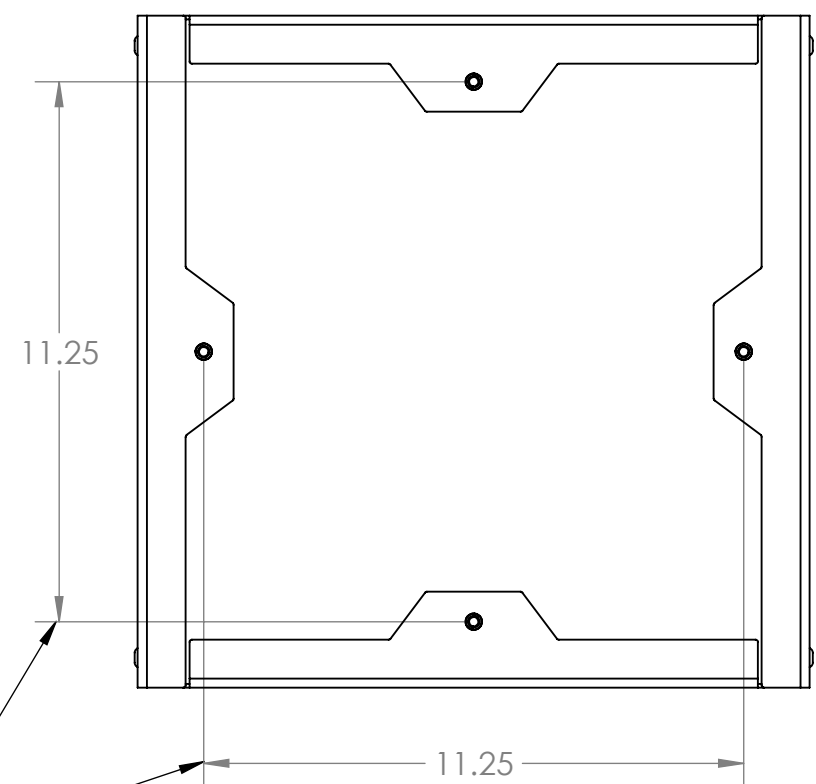
C

B

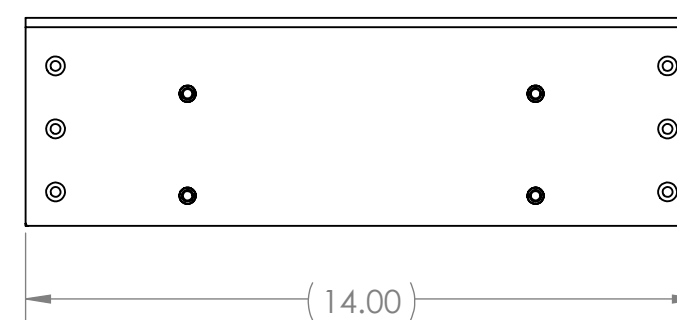
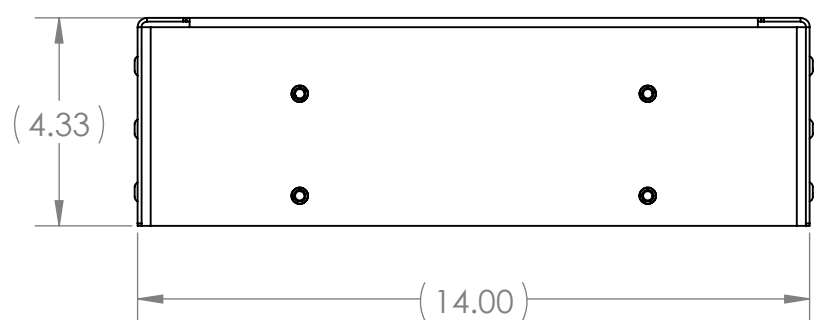
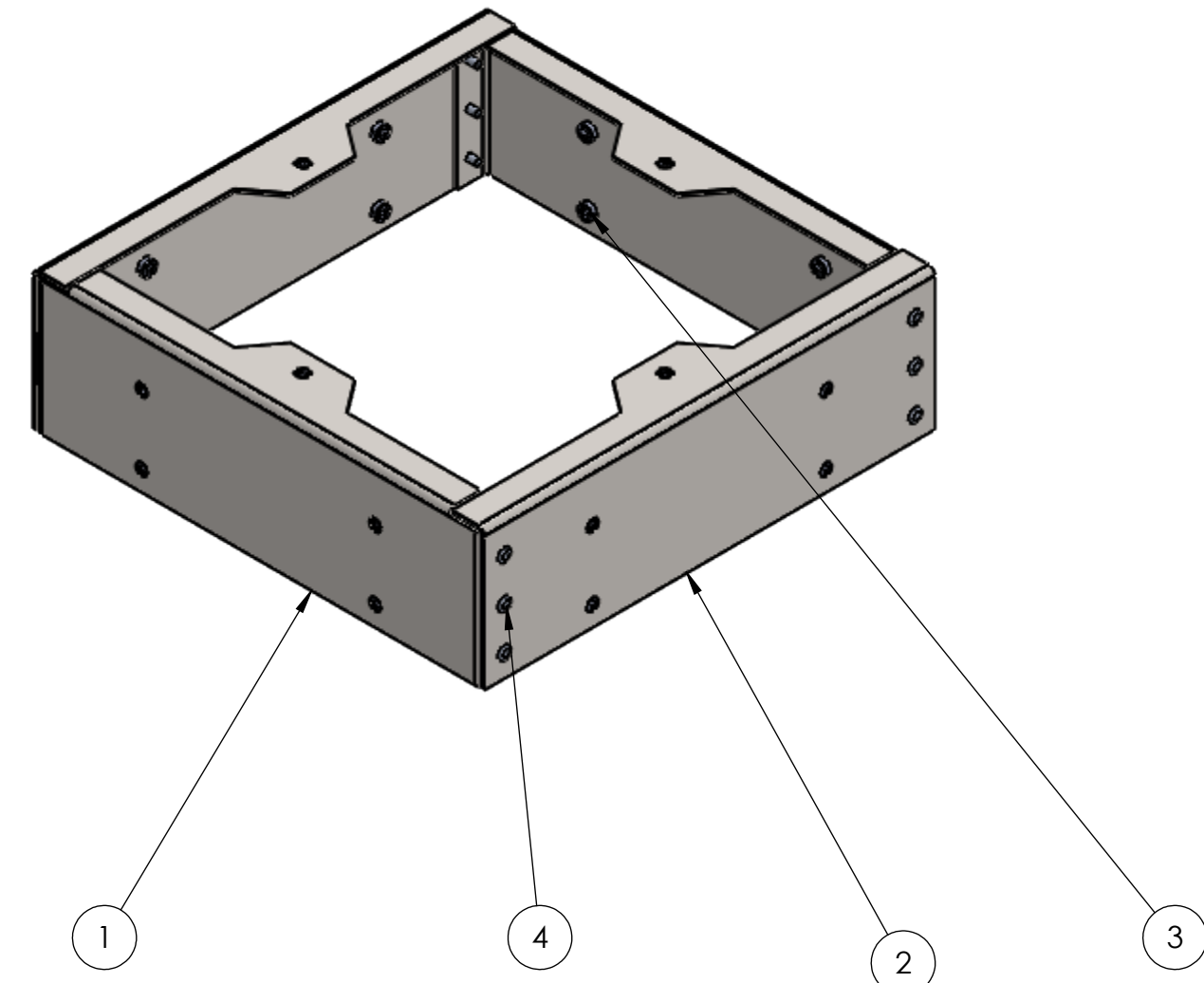
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Dimensions Critical to Function



Notes:
 1. Tag or label with part number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22302-01	14 Ga. Pre-plated steel	2
2	GE-22302-02	14 Ga. Pre-plated steel	2
3	pem_clinchnut_.25_20_.054	1/4-20 self-clinching nut, .054 shank	20
4	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	12

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE
	DRAWN	CO	7/20/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS:		
	REMOVE ALL BURRS AND SHARP EDGES.		

TITLE: **Leg to Upper Hub Box**

SIZE	DWG. NO.	REV
C	GE-22302	

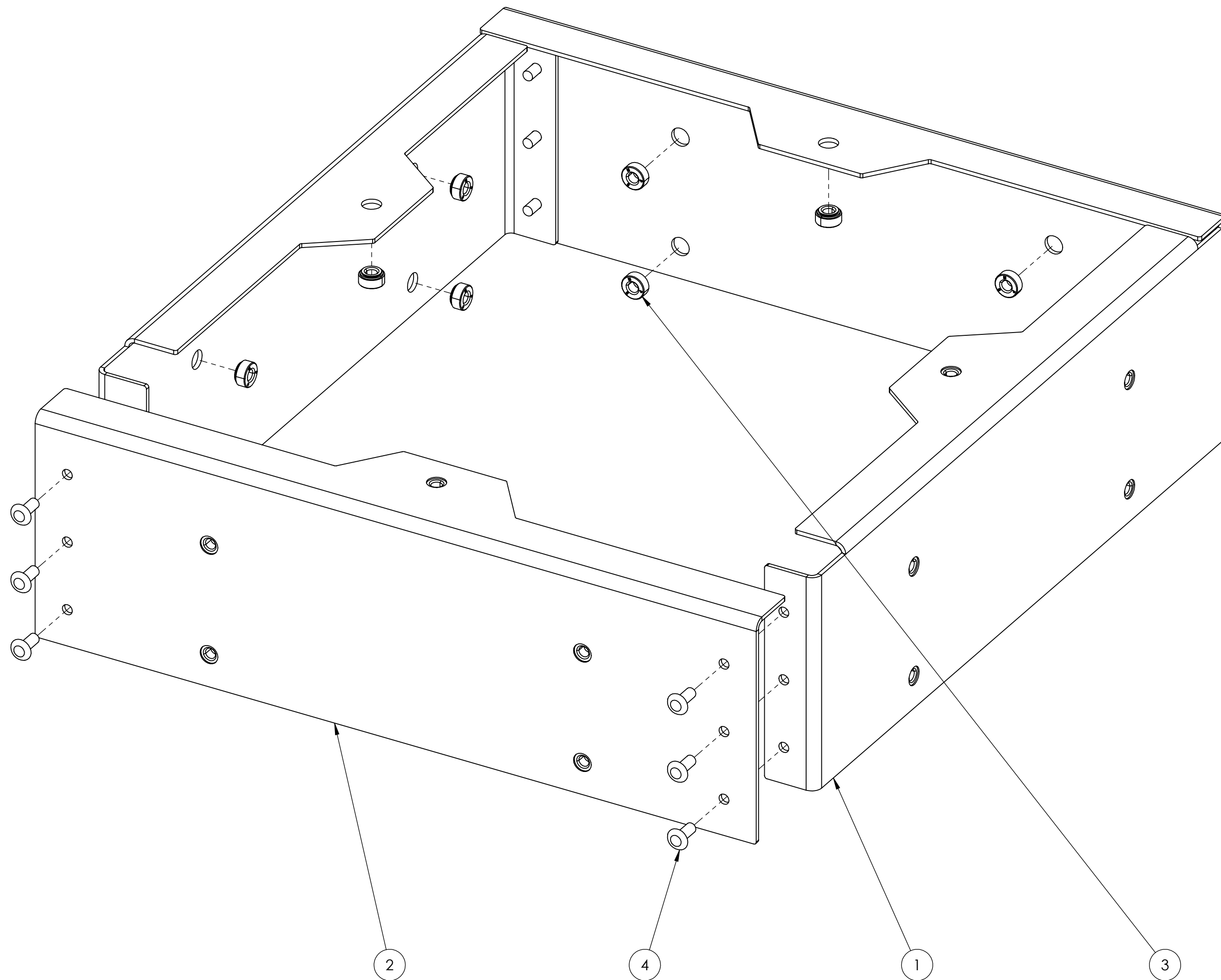
SCALE: 1:4 SHEET 1 OF 3

4

3

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1



UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	CO	7/20/2021

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



TITLE:
Leg to Upper Hub Box

SIZE	DWG. NO.	REV
C	GE-22302	

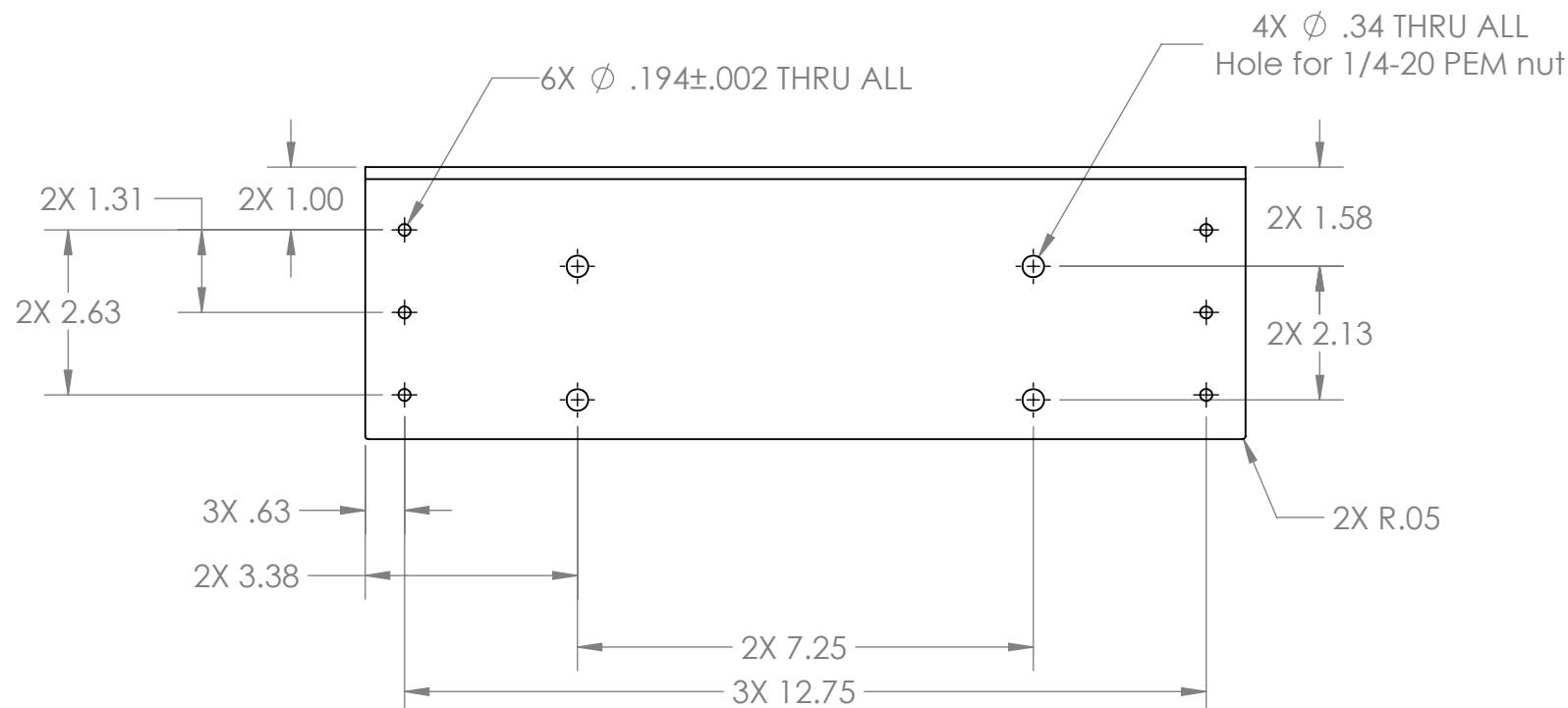
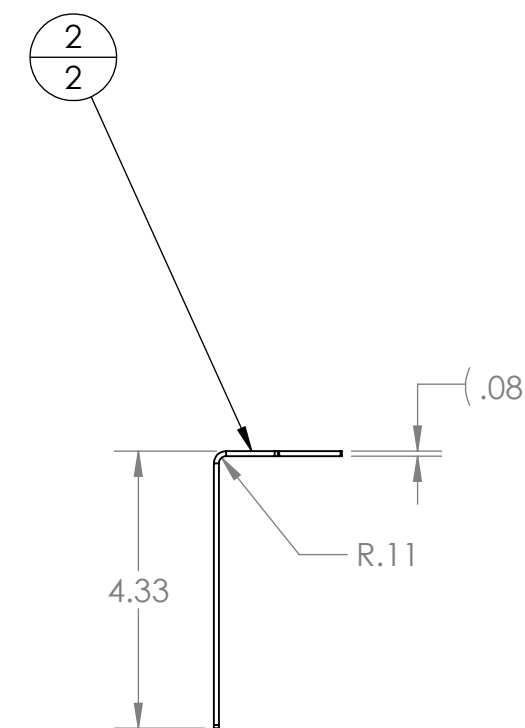
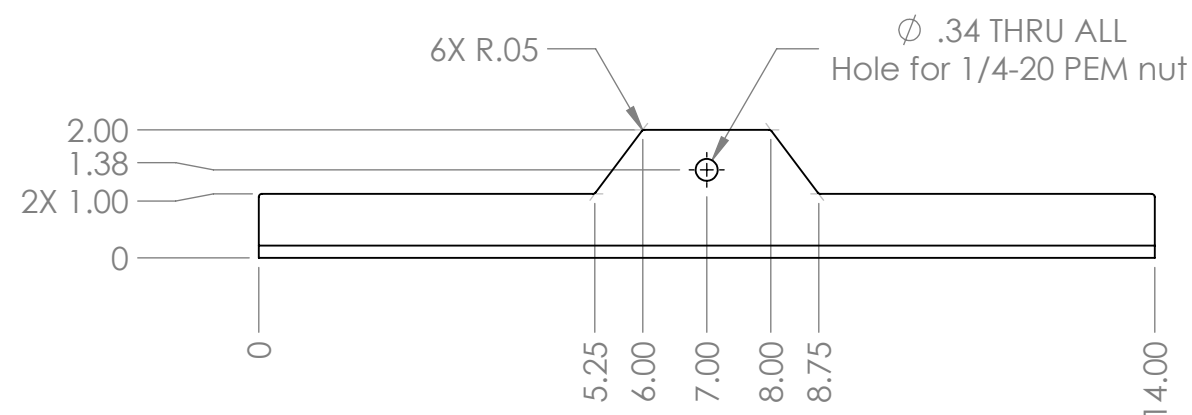
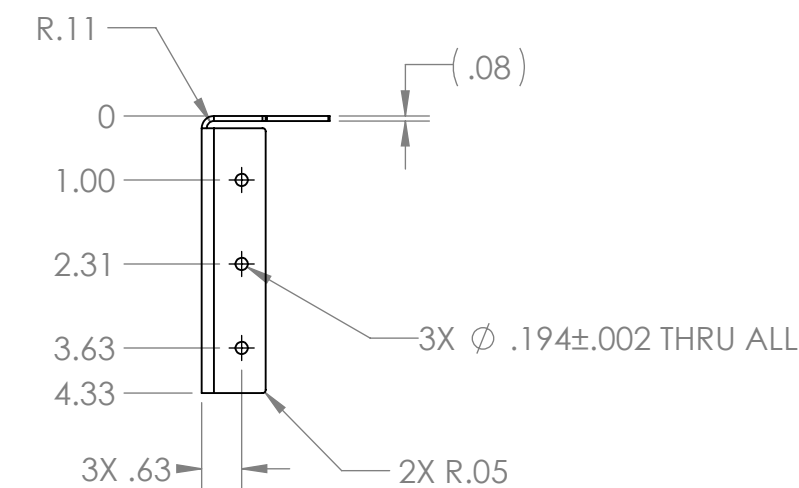
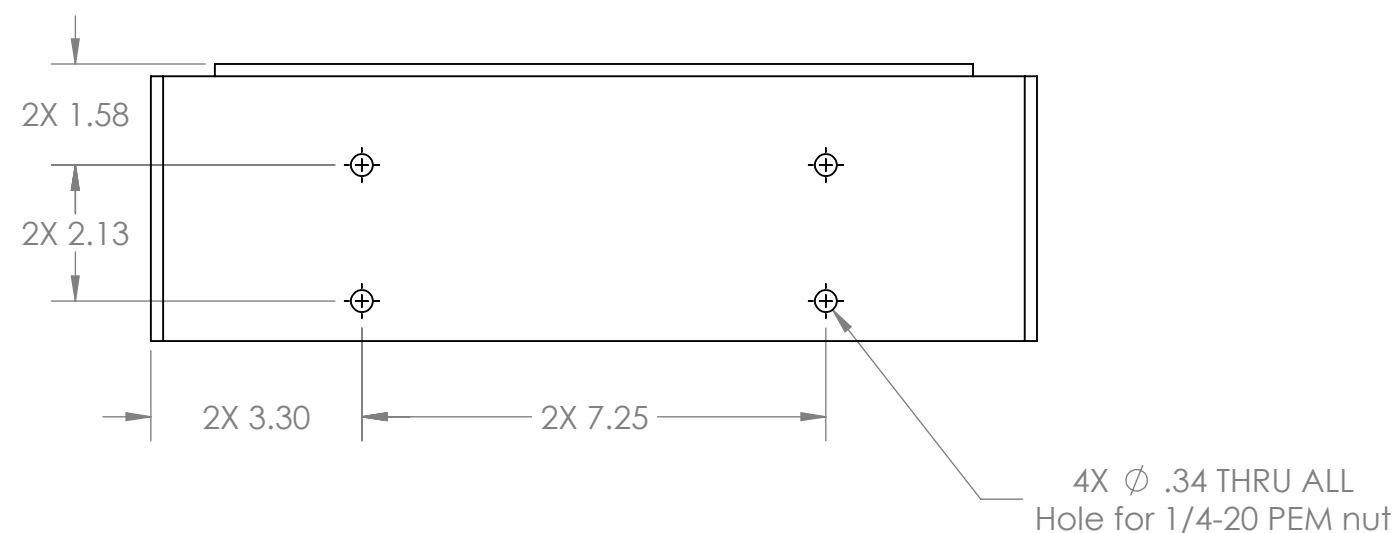
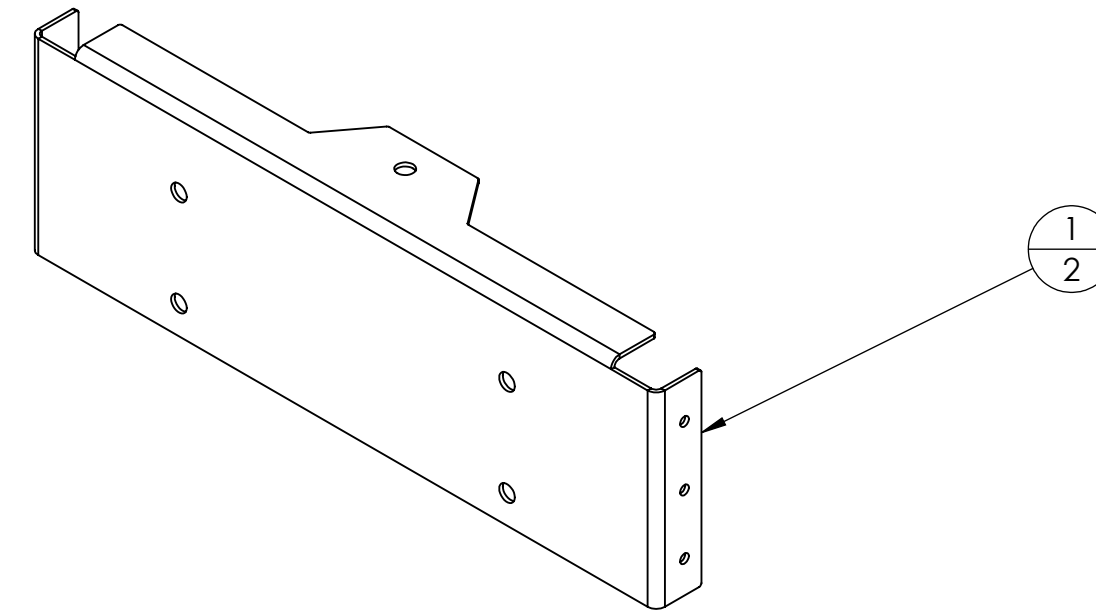
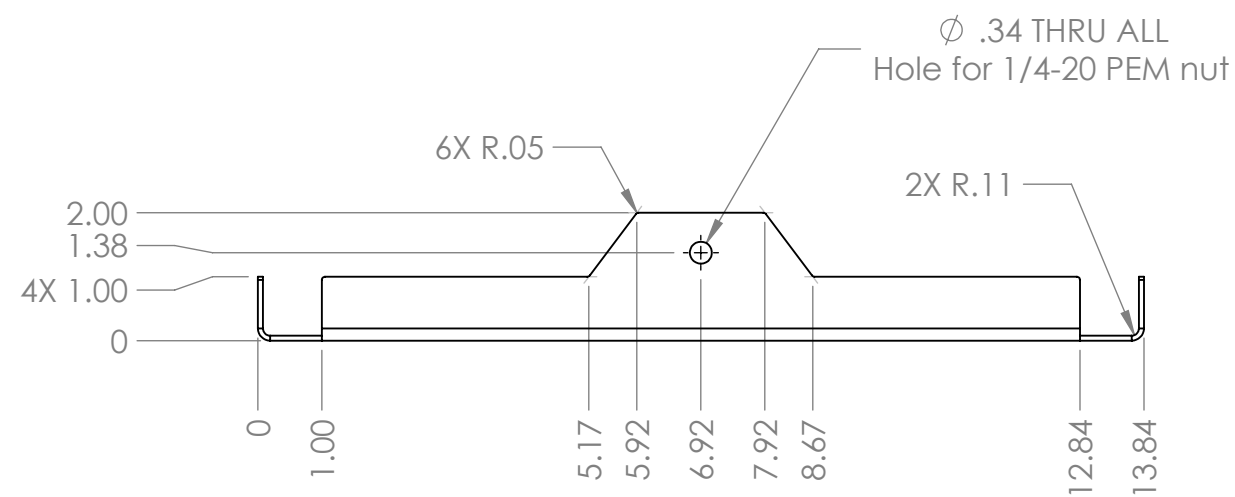
SCALE: 2:3 SHEET 2 OF 3

4

3

2

1



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010	BEND	NAME	DATE
	DRAWN	CO	7/20/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS:		
	REMOVE ALL BURRS AND SHARP EDGES.		



TITLE: **Leg to Upper Hub Box**

SIZE DWG. NO. REV

C GE-22302

SCALE: 1:3 SHEET 3 OF 3

4

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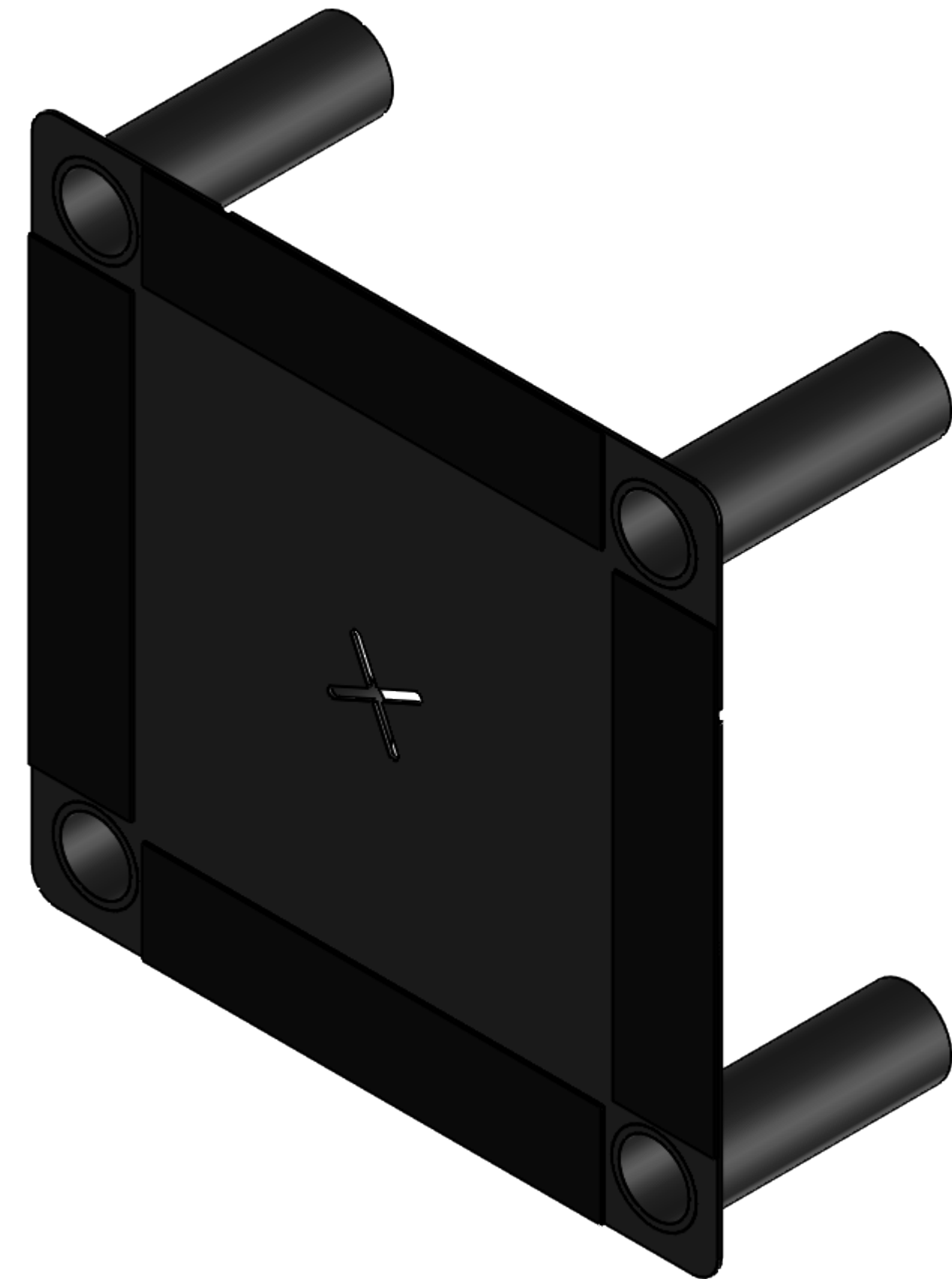
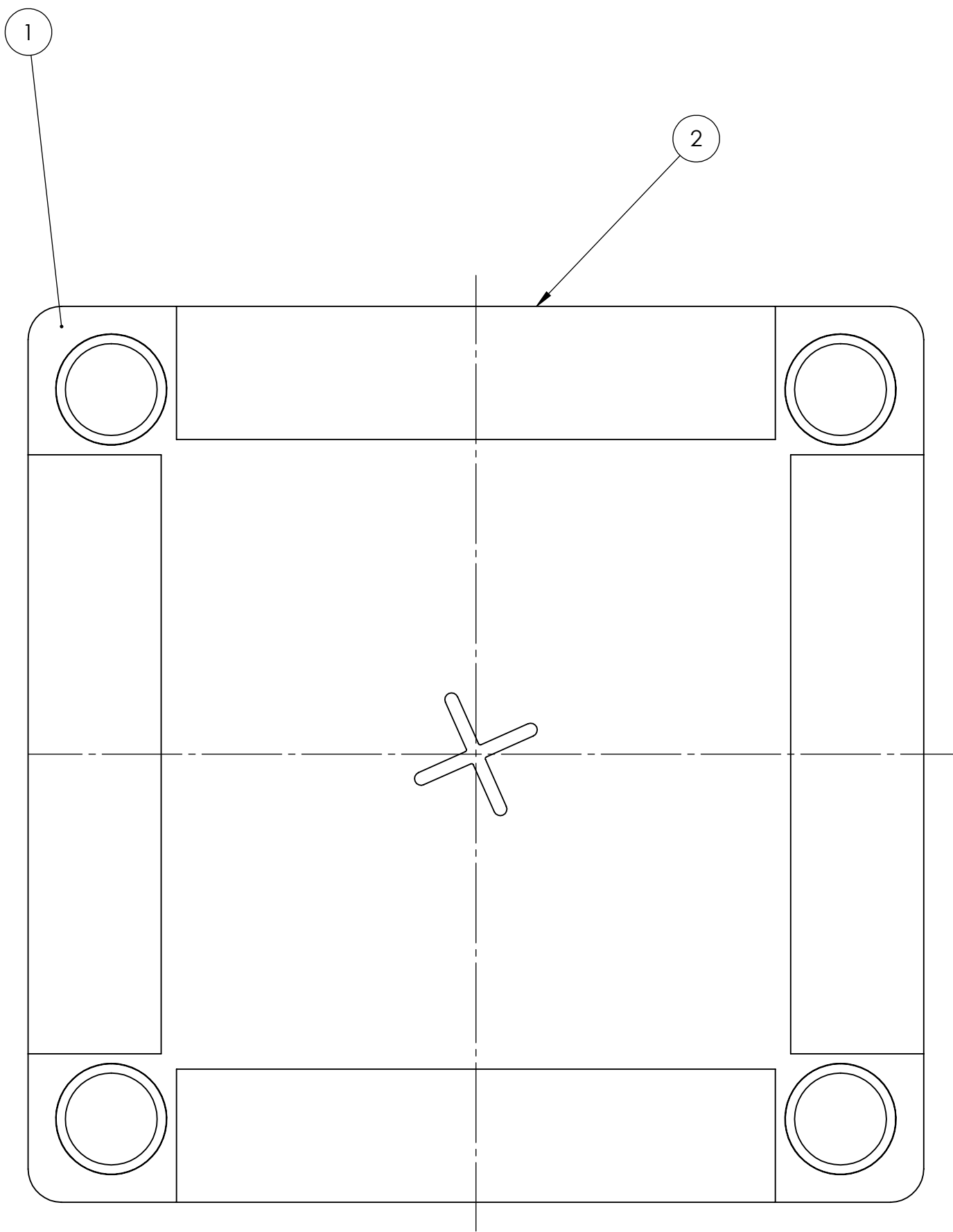
A

4

3

2



1



Notes:

- 1. Ensure surface of (1) is clean prior to hook application.
- 2. Attach (2) to (1) in locations shown.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22304	Hub Base	1
2	Hook_2_9	2" x 9" Hook, Adhesive Backed	4

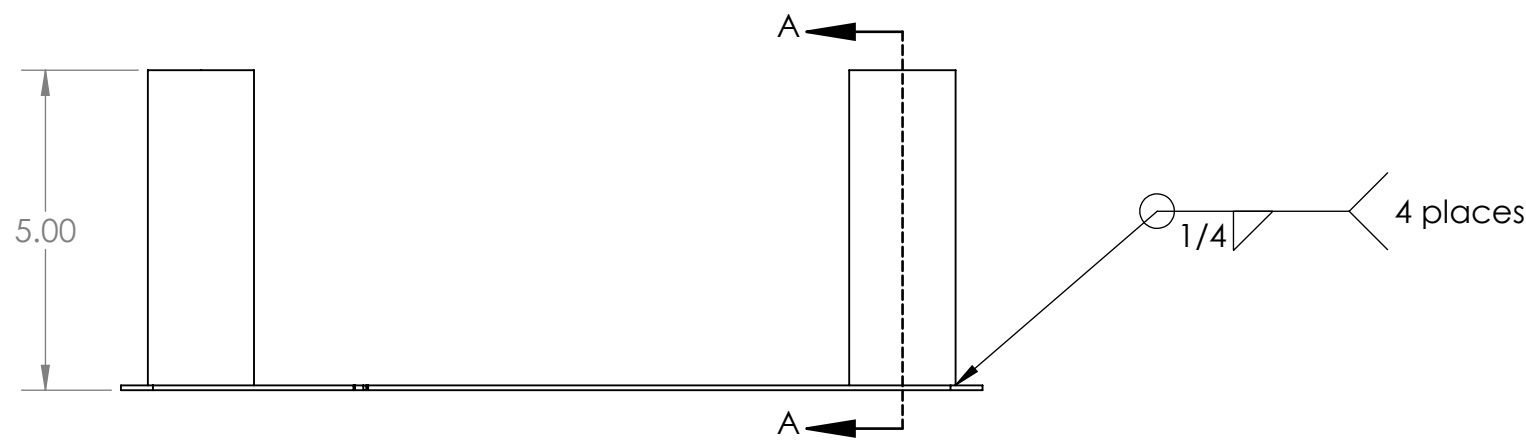
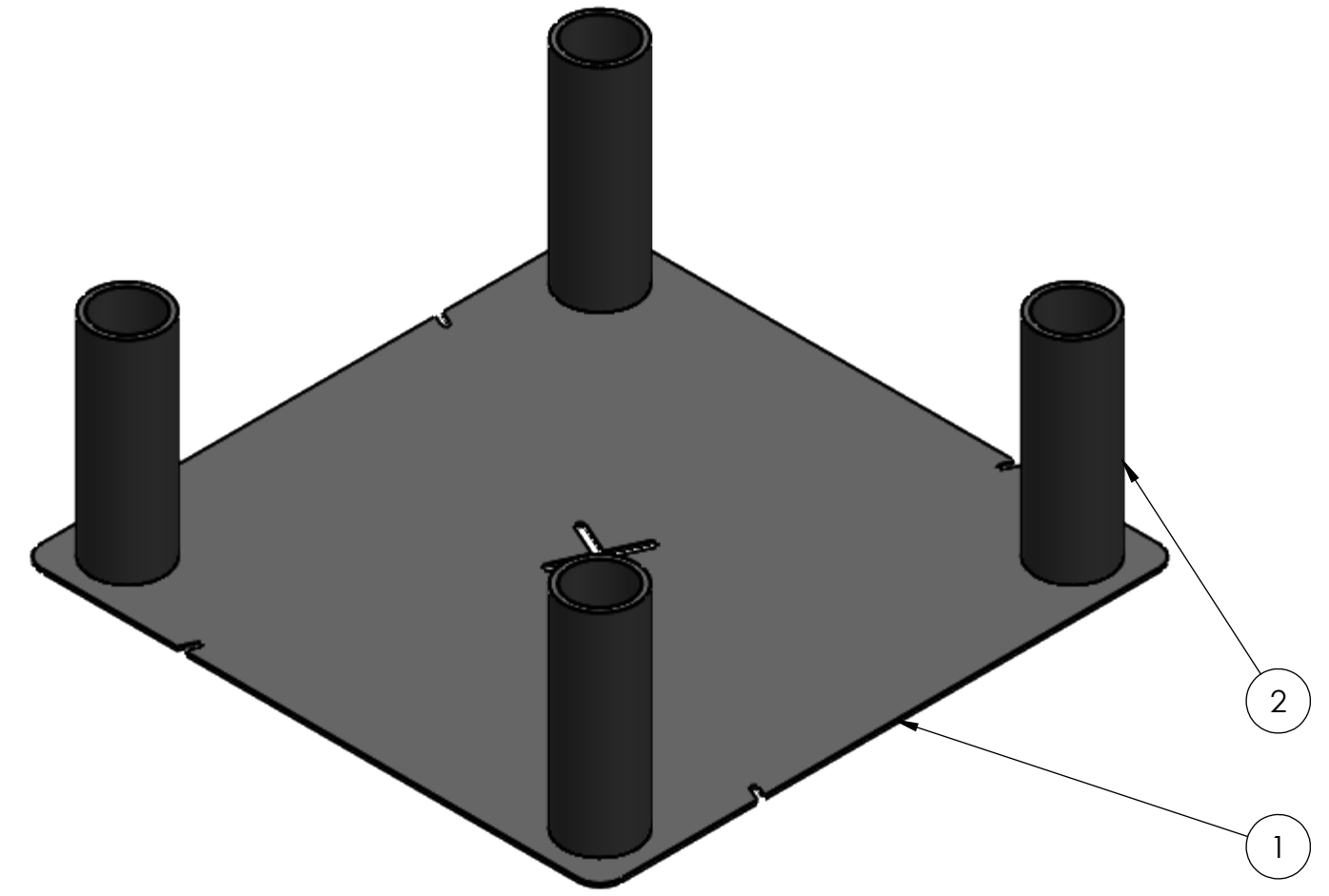
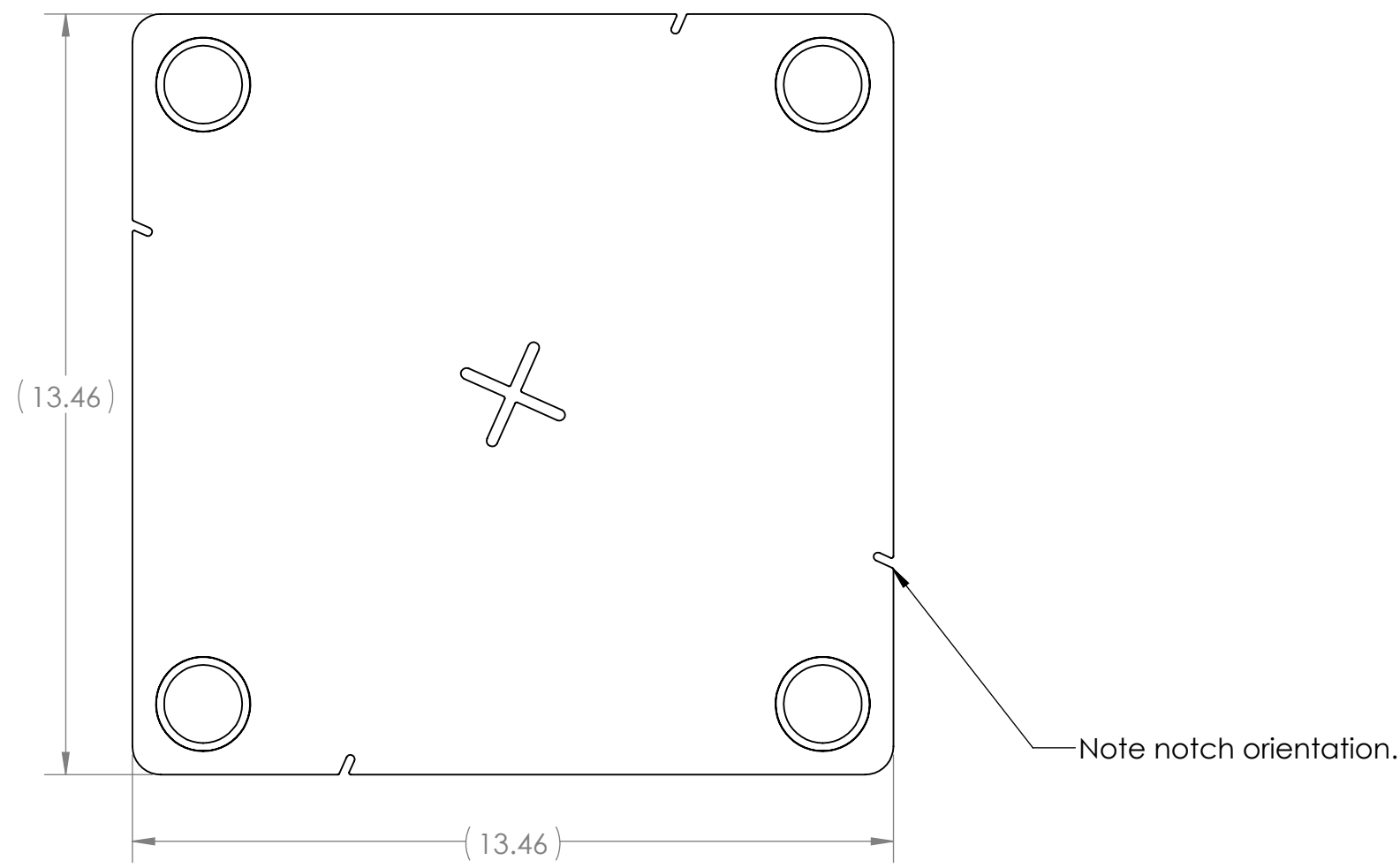
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	DRAWN	CO	12/14/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			Hub Base with Hook
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22303
			SCALE: 1:2	SHEET 1 OF 1

4

3



2

1



Bottom of 2 coincident
with bottom of item 1.

Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED:	WELD	NAME	DATE	 
	DRAWN	CO	7/19/2021	
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.			TITLE:
MATERIAL/FINISH: Powder Coated Black	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Hub Base
DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV	C GE-22304
	SCALE: 1:3		SHEET 1 OF 3	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22304-01	14 Ga. A-366/1008 Cold Roll Steel	1
2	GE-22304-02	1.25" Schedule 40 Pipe, A500 Steel	4

4

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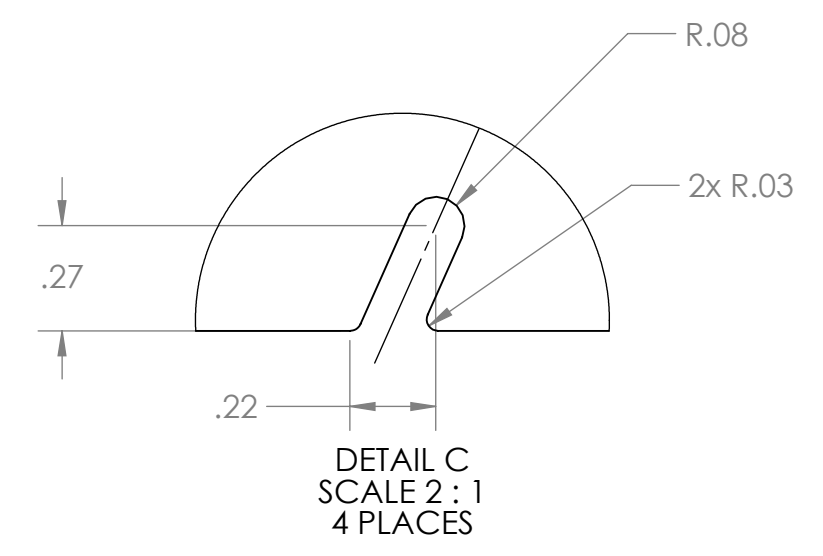
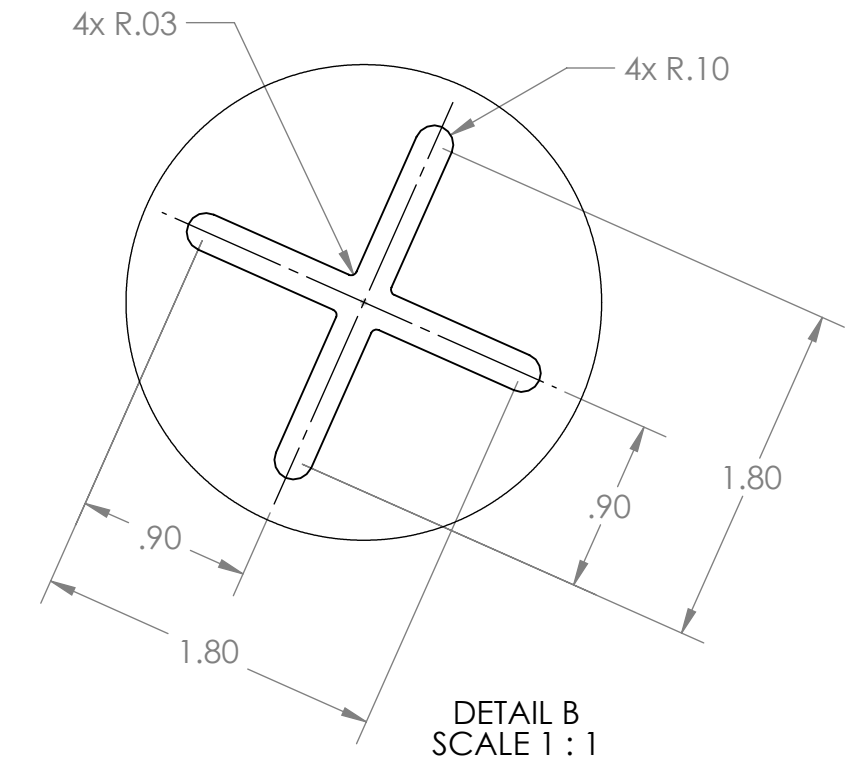
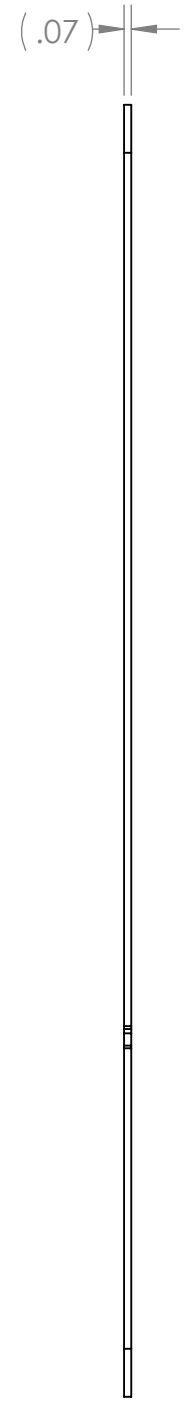
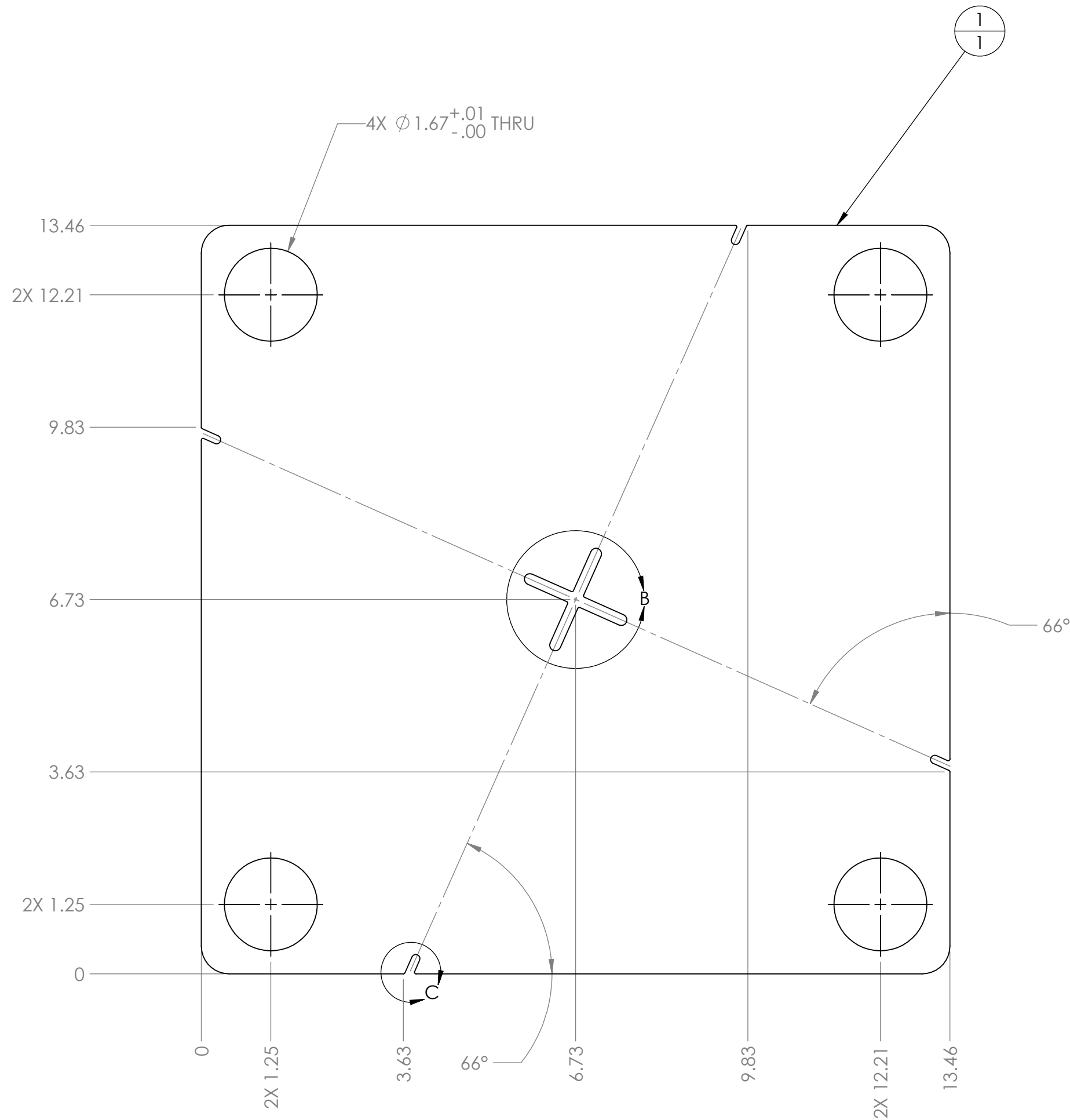
D

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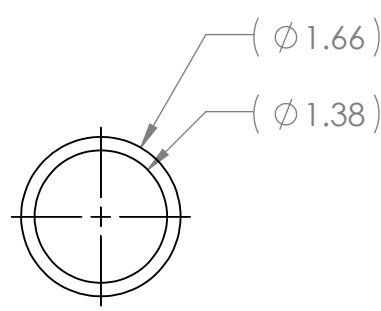
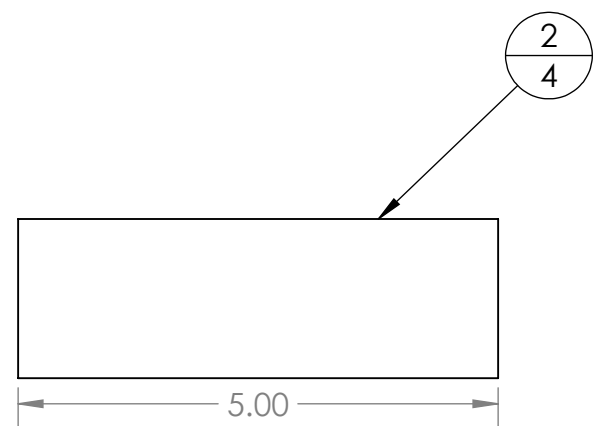
B



B



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A



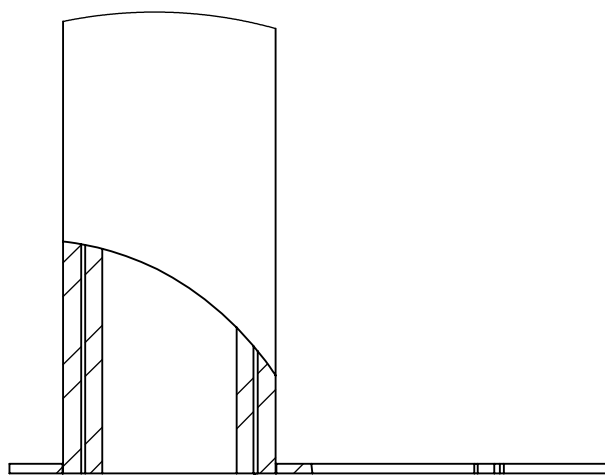
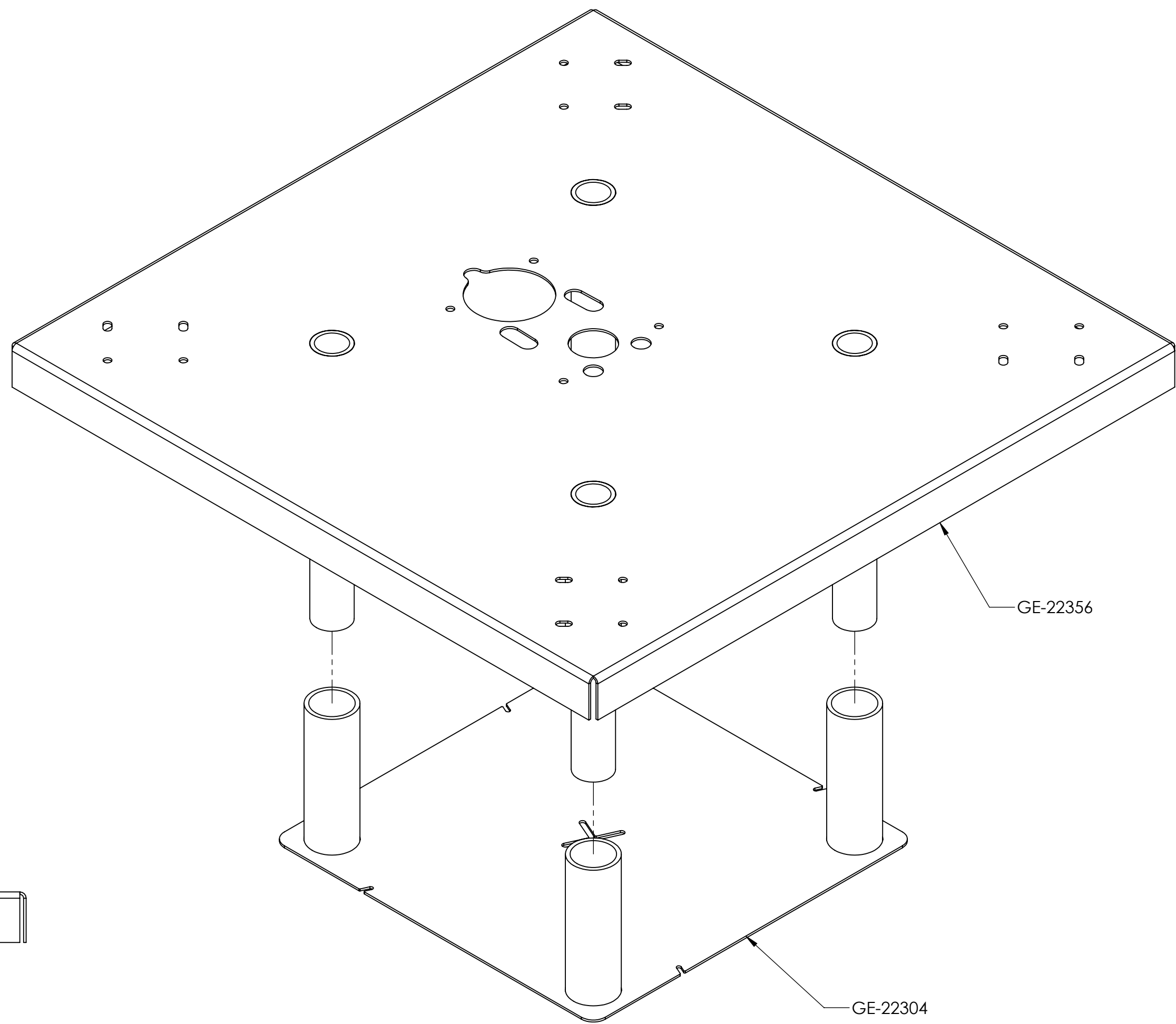
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$	WELD	NAME	DATE	 
	DRAWN	CO	7/19/2021	
MATERIAL/FINISH: Powder Coated Black	PROPRIETARY AND CONFIDENTIAL THE 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: Hub Base
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22304
	SCALE: 1:2		SHEET 2 OF 3	

4

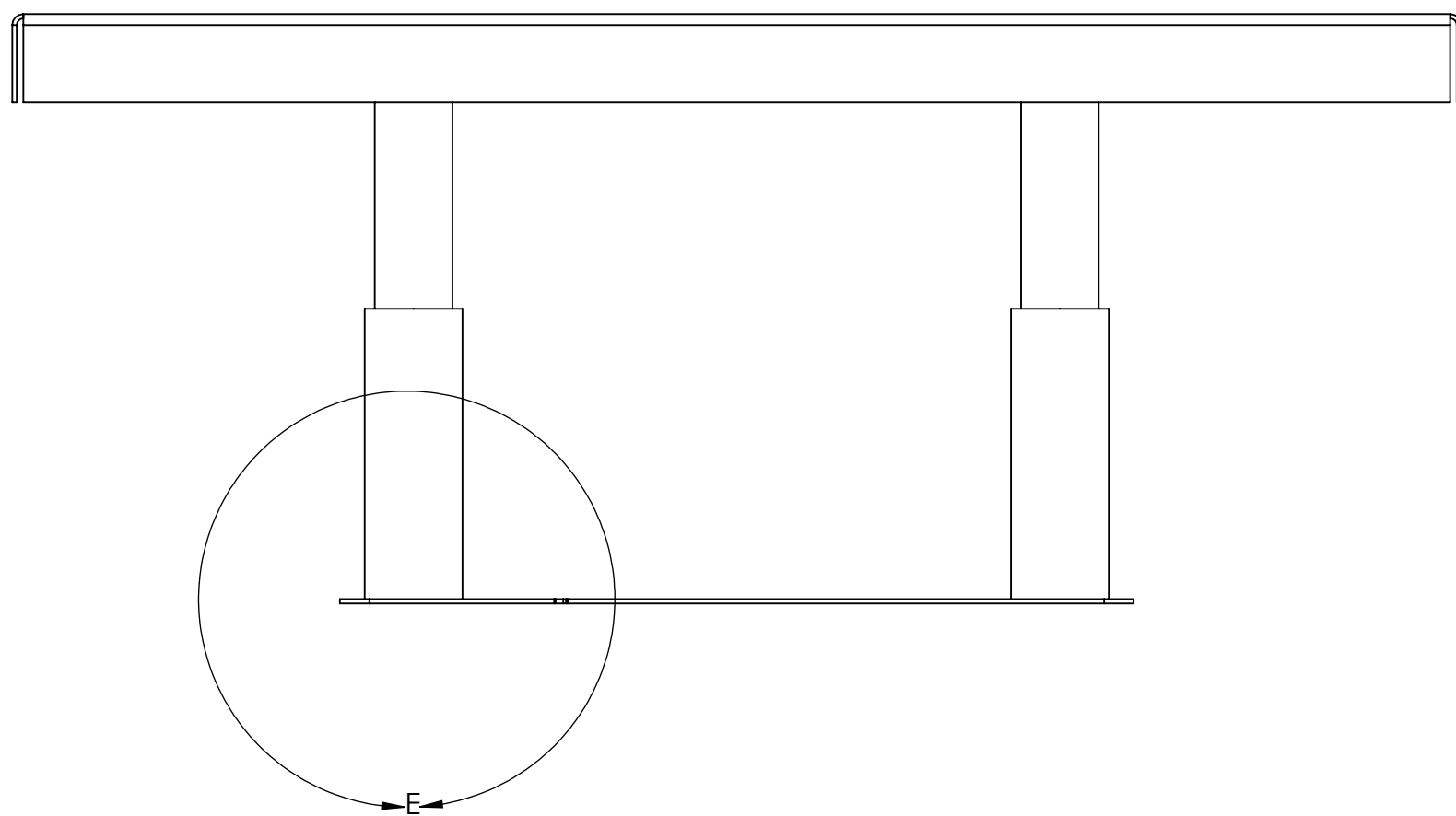
3

2

1



DETAIL E
SCALE 2 : 3 — Bottom of two assemblies coincident.



Notes:
1. For reference only: designed interface of GE-22304 with mating part.

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:
Powder Coated Black

DO NOT SCALE DRAWING

WELD	NAME	DATE
DRAWN	CO	7/19/2021

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COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.



TITLE: **Hub Base**

SIZE	DWG. NO.	REV
C	GE-22304	

SCALE: 1:3 SHEET 3 OF 3

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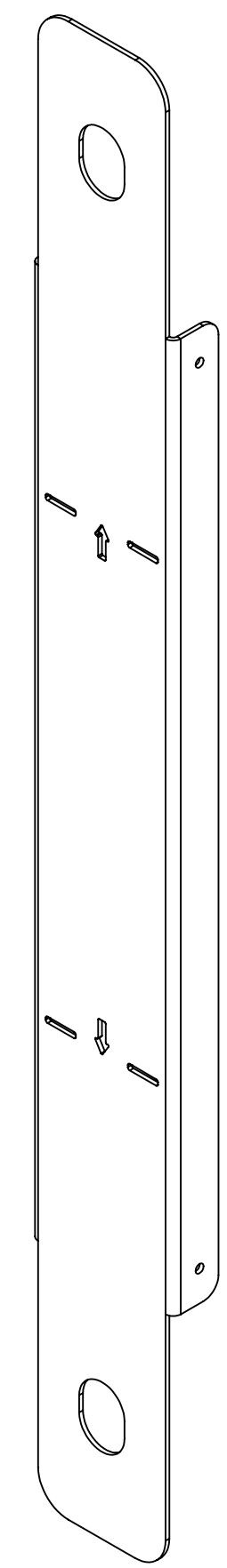
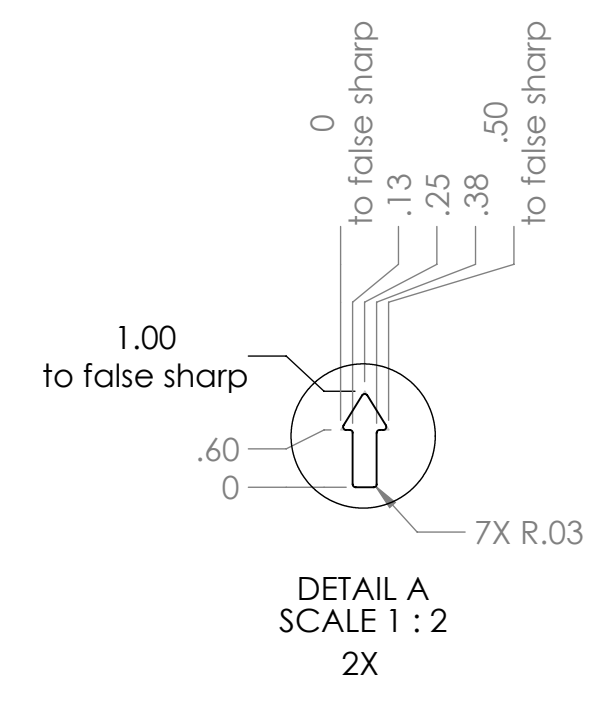
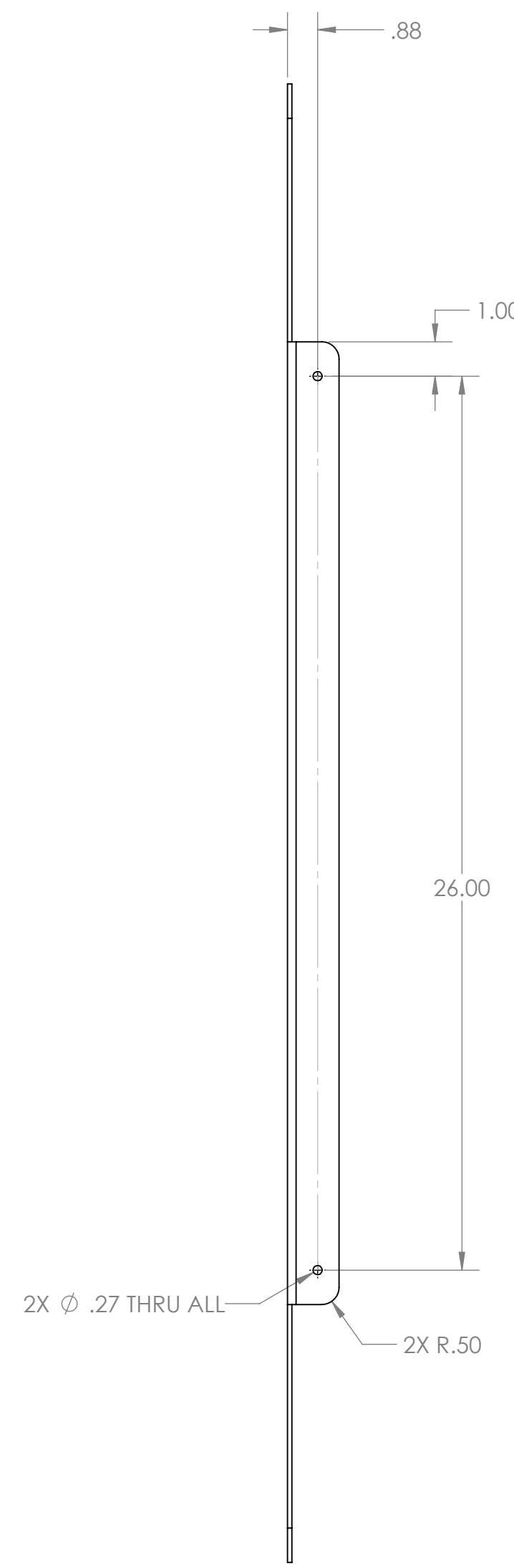
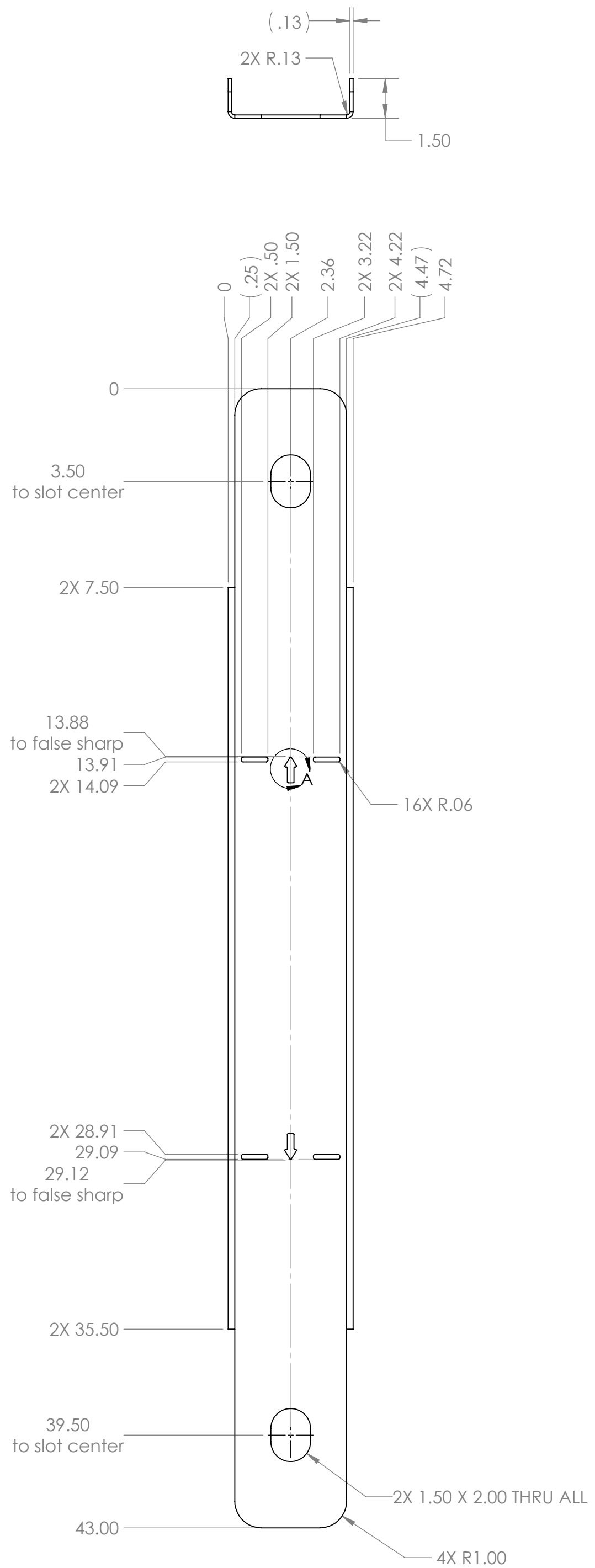
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1



Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	
	DRAWN	KAMC	7/16/2021	
	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.			Leg Vertical Channel Cover
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				C GE-22305
				SCALE: 1:4
				SHEET 1 OF 1

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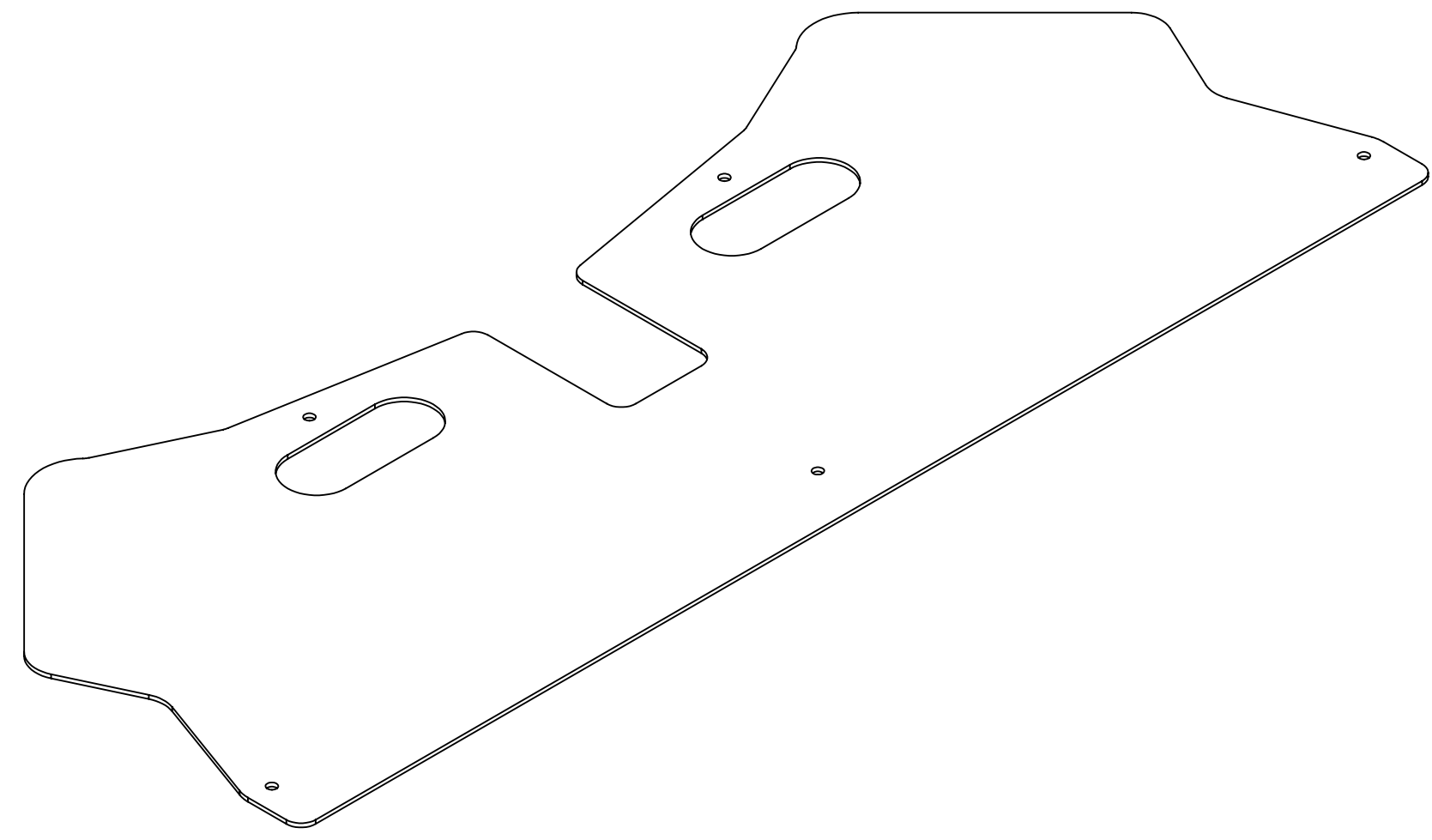
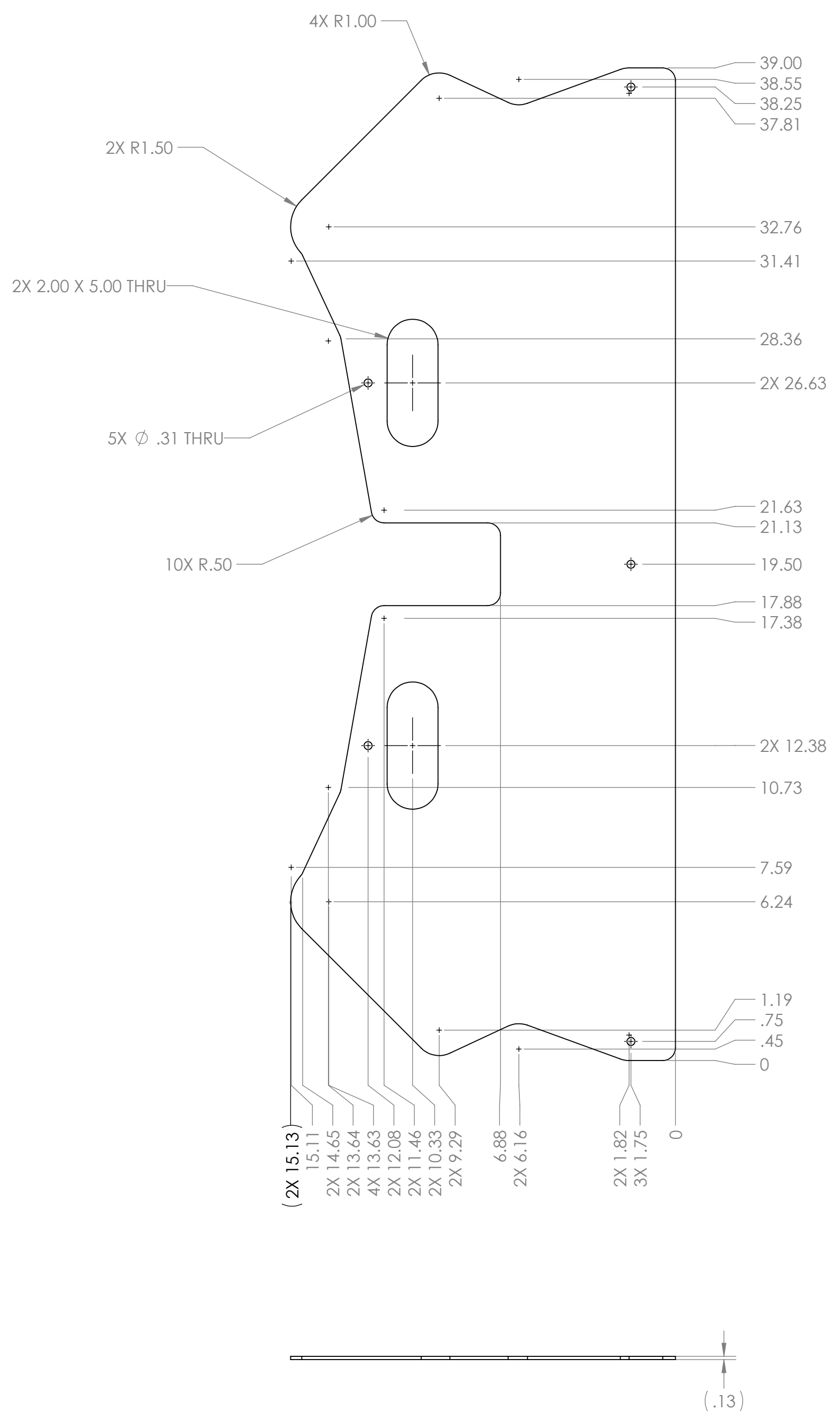
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Notes:
 1. Tag or label with part number

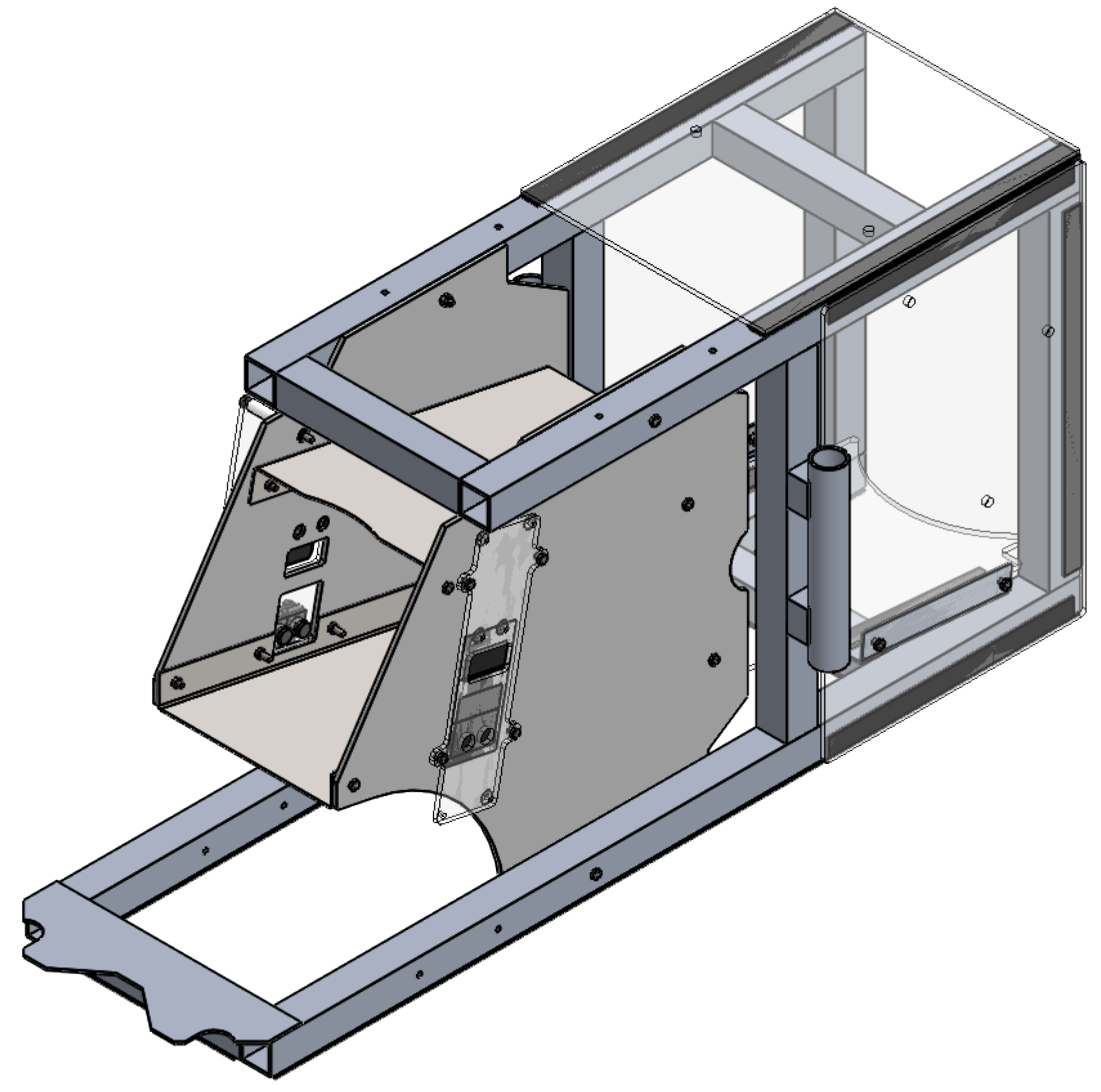
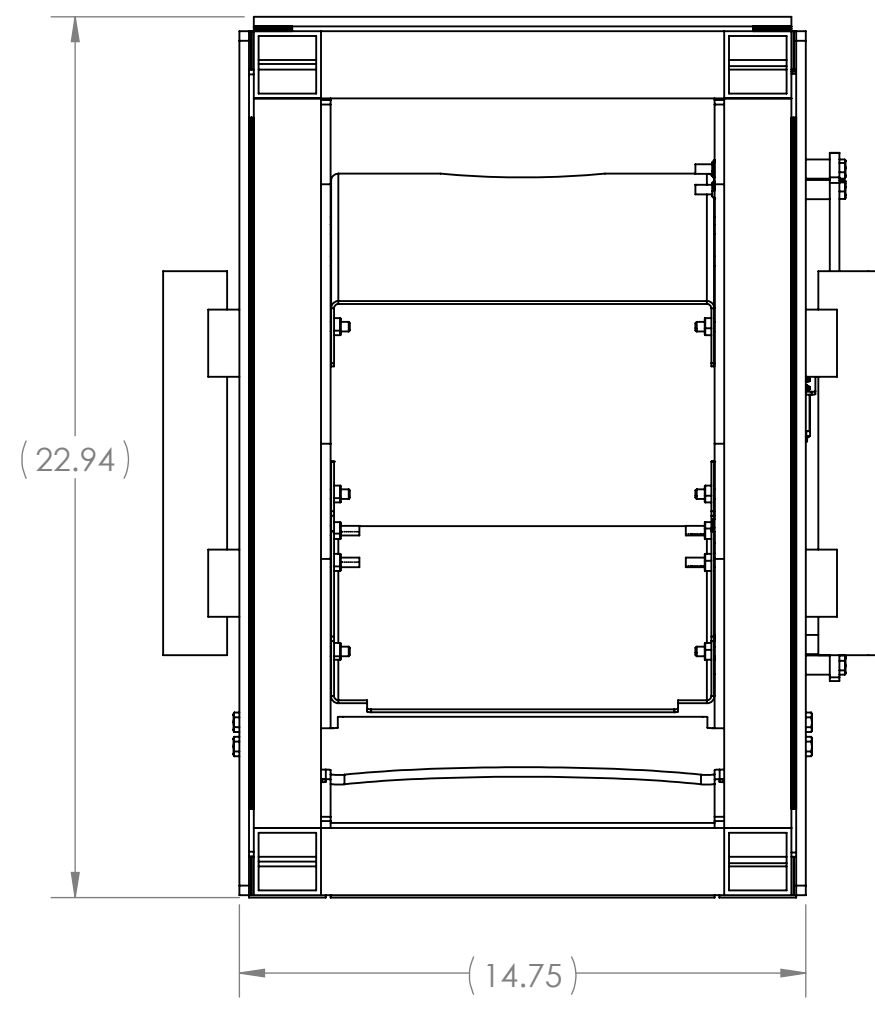
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/8" Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	KAMC	7/13/2021	
	PROPRIETARY 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: Hub Fender Skirt
	SIZE	DWG. NO.	REV	
	C	GE-22306		
	SCALE: 1:4		SHEET 1 OF 1	

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22326	Lower Exit Left Polycarbonate Assembly	1
2	GE-22327	Lower Exit Right Polycarbonate Assembly	1
3	GE-22329	Lower Exit Front Roof with Loop	1
4	GE-22331	Lower Exit Front Ramp with Loop	1
5	GE-22332	Lower Exit HDPE Wall	2
6	GE-22333	Lower Exit Back Ramp	1
7	GE-22334	Lower Exit Back Roof	1
8	GE-22336	Lower Exit Frame with Hook	1
9	GE-22461	Sensor Box Assembly	1
10	GE-22466	Sensor Light Shield	1
11	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	8
12	hex_.25_20_1.25_partial	Steel Hex Head Bolt, 1/4-20 x 1.25", partially threaded	8
13	hex_.25_20_2.5_partial	Steel Hex Head Screw, 1/4"-20 x 2-1/2" long, partially threaded	4
14	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	4

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE
	DRAWN	CO	12/14/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		



FIRST ROBOTICS COMPETITION
Modeling Solutions Partner

TITLE:

Lower Exit Assembly

SIZE	DWG. NO.	REV
C	GE-22311	
SCALE: 1:5		SHEET 1 OF 4

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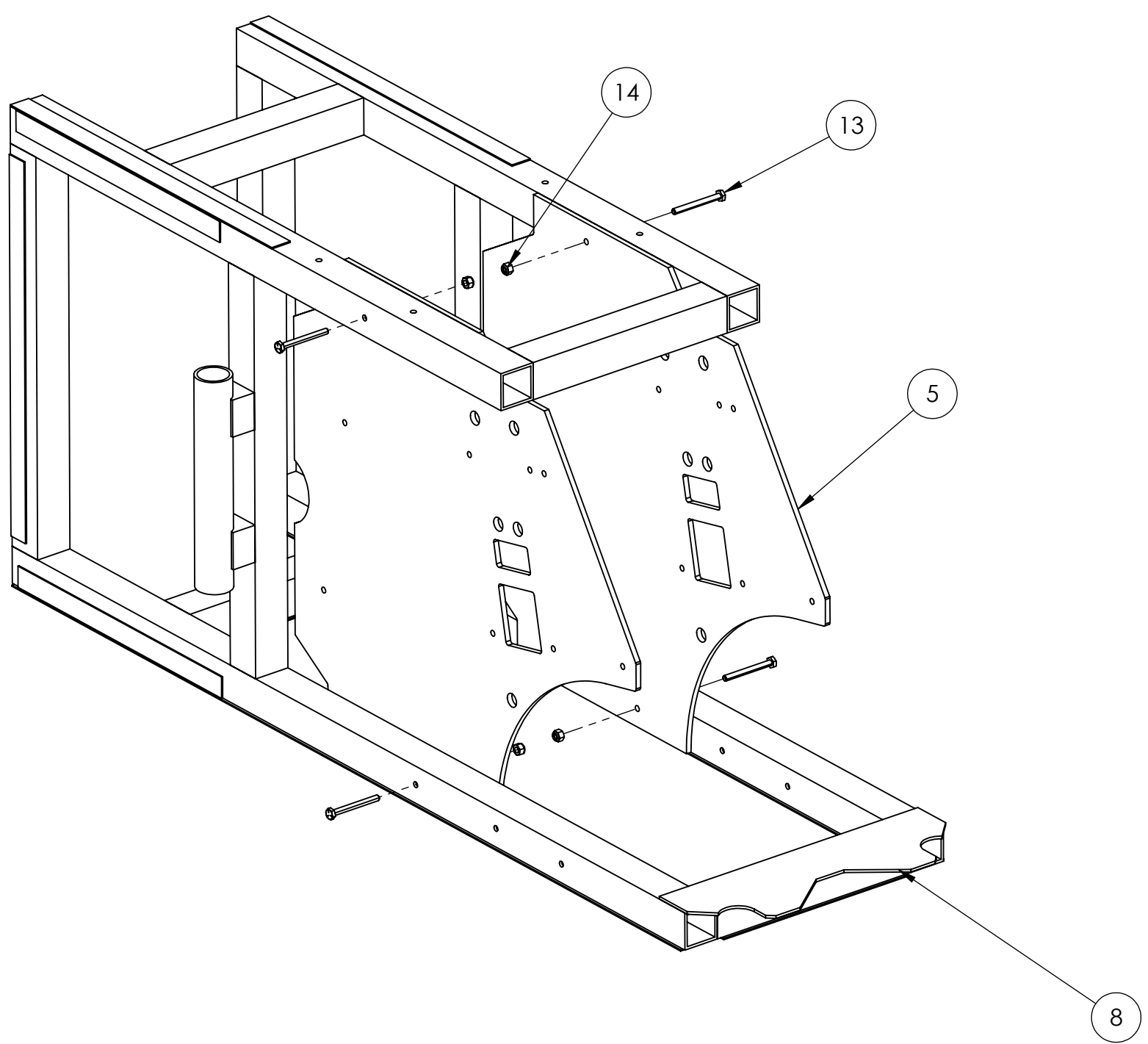
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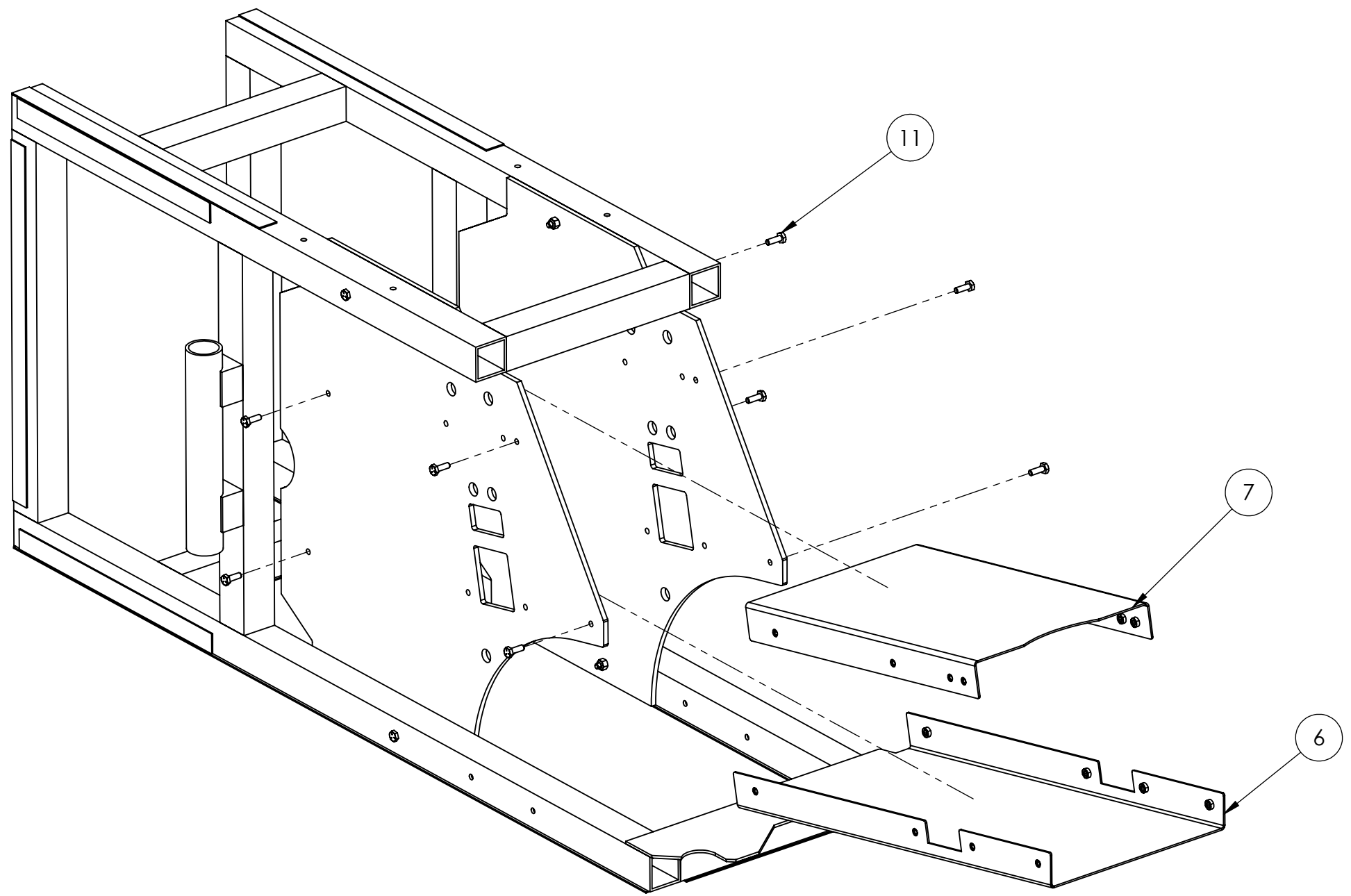
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Notes:

- Slide (5) into place inside of (8).
- Fasten in place using (13) and (14).



Notes:

- Slide (6) and (7) into assembly as shown.
- Fasten in place in locations shown using (11).

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	CO	12/14/2021	
MATERIAL/FINISH:	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Lower Exit Assembly
DO NOT SCALE DRAWING	SIZE		DWG. NO.	REV
	C		GE-22311	
SCALE: 1:6			SHEET 2 OF 4	

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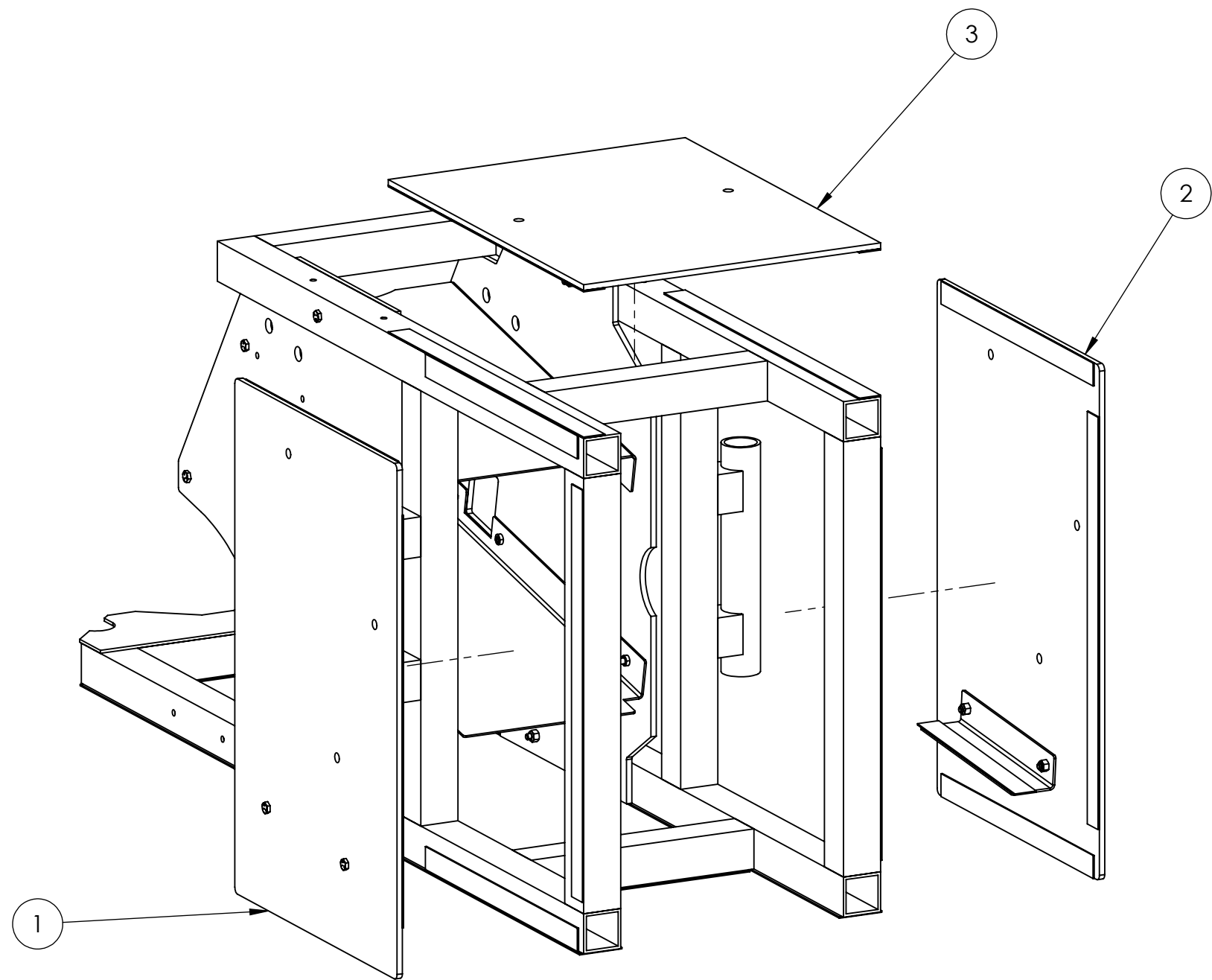
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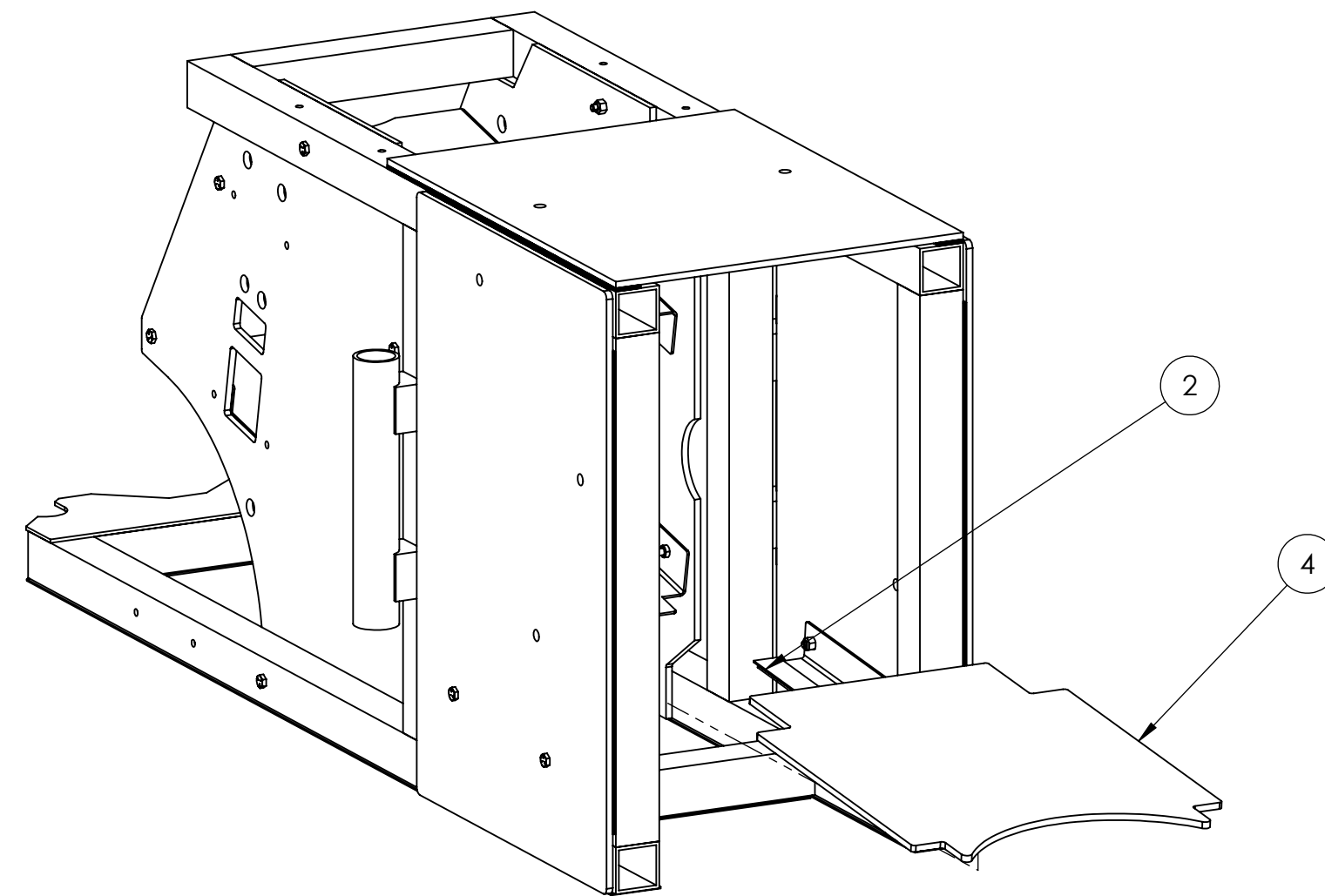
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Notes:

- 1. Attach **1**, **2**, and **3** to assembly as shown using hook and loop and cable ties.



Notes:

- 1. Insert **4** into assembly and attach via fastening hook and loop on **2**.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	CO	12/14/2021	
MATERIAL/FINISH:	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.			Lower Exit Assembly
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
DO NOT SCALE DRAWING				C GE-22311
				SCALE: 1:6 SHEET 3 OF 4

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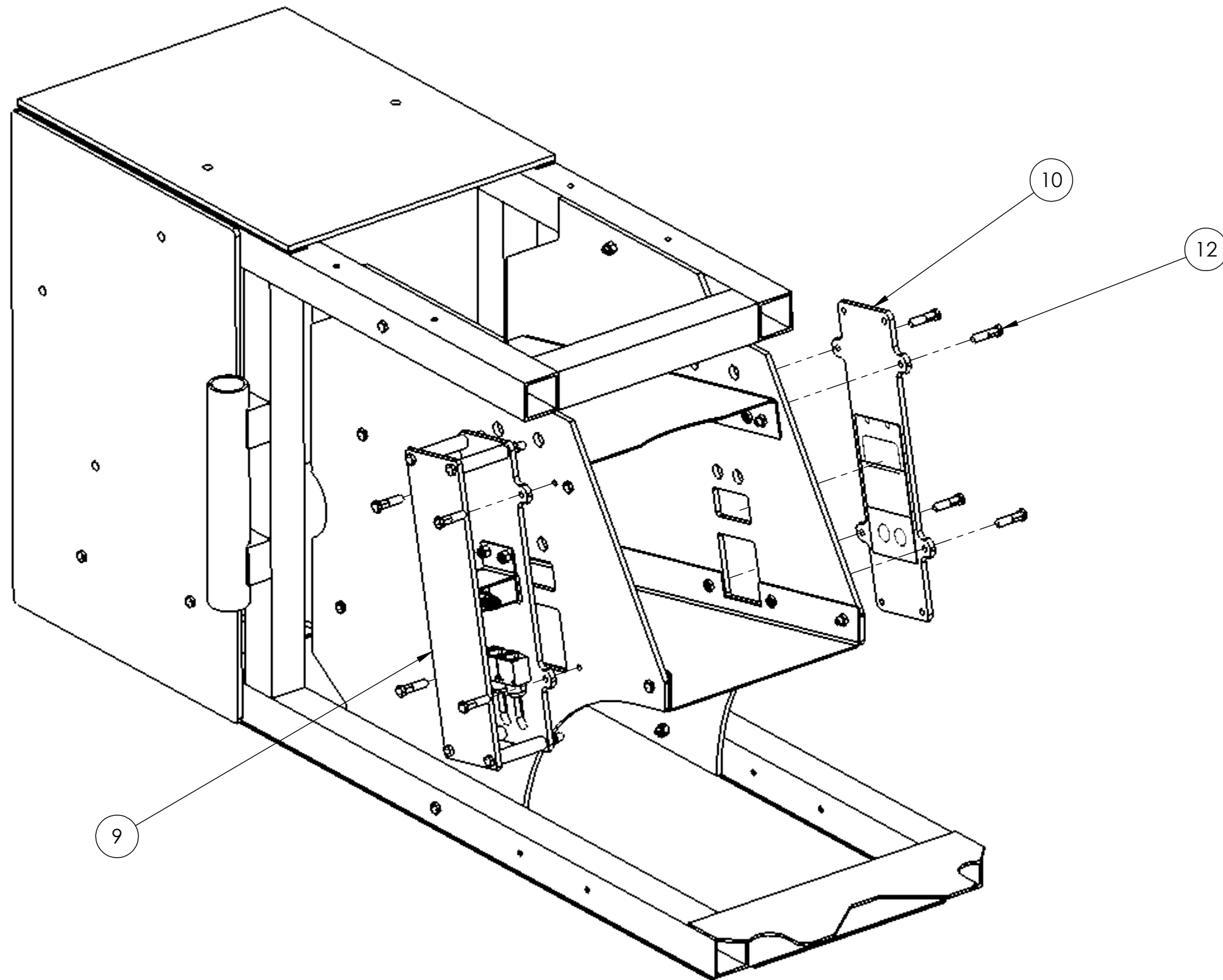
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Notes:

1. Attach 9 and 10 to assembly using 12 .

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50 MATERIAL/FINISH: DO NOT SCALE DRAWING	FIELD	NAME	DATE	 
	DRAWN	CO	12/14/2021	
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:
				Lower Exit Assembly
COMMENTS:		REMOVE ALL BURRS AND SHARP EDGES.		SIZE DWG. NO. REV C GE-22311
				SCALE: 1:5 SHEET 4 OF 4

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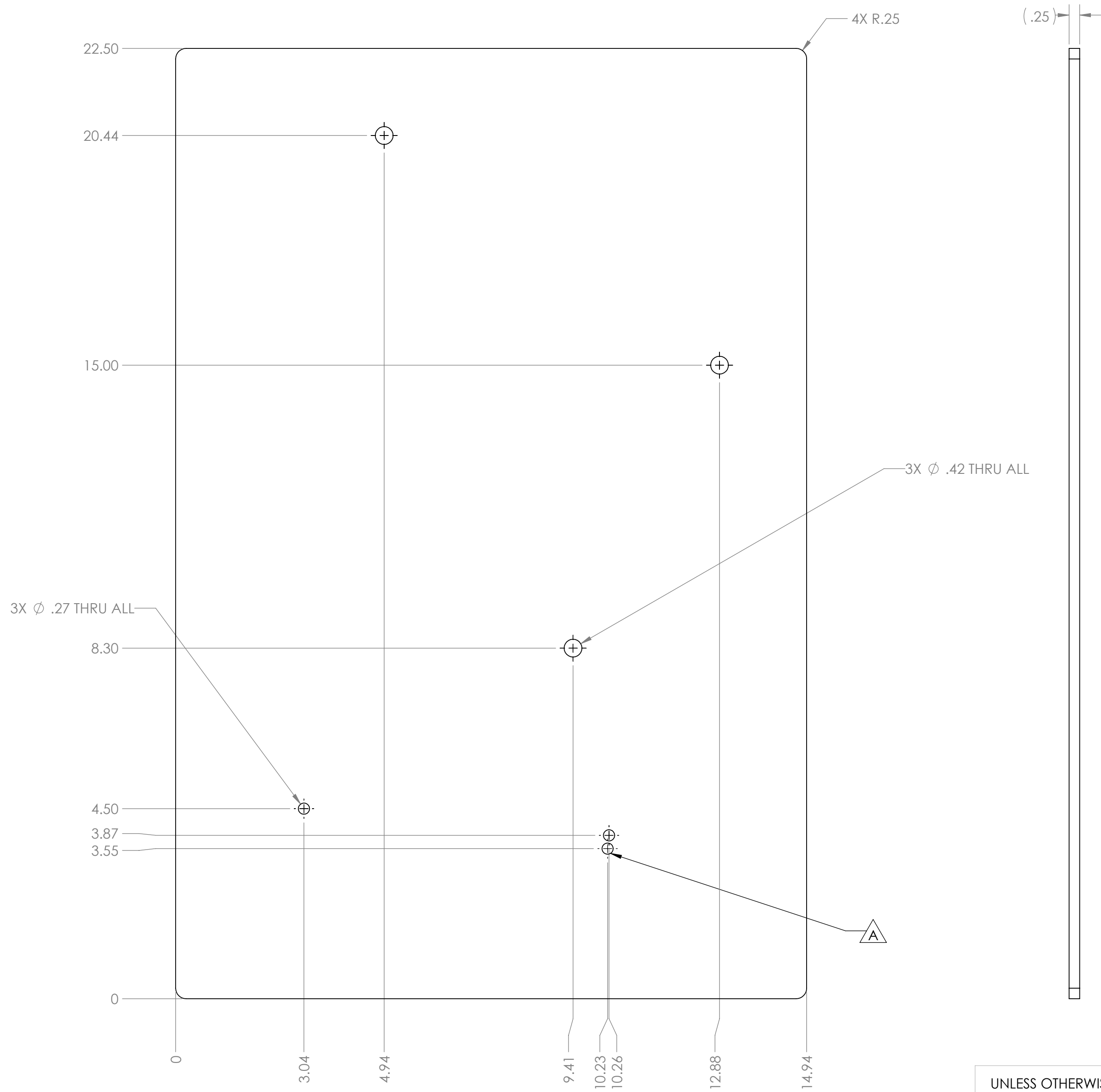
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2	A	Additional hole added to allow ramp to be mounted at a steeper angle.	1/11/2022	CPO



Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
 1/4" thk. Polycarbonate,
 Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/11/2021

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



TITLE:
Lower Exit Side Polycarbonate

SIZE	DWG. NO.	REV
C	GE-22324	A

SCALE: 1:2 SHEET 1 OF 1

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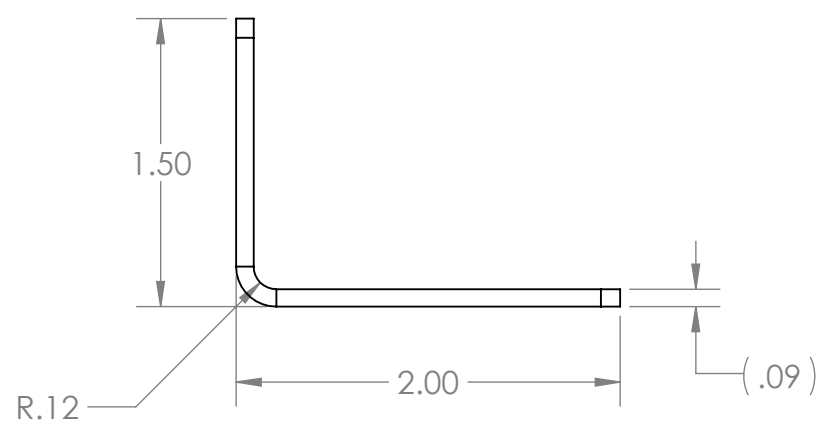
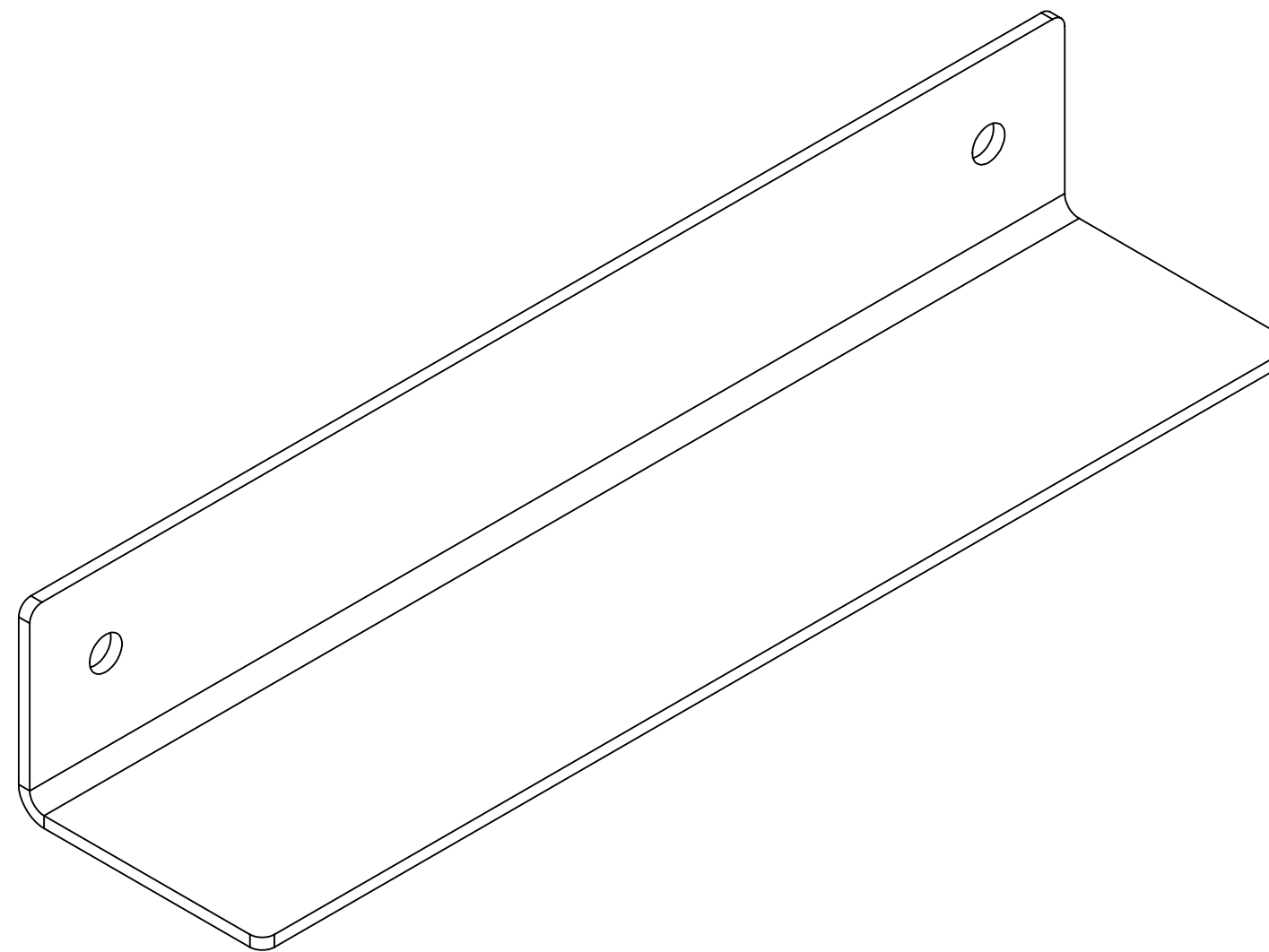
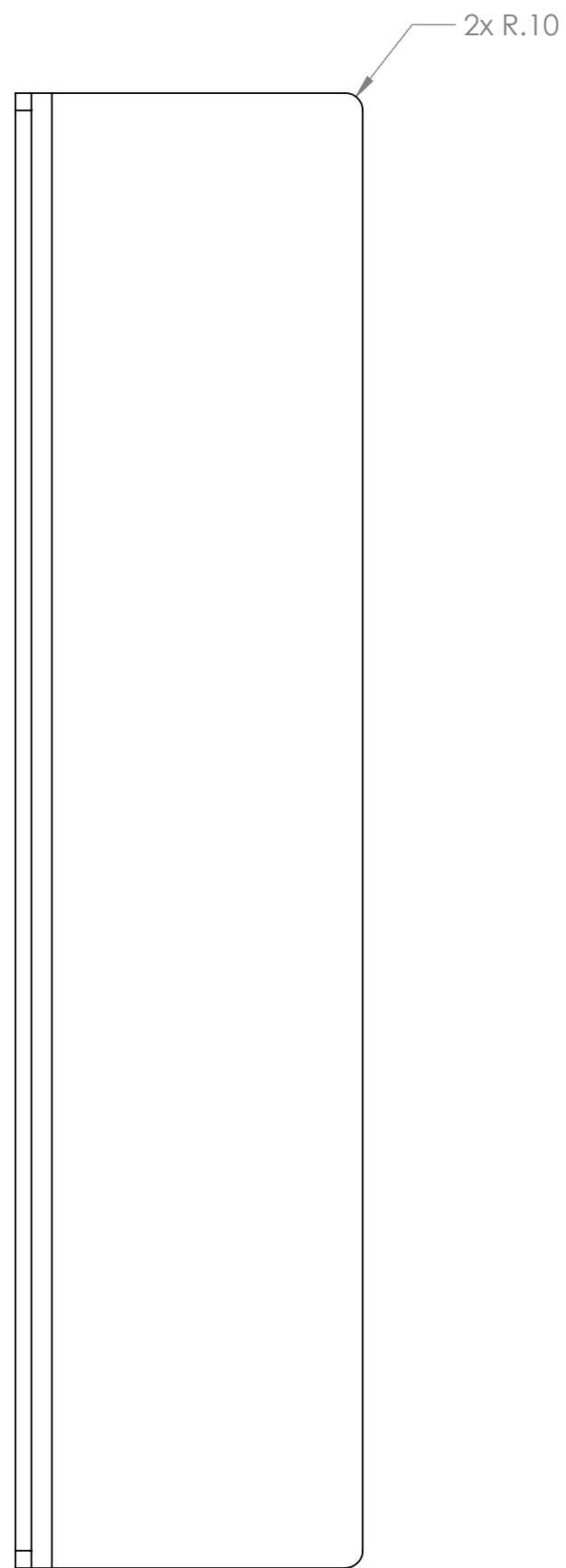
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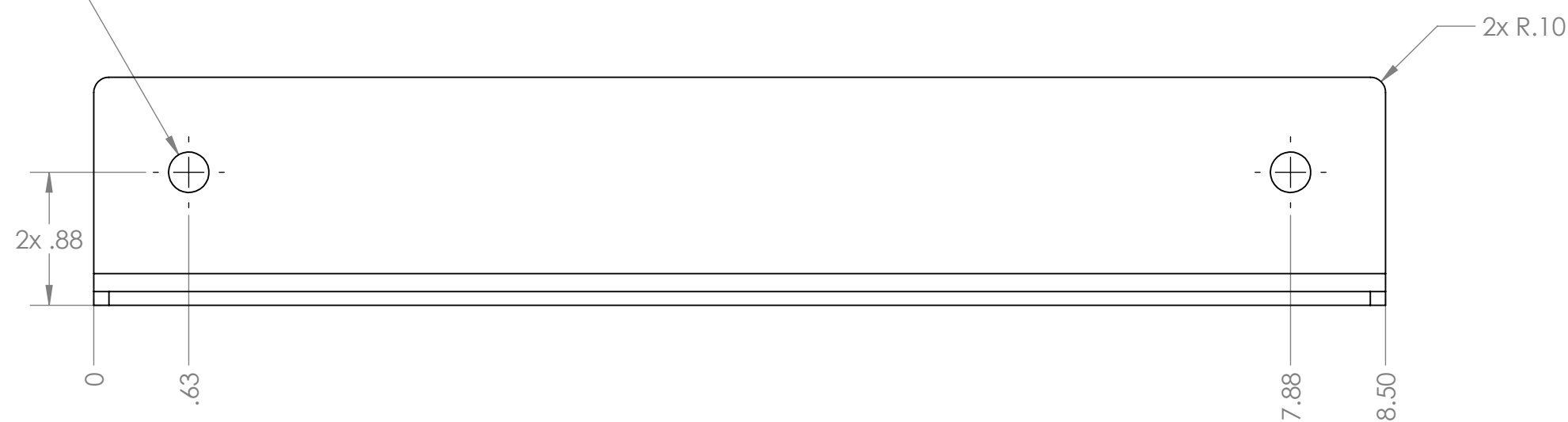
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Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 11 Ga. 5052 Aluminum DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	CO	6/11/2021
	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:
Lower Exit Ramp Angle

SIZE DWG. NO. REV

C GE-22325

SCALE: 1:1 SHEET 1 OF 1

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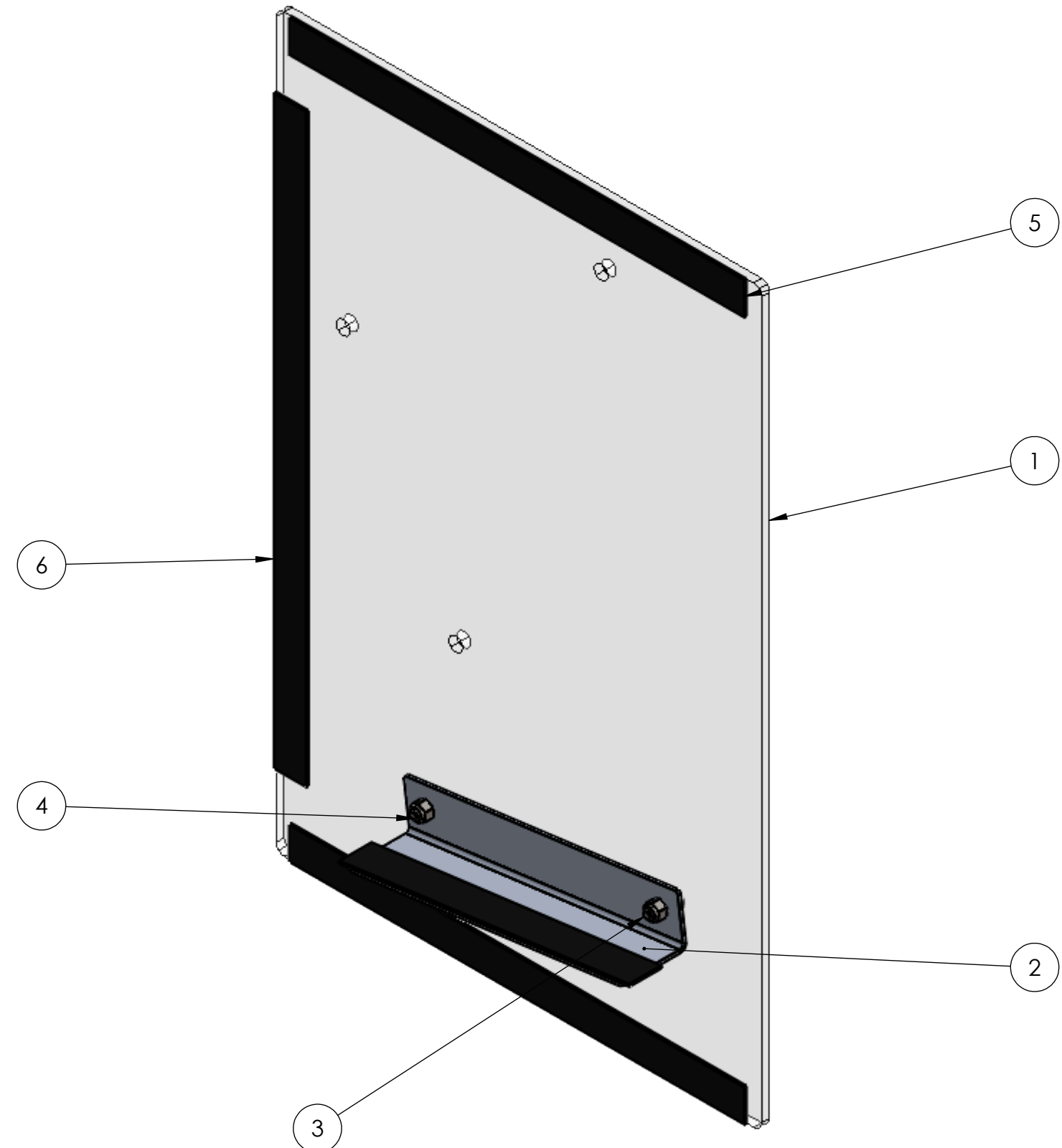
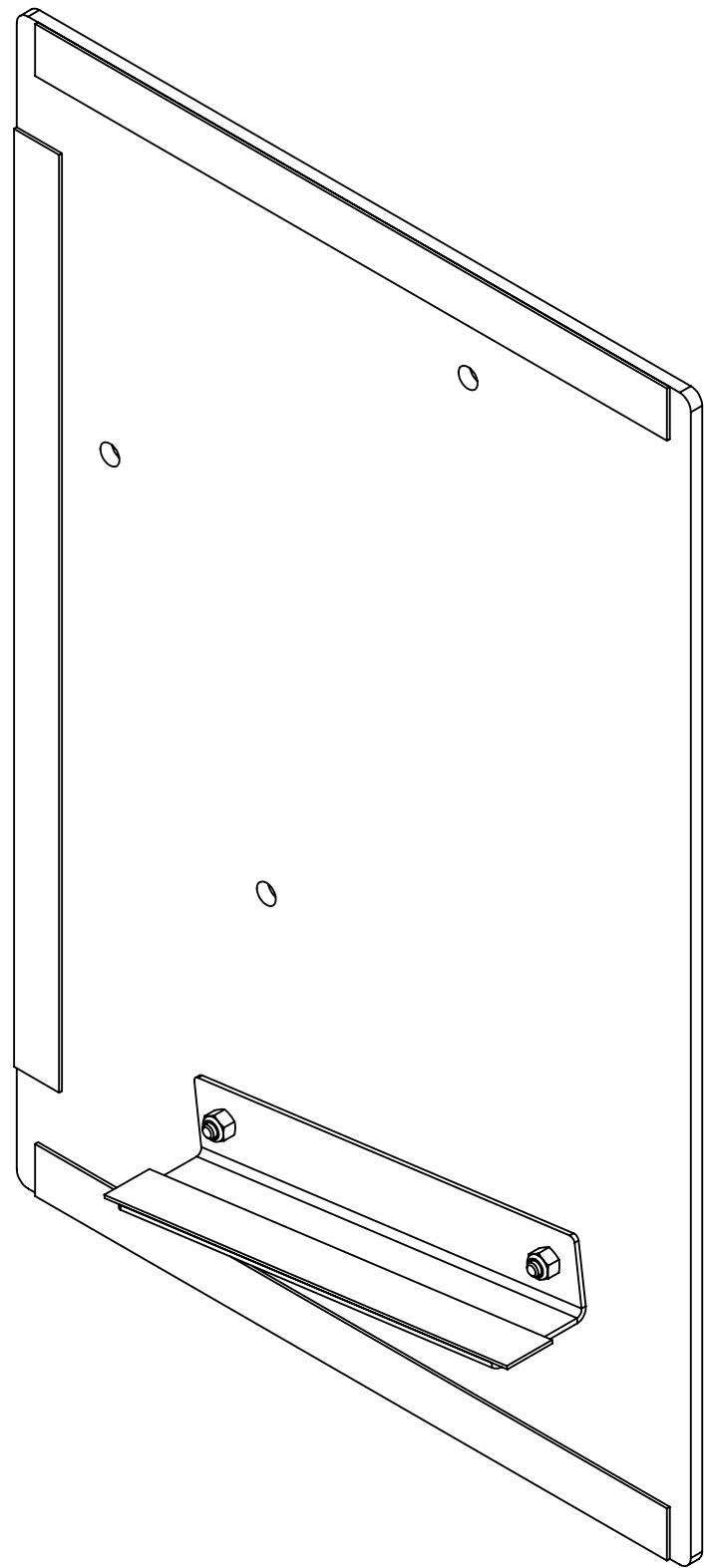
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-C4	A	Added note to reflect update to GE-22324 done to mount ramp at a steeper angle.	1/11/2022	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	Qty.
1	GE-22324	Lower Exit Side Polycarbonate	1
2	GE-22337	Lower Exit Ramp Angle with Hook	1
3	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	2
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	2
5	Loop_1_14	1" x 14" Loop, Adhesive Backed	2
6	Loop_1_18	1" x 18" Loop, Adhesive Backed	1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	CO	10/27/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: Lower Exit Left Polycarbonante Assembly SIZE DWG. NO. REV C GE-22326 A
	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:			SCALE: 1:3 SHEET 1 OF 2
	REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING				

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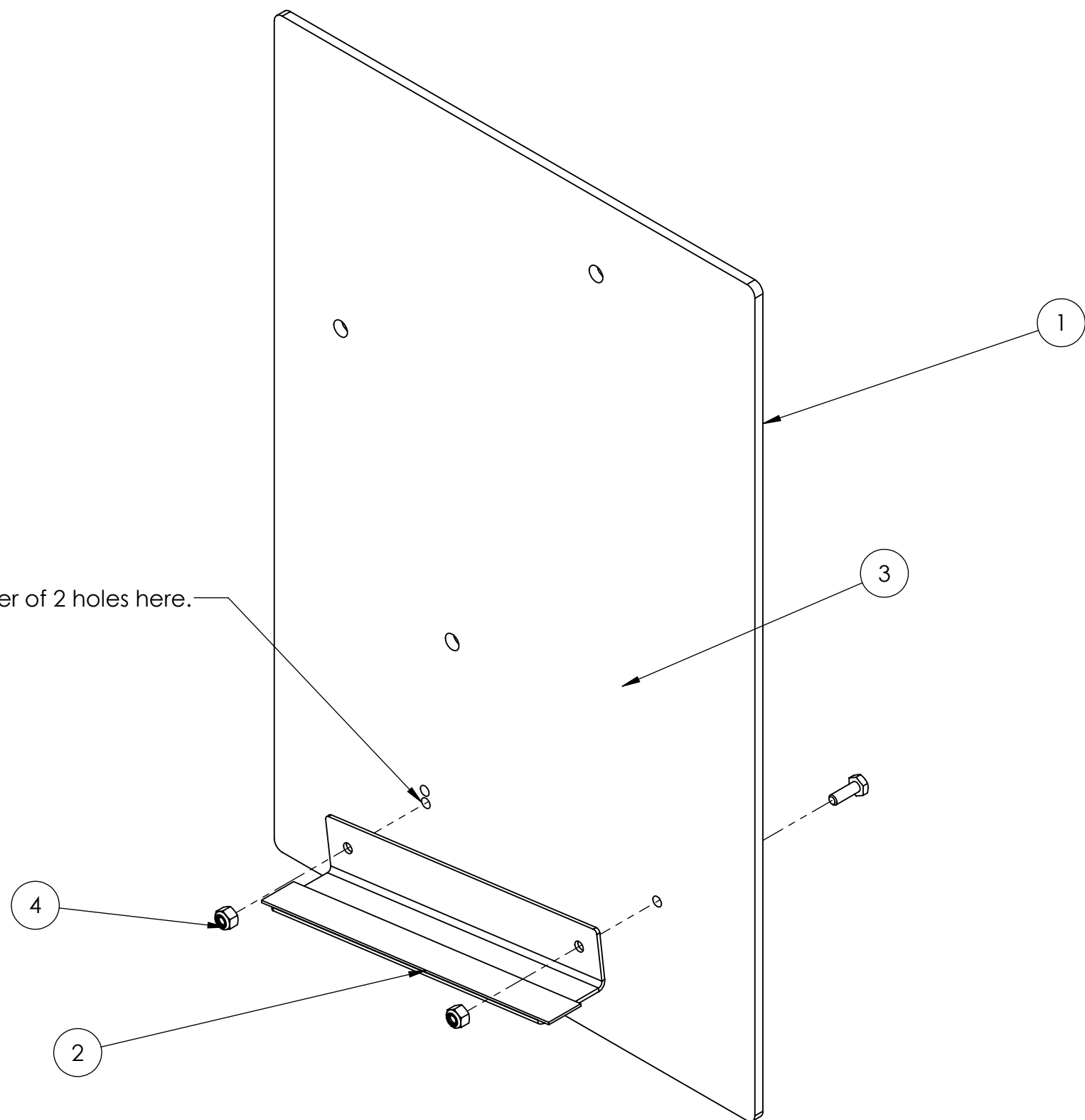
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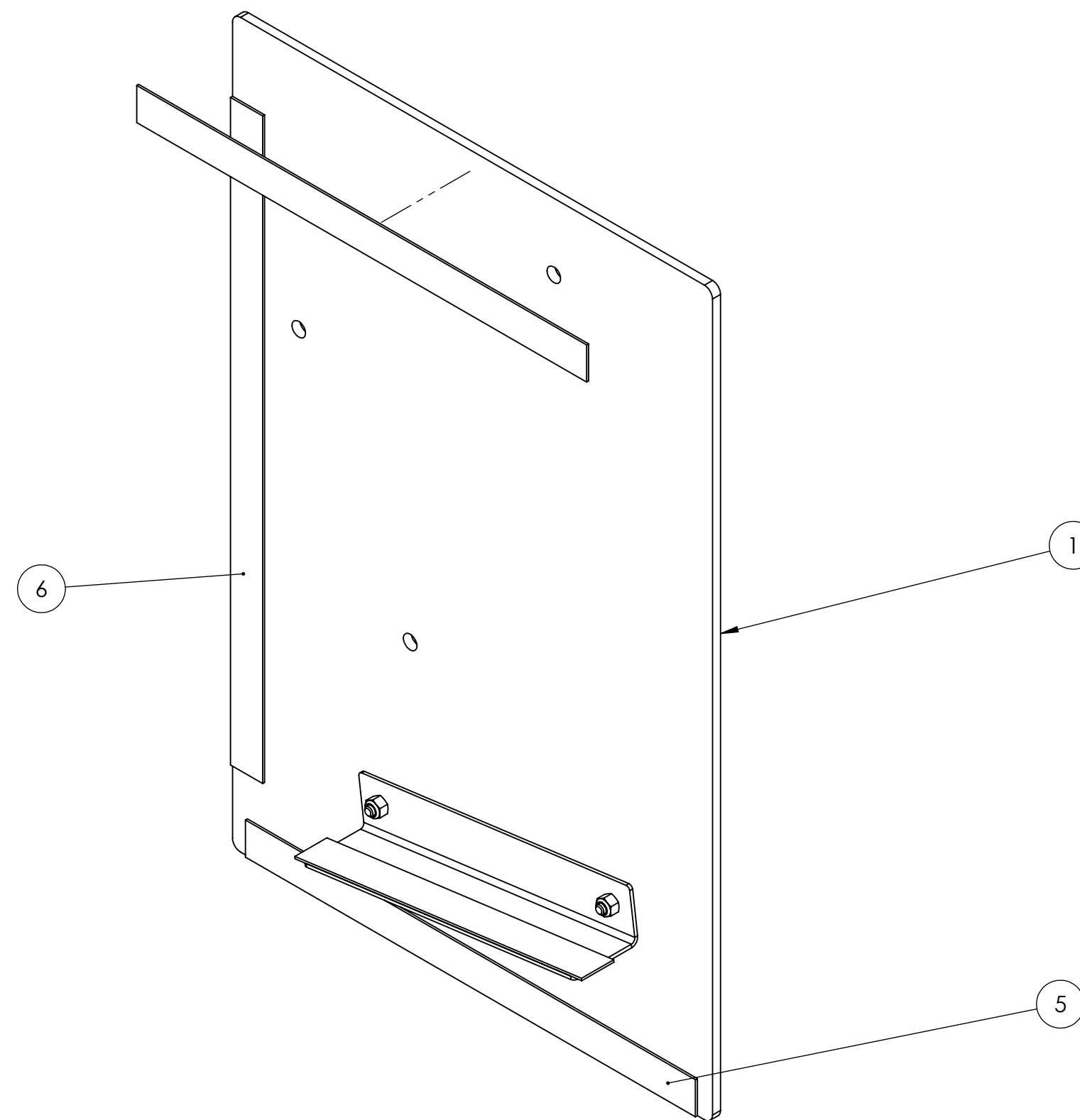
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△ Use lower of 2 holes here.





Notes:

1. Attach (2) to (1) using (3) and (4). Note hole orientation of (1).



Notes:

1. Clean and prep (1).
2. Attach (5) and (6) to (1) in positions shown.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	VEND	NAME	DATE	 
	DRAWN	CO	10/27/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: Lower Exit Left Polycarbonate Assembly SIZE DWG. NO. REV C GE-22326 A
	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.			SCALE: 1:3 SHEET 2 OF 2
DO NOT SCALE DRAWING				

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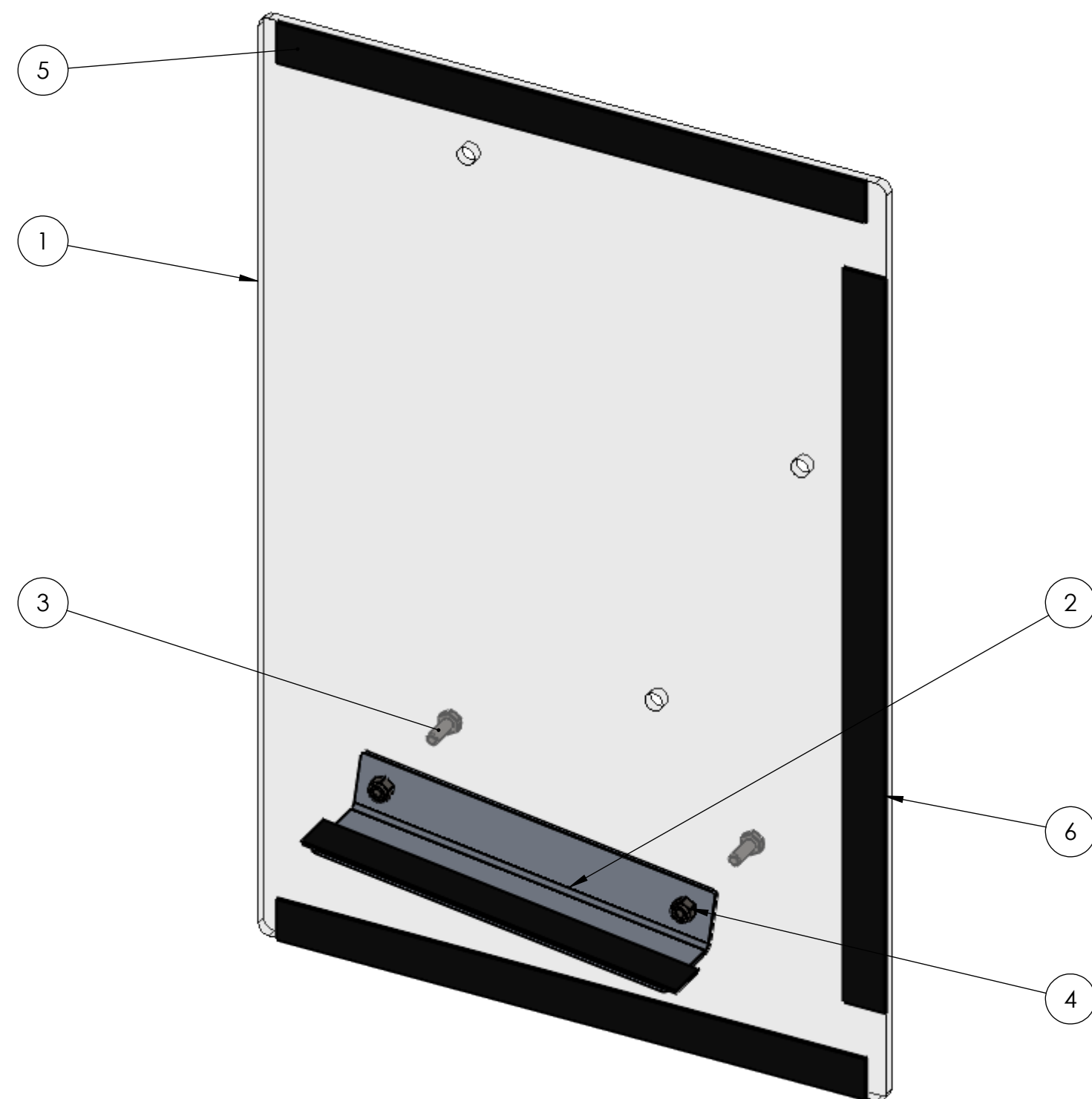
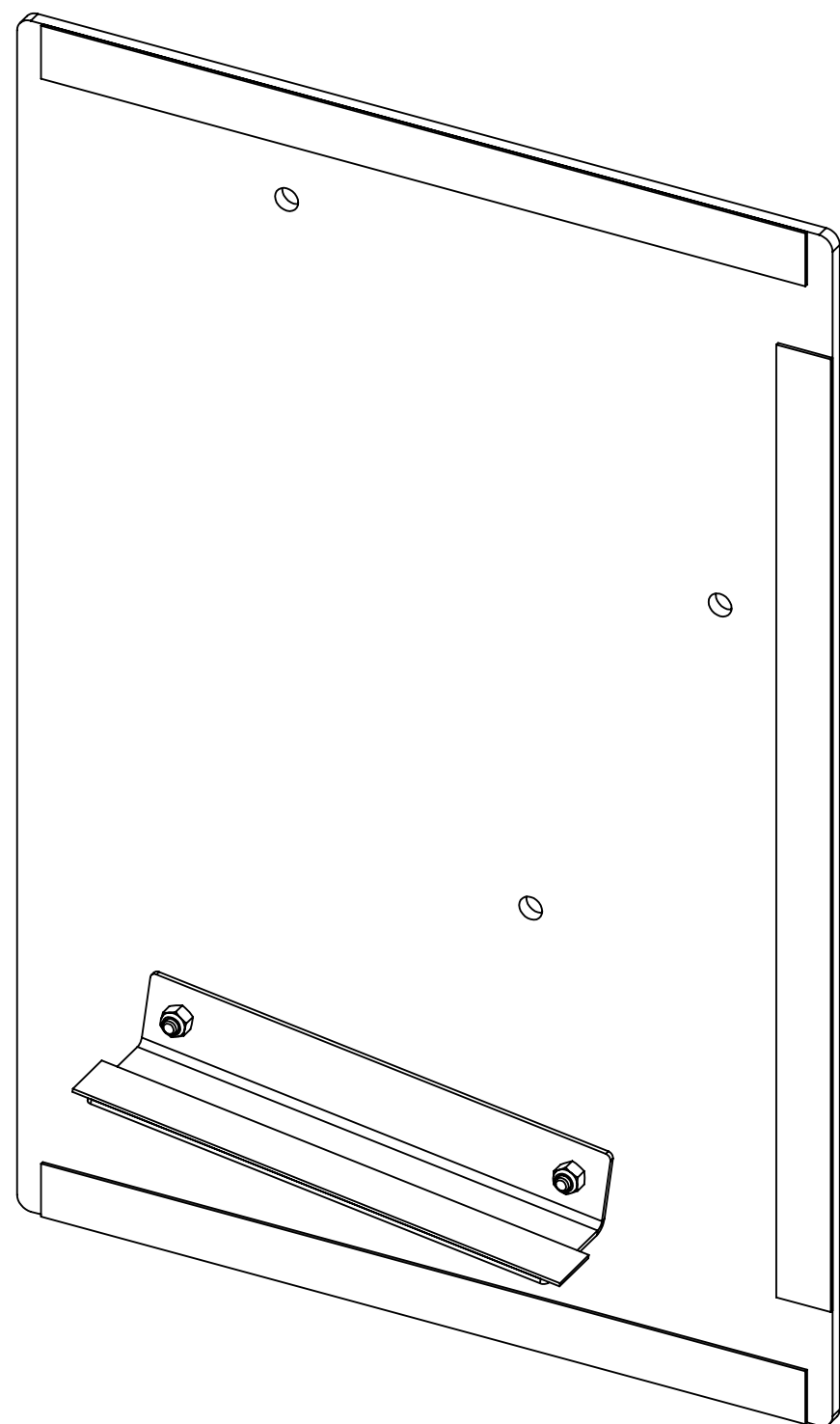
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-B3	A	Added note to reflect update to GE-22324 done to mount ramp at a steeper angle.	1/11/2022	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	Qty.
1	GE-22324	Lower Exit Side Polycarbonate	1
2	GE-22337	Lower Exit Ramp Angle with Hook	1
3	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	2
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	2
5	Loop_1_14	1" x 14" Loop, Adhesive Backed	2
6	Loop_1_18	1" x 18" Loop, Adhesive Backed	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:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	10/27/2021

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: Lower Exit Right Polycarbonate Assembly

SIZE	DWG. NO.	REV
C	GE-22327	A

SCALE: 1:3 SHEET 1 OF 2

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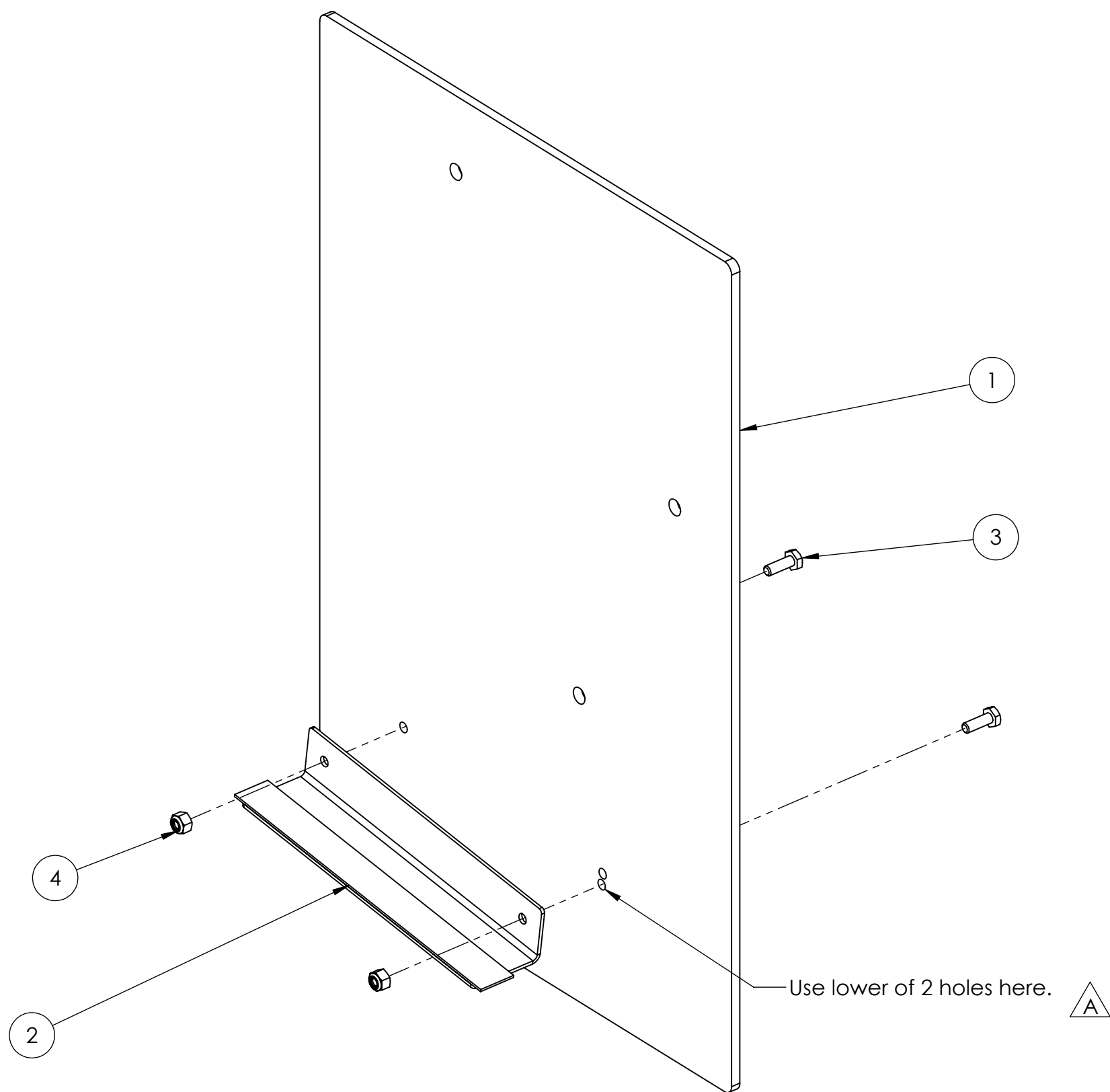
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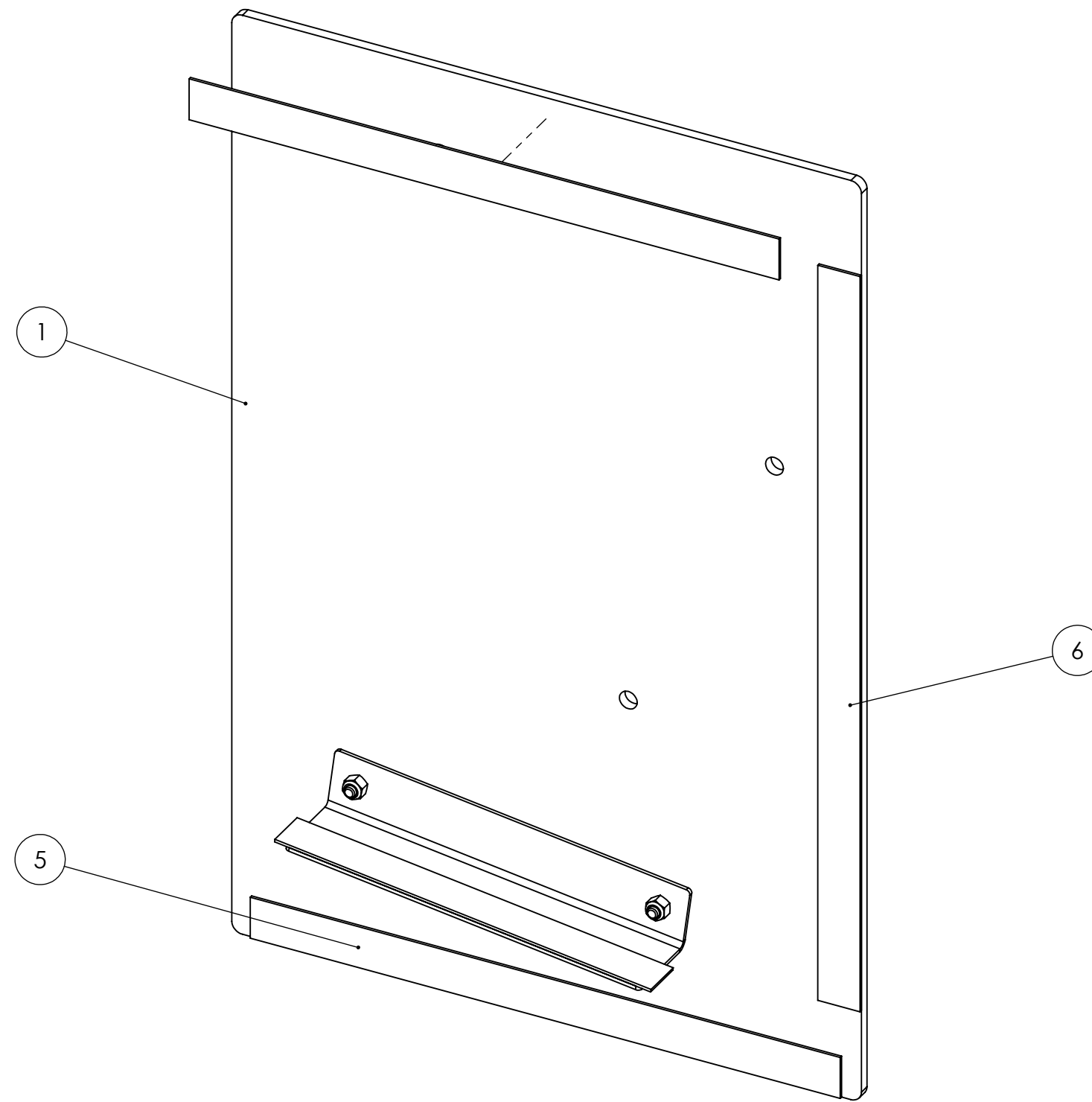
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Notes:

1. Attach (2) to (1) using (3) and (4). Note hole orientation of (1).



Notes:

1. Clean and prep (1).
2. Attach (5) and (6) to (1) in positions 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: COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	10/27/2021	
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: Lower Exit Right Polycarbonate Assembly
SIZE		DWG. NO.	REV	
C		GE-22327	A	
SCALE: 1:3			SHEET 2 OF 2	

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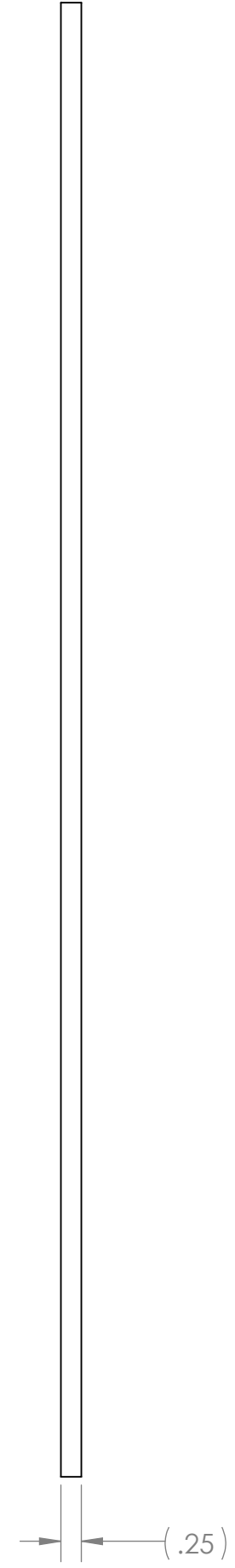
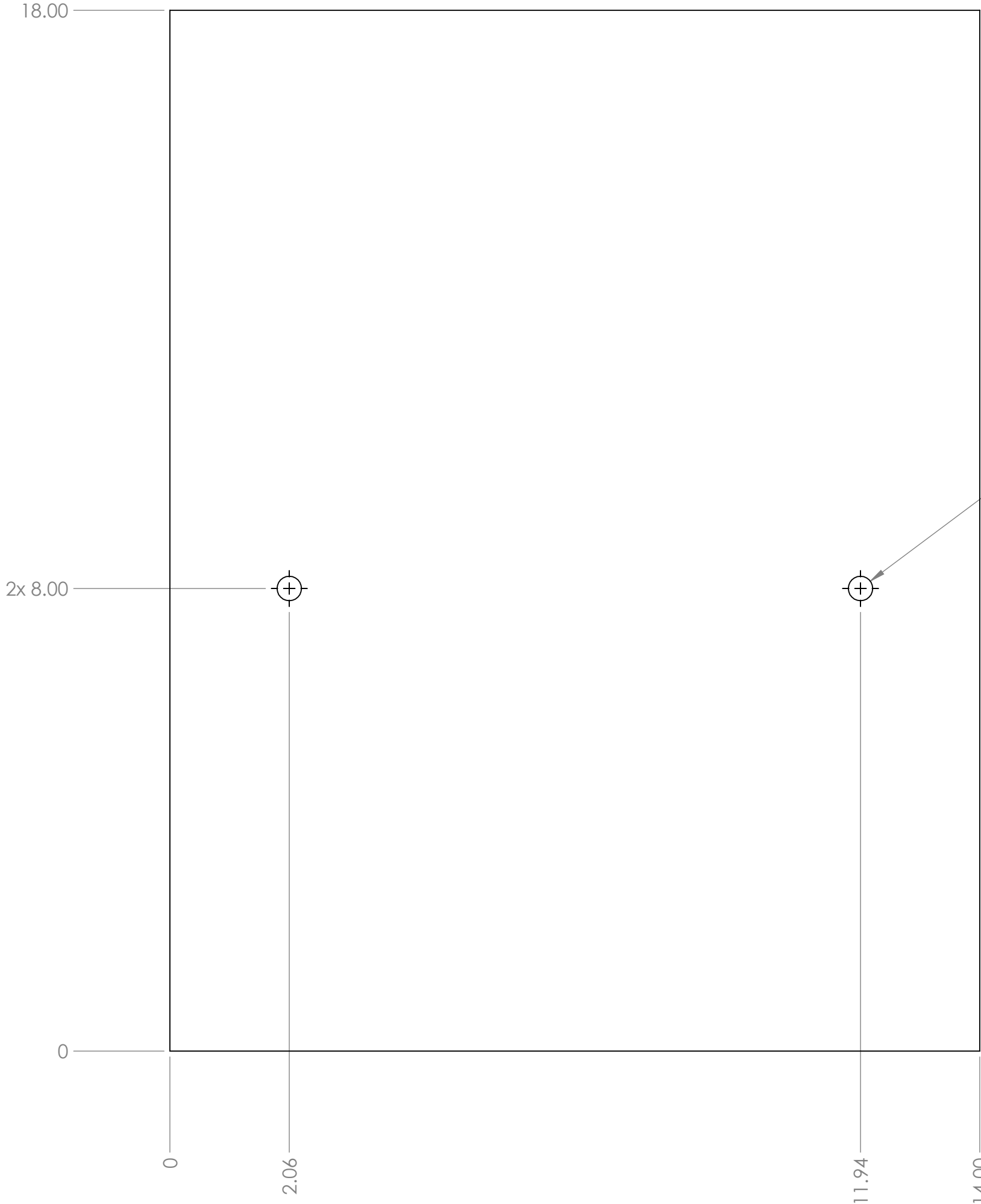
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Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: 1/4" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	CO	6/11/2021		
	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: <h2 style="text-align: center;">Lower Exit Front Roof</h2>	
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE <h3 style="font-size: 2em;">C</h3>	DWG. NO. <h2 style="text-align: center;">GE-22328</h2>
			SCALE: 1:2	REV SHEET 1 OF 1	

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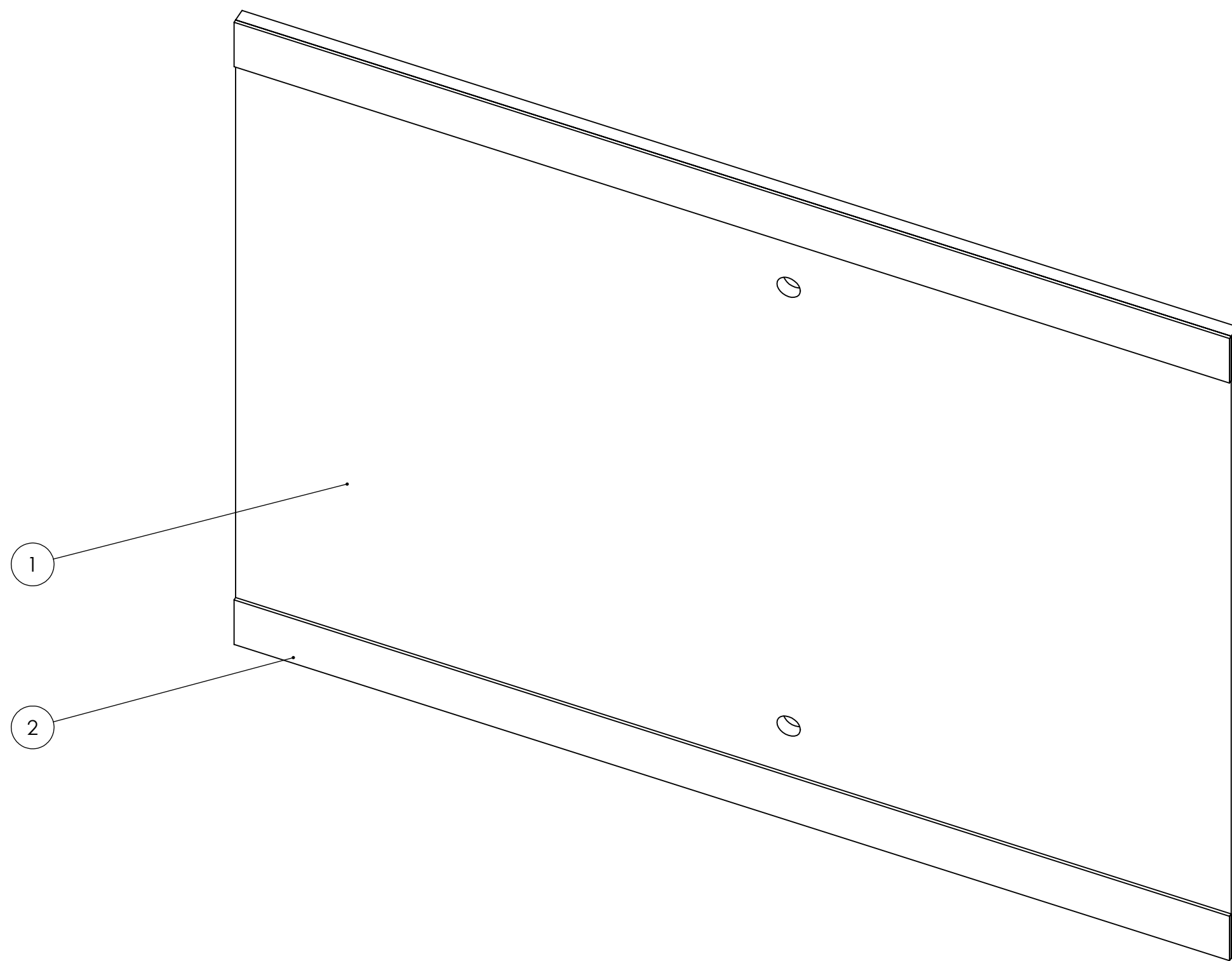
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Notes:

- 1. Make sure surface of (1) is clean prior to hook applicaton.
- 2. Attach (2) to (1) in locations shown, flush to edges of part.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22328	Lower Exit Front Roof	1
2	Loop_1_18	1" x 18" Loop, Adhesive Backed	2

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	10/27/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Lower Exit Front Roof with Loop

SIZE	DWG. NO.	REV
C	GE-22329	

SCALE: 1:2 SHEET 1 OF 1

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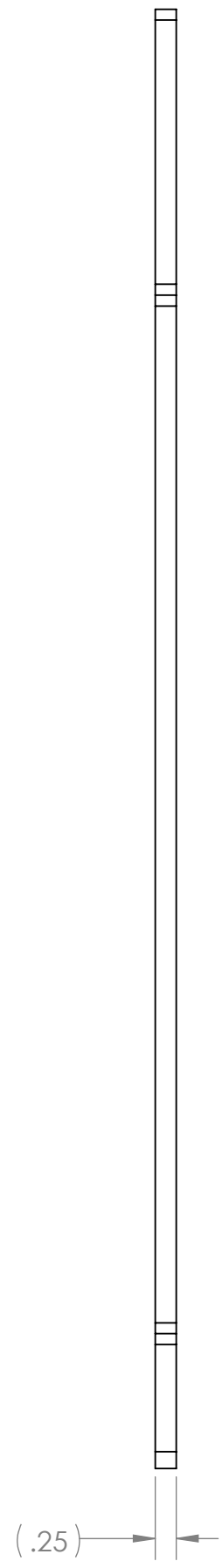
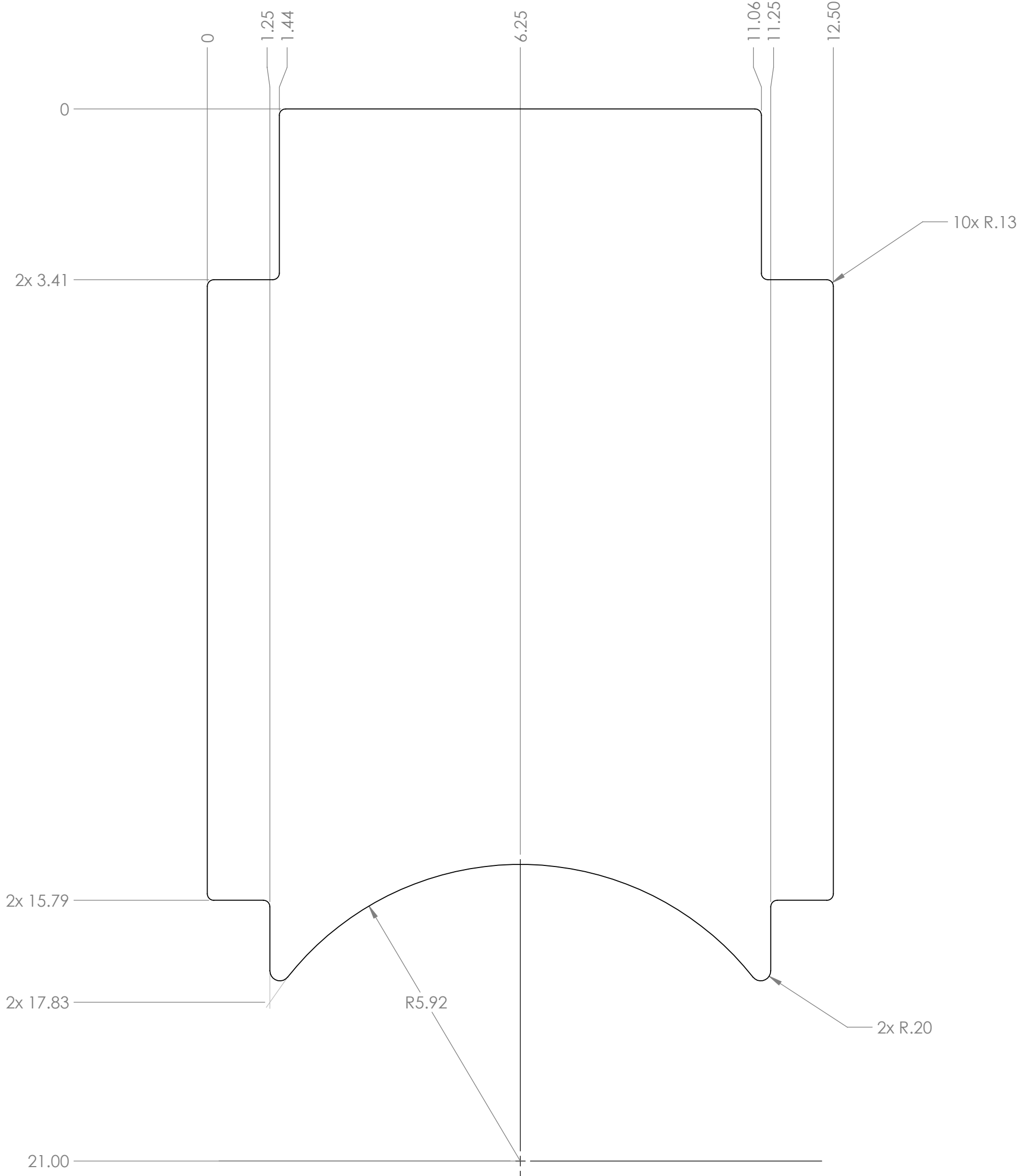
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Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/4" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	6/11/2021	
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: <h2>Lower Exit Front Ramp</h2>
SIZE		DWG. NO.	REV	
C		GE-22330		
SCALE: 1:2			SHEET 1 OF 1	

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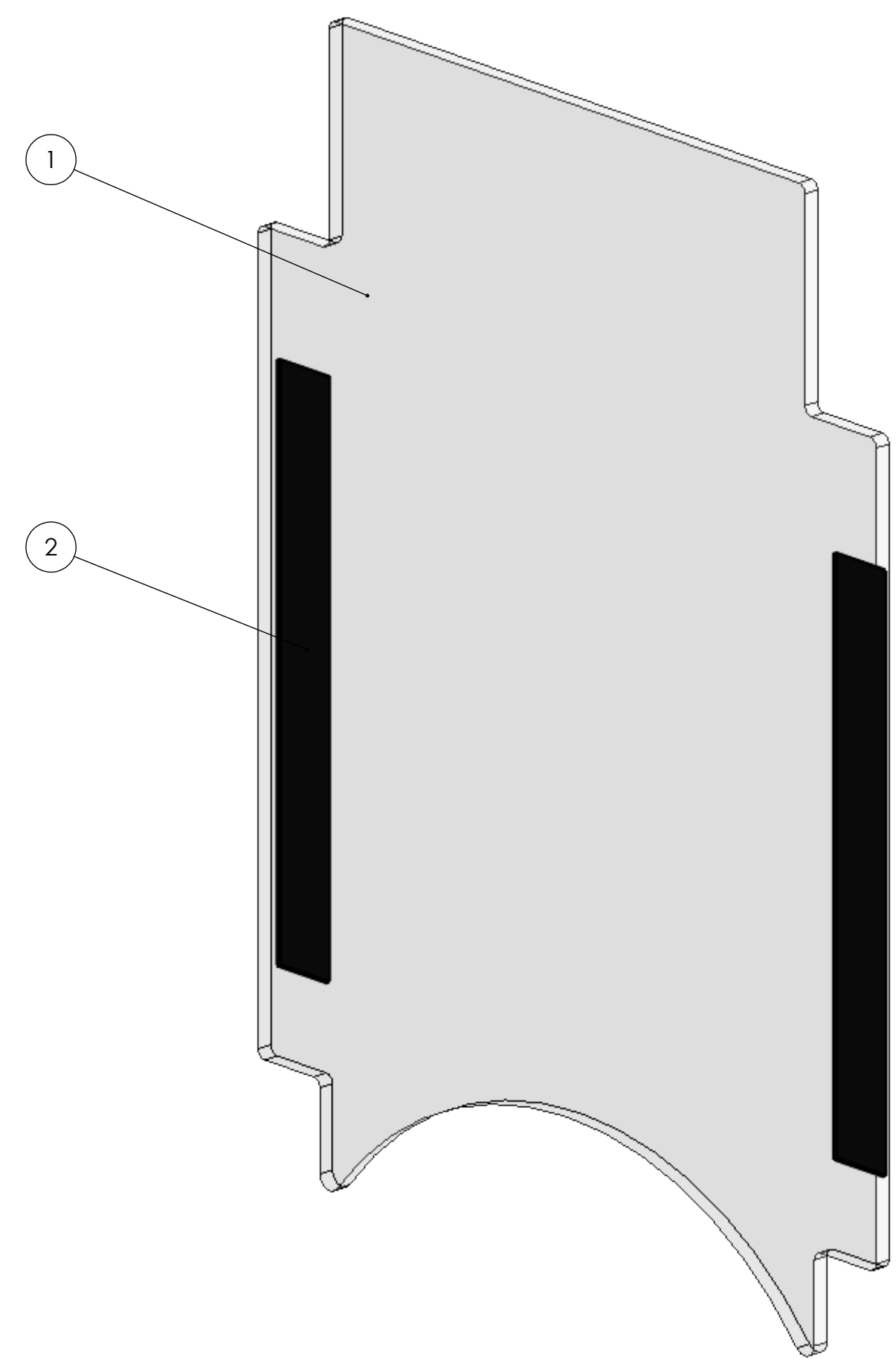
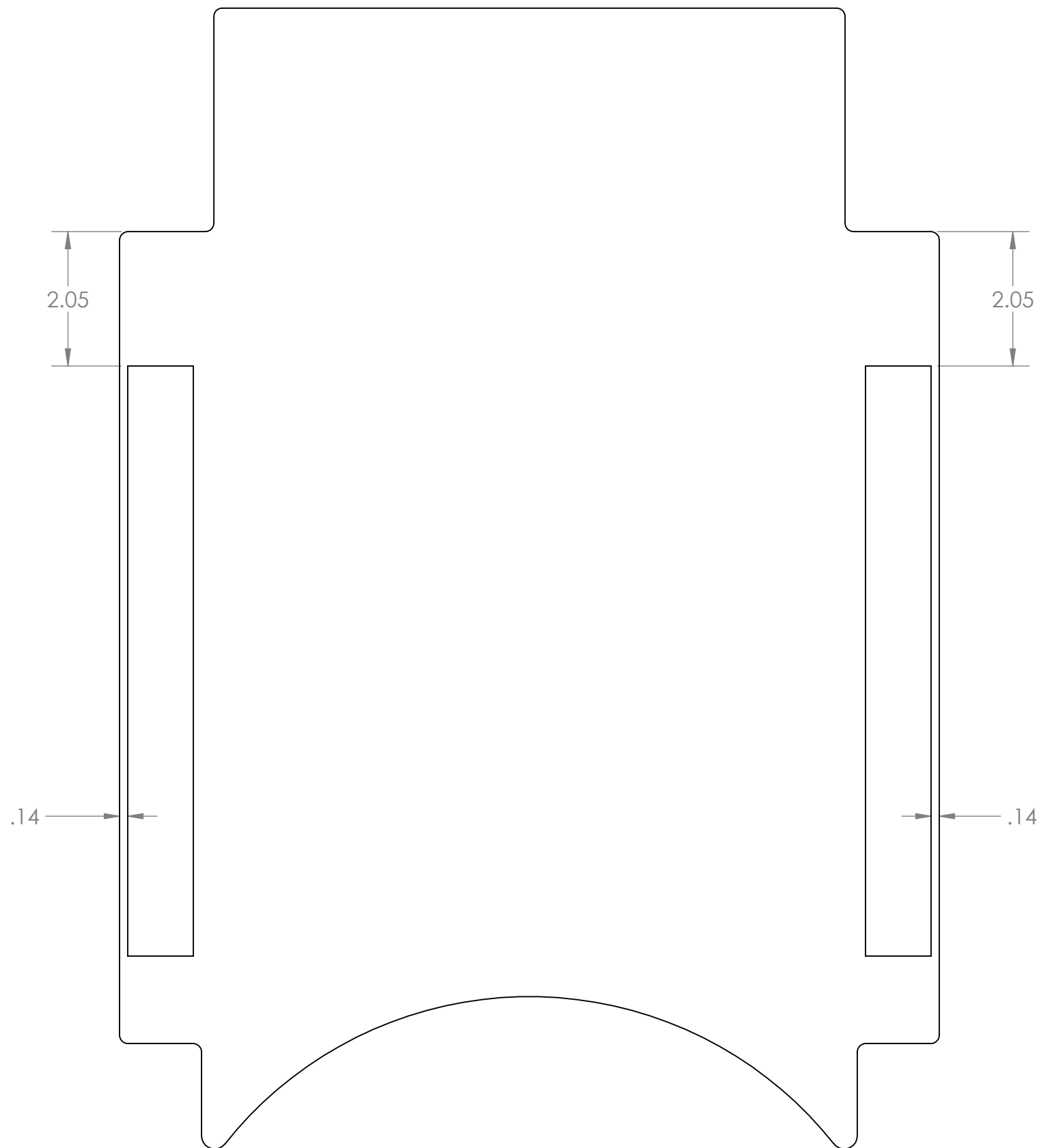
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Notes:

- 1. Make sure surface of (1) is clean prior to hook applicaton.
- 2. Attach (2) to (1) in locations shown.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	10/27/2021	
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:
				Lower Exit Front Ramp with Loop
SIZE		DWG. NO.	REV	
C		GE-22331		
SCALE: 1:2			SHEET 1 OF 1	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22330	Lower Exit Front Ramp	1
2	Loop_1_9	1" x 9" Loop, Adhesive Backed	2

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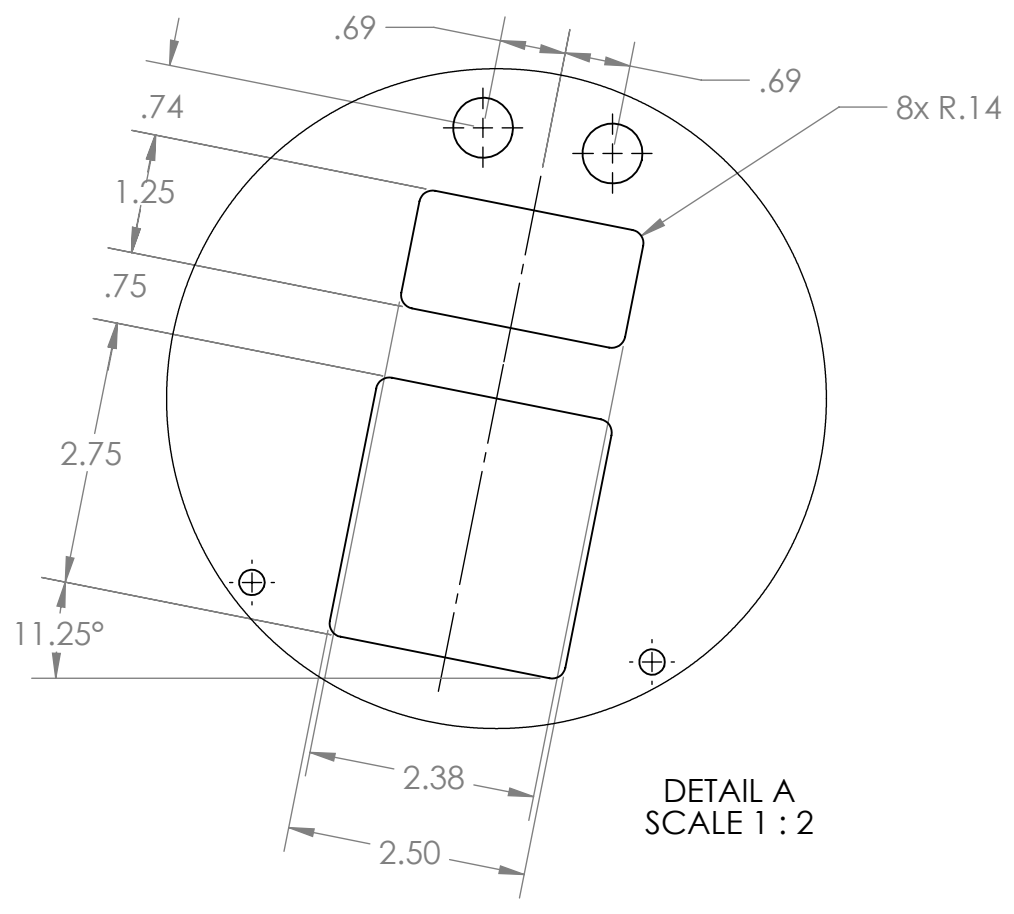
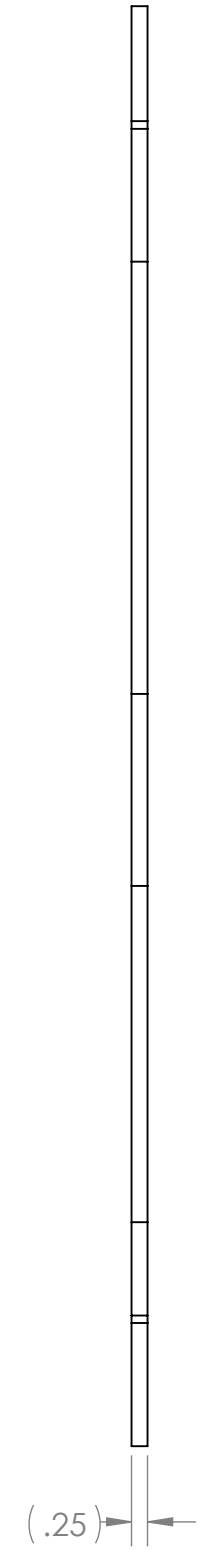
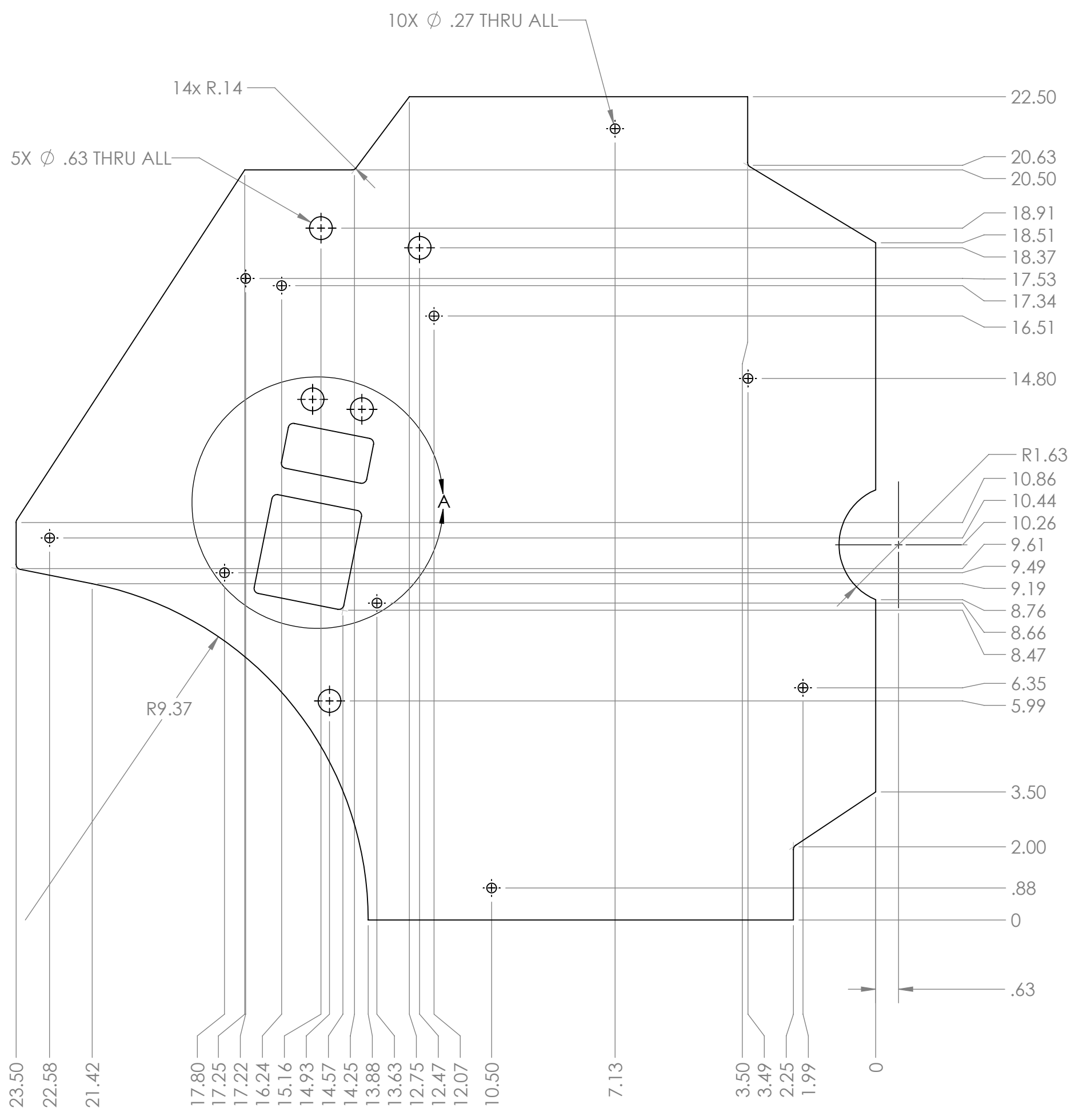
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Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/4" thk. HDPE, natural DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	CO	6/11/2021
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:		
	Lower Exit HDPE Wall		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.	REV
	C	GE-22332	
SCALE: 1:3		SHEET 1 OF 1	



TITLE:		
Lower Exit HDPE Wall		
SIZE	DWG. NO.	REV
C	GE-22332	
SCALE: 1:3		SHEET 1 OF 1

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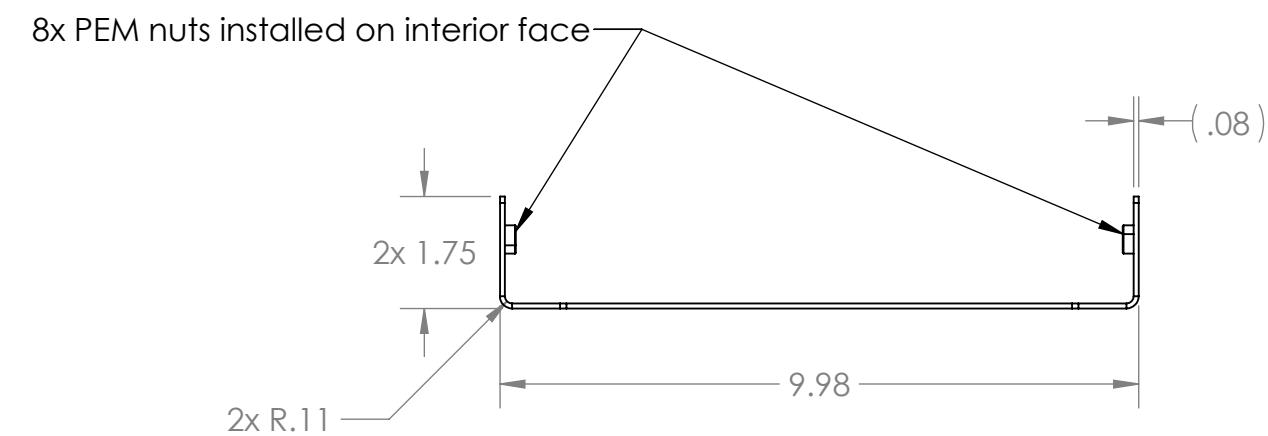
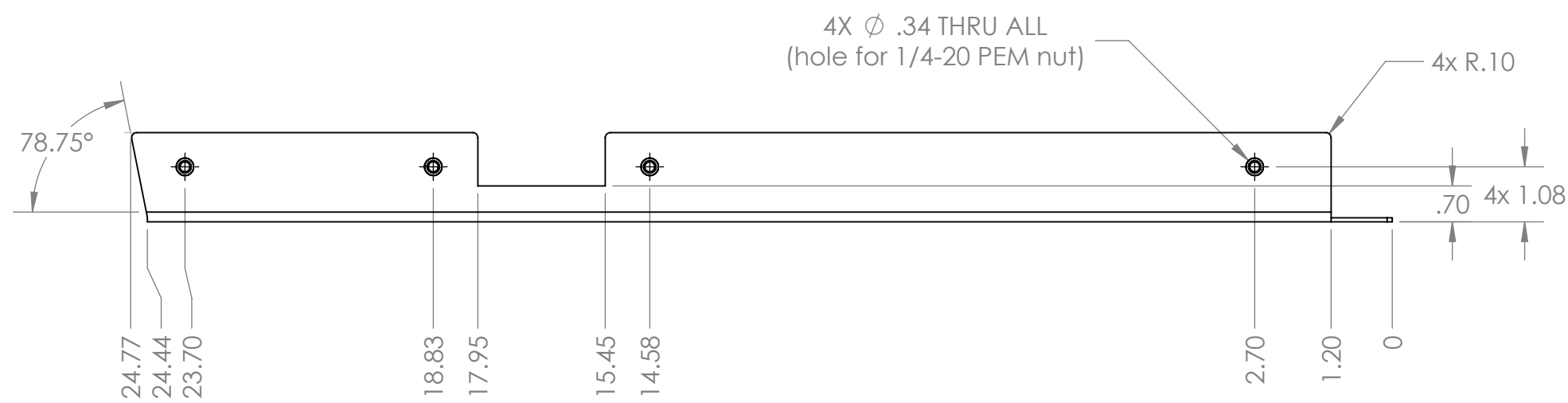
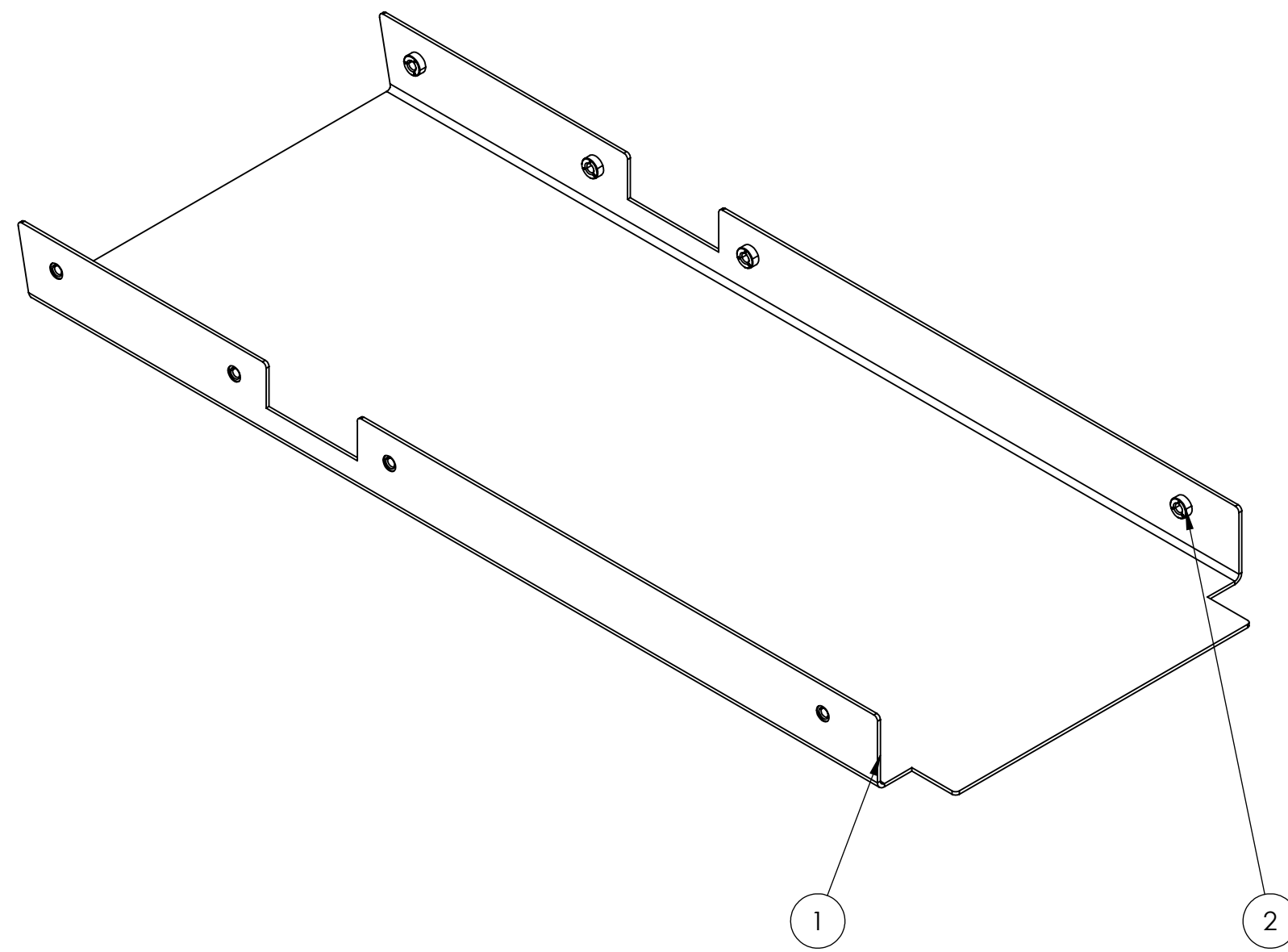
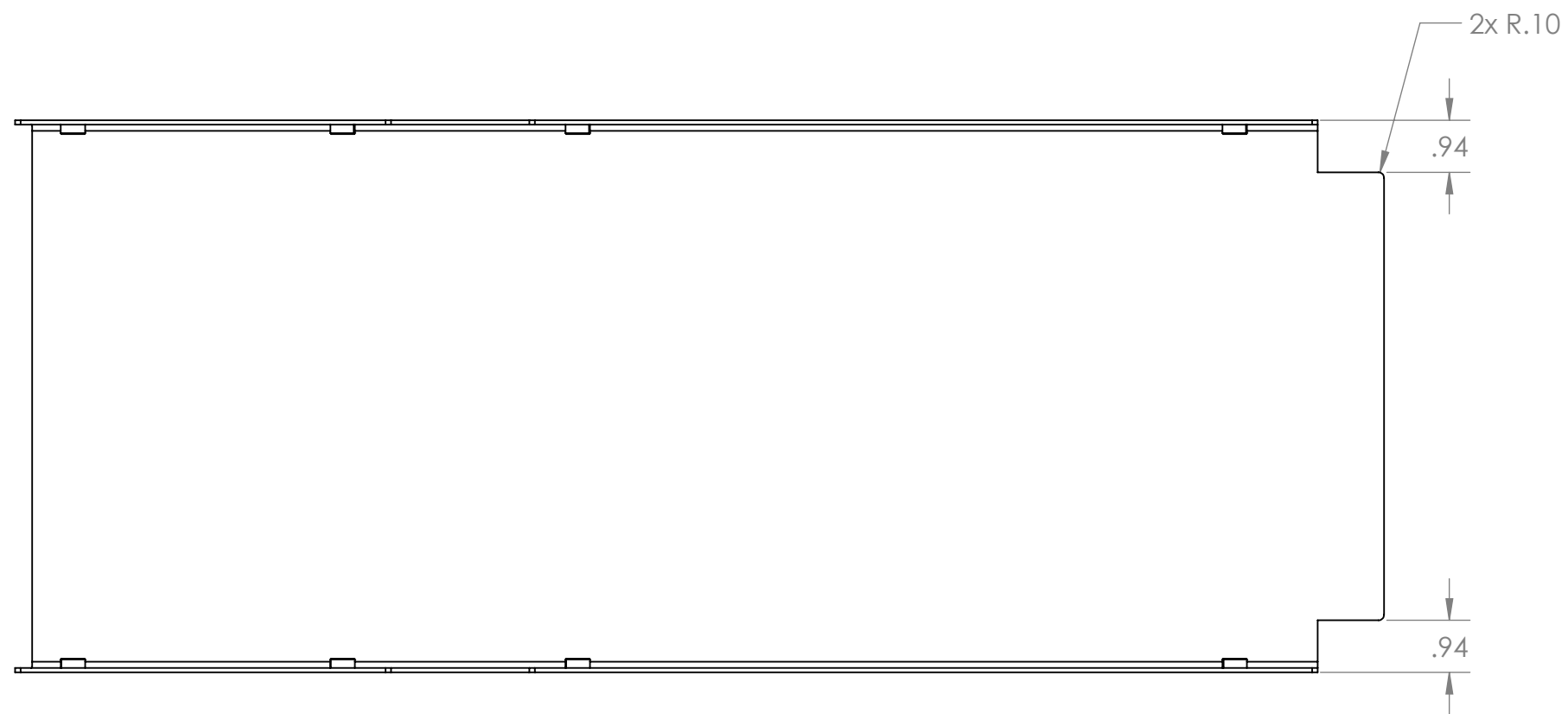
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Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 14 Ga. Preplated Steel DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	CO	6/11/2021
	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: **Lower Exit Back Ramp**

SIZE	DWG. NO.	REV
C	GE-22333	
SCALE: 1:3		SHEET 1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22333-01	14 Ga. Preplated Steel	1
2	pem_clinchnut_.25_20_.054	1/4-20 self-clinching nut, .054 shank	8

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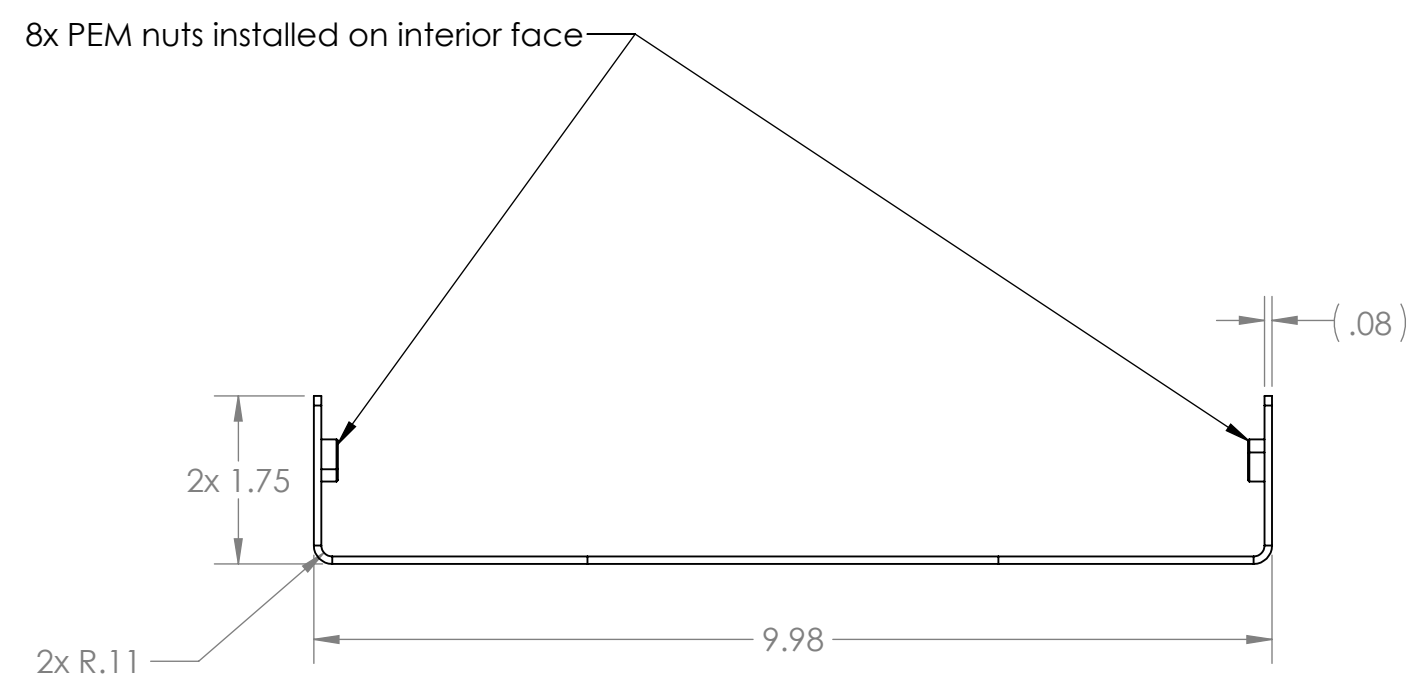
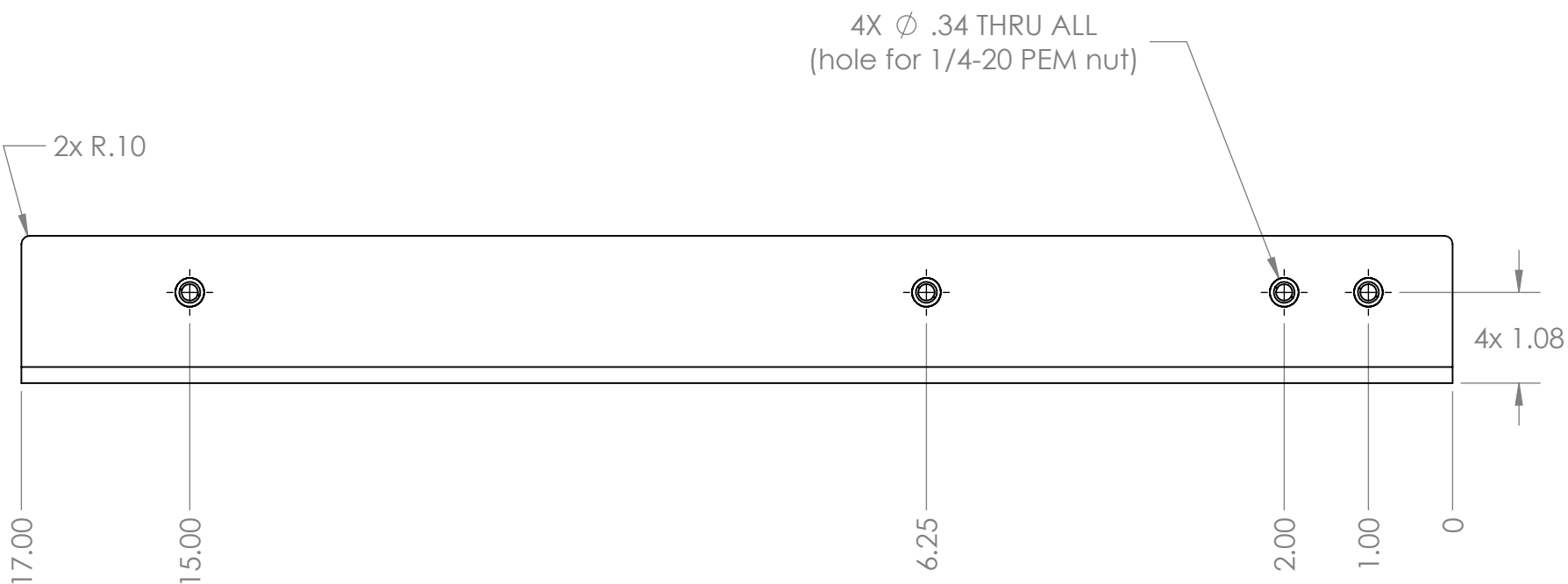
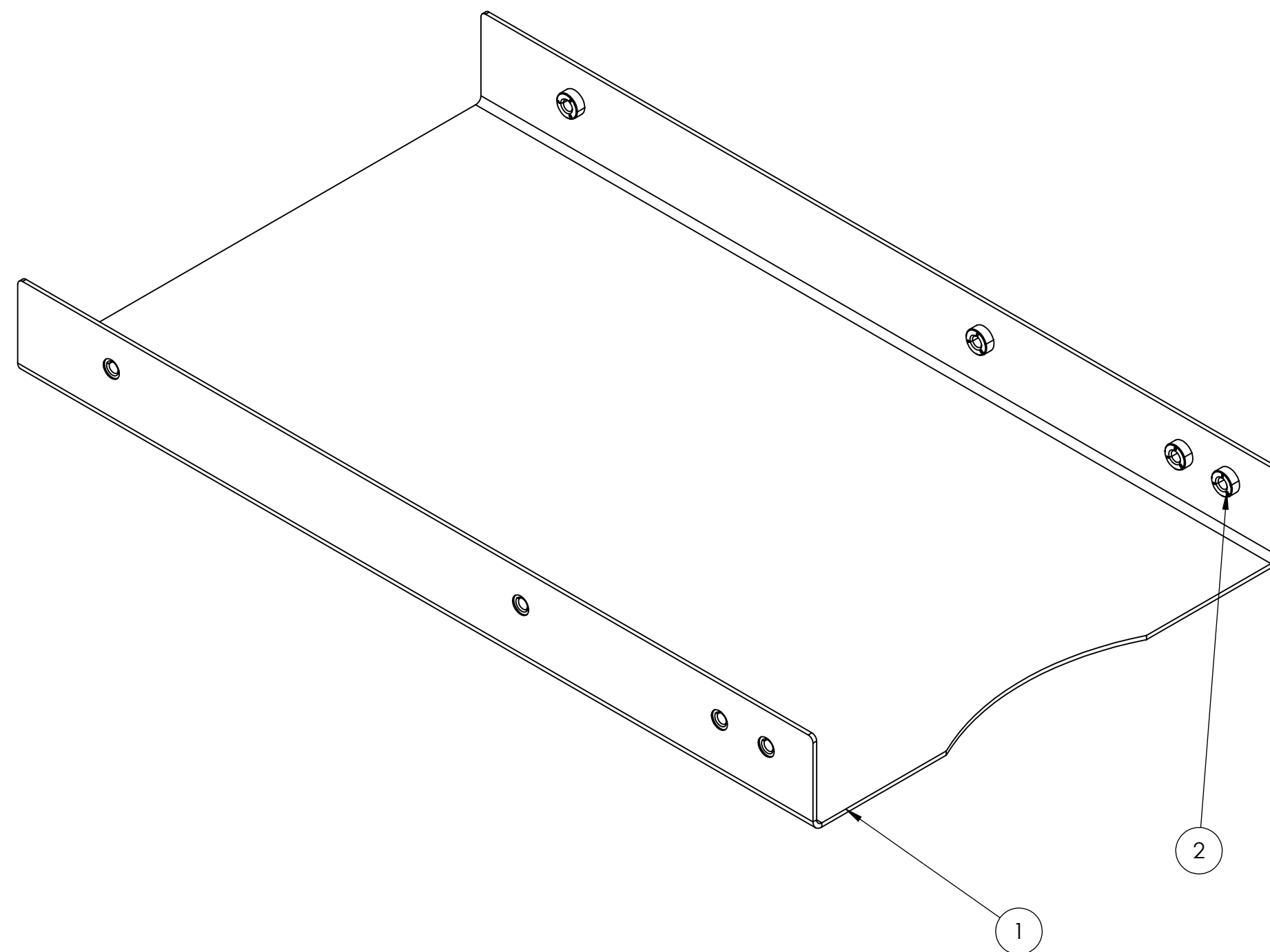
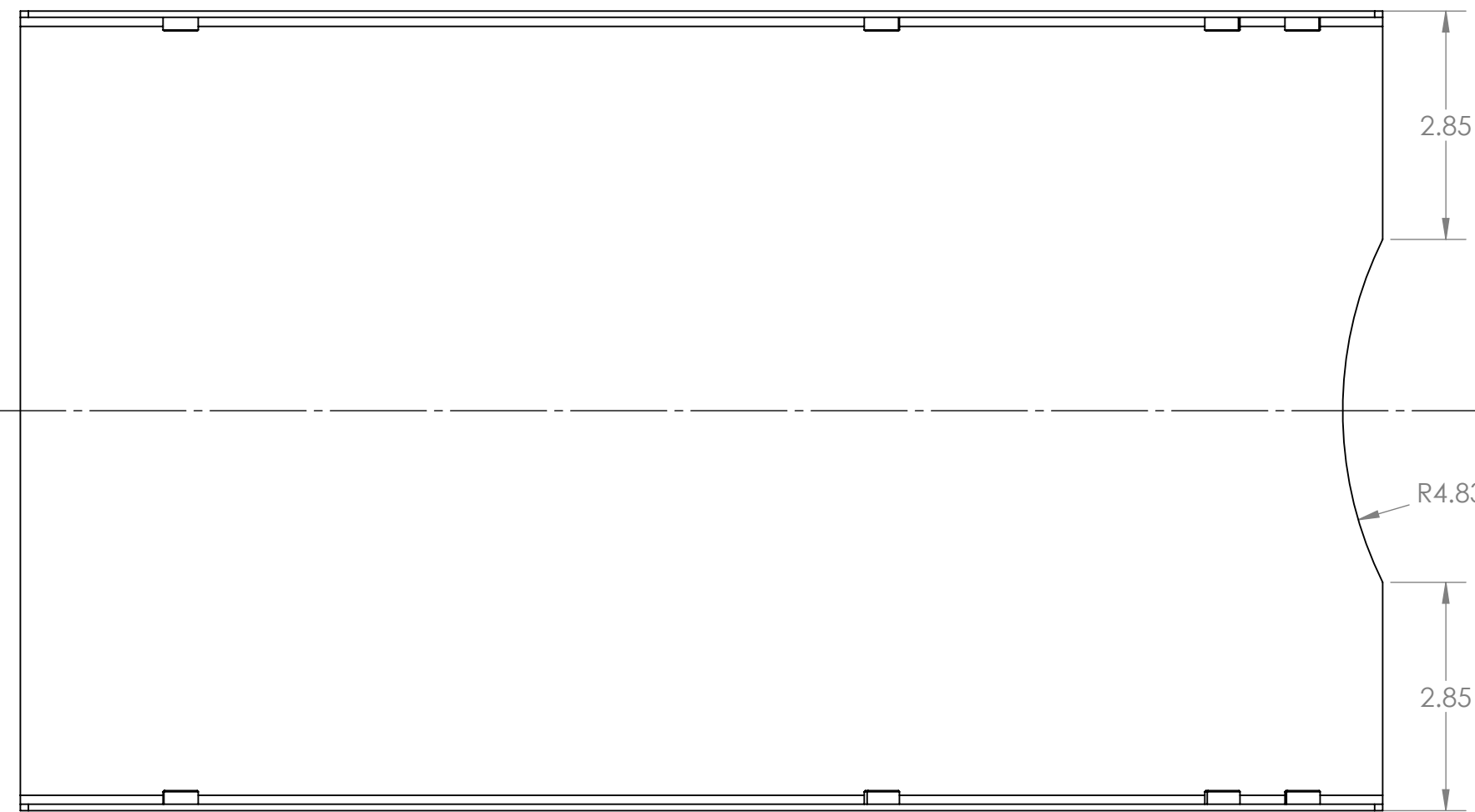
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Notes:
1. Tag or label with part number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22334-01	14 Ga. Preplated Steel	1
2	pem_clinchnut_.25_20_.054	1/4-20 self-clinching nut, .054 shank	8

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 14 Ga. Preplated Steel DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	CO	6/11/2021
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:		
	Lower Exit Back Roof		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.	REV
	C	GE-22334	
SCALE: 1:2		SHEET 1 OF 1	

FIRST ROBOTICS COMPETITION

SOLIDWORKS Modeling Solutions Partner

TITLE: Lower Exit Back Roof

SIZE: C DWG. NO.: GE-22334 REV:

SCALE: 1:2 SHEET 1 OF 1

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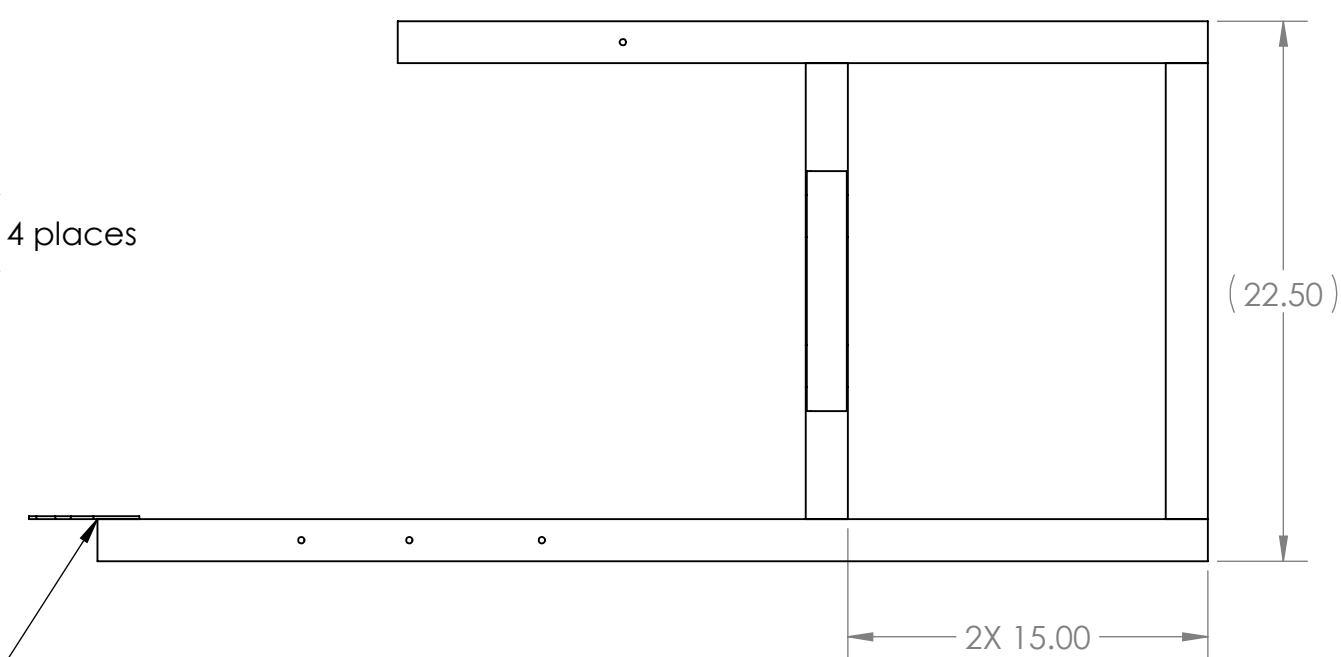
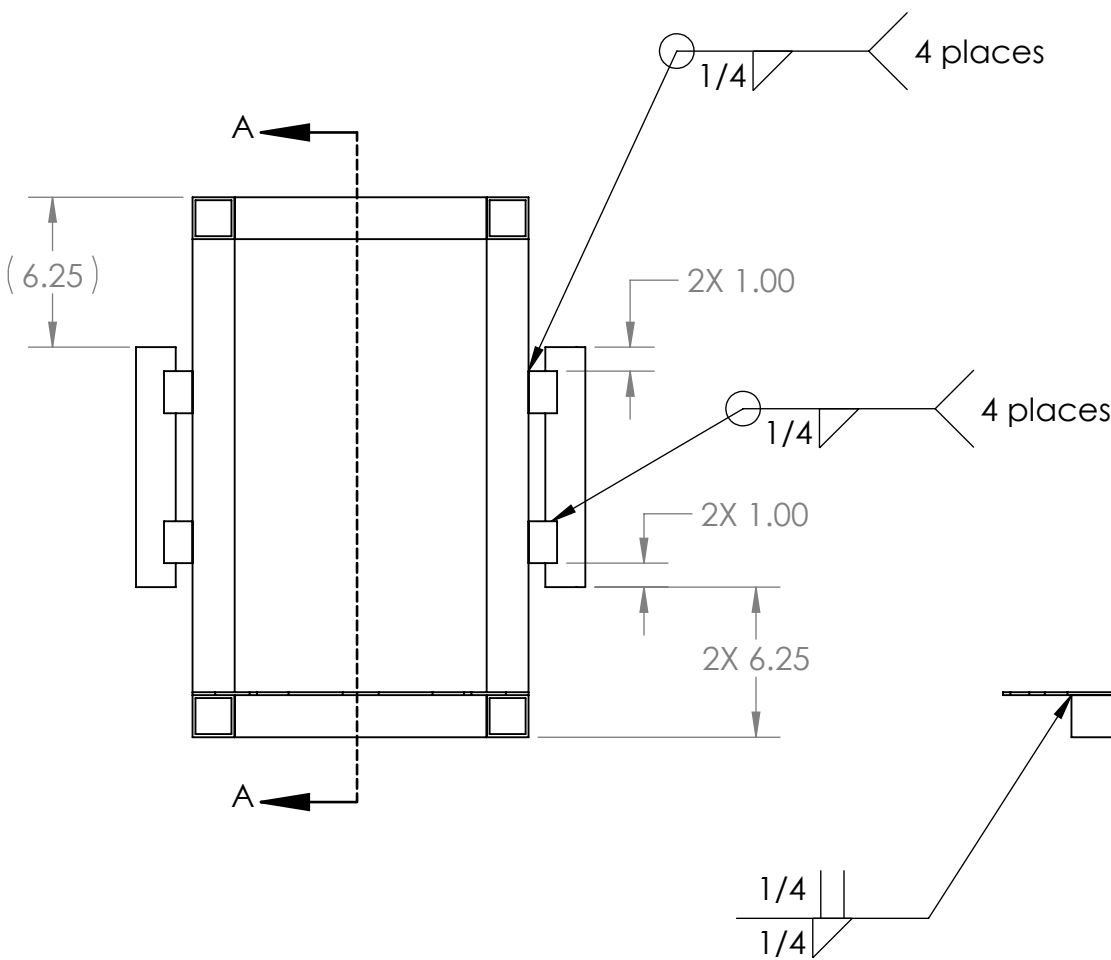
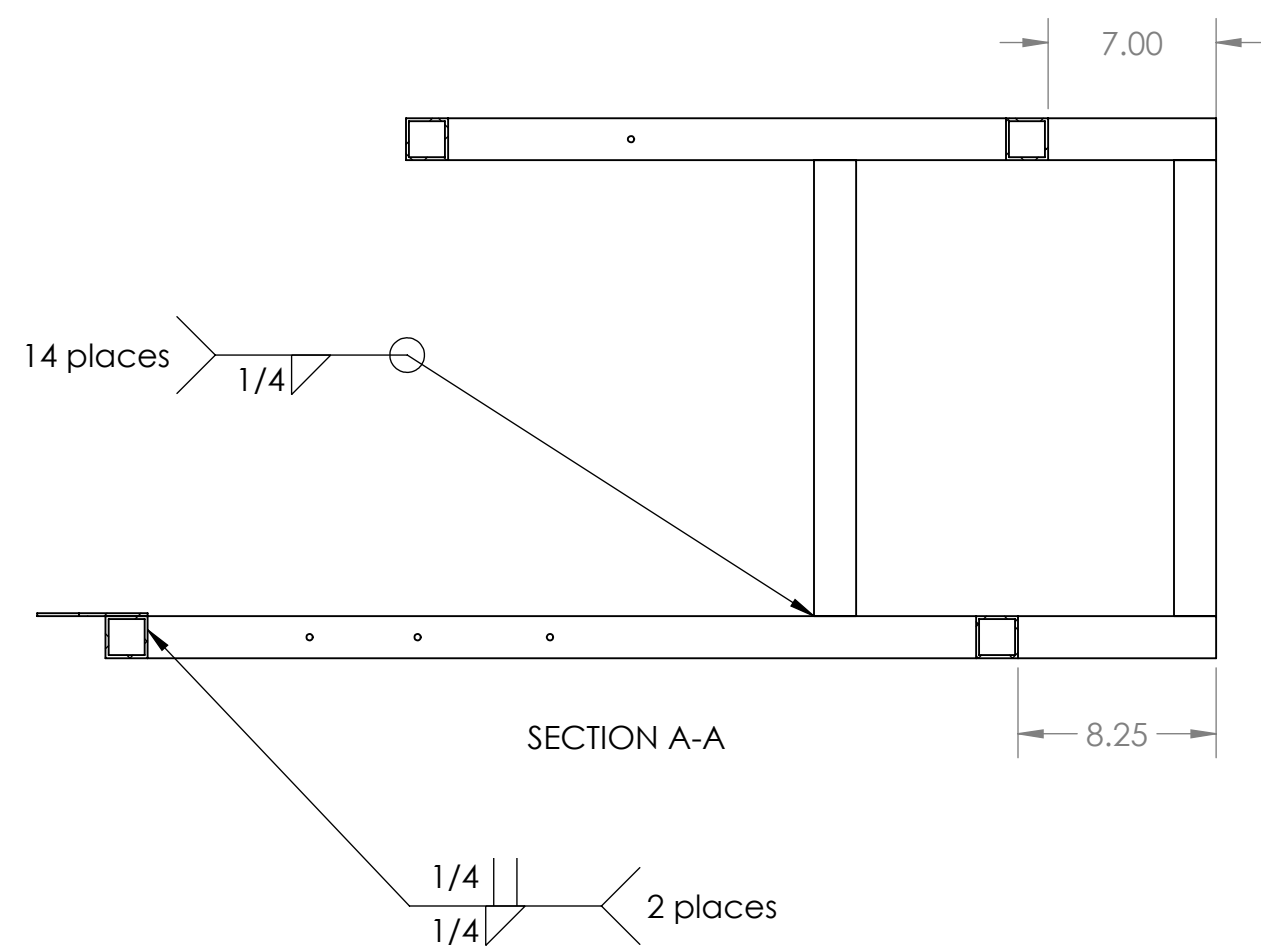
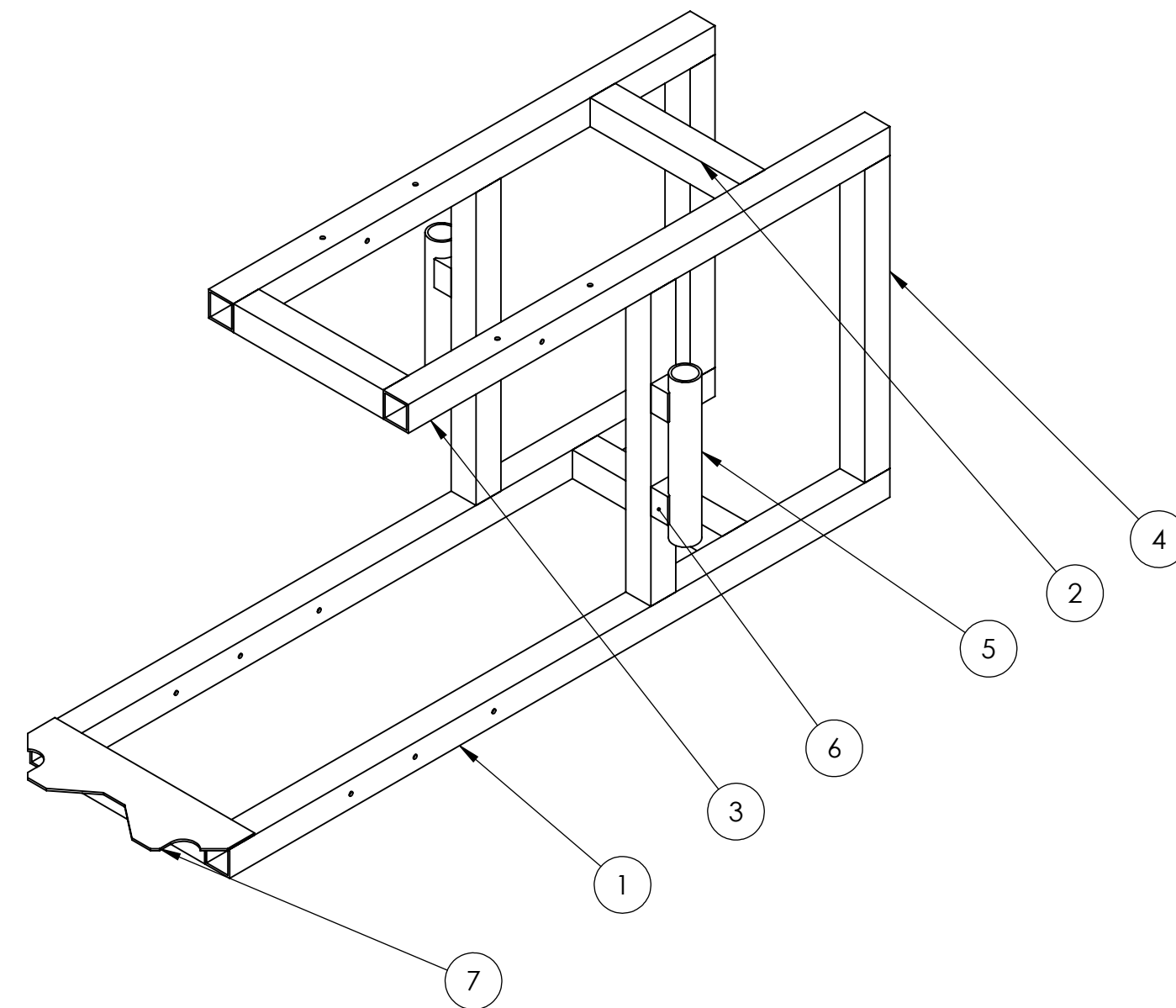
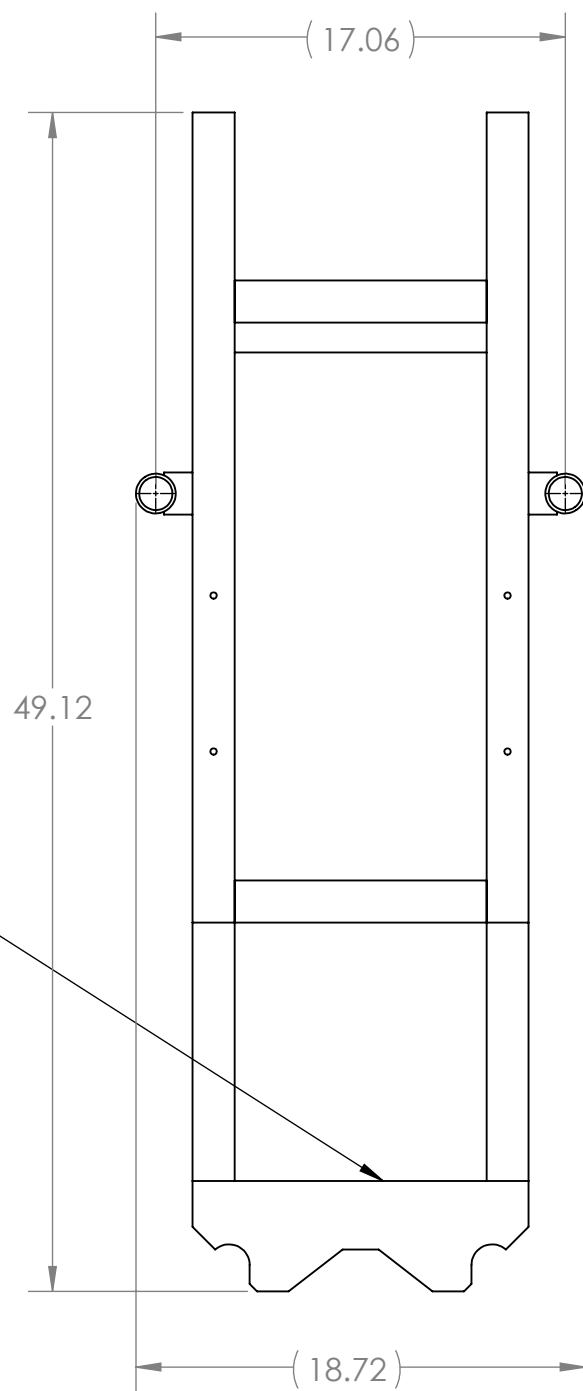
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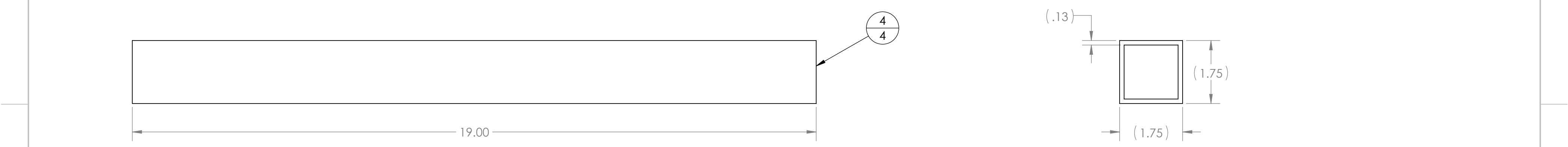
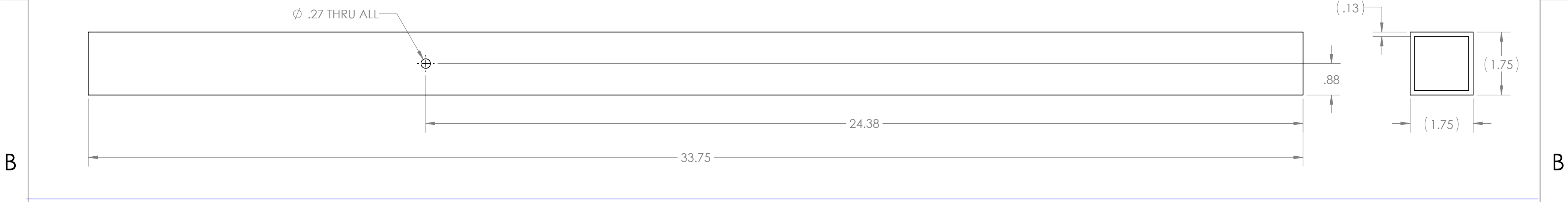
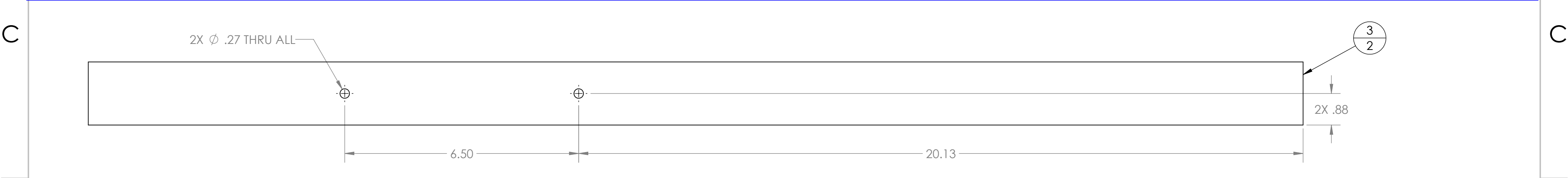
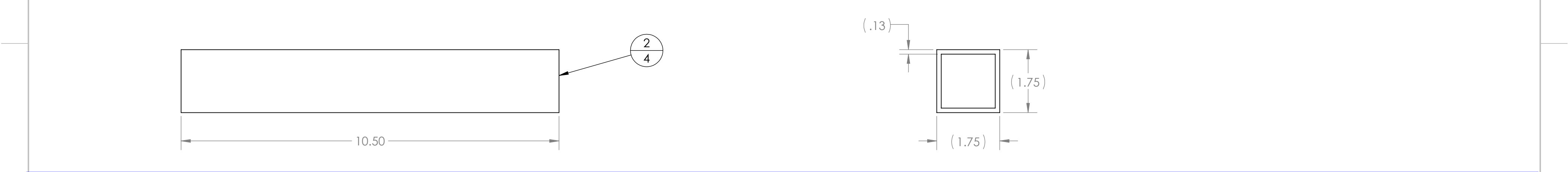
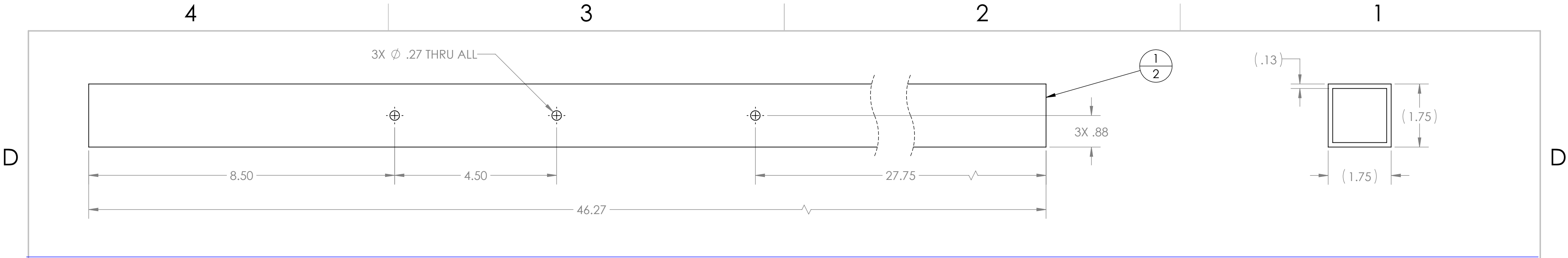
Edge of (7) aligns with face of (2)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22335-01	1.75" x .125" thk. Square Tubing, 6061 Aluminum	2
2	GE-22335-02	1.75" x .125" thk. Square Tubing, 6061 Aluminum	4
3	GE-22335-03	1.75" x .125" thk. Square Tubing, 6061 Aluminum	2
4	GE-22335-04	1.75" x .125" thk. Square Tubing, 6061 Aluminum	4
5	GE-22335-05	1.25" Schedule 40 Pipe, 6061 Aluminum	2
6	GE-22335-06	1.75" x .125" thk. Square Tubing, 6061 Aluminum	4
7	GE-22335-07	8 Ga. 5052 Aluminum	1

Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.015	WELD	NAME	DATE	
	DRAWN	CO	7/26/2021	
MATERIAL/FINISH:	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.			Lower Exit Frame
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22335
			SCALE: 1:8	SHEET 1 OF 3



<p>UNLESS OTHERWISE SPECIFIED:</p> <p>DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.015</p> <p>MATERIAL/FINISH:</p> <p>COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.</p> <p>DO NOT SCALE DRAWING</p>	WELD	NAME	DATE	 	
	DRAWN	CO	7/26/2021		
	<p>PROPRIETARY AND CONFIDENTIAL</p> <p>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.</p>				TITLE:
					<p>Lower Exit Frame</p>
		SIZE	DWG. NO.	REV	
		C	GE-22335		
SCALE: 1:2			SHEET 2 OF 3		

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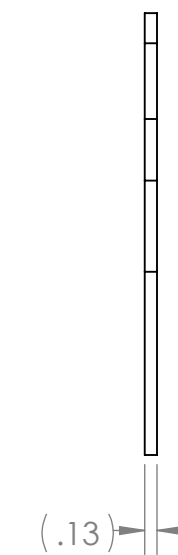
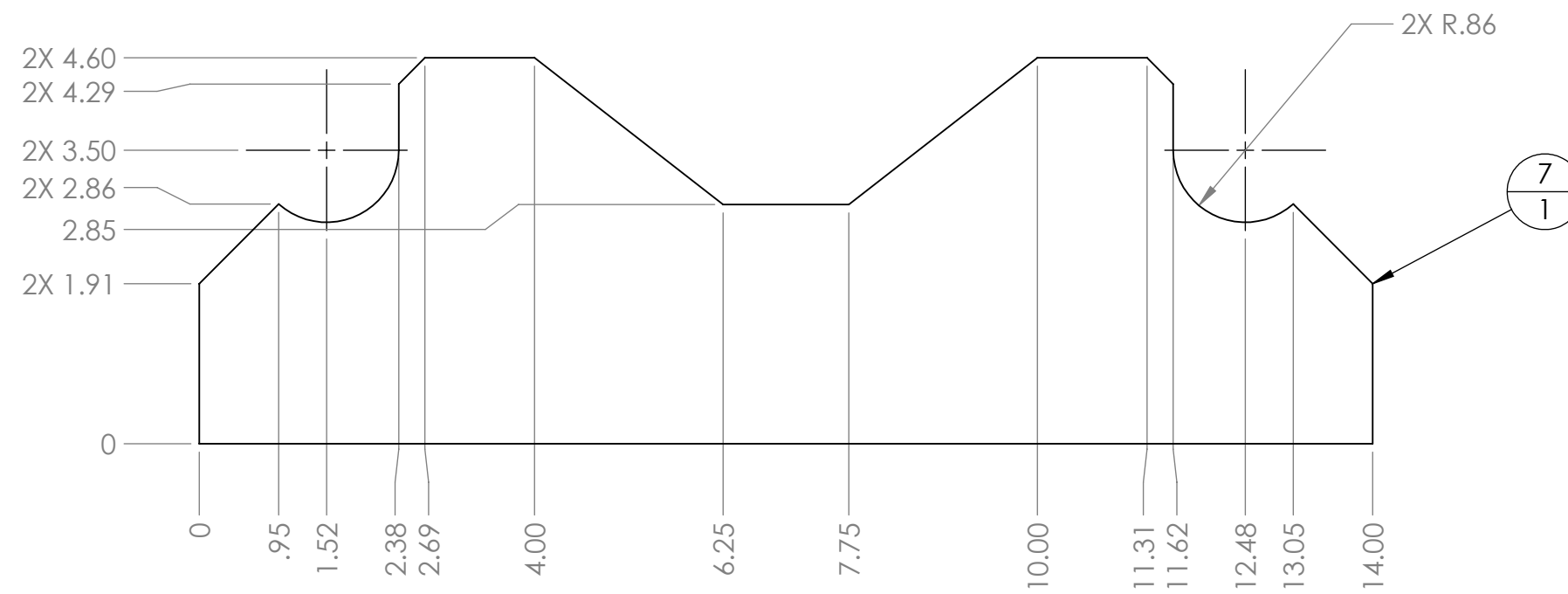
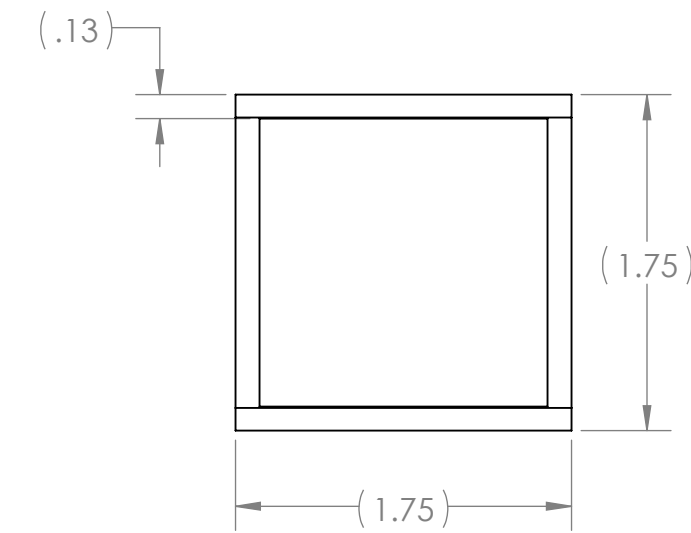
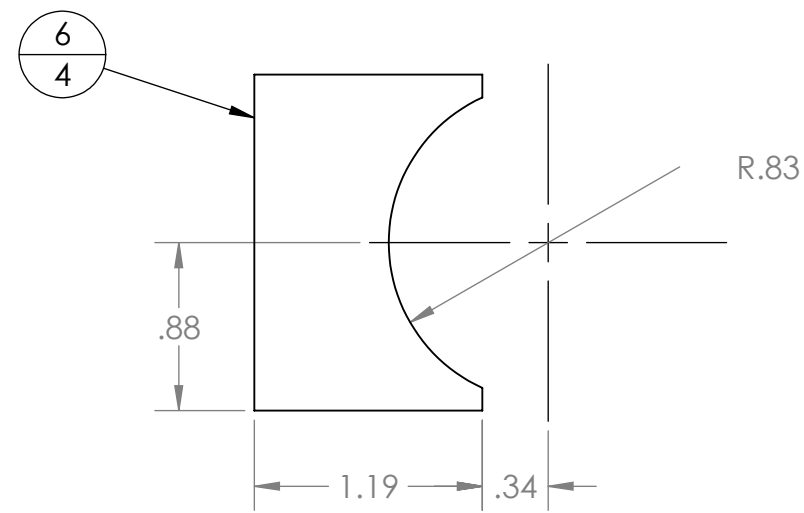
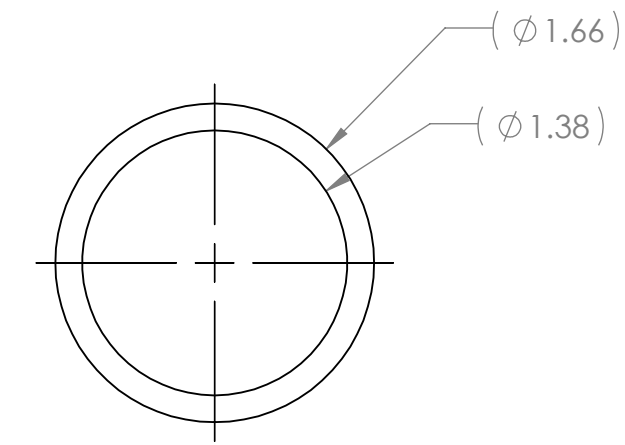
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Notes:
1. Scale: 1:2

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$ MATERIAL/FINISH: DO NOT SCALE DRAWING	WELD	NAME	DATE	 
	DRAWN	CO	7/26/2021	
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:
				Lower Exit Frame
SIZE		DWG. NO.	REV	
C		GE-22335		
SCALE: 1:1			SHEET 3 OF 3	

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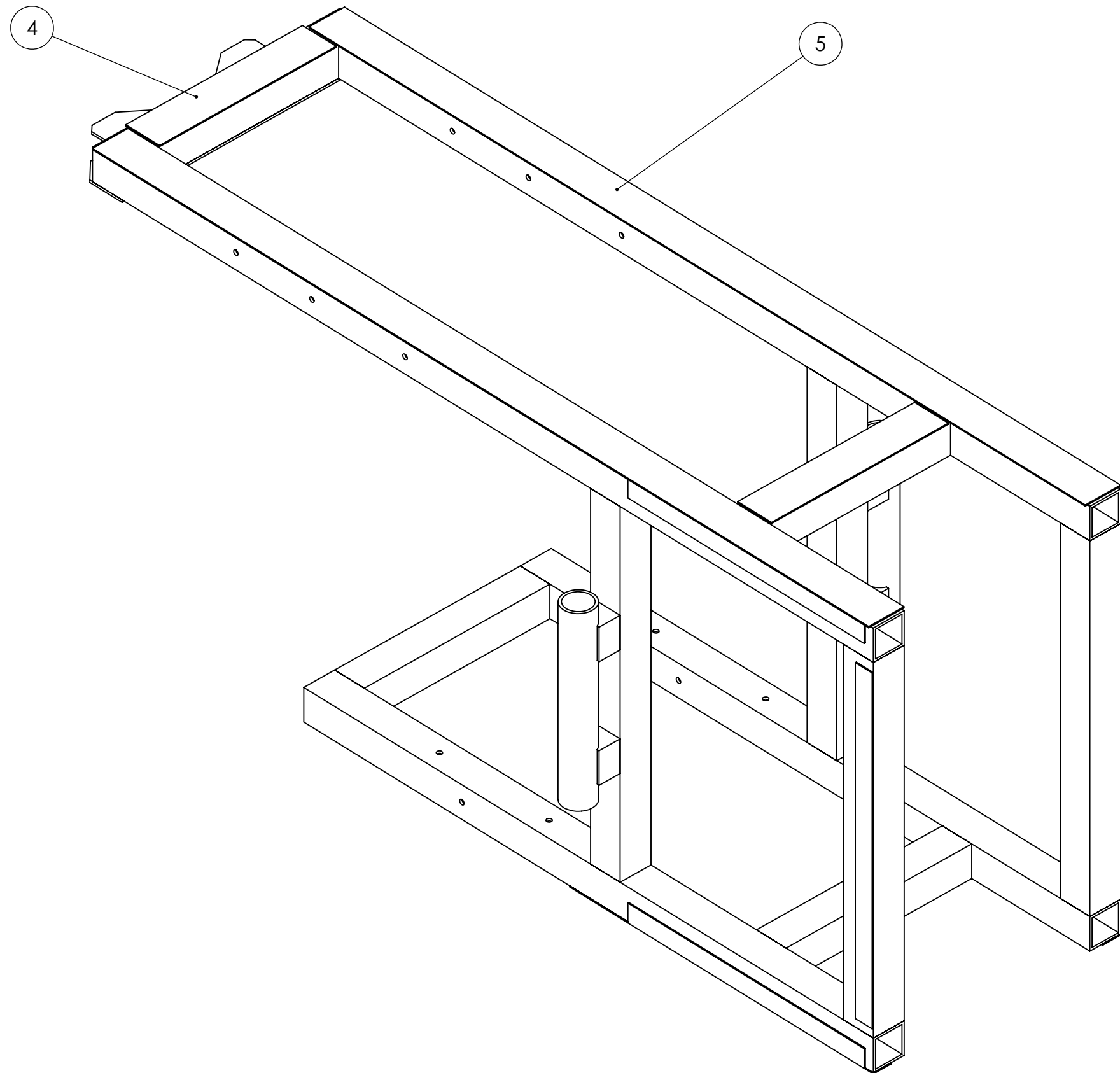
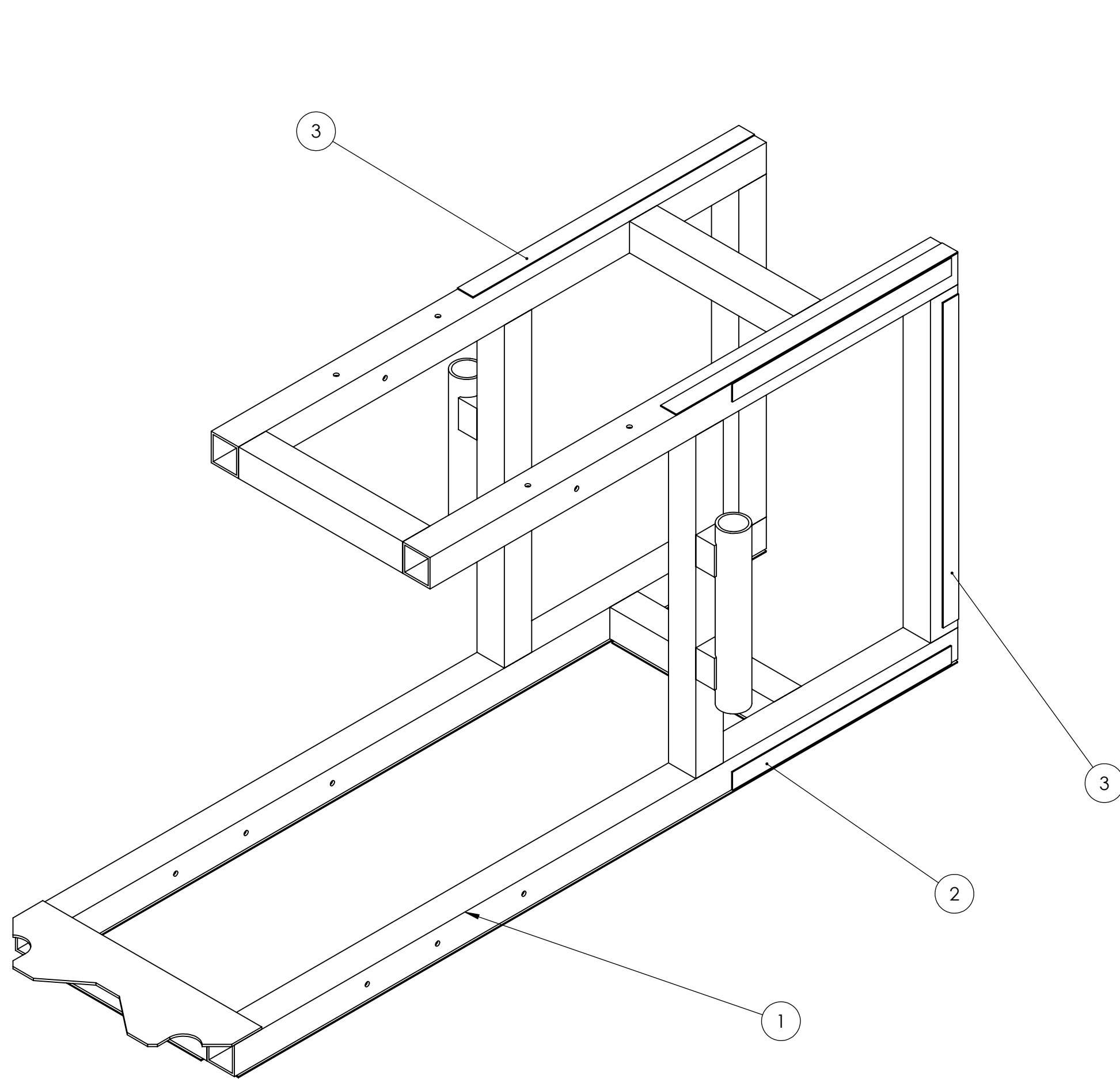
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22335	Lower Exit Frame	1
2	Hook_1_14	1" x 14" Hook, Adhesive Backed	4
3	Hook_1_18	1" x 18" Hook, Adhesive Backed	4
4	Hook_2_10	2" x 10" Hook, Adhesive Backed	2
5	Hook_2_46	2" X 46" Hook, Adhesion Backed	2

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	10/27/2021

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: **Lower Exit Frame with Hook**

SIZE	DWG. NO.	REV
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C GE-22336

SCALE: 1:5	SHEET 1 OF 2
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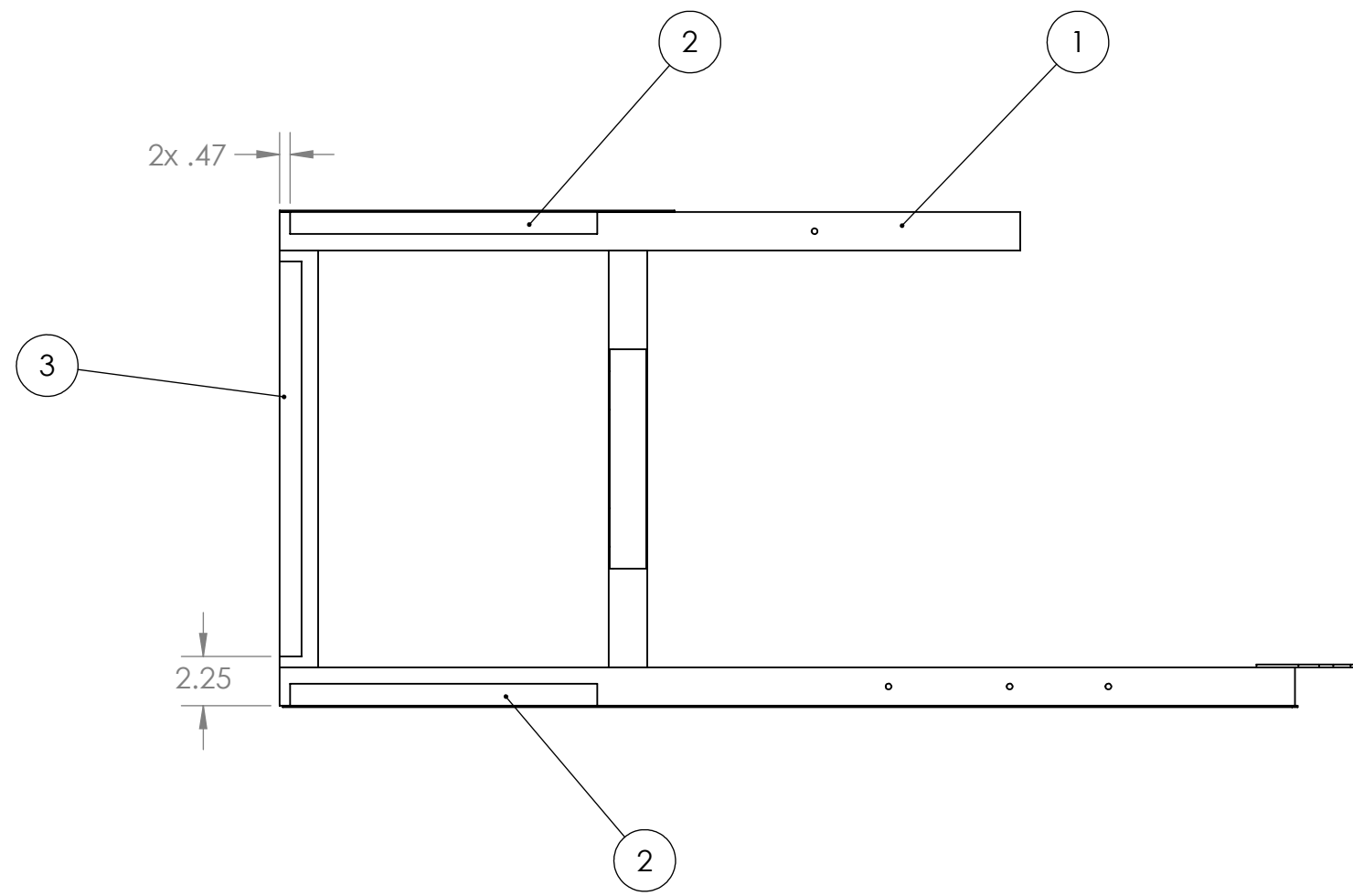
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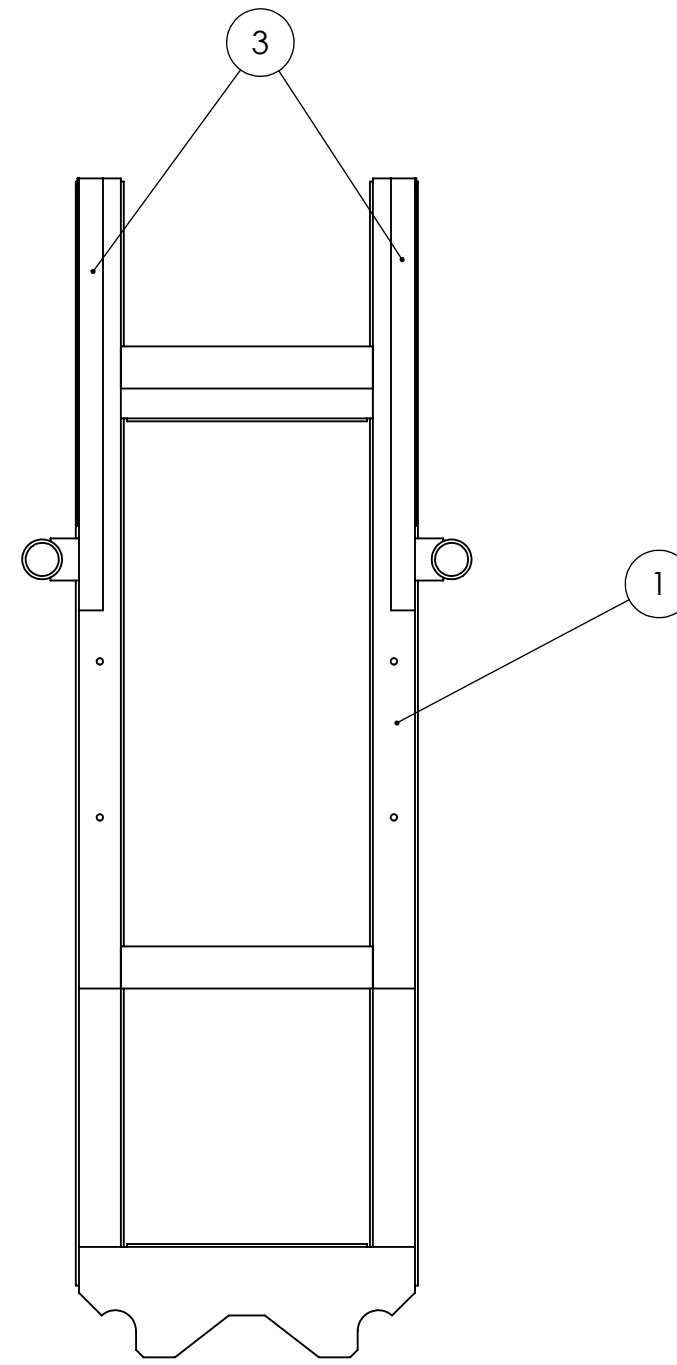
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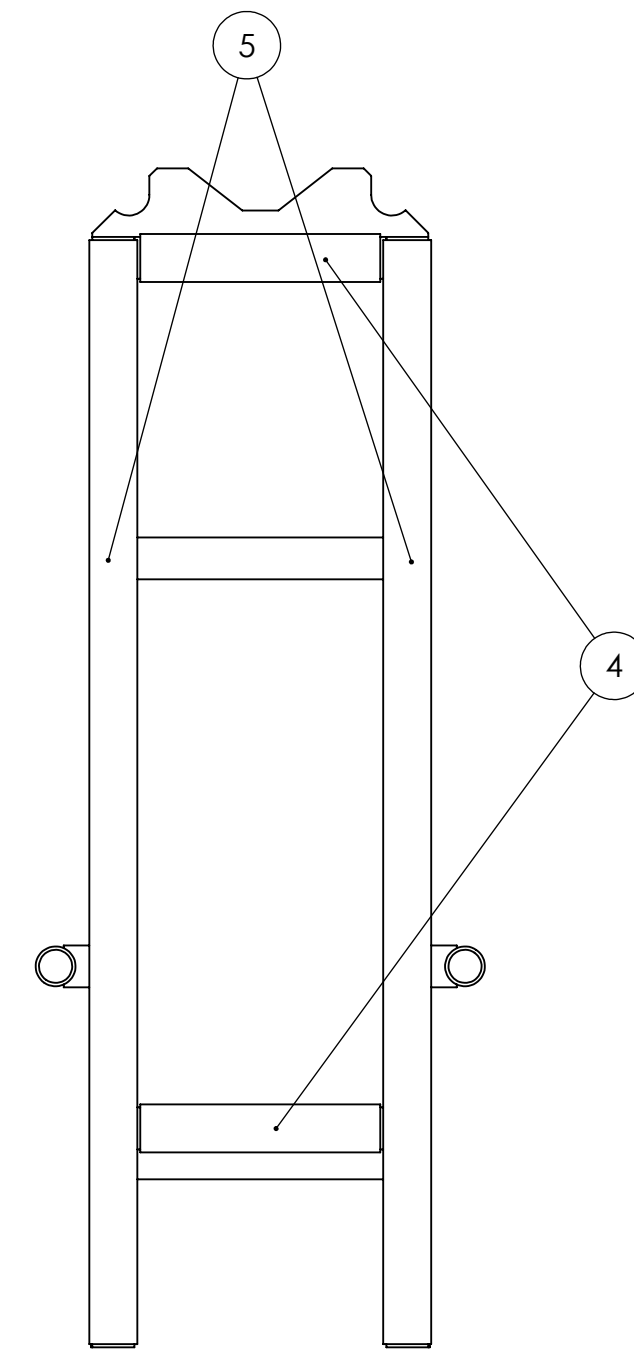
Notes:

- 1. Make sure surface of (1) is clean prior to hook application.
- 2. Attach (2) and (3) in locations shown.
- 3. Repeat process for opposite side of weldment.





Notes:

- 1. Make sure surface of (1) is clean prior to hook application.
- 2. Attach (3) in locations shown.



Notes:

- 1. Make sure surface of (1) is clean prior to hook application.
- 2. Attach (4) and (5) in locations shown.
- 3. Repeat process for opposite side of weldment.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	10/27/2021	
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: Lower Exit Frame with Hook
SIZE		DWG. NO.	REV	
C		GE-22336		
SCALE: 1:8		SHEET 2 OF 2		

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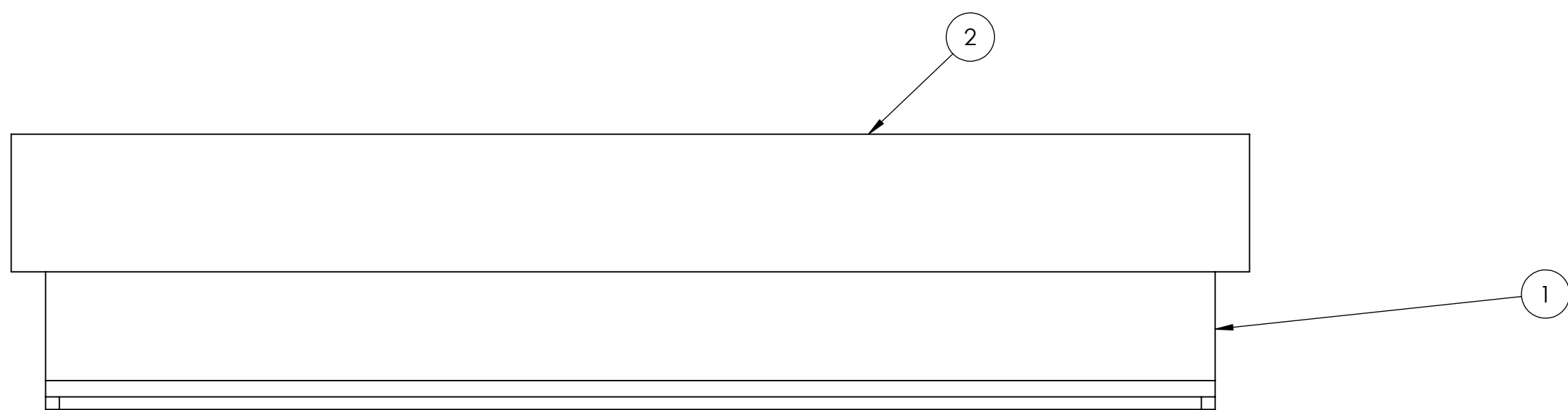
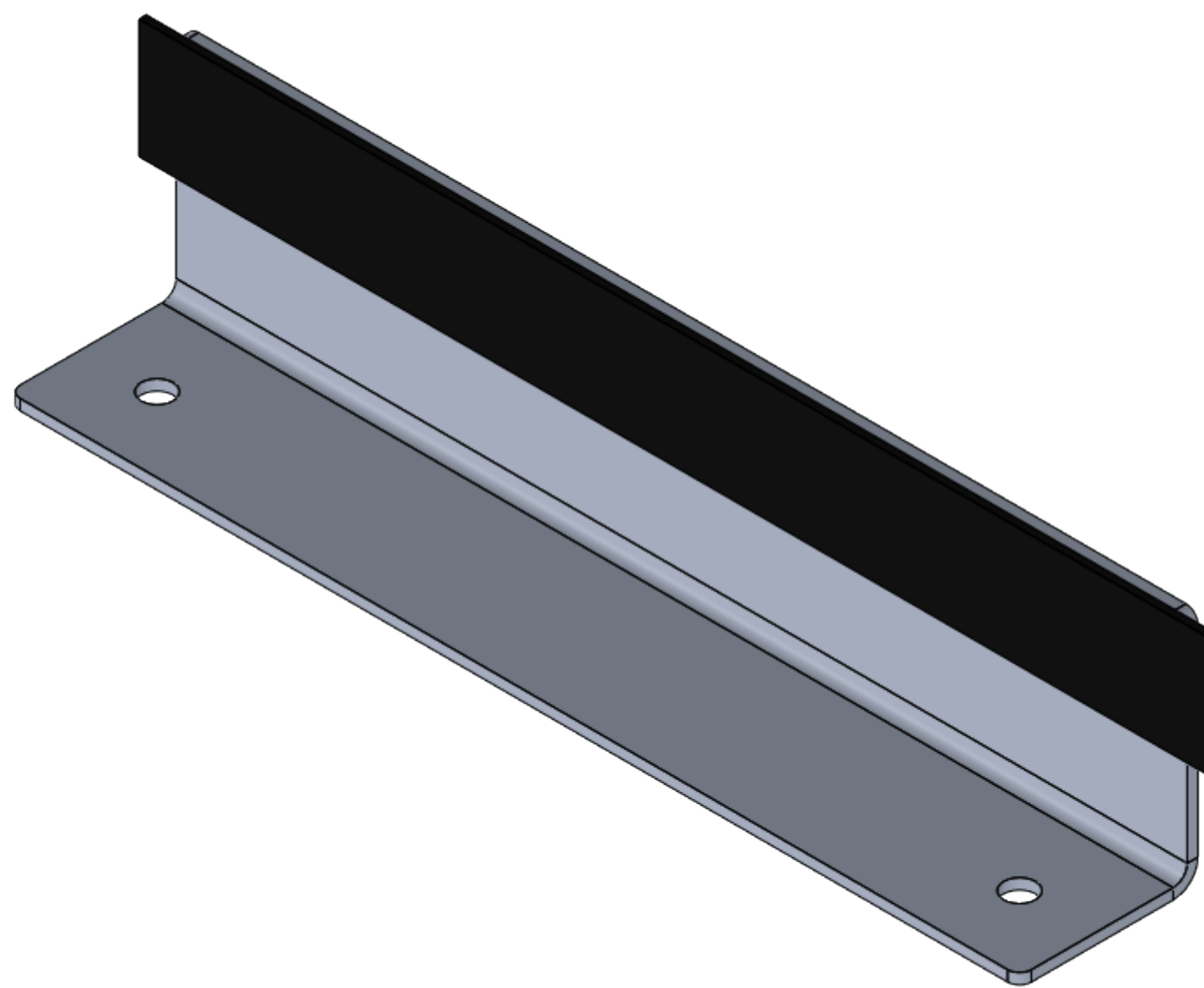
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Notes:

1. Make sure surface of (1) is clean prior to hook application.
2. Attach (2) to (1) in location shown. (2) should be centered along the edge of (1).

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	12/14/2021	
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:
				Lower Exit Ramp Angle with Hook
SIZE		DWG. NO.	REV	
C		GE-22337		
SCALE: 1:1			SHEET 1 OF 1	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22325	Lower Exit Ramp Angle	1
2	Hook_1_9	1" x 9" Hook, Adhesive Backed	1

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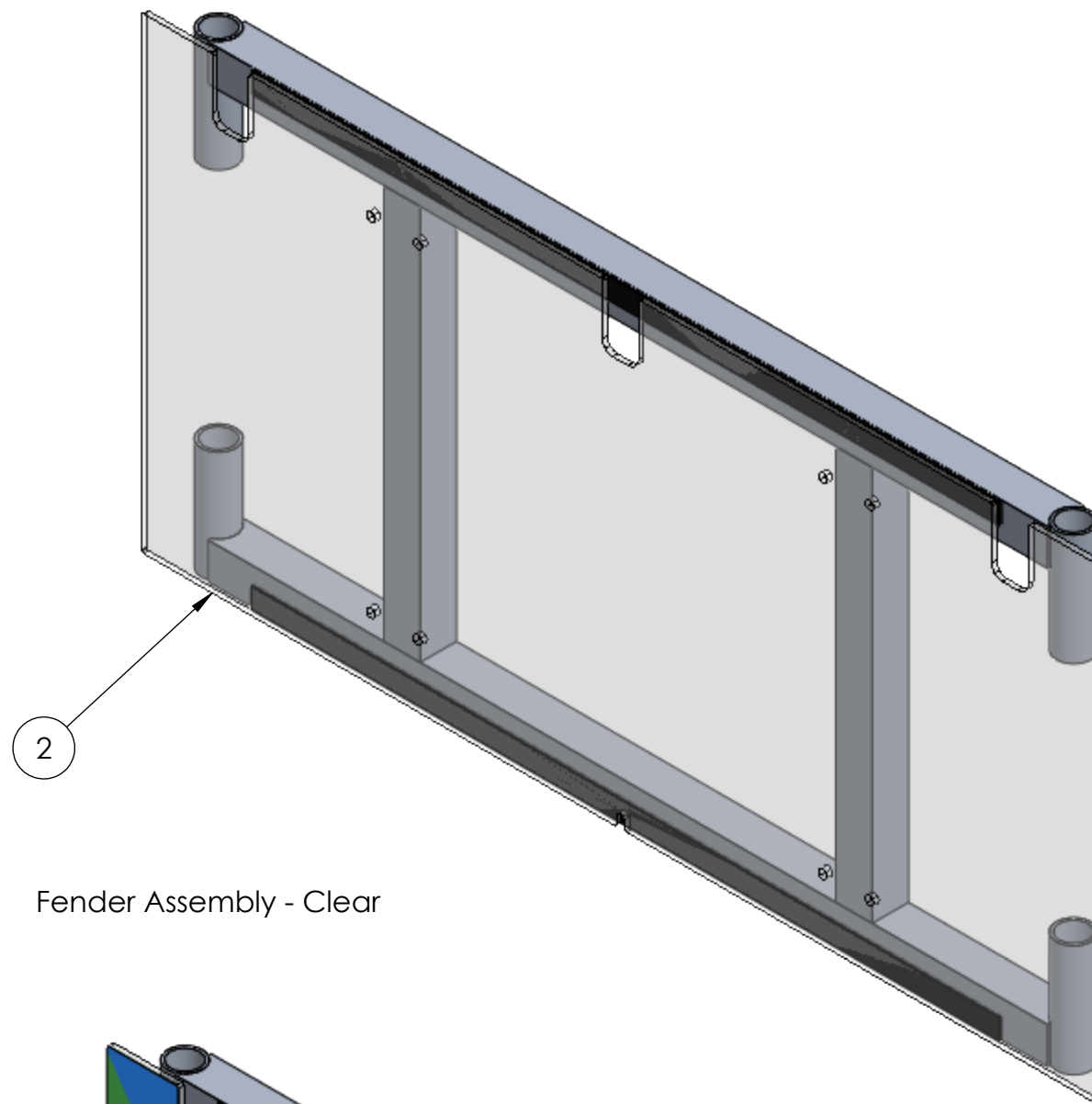
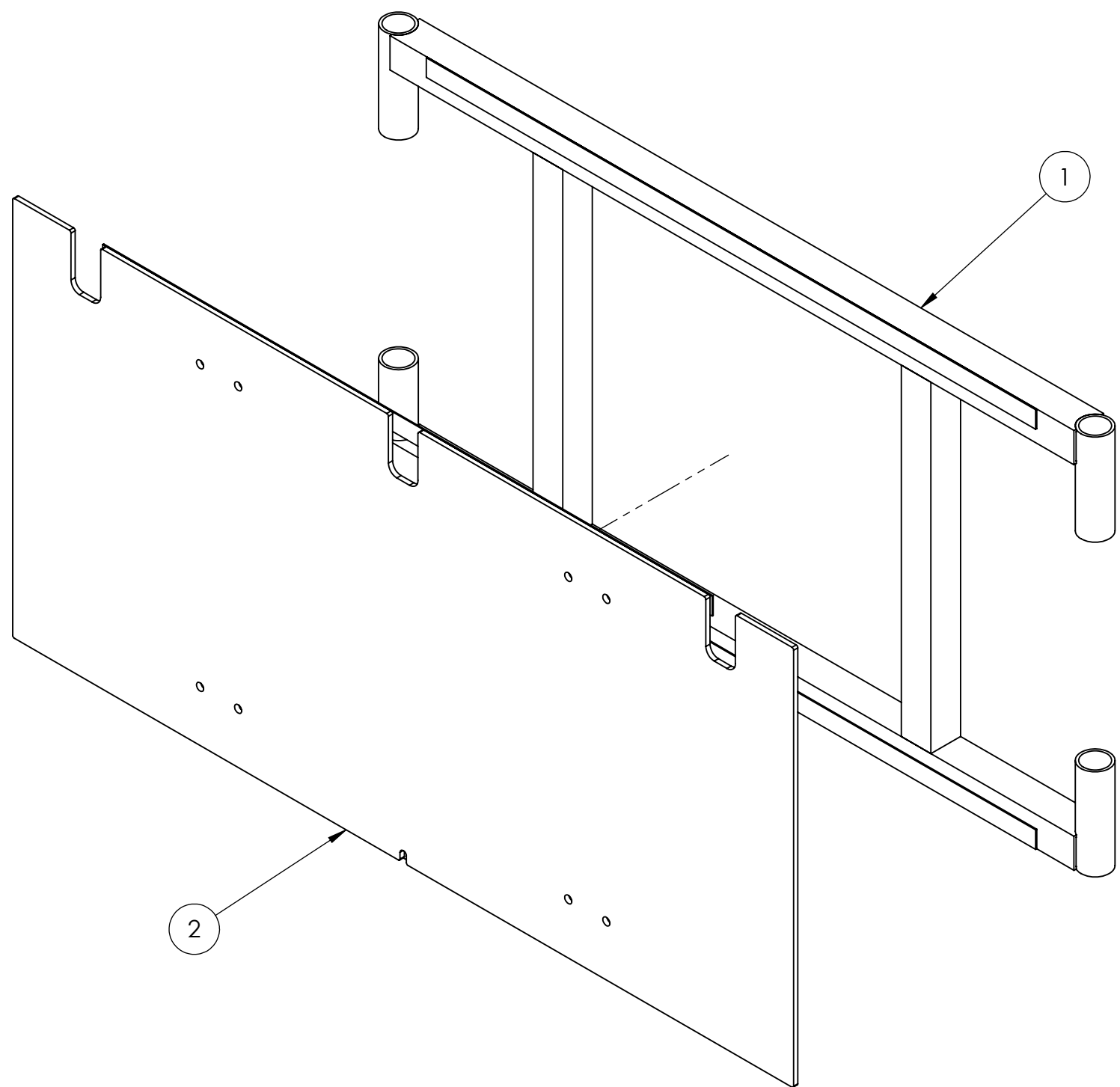
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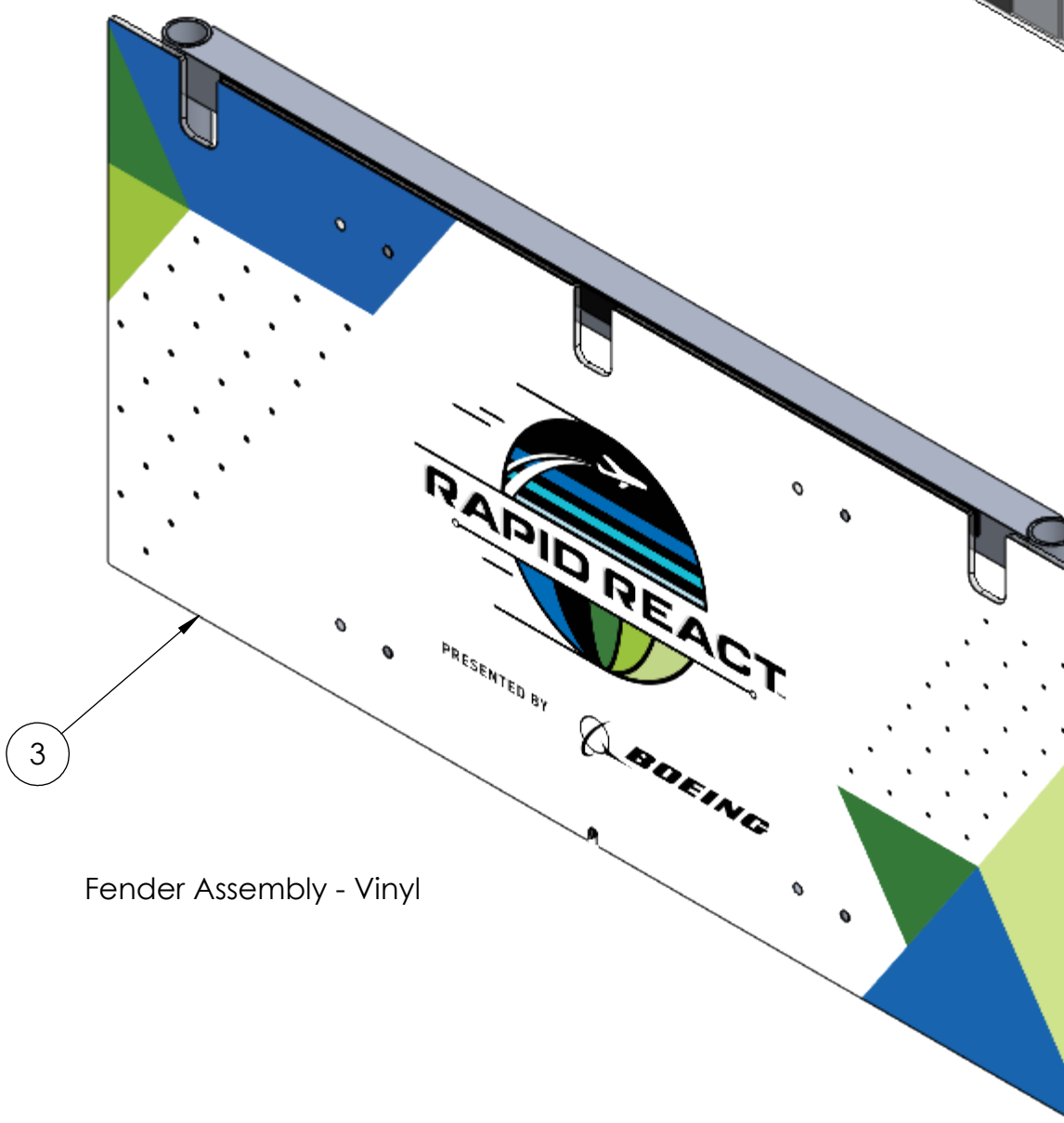
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Fender Assembly - Clear



Fender Assembly - Vinyl

Notes:

- 1. Attach (2) or (3) to (1) using hook and loop.
- 2. Assembly exists in Vinyl and clear configurations.

ITEM NO.	PART NUMBER	DESCRIPTION	Fender Assembly - Clear QTY.	Fender Assembly - Vinyl QTY.
1	GE-22343	Fender Frame with Hook	1	1
2	GE-22345	Fender Front Polycarbonate with Loop	1	-
3	GE-22349	Fender Vinyl Polycarbonate with Loop	-	1

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	12/14/2021

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:
Fender Assembly

SIZE DWG. NO. REV

C GE-22341

SCALE: 1:6 SHEET 1 OF 1

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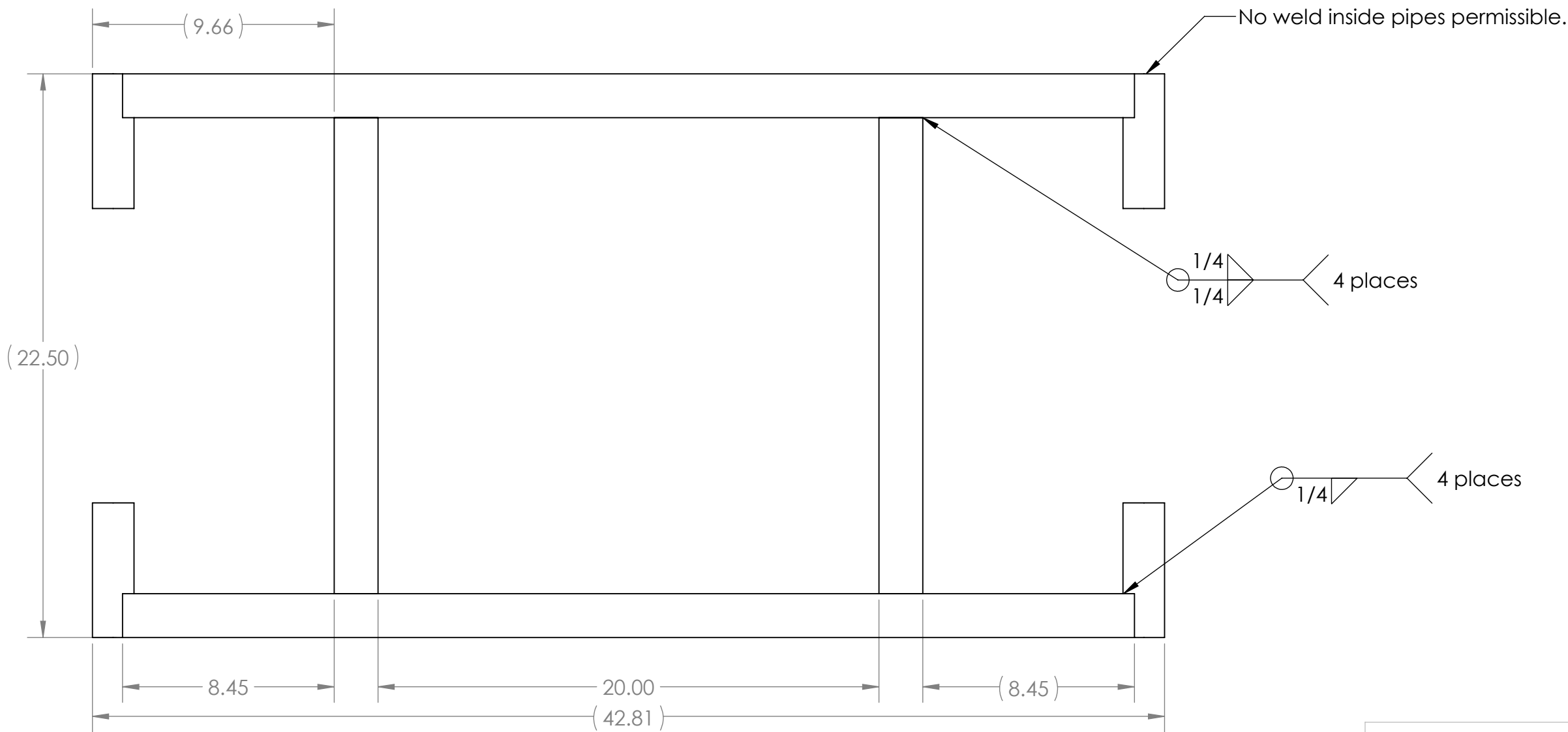
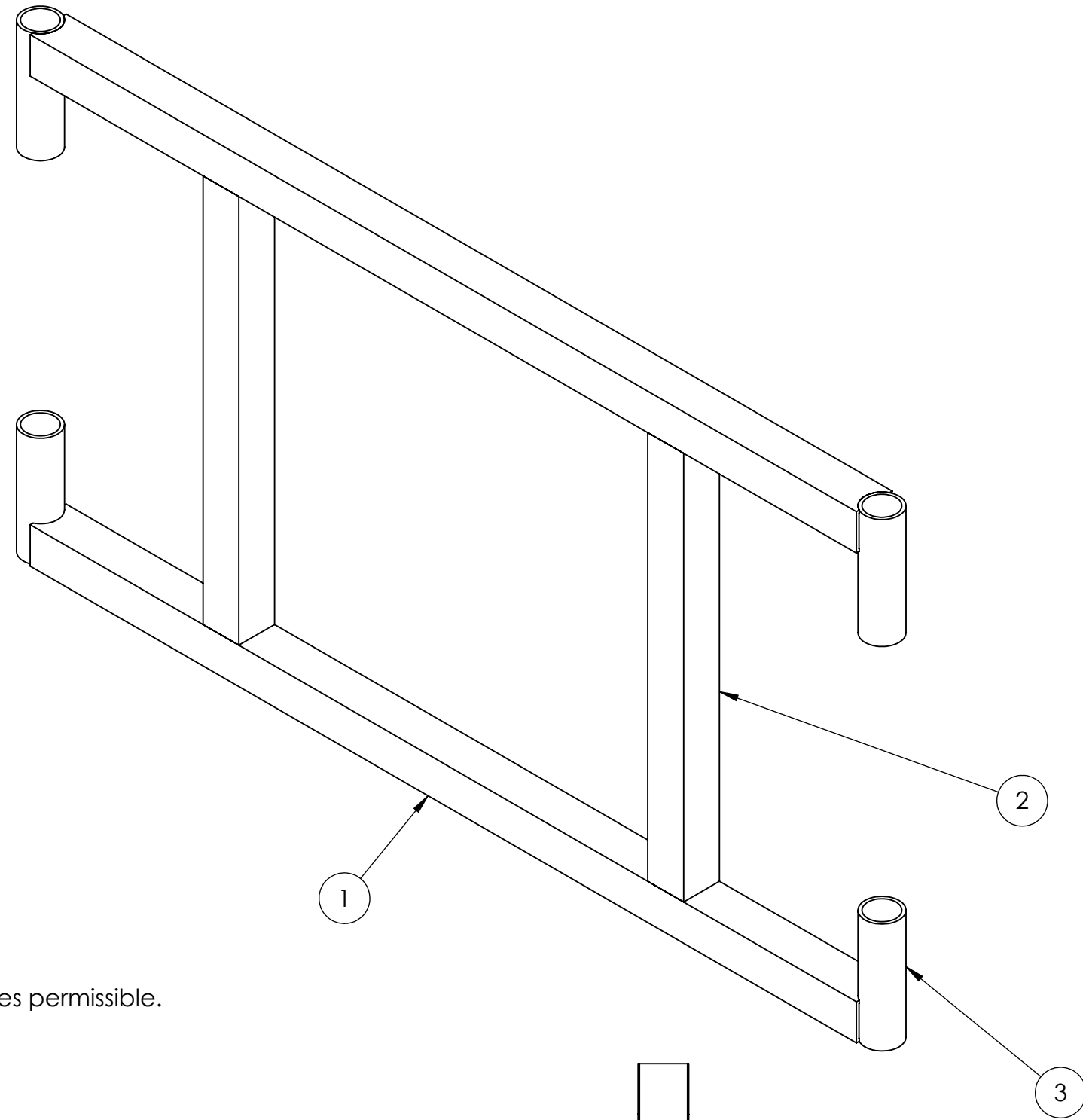
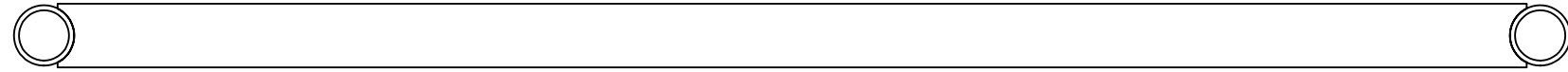
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Notes:
1. Tag or label with part number.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22342-01	1.75" x .125" tk. Square Tube, 6061 Aluminum	2
2	GE-22342-02	1.75" x .125" tk. Square Tube, 6061 Aluminum	2
3	GE-22342-03	1-1/4" Schedule 40 Pipe, 6061 Aluminum	4

UNLESS OTHERWISE SPECIFIED:	WELD	NAME	DATE
	DRAWN	CO	6/17/2021
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .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.		
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
DO NOT SCALE DRAWING			



TITLE: Fender Frame		
SIZE C	DWG. NO. GE-22342	REV
SCALE: 1:5		SHEET 1 OF 2

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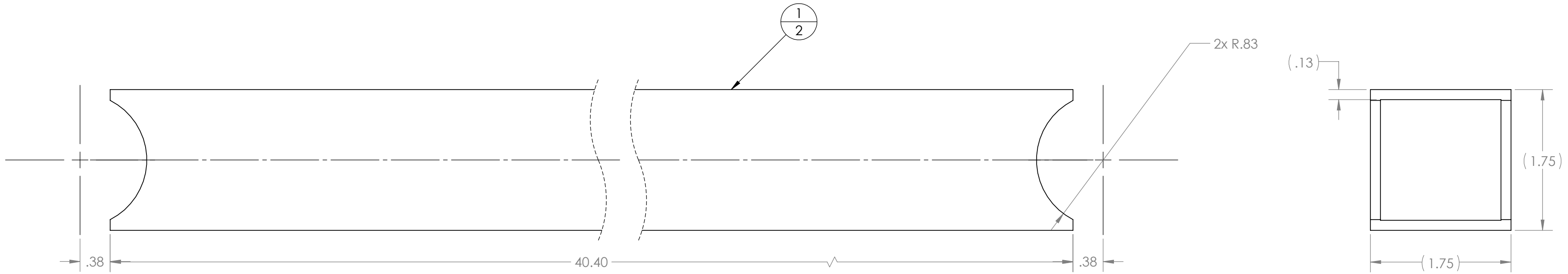
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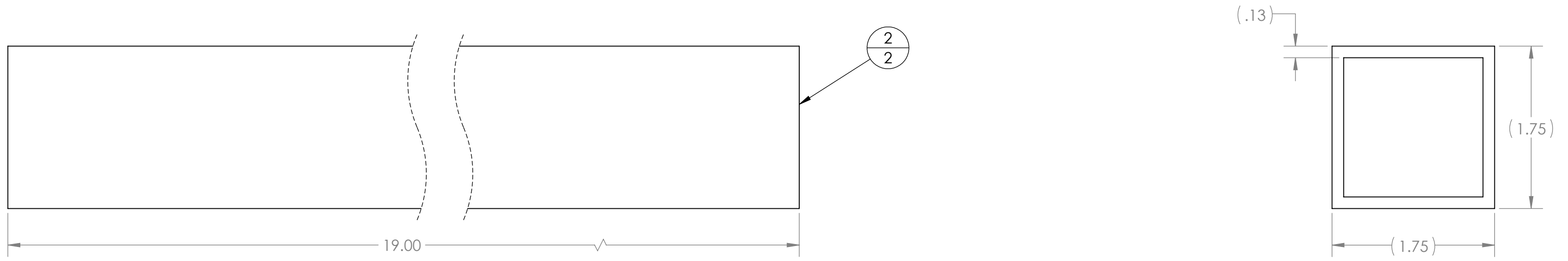
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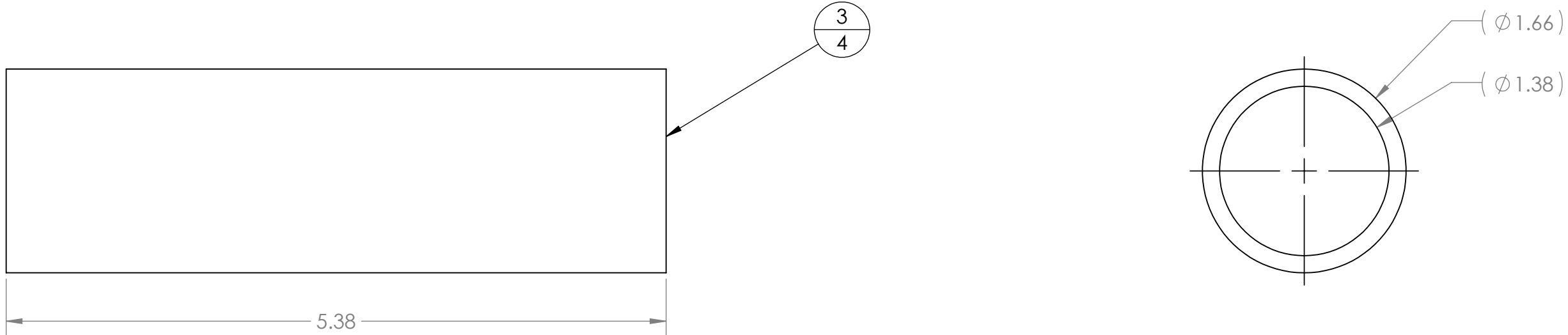
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$	WELD	NAME	DATE	 
	DRAWN	CO	6/17/2021	
MATERIAL/FINISH:	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: Fender Frame
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE: C DWG. NO.: GE-22342 REV:
DO NOT SCALE DRAWING				SCALE: 1:1 SHEET 2 OF 2

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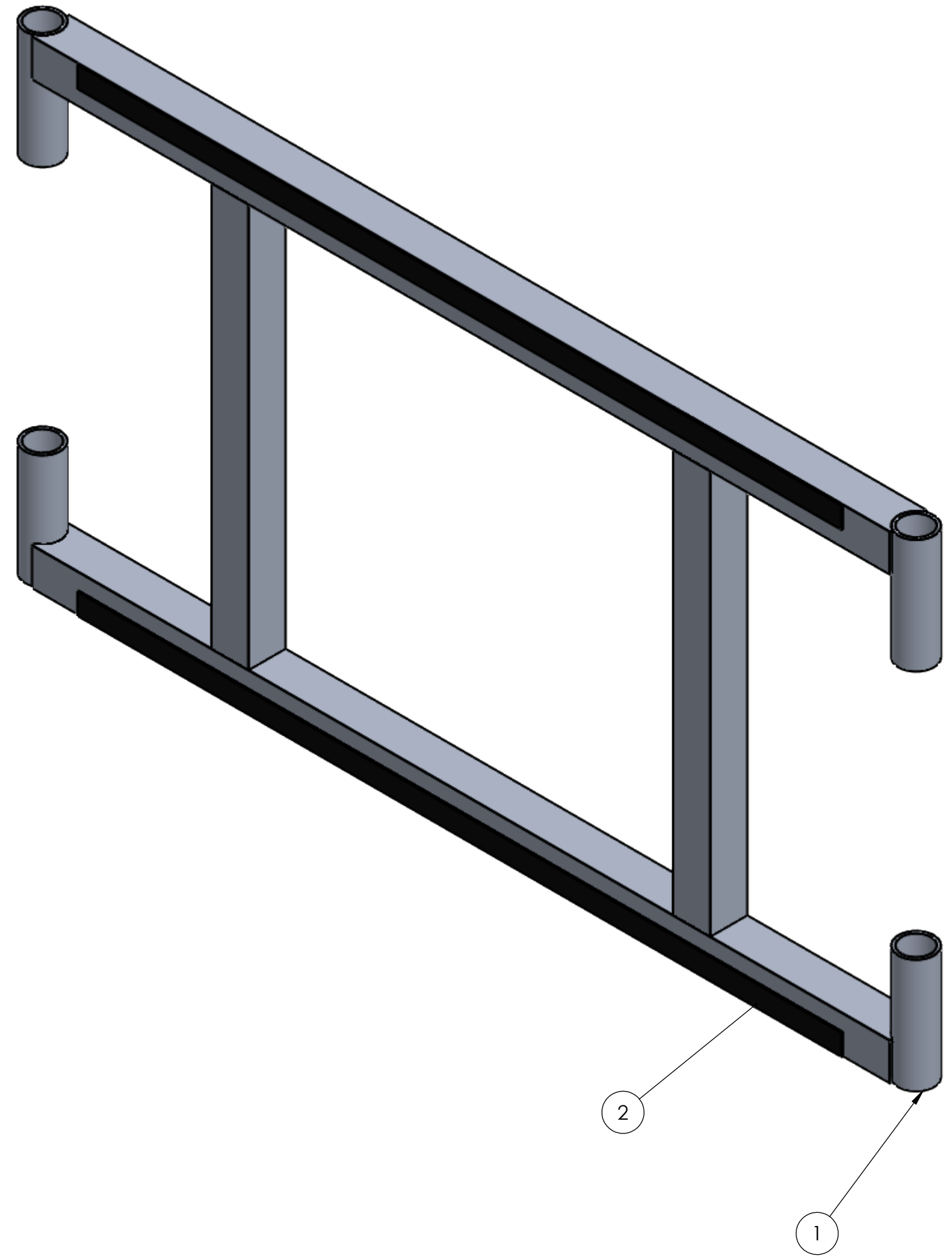
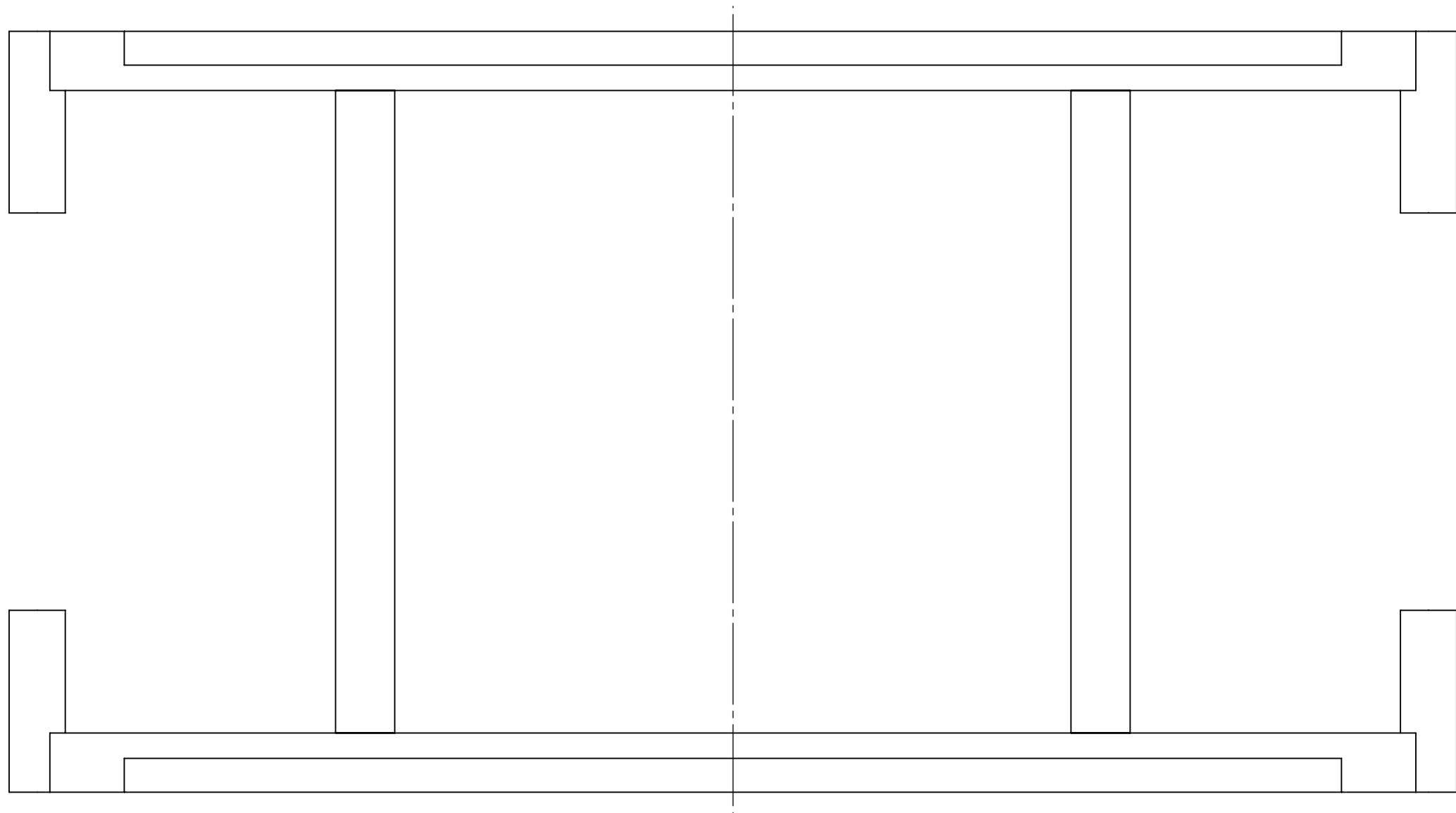
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Notes:

- 1. Make sure surface of (1) is clean prior to hook application.
- 2. Attach (2) to (1) in locations shown.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH:	VEND	NAME	DATE	 
	DRAWN	CO	11/2/2021	
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:			Fender Frame with Hook
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			
DO NOT SCALE DRAWING	DWG. NO. GE-22343		REV	SHEET 1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22342	Fender Frame	1
2	Hook_1_36	1" x 36" Hook, Adhesive Backed	2

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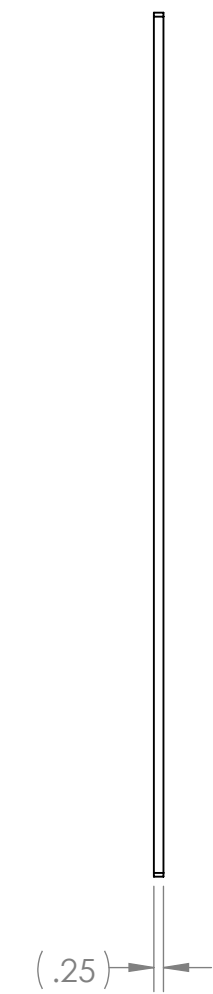
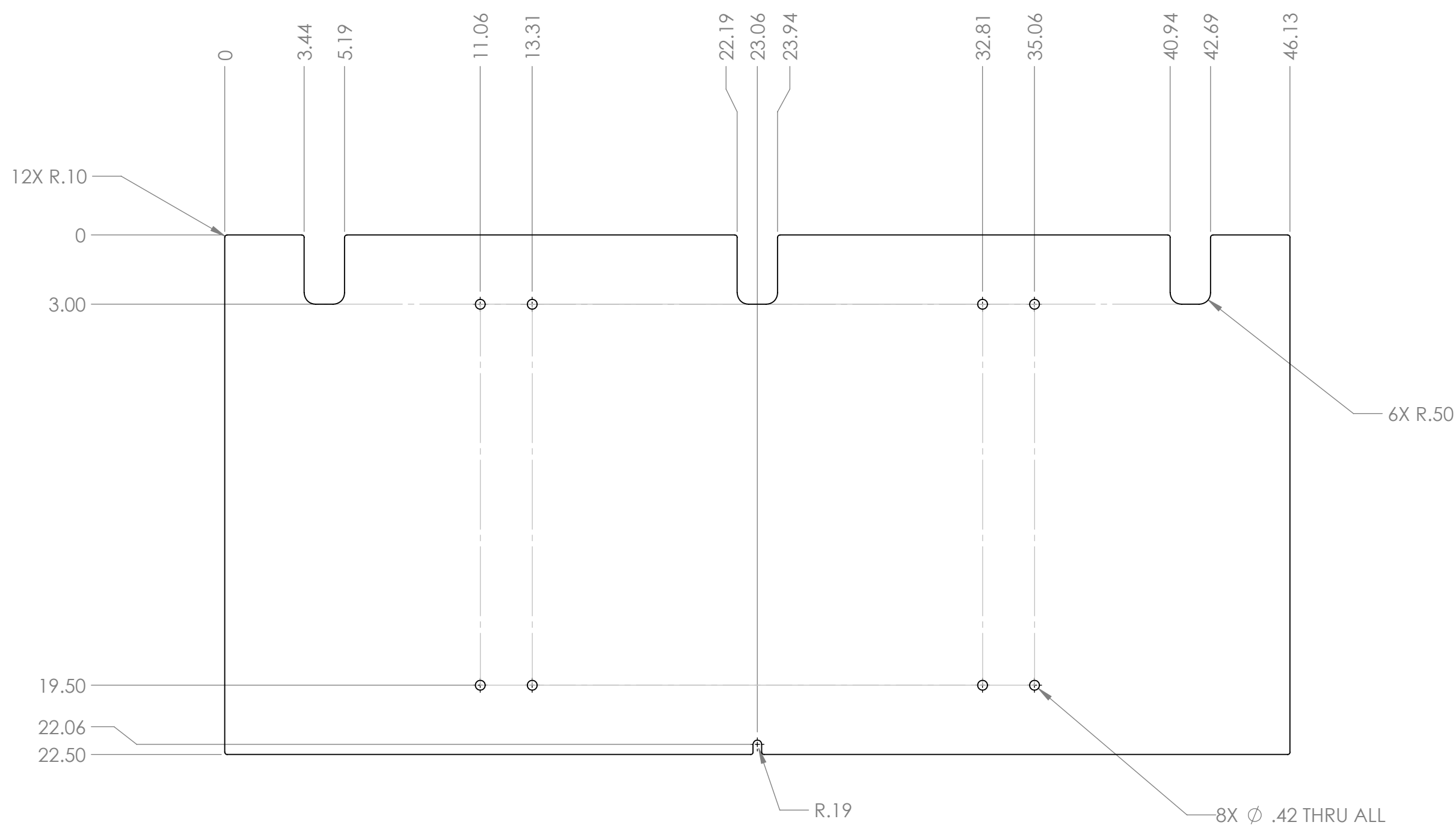
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- Notes:
 1. Tag or label with part number
 2. Vinyl to be applied to face

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
 1/4" thk. Polycarbonate,
 Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	6/11/2021

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



TITLE:
Fender Front Polycarbonate

SIZE	DWG. NO.	REV
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C GE-22344

SCALE: 1:5 SHEET 1 OF 1

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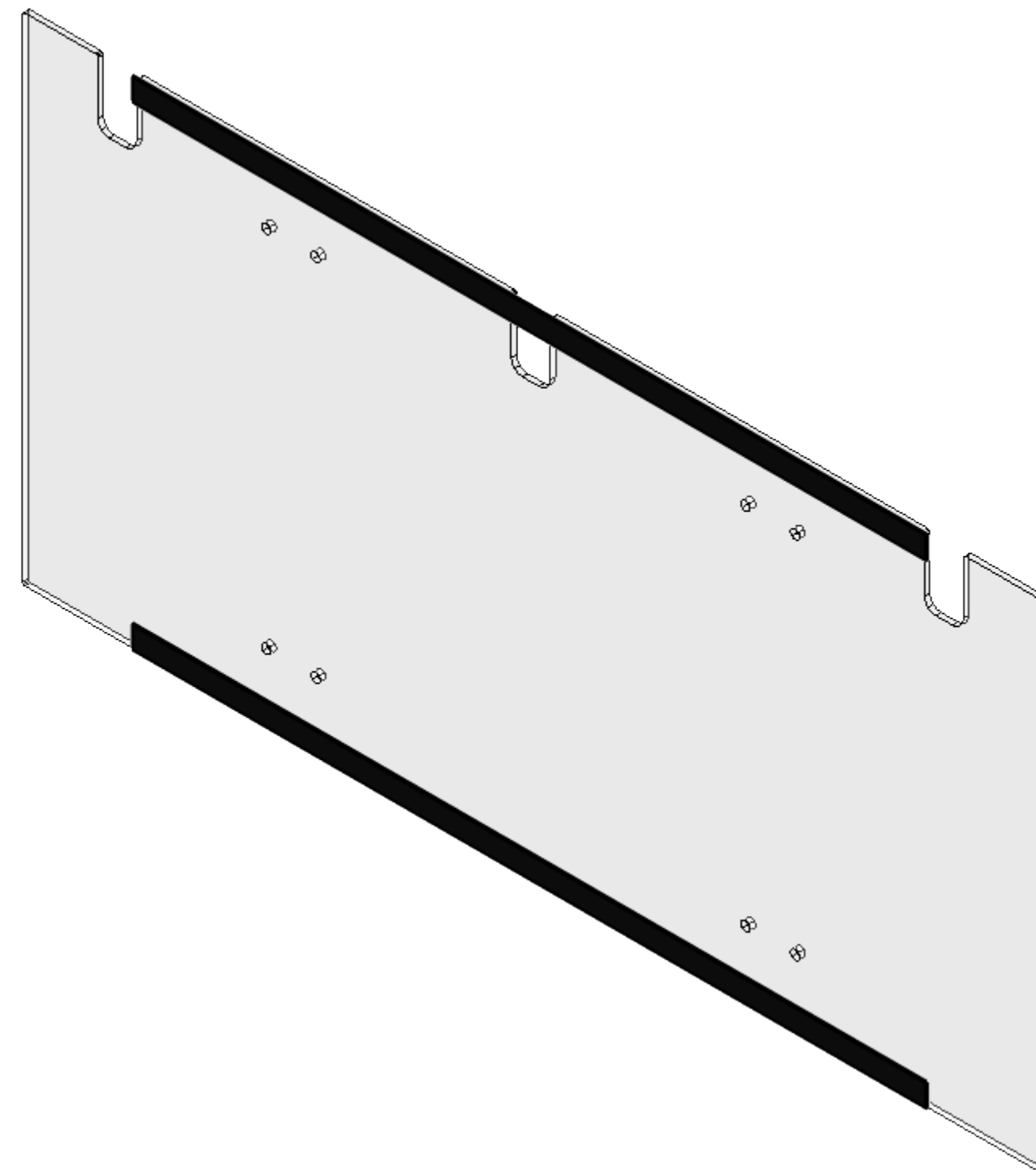
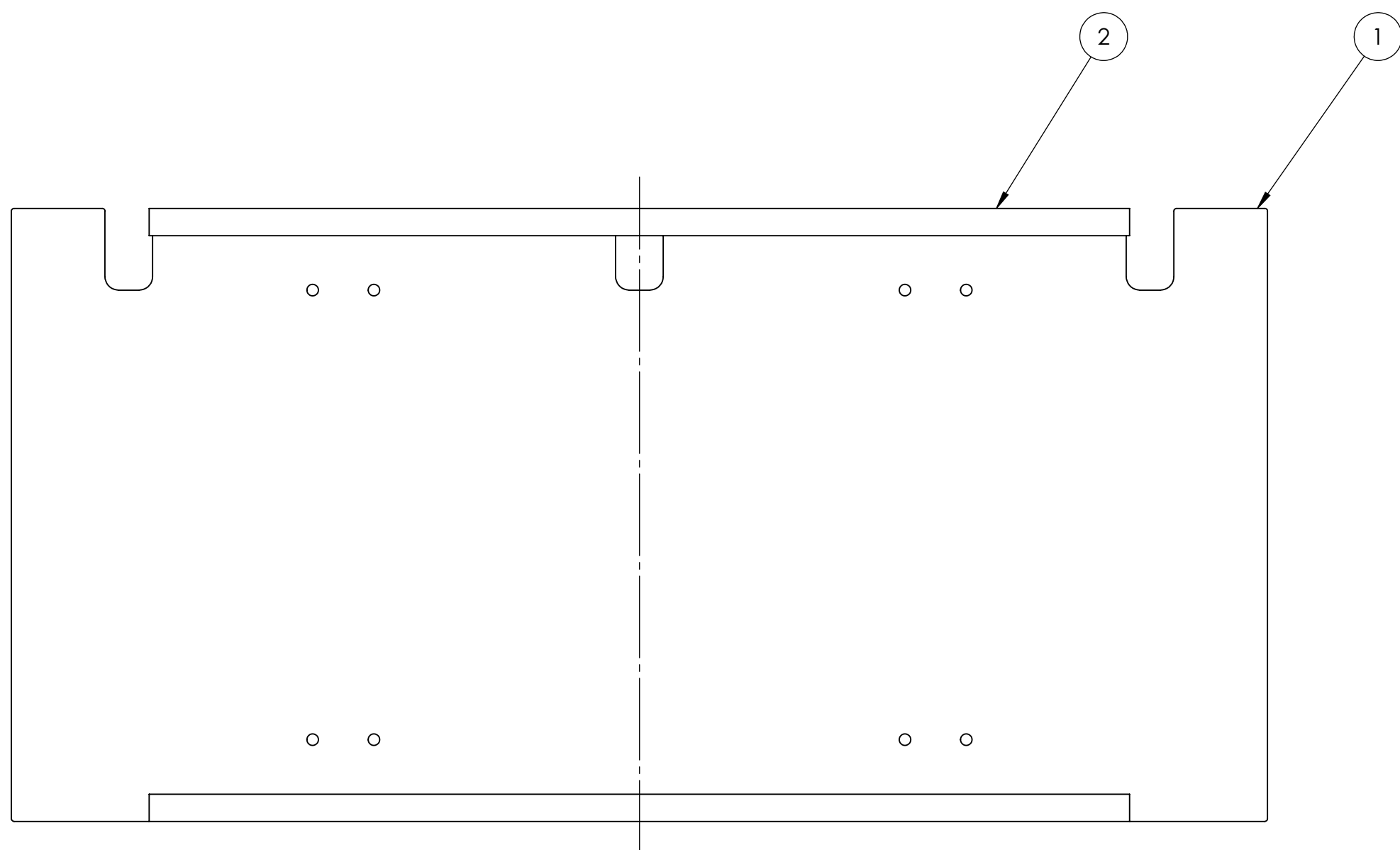
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Notes:

- 1. Make sure surface of (1) is clean prior to loop application.
- 2. Attach (2) to (1) in locations shown.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22344	Fender Front Polycarbonate	1
2	Loop_1_36	1" x 36" Loop, Adhesive Backed	2

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	11/3/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: **Fender Front Polycarbonate with Loop**

SIZE	DWG. NO.	REV
C	GE-22345	

SCALE: 1:5 SHEET 1 OF 1

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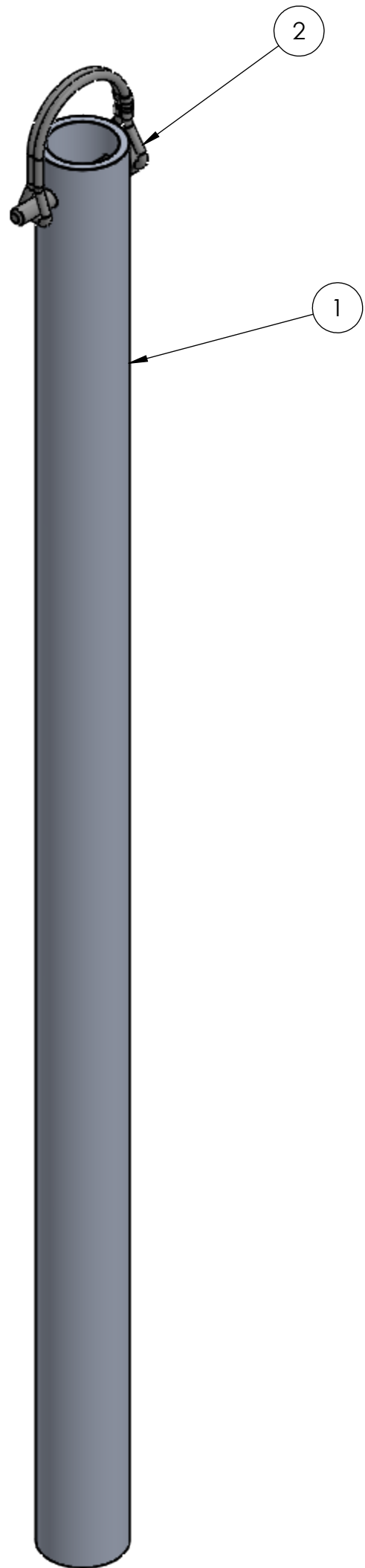
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22347	Fender Pipe	1
2	pin_25_2.375_wireloc kclevis	Wire-Lock Clevis Pin	1

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	7/7/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Fender Pipe Assembly

SIZE	DWG. NO.	REV
C	GE-22346	

SCALE: 1:2 SHEET 1 OF 2

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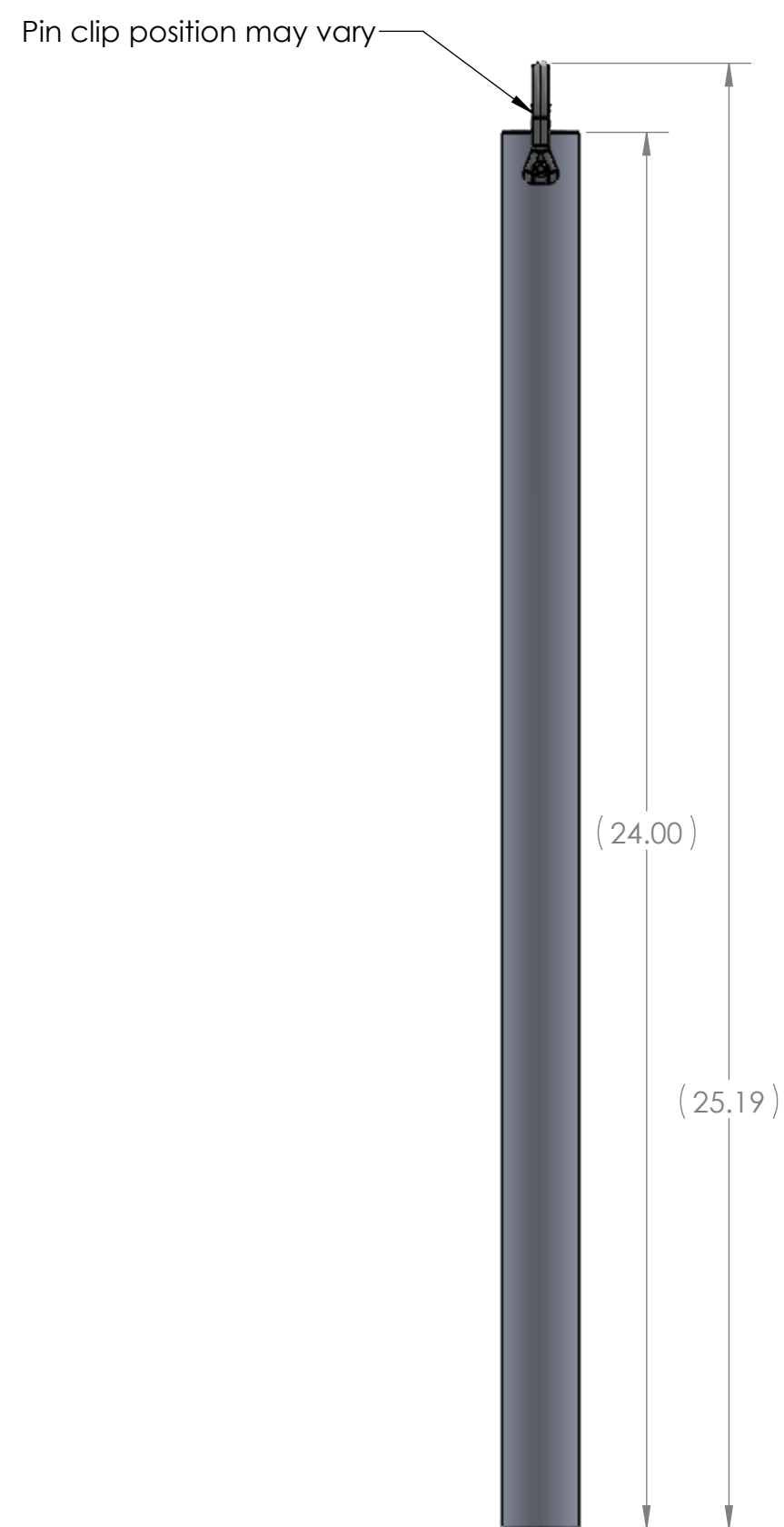
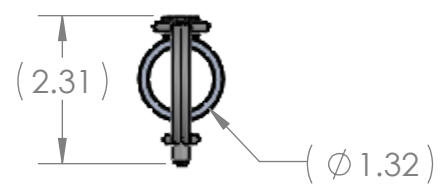
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UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	7/7/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Fender Pipe Assembly

SIZE	DWG. NO.	REV
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C GE-22346

SCALE: 1:3 SHEET 2 OF 2

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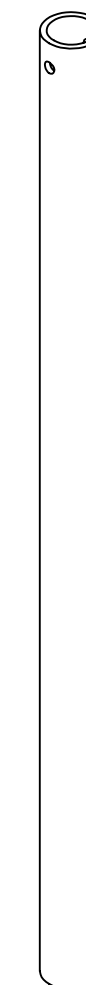
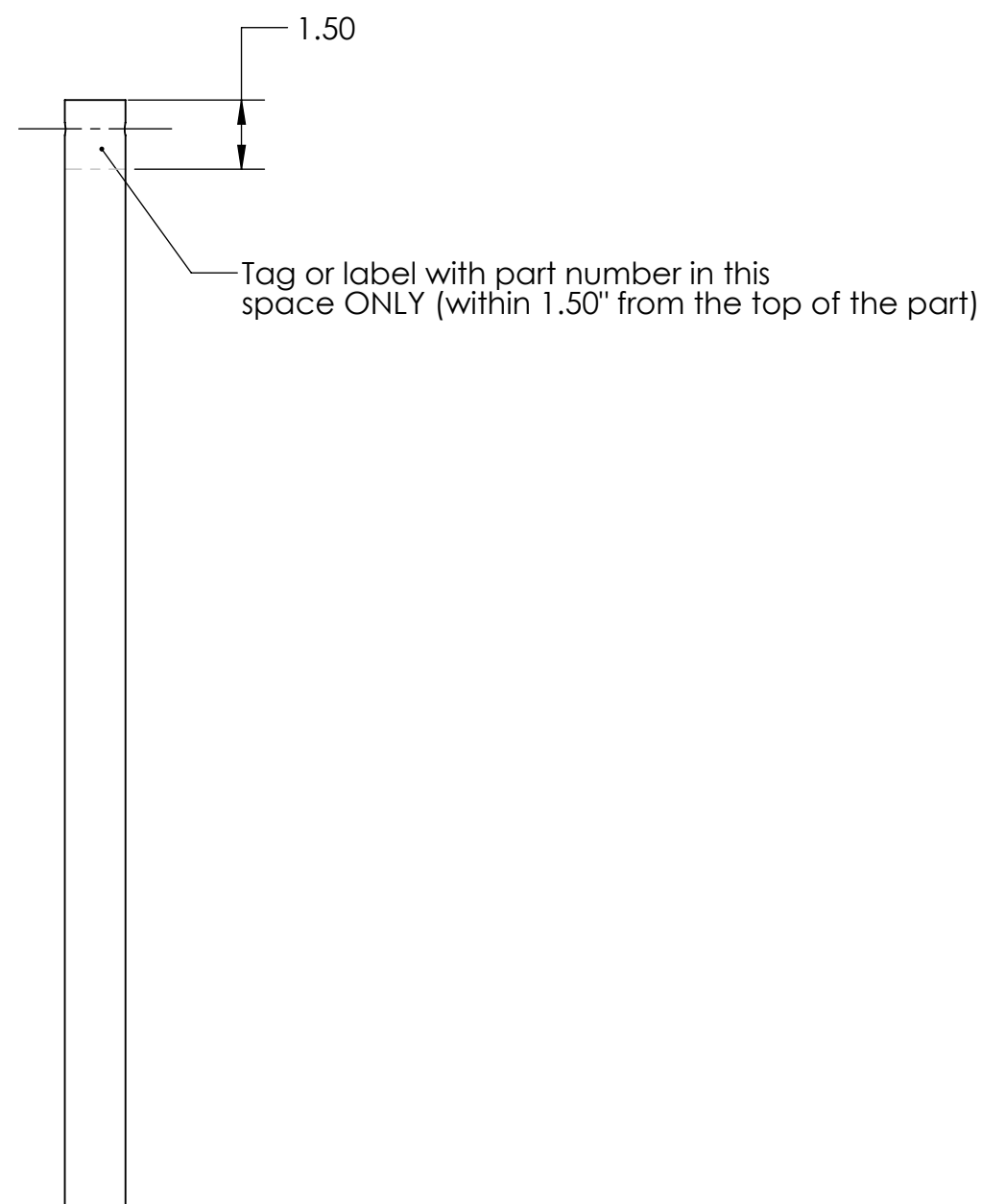
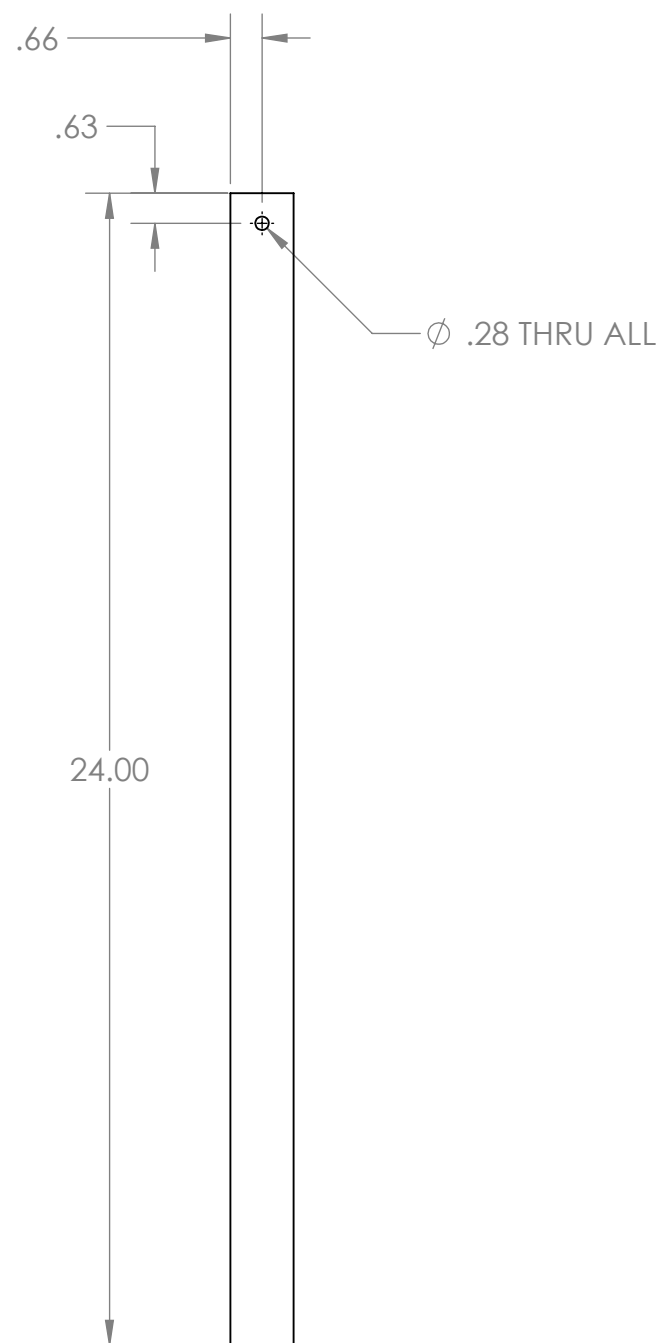
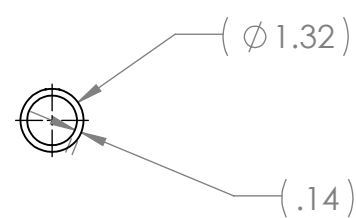
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UNLESS OTHERWISE SPECIFIED:

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:
 Schedule 40, 1 in. 6061
 Aluminum Pipe

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	7/7/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Fender Pipe

SIZE	DWG. NO.	REV
C	GE-22347	

SCALE: 1:4 SHEET 1 OF 1

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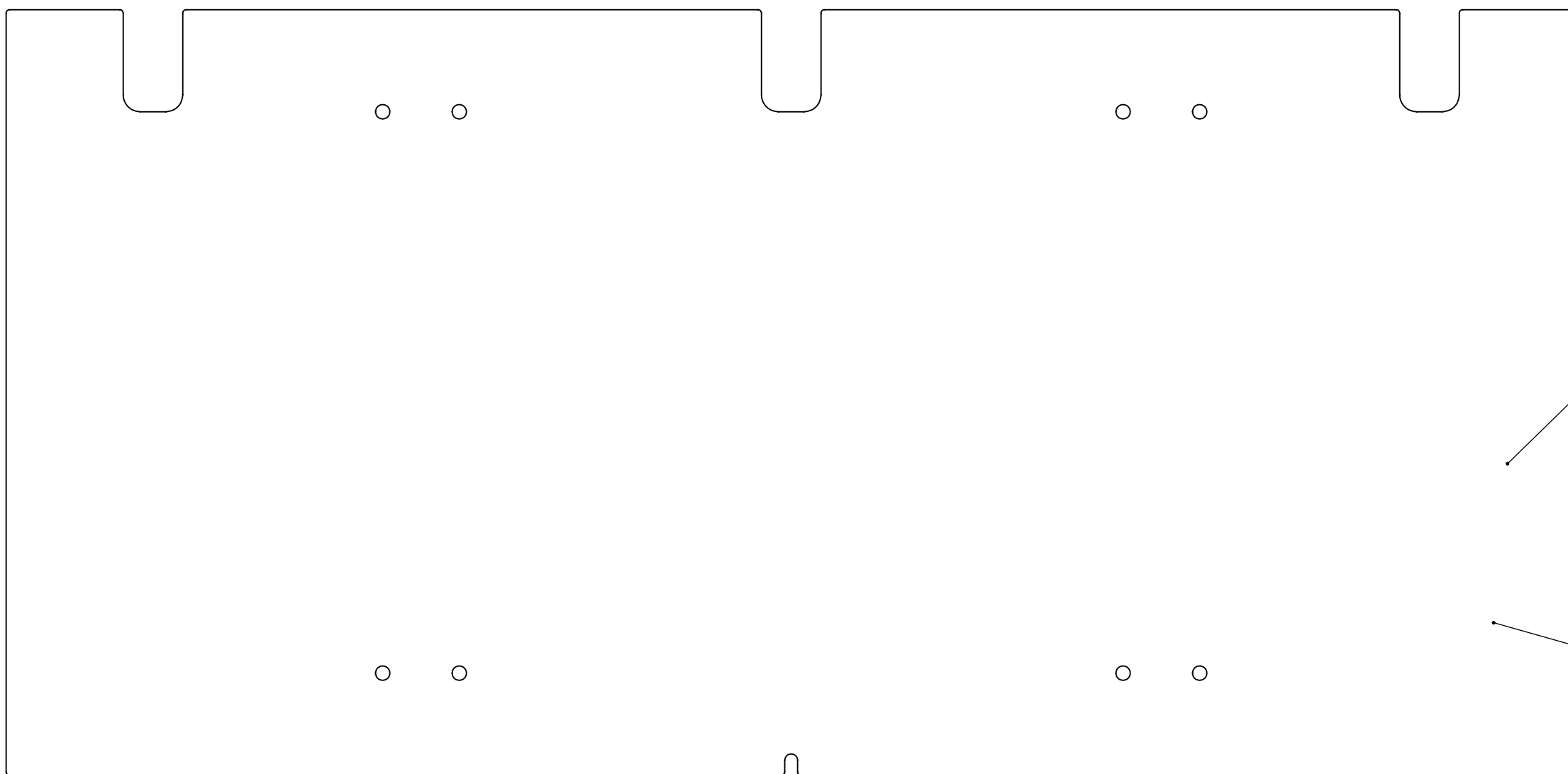
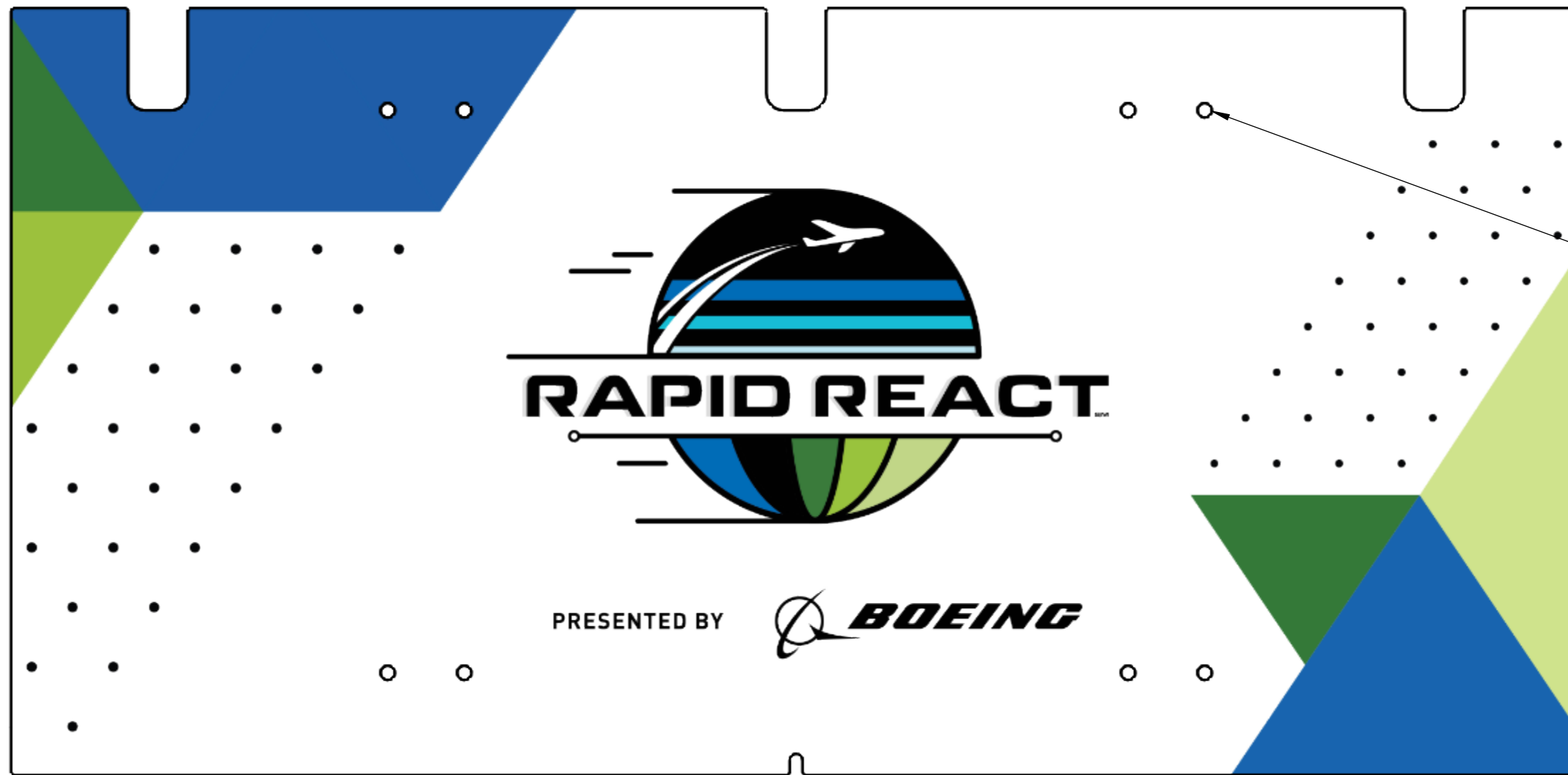
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Trim vinyl at hole locations
8 places

Vinyl applied to one face. Front
and back of part are identical.

GE-22344

- Notes:
1. Tag or label with part number
 2. Standard vinyl (not mesh)

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: Polycarbonate/Vinyl DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	CO	9/29/2021
	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: Fender Front Polycarbonate with Vinyl		
SIZE	DWG. NO.	REV
C	GE-22348	
SCALE: 1:4		SHEET 1 OF 1

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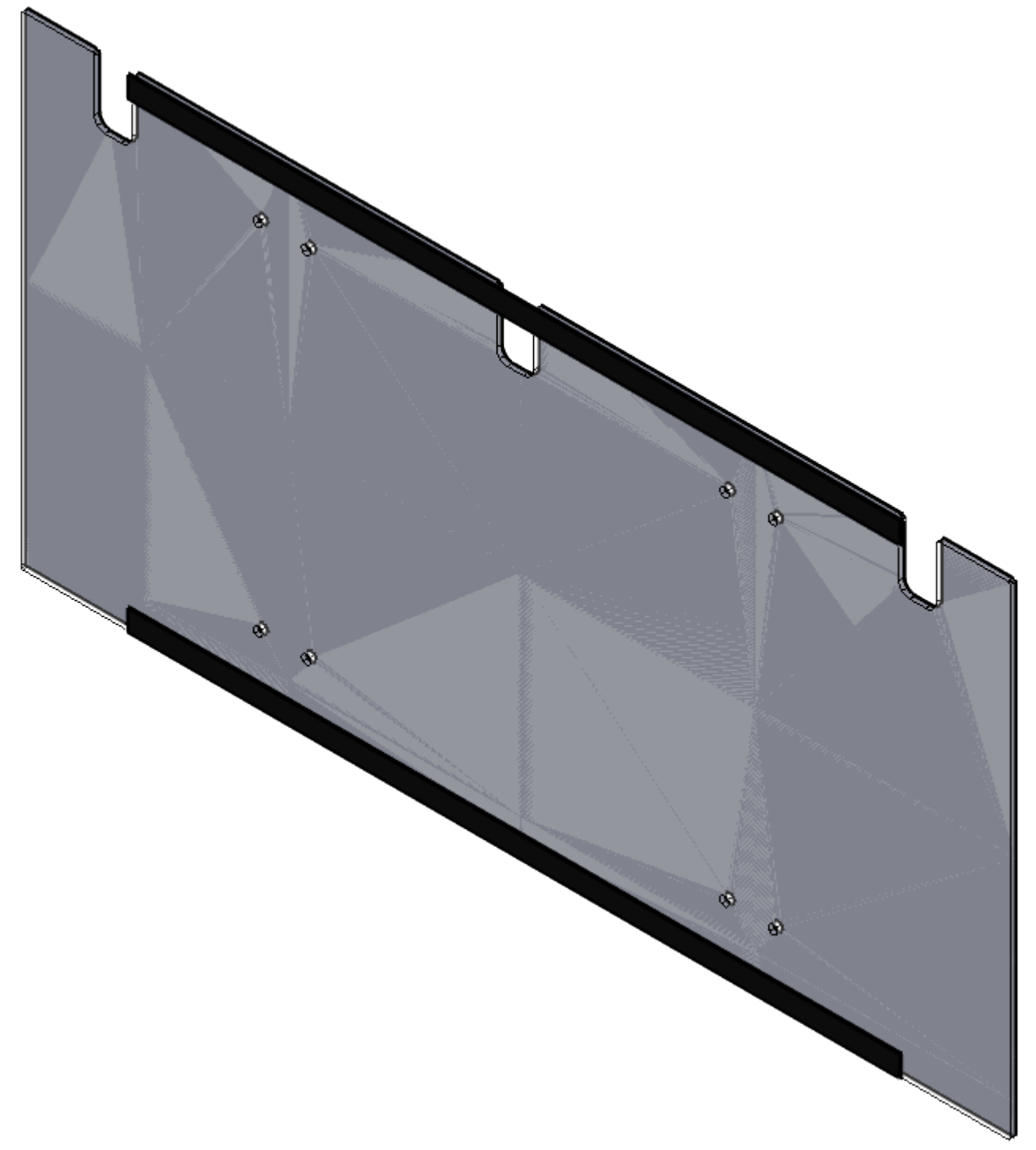
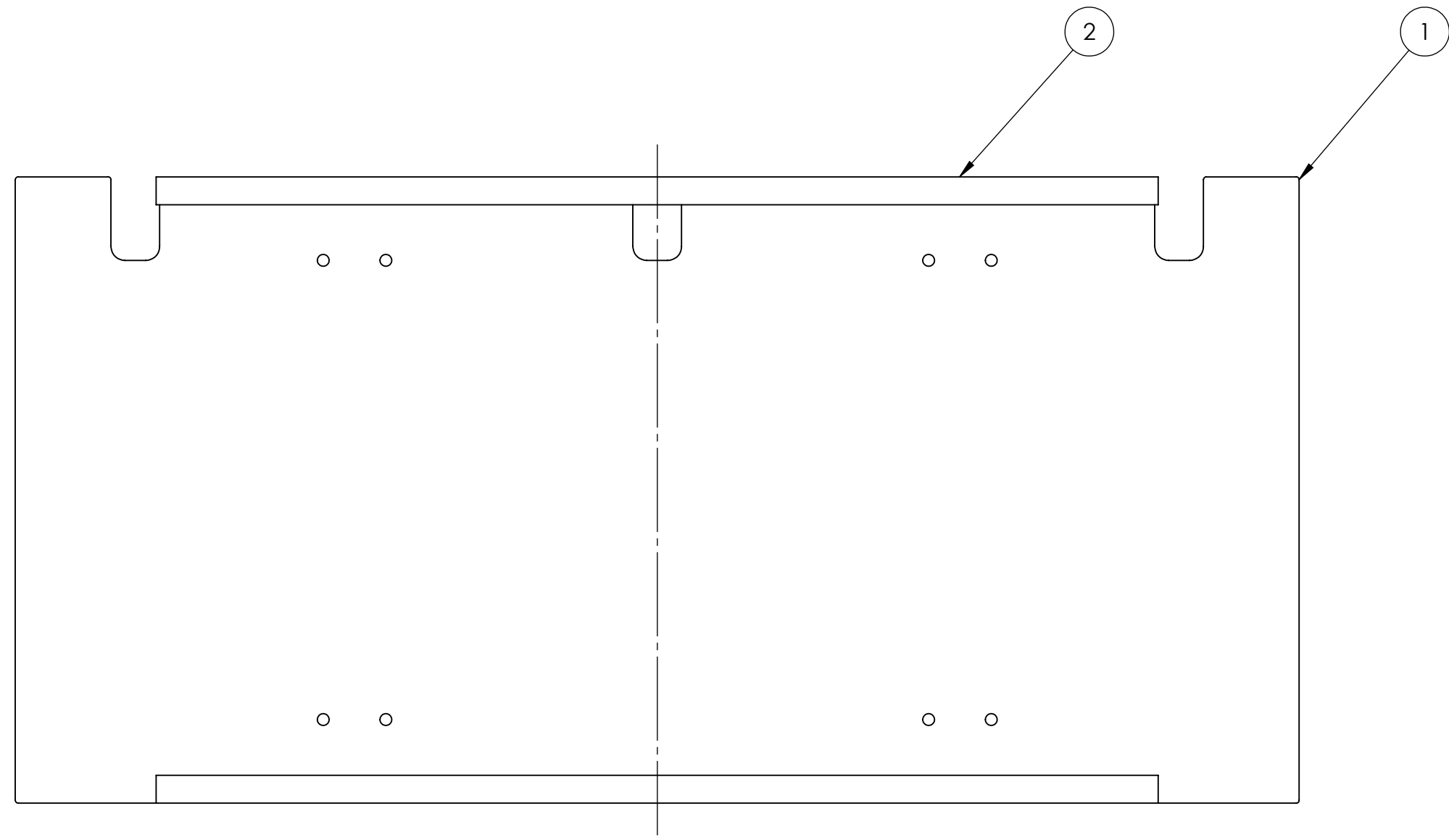
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Notes:

- 1. Make sure surface of (1) is clean prior to loop applicaton.
- 2. Attach (2) to (1) in locations shown. (2) should be attached on side of (1) without vinyl.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22348	Fender Front Polycarbonate with Vinyl	1
2	Loop_1_36	1" x 36" Loop, Adhesive Backed	2

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	VEND	NAME	DATE
	DRAWN	CO	11/3/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS:		 
	REMOVE ALL BURRS AND SHARP EDGES.		
TITLE: Fender Vinyl Polycarbonate with Loop		SIZE	REV
		DWG. NO.	
		C GE-22349	
		SCALE: 1:5	SHEET 1 OF 1

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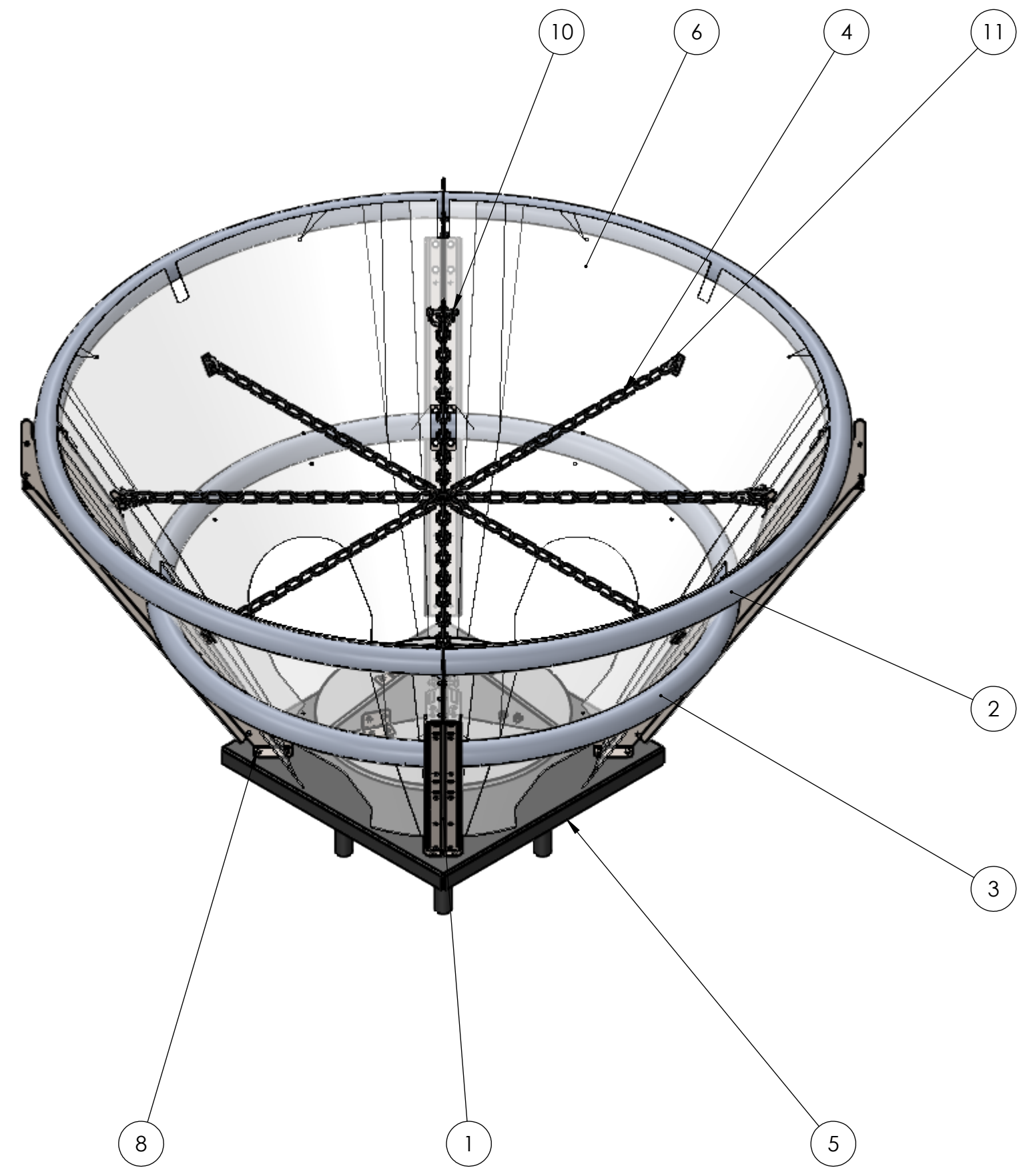
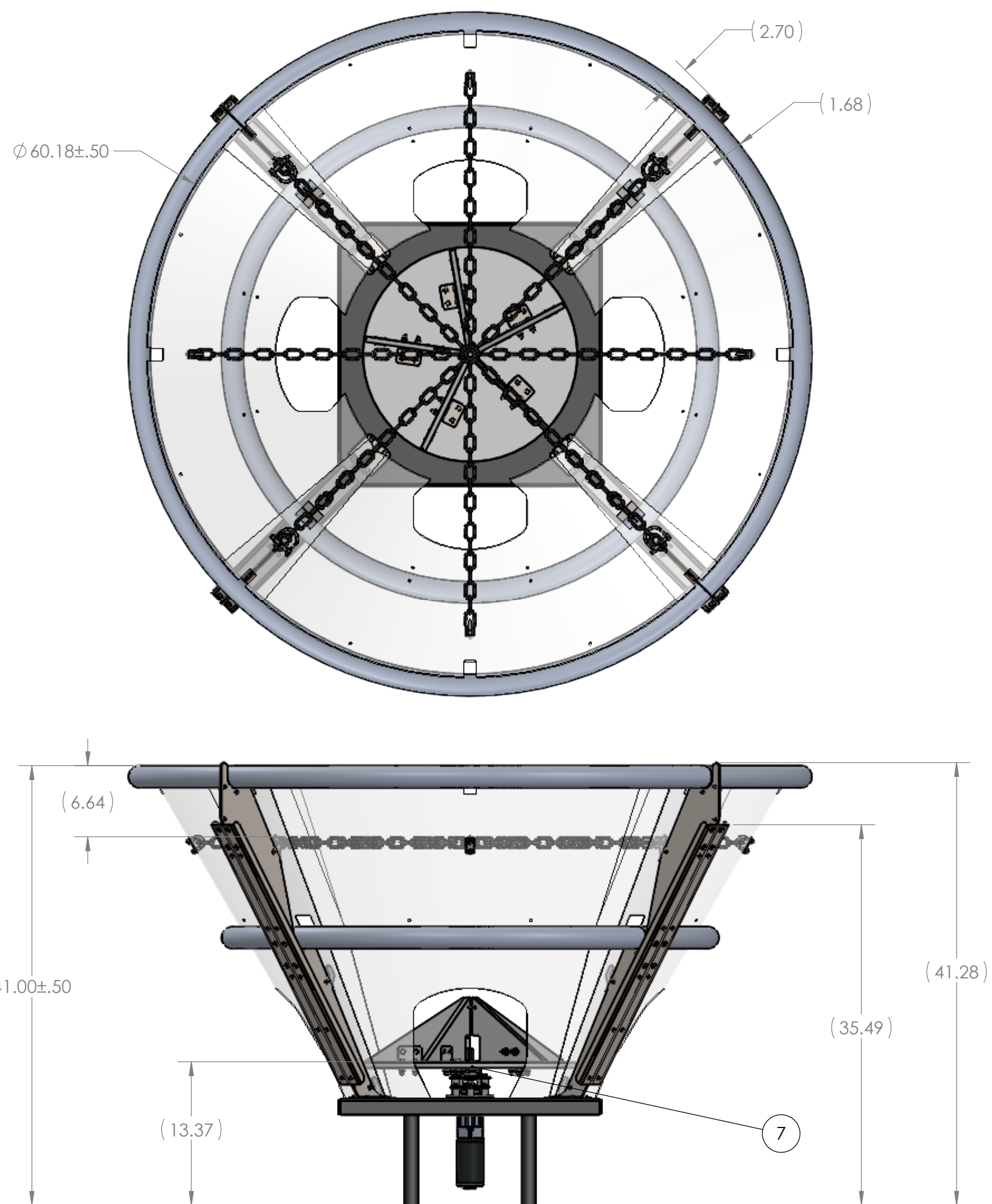
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22352	Lower Hub Ring Support Assembly	4
2	GE-22353	Lower Hub Top Ring	1
3	GE-22354	Lower Hub Bottom Ring	1
4	GE-22355	Lower Hub Chain	4
5	GE-22356	Lower Hub Base	1
6	GE-22357	Lower Hub Panel	4
7	GE-22431	Low Agitator Assembly	1
8	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	20
9	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	20
10	pin_.25_2.375_wirelockclevis	Wire-Lock Clevis Pin	4
11	Ubolt_.25_.75_1.25	U-Bolt 1/4-20 x 3/4 ID x 1-1/4 height	4

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE
	DRAWN	CO	12/29/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		



FIRST
ROBOTICS
COMPETITION

TITLE:
Lower Hub

SIZE	DWG. NO.	REV
C	GE-22351	
SCALE: 1:10		SHEET 1 OF 4

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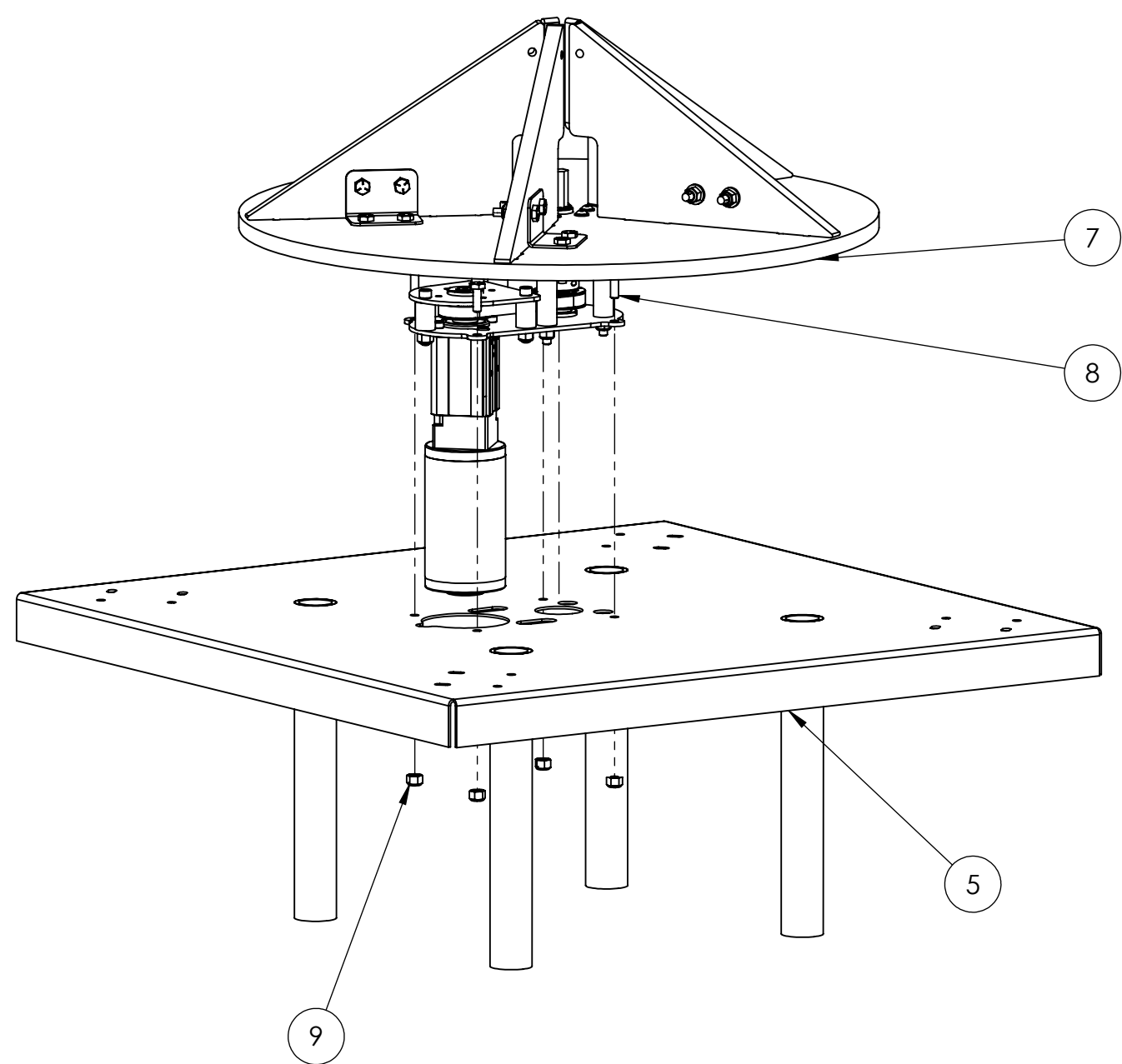
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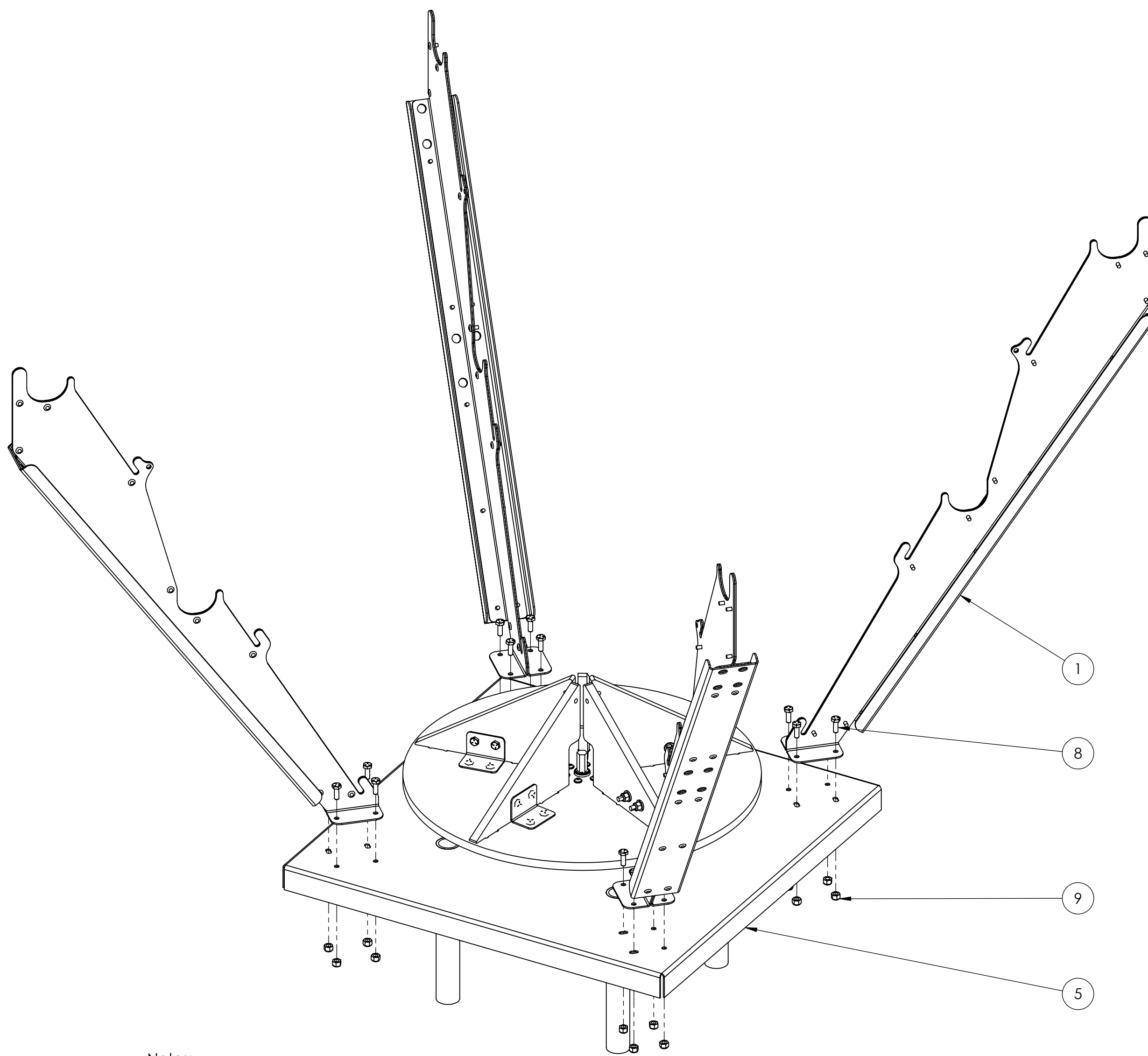
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Notes:

- 1. Attach (7) to (5) as shown using (8) and (9).



Notes:

- 1. Attach (1) to (5) using (8) and (9).

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE	 
	DRAWN	CO	12/29/2021	
MATERIAL/FINISH:	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Lower Hub
DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV	
	C	GE-22351		
	SCALE: 1:5		SHEET 2 OF 4	

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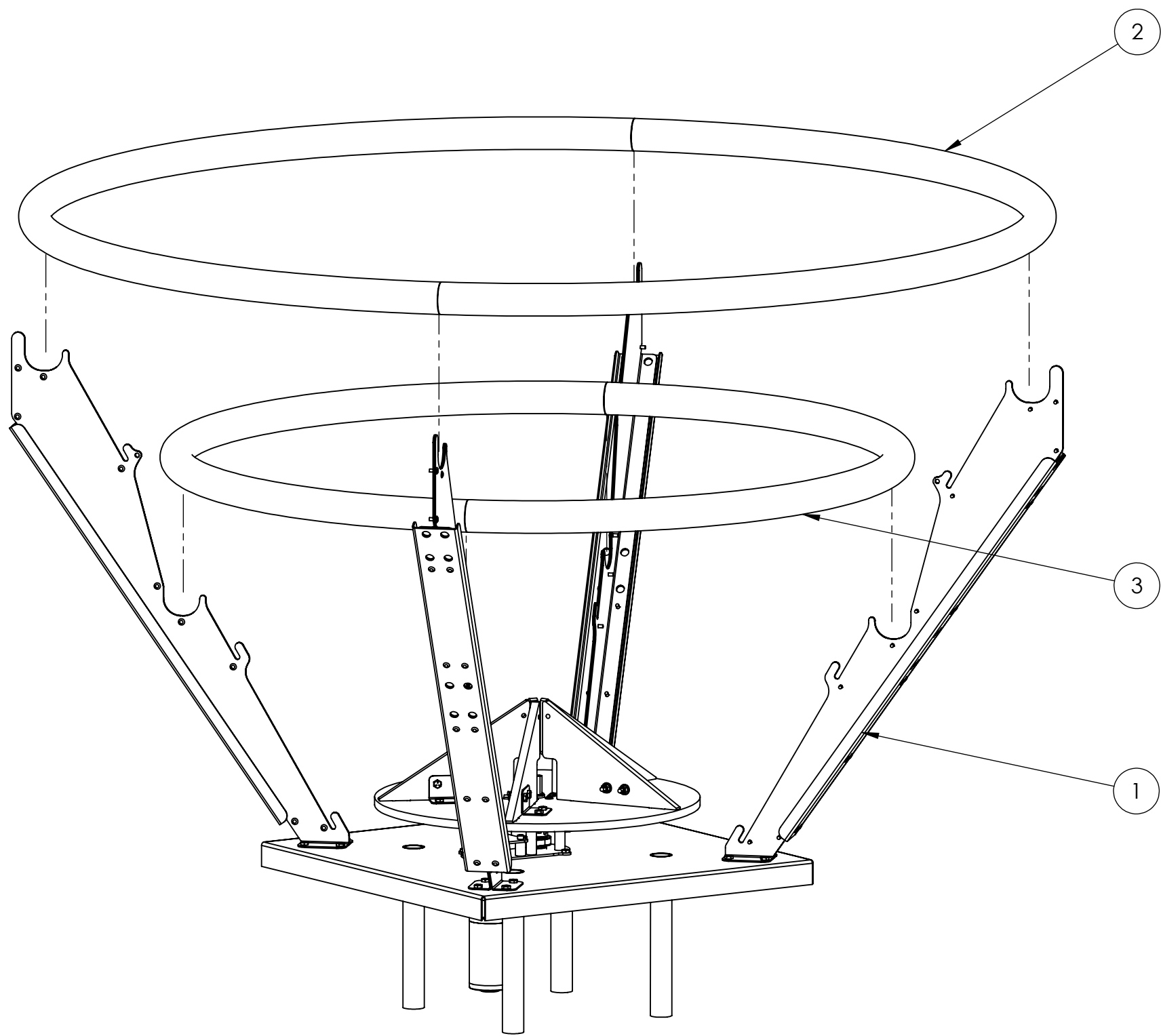
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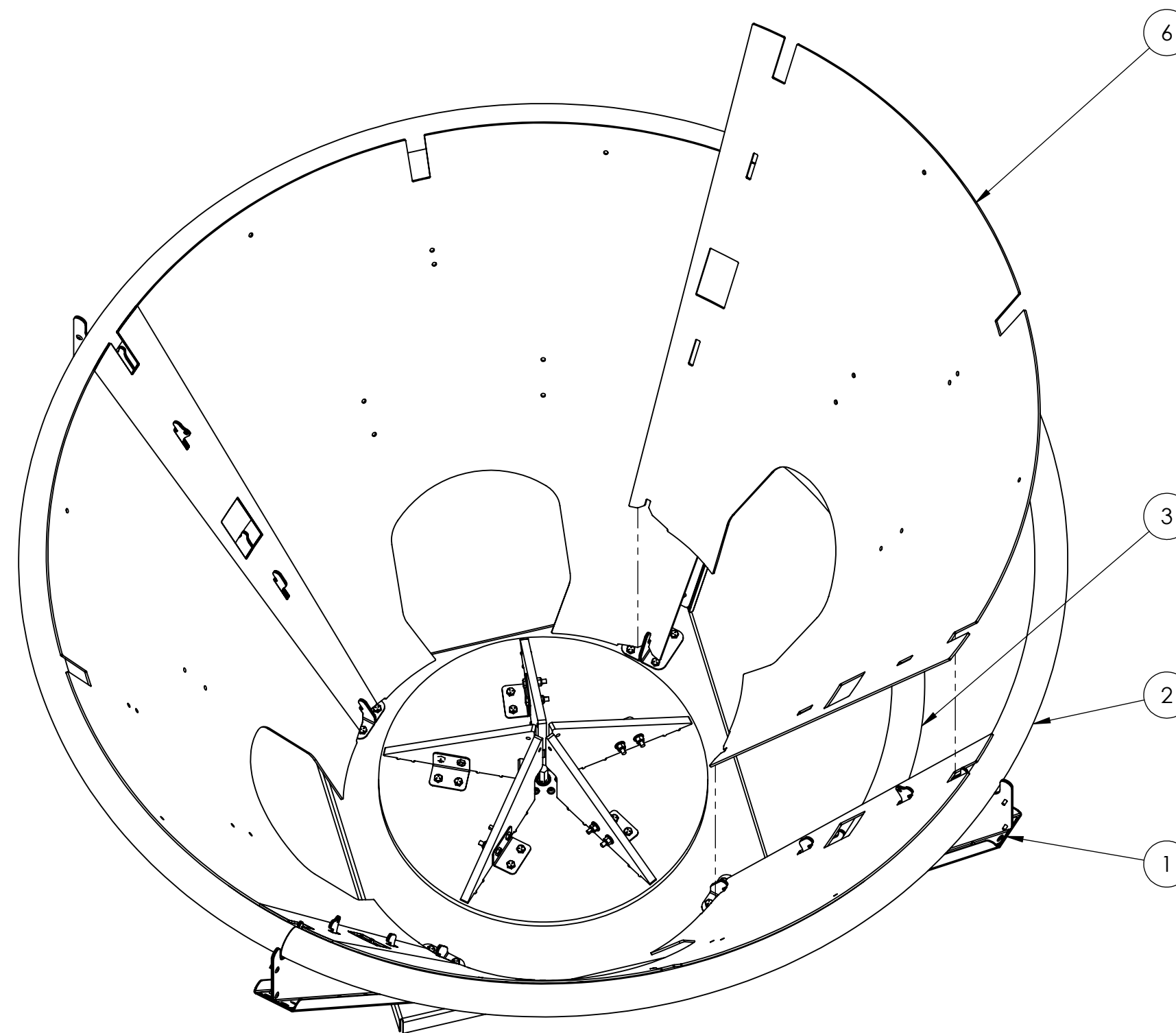
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Notes:

- 1. Attach (3) and (2) to each (1) using 120 lb. cable ties.



Notes:

- 1. Insert all (6) into the assembly, bending into place and aligning with the hooks on (1).
- 2. Cable tie (6) to (2) and (3).

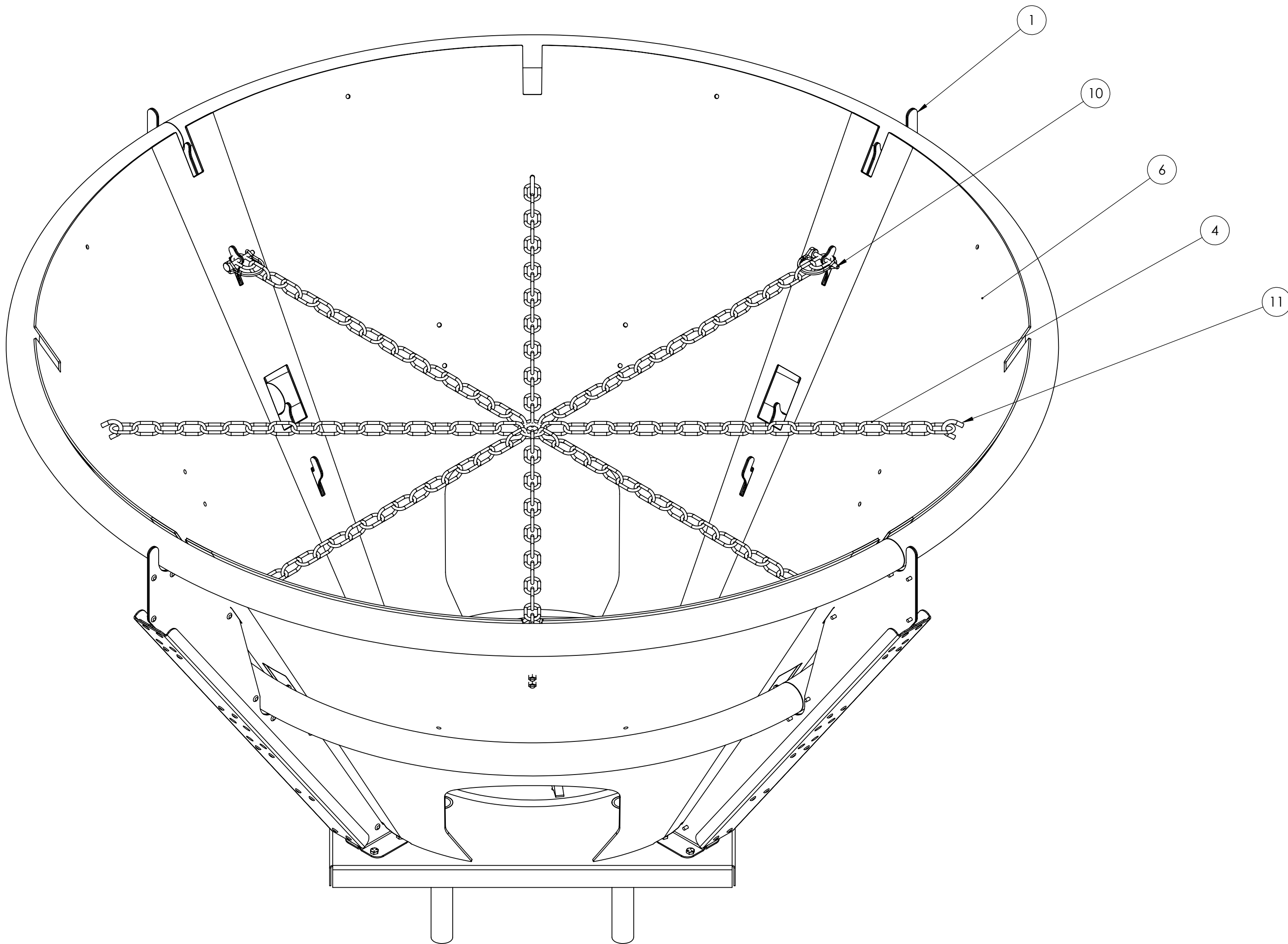
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	DRAWN	CO	12/29/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			Lower Hub
DO NOT SCALE DRAWING	COMMENTS:			SIZE
	REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO.
				REV
				C GE-22351
				SCALE: 1:8 SHEET 3 OF 4

4

3



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Notes:

- 1. Attach (4) to (1) using (10) as shown.
- 2. Attach (4) to (6) using (11) as shown.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/2 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.50	FIELD	NAME	DATE	 
	DRAWN	CO	12/29/2021	
MATERIAL/FINISH:	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.			Lower Hub
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22351
	SCALE: 1:5		SHEET 4 OF 4	

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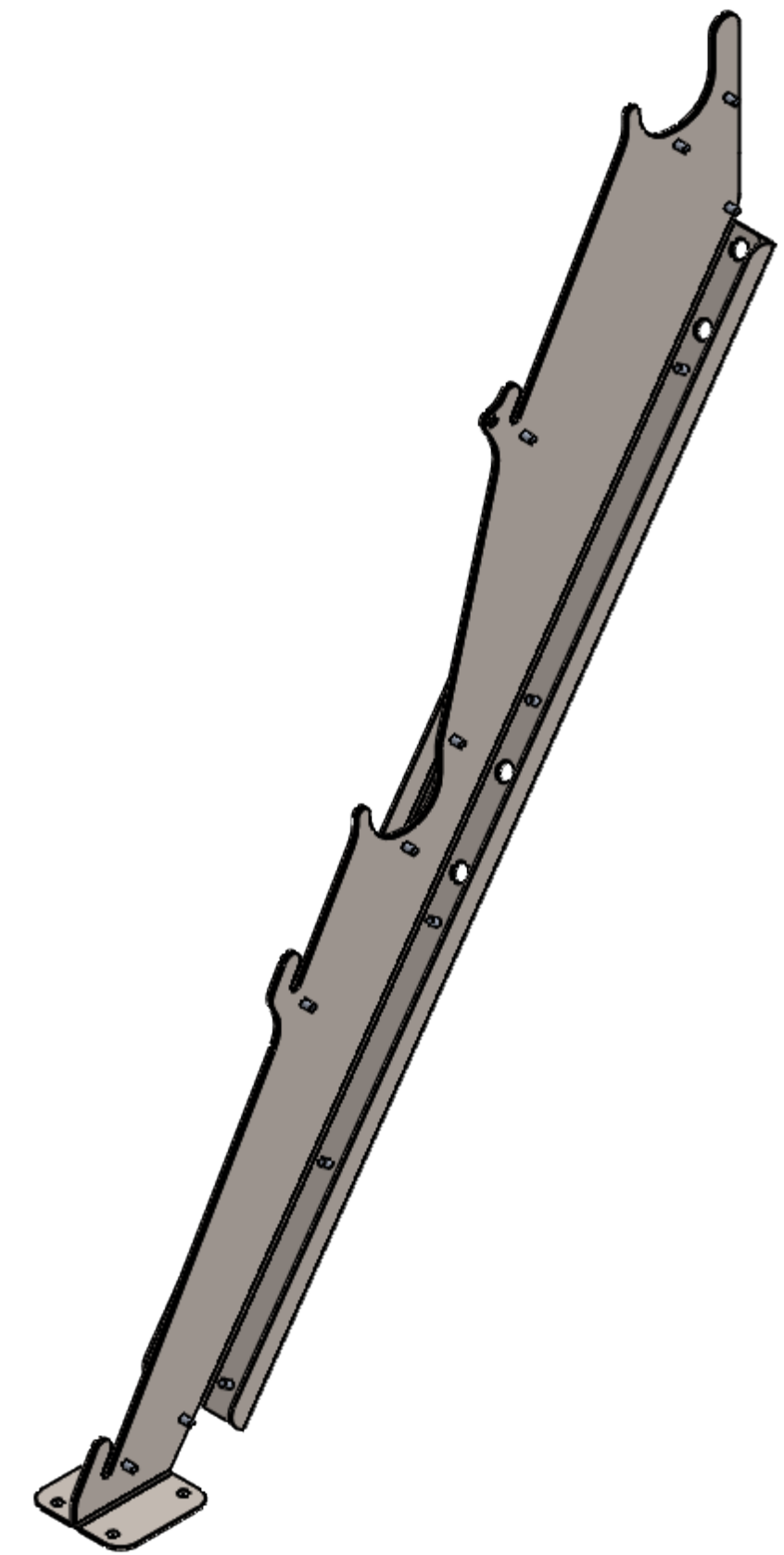
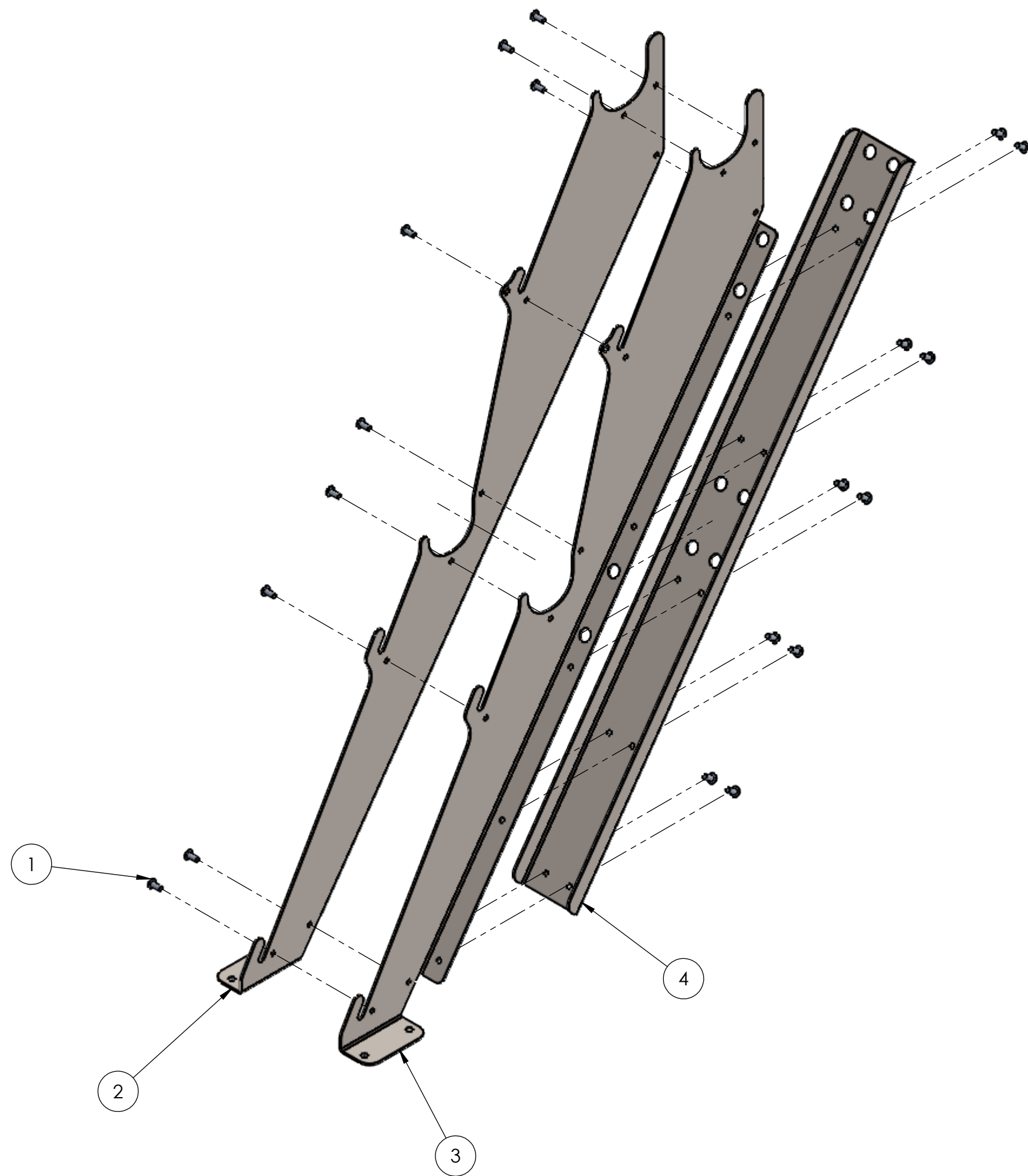
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EXPLODED VIEW:



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	19
2	GE-22352-01	Ring Support Left Side	1
3	GE-22352-02	Ring Support Right Side	1
4	GE-22352-03	Ring Support Back	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:
 Rivets should be plated or stainless steel. Tag or label with part number.

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	6/16/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Lower Hub Ring Support Assembly

SIZE	DWG. NO.	REV
C	GE-22352	

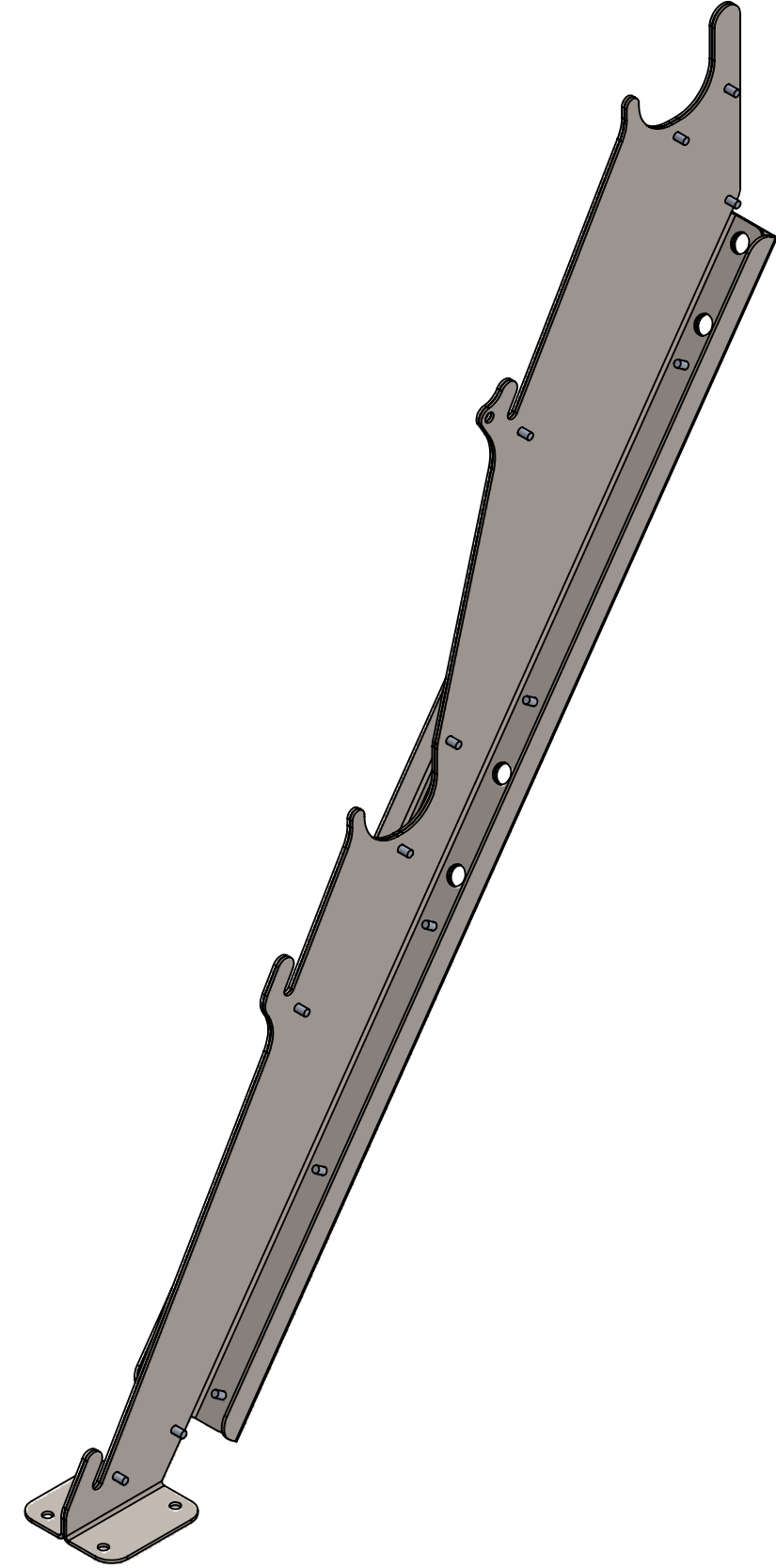
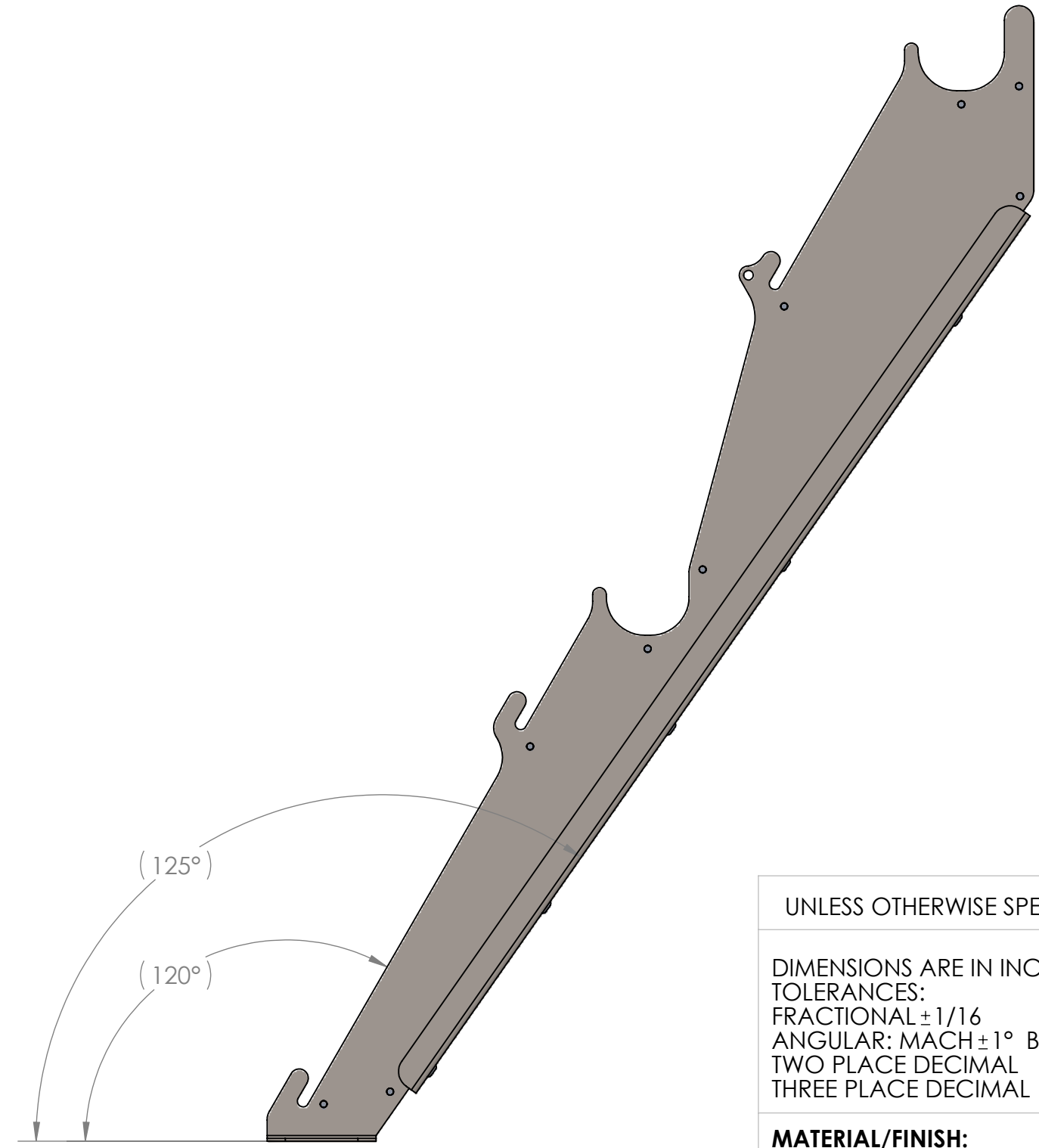
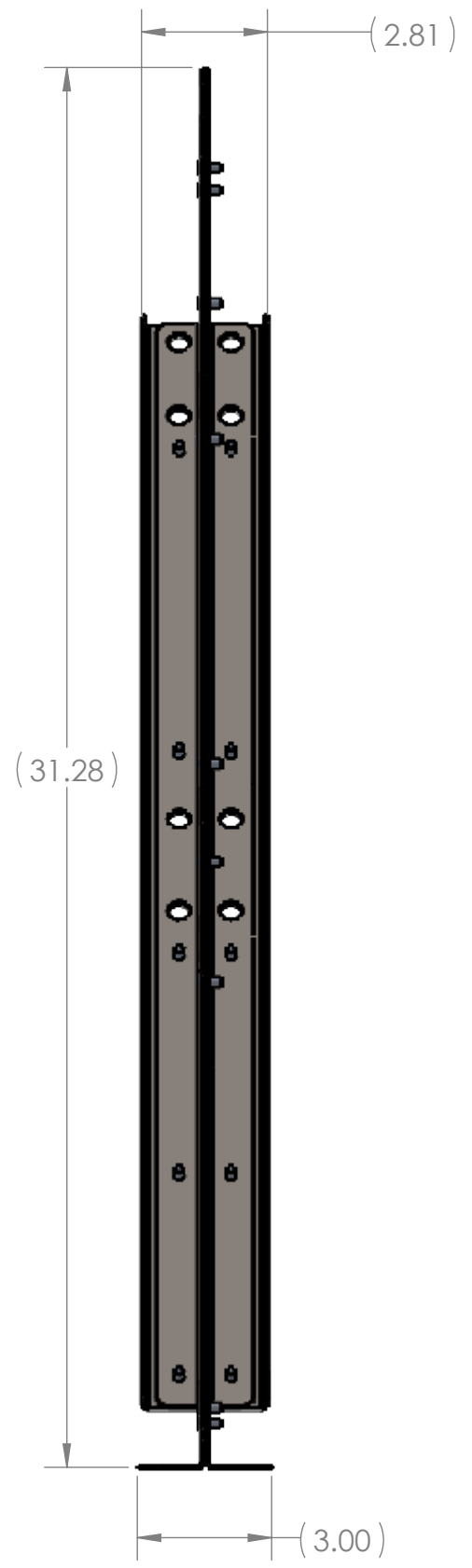
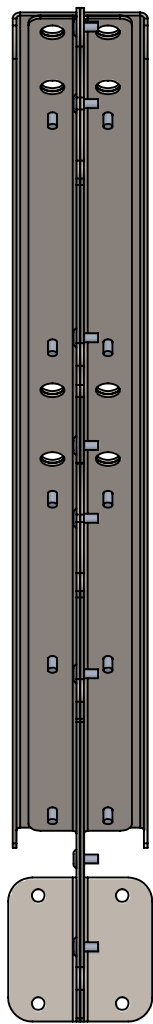
SCALE: 1:4 SHEET 1 OF 2

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: Rivets should be plated or stainless steel. Tag or label with part number. DO NOT SCALE DRAWING	VEND	NAME	DATE	TITLE: Lower Hub Ring Support Assembly
	DRAWN	KAMC	6/16/2021	
	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
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. C GE-22352
	SCALE: 1:4		REV	
	SHEET 2 OF 2			

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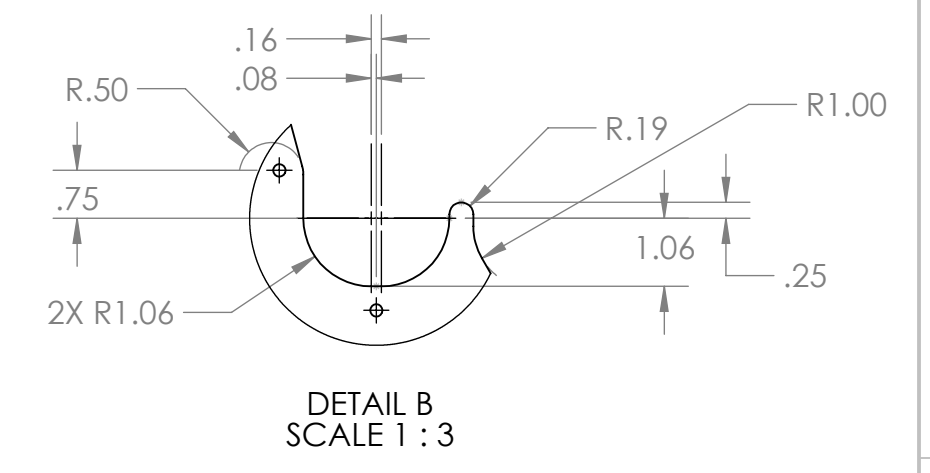
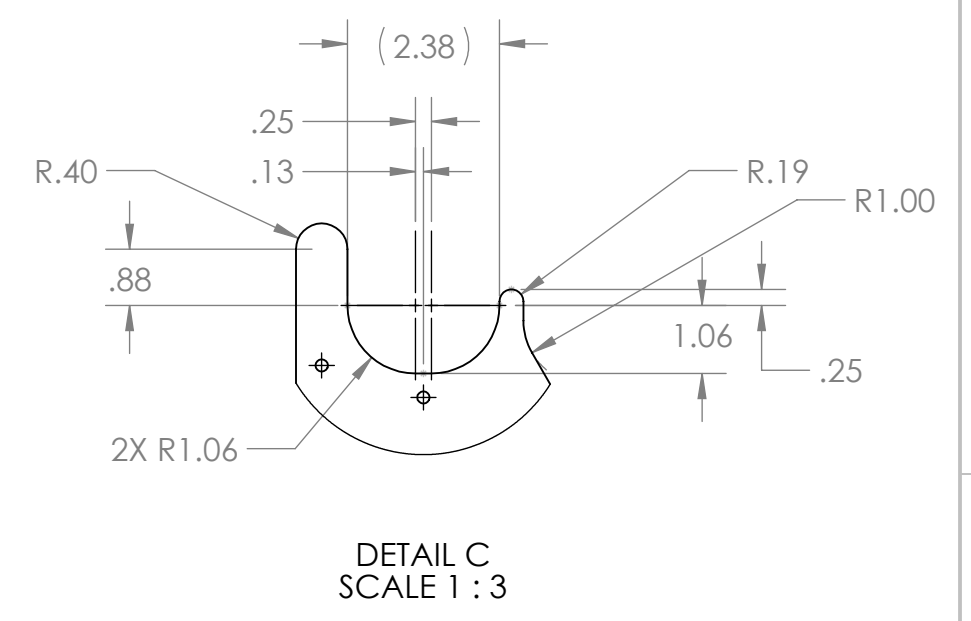
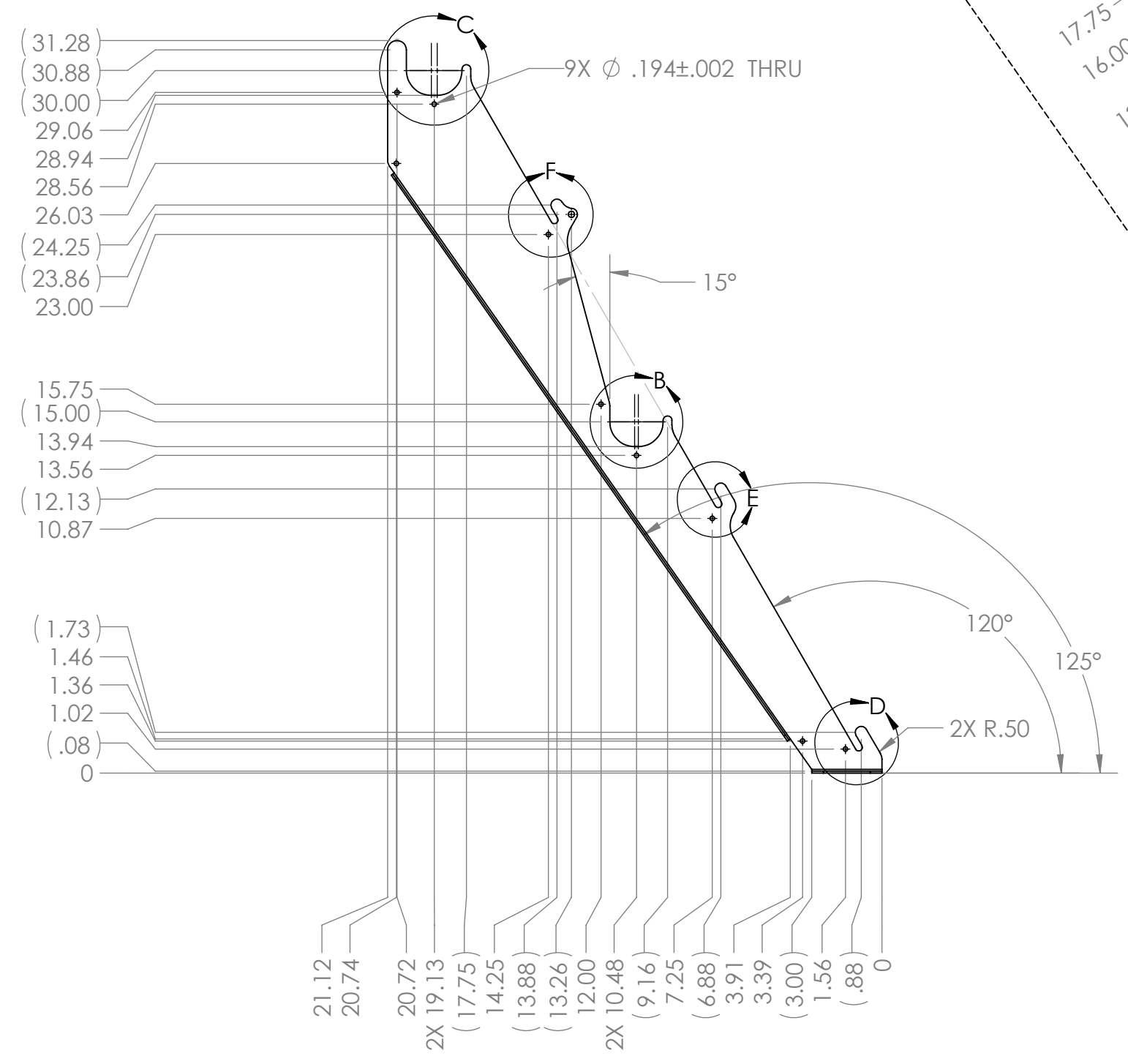
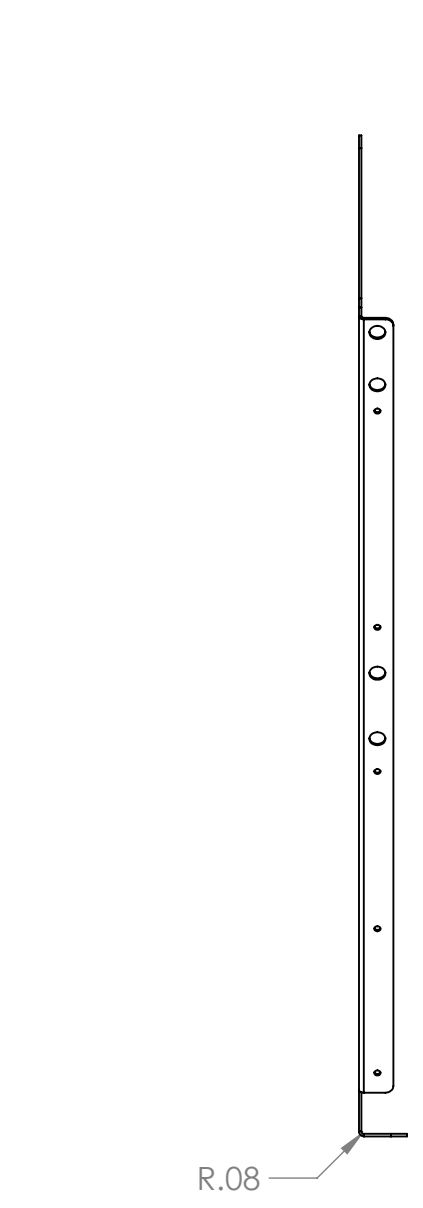
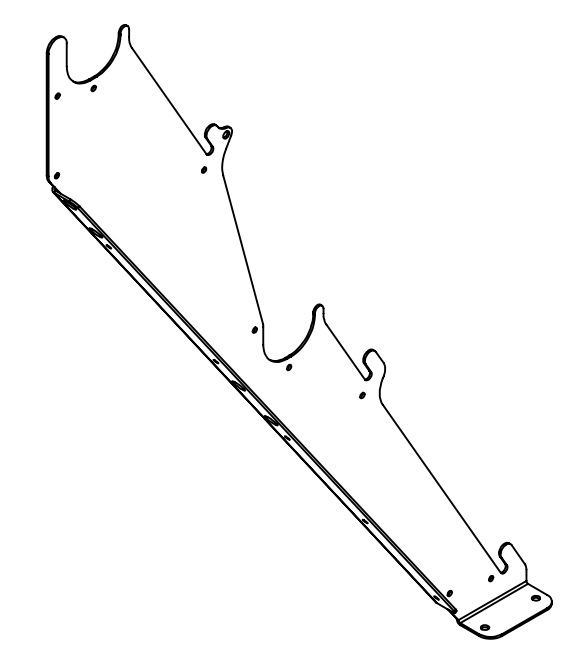
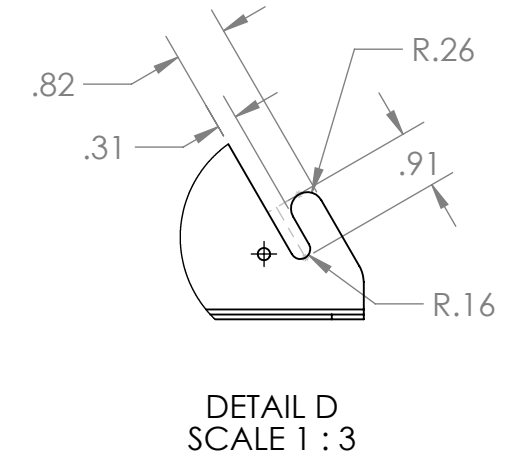
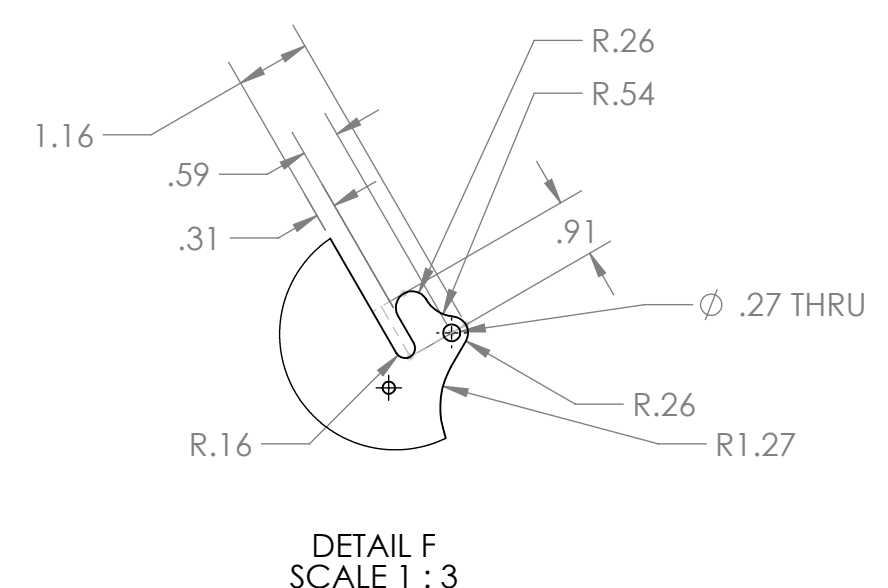
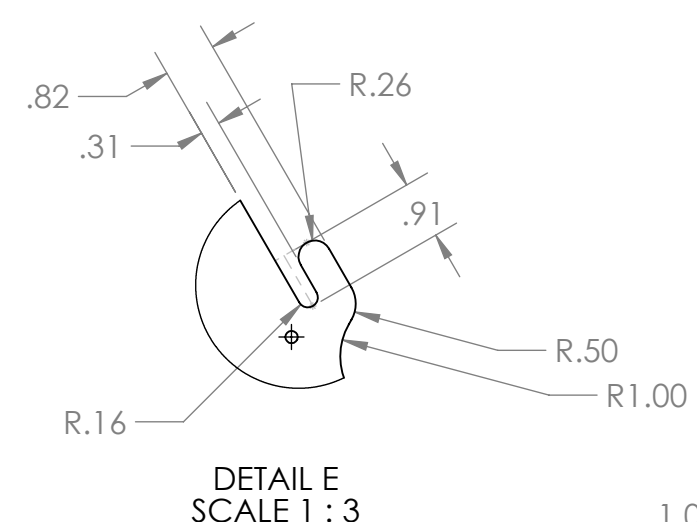
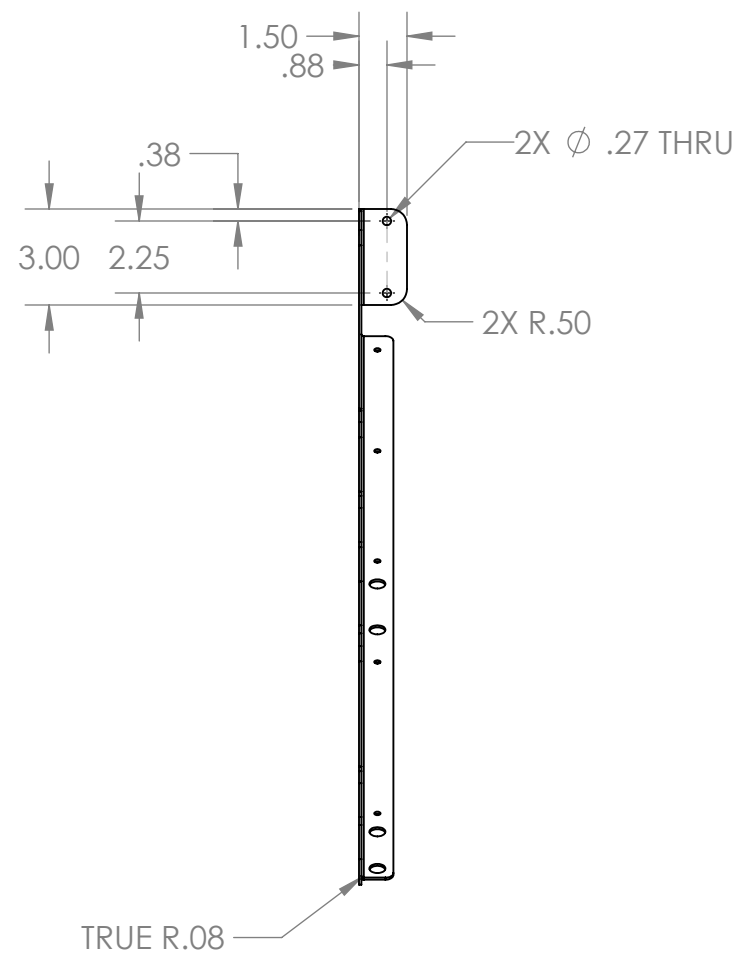
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Note: This part is a mirror of GE-22352-02

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL \pm 1/16 ANGULAR: MACH \pm 1° BEND \pm 1° TWO PLACE DECIMAL \pm .02 THREE PLACE DECIMAL \pm .010 MATERIAL/FINISH: 14 Gauge Pre-Plated Steel DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	6/16/2021
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.		
	SCALE: 1:6		

FIRST ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Ring Support Left Side**

SIZE	DWG. NO.	REV
C	GE-22352-01	
SCALE: 1:6		SHEET 1 OF 1

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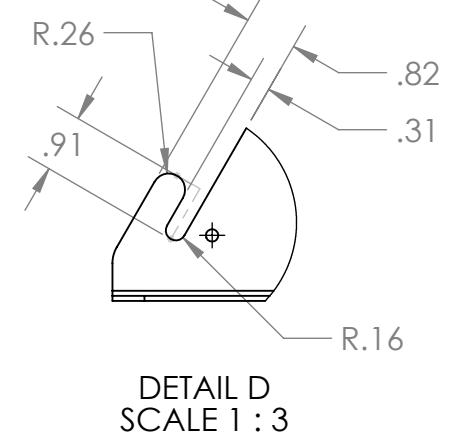
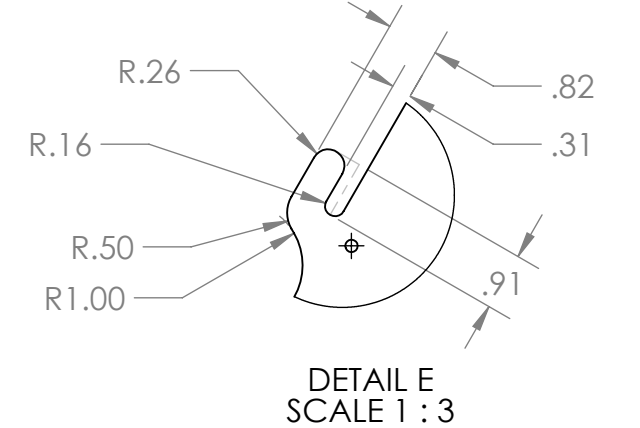
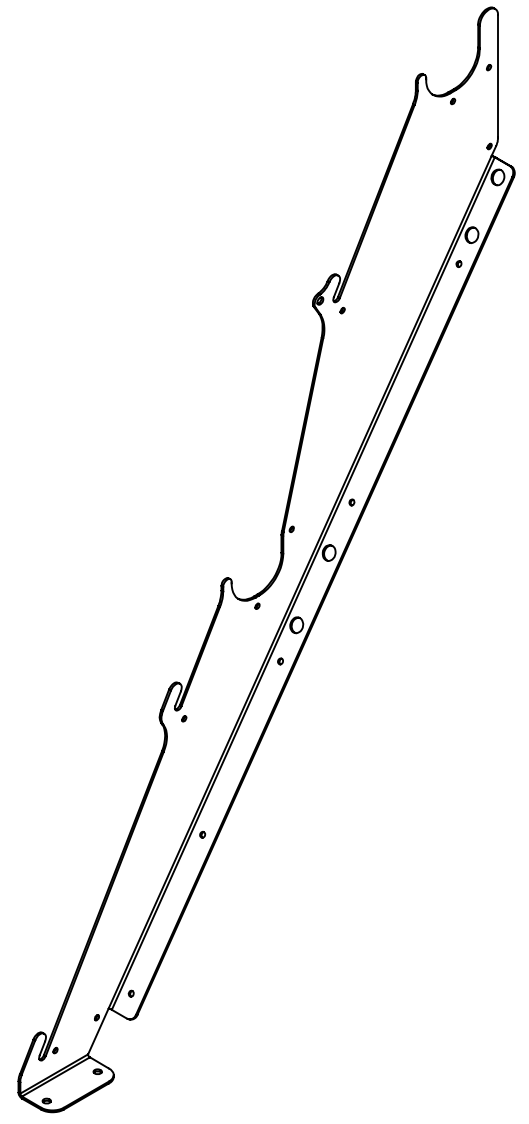
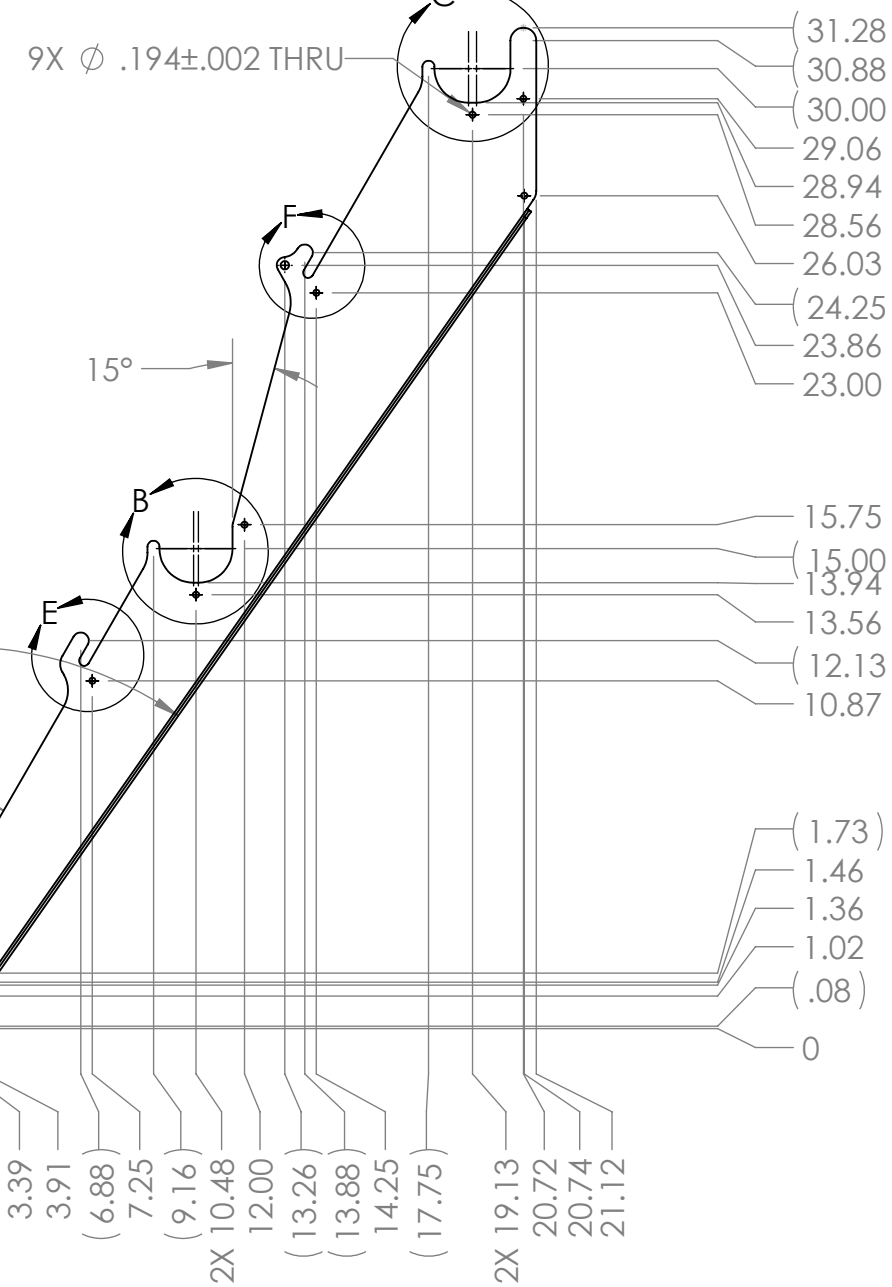
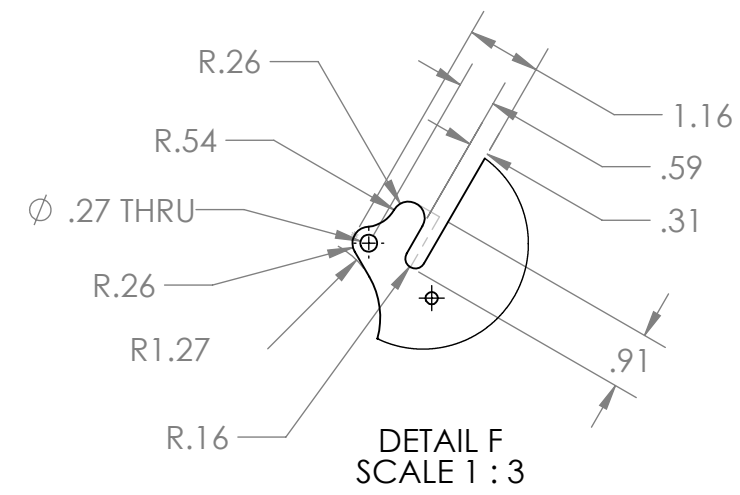
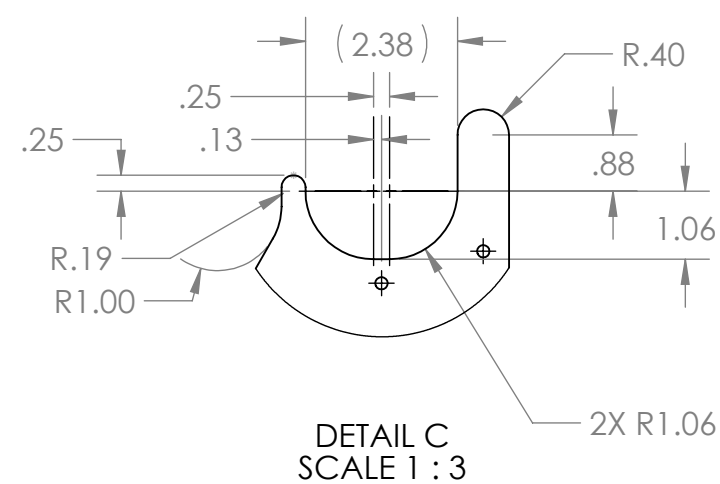
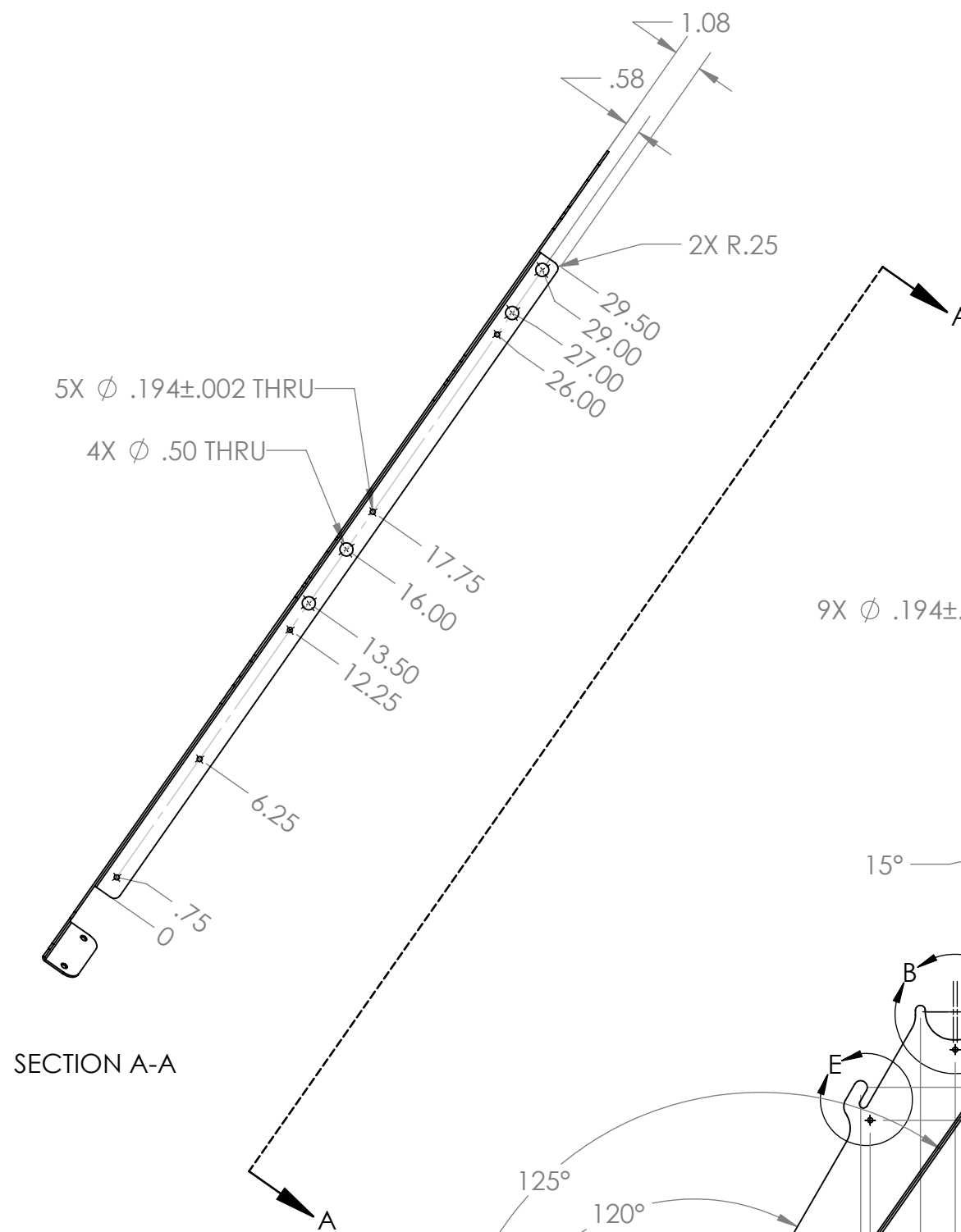
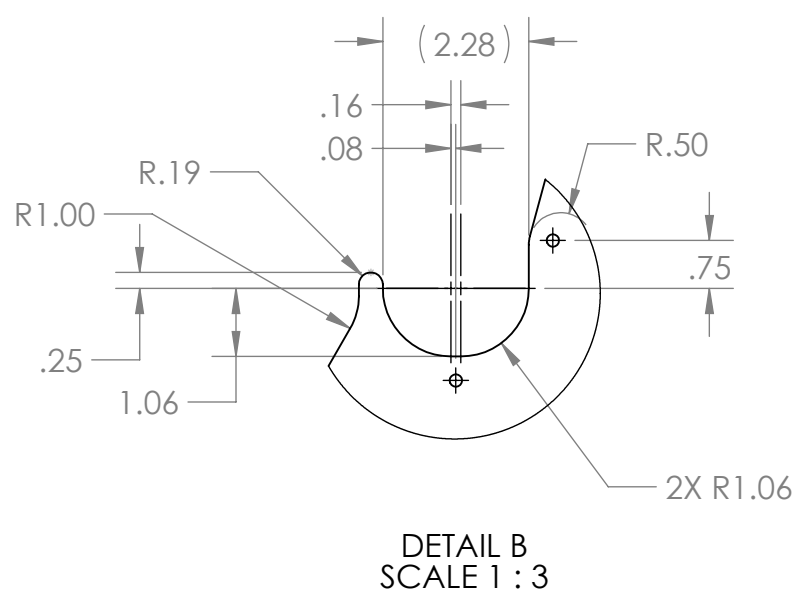
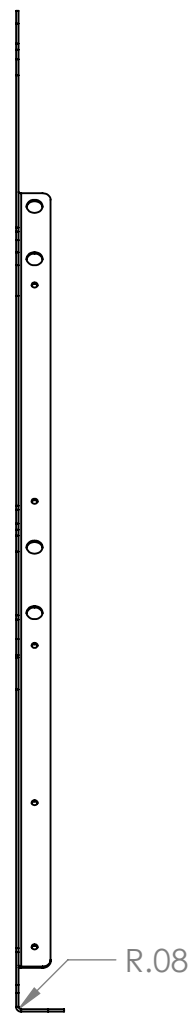
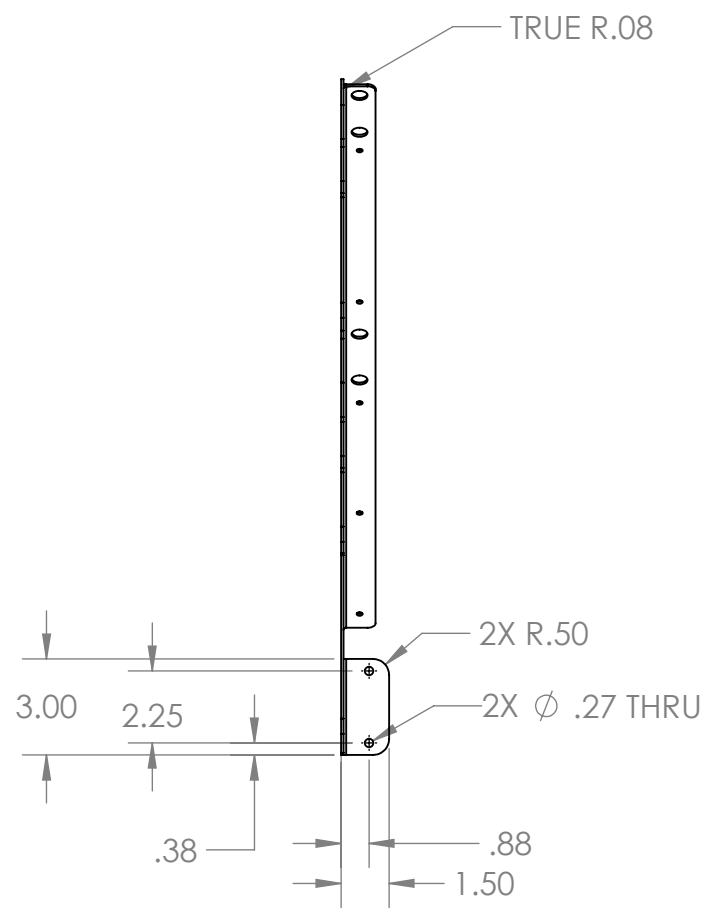
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Note: This part is a mirror of GE-22352-01

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.010	BEND	NAME	DATE
	DRAWN	KAMC	7/7/2021
MATERIAL/FINISH: 14 Gauge Pre-Plated Steel	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.		
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		

 		
TITLE: Ring Support Right Side		
SIZE	DWG. NO.	REV
C	GE-22352-02	
SCALE: 1:6		SHEET 1 OF 1

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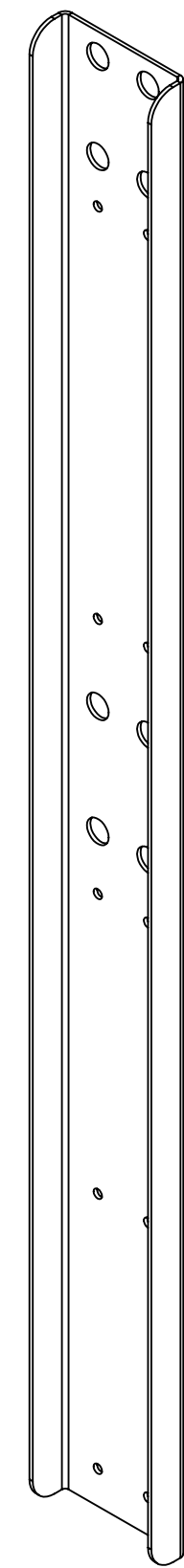
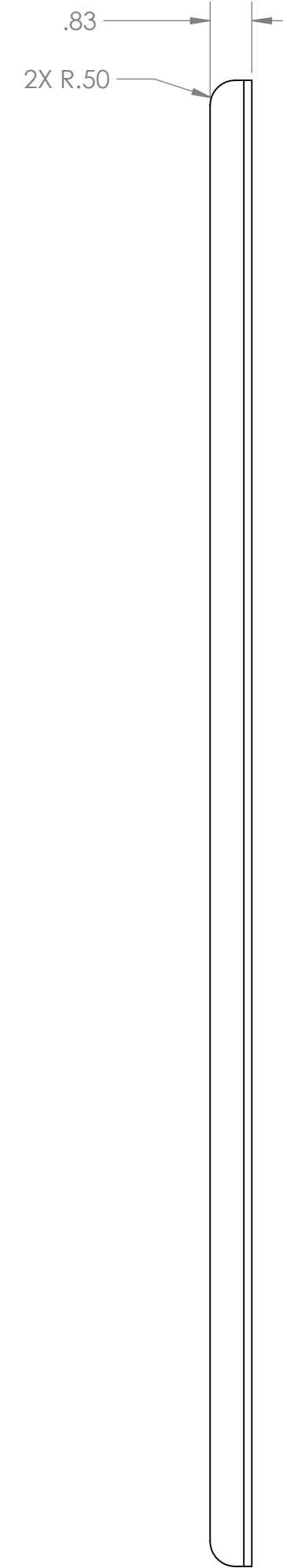
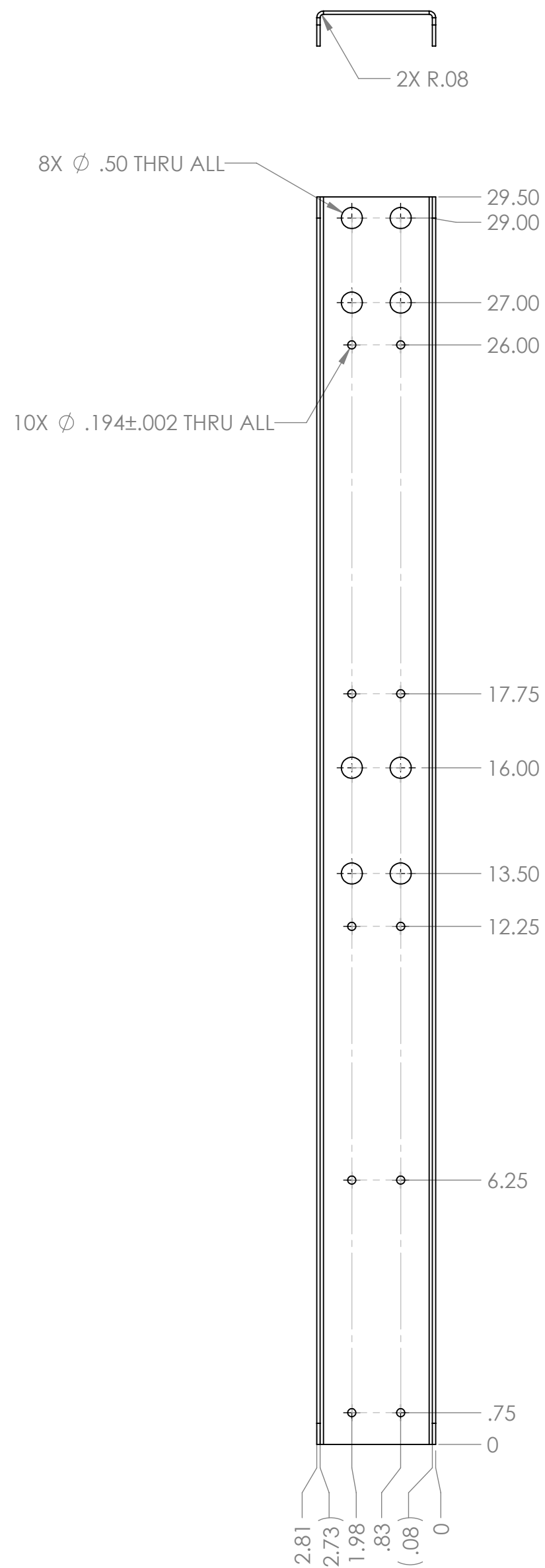
A



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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL \pm 1/16 ANGULAR: MACH \pm 1° BEND \pm 1° TWO PLACE DECIMAL \pm .02 THREE PLACE DECIMAL \pm .010 MATERIAL/FINISH: 14 Gauge Pre-Plated Steel DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	6/16/2021	
	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.			Ring Support Back
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22352-03
				SCALE: 1:3 SHEET 1 OF 1

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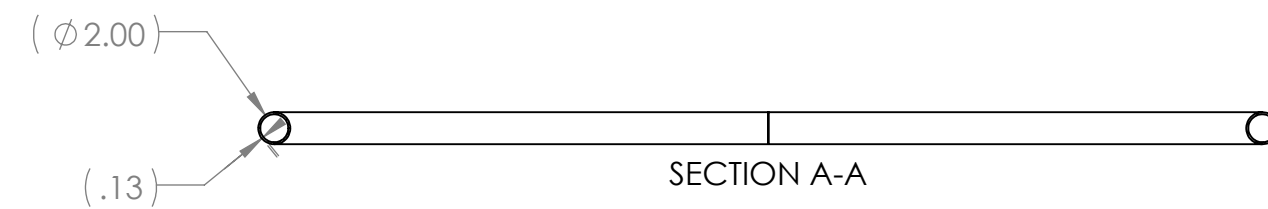
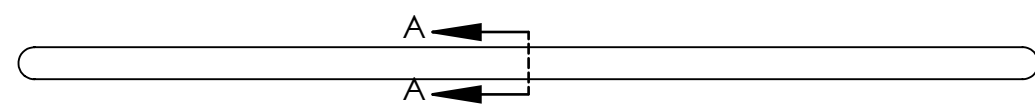
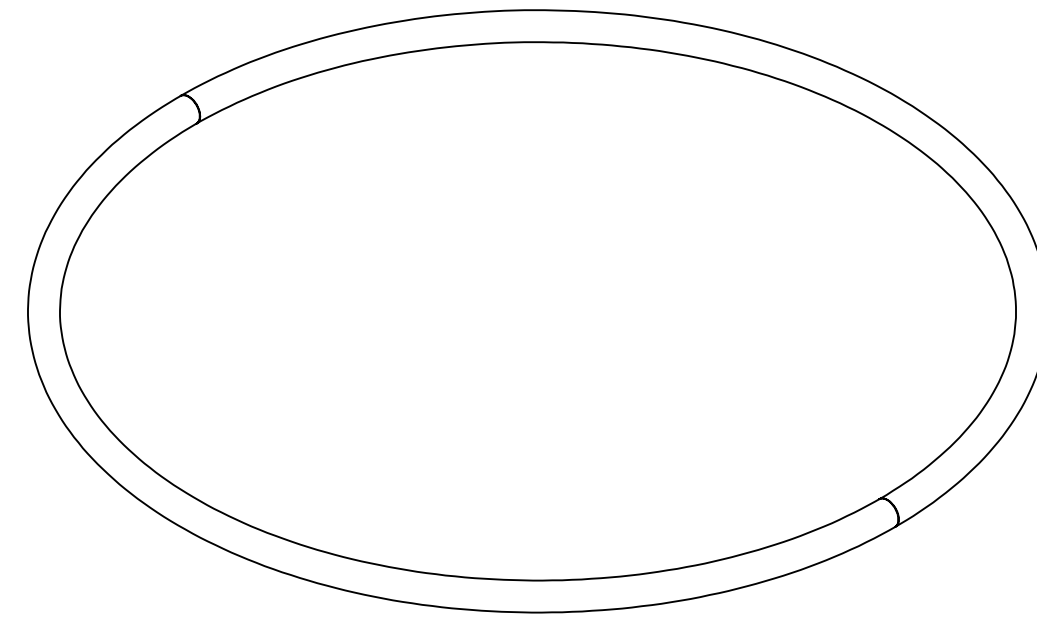
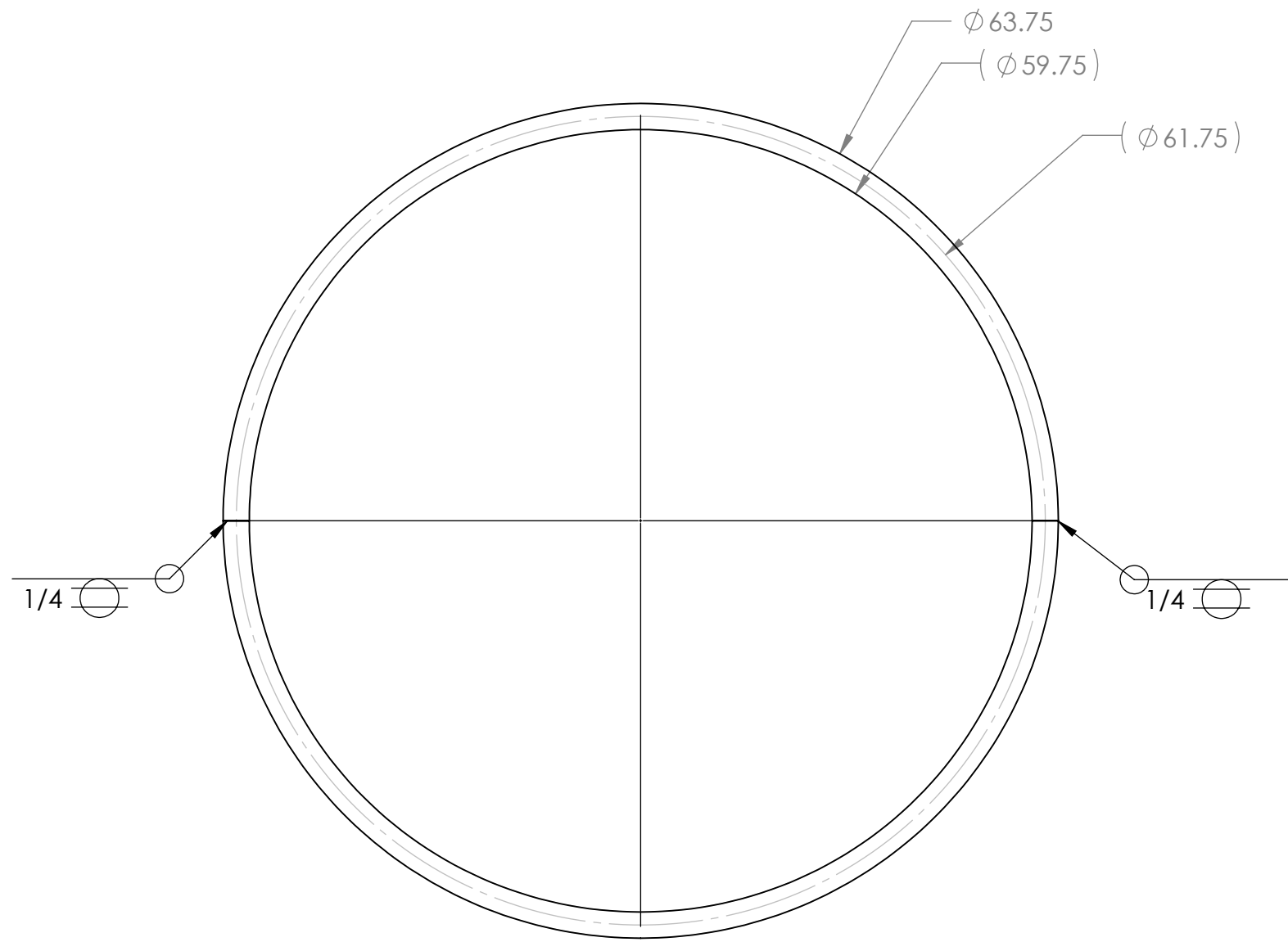
A

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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$ MATERIAL/FINISH: 2" diameter x .125" wall, 6061 Aluminum, Round Tube DO NOT SCALE DRAWING	WELD	NAME	DATE	 
	DRAWN	KAMC	12/11/2020	
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: <h2 style="text-align: center;">Lower Hub Top Ring</h2>
SIZE		DWG. NO.	REV	
C		GE-22353		
SCALE: 1:12			SHEET 1 OF 1	

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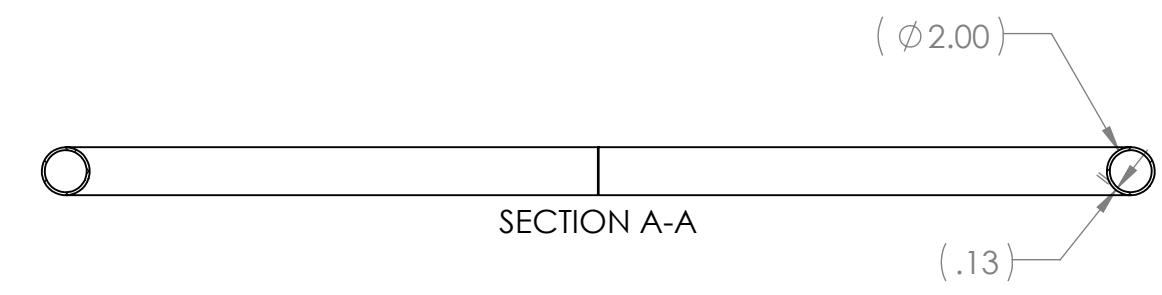
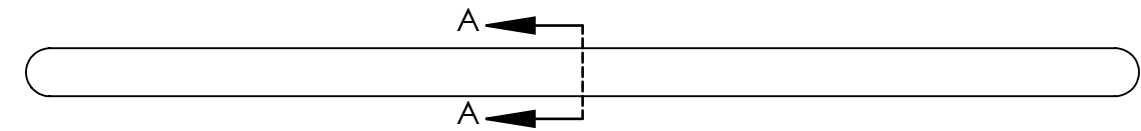
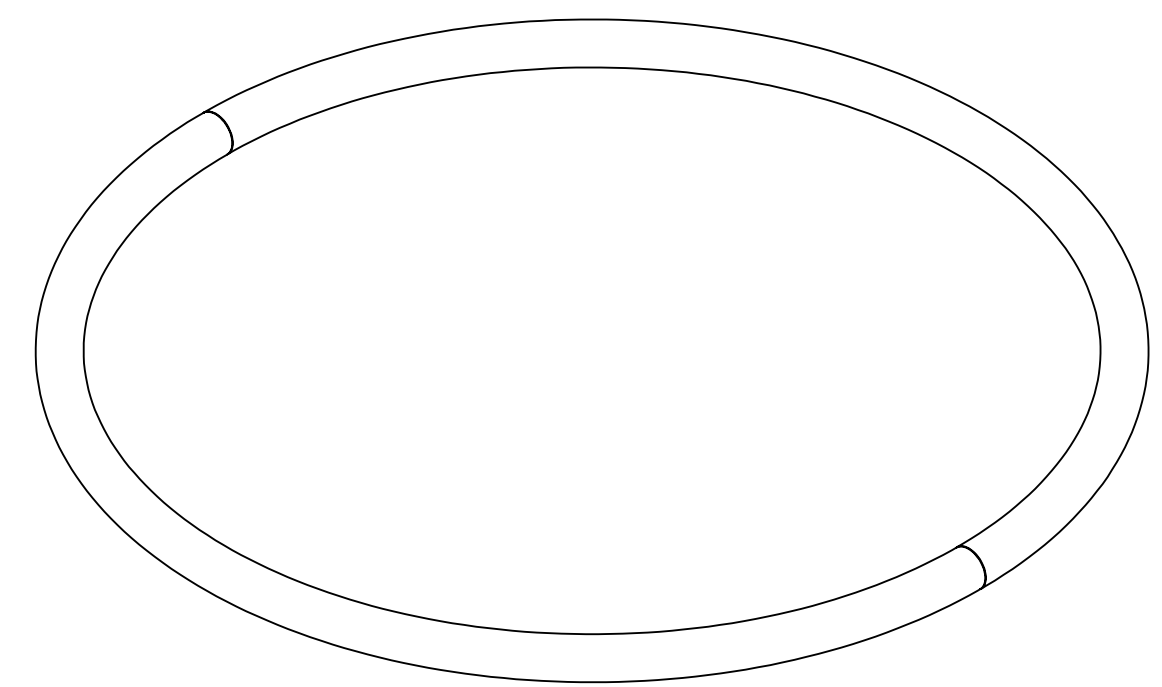
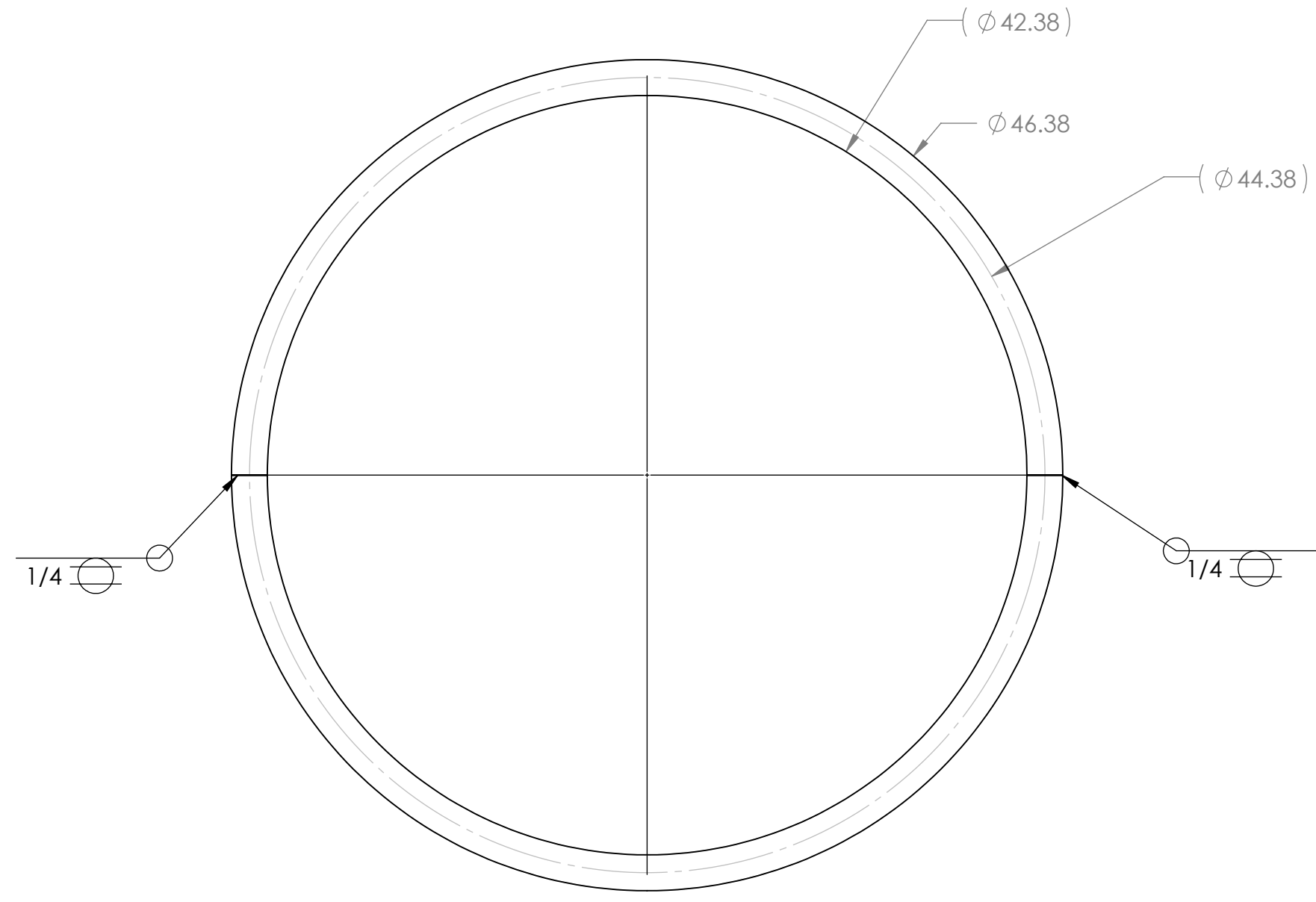
C

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Notes:
 1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .015 MATERIAL/FINISH: 2" diameter x .125" wall, 6061 Aluminum, Round Tube DO NOT SCALE DRAWING	WELD	NAME	DATE	 
	DRAWN	KAMC	12/11/2020	
	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.			Lower Hub Bottom Ring
	COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.
			C	GE-22354
			SCALE: 1:8	SHEET 1 OF 1

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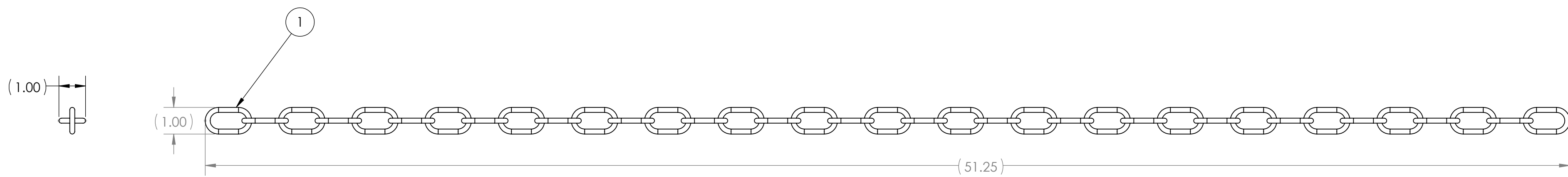
C

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Description: CHAINBOSS Plastic Chain: US Weight 2 in., Black
Vendor: The Home Depot
Part Number: [internet] 315968945

Substitutions allowed with permission from FIRST HQ.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22355-01	Individual Chain	37

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005	VEND	NAME	DATE	 
	DRAWN	KAMC	6/21/2021	
MATERIAL/FINISH: Black	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: Lower Hub Chain
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	SCALE: 1:3		DWG. NO. C GE-22355	REV
DO NOT SCALE DRAWING	SCALE: 1:3		SHEET 1 OF 2	

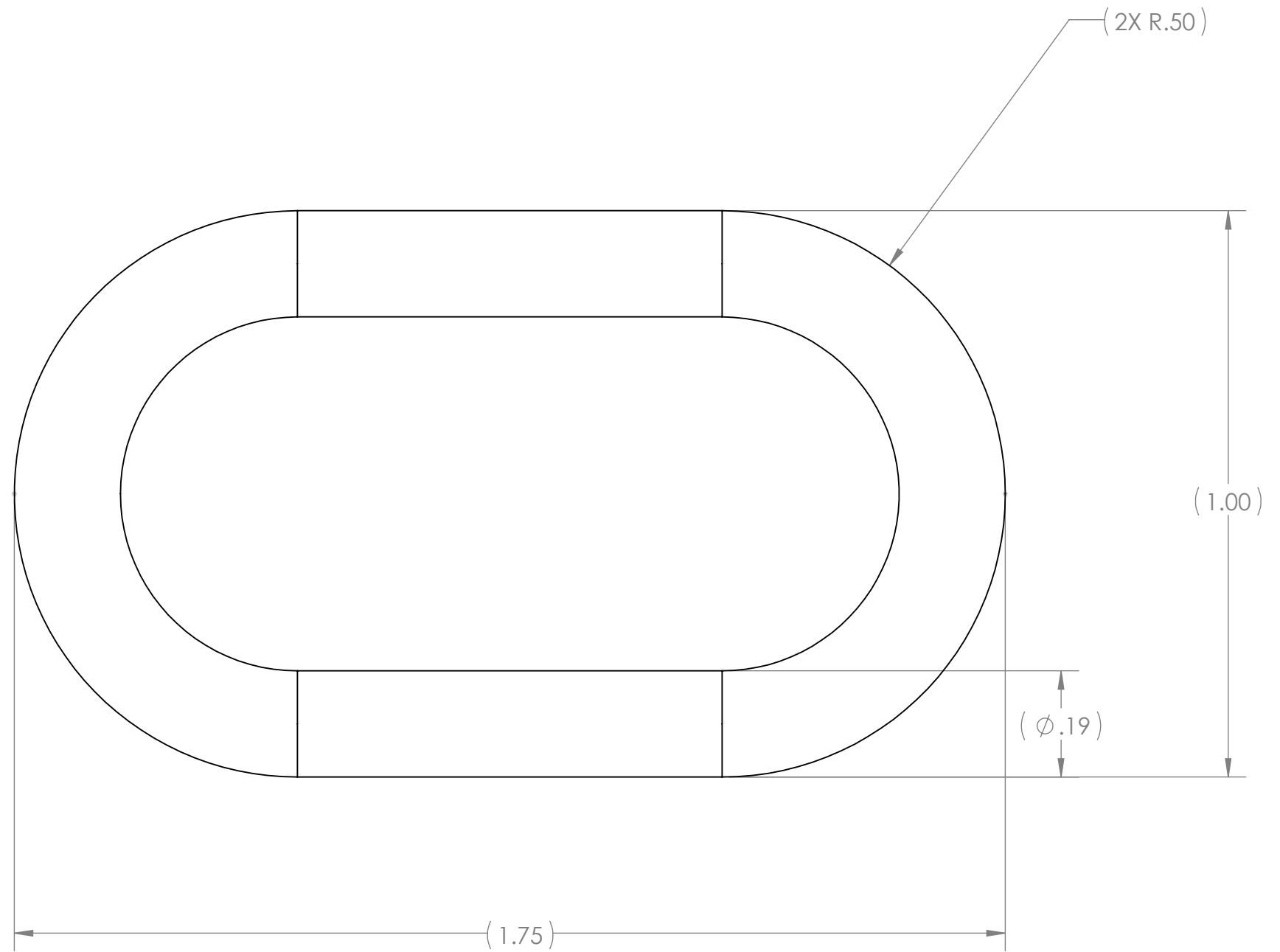
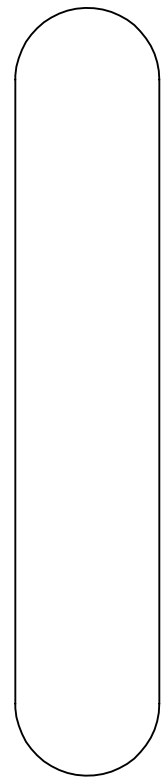
4

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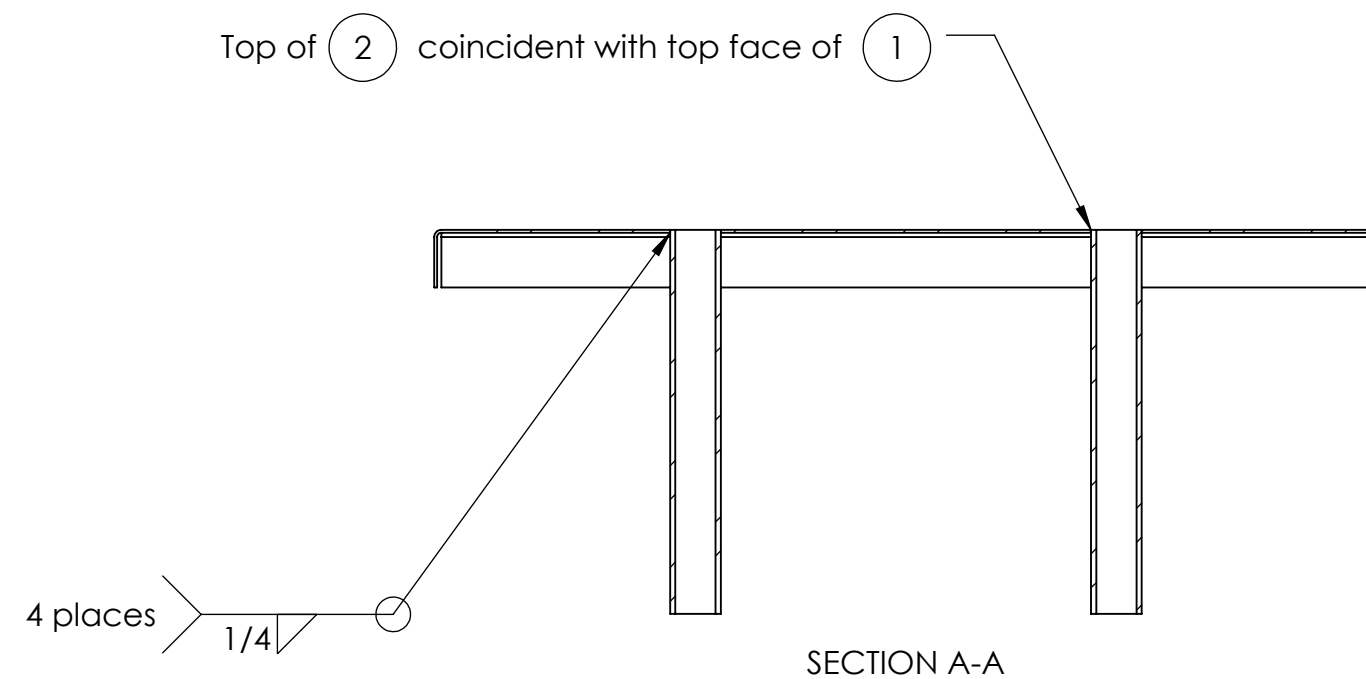
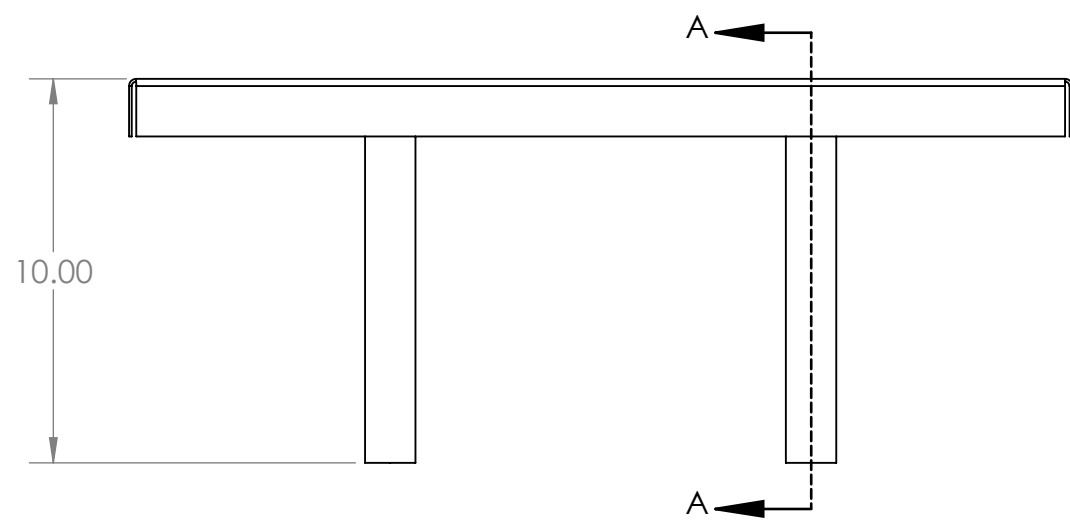
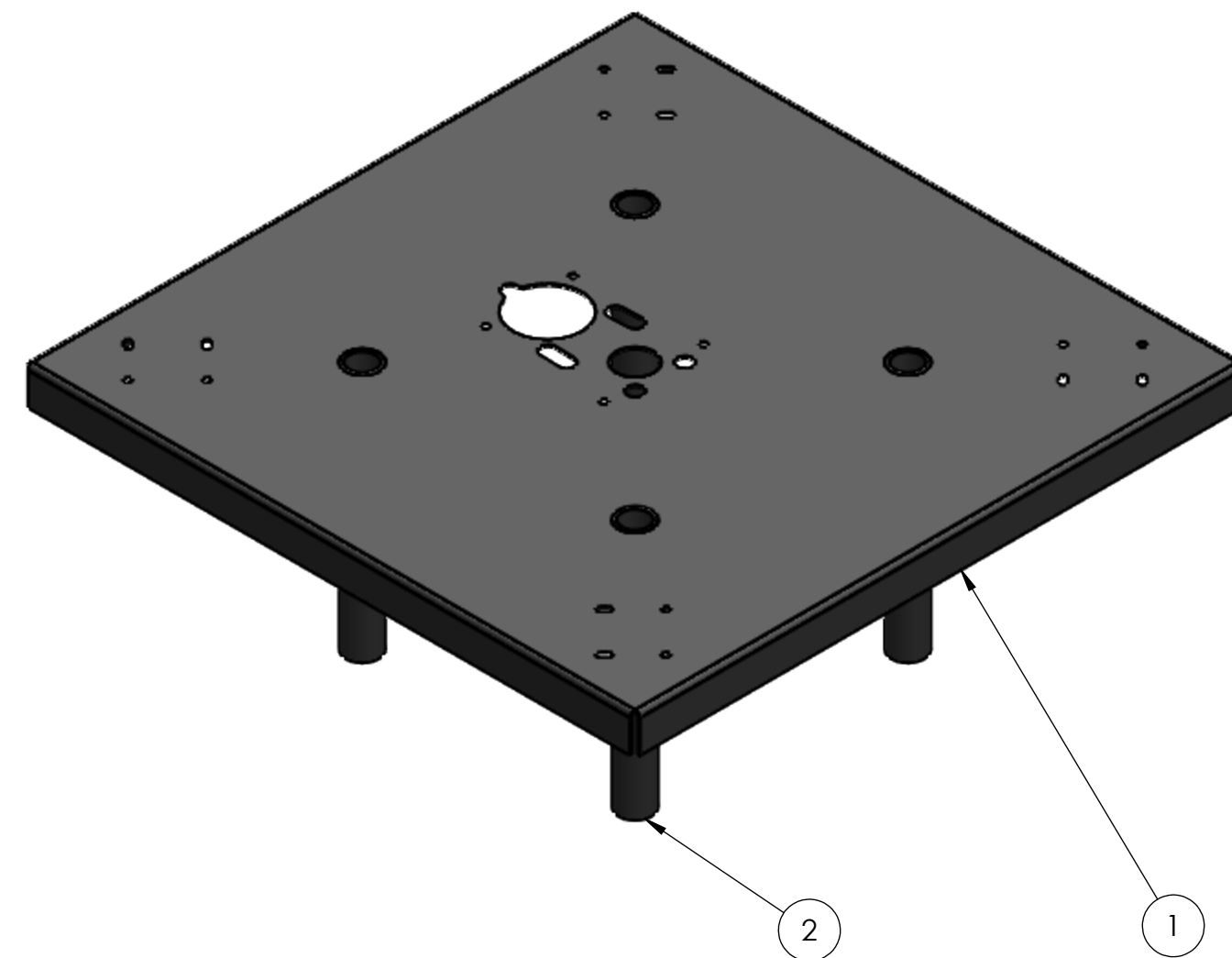
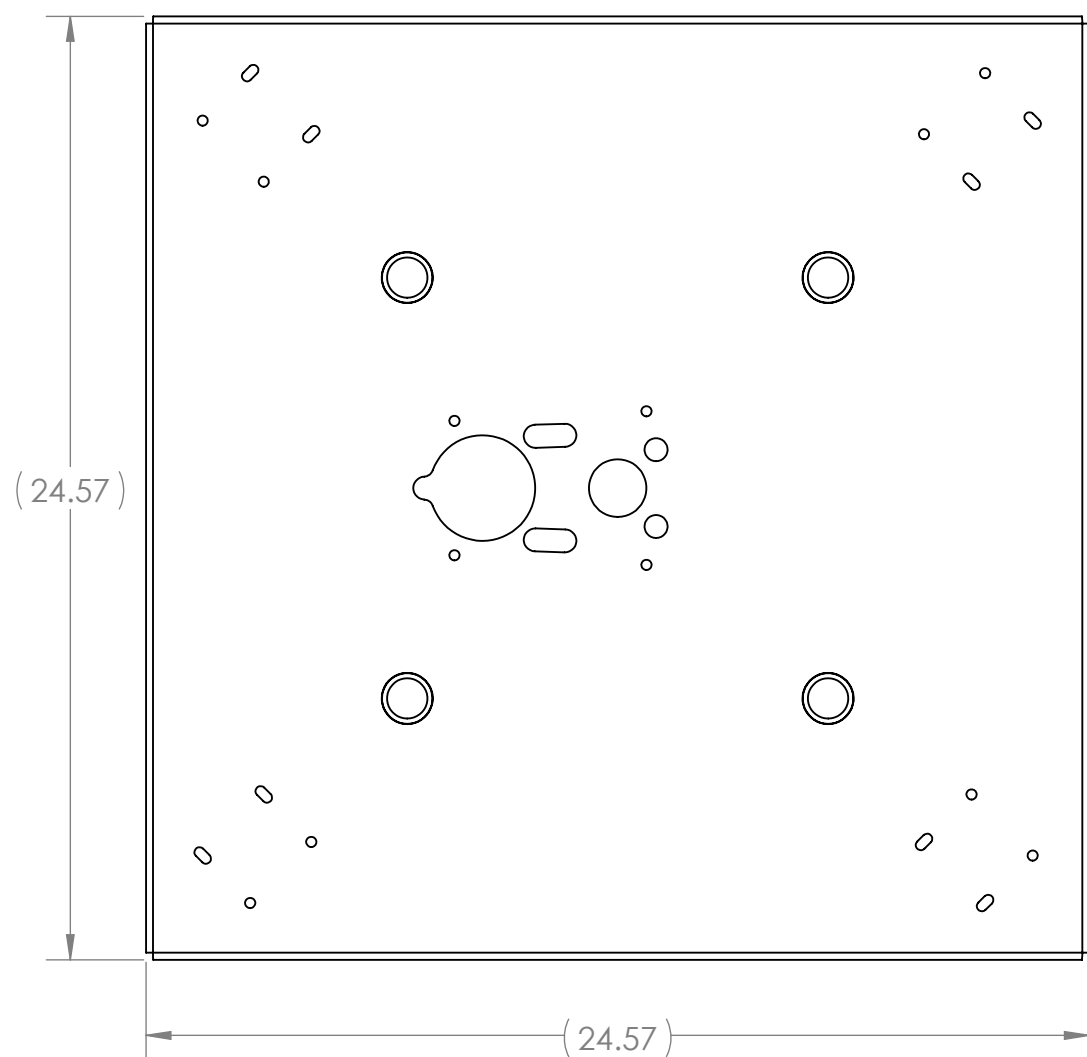
1

GE-22355-01



Note: Description, Vendor, and Part Number from GE-22355 applicable to GE-22355-01

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	TITLE: Lower Hub Chain
	DRAWN	KAMC	6/21/2021	
MATERIAL/FINISH: Black	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 C
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			DWG. NO. GE-22355
				REV
				SCALE: 4:1
				SHEET 2 OF 2



Notes:
1. Tag or label with part number.

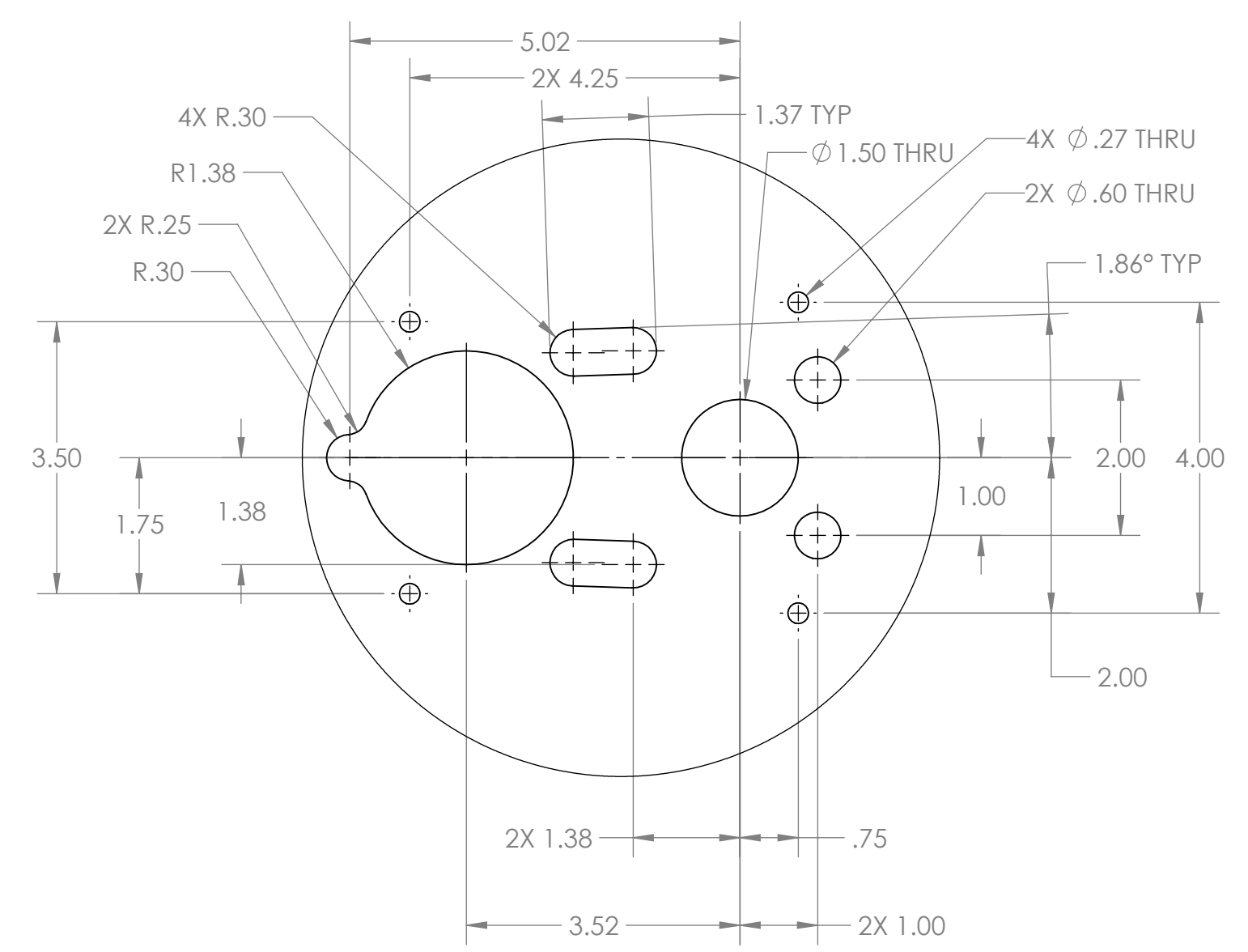
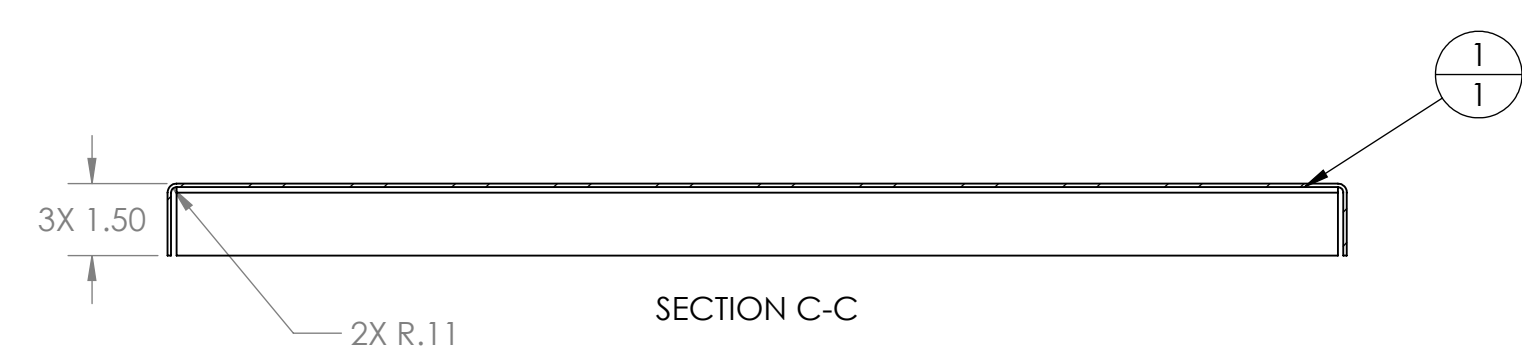
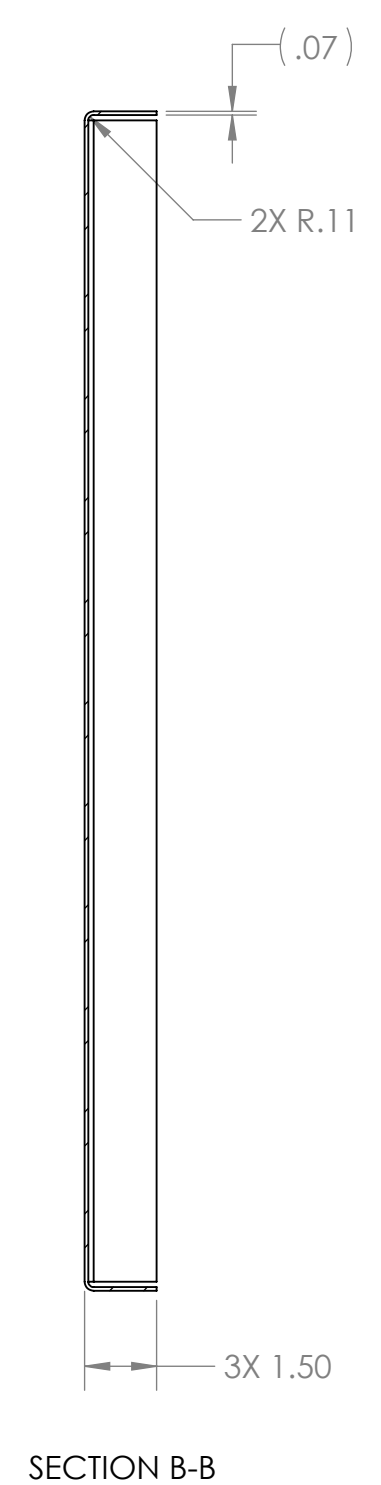
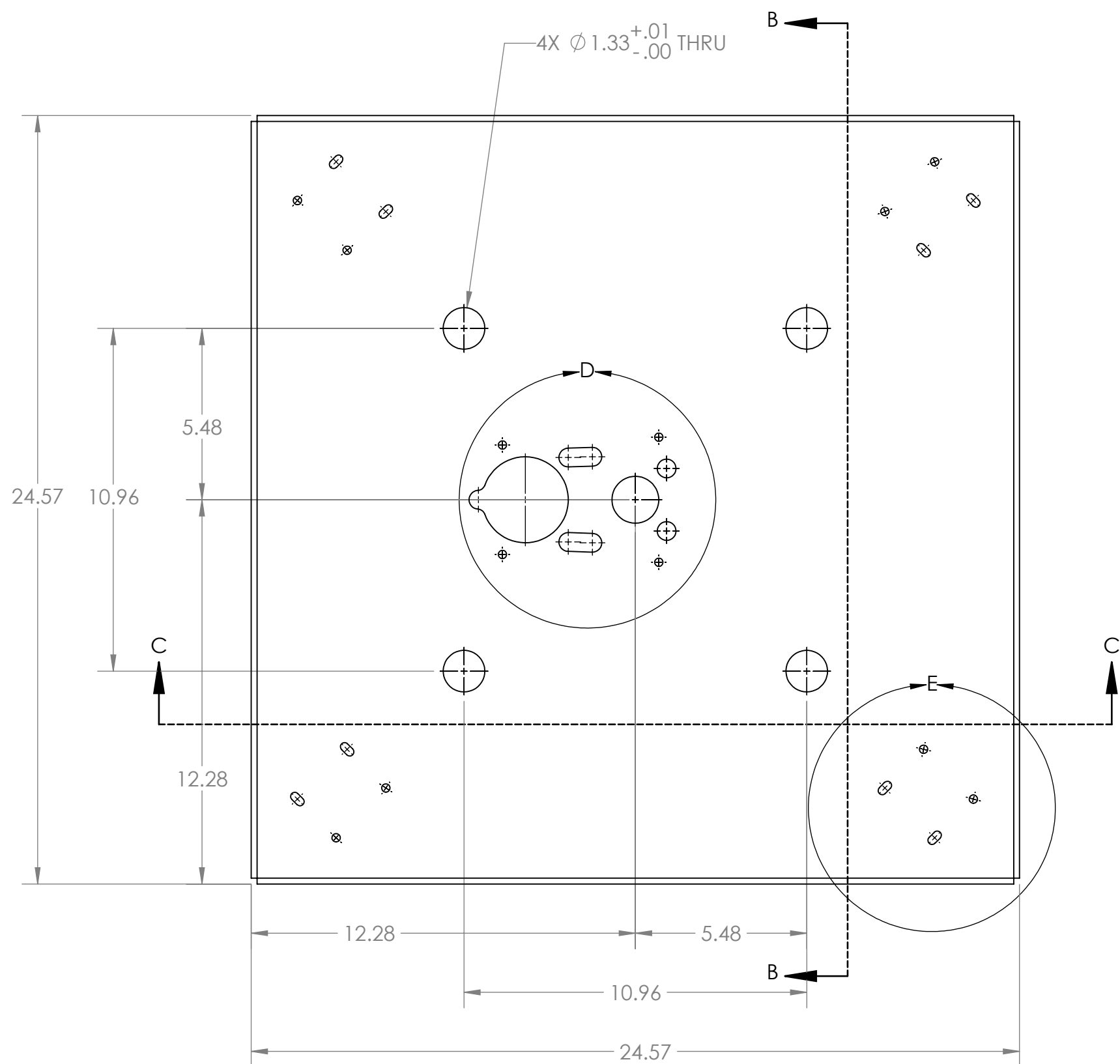
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22356-01	14 Gauge A-366/1008 Cold Roll Steel	1
2	GE-22356-02	1" Schedule 40 A500 Steel	4

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: Powder Coat Black DO NOT SCALE DRAWING	WELD	NAME	DATE
	DRAWN	CO	7/22/2021
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.			

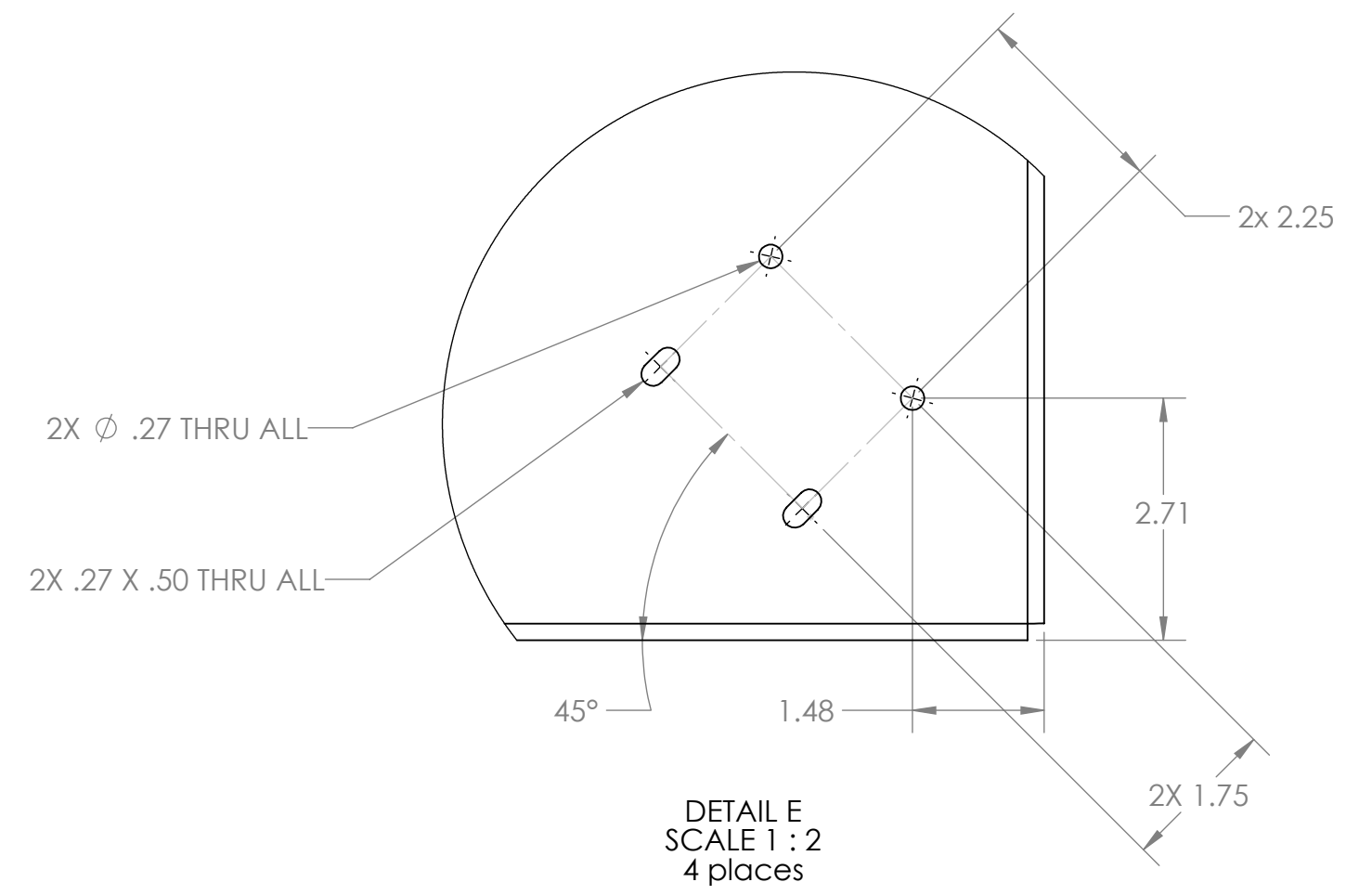
FIRST ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Lower Hub Base**

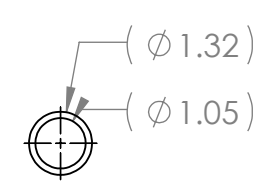
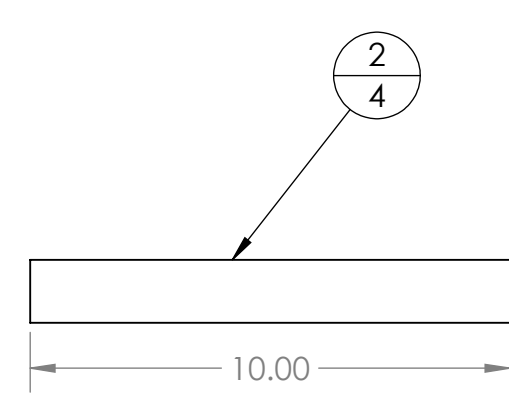
SIZE	DWG. NO.	REV
C	GE-22356	
SCALE: 1:5		SHEET 1 OF 3




DETAIL D
SCALE 1 : 2



DETAIL E
SCALE 1 : 2
4 places



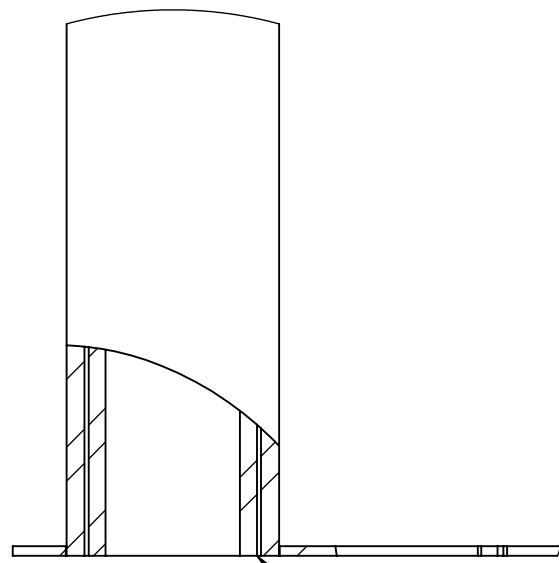
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$ MATERIAL/FINISH: Powder Coat Black	WELD	NAME	DATE	 FIRST ROBOTICS COMPETITION Modeling Solutions Partner
	DRAWN	CO	7/22/2021	
DO NOT SCALE DRAWING	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.			Lower Hub Base
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE	DWG. NO.
			C	GE-22356
			SCALE: 1:4	SHEET 2 OF 3

4

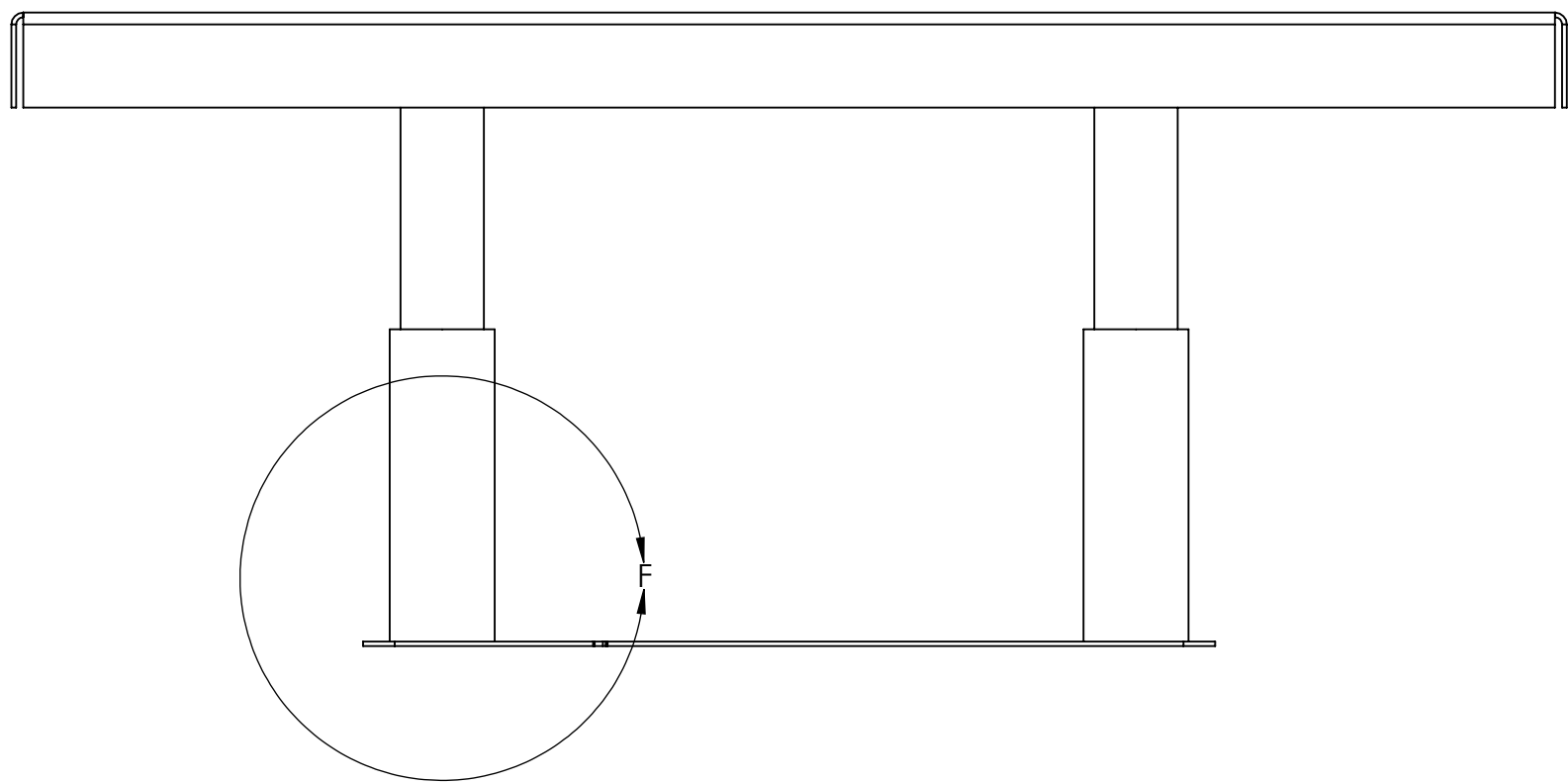
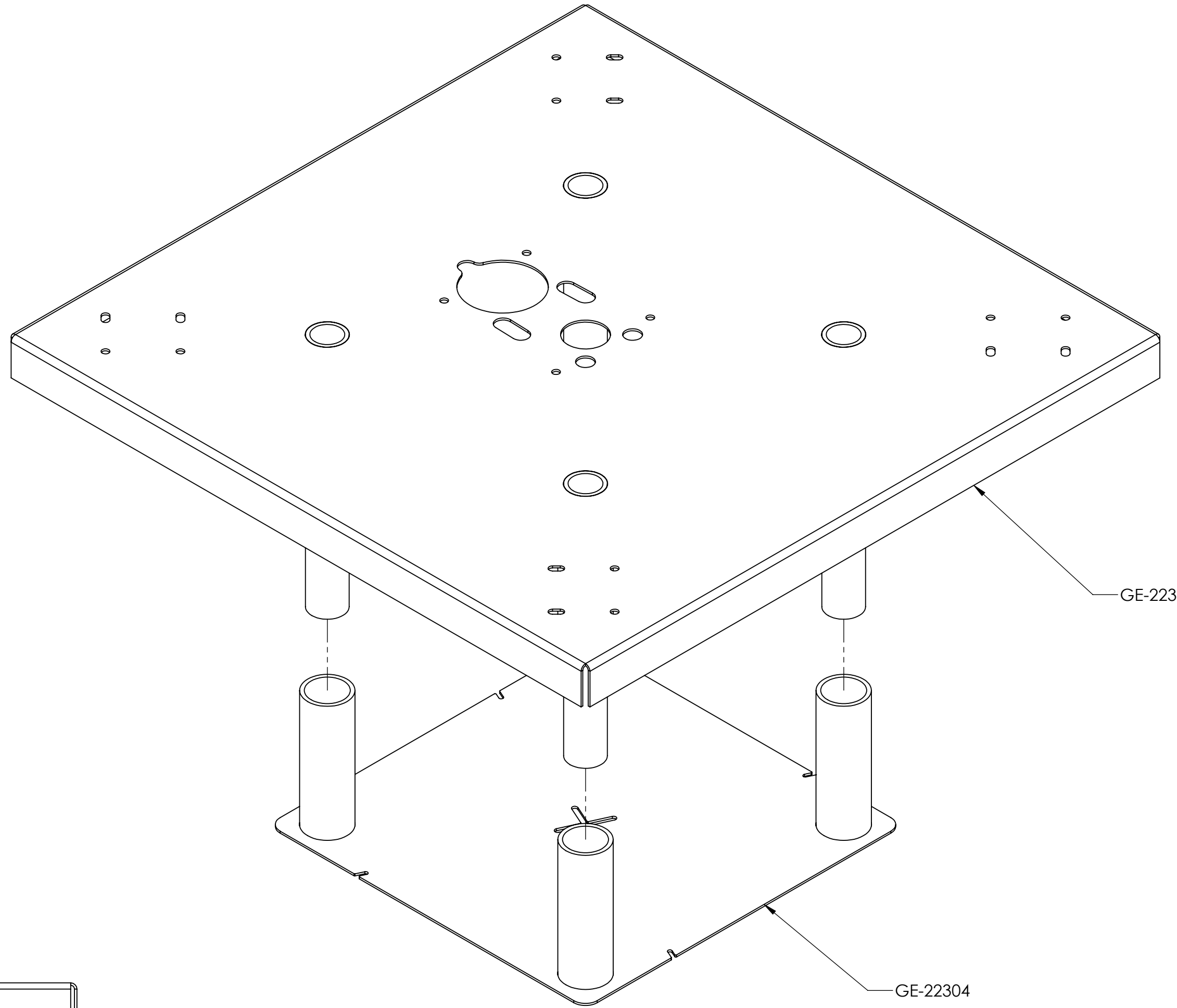
3

2



1



DETAIL F
SCALE 2 : 3
Bottom of two assemblies coincident.



Notes:
1. For reference only: designed interface of GE-22356 with mating part.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .015$	WELD	NAME	DATE	 
	DRAWN	CO	7/22/2021	
MATERIAL/FINISH: Powder Coat Black	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: Lower Hub Base
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22356
	SCALE: 1:3			SHEET 3 OF 3

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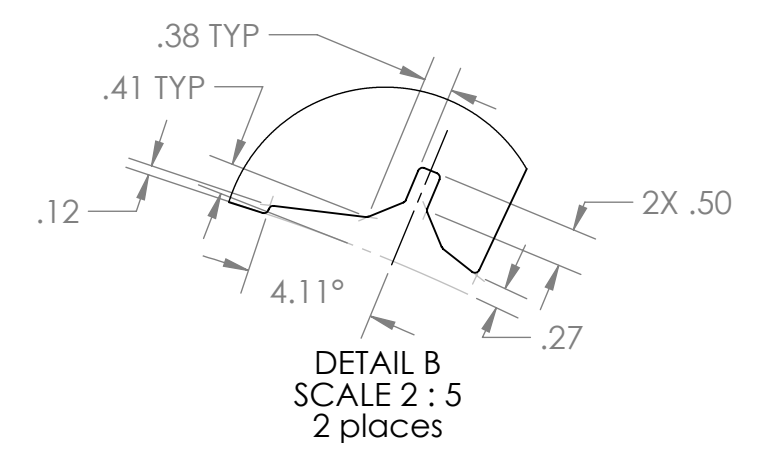
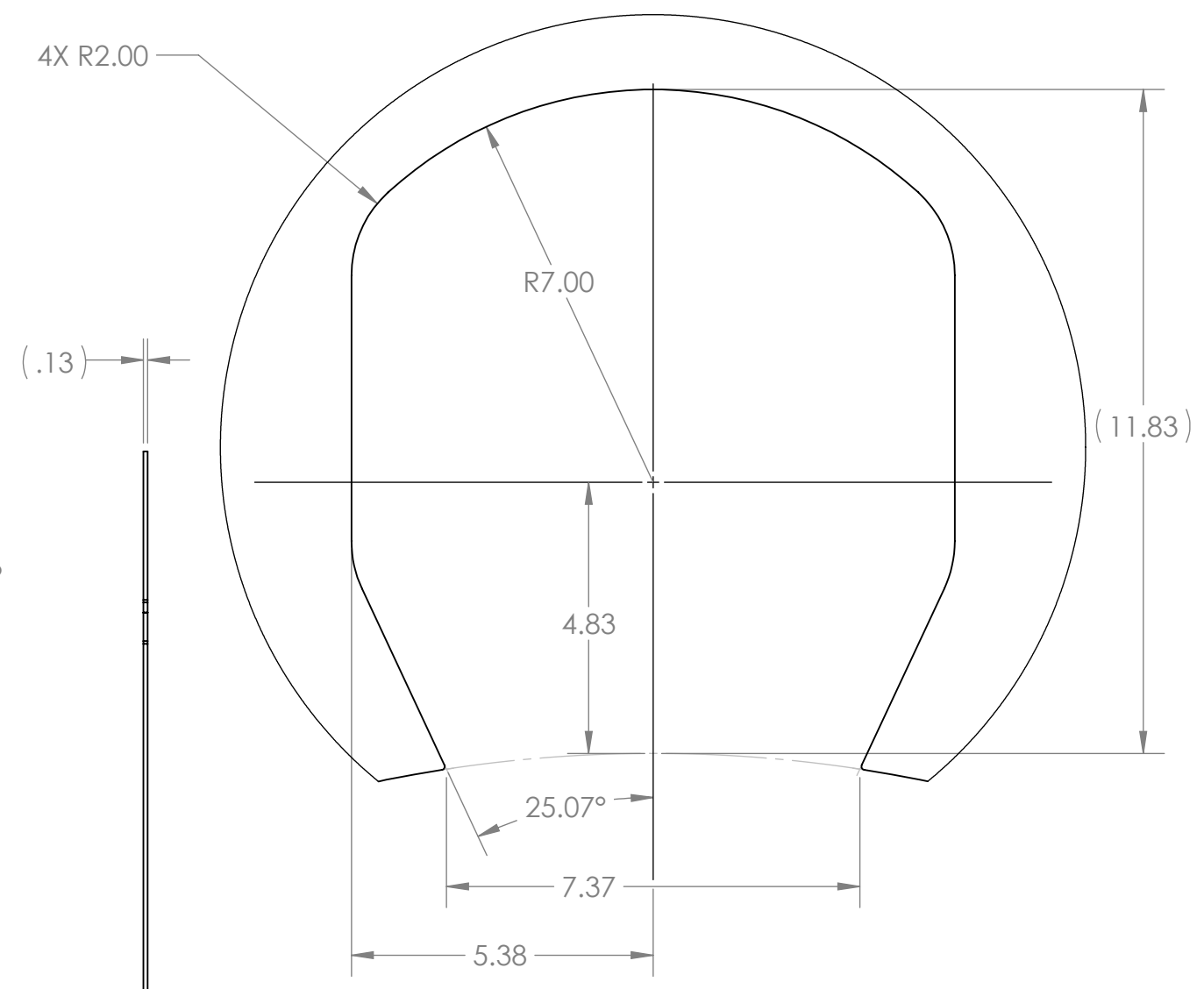
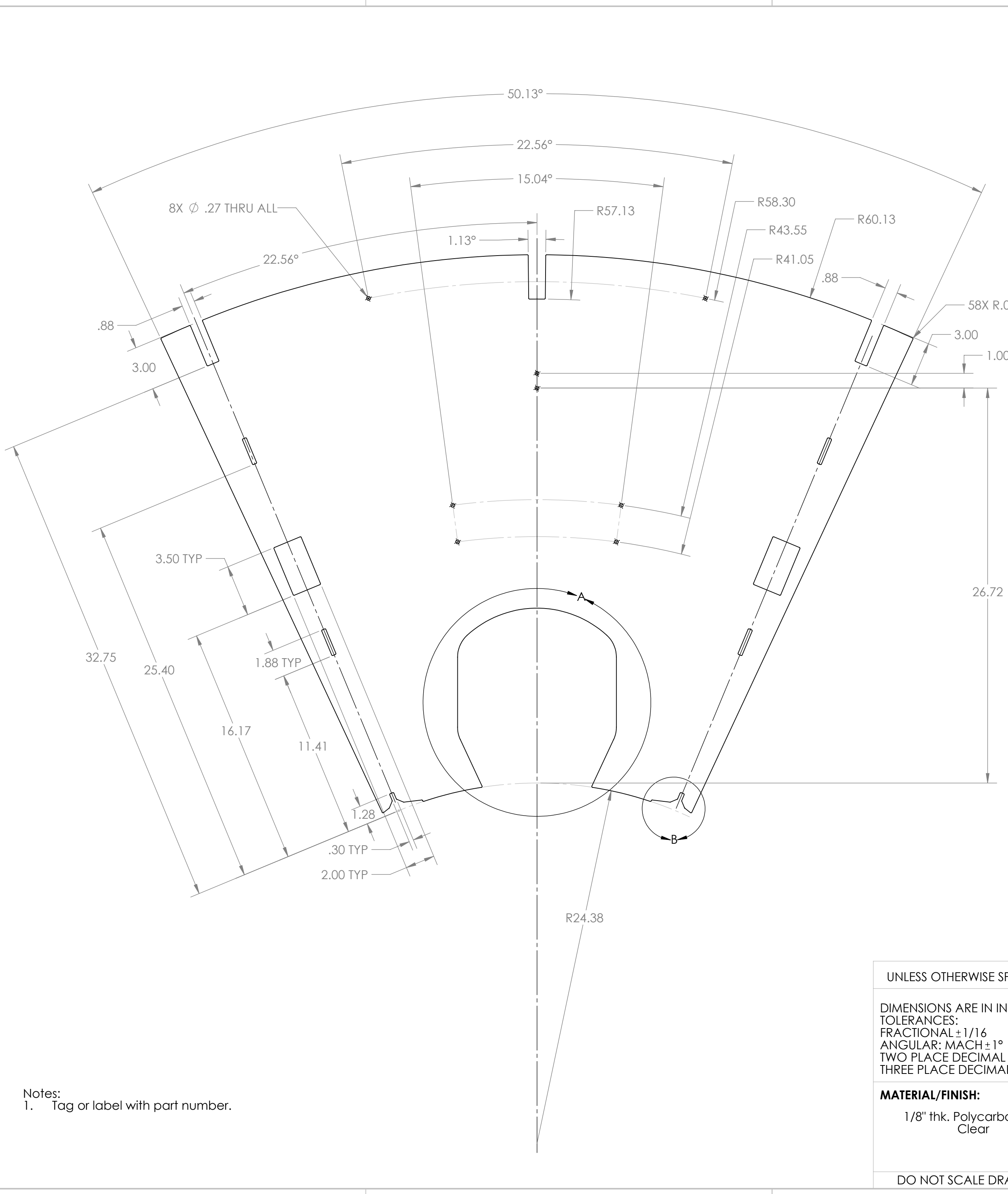
C

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Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/8" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	CO	7/26/2021	
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:
				<h1>Lower Hub Panel</h1>
SIZE		DWG. NO.	REV	
C		GE-22357		
SCALE: 1:5			SHEET 1 OF 1	

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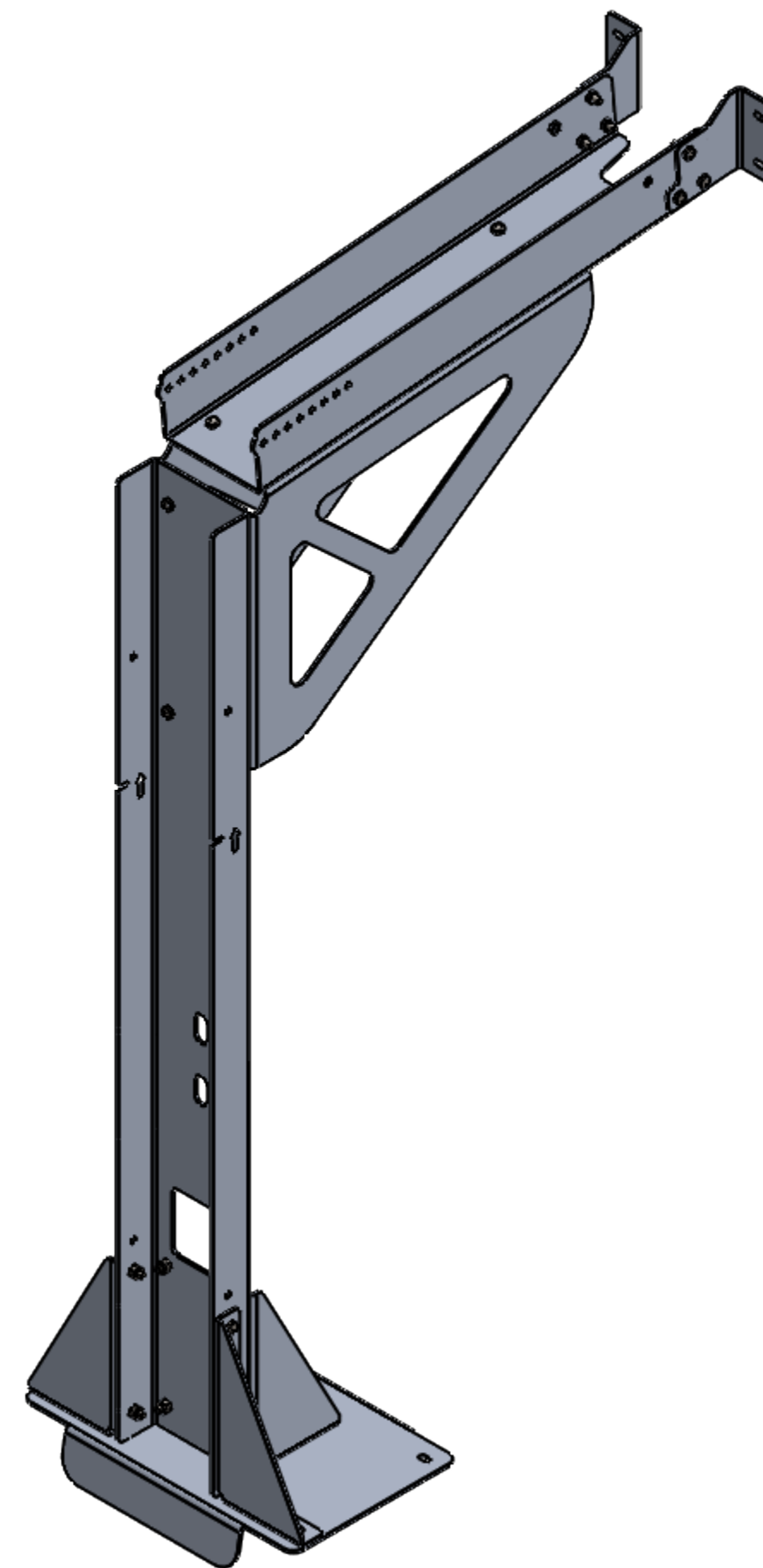
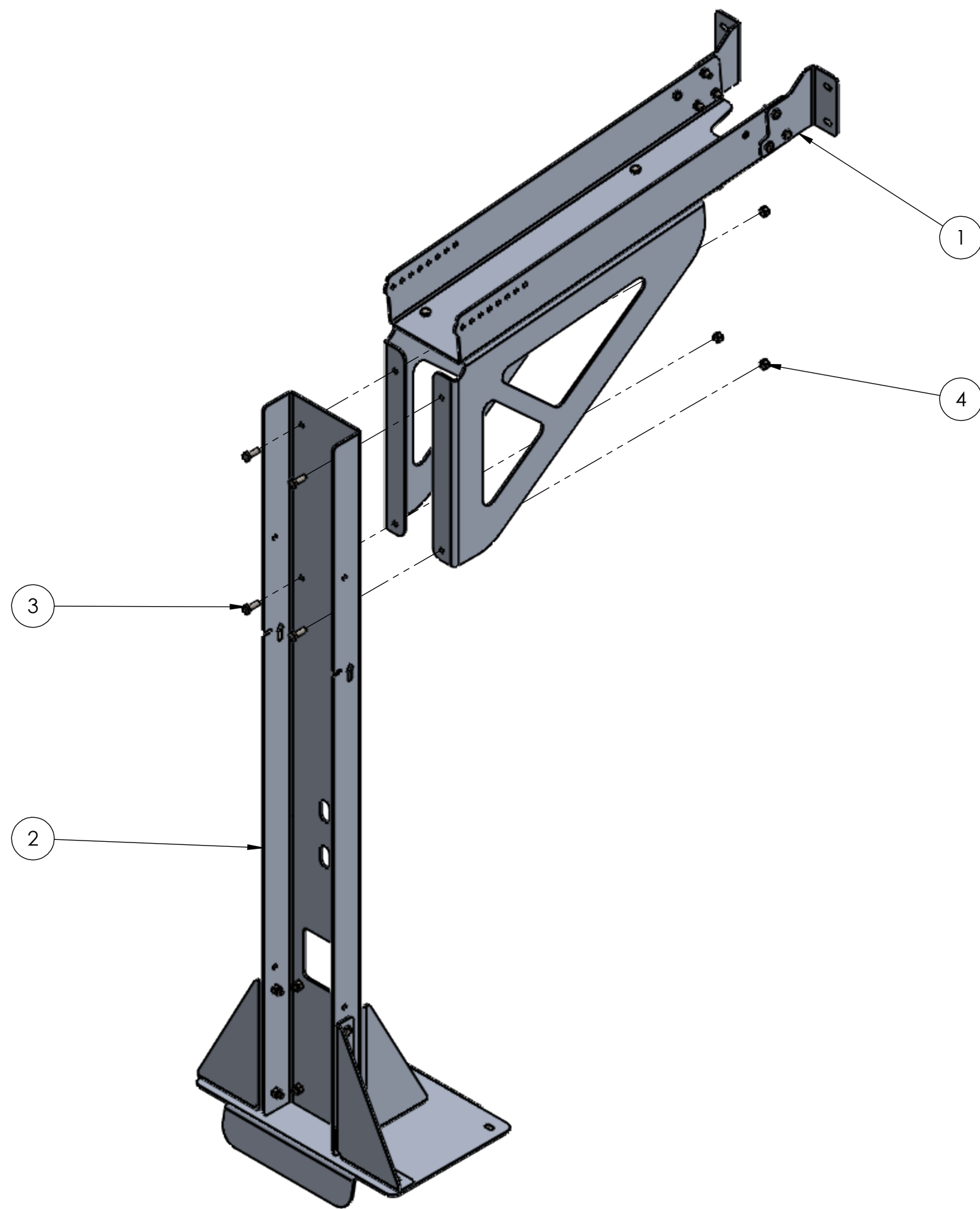
D

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B



Notes:

- 1. Attach (2) to (1) using (4) and (3).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	GE-22382	Upright Top	1
2	GE-22383	Upright Bottom	1
3	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	4
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	4

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005	VEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
MATERIAL/FINISH:	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.			Hub Leg Assembly
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22371
			SCALE: 1:6	SHEET 1 OF 1

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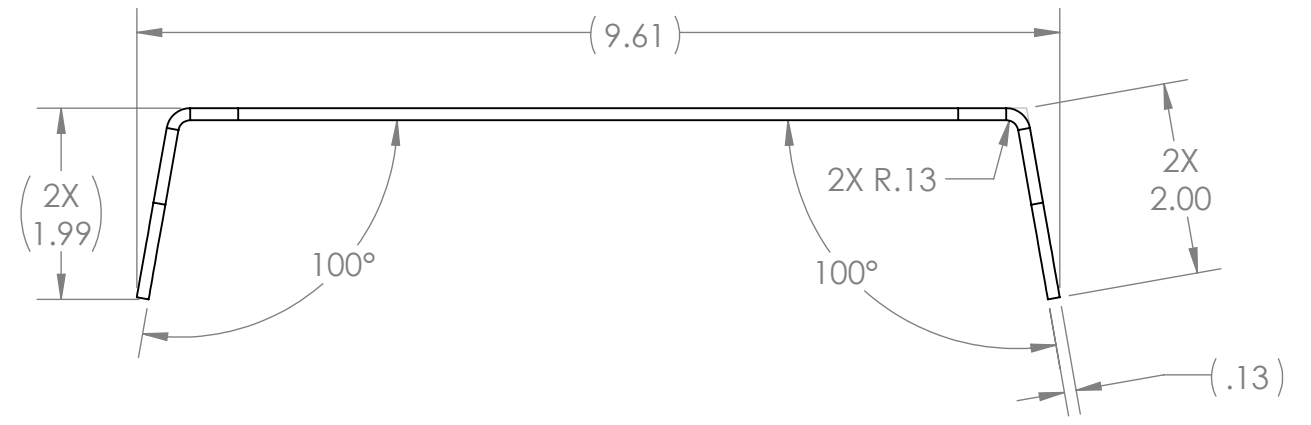
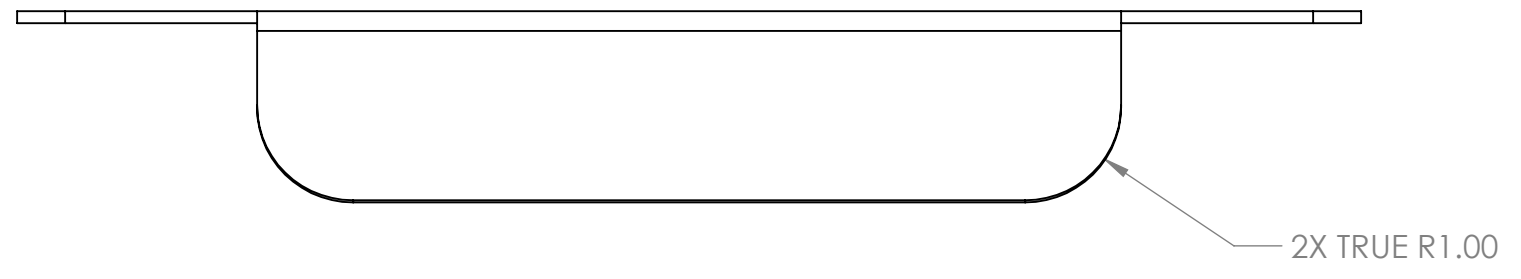
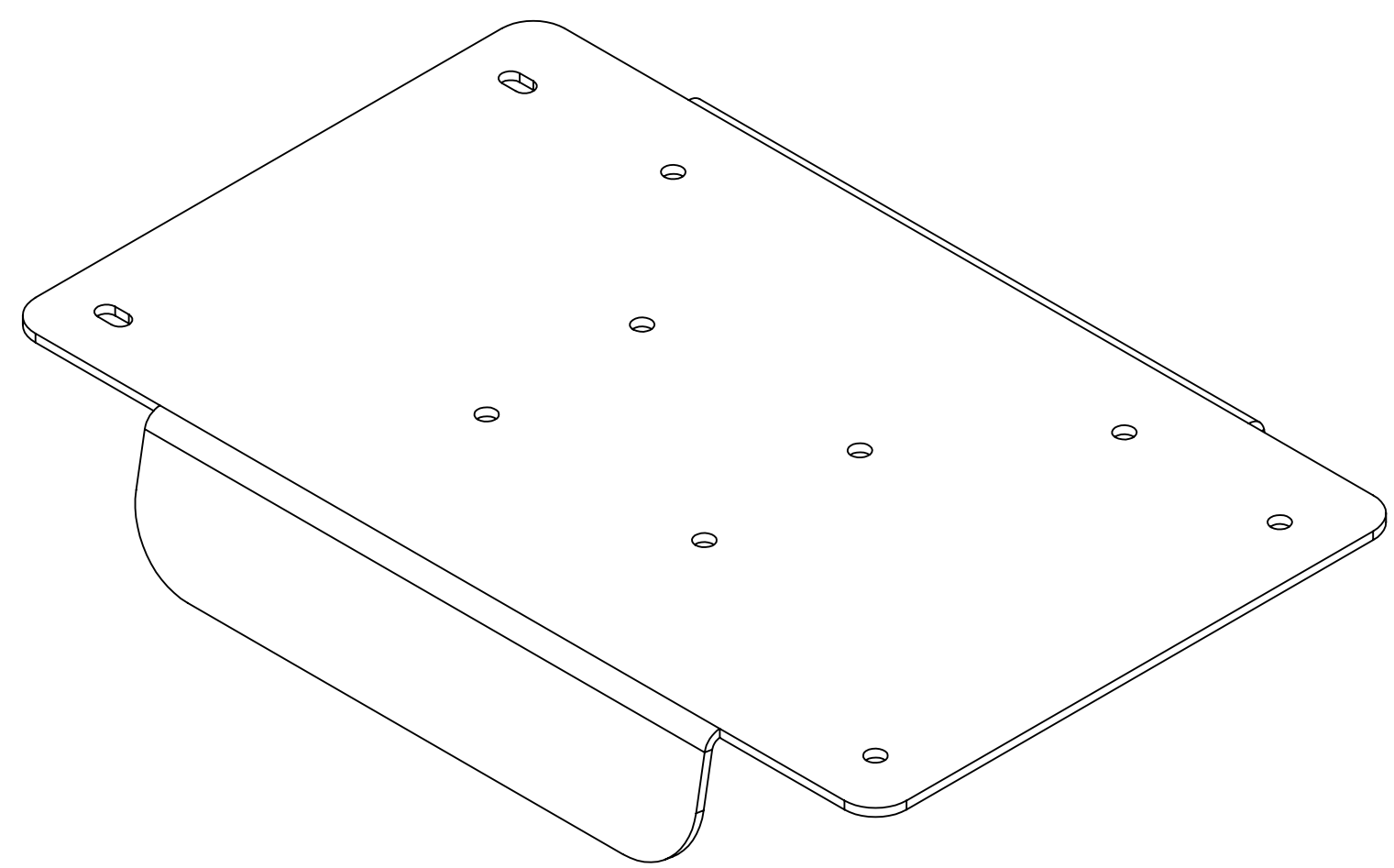
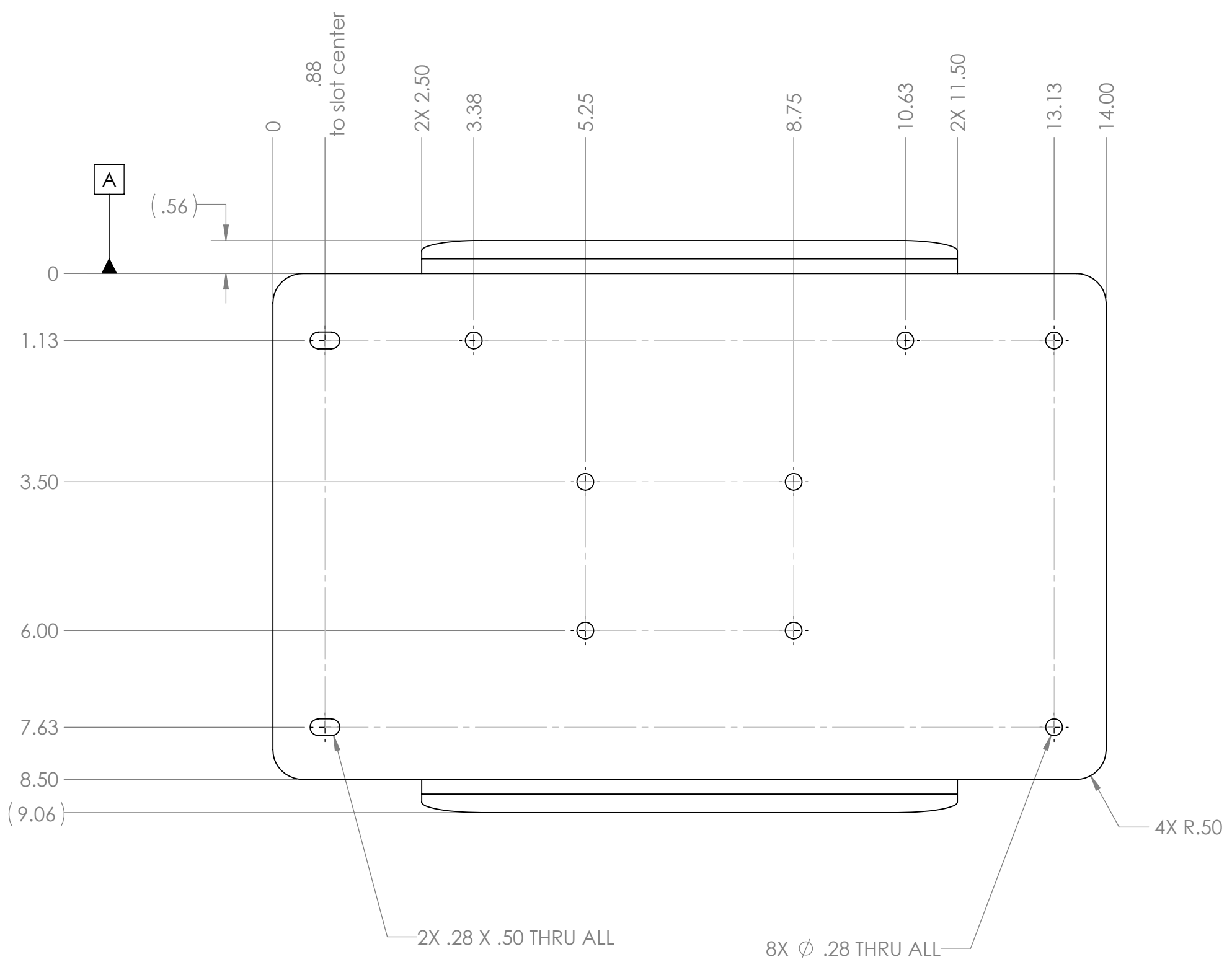
C

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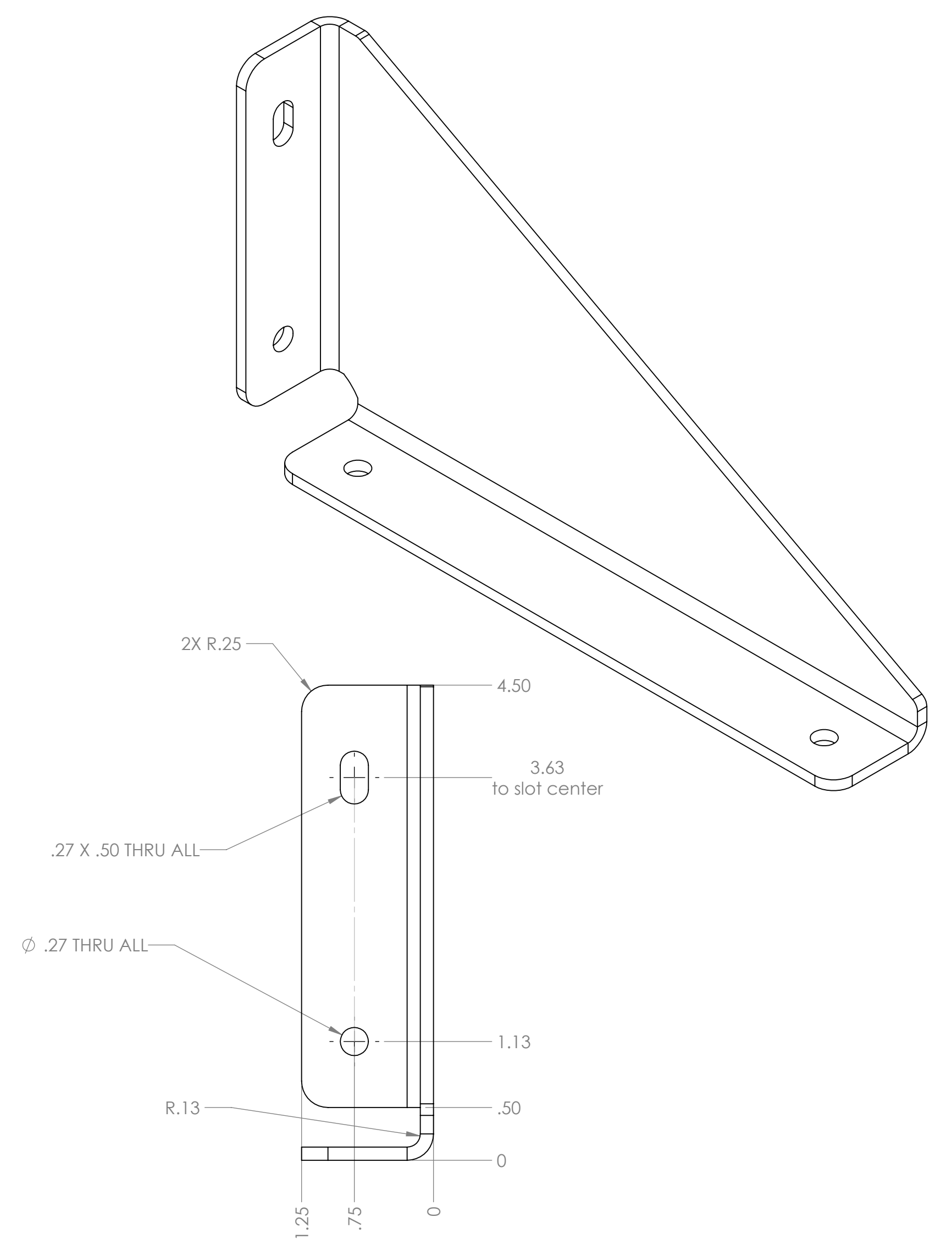
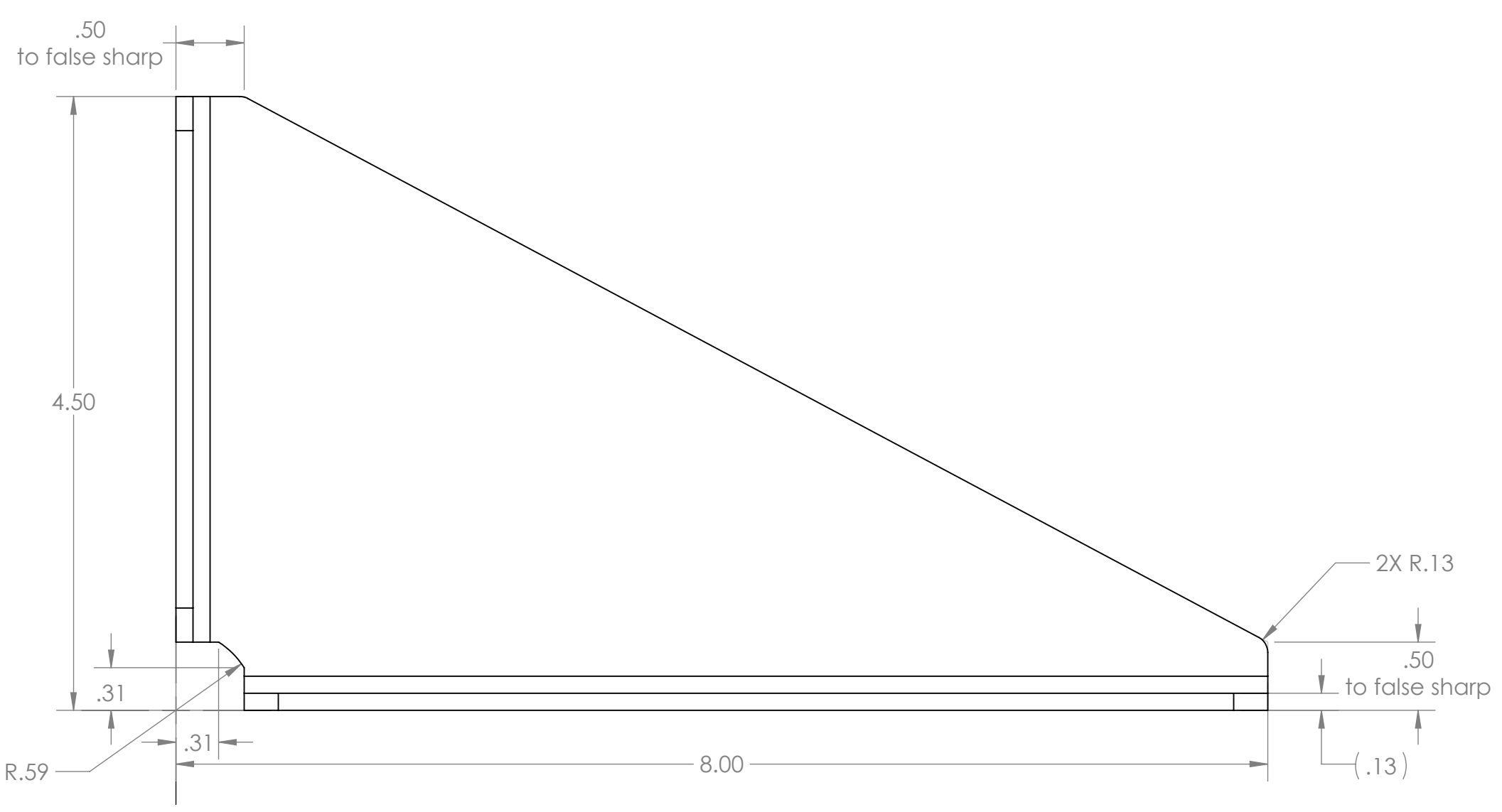
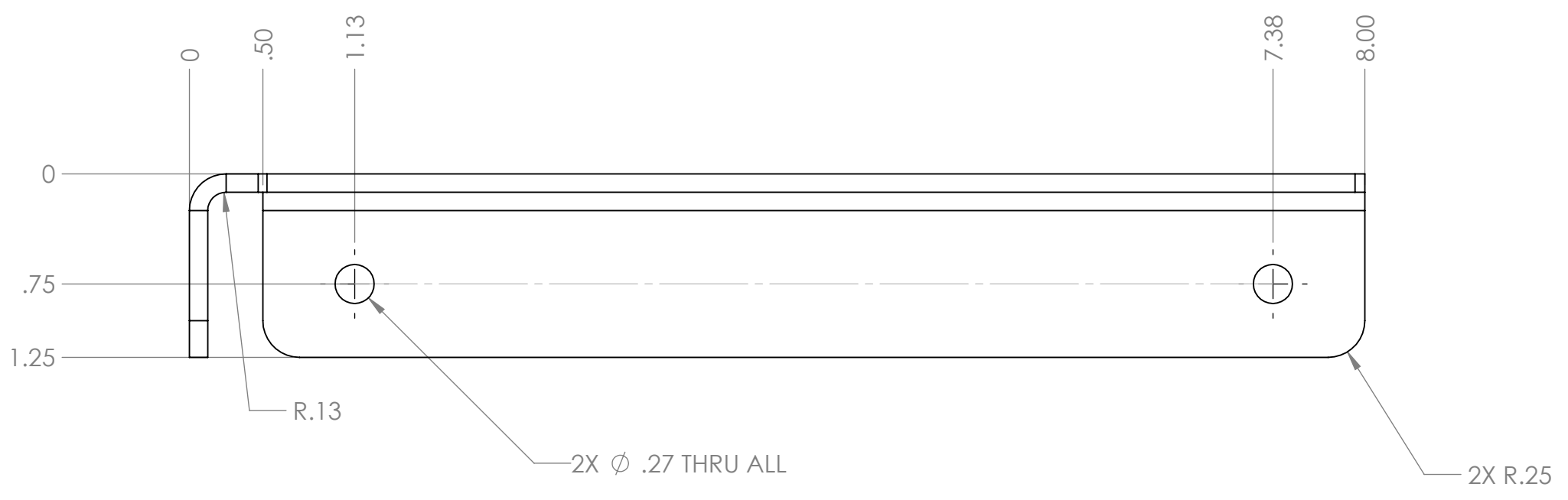


Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL $\pm 1/16$
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
TWO PLACE DECIMAL $\pm .02$
THREE PLACE DECIMAL $\pm .010$
MATERIAL/FINISH:
1/8" 5052 Aluminum Sheet
DO NOT SCALE DRAWING



BEND	NAME	DATE
DRAWN	KAMC	7/16/2021
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.		

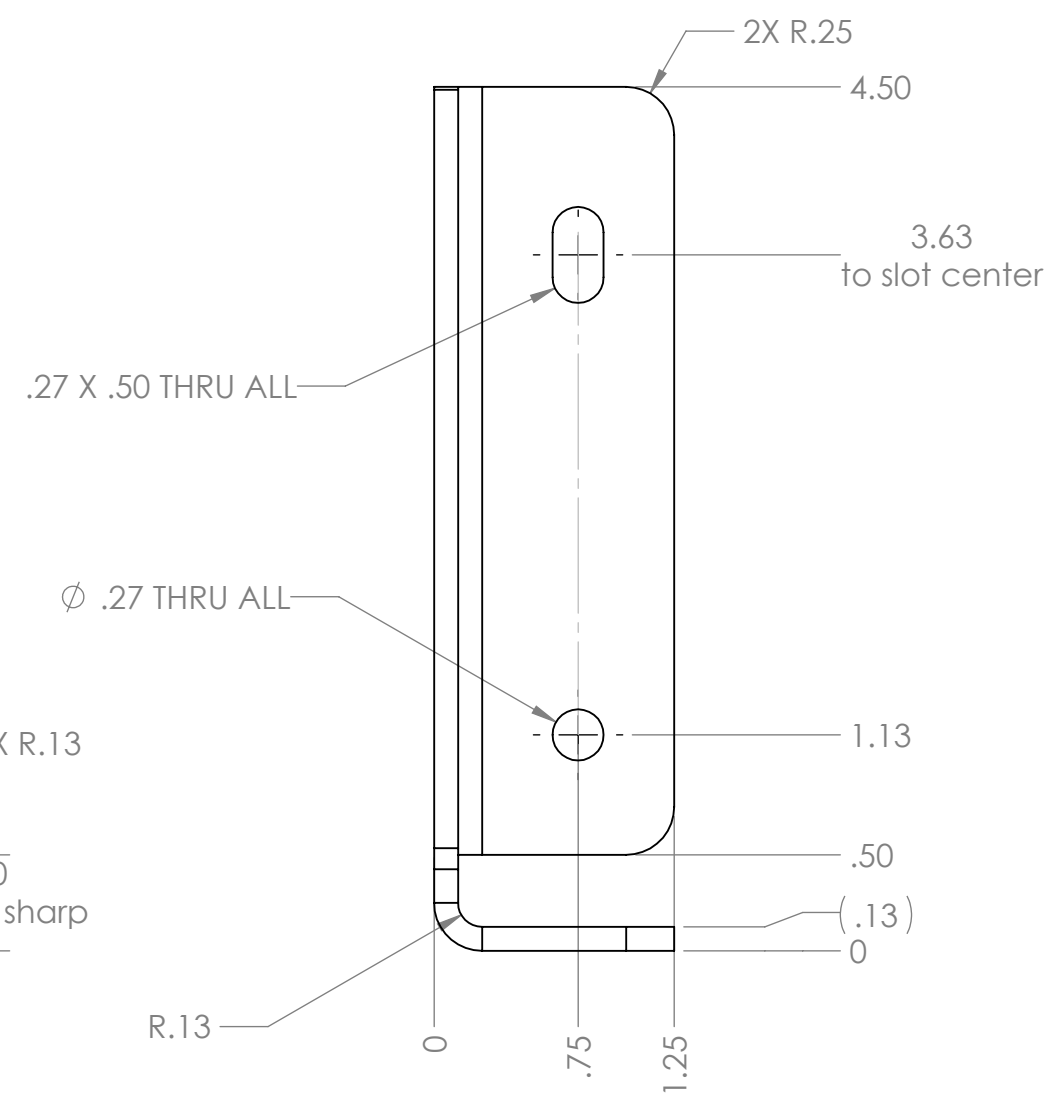
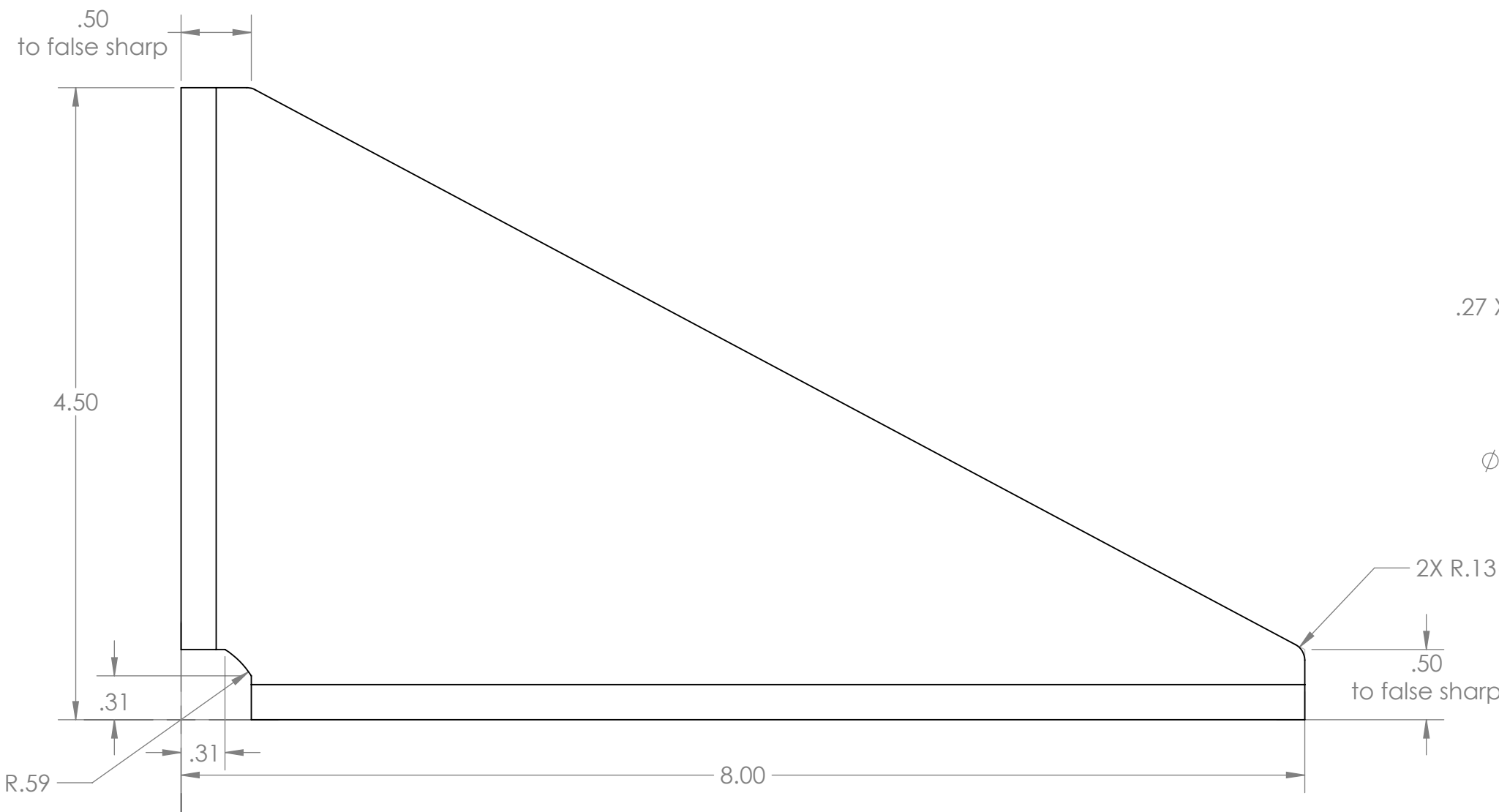
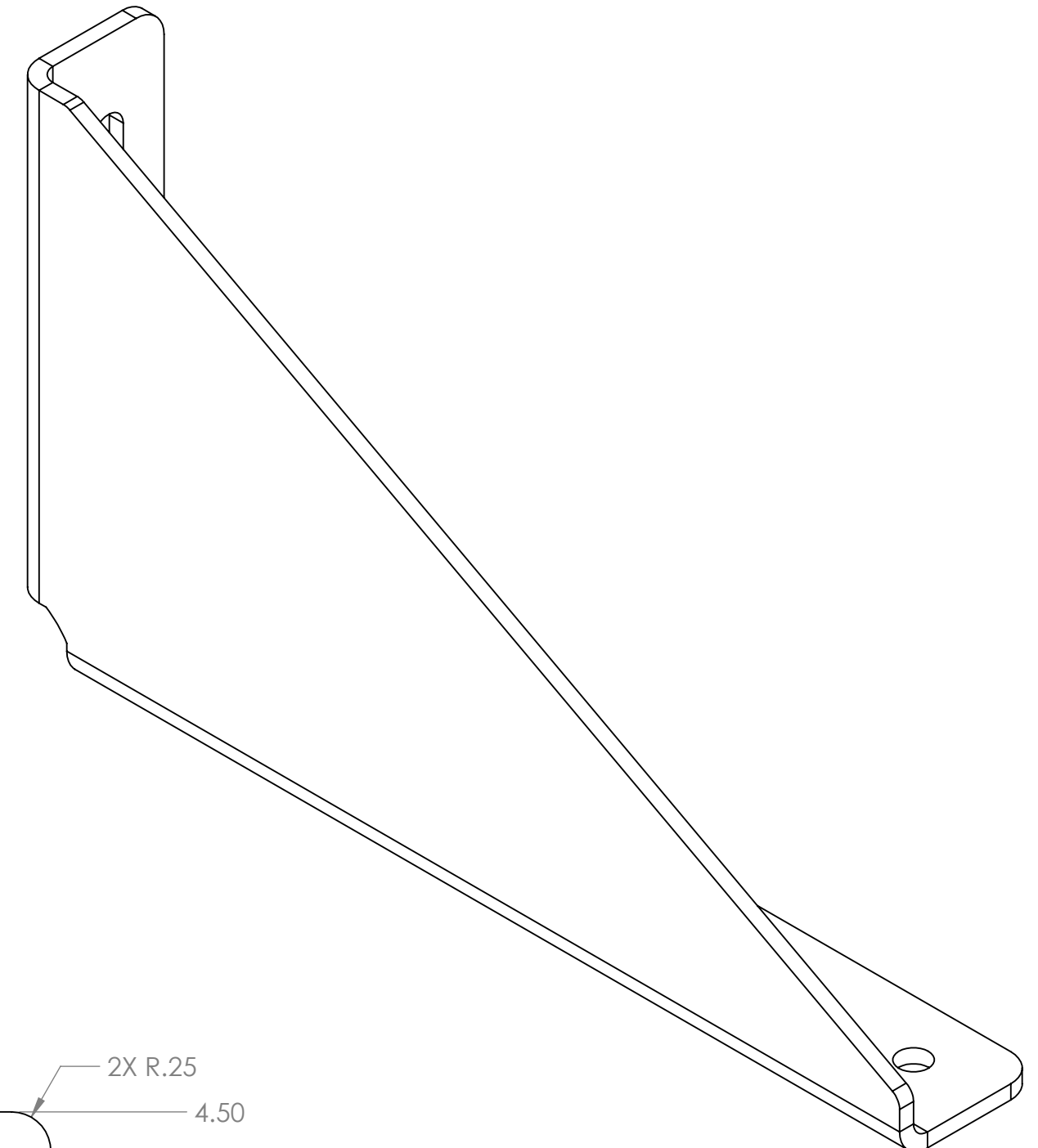
 		
TITLE: Leg Base		
SIZE	DWG. NO.	REV
C	GE-22372	
SCALE: 1:2		SHEET 1 OF 1




Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/6/2021
	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: Leg Support Bracket Right		
SIZE	DWG. NO.	REV
C	GE-22373	
SCALE: 1:1		SHEET 1 OF 1



Notes:
1. Tag or label with part number

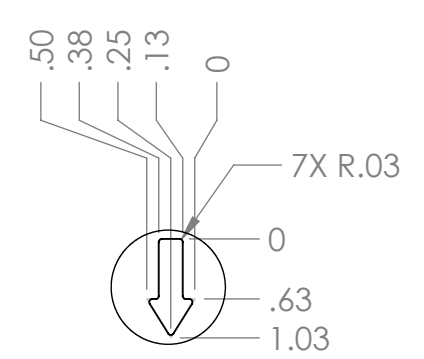
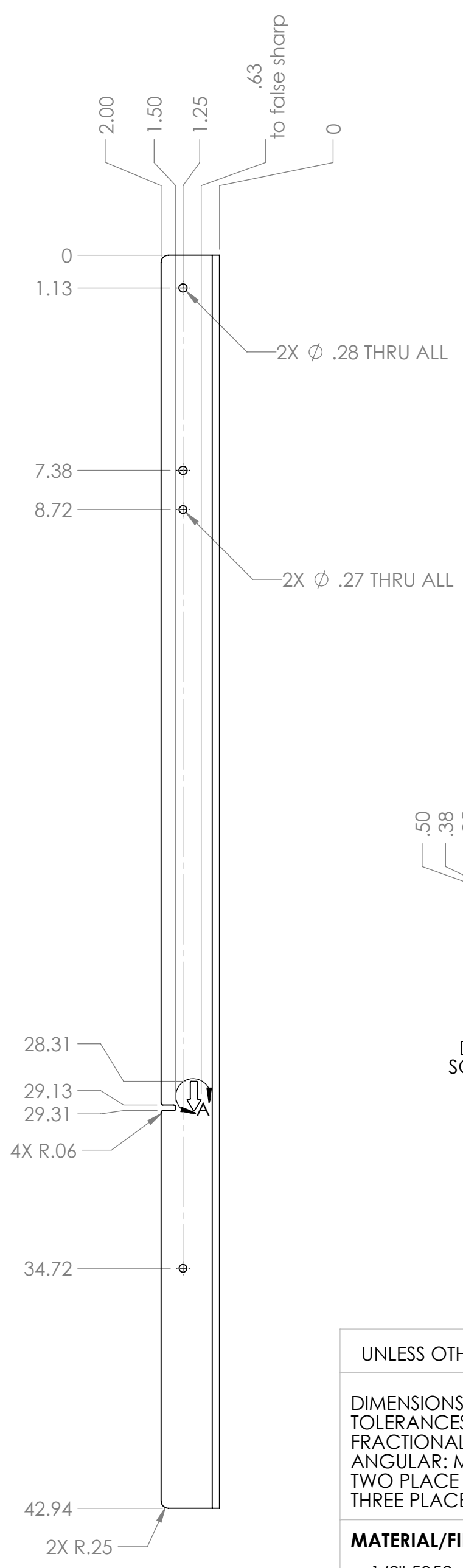
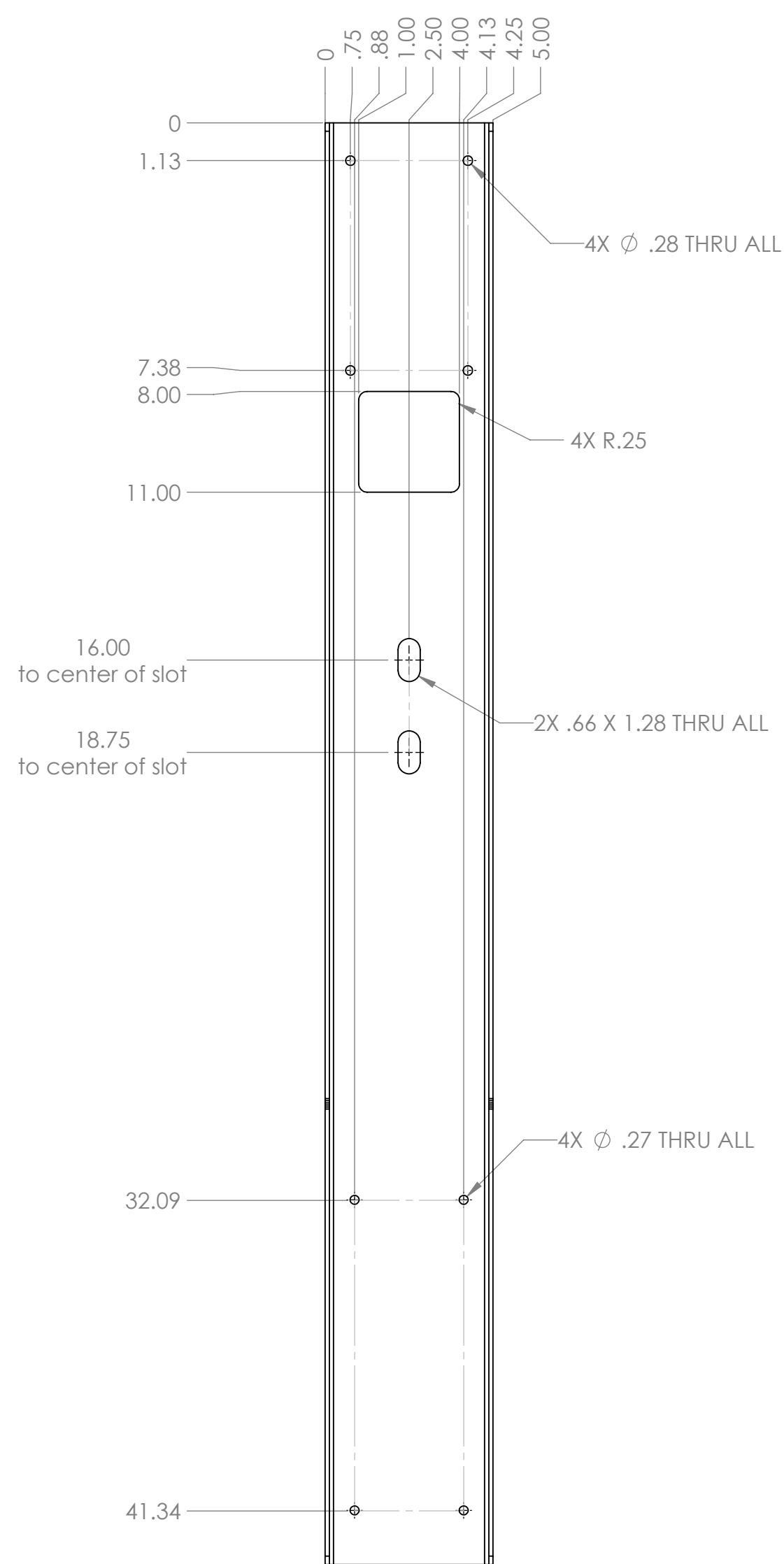
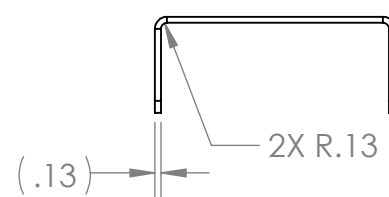
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	DRAWN	KAMC	7/6/2021	
DO NOT SCALE DRAWING	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.			TITLE:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Leg Support Bracket Left
	SIZE	DWG. NO.	REV	
	C	GE-22374		
	SCALE: 1:1	SHEET 1 OF 1		

4

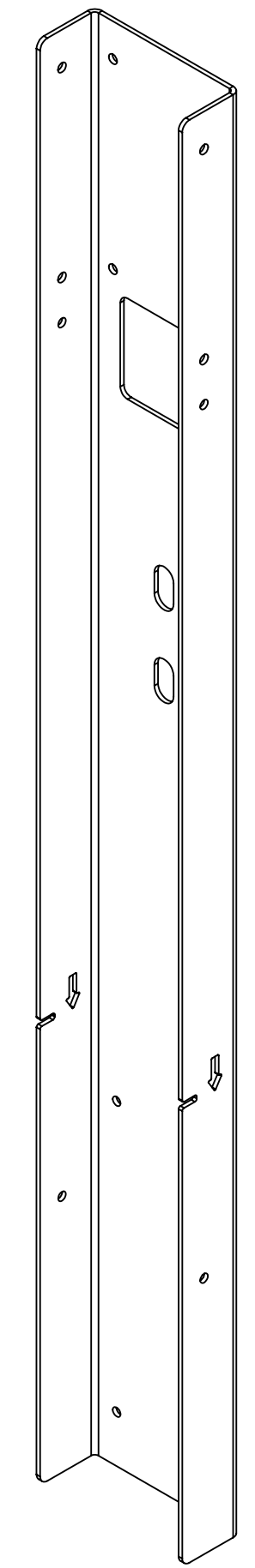
3

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DETAIL A
SCALE 1 : 2



Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/6/2021
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.		
	SCALE: 1:4		

FIRST ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Leg Vertical Channel**

SIZE	DWG. NO.	REV
C	GE-22375	
SCALE: 1:4		SHEET 1 OF 1

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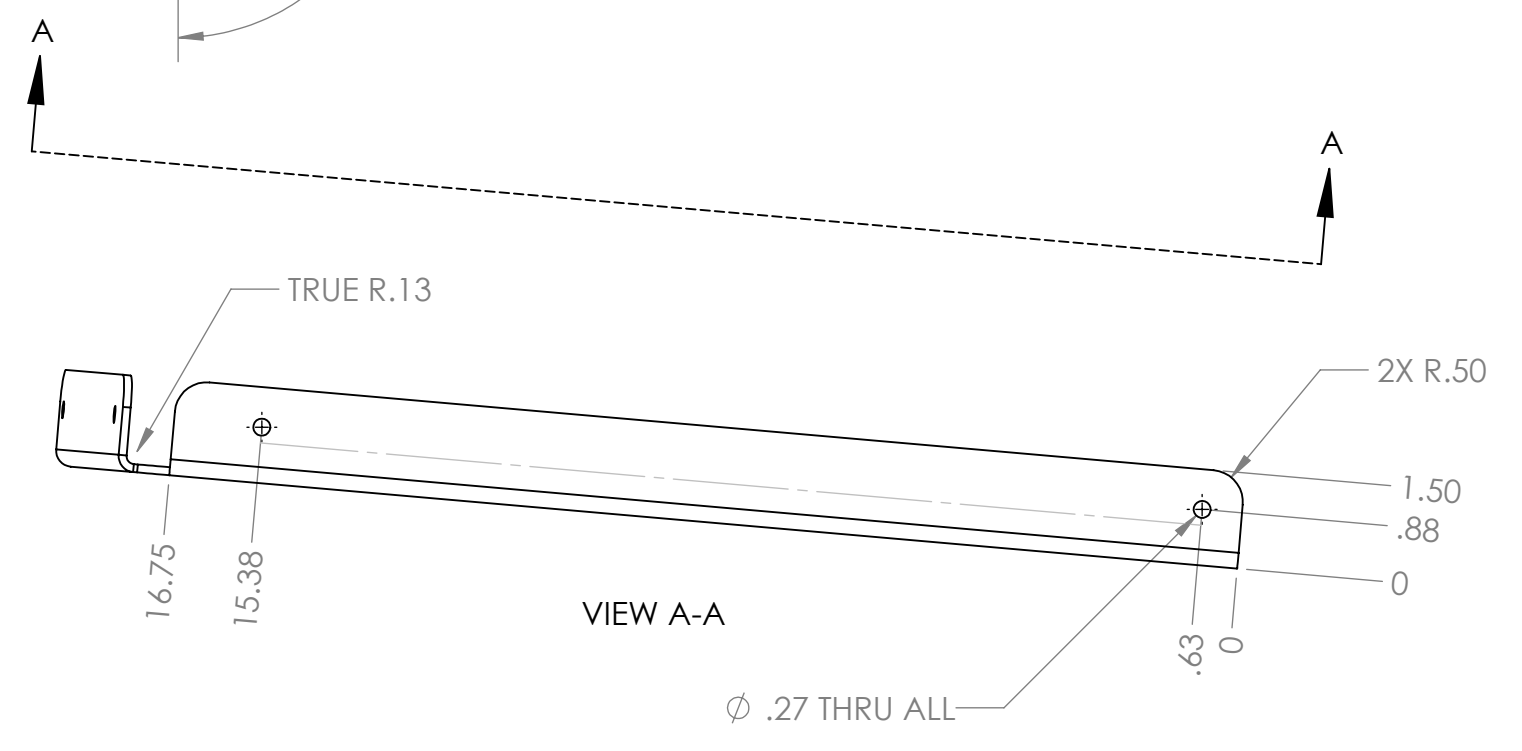
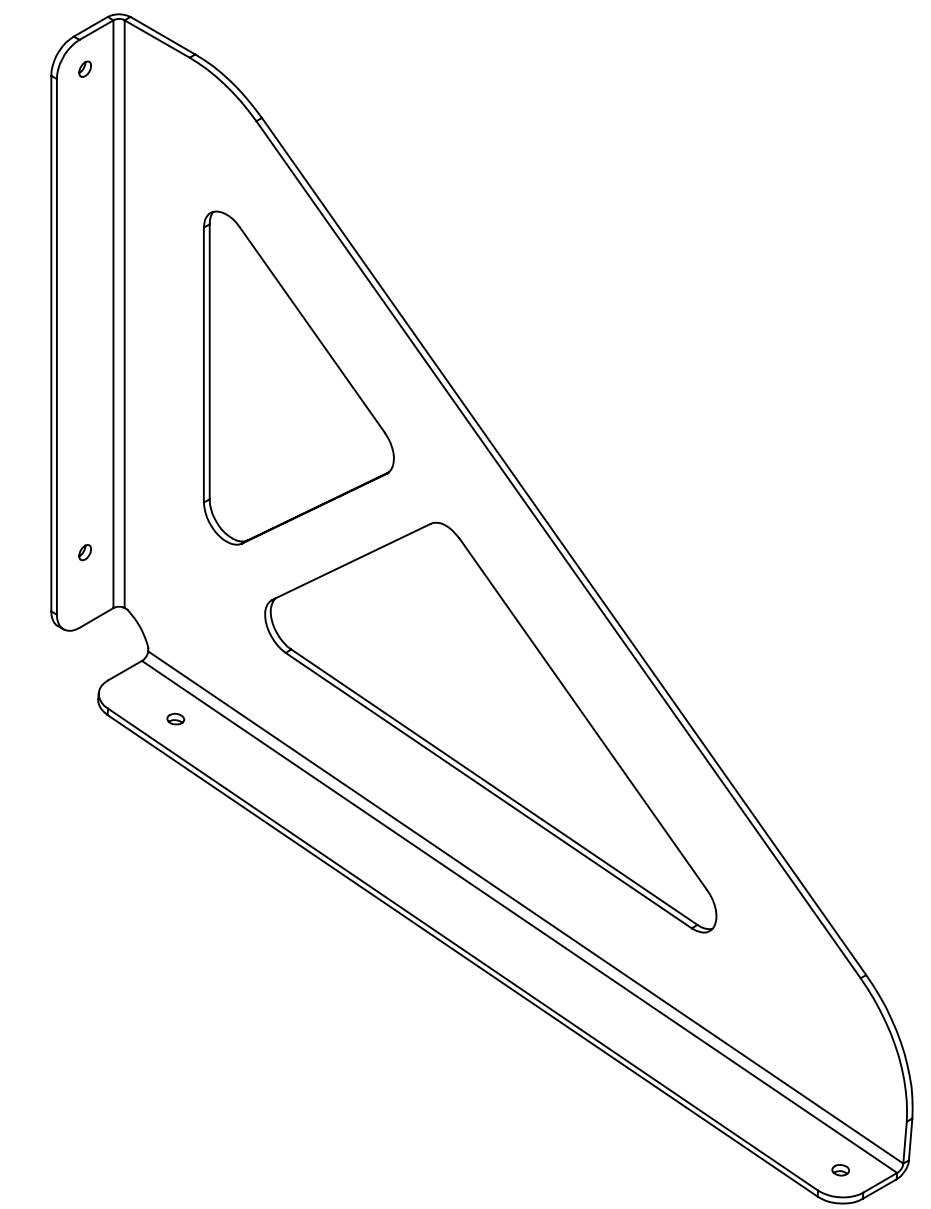
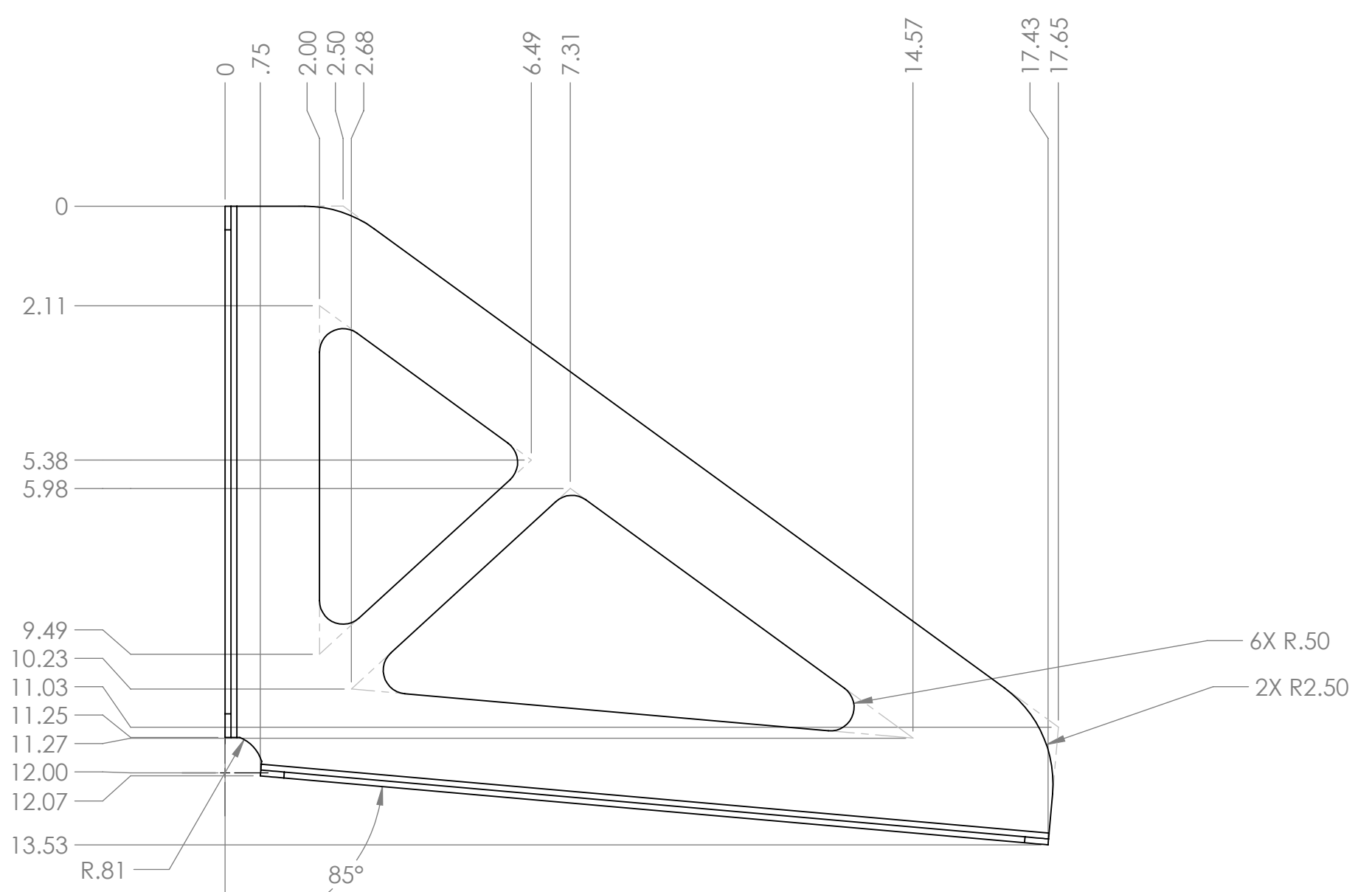
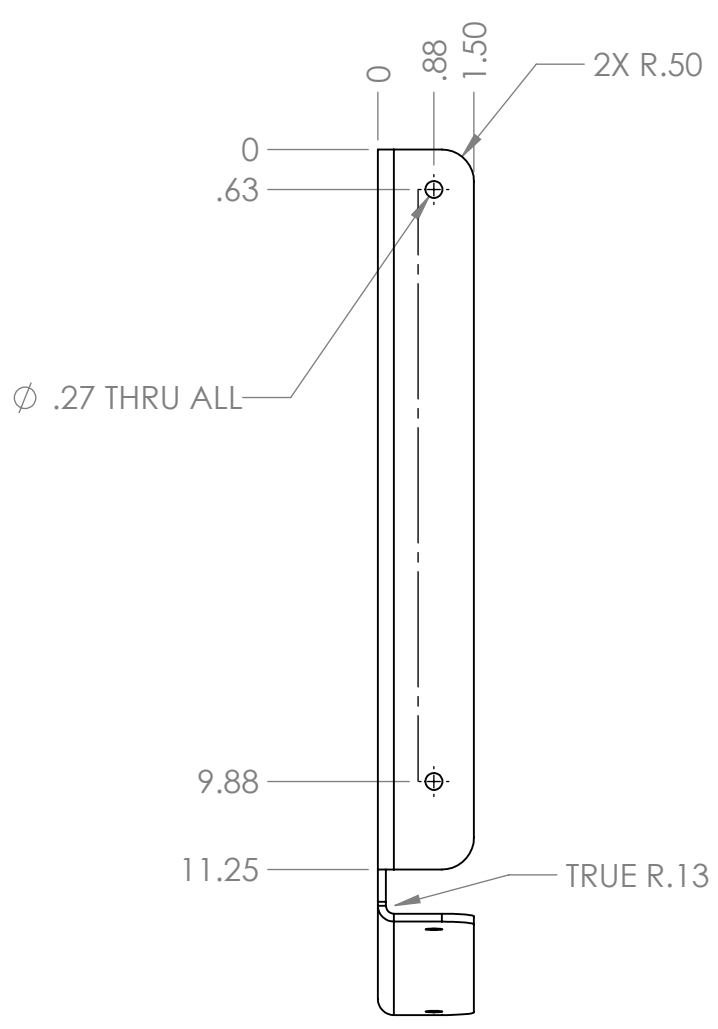
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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/6/2021
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.		
	SCALE: 1:3		

FIRST ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Leg to Upper Exit Gusset Right**

SIZE	DWG. NO.	REV
C	GE-22377	
SCALE: 1:3		SHEET 1 OF 1

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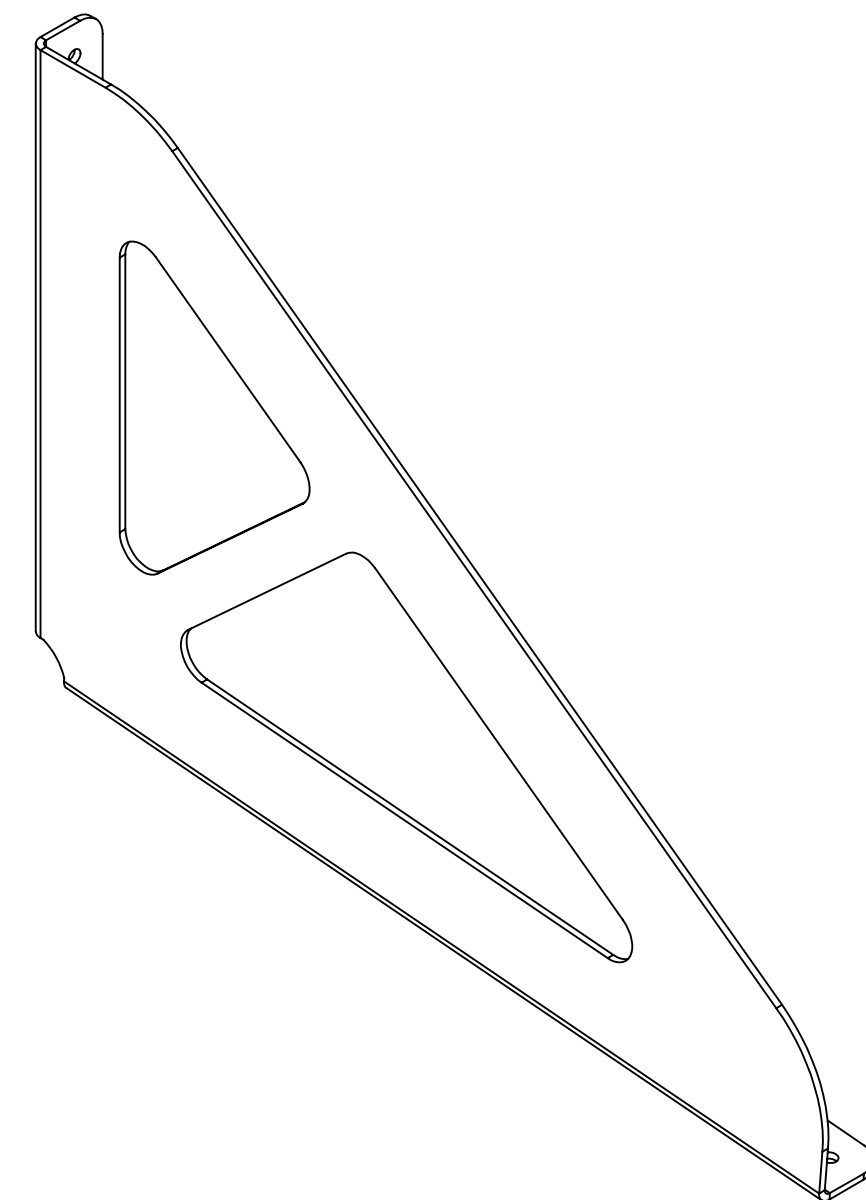
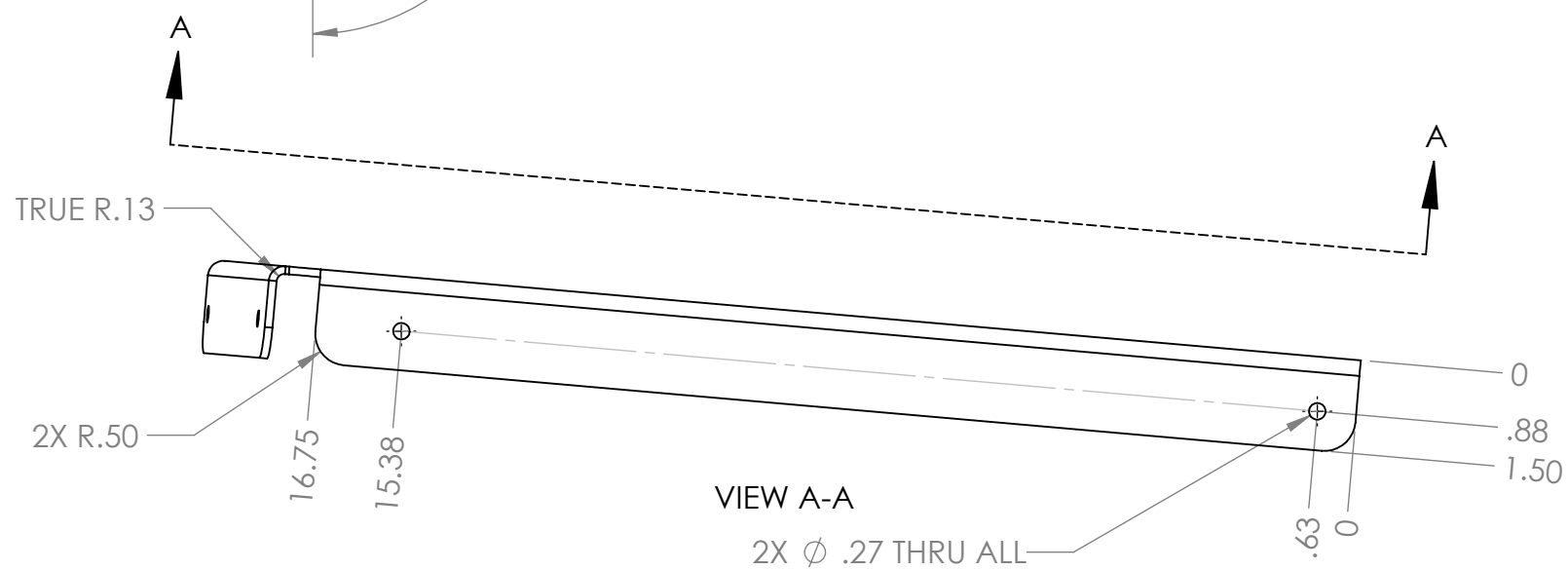
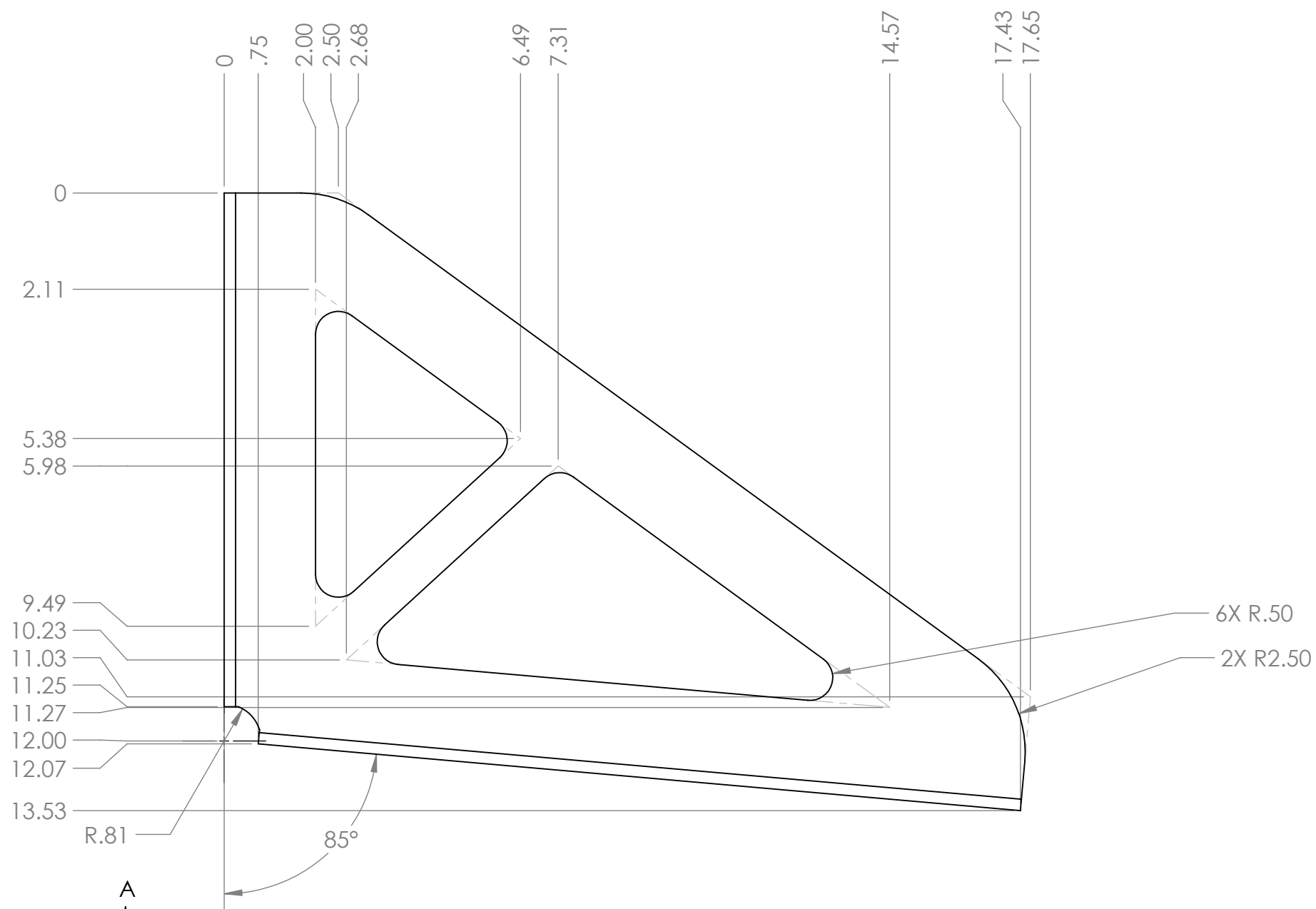
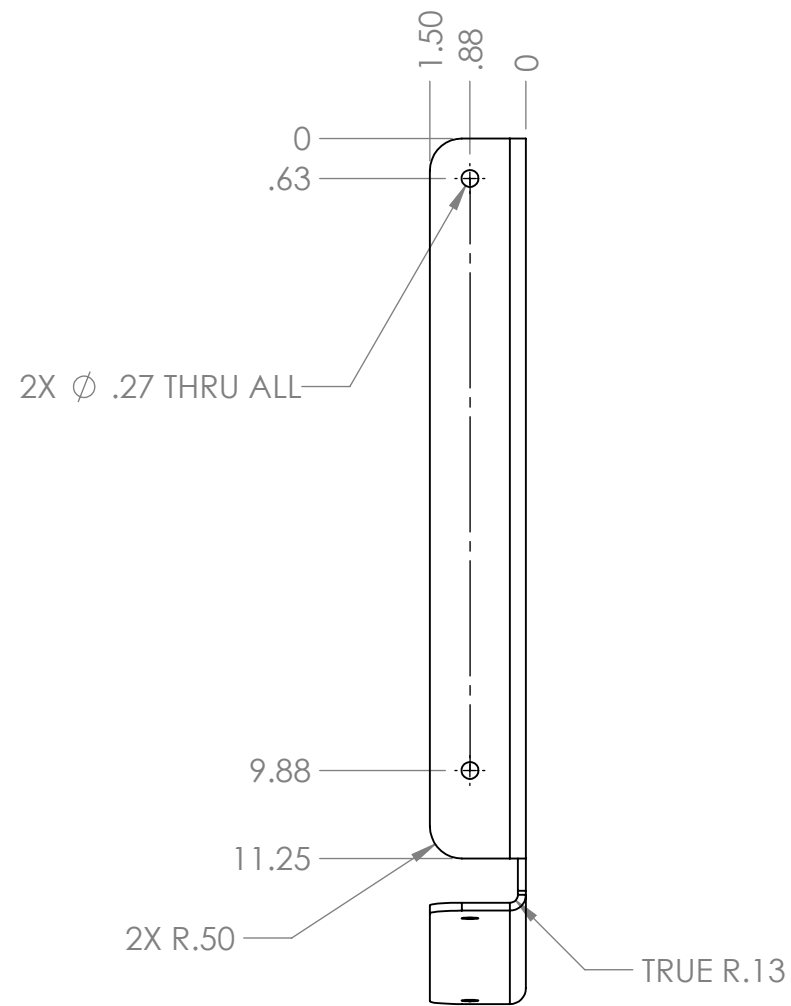
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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/6/2021
	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.		



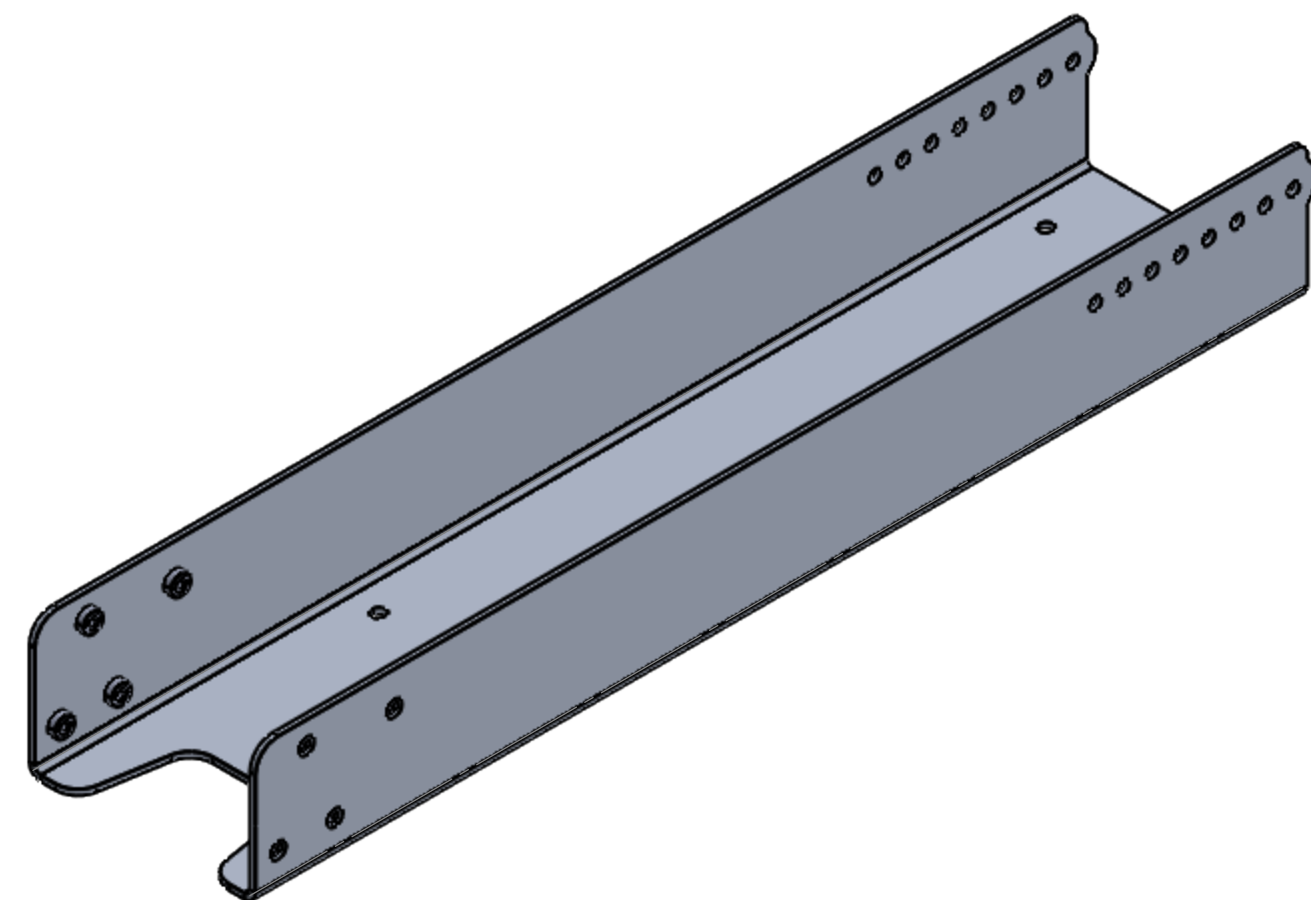
TITLE: Leg to Upper Exit Gusset Left		
SIZE	DWG. NO.	REV
C	GE-22378	
SCALE: 1:3		SHEET 1 OF 1

4

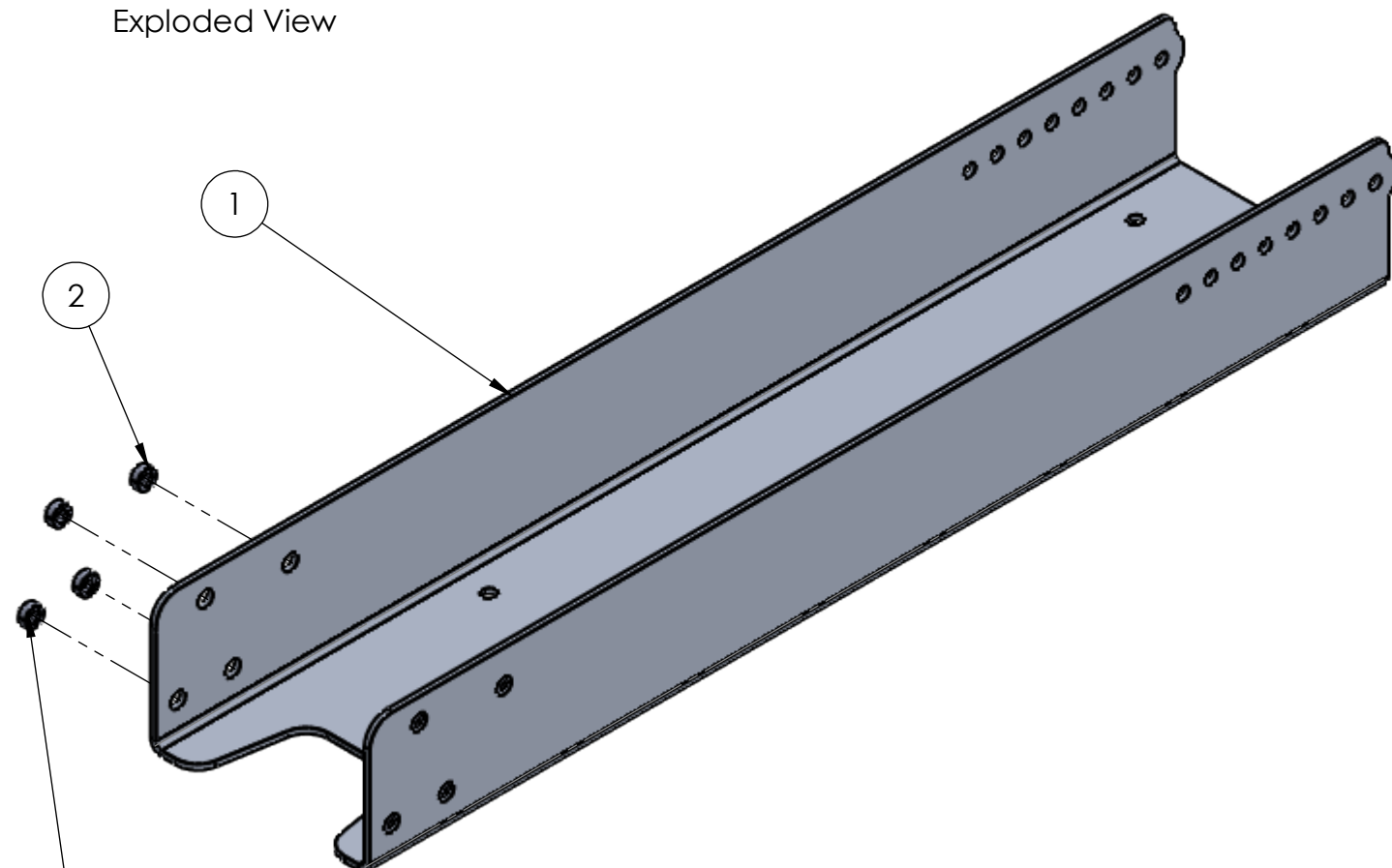
3

2

1





Exploded View



Note: 2 installed on "inside" of part

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22379-01	Leg to Upper Exit Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	8

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005		DRAWN	KAMC	7/6/2021	
MATERIAL/FINISH: Tag or label with part number		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: Leg to Upper Exit Channel with Pem Nuts
DO NOT SCALE DRAWING		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22379
		SCALE: 1:3			SHEET 1 OF 2

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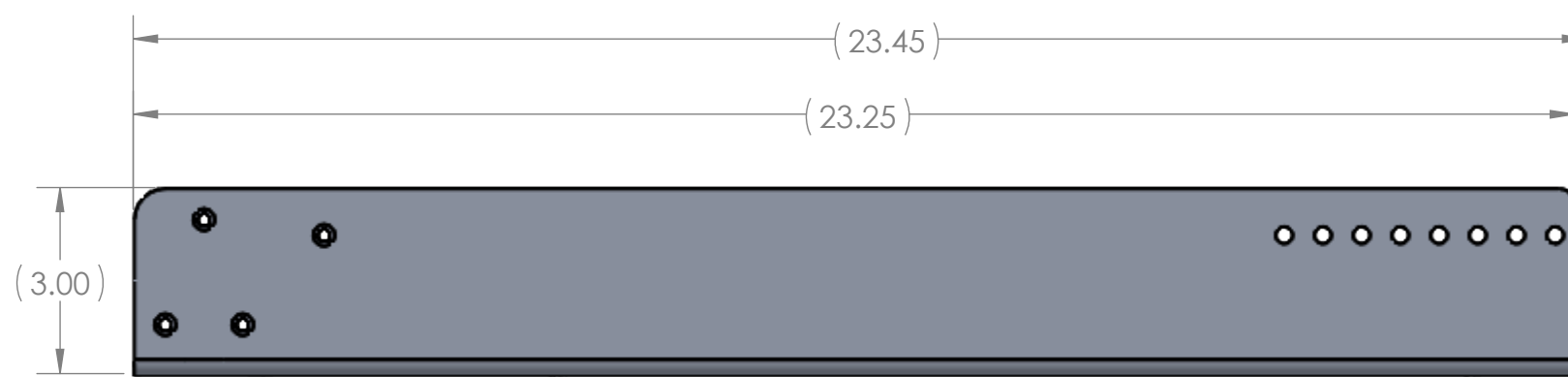
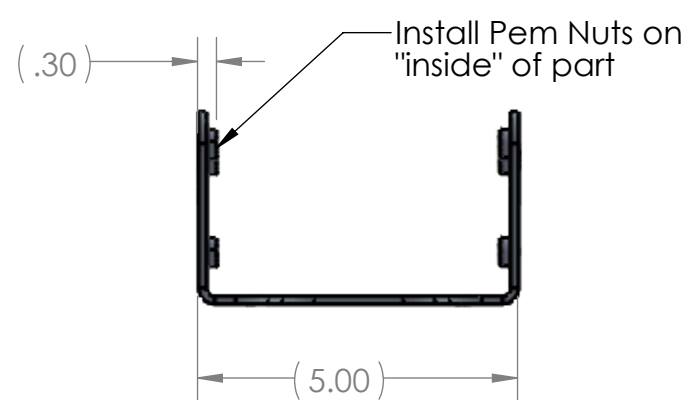
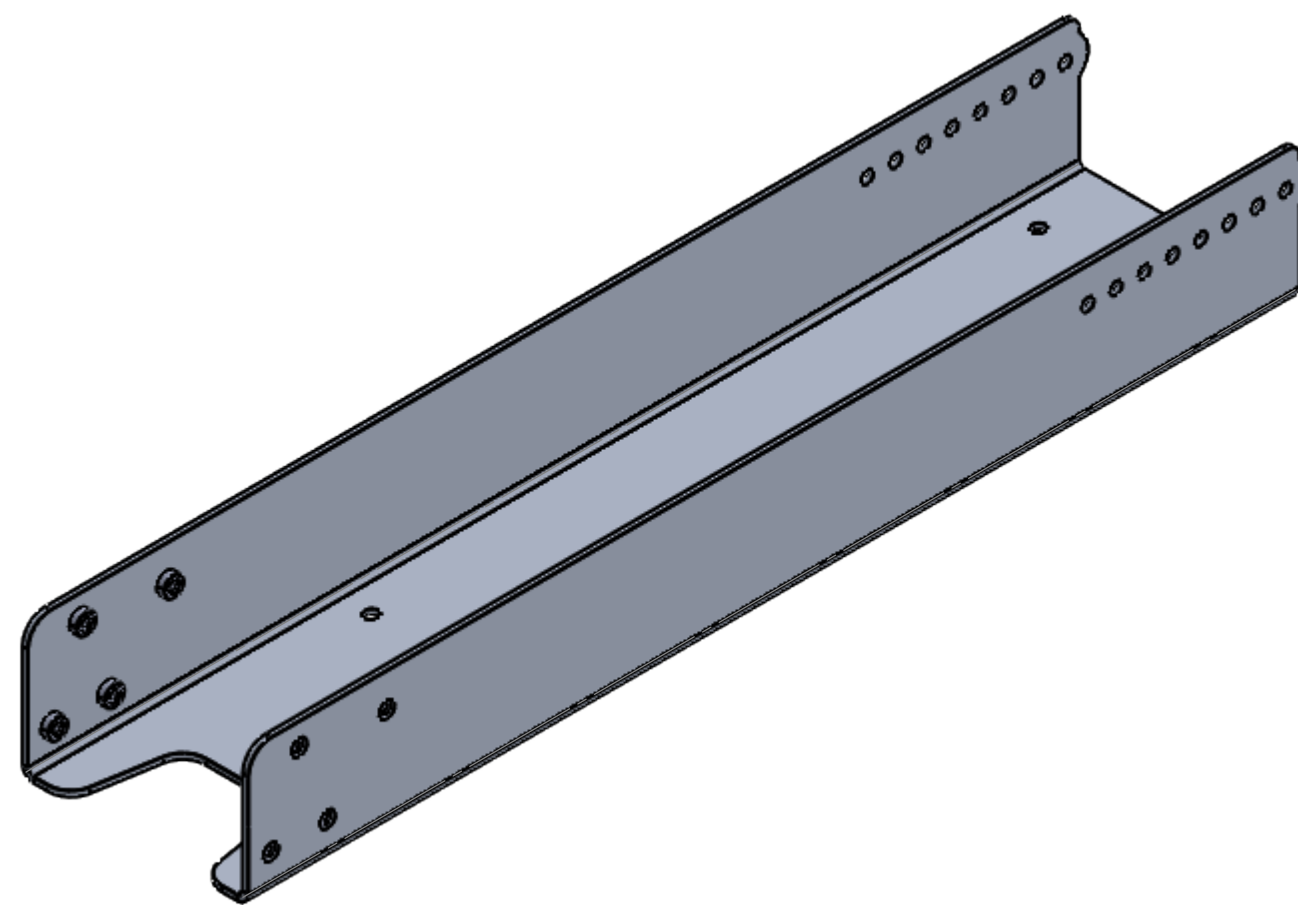
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: Tag or label with part number DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	KAMC	7/6/2021		
	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				Leg to Upper Exit Channel with Pem Nuts
SIZE		DWG. NO.	REV		
C		GE-22379			
SCALE: 1:3			SHEET 2 OF 2		

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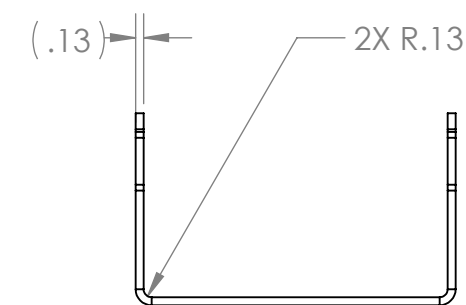
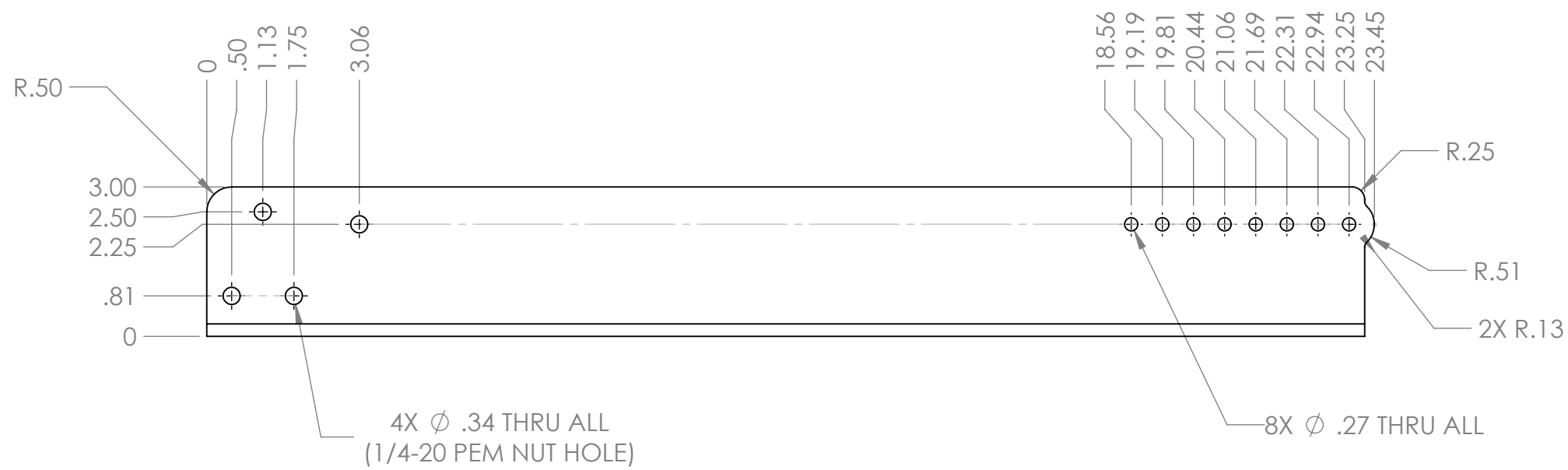
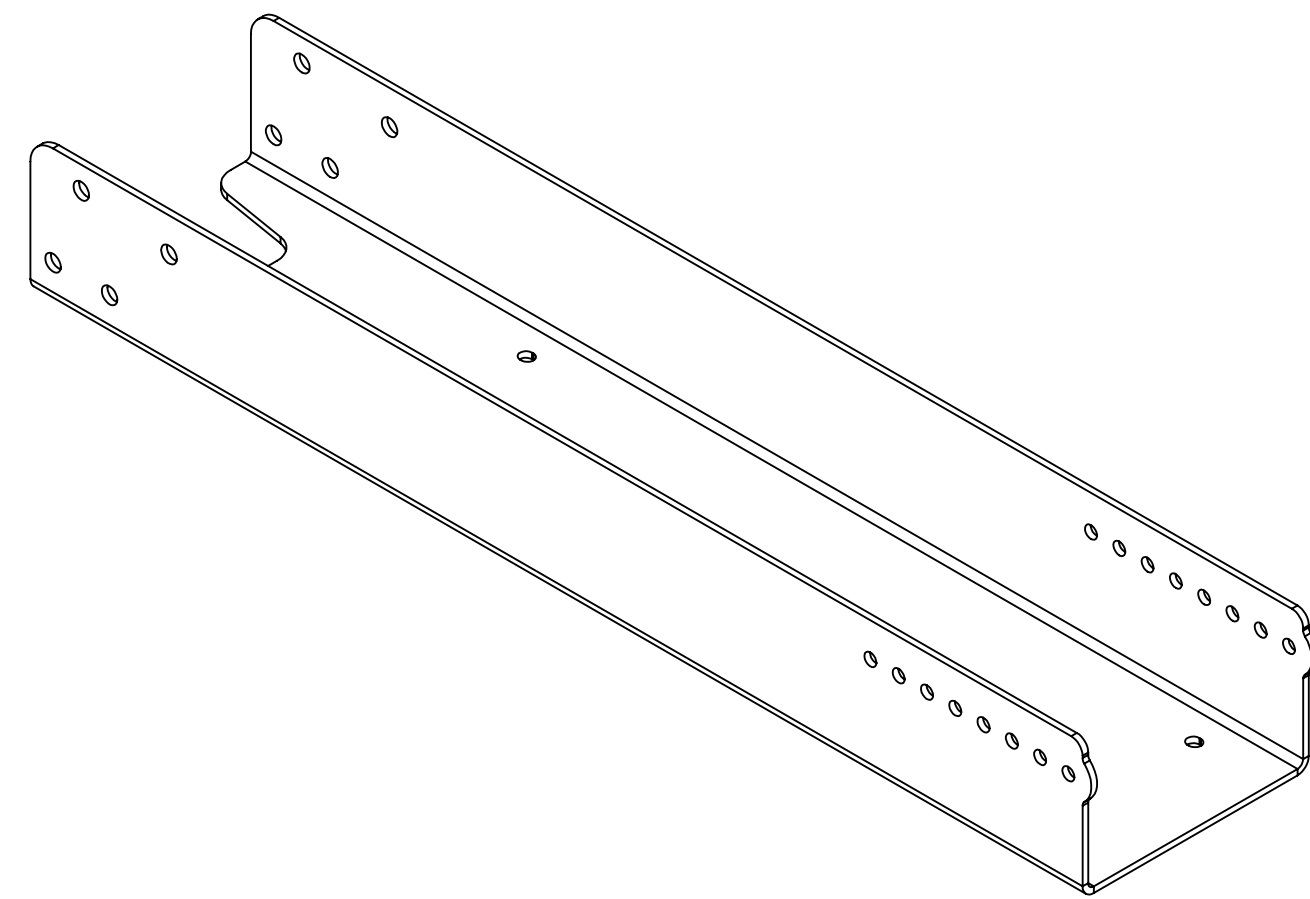
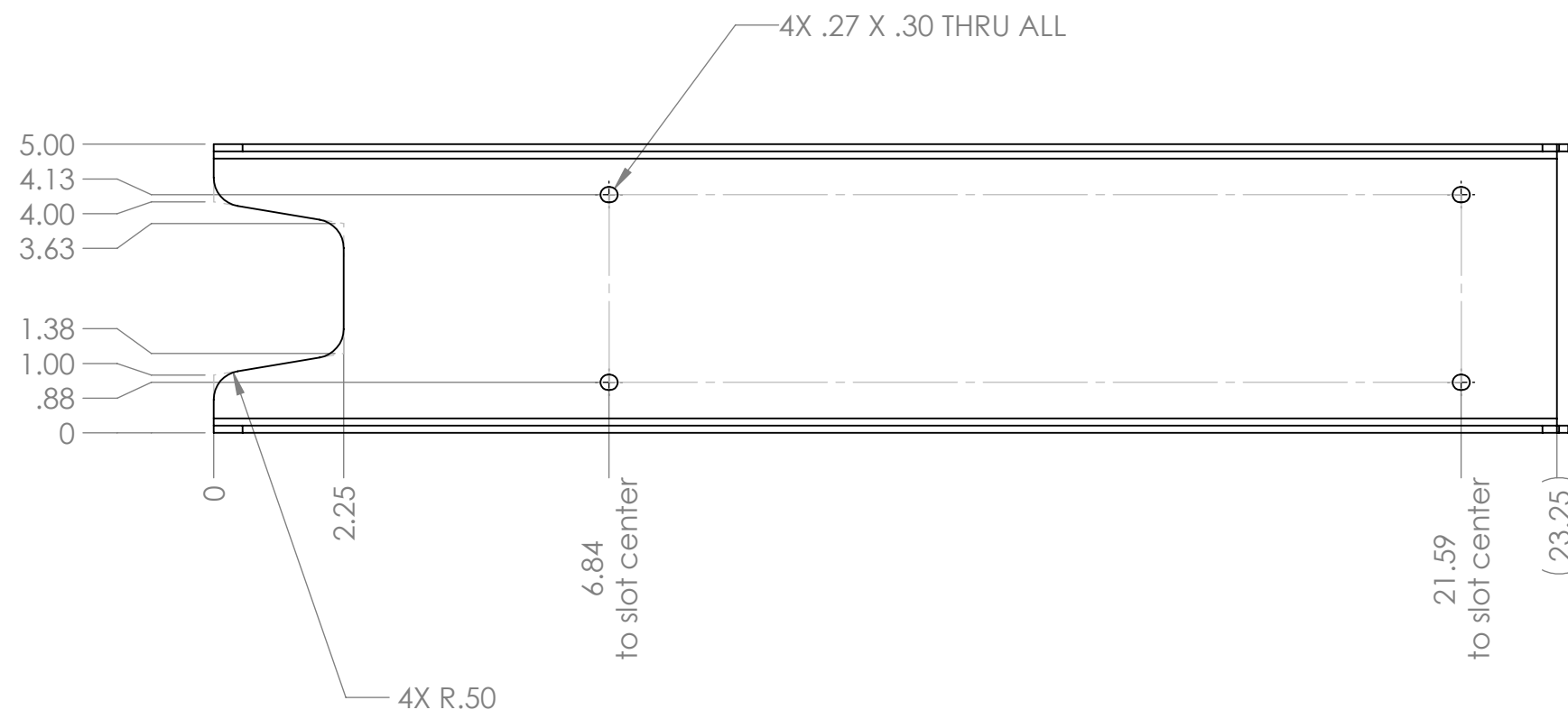
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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
	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.			Leg to Upper Exit Channel
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE
				DWG. NO.
				REV
				C GE-22379-01
				SCALE: 1:3
				SHEET 1 OF 1

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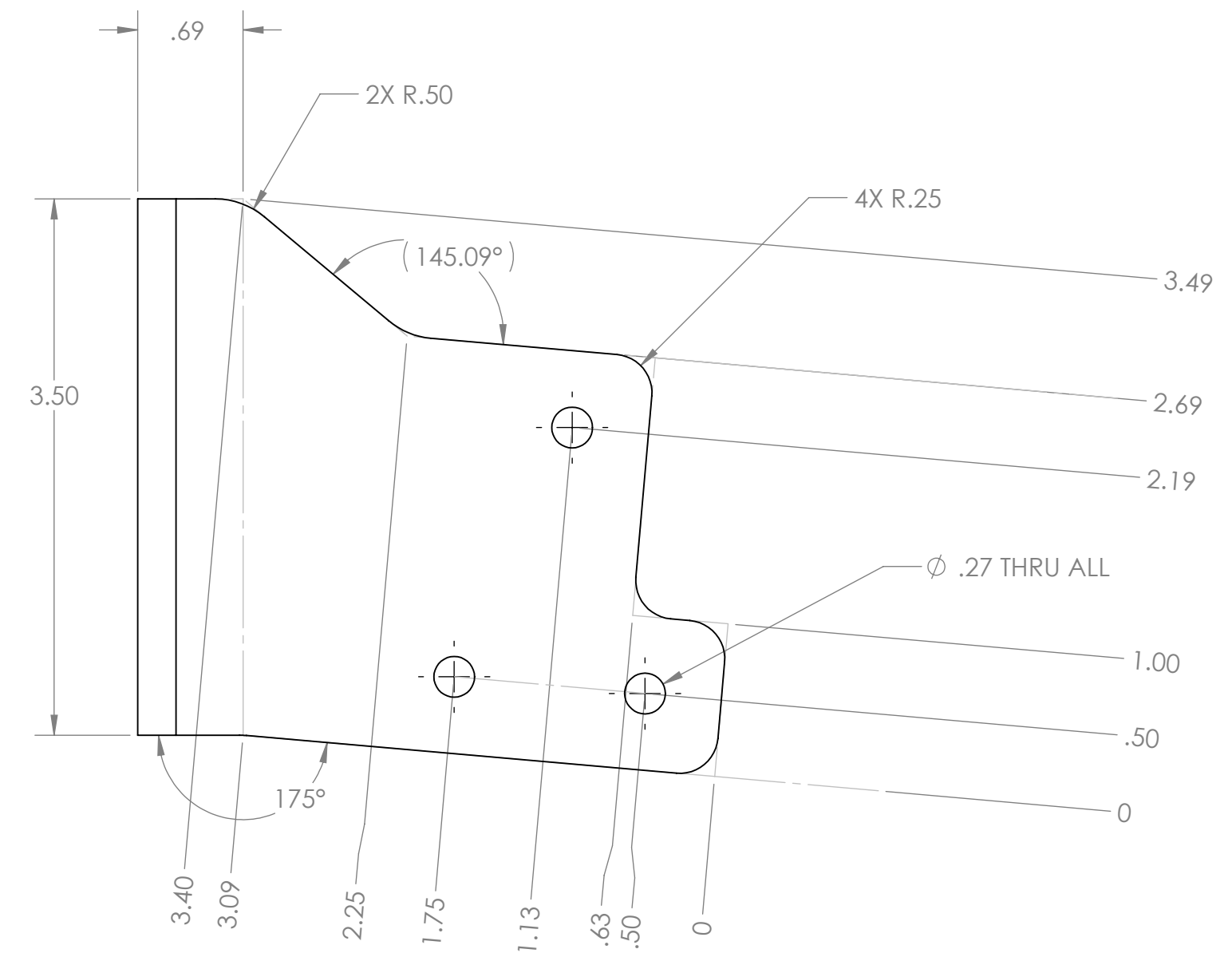
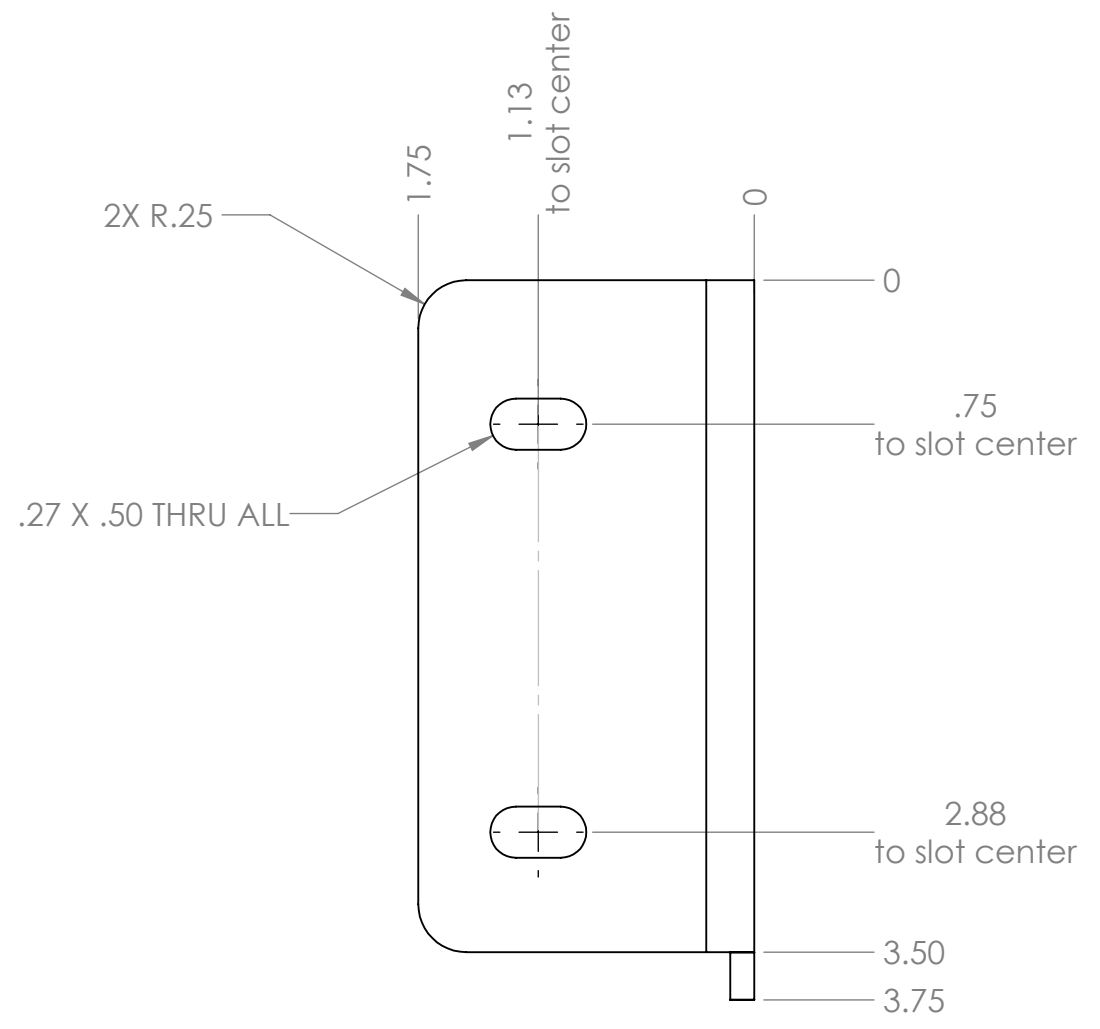
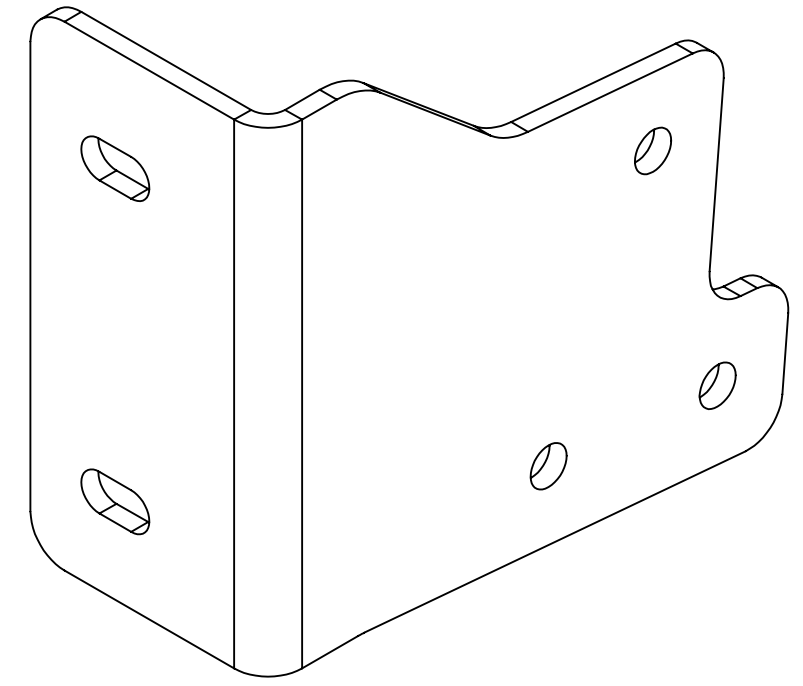
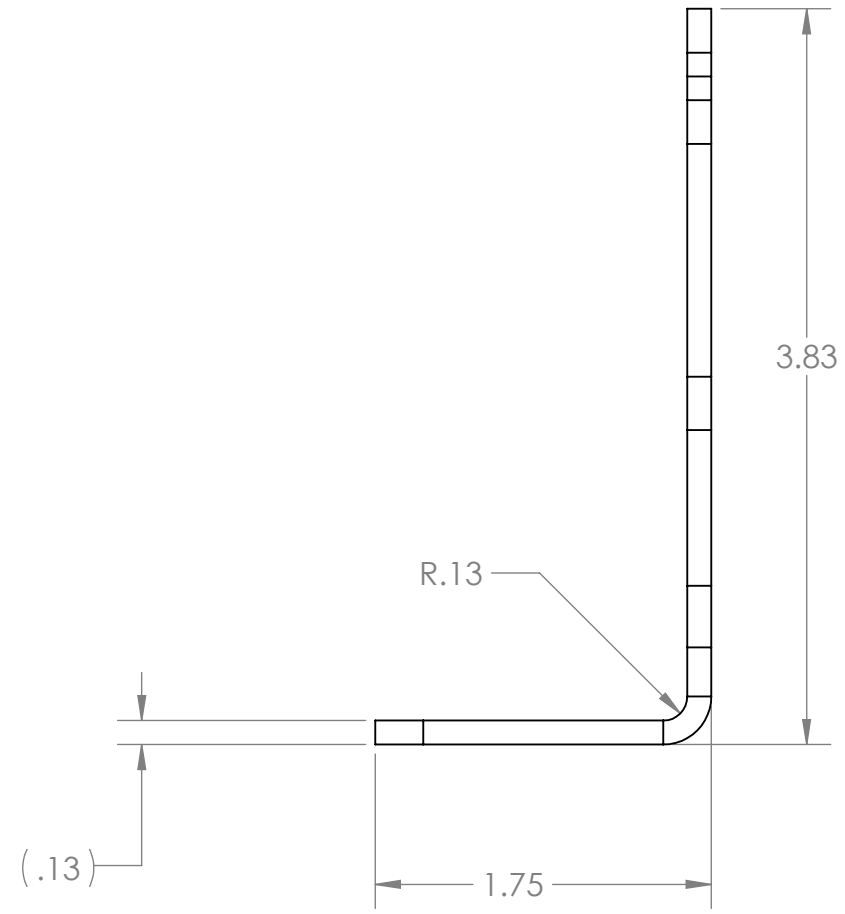
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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
1/8" 5052 Aluminum Sheet

DO NOT SCALE DRAWING

BEND	NAME	DATE
DRAWN	KAMC	7/6/2021

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:
Leg to Upper Hub Connection Right

SIZE	DWG. NO.	REV
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C GE-22380

SCALE: 1:1 SHEET 1 OF 1

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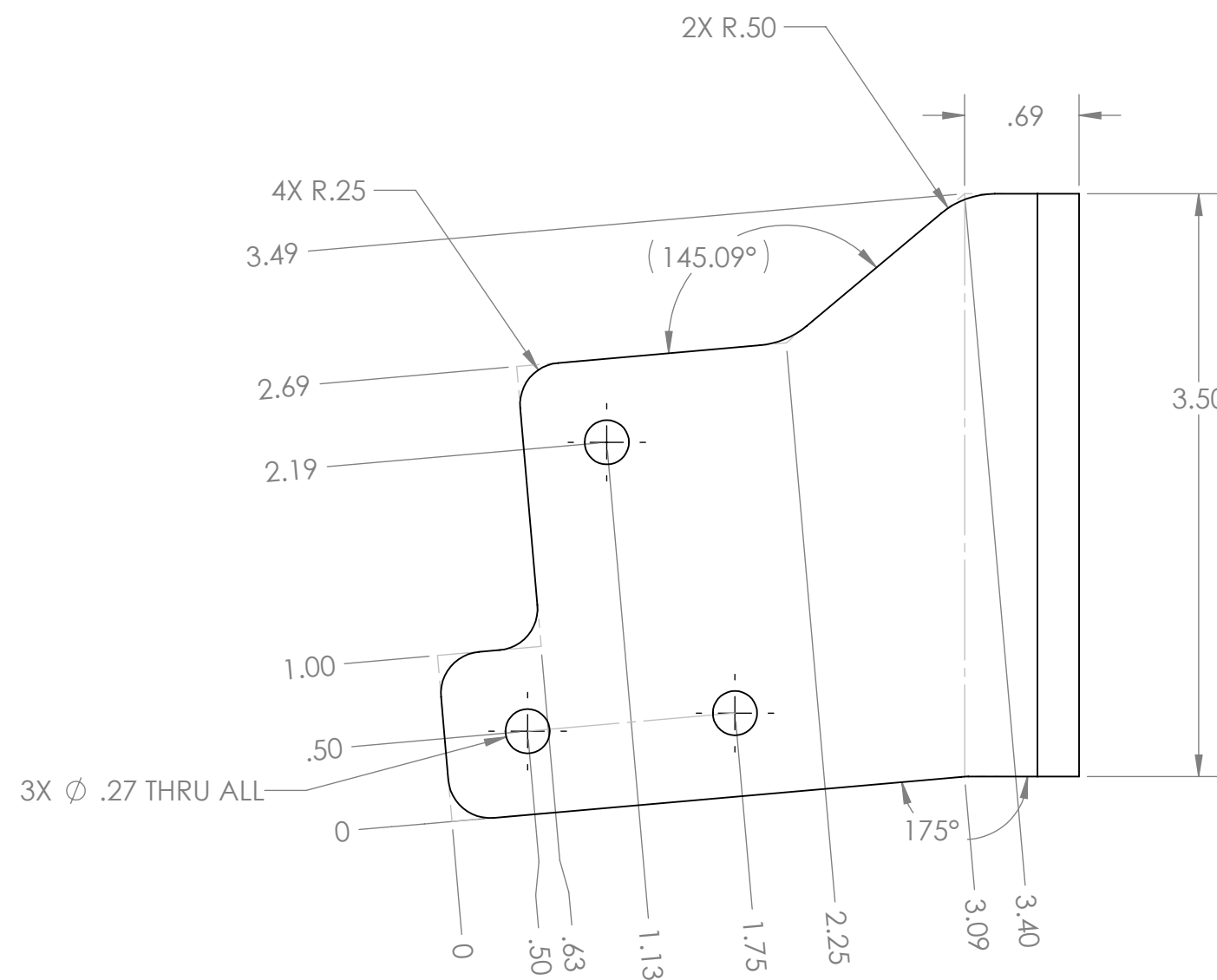
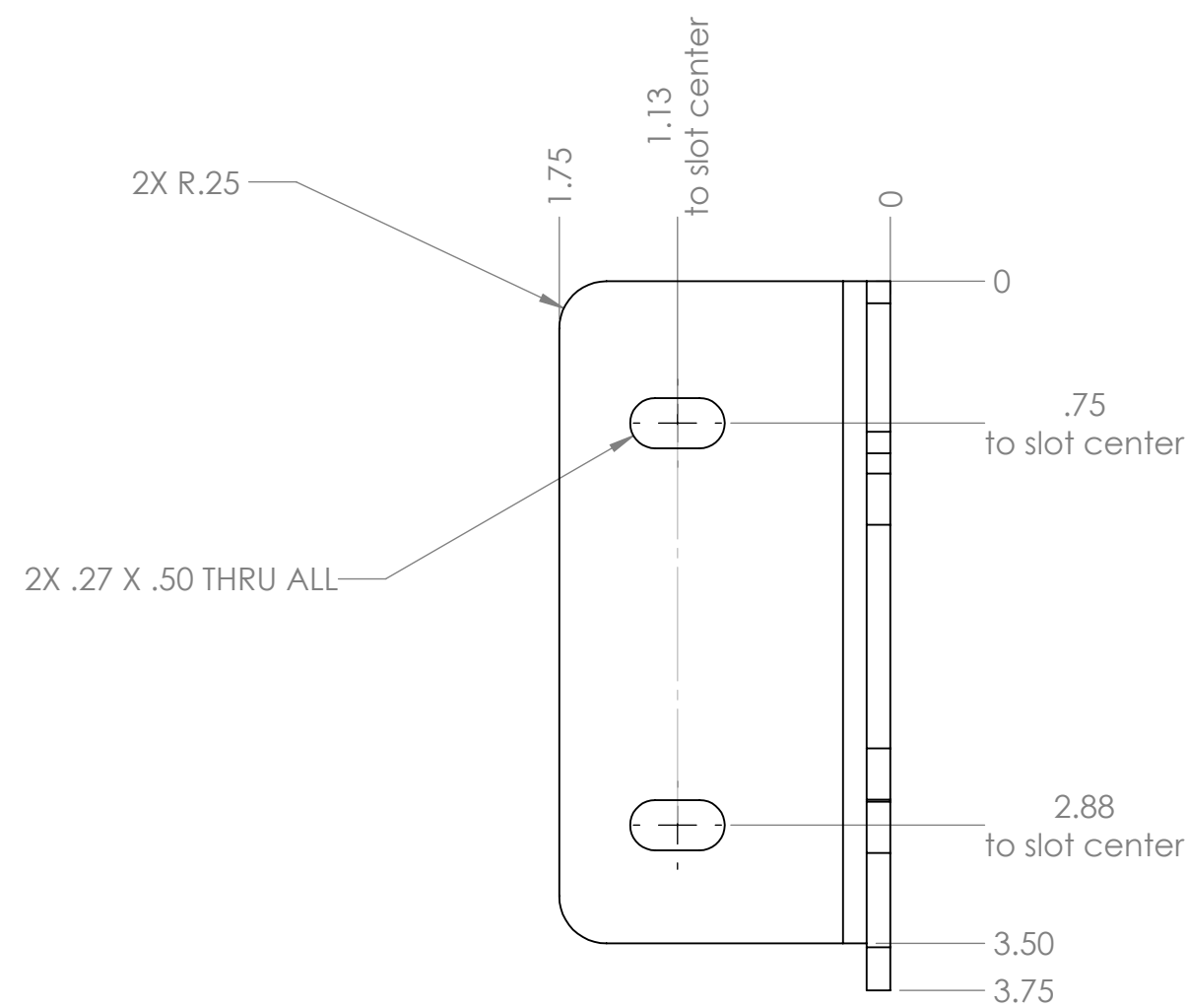
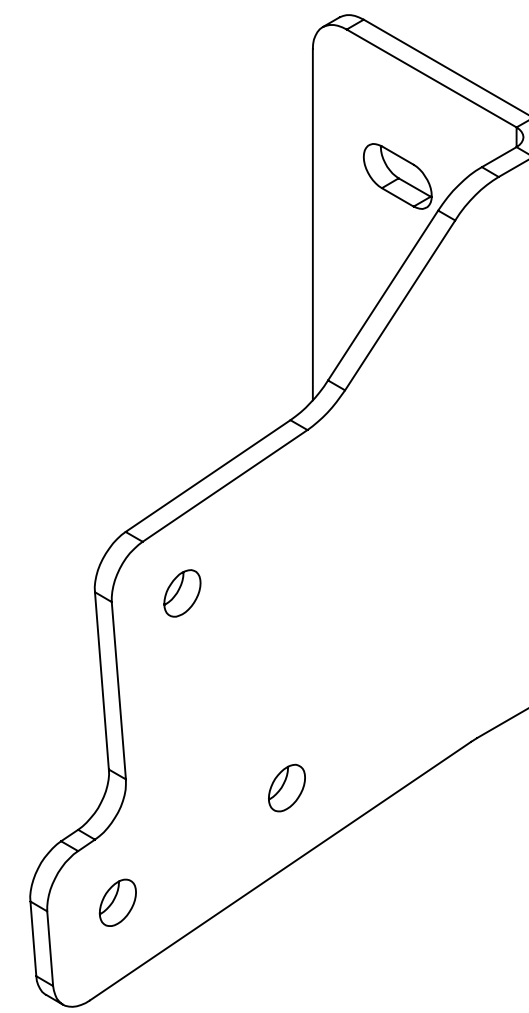
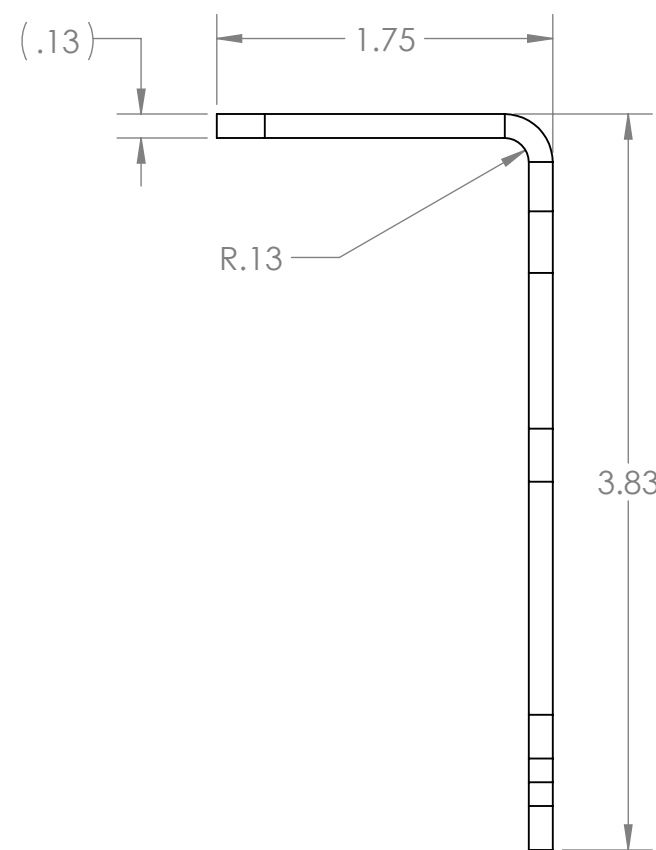
A

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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/16/2021
	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:
Leg to Upper Hub Connection Left

SIZE DWG. NO. REV

C GE-22381

SCALE: 1:1 SHEET 1 OF 1

4

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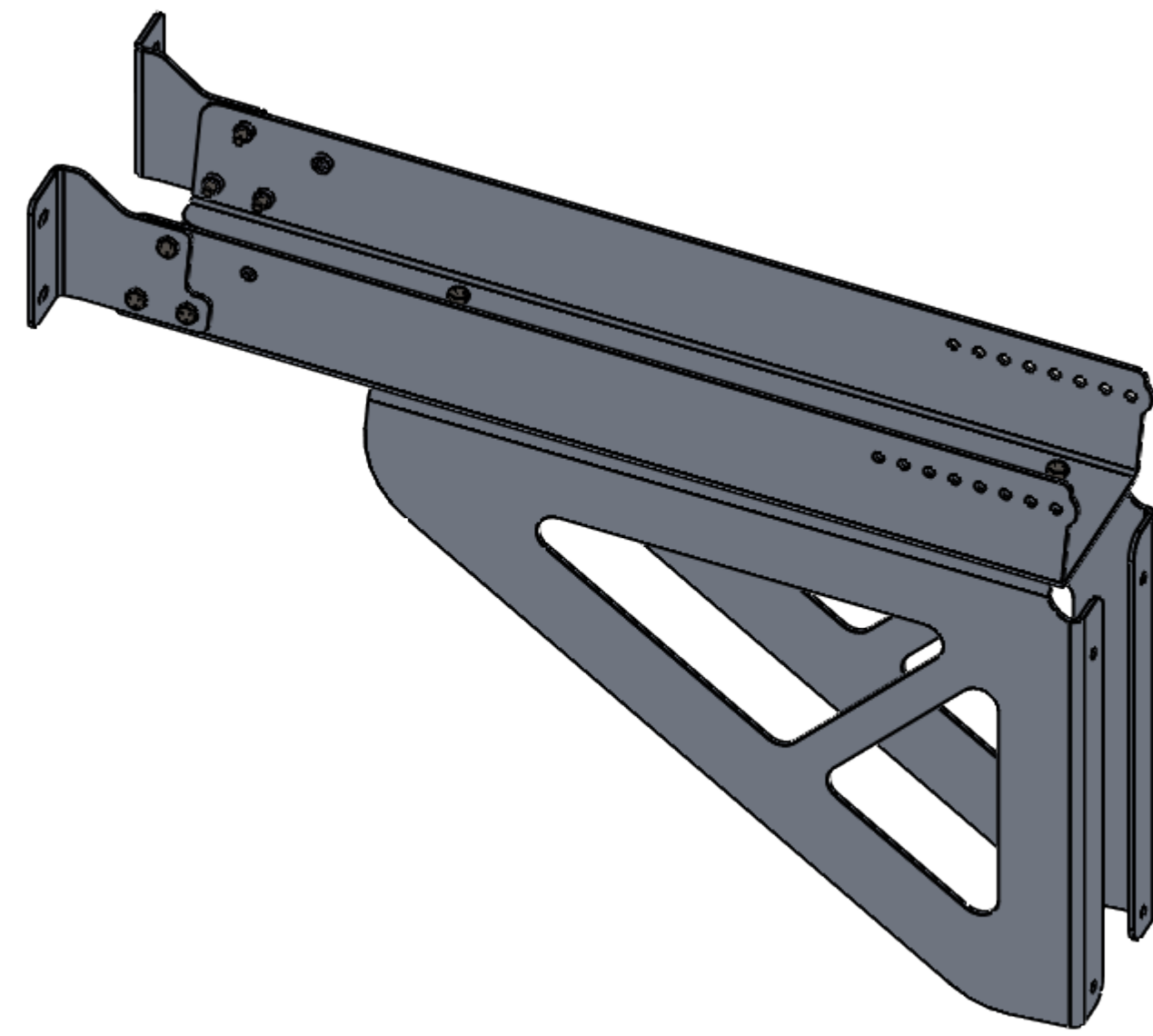
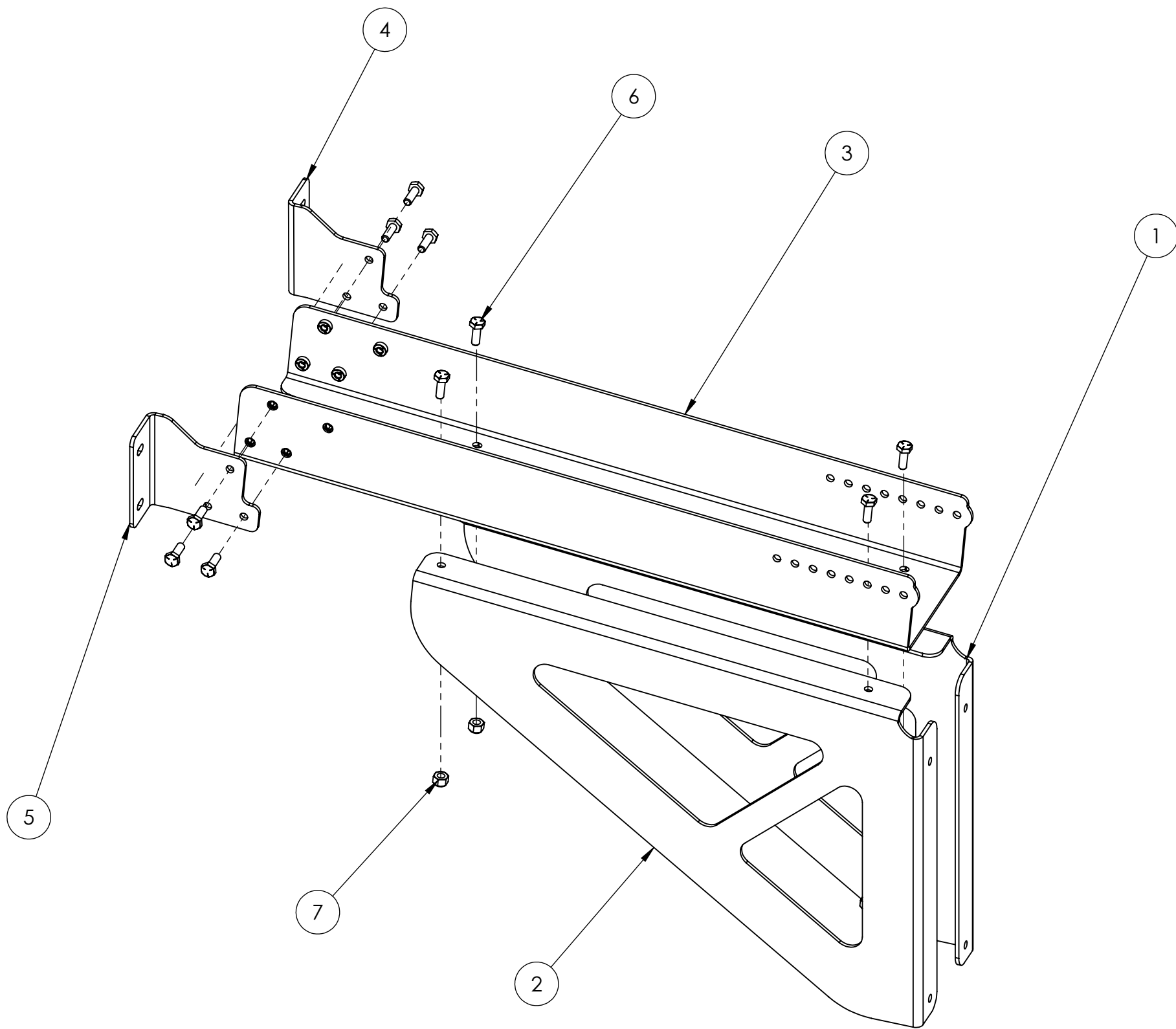
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B



Notes:

- 1. Attach 1 and 2 to 3 using 6 and 7.
- 2. Attach 4 and 5 to 3 using 6.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22377	Leg to Upper Exit Gusset Right	1
2	GE-22378	Leg to Upper Exit Gusset Left	1
3	GE-22379	Leg to Upper Exit Channel with Pem Nuts	1
4	GE-22380	Leg to Upper Hub Connection Right	1
5	GE-22381	Leg to Upper Hub Connection Left	1
6	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	10
7	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	4

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	12/29/2021	
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:
				Upright Top
SIZE		DWG. NO.	REV	
C		GE-22382		
SCALE: 1:4		SHEET 1 OF 1		

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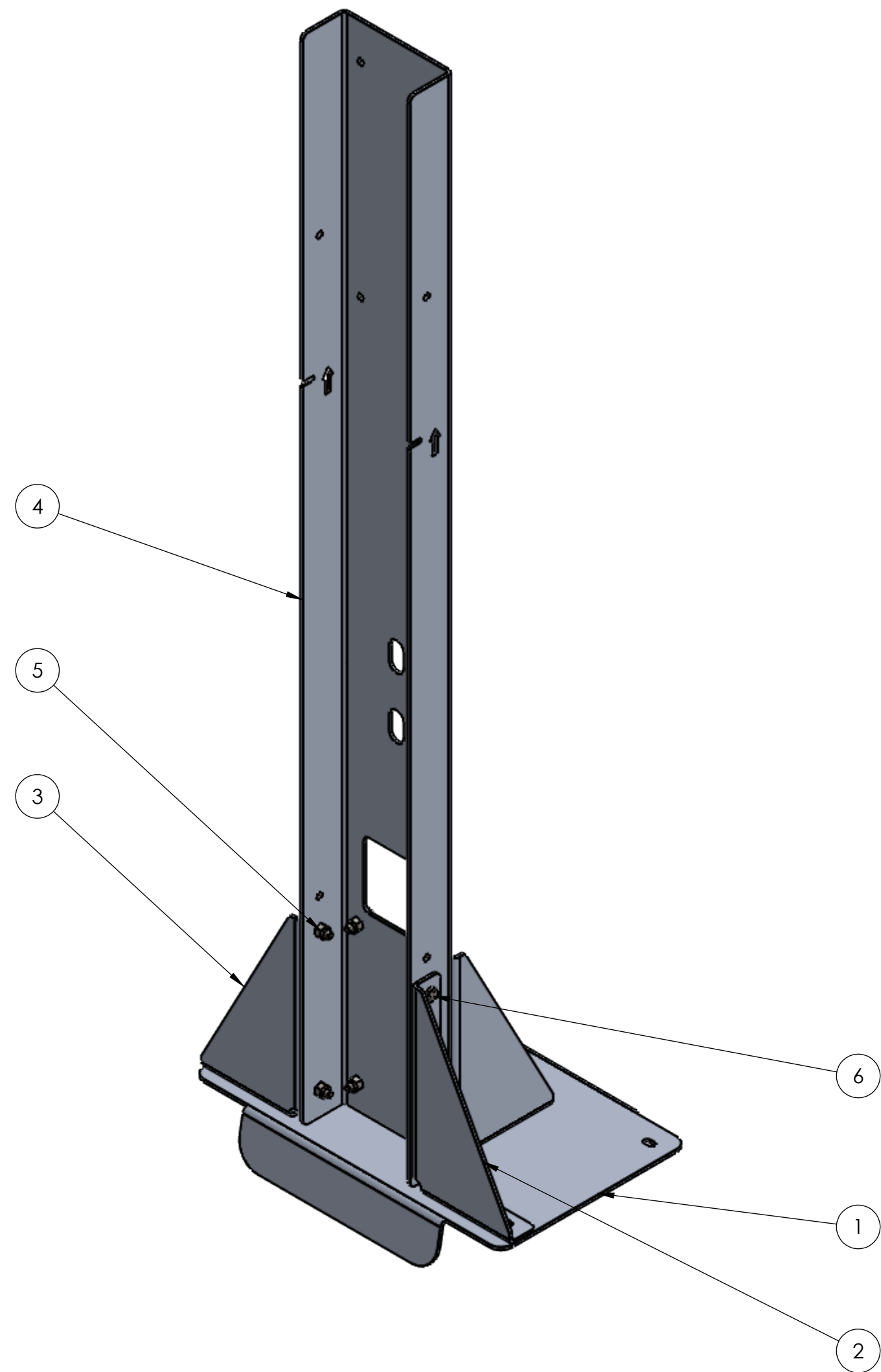
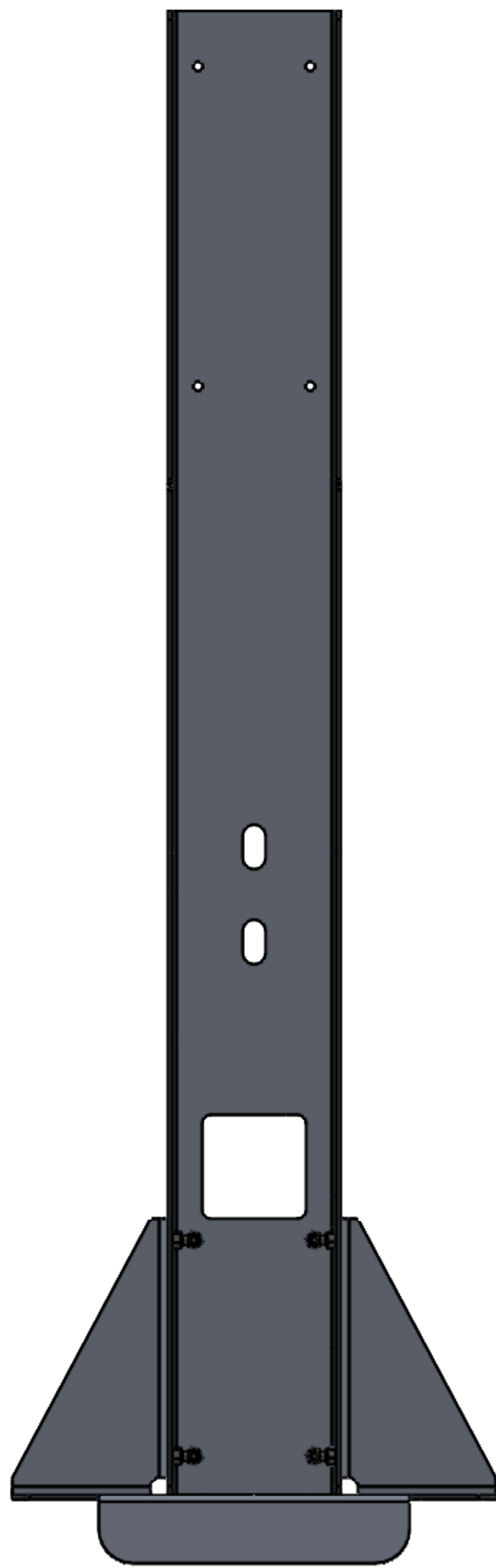
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22372	Leg Base	1
2	GE-22373	Leg Support Bracket Right	2
3	GE-22374	Leg Support Bracket Left	2
4	GE-22375	Leg Vertical Channel	1
5	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	14
6	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	14

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	CO	12/29/2021	
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:
				Upright Bottom
COMMENTS:		SIZE	DWG. NO.	REV
REMOVE ALL BURRS AND SHARP EDGES.		C	GE-22383	
SCALE: 1:4			SHEET 1 OF 2	

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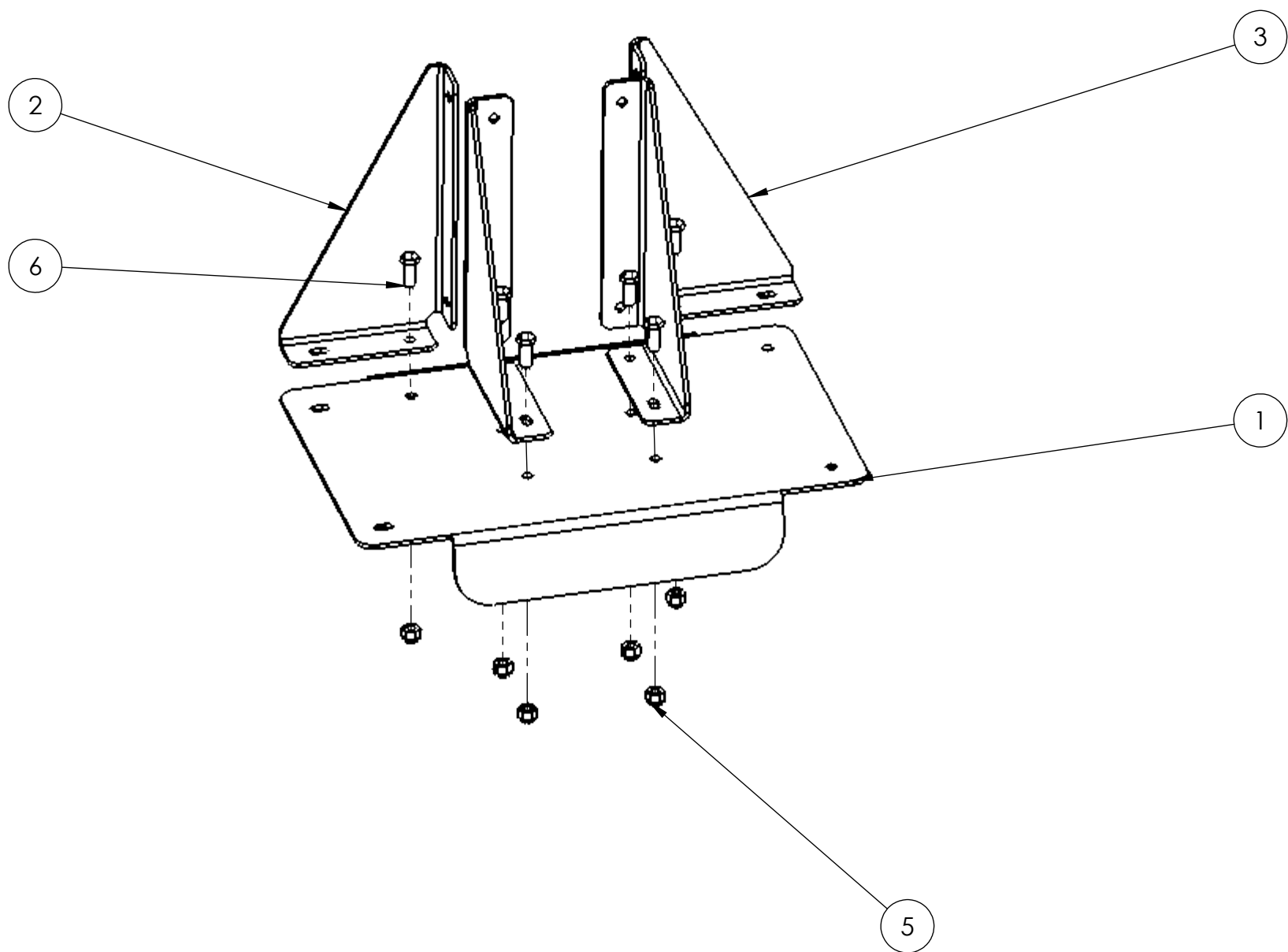
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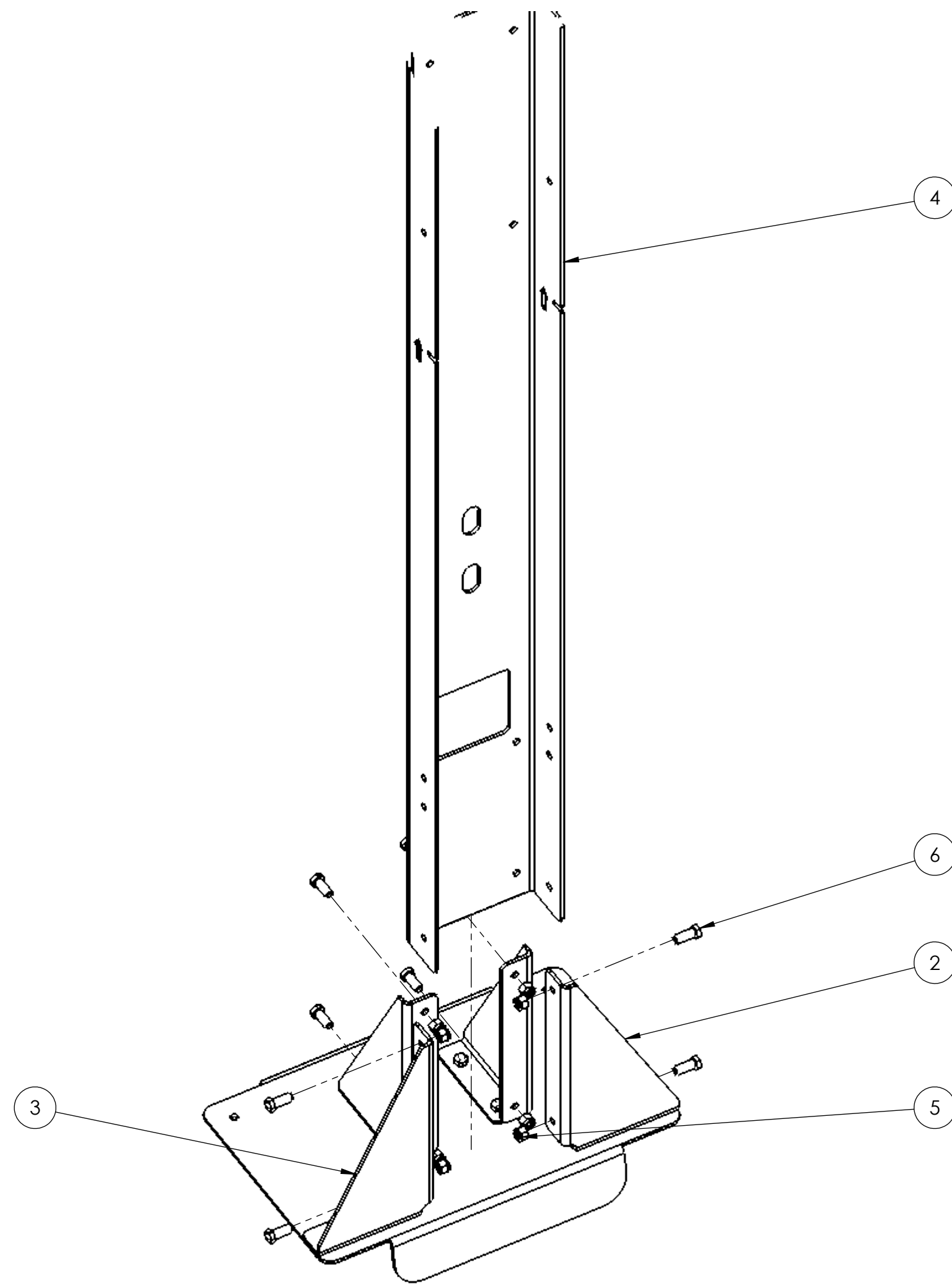
A

A





Notes:

- Attach 2 and 3 to 1 using 6 and 5.



Notes:

- Attach 4 to assembly using 5 and 6 to connect to 2 and 3 as shown.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	12/29/2021	
	PROPRIETARY AND CONFIDENTIAL			TITLE: <h1>Upright Bottom</h1>
	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:			SIZE DWG. NO. REV C GE-22383
	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:4 SHEET 2 OF 2

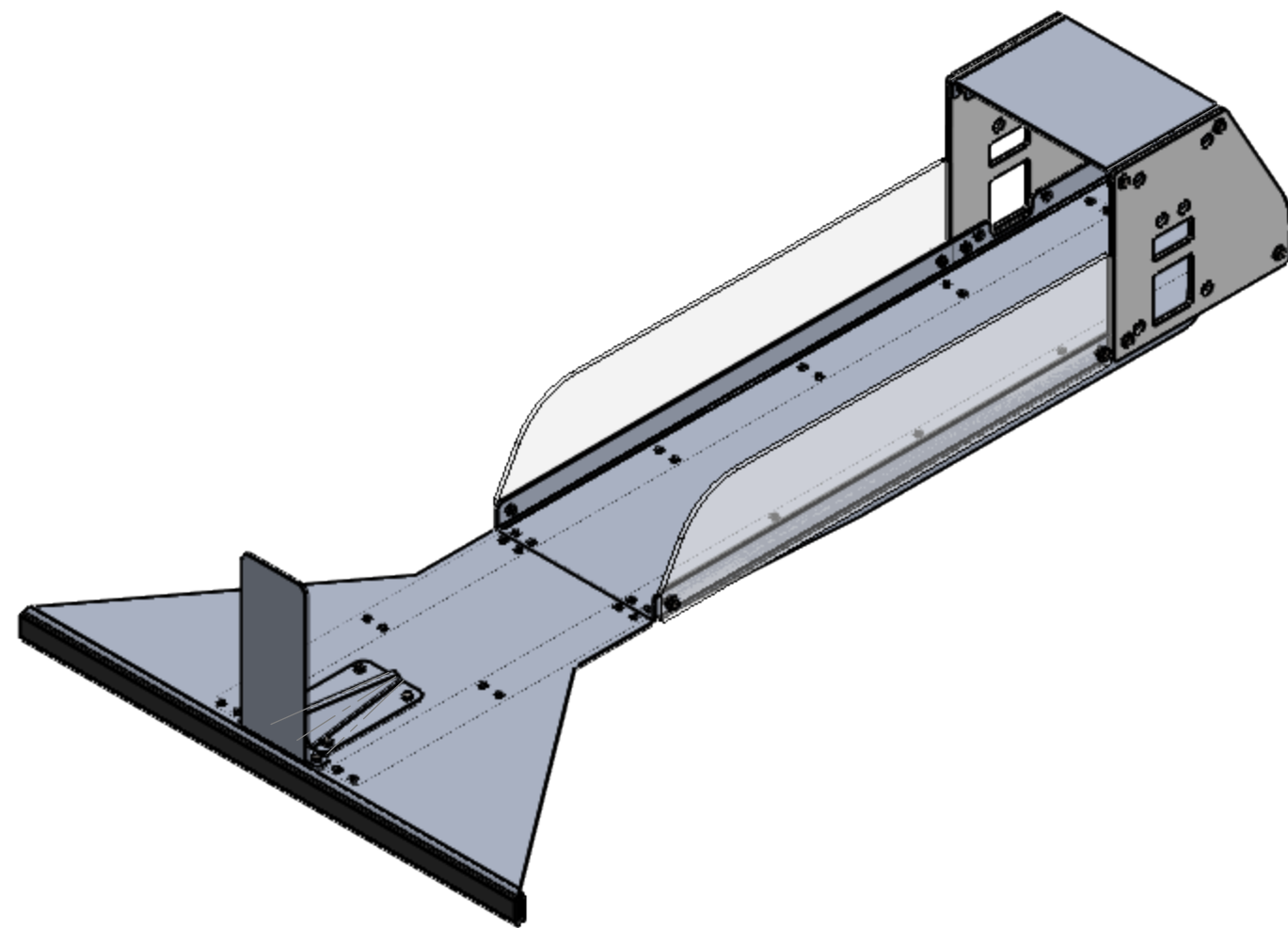
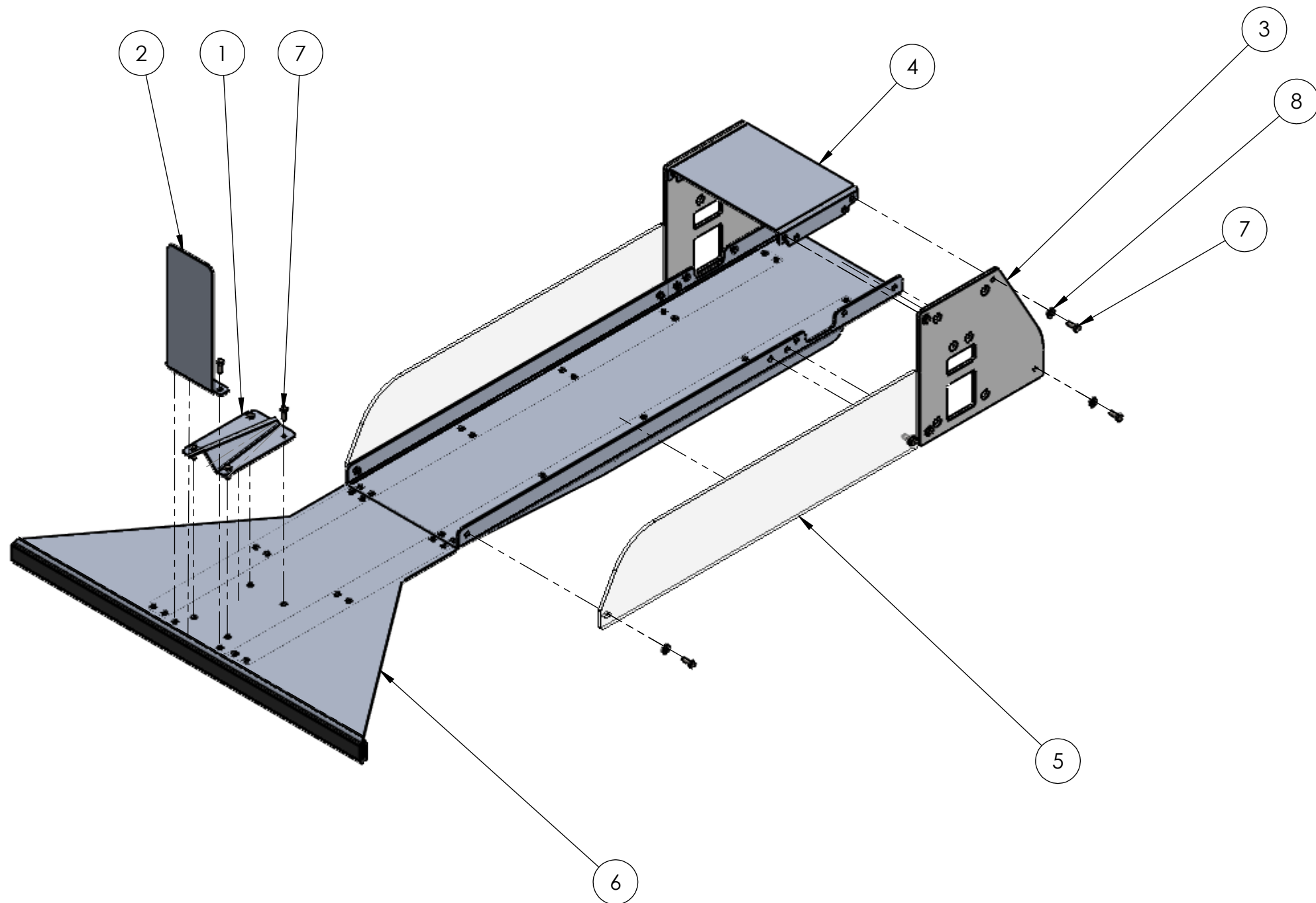
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Exploded View



ITEM NO.	PART NUMBER	DESCRIPTION	
1	GE-22392	Horn	1
2	GE-22393	Horn Bounce Plate	1
3	GE-22398	Upper Exit Sensor Wall	2
4	GE-22399	Upper Exit Top with Pem Nuts	1
5	GE-22400	Upper Exit Side Wall	2
6	GE-22406	Upper Exit Sheet Metal with Foam	1
7	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	18
8	washer_flat_.25	Flat Washer for 1/4" Screw	12

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	KAMC	7/6/2021	
MATERIAL/FINISH: Tag or label with part number		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:
DO NOT SCALE DRAWING		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Upper Exit Assembly
		SIZE	DWG. NO.	REV	
		C	GE-22391		
		SCALE: 1:8	SHEET 1 OF 2		

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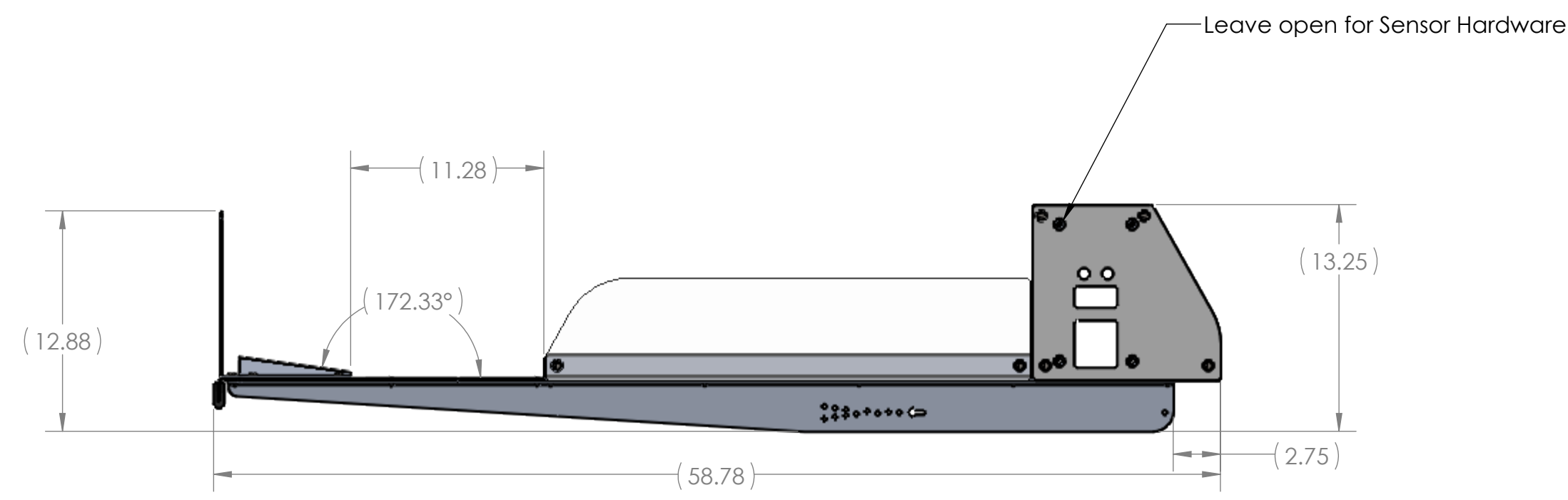
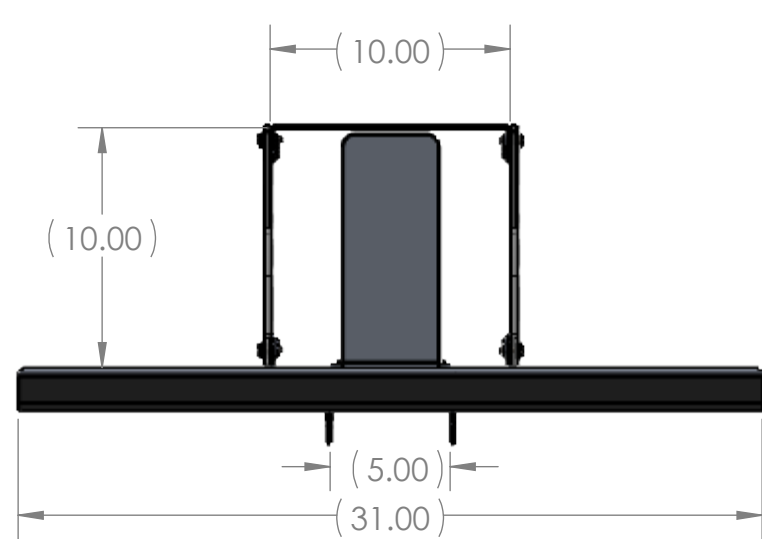
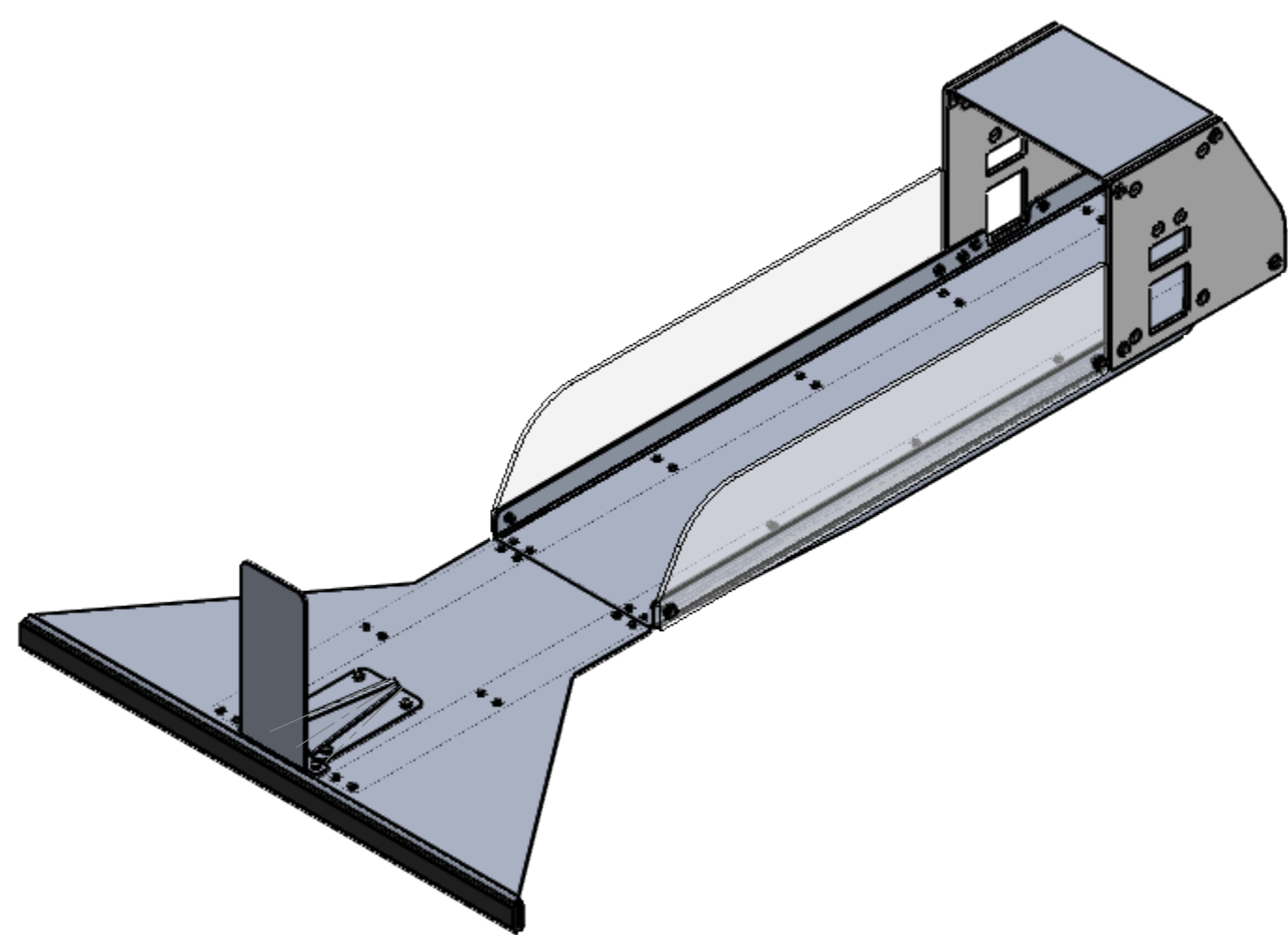
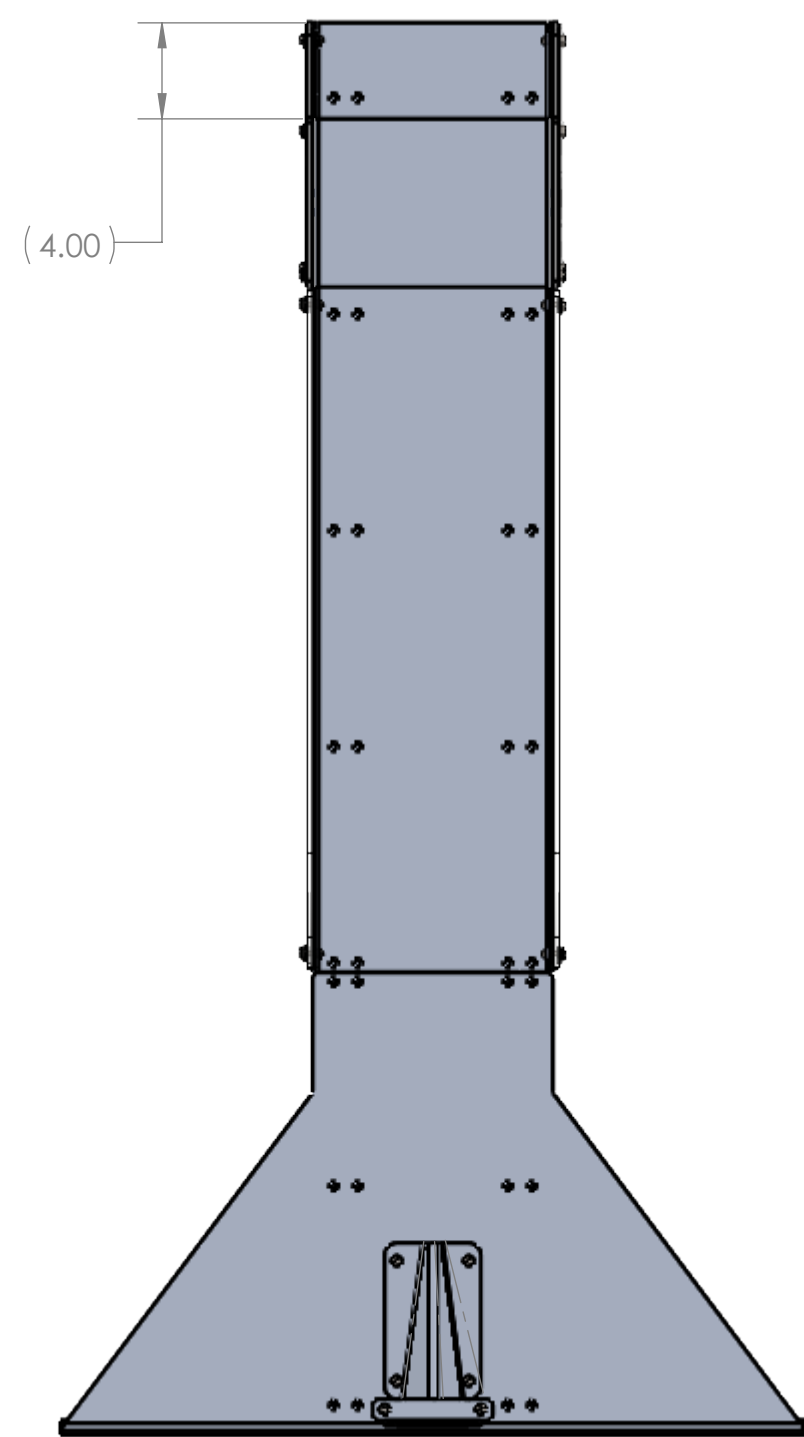
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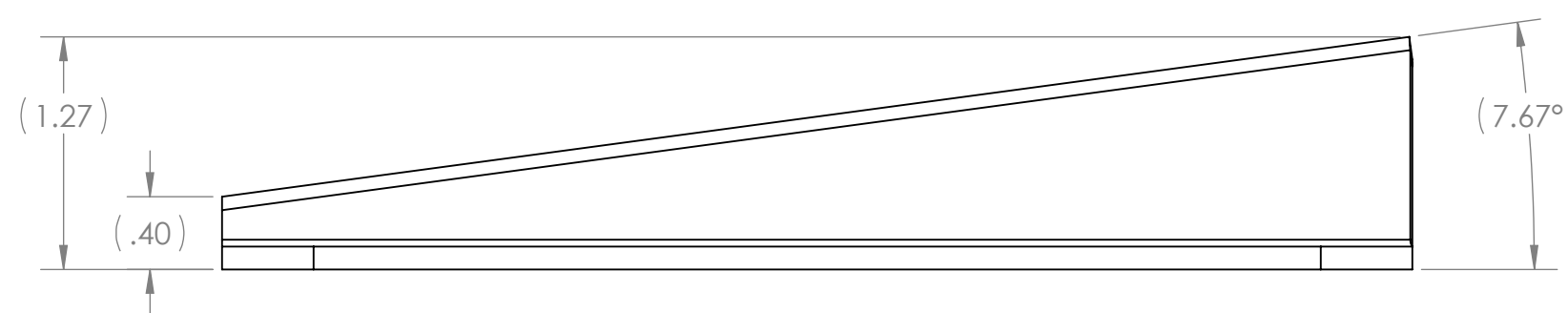
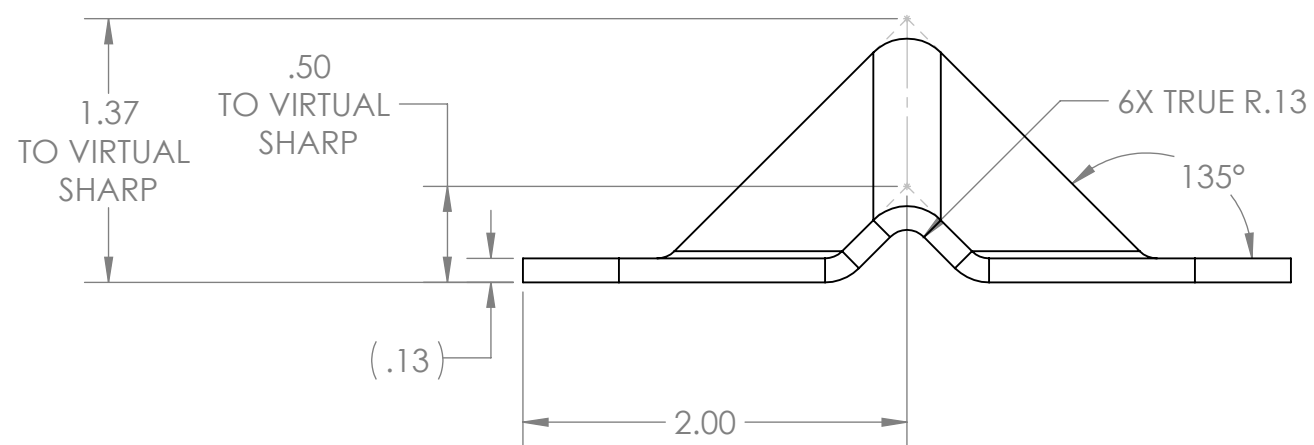
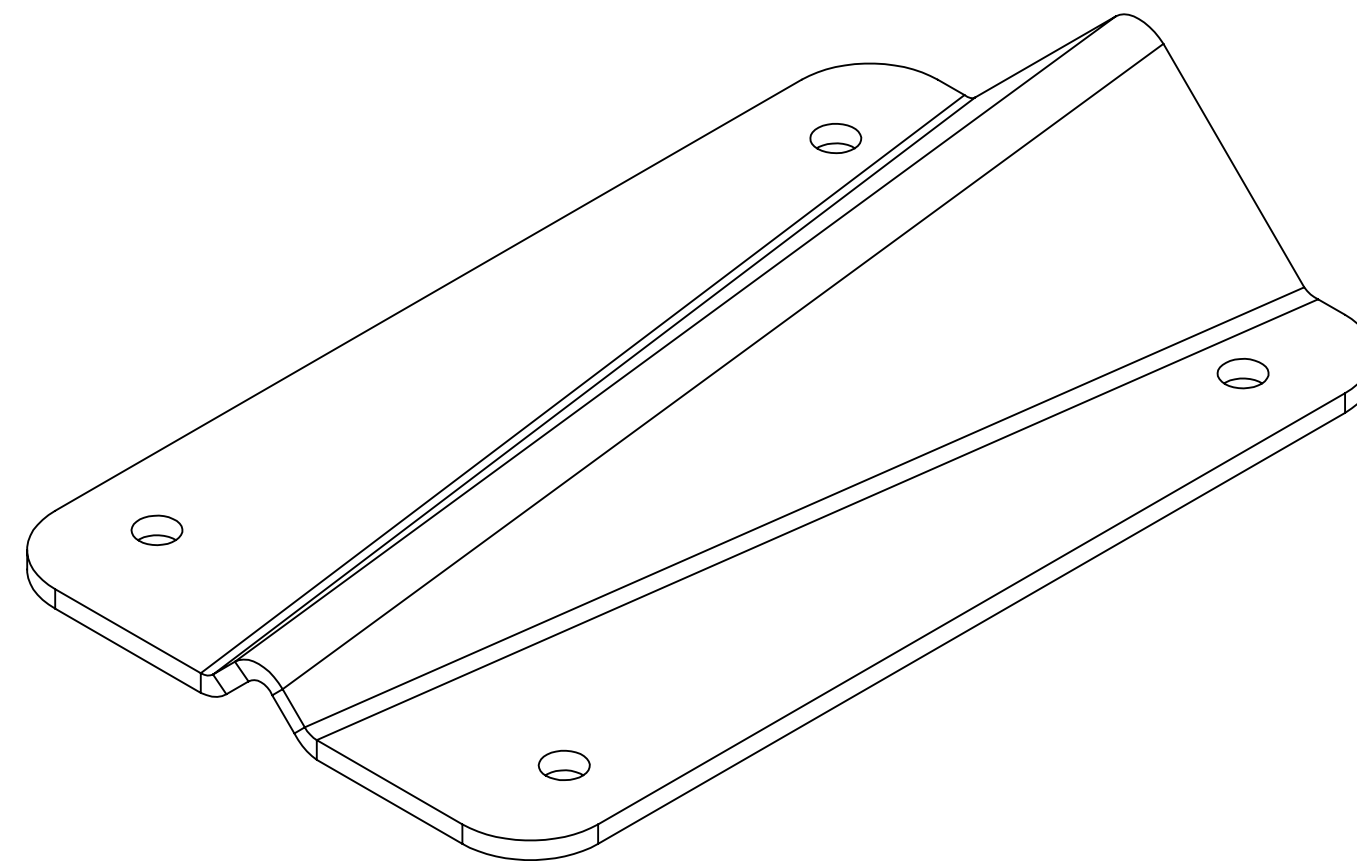
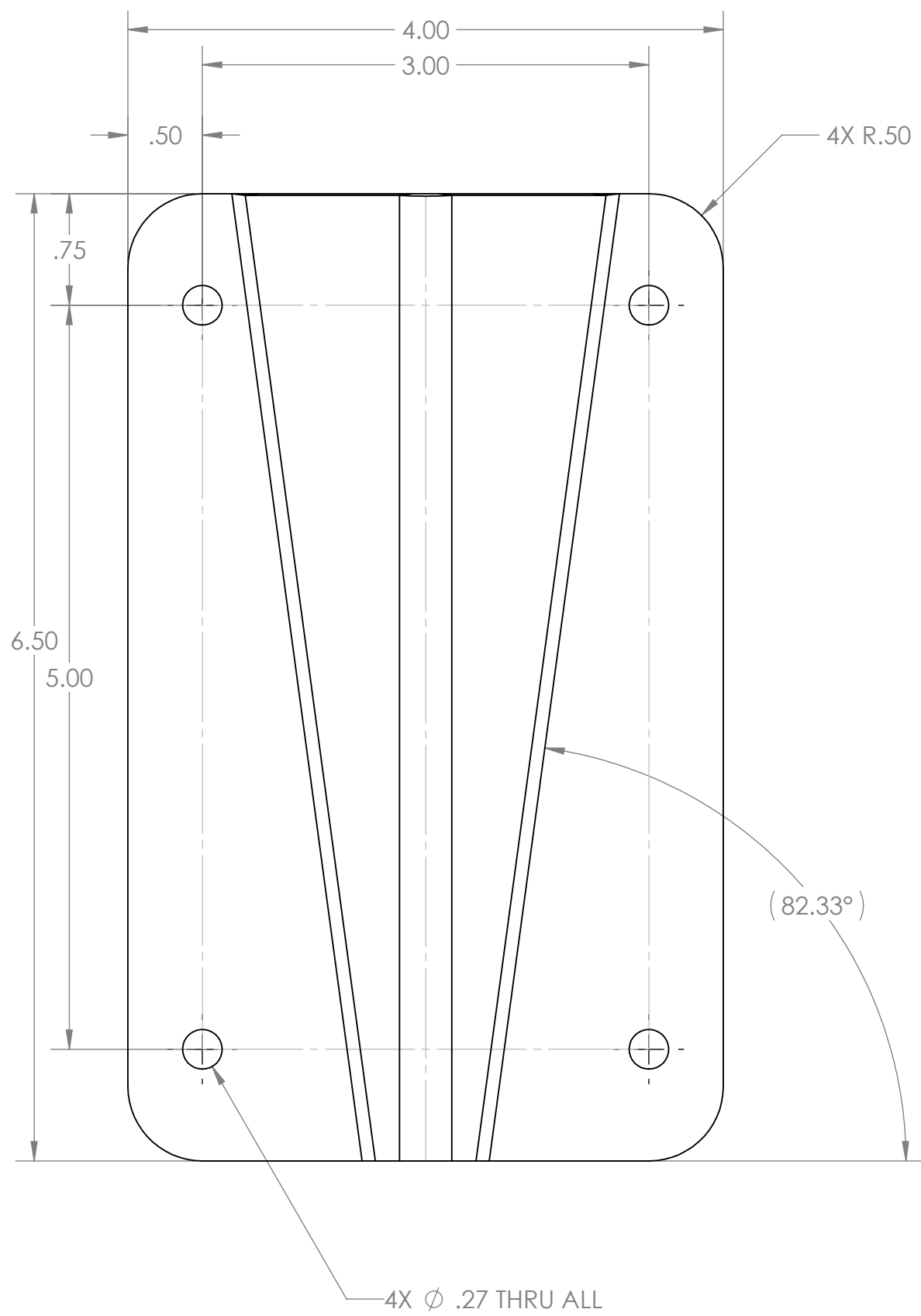
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: Tag or label with part number DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	KAMC	7/6/2021		
	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				Upper Exit Assembly SIZE DWG. NO. REV C GE-22391 SCALE: 1:8 SHEET 2 OF 2



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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.02 THREE PLACE DECIMAL ±.010	BEND	NAME	DATE	 
	DRAWN	KAMC	6/9/2021	
MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet	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: Horn
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22392
	SCALE: 1:1			SHEET 1 OF 1

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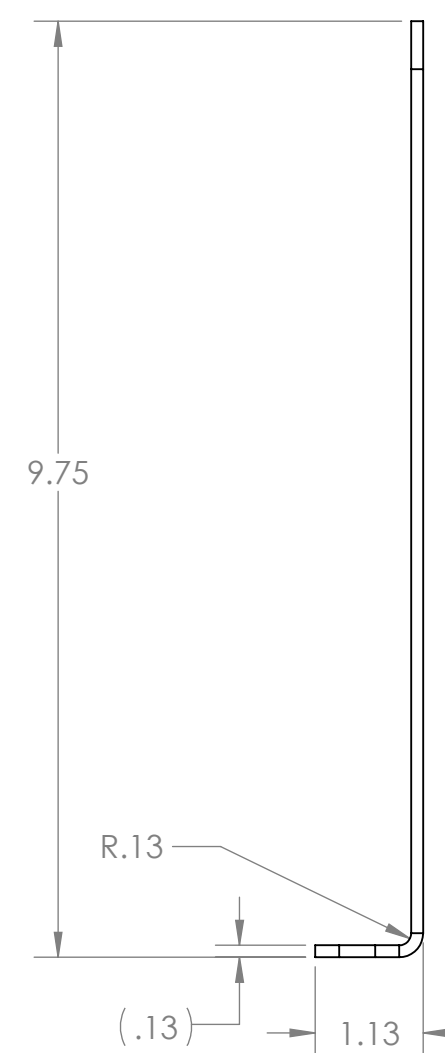
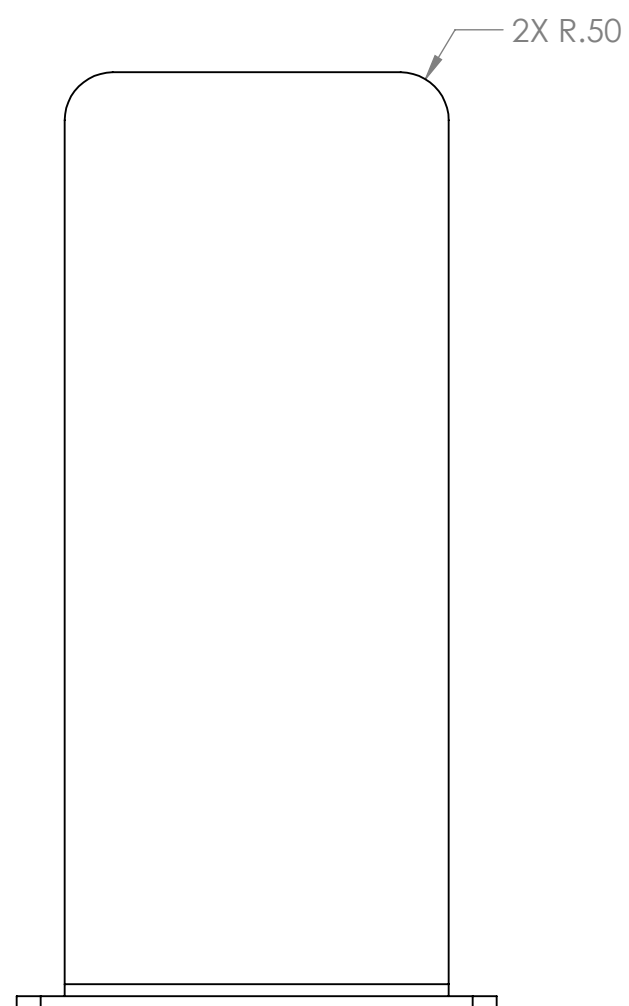
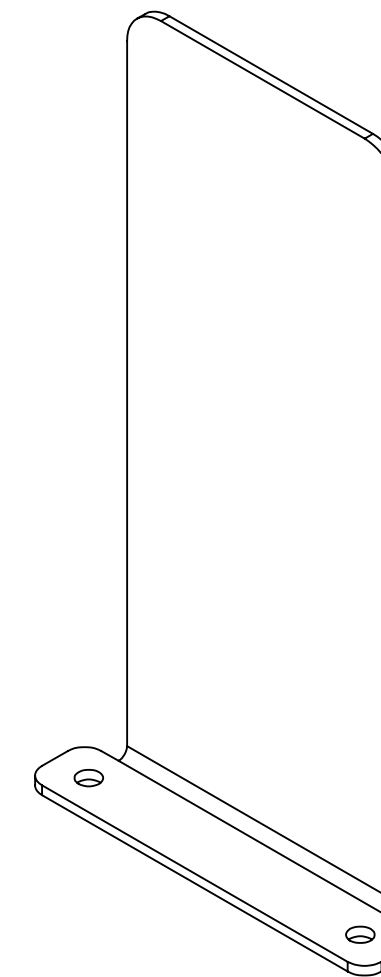
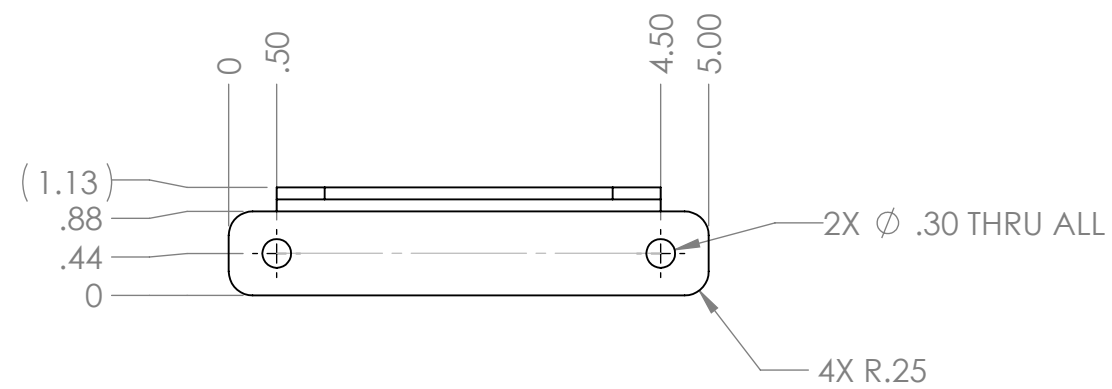
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Notes:
 1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	7/16/2021	
	PROPRIETARY AND CONFIDENTIAL			TITLE: <h2 style="text-align: center;">Horn Bounce Plate</h2>
	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:		SIZE	DWG. NO.
	REMOVE ALL BURRS AND SHARP EDGES.		C	GE-22393
			REV	
	SCALE: 1:2		SHEET 1 OF 1	

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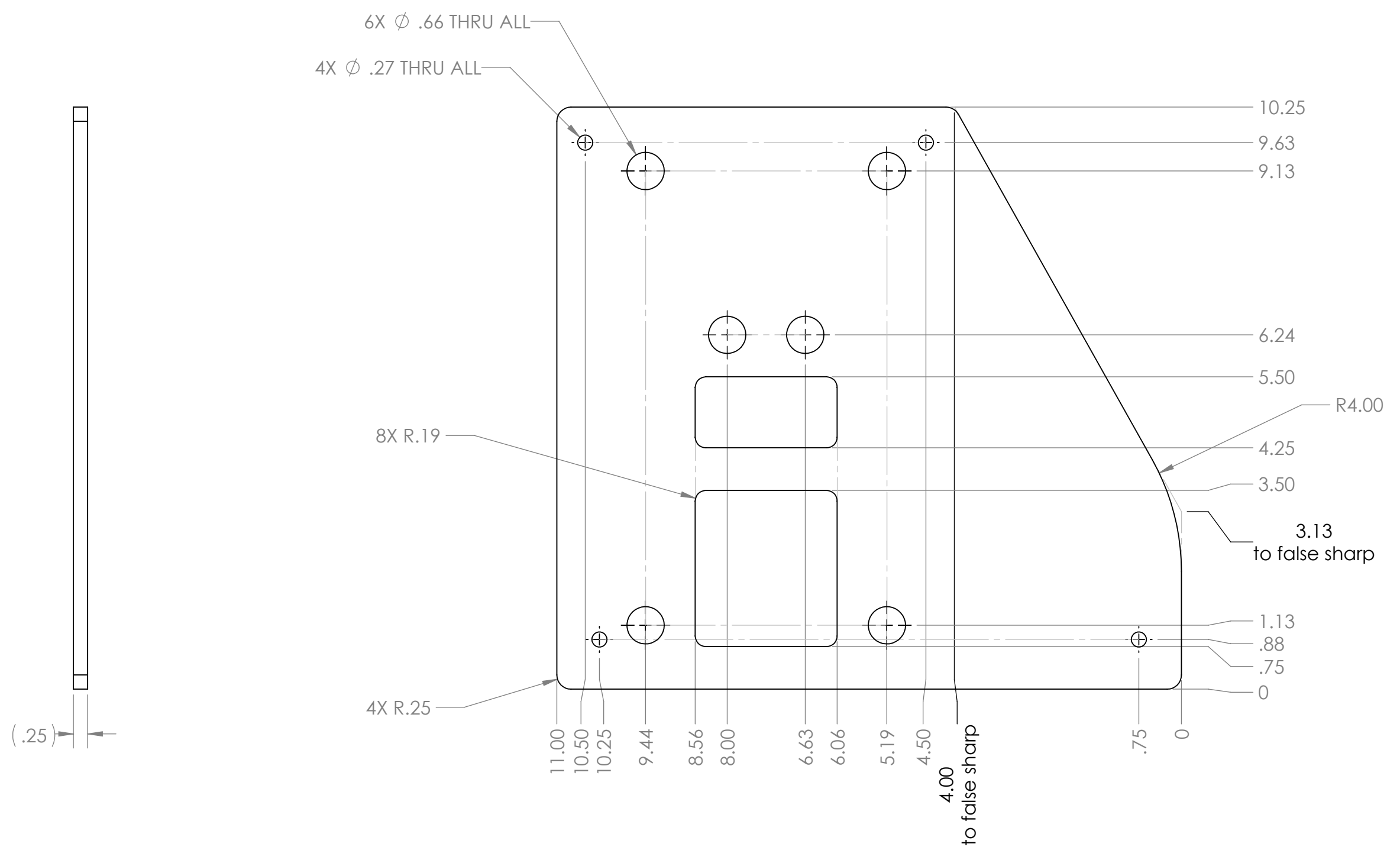
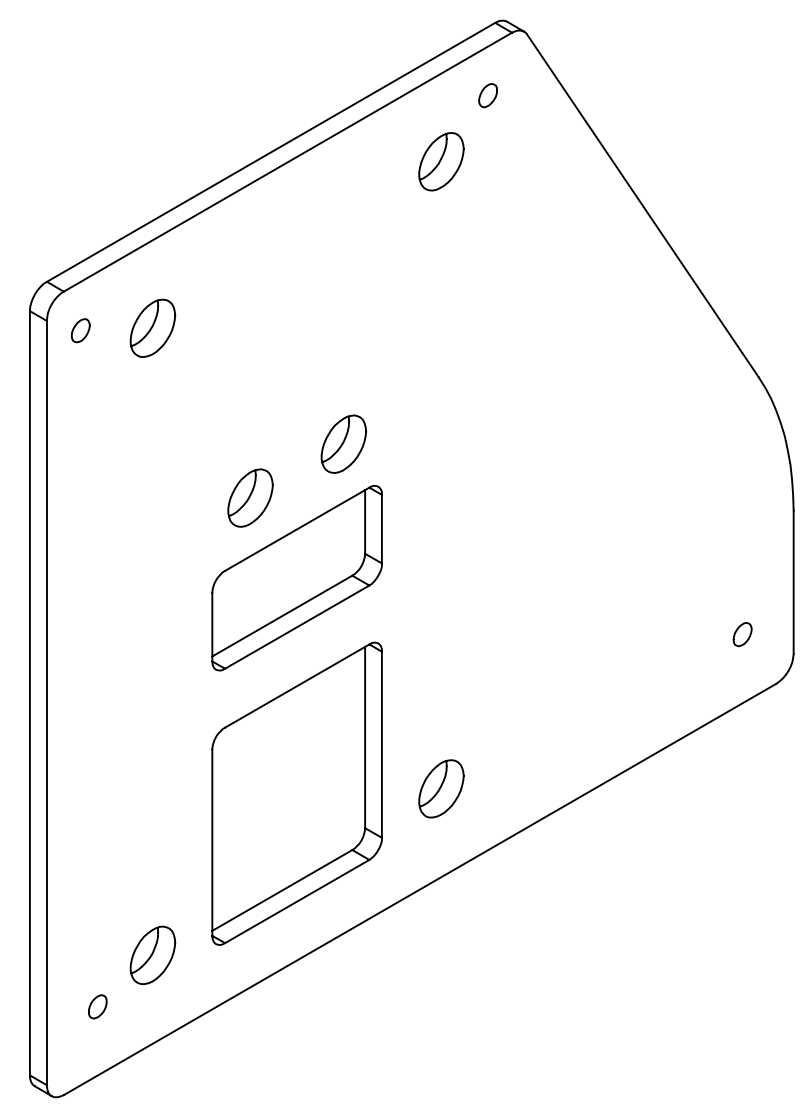
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Notes:
 1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/4" HDPE, Smooth, White/Natural DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	KAMC	7/6/2021	
	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: <h2>Upper Exit Sensor Wall</h2>
	SIZE	DWG. NO.	REV	
	C	GE-22398		
	SCALE: 1:2		SHEET 1 OF 1	

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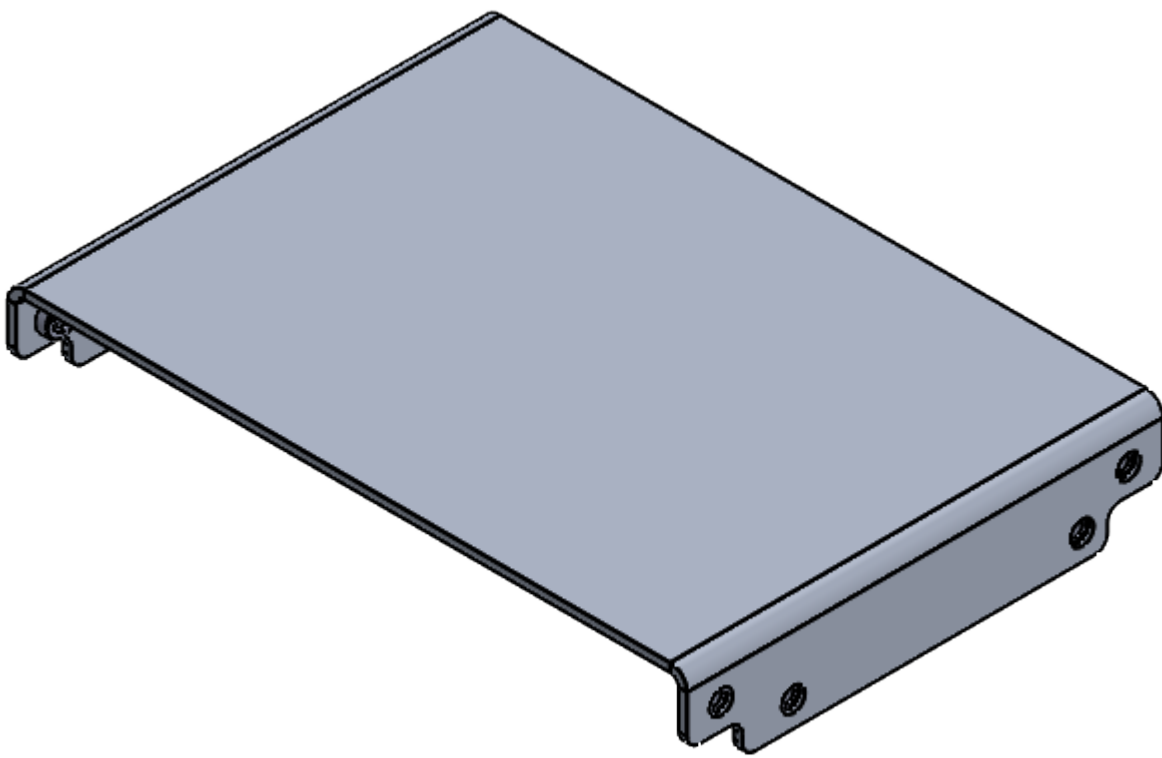
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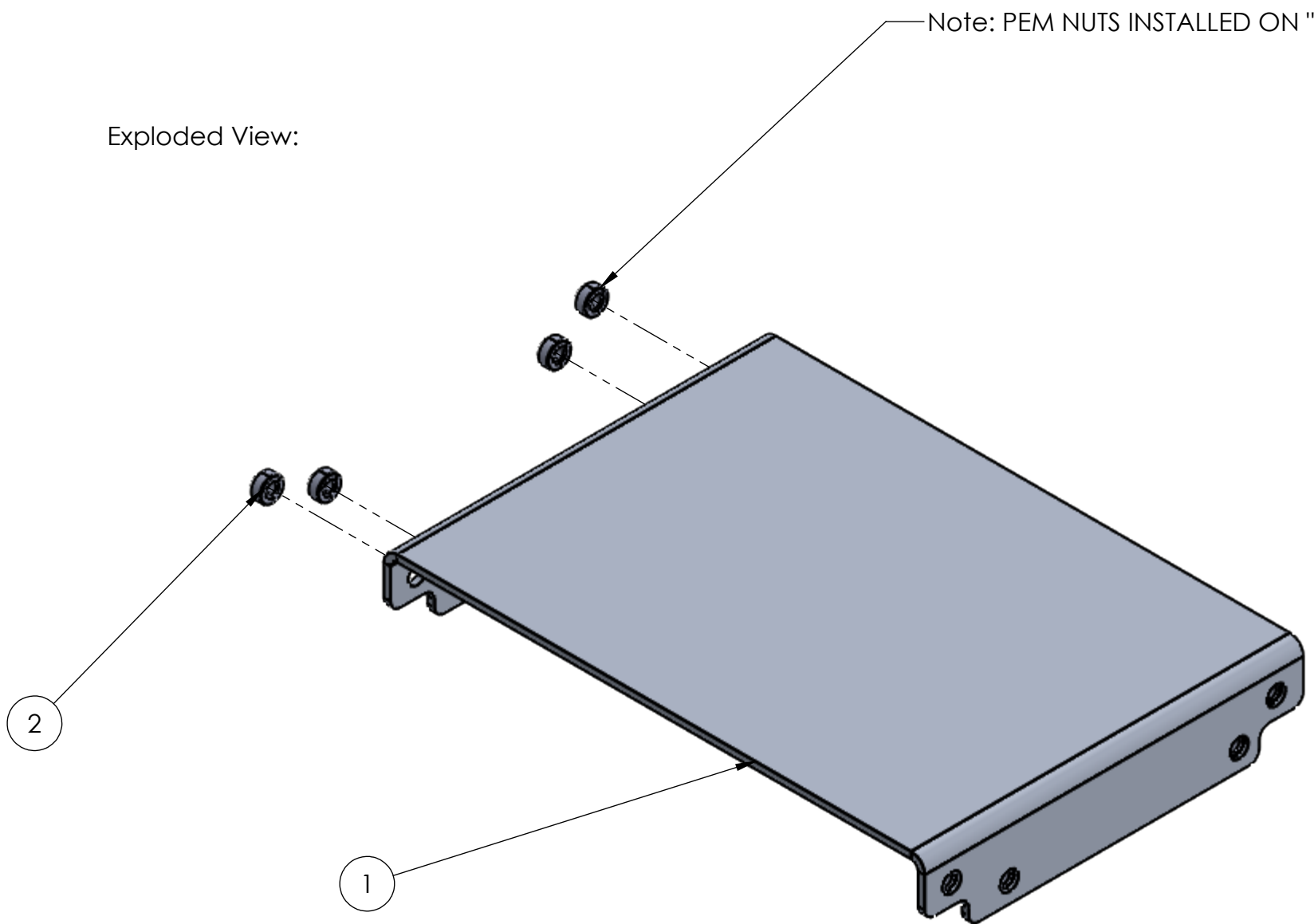
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Exploded View:

Note: PEM NUTS INSTALLED ON "INSIDE" OF PART



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22399-01	Upper Exit Top	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	8

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

MATERIAL/FINISH:
 Tag or label with part number

DO NOT SCALE DRAWING

VEND NAME DATE
 DRAWN KAMC 7/6/2021

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:
Upper Exit Top with Pem Nuts

SIZE	DWG. NO.	REV
C	GE-22399	

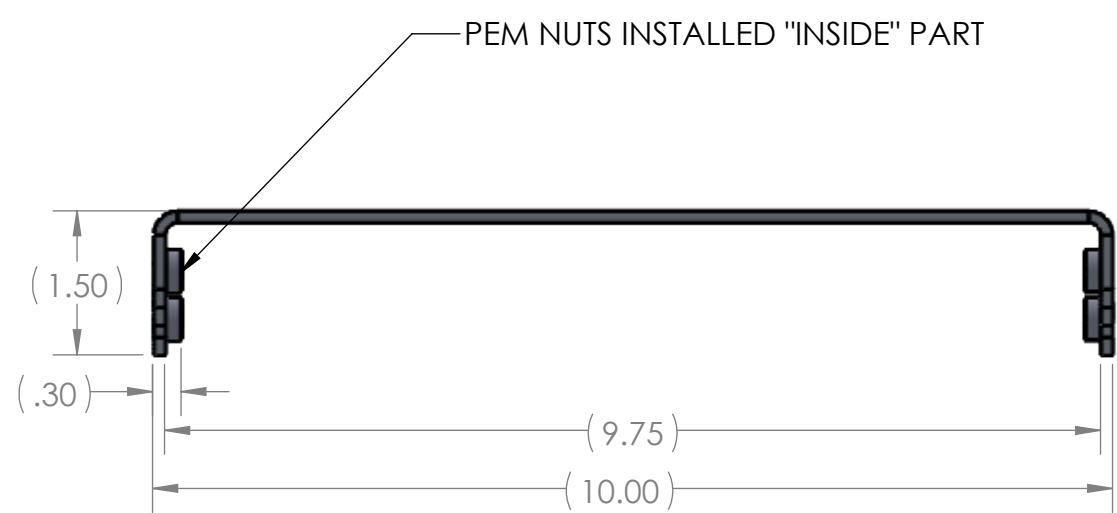
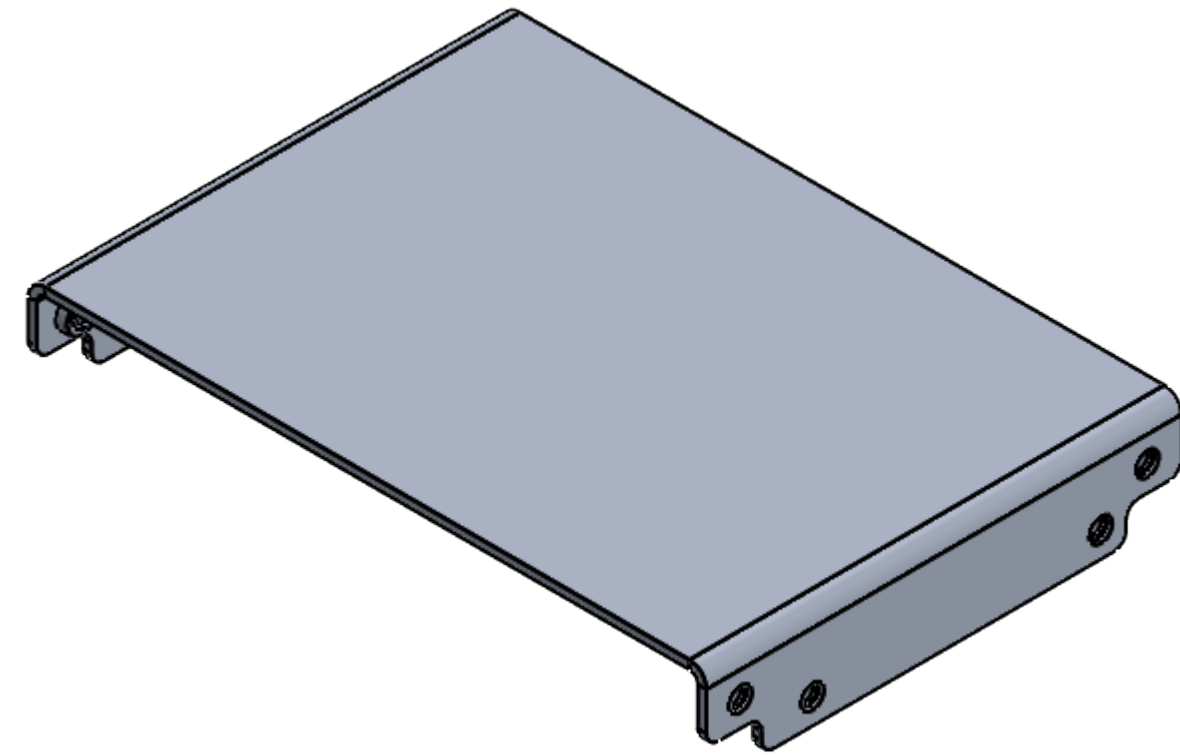
SCALE: 1:2 SHEET 1 OF 2



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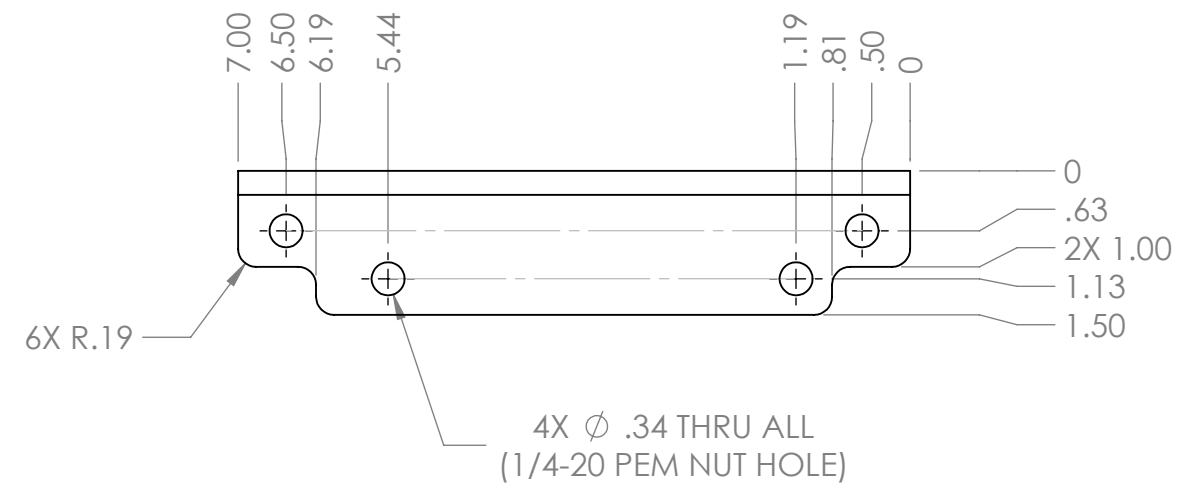
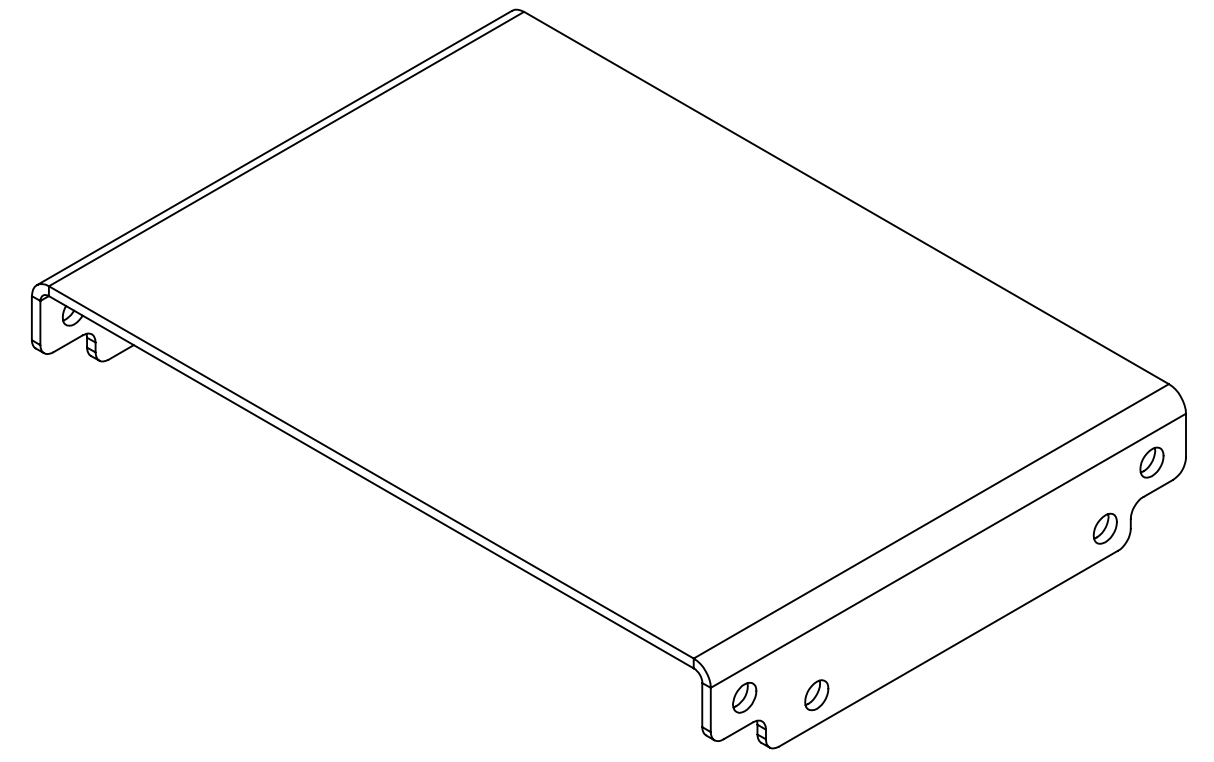
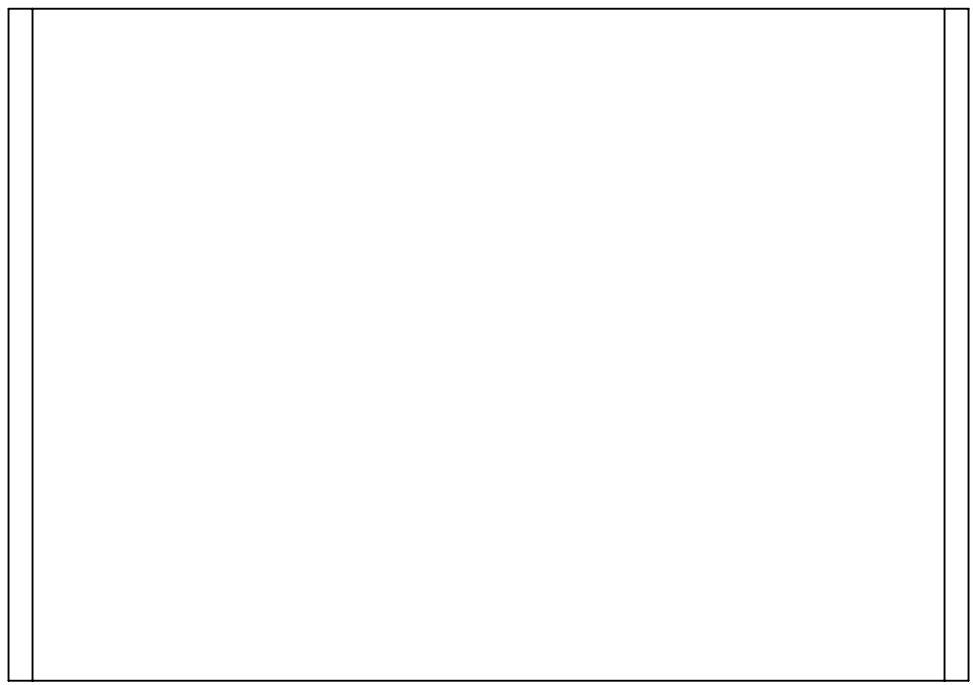
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
MATERIAL/FINISH: Tag or label with part number	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: Upper Exit Top with Pem Nuts
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22399
	SCALE: 1:2			SHEET 2 OF 2



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
	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.			Upper Exit Top
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22399-01
	SCALE: 1:2		SHEET 1 OF 1	

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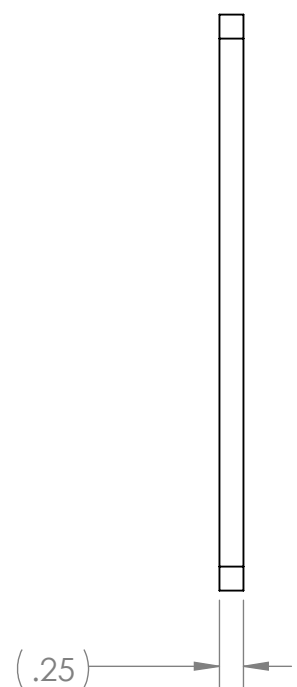
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Notes:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/4" Poly, Clear	VEND	NAME	DATE	 
	DRAWN	KAMC	7/16/2021	
DO NOT SCALE DRAWING	PROPRIETARY AND CONFIDENTIAL			TITLE: <h3>Upper Exit Side Wall</h3>
	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: C DWG. NO.: GE-22400 REV:
	SCALE: 1:2		SHEET 1 OF 1	

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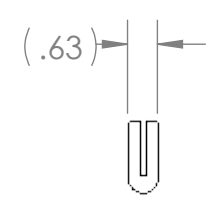
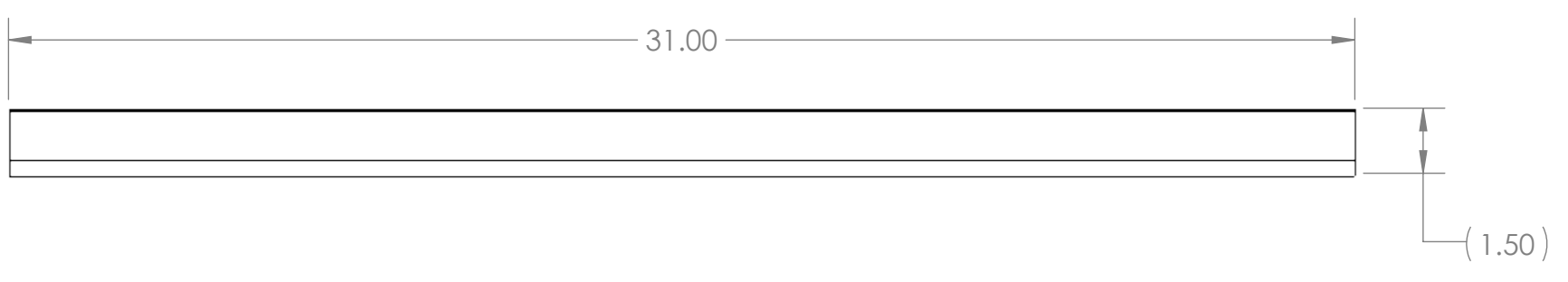
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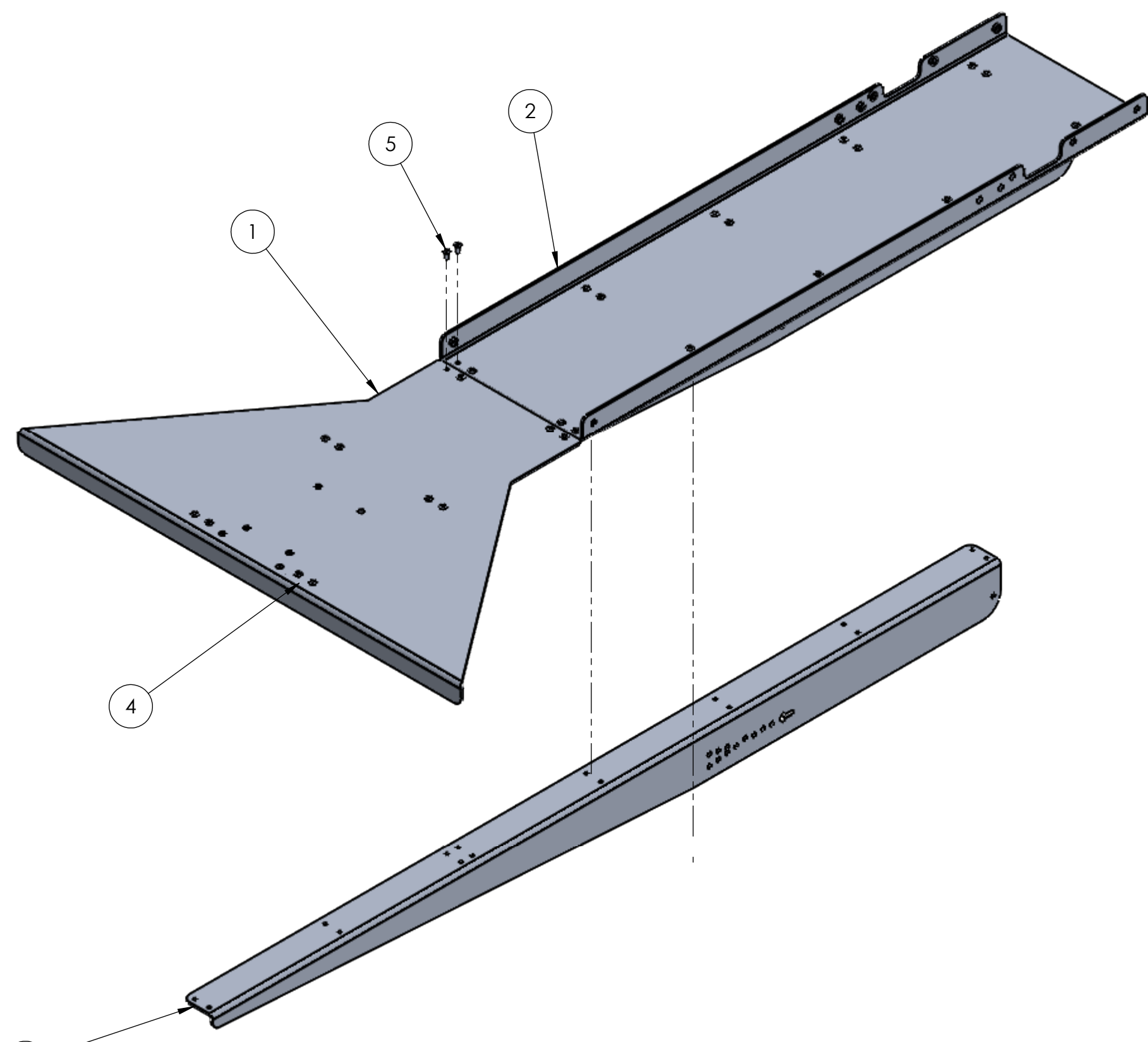
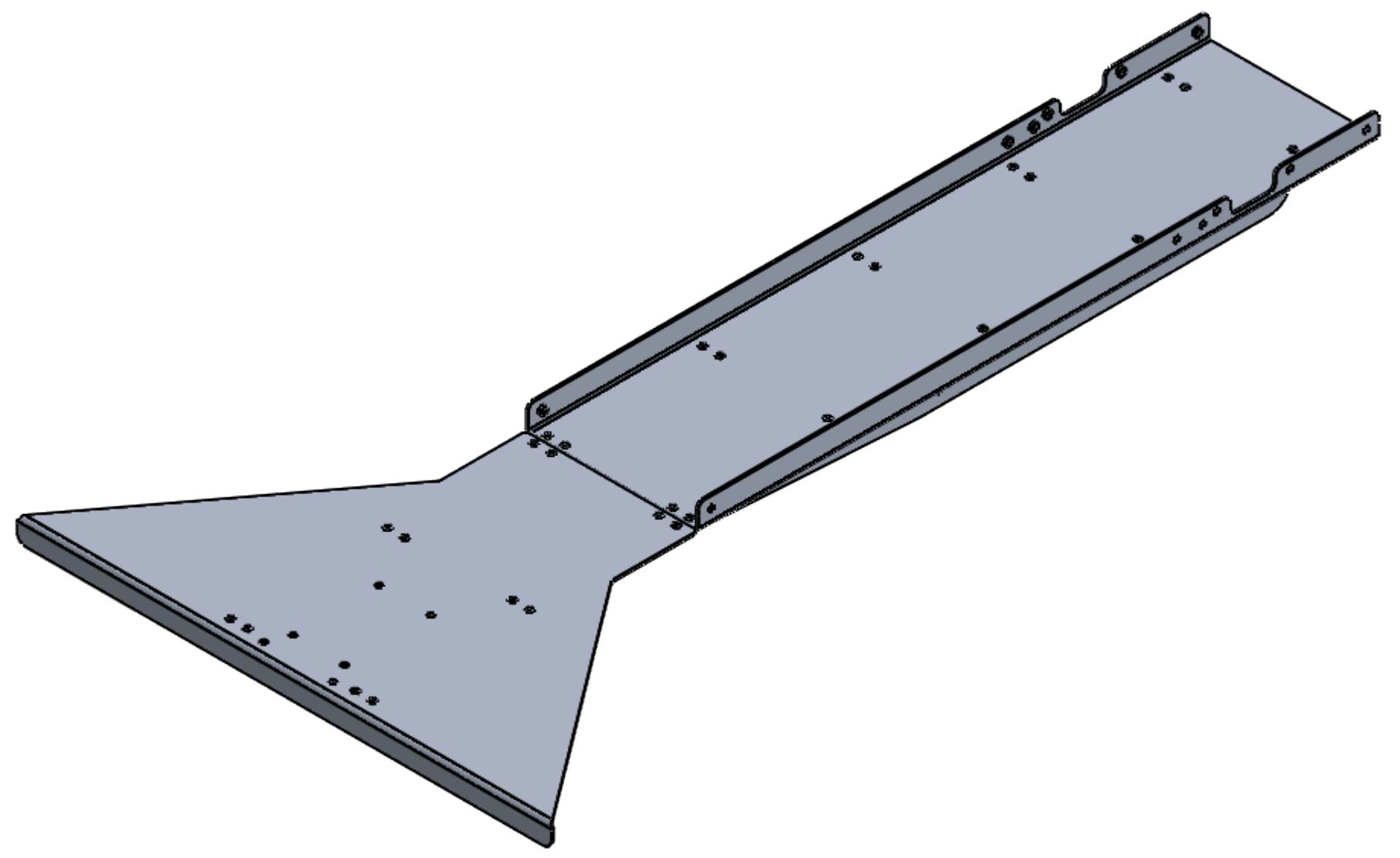
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DESCRIPTION: U SHAPE EDGE PROTECTORS
VENDOR: M2CBRIDGE VIA AMAZON
COLOR: BLACK
PACKAGE QUANTITY: 1 - 6.5 FEET
NOTES:
 1. SUBSTITUTIONS ALLOWED
 2. CUT TO LENGTH

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005	VEND	NAME	DATE	
	DRAWN	KAMC	7/16/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: Upper Exit Foam Edge
	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
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			C GE-22401
DO NOT SCALE DRAWING				SCALE: 1:4 SHEET 1 OF 1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22394	Upper Exit Exit with Pem Nuts	1
2	GE-22395	Upper Exit Base Channel with Pem Nuts	1
3	GE-22397	Upper Exit to Leg Connection Left	1
4	GE-22396	Upper Exit to Leg Connection Right	1
5	rivet_.1875_.126-.25	3/16" Rivet, .126-.25 Grip Range	33

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	KAMC	7/16/2021
MATERIAL/FINISH: Tag or label with part number		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.		
DO NOT SCALE DRAWING		COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
		 		
		TITLE: Upper Exit Riveted Assembly		
SIZE	DWG. NO.	REV		
C	GE-22405			
SCALE: 1:6		SHEET 1 OF 2		

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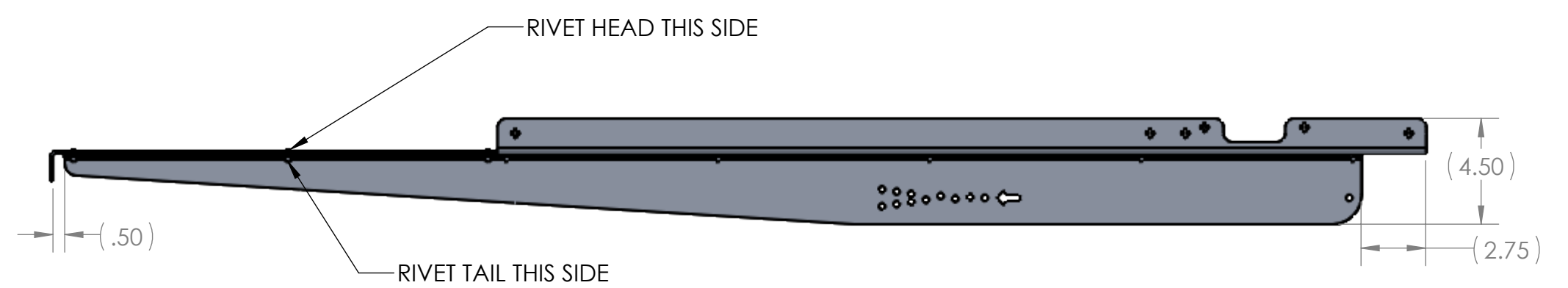
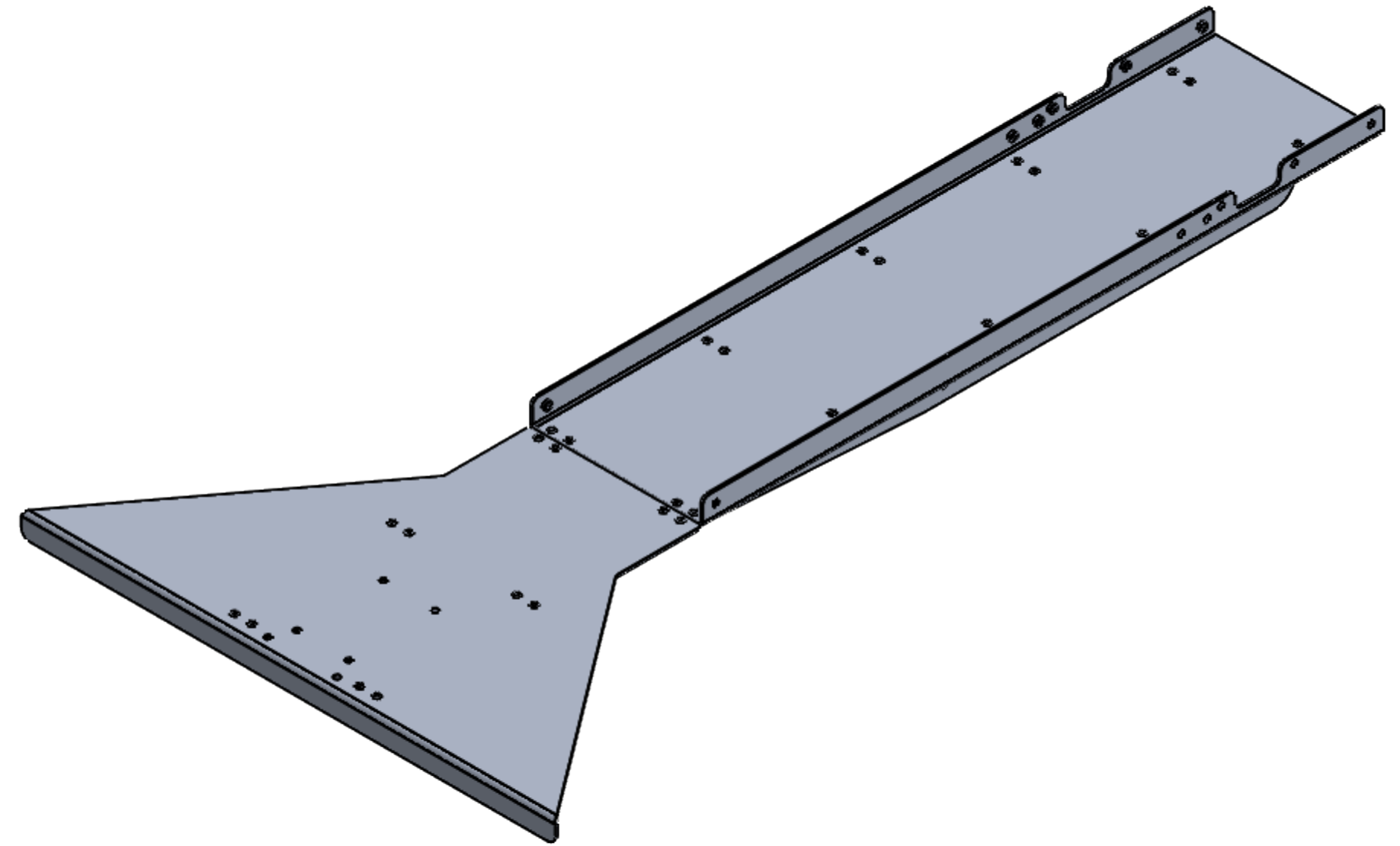
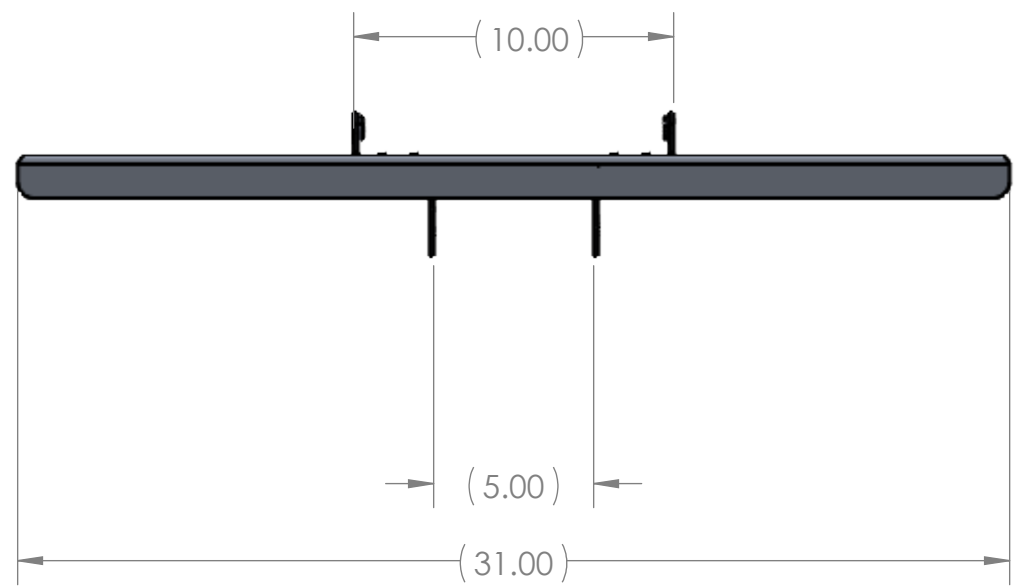
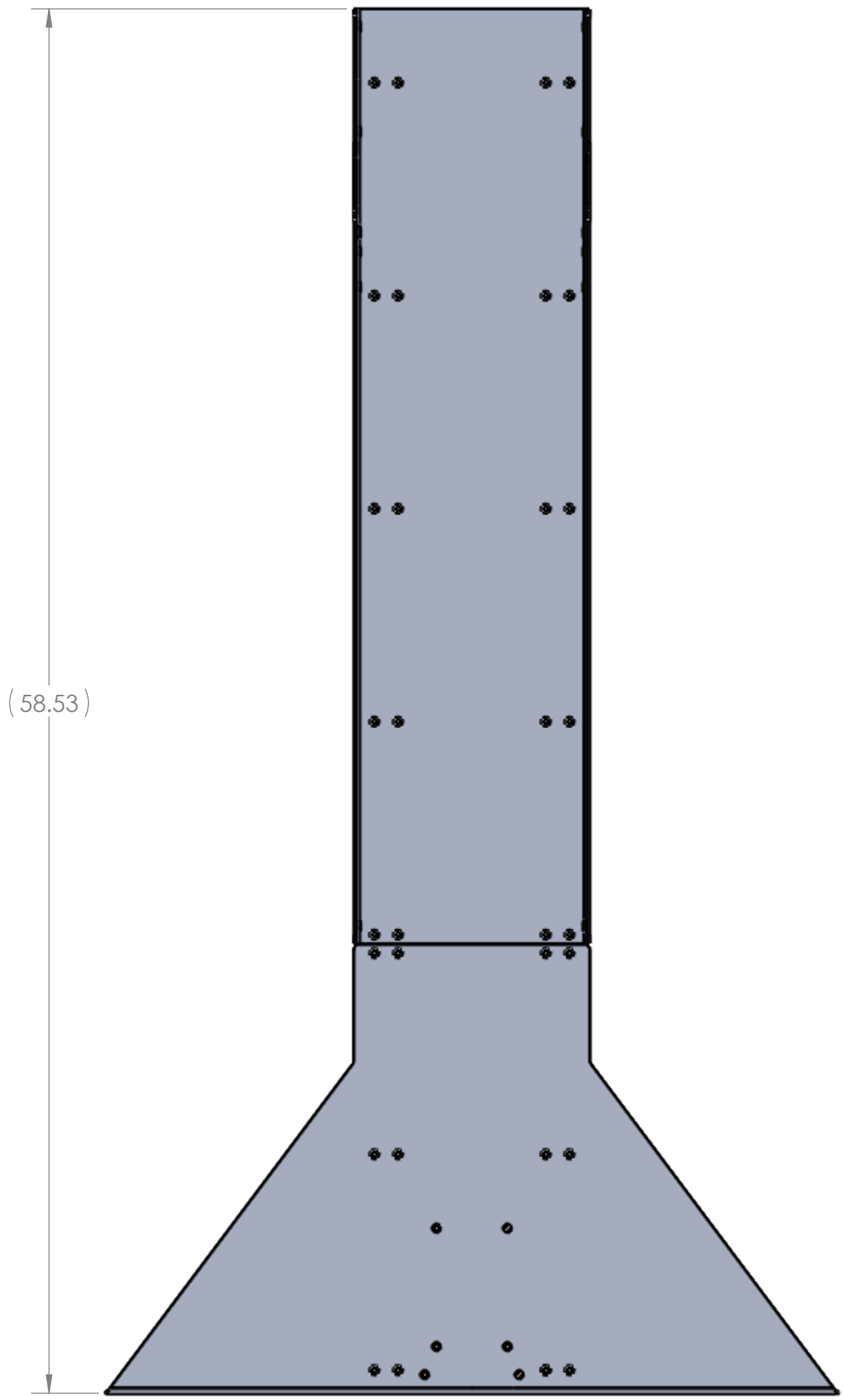
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: Tag or label with part number DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	KAMC	7/16/2021		
	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: Upper Exit Riveted Assembly
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				SIZE DWG. NO. REV C GE-22405
			SCALE: 1:6	SHEET 2 OF 2	

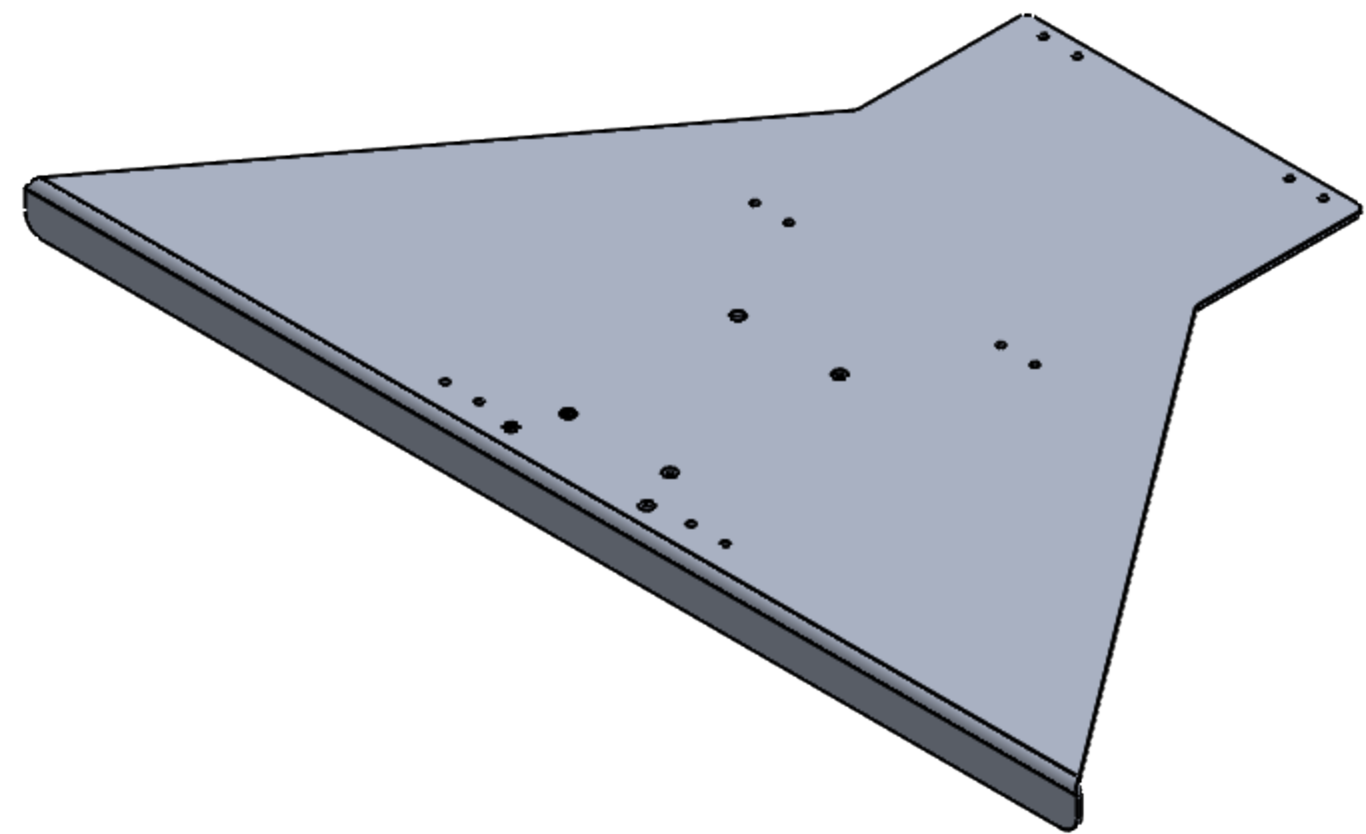
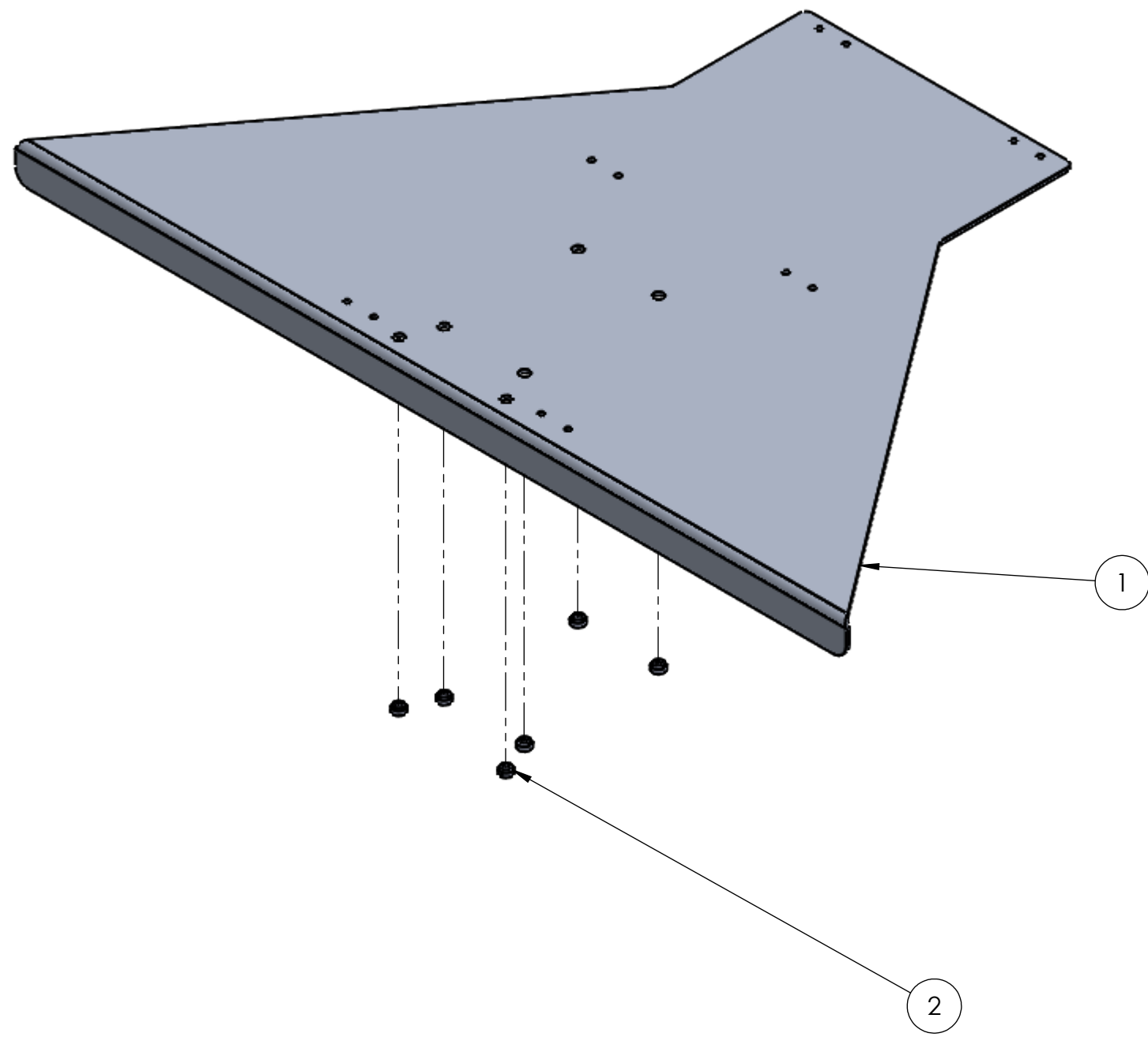
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Exploded View:



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22394-01	Upper Exit Exit	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	6

UNLESS OTHERWISE SPECIFIED:		VEND	NAME	DATE	 
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$		DRAWN	KAMC	7/6/2021	
MATERIAL/FINISH: Tag or label with part number		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: <h2>Upper Exit Exit with Pem Nuts</h2>
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		SCALE: 1:4		SHEET 1 OF 2	
DO NOT SCALE DRAWING		SIZE DWG. NO. REV C GE-22394			

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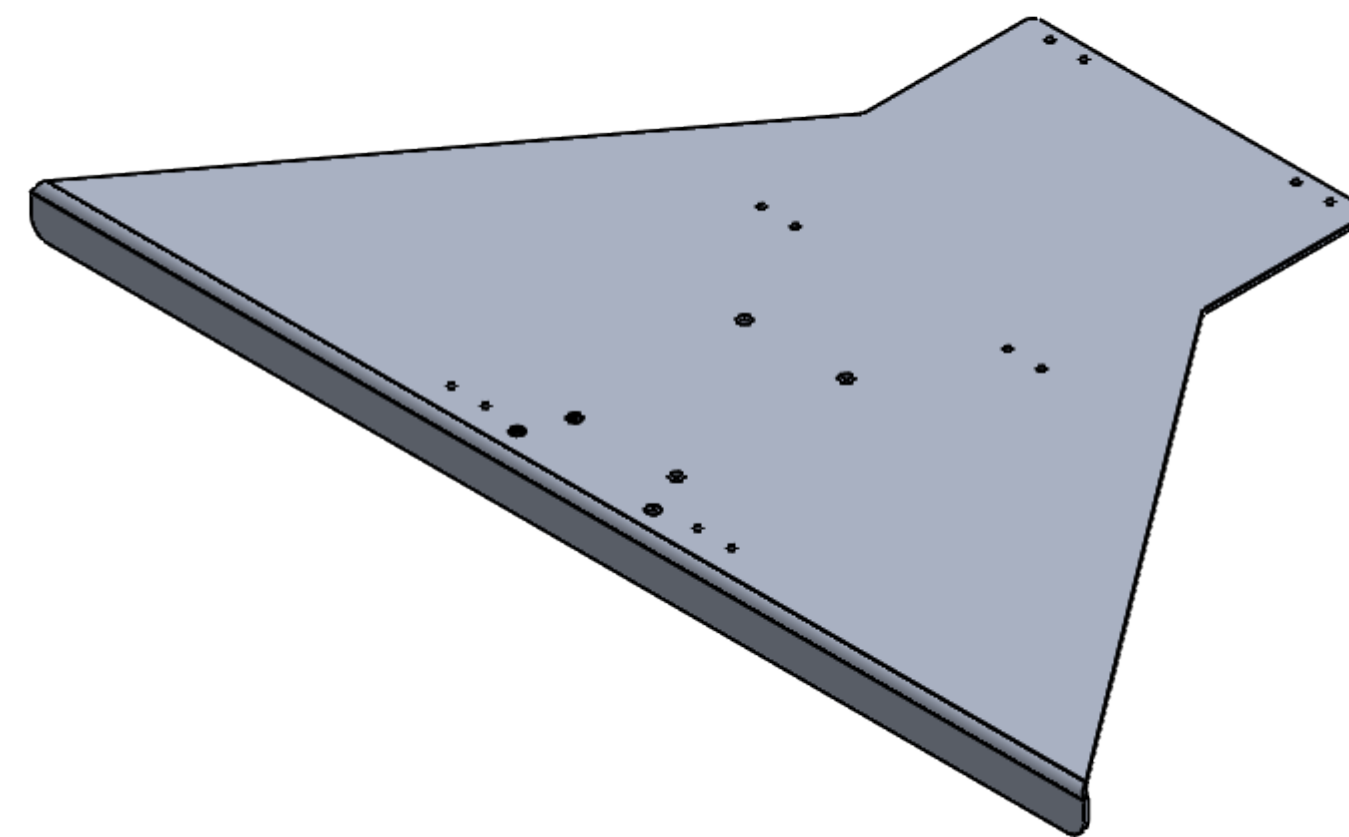
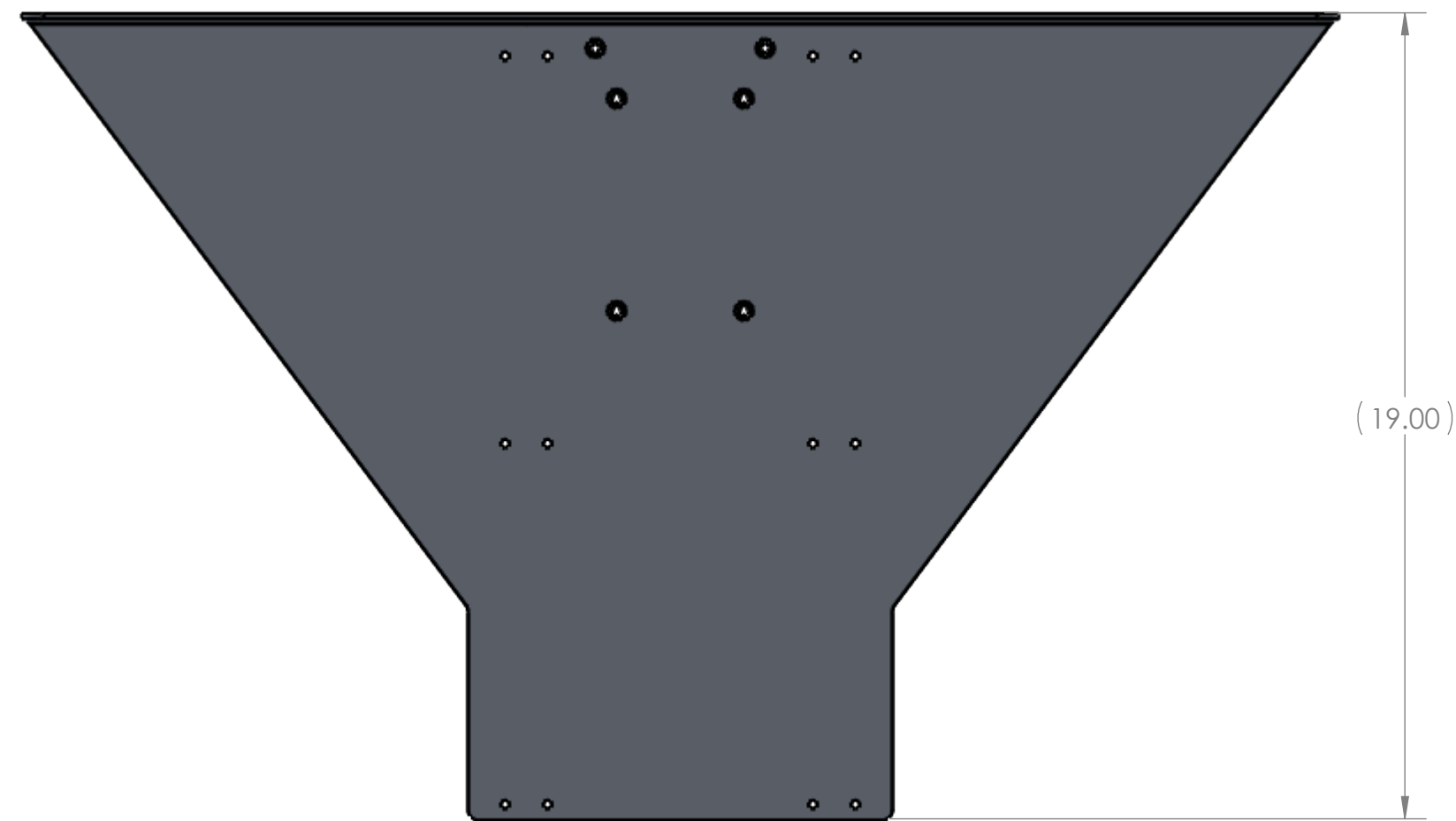
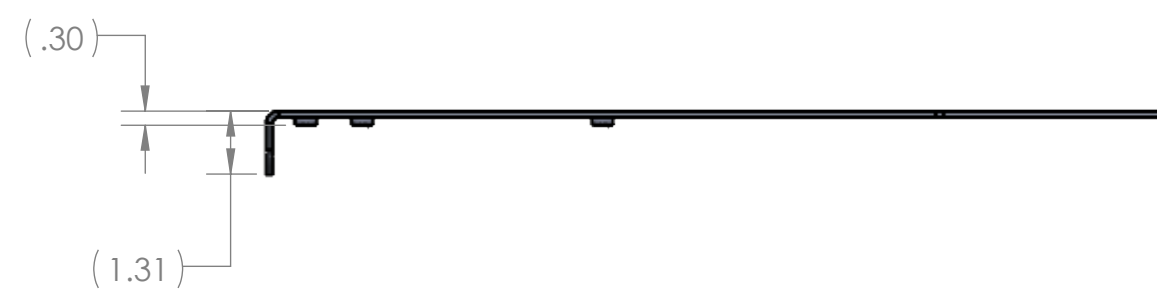
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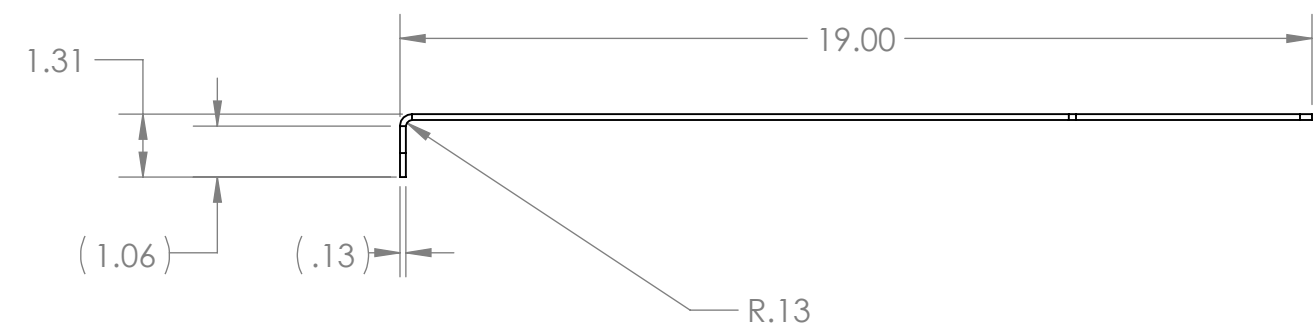
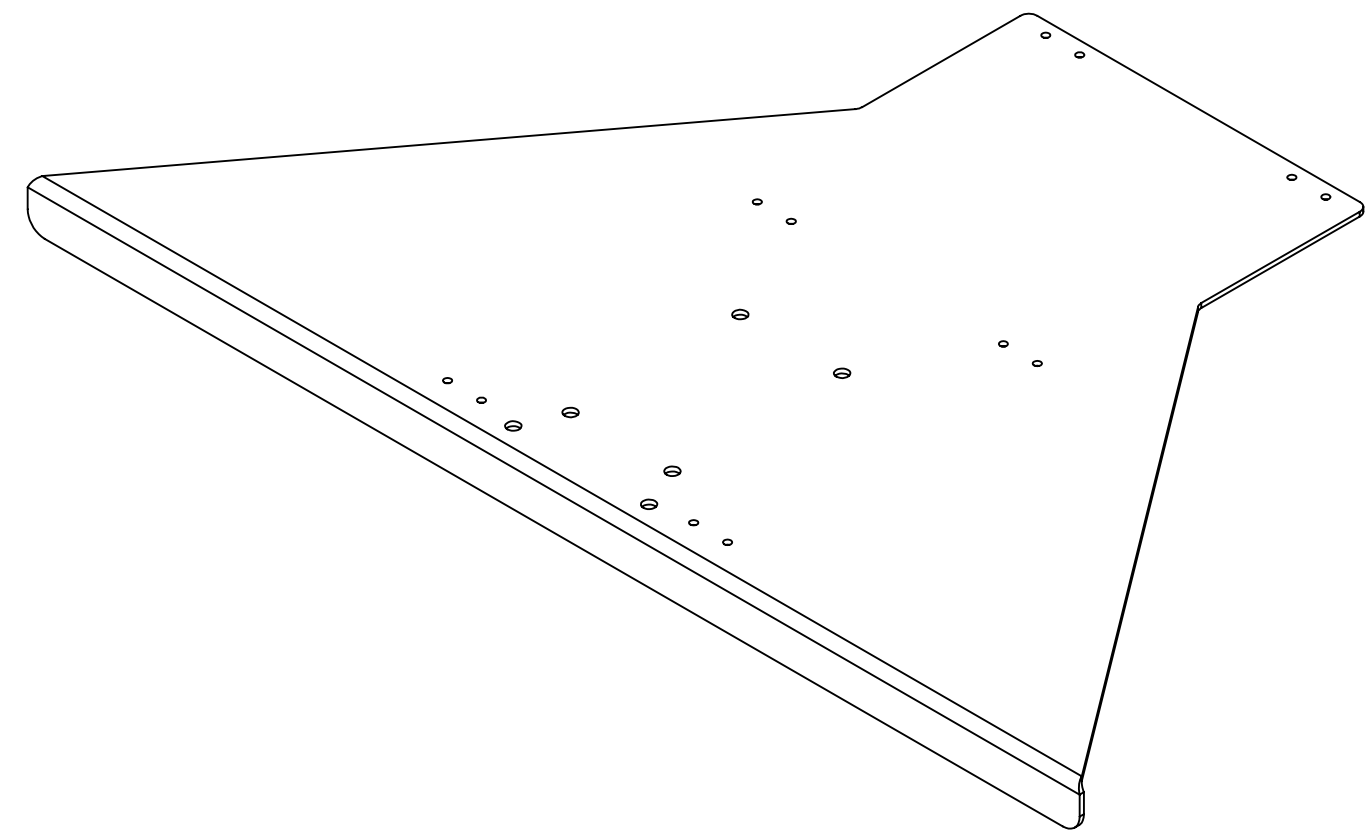
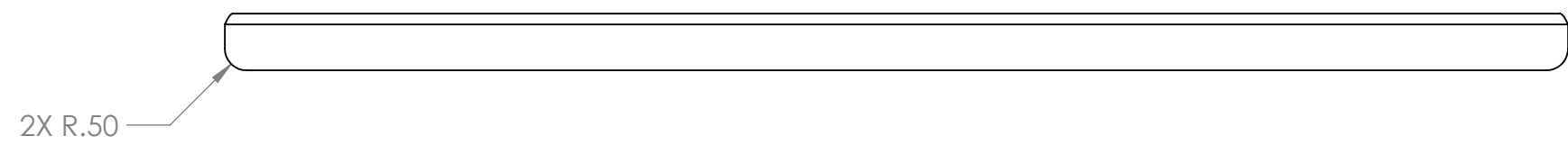
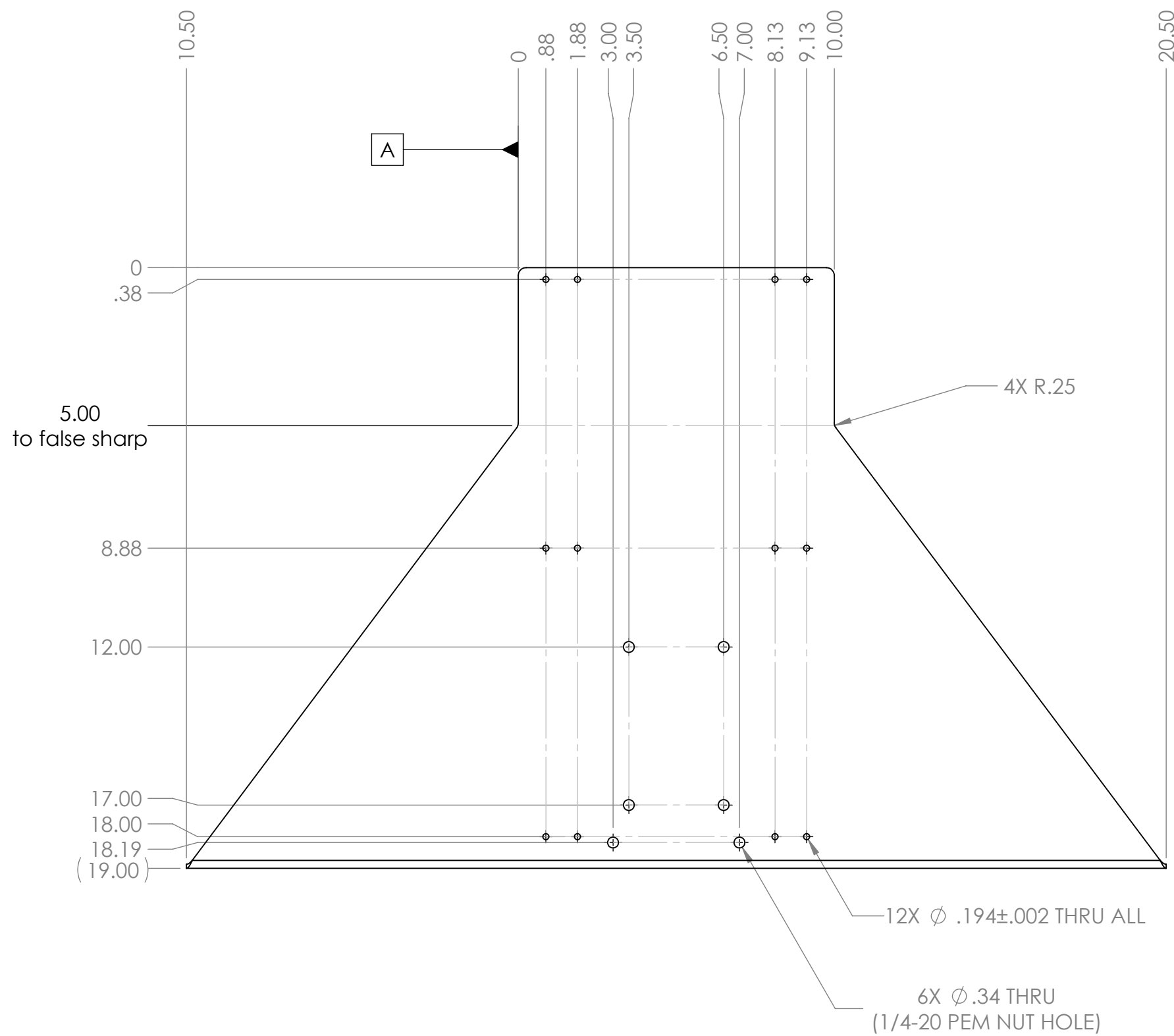
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
MATERIAL/FINISH: Tag or label with part number	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: Upper Exit Exit with Pem Nuts
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	DO NOT SCALE DRAWING			SIZE DWG. NO. REV C GE-22394
SCALE: 1:4			SHEET 2 OF 2	



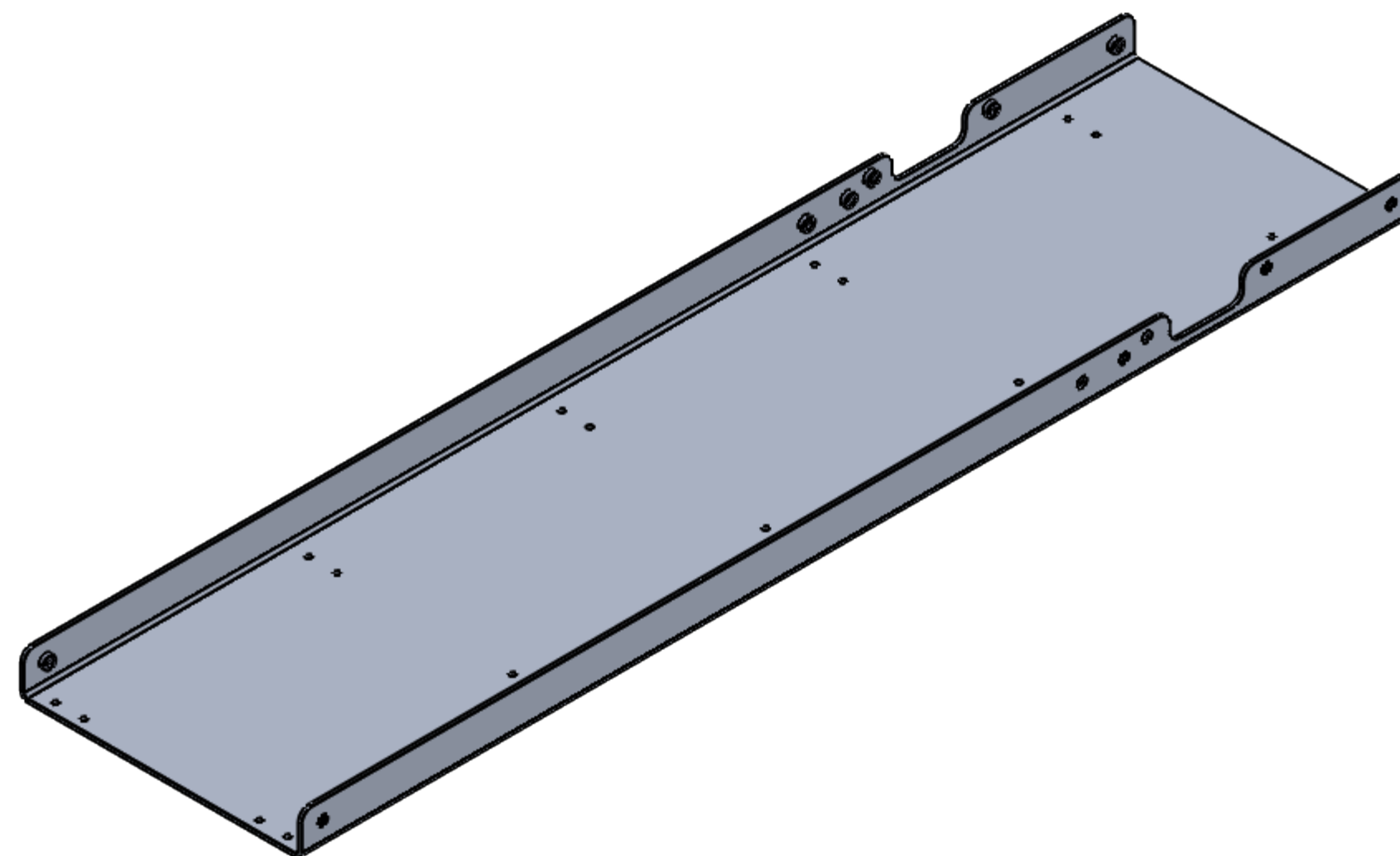
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$	BEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet	PROPRIETARY AND CONFIDENTIAL 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: Upper Exit Exit
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22394-01
	SCALE: 1:4		SHEET 1 OF 1	

4

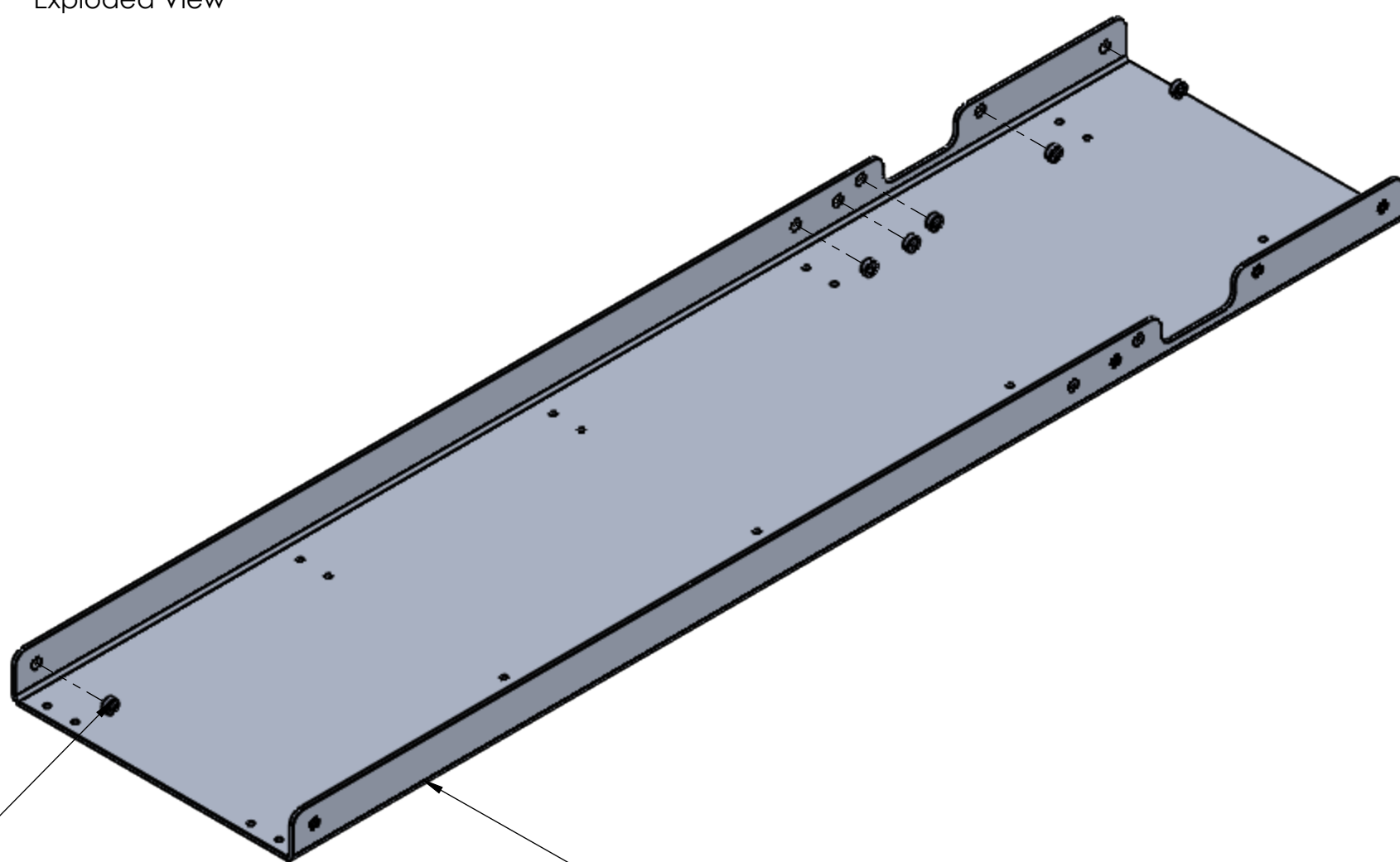
3

2

1



Exploded View



2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22395-01	Upper Exit Base Channel	1
2	pem_clinchnut_.25_20 _.054	1/4-20 self-clinching nut, .054 shank	12

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
 Tag or label with part number

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	7/16/2021

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:
Upper Exit Base Channel with Pem Nuts

SIZE	DWG. NO.	REV
C	GE-22395	

SCALE: 1:4 SHEET 1 OF 2

4

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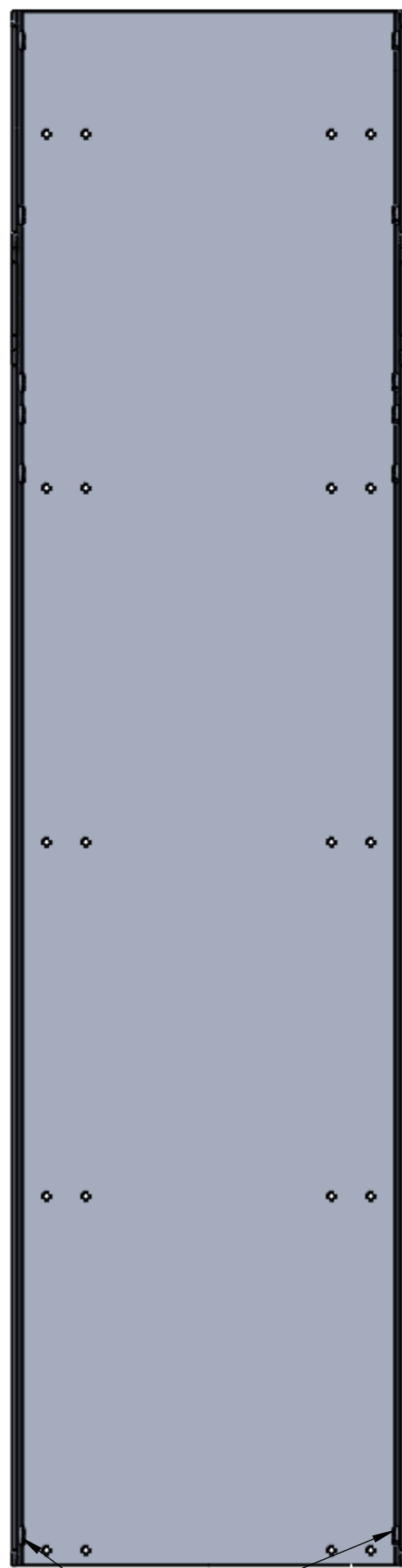
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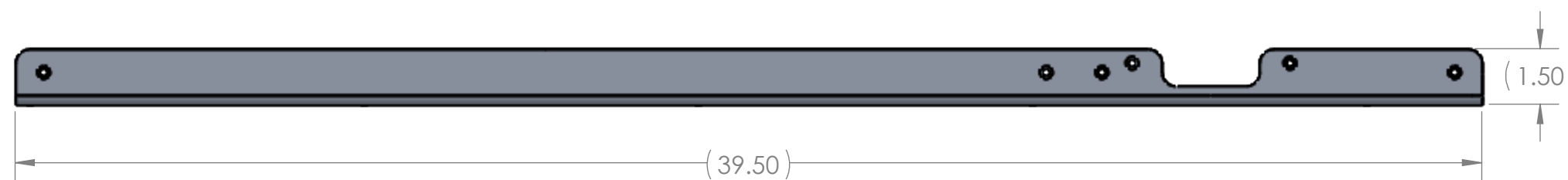
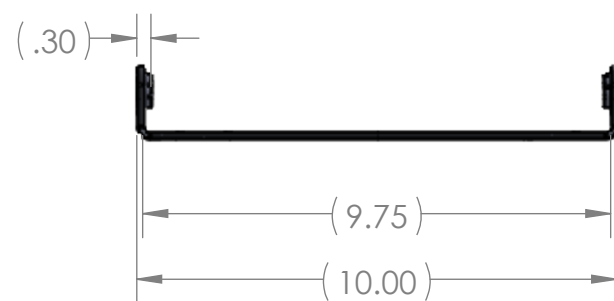
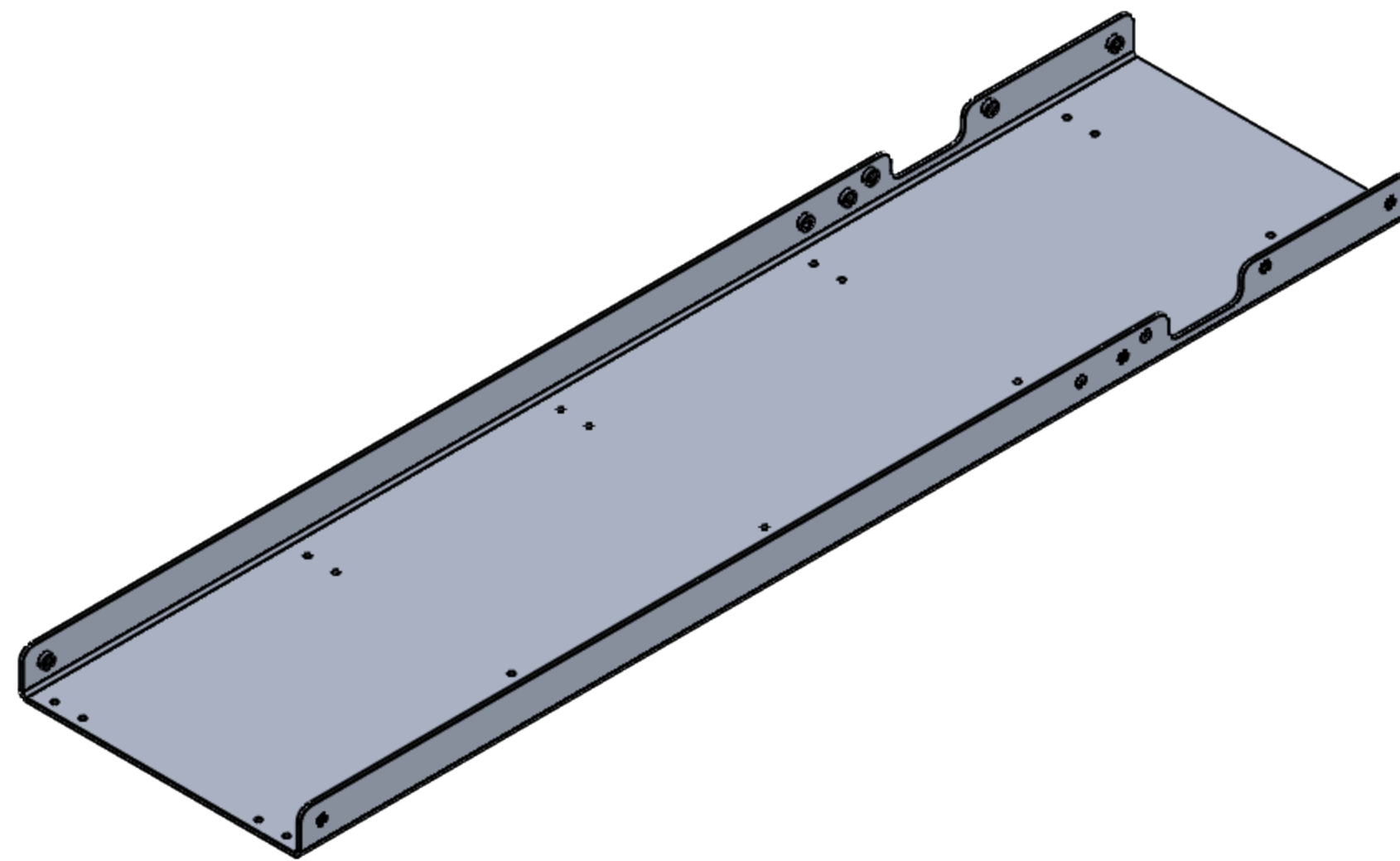
3

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PEM Nuts installed on inside of part



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:
 Tag or label with part number

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	7/6/2021

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: Upper Exit Base Channel with Pem Nuts

SIZE	DWG. NO.	REV
------	----------	-----

C GE-22395

SCALE: 1:4 SHEET 2 OF 2

4

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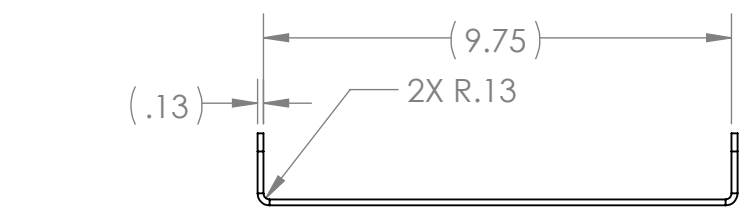
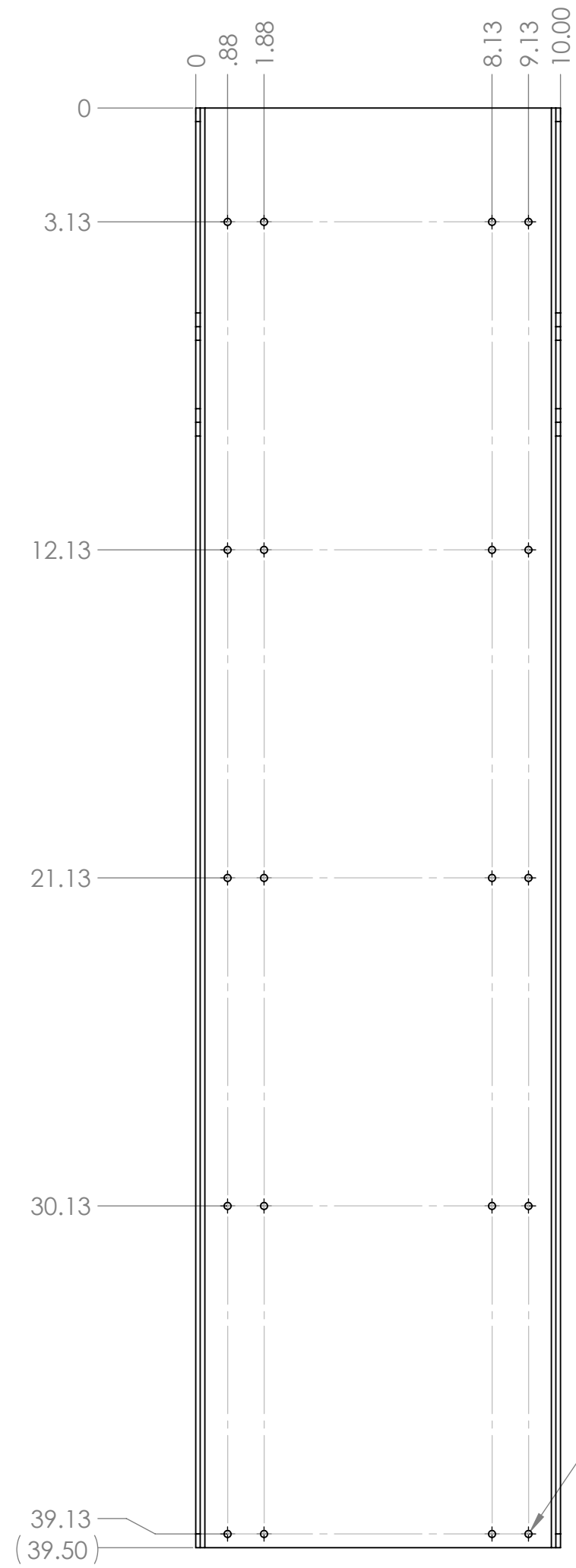
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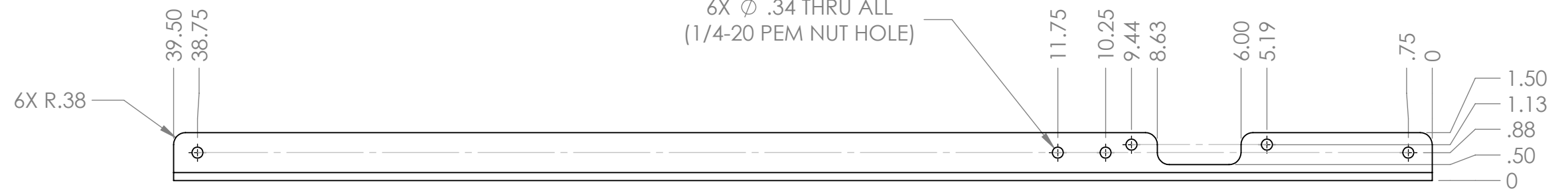
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20X \varnothing .194 \pm .002 THRU ALL



6X \varnothing .34 THRU ALL
(1/4-20 PEM NUT HOLE)

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL \pm 1/16 ANGULAR: MACH \pm 1° BEND \pm 1° TWO PLACE DECIMAL \pm .02 THREE PLACE DECIMAL \pm .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
	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.			Upper Exit Base Channel
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22395-01
				SCALE: 1:4 SHEET 1 OF 1

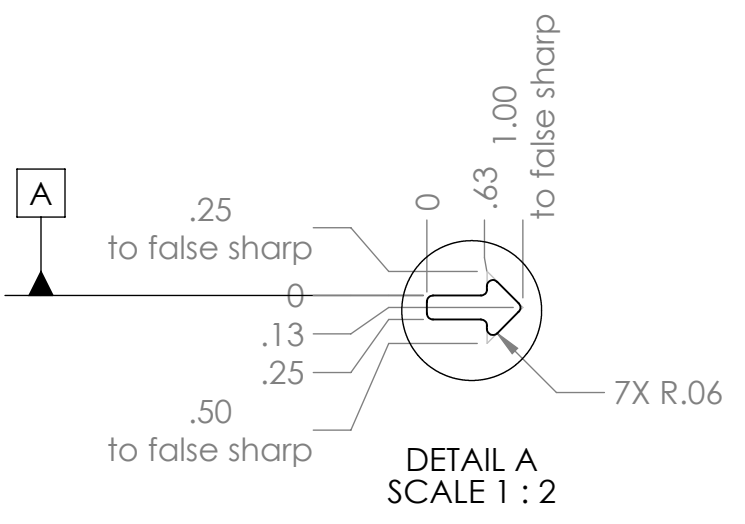
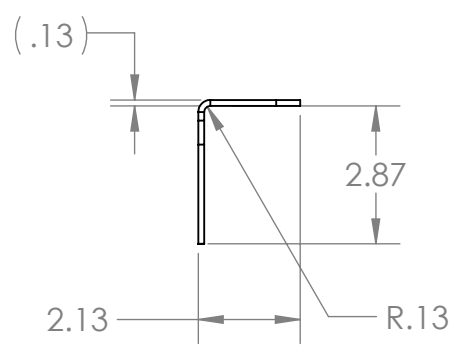
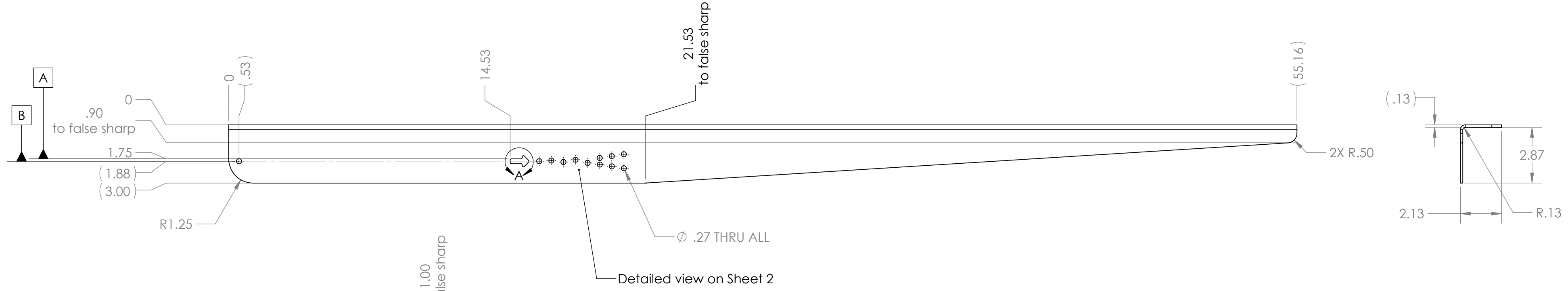
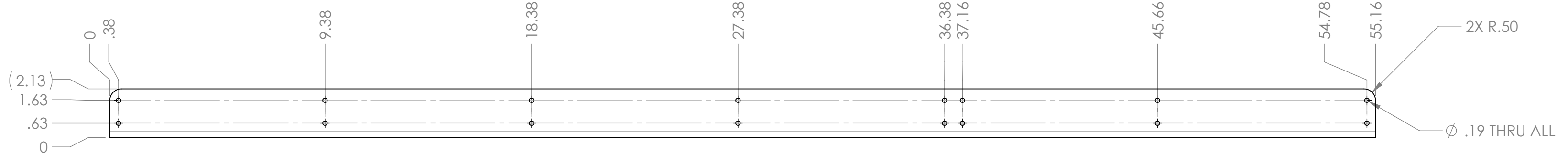
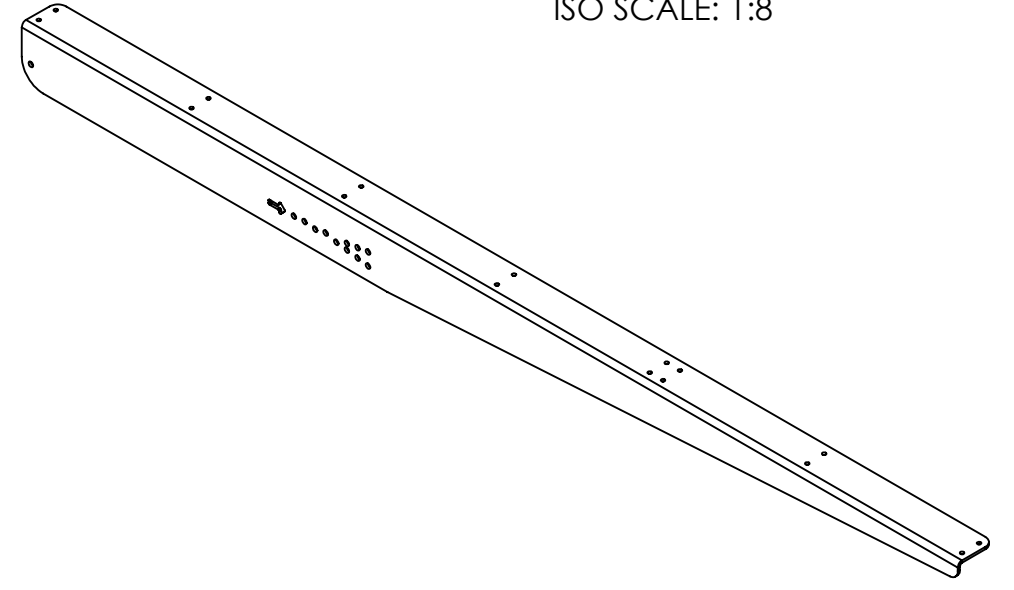
4

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ISO SCALE: 1:8



Note:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/6/2021
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: Upper Exit to Leg Connection Right		
	SIZE	DWG. NO.	REV
SCALE: 1:4		SHEET 1 OF 2	



C GE-22396

4

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SCALE: 1:4 SHEET 1 OF 2

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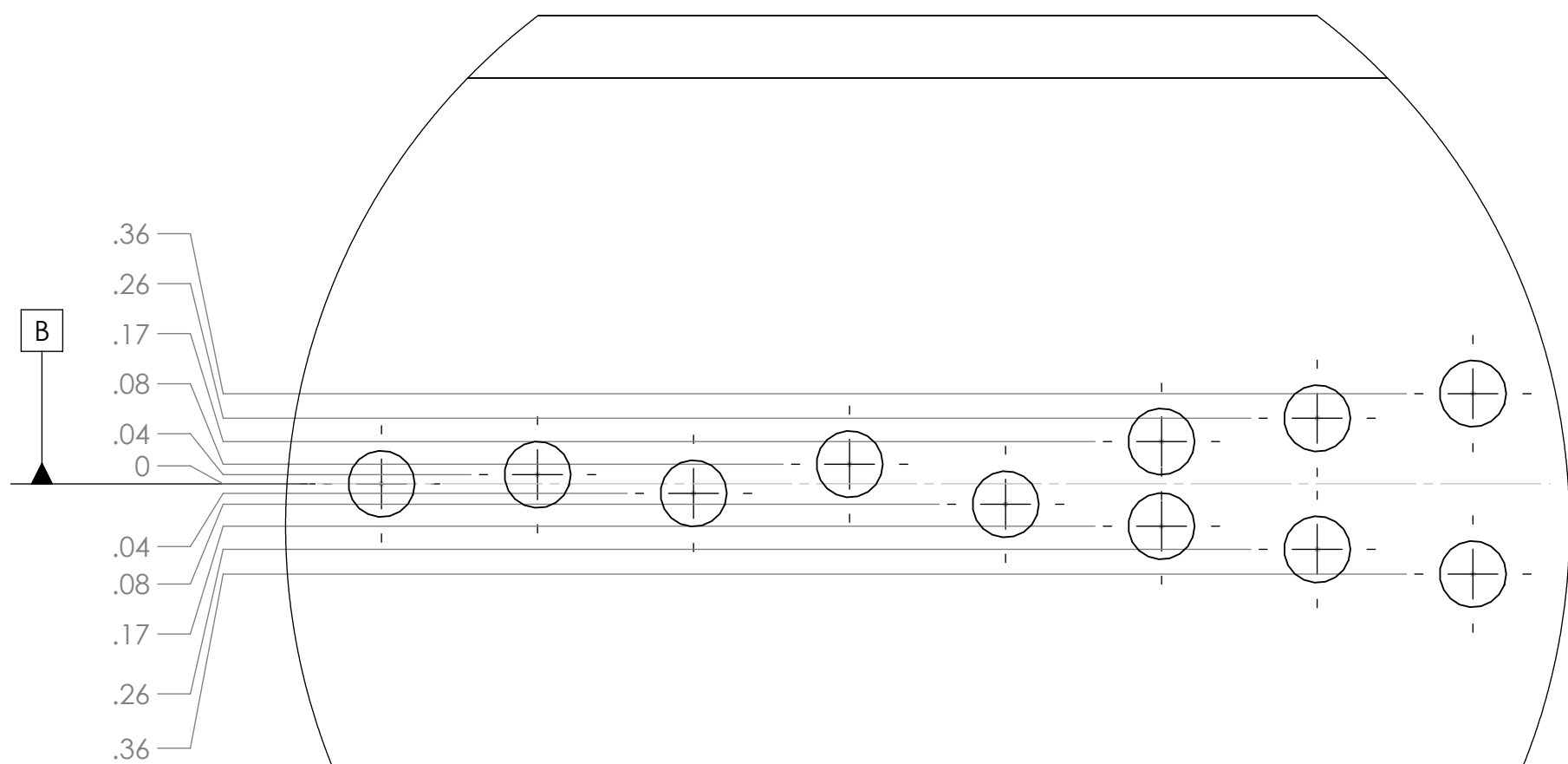
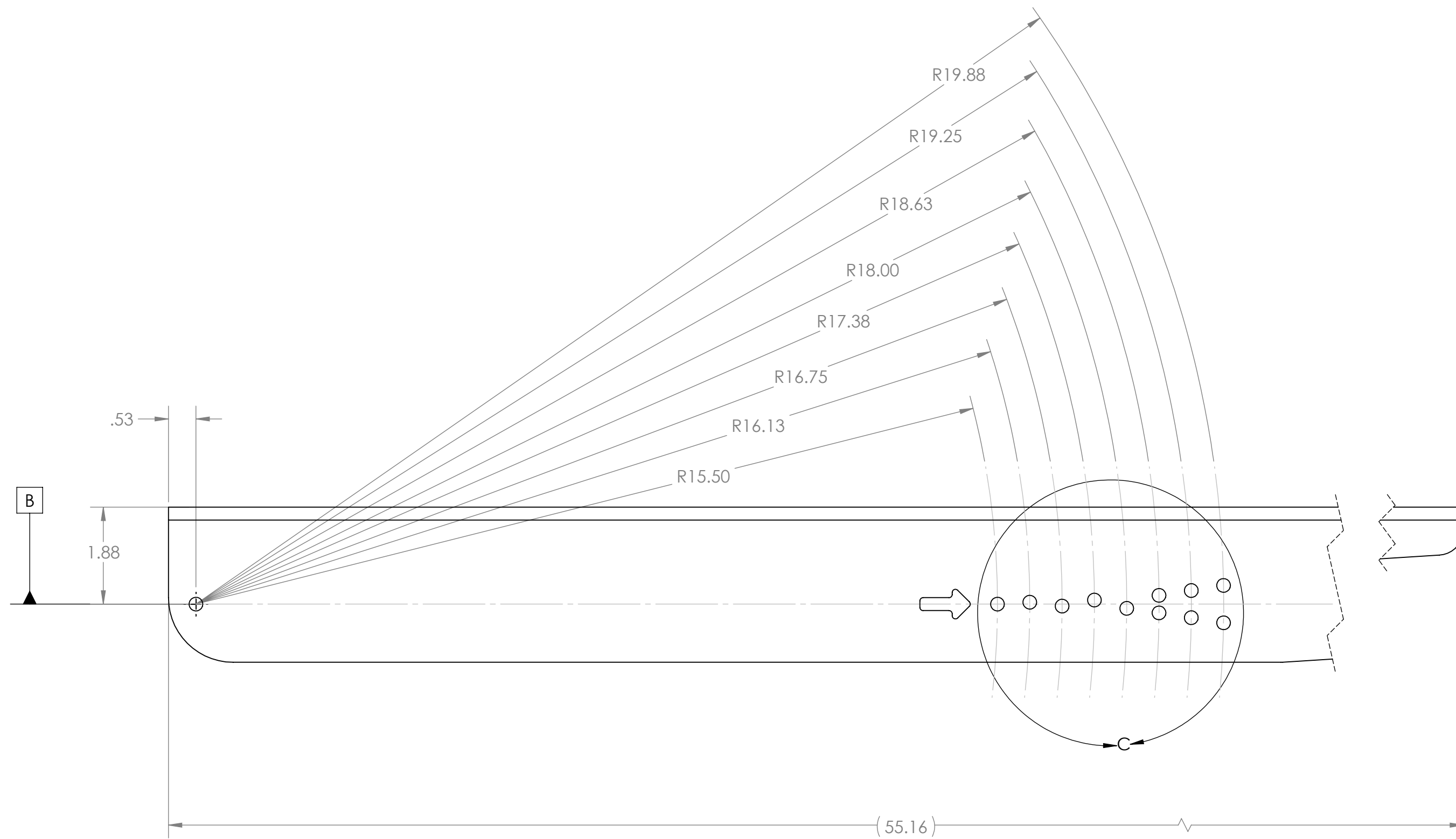
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DETAIL C
SCALE 3 : 2

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	KAMC	7/6/2021	
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:
				Upper Exit to Leg Connection Right
SIZE		DWG. NO.	REV	
C		GE-22396		
SCALE: 1:2			SHEET 2 OF 2	

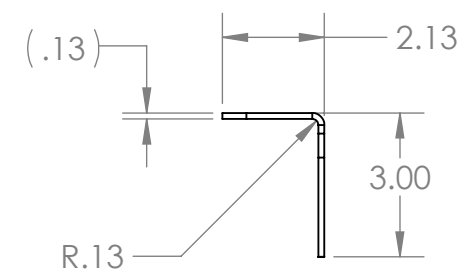
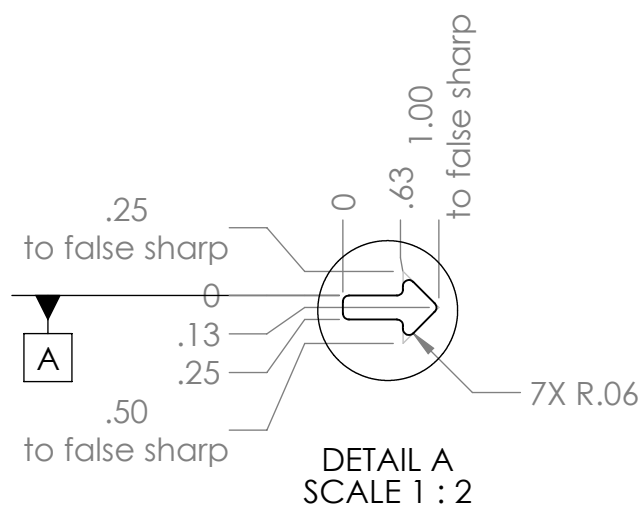
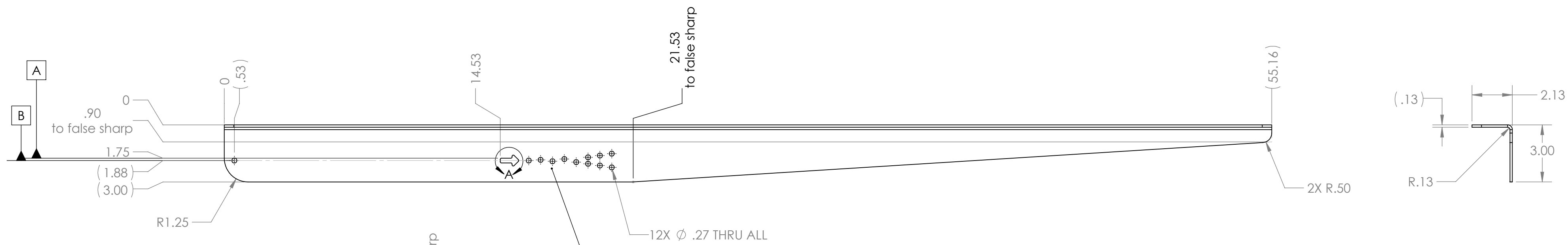
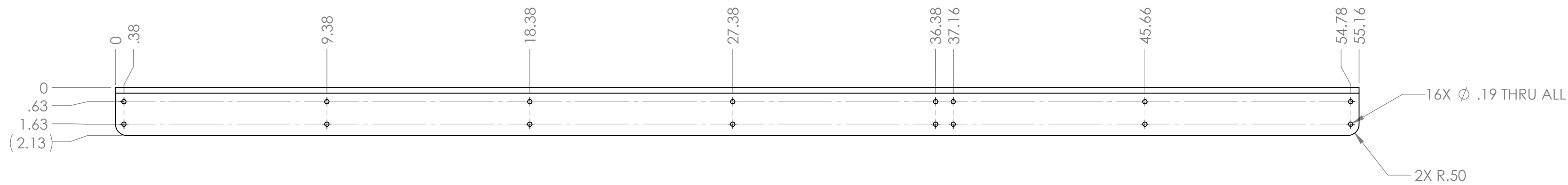
4

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1

ISO SCALE: 1:8



Note:
1. Tag or label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	KAMC	7/6/2021
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.		
	SCALE: 1:4		



TITLE: Upper Exit to Leg Connection Left		
SIZE	DWG. NO.	REV
C	GE-22397	
SCALE: 1:4		SHEET 1 OF 2

4

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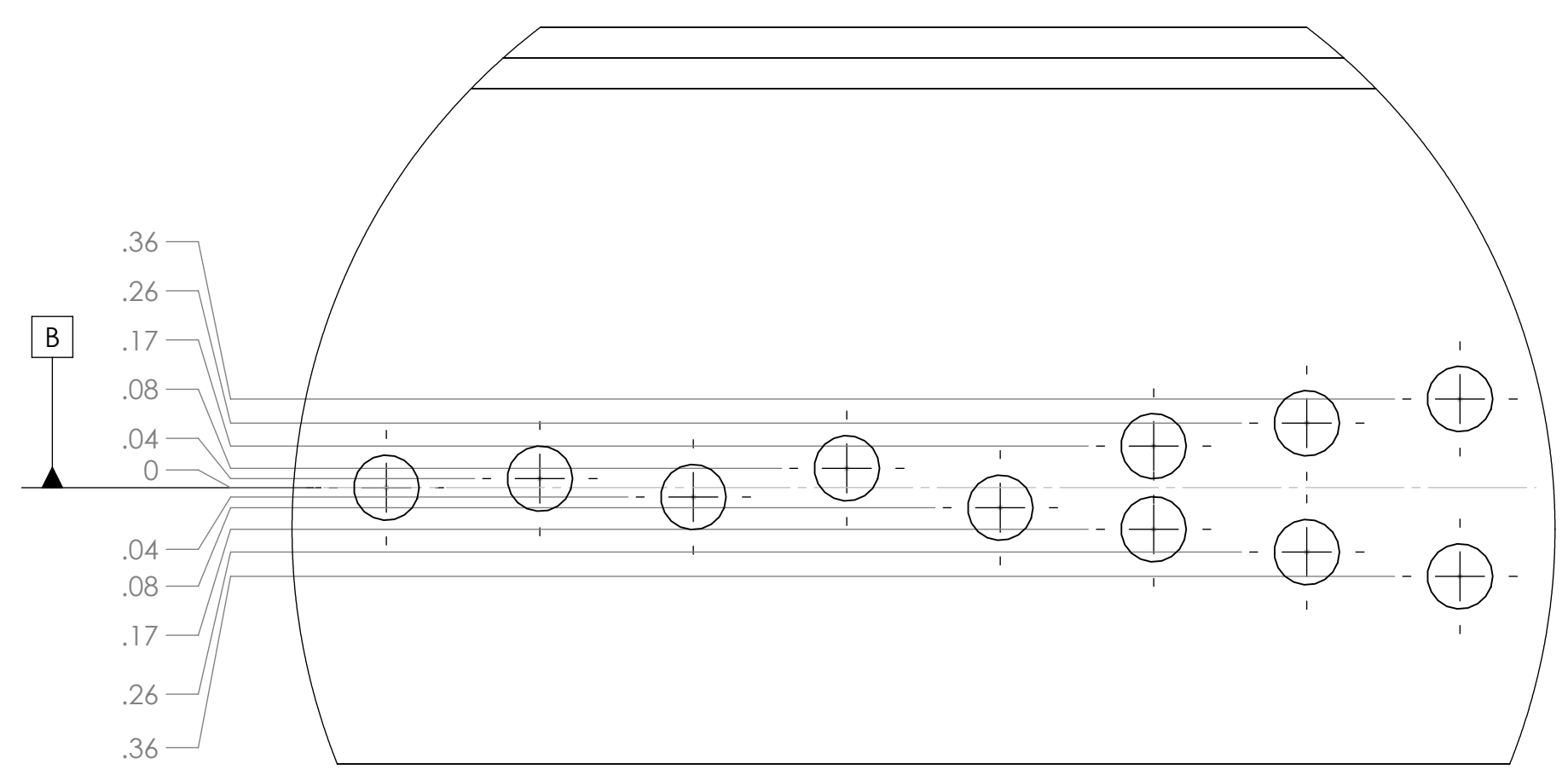
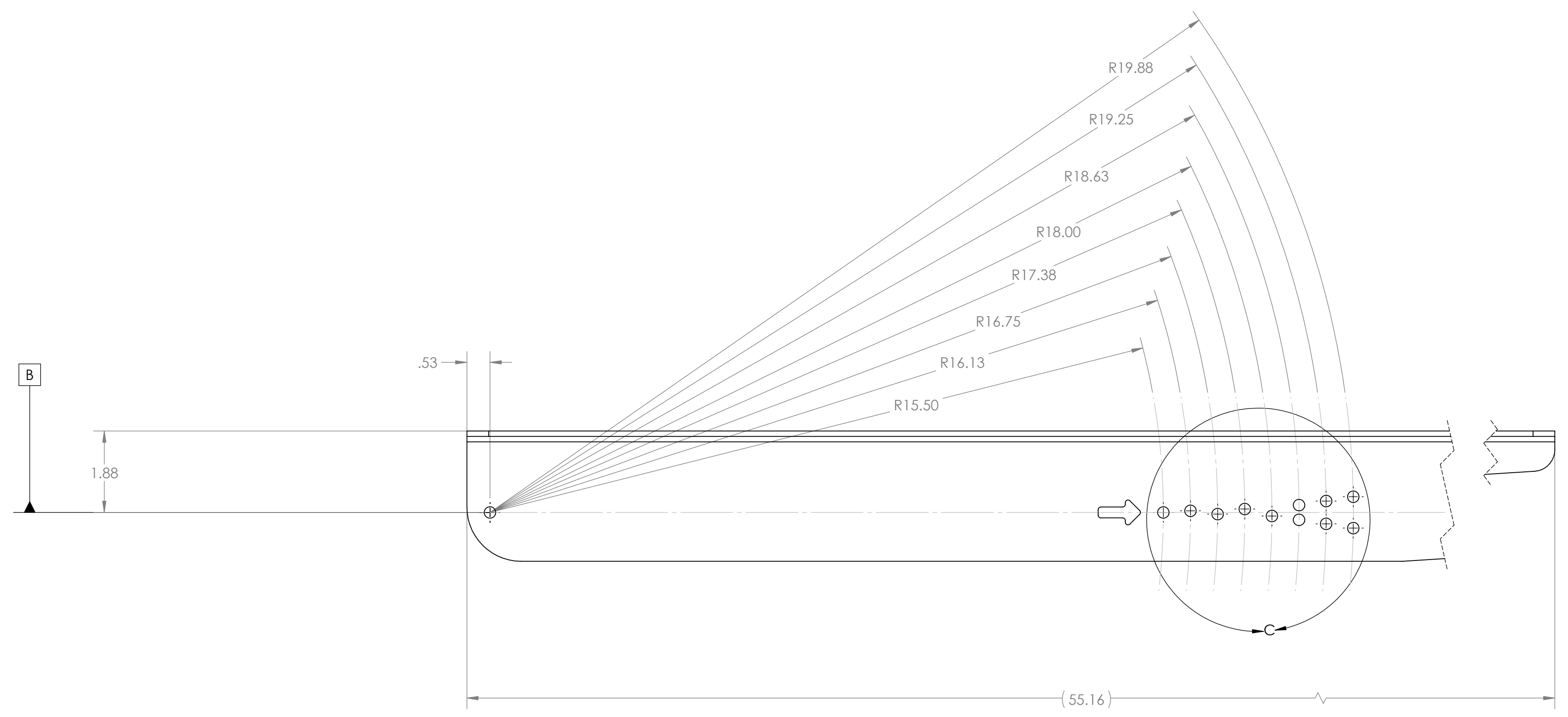
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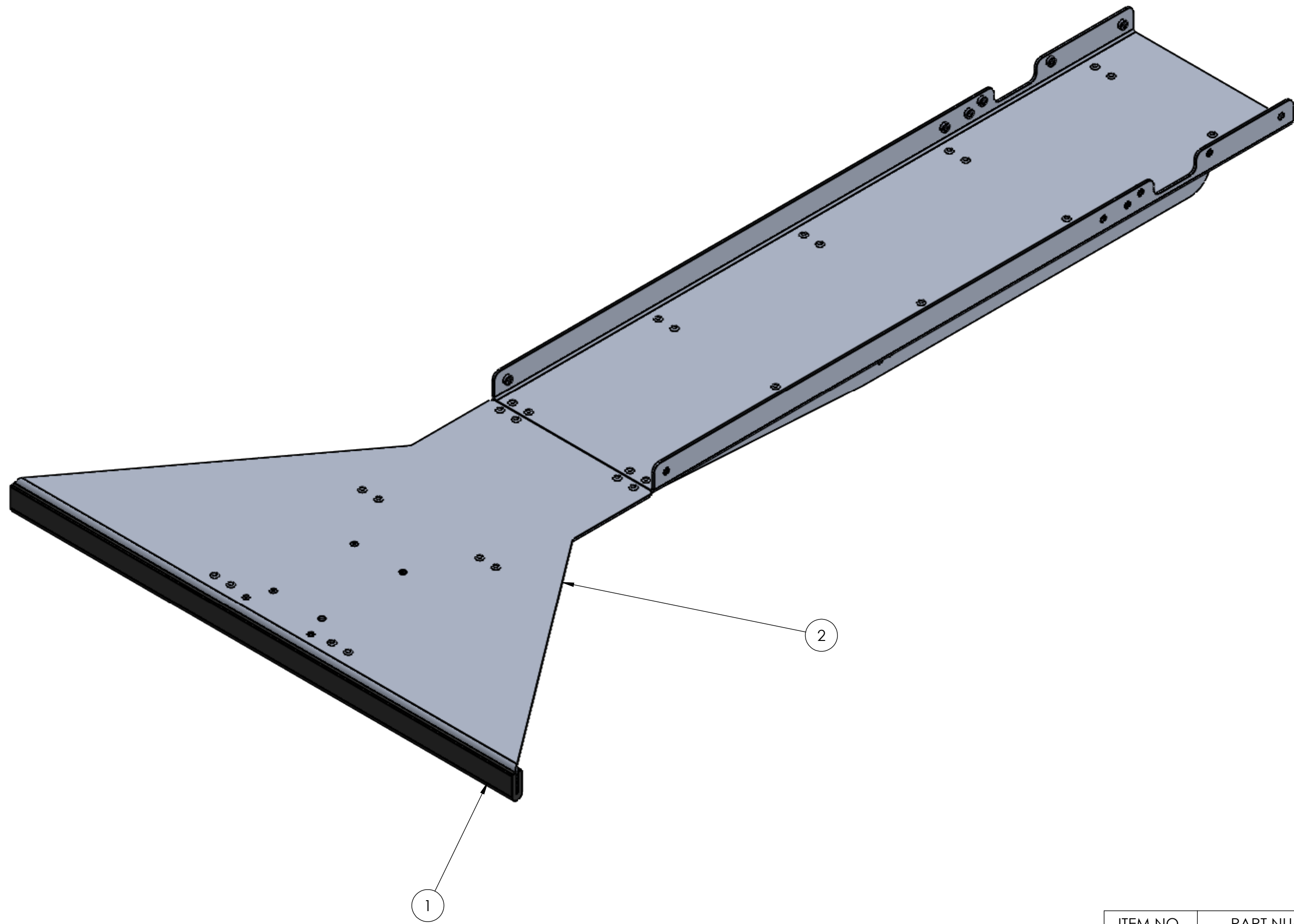
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DETAIL C
SCALE 3 : 2

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 1/8" 5052 Aluminum Sheet DO NOT SCALE DRAWING	BEND	NAME	DATE	
	DRAWN	KAMC	7/6/2021	
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: Upper Exit to Leg Connection Left
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				SIZE DWG. NO. REV C GE-22397
SCALE: 1:2			SHEET 2 OF 2	



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22401	Upper Exit Foam Edge	1
2	GE-22405	Upper Exit Riveted Assembly	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:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	KAMC	7/6/2021

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



TITLE:
Upper Exit Sheet Metal with Foam

SIZE	DWG. NO.	REV
C	GE-22406	

SCALE: 1:4 SHEET 1 OF 2

4

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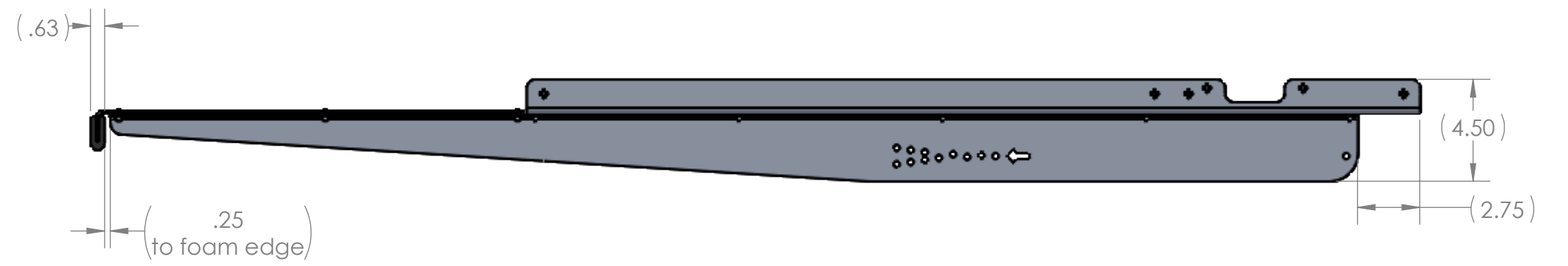
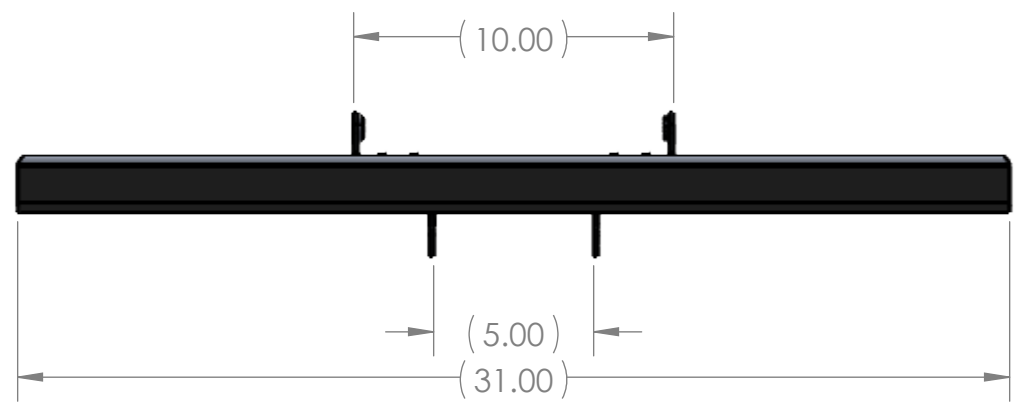
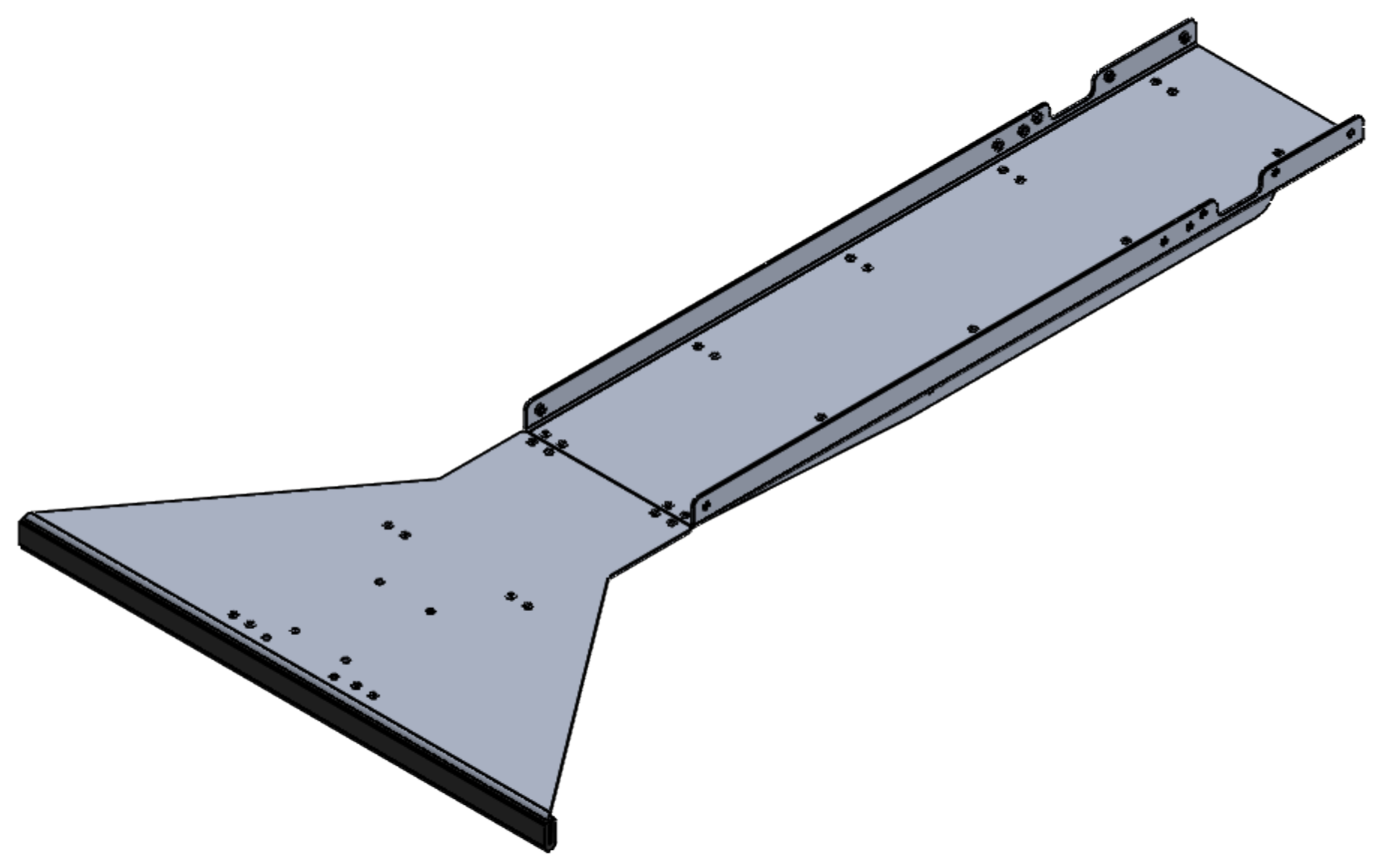
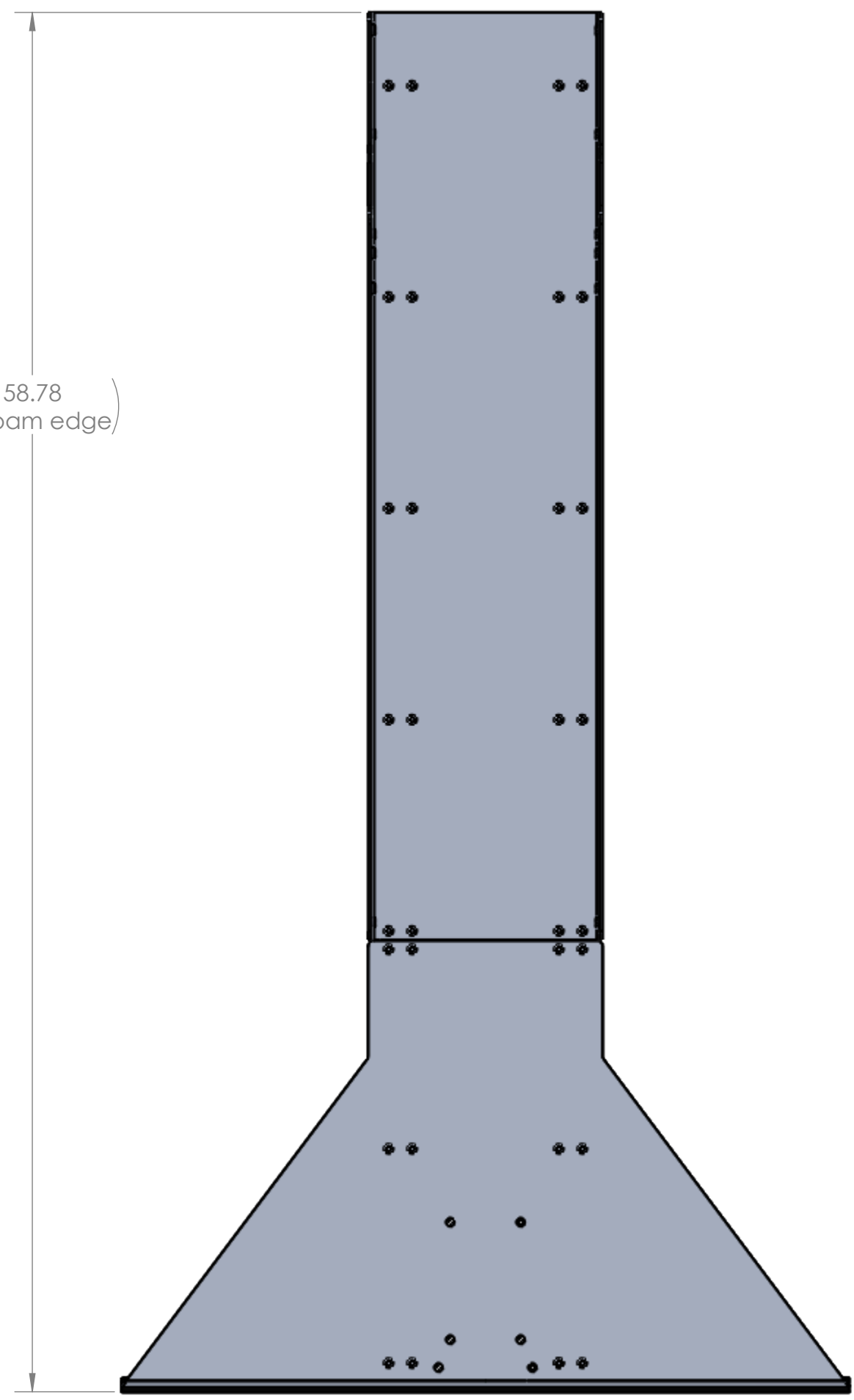
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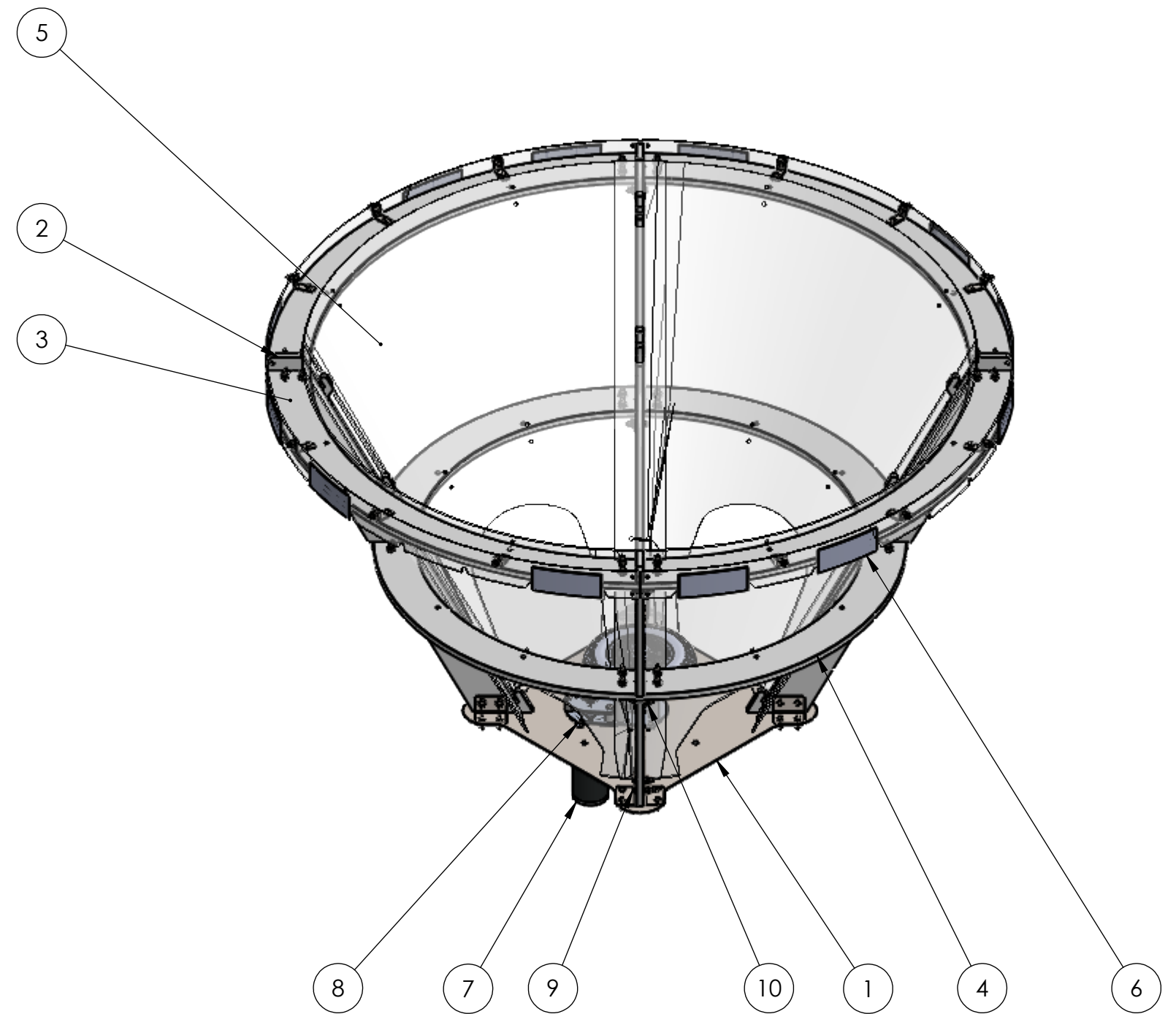
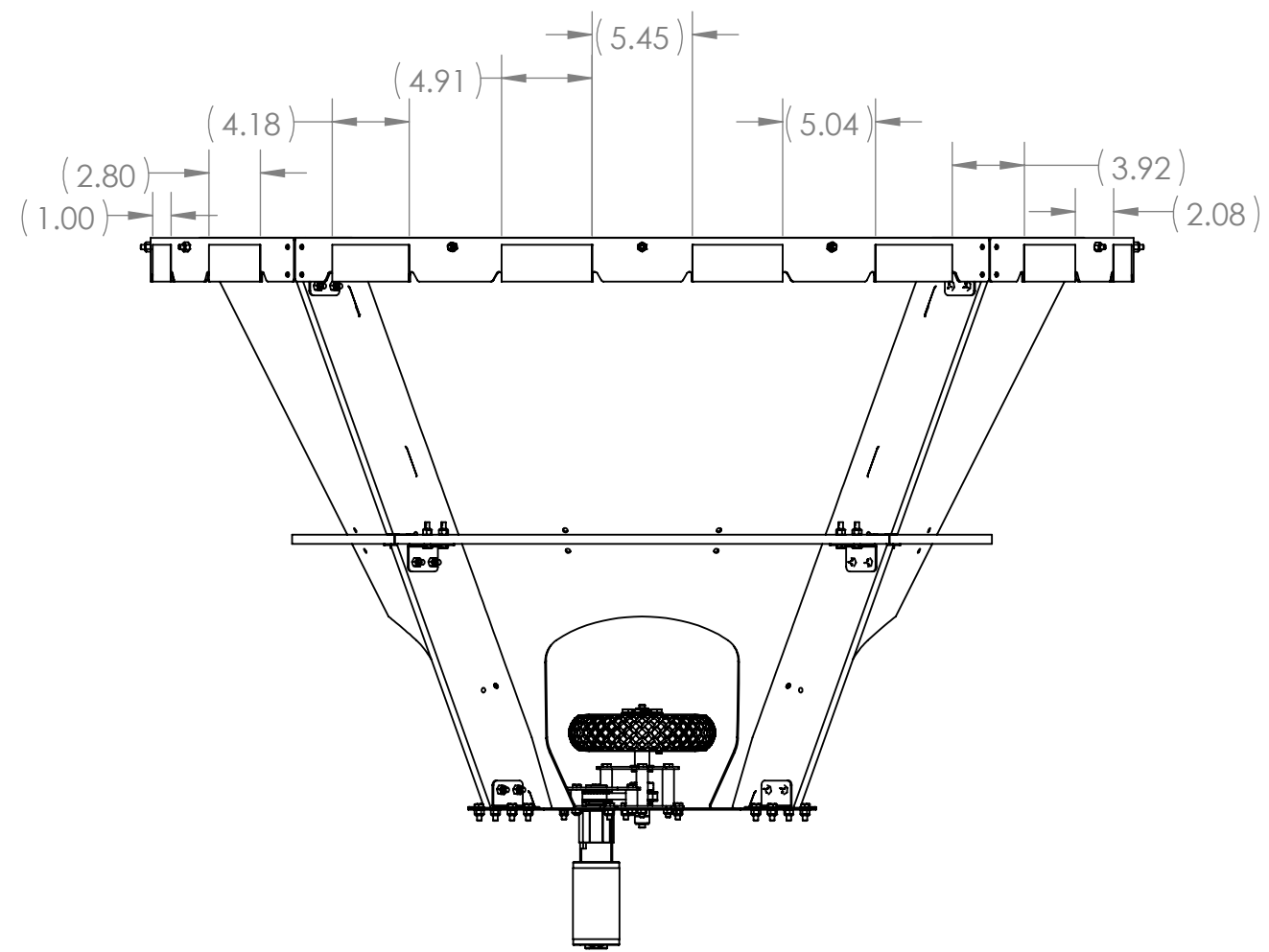
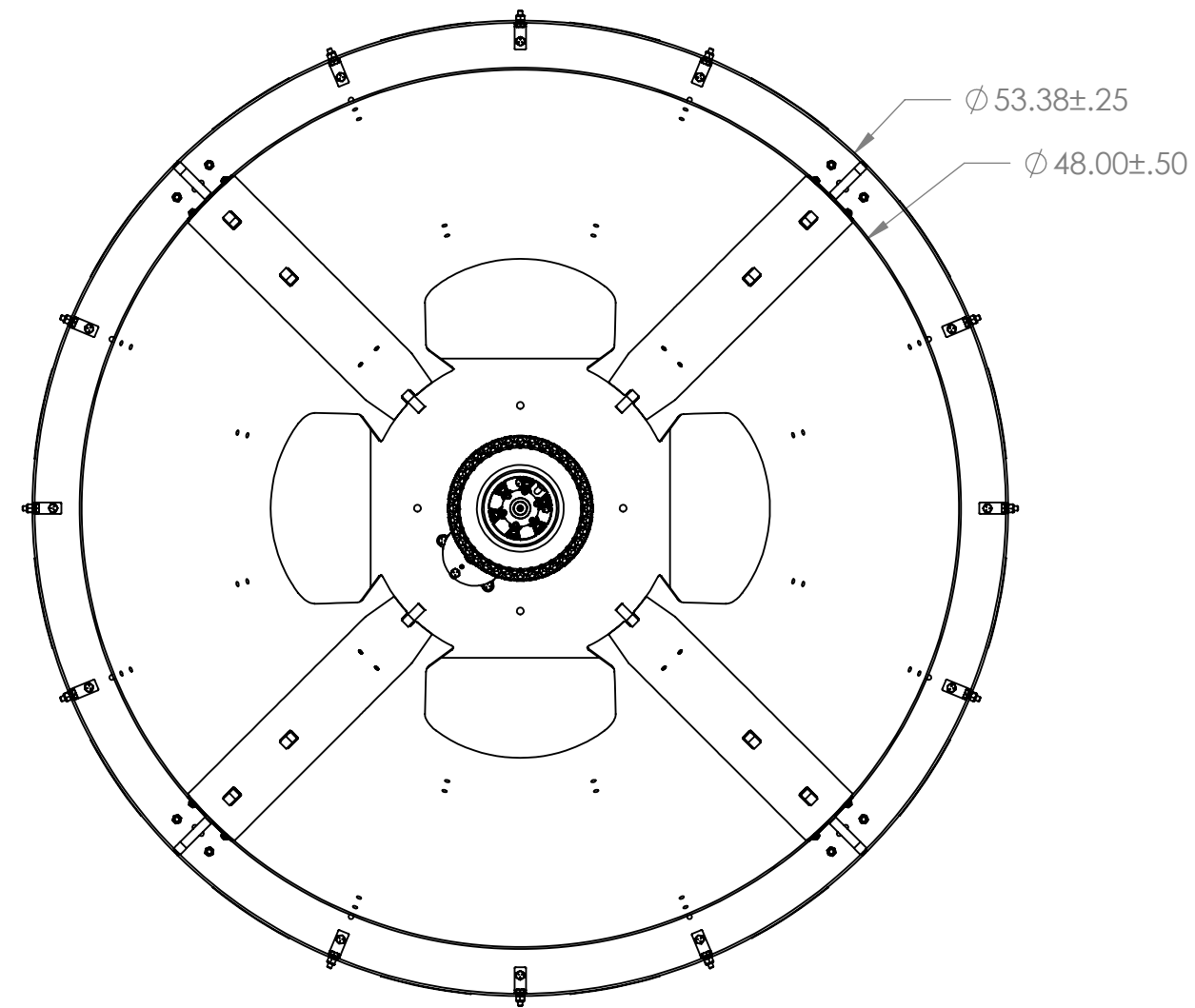
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(58.78)
(to foam edge)



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	KAMC	7/6/2021		
	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: <h3>Upper Exit Sheet Metal with Foam</h3>
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				SIZE DWG. NO. REV C GE-22406 SCALE: 1:6 SHEET 2 OF 2



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22413	Upper Hub Baseplate Assembly	1
2	GE-22414	Upper Hub Vertical Rib	4
3	GE-22416	Upper Hub Large Rib Assembly	4
4	GE-22418	Upper Hub Small Rib Assembly	4
5	GE-22419	Upper Hub Panel	4
6	GE-22420	Upper Hub Vision Assembly	4
7	GE-22432	High Agitator Assembly	1
8	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	4
9	hex_.25_20_1.25_partial	Steel Hex Head Bolt, 1/4-20 x 1.25", partially threaded	36
10	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	40
11	washer_flat_.25	Flat Washer for 1/4" Screw	12

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/2 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .50	FIELD	NAME	DATE
	DRAWN	CO	12/16/2021
MATERIAL/FINISH:	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.		
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		
	TITLE: Upper Hub		
SIZE		DWG. NO.	REV
C		GE-22411	
SCALE: 1:10		SHEET 1 OF 4	



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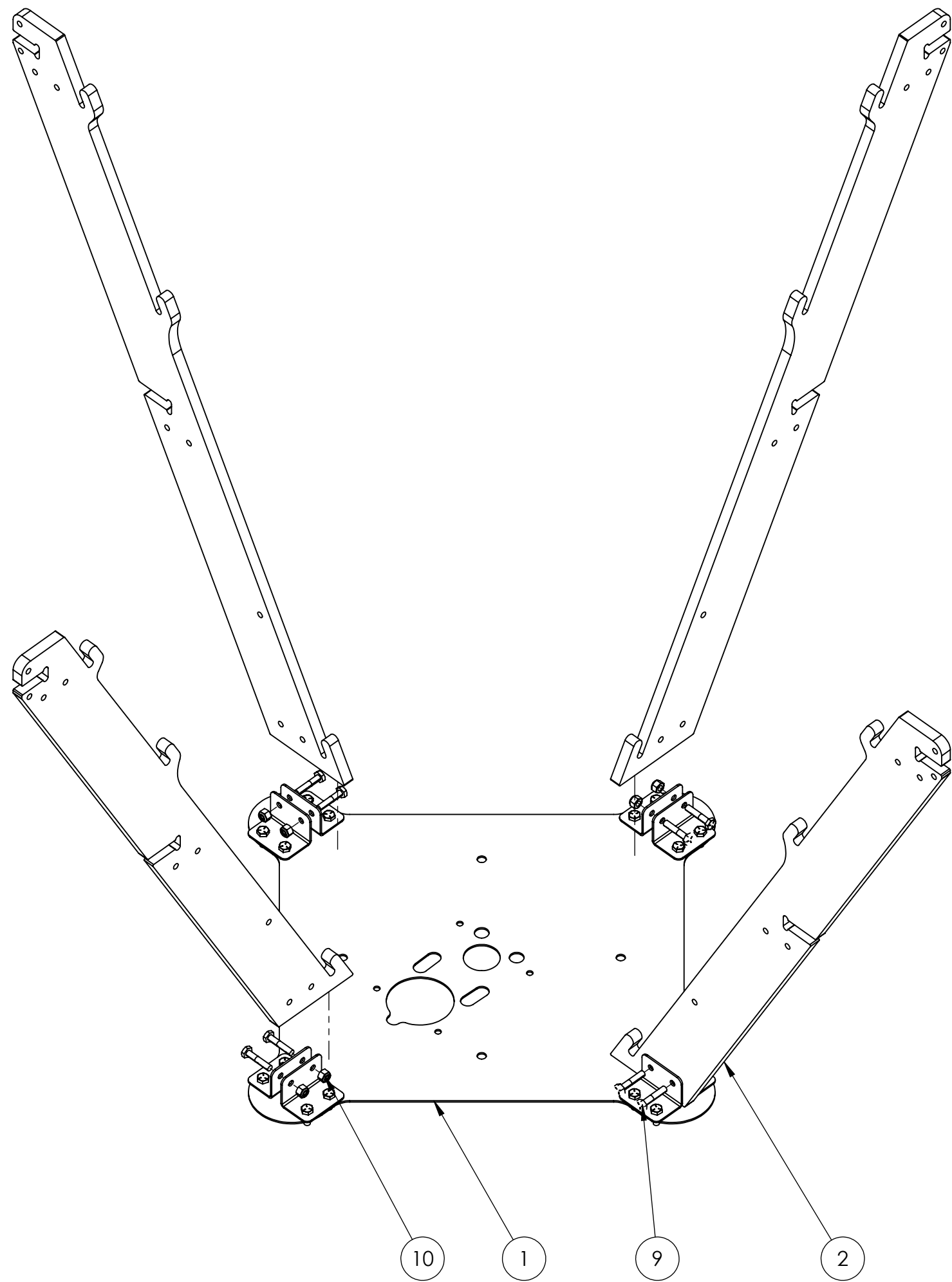
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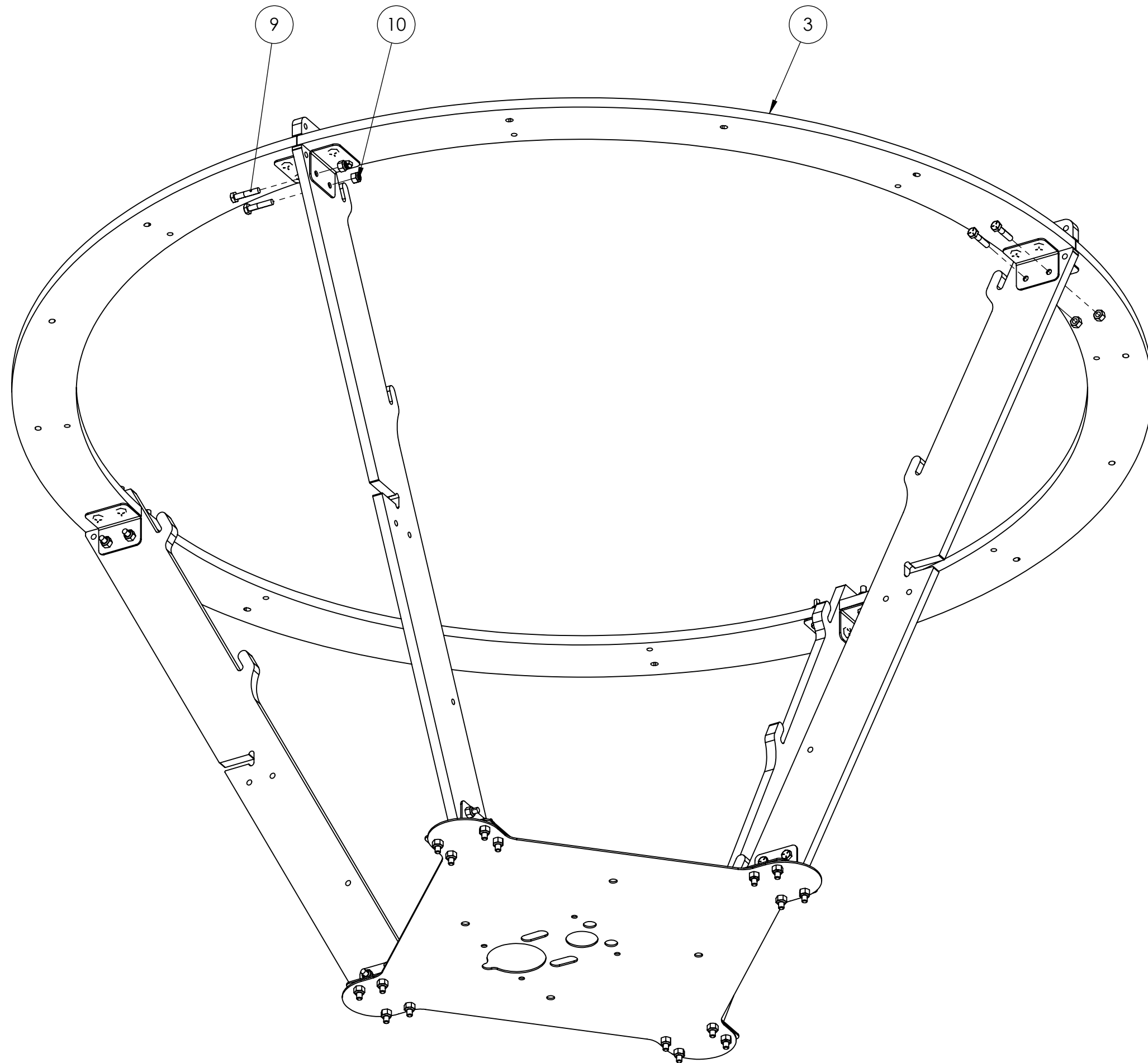
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Notes:

- 1. Attach (1) to (2) using (9) and (10).



Notes:

- 1. Attach (3) to the assembly using (9) and (10).

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	CO	12/16/2021	
MATERIAL/FINISH:	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.			Upper Hub
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
DO NOT SCALE DRAWING				C GE-22411
				SCALE: 1:5 SHEET 2 OF 4

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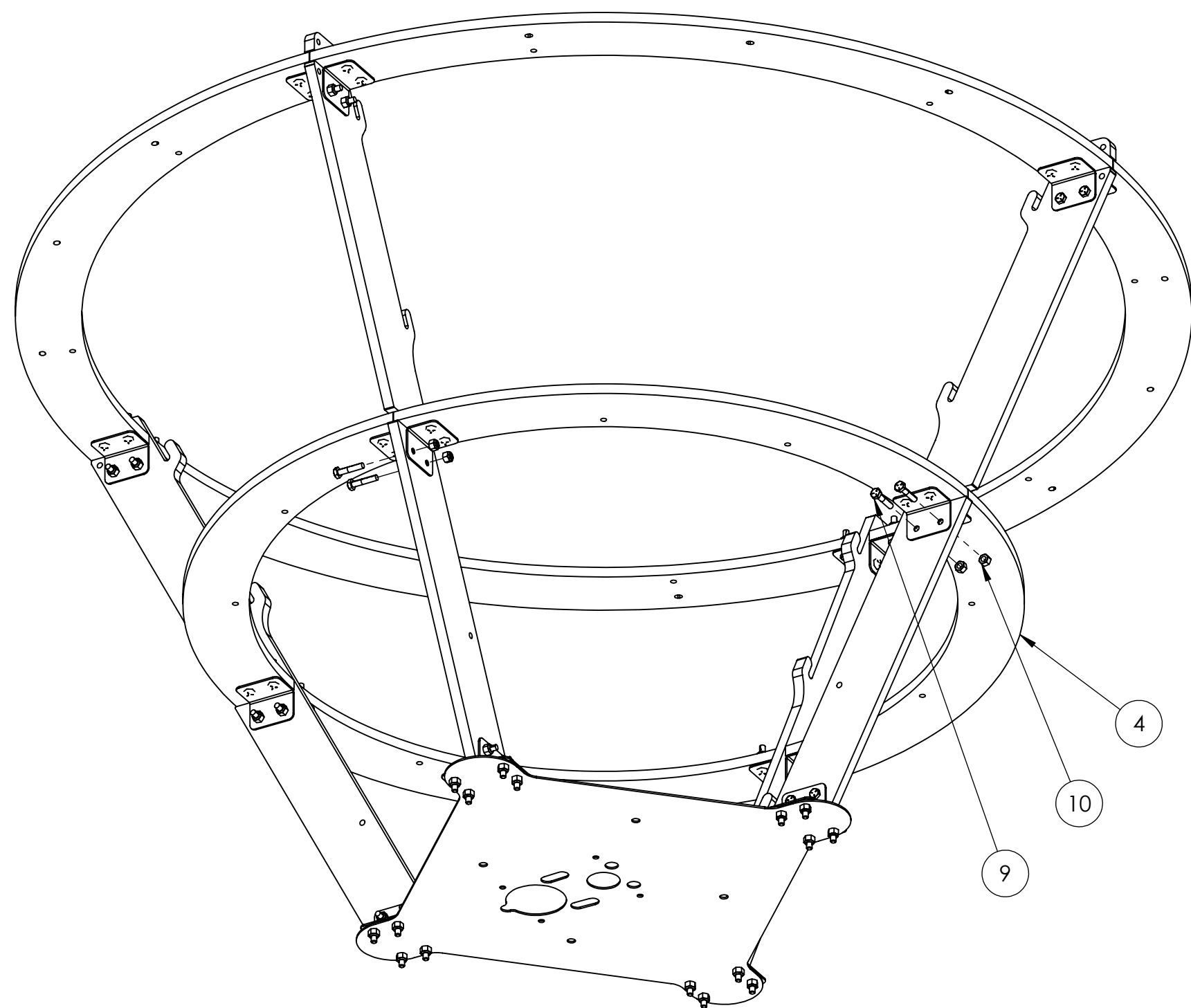
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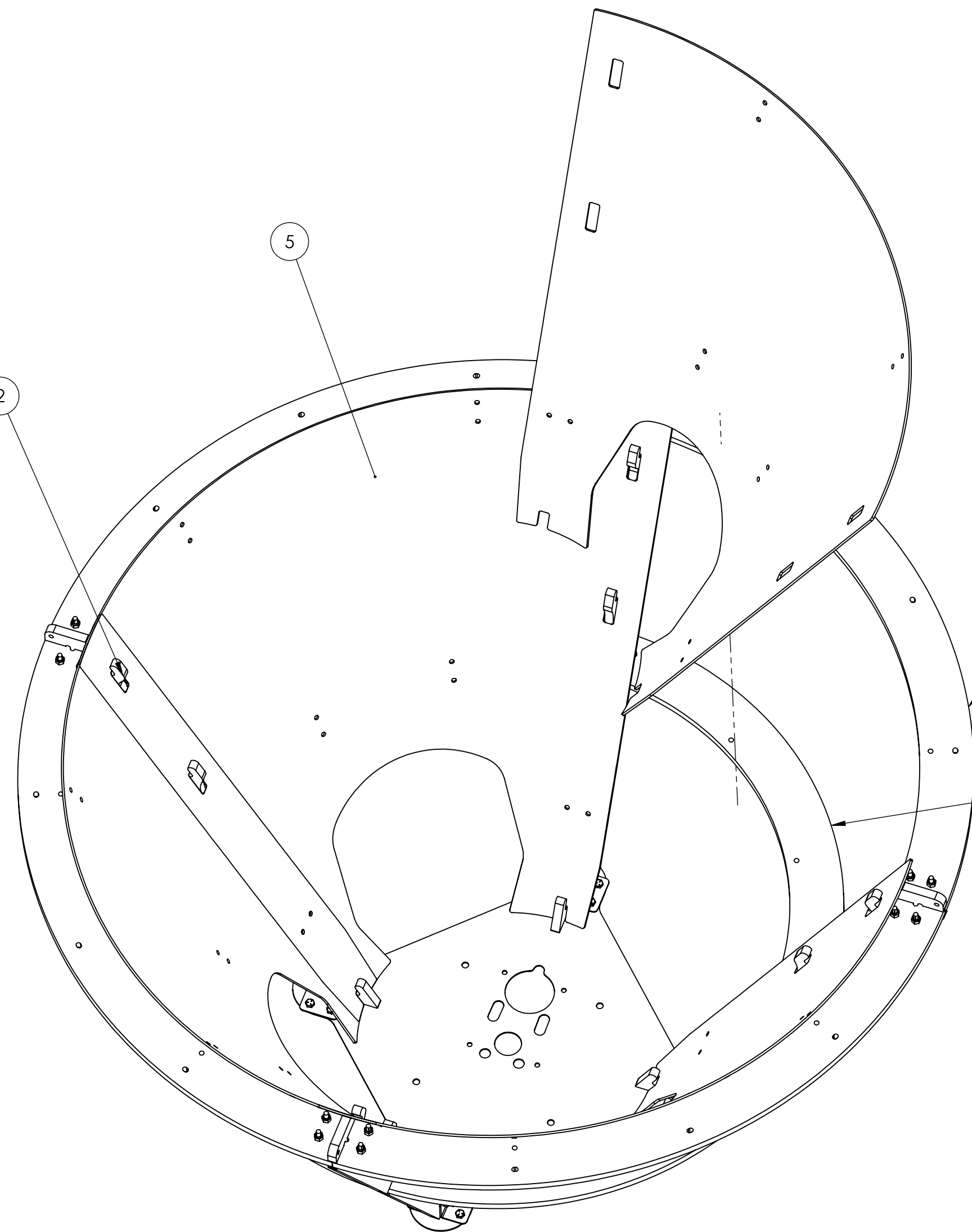
A

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Notes:

- Attach (4) to assembly using (9) and (10).



Notes:

- Insert all (5) into the assembly, bending and aligning with the hooks on (2).
- Cable tie (5) to (2), (3), and (4).

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/2 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.50	FIELD	NAME	DATE	 
	DRAWN	CO	12/16/2021	
MATERIAL/FINISH:	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.			Upper Hub
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22411
	SCALE: 1:6		SHEET 3 OF 4	

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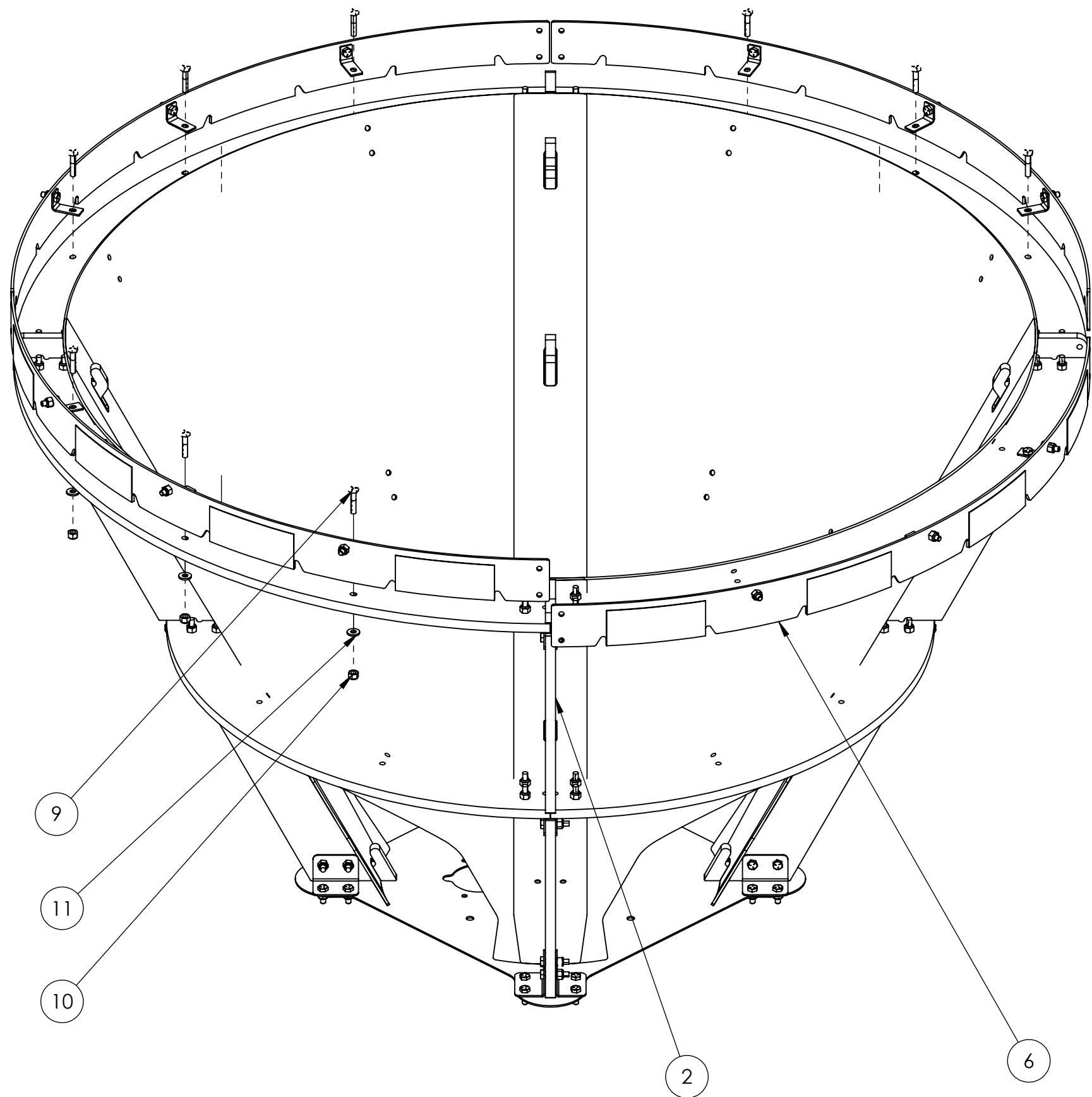
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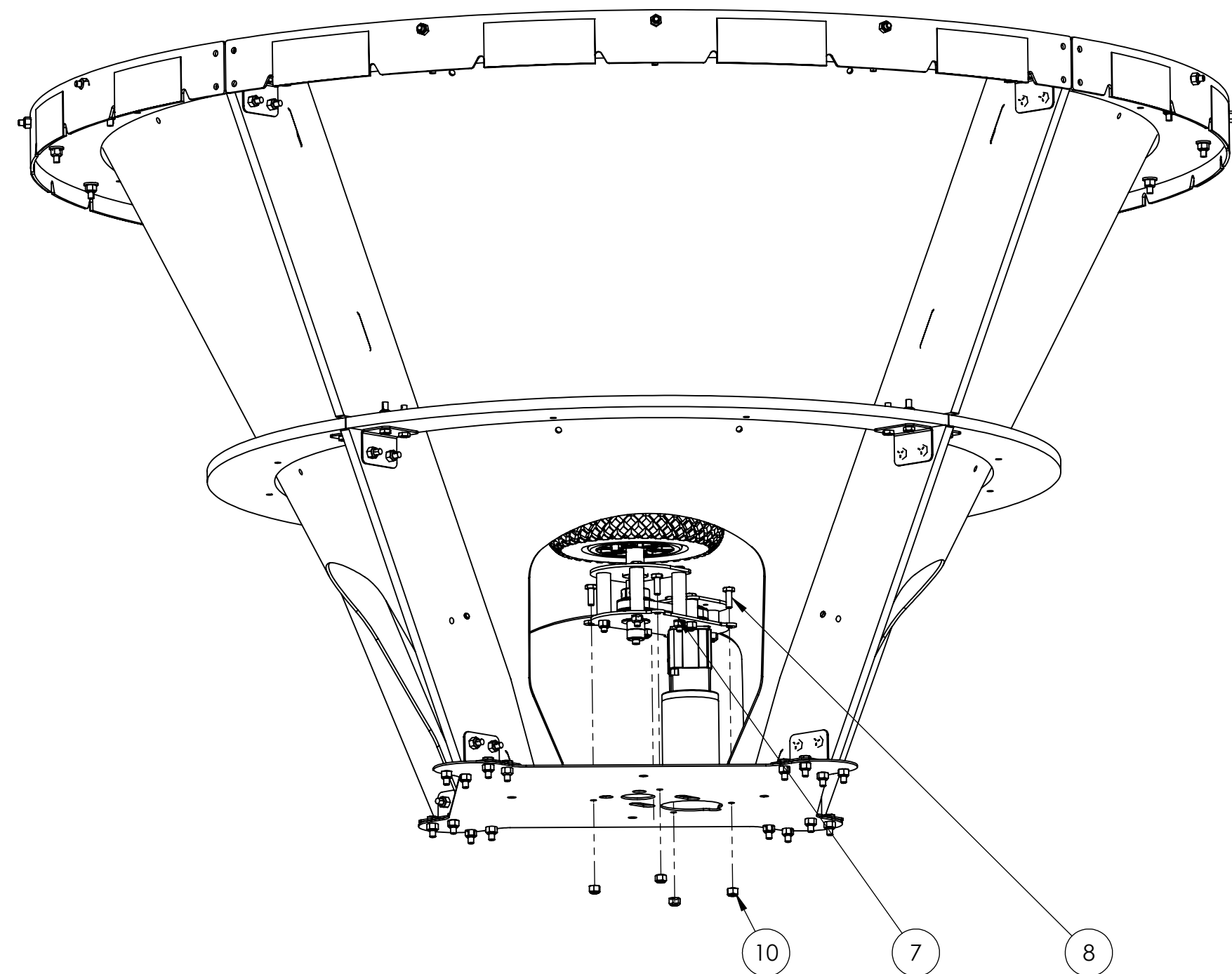
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Notes:

- 1. Attach (6) to assembly using (9), (11), and (10) as shown.
- 2. Cable tie adjacent (6)'s to each other and (2).



Notes:

- 1. Attach (7) to assembly using (8) and (10).

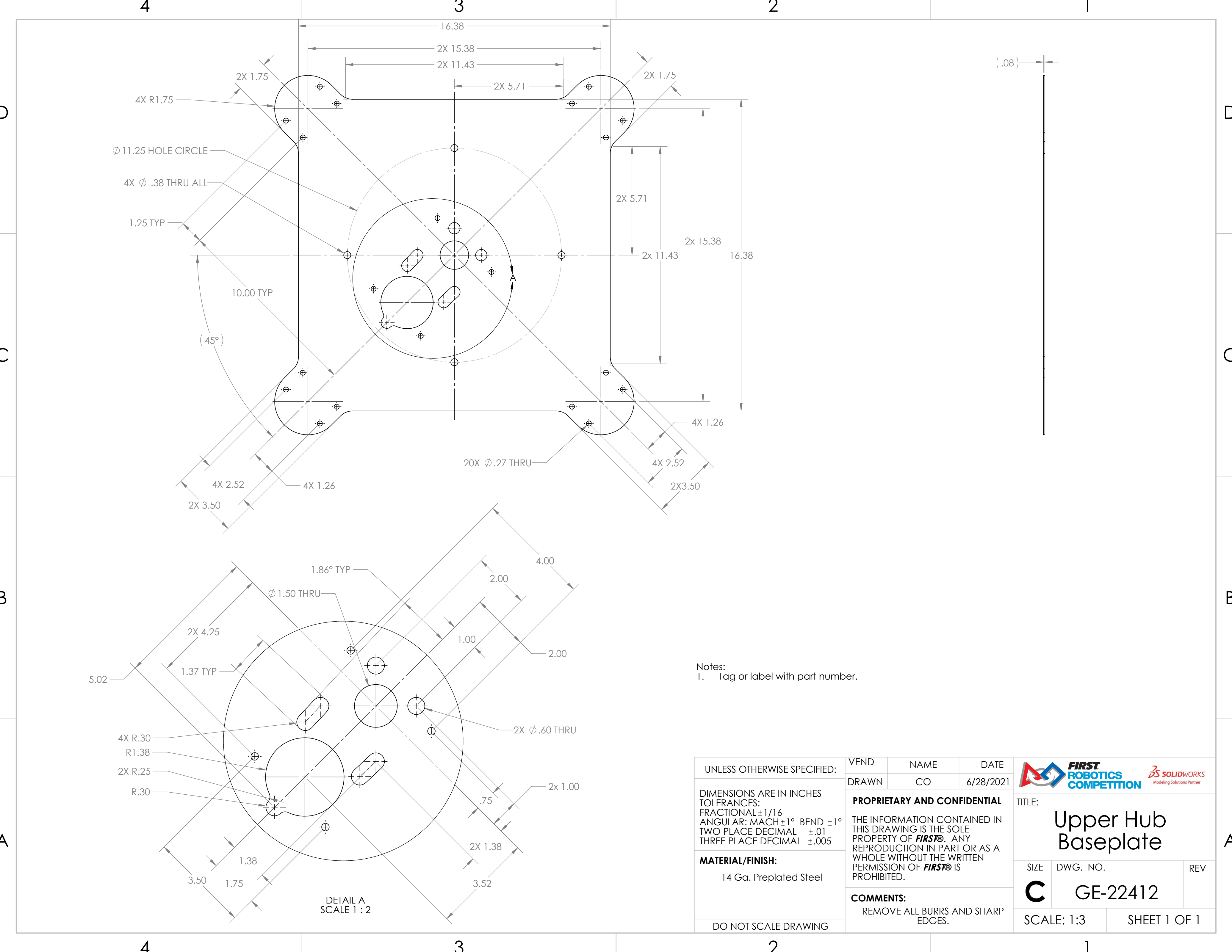
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	DRAWN	CO	12/16/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE:
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST®. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			Upper Hub
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22411
	SCALE: 1:6		SHEET 4 OF 4	

4


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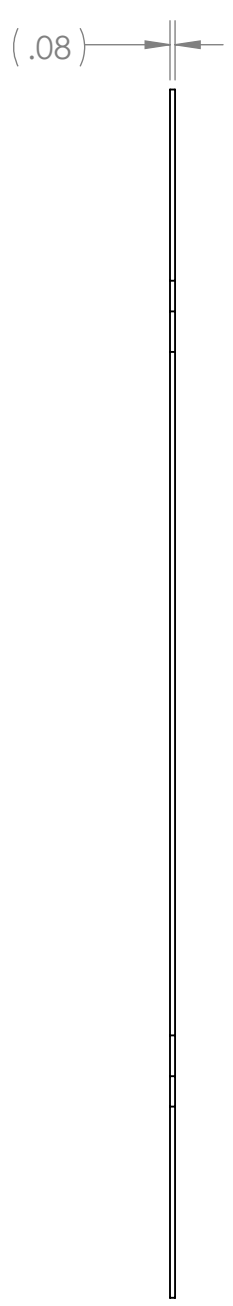
2

1



Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 14 Ga. Preplated Steel DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	CO	6/28/2021	
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: <h2 style="text-align: center;">Upper Hub Baseplate</h2>
SIZE		DWG. NO.	REV	
C		GE-22412		
SCALE: 1:3			SHEET 1 OF 1	



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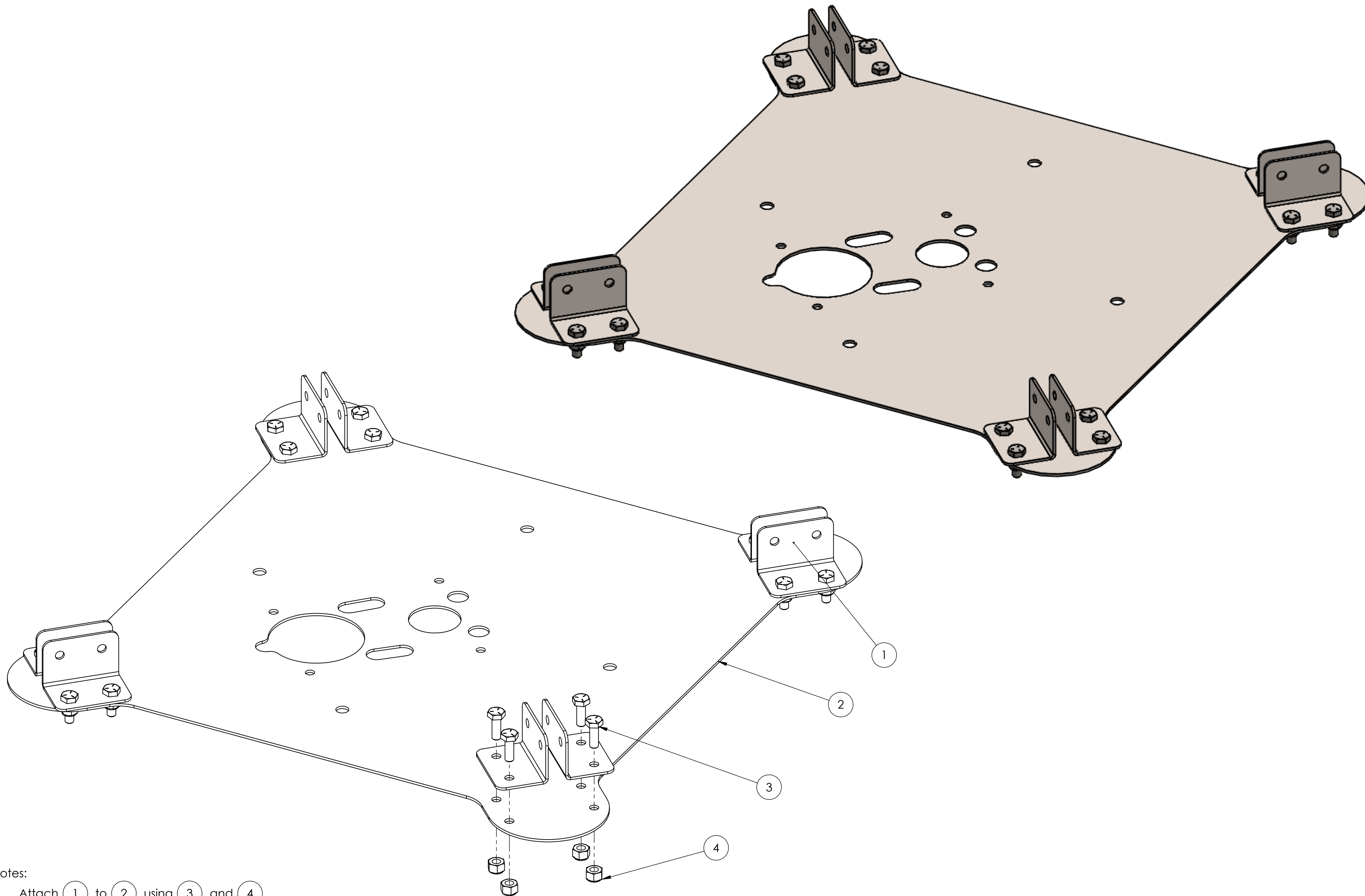
C

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Notes:
 1. Attach (1) to (2) using (3) and (4).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22301	Hub Angle Basket	8
2	GE-22412	Upper Hub Baseplate	1
3	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	16
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	16

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	11/3/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: Upper Hub Baseplate Assembly

SIZE DWG. NO. REV

C GE-22413

SCALE: 1:2 SHEET 1 OF 1

4

3

2

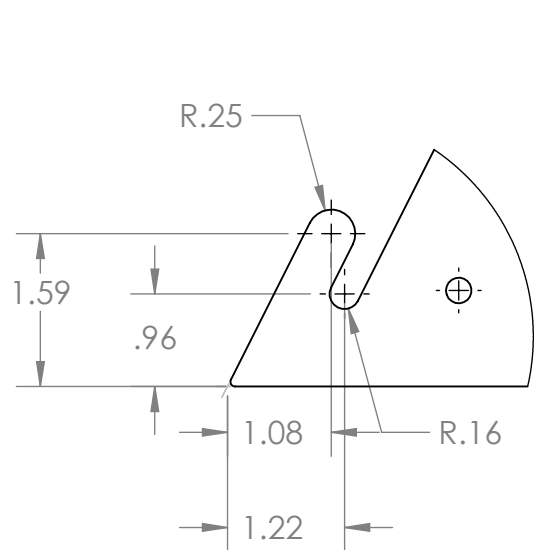
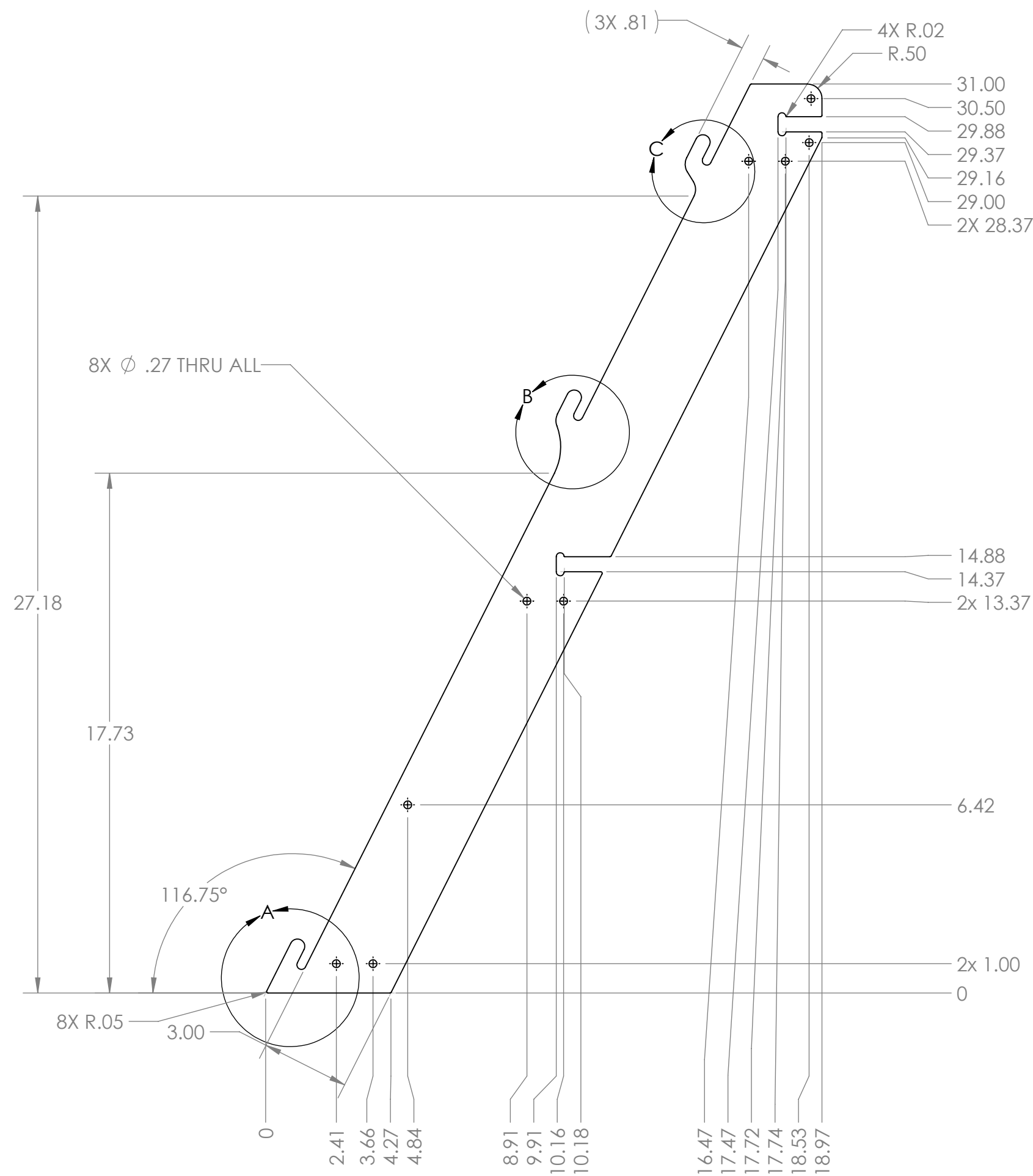
1

4

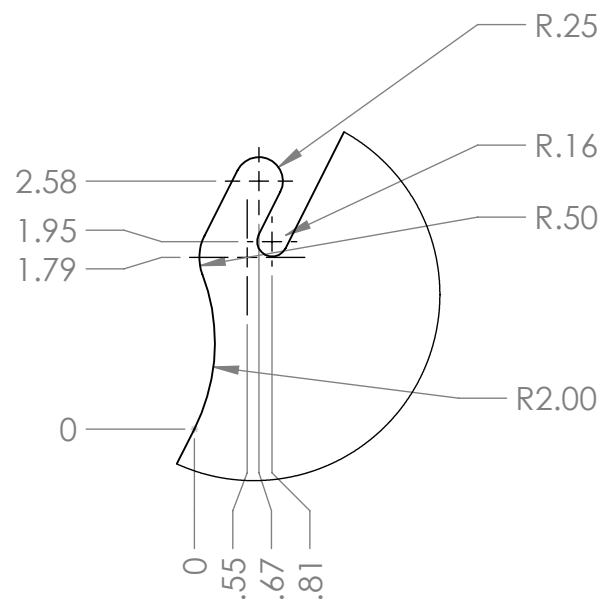
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2

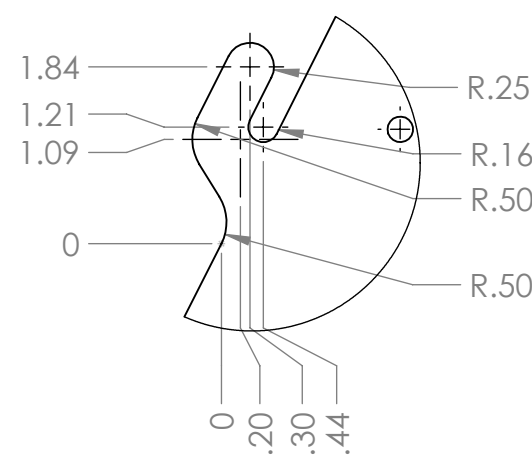
1



DETAIL A SCALE 1 : 2



DETAIL B SCALE 1 : 2



DETAIL C SCALE 1 : 2

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

MATERIAL/FINISH:
 1/2" HDPE, natural/smooth

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/28/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Upper Hub Vertical Rib

SIZE	DWG. NO.	REV
C	GE-22414	
SCALE: 1:4	SHEET 1 OF 1	

4

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1

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A

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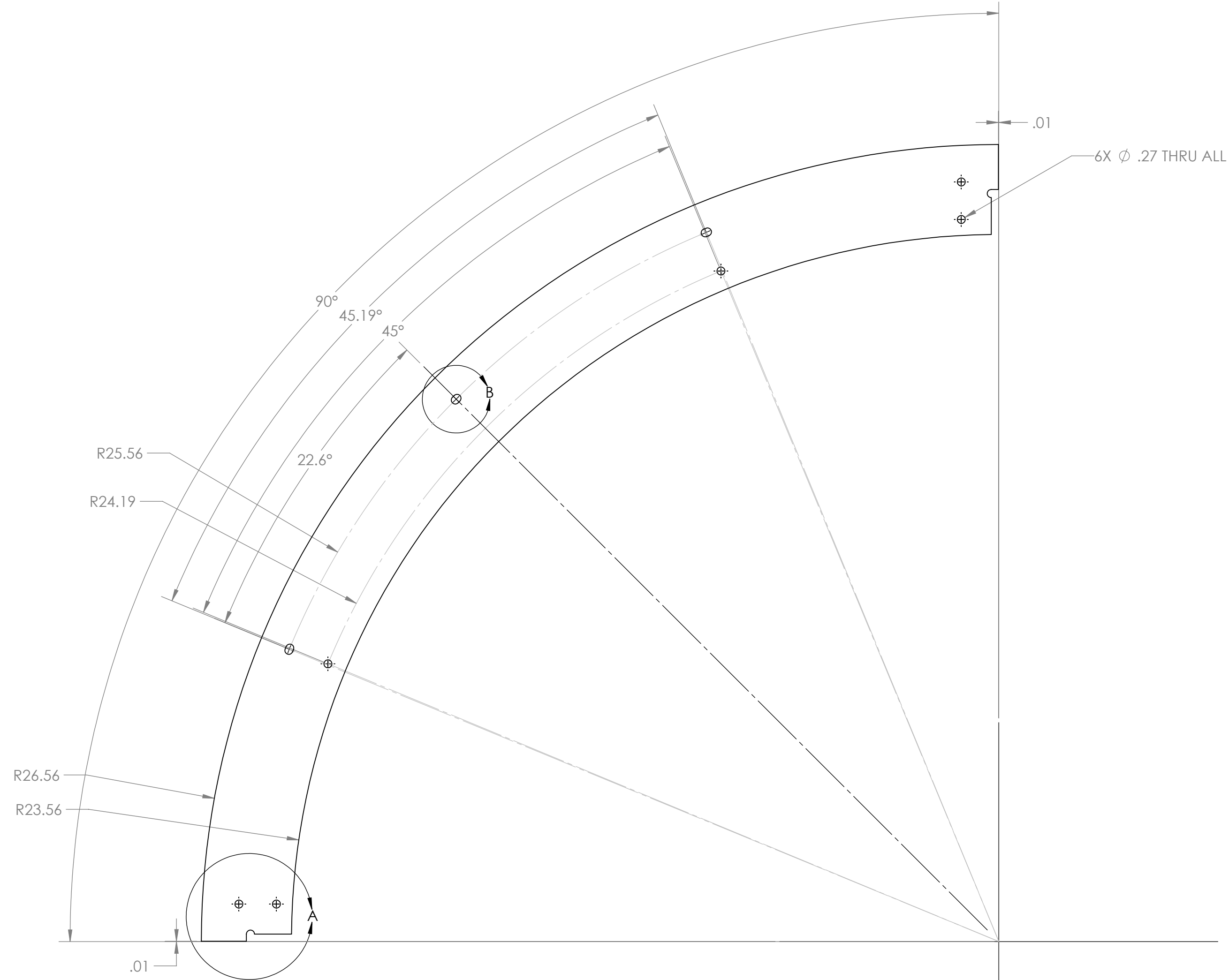
C

B

B

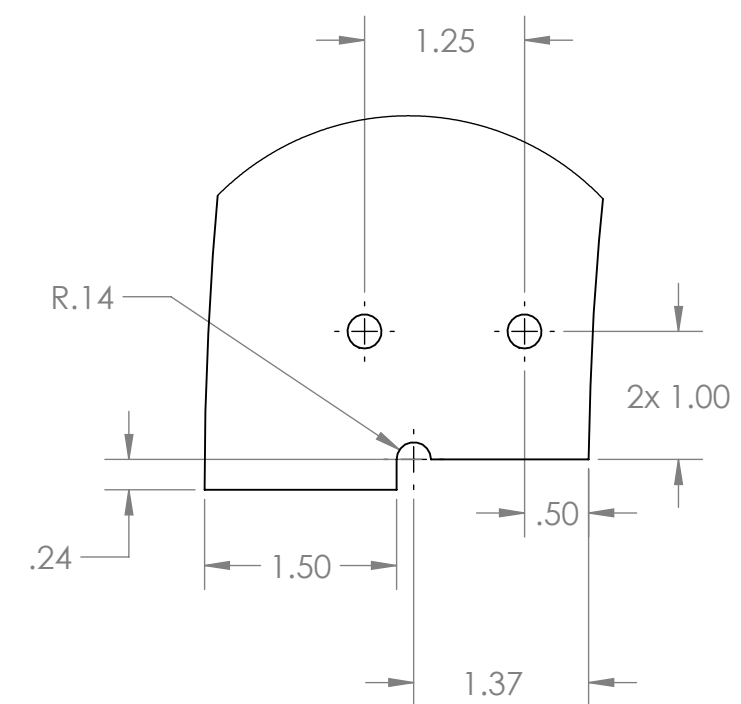
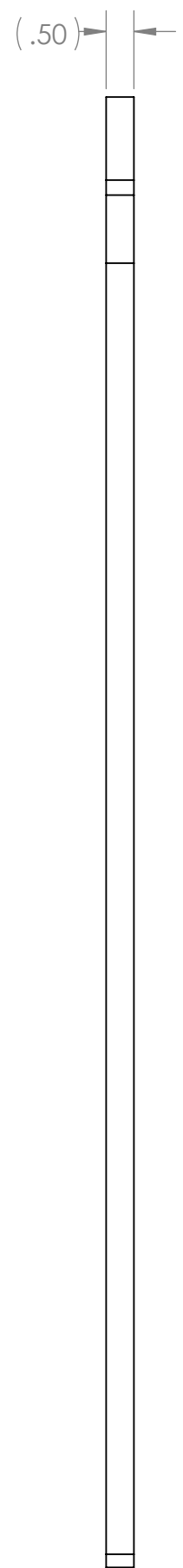
A

A

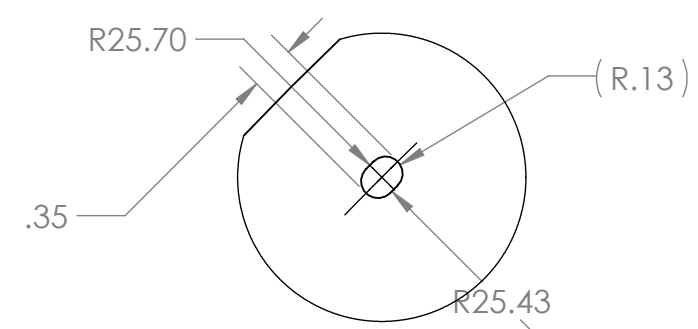


6X ϕ .27 THRU ALL

(.50)



DETAIL A
SCALE 2 : 3
2 places



DETAIL B
SCALE 2 : 3
3 places

Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/2" natural HDPE, smooth DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	CO	6/28/2021
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:		
	Upper Hub Large Rib		
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.	SIZE	DWG. NO.	REV
	C	GE-22415	
SCALE: 1:3		SHEET 1 OF 1	



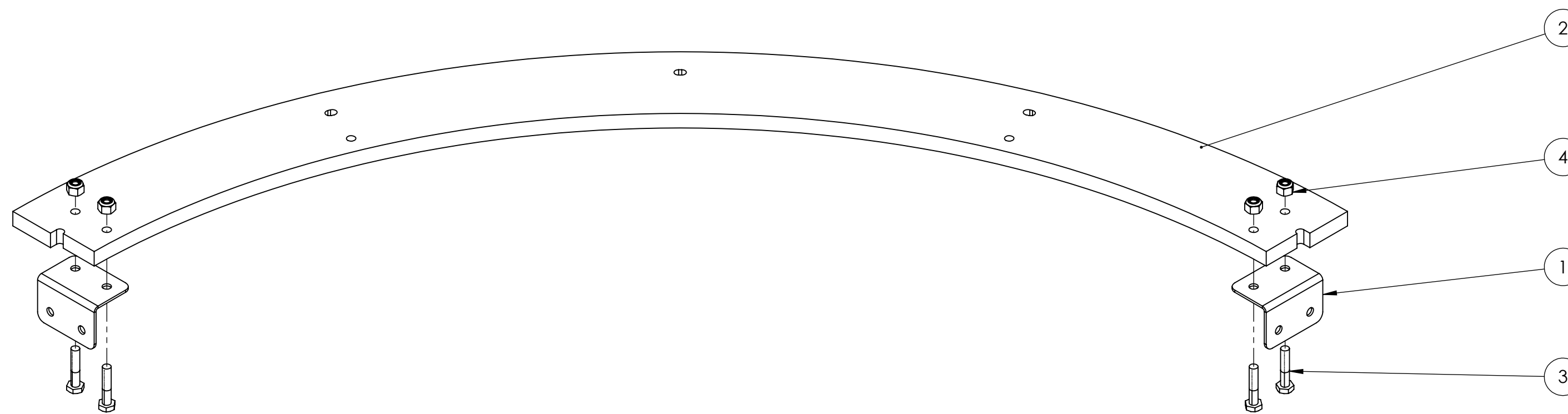
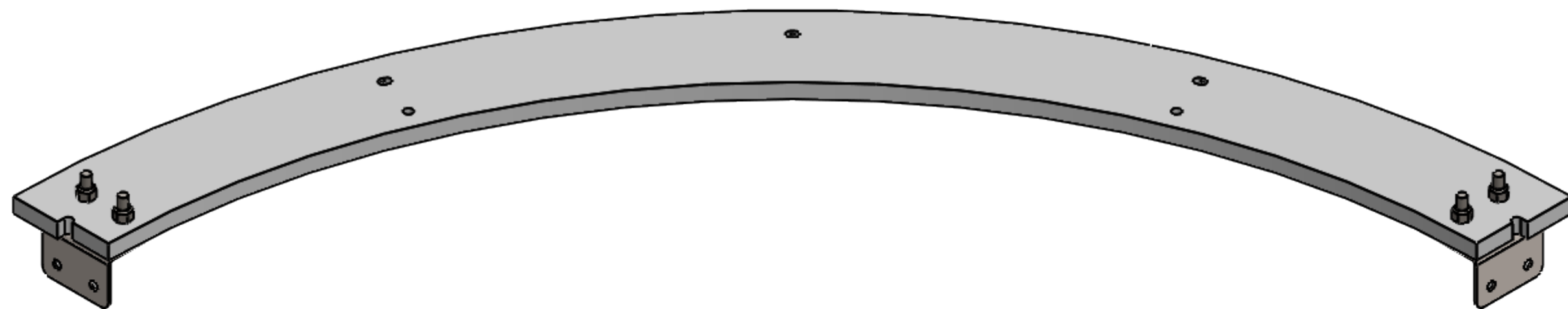
TITLE: Upper Hub Large Rib		
SIZE	DWG. NO.	REV
C	GE-22415	
SCALE: 1:3		SHEET 1 OF 1

4

3

2

1



Notes:

1. Attach 1 to 2 using 3 and 4.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22301	Hub Angle Bracket	2
2	GE-22415	Upper Hub Large Rib	1
3	hex_.25_20_1.25_partial	Steel Hex Head Bolt, 1/4-20 x 1.25", partially threaded	4
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	4

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	11/3/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE: Upper Hub Large Rib Assembly

SIZE	DWG. NO.	REV
C	GE-22416	

SCALE: 1:3 SHEET 1 OF 1

4

3

2

1

4

3

2

1

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C

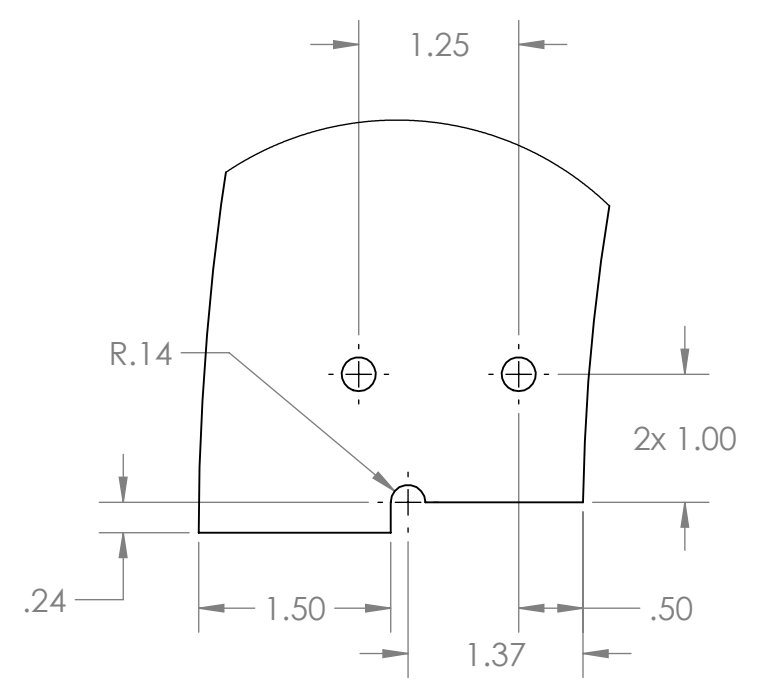
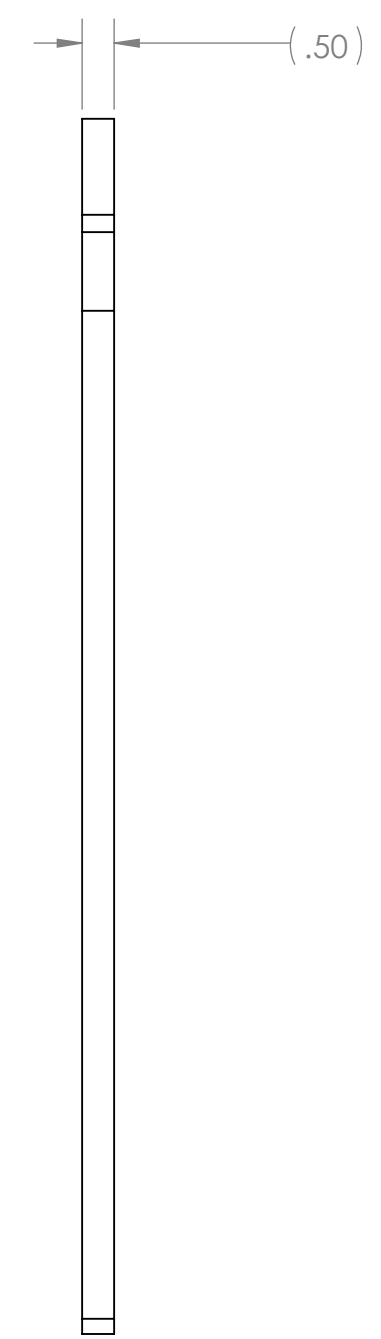
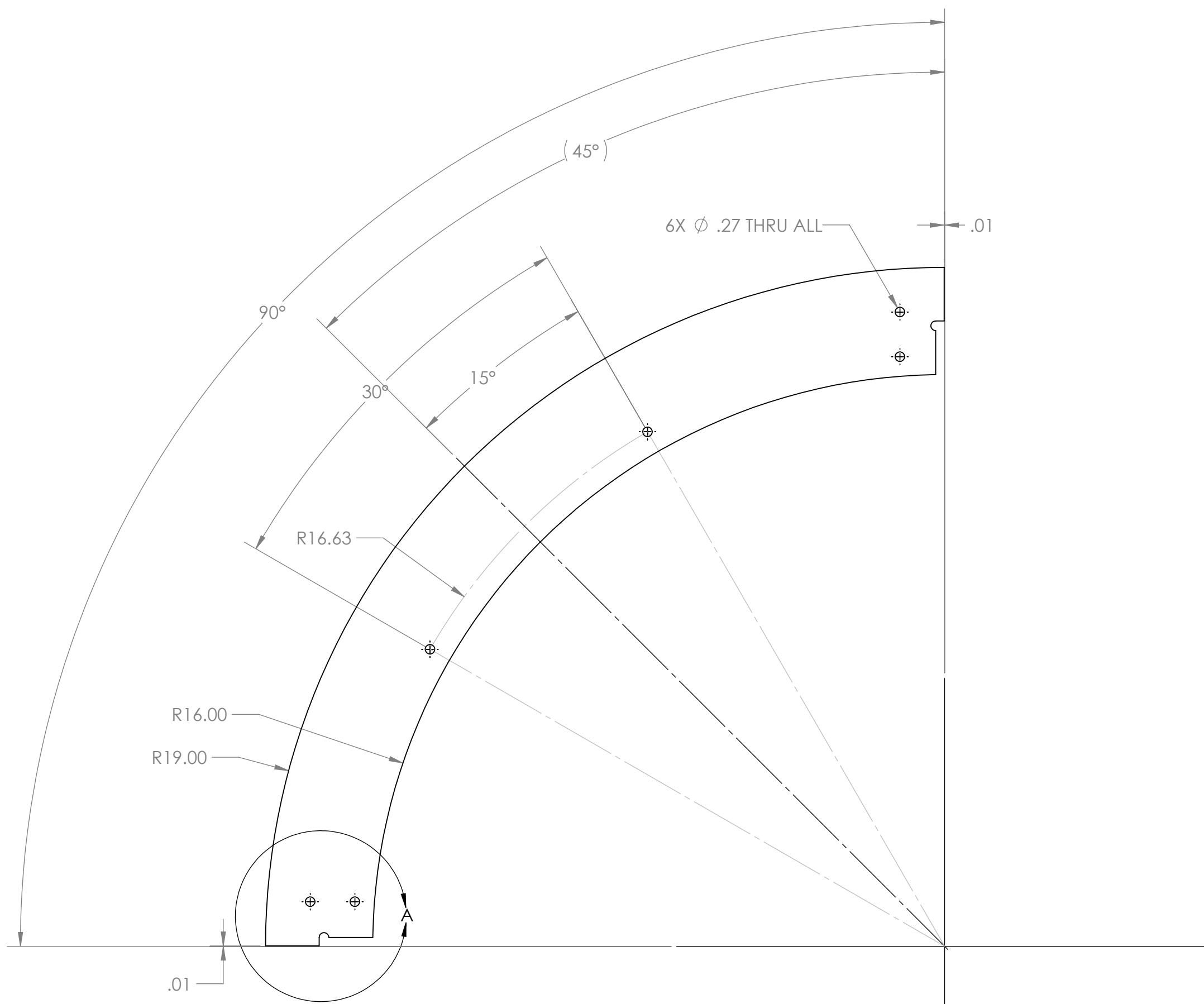
C

B

B



A

A



DETAIL A
SCALE 2 : 3
2 places

Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/2" HDPE, natural/smooth DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	6/28/2021	
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:
				Upper Hub Small Rib
SIZE		DWG. NO.	REV	
C		GE-22417		
SCALE: 1:3			SHEET 1 OF 1	

4

3

2

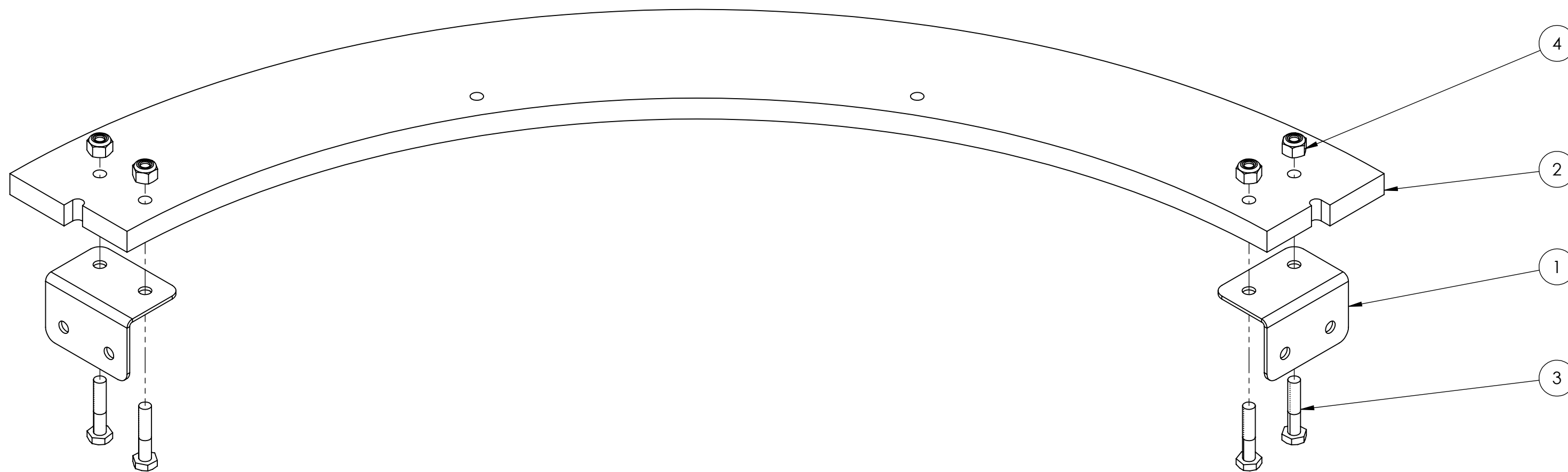
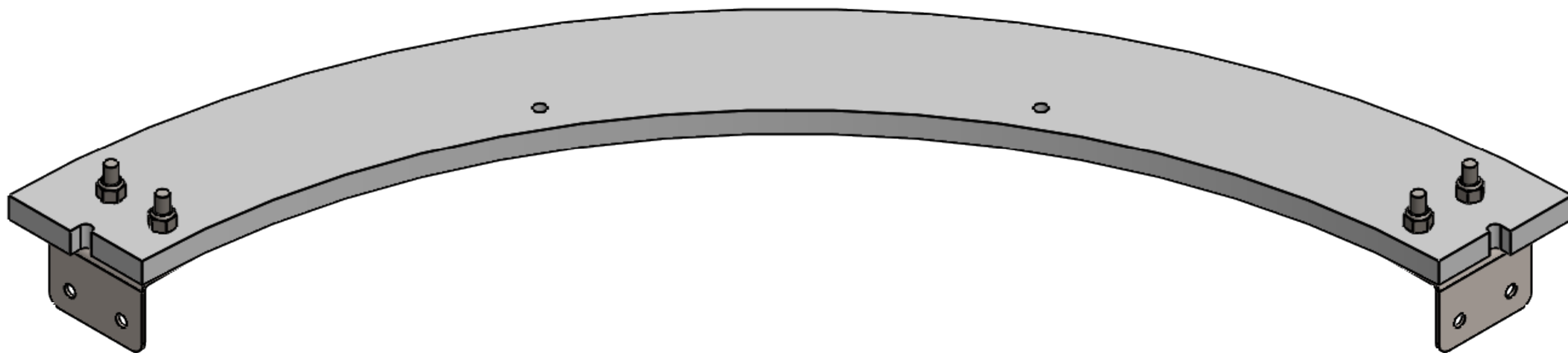
1

4

3

2

1



Notes:

- 1. Attach (1) to (2) using (3) and (4).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22301	Hub Angle Bracket	2
2	GE-22417	Upper Hub Small Rib	1
3	hex_.25_20_1.25_parti al	Steel Hex Head Bolt, 1/4-20 x 1.25", partially threaded	4
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	4

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	11/3/2021

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 WHOLE WITHOUT THE WRITTEN
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 PROHIBITED.

COMMENTS:
 REMOVE ALL BURRS AND SHARP
 EDGES.



TITLE: Upper Hub
 Small Rib
 Assembly

SIZE	DWG. NO.	REV
------	----------	-----

C GE-22418

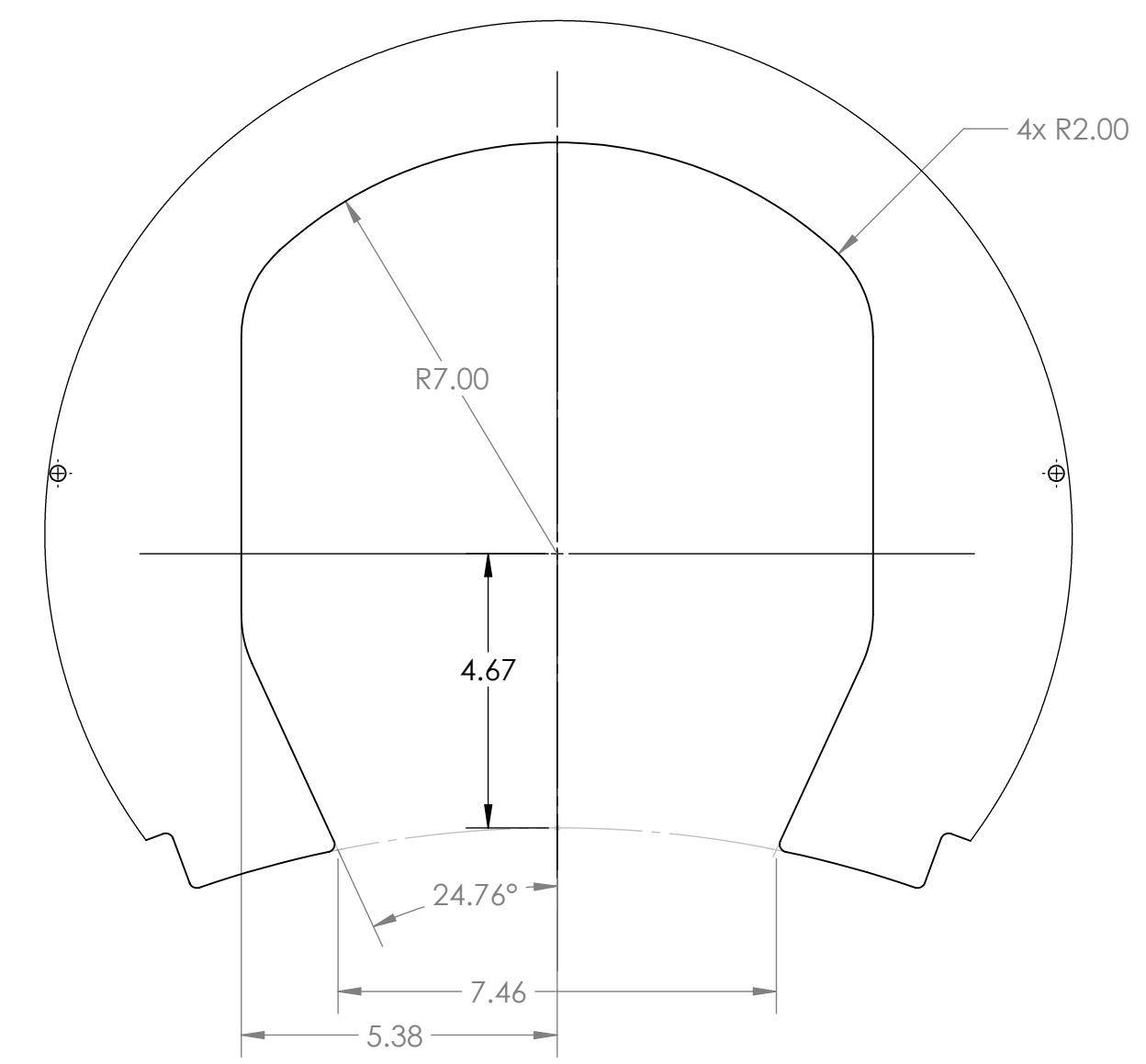
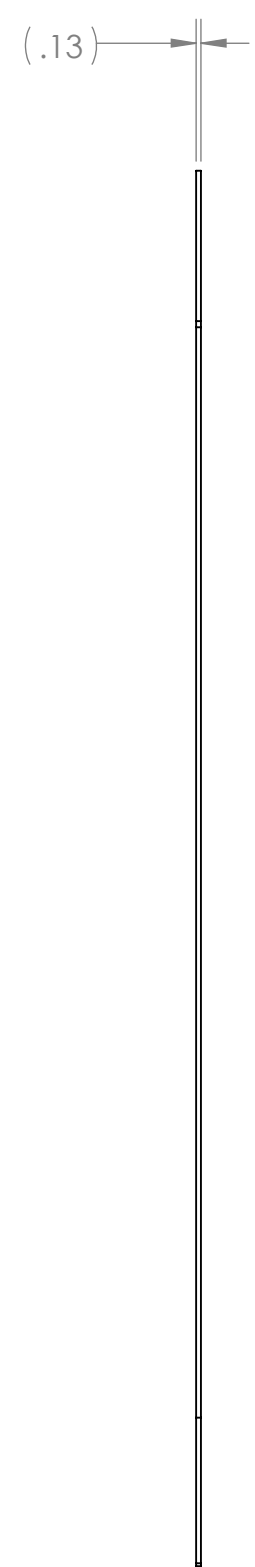
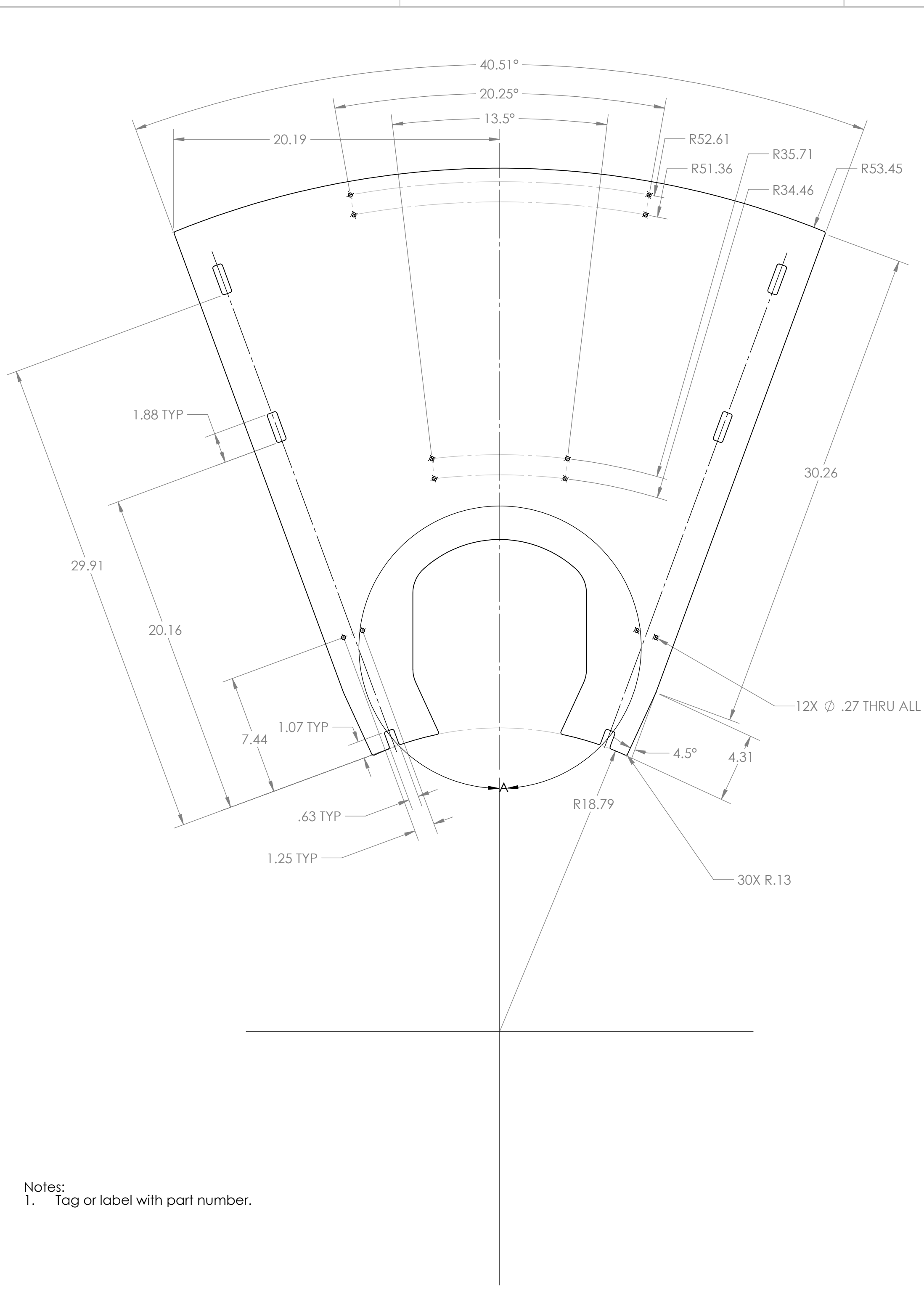
SCALE: 1:2 SHEET 1 OF 1

4

3


2

1



DETAIL A
SCALE 1 : 3

Notes:
1. Tag or label with part number.

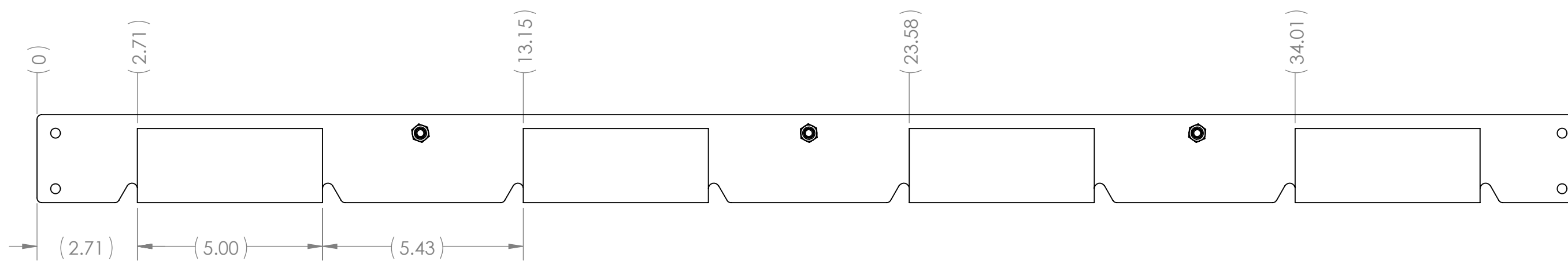
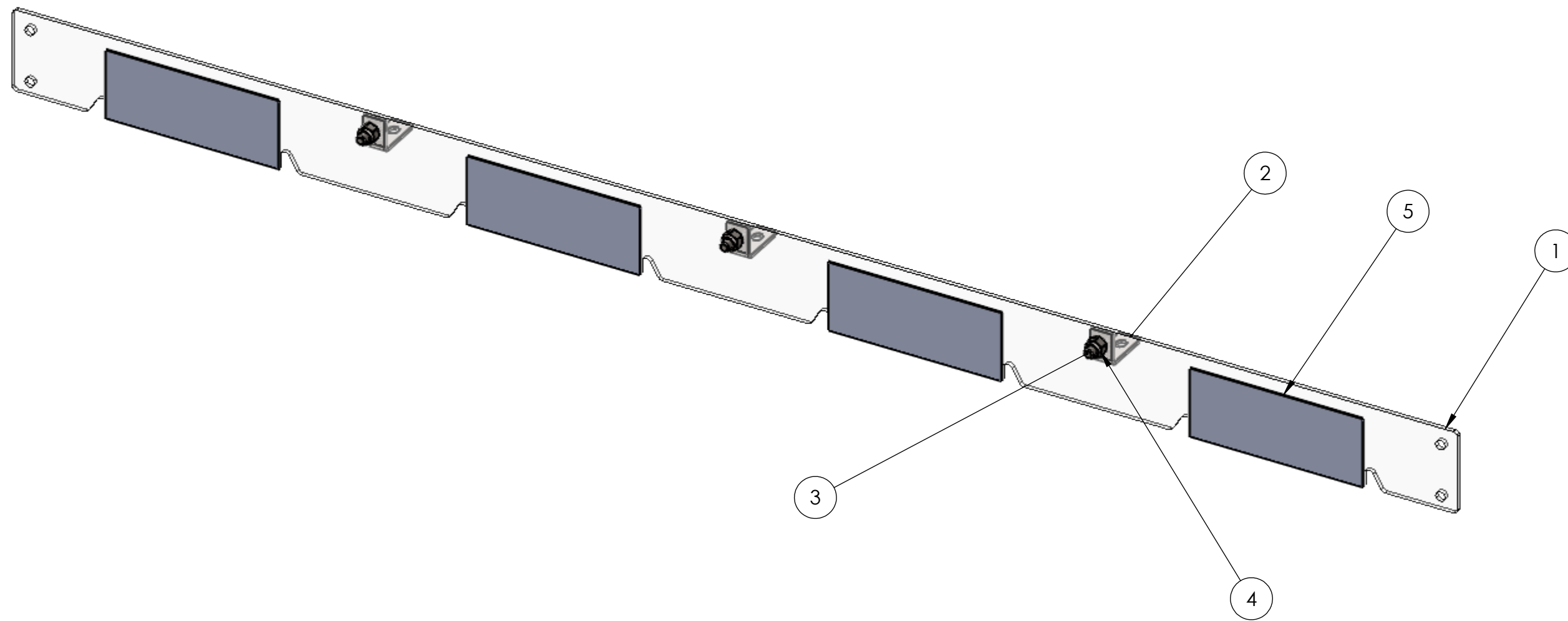
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/8" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	CO	6/28/2021	
	PROPRIETARY AND CONFIDENTIAL			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.			Upper Hub Panel
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22419
				SCALE: 1:5 SHEET 1 OF 1

4

3

2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22421	Upper Hub Vision Plastic	1
2	GE-22422	Upper Hub Vision Angle	3
3	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	3
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	3
5	tape_VISIONTARGET	2" Wide, 5" Long 3M 8830 Scotchlite Reflective Material	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 $\pm .01$
 THREE PLACE DECIMAL $\pm .005$

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	11/3/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Upper Hub Vision Assembly

SIZE	DWG. NO.	REV
C	GE-22420	

SCALE: 1:3 SHEET 1 OF 2

4

3

2

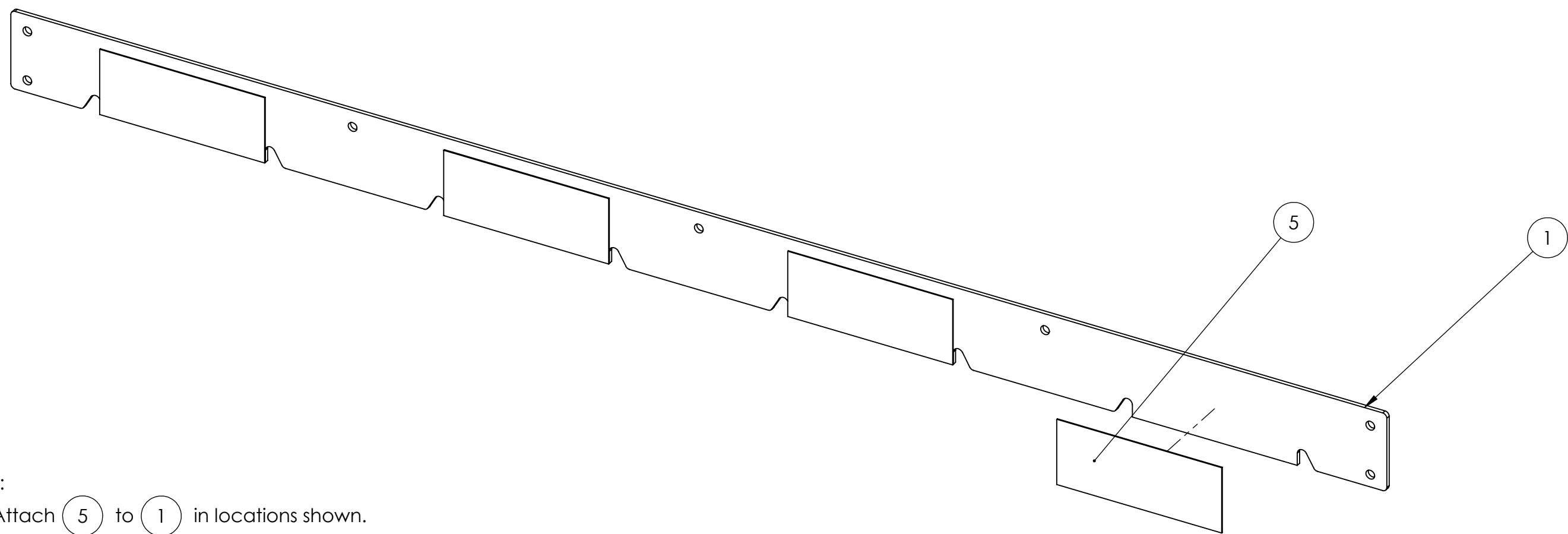
1

4

3

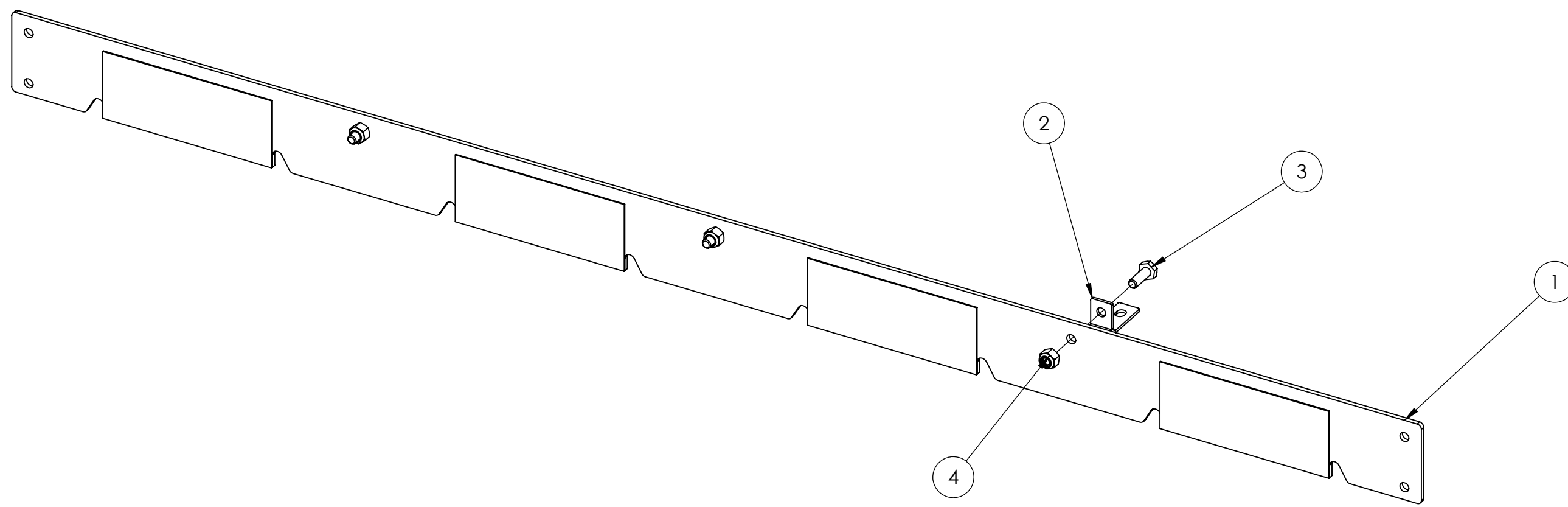
2

1





Notes:

- 1. Attach (5) to (1) in locations shown.



Notes:

- 1. Attach (2) to (1) using (3) and (4).

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	VEND	NAME	DATE	 
	DRAWN	CO	11/3/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: <h2>Upper Hub Vision Assembly</h2>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:3 SHEET 2 OF 2

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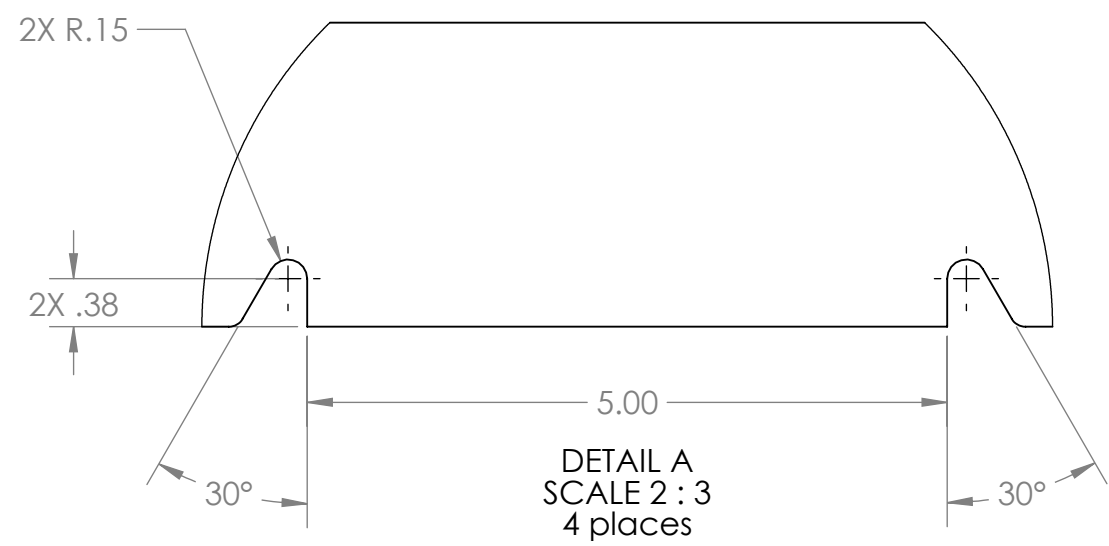
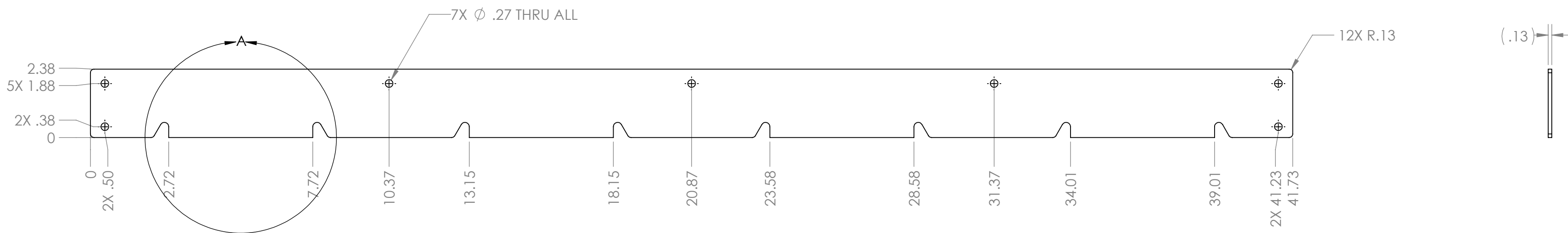
C

B



B

A

A



Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/8" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	7/27/2021	
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: <h2 style="text-align: center;">Upper Hub Vision Plastic</h2>
SIZE		DWG. NO.	REV	
C		GE-22421		
SCALE: 1:3			SHEET 1 OF 1	

4

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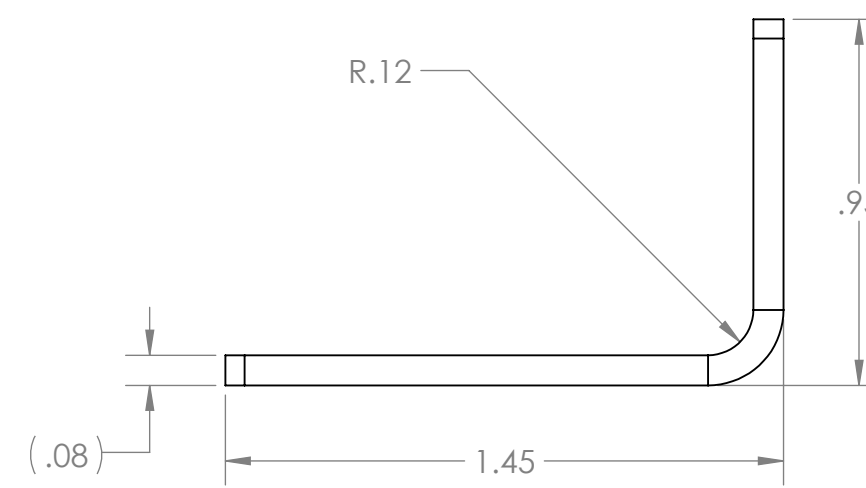
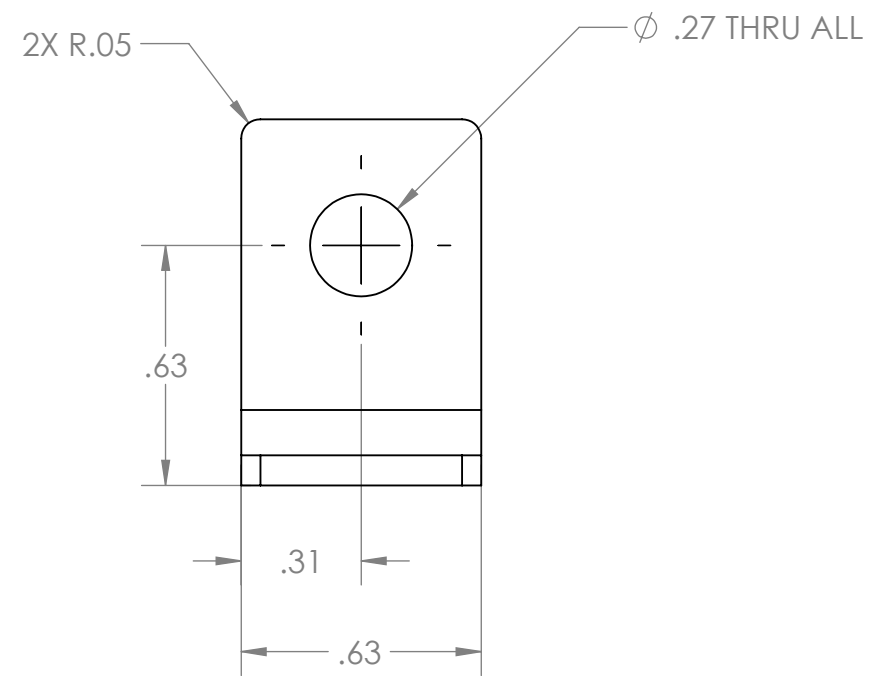
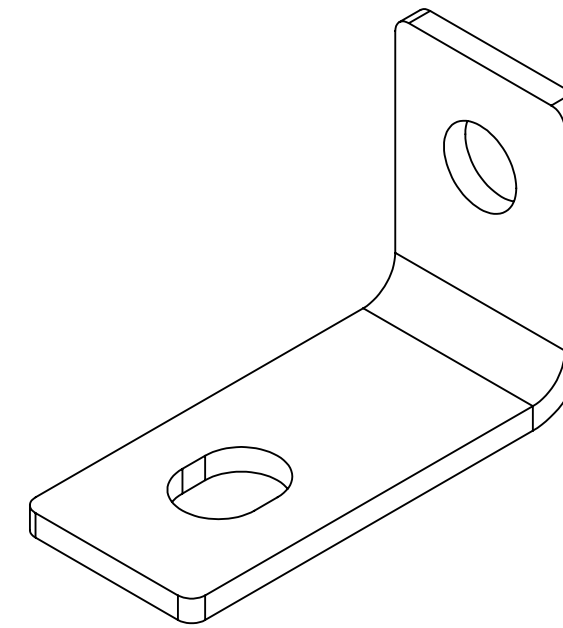
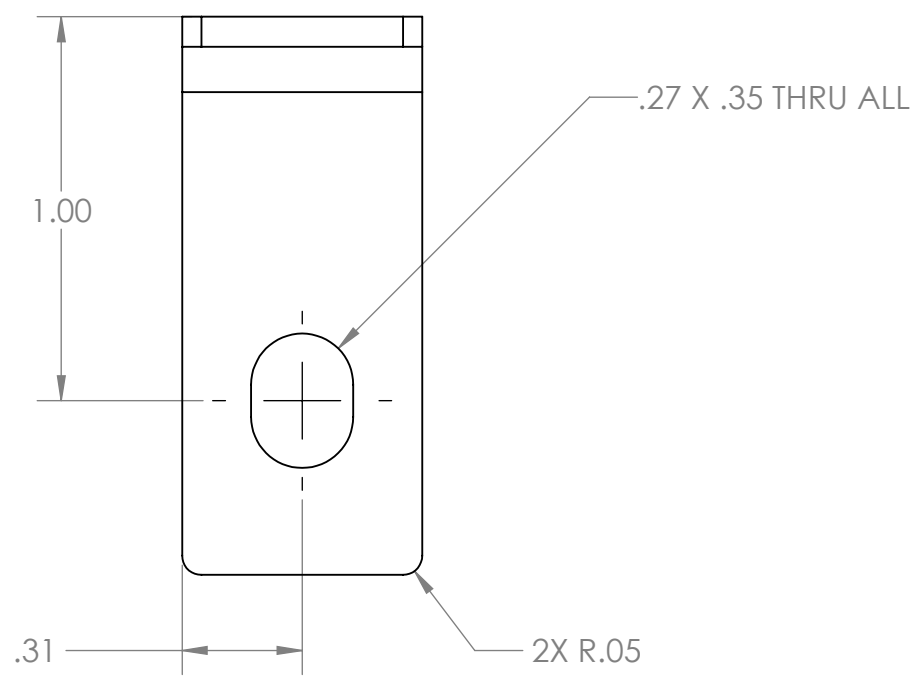
1

4



3

2

1



Notes:
1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 14 Ga. preplated steel COMMENTS: REMOVE ALL BURRS AND SHARP EDGES. DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	CO	7/29/2021	
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:
				Upper Hub Vision Angle
SIZE		DWG. NO.	REV	
C		GE-22422		
SCALE: 2:1			SHEET 1 OF 1	

4

3

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C

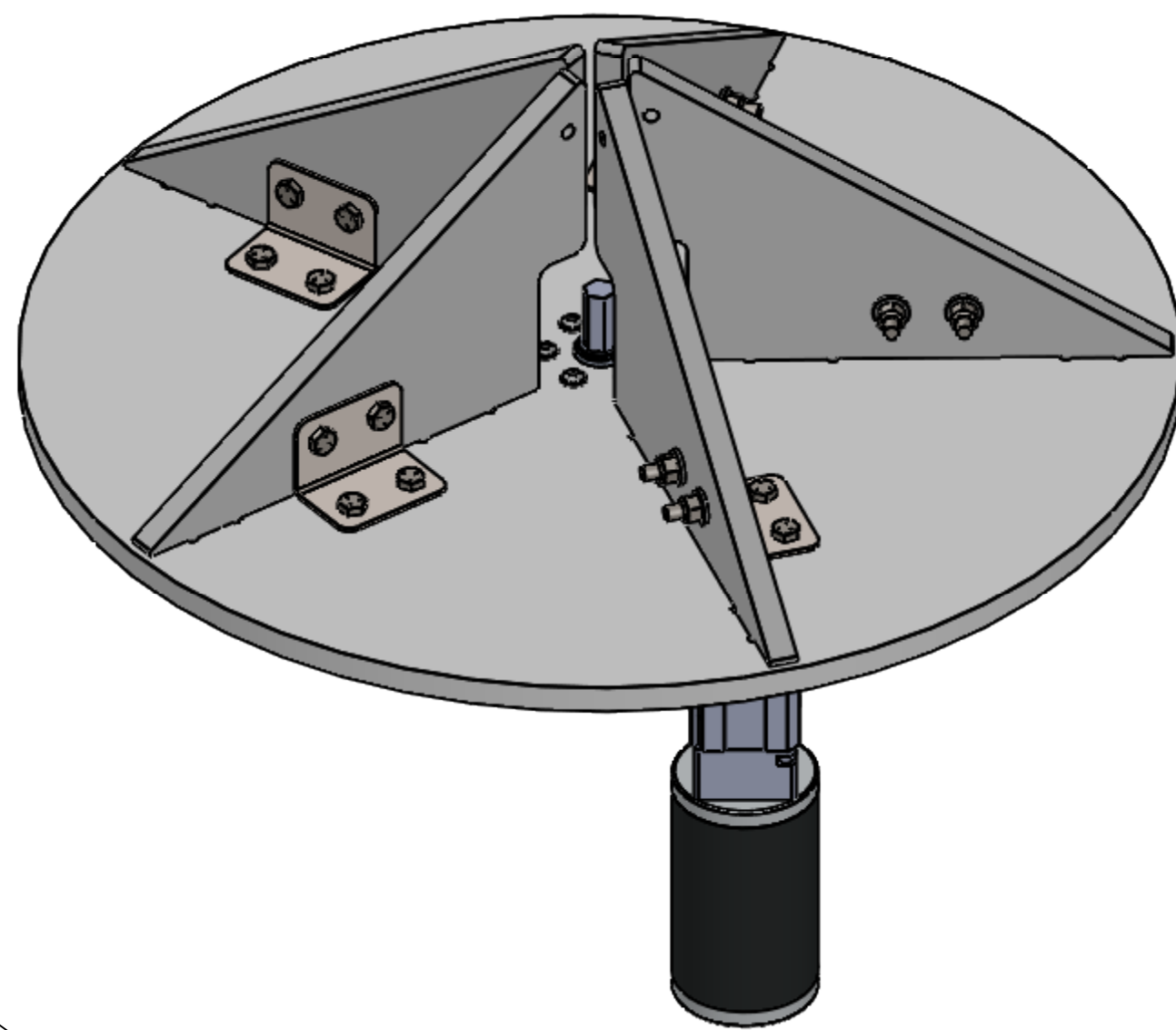
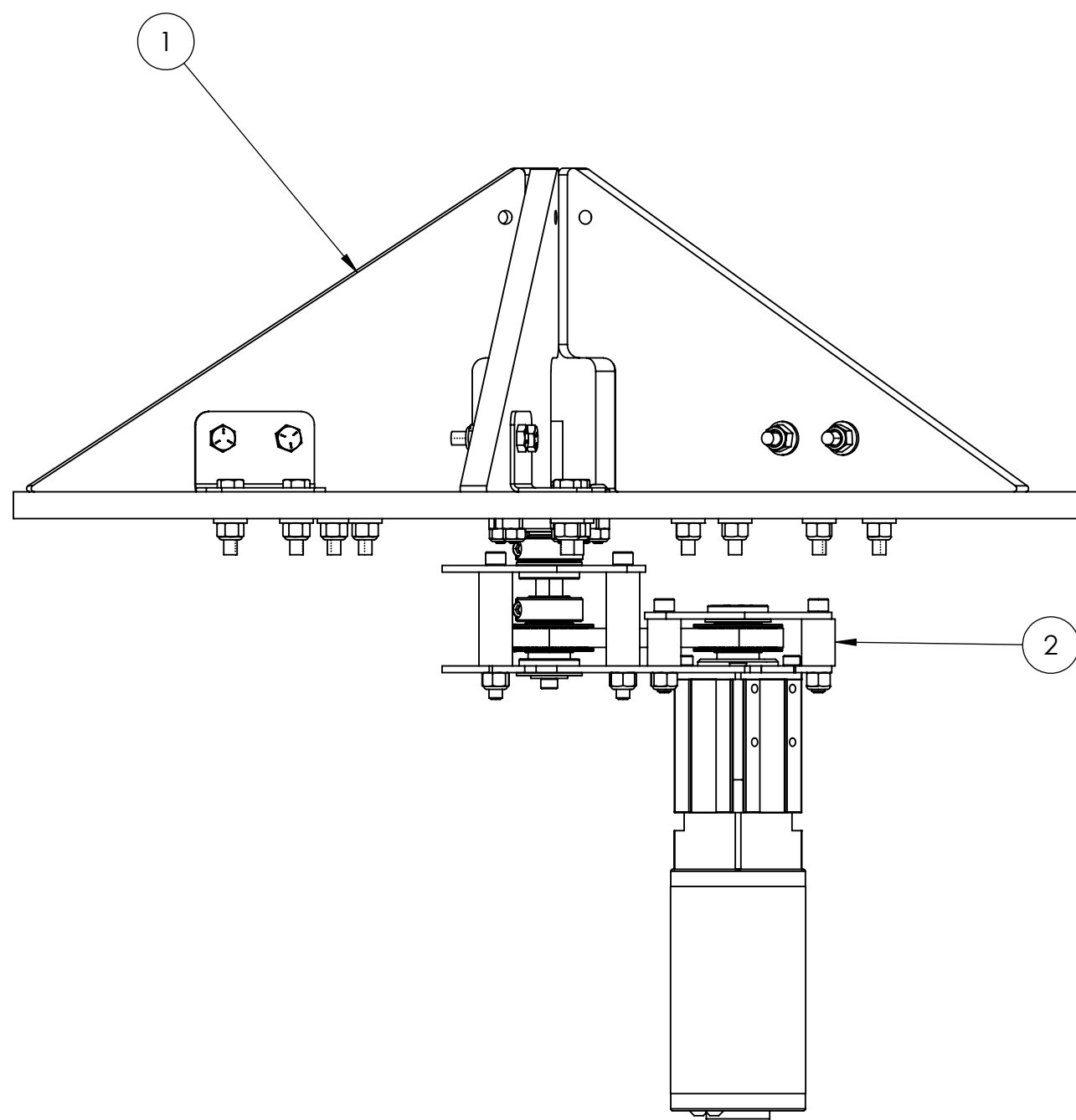
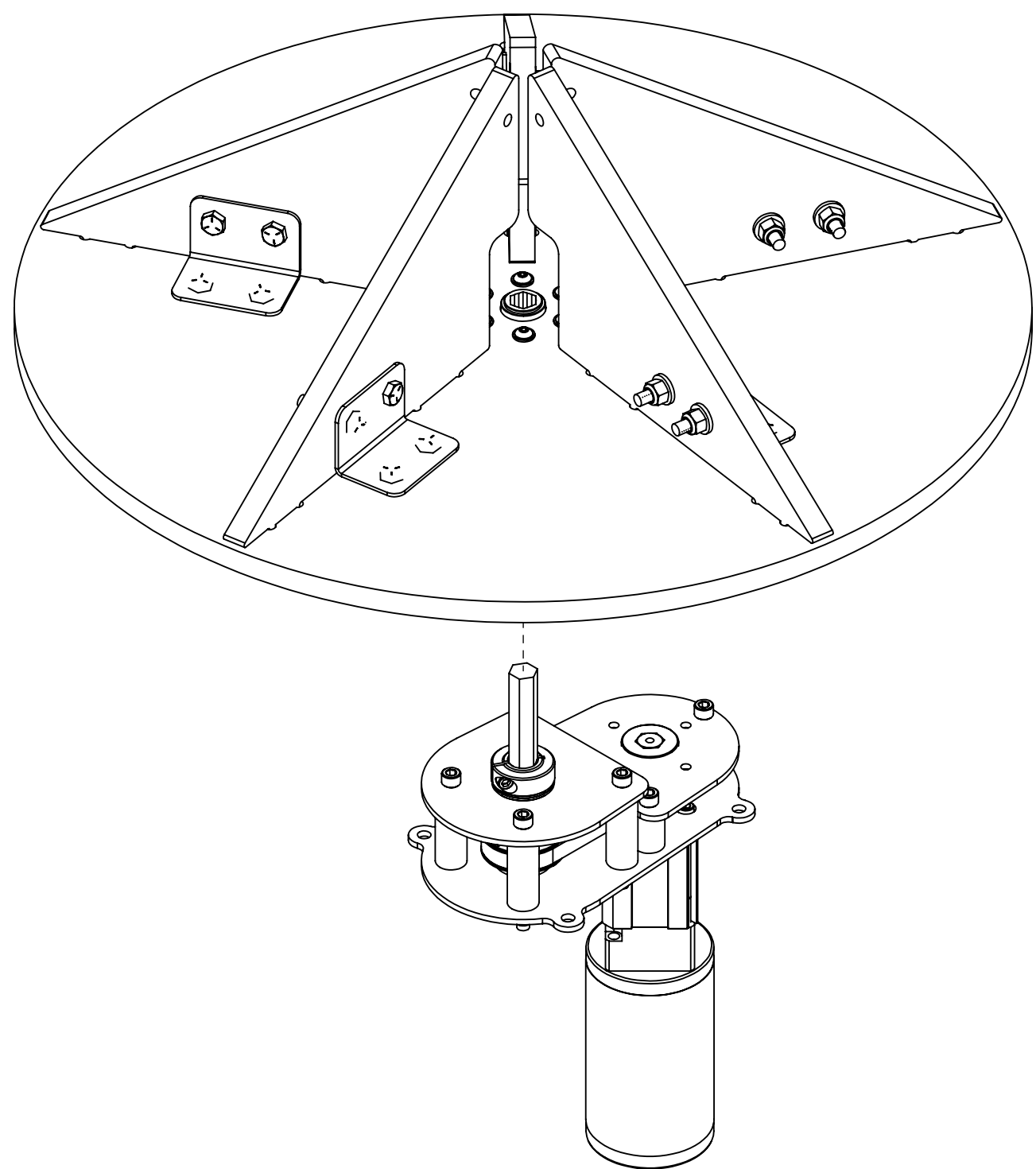
C

B

B

A

A



Notes:

- 1. Mount (1) on the exposed hex shaft of (2).

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	12/16/2021

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Low Agitator Assembly

SIZE	DWG. NO.	REV
------	----------	-----

C GE-22431

SCALE: 1:3 SHEET 1 OF 1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22433	Low Agitator Wheel Assembly	1
2	GE-22450	Low Agitator Drive Assembly	1

4

3

2

1

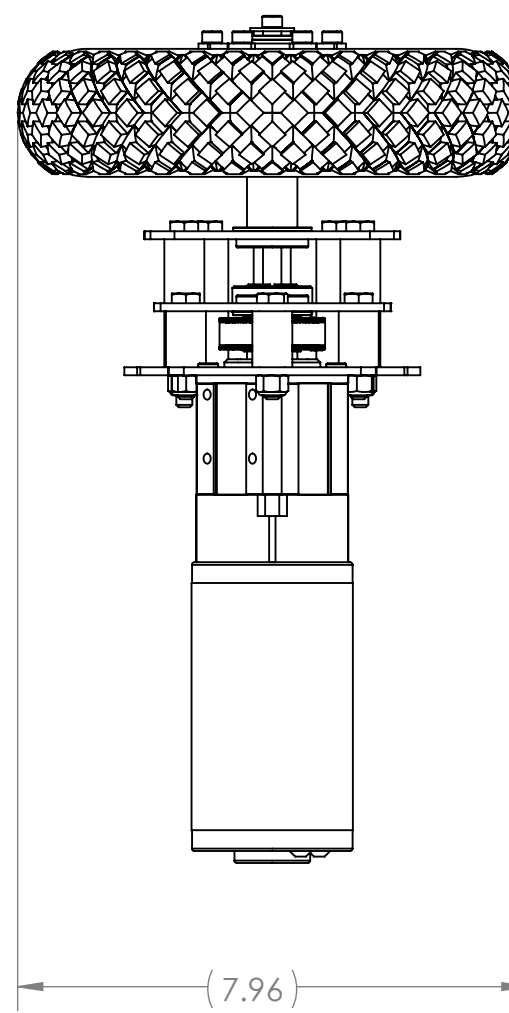
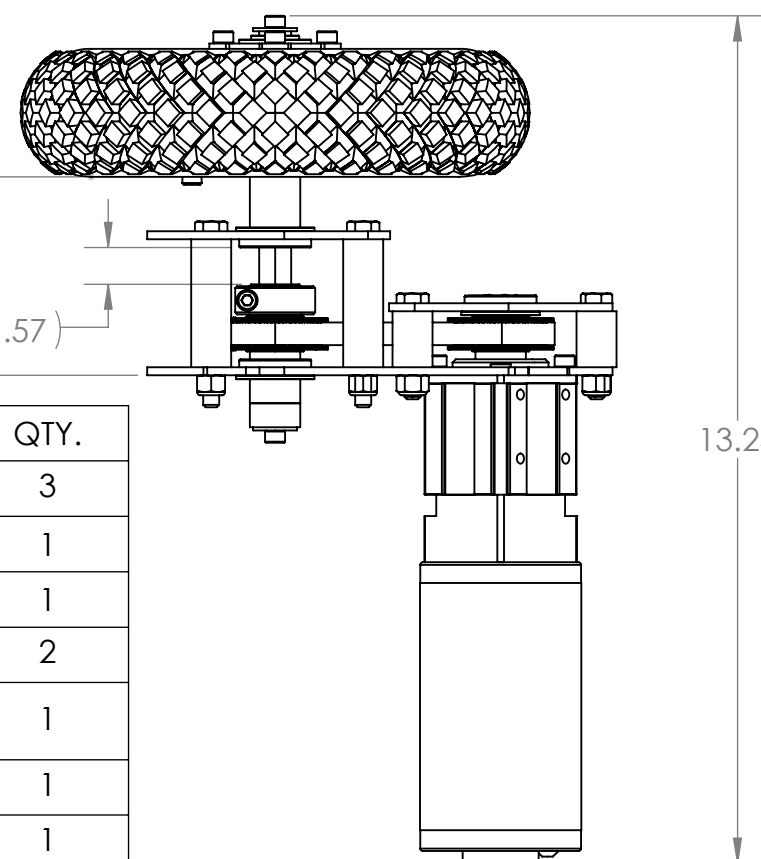
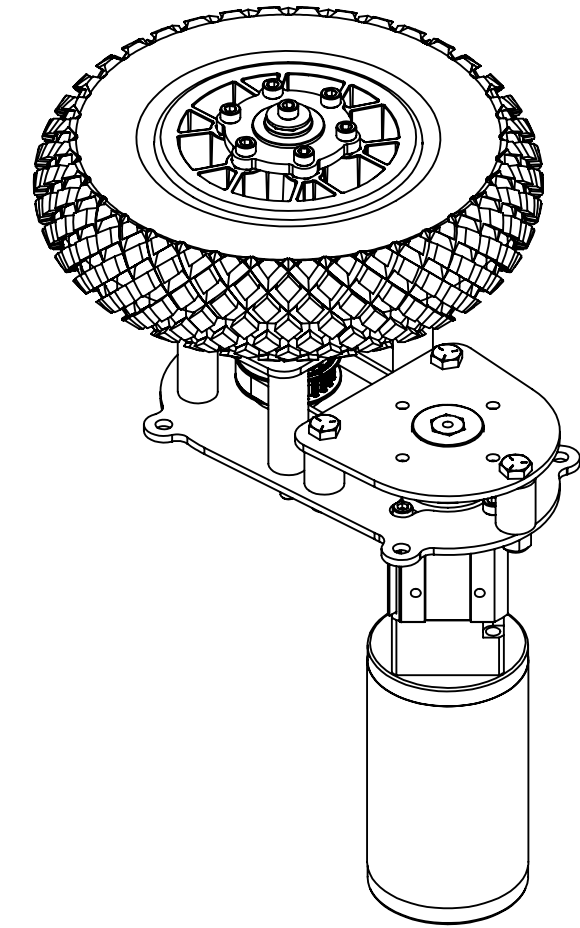
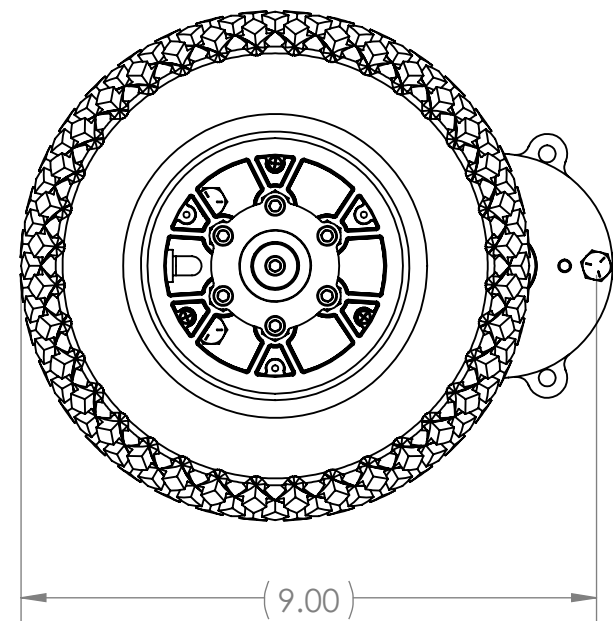
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-D4, 3-D4	A	Added notes for use of glue on pulleys. Updates made to geometry of GE-22442, GE-22443, GE-22444	8/17/2021	CPO
A3	B	Two fasteners changed from hex head to socket head bolts.	10/27/2021	CPO
A3, B3, 3-A4	C	Changed fasteners back to hex head. Changed length of bolts and spacers to reduce wheel height. Spacers added to capture extra hex shaft. Assembly instructions modified to include new spacers.	11/23/2021	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22437	1/2 in. Hex Bearing	3
2	GE-22438	1/2 in. Hex Shaft Collar	1
3	GE-22439	60t 9mm wide 5mm HTD belt	1
4	GE-22440	24 tooth 5mm HTD hex bore pulley	2
5	GE-22441-012	12:1 CIM Sport Gearbox with CIM Motor	1
6	GE-22442	Agitator Baseplate	1
7	GE-22443	Agitator Gearbox Auxillary Plate	1
8	GE-22444	Agitator Output Shaft Auxillary Plate	1
9	GE-22445-125	1/2 in. hex molded spacer, 1/8 in. long	2
10	GE-22445-1000	1/2 in. hex molded spacer, 1 in. long	2
11	GE-22447	High Agitator Wheel with Hub	1
12	GE-22448	High Agitator Drive Hex Shaft	1
13	hex_.25_20_1.5_partial	Steel Hex Head Screw, 1/4"-20 x 1-1/2" long, partially threaded	3
14	hex_.25_20_2.75_partial	Steel Hex Head Screw, 1/4"-20 x 2-3/4" long, partially threaded	4
15	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	7
16	socket_hex_10_32_5_nylon	Socket Head Screw, 10-32 x 0.5" long, with nylon patch	4
17	spacer_.252_.625_.875	Spacer, .252 ID, .625 OD, .875 long	3
18	spacer_.255_.625_2	Spacer, .252 ID, .625 OD, 2 long	4
19	washer_flat_10_oversized	Oversized flat Washer for #10 Screw	2
20	GE-22445-375	1/2 in. hex molded spacer, 3/8 in. long	2

△ B △
 △ C
 △ C
 △ C

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/25/2021

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

TITLE: **High Agitator Assembly**

SIZE	DWG. NO.	REV
C	GE-22432	C

SCALE: 1:3 SHEET 1 OF 4

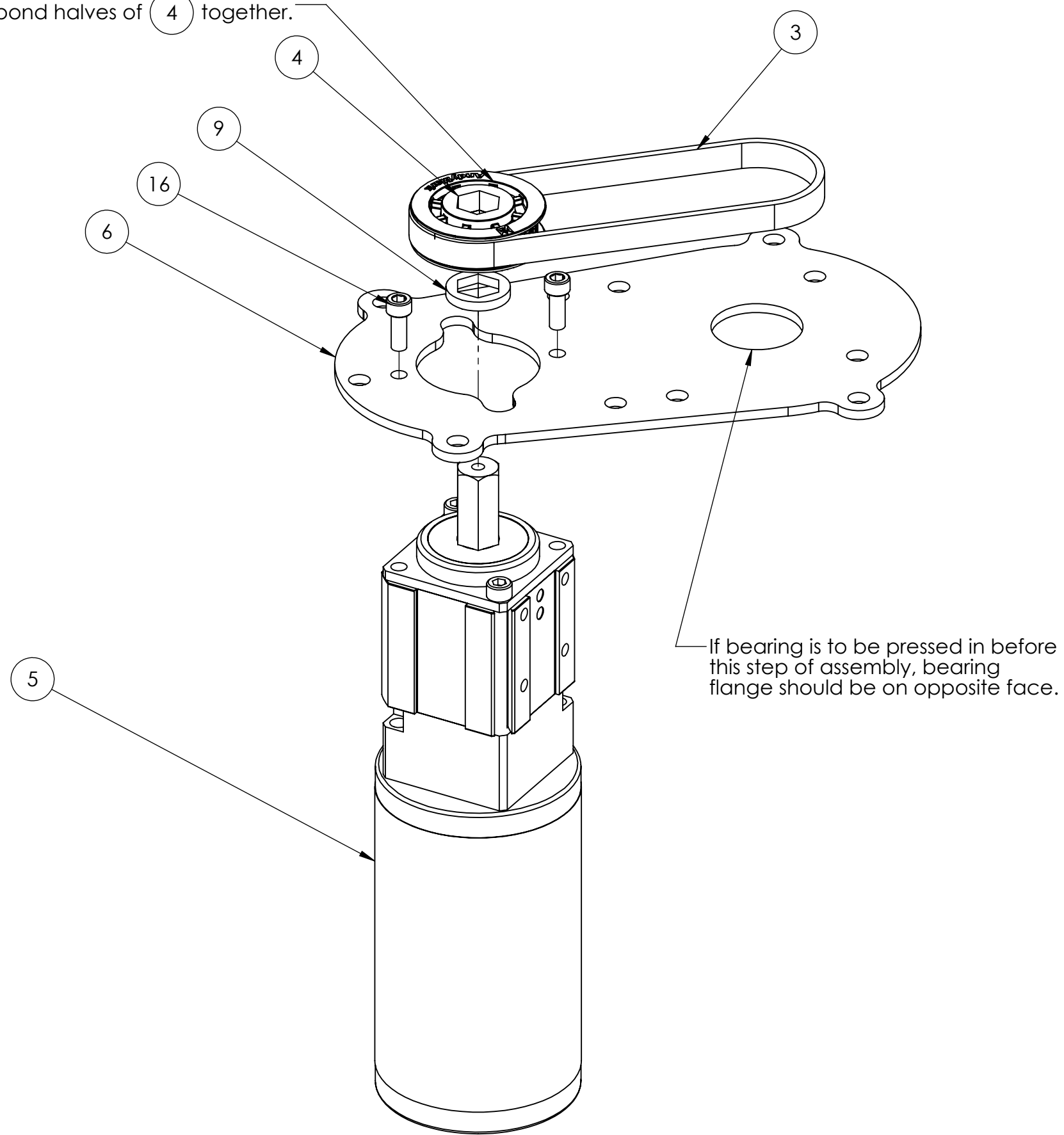
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3

2

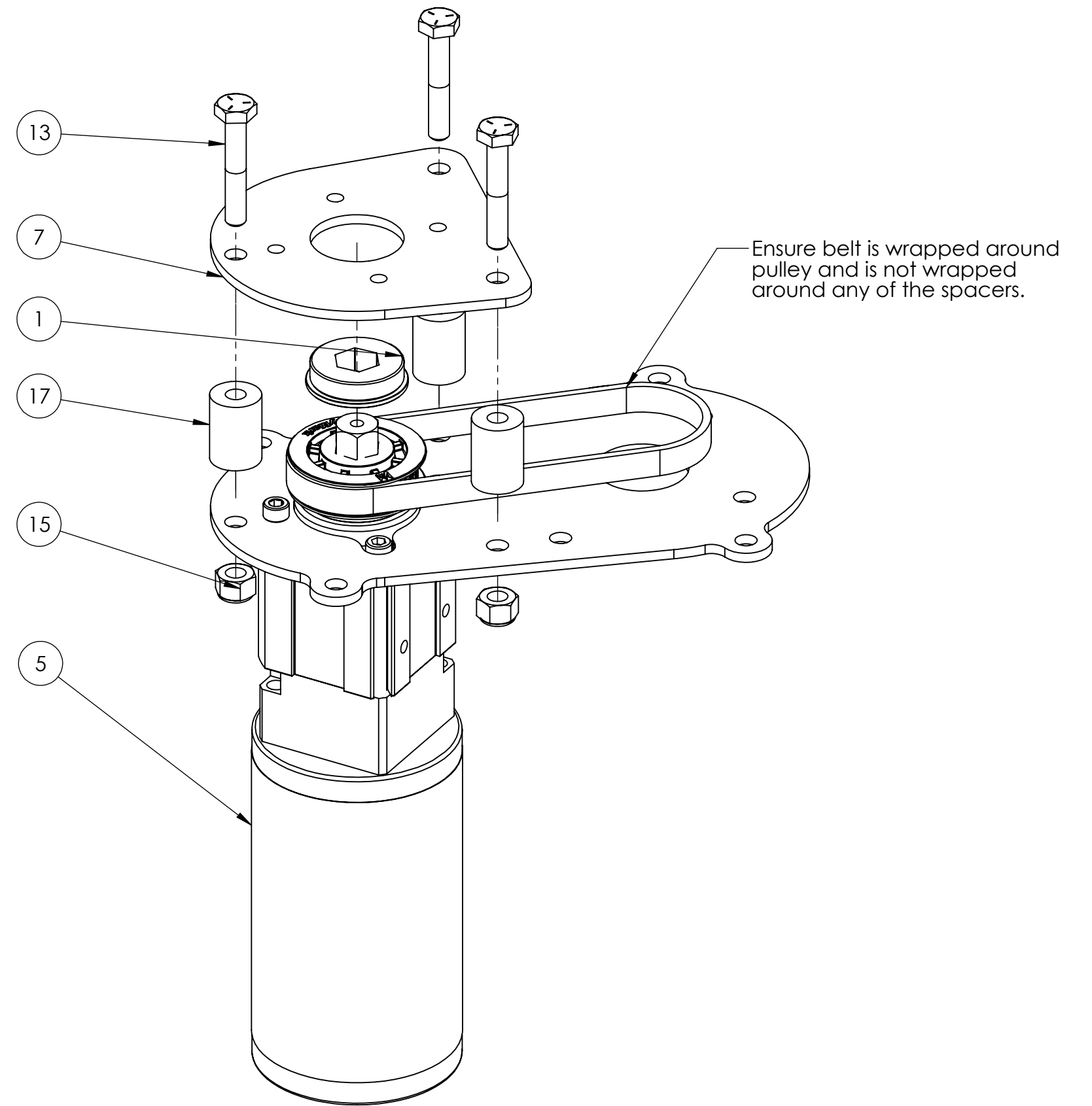
1

▲ Use a few drops of cyanoacrylate glue to bond halves of (4) together.





Notes:

1. Attach (5) to (6) using (16).
2. Slide (9) and (4) in order onto the shaft of (5).
3. Place (3) on (4).

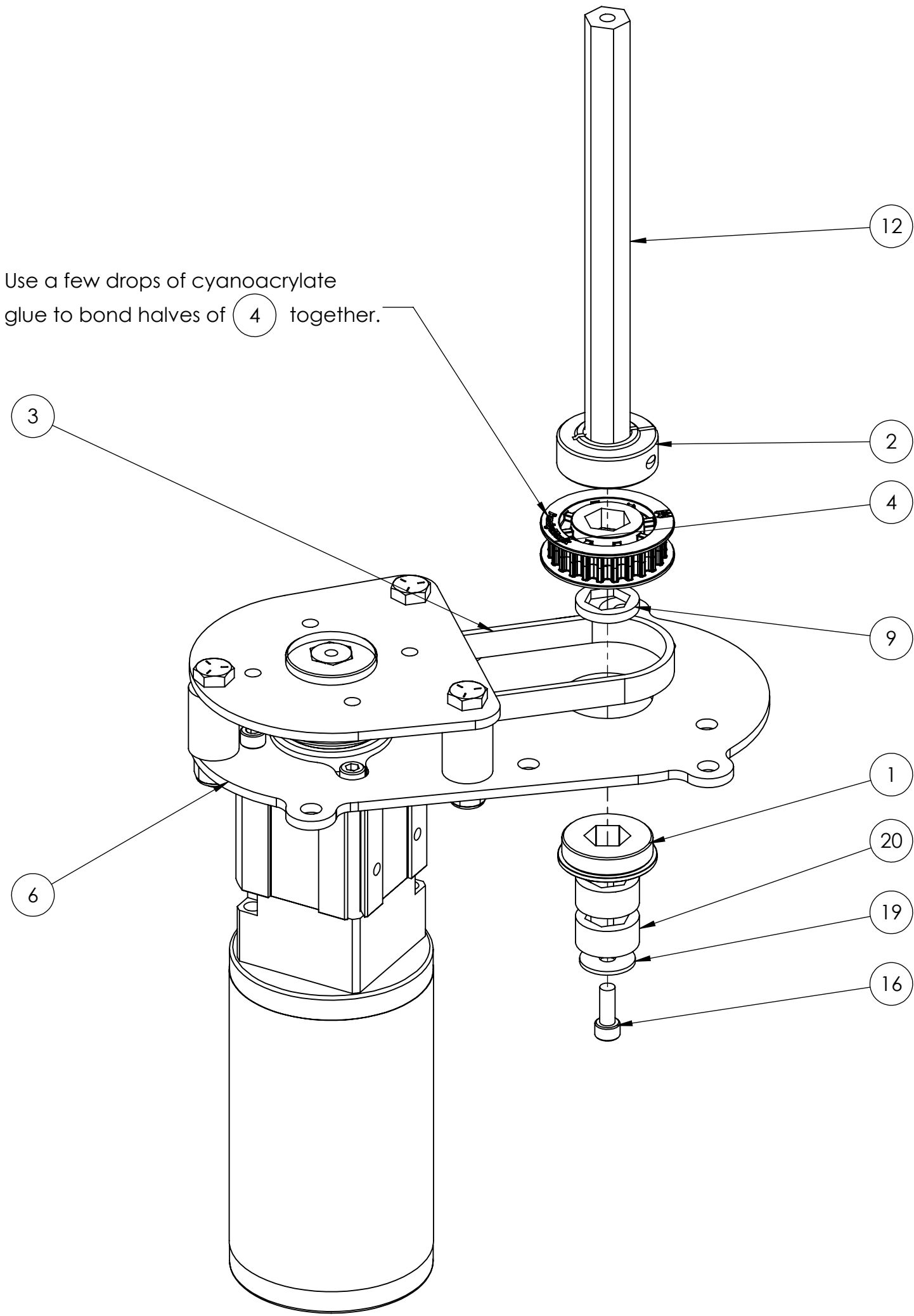


Notes:

1. Insert or press (1) into (7).
2. Slide (1) (7) onto the shaft of (5), noting flange orientation.
3. Attach (1) (7) to the assembly using (17) to space the plates and (13) and (15) to fasten. Be careful of belt routing.

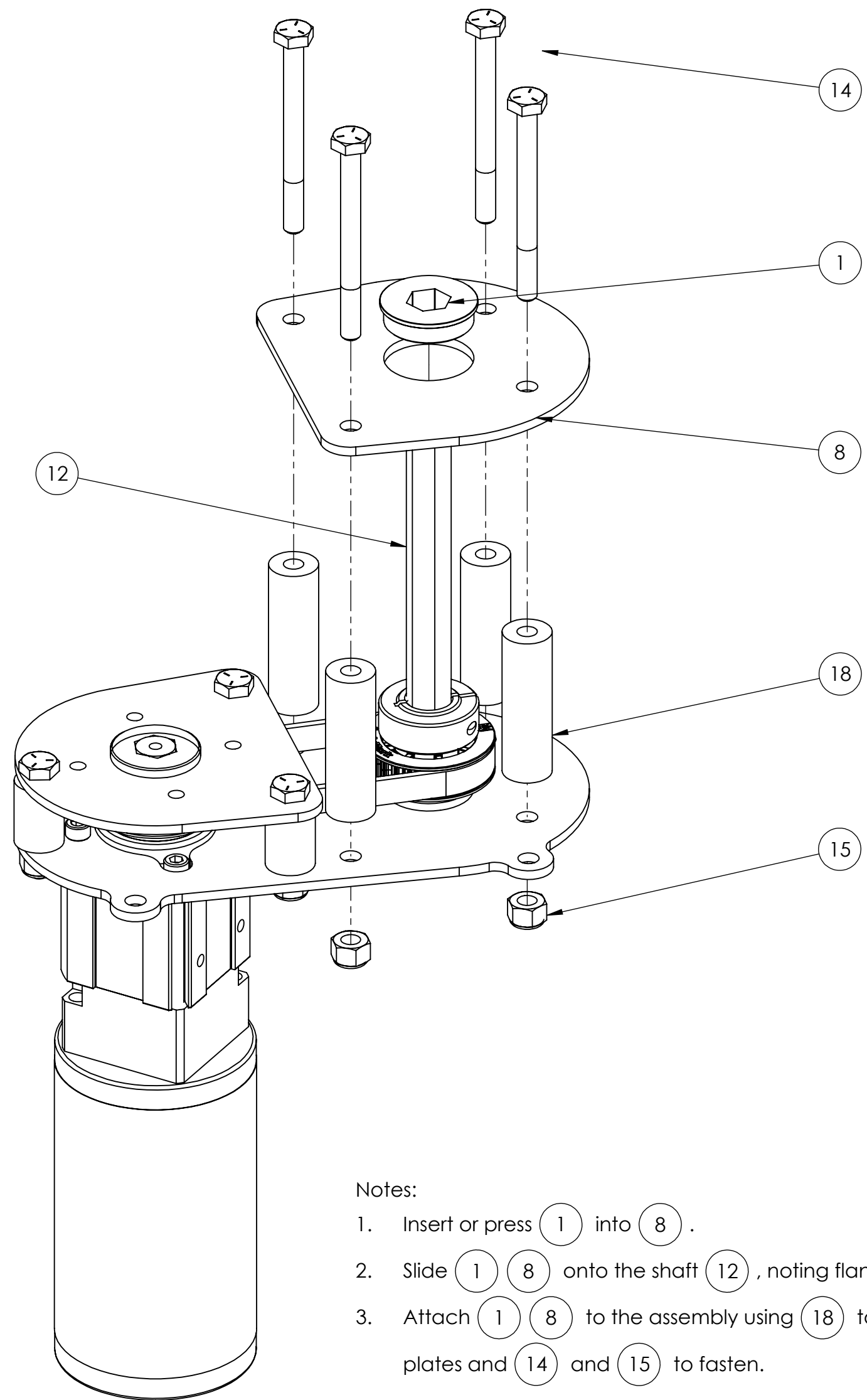
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	CO	6/25/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED 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: High Agitator Assembly
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22432 C
	SCALE: 2:3		SHEET 2 OF 4	

A Use a few drops of cyanoacrylate glue to bond halves of **4** together.





Notes:

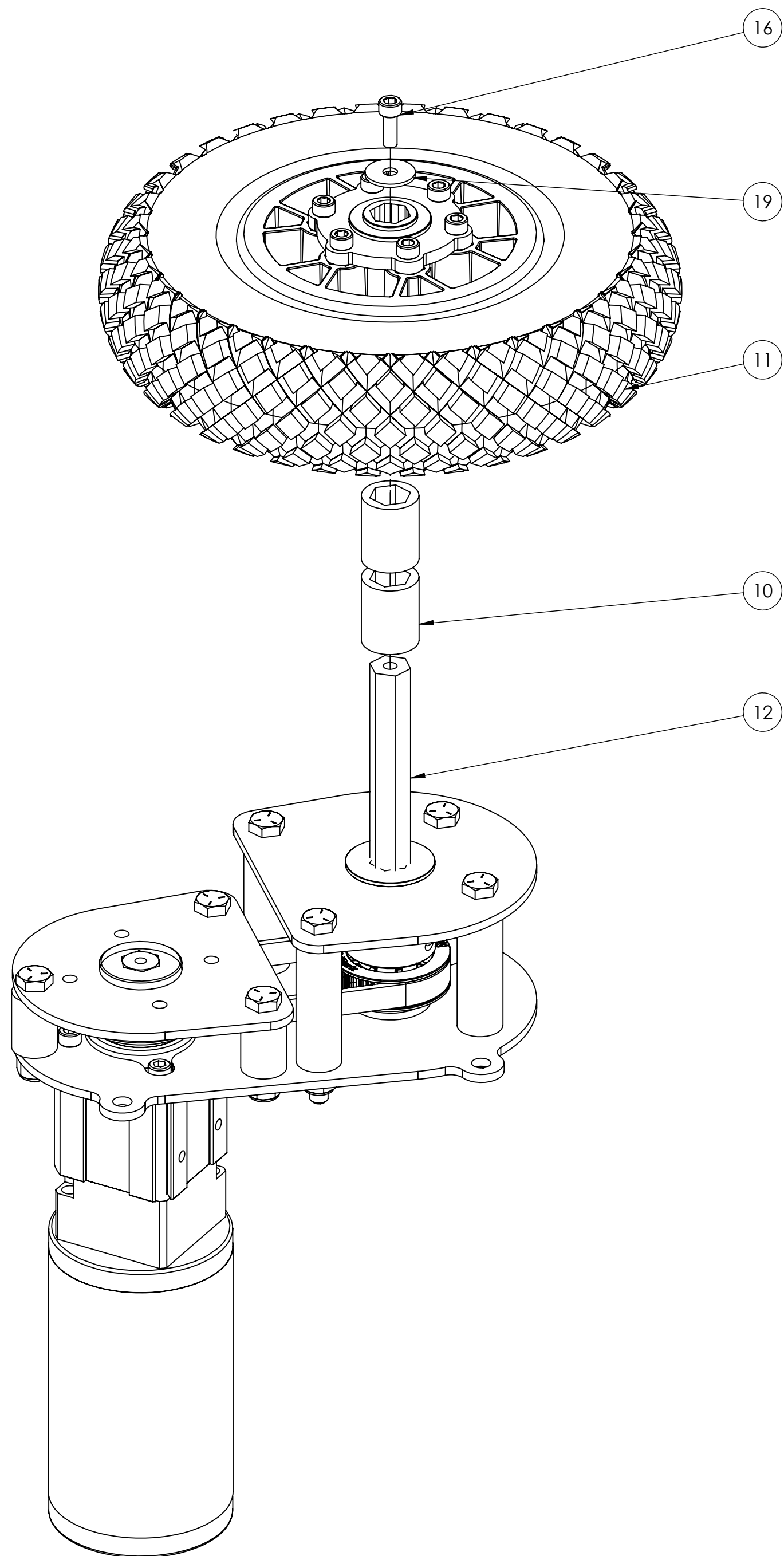
1. If not already done, press or insert **1** into **6**, noting flange orientation.
2. Slide items **2**, **4**, and **9** onto **12**, being careful of order.
3. Slide shaft into place, aligning **3** onto **4**, then aligning **12** with **1**.
4. Slide **20** (qty 2) onto **12**.
- C** 5. Attach **16** and **19** to **12**. **19** must be large enough diameter to prevent shaft being pulled past spacer.
6. With **20** flush to each other and **1**, **12** flush to the bottom of **20**, and **2** **4** **9** all flush to each other and **1**, tighten set screw on **2**.



Notes:



1. Insert or press **1** into **8**.
2. Slide **1** **8** onto the shaft **12**, noting flange orientation.
3. Attach **1** **8** to the assembly using **18** to space the plates and **14** and **15** to fasten.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	VEND	NAME	DATE	 
	DRAWN	CO	6/25/2021	
MATERIAL/FINISH:	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.			High Agitator Assembly
DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
	SCALE: 2:3			C GE-22432 C SHEET 3 OF 4



Notes:

1. Slide (10) x 2 onto (12) .
2. Slide (11) onto (12) , noting wheel orientation.
3. Fasten using (19) and (16) . (19) must be large enough diameter to prevent shaft being pulled past hub.

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	CO	6/25/2021
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.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:	 		
DO NOT SCALE DRAWING	COMMENTS:		TITLE:
	REMOVE ALL BURRS AND SHARP EDGES.		High Agitator Assembly
	SIZE	DWG. NO.	REV
	C	GE-22432	C
	SCALE: 2:3		SHEET 4 OF 4

4

3

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1

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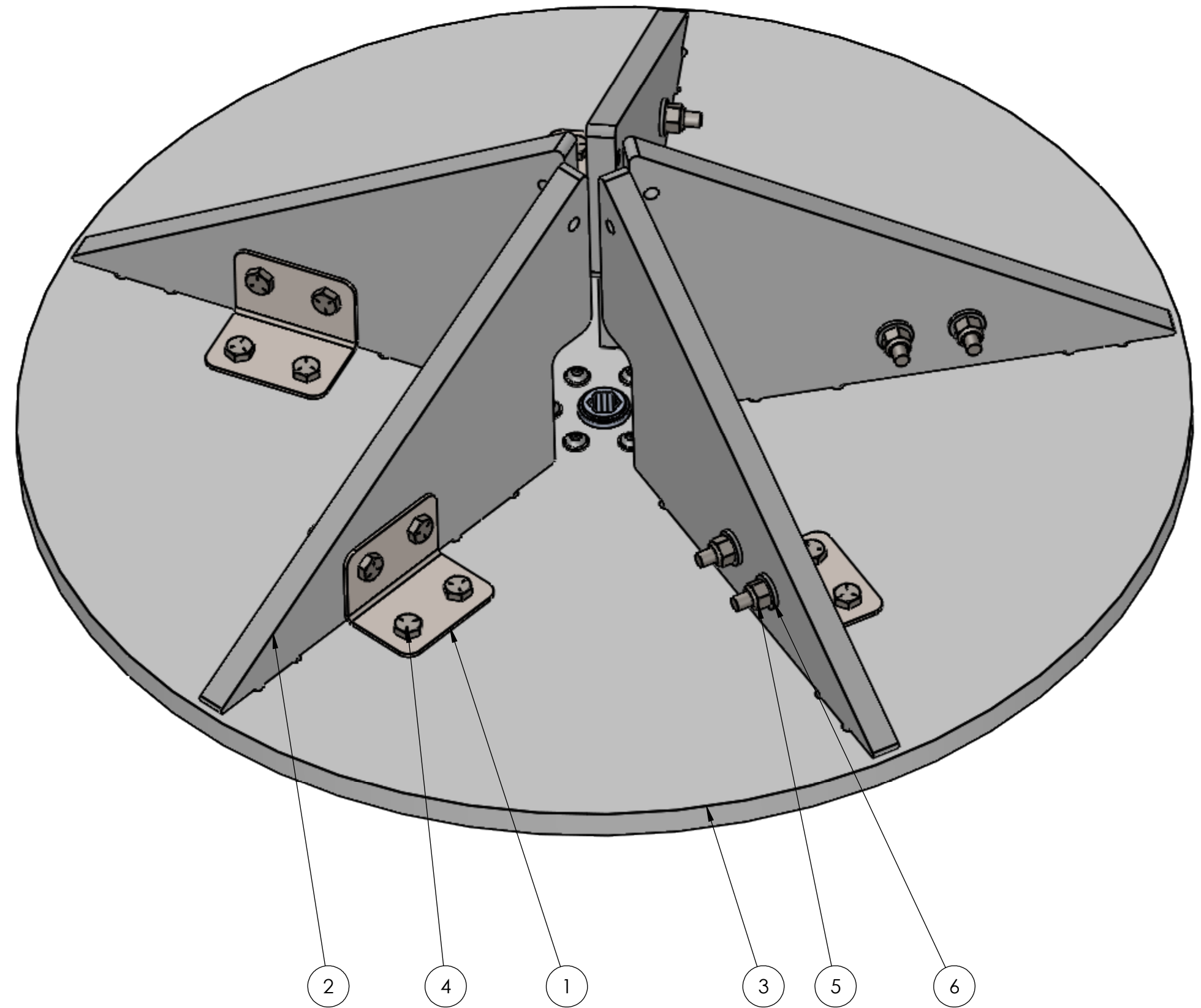
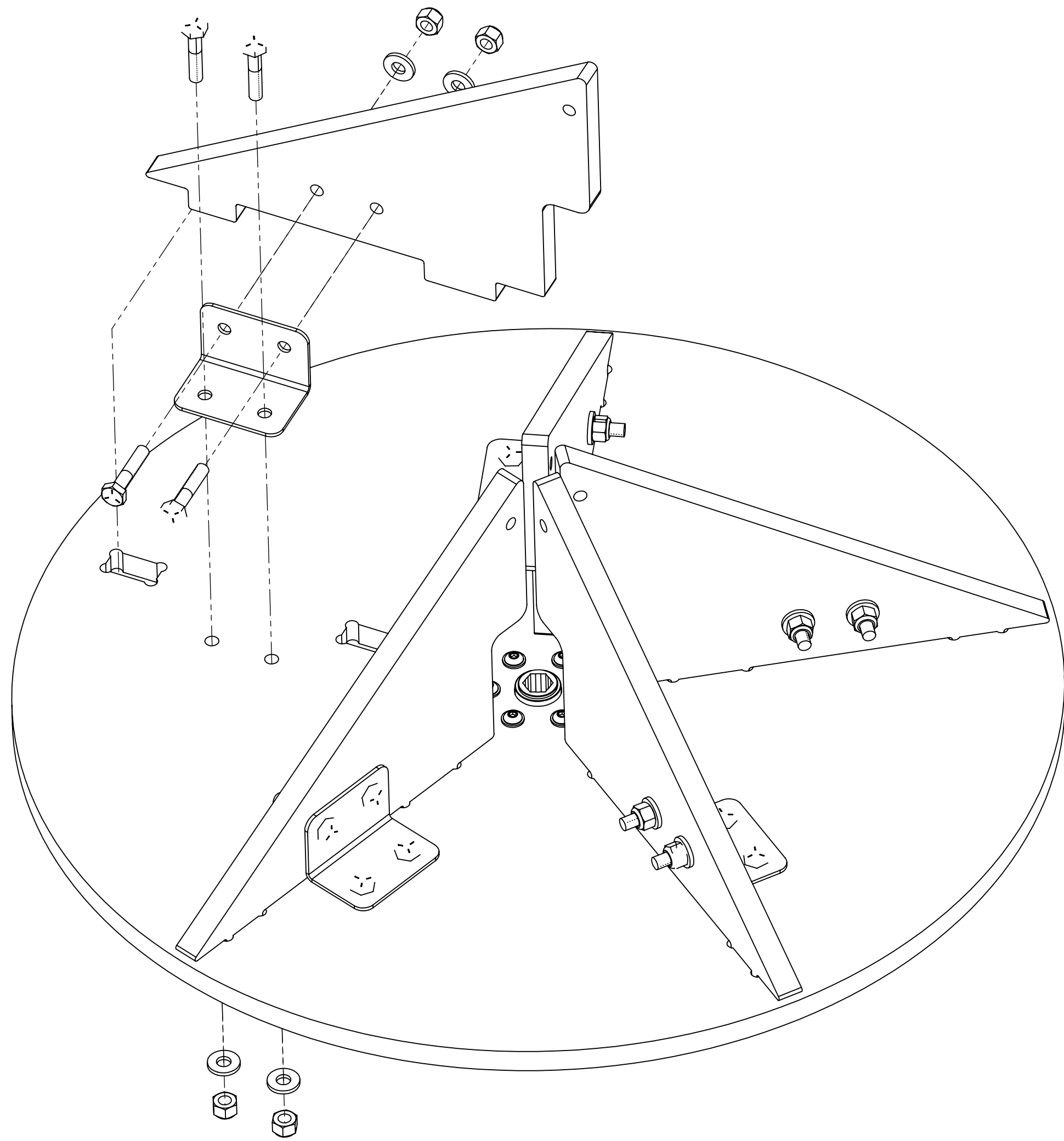
D

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Notes:

1. Attach (2) to (1) using (4), (5), and (6).
2. Attach the previous step to (3) using (4), (5), and (6). Tabs on (2) should insert into slots in (3).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22301	Hub Angle Bracket	5
2	GE-22435	Low Agitator Triangle	5
3	GE-22451	Low Agitator Wheel Base Assembly	1
4	hex_.25_20_1.25_partial	Steel Hex Head Bolt, 1/4-20 x 1.25", partially threaded	20
5	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	20
6	washer_flat_.25	Flat Washer for 1/4" Screw	20

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
 Tag or label with part number

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	12/29/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Low Agitator Wheel Assembly

SIZE	DWG. NO.	REV
C	GE-22433	

SCALE: 1:2 SHEET 1 OF 1

4

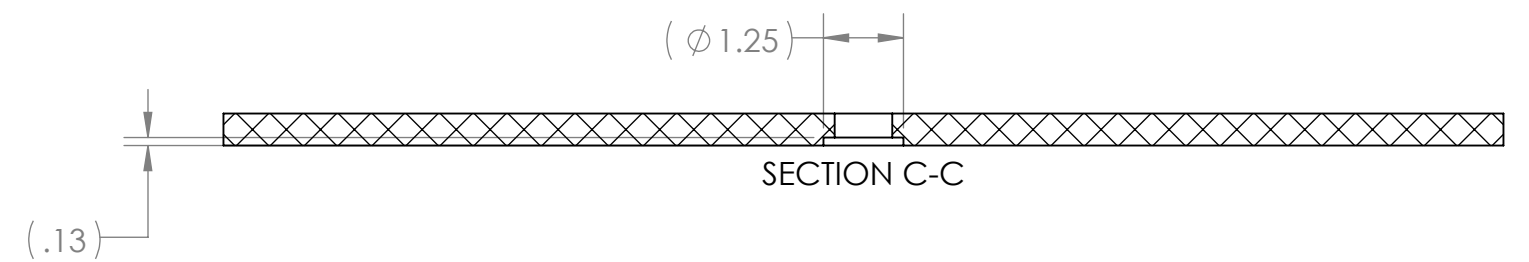
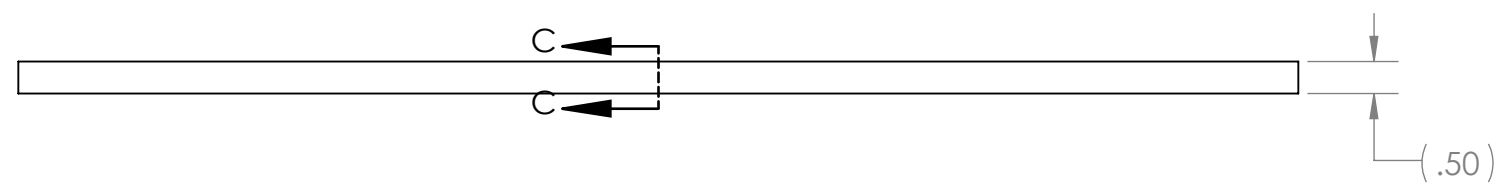
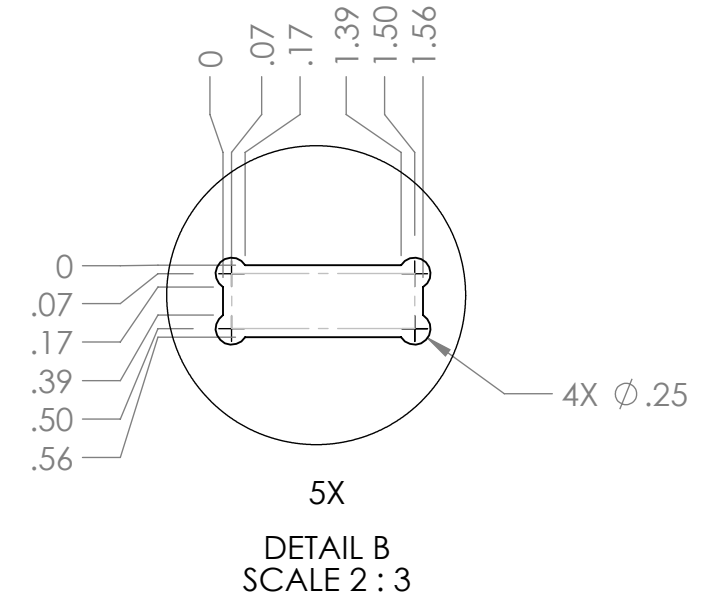
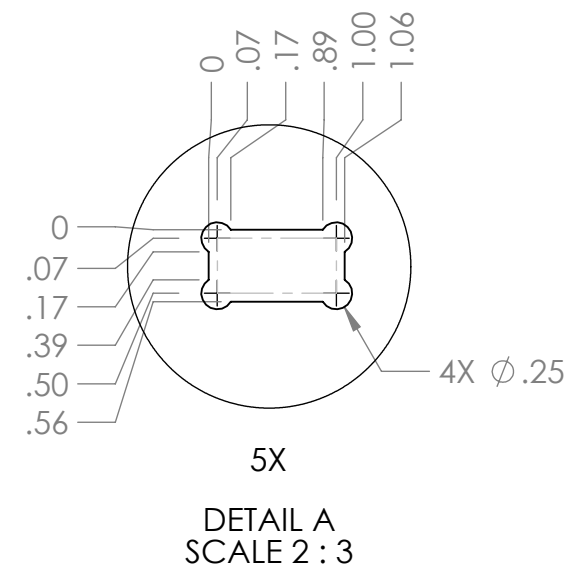
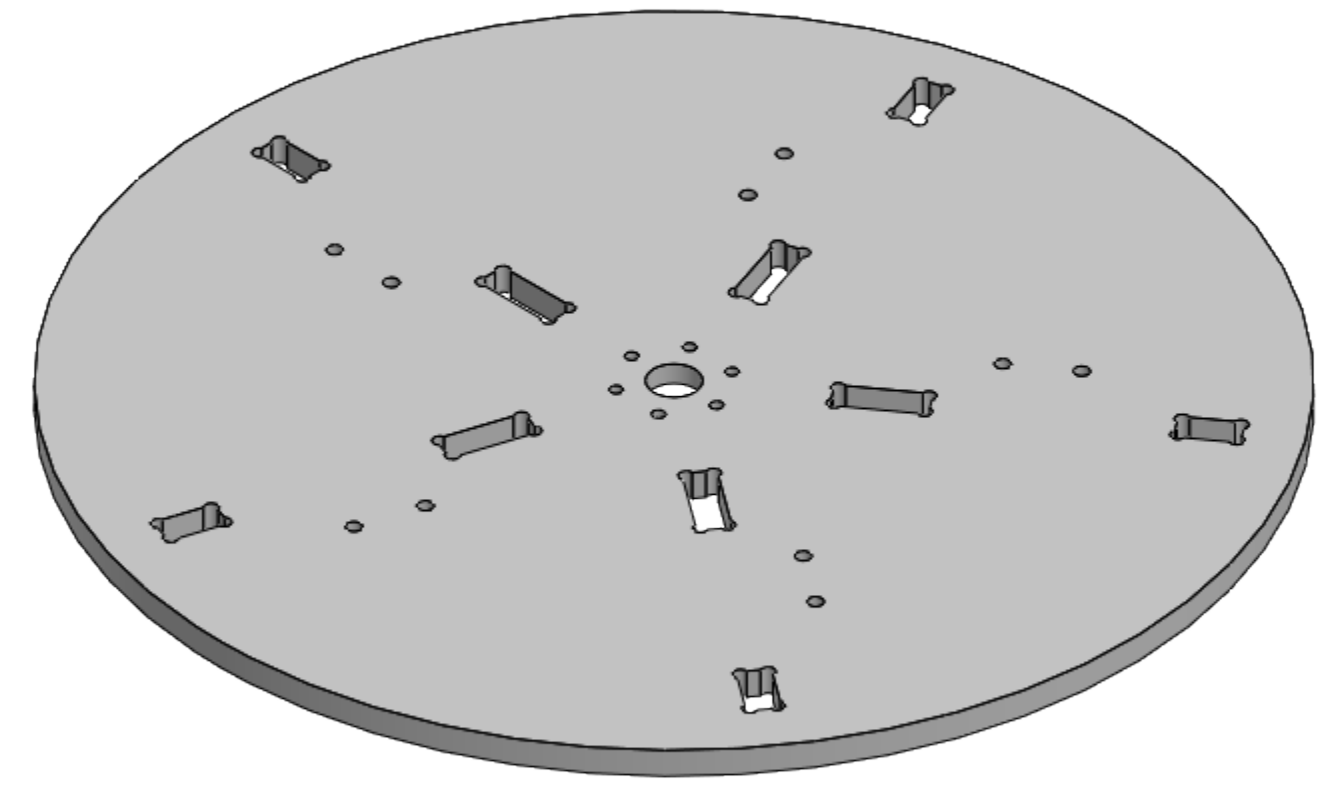
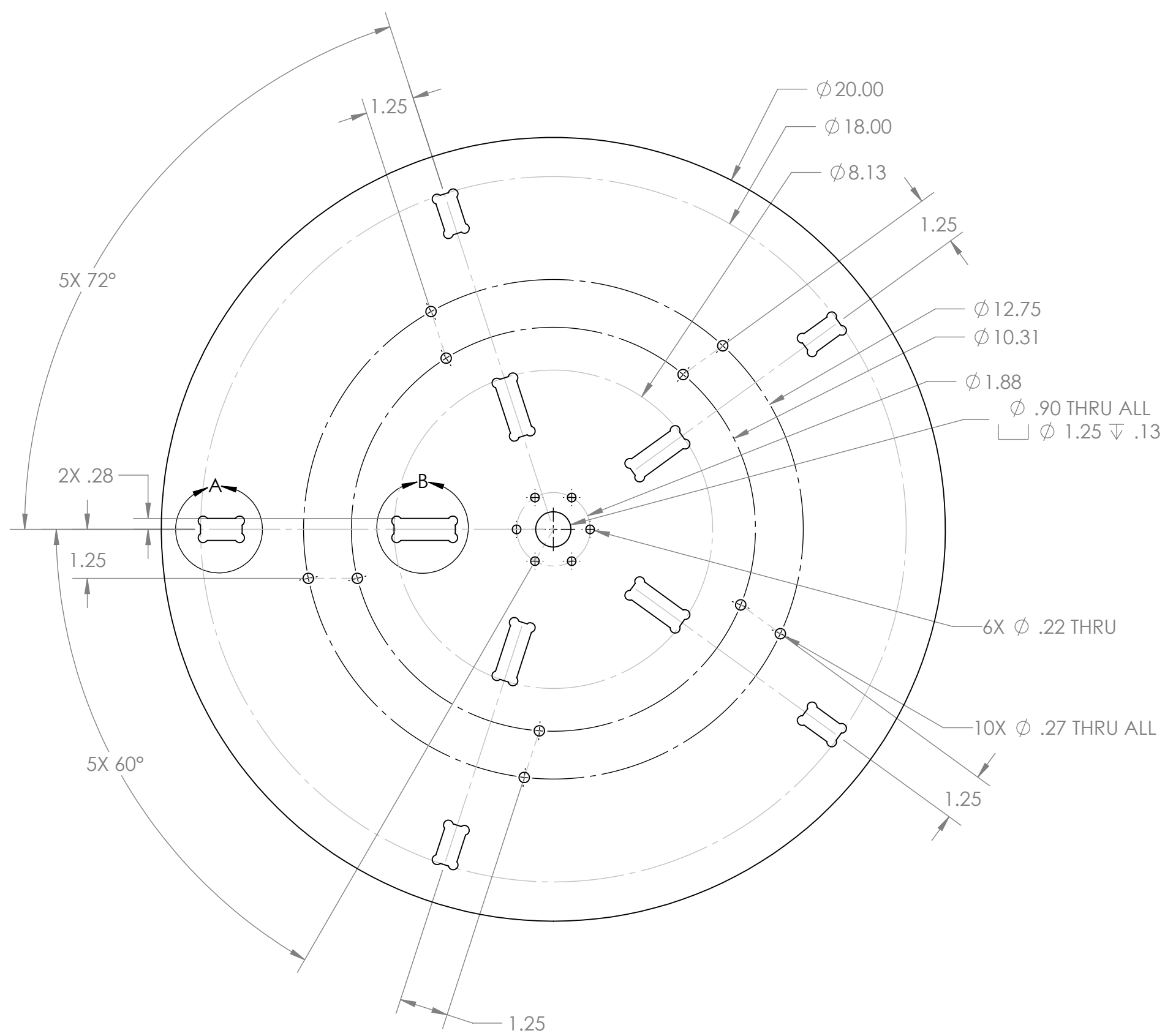
3



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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" HDPE, Natural. Tag or label with part number. DO NOT SCALE DRAWING	VEND	NAME	DATE	 	
	DRAWN	KAMC	5/13/2021		
	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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				Low Agitator Wheel Base
SIZE		DWG. NO.	REV		
C		GE-22434			
SCALE: 1:3		SHEET 1 OF 1			

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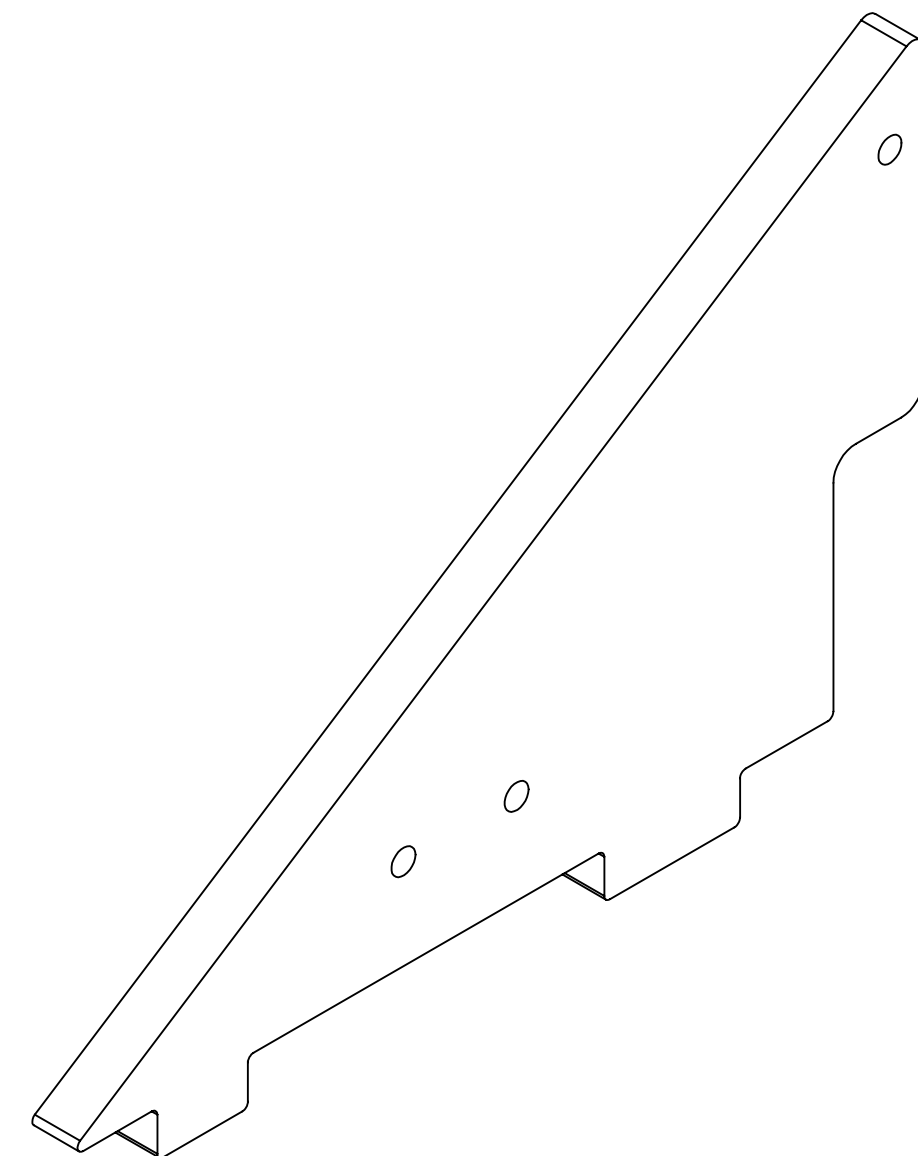
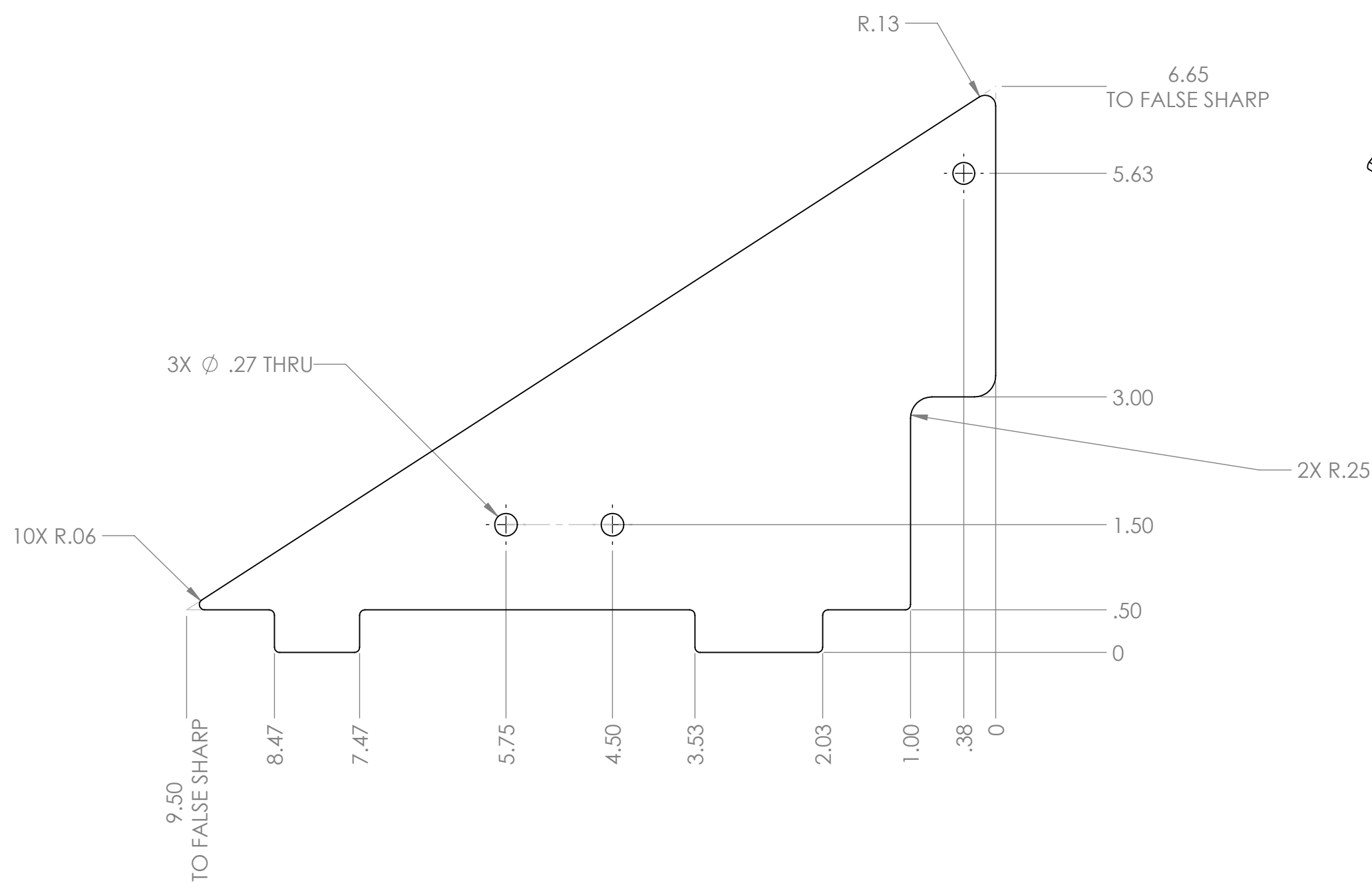
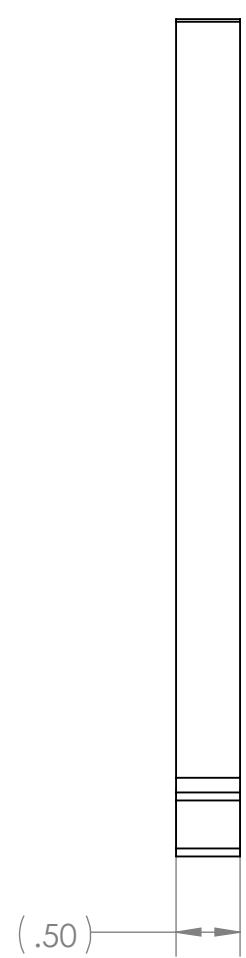
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1/2" HDPE, Natural, tag or label with part number DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	KAMC	6/16/2021
	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: Low Agitator Triangle		
SIZE	DWG. NO.	REV
C	GE-22435	
SCALE: 2:3		SHEET 1 OF 1

4

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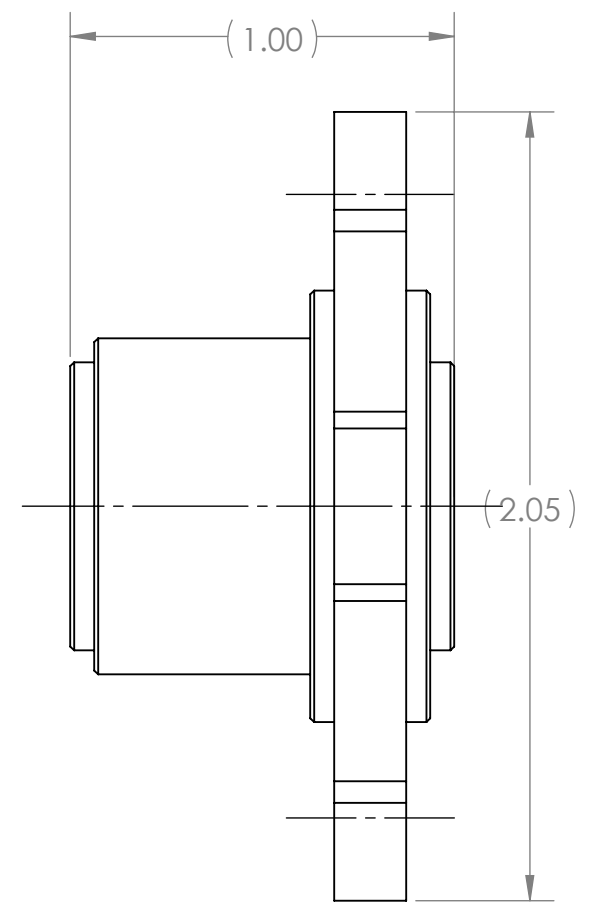
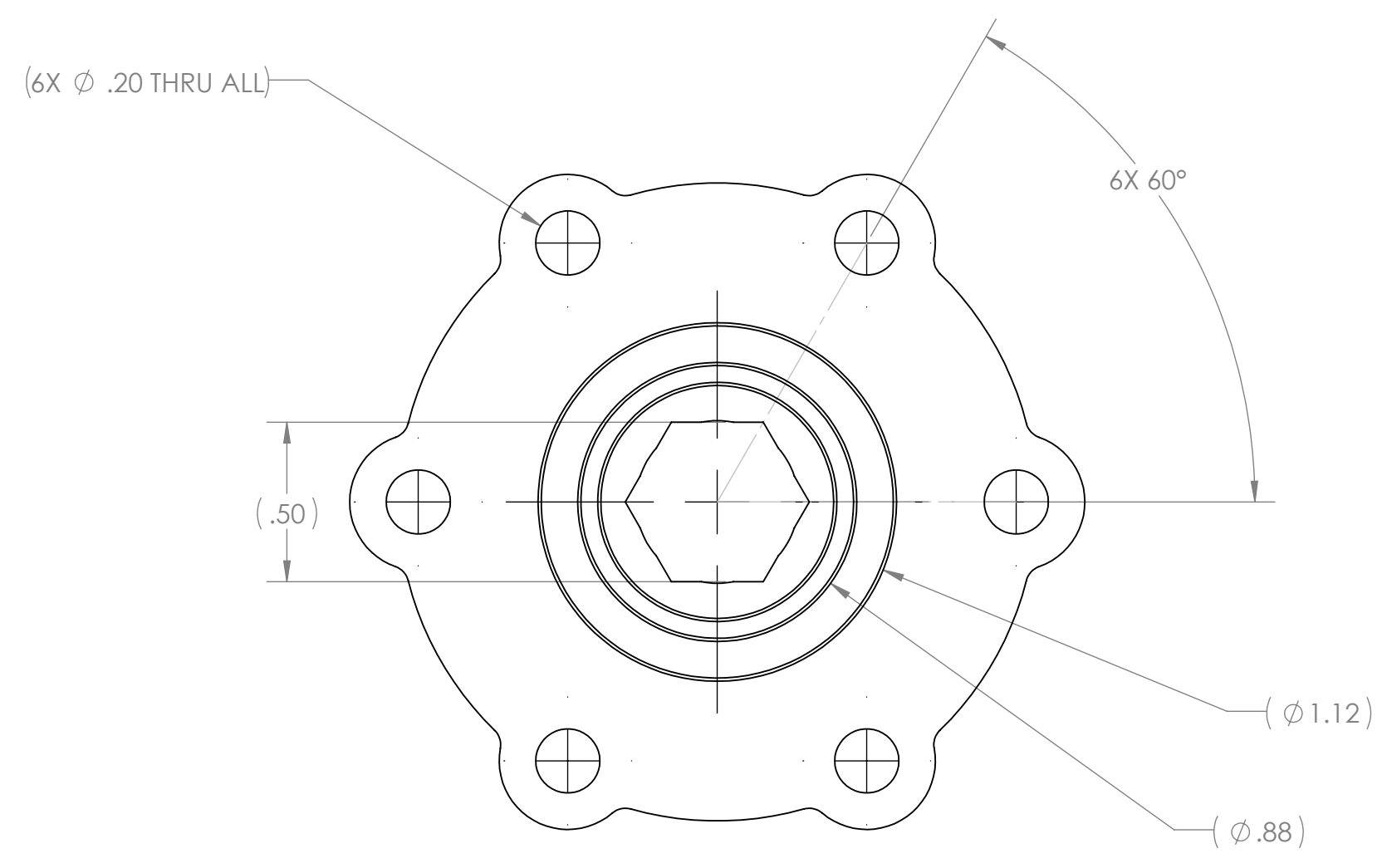
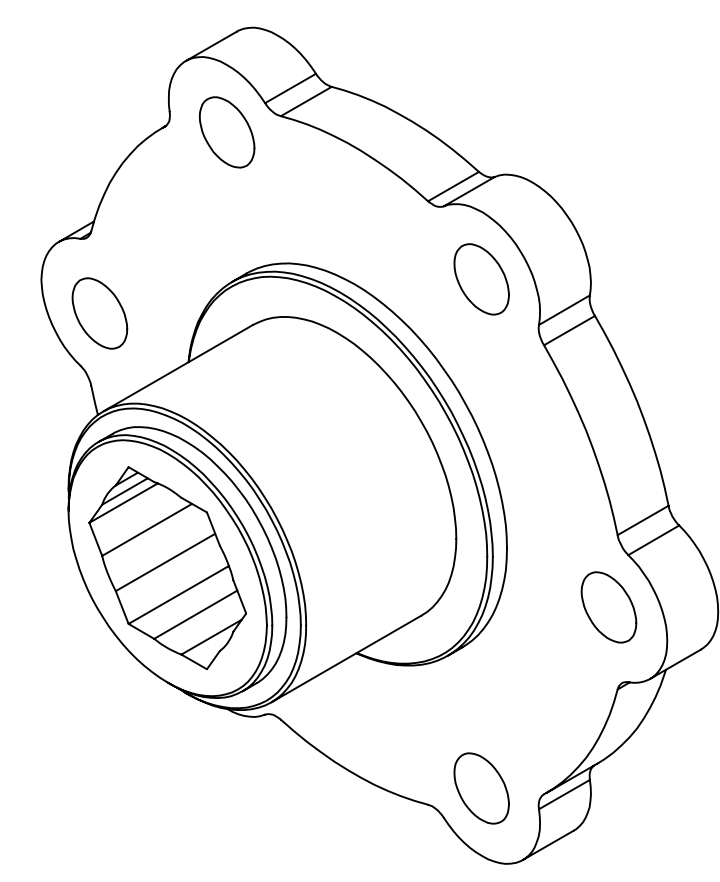
C

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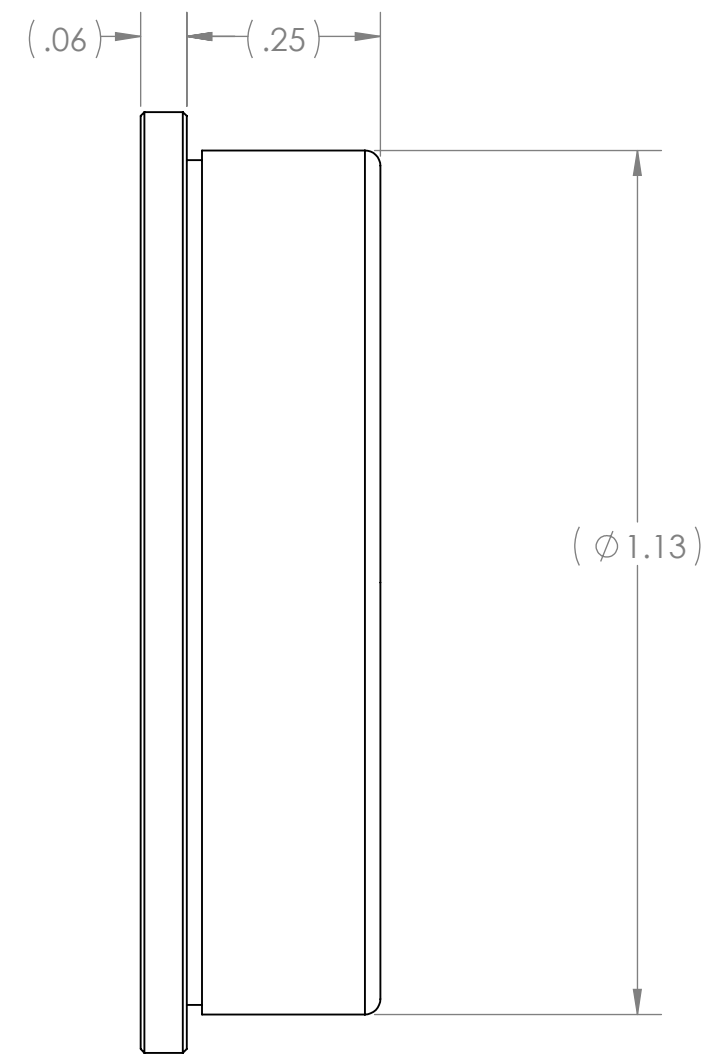
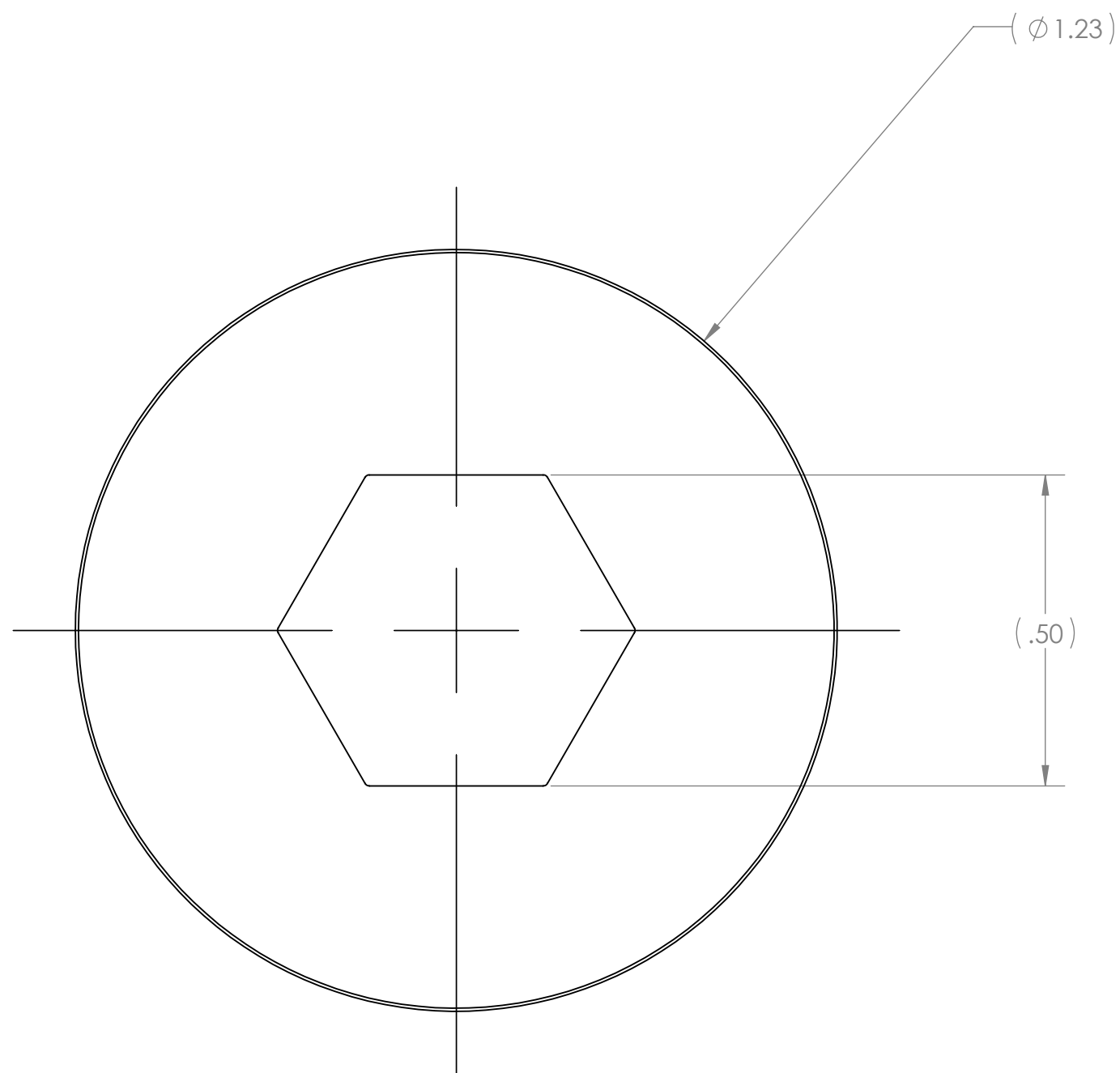
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A



Description: Hex Hub
Vendor: AndyMark
Part Number: am-4124

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	KAMC	6/21/2021	
	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.			AndyMark 1/2 in. Hex Hub
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22436
	SCALE: 2:1		SHEET 1 OF 1	



Notes:

1. Description: 1/2 in. flanged hex bearing
2. Source: AndyMark
3. Item #: am-2986
4. Equivalent substitutions 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	CO	6/22/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
1/2 in. Hex Bearing

SIZE	DWG. NO.	REV
------	----------	-----

C	GE-22437	
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SCALE: 4:1	SHEET 1 OF 1
------------	--------------

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(R.63)

(R.38)

(.51)

(.50)



(.44)

.156
5/32

10-32 x .5 in. Socket Head Cap Screw

Notes:

- 1. Description: 1/2 in. Hex HD Split Collar Clamp
- 2. Source: AndyMark
- 3. Item #: am-1526
- 4. Equivalent substitutions allowed

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005	VEND	NAME	DATE	 
	DRAWN	CO	6/22/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: <h3>1/2 in. Hex Shaft Collar</h3>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
DO NOT SCALE DRAWING	COMMENTS:			SIZE DWG. NO. REV C GE-22438
	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 4:1 SHEET 1 OF 1

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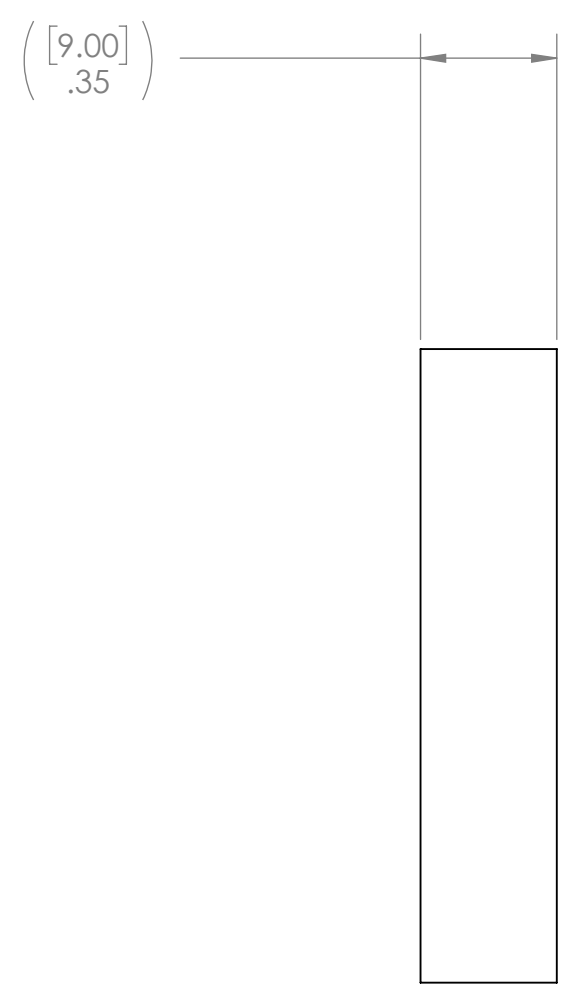
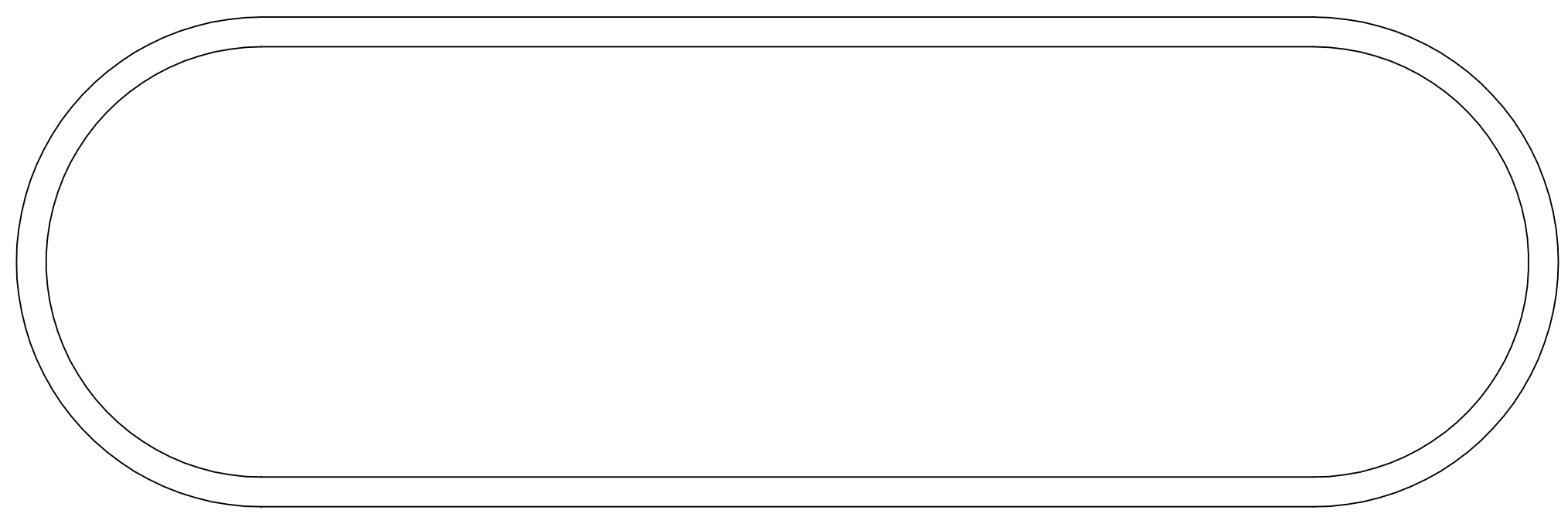
C

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Notes:

- 1. Description: 60 tooth, 9mm wide, 300 mm long, 5mm HTD timing belt
- 2. Source: Gates
- 3. Item #: 300-5M-09
- 4. Equivalent substitutions allowed

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005	VEND	NAME	DATE	
	DRAWN	CO	6/22/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: 60t 9mm wide 5mm HTD belt
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
DO NOT SCALE DRAWING	COMMENTS:			SIZE DWG. NO. REV C GE-22439
	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 2:1 SHEET 1 OF 1

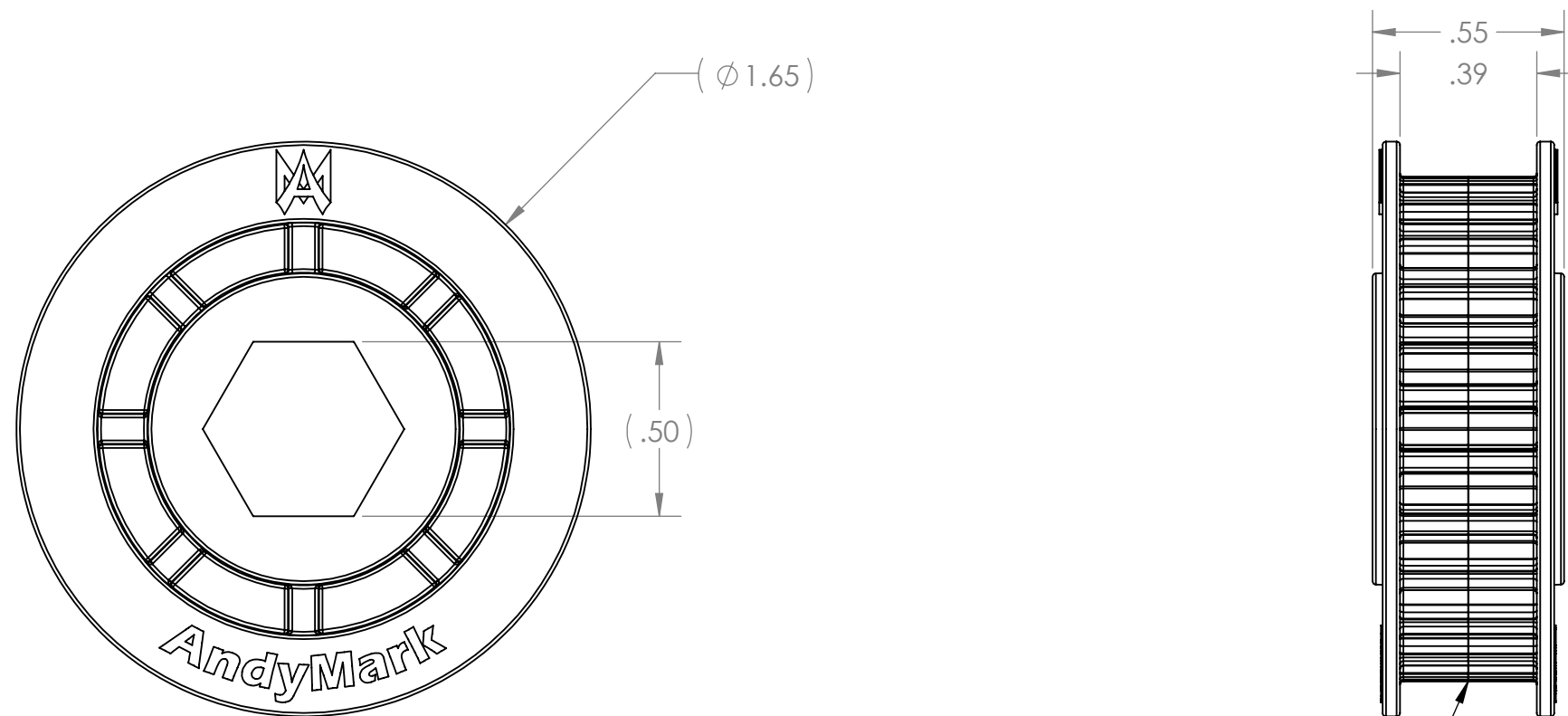
4

3

2



1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	A	Added note about use of glue to fasten halves together.	8/17/2021	CPO



A Use a few drops of cyanoacrylate glue to bond halves together.

- Notes:
1. Description: 24 tooth 0.5 in. Hex Bore 5mm HTD Pulley
 2. Source: AndyMark
 3. Item #: am-3403
 4. Equivalent substitutions 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 $\pm .005$	VEND	NAME	DATE	 						
	DRAWN	CO	6/22/2021							
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL			TITLE: 24 tooth 5mm HTD hex bore pulley						
	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.			<table border="1"> <tr> <td>SIZE</td> <td>DWG. NO.</td> <td>REV</td> </tr> <tr> <td>C</td> <td>GE-22440</td> <td>A</td> </tr> </table>	SIZE	DWG. NO.	REV	C	GE-22440	A
SIZE	DWG. NO.	REV								
C	GE-22440	A								
DO NOT SCALE DRAWING	SCALE: 2:1		SHEET 1 OF 1							

4

3

2

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C

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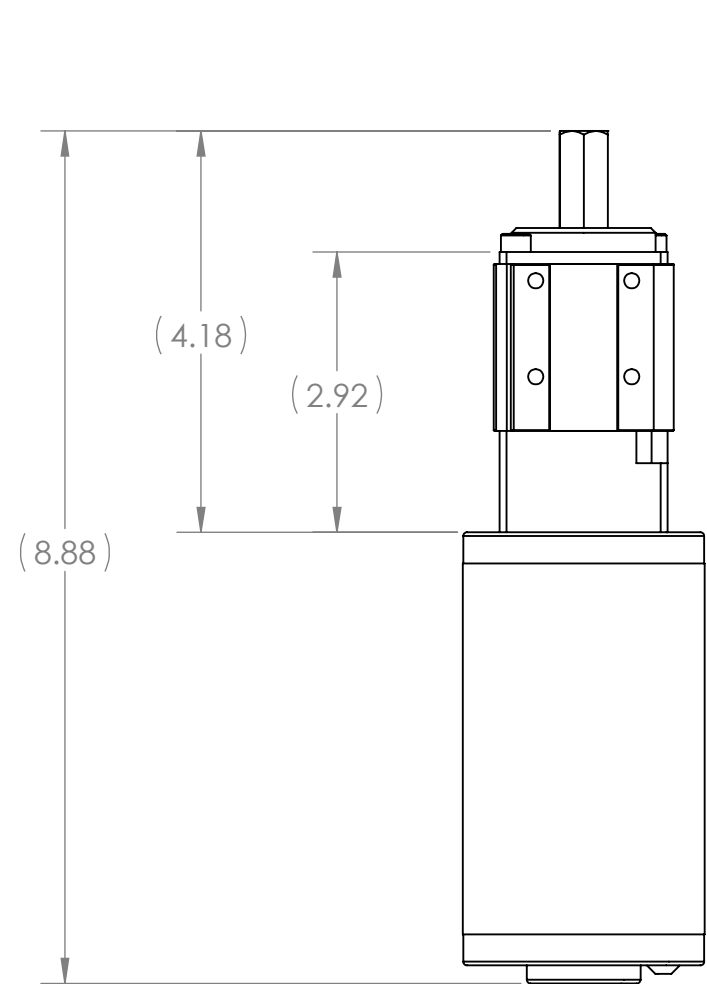
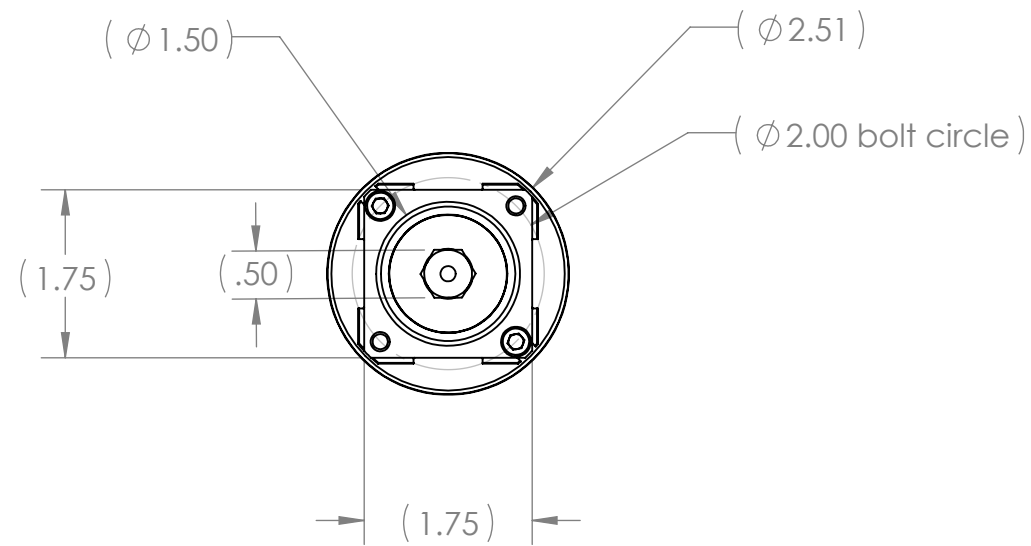
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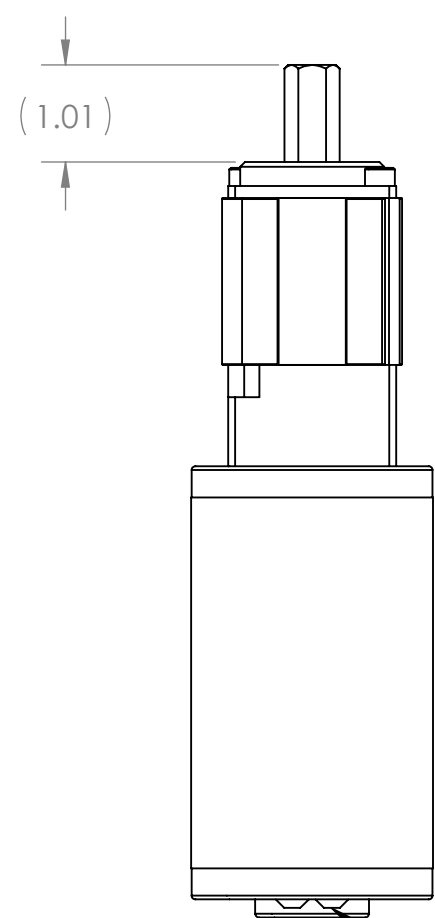
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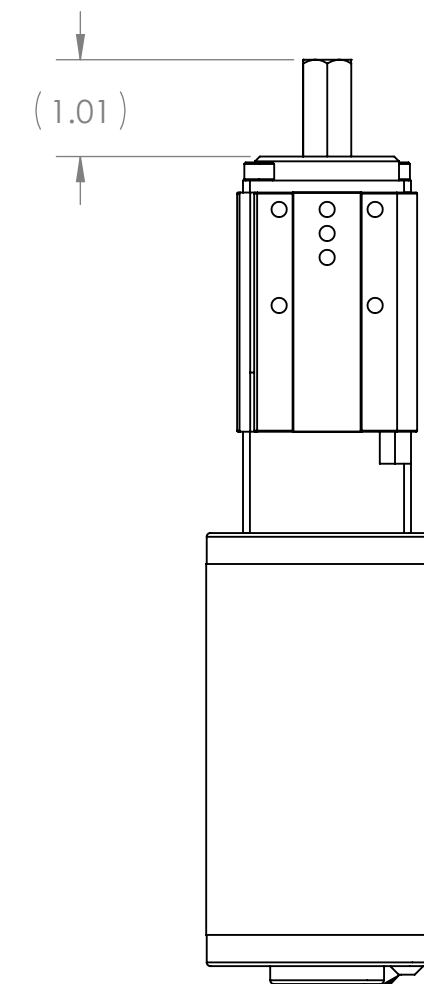
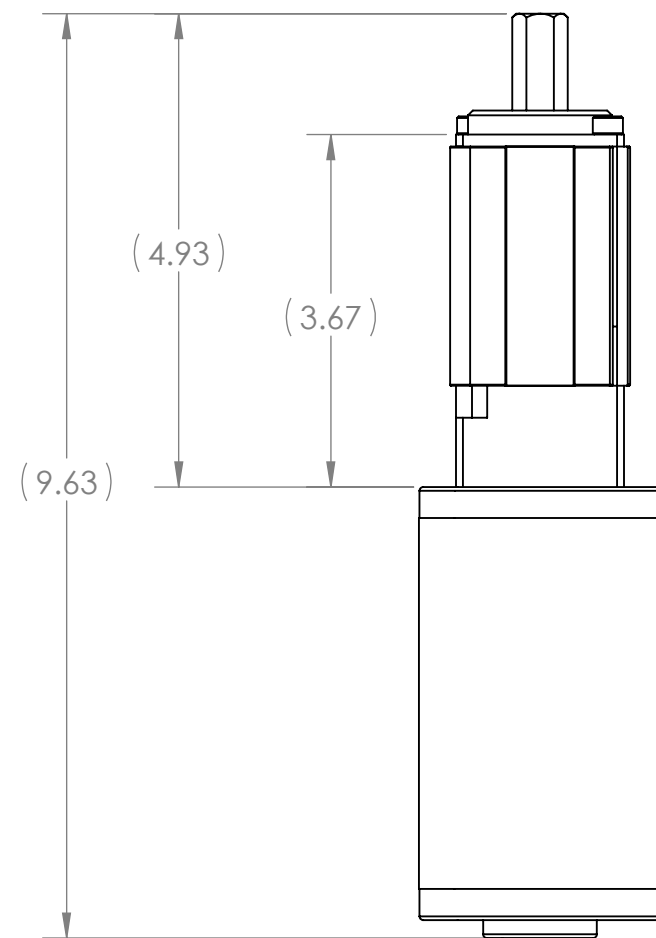
1



GE-22441-012



GE-22441-080



CIM motor to have Anderson PowerPole connectors installed

Notes:

- 1. Fasteners should be installed with loctite or other threadlocker.
- 2. Source: AndyMark

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/24/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
AndyMark CIM Sport with CIM Motor

SIZE	DWG. NO.	REV
------	----------	-----

C GE-22441

SCALE: 1:2 SHEET 1 OF 1

Part Number	Description	Gearbox Manufacturer PN	Motor Manufacturer PN
GE-22441-012	12:1 CIM Sport Gearbox with CIM Motor	am-4007_012	am-0255_16T
GE-22441-080	80:1 CIM Sport Gearbox with CIM Motor	am-4008_080	am-0255_16T

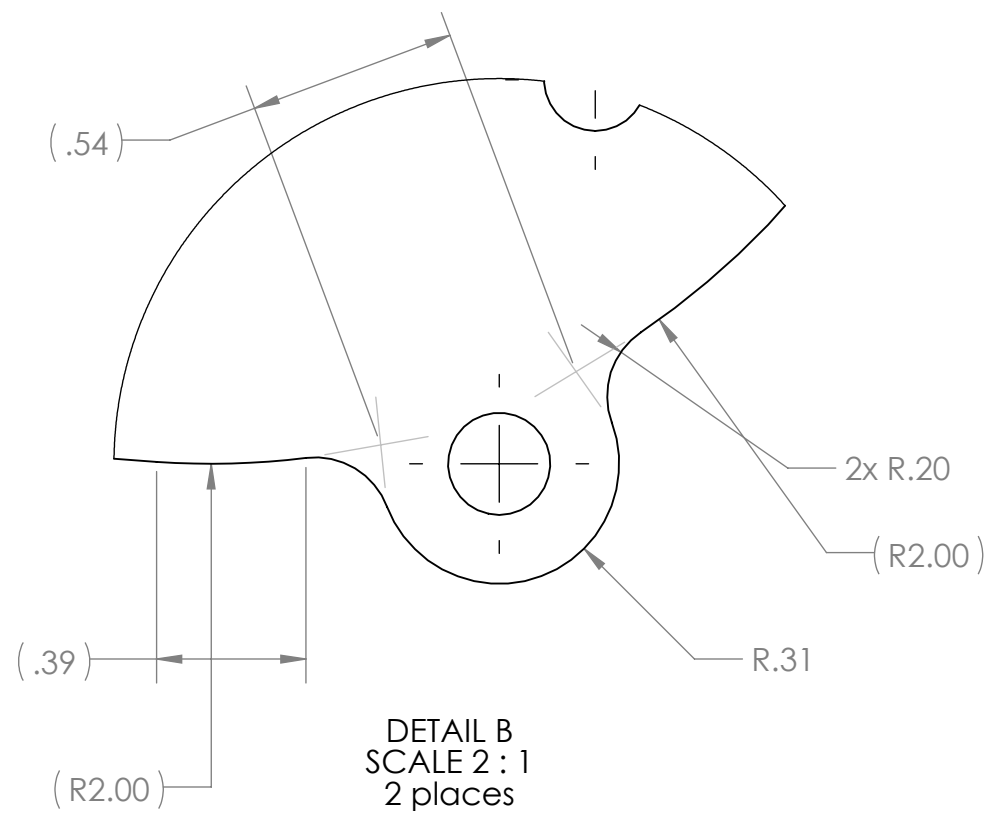
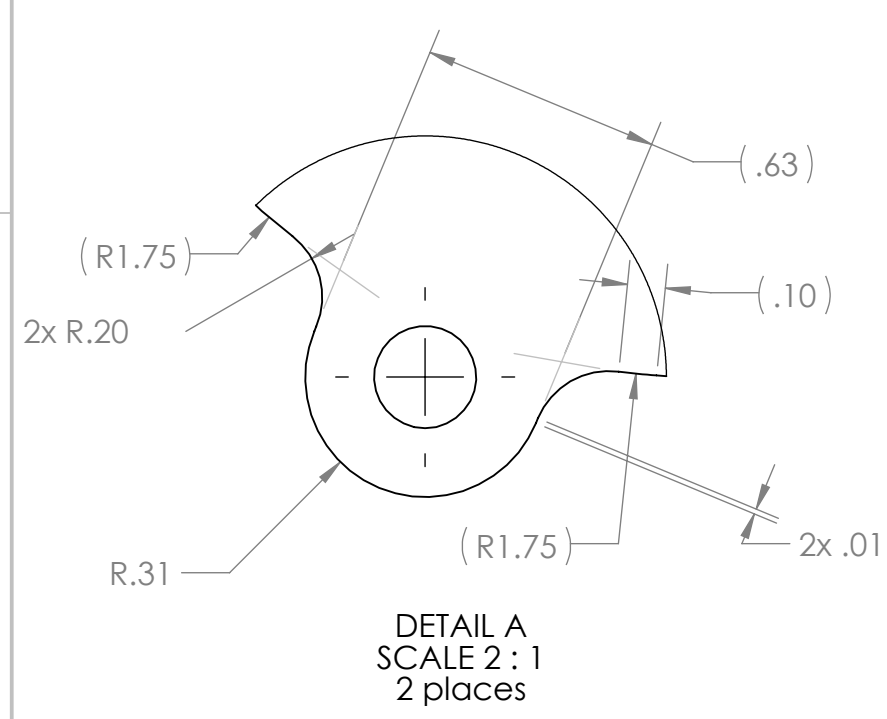
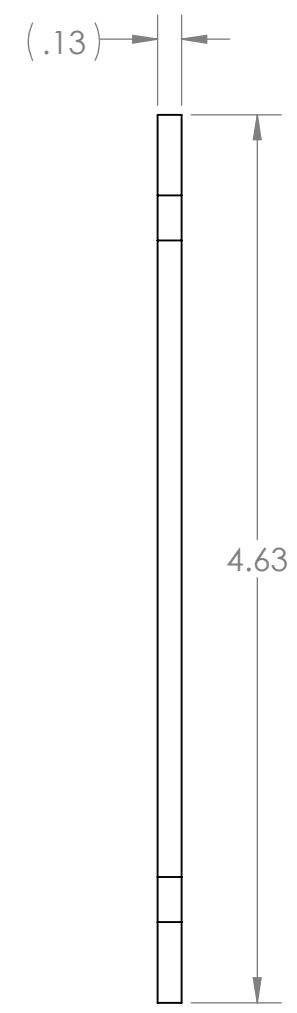
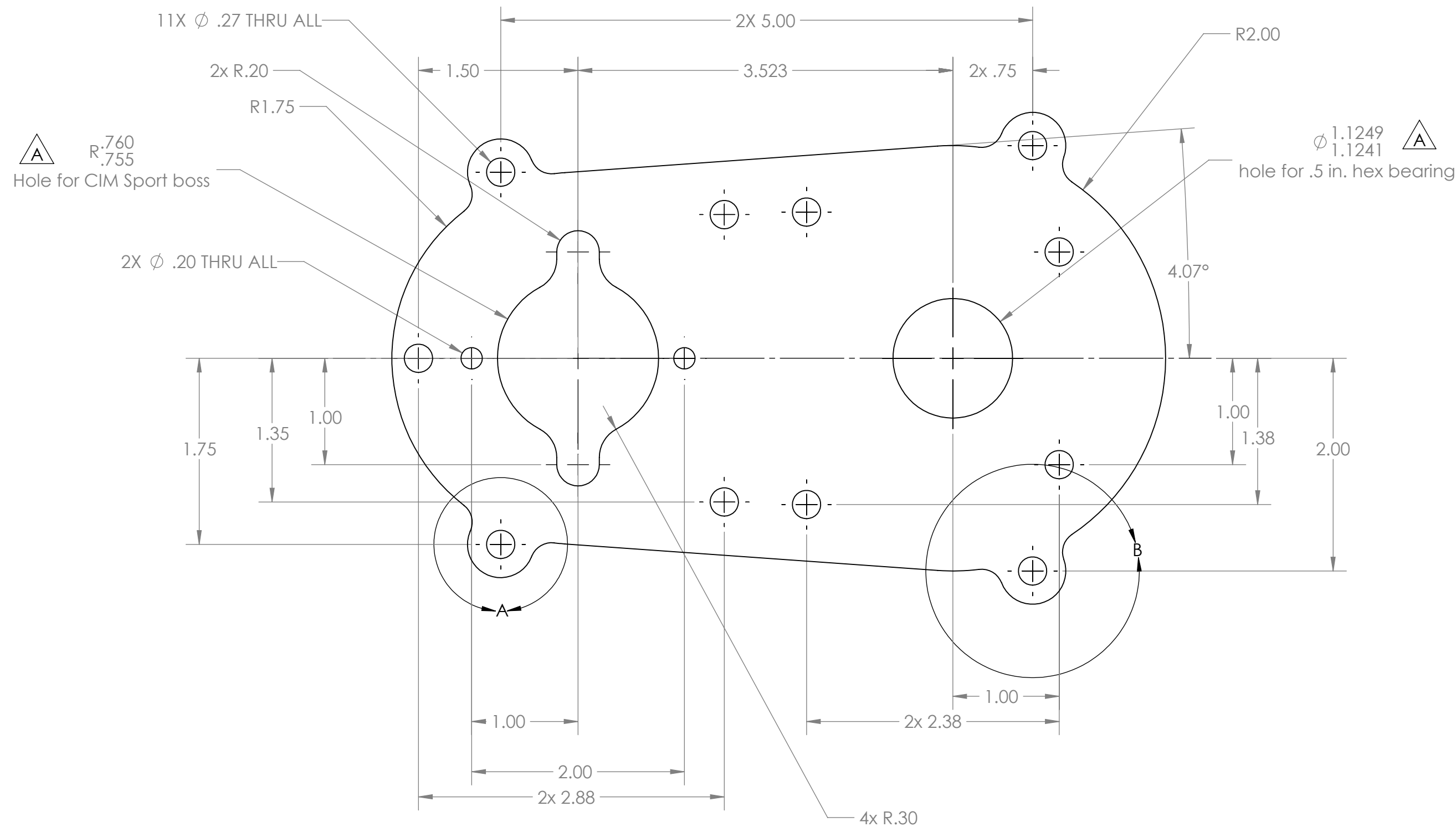
4

3

2

1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
D2, D4	A	Adjusted hole size and tolerance for bearing and gearbox cutouts.	8/17/2021	CPO



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

MATERIAL/FINISH:
 1/8 thk. 5052 Aluminum Sheet

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/22/2021

PROPRIETARY AND CONFIDENTIAL

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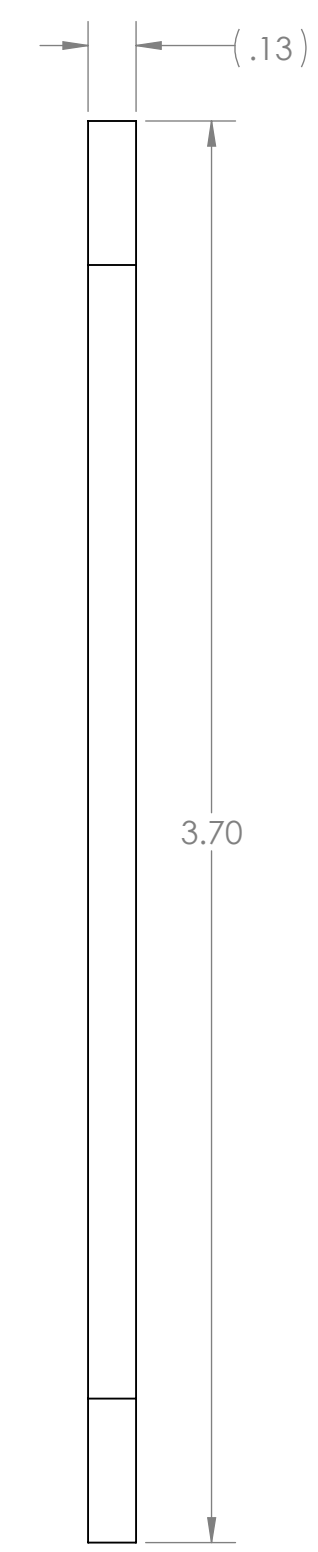
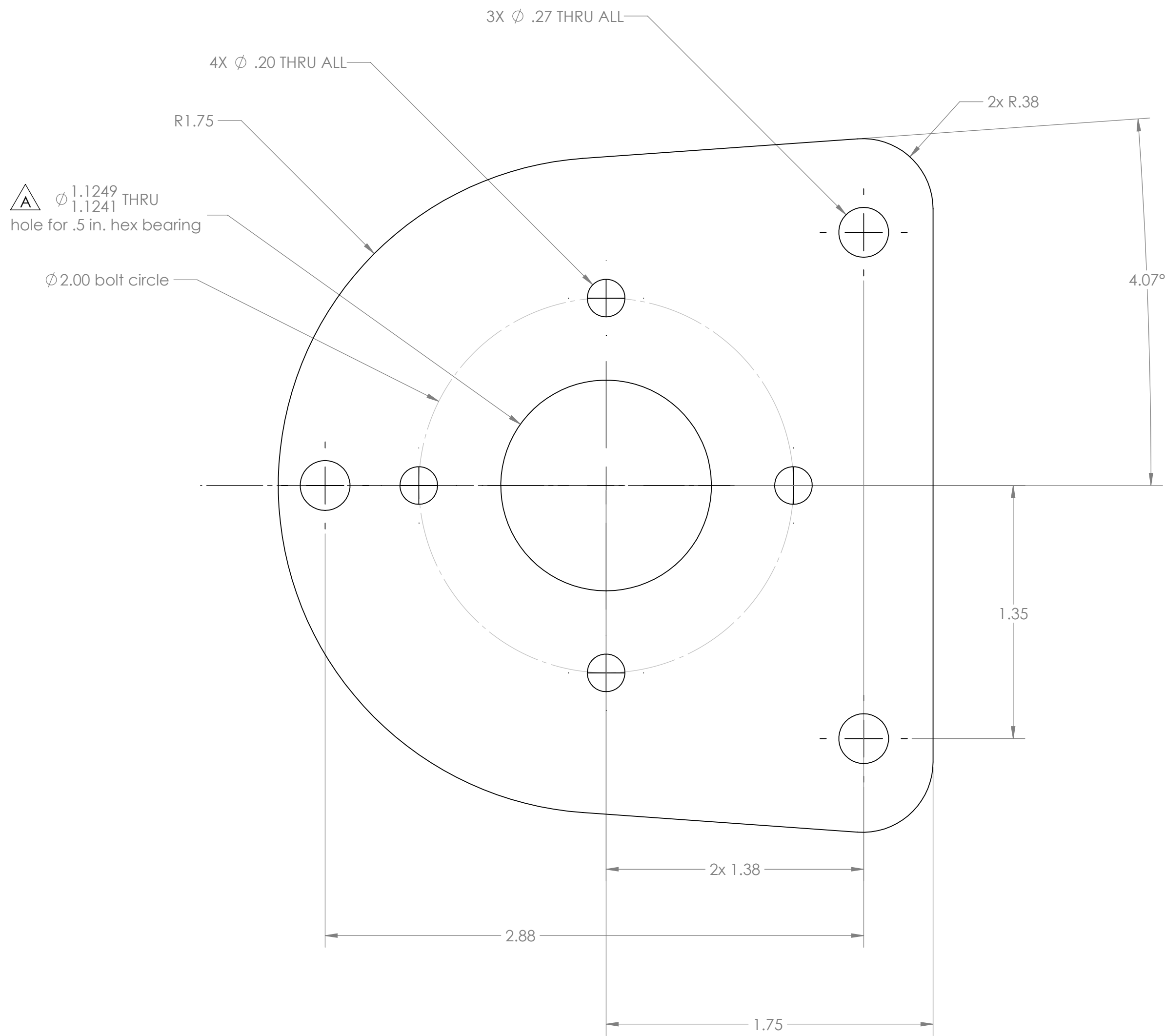
COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE:
Agitator Baseplate

SIZE	DWG. NO.	REV
C	GE-22442	A

SCALE: 1:1 SHEET 1 OF 1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
D4	A	Adjusted hole size and tolerance for bearing cutout.	8/17/2021	CPO



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

MATERIAL/FINISH:
 1/8 thk. 5052 Aluminum Sheet

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/23/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE:
Agitator Gearbox Auxillary Plate

SIZE	DWG. NO.	REV
C	GE-22443	A

SCALE: 2:1 SHEET 1 OF 1

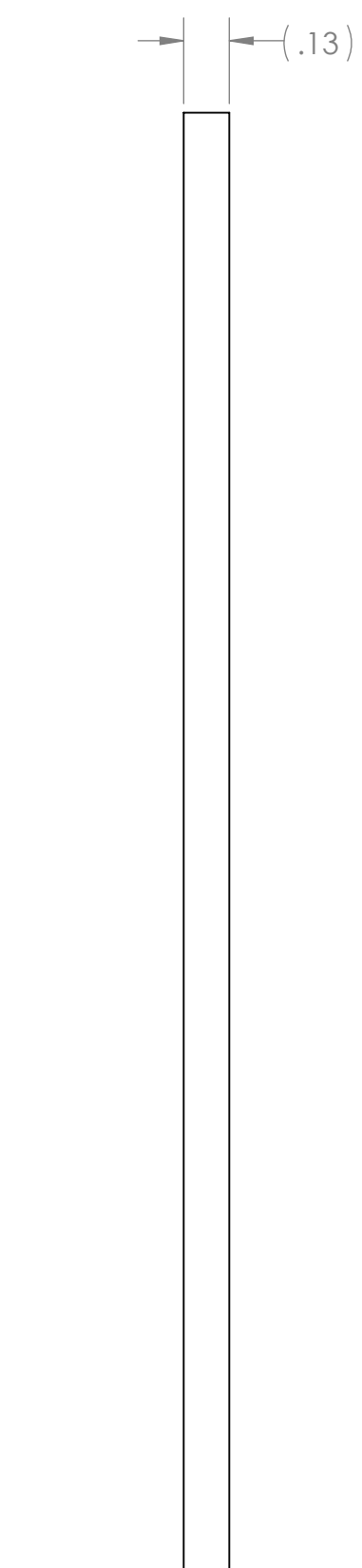
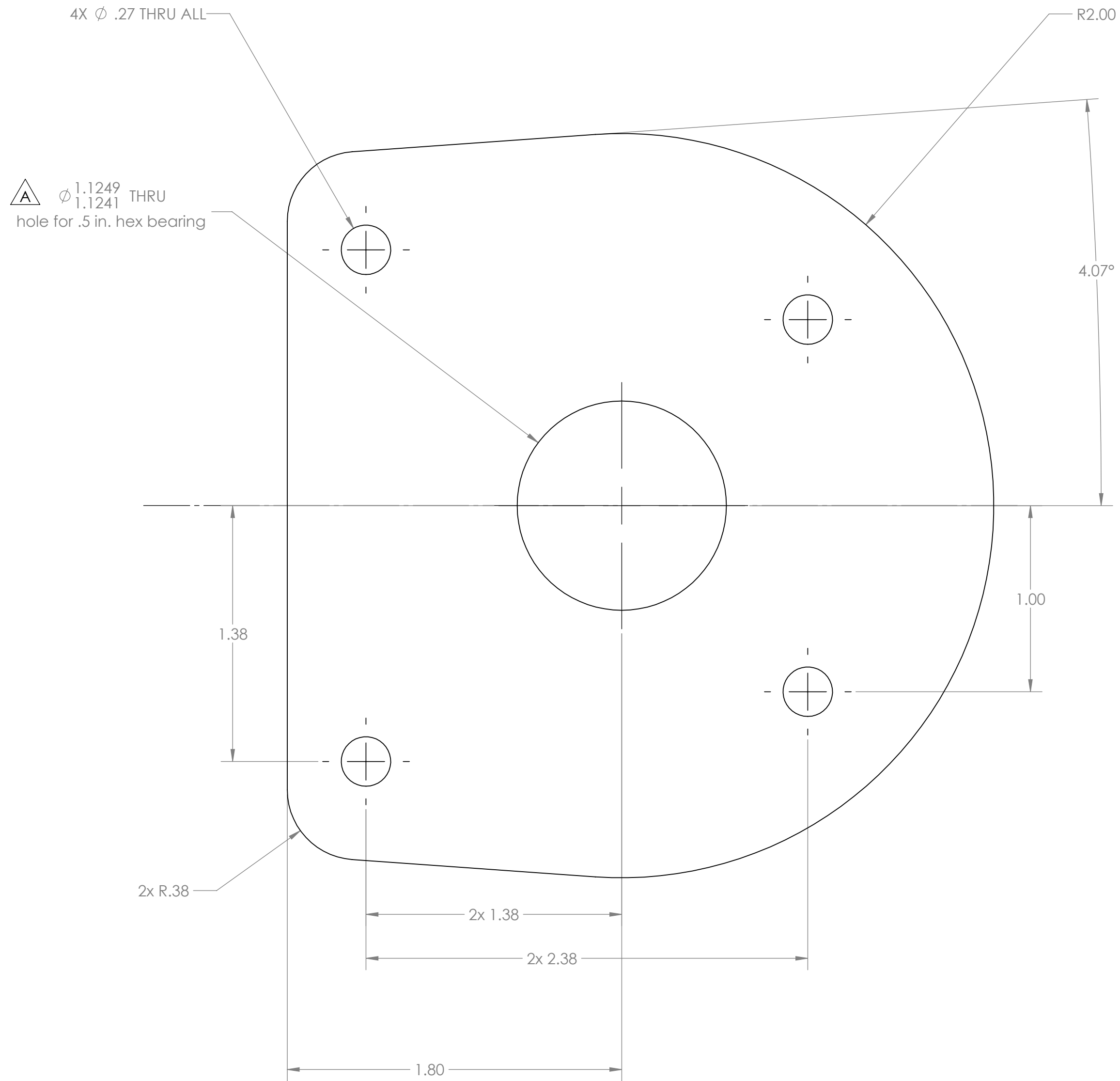
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
D4	A	Adjusted hole size and tolerance for bearing cutout.	8/17/2021	CPO



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

MATERIAL/FINISH:
 1/8 thk. 5052 Aluminum Sheet

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/23/2021
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:
Agitator Output Shaft Auxillary Plate

SIZE	DWG. NO.	REV
C	GE-22444	A

SCALE: 2:1 SHEET 1 OF 1

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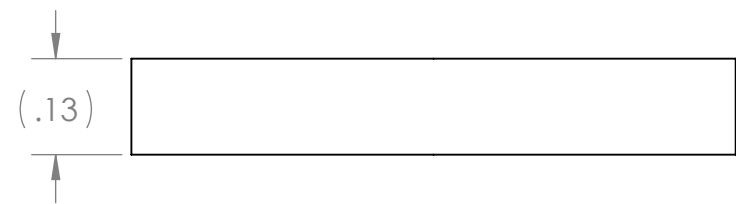
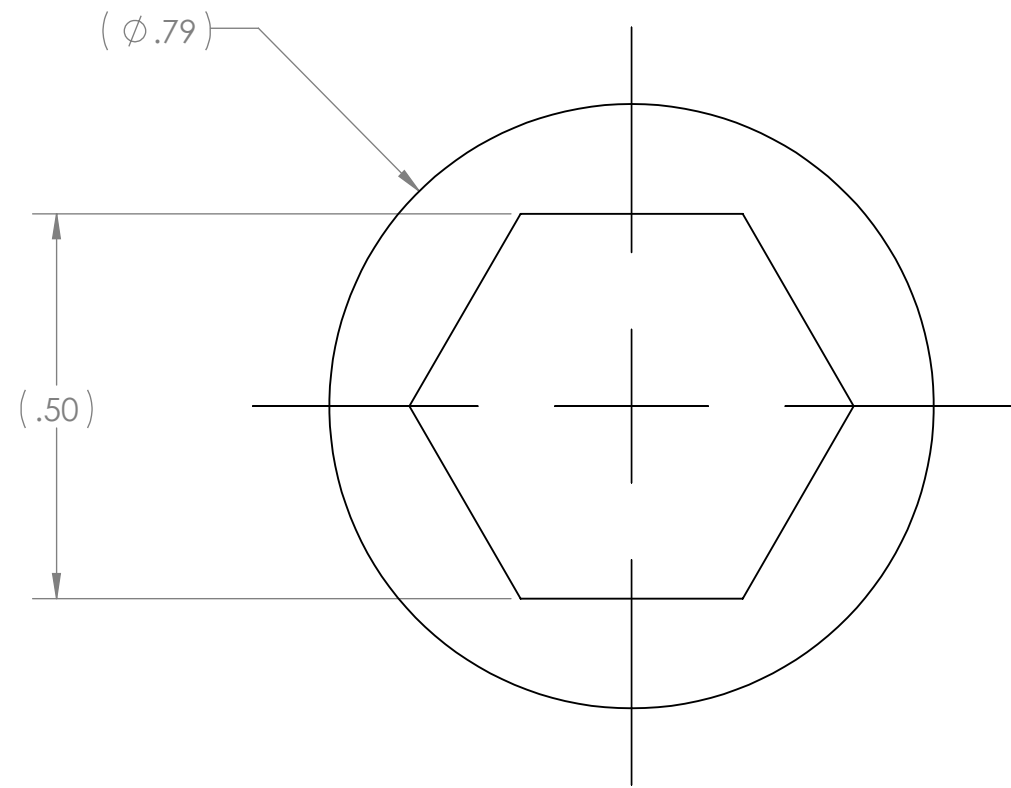
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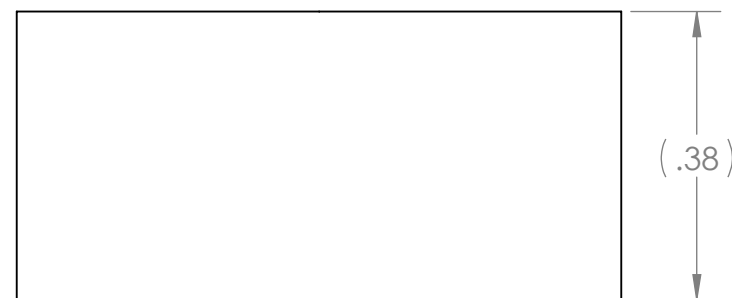
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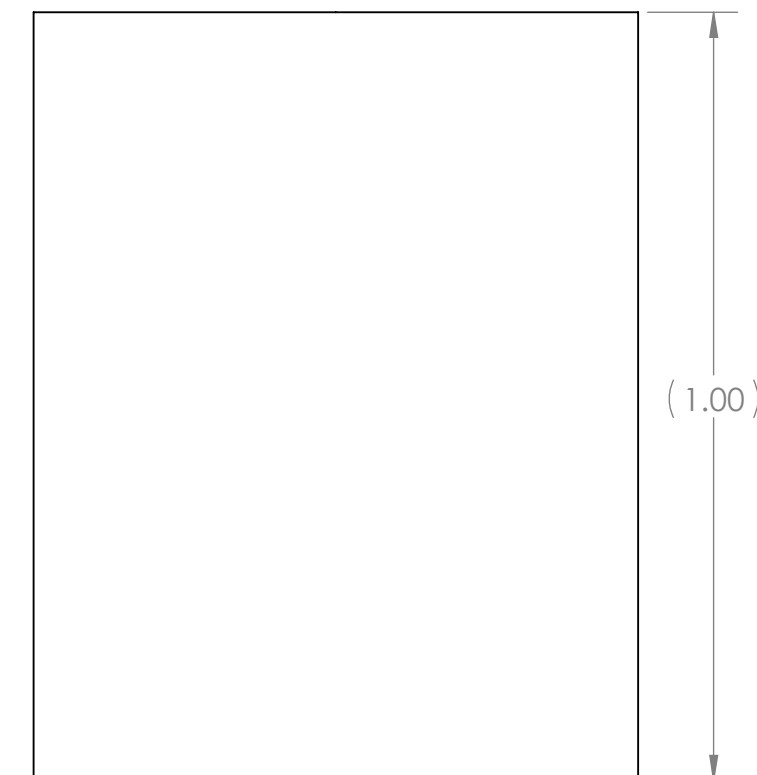
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3, B2	A	Added new spacer length.	11/23/2021	CPO



GE-22445-125



GE-22445-375



GE-22445-1000

- Notes:
 1. Source: AndyMark
 2. Equivalent substitutions allowed

Part Number	Description	Manufacturer PN
GE-22445-125	1/2 in. hex molded spacer, 1/8 in. long	am-3948-125
GE-22445-375	1/2 in. hex molded spacer, 3/8 in. long	am-3948-375
GE-22445-1000	1/2 in. hex molded spacer, 1 in. long	am-3948-1000



UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
 Black PC

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/24/2021

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



TITLE:
 1/2 in. hex molded spacer

SIZE	DWG. NO.	REV
C	GE-22445	A

SCALE: 4:1 SHEET 1 OF 1

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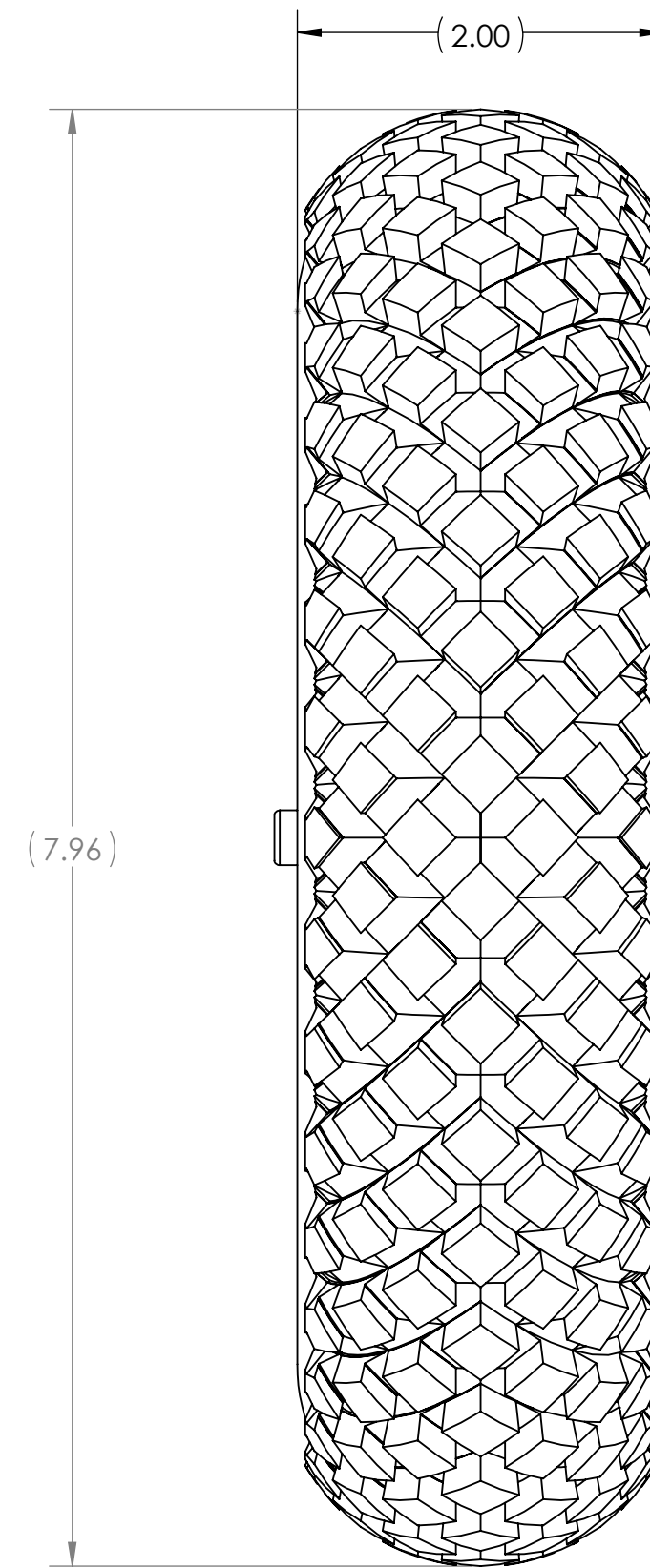
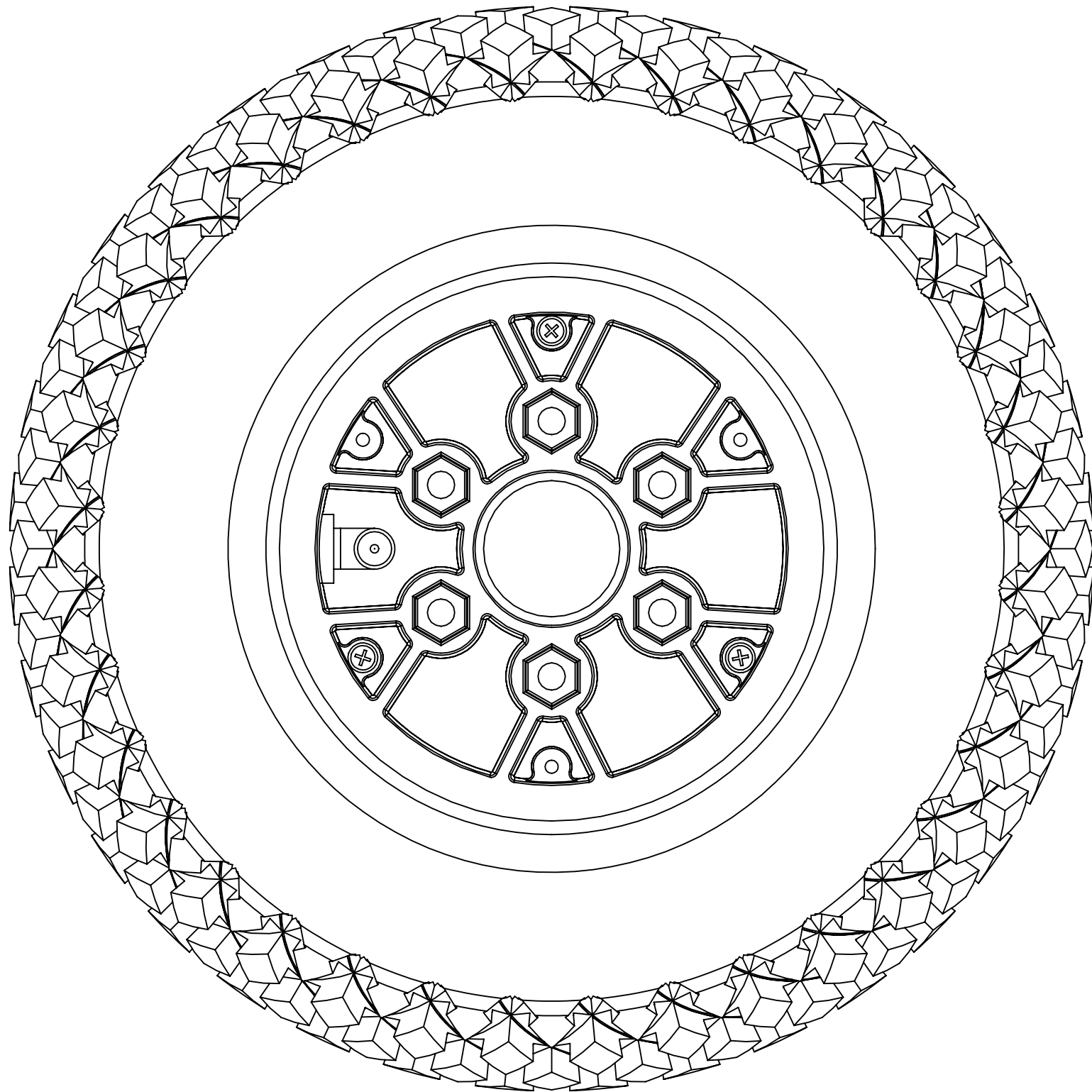
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Notes:

1. Description: 8 in. Pneumatic Wheel Kit
2. Source: AndyMark
3. Item #: am-0970
4. Equivalent substitutions allowed

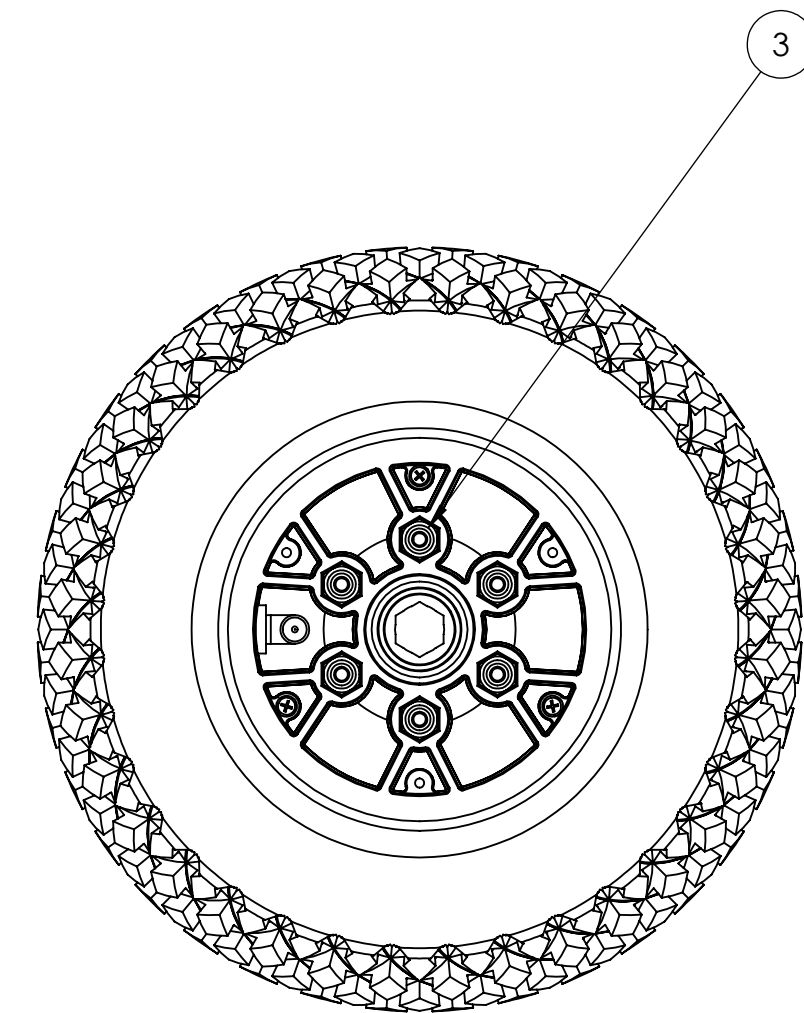
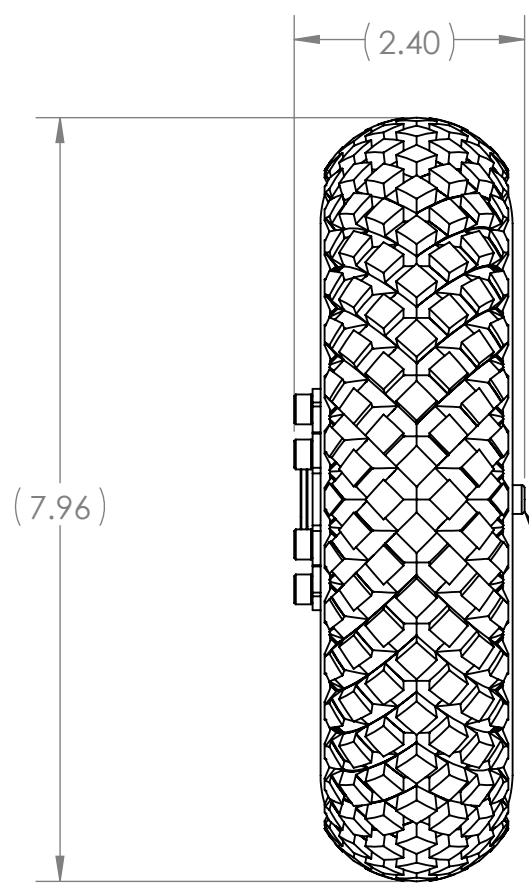
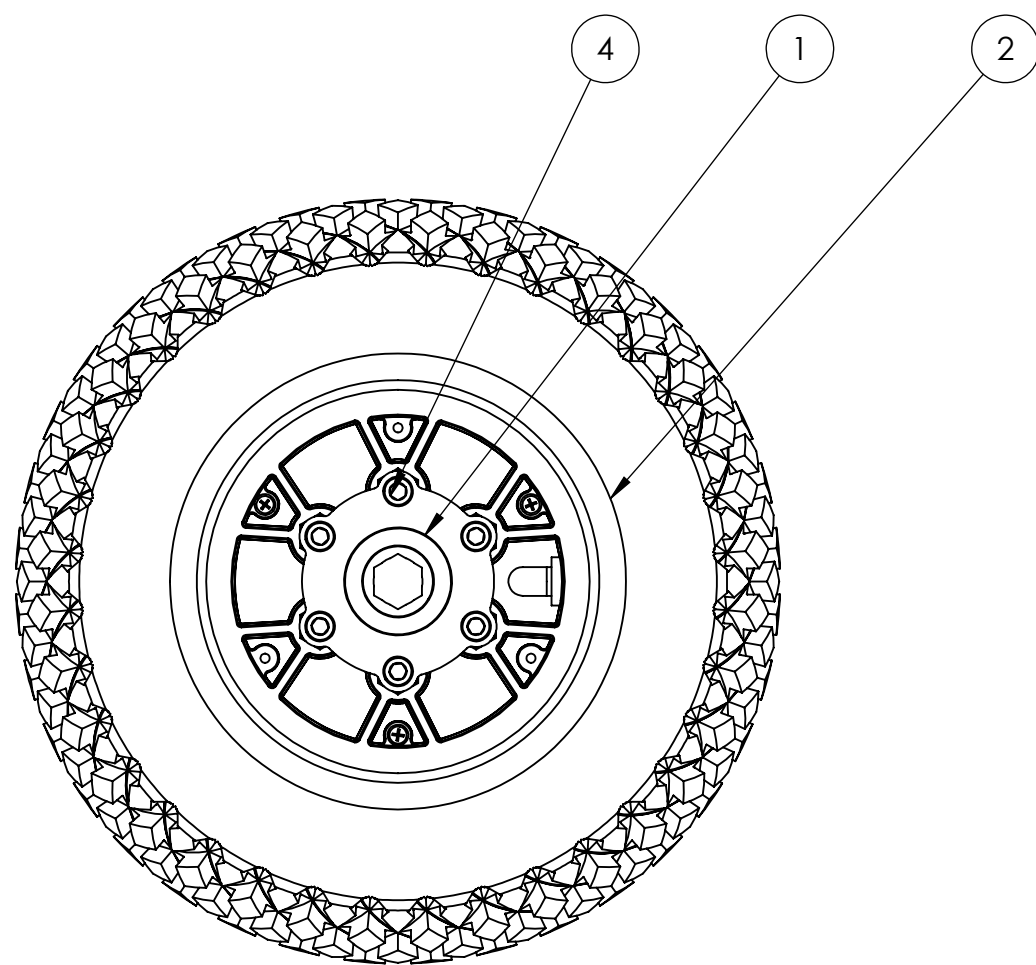
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	DRAWN	CO	6/24/2021	
	PROPRIETARY AND CONFIDENTIAL			TITLE: <h1>8 in. Pneumatic Wheel</h1>
	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.			
	COMMENTS:			SIZE DWG. NO. REV C GE-22446
	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 1:1 SHEET 1 OF 1

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Pneumatic wheel inlet on opposite face as hub is mounted to.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22436	AndyMark 1/2 in. Hex Hub	1
2	GE-22446	8 in. Pneumatic Wheel	1
3	nylock_10_32	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 10-32 Thread Size	6
4	socket_hex_10_32_2_partial	Socket Head Screw, 10-32 x 2" long, partially threaded	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	CO	6/24/2021	
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:
				High Agitator Wheel with Hub
		SIZE	DWG. NO.	REV
		C	GE-22447	
			SCALE: 1:2	SHEET 1 OF 1

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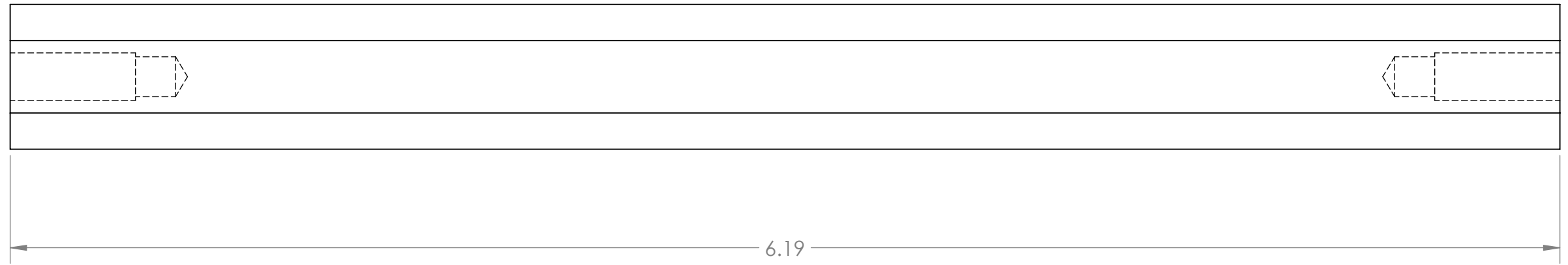
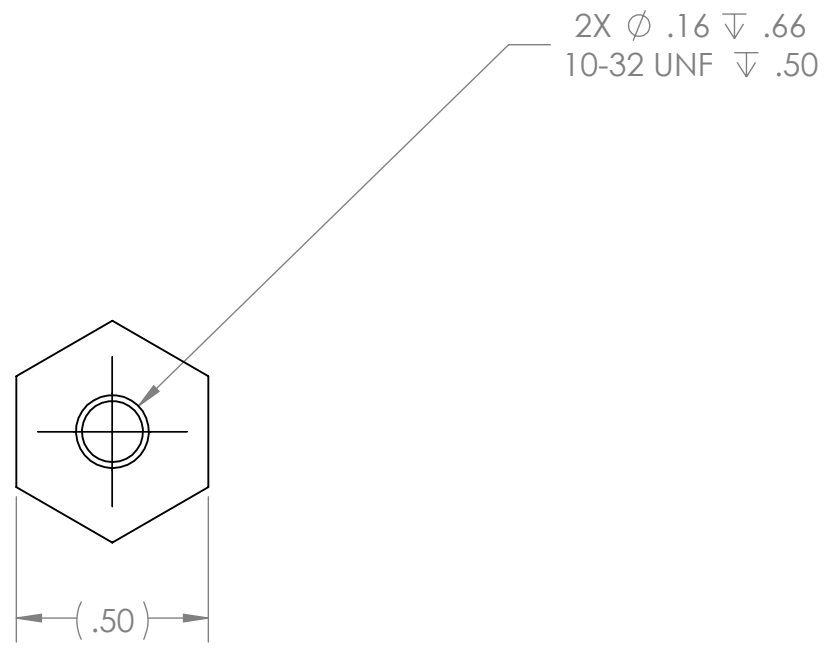
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: 1/2" Hex shaft, 7075 aluminum DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	6/24/2021	
	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.			High Agitator Drive Hex Shaft
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22448
	SCALE: 2:1		SHEET 1 OF 1	

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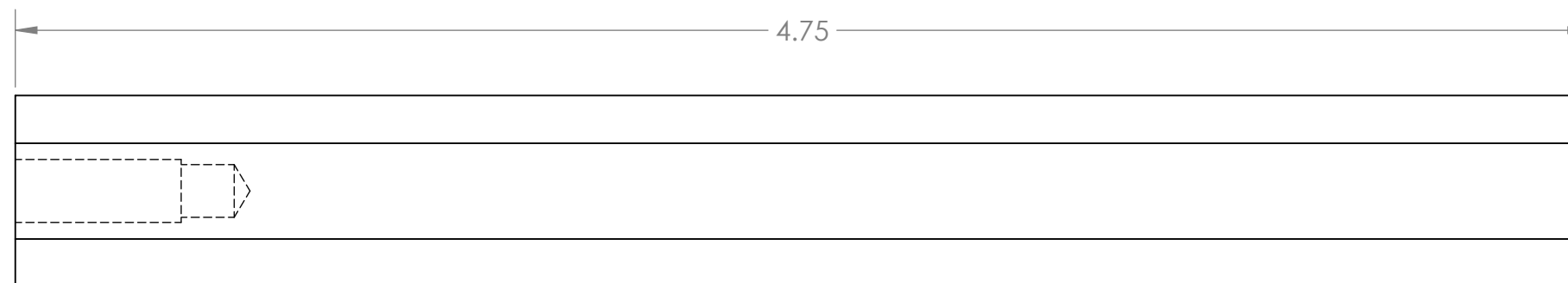
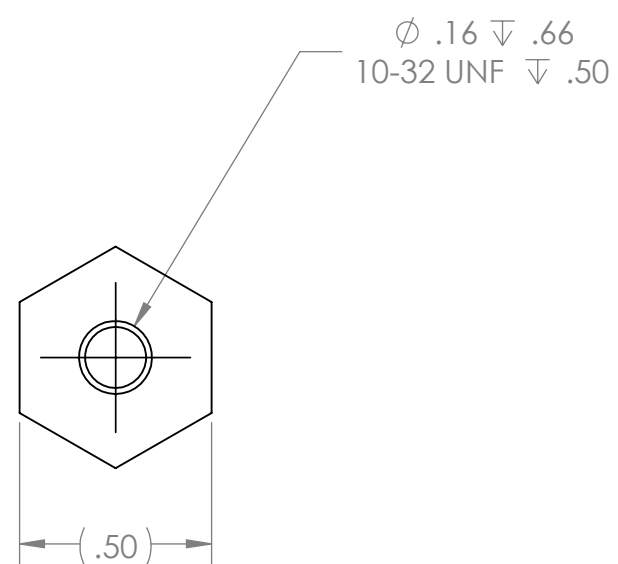
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UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE	 
	DRAWN	CO	6/24/2021	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	PROPRIETARY AND CONFIDENTIAL			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.			Low Agitator Drive Hex Shaft
MATERIAL/FINISH:	1/2" Hex shaft, 7075 aluminum			SIZE DWG. NO. REV C GE-22449
COMMENTS:	REMOVE ALL BURRS AND SHARP EDGES.			SCALE: 2:1 SHEET 1 OF 1
DO NOT SCALE DRAWING				

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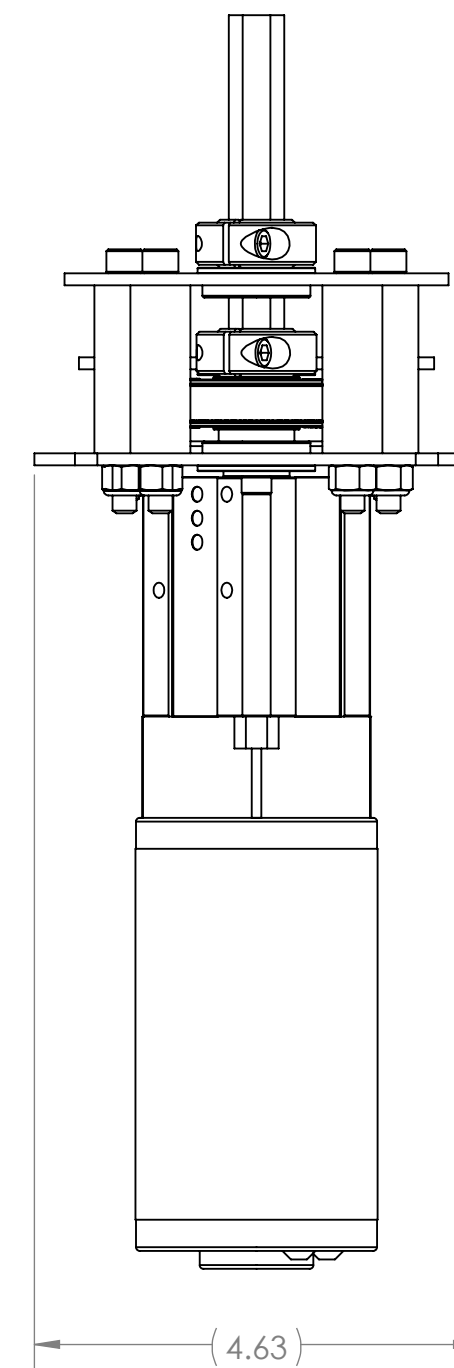
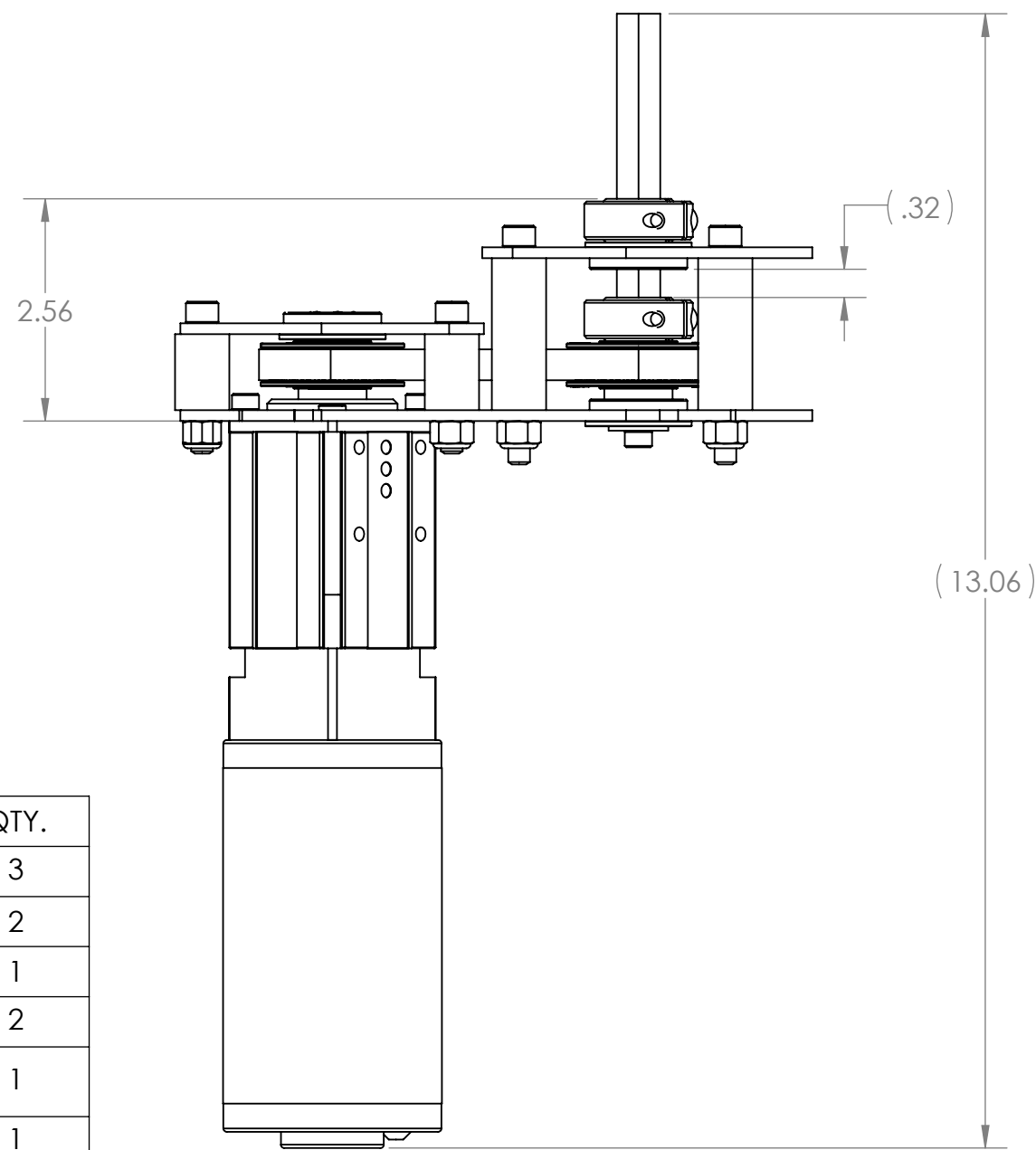
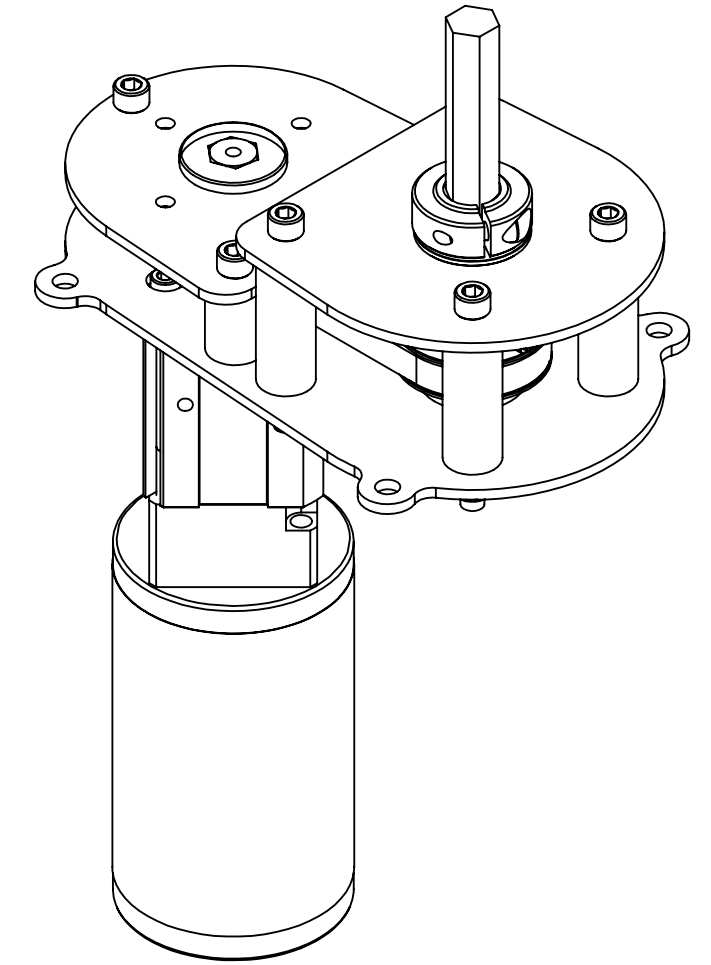
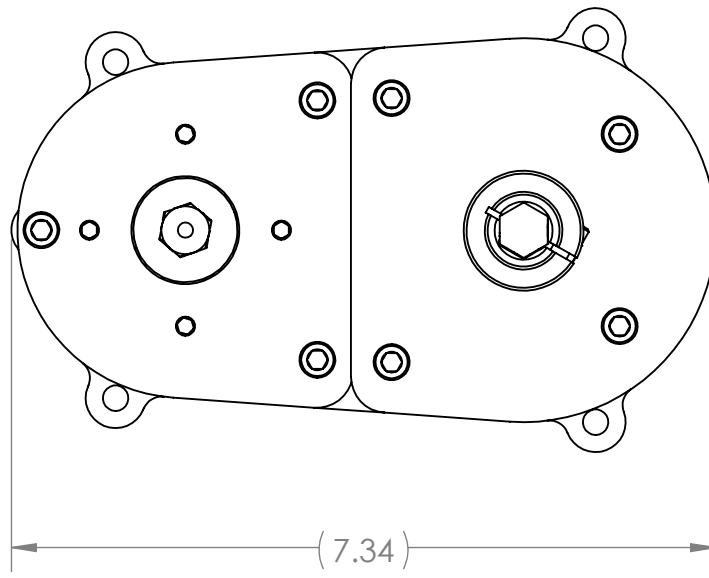
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-D4, 3-D4	A	Added notes for use of glue on pulleys. Updates made to geometry of GE-22442, GE-22443, GE-22444	8/17/2021	CPO
A3	B	Two fasteners changed from hex head to socket head bolts.	10/27/2021	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22437	1/2 in. Hex Bearing	3
2	GE-22438	1/2 in. Hex Shaft Collar	2
3	GE-22439	60t 9mm wide 5mm HTD belt	1
4	GE-22440	24 tooth 5mm HTD hex bore pulley	2
5	GE-22441-080	80:1 CIM Sport Gearbox with CIM Motor	1
6	GE-22442	Agitator Baseplate	1
7	GE-22443	Agitator Gearbox Auxillary Plate	1
8	GE-22444	Agitator Output Shaft Auxillary Plate	1
9	GE-22445-125	1/2 in. hex molded spacer, 1/8 in. long	2
10	GE-22449	Low Agitator Drive Hex Shaft	1
11	socket_hex_.25_20_1.5_partial	Socket Head Screw, 1/4-20 x 1.5" long, partially threaded	3
12	socket_hex_.25_20_2.5_partial	Socket Head Screw, 1/4-20 x 2.5" long, partially threaded	4
13	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	7
14	socket_hex_10_32_5_nylon	Socket Head Screw, 10-32 x 0.5" long, with nylon patch	3
15	spacer_.252_.625_1.75	Spacer, .252 ID, .625 OD, 1.75 long	4
16	spacer_.252_.625_.875	Spacer, .252 ID, .625 OD, .875 long	3
17	washer_flat_10_oversized	Oversized flat Washer for #10 Screw	1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005	VEND	NAME	DATE
	DRAWN	CO	6/24/2021
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL		
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DO NOT SCALE DRAWING	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		

FIRST ROBOTICS COMPETITION **SOLIDWORKS** Modeling Solutions Partner

TITLE: **Low Agitator Drive Assembly**

SIZE	DWG. NO.	REV
C	GE-22450	B

SCALE: 1:2 SHEET 1 OF 4

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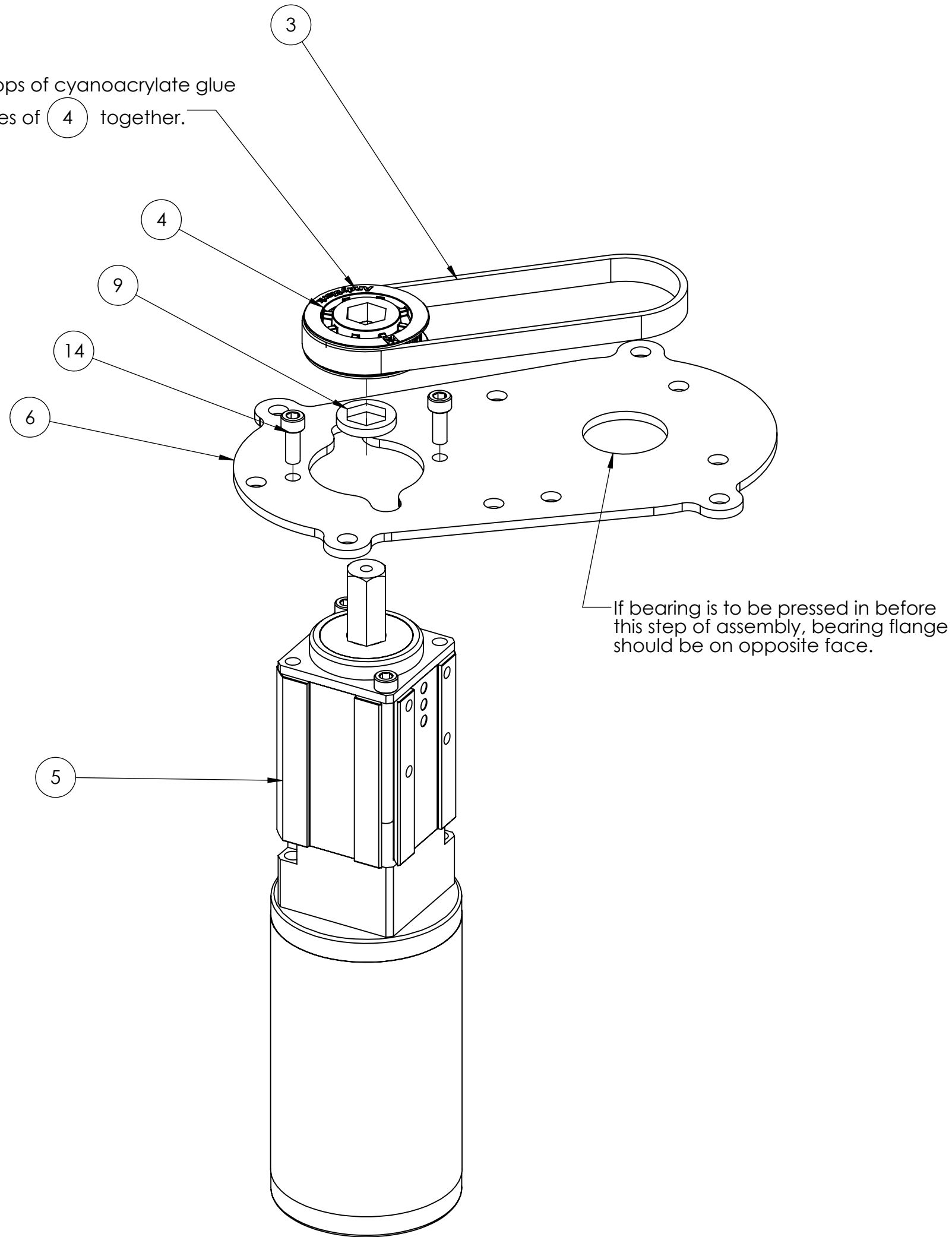
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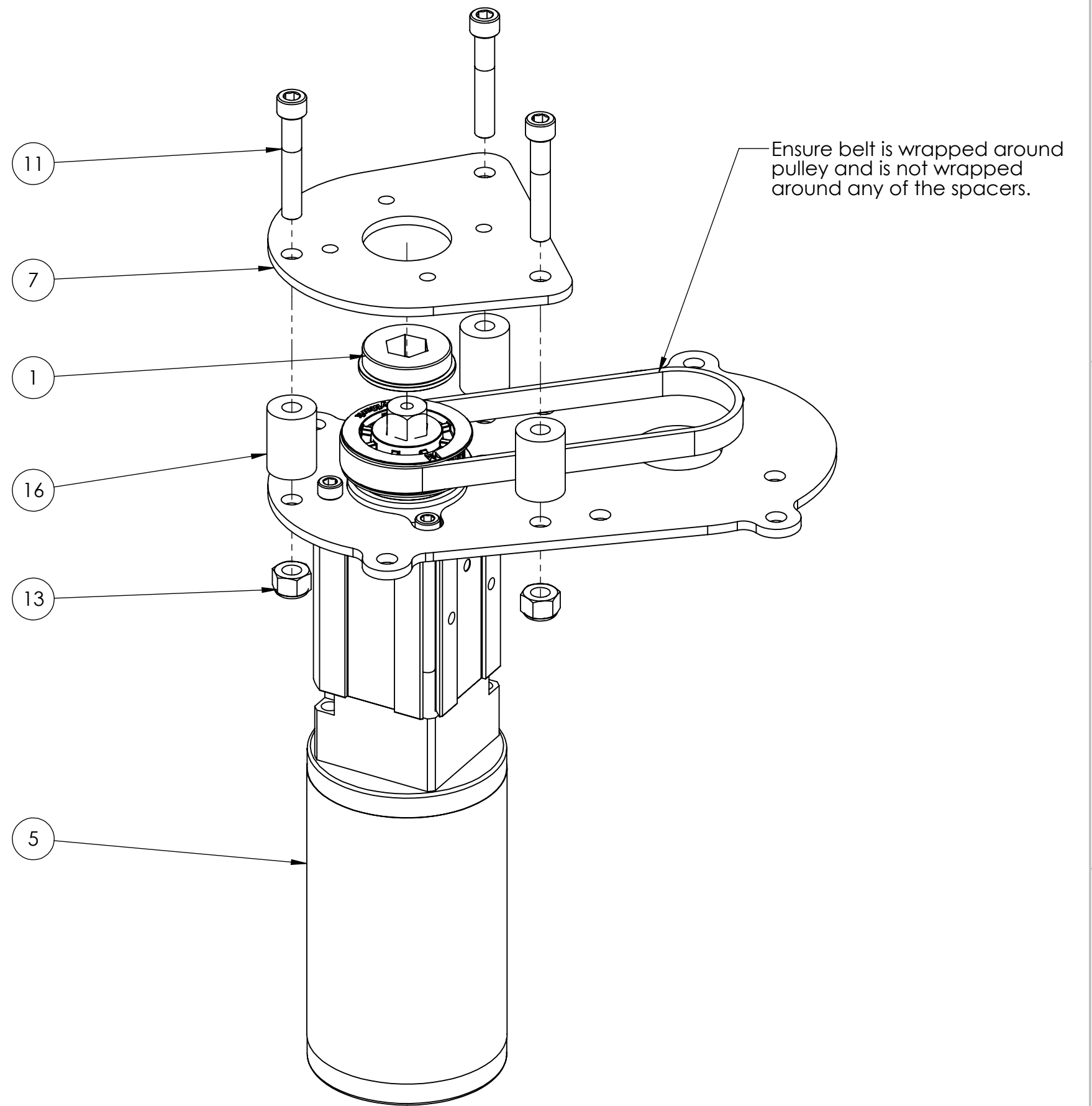


Use a few drops of cyanoacrylate glue to bond halves of (4) together.



Notes:

1. Attach (5) to (6) using (14).
2. Slide (9) and (4) in order onto the shaft of (5).
3. Place (3) onto (4).



Notes:

1. Insert or press (1) into (7).
2. Slide (1) (7) onto the shaft of (5), noting flange orientation.
3. Attach (1) (7) to the assembly using (16) to space the plates and (11) and (13) to fasten. Be careful of belt routing.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	CO	6/24/2021	
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:
				<h1>Low Agitator Drive Assembly</h1>
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		SIZE	DWG. NO.	REV
		C	GE-22450	B
		SCALE: 2:3		SHEET 2 OF 4

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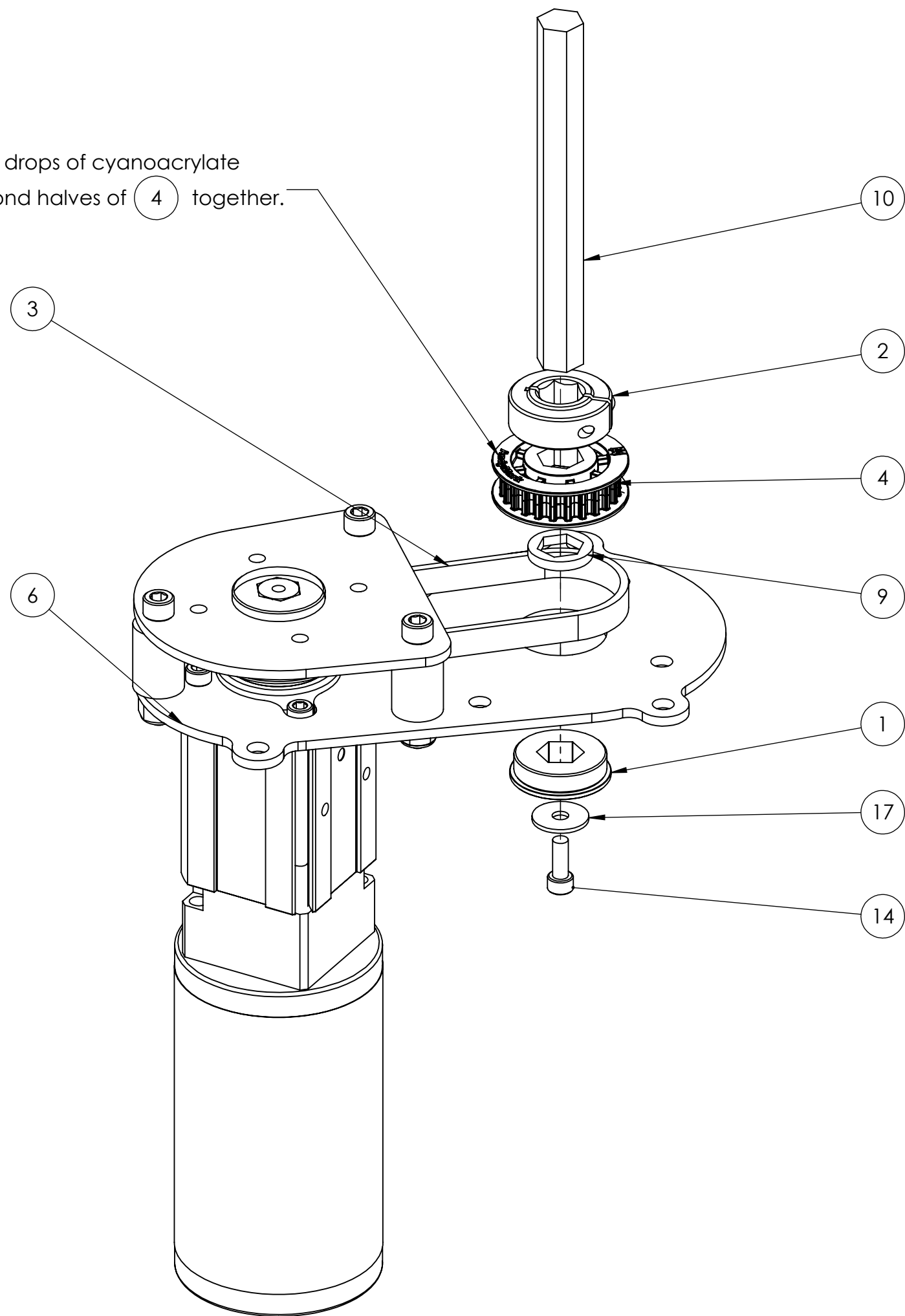
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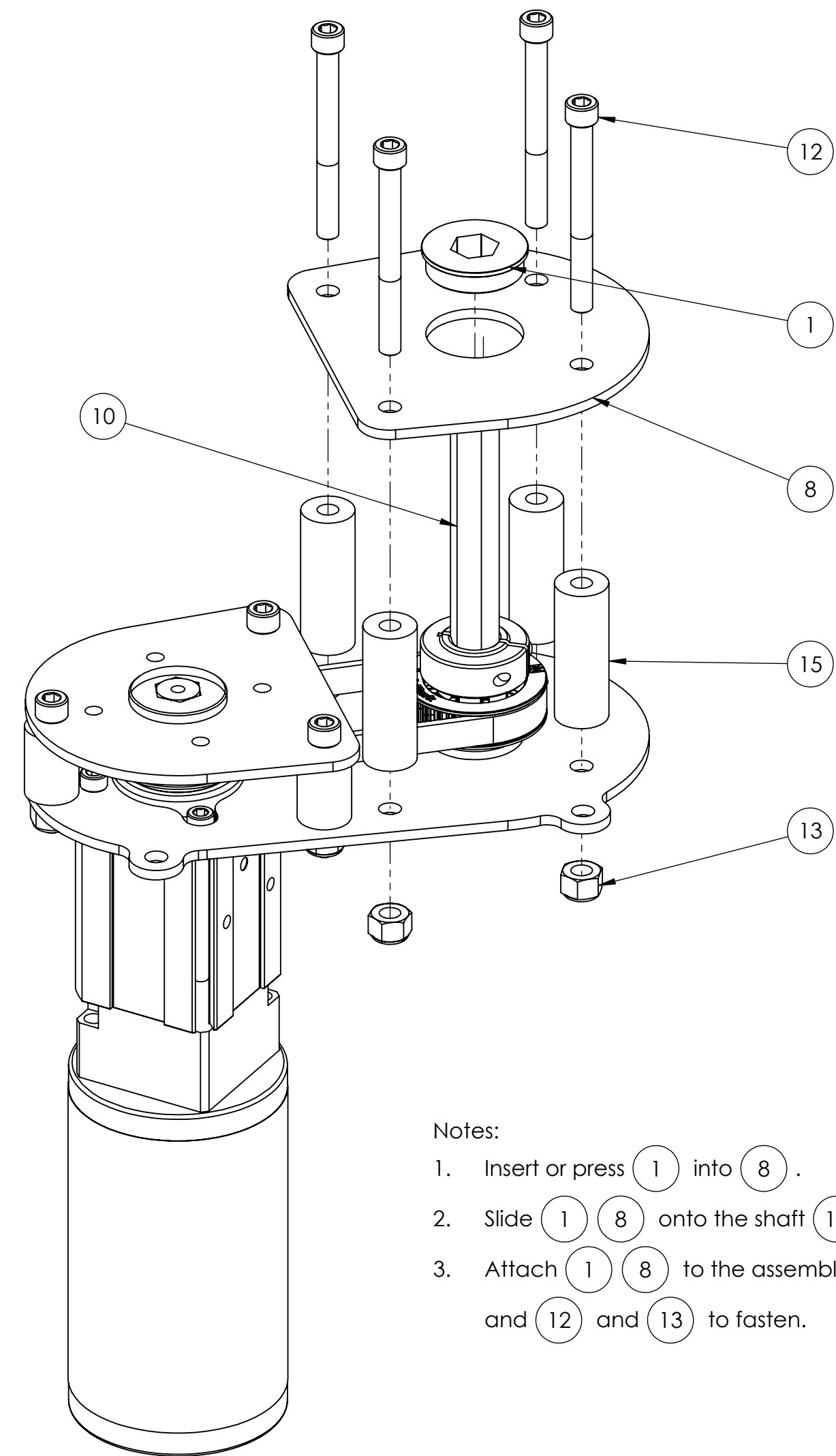
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▲ Use a few drops of cyanoacrylate glue to bond halves of (4) together.



Notes:

1. If not already done, press or insert (1) into (6), noting flange orientation.
2. Slide items (2), (4), and (9) onto (10), being careful of order, and note orientation of (10) as only one side is tapped.
3. Slide shaft into place, aligning (3) onto (4), then aligning (10) with (1).
4. Attach (14) and (17) to (10). (17) must be large enough diameter to prevent shaft being pulled past bearing.
5. With bottom of (10) coincident with bottom of (1), and (2) (4) (9) all flush to each other and (1), tighten set screw on (2).





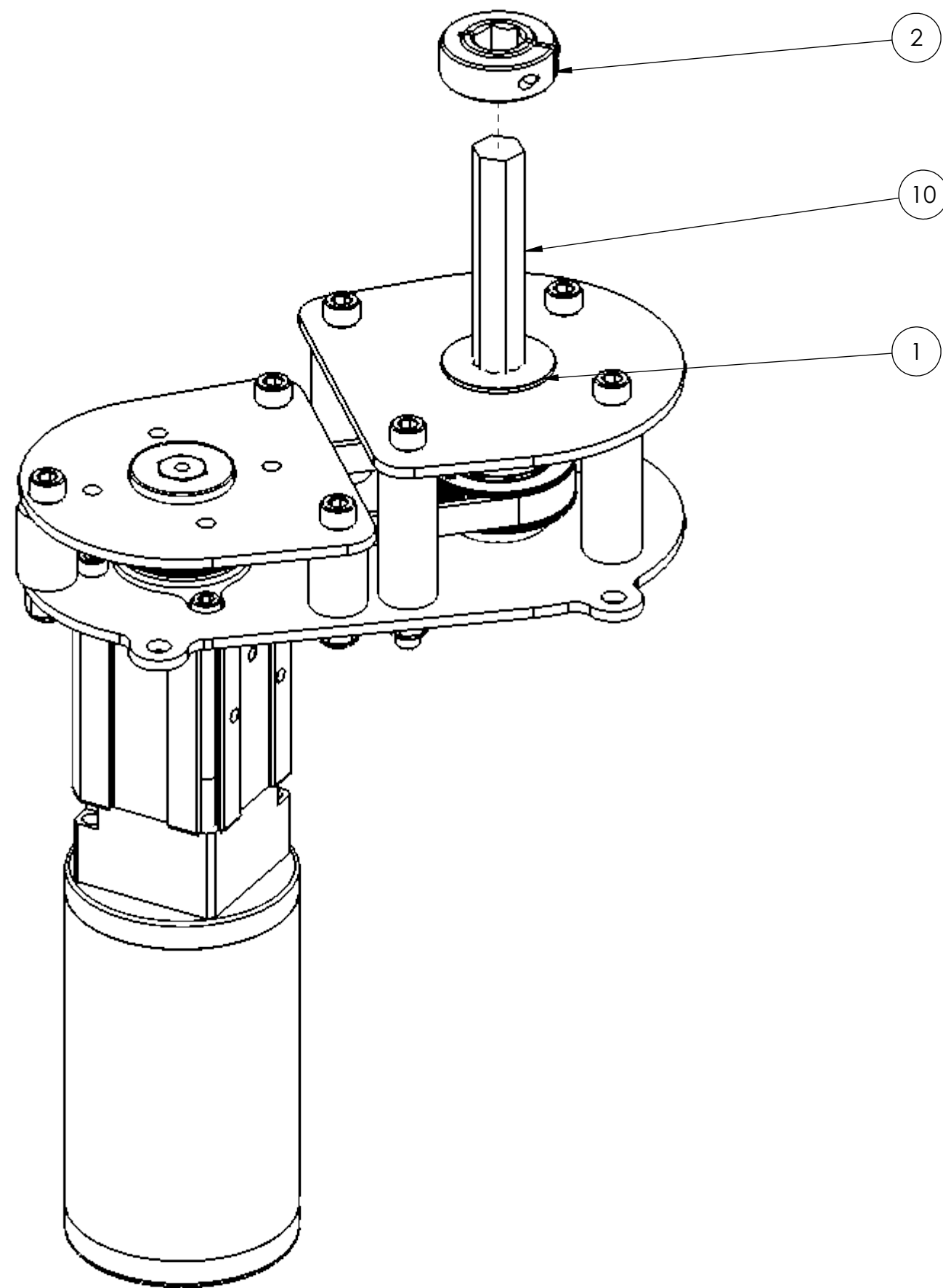
Notes:

1. Insert or press (1) into (8).
2. Slide (1) (8) onto the shaft (10), noting flange orientation.
3. Attach (1) (8) to the assembly using (15) to space the plates and (12) and (13) to fasten.

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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	6/24/2021	
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:
				<h1>Low Agitator Drive Assembly</h1>
SIZE		DWG. NO.	REV	
C		GE-22450	B	
SCALE: 2:3			SHEET 3 OF 4	



Notes:

- 1. Slide (2) onto (10).
- 2. Ensuring (2) is flush with (1), tighten set screw on (2).

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	6/24/2021

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
Low Agitator Drive Assembly

SIZE	DWG. NO.	REV
C	GE-22450	B

SCALE: 2:3 SHEET 4 OF 4

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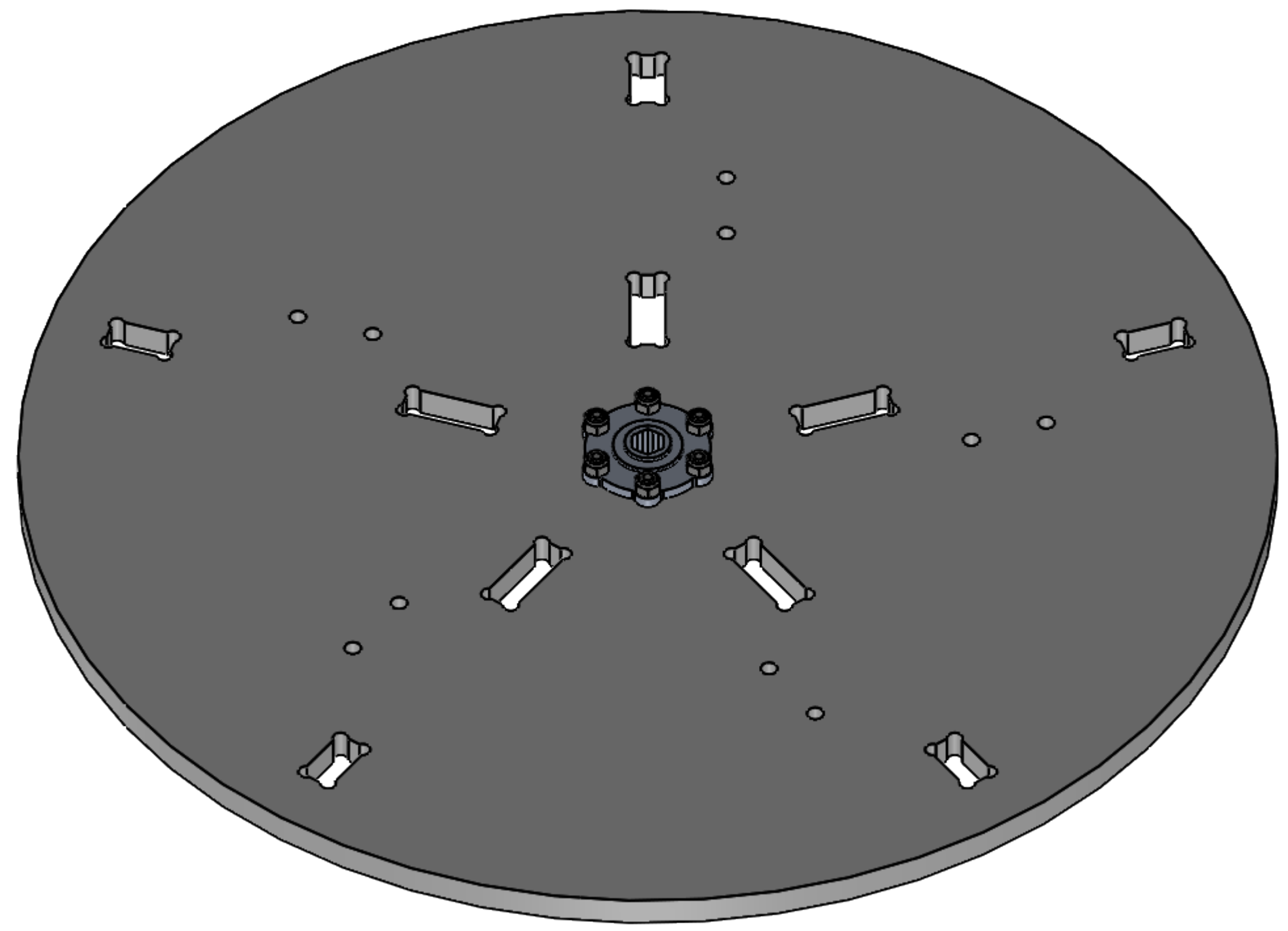
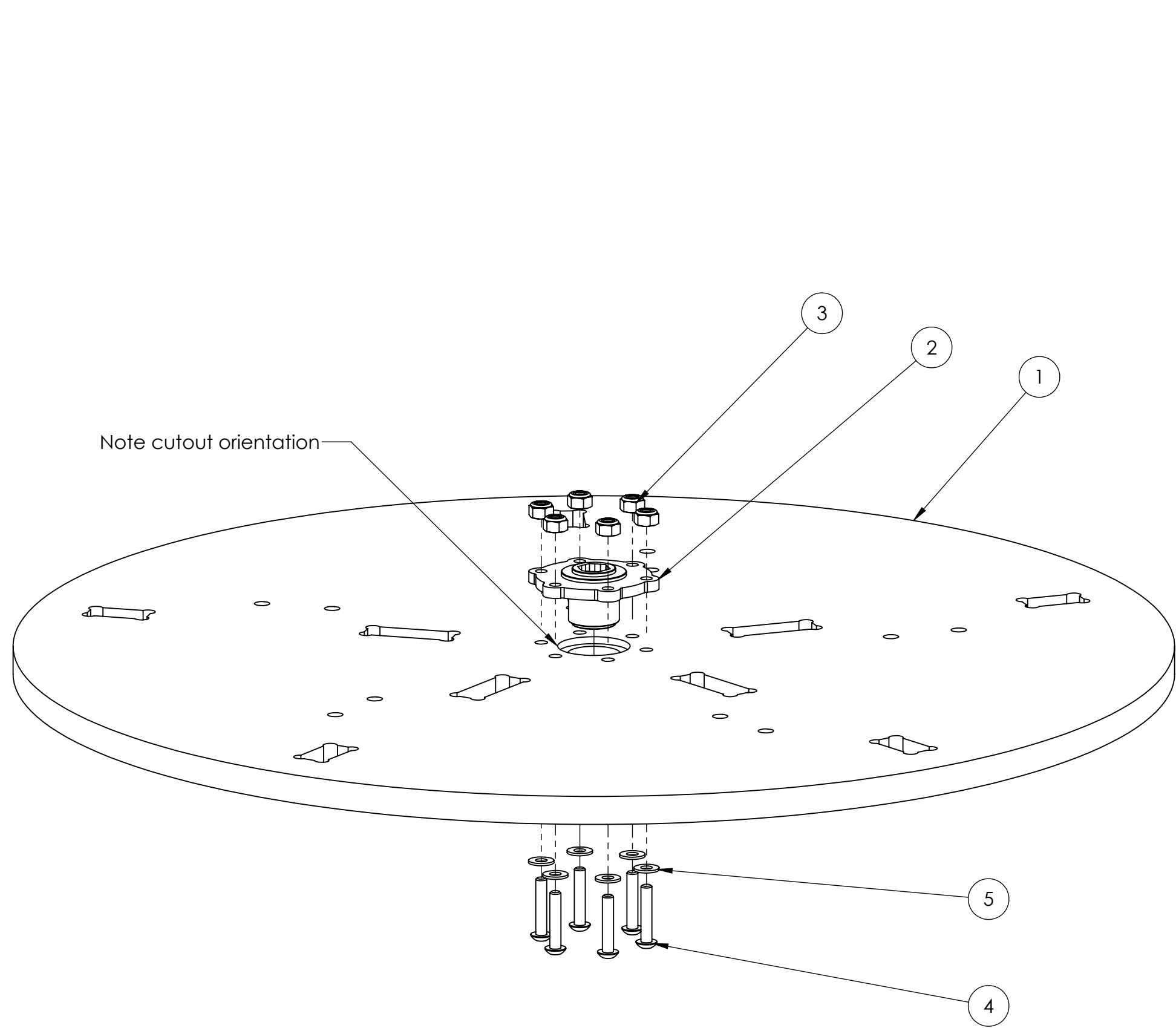
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Notes:
 1. Attach (2) to (1) as shown using (4), (5), and (3).

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22434	Low Agitator Wheel Base	1
2	GE-22436	AndyMark 1/2 in. Hex Hub	1
3	nylock_10_32	Low-Strength Steel Nylon-Insert Locknut, Zinc-Plated, 10-32 Thread Size	6
4	round_hex_10_32_1_full	Round Head Hex, 10-32 x 1.00" long, fully threaded	6
5	washer_flat_10	Flat Washer for #10 Screw	6

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	
	DRAWN	CO	12/29/2021	
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:
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				Low Agitator Wheel Base Assembly
SIZE		DWG. NO.	REV	
C		GE-22451		
SCALE: 1:2		SHEET 1 OF 1		

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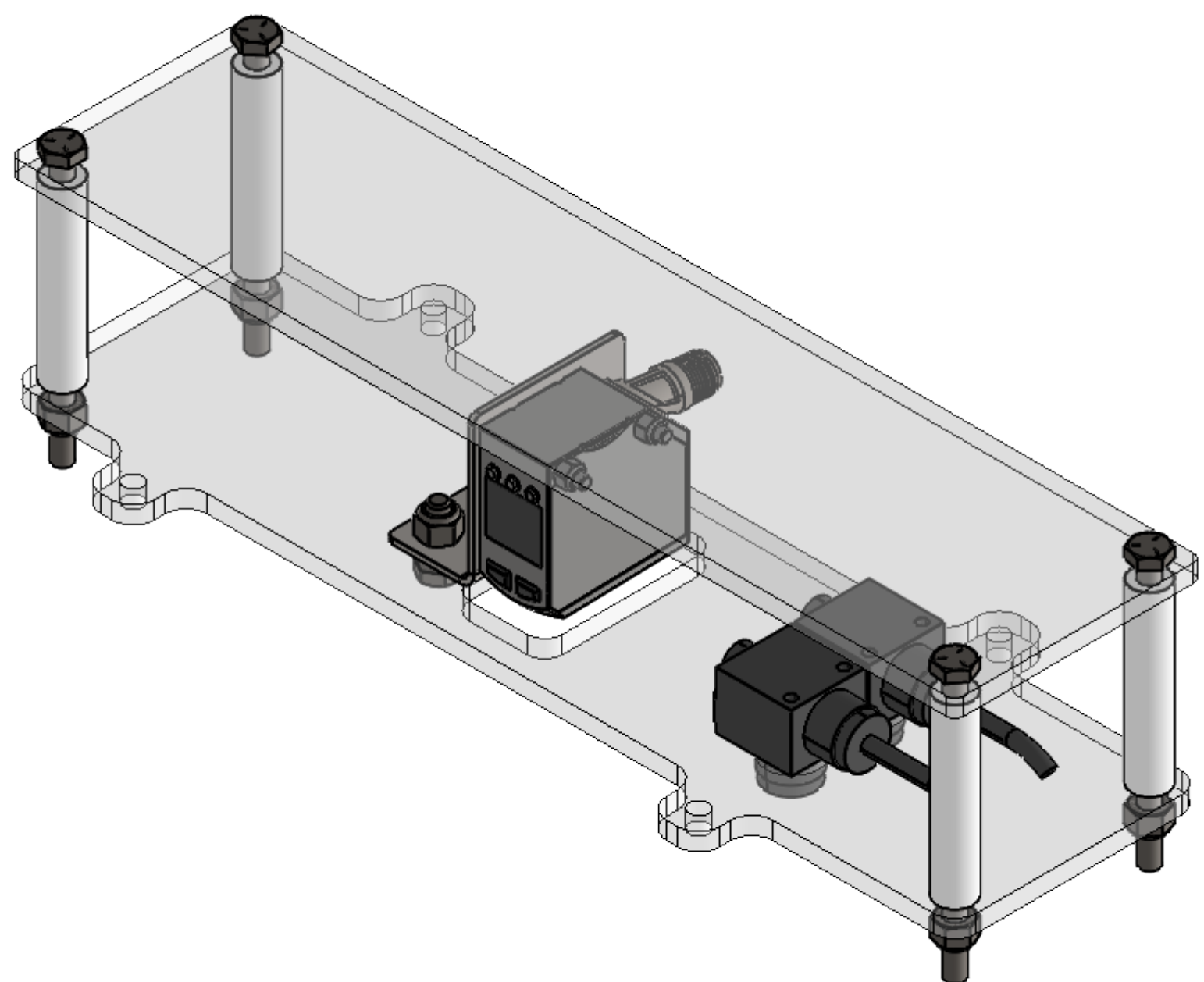
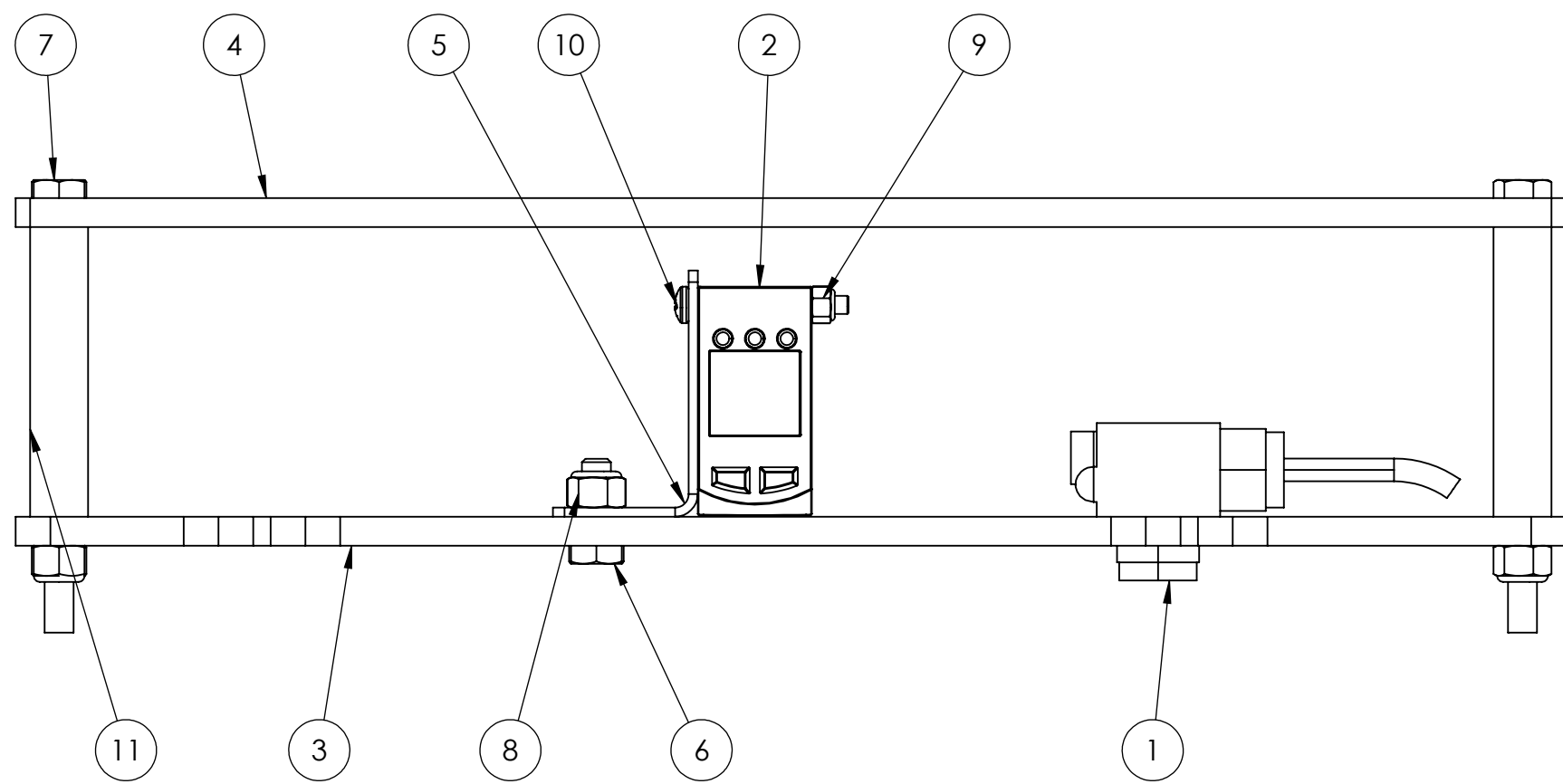
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	42ef_dc	RightSight Sensor	2
2	46CLR	46CLR	1
3	GE-22462	Sensor Plate	1
4	GE-22463	Sensor Shield	1
5	GE-22464	Color Sensor Bracket	1
6	hex_.25_20_0.75	Steel Hex Head Screw, 1/4"-20 x 0.75" long, fully threaded	2
7	hex_.25_20_3.75_partial	Steel Hex Head Bolt, 1/4"-20 x 3.75", partially threaded	4
8	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	6
9	nylock_M4	Nylock M4	2
10	Pan_phil_M4_35	Pan Head Phillips Drive, M4 x 35mm Long, Fully Threaded	2
11	spacer_.252_.5_2.5	Spacer, .252 ID, .5 OD, 2.5 long	4

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE
	DRAWN	CO	12/16/2021
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED.			
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			



TITLE: Sensor Box Assembly		
SIZE	DWG. NO.	REV
C	GE-22461	
SCALE: 2:3		SHEET 1 OF 2

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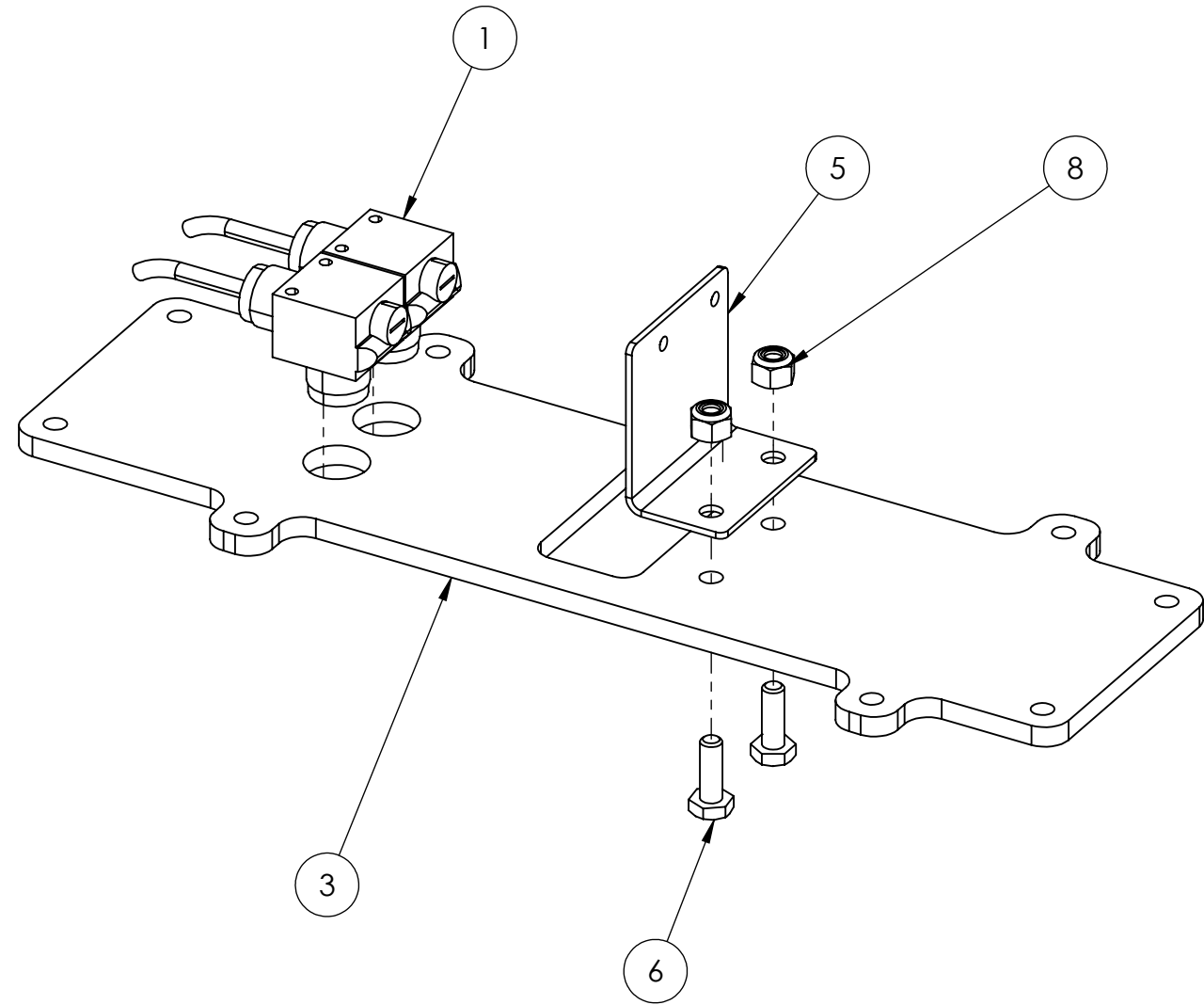
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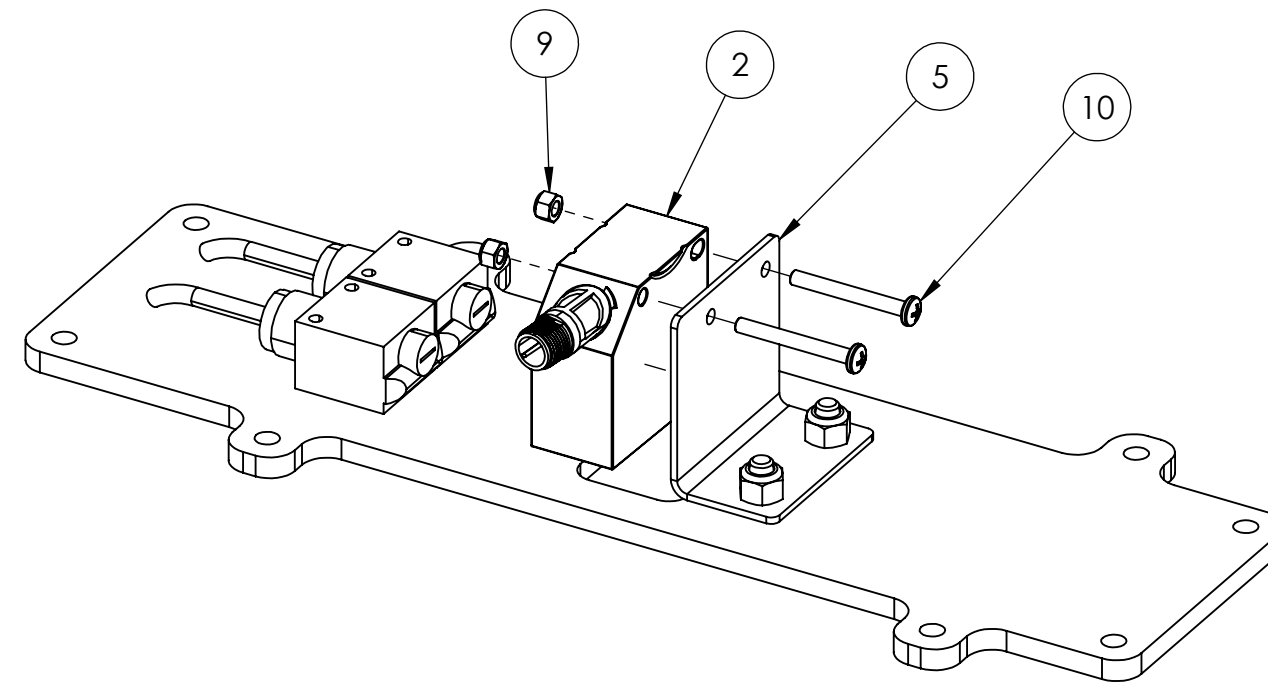
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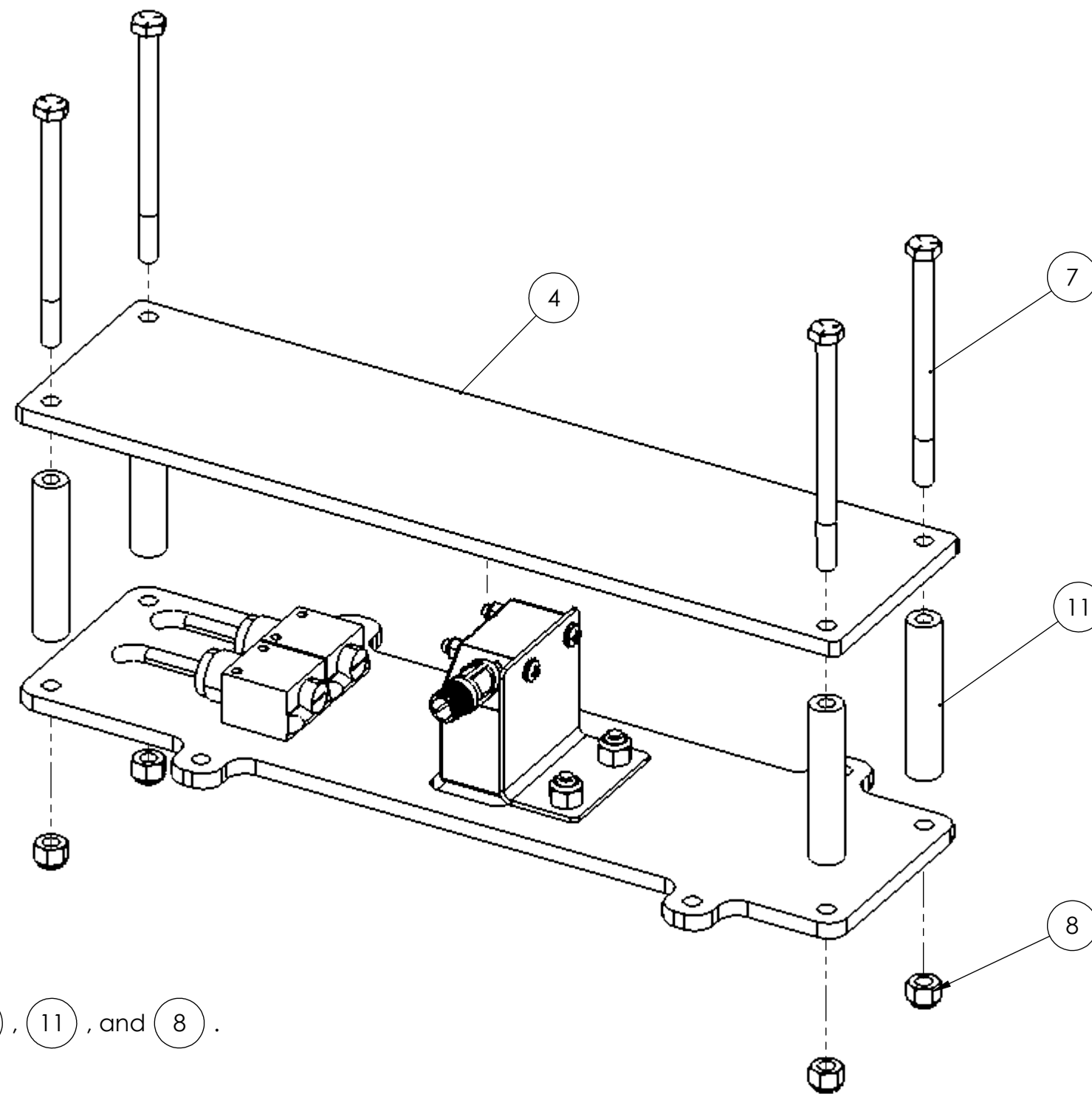
Notes:

1. Attach 5 to 3 using 6 and 8.
2. Attach 1 to 3.





Notes:

1. Attach 2 to 5 in orientation shown using 9 and 10.



Notes:

1. Attach 4 to assembly using 7, 11, and 8.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	12/16/2021	
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:
				Sensor Box Assembly
SIZE		DWG. NO.	REV	
C		GE-22461		
SCALE: 1:2			SHEET 2 OF 2	

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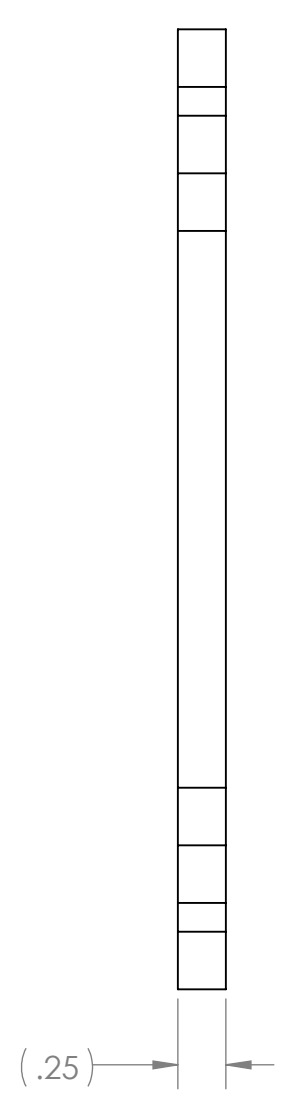
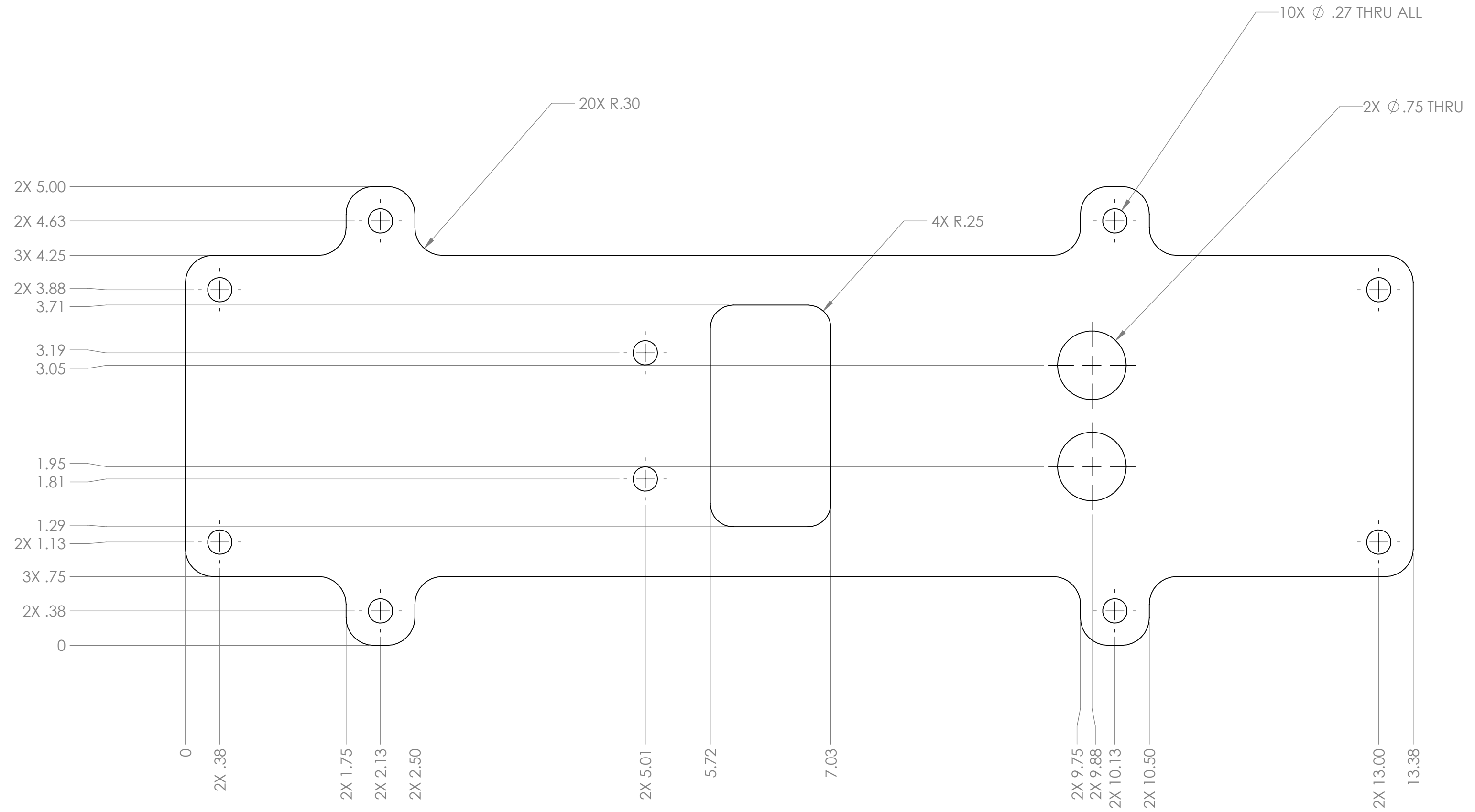
C

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Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/4" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	6/28/2021	
	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.			Sensor Plate
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22462
	SCALE: 1:1		SHEET 1 OF 1	

4

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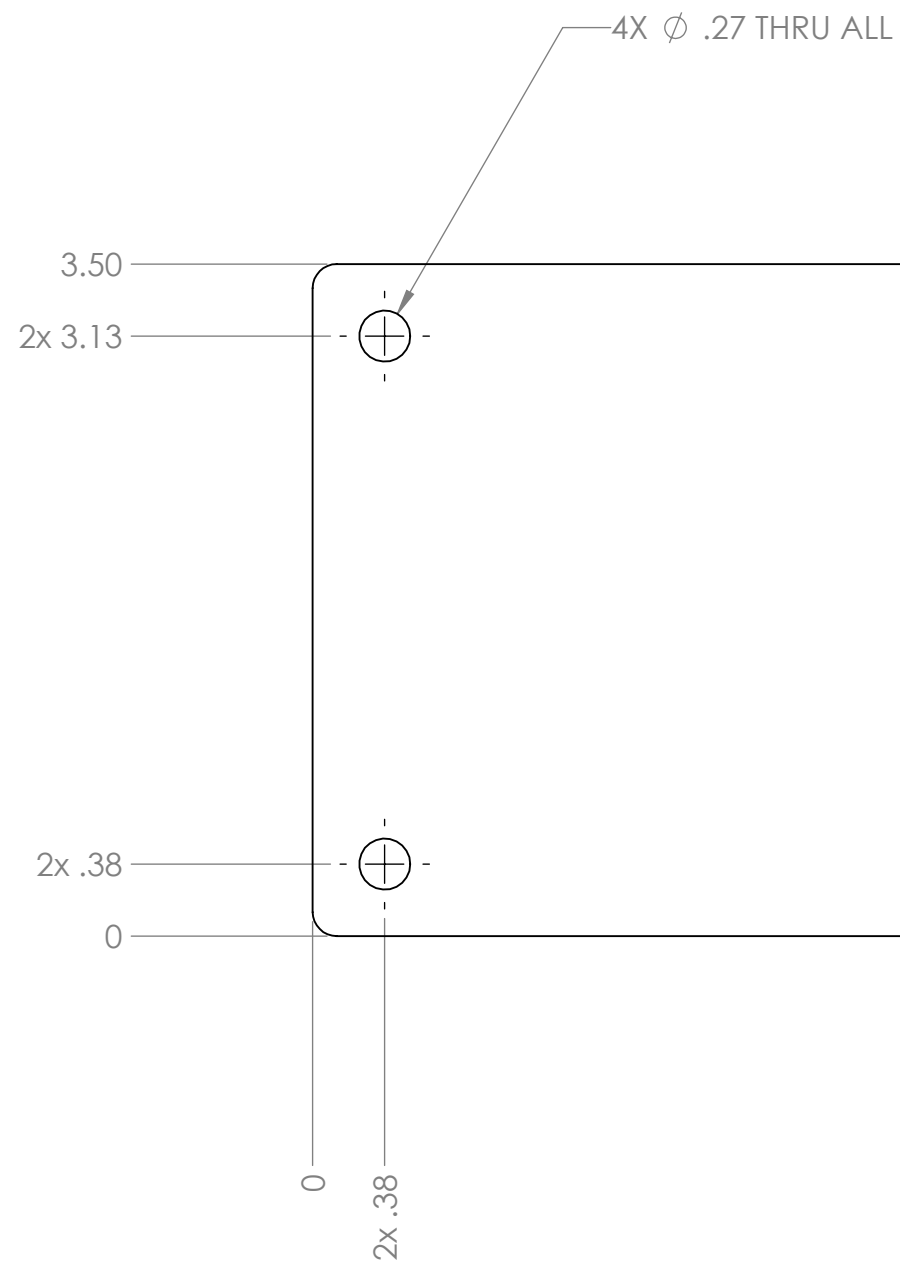
C

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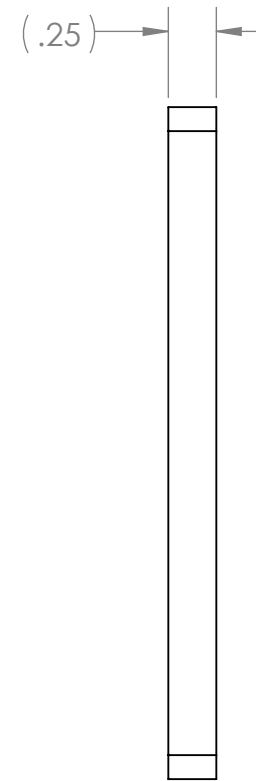
B

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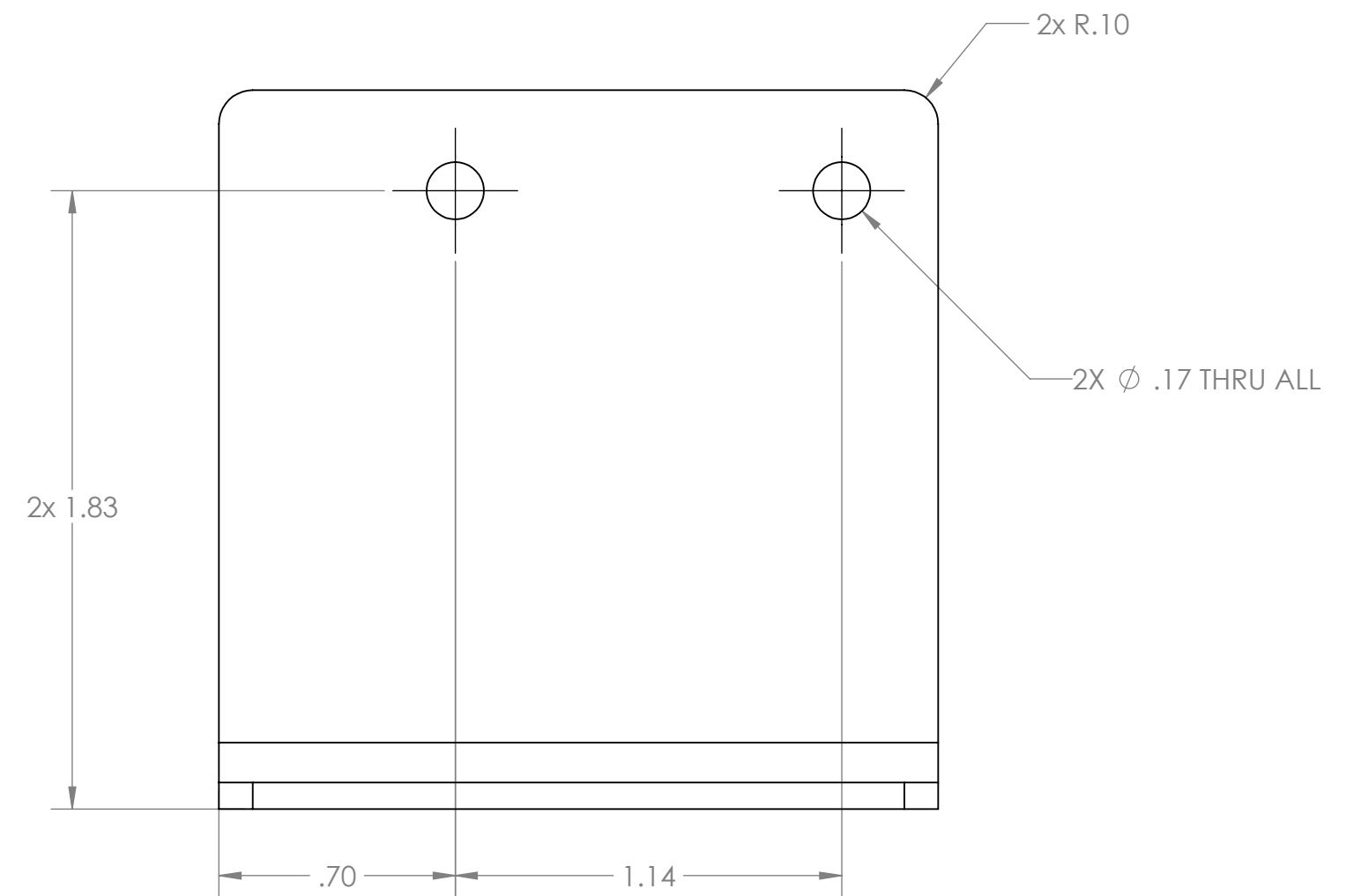
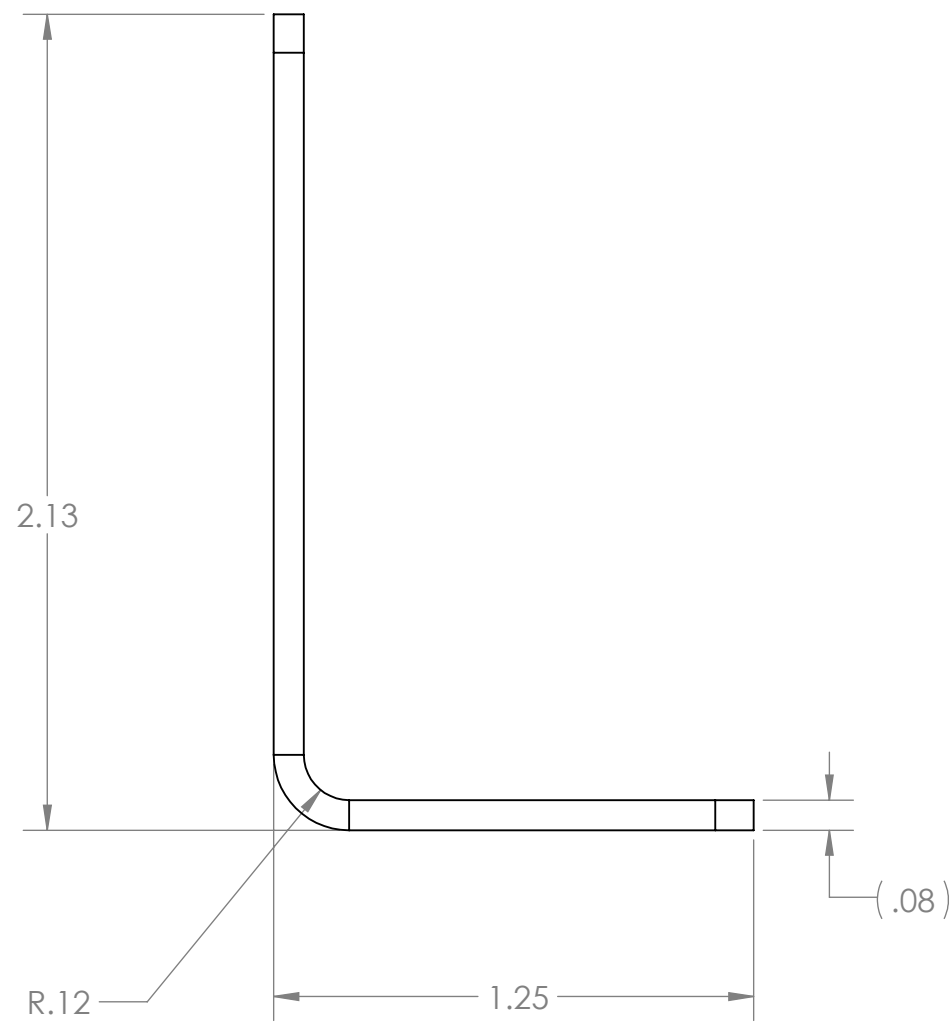
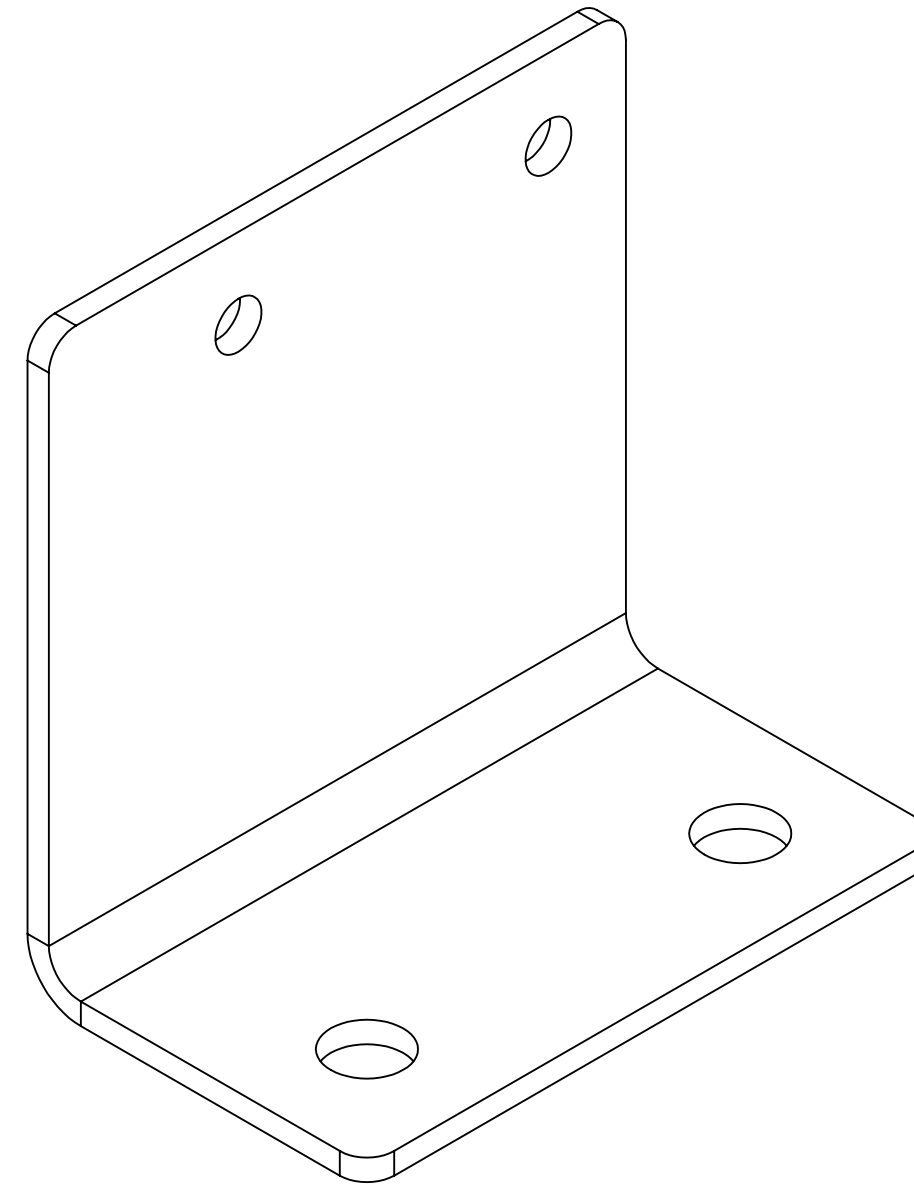
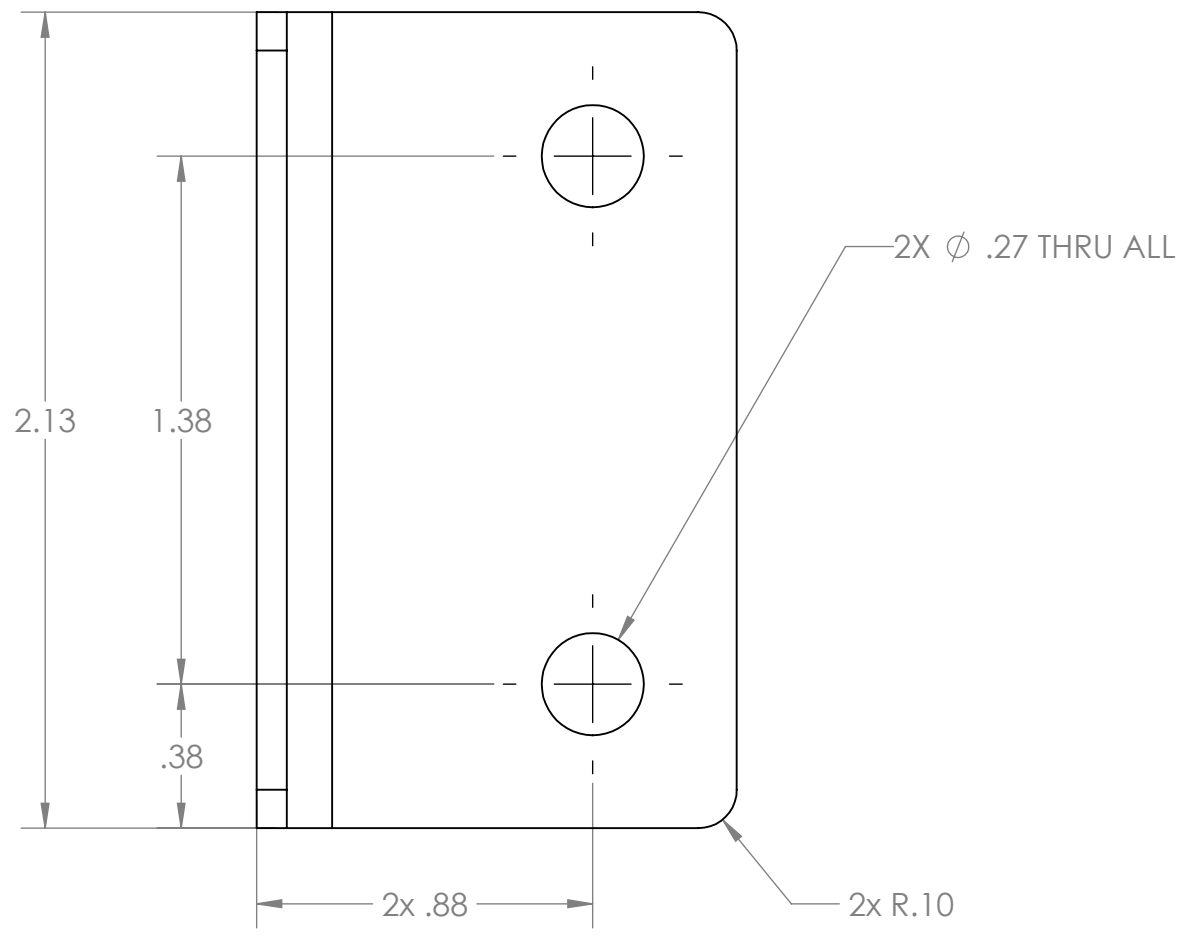


4x R.13





Notes:
 1. Tag or label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: 1/4" thk. Polycarbonate, Clear DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	6/28/2021	
	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.			Sensor Shield
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV C GE-22463
	SCALE: 1:1		SHEET 1 OF 1	



Notes:
1. Tag or label with part number.

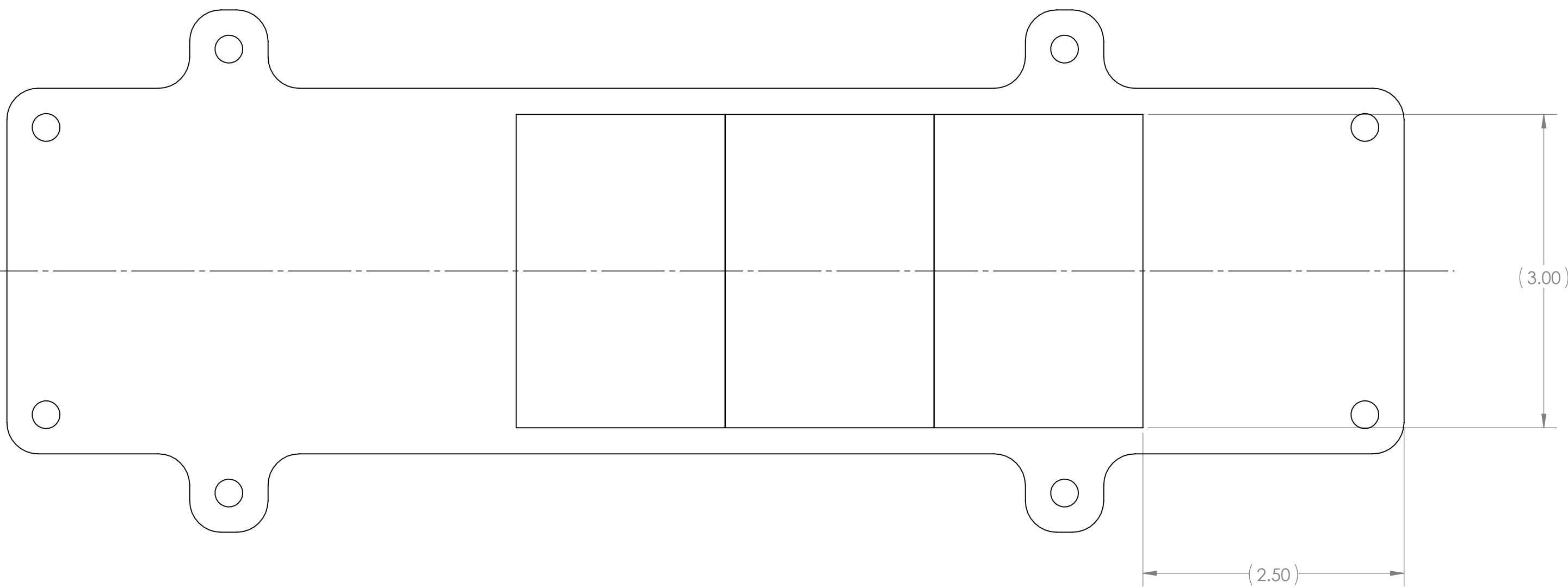
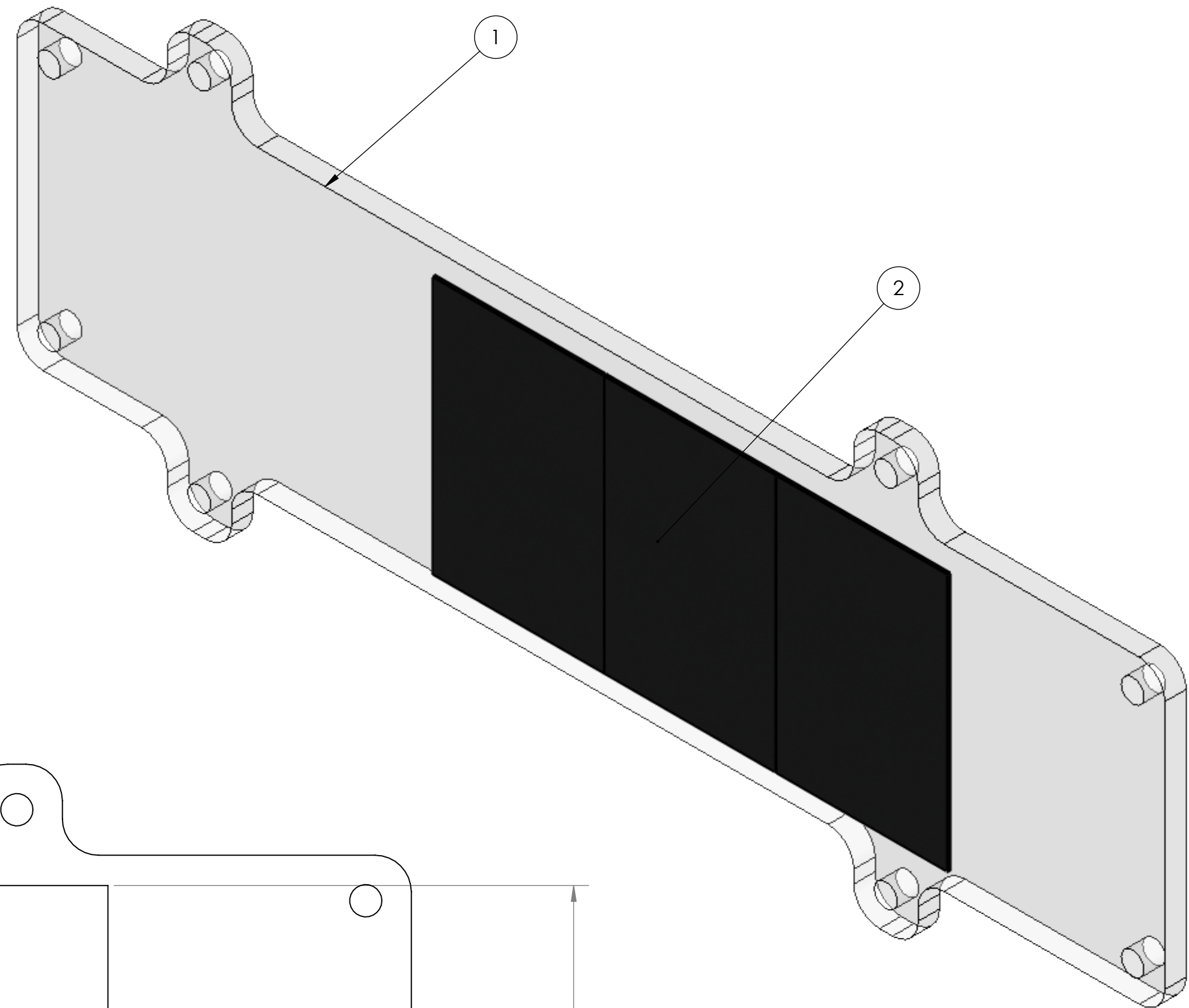
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 14 Ga. Preplated steel DO NOT SCALE DRAWING	BEND	NAME	DATE	 
	DRAWN	CO	6/28/2021	
	PROPRIETARY 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.			Color Sensor Bracket
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE DWG. NO. REV
				C GE-22464
				SCALE: 2:1 SHEET 1 OF 1

4



3

2

1



Notes:
 1. Attach (2) to (1) in locations shown.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	CO	12/16/2021	
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:
				Sensor Light Shield
SIZE		DWG. NO.	REV	
C		GE-22466		
SCALE: 1:1			SHEET 1 OF 1	

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-22462	Sensor Plate	1
2	tape_SENSORDIFFUSER	2" wide x 3" long black gaff tape	3

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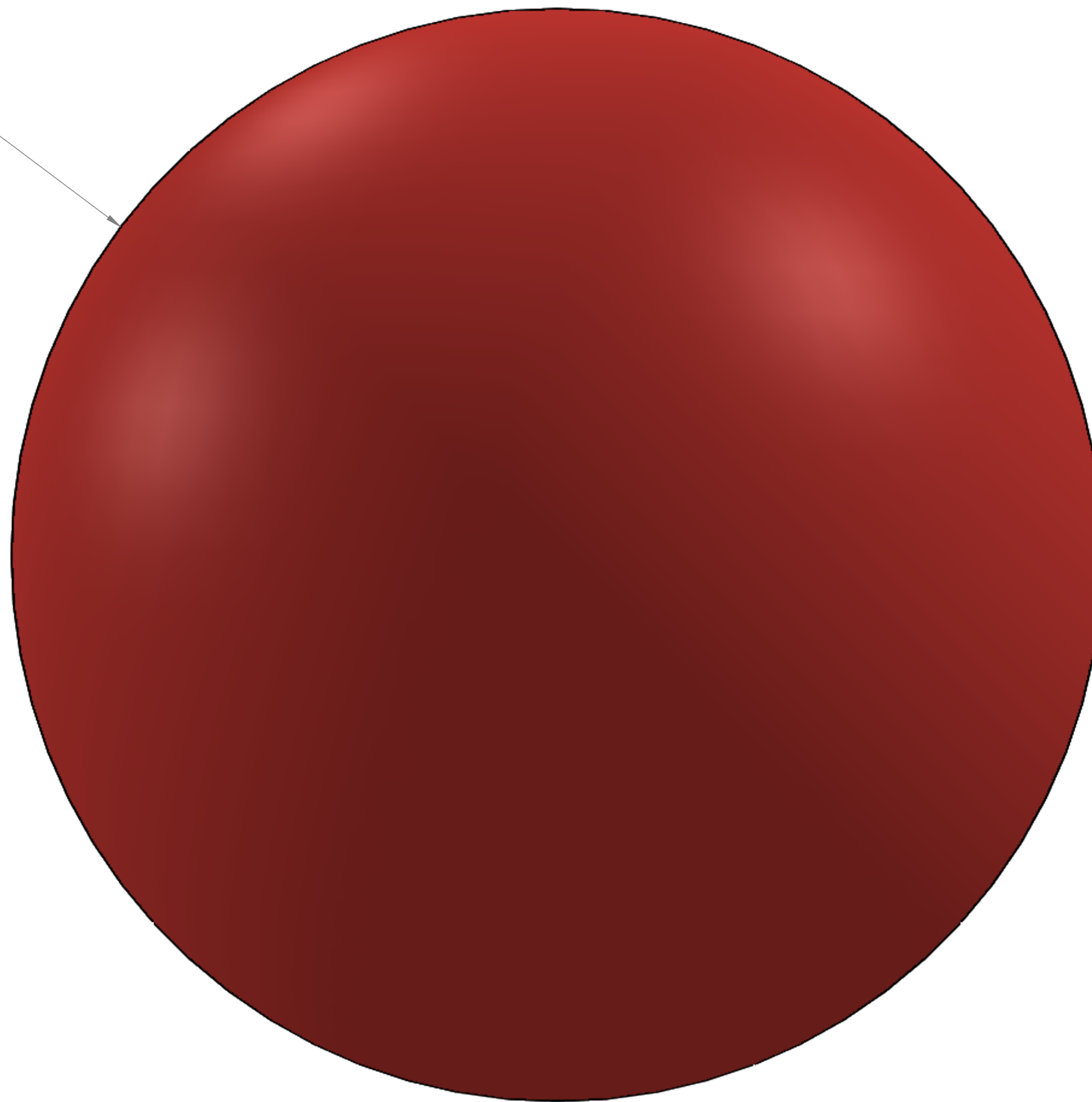
4

3

2



1

(Ø9.44)



Notes:

- 1. Description: 9.5 inch oversized tennis ball, red
- 2. Source: AndyMark
- 3. Item#: am-4600_red
- 4. To be inflated to 3.5 PSI

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	CO	12/30/2021
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.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:			
DO NOT SCALE DRAWING	REMOVE ALL BURRS AND SHARP EDGES.	TITLE: Cargo - Red	
	SCALE: 1:1	SIZE	DWG. NO.
		C	GE-22497
		REV	
		SHEET 1 OF 1	

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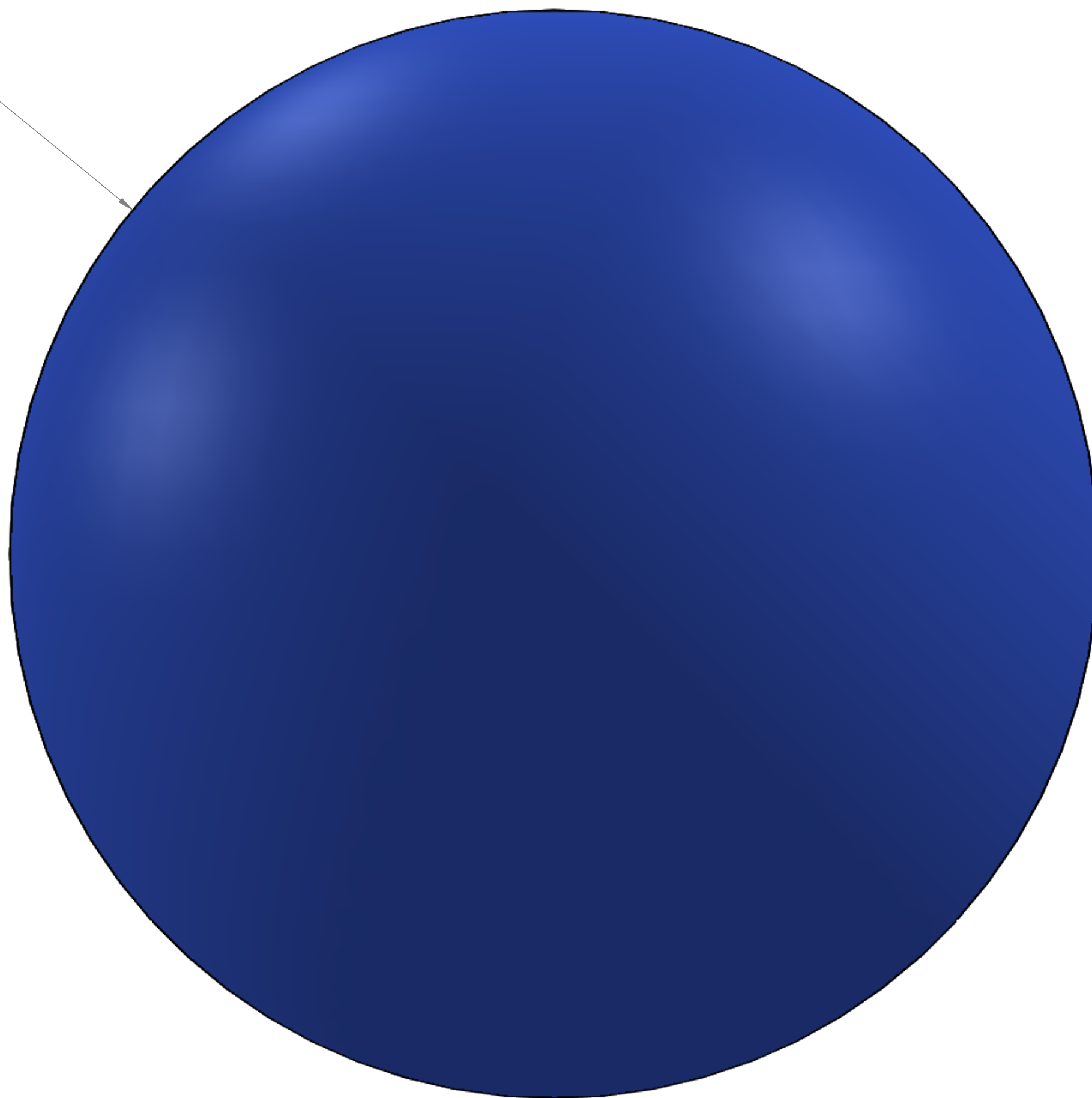
C

C

B

B

(Ø9.44)



- Notes:
1. Description: 9.5 inch oversized tennis ball, blue
 2. Source: AndyMark
 3. Item#: am-4600_blue
 4. To be inflated to 3.5 PSI

UNLESS OTHERWISE SPECIFIED:	VEND	NAME	DATE
	DRAWN	CO	12/30/2021
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.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			



TITLE:
Cargo - Blue

SIZE	DWG. NO.	REV
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C	GE-22498	
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SCALE: 1:1	SHEET 1 OF 1
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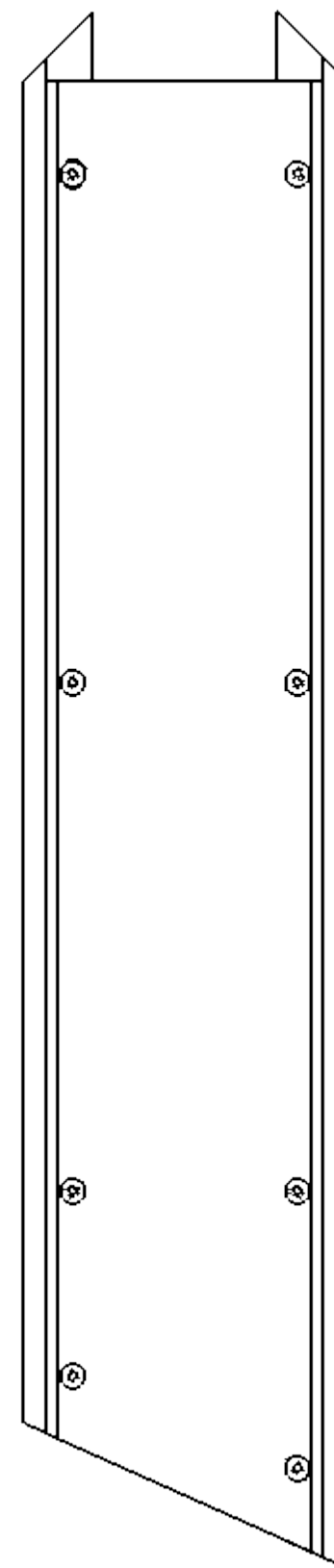
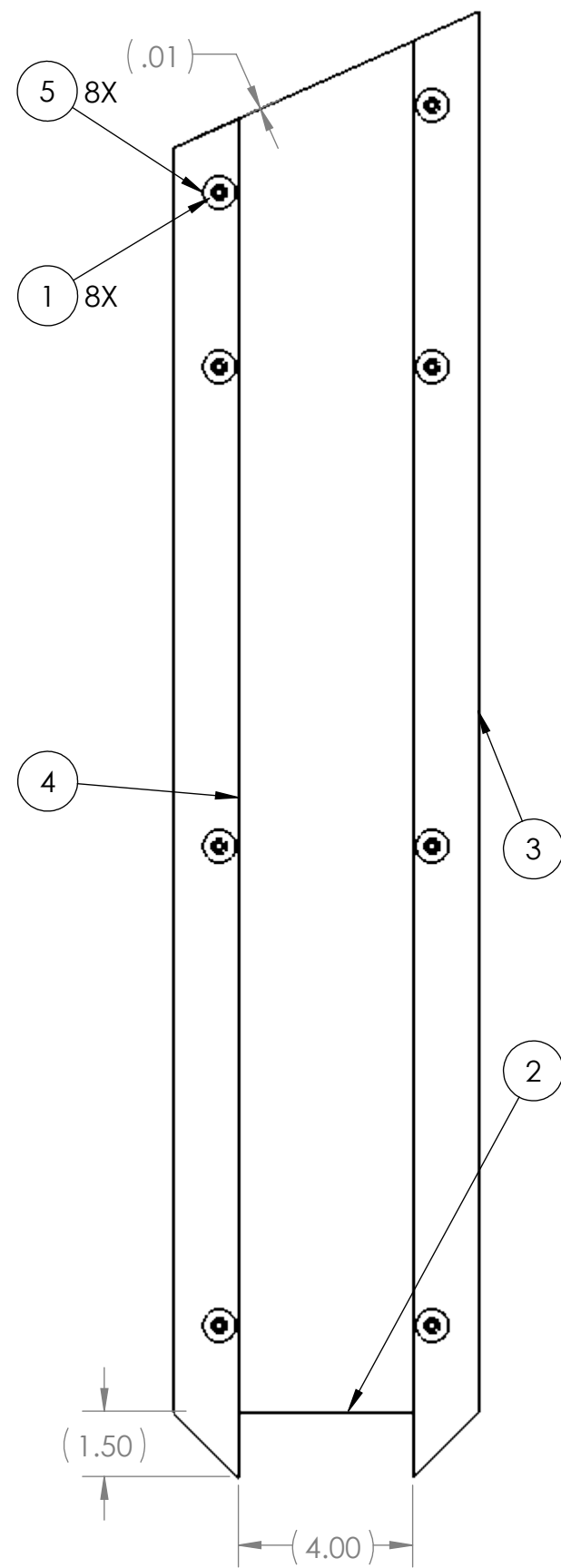
1

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ITEM NO.	PART NUMBER	DESCRIPTION	
1	Flat Hex .25_20_.75	Flat Hex .25_20_.75	8
2	GE-22601	Cable protector top angled	1
3	GE-22602	Cable protector side right angled	1
4	GE-22603	Cable protector side left angled	1
5	TeeNut_ultra_split_rst_.25_20	.25-20 TeeNut ultra split resistant	8

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Added sheet 2	1/5/2022	DAF



Notes:

1. Insert (5) 8X to (4) and (3) .
2. Attach (2) to (4) and (3) with (1) 8X .

UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	NW	7/29/2021

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

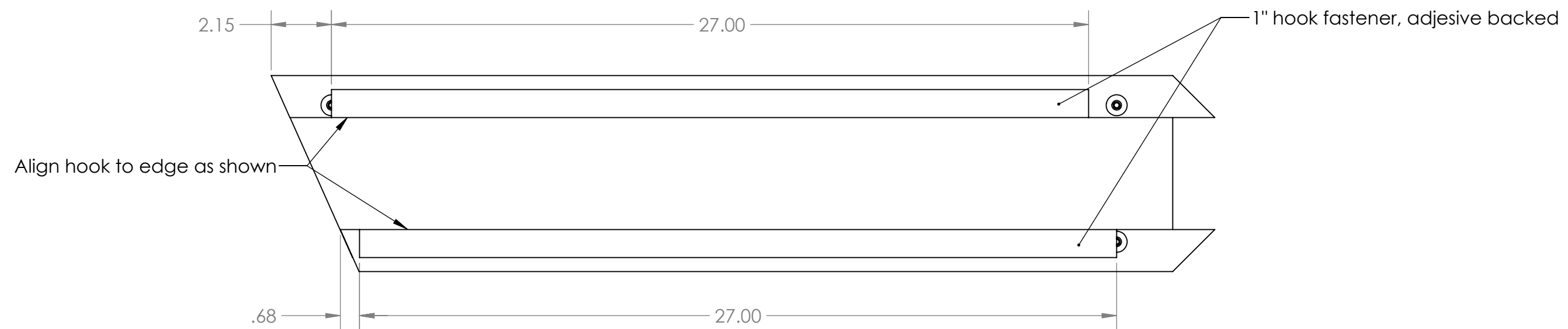




TITLE:
Angled cable protector

SIZE	DWG. NO.	REV
C	GE-22600	A

SCALE: 1:4 SHEET 1 OF 2

Post Manufacturing Instructions



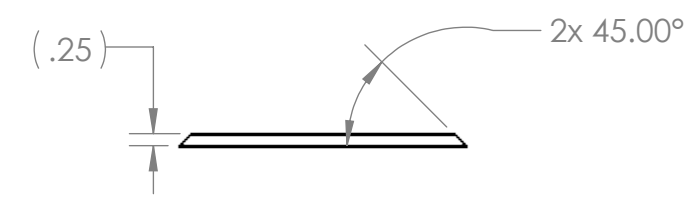
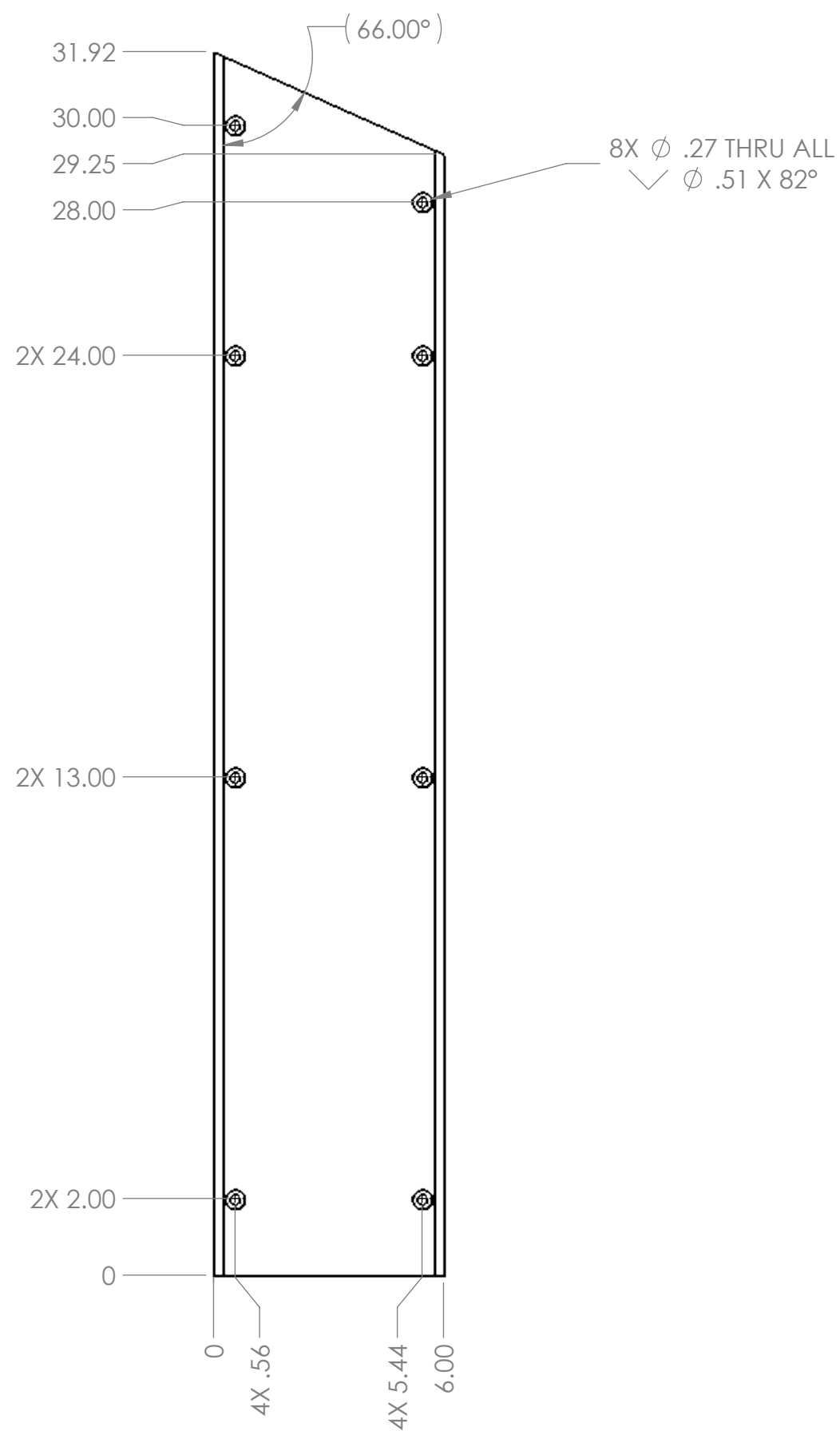
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$	VEND	NAME	DATE	 
	DRAWN	NW	7/29/2021	
MATERIAL/FINISH:	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED 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:
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			Angled cable protector
DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV	
	C	GE-22600	A	
SCALE: 1:4		SHEET 2 OF 2		

4



3

2

1



- Notes:
1. Material: 0.25" HDPE, Black high gloss smooth
 2. Remove burrs and sharp edges.
 3. Label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: HDPE Black, Smooth high gloss finish DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	NW	6/7/2021	
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:
				Cable protector top angled
COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		SIZE	DWG. NO.	REV
		C	GE-22601	
		SCALE: 1:8	SHEET 1 OF 1	

4

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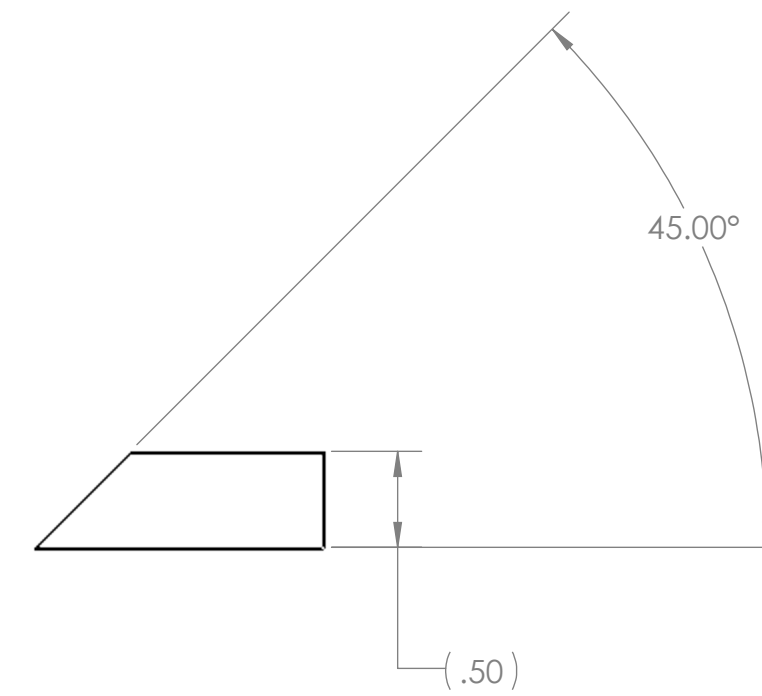
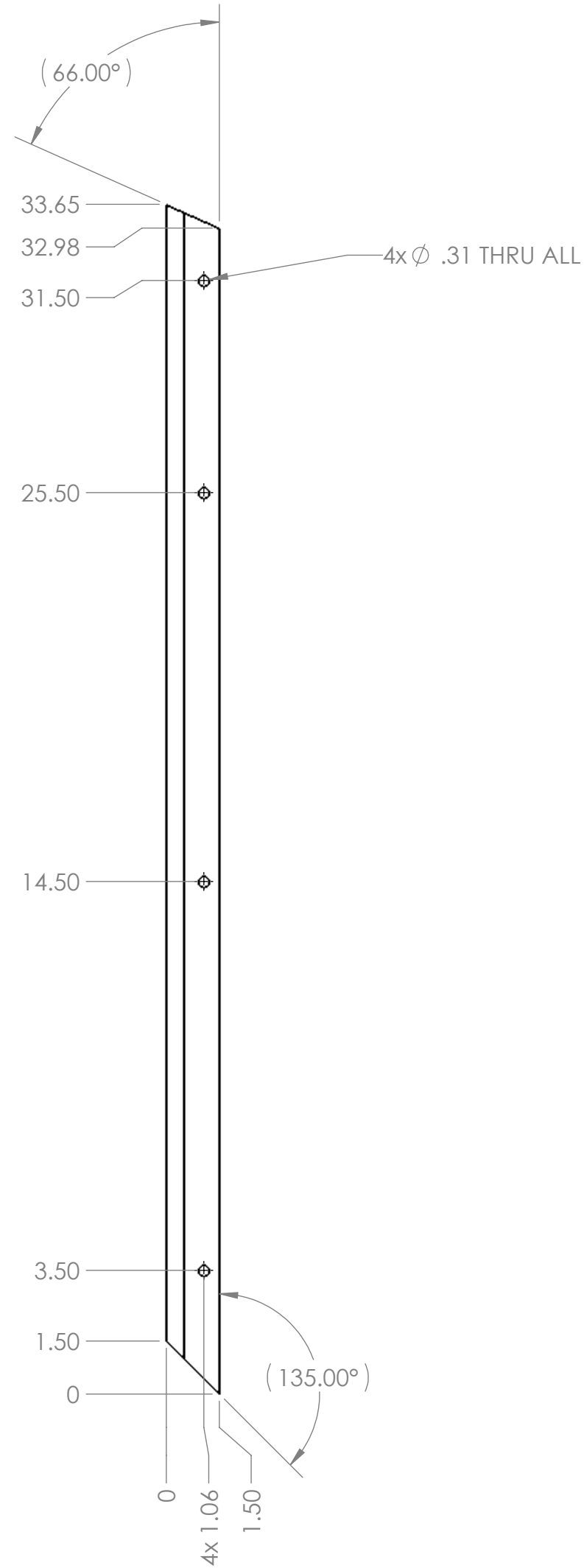
A

4



3

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1



- Notes:
1. Material: 0.5" HDPE, Black high gloss smooth.
 2. Remove all burrs and sharp edges.
 3. Label with part number.

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: HDPE Black high gloss smooth DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	NW	6/8/2021	
PROPRIETARY AND CONFIDENTIAL				TITLE: Cable protector side right angled
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:				SIZE DWG. NO. REV
REMOVE ALL BURRS AND SHARP EDGES.				C GE-22602
SCALE: 1:8			SHEET 1 OF 1	

4

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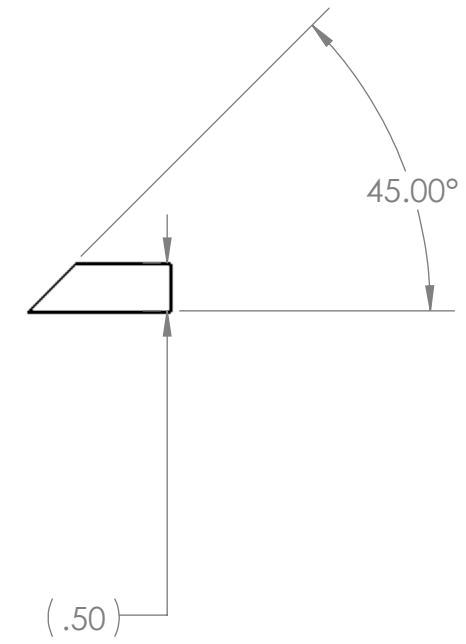
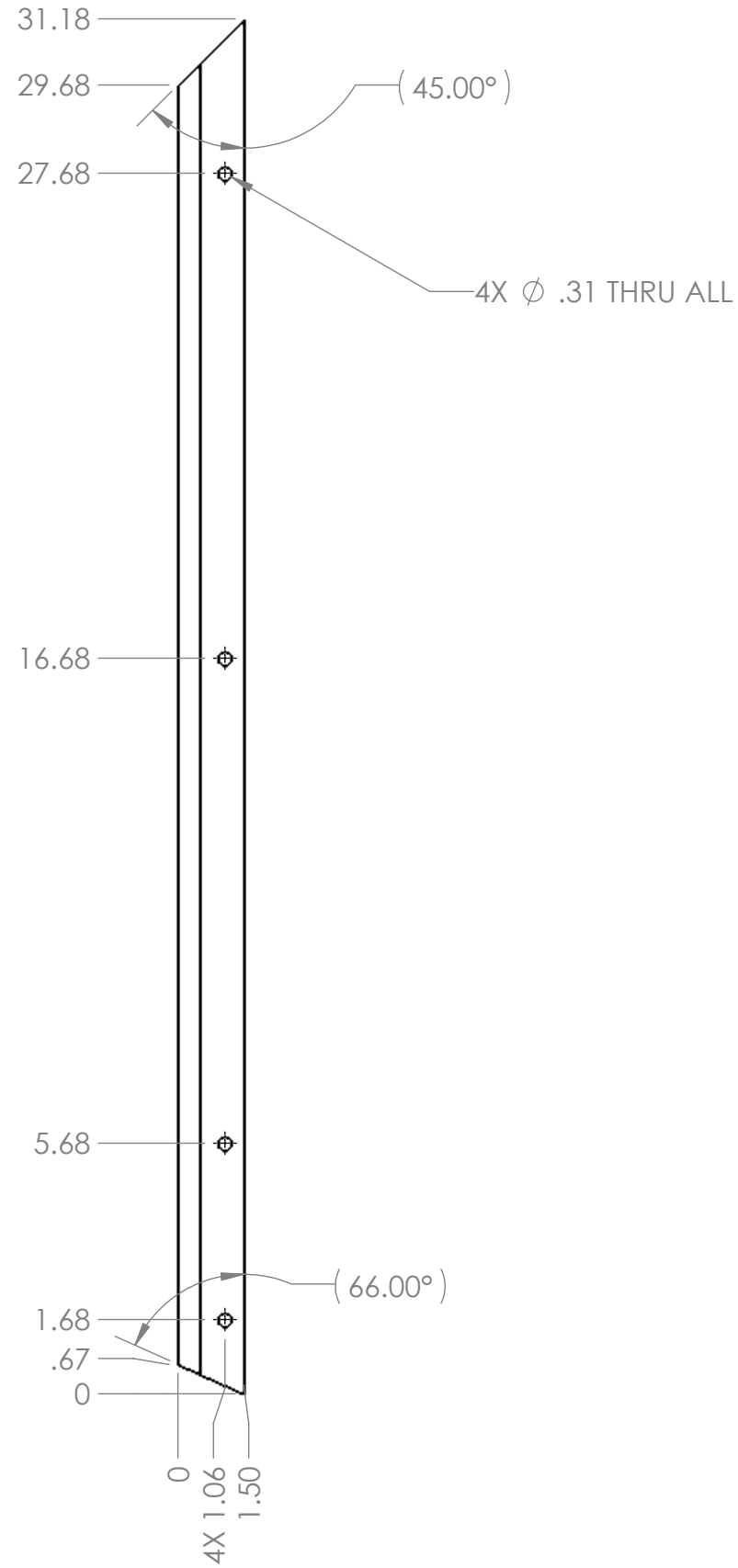
A

4



3

2

1



- Notes:
1. Material: 0.5" HDPE, Black high gloss smooth.
 2. Remove all burrs and sharp edges
 3. Label with part number

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .01 THREE PLACE DECIMAL ± .005 MATERIAL/FINISH: HDPE Black high glass smooth DO NOT SCALE DRAWING	VEND	NAME	DATE	 
	DRAWN	NW	6/7/2021	
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: Cable protector side left angled
SIZE		DWG. NO.	REV	
C		GE-22603		
SCALE: 1:8			SHEET 1 OF 1	

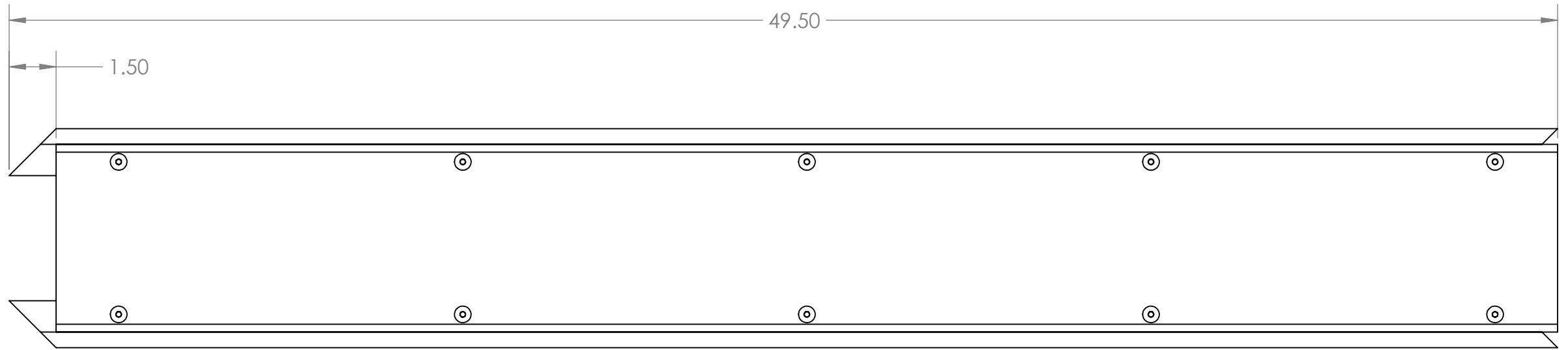
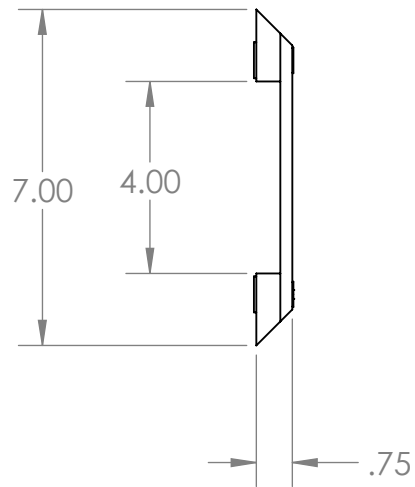
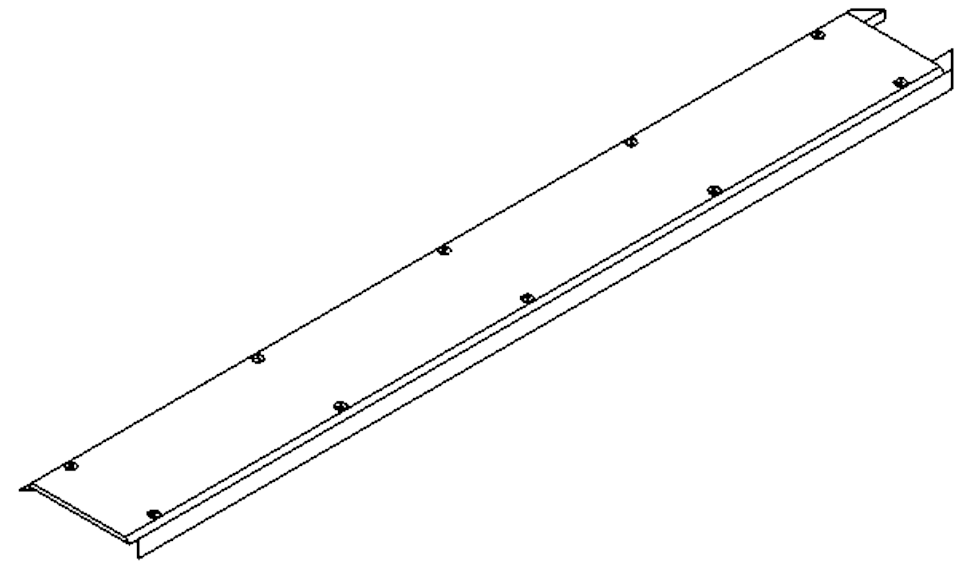
4

3



2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00301	Side angle left	1
2	FE-00303	Side angle right	1
3	FE-00302	Cable protector top	1
4	Flat Hex .25_20_.75	Flat Hex .25_20_.75	10
5	TeeNut_ultra_split_rst_.25_20	.25-20 TeeNut ultra split resistant	10



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		UNLESS OTHERWISE SPECIFIED:	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 $\pm .001$	DRAWN		
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		SIZE DWG. NO. REV
		MATERIAL	ENG APPR.		B FE-00300
NEXT ASSY	USED ON	FINISH	MFG APPR.		SCALE: 1:12 WEIGHT: SHEET 1 OF 2
APPLICATION		DO NOT SCALE DRAWING	Q.A.		
			COMMENTS:		

4

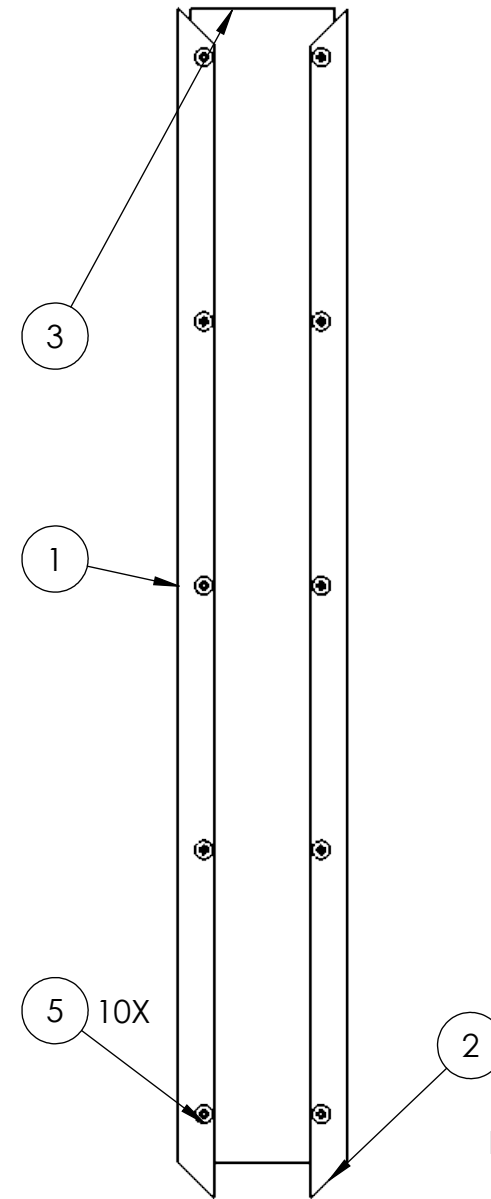
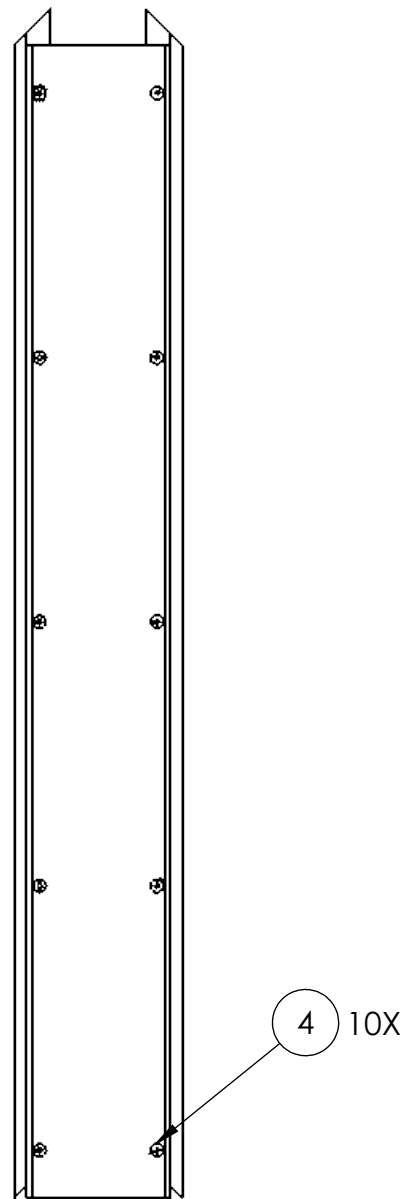
3

2

1

B

B





Notes:

- 1. Insert (5) 10X in to the bottom of (1) and (2) .
- 2. Attach (3) to (1) an (2) with (4) 10X .

A

A

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN		
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		SIZE DWG. NO. REV
		MATERIAL	ENG APPR.		B FE-00300
NEXT ASSY	USED ON	FINISH	MFG APPR.		SCALE: 1:12 WEIGHT: SHEET 2 OF 2
APPLICATION		DO NOT SCALE DRAWING	Q.A.	COMMENTS:	

4

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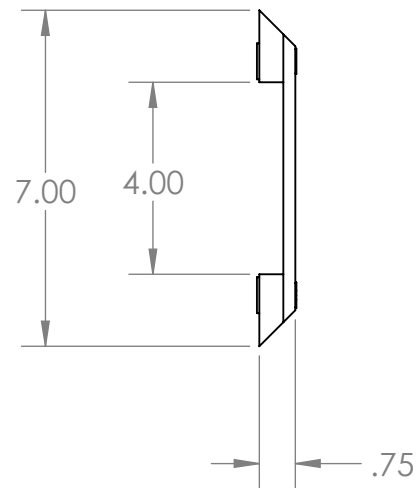
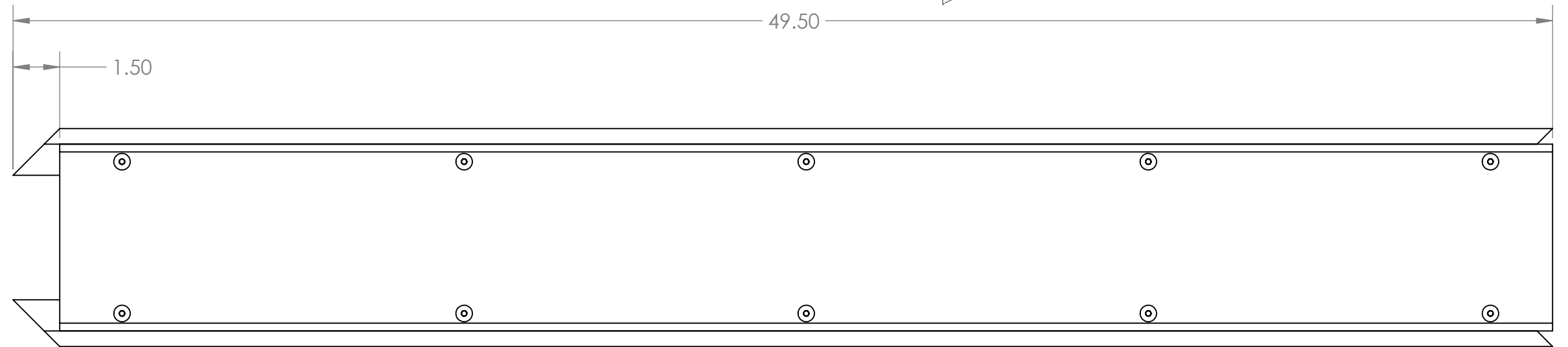
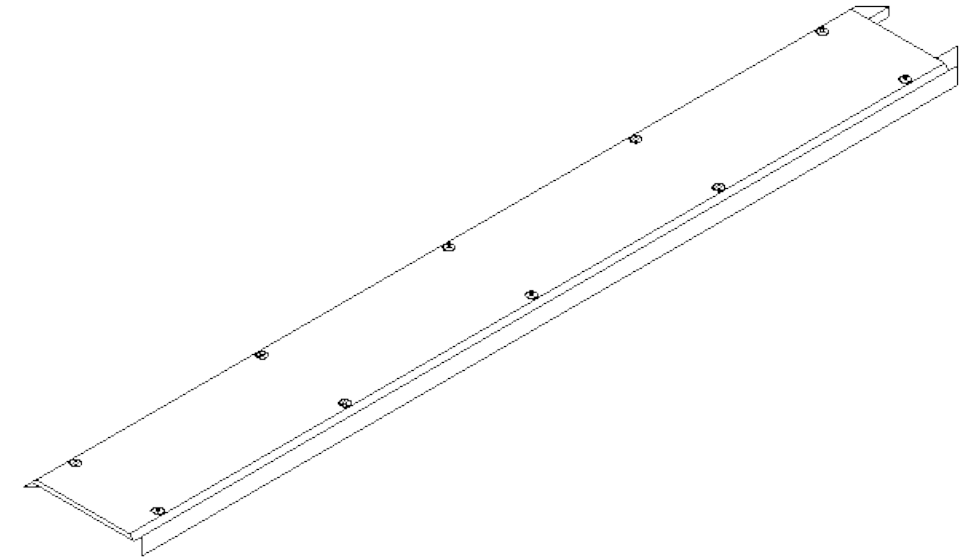
3

2

1

ITEM NO.	PART NUMBER	DESCRIPTION	
1	FE-00301	Side angle left	1
2	FE-00303	Side angle right	1
3	FE-00302	Cable protector top	1
4	Flat Hex .25_20_.75	Flat Hex .25_20_.75	10
5	TeeNut_ultra_split_rst_.25_20	.25-20 TeeNut ultra split resistant	10

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Added sheet 3	1/5/2022	DAF



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



TITLE:		
HDPE Cable Protector		
SIZE	DWG. NO.	REV
B	FE-00300	A
SCALE: 1:12 WEIGHT:		SHEET 1 OF 3

4

3

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4

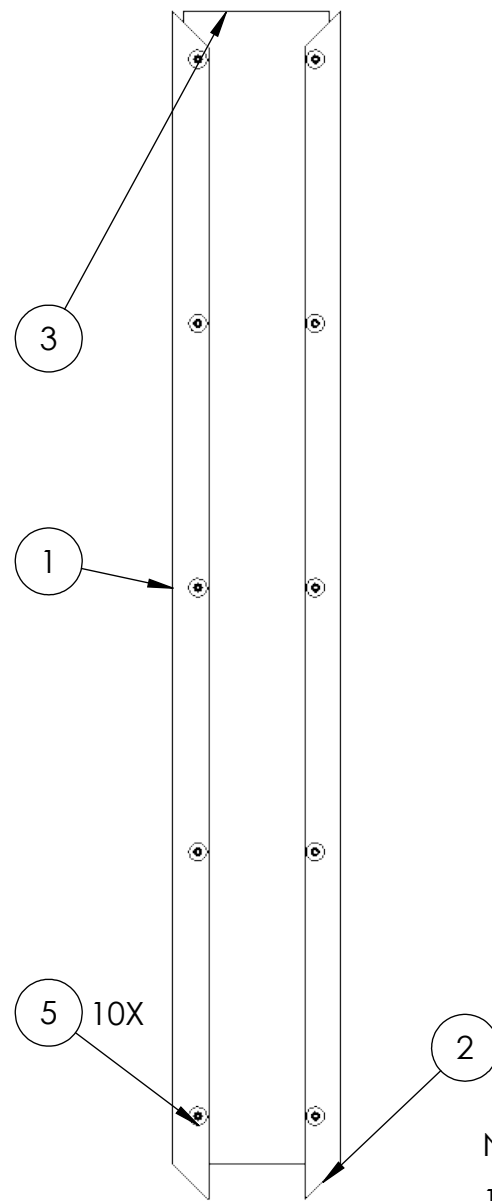
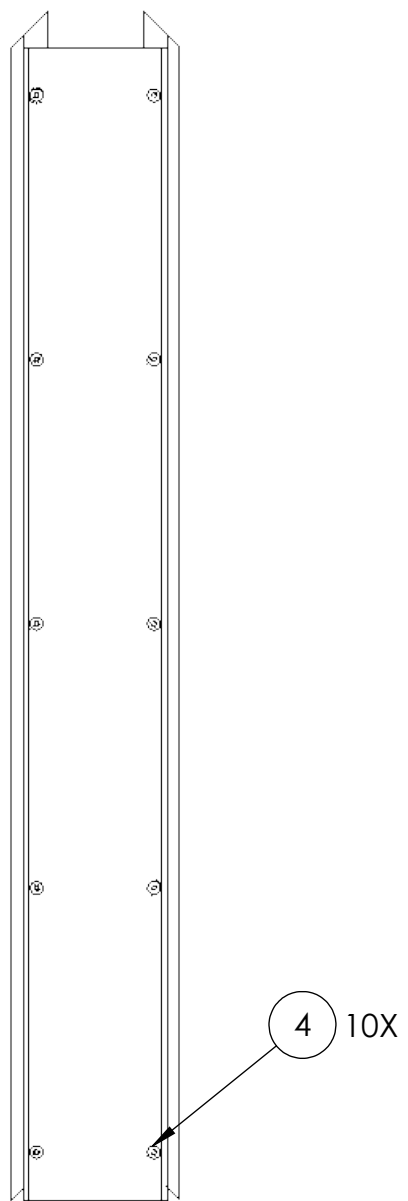
3

2

1

B

B





Notes:

- 1. Insert (5) 10X in to the bottom of (1) and (2) .
- 2. Attach (3) to (1) an (2) with (4) 10X .

A

A

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN		
		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		SIZE B DWG. NO. FE-00300 REV A
		MATERIAL	ENG APPR.		SCALE: 1:12 WEIGHT:
NEXT ASSY	USED ON	FINISH	MFG APPR.		SHEET 2 OF 3
APPLICATION		DO NOT SCALE DRAWING	Q.A.		
			COMMENTS:		

4

3

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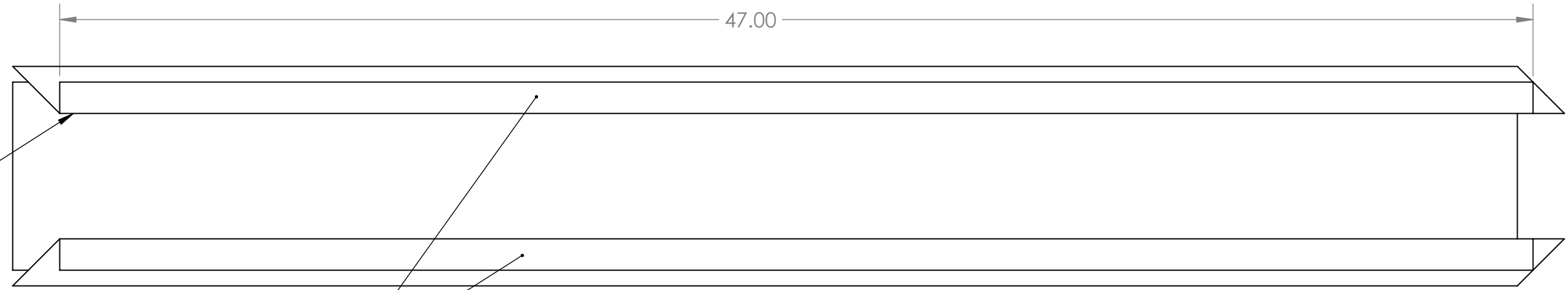
1

Post Manufacturing Instructions

47.00

Align hook to edge and corner, 2 places

1" wide hook fastener, adhesive backed



B

B

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A

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



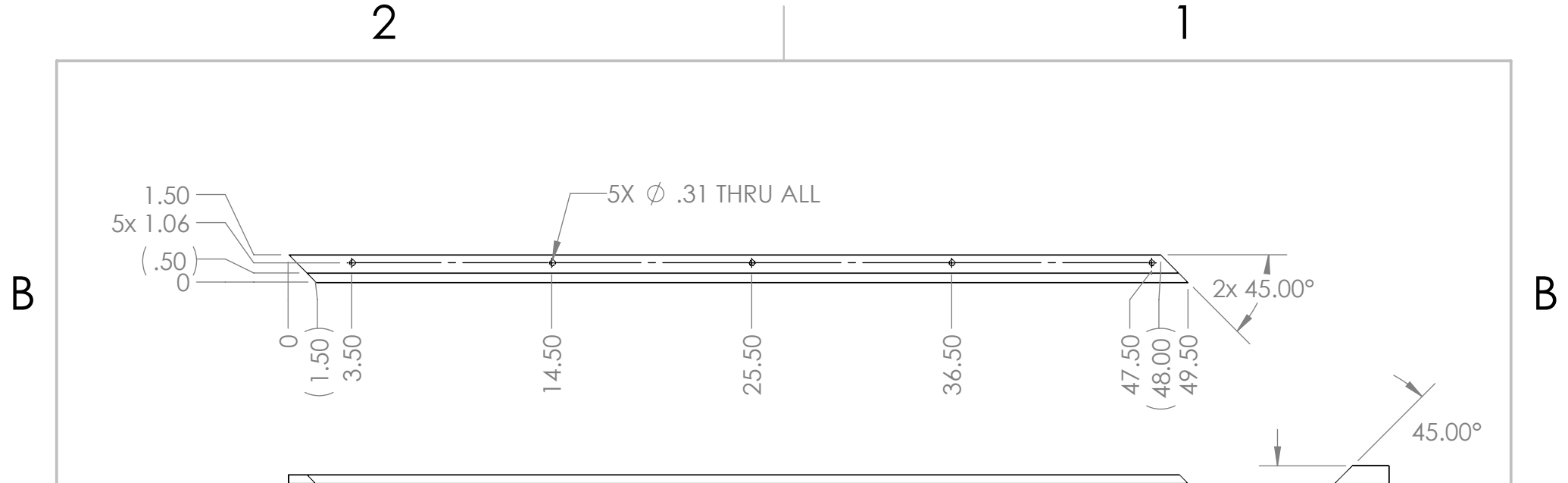
TITLE:		
HDPE Cable Protector		
SIZE	DWG. NO.	REV
B	FE-00300	A
SCALE: 1:12 WEIGHT:		SHEET 3 OF 3



4

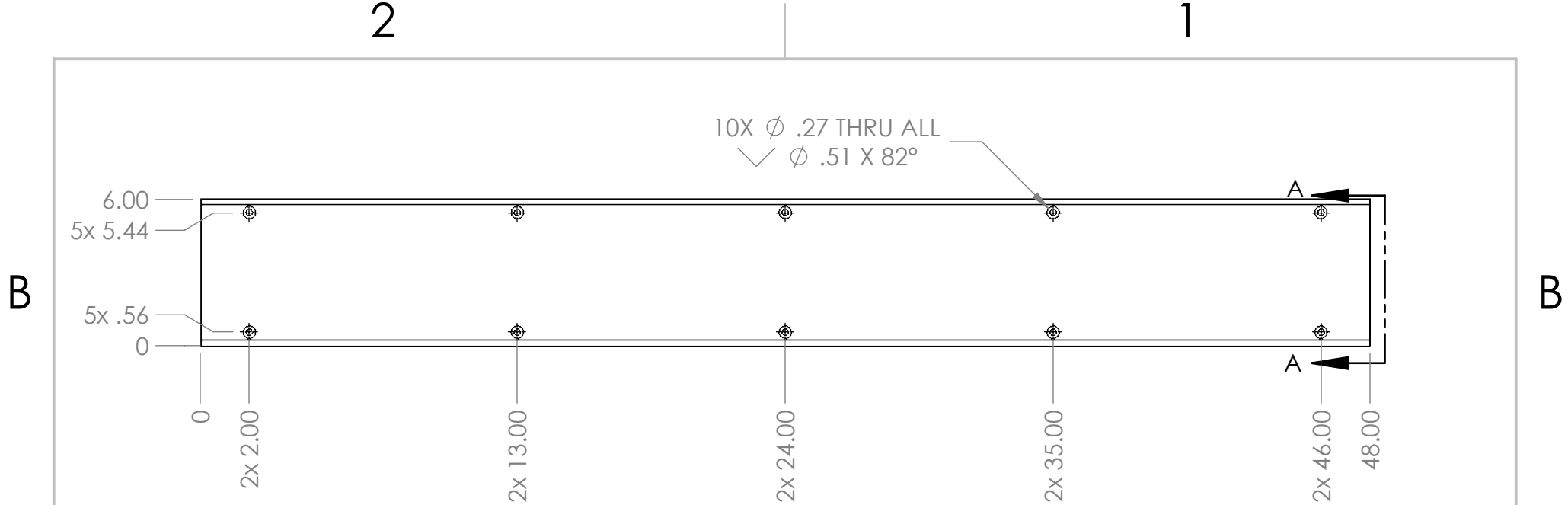
3

2

1



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			DIMENSIONS ARE IN INCHES	DRAWN				<p>TITLE:</p> <h1>Side angle left</h1>
			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	HDPE Black					
		FINISH						
	NEXT ASSY	USED ON					SIZE DWG. NO. REV	
							A FE-00301	
	APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:12 WEIGHT: SHEET 1 OF 1	



A

A

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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			
		HDPE Black			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			



TITLE:
Cable protector top

SIZE	DWG. NO.	REV
A	FE-00302	
SCALE: 1:12	WEIGHT:	SHEET 1 OF 1

2

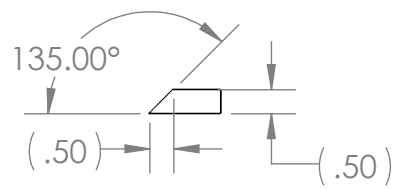
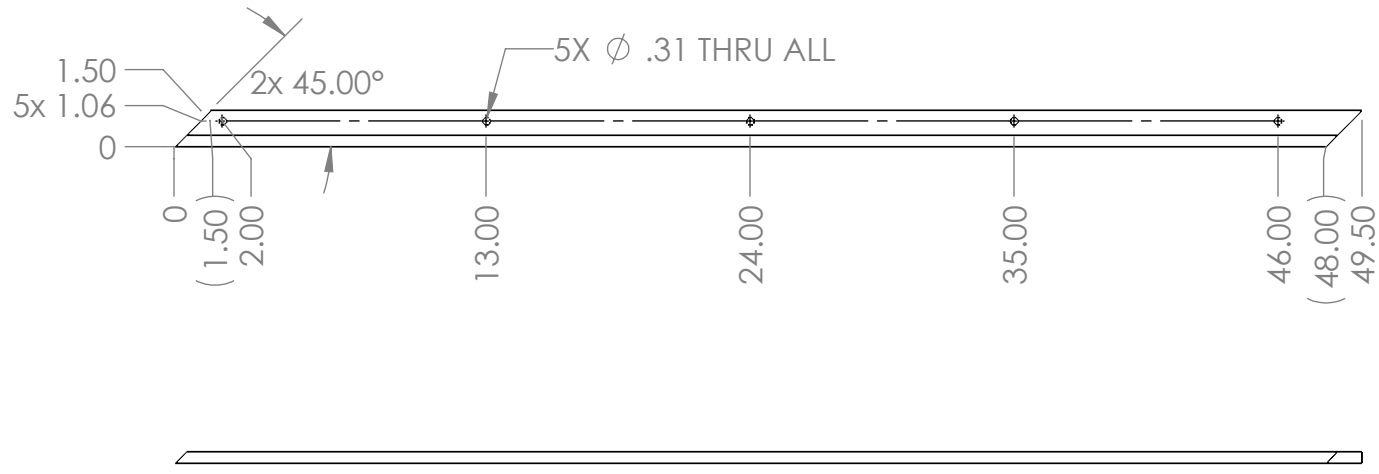
1

2

1

B

B



A

A

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



TITLE:
Side angle right

SIZE DWG. NO. REV
A FE-00303

SCALE: 1:12 WEIGHT: SHEET 1 OF 1

2

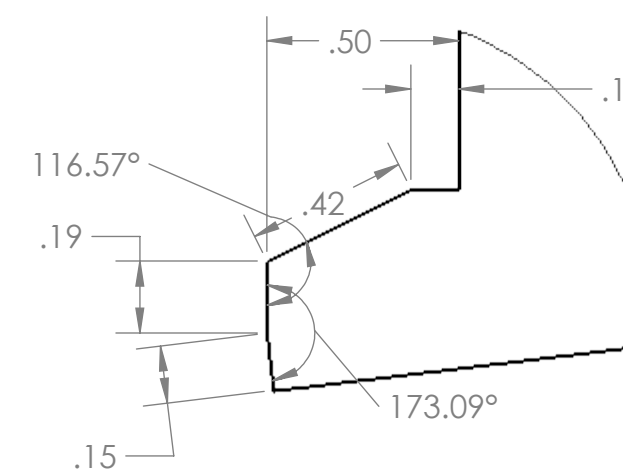
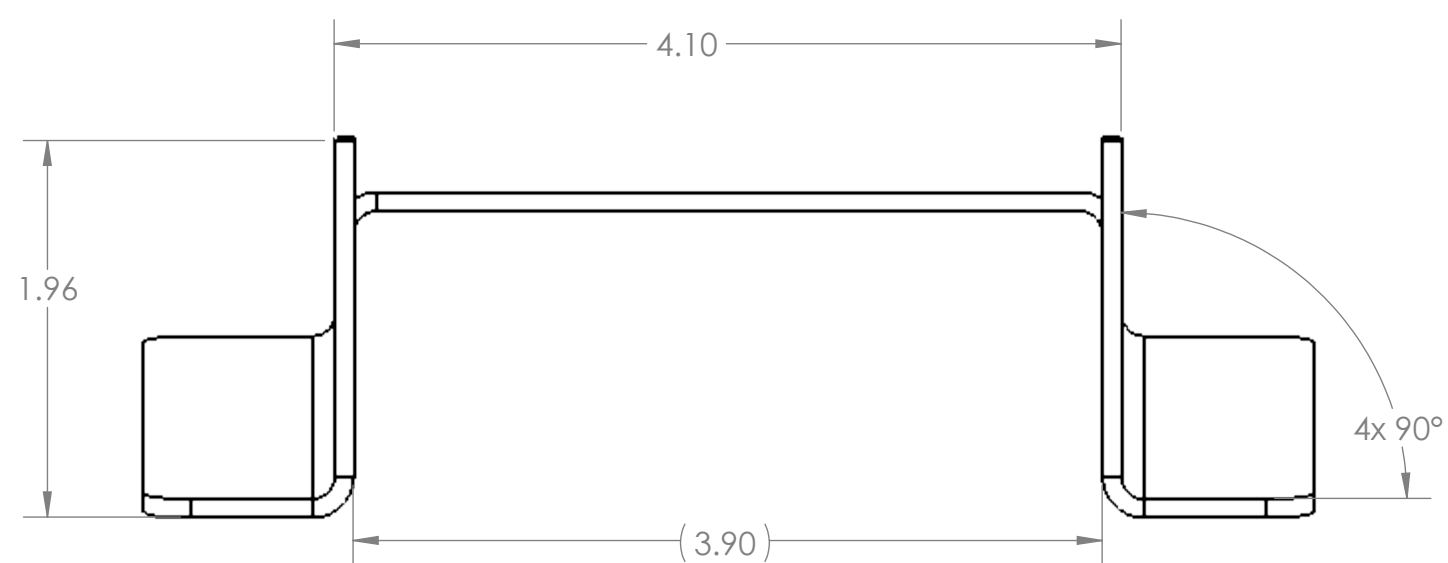
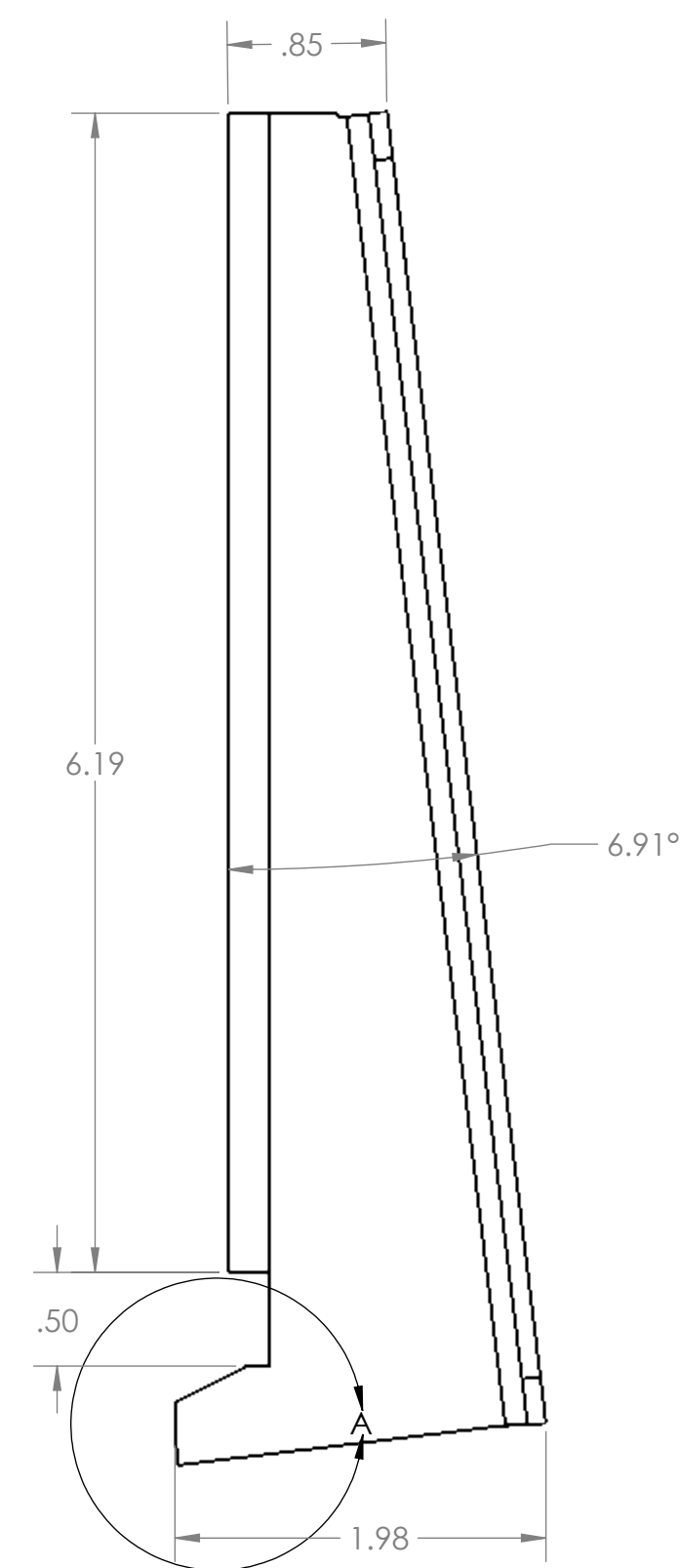
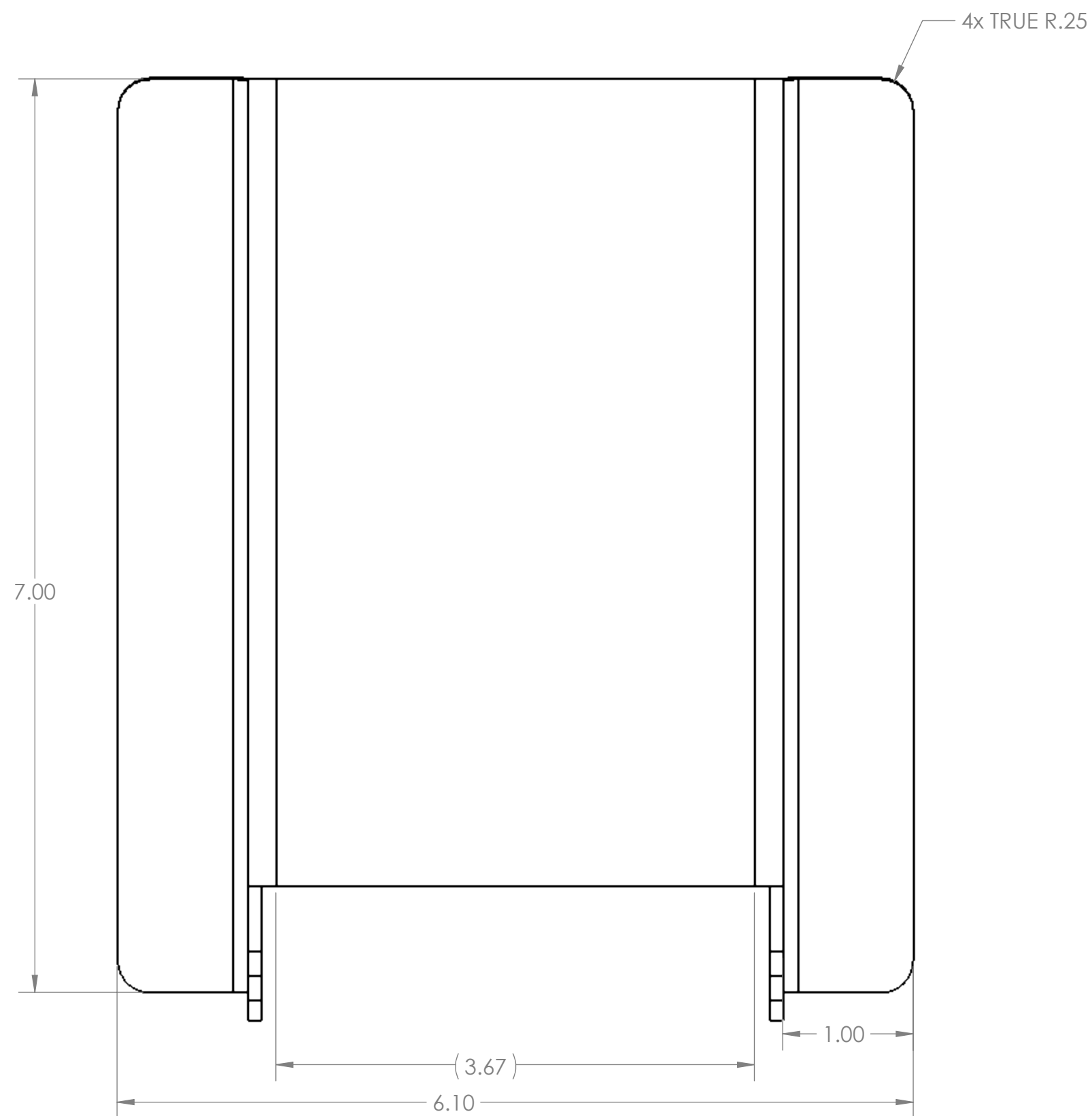
1

4

3

2

1



DETAIL A
SCALE 2 : 1

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ± .02 THREE PLACE DECIMAL ± .010 MATERIAL/FINISH: 12 gau steel podwer coated black DO NOT SCALE DRAWING	BEND	NAME	DATE
	DRAWN	NW	7/8/2021
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	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.		



TITLE:
Cable protector exit segment

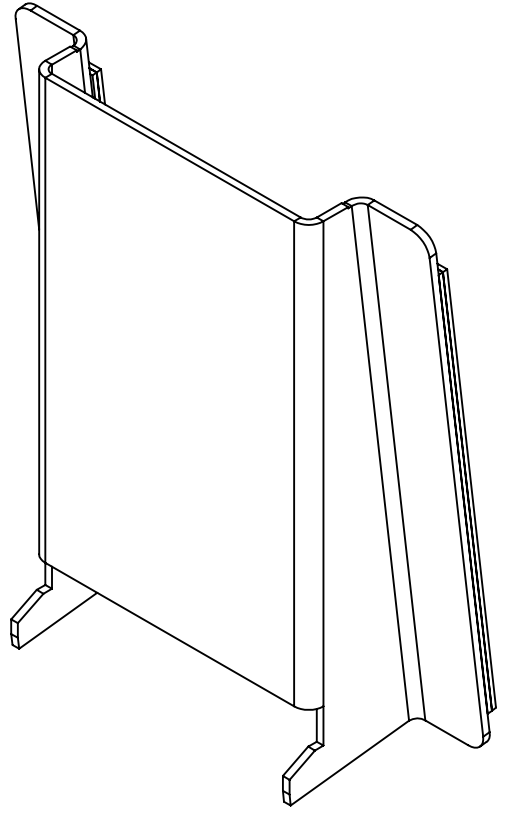
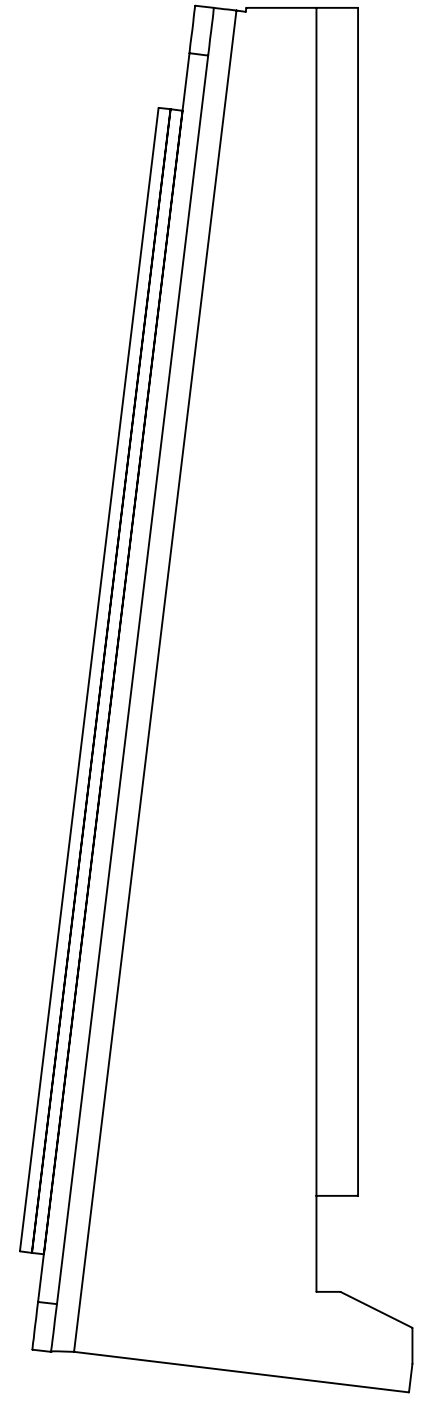
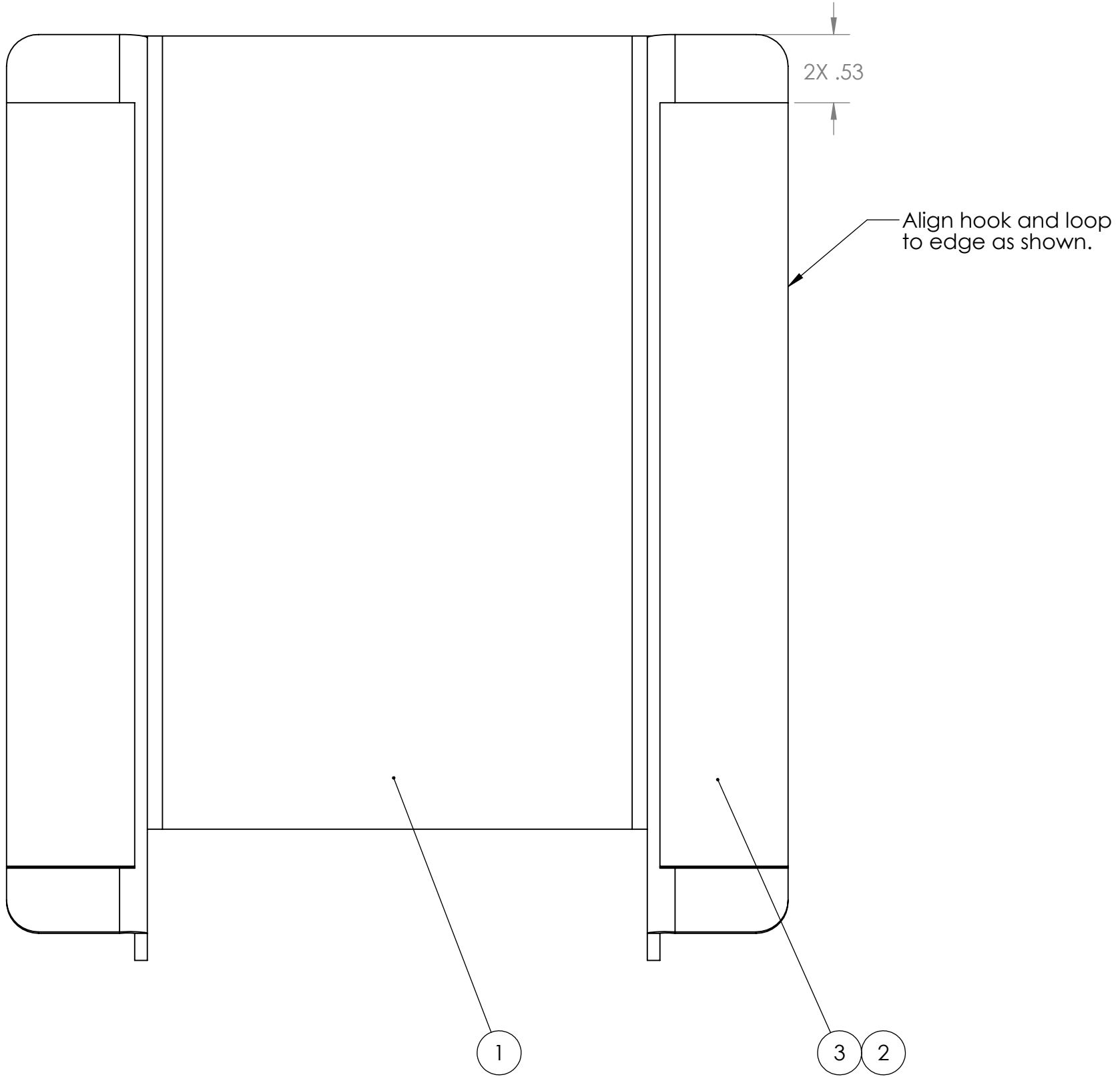
SIZE	DWG. NO.	REV
C	FE-00304	
SCALE: 1:1		SHEET 1 OF 1

4

3

2

1



- Assembly Notes:
1. Apply hook fastener to FE-00304.
 2. Apply loop fastener to the hook fastener, but leave the plastic backing on the adhesive until assembly on the field

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00304	Cable protector exit segment	1
2	Hook_1_6	1" x 6" Hook, Adhesive Backed	2
3	Loop_1_6	1" x 6" Loop, Adhesive Backed	2

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

MATERIAL/FINISH:

DO NOT SCALE DRAWING

FIELD	NAME	DATE
DRAWN	DF	1/5/2022

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COMMENTS:
 REMOVE ALL BURRS AND SHARP EDGES.

TITLE: Cable protector exit segment with hook

SIZE	DWG. NO.	REV
C	FE-00305	

SCALE: 1:1 SHEET 1 OF 1