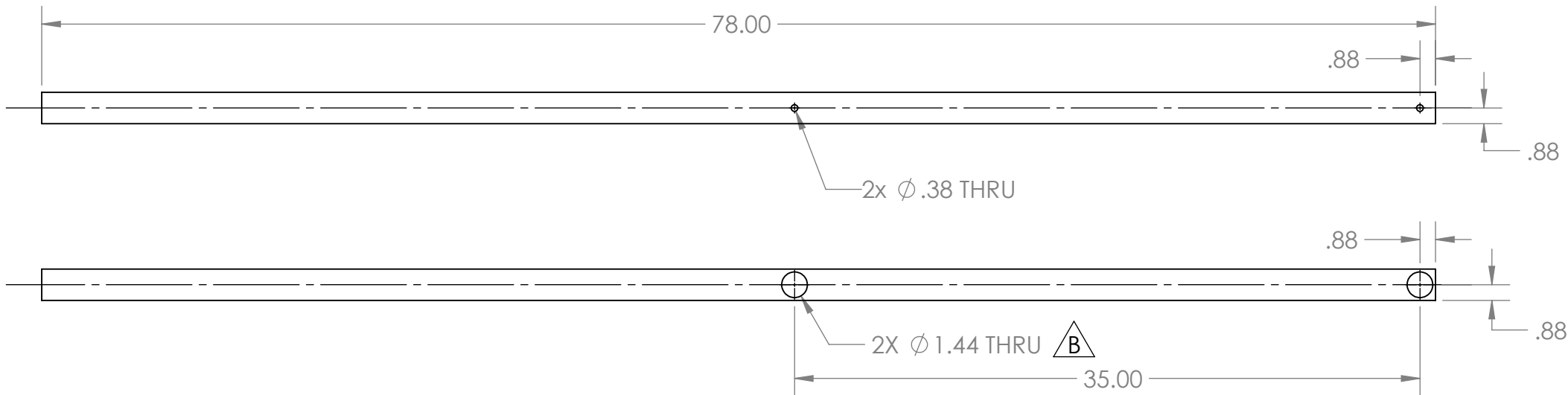
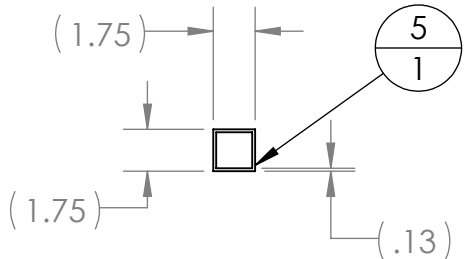
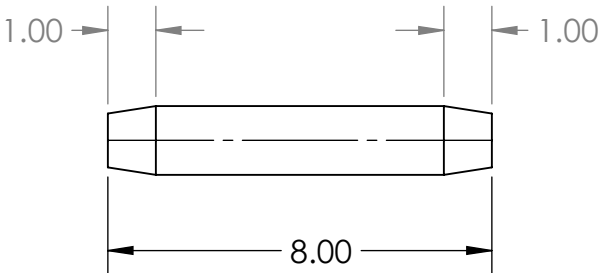
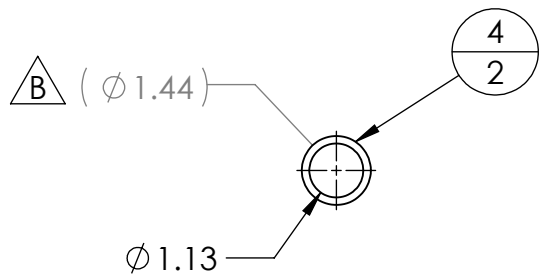
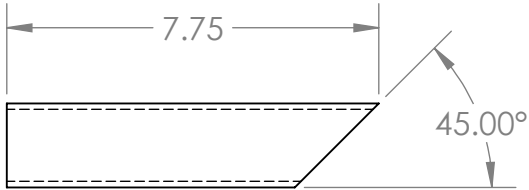
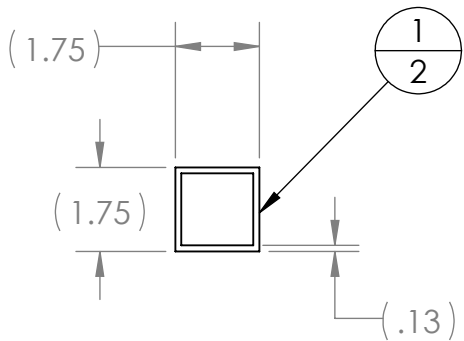


4

3

2

1



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



TITLE:
**Drivers Station
Support**

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

SCALE: 1:2	WEIGHT:	SHEET 2 OF 3
------------	---------	--------------

4

3

2

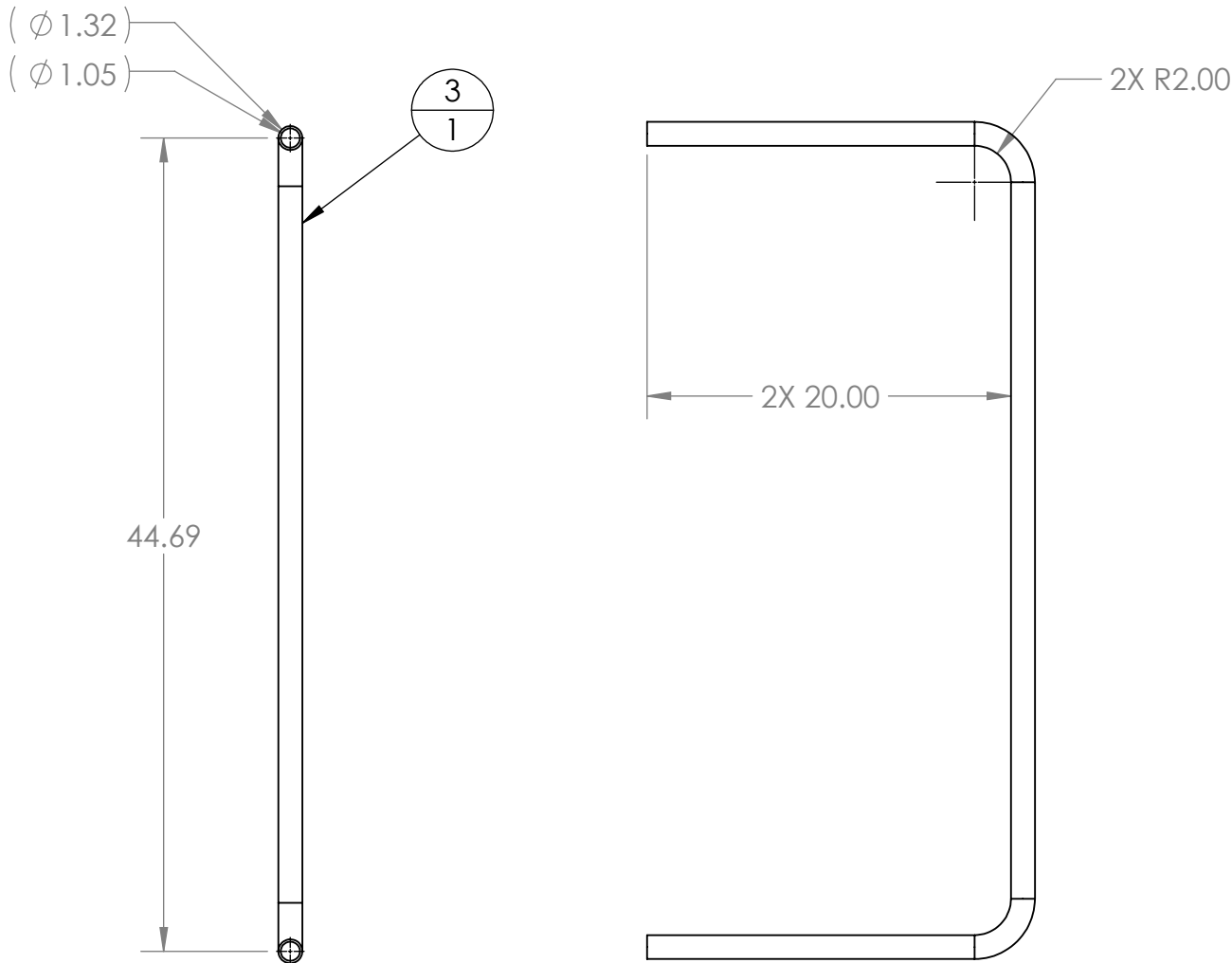
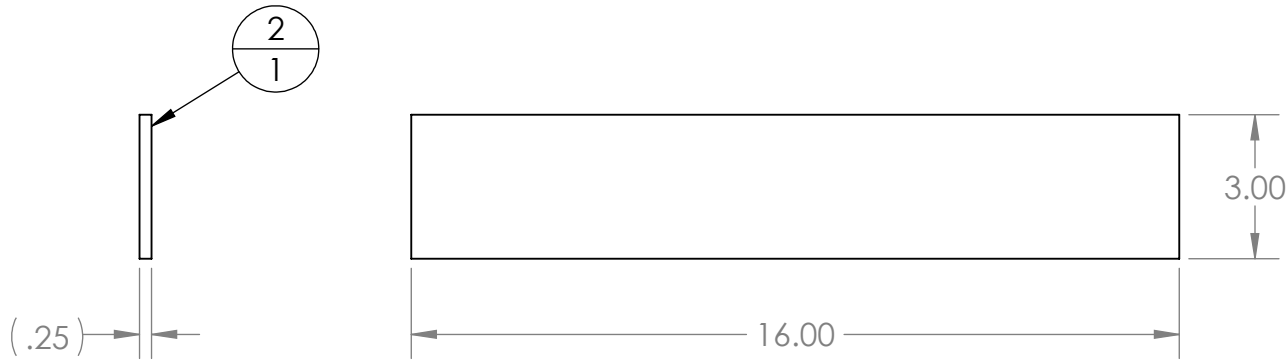
1

4



3

2

1



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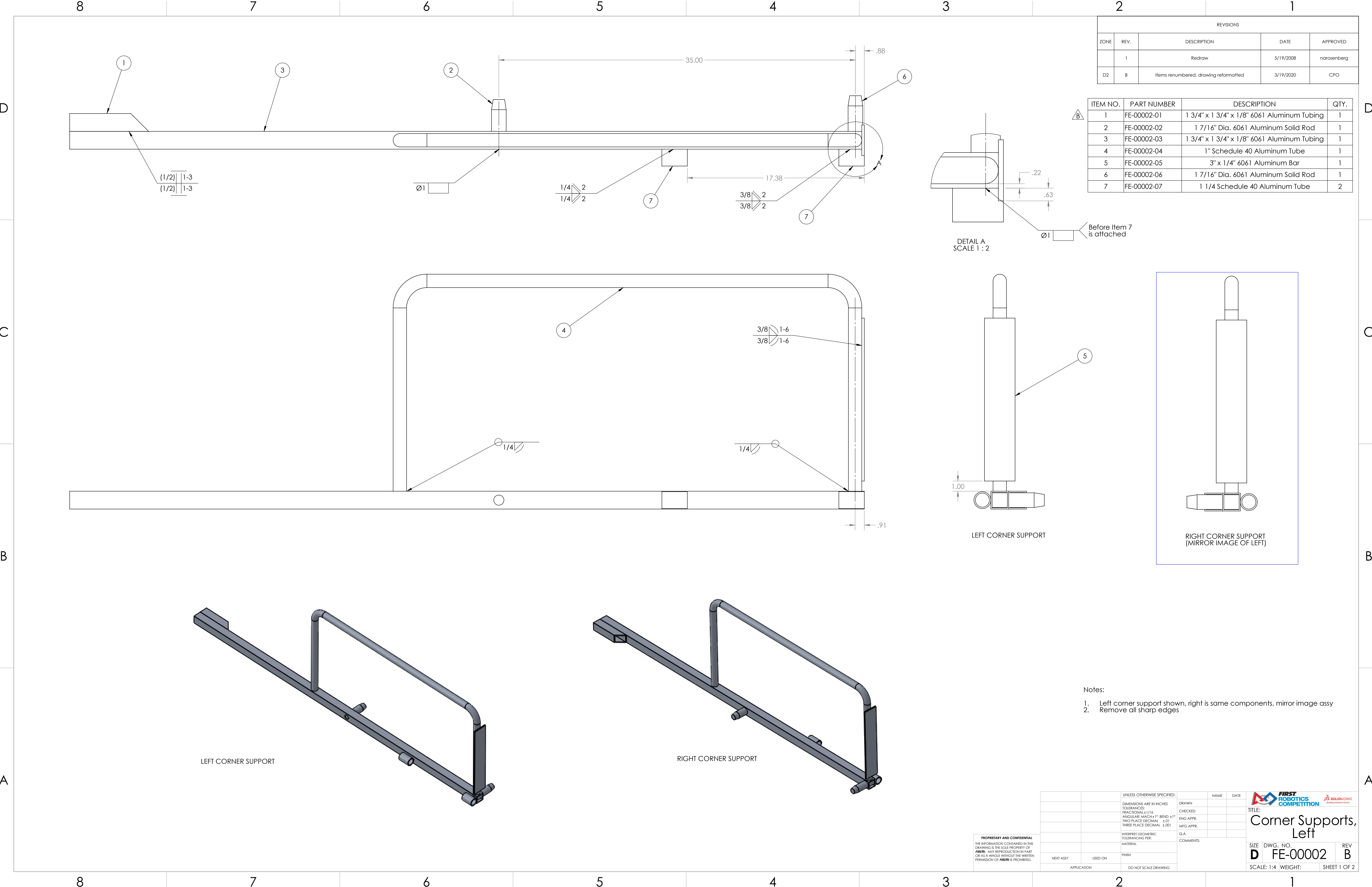
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			DRAWN				
			CHECKED				
			ENG APPR.				
			MFG APPR.			SIZE DWG. NO. REV B FE-00001 B	
			Q.A.				
			COMMENTS:			WEIGHT:	SHEET 3 OF 3
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING					

4

3

2

1



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

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

Before Item 7
is attached

DETAIL A
SCALE 1 : 2

LEFT CORNER SUPPORT

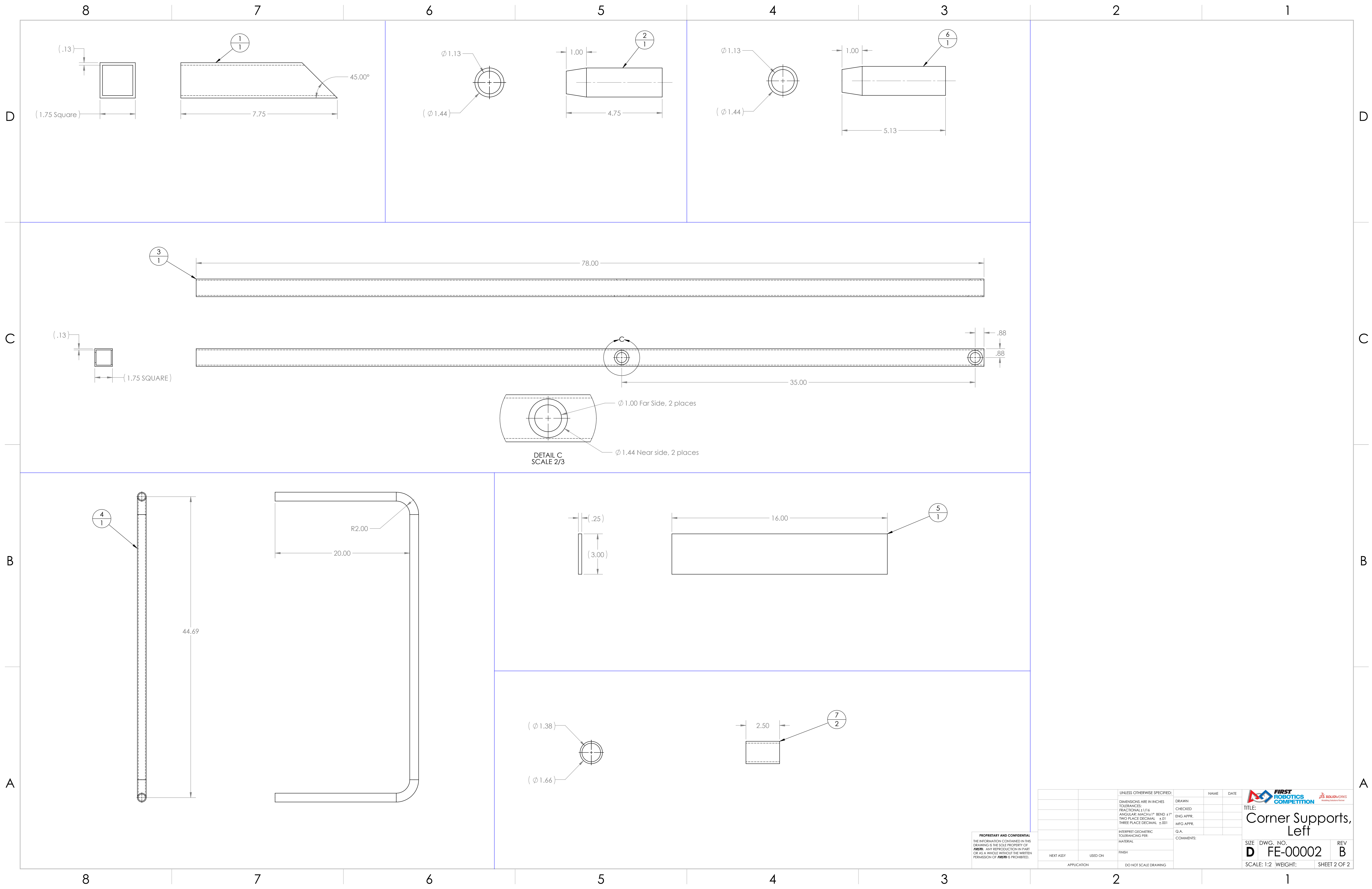
RIGHT CORNER SUPPORT
(MIRROR IMAGE OF LEFT)

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

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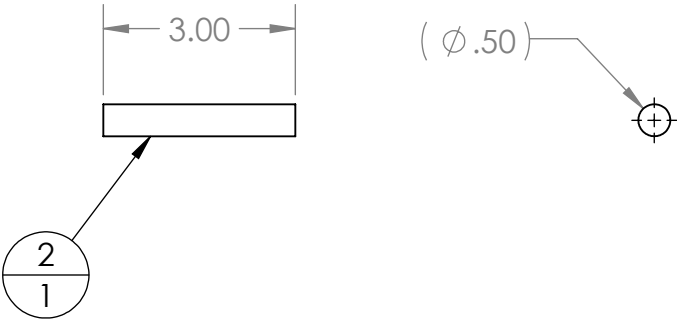
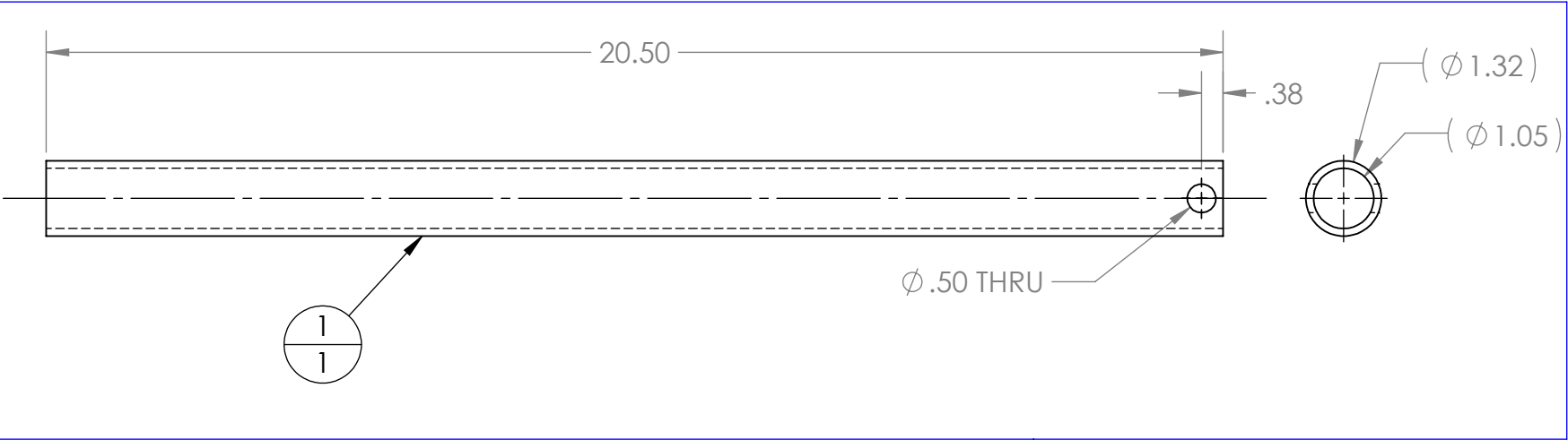
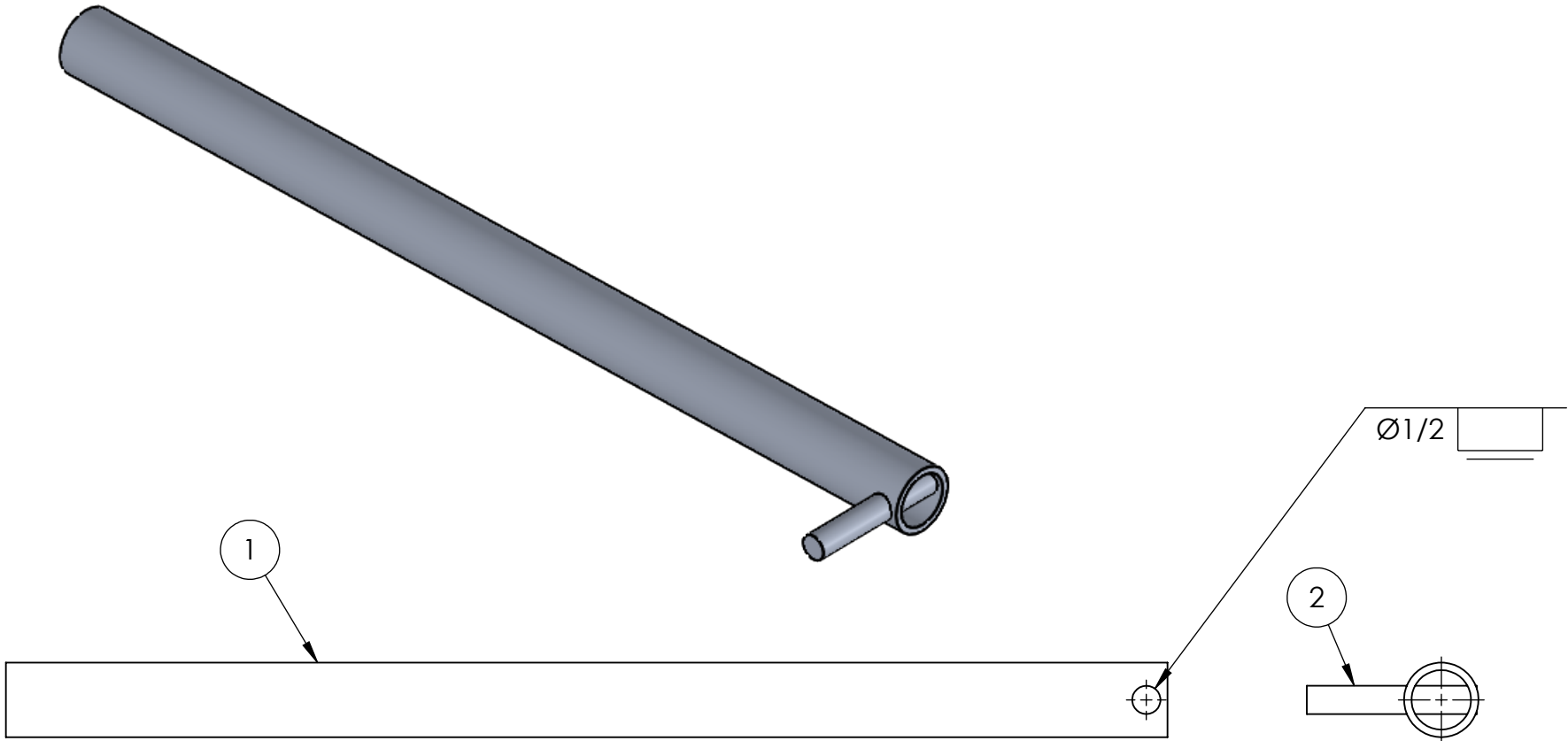
UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN		
FRACTIONAL: ±1/16	CHECKED		
TOLERANCES:	ENG APPR.		
ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
TWO PLACE DECIMAL ±.01			
THREE PLACE DECIMAL ±.001			
INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
MATERIAL	COMMENTS:		
FINISH			
NEXT ASSY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

TITLE:		SIZE	DWG. NO.	REV
Corner Supports, Left		D	FE-00002	B
SCALE: 1:4		WEIGHT:	SHEET 1 OF 2	



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

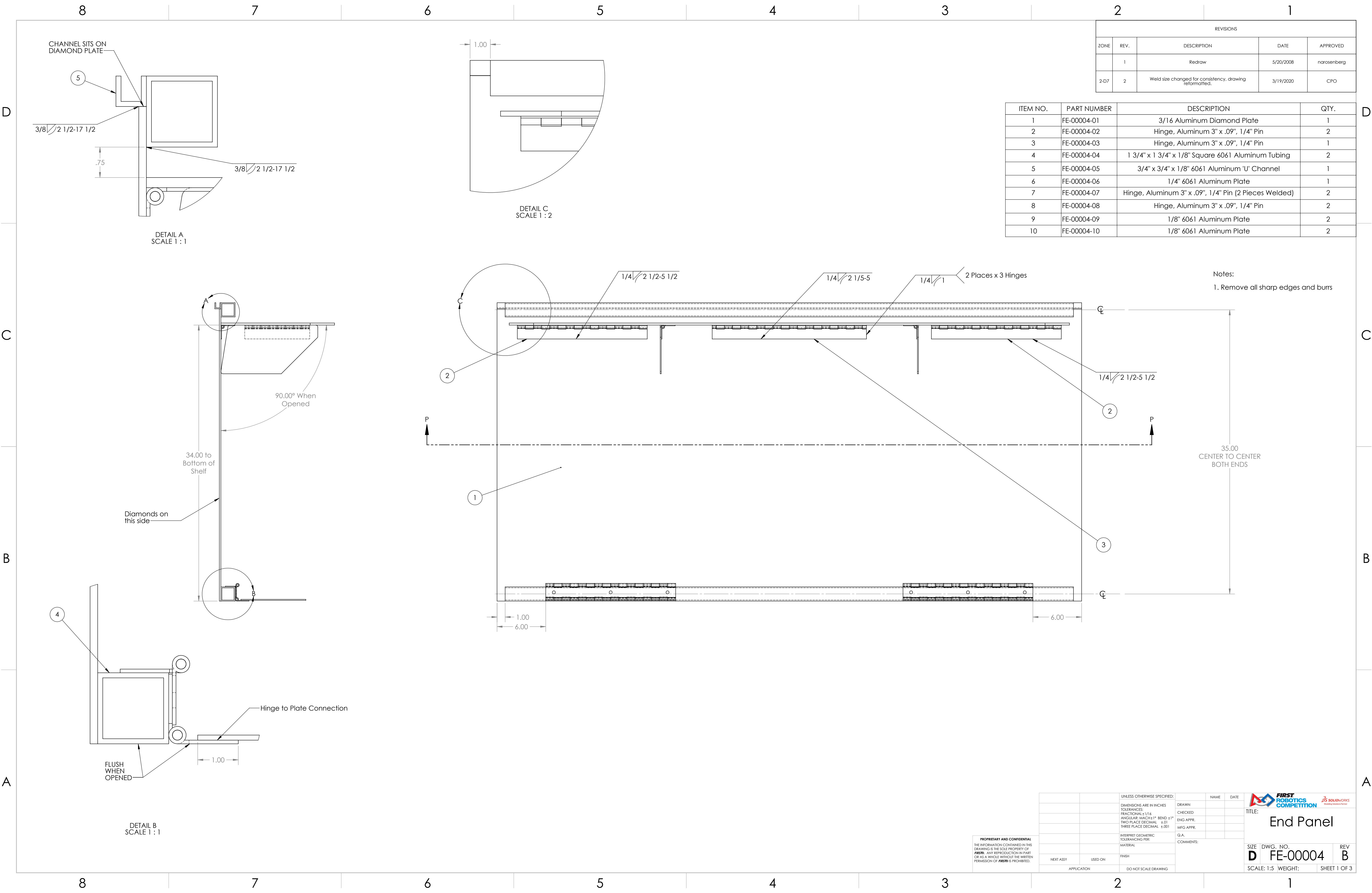
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00003-01	1" Schedule 40 6061 Aluminum Tube	1
2	FE-00003-02	1/2" 6061 Aluminum Rod	1



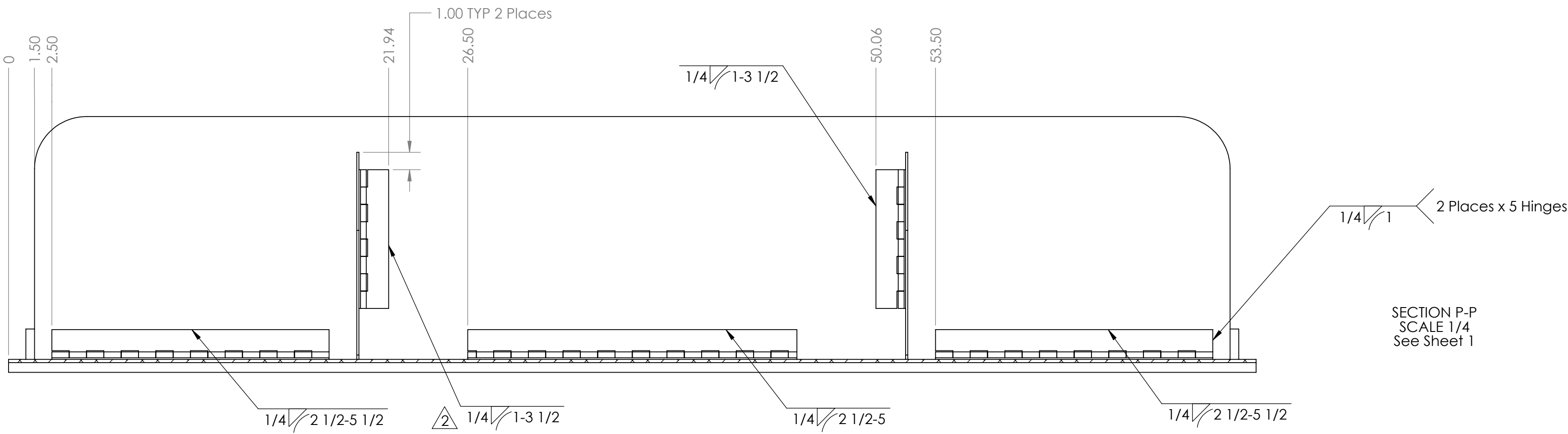
Notes:
1. Remove all sharp edges

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		UNLESS OTHERWISE SPECIFIED:			NAME	DATE
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			
			CHECKED			
			ENG APPR.			
			MFG APPR.			
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			
		MATERIAL	COMMENTS:			
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				
			TITLE: Rail Pin Assy			
SIZE B	DWG. NO. FE-00003	REV B				
SCALE: 1:3		WEIGHT:	SHEET 1 OF 1			



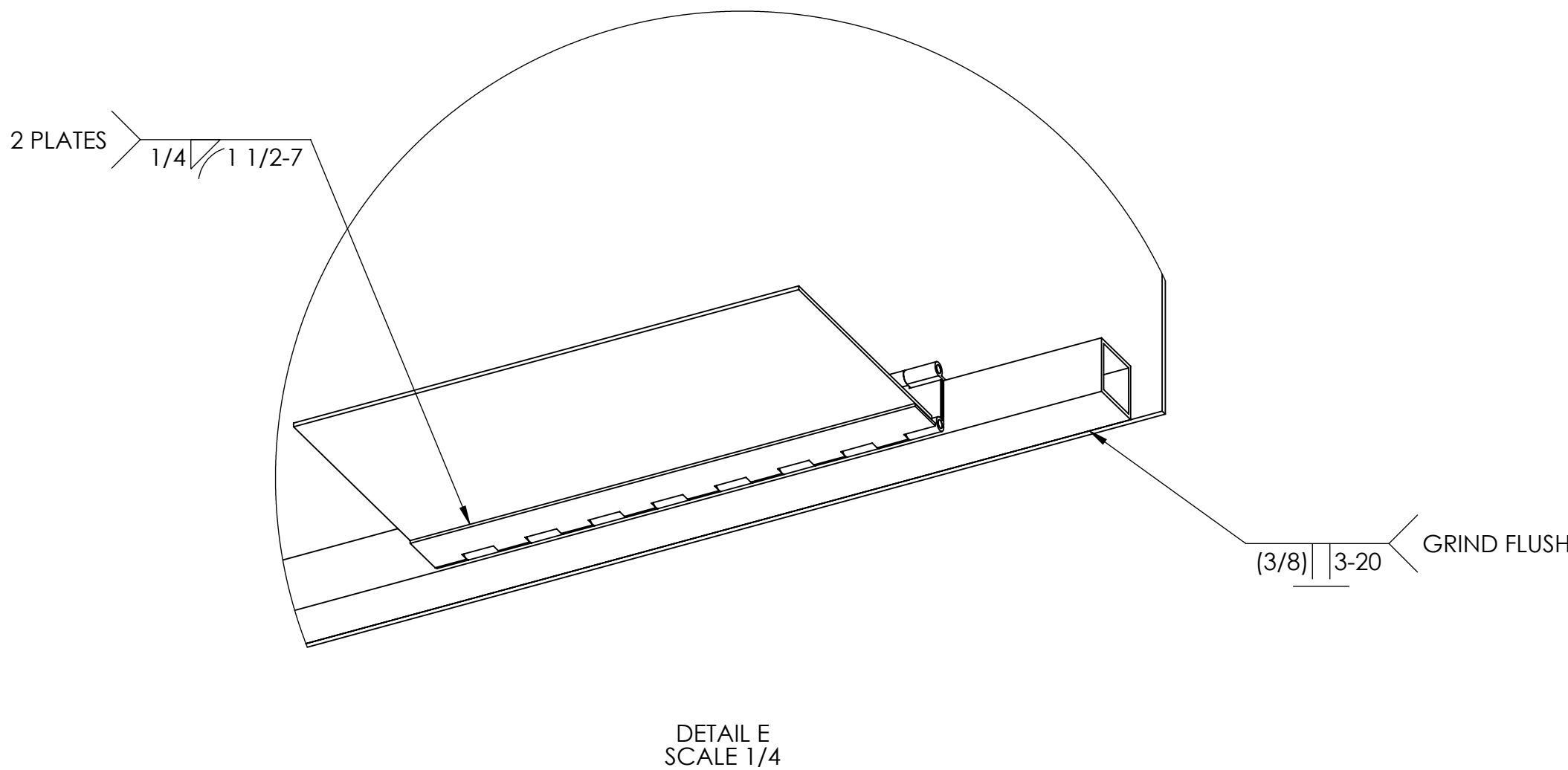
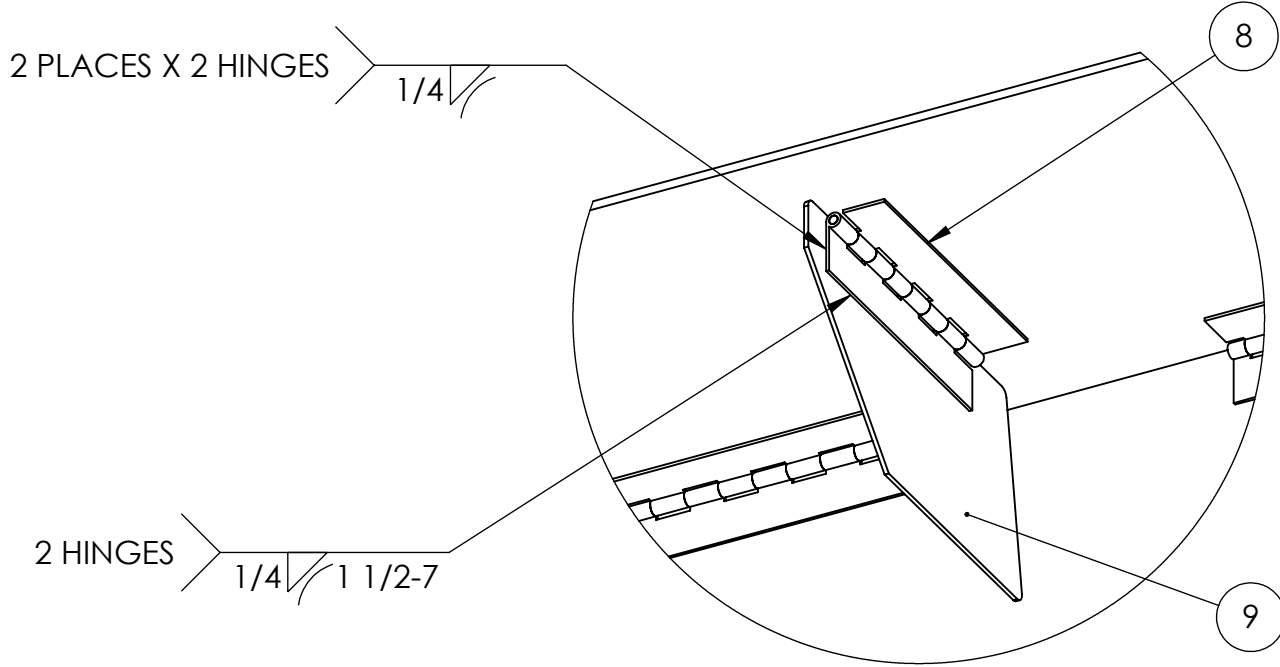
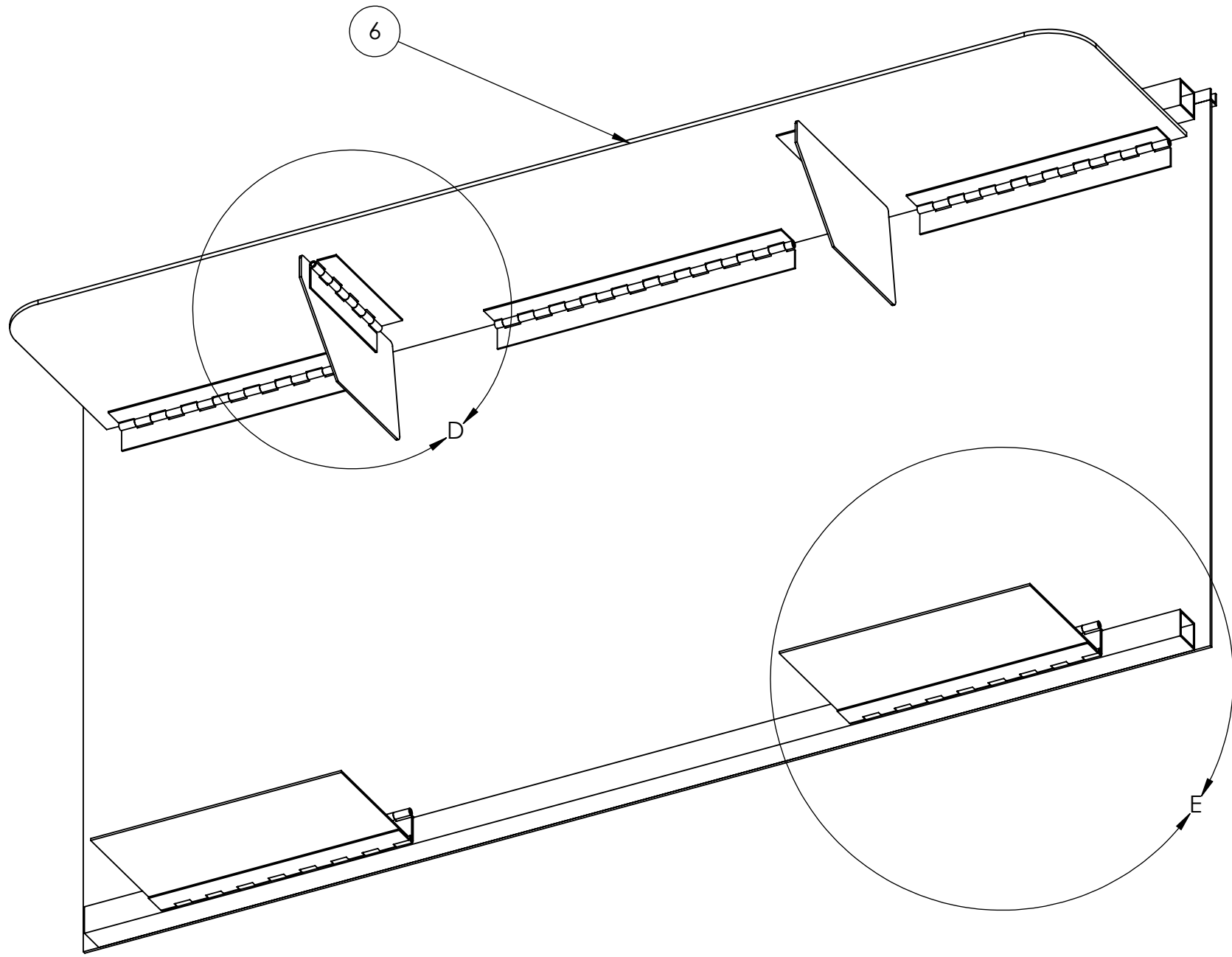
D



Notes:
1. Remove all sharp edges and burrs

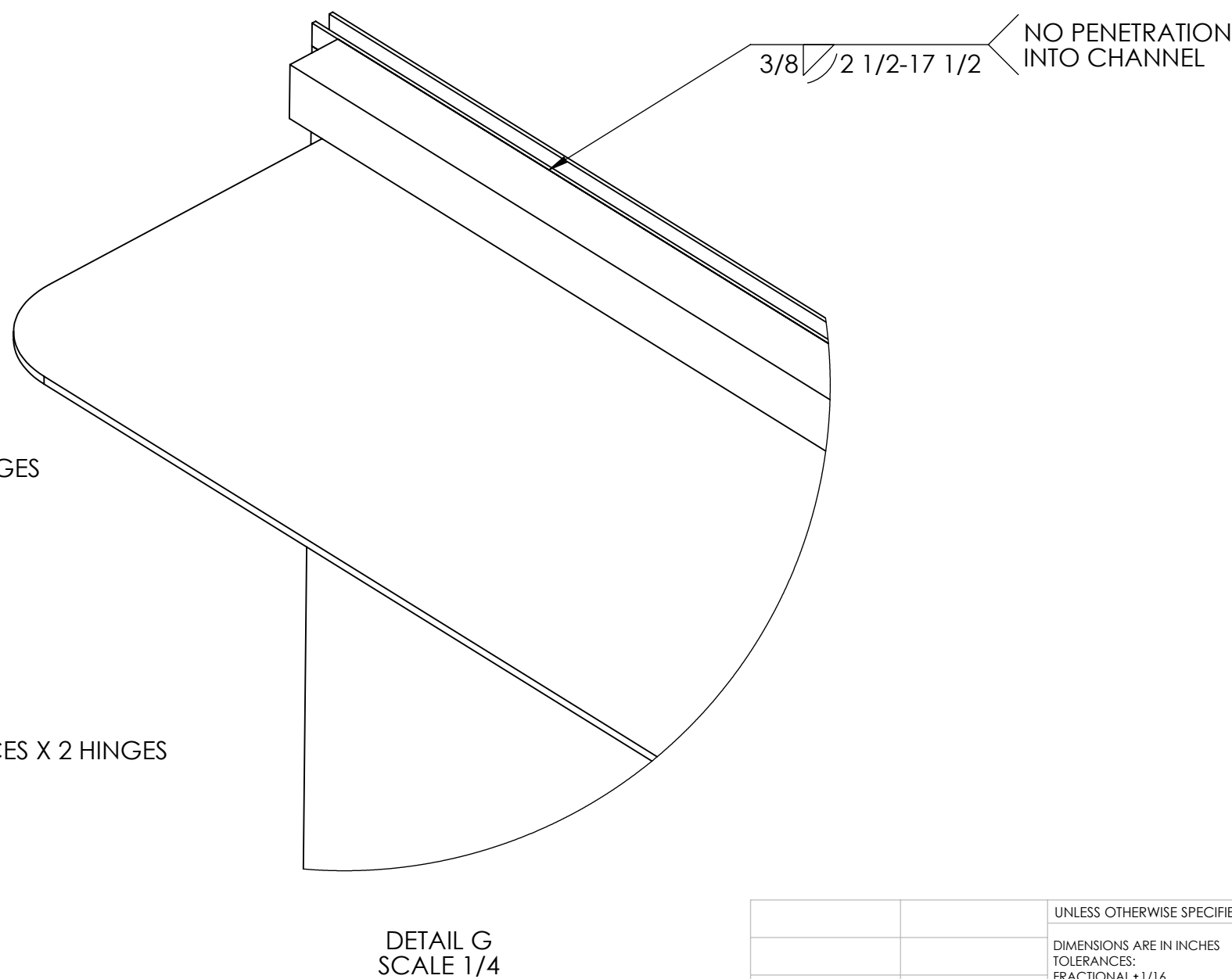
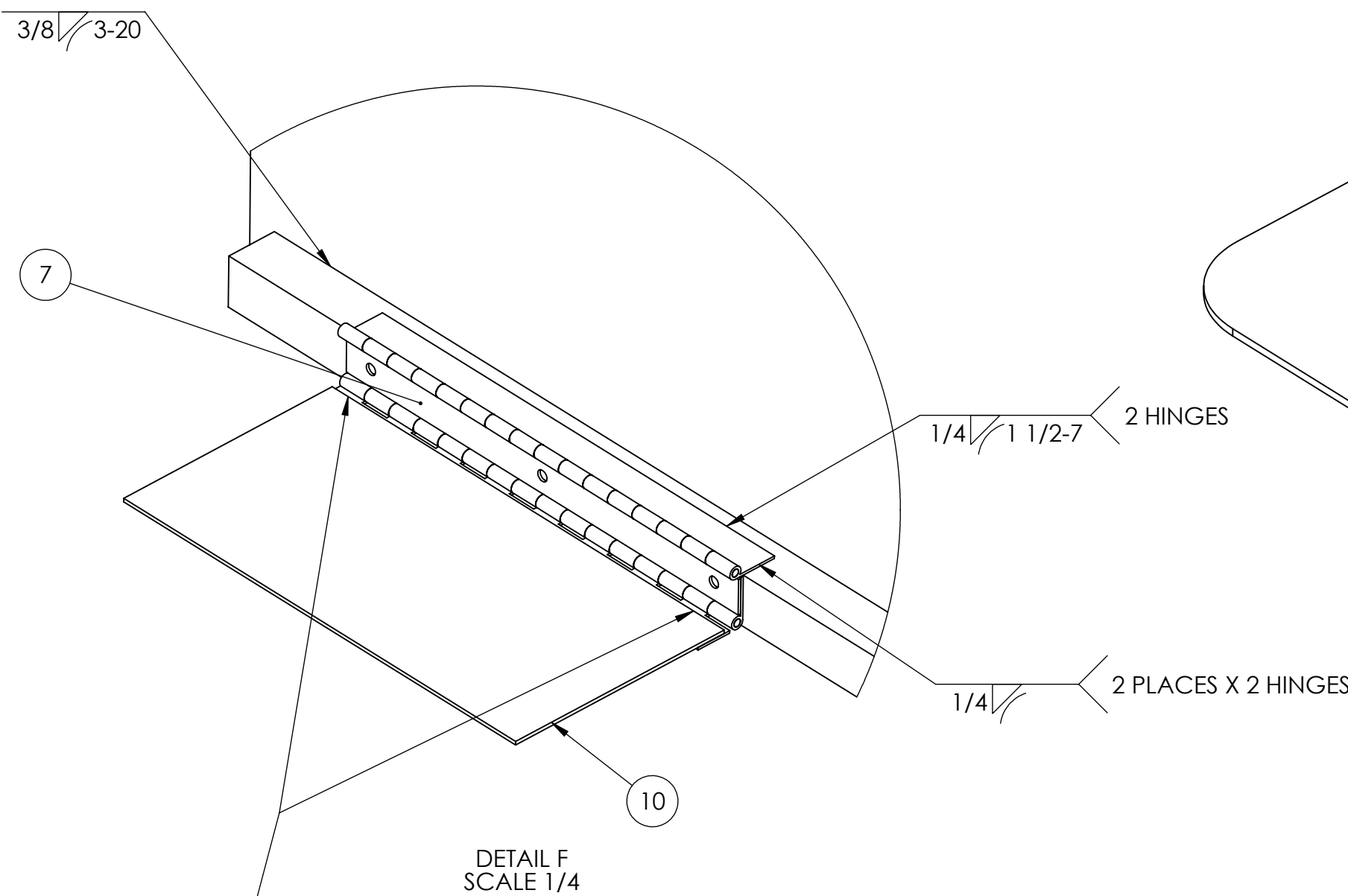
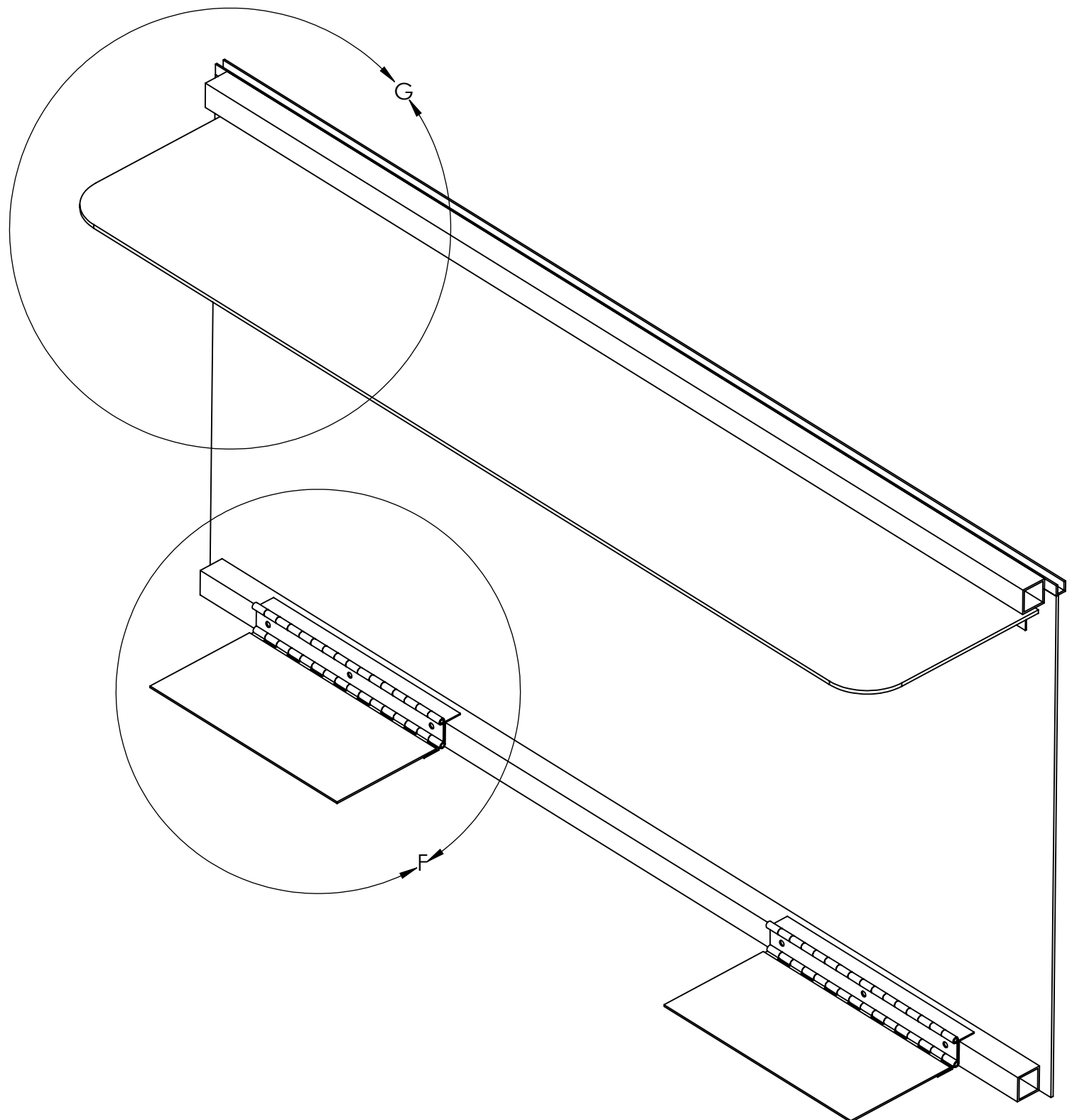
D

C



C

B



B

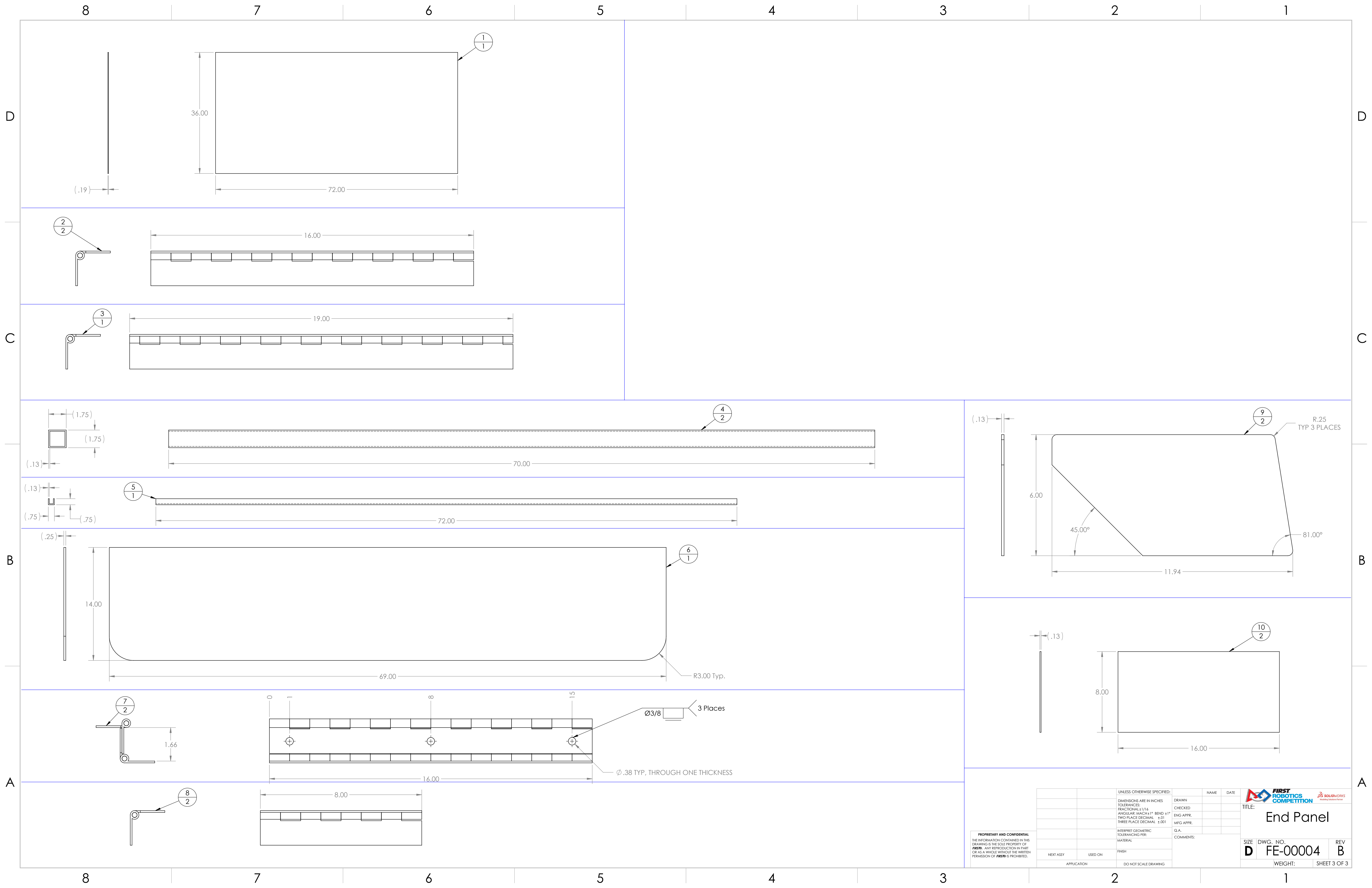
A

A

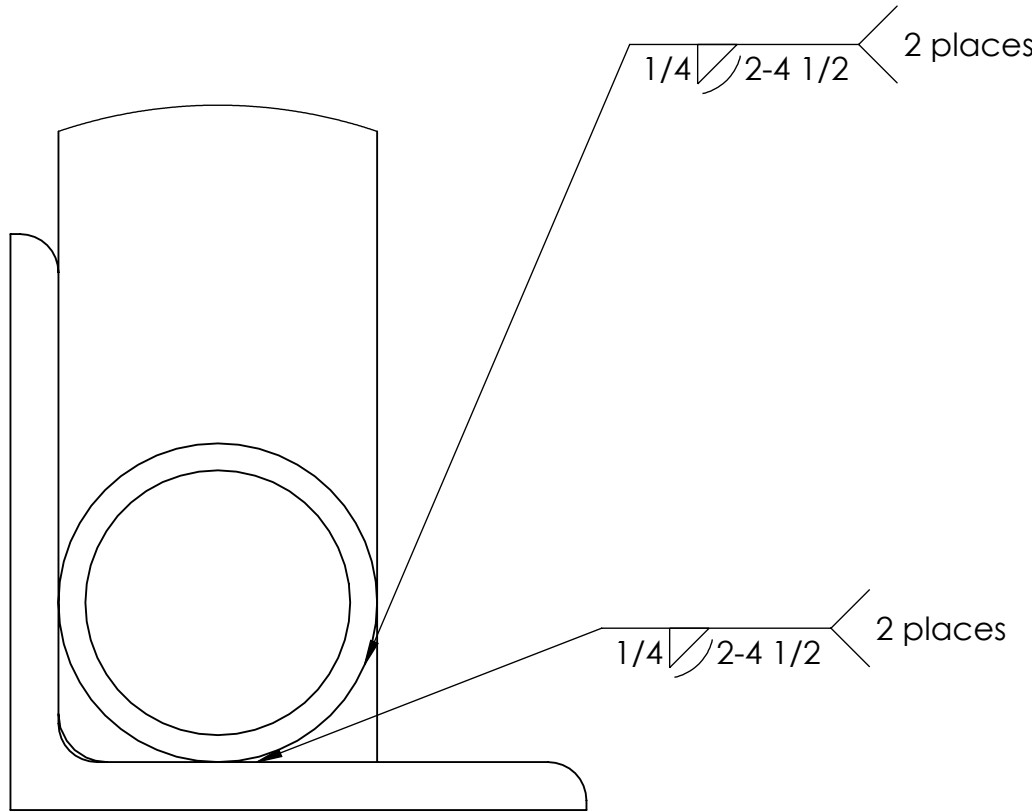
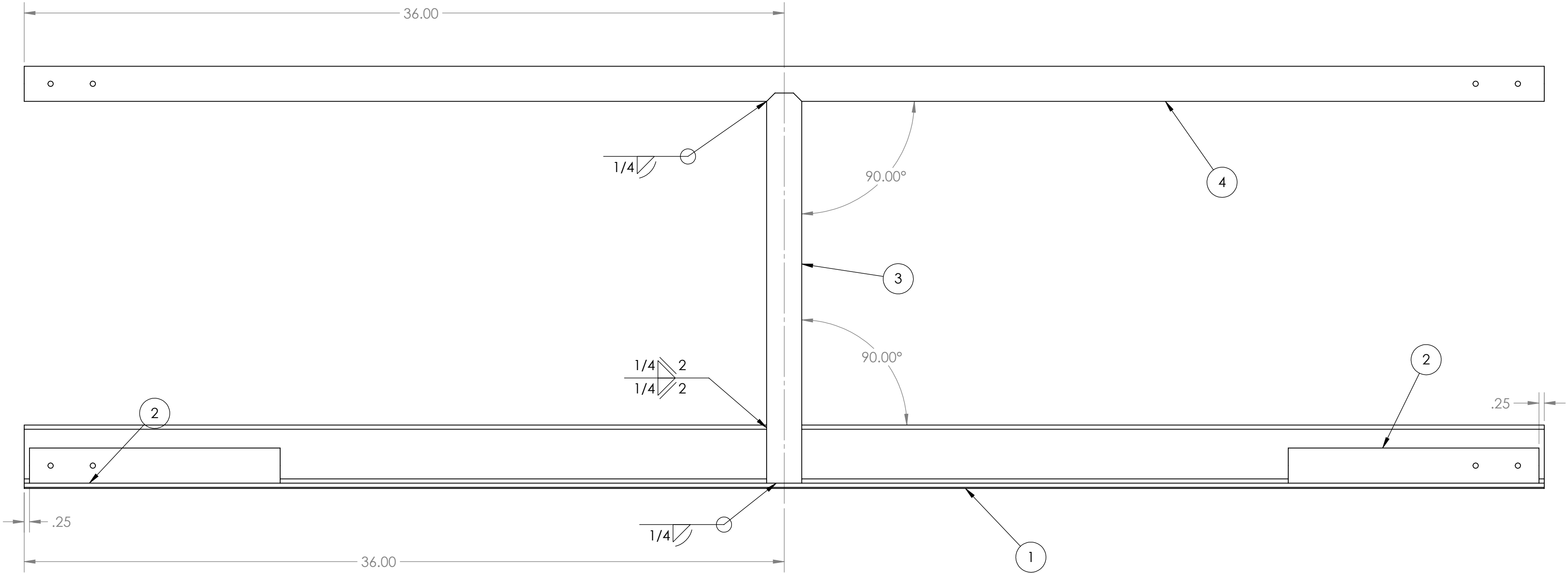
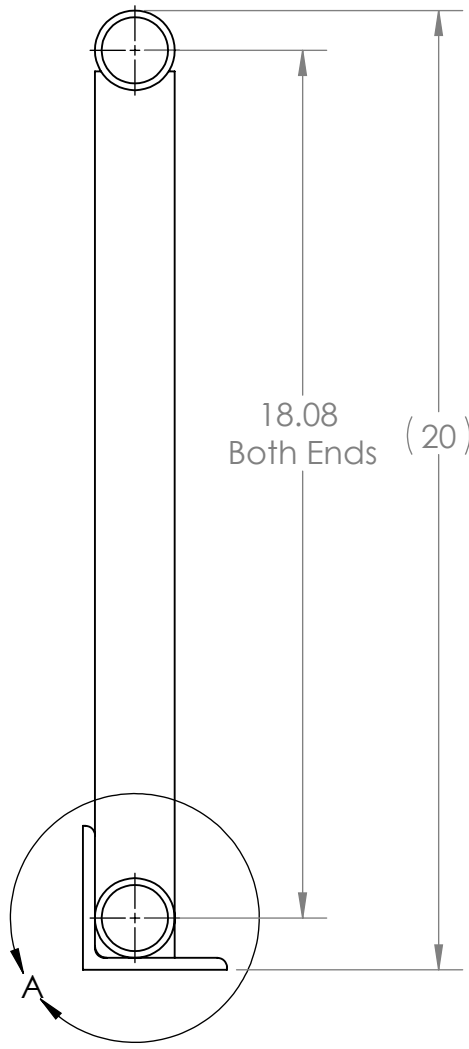
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		UNLESS OTHERWISE SPECIFIED:			NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN			
		TOLERANCES:	CHECKED			
		FRACTIONAL: ±1/16	ENG APPR.			
		ANGULAR: MATCH ±1° BEND ±1°	MFG APPR.			
		TWO PLACE DECIMAL ±.01	Q.A.			
		THREE PLACE DECIMAL ±.001	COMMENTS: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

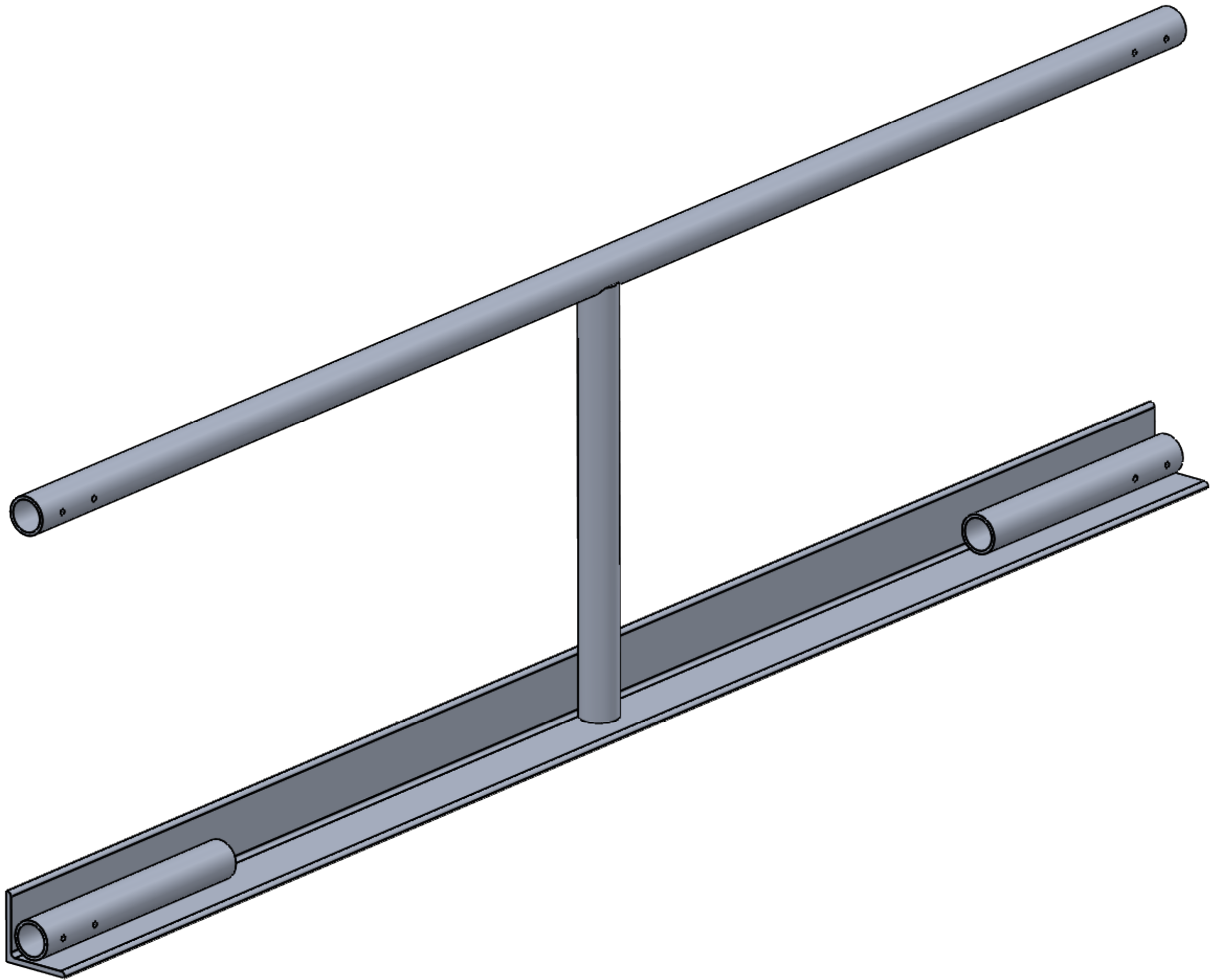
TITLE:		End Panel	
SIZE	DWG. NO.	REV	
D	FE-00004	B	
WEIGHT:		SHEET 2 OF 3	



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



DETAIL A
SCALE 1 : 1

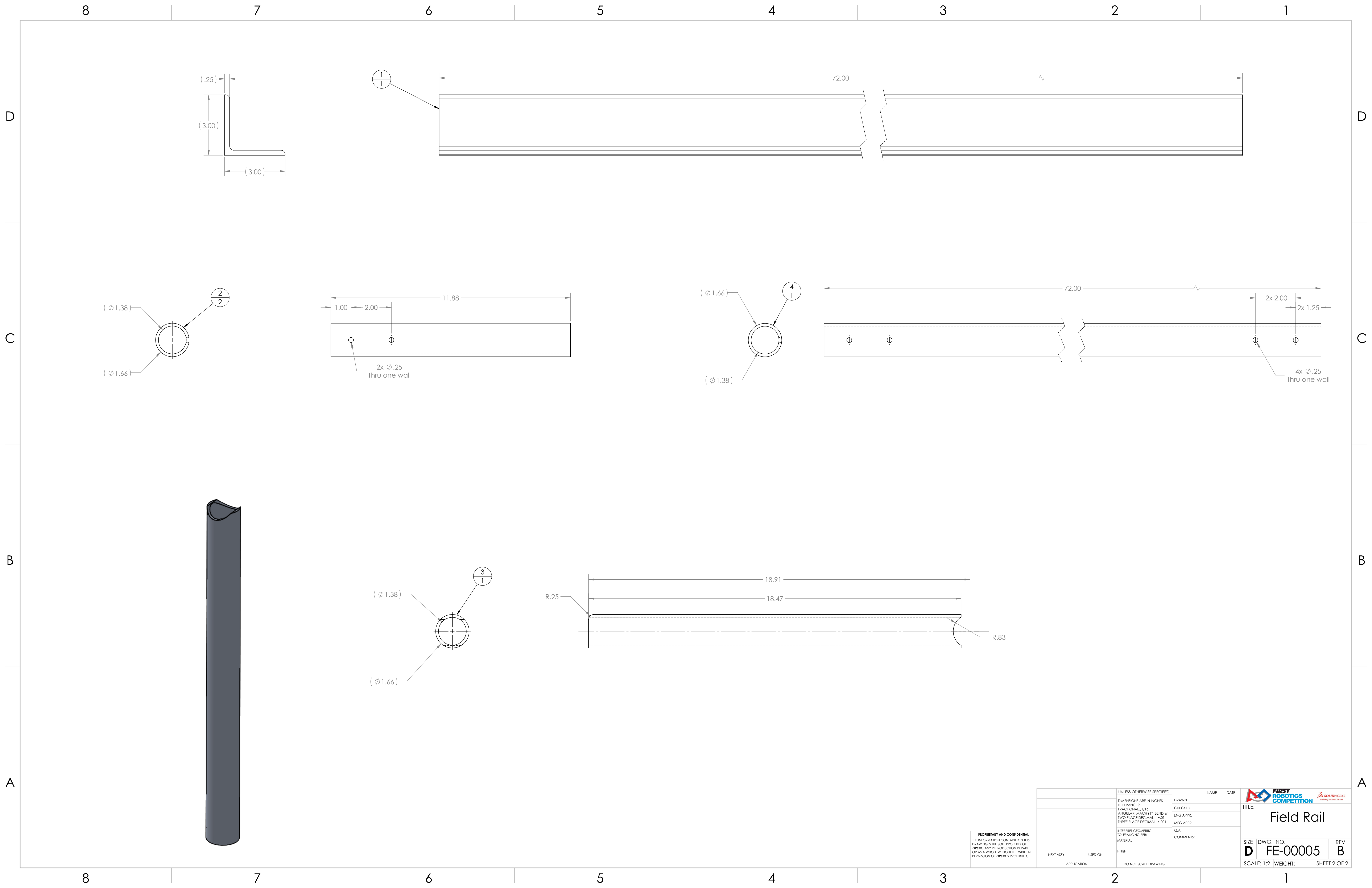


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	FE-00005-01	3" x 3" x 1/4" 6061-T6 Aluminum Angle	1
2	FE-00005-02	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	2
3	FE-00005-03	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1
4	FE-00005-04	1 1/4" Schedule 40 6061-T6 Aluminum Pipe	1

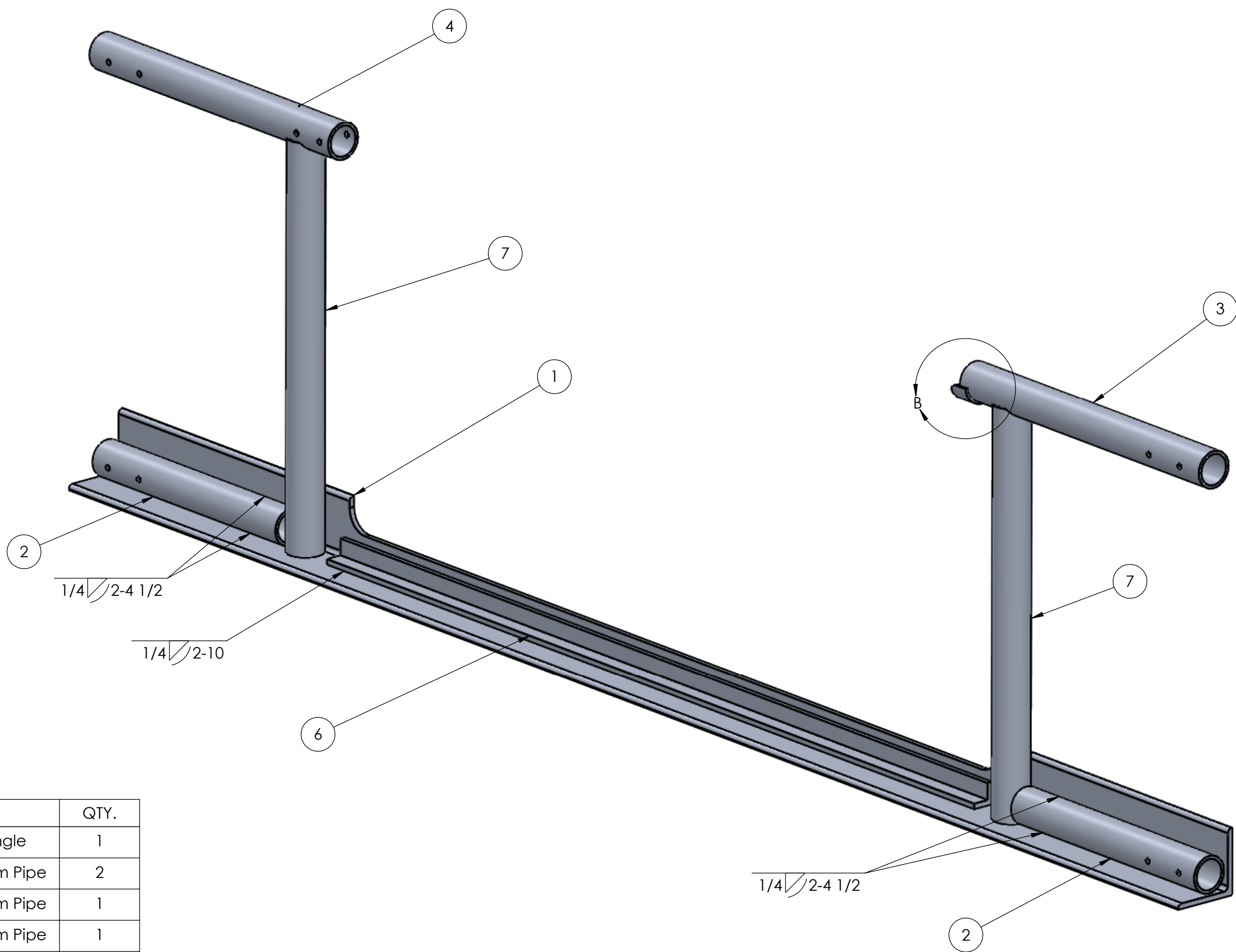
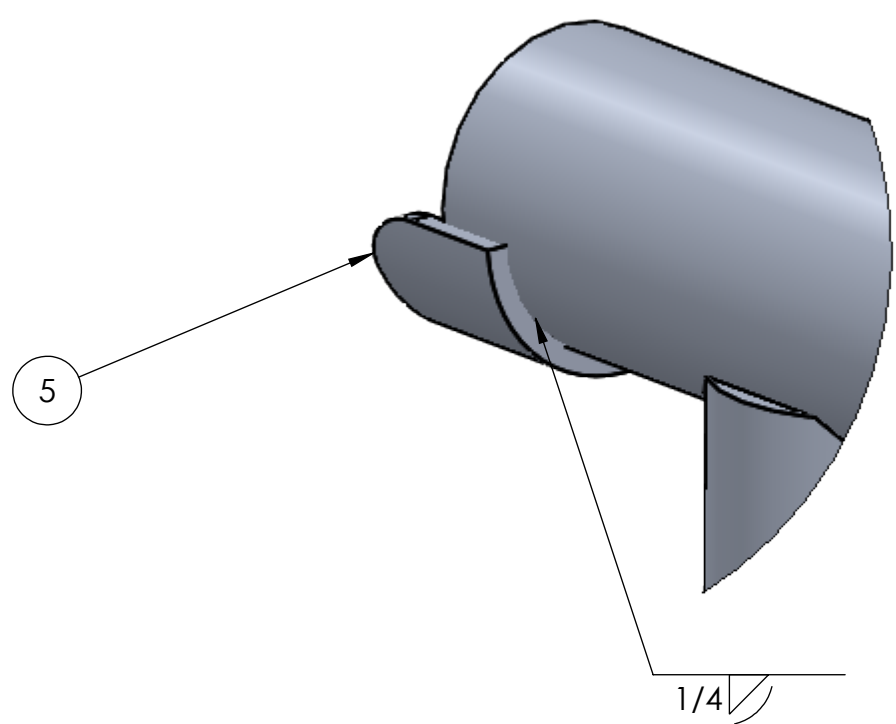
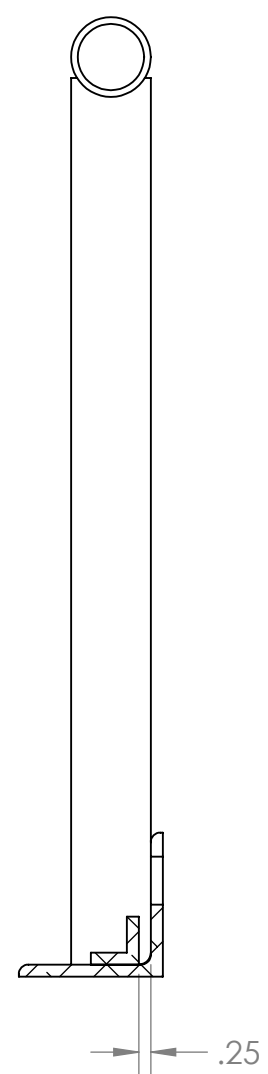
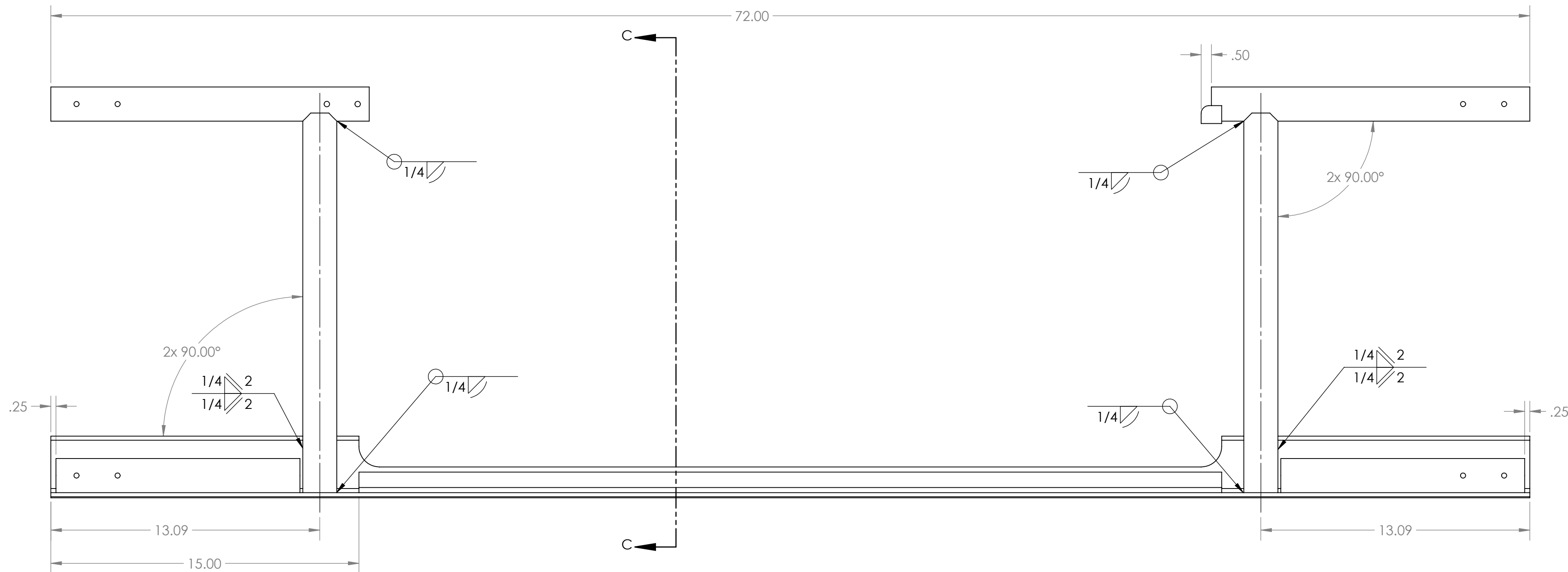
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DIMENSIONS ARE IN INCHES		CHECKED		
TOLERANCES:		ENG APPR.		
FRACTIONAL: ±1/16		MFG APPR.		
ANGULAR: MACH ±1° BEND ±1°				
TWO PLACE DECIMAL ±.01				
THREE PLACE DECIMAL ±.001				
INTERPRET GEOMETRIC TOLERANCING PER:				
MATERIAL				
FINISH				
APPLICATION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



DRAWN		NAME	DATE
CHECKED			
ENG APPR.			
MFG APPR.			
Q.A.			
COMMENTS:			
TITLE: Field Rail			
SIZE	DWG. NO.	REV	
D	FE-00005	B	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 2	

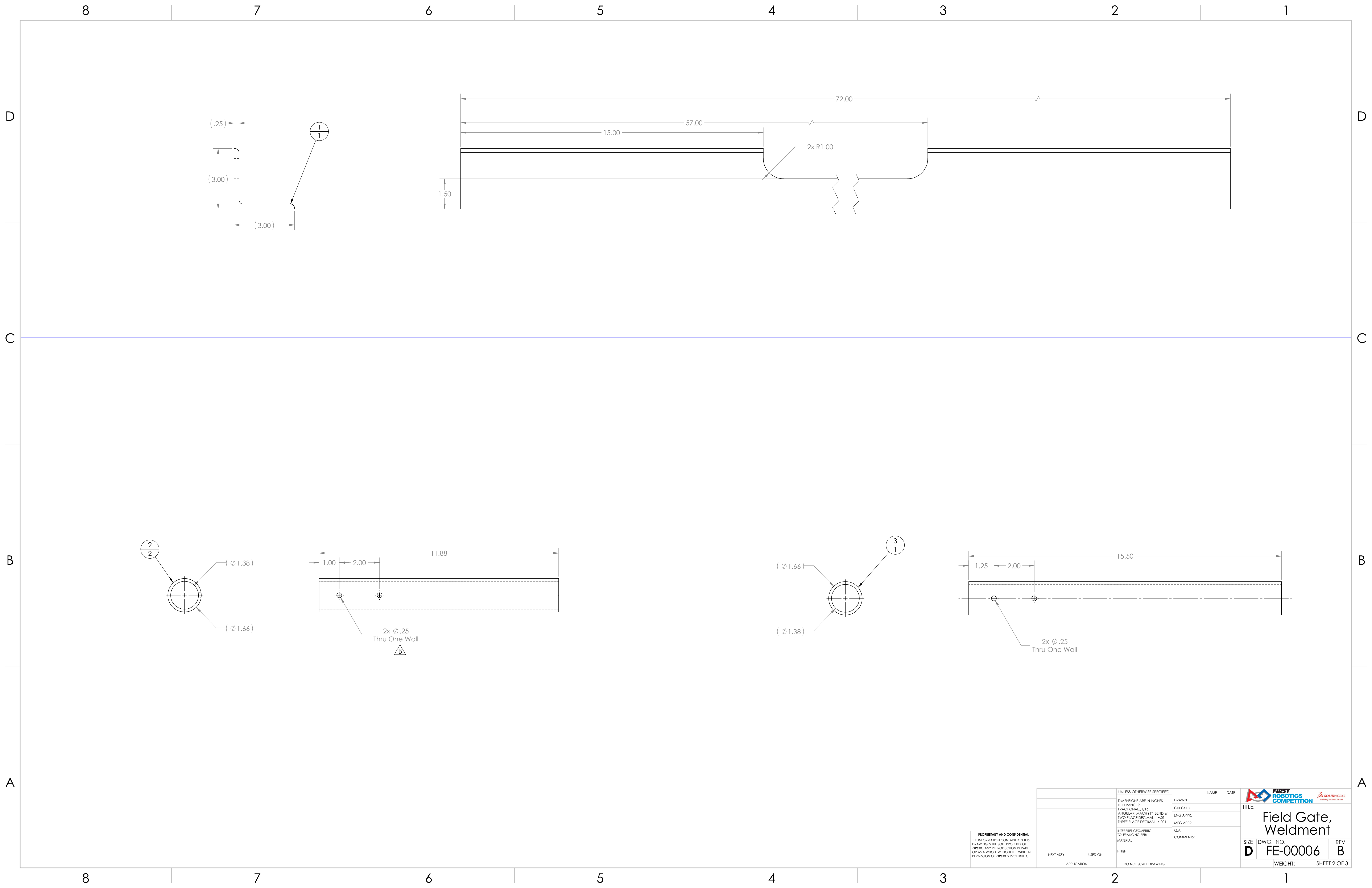


REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	8/7/2008	narosenberg
A7, 2-B6, 3-C6	B	Parts renumbered, drawing reformatted, hole diameter updated, hole changed to free one wall for consistency.	3/20/2020	CPO





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

		UNLESS OTHERWISE SPECIFIED:		NAME DATE		 	
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR $\pm .001$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$		DRAWN			TITLE: Field Gate, Weldment
		INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL		CHECKED			
				ENG APPR.			
				MFG APPR.			
				Q.A.			
				COMMENTS:			
		FINISH					
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING					
				SIZE DWG. NO. REV			
				D FE-00006 B			
				SCALE: 1:4 WEIGHT:		SHEET 1 OF 3	



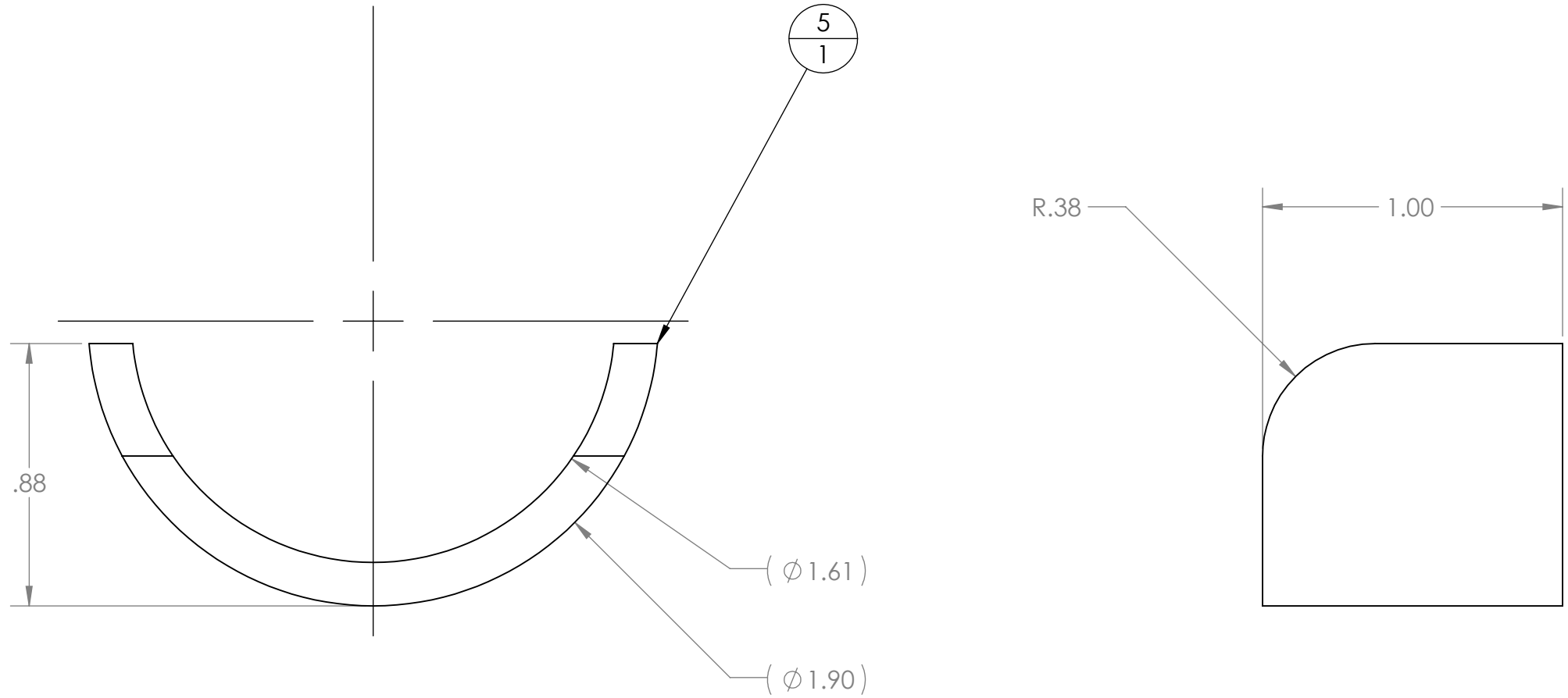
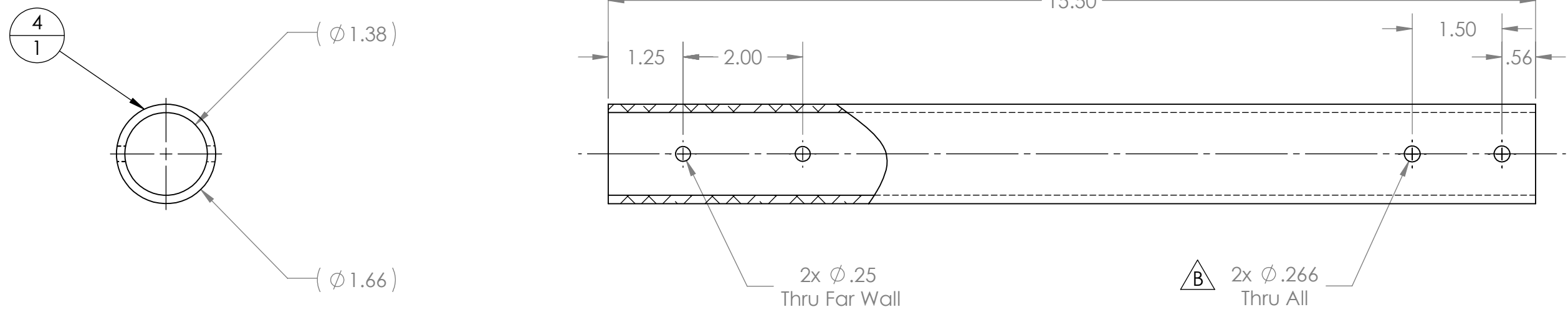
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		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL: ±1/16	ENG APPR.		
		ANGULAR: MAACH ±1° BEND ±1°	MFG APPR.		
		TWO PLACE DECIMAL ±.01			
		THREE PLACE DECIMAL ±.001			
		INTERPRET GEOMETRIC			
		TOLERANCING PER:			
		MATERIAL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

		 SOLIDWORKS Modeling Solutions Partner	
TITLE: Field Gate, Weldment			
SIZE	DWG. NO.	REV	
D	FE-00006	B	
WEIGHT:		SHEET 2 OF 3	

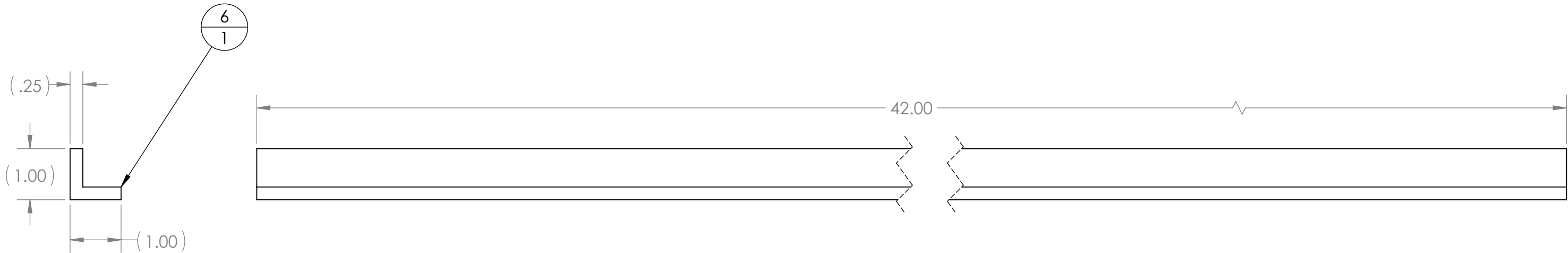
D

D



C

C





B

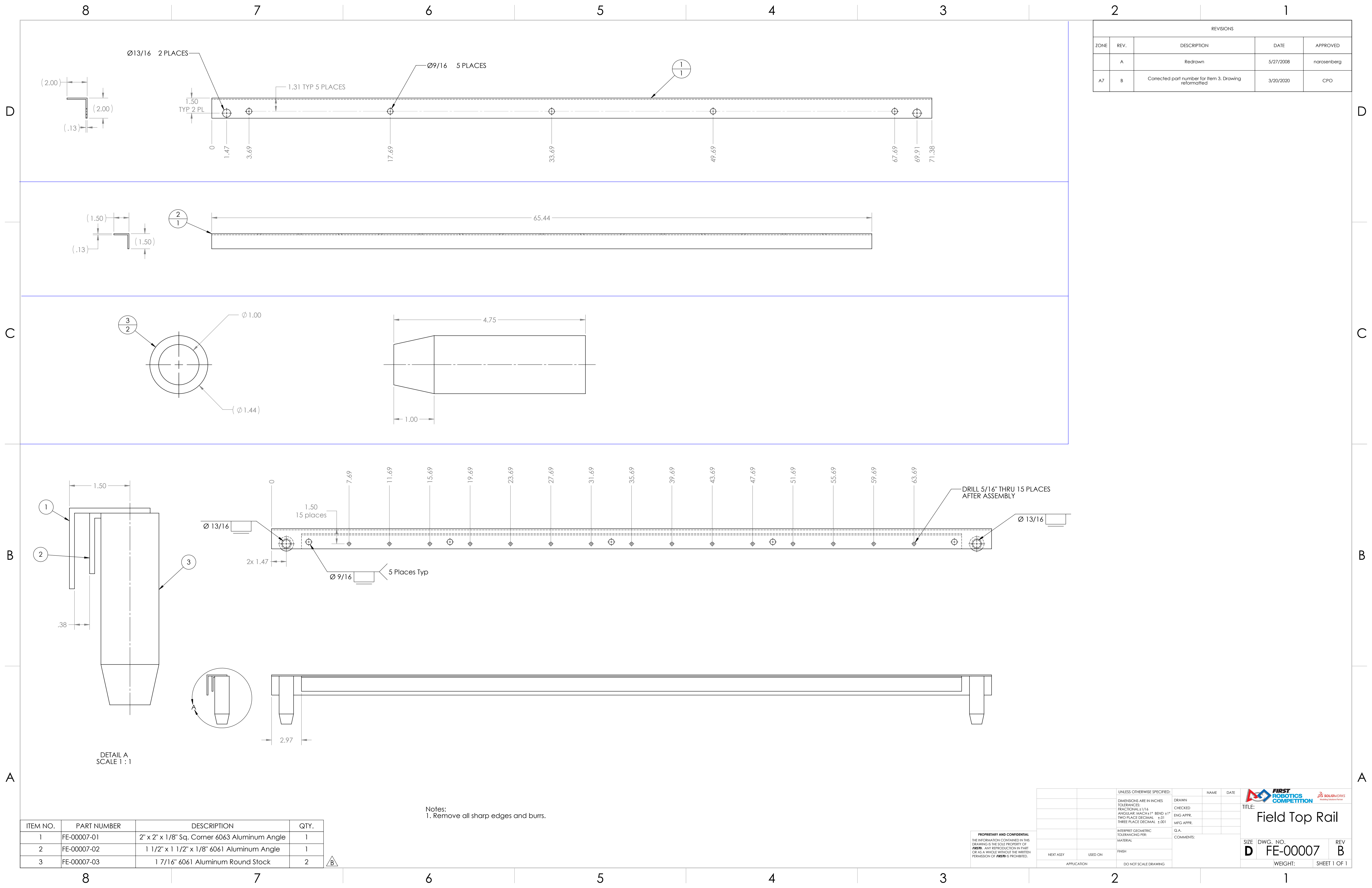
B

A

A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 TITLE: <div>Field Gate, Weldment</div>	 SolidWorks Creating Solid Solutions	
		DIMENSIONS ARE IN INCHES	DRAWN					
		TOLERANCES:	CHECKED					
		FRACTIONAL: $\pm 1/16$	ENG APPR.					
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$	Q.A.					
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON					SIZE	DWG. NO.	REV
APPLICATION		DO NOT SCALE DRAWING				D	FE-00006	B
						WEIGHT:		SHEET 3 OF 3





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

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

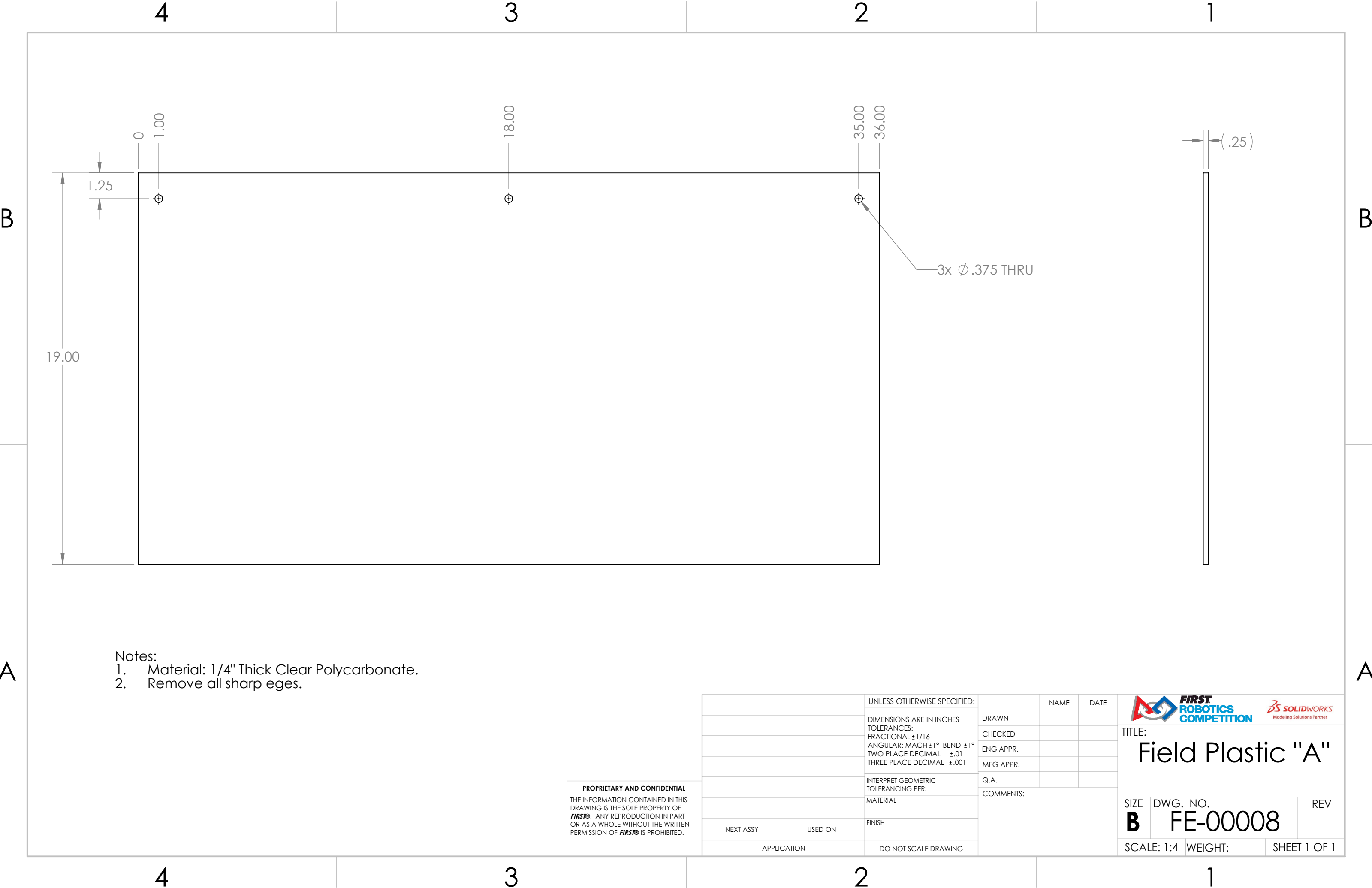
Notes:
1. Remove all sharp edges and burrs.

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



SIZE	DWG. NO.	REV
D	FE-00007	B
WEIGHT:		SHEET 1 OF 1

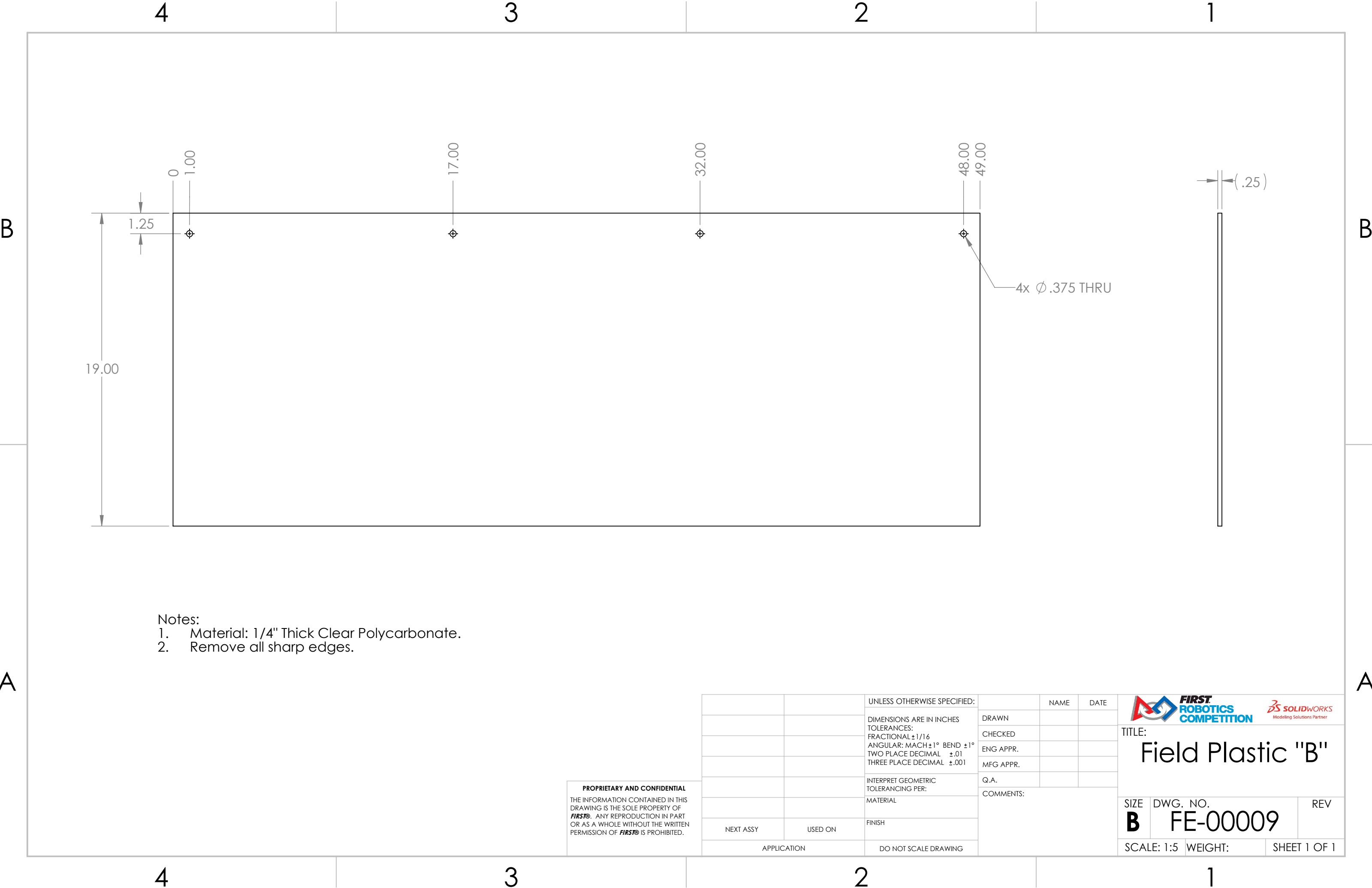




- Notes:
- 1. Material: 1/4" Thick Clear Polycarbonate.
 - 2. Remove all sharp edges.



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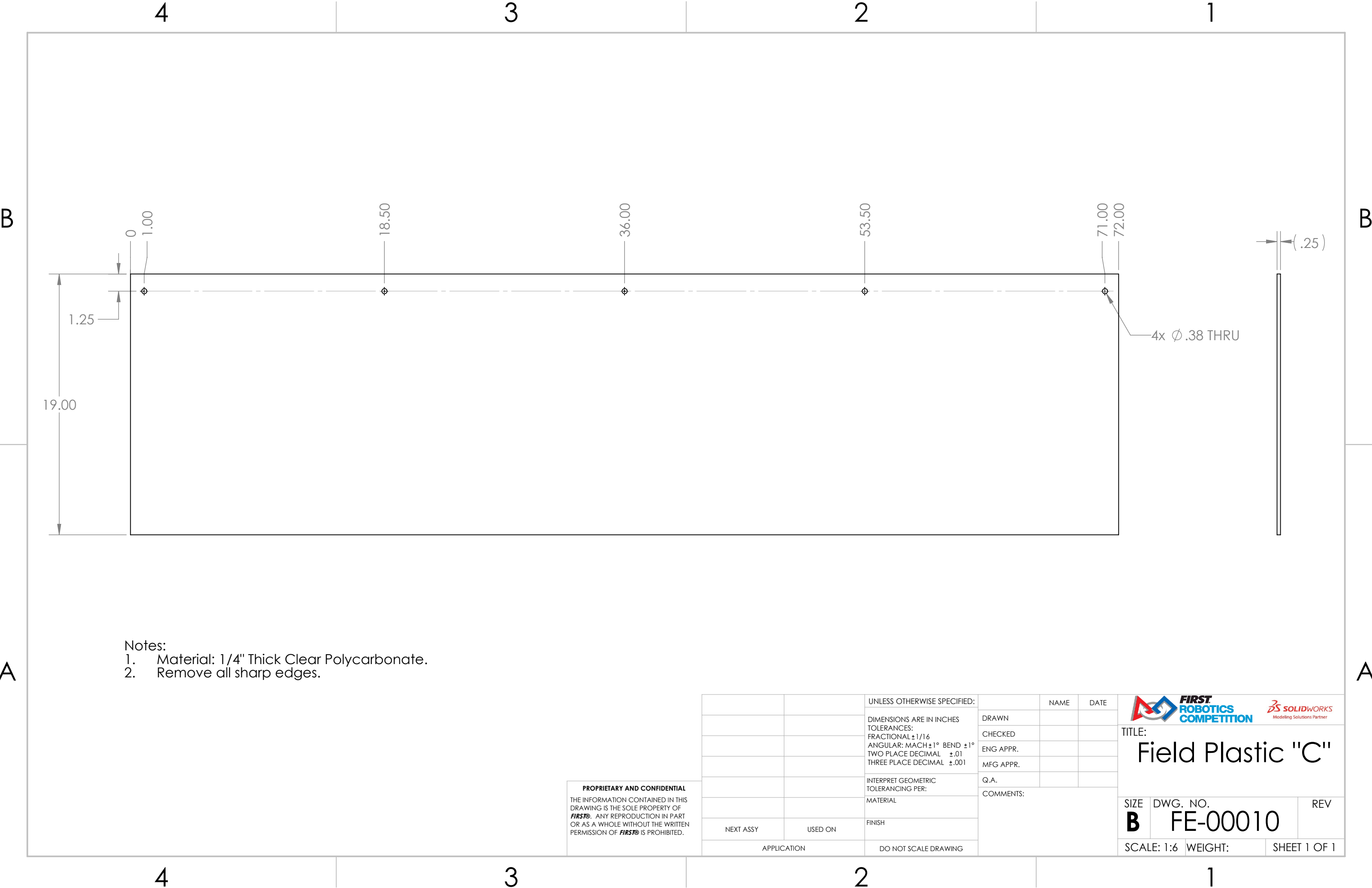
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: Field Plastic "A"		
		TOLERANCES:	CHECKED					
		FRACTIONAL ±1/16	ENG APPR.					
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.					
		TWO PLACE DECIMAL ±.01	Q.A.					
		THREE PLACE DECIMAL ±.001	COMMENTS:			SIZE DWG. NO. REV B FE-00008		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 1 OF 1		





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

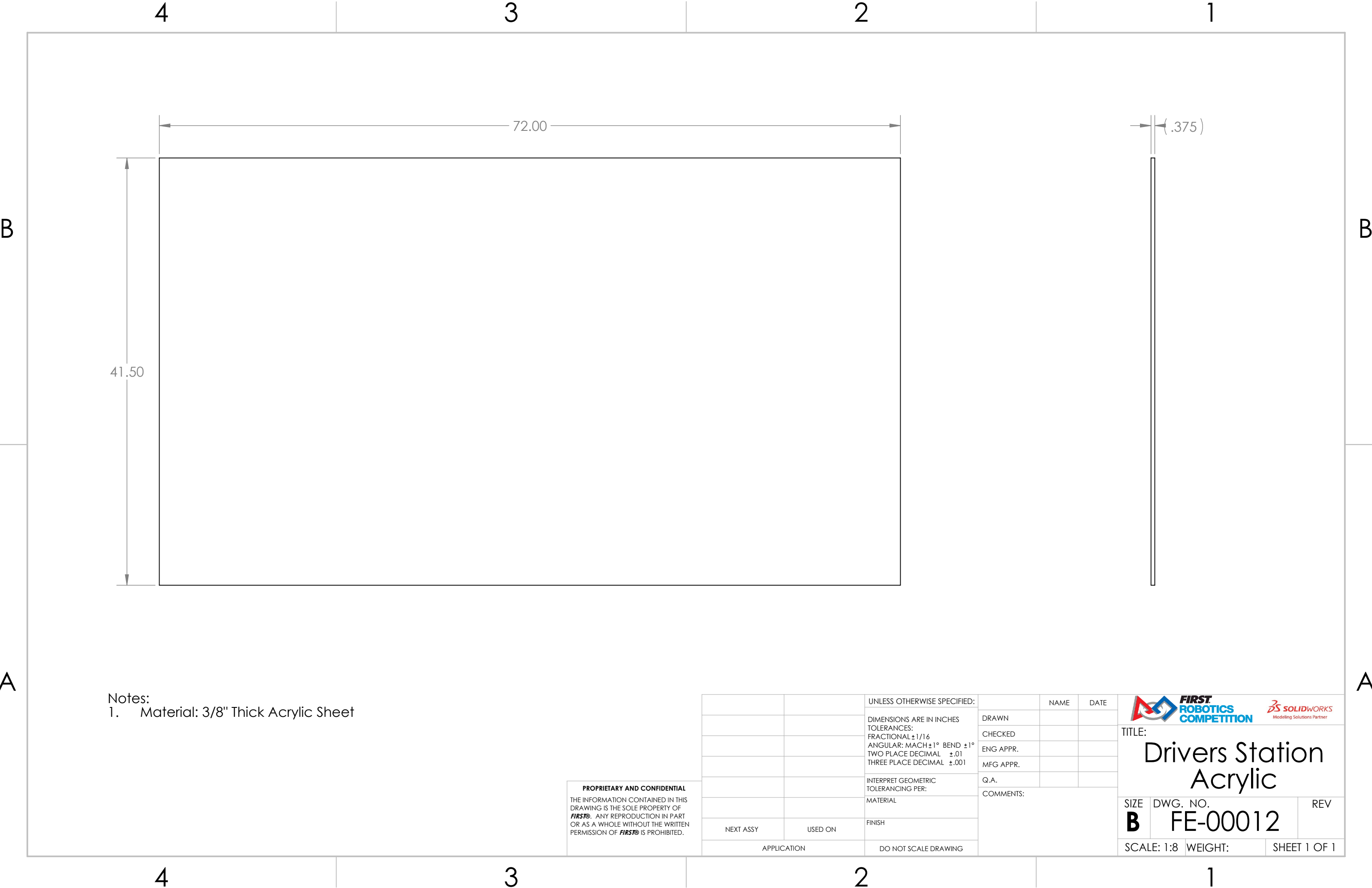
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE: Field Plastic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





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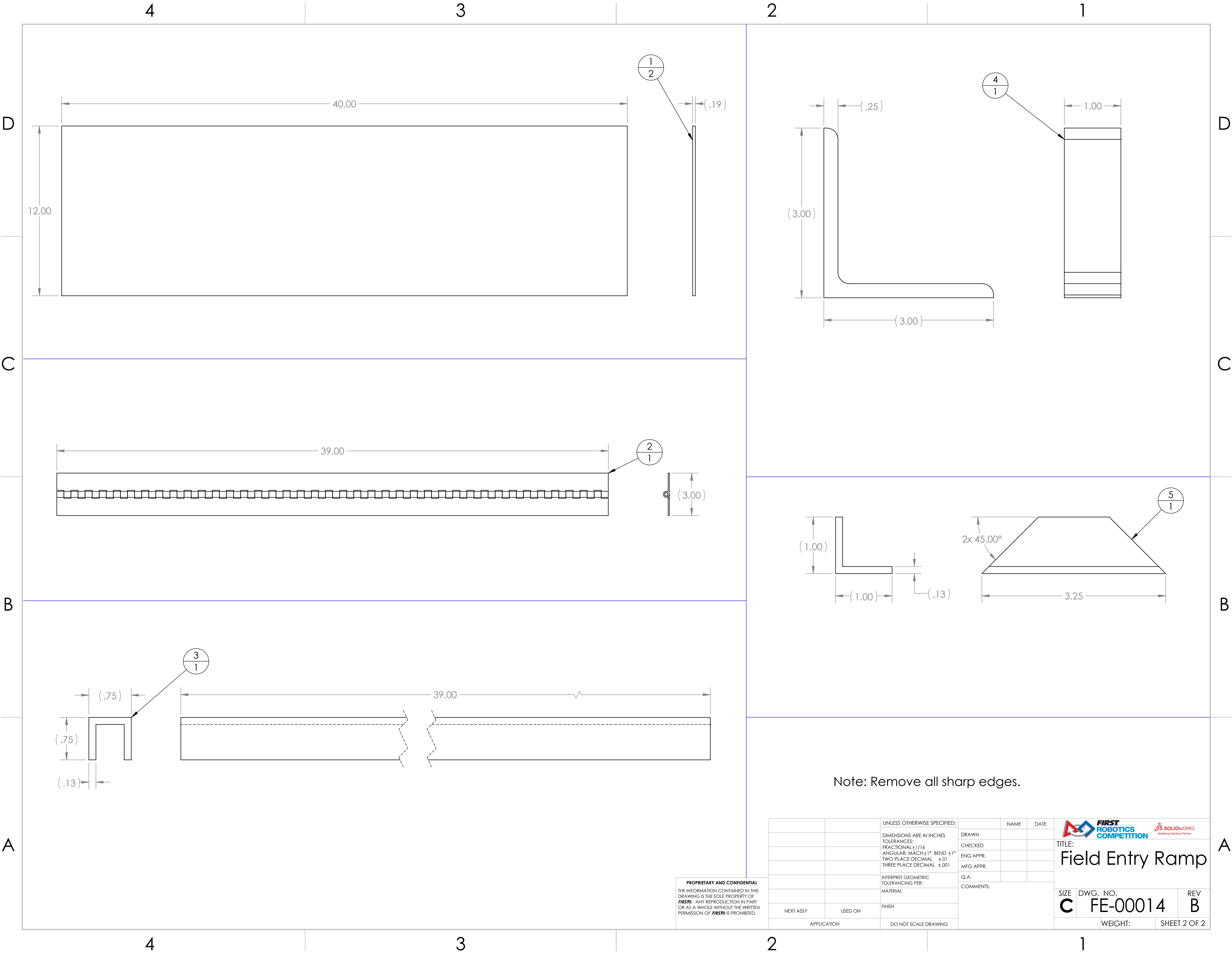
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</div></div> <div><div>SOLIDWORKS Modeling Solutions Partner</div></div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE: Field Plastic "C"		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV B FE-00010		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:6 WEIGHT: SHEET 1 OF 1					





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

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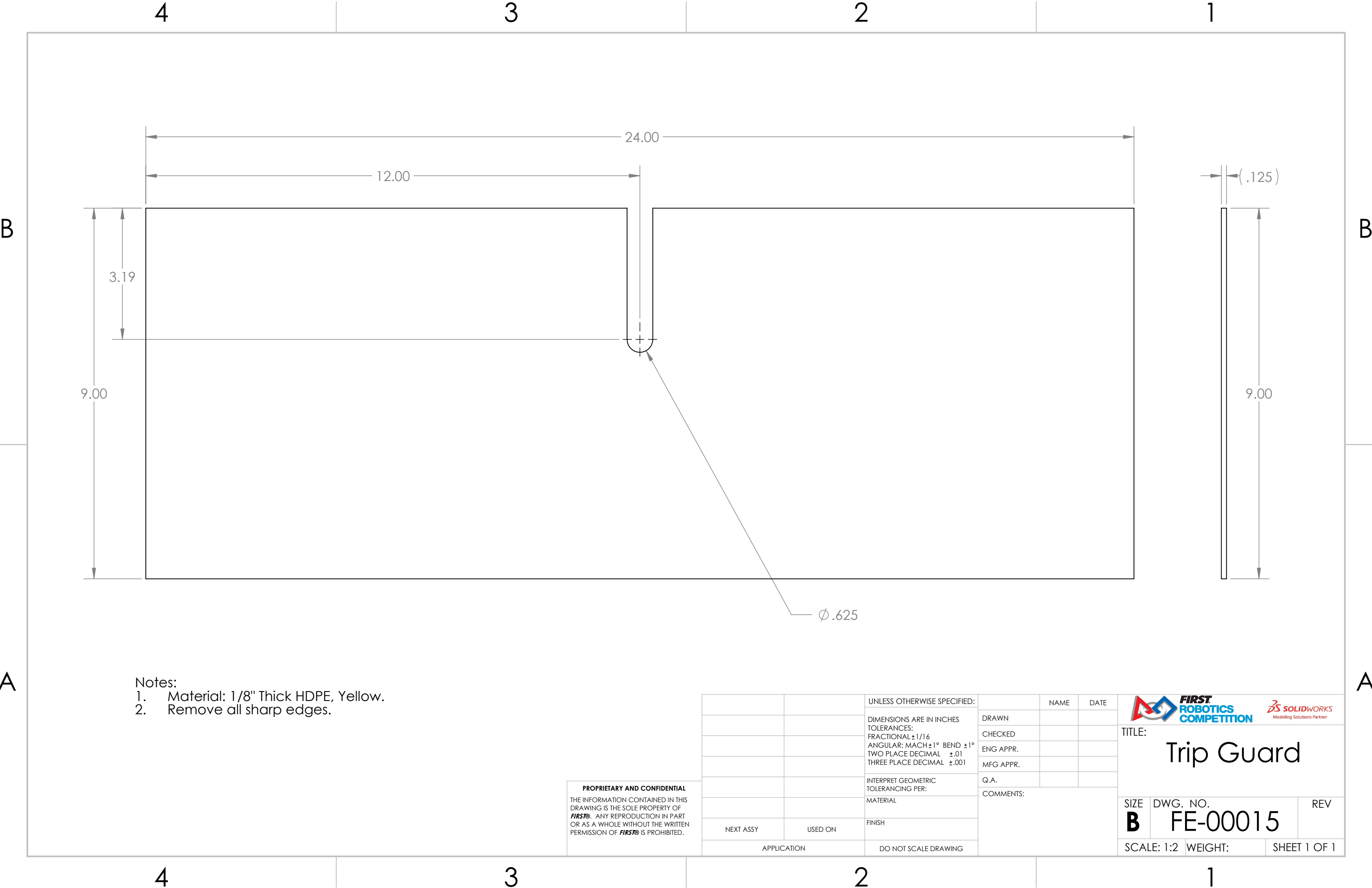
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE: Drivers Station Acrylic		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV B FE-00012		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						
						SCALE: 1:8	WEIGHT:	SHEET 1 OF 1



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 
		DIMENSIONS ARE IN INCHES	DRAWN			
		TOLERANCES:	CHECKED			
		FRACTIONAL $\pm 1/16$	ENG APPR.			
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.			
		TWO PLACE DECIMAL $\pm .01$	Q.A.			
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				
TITLE:						Field Entry Ramp
SIZE	DWG. NO.				REV	
C	FE-00014				B	
WEIGHT:					SHEET 2 OF 2	





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

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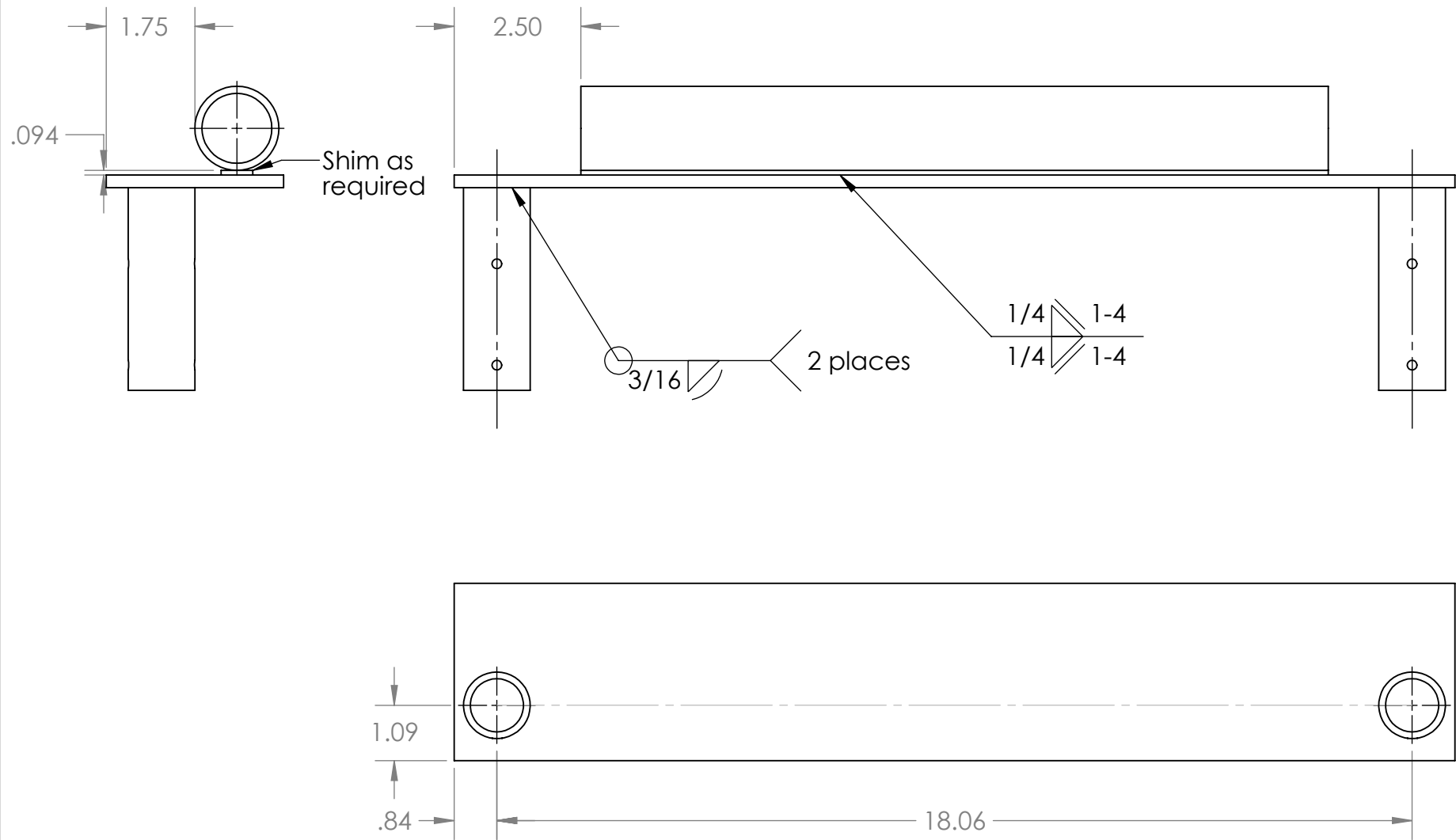
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: Trip Guard			
		TOLERANCES:	CHECKED						
		FRACTIONAL $\pm 1/16$	ENG APPR.						
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
		TWO PLACE DECIMAL $\pm .01$	Q.A.						
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			SIZE DWG. NO. REV B FE-00015			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH				SCALE: 1:2 WEIGHT: SHEET 1 OF 1			
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

B

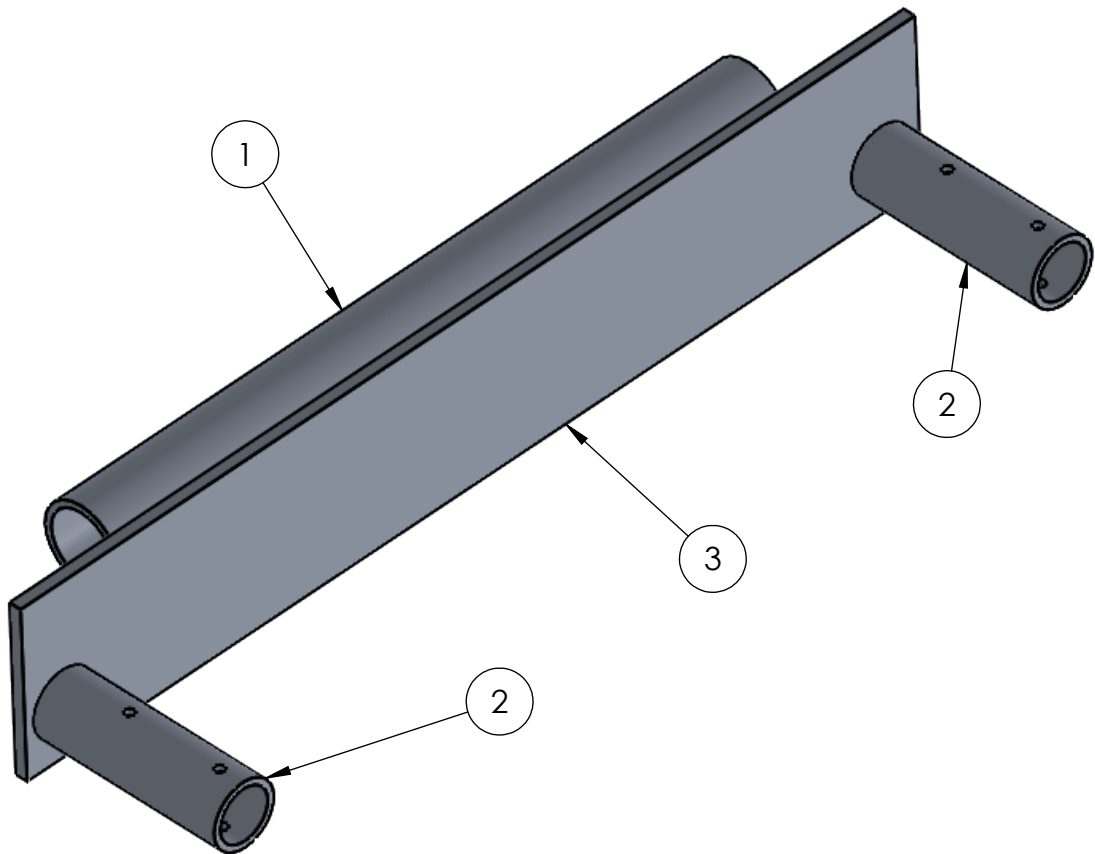
A

B

A





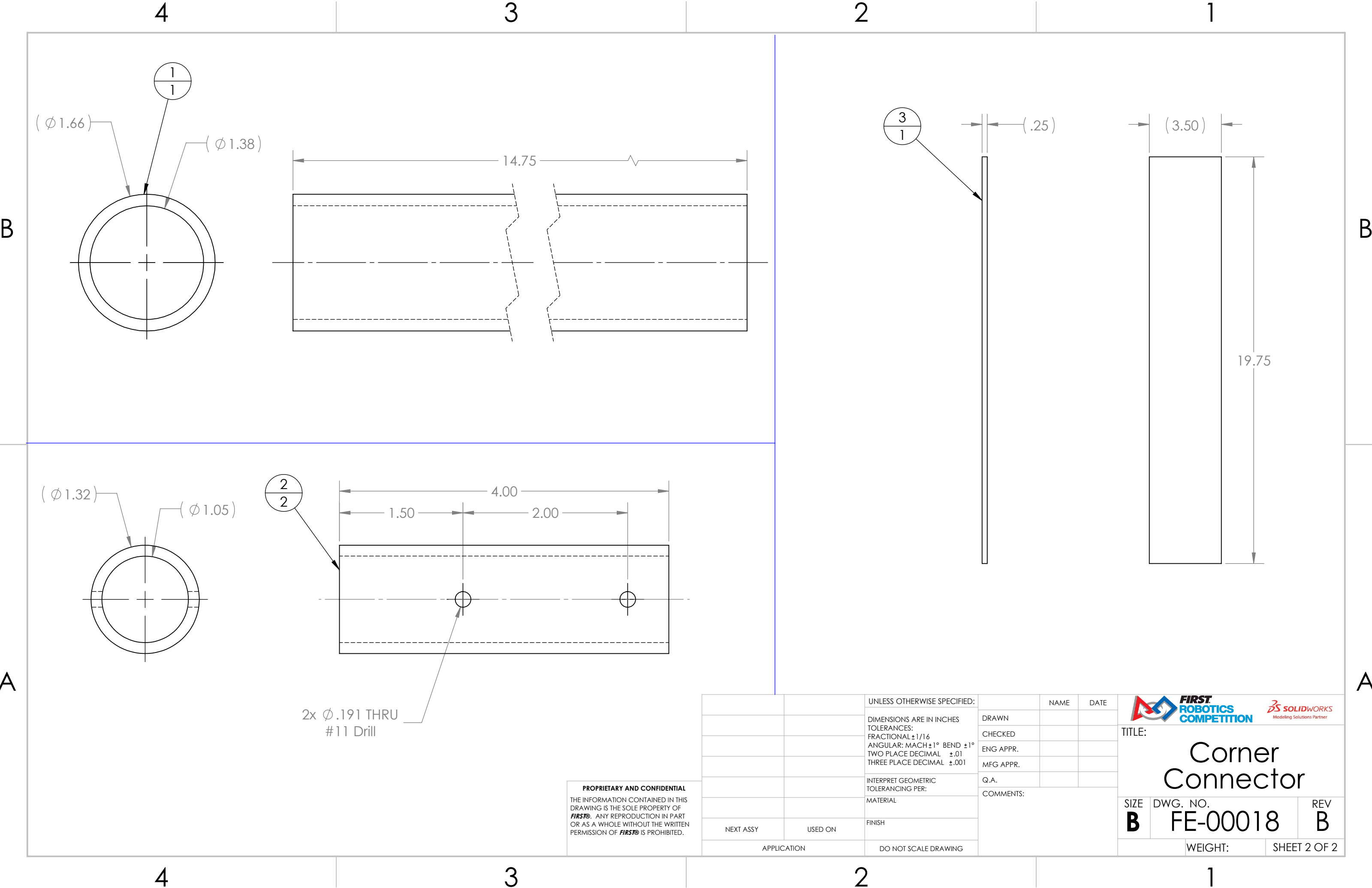
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A	Redrawn	5/30/2008	narosenberg
	B	Drawing reformatted.	3/20/2020	CPO





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

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 			
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE: <h1>Corner Connector</h1>			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:						
		MATERIAL							
		FINISH				SIZE	DWG. NO.	REV	
NEXT ASSY	USED ON					B	FE-00018	B	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:3		WEIGHT:	SHEET 1 OF 2

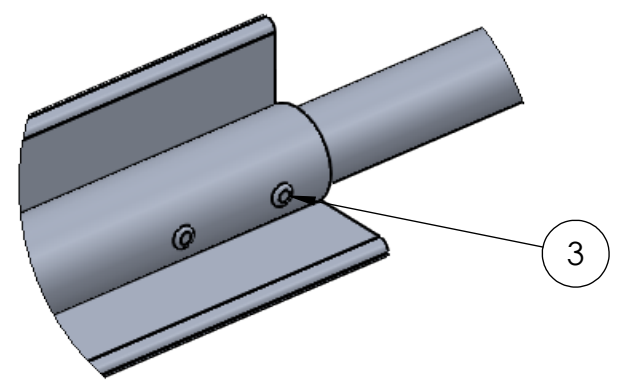
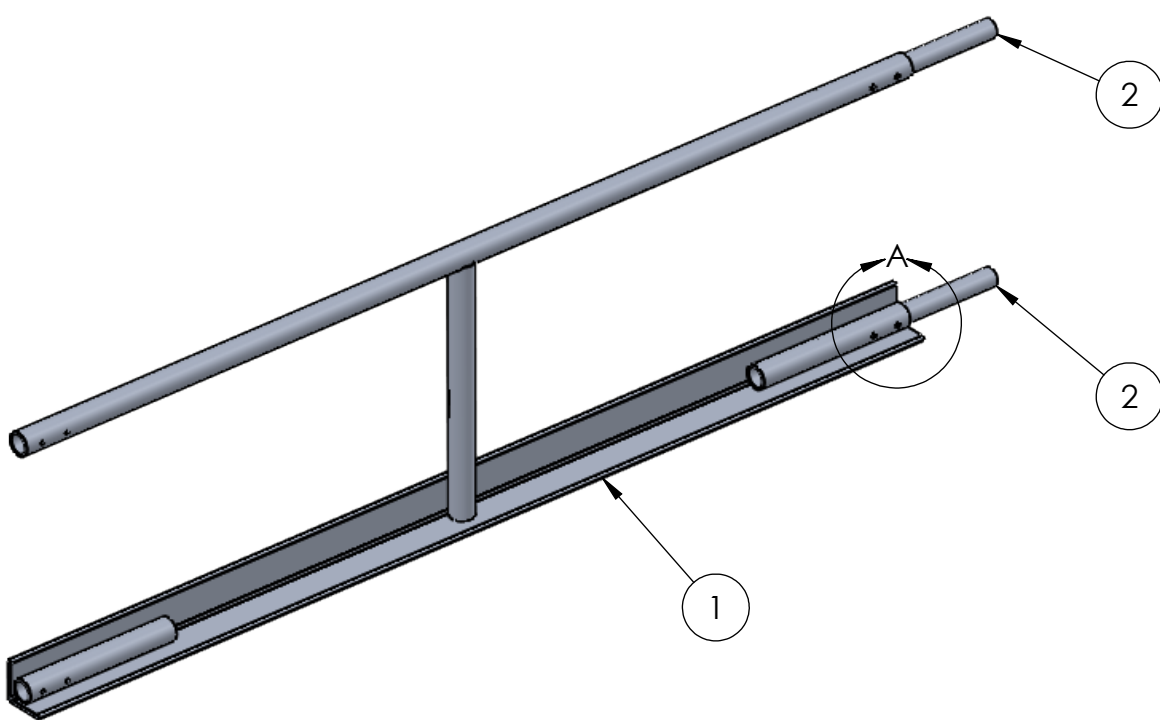
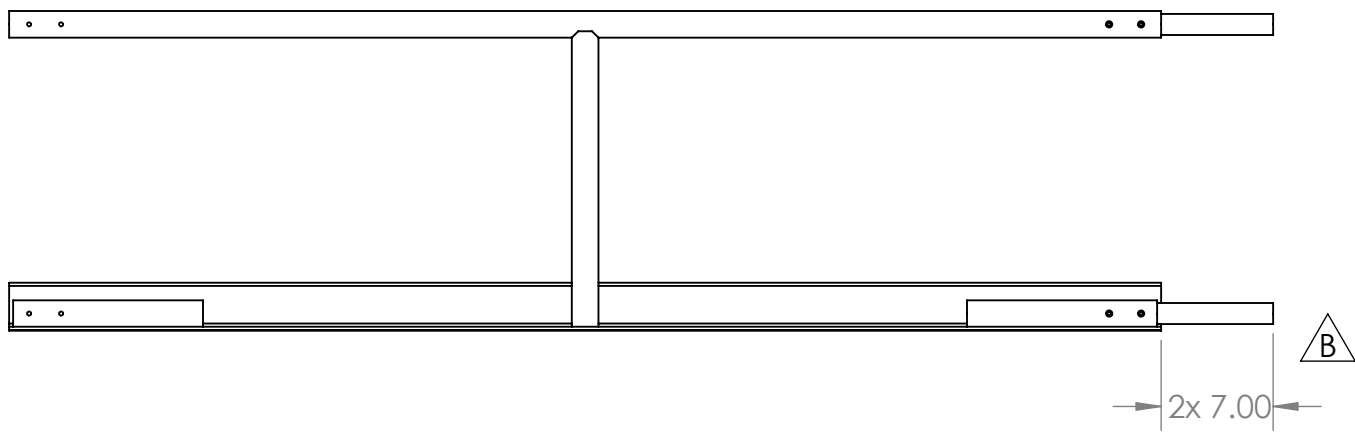


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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div>FIRST ROBOTICS COMPETITION</div> <div>SOLIDWORKS Modeling Solutions Partner</div>				
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE: <h1>Corner Connector</h1>				
			CHECKED							
			ENG APPR.							
			MFG APPR.							
			Q.A.							
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE B				
		MATERIAL							DWG. NO. FE-00018	
									REV B	
NEXT ASSY	USED ON	FINISH								
APPLICATION		DO NOT SCALE DRAWING				WEIGHT:		SHEET 2 OF 2		

B

B



DETAIL A
SCALE 1 : 3

A



A

C

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

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



TITLE:

Field Rail Assy - Mid

SIZE	DWG. NO.	REV
B	FE-00022	C

SCALE: 1:12	WEIGHT:	SHEET 1 OF 1
-------------	---------	--------------

4

3

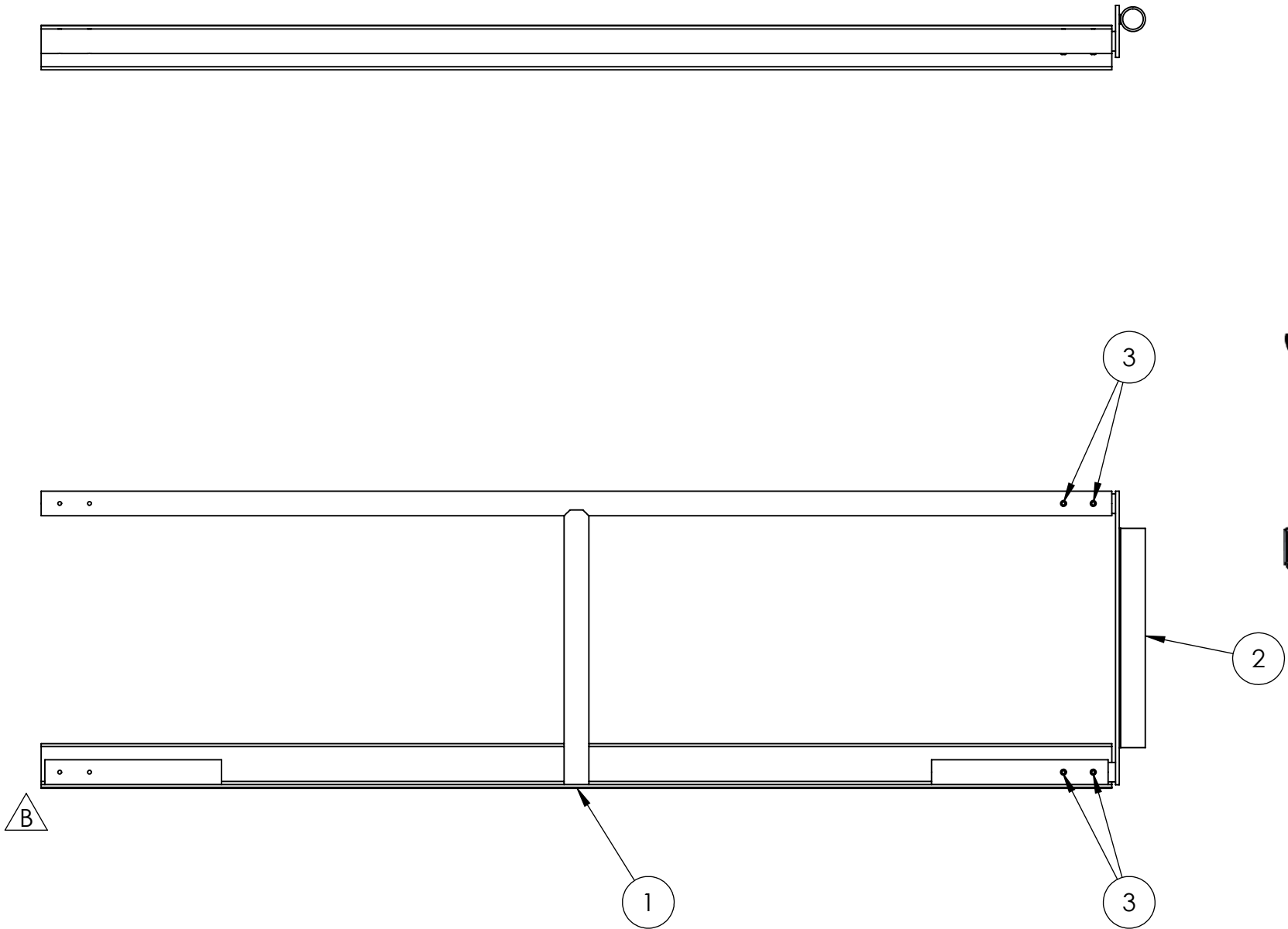
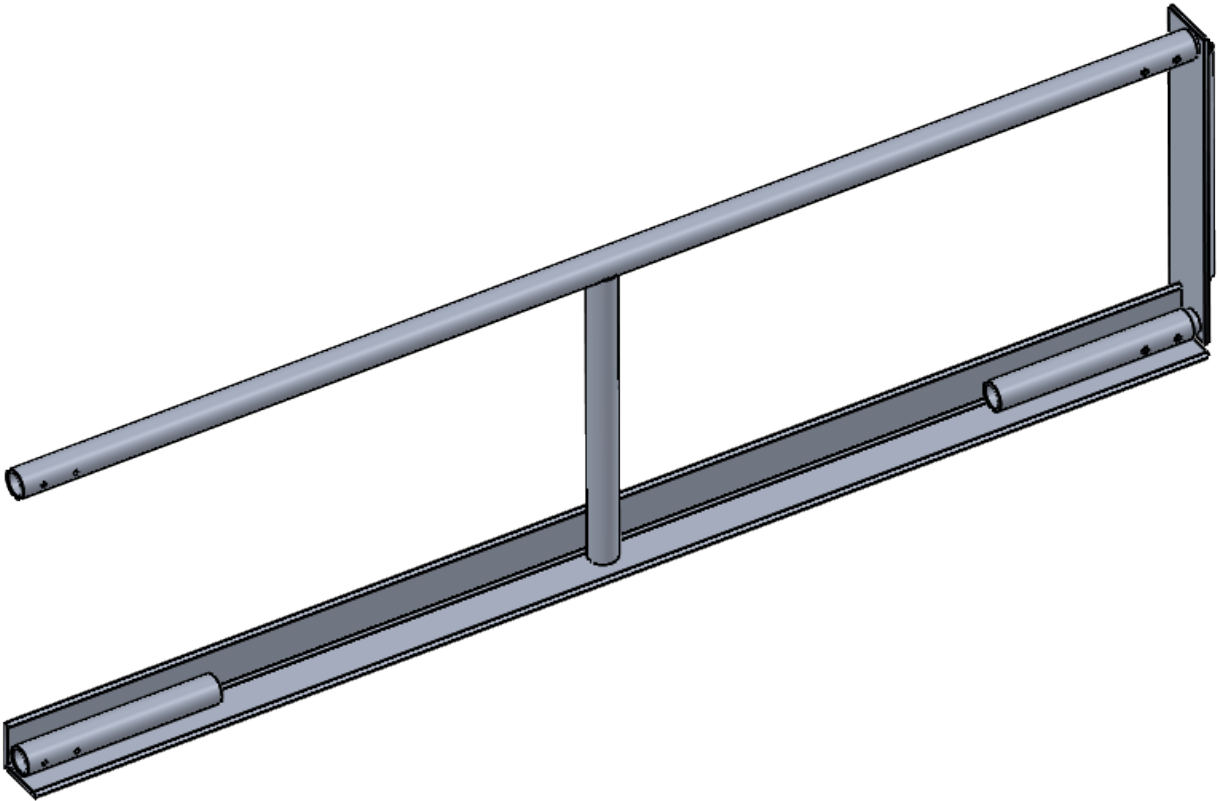
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1

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

B

B



B

A

A

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

B

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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		
			CHECKED		
			ENG APPR.		
			MFG APPR.		
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
		MATERIAL	COMMENTS:		
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			
			TITLE: Field Rail Assy - Left		
			SIZE B	DWG. NO. FE-00023	REV B
			SCALE: 1:10 WEIGHT:		SHEET 1 OF 1



4

3

2

1

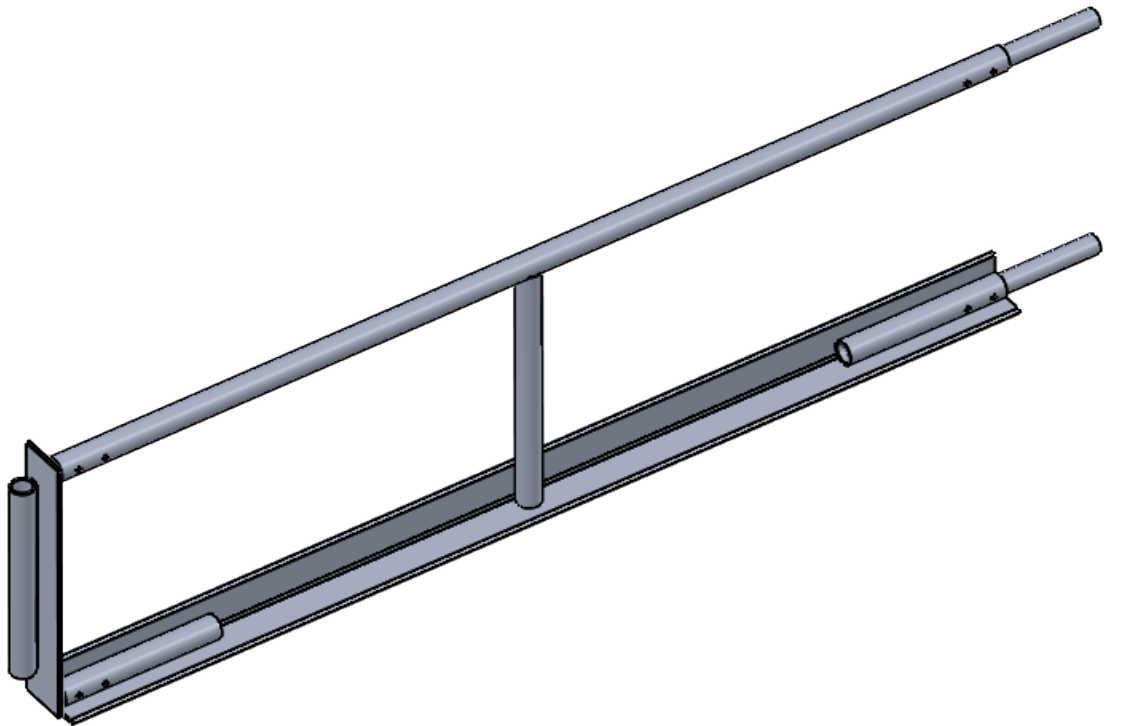
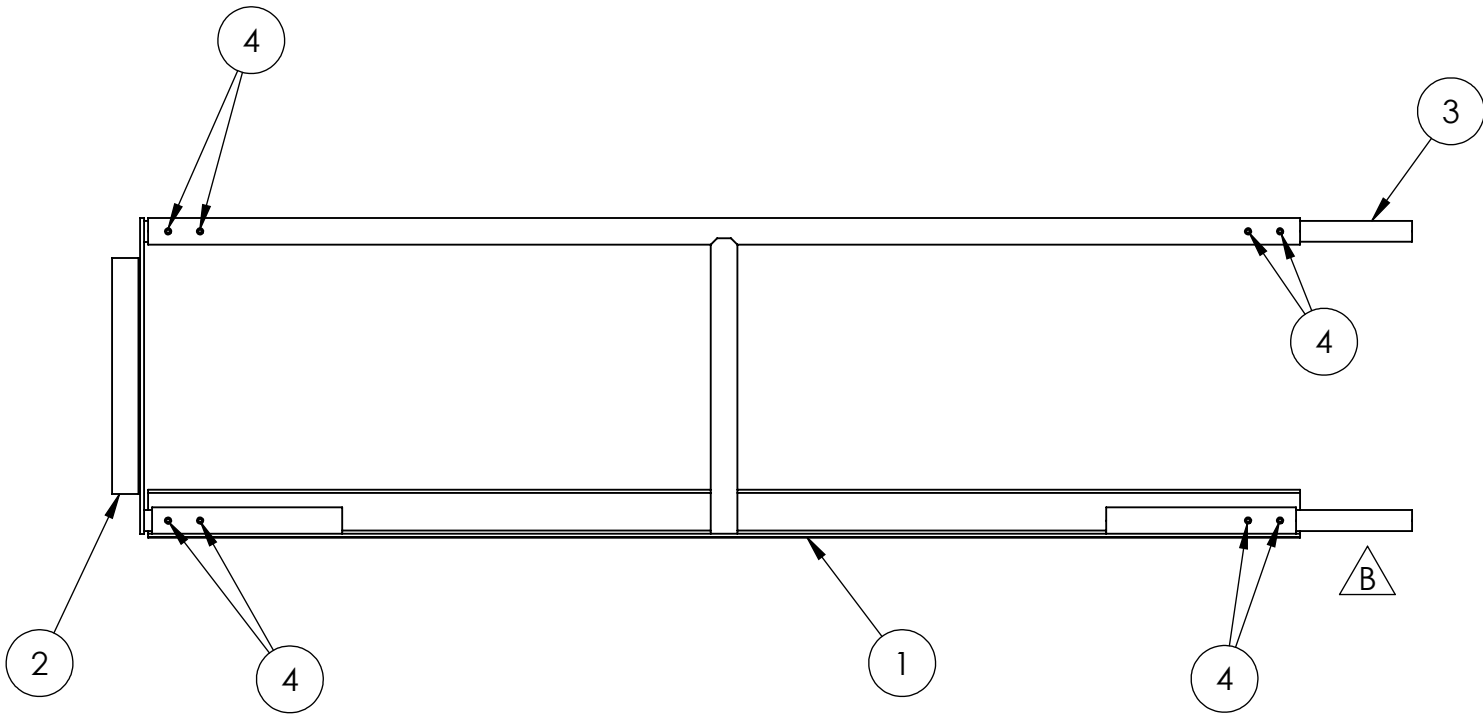
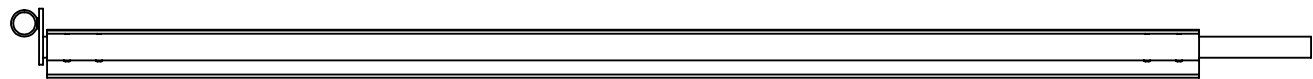
4

3

2

1

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





B

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

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



TITLE:
Field Rail Assy - Right

SIZE **B** DWG. NO. **FE-00024** REV **B**

SCALE: 1:12 WEIGHT: SHEET 1 OF 1

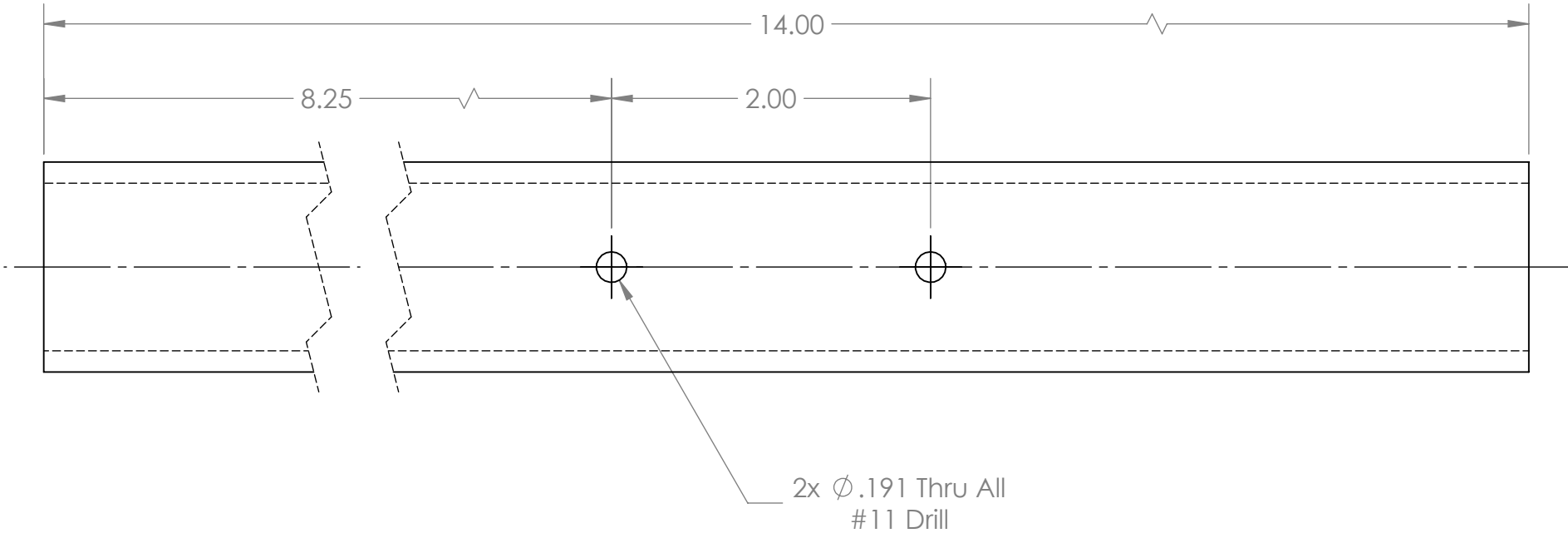
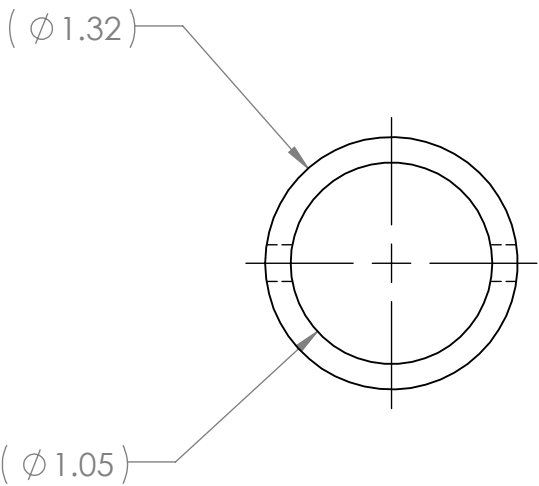
4

3

2



1

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



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

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

4

3

2

1

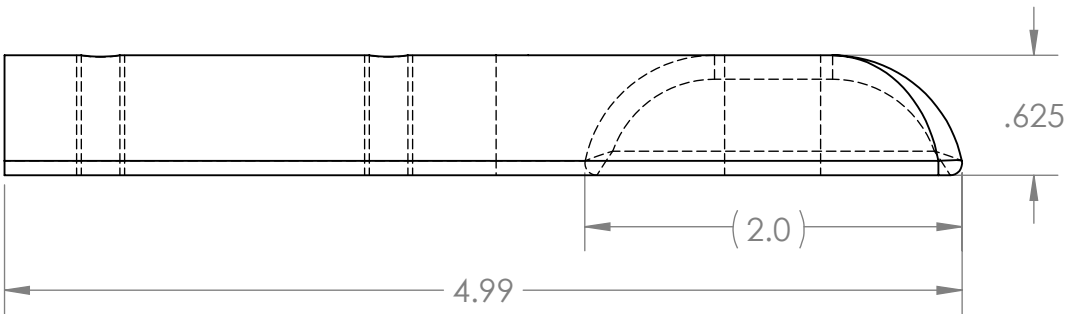
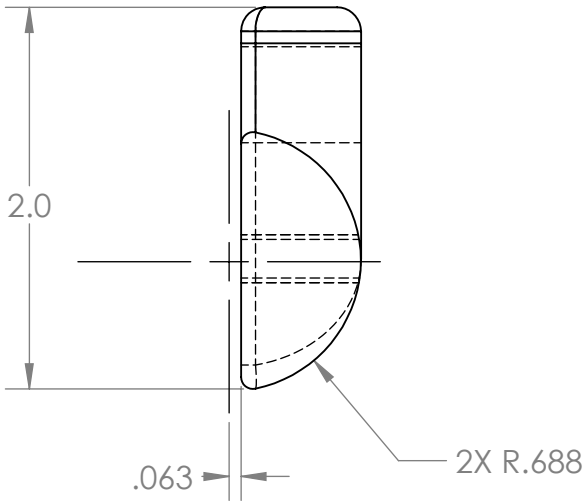
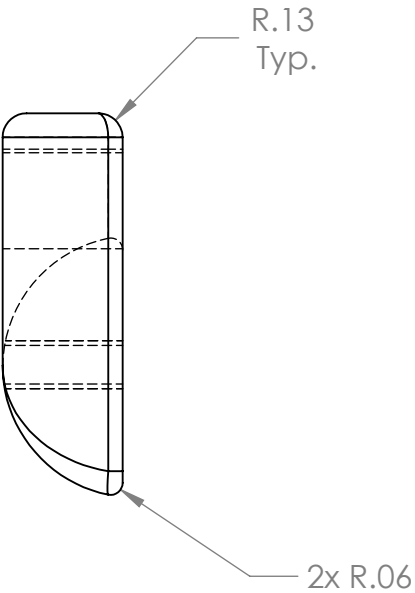
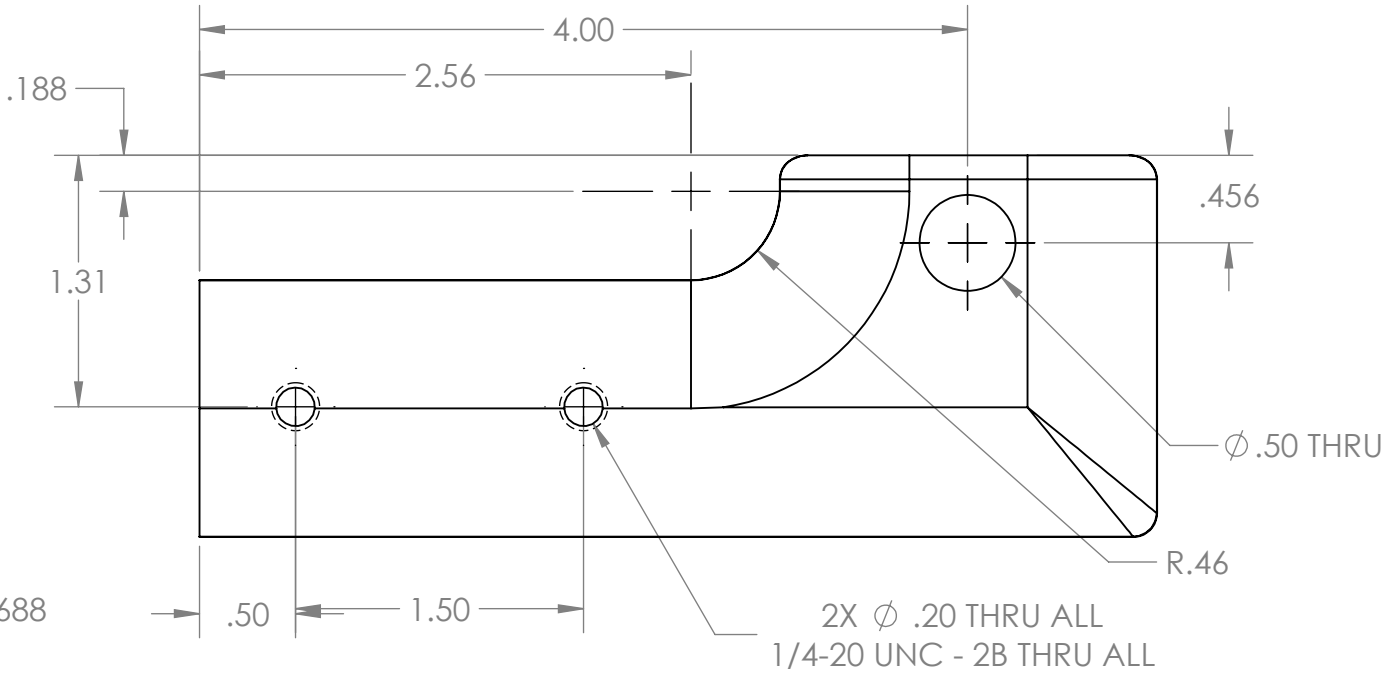
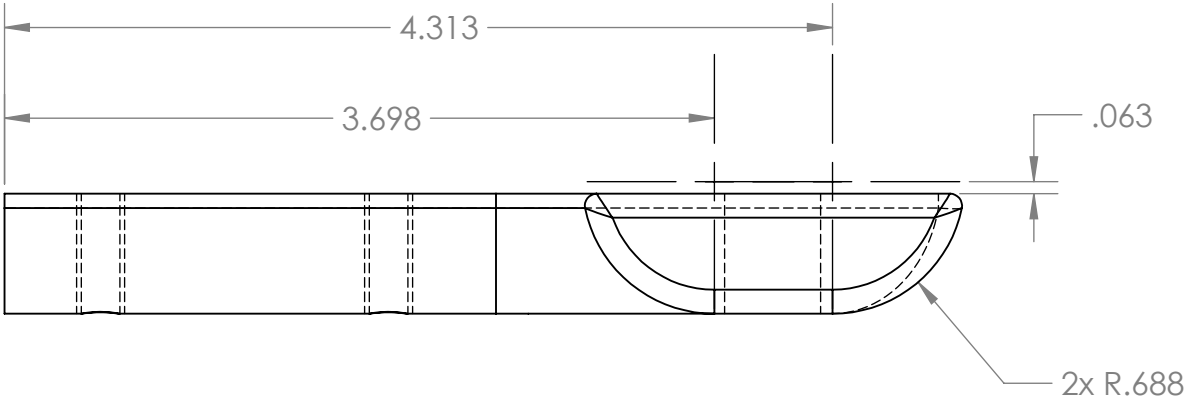
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3

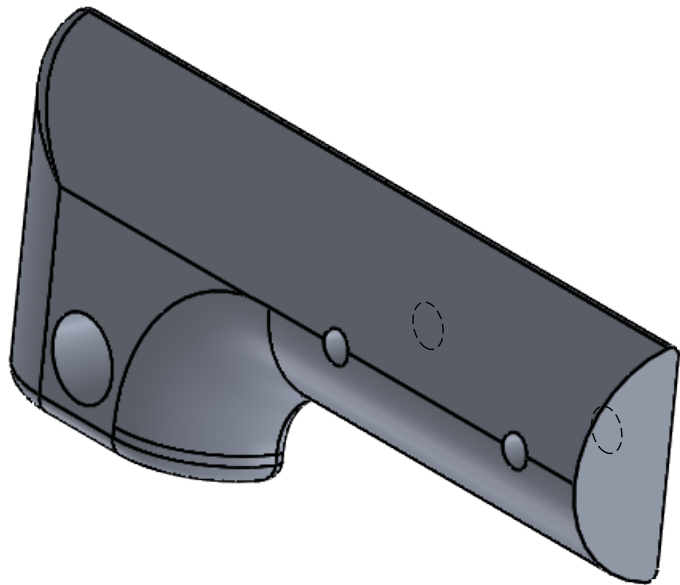
2

1



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



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



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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.		SIZE DWG. NO. REV B FE-00027 A	
THREE PLACE DECIMAL $\pm .001$		COMMENTS:			
INTERPRET GEOMETRIC TOLERANCING PER:					
MATERIAL				SCALE: 1:1 WEIGHT: SHEET 1 OF 1	
FINISH					
NEXT ASSY	USED ON	DO NOT SCALE DRAWING			
APPLICATION					

4

3

2

1

4

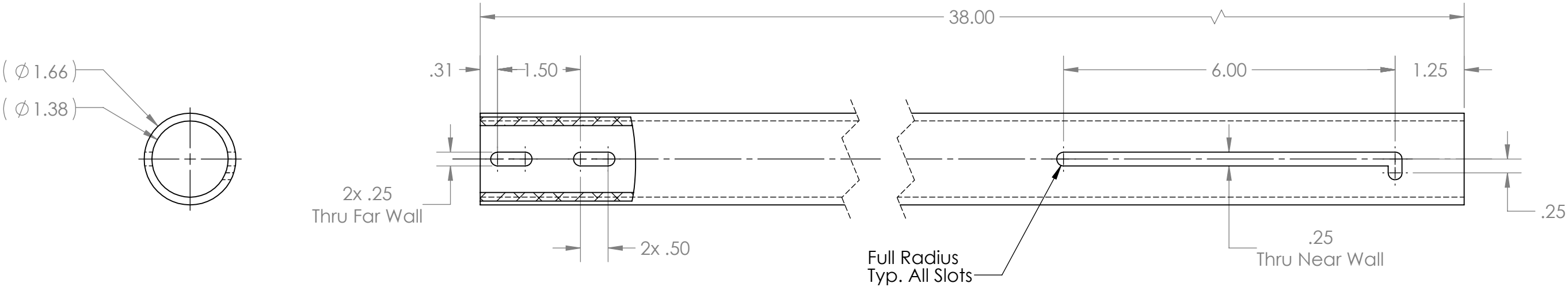
3

2

1

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

B





B

A

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

A

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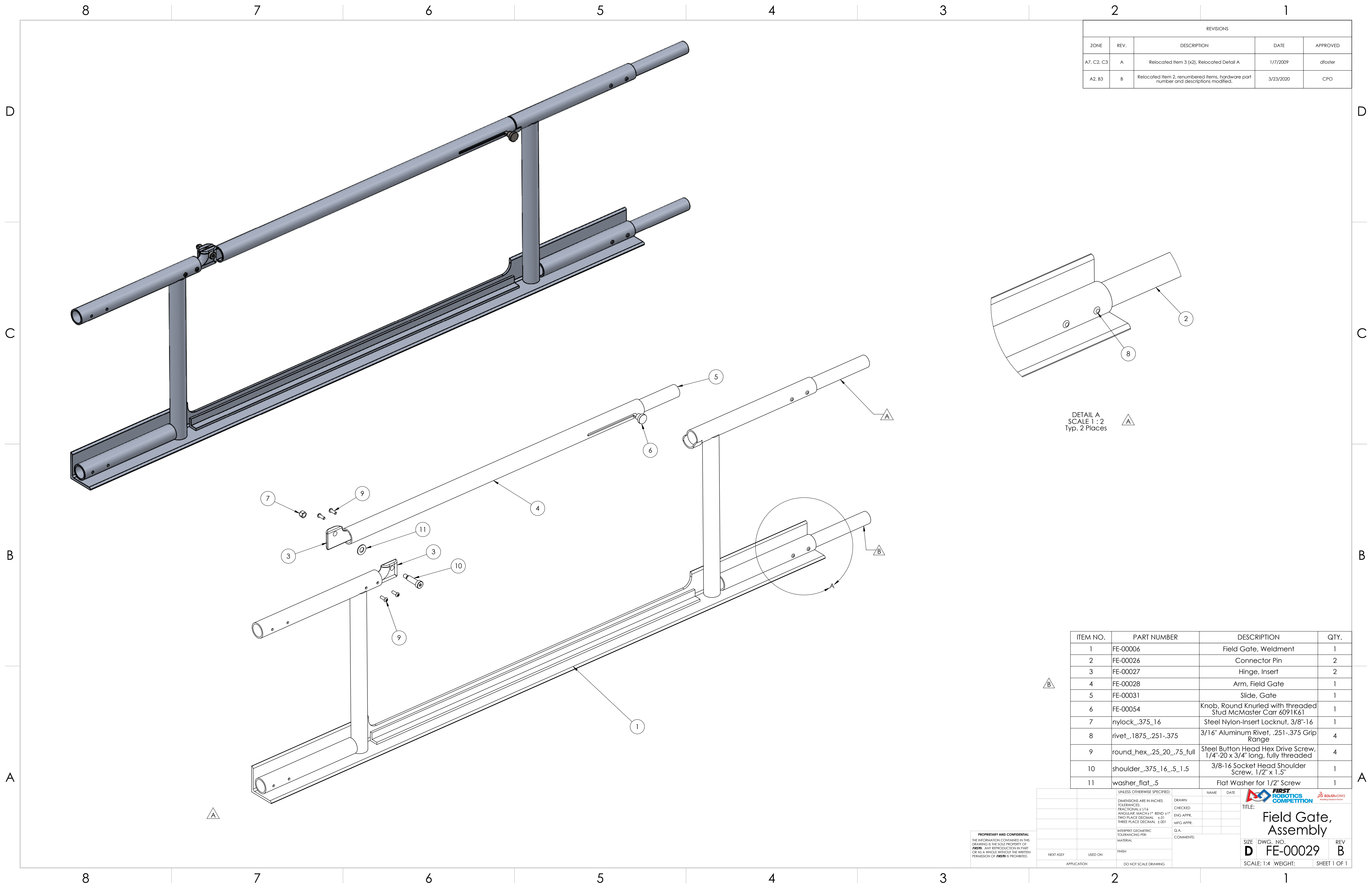
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV B FE-00028 A		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						
						WEIGHT:		SHEET 1 OF 1

4

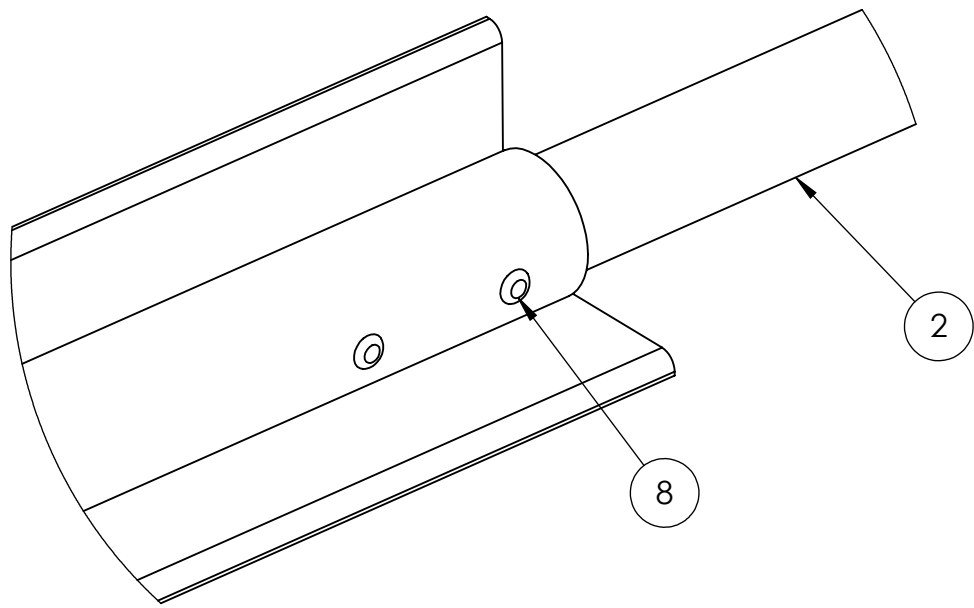
3

2

1



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



DETAIL A
SCALE 1 : 2
Typ. 2 Places

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

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

TITLE:		FIRST ROBOTICS COMPETITION		SOLIDWORKS	
SIZE		DWG. NO.		REV	
D		FE-00029		B	
SCALE: 1:4		WEIGHT:		SHEET 1 OF 1	

4

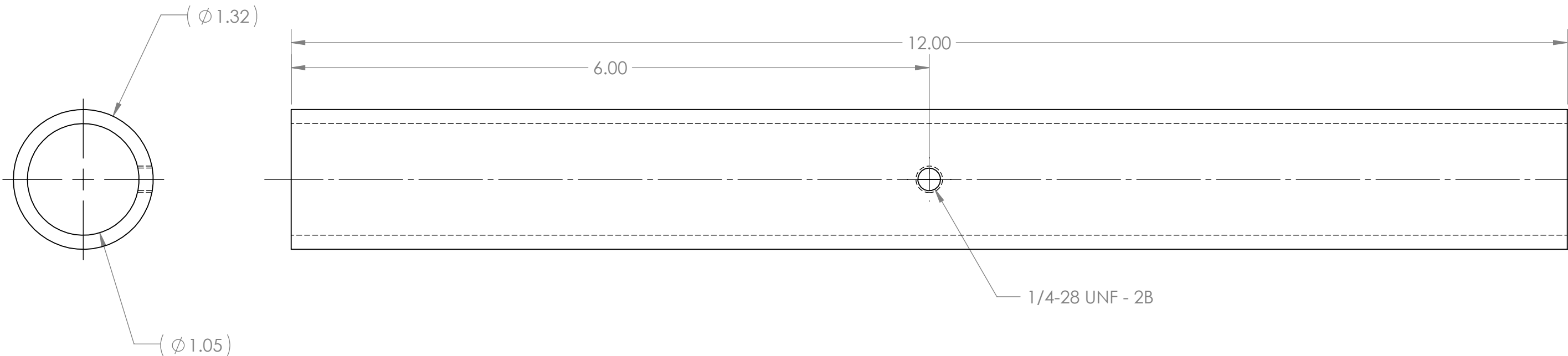
3

2

1

B

B



Notes:

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

4

3



2

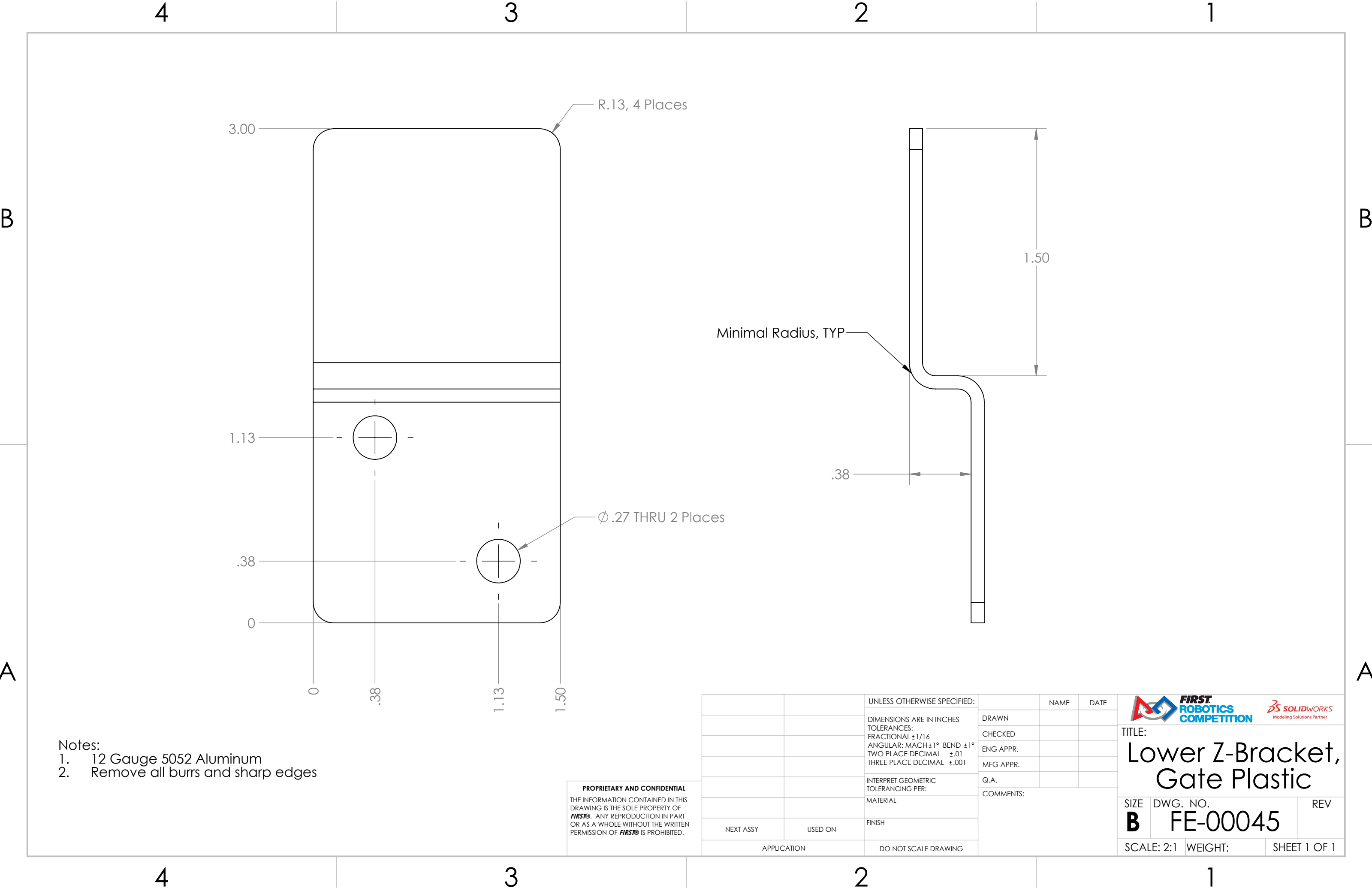
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A

A



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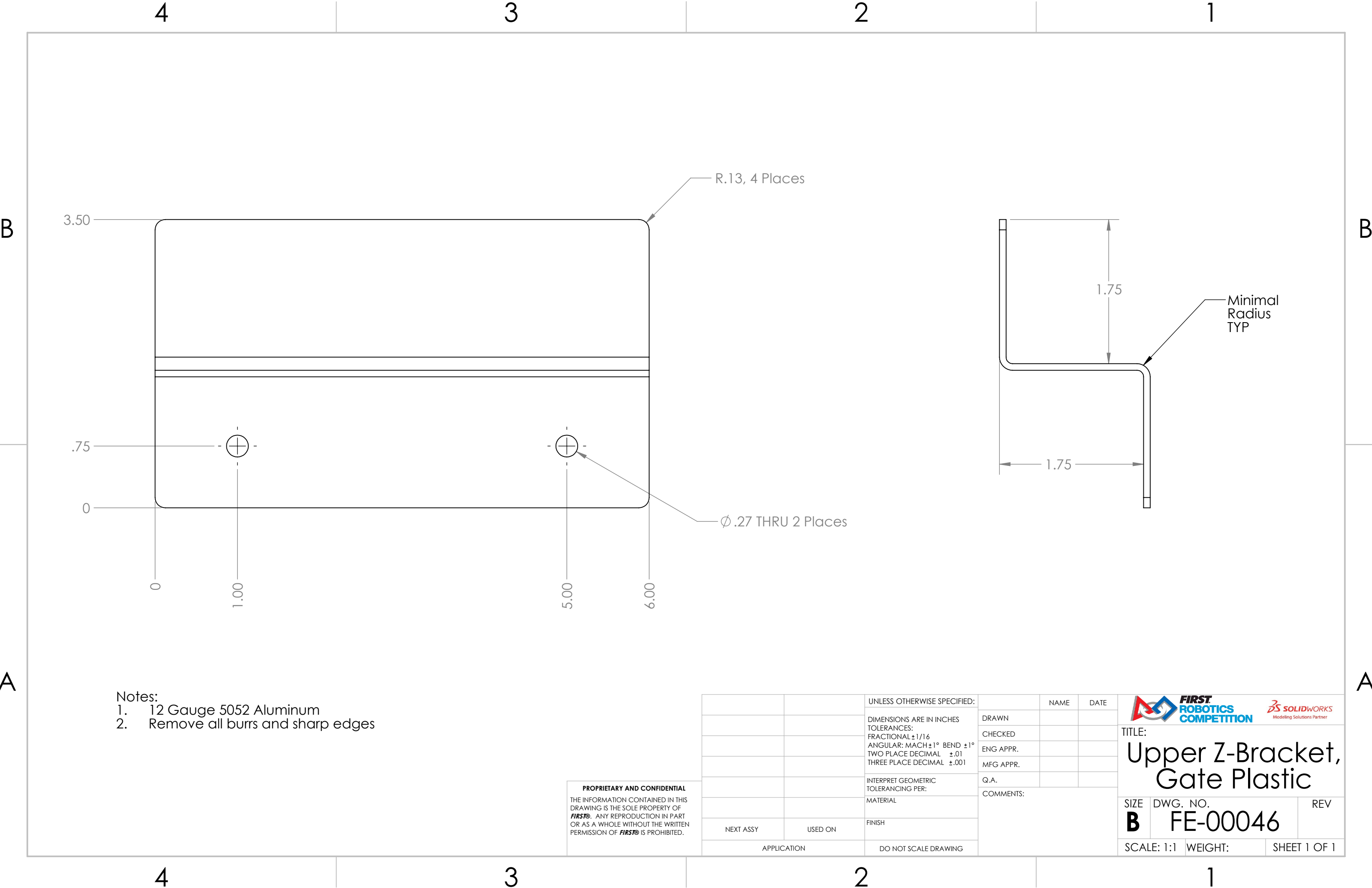
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Slide, Gate</h1></div>	
		DIMENSIONS ARE IN INCHES	DRAWN				
		TOLERANCES:	CHECKED				
		FRACTIONAL $\pm 1/16$	ENG APPR.				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			SIZE DWG.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



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



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PERMISSION OF **FIRST®** IS PROHIBITED.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: Lower Z-Bracket, Gate Plastic		
		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:			SIZE DWG. NO. REV B FE-00045		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 2:1 WEIGHT: SHEET 1 OF 1		



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

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div></div><div>TITLE: Upper Z-Bracket, Gate Plastic</div><div><table><tr><td>SIZE</td><td>DWG. NO.</td><td>REV</td></tr><tr><td>B</td><td>FE-00046</td><td></td></tr></table></div><div><table><tr><td>SCALE: 1:1</td><td>WEIGHT:</td><td>SHEET 1 OF 1</td></tr></table></div></div>			SIZE	DWG. NO.	REV	B	FE-00046		SCALE: 1:1	WEIGHT:	SHEET 1 OF 1
SIZE	DWG. NO.	REV															
B	FE-00046																
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1															
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN														
			CHECKED														
			ENG APPR.														
			MFG APPR.														
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.														
		MATERIAL	COMMENTS:														
		FINISH															
NEXT ASSY	USED ON																
APPLICATION		DO NOT SCALE DRAWING															

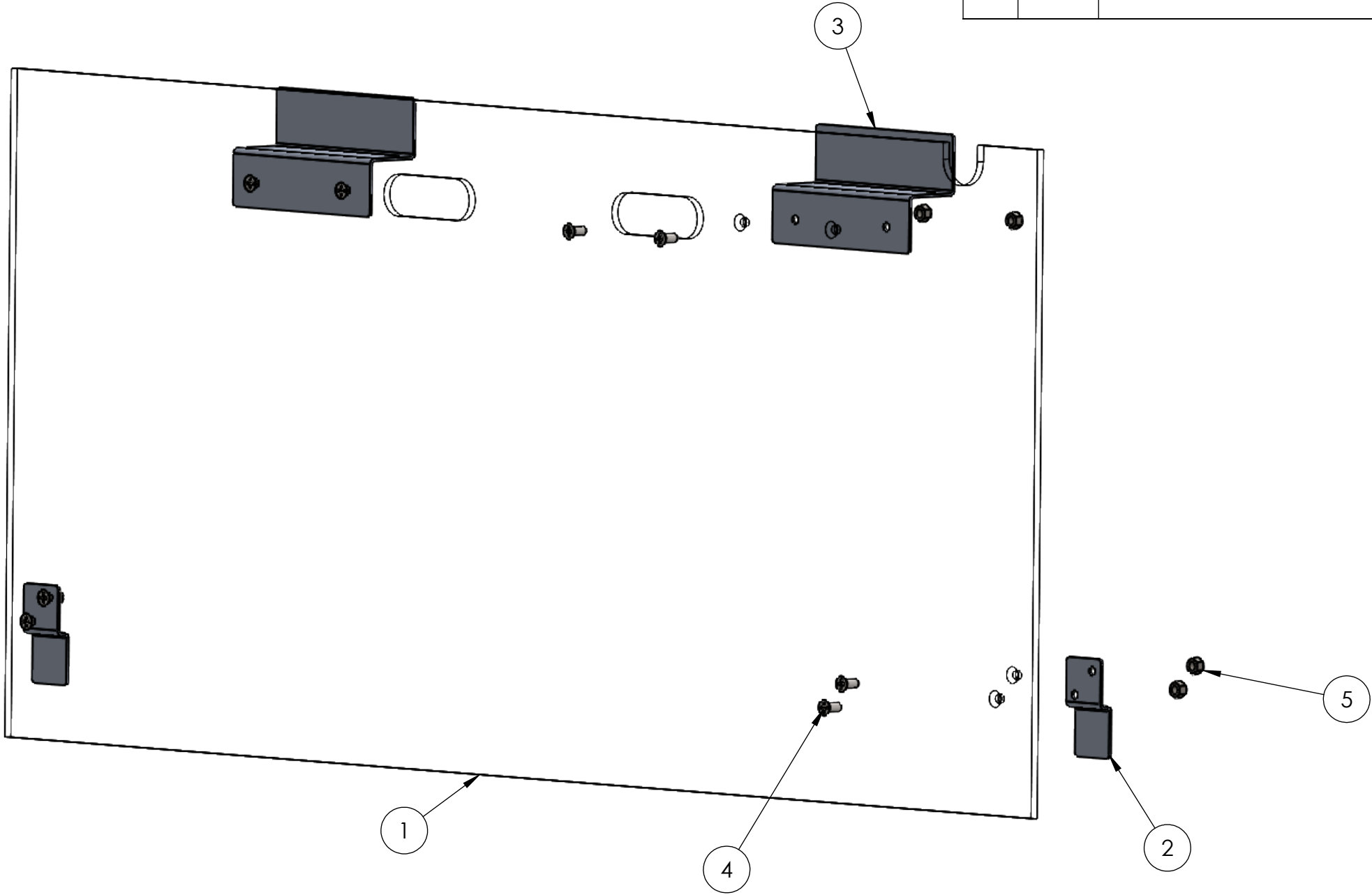
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3

2

1



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



A

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

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		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			TITLE: <h1>Gate Plastic Assembly</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV B FE-00047 A		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 1 OF 1		

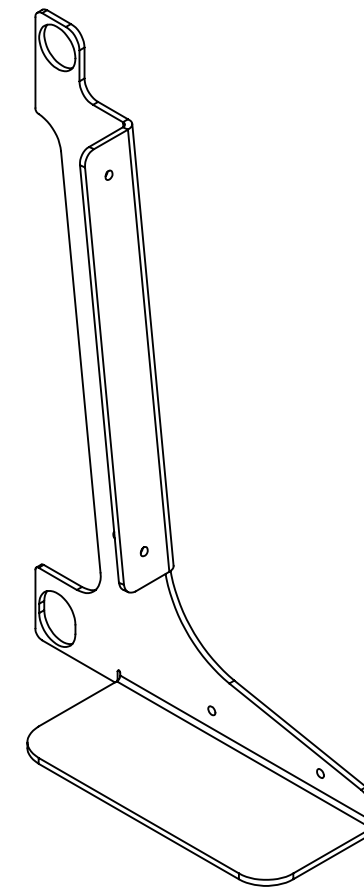
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SHEET 1 OF 1

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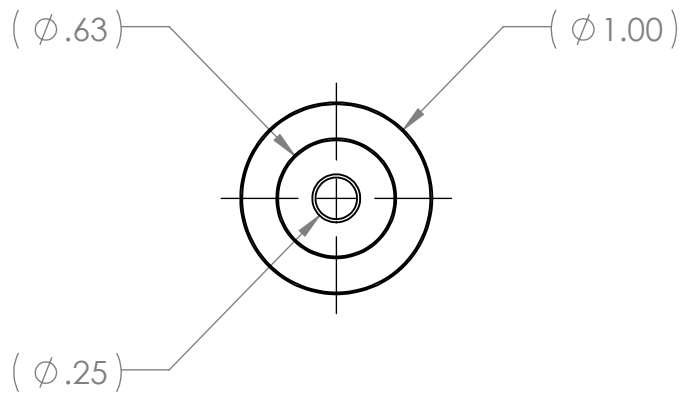
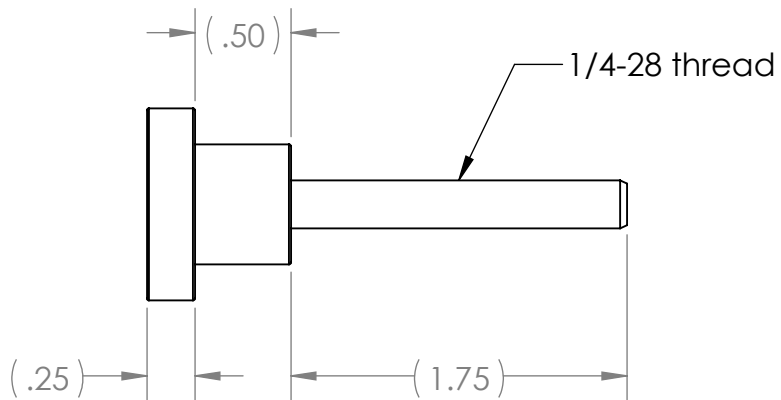
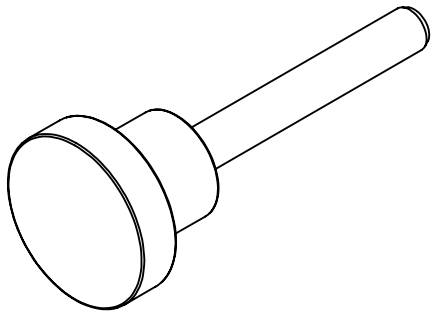
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2

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B

B



Notes:

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

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

4

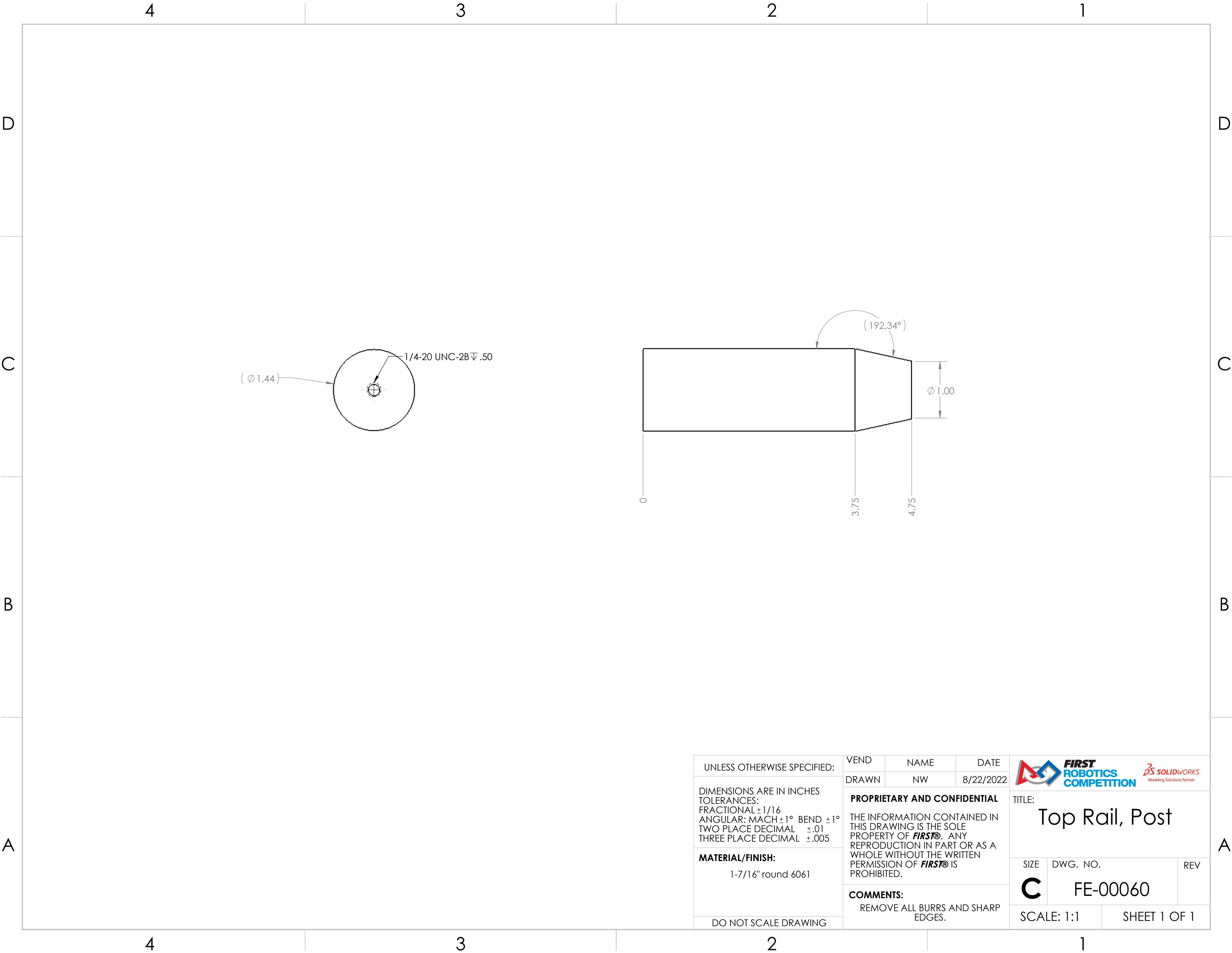
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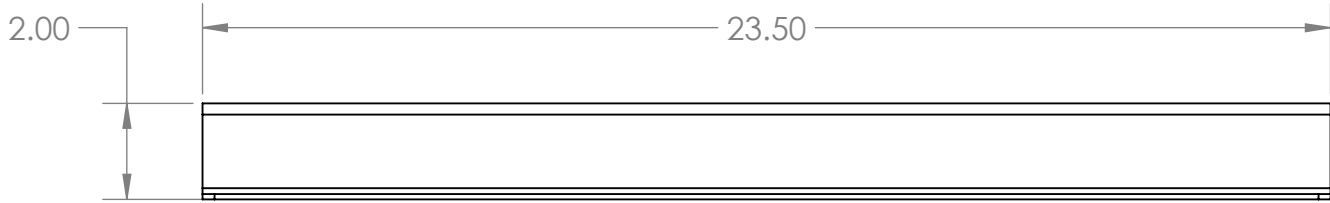
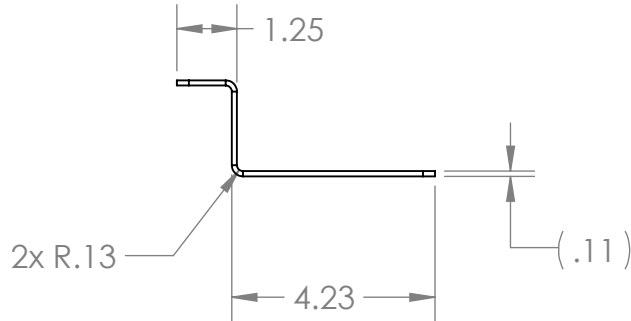
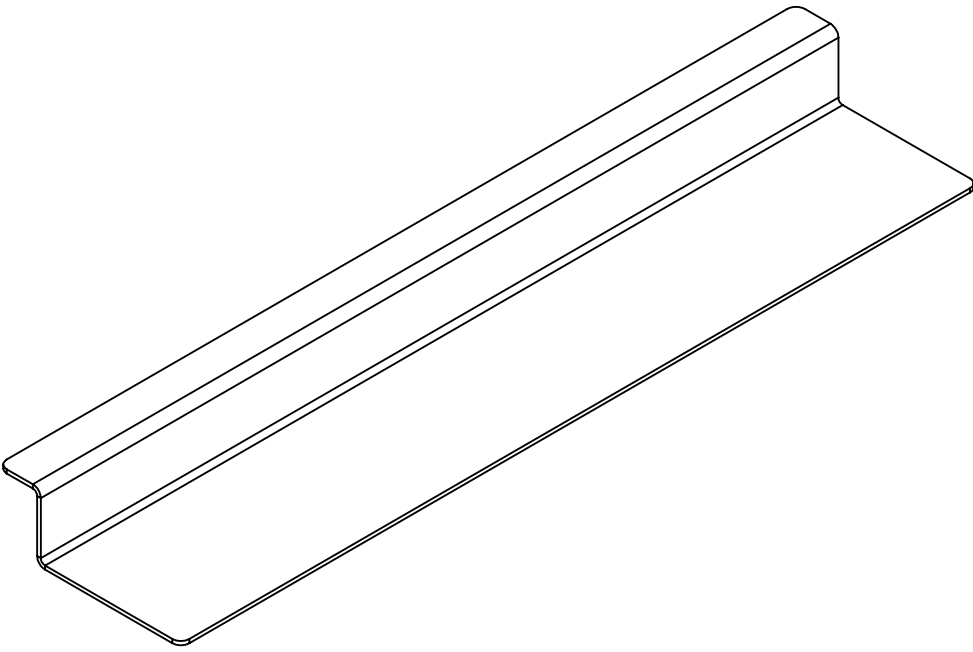
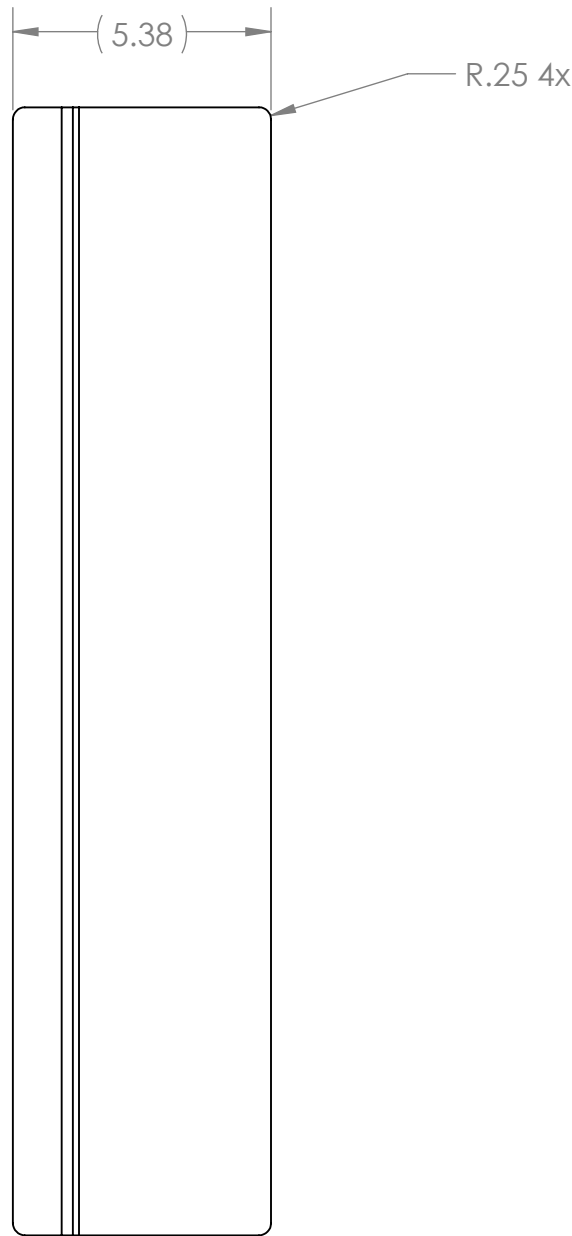
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A

A

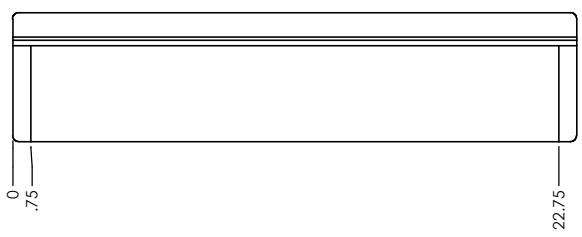
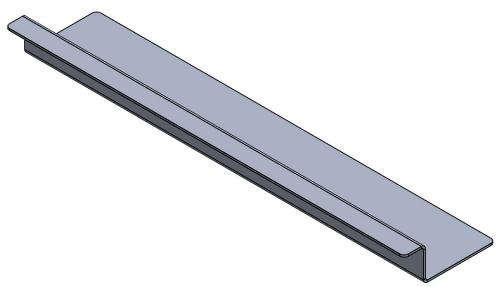
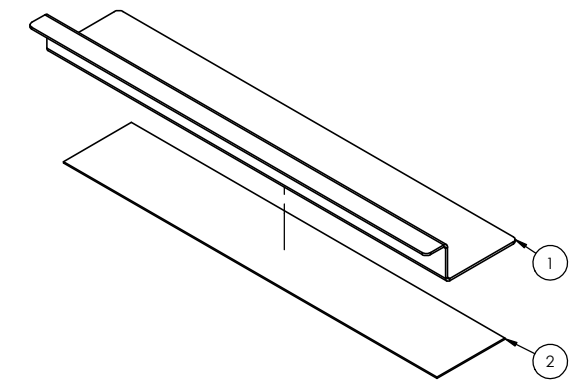




UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ MATERIAL/FINISH: 1-7/16" round 6061 DO NOT SCALE DRAWING	VEND	NAME	DATE	<div></div> <div>TITLE: <h1>Top Rail, Post</h1></div>		
	DRAWN	NW	8/22/2022			
	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST® . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST® IS PROHIBITED. COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			SIZE C	DWG. NO. FE-00060	REV
SCALE: 1:1		SHEET 1 OF 1				

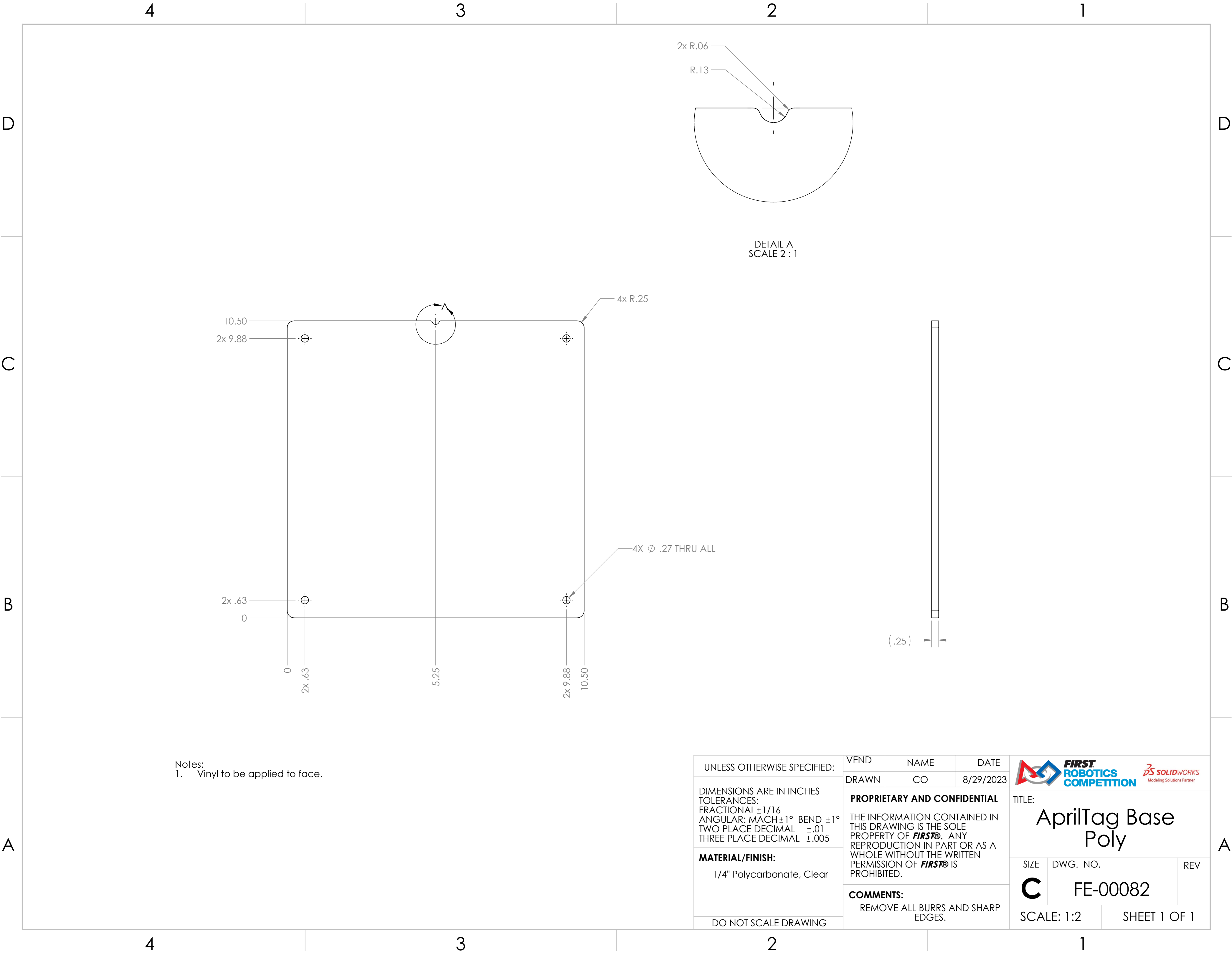


UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .02$ THREE PLACE DECIMAL $\pm .010$ MATERIAL/FINISH: 12 ga pre-plated steel DO NOT SCALE DRAWING	BEND	NAME	DATE	<div><div></div><div>TITLE: <div>Anchor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

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



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



UNLESS OTHERWISE SPECIFIED:

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

MATERIAL/FINISH:
1/4" Polycarbonate, Clear

DO NOT SCALE DRAWING

VEND	NAME	DATE
DRAWN	CO	8/29/2023

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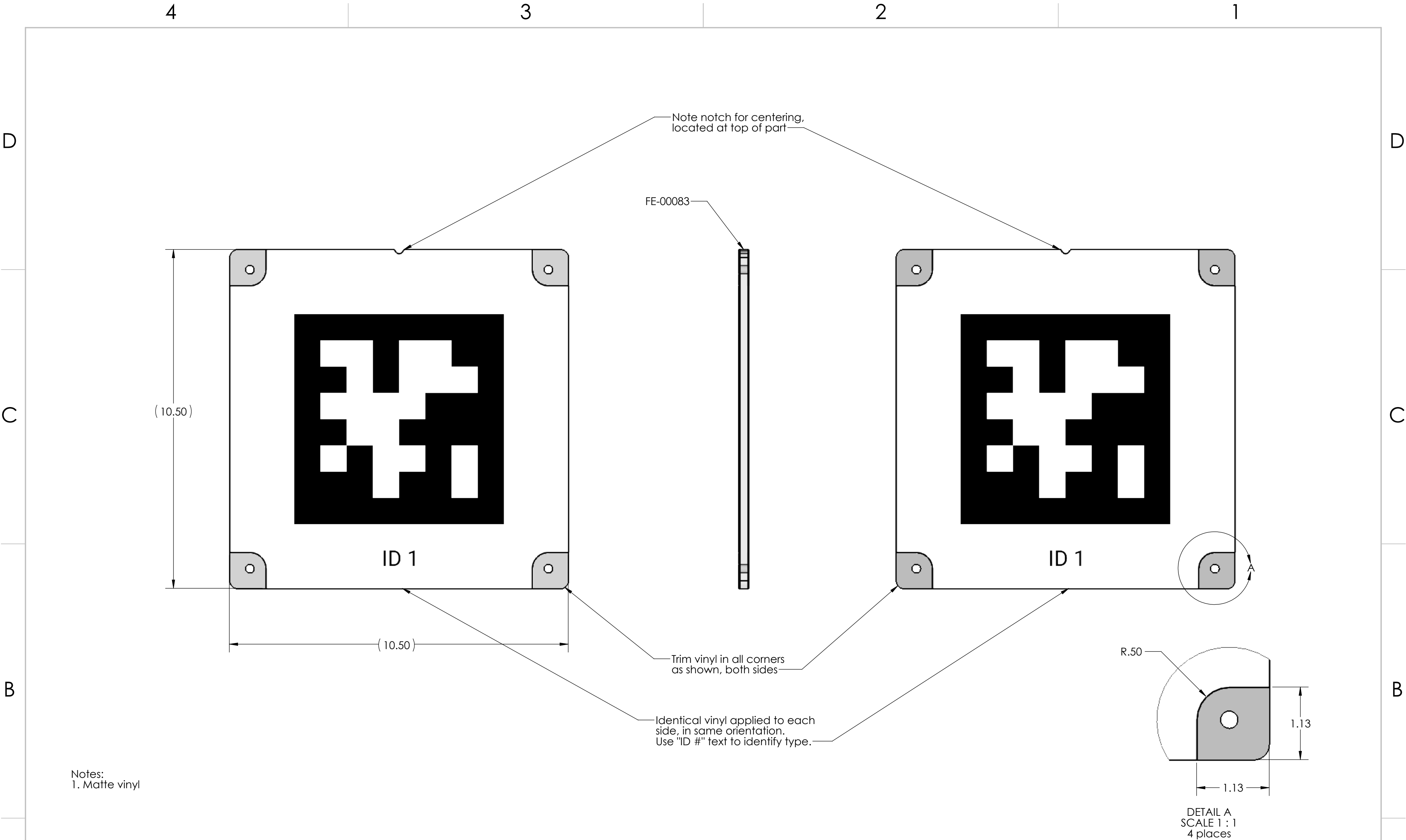
COMMENTS:
REMOVE ALL BURRS AND SHARP EDGES.



TITLE:
AprilTag Base Poly

SIZE	DWG. NO.	REV
C	FE-00082	



SCALE: 1:2 SHEET 1 OF 1



Notes:
1. Matte vinyl

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

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



TITLE:

AprilTag

SIZE
C

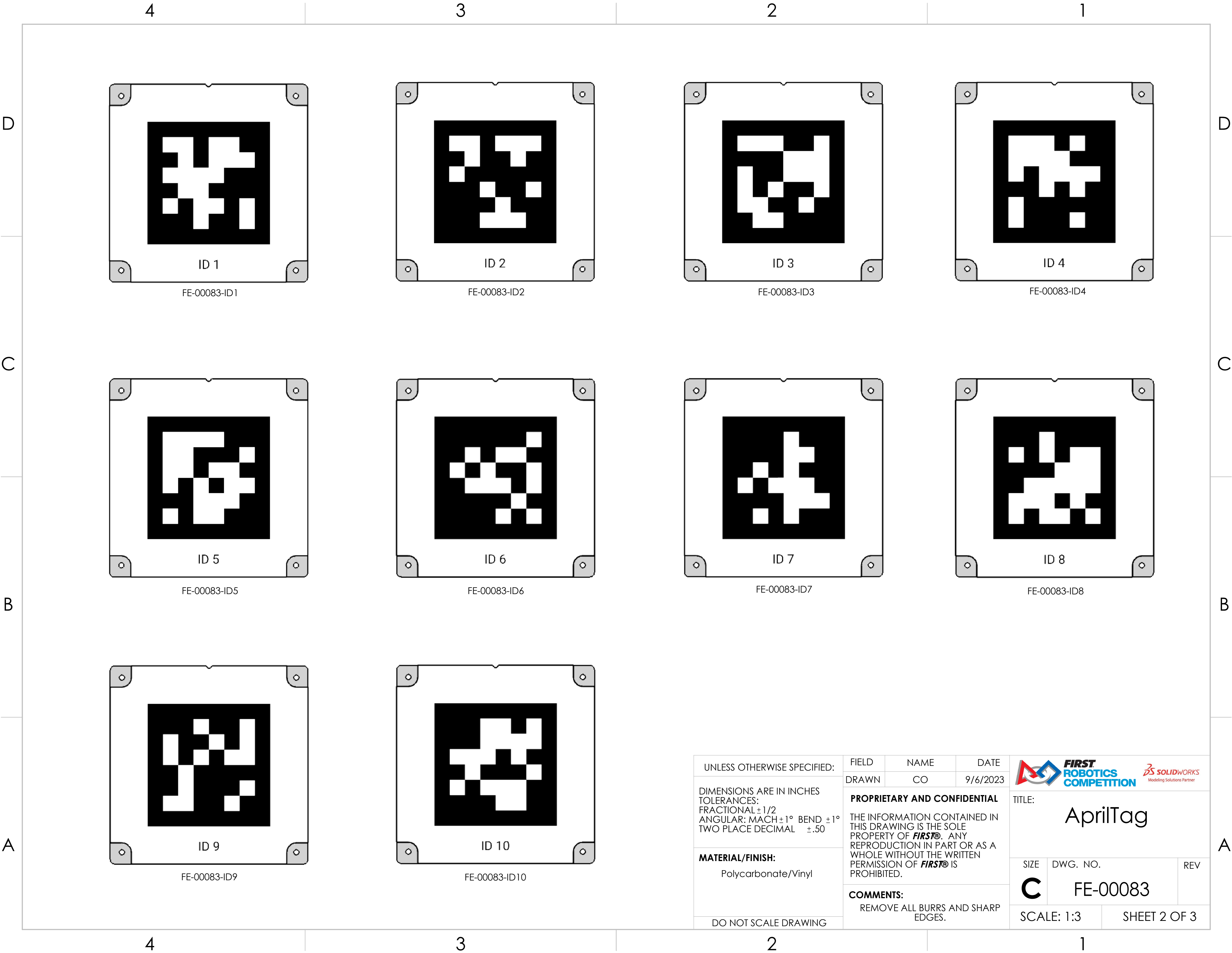
DWG. NO.



FE-00083

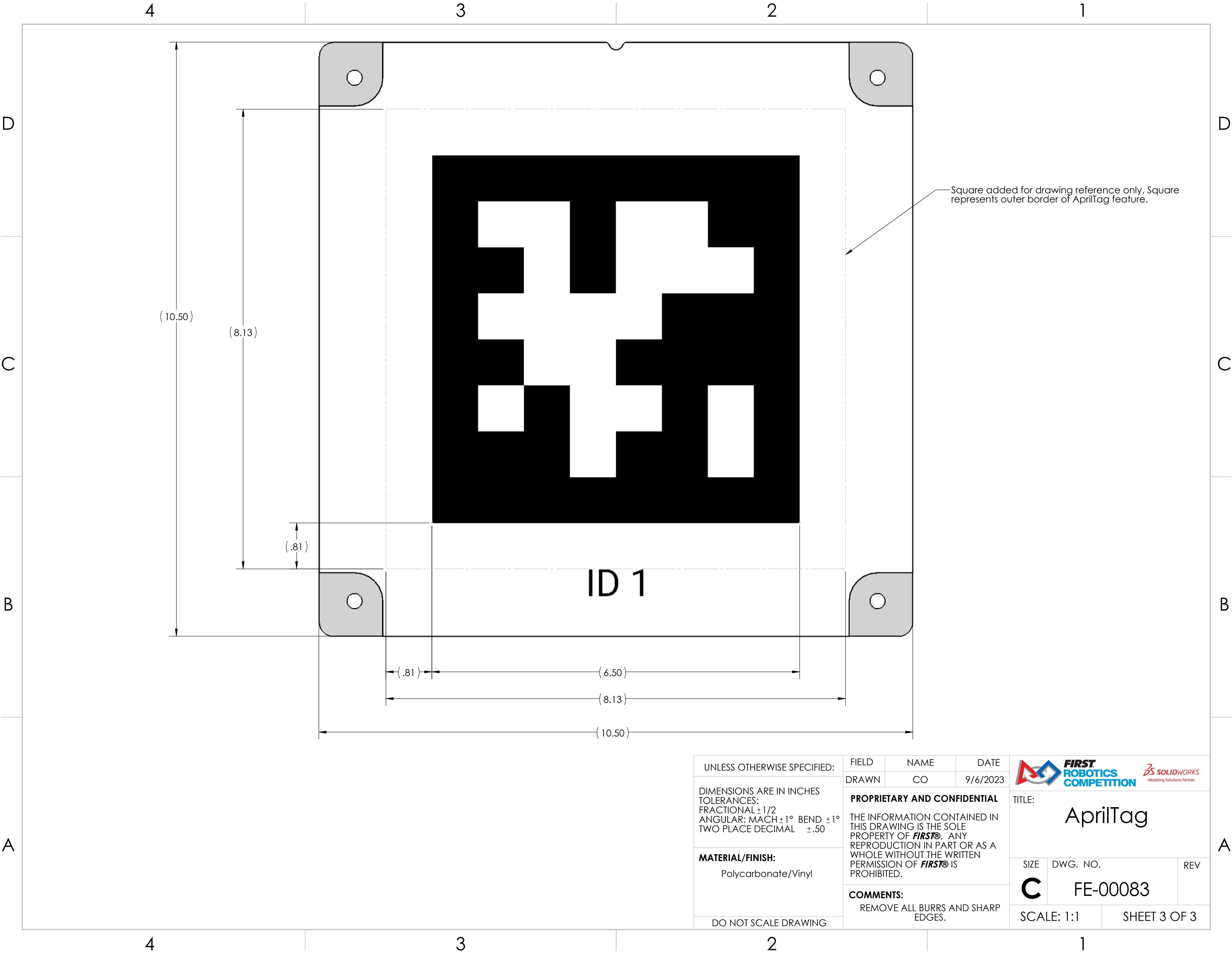
REV

SCALE: 1:2



SHEET 1 OF 3



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: Polycarbonate/Vinyl DO NOT SCALE DRAWING	FIELD	NAME	DATE	  TITLE: AprilTag	
	DRAWN	CO	9/6/2023		
	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FIRST . ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FIRST IS PROHIBITED.			SIZE	DWG. NO.
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.			C	FE-00083
SCALE: 1:3		SHEET 2 OF 3			



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

UNLESS OTHERWISE SPECIFIED:	FIELD	NAME	DATE	<div></div> <div>TITLE: AprilTag</div>	
	DRAWN	CO	9/6/2023		
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/2 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.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.			<div>SIZE</div> <div>C</div> <div>DWG. NO.</div> <div>FE-00083</div> <div>REV</div>	
	COMMENTS: REMOVE ALL BURRS AND SHARP EDGES.				
MATERIAL/FINISH: Polycarbonate/Vinyl				SCALE: 1:1	
DO NOT SCALE DRAWING				SHEET 3 OF 3	