



- Notes:
1. Material: 1/4" thick, clear polycarbonate.
  2. Remove all burrs and 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:  Panel, Portal		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV  B GE-18004		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		

4

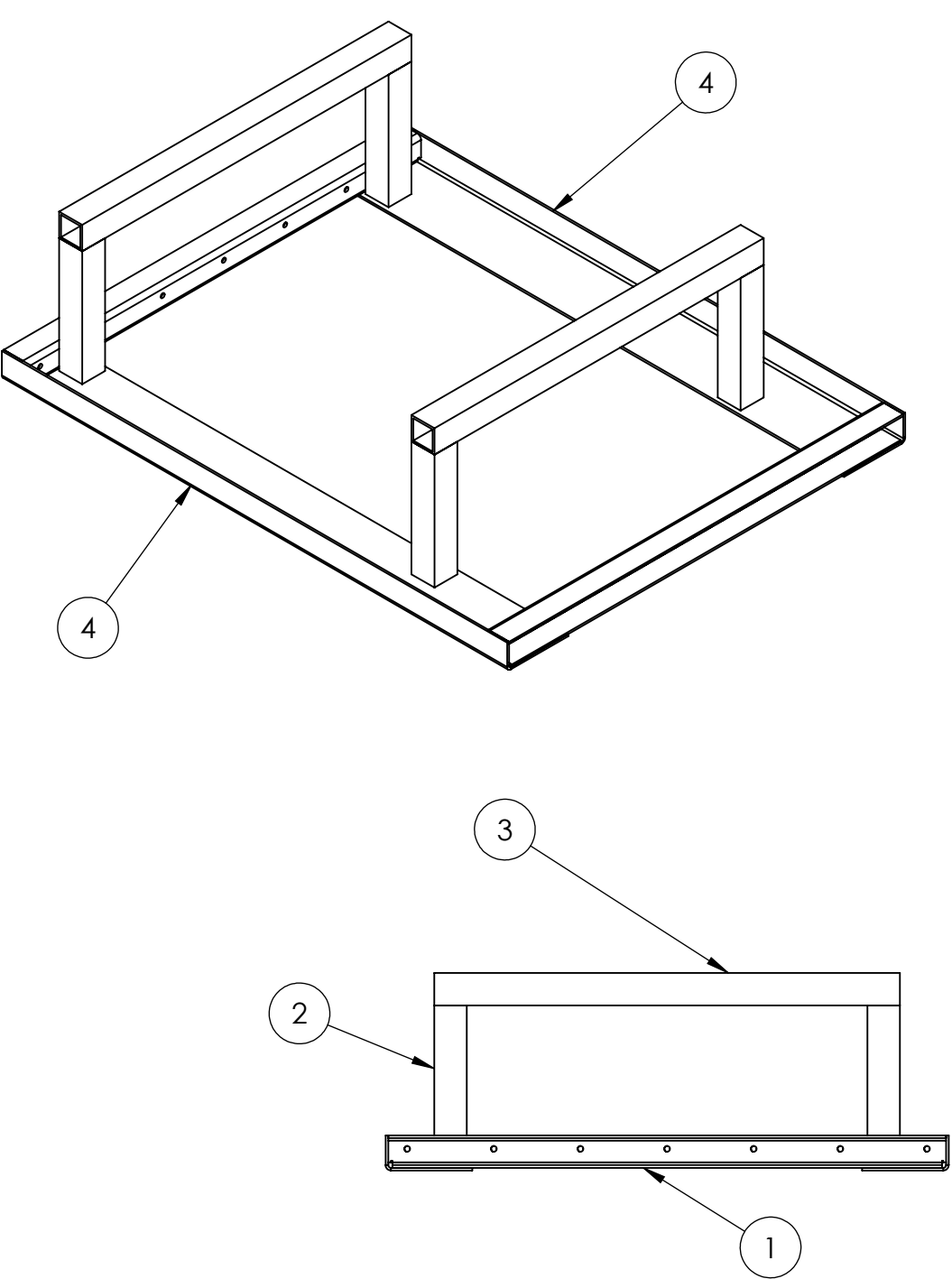
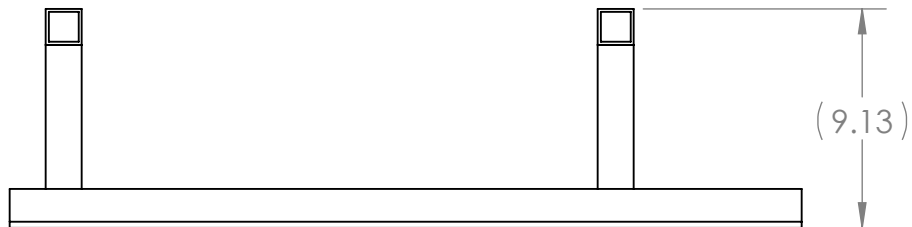
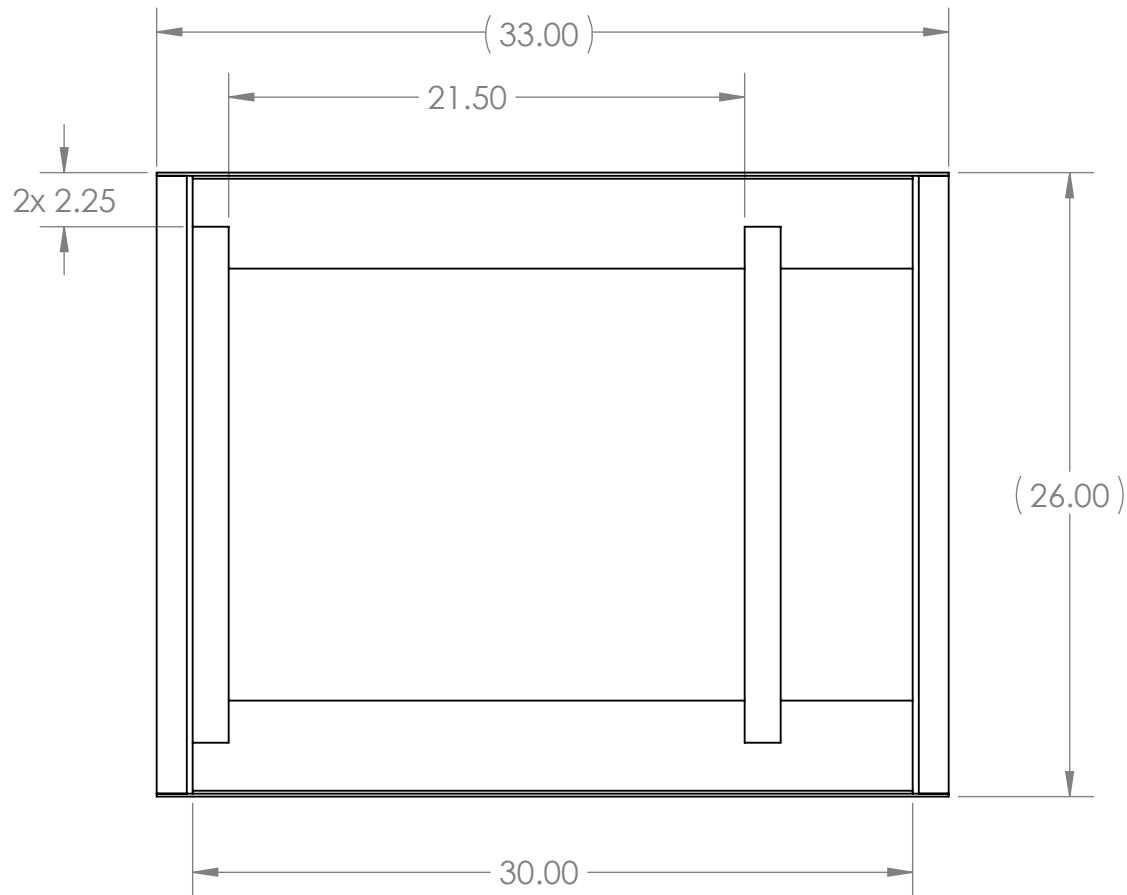
3

2

1

B

B



A

A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18006-01	1/8" thk., 5052 Aluminum Sheet	2
2	GE-18006-02	1.5" x .125" thk. Square Tubing, 6063 Aluminum	4
3	GE-18006-03	1.5" x .125" thk. Square Tubing, 6063 Aluminum	2
4	GE-18006-04	1/8" thk., 5052 Aluminum Sheet	2

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		DIMENSIONS ARE IN INCHES	DRAWN CHECKED ENG APPR. MFG APPR. Q.A. COMMENTS:		
		TOLERANCES:			
		FRACTIONAL ±1/16			
		ANGULAR: MACH ±1° BEND ±1°			
		TWO PLACE DECIMAL ±.01			
		THREE PLACE DECIMAL ±.001			
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			
			TITLE: <b>Roller Base</b>		
			SIZE <b>B</b>	DWG. NO. <b>GE-18006</b>	REV
			SCALE: 1:8	WEIGHT:	SHEET 1 OF 3



4

3

2

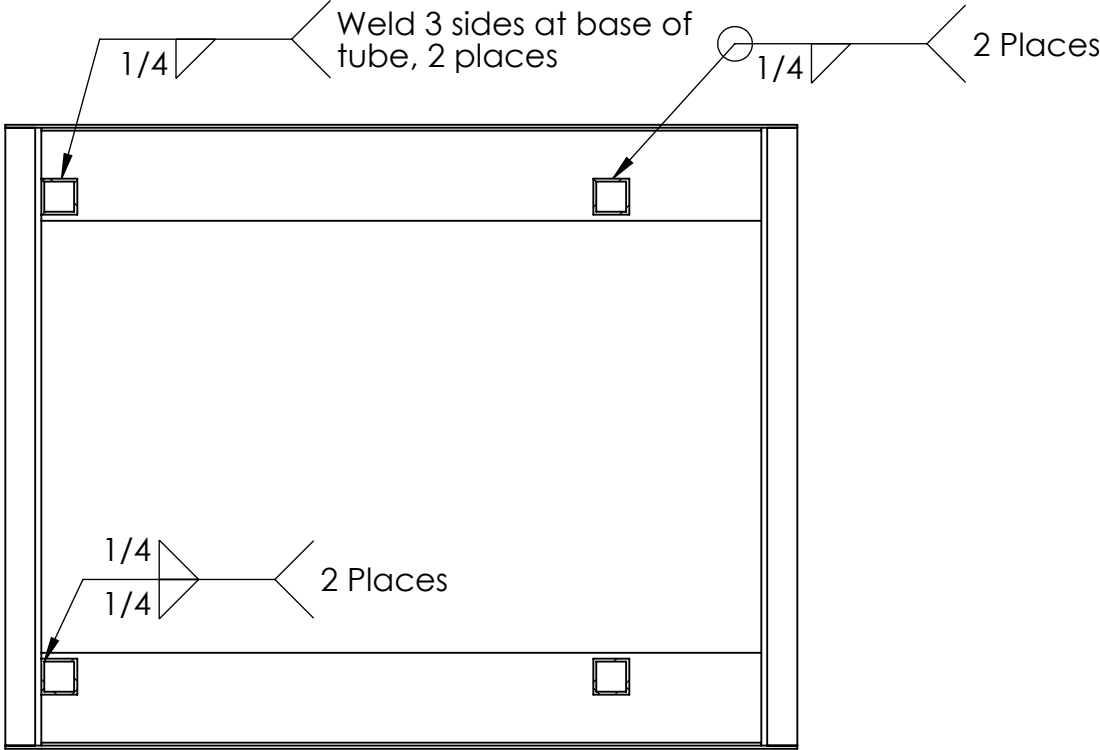
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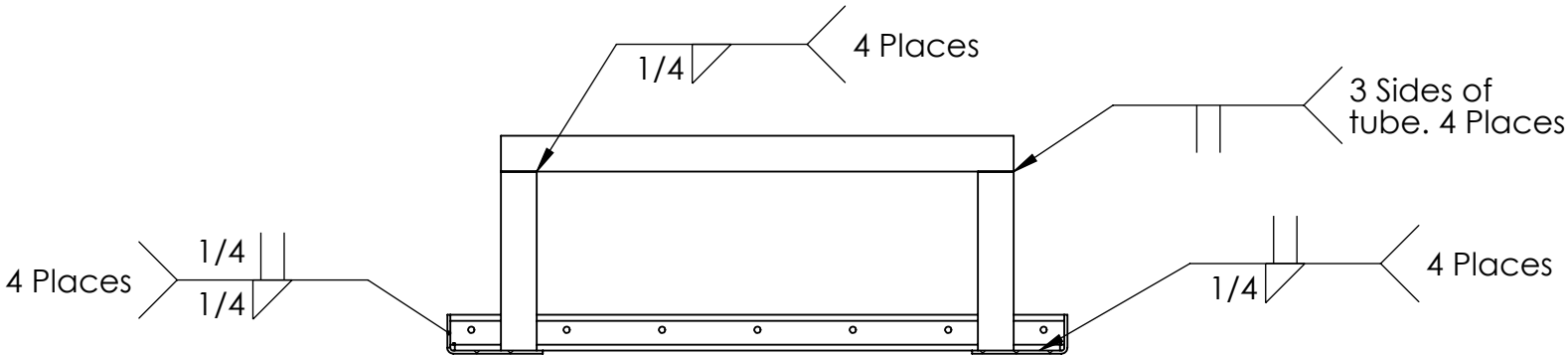
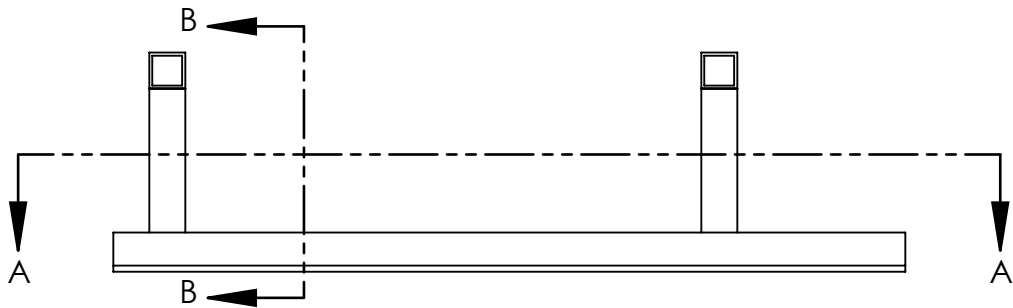
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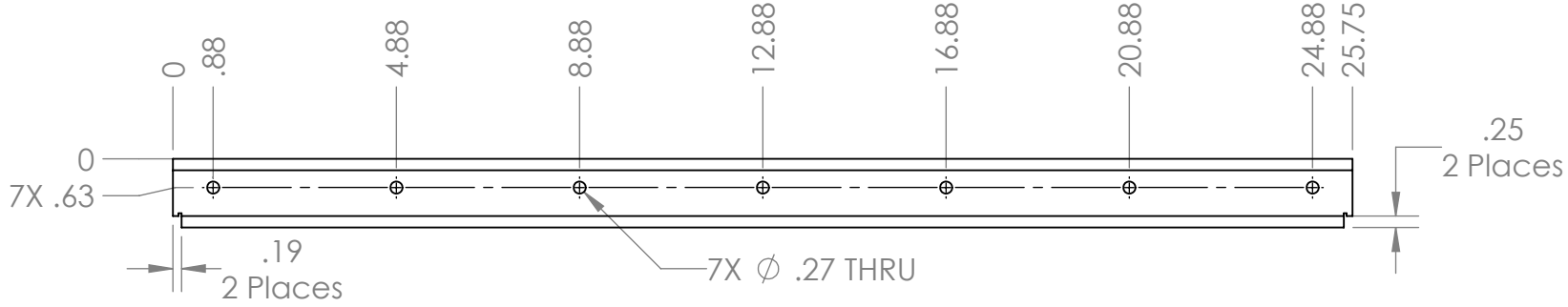
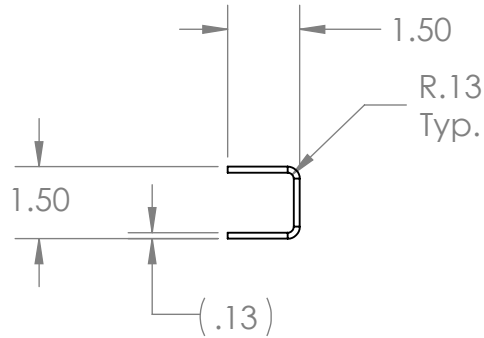
SECTION A-A



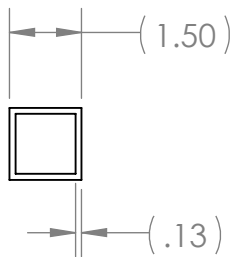
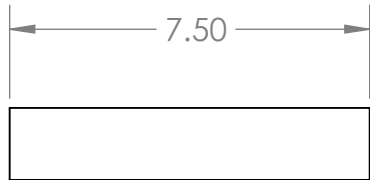
SECTION B-B

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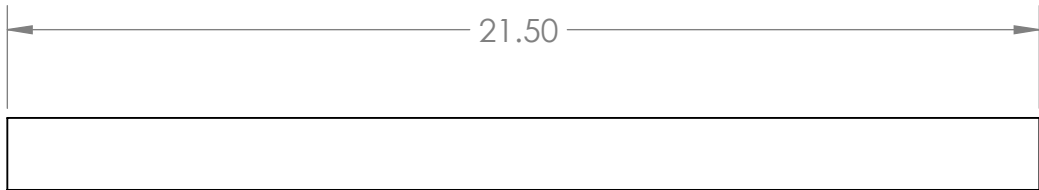
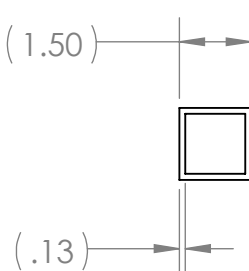
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Roller Base</h1>			
		TOLERANCES:	CHECKED						
		FRACTIONAL $\pm 1/16$	ENG APPR.						
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
		TWO PLACE DECIMAL $\pm .01$	Q.A.						
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18006</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON					SCALE: 1:8 WEIGHT: SHEET 2 OF 3			
APPLICATION		DO NOT SCALE DRAWING							



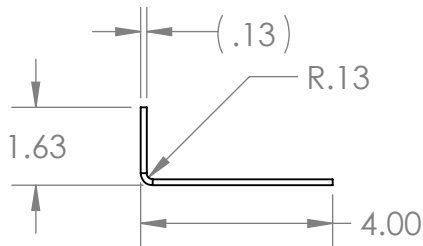
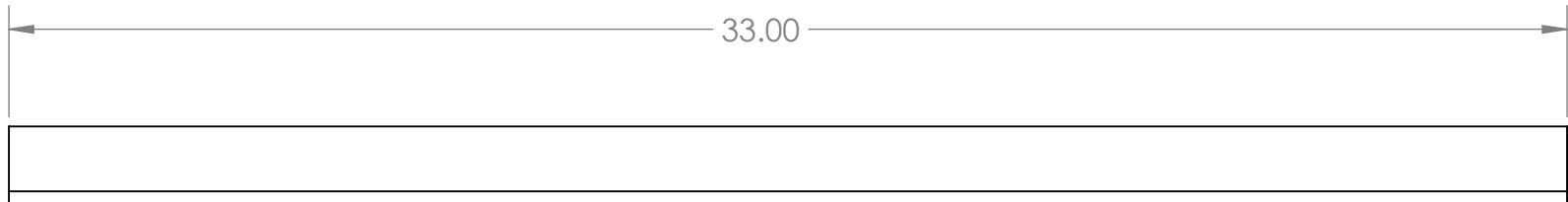
Item 1: GE-18006-01  
Quantity: 2  
Material: 1/8" Thick, 5052 Aluminum Sheet



Item 2: GE-18006-02  
Quantity: 4  
Material 1-1/2" x .125" thick. Square Tubing, 6063 Aluminum



Item 3: GE 18006-03  
Quantity: 4  
Material 1-1/2" x .125" thick. Square Tubing, 6063 Aluminum



Item 4: GE18006-04  
Quamtity: 2  
Material: 1/8" Thick, 5052 Aluminum Sheet

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



TITLE: Roller Base		
SIZE B	DWG. NO. GE-18006	REV
SCALE: 1:8	WEIGHT:	SHEET 3 OF 3



4

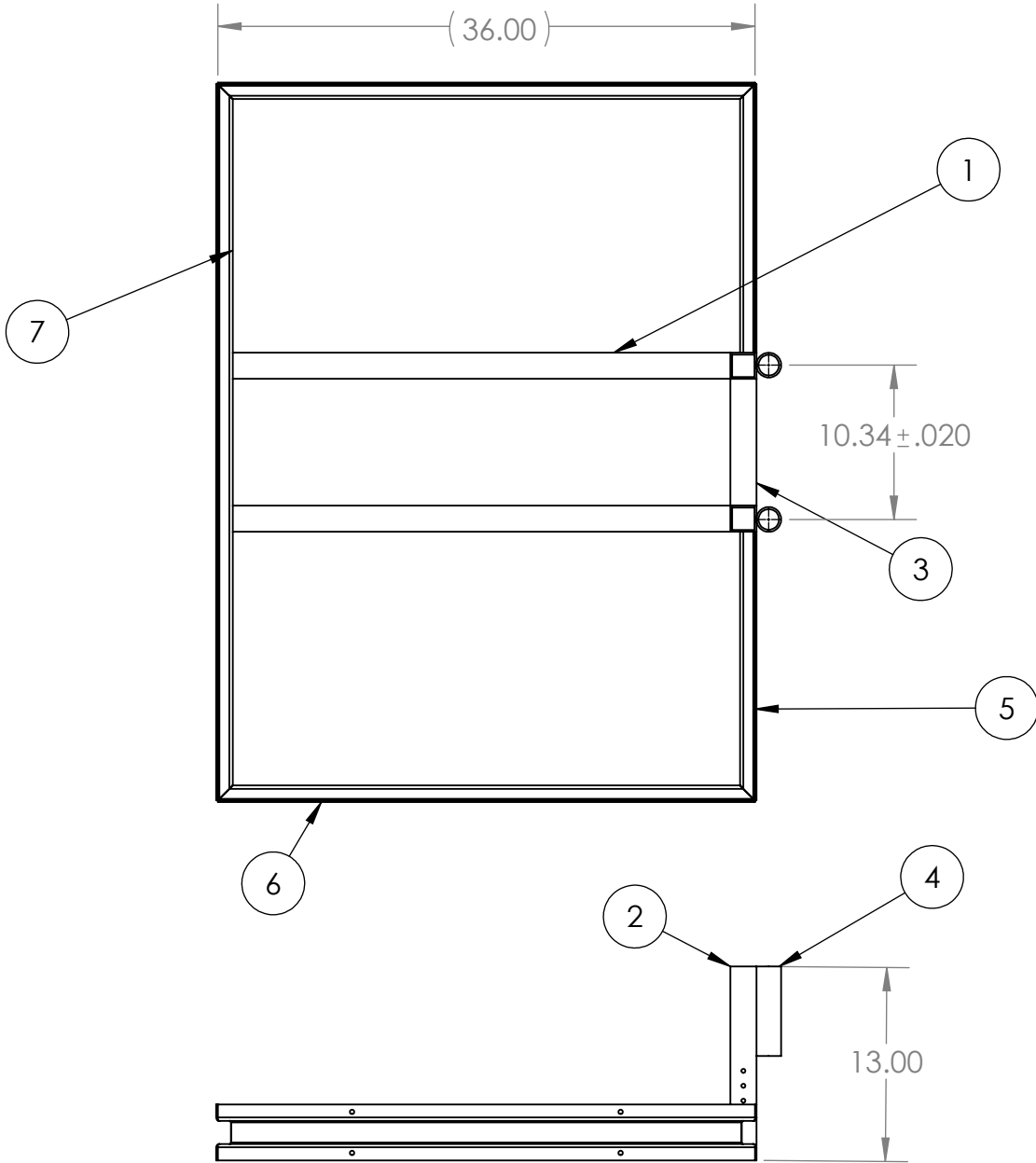
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2

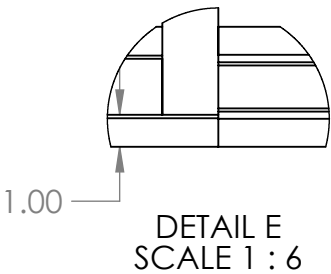
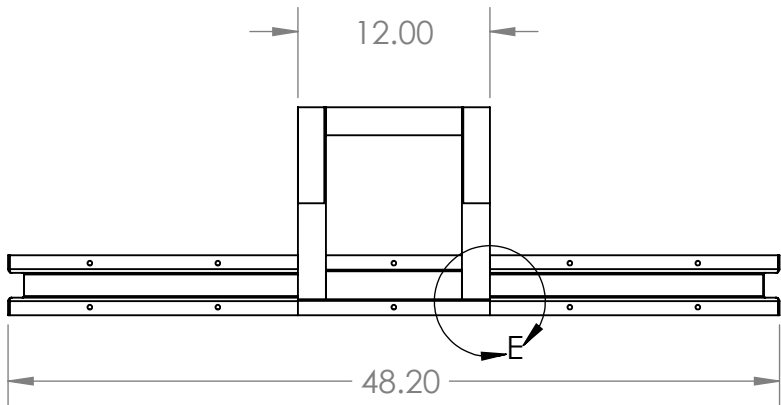
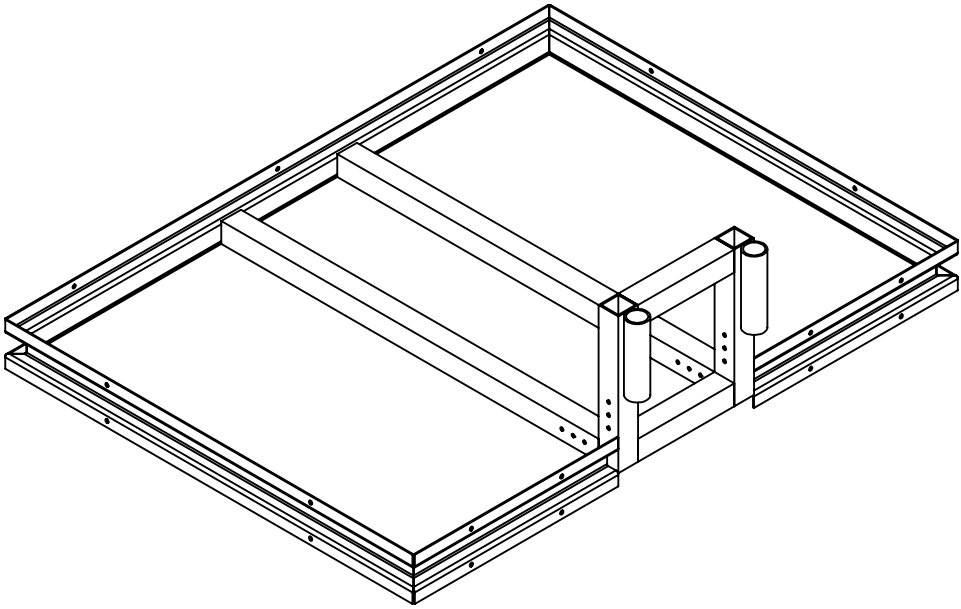
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B

B



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-B1	1	Weld note added	12/7/2017	CPO
3-A3, 3-B2	2	Holes added to support use of GE-18134	3/6/2018	CPO





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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18007-1	1.75" x .125" thk. Square Tube, 6063 Aluminum	2
2	GE-18007-2	1.75" x .125" thk. Square Tube, 6063 Aluminum	2
3	GE-18007-3	1.75" x .125" Thk. Square Tube, 6063 Aluminum	2
4	GE-18007-4	1.25" Schedule 40 Pipe, 6061 Aluminum	2
5	GE-18007-5	10 Gauge 5052 Aluminum Sheet	2
6	GE-18007-6	10 Gauge 5052 Aluminum Sheet	2
7	GE-18007-7	10 Gauge 5052 Aluminum Sheet	1

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</div></div> <div></div>			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Scale Plate			
		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>B</b> GE-18007 2			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON					SCALE: 1:12 WEIGHT: SHEET 1 OF 7			
APPLICATION		DO NOT SCALE DRAWING							

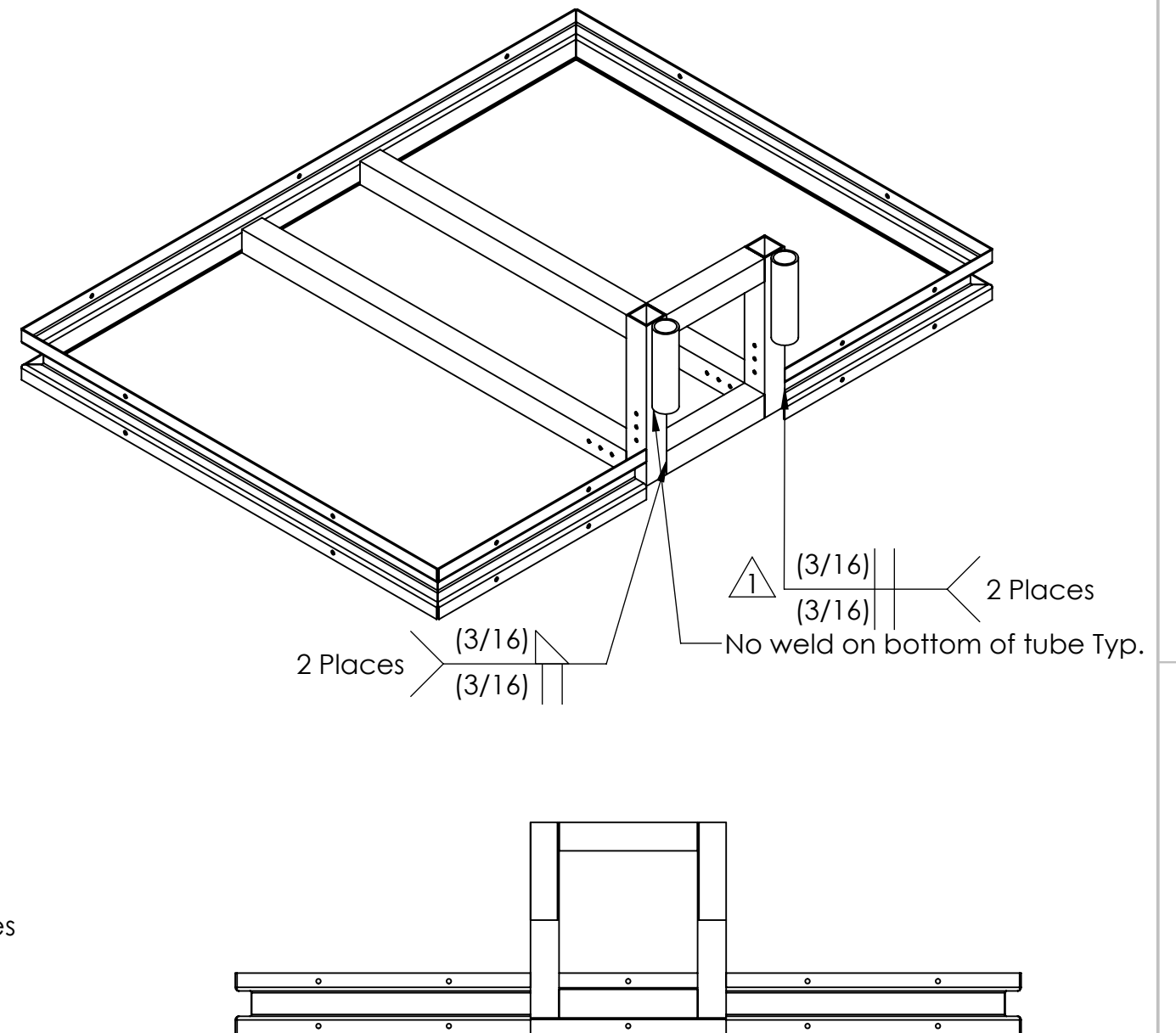
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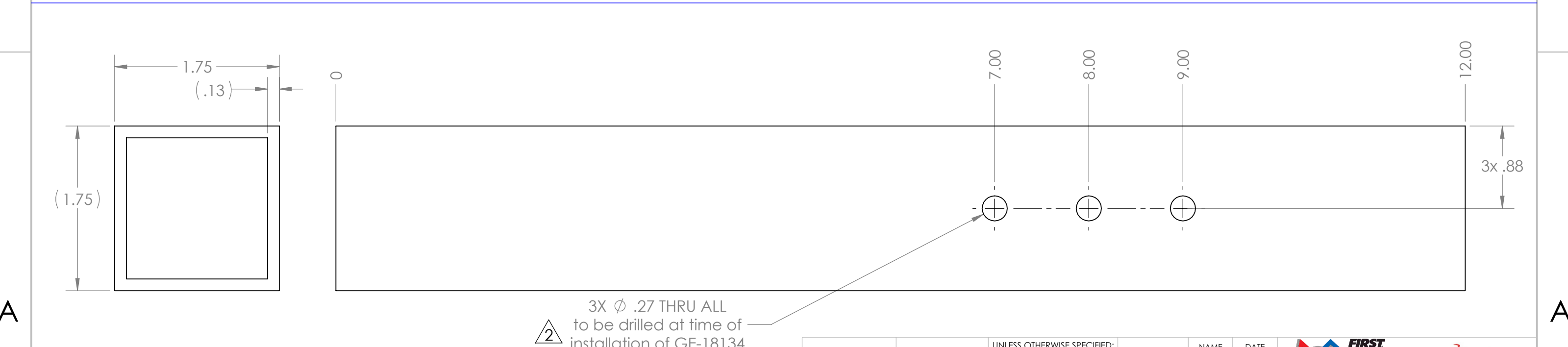
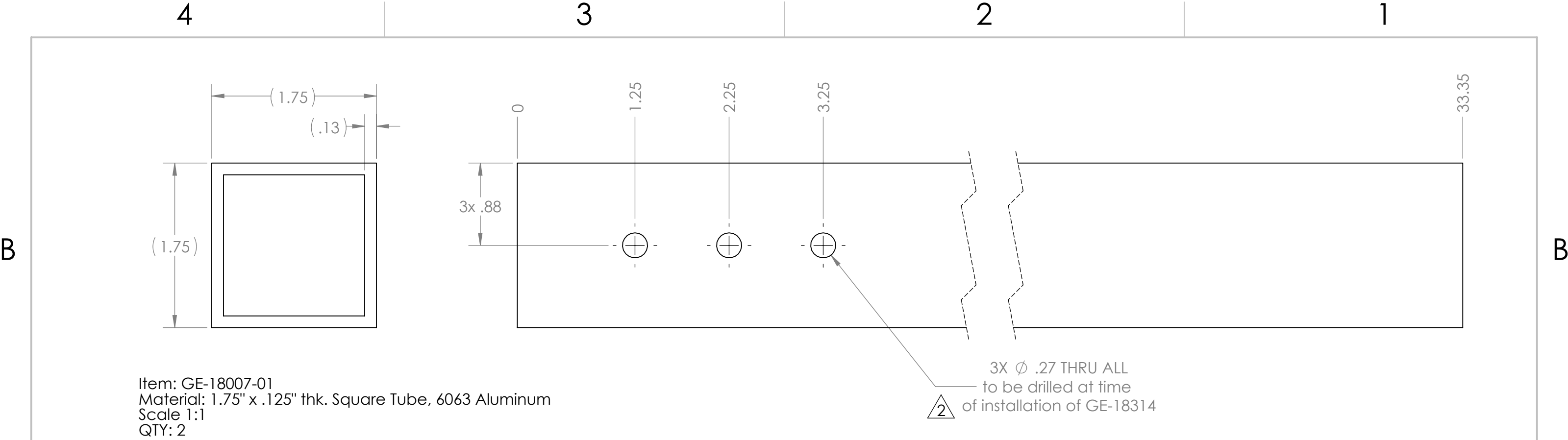
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1



		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			TITLE:  <h1>Scale Plate</h1>					
			CHECKED								
			ENG APPR.								
			MFG APPR.								
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		<table border="1"> <tr> <td>SIZE</td><td>DWG. NO.</td><td>REV</td></tr> <tr> <td><b>B</b></td><td><b>GE-18007</b></td><td><b>2</b></td></tr> </table>	SIZE	DWG. NO.	REV	<b>B</b>	<b>GE-18007</b>	<b>2</b>
SIZE	DWG. NO.	REV									
<b>B</b>	<b>GE-18007</b>	<b>2</b>									
		MATERIAL	COMMENTS:								
		FINISH									
NEXT ASSY	USED ON										
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:10 WEIGHT: SHEET 2 OF 7								



1



Item: GE-18007-02  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale 1:1  
QTY: 2

3X Ø .27 THRU ALL  
to be drilled at time of  
installation of GE-18134

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Scale Plate</h1>			
		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					SIZE <b>B</b>	DWG. NO. <b>GE-18007</b>	REV <b>2</b>	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1		WEIGHT:	SHEET 3 OF 7



Scale Plate

B GE-18007 2

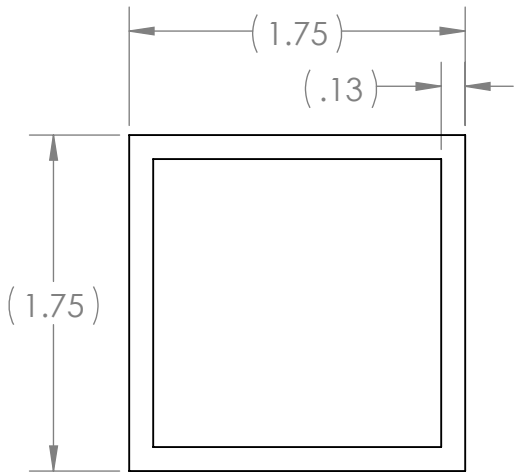
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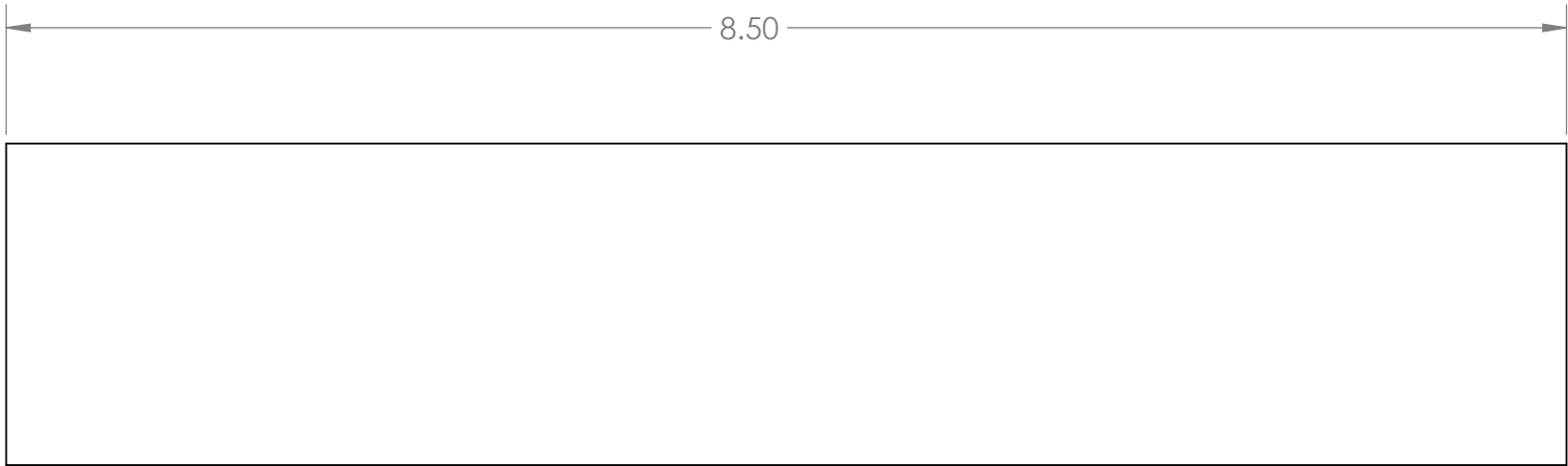
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1

B

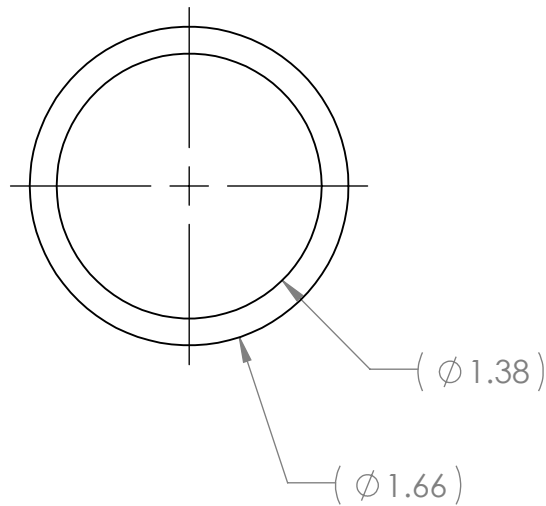


Item: GE-18007-03  
Material 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale 1:1  
QTY: 2

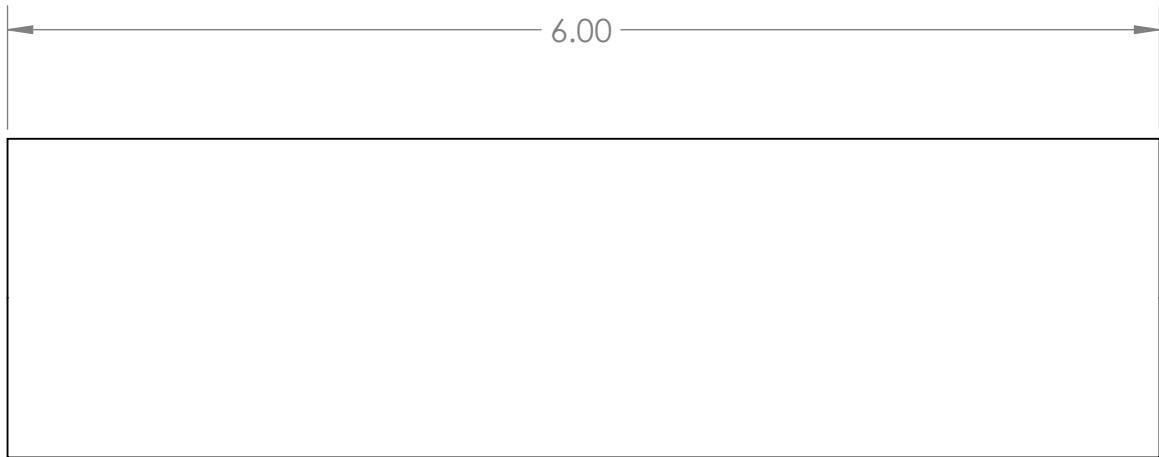


B

A





Item: GE-18007-04  
Material: 1.25" Schedule 40 Pipe, 6061 Aluminum  
Scale 1:1  
QTY: 2



A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: Scale Plate</div>		
		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.			SIZE DWG. NO. REV B GE-18007 2		
		THREE PLACE DECIMAL ±.001	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL				SCALE: 1:1	WEIGHT:	SHEET 4 OF 7
		FINISH						
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING					

4

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4

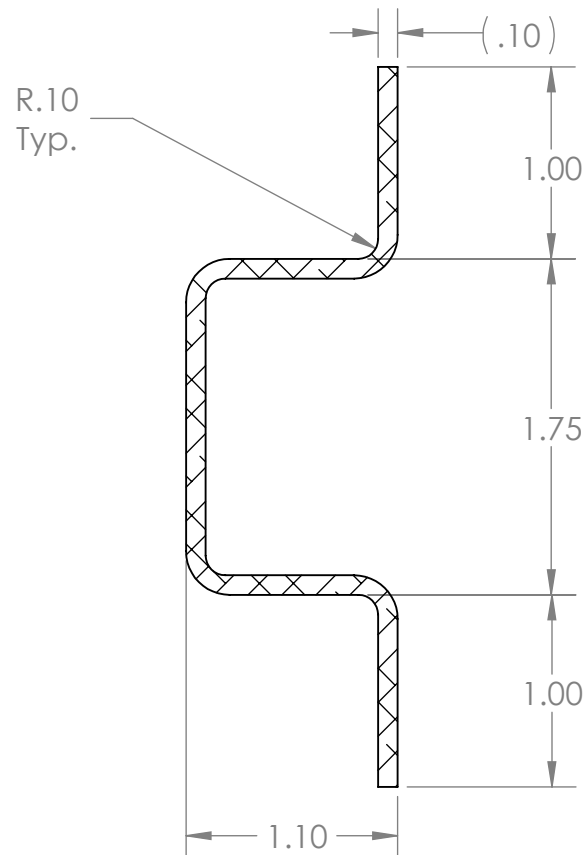
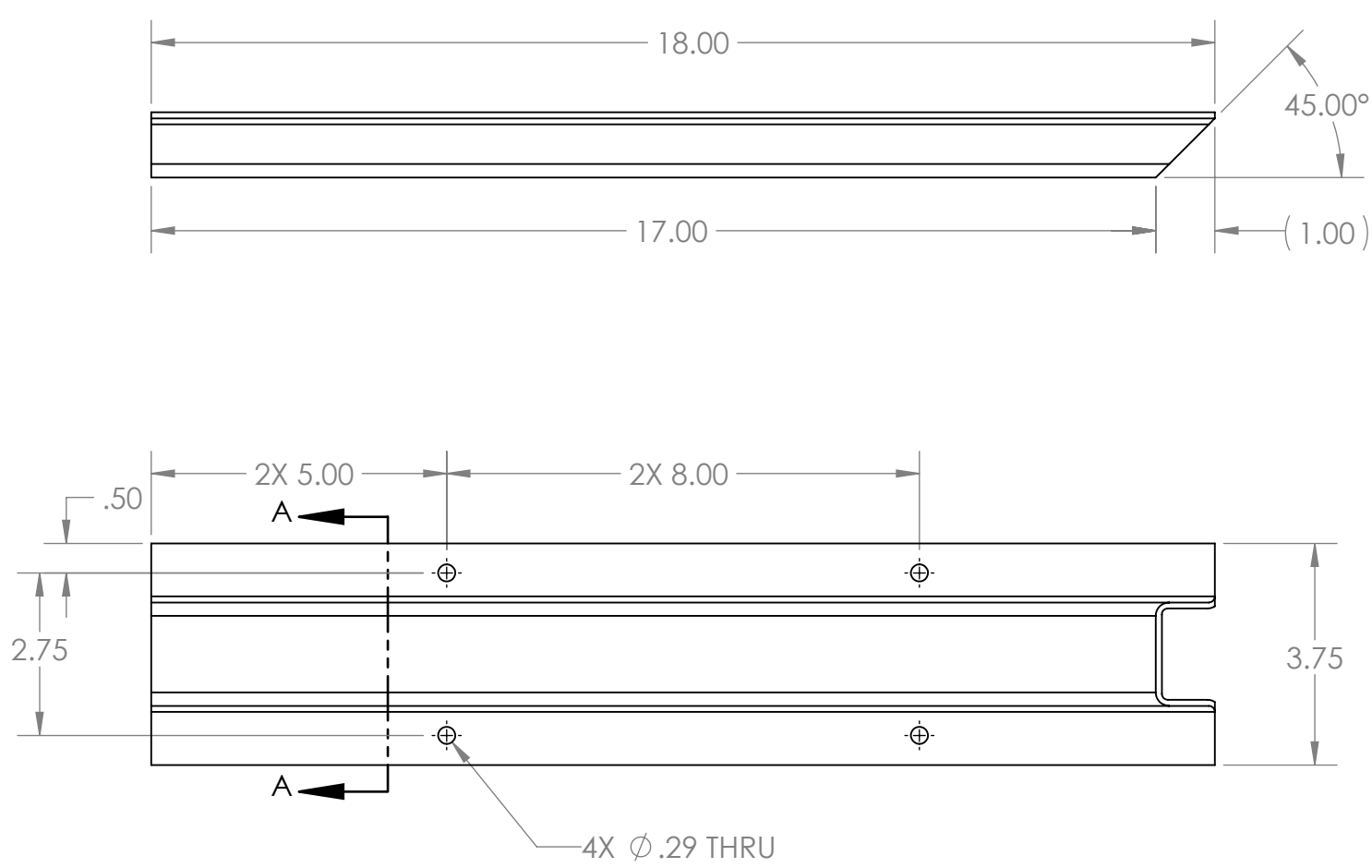
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B

B





SECTION A-A  
SCALE 1 : 1

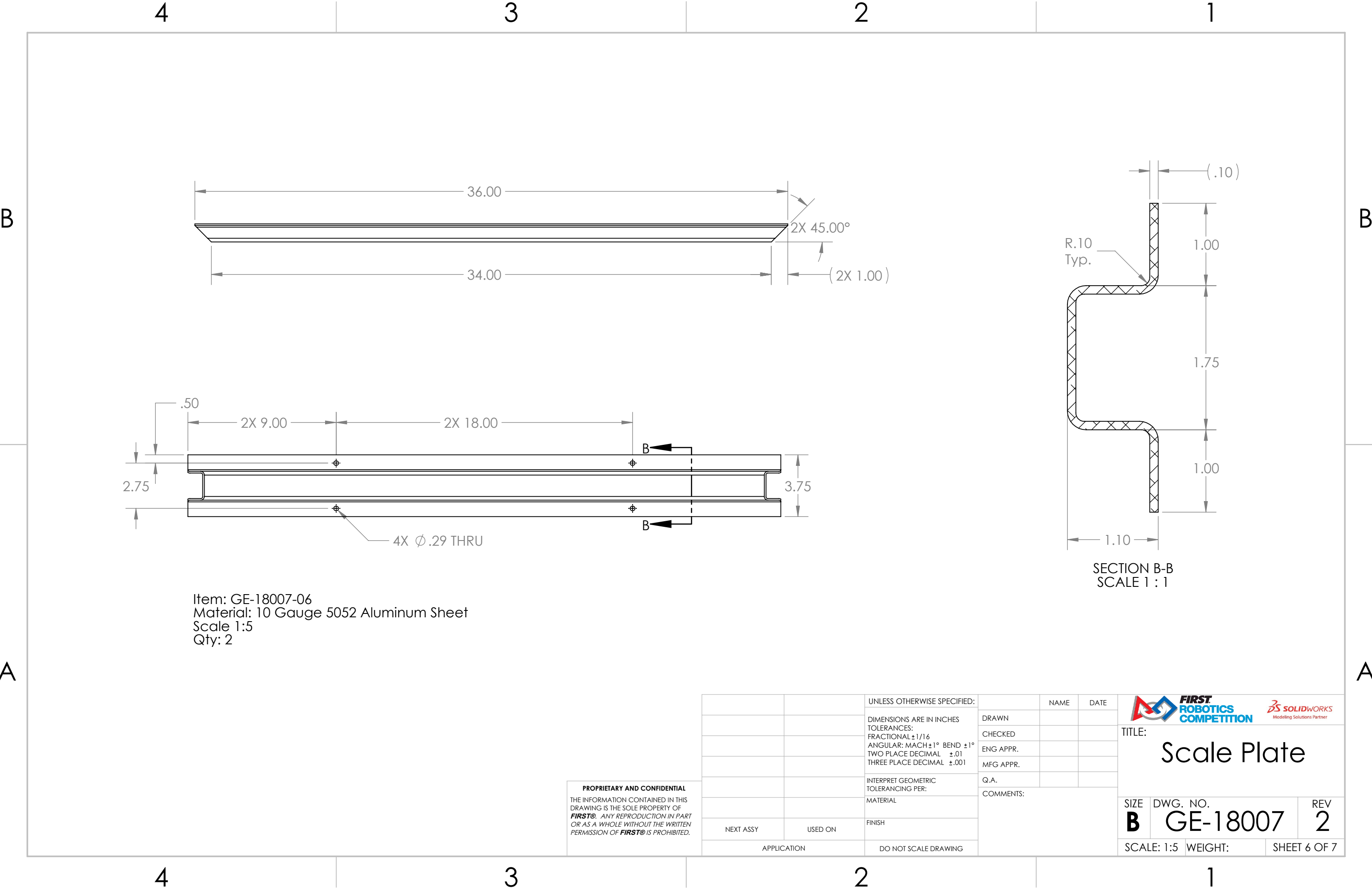
Item: GE-18007-05  
Material: 10 Gauge 5052 Aluminum Sheet  
Scale 1:3  
Qty: 2

A



A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div><div>FIRST ROBOTICS COMPETITION</div></div><div><div>SOLIDWORKS Modeling Solutions Partner</div></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>Scale Plate</h1>								
			CHECKED											
			ENG APPR.											
			MFG APPR.											
			Q.A.											
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			<table><tr><td>SIZE</td><td>DWG. NO.</td><td>REV</td></tr><tr><td><b>B</b></td><td><b>GE-18007</b></td><td><b>2</b></td></tr></table>			SIZE	DWG. NO.	REV	<b>B</b>	<b>GE-18007</b>	<b>2</b>
SIZE	DWG. NO.	REV												
<b>B</b>	<b>GE-18007</b>	<b>2</b>												
		MATERIAL												
		FINISH												
NEXT ASSY	USED ON					SCALE: 1:3								
APPLICATION		DO NOT SCALE DRAWING				WEIGHT:		SHEET 5 OF 7						

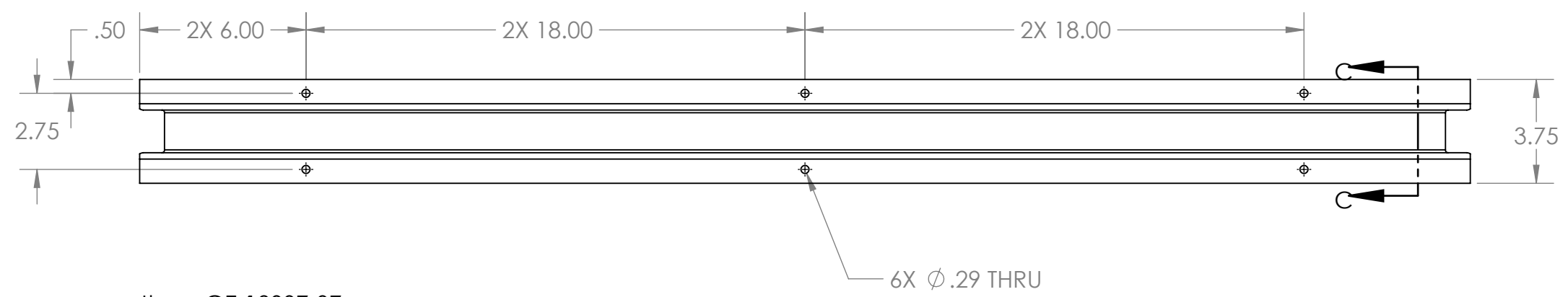
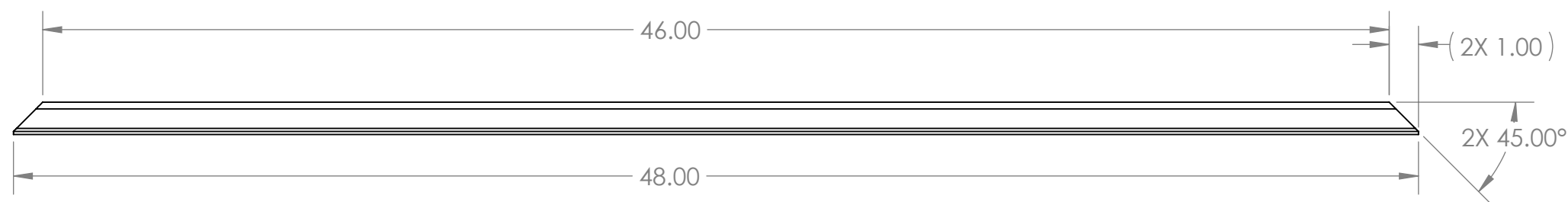


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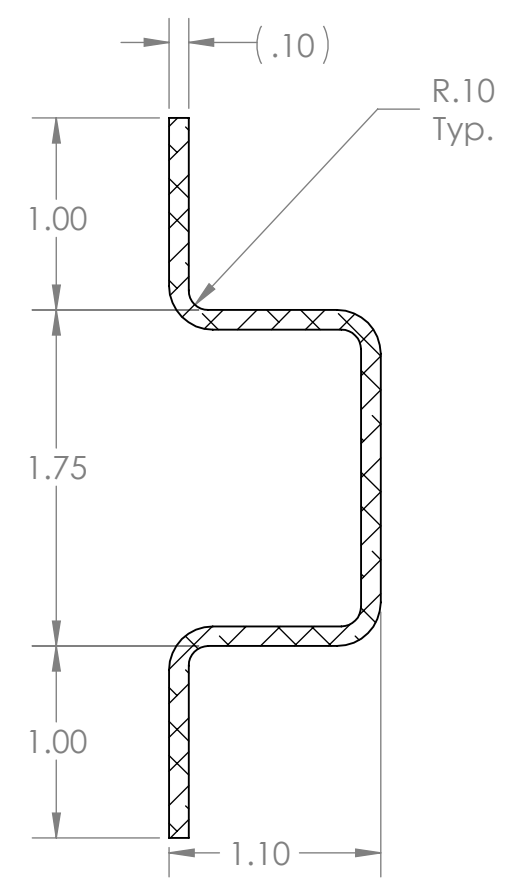
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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Scale Plate			
		TOLERANCES:	CHECKED						
		FRACTIONAL $\pm 1/16$	ENG APPR.						
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
		TWO PLACE DECIMAL $\pm .01$	Q.A.						
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			SIZE DWG. NO. REV <b>B</b> GE-18007 2			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON					SCALE: 1:5 WEIGHT: SHEET 6 OF 7			
APPLICATION		DO NOT SCALE DRAWING							

B

B



Item: GE-18007-07  
Material: 10 Gauge 5052 Aluminum Sheet  
Scale 1:5  
Qty: 1





SECTION C-C  
SCALE 1 : 1

A

A

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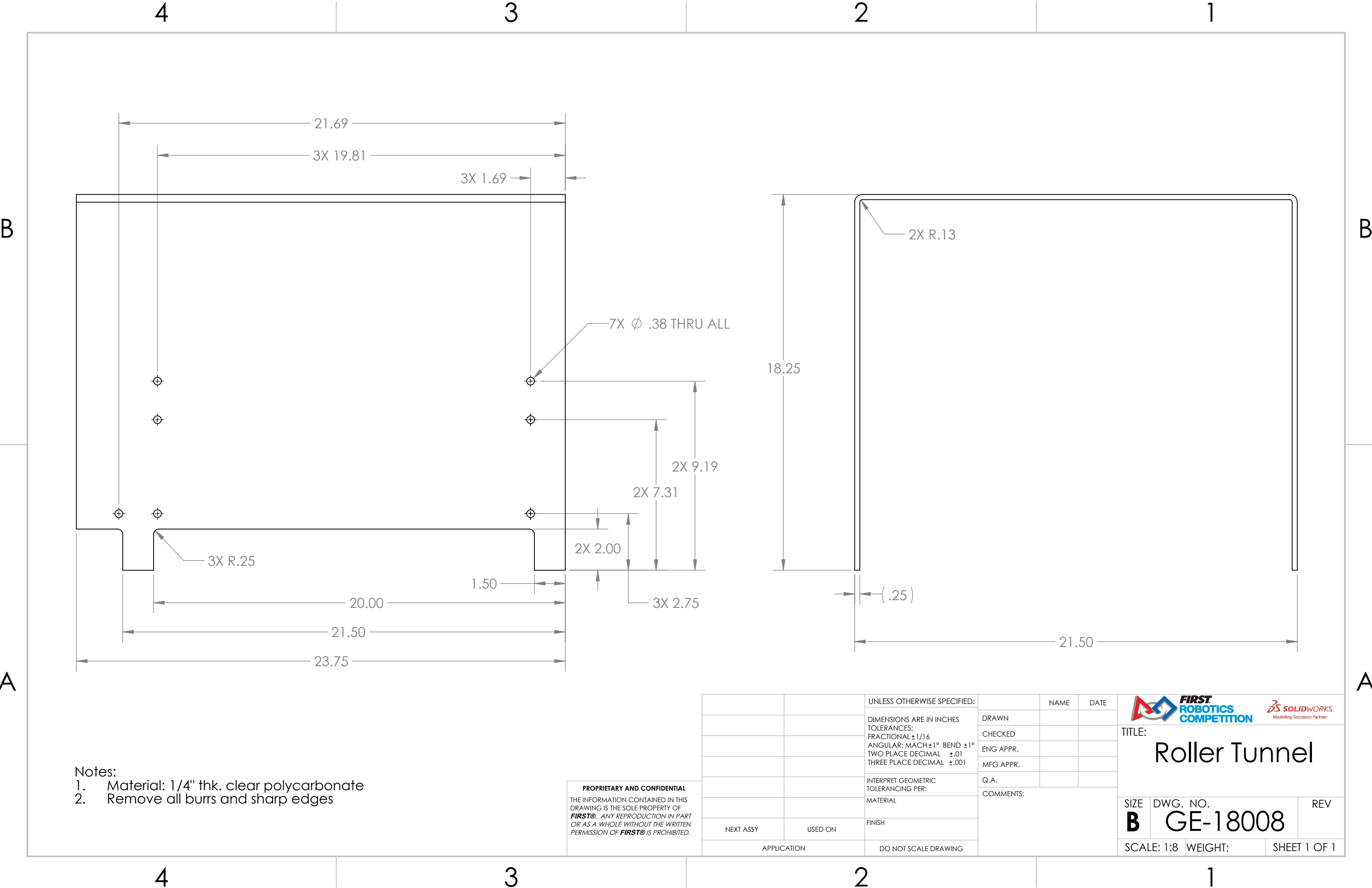
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>			
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  Scale Plate			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE   DWG. NO.   REV <b>B</b> <b>GE-18007</b> <b>2</b>			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:5   WEIGHT:   SHEET 7 OF 7						

4

3



2

1



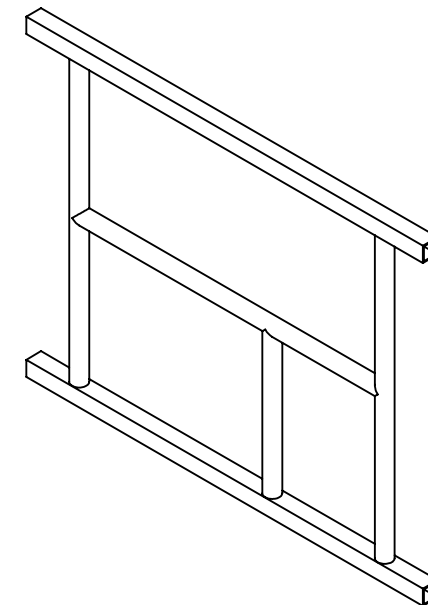
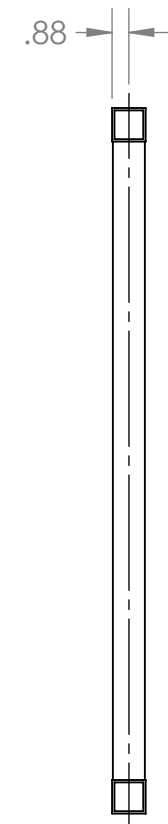
- Notes:
- 1. Material: 1/4" thk. clear polycarbonate
  - 2. Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Roller Tunnel</h1>		
		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>B</b> <b>GE-18008</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		





1



B

A

		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: <h1>Exchange Frame</h1>			
			CHECKED						
			ENG APPR.			SIZE DWG. NO. REV <b>B</b> <b>GE-18009</b>			
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SCALE: 1:10 WEIGHT: SHEET 1 OF 3			
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

4

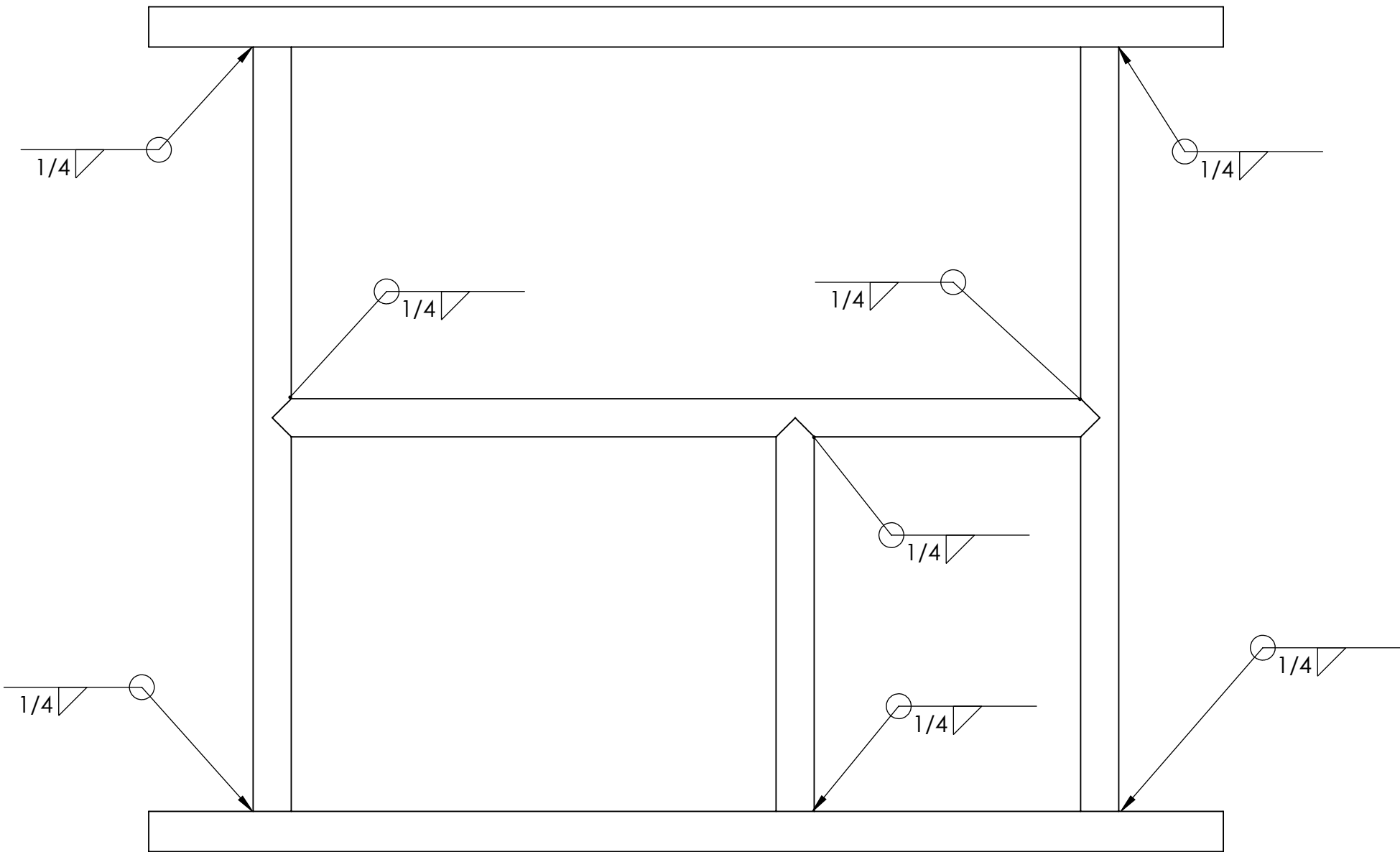
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2

1

B



B



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 				
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Exchange Frame</h1>				
		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>B</b> <b>GE-18009</b>				
		INTERPRET GEOMETRIC TOLERANCING PER:								
		MATERIAL								
		FINISH								
NEXT ASSY	USED ON									
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:10 WEIGHT: SHEET 2 OF 3				

4

3

2

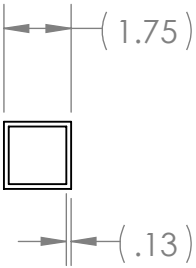
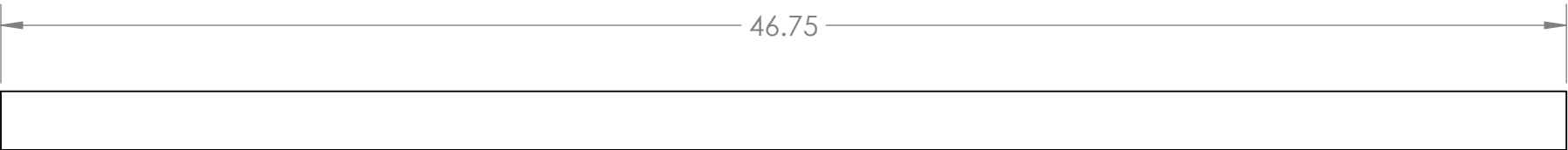
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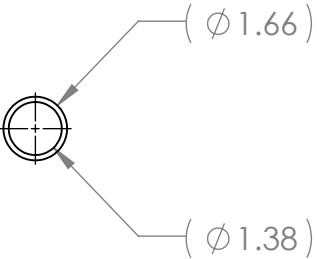
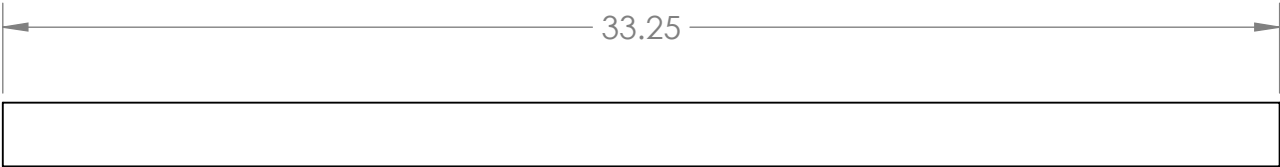
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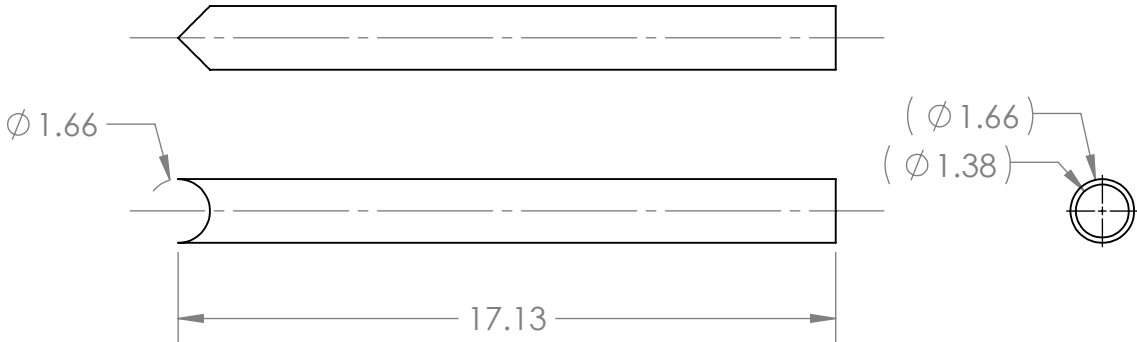
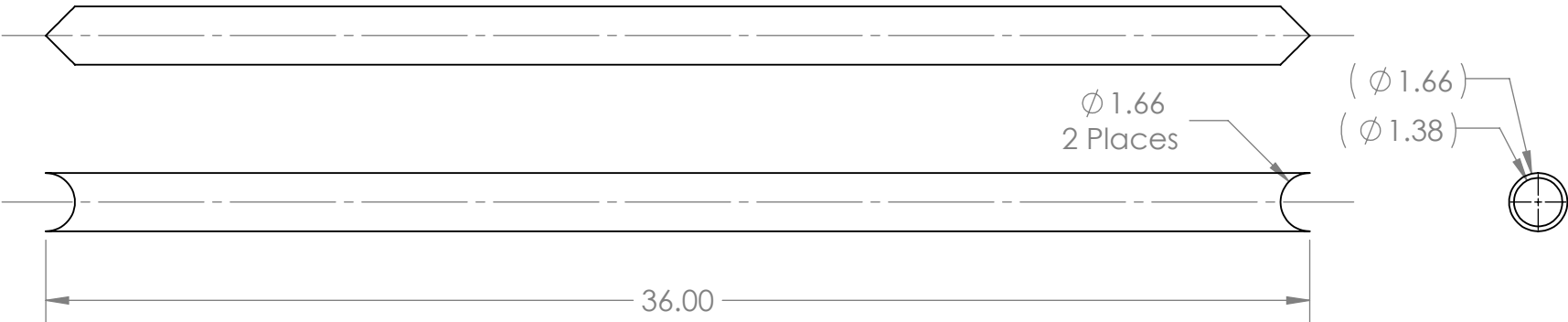
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Item: GE-18009-01  
Quantity: 2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum



Item: GE-18009-02  
Quantity: 2  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum





Item: GE-18009-04  
Quantity: 1  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

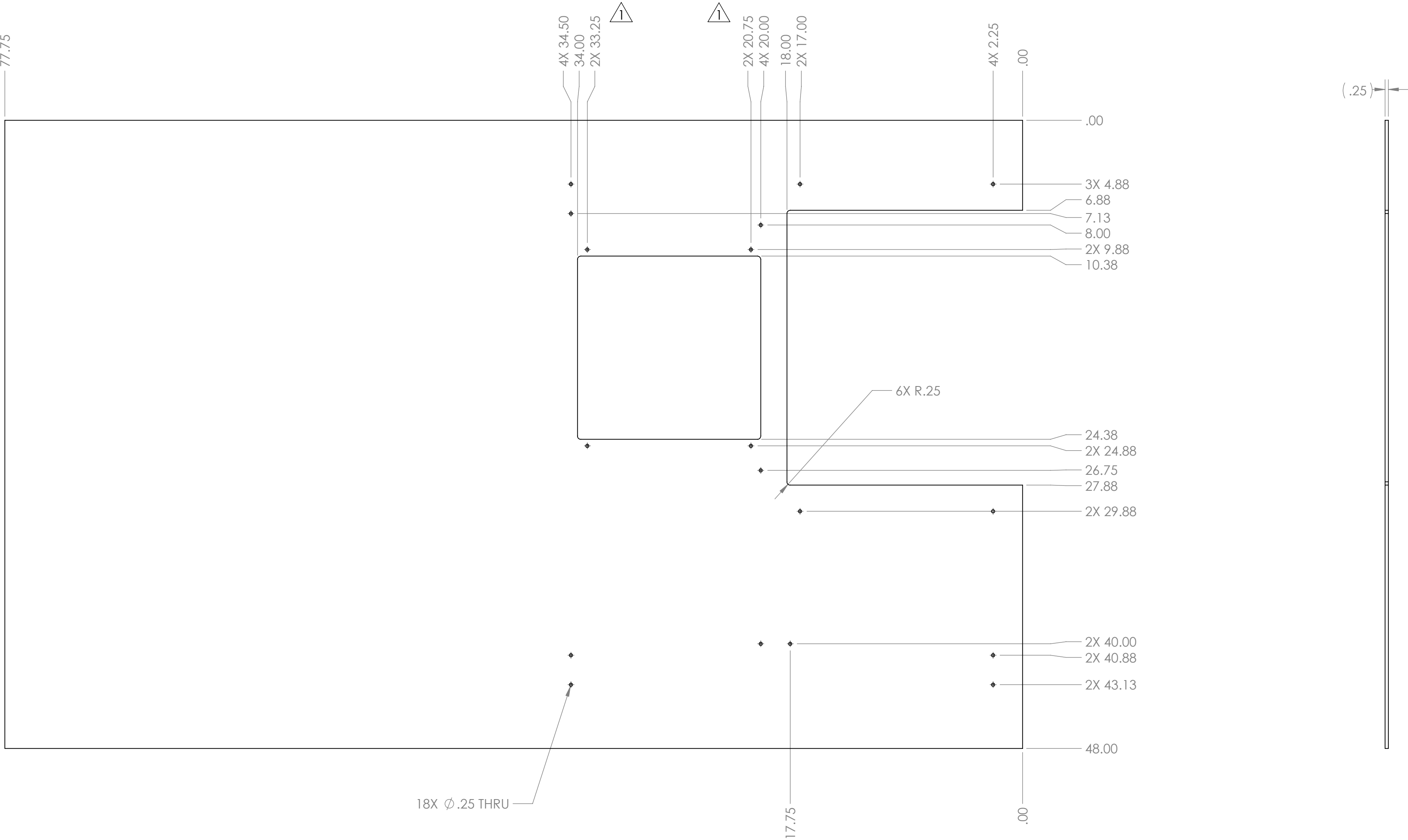
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</div></div> <div></div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Exchange Frame		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> GE-18009		
		MATERIAL	COMMENTS:					
		FINISH						
NEXT ASSY	USED ON					SCALE: 1:5 WEIGHT: SHEET 3 OF 3		
APPLICATION		DO NOT SCALE DRAWING						

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
D2, D3	1	33.25 was 33.75, 20.75 was 20.25	10/30/17	DAF



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

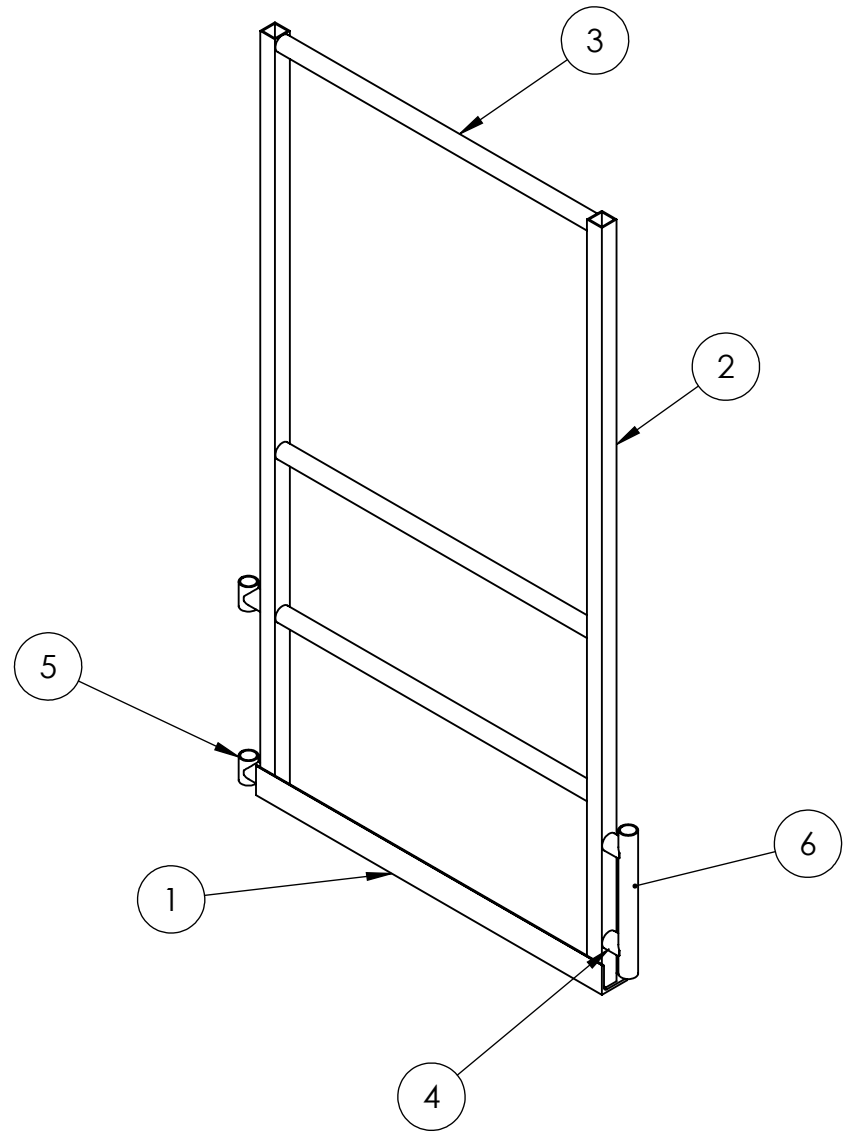
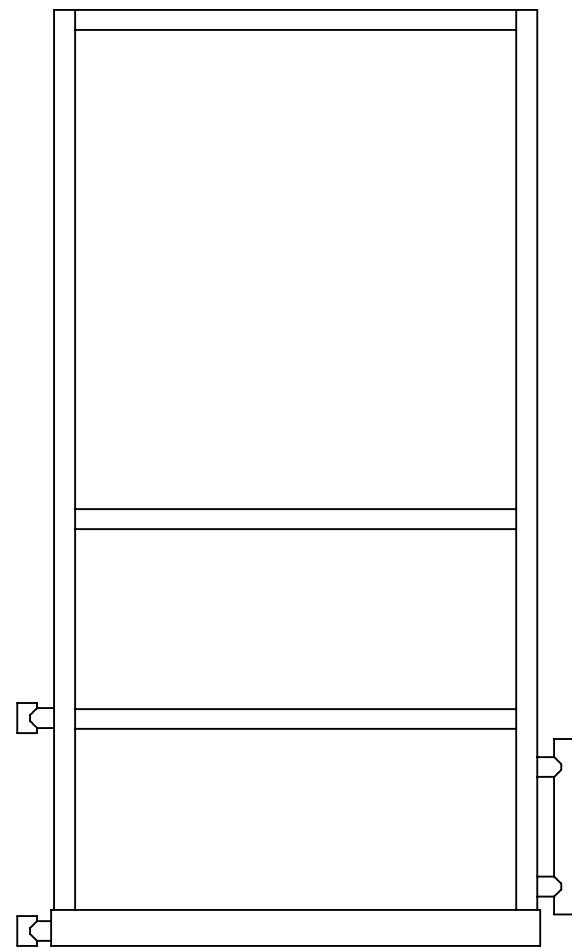
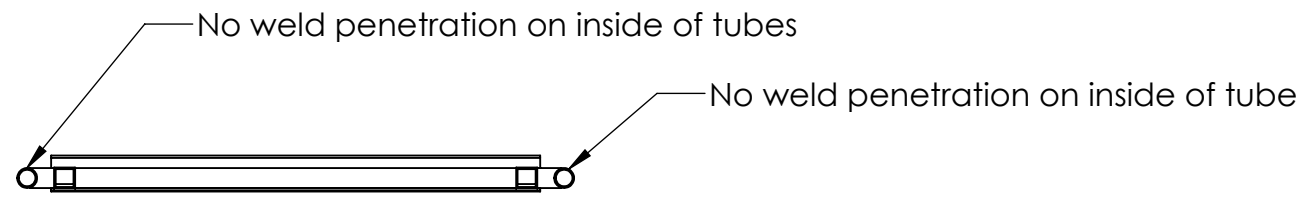


TITLE: Exchange Plastic

SIZE	DWG. NO.	REV
C	GE-18010	1

SCALE: 1:6	WEIGHT:	SHEET 1 OF 1
------------	---------	--------------

B





B

A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18011-01	3" x .25" thk. Angle, 6061 Aluminum	1
2	GE-18011-02	1.75" x .125" thk. Square Tube, 6061 Aluminum	2
3	GE-18011-03	1-1/4" Schedule 40 Pipe, 6061 Aluminum	3
4	GE-18011-04	1-1/4" Schedule 40 Pipe, 6061 Aluminum	4
5	GE-18011-05	1-1/4" Schedule 40 Pipe, 6061 Aluminum	2
6	GE-18011-06	1-1/4" Schedule 40 Pipe, 6061 Aluminum	1

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

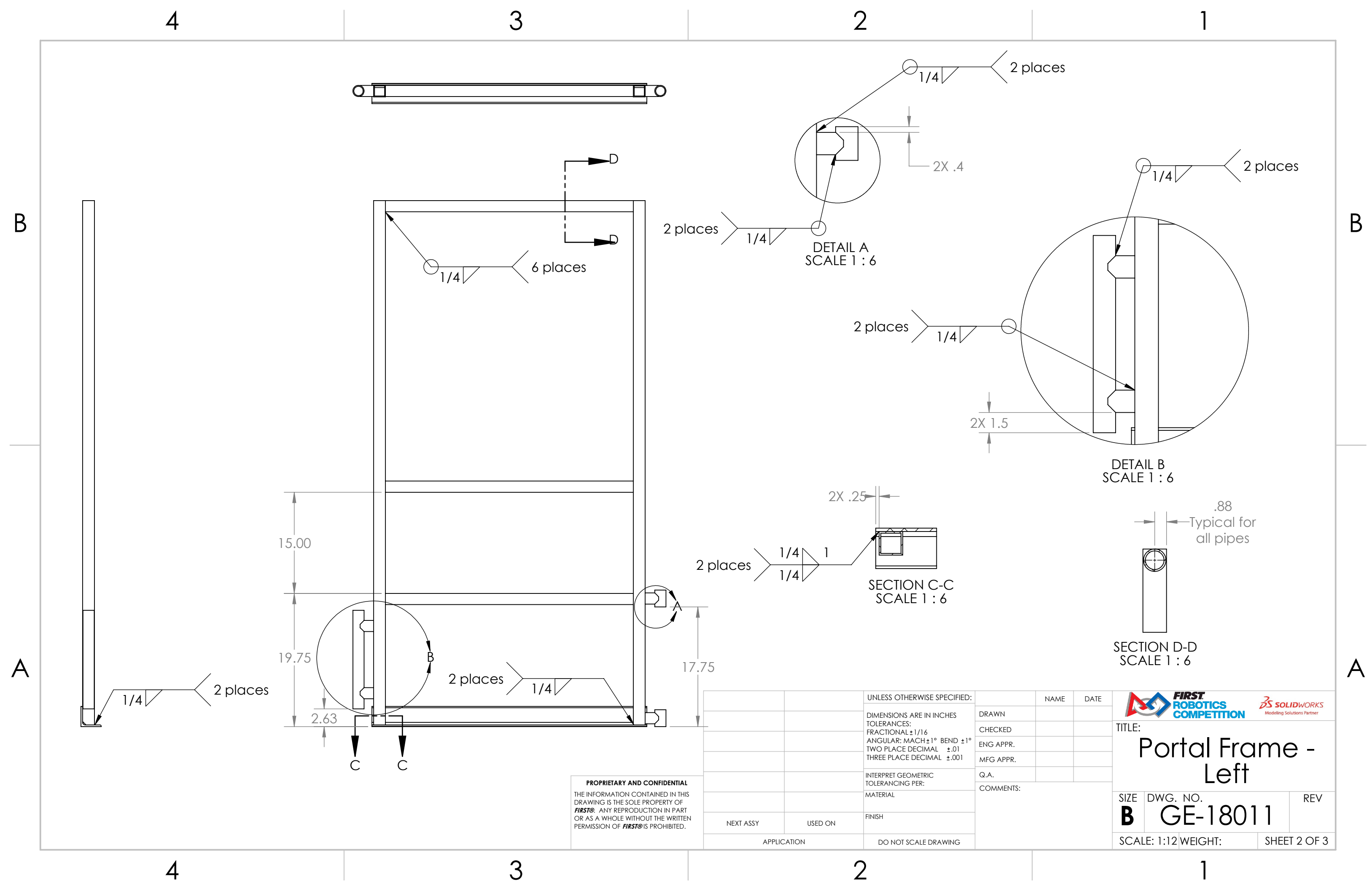


TITLE:  
**Portal Frame - Left**

SIZE **B** DWG. NO. **GE-18011** REV

SCALE: 1:16 WEIGHT: SHEET 1 OF 3

A



4

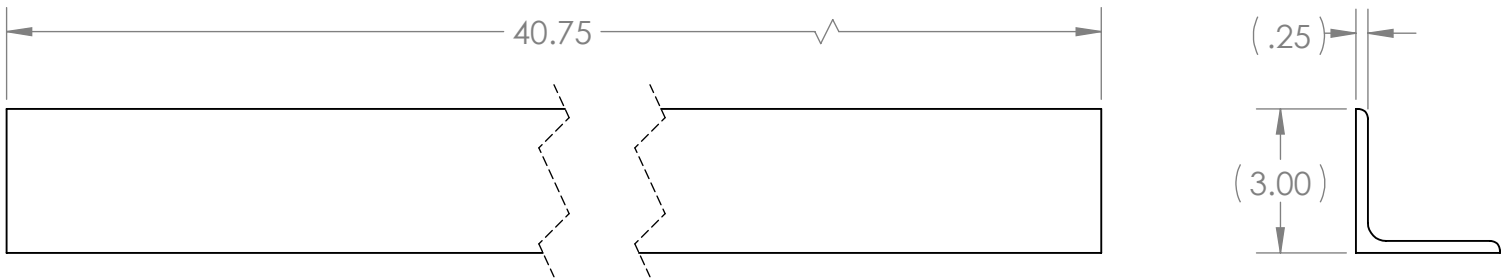
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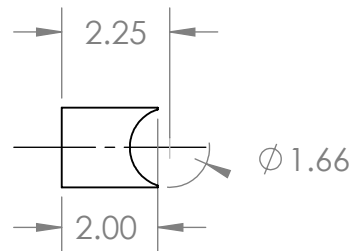
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B

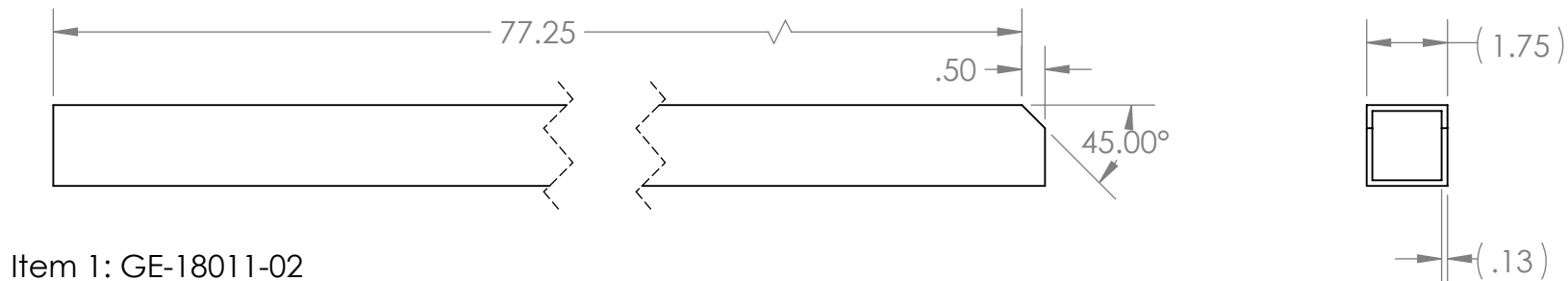
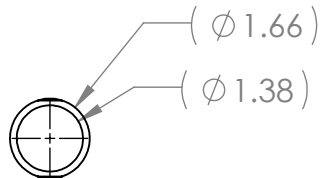
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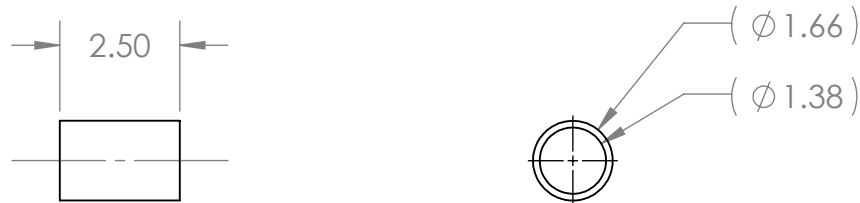
Item 1: GE-18011-01  
Qty: 1  
Material: 3" x .25" thk. Angle, 6061 Aluminum



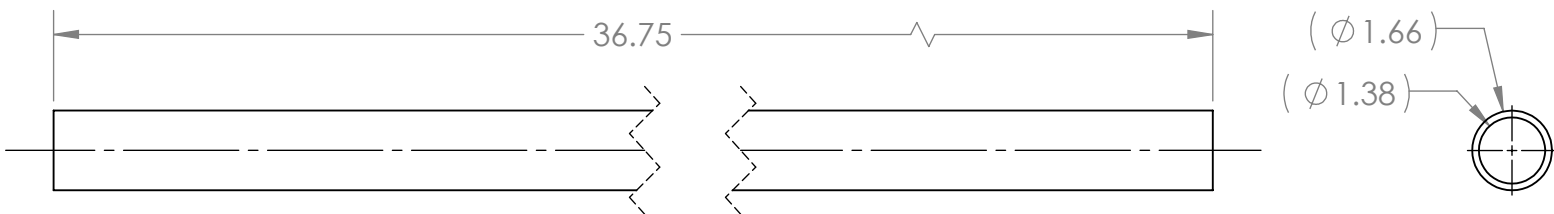
Item 1: GE-18011-04  
Qty: 4  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum



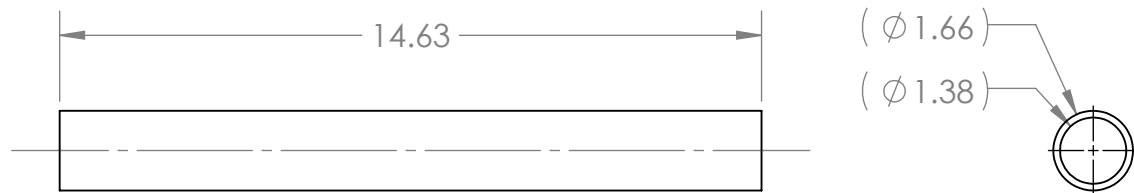
Item 1: GE-18011-02  
Qty: 2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum



Item 1: GE-18011-05  
Qty: 2  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum



Item 1: GE-18011-03  
Qty: 3  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum





Item 1: GE-18011-06  
Qty: 1  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

A

A

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  <h1>Portal Frame - Left</h1>			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.						
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV	
NEXT ASSY	USED ON	FINISH				<b>B</b>	<b>GE-18011</b>		
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4		WEIGHT:	SHEET 3 OF 3

4

3

2

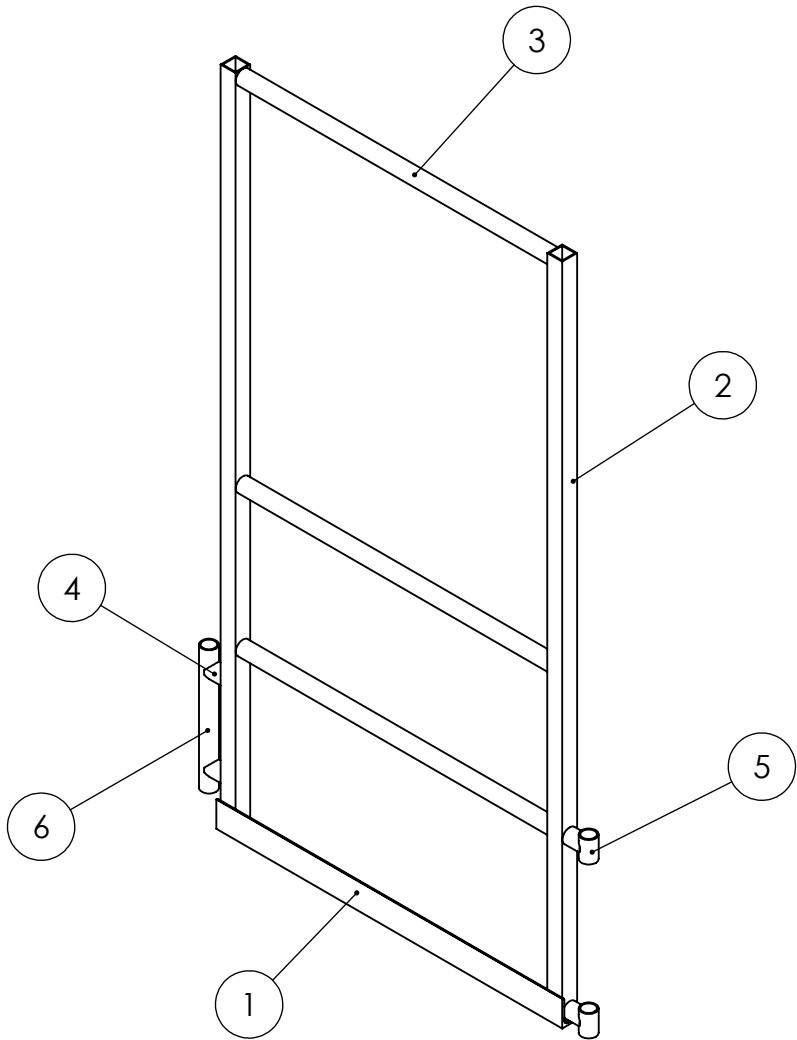
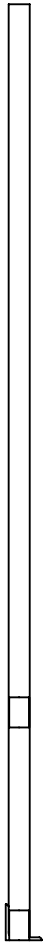
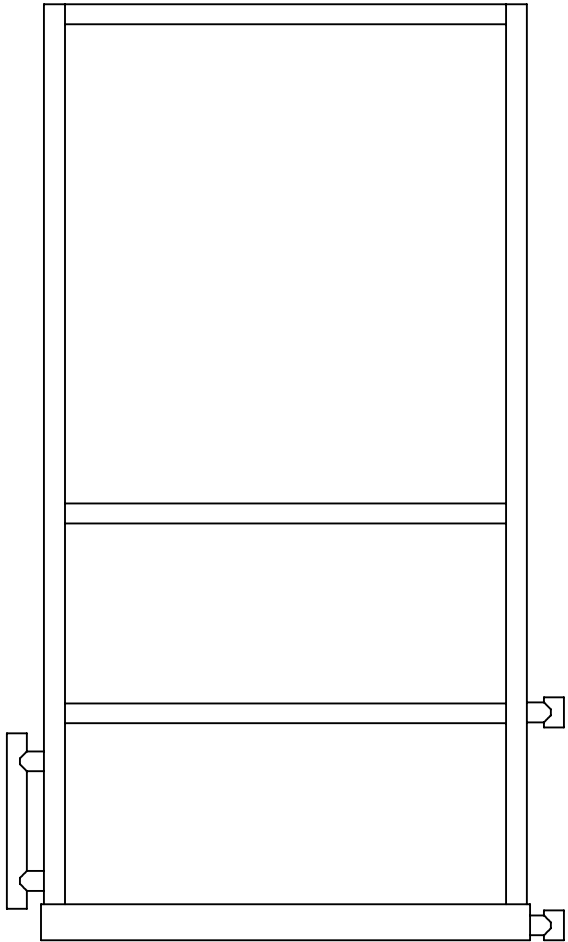
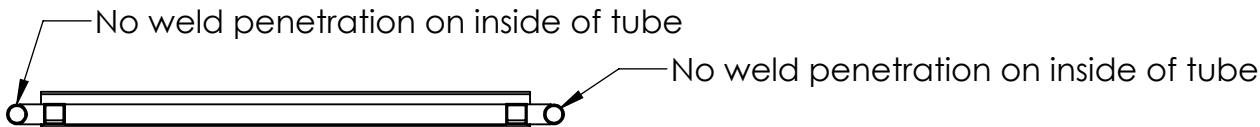
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4

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2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18012-01	3" x .25" thk. Angle, 6061 Aluminum	1
2	GE-18012-02	1.75" x .125 thk. Square Tubing, 6061 Aluminum	2
3	GE-18012-03	1-1/4" Schedule 40 Pipe, 6061 Aluminum	3
4	GE-18012-04	1-1/4" Schedule 40 Pipe, 6061 Aluminum	4
5	GE-18012-05	1-1/4" Schedule 40 Pipe, 6061 Aluminum	2
6	GE-18012-06	1-1/4" Schedule 40 Pipe, 6061 Aluminum	1

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <b>Portal Frame - Right</b></div> <div>SIZE <b>B</b> DWG. NO. <b>GE-18012</b> REV</div> <div>SCALE: 1:16 WEIGHT: SHEET 1 OF 3</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			
			CHECKED			
			ENG APPR.			
			MFG APPR.			
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			COMMENTS:
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				

4

3

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4

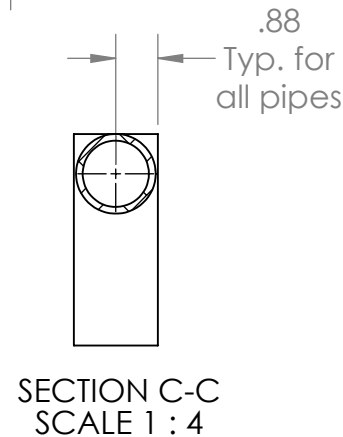
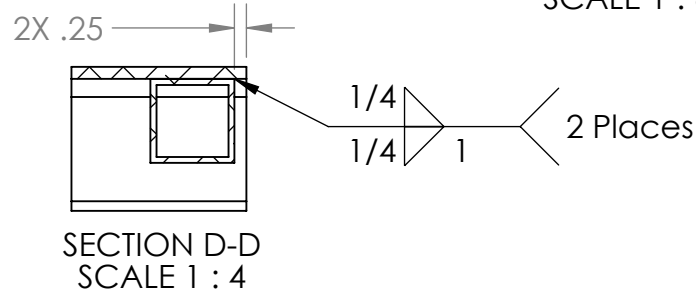
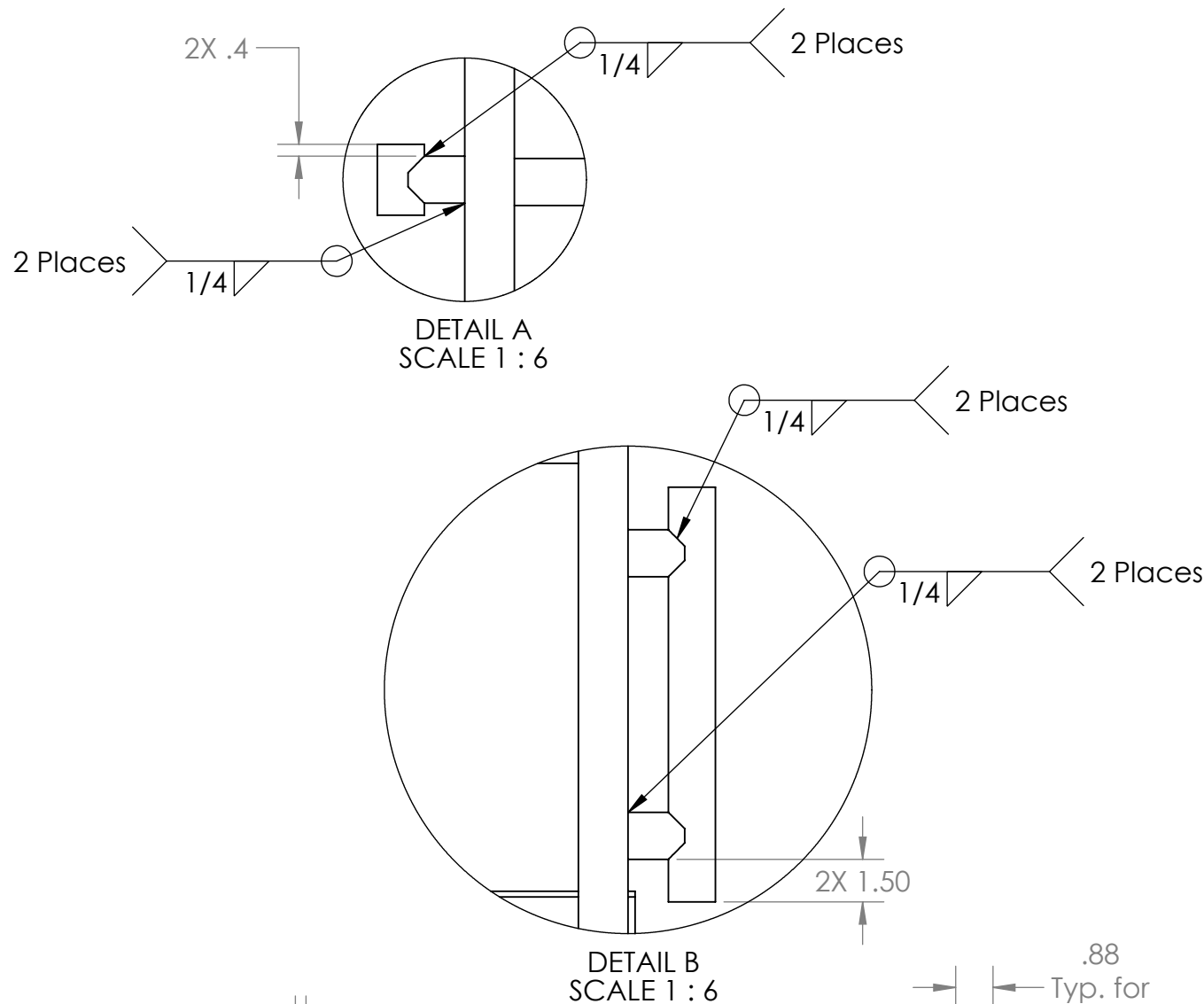
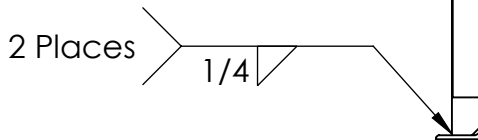
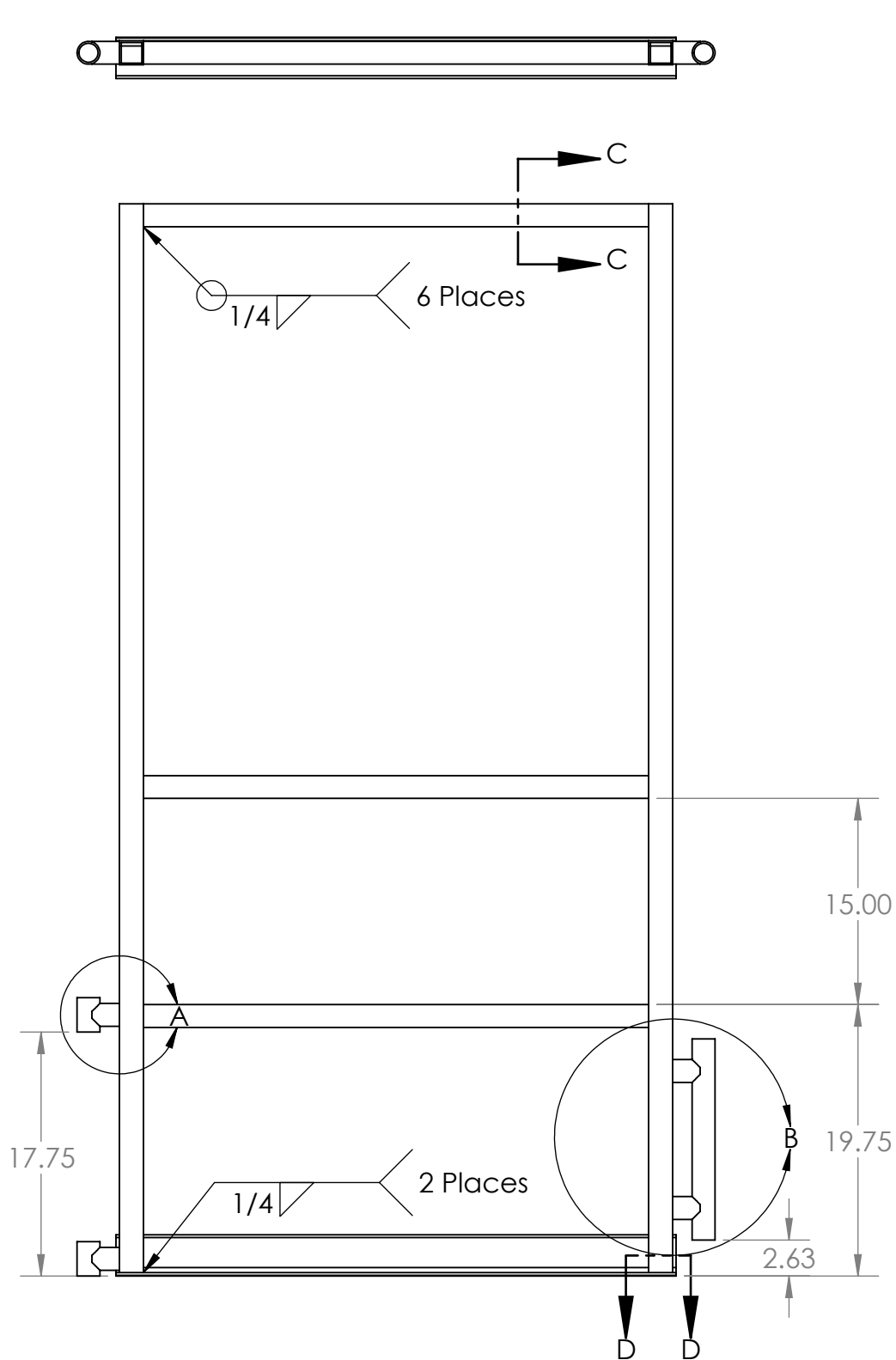
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B

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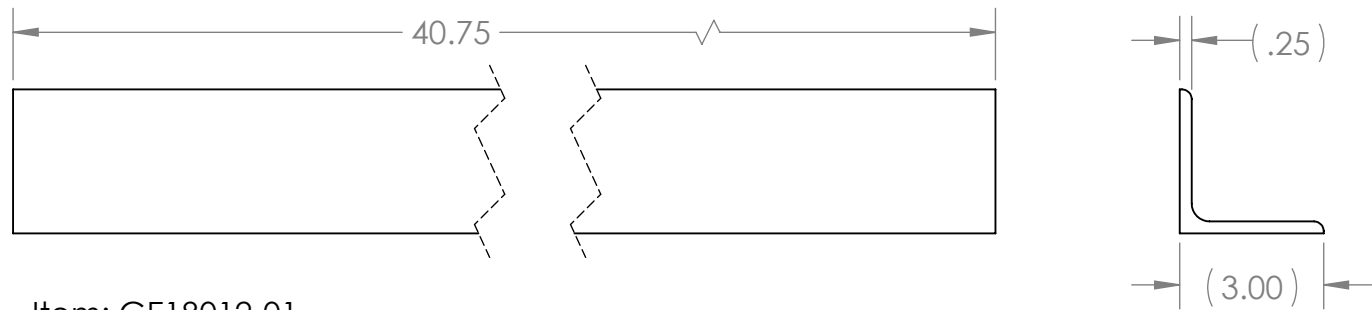


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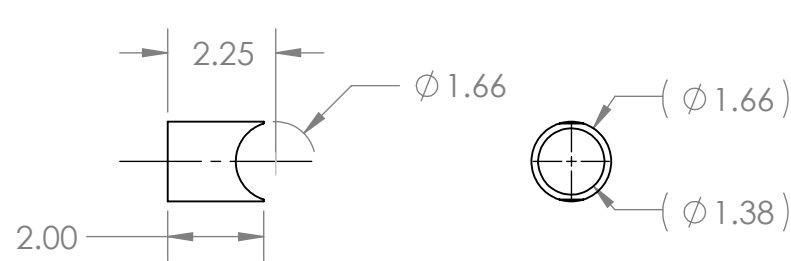
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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <b>Portal Frame - Right</b>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B GE-18012</b>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH				SCALE: 1:12 WEIGHT: SHEET 2 OF 3		
APPLICATION		DO NOT SCALE DRAWING						

B

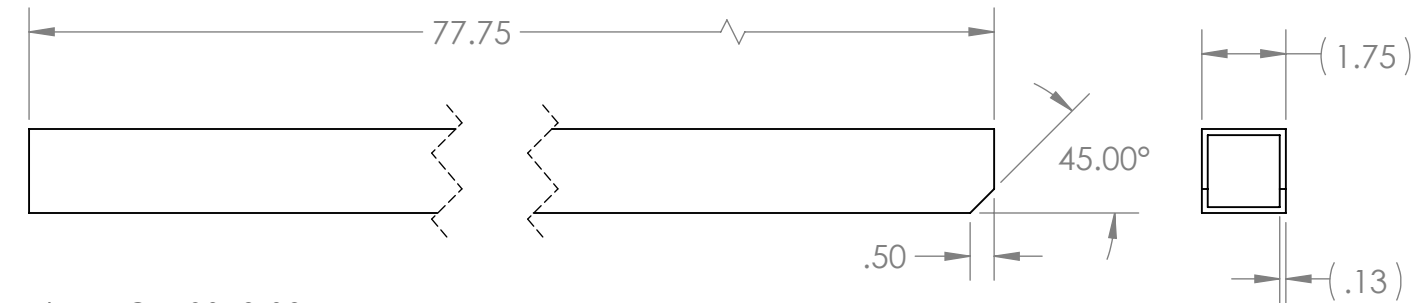


Item: GE18012-01  
Qty: 1  
Material 3" x .25" thick Angle, 6061 Aluminum



Item: GE18012-04  
Qty: 4  
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum

B

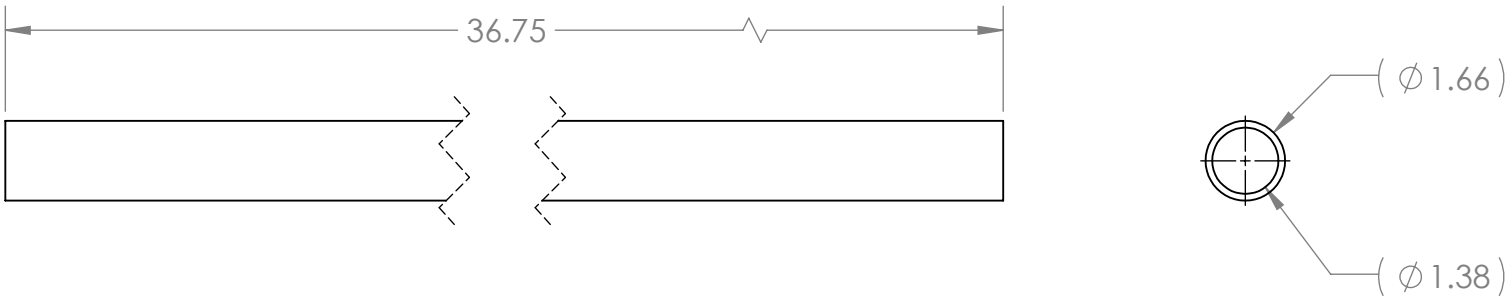


Item: GE18012-02  
Qty: 2  
Material 1.75" x .125" thick Square Tubing, 6061 Aluminum



Item: GE18012-05  
Qty: 2  
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum

A





Item: GE18012-03  
Qty: 3  
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum



Item: GE18012-06  
Qty: 1  
Material 1-1/4" Schedule 40 Pipe, 6061 Aluminum

A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <b>Portal Frame - Right</b></div> <div>SIZE <b>B</b> DWG. NO. <b>GE-18012</b> REV</div> <div>SCALE: 1:4 WEIGHT: SHEET 3 OF 3</div>
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			
			CHECKED			
			ENG APPR.			
			MFG APPR.			
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			COMMENTS:
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				

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3

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1

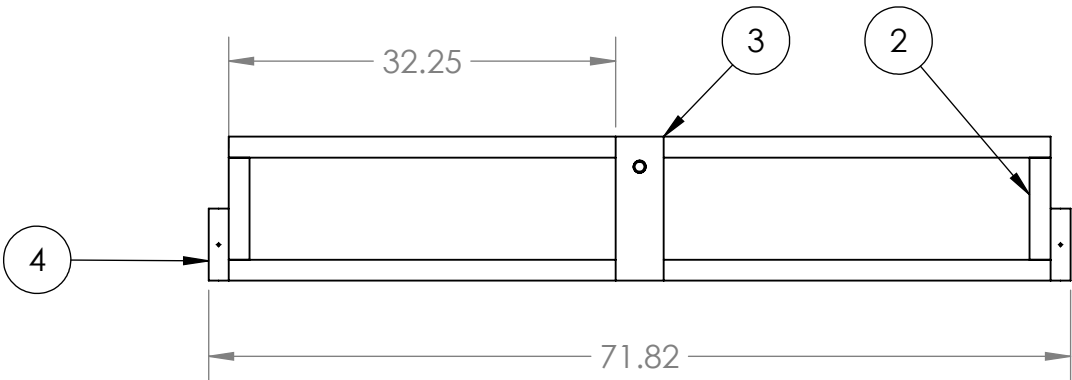
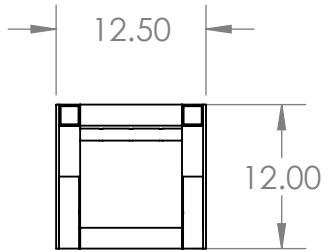
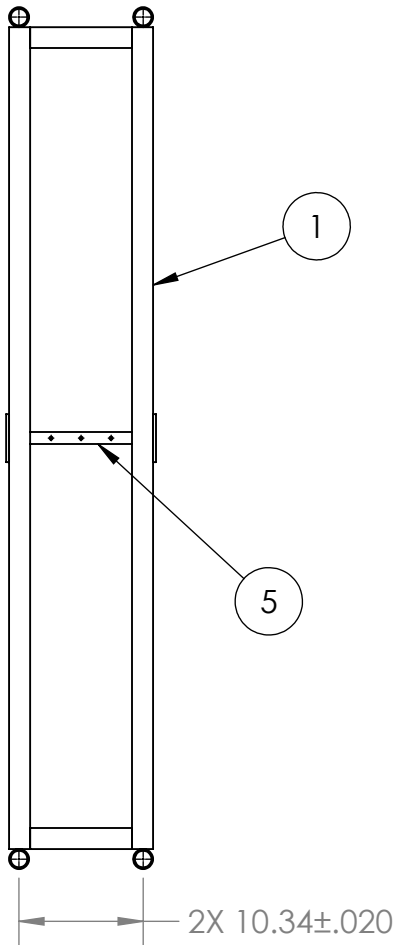
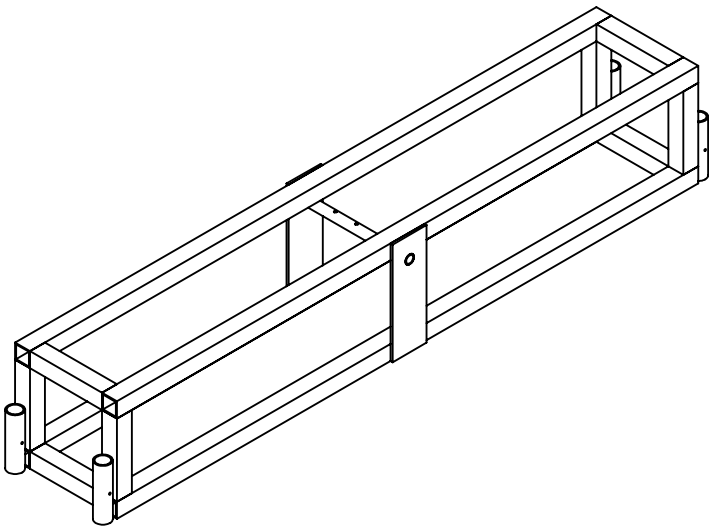
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2



1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-B3	2	Added weld note	11/17/17	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18013-1	1.75" x .125" thk. Square Tube, 6063 Aluminum	4
2	GE-18013-2	1.75" x .125" thk. Square Tube, 6063 Aluminum	8
3	GE-18013-3	.25" thk. Plate, 6061 Aluminum	2
4	GE-18013-4	1.25" Schedule 40 Pipe, 6061 Aluminum	4
5	GE-18013-5	1" OD x 0.095" thk. Tube, 6061 Aluminum	1

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 <b>FIRST</b> ROBOTICS COMPETITION  Modeling Solutions Partner
		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.			TITLE: <b>Switch Arm</b>
		THREE PLACE DECIMAL ±.001	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE <b>B</b>
		MATERIAL				DWG. NO. <b>GE-18013</b>
		FINISH				REV <b>2</b>
NEXT ASSY	USED ON					SCALE: 1:16 WEIGHT:
APPLICATION		DO NOT SCALE DRAWING				SHEET 1 OF 5

4

3

2

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4

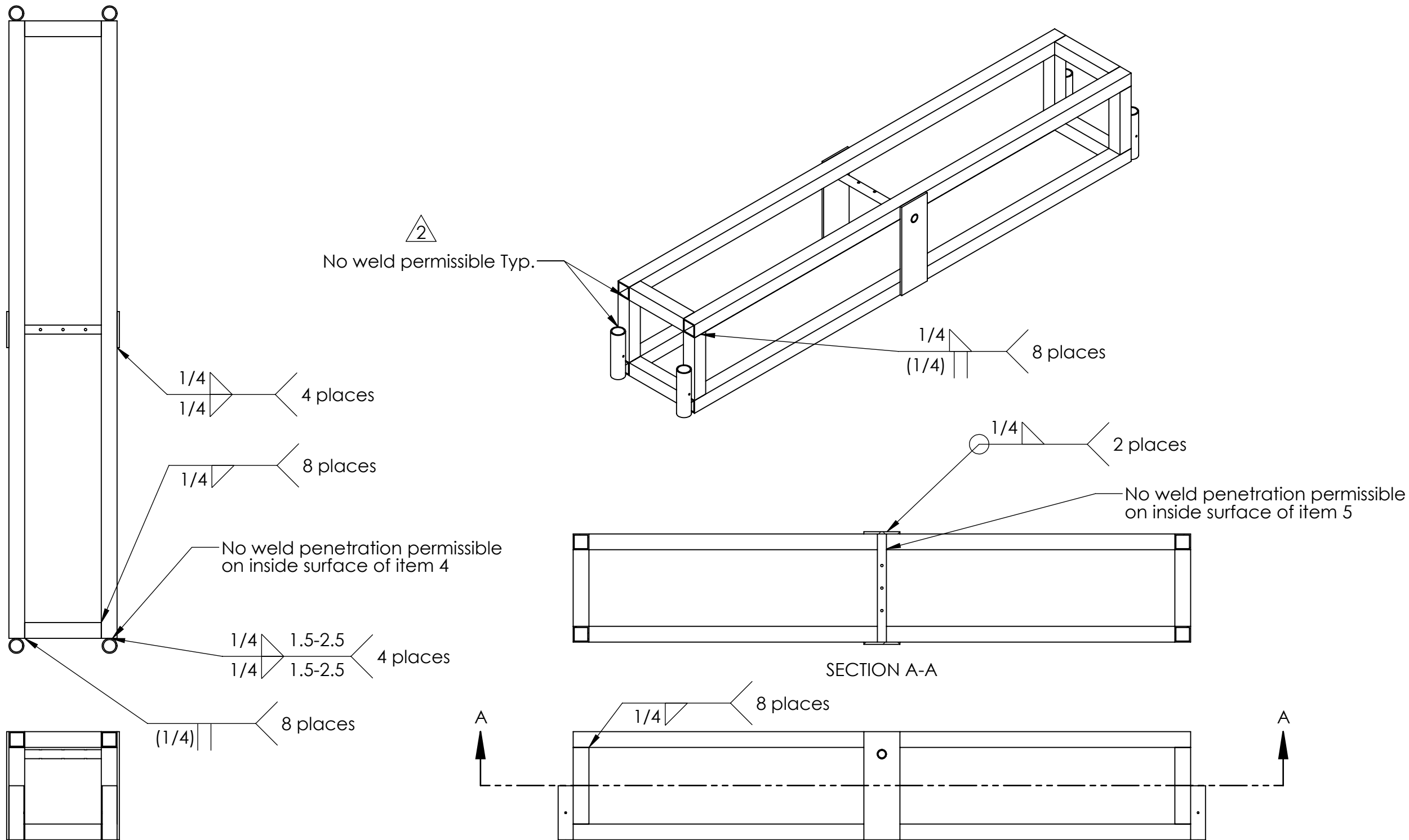
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DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL  $\pm 1/16$   
ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
TWO PLACE DECIMAL  $\pm .01$   
THREE PLACE DECIMAL  $\pm .001$

INTERPRET GEOMETRIC  
TOLERANCING PER:  
MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

**FIRST**  
ROBOTICS  
COMPETITIONSOLIDWORKS  
Modeling Solutions Partner

TITLE:

Switch Arm

SIZE

**B**

DWG. NO.

GE-18013

REV

2

SCALE: 1:12 WEIGHT:

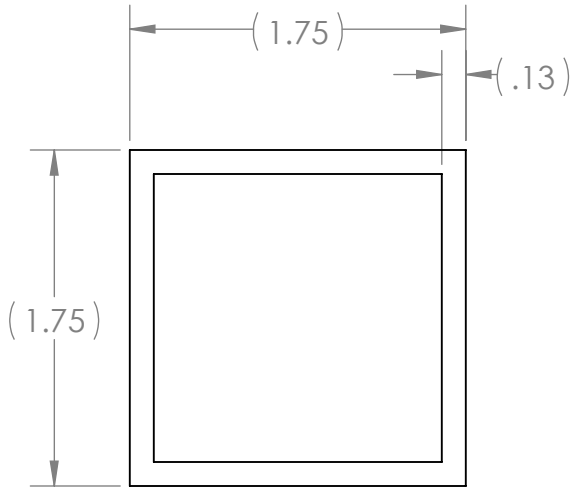
SHEET 2 OF 5

4

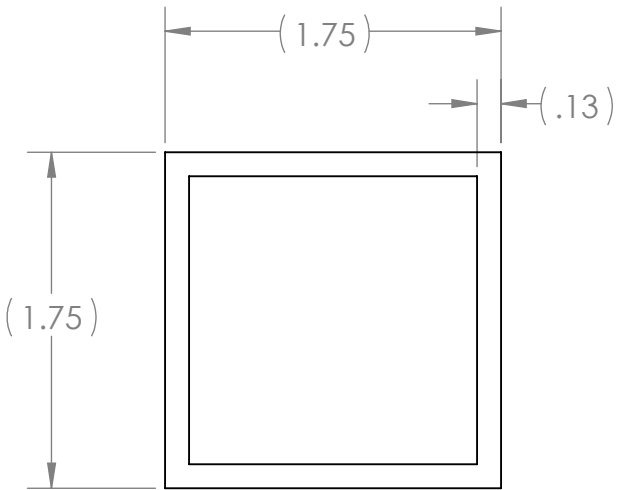
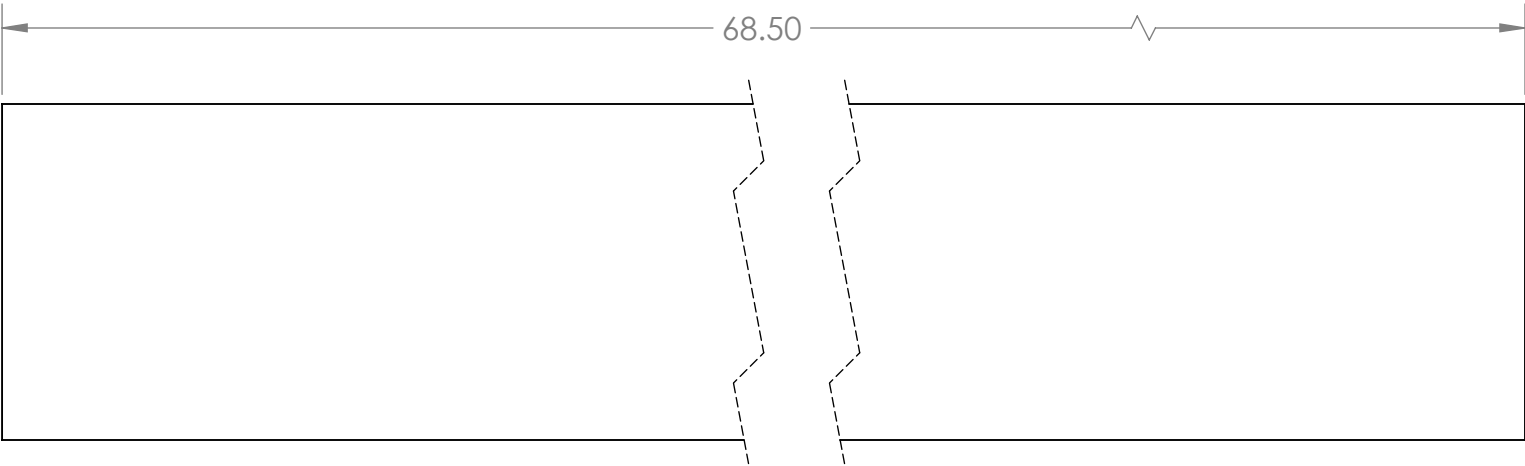
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2

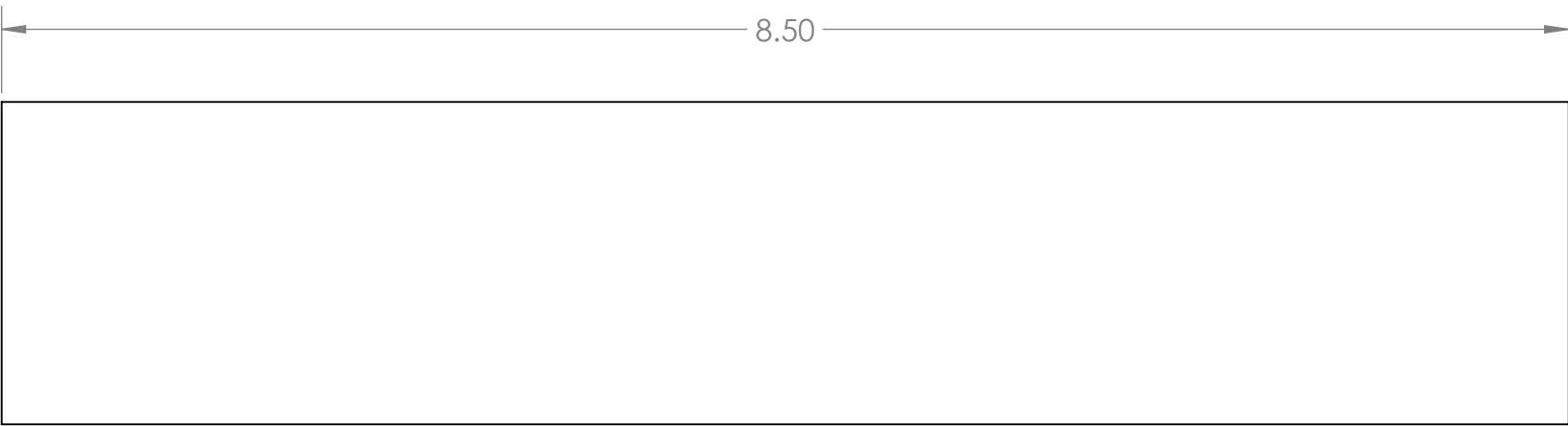
1





Item: GE-18013-1  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 4



Item: GE-18013-2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 8



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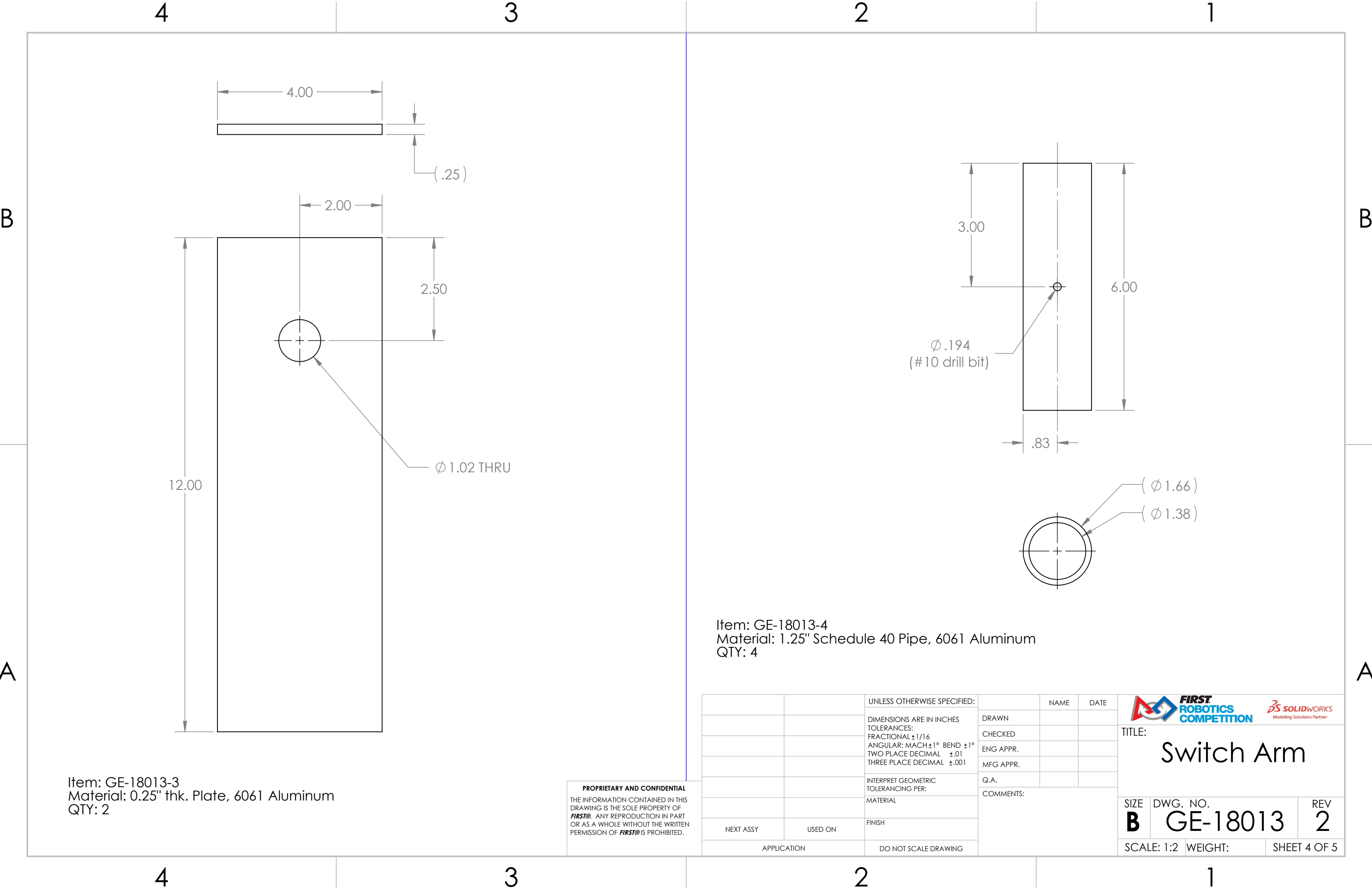
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>			
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			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.						
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV	
		FINISH				<b>B</b>	<b>GE-18013</b>	<b>2</b>	
NEXT ASSY	USED ON					SCALE: 1:1		WEIGHT:	SHEET 3 OF 5
APPLICATION		DO NOT SCALE DRAWING							

4

3

2

1



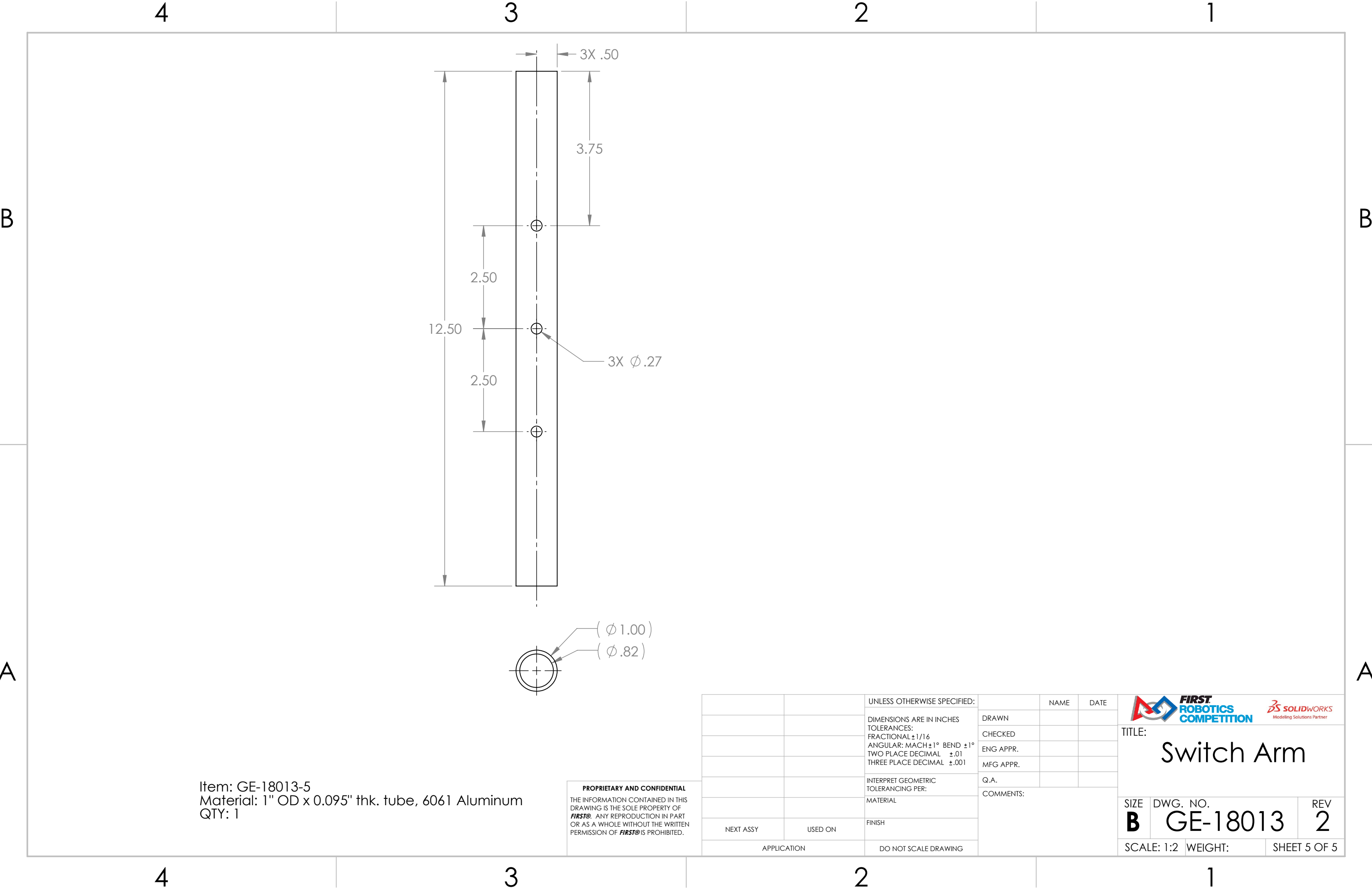
Item: GE-18013-3  
Material: 0.25" thk. Plate, 6061 Aluminum  
QTY: 2

Item: GE-18013-4  
Material: 1.25" Schedule 40 Pipe, 6061 Aluminum  
QTY: 4

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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: Switch Arm		
SIZE <b>B</b>	DWG. NO. GE-18013	REV 2			
SCALE: 1:2		WEIGHT:	SHEET 4 OF 5		





Item: GE-18013-5  
Material: 1" OD x 0.095" thk. tube, 6061 Aluminum  
QTY: 1

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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:  Switch Arm			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> GE-18013 2			
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2		WEIGHT:	SHEET 5 OF 5

B

A

B

A

4

3

2

1

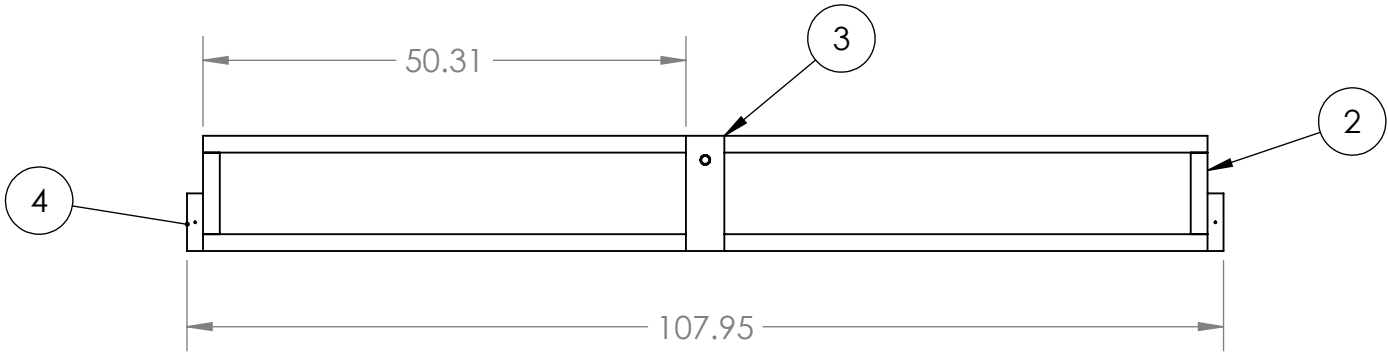
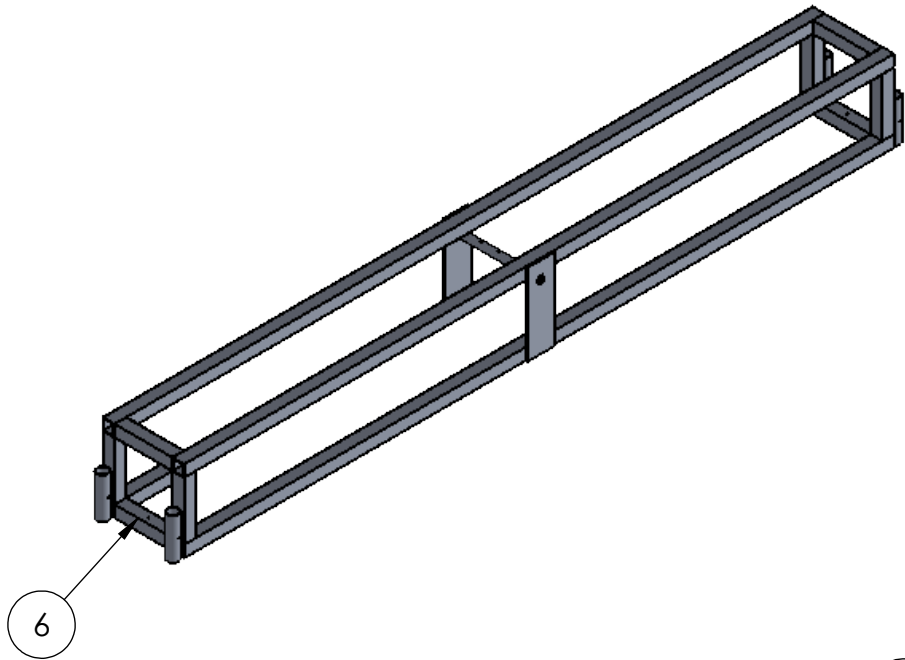
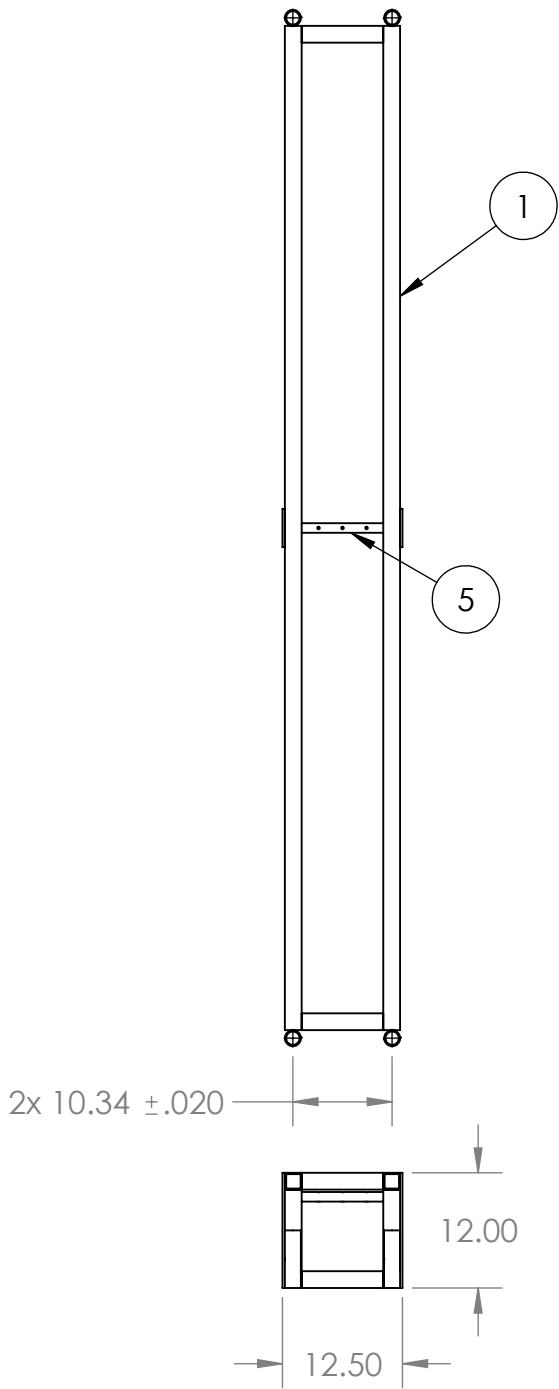
4

3

2

1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
5-B3, 5-B4	2	Added locating dimensions for holes on GE-18014-5	11/9/2017	CPO
2-B3	3	Added weld note	11/17/2017	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18014-1	1.75" x .125" thk. Square Tube, 6063 Aluminum	4
2	GE-18014-2	1.75" x .125" thk. Square Tube, 6063 Aluminum	6
3	GE-18014-3	0.25" thk. plate, 6061 Aluminum	2
4	GE-18014-4	1.25" Schedule 40 Pipe, 6061 Aluminum	4
5	GE-18014-5	1" OD x 0.095" thk. Tube, 6061 Aluminum	1
6	GE-18014-6	1.75" x .125" thk. Square Tube, 6063 Aluminum	2

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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:  

# Scale Arm

SIZE  
**B**

DWG. NO.  
**GE-18014**

REV  
**3**

SCALE: 1:20WEIGHT:

SHEET 1 OF 5



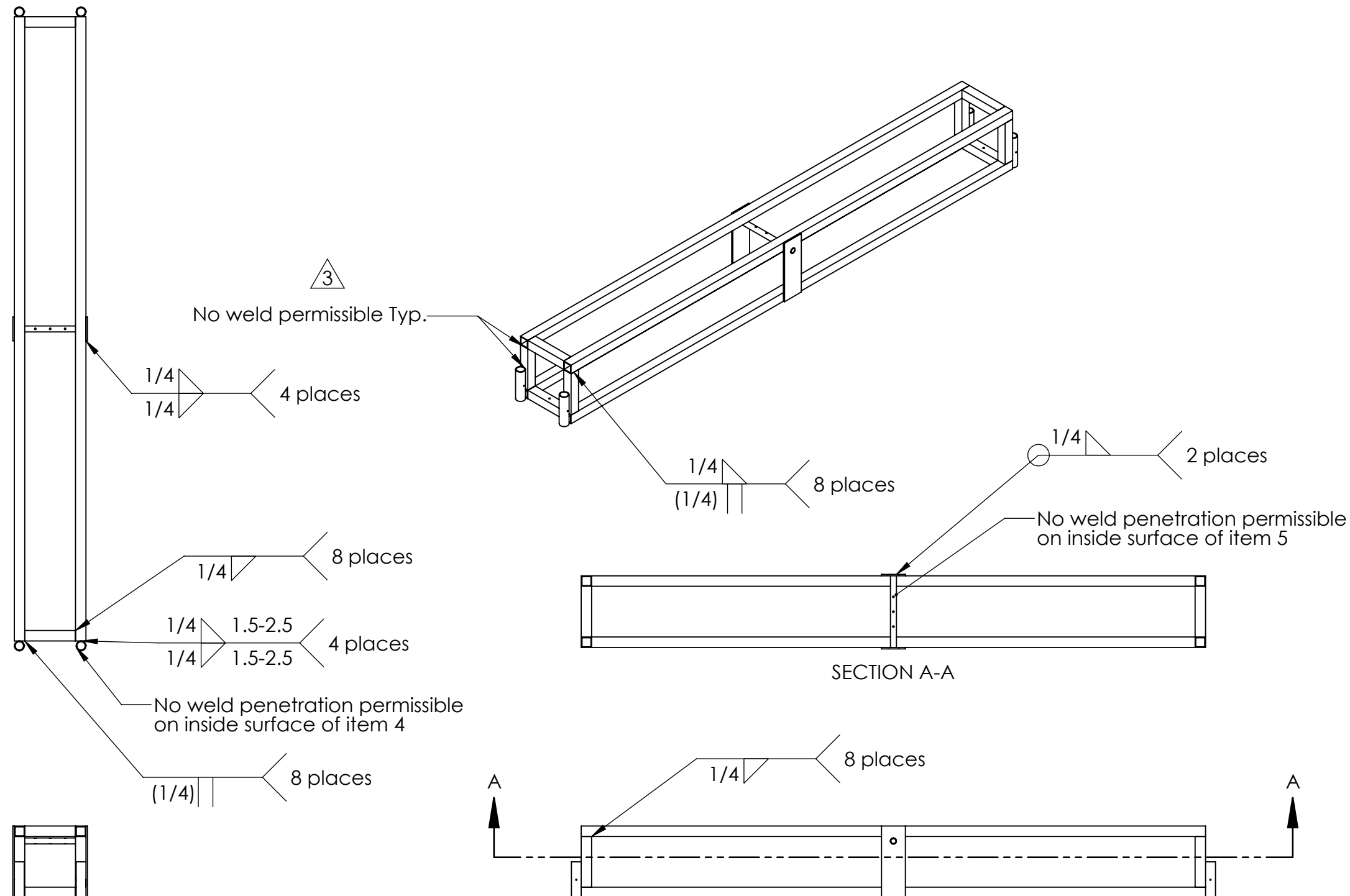
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3

2

1

B



SECTION A-A

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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL:  $\pm 1/16$   
ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
TWO PLACE DECIMAL  $\pm .01$   
THREE PLACE DECIMAL  $\pm .001$

INTERPRET GEOMETRIC  
TOLERANCING PER:  
MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Scale Arm

SIZE DWG. NO.

B GE-18014

REV

3

SCALE: 1:20 WEIGHT:

SHEET 2 OF 5

4

3

2

1

A

4

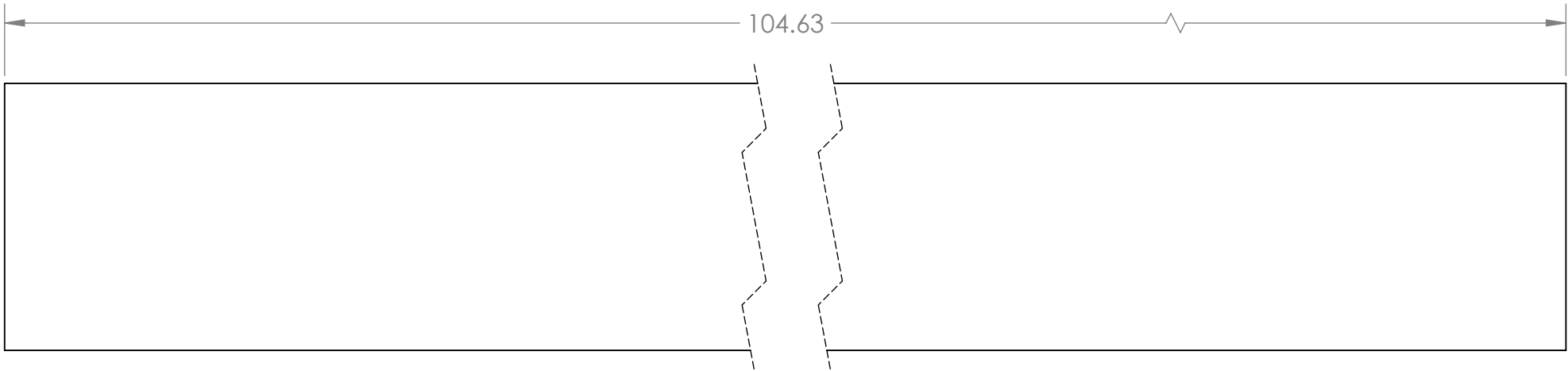
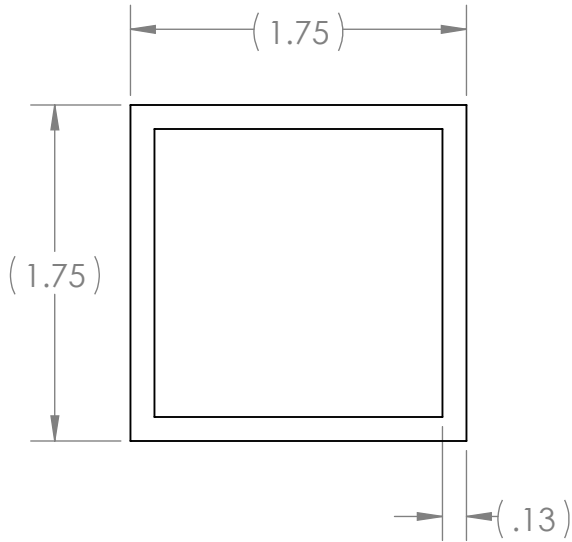
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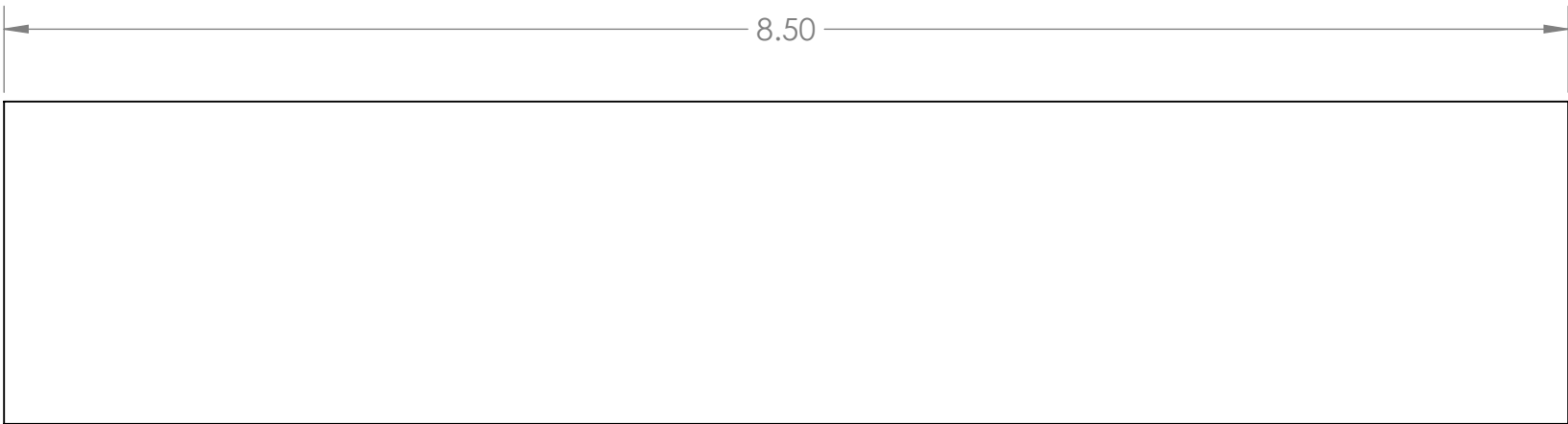
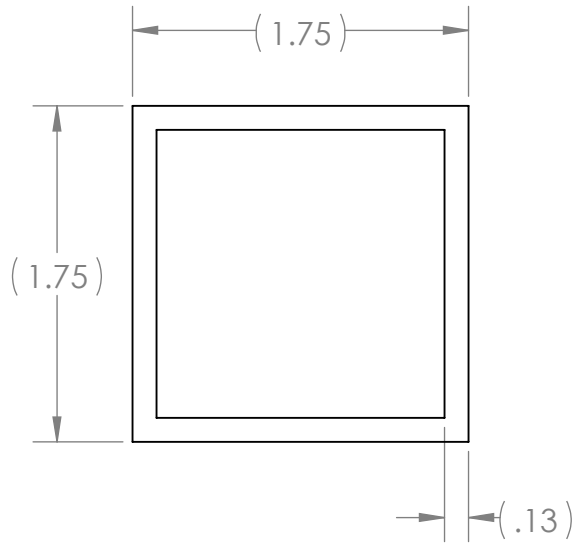
1

B

B



Item: GE-18014-1  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 4





A

A

Item: GE-18014-2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 6

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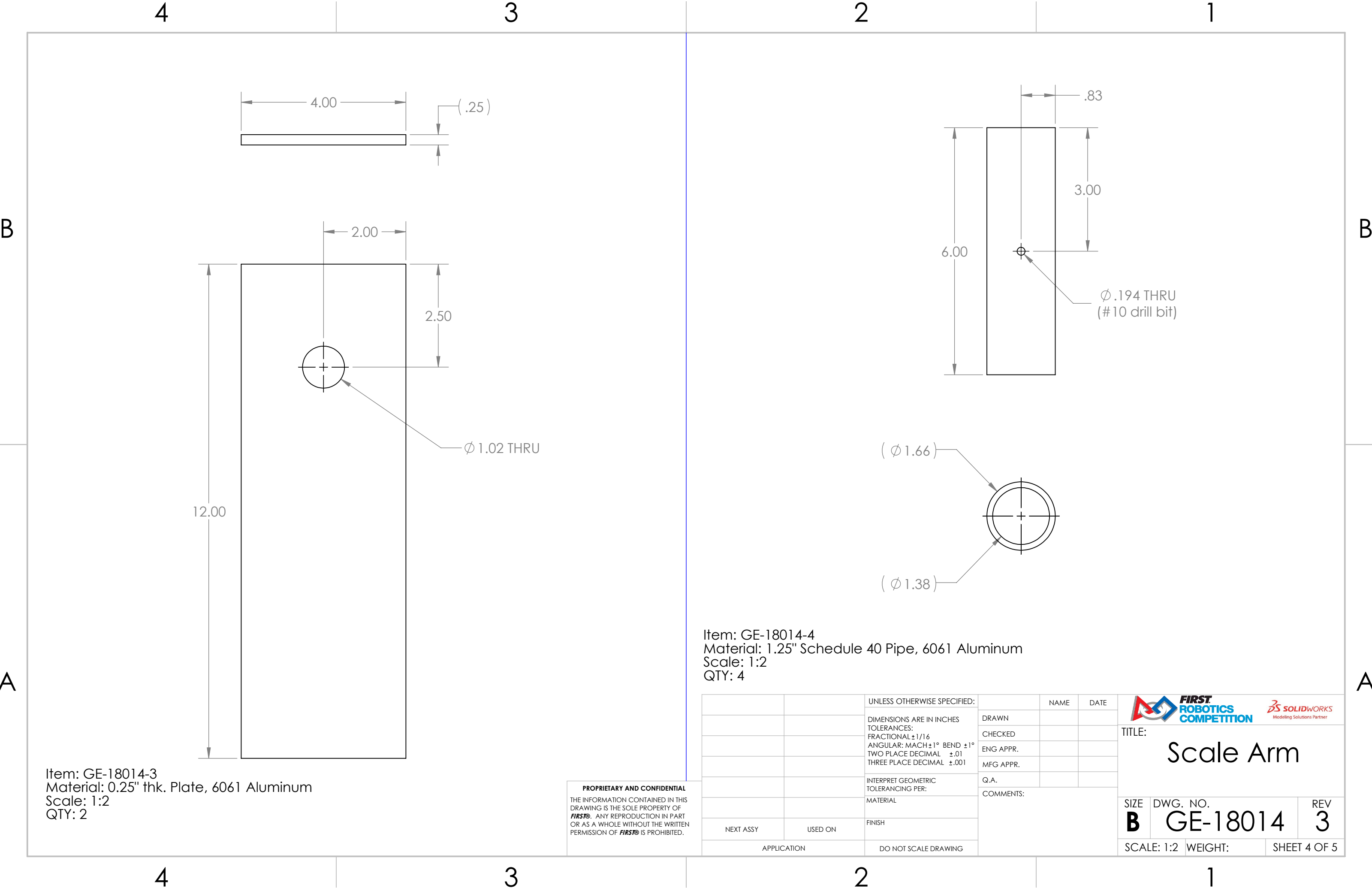
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		TOLERANCES:	CHECKED				
		FRACTIONAL $\pm 1/16$	ENG APPR.				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			COMMENTS:	
		THREE PLACE DECIMAL $\pm .001$					
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SIZE	DWG. NO.
		FINISH				<b>B</b>	<b>GE-18014</b>
NEXT ASSY	USED ON					REV	<b>3</b>
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1	WEIGHT:
						SHEET 3 OF 5	

4

3

2



1



Item: GE-18014-3  
Material: 0.25" thk. Plate, 6061 Aluminum  
Scale: 1:2  
QTY: 2

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Item: GE-18014-4  
Material: 1.25" Schedule 40 Pipe, 6061 Aluminum  
Scale: 1:2  
QTY: 4

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Scale Arm</h1>		
		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 <b>B</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON					DWG. NO. <b>GE-18014</b>		REV <b>3</b>
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2		WEIGHT:
								SHEET 4 OF 5

4

3

2

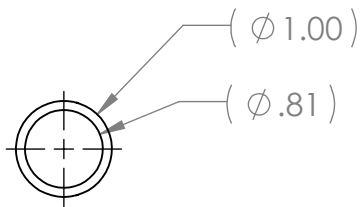
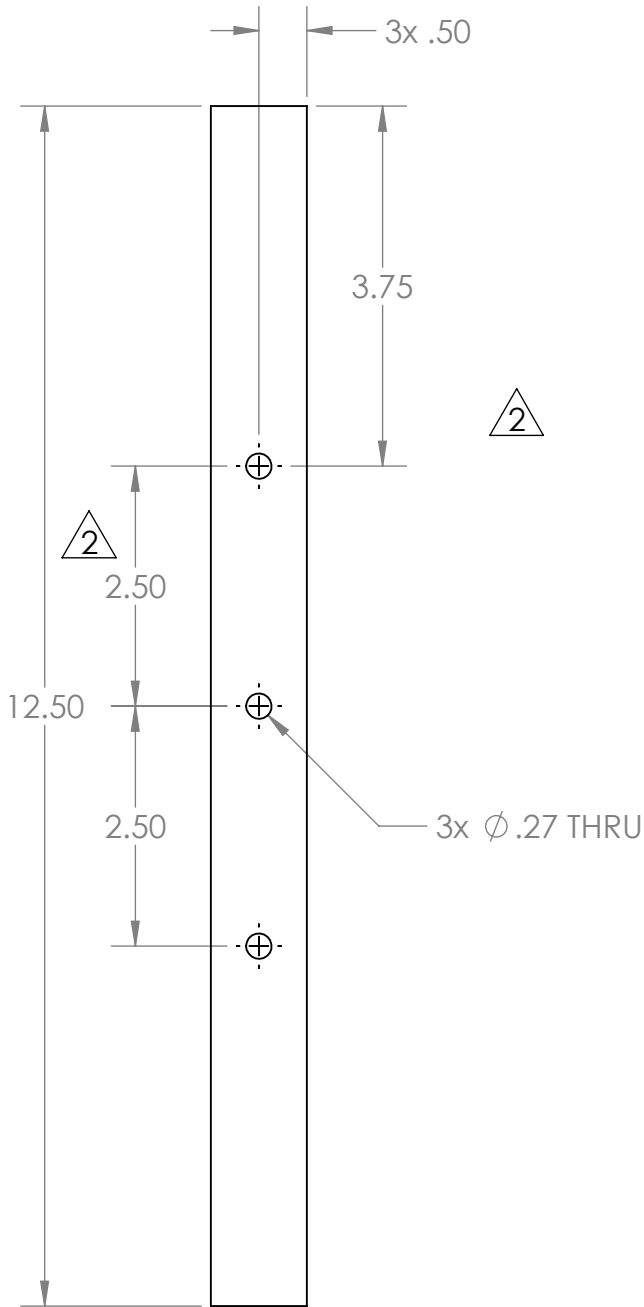
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B

B

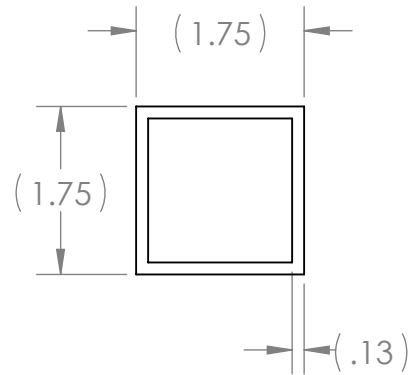
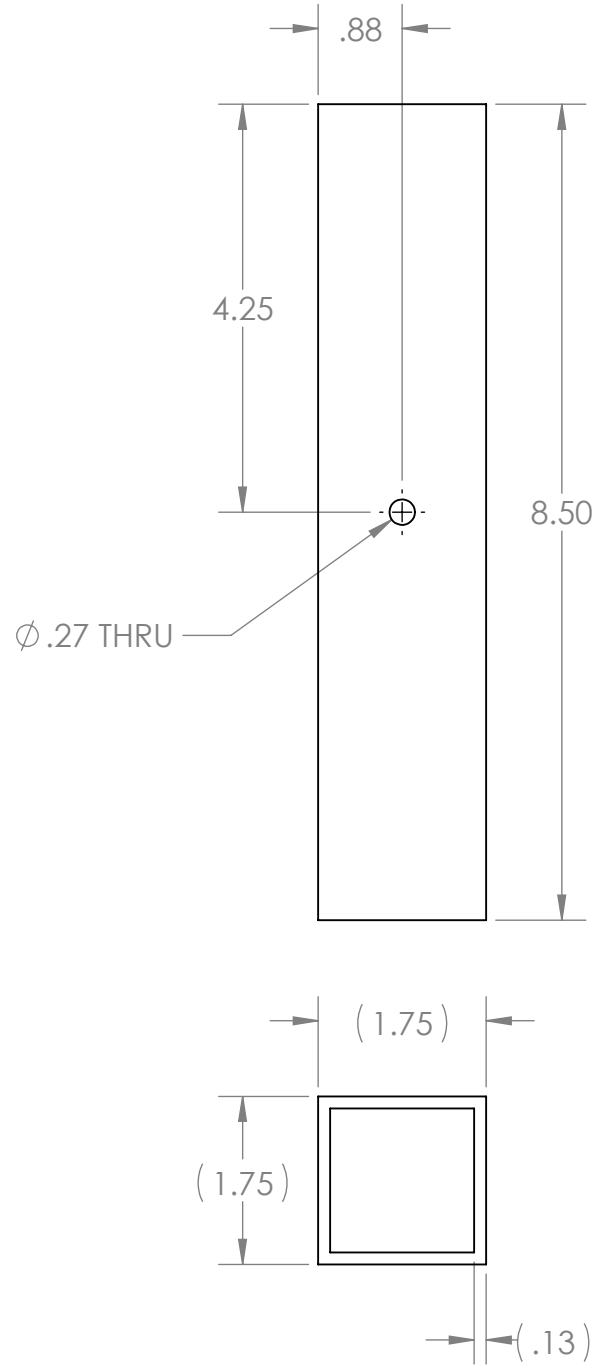
A

A





Item: GE-18014-5  
Material: 1" OD x 0.095" thk. Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 4

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Item: GE-18014-6  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:2  
QTY: 2

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Scale Arm</h1></div>	
		DIMENSIONS ARE IN INCHES	DRAWN				
		TOLERANCES:	CHECKED				
		FRACTIONAL $\pm$ 1/16	ENG APPR.				
		ANGULAR: MACH $\pm$ 1° BEND $\pm$ 1°	MFG APPR.				
		TWO PLACE DECIMAL $\pm$ .01	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18014</b> <b>3</b>	
		THREE PLACE DECIMAL $\pm$ .001	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SCALE: 1:2	WEIGHT:
NEXT ASSY	USED ON	FINISH					SHEET 5 OF 5
APPLICATION		DO NOT SCALE DRAWING					

4

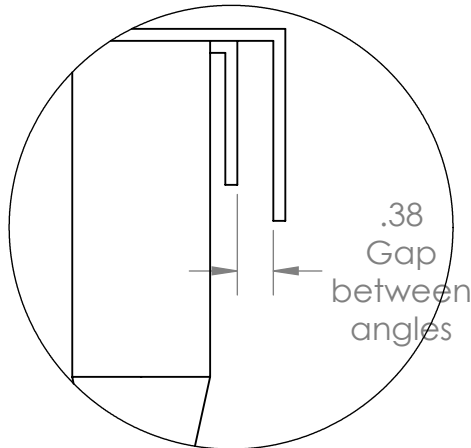
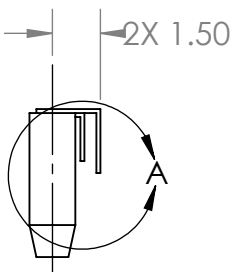
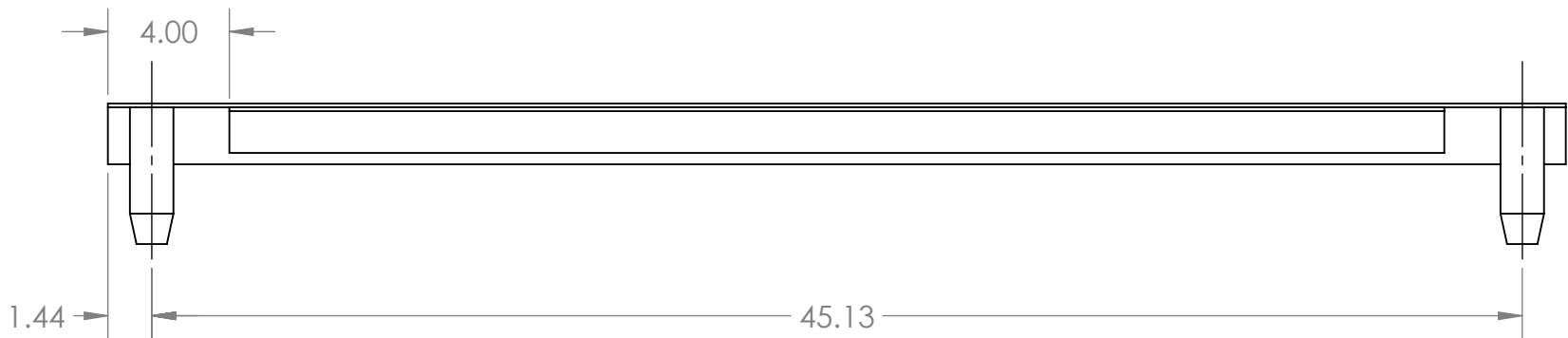
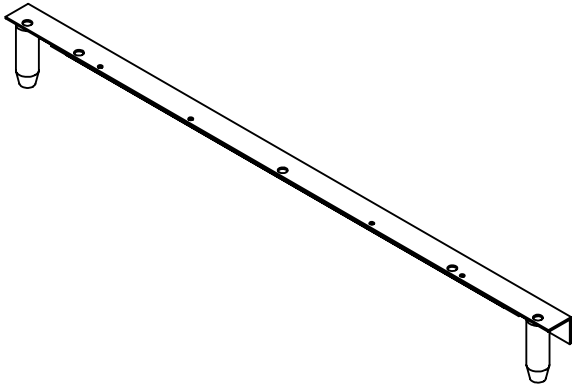
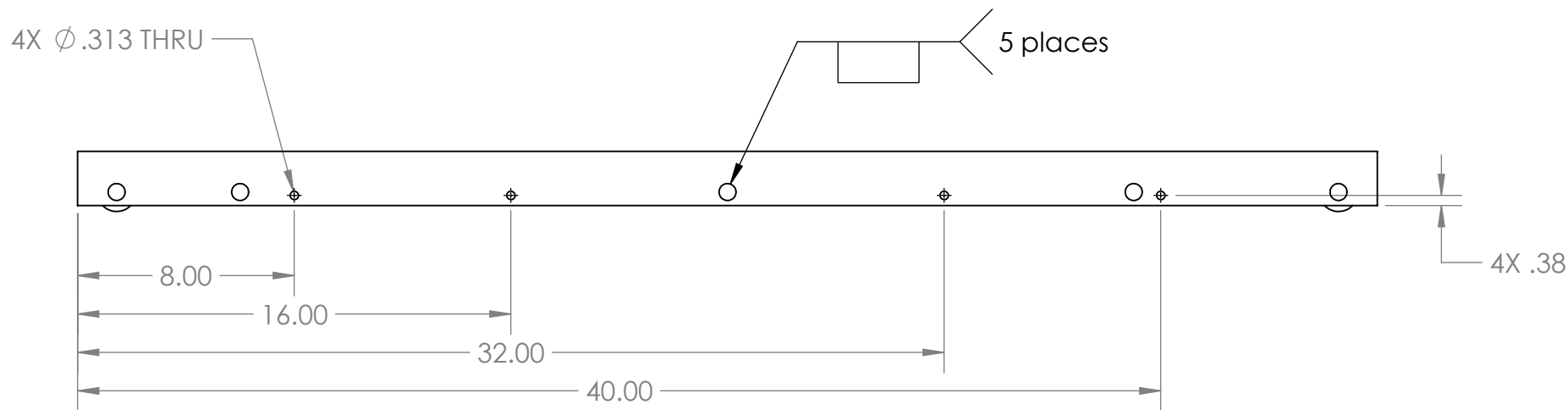
3

2

1

B

B



DETAIL A  
SCALE 1 : 2



A

A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18015-01	2" x .125" thk. Angle, 6063 Aluminum	1
2	GE-18015-02	1-7/16" Round Bar, 6061 Aluminum	2
3	GE-18015-03	1-1/2" x .125" thk. Angle, 6063 Aluminum	1

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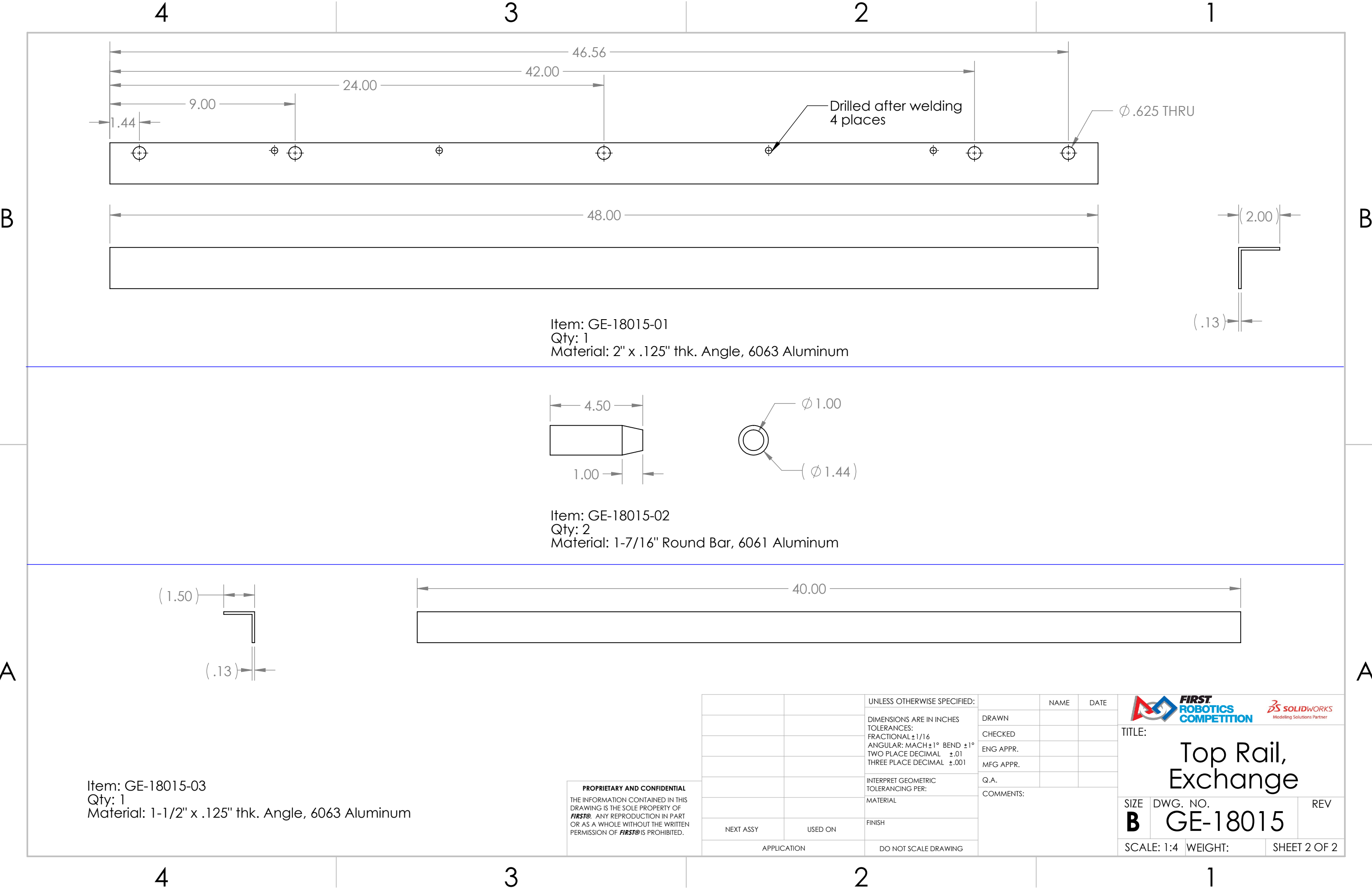
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TOLERANCES:		CHECKED	
FRACTIONAL $\pm 1/16$		ENG APPR.	
ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$		MFG APPR.	
TWO PLACE DECIMAL $\pm .01$		Q.A.	
THREE PLACE DECIMAL $\pm .001$		COMMENTS:	
INTERPRET GEOMETRIC TOLERANCING PER:			
MATERIAL			
FINISH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



TITLE:  
**Top Rail, Exchange**

SIZE **B** DWG. NO. **GE-18015** REV

SCALE: 1:6 WEIGHT: SHEET 1 OF 2



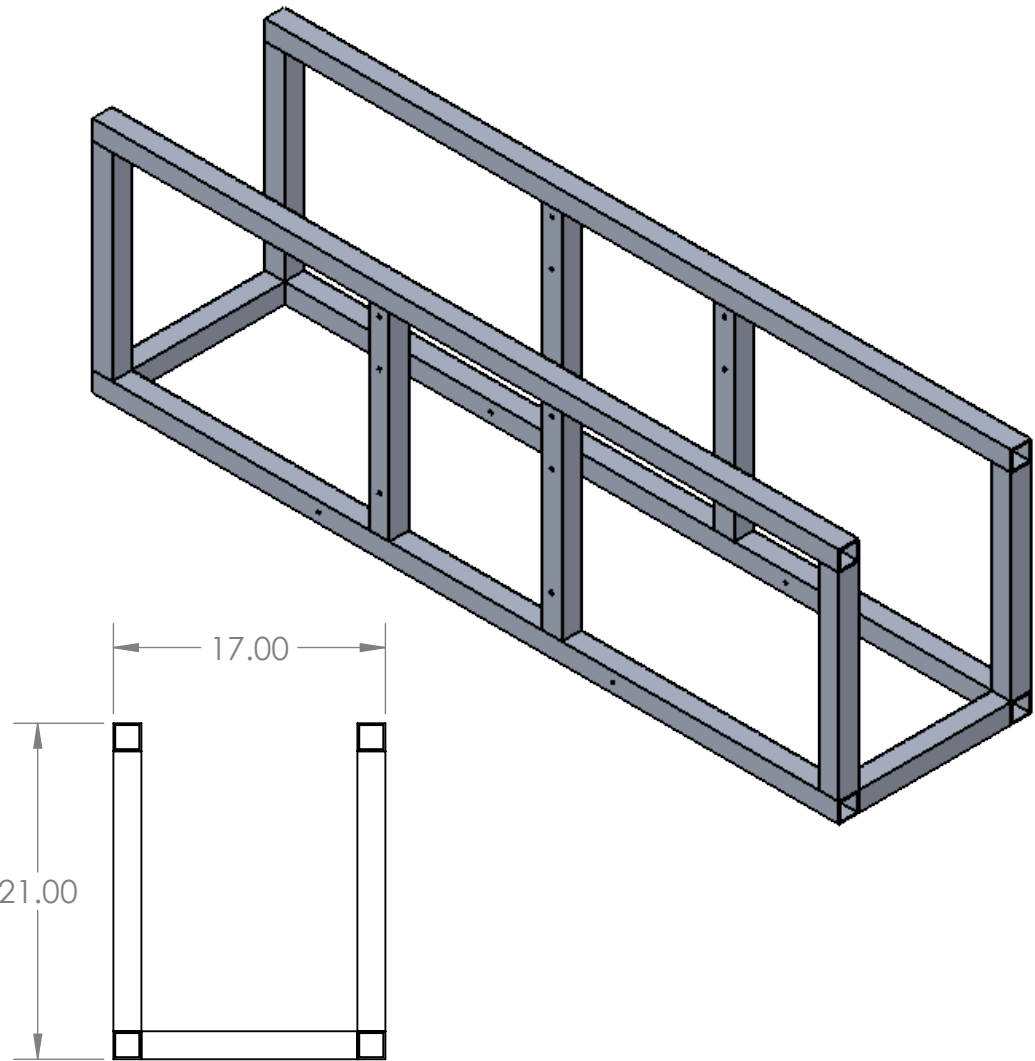
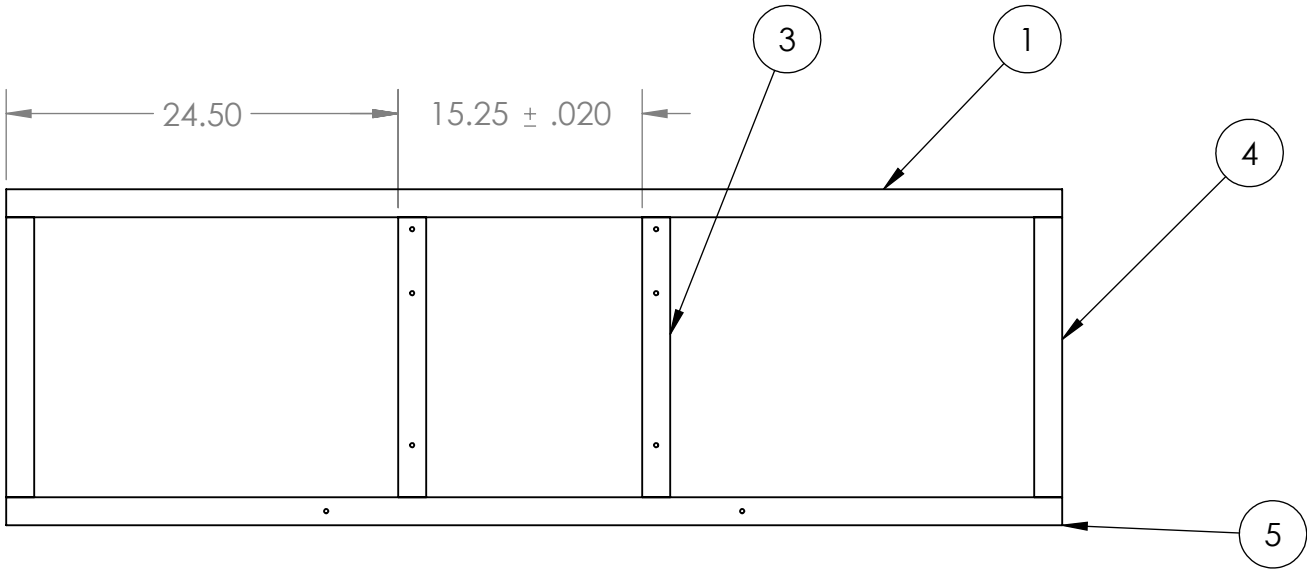
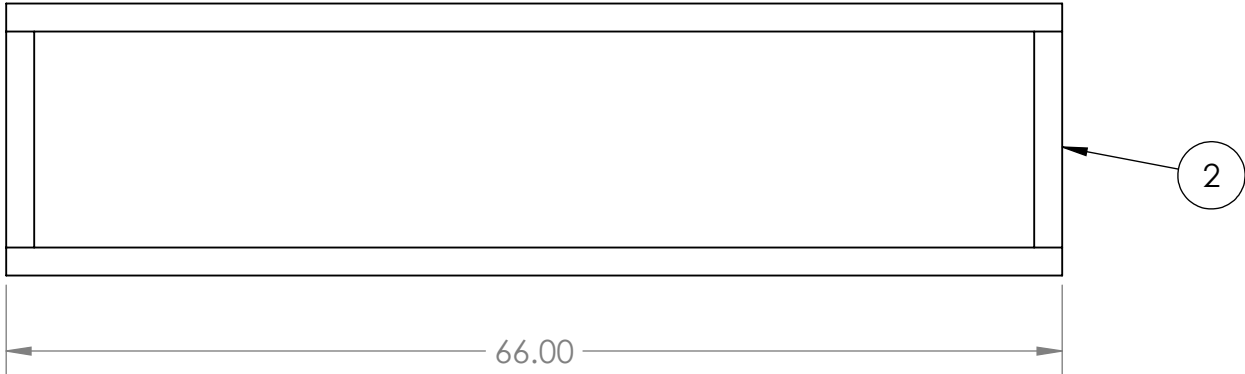
4


3

2

1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
4-B3	2	Added hole to GE-18016-3	11/6/2017	CPO
A4, 3-B4, 5-B3	3	Added two of part GE-18016-5 to replace two GE-18016-1	11/21/2017	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18016-1	1.75" x .125" thk. Square Tube, 6063 Aluminum	2
2	GE-18016-2	1.75" x .125" thk. Square Tube, 6063 Aluminum	2
3	GE-18016-3	1.75" x .125" thk. Square Tube, 6063 Aluminum	4
4	GE-18016-4	1.75" x .125" thk. Square Tube, 6063 Aluminum	4
 5	GE-18016-5	1.75" x .125" thk. Square Tube, 6063 Aluminum	2

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



TITLE:  
**Switch Frame**

SIZE <b>B</b>	DWG. NO. <b>GE-18016</b>	REV <b>3</b>
SCALE: 1:12 WEIGHT:		SHEET 1 OF 5

4

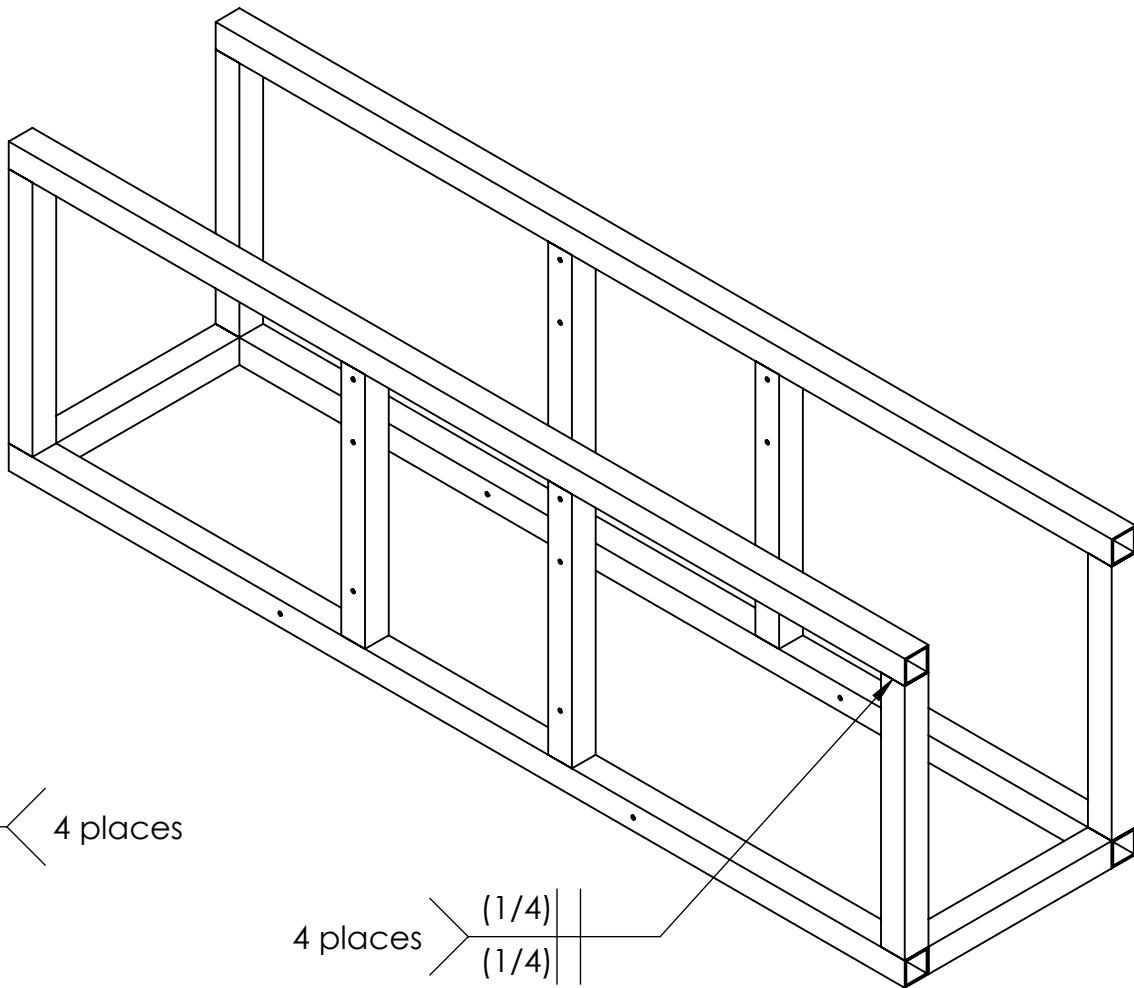
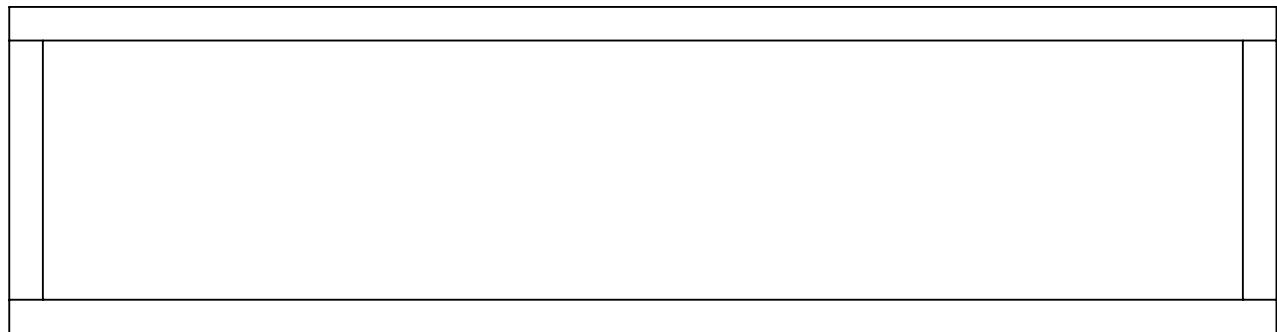
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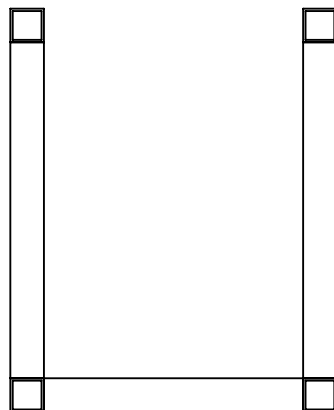
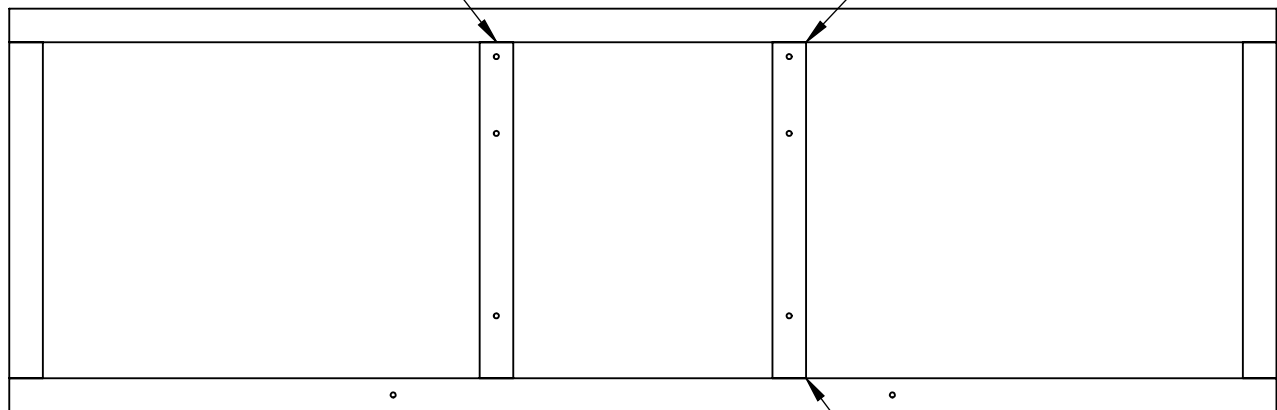
1

B

B



No weld permissible  
on face of item 3 (4x)



1/4  
(1/4) 4 places

1/4  
1/4 4 places

4 places (1/4)  
(1/4)

1/4 4 places

1/4  
(1/4) 4 places

1/4  
(1/4) 4 places

1/4  
1/4 4 places

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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:	
				Switch Frame	
SIZE	DWG. NO.	REV			
B	GE-18016	3			
SCALE: 1:10		WEIGHT:		SHEET 2 OF 5	

4

3

2

1

A

A



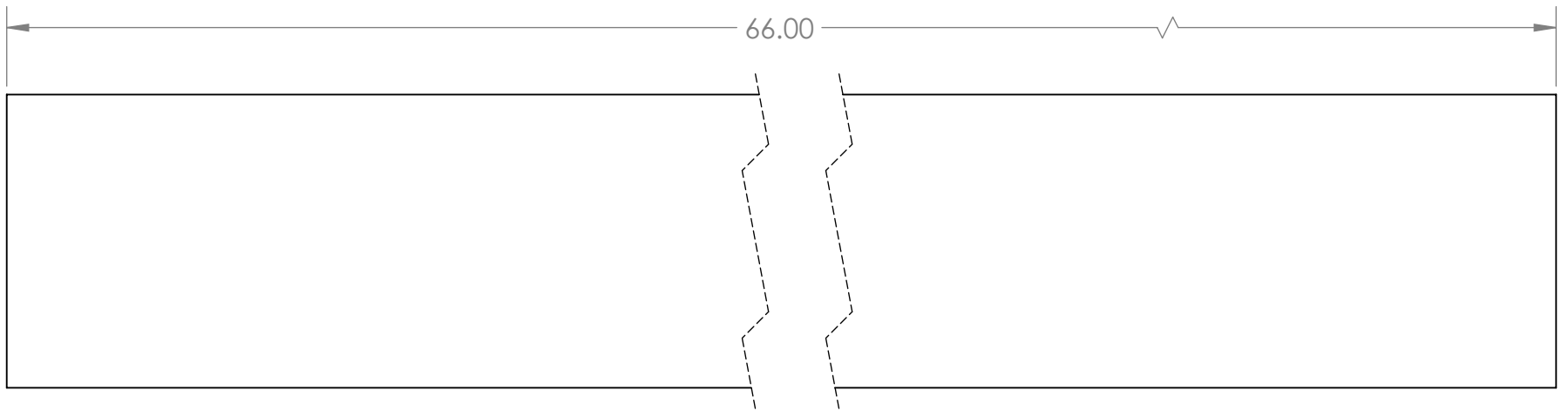
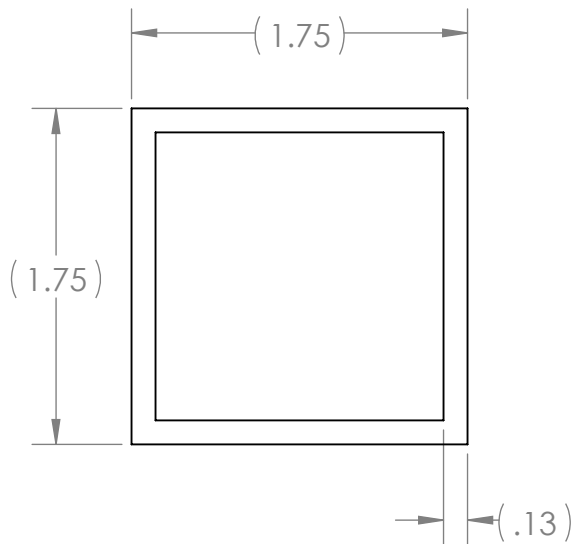
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3

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1

B

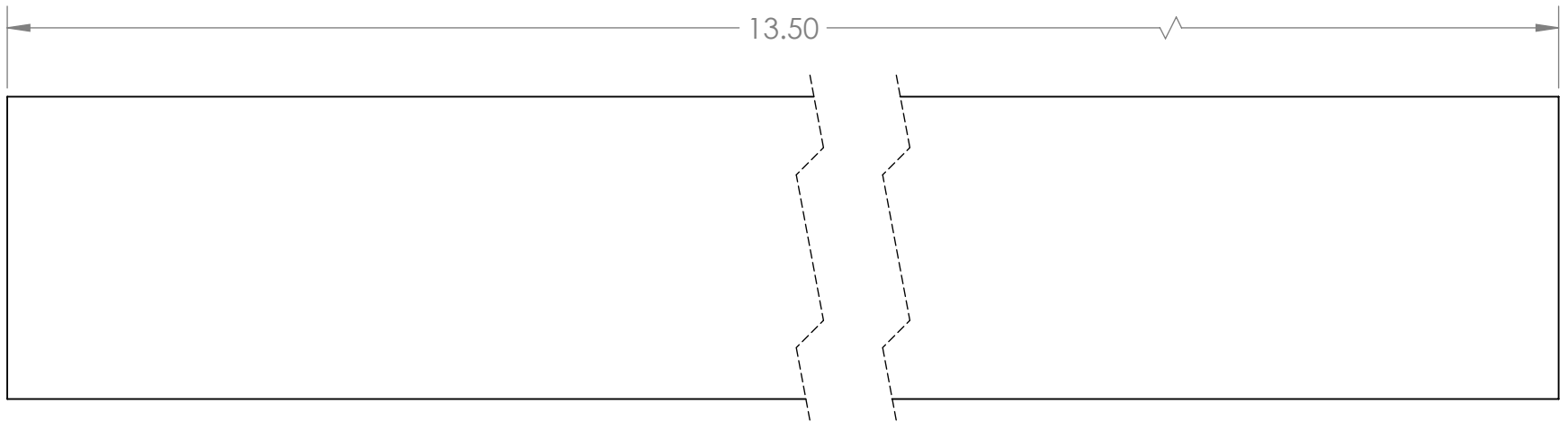
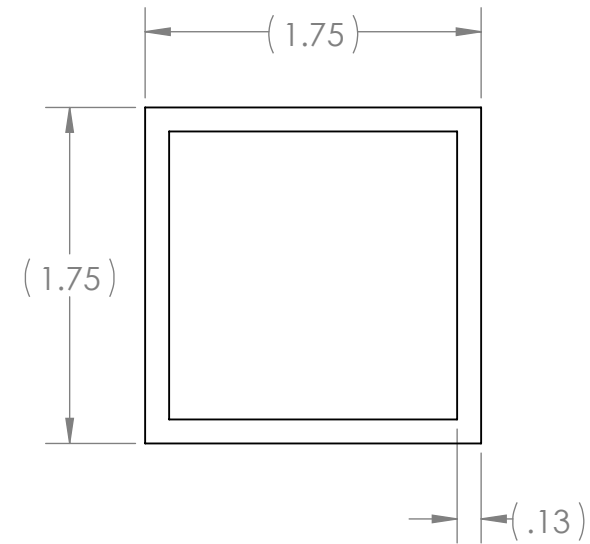


Item: GE-18016-1  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 2





B

A



Item: GE-18016-2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 2

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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:  Switch Frame		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18016</b> <b>3</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

SCALE: 1:1		WEIGHT:	SHEET 3 OF 5
------------	--	---------	--------------

4

3

2

1

A

4

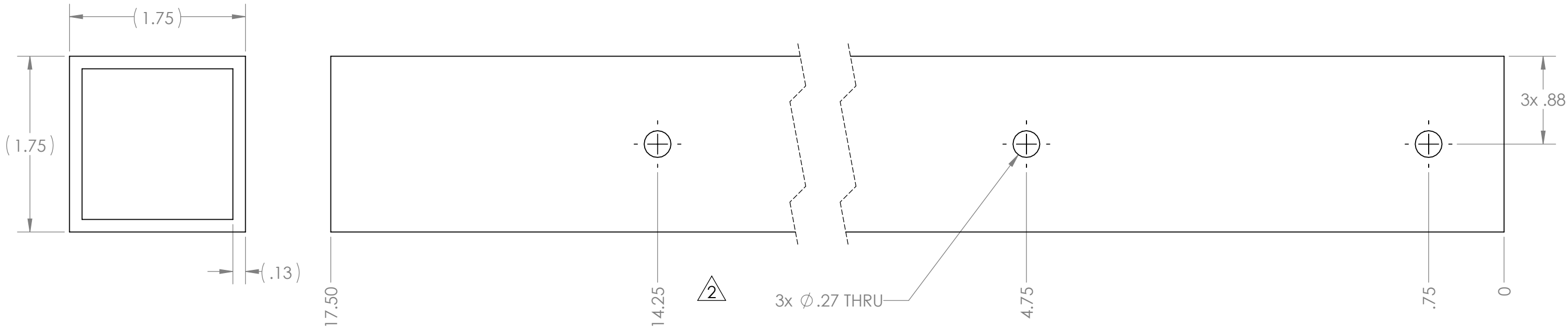
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2

1

B

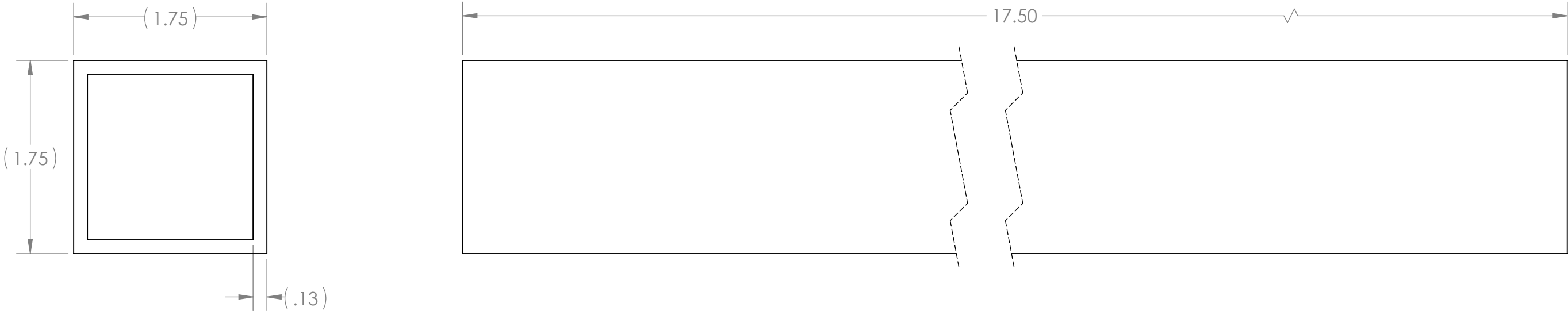
B



Item: GE-18016-3  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 4



A

A



Item: GE-18016-4  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
Scale: 1:1  
QTY: 4

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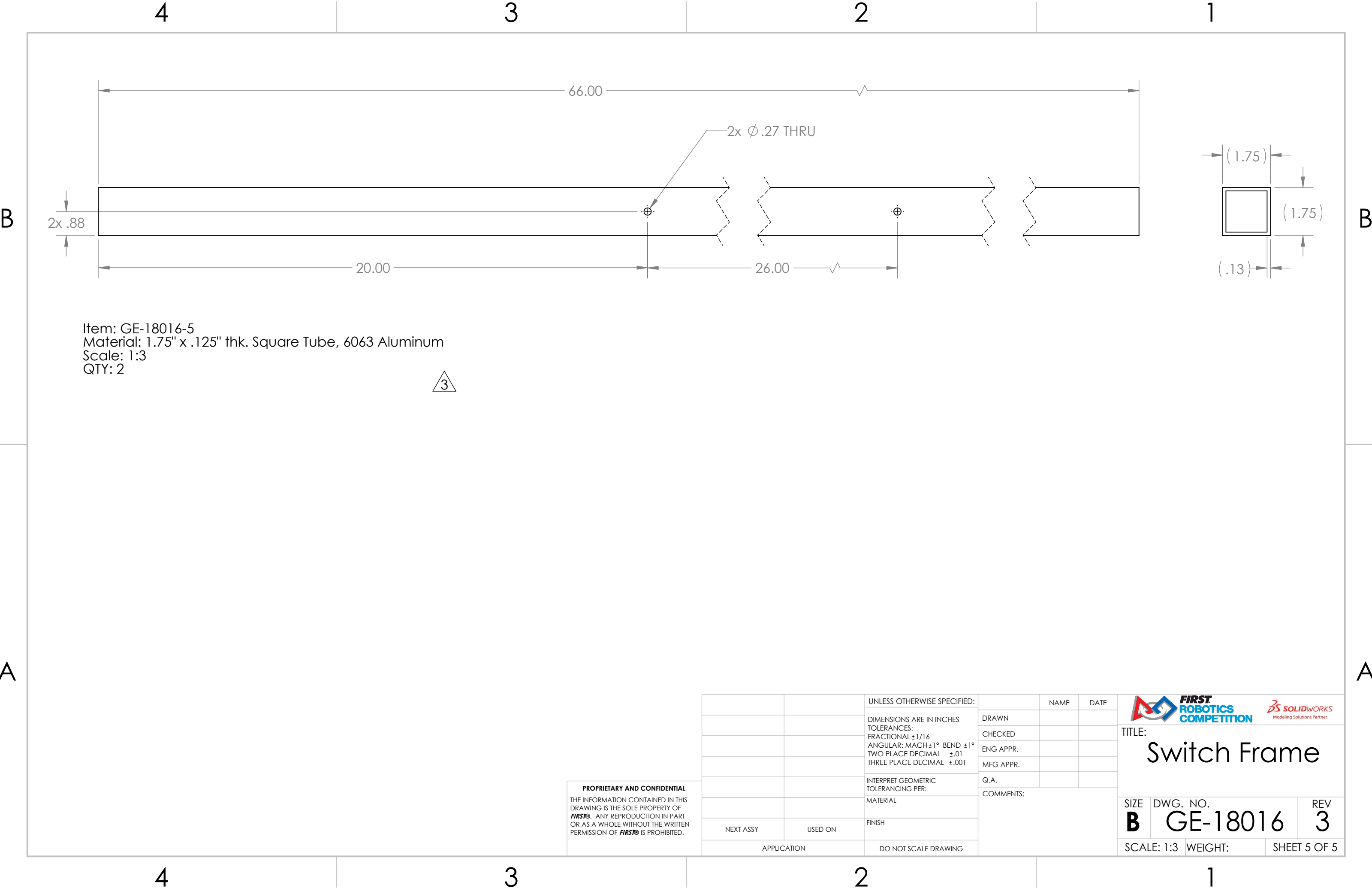
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		TOLERANCES:	CHECKED					
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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$	Q.A.					
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18016</b> <b>3</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1 WEIGHT: SHEET 4 OF 5		

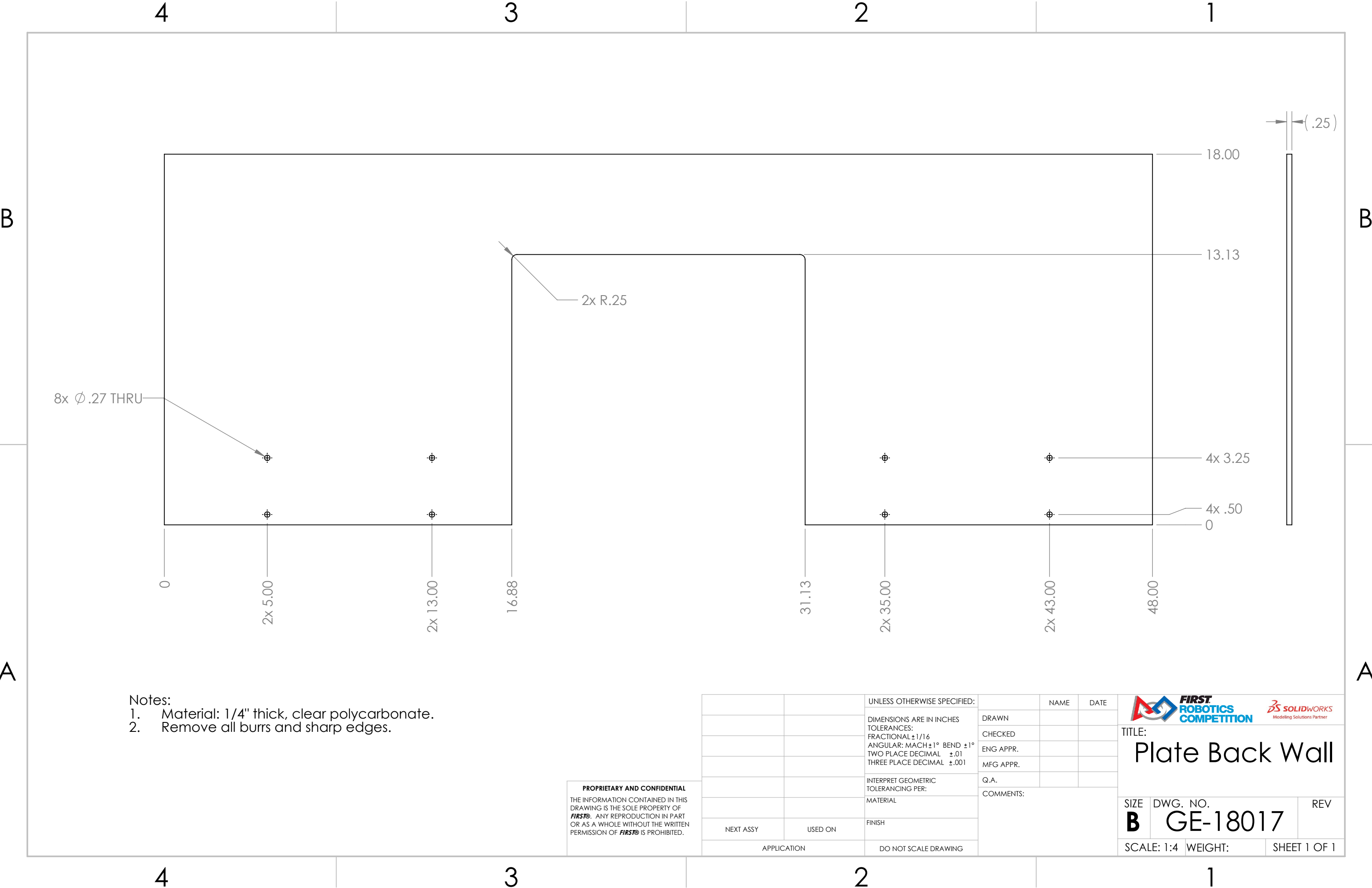
4

3

2

1





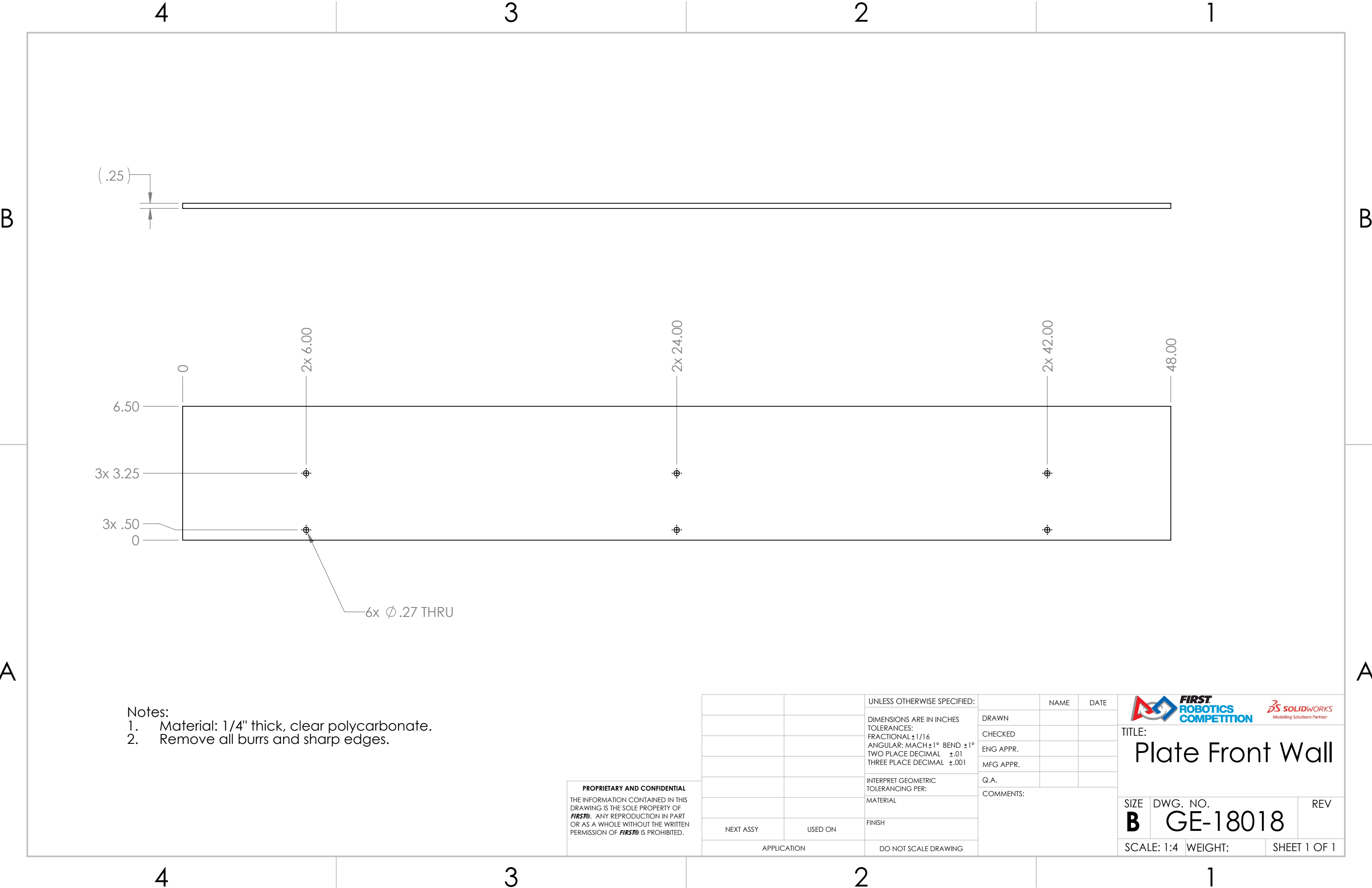


Notes:

1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Plate Back Wall</h1></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						
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.						
		MATERIAL	COMMENTS:			SIZE DWG. NO.		REV	
		FINISH				<b>B</b> <b>GE-18017</b>			
NEXT ASSY	USED ON					SCALE: 1:4		WEIGHT:	SHEET 1 OF 1
APPLICATION		DO NOT SCALE DRAWING							

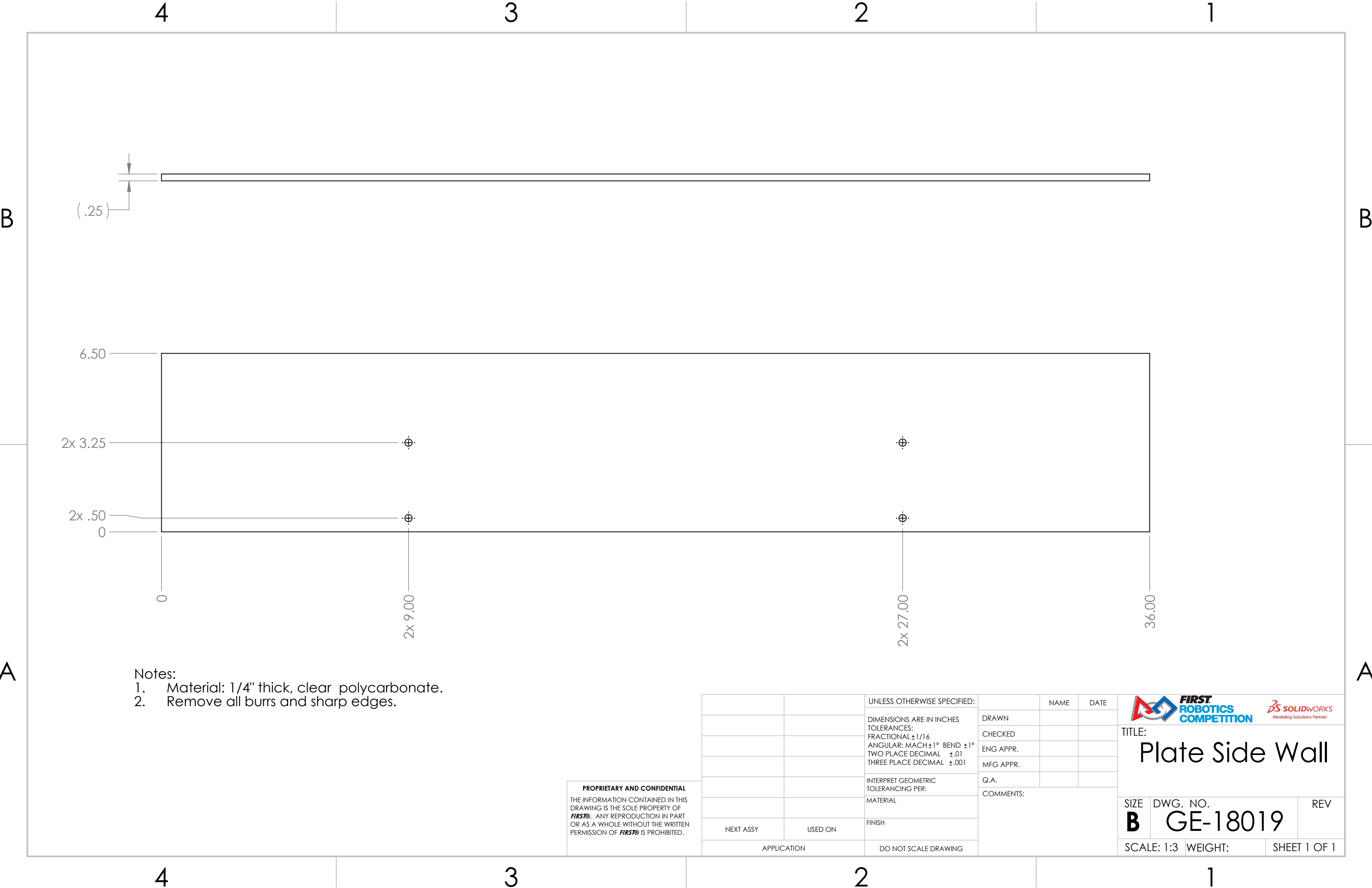


Notes:

1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.



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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:  Plate Front Wall		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE DWG. NO. REV  B GE-18018		
		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 burrs and sharp edges.

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Plate Side Wall		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18019</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:3 WEIGHT: SHEET 1 OF 1		

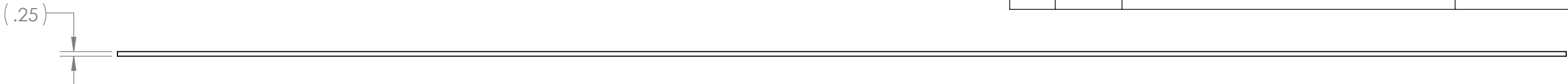
4

3

2

1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A1, B1	2	Moved location of 4 countersunk holes. Removed 8 holes.	11/17/2017	CPO
A1	3	Added missing dimension.	1/12/2018	CPO



- Notes:
- Material: 1/4" thick, clear polycarbonate.
  - Remove all burrs and sharp edges.

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



TITLE:  
**Scale Side Cover  
Polycarbonate**

SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18020</b>	<b>3</b>

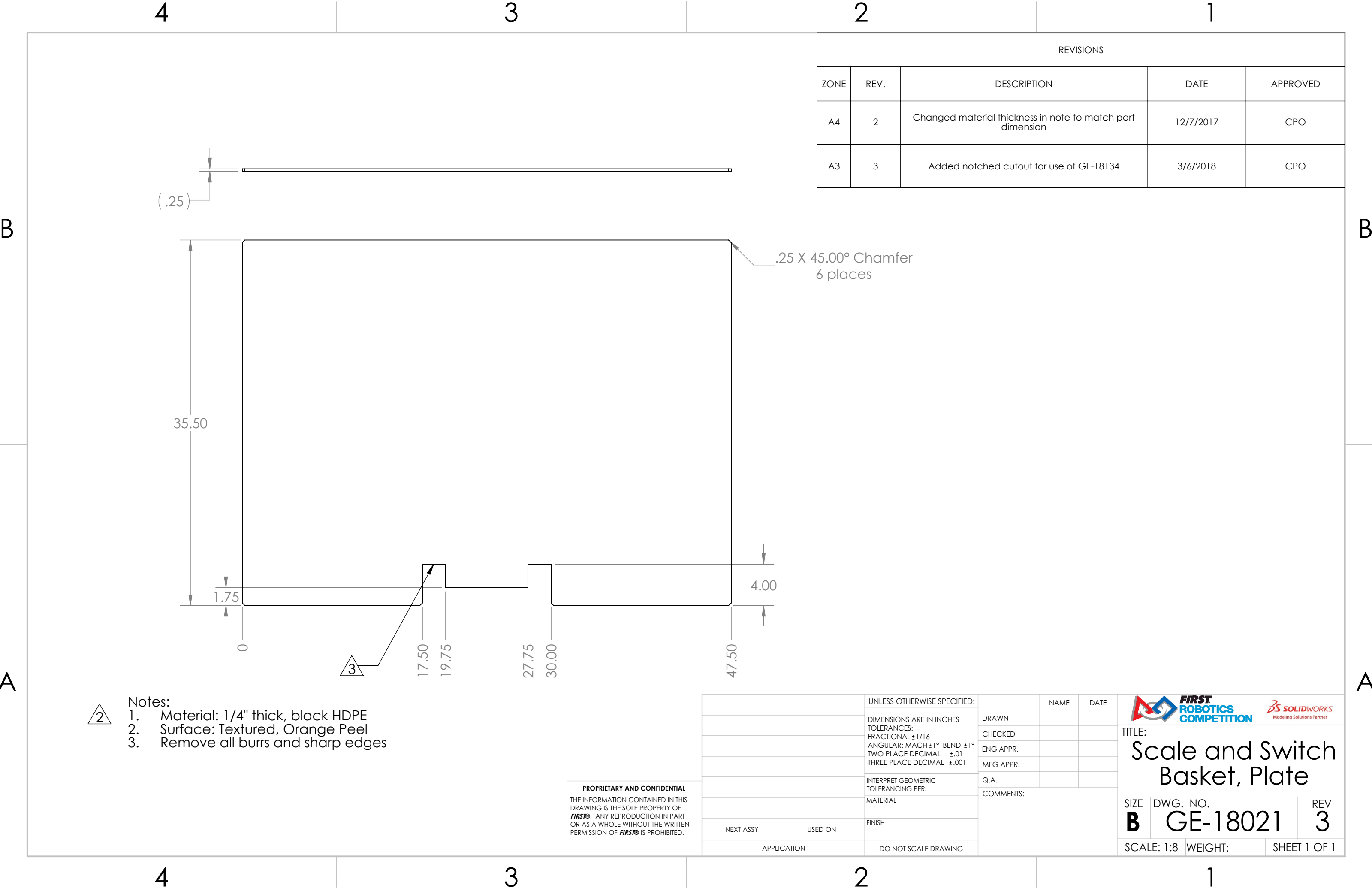
SCALE: 1:6	WEIGHT:	SHEET 1 OF 1
------------	---------	--------------

4

3

2

1



2

- Notes:
- Material: 1/4" thick, black HDPE
  - Surface: Textured, Orange Peel
  - Remove all burrs and sharp edges

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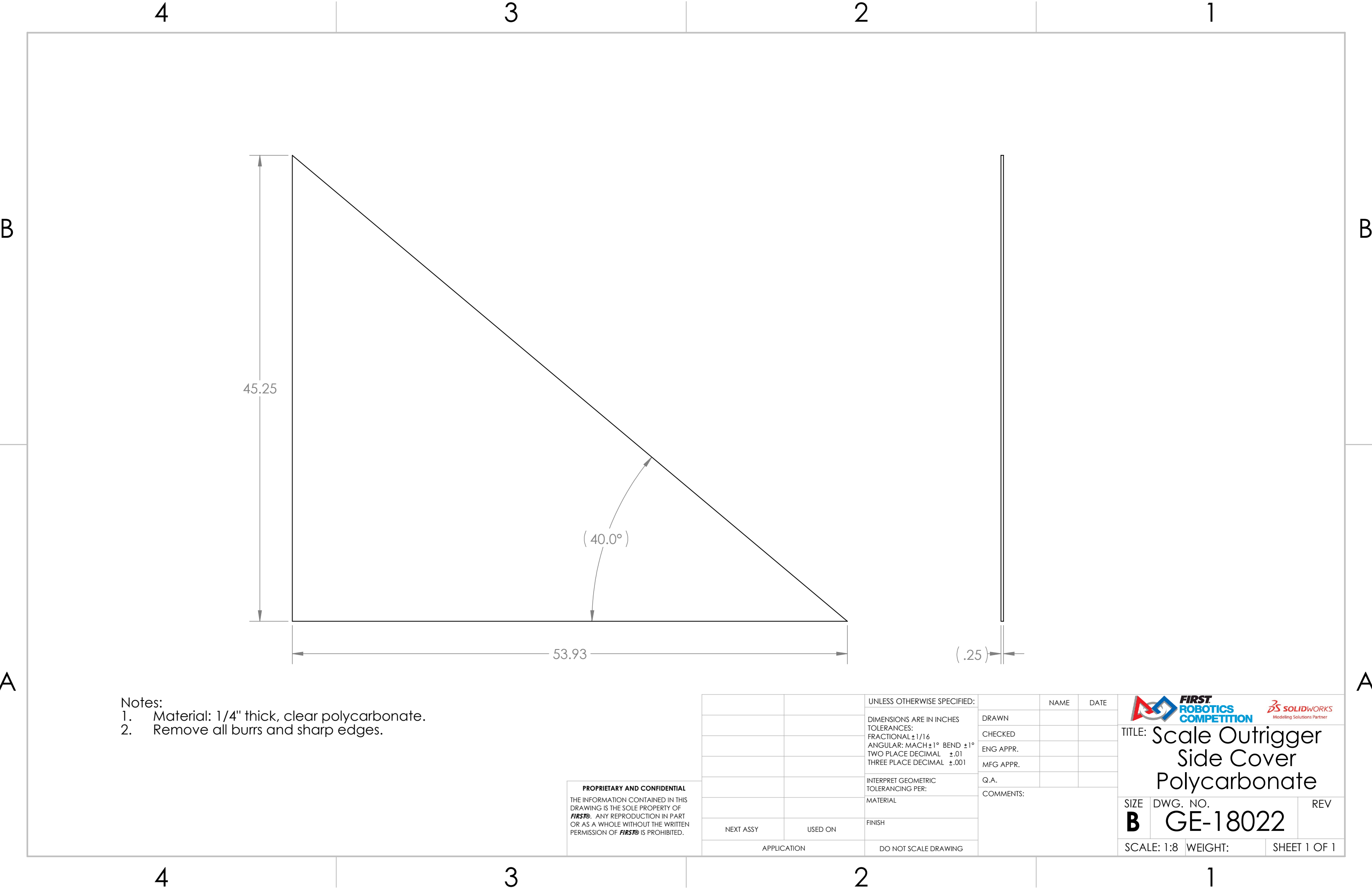
UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN		
	CHECKED		
	ENG APPR.		
	MFG APPR.		
INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.		
MATERIAL	COMMENTS:		
FINISH			
NEXT ASSY	USED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



TITLE:  
Scale and Switch  
Basket, Plate



SIZE	DWG. NO.	REV
B	GE-18021	3
SCALE: 1:8		WEIGHT:
		SHEET 1 OF 1

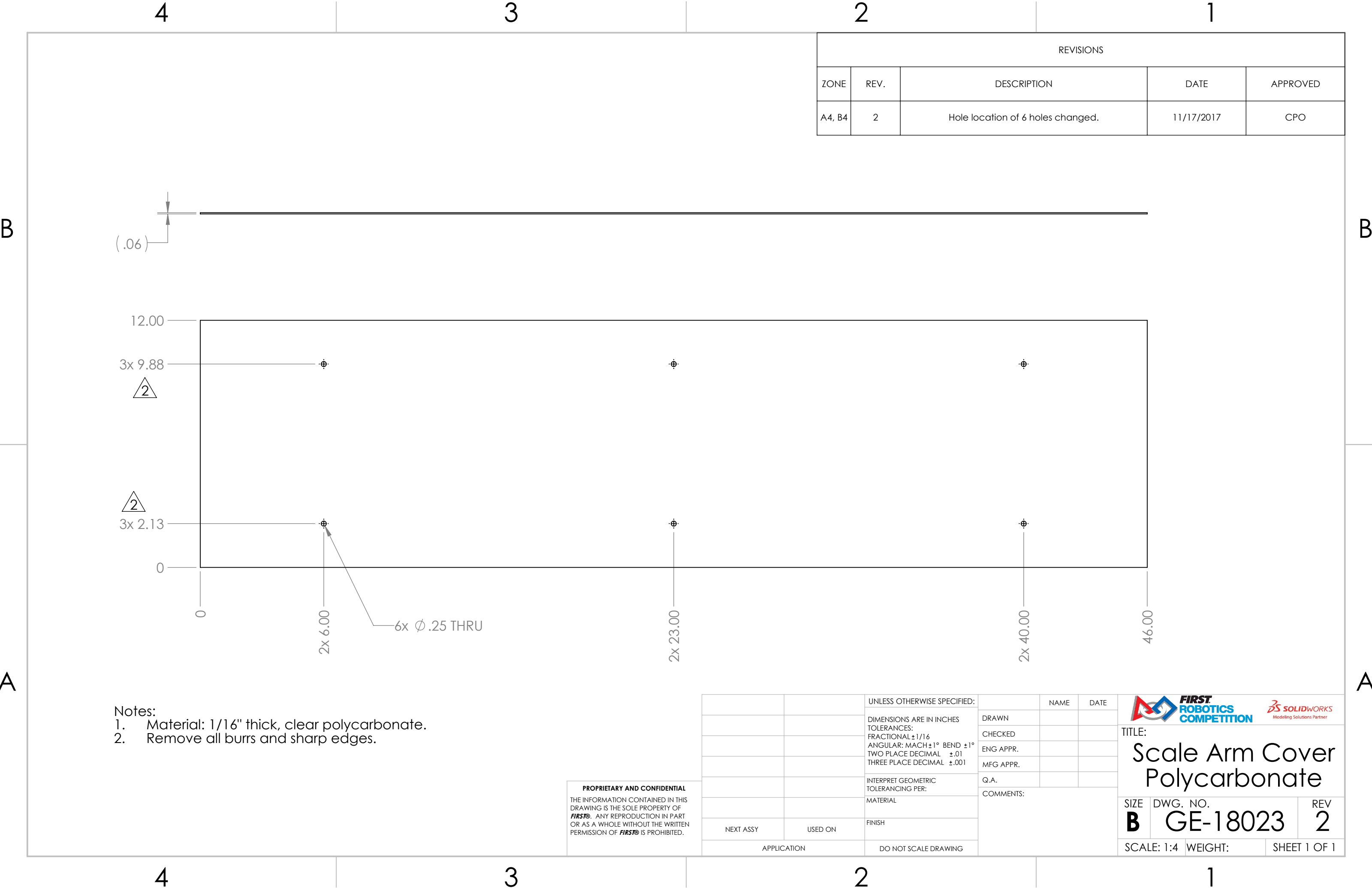




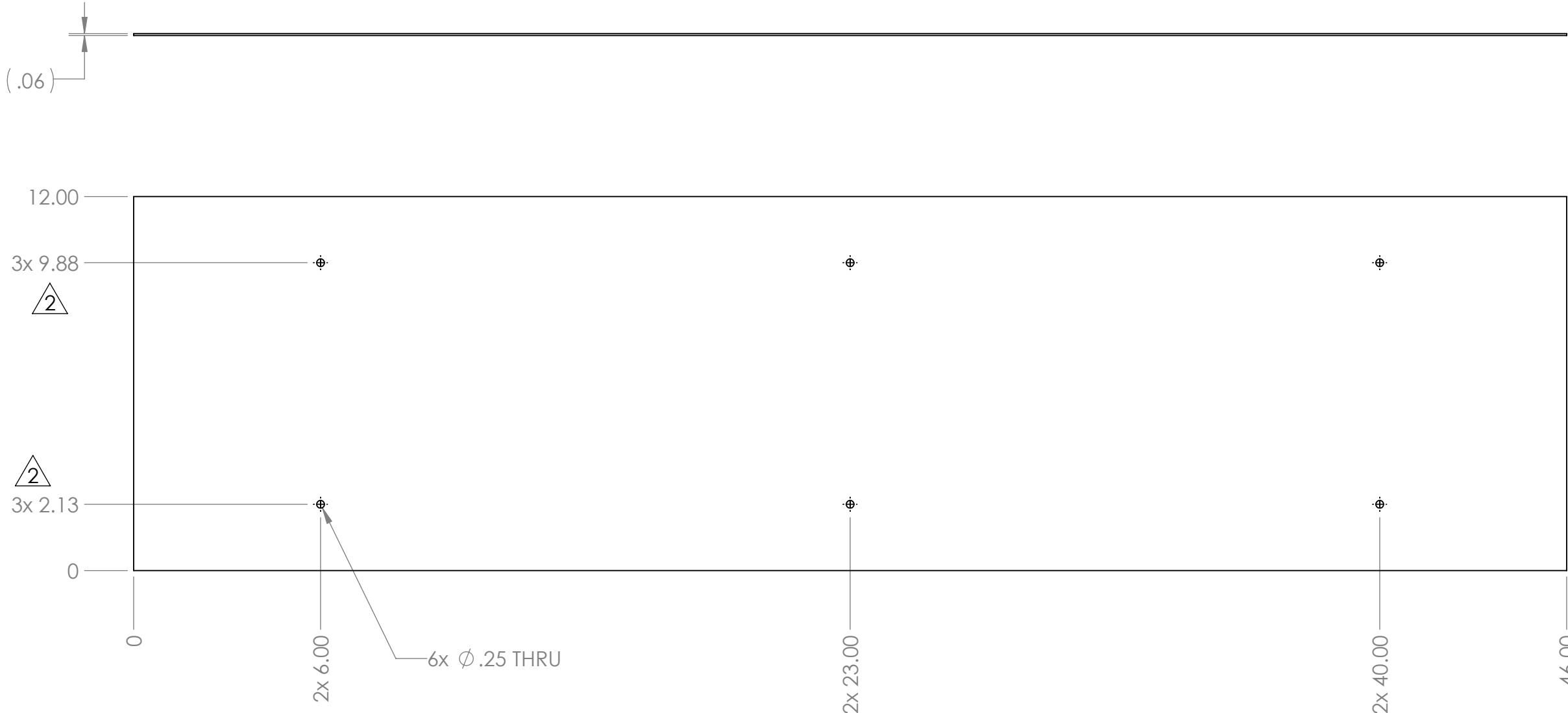
- Notes:
- 1. Material: 1/4" thick, clear polycarbonate.
  - 2. Remove all burrs and sharp edges.

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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: Scale Outrigger Side Cover Polycarbonate		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18022</b>		
		MATERIAL	COMMENTS:					
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8	WEIGHT:	SHEET 1 OF 1





REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A4, B4	2	Hole location of 6 holes changed.	11/17/2017	CPO



- Notes:
- Material: 1/16" thick, clear polycarbonate.
  - Remove all burrs and sharp edges.

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

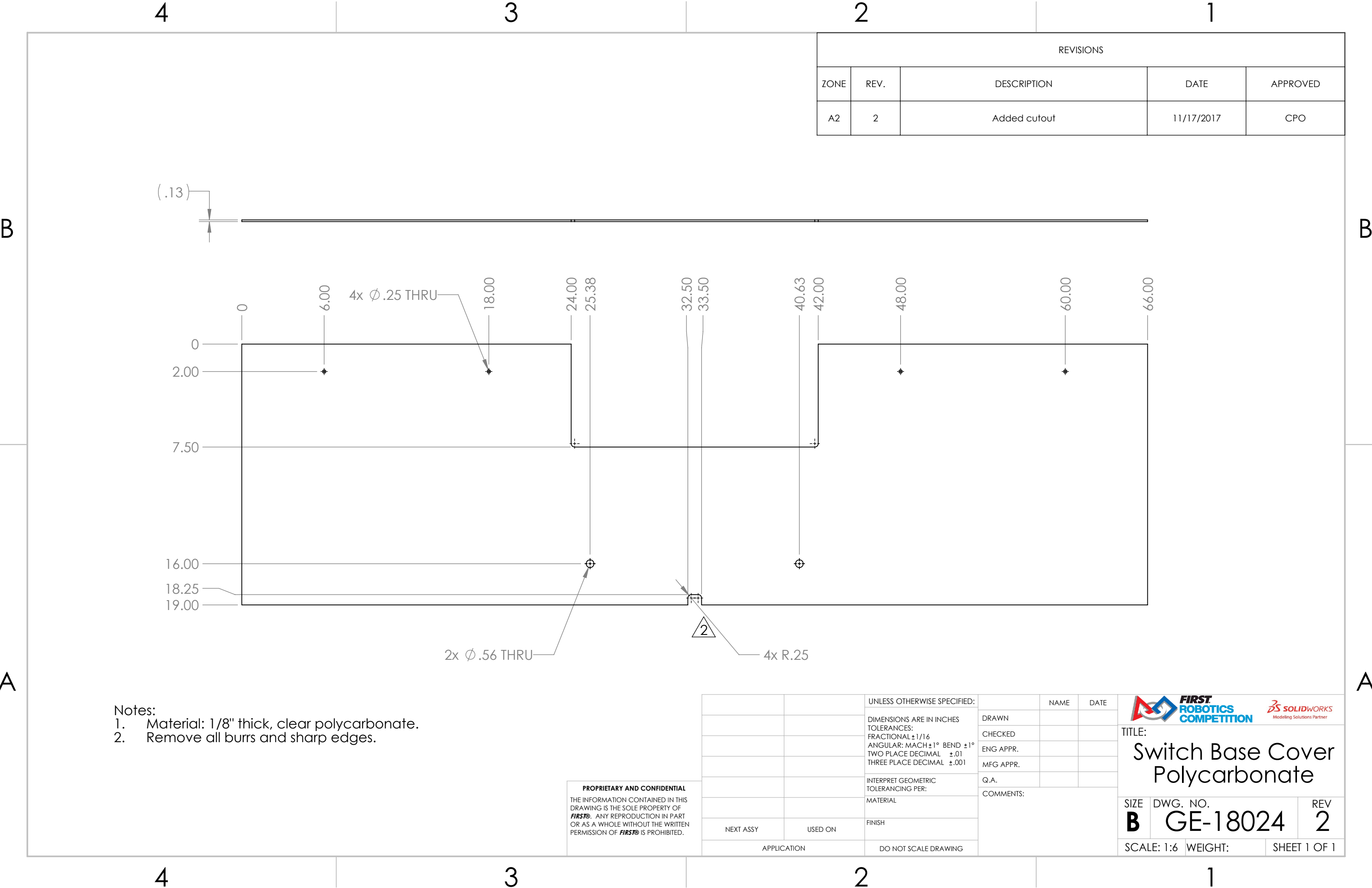


TITLE:

# Scale Arm Cover Polycarbonete

SIZE	DWG. NO.	REV
<b>B</b>	GE-18023	2

SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A2	2	Added cutout	11/17/2017	CPO

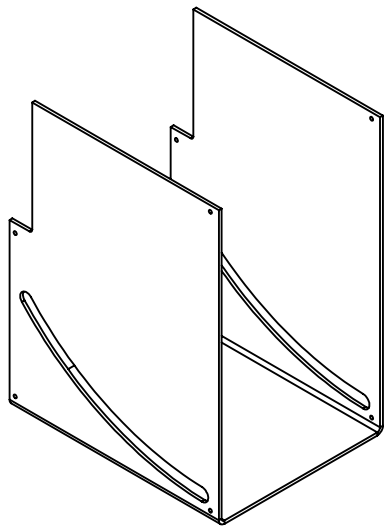
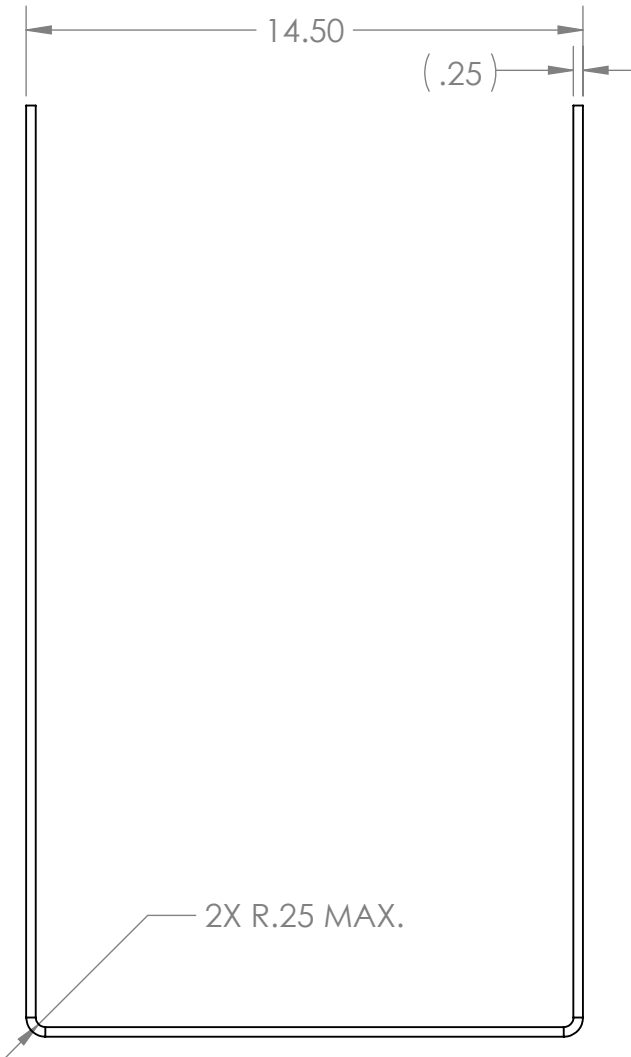
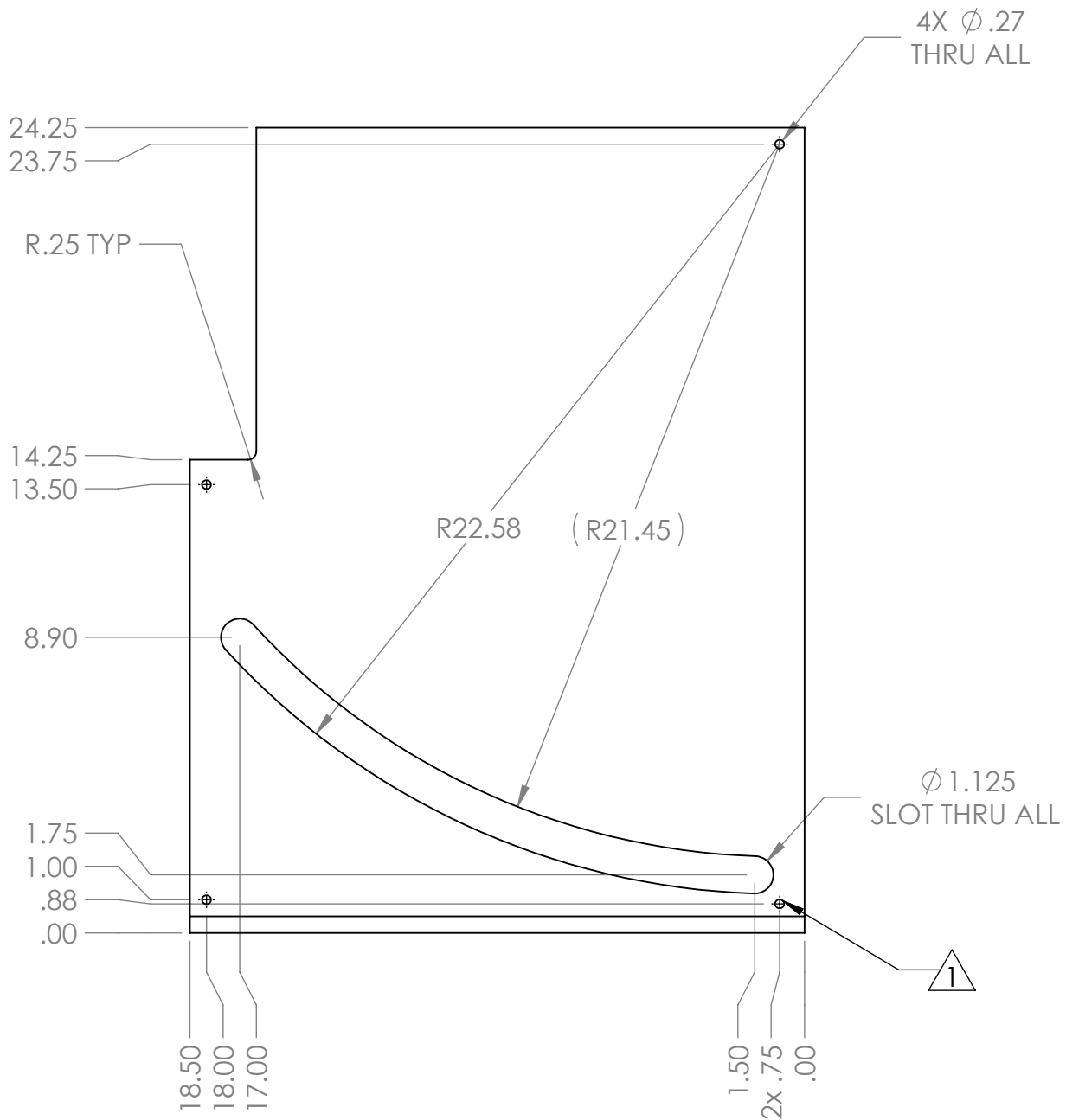
Notes:

- Material: 1/8" thick, clear polycarbonate.
- Remove all burrs and sharp edges.

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Switch Base Cover Polycarbonate			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> GE-18024 2			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3	1	Added additional 0.27" diameter hole.	1/8/2018	CPO

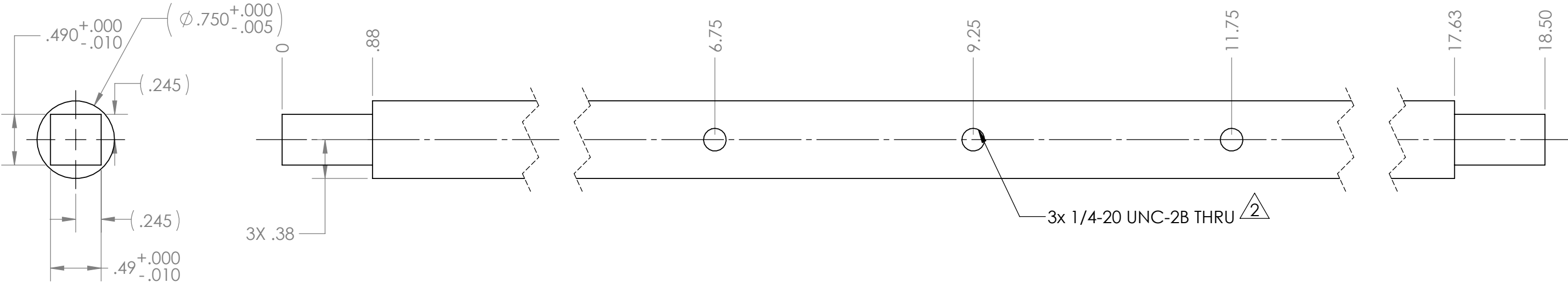


- Notes:
1. Material: 1/4" thick, clear polycarbonate
  2. Remove all burrs and sharp edges

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UNLESS OTHERWISE SPECIFIED:		NAME	DATE	TITLE: <b>Chute Body</b>	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	INTERPRET GEOMETRIC TOLERANCING PER:	DRAWN			
	MATERIAL	CHECKED			
	FINISH	ENG APPR.			
		MFG APPR.			
NEXT ASSY	USED ON	Q.A.		SIZE DWG. NO. REV <b>B</b> <b>GE-18025</b> <b>1</b>	
APPLICATION		COMMENTS:			
DO NOT SCALE DRAWING		SCALE: 1:5	WEIGHT:	SHEET 1 OF 1	

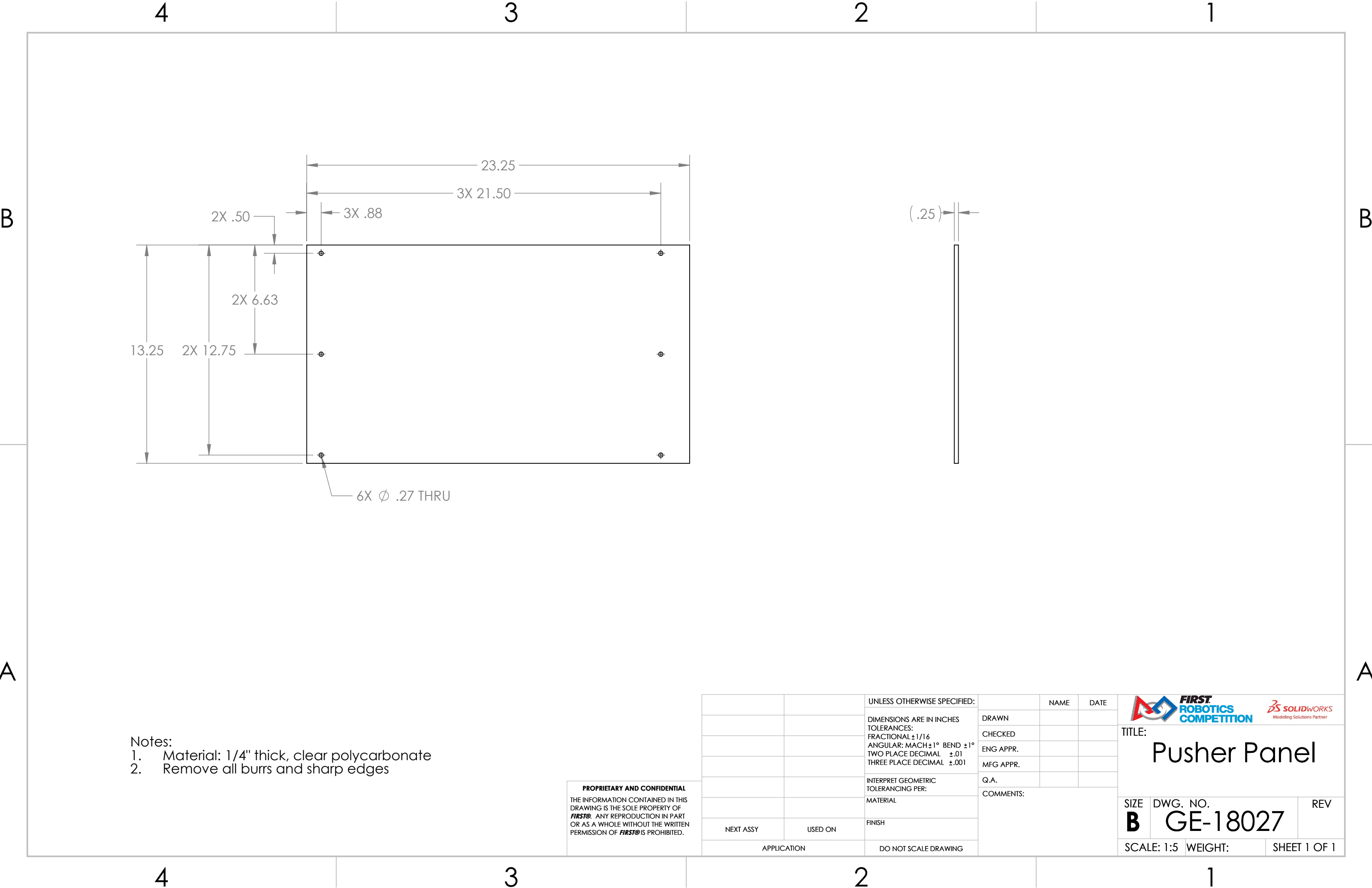
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A1, A4	2	Material Changed. 3 Clearance holes changed to 1/4-20 tapped holes	11/17/2017	CPO



- Notes:
- Material: 3/4" Rotary Shaft, 1045 Steel
  - Finish: Clear Zinc

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <b>Switch/Scale Arm Shaft</b>			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B GE-18026 2</b>			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1 WEIGHT: SHEET 1 OF 1			

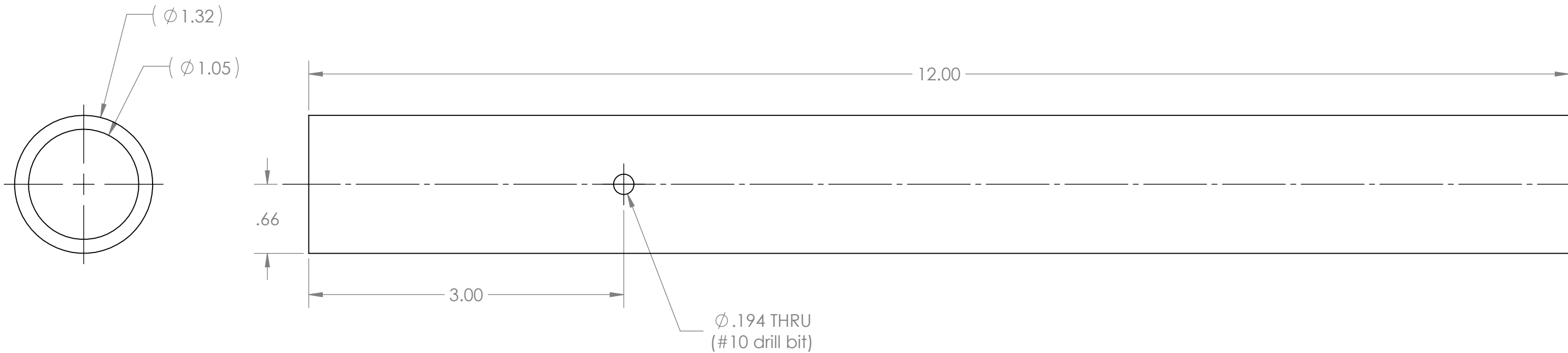


A

B



A

B



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

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Plate Mount Pin			
		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>B</b> <b>GE-18028</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1 WEIGHT: SHEET 1 OF 1			

4

3

2

1

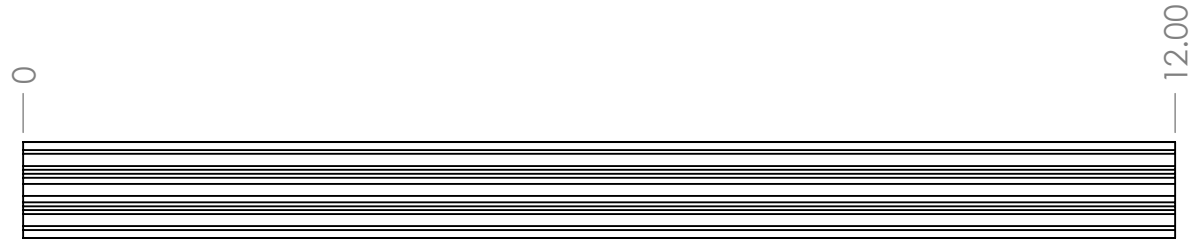
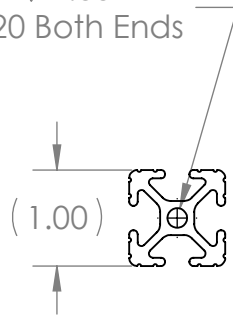
2

1

B

B

$\phi .21 \nabla 1.00$   
Tap 1/4-20 Both Ends



Note:

1. 80-20 aluminum extrusion
2. Remove all burrs and sharp edges

A

A

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



**FIRST  
ROBOTICS  
COMPETITION**

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

80-20 Extrusion

SIZE

**A**

DWG. NO.

**GE-18030**

REV

SCALE: 1:4

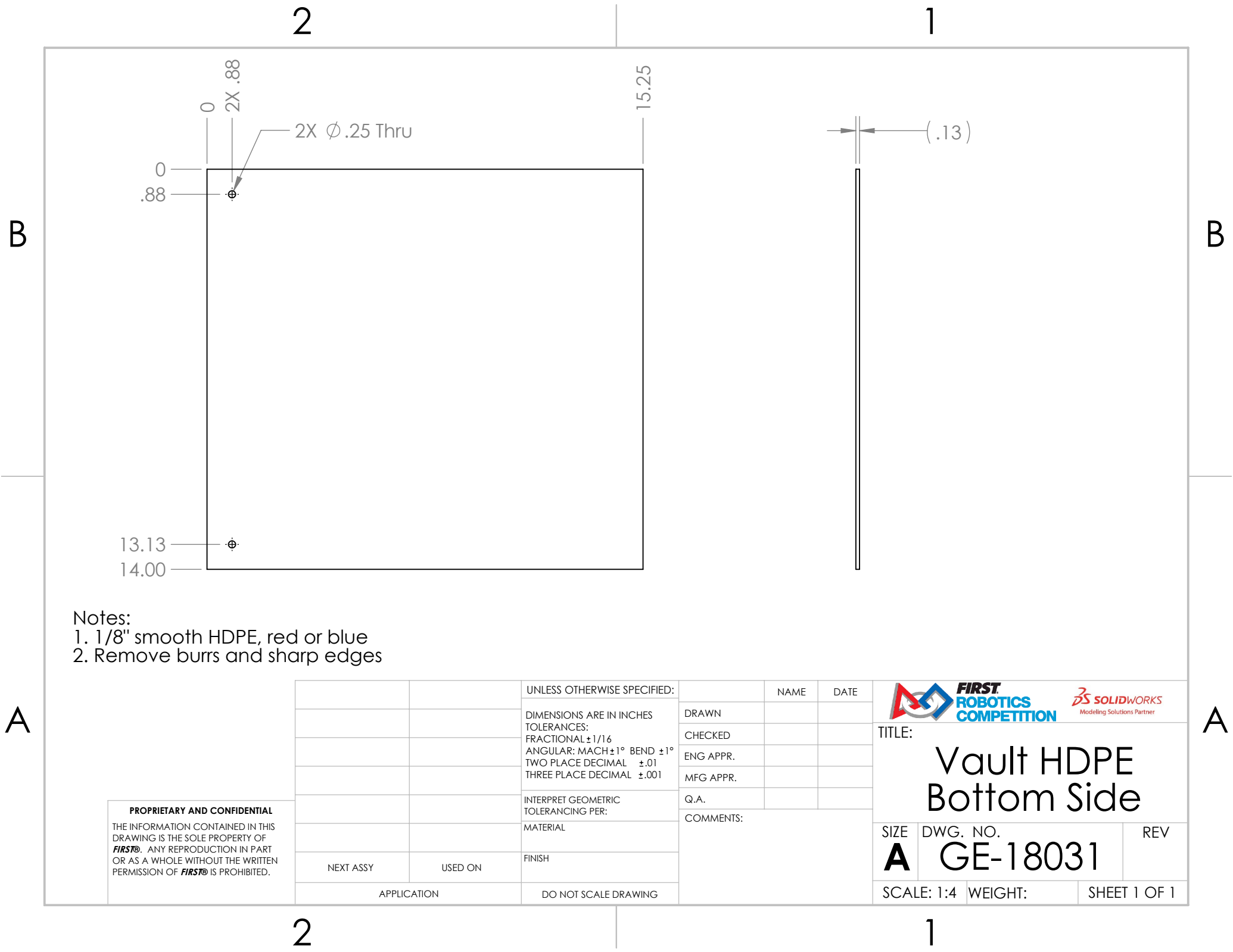
WEIGHT:

SHEET 1 OF 1

2

1







Notes:

- 1. 1/8" smooth HDPE, red or blue
- 2. Remove burrs and sharp edges

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

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

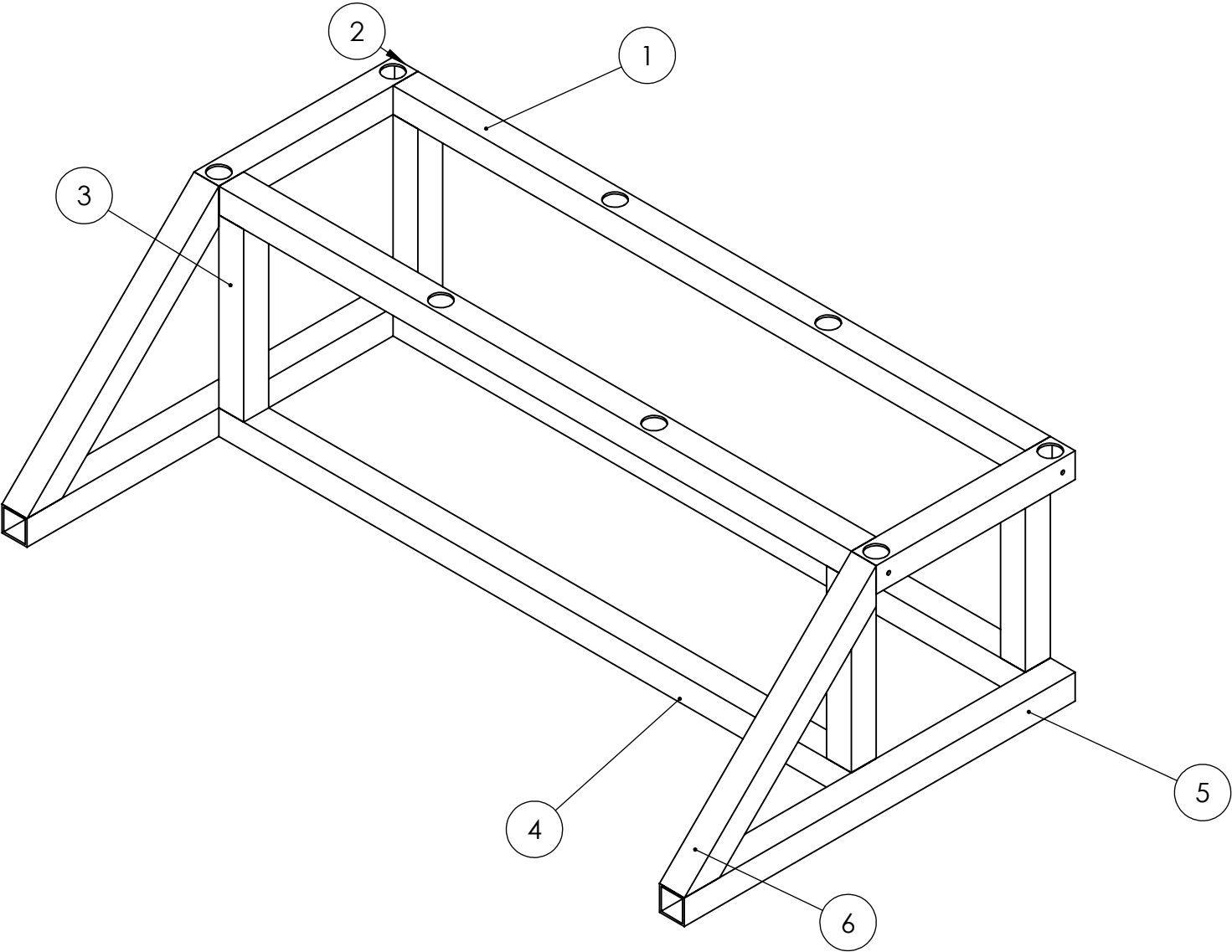


TITLE:

# Vault HDPE Bottom Side

SIZE	DWG. NO.	REV
<b>A</b>	<b>GE-18031</b>	

SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
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Bill of Material

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18032-01	1 3/4", 1/8" Thick Square Tube 6063 Aluminum	2
2	GE-18032-02	1 3/4", 1/8" Thick Square Tube 6063 Aluminum	2
3	GE-18032-03	1 3/4", 1/8" Thick Square Tube 6063 Aluminum	4
4	GE-18032-05	1 3/4", 1/8" Thick Square Tube 6063 Aluminum	2
5	GE-18032-04	1 3/4", 1/8" Thick Square Tube 6063 Aluminum	2
6	GE-18032-06	1 3/4", 1/8" Thick Square Tube 6063 Aluminum	2

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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:		
			Vault Base		
			SIZE	DWG. NO.	REV
			B	GE-18032	
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4

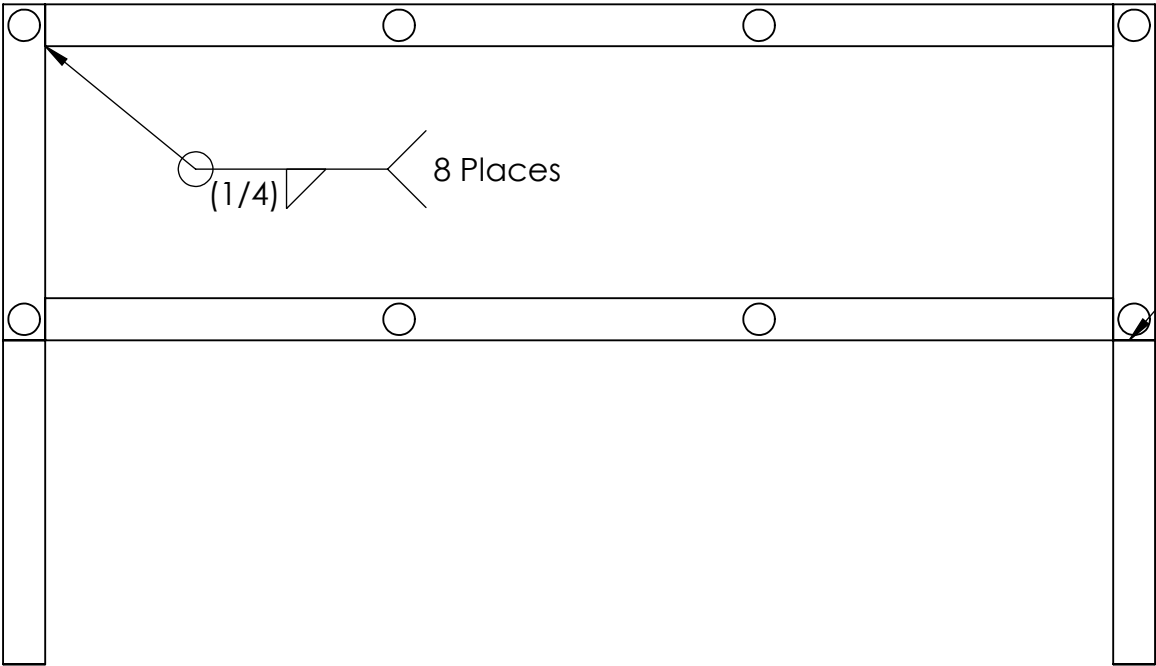
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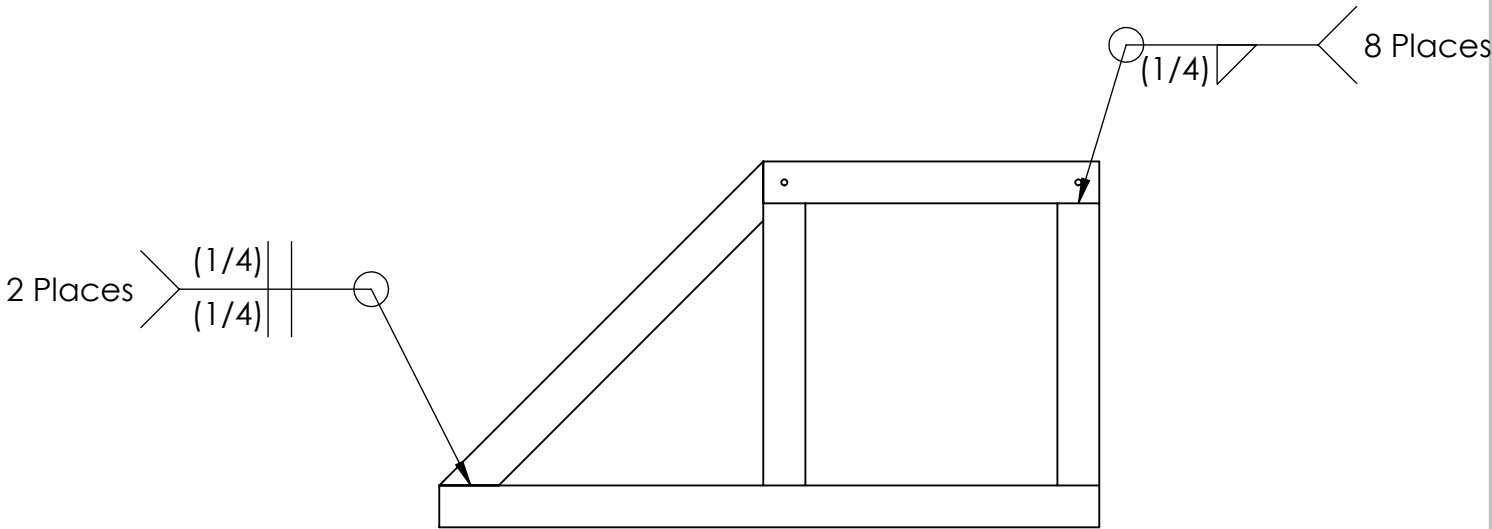
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B

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Top View



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Vault Base			
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		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>B</b> GE-18032			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8		WEIGHT:	SHEET 2 OF 7

4

3

2

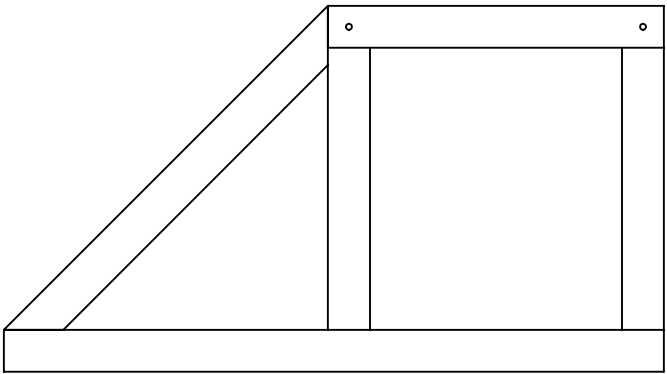
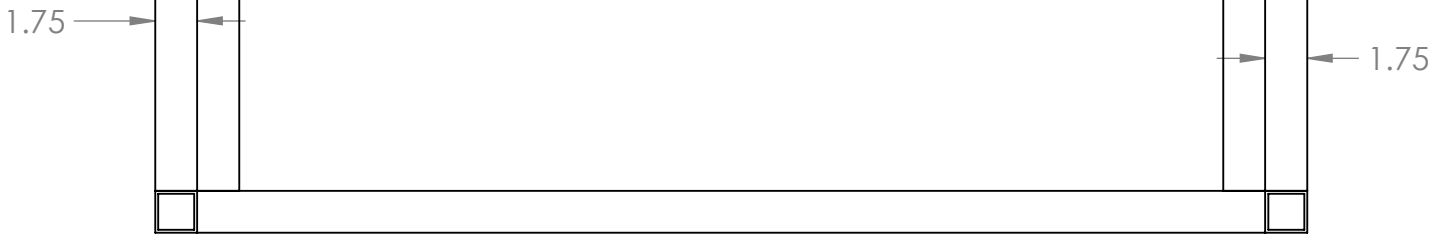
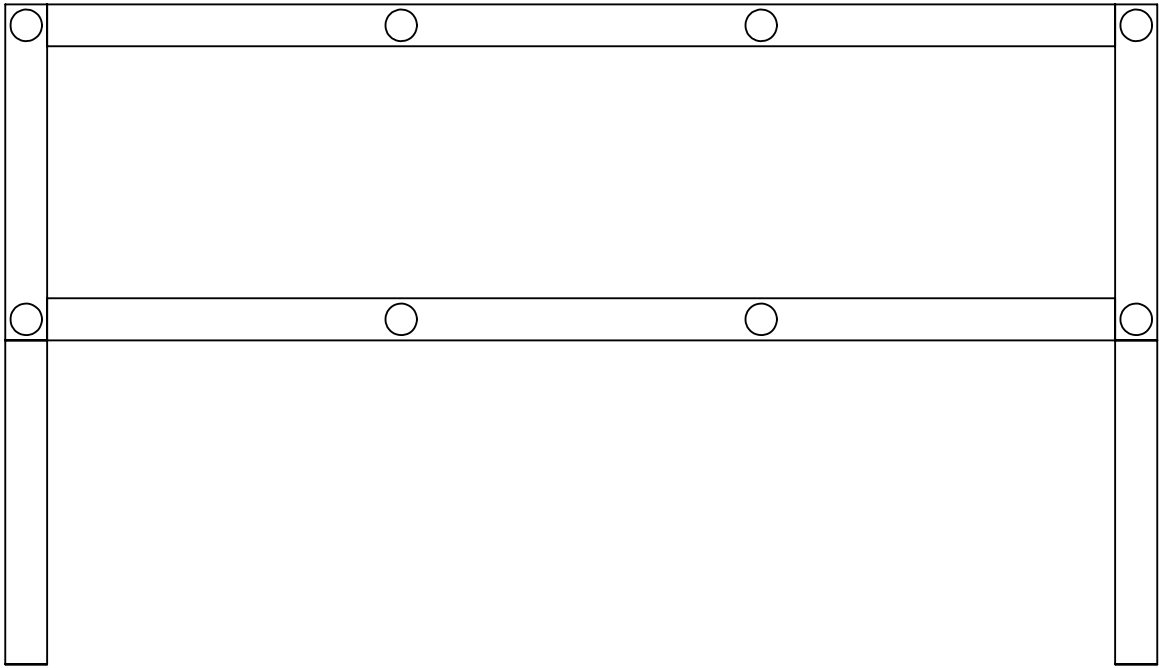
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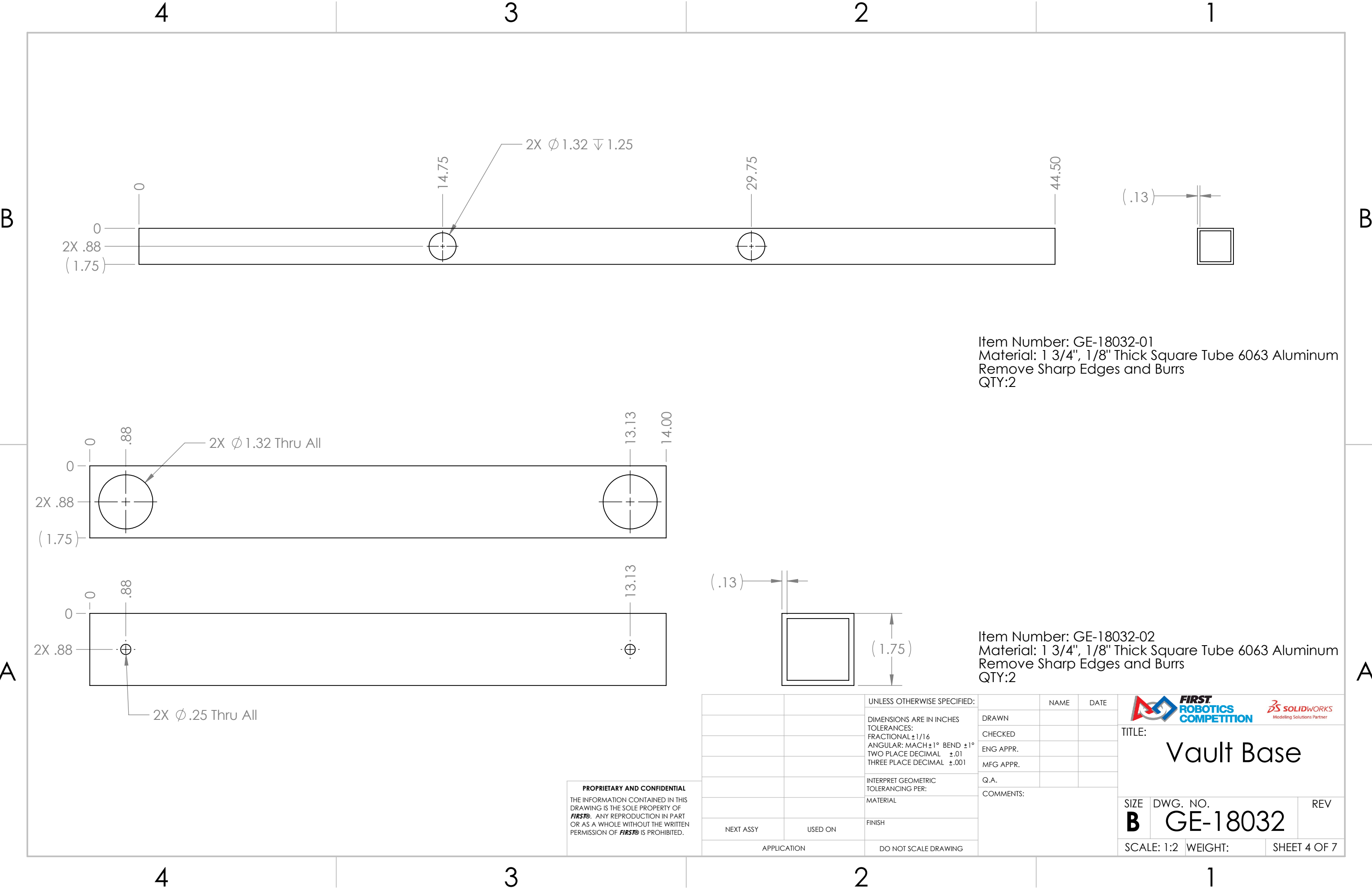
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV  B GE-18032		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						
			SCALE: 1:8			WEIGHT:		SHEET 3 OF 7

4

3

2



1



Item Number: GE-18032-01  
Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum  
Remove Sharp Edges and Burrs  
QTY:2

Item Number: GE-18032-02  
Material: 1 3/4", 1/8" Thick Square Tube 6063 Aluminum  
Remove Sharp Edges and Burrs  
QTY:2

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Vault Base			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18032</b>			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2		WEIGHT:	SHEET 4 OF 7

4

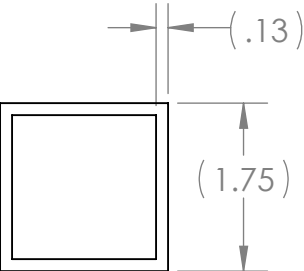
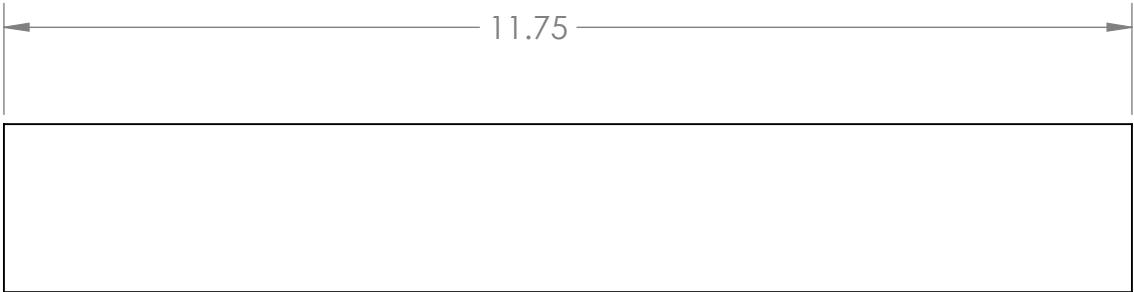
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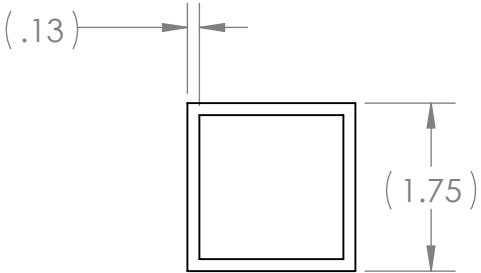
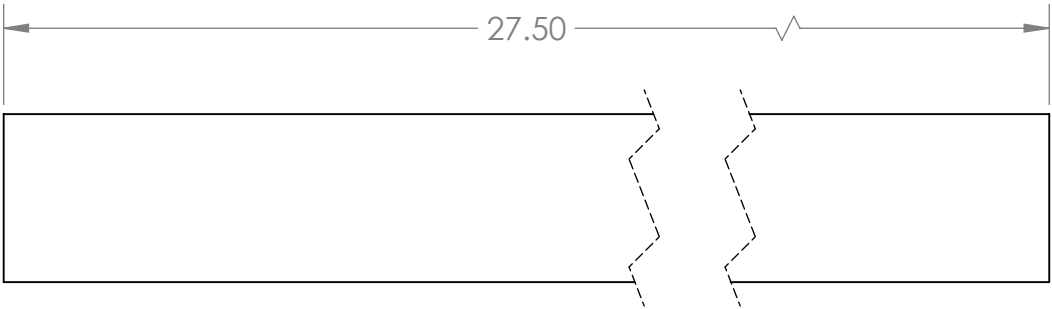
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B

B



Item Number: GE-18032-03  
Material: 1 3/4" 6063 Alumium Square Tube  
Remove Sharp Edges and Burrs  
QTY:4





Item Number: GE-18032-04  
Material: 1 3/4" 6063 Alumium Square Tube  
Remove Sharp Edges and Burrs  
QTY: 2

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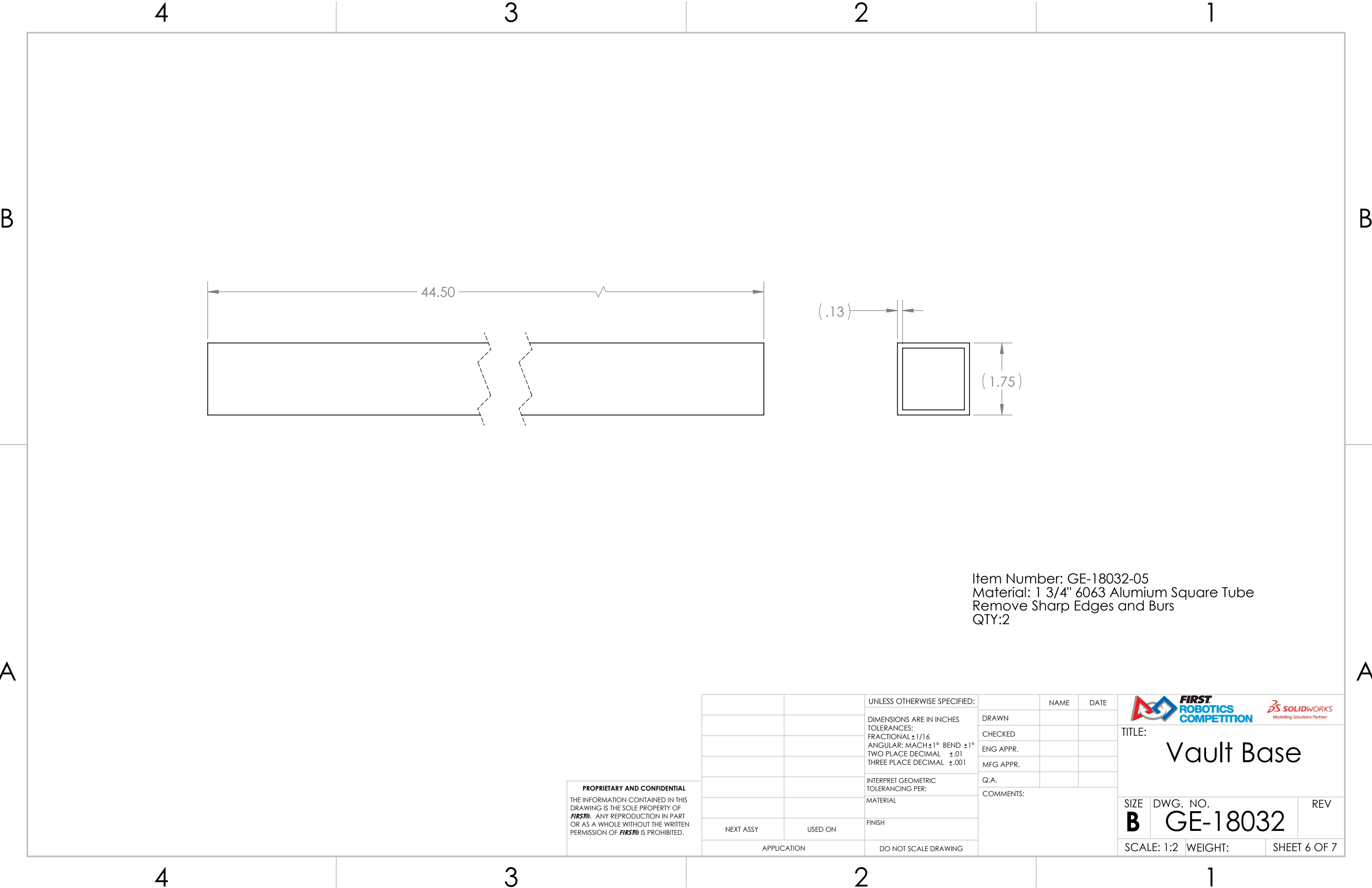
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		TOLERANCES:	CHECKED						
		FRACTIONAL $\pm 1/16$	ENG APPR.						
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
		TWO PLACE DECIMAL $\pm .01$	Q.A.						
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18032</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2		WEIGHT:	SHEET 5 OF 7

4

3



2

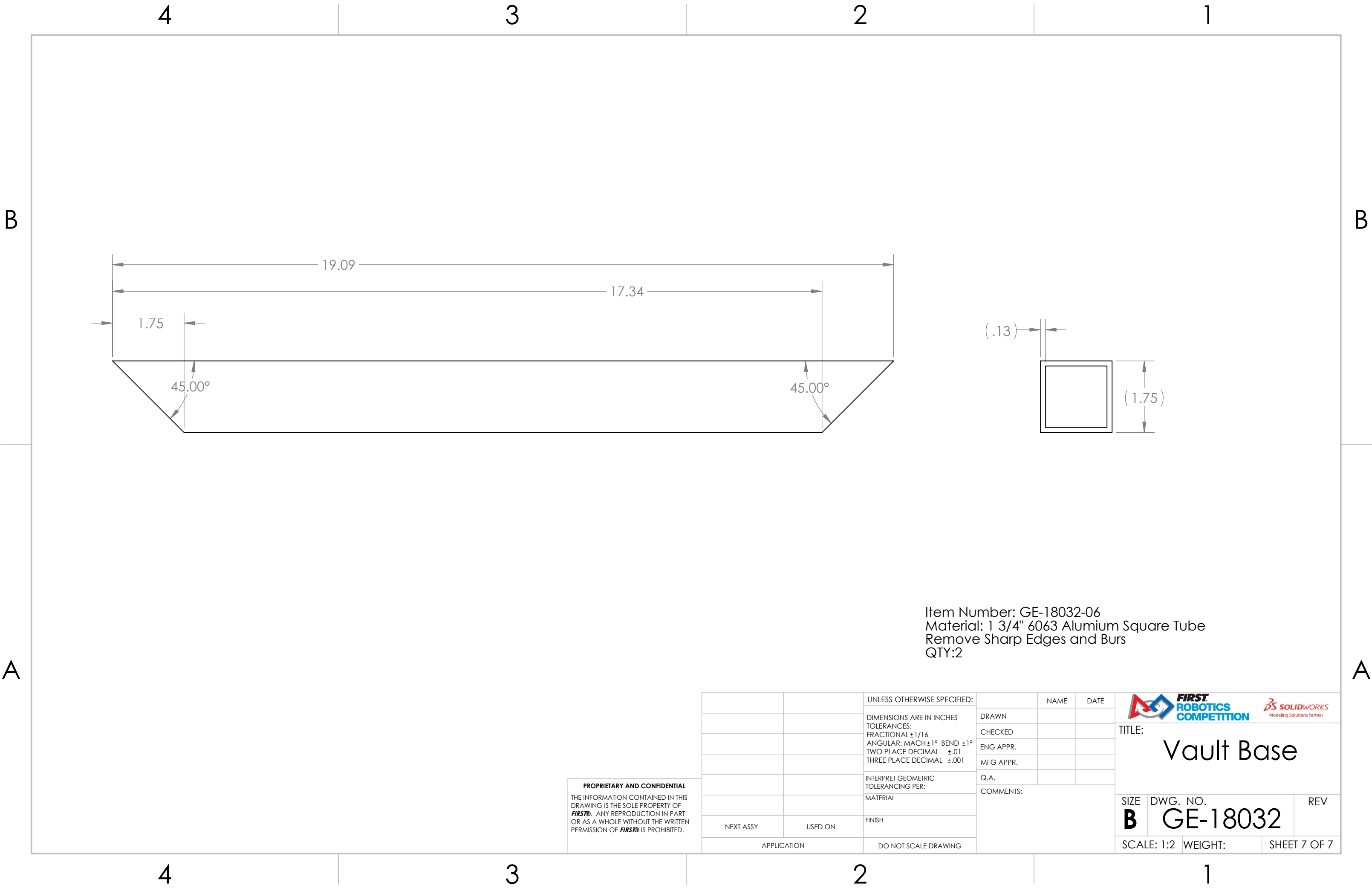
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Item Number: GE-18032-05  
Material: 1 3/4" 6063 Alumium Square Tube  
Remove Sharp Edges and Burs  
QTY:2



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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  Vault Base		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV  B GE-18032		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						
						SCALE: 1:2 WEIGHT: SHEET 6 OF 7		



Item Number: GE-18032-06  
Material: 1 3/4" 6063 Alumium Square Tube  
Remove Sharp Edges and Burs  
QTY:2

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Vault Base</h1>			
		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>B</b> <b>GE-18032</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
NEXT ASSY	USED ON	FINISH							SCALE: 1:2 WEIGHT: SHEET 7 OF 7
APPLICATION		DO NOT SCALE DRAWING							



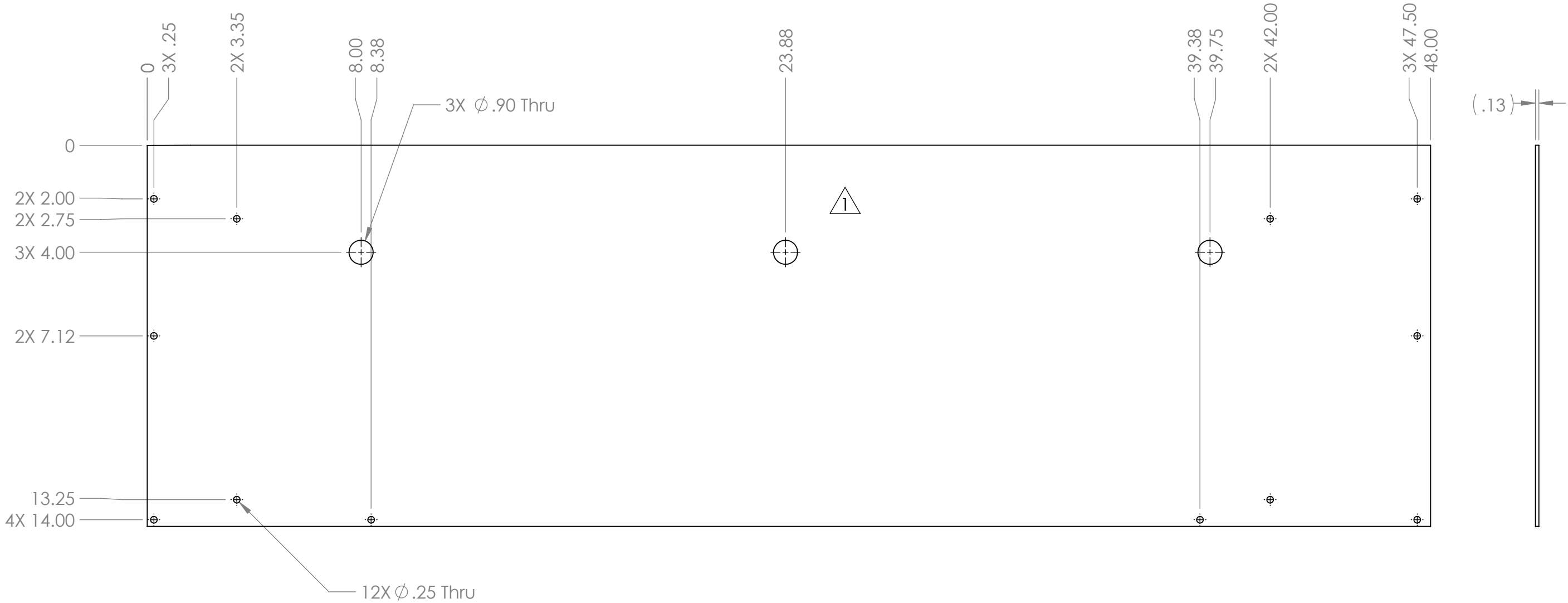
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2	1	Removed holes and added holes at 3.35 and 42.00	11/20/2017	MXS

B

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B



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Note

- 1/8" thk. clear Polycarbonate
- Remove sharp edges and burrs

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE: Vault polycarbonate Top Front Face			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV B GE-18033 1			
		MATERIAL	COMMENTS:						
NEXT ASSY	USED ON	FINISH							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1			

4

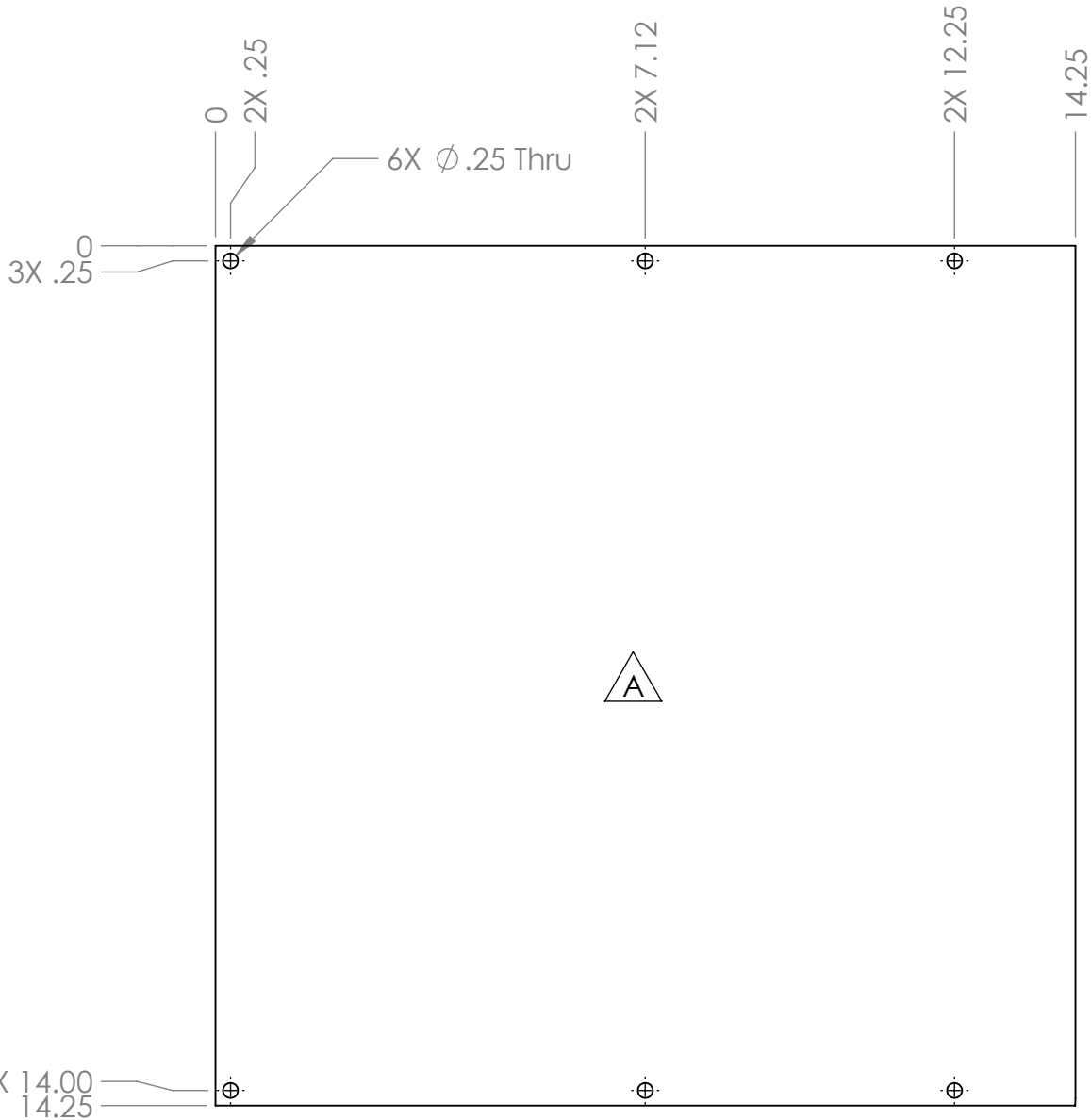
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2

1

REVISIONS



ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	A	Removed holes	11/20/2017	MXS

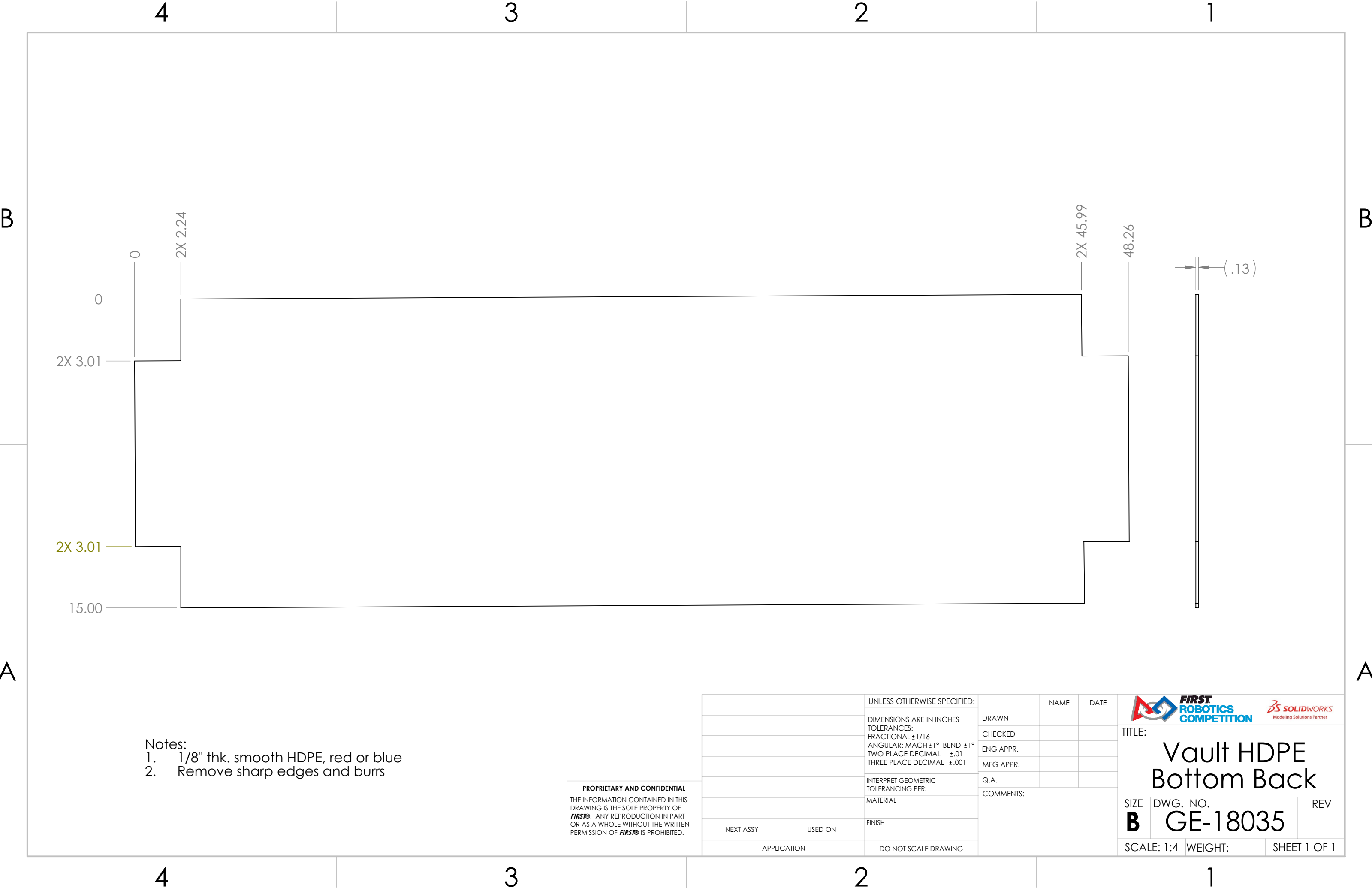


(.13)

Note  
1. 1/8" thk. smooth HDPE, blue or red  
2.Remove sharp edges and burrs



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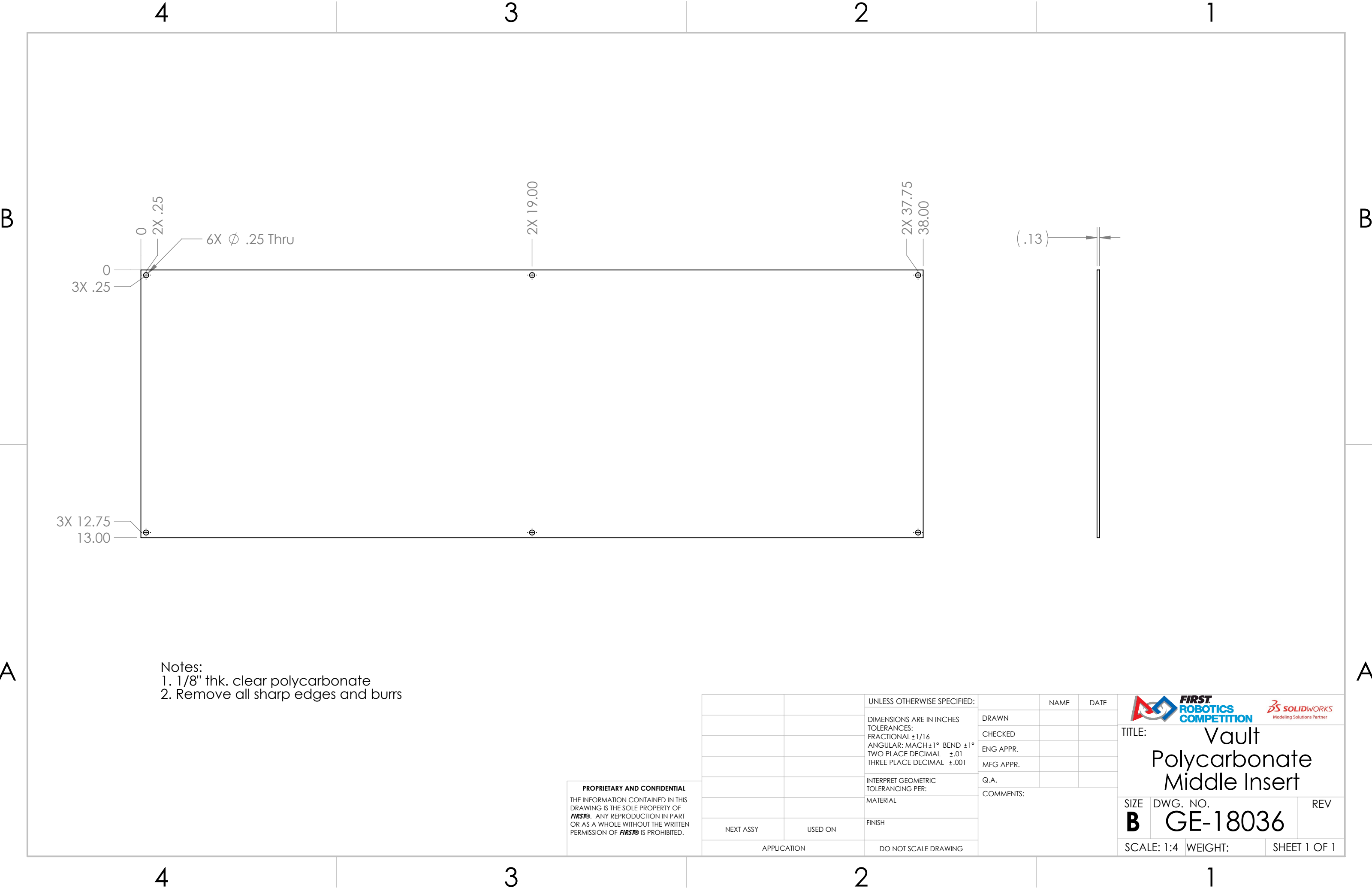
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			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B GE-18034 A</b>			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							
						SCALE: 1:3		WEIGHT:	SHEET 1 OF 1



- Notes:
- 1. 1/8" thk. smooth HDPE, red or blue
  - 2. Remove sharp edges and burrs



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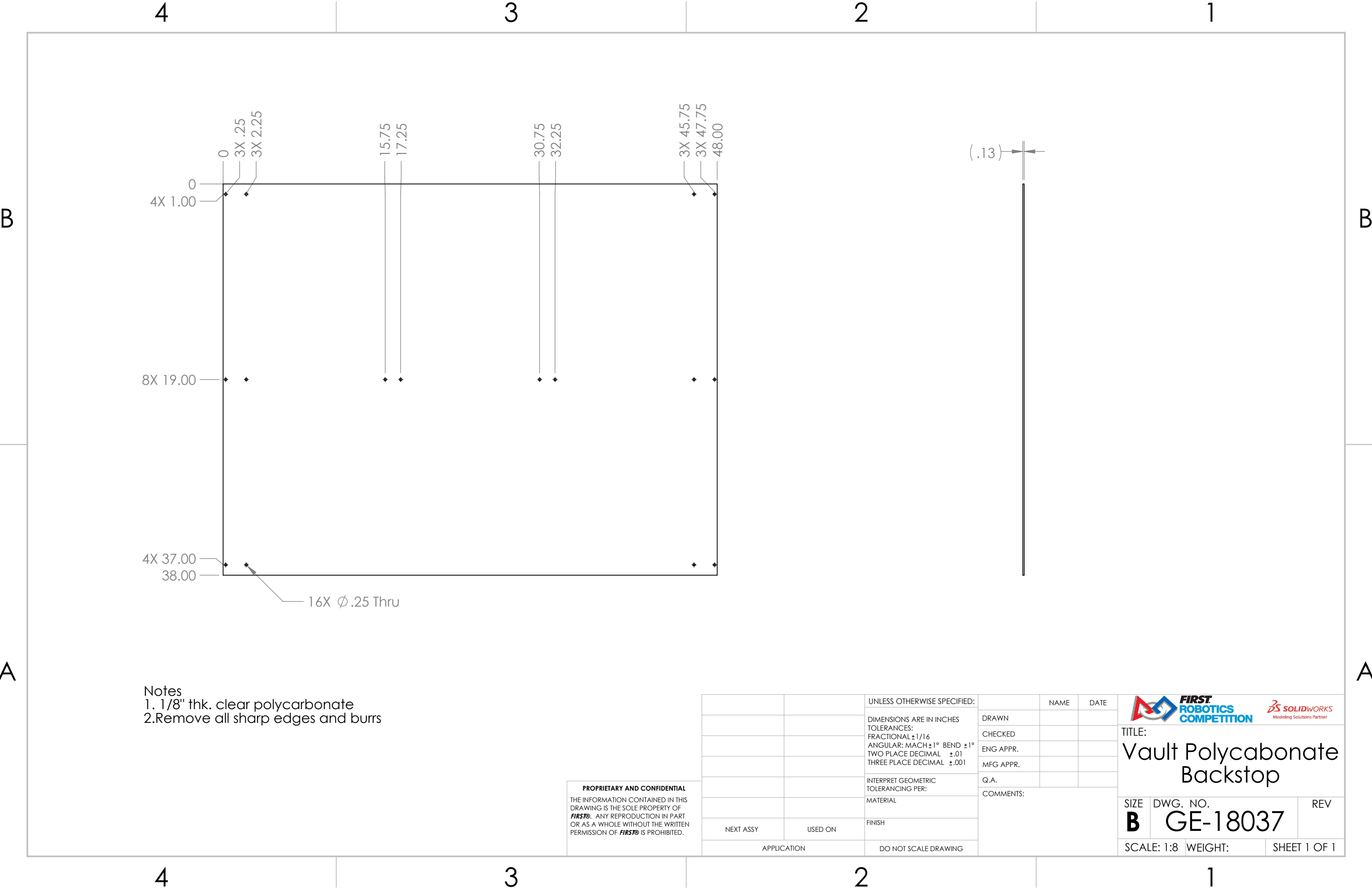
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE <b>B</b>		
		MATERIAL	COMMENTS:				DWG. NO. <b>GE-18035</b>	REV
		FINISH						
NEXT ASSY	USED ON					SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
APPLICATION		DO NOT SCALE DRAWING						



Notes:  
1. 1/8" thk. clear polycarbonate  
2. Remove all sharp edges and burrs



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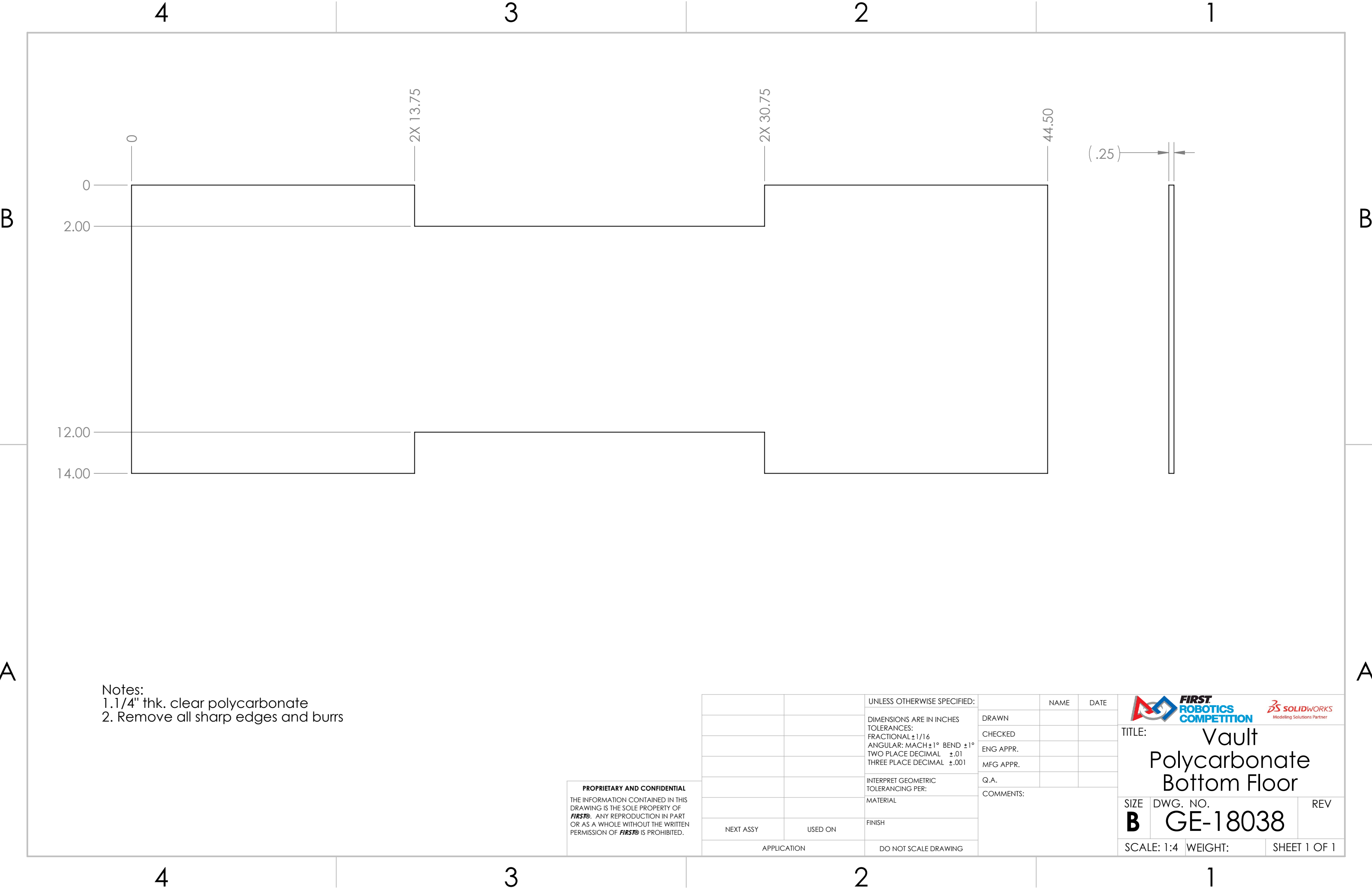
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18036</b>		
		MATERIAL						
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 1 OF 1		



Notes  
1. 1/8" thk. clear polycarbonate  
2.Remove all sharp edges and burrs



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			CHECKED					
			ENG APPR.					
			MFG APPR.					
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		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8	WEIGHT:	SHEET 1 OF 1



Notes:  
1. 1/4" thk. clear polycarbonate  
2. Remove all sharp edges and burrs

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			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> GE-18038			
		MATERIAL	COMMENTS:						
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NEXT ASSY	USED ON								
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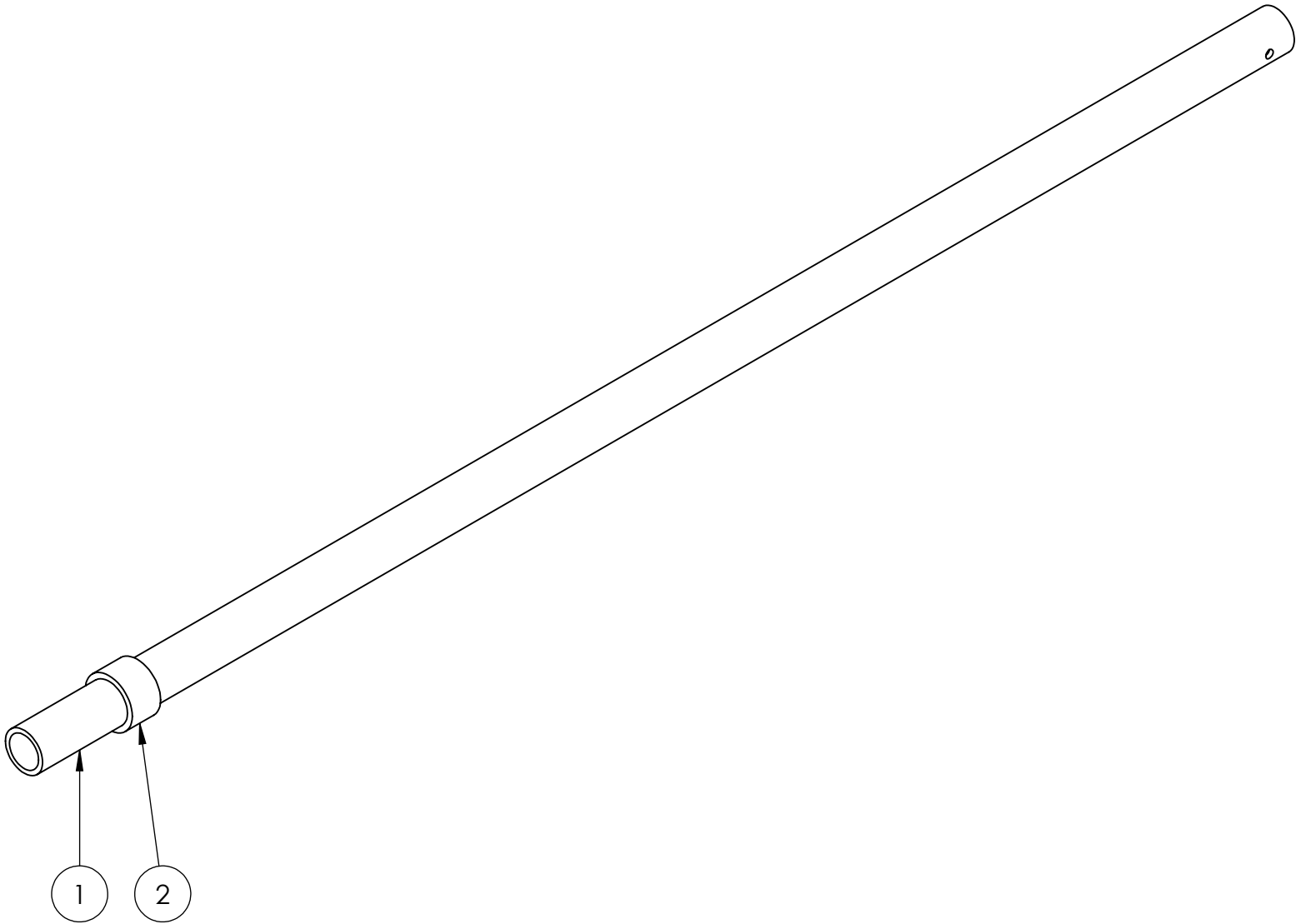
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18039-01	1" Schedule 40 Aluminum Pipe	1
2	GE-18039-02	1 1/4" Schedule 40 Aluminum Pipe	1

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			CHECKED						
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			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18039</b>			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 1 OF 5			

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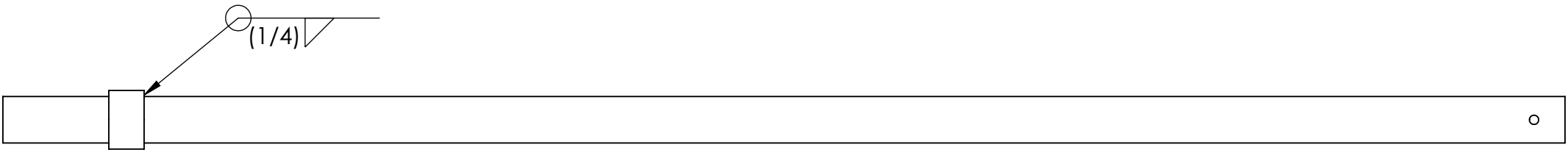
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			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			COMMENTS:			
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON					SIZE <b>B</b>	DWG. NO. <b>GE-18039</b>	REV	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8		WEIGHT:	SHEET 2 OF 5

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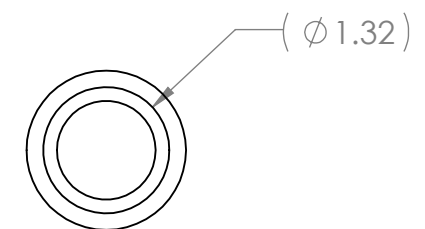
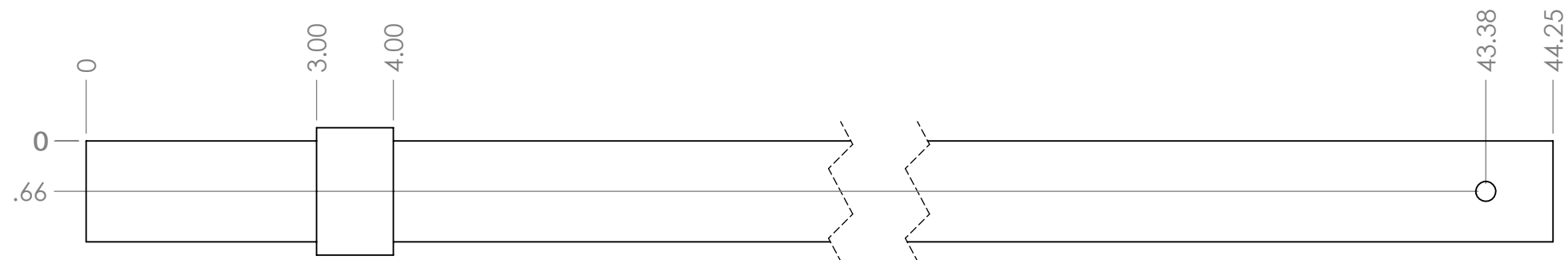
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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN						SIZE <b>B</b>	DWG. NO. <b>GE-18039</b>	REV
			CHECKED								
			ENG APPR.								
			MFG APPR.								
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SCALE: 1:8   WEIGHT:   SHEET 3 OF 5					
		MATERIAL	COMMENTS:								
		FINISH									
NEXT ASSY	USED ON										
APPLICATION		DO NOT SCALE DRAWING									

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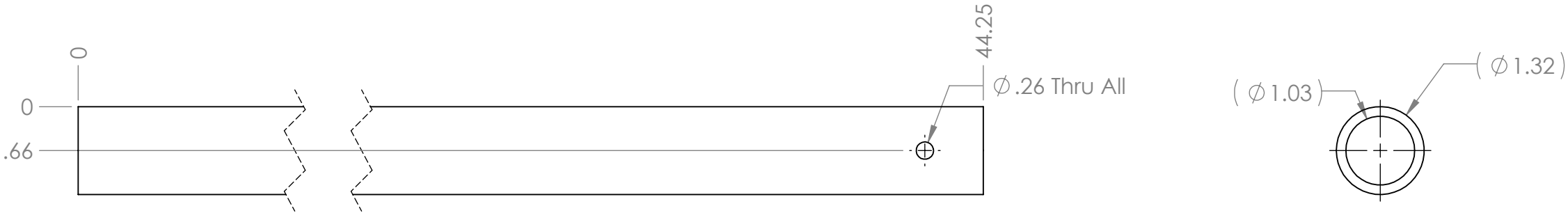
3

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1



B

B



Notes:  
1. GE-18039-01  
2. 1" Schedule 40 Aluminumn Pipe

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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			TITLE:  <h1>Vault Support Pipes</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18039</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 4 OF 5		

4

3

2

1

A

A

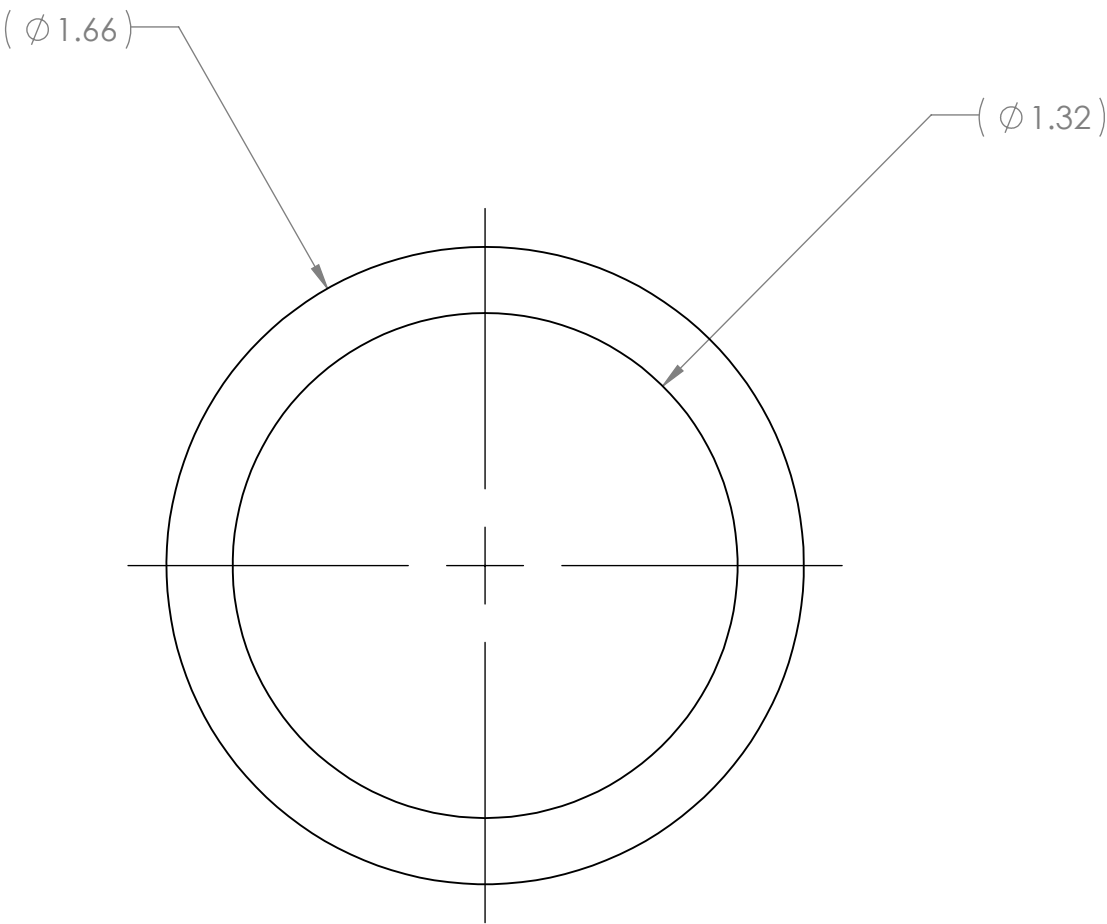
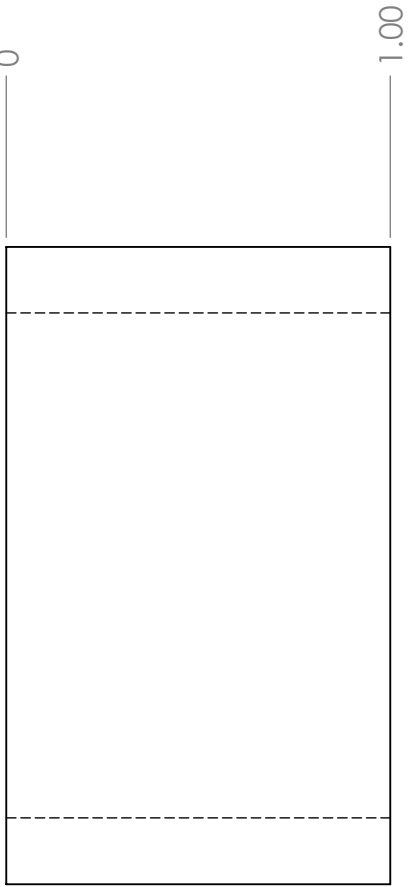
4

3

2

1

B





B

A

- Notes:
- 1. GE-18039-01
  - 2. 1 1/4" Schedule 40 Aluminumn Pipe

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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:  Vault Support Pipes		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV
NEXT ASSY	USED ON	FINISH				B	GE-18039	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8	WEIGHT:	SHEET 5 OF 5

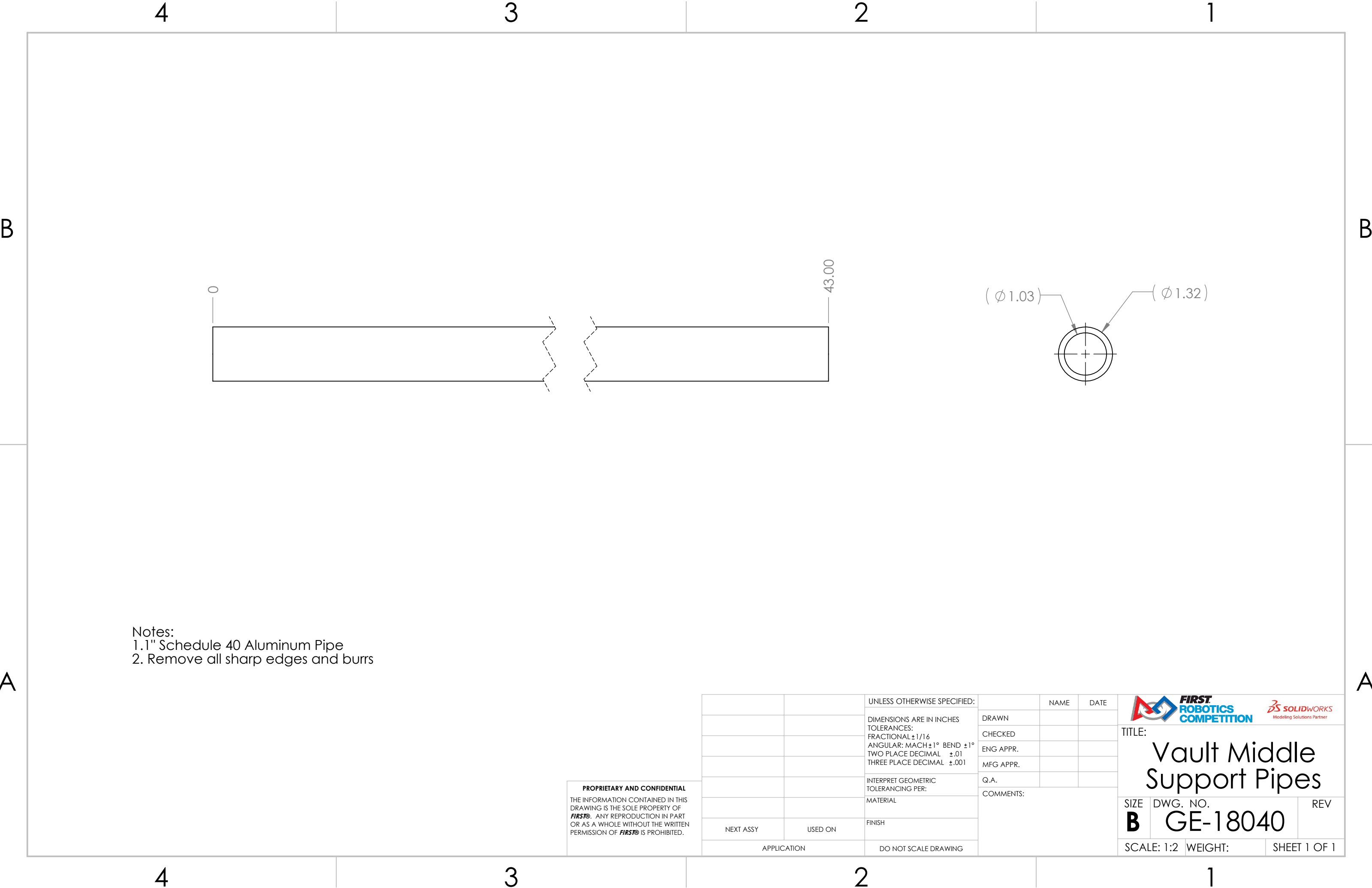
4

3

2



1

A



Notes:  
1. 1" Schedule 40 Aluminum Pipe  
2. Remove all sharp edges and burrs

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 	
		DIMENSIONS ARE IN INCHES	DRAWN				TITLE:  <h1>Vault Middle Support Pipes</h1>
		TOLERANCES: FRACTIONAL $\pm 1/16$	CHECKED				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	ENG APPR.				
		TWO PLACE DECIMAL $\pm .01$	MFG APPR.				
		THREE PLACE DECIMAL $\pm .001$					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.				
		MATERIAL	COMMENTS:				
NEXT ASSY	USED ON	FINISH					
APPLICATION		DO NOT SCALE DRAWING					

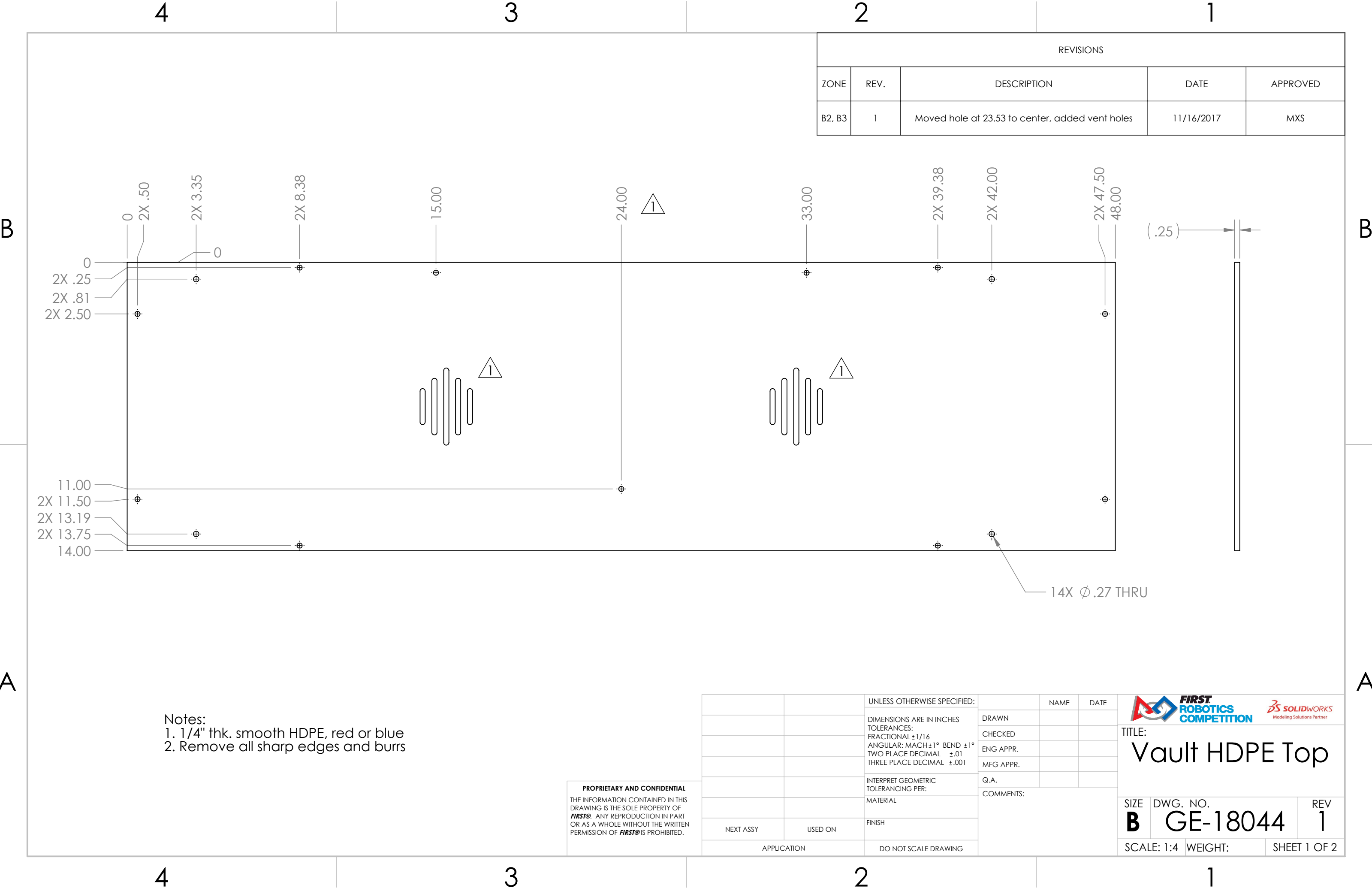
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, B4	1	Added holes are 3.35 and 42	11/20/2017	MXS

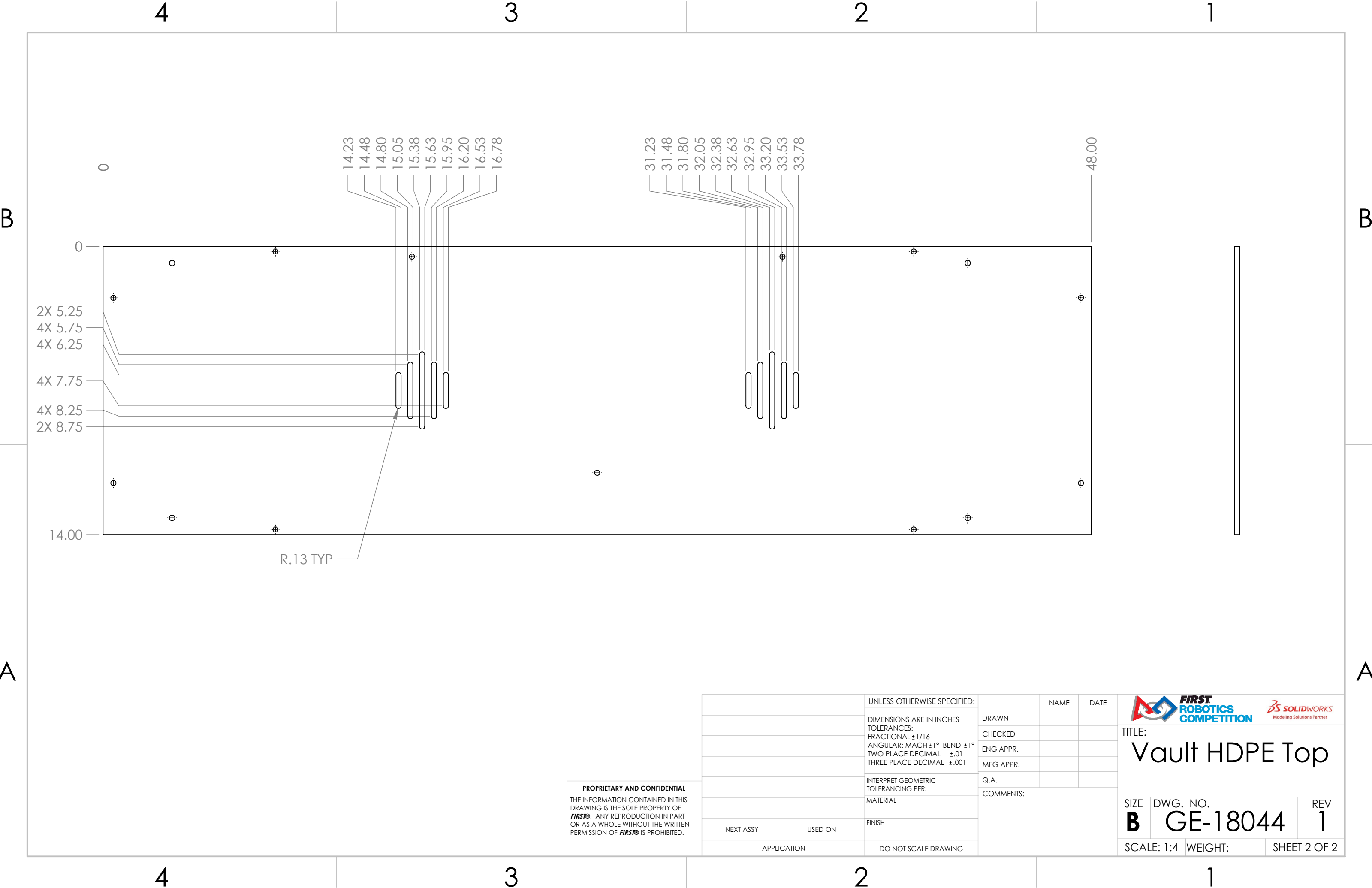


- Notes:
- 1/8" thk. clear polycarbonate
  - Remove all sharp edges and burrs

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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: Vault Polycarbonate Top Backside		
SIZE	DWG. NO.	REV			
B	GE-18041	1			
SCALE: 1:4		WEIGHT:	SHEET 1 OF 1		





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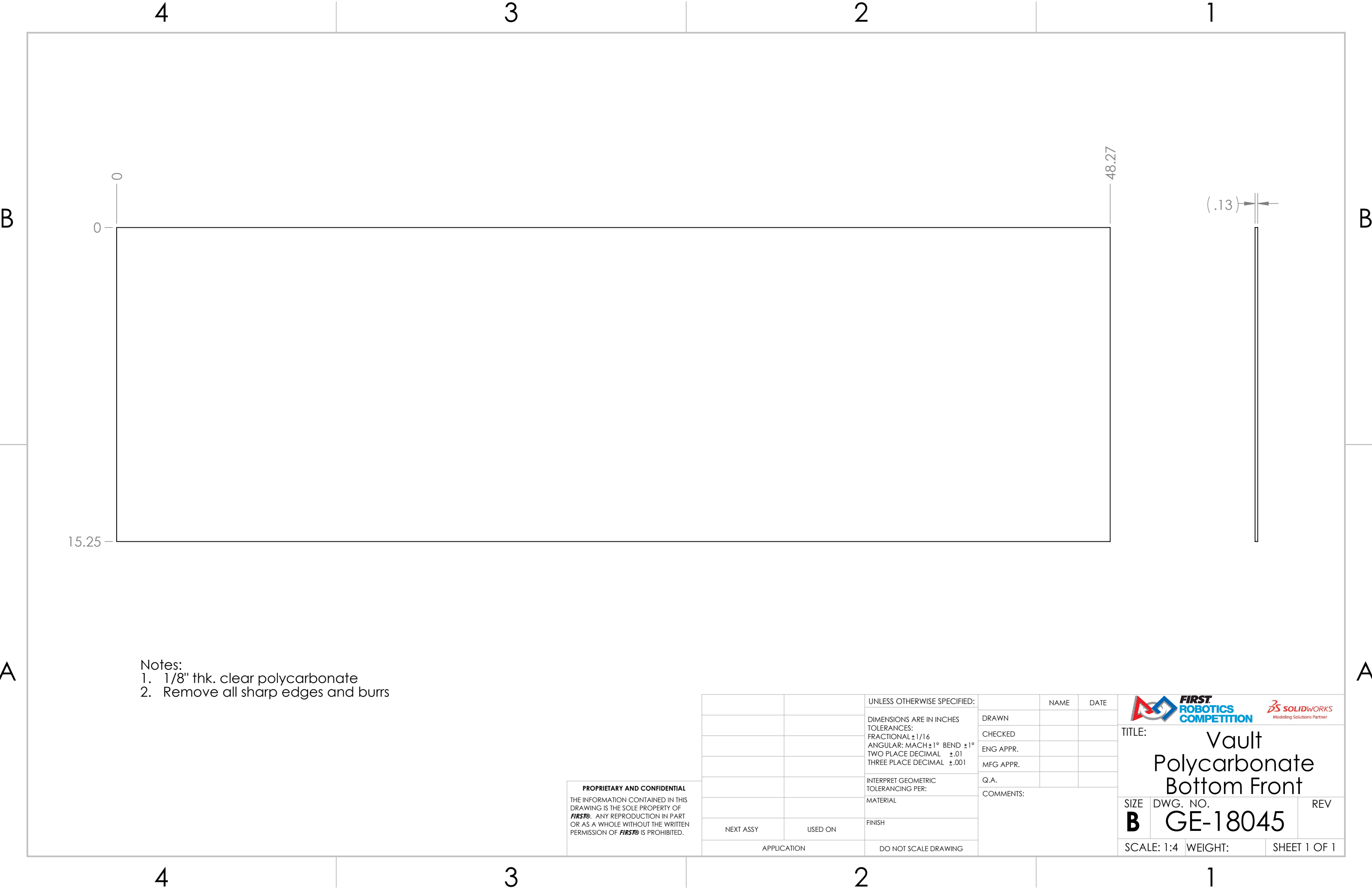
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL $\pm 1/16$	ENG APPR.		
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
		TWO PLACE DECIMAL $\pm .01$	Q.A.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING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



TITLE:  
**Vault HDPE Top**



SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18044</b>	<b>1</b>

SCALE: 1:4	WEIGHT:	SHEET 2 OF 2
------------	---------	--------------



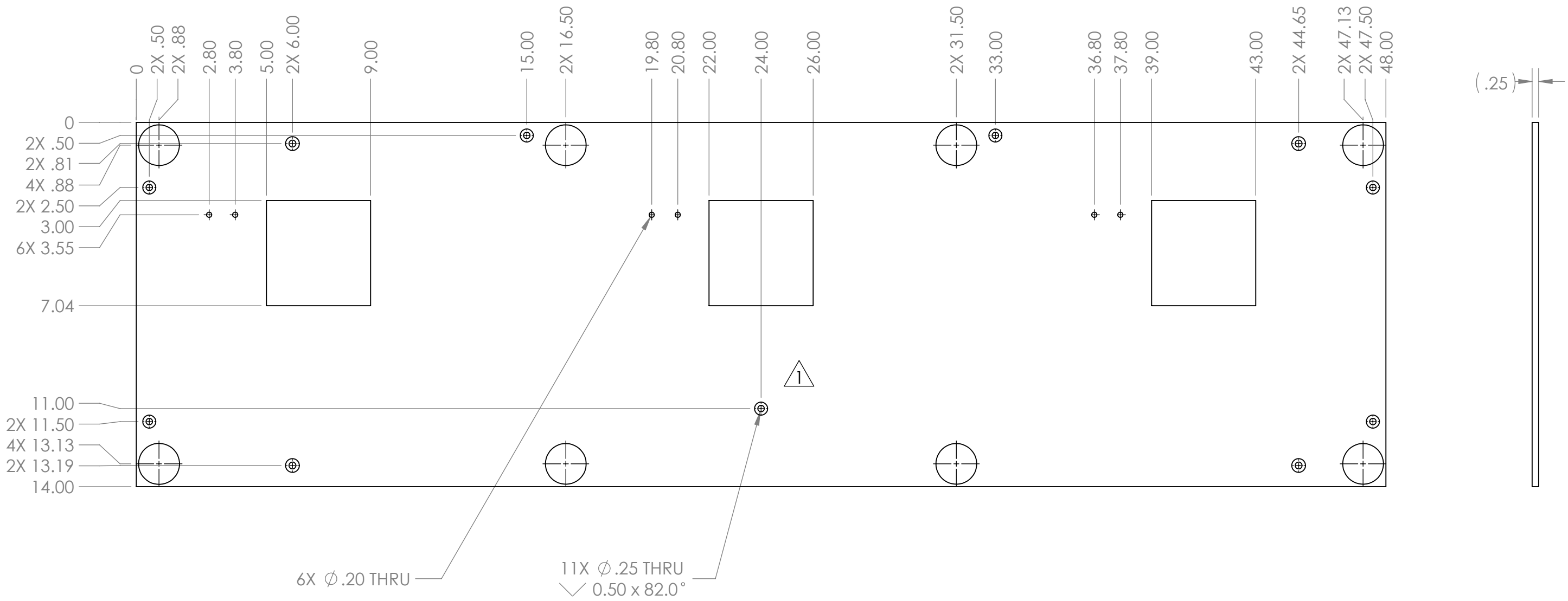
Notes:  
1. 1/8" thk. clear polycarbonate  
2. Remove all sharp edges and burrs

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: Vault Polycarbonate Bottom Front</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						
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> GE-18045			
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4		WEIGHT:	SHEET 1 OF 1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3	1	Hole moved to 24" (centered); countersunk all .25" holes	11/16/2017	MXS



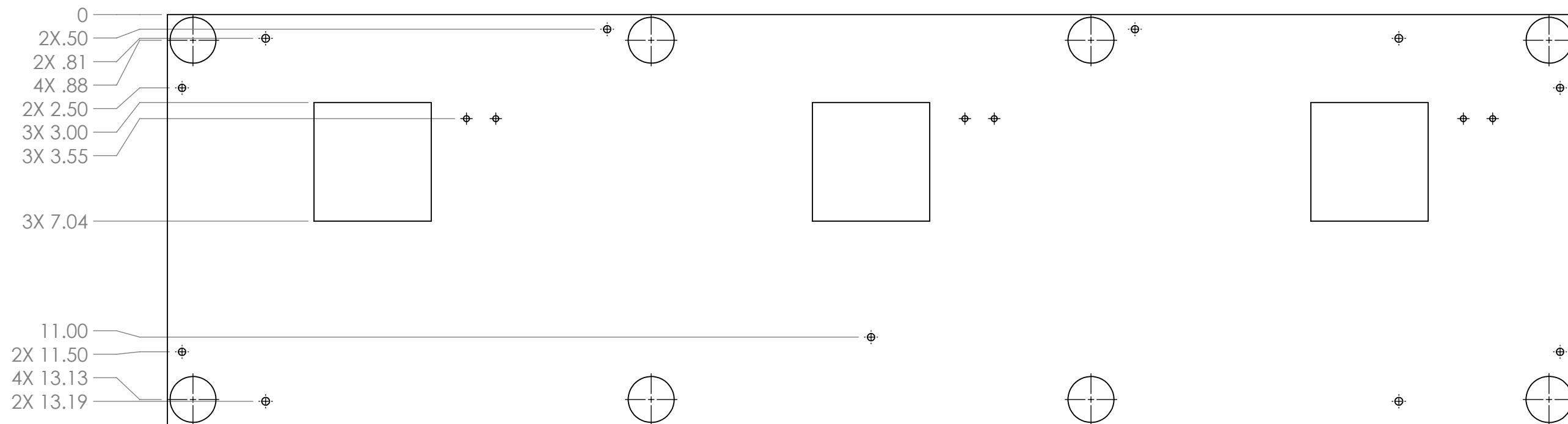
Notes:  
1. 1/4" thk. clear polycarbonate  
2. Remove all sharp edges and burrs

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		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL $\pm 1/16$	ENG APPR.		
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
		TWO PLACE DECIMAL $\pm .01$	Q.A.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			
			TITLE: Vault Polycarbonete Top Base		
SIZE	DWG. NO.	REV			
B	GE-18046	1			
SCALE: 1:4		WEIGHT:	SHEET 1 OF 2		



1

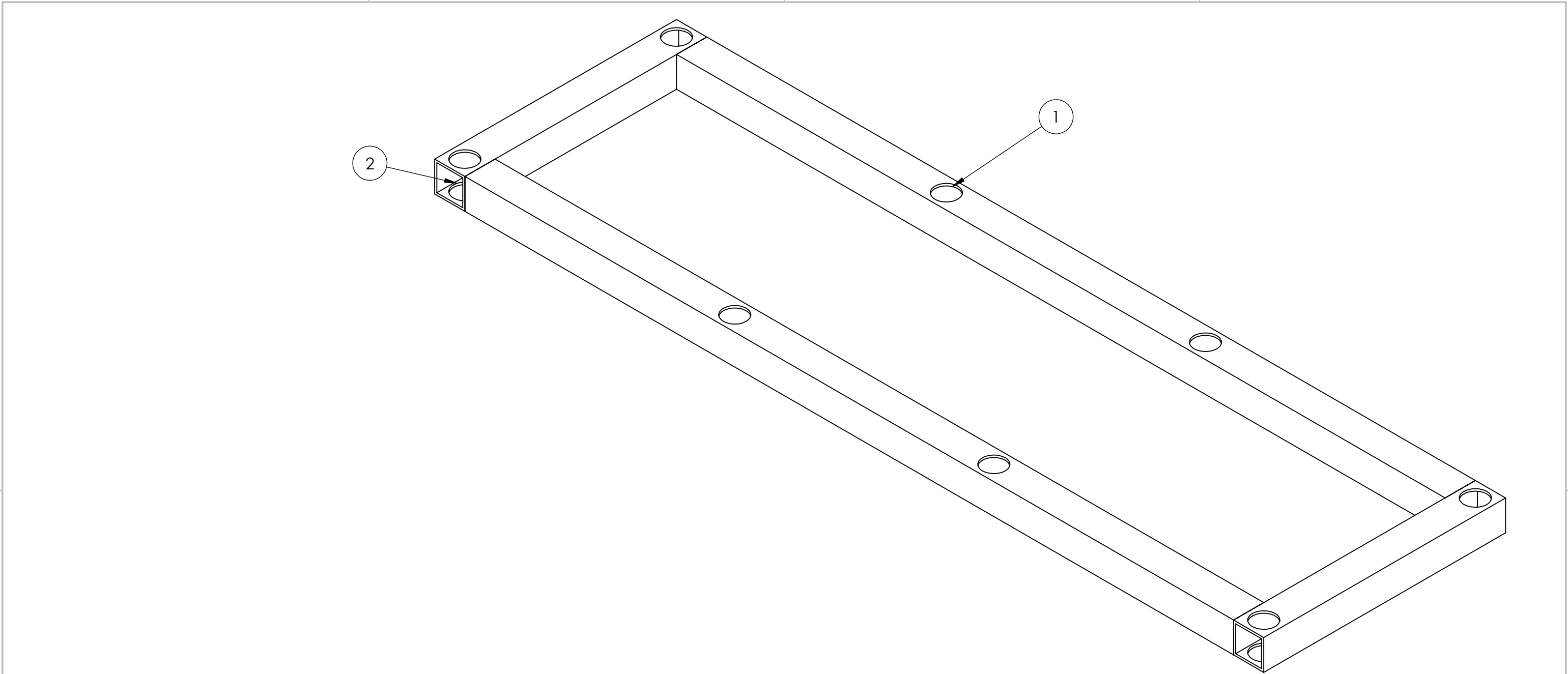
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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN				TITLE: Vault Polycarbonate Top Base
			CHECKED				
			ENG APPR.				
			MFG APPR.				
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV B GE-18046 1	
		MATERIAL	COMMENTS:				
		FINISH					
	NEXT ASSY	USED ON				SCALE: 1:4 WEIGHT: SHEET 2 OF 2	
APPLICATION		DO NOT SCALE DRAWING					



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18047-01	1 3/4", 1/8" Thick Square Tube, 6063 Aluminum	2
2	GE-18047-02	1 3/4", 1/8" Thick Square Tube, 6063 Aluminum	2

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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:

Vault Top Frame

SIZE

B

DWG. NO.

GE-18047

REV

SCALE: 1:4

WEIGHT:

SHEET 1 OF 3

4

3

2

1

B

B

A

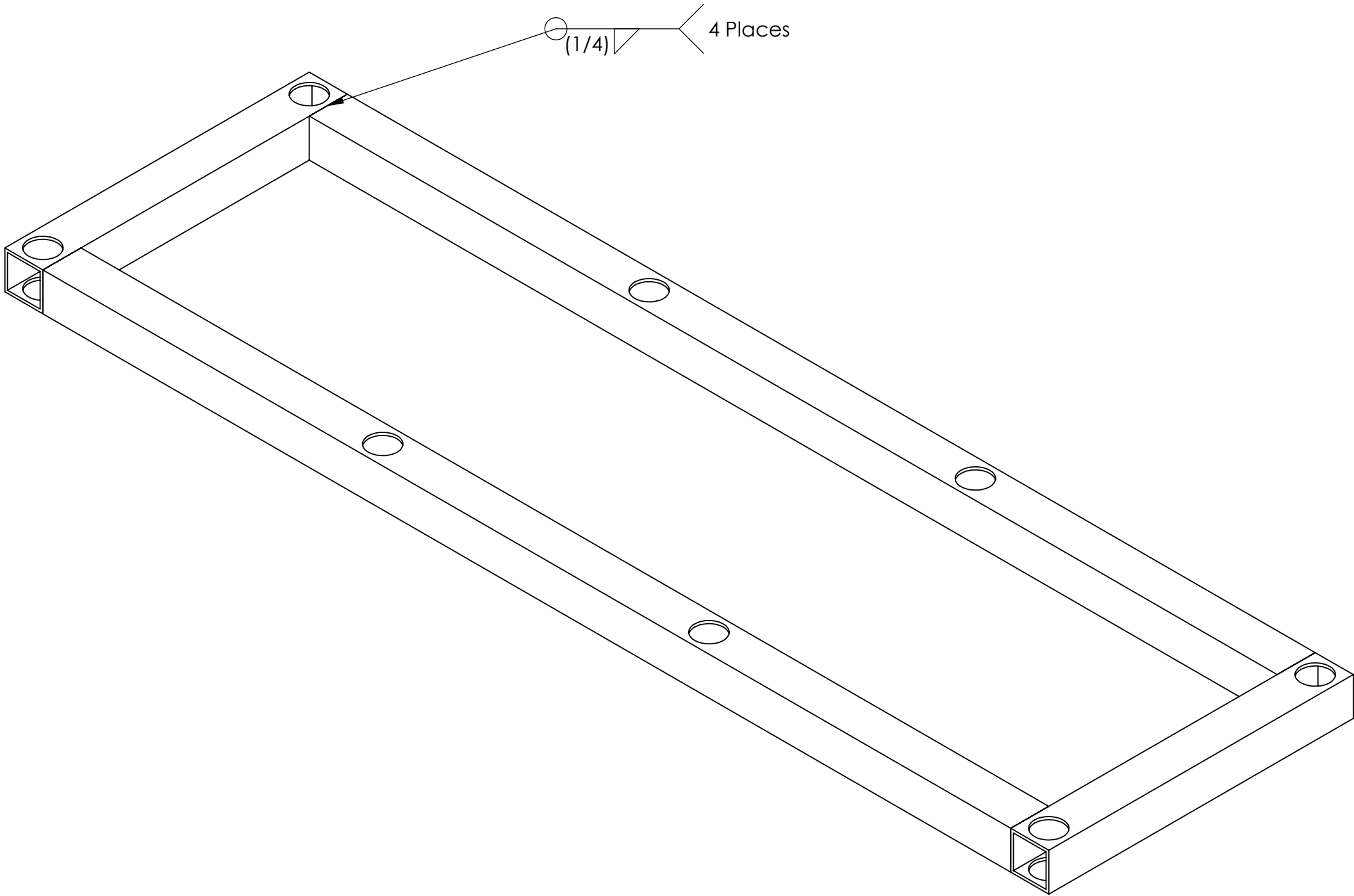
A

4

3



2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18047-01	1 3/4", 1/8" Thick Square Tube, 6063 Aluminum	2
2	GE-18047-02	1 3/4", 1/8" Thick Square Tube, 6063 Aluminum	2

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><b>FIRST</b> <b>ROBOTICS</b> <b>COMPETITION</b></div> <div><b>SOLIDWORKS</b> Modeling Solutions Partner</div>			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <h1>Vault Top Frame</h1>			
		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>B</b> <b>GE-18047</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON					SCALE: 1:8 WEIGHT: SHEET 2 OF 3			
APPLICATION		DO NOT SCALE DRAWING							

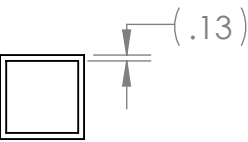
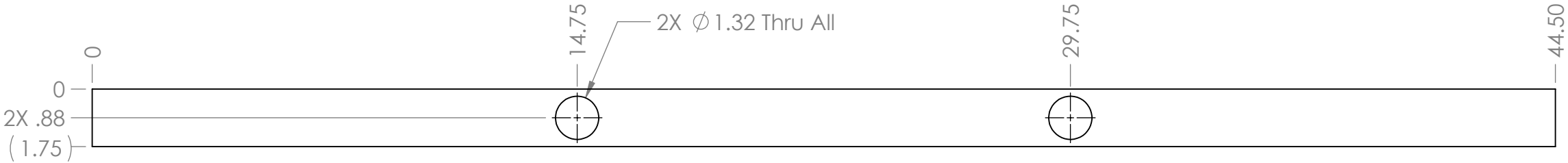
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3

2

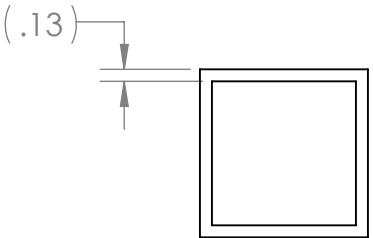
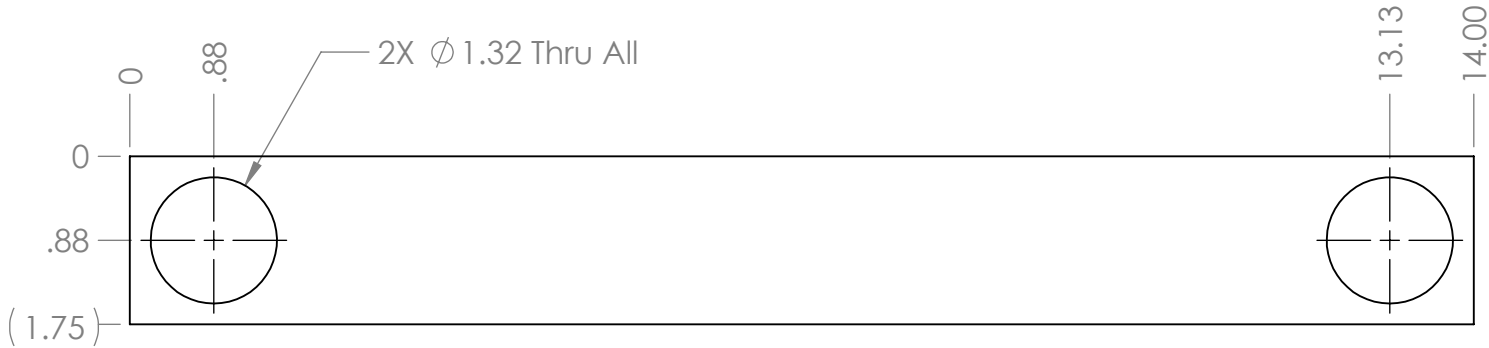
1

B





Item Number: GE-18047-01  
Material: 1 3/4", 1/8" Thick Square Tube, 6063 Aluminum  
Qty: 2

A



Item Number: GE-18047-02  
Material: 1 3/4", 1/8" Thick Square Tube, 6063 Aluminum  
Qty: 2

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <h1>Vault Top Frame</h1>			
		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>B</b> <b>GE-18047</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8		WEIGHT:	SHEET 3 OF 3

4

3

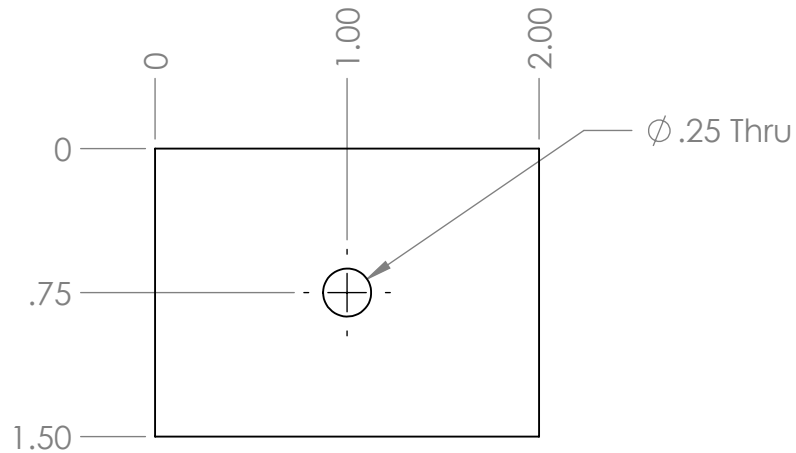
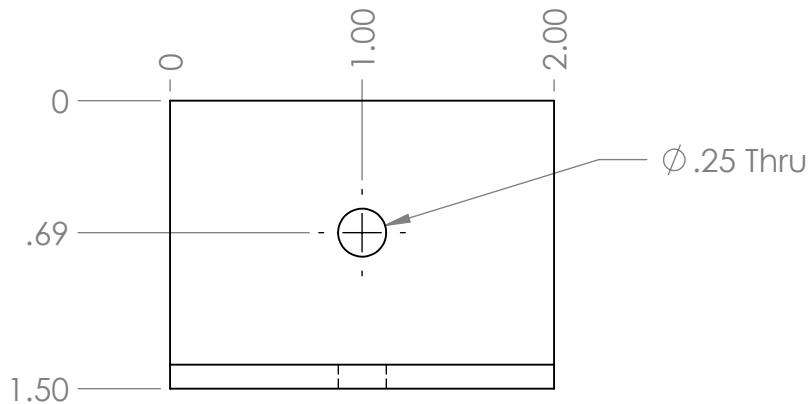
2

1

A

B

B



Side view of the Vault Bracket. The thickness of the vertical plate is dimensioned as (.13).

- Notes:
1. Material: 1-1/2" 1/8" Thick Aluminum Angle
  2. Remove all burrs and sharp edges

A

A

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



**FIRST**  
**ROBOTICS**  
**COMPETITION**

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

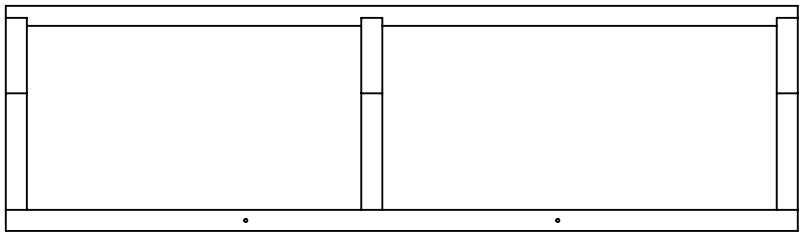
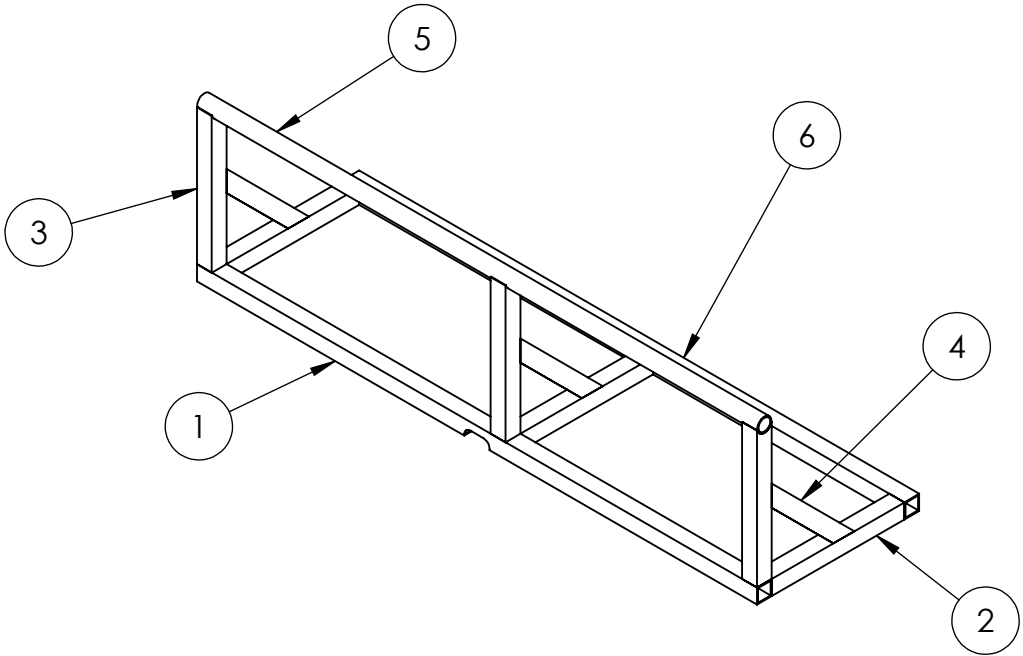
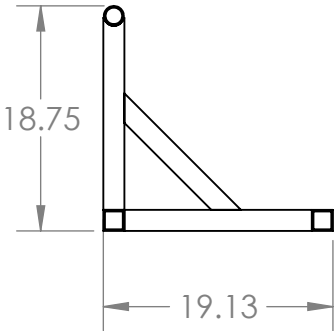
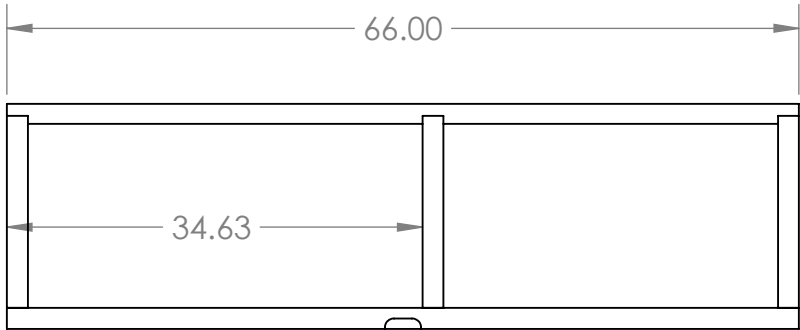
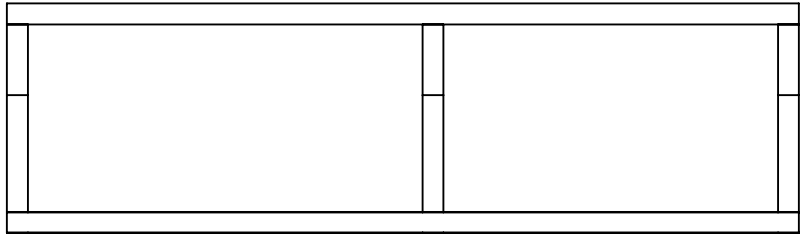
Vault Bracket

SIZE	DWG. NO.	REV
<b>A</b>	<b>GE-18048</b>	
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

2



1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A1, 3-A2	1	Added two holes to GE-18051-06	11/21/17	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18051-01	1.75" x .125" thk. Square Tube, 6061 Aluminum	1
2	GE-18051-02	1.75" x .125" thk. Square Tube, 6061 Aluminum	3
3	GE-18051-03	1.75" x .125" thk. Square Tube, 6061 Aluminum	3
4	GE-18051-04	1.75" x .125" thk. Square Tube, 6061 Aluminum	3
5	GE-18051-05	1-1/4" Schedule 40 Pipe, 6061 Aluminum	1
6	GE-18051-06	1.75" x .125" thk. Square Tube, 6061 Aluminum	1

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 						
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Side Frame, Fence						
		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 <b>B</b>						
		INTERPRET GEOMETRIC TOLERANCING PER:										
		MATERIAL										
		FINISH										
NEXT ASSY	USED ON									DWG. NO.		REV
						GE-18051		1				
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:16		WEIGHT:	SHEET 1 OF 3			

4

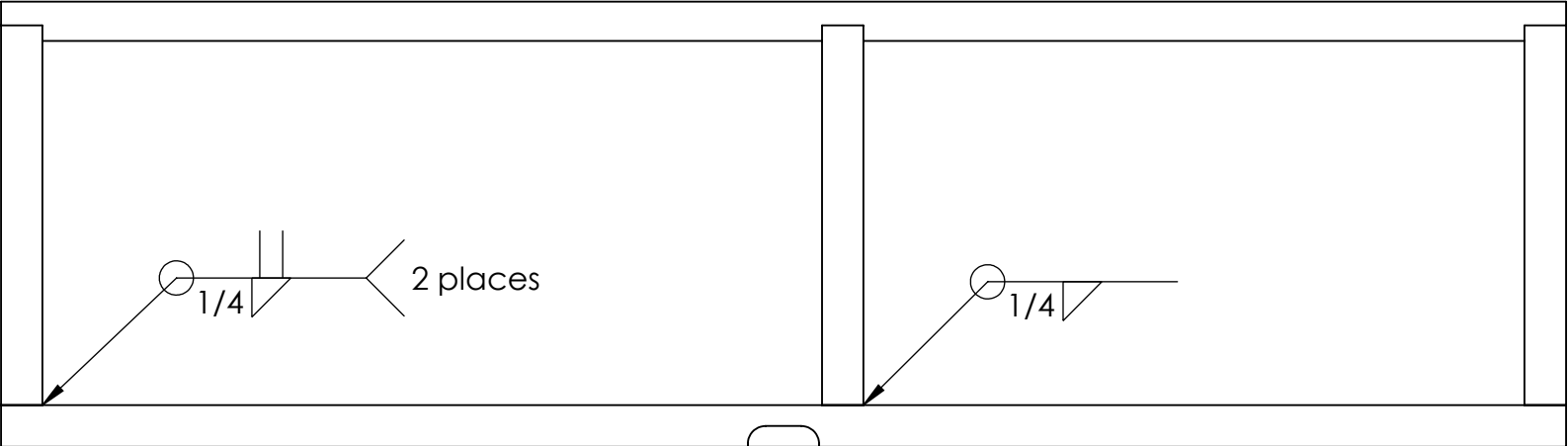
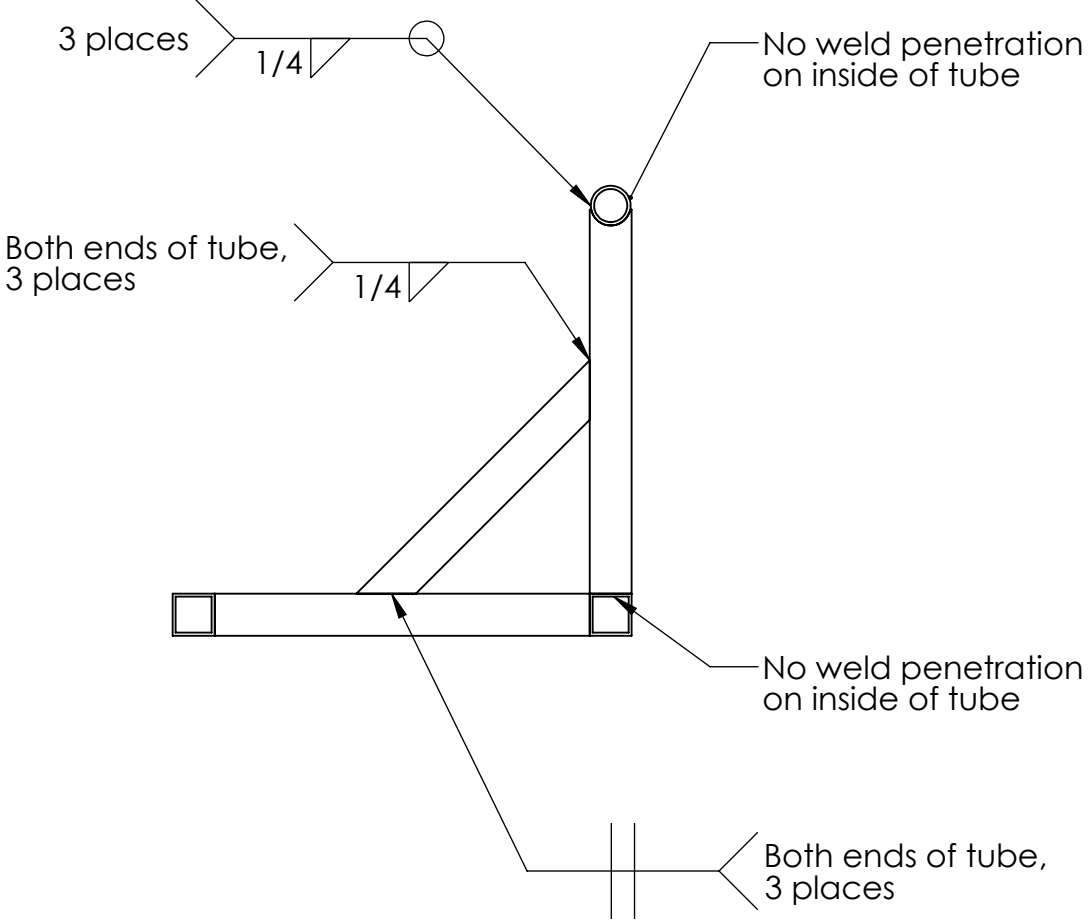
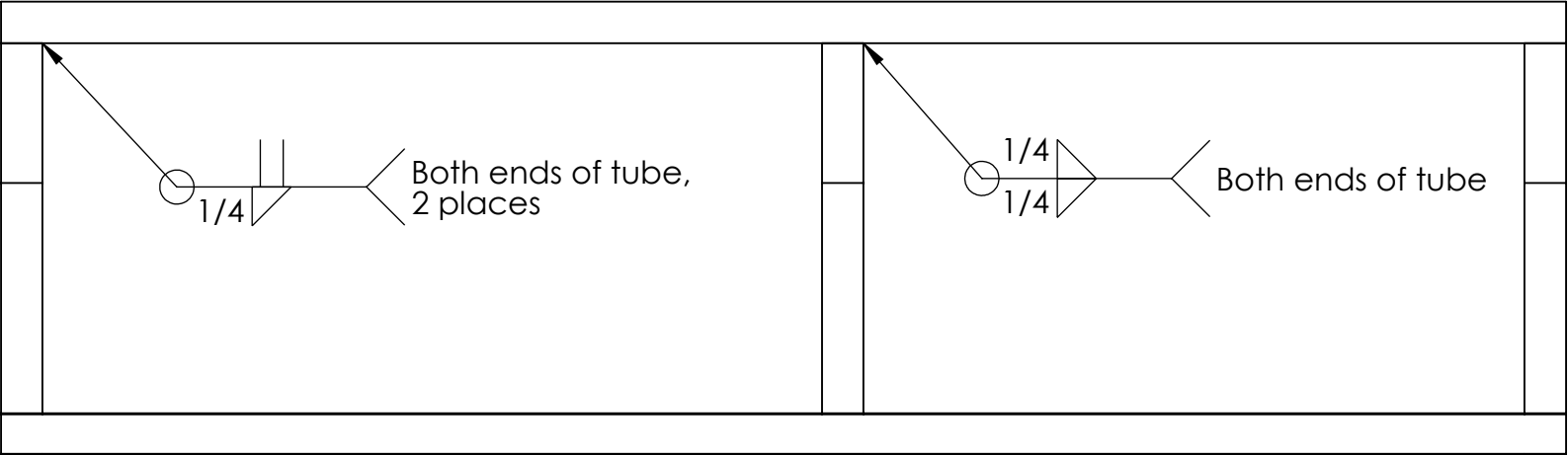
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2

1



B

B



A

A

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

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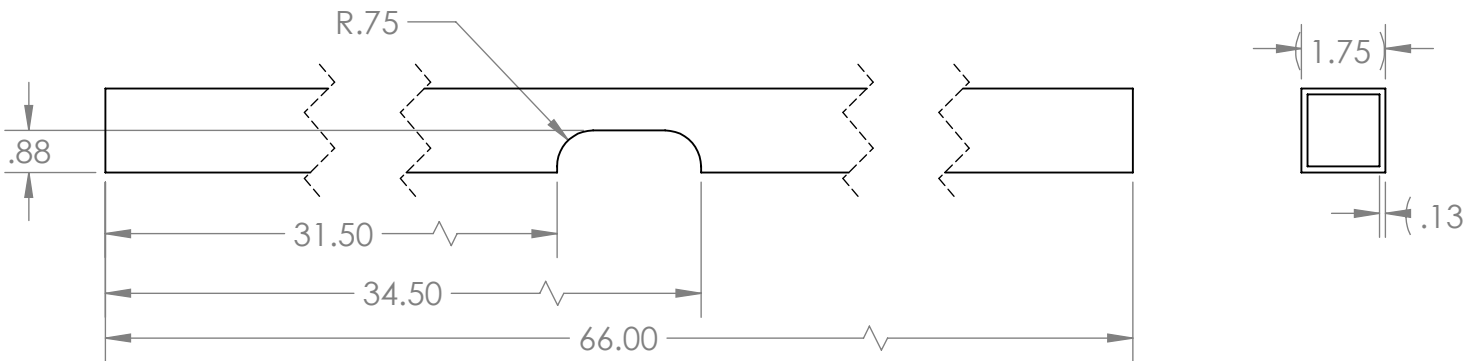
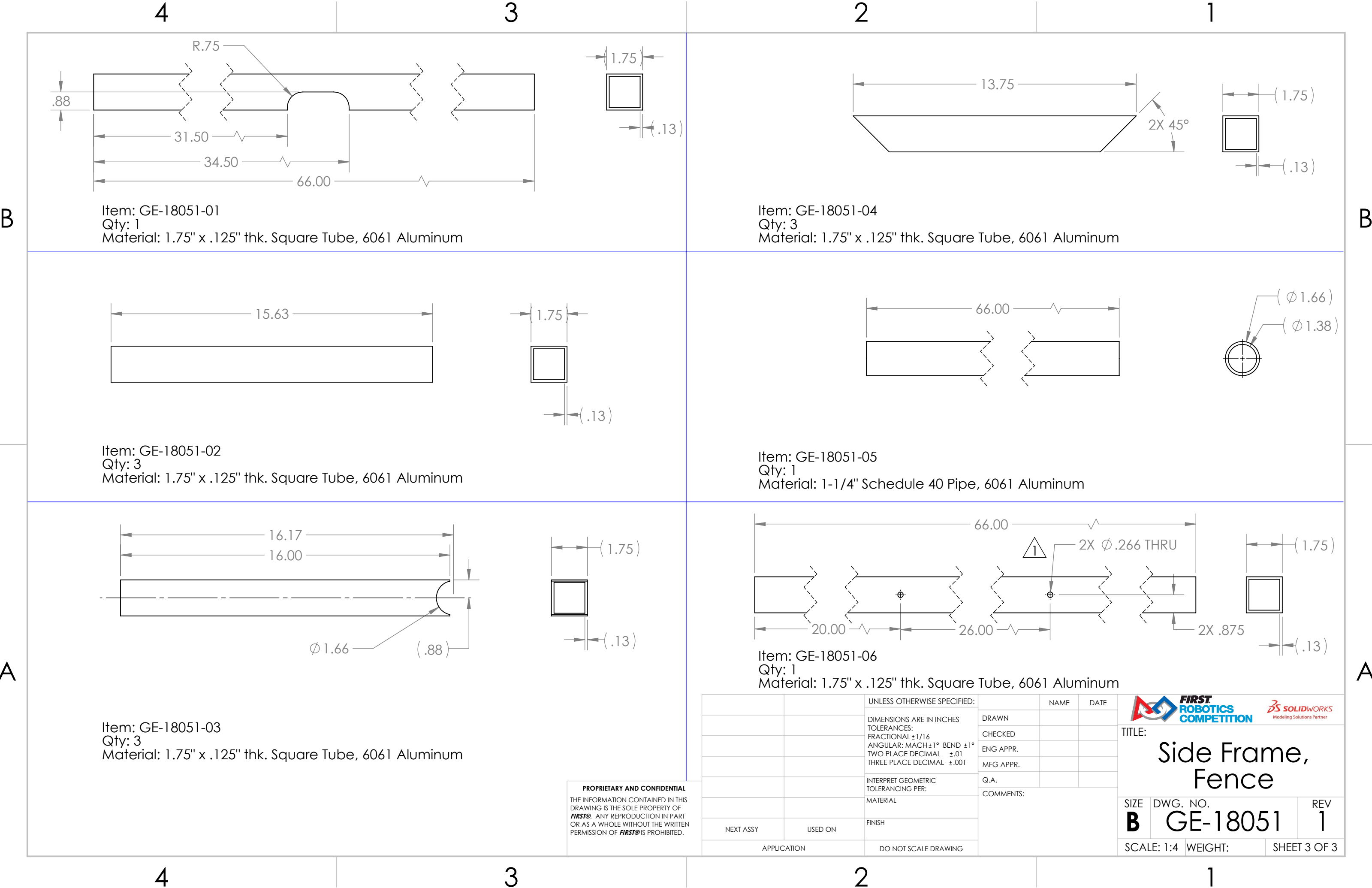
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3

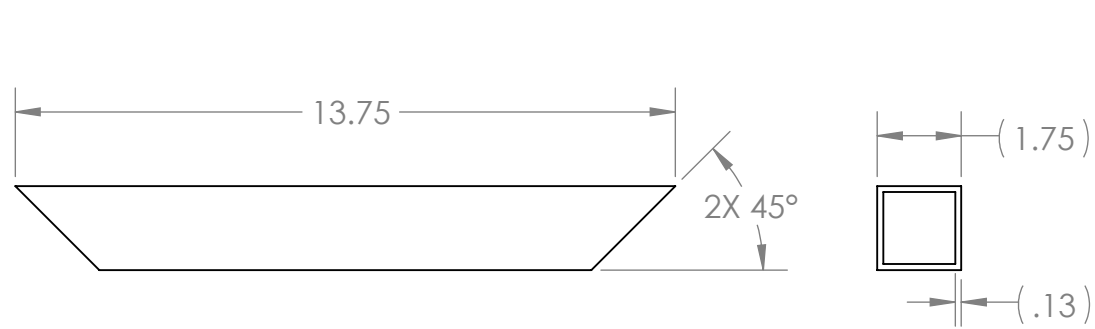
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1

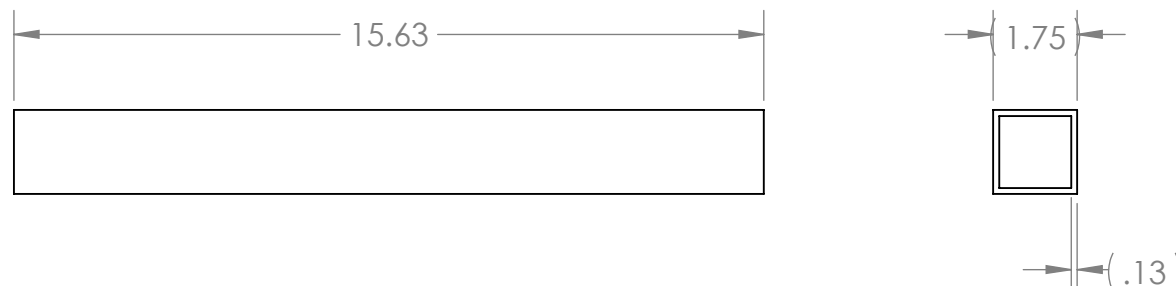




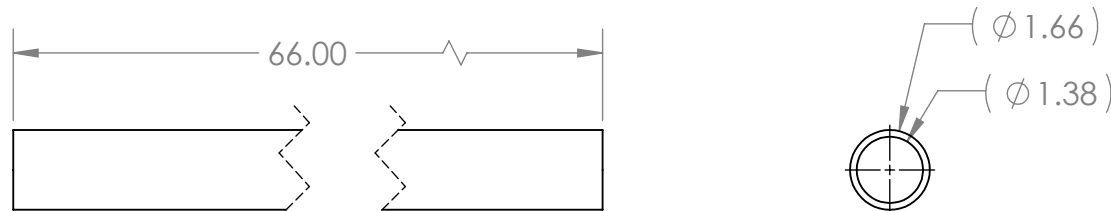
Item: GE-18051-01  
Qty: 1  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum



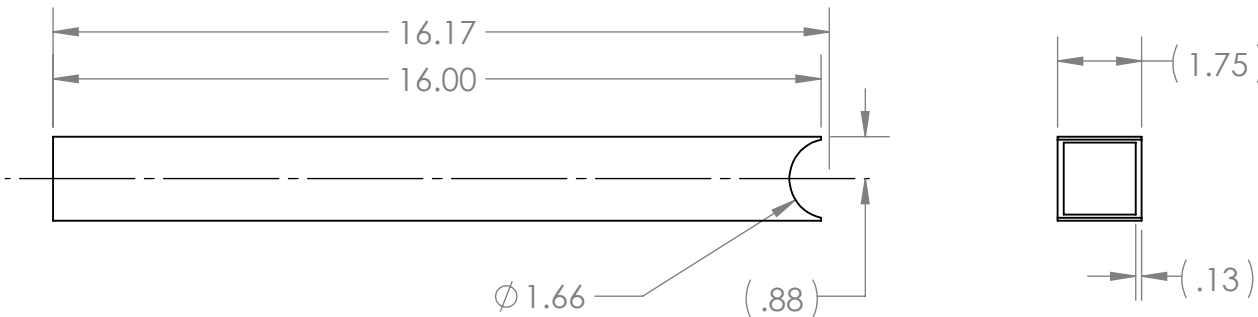
Item: GE-18051-04  
Qty: 3  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum



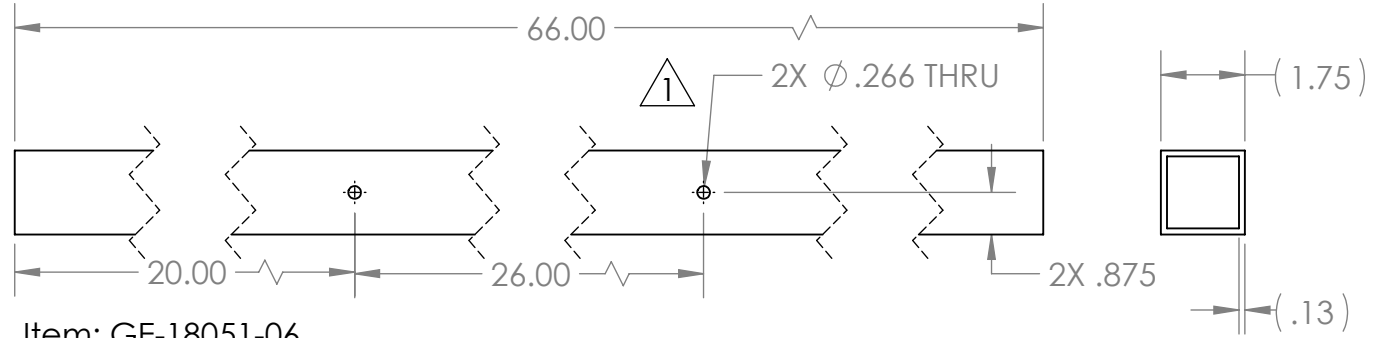
Item: GE-18051-02  
Qty: 3  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum



Item: GE-18051-05  
Qty: 1  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum





Item: GE-18051-03  
Qty: 3  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum

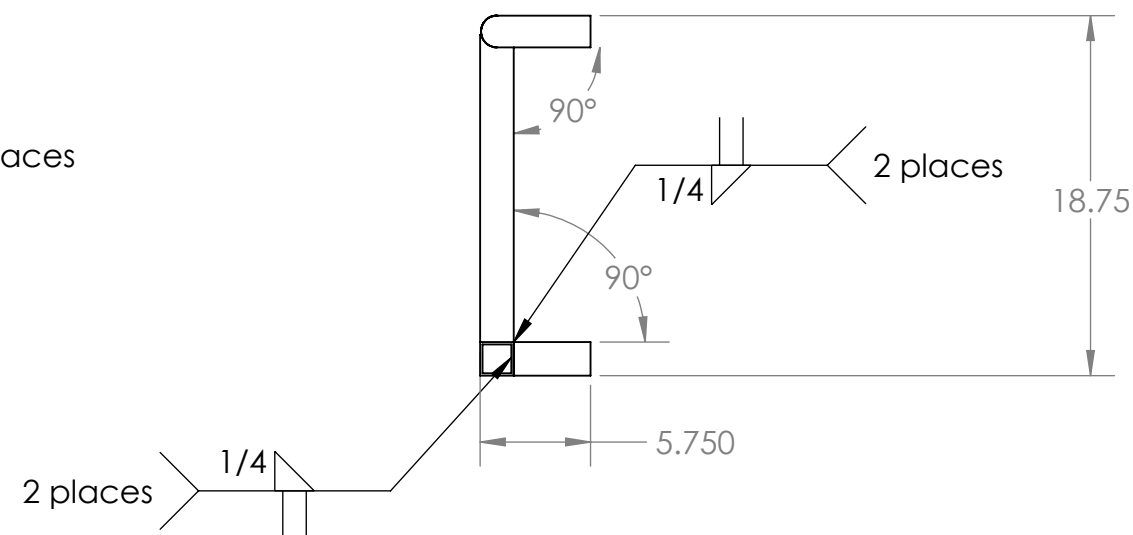
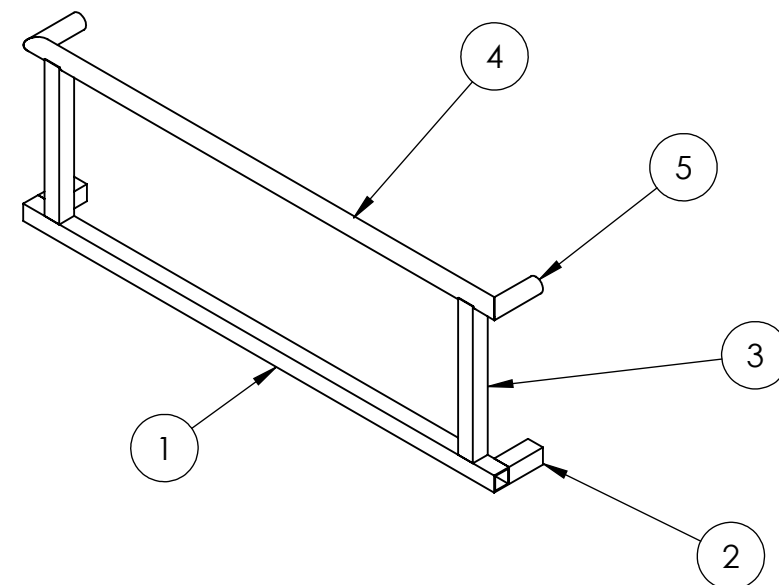


Item: GE-18051-06  
Qty: 1  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum

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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.			TITLE: <b>Side Frame, Fence</b>
		THREE PLACE DECIMAL ±.001	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE <b>B</b>
		MATERIAL				DWG. NO. <b>GE-18051</b>
		FINISH				REV <b>1</b>
NEXT ASSY	USED ON					SCALE: 1:4
APPLICATION		DO NOT SCALE DRAWING				WEIGHT:
						SHEET 3 OF 3

1



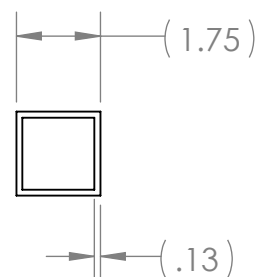
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE:  End Frame, Fence</div> <div>SIZE DWG. NO. REV</div> <div>B GE-18052</div> <div>SCALE: 1:10 WEIGHT: SHEET 1 OF 2</div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/16 ANGULAR: MACH ± 1° BEND ± 1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN					
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						

1



1



Technical drawing showing a square hole in a plate. The hole's width is dimensioned as  $(1.75)$  with a tolerance of  $+0.00$  and  $-0.13$ . The plate's width is dimensioned as  $4.00$ .

A diagram showing a trapezoidal roof section. The horizontal base is labeled 5.71. The sloped side is labeled with an angle of 45 degrees.

Technical drawing of a shaft with a fillet. The shaft has a diameter of  $\phi 1.66$ . A fillet with a radius of  $(.88)$  is shown at the transition between two sections. The total length of the shaft is 16.17 inches, and the length of the section before the fillet is 16.00 inches.

		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				TITLE:  <h1>End Frame, Fence</h1>
			CHECKED				
			ENG APPR.				
			MFG APPR.				
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18052</b>	
		MATERIAL	COMMENTS:				
		FINISH					
NEXT ASSY	USED ON					SCALE: 1:4 WEIGHT: SHEET 2 OF	
APPLICATION		DO NOT SCALE DRAWING					

1

4

3

2

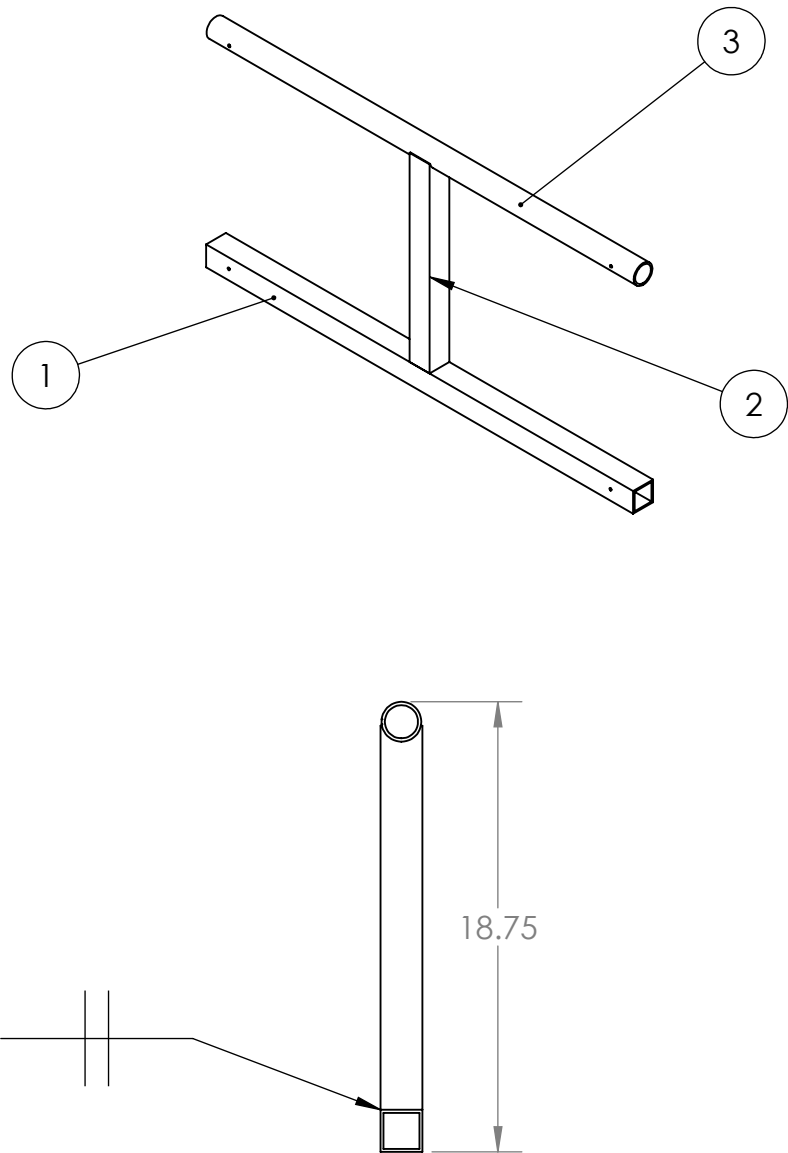
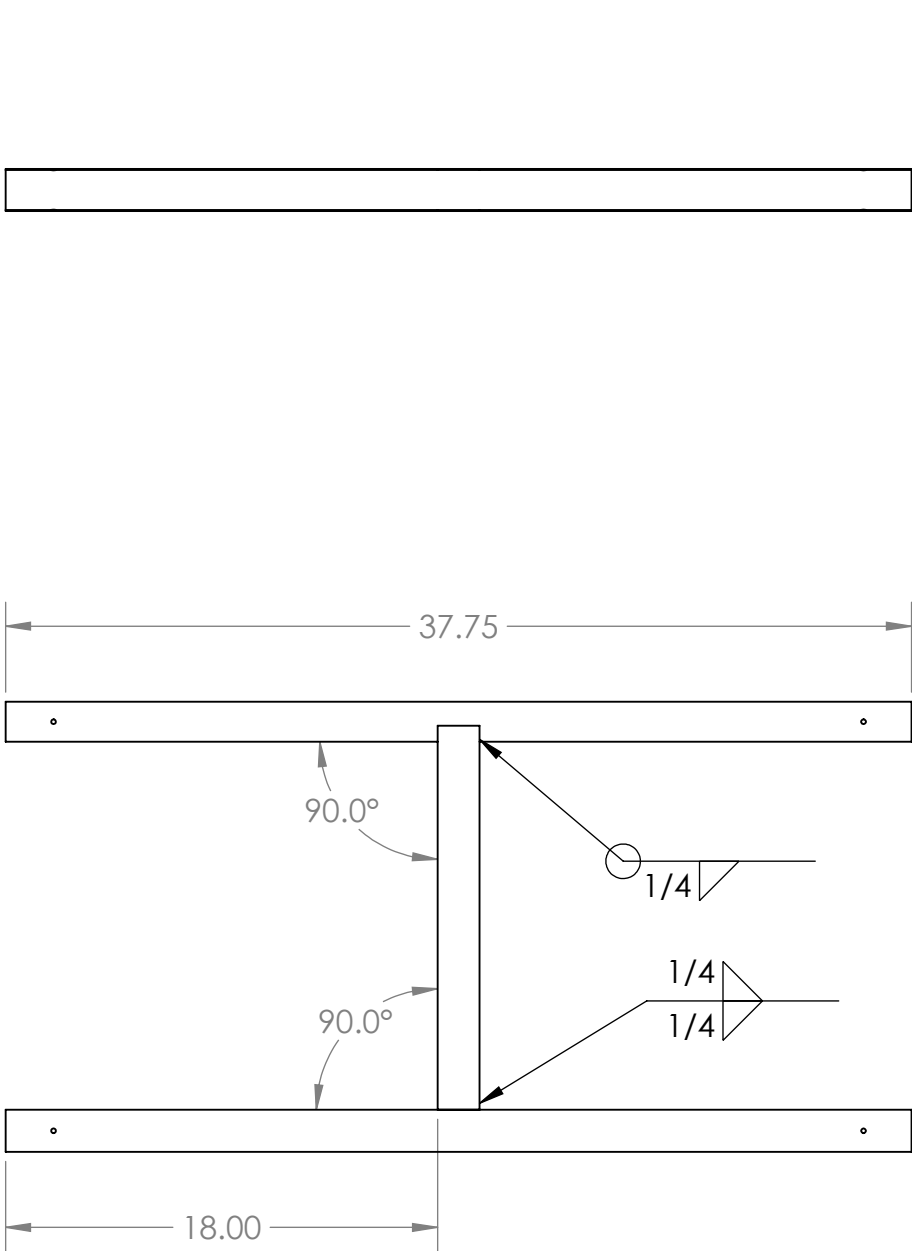
1

B

B



A

A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18053-01	1.75" x .125" thk. Square Tube, 6061 Aluminum	1
2	GE-18053-02	1.75" x .125" thk. Square Tube, 6061 Aluminum	1
3	GE-18053-03	1-1/4" Schedule 40 Pipe, 6061 Aluminum	1

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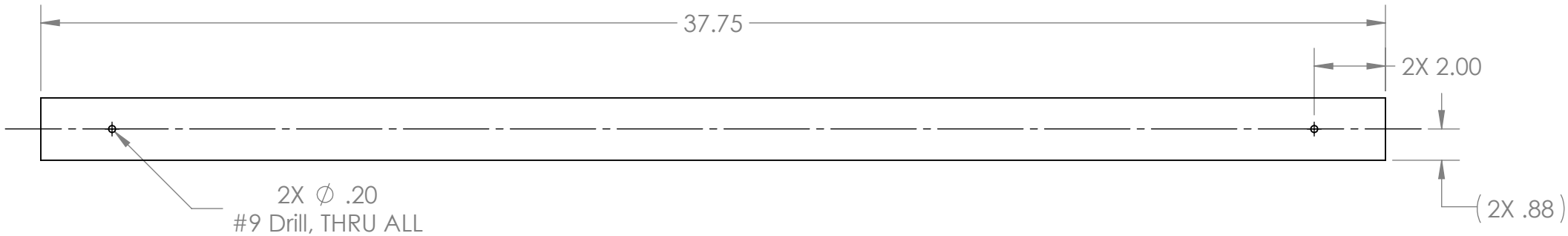
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  <h1>Connecting Frame, Fence</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18053</b>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT:		SHEET 1 OF 2

4

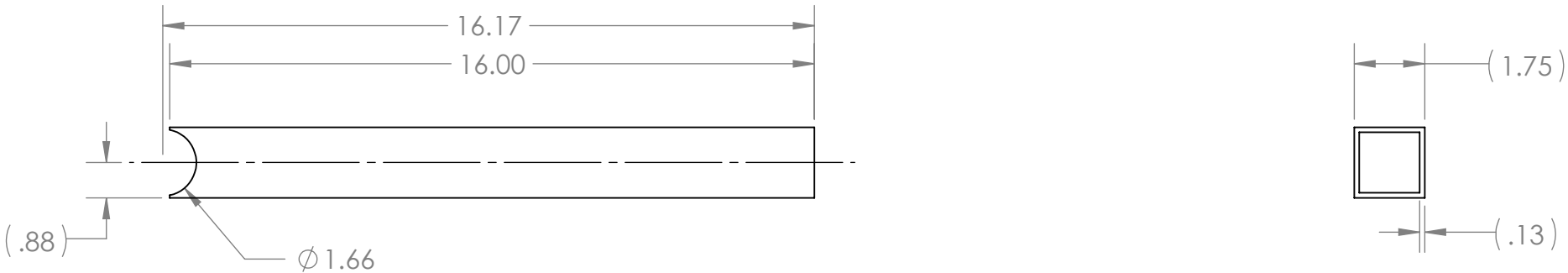
3

2

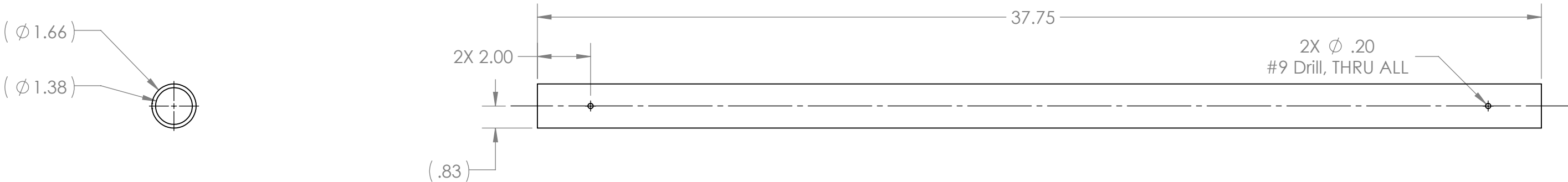
1



Item: GE-18053-01  
Qty: 1  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum





Item: GE-18053-02  
Qty: 1  
Material: 1.75" x .125" thk. Square Tube, 6061 Aluminum



Item: GE-18053-03  
Qty: 1  
Material: 1-1/4" Schedule 40 Pipe, 6061 Aluminum

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

D

D

C

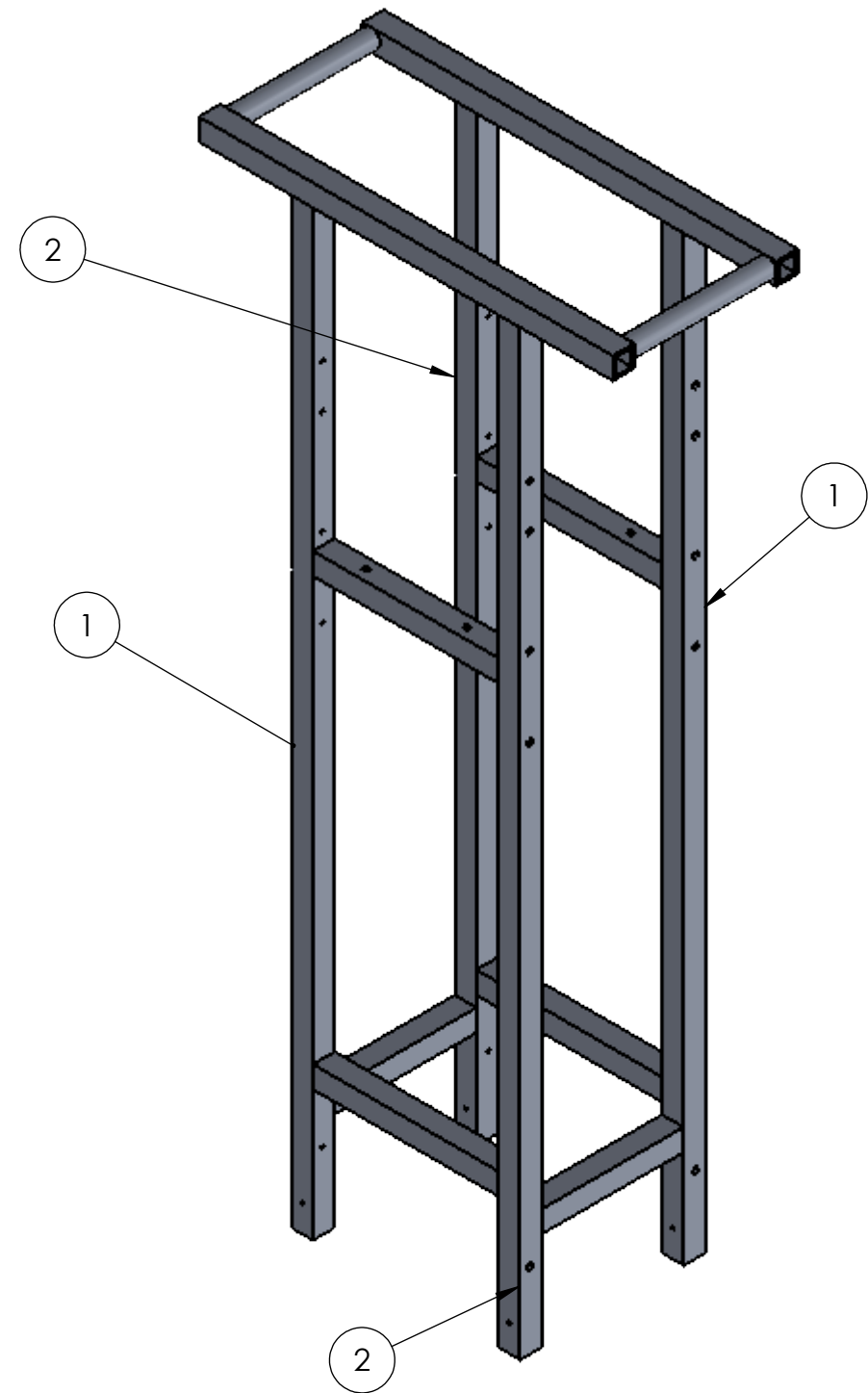
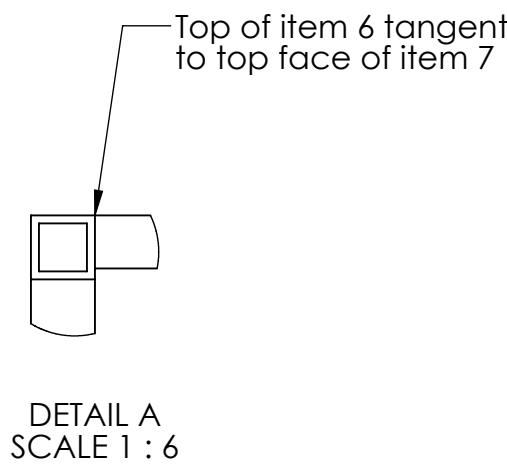
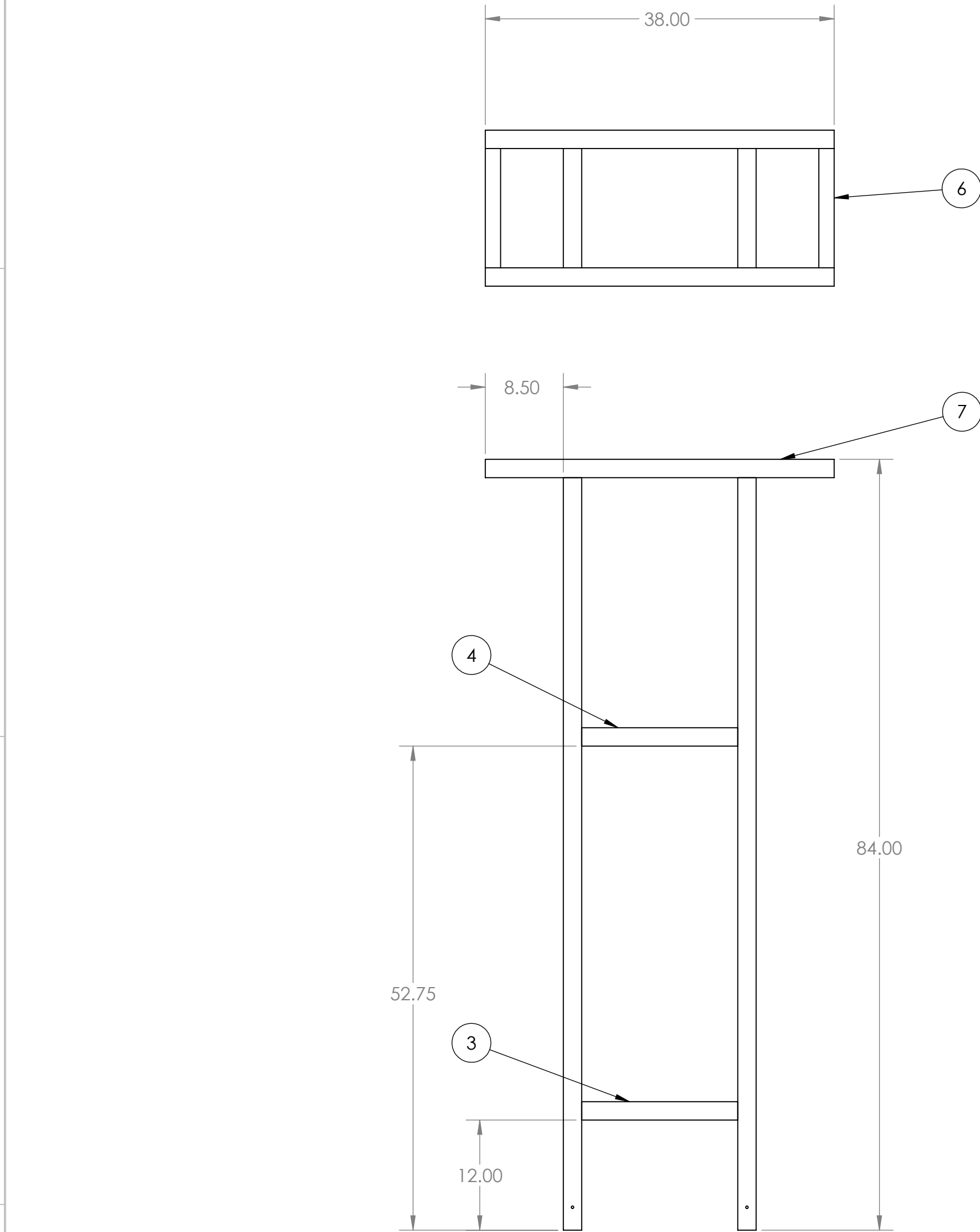
C

B

B

A

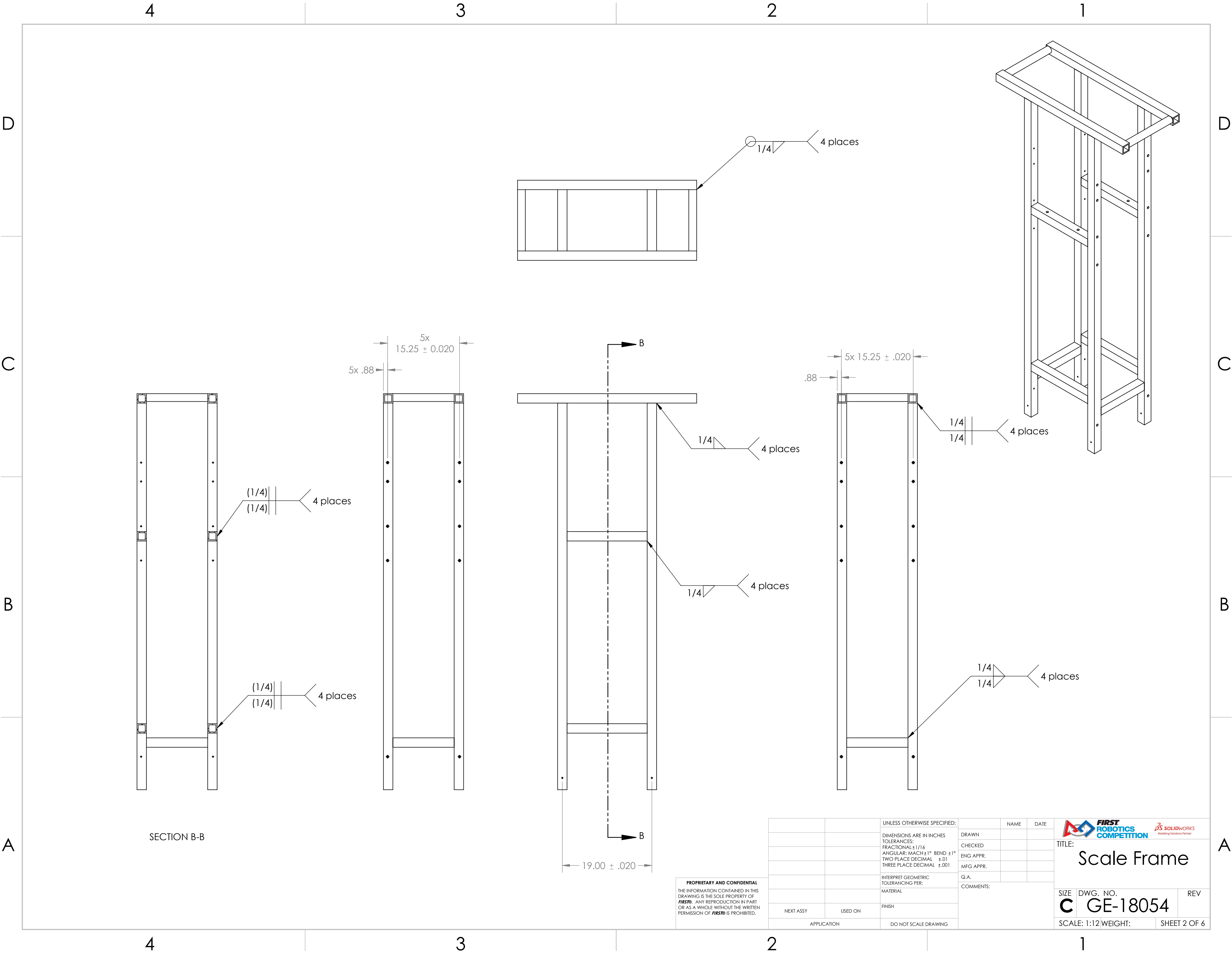
A





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18054-1	2" x .25" thk. Square Tube, 6061 Aluminum	2
2	GE-18054-2	2" x .25" thk. Square Tube, 6061 Aluminum	2
3	GE-18054-3	2" x .25" thk. Square Tube, 6061 Aluminum	2
4	GE-18054-4	2" x .25" thk. Square Tube, 6061 Aluminum	2
5	GE-18054-5	2" x .25" thk. Square Tube, 6061 Aluminum	2
6	GE-18054-6	1-1/4" Schedule 40 Pipe, 6061 Aluminum	2
7	GE-18054-7	2" x .25" thk. Square Tube, 6061 Aluminum	2

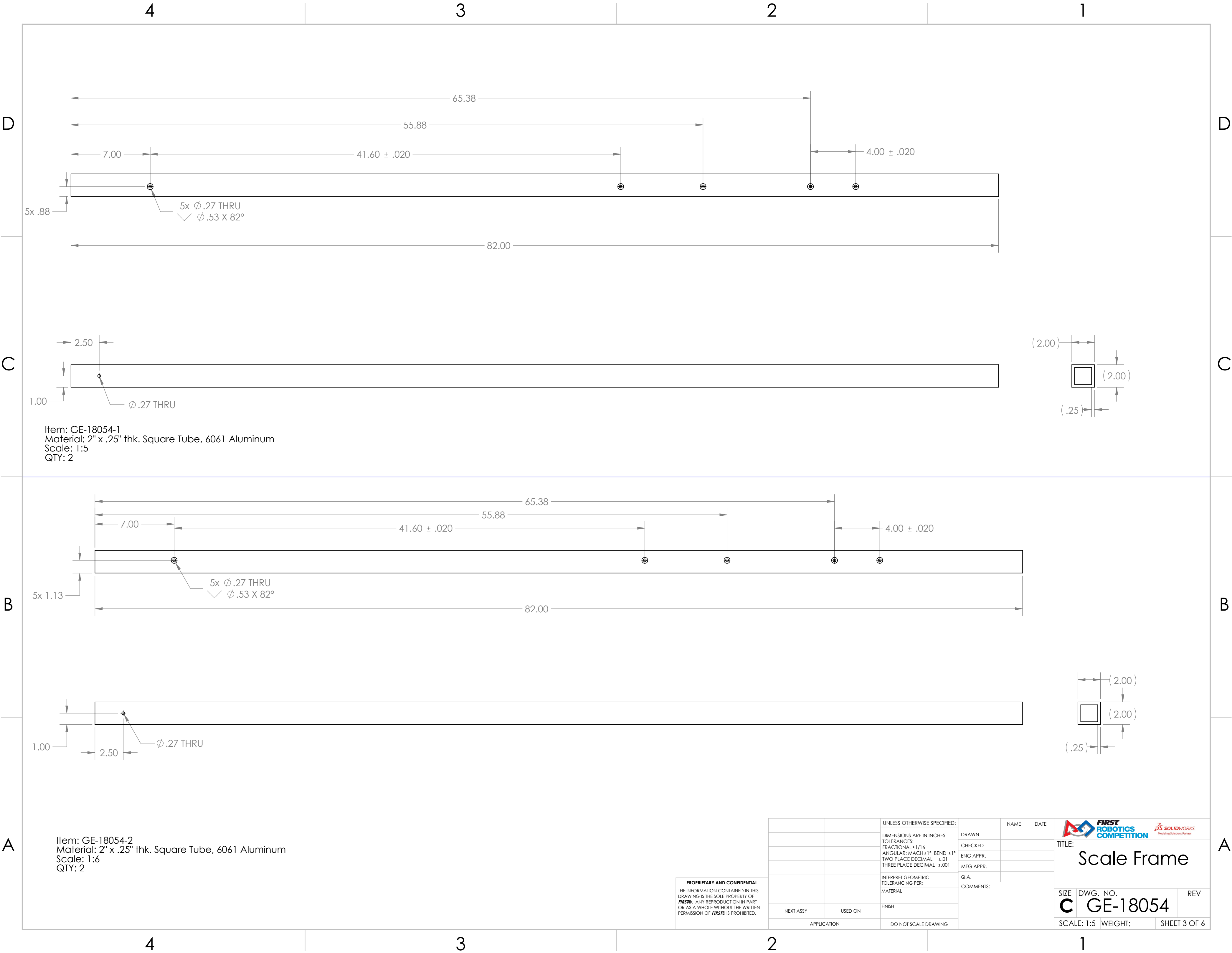
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		UNLESS OTHERWISE SPECIFIED:			NAME	DATE	TITLE: <b>Scale Frame</b>
		DIMENSIONS ARE IN INCHES	DRAWN				
		TOLERANCES:	CHECKED				
		FRACTIONAL ±1/16	ENG APPR.				
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.				
		TWO PLACE DECIMAL ±.01	Q.A.				SIZE DWG. NO. REV <b>C GE-18054</b>
		THREE PLACE DECIMAL ±.001	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL					SCALE: 1:12 WEIGHT: SHEET 1 OF 6
		FINISH					
NEXT ASSY		USED ON					
APPLICATION		DO NOT SCALE DRAWING					





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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:	<div>TITLE: <h1>Scale Frame</h1><div><div>SIZE</div><div>DWG. NO. <b>C</b> <b>GE-18054</b></div><div>REV</div></div><div>SCALE: 1:12 WEIGHT:</div><div>SHEET 2 OF 6</div></div>		
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON	DO NOT SCALE DRAWING				
APPLICATION						

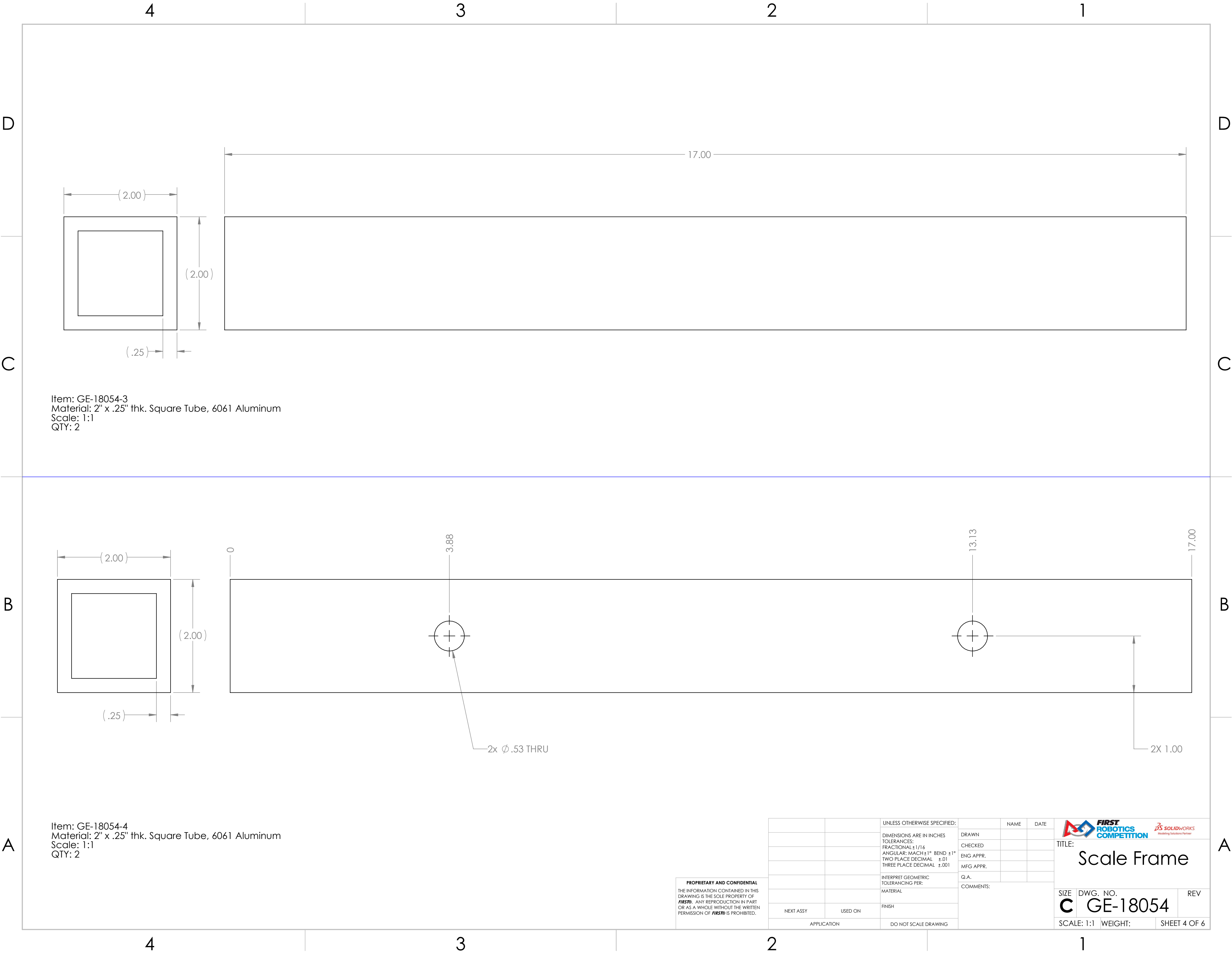


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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL ± 1/16	ENG APPR.		
		ANGULAR: MACH ± 1° BEND ± 1°	MFG APPR.		
		TWO PLACE DECIMAL ± .01			
		THREE PLACE DECIMAL ± .001			
		INTERPRET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

			
TITLE: Scale Frame			
SIZE	DWG. NO.		REV
C	GE-18054		
SCALE: 1:5		WEIGHT:	SHEET 3 OF 6





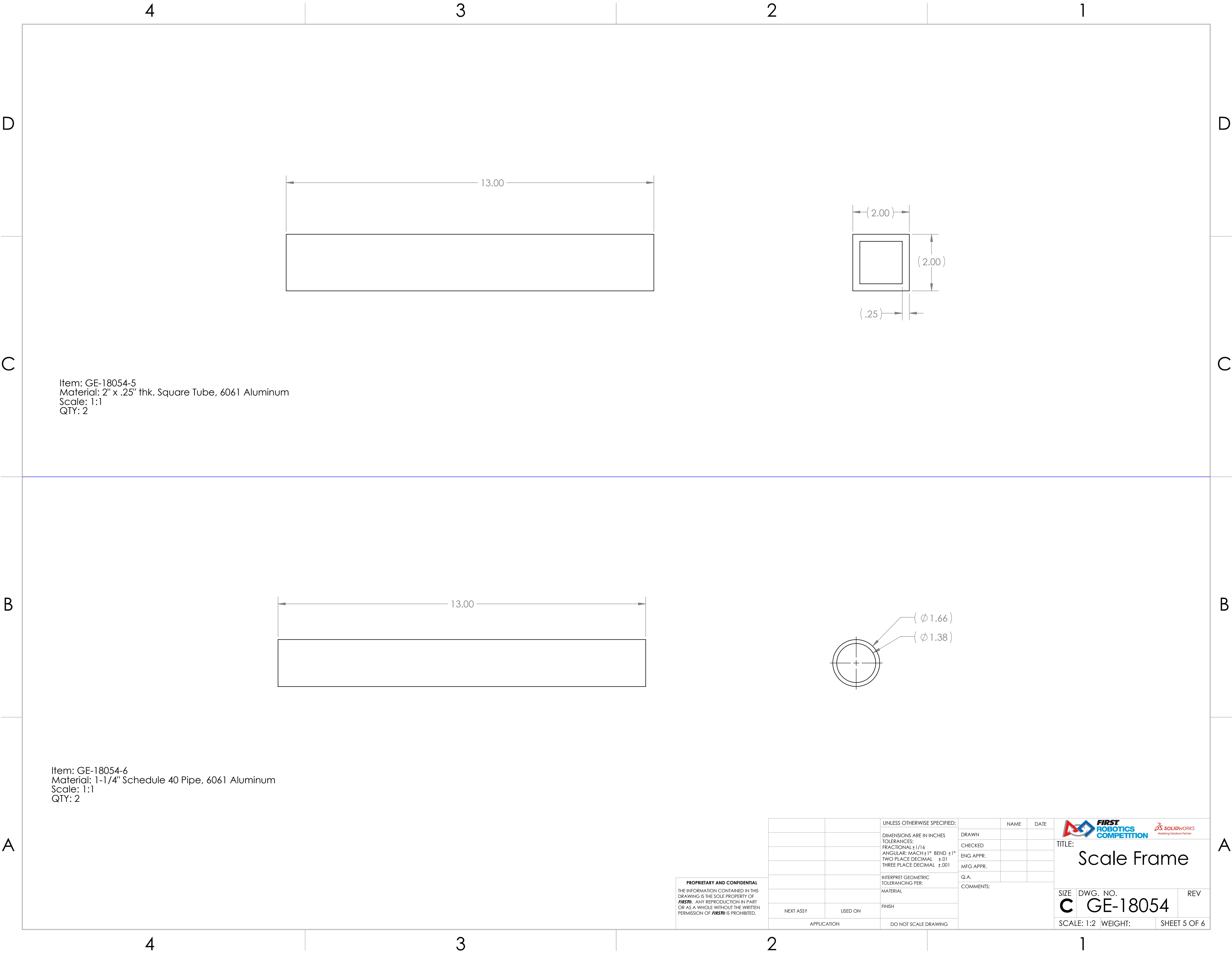


Item: GE-18054-3  
Material: 2" x .25" thk. Square Tube, 6061 Aluminum  
Scale: 1:1  
QTY: 2



Item: GE-18054-4  
Material: 2" x .25" thk. Square Tube, 6061 Aluminum  
Scale: 1:1  
QTY: 2

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		UNLESS OTHERWISE SPECIFIED:	NAME		DATE		 					
		DIMENSIONS ARE IN INCHES	DRAWN		TITLE:  <h1>Scale Frame</h1>							
		TOLERANCES:	CHECKED									
		FRACTIONAL $\pm 1/16$	ENG APPR.									
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.									
		TWO PLACE DECIMAL $\pm .01$										
		THREE PLACE DECIMAL $\pm .001$	Q.A.		SIZE DWG. NO. REV <b>C</b> <b>GE-18054</b>							
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:						SCALE: 1:1 WEIGHT: SHEET 4 OF 6			
		MATERIAL										
NEXT ASSY	USED ON	FINISH										
APPLICATION		DO NOT SCALE DRAWING										

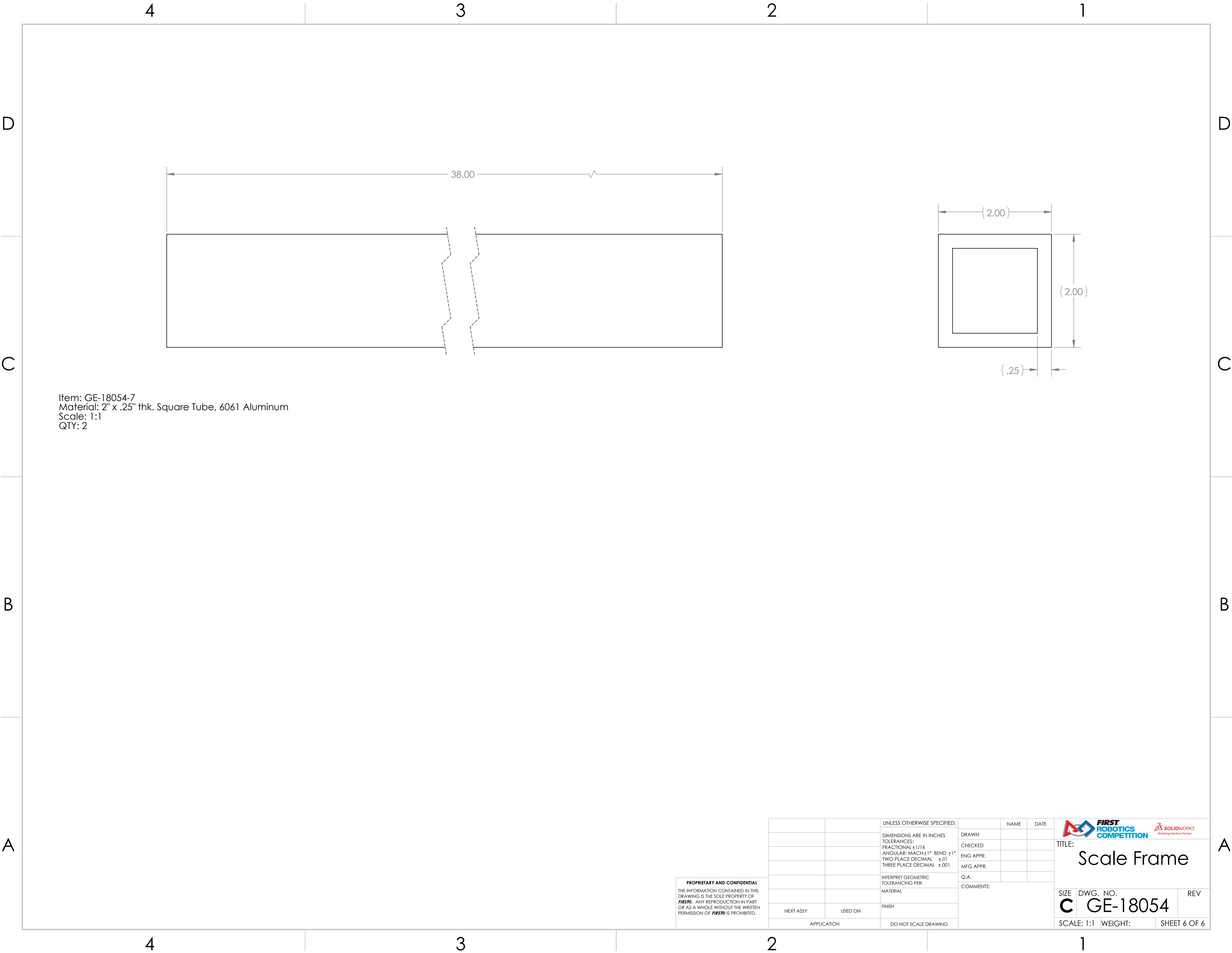


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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 
		DIMENSIONS ARE IN INCHES	DRAWN			
		TOLERANCES:	CHECKED			
		FRACTIONAL ±1/16	ENG APPR.			
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.			
		TWO PLACE DECIMAL ±.01	Q.A.			
		THREE PLACE DECIMAL ±.001	COMMENTS:			TITLE:  <h1>Scale Frame</h1>
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				SIZE DWG. NO. REV <b>C</b> <b>GE-18054</b>
			SCALE: 1:2		WEIGHT:	SHEET 5 OF 6



# Scale Frame



4

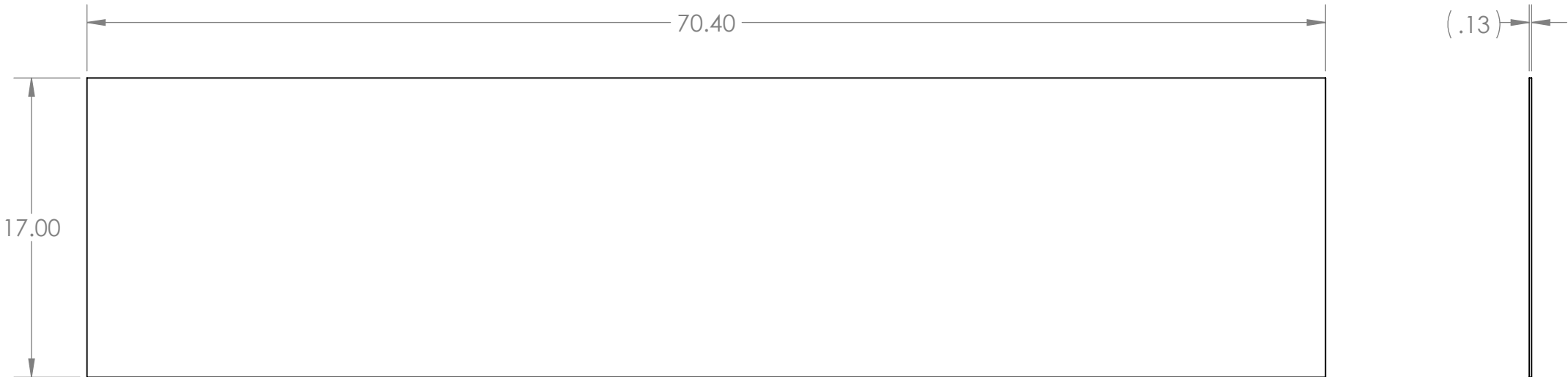
3

2

1

B

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- Notes:
- 1. Material: 1/8" thick, clear polycarbonate.
  - 2. Remove all burrs and sharp edges.

A

A

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <div>Outrigger Top Polycarbonate</div>		
		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 <div><div>B</div><div>GE-18055</div></div>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

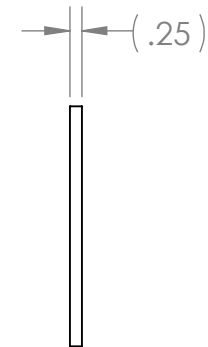
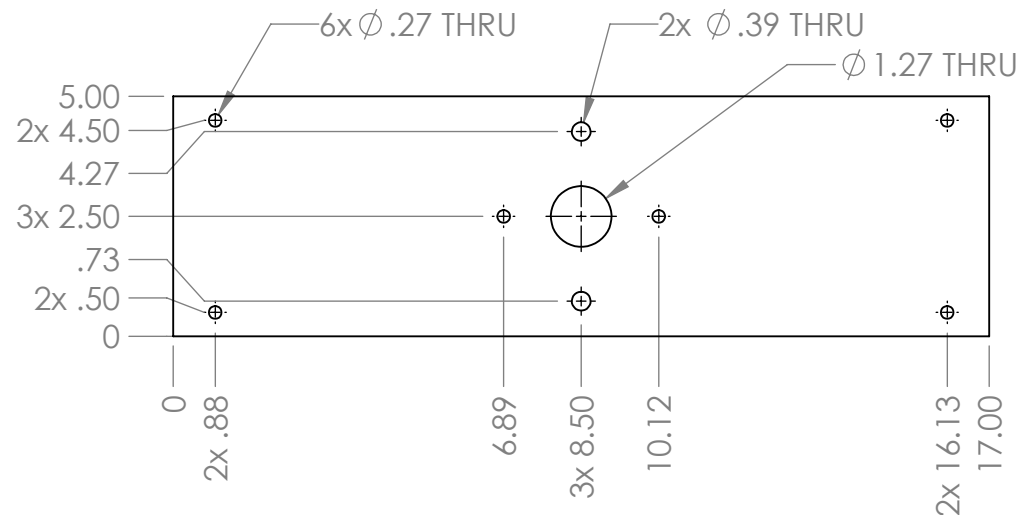
4

3

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B



## Notes:

1. Material: 1/4" thick, clear polycarbonate.
2. Remove all burrs and sharp edges.

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

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



TITLE:

# Bearing Damper Polycarbonate

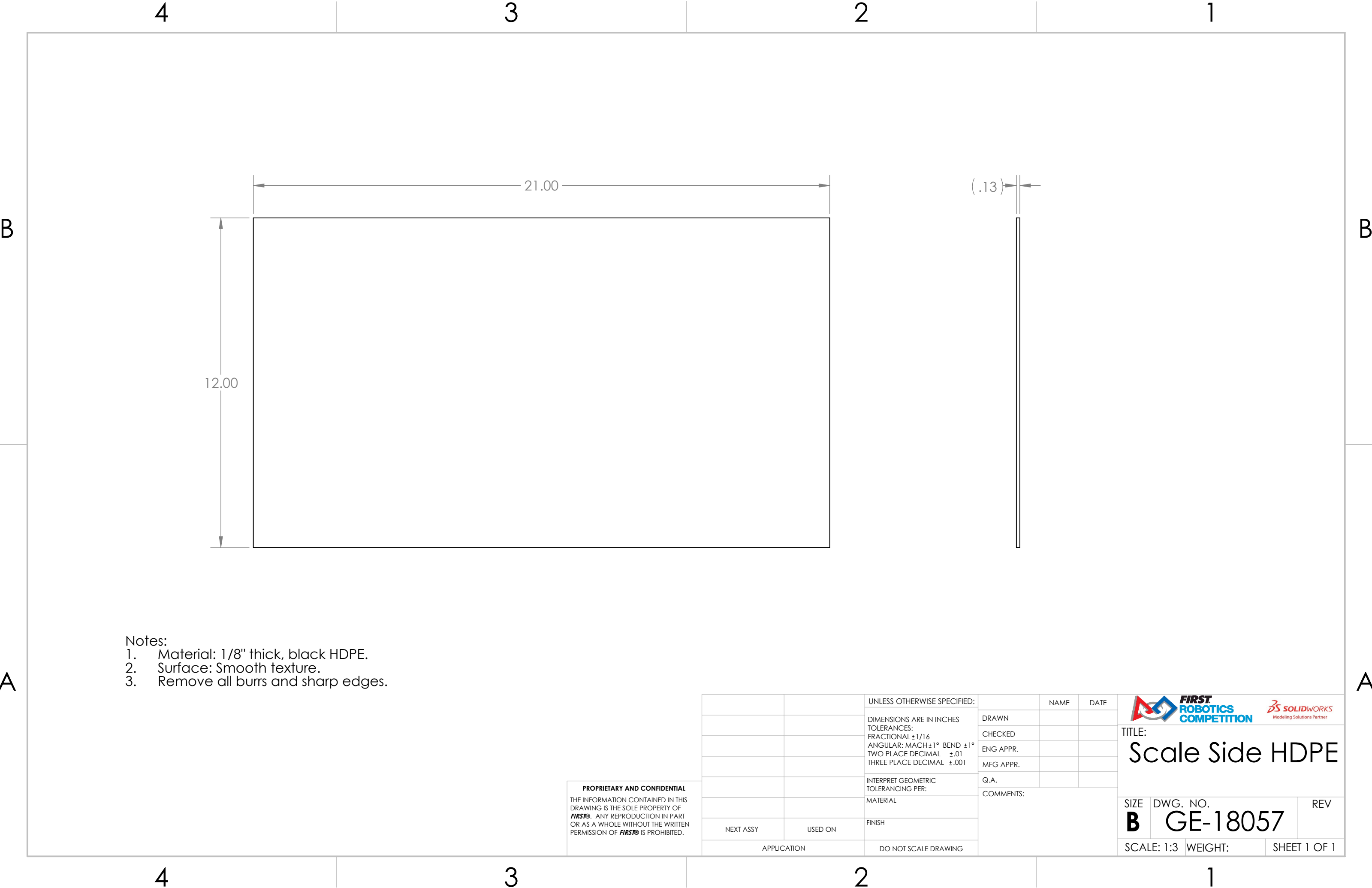
SIZE	DWG. NO.	REV
<b>A</b>	<b>GE-18056</b>	
SCALE: 1:4		WEIGHT:
		SHEET 1 OF 1

B

A

2



1

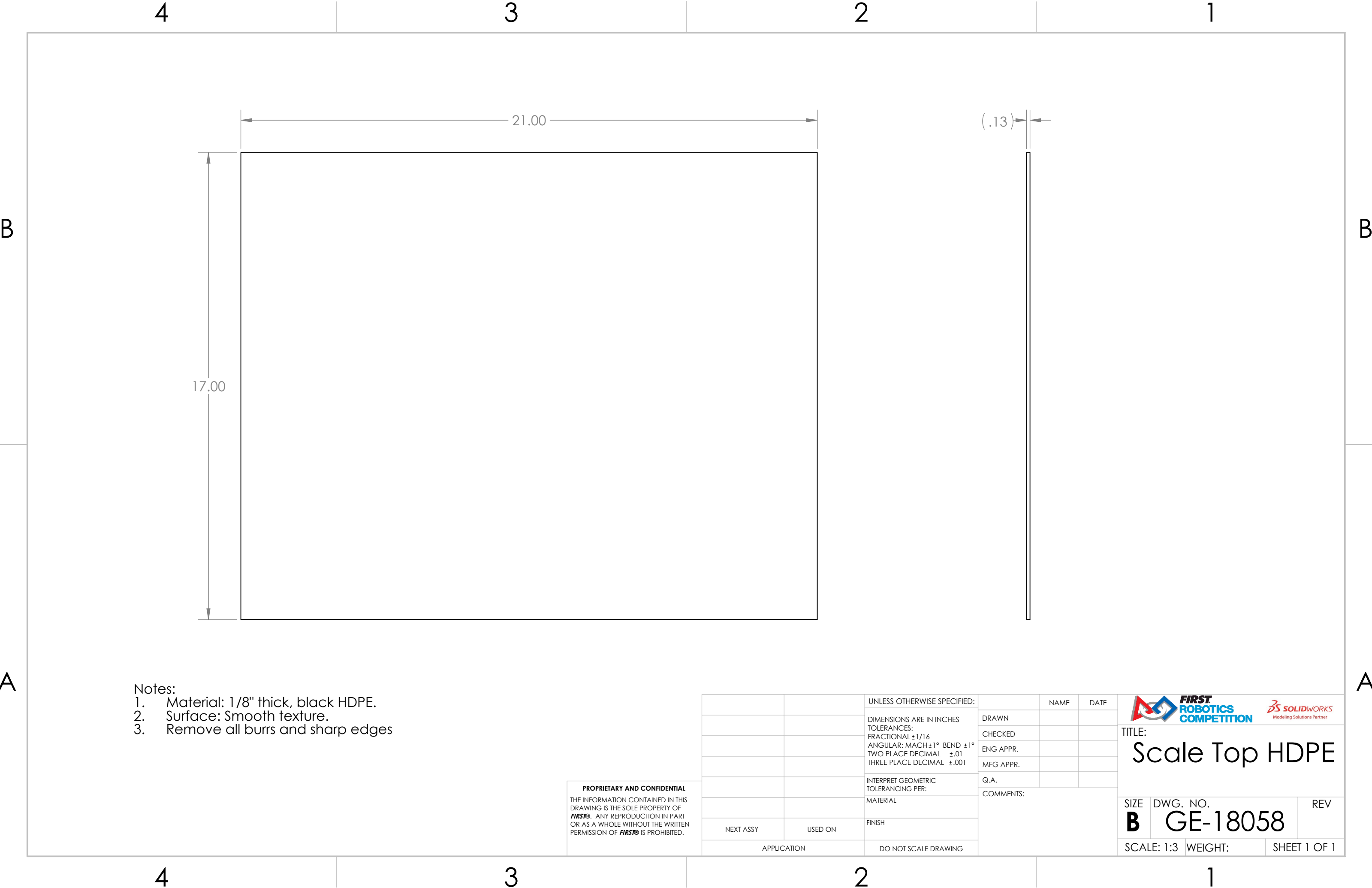


Notes:

- 1. Material: 1/8" thick, black HDPE.
- 2. Surface: Smooth texture.
- 3. Remove all burrs and sharp edges.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Scale Side HDPE		
		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				SIZE	DWG. NO.	REV
						B	GE-18057	
						SCALE: 1:3		WEIGHT:
								SHEET 1 OF 1

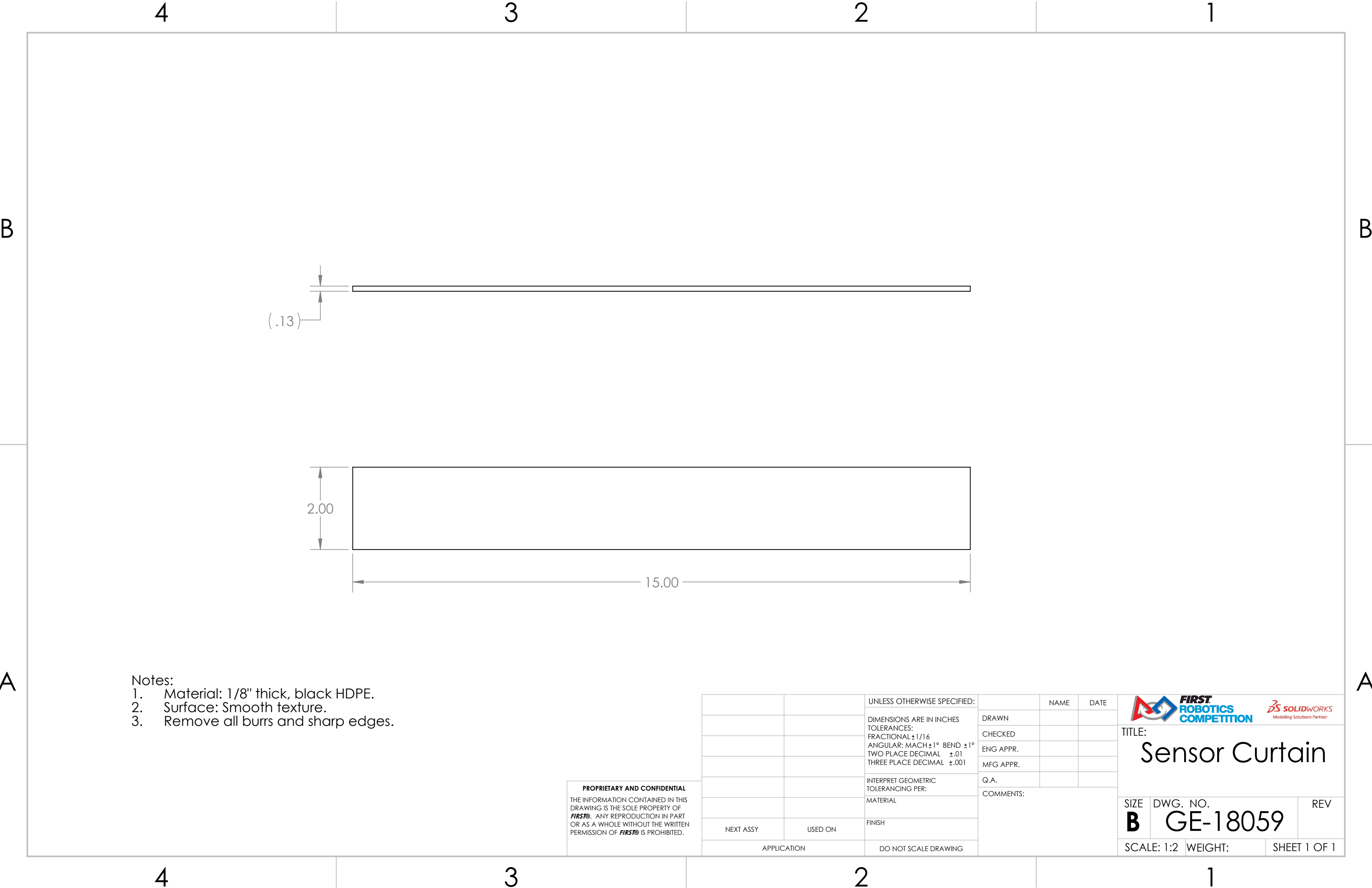


Notes:

- 1. Material: 1/8" thick, black HDPE.
- 2. Surface: Smooth texture.
- 3. Remove all burrs and 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:  Scale Top HDPE		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV  <b>B</b> <b>GE-18058</b>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						
						SCALE: 1:3	WEIGHT:	SHEET 1 OF 1



- Notes:
- 1. Material: 1/8" thick, black HDPE.
  - 2. Surface: Smooth texture.
  - 3. Remove all burrs and sharp edges.

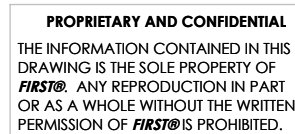
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  Sensor Curtain		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV
NEXT ASSY	USED ON	FINISH				B	GE-18059	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2 WEIGHT: SHEET 1 OF 1		



1

ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18061	Platform Top	2
2	GE-18062	Platform Top Notch	2
3	GE-18063	Platform Short Side	1
4	GE-18064	Platform Long Side	1
5	GE-18065	Platform Long Side Middle	1
6	GE-18066	Platform Brace, Long Side 1	4
7	GE-18067	Platform Brace, Long Side 2	2
8	GE-18068	Platform Brace, Short Side 1	6
9	GE-18069	Platform Brace, Mid Section	2
10	GE-18070	Platform Angle, Short Side	2
11	GE-18071	Platform Angle, Long Side	2
12	GE-18072	Platform Angle, Long Side Middle	1
13	GE-18073	Platform Short Side Mirrored	1
14	GE-18074	Platform Long Side Mirrored	1
15	GE-18105	Platform Brace, Short Side 2	2
16	flat_hex_.25_20_1	Steel Hex Flat Head Screw, 1/4"-20 x 1" long, fully threaded	11
17	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	11



TITLE:	Platform
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SIZE <b>B</b>	DWG. NO. <b>GE-18060</b>	REV <b>1</b>
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SCALE: 1:32	WEIGHT:	SHEET 1 OF 3
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4

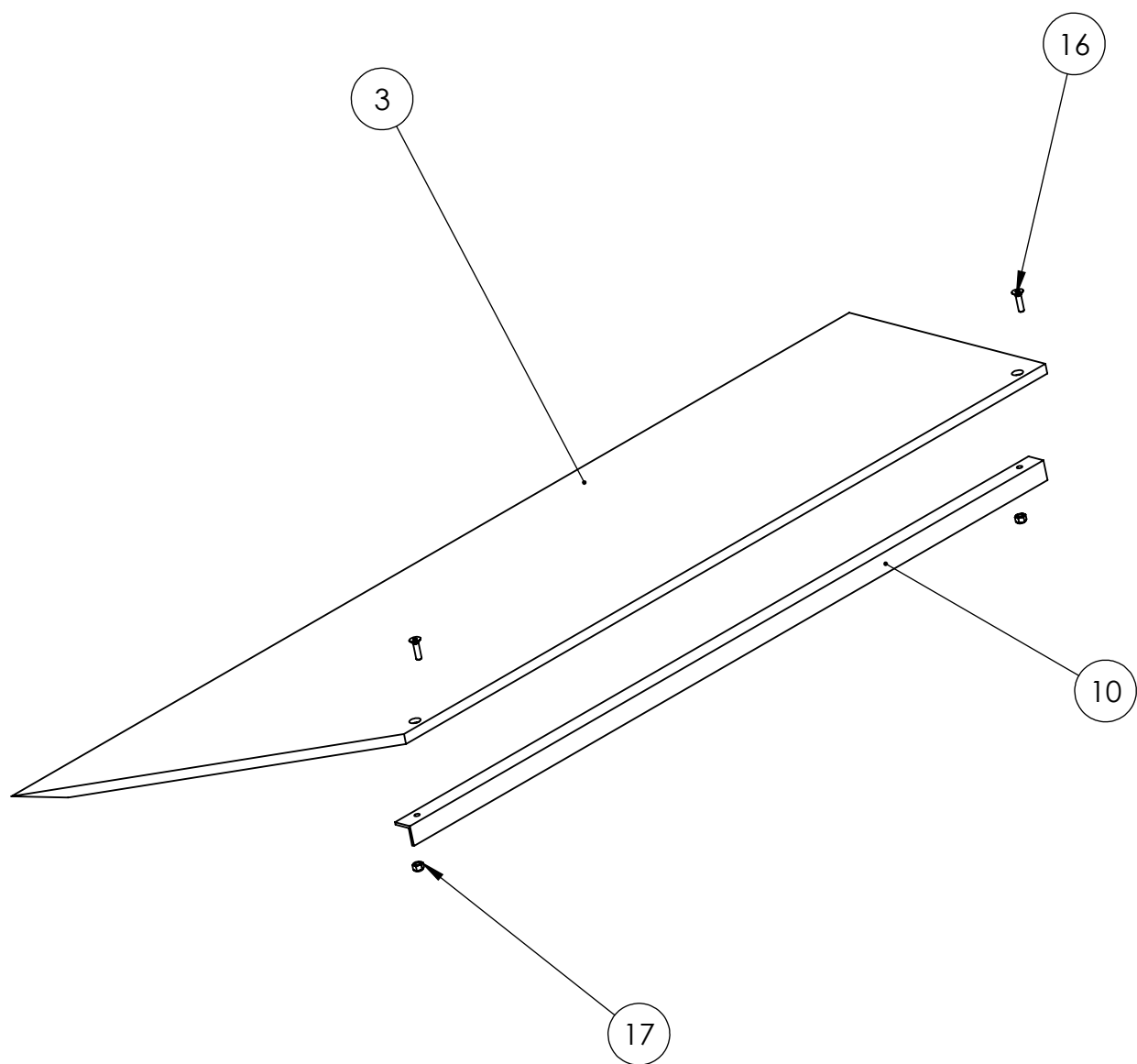
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2

1

B

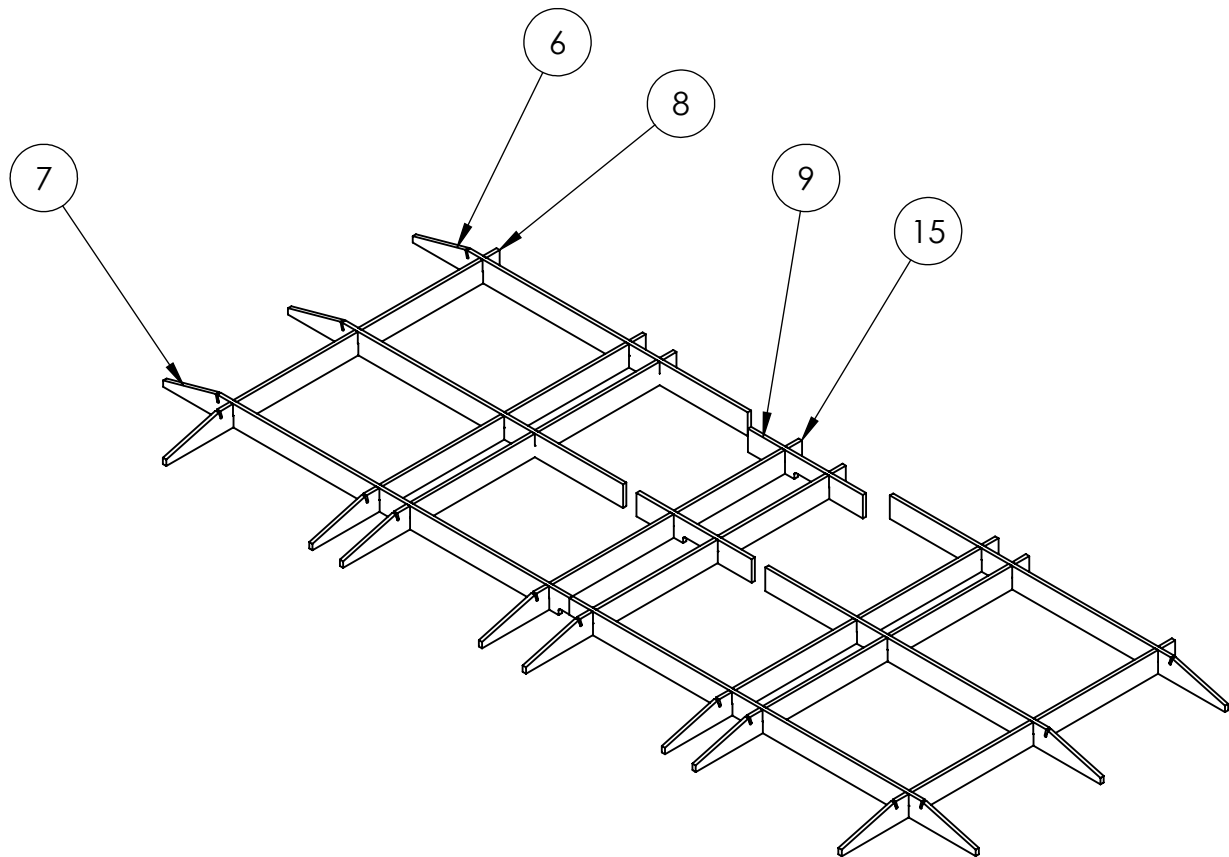
A



Notes:  
Bolt Item 10 to Item 3 using Items 16 and 17. Repeat steps for the following Items, using Items 16 and 17 to fasten:

HDPE	Aluminum Angle
Item 4	Item 11
Item 5	Item 12
Item 13	Item 10
Item 14	Item 11

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Notes:  
Slot Items 6, 7, 8, 9, 15 together.

		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: Platform		
			SIZE B	DWG. NO. GE-18060	REV 1
			SCALE: 1:32 WEIGHT:		SHEET 2 OF 3

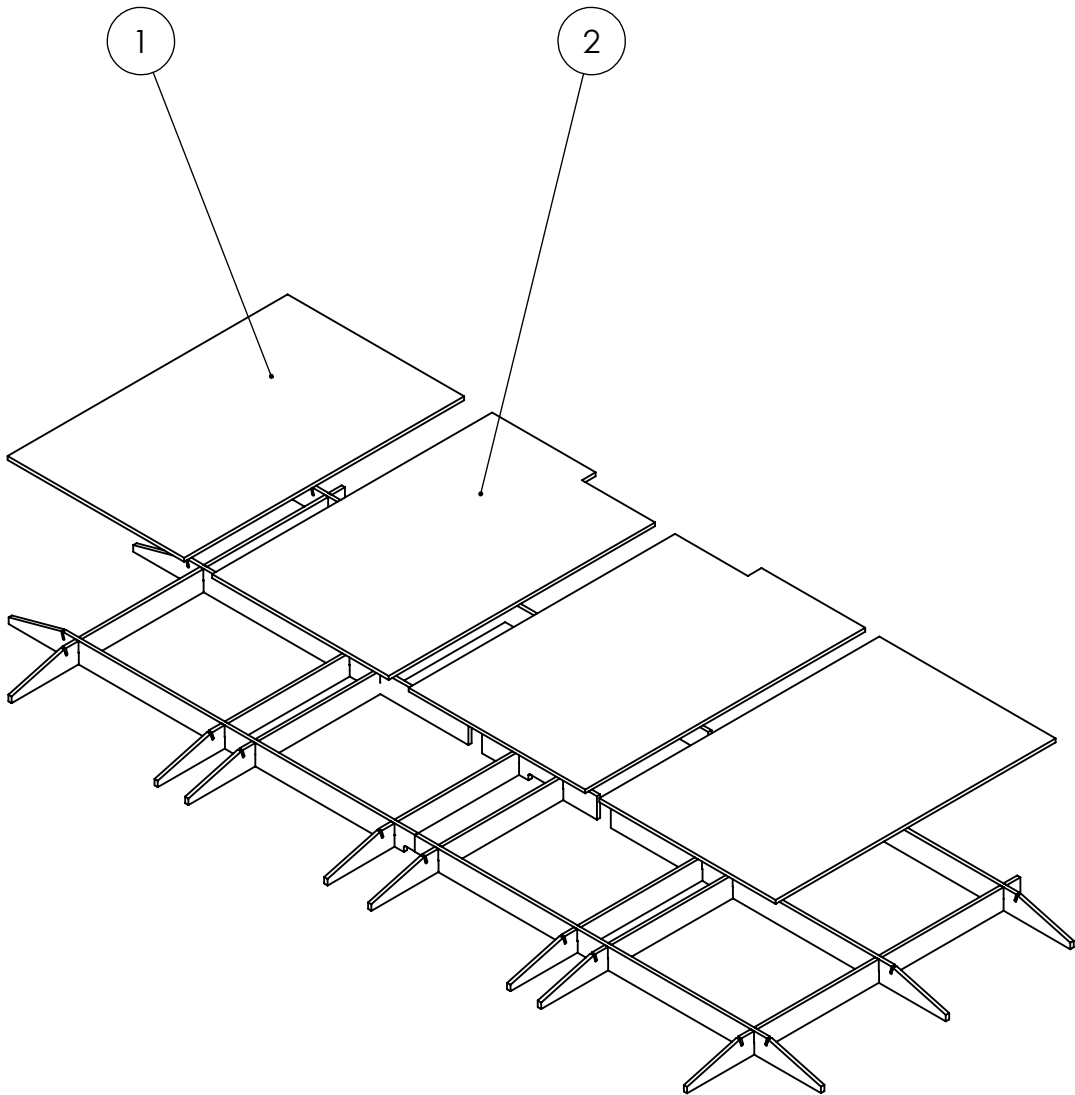
4

3

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B



Notes:  
Attach Items 1 and 2 using hook and loop.

A

3

4

5

14



13

Notes:  
Attach Items 3, 4, 5, 13, and 14 by sliding the aluminum angles into the slots on Items 6, 7, 8, 9, 15.

B

A

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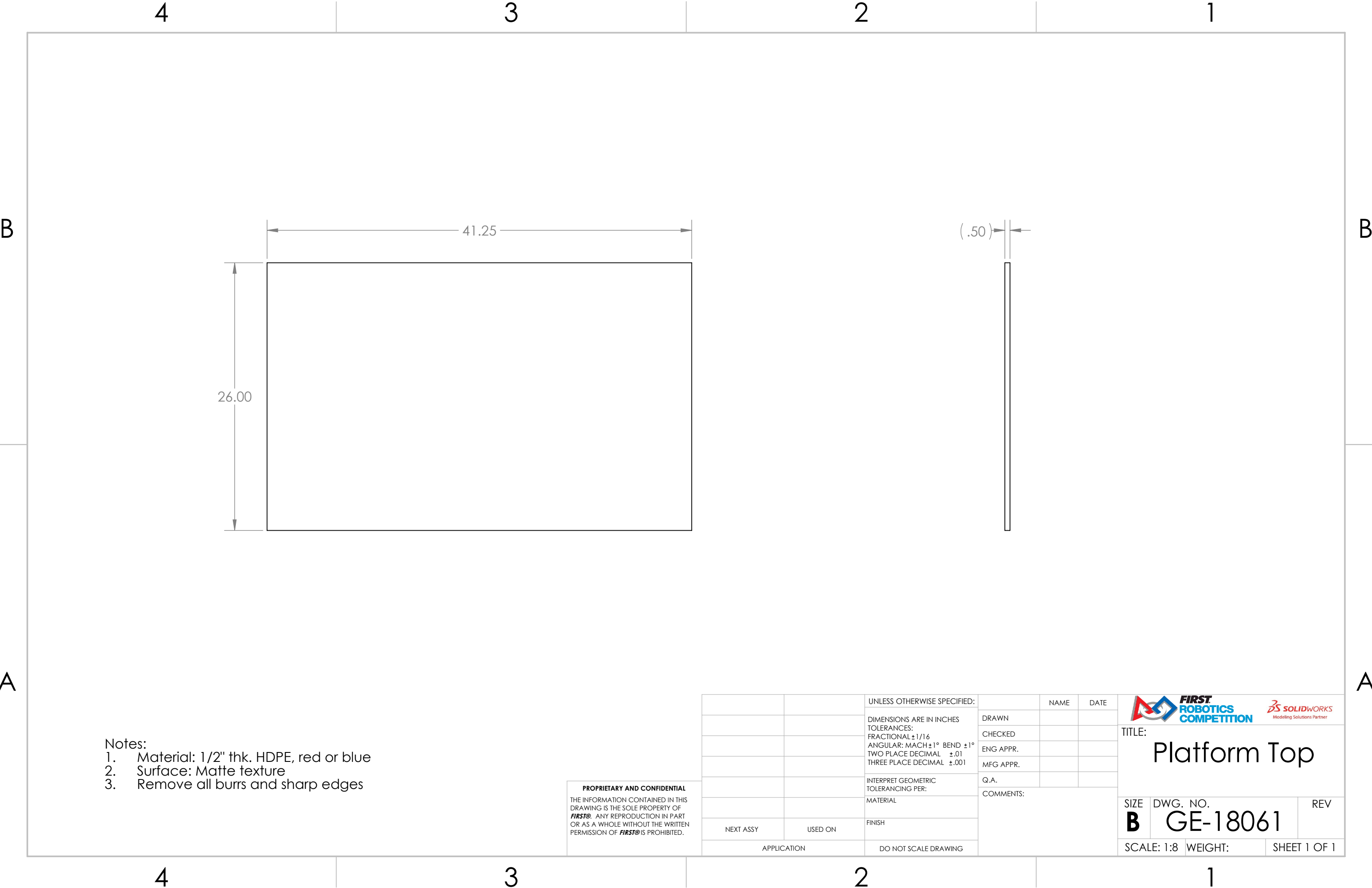
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		FRACTIONAL $\pm 1/16$	ENG APPR.			
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.			
		TWO PLACE DECIMAL $\pm .01$	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18060</b> <b>1</b>
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				SCALE: 1:32 WEIGHT: SHEET 3 OF 3
NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				

4

3



2

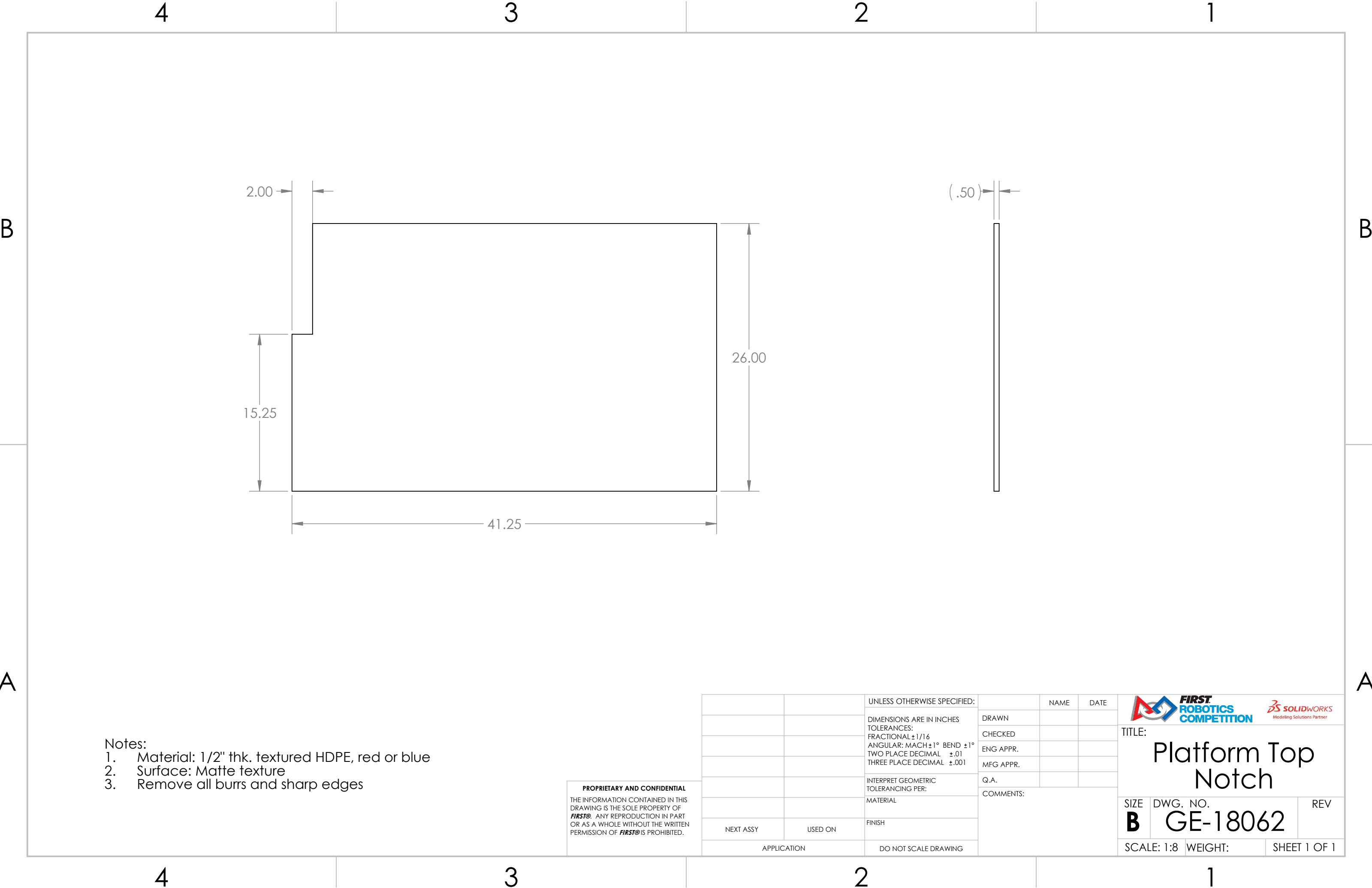
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- Notes:
- 1. Material: 1/2" thk. HDPE, red or blue
  - 2. Surface: Matte texture
  - 3. Remove all burrs and sharp edges



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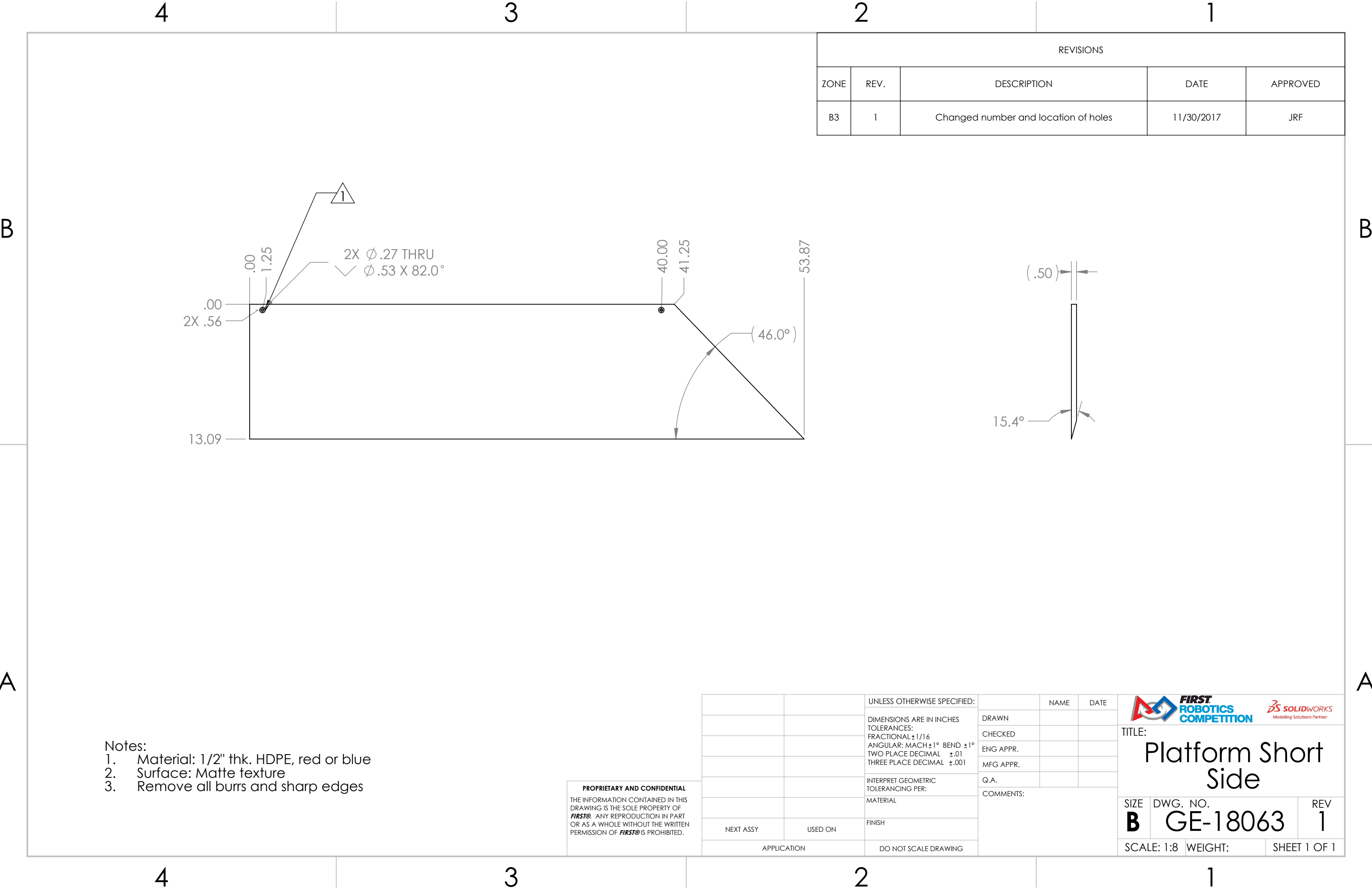
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18061</b>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						
						SCALE: 1:8	WEIGHT:	SHEET 1 OF 1



- Notes:
1. Material: 1/2" thk. textured HDPE, red or blue
  2. Surface: Matte texture
  3. Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Platform Top Notch</h1>		
		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
		INTERPRET GEOMETRIC TOLERANCING PER:				<b>B</b>	<b>GE-18062</b>	
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		





REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	1	Changed number and location of holes	11/30/2017	JRF

- Notes:
- Material: 1/2" thk. HDPE, red or blue
  - Surface: Matte texture
  - Remove all burrs and 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.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			



TITLE:  
**Platform Short  
Side**

SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18063</b>	<b>1</b>

SCALE: 1:8	WEIGHT:	SHEET 1 OF 1
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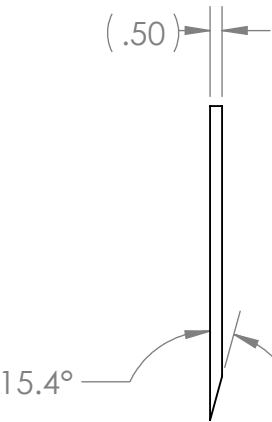
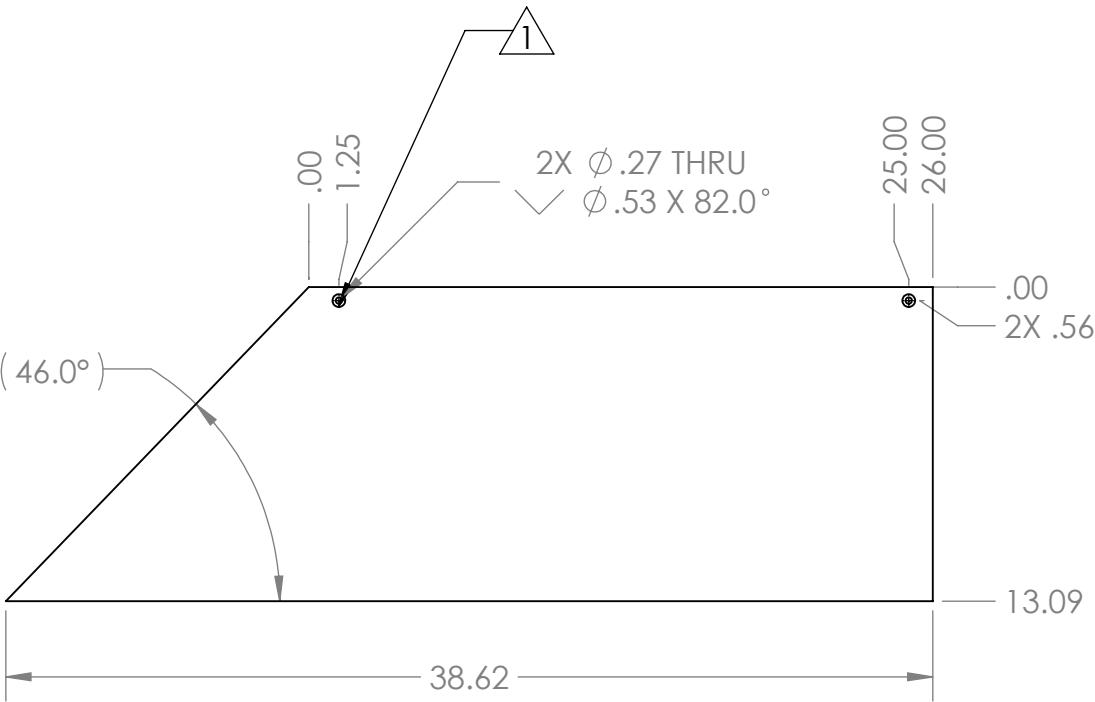
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3

2



1

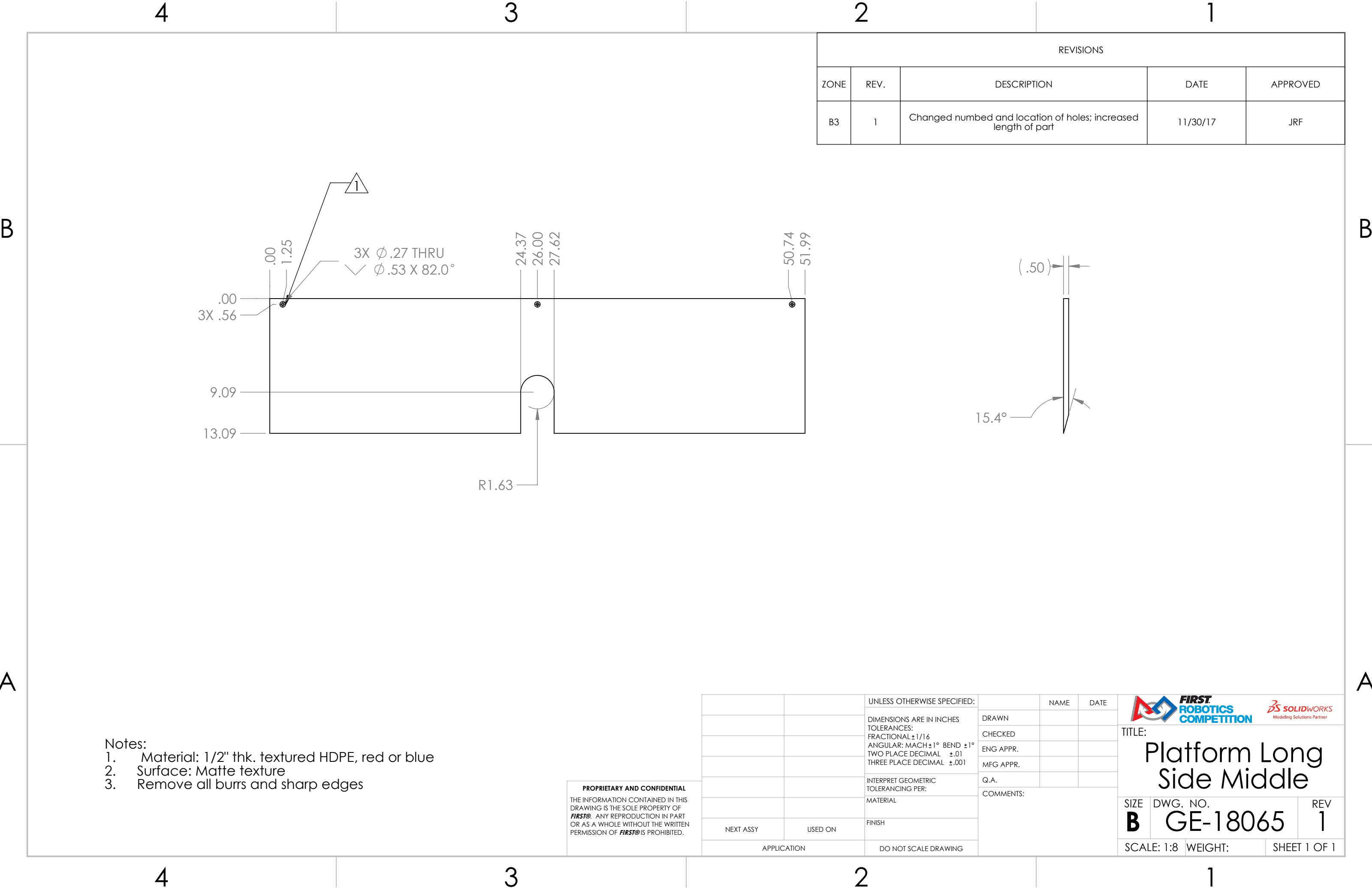
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	1	Changed number and location of holes; decreased length of part	11/30/17	JRF



- Notes:
- Material: 1/2" thk. HDPE, red or blue
  - Surface: Matte texture
  - Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Platform Long Side</h1>		
		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>B</b> <b>GE-18064</b> <b>1</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	1	Changed numbed and location of holes; increased length of part	11/30/17	JRF

- Notes:
- Material: 1/2" thk. textured HDPE, red or blue
  - Surface: Matte texture
  - Remove all burrs and sharp edges

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <h1>Platform Long Side Middle</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18065</b> <b>1</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		

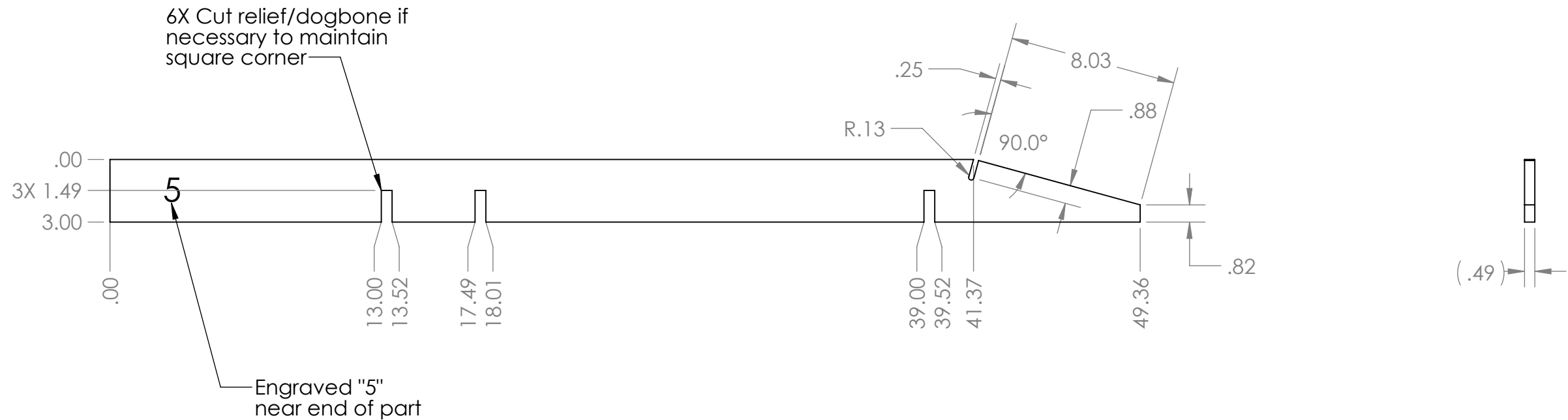


B

B

A



A



Notes:

1. Material: 1/2" thk. textured HDPE, any color
2. Surface: Smooth texture
3. Remove all burrs and sharp edges

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Platform Brace, Long Side 1		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18066</b>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:6 WEIGHT: SHEET 1 OF 1					

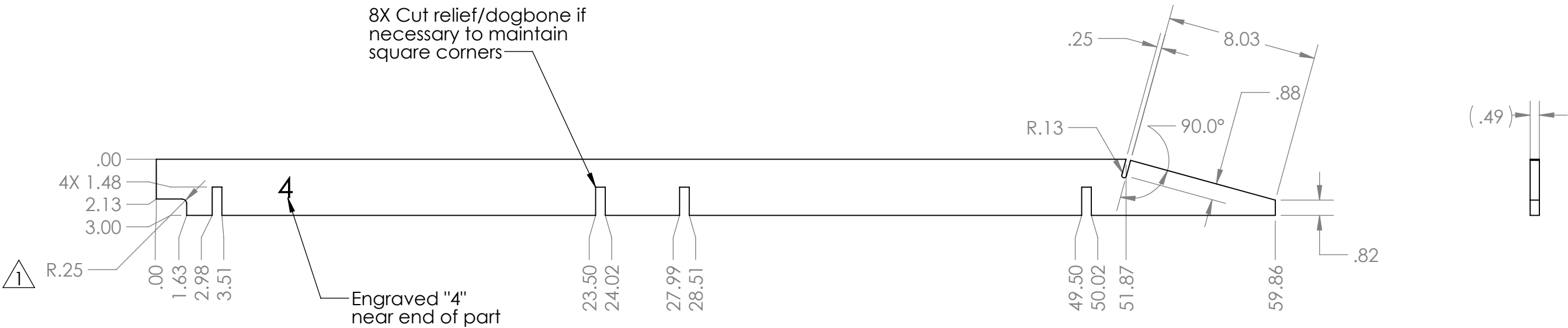
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3

2

1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B4	1	Added dimension to specify fillet radius.	1/3/2018	CPO



- Notes:
1. Material: 1/2" thk. HDPE, any color
  2. Surface: Smooth texture
  3. Remove all burrs and 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.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			



TITLE:  
**Platform Brace,  
Long Side 2**

SIZE  
**B**

DWG. NO.  
**GE-18067**

REV  
**1**

SCALE: 1:6

WEIGHT:

SHEET 1 OF 1



4

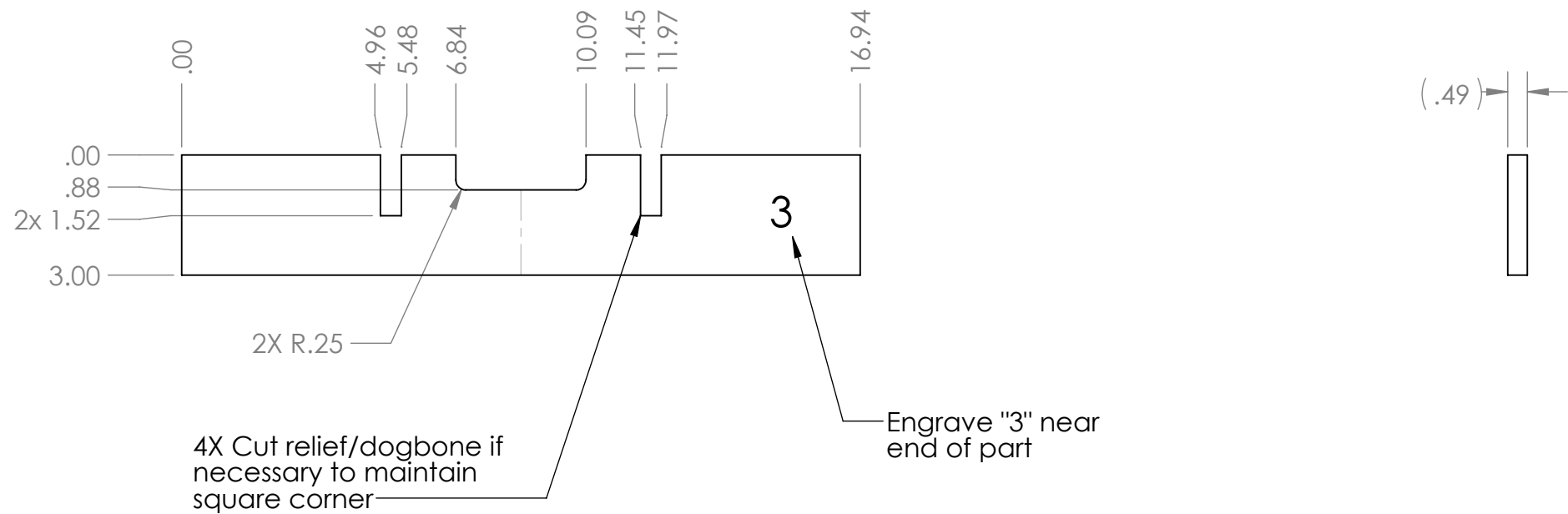
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2

1



B

B



- Notes:
- 1. Material: 1/2" thk. HDPE, any color
  - 2. Surface: Smooth texture
  - 3. Remove all burrs and sharp edges

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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:  Platform Brace, Mid Section		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> GE-18069		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						

4

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1

4

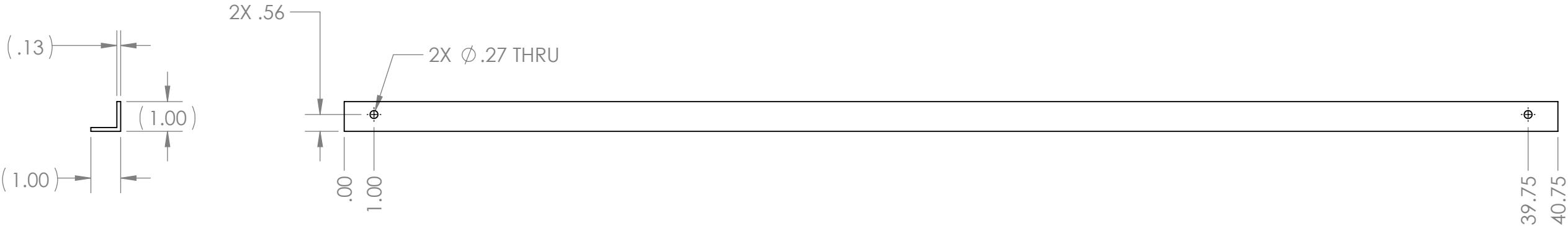
3

2

1

B

B





A

A

Notes:  
1. Material: 1" x 1" x .125" thick angle, 6061 aluminum  
2. Remove all burrs and sharp edges

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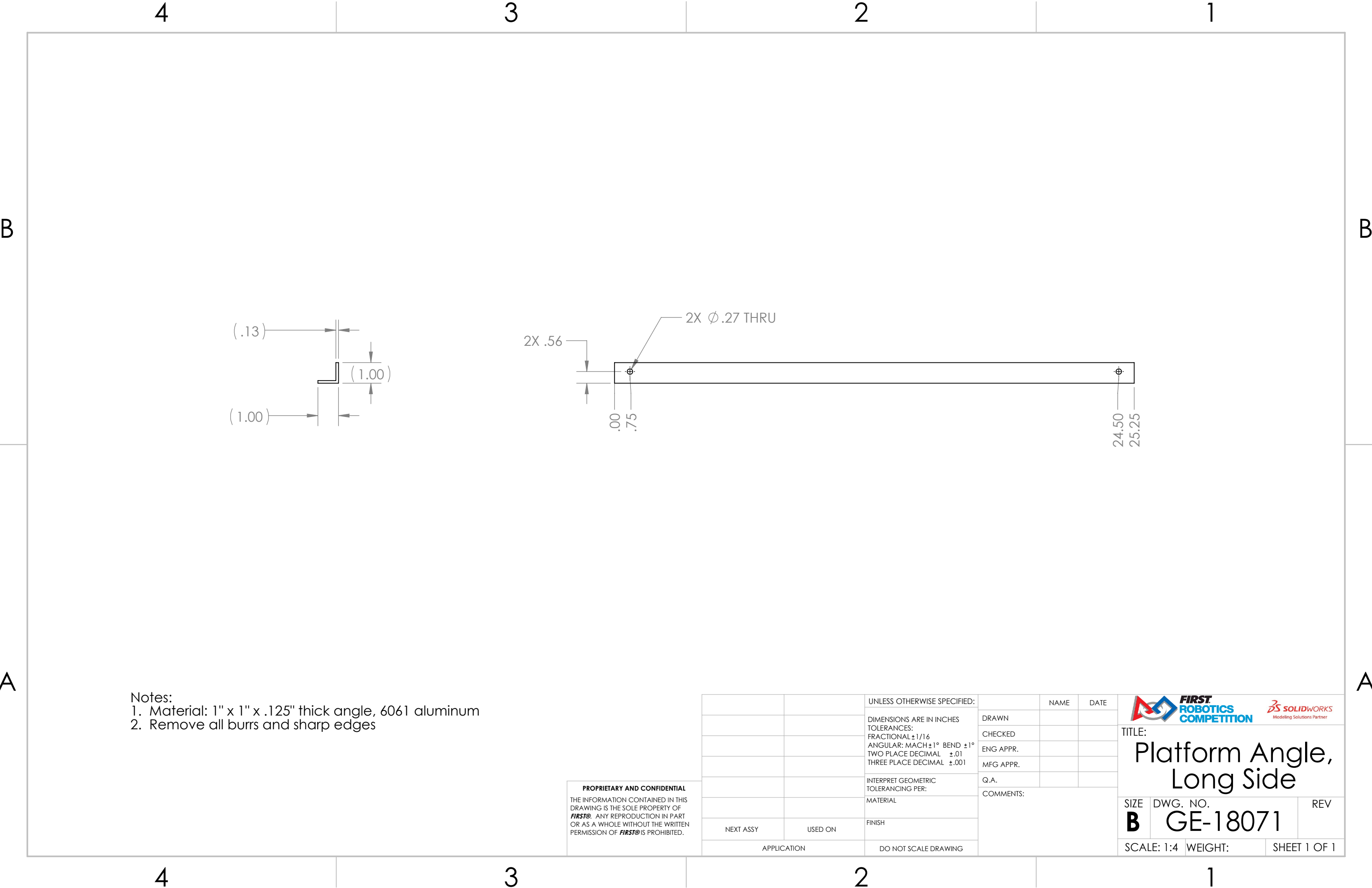
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18070</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:4					

4

3



2

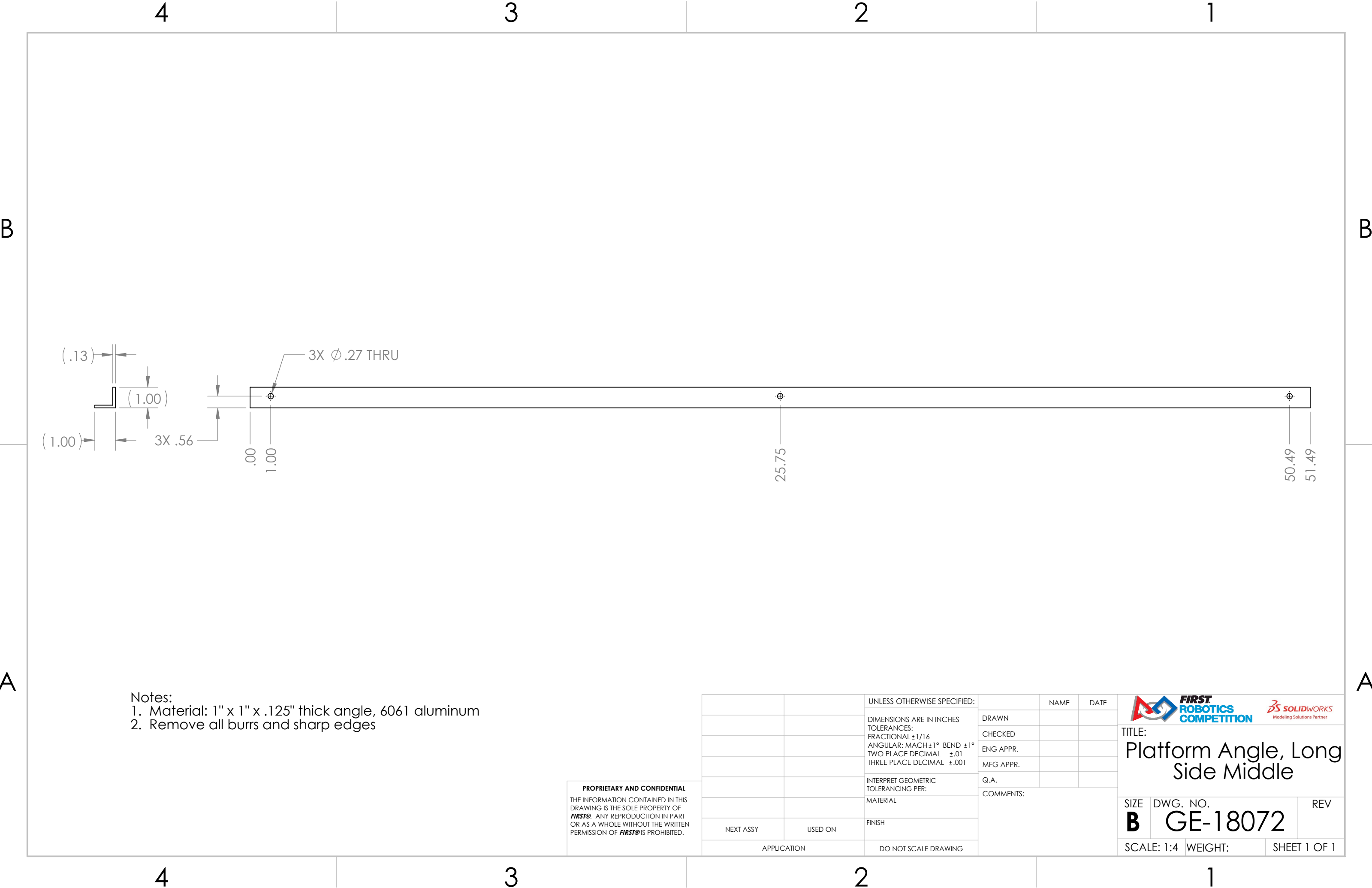
1



Notes:  
1. Material: 1" x 1" x .125" thick angle, 6061 aluminum  
2. Remove all burrs and sharp edges



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			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18071</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						
						SCALE: 1:4 WEIGHT: SHEET 1 OF 1		

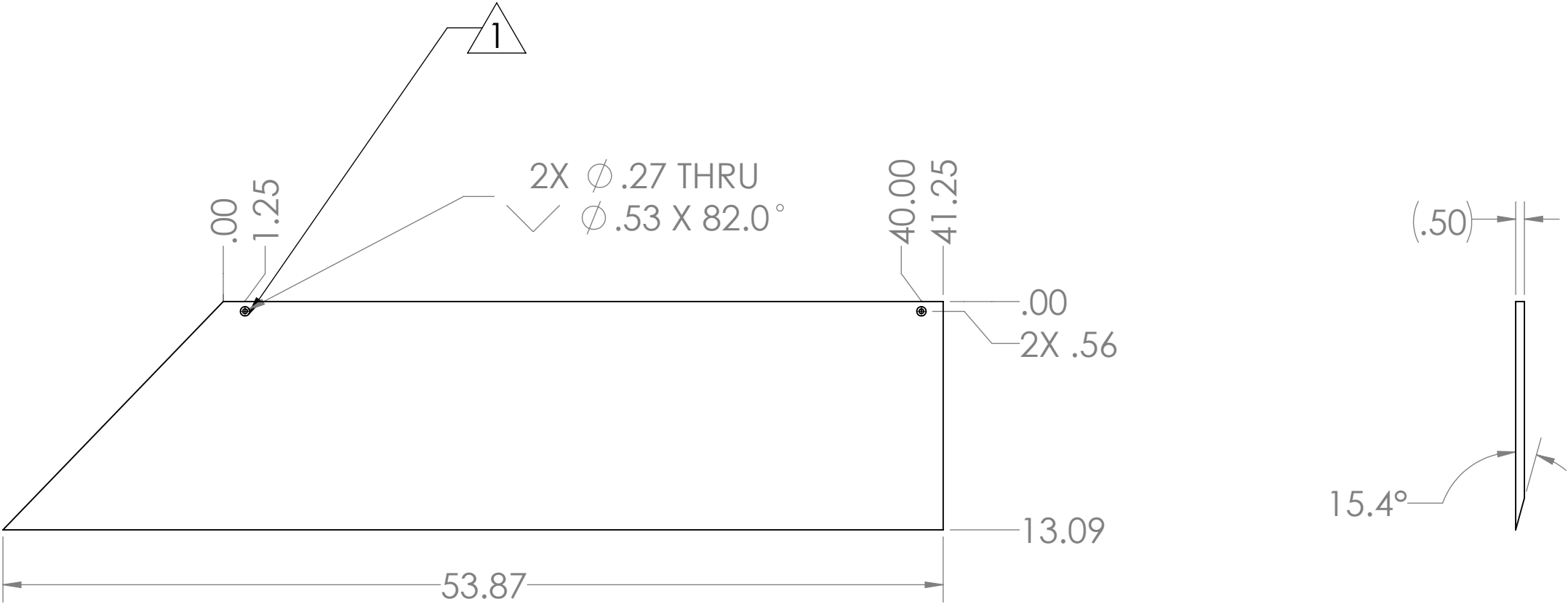


Notes:  
1. Material: 1" x 1" x .125" thick angle, 6061 aluminum  
2. Remove all burrs and sharp edges

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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: Platform Angle, Long Side Middle		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> GE-18072		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	1	Changed number and location of holes	11/30/17	JRF



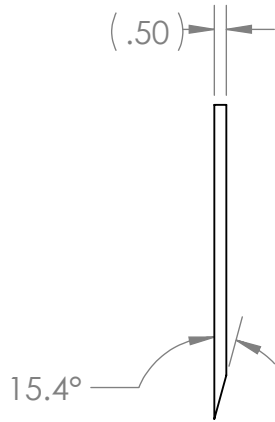
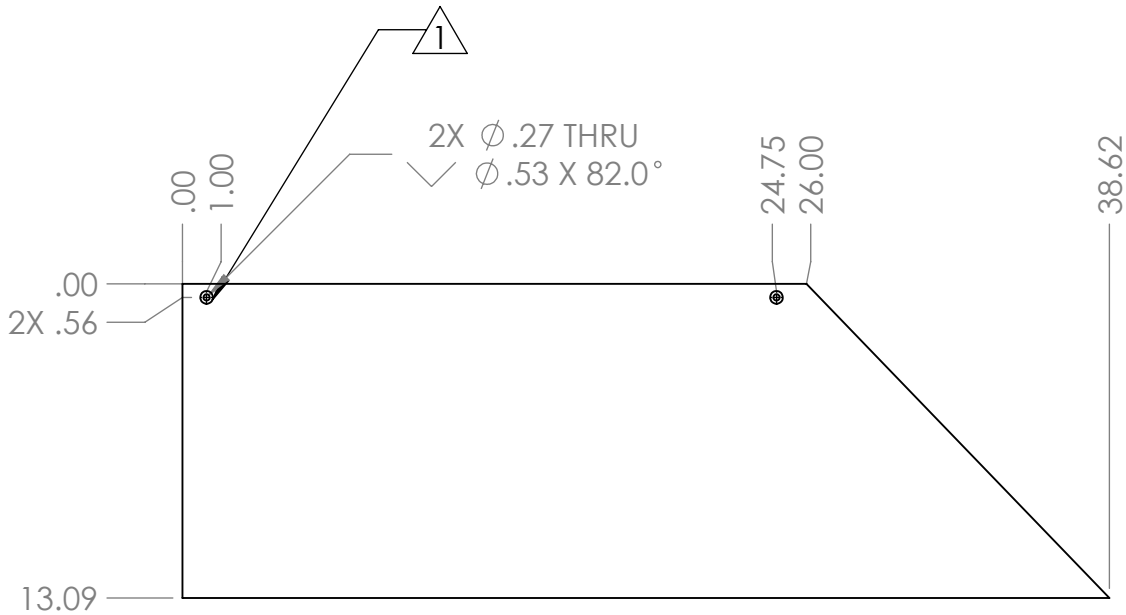
- Notes:
- Material: 1/2" thk. HDPE, red or blue
  - Surface: Matte texture
  - Remove all burrs and sharp edges

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN				TITLE:	
			CHECKED				Platform Short	
			ENG APPR.				Side Mirrored	
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV
								B
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		





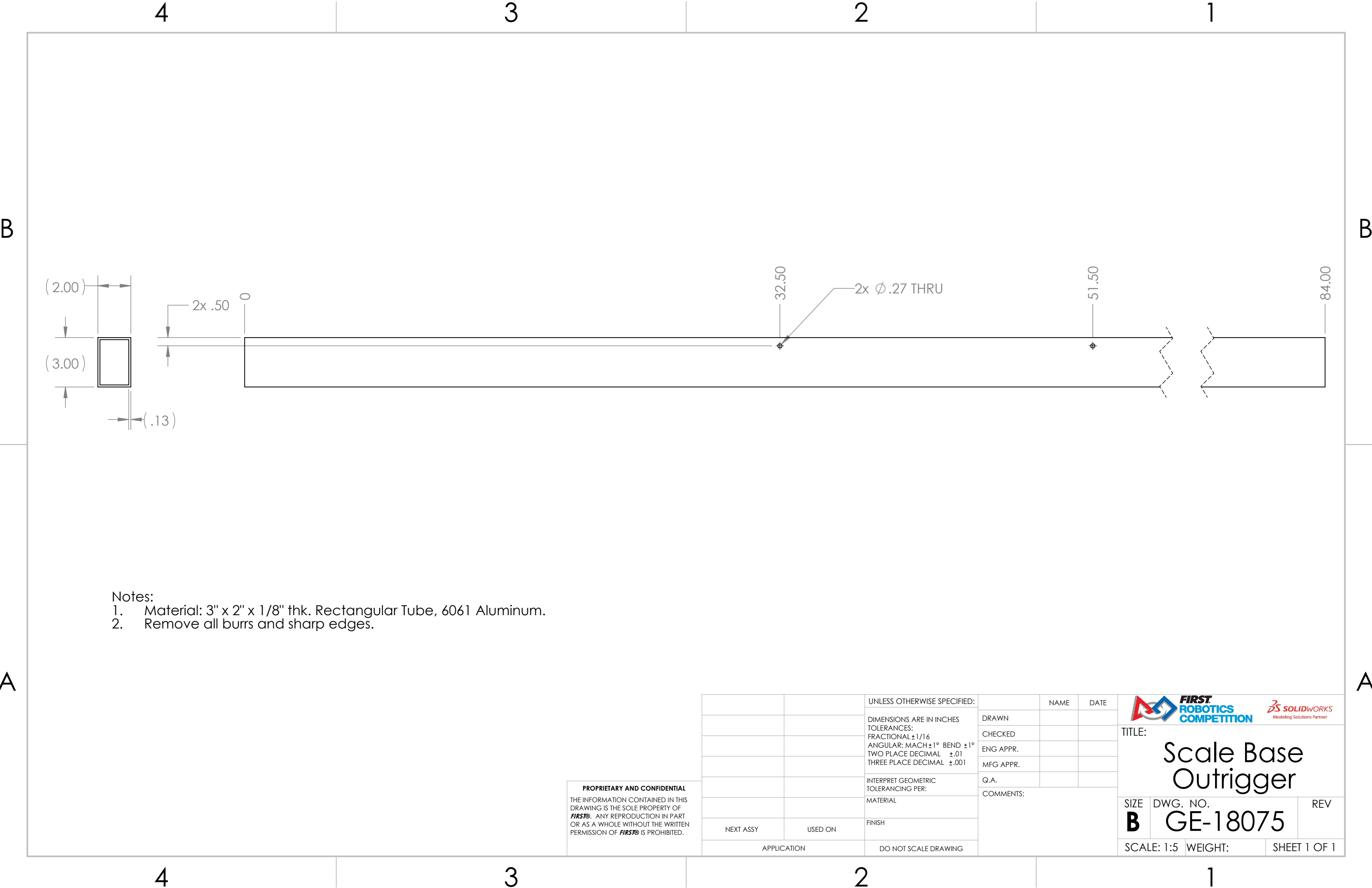
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3	1	Changed number and location of holes; decreased length of part	11/30/17	JRF



- Notes:
- Material: 1/2" thk. HDPE, red or blue
  - Surface: Matte texture
  - Remove all burrs and sharp edges

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



4

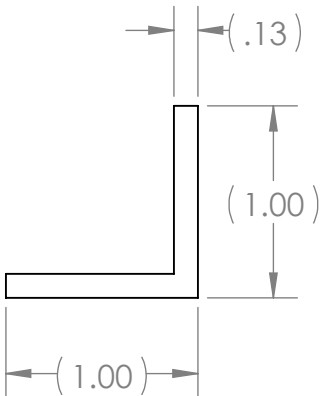
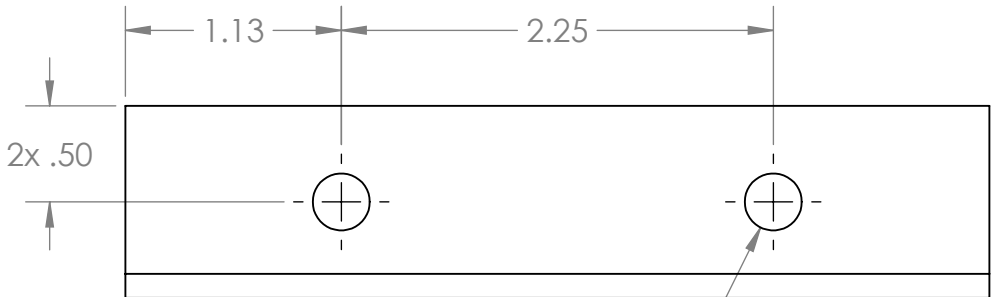
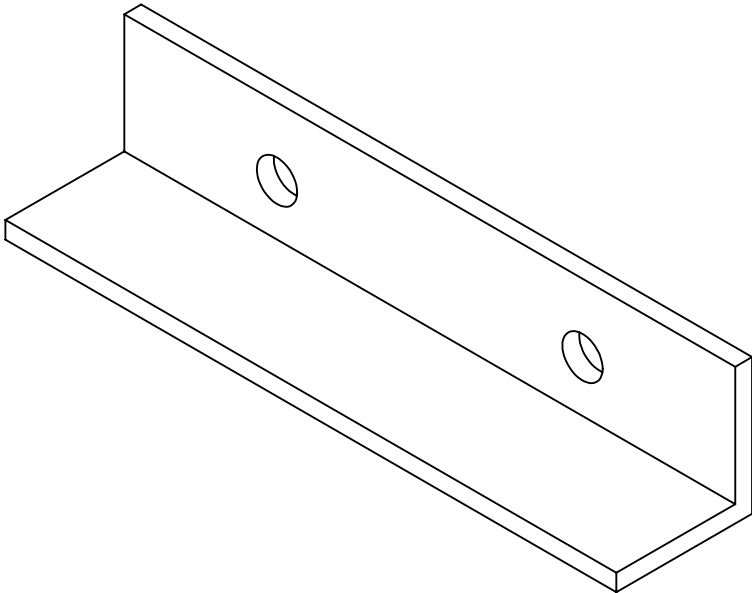
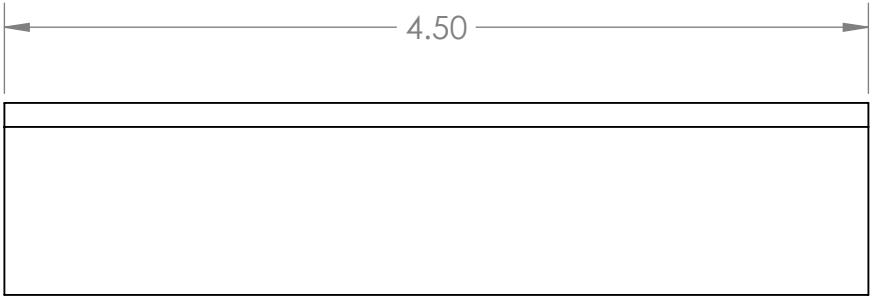
3

2

1

B

B





2x Ø .30 THRU

Notes:

1. Material: 1" x 1" x 1/8" thk. 90 degree angle, 6061 Aluminum.
2. Remove all burrs and sharp edges.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 				
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Scale Angle Brace</h1>				
		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
		INTERPRET GEOMETRIC TOLERANCING PER:				B		GE-18076		
		MATERIAL								
		FINISH								
NEXT ASSY	USED ON					SCALE: 1:1		WEIGHT:	SHEET 1 OF 1	
APPLICATION		DO NOT SCALE DRAWING								

4

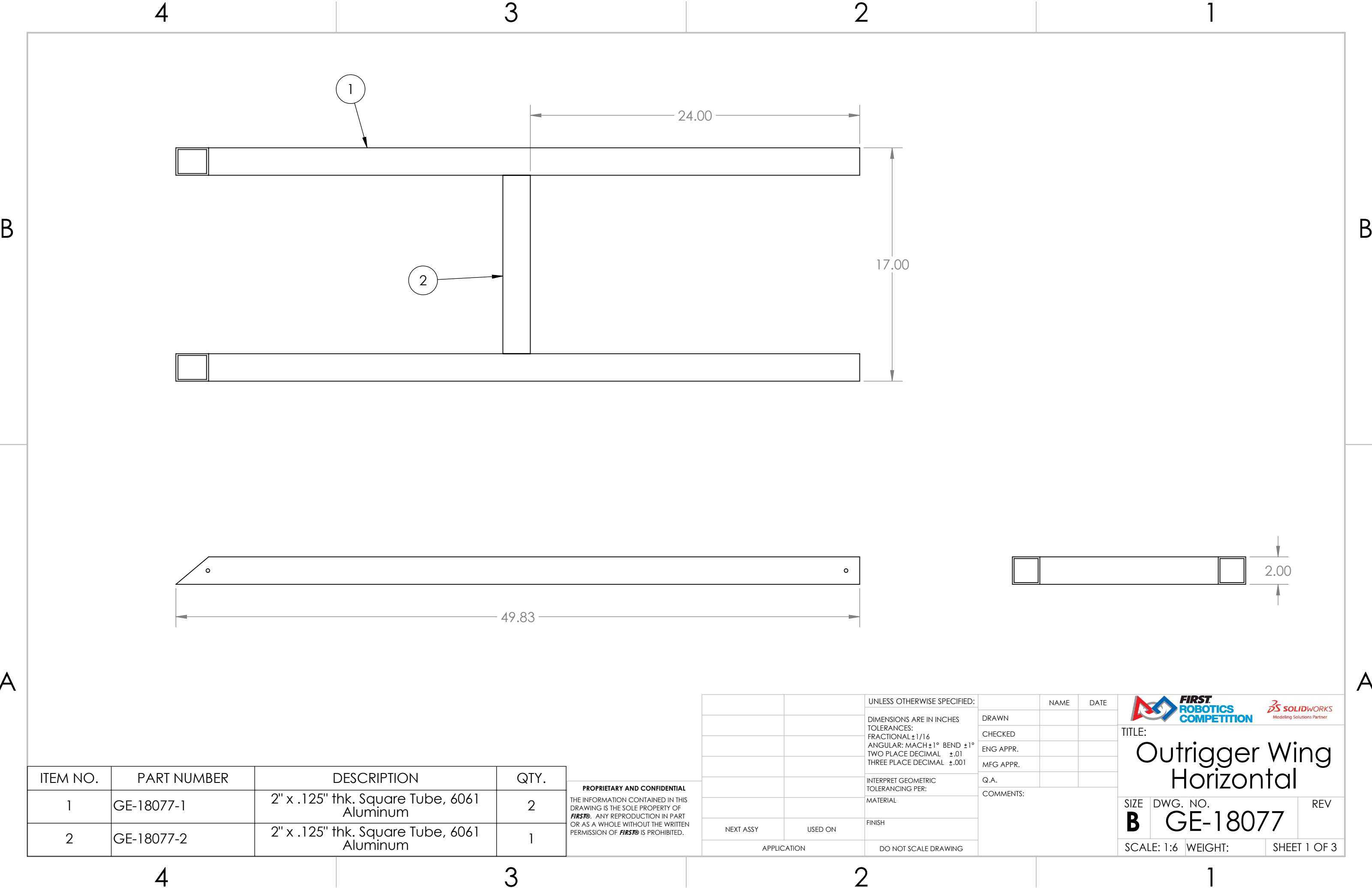
3

2

1

A

A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18077-1	2" x .125" thk. Square Tube, 6061 Aluminum	2
2	GE-18077-2	2" x .125" thk. Square Tube, 6061 Aluminum	1

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

TITLE:

Outrigger Wing Horizontal

SIZE

B

DWG. NO.

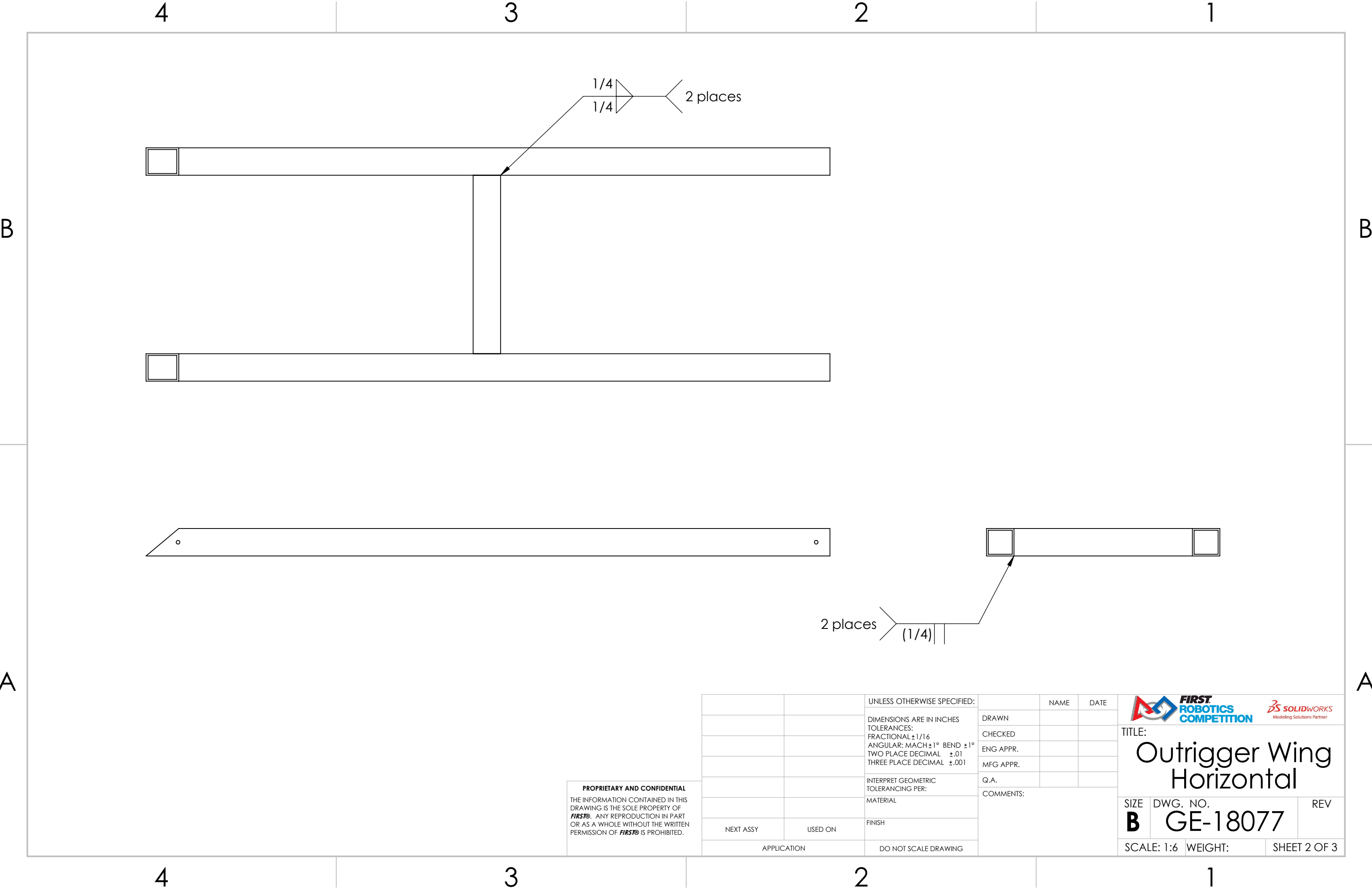
GE-18077

REV

SCALE: 1:6



WEIGHT:

SHEET 1 OF 3



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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			

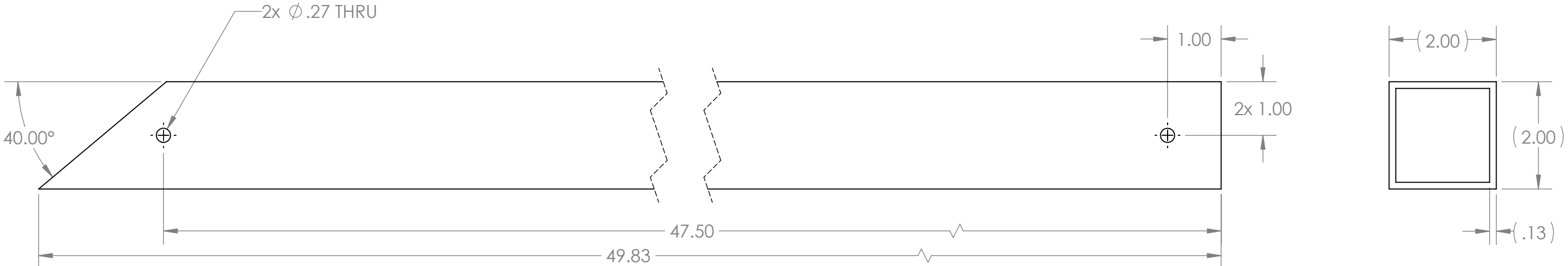


TITLE:  
**Outrigger Wing  
Horizontal**

SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18077</b>	

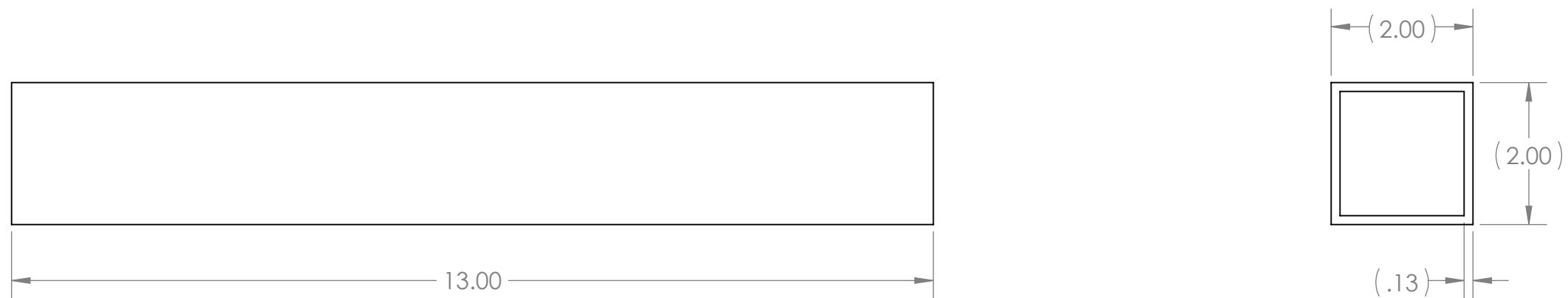
SCALE: 1:6	WEIGHT:	SHEET 2 OF 3
------------	---------	--------------

B





ITEM: GE-18077-1  
Material: 2" x .125" thk. Square Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 2

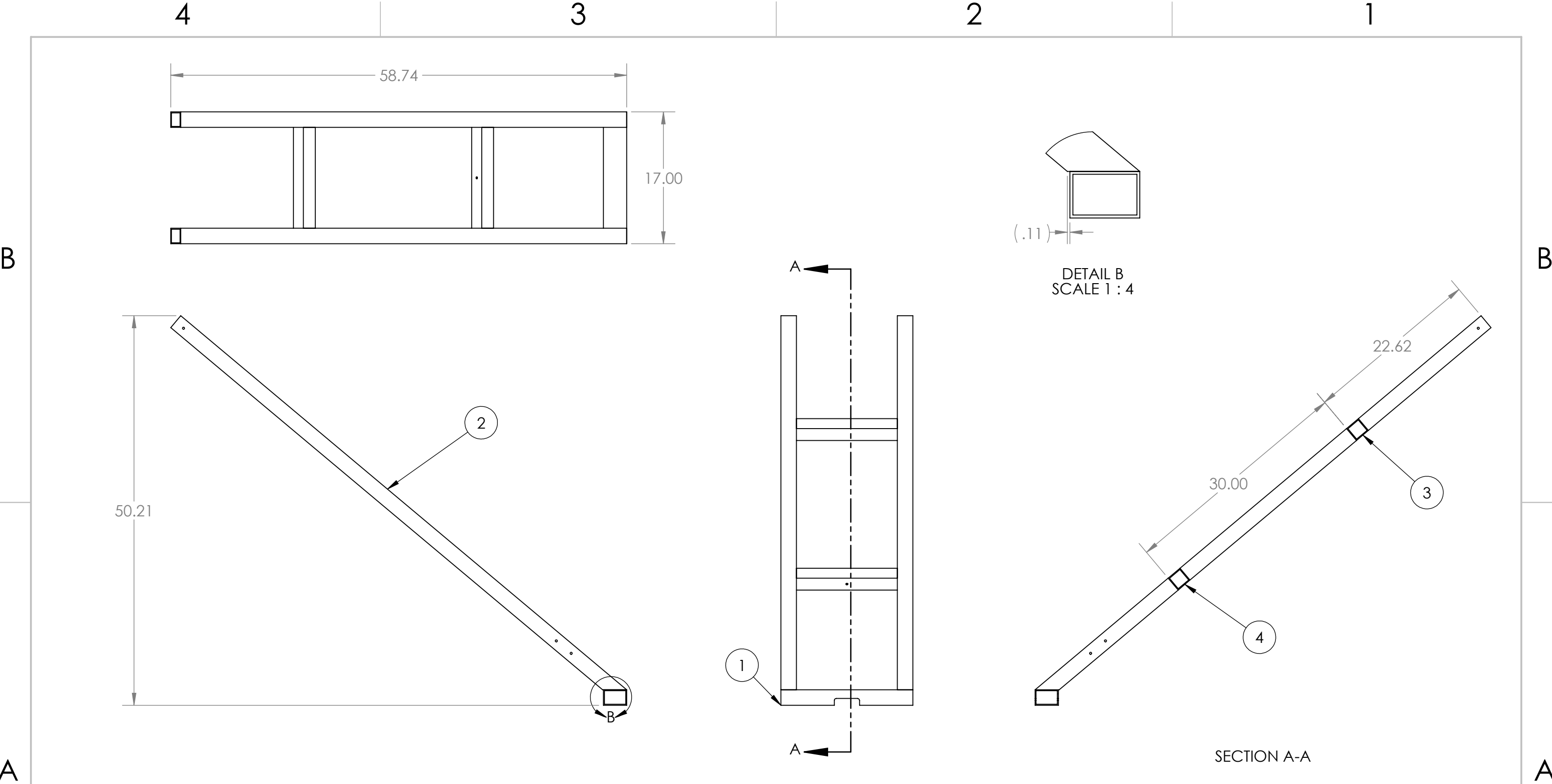
A



ITEM: GE-18077-2  
Material: 2" x .125" thk. Square Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 1

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  Outrigger Wing Horizontal		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE DWG. NO. REV <b>B</b> GE-18077		
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2 WEIGHT: SHEET 3 OF 3		



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18078-1	3" x 2" x .125" thk. Rectangular Tube, 6061 Aluminum	1
2	GE-18078-2	2" x .125" thk. Square Tube, 6061 Aluminum	2
3	GE-18078-3	2" x .125" thk. Square Tube, 6061 Aluminum	1
4	GE-18078-4	2" x .125" thk. Square Tube, 6061 Aluminum	1

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



TITLE:  
**Outrigger Wing Diagonal**

SIZE **B** DWG. NO. **GE-18078** REV

SCALE: 1:12 WEIGHT: SHEET 1 OF 4

4

3

2

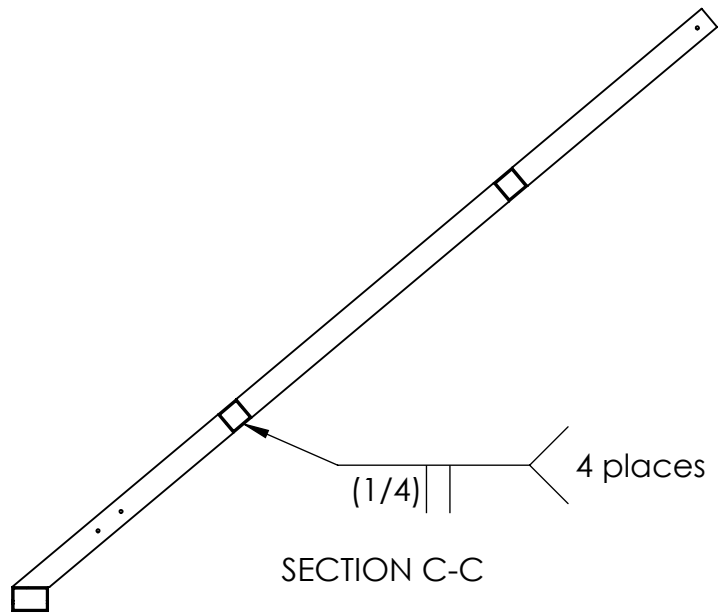
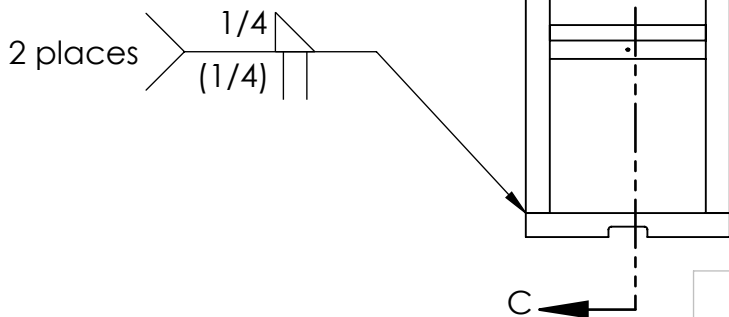
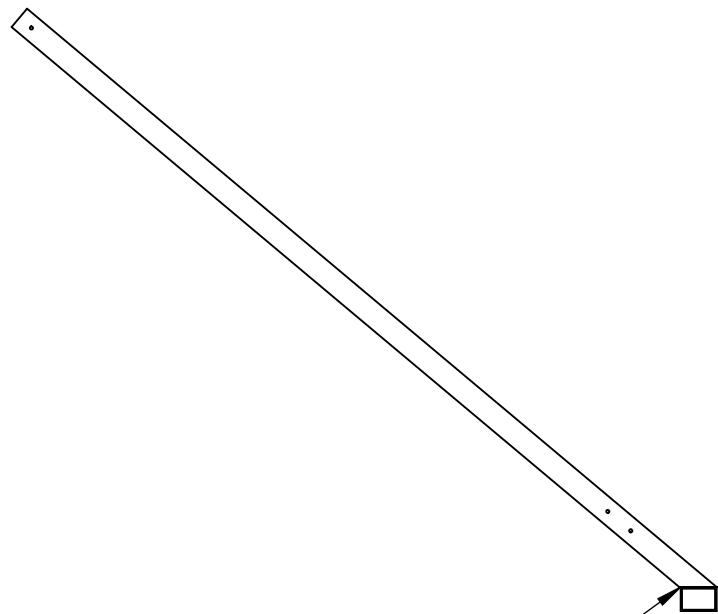
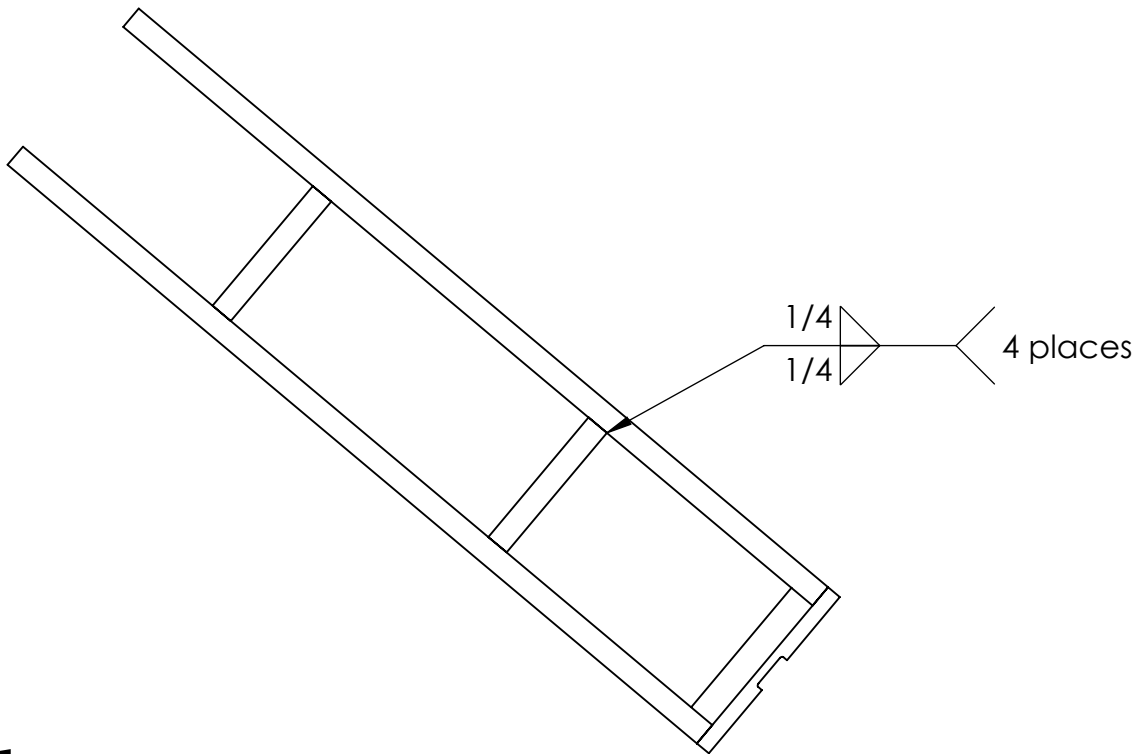
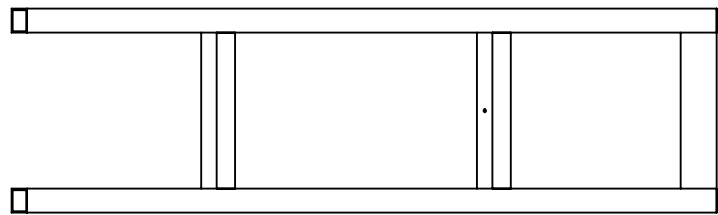
1

B

B



A

A



SECTION C-C

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Outrigger Wing Diagonal</h1>		
		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>B</b> GE-18078		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON					SCALE: 1:16 WEIGHT: SHEET 2 OF 4		
APPLICATION		DO NOT SCALE DRAWING						



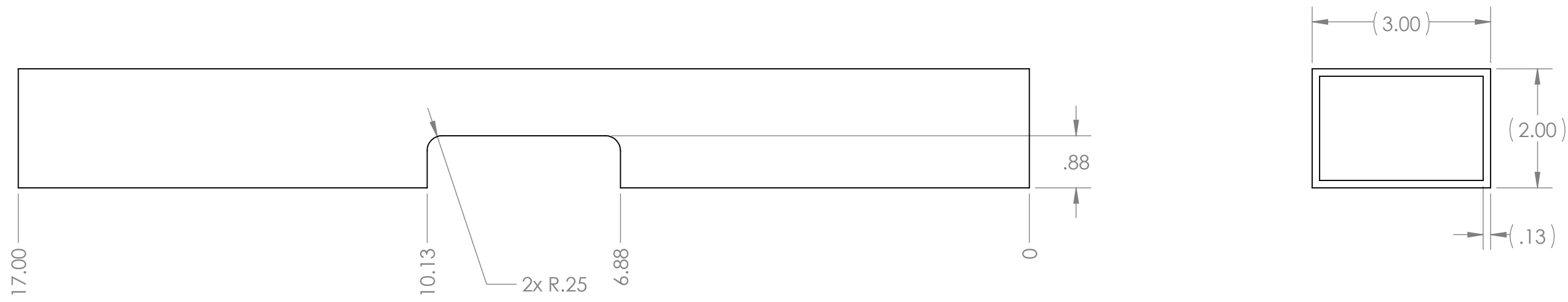
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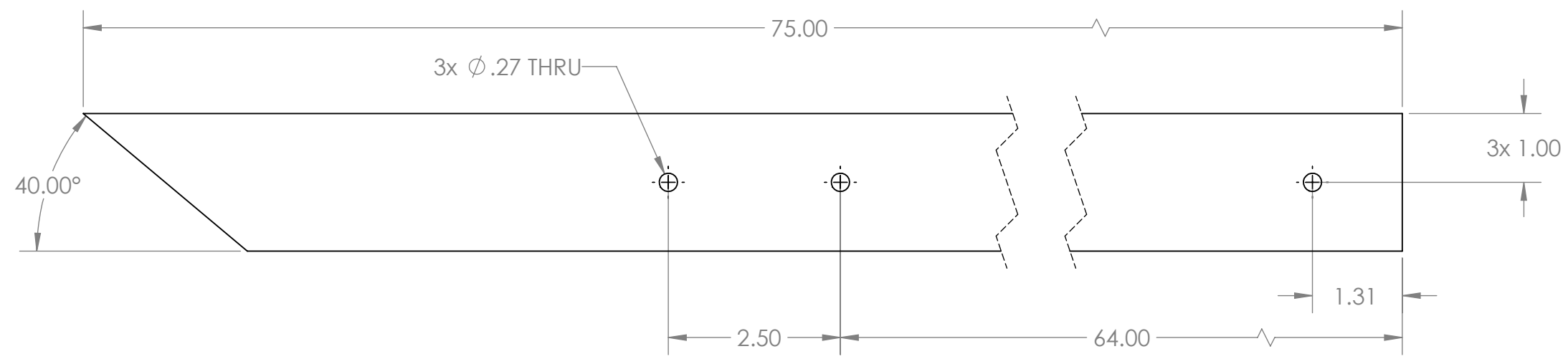
B



B

Item: GE-18078-1  
Material: 3" x 2" x .125" thk. Rectangular Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 1



A



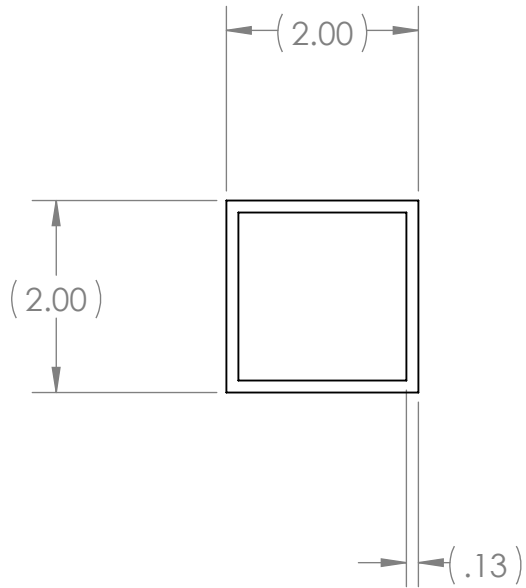
A

Item: GE-18078-2  
Material: 2" x .125" thk. Square Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 2

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  Outrigger Wing Diagonal			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			COMMENTS:			
		MATERIAL							
		FINISH				SIZE	DWG. NO.	REV	
NEXT ASSY	USED ON					B	GE-18078		
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2	WEIGHT:	SHEET 3 OF 4	

B

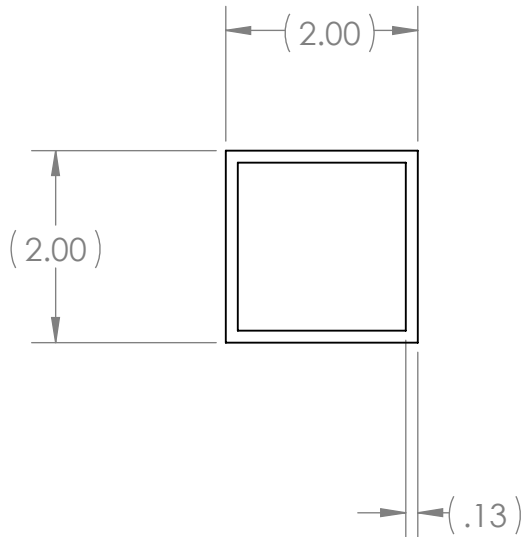


Item: GE-18078-3  
Material: 2" x .125" thk. Square Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 1

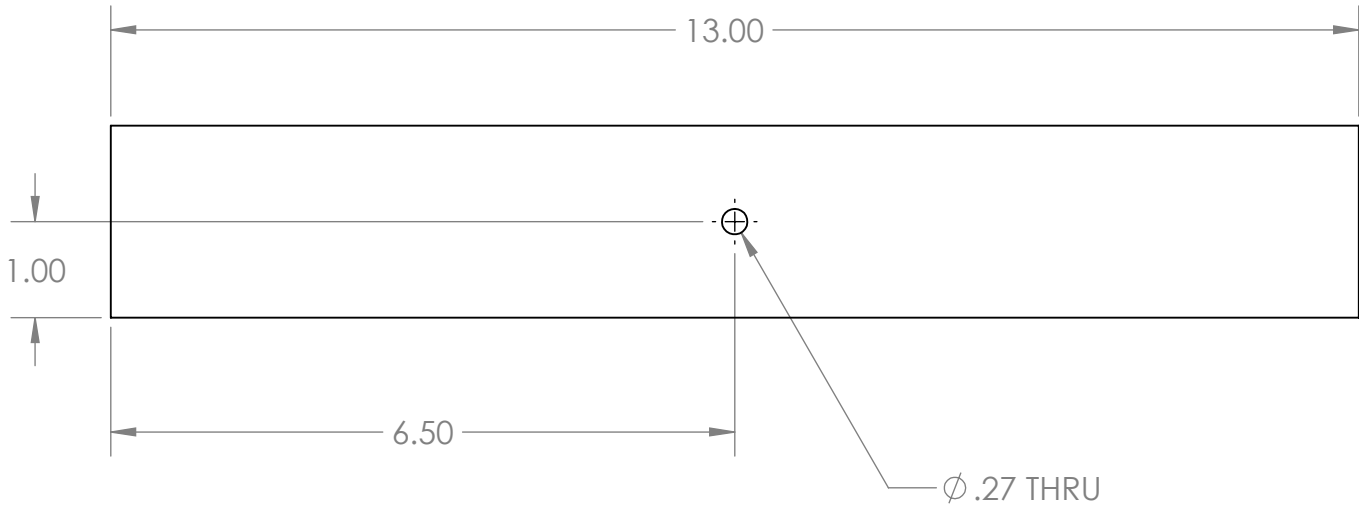


B

A





Item: GE-18078-4  
Material: 2" x .125" thk. Square Tube, 6061 Aluminum  
Scale: 1:2  
QTY: 1



A

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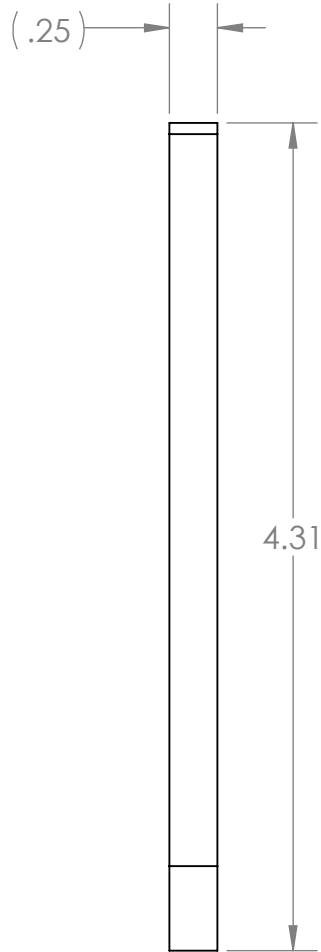
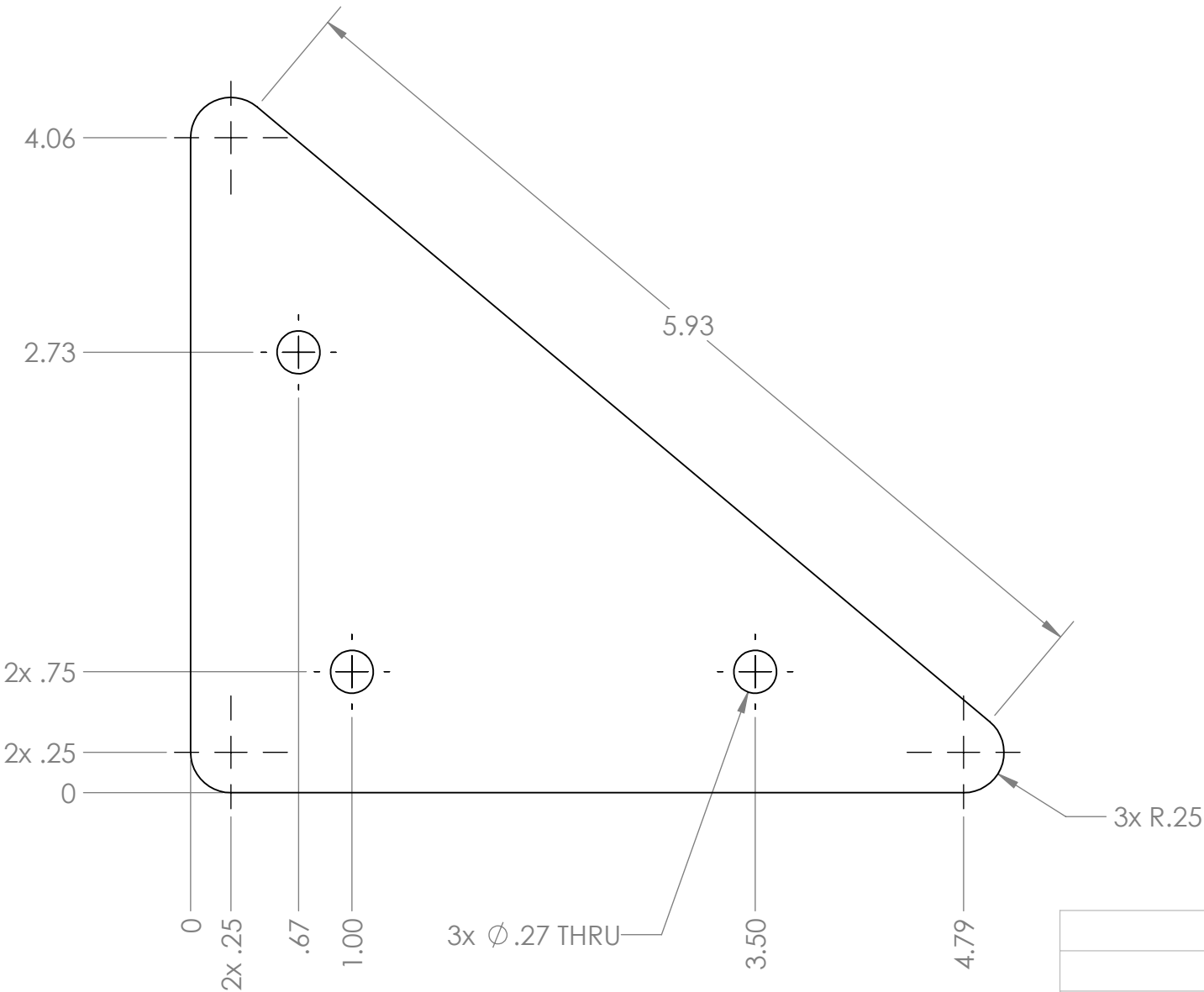
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  <h1>Outrigger Wing Diagonal</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> GE-18078		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

4

3



2

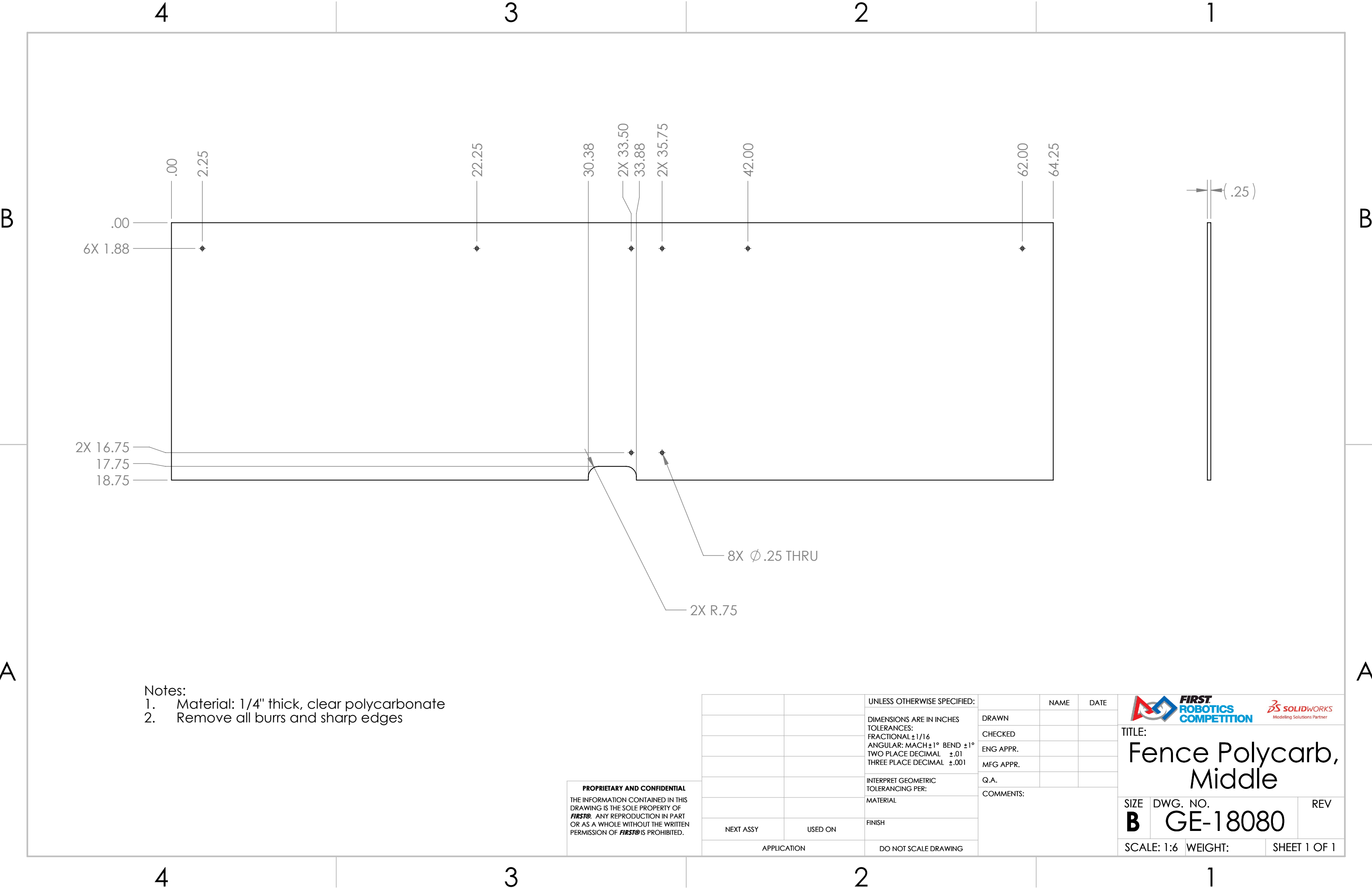
1



- Notes:
1. Material: 1/4" thick, 6061 Aluminum
  2. Remove all burrs and 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.			TITLE: <b>Outrigger Wing Plate</b>
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE DWG. NO. REV
		MATERIAL				<b>B</b> <b>GE-18079</b>
		FINISH				SCALE: 1:1 WEIGHT: SHEET 1 OF 1
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				



B

B



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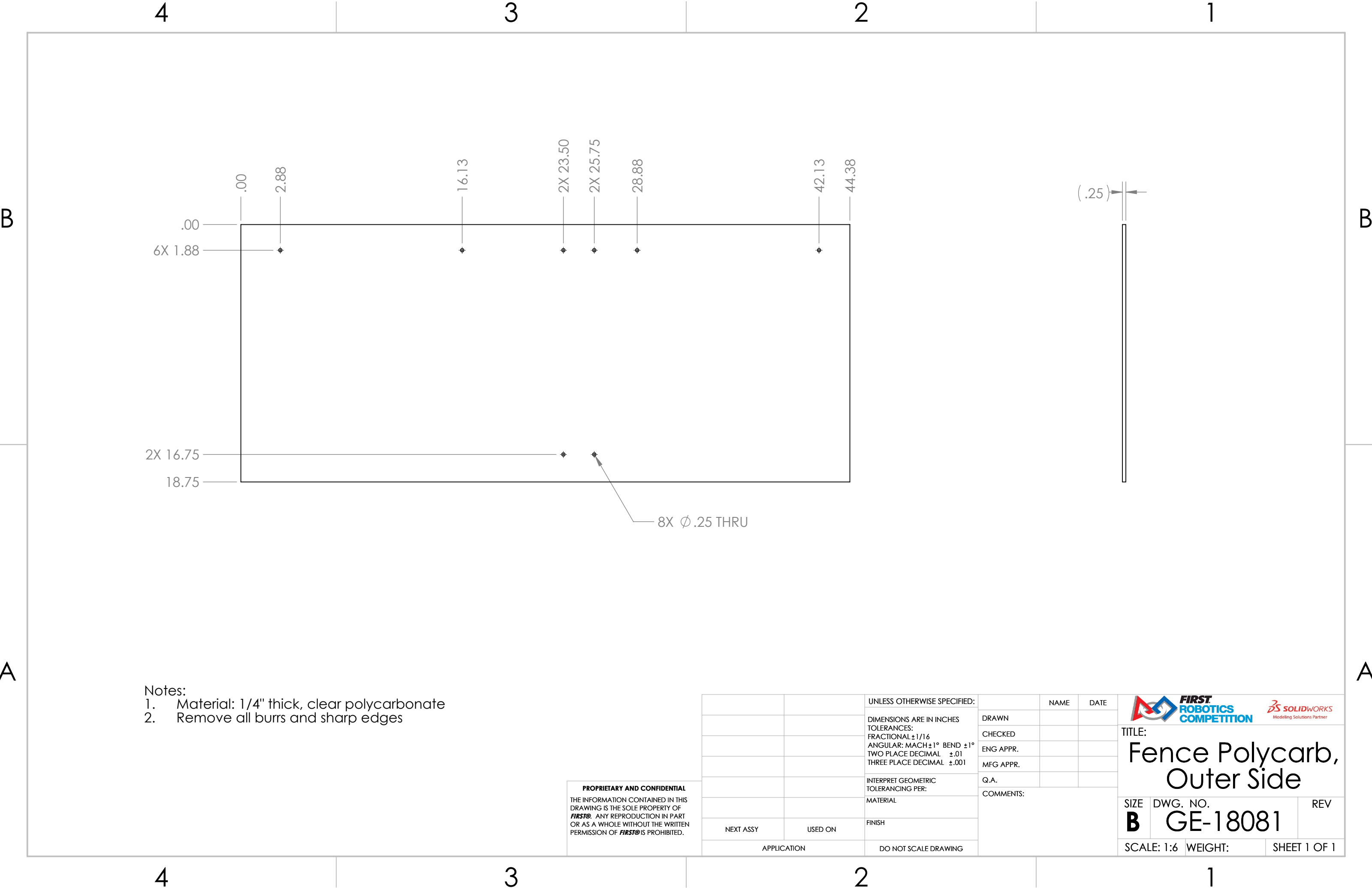
A

Notes:

1. Material: 1/4" thick, clear polycarbonate
2. Remove all burrs and sharp edges



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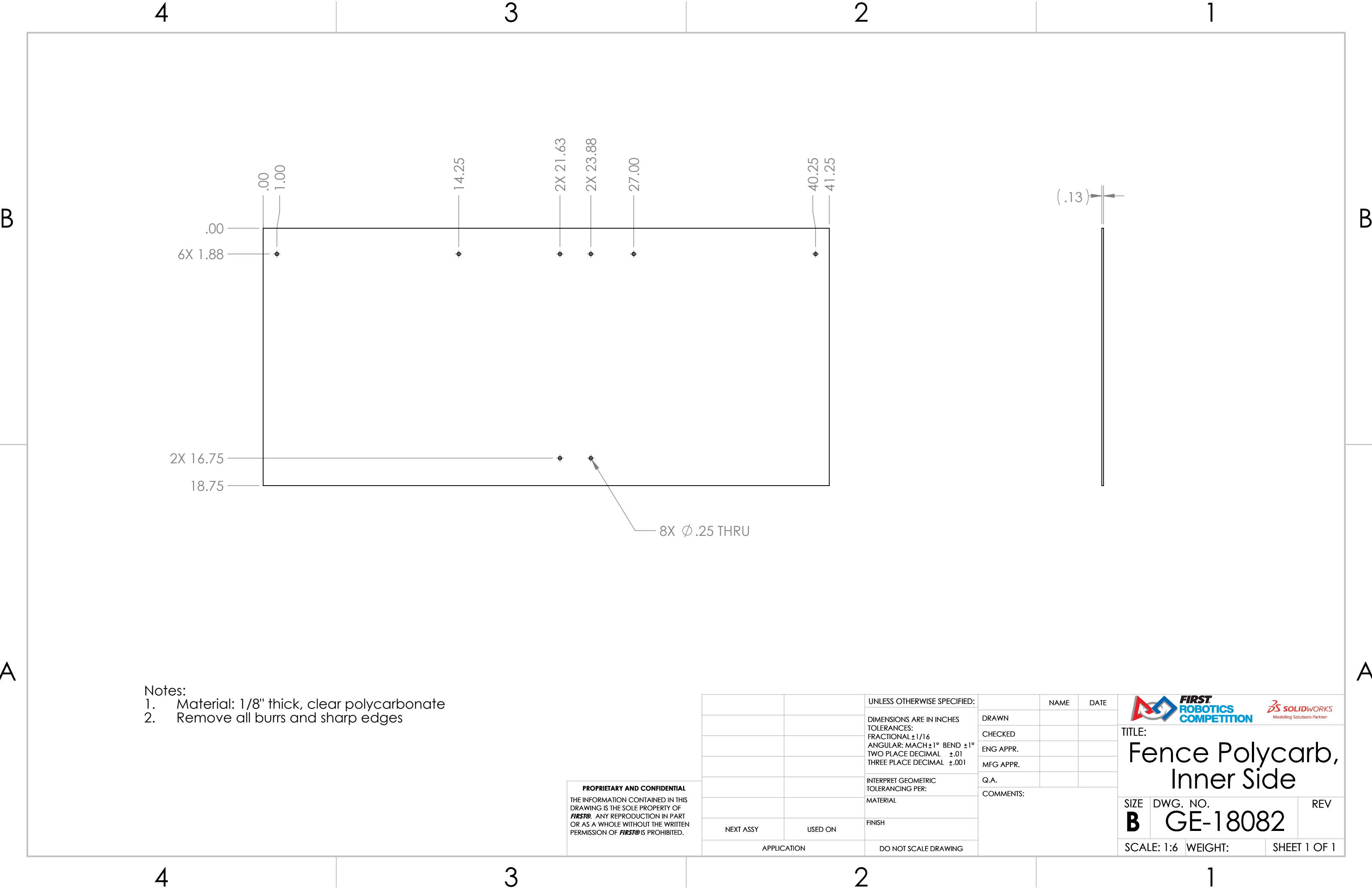
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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Fence Polycarb, Middle		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18080</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:6 WEIGHT: SHEET 1 OF 1		



- Notes:
- 1. Material: 1/4" thick, clear polycarbonate
  - 2. Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <b>Fence Polycarb, Outer Side</b></div>	
		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.			SIZE DWG. NO. REV <b>B</b> <b>GE-18081</b>	
		THREE PLACE DECIMAL ±.001	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SCALE: 1:6	WEIGHT:
		FINISH					SHEET 1 OF 1
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING				



A

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B

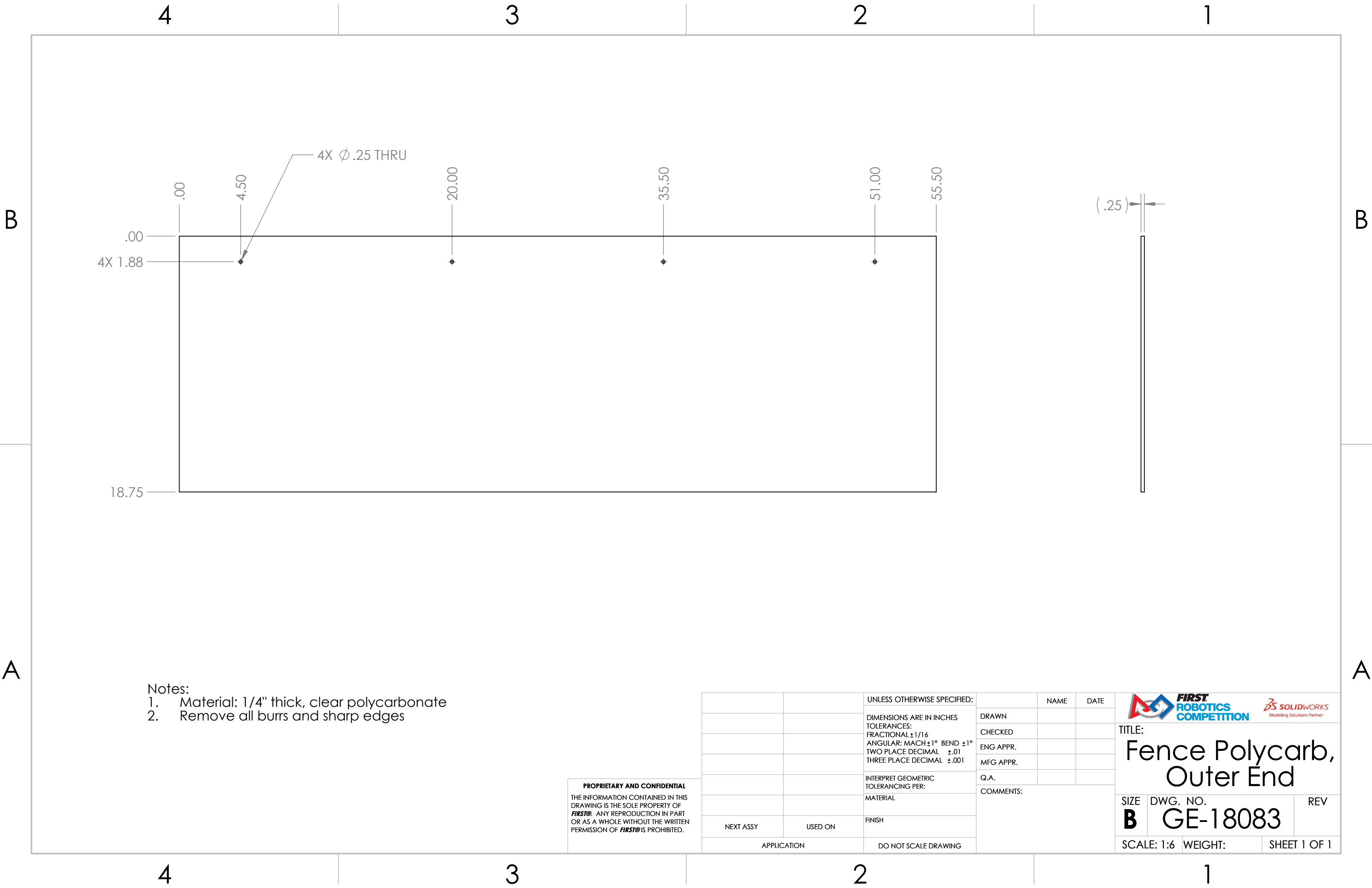
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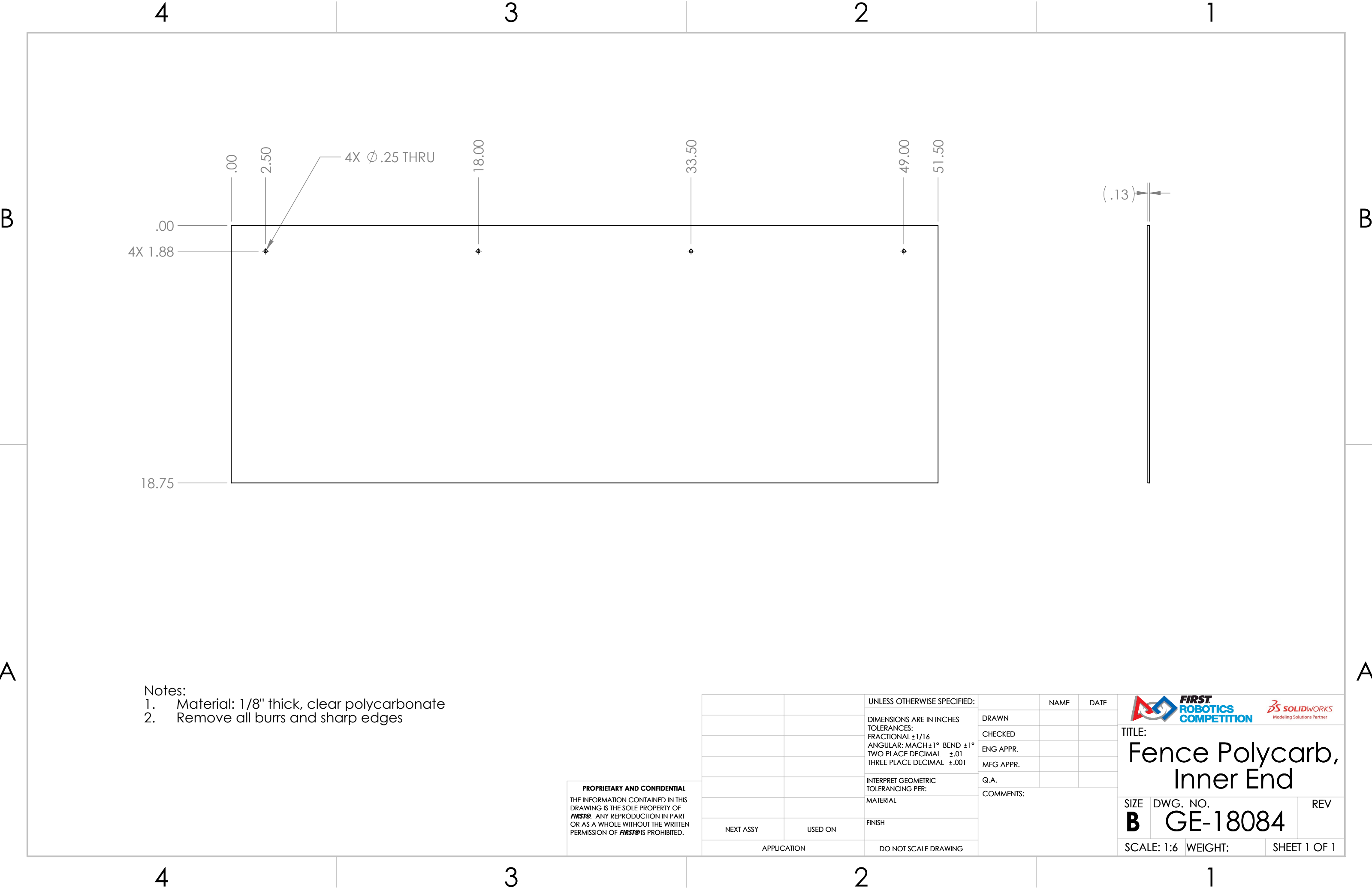
Notes:

1. Material: 1/8" thick, clear polycarbonate
2. Remove all burrs and sharp edges



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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Fence Polycarb, Inner Side</h1></div> <div><div>SIZE DWG. NO. REV</div><div><b>B</b> <b>GE-18082</b></div></div> <div>SCALE: 1:6 WEIGHT: SHEET 1 OF 1</div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.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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		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:  Fence Polycarb, Inner End		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18084</b>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:6 WEIGHT:		SHEET 1 OF 1



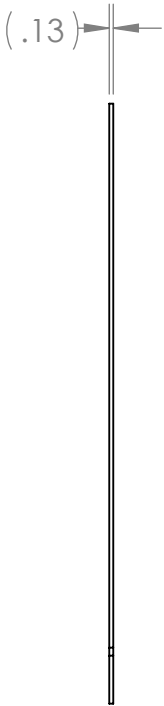
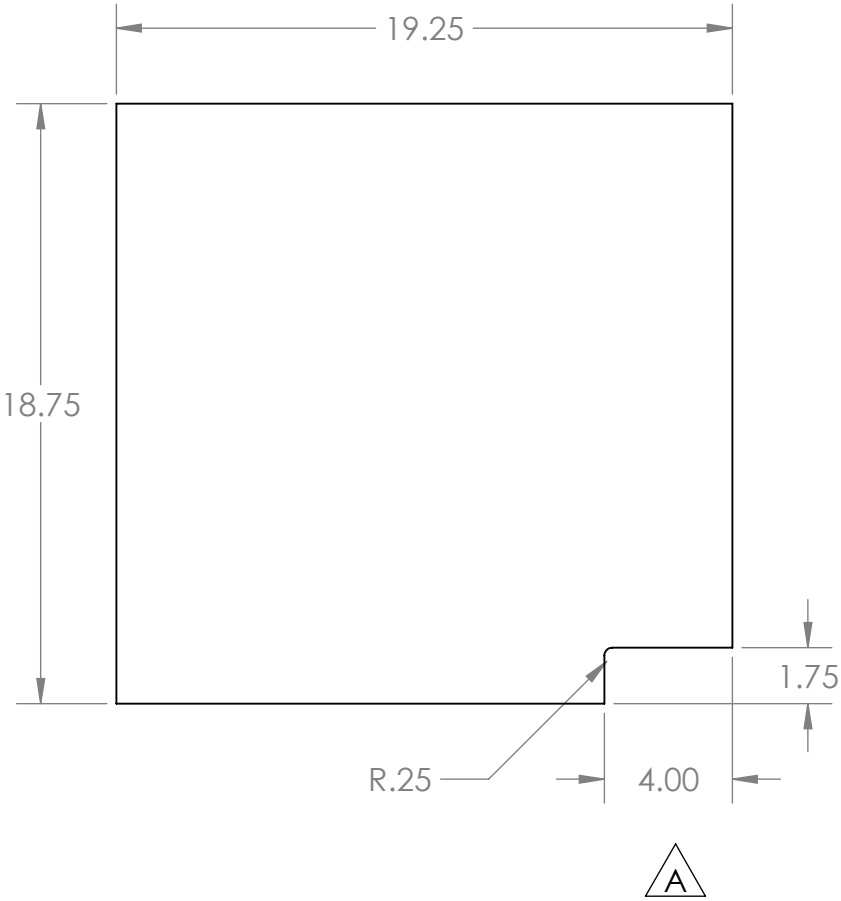
4

3

2



1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3	A	Added notch	12/2/2017	DAF



- Notes:
- 1. Material: 1/8" thick, clear polycarbonate
  - 2. Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	  TITLE: <b>Fence Polycarb, Guard</b>
		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>B GE-18085 A</b>
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				SCALE: 1:6 WEIGHT: SHEET 1 OF 1
NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				

4

3

2

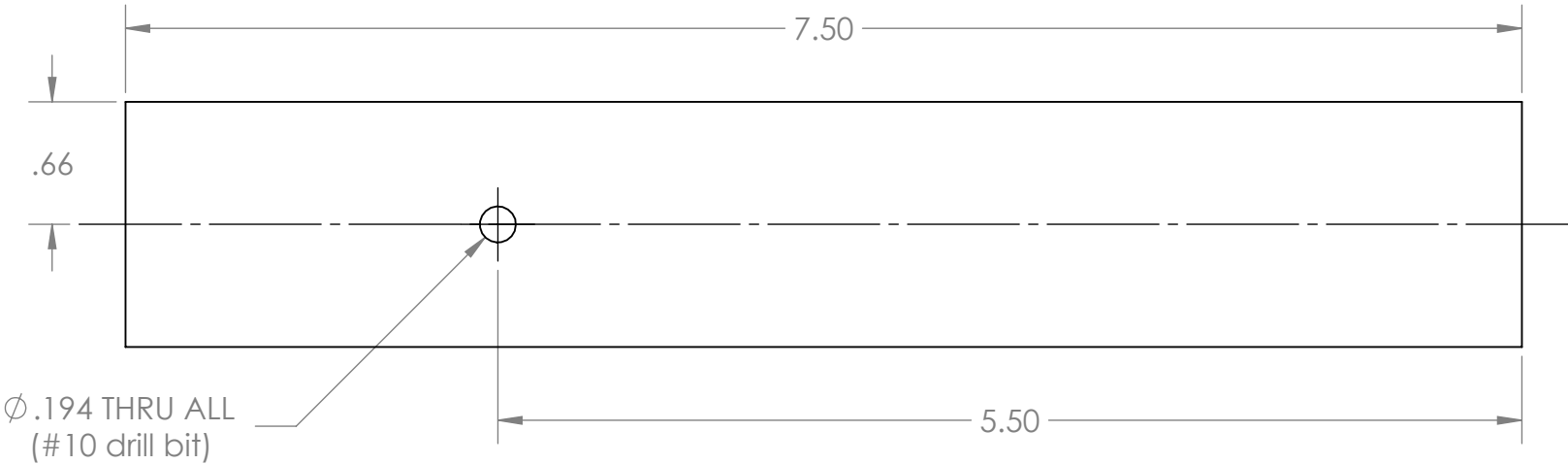
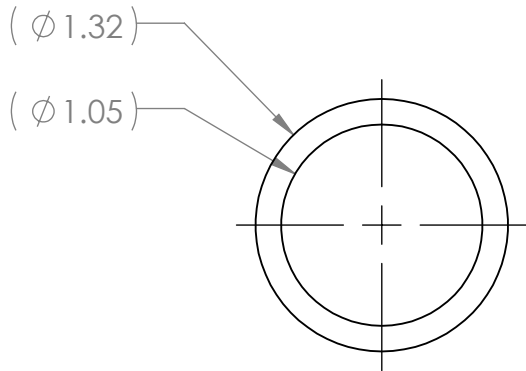
1

4

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1



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

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Fence Pin</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 <b>B</b> <b>GE-18086</b> <b>A</b>		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
NEXT ASSY	USED ON	FINISH				SCALE: 1:1	WEIGHT:	SHEET 1 OF 1
APPLICATION		DO NOT SCALE DRAWING						

4

3

2

1

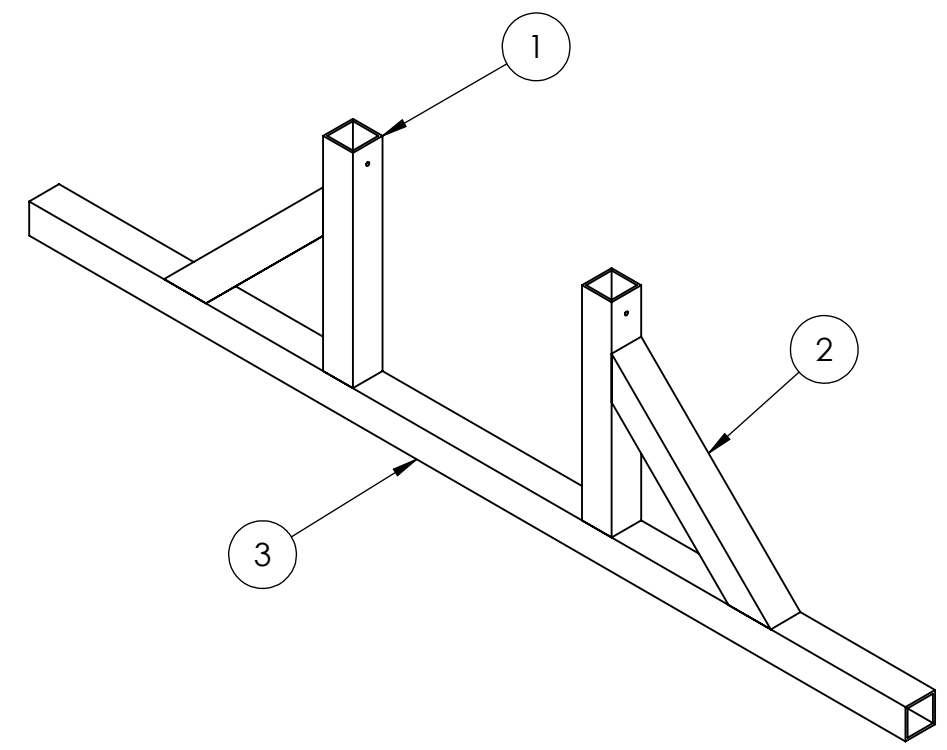
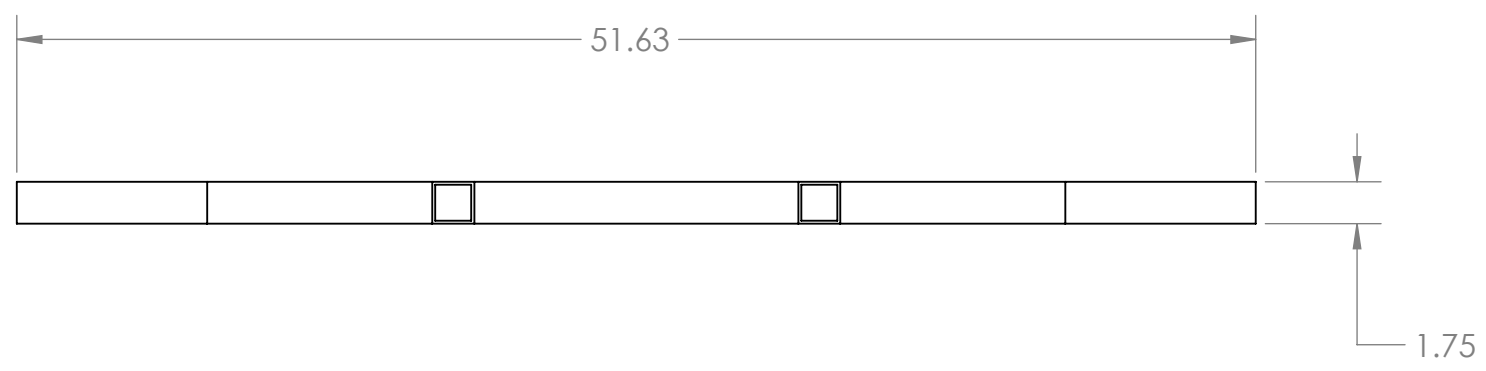
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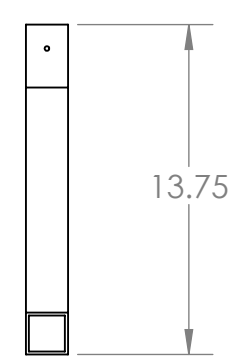
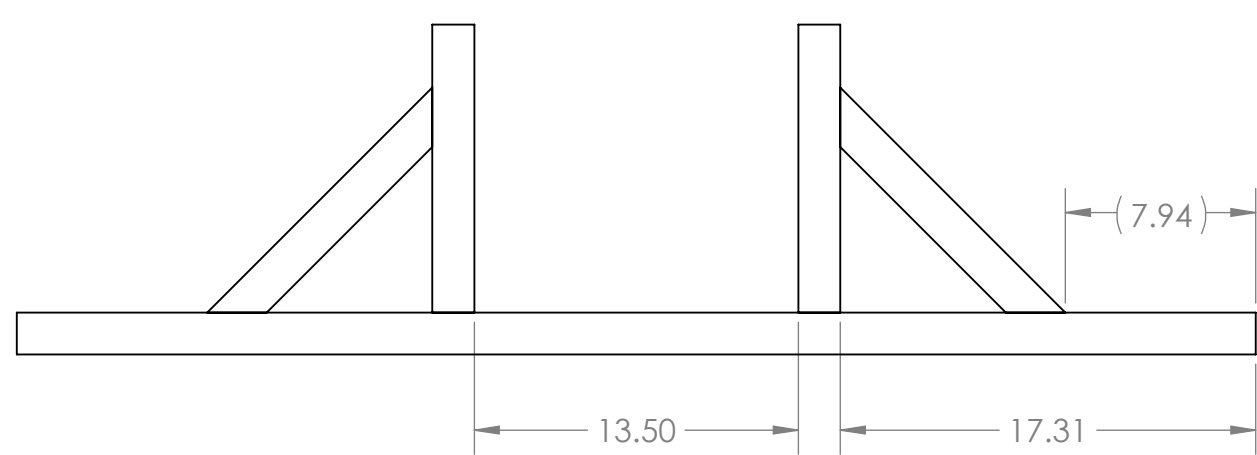
1

B



B

A





A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18087-1	1.75" x .125" thk. Square Tube, 6063 Aluminum	2
2	GE-18087-2	1.75" x .125" thk. Square Tube, 6063 Aluminum	2
3	GE-18087-3	1.75" x .125" thk. Square Tube, 6063 Aluminum	1

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



TITLE:  
**Switch Fence Brace**

SIZE  
**B**

DWG. NO.  
**GE-18087**

REV

SCALE: 1:8

WEIGHT:

SHEET 1 OF 3

4

3

2

1

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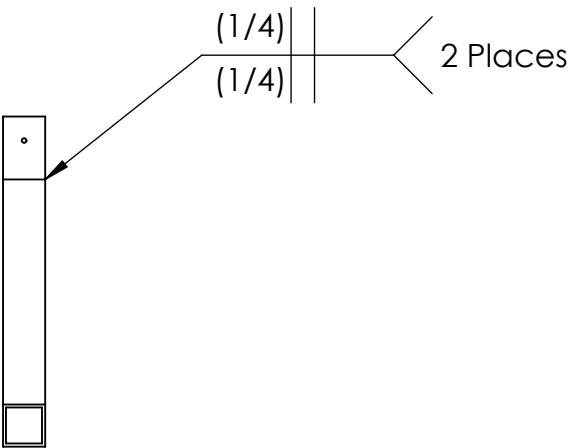
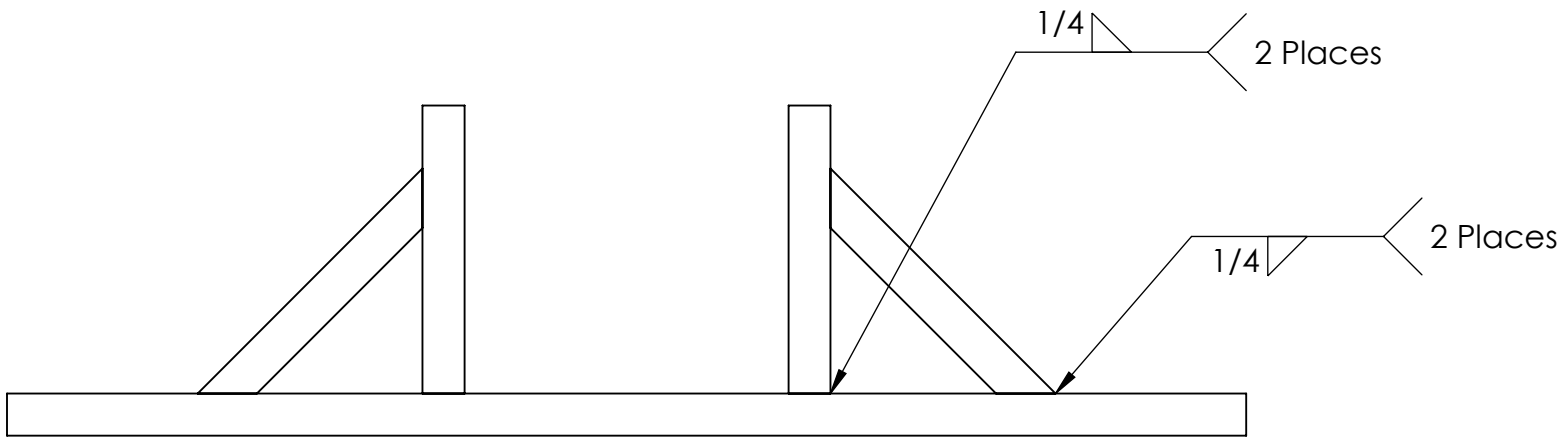
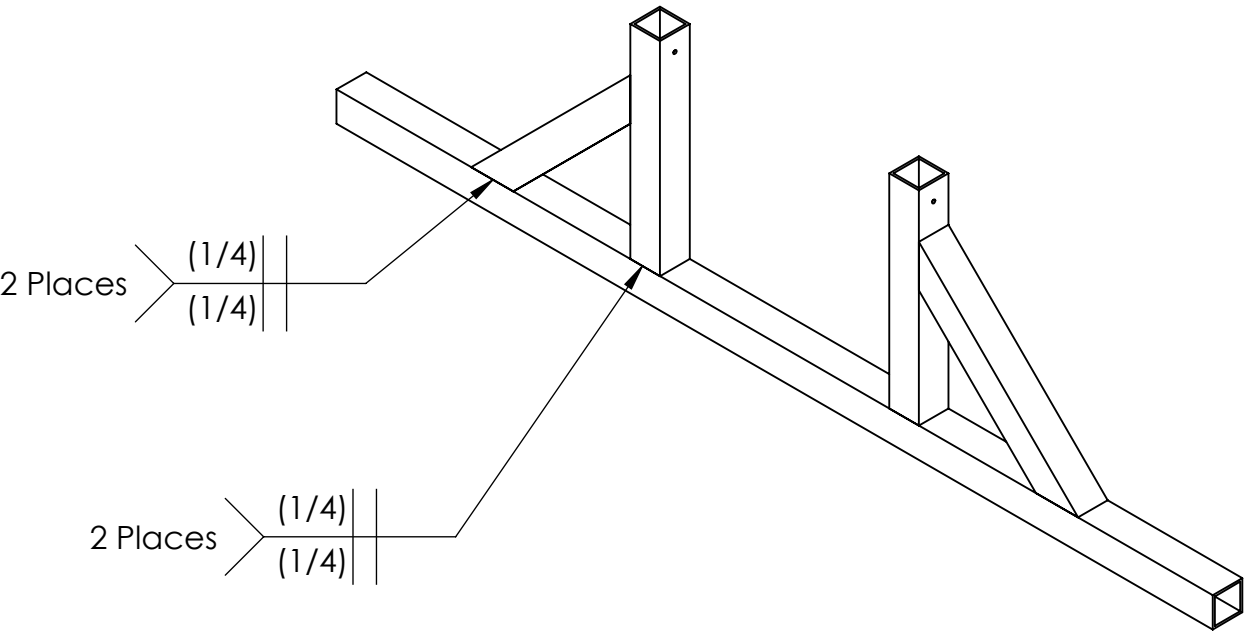
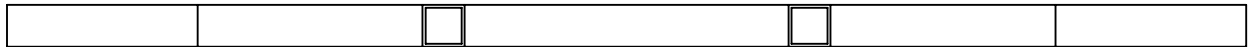
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B



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		UNLESS OTHERWISE SPECIFIED:  DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$  INTERPRET GEOMETRIC TOLERANCING PER: MATERIAL  FINISH		NAME	DATE	  TITLE: <b>Switch Fence Brace</b>	
			DRAWN				
			CHECKED				
			ENG APPR.				
			MFG APPR.				
			Q.A.			REV	
			COMMENTS:				
NEXT ASSY	USED ON					SIZE <b>B</b>	DWG. NO. <b>GE-18087</b>
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8	WEIGHT:
						SHEET 2 OF 3	

4

3

2

1

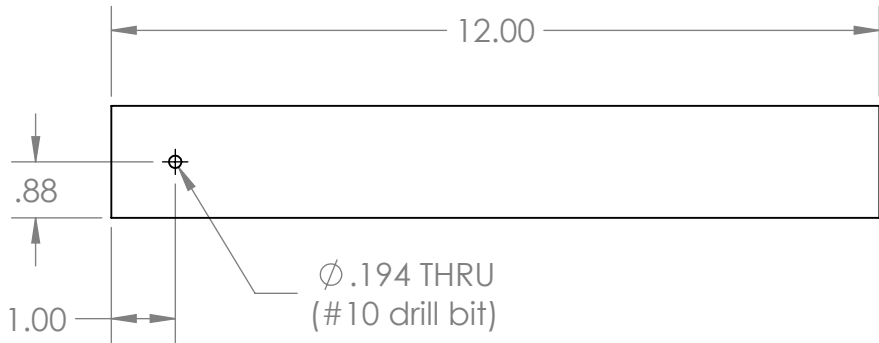
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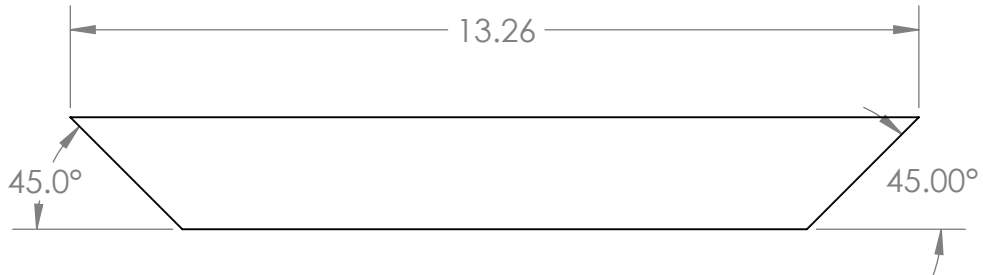
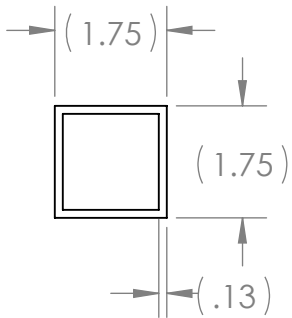
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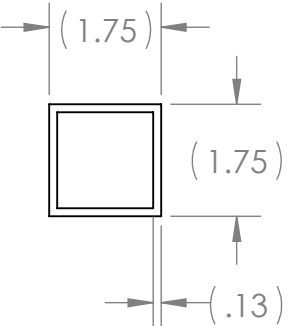
B



Item: GE-18087-1  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 2

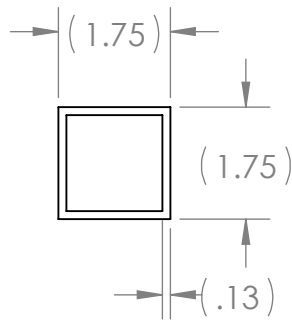
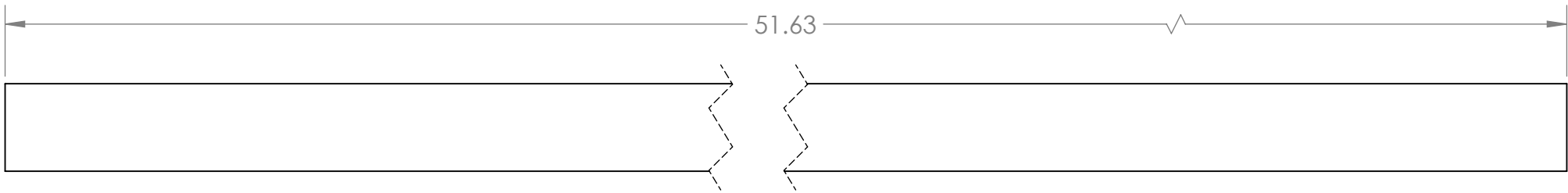


Item: GE-18087-2  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 2



B



A



A

Item: GE-18087-3  
Material: 1.75" x .125" thk. Square Tube, 6063 Aluminum  
QTY: 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>Switch Fence Brace</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV  <h1>B GE-18087</h1>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:3					

4

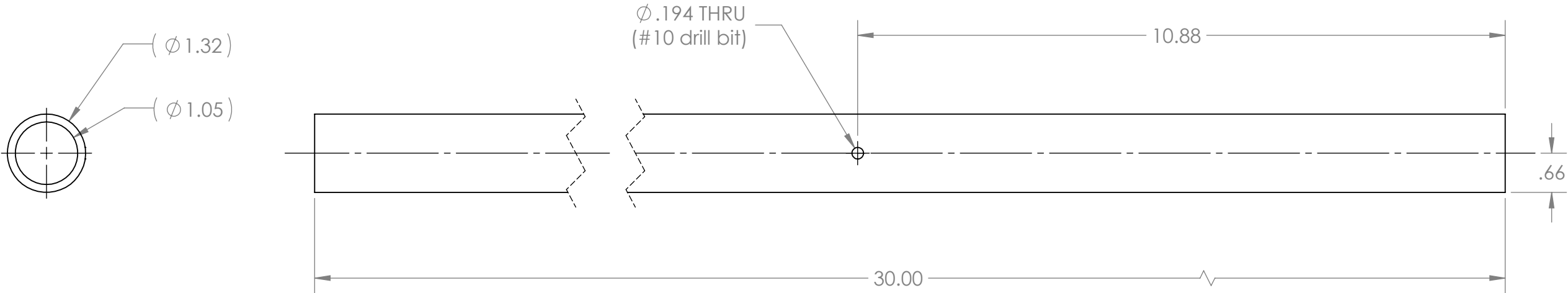
3

2

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B

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

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <b>Switch Fence Brace Pin</b></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 <b>B</b> <b>GE-18088</b>	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SCALE: 1:2	WEIGHT:
		FINISH					SHEET 1 OF 1
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING				

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Notes:

- 1. Description: 1-3/8 Dia. Conveyor Roller, for 30" frame width
- 2. Material: Galvanized Steel
- 3. Source: McMaster-Carr
- 4. Item#: 2282T25

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 		
		DIMENSIONS ARE IN INCHES	DRAWN	daf	11/26/17	TITLE:  <h1>Roller, Conveyor</h1>	
		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>B</b> <b>GE-18090</b>	
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL					
		FINISH				SCALE: 1:4 WEIGHT: SHEET 1 OF 1	
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING					

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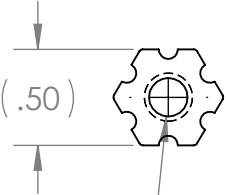
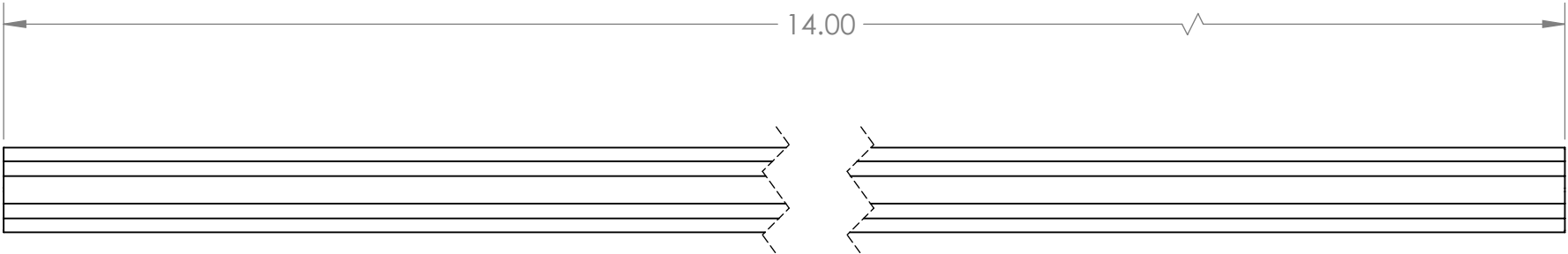
3

2

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B



B



2X 1/4-20 UNC ⌵ .50 Both Ends

- Notes:
- 1. Material: Aluminum
  - 2. Vendor: AndyMark
  - 3. Remove all burrs or sharp edges

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		UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 			
		DIMENSIONS ARE IN INCHES	DRAWN	DAF	11/26/17	TITLE:  Churro, 14"		
		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>B</b> <b>GE-18091</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1 WEIGHT: SHEET 1 OF 1		

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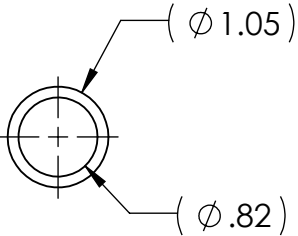
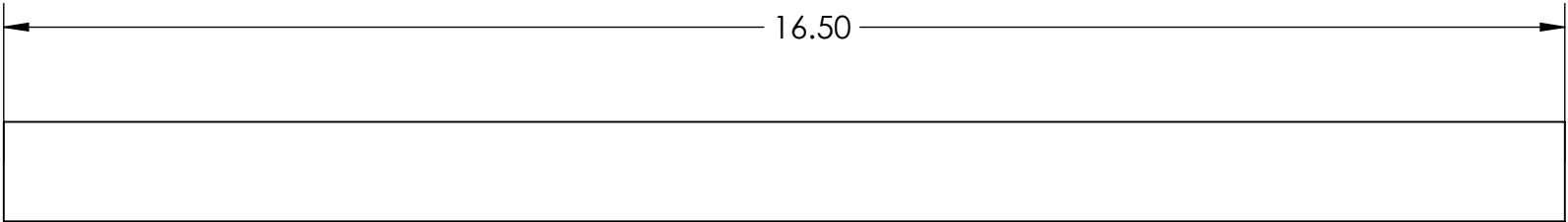
3

2

1

B



B



Notes:

- 1. Material: 3/4" Schedule 40 Pipe, White PVC
- 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	DAF	11/26/17	TITLE:  Handle, Chute		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV  <b>B</b> GE-18092		
		MATERIAL	COMMENTS:					
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2 WEIGHT: SHEET 1 OF 1		

4

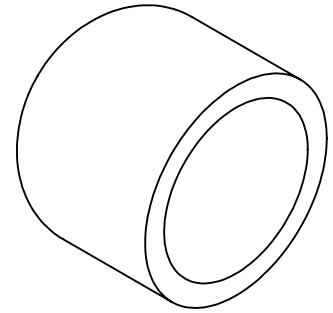
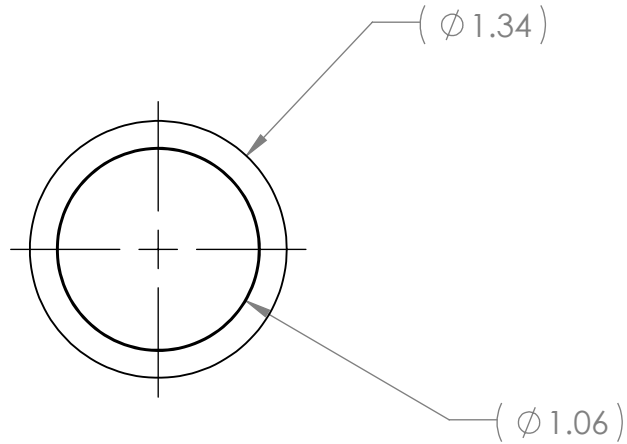
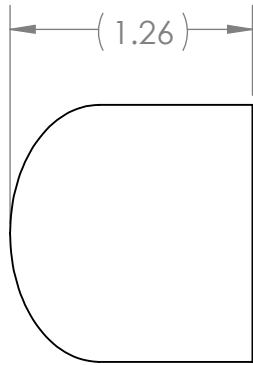
3

2

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Notes:

1. Description: End Cap for 3/4" Schedule 40 Pipe
2. Material: White PVC

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



**FIRST  
ROBOTICS  
COMPETITION**



TITLE:

End Cap, PVC

SIZE	DWG. NO.	REV
<b>A</b>	<b>GE-18093</b>	
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

4

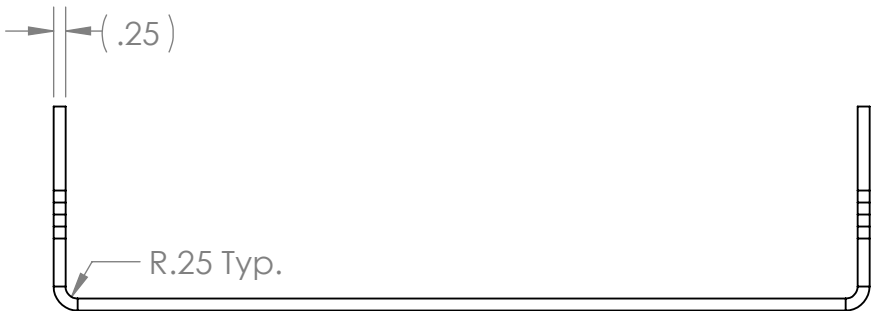
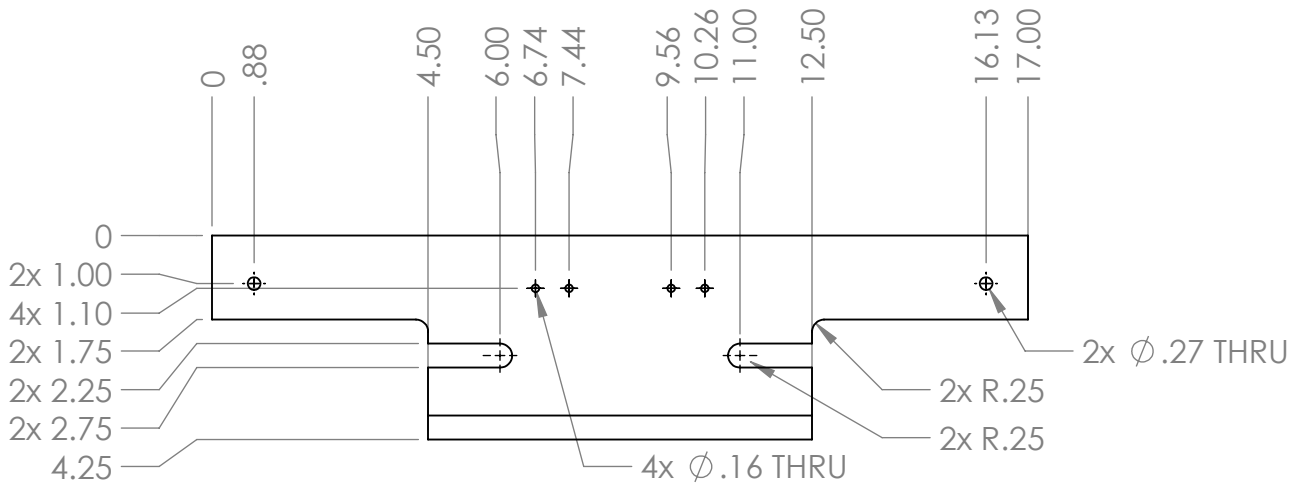
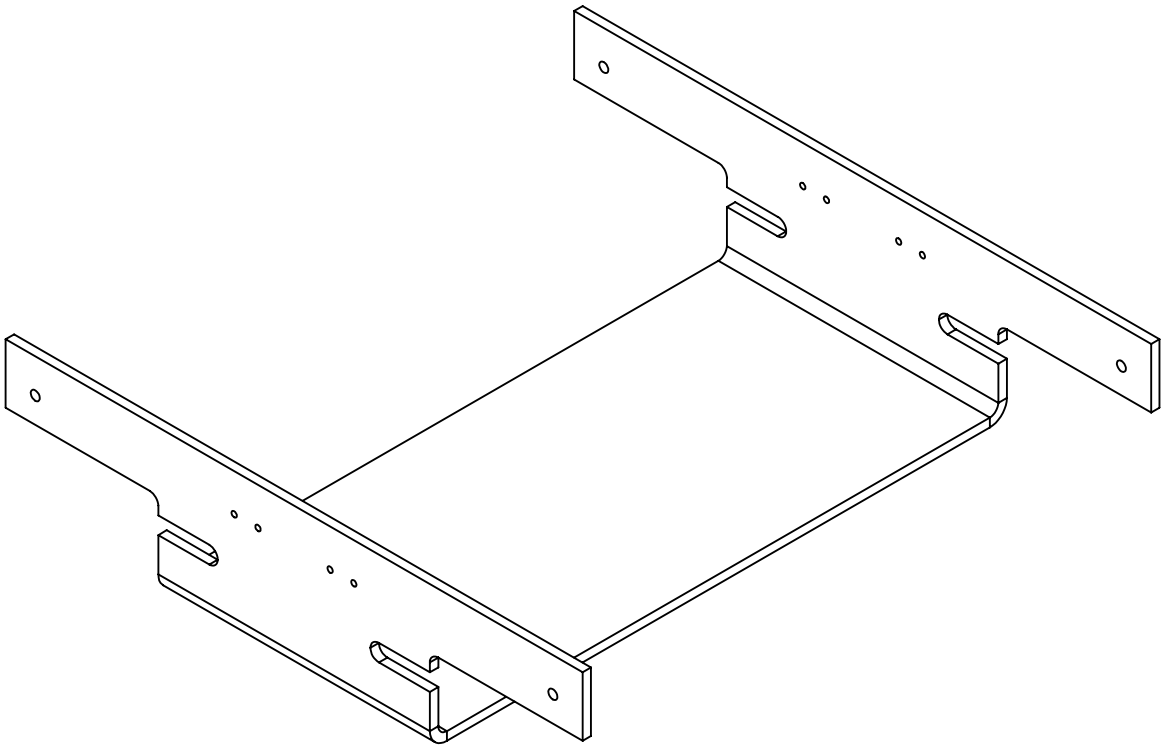
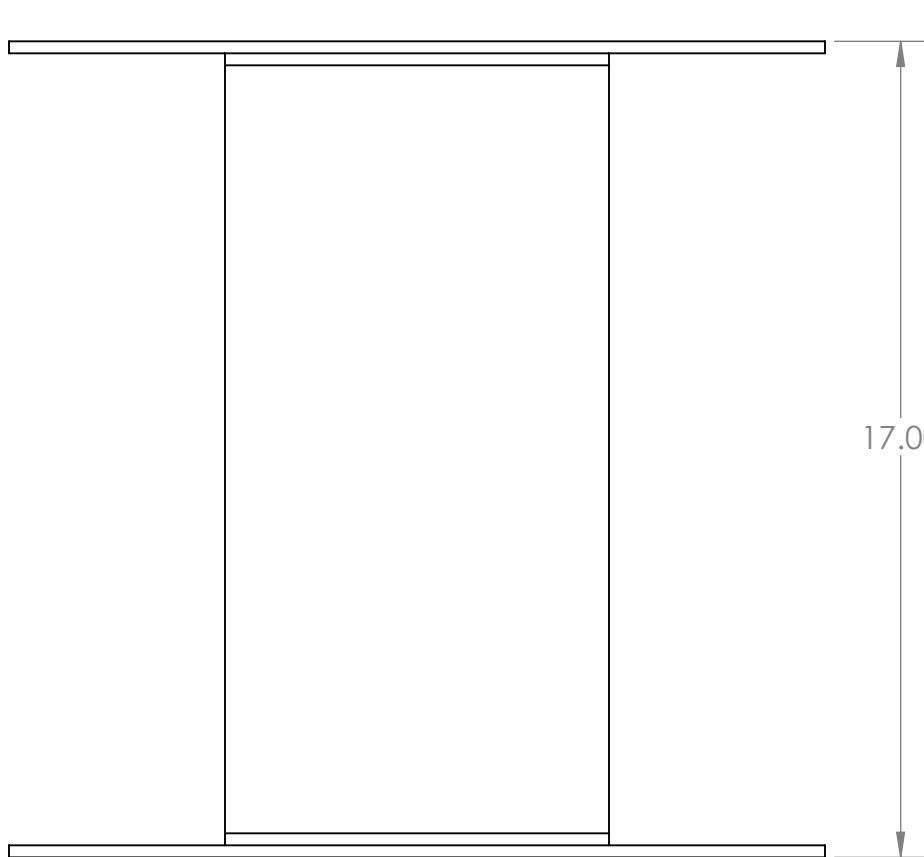
3

2

1



B

B



- Notes:
1. Material: 1/4" thick, clear polycarbonate
  2. Remove all burrs and sharp edges.

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN	Casey O'Connor	11/28/2017	TITLE:  <h1>Scale Sensor Mount</h1>			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18094</b>			
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON					SCALE: 1:4 WEIGHT: SHEET 1 OF 1			
APPLICATION		DO NOT SCALE DRAWING							

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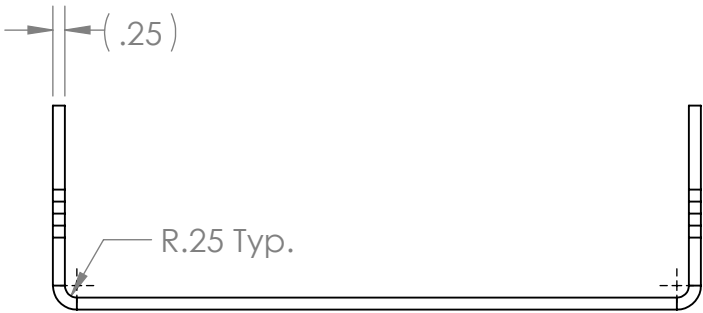
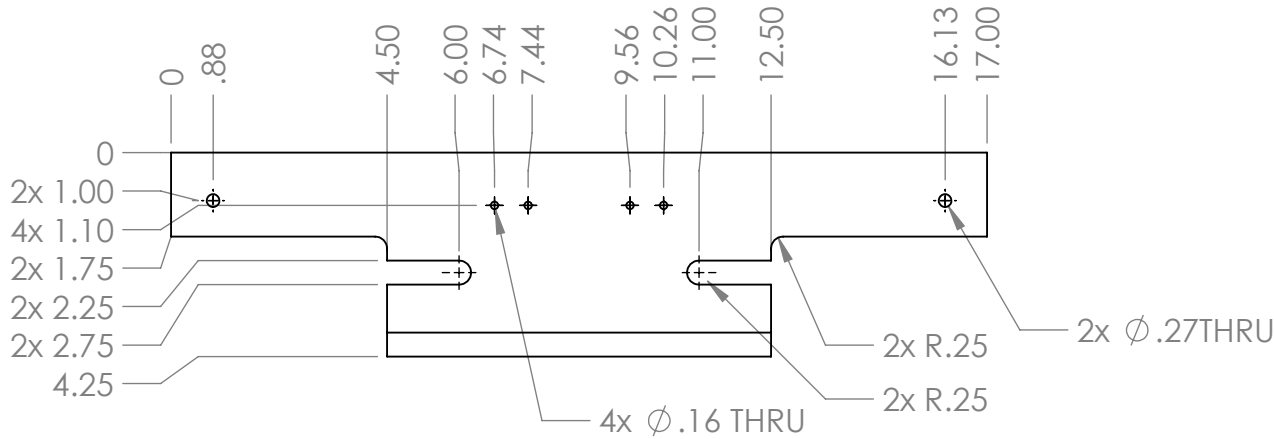
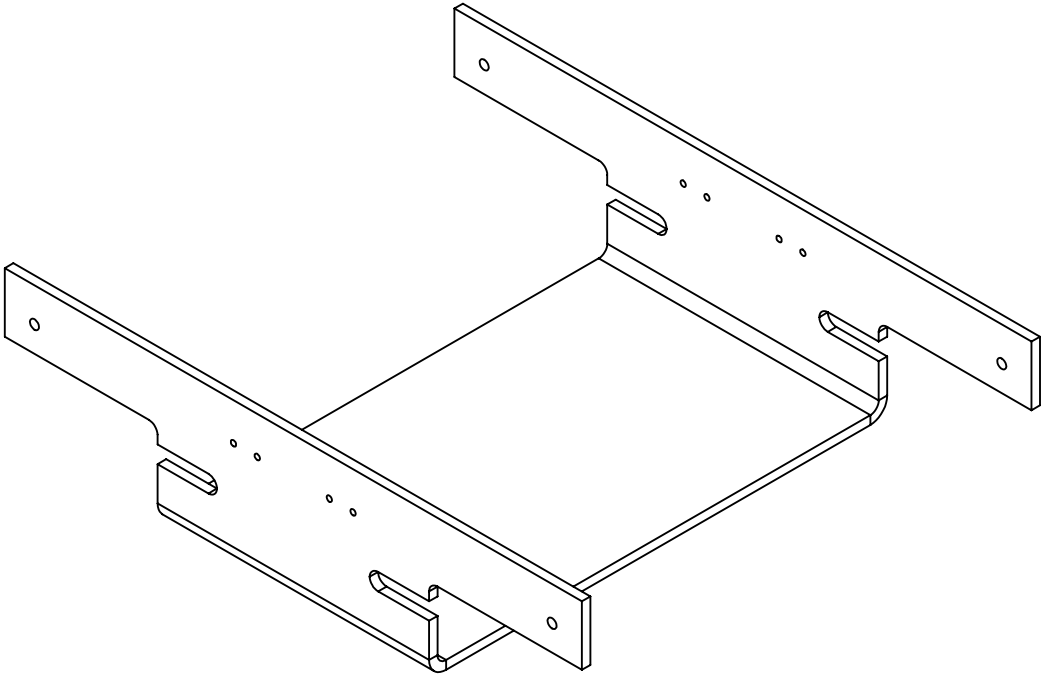
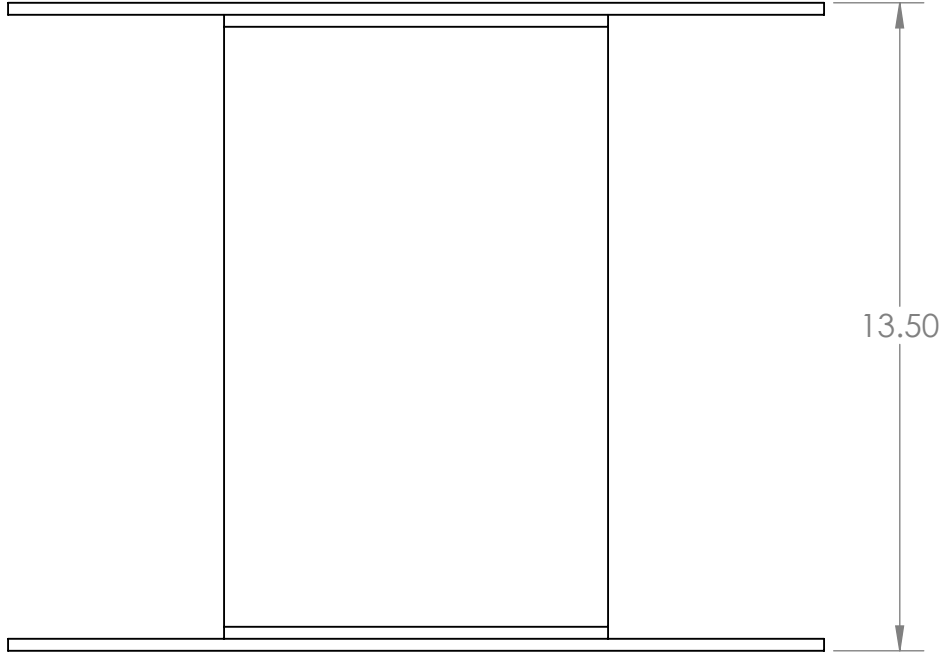
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B

B



- Notes:
1. Material: 1/4" thick, clear polycarbonate
  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	Casey O'Connor	11/28/2017	TITLE:  <h1>Switch Sensor Mount</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18095</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 1 OF 1		

4

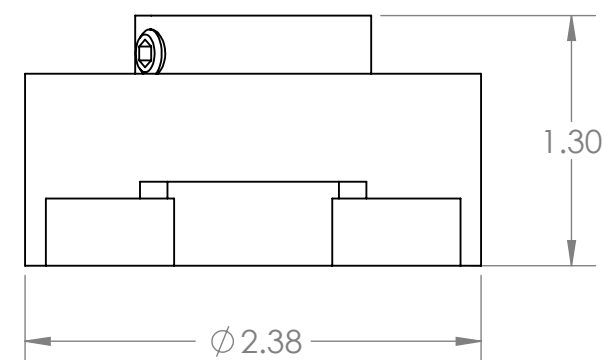
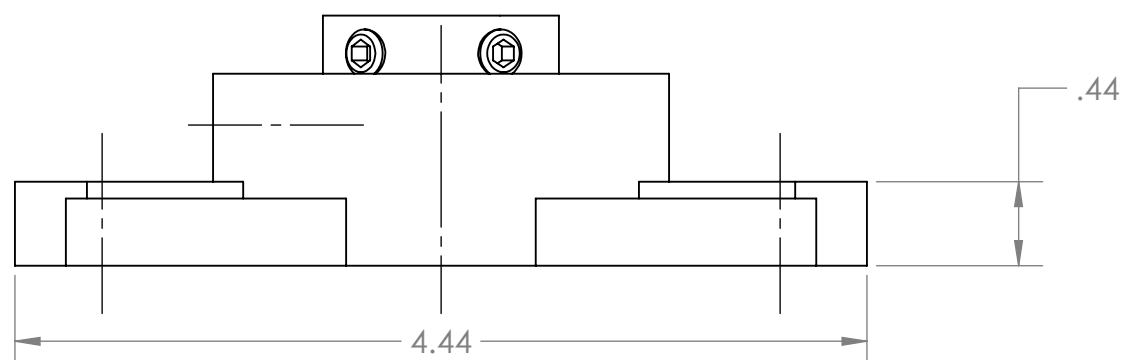
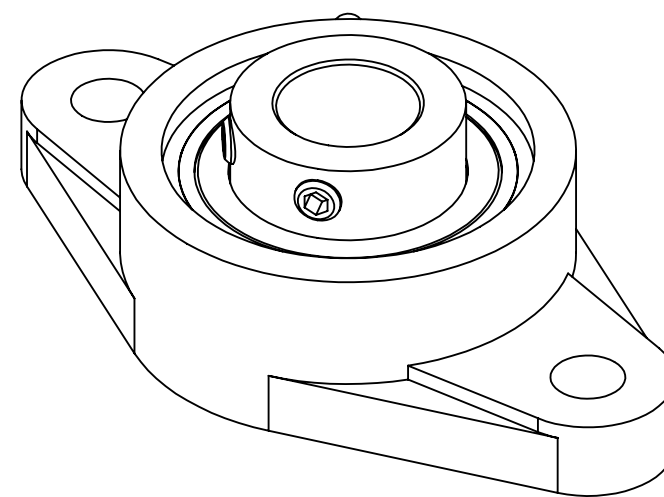
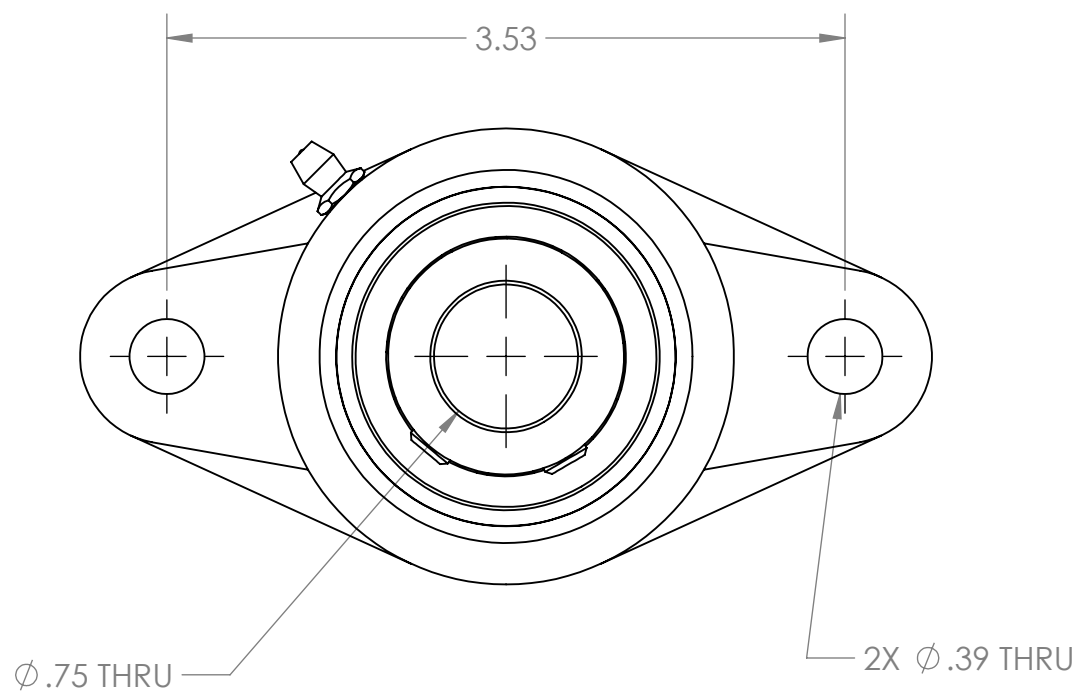
3

2

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Notes:

- Notes:
1. Description: 2-Bolt Flange Bearing 3/4" Bore Dia.
  2. Source: Grainger
  3. Item #: 36UX95
  4. Equivalent substitutions allowed

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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 $\pm .01$			<p>TITLE:</p> <h1>Scale/Switch Bearing</h1>
		THREE PLACE DECIMAL $\pm .001$			
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				SIZE <b>B</b>
APPLICATION		DO NOT SCALE DRAWING			DWG. NO. <b>GE-18096</b>
					SCALE: 1:1
					WEIGHT:
					SHEET 1 OF 1

4

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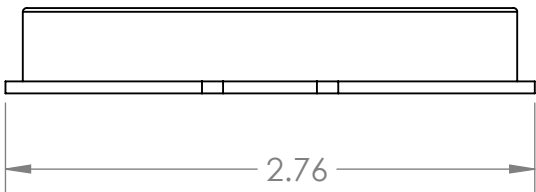
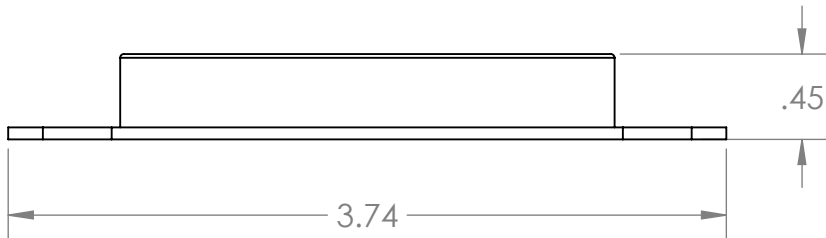
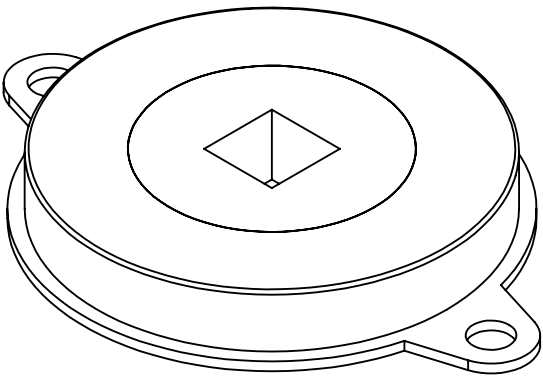
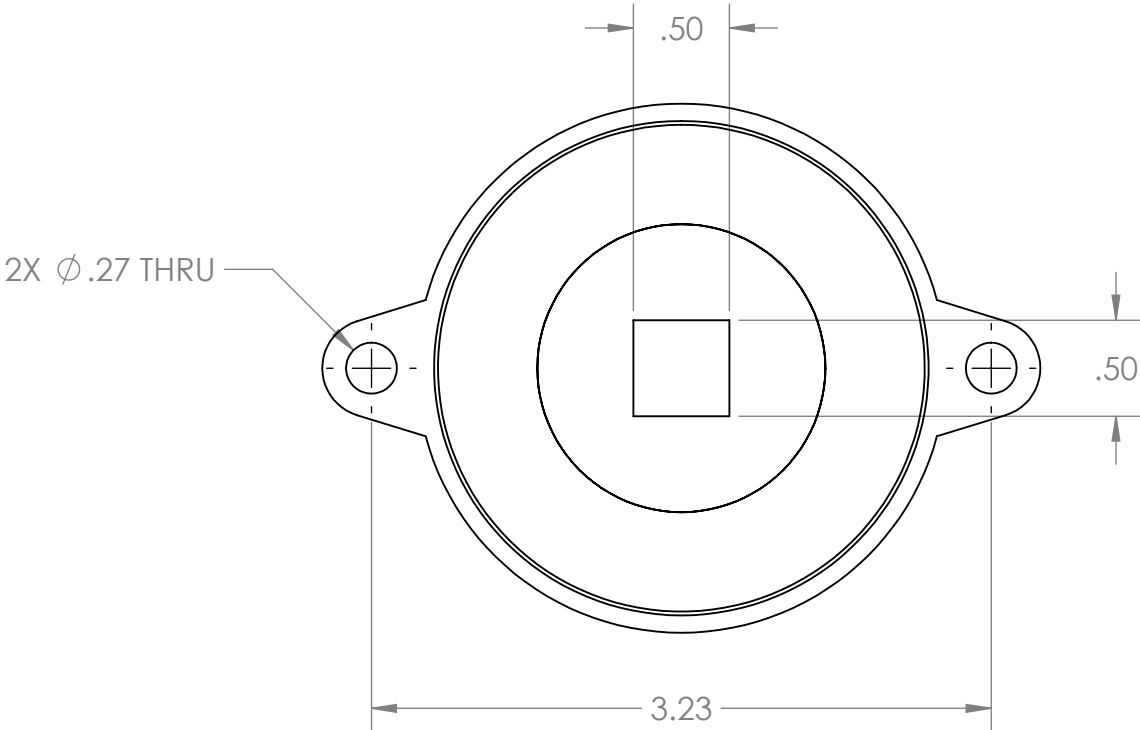
1

B

B

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- Notes:
1. Description: Rotary Speed Limiter, Opening for Square shaft, 1437 in.-oz Maximum Torque
  2. Source: McMaster-Carr
  3. Item #: 6597K24
  4. Equivalent substitutions allowed

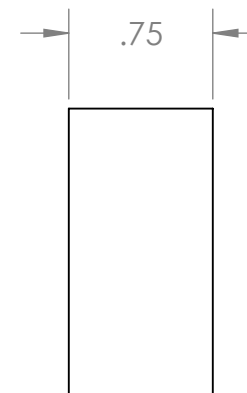
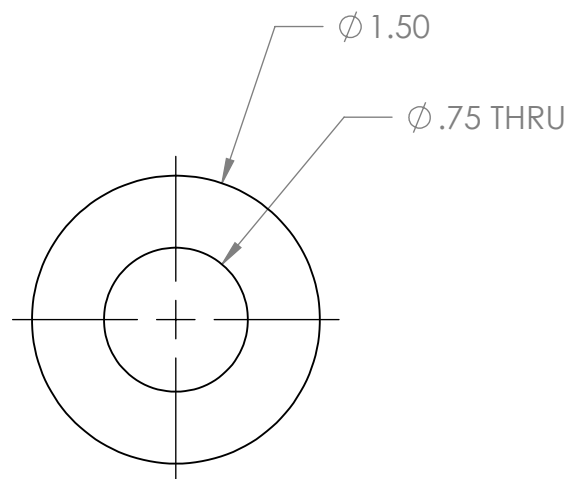
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL ±1/16	ENG APPR.		
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.		
		TWO PLACE DECIMAL ±.01	Q.A.		
		THREE PLACE DECIMAL ±.001	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			
			TITLE: <b>Scale/Switch Damper</b>		
			SIZE <b>B</b>	DWG. NO. <b>GE-18097</b>	REV
			SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

2

1

B



B

## Notes:

1. Description: Nylon Unthreaded Spacer
2. Source: McMaster-Carr
3. Item#: 94639A891
4. Equivalent substitutions allowed

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NEXT ASSY

USED ON

APPLICATION

## UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL  $\pm 1/16$   
 ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
 TWO PLACE DECIMAL  $\pm .01$   
 THREE PLACE DECIMAL  $\pm .001$

INTERPRET GEOMETRIC  
 TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



**FIRST**  
**ROBOTICS**  
**COMPETITION**

**SOLIDWORKS**  
 Modeling Solutions Partner

TITLE:

Switch Shaft  
 Spacer

SIZE

DWG. NO.

REV

**A****GE-18098**

SCALE: 1:1

WEIGHT:

SHEET 1 OF 1

2

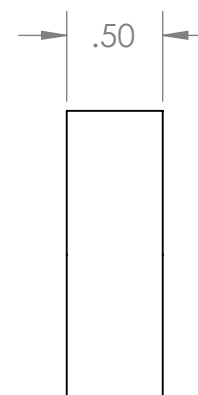
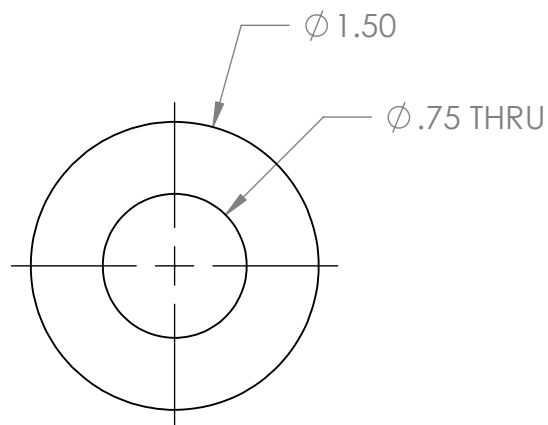
1

A

2

1

B



B



## Notes:

1. Description: Nylon Unthreaded Spacer
2. Source: McMaster-Carr
3. Item#: 94639A889
4. Equivalent substitutions allowed

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.			<b>TITLE:</b> <h1>Scale Shaft Spacer</h1>	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.
		MATERIAL				<b>A</b>	<b>GE-18099</b>
		FINISH					REV
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:1	WEIGHT:
							SHEET 1 OF 1

2

1



4

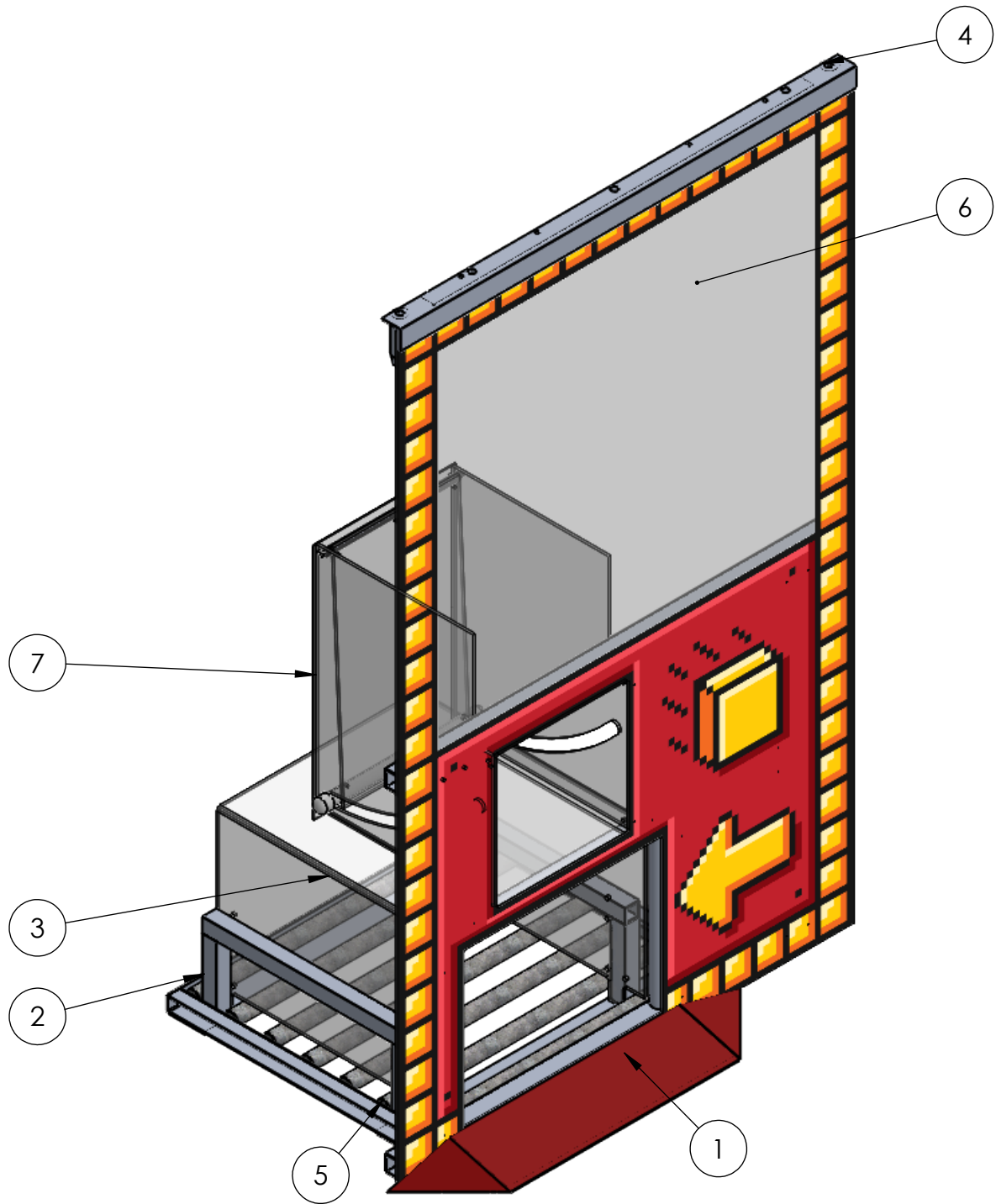
3

2

1

B

B





A

A

ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18009	Exchange Frame	1
2	GE-18006	Roller Base	1
3	GE-18008	Roller Tunnel	1
4	GE-18015	Top Rail, Exchange	1
5	2282T25	Roller, Conveyor	7
6	GE-18010	Exchange Plastic	1
7	GE-18101	Assembly, Chute	1
8	GE-18127	Ramp, Exchange	1

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Assembly, Exchange</h1>			
		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>B</b> <b>GE-18100</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:12		WEIGHT:	SHEET 1 OF 2

4

3

2

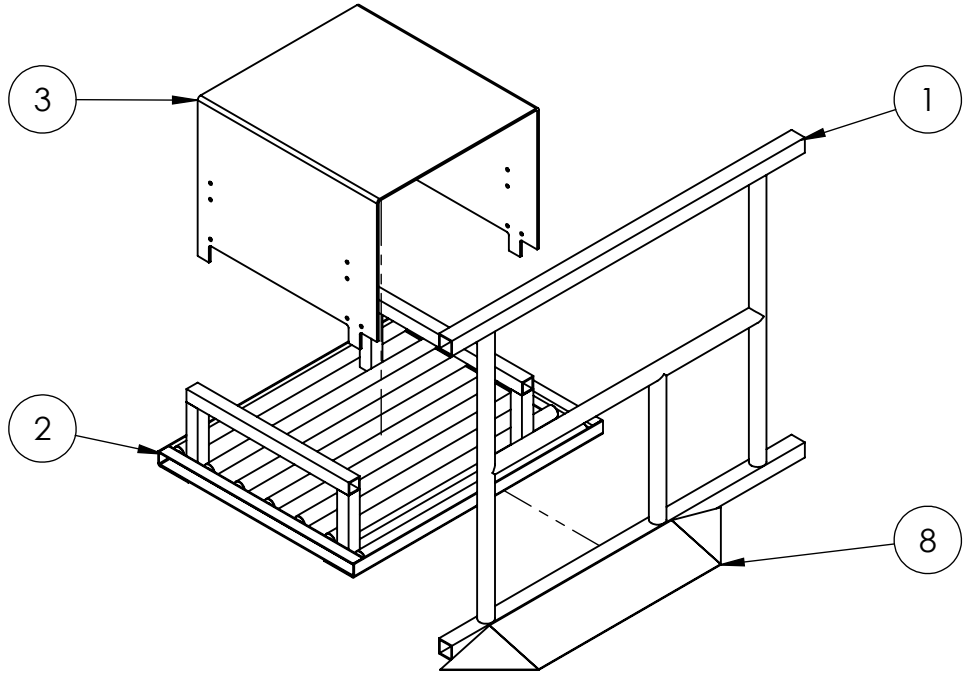
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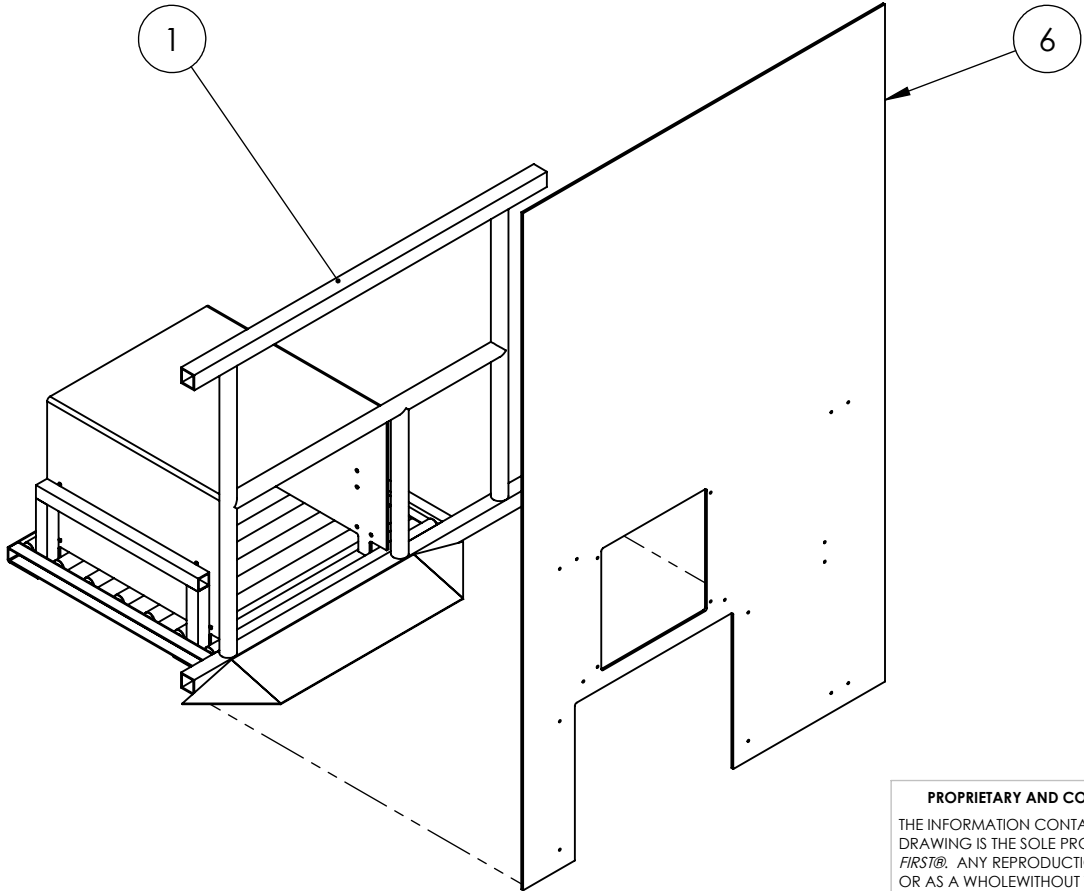
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2

1

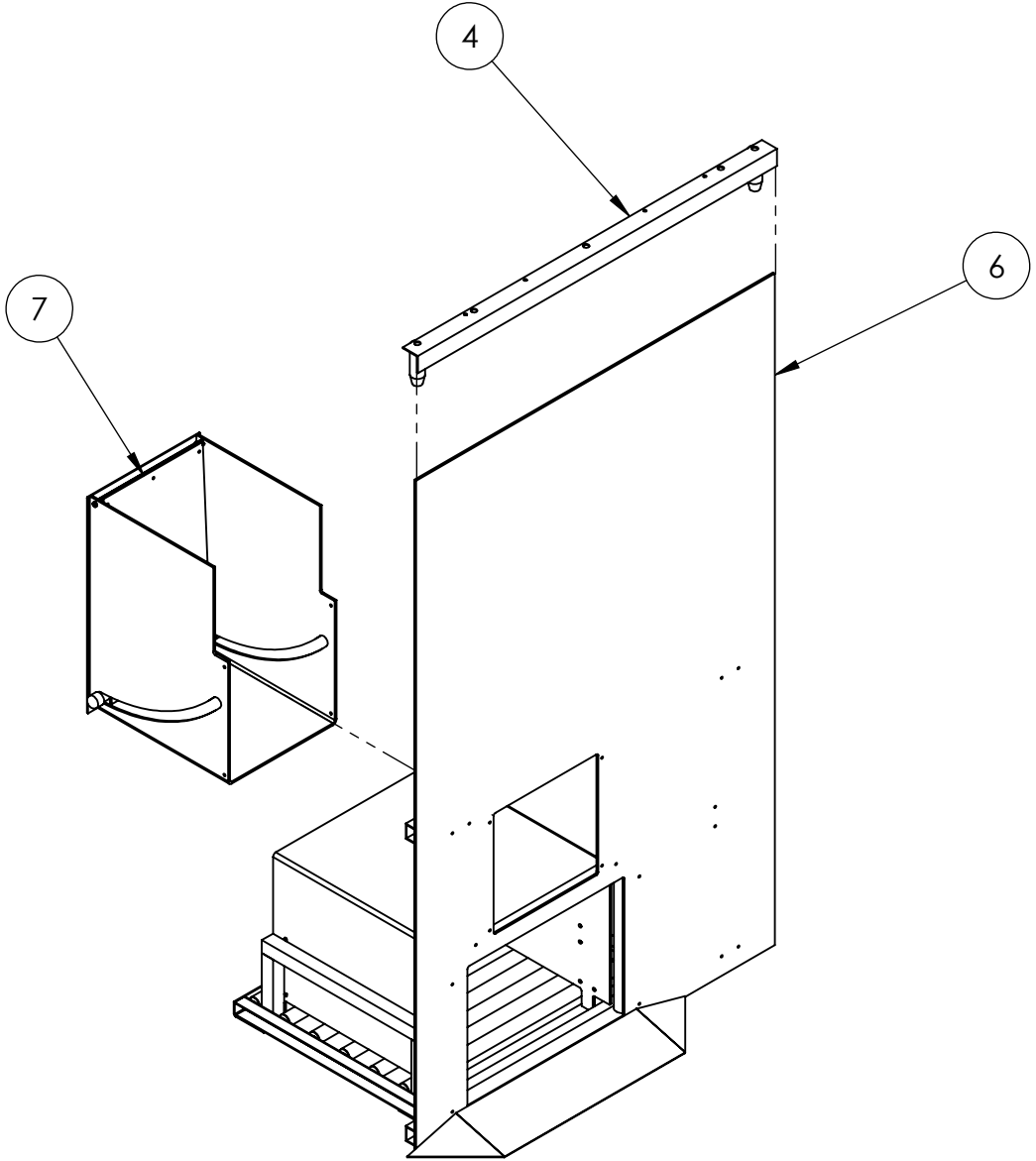


- Notes:
1. Attach Item 1 to field perimeter.
  2. Place Item 8 in front of Item 1.
  3. Place Item 2 behind Item 1, with rails centered on the opening.
  4. Center item 3 on rollers, flush with edges of guard and rail.





- Notes:
1. Attach Item 6 to Item 1 using cable ties.

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- Notes:
1. Attach Item 7 to Item 6 using cable ties.
  2. Add Item 4.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 <b>FIRST</b> ROBOTICS COMPETITION  Modeling Solutions Partner
		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.			TITLE: <b>Assembly, Exchange</b>
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				SIZE DWG. NO. REV
		FINISH				<b>B</b> <b>GE-18100</b>
NEXT ASSY	USED ON					SCALE: 1:18 WEIGHT: SHEET 2 OF 2
APPLICATION		DO NOT SCALE DRAWING				

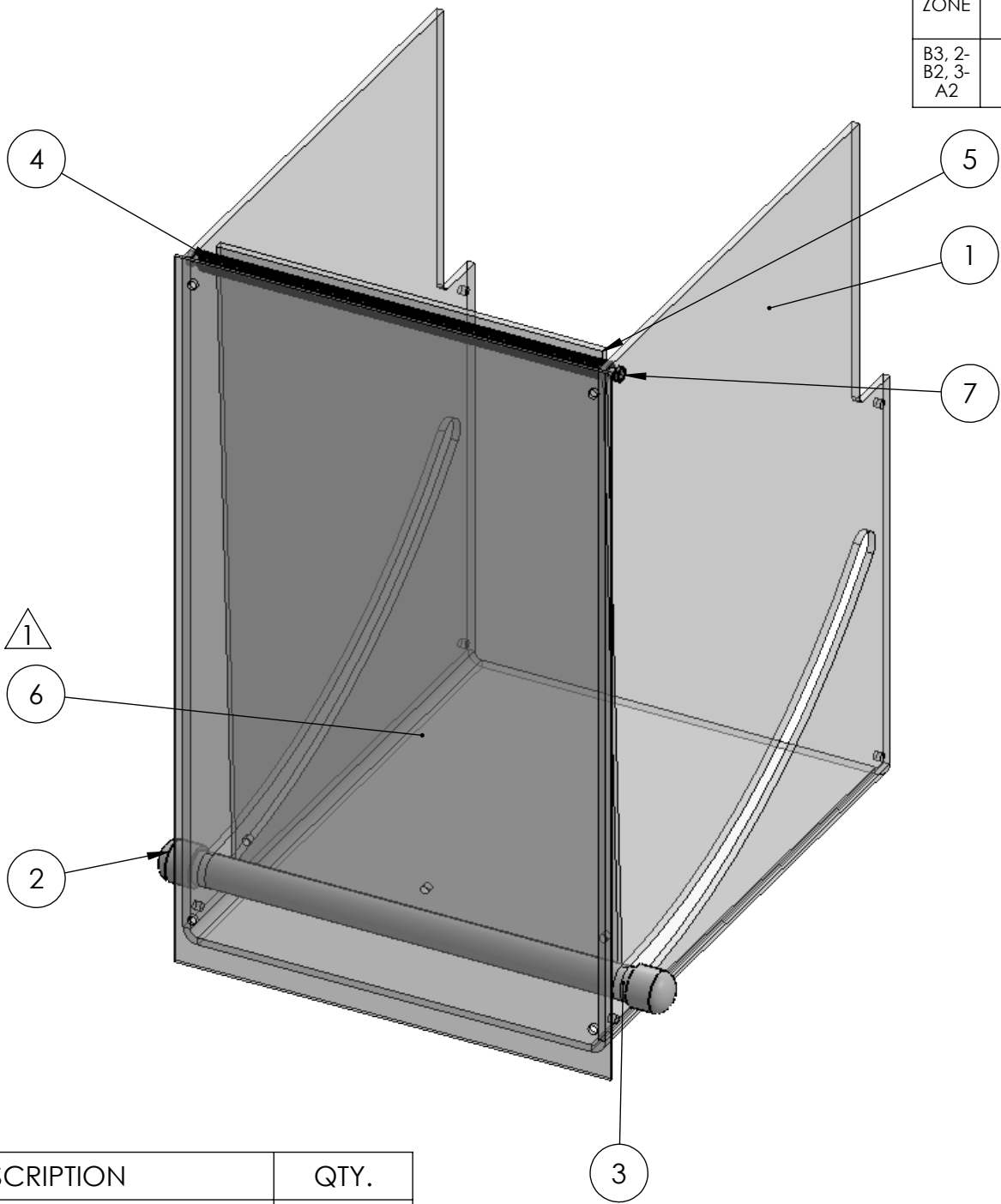
4

3

2



1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B3, 2-B2, 3-A2	1	Added ite GE-18130 Chute Back Wall. Updated fastener used.	1/8/2018	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18025	Chute Body	1
2	GE-18093	End Cap, PVC	2
3	GE-18092	Handle, Chute	1
4	GE-18091	Churro, 14"	1
5	GE-18027	Pusher Panel	1
6	GE-18130	Chute Back Wall	1
7	hex_.25_20_.75	Steel Hex Head Screw, 1/4"-20 x 3/4" long, fully threaded	2

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	  TITLE: <b>Assembly, Chute</b>
		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.			SIZE DWG. NO. REV <b>B</b> <b>GE-18101</b> <b>1</b>
		THREE PLACE DECIMAL ±.001	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				SCALE: 1:5 WEIGHT: SHEET 1 OF 3
		FINISH				
NEXT ASSY	USED ON					
APPLICATION		DO NOT SCALE DRAWING				

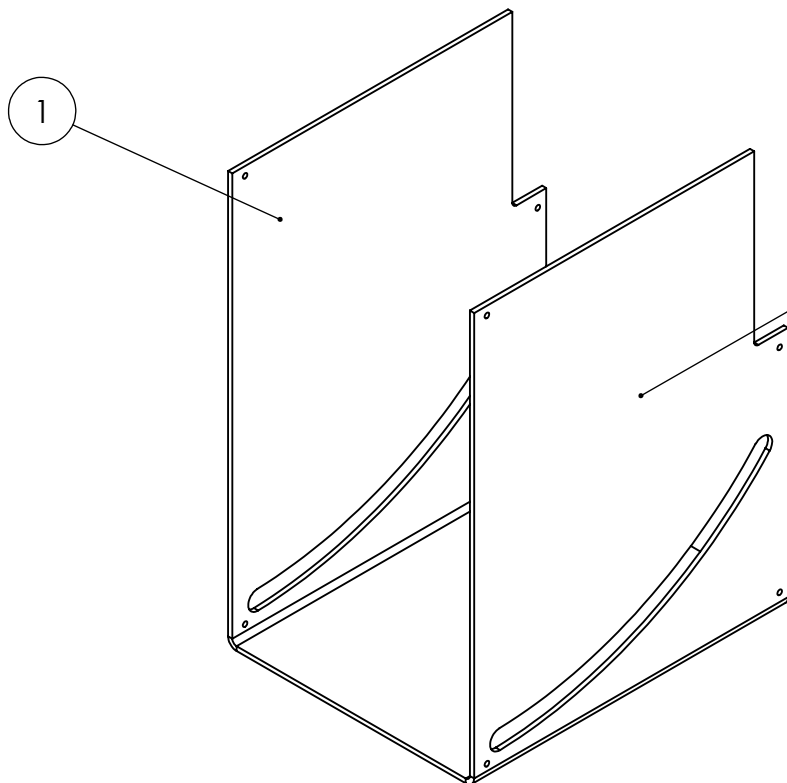
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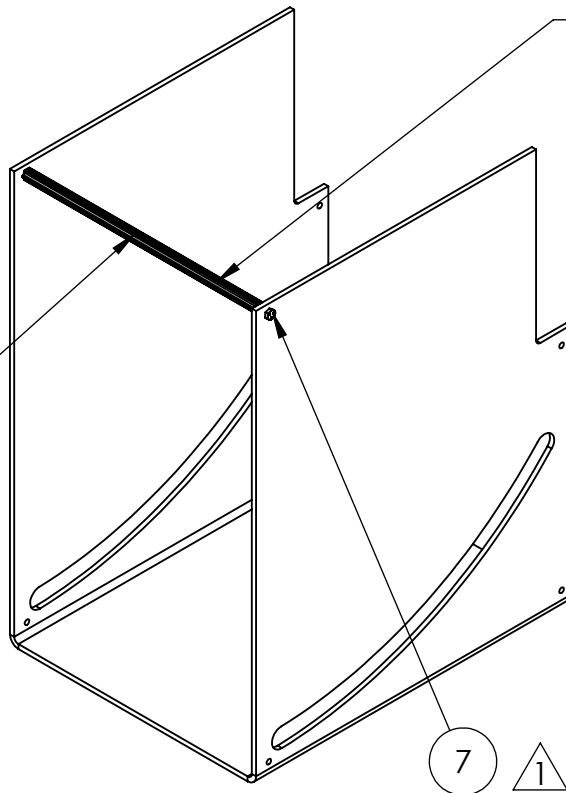
1

B



Step 1:  
Fix Item 1 to station.

4



Step 2:  
Add Item 4 and attach using Item 7 (qty: 2).

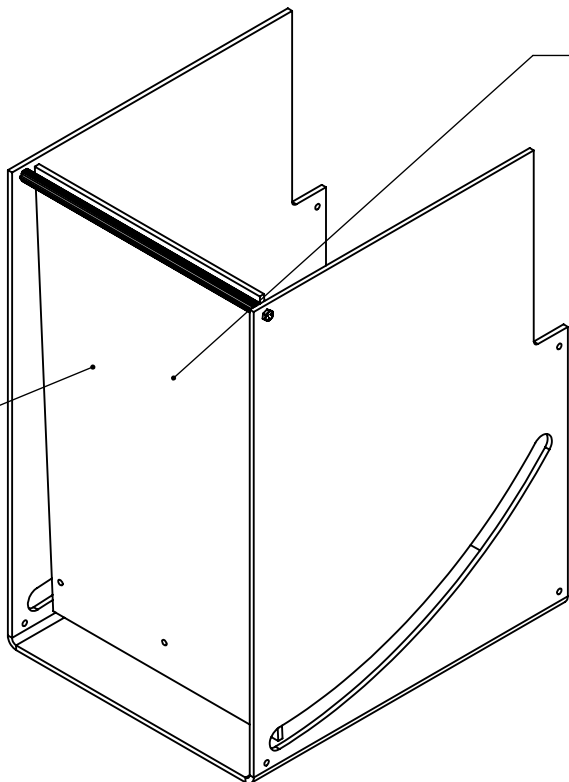
7



B

A



5



Step 3:  
Attach Item 5 using cable ties to Item 4.

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



TITLE:  
**Assembly, Chute**

SIZE  
**B**

DWG. NO.  
**GE-18101**

REV  
**1**

SCALE: 1:8 WEIGHT: SHEET 2 OF 3

A

4

3

2

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4

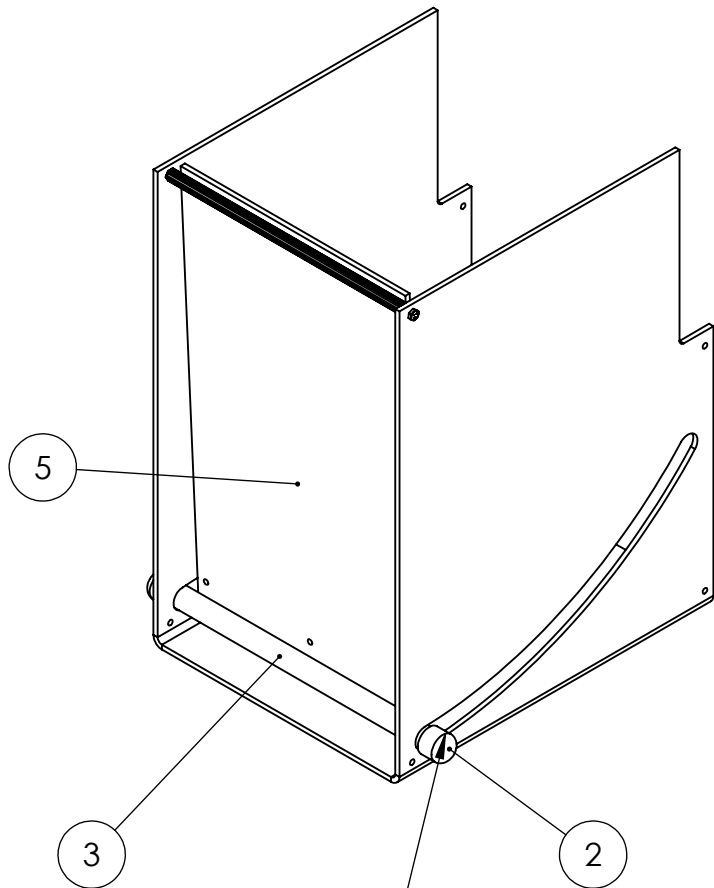
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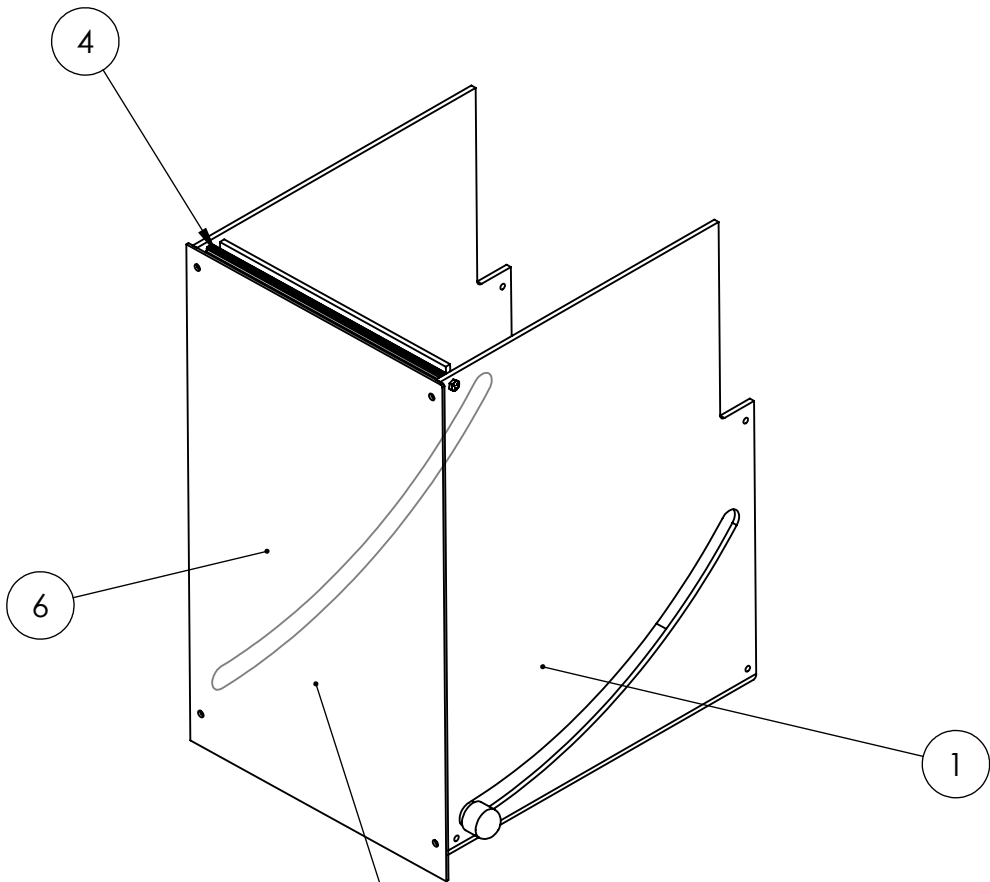
1

B

B



Step 4:  
Attach Item 3 with Item 2 (endcaps). Use  
cable ties to secure to Item 5.





Attach Item 7 using cable ties  
around Item 1 and Item 4.



A

A

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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			TITLE:  Assembly, Chute		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> GE-18101 1		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

4

3

2

1

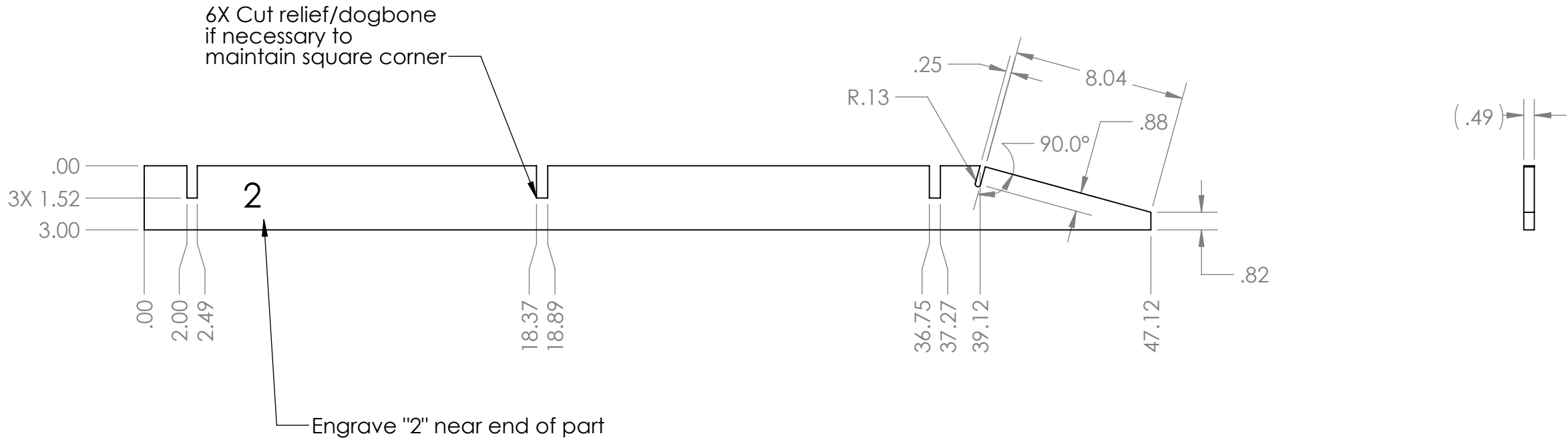
4321

B

B



A

A

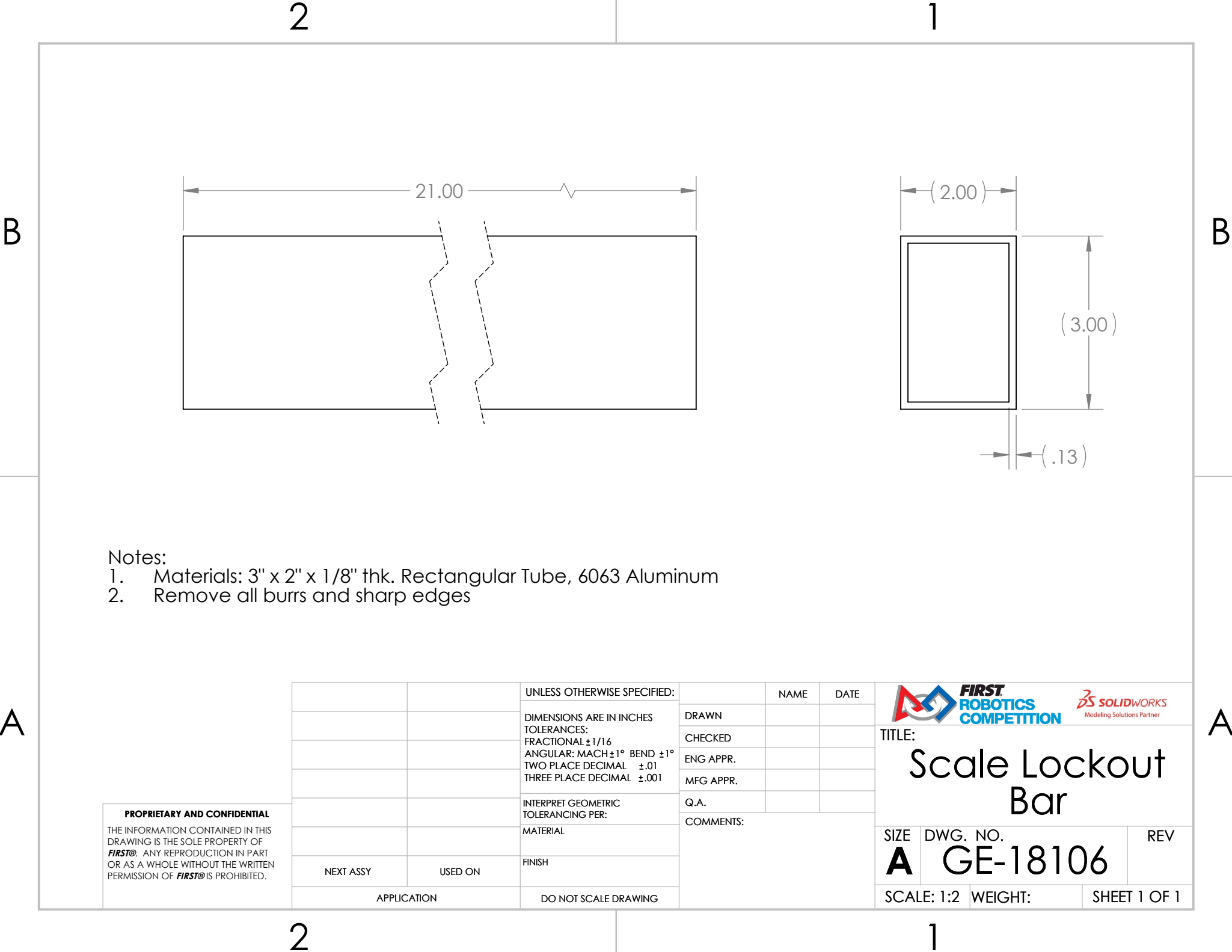


- Notes:
- 1. Material: 1/2" HDPE, any color
  - 2. Surface: Smooth texture
  - 3. Remove all burrs and sharp edges

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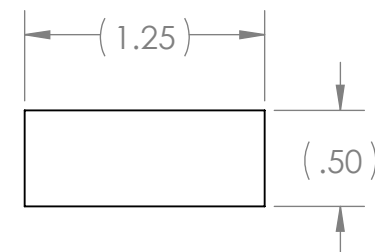
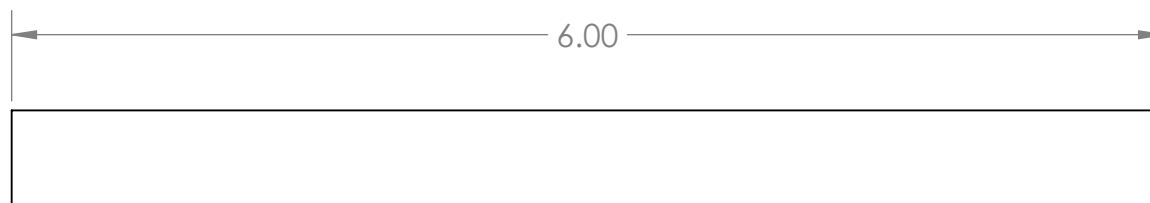
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</div></div> <div><div>SOLIDWORKS Modeling Solutions Partner</div></div>		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  Platform Brace, Short Side 2		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18105</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:6 WEIGHT: SHEET 1 OF 1		

4321



2

1



## Notes:

1. Material: 1.25" x .5" Low-carbon Steel Bar
2. Remove all burrs and sharp edges

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NEXT ASSY

USED ON

APPLICATION

## UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL  $\pm 1/16$   
ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
TWO PLACE DECIMAL  $\pm .01$   
THREE PLACE DECIMAL  $\pm .001$

INTERPRET GEOMETRIC  
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



**FIRST**  
**ROBOTICS**  
**COMPETITION**

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

Scale/Switch  
Counterweight

SIZE

DWG. NO.

REV

**A****GE-18107**

SCALE: 1:1

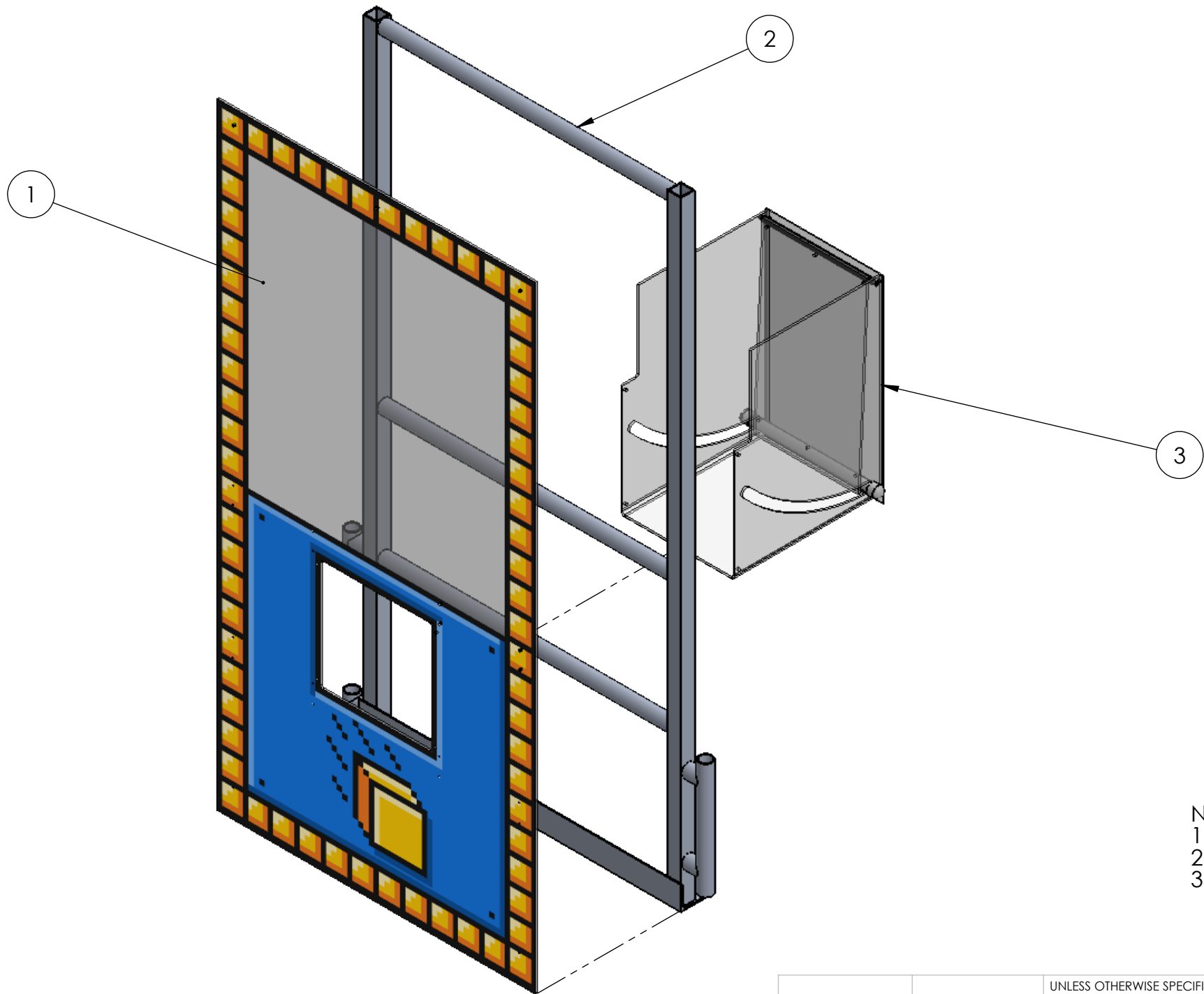
WEIGHT:

SHEET 1 OF 1

2

1







- Notes:
- 1. Attach Item 2 to field perimeter.
  - 2. Attach Item 1 to Item 2 using cable ties.
  - 3. Attach Item 3 to Item 1 using cable ties.

ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18004	Panel, Portal	1
2	GE-18011	Portal Frame - Left	1
3	GE-18101	Assembly, Chute	1

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		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
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		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:  
**Portal - Left**

SIZE  
**B**

DWG. NO.  
**GE-18108**

REV

SCALE: 1:12 WEIGHT:

SHEET 1 OF 1

4

3

2

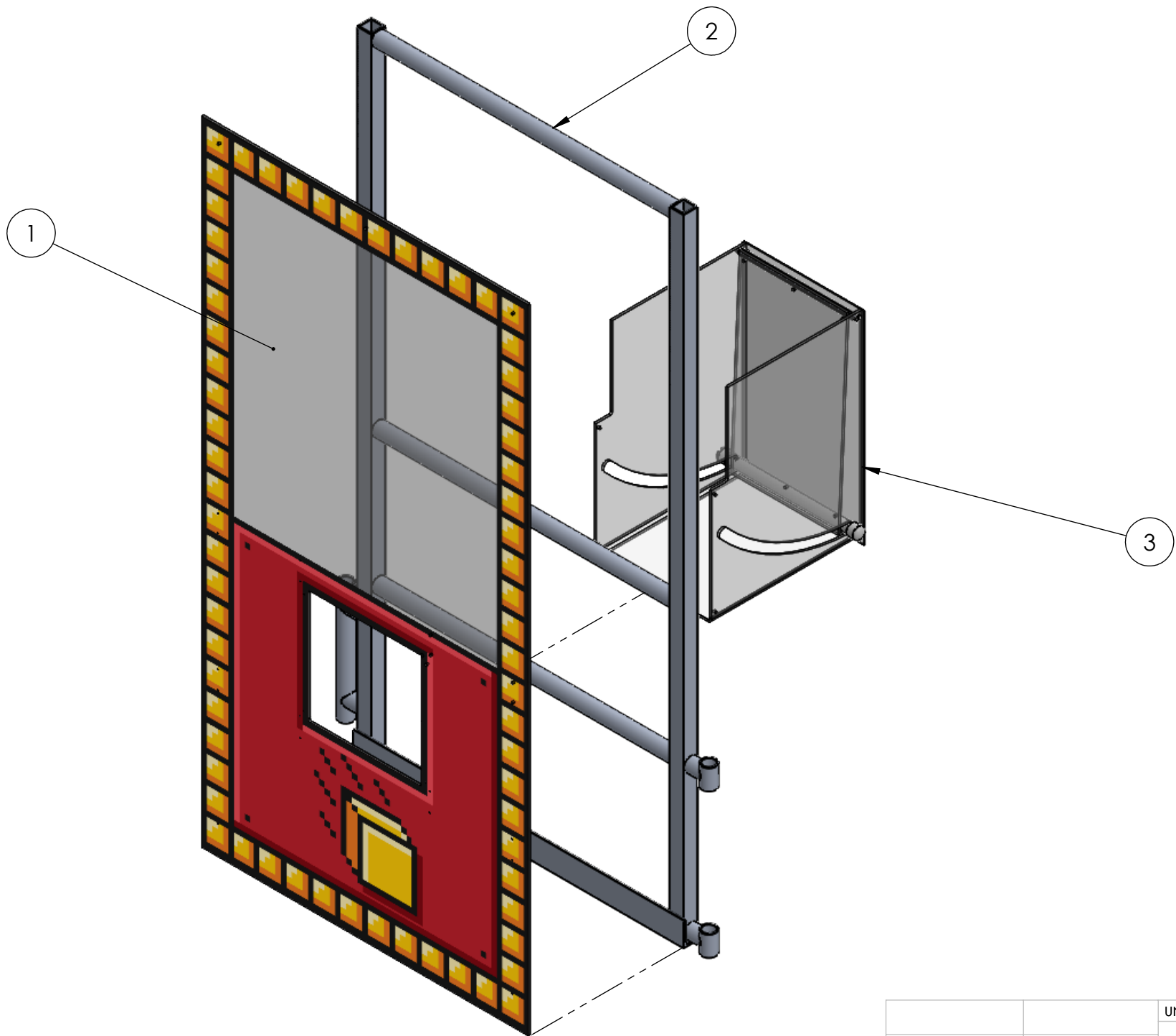
1

B

B

A

A





- Notes:
- 1. Attach Item 2 to field perimeter.
  - 2. Attach Item 1 to Item 2 using cable ties.
  - 3. Attach Item 3 to Item 1 using cable ties.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18004	Panel, Portal	1
2	GE-18012	Portal Frame - Right	1
3	GE-18101	Assembly, Chute	1

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



TITLE:  
**Portal - Right**

SIZE  
**B**

DWG. NO.  
**GE-18109**

REV

SCALE: 1:12 WEIGHT:

SHEET 1 OF 1

4

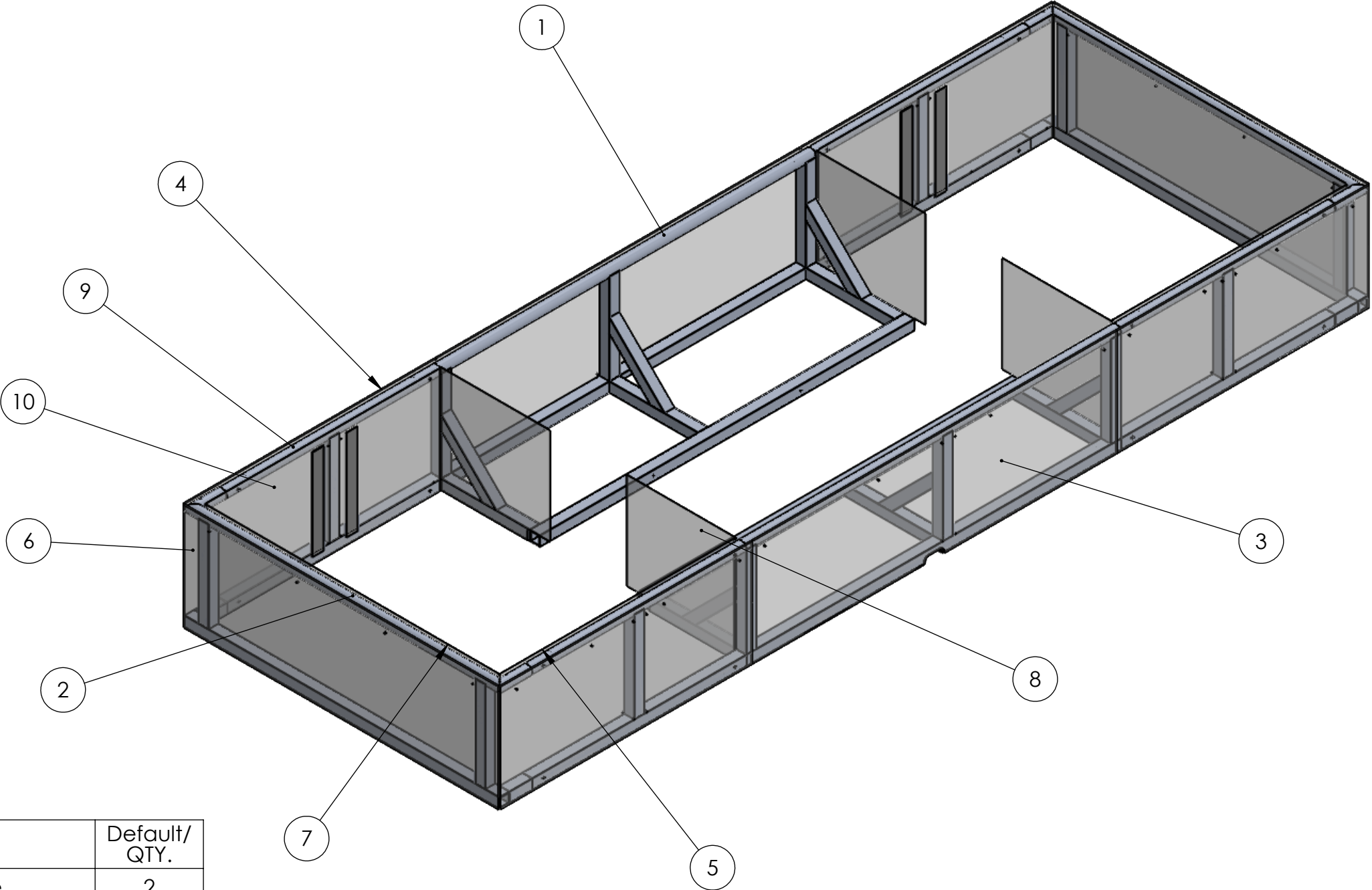
3

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B





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ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18051	Side Frame, Fence	2
2	GE-18052	End Frame, Fence	2
3	GE-18080	Fence Polycarb, Middle	2
4	GE-18081	Fence Polycarb, Outer Side	4
5	GE-18082	Fence Polycarb, Inner Side	2
6	GE-18083	Fence Polycarb, Outer End	2
7	GE-18084	Fence Polycarb, Inner End	2
8	GE-18085	Fence Polycarb, Guard	4
9	GE-18111	Connecting Frame Assembly	4
10	GE-18115	Vision Fence Polycarbonate	2

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 				
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <h1>Fence Assembly</h1>				
		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>B</b> <b>GE-18110</b>				
		INTERPRET GEOMETRIC TOLERANCING PER:								
		MATERIAL								
		FINISH								
NEXT ASSY	USED ON									
APPLICATION		DO NOT SCALE DRAWING					SCALE: 1:32		WEIGHT:	SHEET 1 OF 3

4

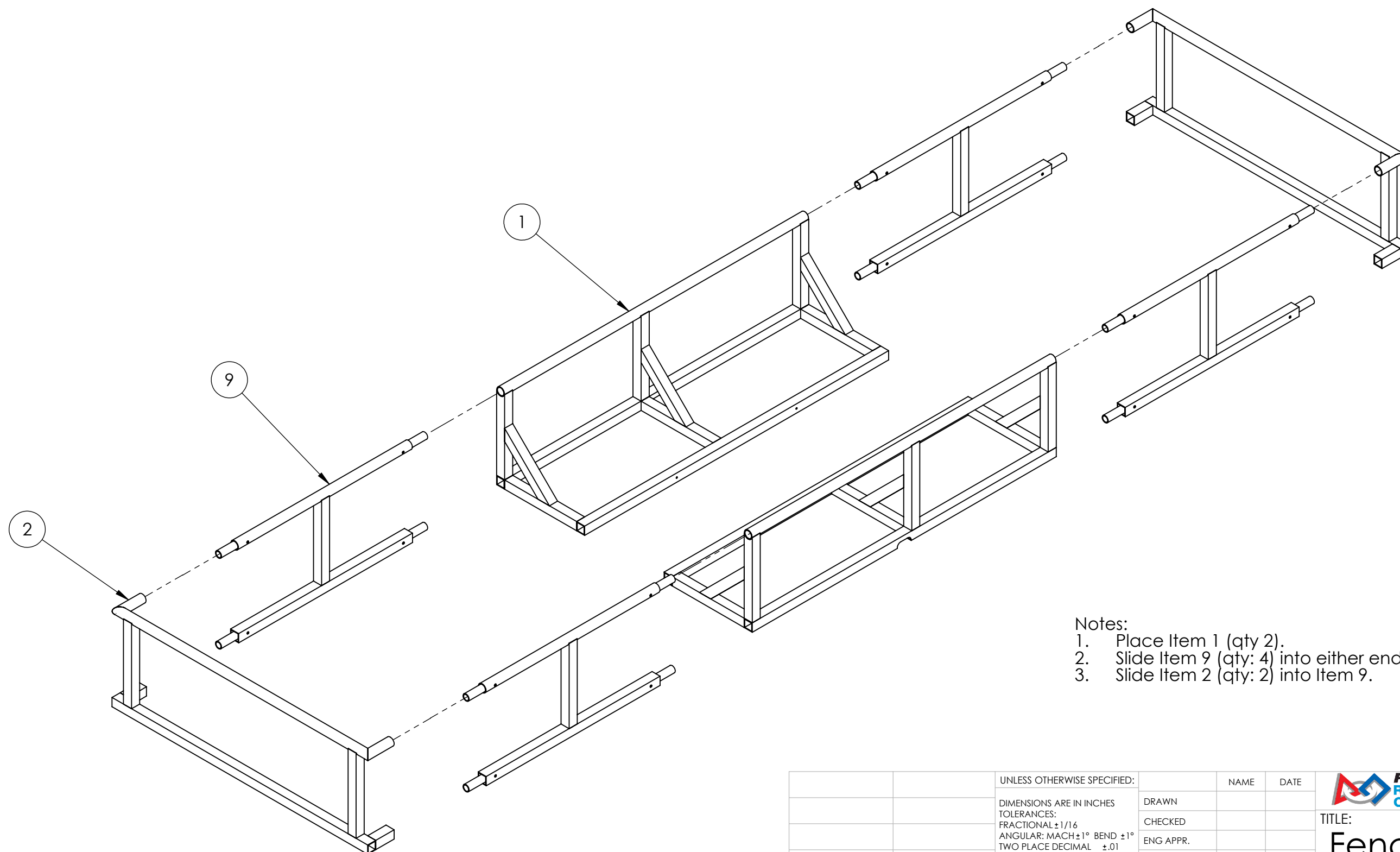
3

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↑

A

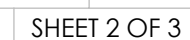


1. Place Item 1 (qty 2).
2. Slide Item 9 (qty: 4) into either end of Item 1.
3. Slide Item 2 (qty: 2) into Item 9.

DO NOT SCALE DRAWING

DO NOT SCALE DRAWING

COMMENTS:



↑

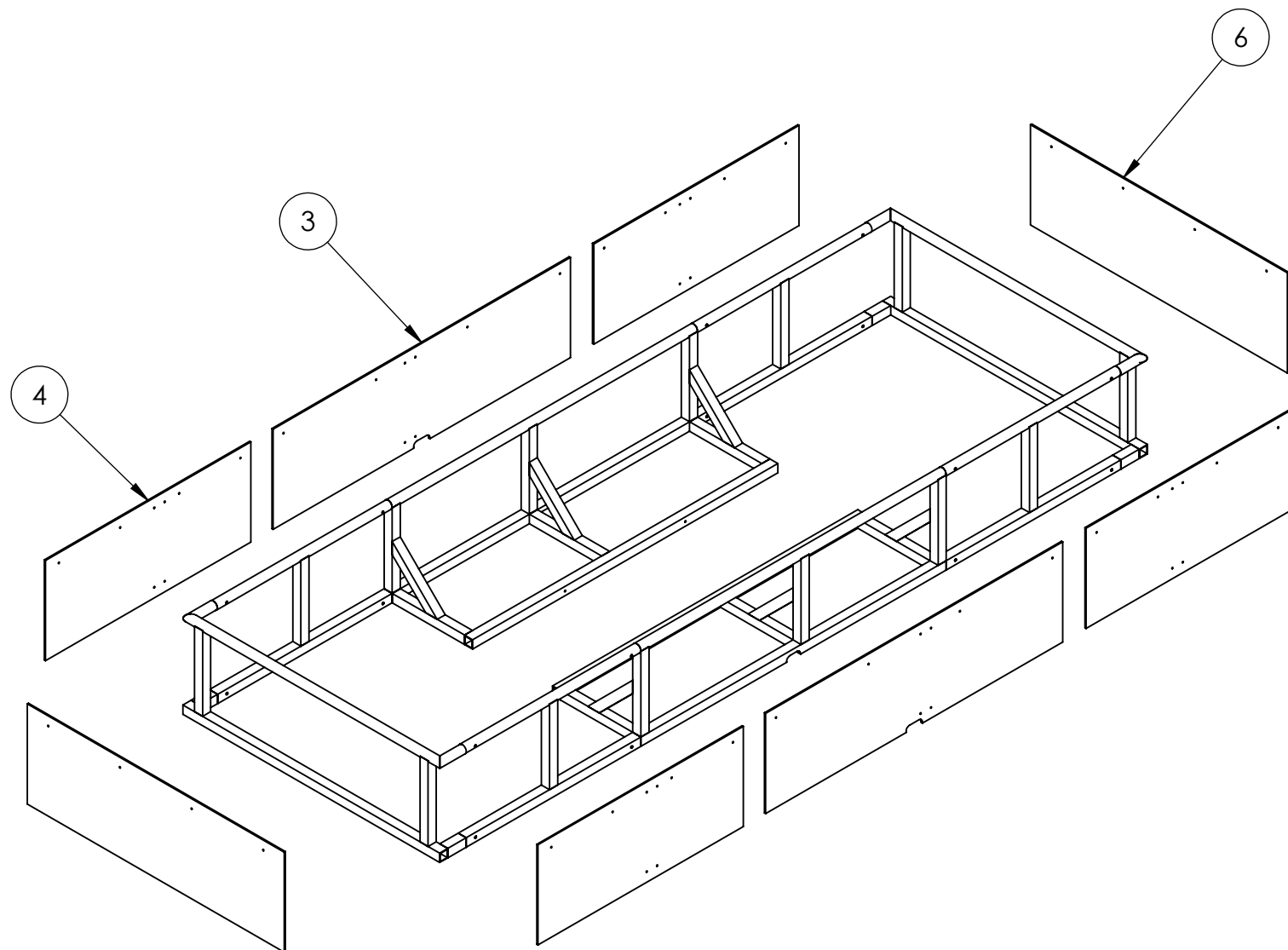
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3

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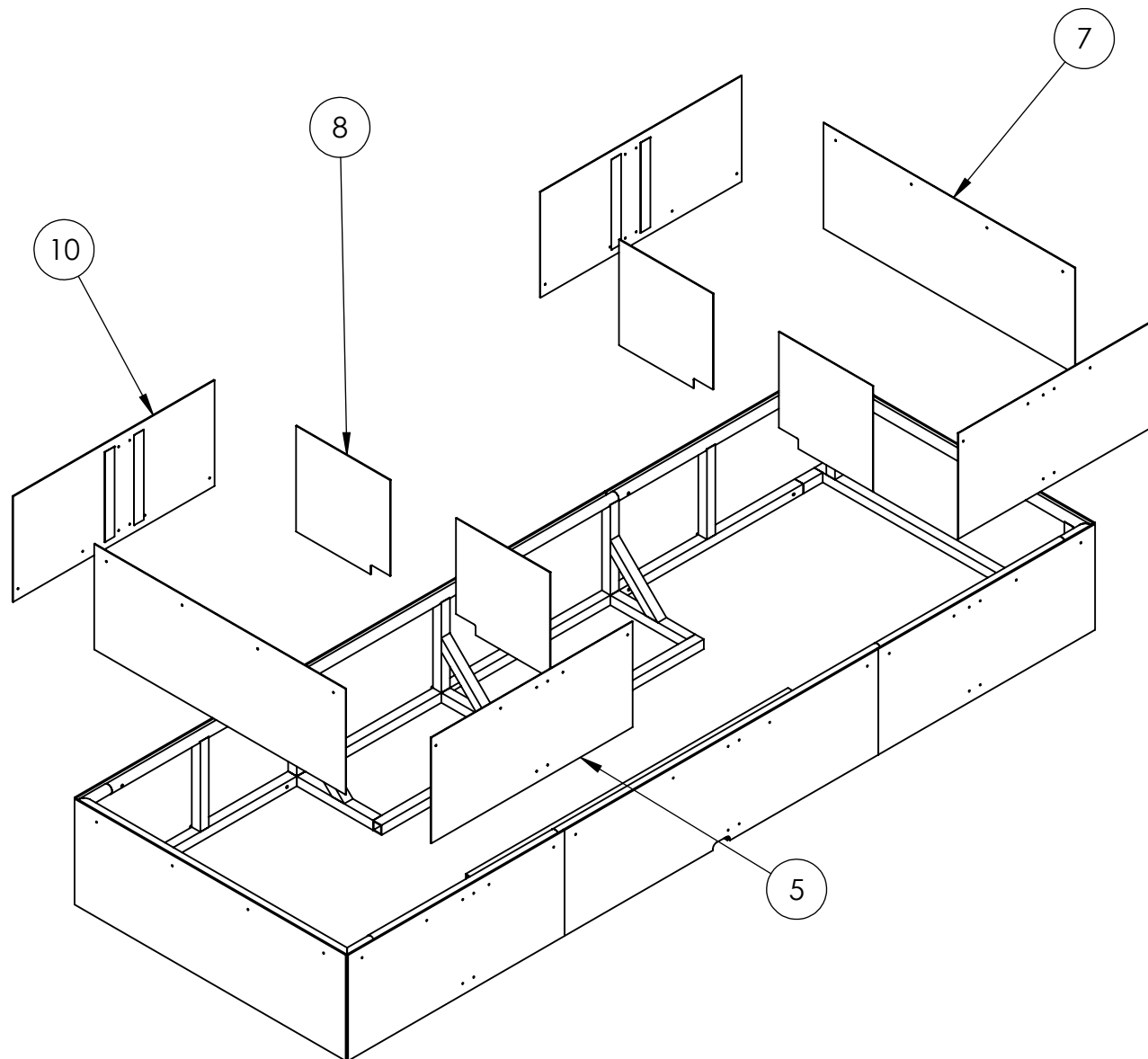
B



Notes:

1. Attach Items 3 (qty: 2), 4 (qty: 4), 6 (qty: 2) with cable ties on top of panel and through vertical supports, and hook and loop on bottom.

A



Notes:

1. Attach Items 5 (qty: 2), 7 (qty: 2), 10 (qty: 2) with cable ties through top holes and around vertical supports.
2. Attach Item 8 (qty: 4) with hook and loop.

B

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DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL:  $\pm 1/16$   
ANGULAR: MACH  $\pm 1^\circ$  BEND  $\pm 1^\circ$   
TWO PLACE DECIMAL  $\pm .01$   
THREE PLACE DECIMAL  $\pm .001$

INTERPRET GEOMETRIC  
TOLERANCING PER:  
MATERIAL

FINISH

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Fence Assembly

SIZE DWG. NO. REV

**B** GE-18110

SCALE: 1:32 WEIGHT: SHEET 3 OF 3

NEXT ASSY

USED ON

APPLICATION

DO NOT SCALE DRAWING

4

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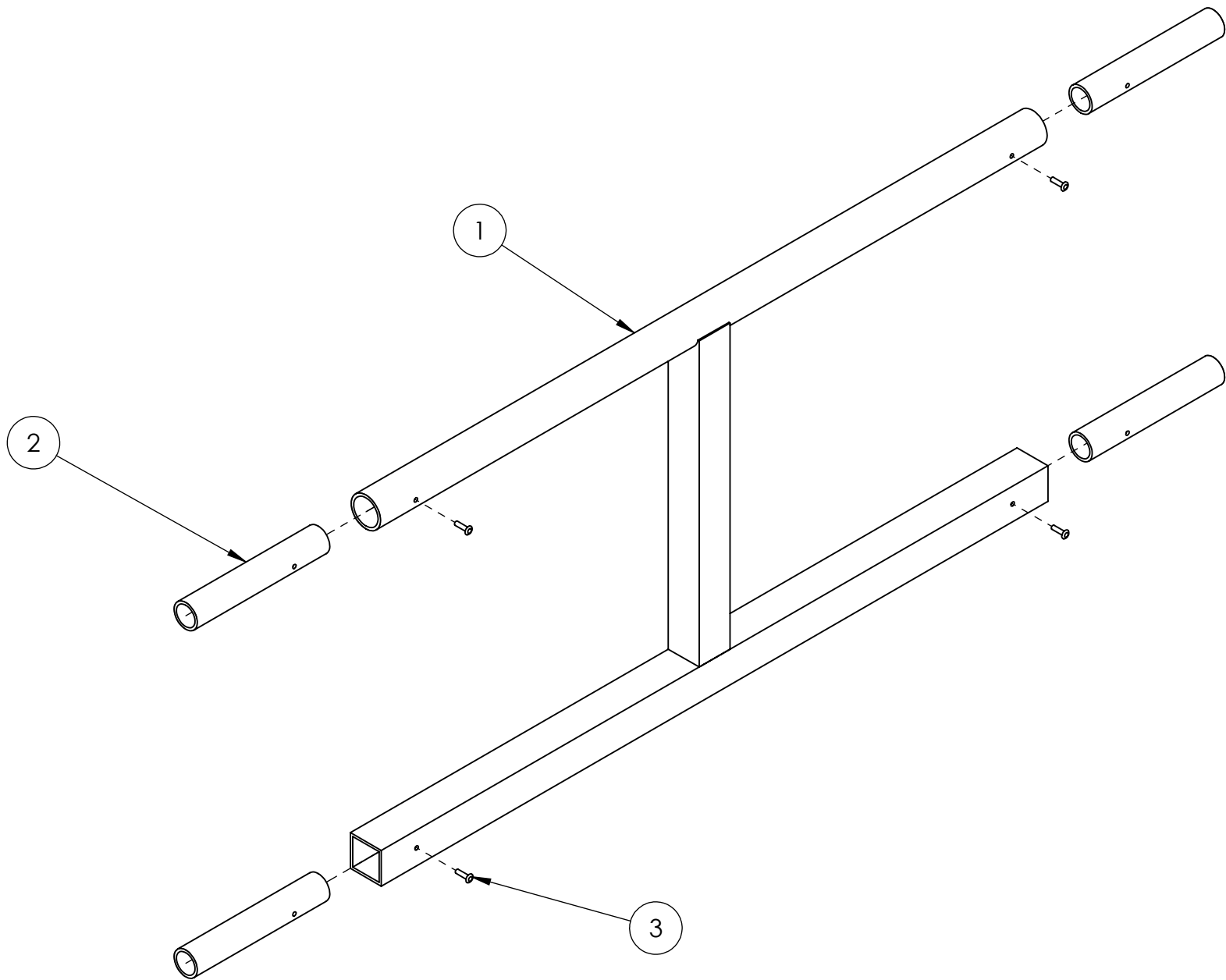
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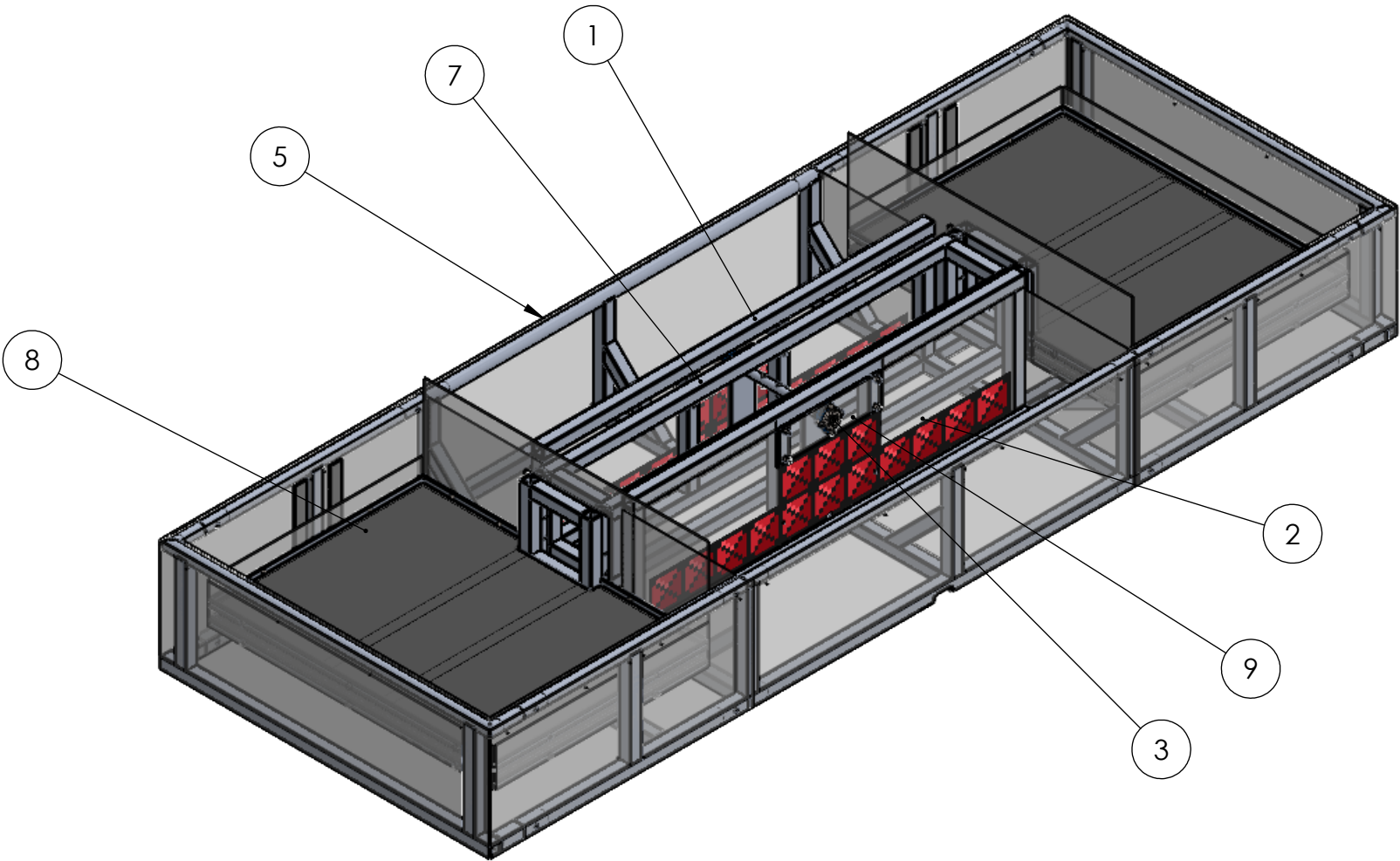
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ITEM NO.	PART NUMBER	DESCRIPTION	Default/Qty.
1	GE-18053	Connecting Frame, Fence	1
2	GE-18086	Fence Pin	4
3	rivet_.1875_.376-.5	3/16" Aluminum Rivet, .376-.5 Grip Range	4

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		INTERPRET GEOMETRIC TOLERANCING PER:	CHECKED		
		MATERIAL	ENG APPR.		
		FINISH	MFG APPR.		
NEXT ASSY	USED ON		Q.A.		
APPLICATION		DO NOT SCALE DRAWING	COMMENTS:		
			TITLE:		
			SIZE	DWG. NO.	REV
			<b>B</b>	GE-18111	
			SCALE: 1:16 WEIGHT:		SHEET 1 OF 1





ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18016	Switch Frame	1
2	GE-18024	Switch Base Cover Polycarbonate	2
3	GE-18026	Switch/Scale Arm Shaft	1
4	GE-18098	Switch Shaft Spacer	2
5	GE-18110	Fence Assembly	1
6	GE-18113	Switch Fence Brace Assembly	2
7	GE-18114	Switch Arm Assembly	1
8	GE-18121	Basket Assembly	2
9	GE-18122	Bearing/Damper Assembly	2
10	hex_.25_20_2.75_partial	Steel Hex Head Screw, 1/4"-20 x 2-3/4" long, partially threaded	9
11	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	12
12	hex_.25_20_1.5	Steel Hex Head Screw, 1/4"-20 x 1-1/2" long, fully threaded	3

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		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>B</b> GE-18112					
		INTERPRET GEOMETRIC TOLERANCING PER:									
		MATERIAL									
		FINISH				SCALE: 1:32 WEIGHT: SHEET 1 OF 3					
NEXT ASSY	USED ON										
APPLICATION		DO NOT SCALE DRAWING									

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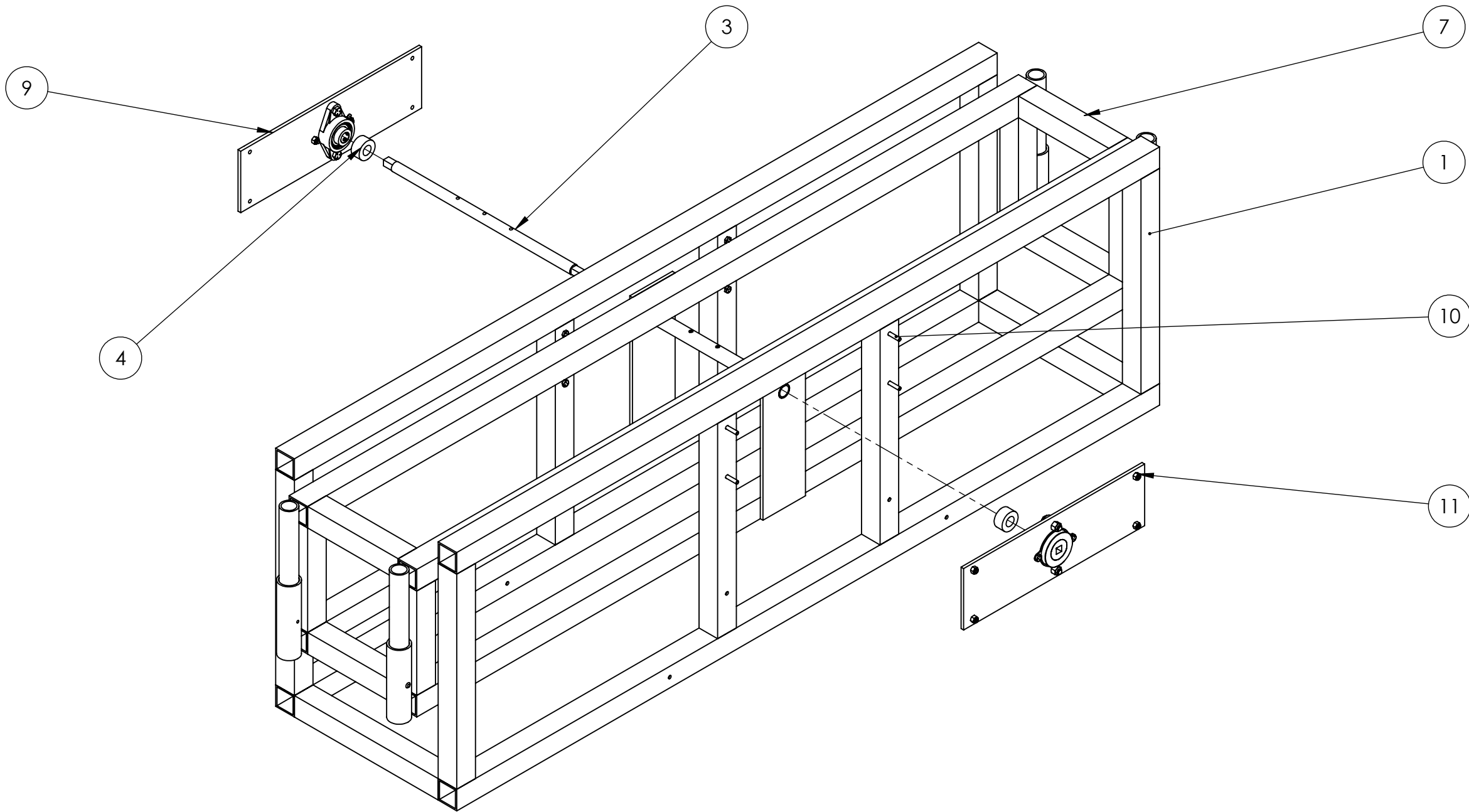
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- Notes:
- 1. Slide Item 3 (the shaft) through tube on Item 7. Slide Item 4 (qty: 2) to either end of Item 3.
  - 2. Align the shaft to the bearing and dampers of Item 9. Bolt Item 9 (qty: 2) to Item 1 using Items 10 (qty: 8) and 11 (qty: 8).

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



TITLE:  
**Switch Assembly**

SIZE  
**B**

DWG. NO.  
**GE-18112**

REV

SCALE: 1:32 WEIGHT:

SHEET 2 OF 3

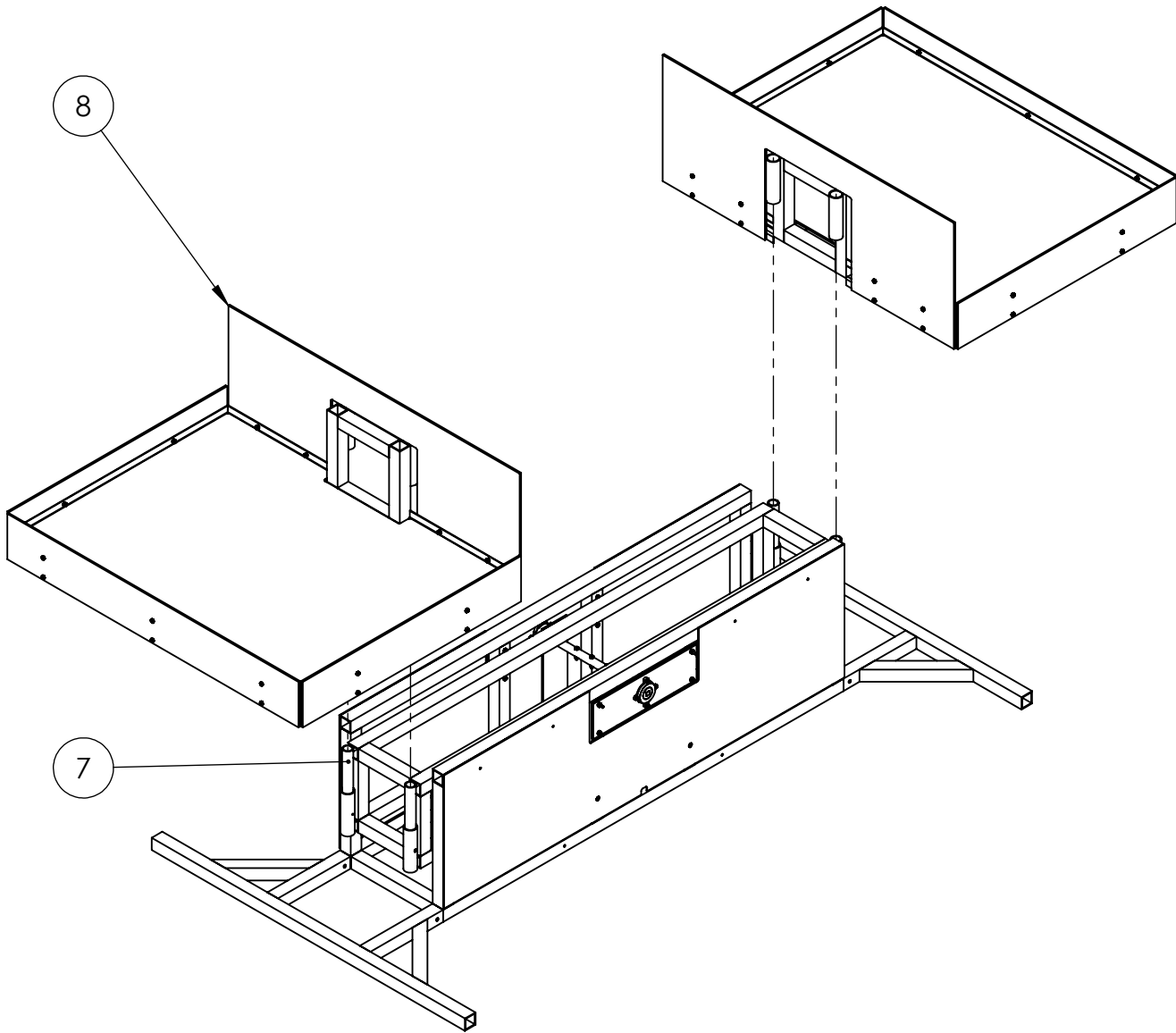
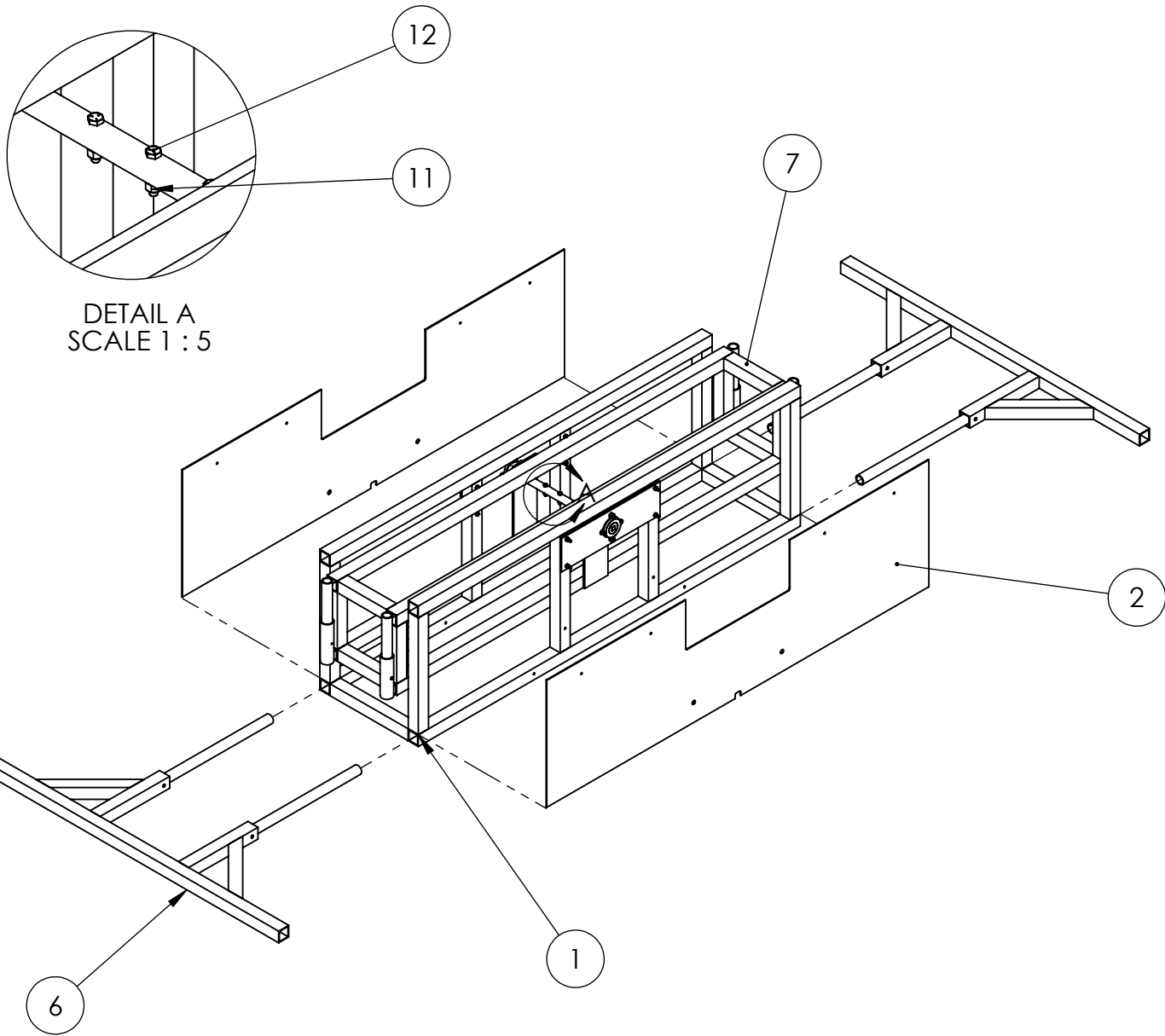


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- Notes:
1. Align Item 3 (the shaft) through the tube of Item 7 and secure alignment using Items 11 (qty: 3) and 12 (qty: 3).
  2. Slide Item 6 (qty: 2) into Item 1.
  3. Attach Items 2 to Item 1 using cable ties.

- Notes:
1. Slide Item 8 (qty: 2) onto the pins on Item 7.
  2. (Not pictured) Build Item 5 around the assembly, following assembly drawings for GE-18110.

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <h1>Switch Assembly</h1>		
		TOLERANCES:	CHECKED					
		FRACTIONAL $\pm 1/16$	ENG APPR.					
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$						
		THREE PLACE DECIMAL $\pm .001$						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:					



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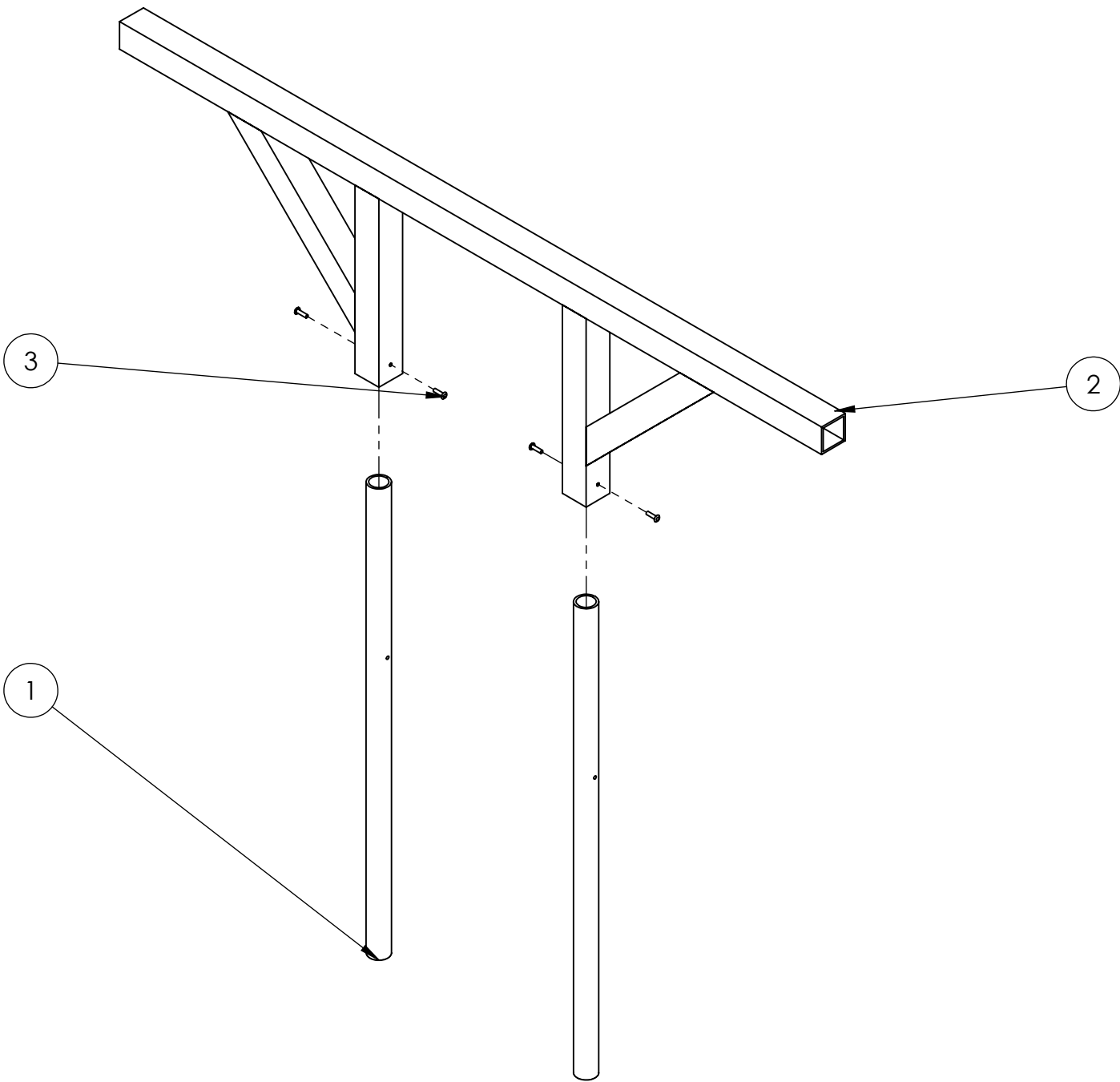
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ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18088	Switch Fence Brace Pin	2
2	GE-18087	Switch Fence Brace	1
3	rivet_.1875_.376-.5	3/16" Aluminum Rivet, .376-.5 Grip Range	4

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <h1>Switch Fence Brace Assembly</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18113</b>		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		

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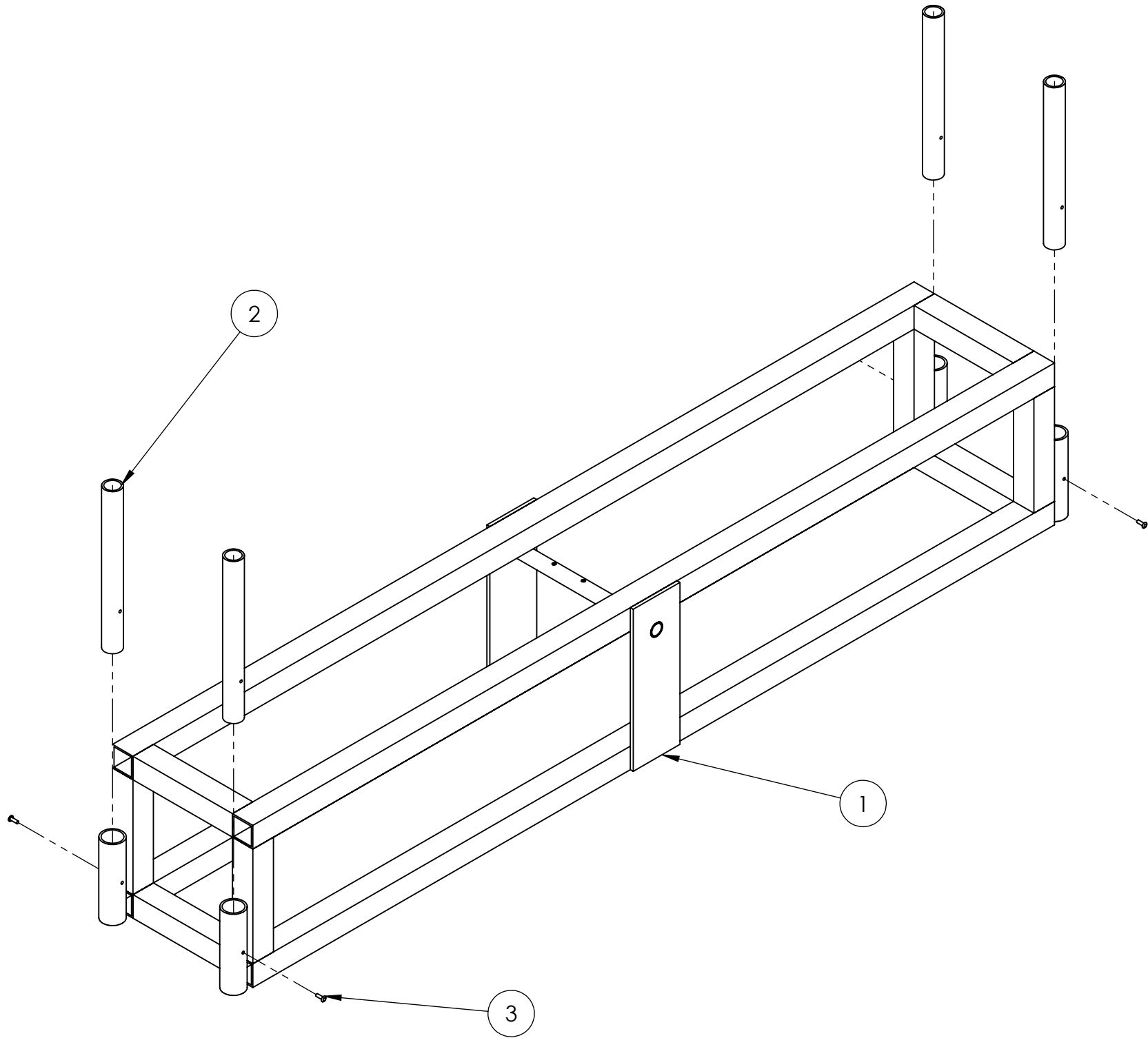
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Notes:  
1. Fasten Item 2 (qty: 4) to Item 1, using Item 3 (qty: 4).

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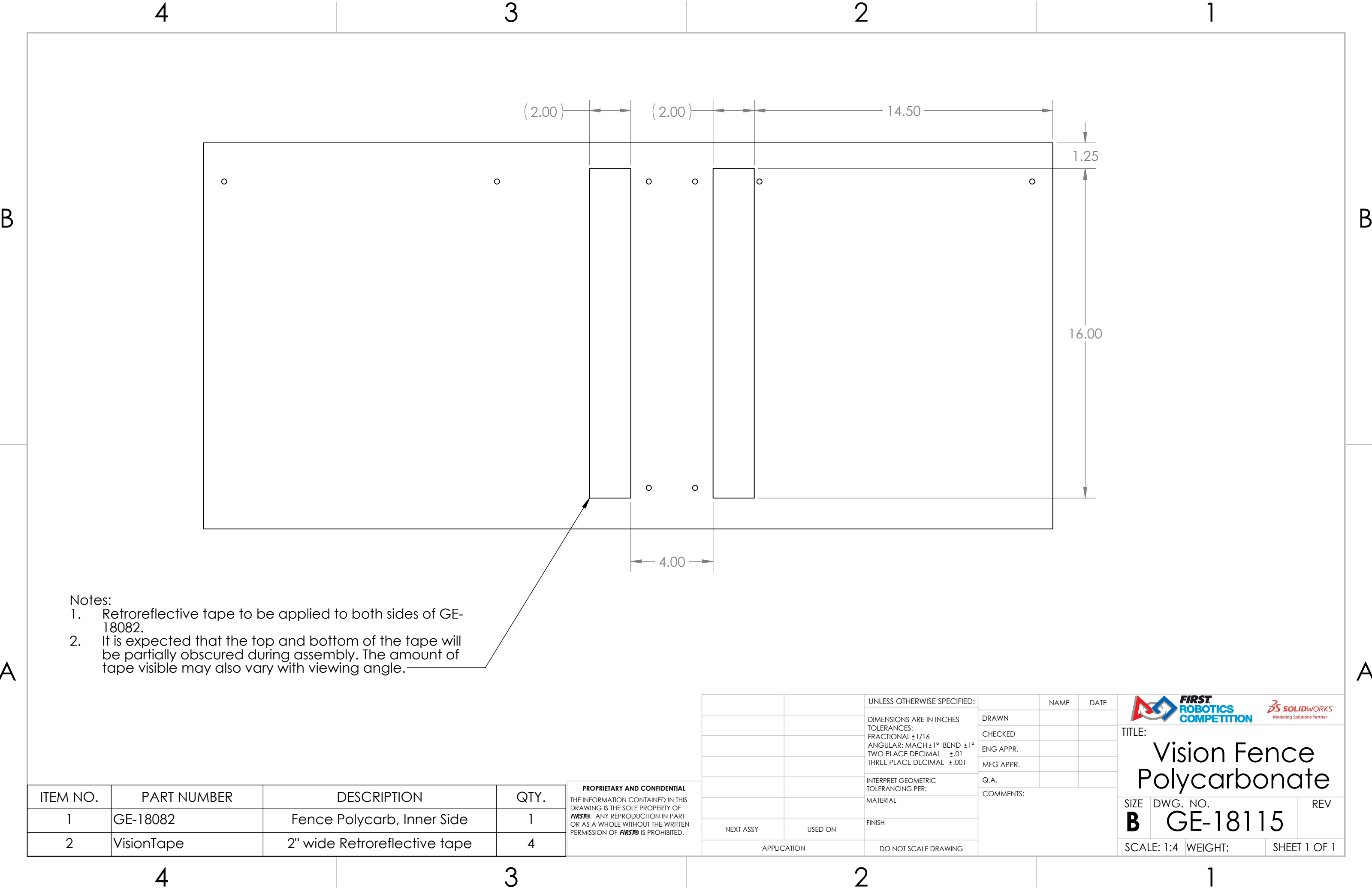
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						SIZE DWG. NO. REV
						<b>B</b> <b>GE-18114</b>
						SCALE: 1:12 WEIGHT: SHEET 2 OF 2

4

3

2



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- Notes:
- 1. Retroreflective tape to be applied to both sides of GE-18082.
  - 2. It is expected that the top and bottom of the tape will be partially obscured during assembly. The amount of tape visible may also vary with viewing angle.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18082	Fence Polycarb, Inner Side	1
2	VisionTape	2" wide Retroreflective tape	4

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  Vision Fence Polycarbonate		
		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>B</b> GE-18115		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 1 OF 1		

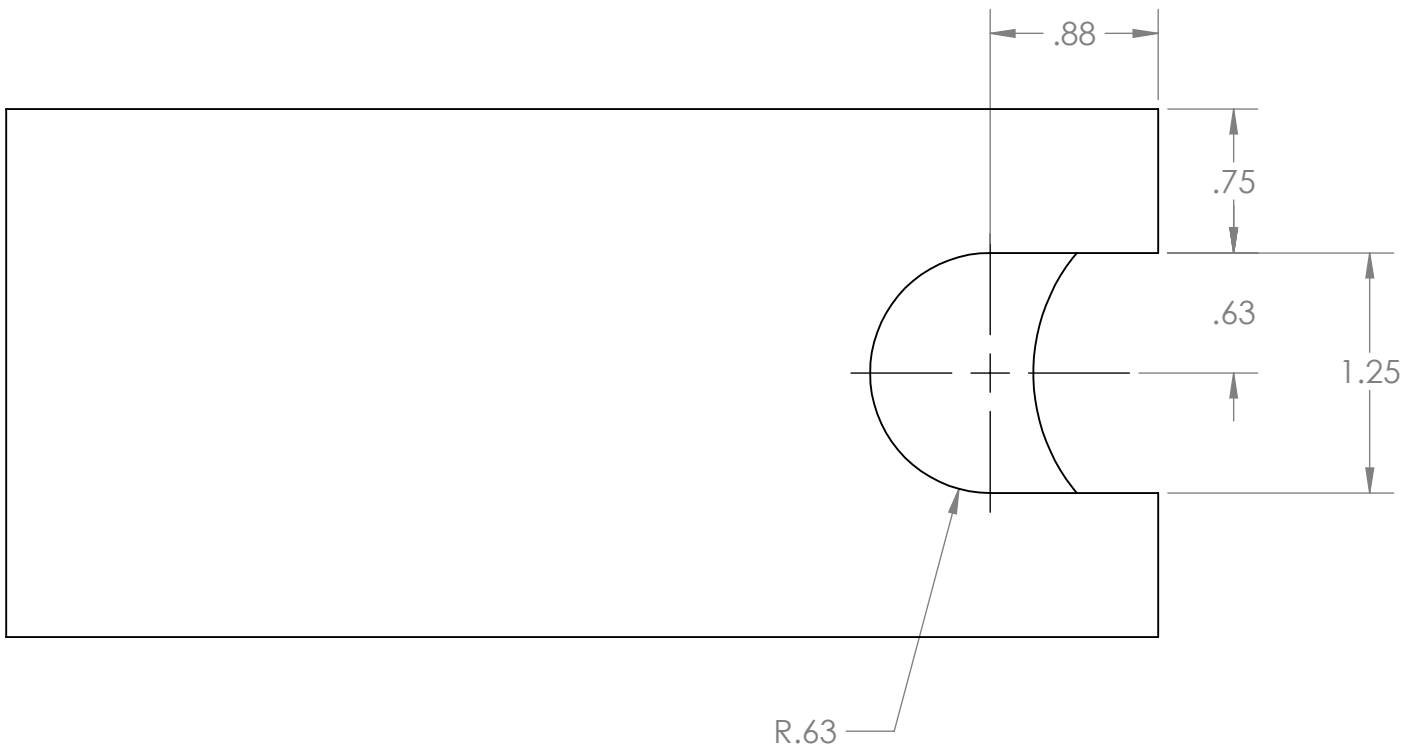
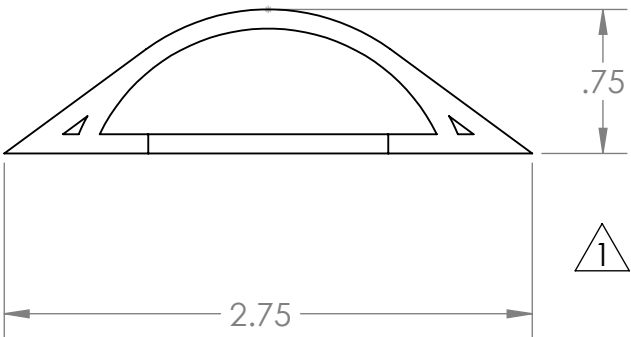
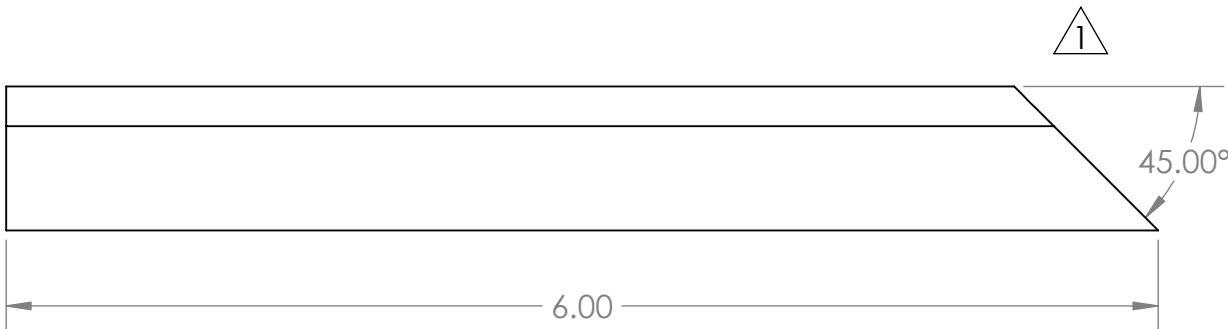
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REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B1, B3	1	Miter cut moved to opposite end of part. Some dimensions updated for accuracy.	2/12/2018	CPO



- Notes:
- Description: Cable Shield Cord Cover
  - Source: Electriduct
  - Item #: CSX-3 Black
  - Equivalent substitutions allowed

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		TOLERANCES:	CHECKED		
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		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:  
**Short Mitered  
Wire Protector**

SIZE  
**B**

DWG. NO.  
**GE-18118**

REV  
**1**

SCALE: 1:1 WEIGHT: SHEET 1 OF 1

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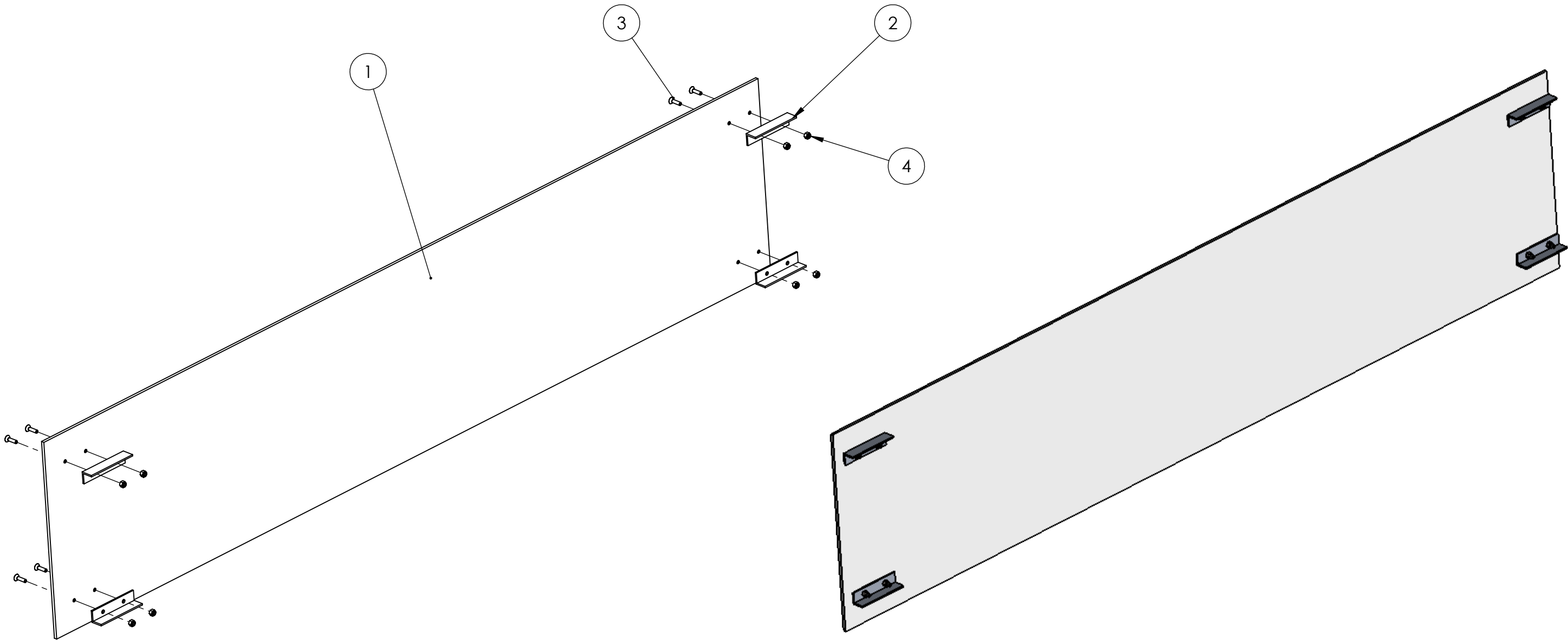
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18020	Scale Side Cover Polycarbonate	1
2	GE-18076	Scale Angle Brace	4
3	flat_hex_.25_20_1	Steel Hex Flat Head Screw, 1/4"-20 x 1" long, fully threaded	8
4	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	8

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			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:						
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SIZE <b>B</b>	DWG. NO. <b>GE-18119</b>		REV
						SCALE: 1:8		WEIGHT:	SHEET 1 OF 1



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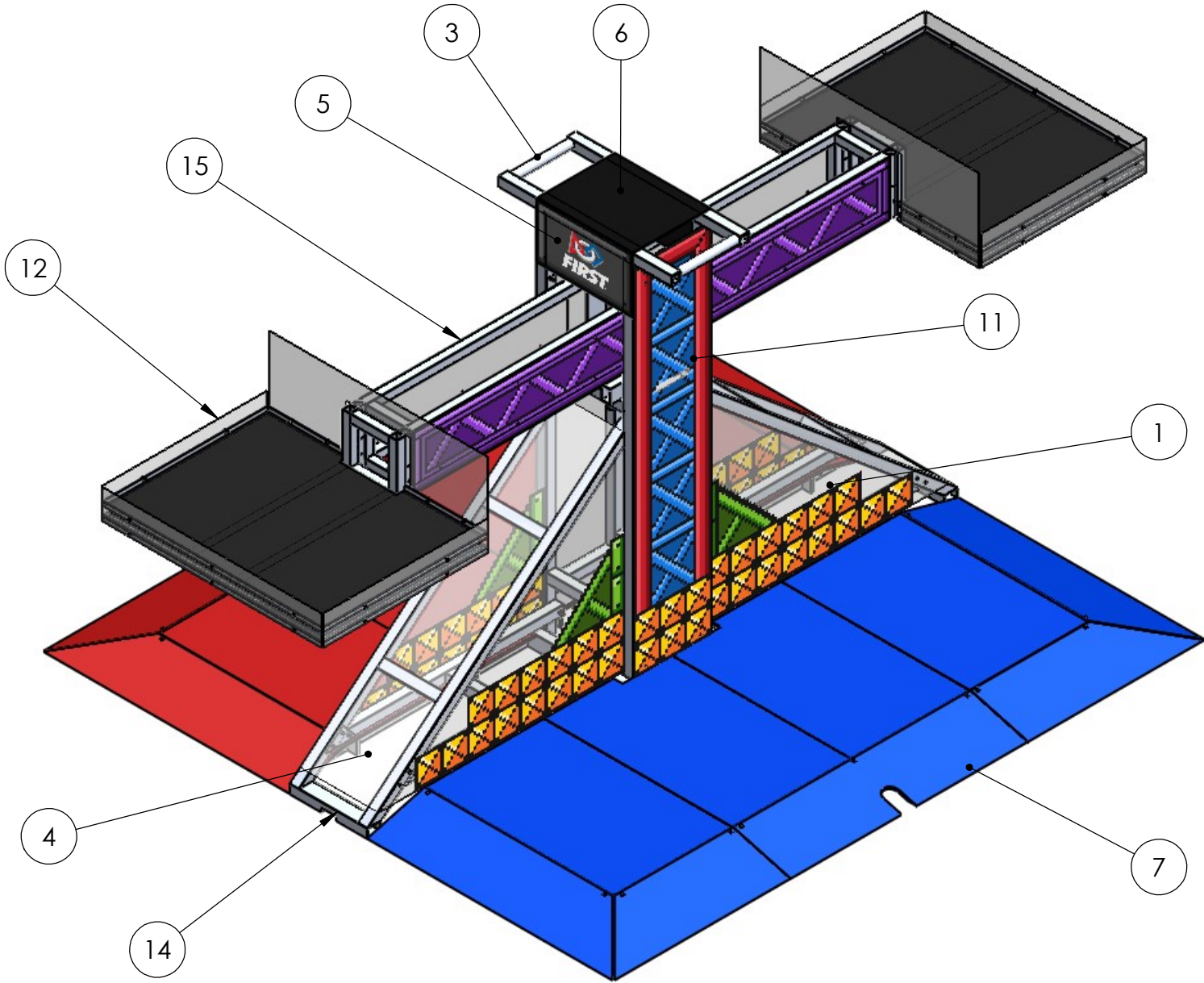
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REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
A3, 2-A2, 2-B2, 5-A2, 5-A3	1	Added GE-18131 to assembly. Added qty. 4 additional hexnut_5_13	2/13/2018	CPO

ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18022	Scale Outrigger Side Cover Polycarbonate	4
2	GE-18026	Switch/Scale Arm Shaft	1
3	GE-18054	Scale Frame	1
4	GE-18055	Outrigger Top Polycarbonate	2
5	GE-18057	Scale Side HDPE	2
6	GE-18058	Scale Top HDPE	1
7	GE-18060	Platform	2
8	GE-18075	Scale Base Outrigger	2
9	GE-18099	Scale Shaft Spacer	2
10	GE-18106	Scale Lockout Bar	2
11	GE-18119	Scale Side Cover Polycarbonate Sub Assembly	2
12	GE-18121	Basket Assembly	2
13	GE-18122	Bearing/Damper Assembly	2
14	GE-18123	Outrigger Assembly	2
15	GE-18125	Scale Arm Assembly	1
16	hex_5_13_5	Steel Hex Head Screw, 1/2"-13 x 5" long, fully threaded	4
17	hexnut_5_13	Steel Hex Nut, 1/2"-13	12
18	hex_25_20_1.5	Steel Hex Head Screw, 1/4"-20 x 1-1/2" long, fully threaded	3
19	nylock_25_20	Steel Nylon-Insert Locknut, 1/4"-20	19
20	hex_25_20_4.5_partial	Steel Hex Head Screw, 1/4"-20 x 4-1/2" long, partially threaded	4
21	flat_phil_25_20_2.75	Steel Phillips Flat Head Screw, 1/4"-20 x 2-3/4" long, fully threaded	12
22	flat_phil_25_20_5	Steel Phillips Flat Head Screw, 1/4"-20 x 5" long, fully threaded	8
23	wing_25_20	Steel Wing Nut, 1/4"-20, 31/64" Base Diameter	8
24	washer_split_26_487	Steel Split Lock Washer for 1/4" Screw	8
25	GE-18131	Scale Wear Protector	4



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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: <b>Scale Assembly</b>	
SIZE <b>B</b>	DWG. NO. <b>GE-18120</b>	REV <b>1</b>	
SCALE: 1:48		WEIGHT:	SHEET 1 OF 5



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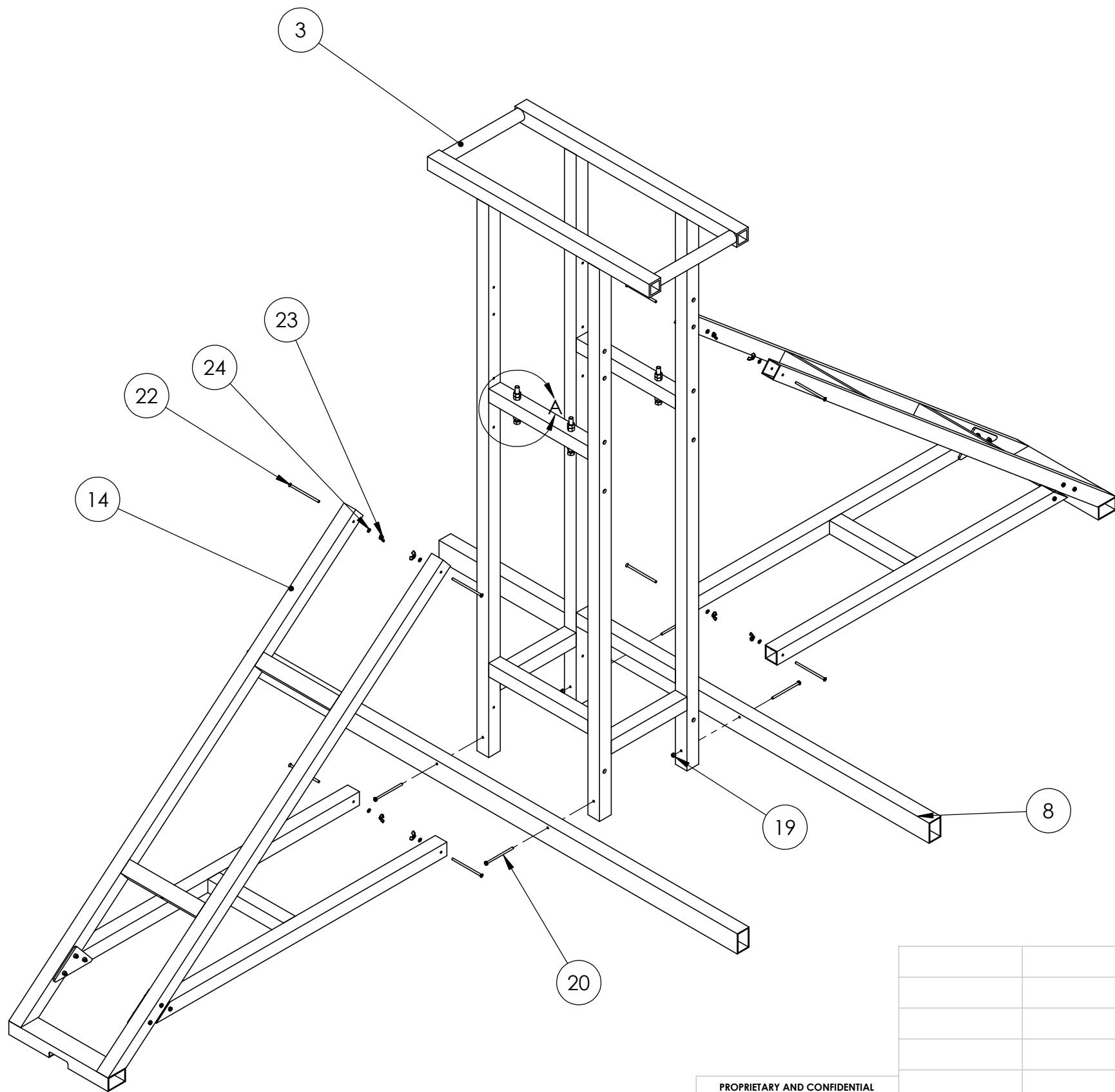
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Notes:

1. Attach Items 8 (qty: 2) to Item 3 using Items 19 and 20.
2. Attach Items 14 (qty: 2) to Item 3 using Items 22, 23 and 24.
3. Bolt Items 16 (qty: 4) and 17 (qty: 12) through Item 3.



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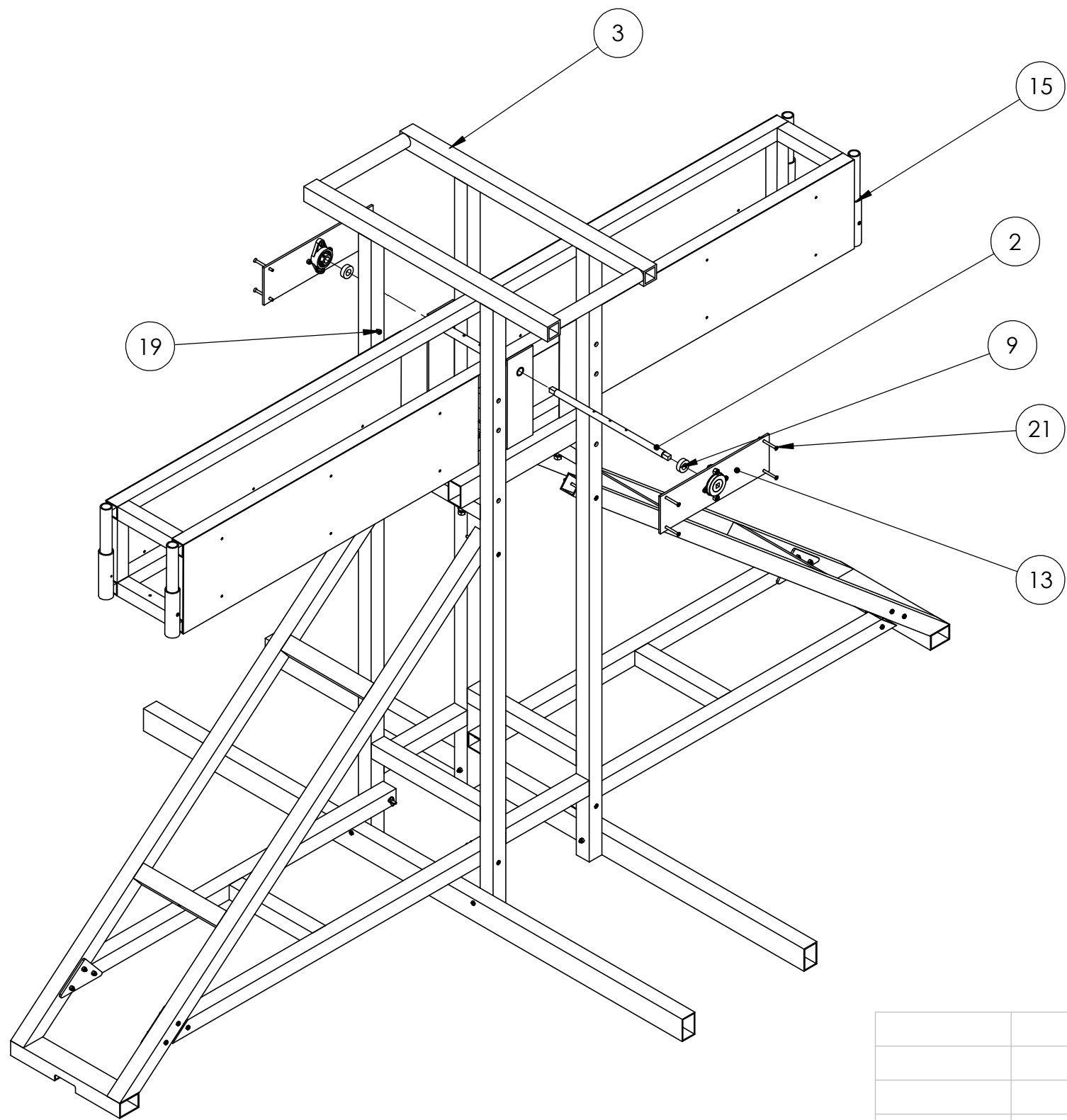
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		TWO PLACE DECIMAL $\pm .01$	Q.A.			COMMENTS:
		THREE PLACE DECIMAL $\pm .001$				
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				SIZE DWG. NO. REV
		FINISH				<b>B</b> <b>GE-18120</b> <b>1</b>
NEXT ASSY	USED ON					SCALE: 1:48 WEIGHT: SHEET 2 OF 5
APPLICATION		DO NOT SCALE DRAWING				

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- Notes:
1. Slide item 2 (the shaft) through the tube on Item 15. Slide Items 9 (qty: 2) to either side of Item 2.
  2. Align the shaft to the bearings and dampers of Item 13 (qty: 2). Bolt Items 13 to Item 3 using Items 21 and 23. Please note that Items 13 go to the inside of the frame of Item 3.

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  Scale Assembly			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
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		MATERIAL							
NEXT ASSY	USED ON	FINISH							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:48		WEIGHT:	SHEET 3 OF 5

4

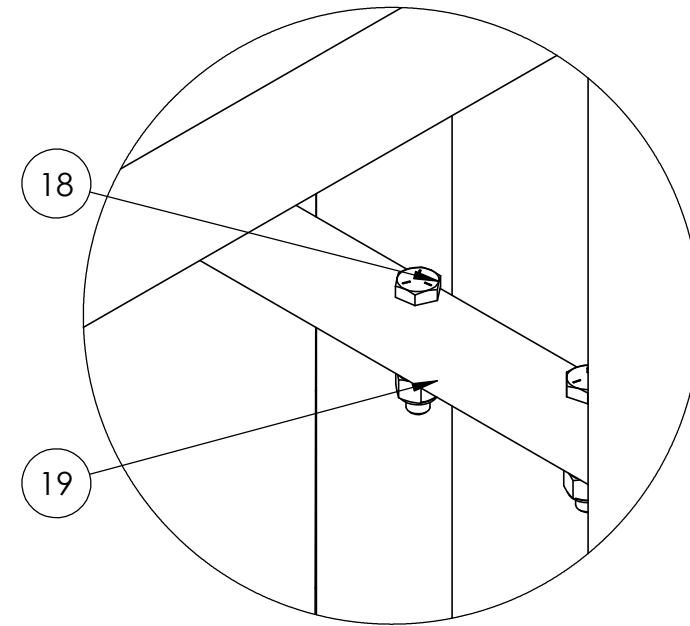
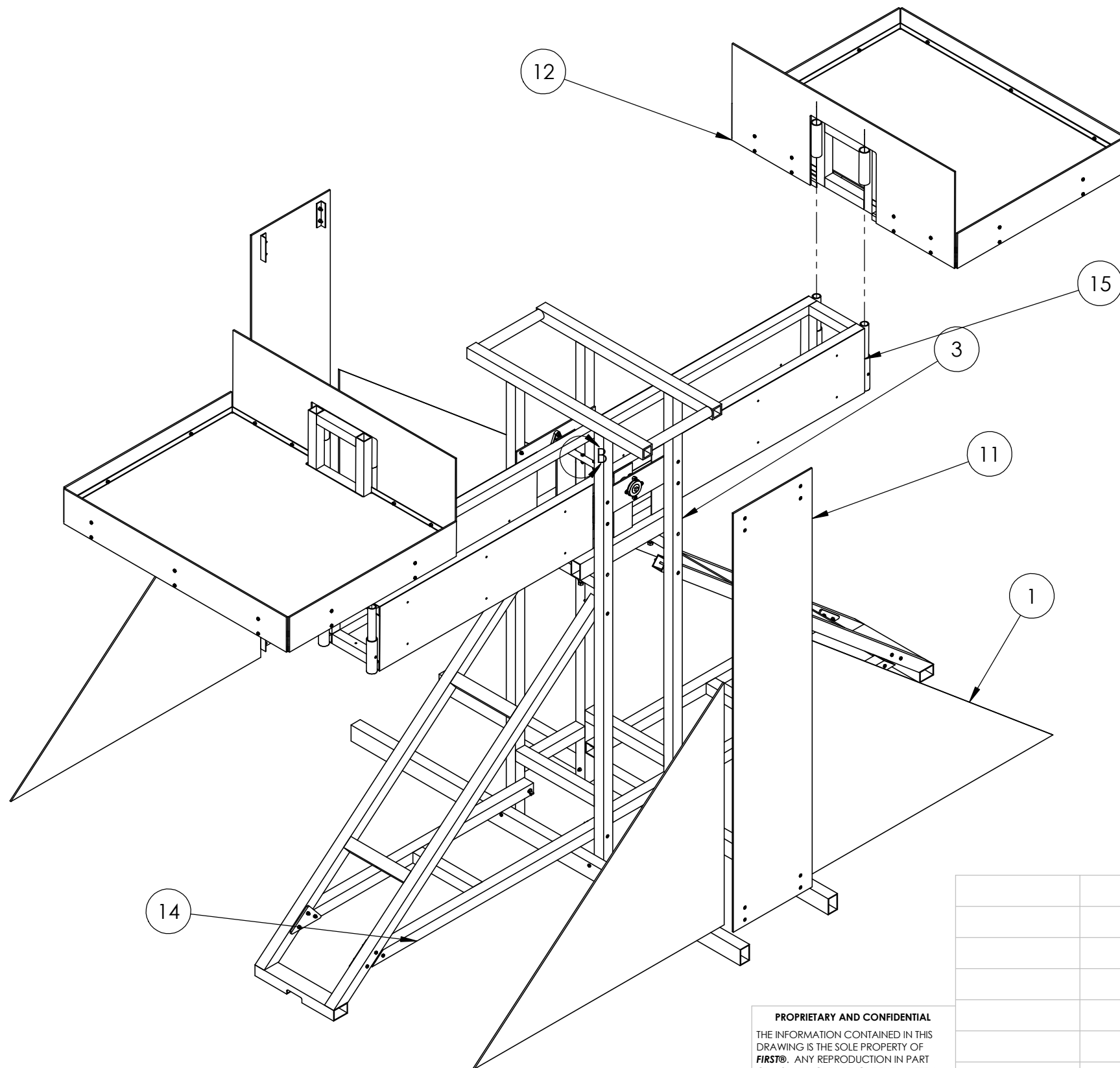
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DETAIL B  
SCALE 1 : 2



Notes:

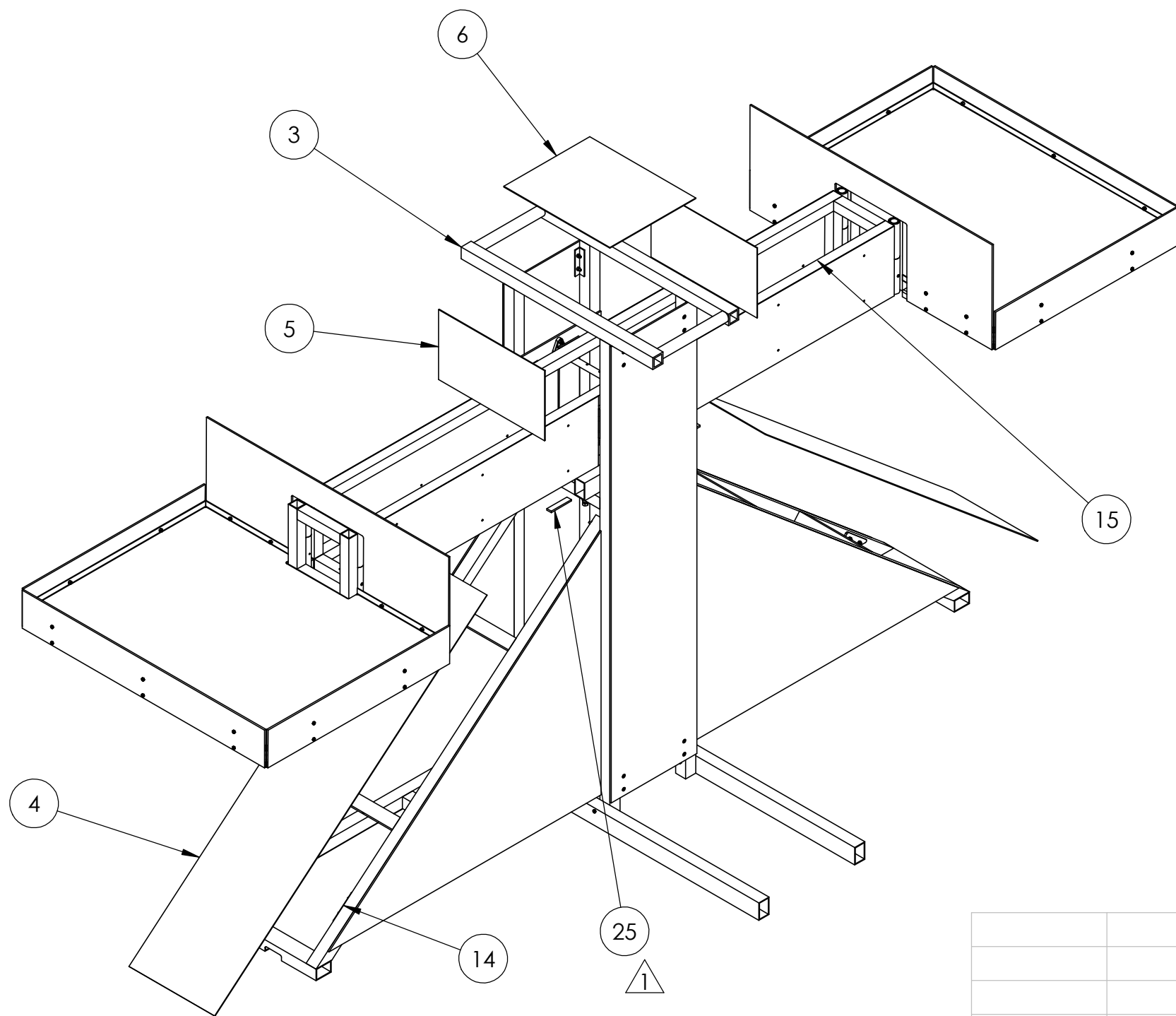
1. Align Item 2 (the shaft) through the tube of Item 17 and secure alignment using Items 18 (qty: 3) and 19 (qty: 3).
2. Slide Items 12 (qty: 2) onto the pins of Item 15.
3. Attach Items 11 to Item 3 using hook and loop.
4. Attach Items 1 to Items 14 using hook and loop.

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <h1>Scale Assembly</h1>											
			CHECKED														
			ENG APPR.														
			MFG APPR.														
			Q.A.														
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			<table><tr><td>SIZE</td><td>DWG. NO.</td><td>REV</td></tr><tr><td><b>B</b></td><td><b>GE-18120</b></td><td><b>1</b></td></tr><tr><td colspan="2">SCALE: 1:48 WEIGHT:</td><td>SHEET 4 OF 5</td></tr></table>			SIZE	DWG. NO.	REV	<b>B</b>	<b>GE-18120</b>	<b>1</b>	SCALE: 1:48 WEIGHT:		SHEET 4 OF 5
SIZE	DWG. NO.	REV															
<b>B</b>	<b>GE-18120</b>	<b>1</b>															
SCALE: 1:48 WEIGHT:		SHEET 4 OF 5															
		MATERIAL															
		FINISH															
NEXT ASSY	USED ON																
APPLICATION		DO NOT SCALE DRAWING															



Notes:

1. Attach Items 5 and 6 to Item 3 using hook and loop.
2. Attach items 4 to Items 16 using hook and loop.
3. Build Items 7 (not shown) around the base of the Scale Assembly. See Assembly Drawing GE-18060 for details.
4. Attach items 25 (qty. 4) to the underside of item 25 using double sided tape.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div><div>FIRST ROBOTICS COMPETITION</div></div><div><div><i>SOLIDWORKS</i> Modeling Solutions Partner</div></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:  Scale Assembly			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> GE-18120 1  SCALE: 1:48 WEIGHT: SHEET 5 OF 5			
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

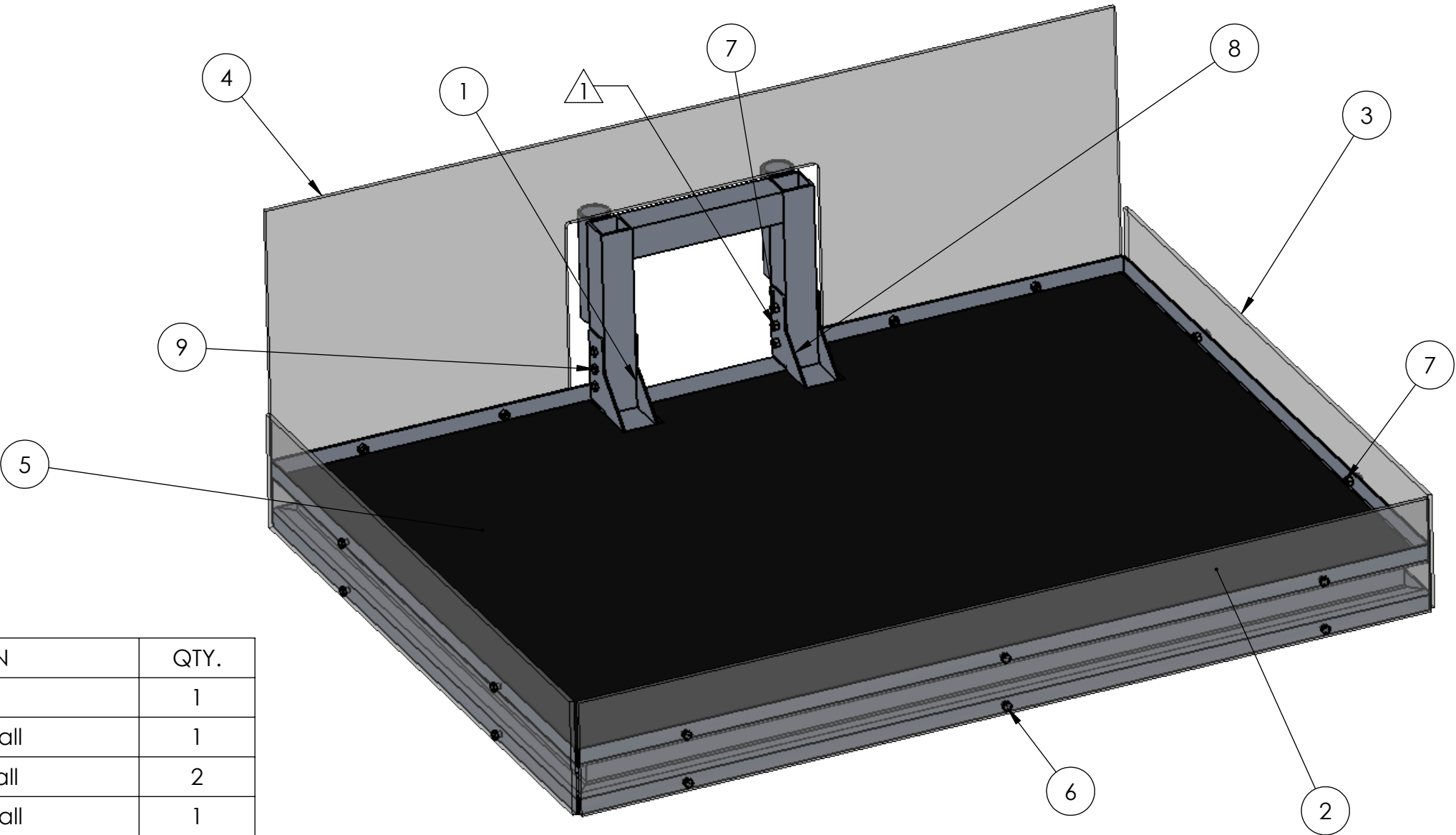
4

3

2

1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, 2-B3	1	GE-18134 and associated hardware added to assembly.	3/6/2018	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18007	Scale Plate	1
2	GE-18018	Plate Front Wall	1
3	GE-18019	Plate Side Wall	2
4	GE-18017	Plate Back Wall	1
5	GE-18021	Scale and Switch Basket, Plate	1
6	hex_.25_20_.75	Steel Hex Head Screw, 1/4"-20 x 3/4" long, fully threaded	22
7	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	34
8	GE-18134	Plate Gusset Brace	4
9	hex_.25_20_2.25_partial	Steel Hex Head Screw, 1/4"-20 x 2-1/4" long, partially threaded	12

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		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:  
**Basket Assembly**

SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18121</b>	<b>1</b>

SCALE: 1:7    WEIGHT:    SHEET 1 OF 2



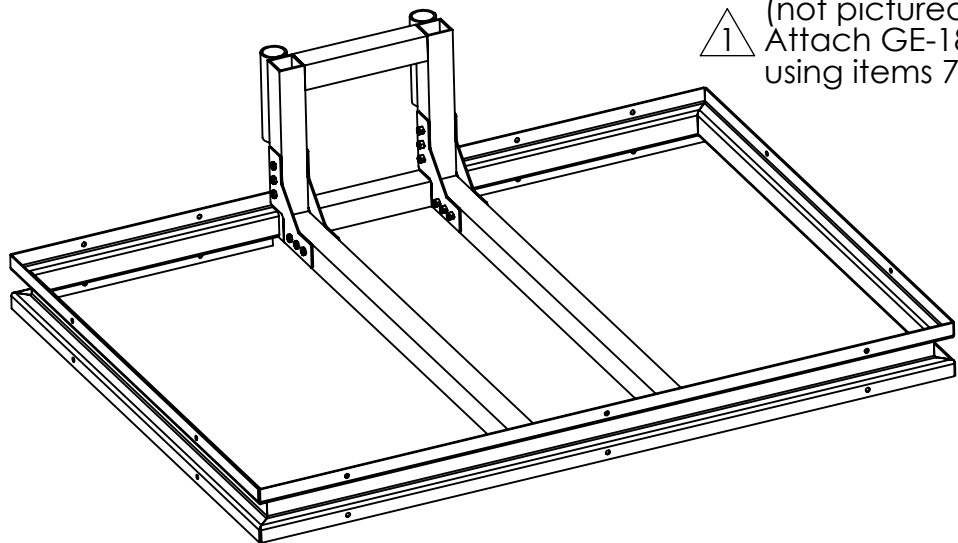
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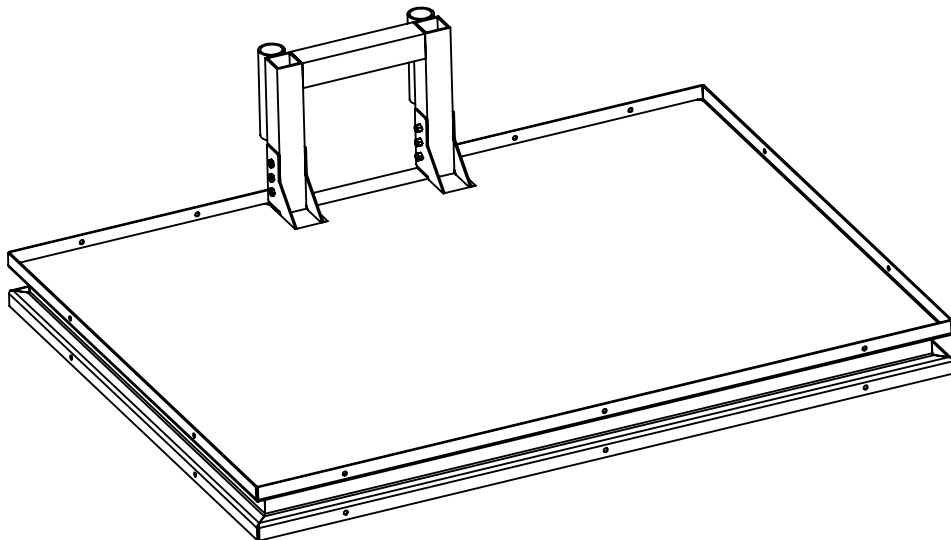
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B



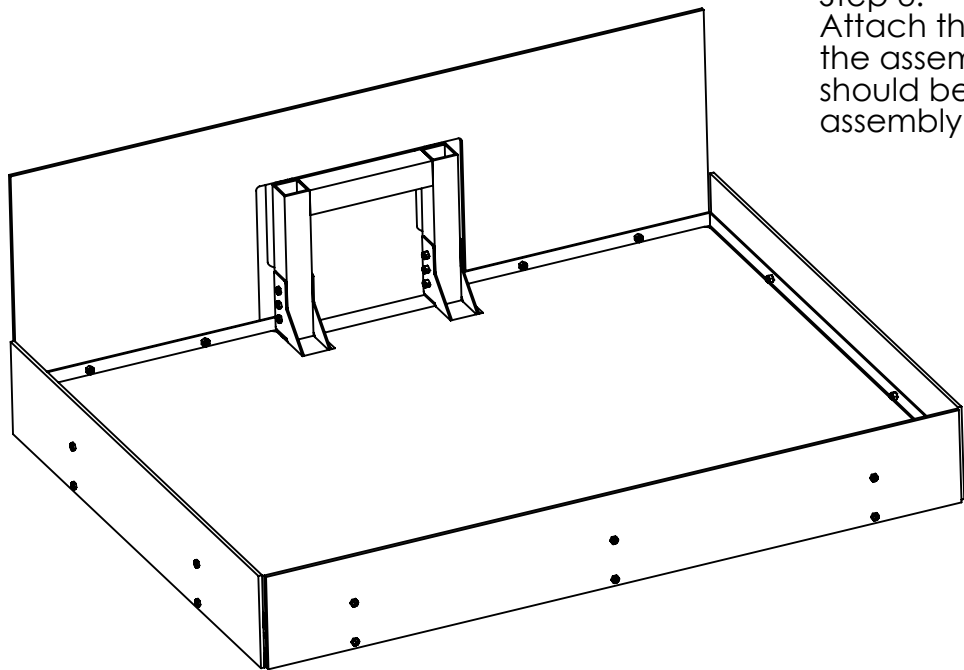
Step 1:  
Acquire GE-18007 part.  
Confirm all lights are mounted properly  
(not pictured).  
Attach GE-18134 (qty. 4) as shown  
using items 7 and 9

B



Step 2:  
Place GE-18021 onto the  
assembly, textured side up.



A



Step 3:  
Attach the four plate walls to  
the assembly. The bolt heads  
should be on the outside of the  
assembly.

A

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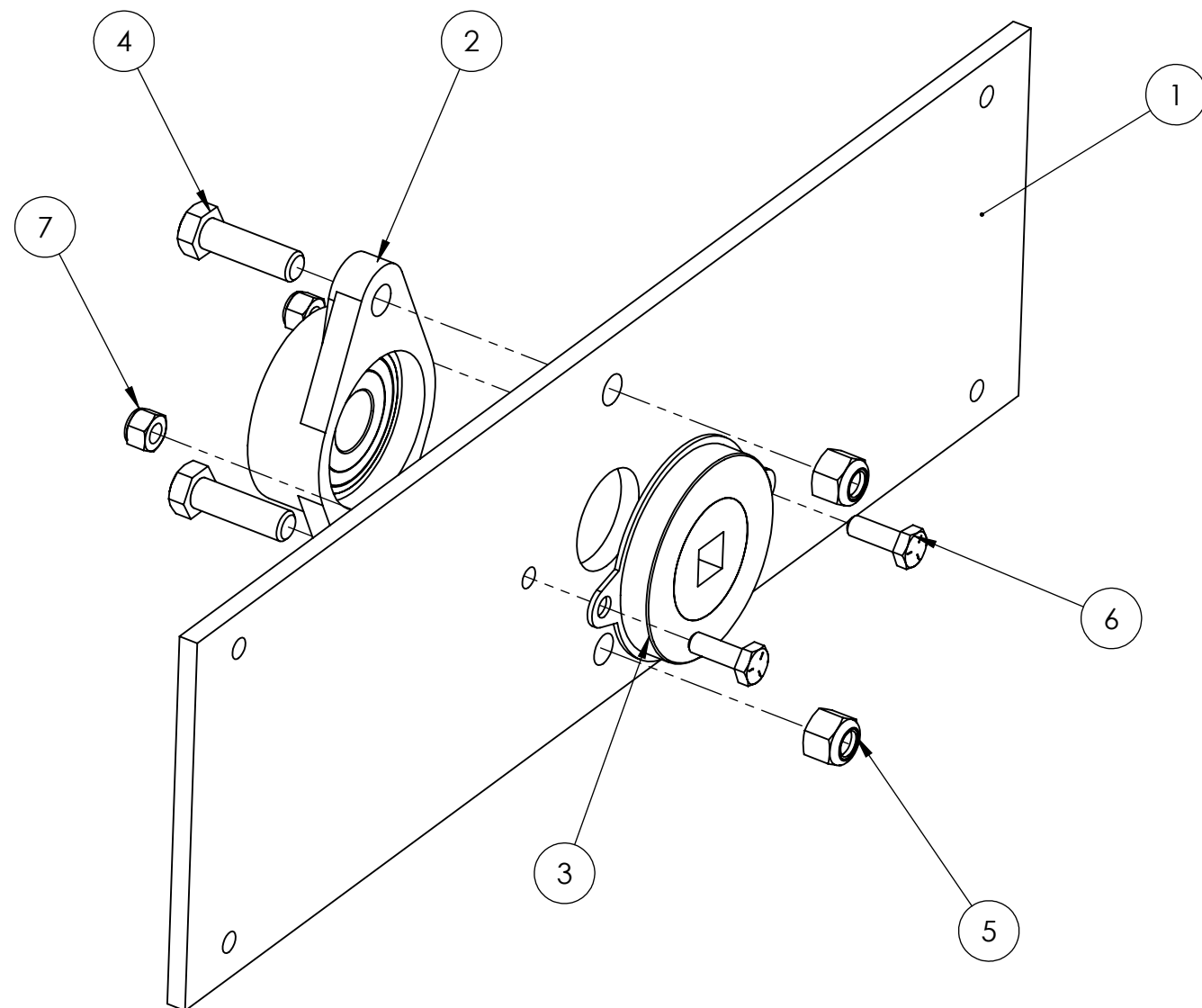
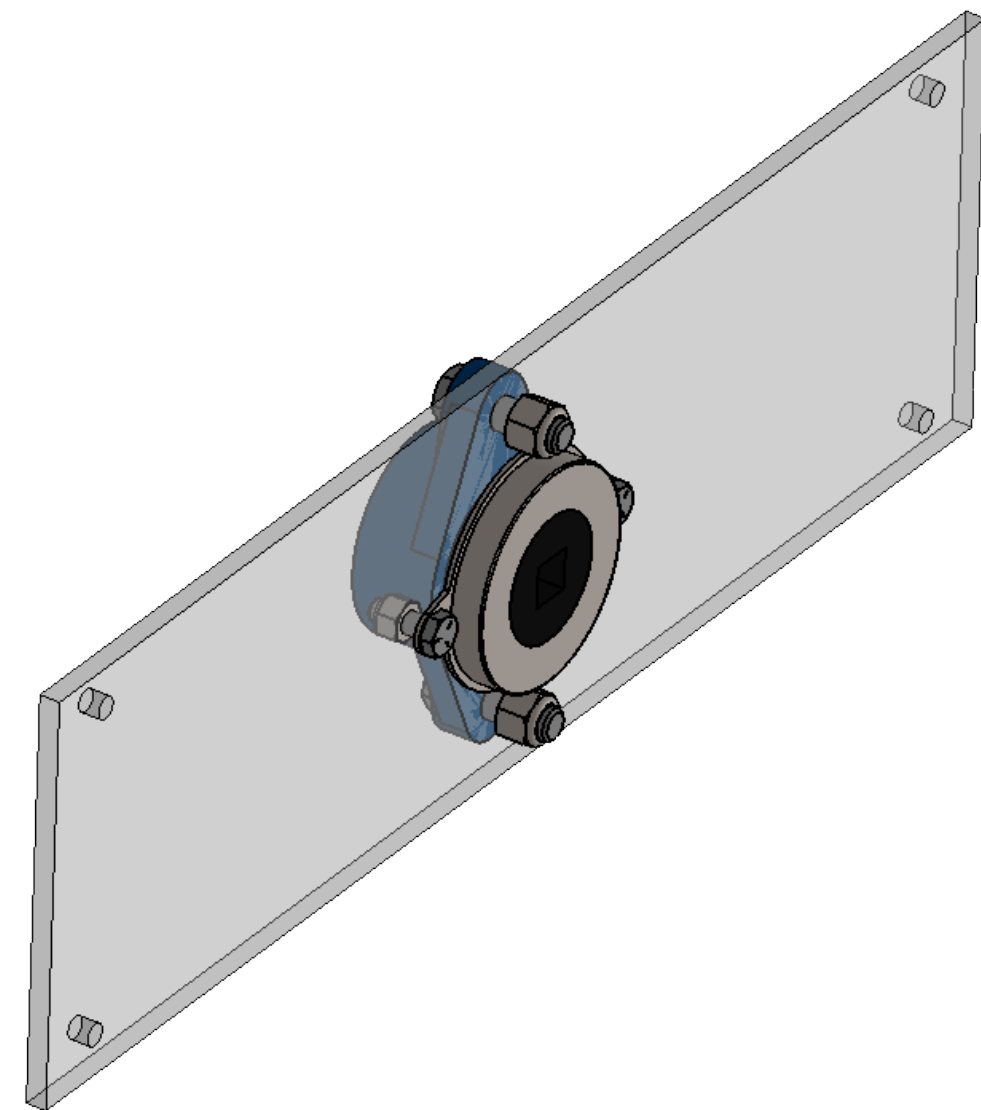
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			DRAWN			
			CHECKED			
			ENG APPR.			
			MFG APPR.			
			Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18121</b> <b>1</b>
			COMMENTS:			
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING	SCALE: 1:12 WEIGHT:		SHEET 2 OF 2

4

3

2

1





Notes:  
1. Bolts should not be fully tightened until mounted with a Switch/Scale Arm Shaft (GE-18026).

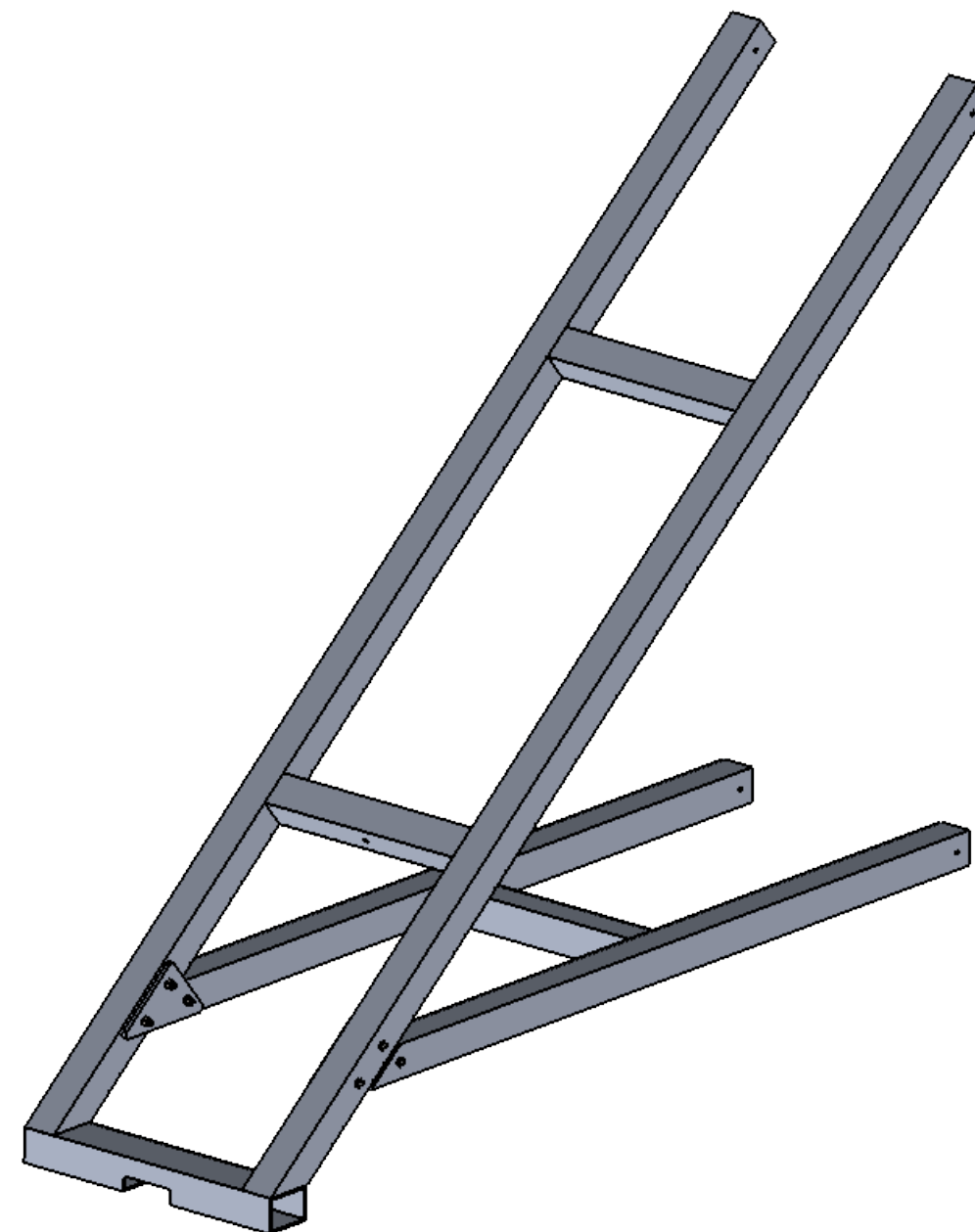
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18056	Bearing Damper Polycarbonate	1
2	GE-18096	Scale/Switch Bearing	1
3	GE-18097	Scale/Switch Damper	1
4	hex_.375_16_1.25	Steel Hex Head Screw, 3/8"-16 x 1-1/4" long, fully threaded	2
5	nylock_.375_16	Steel Nylong-Inster Locknut, 3/8"-16	2
6	hex_.25_20_.75	Steel Hex Head Screw, 1/4"-20 x 3/4" long, fully threaded	2
7	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	2

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN				TITLE:  <h1>Bearing/Damper Assembly</h1>
			CHECKED				
			ENG APPR.				
			MFG APPR.				
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18122</b>	
		MATERIAL	COMMENTS:				SCALE: 1:2 WEIGHT: SHEET 1 OF 1
		FINISH					
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING					

1



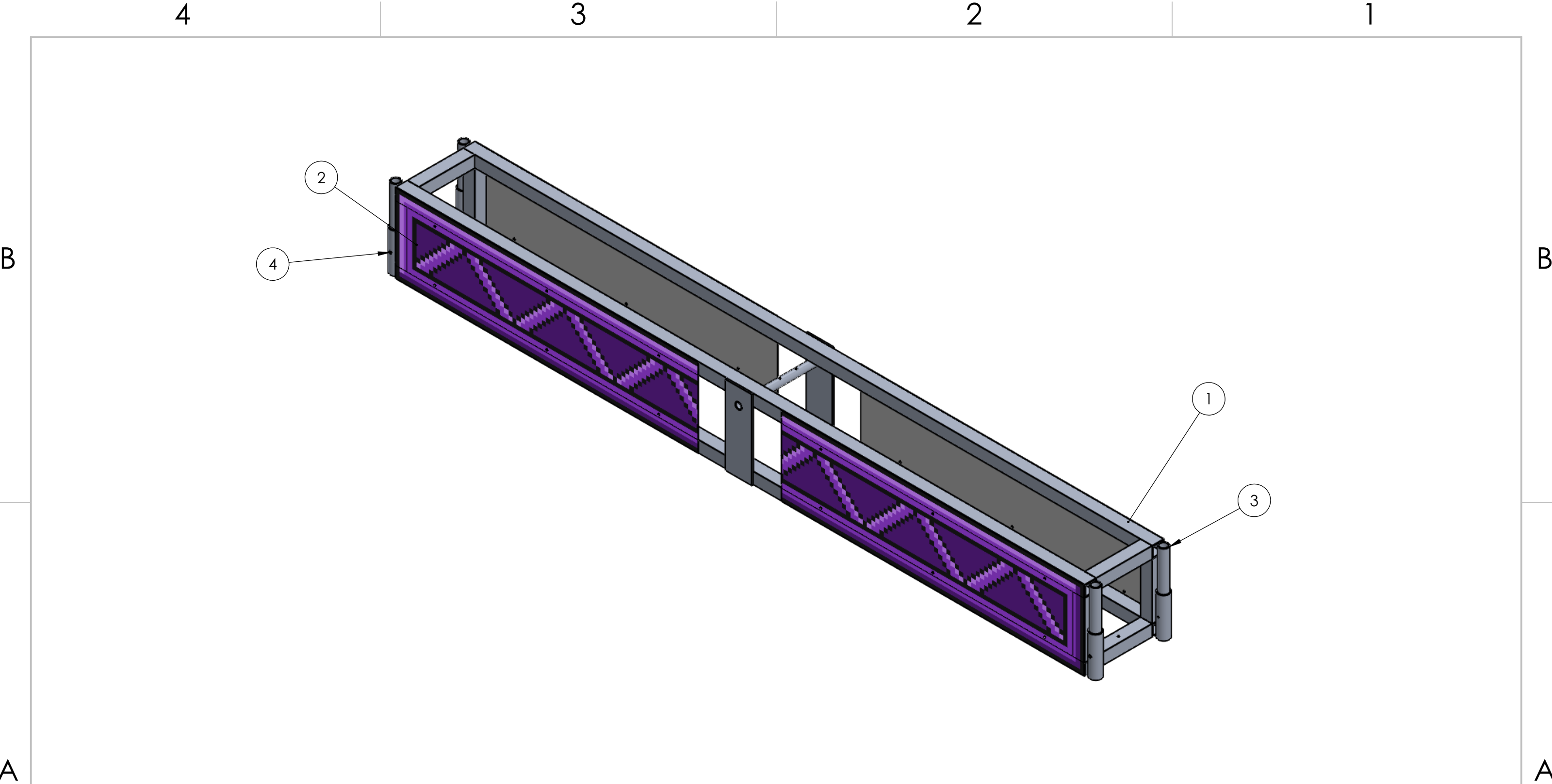
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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN					TITLE:  <h1>Outrigger Assembly</h1>
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>GE-18123</b>		
		MATERIAL	COMMENTS:					
		FINISH					SCALE: 1:10 WEIGHT: SHEET 1 OF 1	
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

SIZE <b>B</b>	DWG. NO. <b>GE-18123</b>	REV
SCALE: 1:10	WEIGHT:	SHEET 1 OF





ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18014	Scale Arm	1
2	GE-18023	Scale Arm Cover Polycarbonate	4
3	GE-18028	Plate Mount Pin	4
4	rivet_.1875_.251-.375	3/16" Aluminum Rivet, .251-.375 Grip Range	4

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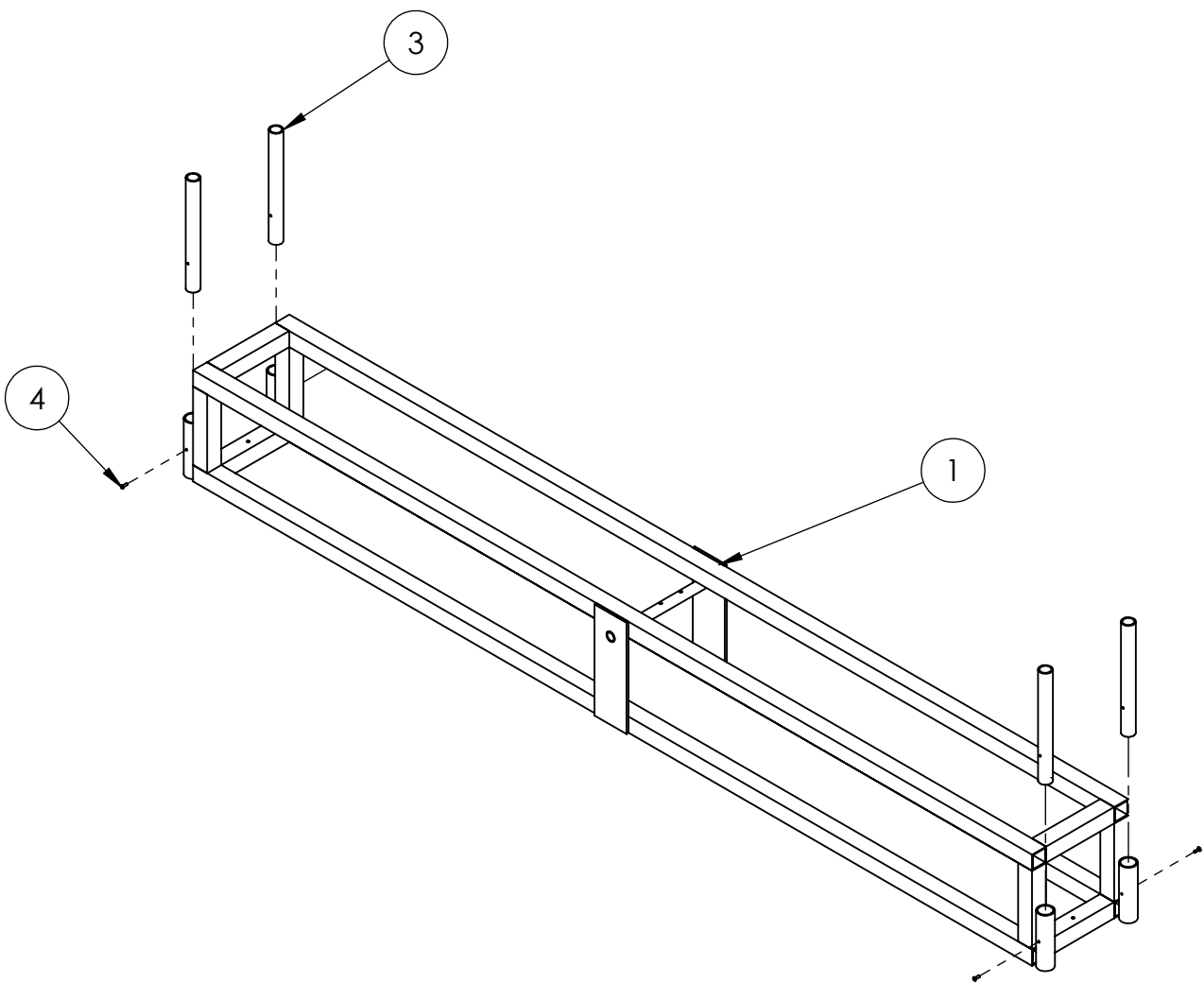
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		TOLERANCES:	CHECKED		
		FRACTIONAL $\pm 1/16$	ENG APPR.		
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
		TWO PLACE DECIMAL $\pm .01$	Q.A.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC	TITLE: <b>Scale Arm Assembly</b>		
		TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON		SIZE <b>B</b>	DWG. NO. <b>GE-18125</b>	REV
APPLICATION		DO NOT SCALE DRAWING	SCALE: 1:24 WEIGHT: SHEET 1 OF 2		

4

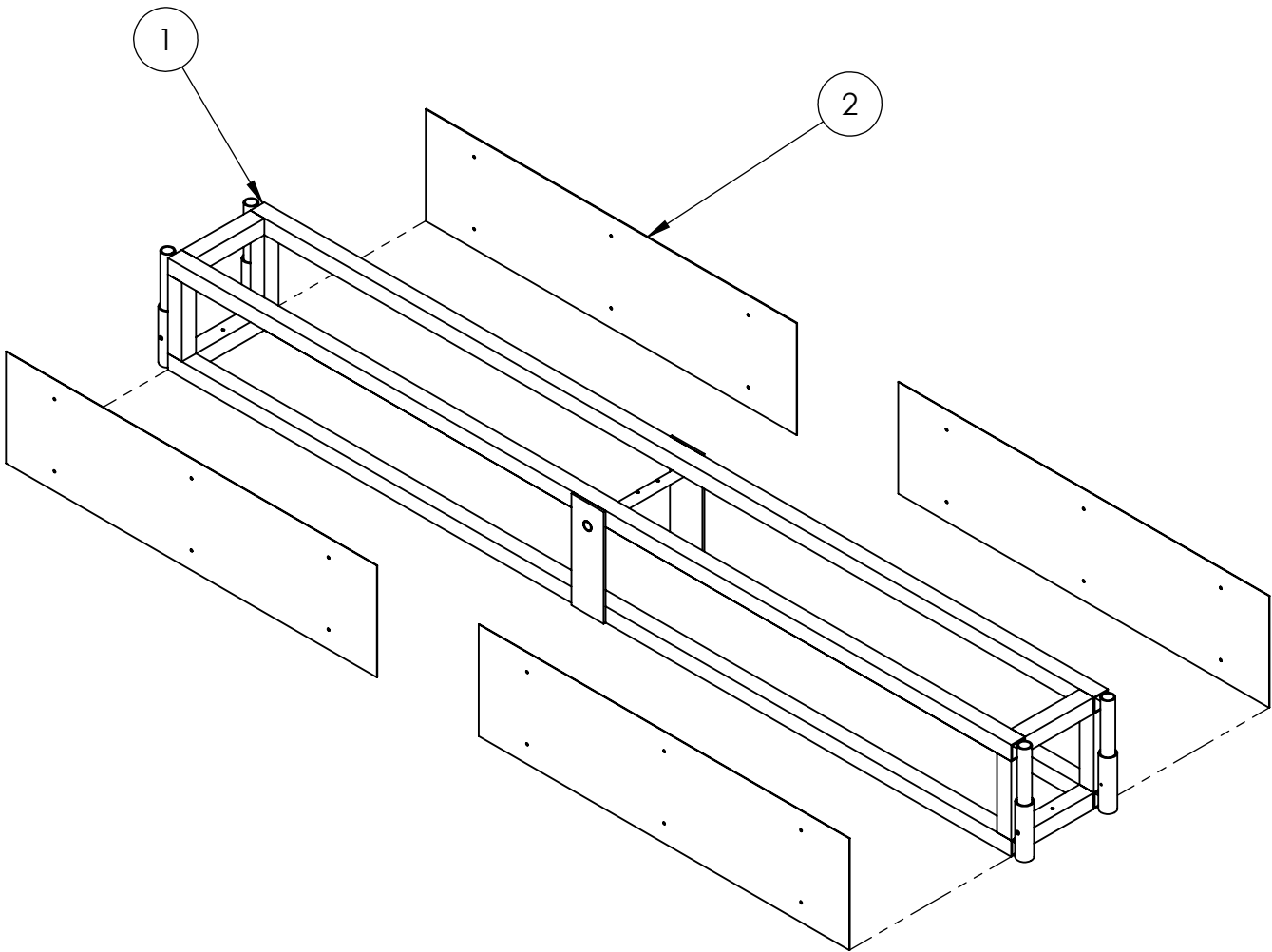
3

2

1





Note:  
1. Attach Item 3 (qty: 4) to Item 1 using Item 4 (qty: 4).



Note:  
1. Attach Item 2 (qty: 4) to Item 1 with cable ties after the rest of GE-18120 is assembled.

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE:  <h1>Scale Arm Assembly</h1>			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
			Q.A.						
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18125</b>			
		MATERIAL							
		FINISH				SCALE: 1:24 WEIGHT: SHEET 2 OF 2			
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

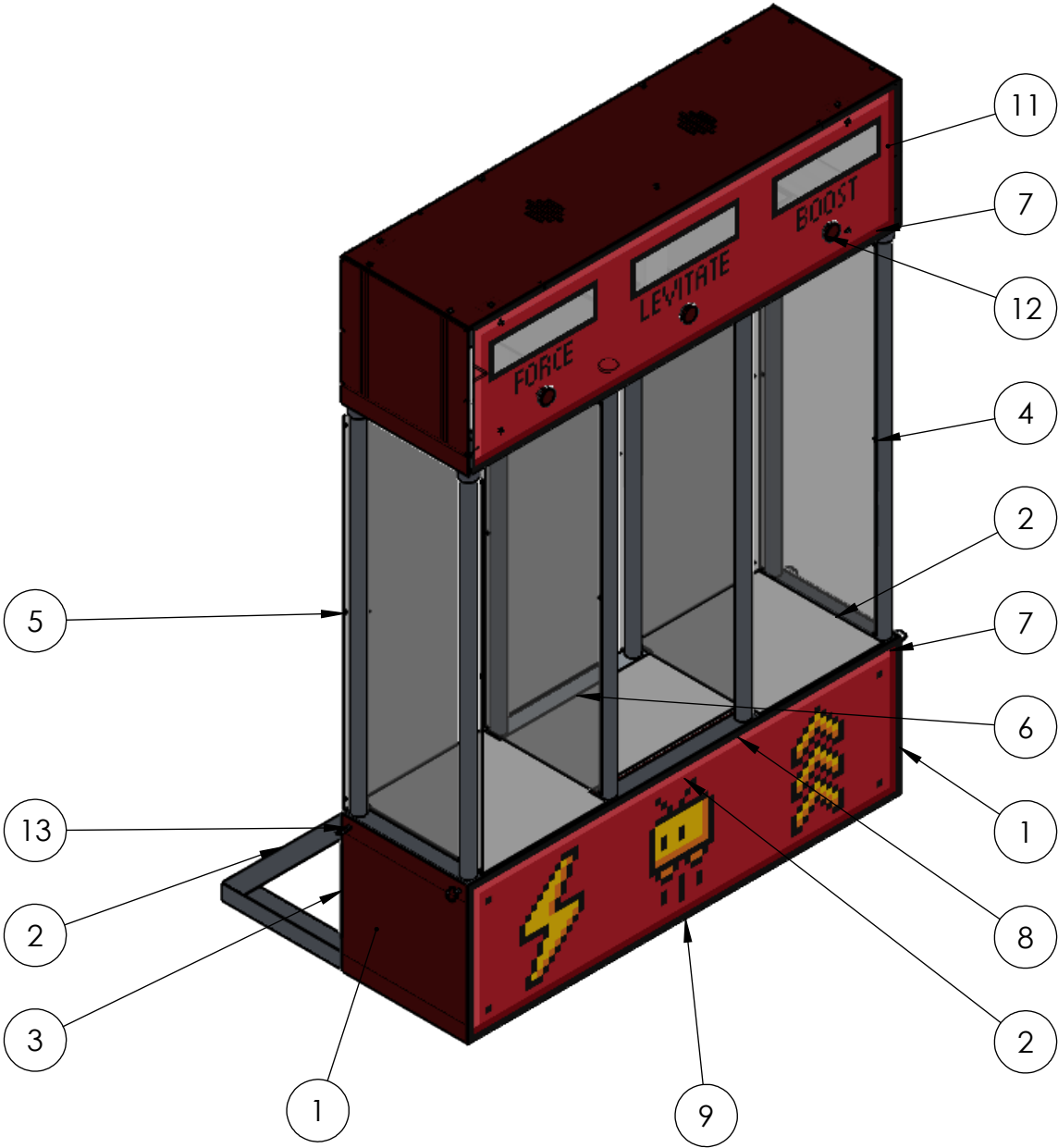
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1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
2-A3	1	Revised note to refer to correct ITEM NO.	1/12/2018	CPO



ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18031	Vault HDPE Bottom Side	2
2	GE-18032	Vault Base	1
3	GE-18035	Vault HDPE Bottom Back	1
4	GE-18036	Vault Polycarbonate Middle Insert	4
5	GE-18037	Vault Polycarbonate Backstop	1
6	GE-18038	Vault Polycarbonate Bottom Floor	1
7	GE-18039	Vault Support Pipes	4
8	GE-18040	Vault Middle Support Pipes	4
9	GE-18045	Vault Polycarbonate Bottom Front	1
10	GE-18047	Vault Top Frame	1
11	GE-18129	Vault Top Assembly	1
12	Vault_Button		3
13	pin_quick_ring_.25_2	SS Ring-Grip Quick-Release Pin, 1/4" diameter, 2" long	4
14	hex_.25_20_.75	Steel Hex Head Screw, 1/4"-20 x 3/4" long, fully threaded	12
15	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	12

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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: <b>Vault Assembly</b>		
			SIZE <b>B</b>	DWG. NO. <b>GE-18126</b>	REV <b>1</b>
			SCALE: 1:14 WEIGHT:		SHEET 1 OF 3

4

3

2

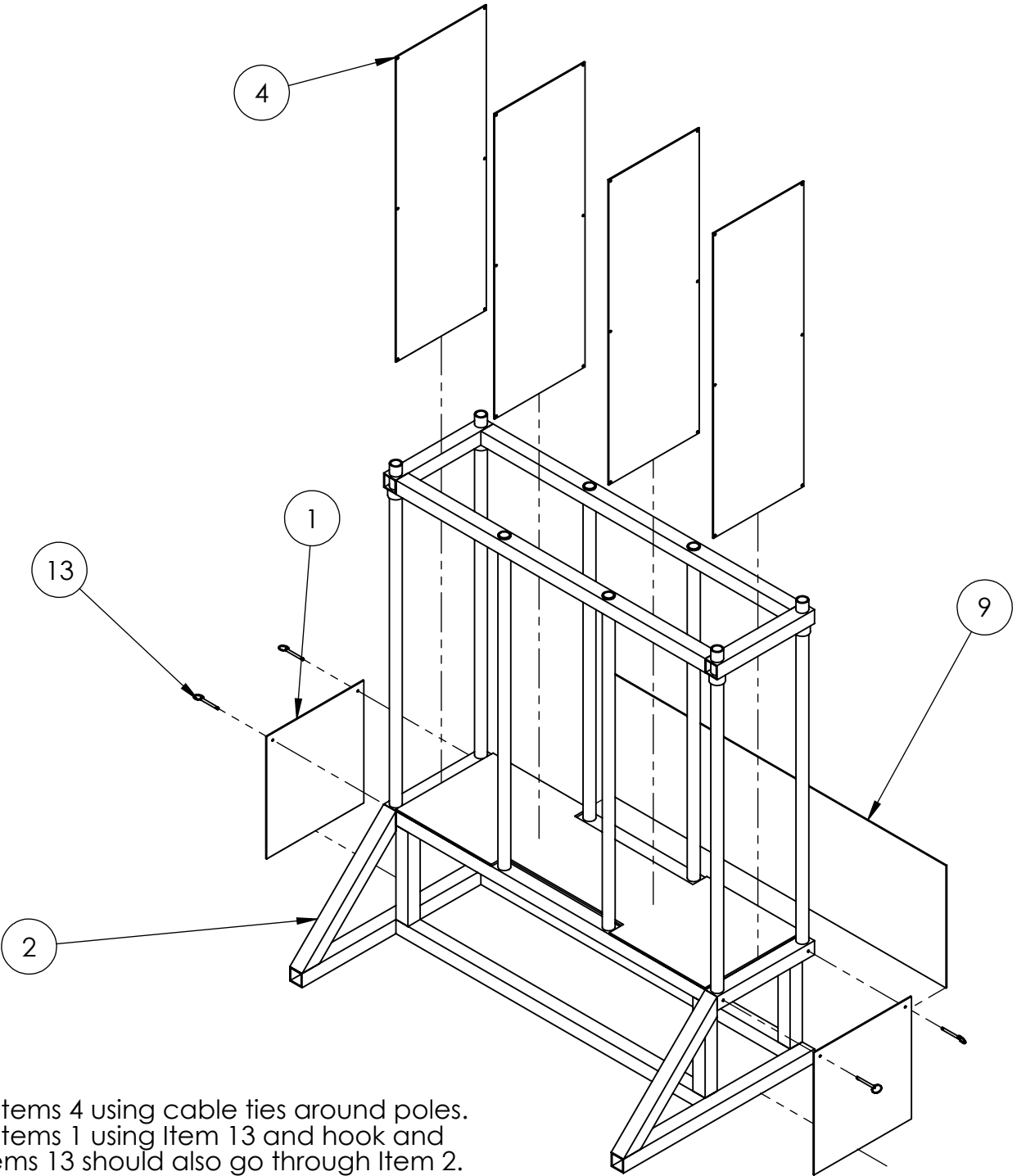
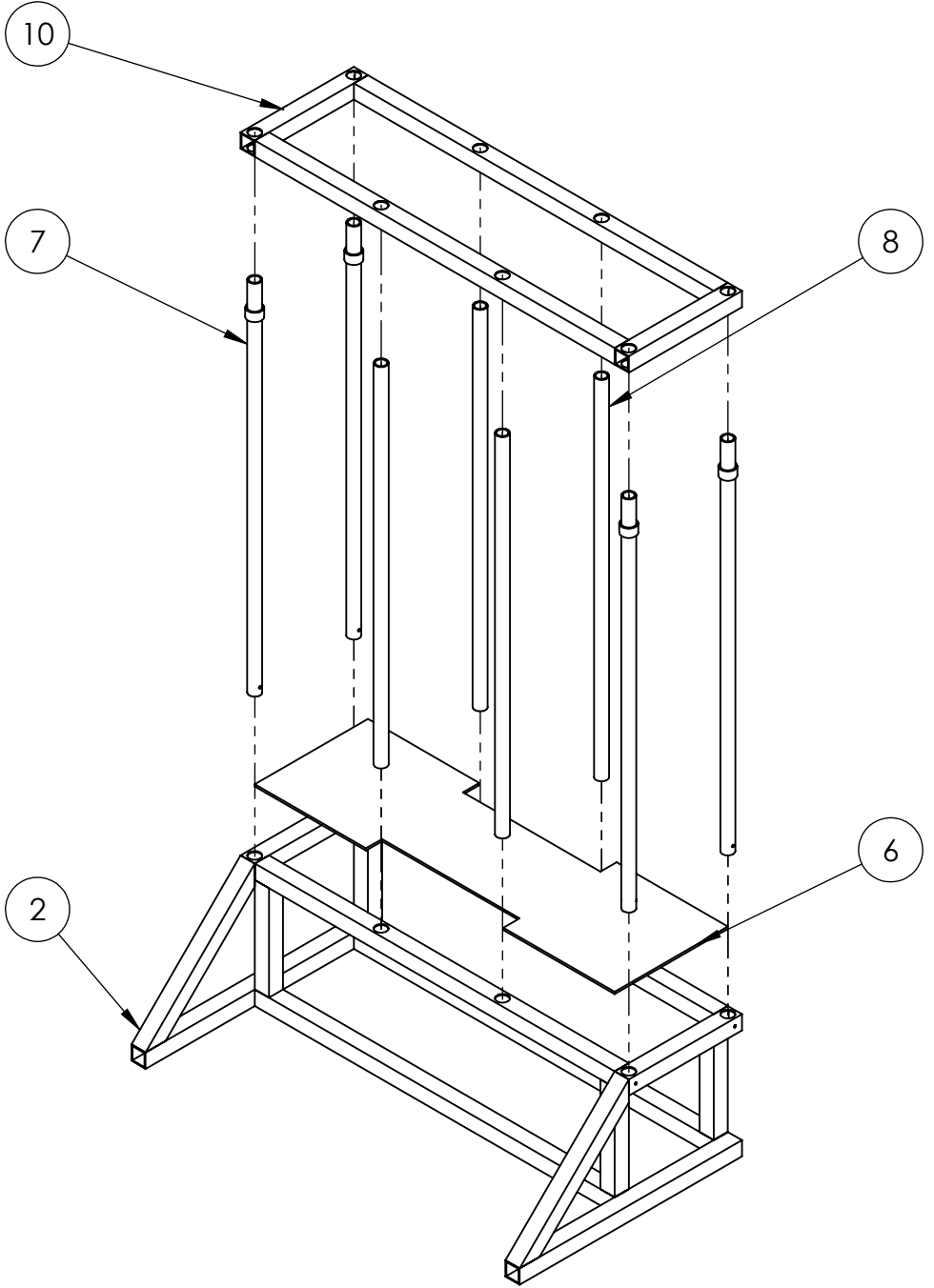
1

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1



- Notes:
- 1. Attach Items 4 using cable ties around poles.
  - 2. Attach Items 1 using Item 13 and hook and loop. Items 13 should also go through Item 2.
  - 3. Attach Item 9 using hook and loop.



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		TOLERANCES:	CHECKED		
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		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:  
**Vault Assembly**

SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18126</b>	<b>1</b>

SCALE: 1:12	WEIGHT:	SHEET 2 OF 3
-------------	---------	--------------

4

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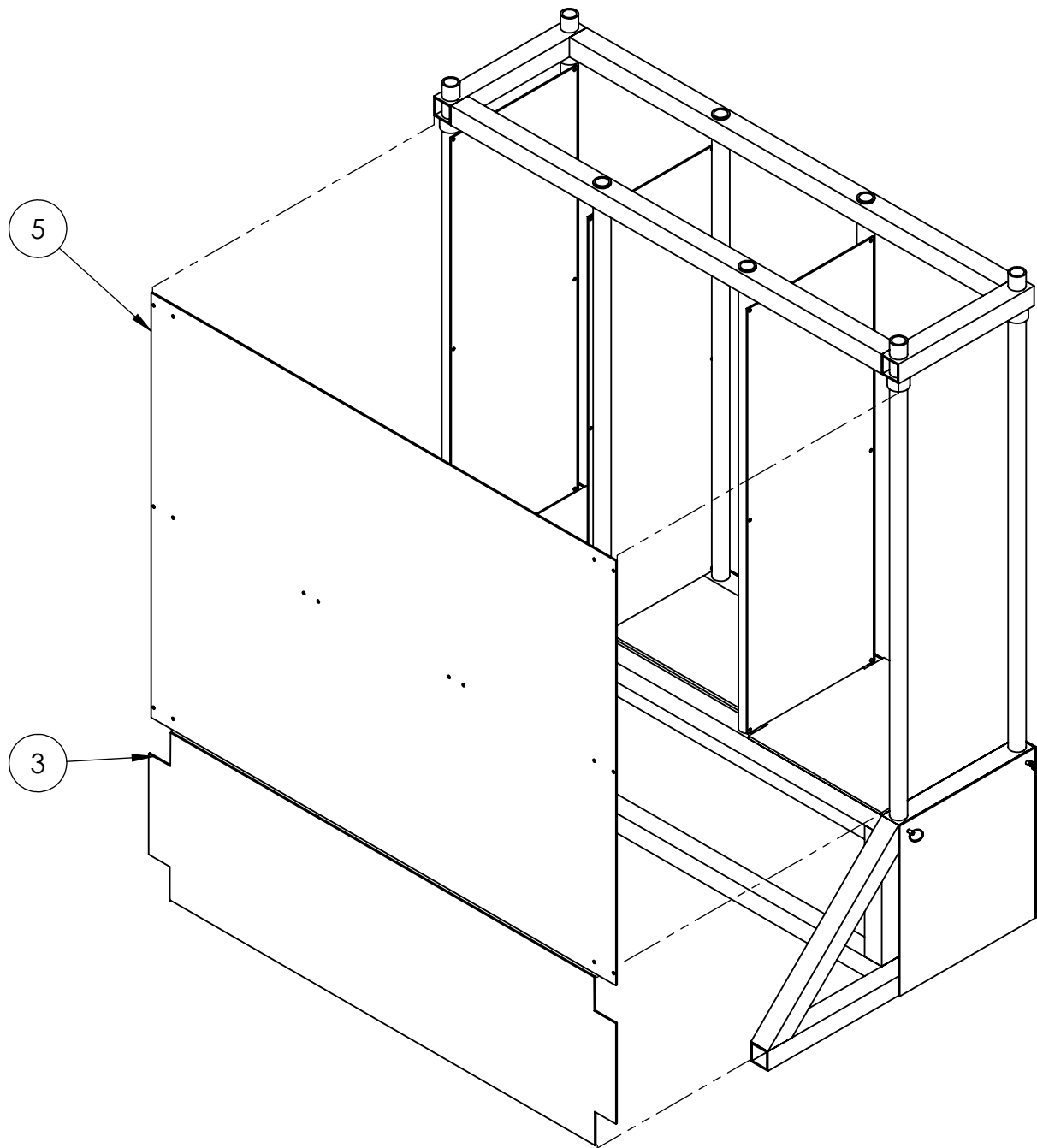
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B



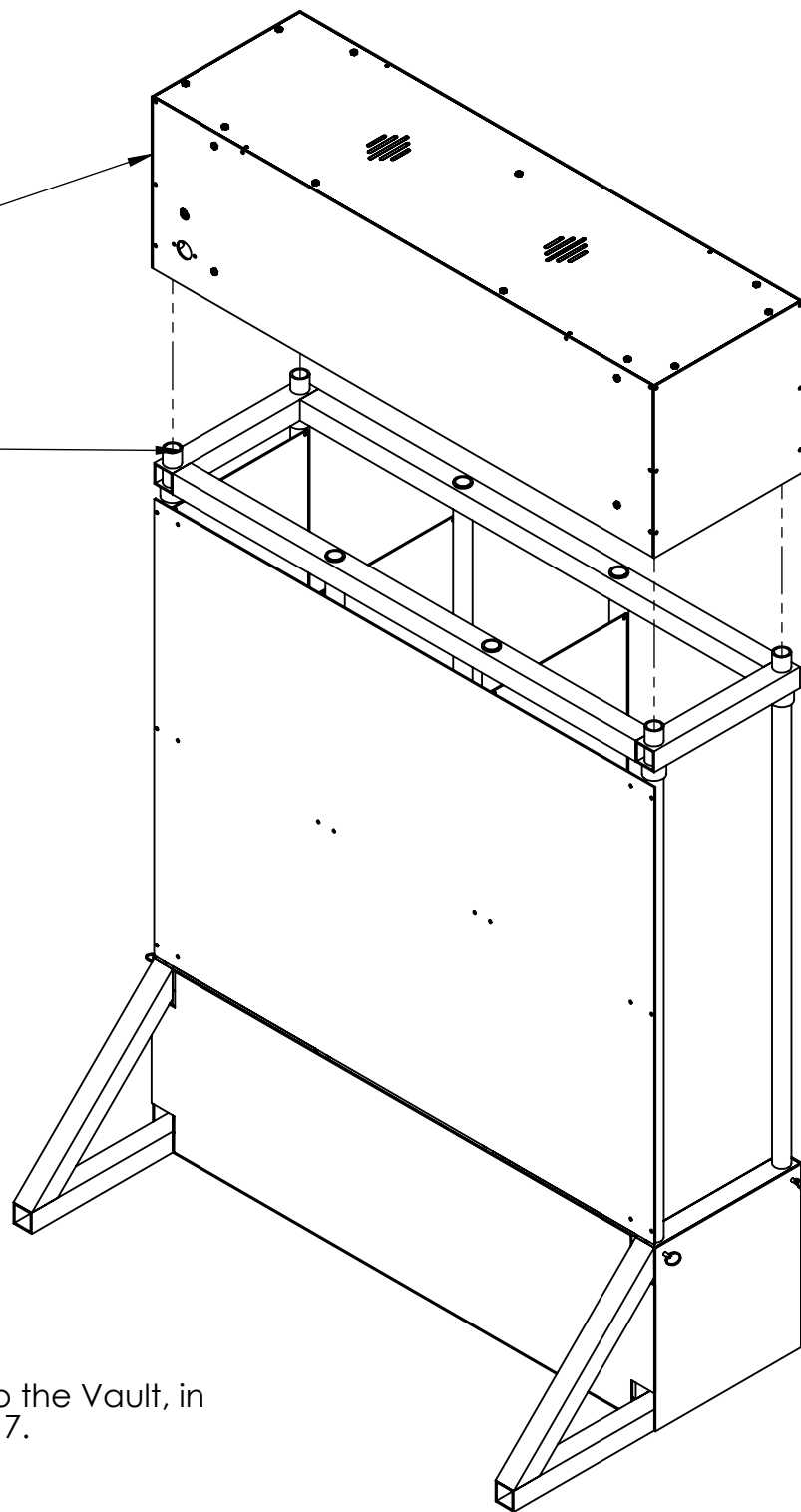
Notes:

1. Attach Item 5 using cable ties around poles.
2. Attach Item 3 using hook and loop.

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11

7





Notes:

1. Place Item 11 onto the Vault, in alignment with Items 7.

B

A

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <h1>Vault Assembly</h1>		
		TOLERANCES:	CHECKED					
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		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>B</b> <b>GE-18126</b> <b>1</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
NEXT ASSY	USED ON	FINISH				SCALE: 1:12 WEIGHT: SHEET 3 OF 3		
APPLICATION		DO NOT SCALE DRAWING						

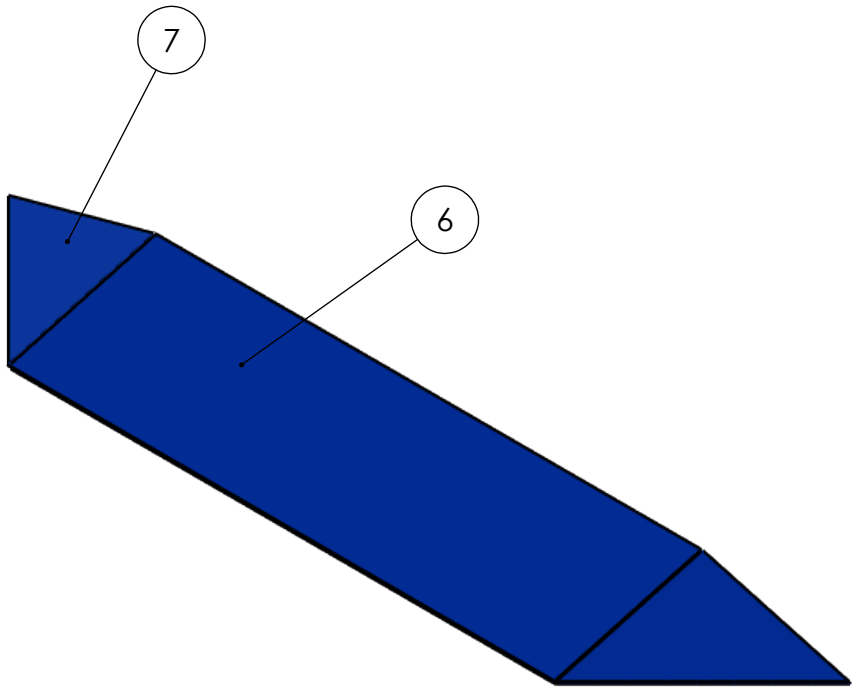
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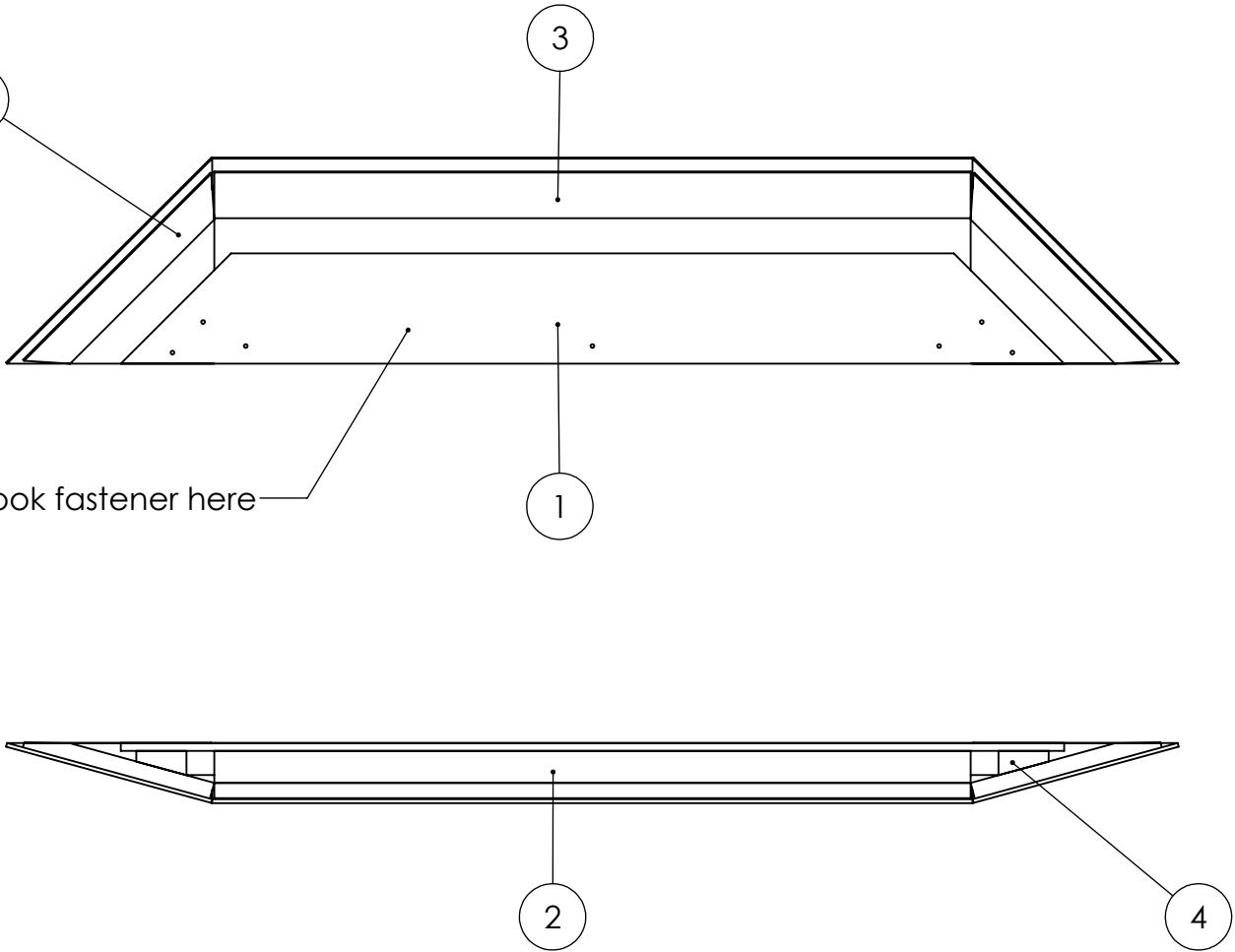
1

B



B

Note: Attach 2" hook fastener here





A

ITEM NO.	PART NUMBER	DESCRIPTION	Default/ QTY.
1	GE-18127-01	1/4" thk. Polycarb, clear	1
2	GE-18127-02	2"x4" Pine	1
3	GE-18127-03	1/2" AC Plywood	1
4	GE-18127-04	2"x4" Pine	2
5	GE-18127-05	1/2" AC Plywood	2
6	GE-18127-06	1/8" thk. HDPE, red or blue	1
7	GE-18127-07	1/8" thk. HDPE, red or blue	2

A

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <h1>Ramp, Exchange</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV
NEXT ASSY	USED ON	FINISH				<b>B</b>	<b>GE-18127</b>	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:6 WEIGHT: SHEET 1 OF 6		

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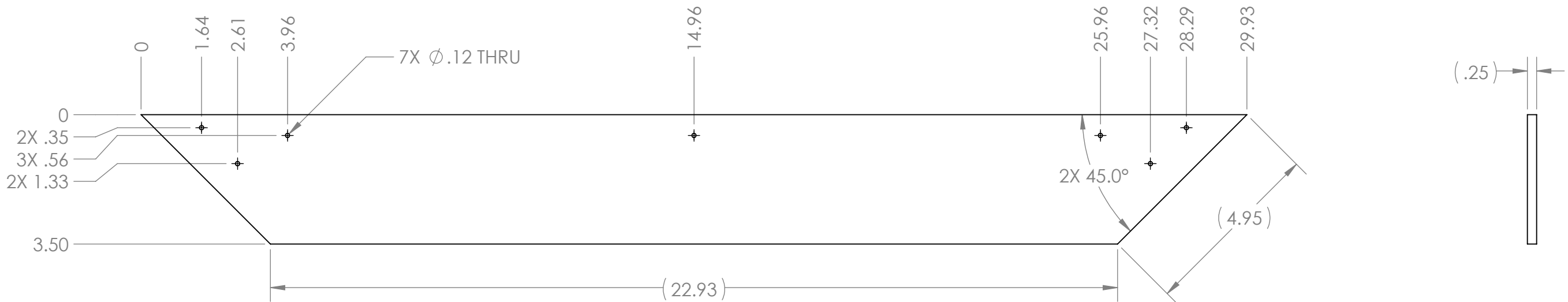
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2

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B

B





Item: GE-18127-01  
Material: 1/4" thk. clear polycarbonate  
QTY: 1

A

A

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		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	
		INTERPRET GEOMETRIC TOLERANCING PER:				<b>B</b>	<b>GE-18127</b>		
		MATERIAL							
NEXT ASSY	USED ON	FINISH							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:4 WEIGHT: SHEET 2 OF 6			

4

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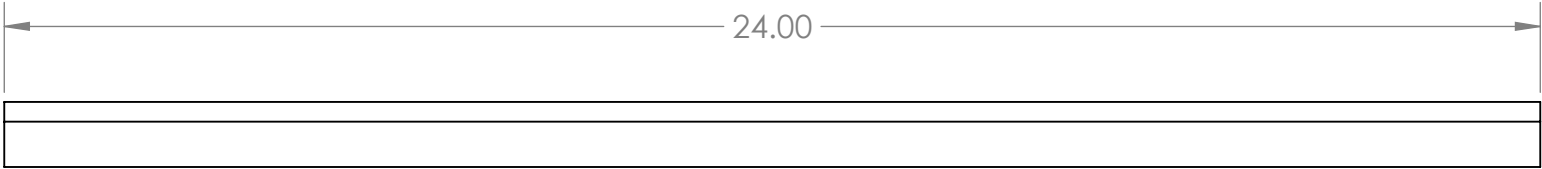
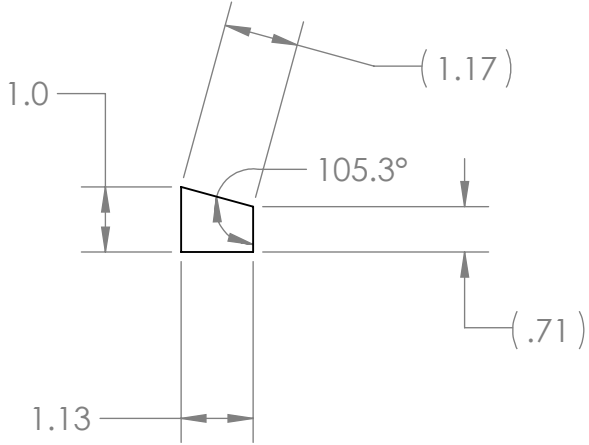


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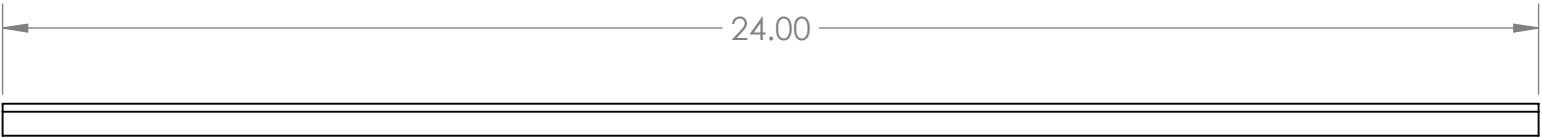
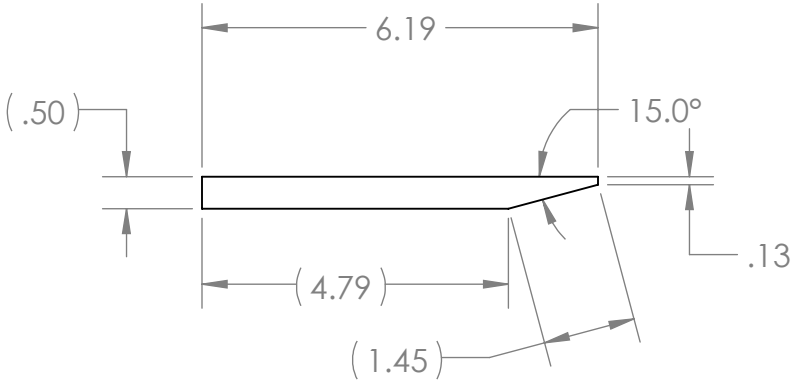
1



Item: GE-18127-02  
Material: 2"x4" Pine  
QTY: 1

B

B





Item: GE-18127-03  
Material: 1/2" AC Plywood  
QTY: 1

A

A

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		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:  <h1>Ramp, Exchange</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> <b>GE-18127</b>		
		MATERIAL						
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:3 WEIGHT: SHEET 3 OF 6		



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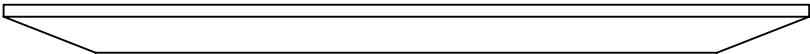
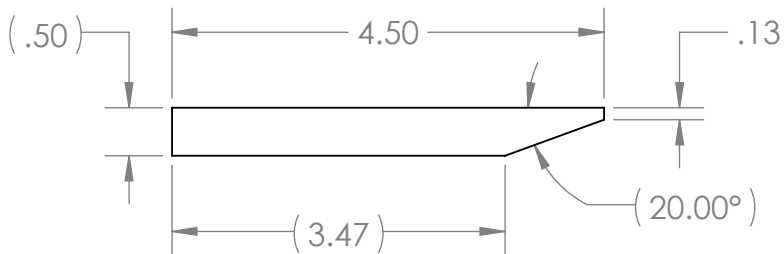
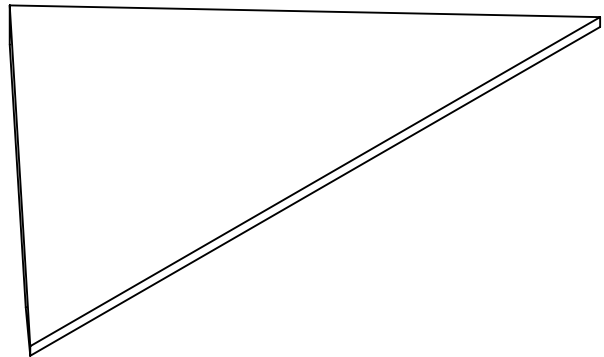
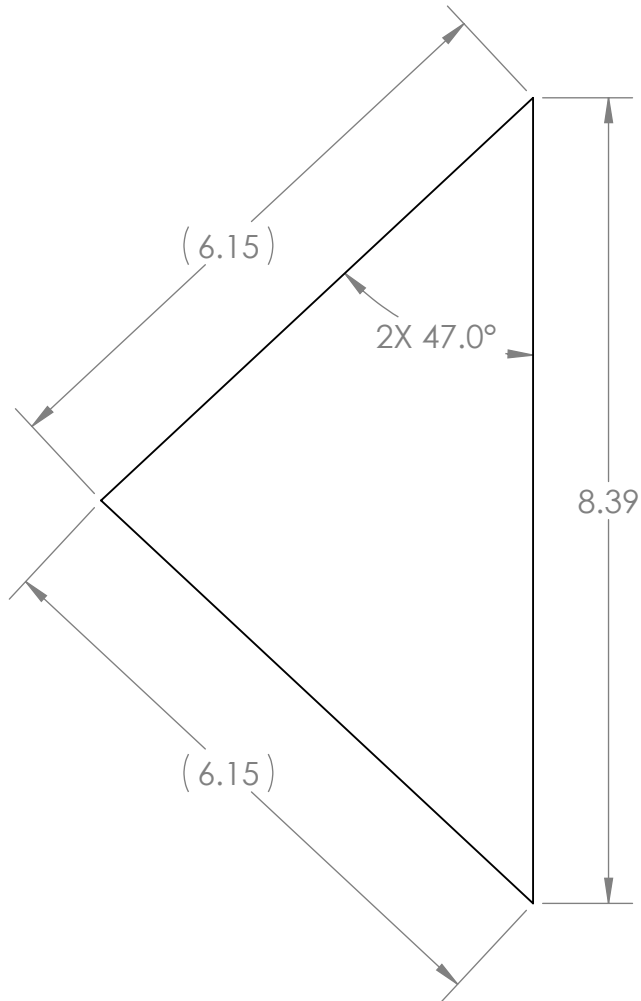
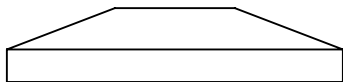
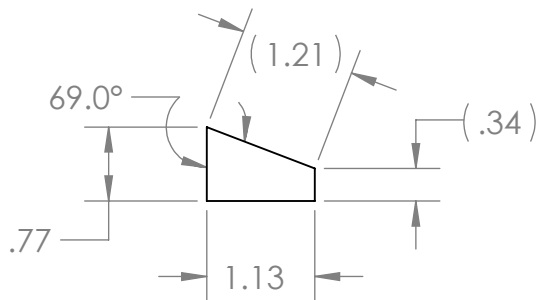
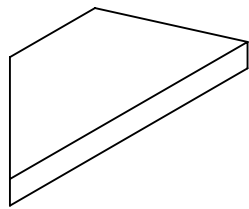
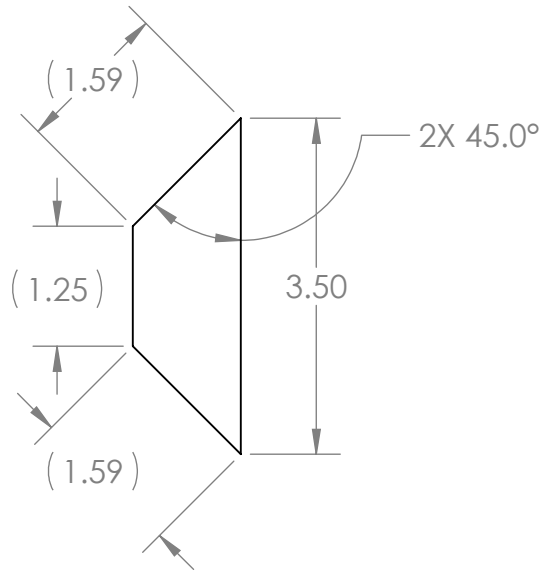
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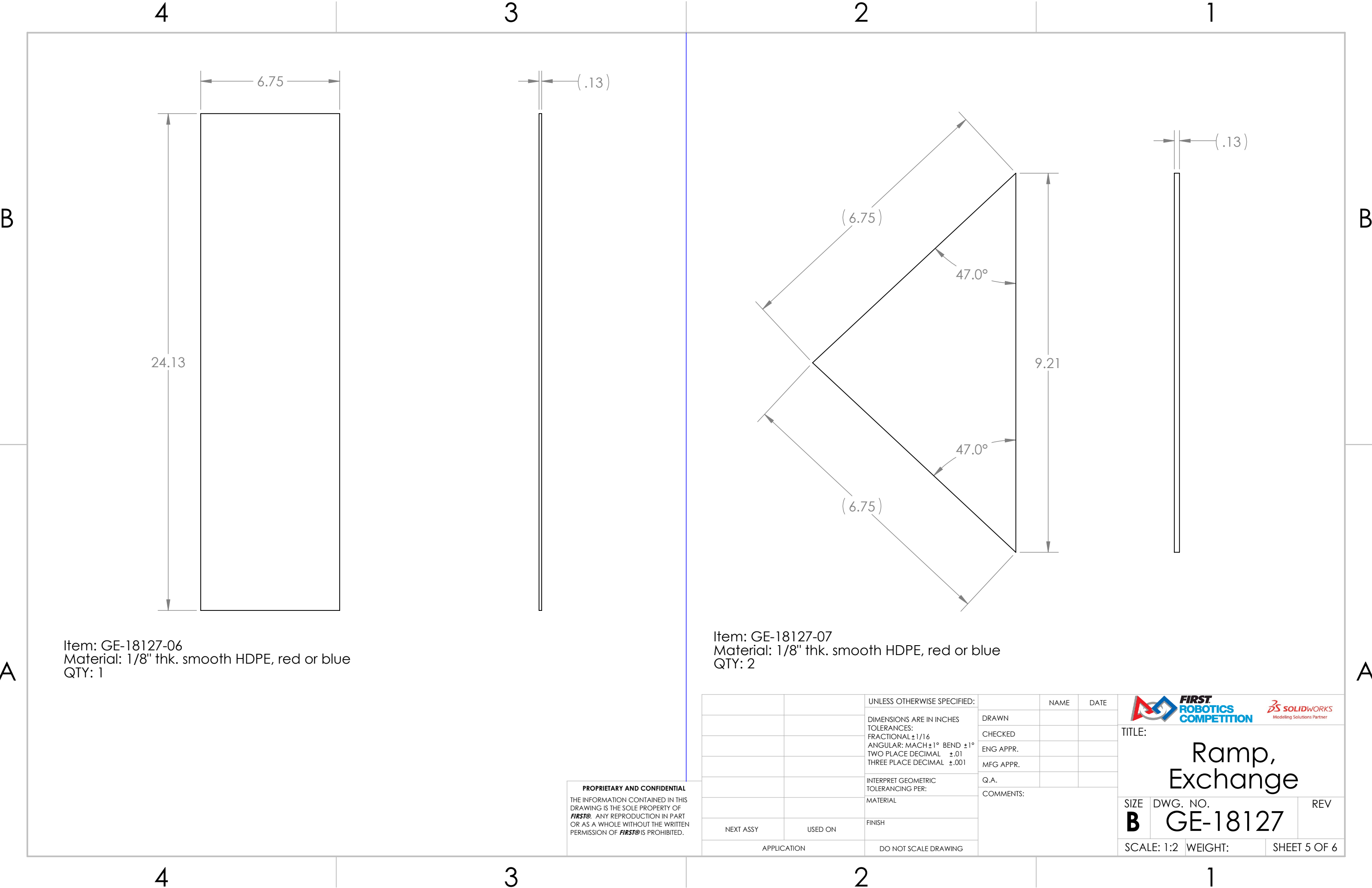


Item: GE-18127-04  
Material: 2"x4" Pine  
QTY: 2

Item: GE-18127-05  
Material: 1/2" AC Plywood  
QTY: 2

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Ramp, Exchange</h1>		
		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>B</b> <b>GE-18127</b>		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2 WEIGHT: SHEET 4 OF 6		



Item: GE-18127-06  
Material: 1/8" thk. smooth HDPE, red or blue  
QTY: 1

Item: GE-18127-07  
Material: 1/8" thk. smooth HDPE, red or blue  
QTY: 2

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Ramp, Exchange</h1>		
		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>B</b> GE-18127		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:2 WEIGHT: SHEET 5 OF 6		

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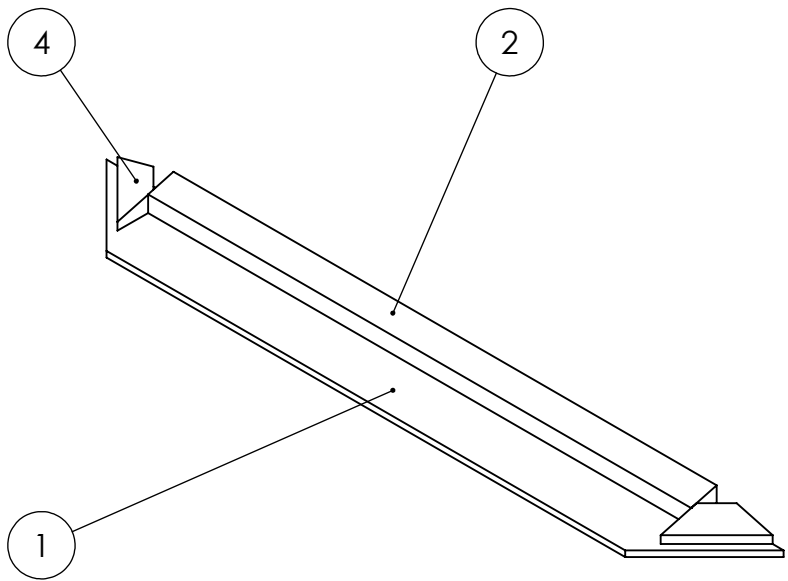
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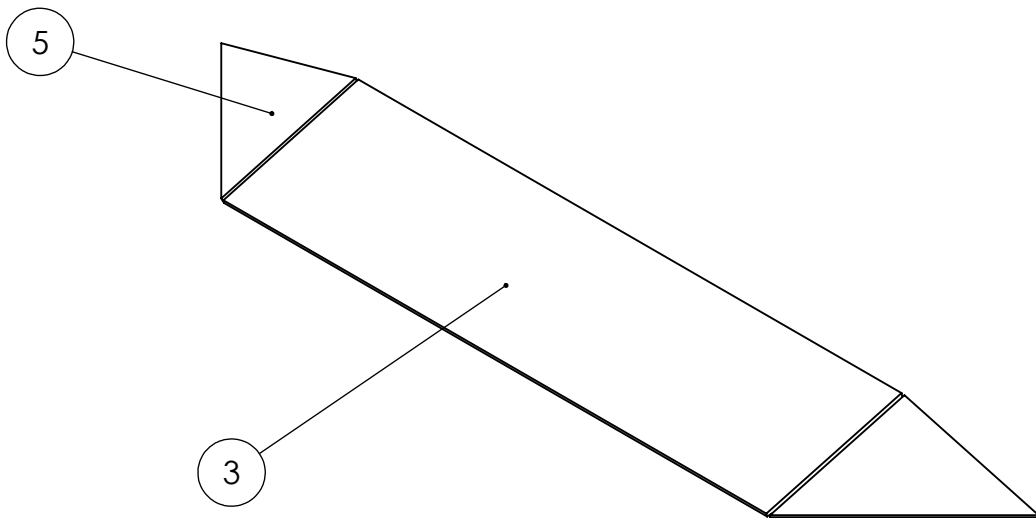
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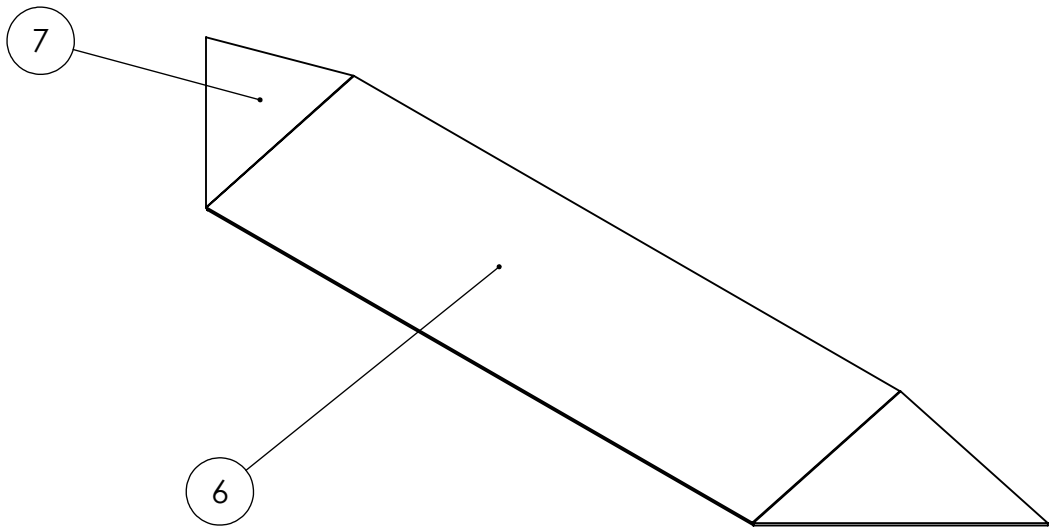
Step 1: Attach Item 2 and Item 4 (qty: 2) to Item 1 using wood screws through the holes in Item 1.



Step 2: Attach Item 3 and Item 5 (qty: 2) to Item 4 and Item 2 using wood screws.



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Step 3: Attach Item 6 and Item 7 (qty: 2) to Item 5 and Item 6 using double stick tape.

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

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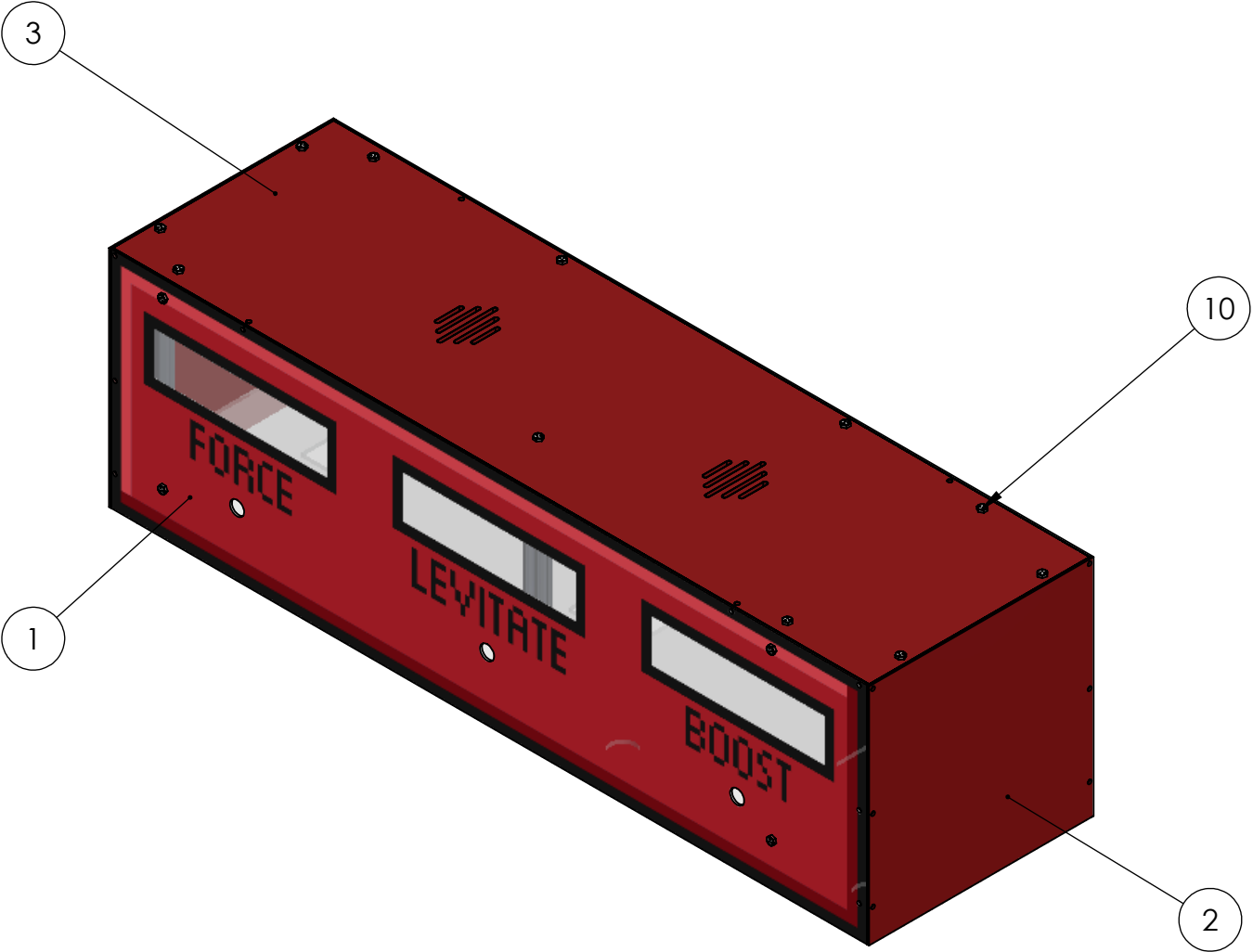
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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	GE-18033	Vault polycarbonate Top Front Face	1
2	GE-18034	Vault HDPE Top Side	2
3	GE-18044	Vault HDPE Top	1
4	GE-18041	Vault Polycarbonate Top Backside	1
5	GE-18046	Vault Polycarbonate Top Base	1
6	GE-18030	80-20 Extrusion	7
7	GE-18048	Vault Bracket	8
8	flat_hex_.25_20_1	Steel Hex Flat Head Screw, 1/4"-20 x 1" long, fully threaded	11
9	nylock_.25_20	Steel Nylon-Insert Locknut, 1/4"-20	16
10	hex_.25_20_.75	Steel Hex Head Screw, 1/4"-20 x 3/4" long, fully threaded	19

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	  TITLE: <b>Vault Top Assembly</b>
		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			
		MATERIAL	ENG APPR.			
		FINISH	MFG APPR.			
NEXT ASSY	USED ON		Q.A.			SIZE <b>B</b>
APPLICATION		DO NOT SCALE DRAWING	COMMENTS:			DWG. NO. <b>GE-18129</b>
				SCALE: 1:8	WEIGHT:	REV
						SHEET 1 OF 3

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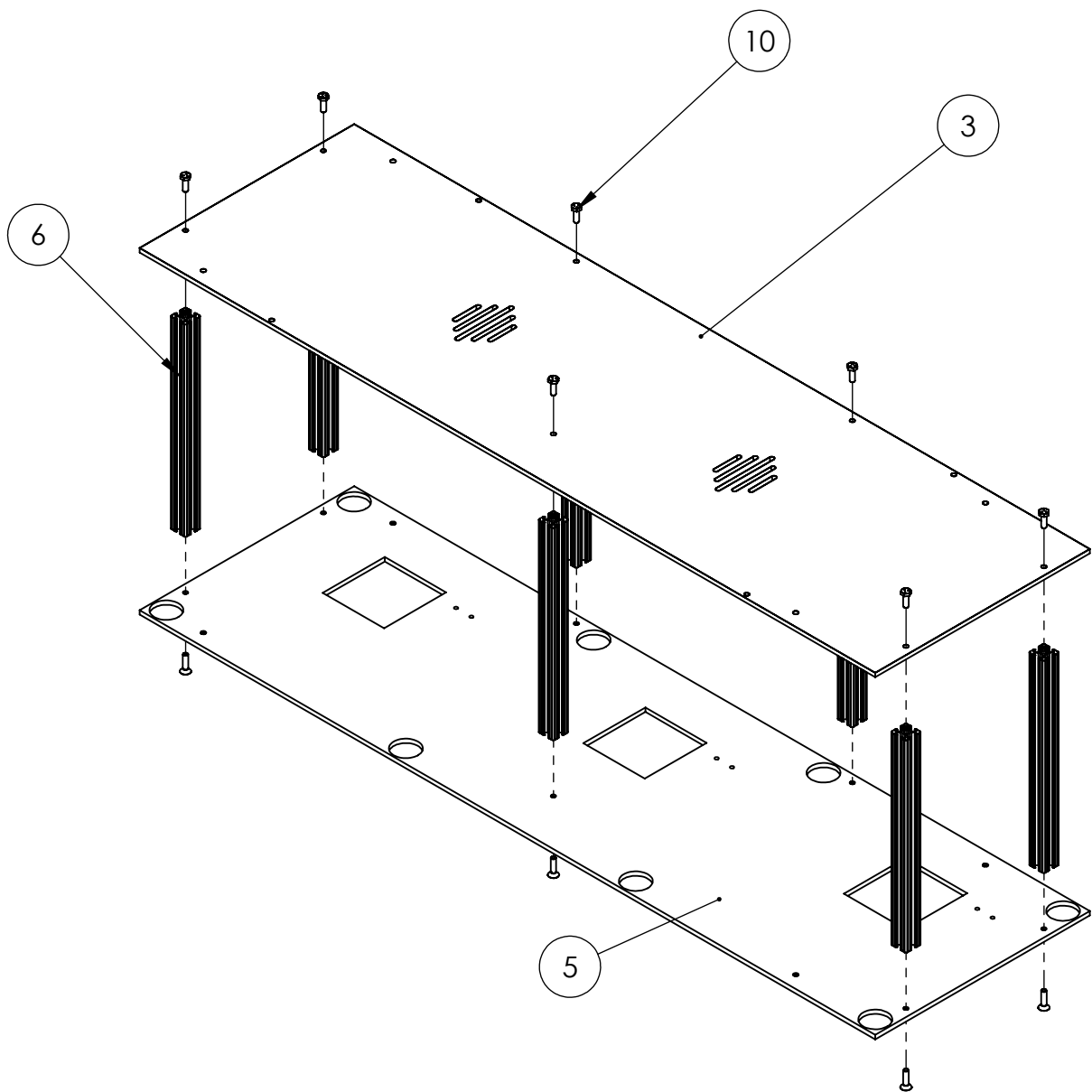
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Notes:  
1. Use Item 10 to fasten Item 3 and Item 5 to Item 6 (qty. 7)

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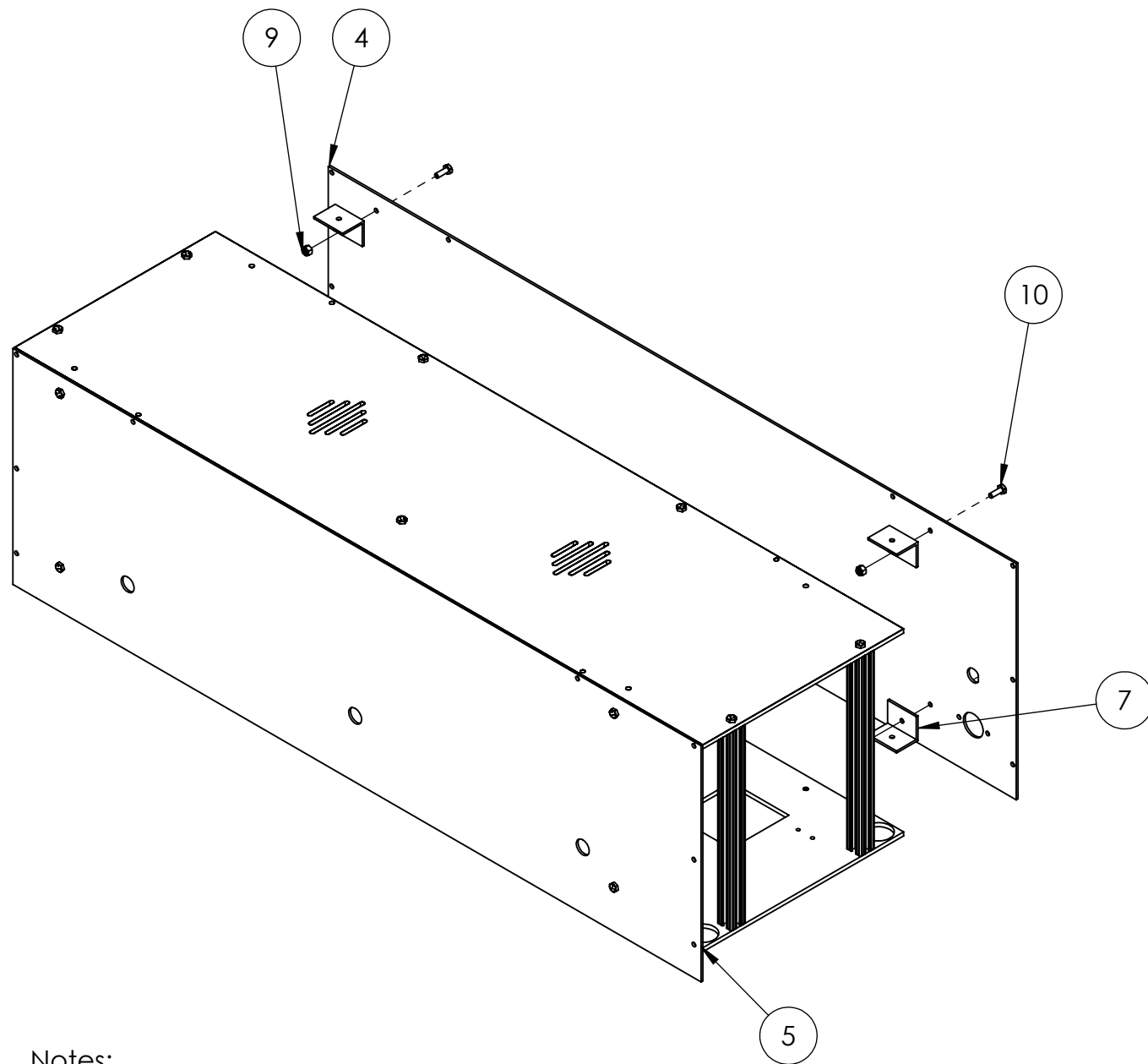
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Notes:  
1. Use Item 10 and 9 to fasten item 7 bracket with 4  
2. Repeat with Item 5 face

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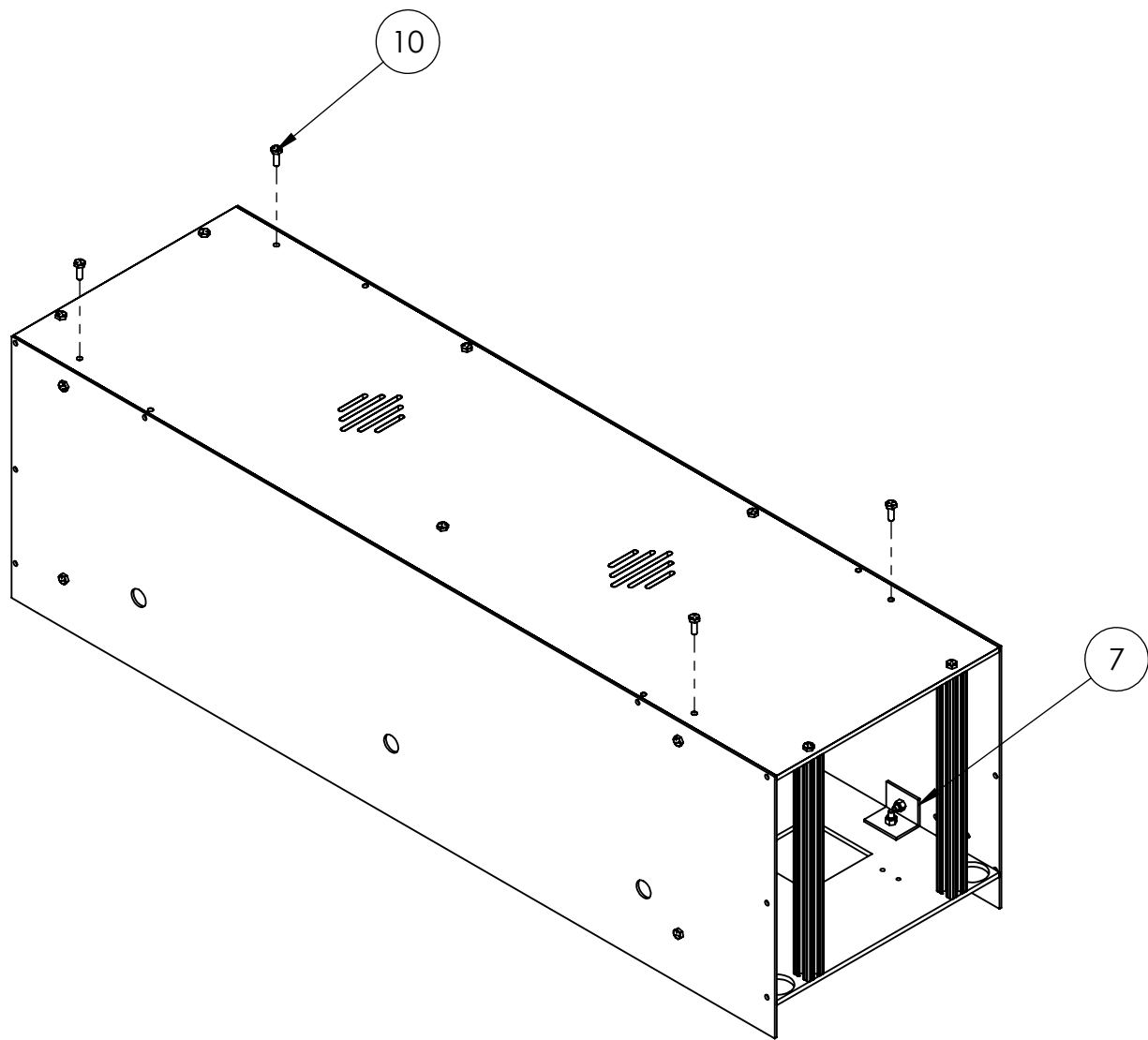
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 <b>FIRST</b> ROBOTICS COMPETITION  SOLIDWORKS Modeling Solutions Partner
		DIMENSIONS ARE IN INCHES	DRAWN			
		TOLERANCES:	CHECKED			
		FRACTIONAL $\pm 1/16$	ENG APPR.			
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.			
		TWO PLACE DECIMAL $\pm .01$	Q.A.			TITLE: <b>Vault Top Assembly</b>
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE DWG. NO. REV
		MATERIAL				<b>B</b> <b>GE-18129</b>
		FINISH				SCALE: 1:8 WEIGHT: SHEET 2 OF 3
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING			

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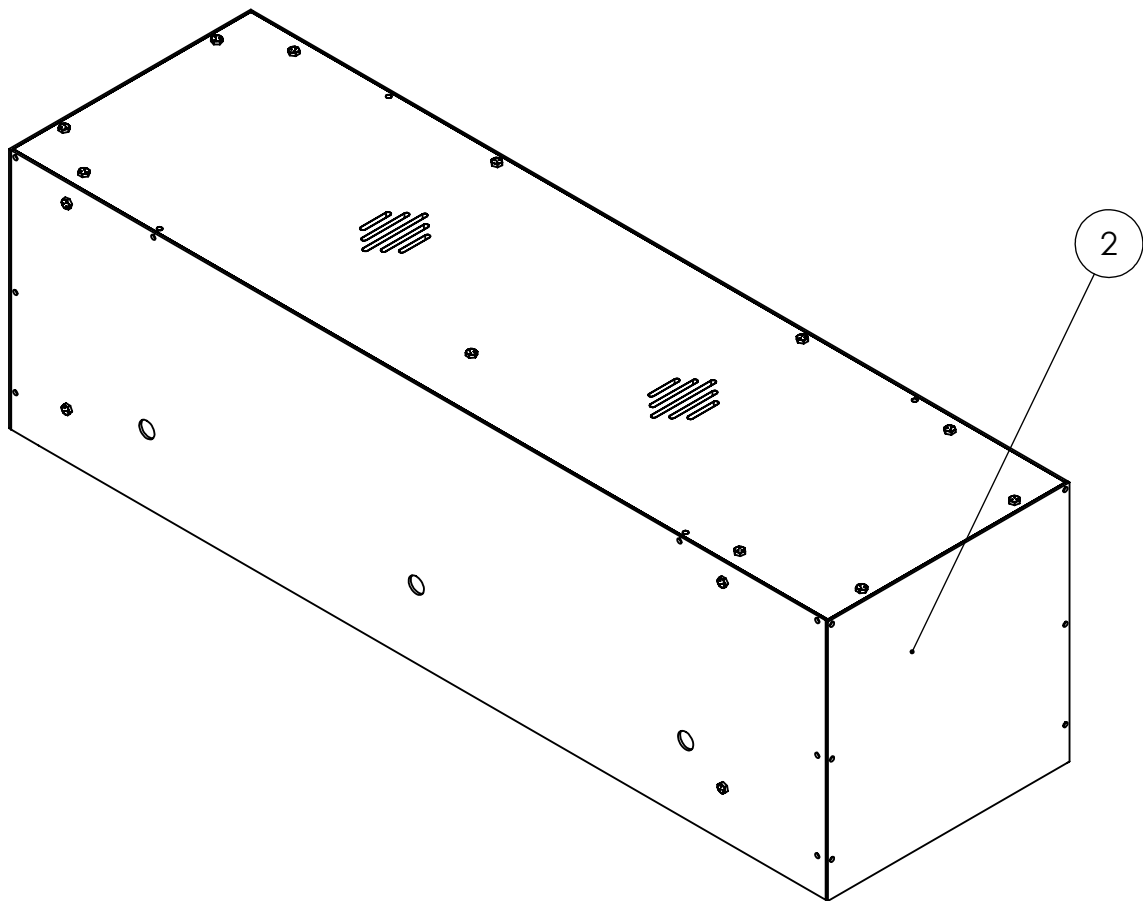
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Notes:  
1. Finish attaching top and faces using Items 10 and 7



Notes:  
1. Attach Item 2 using cable ties  
2. Repeat on opposite side

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

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SIZE <b>B</b>	DWG. NO. <b>GE-18130</b>	REV
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

4

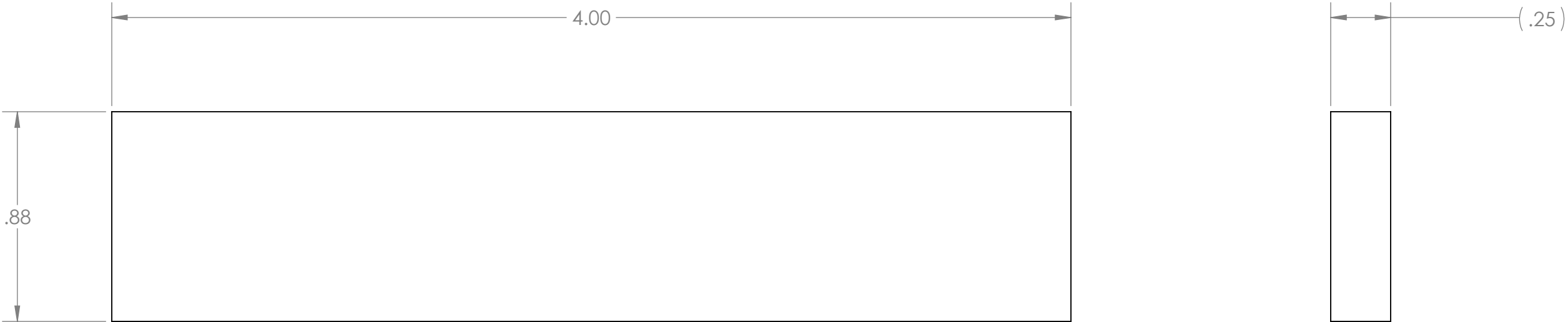
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- Notes:
- 1. Material: 1/4" thk. HDPE
  - 2. Remove all burrs and sharp edges

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	  TITLE: <b>Scale Wear Protector</b>	
		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.
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			<b>B</b>	<b>GE-18131</b>
		INTERPRET GEOMETRIC TOLERANCING PER:				SCALE: 2:1	WEIGHT:
		MATERIAL					
		FINISH					
NEXT ASSY	USED ON						REV
APPLICATION		DO NOT SCALE DRAWING				SHEET 1 OF 1	

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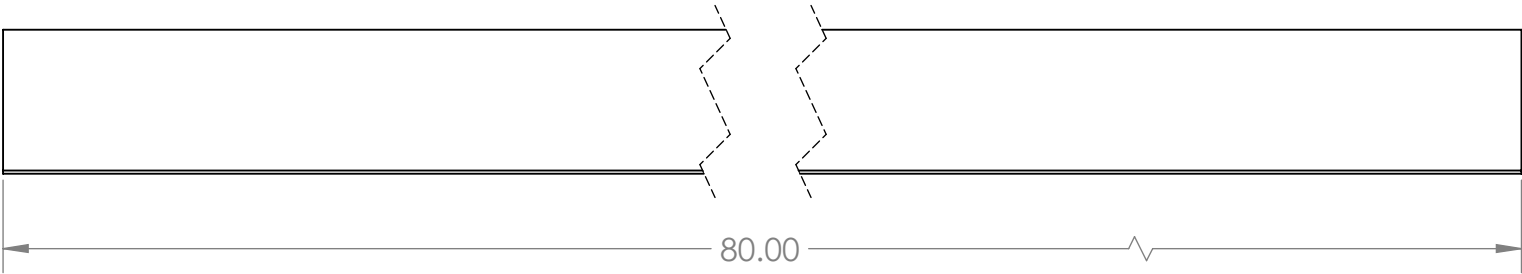
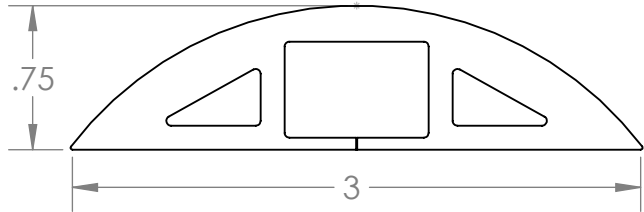
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- Notes.
- 1. Description: Cable Protector, 1-Channel, Black, 25 ft. x 3/4"H, Max. Cable Dia.: 1/2"
  - 2. Source: Grainger
  - 3. Item #: 5D687
  - 4. Equivalent substitutions allowed

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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:  
**Scale-Switch  
Cable Protector**

SIZE	DWG. NO.	REV
<b>B</b>	<b>GE-18132</b>	
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

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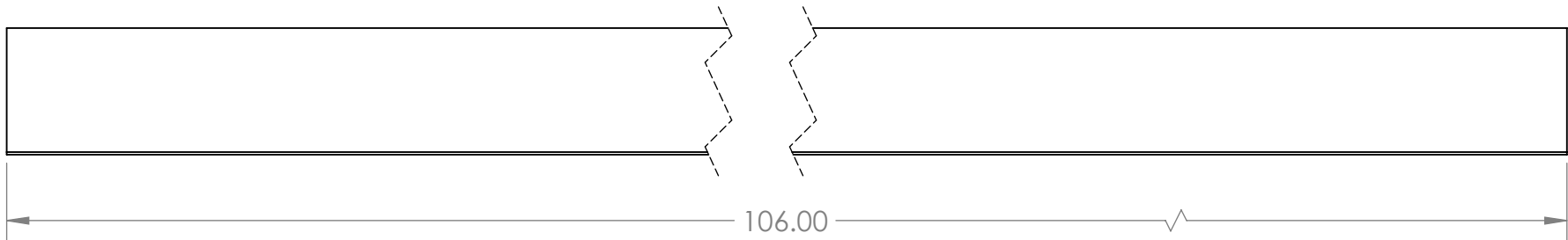
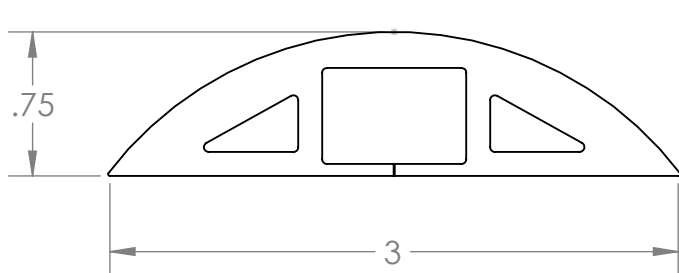
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- Notes:
- 1. Description: Cable Protector, 1-Channel, Black, 25 ft. x 3/4"H, Max. Cable Dia.: 1/2"
  - 2. Source: Grainger
  - 3. Item #: 5D687
  - 4. Equivalent substitutions allowed

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <div>Scale-Side Border Cable Protector</div>			
		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 <div>BGE-18133</div>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL				SCALE: 1:1 WEIGHT: SHEET 1 OF 1			
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

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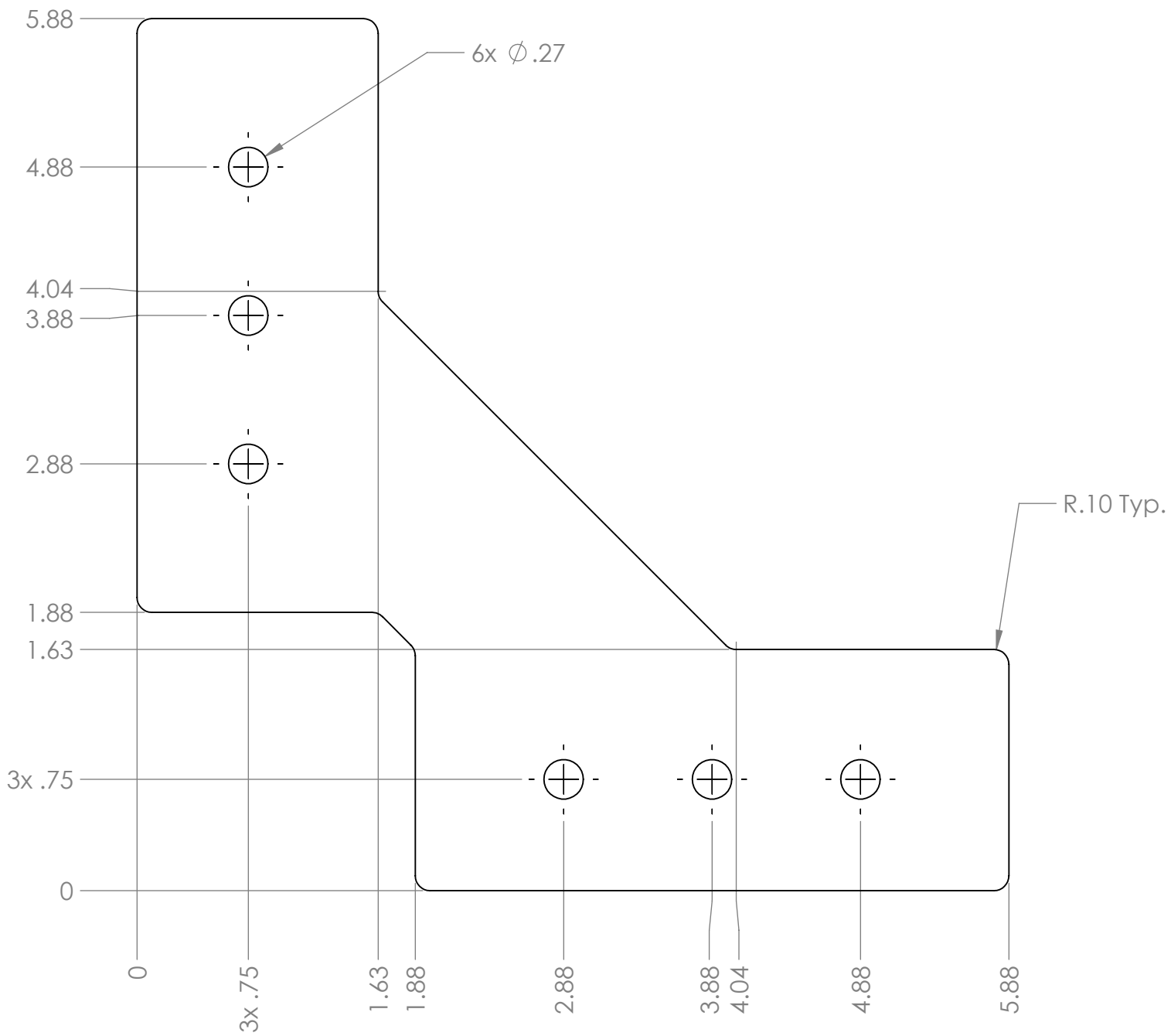
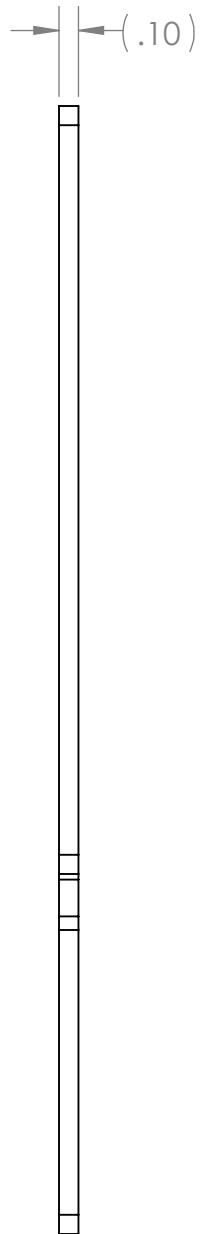
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Notes:

1. Material: 10 Gauge 5052 Aluminum
2. Remove all burrs and sharp edges.

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Plate Gusset Brace</h1>		
		TOLERANCES:	CHECKED					
		FRACTIONAL $\pm 1/16$	ENG APPR.					
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$						
		THREE PLACE DECIMAL $\pm .001$						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:					
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SIZE <b>B</b>	DWG. NO. <b>GE-18134</b>	REV
			SCALE: 1:1		WEIGHT:	SHEET 1 OF 1		