

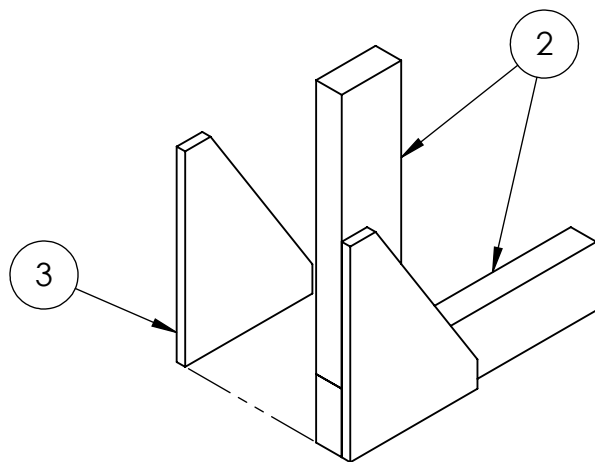


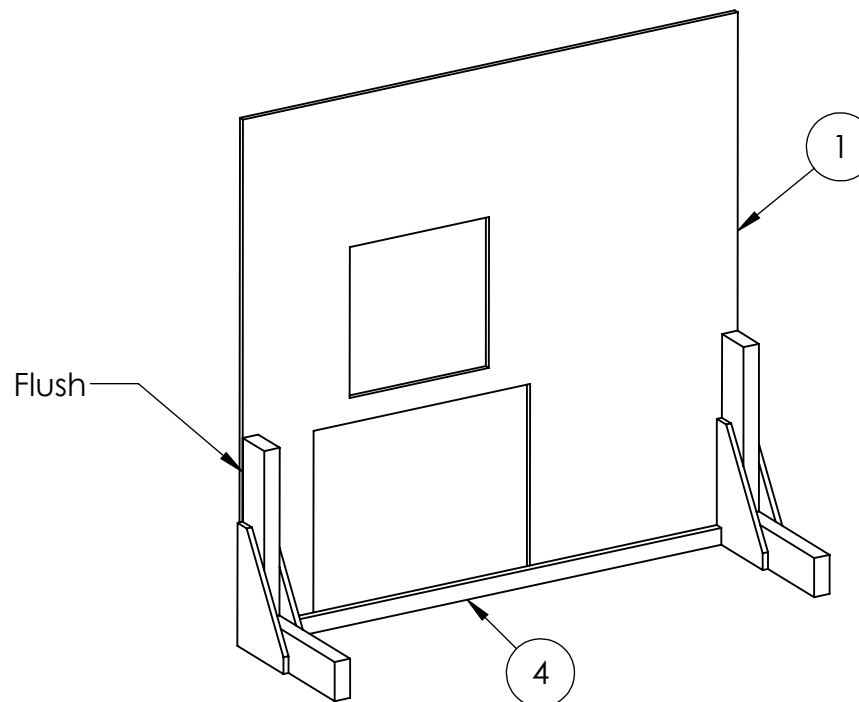
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18001-01		1
2	TE-18001-02		4
3	TE-18001-03		4
4	TE-18001-04		1

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				CHECKED				SIZE <b>A</b> DWG. NO. <b>TE-18001</b> REV  SCALE: 1:16 WEIGHT: SHEET 1 OF 2
				ENG APPR.				
				MFG APPR.				
				Q.A.				
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:					
		MATERIAL						
		FINISH						
	NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING				

B



Attach Item 2 (Qty. 2) and Item 3 (Qty. 2) as shown with wood screws. Build two total.





Using wood screws, attach the two leg assemblies to Item 1, so that the 2x4 is flush with the edge of the plywood. Place Item 4 between the two leg assemblies and secure with screws.

B

A

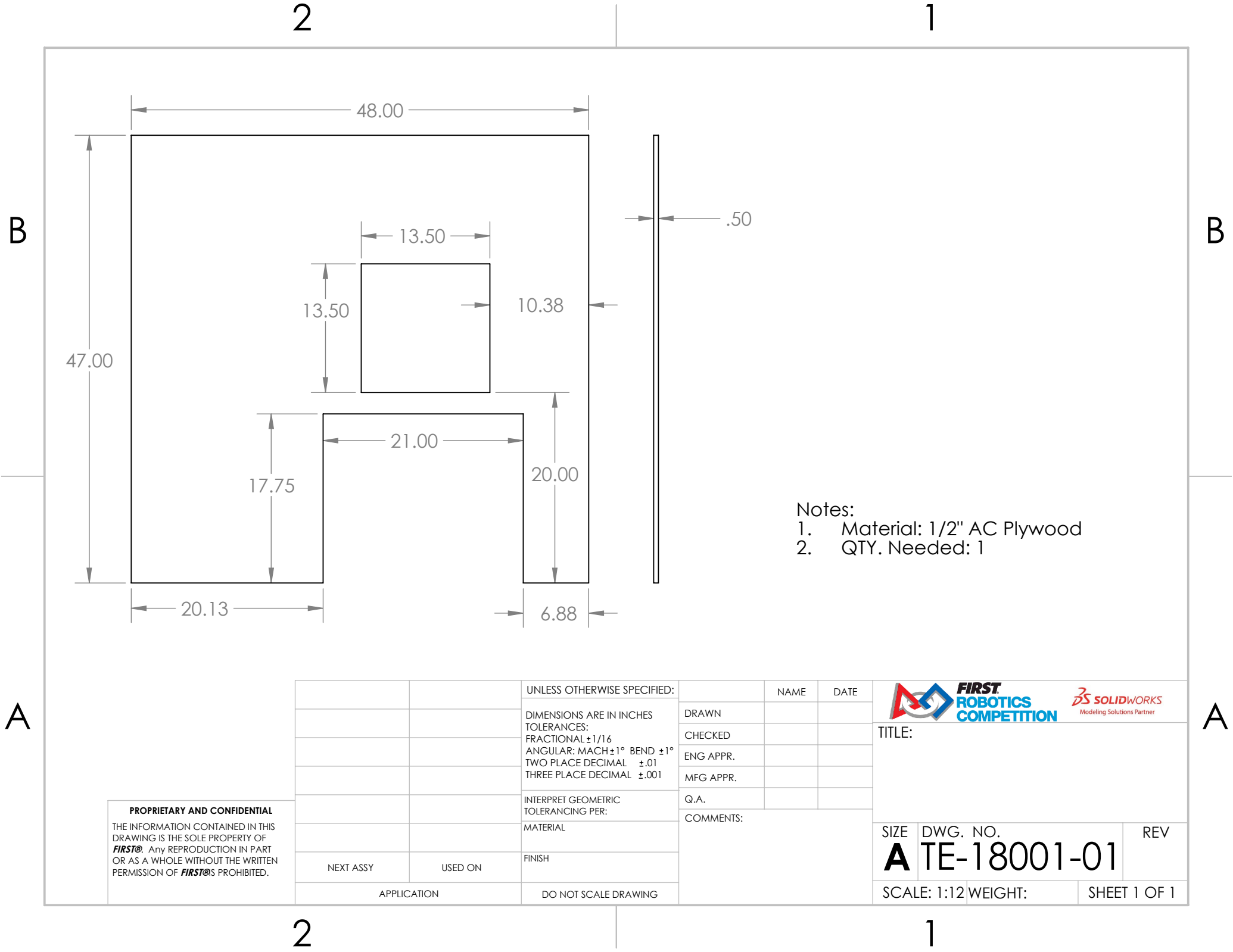
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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <div>Exchange</div>		
		TOLERANCES:	CHECKED					
		FRACTIONAL ±1/16	ENG APPR.					
		ANGULAR: MACH ±1° BEND ±1°	MFG APPR.					
		TWO PLACE DECIMAL ±.01						
		THREE PLACE DECIMAL ±.001						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <div>A TE-18001</div>		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH				SCALE: 1:16 WEIGHT: SHEET 2 OF 2		
APPLICATION		DO NOT SCALE DRAWING						



A

2

1

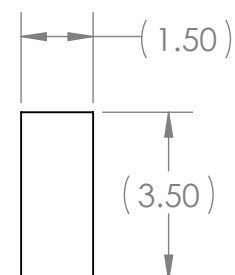


- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 1

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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.						
				INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			<div><div>SIZE</div><div>DWG. NO.</div><div>REV</div></div> <div><div>A</div><div>TE-18001-01</div></div>		
			MATERIAL	COMMENTS:						
	NEXT ASSY	USED ON	FINISH							
	APPLICATION		DO NOT SCALE DRAWING							
							<div>SCALE: 1:12</div>	<div>WEIGHT:</div>	<div>SHEET 1 OF 1</div>	

1



B



NOTES:

1. Material: 2" x 4" Pine Lumber
2. QTY Needed: 4

A

		UNLESS OTHERWISE SPECIFIED:			NAME	DATE	<div><div></div><div>TITLE:</div></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 $\pm .01$					SIZE DWG. NO. REV <b>A</b> <b>TE-18001-02</b>		
		THREE PLACE DECIMAL $\pm .001$							
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		MATERIAL							
		NEXT ASSY		USED ON		FINISH			
APPLICATION		DO NOT SCALE DRAWING					SCALE: 1:4 WEIGHT: SHEET 1 OF 1		

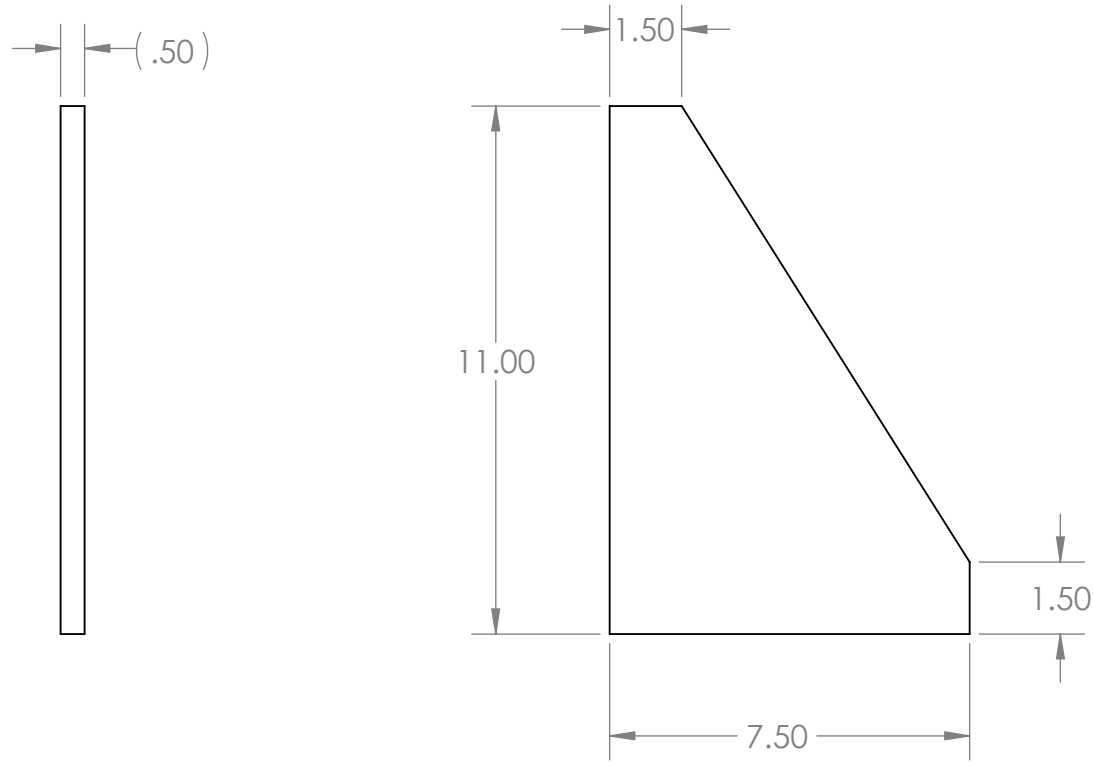
1

2

1

B

B



Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 4

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.		
		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:

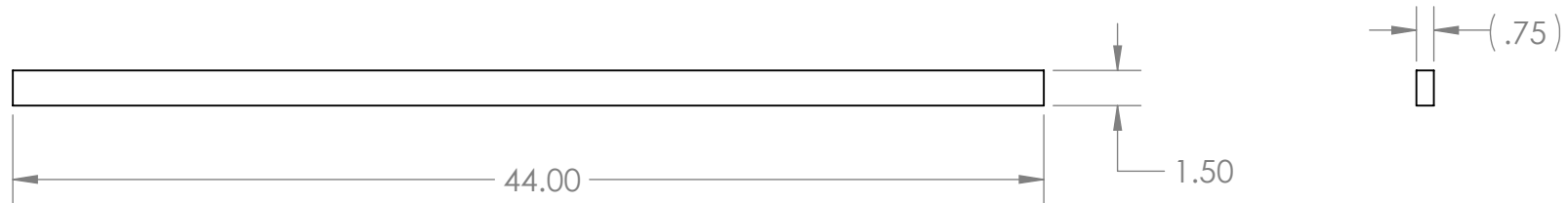
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18001-03</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

2

1

B



B



## NOTES:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 1

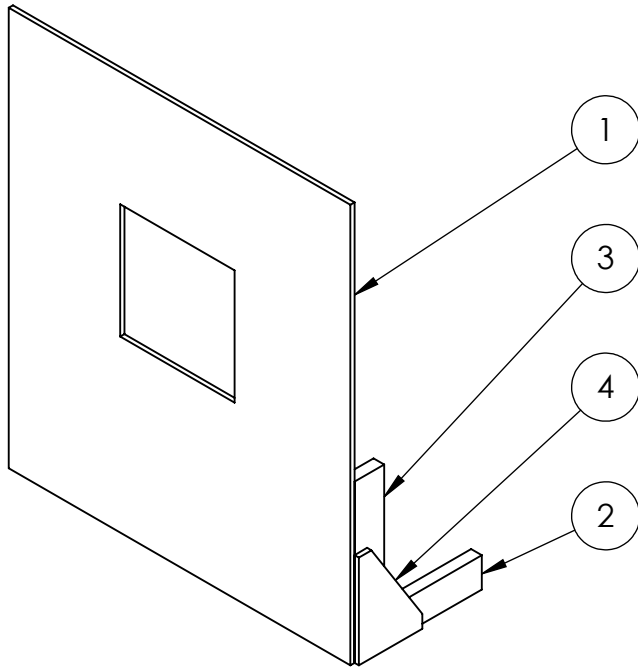
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		DIMENSIONS ARE IN INCHES	DRAWN					
		TOLERANCES:	CHECKED					
		FRACTIONAL $\pm 1/16$	ENG APPR.					
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$	Q.A.			TITLE:		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.	REV
		MATERIAL				<b>A</b>	<b>TE-18001-04</b>	
		.75 Ply				SCALE: 1:8	WEIGHT:	SHEET 1 OF 1
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						

A

2

1





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18002-1		1
2	TE-18002-2		2
3	TE-18002-3		2
4	TE-18002-4		4

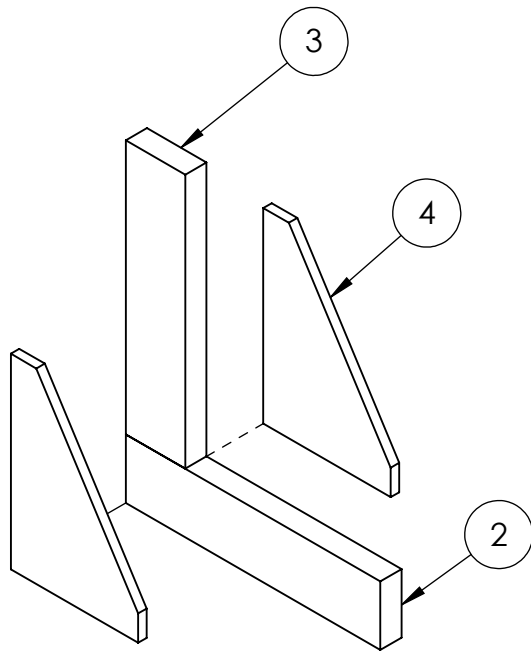
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		INTERPRET GEOMETRIC TOLERANCING PER:
		MATERIAL
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

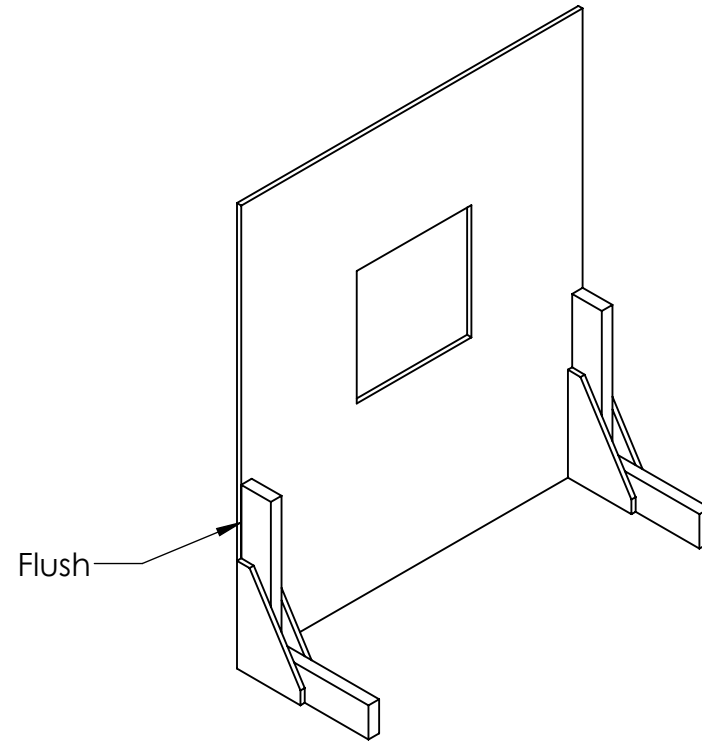
	NAME	DATE
DRAWN		
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

 		
TITLE: <b>Portal</b>		
SIZE <b>A</b>	DWG. NO. <b>TE-18002</b>	REV
SCALE: 1:16		WEIGHT: SHEET 1 OF 2

B



Create leg assemblies by attaching Item 4 (qty. 2) to Items 2 and 3 with wood screws as necessary. Qty. 2.



Attach two leg assemblies to Item 1 as shown using wood screws.

B

A

A

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		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:

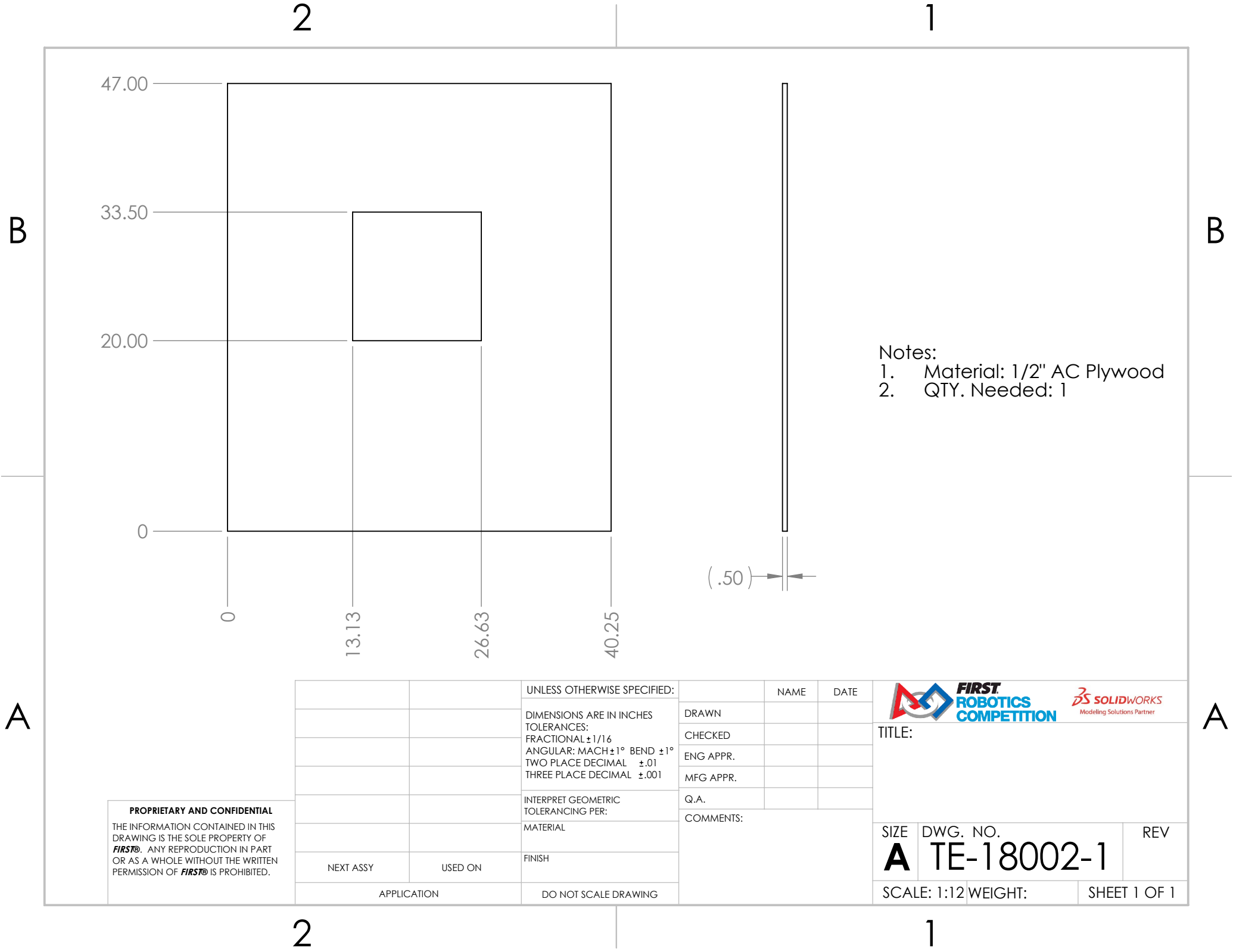
Portal

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18002</b>	
SCALE: 1:16 WEIGHT:		SHEET 2 OF 2



2

1





- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 1

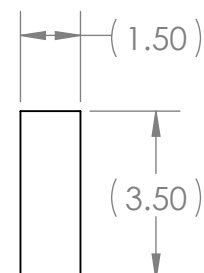
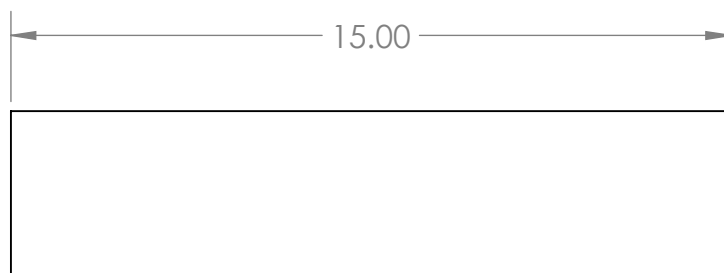
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			DIMENSIONS ARE IN INCHES	DRAWN					
			TOLERANCES:	CHECKED					
			FRACTIONAL $\pm 1/16$	ENG APPR.					
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
			TWO PLACE DECIMAL $\pm .01$	Q.A.			<div>SIZE</div> <div>DWG. NO.</div> <div>REV</div>		
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:	<div>A</div> <div>TE-18002-1</div>				
	NEXT ASSY	USED ON	FINISH				SCALE: 1:12		
	APPLICATION		DO NOT SCALE DRAWING				WEIGHT:		SHEET 1 OF 1

2

1

B

B





## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

A

A

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			DIMENSIONS ARE IN INCHES	DRAWN				TITLE:	
			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:					SIZE	DWG. NO.	REV
		MATERIAL					<b>A</b>	<b>TE-18002-2</b>	
	NEXT ASSY	USED ON	FINISH				SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
	APPLICATION		DO NOT SCALE DRAWING						

2

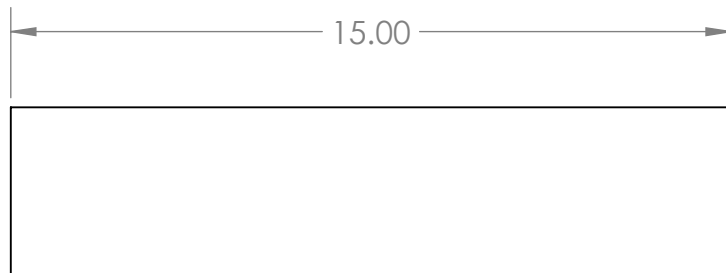
1

2

1

B

B





## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

A

A

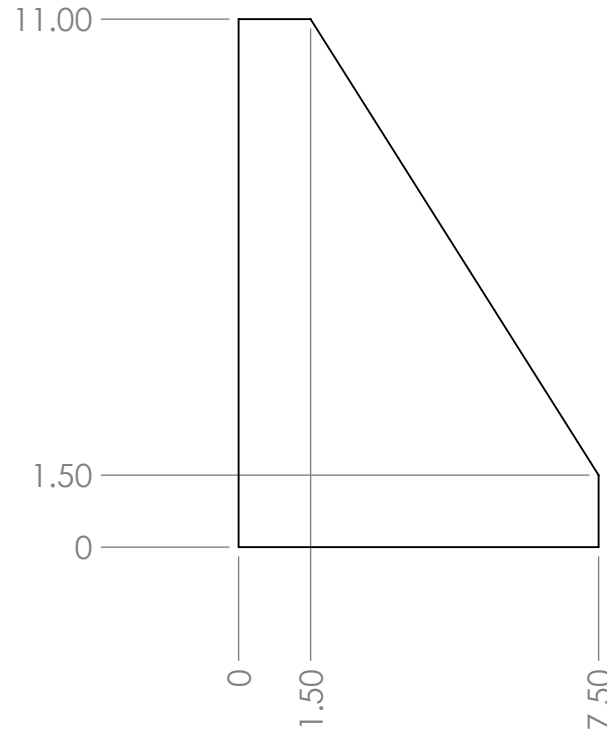
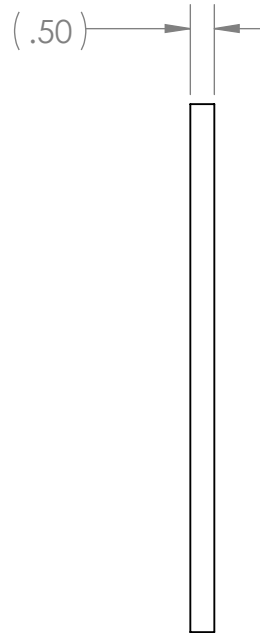
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			DIMENSIONS ARE IN INCHES	DRAWN				TITLE:
			TOLERANCES:	CHECKED				
			FRACTIONAL $\pm 1/16$	ENG APPR.				
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.			Q.A.	
			TWO PLACE DECIMAL $\pm .01$	COMMENTS:				
			THREE PLACE DECIMAL $\pm .001$					
			INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SIZE	DWG. NO.	REV
	NEXT ASSY	USED ON	FINISH			<b>A</b>	TE-18002-3	
	APPLICATION		DO NOT SCALE DRAWING			SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

2

1

B

B



Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 4

A

A

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		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:		



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**SOLIDWORKS**  
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TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18002-4</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

2

1

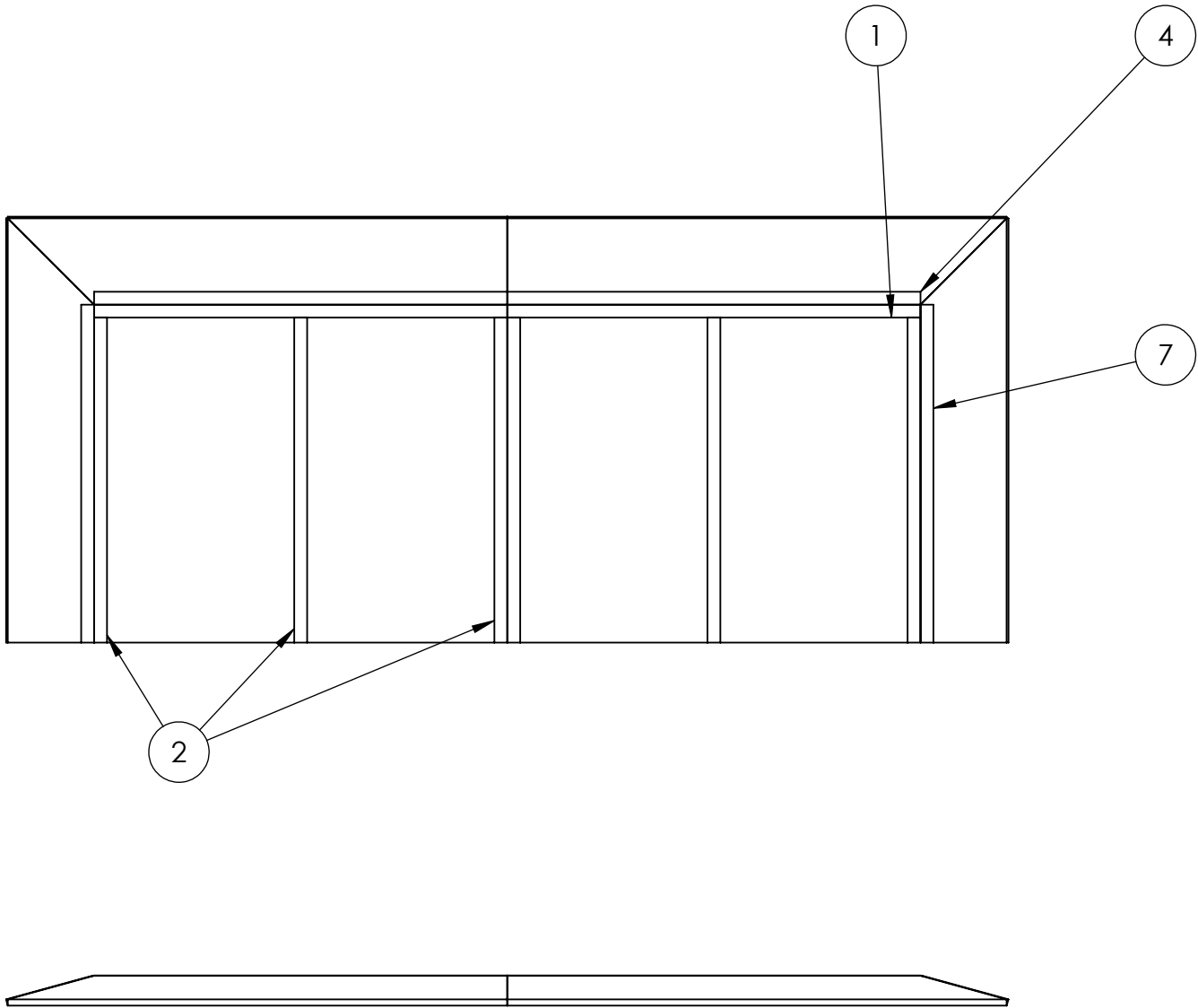
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3

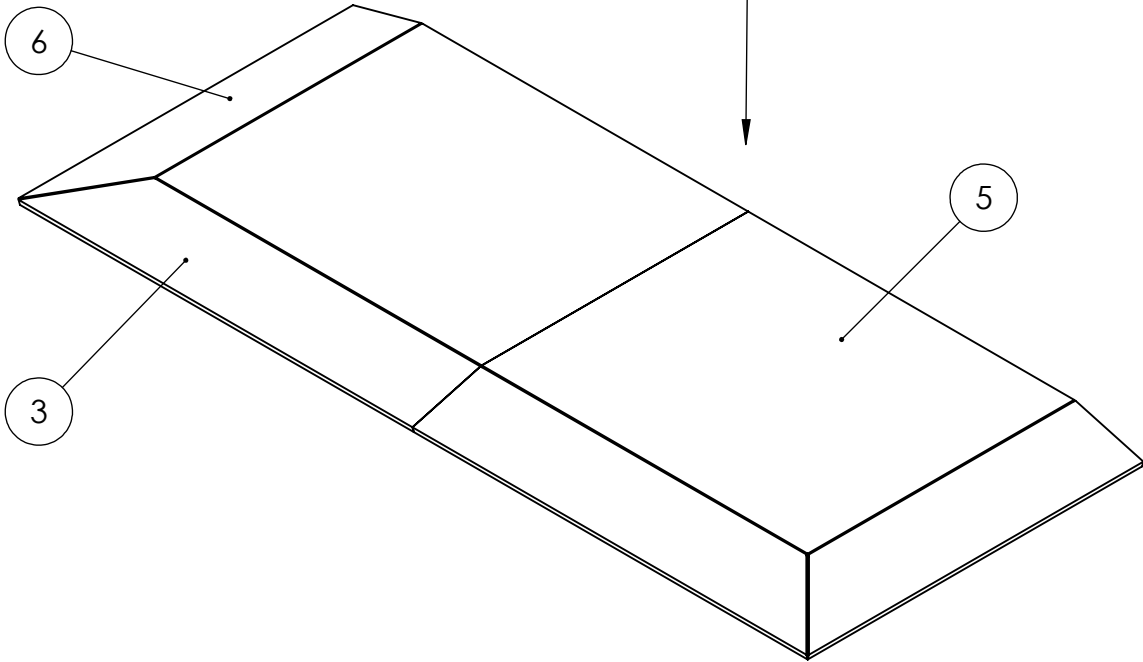
2

1

B



Note: The width of this platform varies from the field version to reduce cost. The top face of this platform is 96" wide, while the field version is 104".



B

A

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18003-1		2
2	TE-18003-2		6
3	TE-18003-3		2
4	TE-18003-4		2
5	TE-18003-5		2
6	TE-18003-6		2
7	TE-18003-7		2

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <b>Platform</b>	
		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:				SIZE	DWG. NO.
		MATERIAL				<b>B</b>	TE-18003
		FINISH				SCALE: 1:20	WEIGHT:
NEXT ASSY	USED ON						REV
APPLICATION		DO NOT SCALE DRAWING				SHEET 1 OF 3	

4

3

2

1

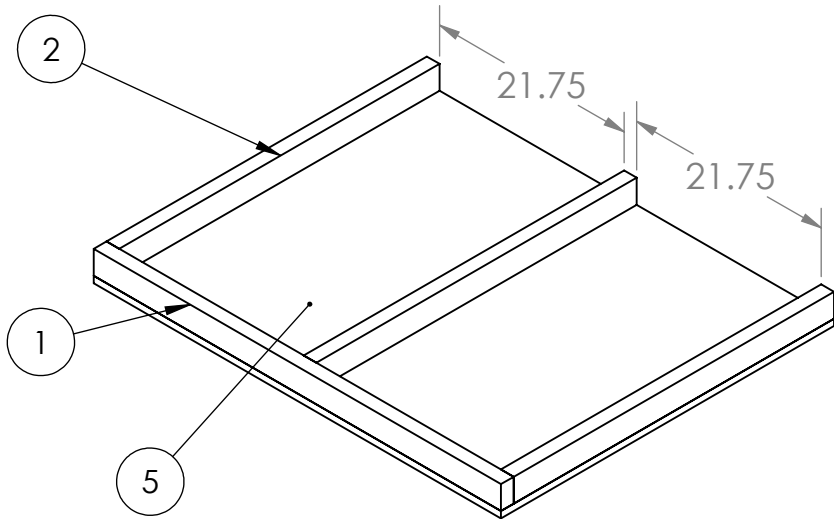
A

4

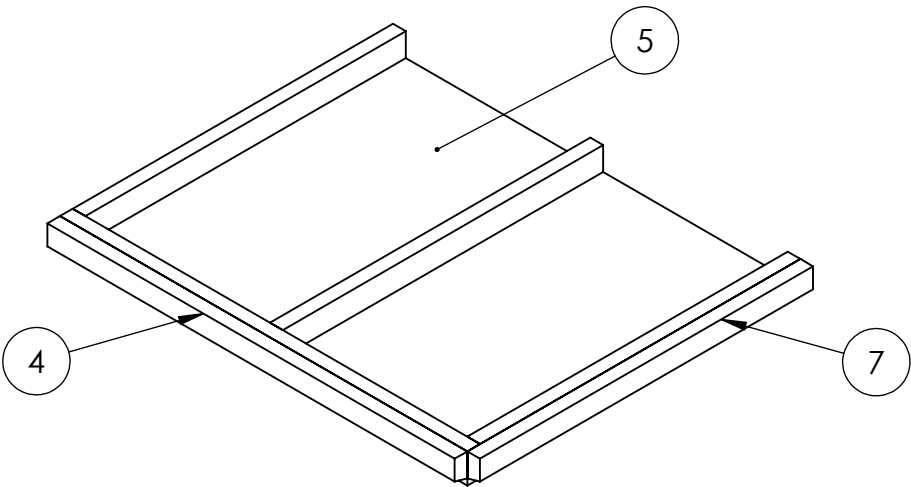
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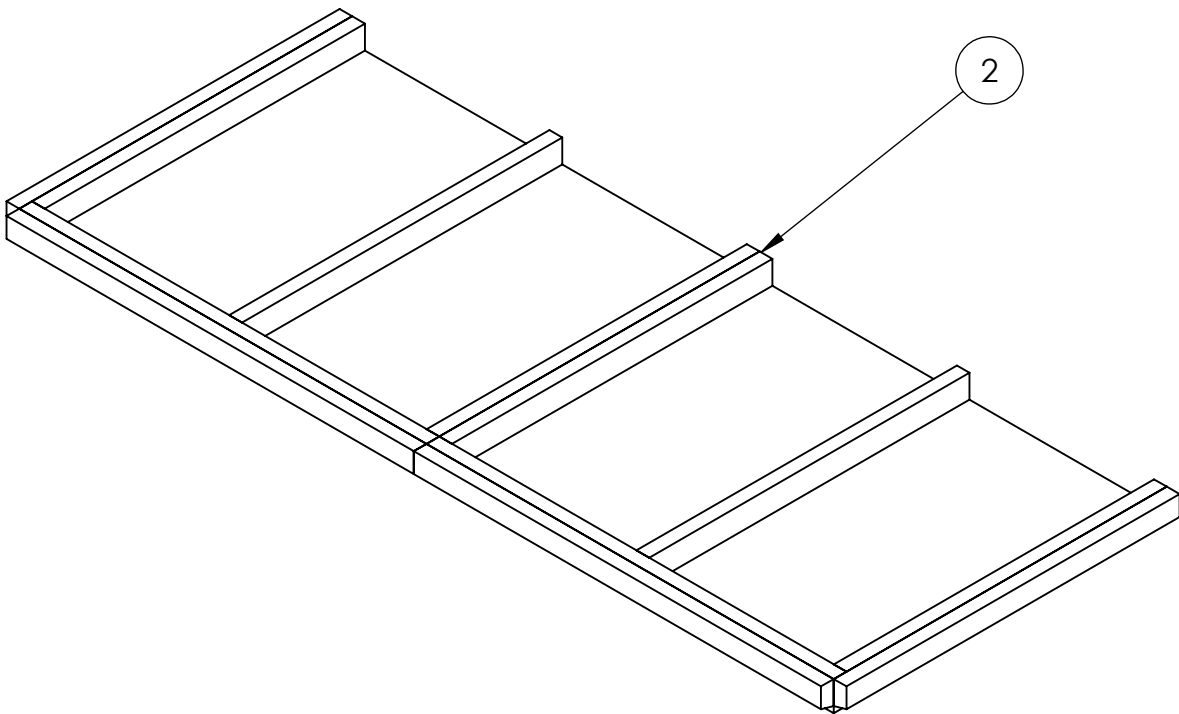
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Step 1: Attach Item 1 and Item 2 (qty: 2) to Item 5 using wood screws. Build 2 identical assemblies.





Step 2: Attach Item 4 and Item 7 to Item 5 using wood screws. Repeat for the second assembly.



Step 3: Use wood screws to attach the identical assemblies together, with Item 2 (qty: 2) in the middle.

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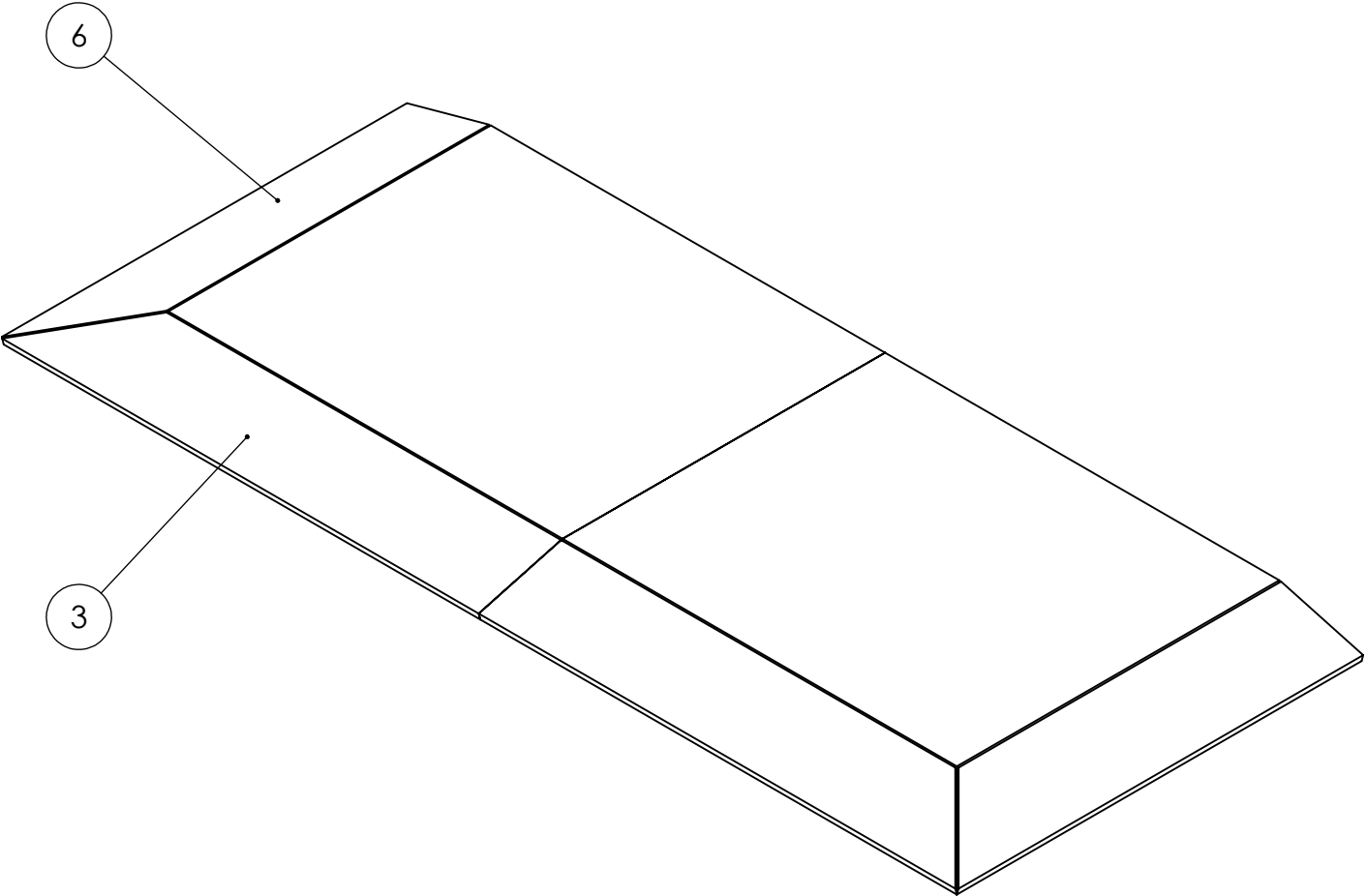
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
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			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> TE-18003		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:16 WEIGHT: SHEET 2 OF 3		

4

3



2

1



Step 4: Use wood screws to fasten Item 3 (qty: 2) to Item 4 (qty: 2), and Item 6 (qty: 2) to Item 7 (qty: 2).

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Platform</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.			COMMENTS:		
		THREE PLACE DECIMAL $\pm .001$						
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL				SIZE	DWG. NO.	REV
NEXT ASSY	USED ON	FINISH				<b>B</b>	TE-18003	
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:16 WEIGHT:		SHEET 3 OF 3

4

3

2

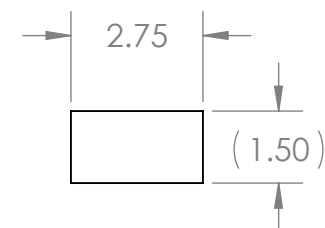
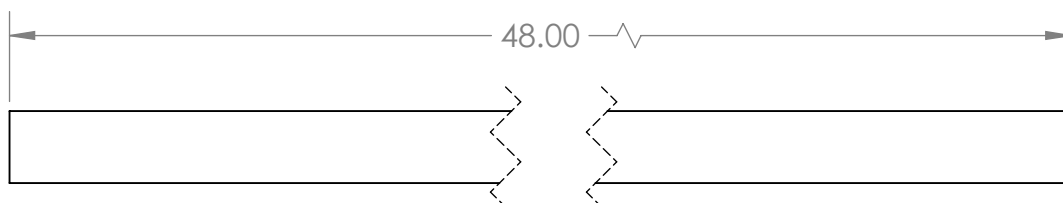
1

2

1

B

B



## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

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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:

SIZE

**A**

DWG. NO.

**TE-18003-1**

REV

SCALE: 1:4

WEIGHT:

SHEET 1 OF 1

2

1

A

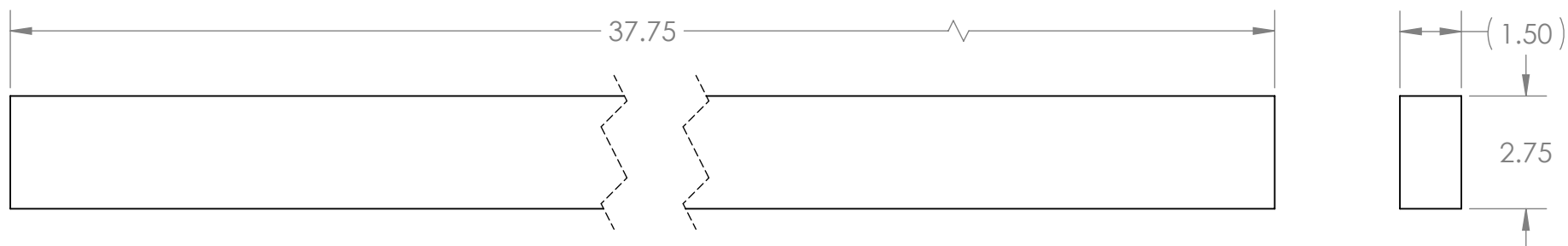


2

1

B

B



## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 6

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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:

SIZE

DWG. NO.

REV

**A****TE-18003-2**

SCALE: 1:4

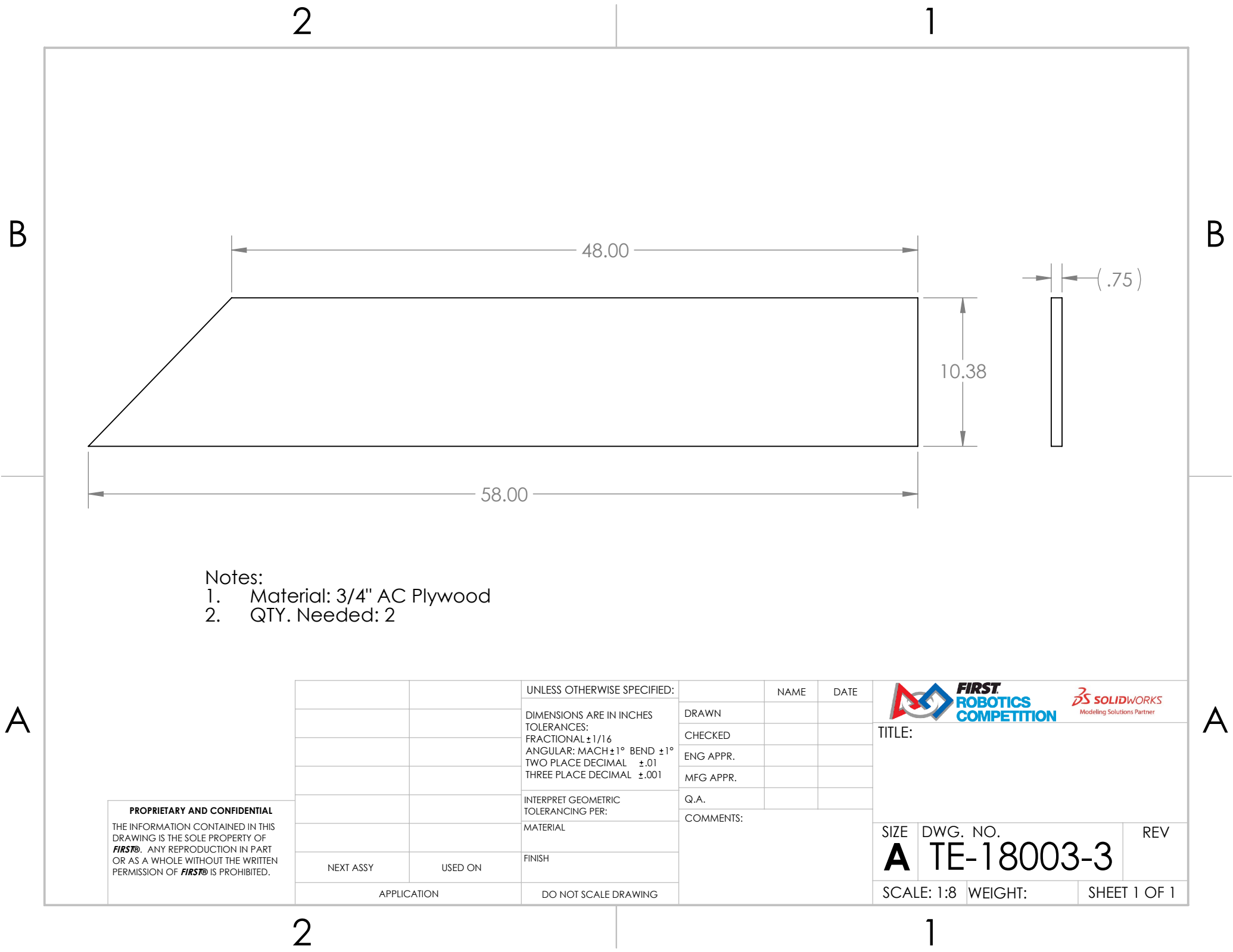
WEIGHT:

SHEET 1 OF 1

2

1

A

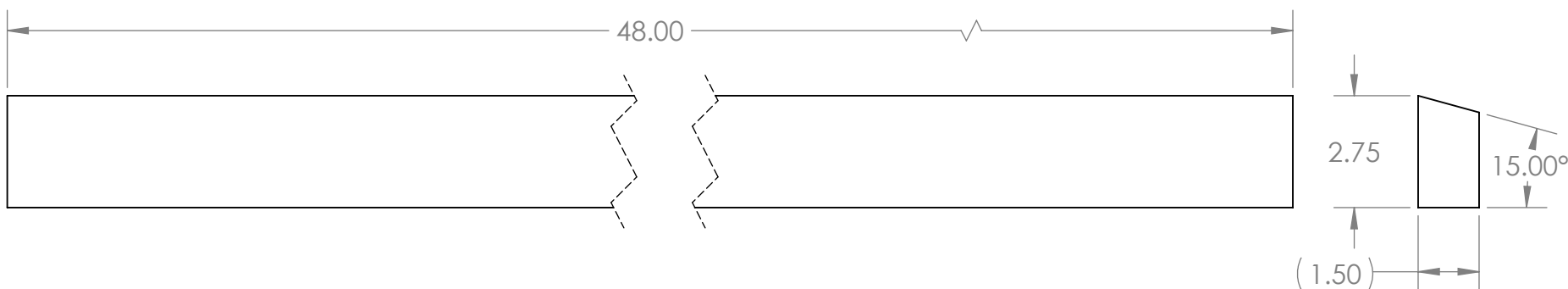


2

1

B

B



- Notes:
- 1. Material: 2" x 4" Pine Lumber
  - 2. QTY. Needed: 2



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
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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

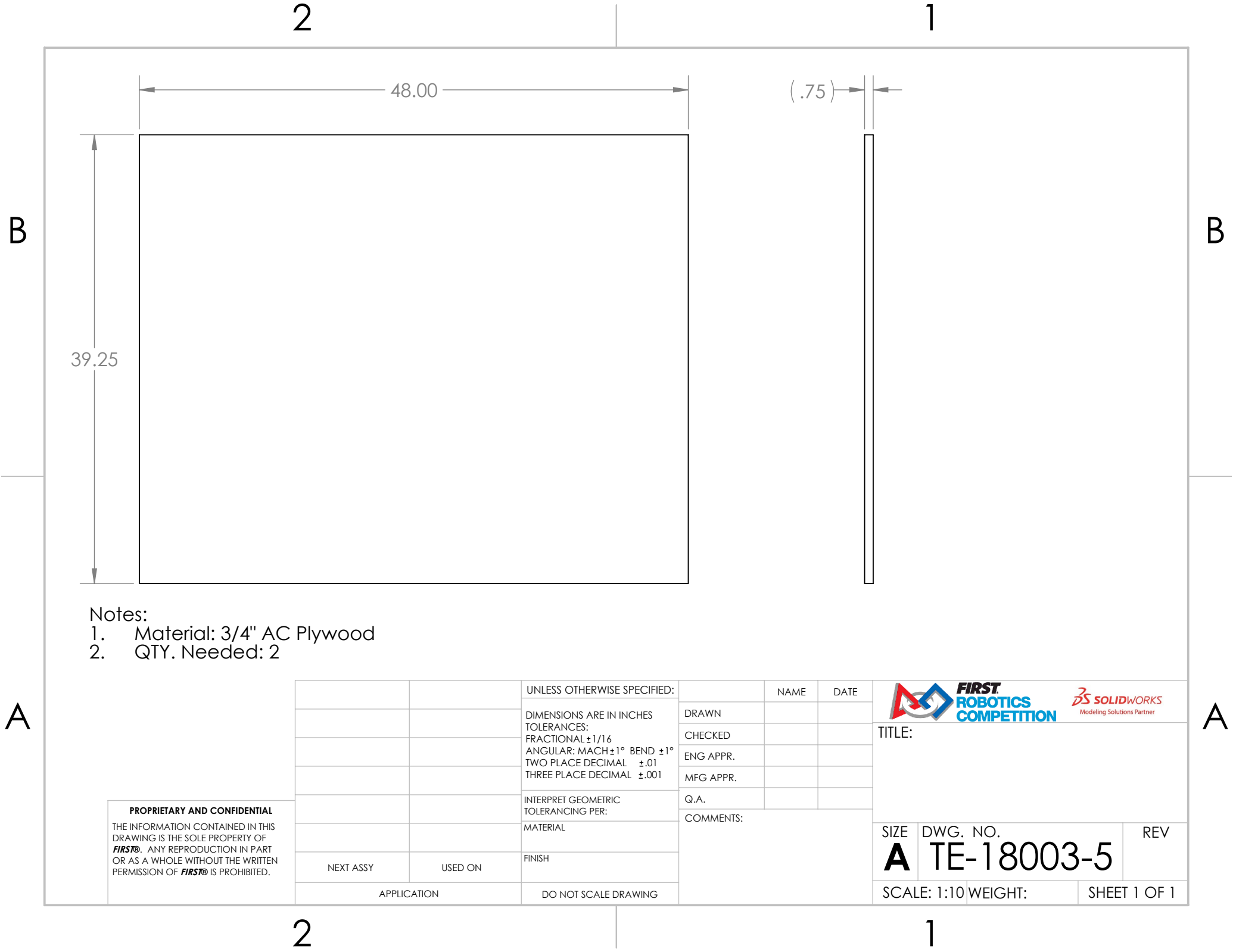


TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18003-4</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

2

1



Notes:

- 1. Material: 3/4" AC Plywood
- 2. QTY. Needed: 2

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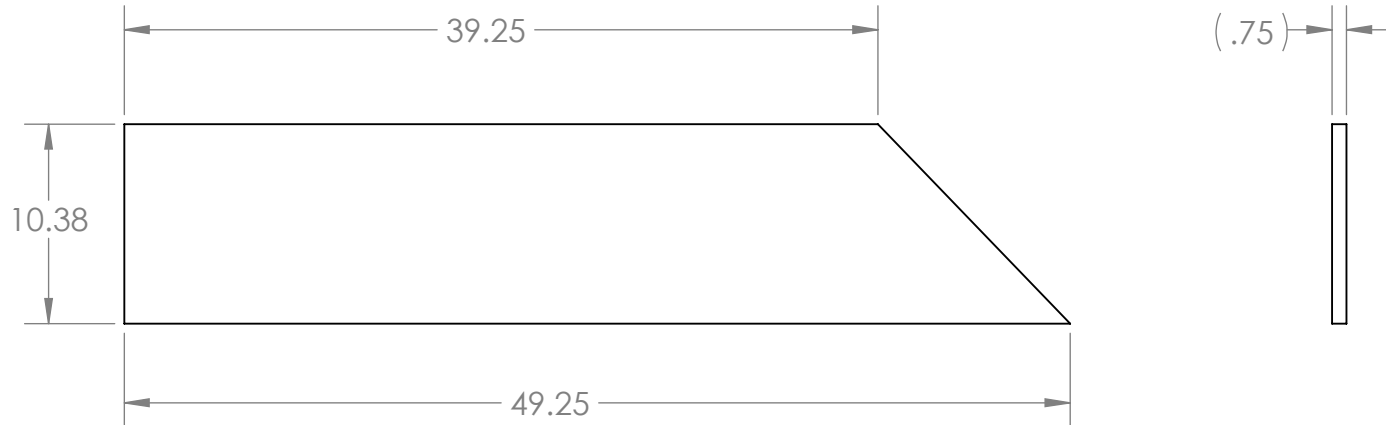
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		TOLERANCES:	CHECKED		
		FRACTIONAL $\pm 1/16$	ENG APPR.		
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
		TWO PLACE DECIMAL $\pm .01$	Q.A.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC			
		TOLERANCING PER:	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



TITLE:		
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18003-5</b>	
SCALE: 1:10		WEIGHT:
		SHEET 1 OF 1

B

B



Notes:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 2

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
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



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

**SOLIDWORKS**  
 Modeling Solutions Partner

TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18003-6</b>	
SCALE: 1:10		WEIGHT:
		SHEET 1 OF 1

2

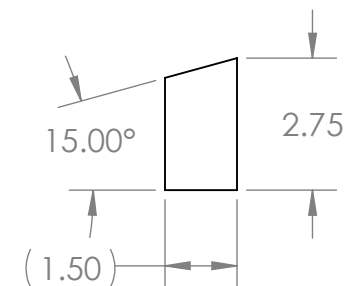
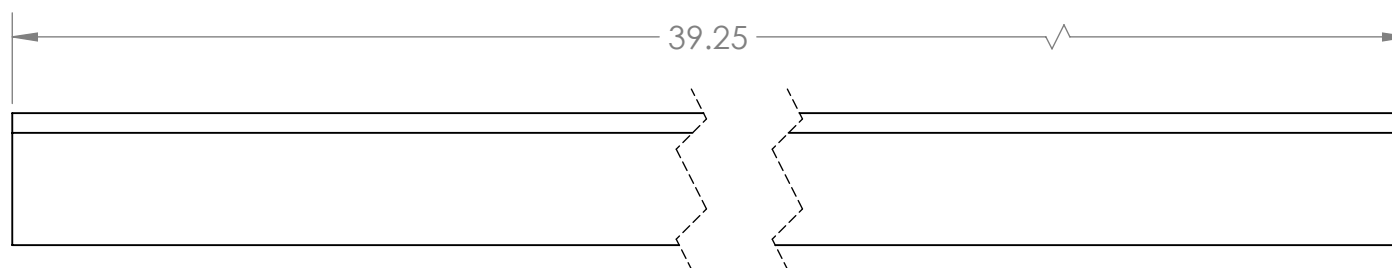
1

2

1

B

B



Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

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
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



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

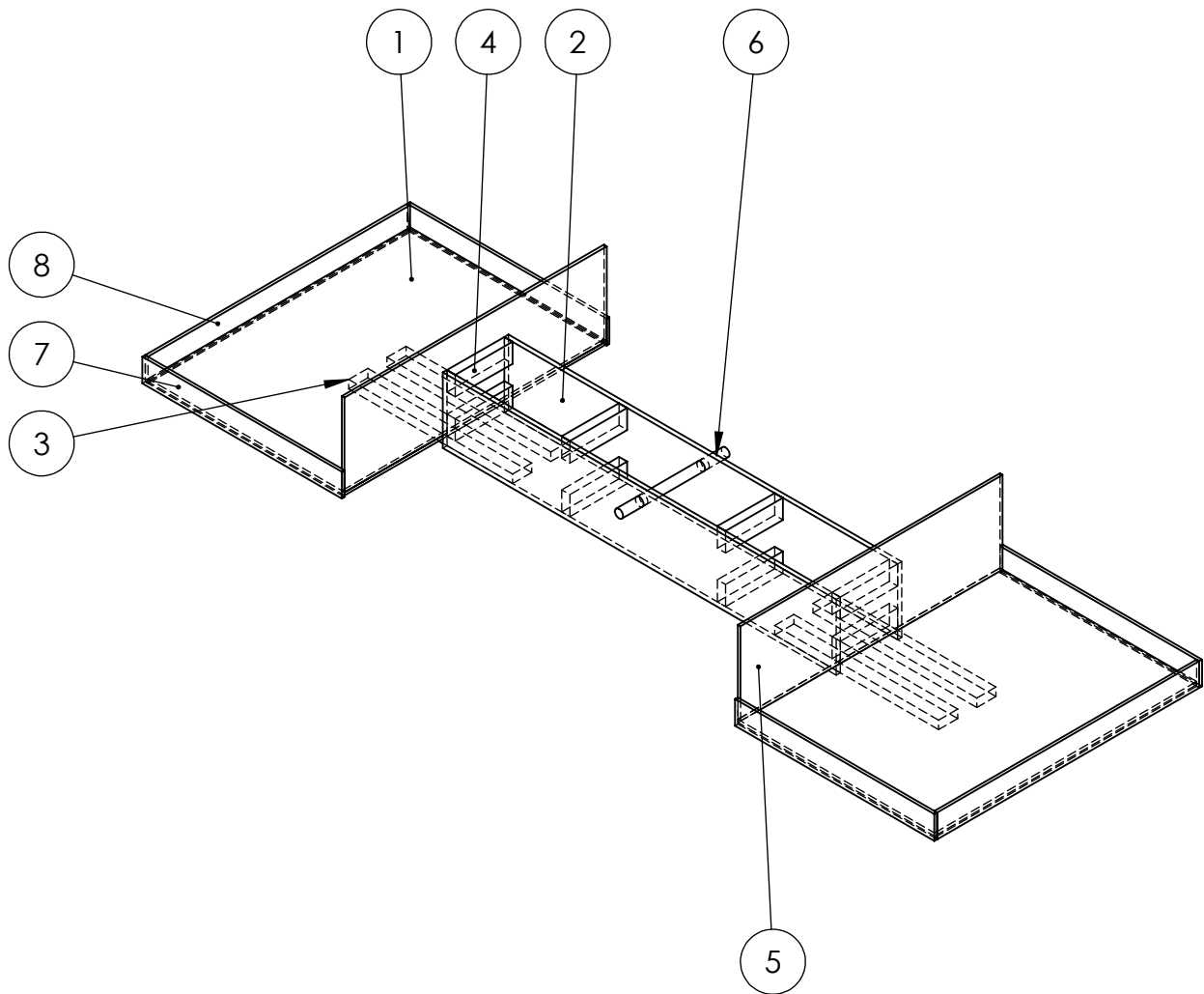
**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18003-7</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

2

1





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18004-01		2
2	TE-18004-02		2
3	TE-18004-03		4
4	TE-18004-04		8
5	TE-18004-05		2
6	TE-18004-06		1
7	TE-18004-07		4
8	TE-18004-08		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			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			



TITLE:  

# Switch Arm

SIZE  
**B**

DWG. NO.  
**TE-18004**

REV

SCALE: 1:24

WEIGHT:

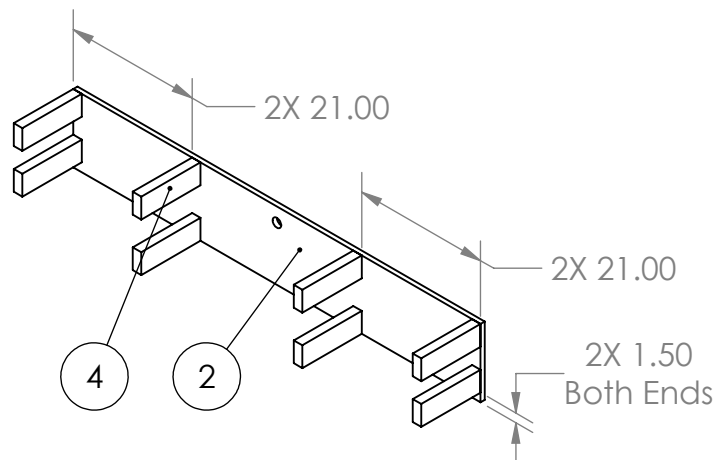
SHEET 1 OF 3

4

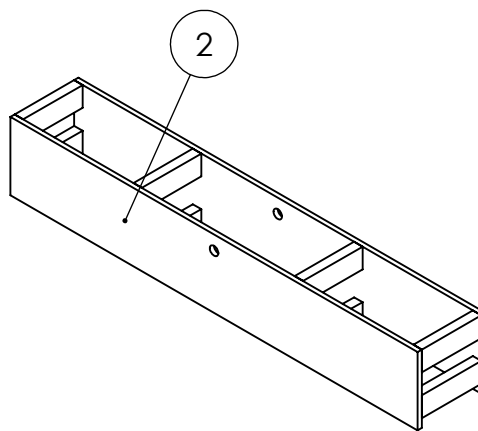
3

2

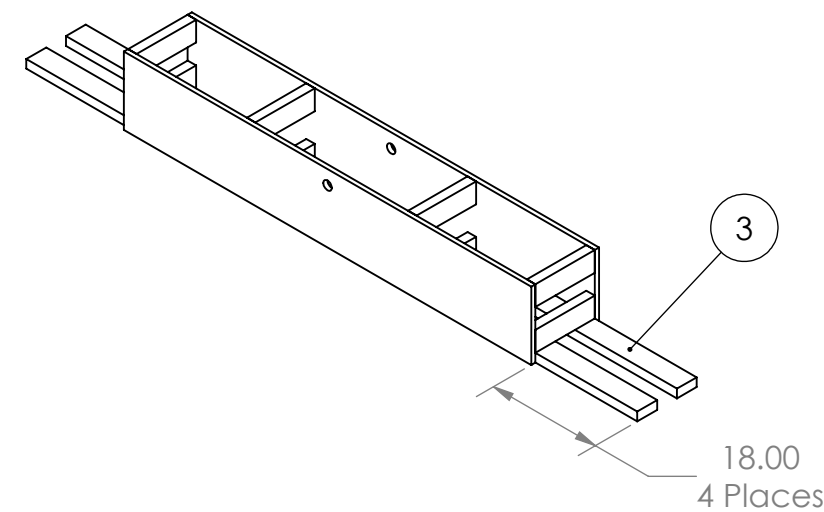
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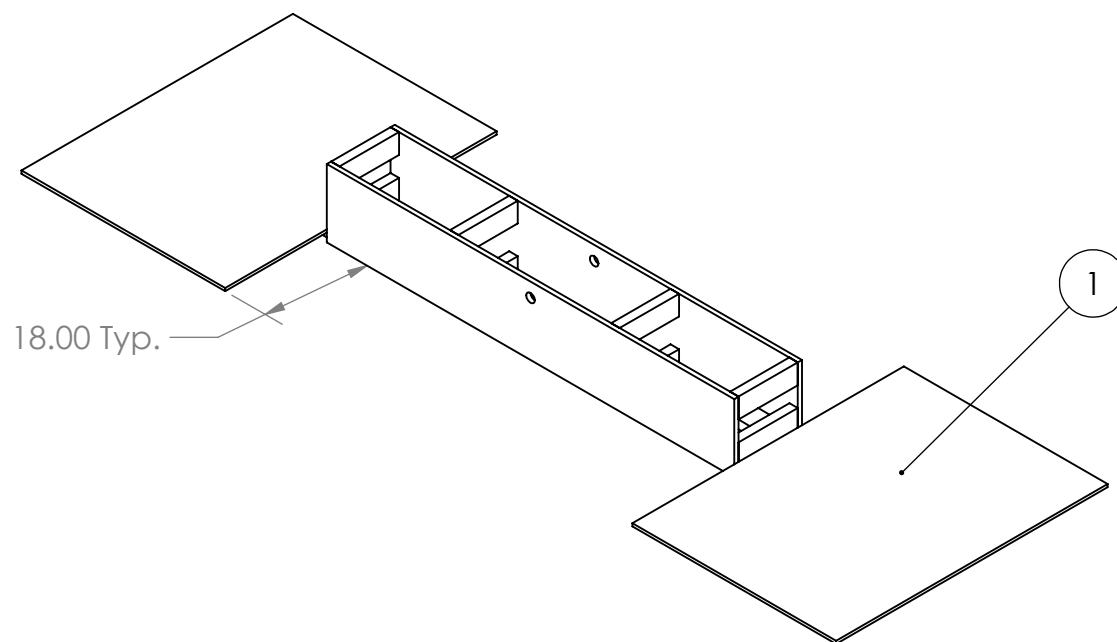
Step 1: Attach Item 4 (qty. 8) to Item 2 as shown with wood screws.



Step 2: Attach Item 2 to assembly as shown with wood screws.





Step 3: Attach Item 3 (qty. 4) to assembly as shown with wood screws.



Step 4: Attach Item 1 (qty. 2) to assembly as shown with wood screws.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div> <div>TITLE: <h1>Switch Arm</h1></div> <div><div>SIZE</div><div>B</div><div>DWG. NO.</div><div>TE-18004</div><div>REV</div></div> <div><div>SCALE: 1:24</div><div>WEIGHT:</div><div>SHEET 2 OF 3</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			
			CHECKED			
			ENG APPR.			
			MFG APPR.			
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			
		MATERIAL	COMMENTS:			
NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				

4

3

2

1



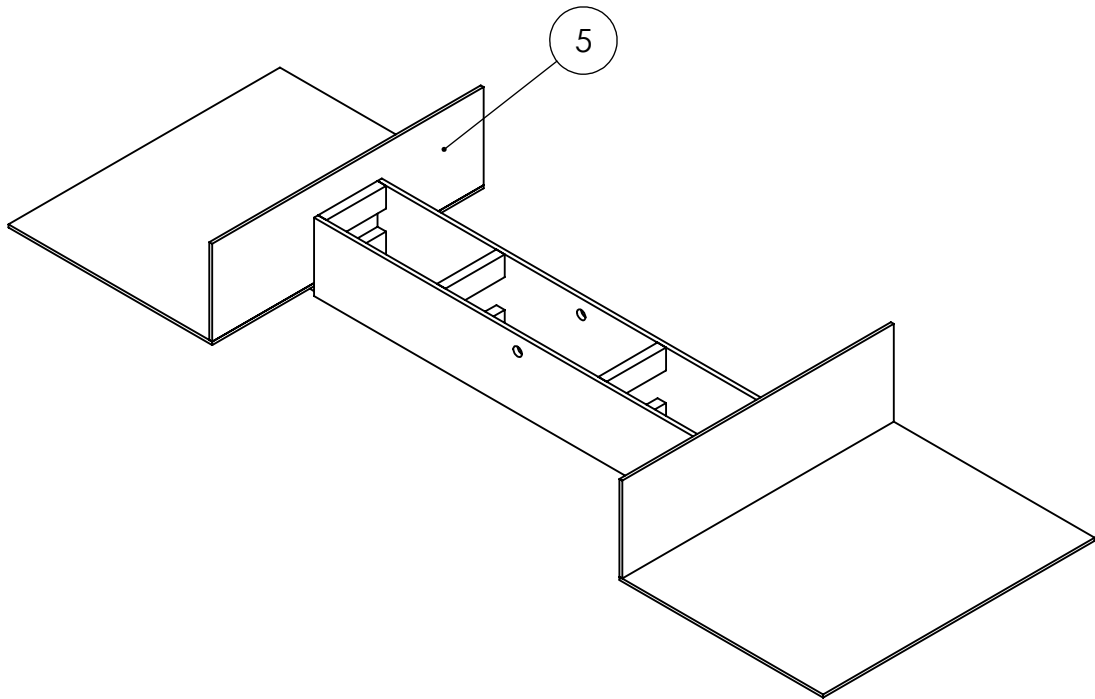
4 3 2 1

B

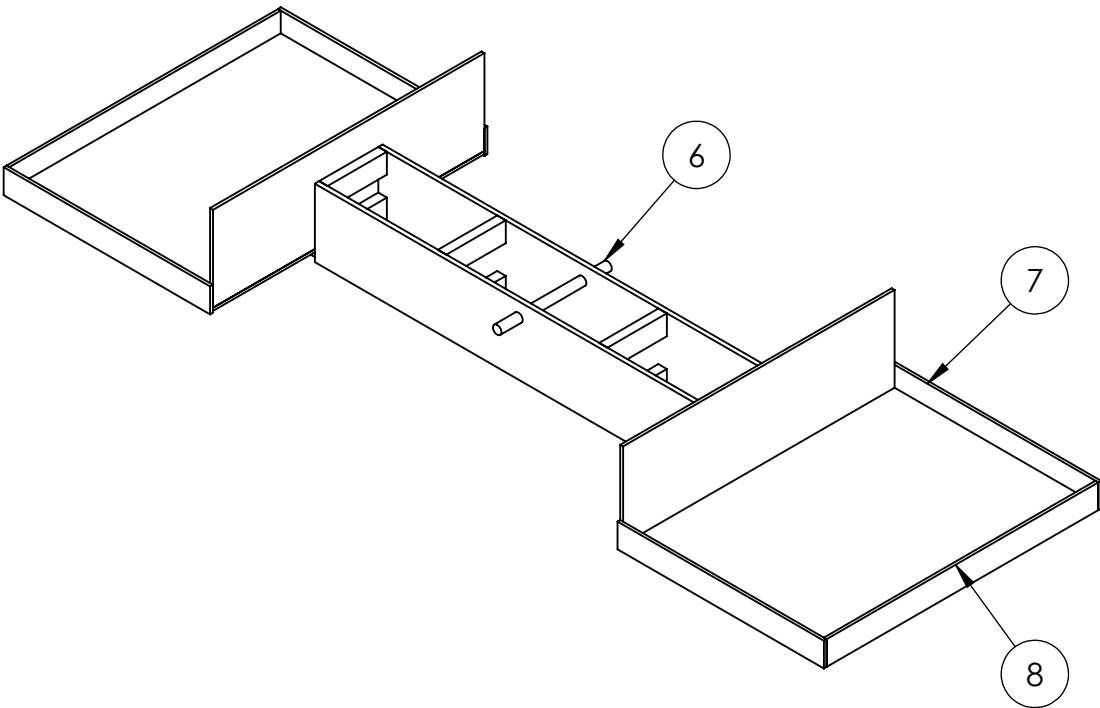
A

B

A





Step 5: Attach Item 5 (qty. 2) to assembly as shown with wood screws.



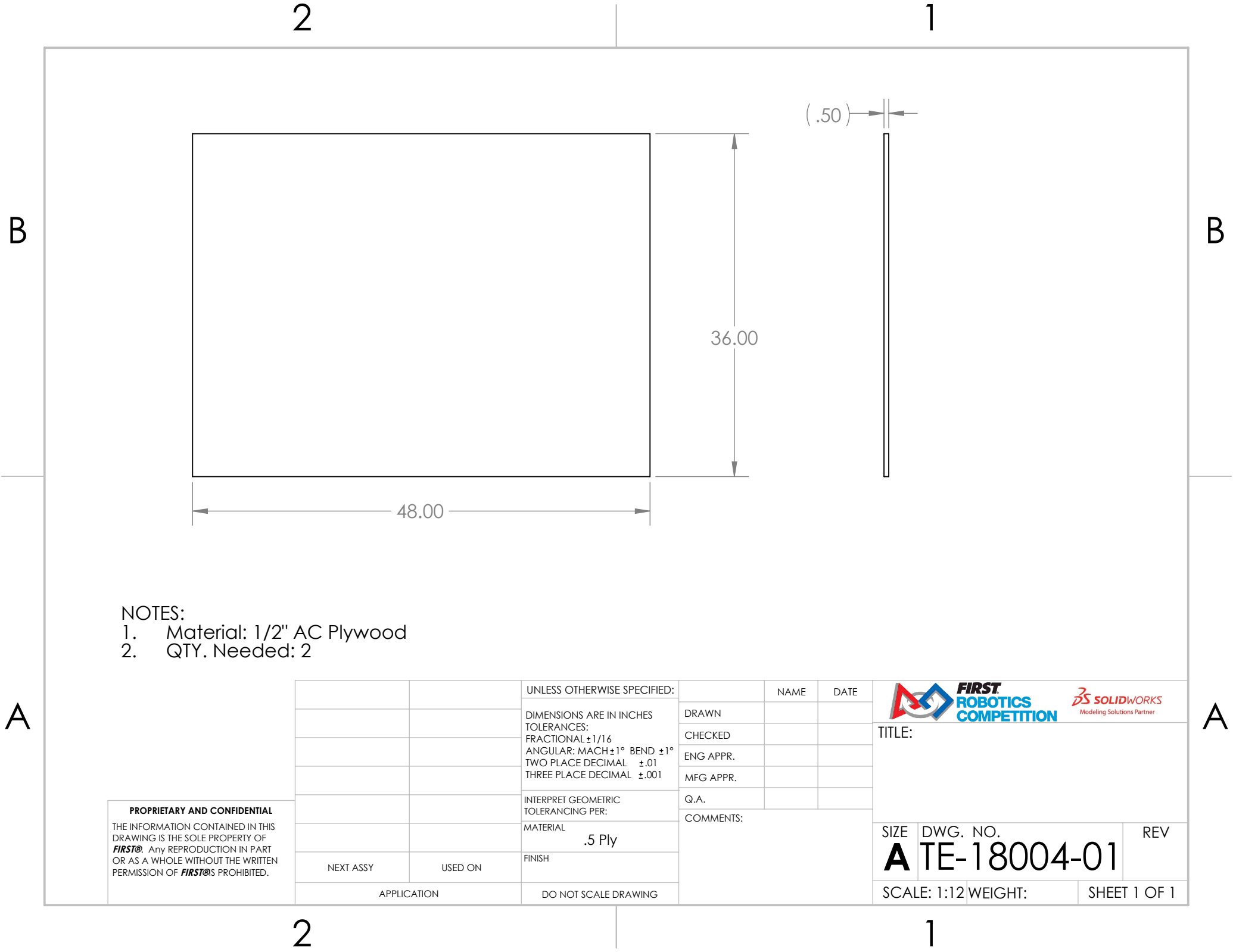
Step 6: Attach Item 7 (qty. 4) and Item 8 (qty. 2) to Item 2 as shown with wood screws or staples. When using screws, pre-drill to avoid splitting.

Place Item 6 as shown, but do not attach.



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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.			TITLE: <b>Switch Arm</b>	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE <b>B</b>	DWG. NO. <b>TE-18004</b>
		MATERIAL					REV
		FINISH				SCALE: 1:24 WEIGHT:	
NEXT ASSY	USED ON	DO NOT SCALE DRAWING				SHEET 3 OF 3	
APPLICATION							

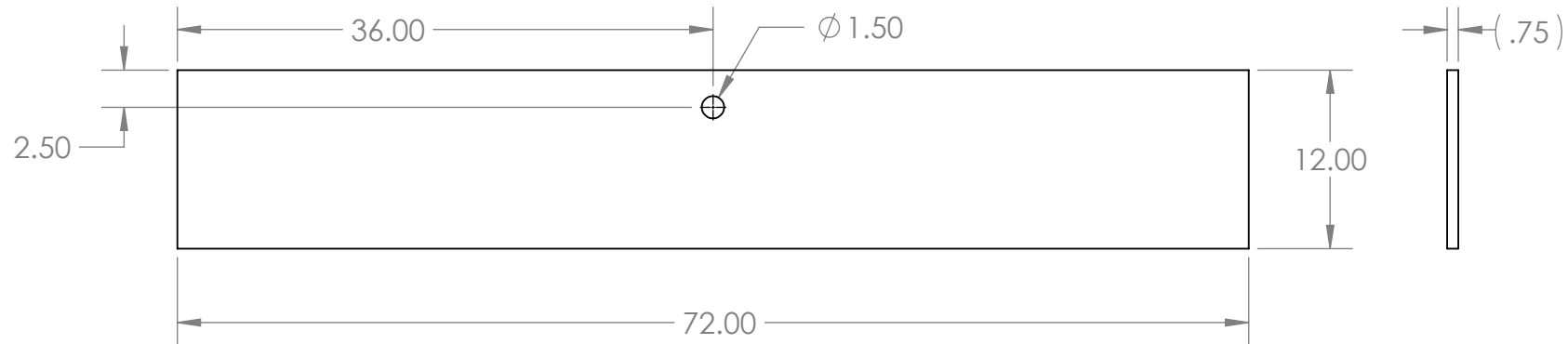
4 3 2 1



- NOTES:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 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						
				CHECKED						
				ENG APPR.						
				MFG APPR.						
			INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV			
			MATERIAL	COMMENTS:	A TE-18004-01					
			.5 Ply							
		NEXT ASSY	USED ON	FINISH				SCALE: 1:12 WEIGHT: SHEET 1 OF 1		
		APPLICATION		DO NOT SCALE DRAWING						

B





B

## Notes:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 2

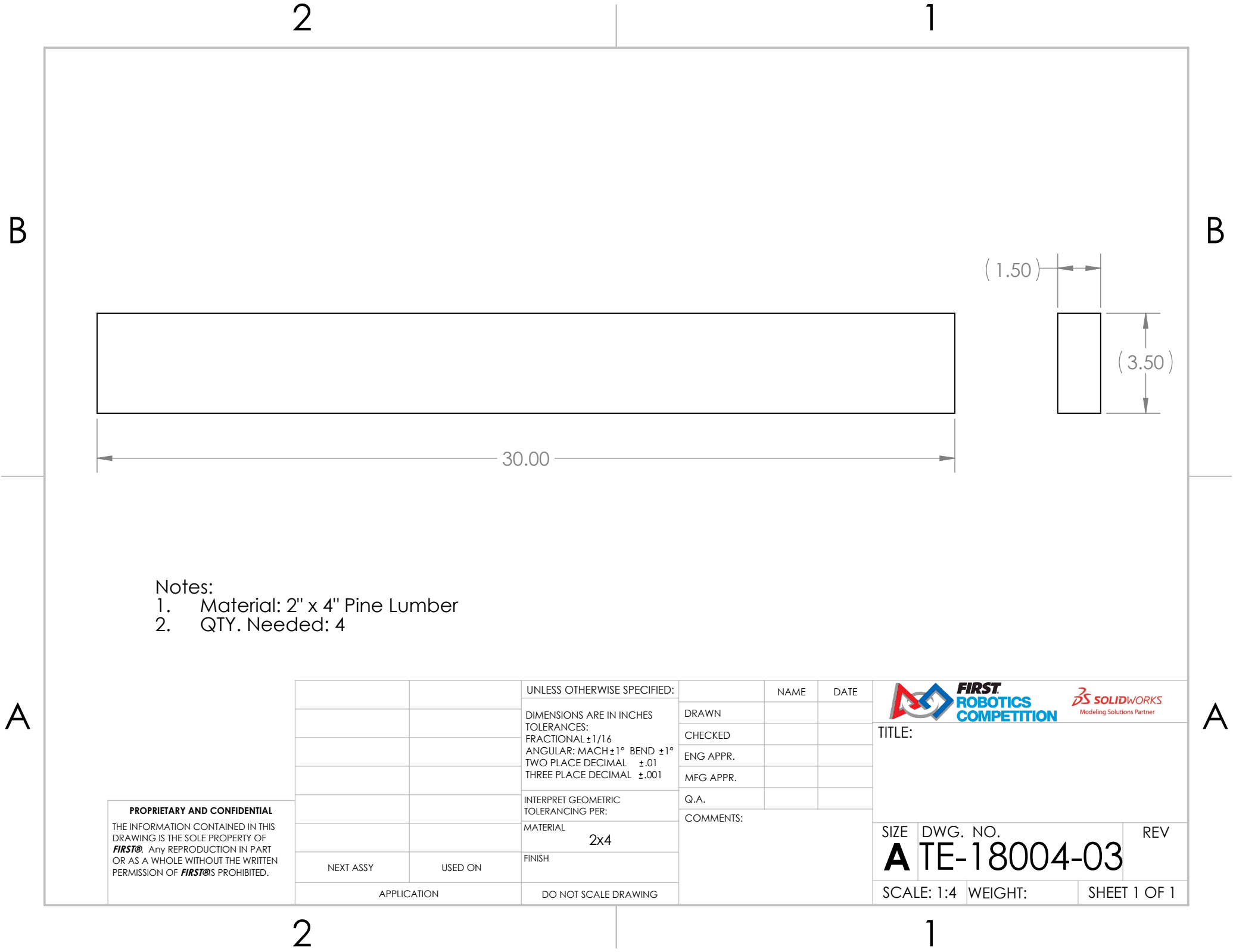
A

A



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			DIMENSIONS ARE IN INCHES	DRAWN				<b>SIZE</b> <b>DWG. NO.</b> <b>REV</b> <b>A TE-18004-02</b>	
			TOLERANCES:	CHECKED					<b>SCALE: 1:12</b> <b>WEIGHT:</b> <b>SHEET 1 OF 1</b>
			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	.75 Ply						
	NEXT ASSY	USED ON	FINISH						
	APPLICATION		DO NOT SCALE DRAWING						

2

1



- Notes:
- 1. Material: 2" x 4" Pine Lumber
  - 2. QTY. Needed: 4

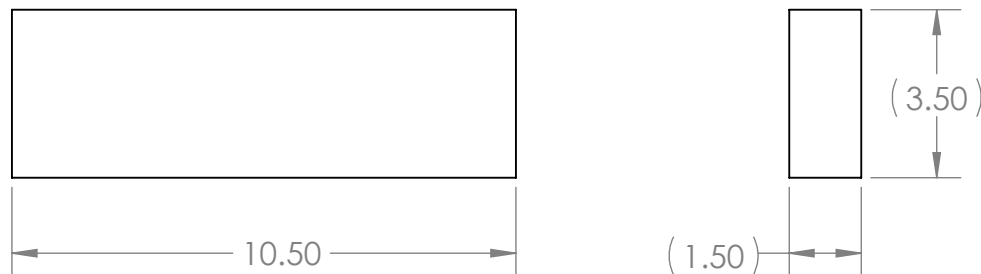
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			DIMENSIONS ARE IN INCHES	DRAWN			TITLE:		
			TOLERANCES:	CHECKED					
			FRACTIONAL $\pm 1/16$	ENG APPR.					
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
			TWO PLACE DECIMAL $\pm .01$	Q.A.			REV		
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
			INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.	
			MATERIAL				<b>A</b>		
			2x4				TE-18004-03		
	NEXT ASSY	USED ON	FINISH				SCALE: 1:4	WEIGHT:	
	APPLICATION		DO NOT SCALE DRAWING				SHEET 1 OF 1		

2

1

B



B



## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 8

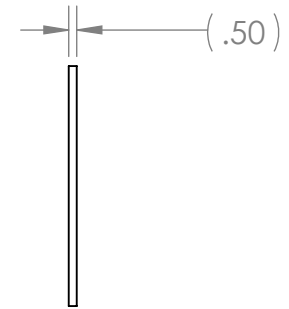
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
		DIMENSIONS ARE IN INCHES	DRAWN					
		TOLERANCES:	CHECKED					
		FRACTIONAL $\pm 1/16$	ENG APPR.					
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$	Q.A.			TITLE:		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.	REV
		MATERIAL				<b>A</b> TE-18004-04		
		2x4						
NEXT ASSY	USED ON	FINISH				SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
APPLICATION		DO NOT SCALE DRAWING						

2

1

A



Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 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 $\pm .001$
		INTERPRET GEOMETRIC TOLERANCING PER:
		MATERIAL
		1/2" Ply
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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

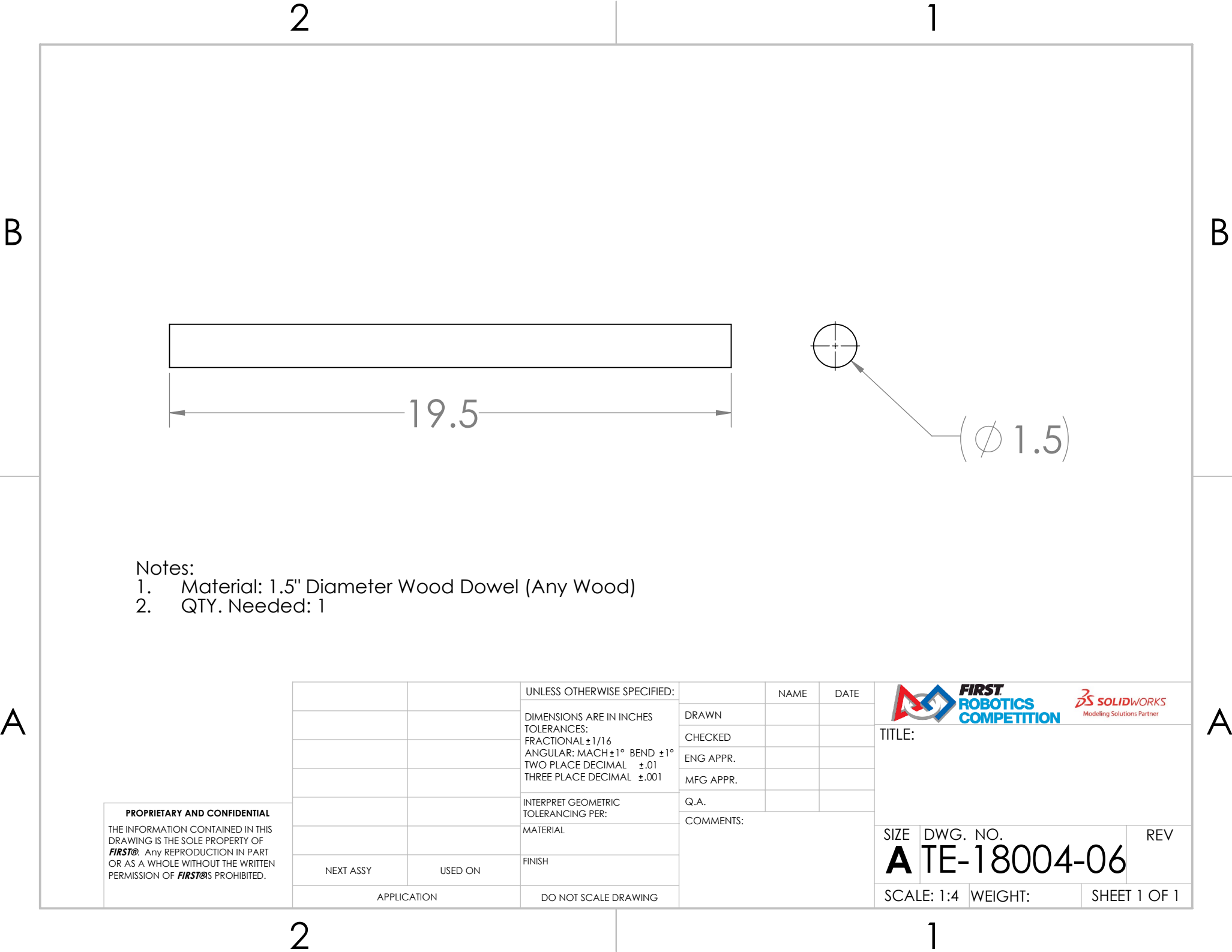


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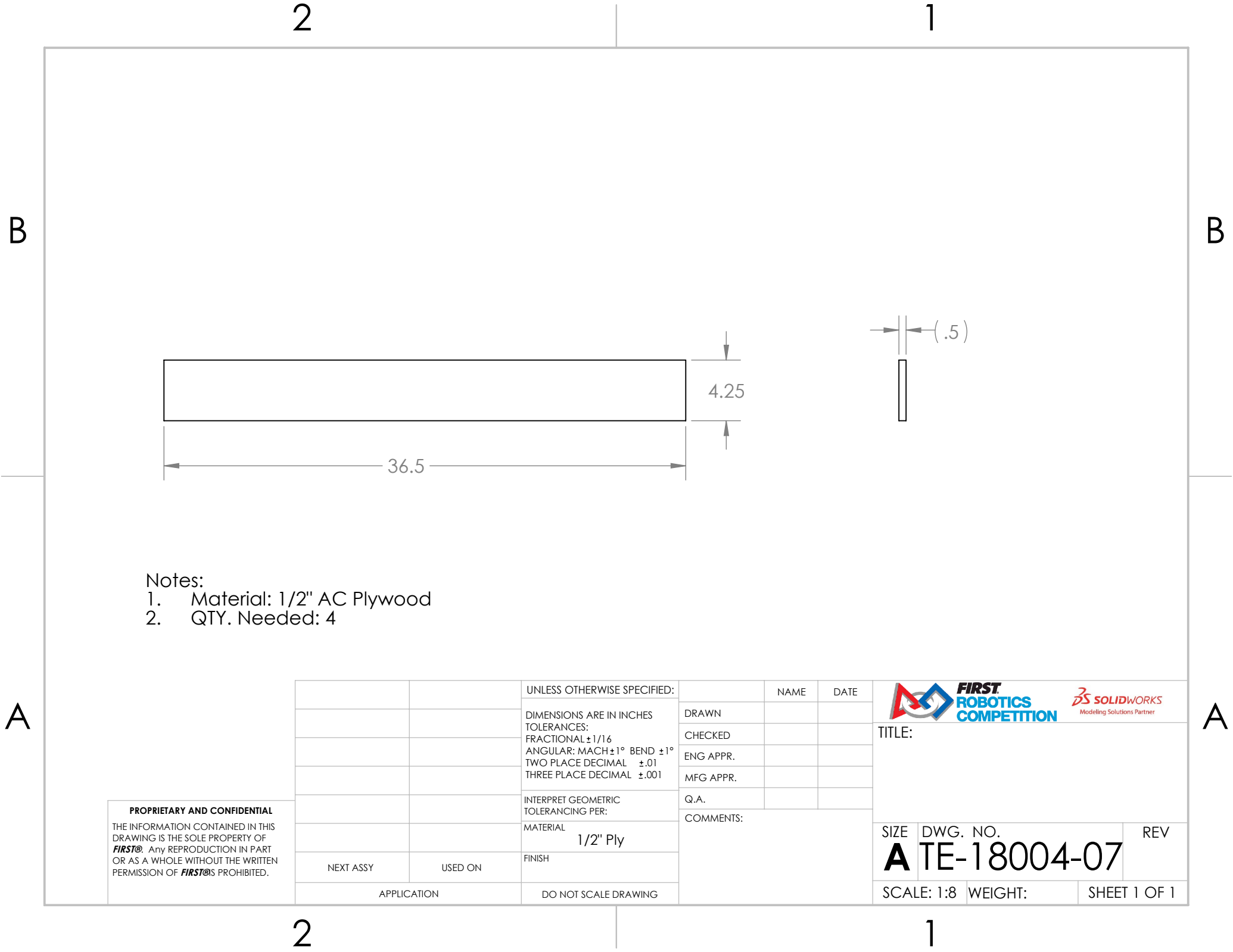
TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18004-05</b>	
SCALE: 1:12		WEIGHT:
		SHEET 1 OF 1





- Notes:
- 1. Material: 1.5" Diameter Wood Dowel (Any Wood)
  - 2. QTY. Needed: 1

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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.					
			INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			<div>SIZE DWG. NO. REV</div> <div>A TE-18004-06</div>		
			MATERIAL	COMMENTS:					
			FINISH						
	NEXT ASSY	USED ON					SCALE: 1:4 WEIGHT: SHEET 1 OF 1		
	APPLICATION			DO NOT SCALE DRAWING					



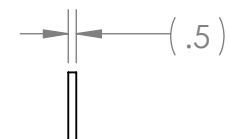
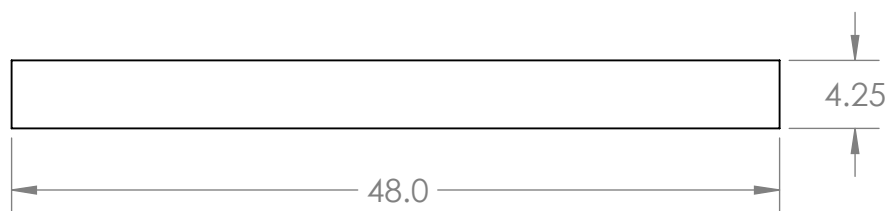
- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

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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:					
				CHECKED								
				ENG APPR.								
				MFG APPR.								
			INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV					
			MATERIAL	COMMENTS:								
			1/2" Ply									
		NEXT ASSY	USED ON	FINISH				A TE-18004-07				
	APPLICATION			DO NOT SCALE DRAWING			SCALE: 1:8 WEIGHT: SHEET 1 OF 1					





1

B



1. Material: 1/2" AC Plywood
2. QTY. Needed: 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:		
				CHECKED					
				ENG APPR.					
				MFG APPR.					
				Q.A.					
			INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>A TE-18004-08</b>		
			MATERIAL  1/2 Ply						
			FINISH						
	NEXT ASSY	USED ON							
	APPLICATION	DO NOT SCALE DRAWING	SCALE: 1:12 WEIGHT: SHEET 1 OF 1						

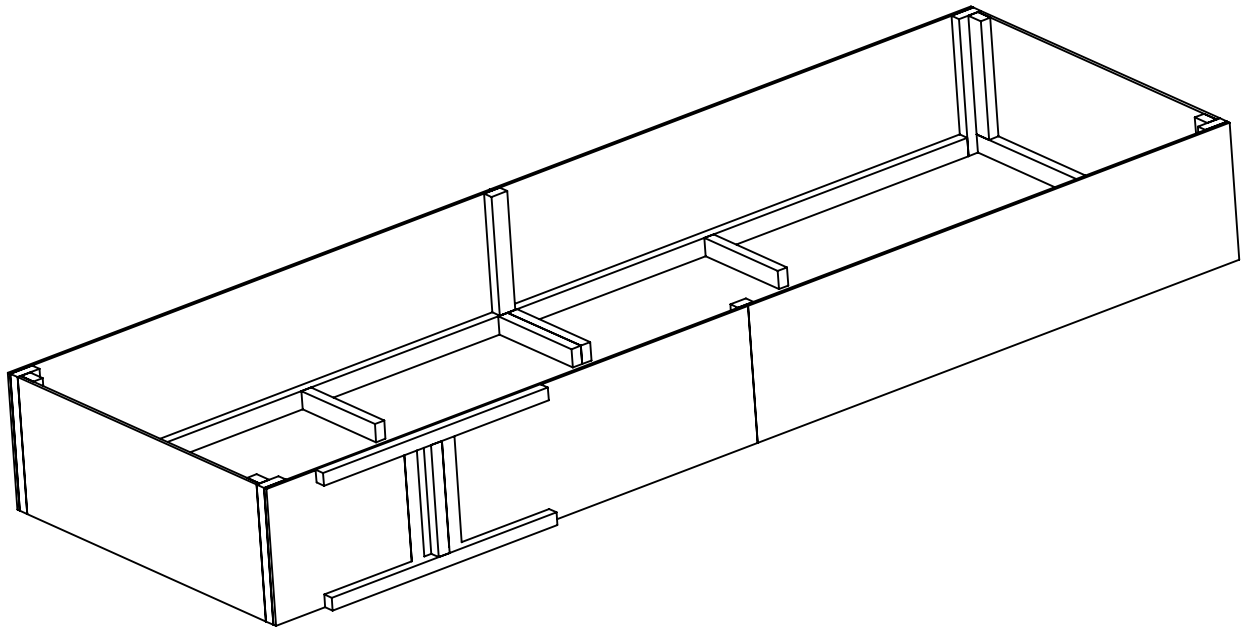
1

4

3



2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18005-1		4
2	TE-18005-2		2
3	TE-18005-3		4
4	TE-18005-4		8
5	TE-18005-5		4
6	TE-18005-6		2
7	TE-18005-7		2
8	TE-18005-8		1
9	TE-18005-9		2
10	TE-18005-10		6

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 	
		DIMENSIONS ARE IN INCHES	DRAWN				TITLE:  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.			SIZE DWG. NO. REV B TE-18005	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SCALE: 1:24 WEIGHT: SHEET 1 OF 3	
		FINISH					
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING				

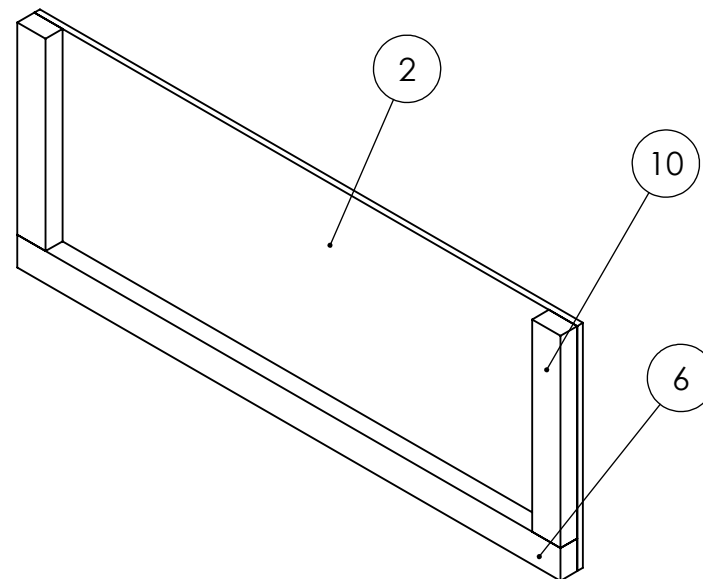
4

3

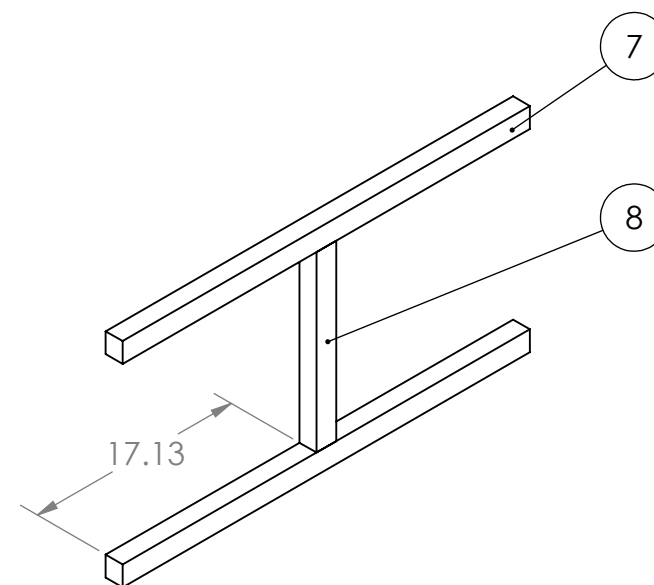
2

1

1





Step 2: Attach Item 10 (qty. 2) and Item 6 to Item 2 with wood screws. Build 2.



Step 4 (optional): Attach Item 7 (qty. 2) to Item 8 with wood screws. Only build if team is using vision targets.

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<INSERT COMPANY NAME HERE> IS  
PROHIBITED

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 	TITLE:  <div>Fence</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.			SIZE <b>B</b>	DWG. NO. <b>TE-18005</b>	REV	
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:24		WEIGHT:	SHEET 2 OF 2

1

4

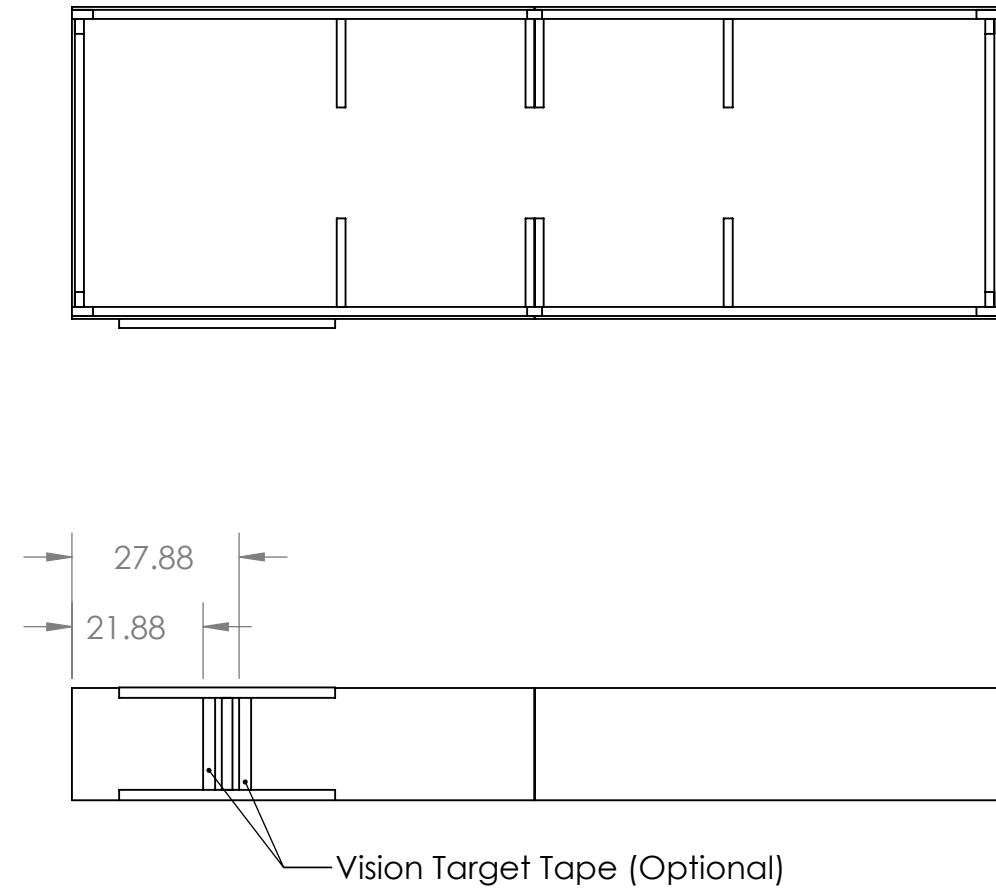
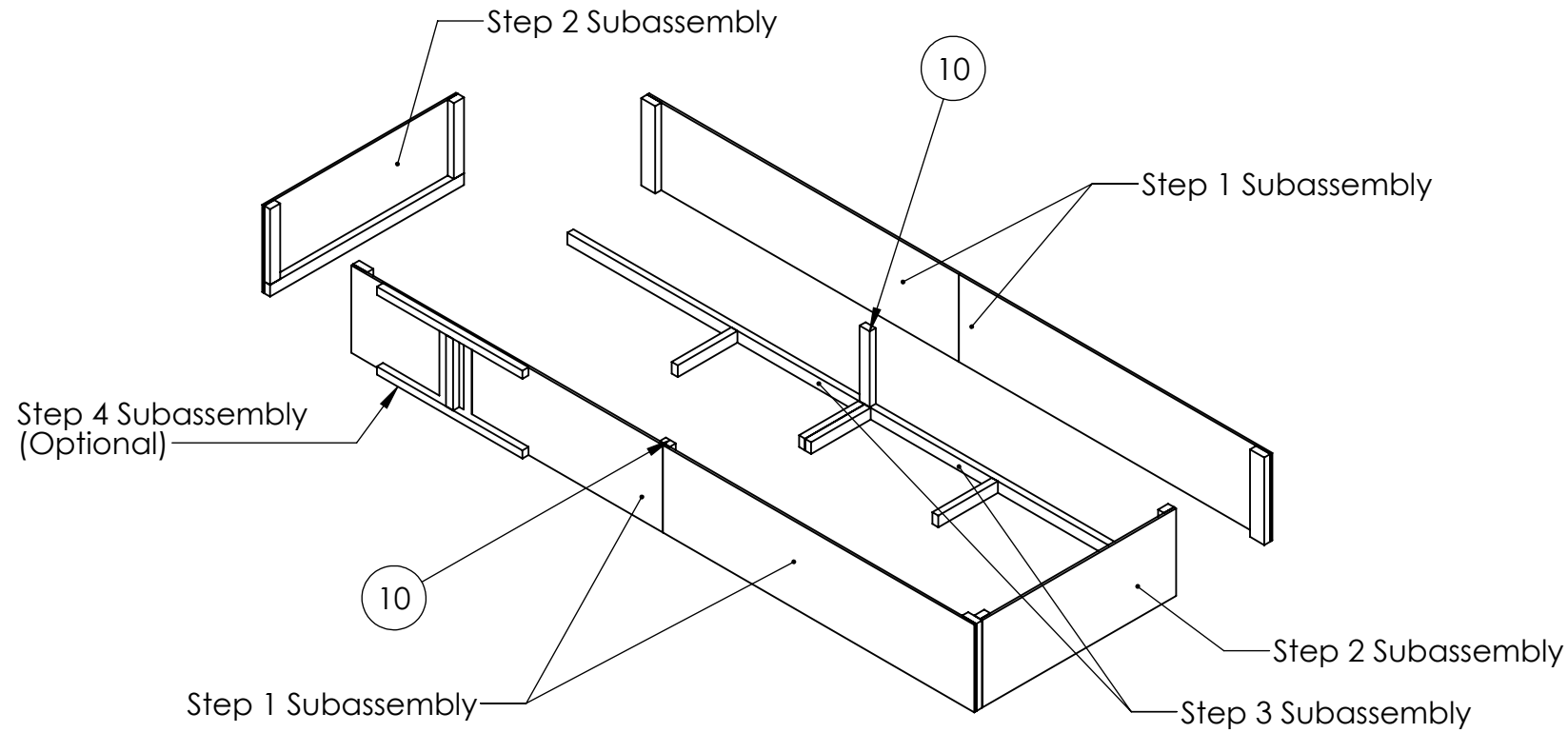
3

2

1

B

B





Step 6 (Optional): Attach vision tape as shown.

A

A

Step 5: Attach all subassemblies as shown using wood screw. Pre-drill to avoid splitting.

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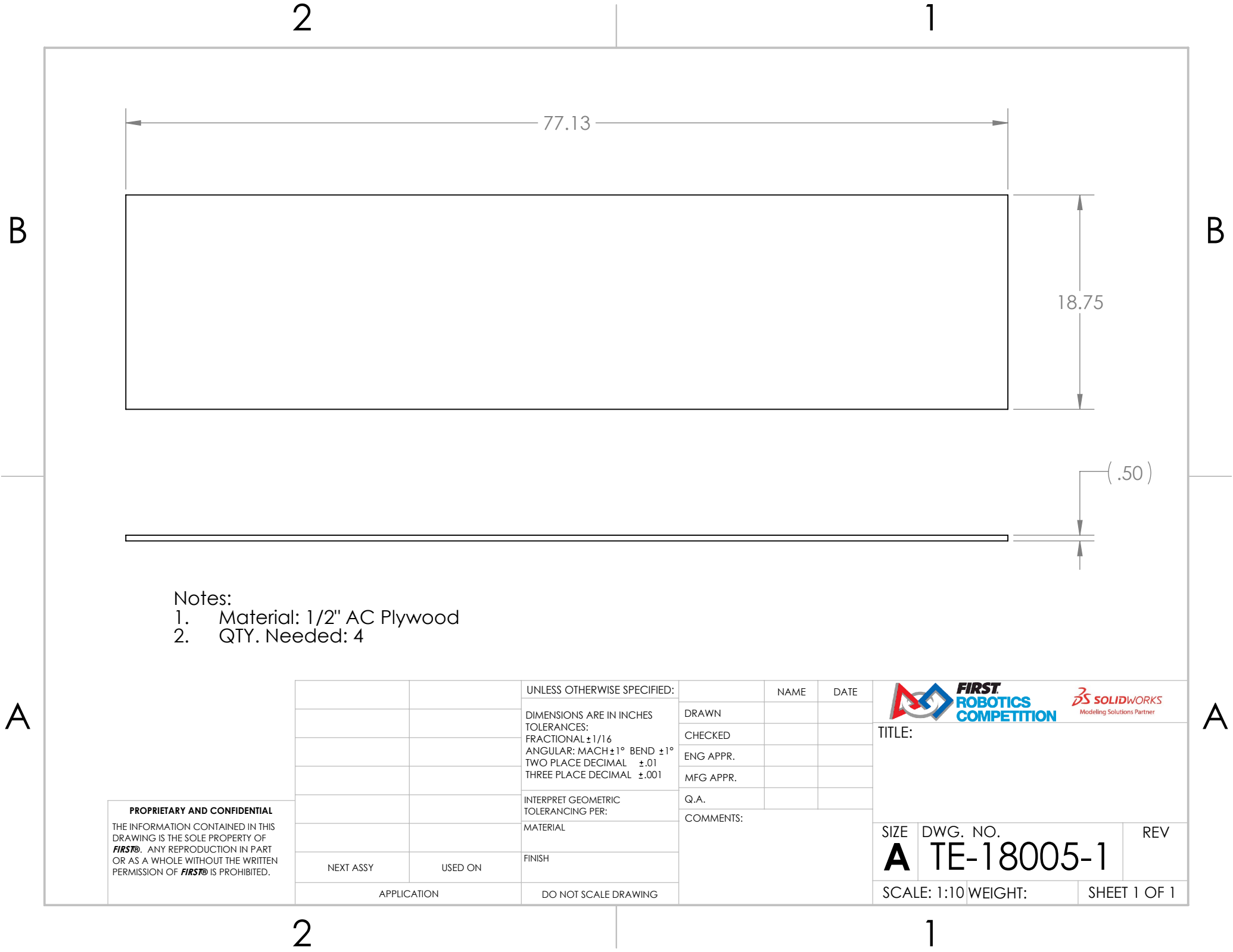
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	  TITLE: <b>Fence</b>	
		DIMENSIONS ARE IN INCHES	DRAWN				
		TOLERANCES:	CHECKED				
		FRACTIONAL $\pm 1/16$	ENG APPR.				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			SIZE	DWG. NO.
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			<b>B</b>	<b>TE-18005</b>
		INTERPRET GEOMETRIC TOLERANCING PER:				SCALE: 1:32	WEIGHT:
		MATERIAL					
		FINISH					
NEXT ASSY	USED ON						REV
APPLICATION		DO NOT SCALE DRAWING				SHEET 3 OF 3	

4

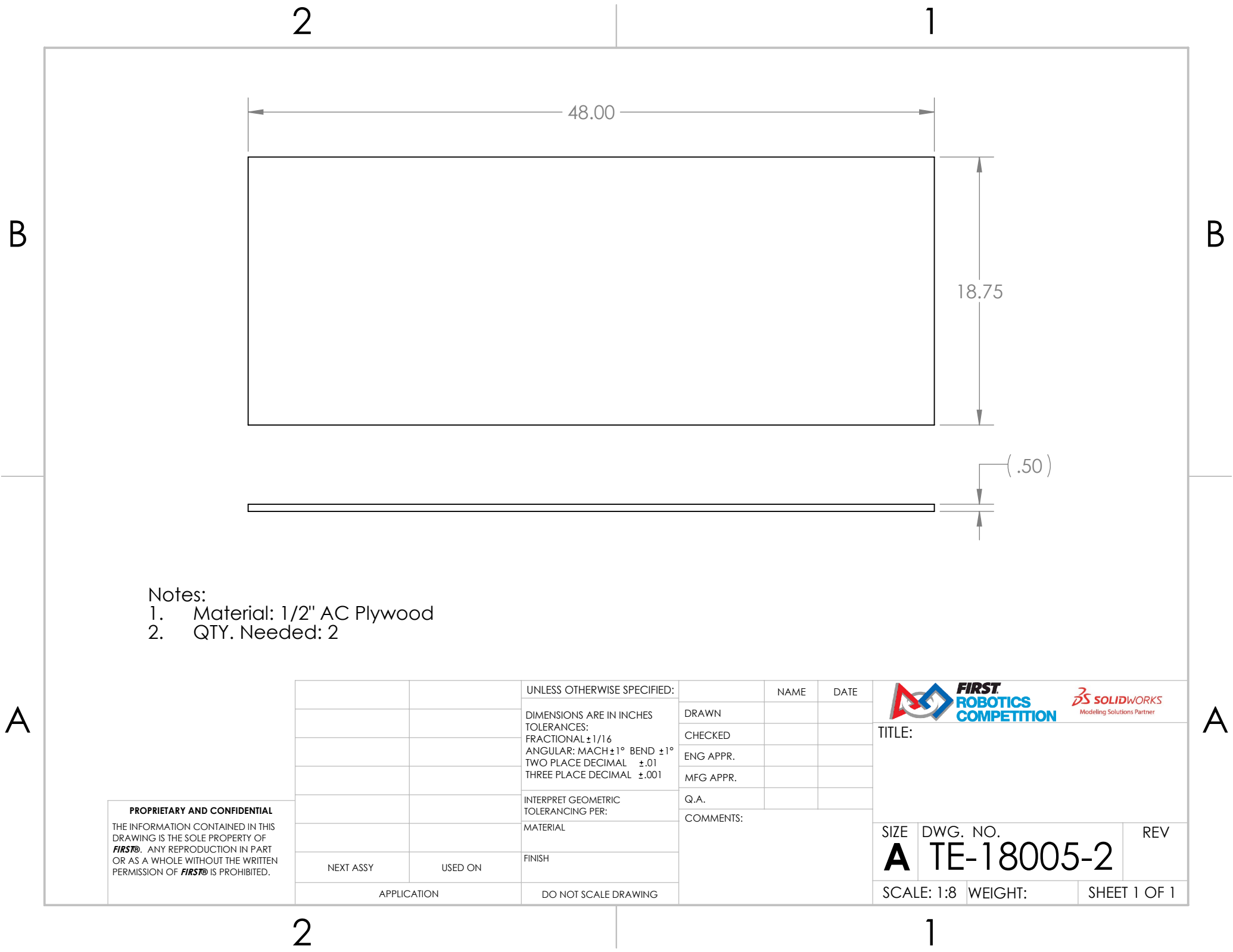
3

2

1



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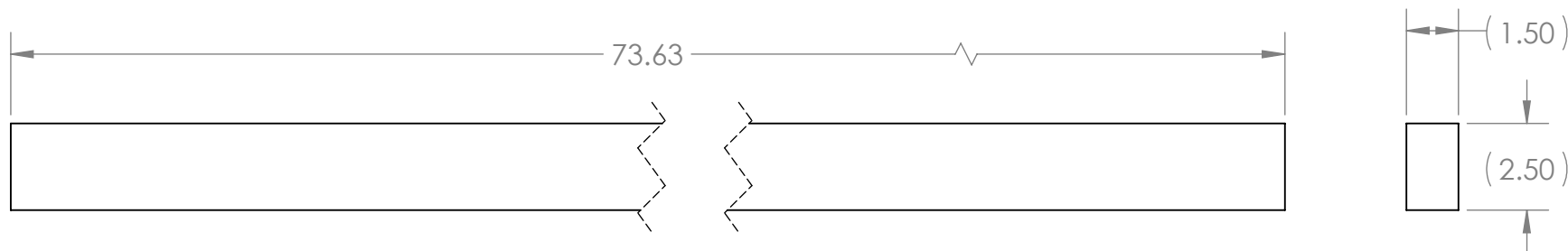


2

1

B

B



## Notes:

1. Material: 2" x 3" Pine Lumber
2. QTY. Needed: 4

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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:

SIZE

**A**

DWG. NO.

**TE-18005-3**

REV

SCALE: 1:5

WEIGHT:

SHEET 1 OF 1

2

1

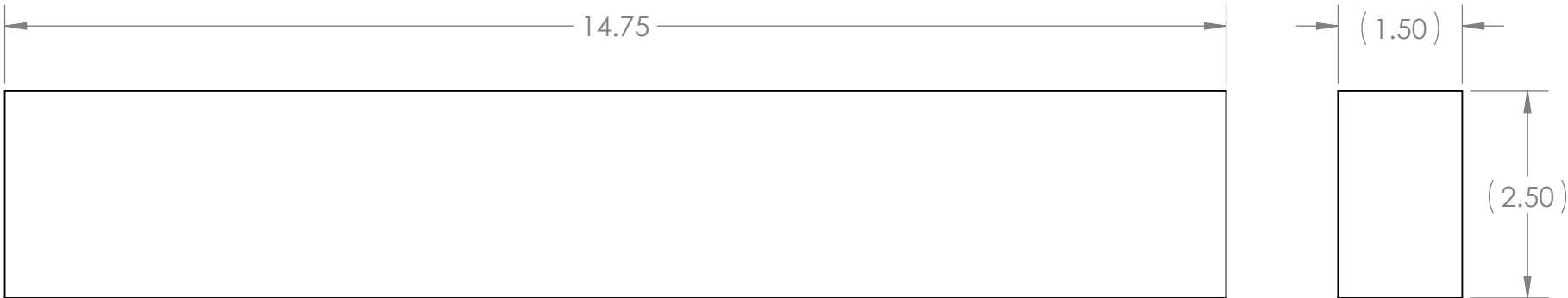
A

2

1

B



B



- Notes:
- 1. Material: 2" x 3" Pine Lumber
  - 2. QTY. Needed: 8

A

A

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			DIMENSIONS ARE IN INCHES	DRAWN				<b>SIZE</b> <b>DWG. NO.</b> <b>REV</b> <b>A</b> <b>TE-18005-4</b>	
			TOLERANCES:	CHECKED					<b>SCALE: 1:2</b> <b>WEIGHT:</b> <b>SHEET 1 OF 1</b>
			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						

2

1

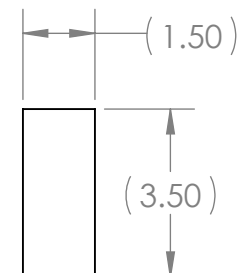
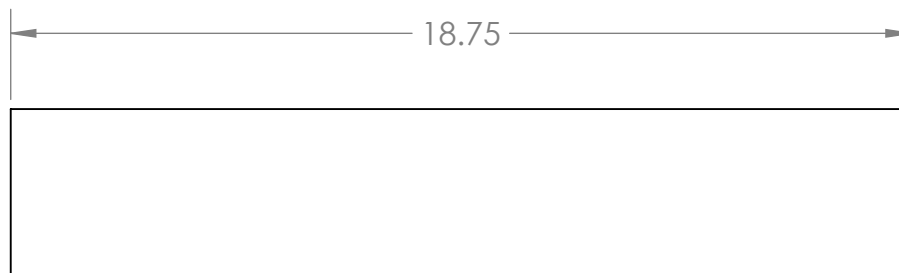


2

1

B

B





Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 4

A

A

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			DIMENSIONS ARE IN INCHES	DRAWN				<b>SIZE</b> <b>DWG. NO.</b> <b>REV</b> <b>A</b> <b>TE-18005-5</b>	
			TOLERANCES:	CHECKED					<b>SCALE: 1:4</b> <b>WEIGHT:</b> <b>SHEET 1 OF 1</b>
			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						

2

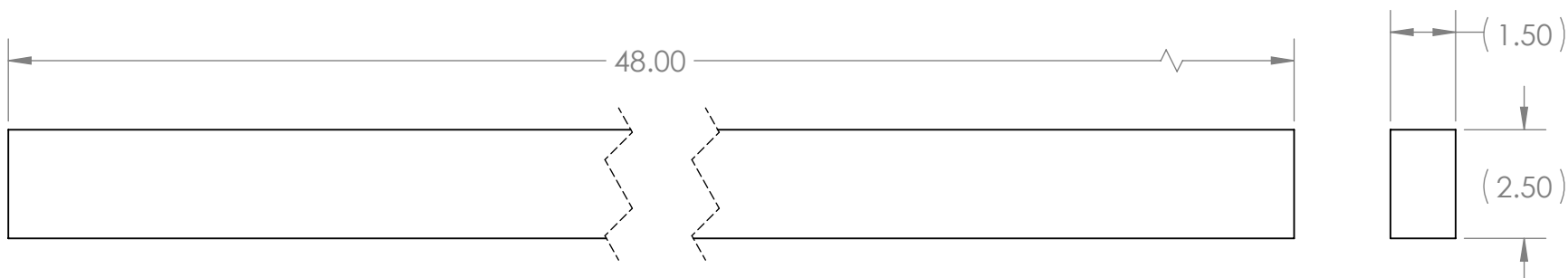
1

2

1

B

B



## Notes:

1. Material: 2" x 3" Pine Lumber
2. QTY. Needed: 2

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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:



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**ROBOTICS**  
**COMPETITION**

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

SIZE

DWG. NO.

REV

**A****TE-18005-6**

SCALE: 1:4

WEIGHT:

SHEET 1 OF 1

2

1

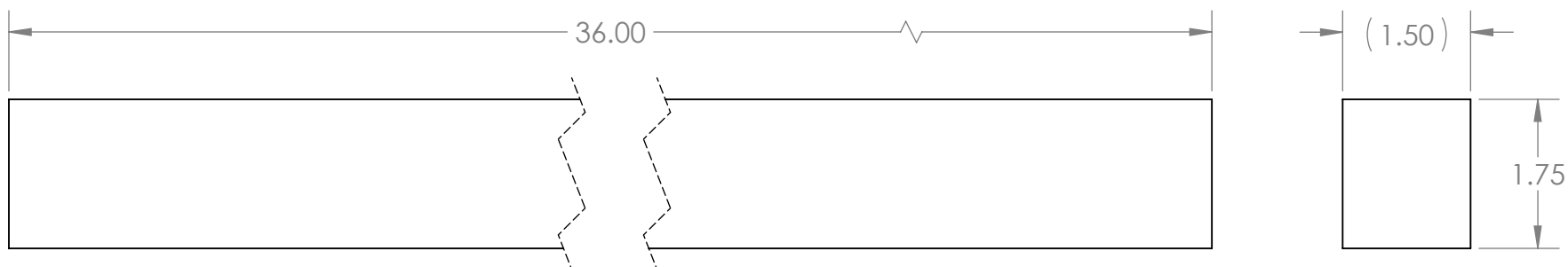
A

2

1

B

B



## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2
3. This part is only necessary for use with an optional vision target component of the assembly. If retroreflective tape is not going to be applied, this part is not necessary.
4. The 1.75" material height may be undersized to allow for cutting blade thickness.

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



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**COMPETITION**

**SOLIDWORKS**  
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TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18005-7</b>	
SCALE: 1:2	WEIGHT:	SHEET 1 OF 1

2

1

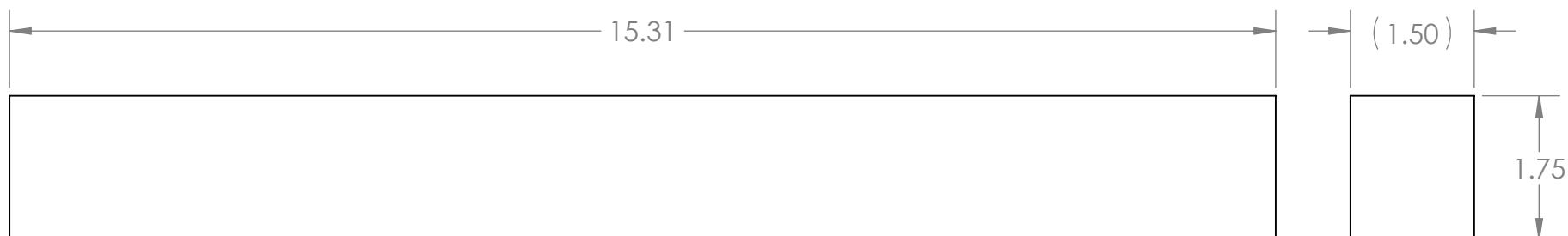
A

2

1

B

B



## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 1
3. This part is only necessary for use with an optional vision target component of the assembly. If retroreflective tape is not going to be applied, this part is not necessary.
4. The 1.75" material height may be undersized to allow for cutting blade thickness.

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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:



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**COMPETITION**

**SOLIDWORKS**  
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TITLE:

SIZE

DWG. NO.

REV

**A****TE-18005-8**

SCALE: 1:2

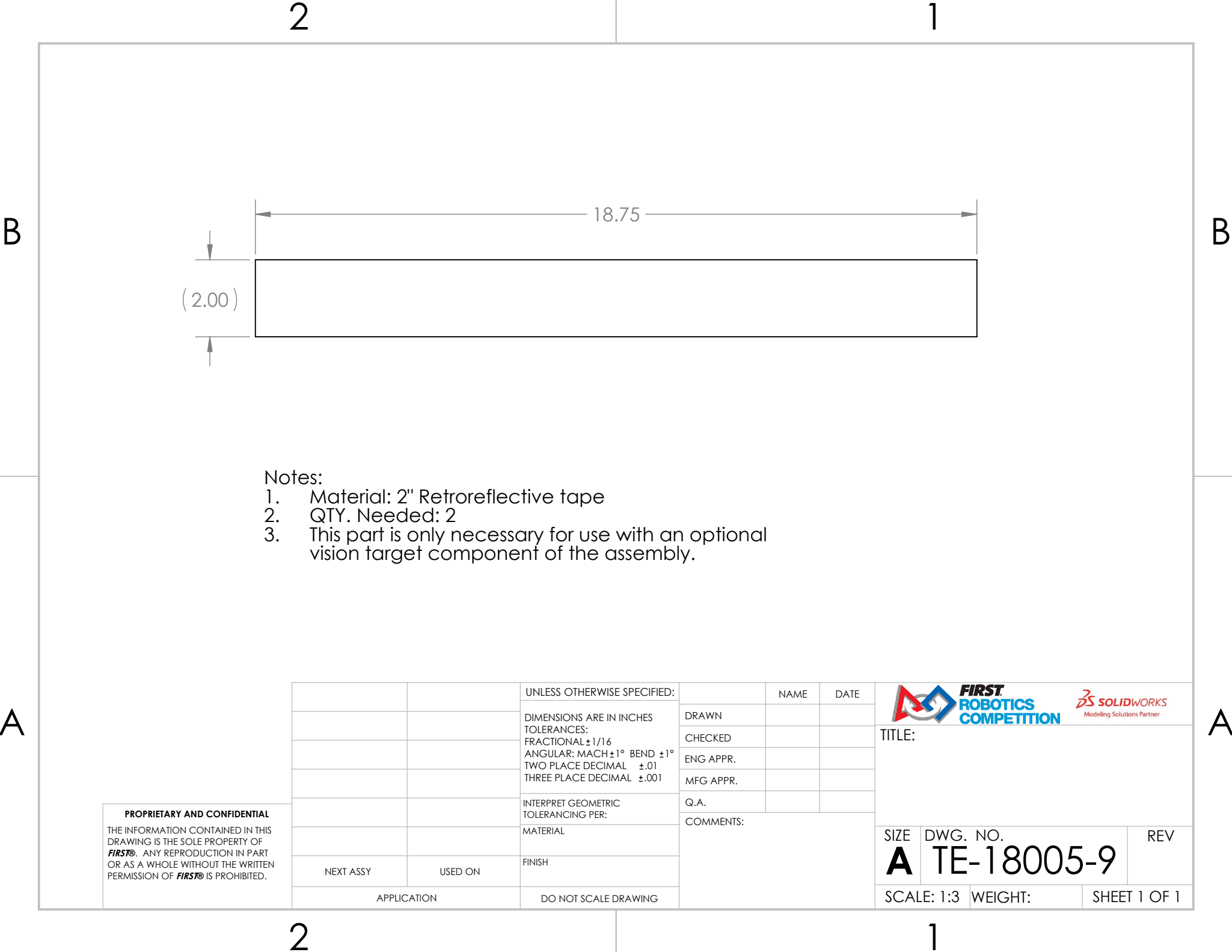
WEIGHT:

SHEET 1 OF 1

2



1

A



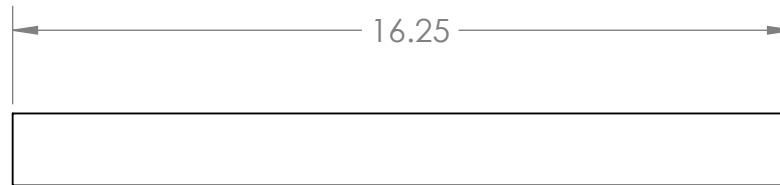
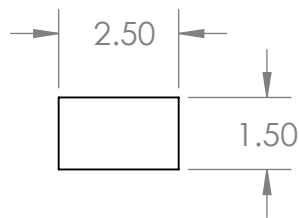
Notes:

- 1. Material: 2" Retroreflective tape
- 2. QTY. Needed: 2
- 3. This part is only necessary for use with an optional vision target component of the assembly.

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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				SIZE DWG. NO. REV		
		NEXT ASSY	USED ON	FINISH			A TE-18005-9		
	APPLICATION		DO NOT SCALE DRAWING			SCALE: 1:3 WEIGHT: SHEET 1 OF 1			

B

B



Notes:

1. Material: 2" x 3" Pine Lumber (1.5" x 2.5" actual)
2. Qty. needed: 6

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



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COMPETITION**

**SOLIDWORKS**  
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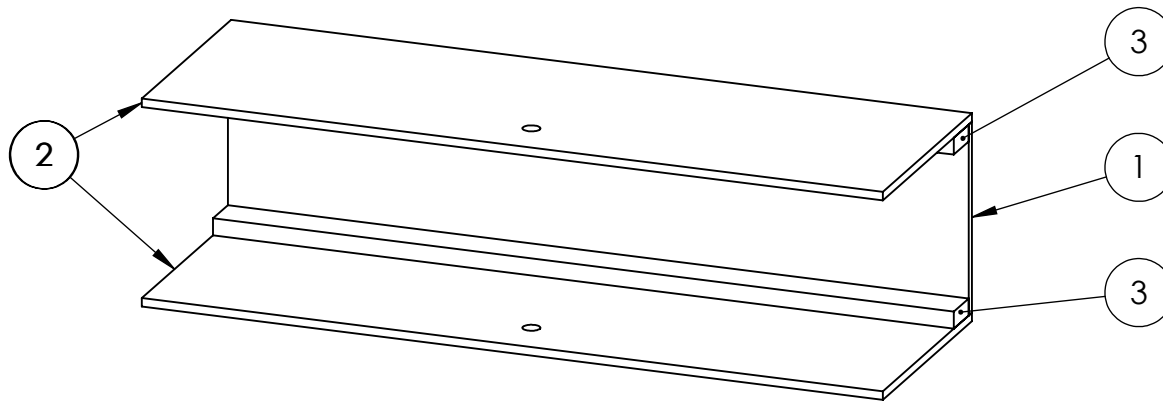
TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18005-10</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

A



2

1



Align parts as shown and secure with wood screws or staples.

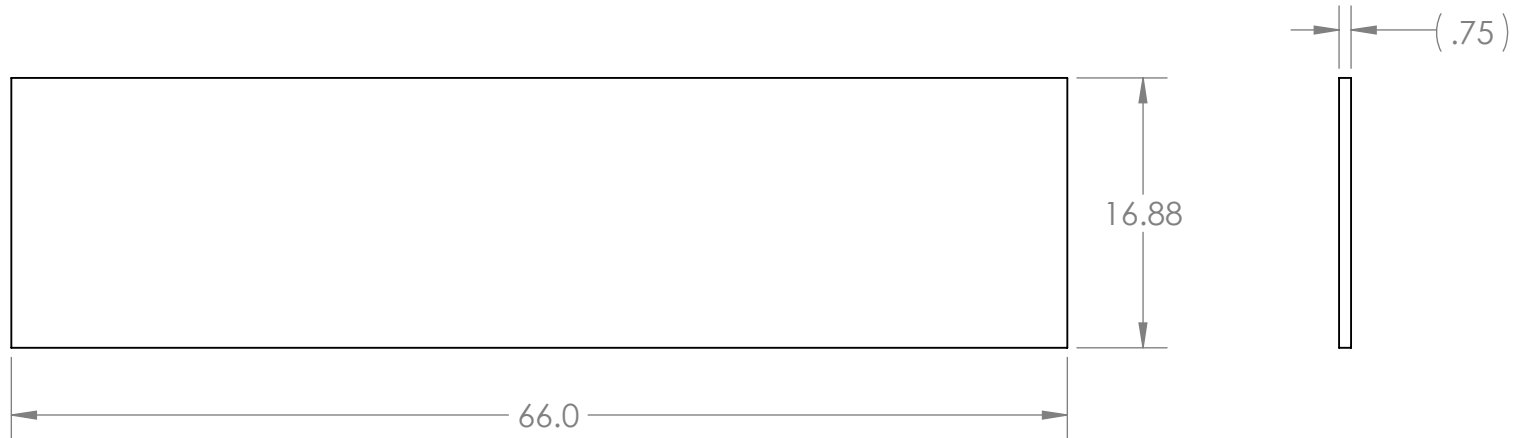
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18006-01		1
2	TE-18006-02		2
3	TE-18006-03		2

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				CHECKED				<b>TITLE:</b> <h1>Switch Frame</h1>
				ENG APPR.				
				MFG APPR.				
				Q.A.				
	NEXT ASSY	USED ON		COMMENTS:				
APPLICATION		DO NOT SCALE DRAWING						

SCALE: 1:16 WEIGHT: SHEET 1 OF 1

B

B



## Notes:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 1

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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  
.75 Ply

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



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

**SOLIDWORKS**  
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TITLE:

SIZE

DWG. NO.

REV

**A** TE-18006-01

SCALE: 1:12 WEIGHT:

SHEET 1 OF 1

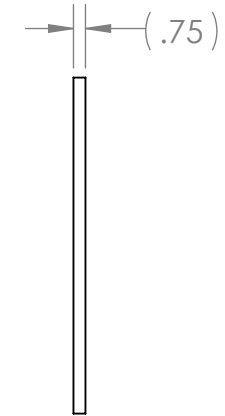
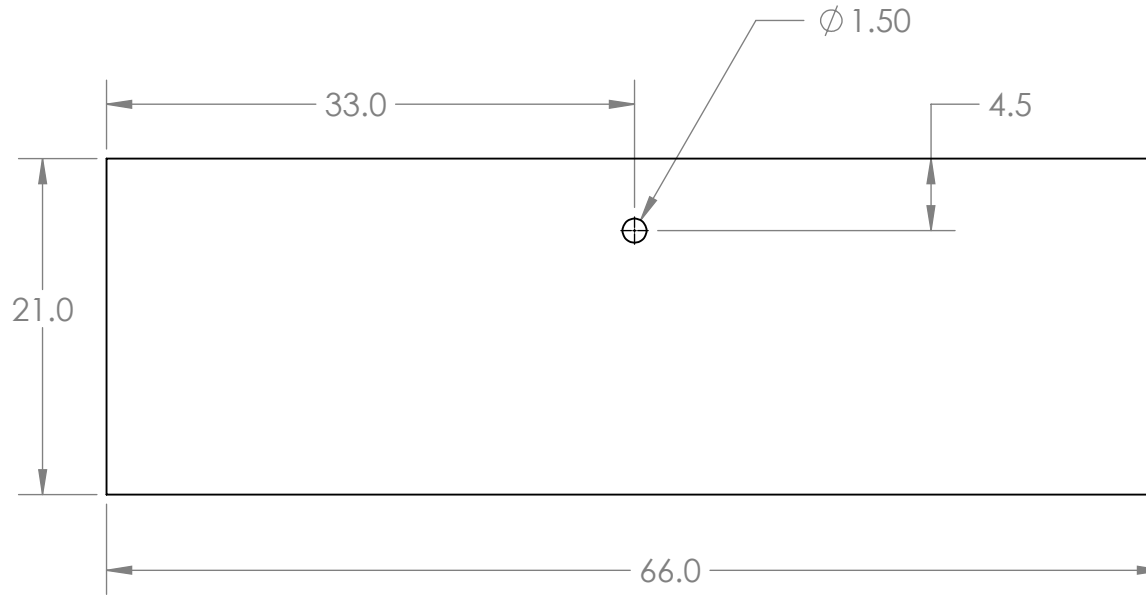
A

2

1



B



B

## Notes:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 2

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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  
.75 Ply

FINISH

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



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

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

SIZE

DWG. NO.

REV

**A** TE-18006-02

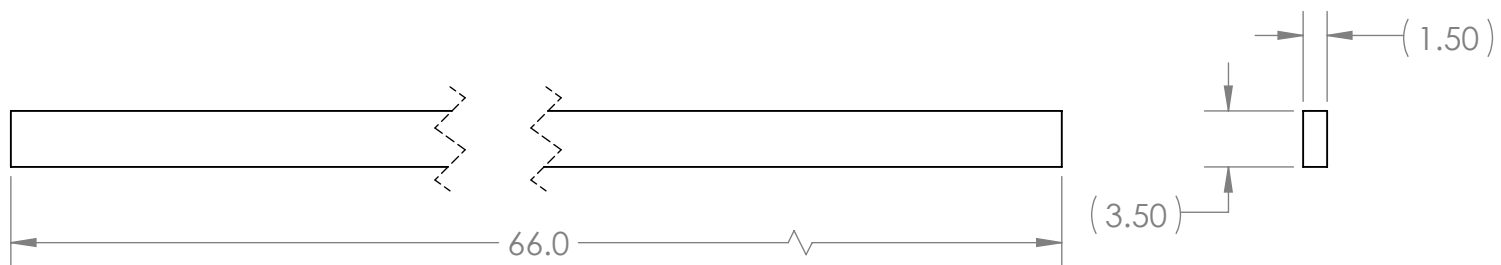
SCALE: 1:12 WEIGHT:

SHEET 1 OF 1

A



2

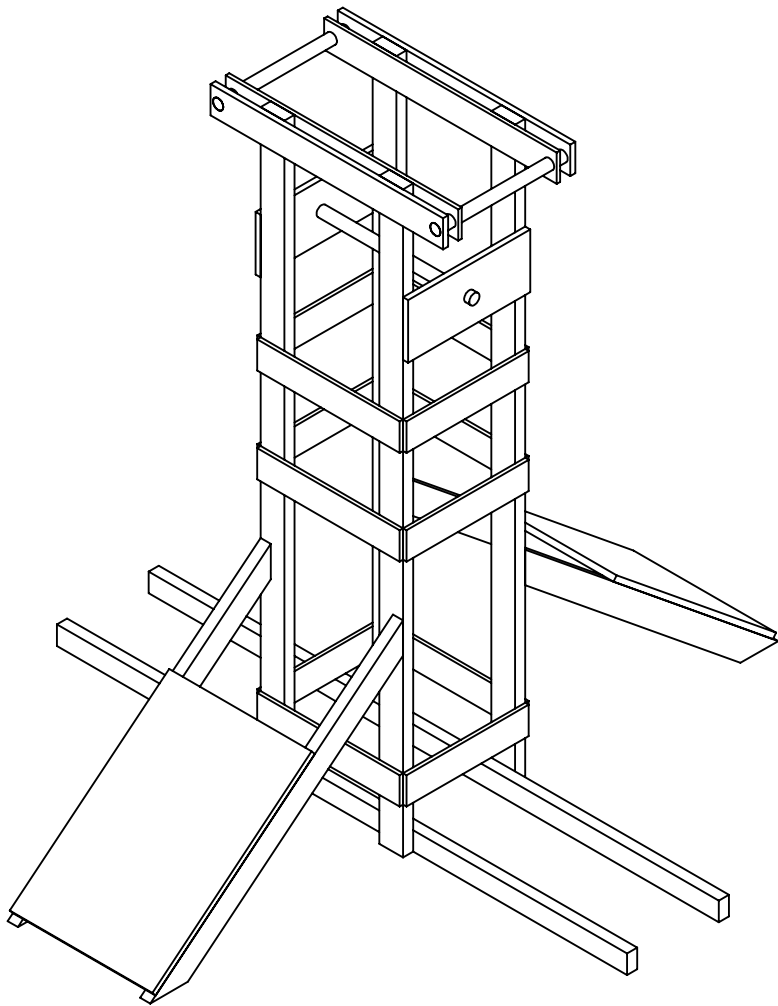
1



Notes:



1. Material: 2" x 4" Lumber
2. QTY. Needed: 2

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			DIMENSIONS ARE IN INCHES	DRAWN				TITLE:	
			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:					SIZE	DWG. NO.	REV
		MATERIAL	2x4				<b>A</b>	<b>TE-18006-03</b>	
	NEXT ASSY	USED ON	FINISH				SCALE: 1:12	WEIGHT:	SHEET 1 OF 1
	APPLICATION		DO NOT SCALE DRAWING						



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18007-1		2
2	TE-18007-2		1
3	TE-18007-3		6
4	TE-18007-4		2
5	TE-18007-5		2
6	TE-18007-6		6
7	TE-18007-8		2
8	TE-18007-7		4
9	TE-18007-10		2
10	TE-18007-9		4
11	TE-18007-11		2

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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>Scale Frame</h1>
			CHECKED				
			ENG APPR.				
			MFG APPR.				
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>TE-18007</b>	
NEXT ASSY	USED ON	MATERIAL	COMMENTS:				SCALE: 1:20 WEIGHT: SHEET 1 OF 3
APPLICATION		FINISH					
		DO NOT SCALE DRAWING					

4

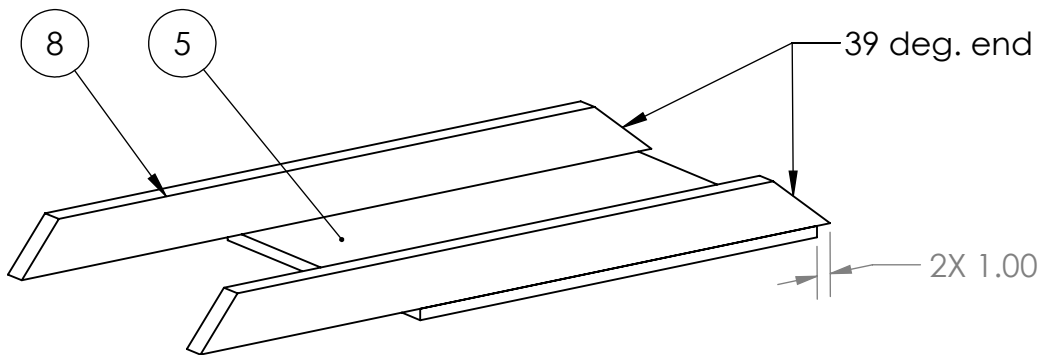
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2

1

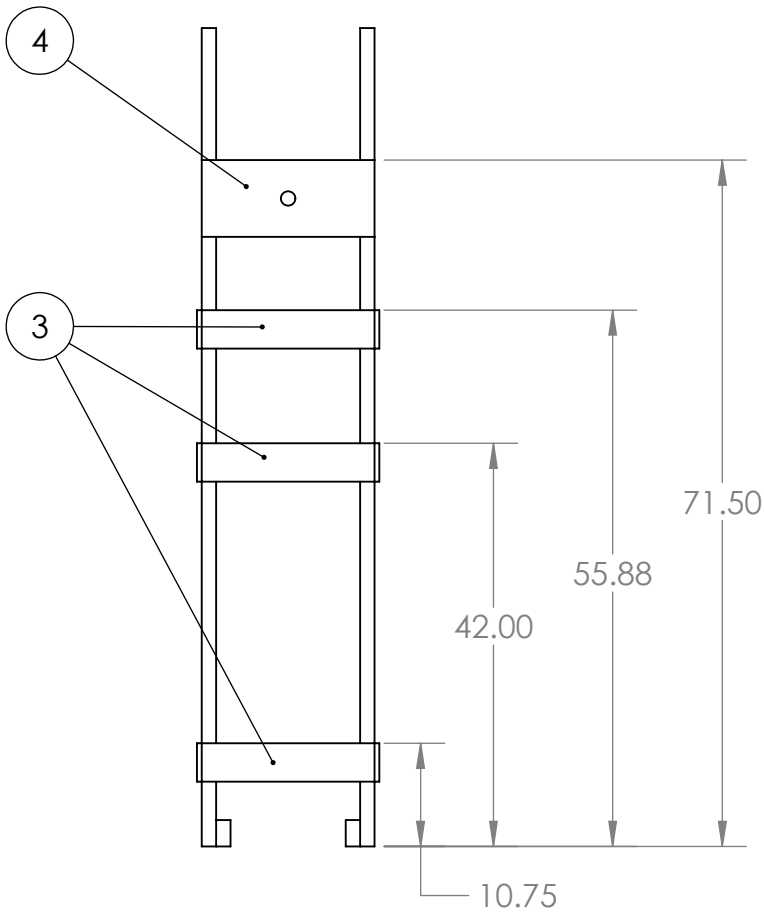
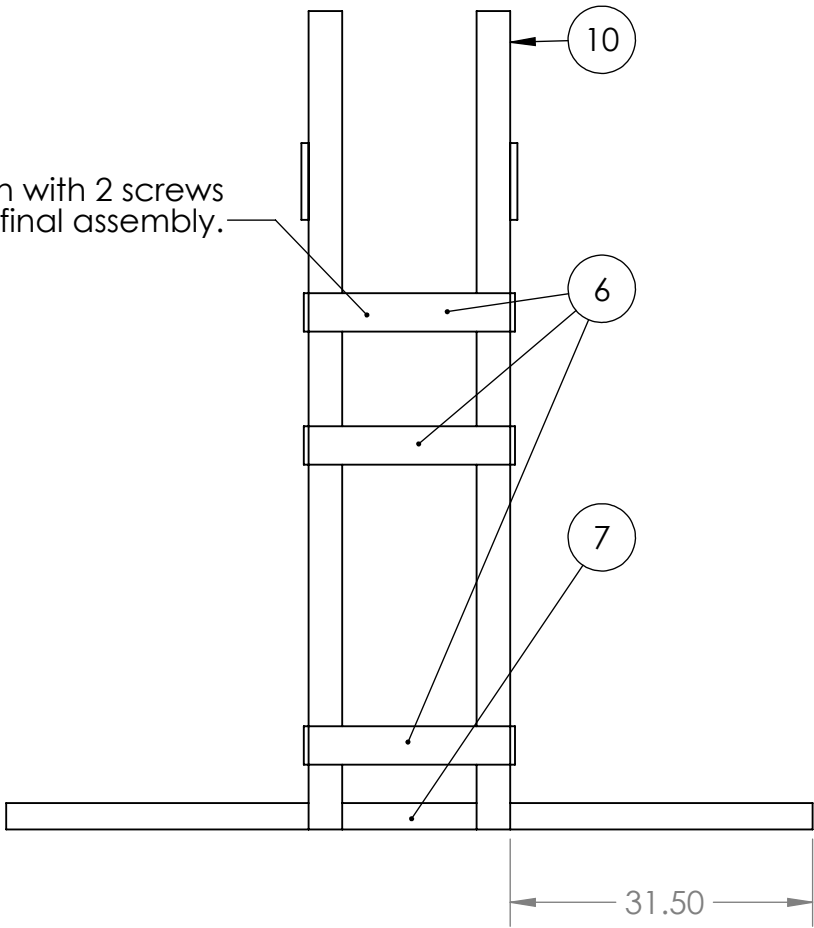
B

B



Step 1: Attach as shown with wood screws. Build qty. 2.

Only attach with 2 screws  
until final assembly.





Step 2: Attach as shown with wood screws. Use wooden dowel  
to help align Item 4 (qty. 2).

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:  <h1>Scale Frame</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> TE-18007		
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

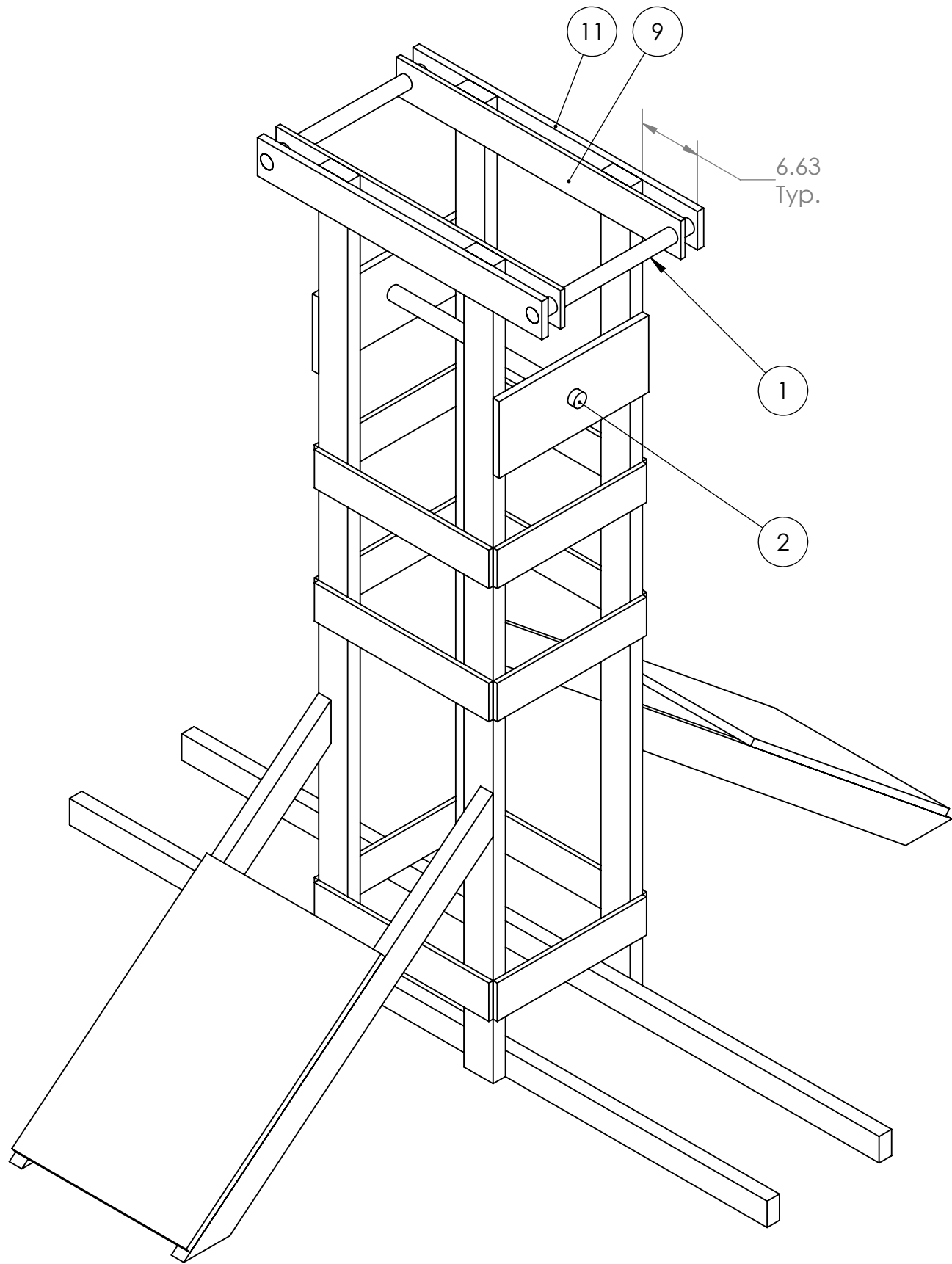
SCALE: 1:32		WEIGHT:	SHEET 2 OF 3
-------------	--	---------	--------------

4

3

2



1



Step 3: Attach two assemblies from Step 1 to the main assembly. When attaching items 1, 9 and 11, ensure that dowel is level and the top surface is 84" from the ground. Use wood screws to keep dowel from rotating.

Do not fasten Item 2.

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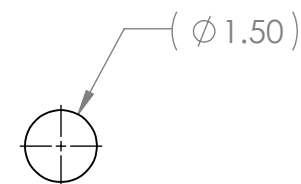
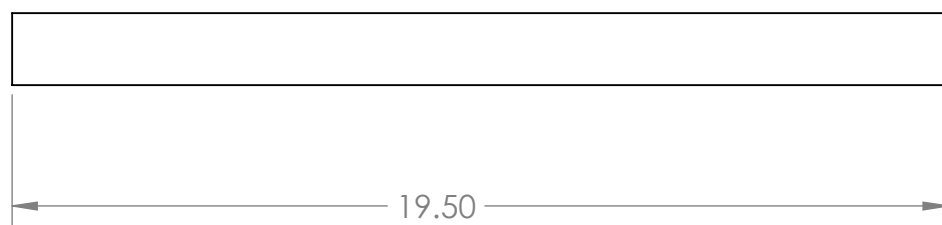
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div><div>FIRST ROBOTICS COMPETITION</div></div><div><div>SOLIDWORKS Modeling Solutions Partner</div></div></div>			
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		TOLERANCES:	CHECKED						
		FRACTIONAL $\pm 1/16$	ENG APPR.						
		ANGULAR: MACH $\pm 1^\circ$ 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>TE-18007</b>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH				SCALE: 1:32 WEIGHT: SHEET 3 OF 3			
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING							

2

1

B

B



## Notes:

1. Material: 1.5" dowel rod
2. QTY. Needed: 2

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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:

SIZE

DWG. NO.

REV

**A****TE-18007-1**

SCALE: 1:4

WEIGHT:

SHEET 1 OF 1

2

1

A

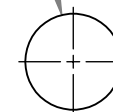
2

1

B

B

( Ø 1.50 )



24.00

## Notes:

1. Material: 1.5" dowel rod
2. QTY. Needed: 1

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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:

SIZE

**A**

DWG. NO.

**TE-18007-2**

REV

SCALE: 1:3

WEIGHT:

SHEET 1 OF 1

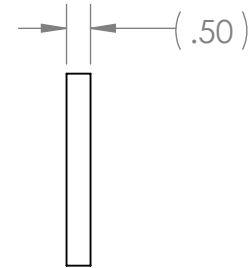
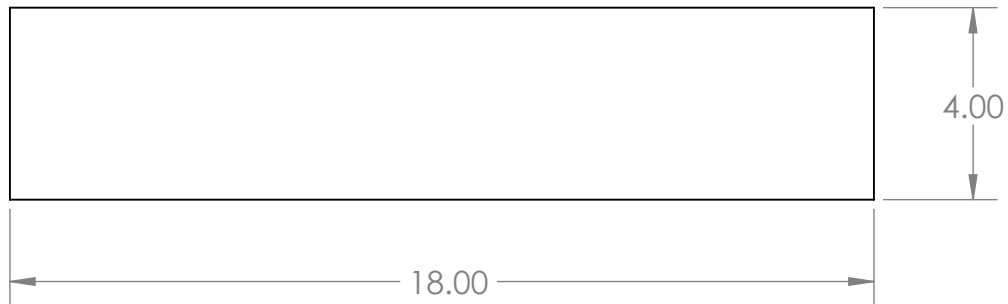
2

1

A

B

B





## Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 6

A

A

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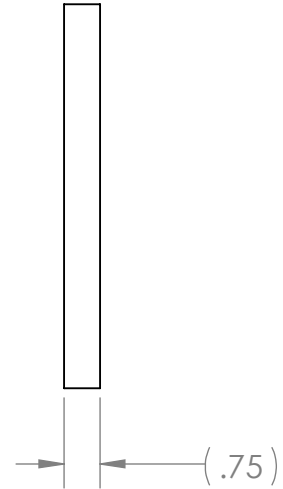
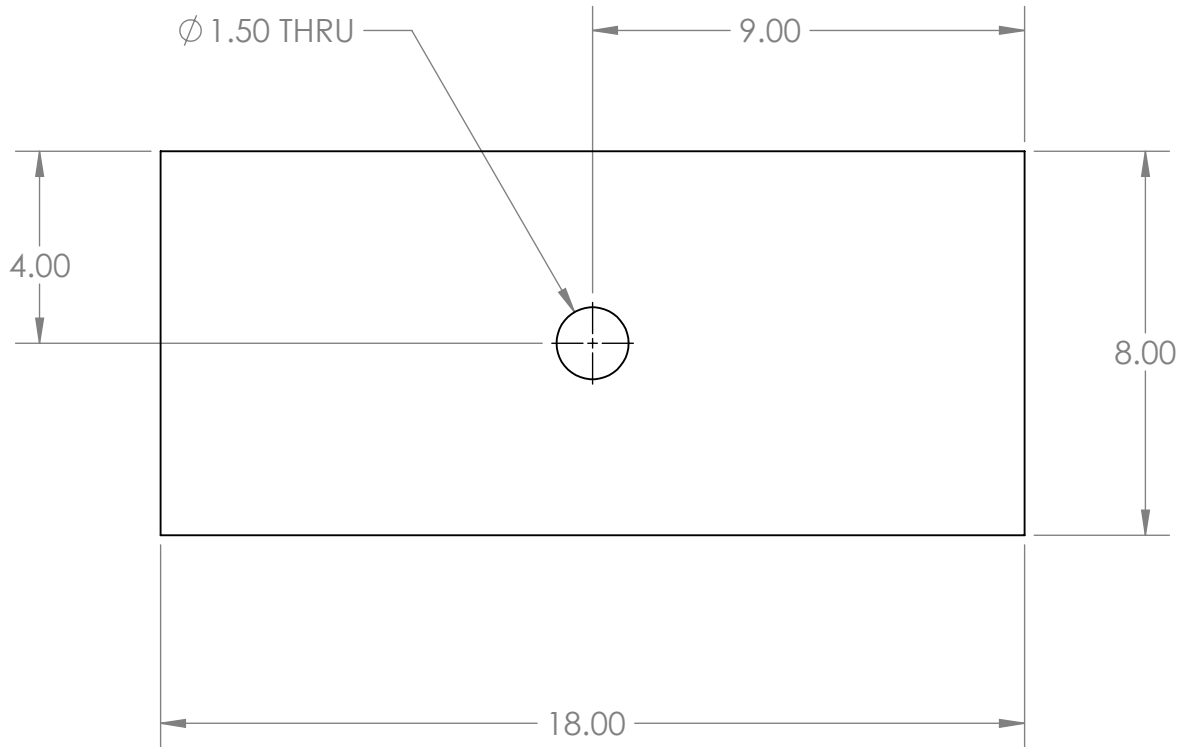
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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$	Q.A.			TITLE:		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.	REV
		MATERIAL				<b>A</b>	<b>TE-18007-3</b>	
NEXT ASSY	USED ON	FINISH				SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
	APPLICATION	DO NOT SCALE DRAWING						

2

1



B



B

## Notes:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 2

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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			
		DO NOT SCALE DRAWING			



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

**SOLIDWORKS**  
Modeling Solutions Partner

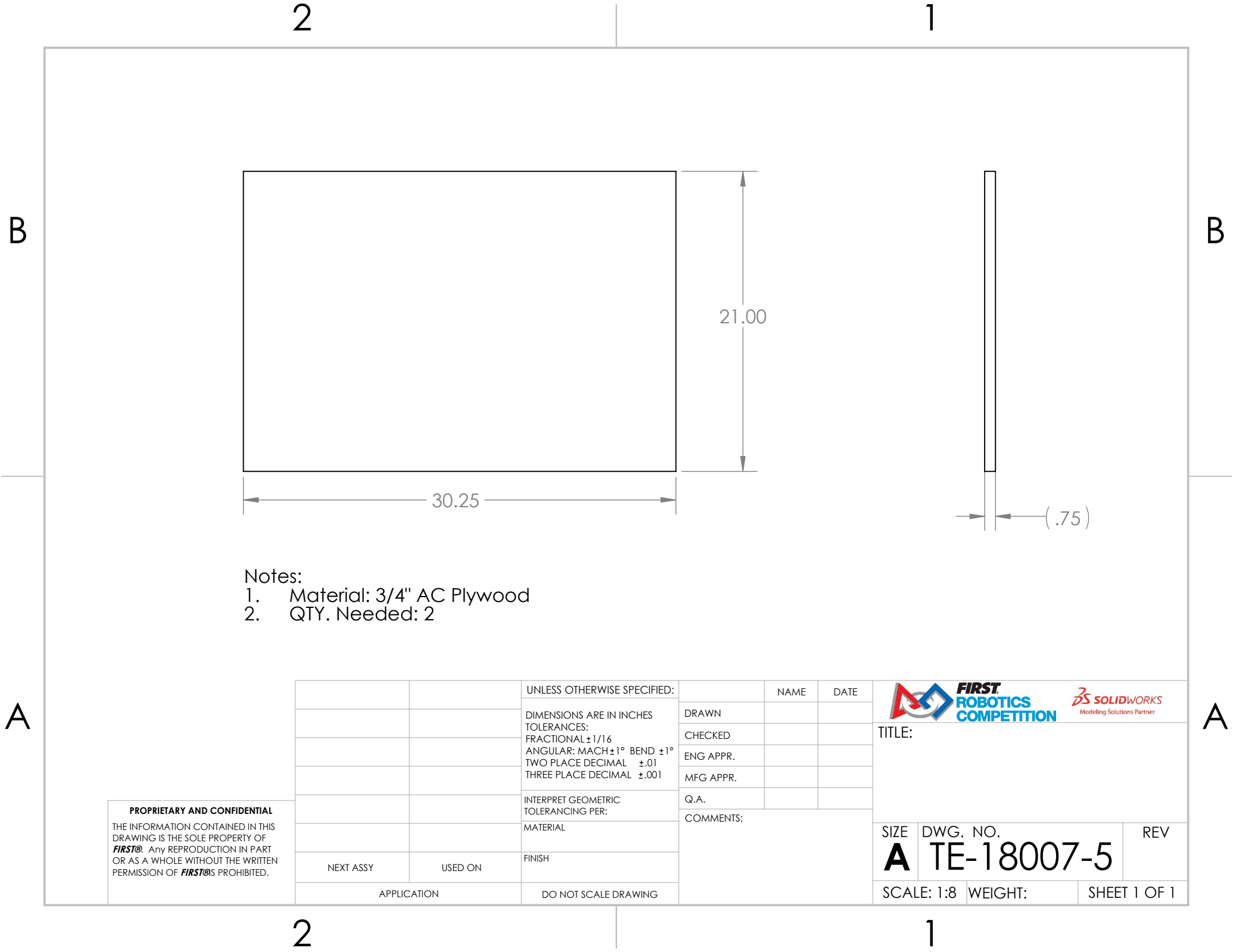
TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18007-4</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

A

2

1





- Notes:
- 1. Material: 3/4" AC Plywood
  - 2. QTY. Needed: 2

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		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:		

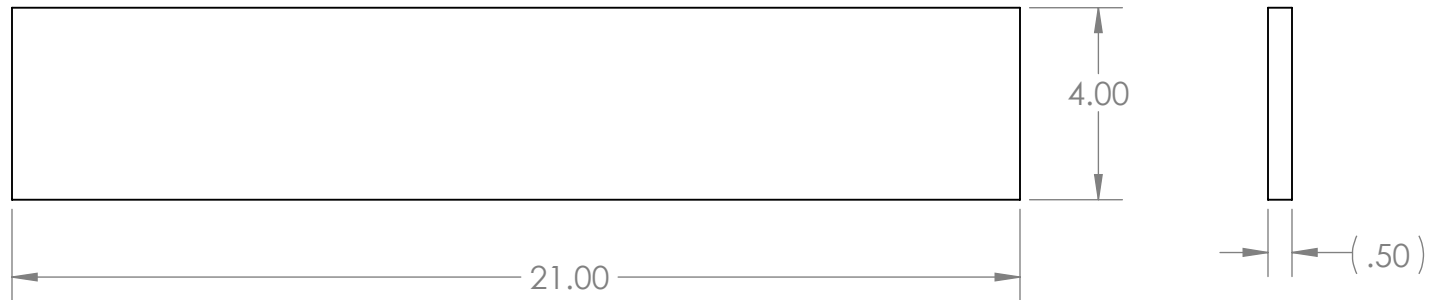


TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18007-5</b>	
SCALE: 1:8	WEIGHT:	SHEET 1 OF 1

B

B





## Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 6

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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:		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
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		MATERIAL				<b>A</b>	<b>TE-18007-6</b>	
NEXT ASSY	USED ON	FINISH				SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
	APPLICATION	DO NOT SCALE DRAWING						

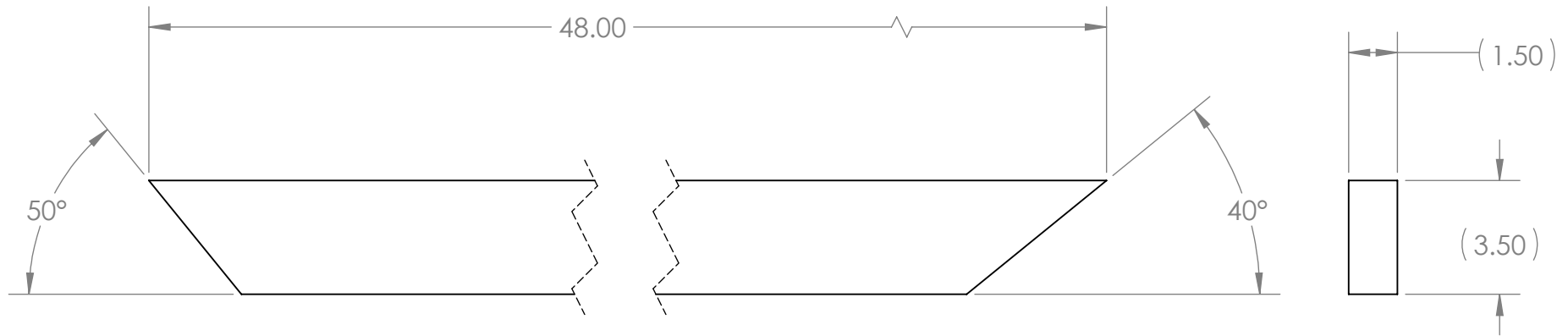
A

2

1

B

B





## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 4

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.			TITLE:		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.	REV
		MATERIAL				<b>A</b>	TE-18007-7	
NEXT ASSY	USED ON	FINISH				SCALE: 1:5	WEIGHT:	SHEET 1 OF 1
		APPLICATION	DO NOT SCALE DRAWING					

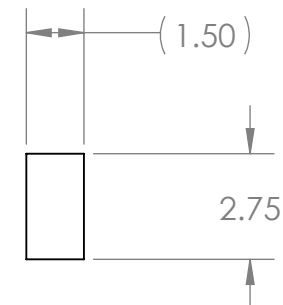
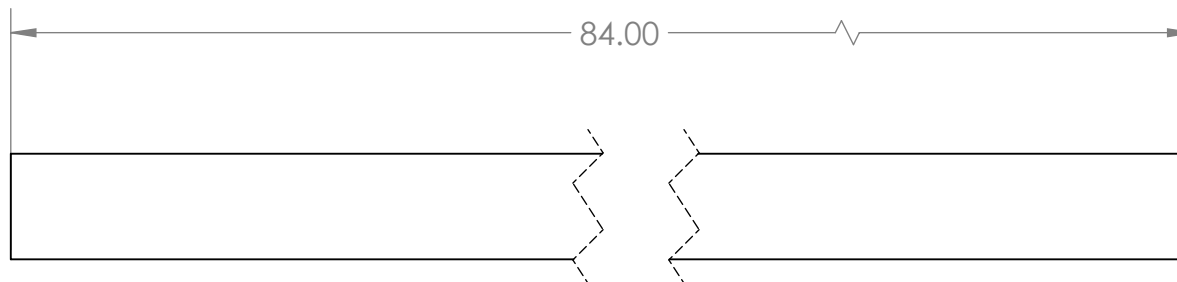
2

1

2

1

B





B

Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

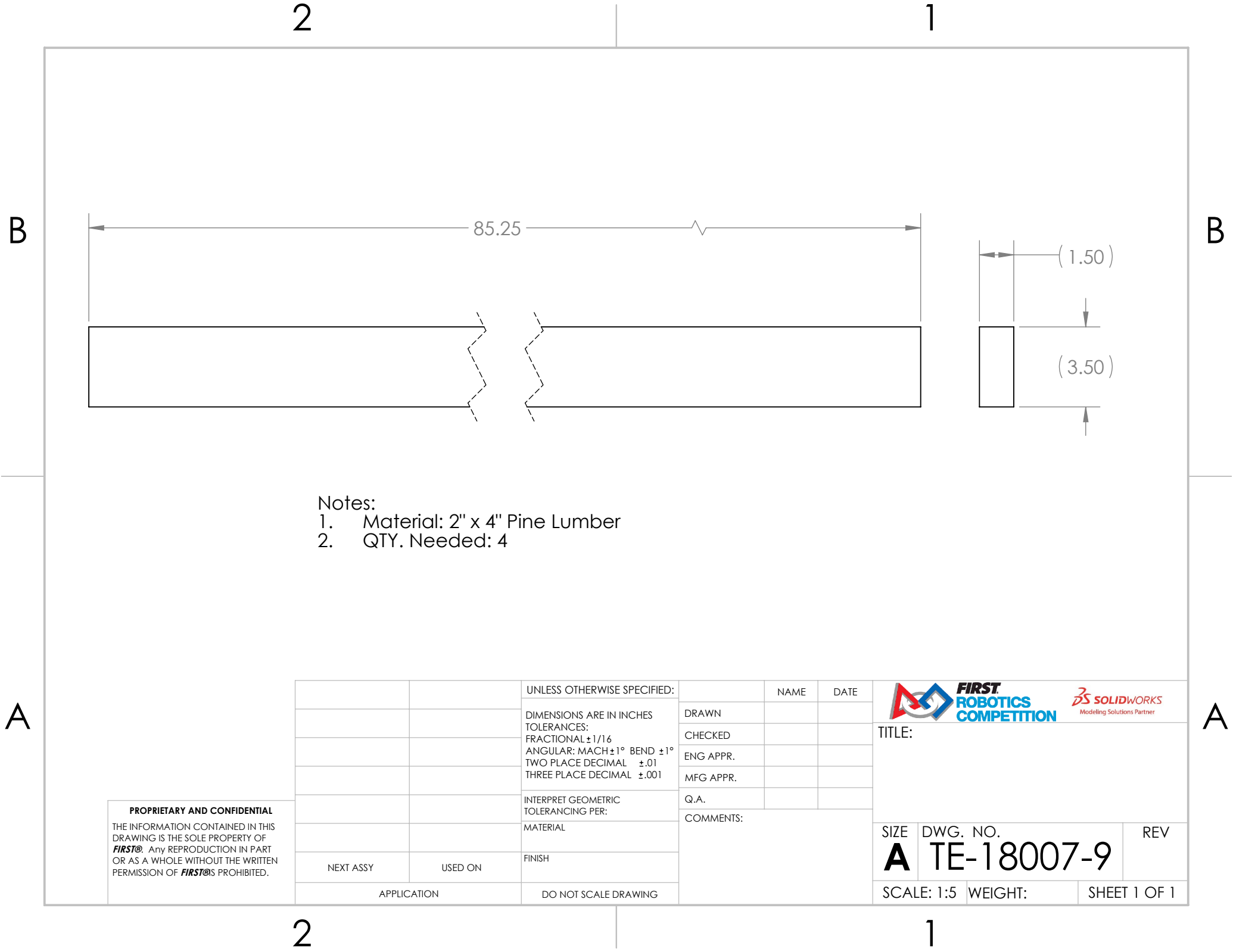
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			DIMENSIONS ARE IN INCHES	DRAWN					
			TOLERANCES:	CHECKED					
			FRACTIONAL $\pm 1/16$	ENG APPR.					
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
			TWO PLACE DECIMAL $\pm .01$	Q.A.					
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
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		MATERIAL					<b>A</b>	<b>TE-18007-8</b>	
	NEXT ASSY	USED ON	FINISH				SCALE: 1:5	WEIGHT:	SHEET 1 OF 1
	APPLICATION		DO NOT SCALE DRAWING						

A

2

1





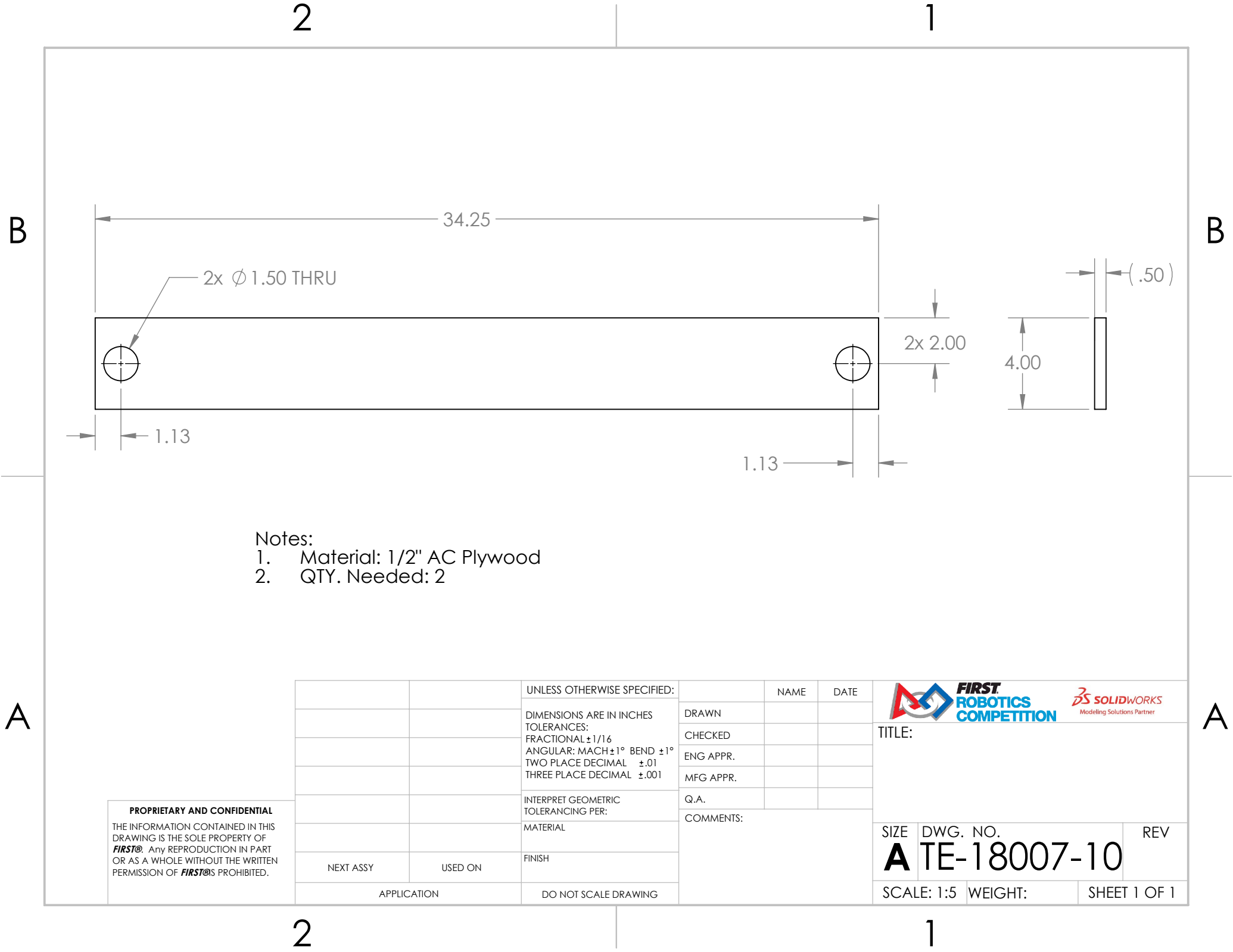
- Notes:
- 1. Material: 2" x 4" Pine Lumber
  - 2. QTY. Needed: 4

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		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:		
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18007-9</b>	
SCALE: 1:5	WEIGHT:	SHEET 1 OF 1





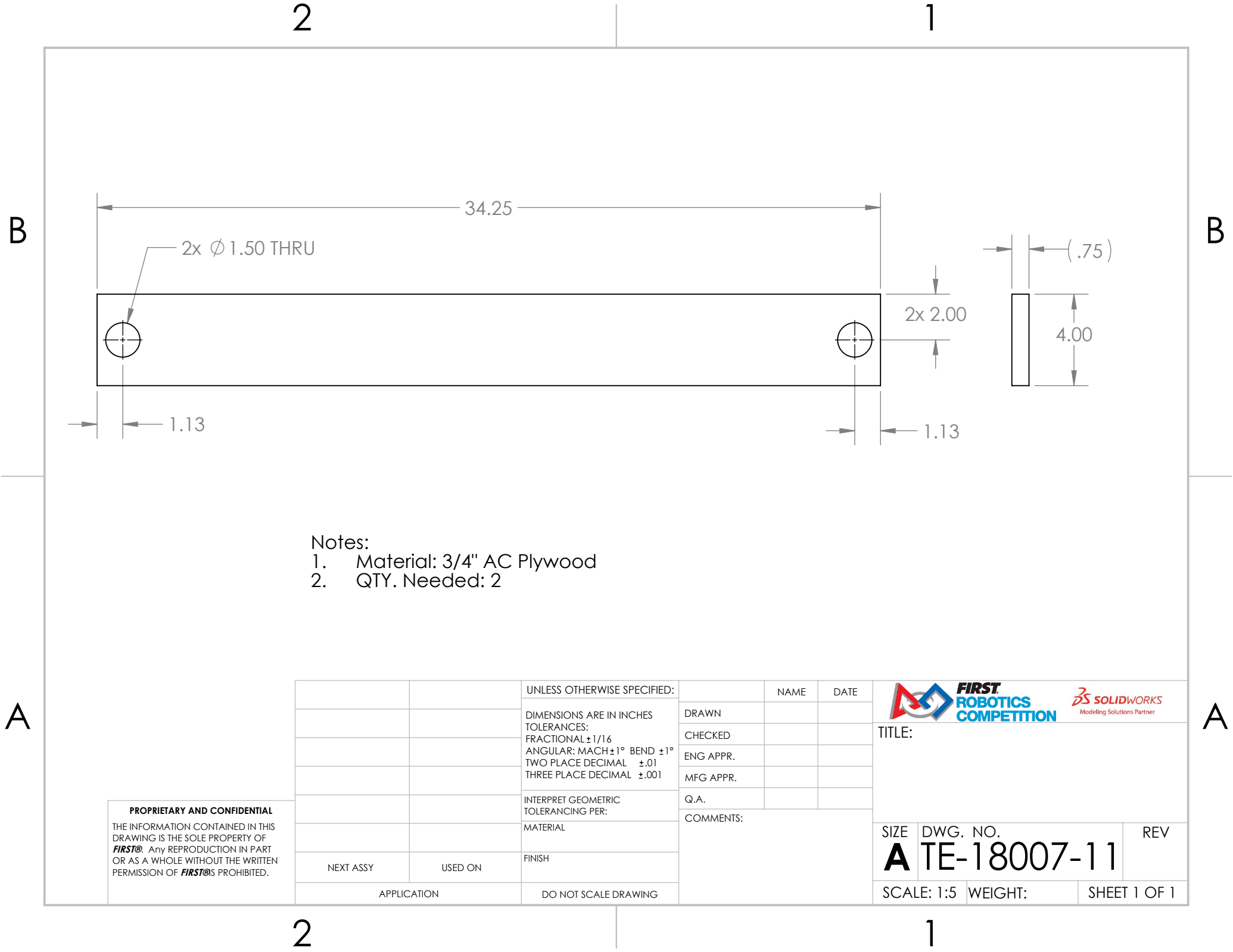
- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 2

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		UNLESS OTHERWISE SPECIFIED:
		DIMENSIONS ARE IN INCHES
		TOLERANCES:
		FRACTIONAL $\pm 1/16$
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
		TWO PLACE DECIMAL $\pm .01$
		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:		
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18007-10</b>	
SCALE: 1:5	WEIGHT:	SHEET 1 OF 1





- Notes:
- 1. Material: 3/4" AC Plywood
  - 2. QTY. Needed: 2

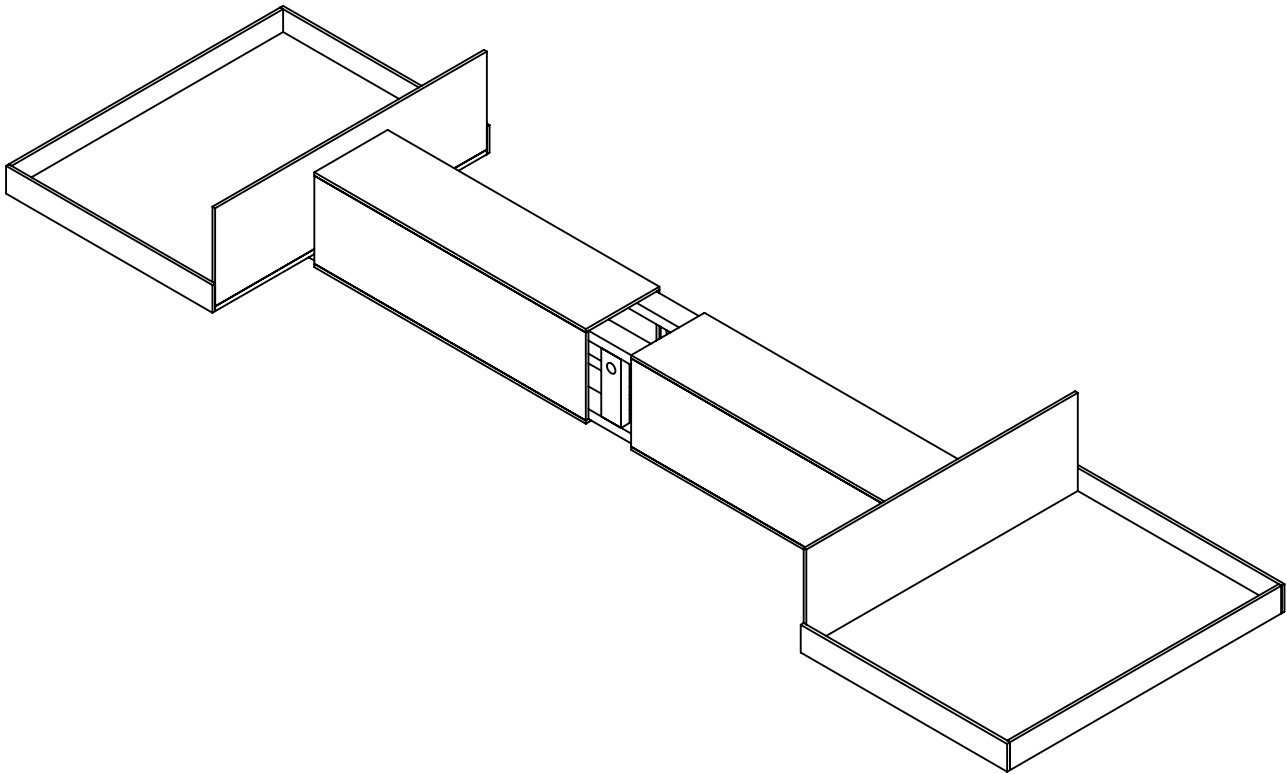
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		TOLERANCES:
		FRACTIONAL $\pm 1/16$
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
		TWO PLACE DECIMAL $\pm .01$
		THREE PLACE DECIMAL $\pm .001$
		INTERPRET GEOMETRIC
		TOLERANCING PER:
		MATERIAL
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE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

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



 		
TITLE:		
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18007-11</b>	
SCALE: 1:5	WEIGHT:	SHEET 1 OF 1





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18008-07		2
2	TE-18008-08		2
3	TE-18008-04		2
4	TE-18008-01		4
5	TE-18008-05		2
6	TE-18008-06		4
7	TE-18008-02		4
8	TE-18008-11		2
9	TE-18008-03		2
10	TE-18008-09		4
11	TE-18008-10		2

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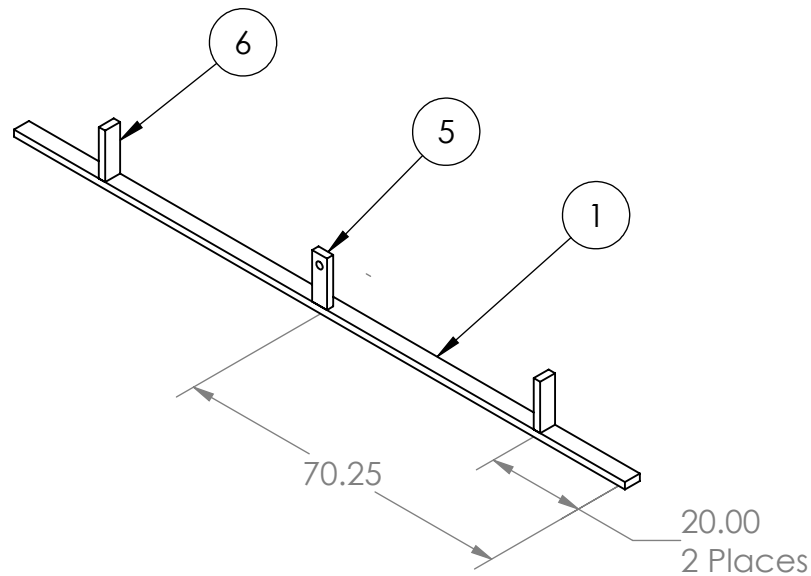
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		FRACTIONAL $\pm 1/16$	ENG APPR.				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			SIZE DWG. NO. REV <b>B</b> <b>TE-18008</b>	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:					
		MATERIAL				SCALE: 1:32 WEIGHT: SHEET 1 OF 3	
		FINISH					
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING					

4

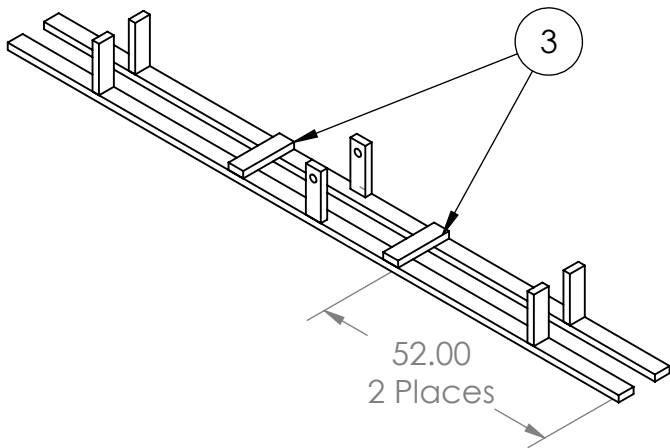
3

2

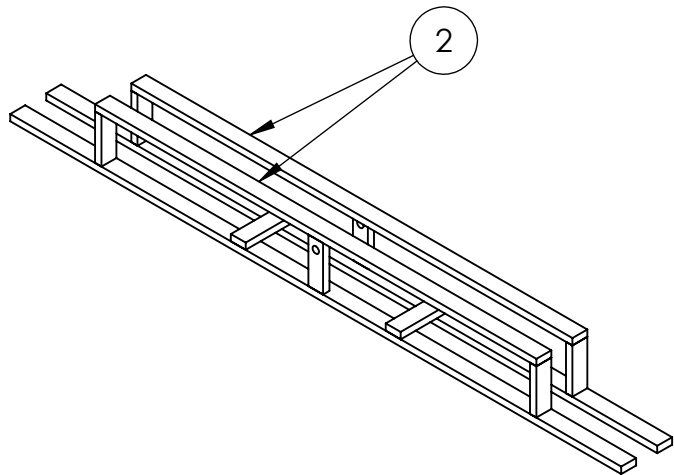
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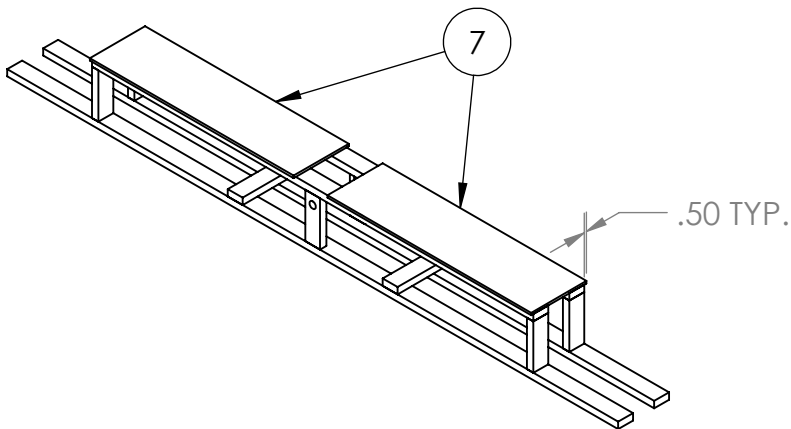
Step 1: Attach Item 6 (qty. 2) and Item 5 to Item 1 as shown using wood screws. Build 2 identical assemblies.



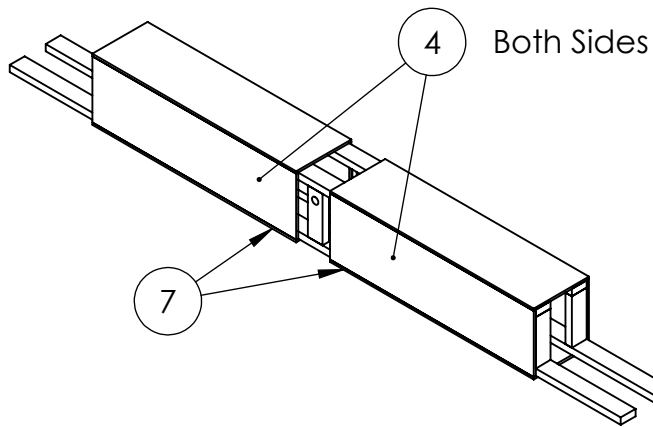
Step 2: Attach Item 3 (qty. 2) to the two assemblies from Step 1 using wood screws.



Step 3: Attach Item 2 (qty. 2) as shown using wood screws.





Step 4: Attach Item 7 (qty. 2) as shown using wood screws. There should be a 1/2" overhang on each side.



Step 5: Attach Item 4 (qty. 4) and as shown using wood screws. Flip assembly over and attach Item 7 (qty. 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: **Scale Arm**

SIZE	DWG. NO.	REV
<b>B</b>	<b>TE-18008</b>	

SCALE: 1:32 WEIGHT: SHEET 2 OF 3

4

3

2

1

4

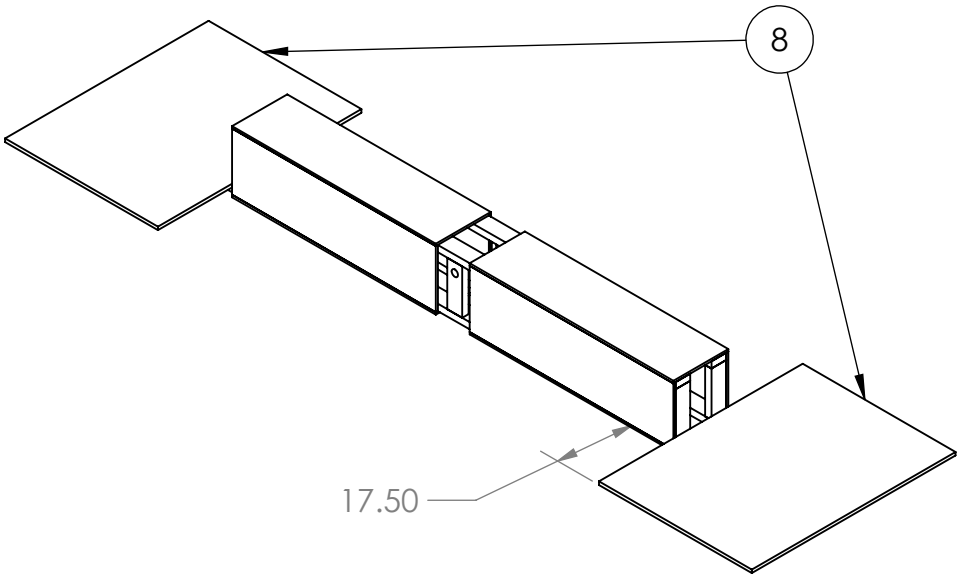
3

2

1

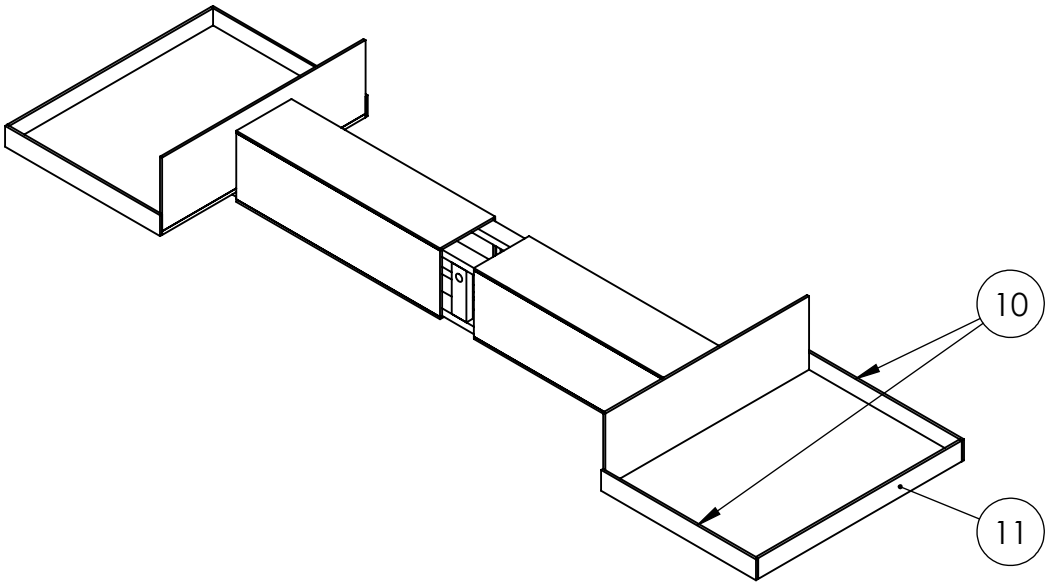
B

B



DO NOT PROCEED TO THIS STEP UNTIL YOU HAVE ASSEMBLED TO THE SCALE FRAME  
(See Drawing TE-18014)

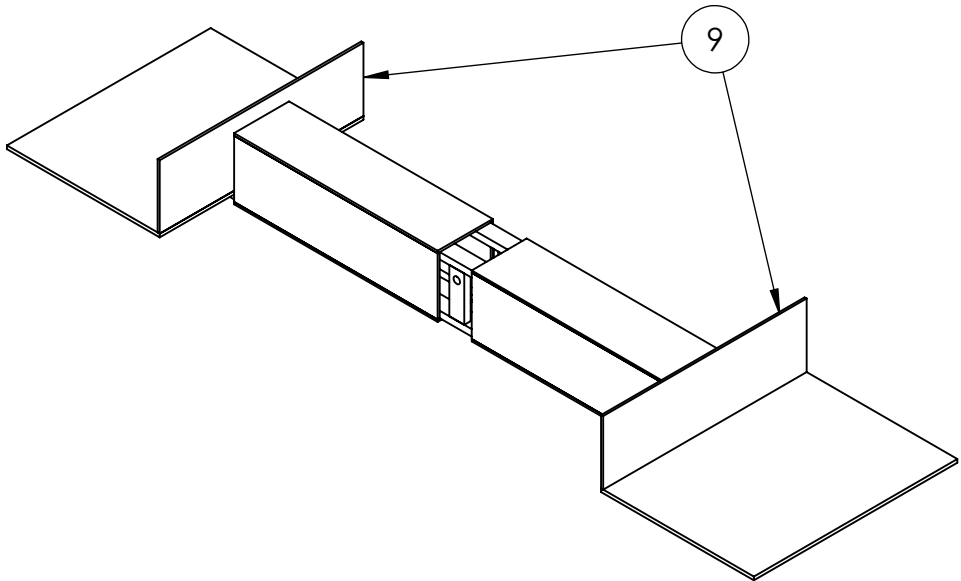
Step 6: Attach Item 8 (qty. 2) as shown using wood screws.



DO NOT PROCEED TO THIS STEP UNTIL YOU HAVE ASSEMBLED TO THE SCALE FRAME



Step 8: Attach Item 10 (qty. 4) and Item 11 (qty. 2) and as shown using wood screws or staples. Pre-drill holes to avoid splitting.

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DO NOT PROCEED TO THIS STEP UNTIL YOU HAVE ASSEMBLED TO THE SCALE FRAME

Step 7: Attach Item 9 (qty. 2) as shown using wood screws.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	  TITLE: <b>Scale Arm</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 TE-18008</b>
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
		INTERPRET GEOMETRIC TOLERANCING PER:				
		MATERIAL				SCALE: 1:32 WEIGHT: SHEET 3 OF 3
		FINISH				
NEXT ASSY	USED ON	APPLICATION	DO NOT SCALE DRAWING			

4

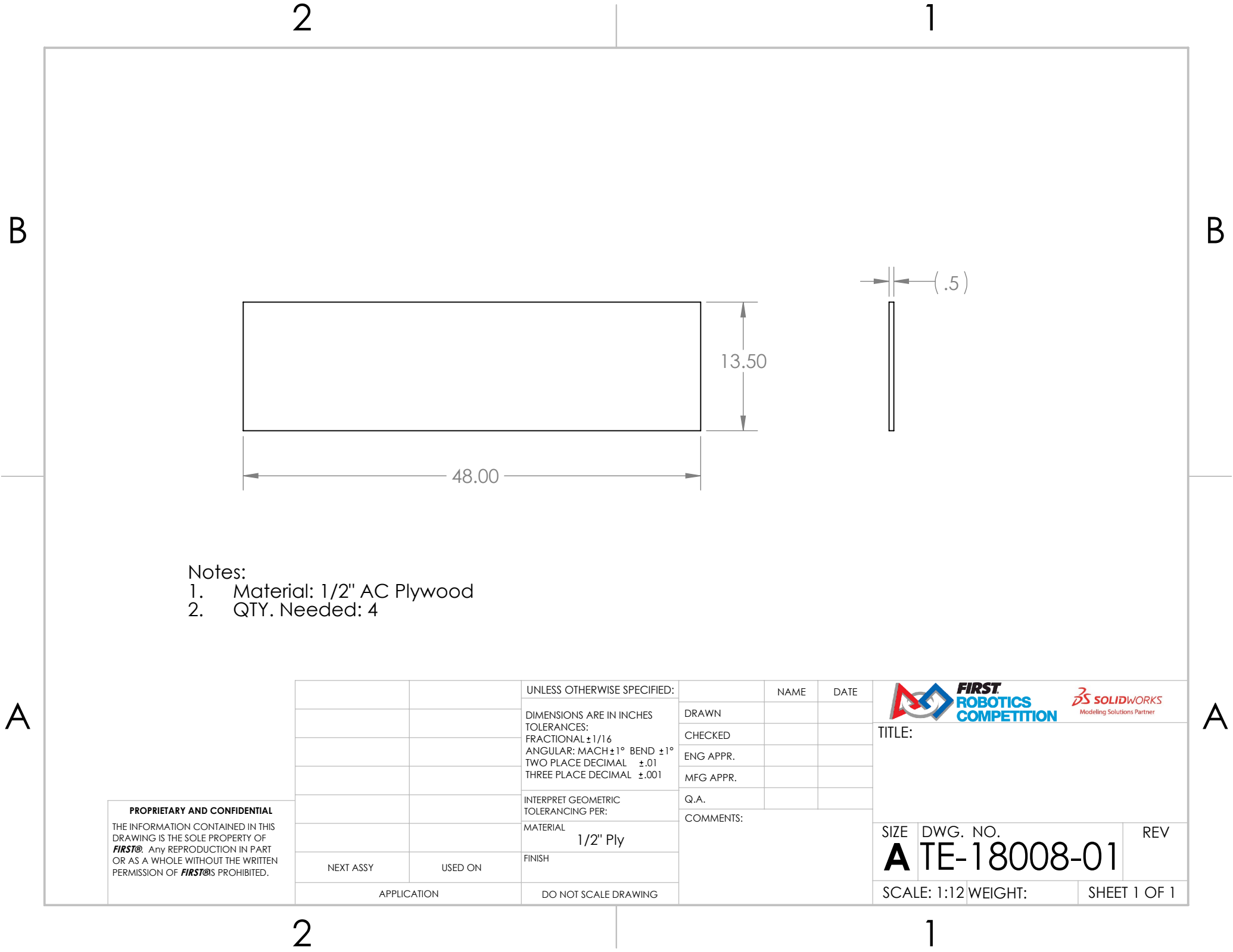
3

2



1

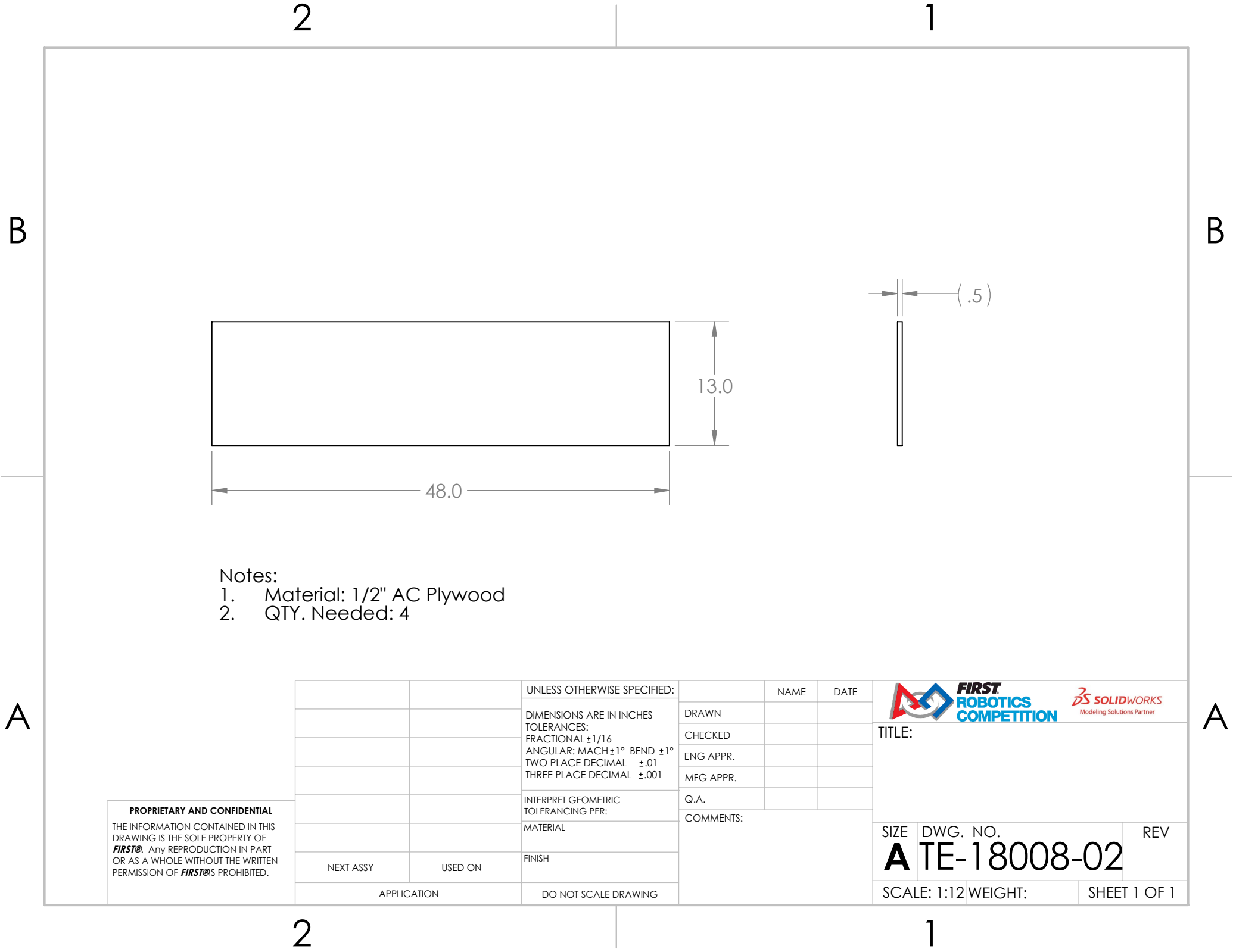
A

A





- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

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			DIMENSIONS ARE IN INCHES	DRAWN			TITLE:		
			TOLERANCES:	CHECKED					
			FRACTIONAL ± 1/16	ENG APPR.					
			ANGULAR: MACH ± 1° BEND ± 1°	MFG APPR.					
			TWO PLACE DECIMAL ± .01	Q.A.			SIZE DWG. NO. REV		
			THREE PLACE DECIMAL ± .001	COMMENTS:					
			INTERPRET GEOMETRIC TOLERANCING PER:						
			MATERIAL				A TE-18008-01		
			1/2" Ply						
	NEXT ASSY	USED ON	FINISH				SCALE: 1:12 WEIGHT: SHEET 1 OF 1		
	APPLICATION		DO NOT SCALE DRAWING						

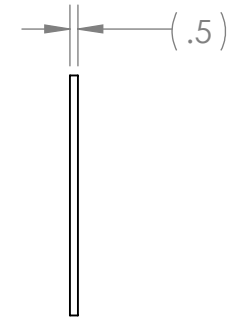


- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

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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:			<div>SIZE</div> <div>DWG. NO.</div> <div>A TE-18008-02</div> <div>REV</div>					
			INTERPRET GEOMETRIC TOLERANCING PER:									
		MATERIAL										
	NEXT ASSY	USED ON	FINISH									
APPLICATION			DO NOT SCALE DRAWING			SCALE: 1:12			WEIGHT:		SHEET 1 OF 1	

B

B





## Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 2

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 <b>FIRST ROBOTICS COMPETITION</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			TITLE:		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>A</b> TE-18008-03		
		MATERIAL 1/2" Ply						
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:12 WEIGHT: SHEET 1 OF 1		

A

2

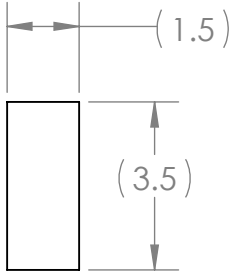
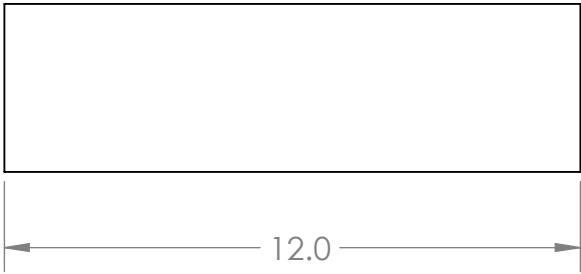
1

2

1

B



B



- Notes:
- 1. Material: 2" x 4" Pine Lumber
  - 2. QTY. Needed: 2

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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:				SIZE	DWG. NO.	REV
		MATERIAL	2x4				<b>A TE-18008-04</b>		
NEXT ASSY	USED ON	FINISH				SCALE: 1:4	WEIGHT:	SHEET 1 OF 1	
APPLICATION		DO NOT SCALE DRAWING							

2

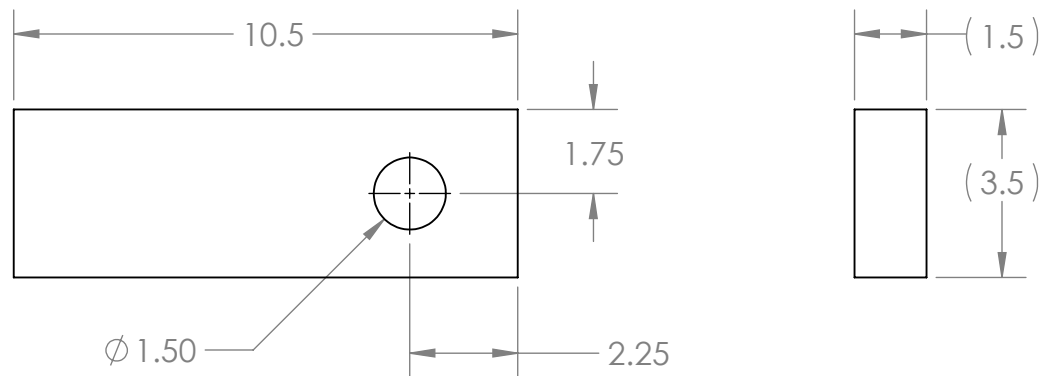
1

2

1

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B





Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

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			DIMENSIONS ARE IN INCHES	DRAWN				<b>SIZE</b> <b>DWG. NO.</b> <b>REV</b> <b>A TE-18008-05</b>
			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>SCALE: 1:4</b> <b>WEIGHT:</b> <b>SHEET 1 OF 1</b>	
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		2x4						
		FINISH						
	NEXT ASSY	USED ON						
	APPLICATION		DO NOT SCALE DRAWING					

2

1

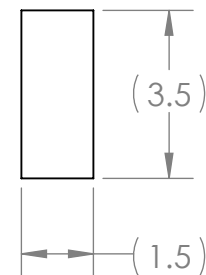
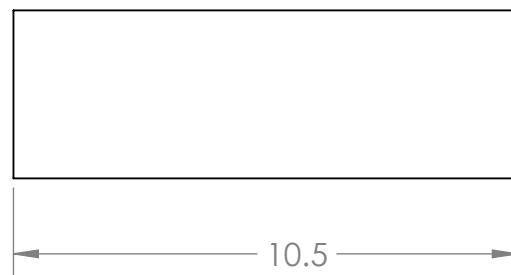


2

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B





## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 4

A

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			DIMENSIONS ARE IN INCHES	DRAWN				TITLE:
			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:				SIZE	DWG. NO.	REV
		MATERIAL	2x4			<b>A TE-18008-06</b>		
	NEXT ASSY	USED ON	FINISH			SCALE: 1:4	WEIGHT:	SHEET 1 OF 1
	APPLICATION		DO NOT SCALE DRAWING					

2

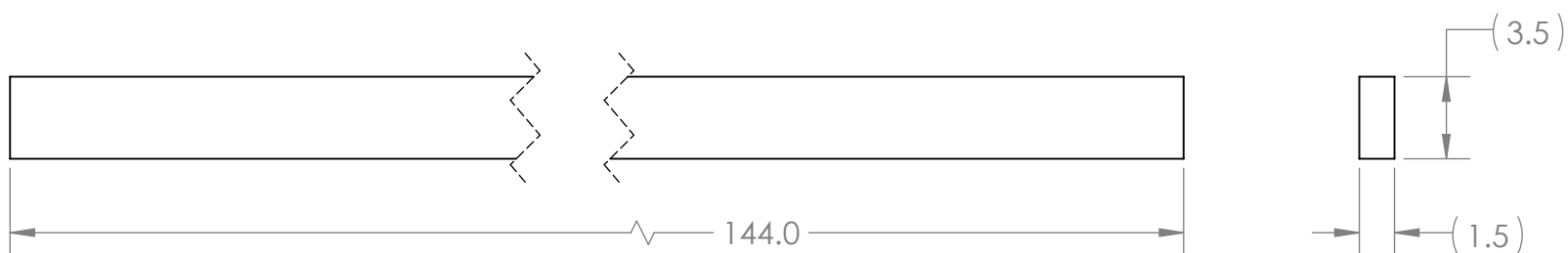
1

2

1

B

B





Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

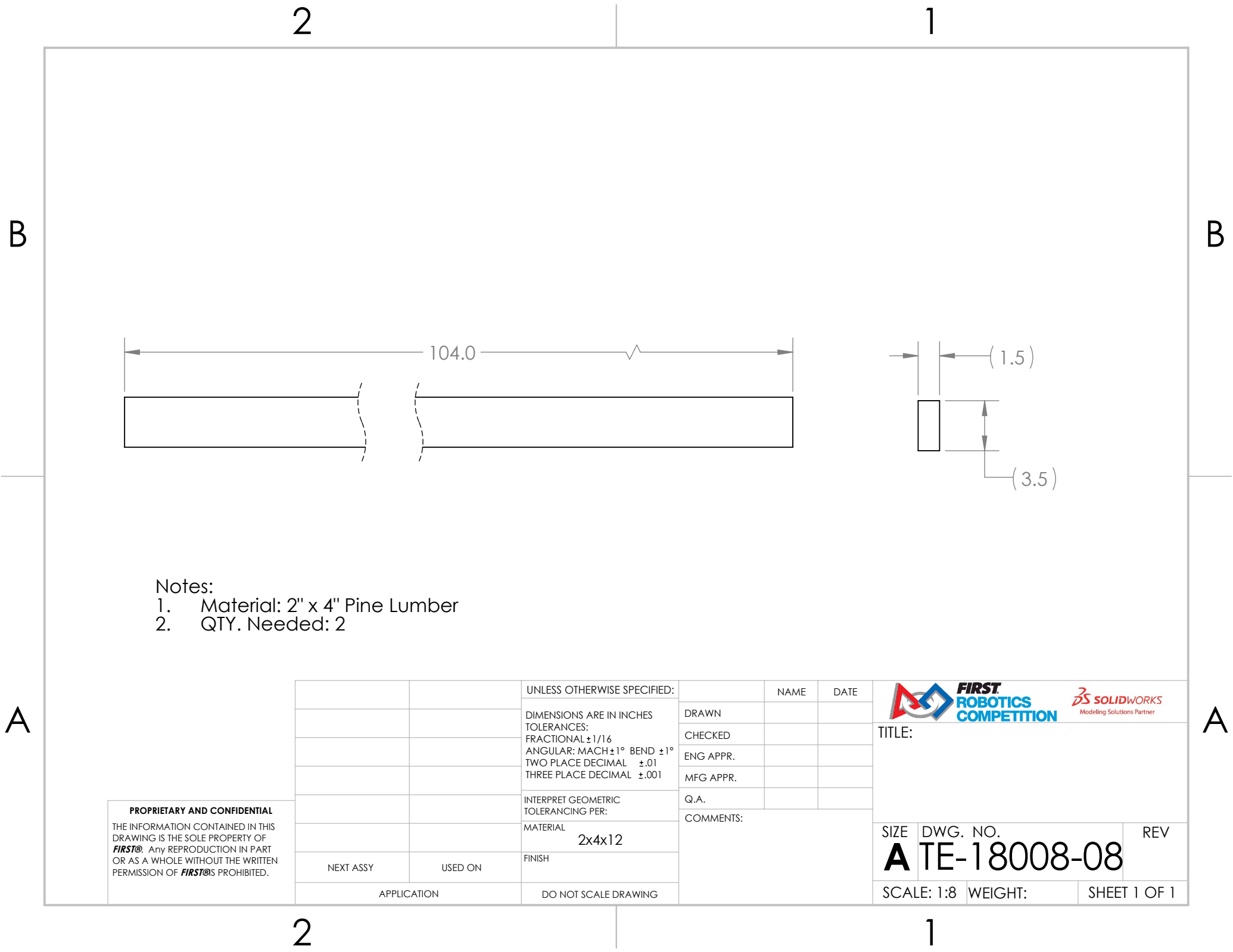
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			DIMENSIONS ARE IN INCHES	DRAWN						
			TOLERANCES:	CHECKED						
			FRACTIONAL $\pm 1/16$	ENG APPR.						
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
			TWO PLACE DECIMAL $\pm .01$				COMMENTS:	SIZE	DWG. NO.	REV
			THREE PLACE DECIMAL $\pm .001$	Q.A.						
			INTERPRET GEOMETRIC TOLERANCING PER:							
			MATERIAL	2x4x12						
			FINISH							
	NEXT ASSY	USED ON				SCALE: 1:8		WEIGHT:	SHEET 1 OF 1	
	APPLICATION		DO NOT SCALE DRAWING							

2

1



- Notes:
- 1. Material: 2" x 4" Pine Lumber
  - 2. QTY. Needed: 2

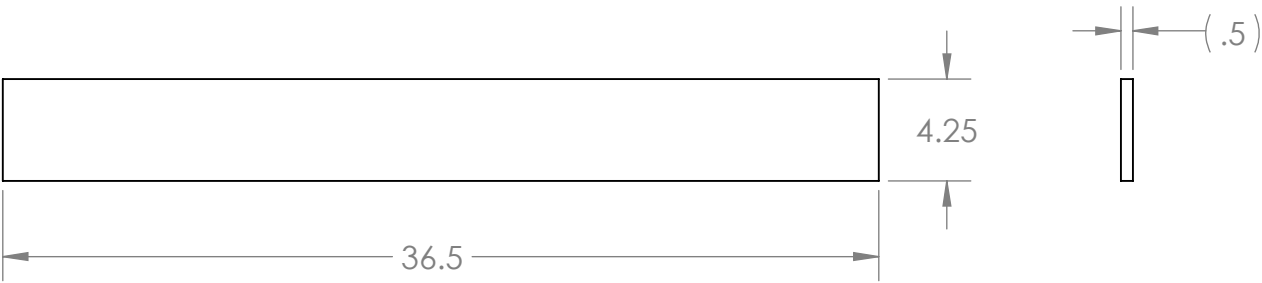
<div>PROPRIETARY AND CONFIDENTIAL</div> <div>THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <b>FIRST®</b>. Any REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <b>FIRST®</b> IS PROHIBITED.</div>			UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div> <b>FIRST</b> ROBOTICS COMPETITION</div> <div> <b>SOLIDWORKS</b> Modeling Solutions Partner</div>		
			DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL $\pm 1/16$ ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .001$	DRAWN			TITLE:		
				CHECKED					
				ENG APPR.					
				MFG APPR.					
			INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV		
			MATERIAL	COMMENTS:					
		2x4x12							
	NEXT ASSY	USED ON	FINISH				<b>A</b> TE-18008-08		
	APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 1 OF 1		

B



B

A

A



- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

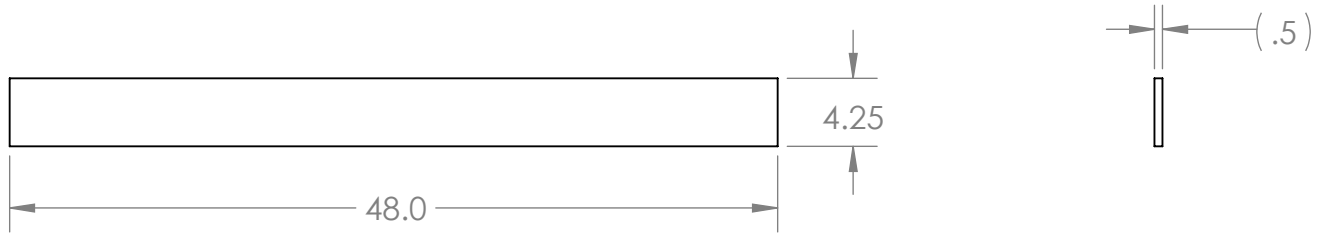
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			DIMENSIONS ARE IN INCHES	DRAWN						
			TOLERANCES:	CHECKED						
			FRACTIONAL $\pm 1/16$	ENG APPR.						
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
			TWO PLACE DECIMAL $\pm .01$	Q.A.						
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:						
		INTERPRET GEOMETRIC TOLERANCING PER:					SIZE	DWG. NO.	REV	
		MATERIAL	1/2" Ply					<b>A</b>	<b>TE-18008-09</b>	
	NEXT ASSY	USED ON	FINISH					SCALE: 1:8	WEIGHT:	SHEET 1 OF 1
	APPLICATION		DO NOT SCALE DRAWING							

2

1

B



B



- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 2

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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:					SIZE	DWG. NO.	REV	
		MATERIAL	1/2 Ply				<b>A</b>	<b>TE-18008-10</b>		
	NEXT ASSY	USED ON	FINISH				SCALE: 1:12		WEIGHT:	SHEET 1 OF 1
	APPLICATION		DO NOT SCALE DRAWING							

2

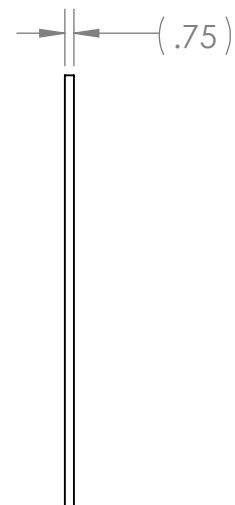
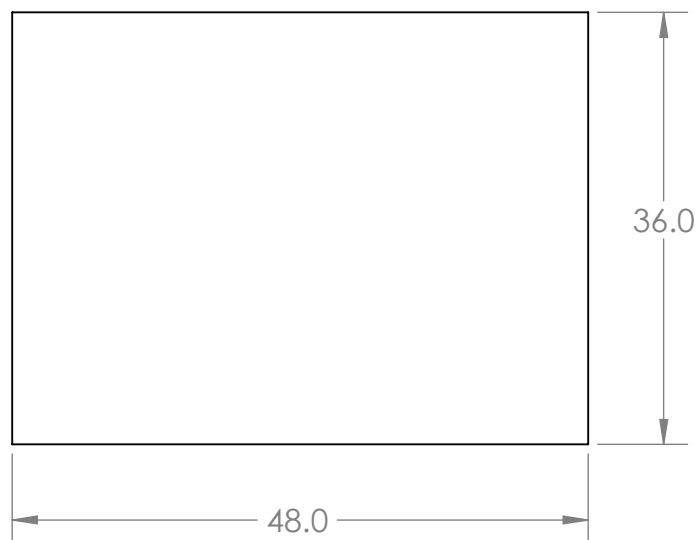
1

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## Notes:

1. Material: 3/4" AC Plywood
2. QTY. Needed: 2

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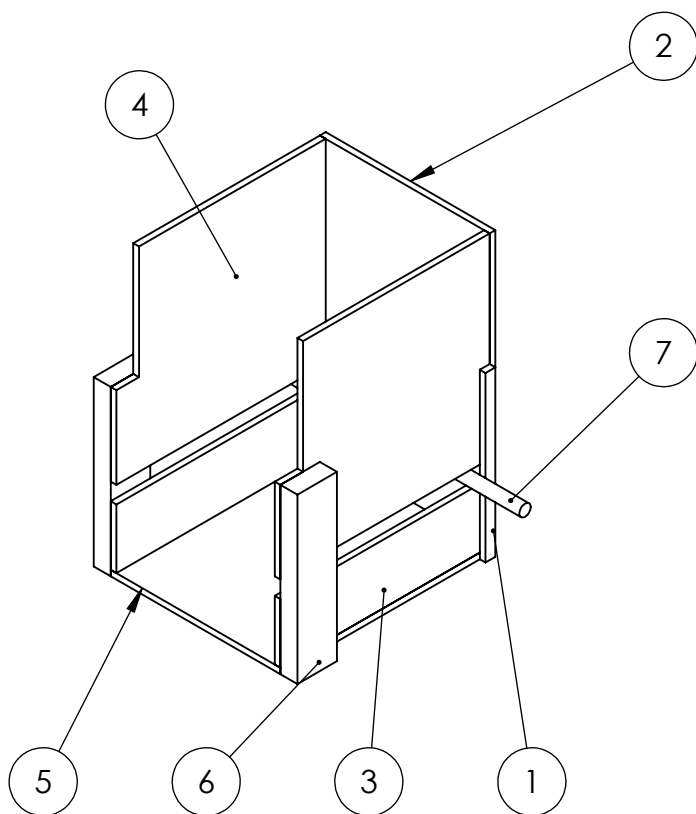
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			DIMENSIONS ARE IN INCHES	DRAWN				TITLE:
			TOLERANCES:	CHECKED				
			FRACTIONAL $\pm 1/16$	ENG APPR.				
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.			SIZE DWG. NO. REV <b>A</b> TE-18008-11 SCALE: 1:16 WEIGHT: SHEET 1 OF 1	
			TWO PLACE DECIMAL $\pm .01$	Q.A.				
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL	3/4" Ply					
	NEXT ASSY	USED ON	FINISH					
	APPLICATION		DO NOT SCALE DRAWING					

2

1

B

B



NOTE: Two of these assemblies will be required to build all elements.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18009-1		2
2	TE-18009-2		1
3	TE-18009-3		2
4	TE-18009-4		2
5	TE-18009-5		1
6	TE-18009-6		2
7	TE-18009-7		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		
NEXT ASSY	USED ON	FINISH		
APPLICATION		DO NOT SCALE DRAWING		



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

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

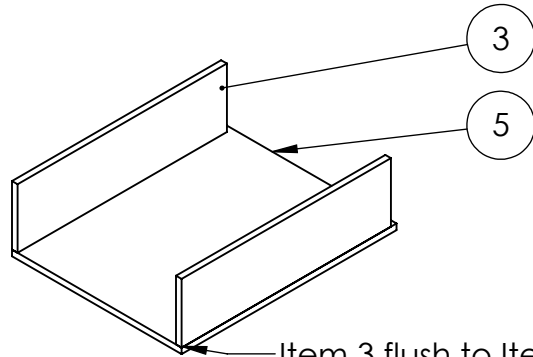
# Chute Assembly

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009</b>	
SCALE: 1:12	WEIGHT:	SHEET 1 OF 3

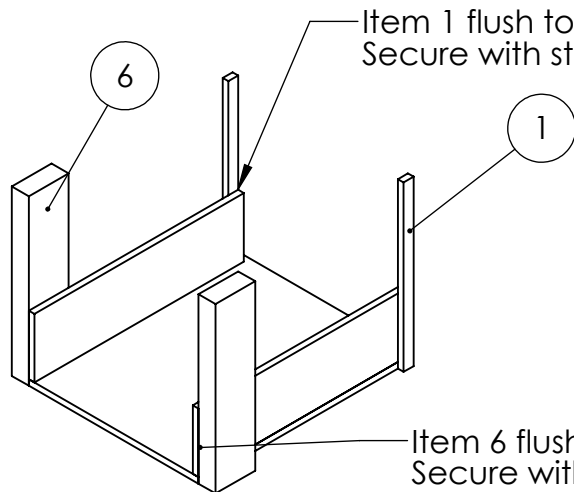
2

1

B

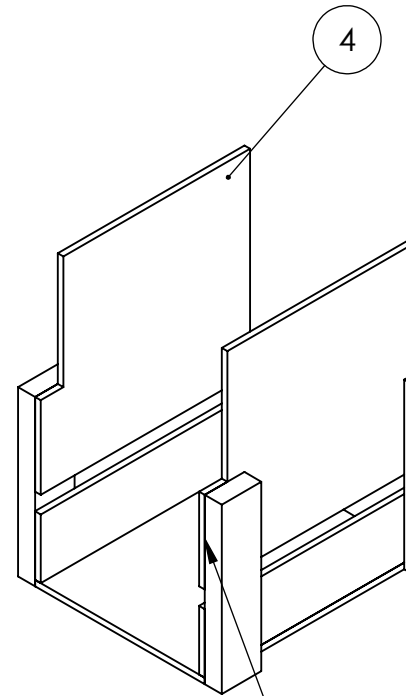


Item 3 flush to Item 5.  
Secure with staples or screws.  
Pre-drill in all steps to avoid  
splitting.



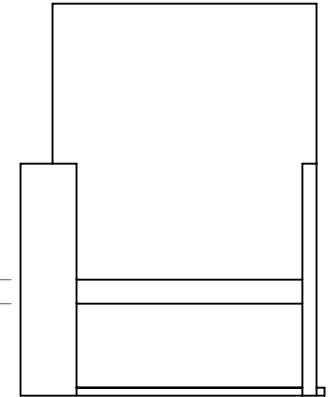
Item 1 flush to Item 3.  
Secure with staples or screws.

Item 6 flush to Item 5.  
Secure with staples or screws.



Item 4 flush to Item 6.  
Secure with staples or screws.

1.50



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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:

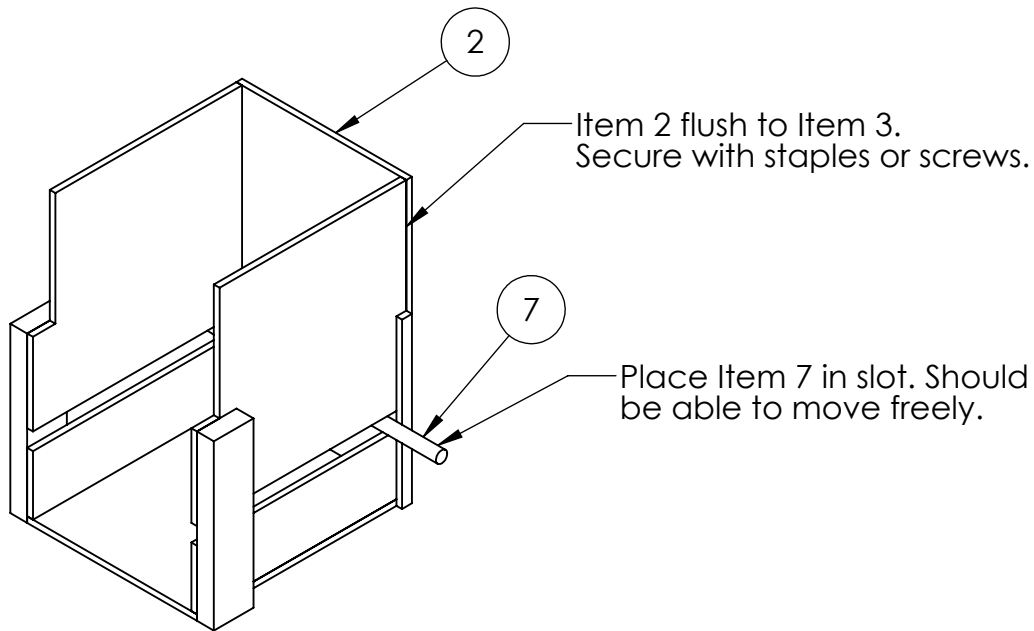
Chute Assembly

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009</b>	
SCALE: 1:12		WEIGHT:
		SHEET 2 OF 3

2

1





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		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:		



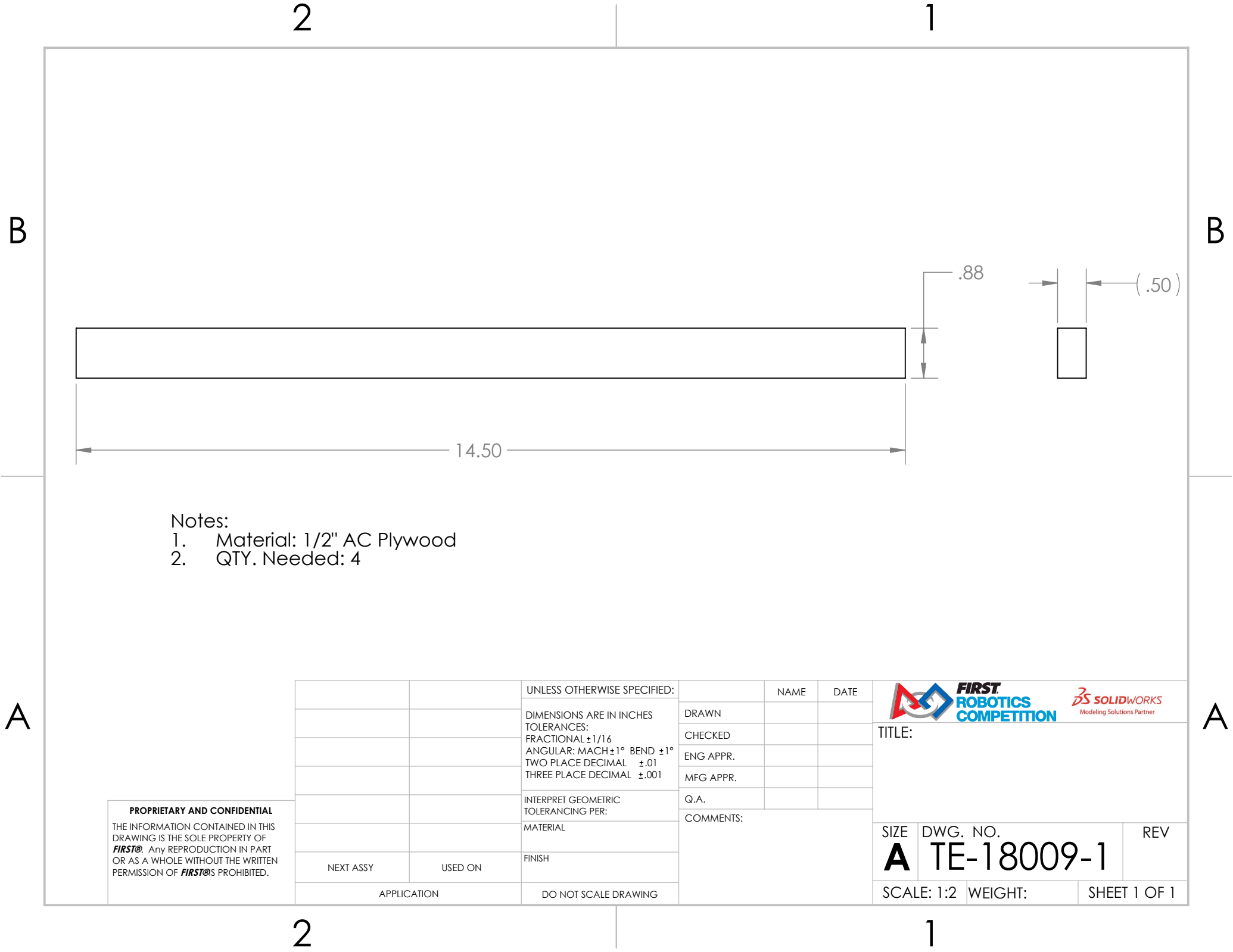
**FIRST  
ROBOTICS  
COMPETITION**



TITLE:

**Chute Assembly**



SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009</b>	
SCALE: 1:12		WEIGHT:
		SHEET 3 OF 3



- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

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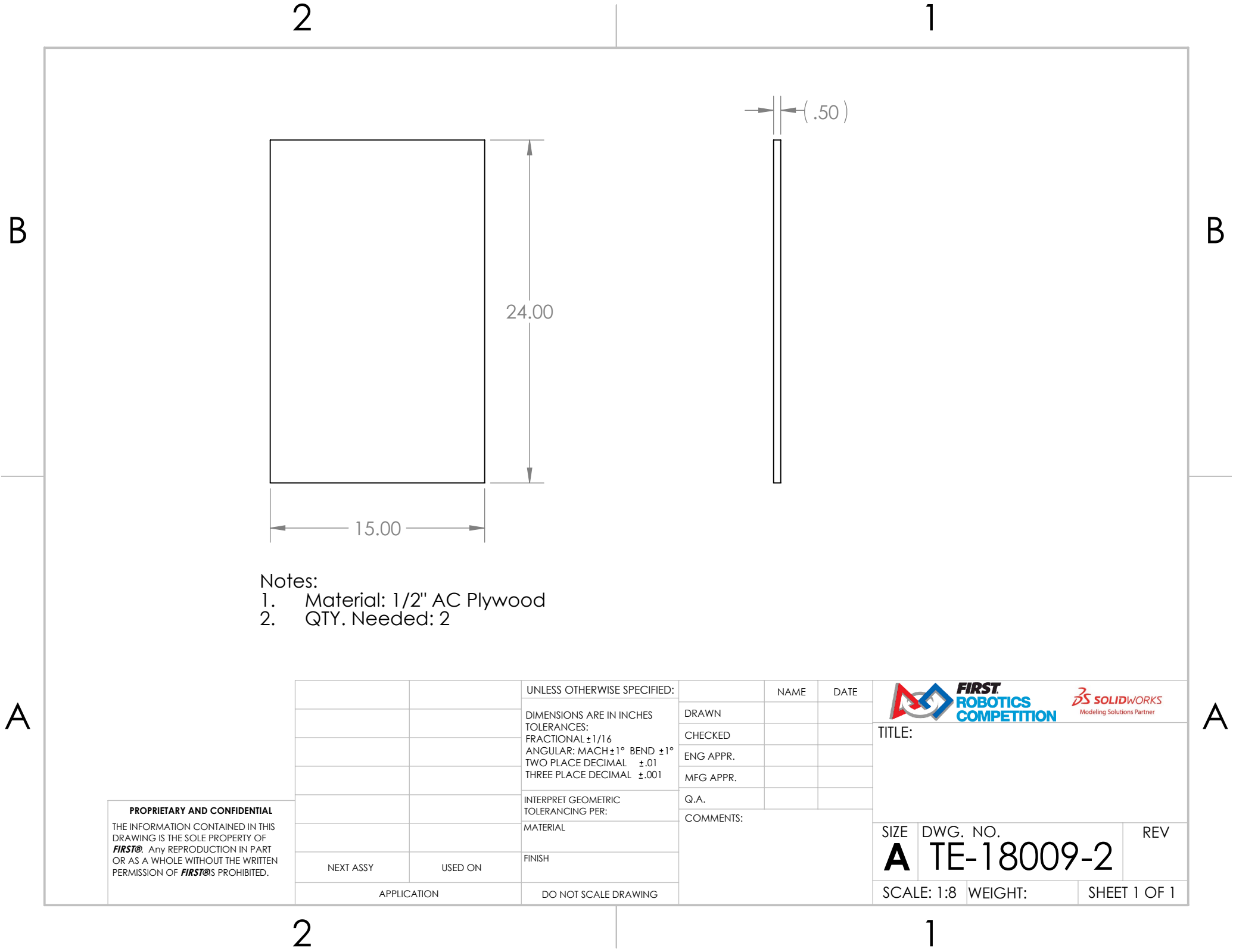
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
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		TOLERANCES:	CHECKED		
		FRACTIONAL $\pm 1/16$	ENG APPR.		
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
		TWO PLACE DECIMAL $\pm .01$	Q.A.		
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET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



TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009-1</b>	

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





- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 2

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		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:

SIZE

DWG. NO.

REV

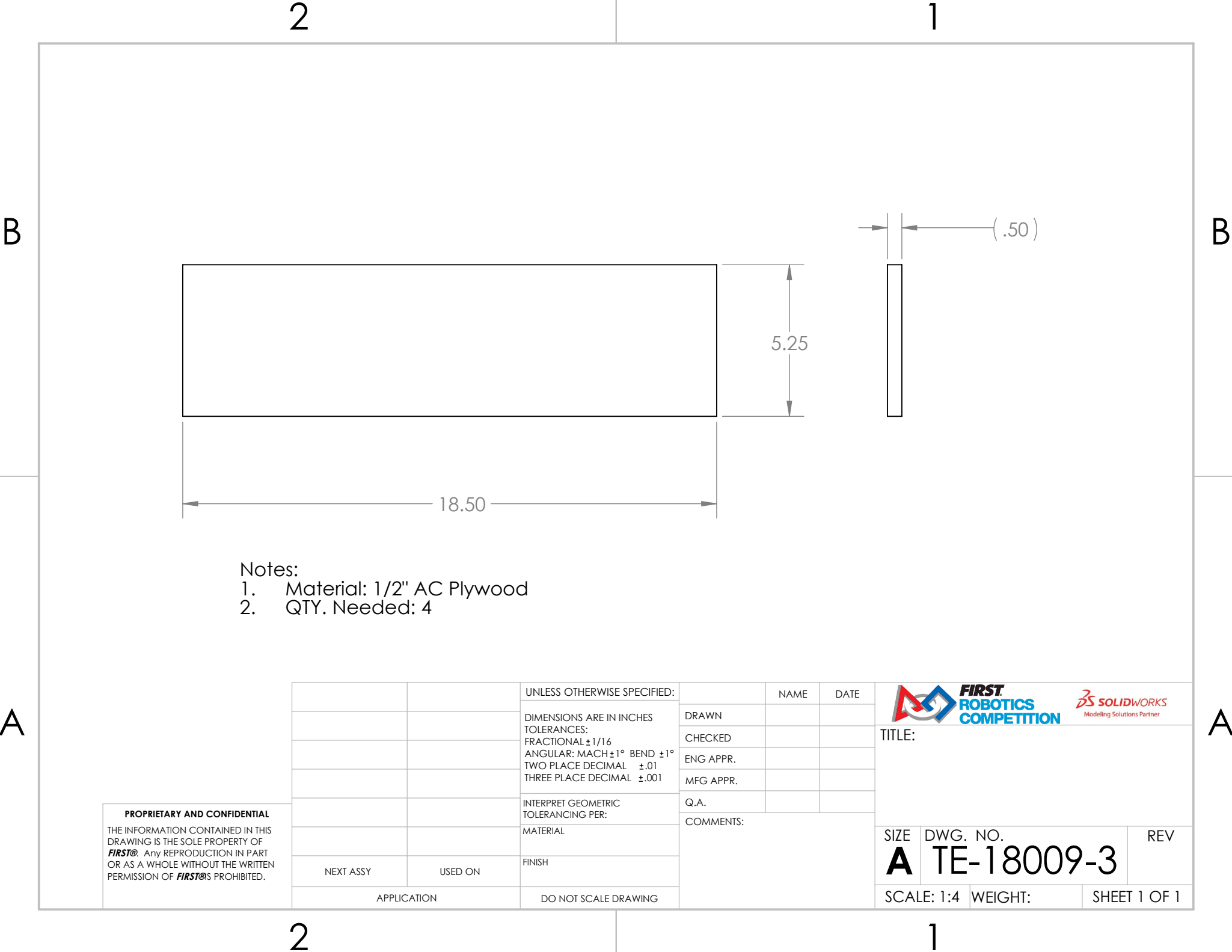
A

TE-18009-2

SCALE: 1:8

WEIGHT:

SHEET 1 OF 1





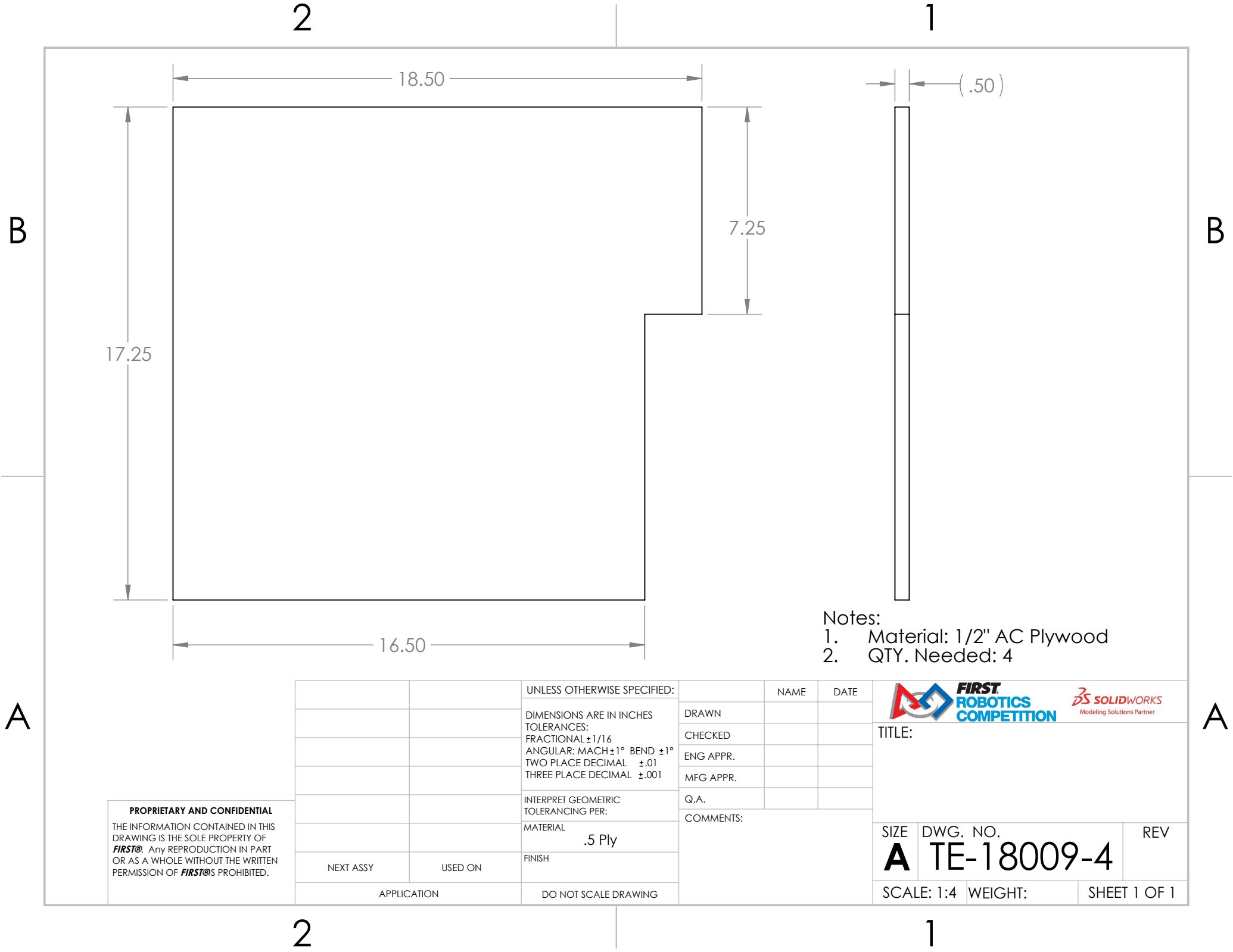
- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

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		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:					
SIZE	DWG. NO.			REV	
<b>A</b>	<b>TE-18009-3</b>				
SCALE: 1:4		WEIGHT:		SHEET 1 OF 1	



- Notes:
- 1. Material: 1/2" AC Plywood
  - 2. QTY. Needed: 4

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		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
		.5 Ply
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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

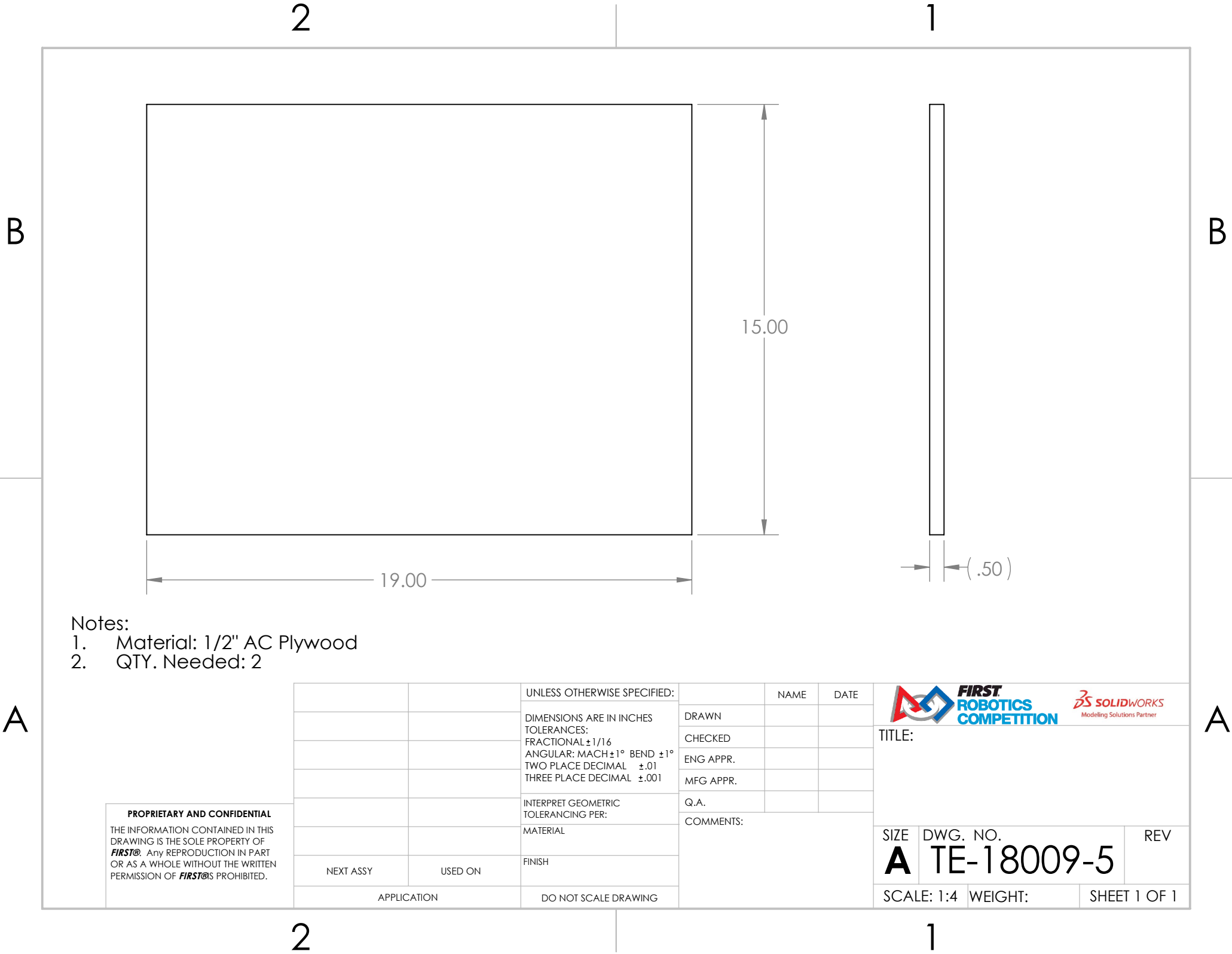


**FIRST  
ROBOTICS  
COMPETITION**



TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009-4</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1





Notes:

- 1. Material: 1/2" AC Plywood
- 2. QTY. Needed: 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			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

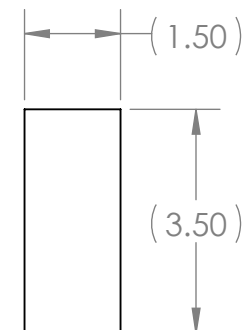
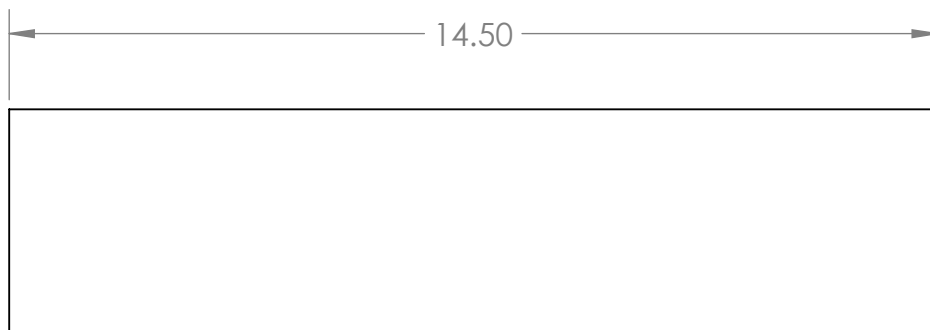


TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009-5</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

2

1



## Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 4

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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:

SIZE

**A**

DWG. NO.

**TE-18009-6**

REV

SCALE: 1:3

WEIGHT:

SHEET 1 OF 1

2

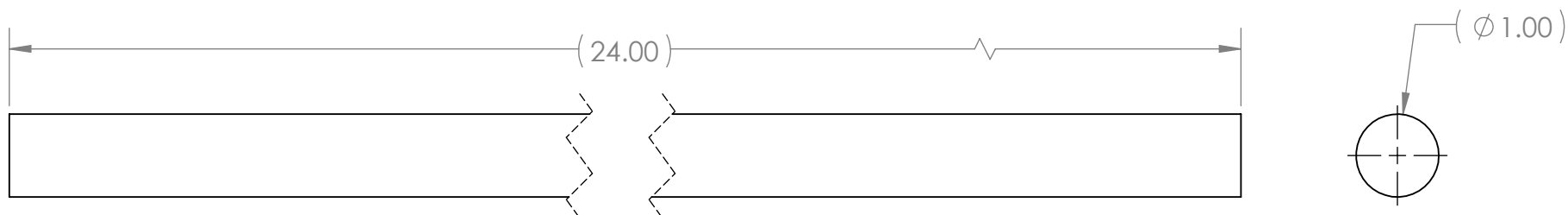
1

2

1

B

B



Notes:

1. Material: 1" Dowel Rod
2. QTY. Needed: 2



A

A

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

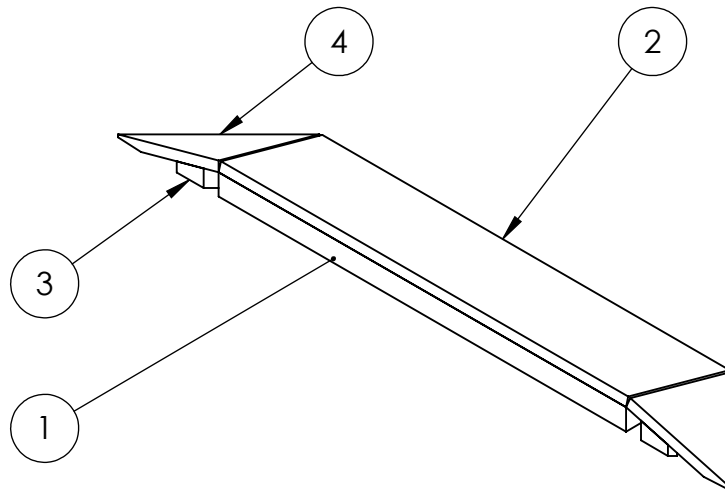
	NAME	DATE
DRAWN		
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

 		
TITLE:		
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18009-7</b>	
SCALE: 1:2	WEIGHT:	SHEET 1 OF 1



2

1





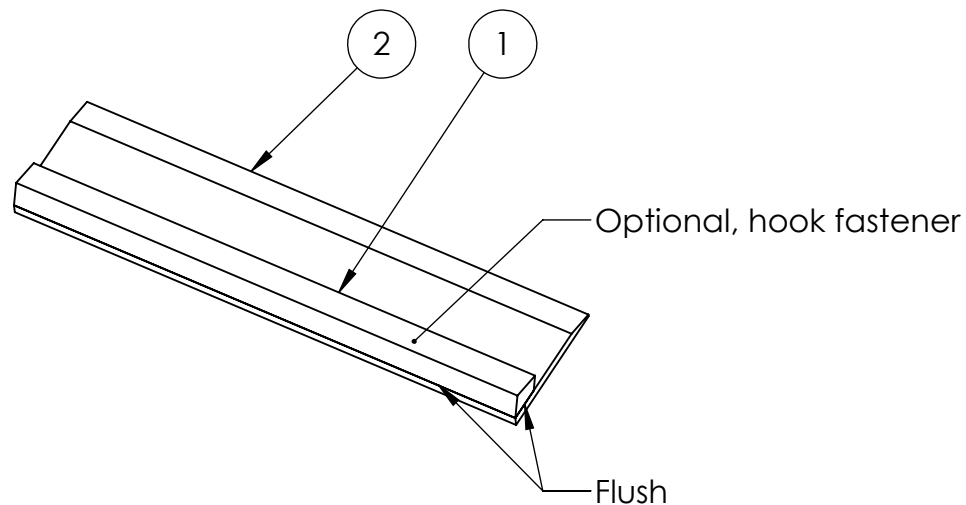
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18010-02		1
2	TE-18010-03		1
3	TE-18010-04		2
4	TE-18010-05		2

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				DRAWN				<b>TITLE:</b>  <h1>Ramp, Exchange</h1>	
				CHECKED					
				ENG APPR.					
				MFG APPR.					
				Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE <b>A</b>	DWG. NO. <b>TE-18010</b>	REV	
		MATERIAL							
		FINISH							
	NEXT ASSY	USED ON					SCALE: 1:8	WEIGHT:	SHEET 1 OF 3
	APPLICATION		DO NOT SCALE DRAWING						

2

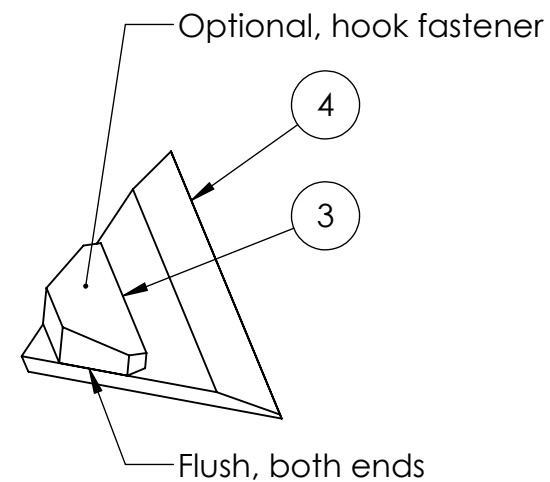
1

B



Align Item 1 and Item 2 as shown.  
Fasten with wood screws.

B



Align Item 3 and Item 4 as shown.  
Fasten with wood screws. Build a  
qty. of two.

A

A

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

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


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

TITLE:

# Ramp, Exchange

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18010</b>	
SCALE: 1:8	WEIGHT:	SHEET 2 OF 3

2

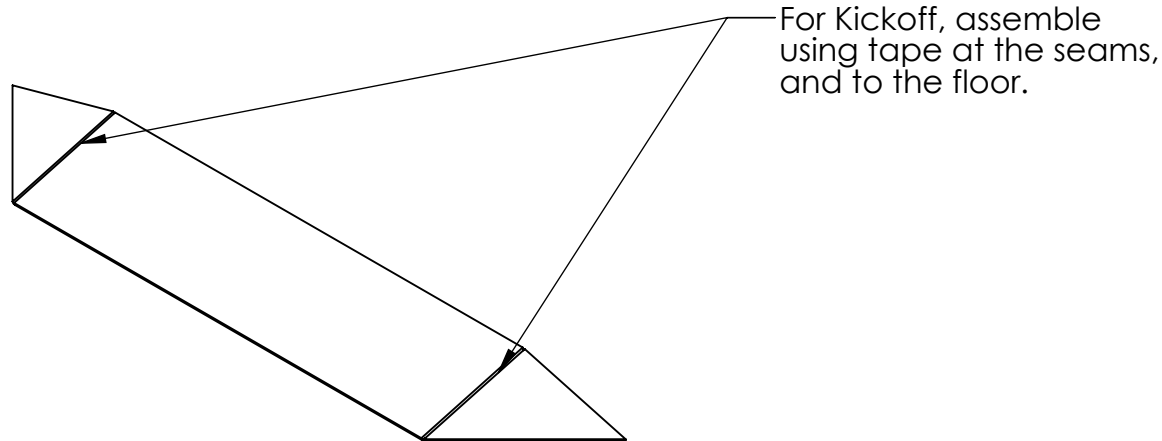
1

2

1

B



B



A

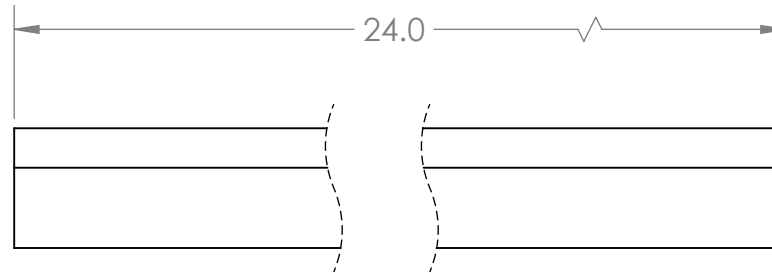
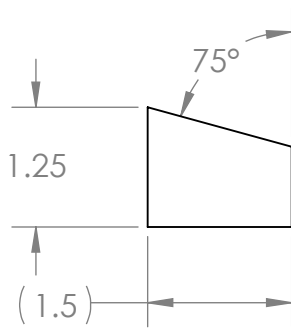
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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <b>Ramp, Exchange</b>		
		TOLERANCES:	CHECKED					
		FRACTIONAL ±	ENG APPR.					
		ANGULAR: MACH ± BEND ±	MFG APPR.					
		TWO PLACE DECIMAL ±	Q.A.					
		THREE PLACE DECIMAL ±	COMMENTS:			SIZE	DWG. NO.	REV
		INTERPRET GEOMETRIC TOLERANCING PER:				<b>A</b>	<b>TE-18010</b>	
		MATERIAL				SCALE: 1:8 WEIGHT: SHEET 3 OF 3		
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						

2

1



# Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 1

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		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:		



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



TITLE:

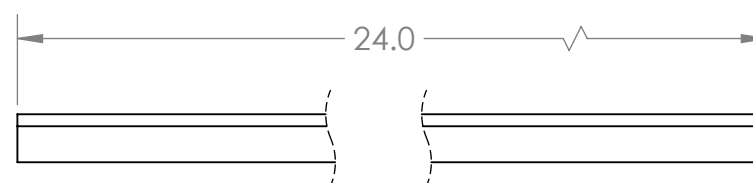
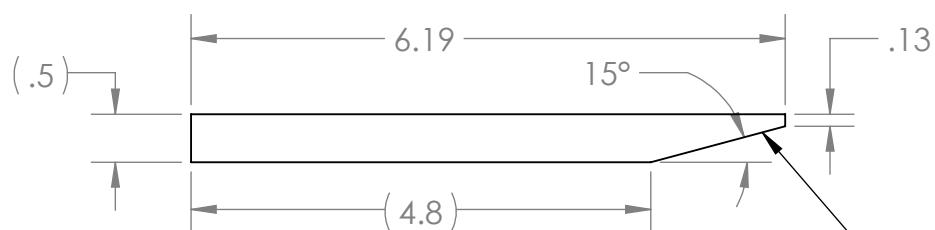
SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18010-02</b>	
SCALE: 1:2	WEIGHT:	SHEET 1 OF 1

2

1

B

B





Please exercise caution when cutting chamfer.  
If you feel the cut is too dangerous, cut a simplified 4.75" x 24" piece of plywood. Both versions will be able to represent the assembly, but the chamfered will be closer to the real design.

#### Notes:

1. Material: 1/2" AC Plywood
2. QTY. Needed: 1

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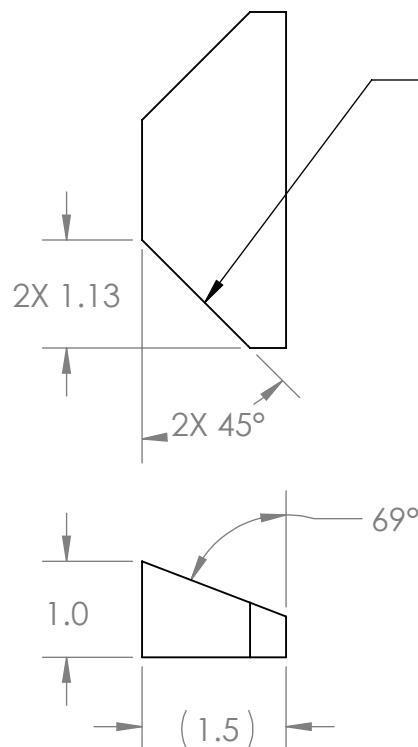
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		TOLERANCES:	CHECKED				
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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			TITLE:	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.
		MATERIAL				<b>A</b>	<b>TE-18010-03</b>
		FINISH				REV	
NEXT ASSY		USED ON				SCALE: 1:2	
APPLICATION		DO NOT SCALE DRAWING				WEIGHT:	SHEET 1 OF 1

2

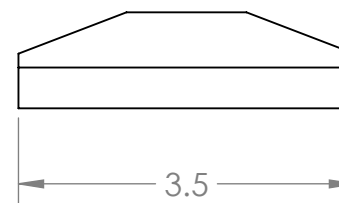
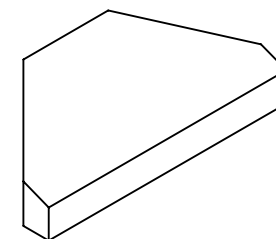
1

A

B



Please use caution when making chamfers. If you are unable to make this part, it may be omitted. It's a nice-to-have, not mandatory.



#### Notes:

1. Material: 2" x 4" Pine Lumber
2. QTY. Needed: 2

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		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:		



**FIRST**  
ROBOTICS  
COMPETITION

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18010-04</b>	
SCALE: 1:2	WEIGHT:	SHEET 1 OF 1

B

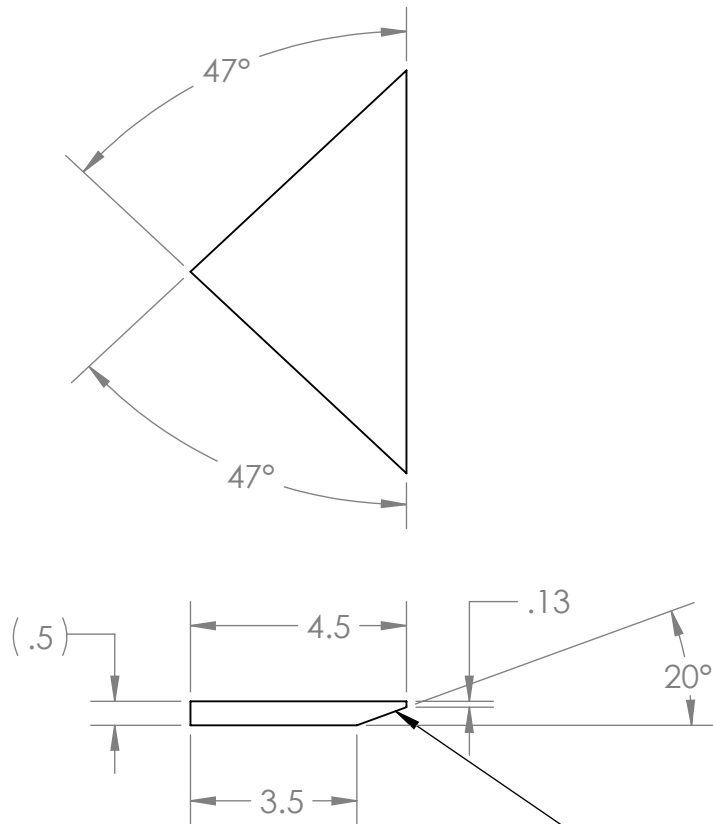
A

2

1

B

B



Notes:

1. Material; 1/2" AC Plywood
2. QTY. Needed: 2

Please exercise caution when cutting chamfer. Please note, if you feel you are unable to make this part, it can be omitted.

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		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:		



**FIRST**  
ROBOTICS  
COMPETITION

**SOLIDWORKS**  
Modeling Solutions Partner

TITLE:

SIZE	DWG. NO.	REV
<b>A</b>	<b>TE-18010-05</b>	
SCALE: 1:4	WEIGHT:	SHEET 1 OF 1

A

2

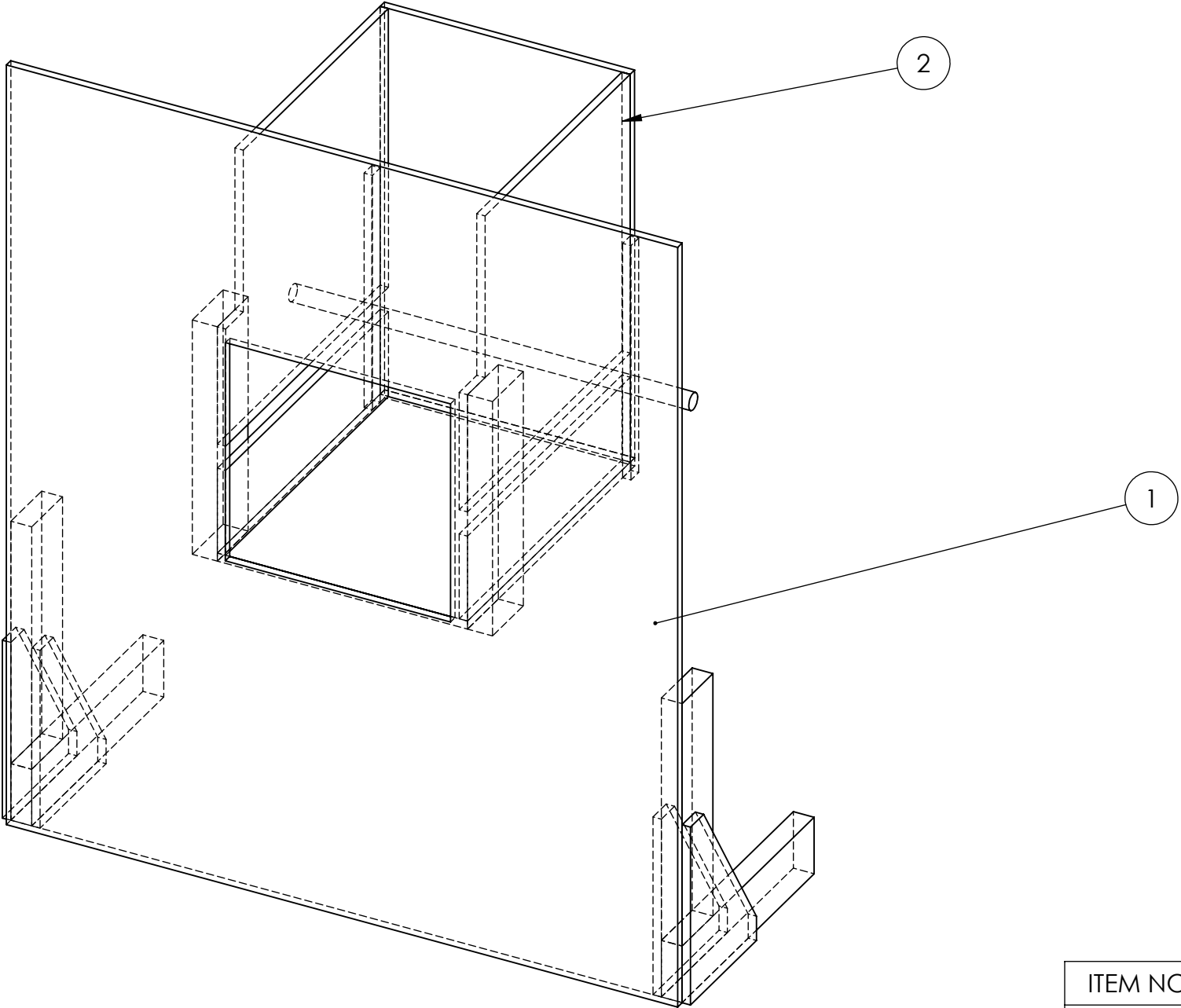
1

4

3



2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18002	Portal	1
2	TE-18009	Chute Assembly	1

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div></div>		
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Portal Full 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> TE-18011		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL				SCALE: 1:8 WEIGHT: SHEET 1 OF 2		
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING						

4

3

2

1



1

2

Flush and centered.

Align Item 2 as shown.  
Fasten using wood screws.

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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

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Portal Full  
Assembly

SIZE

**B**

DWG. NO.

TE-18011

REV

SCALE: 1:8

WEIGHT:

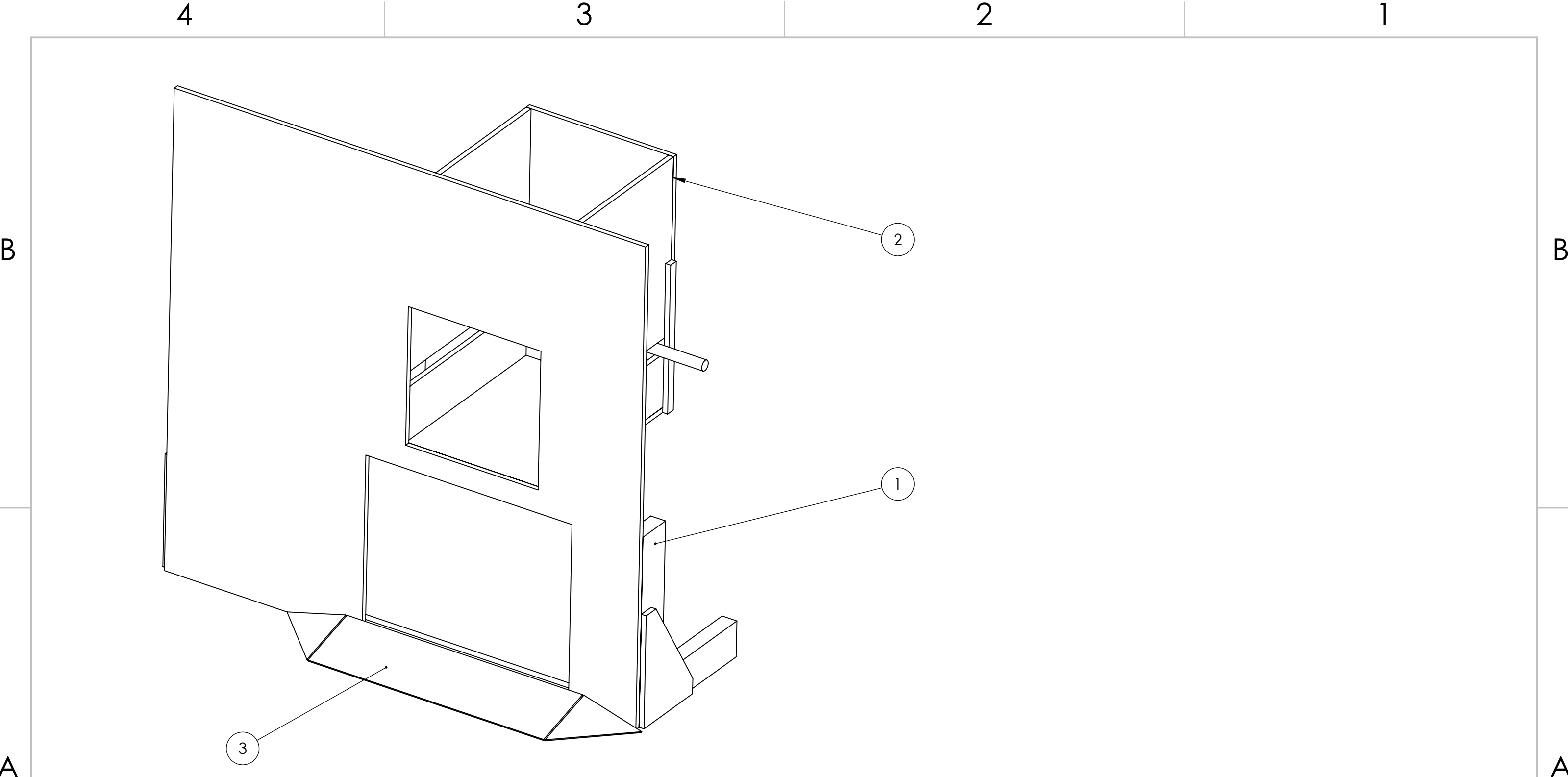
SHEET 2 OF 2

NEXT ASSY

USED ON

APPLICATION



DO NOT SCALE DRAWING



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18001	Exchange	1
2	TE-18009	Chute Assembly	1
3	TE-18010	Ramp, Exchange	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:  
**Exchange Full Assembly**

SIZE **B** DWG. NO. **TE-18012** REV

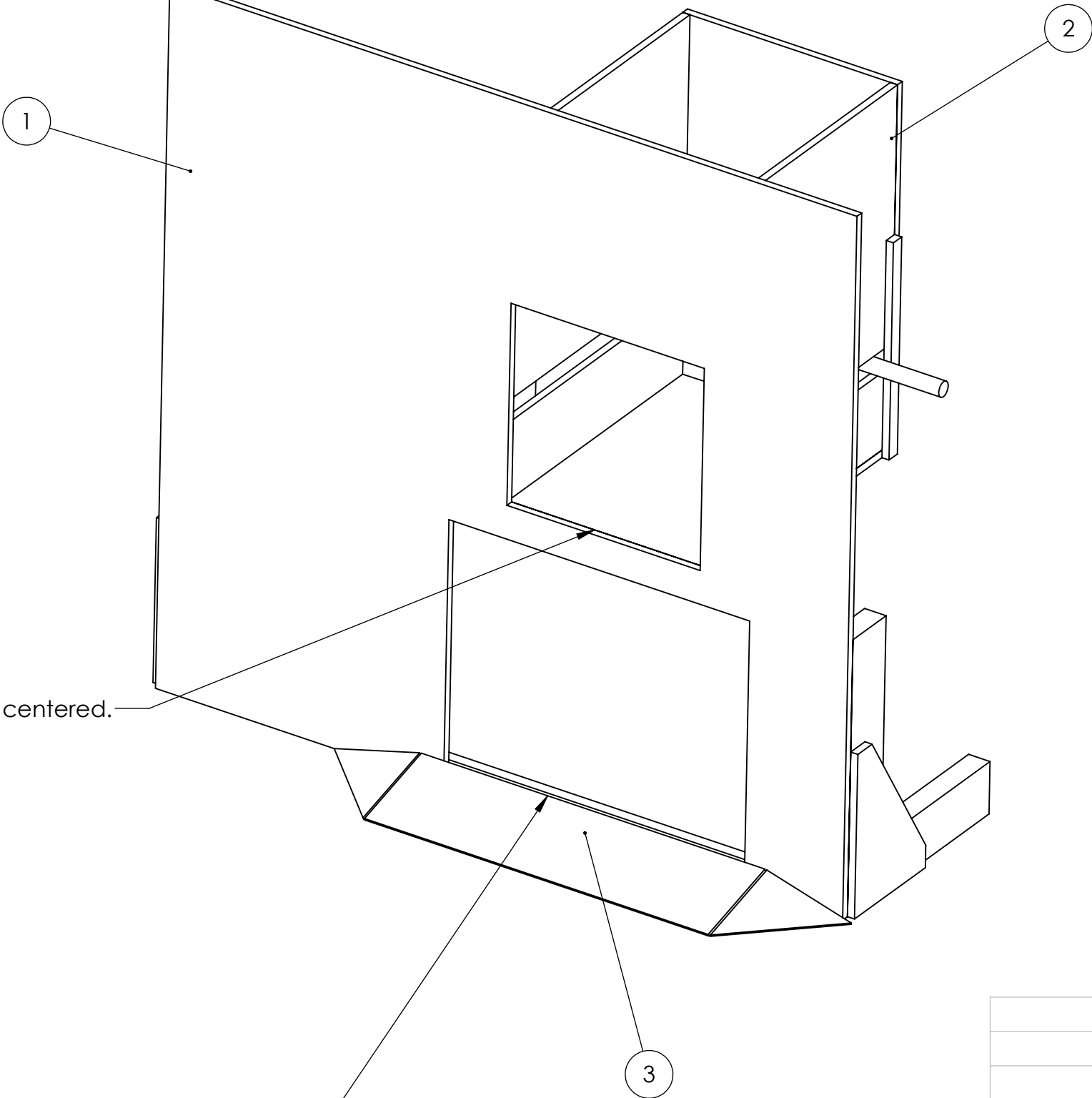
SCALE: 1:8 WEIGHT: SHEET 1 OF 2

4

3

2

1





Step 1: Align Item 2 so it is flush and centered with the top opening. Fasten using wood screws.

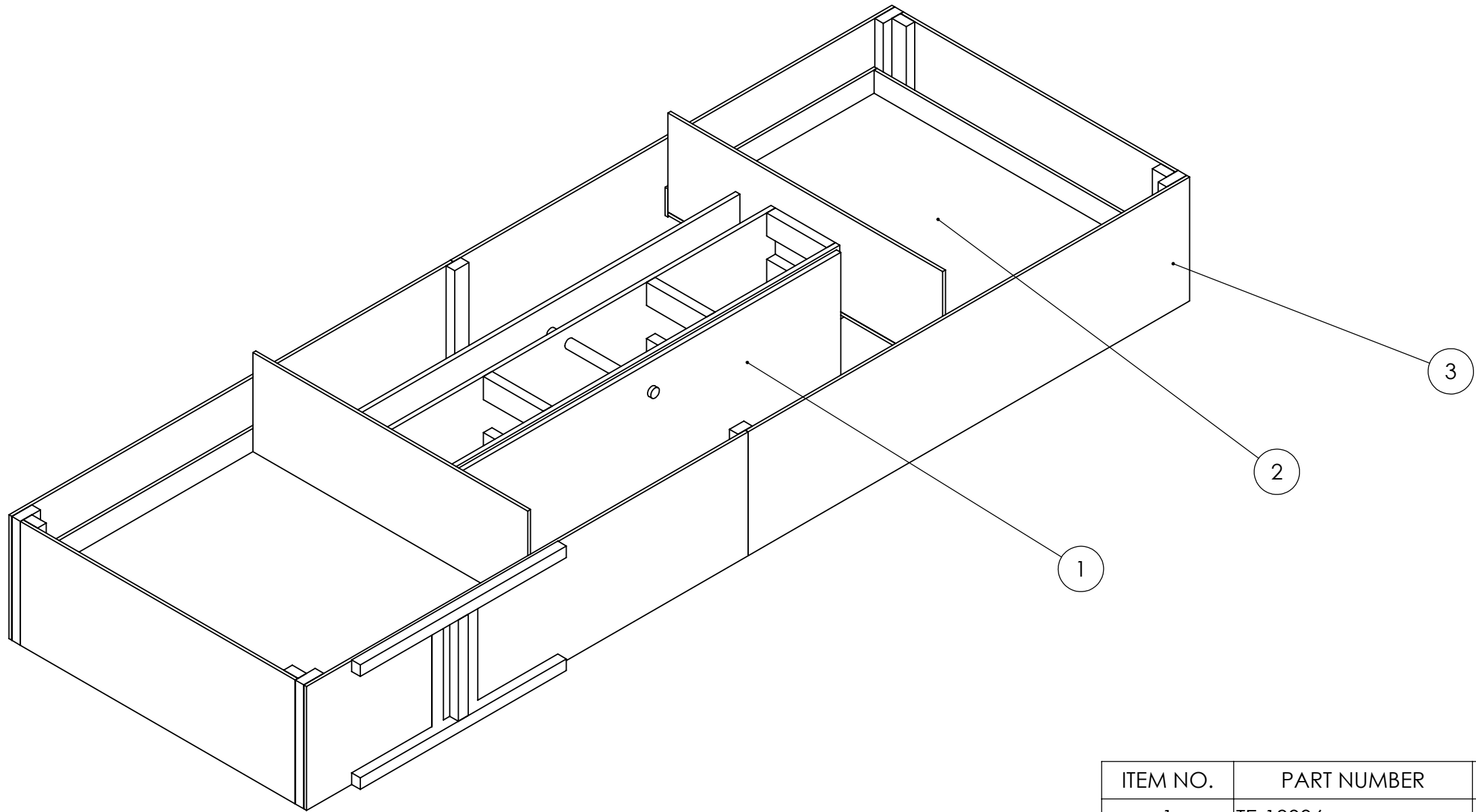
Step 2: Align Item 3 so it is flush and centered with the bottom opening. Affix to floor using tape or hook and loop.

Flush and centered.

Flush and centered.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</div><div>SOLIDWORKS Modeling Solutions Partner</div></div>			
		DIMENSIONS ARE IN INCHES	DRAWN			TITLE: <div>Exchange Full Assembly</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>BTE-18012</div>			
		INTERPRET GEOMETRIC TOLERANCING PER:							
		MATERIAL							
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:8 WEIGHT: SHEET 2 OF 2			



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18006	Switch Frame	1
2	TE-18004	Switch Arm	1
3	TE-18005	Fence	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:  

# Switch Full Assembly

SIZE  
**B**

DWG. NO.  
**TE-18013**

REV

SCALE: 1:16 WEIGHT:

SHEET 1 OF 2

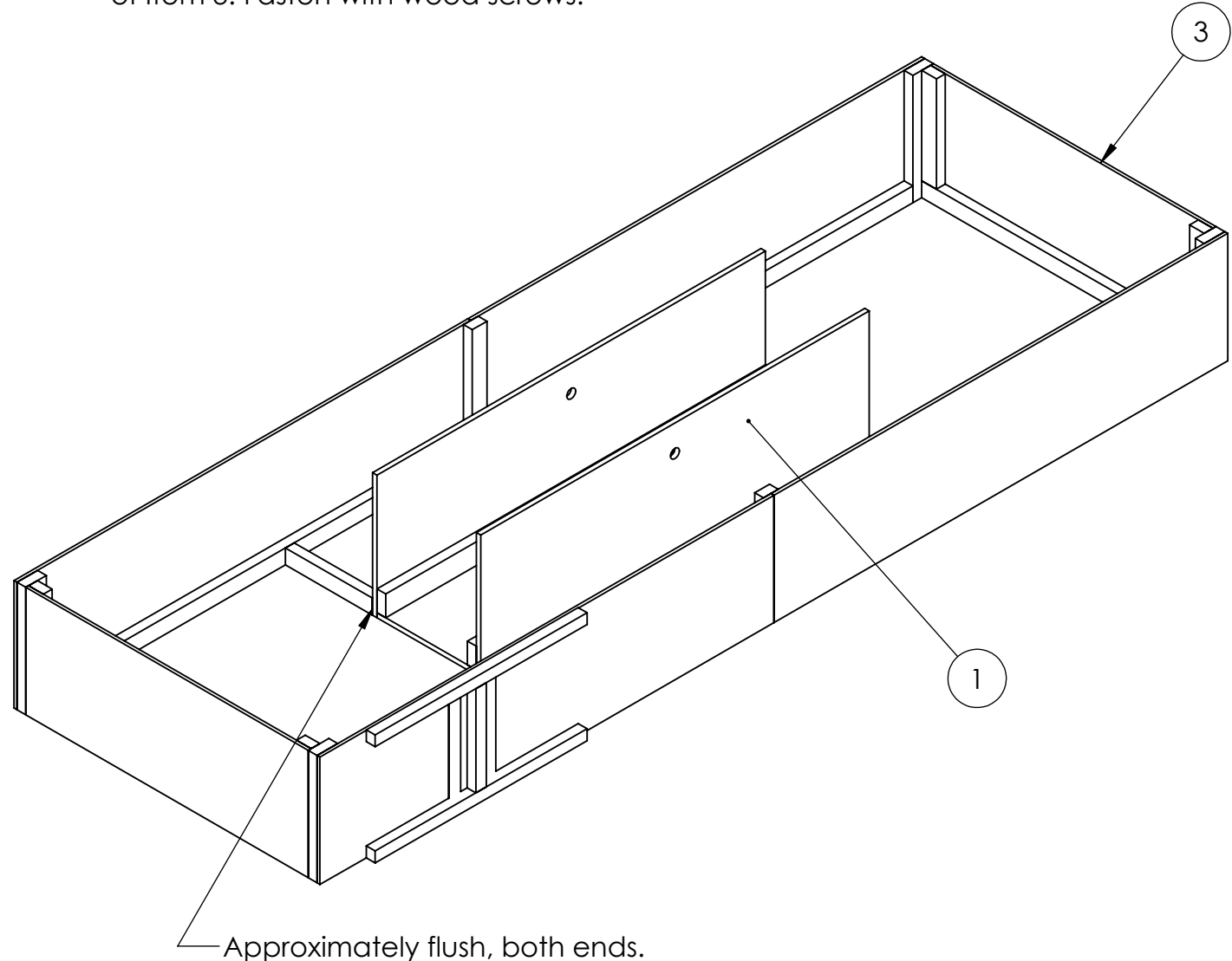
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3

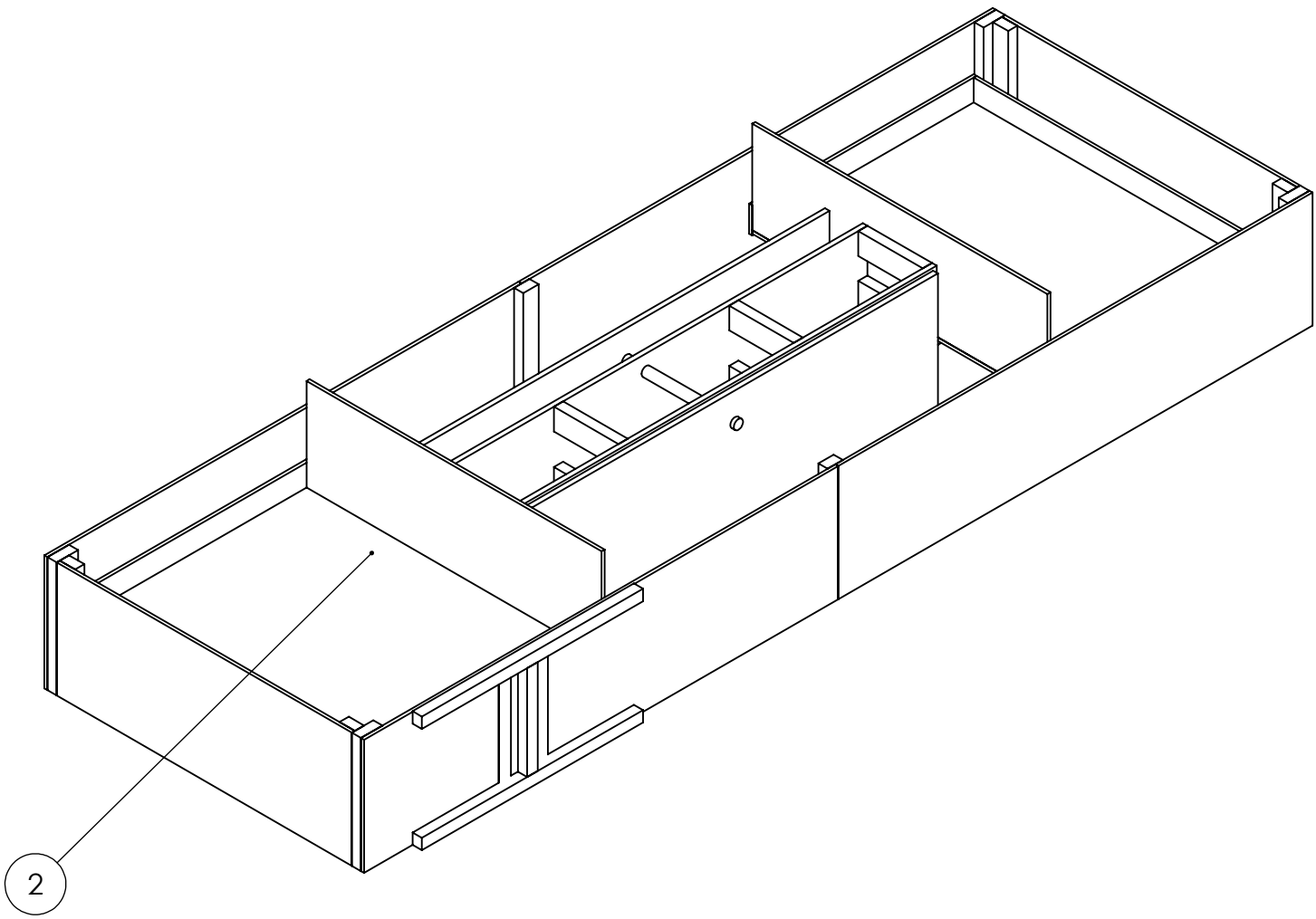
2

1



Step 1: Insert Item 1 into the middle of Item 3. Fasten with wood screws.



Step 2: Attach Item 2 to Item 1 using the shaft (TE-18004-06) from Item 1. Shaft will have to be removed prior to installation.



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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 Full Assembly</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV <b>B</b> TE-18013		
		MATERIAL						
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:20 WEIGHT: SHEET 2 OF 2		

4

3

2

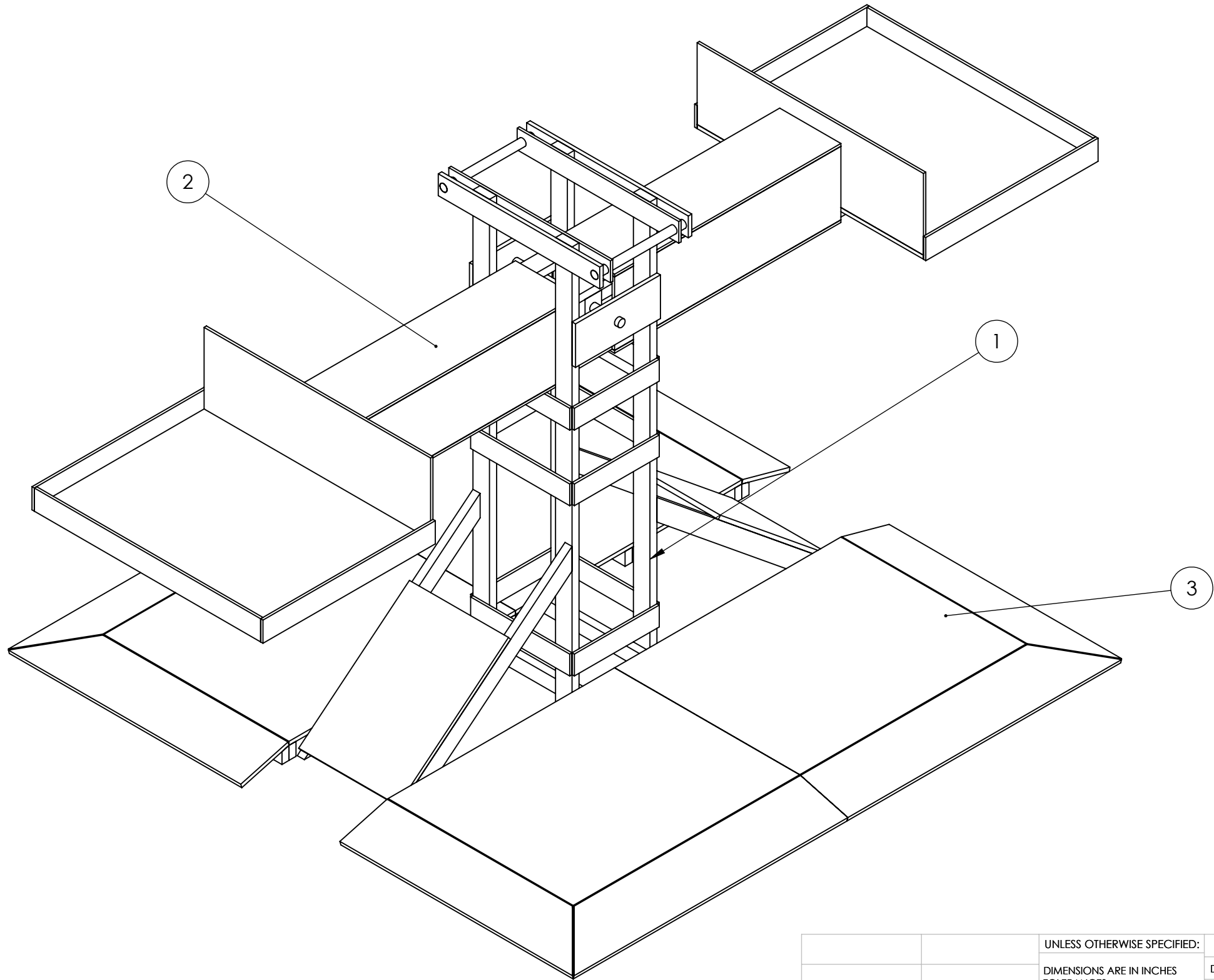
1

B

B

A

A



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-18007	Scale Frame	1
2	TE-18008	Scale Arm	1
3	TE-18003	Platform	2

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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			

**FIRST**  
ROBOTICS  
COMPETITION

Modeling Solutions Partner

TITLE:

Scale

SIZE

DWG. NO.

REV

B

TE-18014

SCALE: 1:18

WEIGHT:

SHEET 1 OF 3

4

3

2

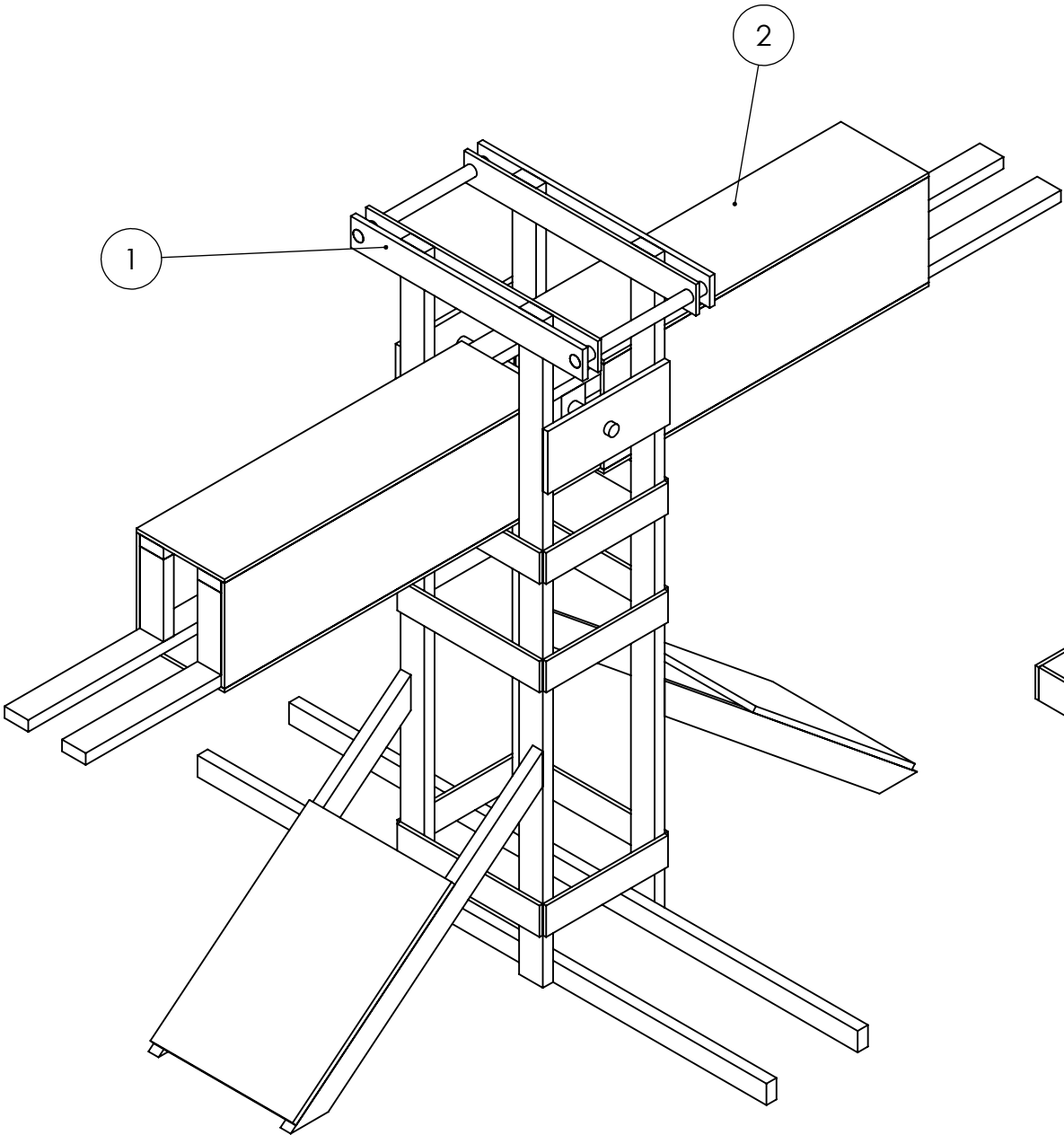
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4

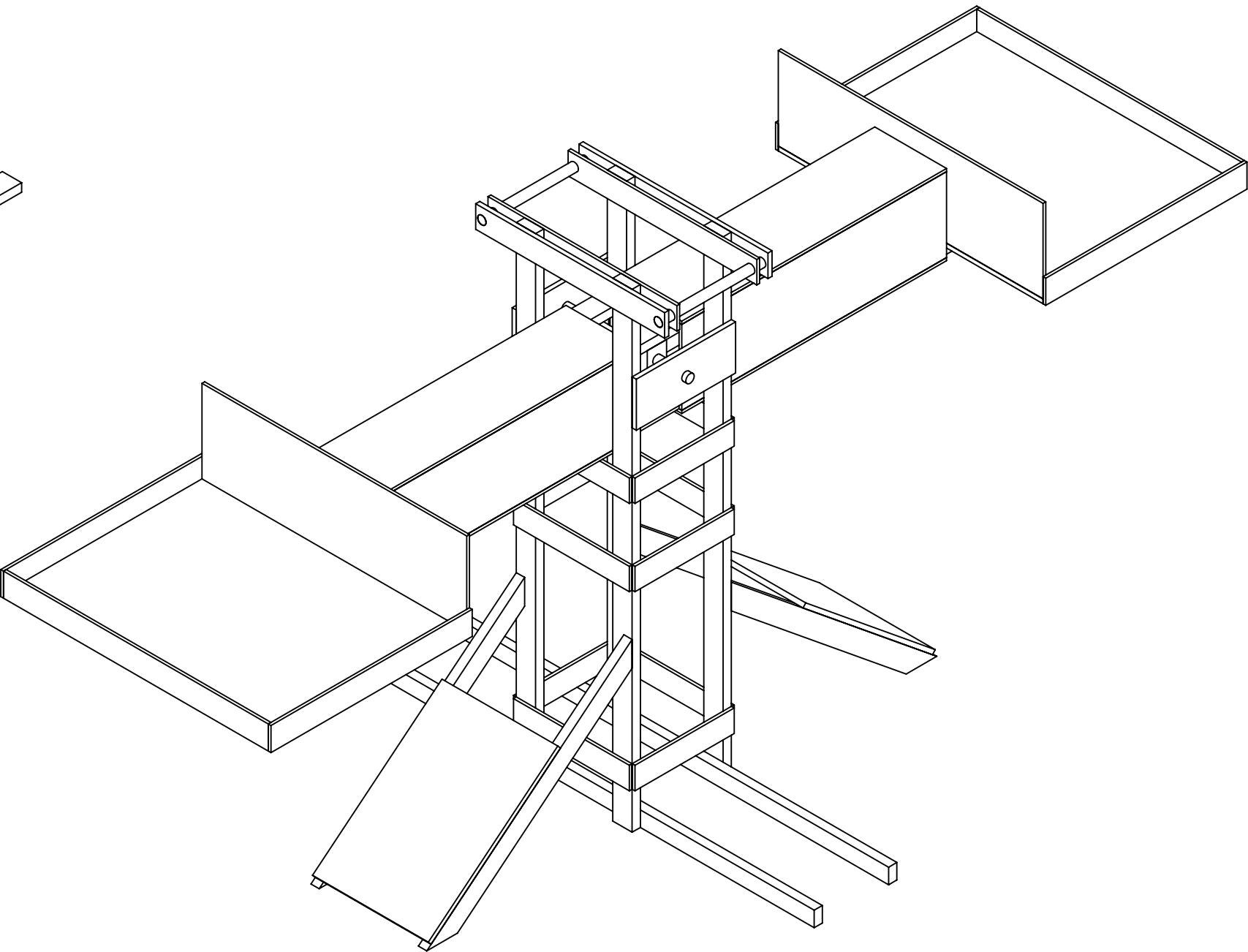
3

2

1



Step 1: Assemble Item 2 to Item 1 using the Scale Shaft (TE-18007-2). Shaft will have to be removed prior to installation.



Step 2: Complete Item 2 by attaching the Baskets (see TE-18008).

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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: <b>Scale</b>	
				SIZE <b>B</b>	DWG. NO. <b>TE-18014</b>
				SCALE: 1:18	WEIGHT: <b>REV</b>
				SHEET 2 OF 3	

4

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4

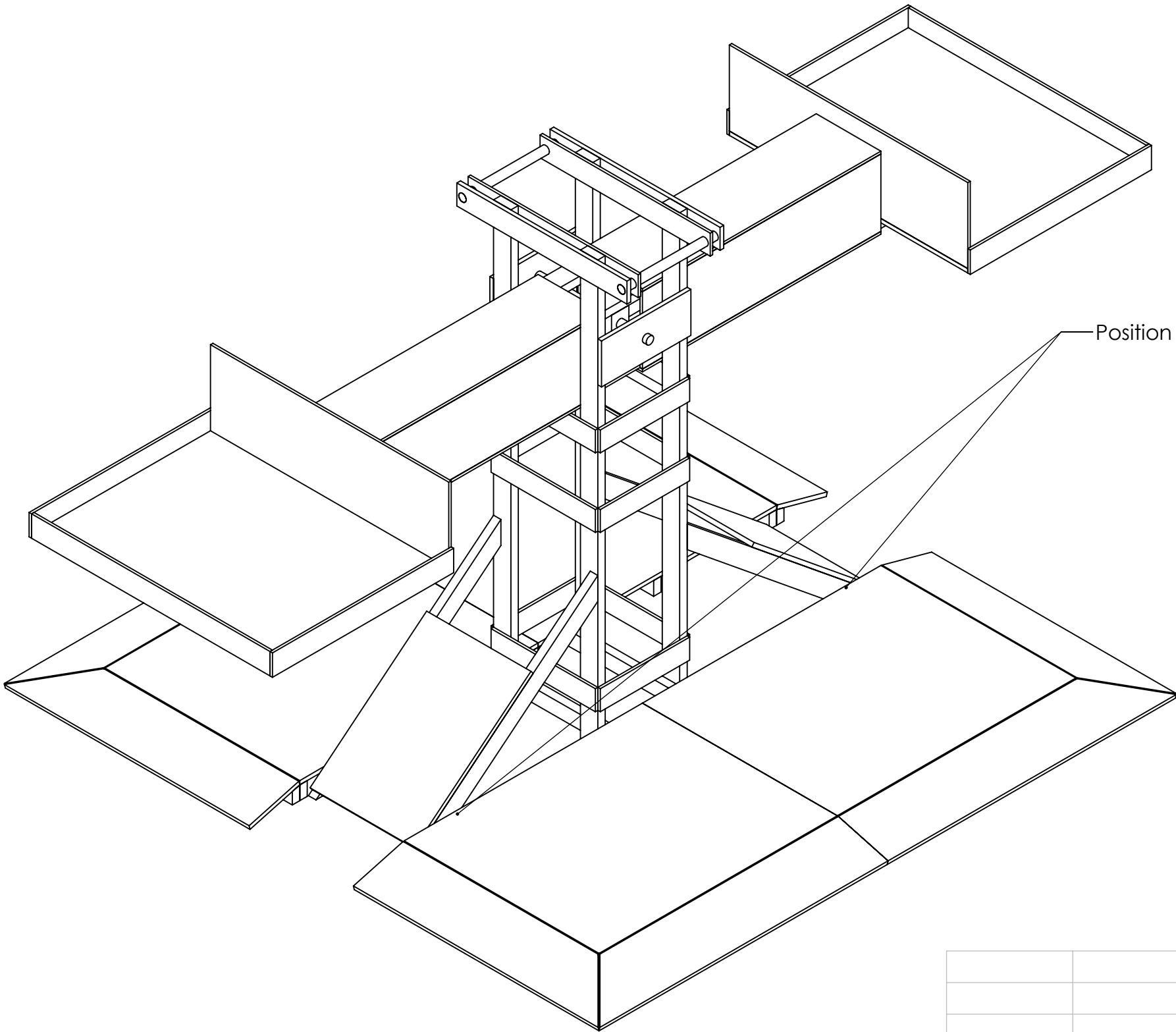
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2

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B

B





Position Item 3 flush to Item 1

Step 3: Place Item 3 (qty: 2) flush and centered against Item 1.

A

A

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		DIMENSIONS ARE IN INCHES	DRAWN			TITLE:  <h1>Scale</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> TE-18014		
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
NEXT ASSY	USED ON							
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:18 WEIGHT: SHEET 3 OF 3		

4

3

2

1