

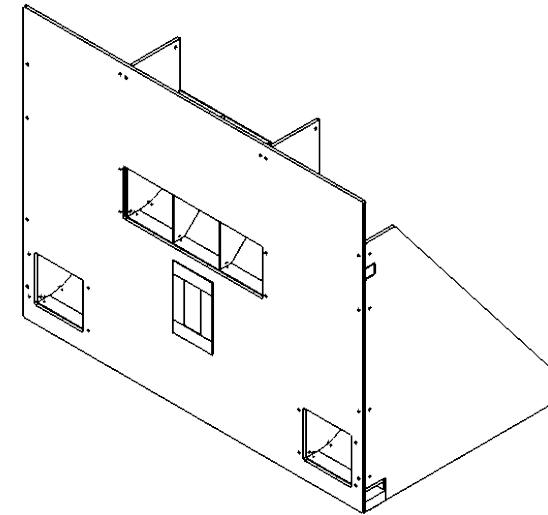
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1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20000-01	1/2" plywood face	1
2	TE-20000-02	0.5 outrigger	2
3	TE-20000-03	60" 2x4	1
4	TE-20000-04	60" x 1.5" 2x2	1
5	TE-20000-05	34.5"x2x4	2
6	TE-20000-06	29.5x 2x4	2
7	TE-20000-07	lower chute side 050	4
8	TE-20000-08	.125 HB lower chute	2
9	TE-20000-09	.125 HB upper chute	1
10	TE-20000-10	.125" HB divider	2
11	TE-20000-11	Mid chute side 050	2
12	TE-20000-12	2" hook 29.125	2
13	TE-20000-13	2" hook, 60"	1
14	Vision_LoadingBay	2" Wide, 3M 8830 Scotchlite Reflective Material	4



Material	QTY
15/32" (1/2") A/C or CDX Plywood	1.25 sheets
0.115" (1/8") Hard Board	0.5 sheets
#6 Wood Screw 1.25" length	22
120lb Cable Ties 8"	8
50lb Cable Tie 8" length	48
Vision Tape 2" wide	24"
2" x 4" x 8'	3
2" x 2" x 8'	1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
16-B2	A	Missing part from the packet	1/6/2020	NTW



Note:

1. This assembly contains some optional portions. Use of these components better mimics field geometry, but may not be required for the assembly to be used for practice. These items are noted at the part and assembly steps.

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

TITLE:

Team Version Loading Bay

SIZE
A

DWG. NO.
TE-20000

REV
A

SCALE: 1:24

WEIGHT:

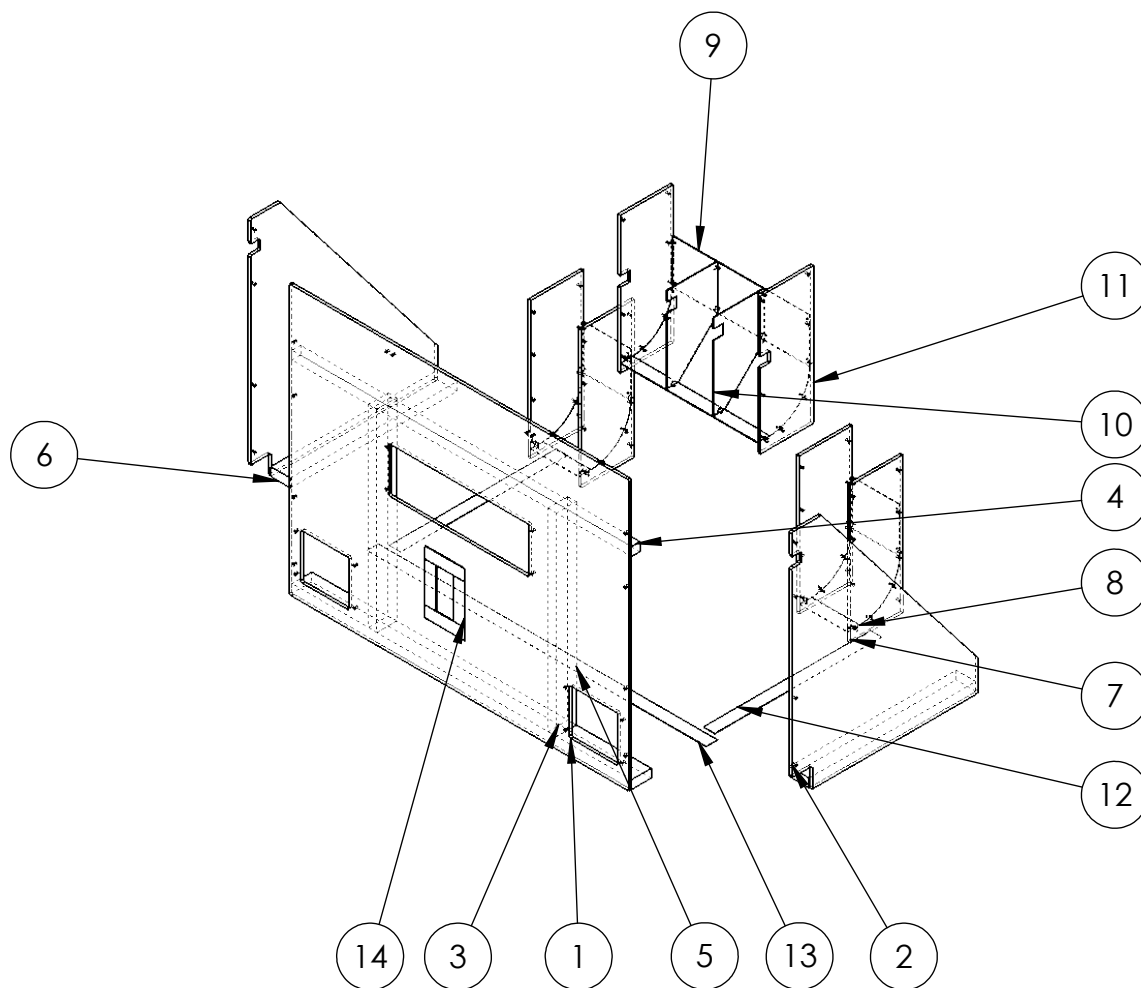
SHEET 1 OF 16

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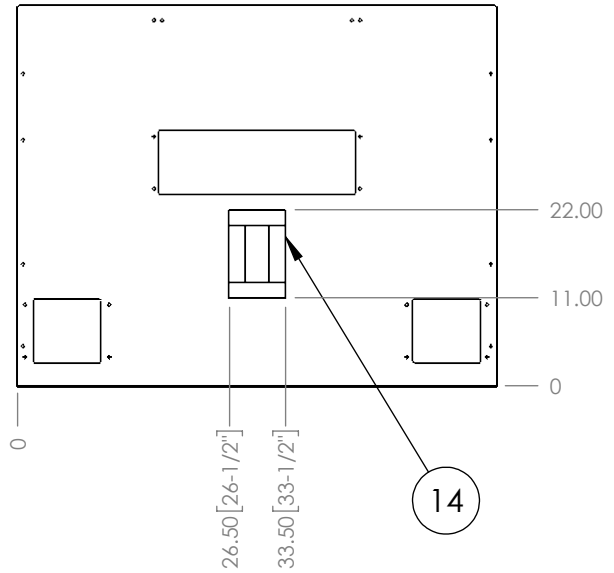
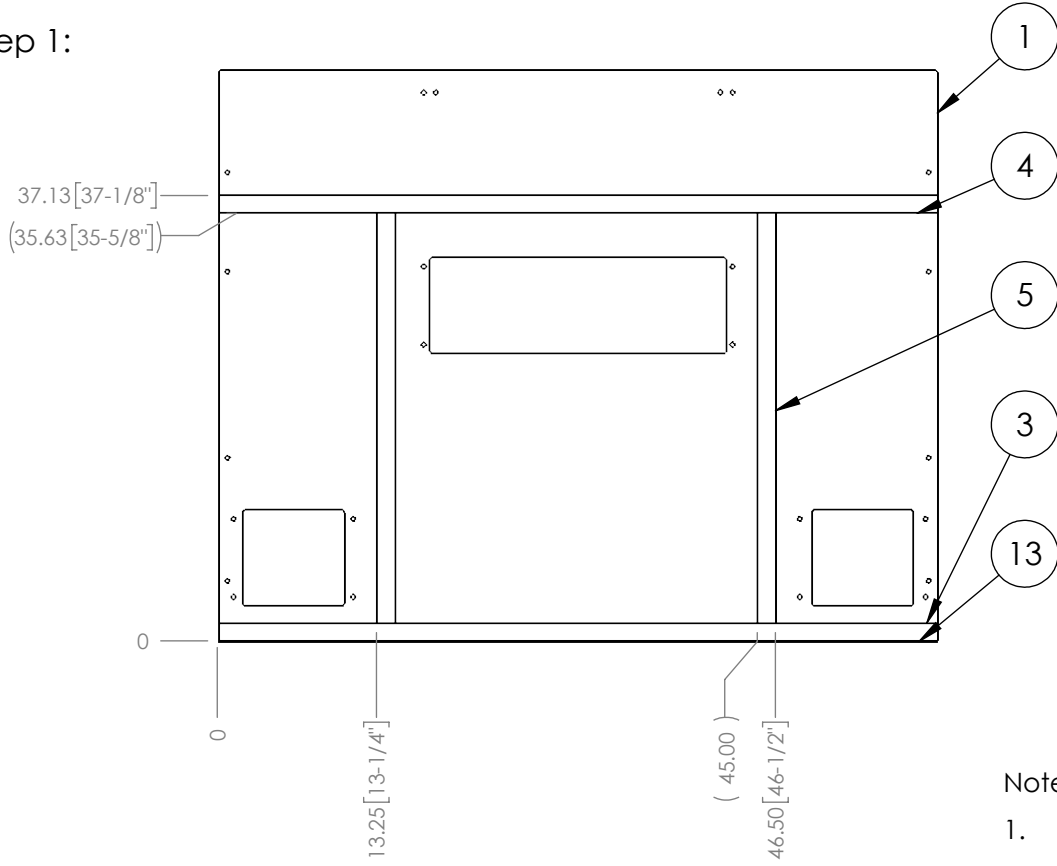
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Step 1:

B





B

Note:

1. Screw (3), (5), (4) to (1) 1.25" #6 screws, Pre-drill
2. After the frame is assembled flip over and add (14)
3. Attach and staple (13) to the bottom of (3)

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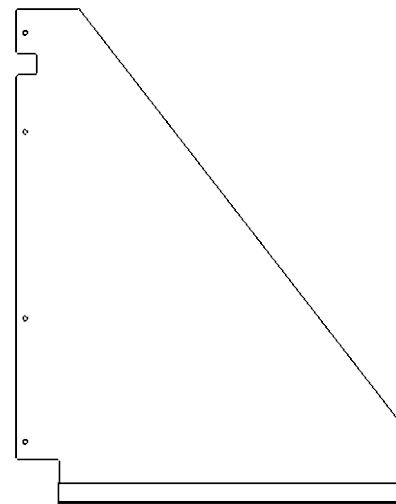
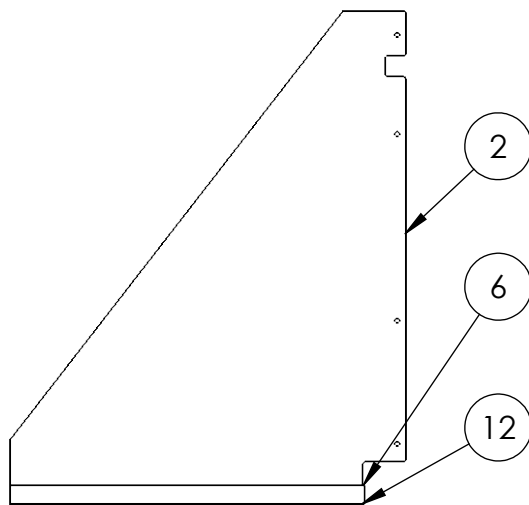
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1

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Step 2 and 3:



Note:

1. Attach (6) to (2) with 1.25" #6 screws, Pre-drill
2. Attach (12) to the bottom of (6)
3. Mirror for step 3

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MFG APPR.		
Q.A.		
COMMENTS:		



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TITLE:

Team Version
Loading Bay

SIZE	DWG. NO.	REV
A	TE-20000	A
SCALE: 1:24		WEIGHT:
		SHEET 4 OF 16

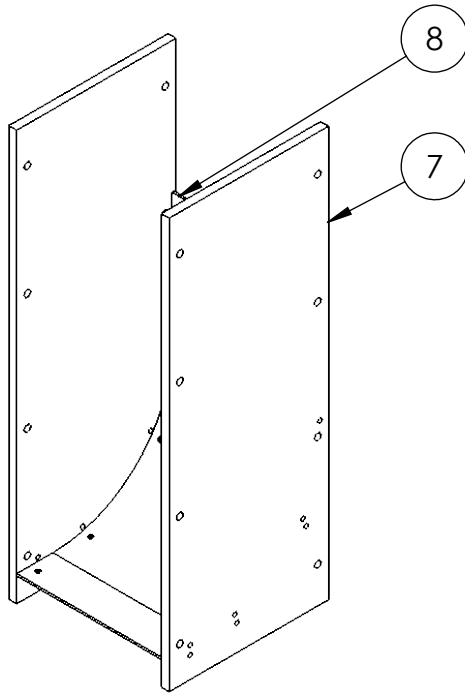
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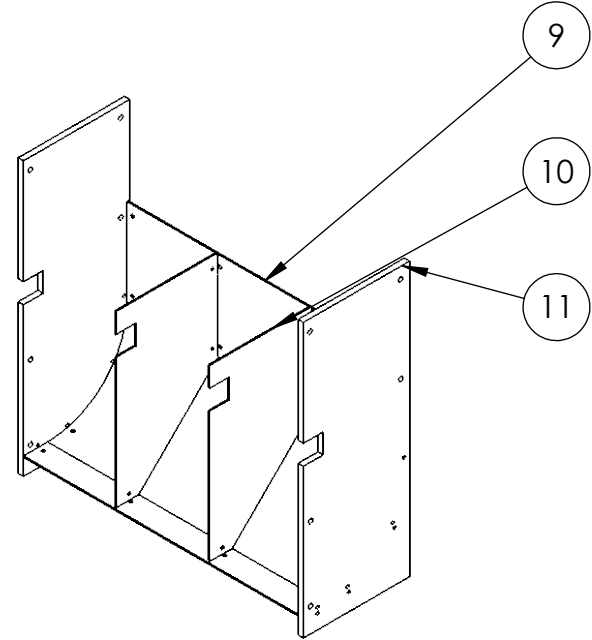
Step 4:



Note:

1. Attach 7 to 8 with 50lb Cable Ties
2. Start from bottom leave the middle loose until top is tight
3. This is Optional

Step 5:





Note:

1. Attach 11 to 10 with 50lb Cable Ties
2. Start from bottom leave the middle loose until top is tight
3. Attach 9 to 10 with 50lb Cable Tie
4. This is Optional

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MFG APPR.		
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TITLE:			
Team Version Loading Bay			
SIZE	DWG. NO.	REV	
A	TE-20000	A	
SCALE: 1:24		WEIGHT:	SHEET 5 OF 16

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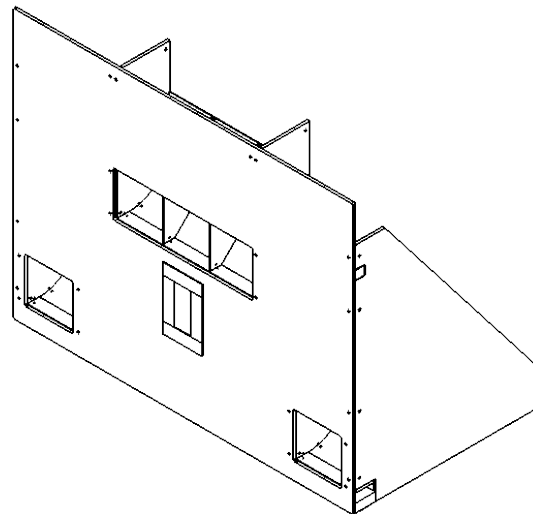
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Notes:

1. Attach step 2 and 3 to step 1 using 120lb cable ties.
2. Attach step 4 and 5 to step 1 using 50lb cable ties.

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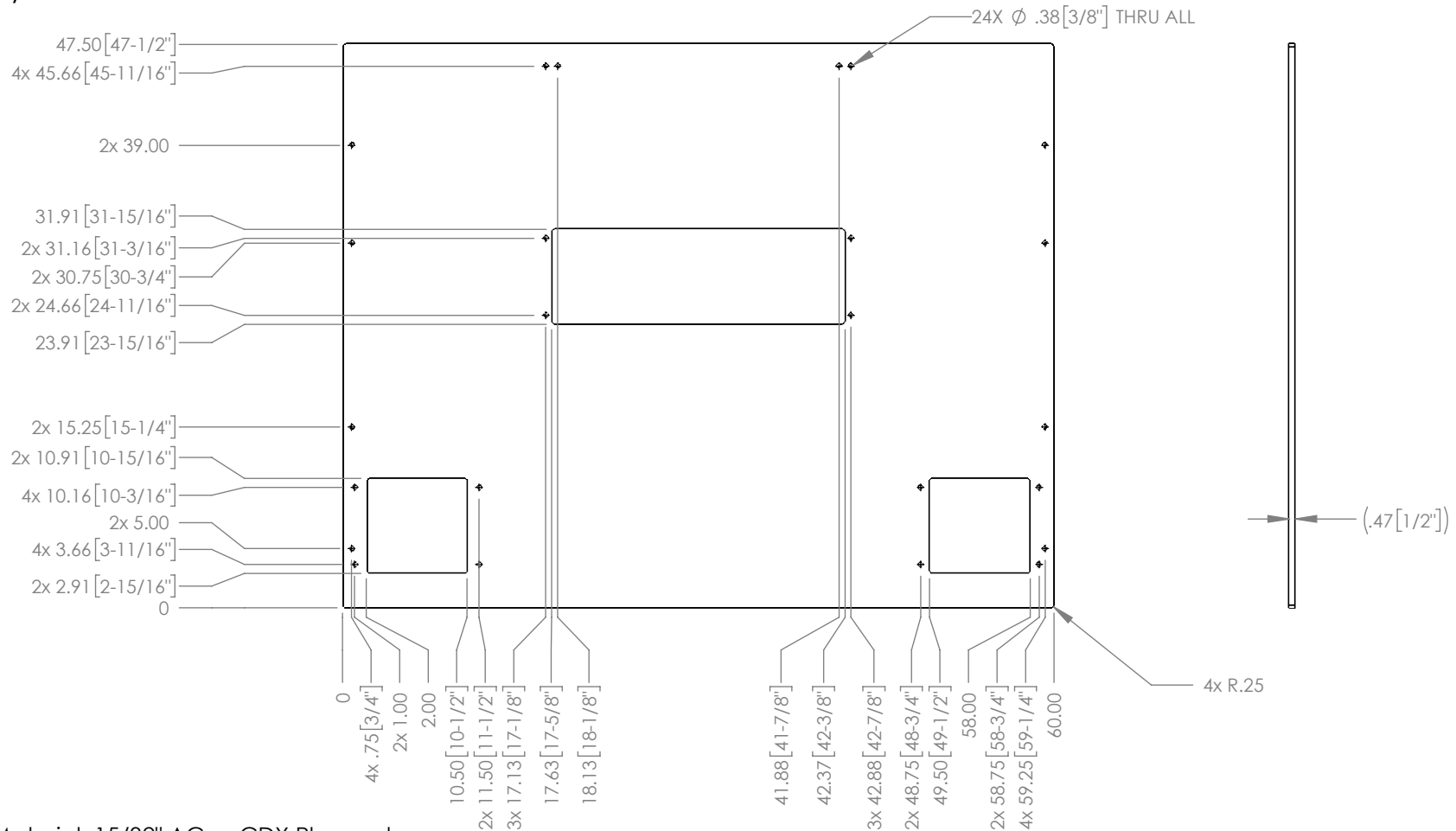
2

1

B

B

TE-20000-01
QTY (1)



Notes:

- Material: 15/32" AC or CDX Plywood
- Fillet corners are optional

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SIZE A	DWG. NO. TE-20000	REV A	
SCALE: 1:24		WEIGHT:	SHEET 7 OF 16

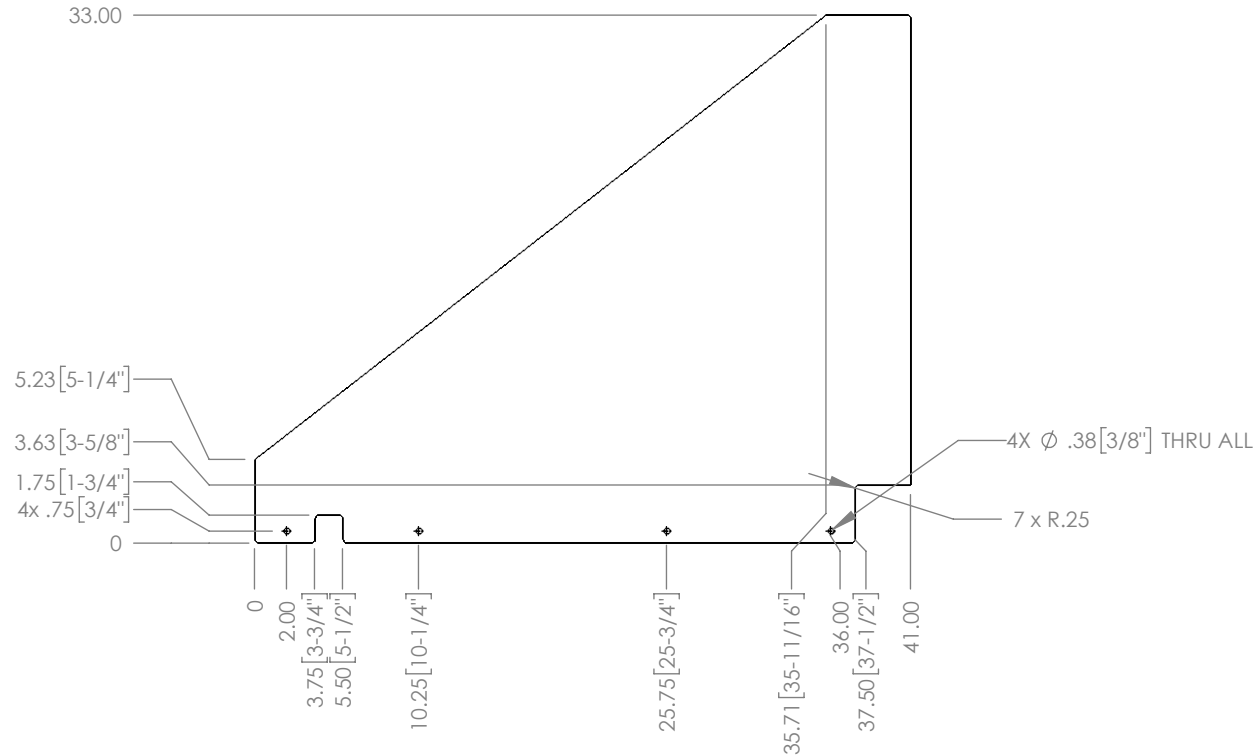
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TE-20000-02
QTY (2)



Notes:

1. Material: 15/32" AC or CDX Plywood
2. Fillets are optional

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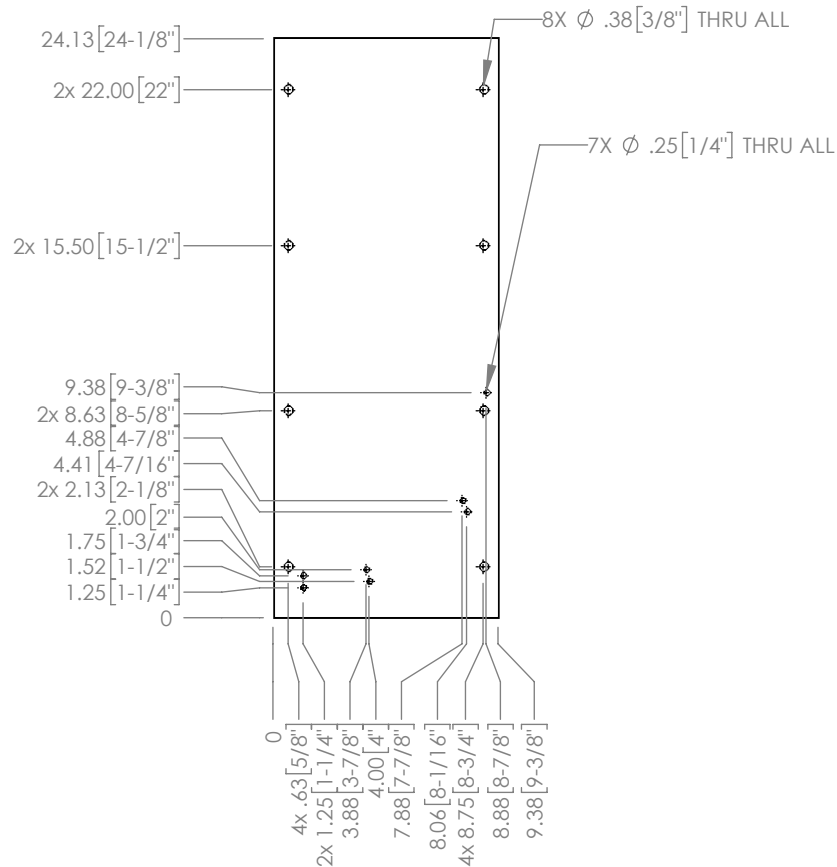
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TITLE:

Team Version
Loading Bay

SIZE	DWG. NO.	REV
A	TE-20000	A
SCALE: 1:24		WEIGHT:
SHEET 8 OF 16		

TE-20000-07
QTY (2)



Notes:

1. Material: 15/32" AC or CDX Plywood
2. QTY shown for 1 chute
3. This Part is Optional

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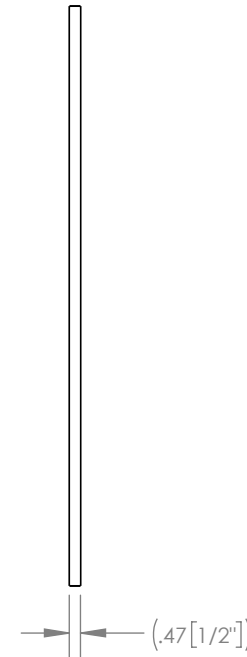
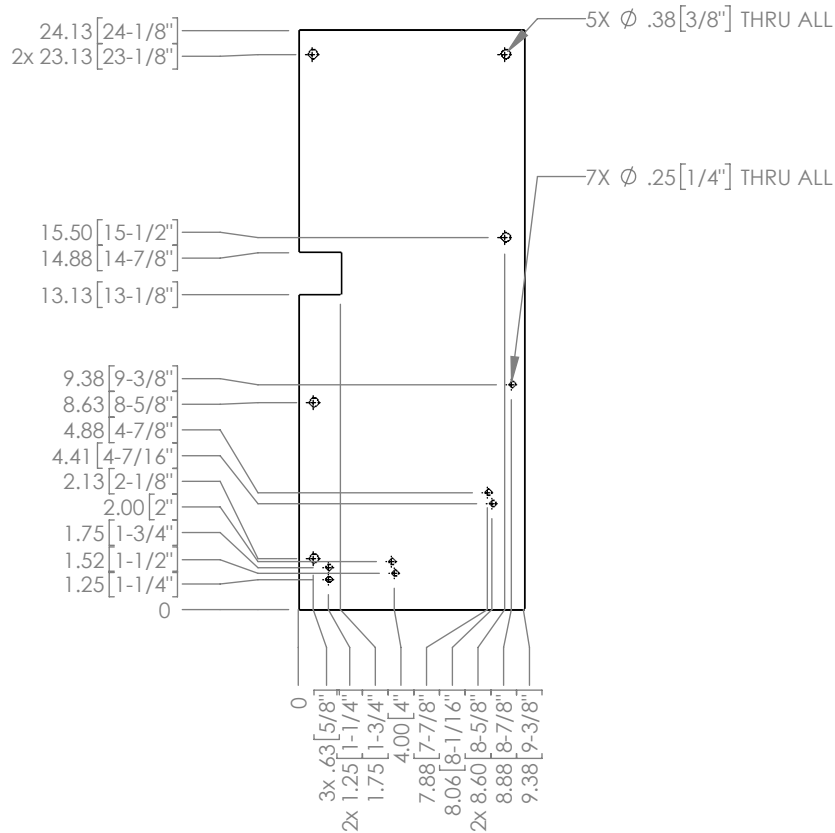


TITLE:

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SIZE	DWG. NO.	REV
A	TE-20000	A
SCALE: 1:24		WEIGHT:
		SHEET 9 OF 16

TE-20000-11
QTY (2)



- Note:
1. Material: 15/32" AC or CDX Plywood
 2. This Part is Optional

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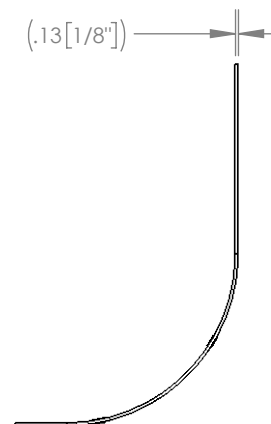


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Team Version Loading Bay		
SIZE	DWG. NO.	REV
A	TE-20000	A
SCALE: 1:24		WEIGHT:
		SHEET 10 OF 16

1

Technical drawing of a rectangular plate with dimensions and hole specifications:

- Overall width: 21.09 [21-1/16"]
- Overall height: 20.22 [20-3/16"]
- Top edge: 2x 14.09 [14-1/16"]
- Bottom edge: 2x 9.06 [9-1/16"]
- Left edge: 2x 3.88 [3-7/8"]
- Right edge: 2x .75 [3/4"]
- Top-left corner: 4X Ø .25 [1/4"] THRU ALL
- Bottom-left corner: 0
- Bottom edge (left to right): 5x .50 [1/2"], 5x 8.00 [8"], 5x 8.50 [8-1/2"]



1. Material: 1/8" Hard board
2. Add relief cuts on the front face from 2" to 12" at 1/2" spacing roughly 1/16 or less depth
3. QTY shown for 1 chute
4. This Part is Optional

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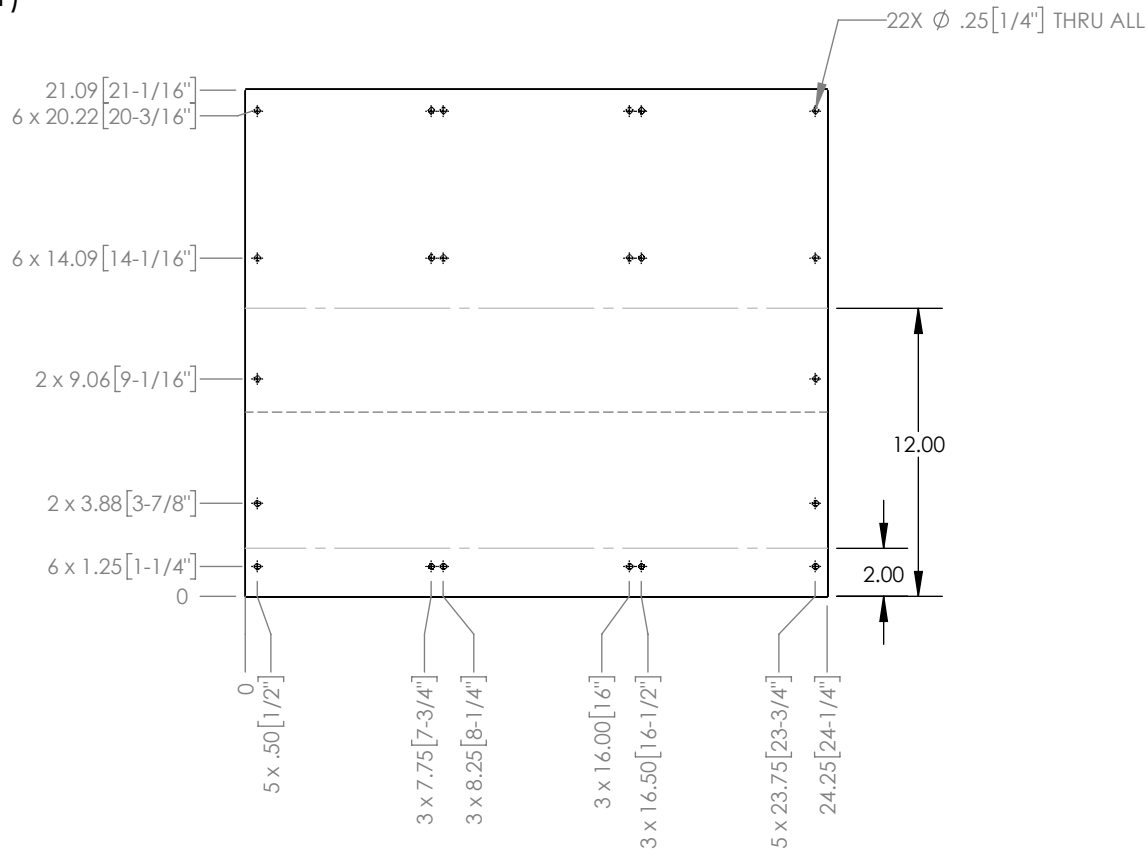
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SCALE: 1:24	WEIGHT:	SHEET 11 OF 16
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TE-20000-09
QTY (1)



Note:

1. Material: 1/8" Hard board
2. Add relief cuts on the front face from 2" to 12" at 1/2" spacing roughly 1/16" or less depth
3. This Part is Optional

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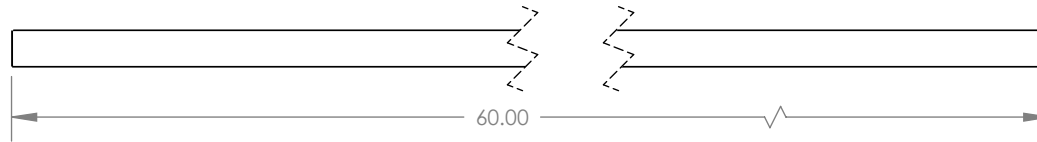
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SCALE: 1:24 WEIGHT: SHEET 12 OF 16

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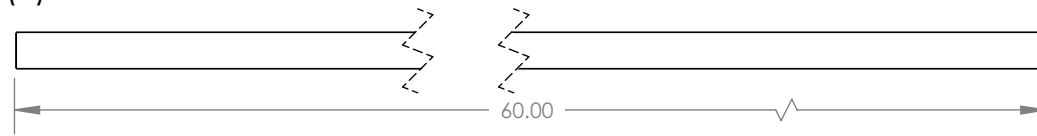
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TE-20000-03
QTY (1)



Note:
1. Material: 2" x 4" Pine

TE-20000-04
QTY (1)



Note:
1. Material: 2" x 2" Pine

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TITLE:

Team Version
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SIZE	DWG. NO.	REV
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SCALE: 1:24 WEIGHT: SHEET 13 OF 16

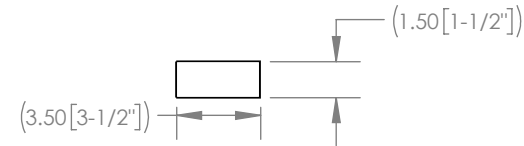
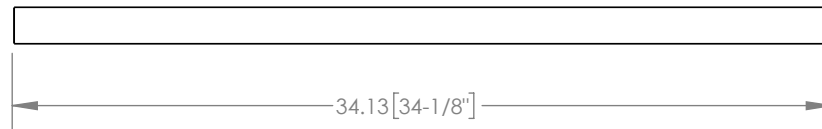
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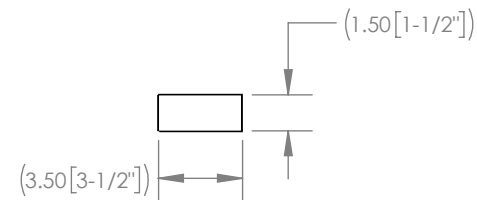
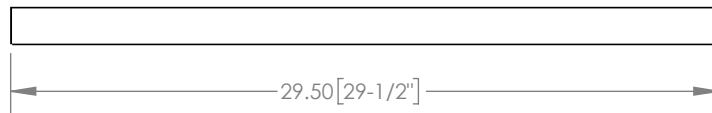
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TE-20000-05
QTY (2)



Note:
1. Material: 2" x 4" Pine

TE-20000-06
QTY (2)



Note:
1. Material: 2" x 4" Pine

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		TOLERANCING PER:
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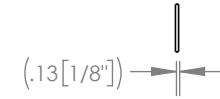
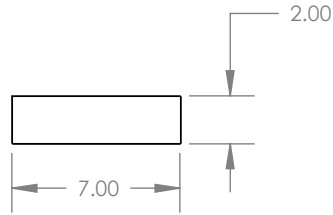
SCALE: 1:24 WEIGHT:

SHEET 14 OF 16

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1

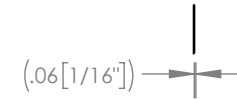
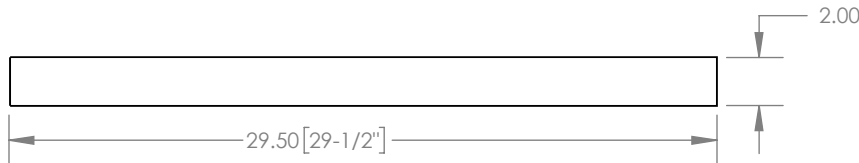
Vision_LoadingBay
QTY (4)



Notes:

- 2" Wide, 3M 8830 Scotchlite Reflective Material

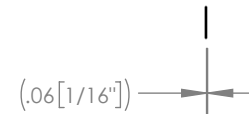
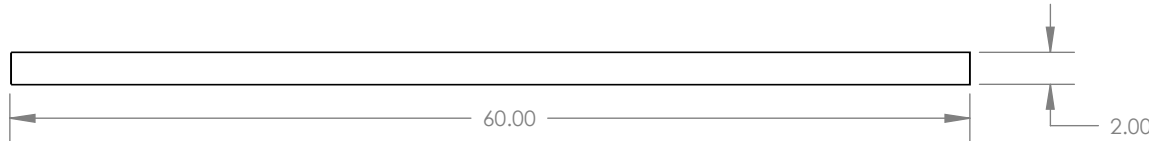
TE-20000-12
QTY (2)



Notes:

- 2" wide Hook

TE-20000-13
QTY (1)



Notes:

- 2" wide Hook

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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:		



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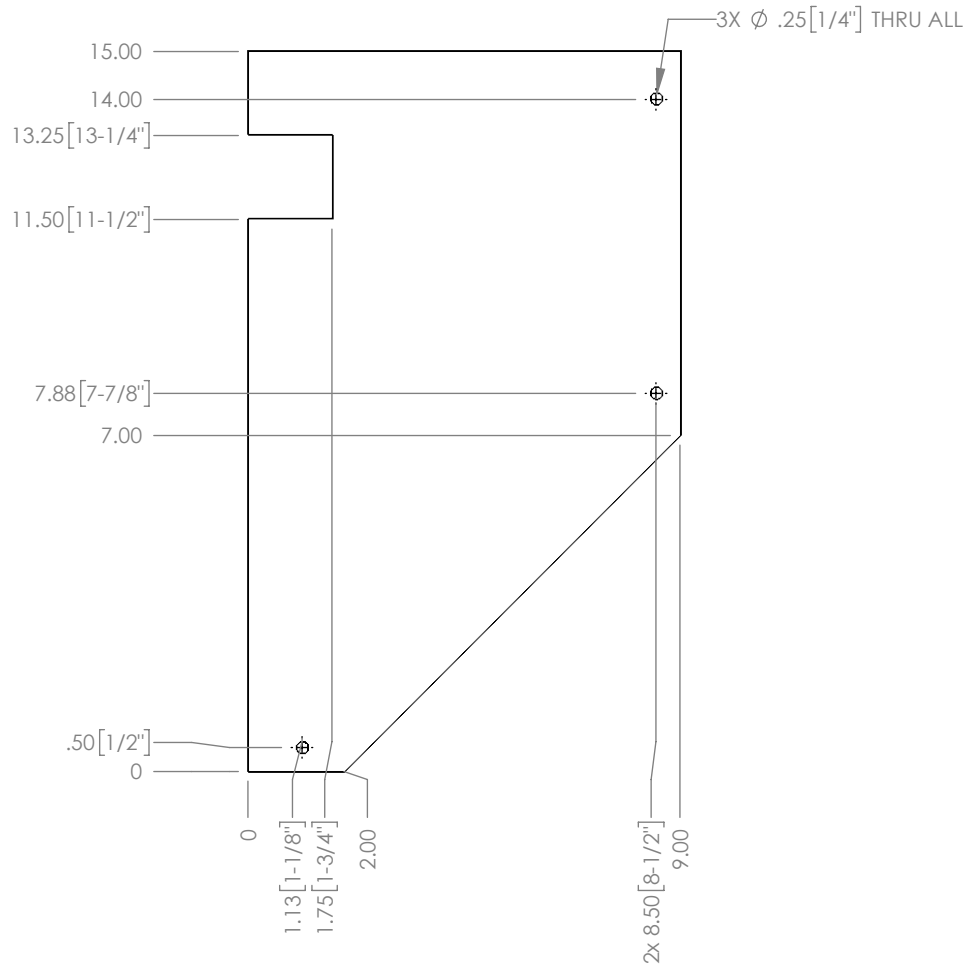
TITLE:

Team Version
Loading Bay

SIZE	DWG. NO.	REV
A	TE-20000	A

SCALE: 1:24 WEIGHT: SHEET 15 OF 16

TE-20000-10
QTY (2)



Notes:
1. 1/8" Hardboard

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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:		



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TITLE:

Team Version
Loading Bay

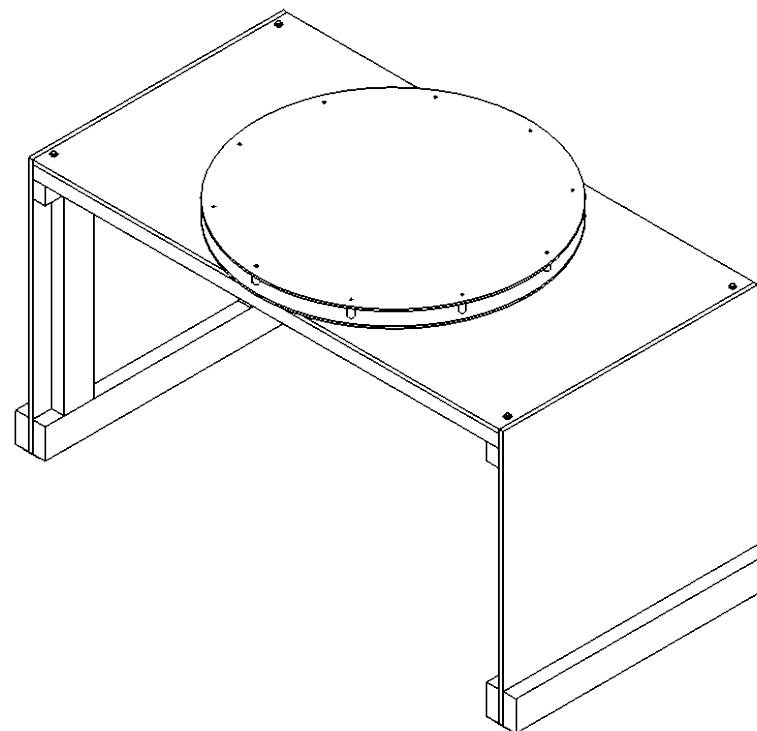
SIZE	DWG. NO.	REV
A	TE-20000	A
SCALE: 1:24		WEIGHT:
SHEET 16 OF 16		

2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TeeNut_.25_20	Soft Wood Fiber Tee Nut	4
2	TE-20001-01	050AC Top	1
3	TE-20001-02	050AC Side	2
4	TE-20001-03	2x4x55	2
5	TE-20001-04	2x4x30	2
6	TE-20001-05	2x4x30	4
7	TE-20001-06	2x4x23	2
8	TE-20001-07	2x4x22.875	4
9	TE-20001-08	12d6234 Triangle Manufacturing	1
10	TE-20001-09	2" Hook	2
11	TE-20002	Control Panel	1
12	hex_.25_20_4.5_partial	Steel Hex Head Screw, 1/4"-20 x 4-1/2" long, partially threaded	4
13	washer_flat_.25	Flat Washer for 1/4" Screw	4

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B1, 6-B2	A	Fixed Description of TE-20001-03. Fixed drawing for TE-20001-01	1/6/2020	NTW



B

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:

Trench

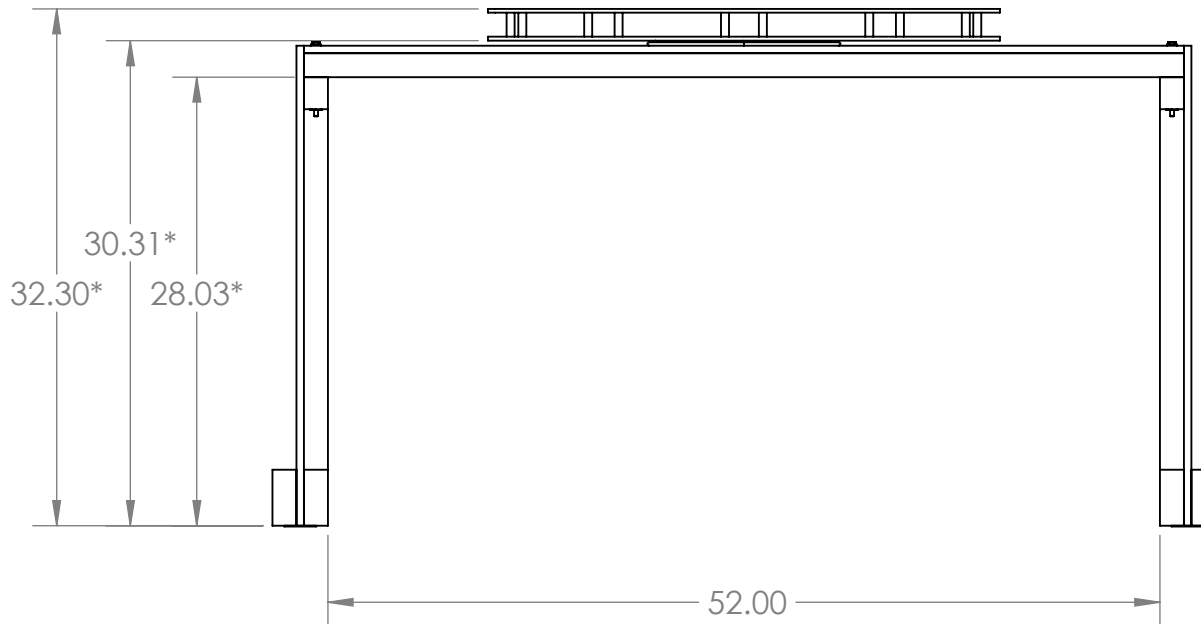
SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24 WEIGHT:		SHEET 1 OF 12

2

1



B

B



*PLEASE NOTE: DUE TO MATERIAL THICKNESS, DIMENSIONS MAY VARY BY UP TO 1/8" FROM THE ACTUAL FIELD. PLEASE REFER TO THE FIELD DRAWINGS IF YOU THESE DIFFERENCES WILL AFFECT YOUR ROBOT DESIGN.

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</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: Trench		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV A TE-20001 A		
		MATERIAL						
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:24WEIGHT: SHEET 2 OF 12		

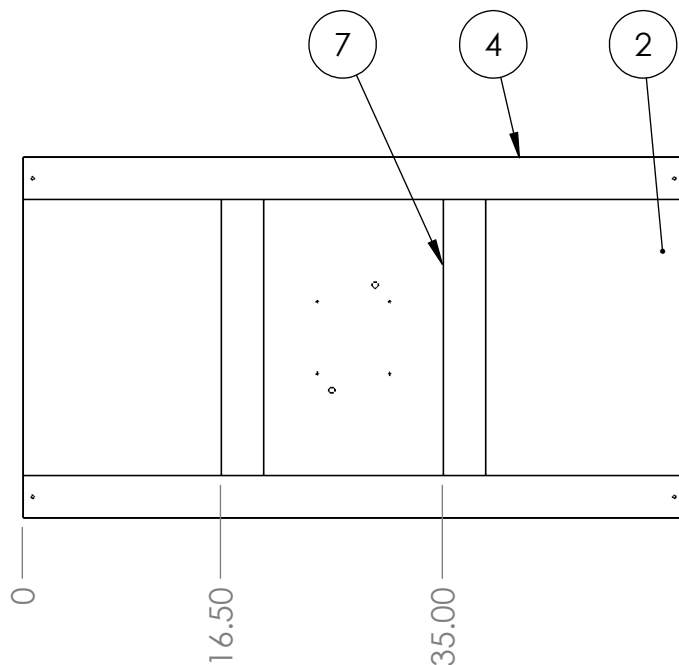
A

2

1

2

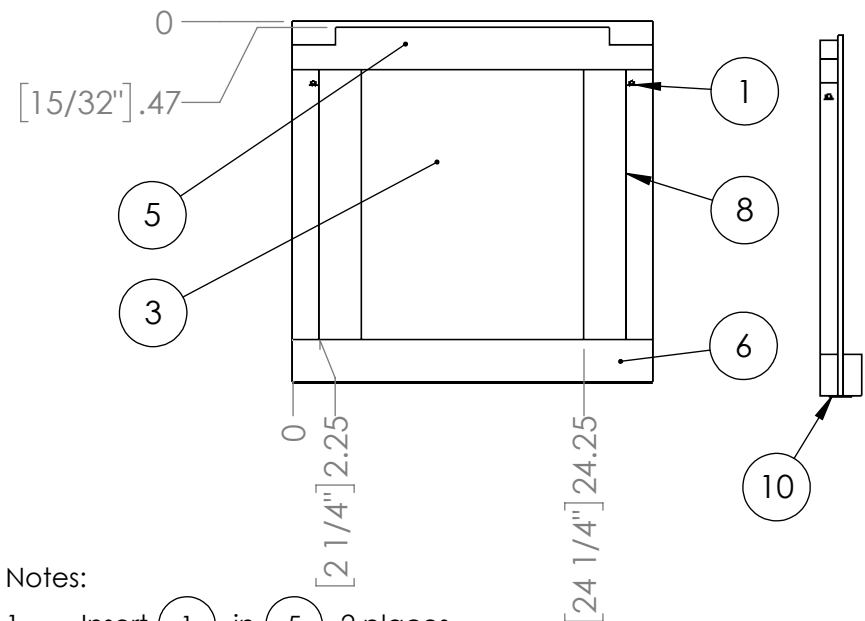
Step 1:



Notes:

1. Attach (4) to (2) with 1.25" #6 wood screw.
2. Attach (7) to (2) with 1.25" #6 wood screw.
3. Pre-drill if needed.

Step 2 and 3:



Notes:

1. Insert (1) in (5), 2 places.
2. Attach (5) to (3) with 1.25" #6 wood screw.
3. Attach (8) to (3) with 1.25" #6 wood screw.
4. Attach (6) to (3) with 1.25" #6 wood screw.
5. Pre-drill if needed.
6. Attach (10) to the bottom.
7. Repeat for second leg.

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NEXT ASSY

USED ON

APPLICATION

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

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
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TITLE:

Trench

SIZE

A

DWG. NO.

TE-20001

REV

A

SCALE: 1:24 WEIGHT:

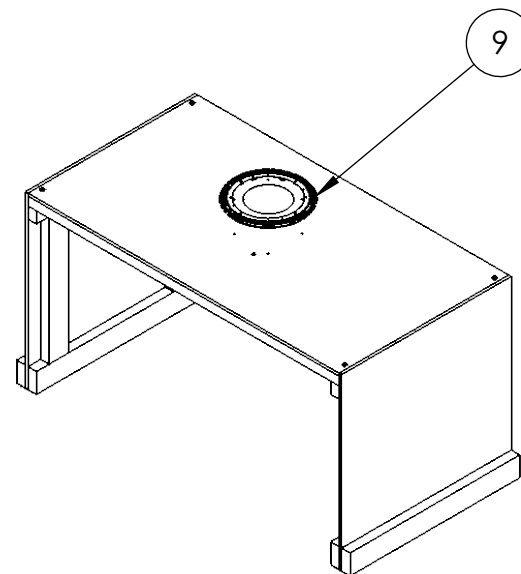
SHEET 3 OF 12

2

1

1

Step 5:



Notes:

1. Attach **9** to Step 4 with 10-32 hardware.
2. Align with pre-drilled holes and access holes.

Notes:

1. Attach Step 1 to Step 2 and 3 as shown.
2. Use (12) to bolt together.

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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:		

Step 5:



FIRST.
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COMPETITION



TITLE:

Trench

SIZE	PRICE	SALES
Small	10	100
Medium	20	200
Large	30	300

DWG. NO.	
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A

TE-20001

REV

A

SCALE: 1:24 WEIGHT:

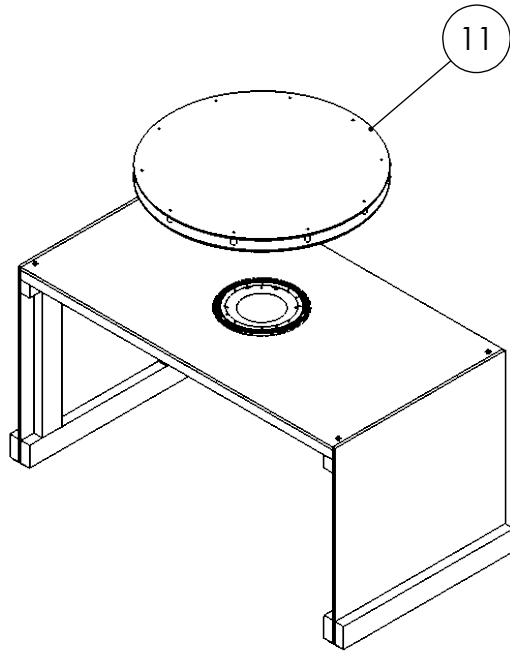
SHEET 4 OF 12

1

2

1

Step 6:



Notes:

1. Attach (11) to Step 5 with 10-32 hardware.
2. Use the drilled access holes for hardware access.

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

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



TITLE:

Trench

SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24 WEIGHT:		SHEET 5 OF 12

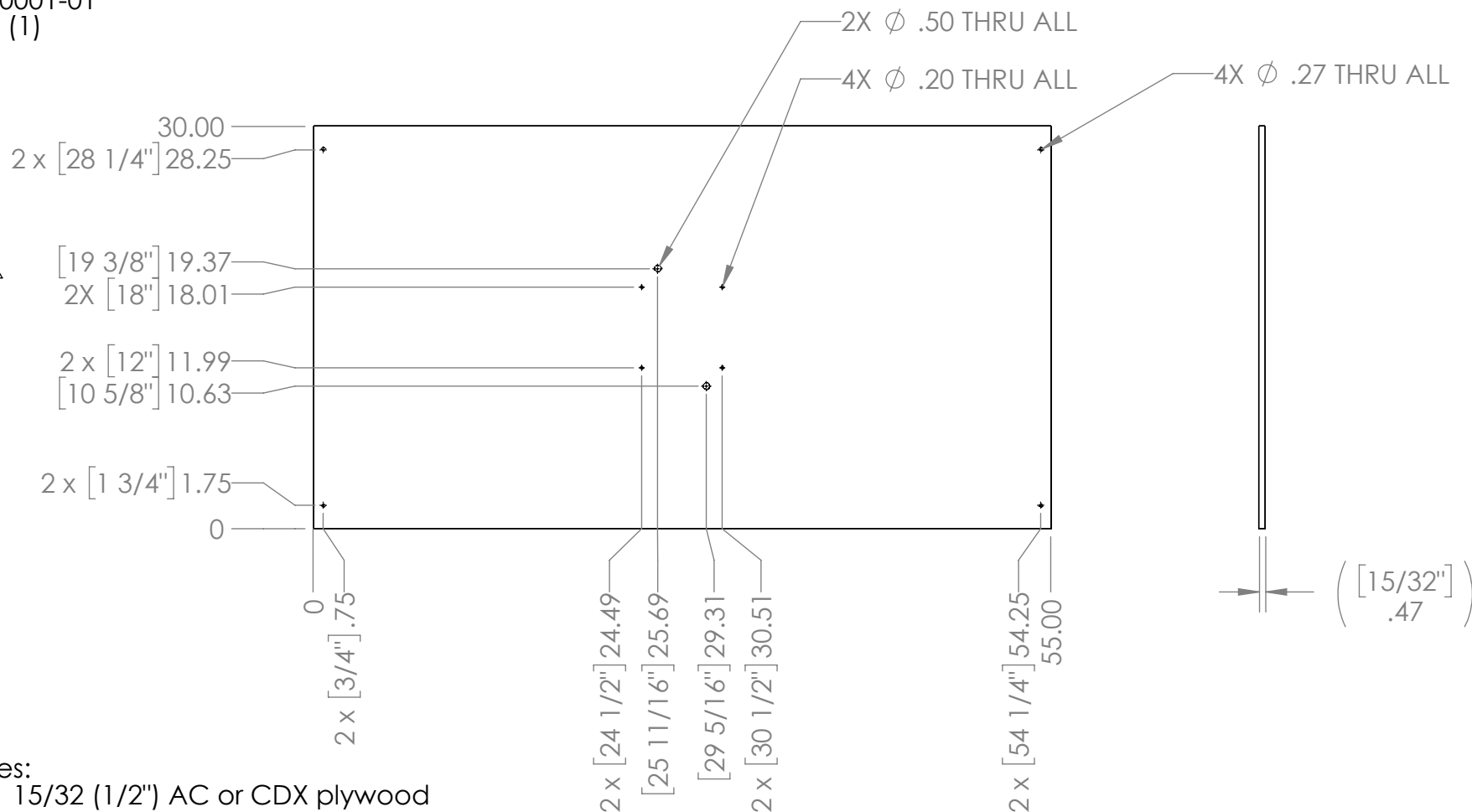
2

1

B

B

TE-20001-01
QTY (1)



Notes:

1. 15/32 (1/2") AC or CDX plywood

A

A

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		MATERIAL
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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MFG APPR.		
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COMMENTS:		



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TITLE:

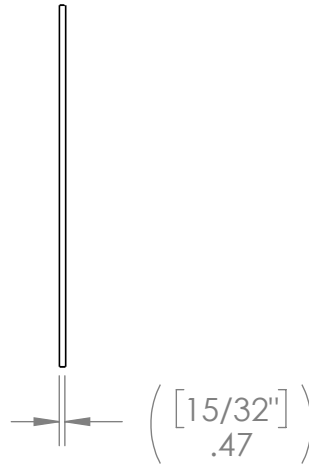
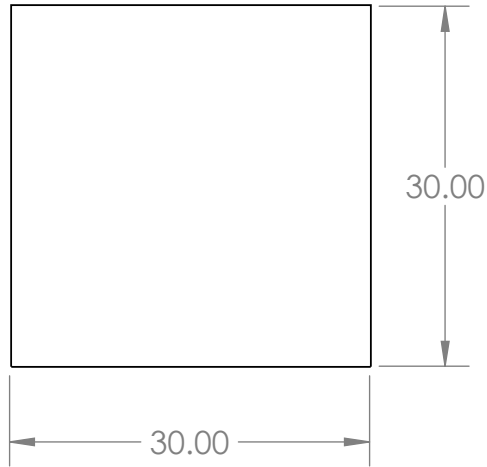
Trench

SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24 WEIGHT:		SHEET 6 OF 12

2

1

TE-20001-02
QTY (2)



Notes:

1. 15/32 (1/2") AC or CDX Plywood

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

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ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		



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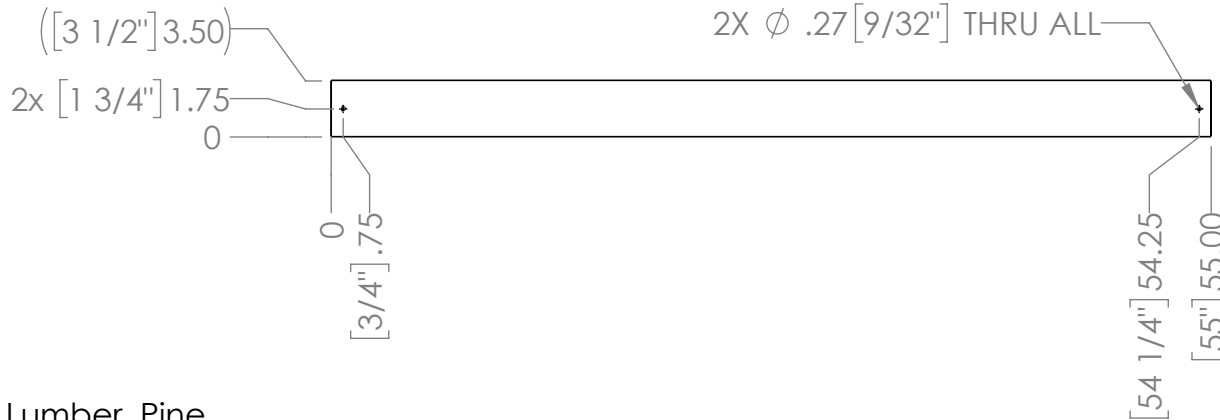


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Trench

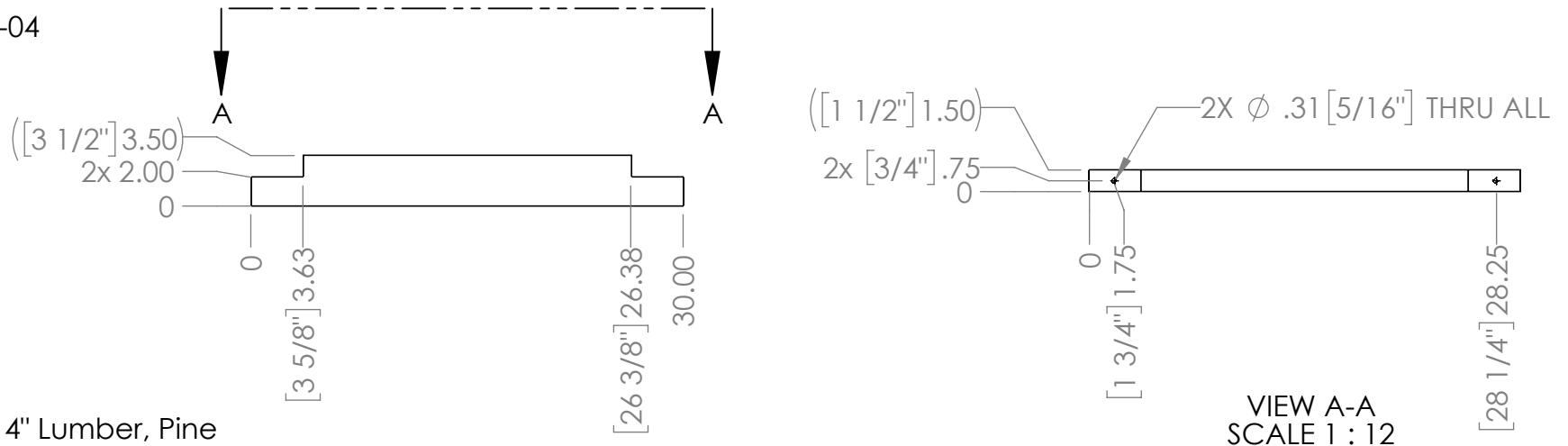
SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24		WEIGHT:
		SHEET 7 OF 12

TE-20001-03
QTY (2)



Notes:
1. 2" x 4" Lumber, Pine

TE-20001-04
QTY (2)





Notes:
1. 2" x 4" Lumber, Pine

VIEW A-A
SCALE 1 : 12

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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	
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NEXT ASSY	USED ON
APPLICATION	
DO NOT SCALE DRAWING	

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

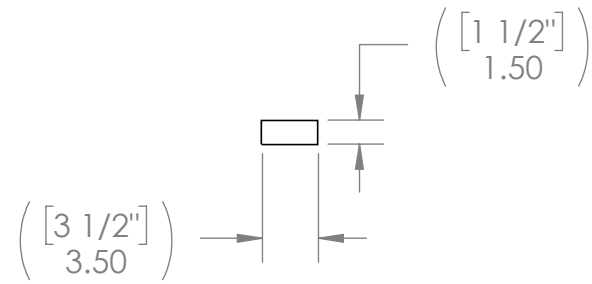
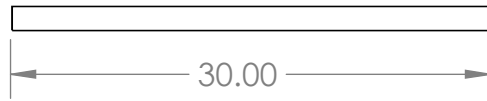


TITLE:

Trench

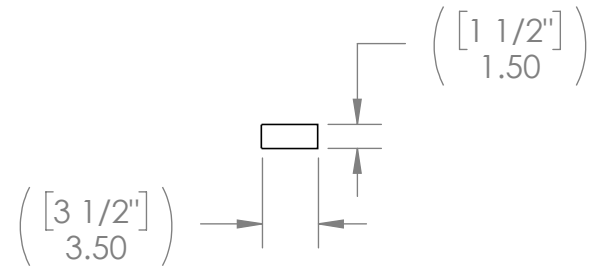
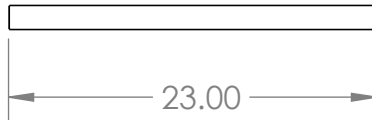
SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24		WEIGHT:
		SHEET 8 OF 12

TE-20001-05
QTY (4)



Notes:
1. 2" x 4" Lumber, Pine

TE-20001-06
QTY (2)



Notes:
1. 2" x 4" Lumber, Pine

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NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



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COMPETITION**

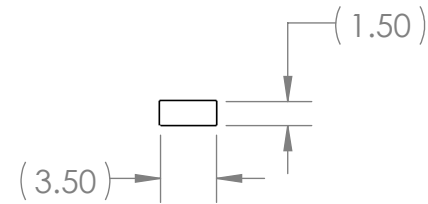
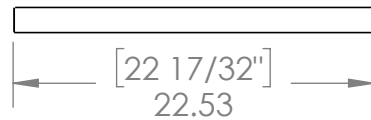


TITLE:

Trench

SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24		WEIGHT:
		SHEET 9 OF 12

TE-20001-07
QTY (4)



Notes:

1. 2" x 4" Lumber, Pine

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		MATERIAL
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



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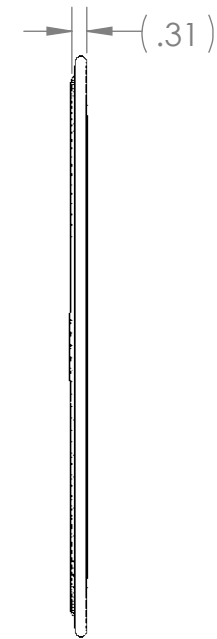
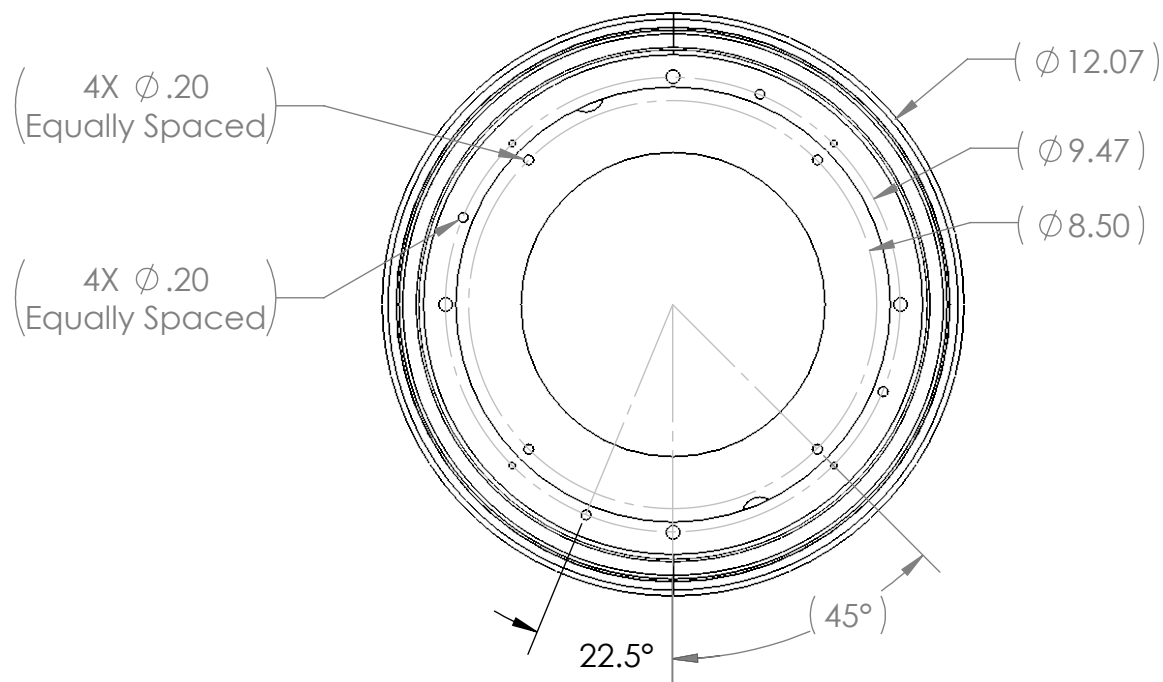


TITLE:

Trench

SIZE	DWG. NO.	REV
A	TE-20001	A
SCALE: 1:24		WEIGHT:
SHEET 10 OF 12		

TE-20001-08



Notes:

1. Triangle Lazy Susan with 4 clips
2. From KOP

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		TOLERANCES:	CHECKED		
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		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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TITLE:

Trench

SIZE

A

DWG. NO.

TE-20001

REV

A

SCALE: 1:24 WEIGHT:

SHEET 11 OF 12

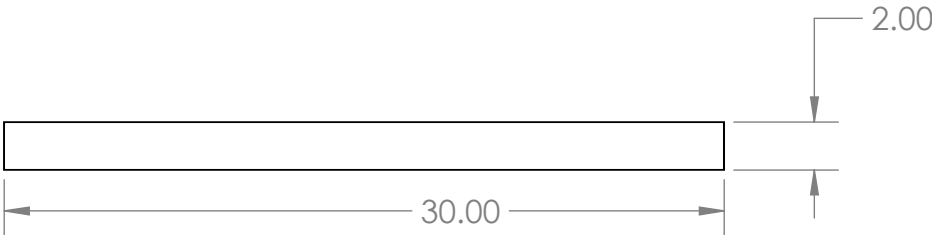
2

1

B

B



TE-20001-09
QTY (2)



Notes:
1. Material: 2" Hook, Adhesive Backed

A

A

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			DIMENSIONS ARE IN INCHES	DRAWN					
			TOLERANCES:	CHECKED					
			FRACTIONAL $\pm 1/16$	ENG APPR.					
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
			TWO PLACE DECIMAL $\pm .01$	Q.A.					
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:			<div>SIZE</div> <div>A</div> <div>DWG. NO.</div> <div>TE-20001</div> <div>REV</div> <div>A</div>		
			INTERPRET GEOMETRIC TOLERANCING PER:						
			MATERIAL						
			FINISH						
	NEXT ASSY	USED ON					<div>SCALE: 1:24</div> <div>WEIGHT:</div>		
	APPLICATION		DO NOT SCALE DRAWING				<div>SHEET 12 OF 12</div>		

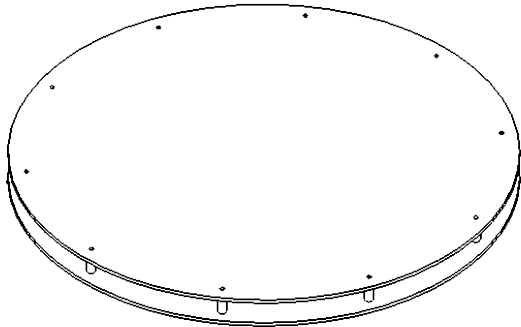
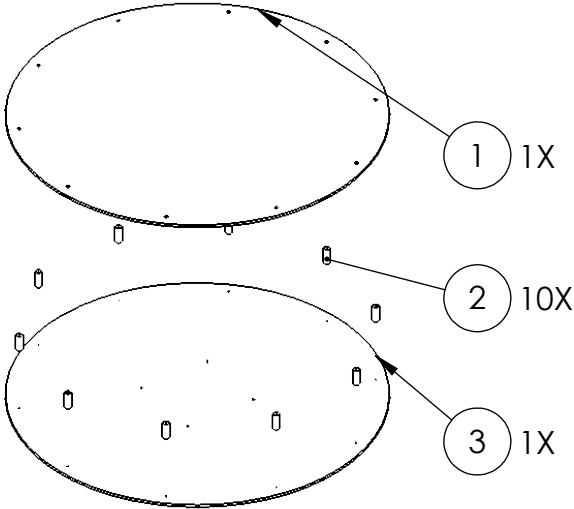
2

1

2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20002-01	025 AC, Top Disk	1
2	TE-20002-02	050 Poplar Dowel	10
3	TE-20002-03	025 AC, Bottom Disk	1



B

B

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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:
Control Panel

SIZE	DWG. NO.	REV
A	TE-20002	

SCALE: 1:16	WEIGHT:	SHEET 1 OF 5
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2

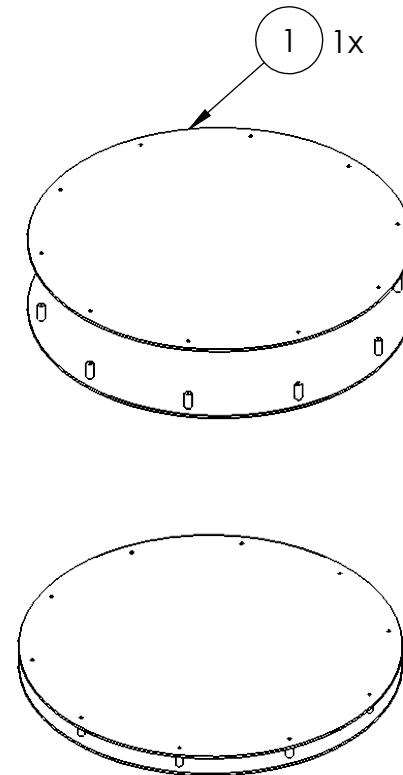
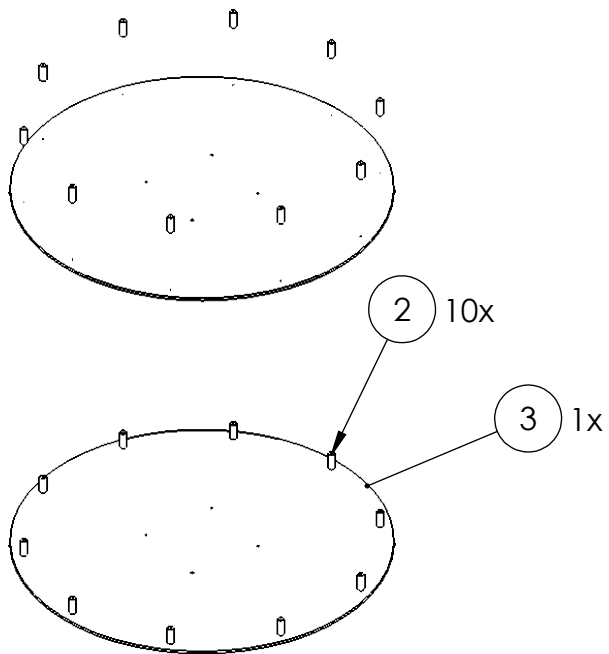
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2

1

Step 1:

Step 2:



Notes:

Notes:

1. Attach (2) 10x to (3) 1x with 1.125" #6 screw

1. Attach (1) 1x to (2) 10x with 1.125" #6 screw

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NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



TITLE:

Control Panel

SIZE	DWG. NO.	REV
A	TE-20002	
SCALE: 1:16		WEIGHT:
		SHEET 2 OF 5

2

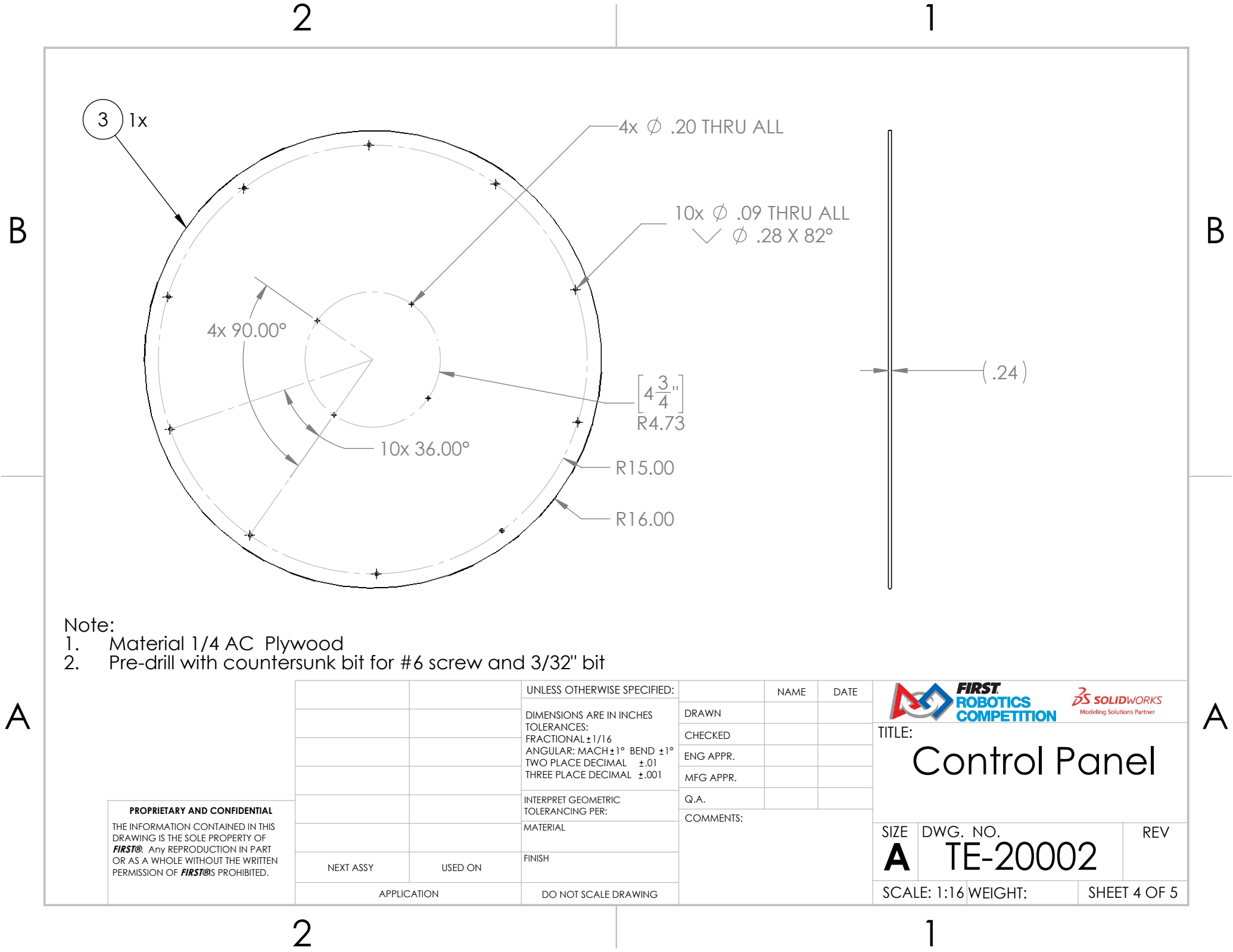
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B



1. Material 1/4 AC Plywood
2. Pre-drill with countersunk bit for #6 screw and 3/32" bit

1





Note:

- 1. Material 1/4 AC Plywood
- 2. Pre-drill with countersunk bit for #6 screw and 3/32" bit

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		ANGULAR: MACH ±1° BEND ±1°
		TWO PLACE DECIMAL ±.01
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NEXT ASSY	USED ON	FINISH
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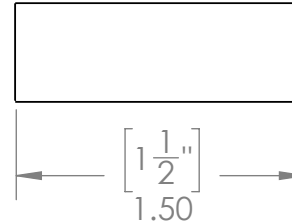
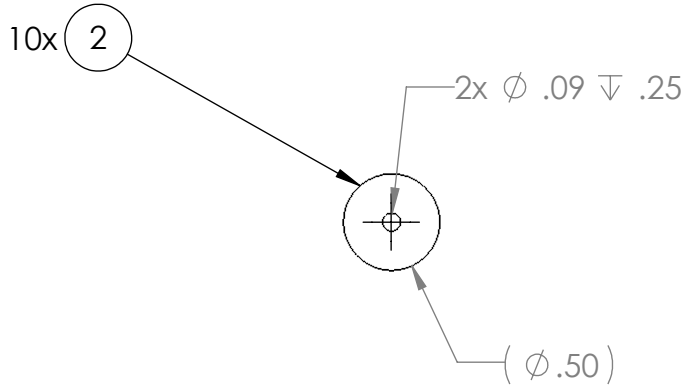
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CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

		 Modeling Solutions Partner	
TITLE: Control Panel			
SIZE A	DWG. NO. TE-20002		REV
SCALE: 1:16		WEIGHT:	SHEET 4 OF 5

2

1

TE-20002-02



Note:

1. Material 0.5" poplar dowel
2. Pre-drill 3/32

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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:		



**FIRST
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COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Control Panel

SIZE	DWG. NO.	REV
A	TE-20002	
SCALE: 1:16		WEIGHT:
		SHEET 5 OF 5

2

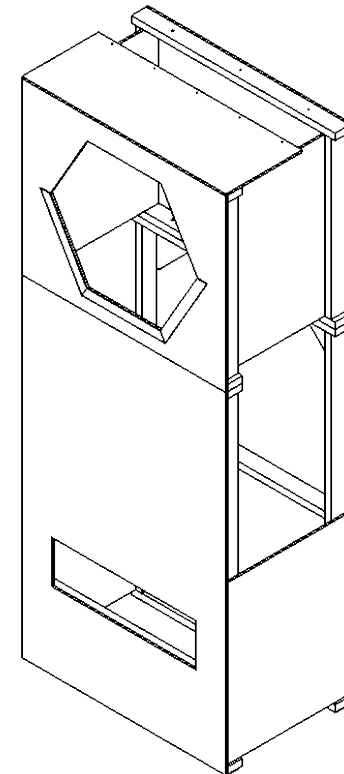
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2

1

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20003-01	0.5 AC Lower Face	1
2	TE-20003-02	025 BC plywood	1
3	TE-20003-03	0.5 AC face back goal	1
4	TE-20003-04	2x4x48 pine	8
5	TE-20003-05	2x4x75 pine	4
6	TE-20003-06	2x4x37 pine	4
7	TE-20003-07	050 AC Side	4
8	TE-20003-08	050AC deflector	1
9	TE-20003-09	050AC roof	1
10	TE-20003-10	050 gusset	4
11	TE-20003-11	2x4x43	2
12	Hook_2_48	Hook_2_48	2
13	TeeNut_.25_20	Soft wood fiber tee nut	6
14	Vision_PowerPort	2" wide 3m vision tape	3
15	hex_.25_20_3.5	Steel Hex Head Screw, 1/4"-20 x 3.5 long, fully threaded	6

Material	QTY
15/32 " ACor CDX Plywood	4 sheets
2"x4"x8' Pine	10
2" Hook	96"
2" Vision Tape	54"
wood screw 1.25"	~110
wood screw 2.5	~40
50lb Cable tie	10
1/4-20 x 3.5" bolt	6
1/4-20 Softwood T nut	6



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		THREE PLACE DECIMAL $\pm .001$		COMMENTS:	
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			



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TITLE:

TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	
SCALE: 1:32		WEIGHT:
		SHEET 1 OF 16

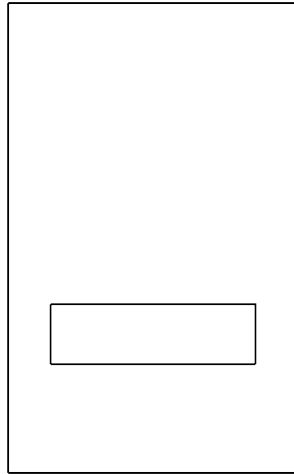
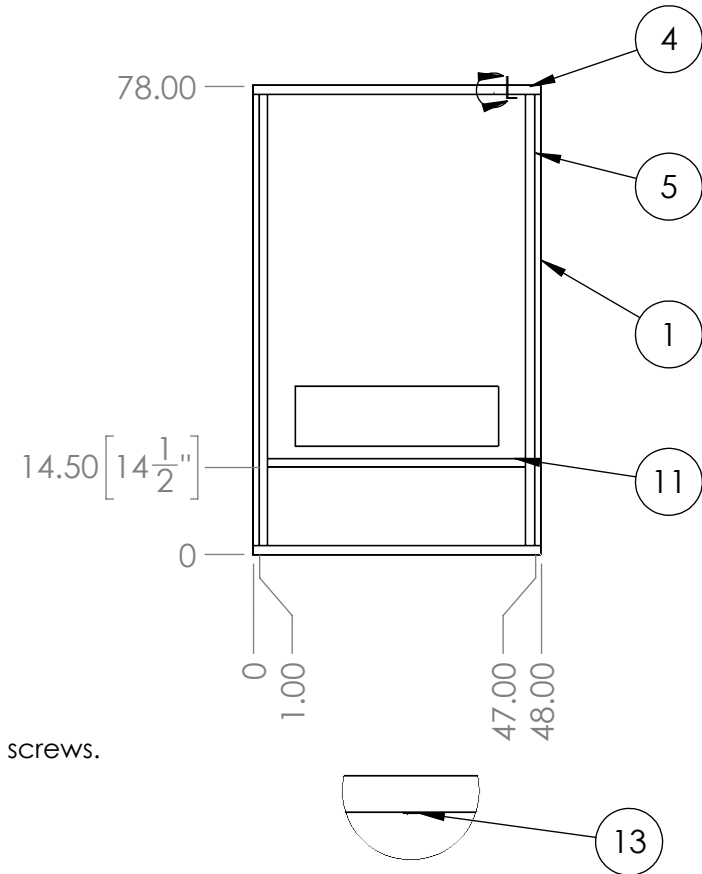
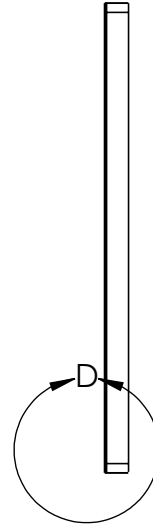
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1

2

1

Front Lower Frame Assembly

DETAIL D
SCALE 1 : 8DETAIL L
SCALE 1 : 8

Notes:

1. Attach (4), (5), (11) together to form a frame. Pre-drill and use 2.5" wood screws.
2. Attach (12) to the bottom of the frame use stapels to hold in place
3. Attach (1) to the frame. Pre-drill and use 1.25" wood screws.
4. Insert (13) into the outer most drilled holes of (4)

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NEXT ASSY

USED ON

APPLICATION

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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

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

TE Power Port

SIZE

A

DWG. NO.

TE-20003

REV

SCALE: 1:32 WEIGHT:

SHEET 2 OF 16

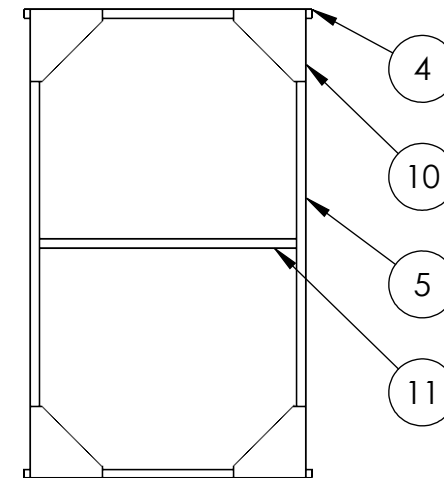
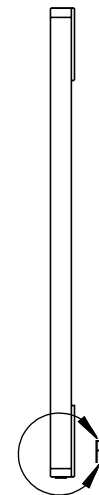
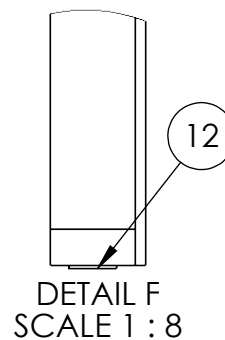
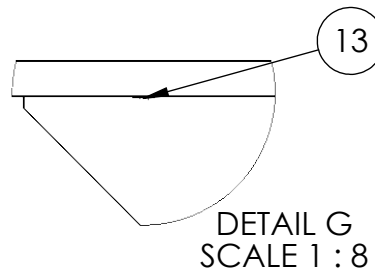
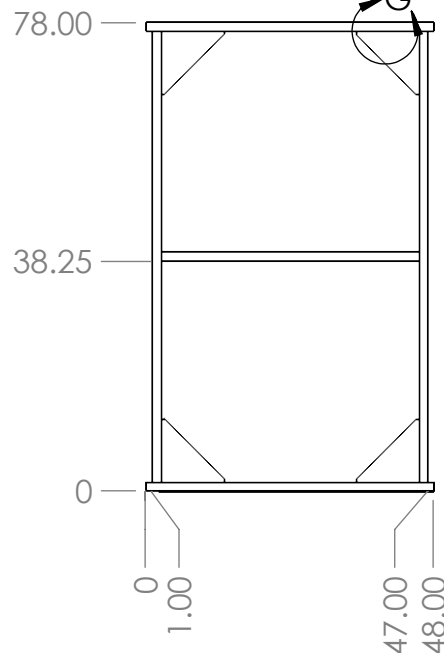
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1

2

1

Back Lower Frame Assembly



Notes:

1. Attach (4), (5) and (11) to form a frame. Pre-drill and use 2.5" wood screws
2. Attach (12) to the bottom of (4).
3. Attach (10) to the frame. Pre-drill and use 1.25" wood screws
4. Insert (13) to the two outside holes of (4)

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



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TITLE:

TE Power Port

SIZE

A

DWG. NO.

TE-20003

REV

SCALE: 1:32 WEIGHT:

SHEET 3 OF 16

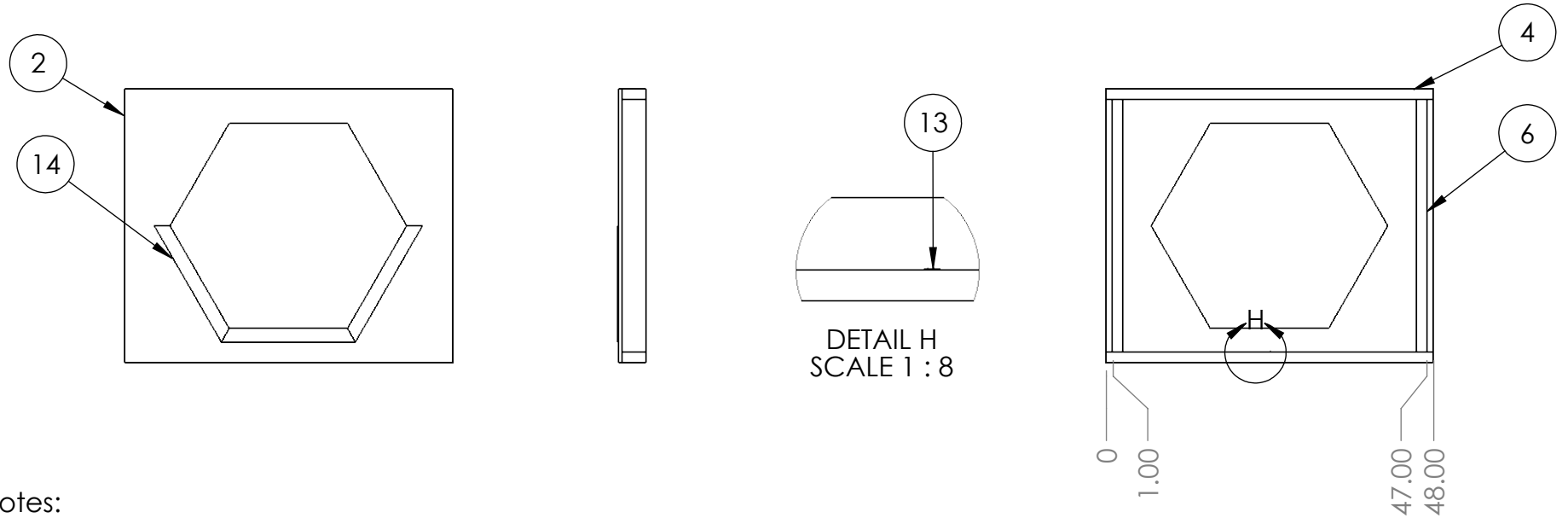
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1

2

1

Front Upper Frame Assembly



Notes:

1. Attach (14) to (2) to lower portion of opening.
2. Attach (4) and (6) together to form a frame. Pre-drill and use 2.5" wood screws
3. Attach (2) to the frame. Pre-drill and use 1.25" wood screws
4. Insert (13) to the center hole of (4) on the lower portion of the fame

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NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

	NAME	DATE
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MFG APPR.		
Q.A.		
COMMENTS:		



TITLE:
TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	
SCALE: 1:32		WEIGHT:
		SHEET 4 OF 16

2

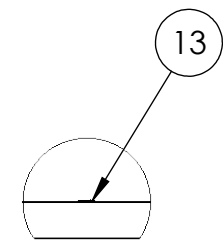
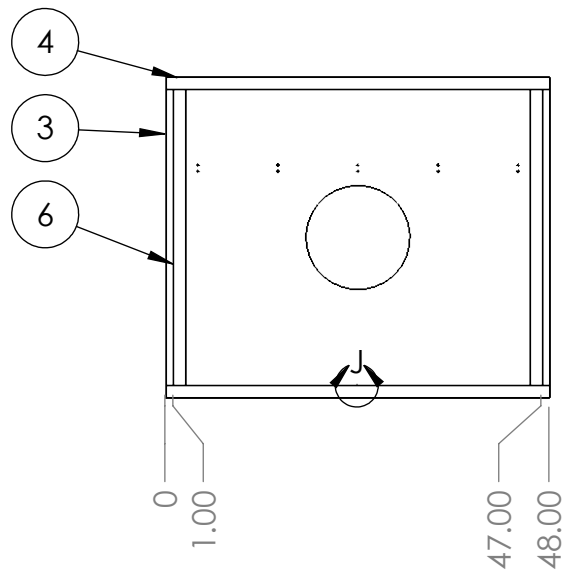
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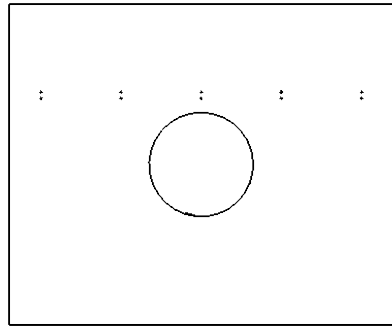
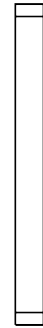
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Back Upper Frame Assembly

B



DETAIL J
SCALE 1 : 8



B

Notes:



- 1. Attach 4 and 6 together to form a frame. Pre-drill and use 2.5" wood screw.
- 2. Attach 3 to the frame. Pre-drill and use 1.25" wood screw.
- 3. Insert 13 to 4 in the center hole.

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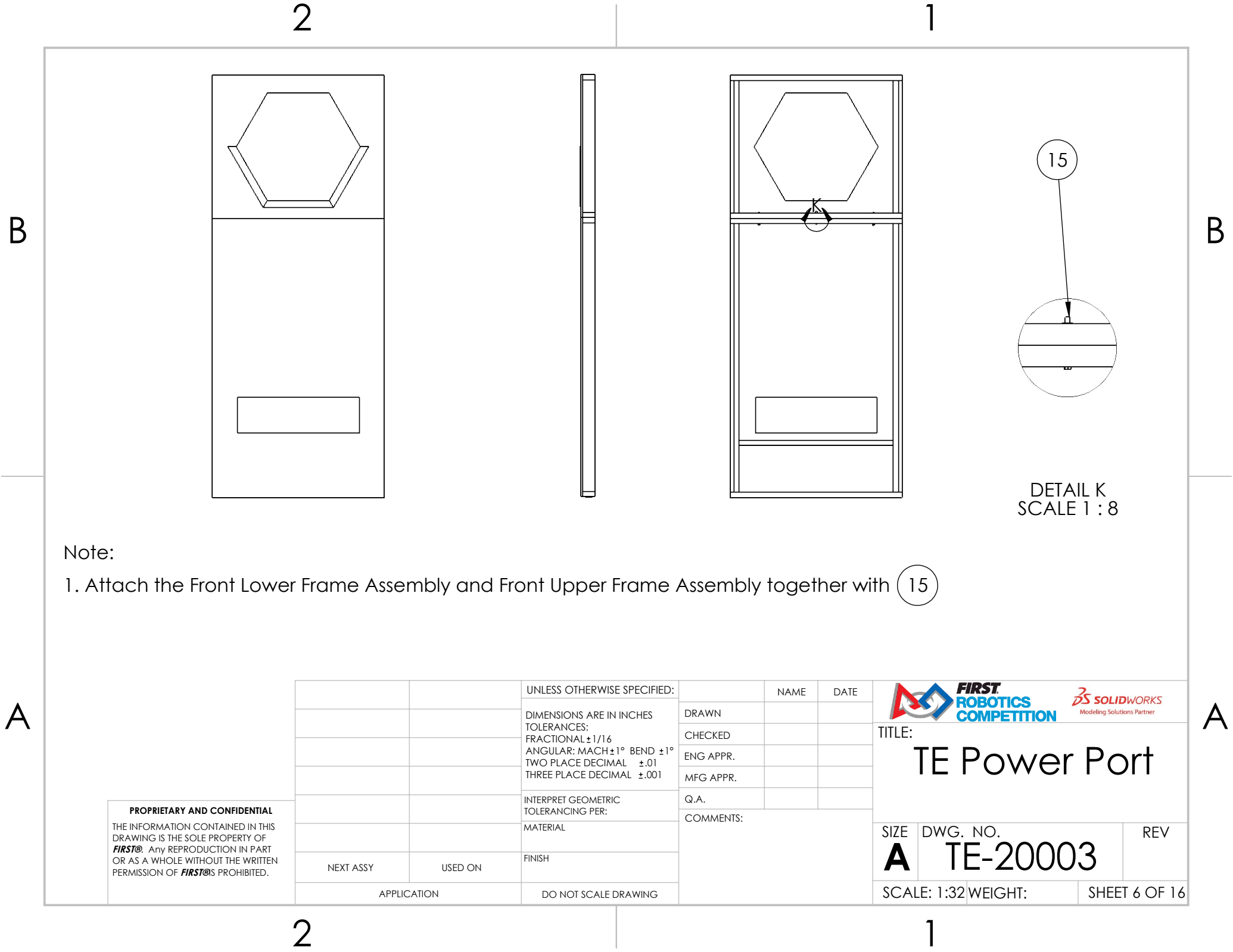
TITLE:
TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	

SCALE: 1:32	WEIGHT:	SHEET 5 OF 16
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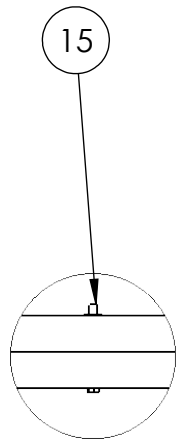
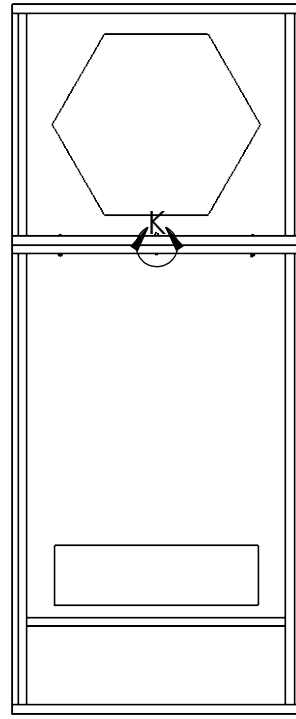
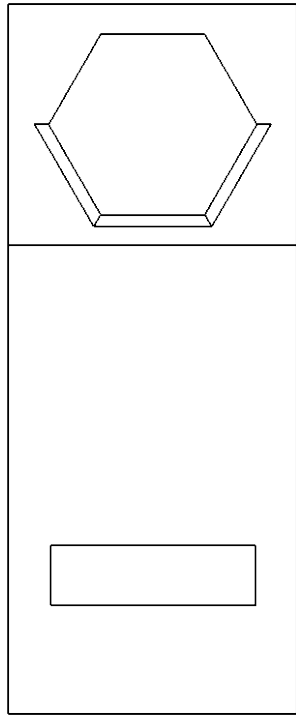


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DETAIL K
SCALE 1 : 8

Note:



1. Attach the Front Lower Frame Assembly and Front Upper Frame Assembly together with 15

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NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			

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SIZE	DWG. NO.	REV			
A	TE-20003				
SCALE: 1:32		WEIGHT:	SHEET 6 OF 16		

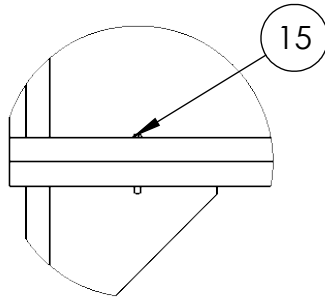
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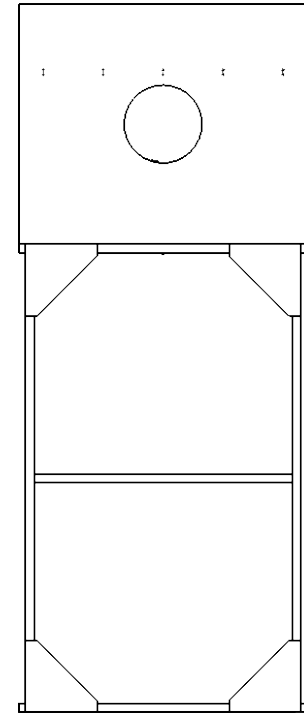
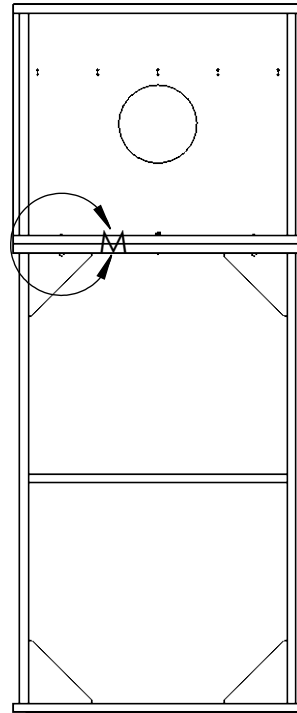
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DETAIL M
SCALE 1 : 12



B

Nores:

1. Attach Back Lower Frame Assembly and Back Upper Frame Assembly together with 15

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NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



TITLE:
TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	
SCALE: 1:32		WEIGHT:
		SHEET 7 OF 16

2

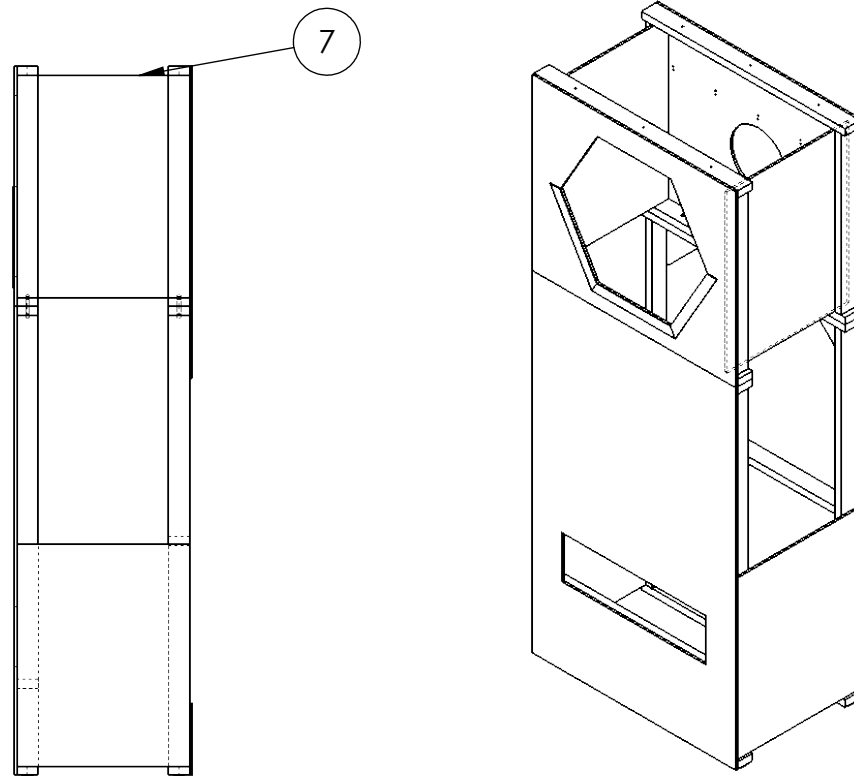
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B

B



Notes:

1. Attach (7) to the out side of the lower two frames on both sides. Pre-drill and use 1.25" wood screws
2. Attach (7) to the inside of the upper two frames on both sides. Pre-drill and use 1.25" wood screws
3. Assemble on its side on the ground

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

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ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		



TITLE:
TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	
SCALE: 1:32		WEIGHT:
		SHEET 8 OF 16

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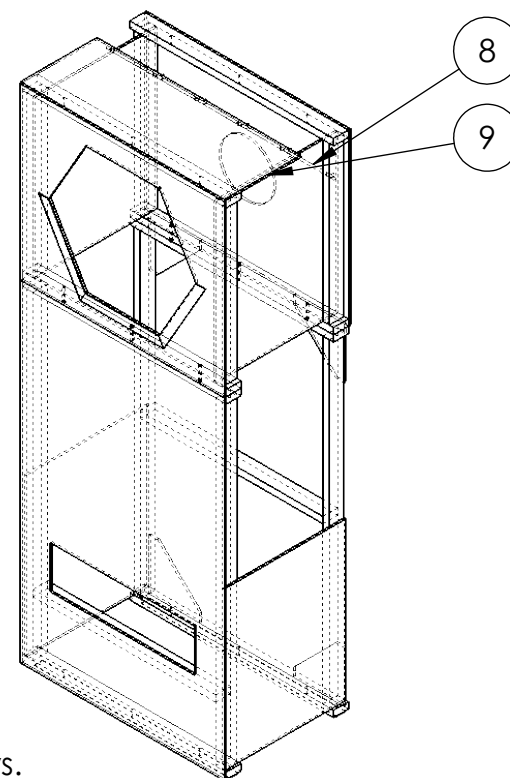
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B

B



Notes:

1. Attach (9) to upper frame assembly with 1.25" wood screws.
2. Attach (8) to (9) and upper back assembly with 50lb Cable ties.

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

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TITLE:

TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	
SCALE: 1:32		WEIGHT:
		SHEET 9 OF 16

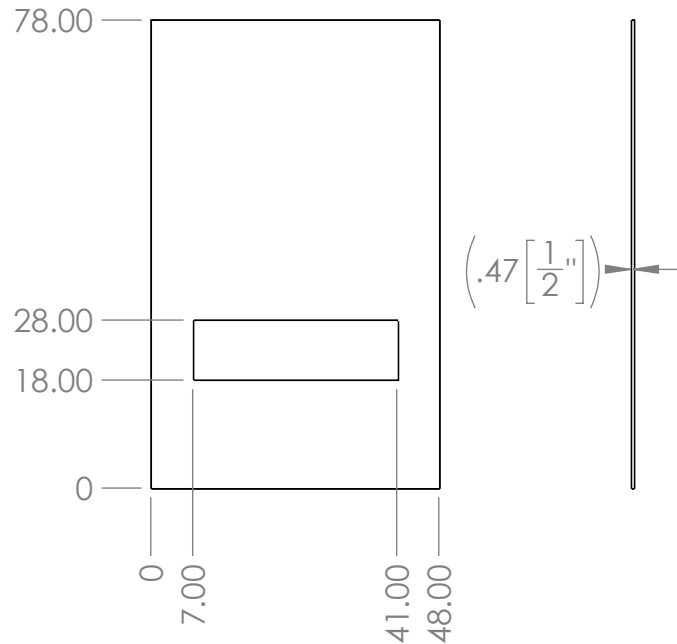
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2

1

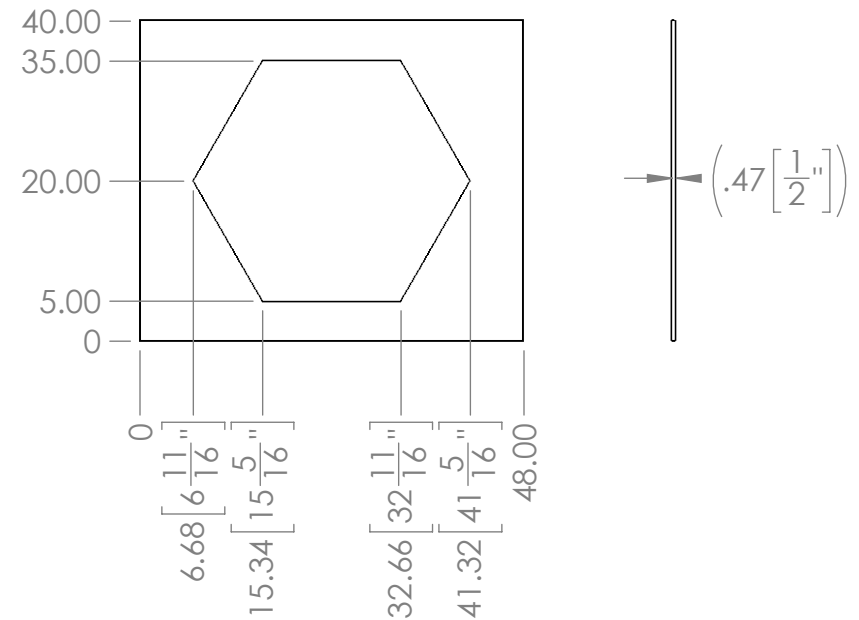
TE-20003-01
QTY (1)



Notes:

- Material: 15/32 (1/2") AC or CDX Plywood

TE-20003-02
QTY (1)



Notes:

- Material: 15/32 (1/2") AC or CDX Plywood

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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:

TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	

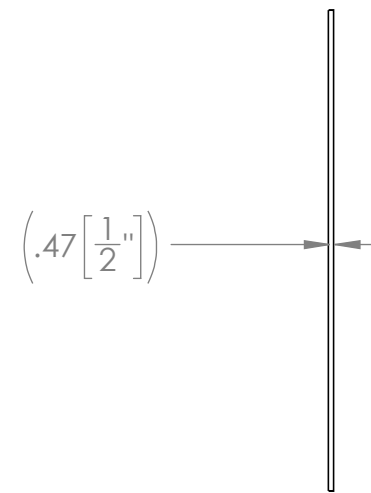
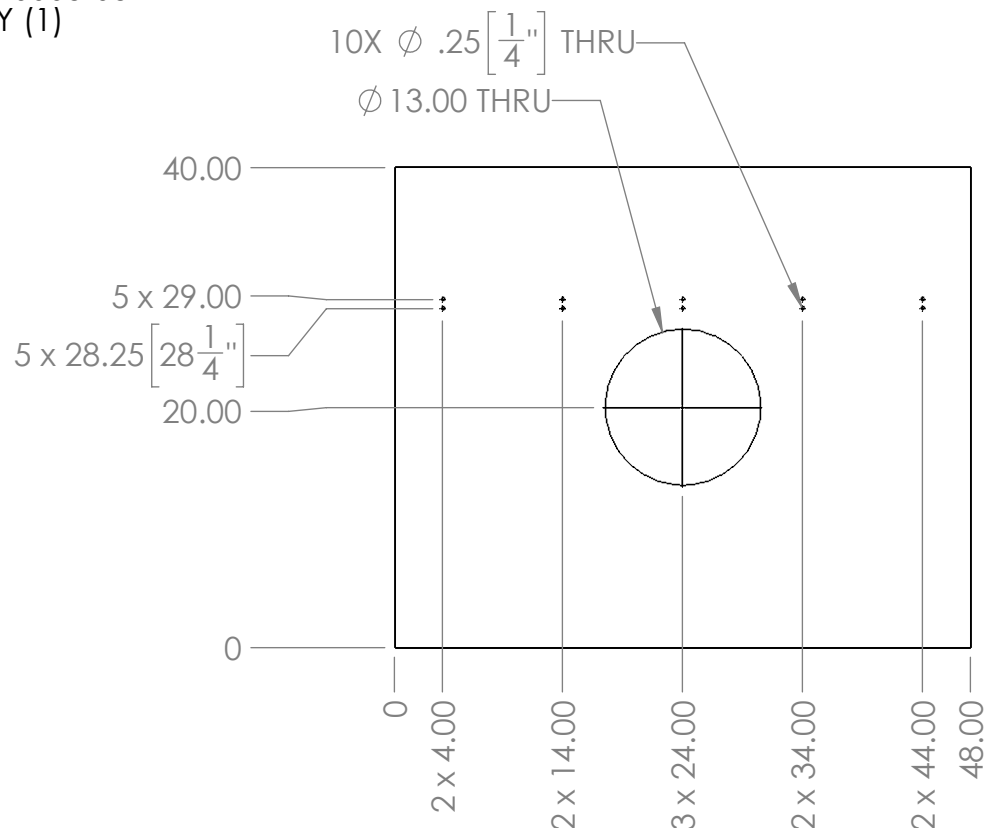
SCALE: 1:32 WEIGHT: SHEET 10 OF 16

2

1

1



B



B

1. Material: 15/32 (1/2") AC or CDX Plywood
2. 10X $\phi .25 \left[\frac{1}{4} \right]$ THRU optional if adding deflector

A

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	<div><div>FIRST ROBOTICS COMPETITION</div></div> <div><div>SOLIDWORKS Modeling Solutions Partner</div></div>			
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE: TE Power Port			
			CHECKED						
			ENG APPR.						
			MFG APPR.						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <div><div>A</div><div>TE-20003</div><div></div></div>			
		MATERIAL	COMMENTS:						
		FINISH							
NEXT ASSY	USED ON								
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:32 WEIGHT:		SHEET 11 OF 1	

A

1

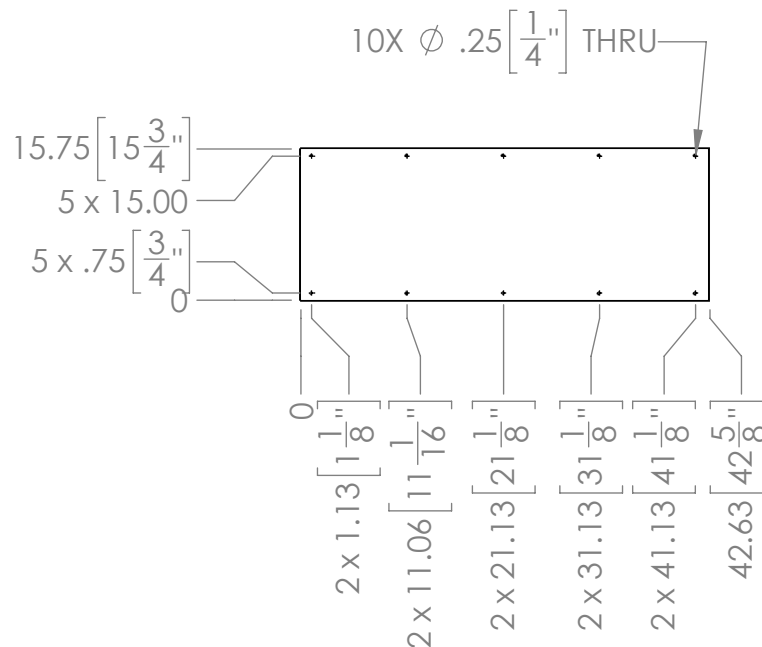
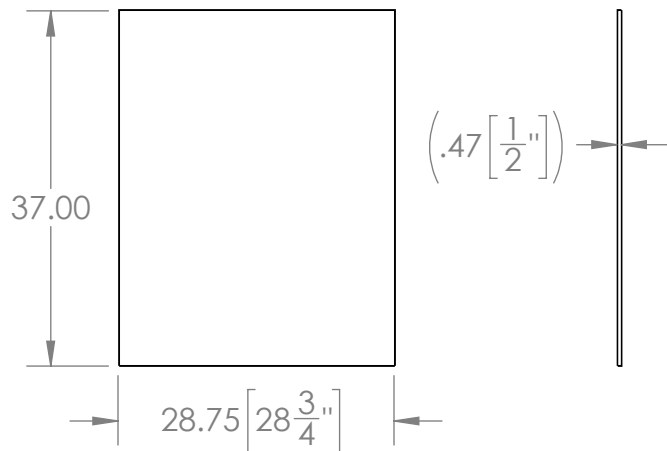
SHEET 11 OF 16

2

1

TE-20003-07
QTY (4)

TE-20003-08
QTY (1)



Notes:

1. Material: 15/32 (1/2") AC or CDX Plywood

Notes:

1. Material: 15/32 (1/2") AC or CDX Plywood
2. This is an optional part



A

A

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

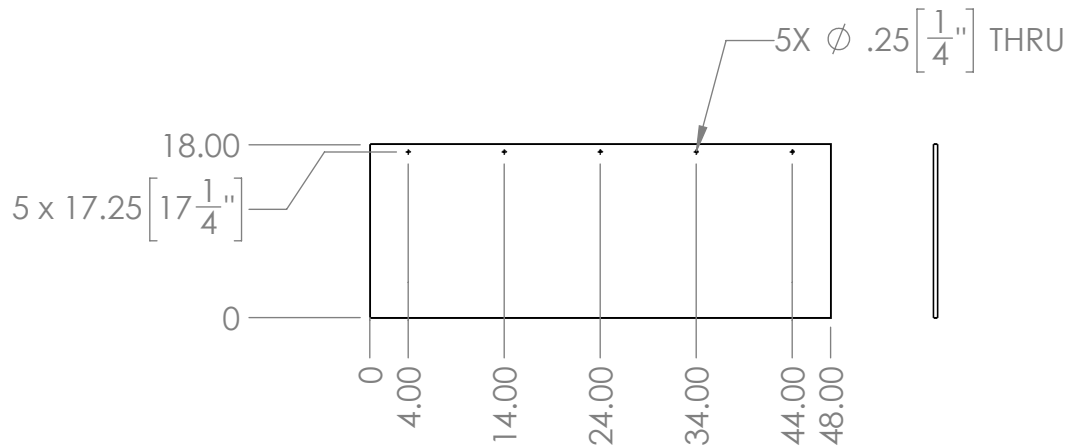
	NAME	DATE
DRAWN		
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		

 		
TITLE: TE Power Port		
SIZE A	DWG. NO. TE-20003	REV
SCALE: 1:32	WEIGHT:	SHEET 12 OF 16

2

1

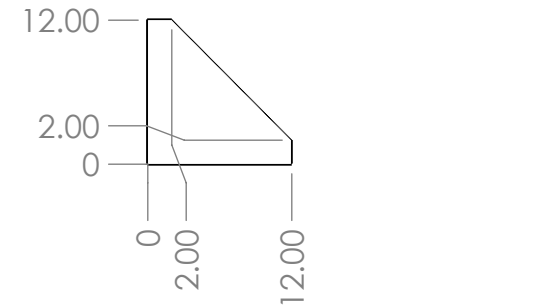
TE-20003-09
QTY (1)



Notes:

1. Material: 15/32 (1/2") AC or CDX Plywood
2. This is an optional part

TE-20003-10
QTY (4)



Notes:

1. Material: 15/32 (1/2") AC or CDX Plywood

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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:

TE Power Port

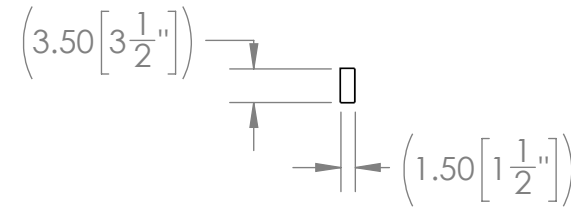
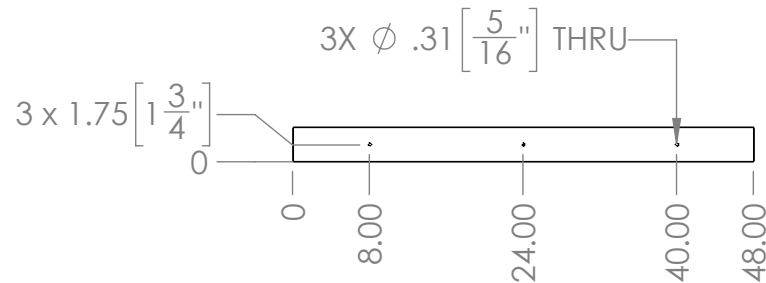
SIZE	DWG. NO.	REV
A	TE-20003	

SCALE: 1:32 WEIGHT: SHEET 13 OF 16

2

1

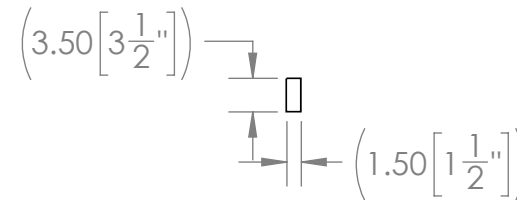
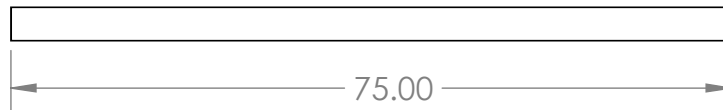
TE-20003-04
QTY (8)



Notes:

1. 2x4" Pine Lumber

TE-20003-05
QTY (4)



Notes:

1. 2x4" Pine Lumber

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		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:

TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	

SCALE: 1:32 WEIGHT: SHEET 14 OF 16

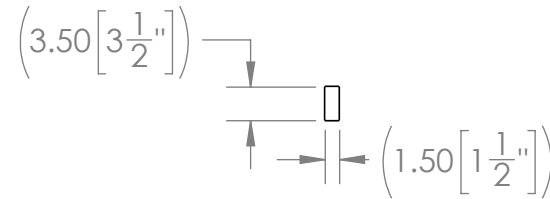
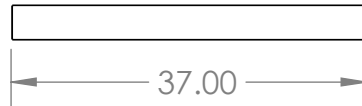
2

1

2

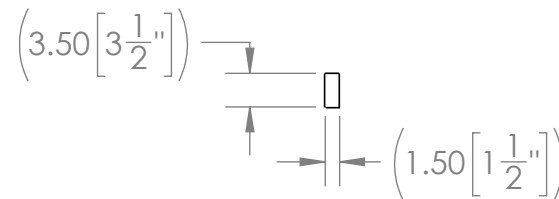
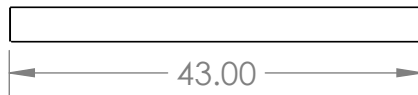
1

TE-20003-06
QTY (4)



Notes:
1. 2x4" Pine Lumber

TE-20003-11
QTY (2)



Notes:
1. 2x4" Pine Lumber

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		TOLERANCES:	CHECKED		
		FRACTIONAL $\pm 1/16$	ENG APPR.		
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
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		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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TITLE:

TE Power Port

SIZE	DWG. NO.	REV
A	TE-20003	

SCALE: 1:32 WEIGHT: SHEET 15 OF 16

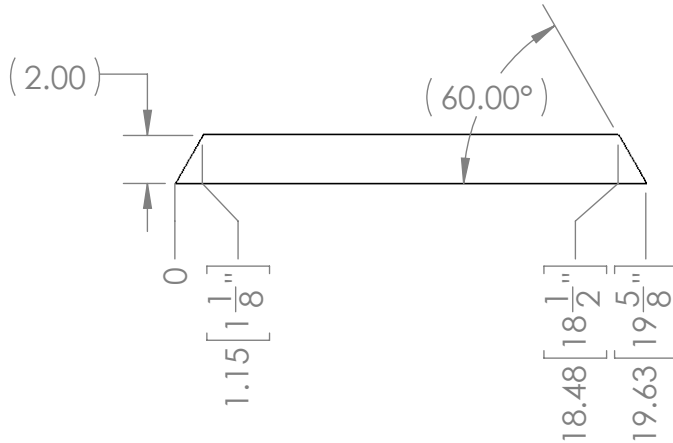
2

1

2

1

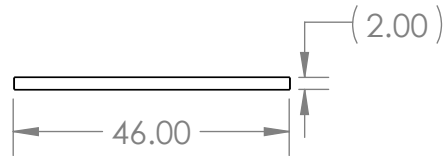
Vision_PowerPort
QTY (3)



Notes:

1. 2" Wide, 3M 8830 Scotchlite Reflective Material

Hook_2_48
QTY (2)



Notes:

1. 2" wide Hook

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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:		



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TITLE:

TE Power Port

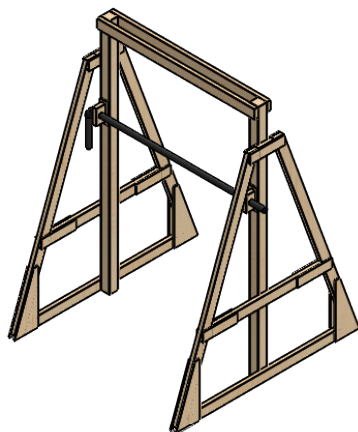
SIZE	DWG. NO.	REV
A	TE-20003	

SCALE: 1:32 WEIGHT: SHEET 16 OF 16

2

1

Rung: Horizontal



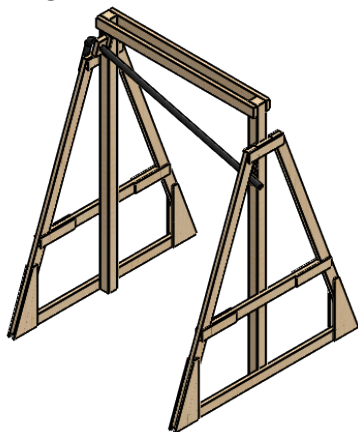
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, 2-B1, 4-A2	A	REFORMATTED SHEET 1, ADDED 4" X 4" X 8' TO MATERIAL LIST ON SHEET 2, UPDATED PART NO. ON SHEET 4.	1/5/2020	KAMC

Notes:

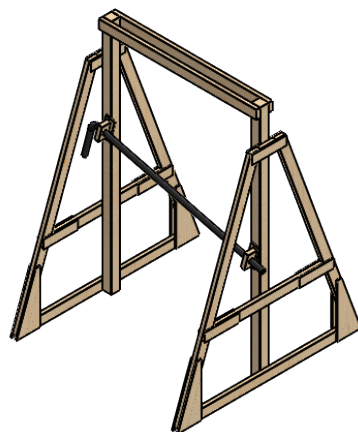
1. This drawing provides information on how to make each of the 5 configurations shown. Configurations can be combined such that only 1 final assembly needs to be created.
2. Bill of Materials are provided per configuration.
3. General material list is provided on 2.
4. Only sheets impacted by revisions have revision tables. Not all revision tables are at the top right of the sheet.



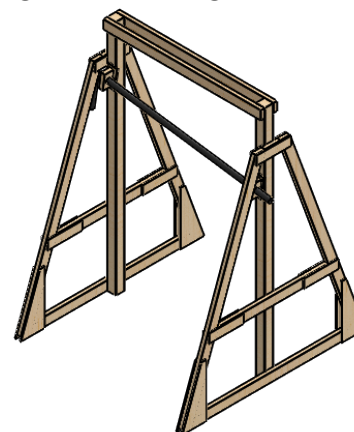
Rung: Hard Stop, Max



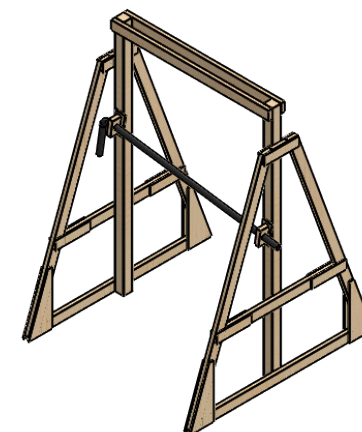
Rung: Hard Stop, Min



Rung: Level Range, Max



Rung: Level Range, Min



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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.		
		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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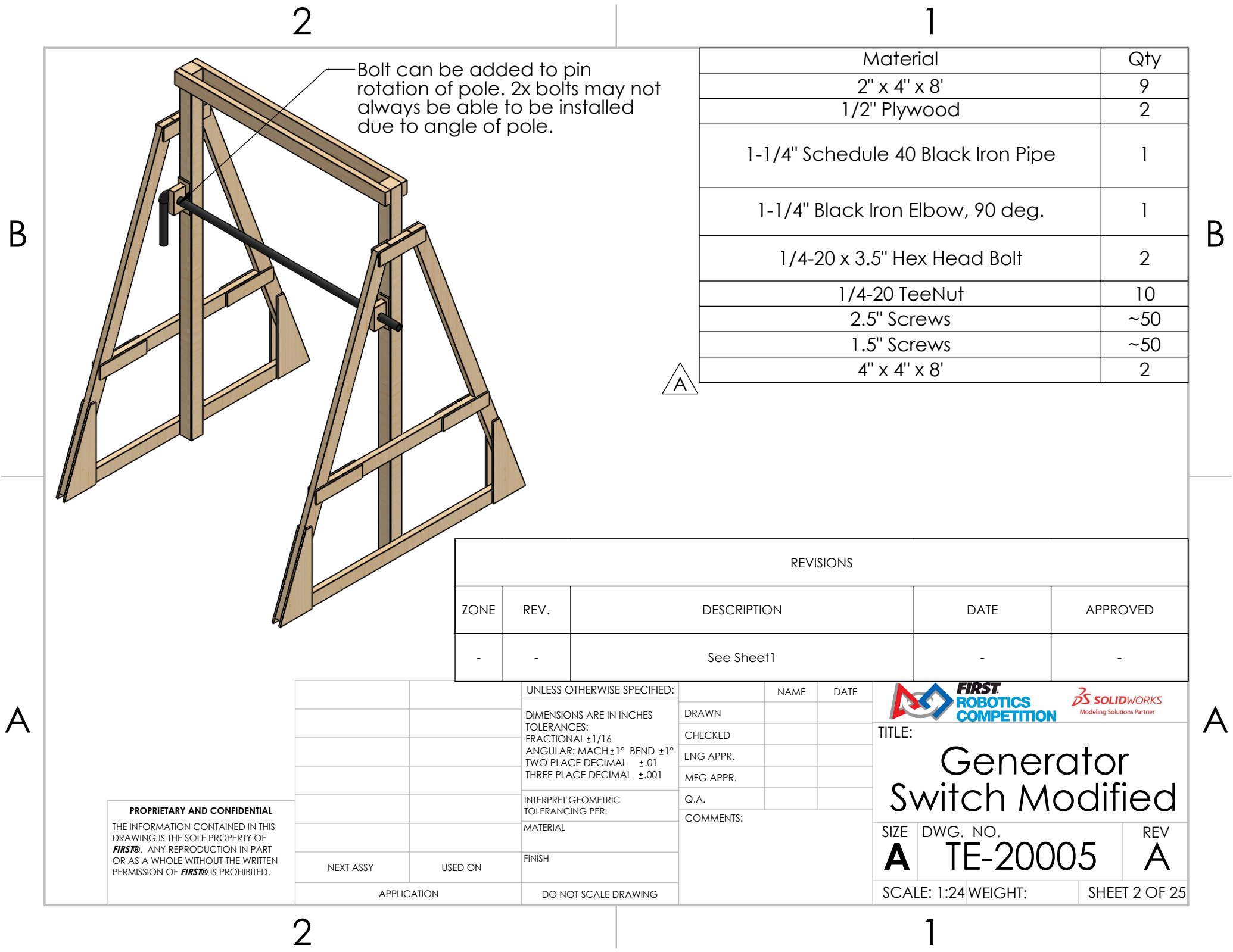
SOLIDWORKS
Modeling Solutions Partner

TITLE:

Generator
Switch Modified

SIZE DWG. NO. REV
A TE-20005 **A**

SCALE: 1:54 WEIGHT: SHEET 1 OF 25



Bolt can be added to pin rotation of pole. 2x bolts may not always be able to be installed due to angle of pole.



Material	Qty
2" x 4" x 8'	9
1/2" Plywood	2
1-1/4" Schedule 40 Black Iron Pipe	1
1-1/4" Black Iron Elbow, 90 deg.	1
1/4-20 x 3.5" Hex Head Bolt	2
1/4-20 TeeNut	10
2.5" Screws	~50
1.5" Screws	~50
4" x 4" x 8'	2



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-

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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: **Generator Switch Modified**

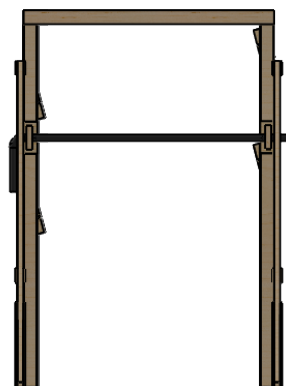
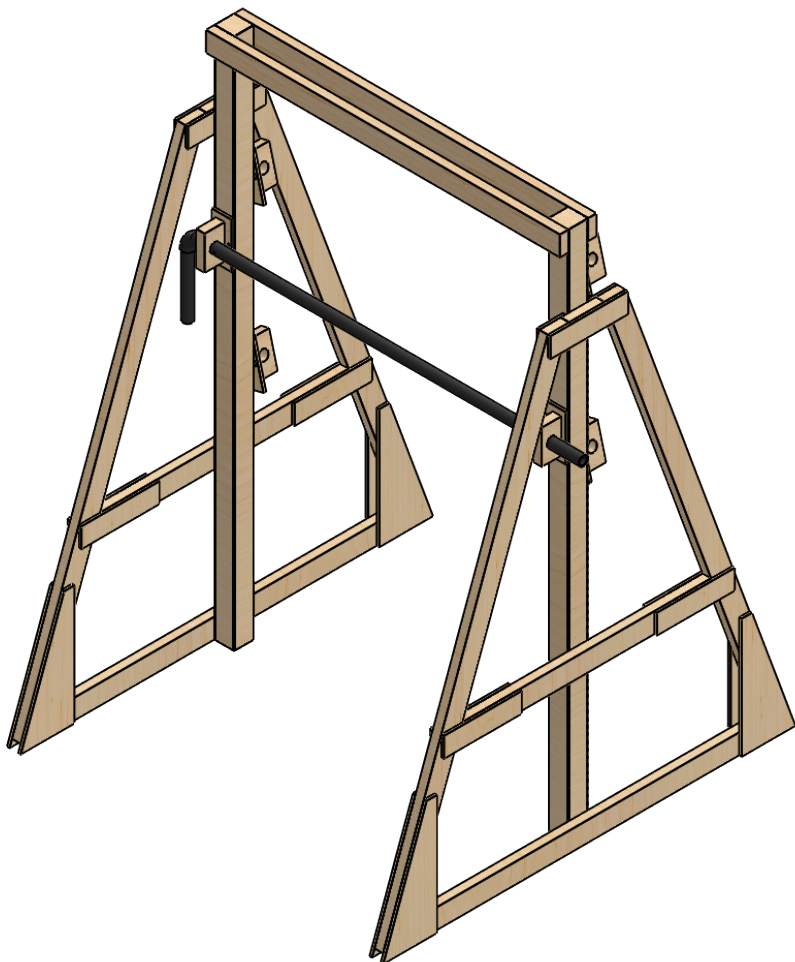
SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT: SHEET 2 OF 25

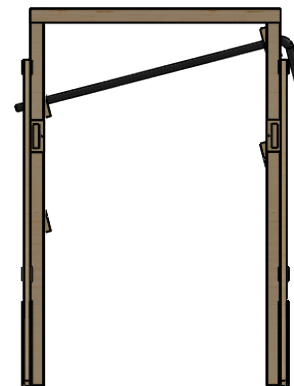
2

1

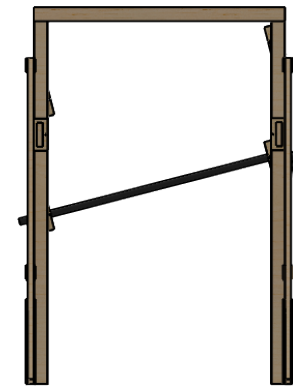
Recommended Build:



Level, Horizontal



Hard Stop, Max



Hard Stop, Min

Notes:

- The recommended build includes Level Horizontal, Hard Stop Max, and Hard Stop Min. Instructions for Level Max and Level Min are also included.

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		TOLERANCES:	CHECKED		
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		THREE PLACE DECIMAL $\pm .001$	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
	APPLICATION	DO NOT SCALE DRAWING			


FIRST
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TITLE:

Generator Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT:

SHEET 3 OF 25

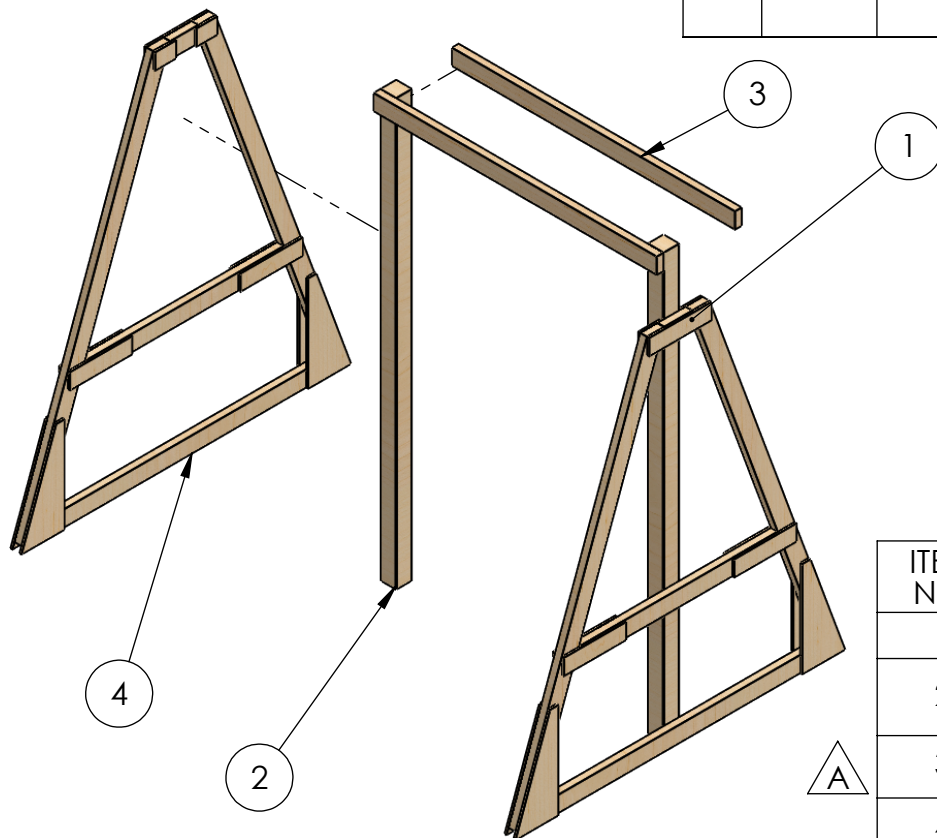
2

1

Basic Frame

REVISIONS

ZONE	REV.	DESCRIPTION	DATE	APPROVED
-	-	See Sheet1	-	-



Notes:

- Details on placing pole mounts on (2) are found on following sheets. We recommend assembling pole mounts to (2) before installing (2) in the Basic Frame Assembly.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	TE-20005-02	Top Support, Full	2
2	TE-20005-09	Vertical Leg, Level, Horizontal, Side A	2
3	TE-20005-10	Cross Support	2
4	TE-20005-20	A Frame Assembly	2



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



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Generator Switch Modified

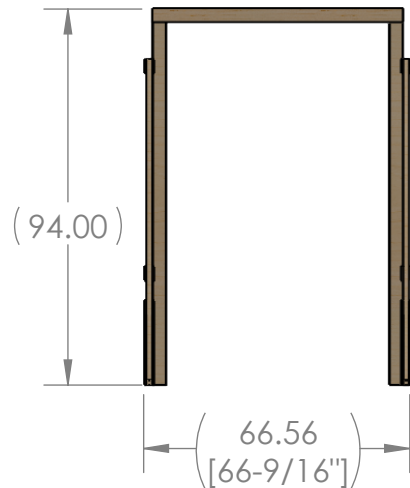
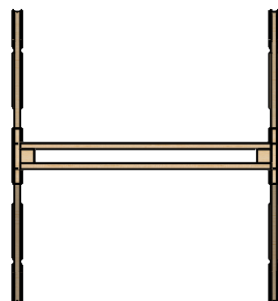
SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:30	WEIGHT:	SHEET 4 OF 25
-------------	---------	---------------

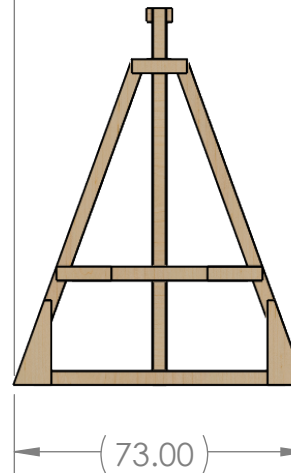
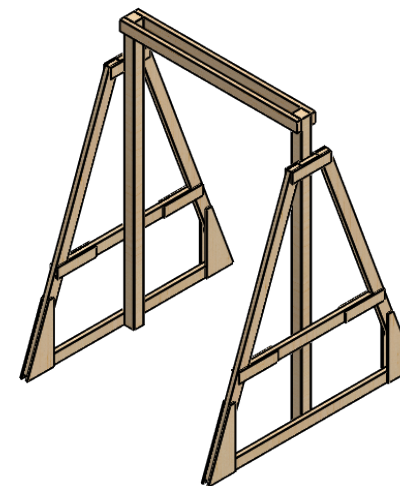
2

1

Basic Frame



(31.50)
[31-1/2"]



B

B

A

A

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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.		
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		MATERIAL			
NEXT ASSY	USED ON	FINISH			
APPLICATION		DO NOT SCALE DRAWING			



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
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TITLE:

Generator
Switch Modified

SIZE

DWG. NO.

REV

A**TE-20005****A**

SCALE: 1:48 WEIGHT:

SHEET 5 OF 25

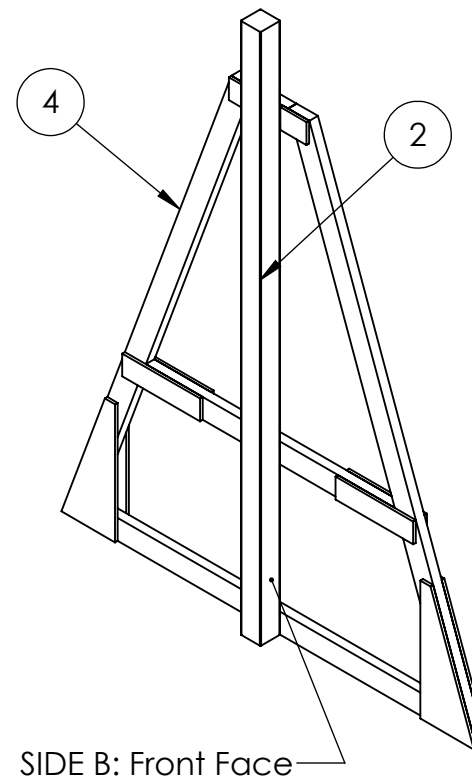
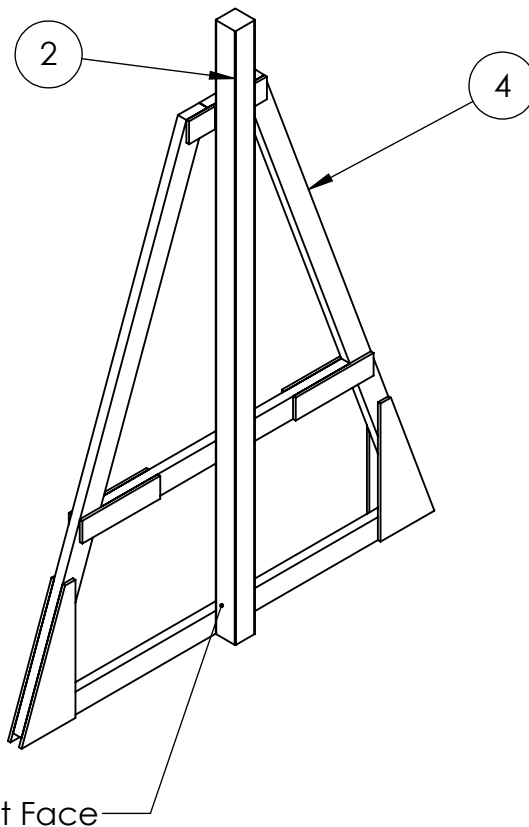
2

1

2

1

Basic Frame

Step 1:
QTY 2:

Notes:

1. Attach (2) to (4) using 2.5" screws. Pre-drill as needed.
2. When adding (2), be sure orientation matches intended direction (i.e. Front Face of A matches Front Face of B).

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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			



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Generator
Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT:

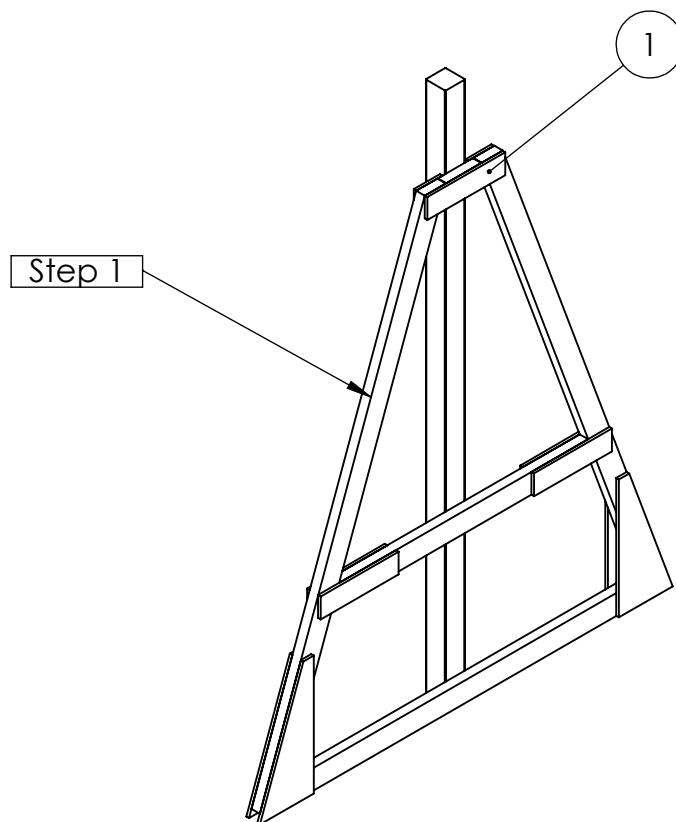
SHEET 6 OF 25

2

1

Basic Frame

Step 2:
QTY 2:



Notes:

1. Attach (1) to [Step 1] using 1.5" and 2.5" screws.

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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:		



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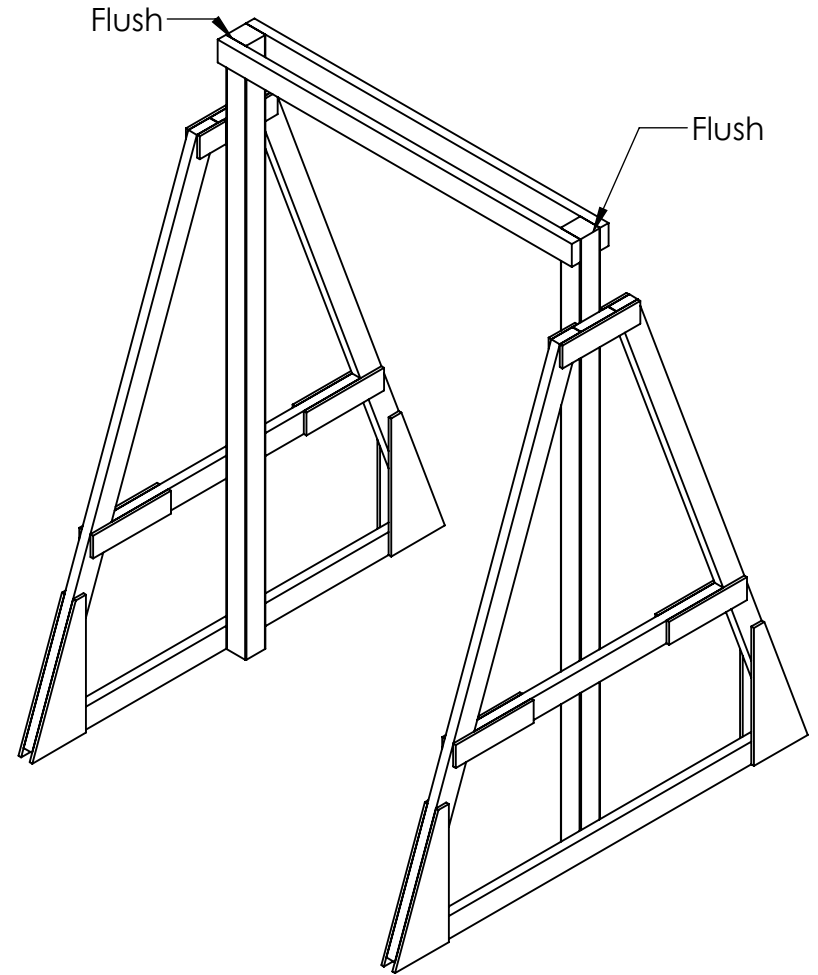
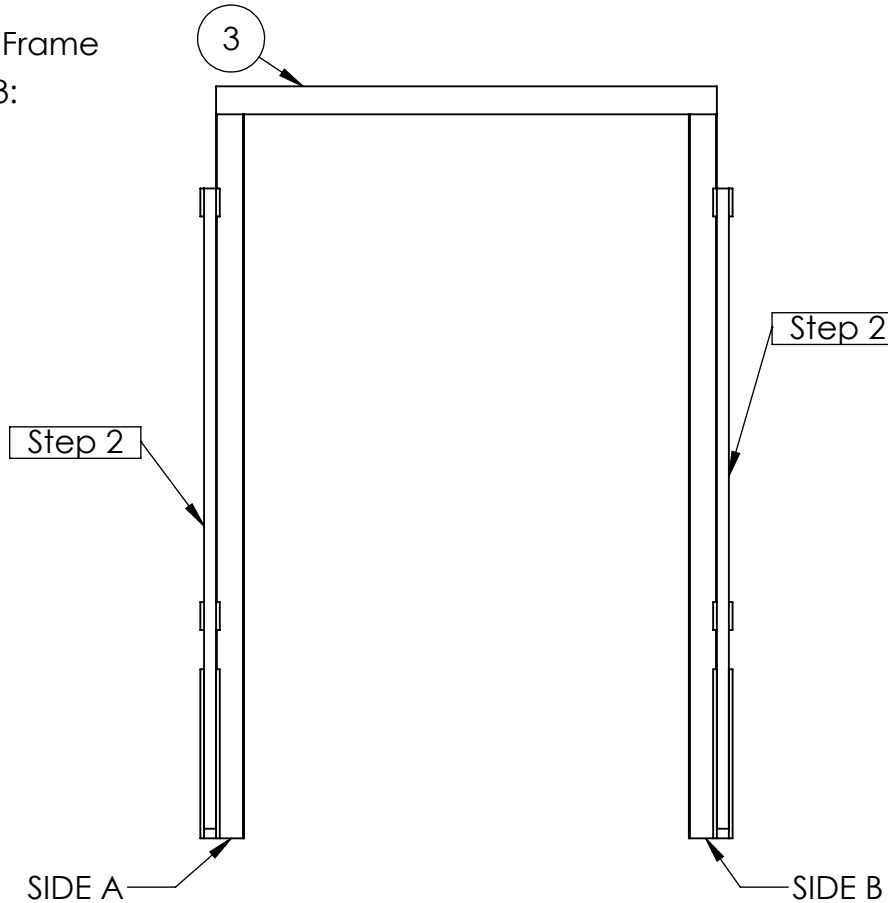
TITLE:

Generator
Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A
SCALE: 1:24 WEIGHT:		SHEET 7 OF 25

B

Basic Frame
Step 3:



B

Notes:

1. Attach **Step 2** and **Step 2** to **3** using 2.5" screws.
2. Repeat.

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
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TITLE:

Generator
Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A
SCALE: 1:24 WEIGHT:		SHEET 8 OF 25

2

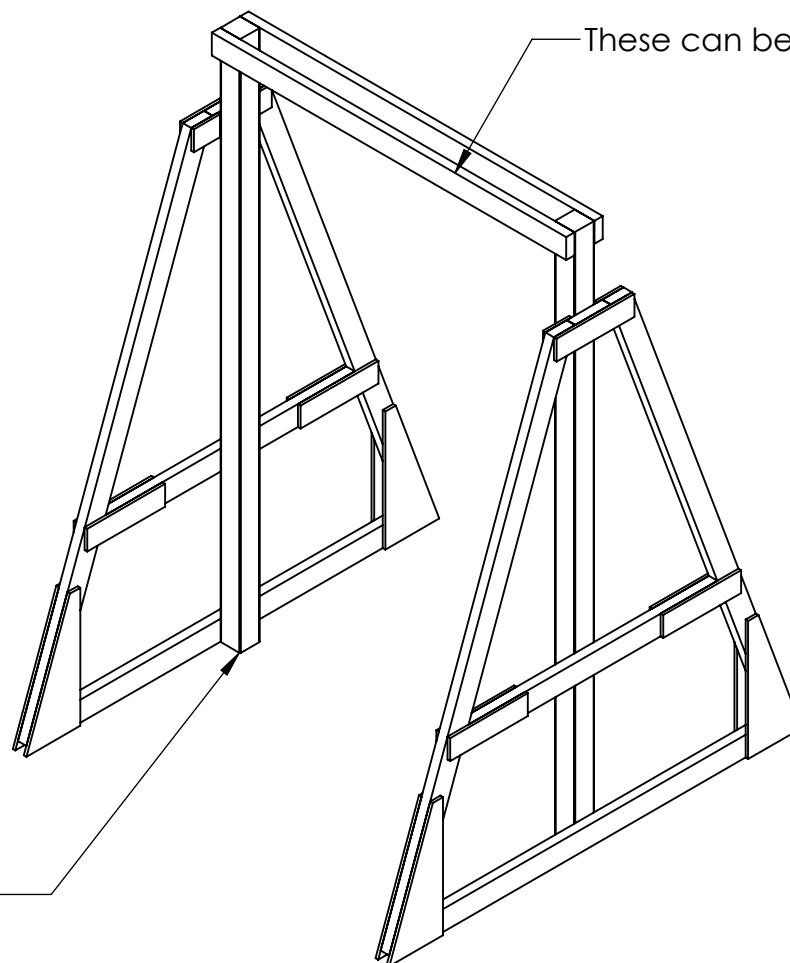
1

2

1

Basic Frame

Optional



These can be removed for more compact storage.

If needed, assembly
can be mounted to a
plywood for floor
protection.

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



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Modeling Solutions Partner

TITLE:

Generator Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT:

SHEET 9 OF 25

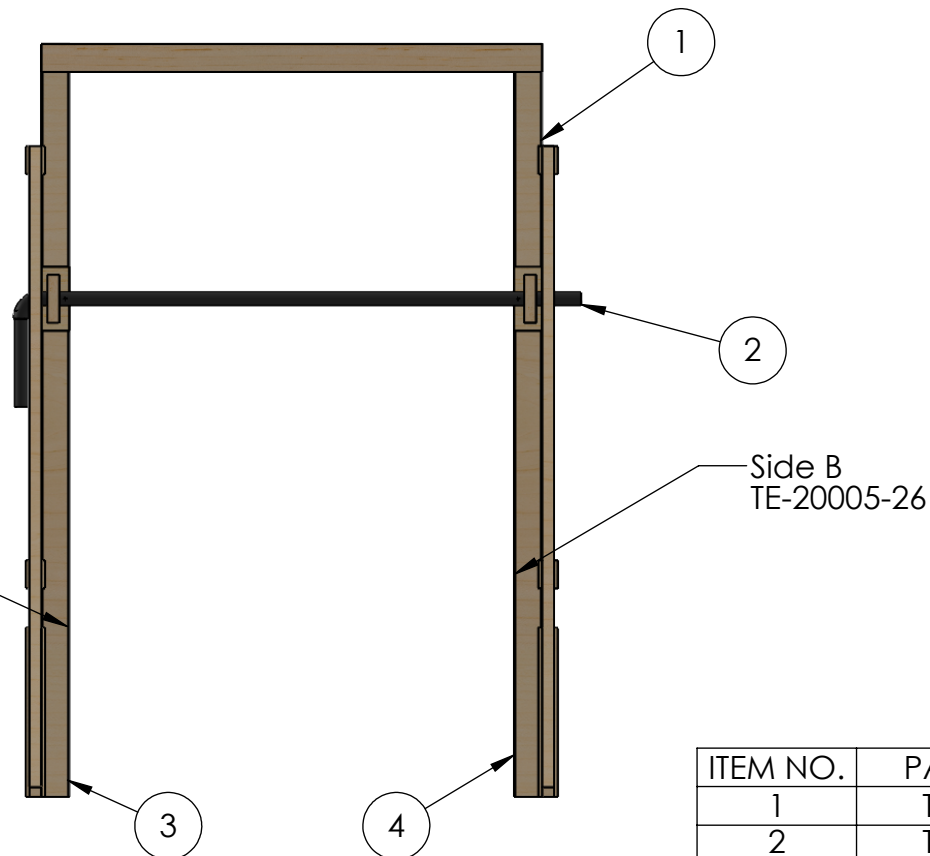
2

1

2

1

Level, Horizontal



Note:

1. TE-20005-25 contains 1x TE-20005-09 & 1x TE-20005-22
2. TE-20005-26 contains 1x TE-20005-09 & 1x TE-20005-22

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-21	Basic Frame	1
2	TE-20005-23	Pipe Assembly	1
3	TE-20005-25	Vertical Leg, Level, Horizontal, Side A	1
4	TE-20005-26	Vertical Leg, Level, Horizontal, Side B	1

UNLESS OTHERWISE SPECIFIED:

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

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**
Modeling Solutions Partner

TITLE:

Generator Switch Modified

SIZE

DWG. NO.

REV

A**TE-20005****A**

SCALE: 1:24 WEIGHT:

SHEET 10 OF 25

2

1

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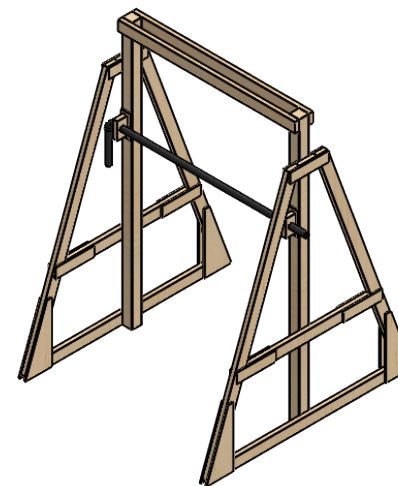
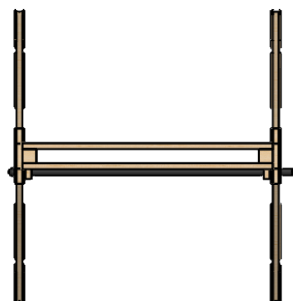
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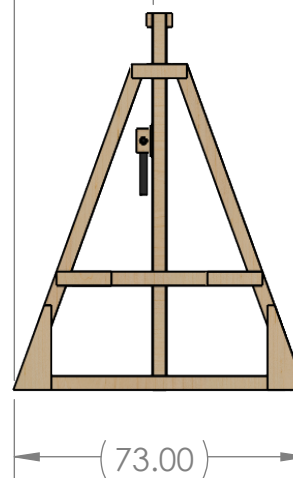
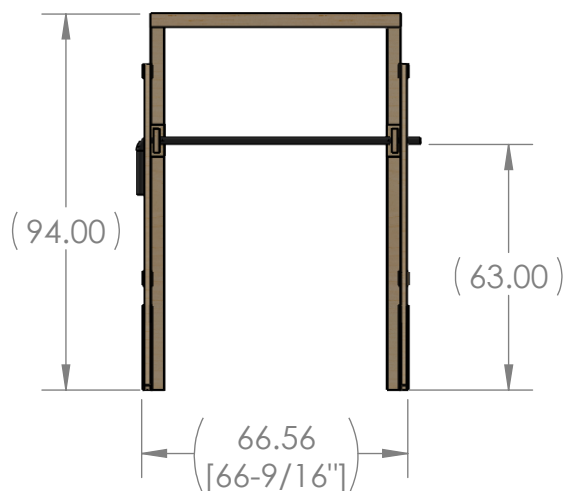
APPLICATION

2

1

Level, Horizontal



$$\left(\begin{array}{c} 31.50 \\ [31-1/2"] \end{array} \right)$$


A

A

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



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TITLE:

Generator Switch Modified

SIZE

A

DWG. NO.

TE-20005

REV

A

SCALE: 1:48 WEIGHT:

SHEET 11 OF 25

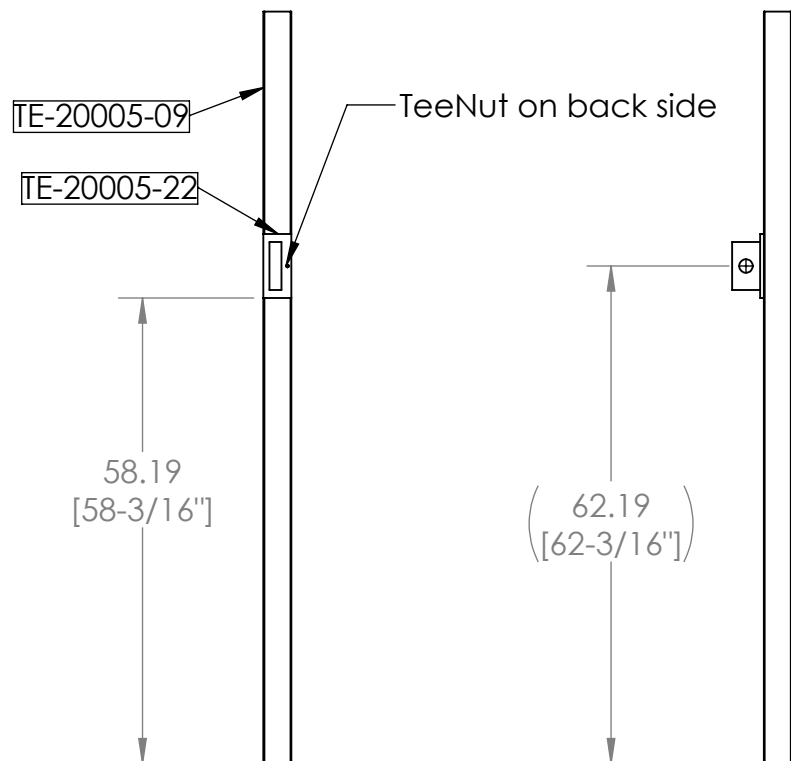
2

1

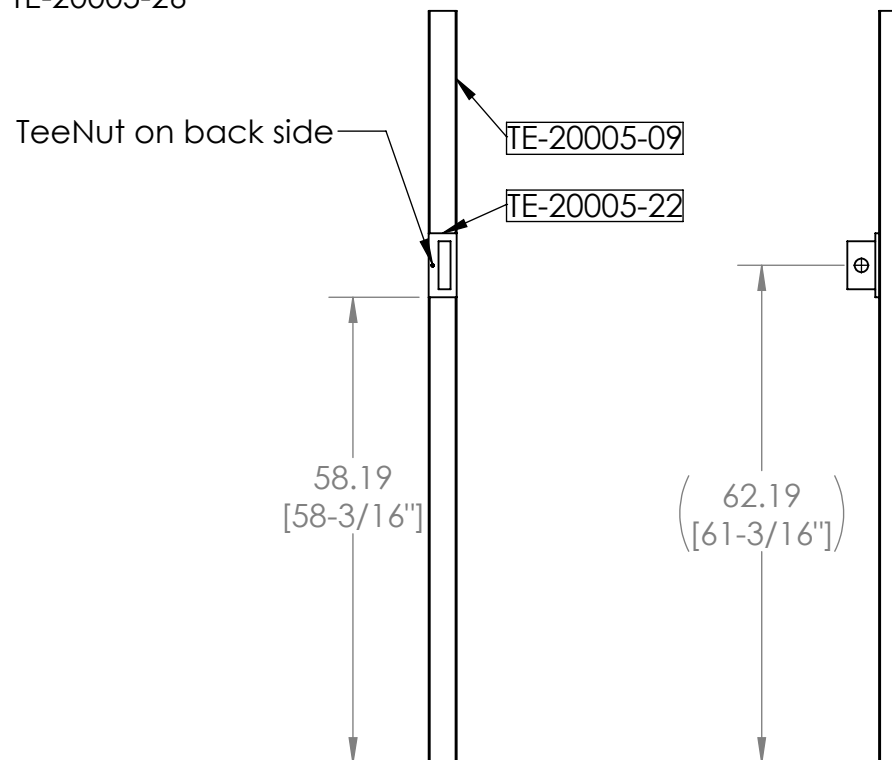
2

1

Level, Horizontal
TE-20005-25



Level, Horizontal
TE-20005-26



Notes:

1. Attach **TE-20005-22** to **TE-20005-09** as shown using 2.5" screws. Predrill as needed.

Notes:

1. Attach **TE-20005-22** to **TE-20005-09** as shown using 2.5" screws. Predrill as needed.

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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			



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TITLE:

Generator
Switch Modified

SIZE

DWG. NO.

REV

A

TE-20005

A

SCALE: 1:24 WEIGHT:

SHEET 12 OF 25

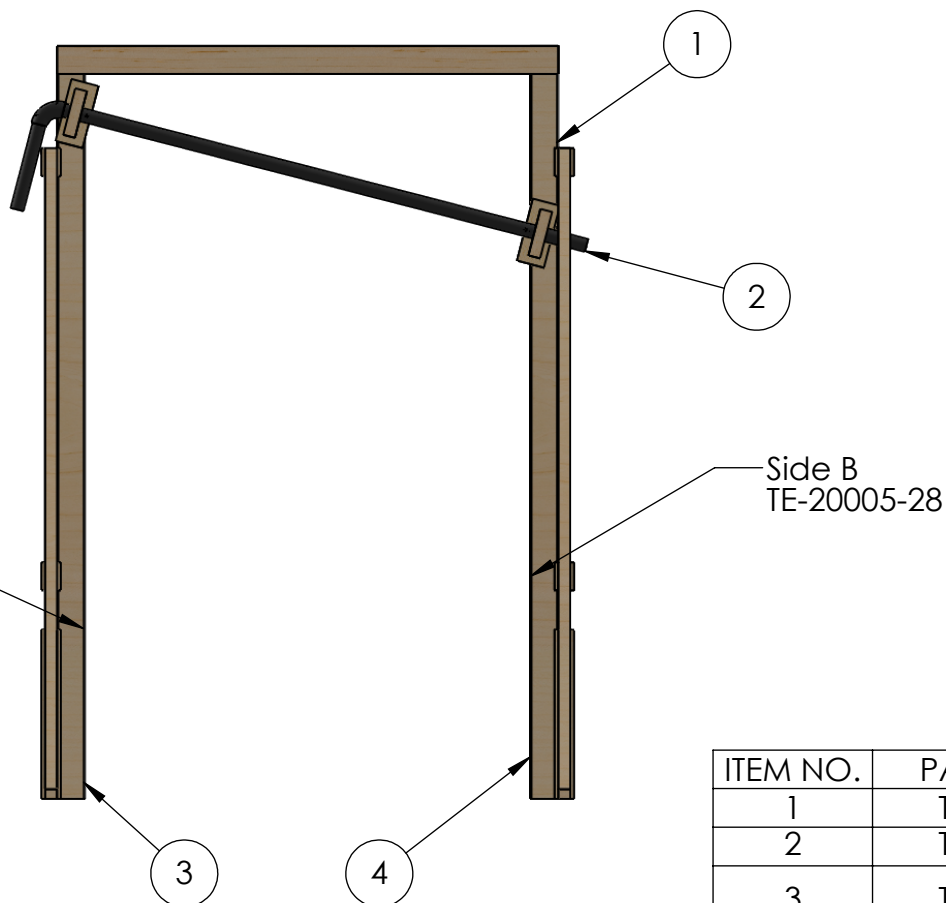
2

1

2

1

Hard Stop, Max



Note:

1. TE-20005-27 contains 1x TE-20005-09 & 1x TE-20005-22
2. TE-20005-28 contains 1x TE-20005-09 & 1x TE-20005-22

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-21	Basic Frame	1
2	TE-20005-23	Pipe Assembly	1
3	TE-20005-27	Vertical Leg, Hard Stop, Max, Side A	1
4	TE-20005-28	Vertical Leg, Hard Stop, Max, Side B	1

UNLESS OTHERWISE SPECIFIED:

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

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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TITLE:

Generator Switch Modified

SIZE

DWG. NO.

REV

A**TE-20005****A**

SCALE: 1:24 WEIGHT:

SHEET 13 OF 25

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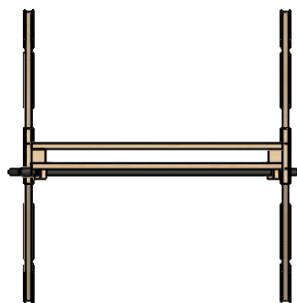
2

1

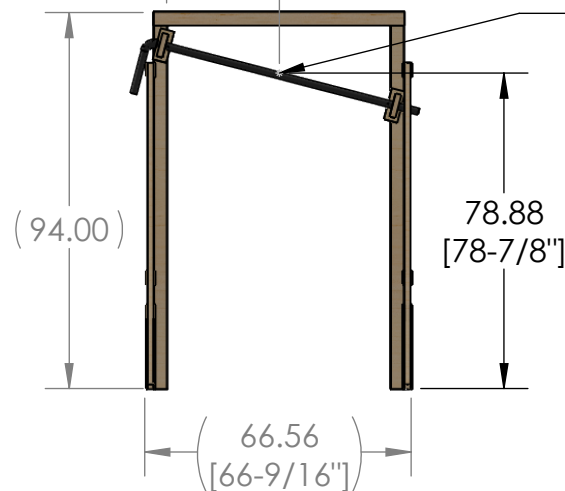
2

1

Hard Stop, Max

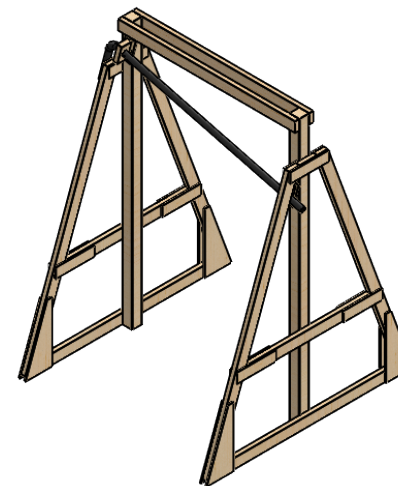
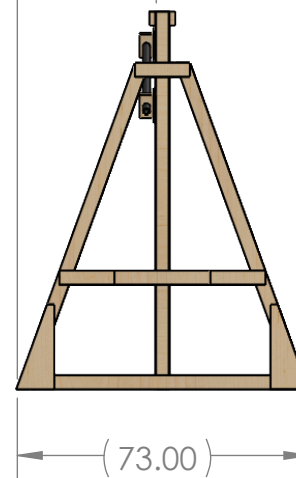


(28.19)
[28-3/16"]



Approximate
location of highest
point of RUNG.

(31.50)
[31-1/2"]



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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

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



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COMPETITION

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TITLE:

Generator
Switch Modified

SIZE

DWG. NO.

REV

A**TE-20005****A**

SCALE: 1:48 WEIGHT:

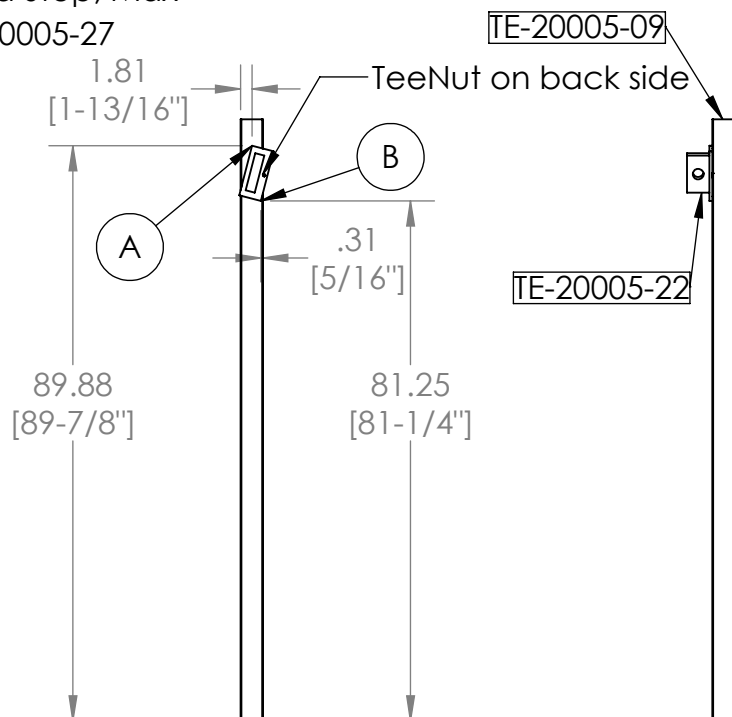
SHEET 14 OF 25

2

1

2

Hard Stop, Max
TE-20005-27

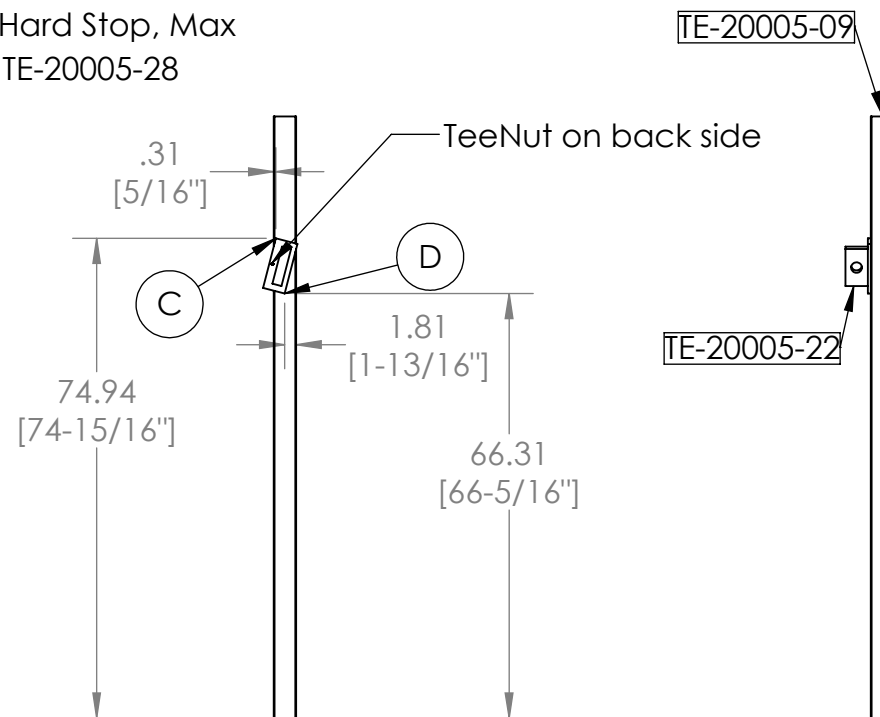


Notes:

1. Locate (A) and (B).
2. Align corners of TE-20005-22 with (A) and (B).
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

1

Hard Stop, Max
TE-20005-28



Notes:

1. Locate (C) and (D).
2. Align corners of TE-20005-22 with (C) and (D).
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

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



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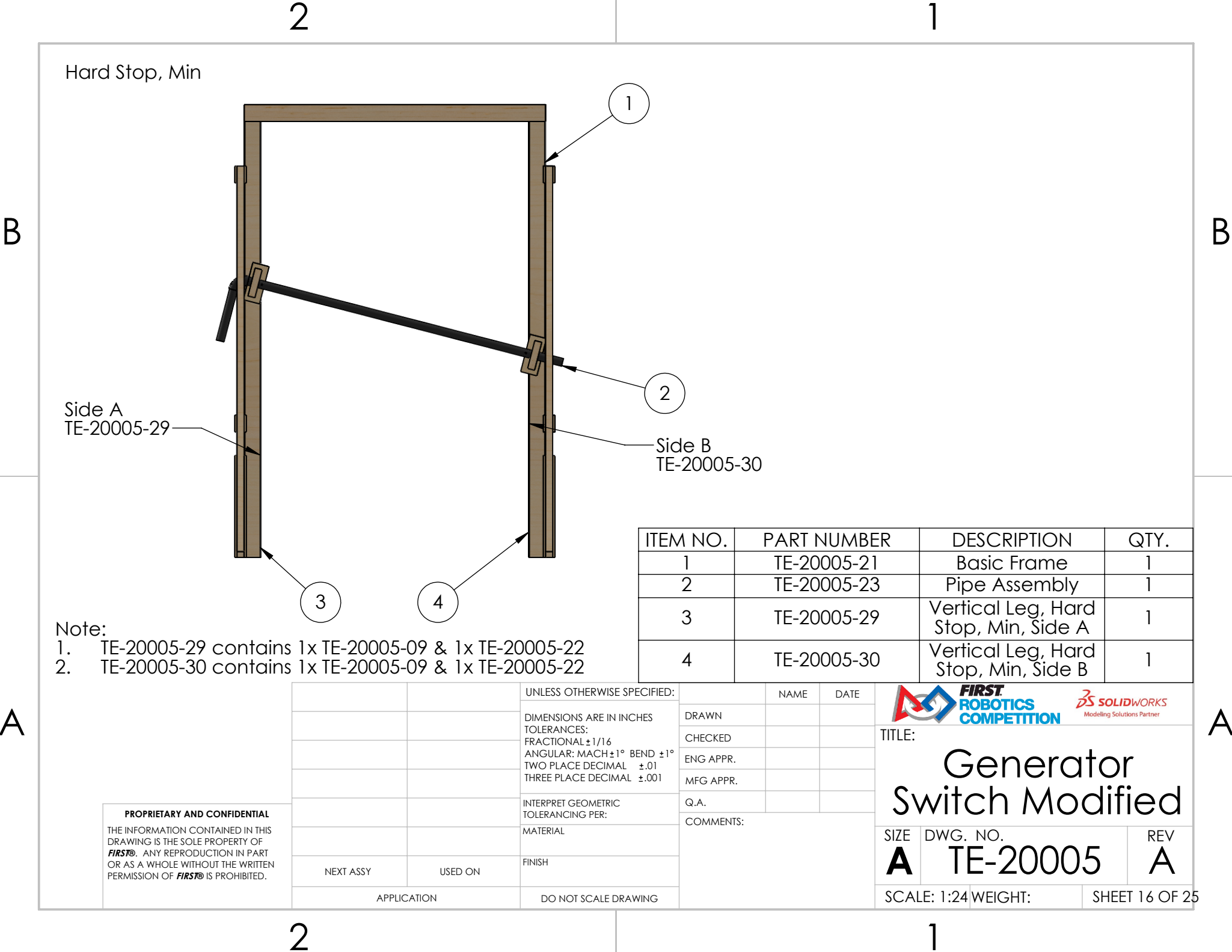
SOLIDWORKS
Modeling Solutions Partner

TITLE:

Generator
Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:30 WEIGHT: SHEET 15 OF 25



Hard Stop, Min

Side A
TE-20005-29

Side B
TE-20005-30

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-21	Basic Frame	1
2	TE-20005-23	Pipe Assembly	1
3	TE-20005-29	Vertical Leg, Hard Stop, Min, Side A	1
4	TE-20005-30	Vertical Leg, Hard Stop, Min, Side B	1

- Note:
- 1. TE-20005-29 contains 1x TE-20005-09 & 1x TE-20005-22
 - 2. TE-20005-30 contains 1x TE-20005-09 & 1x TE-20005-22

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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	
FINISH	
NEXT ASSY	USED ON
APPLICATION	
DO NOT SCALE DRAWING	

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



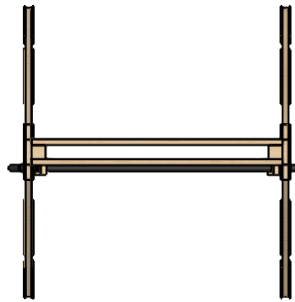
TITLE:
Generator Switch Modified

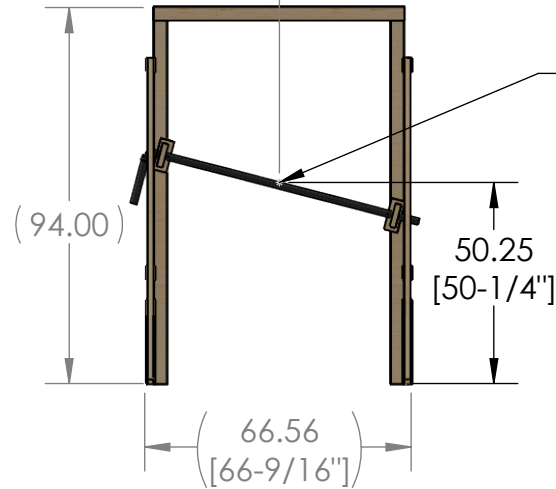
SIZE	DWG. NO.	REV
A	TE-20005	A

2

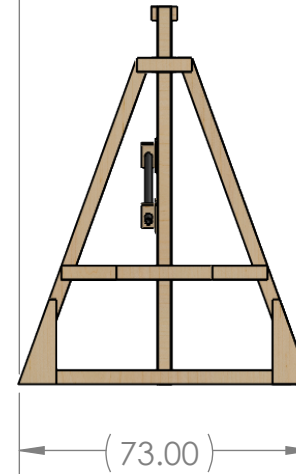
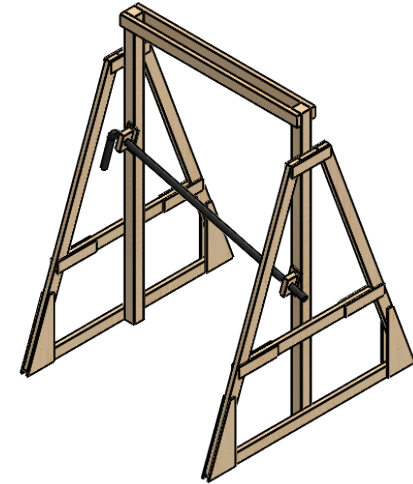
1

Hard Stop, Min



$$\left(\begin{array}{c} 28.19 \\ [28-3/16"] \end{array} \right)$$


Approximate
location of lowest
point of RUNG.

$$\left(\begin{array}{c} 31.50 \\ [31-1/2"] \end{array} \right)$$


B

B

A

A

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		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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COMPETITION**

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Modeling Solutions Partner

TITLE:

Generator
Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:48 WEIGHT:

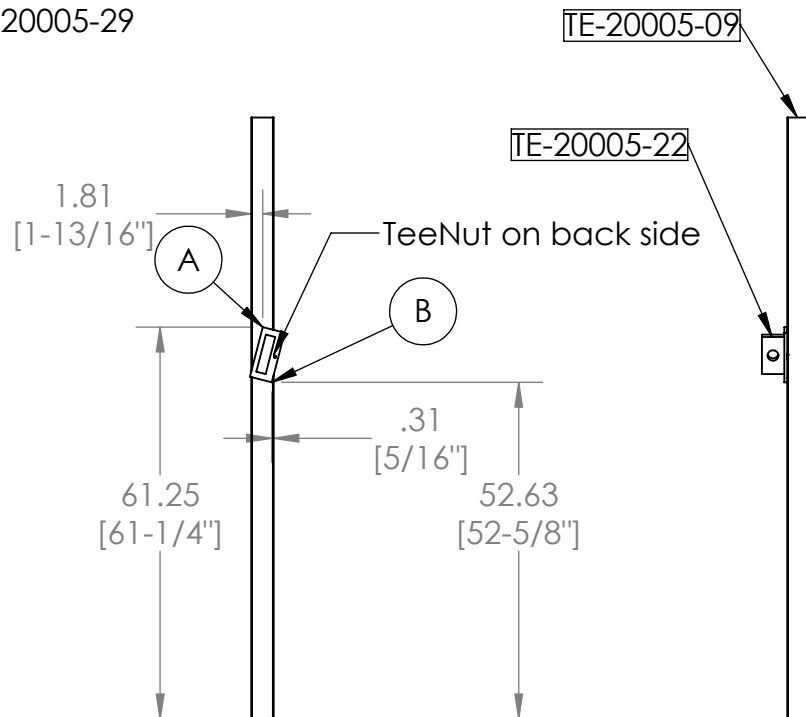
SHEET 17 OF 25

2

1

2

Hard Stop, Min
TE-20005-29

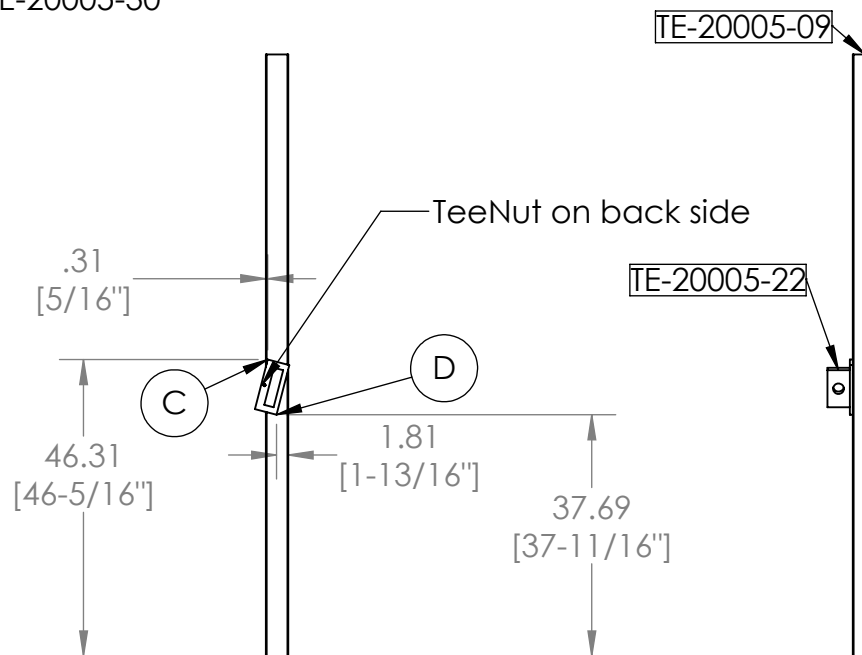


Notes:

1. Locate (A) and (B) .
2. Align corners of TE-20005-22 with (A) and (B) .
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

1

Hard Stop, Min
TE-20005-30



Notes:

1. Locate (C) and (D) .
2. Align corners of TE-20005-22 with (C) and (D) .
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

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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			



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TITLE:

Generator
Switch Modified

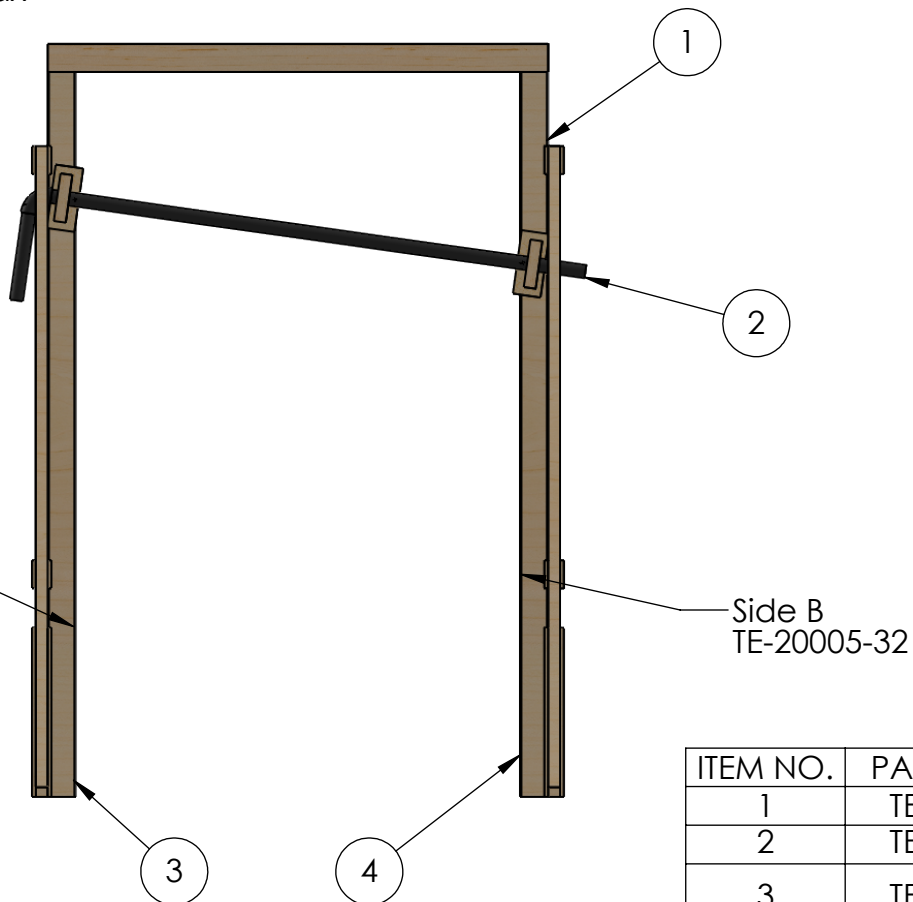
SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:30 WEIGHT: SHEET 18 OF 25

2

1

Level Range, Max



Note:

1. TE-20005-31 contains 1x TE-20005-09 & 1x TE-20005-22
2. TE-20005-32 contains 1x TE-20005-09 & 1x TE-20005-22

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-21	Basic Frame	1
2	TE-20005-23	Pipe Assembly	1
3	TE-20005-31	Vertical Leg, Level Range, Max, Side A	1
4	TE-20005-32	Vertical Leg, Level Range, Max, Side B	1

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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:		



TITLE:

Generator Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT: SHEET 19 OF 25

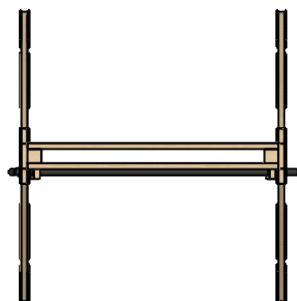
2

1

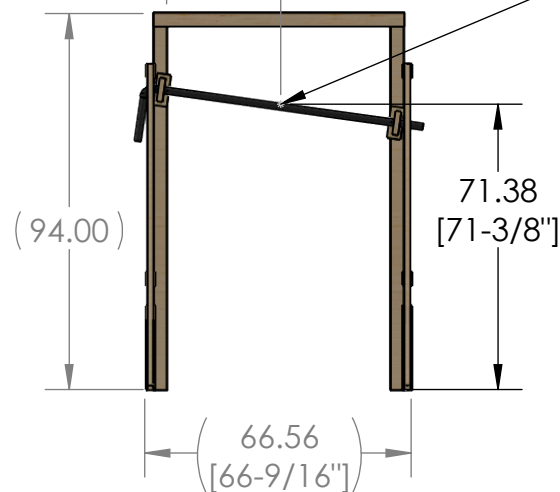
2

1

Level Range, Max

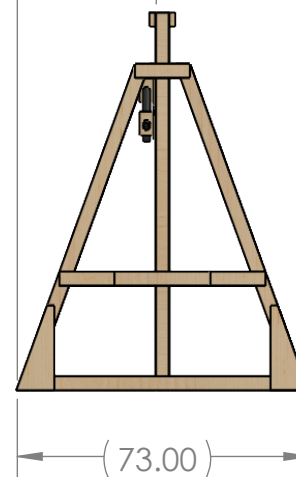
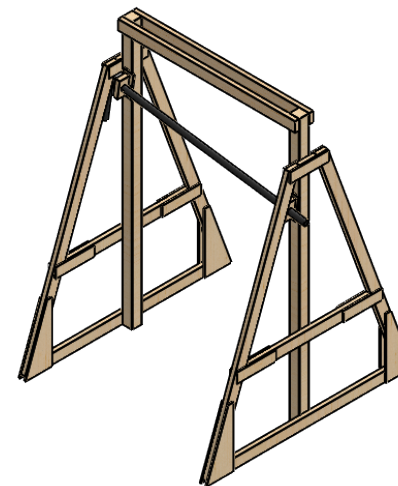


(28.56)
[28-9/16"]



Approximate
location of highest
point of Level RUNG.

(31.50)
[31-1/2"]



A

A

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



**FIRST
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Generator
Switch Modified

SIZE

DWG. NO.

REV

A**TE-20005****A**

SCALE: 1:48 WEIGHT:

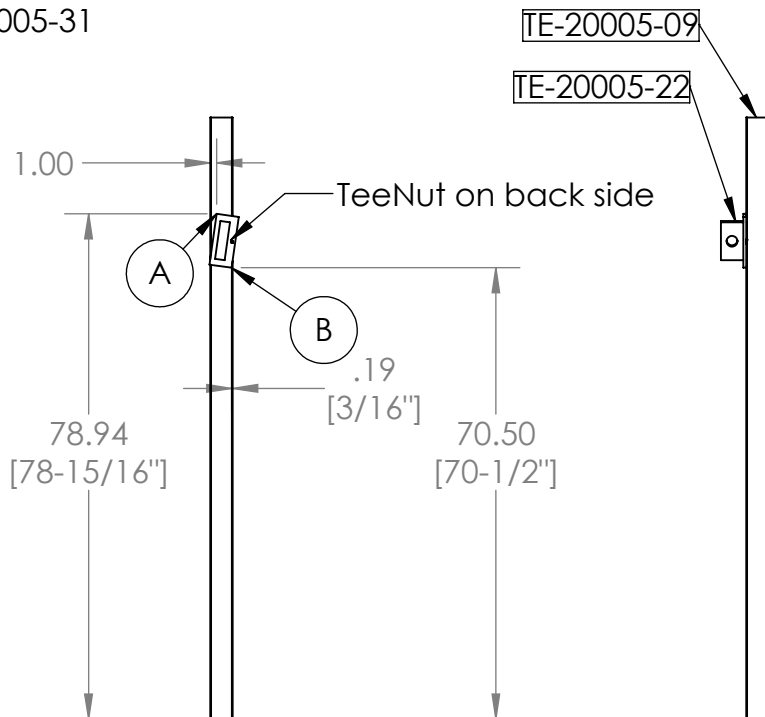
SHEET 20 OF 25

2

1

2

Level Range, Max
TE-20005-31

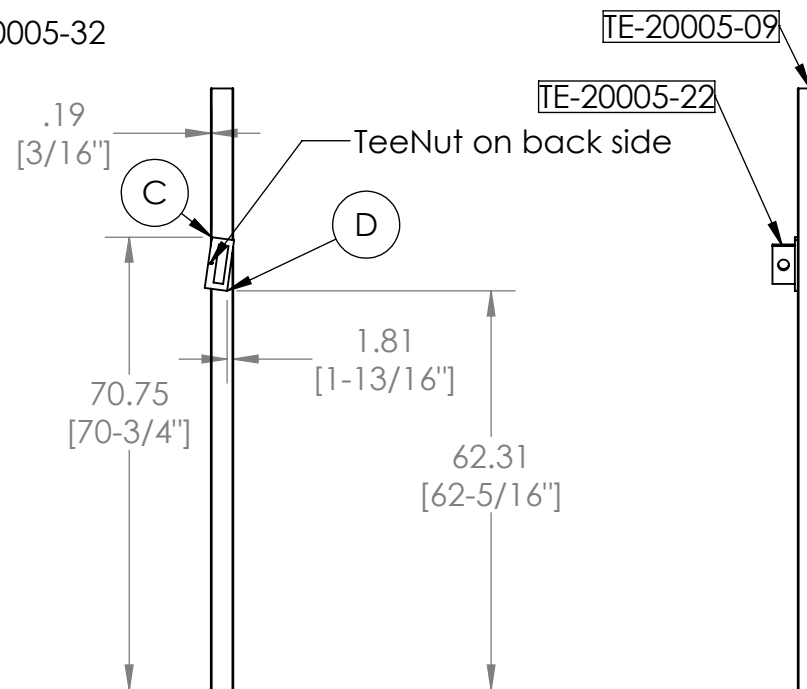


Notes:

1. Locate (A) and (B) .
2. Align corners of TE-20005-22 with (A) and (B) .
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

1

Level Range, Max
TE-20005-32



Notes:

1. Locate (C) and (D) .
2. Align corners of TE-20005-22 with (C) and (D) .
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

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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			



**FIRST
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COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Generator
Switch Modified

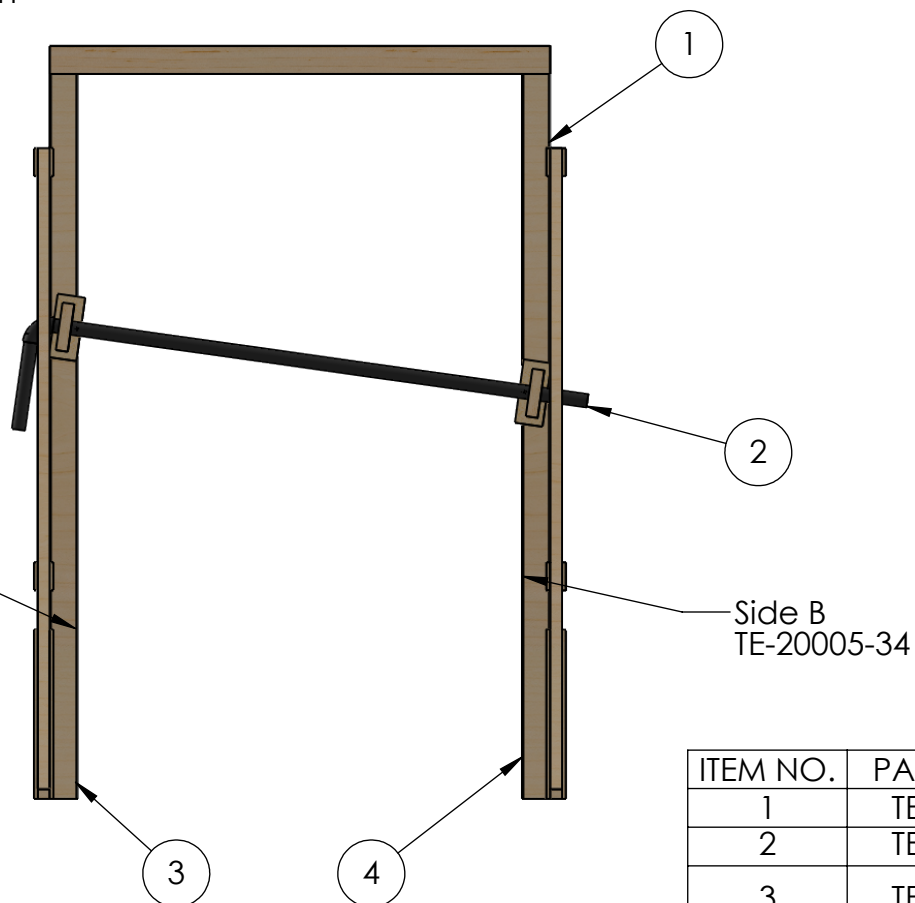
SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:30 WEIGHT: SHEET 21 OF 25

2

1

Level Range, Min



Note:

1. TE-20005-33 contains 1x TE-20005-09 & 1x TE-20005-22
2. TE-20005-34 contains 1x TE-20005-09 & 1x TE-20005-22

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-21	Basic Frame	1
2	TE-20005-23	Pipe Assembly	1
3	TE-20005-33	Vertical Leg, Level Range, Min, Side A	1
4	TE-20005-34	Vertical Leg, Level Range, Min, Side B	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:		



TITLE:

Generator Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT: SHEET 22 OF 25

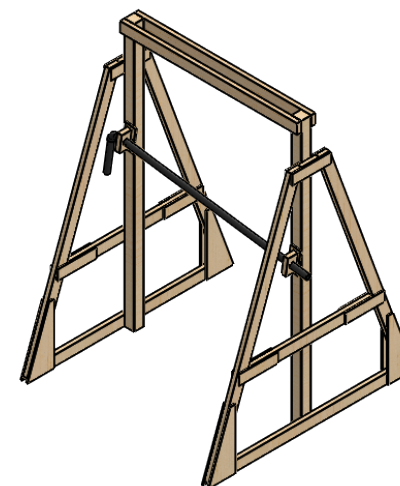
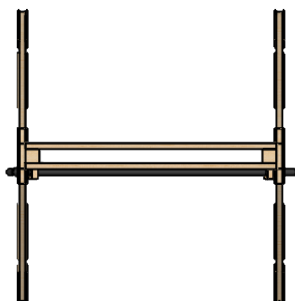
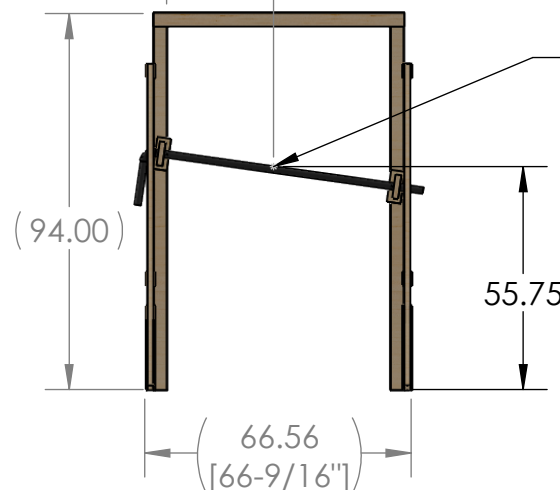
2

1

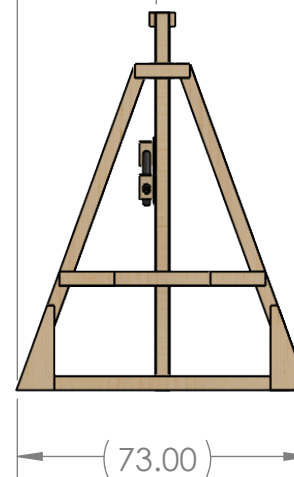
2

1

Level Range, Min


 $\left(\frac{26.75}{[26-3/4"]} \right)$
 $\left(\frac{31.50}{[31-1/2"]} \right)$


Approximate
location of lowest
point of Level RUNG.



B

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:		


**FIRST
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COMPETITION**
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TITLE:

Generator Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:48	WEIGHT:	SHEET 23 OF 25
-------------	---------	----------------

2

1

2

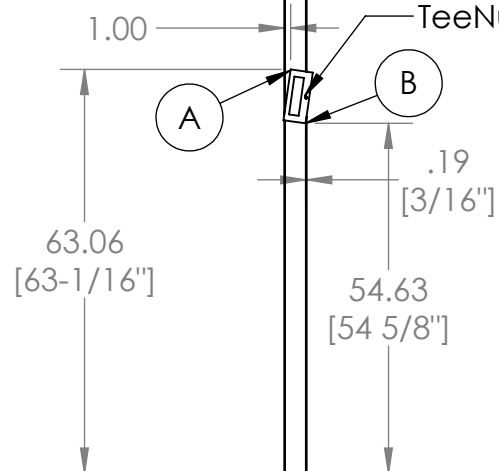
Level Range, Min

TE-20005-33

TE-20005-09

TE-20005-22

TeeNut on back side



Notes:

1. Locate (A) and (B) .
2. Align corners of TE-20005-22 with (A) and (B) .
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

1

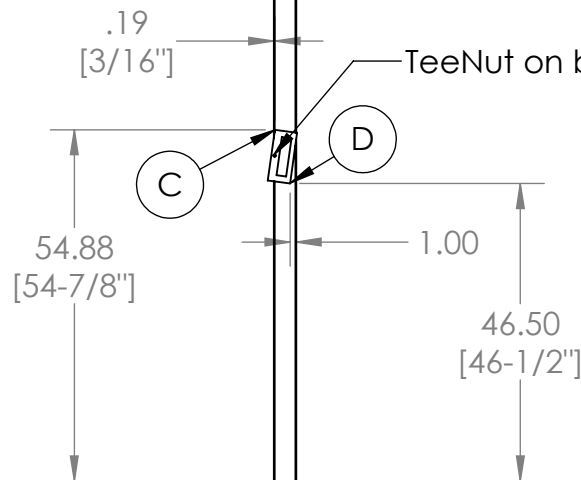
Level Range, Min

TE-20005-34

TE-20005-09

TE-20005-22

TeeNut on back side



Notes:

1. Locate (C) and (D) .
2. Align corners of TE-20005-22 with (C) and (D) .
3. Attach TE-20005-22 to TE-20005-09 as shown using 2.5" screws. Predrill as needed.

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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:



TITLE:

Generator Switch Modified

SIZE

DWG. NO.

REV

A

TE-20005

A

SCALE: 1:30 WEIGHT:

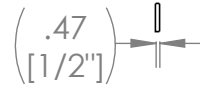
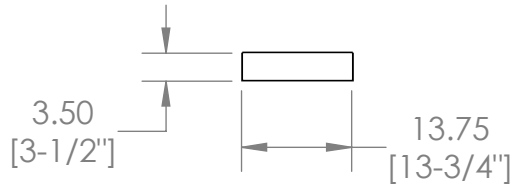
SHEET 24 OF 25

2

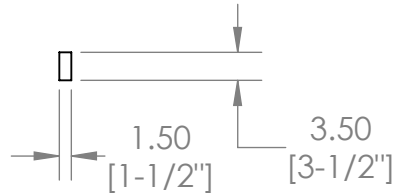
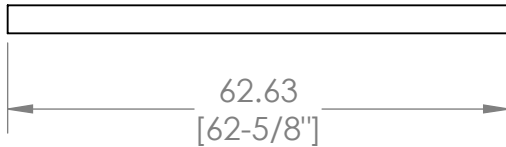
1

B

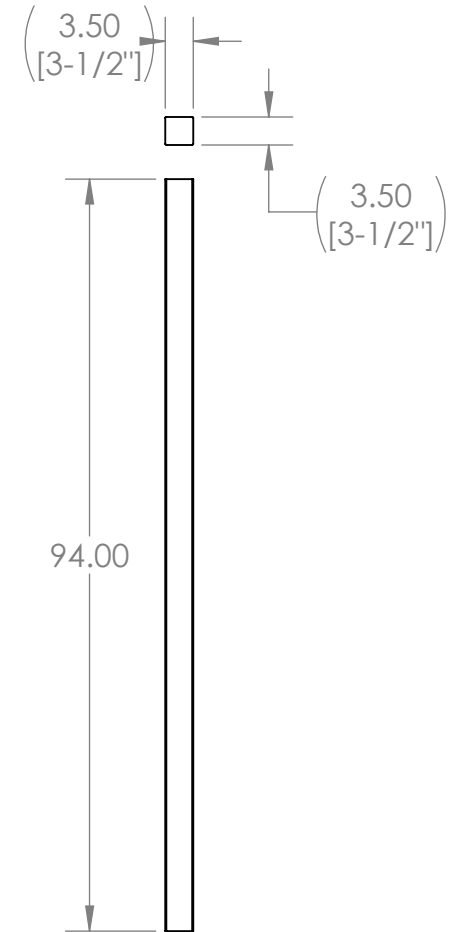
Basic Frame

TE-20005-02:
QTY: 2Notes:
Material: 1/2" Plywood

Basic Frame

TE-20005-10:
QTY: 2Notes:
Material: 2" x4" Pine Lumber

1

TE-20005-09:
QTY: 2Notes:
Material: 4" x4" Pine Lumber

B

A

A

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



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Modeling Solutions Partner

TITLE:

Generator
Switch Modified

SIZE	DWG. NO.	REV
A	TE-20005	A

SCALE: 1:24 WEIGHT:

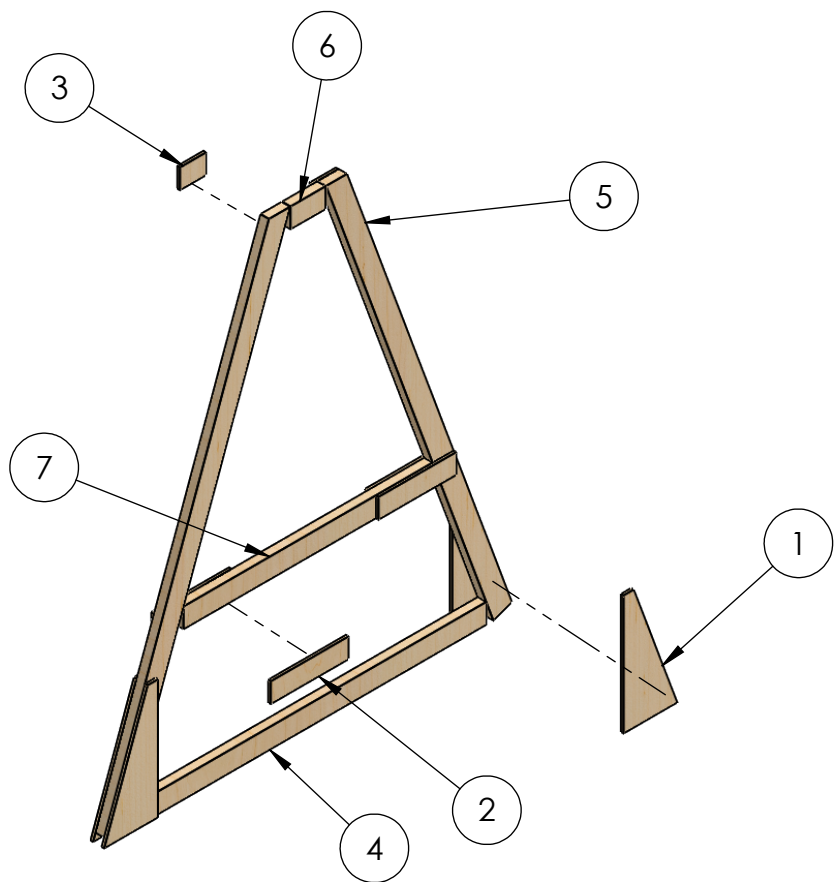
SHEET 25 OF 25

2

1

B

B



Notes:
1. Instructions and quantities shown are for 1 assembly. 2 assemblies total are needed.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-01	Bottom Gusset	4
2	TE-20005-02	Top Support, Full	4
3	TE-20005-03	Top Support, Half	2
4	TE-20005-05	Bottom	1
5	TE-20005-06	Side Leg	2
6	TE-20005-07	Top	1
7	TE-20005-14	Horizontal Support	1

A

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



TITLE:

A Frame Assembly

SIZE	DWG. NO.	REV
A	TE-20005-20	

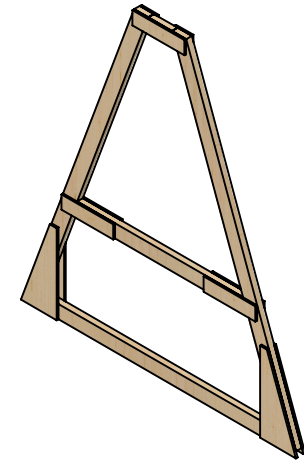
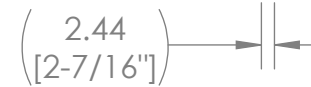
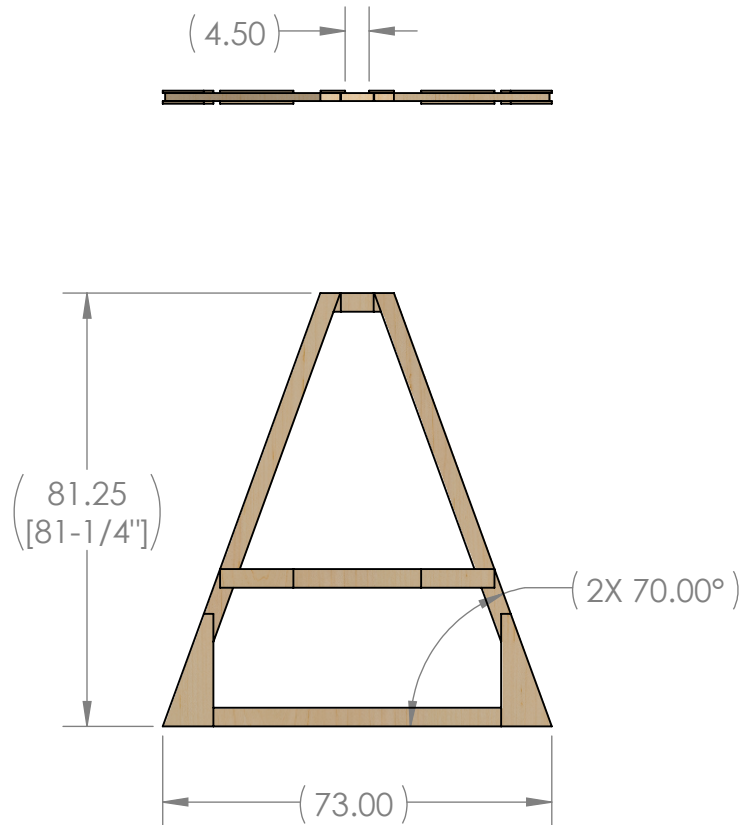
SCALE: 1:24	WEIGHT:	SHEET 1 OF 10
-------------	---------	---------------

2

1

B

B



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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TITLE:

A Frame
Assembly

SIZE	DWG. NO.	REV
A	TE-20005-20	
SCALE: 1:36		WEIGHT:
		SHEET 2 OF 10

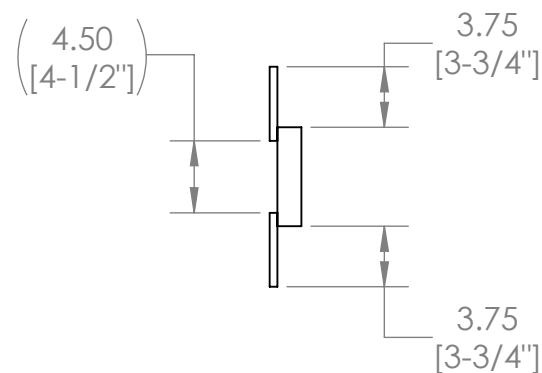
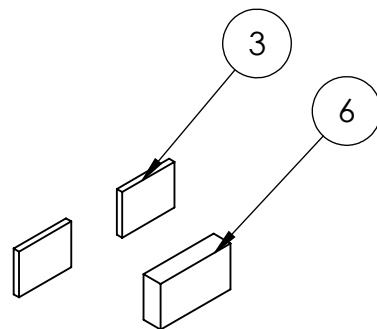
2

1

2

1

Step 1:



Notes:

1. Attach (3) and (3) to (6) as shown. Use 1.5" screws. Predrill as needed.

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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:		



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TITLE:

A Frame
Assembly

SIZE	DWG. NO.	REV
A	TE-20005-20	
SCALE: 1:12		WEIGHT:
		SHEET 3 OF 10

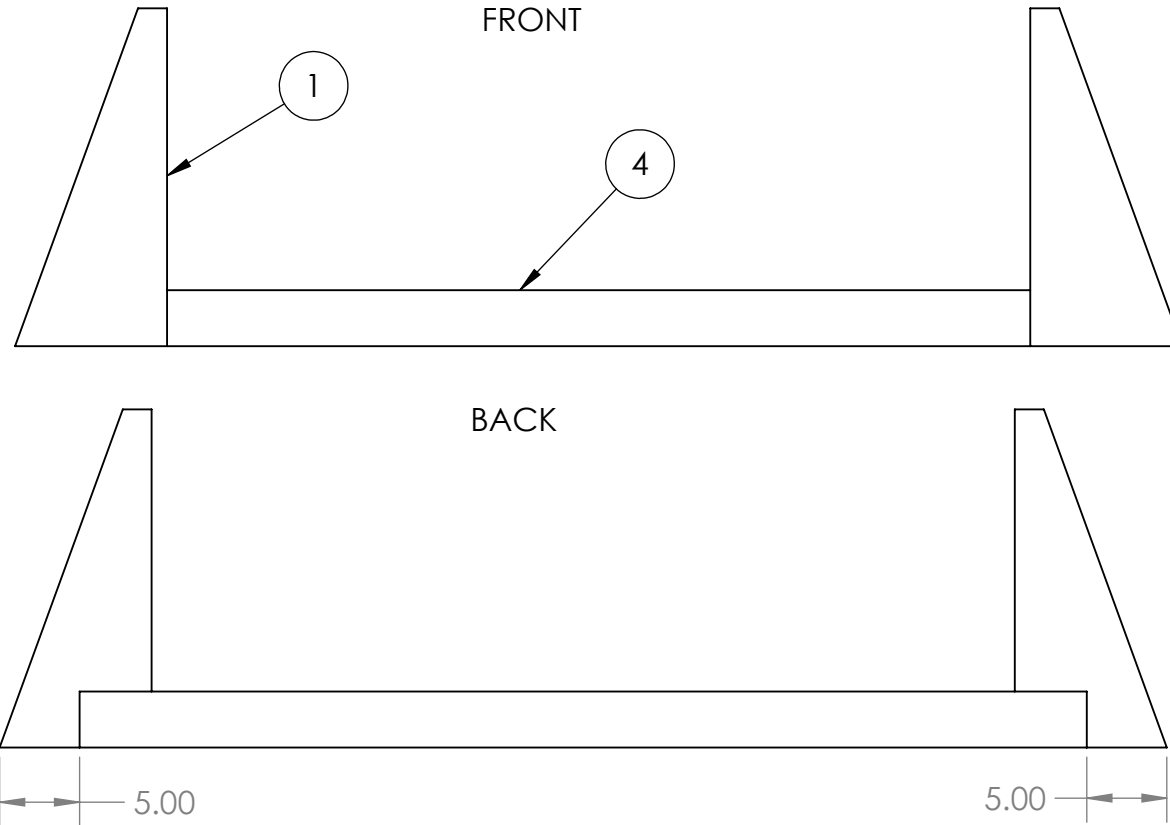
2

1

2

1

Step 2:



Notes:

1. Attach ① to ④ as shown. Use 1.5" screws. Pre-drill as needed.
2. Repeat.

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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:		



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TITLE:

A Frame
Assembly

SIZE	DWG. NO.	REV
A	TE-20005-20	
SCALE: 1:12		WEIGHT:
		SHEET 4 OF 10

2

1

2

1

Step 3:

FRONT



BACK



Notes:

1. Flip over and repeat **Step 2**.

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NEXT ASSY

USED ON

APPLICATION

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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

FINISH

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:


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COMPETITION

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TITLE:

A Frame Assembly

SIZE

DWG. NO.

REV

A TE-20005-20

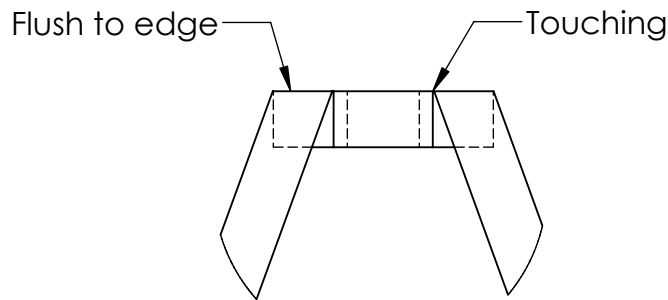
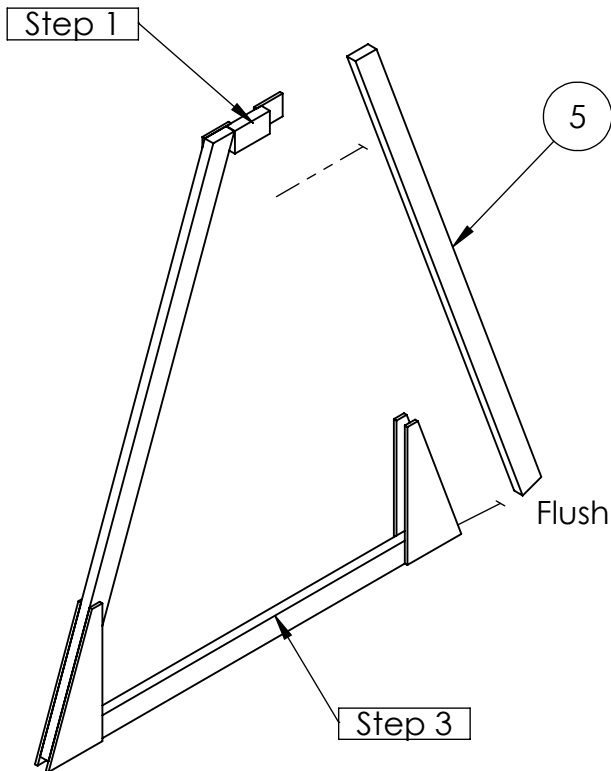
SCALE: 1:12 WEIGHT:

SHEET 5 OF 10

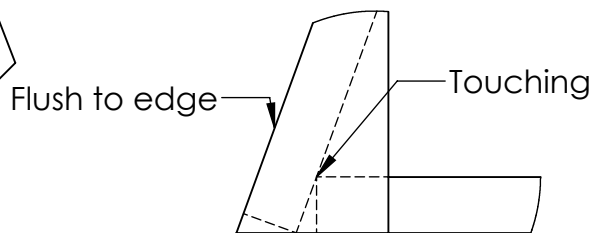
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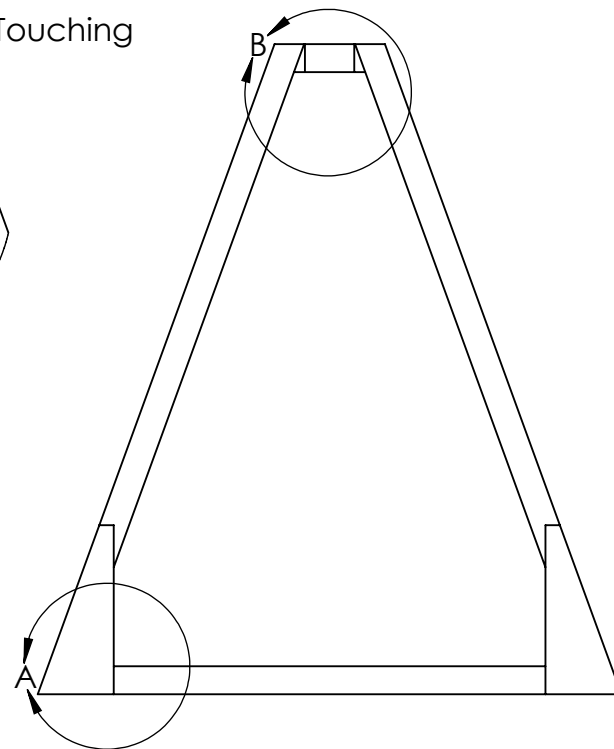
Step 4:



DETAIL B
SCALE 1 : 12



DETAIL A
SCALE 1 : 12



Notes:

1. Slide (5) into Step 1 and Step 3 as shown. Use 1.5" screws to attach. Predrill as needed.
2. Repeat.
3. As needed, flip over to attach with 1.5" screws to back side.

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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:		

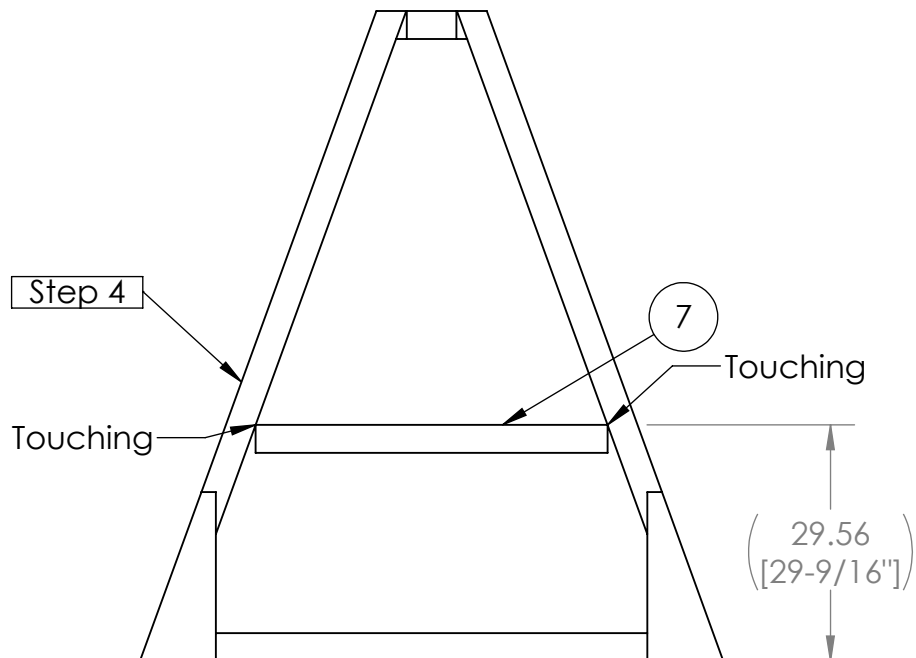


TITLE:		
A Frame Assembly		
SIZE	DWG. NO.	REV
A	TE-20005-20	
SCALE: 1:24		WEIGHT:
		SHEET 6 OF 10

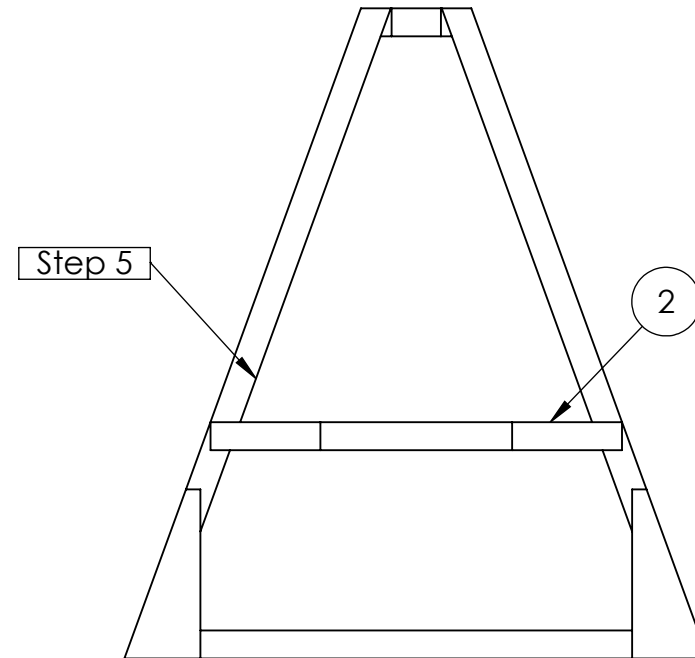
2

1

Step 5:



Step 6:



Notes:

1. Insert (7) into [Step 4] so that its corners touch [Step 4] .

Notes:

1. Attach (2) to [Step 5] using 1.5" Screws. Predrill as needed.

A

A

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		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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TITLE:

A Frame
Assembly

SIZE DWG. NO. REV
A TE-20005-20

SCALE: 1:24 WEIGHT: SHEET 7 OF 10

2

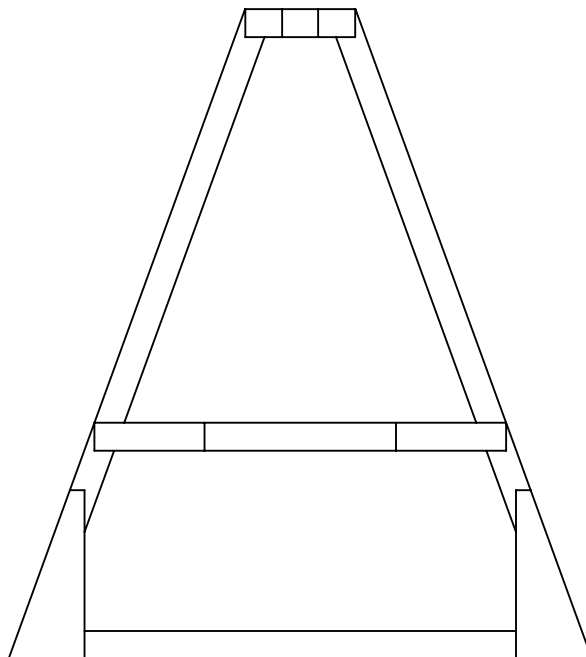
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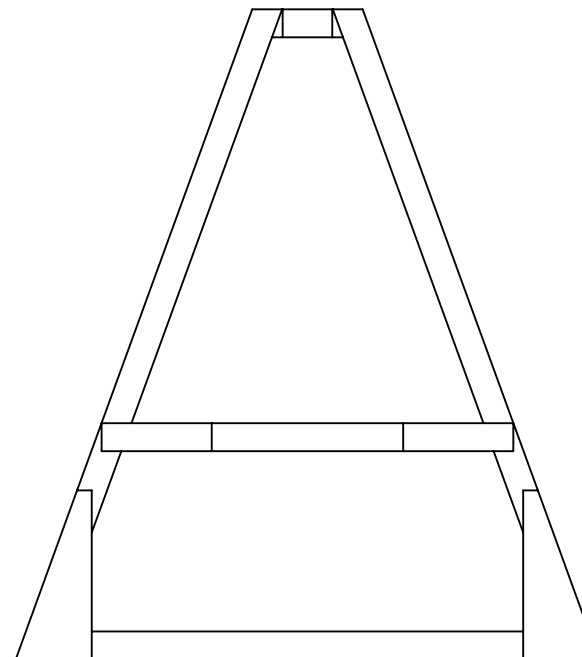
1

Step 7:

FRONT



BACK



Notes:

1. Flip over and repeat **Step 6**.

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		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
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TITLE:

A Frame
Assembly

SIZE	DWG. NO.	REV
A	TE-20005-20	
SCALE: 1:24		WEIGHT:
		SHEET 8 OF 10

2

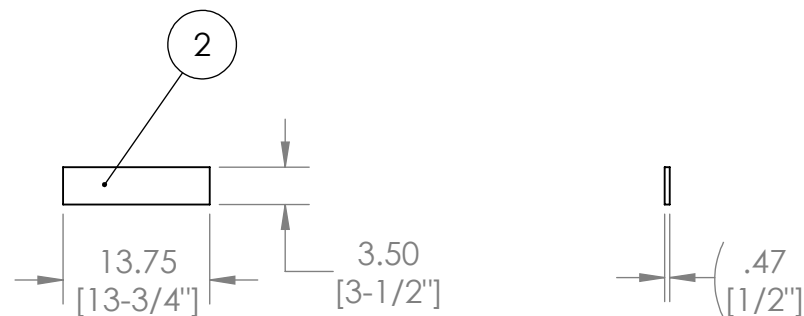
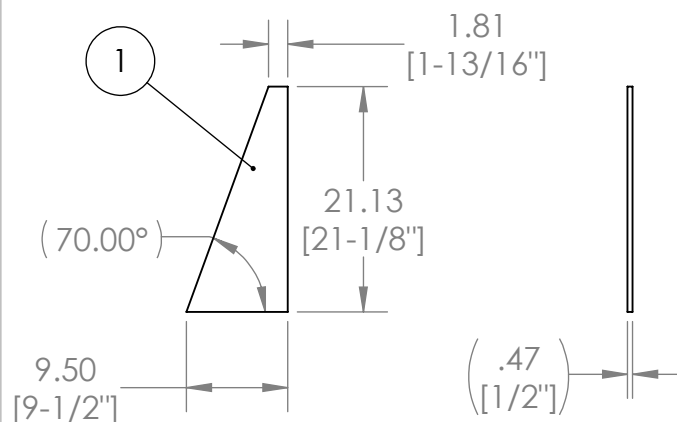
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2

1

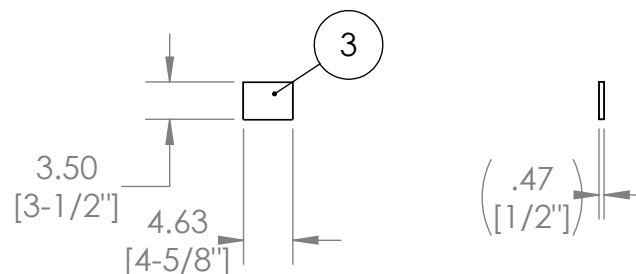
TE-20005-01:
QTY: 4

TE-20005-02:
QTY: 4



Notes:
Material: 1/2" Plywood

TE-20005-03:
QTY: 2



Notes:
Material: 1/2" Plywood

Notes:
Material: 1/2" Plywood

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

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



TITLE:

A Frame
Assembly

SIZE	DWG. NO.	REV
A	TE-20005-20	
SCALE: 1:18		WEIGHT:
		SHEET 9 OF 10

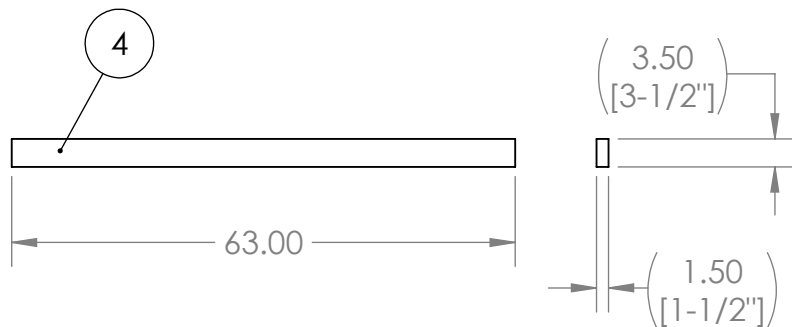
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1

2

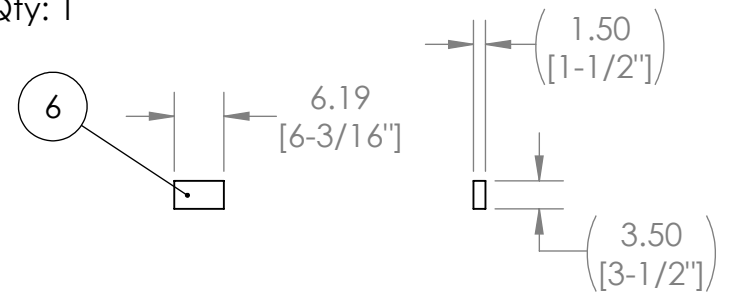
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TE-20005-05:
Qty: 1



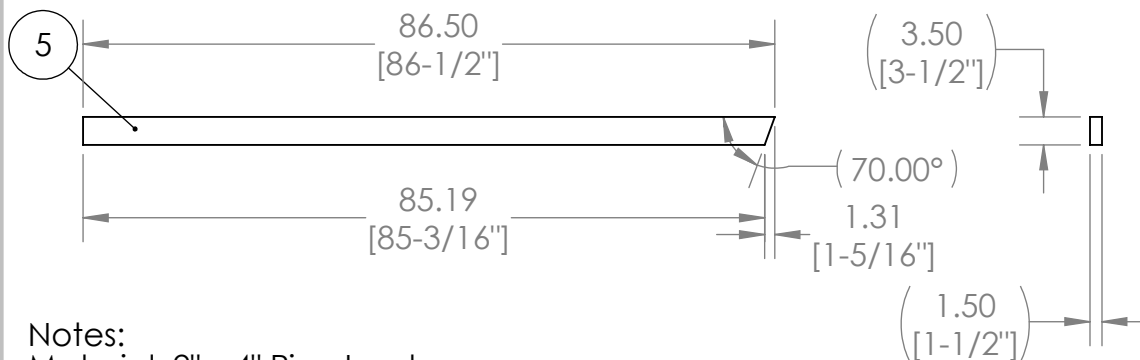
Notes:
Material: 2" x 4" Pine Lumber

TE-20005-07:
Qty: 1



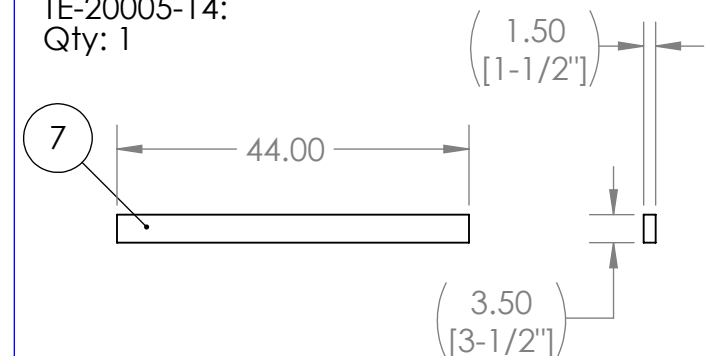
Notes:
Material: 2" x 4" Pine Lumber

TE-20005-06:
Qty: 2



Notes:
Material: 2" x 4" Pine Lumber

TE-20005-14:
Qty: 1



Notes:
Material: 2" x 4" Pine Lumber

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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	
FINISH	
NEXT ASSY	USED ON
APPLICATION	
DO NOT SCALE DRAWING	

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



TITLE:

**A Frame
Assembly**

SIZE DWG. NO. REV
A TE-20005-20

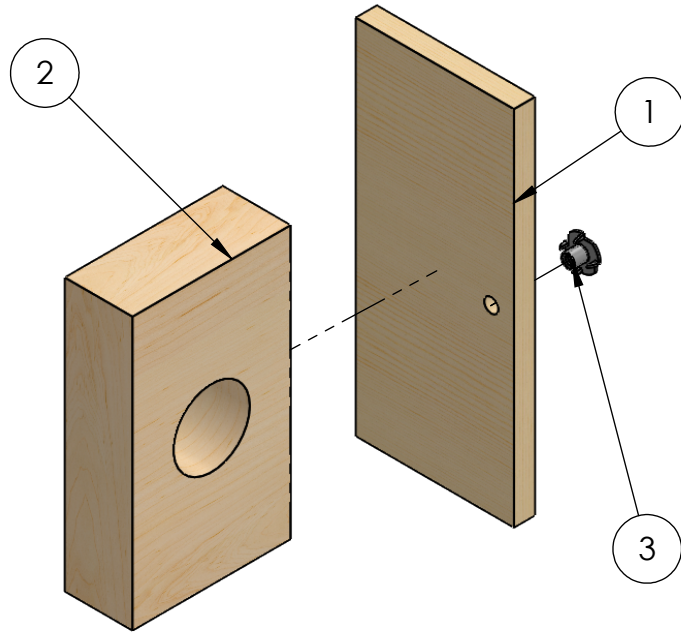
SCALE: 1:24 WEIGHT: SHEET 10 OF 10

2

1

B

A



Notes:

1. Instructions and quantities shown are for 1 assembly. Up to 10 assemblies total are needed.

ITEM NO.	PART NUMBER	DESCRIPTION	
1	TE-20005-04	Mount	1
2	TE-20005-08	Pole Holder	1
3	TeeNut_.25_20	Soft wood fiber tee nut	1

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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:		



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TITLE:

Pole Holder Assembly

SIZE	DWG. NO.	REV
A	TE-20005-22	
SCALE: 1:3	WEIGHT:	SHEET 1 OF 4

2

1

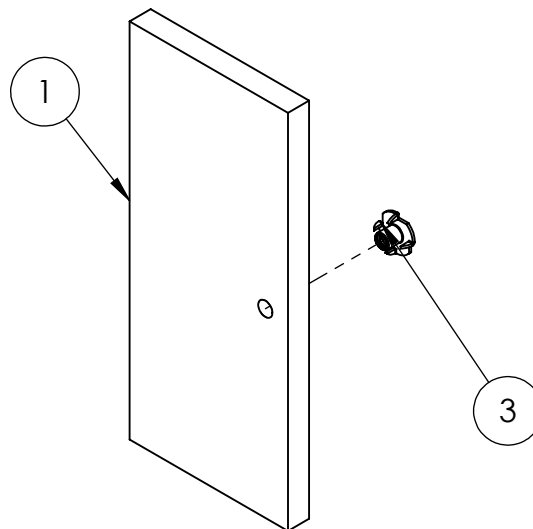
B

A

2

1



Step 1:



Notes:

1. Insert (3) into (1) using a mallet or hammer as needed.

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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>Pole Holder Assembly</h1>		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
			Q.A.					
		INTERPRET GEOMETRIC TOLERANCING PER:	COMMENTS:			SIZE DWG. NO. REV A TE-20005-22		
		MATERIAL						
NEXT ASSY	USED ON	FINISH				SCALE: 1:3 WEIGHT: SHEET 2 OF 4		
APPLICATION		DO NOT SCALE DRAWING						

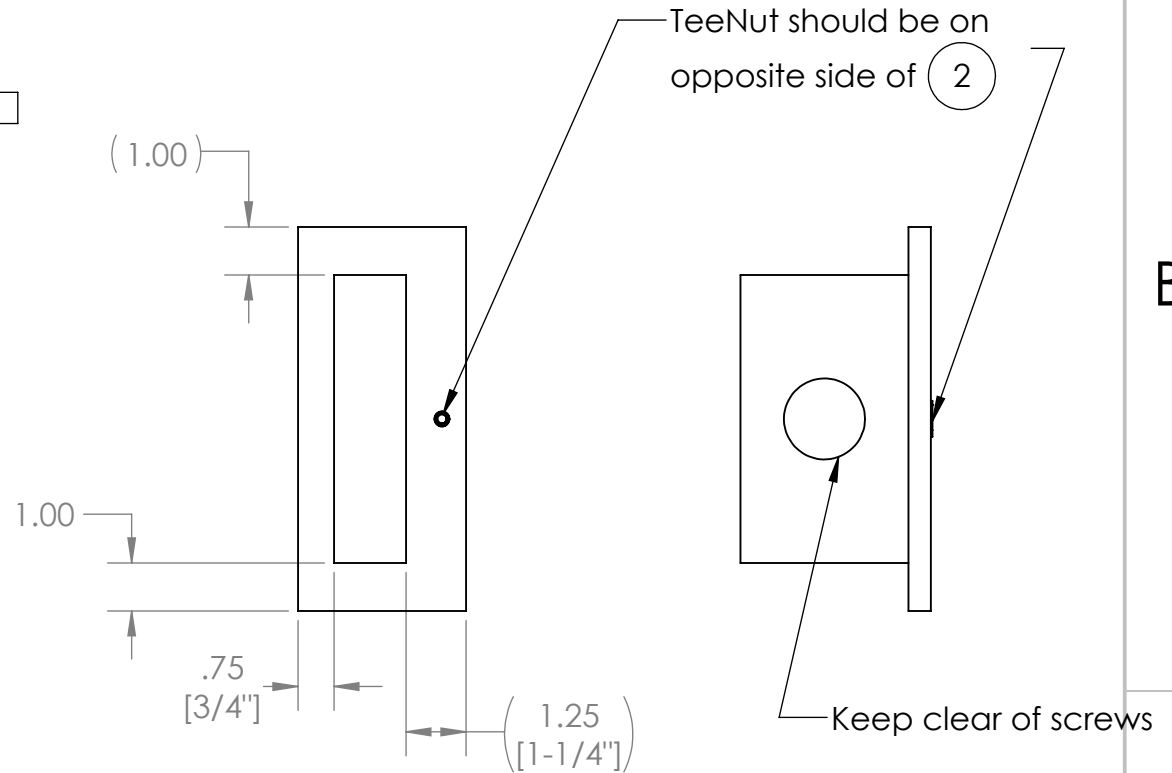
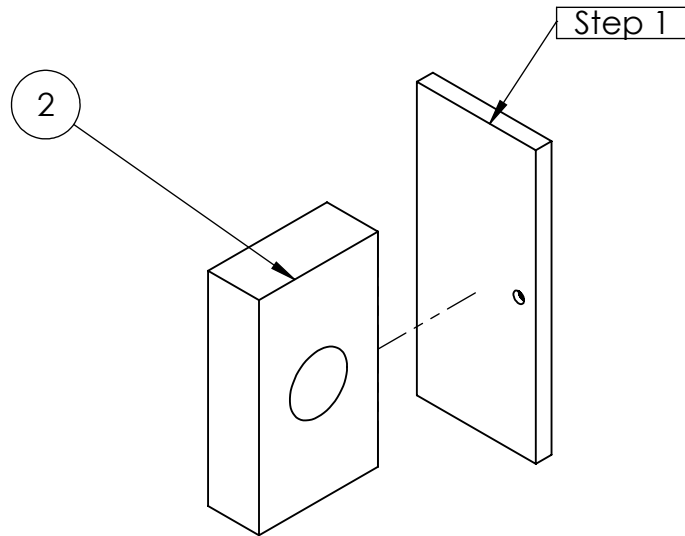
2

1

2

1

Step 2:



Notes:

1. Attach (2) to Step 1 as shown, using 1.5" and/or 2.5" Screws. Pre-drill as needed.

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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:		



TITLE:

Pole Holder Assembly

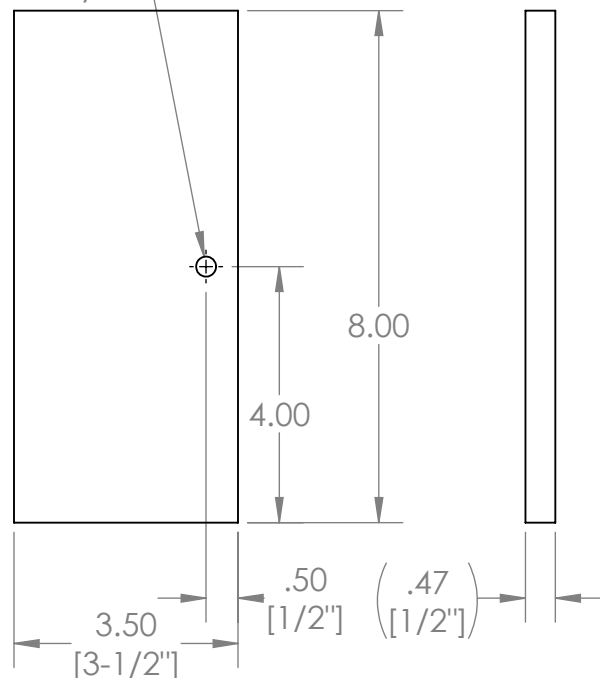
SIZE	DWG. NO.	REV
A	TE-20005-22	
SCALE: 1:4	WEIGHT:	SHEET 3 OF 4

2

1

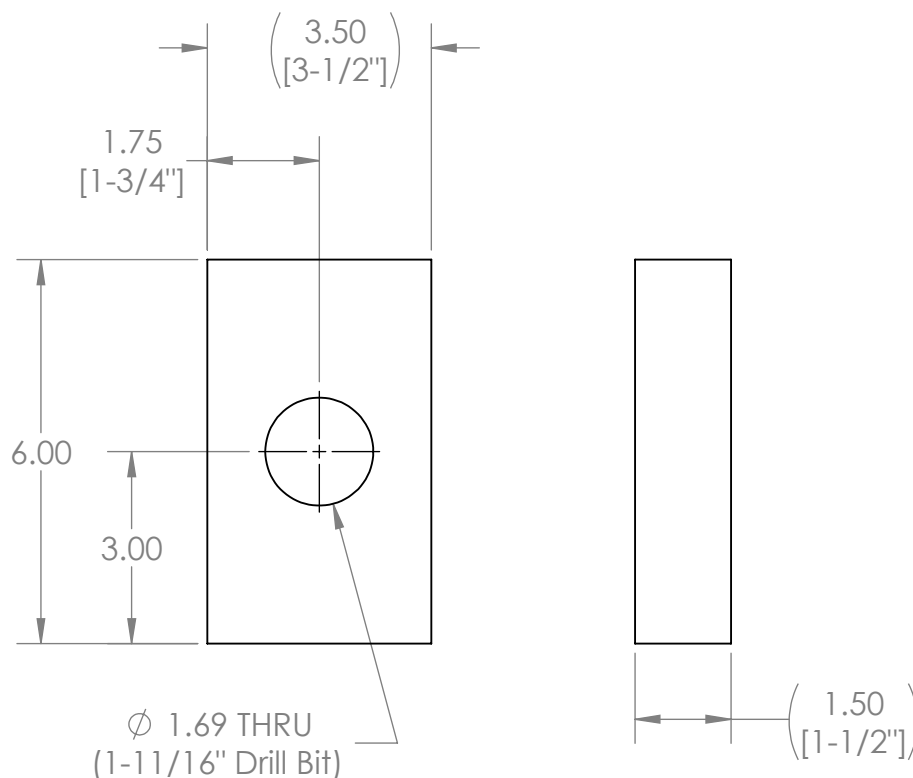
TE-20005-04:
Qty: 1

ϕ .31 THRU
(5/16" Drill Bit)



Note:
Material: 1/2" Plywood

TE-20005-08:
Qty: 1



Note:
Material: 2" x 4" Pine Lumber

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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		



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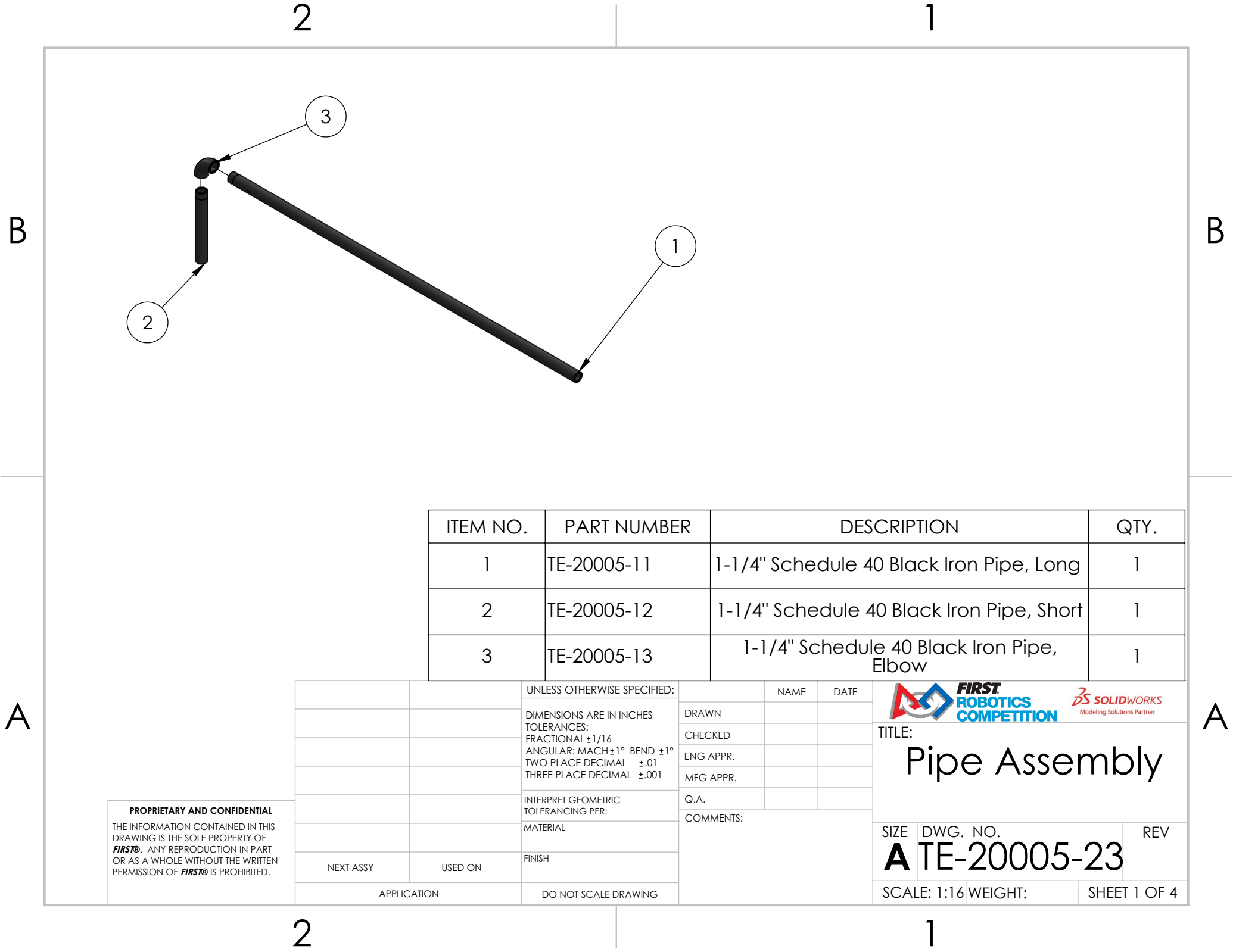
TITLE:

**Pole Holder
Assembly**

SIZE	DWG. NO.	REV
A	TE-20005-22	
SCALE: 1:3	WEIGHT:	SHEET 4 OF 4

2

1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	TE-20005-11	1-1/4" Schedule 40 Black Iron Pipe, Long	1
2	TE-20005-12	1-1/4" Schedule 40 Black Iron Pipe, Short	1
3	TE-20005-13	1-1/4" Schedule 40 Black Iron Pipe, Elbow	1

A

A

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

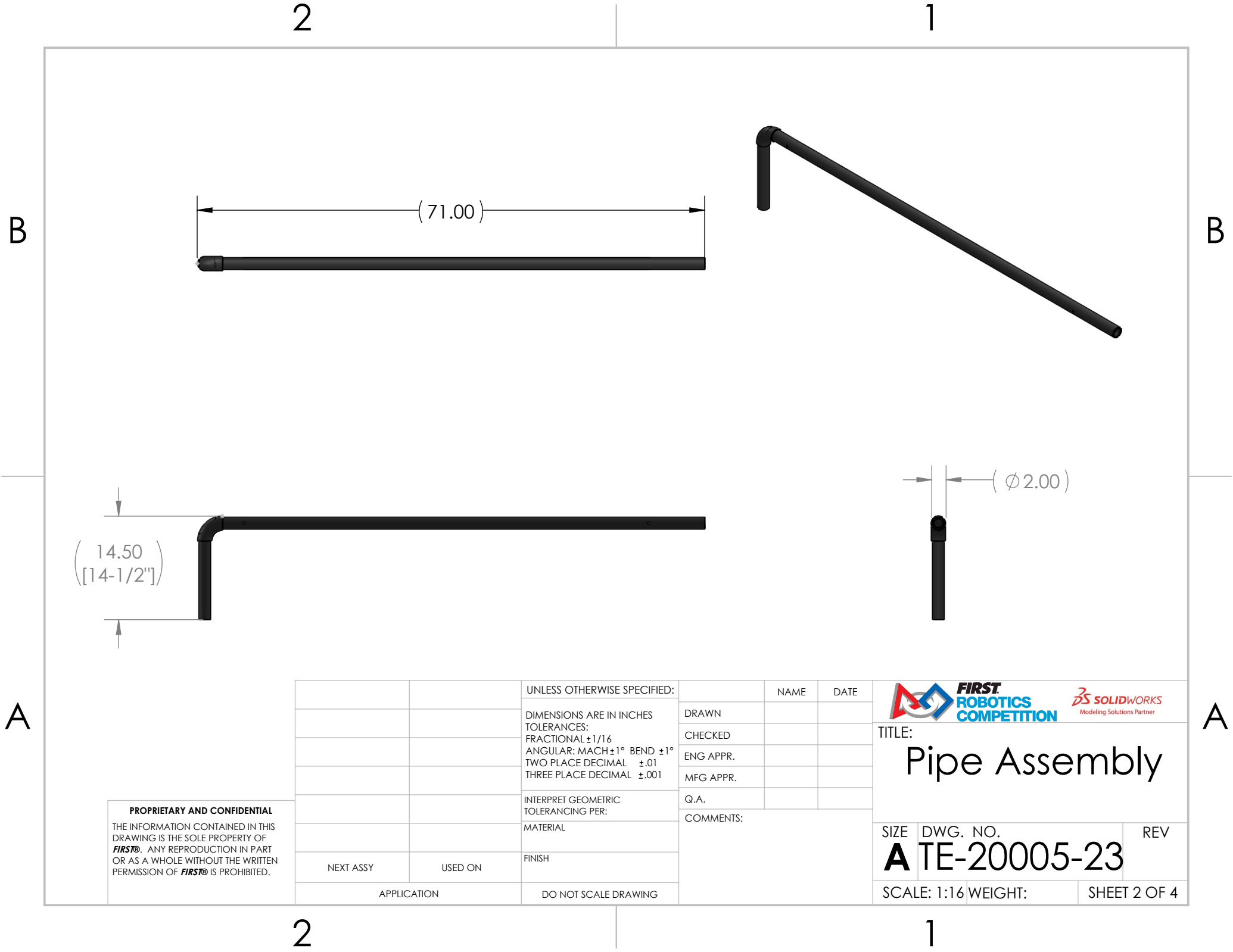


TITLE:
Pipe Assembly

SIZE	DWG. NO.	REV
A	TE-20005-23	
SCALE: 1:16	WEIGHT:	SHEET 1 OF 4

2

1



A

A

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



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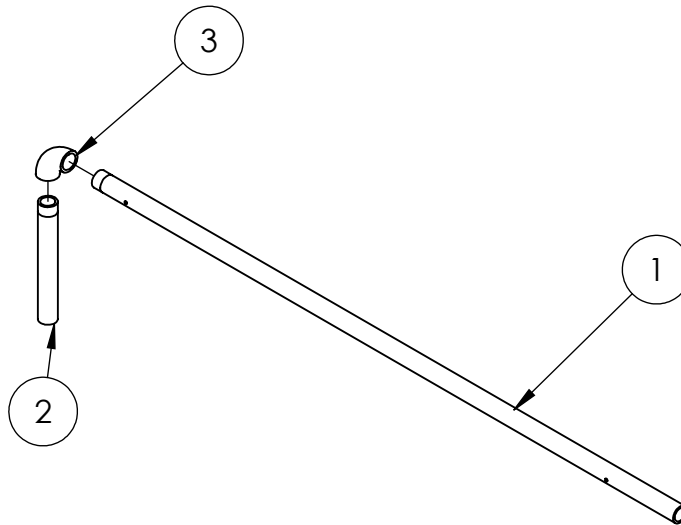
TITLE:
Pipe Assembly

SIZE	DWG. NO.	REV
A	TE-20005-23	
SCALE: 1:16	WEIGHT:	SHEET 2 OF 4

2

1

Step 1:



Notes:

1. Thread (1) and (2) into (3) .
2. Holes on (1) should be perpendicular to (2) .

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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:		



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TITLE:

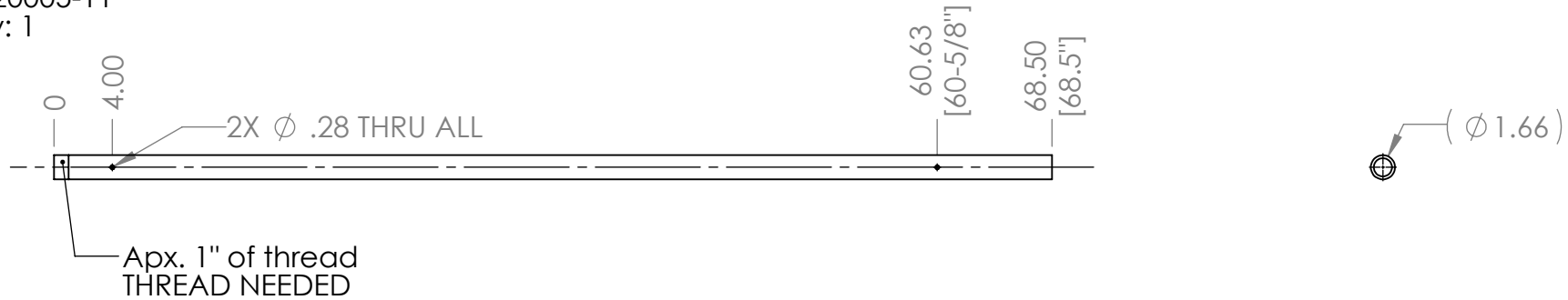
Pipe Assembly

SIZE	DWG. NO.	REV
A	TE-20005-23	
SCALE: 1:16		WEIGHT:
		SHEET 3 OF 4

2

1

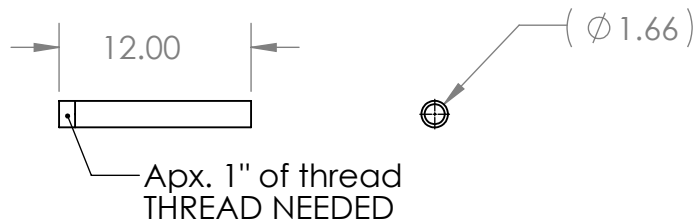
TE-20005-11
Qty: 1



Note:

1. Material: 1-1/4" Black Iron Pipe (Schedule 40 Black Iron Pipe)
2. One 10' pipe can be cut and used for TE-20005-11 and TE-20005-12. Threaded ends are needed for both parts.

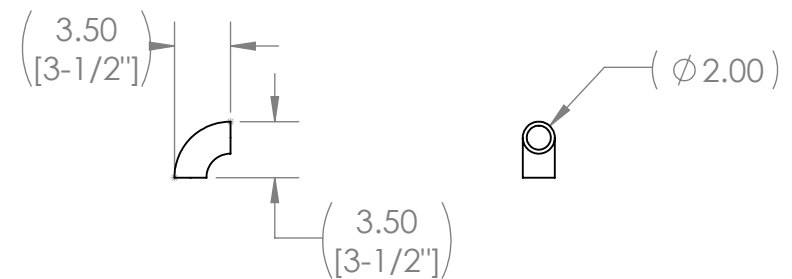
TE-20005-12
Qty: 1



Note:

1. Material: 1-1/4" Black Iron Pipe (Schedule 40 Black Iron Pipe)
2. One 10' pipe can be cut and used for TE-20005-11 and TE-20005-12. Threaded ends are needed for both parts.

TE-20005-13
Qty: 1



Note:

1. Material: 1-1/4" Black Iron 90deg. Elbow, FPT x FPT
2. Home Depot PN (Store SKU): 564264

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NEXT ASSY

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APPLICATION

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

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Pipe Assembly

SIZE

DWG. NO.

REV

A TE-20005-23

SCALE: 1:12 WEIGHT:

SHEET 4 OF 4

2

1