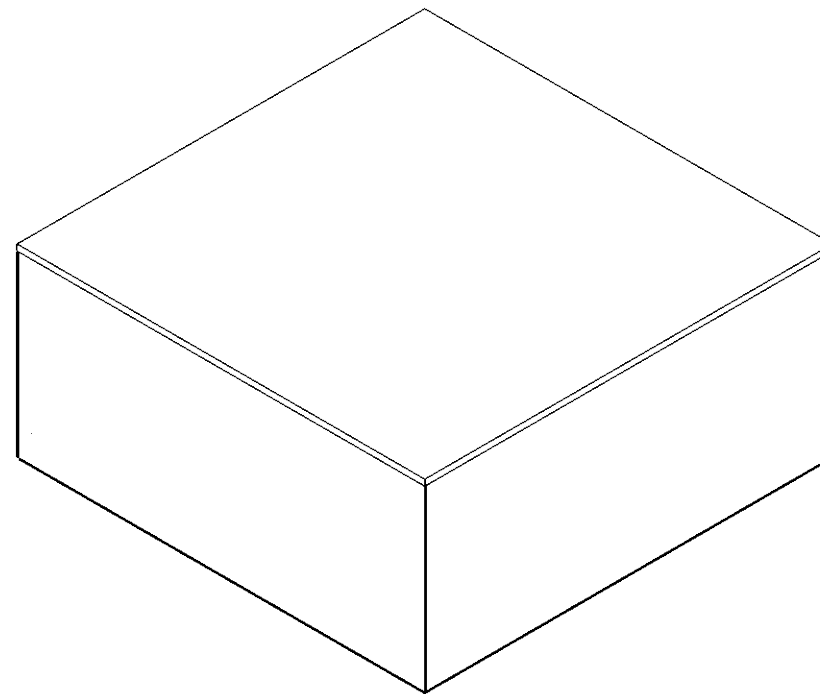


2

1

ITEM NO.	PART NUMBER	QTY.
1	TE-19102-01	4
2	TE-19102-02	5
3	TE-19102-03	8
4	TE-19102-04	1
5	TE-19102-05	3
6	TE-19102-06	4



Material	QTY
23/32" (3/4") A/C or CDX Plywood	0.5 sheet
1/8" Hardboard	0.75 sheet
2"x 4"x 8'	8
1.25" wood screws	~40
2.5" wood screws	~60

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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:

2"x 4" Hab lvl 3

SIZE	DWG. NO.	REV
A	TE-19102	
SCALE: 1:16		WEIGHT:
SHEET 1 OF 5		

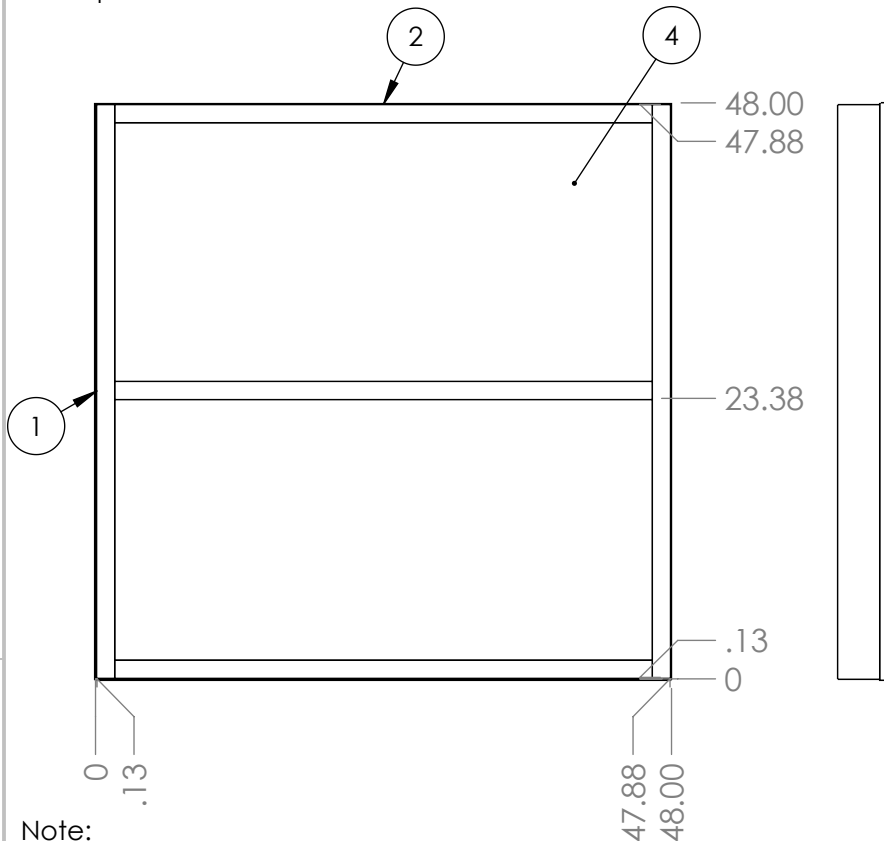
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1

2

1

Step 1:



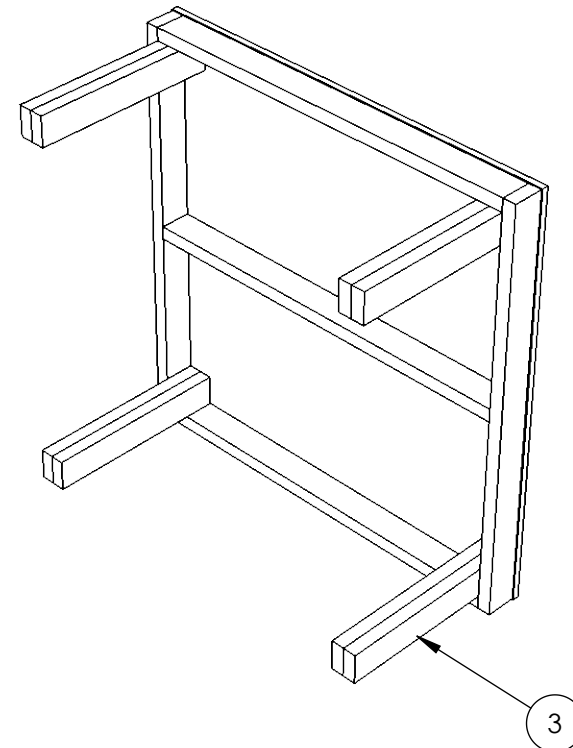
Note:

Attach (1) and (2) with 2.5" screws

Attach (1), (2), and (4) with 1.25" screws

Pre drill if needed

Step 2:



Note:

Assemble Item (3) QTY 2 together with 2.5" screws

Attach with 2.5" screws to rest of assembly

B

A

A

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



**FIRST
ROBOTICS
COMPETITION**



TITLE:

2"x 4" Hab lvl 3

SIZE

A

DWG. NO.

TE-19102

REV

SCALE: 1:16 WEIGHT:

SHEET 2 OF 5

2

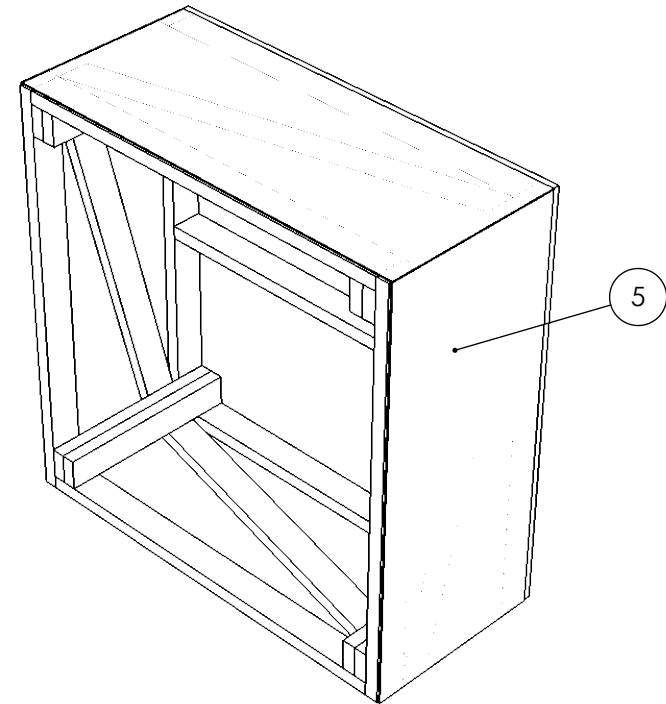
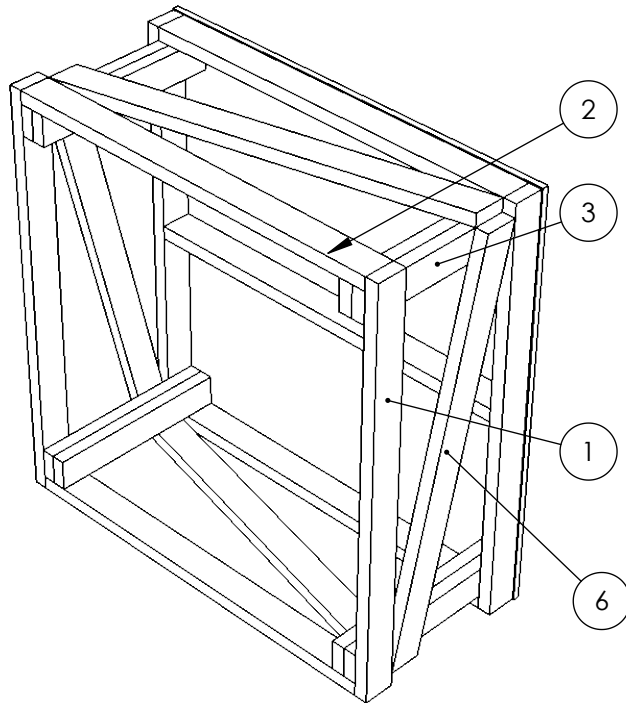
1

2

1

Step 3:

Step 4



Note:

Assemble Item 2 and 1 to the bottom of 3 with 2.5" screws

Assemble Item 6 to assembly using 2.5" screws as shown

Add item 5 sides with 1.25" screws

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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:

2"x 4" Hab Ivl 3

SIZE	DWG. NO.	REV
A	TE-19102	
SCALE: 1:16		WEIGHT:
		SHEET 3 OF 5

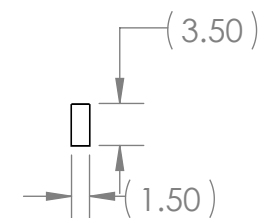
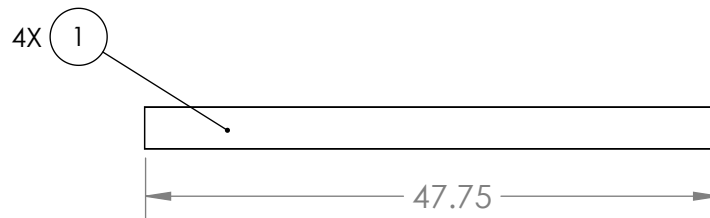
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2

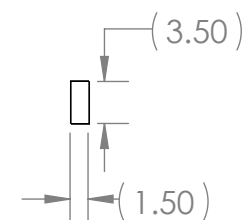
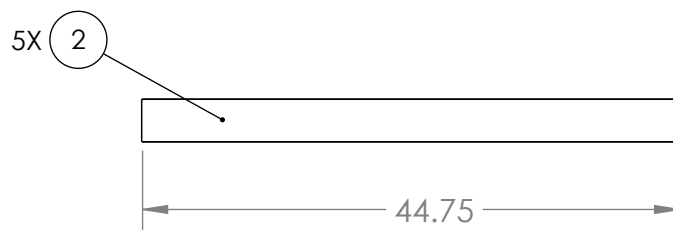
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TE-19102-01



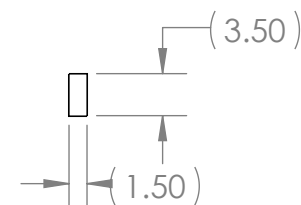
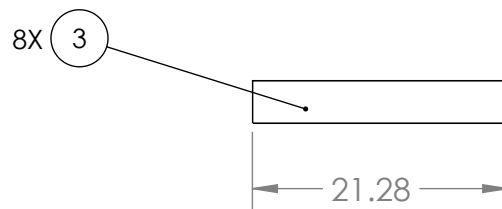
Note:
2 x 4 Pine Lumber

TE-19102-02



Note:
2 x 4 Pine Lumber

TE-19102-03



Note:
2 x 4 Pine Lumber

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

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



FIRST
ROBOTICS
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Modeling Solutions Partner

TITLE:

2"x 4" Hab lvl 3

SIZE	DWG. NO.	REV
A	TE-19102	
SCALE: 1:16		WEIGHT:
SHEET 4 OF 5		

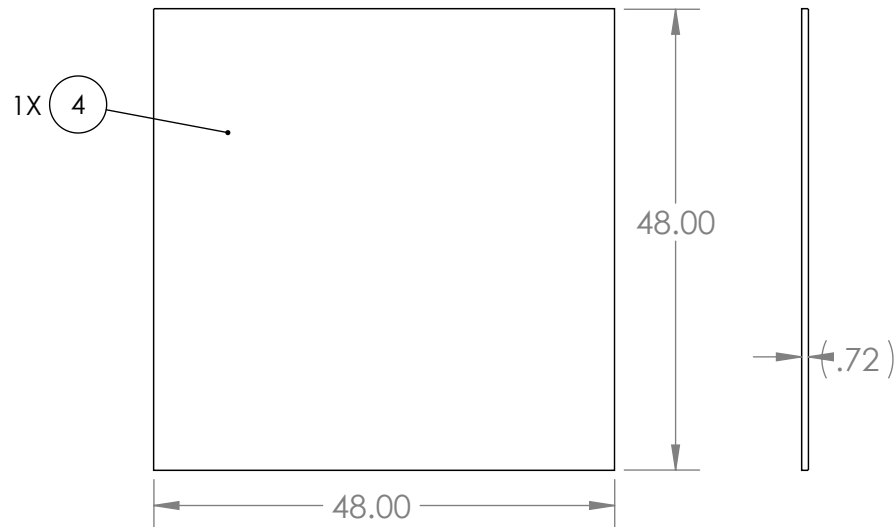
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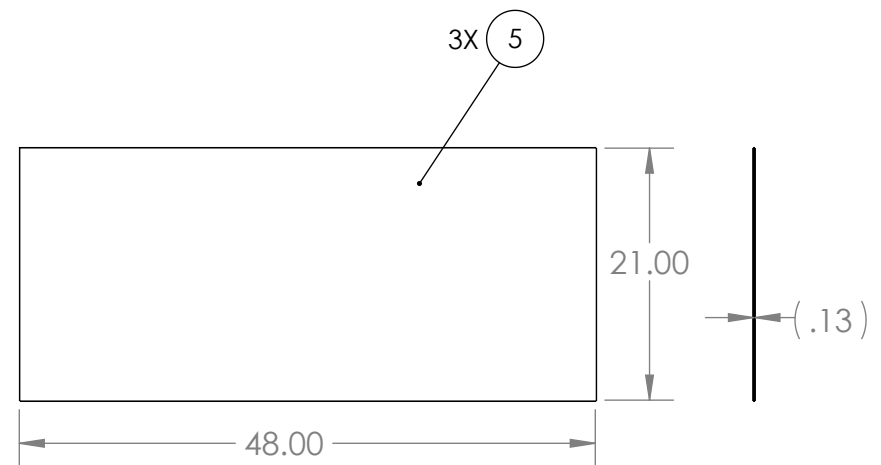
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TE-19102-04



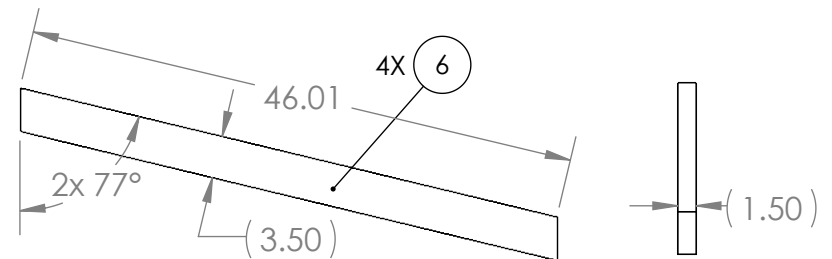
TE-19102-05



Note:
A/C or CDX 23/32" Plywood

Note:
1/8" Hardboard

TE-19102-06



Note:
2"x 4" Lumber Pine

A

A

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

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



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Modeling Solutions Partner

TITLE:

2"x 4" Hab lvl 3

SIZE

A

DWG. NO.

TE-19102

REV

SCALE: 1:16

WEIGHT:

SHEET 5 OF 5

2

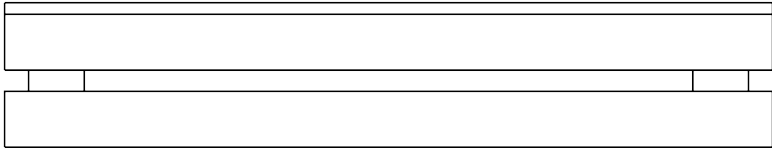
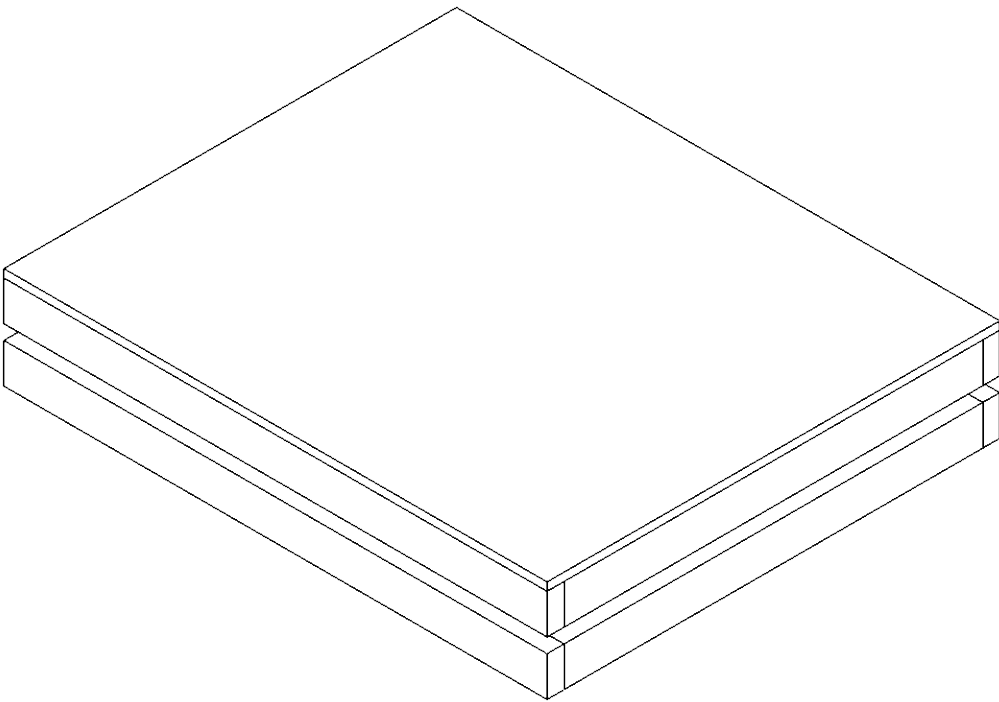
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2

1

ITEM NO.	PART NUMBER	QTY.
1	TE-19103-01	1
2	TE-19103-02	8
3	te-19103-03	4
4	TE-19103-04	5

Material	QTY
23/32" (3/4") A/C or CDX Plywood	0.5 sheet
2"x 4"x 8'	5
1.25" wood screws	~20
2.5" wood screws	~48



Note:
To build the entire Hab, build QTY 2 of the TE-19103

A

A

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

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



TITLE:
2"X4" HAB v1 2

SIZE	DWG. NO.	REV
A	TE-19103	

SCALE: 1:12 WEIGHT: SHEET 1 OF 5

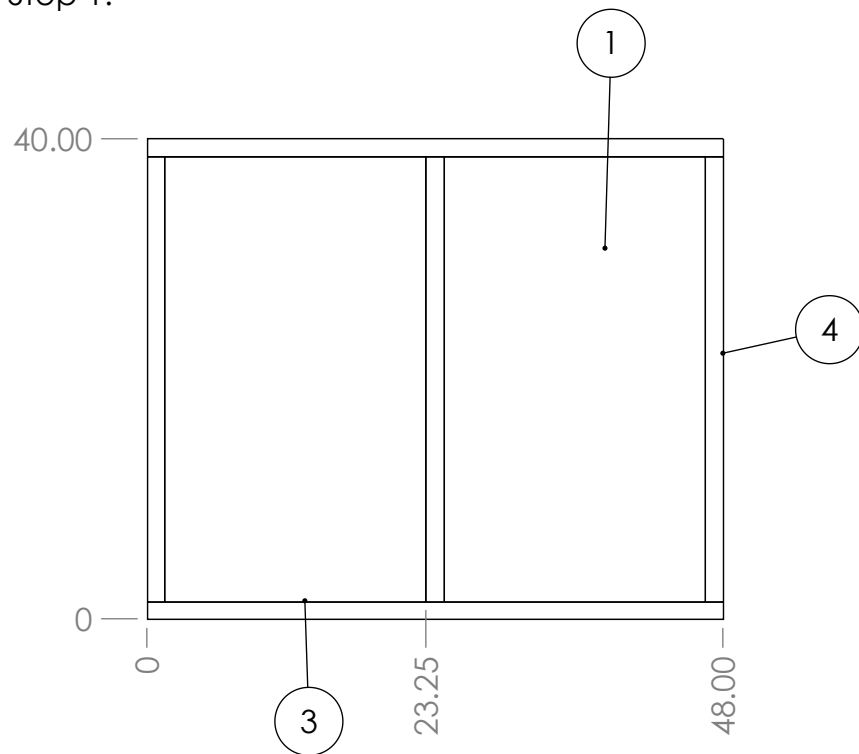
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Step 1:



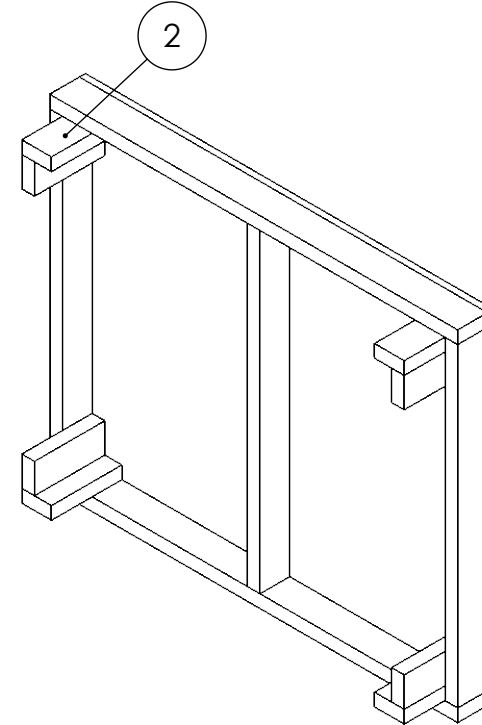
Note:

Attach item (3) and (4) with 2.5" screws

Attach item (1) to assembly with 1.25" screws

Pre drill if needed

Step 2:



Note:

Attach item (2) to assembly with 2.5" screws, as shown

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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:

2"X4" HAB VI 2

SIZE	DWG. NO.	REV
A	TE-19103	
SCALE: 1:12 WEIGHT:		SHEET 2 OF 5

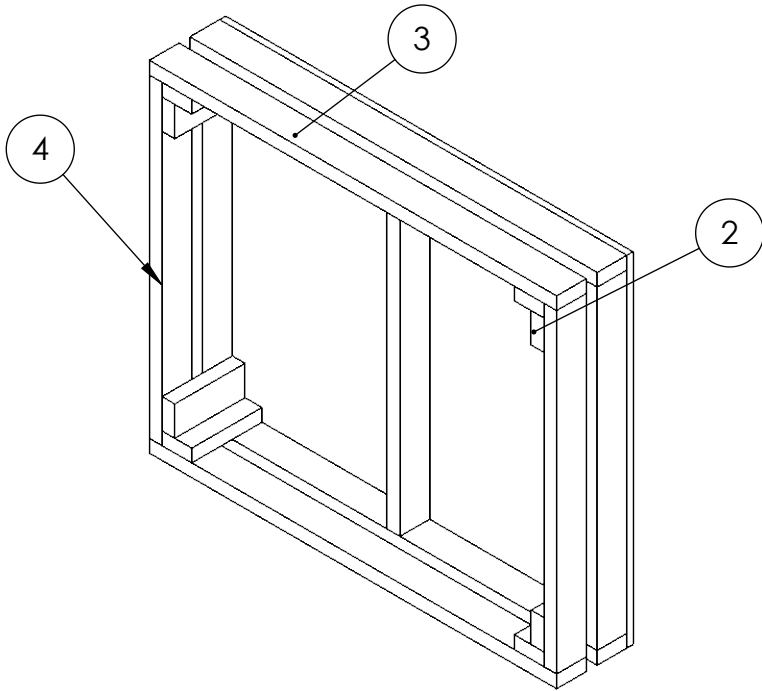
2

1

2

1

Step 3:



Note:

Attach item 4 and 3 to the lower part of item 2 with pre drilled 2.5" screw



A

A

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

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



TITLE:
2"X4" HAB v1 2

SIZE	DWG. NO.	REV
A	TE-19103	
SCALE: 1:12		WEIGHT:
		SHEET 3 OF 5

2

1

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TE-19103-01

1X

1

40.00

48.00

(.72)

Notes:
A/C or CDX plywood 23/32"

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NEXT ASSY

USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED:

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

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



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TITLE:

2"X4" HAB lvl 2

SIZE

A

DWG. NO.

TE-19103

REV

SCALE: 1:12 WEIGHT:

SHEET 4 OF 5

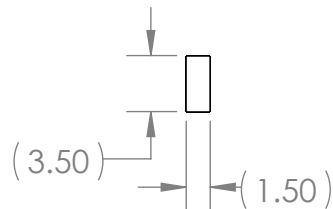
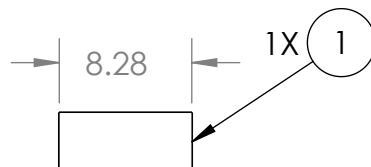
2

1

2

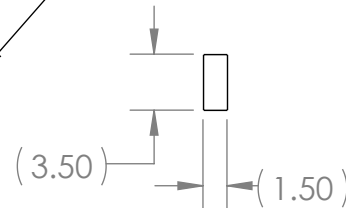
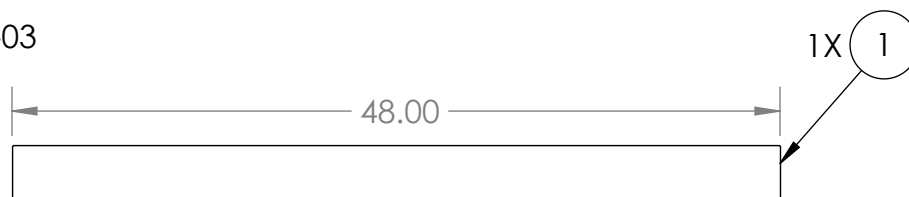
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TE-19103-02



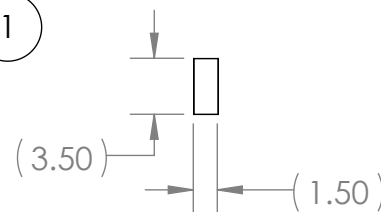
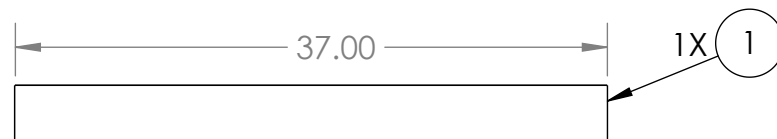
Notes:
2"x 4" Pine

TE-19103-03



Notes:
2"x 4" Pine

TE-19103-04



Notes:
2"x 4" Pine

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		TOLERANCES:
		FRACTIONAL $\pm 1/16$
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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:		



**FIRST
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TITLE:

2"X4" HAB v1 2

SIZE

A

DWG. NO.

TE-19103

REV

SCALE: 1:12 WEIGHT:

SHEET 5 OF 5

2

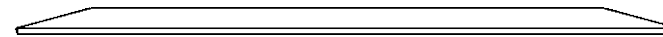
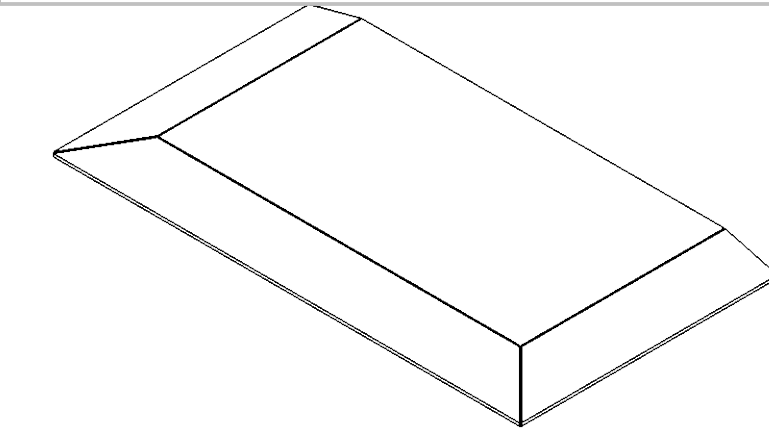
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2

1



ITEM NO.	PART NUMBER	QTY.
1	TE-19105-01	1
2	TE-19105-02	2
3	TE-19105-03	1
4	TE-19105-04	1
5	TE-19105-05	4
6	TE-19105-06	2
7	TE-19105-07	2

Material	QTY
23/32" (3/4") A/C or CDX Plywood	1 sheet
2"x 4"x 8' Lumber Pine	5
1.25" Wood screw	~40
2.5" wood screw	~30



B

A

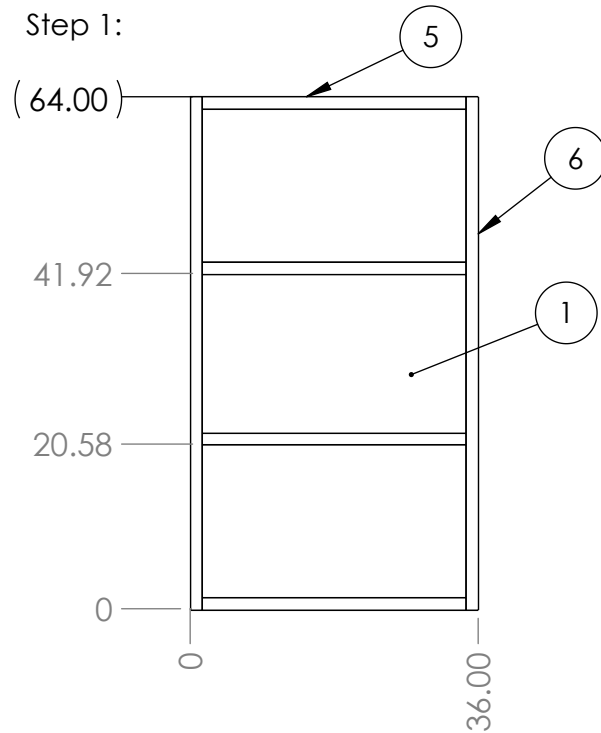
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			DIMENSIONS ARE IN INCHES	DRAWN				TITLE: <h1>Half Hab</h1>
			TOLERANCES:	CHECKED				
			FRACTIONAL $\pm 1/16$	ENG APPR.				
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
			TWO PLACE DECIMAL $\pm .01$	Q.A.			SIZE DWG. NO. REV A TE-19105	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:					
		INTERPRET GEOMETRIC TOLERANCING PER:						
		MATERIAL						
		FINISH						
	NEXT ASSY	USED ON						
	APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:24 WEIGHT: SHEET 1 OF 5	

2

1

B

Step 1:



Note:

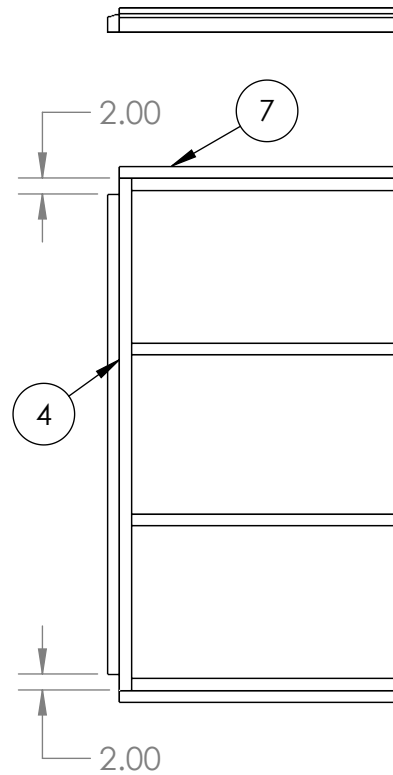
Attach Item 5 and 6 with 2.5" screws

Attach Item 1, 5, and 6 with

1.25" screws

Pre-drill

Step 2:

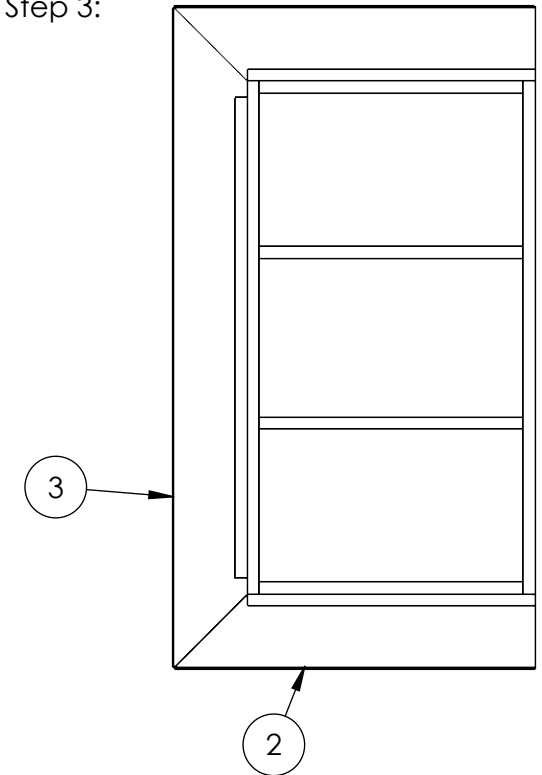


Note:

Attach 4 and 7 to assembly

Pre-drill and use 2.5" screws

Step 3:



Note:

Attach 2 so it is flush to the edge of 7

Attach 3 so it is flush to the edge of 4

Pre-drill and use 1.25" screws

B

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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:

Half Hab

SIZE	DWG. NO.	REV
A	TE-19105	
SCALE: 1:24 WEIGHT:		SHEET 2 OF 5

2

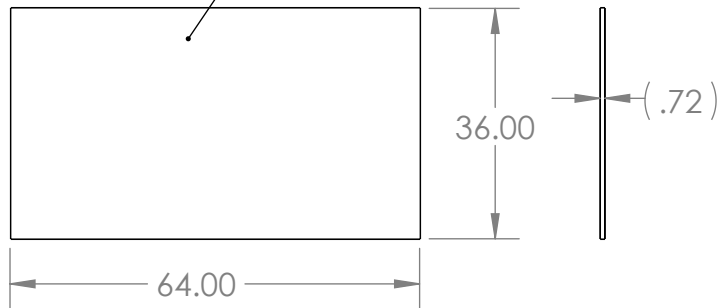
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2

1

TE-19105-01

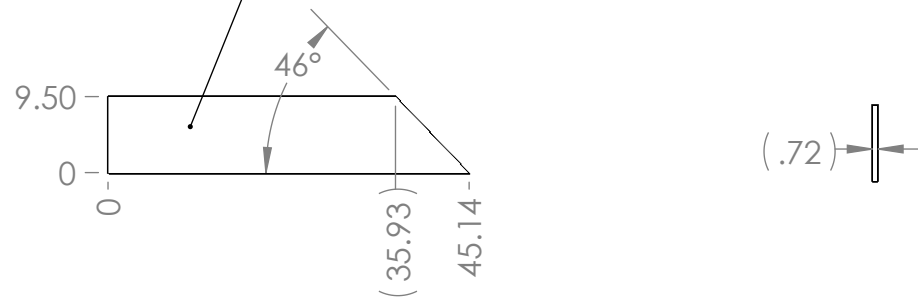
1 1X



Note:
A/C or CDX 23/32" Plywood

TE-19105-02

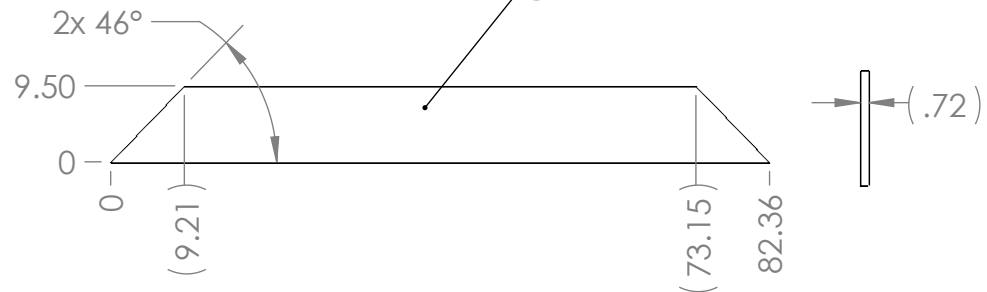
2 2X



Note:
A/C or CDX 23/32" Plywood

TE-19105-03

3 1X



Note:
A/C or CDX 23/32" Plywood

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NEXT ASSY

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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

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME DATE



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Half Hab

SIZE

A

DWG. NO.

TE-19105

REV

SCALE: 1:24 WEIGHT:

SHEET 3 OF 5

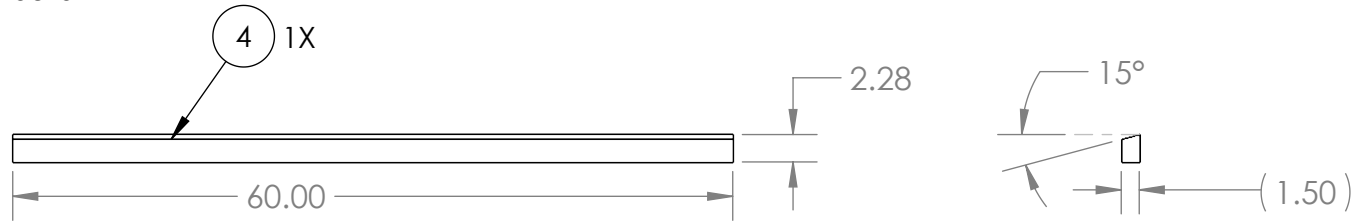
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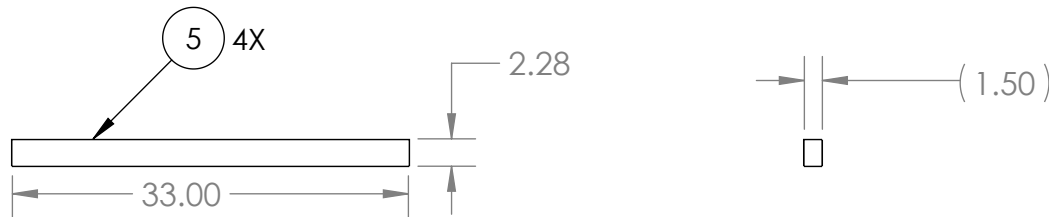
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TE-19105-04





Note:
2x 4" Pine Lumber

TE-19105-05



Note:
2x 4" Pine Lumber

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			DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE: Half Hab		
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				ENG APPR.					
				MFG APPR.					
			INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SIZE DWG. NO. REV <div>A TE-19105</div>		
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	APPLICATION		DO NOT SCALE DRAWING						

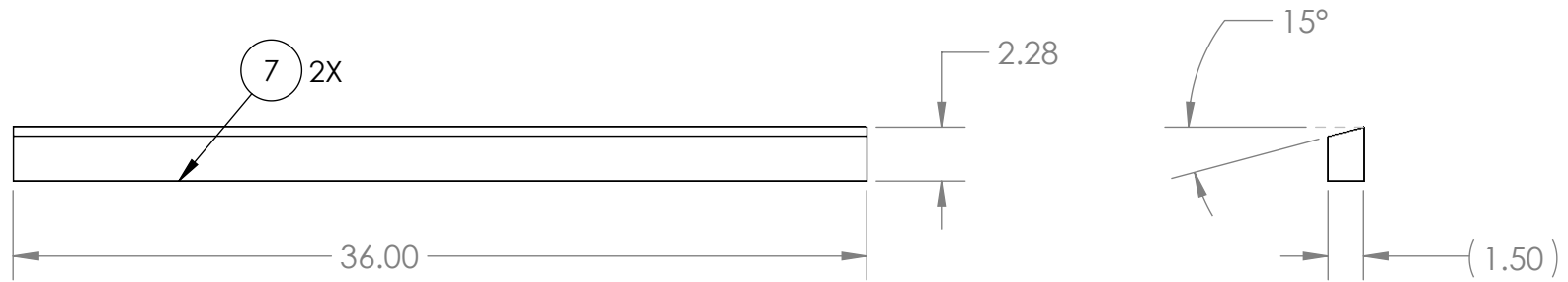
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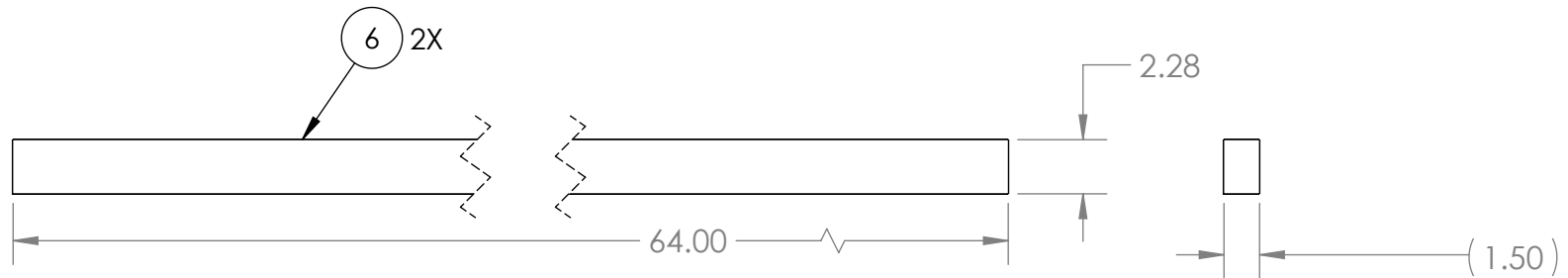
B

TE-19105



Note:
2x 4" Pine Lumber

TE-19105



Note:
2x 4" Pine Lumber

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:		

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

TITLE:

Half Hab

SIZE	DWG. NO.	REV
A	TE-19105	
SCALE: 1:24		WEIGHT:
		SHEET 5 OF 5

2

1

2

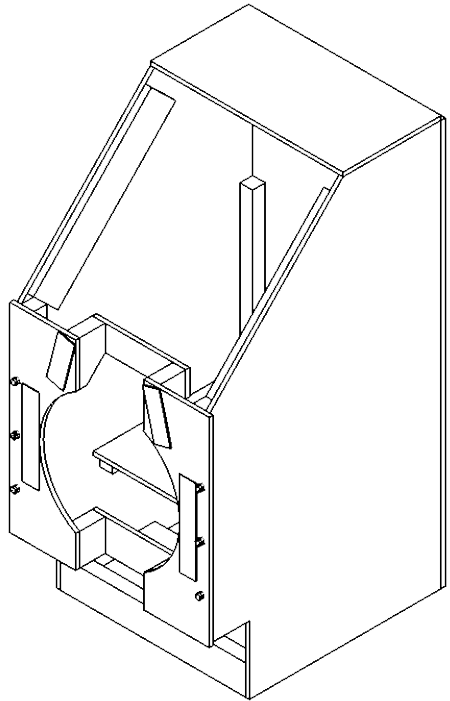
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B

B



ITEM NO.	PART NUMBER	QTY.
1	TE-19106-01	2
2	TE-19106-02	1
3	TE-19106-03	1
4	TE-19106-04	2
5	TE-19106-05	1
6	TE-19106-06	4
7	TE-19106-07	6
8	TE-19106-08	2
9	TE-19106-09	2
10	TE-19106-10	3
11	TE-19106-11	1
12	TE-19106-12	2
13	TE-19106-13	2
14	TE-19106-14	1
15	TE-19106-15	2
16	TE-19106-18	2
17	TE-19106-19	2
18	Tee nut .375_16	6
19	hex nut_.375_16	6
20	hex_.375_16_.625	6

Material	QTY
15/32" (1/2") A/C or CDX Plywood	1.5sheets
23/32" (3/4") A/C or CDX Plywood	.125 sheets
2"x2"x8'	1.25
2"x 4"x 8'	1
TEE nut .3/8"-16	6
3/8"-16 nut	6
Hex Head 3/8"-16 x0.75	6
1.25" wood screws	80
2.5" wood screws	20
Vison Tape	11"
2" hook tape	63.5"



A

A

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			DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN				
				CHECKED				
				ENG APPR.				
				MFG APPR.				
				INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			COMMENTS:
			MATERIAL					
	NEXT ASSY	USED ON	FINISH					
	APPLICATION		DO NOT SCALE DRAWING					
				SIZE	DWG. NO.		REV	
				A	TE-19106			
				SCALE: 1:24		WEIGHT:	SHEET 1 OF 12	

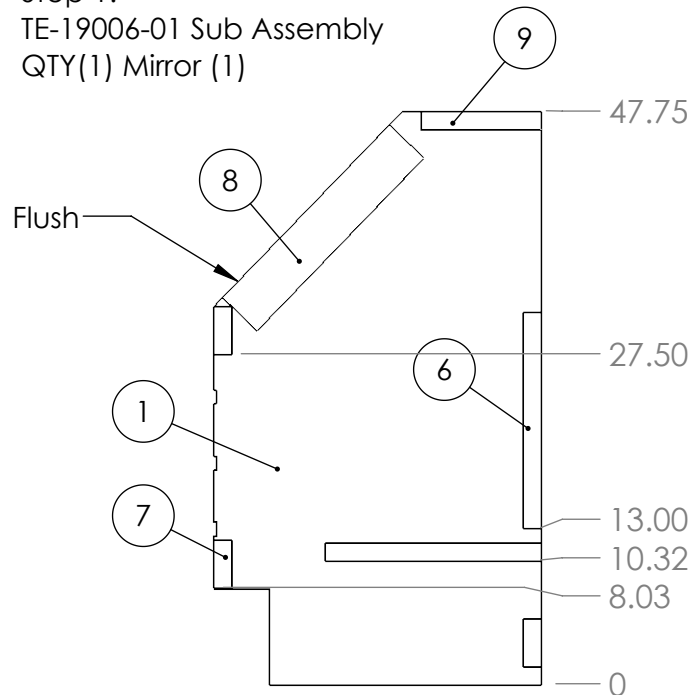
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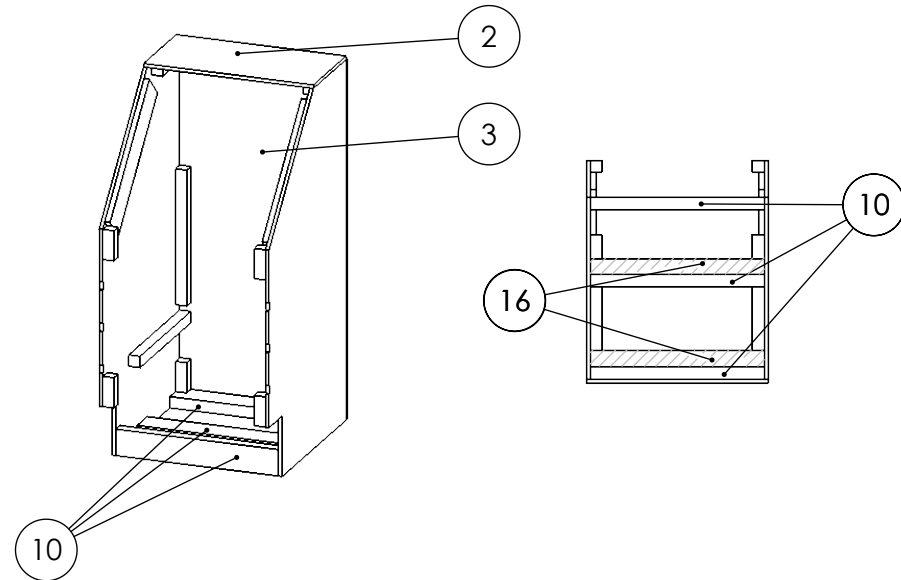
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1

Step 1:
TE-19006-01 Sub Assembly
QTY(1) Mirror (1)



Step 2:



Notes:

Attach 9, 6 and 8 flush to 1 as indicated
and touching 7.
Pre-drill and attach using 1.25" screws.

Notes:

Connect the assemblies from step 1 with three 10, 2 and 3.
Attach using 1.25" and 2.5" screws.
If using on carpet add 16 to bottom of 10

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TWO PLACE DECIMAL $\pm .01$
THREE PLACE DECIMAL $\pm .001$

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME DATE

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Q.A.

COMMENTS:



**FIRST
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TITLE:

Single Bay Side

SIZE

DWG. NO.

REV

A

TE-19106

SCALE: 1:24 WEIGHT:

SHEET 2 OF 12

Notes:

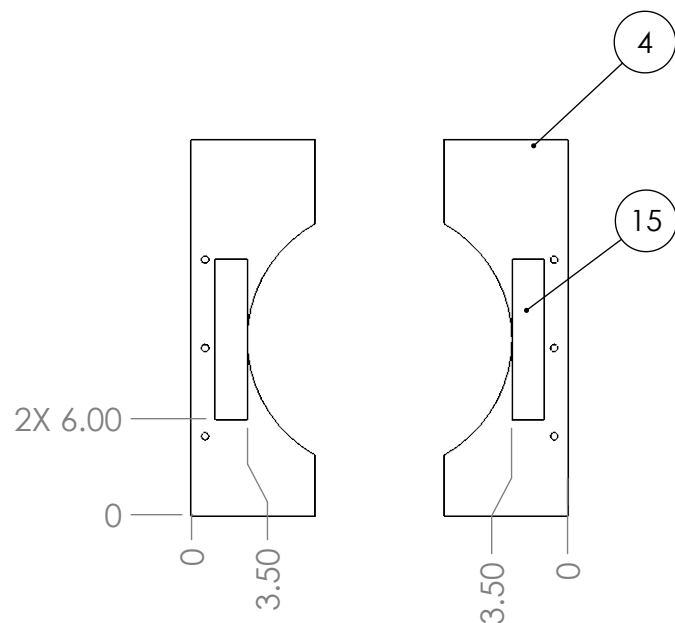
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2

1

Step 3:



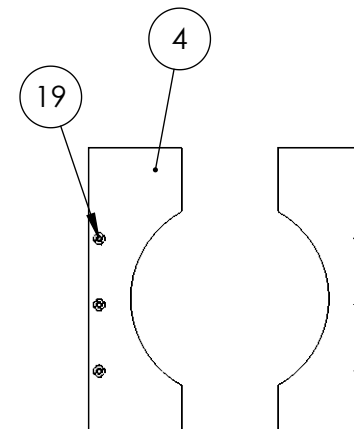
Notes:

Attach (15) to (4).

(15) should be tangent to circular cutout.

Mirror for the second.

Step 4:



Notes:

Flip assembly from Step 3 over .

Insert (19) to all holes on (4), hammer in to seat.

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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:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	

SCALE: 1:24 WEIGHT: SHEET 3 OF 12

2

1

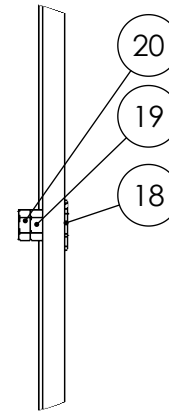
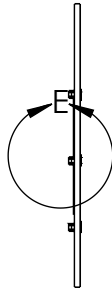
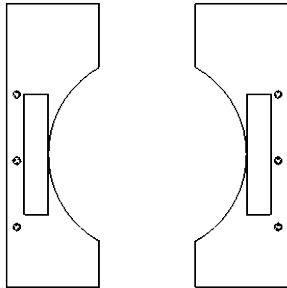
2

1

Step 5:

B

B





Notes:
Thread (19) all the way on to (20) .
Insert into (18) repeat, for all instances.

DETAIL E
SCALE 1 : 4

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:				SIZE	DWG. NO.	REV	
		MATERIAL				A	TE-19106		
NEXT ASSY	USED ON	FINISH				SCALE: 1:24		WEIGHT:	SHEET 4 OF 12
APPLICATION		DO NOT SCALE DRAWING							

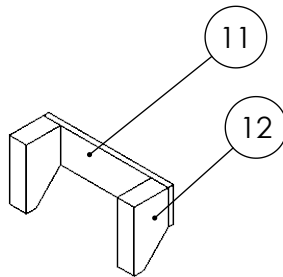
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Step 6:

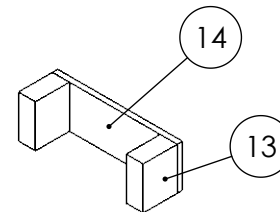


Notes:

Attach (12) to (11).

Pre-drill and attach using 1.25" long screws

Step 7:



Notes:

Attach (13) to (14).

Pre-drill and attach using 1.25" long 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

FINISH

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:

Single Bay Side

SIZE

A

DWG. NO.

TE-19106

REV

SCALE: 1:24 WEIGHT:

SHEET 5 OF 12

2

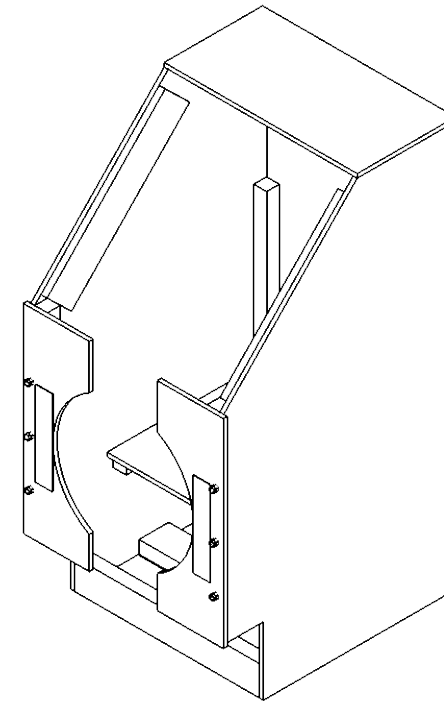
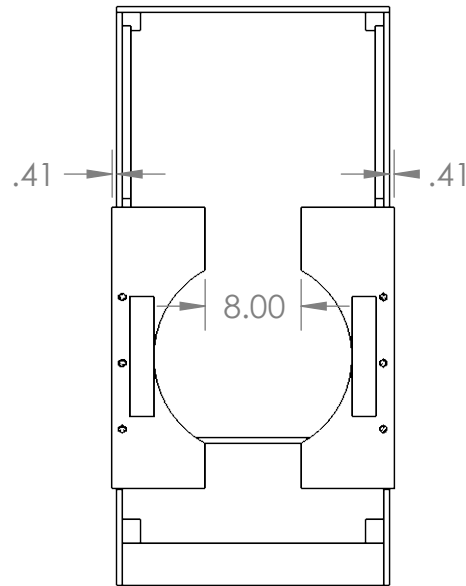
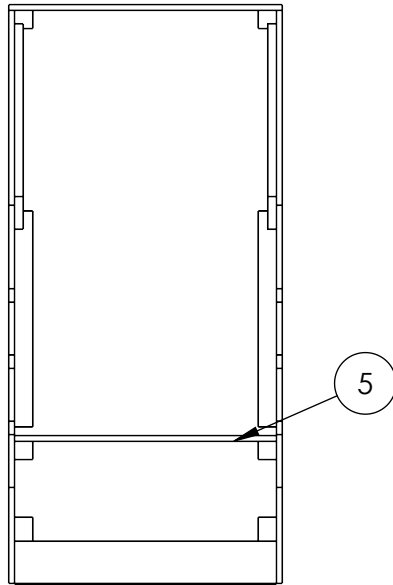
1

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Step 8:

Step 9:



Notes:

Attach (5) flush to the cleats of step 2.
Pre drill and attach with 1.25" screws.

Notes:

Attach assemblies from Step 5 to Step 8
Pre drill and use 1.25" screws. Step 5
over hangs .41 on both sides.

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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:
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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:		



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Modeling Solutions Partner

TITLE:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	

SCALE: 1:24 WEIGHT: SHEET 6 OF 12

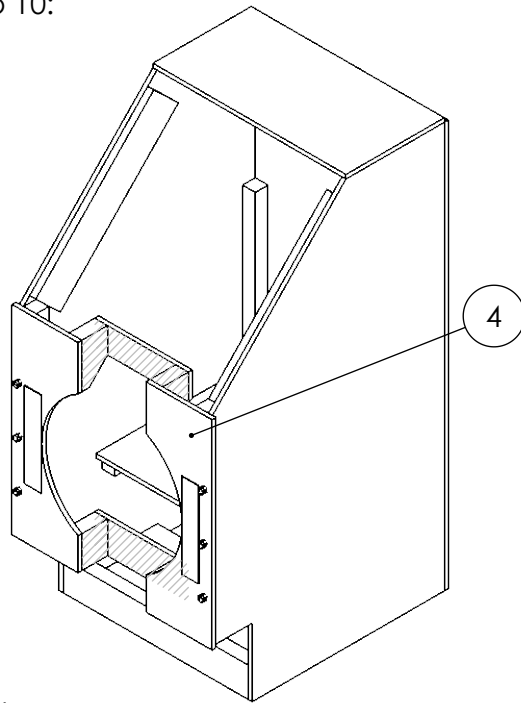
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Step 10:



Notes:

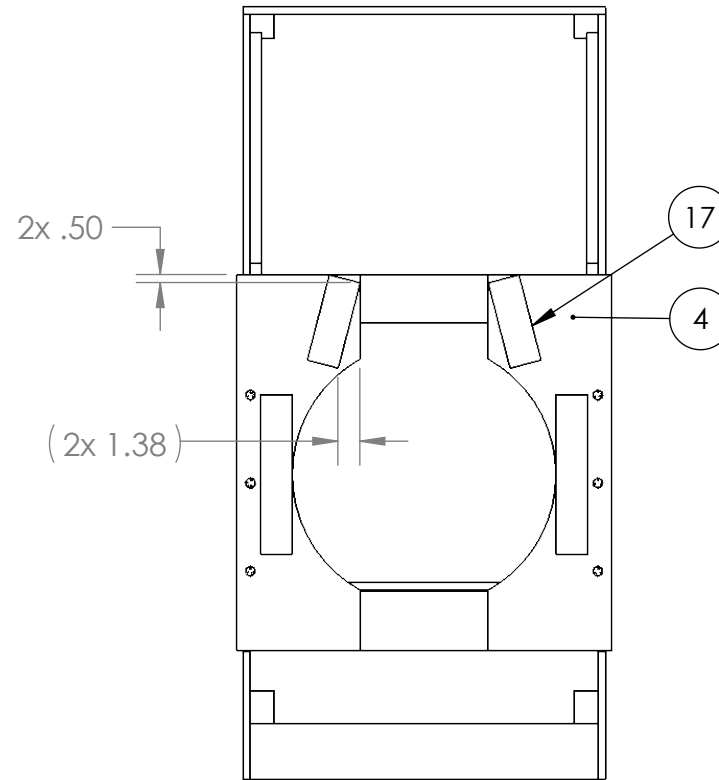
Attach Step 6 and Step 7 to (4).

Step 6 Flush to opening and to Top of (4).

Step 7 Flush to opening and to bottom of (4).

Pre drill and attach using 2.5" wood screws.

Step 11:



Notes:

Attach (17) to (4), mirror for the other side

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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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Modeling Solutions Partner

TITLE:

Single Bay Side

SIZE

A

DWG. NO.

TE-19106

REV

SCALE: 1:24 WEIGHT:

SHEET 7 OF 12

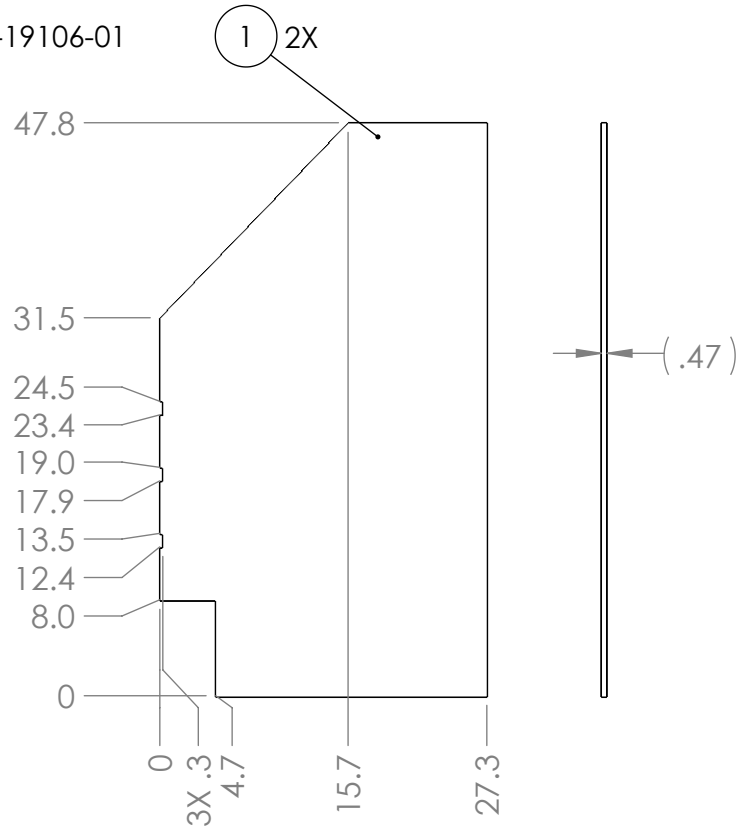
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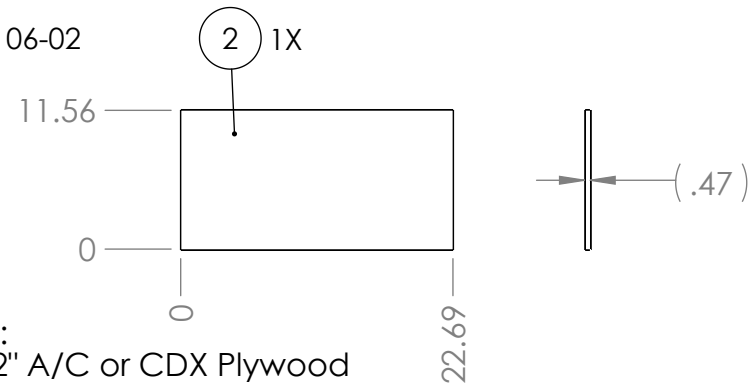
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TE-19106-01



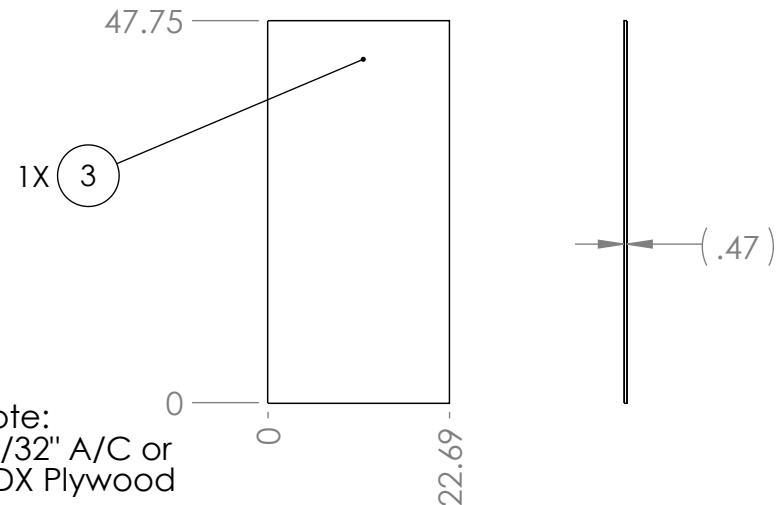
Note:
15/32" A/C or CDX Plywood

TE-19106-02



Note:
15/32" A/C or CDX Plywood

TE-19106-03



Note:
15/32" A/C or
CDX Plywood

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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:

Single Bay Side

SIZE

DWG. NO.

REV

A**TE-19106**

SCALE: 1:24 WEIGHT:

SHEET 8 OF 12

A

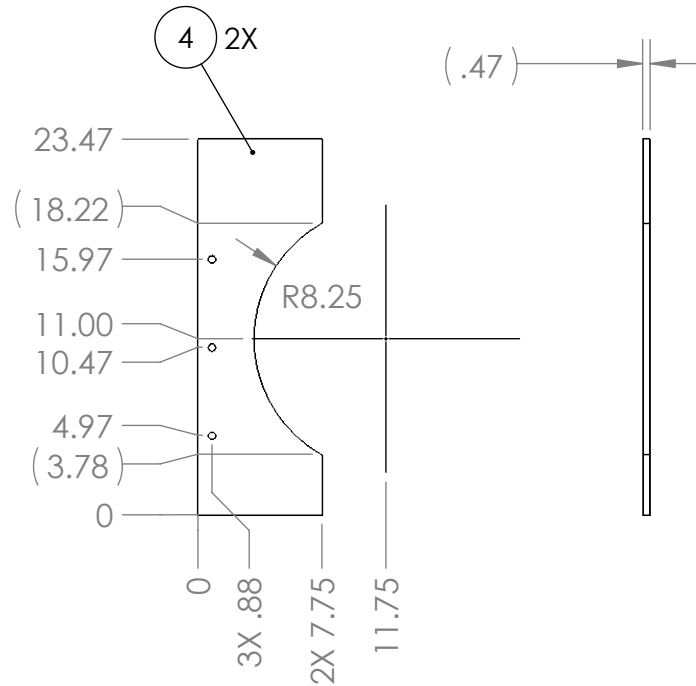
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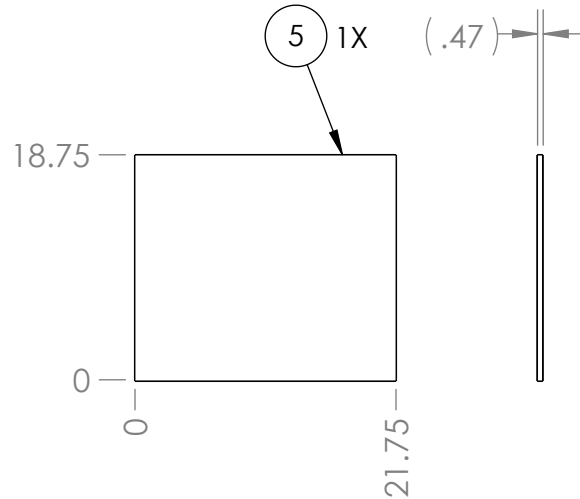
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TE-19106-04



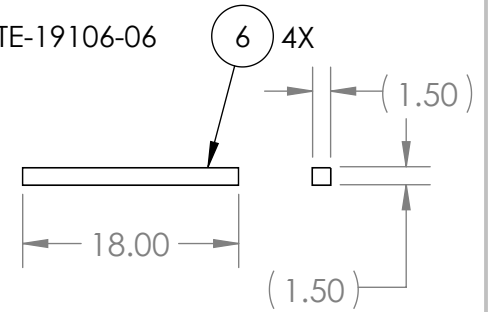
Note:
15/32" A/C or CDX Plywood

TE-19106-05



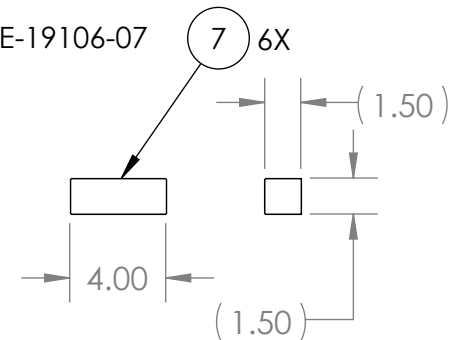
Note:
15/32" A/C or CDX Plywood

TE-19106-06



Note:
2" x 2" Pine Lumber

TE-19106-07



Note:
2" x 2" Pine Lumber

B

B

A

A

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



TITLE:
Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	
SCALE: 1:24 WEIGHT:		SHEET 9 OF 12

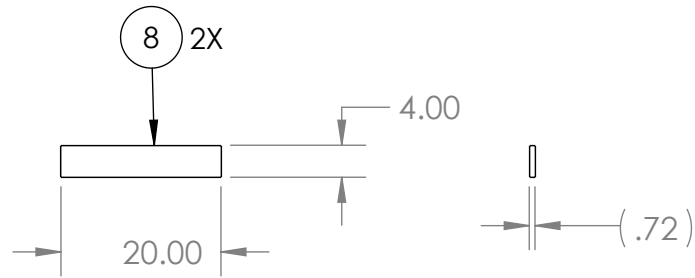
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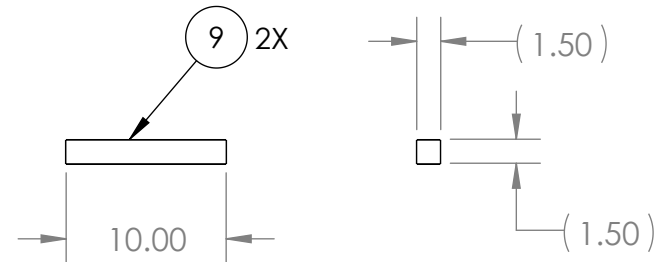
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TE-19106-08



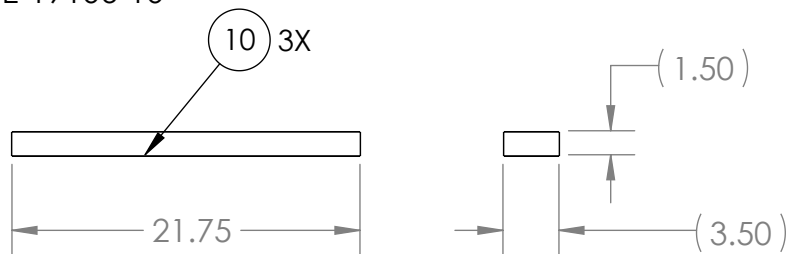
Note:
23/32" A/C or CDX Plywood

TE-19106-09



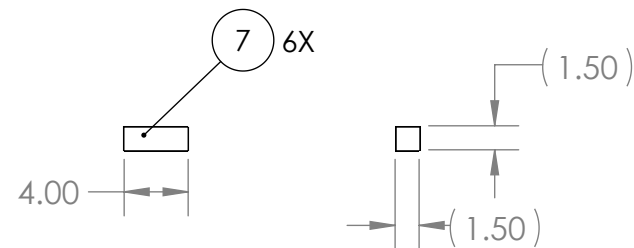
Note:
2" x 4" Pine Lumber

TE-19106-10



Note:
2" x 4" Pine Lumber

TE-19106-07



Note:
2" x 4" Pine Lumber

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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

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Single Bay Side

SIZE

A

DWG. NO.

TE-19106

REV

SCALE: 1:24 WEIGHT:

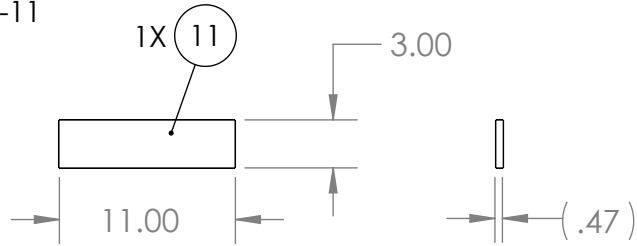
SHEET 10 OF 12

2

1

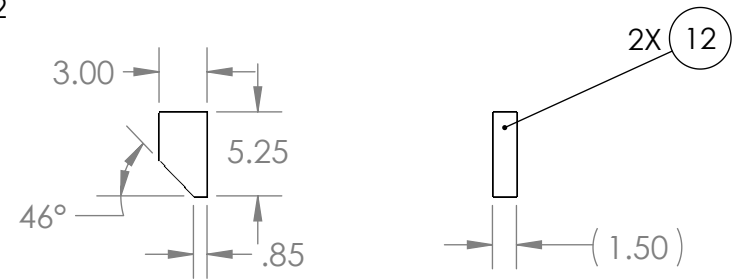
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TE-19106-11



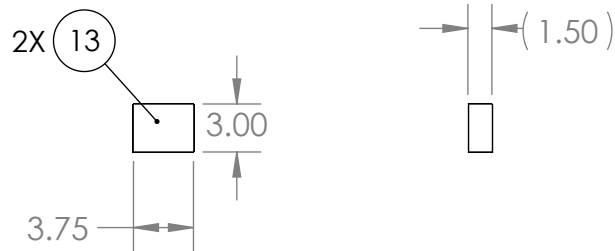
Note:
15/32" (1/2") A/C or CDX Plywood

TE-19106-12



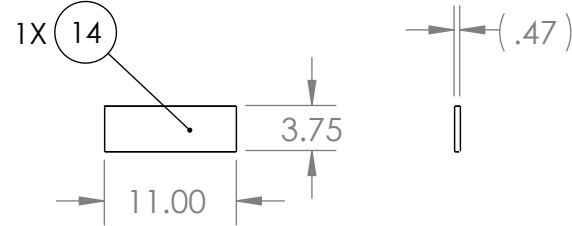
Note:
2"X4" Pine Lumber

TE-19106-13



Note:
2"X4" Pine Lumber

TE-19106-14



Note:
15/32" (1/2") A/C or CDX Plywood

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**



TITLE:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	

SCALE: 1:24	WEIGHT:	SHEET 11 OF 12
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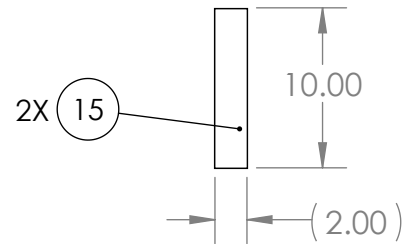
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1

2

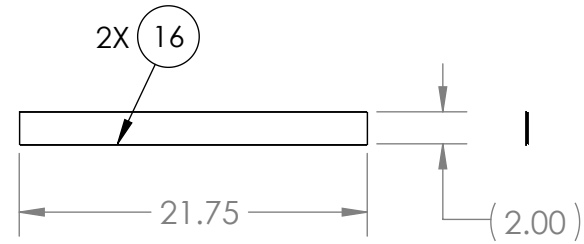
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TE-19106-15



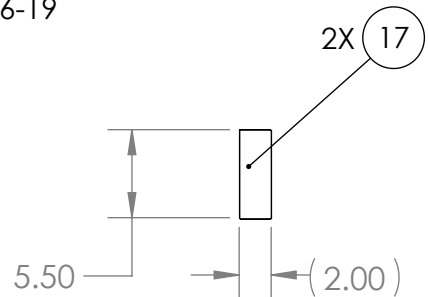
Note:
2" Hook Fastener

TE-19106-18



Note:
2" Hook Fastener

TE-19106-19



Note:
2" Vison tape

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:		



TITLE:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	

SCALE: 1:24 WEIGHT: SHEET 12 OF 12

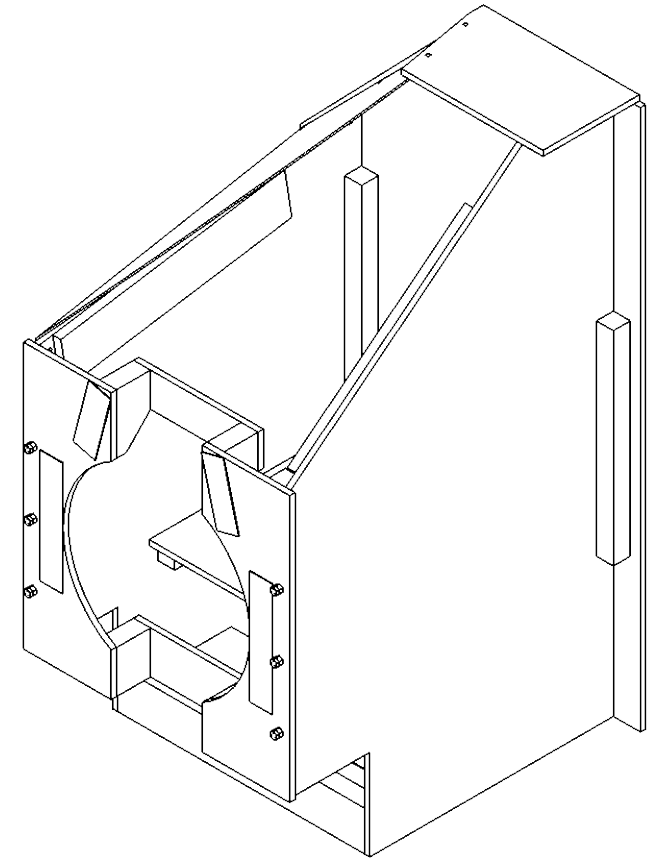
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1

B

ITEM NO.	PART NUMBER	QTY.
1	TE-19107-01	1
2	TE-19107-02	1
3	TE-19107-03	1
4	TE-19107-04	1
5	TE-19107-05	1
6	TE-19107-06	2
7	TE-19107-07	1
8	TE-19107-08	6
9	TE-19107-09	2
10	TE-19107-10	9
11	TE-19107-11	3
12	TE-19107-12	2
13	TE-19107-13	4
14	TE-19107-14	4
15	TE-19107-15	2
16	TE-19107-16	2
17	TE-19107-19	2
18	TE-19107-20	2
19	Tee nut .375_16	6
20	hex nut_.375_16	6
21	hex_.375_16_.625	6

Material	QTY
15/32" (1/2") A/C or CDX Plywood	1.5 sheets
1/8" Hardboard	.25 sheet
23/32"(3/4") A/C or CDX Plywood	.125 sheet
2"x 2"x 8'	1.5
2"x 4"x 8'	1
TEE nut 3/8"-16	6
Hex Nut 3/8"-16	6
Hex Head 3/8"-16 x .75	6
2" Hook Fastener	63.5"
2" Vison Tape	11"
1.25" wood screws	50
2.5" wood screws	25



B

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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:

Cargo Front Single

SIZE	DWG. NO.	REV
A	TE-19107	
SCALE: 1:24	WEIGHT:	SHEET 1 OF 14

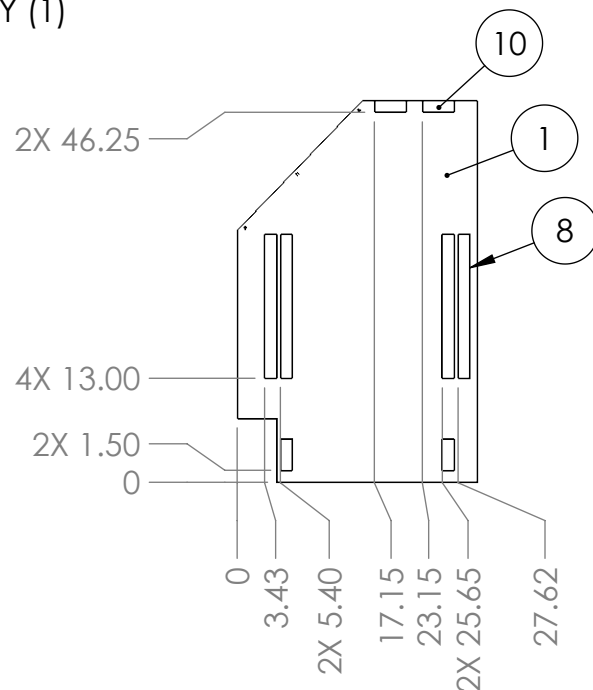
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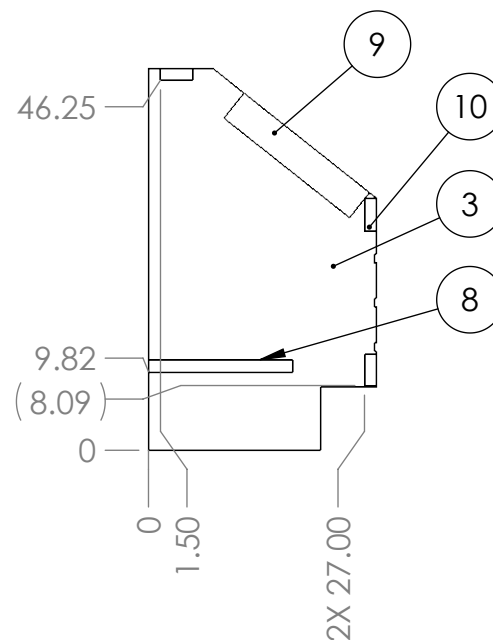
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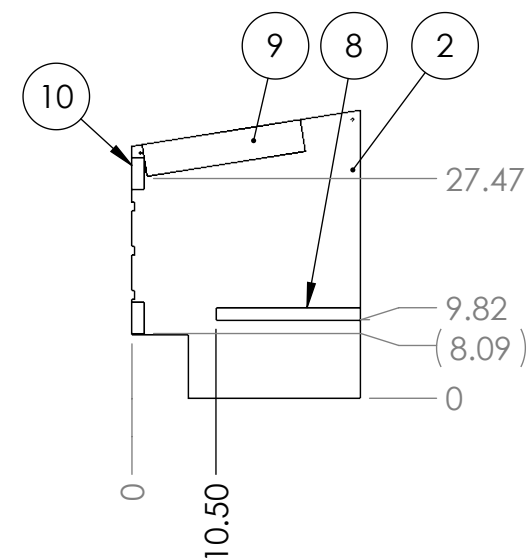
Step 1:
QTY (1)



Step 2:
QTY (1)



Step 3:
QTY (1)



Note:

Attach (10) (8) to (1)

Spacing between (8) is for 1/2" Plywood

Use a scrap piece of plywood help set spacing
Pre-drill and use 1.25" wood screws

Note:

Attach (8) (10) (9) to (3)

Pre-drill and use 1.25" wood screws

Note:



Attach (10) (9) (8) to (2)

Pre-drill and use 1.25" wood 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
		FINISH
NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

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

			
TITLE:			
Cargo Front Single			
SIZE	DWG. NO.		REV
A	TE-19107		
SCALE: 1:24		WEIGHT:	SHEET 2 OF 14

2

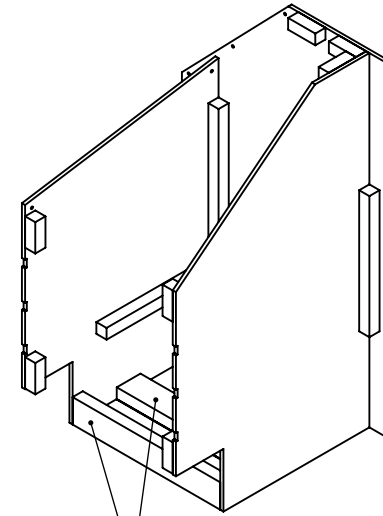
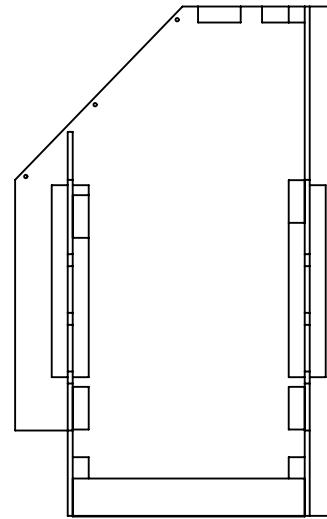
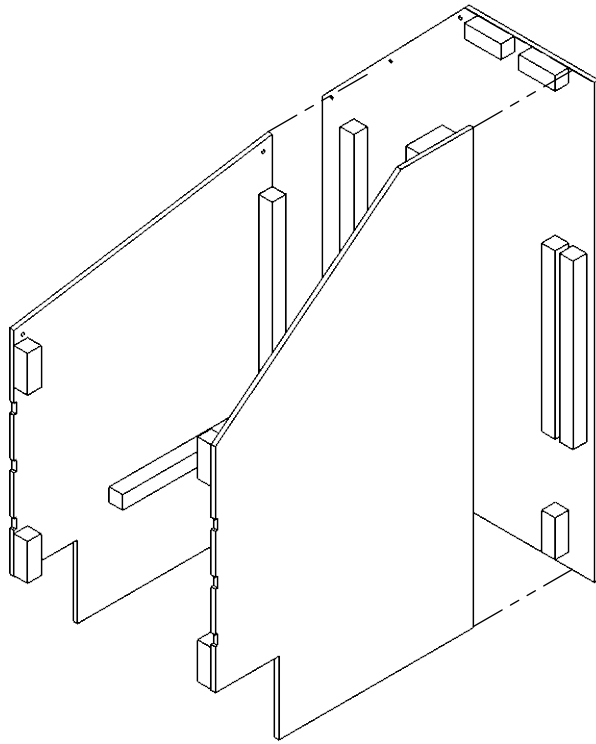
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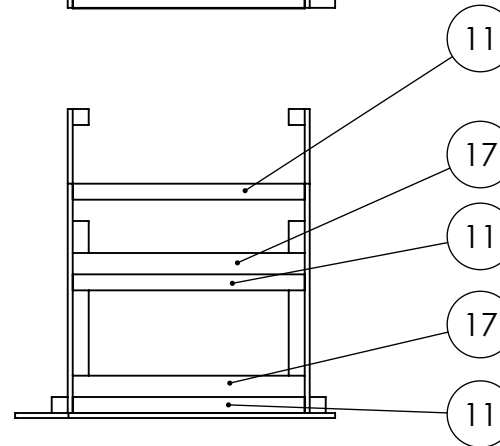
1

Step 4:

Step 5:





Slide the assemblies from Step 2 and Step 3 into the assembly from Step 1.



Attach (11) to bottom as shown
Pre-drill and use 2.5" wood screws

Apply (17) if used on carpet to the
bottom of the 2"x 4"

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		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 FIRST ROBOTICS COMPETITION			 SOLIDWORKS Modeling Solutions Partner		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN			TITLE: <h1>Cargo Front Single</h1>					
			CHECKED								
			ENG APPR.								
			MFG APPR.								
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.								
		MATERIAL	COMMENTS:								
		FINISH				SIZE	DWG. NO.				REV
NEXT ASSY	USED ON					A	TE-19107				
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:24		WEIGHT:		SHEET 3 OF 14	

2

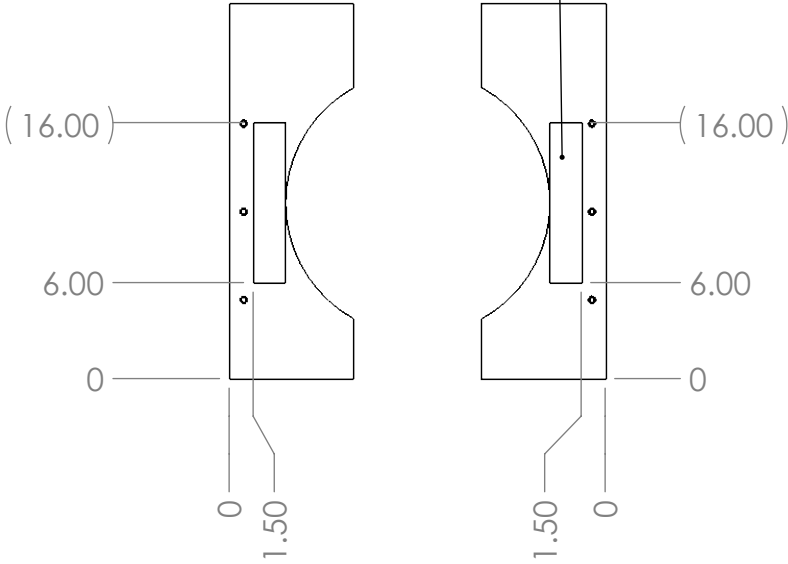
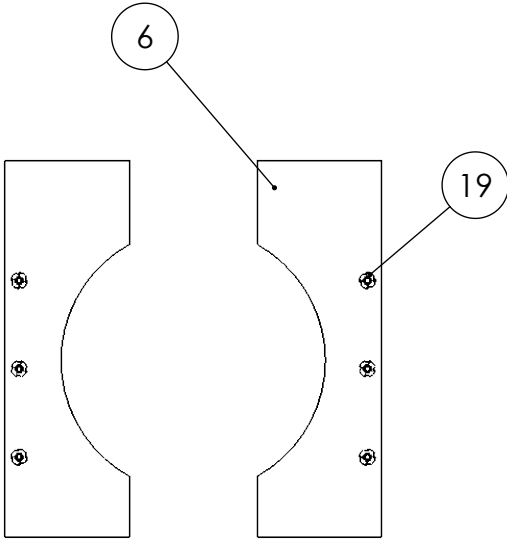
1

2

1

Step 6:

Step 7:



Install Tee Nut 19
Hammer in to seat

Flip over
Attach 16 to 6 front.
Hook should be tangent to
the circular cutouts.

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:

Cargo Front Single

SIZE	DWG. NO.	REV
A	TE-19107	

SCALE: 1:24	WEIGHT:	SHEET 4 OF 14
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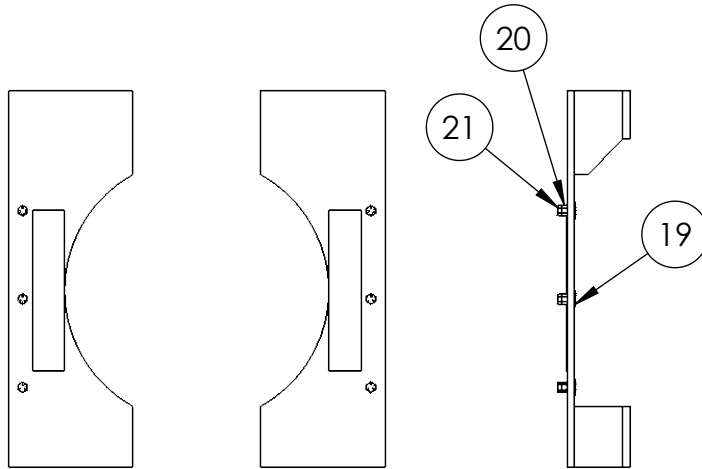
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1

2

1

Step 8:

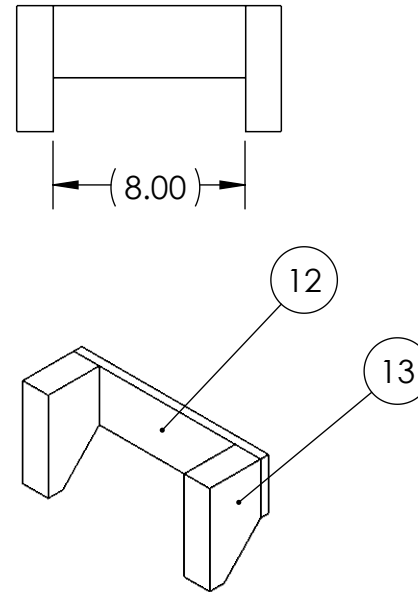


Note:

Attach (21) (20), then attach to (19)

Repeat for all instances

Step 9:

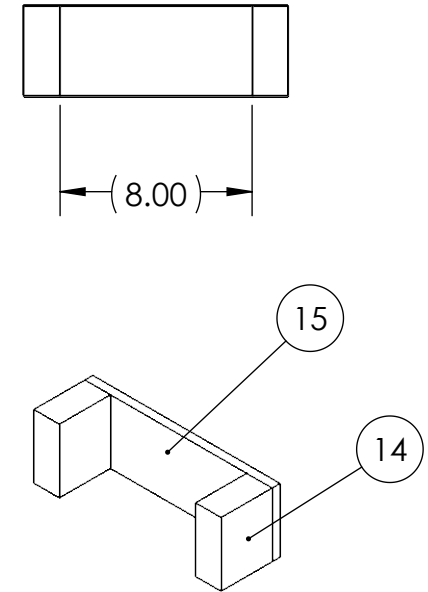


Note:

Attach (13) to (12) as shown

Pre-drill and use 1.25" screws

Step 10:



Note:

Attach (14) to (15) as shown

Pre-drill and use 1.25" screws

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NEXT ASSY

USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED:

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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

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



FIRST
ROBOTICS
COMPETITION



SOLIDWORKS
Modeling Solutions Partner

TITLE:

Cargo Front
Single

SIZE

A

DWG. NO.

TE-19107

REV

SCALE: 1:24 WEIGHT:

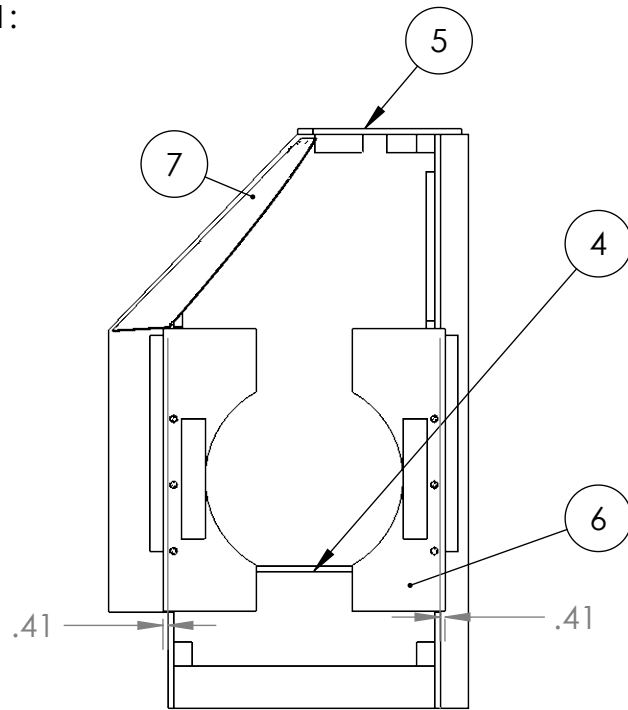
SHEET 5 OF 14

2

1

B

Step 11:



Note:

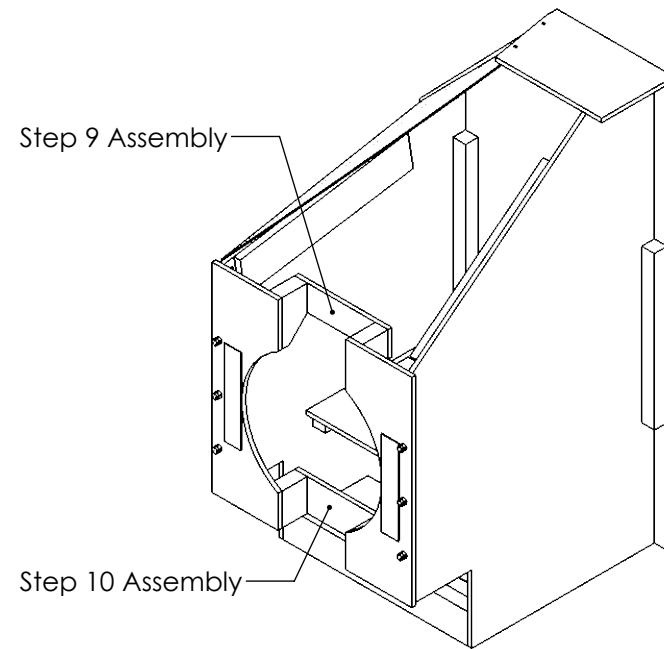
Attach (6) to assembly, with an overhang of .41"; pre-drill and use 1.25" screws

Attach (5) to assembly; pre-drill and use 1.25" screws

Attach (7) to (5) and rest of assembly with cable ties

Attach (4) to (8); pre-drill and use 1.25" screws

Step 12:



Note:

Attach assembly from Step 9 flush to the opening and top of (6)

Attach assembly from Step 10 flush to the opening and bottom of (6)

(6)

Pre-drill and use 2.5" screws

B

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:		



FIRST
ROBOTICS
COMPETITION



TITLE:

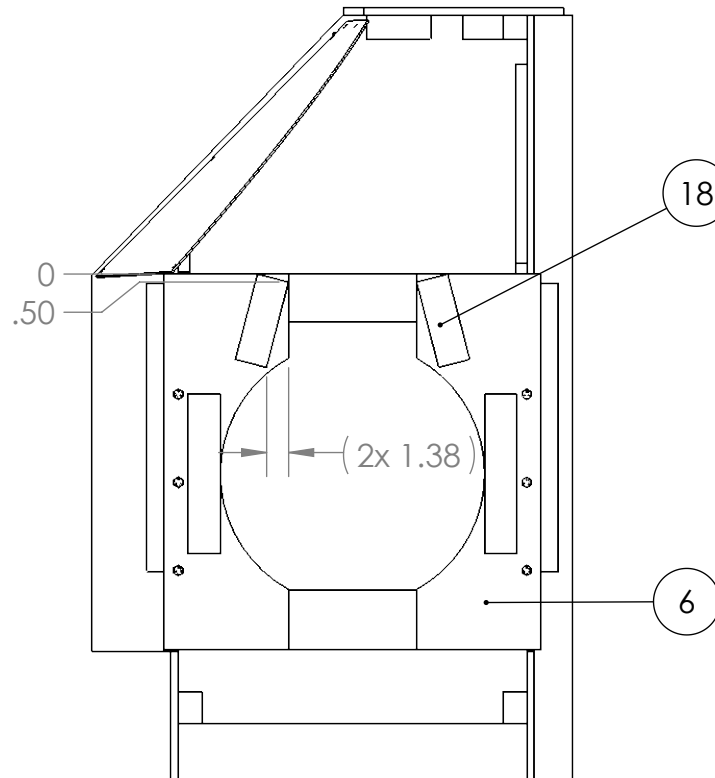
Cargo Front
Single

SIZE	DWG. NO.	REV
A	TE-19107	
SCALE: 1:24 WEIGHT:		SHEET 6 OF 14

2

1



Step 13:



Note:

Attach 18 to 6

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		DIMENSIONS ARE IN INCHES	DRAWN				
		TOLERANCES:	CHECKED				
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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			SIZE	DWG. NO.
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			A	TE-19107
		INTERPRET GEOMETRIC TOLERANCING PER:					REV
		MATERIAL					
NEXT ASSY	USED ON	FINISH					
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:24	WEIGHT:
							SHEET 7 OF 14

B

Technical drawing of a stepped shaft. The main view is a side elevation showing a shaft with a total length of 30.00 units. The shaft has a base diameter of 31.50 units and a maximum diameter of 47.75 units. The profile is defined by the following points (X, Y): (0, 31.50), (0, 46.51), (1.00, 46.51), (1.00, 47.75), (7.50, 47.75), (7.50, 31.82), (15.19, 31.82), (15.69, 31.82), (15.69, 38.55), (30.00, 38.55), (30.00, 47.75). A cross-section view at the right end shows a circular feature with a diameter of 0.47 units, labeled with a circled '1' and '1X'. A feature at the top right is labeled '3X Ø.31 THRU'.

Note:
Material: 15/32" (1/2") A/C or CDX Plywood

A

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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

B

Technical drawing of a mechanical part, likely a bracket or plate, showing dimensions and callouts.

Dimensions:

- Horizontal dimensions (bottom): 0, 1.00, 21.50, 27.50, 28.25, 28.50.
- Vertical dimensions (right): 0, 8.00, 12.41, 13.53, 17.91, 19.03, 23.41, 24.53, 30.65, 31.50, 34.83, 36.00.

Callouts:

- 2 (circled) 1X (pointing to a hole at the top left).
- 2X $\varnothing .31$ THRU (pointing to a hole at the top right).

Section View:

A section view is shown on the right, indicated by a horizontal arrow pointing to the right. The section view shows the internal profile of the part, which is a rectangular plate with a sloped top surface.

Note:
Material: 15/32" (1/2") A/C or CDX Plywood

A



FIRST.
ROBOTICS
COMPETITION



Modeling Solutions Partner

TITLE:

Cargo Front Single

SIZE

DWG. NO.	
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REV

A

TE-19107

SCALE: 1:24 WEIGHT:

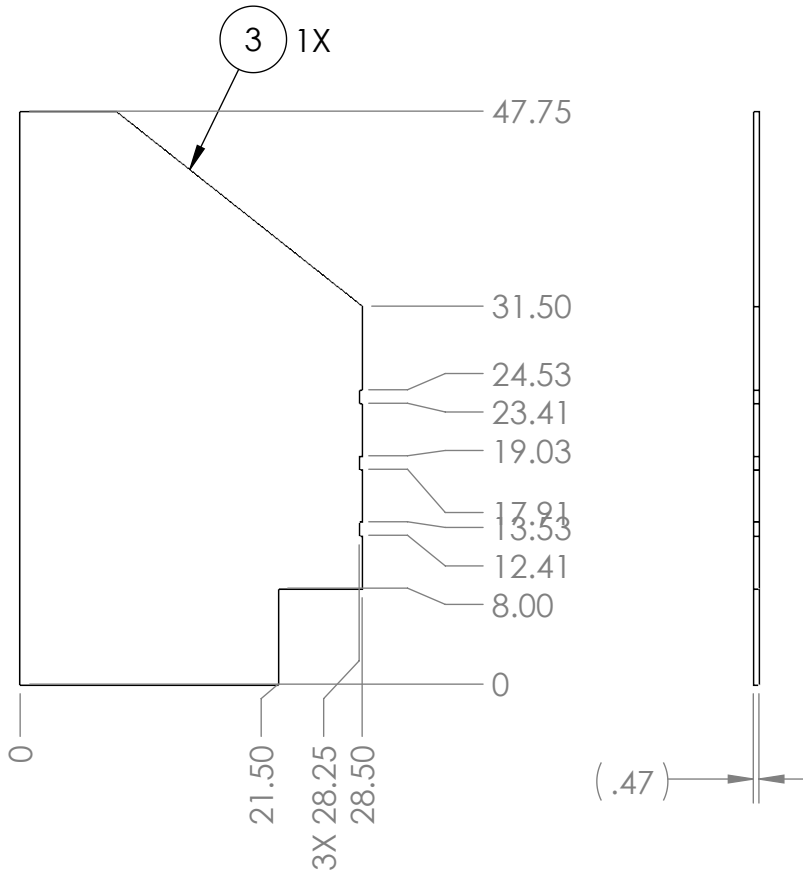
SHEET 8 OF 14

2

1

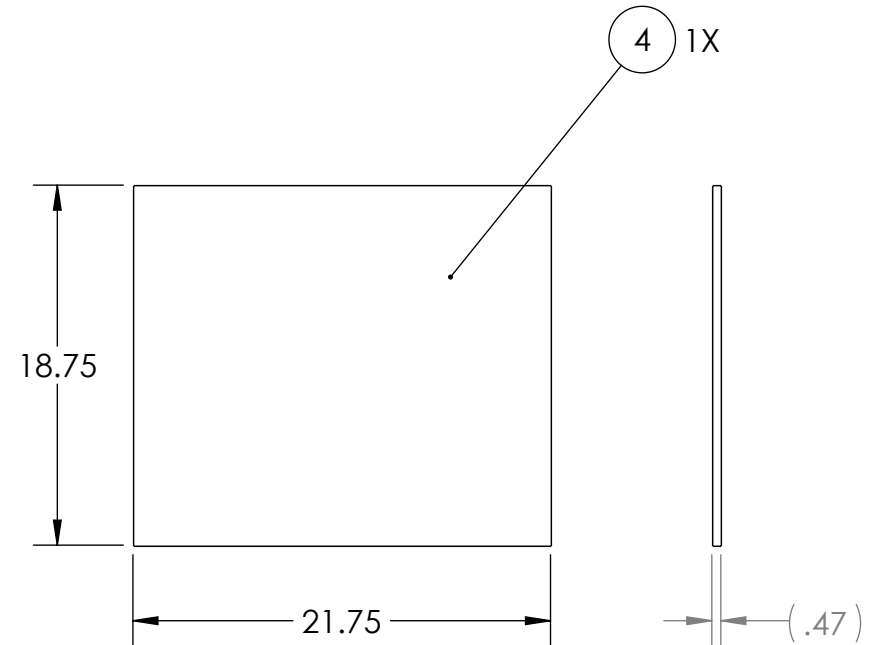
B

TE-19107-03



Note:
Material: 15/32" (1/2") A/C or CDX Plywood

TE-19107-04



Note:
Material: 15/32" (1/2") A/C or CDX Plywood

B

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		FRACTIONAL $\pm 1/16$
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
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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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CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

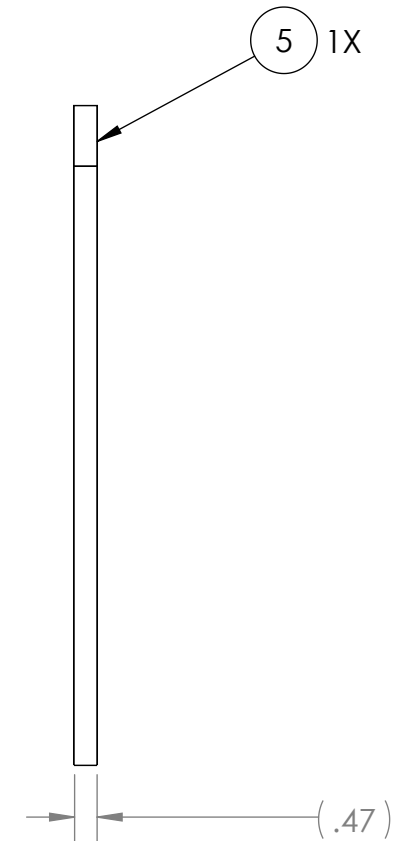
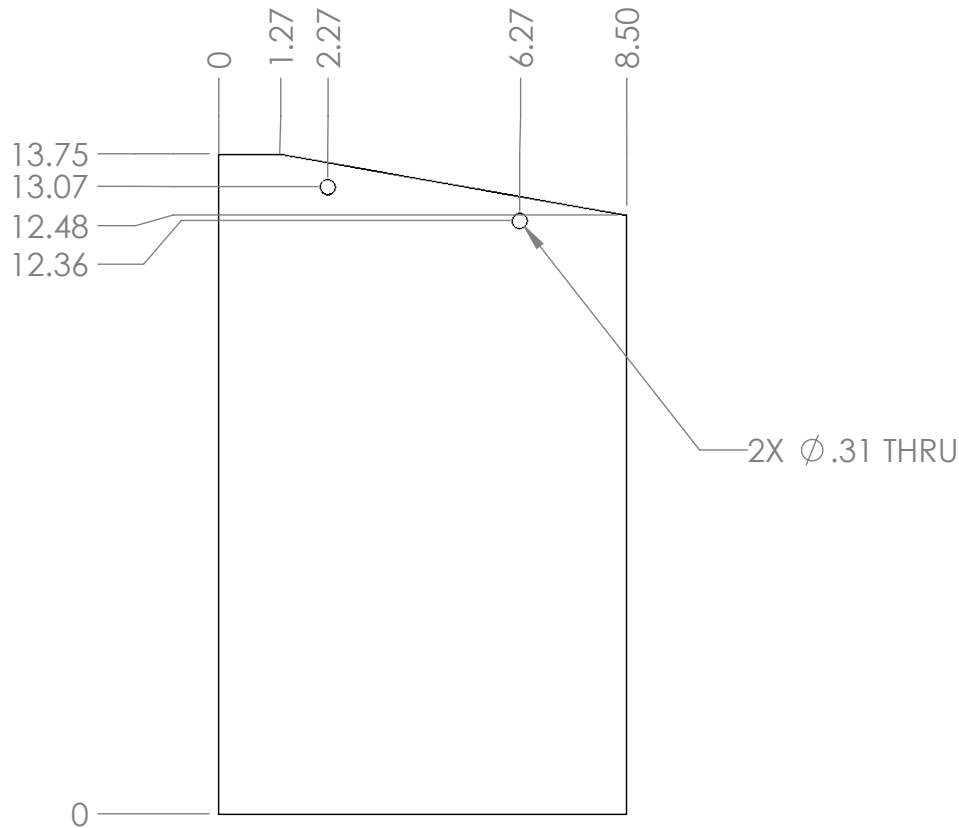
**Cargo Front
Single**

SIZE	DWG. NO.	REV
A	TE-19107	
SCALE: 1:24	WEIGHT:	SHEET 9 OF 14

2

1

TE-19107-05



Note:
Material: 15/32" (1/2") A/C or CDX Plywood

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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:		



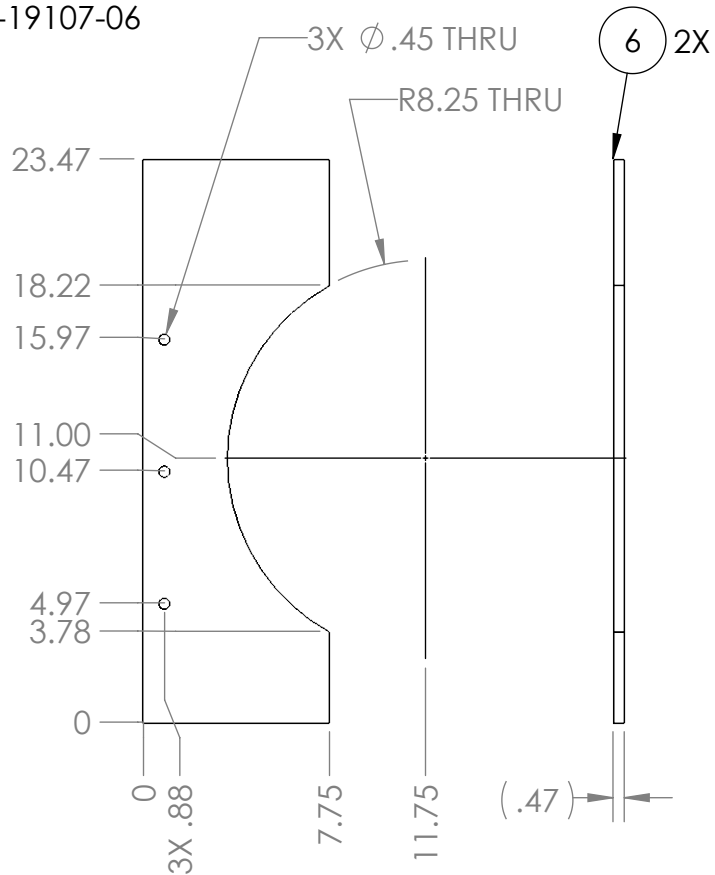
TITLE:

Cargo Front
Single

SIZE	DWG. NO.	REV
A	TE-19107	
SCALE: 1:24 WEIGHT:		SHEET 10 OF 14

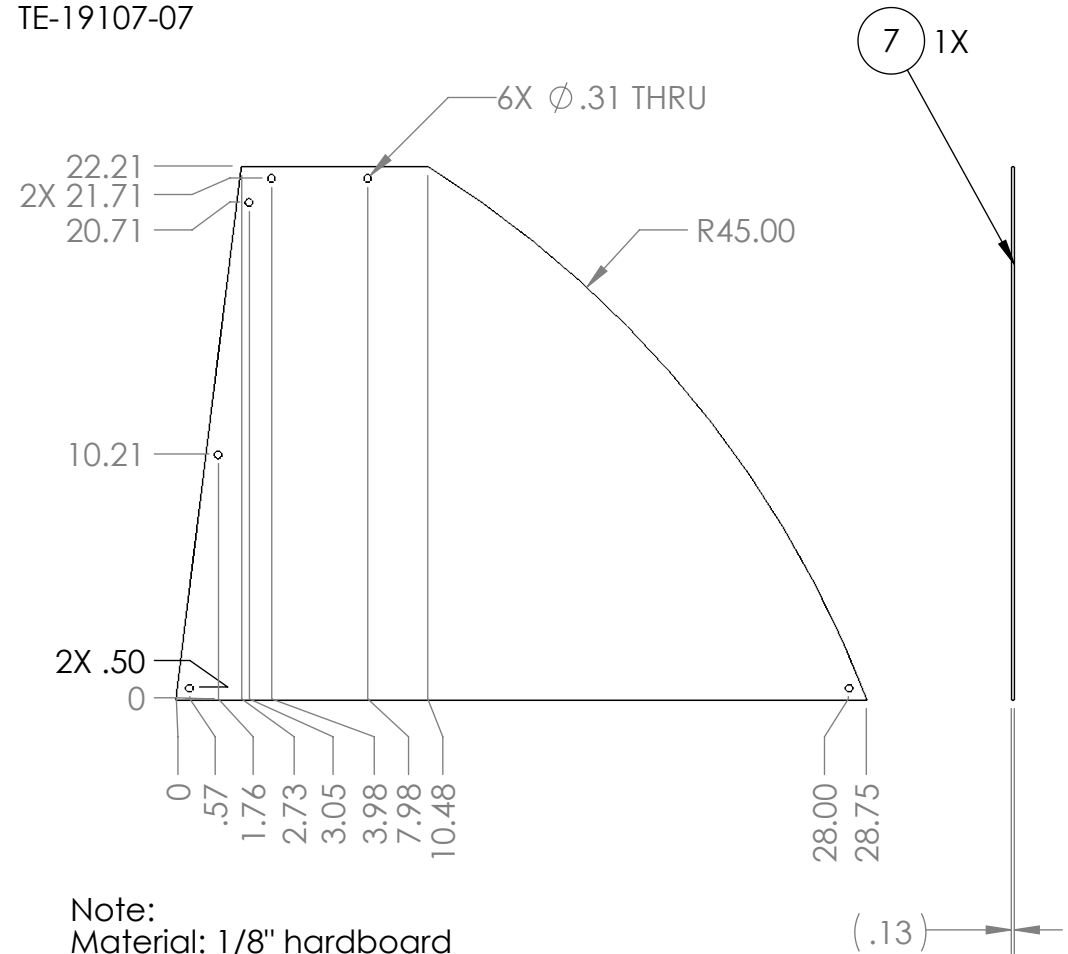
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TE-19107-06



Note:
Material: 15/32" (1/2") A/C or CDX Plywood

TE-19107-07



Note:
Material: 1/8" hardboard

B

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



**FIRST
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

**Cargo Front
Single**

SIZE	DWG. NO.	REV
A	TE-19107	

SCALE: 1:24 WEIGHT:

SHEET 11 OF 14

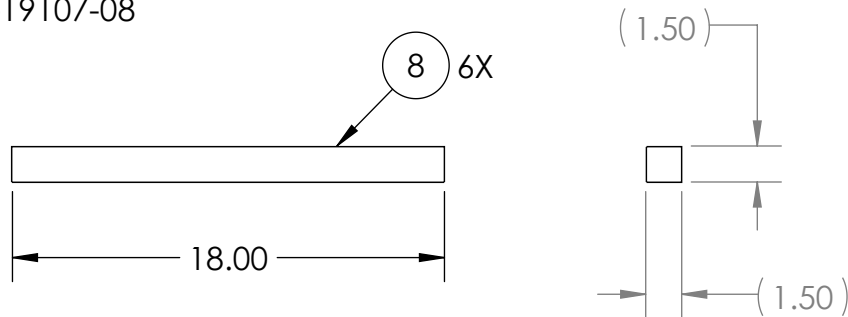
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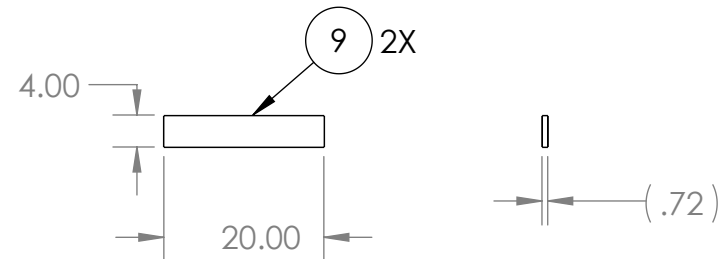
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TE-19107-08



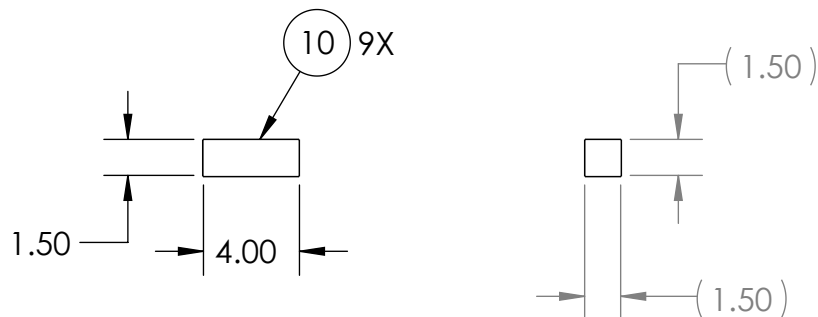
Note:
Material 2"x 2" Pine Lumber

TE-19107-09



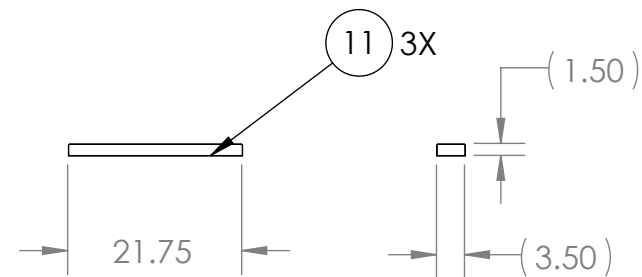
Note:
Material: 23/32" (3/4") A/C or CDX Plywood

TE-19107-10



Note:
Material 2"x 2" Pine Lumber

TE-19107-11



Note:
Material 2"x 4" Pine Lumber

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APPLICATION

UNLESS OTHERWISE SPECIFIED:

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

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



**FIRST
ROBOTICS
COMPETITION**



Modeling Solutions Partner

TITLE:

**Cargo Front
Single**

SIZE

A

DWG. NO.

TE-19107

REV

SCALE: 1:24 WEIGHT:

SHEET 12 OF 14

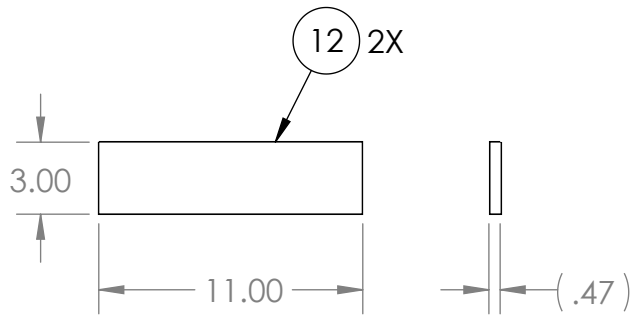
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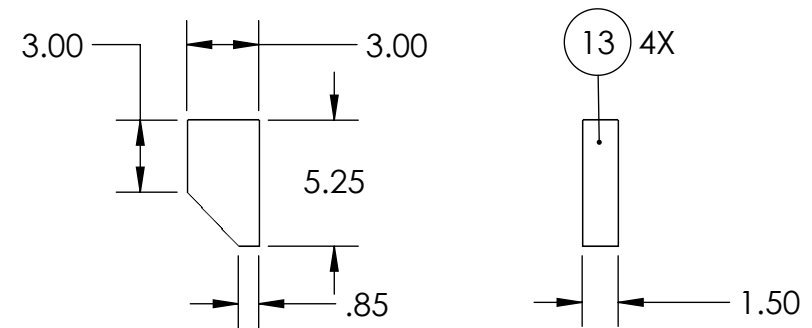
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TE-19107-12



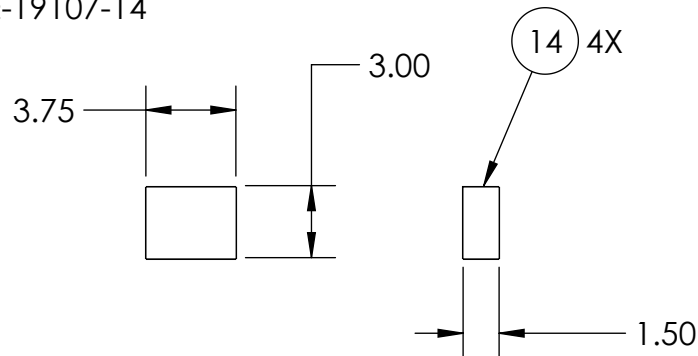
Note:
Material: 15/32" (1/2") A/C or CDX Plywood

TE-19107-13



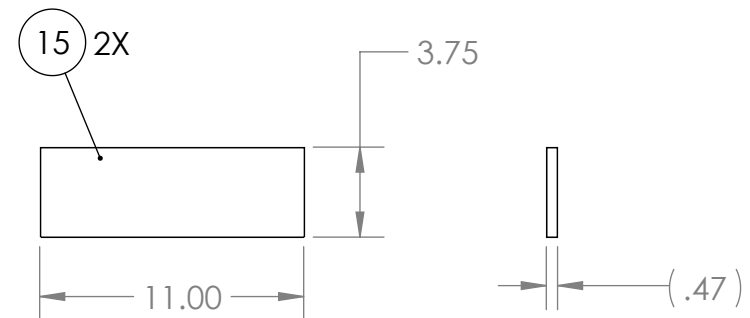
Note:
Material 2"x 4" Pine Lumber

TE-19107-14



Note:
Material 2"x 4" Pine Lumber

TE-19107-15



Note:
Material: 15/32" (1/2") A/C or CDX Plywood

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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

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



FIRST
ROBOTICS
COMPETITION



TITLE:

**Cargo Front
Single**

SIZE

DWG. NO.

REV

A**TE-19107**

SCALE: 1:24 WEIGHT:

SHEET 13 OF 14

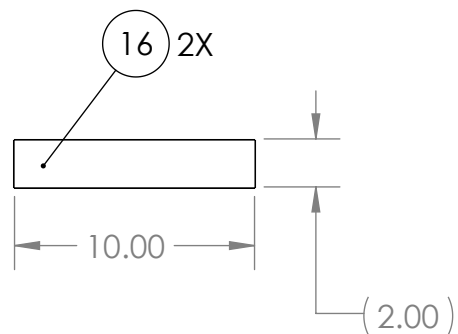
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2

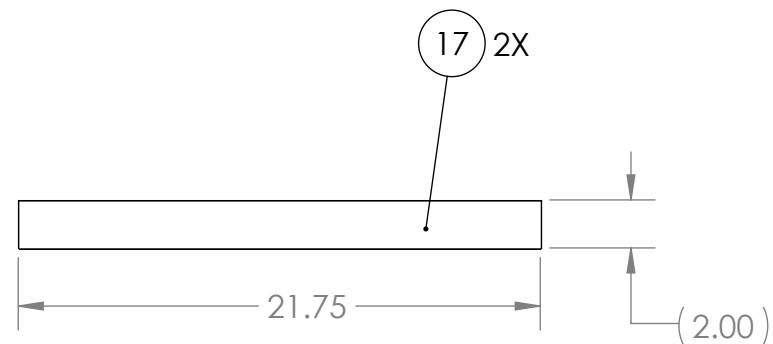
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TE-19107-16



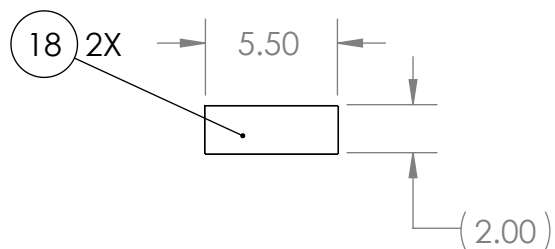
Note:
2" Hook Fastener

TE-19107-19



Note:
2" Hook Fastener

TE-19107-20



Note:
2" Vison Tape

A

A

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

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



TITLE:

Cargo Front Single

SIZE	DWG. NO.	REV
A	TE-19107	

SCALE: 1:24 WEIGHT:

SHEET 14 OF 14

2

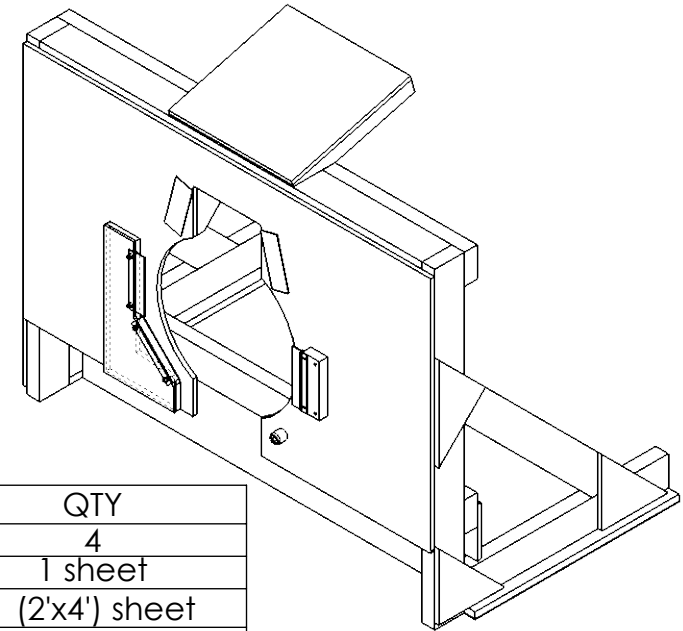
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2

1

ITEM NO.	PART NUMBER	QTY.
1	TE-19108-01	1
2	TE-19108-02	1
3	TE-19108-03	6
4	TE-19108-04	1
5	TE-19108-05	2
6	TE-19108-06	1
7	TE-19108-07	2
8	TE-19108-08	1
9	TE-19108-09	2
10	TE-19108-10	2
11	TE-19108-11	2
12	TE-19108-12	2
13	TE-19108-13	2
14	TE-19108-14	1
15	TE-19108-15	2
16	TE-19108-16	1
17	TE-19108-17	1
18	TE-19108-18	2
19	TE-19108-19	3
20	TE-19108-20	2
21	TE-19108-21	2
22	button_hex_.25_20_1.25	1
23	flat_hex_10_24_.625	4
24	nylock_.25_20	1
25	nylock_10_24	4
26	MMC# 9540K953	1

Note:
Set up for one side
Mirror Assembly for Half Field for
the opposite side



Material	QTY
Flat head 10-24 X0.625"	4
15/32"(1/2") A/C or CDX Plywood	1 sheet
1/4" Hardboard	1 (2'x4') sheet
2"x 4"x 8'	5.5
Frost King C35PH	1
McMaster 9540K953	1
Button Head 1/4"-20 x 1.25	1
Nylock 1/4"-20	1
Nylock 10-24	4
Frost King door sweep	1
2" Hook Fastener	48"
2" Vison Tape	11"
1.25" wood screws	~90
2.5" wood screws	~40

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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:

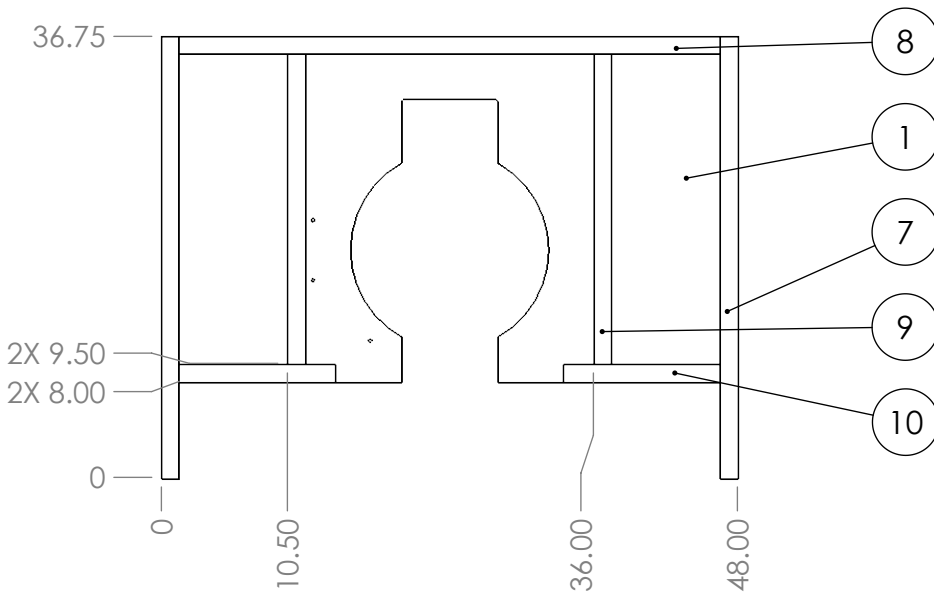
Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	
SCALE: 1:16		WEIGHT:
		SHEET 1 OF 13

2

1

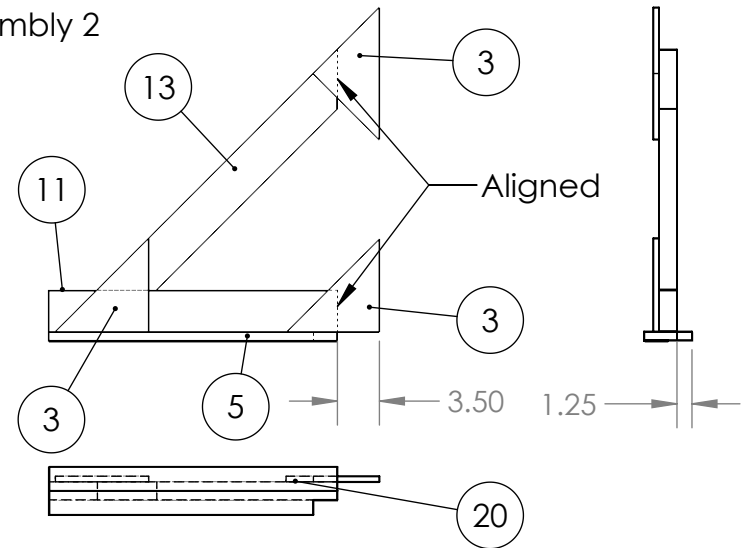
Subassembly 1



Note:

- Attach 9 10 7 8 together to make a frame. Use 2.5" screws to attach.
- Attach 1 to the frame flush to 7 and 10. Use 1.25" screws.
- Pre-drill as necessary

Subassembly 2





Note:

- Attach 13 to 11 with 2.5" screws. Reinforce with 3.
- Attach two more 3 as shown using 1.25" screws.
- Attach 20 as shown with 1.25" screws. Apply 20 to bottom.

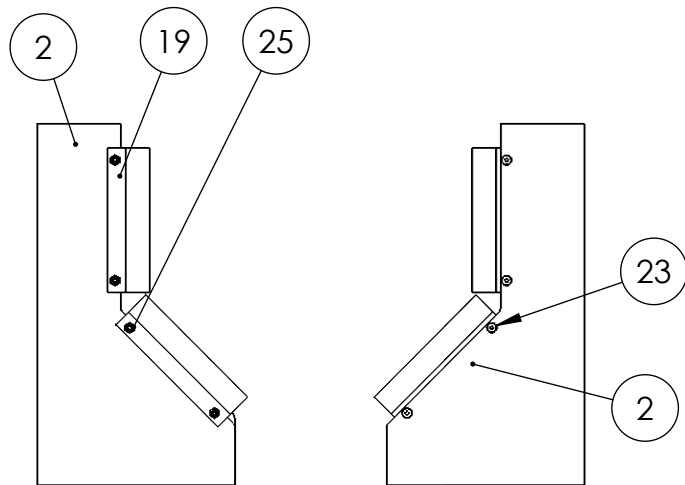
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		TOLERANCES:
		FRACTIONAL $\pm 1/16$
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		TWO PLACE DECIMAL $\pm .01$
		THREE PLACE DECIMAL $\pm .001$
		INTERPRET GEOMETRIC TOLERANCING PER:
		MATERIAL
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT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

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

 		
TITLE:		
Loading Station		
SIZE	DWG. NO.	REV
A	TE-19108	
SCALE: 1:16		WEIGHT:
		SHEET 2 OF 13

B



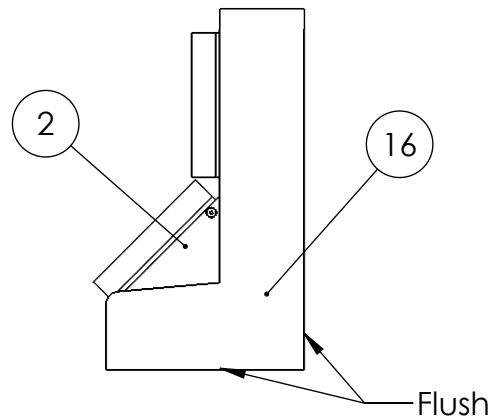
Front

Back

Note:

Attach (19) to (2) with (23) and (25).

Subassembly 3:



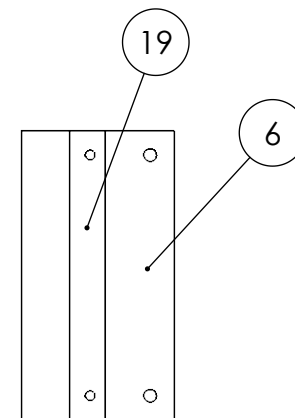
Flush

Note:

- Attach (16) to the back of (2) flush on indicated edges.

- Use 1.25" screws, but do not screw in all the way.

Subassembly 4:



Note:

Attach (19) to (6) with 1.25" screws

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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			



TITLE:
Loading Station

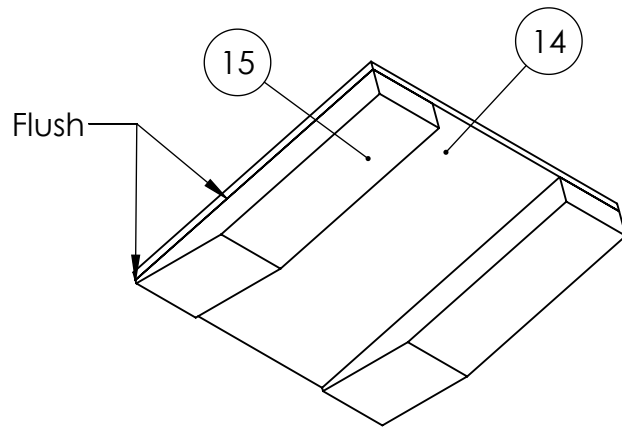
SIZE DWG. NO. REV
A **TE-19108**

SCALE: 1:16 WEIGHT: SHEET 3 OF 13

2

1

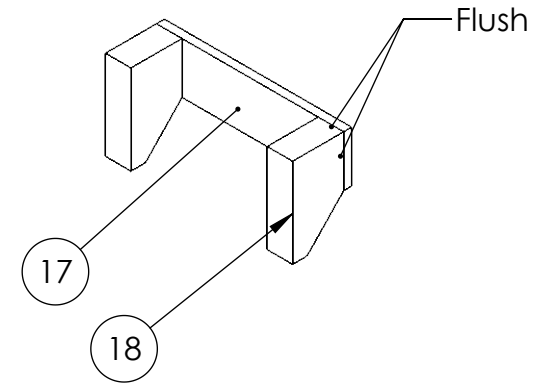
Subassembly 5:



Note:

- Attach 14 to 15 with 1.25" screws.
- Keep flush at indicated edges.

Subassembly 6:



Note:

- Attach 17 to 18 with 1.25" screws
- Keep flush at indicated edges.

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


FIRST
ROBOTICS
COMPETITION
SOLIDWORKS
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TITLE:

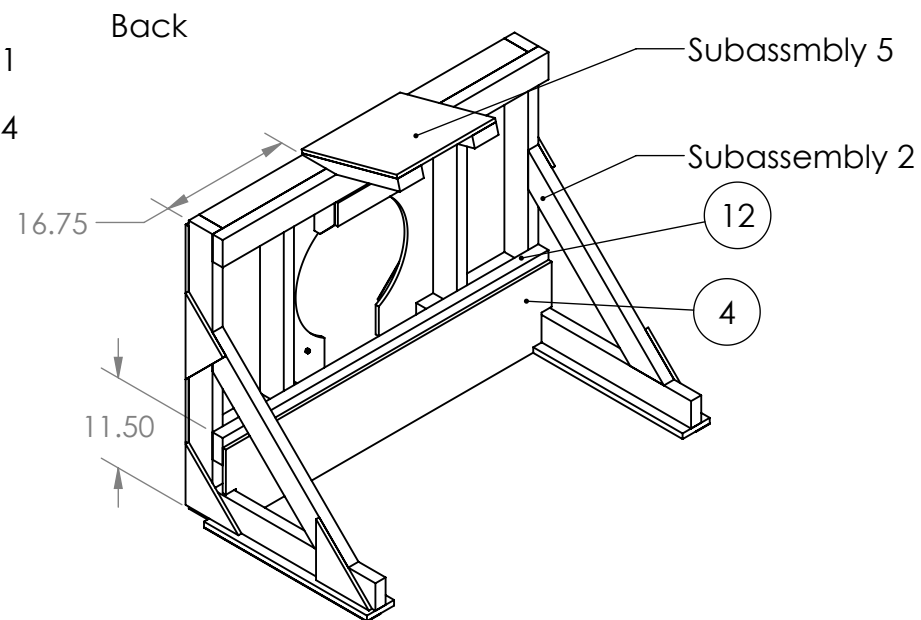
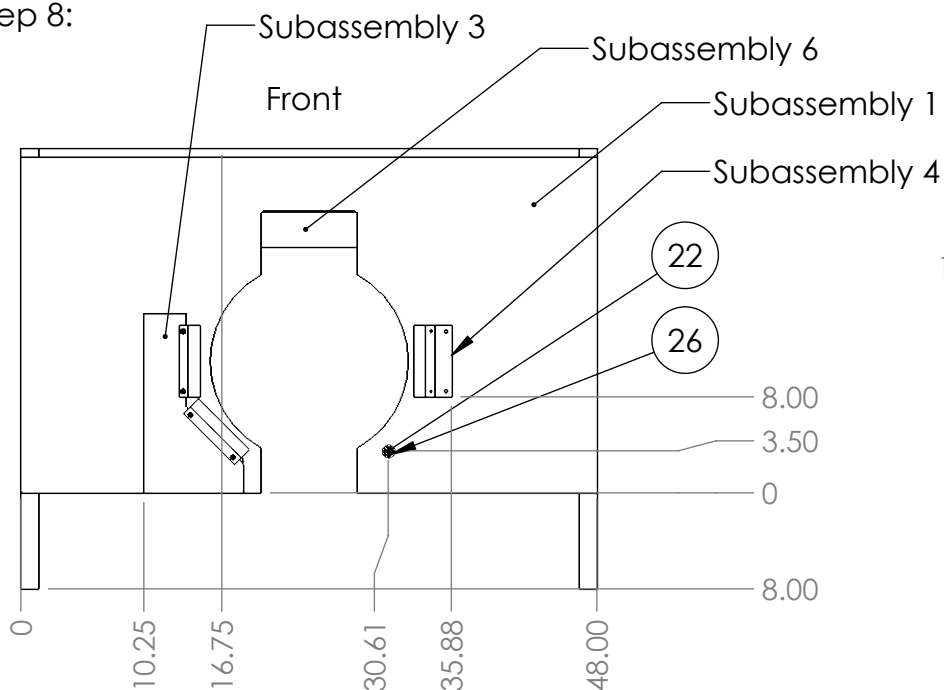
Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	
SCALE: 1:16	WEIGHT:	SHEET 4 OF 13

2

1

Step 8:



Note:

- Attach Subassembly 3 to Subassembly 1 using 1.25" screws.
- Attach Subassembly 4 to Subassembly 6 using 1.25" screws.
- Attach Subassembly 6 using 2.5" screws. Keep sides and top flush to opening.

Notes:

- Attach Subassembly 2 to the sides of Subassembly 1.
- Attach Subassembly 5 as shown. Use 2.5" screws to attach.
- Attach (12) using 2.5" screws.
- Attach (4) to (12) using 1.25" screws

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		DIMENSIONS ARE IN INCHES		DRAWN	
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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			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			



FIRST
ROBOTICS
COMPETITION



Modeling Solutions Partner

TITLE:

Loading Station

SIZE

A

DWG. NO.

TE-19108

REV

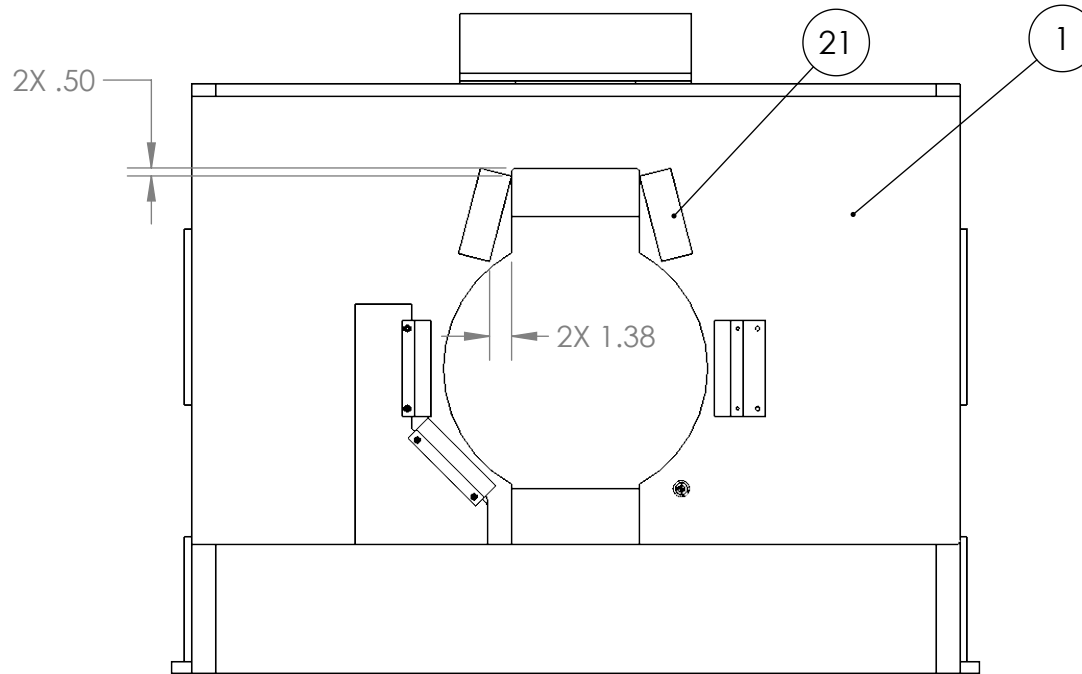
SCALE: 1:16 WEIGHT:

SHEET 5 OF 13

2

1

Step 10:



Note:

Attach (21) to (1) as shown.

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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

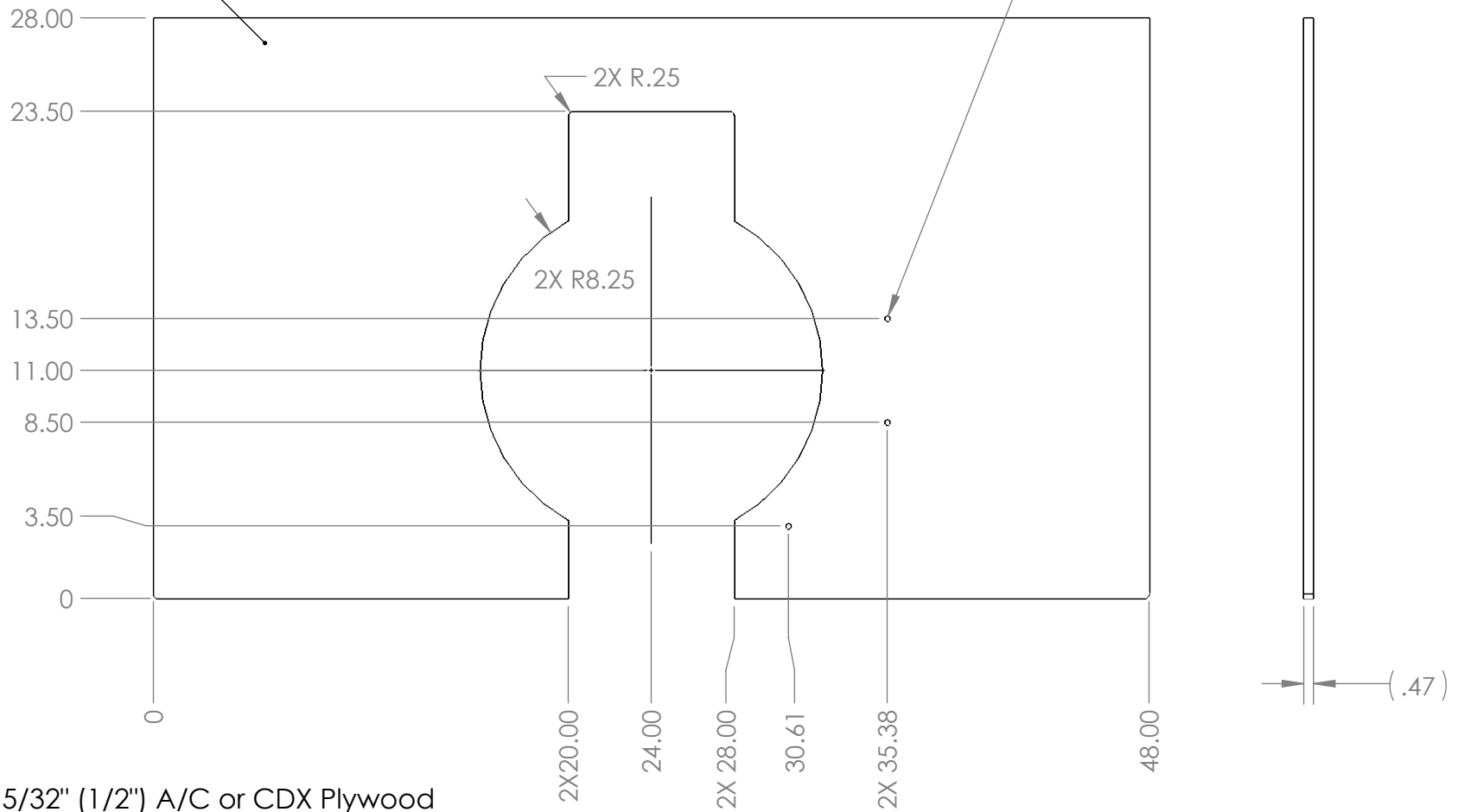
	NAME	DATE
DRAWN		
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		
COMMENTS:		



TITLE:
Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	
SCALE: 1:16		WEIGHT:
SHEET 6 OF 13		

TE-19108-01



Note:
Material 15/32" (1/2") A/C or CDX Plywood

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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**

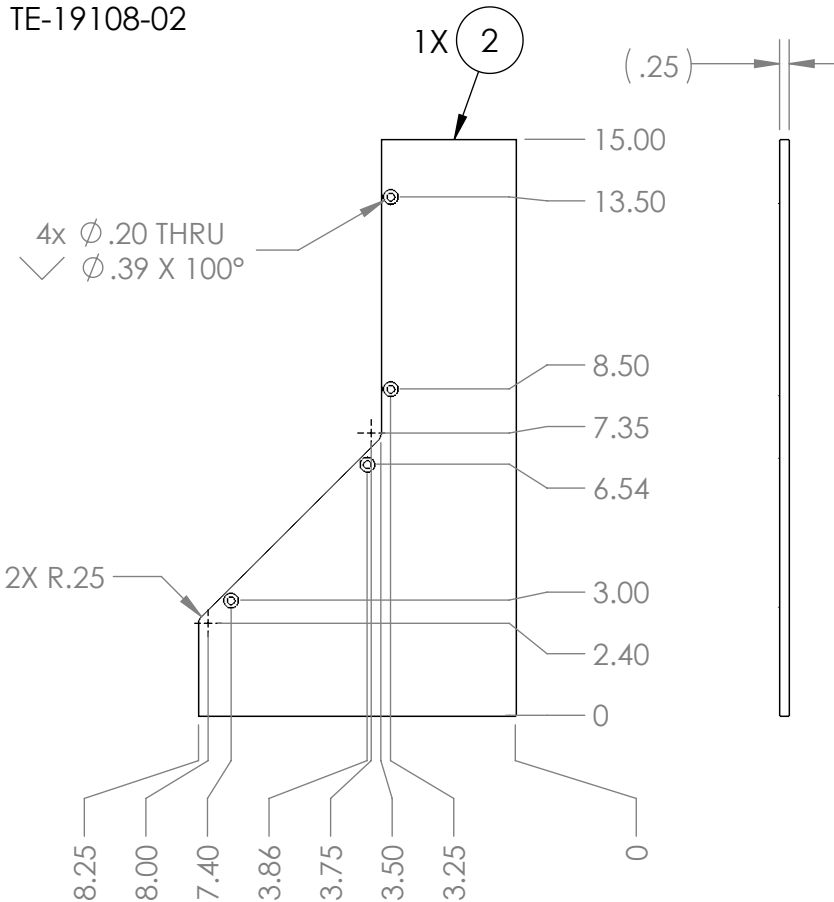
SOLIDWORKS
Modeling Solutions Partner

TITLE:

Loading Station

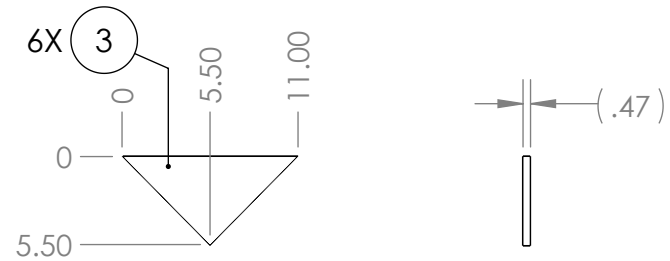
SIZE	DWG. NO.	REV
A	TE-19108	
SCALE: 1:16		WEIGHT:
		SHEET 7 OF 13

TE-19108-02



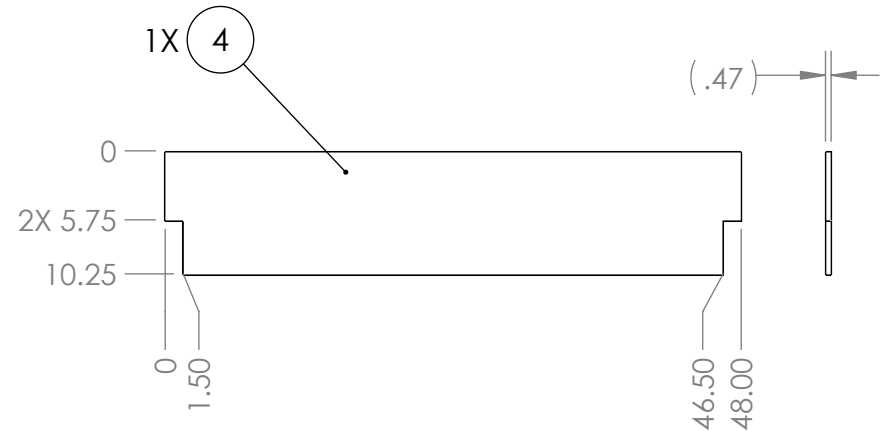
Note:
Material 1/4" Hardboard

TE-19108-03



Note:
Material 15/32" (1/2") A/C or CDX Plywood

TE-19108-04



Note:
Material 15/32" (1/2") A/C or CDX Plywood

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

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



TITLE:

Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	
SCALE: 1:16		WEIGHT:
SHEET 8 OF 13		

B

A

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

1

Technical drawing of a rectangular part. The front view shows a rectangle with dimensions 2.00 (width) and 6.00 (height). There are two holes: one at the top left with a diameter of 0.27 (labeled 2X Ø.27 THRU) and one at the bottom center with a diameter of 0.50 (labeled 1X 6). The distance from the top edge to the center of the top hole is 5.50. The distance from the bottom edge to the center of the bottom hole is 0.50. The distance from the left edge to the center of the bottom hole is 0.50. The side view shows a rectangle with a width of 1.00.

B

A



FIRST.
ROBOTICS
COMPETITION



TITLE:

Loading Station

SIZE

DWG. NO.	
----------	--

REV

A

TE-19108

SCALE: 1:16 WEIGHT:

SHEET 9 OF 13

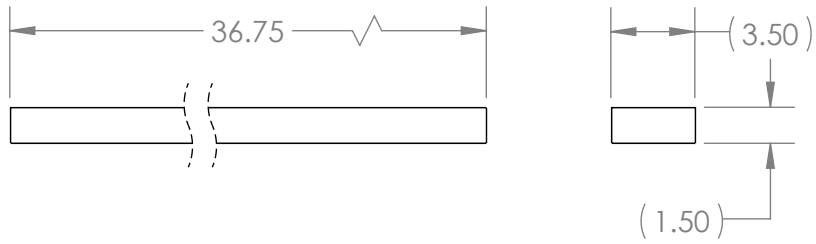
2

1

2

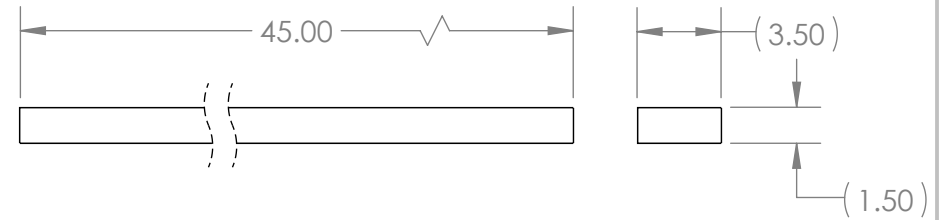
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TE-19108-07



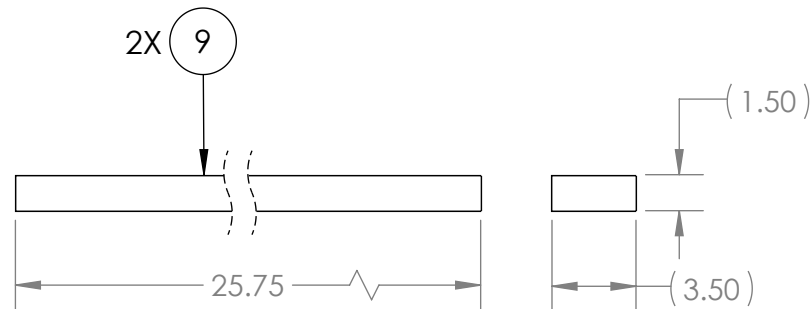
Notes:
Material 2"x 4" Lumber Pine

TE-19108-08



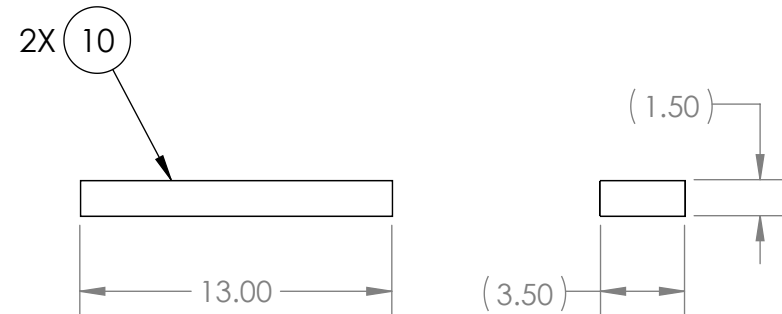
Notes:
Material 2"x 4" Lumber Pine

TE-19108-09



Notes:
Material 2"x 4" Lumber Pine

TE-19108-10



Notes:
Material 2"x 4" Lumber Pine

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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:		



**FIRST
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	

SCALE: 1:16	WEIGHT:	SHEET 10 OF 13
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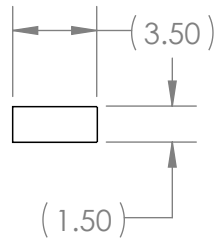
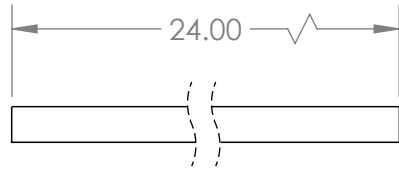
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2

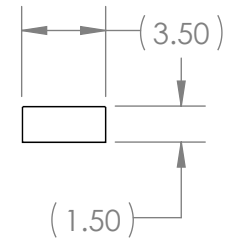
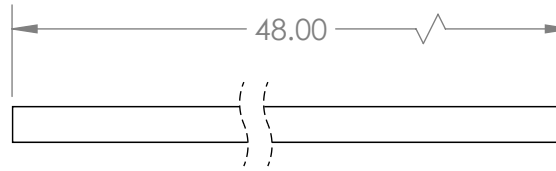
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TE-19108-11



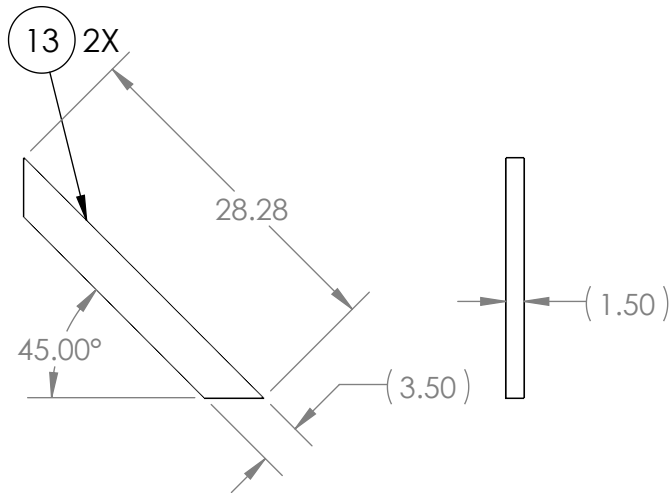
Notes:
Material 2"x 4" Lumber Pine

TE-19108-12



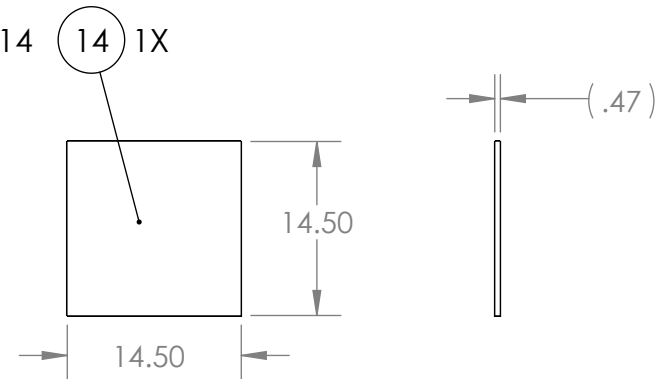
Notes:
Material 2"x 4" Lumber Pine

TE-19108-13



Notes:
Material 2"x 4" Lumber Pine

TE-19108-14



Note:
Material 15/32" (1/2") A/C or CDX Plywood

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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

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Loading Station

SIZE

A

DWG. NO.

TE-19108

REV

SCALE: 1:16 WEIGHT:

SHEET 11 OF 13

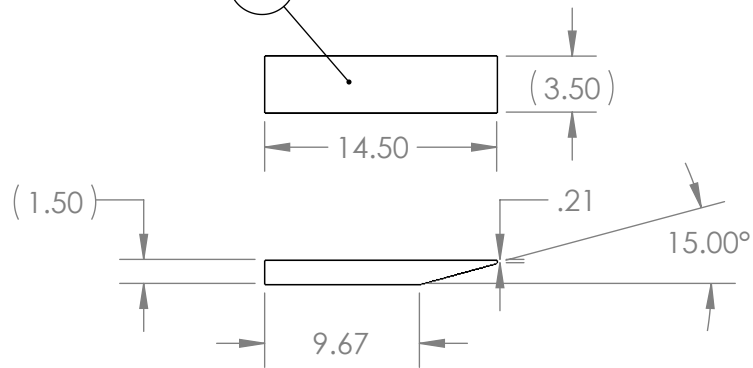
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1

B

TE-19108-15

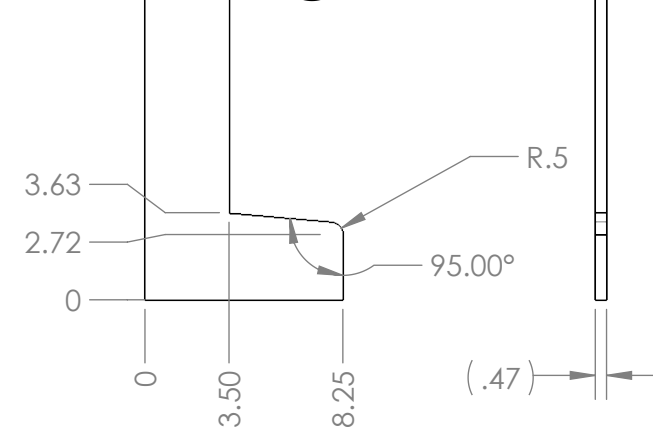
2X (15)



Note:
Material 2"x4" Pine Lumber

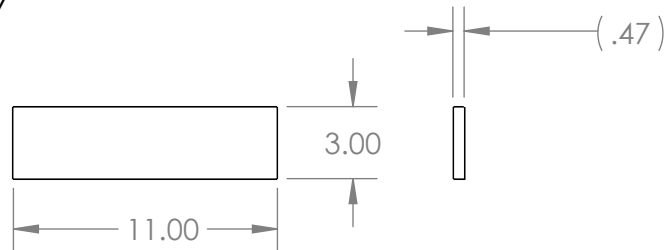
TE-19108-16

15.00 1X (16)



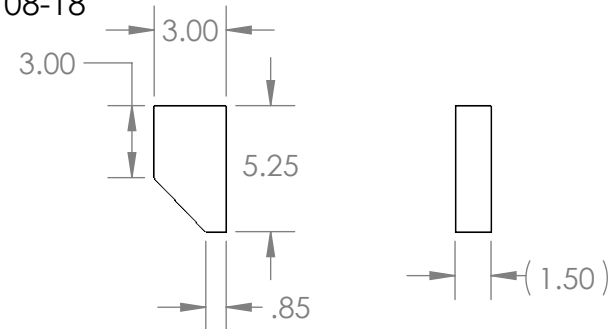
Note:
Material 15/32"(1/2") A/C or CDX Plywood

TE-19108-17



Note:
Material 15/32"(1/2") A/C or CDX Plywood

TE-19108-18



Note:
Material 2"x4" 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

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Loading Station

SIZE

DWG. NO.

REV

A

TE-19108

SCALE: 1:16 WEIGHT:

SHEET 12 OF 13

B

A

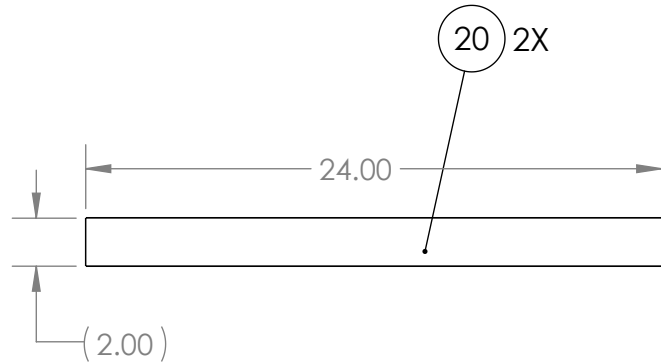
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2

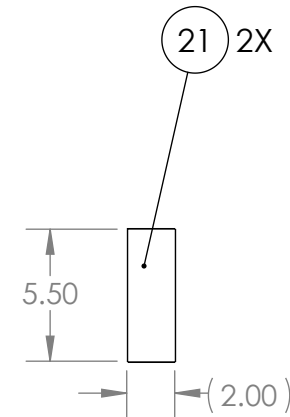
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TE-19108-20



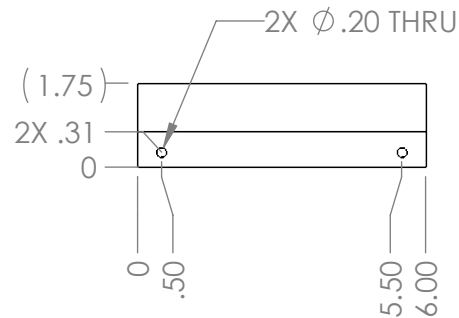
2" Hook Fastener

TE-19108-21





2" Vision Tape

TE-19108-19



Note:
Material Frost King C35PH

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		TOLERANCES:	CHECKED				
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		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:				SIZE	DWG. NO.
		MATERIAL				A	TE-19108
		FINISH				REV	
NEXT ASSY	USED ON						
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:16	WEIGHT:
						SHEET 13 OF 13	

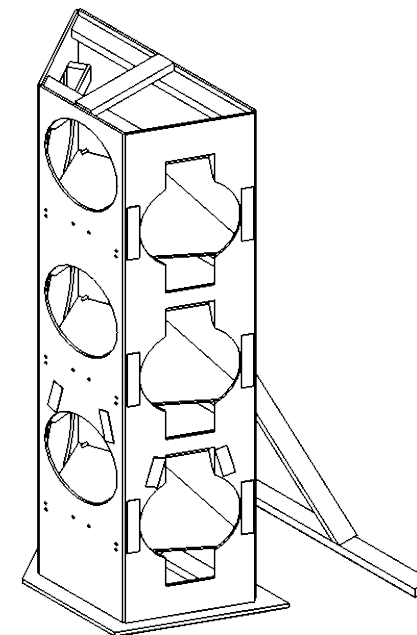
2

1



2

1

ITEM NO.	PART NUMBER	QTY.
1	TE-19113-01	1
2	TE-19113-02	2
3	TE-19113-03	1
4	TE-19113-04	6
5	TE-19113-05	2
6	TE-19113-06	1
7	TE-19113-07	4
8	TE-19113-08	4
9	TE-19113-09	4
10	TE-19113-10	1
11	TE-19113-11	6
12	TE-19113-12	12
13	TE-19113-13	12
14	TE-19113-15	6
15	TE-19113-16	1
16	TE-19113-17	3
17	flat_phil_.25_20_1.75	36



Material	QTY
23/32" (4/3") A/C or CDX Plywood	0.25 sheets
15/32" (1/2") A/C or CDX Plywood	3 sheets
2"x4"x8'	4
Flat Head 1/4"-20 x1.75	18
2" Hook Fastener	267"
2" Vison Tape	33"
1.25" screws	~60
2.5" screws	~100

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

TITLE:		Full Rocket	
SIZE	DWG. NO.	REV	
A	TE-19113		
SCALE: 1:32		WEIGHT:	SHEET 1 OF 11

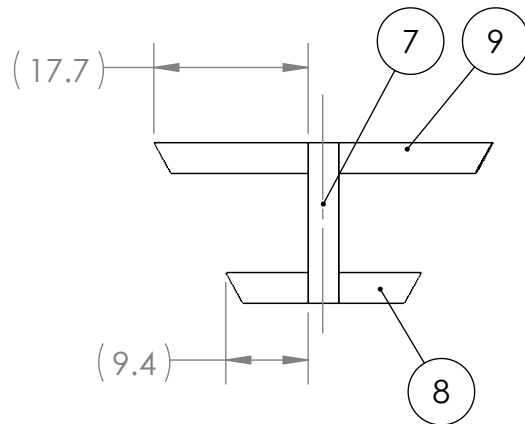
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1

2

1

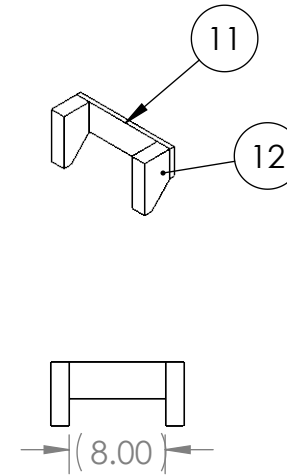
Subassembly 1: QTY 4



Notes:

- Attach (7) to (8) and (9).
- (7) is centered on top of (8) and (9).
- Pre-drill and attach items with 2.5" screws.

Subassembly 2: QTY 6



Note:

- Attach (11) to (12) 2X.
- (12) should be flush to top edge and side faces of (11).
- Pre drill and attach using 1.25" screws

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



TITLE:			Full Rocket		
SIZE	DWG. NO.		REV		
A	TE-19113				
SCALE: 1:32		WEIGHT:	SHEET 2 OF 11		

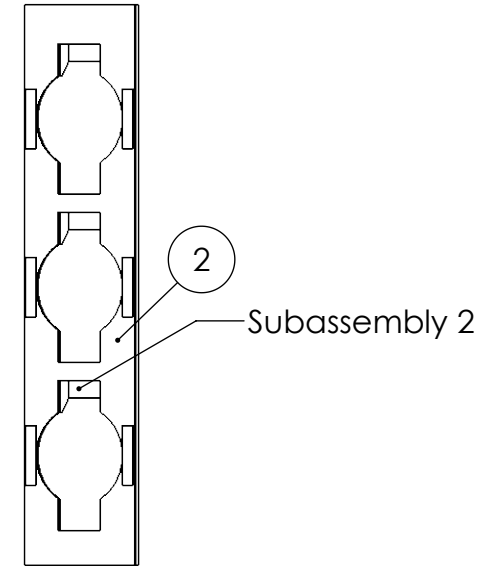
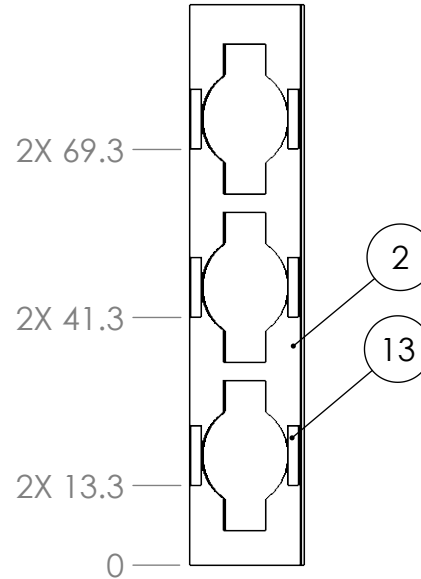
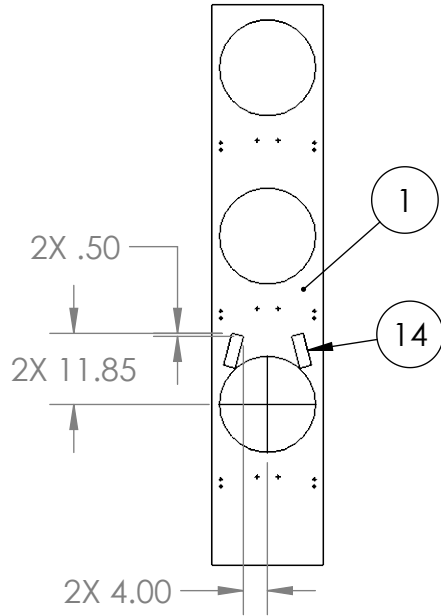
2

1

2

1

Subassembly 3:

Subassembly 4:
Qty. 2

Note:

Attach (14)x2 to (1).

Note:

- Attach (13) x6 to (2). (13) should be tangent to opening.
- Attach Subassembly 2 (qty.3) to (2). It should be flush to the top opening edges.
- Use 1.25" or 2.5" screws to attach items.

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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

FINISH

DO NOT SCALE DRAWING

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Full Rocket

SIZE

DWG. NO.

REV

A

TE-19113

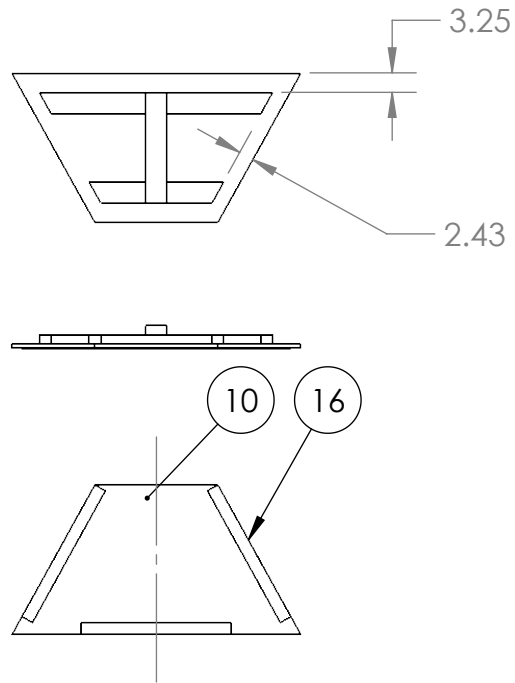
SCALE: 1:32 WEIGHT:

SHEET 3 OF 11

2

1

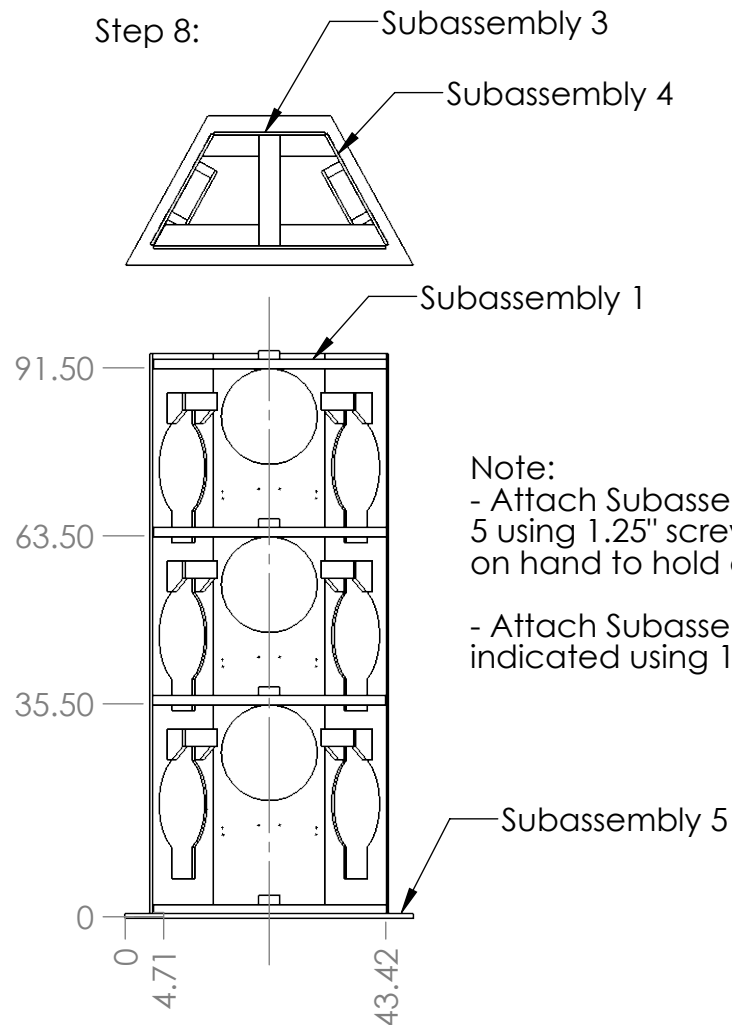
Subassembly 5:



Note:

- Attach 16 to 10 as shown.
- Attach Subassembly 1 using 1.25" screws.

Step 8:



Note:

- Attach Subassembly 3 and 4 to Subassembly 5 using 1.25" screws. Have additional people on hand to hold components in place.
- Attach Subassembly 1 at the locations indicated using 1.25" screws.

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

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



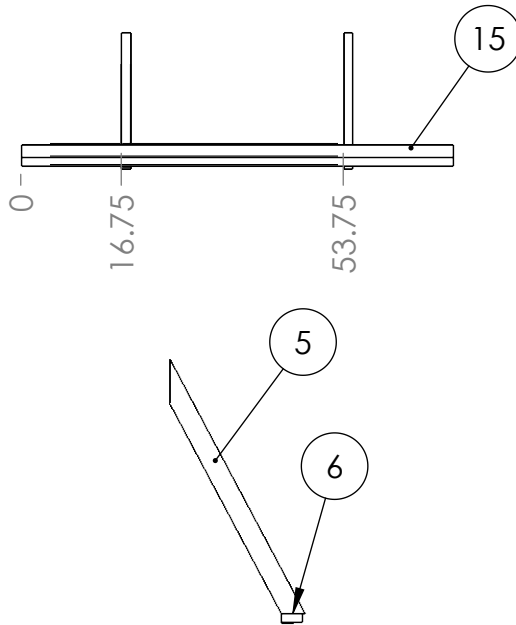
TITLE:

Full Rocket

SIZE	DWG. NO.	REV
A	TE-19113	
SCALE: 1:32		WEIGHT:
		SHEET 4 OF 11

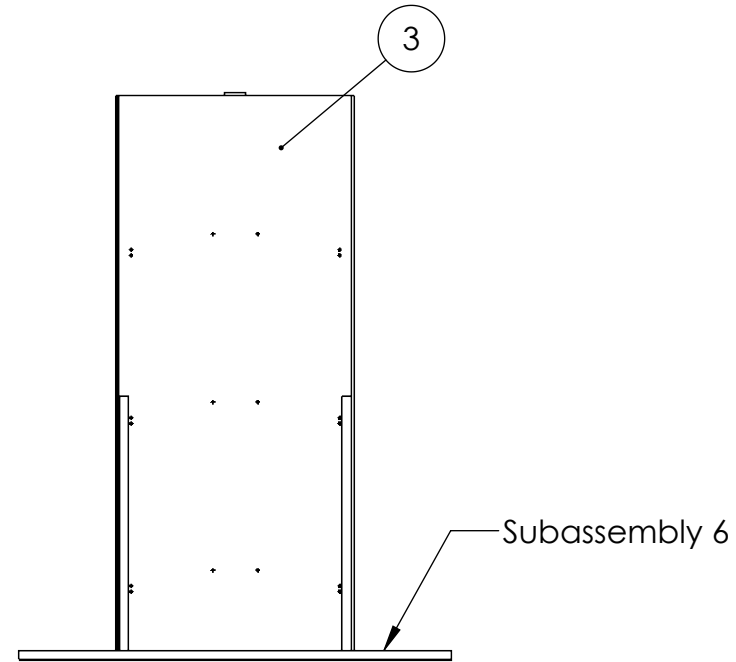
Subassembly 6:

Step 10:



Notes:

- Attach (5) to (6) at the two locations indicated. Pre-drill and use 2.5" screws.
- Attach (15) to (6)



Note:

- Attach (3) to Step 8 pre drill 2.5" screws
 - Attach Step 9 to (3) pre drill and 2.5" screw
- Step 9 sits flush to floor

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

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



TITLE:

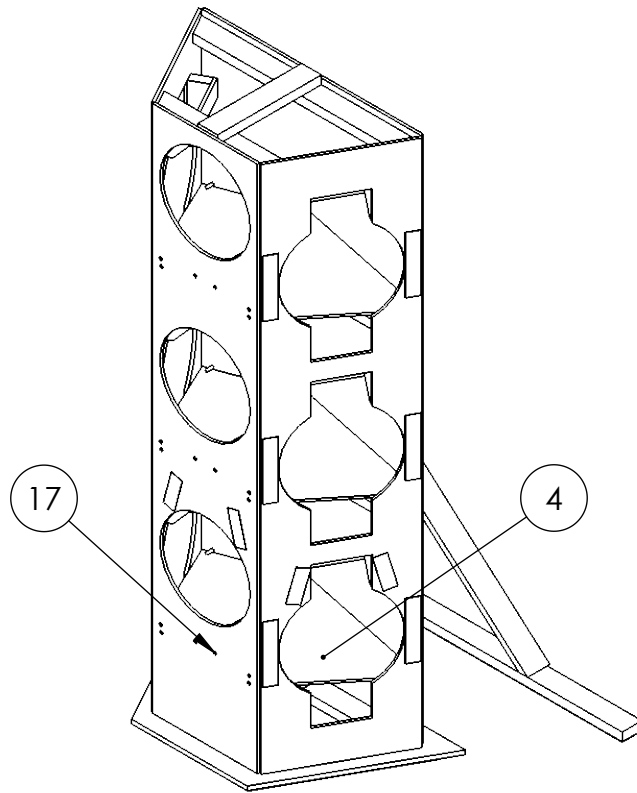
Full Rocket

SIZE	DWG. NO.	REV
A	TE-19113	
SCALE: 1:32		WEIGHT:
		SHEET 5 OF 11

2

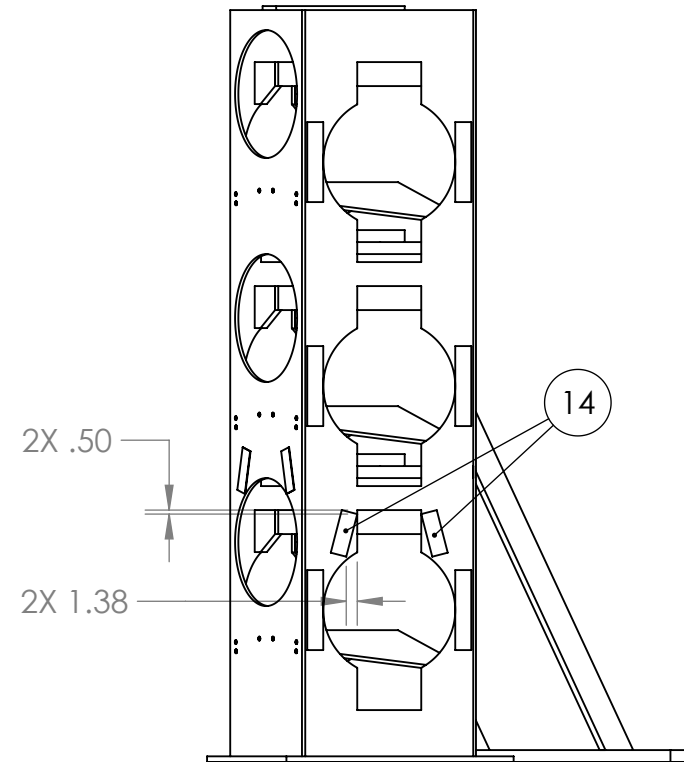
1

B



Note:

- Insert (17) x36 into all countersunk holes
- Lay (4) onto (17). One of the (17) will be on top of (4)



Note:

- Attach (14) 2X as shown. Repeat on other side.

B

A

A

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

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



TITLE:

Full Rocket

SIZE	DWG. NO.	REV
A	TE-19113	
SCALE: 1:32 WEIGHT:		SHEET 6 OF 11

2

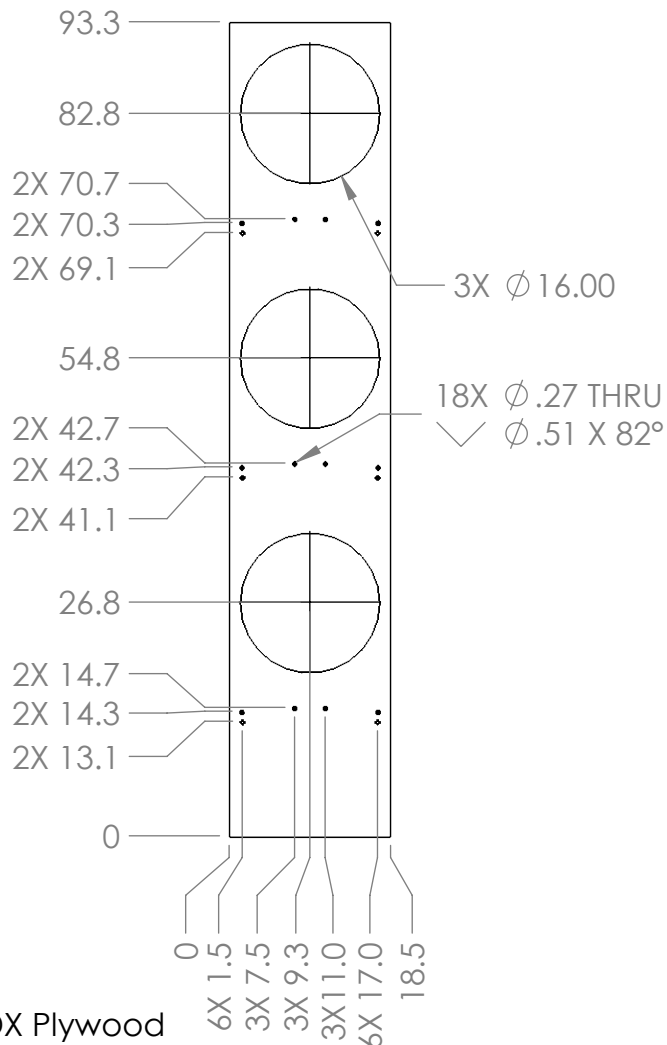
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B

TE-19113-01

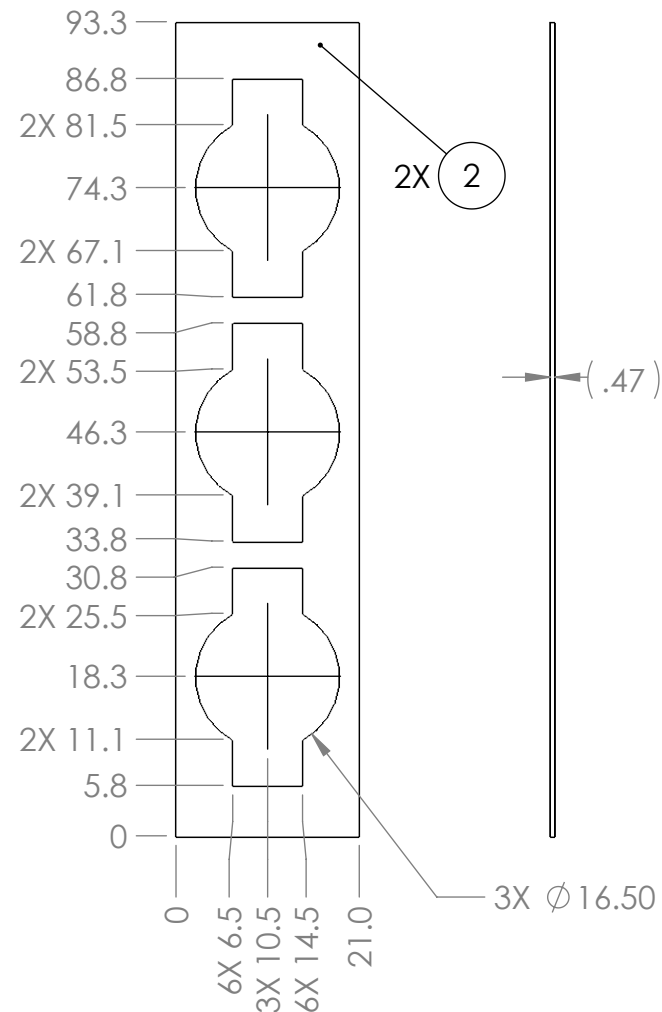
1X (1)

(.47)



Note:
15/32" A/C or CDX Plywood

TE-19113-02



Note:
15/32" A/C or CDX Plywood

B

A

A

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		FINISH
NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

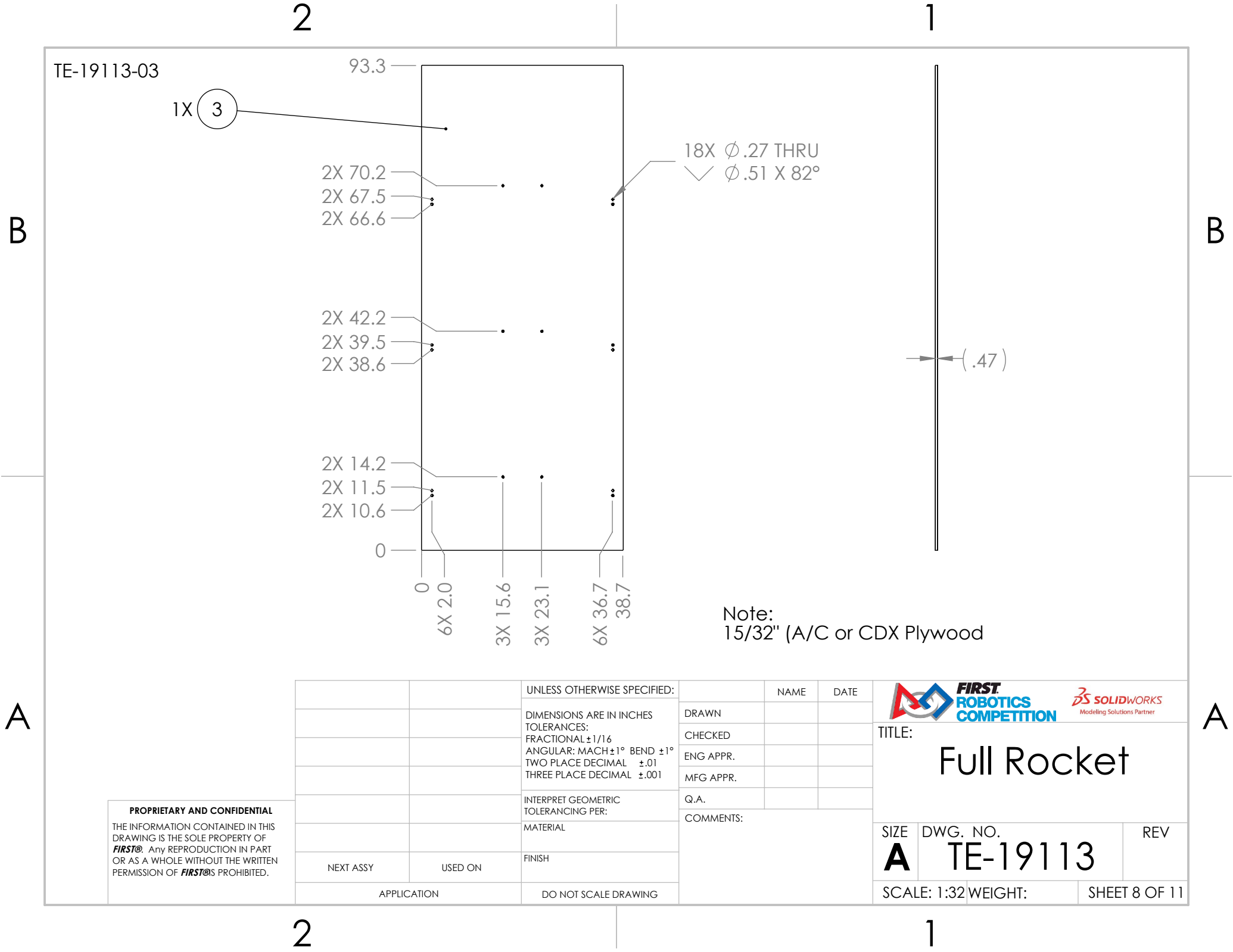
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DRAWN		
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MFG APPR.		
Q.A.		
COMMENTS:		



TITLE: Full Rocket		
SIZE A	DWG. NO. TE-19113	REV
SCALE: 1:32 WEIGHT:		SHEET 7 OF 11

2

1



A

A

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

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

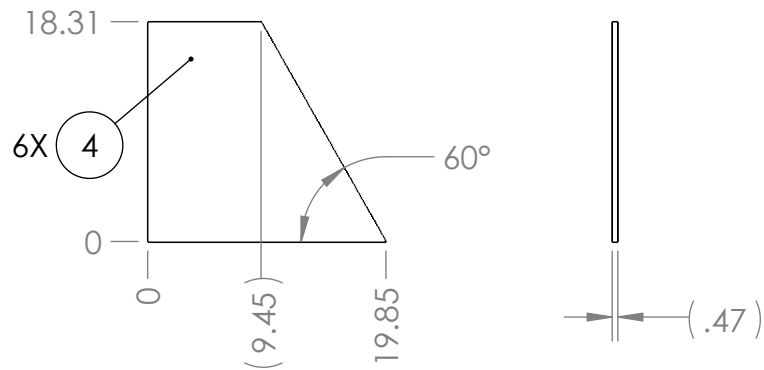


TITLE: Full Rocket		
SIZE A	DWG. NO. TE-19113	REV
SCALE: 1:32		WEIGHT:
SHEET 8 OF 11		

2

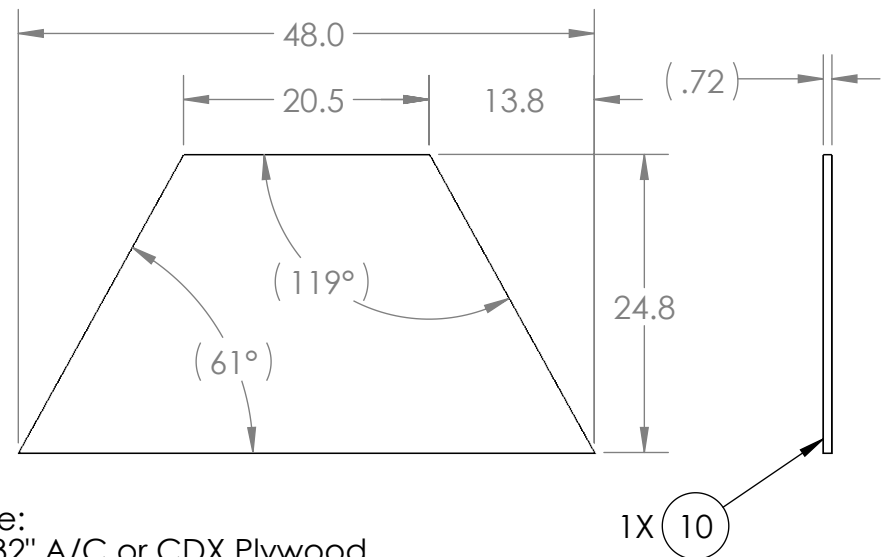
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TE-19113-04



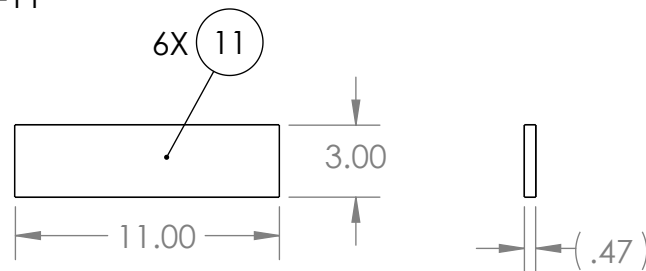
Note:
15/32" A/C or CDX Plywood

TE-19113-10



Note:
23/32" A/C or CDX Plywood

TE-19113-11



Note:
15/32" A/C or CDX Plywood

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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
NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

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



TITLE:
Full Rocket

SIZE	DWG. NO.	REV
A	TE-19113	
SCALE: 1:32		WEIGHT:
		SHEET 9 OF 11

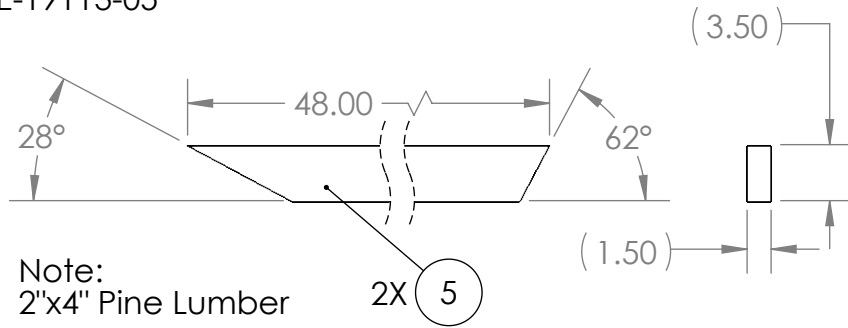
2

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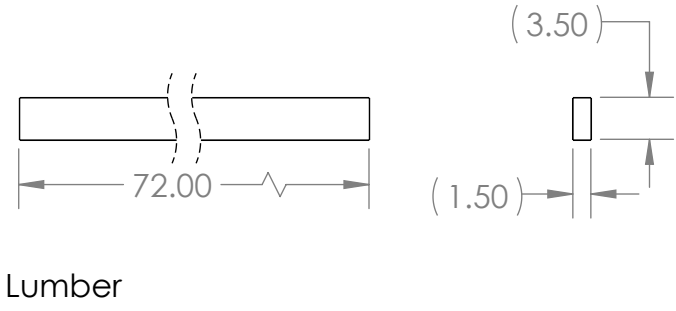
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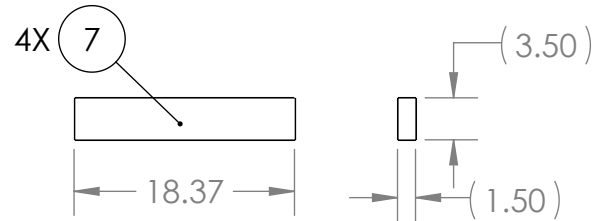
TE-19113-05



TE-19113-06

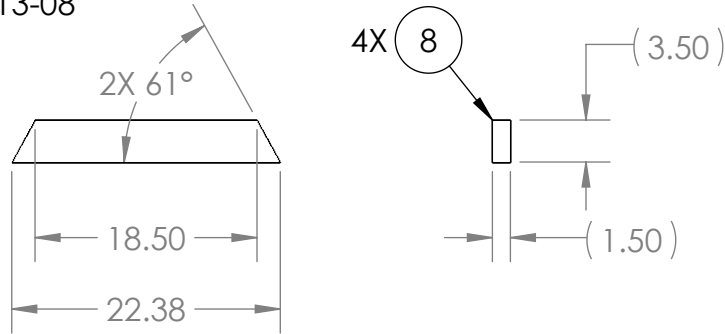


TE-19113-07

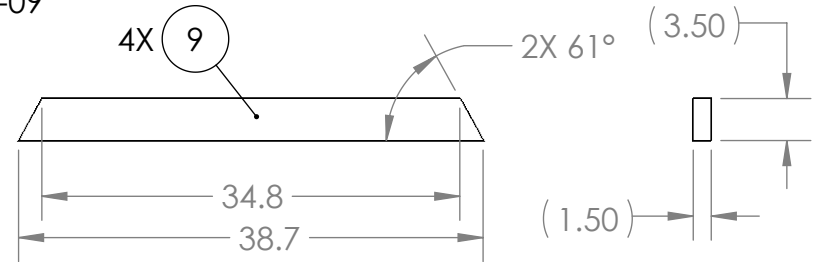


Note:
2"x4" Pine Lumber

TE-19113-08



TE-19113-09



Note:
2"x4" Pine Lumber

Note:
2"x4" Pine Lumber

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		THREE PLACE DECIMAL $\pm .001$
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		MATERIAL
NEXT ASSY	USED ON	FINISH
APPLICATION		DO NOT SCALE DRAWING

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



TITLE: Full Rocket		
SIZE A	DWG. NO. TE-19113	REV
SCALE: 1:32 WEIGHT:		SHEET 10 OF 11

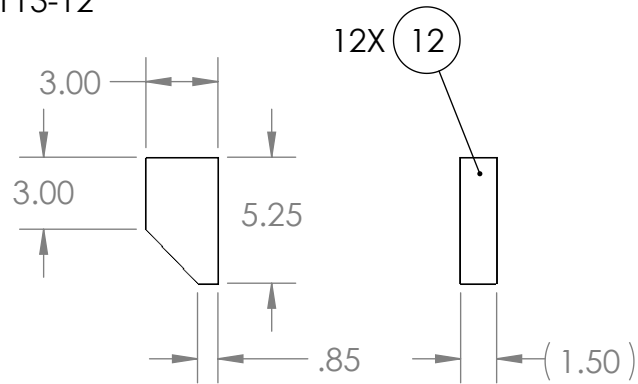
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1

2

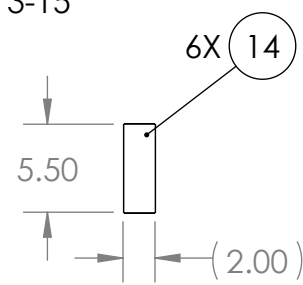
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TE-19113-12



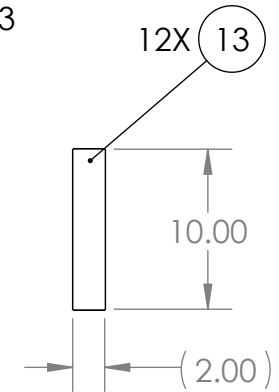
Note:
2"x 4" Pine lumber

TE-19113-15



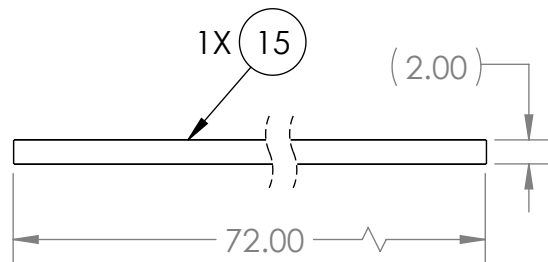
2" Vison Tape

TE-19113-13



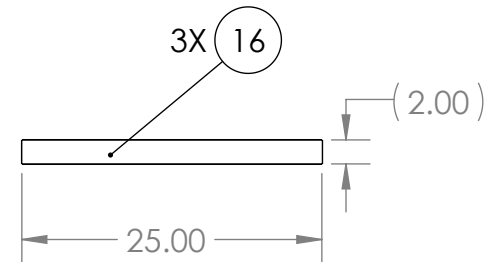
2" Hook Fastener

TE-19113-16



2" Hook Fastener

TE-19113-17



2" Hook Fastener

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NEXT ASSY

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APPLICATION

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INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

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MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



TITLE:

Full Rocket

SIZE

A

DWG. NO.

TE-19113

REV

SCALE: 1:32 WEIGHT:

SHEET 11 OF 11

2

1