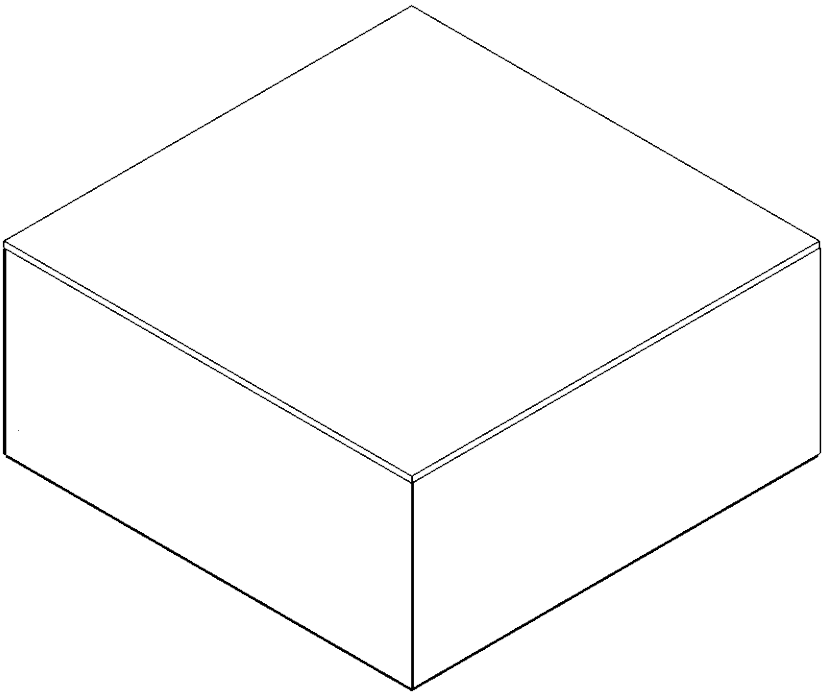


2

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

B

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	Q.A.		
		THREE PLACE DECIMAL ±.001	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
NEXT ASSY	USED ON	FINISH			
		DO NOT SCALE DRAWING			



TITLE:
2"x 4" Hab V3

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

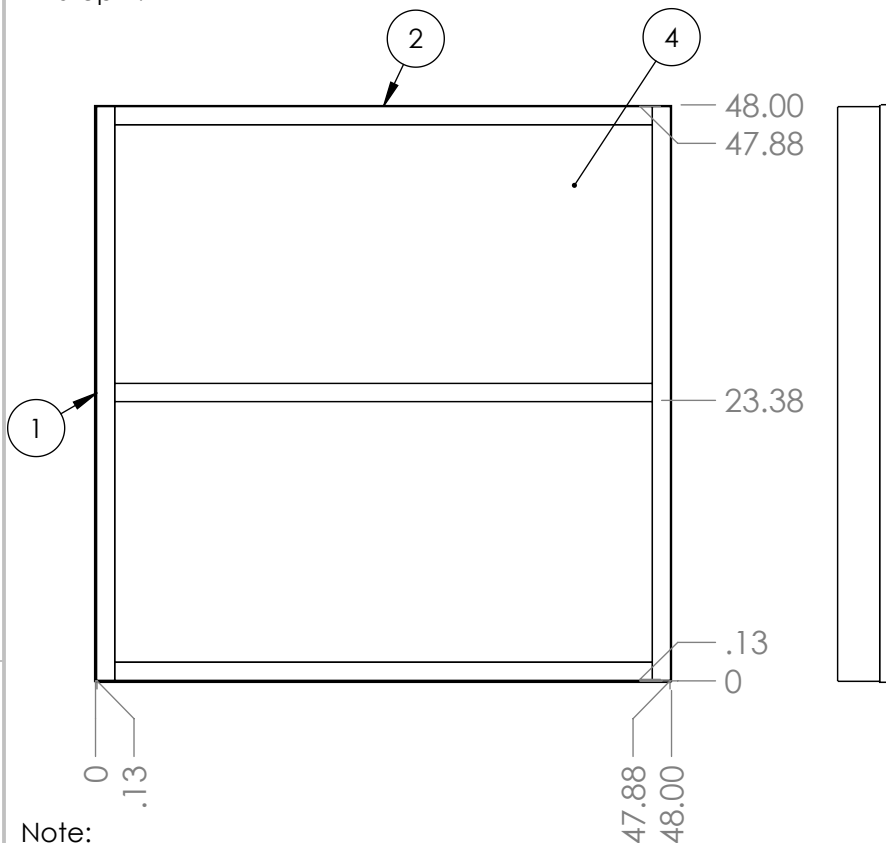
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1

2

1

Step 1:



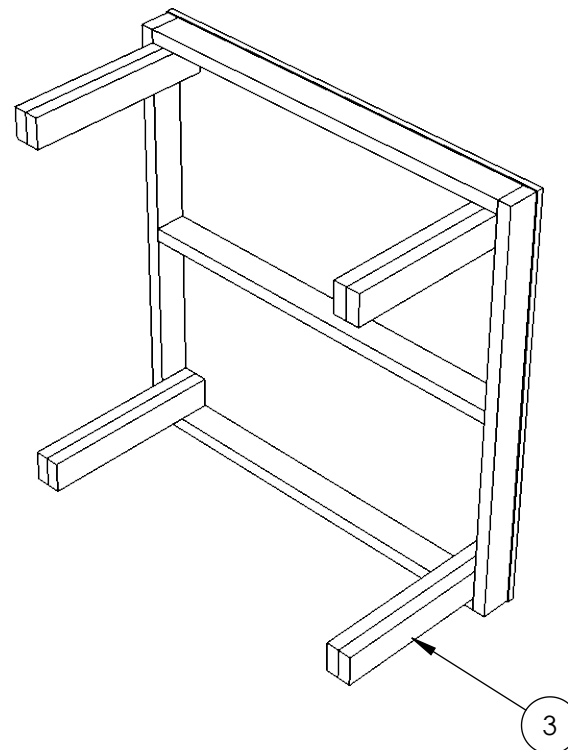
Note:

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

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NEXT ASSY

USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED:

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

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

NAME

DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

2"x 4" Hab lvl 3

SIZE

DWG. NO.

REV

A

TE-19102

SCALE: 1:16

WEIGHT:

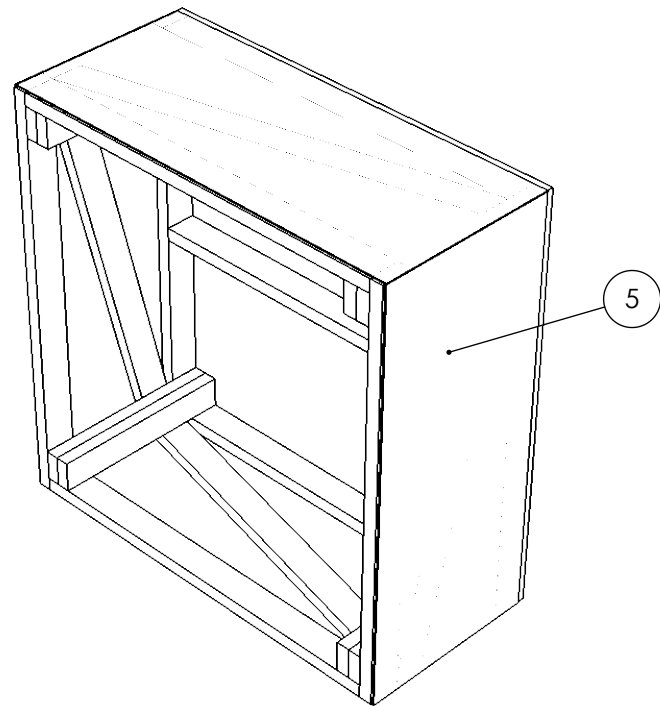
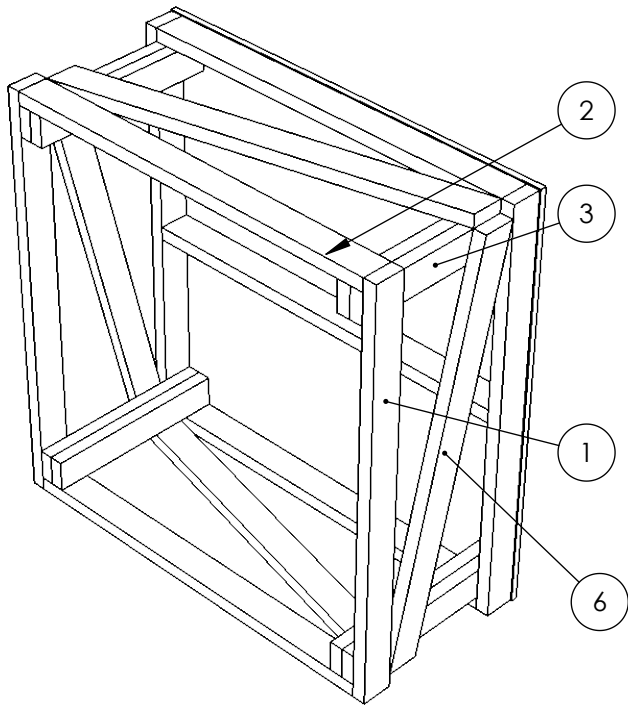
SHEET 2 OF 5

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



TITLE:
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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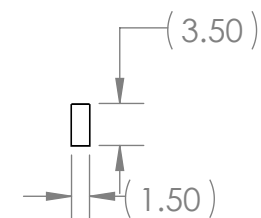
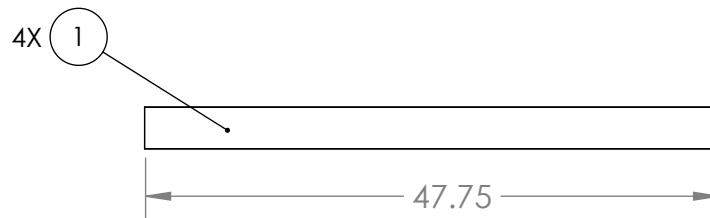
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1

2

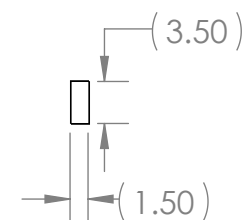
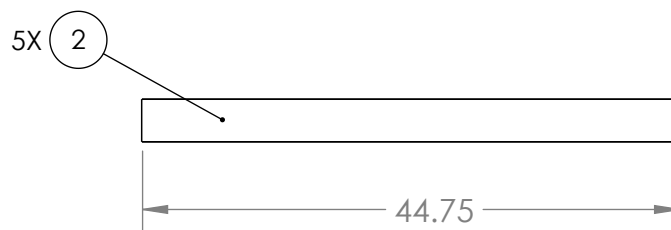
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TE-19102-01



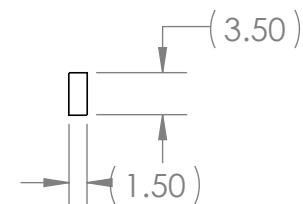
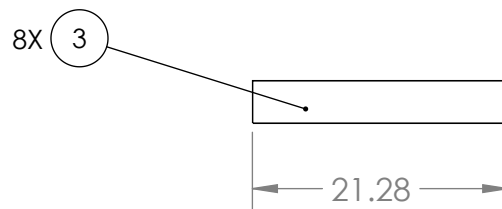
Note:
2 x 4 Pine Lumber

TE-19102-02



Note:
2 x 4 Pine Lumber

TE-19102-03



Note:
2 x 4 Pine Lumber

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

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



**FIRST
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

2"x 4" Hab lvl 3

SIZE

A

DWG. NO.

TE-19102

REV

SCALE: 1:16 WEIGHT:

SHEET 4 OF 5

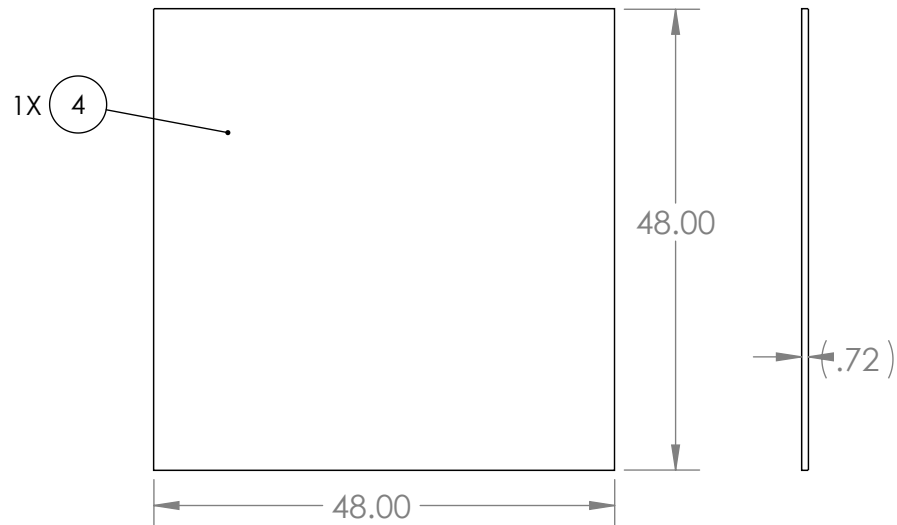
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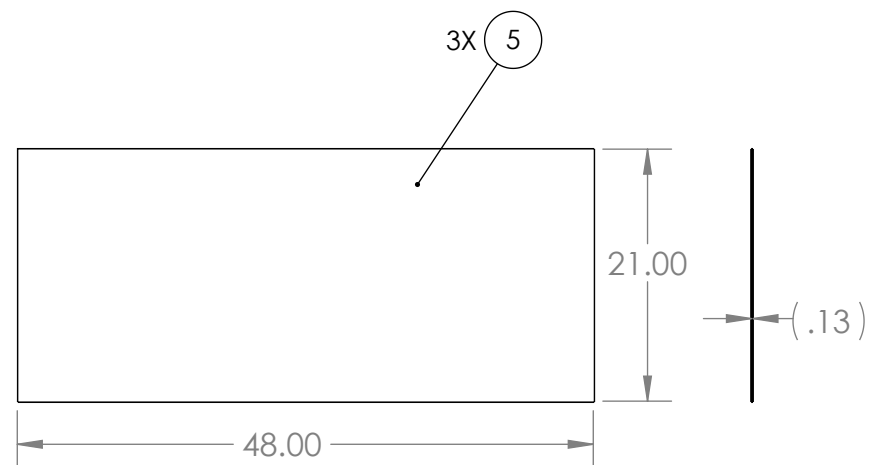
2

1

TE-19102-04



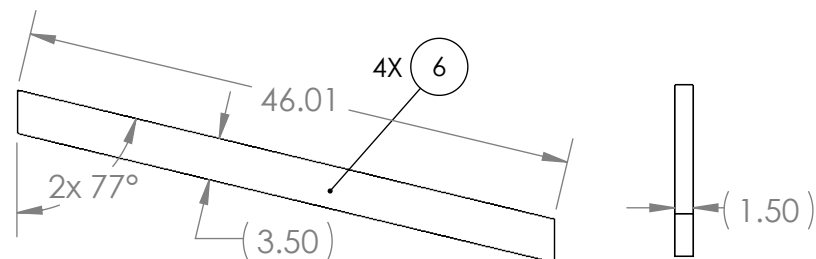
TE-19102-05



Note:
1/8" Hardboard

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

TE-19102-06



Note:
2"x 4" Lumber Pine

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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:

2"x 4" Hab lvl 3

SIZE

A

DWG. NO.

TE-19102

REV

SCALE: 1:16 WEIGHT:

SHEET 5 OF 5

2

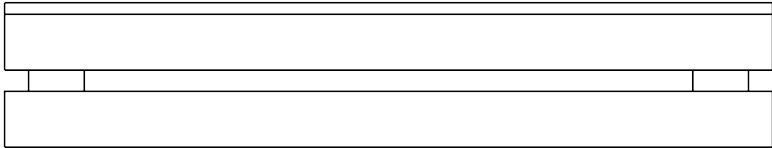
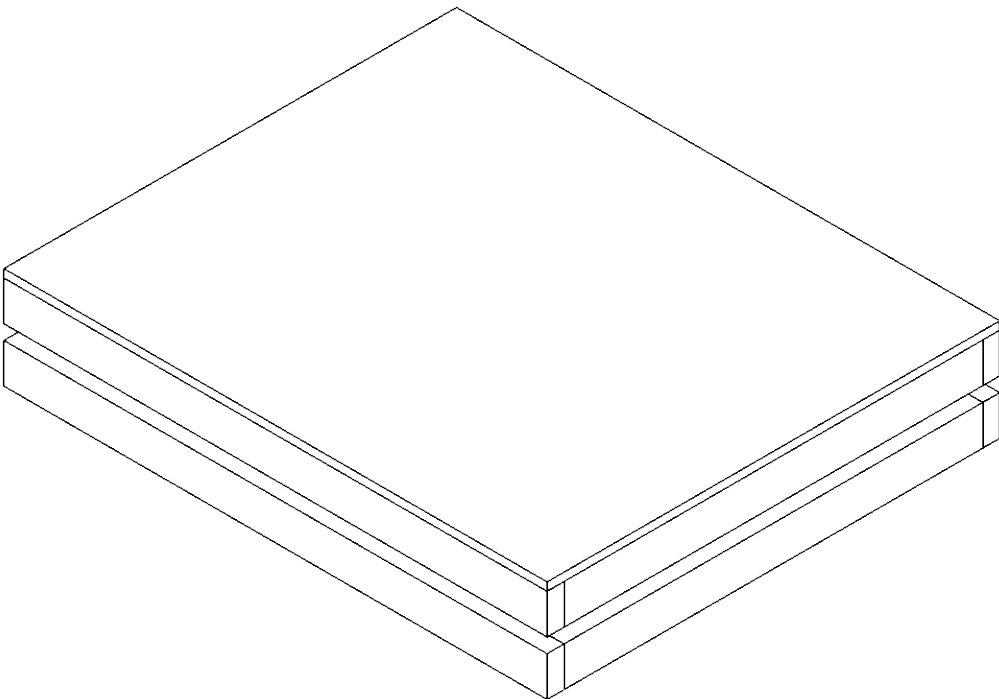
1

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

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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

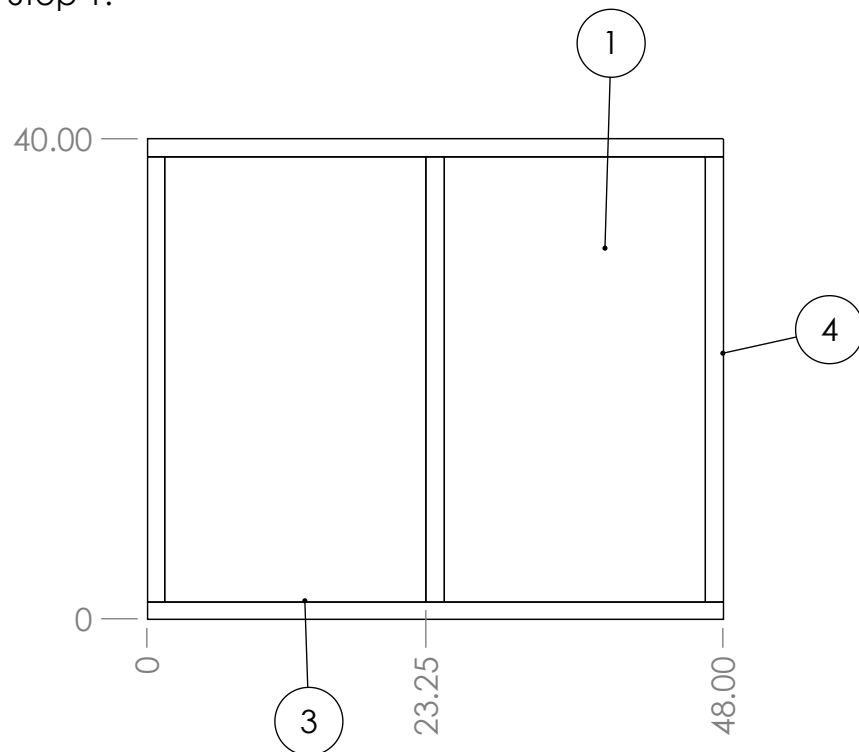
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Step 1:



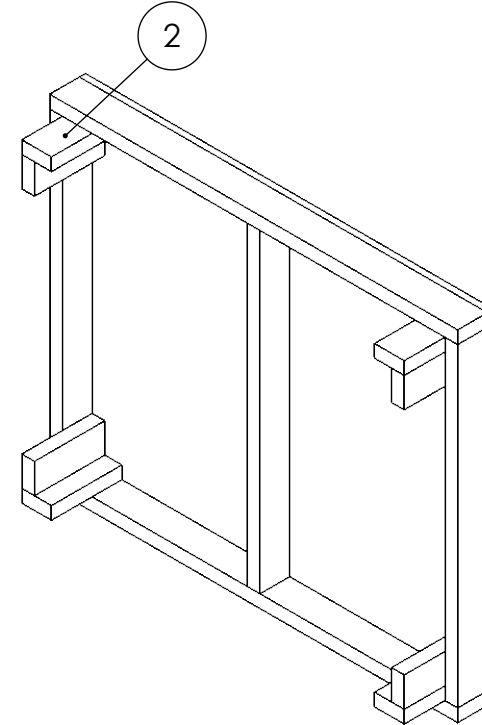
Note:

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
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 2 OF 5

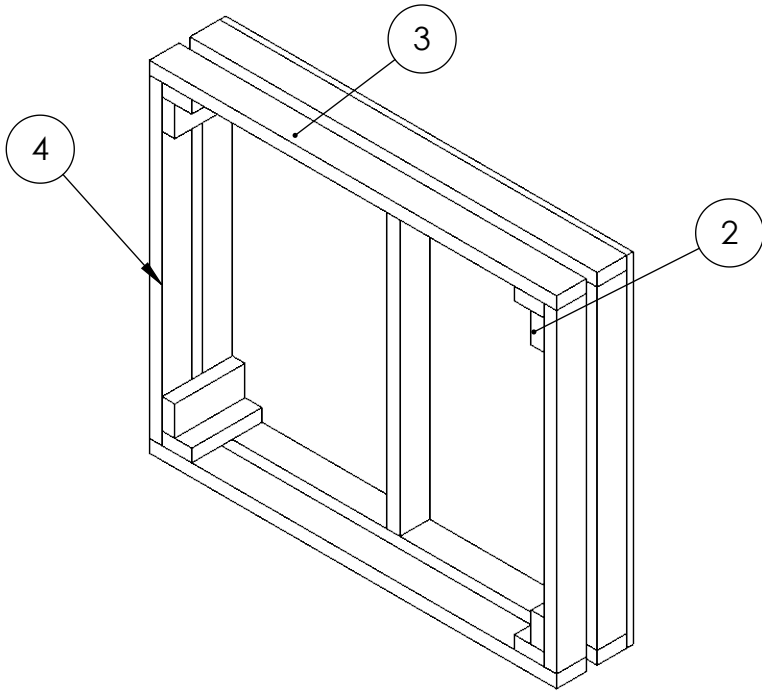
2

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1

Step 3:



Note:

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

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



TITLE:
2"X4" HAB v1 2

SIZE	DWG. NO.	REV
A	TE-19103	

SCALE: 1:12	WEIGHT:	SHEET 3 OF 5
-------------	---------	--------------

2

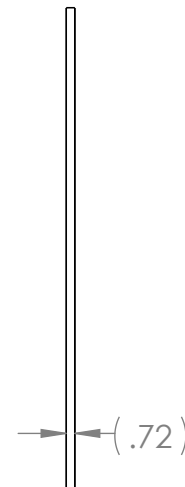
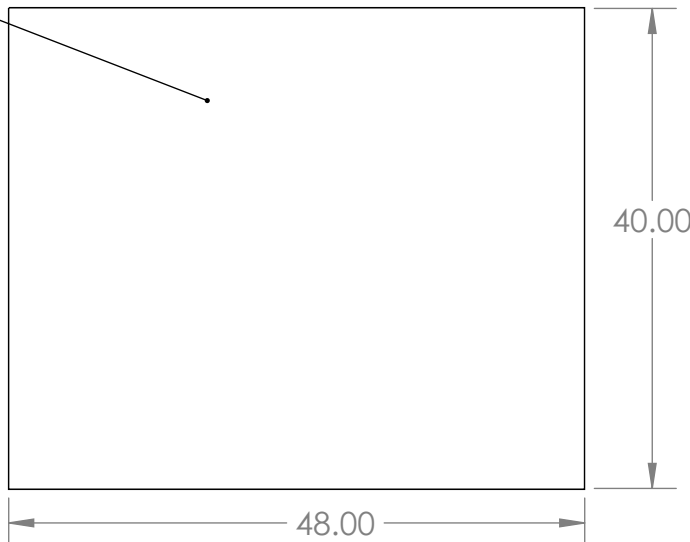
1

2

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TE-19103-01

1X (1)



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

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		DIMENSIONS ARE IN INCHES	DRAWN				
		TOLERANCES:	CHECKED				
		FRACTIONAL $\pm 1/16$	ENG APPR.				
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.				
		TWO PLACE DECIMAL $\pm .01$	Q.A.			TITLE: 2"X4" HAB IV 2	
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:				
		INTERPRET GEOMETRIC TOLERANCING PER:				SIZE	DWG. NO.
		MATERIAL				A	TE-19103
		FINISH					REV
NEXT ASSY	USED ON					SCALE: 1:12	WEIGHT:
APPLICATION		DO NOT SCALE DRAWING				SHEET 4 OF 5	

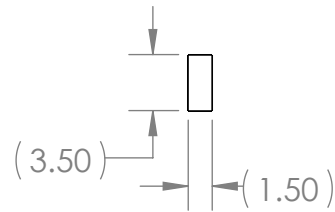
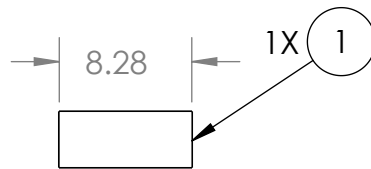
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1

2

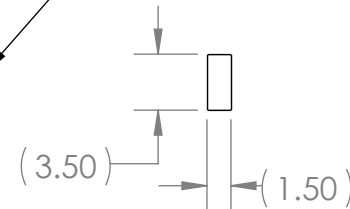
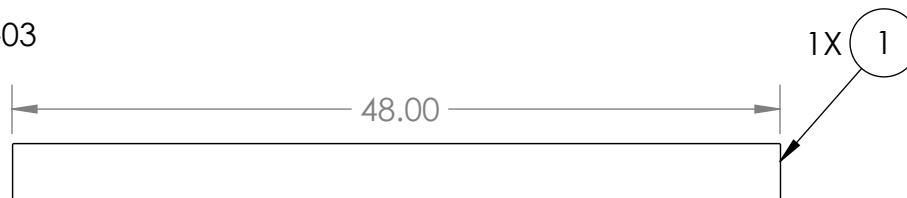
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TE-19103-02



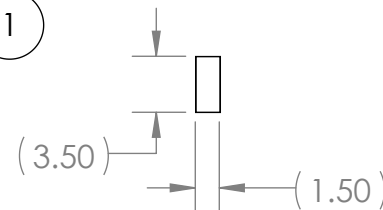
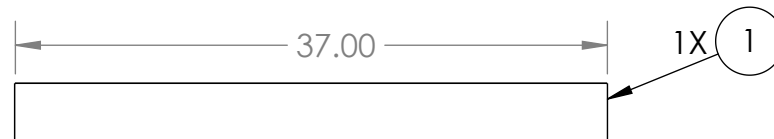
Notes:
2"x 4" Pine

TE-19103-03



Notes:
2"x 4" Pine

TE-19103-04



Notes:
2"x 4" Pine

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NEXT ASSY

USED ON

APPLICATION

UNLESS OTHERWISE SPECIFIED:

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

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

DO NOT SCALE DRAWING

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE



FIRST
ROBOTICS
COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

2"X4" HAB v1 2

SIZE

A

DWG. NO.

TE-19103

REV

SCALE: 1:12 WEIGHT:

SHEET 5 OF 5

2

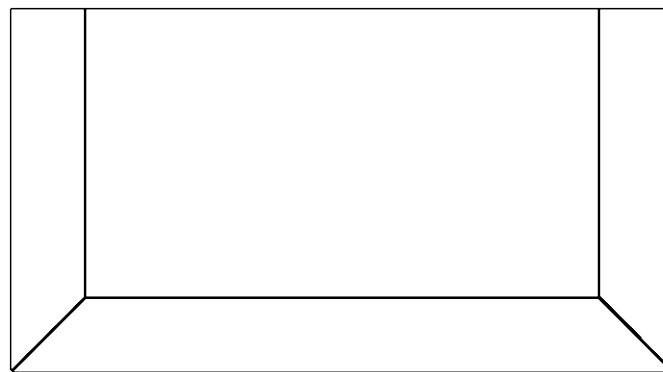
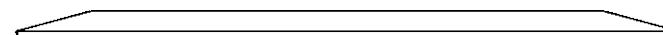
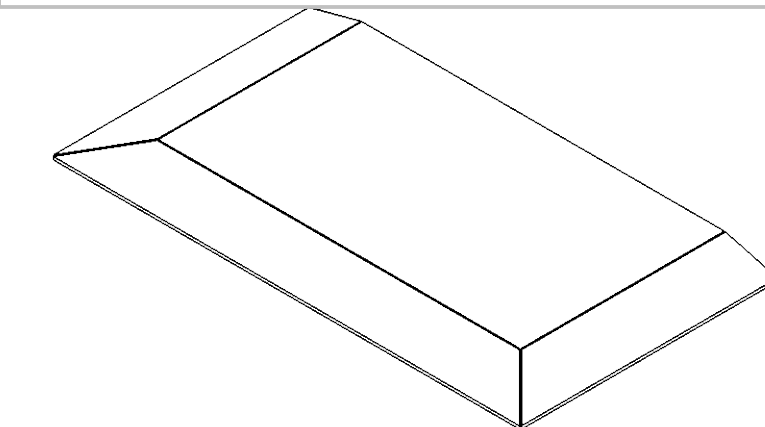
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2

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

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



FIRST
ROBOTICS
COMPETITION



TITLE:

Half Hab

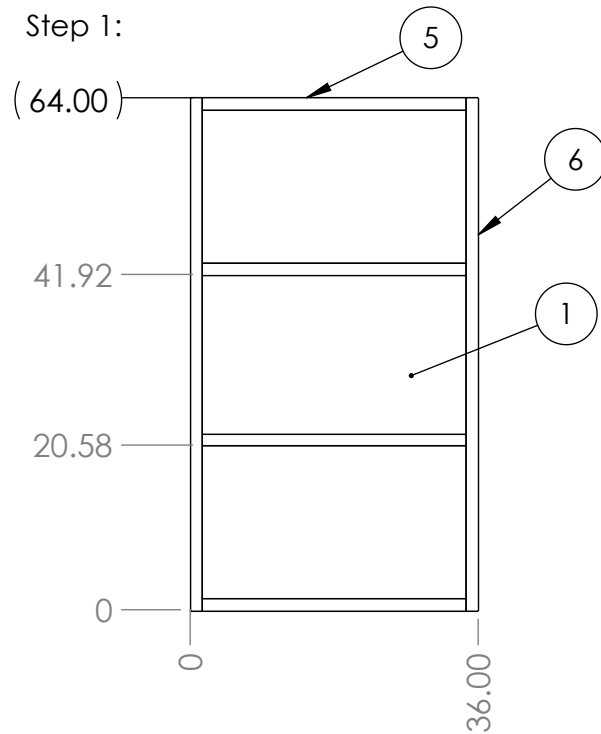
SIZE	DWG. NO.	REV
A	TE-19105	
SCALE: 1:24 WEIGHT:		SHEET 1 OF 5

2

1

B

Step 1:



Note:

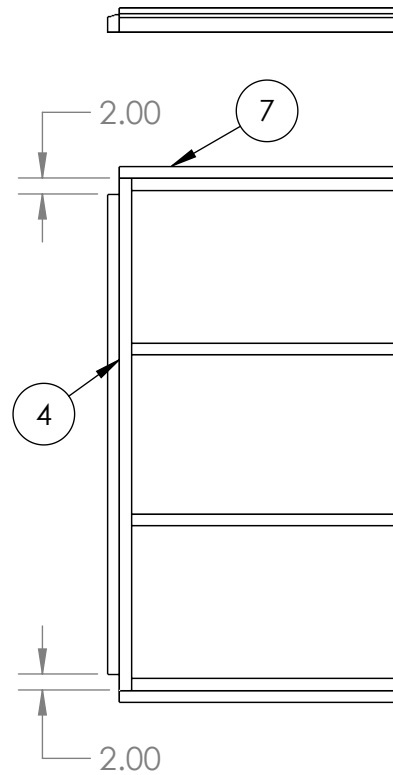
Attach Item 5 and 6 with 2.5" screws

Attach Item 1, 5, and 6 with

1.25" screws

Pre-drill

Step 2:

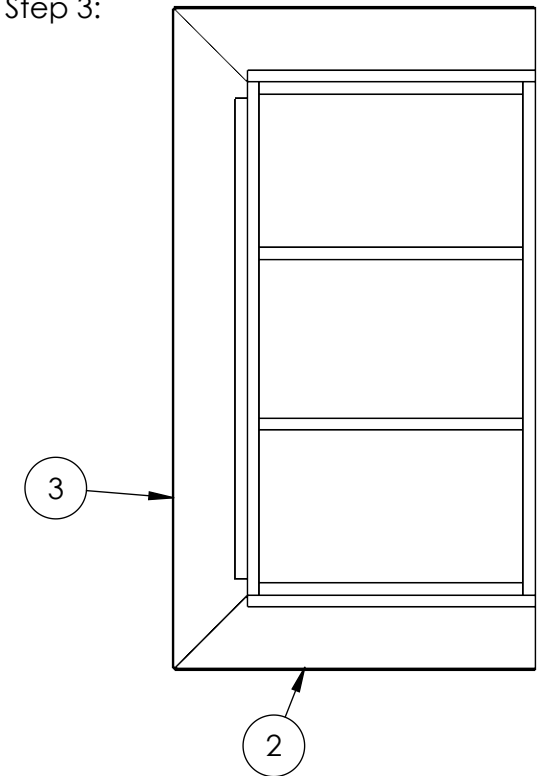


Note:

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

A

A

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



**FIRST
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Half Hab

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

2

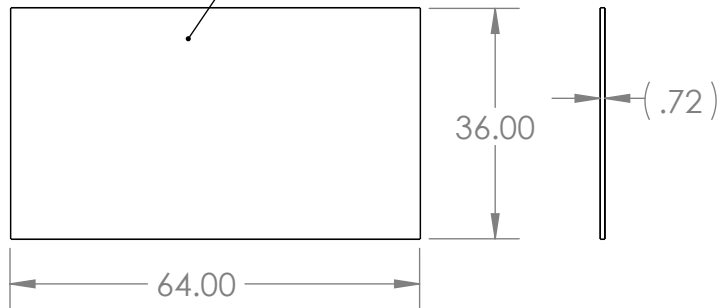
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2

1

TE-19105-01

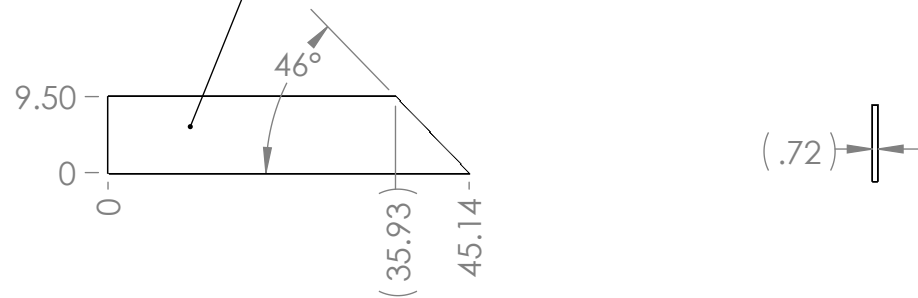
1 1X



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

TE-19105-02

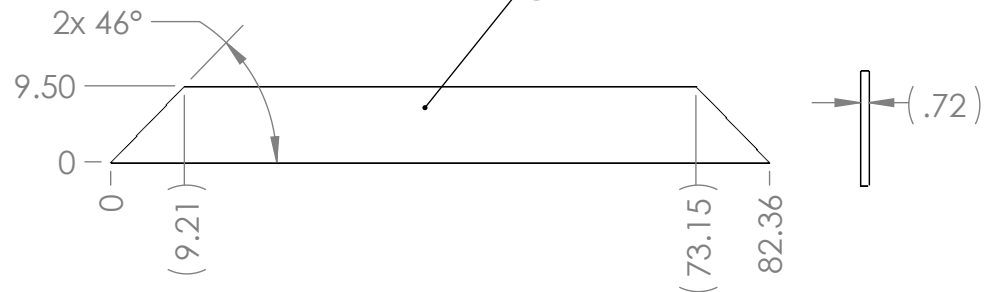
2 2X



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

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

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Half Hab

SIZE

A

DWG. NO.

TE-19105

REV

SCALE: 1:24 WEIGHT:

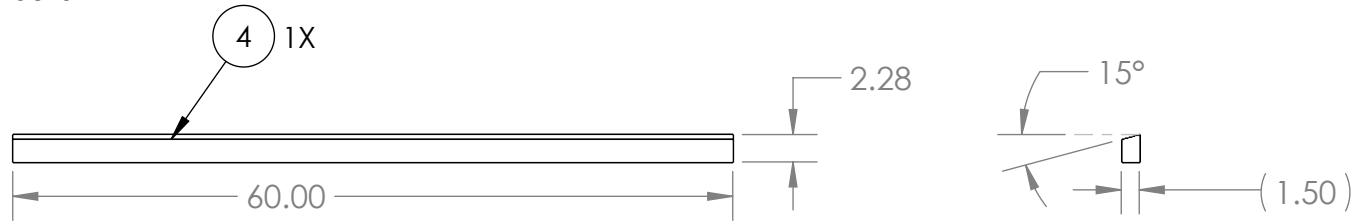
SHEET 3 OF 5

2

1

B

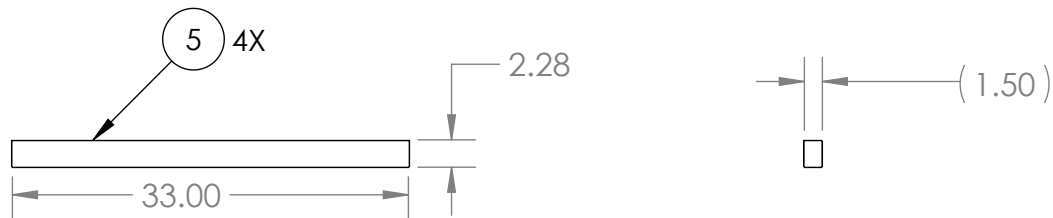
TE-19105-04



Note:
2x 4" Pine Lumber

B

TE-19105-05



Note:
2x 4" Pine Lumber

A

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



**FIRST
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Half Hab

SIZE	DWG. NO.	REV
A	TE-19105	
SCALE: 1:24		WEIGHT:
		SHEET 4 OF 5

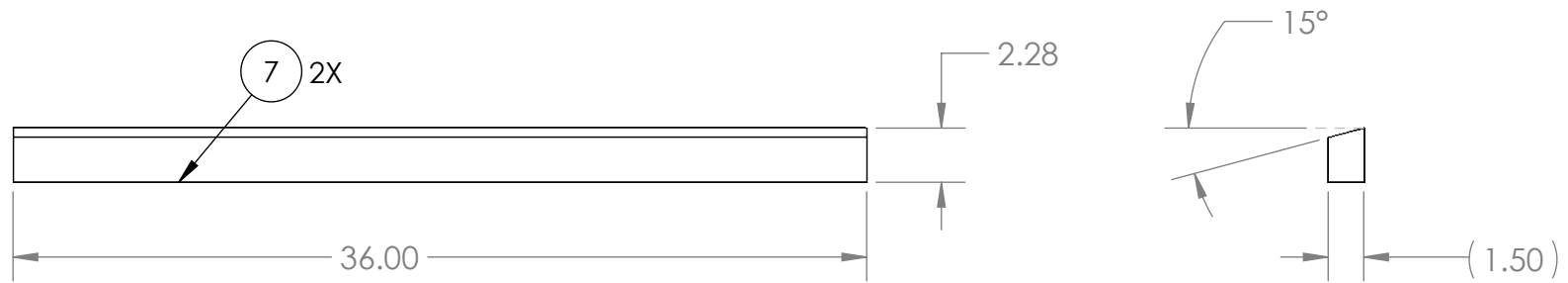
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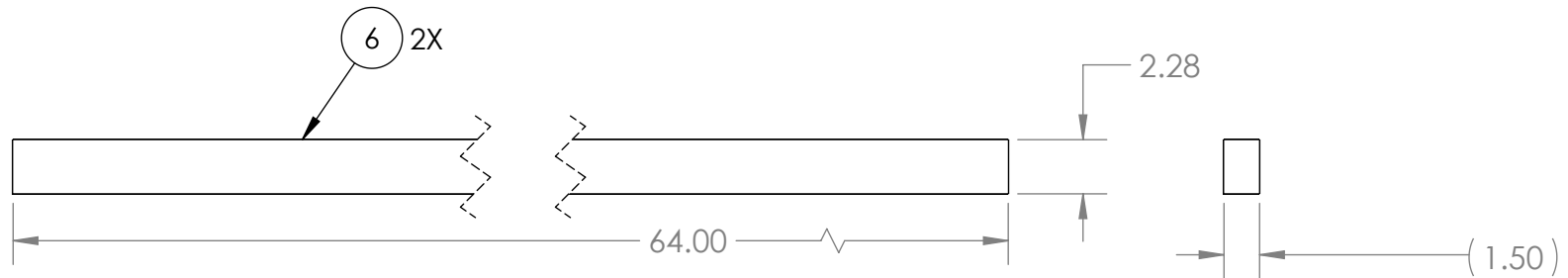
B

TE-19105



Note:
2x 4" Pine Lumber

TE-19105



Note:
2x 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
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:

Half Hab

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

A

A

2

1

B

A

2

1A

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Single Bay Side

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

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

REV

A

TE-19106

SCALE: 1:24 WEIGHT:

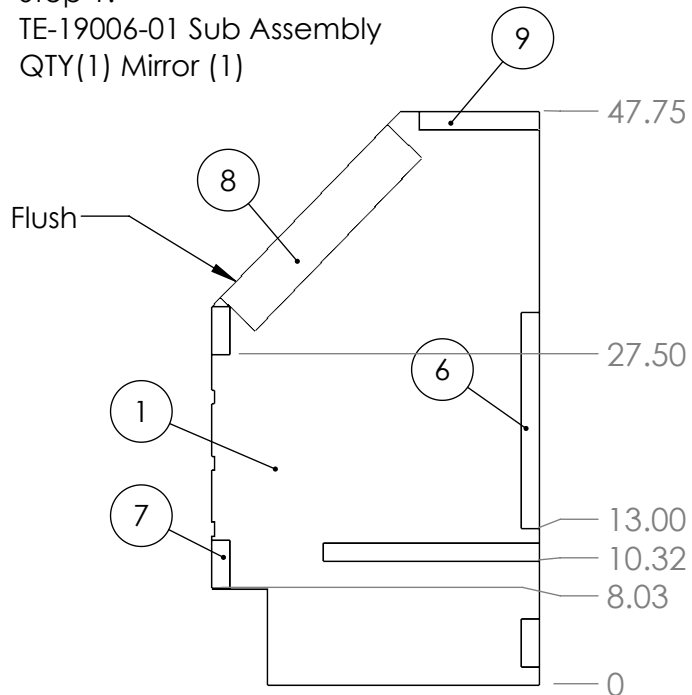
SHEET 1 OF 12

1

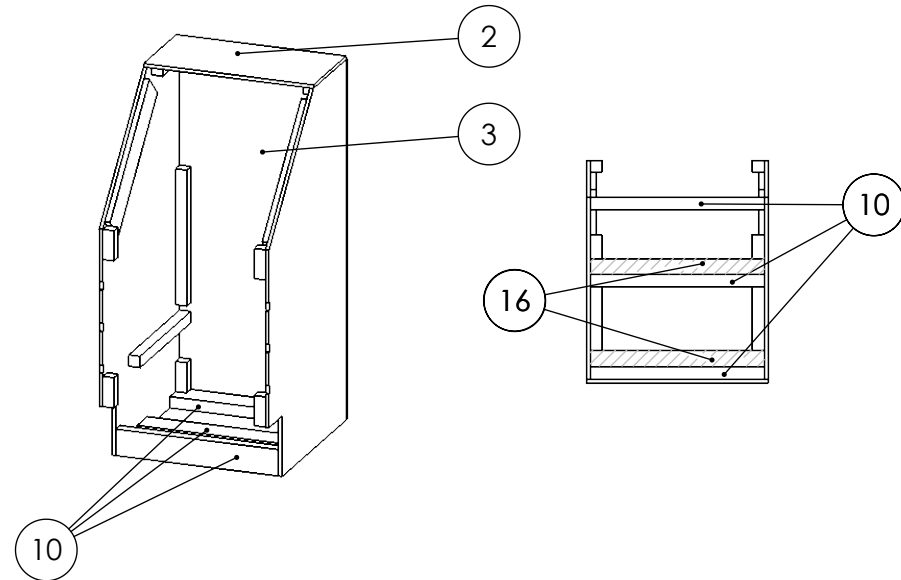
2

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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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

DWG. NO.

REV

A

TE-19106

SCALE: 1:24 WEIGHT:

SHEET 2 OF 12

Notes:

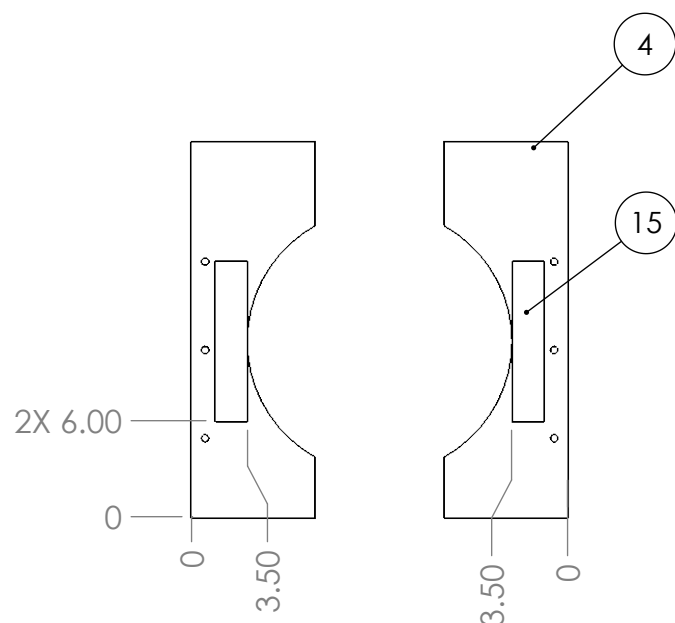
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1

2

1

Step 3:



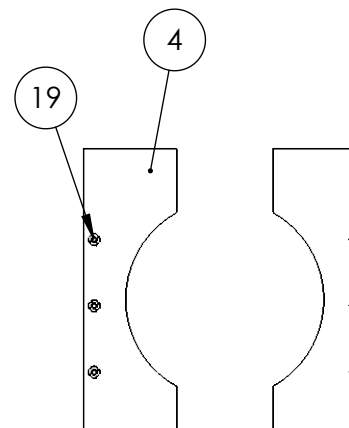
Notes:

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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		DIMENSIONS ARE IN INCHES	DRAWN					
		TOLERANCES:	CHECKED					
		FRACTIONAL $\pm 1/16$	ENG APPR.					
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.					
		TWO PLACE DECIMAL $\pm .01$				SIZE DWG. NO. REV <div>A TE-19106</div>		
		THREE PLACE DECIMAL $\pm .001$						
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			SCALE: 1:24 WEIGHT: SHEET 3 OF 12		
		MATERIAL	COMMENTS:					
NEXT ASSY	USED ON	FINISH						
APPLICATION		DO NOT SCALE DRAWING						

2

1

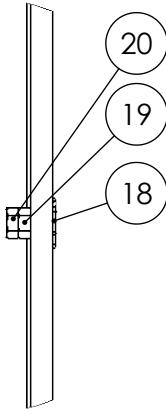
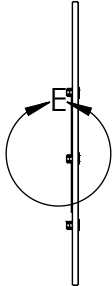
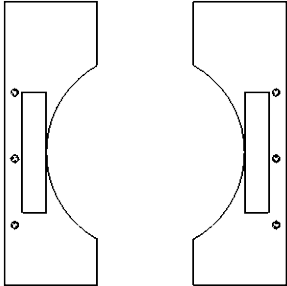
2

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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			DIMENSIONS ARE IN INCHES	DRAWN				SIZE	DWG. NO.	REV
			TOLERANCES:	CHECKED				A	TE-19106	
			FRACTIONAL $\pm 1/16$	ENG APPR.				SCALE: 1:24 WEIGHT: SHEET 4 OF 12		
			ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$	MFG APPR.						
			TWO PLACE DECIMAL $\pm .01$	Q.A.						
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:						
		INTERPRET GEOMETRIC TOLERANCING PER:								
		MATERIAL								
	NEXT ASSY	USED ON	FINISH							
	APPLICATION		DO NOT SCALE DRAWING							

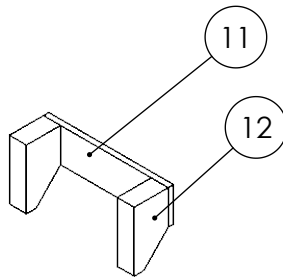
2

1

2

1

Step 6:

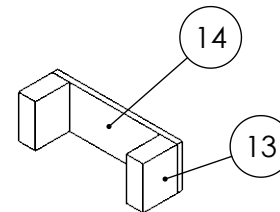


Notes:

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

B

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:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	
SCALE: 1:24 WEIGHT:		SHEET 5 OF 12

2

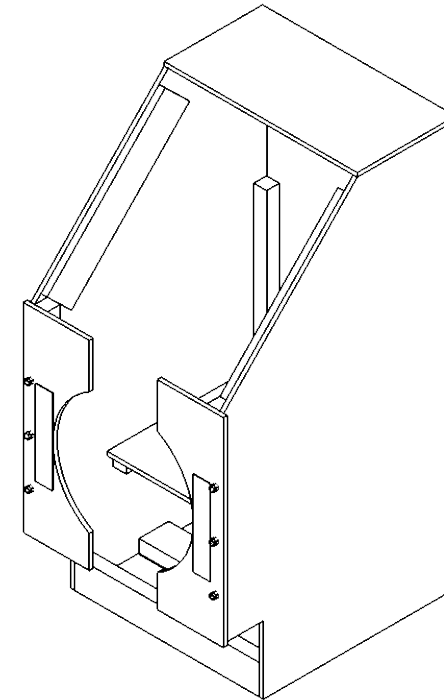
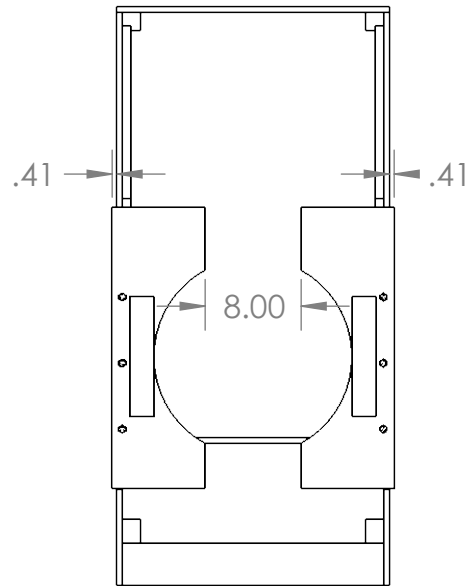
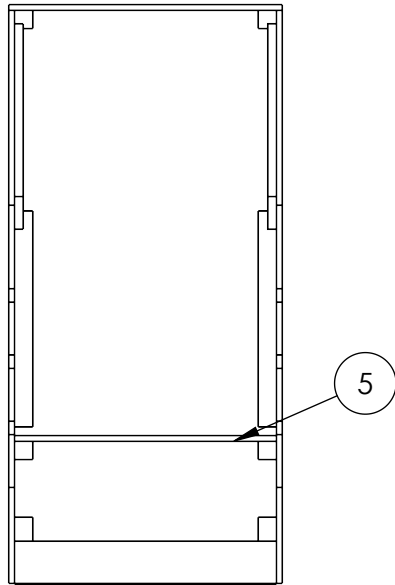
1

2

1

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:
		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 6 OF 12

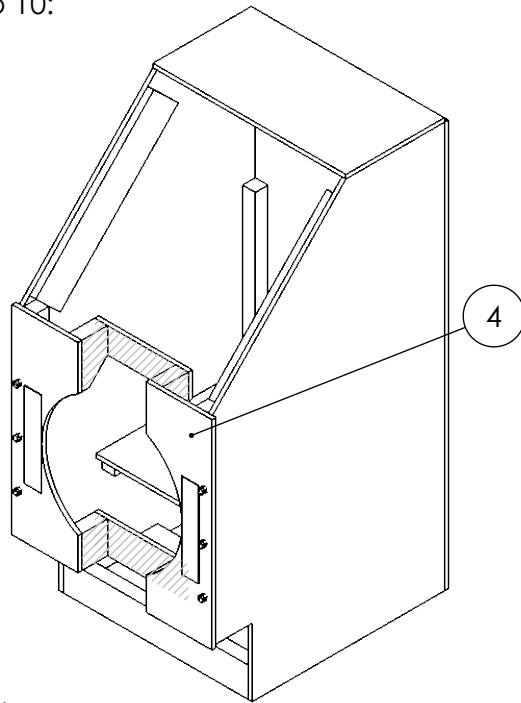
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1

2

1

Step 10:



Notes:

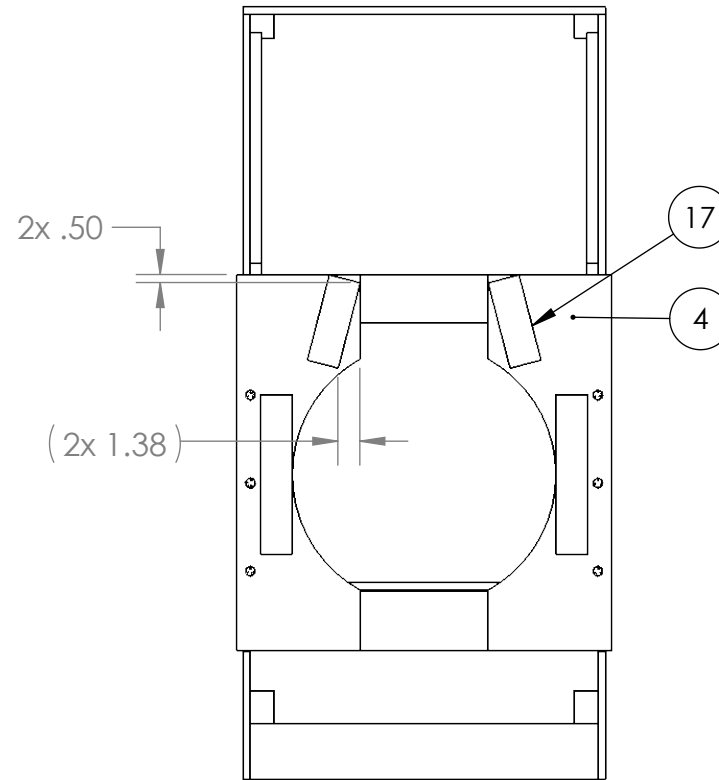
Attach Step 6 and Step 7 to (4).

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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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 7 OF 12

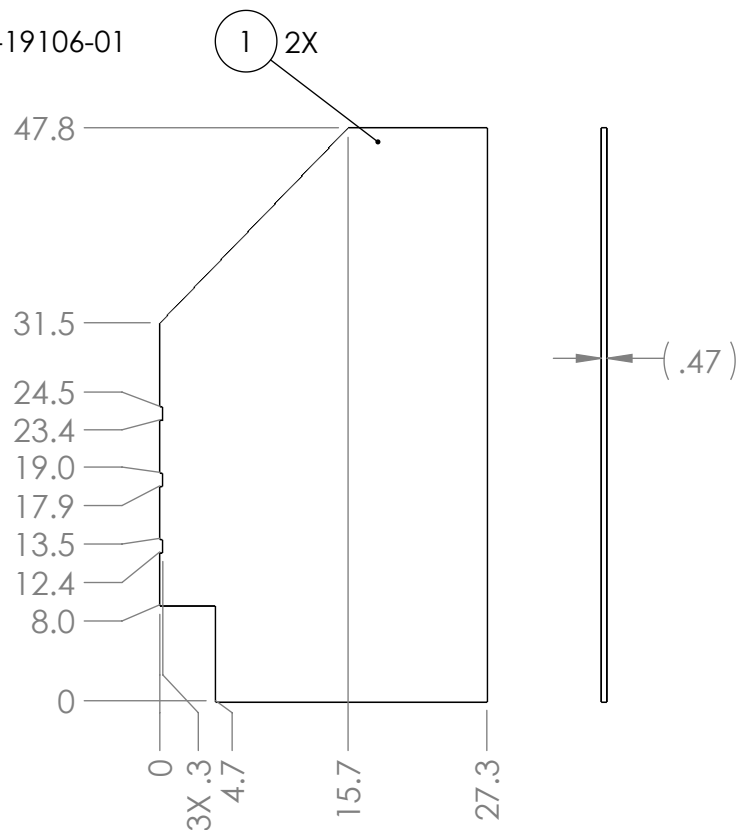
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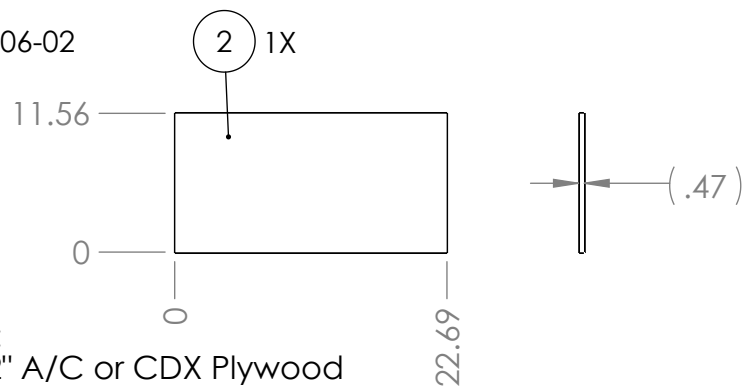
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TE-19106-01



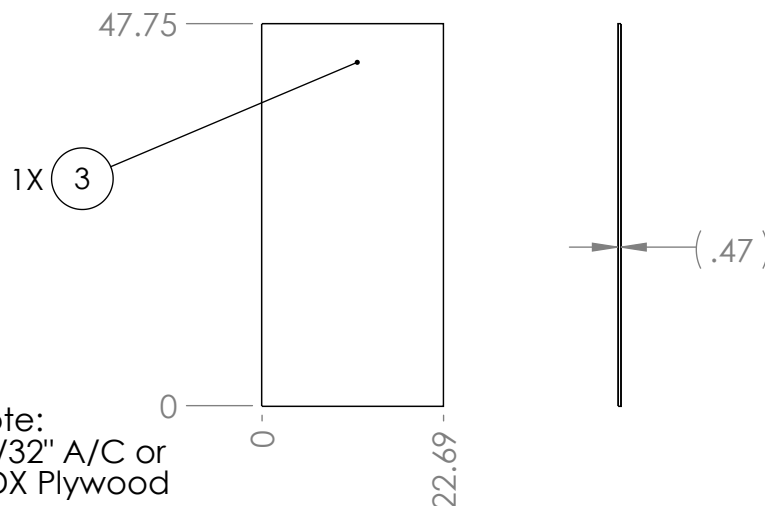
Note:
15/32" A/C or CDX Plywood

TE-19106-02



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

TE-19106-03



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

A

A

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		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$
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		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:		



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Modeling Solutions Partner

TITLE:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	

SCALE: 1:24 WEIGHT: SHEET 8 OF 12

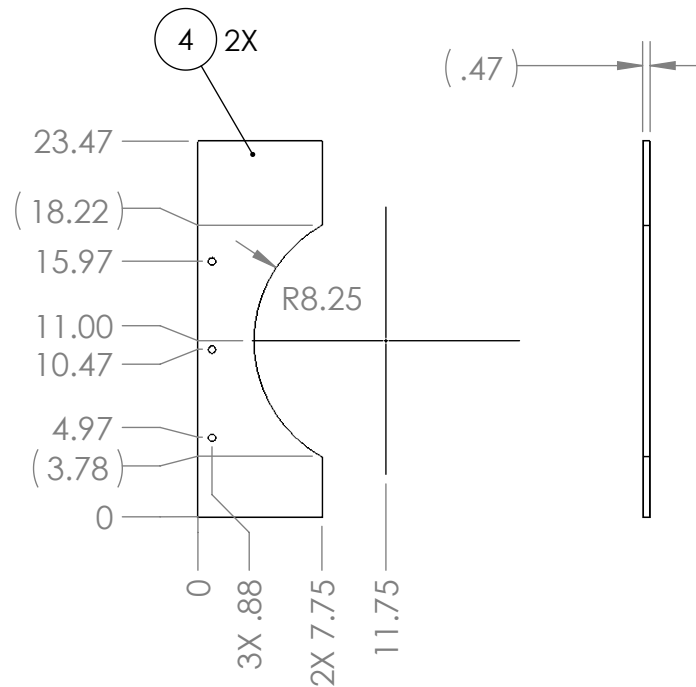
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2

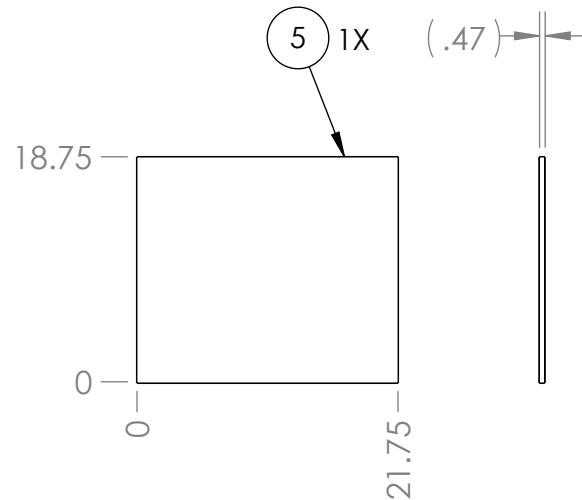
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TE-19106-04



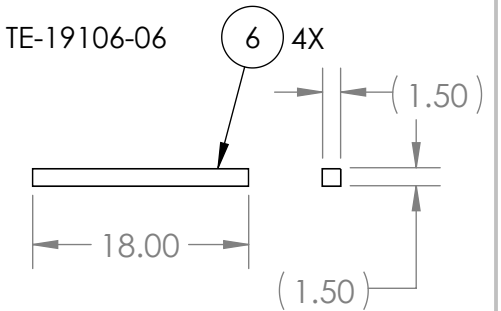
Note:
15/32" A/C or CDX Plywood

TE-19106-05



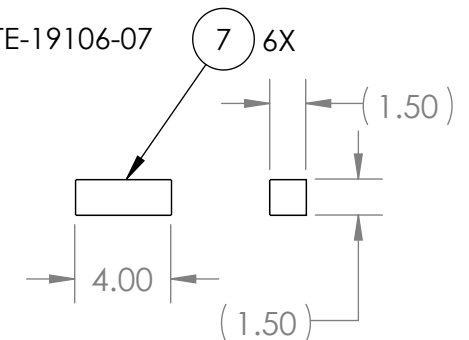
Note:
15/32" A/C or CDX Plywood

TE-19106-06



Note:
2" x 2" Pine Lumber

TE-19106-07



Note:
2" x 2" Pine Lumber

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		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:
Single Bay Side

SIZE DWG. NO. REV
A TE-19106

SCALE: 1:24 WEIGHT: SHEET 9 OF 12

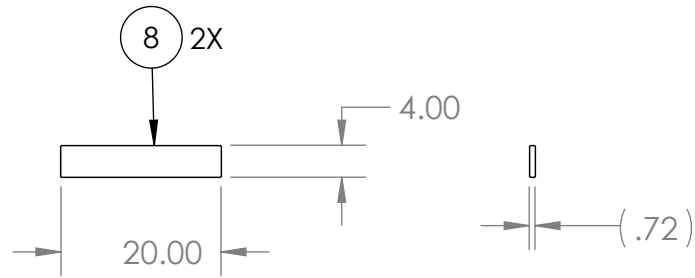
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2

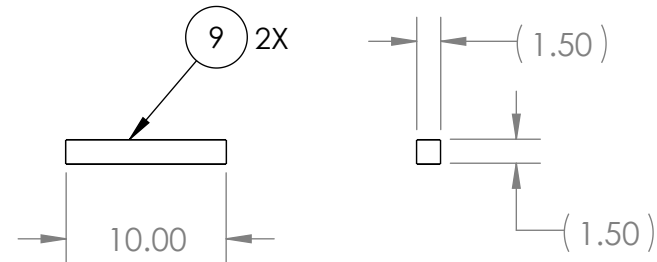
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TE-19106-08



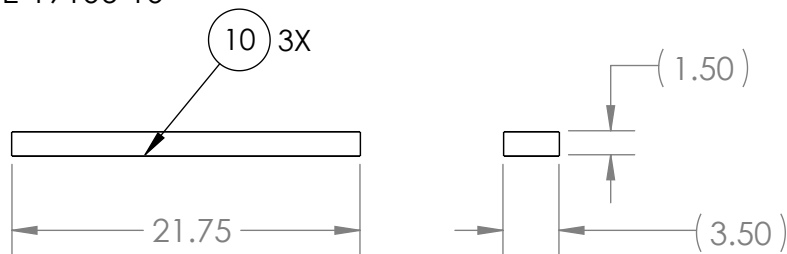
Note:
23/32" A/C or CDX Plywood

TE-19106-09



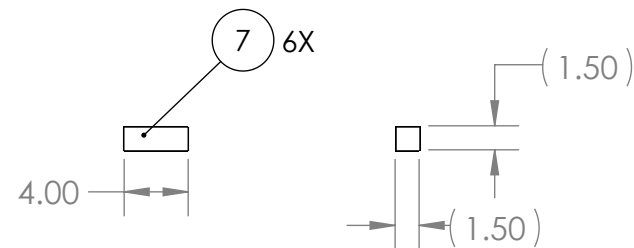
Note:
2" x 4" Pine Lumber

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:

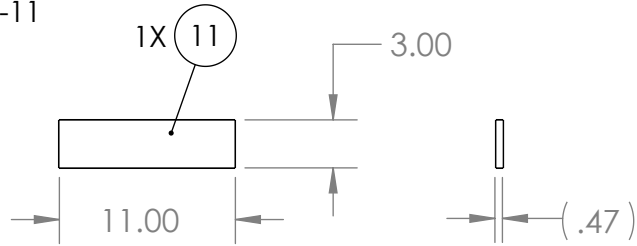
SHEET 10 OF 12

2

1

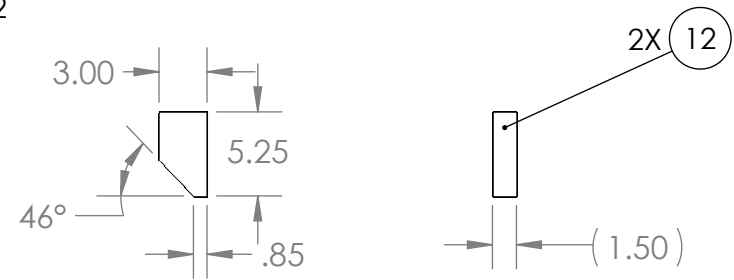
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TE-19106-11



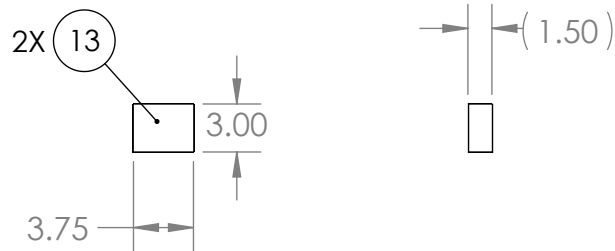
Note:
15/32" (1/2") A/C or CDX Plywood

TE-19106-12



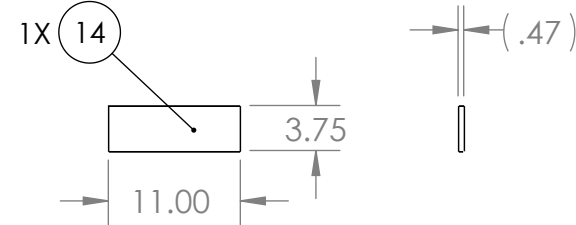
Note:
2"X4" Pine Lumber

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		
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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			



FIRST
ROBOTICS
COMPETITION

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TITLE:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	
SCALE: 1:24	WEIGHT:	SHEET 11 OF 12

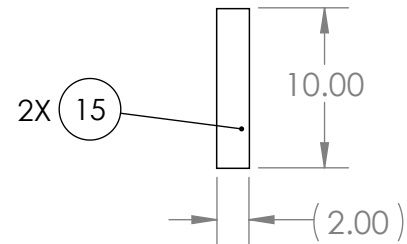
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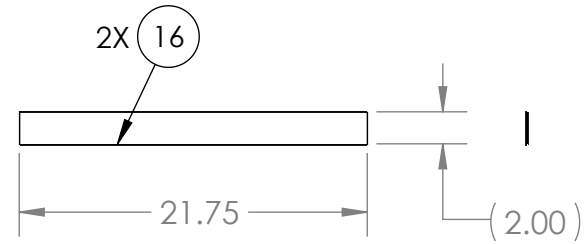
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TE-19106-15



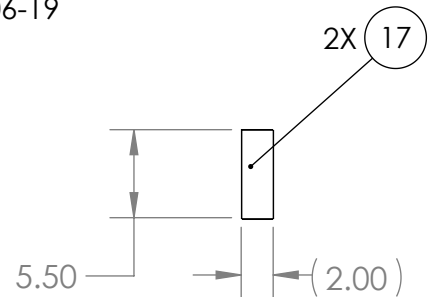
Note:
2" Hook Fastener

TE-19106-18



Note:
2" Hook Fastener

TE-19106-19



Note:
2" Vison tape

A

A

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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
ROBOTICS
COMPETITION**

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Single Bay Side

SIZE	DWG. NO.	REV
A	TE-19106	

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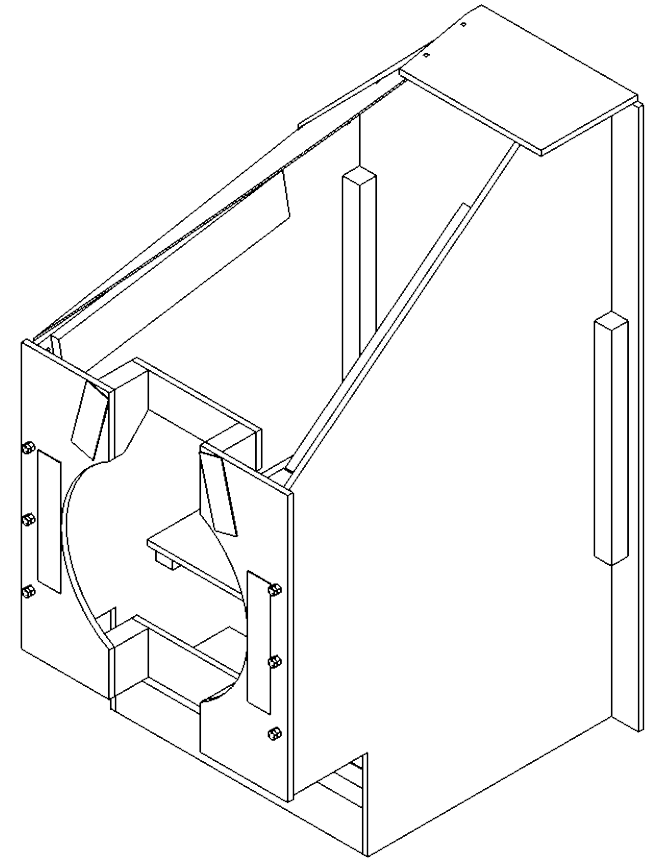
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B

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 ±1° BEND ±1°
		TWO PLACE DECIMAL ±.01
		THREE PLACE DECIMAL ±.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

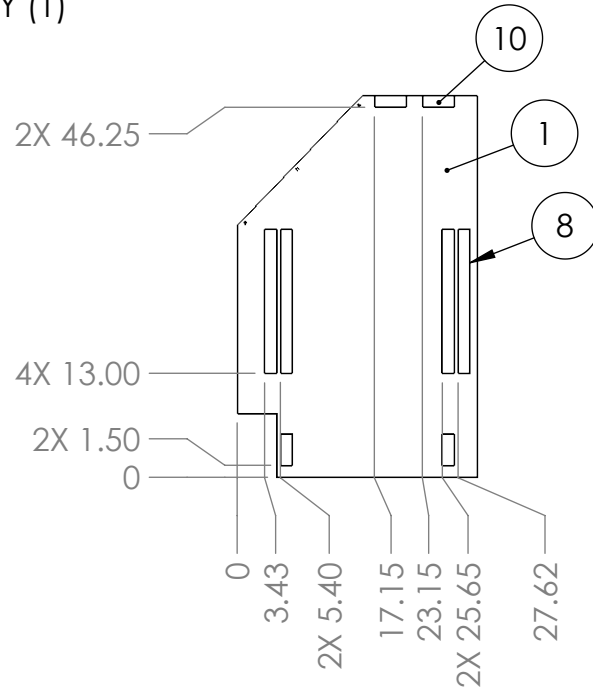
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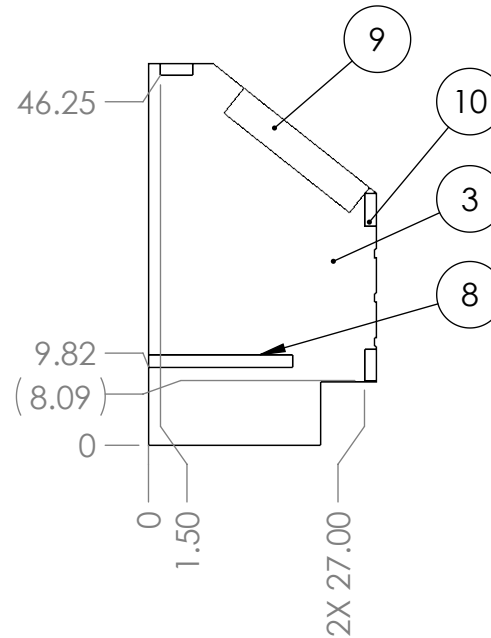
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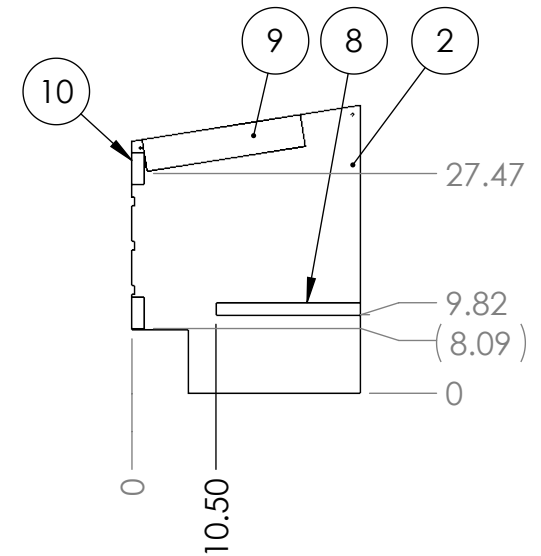
Step 1:
QTY (1)



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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NEXT ASSY

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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

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:

NAME

DATE

TITLE:

Cargo Front
Single

SIZE

DWG. NO.

REV

A

TE-19107

SCALE: 1:24 WEIGHT:

SHEET 2 OF 14

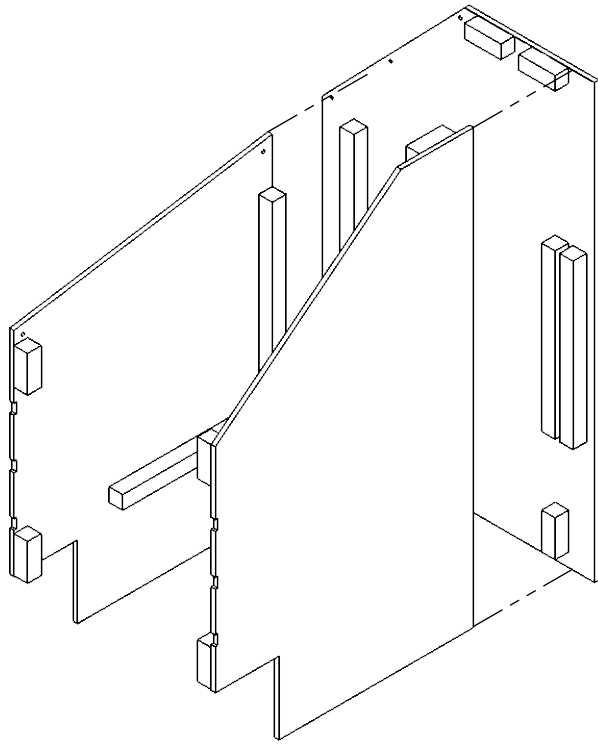
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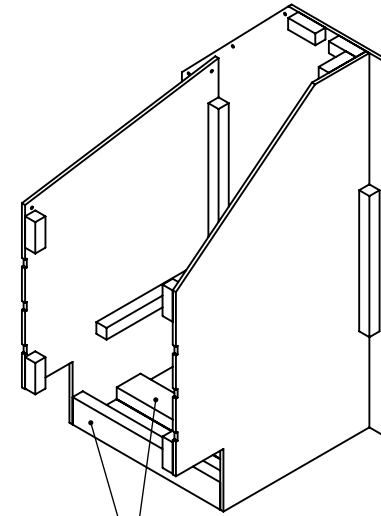
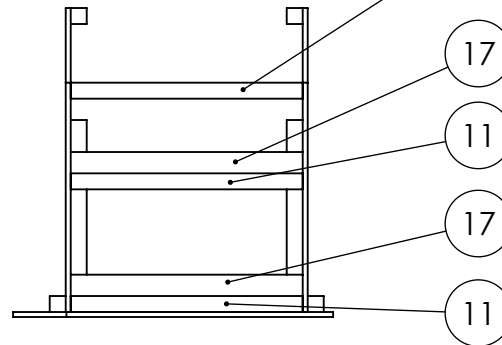
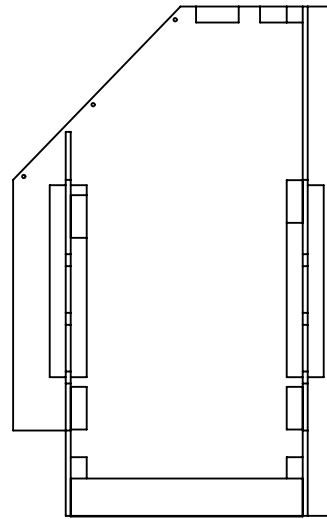
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Step 4:



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



Step 5:



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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		TOLERANCES:		CHECKED							
		FRACTIONAL $\pm 1/16$		ENG APPR.							
		ANGULAR: MACH $\pm 1^\circ$ BEND $\pm 1^\circ$		MFG APPR.							
		TWO PLACE DECIMAL $\pm .01$		Q.A.							
		THREE PLACE DECIMAL $\pm .001$	COMMENTS:			SIZE		DWG. NO.		REV	
		INTERPRET GEOMETRIC TOLERANCING PER:				A		TE-19107			
		MATERIAL									
		FINISH									
NEXT ASSY	USED ON					SCALE: 1:24		WEIGHT:		SHEET 3 OF 14	
APPLICATION		DO NOT SCALE DRAWING									

2

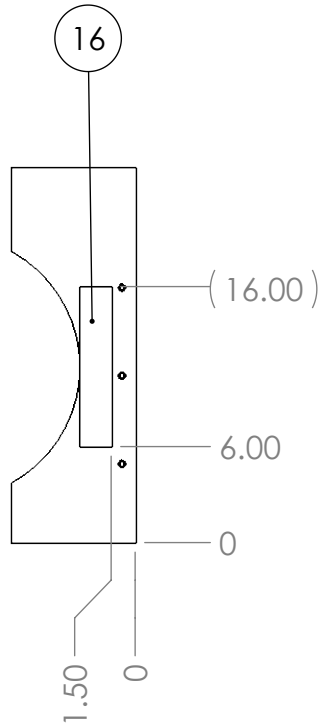
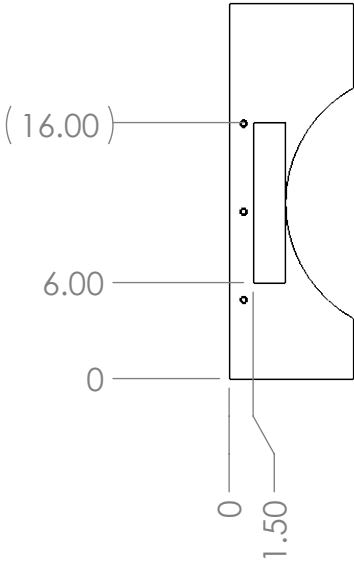
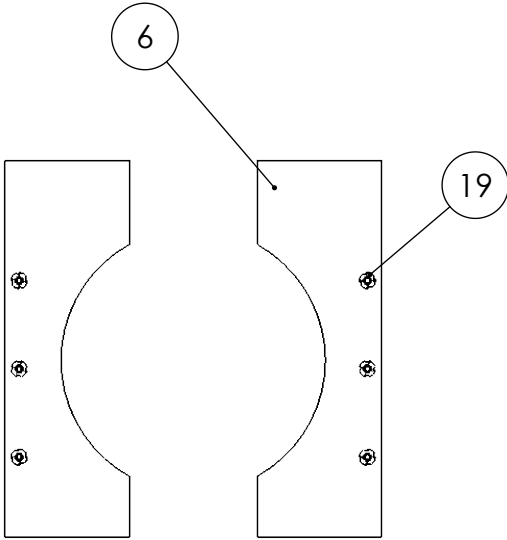
1

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



A

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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

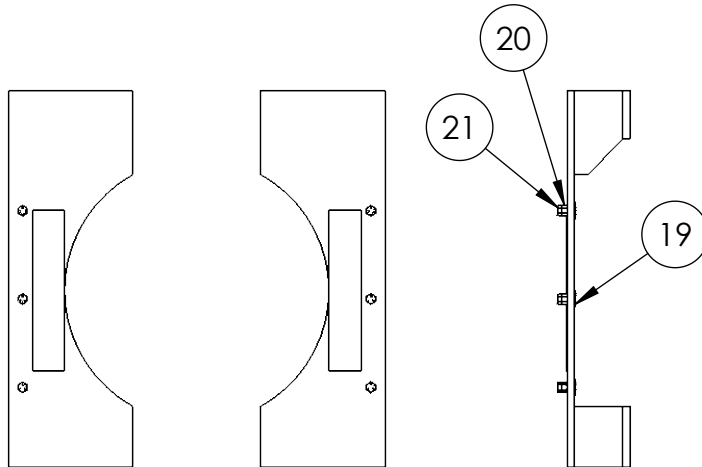
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Step 8:

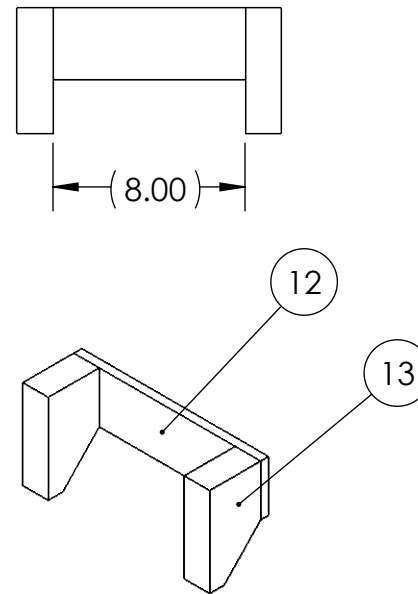


Note:

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

Repeat for all instances

Step 9:

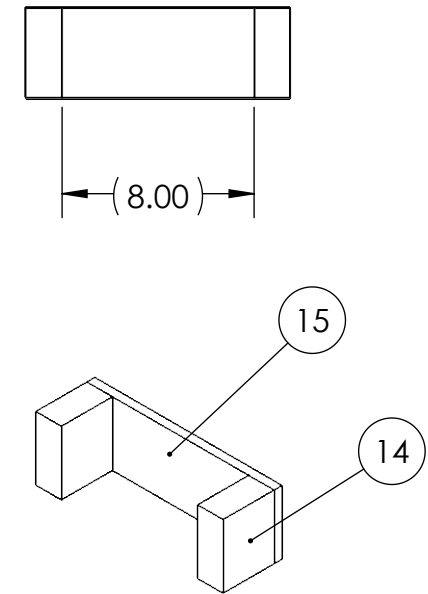


Note:

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

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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

DWG. NO.

REV

A**TE-19107**

SCALE: 1:24 WEIGHT:

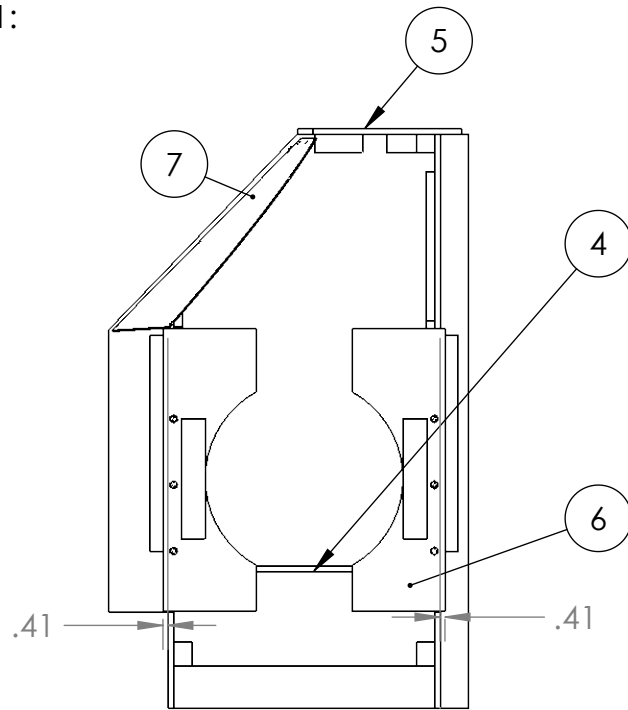
SHEET 5 OF 14

2

1

B

Step 11:



Note:

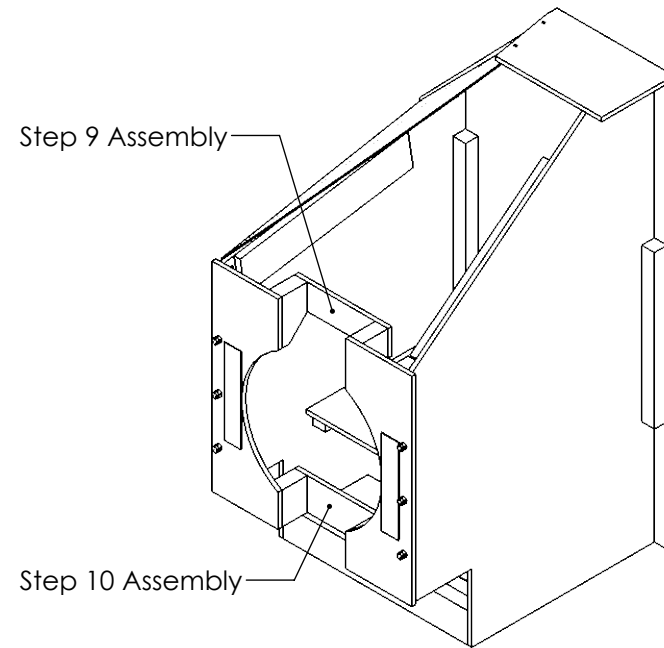
Attach (6) to assembly, with an overhang of .41"; pre-drill and use 1.25" screws

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

A

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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
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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 6 OF 14

B

A

2

1

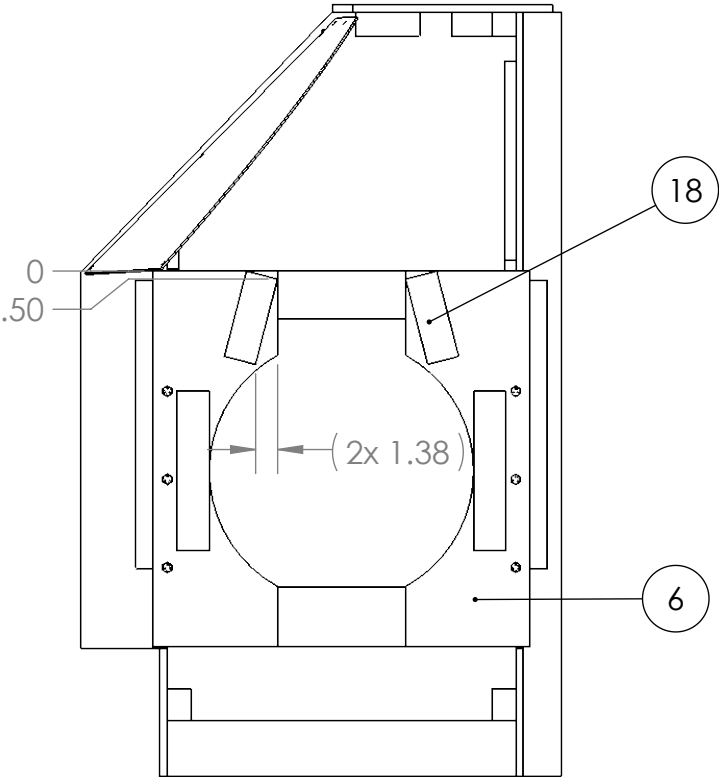
2

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Step 13:

B

B



18

6

Note:

Attach 18 to 6

A

A

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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				
NEXT ASSY	USED ON	FINISH				
APPLICATION		DO NOT SCALE DRAWING				



TITLE: Cargo Front Single			
SIZE A	DWG. NO. TE-19107	REV	
SCALE: 1:24		WEIGHT:	SHEET 7 OF 14

2

1

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). The shaft has three holes of diameter 0.31 units, spaced 1.00, 5.00, and 7.50 units apart. A cross-section view at the right end shows a diameter of 0.47 units.

Feature	Start X	End X	Start Y	End Y
Base Diameter	0	30.00	31.50	31.50
Step 1	0	1.00	46.51	46.51
Step 2	1.00	7.50	47.75	47.75
Step 3	7.50	15.19	31.82	31.82
Step 4	15.19	15.69	31.82	38.55
Step 5	15.69	30.00	38.55	47.75

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

B

Technical drawing of a stepped cylindrical part. The drawing includes a side view and a detail view of the tapered section.

Side View Dimensions:

- Top diameter: 2X Ø.31 THRU
- Bottom diameter: 1X
- Lengths (from left to right): 0, 1.00, 21.50, 27.50, 28.25, 28.50
- Vertical dimensions (from bottom to top): 0, 8.00, 12.41, 13.53, 17.91, 19.03, 23.41, 24.53, 30.65, 31.50, 34.83, 36.00



Detail View Dimensions:

- Feature: 2X Ø.31 THRU
- Feature: 1X
- Dimension: (.47)

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

A

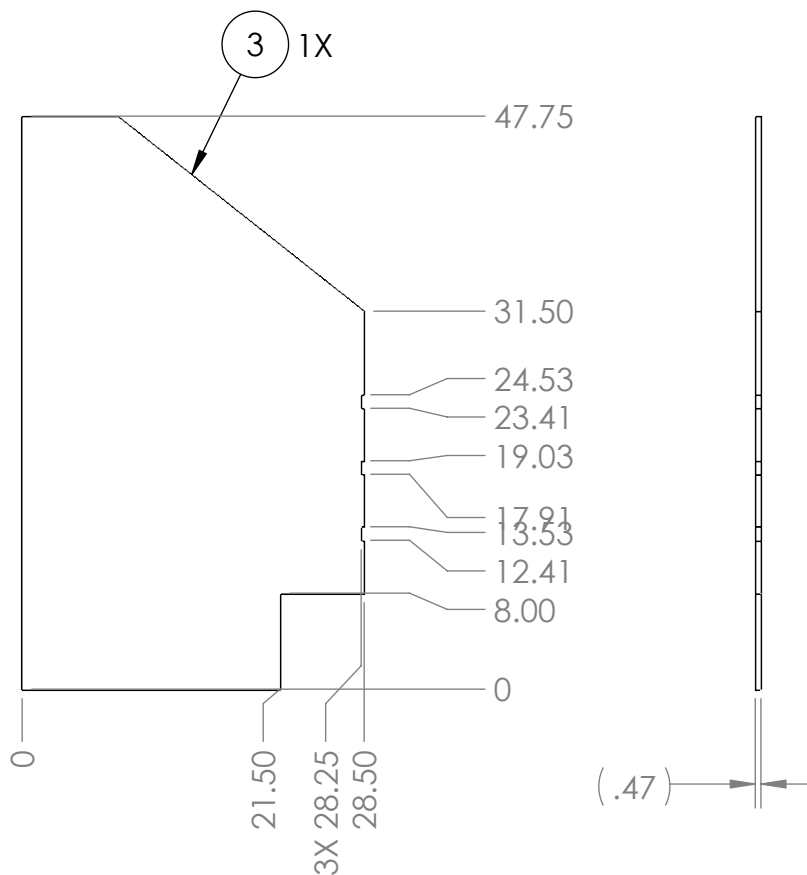
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			DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ±1/16 ANGULAR: MACH ±1° BEND ±1° TWO PLACE DECIMAL ±.01 THREE PLACE DECIMAL ±.001	DRAWN				<div>SIZE</div> <div>A</div> <div>DWG. NO.</div> <div>TE-19107</div> <div>REV</div>
				CHECKED				
				ENG APPR.				
				MFG APPR.				
			INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			<div>SCALE: 1:24</div> <div>WEIGHT:</div> <div>SHEET 8 OF 14</div>	
			MATERIAL	COMMENTS:				
	NEXT ASSY	USED ON	FINISH					
		APPLICATION		DO NOT SCALE DRAWING				

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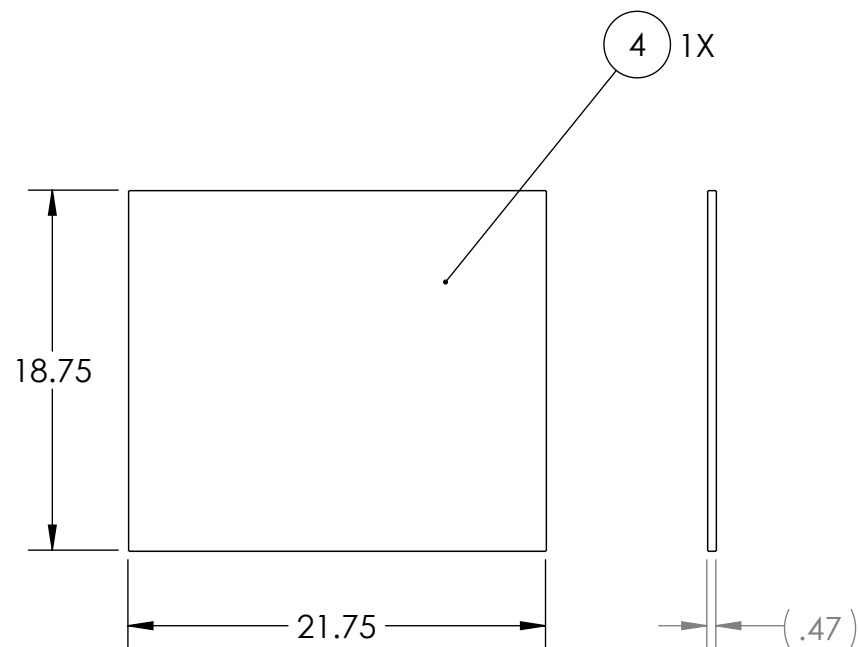
B

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

A

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



TITLE:

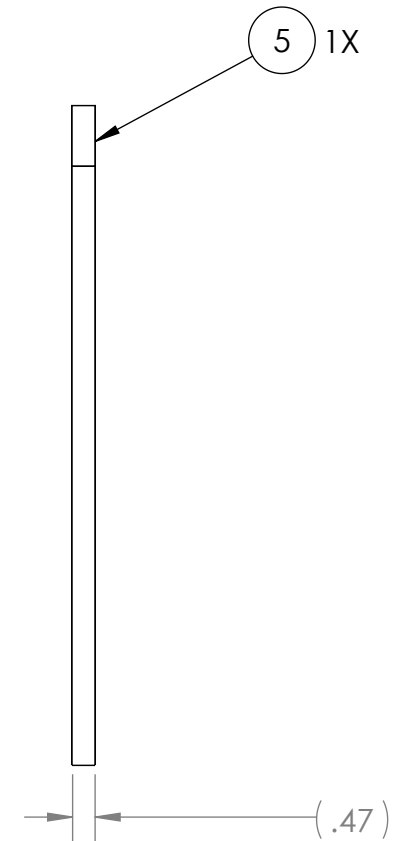
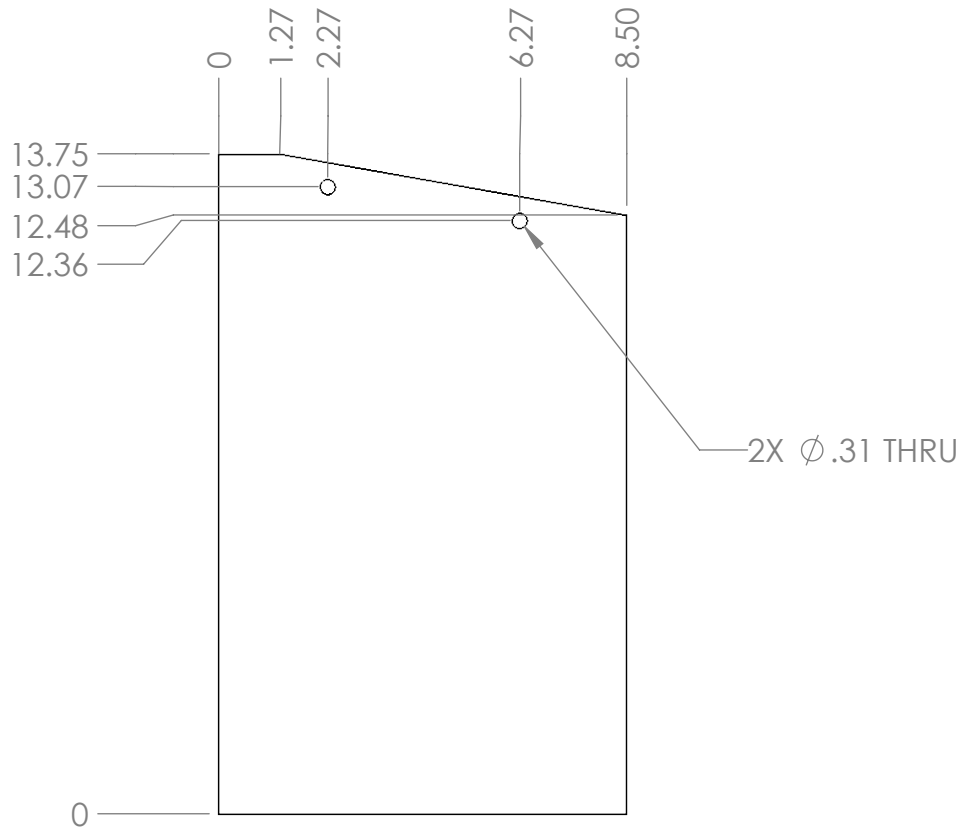
Cargo Front Single

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

2

1

TE-19107-05



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

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NEXT ASSY	USED ON	FINISH
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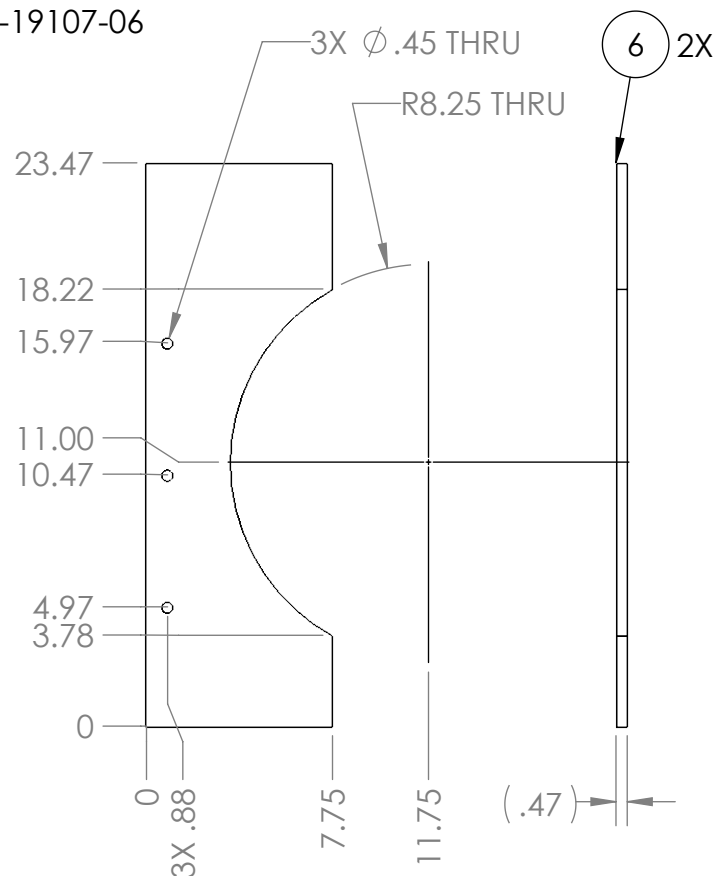
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MFG APPR.		
Q.A.		
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TITLE: Cargo Front Single		
SIZE A	DWG. NO. TE-19107	REV
SCALE: 1:24 WEIGHT:		SHEET 10 OF 14

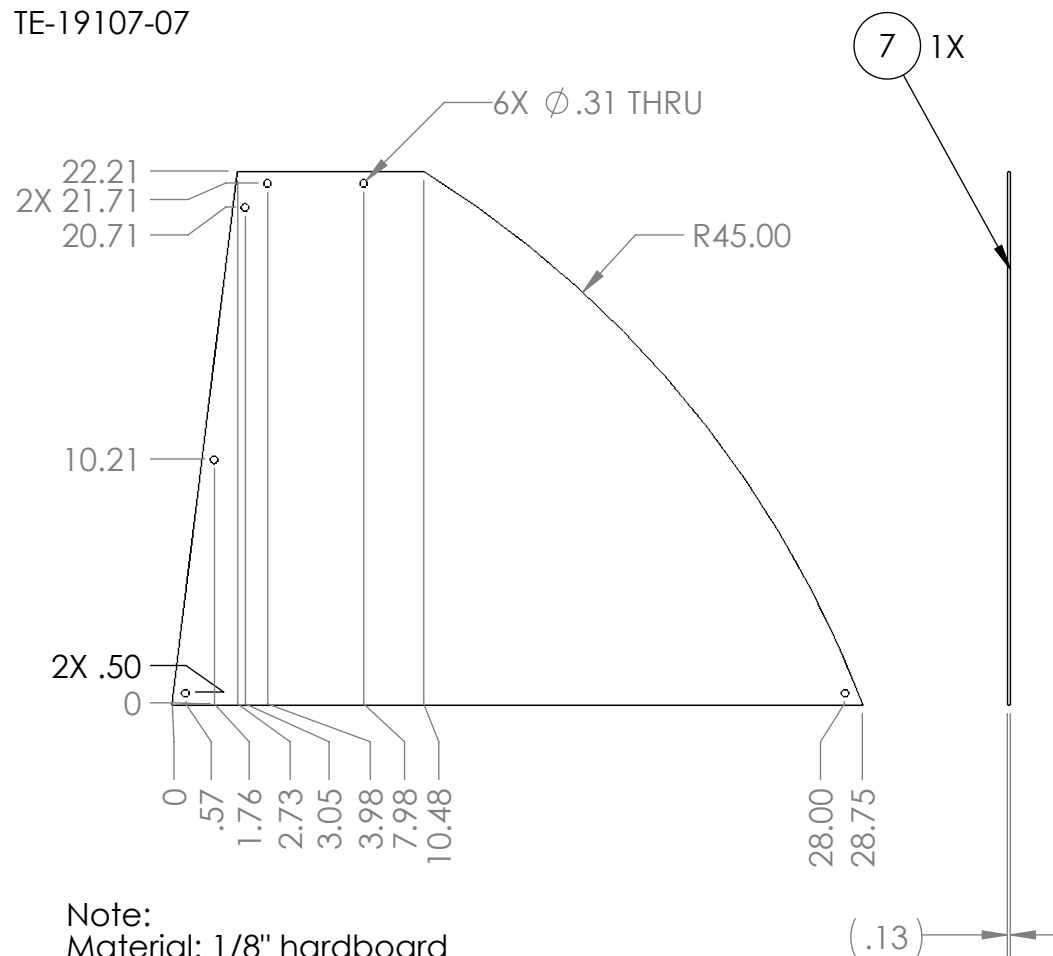
B

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



FIRST
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COMPETITION

SOLIDWORKS
Modeling Solutions Partner

TITLE:

Cargo Front
Single

SIZE

A

DWG. NO.

TE-19107

REV

SCALE: 1:24 WEIGHT:

SHEET 11 OF 14

2

1

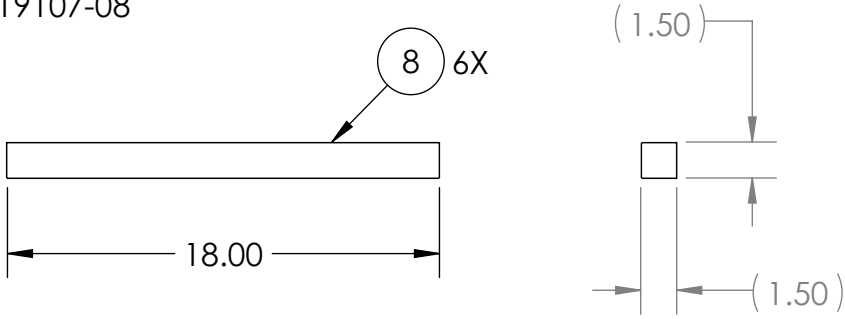
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B

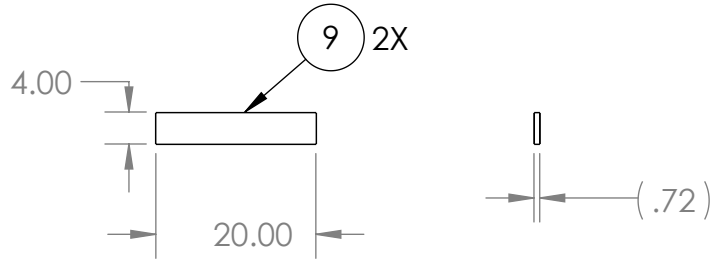
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TE-19107-08



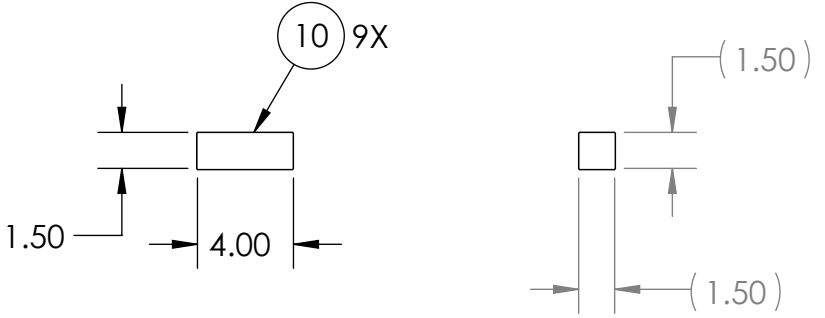
Note:
Material 2"x 2" Pine Lumber

TE-19107-09



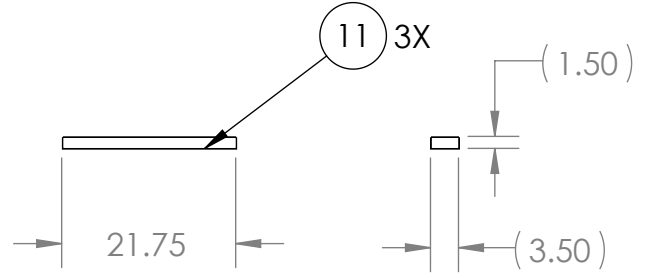
Note:
Material: 23/32" (3/4") A/C or CDX Plywood

TE-19107-10



Note:
Material 2"x 2" Pine Lumber

TE-19107-11



Note:
Material 2"x 4" Pine Lumber

A

A

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



TITLE: Cargo Front Single		
SIZE A	DWG. NO. TE-19107	REV
SCALE: 1:24 WEIGHT:		SHEET 12 OF 14

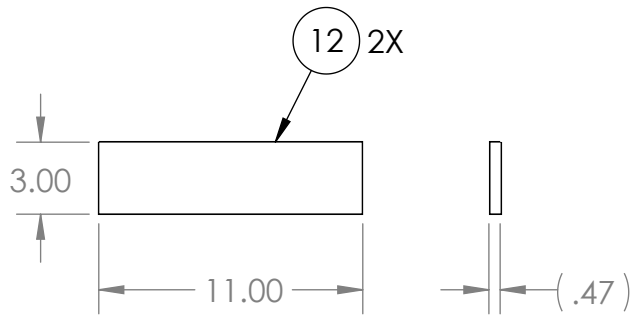
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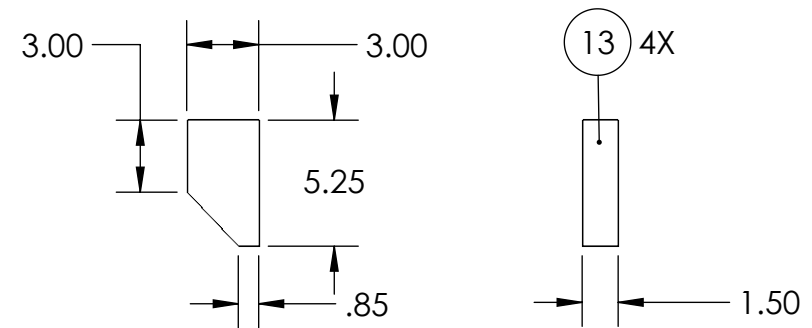
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TE-19107-12



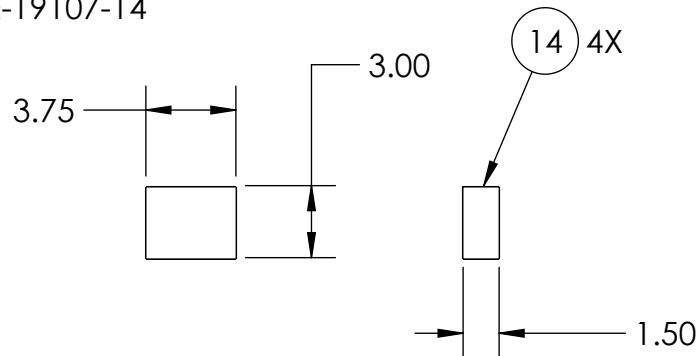
Note:
Material: 15/32" (1/2") A/C or CDX Plywood

TE-19107-13



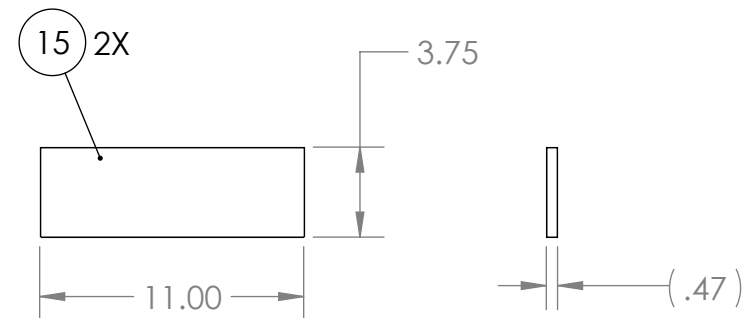
Note:
Material 2"x 4" Pine Lumber

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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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

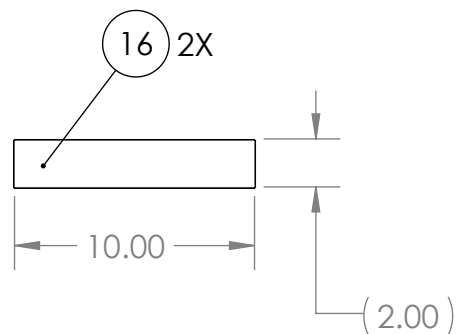
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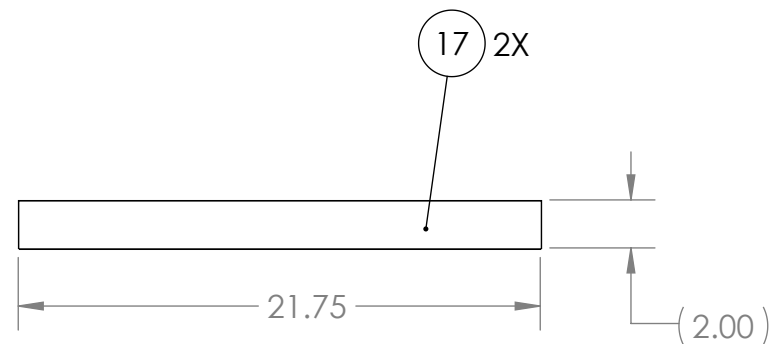
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TE-19107-16



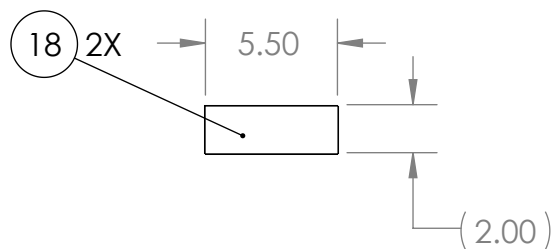
Note:
2" Hook Fastener

TE-19107-19



Note:
2" Hook Fastener

TE-19107-20



Note:
2" Vison Tape

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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:

Cargo Front Single

SIZE	DWG. NO.	REV
A	TE-19107	

SCALE: 1:24 WEIGHT: SHEET 14 OF 14

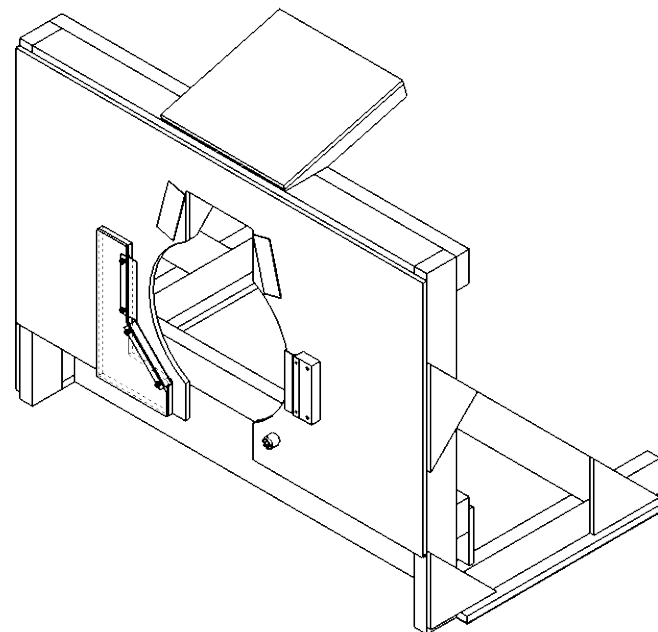
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ITEM NO.	PART NUMBER	QTY.
1	TE-19108-01	1
2	TE-19108-02	1
3	TE-19108-03	6
4	TE-19108-04	1
5	TE-19108-05	2
6	TE-19108-06	1
7	TE-19108-07	2
8	TE-19108-08	1
9	TE-19108-09	2
10	TE-19108-10	2
11	TE-19108-11	2
12	TE-19108-12	2
13	TE-19108-13	2
14	TE-19108-14	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



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
B2, 2-B2, 13-B1, 15-B2	A	Moved materials table to sheet 2. Updated dimensions of TE-19108-16 to more closely match field elements. Added sheet with modification instructions to make initial Rev perform as Rev A intends.	1/30/2019	

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

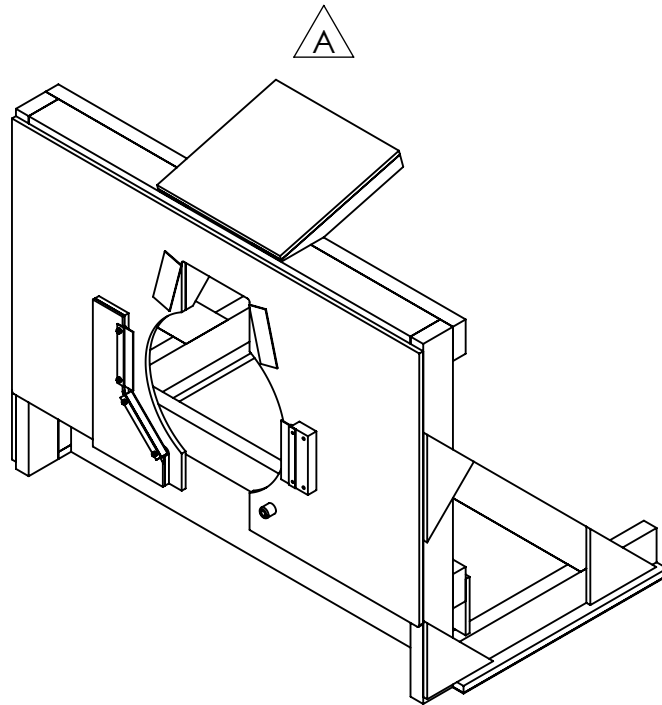


B

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.			TITLE: <h1>Loading Station</h1>
			THREE PLACE DECIMAL $\pm .001$	COMMENTS:			
			INTERPRET GEOMETRIC TOLERANCING PER:				
			MATERIAL				SIZE DWG. NO. REV
	NEXT ASSY	USED ON	FINISH				A TE-19108 A
	APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:16 WEIGHT: SHEET 1 OF 15

B



B

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

A

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



TITLE:

Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	A
SCALE: 1:16	WEIGHT:	SHEET 2 OF 15

2

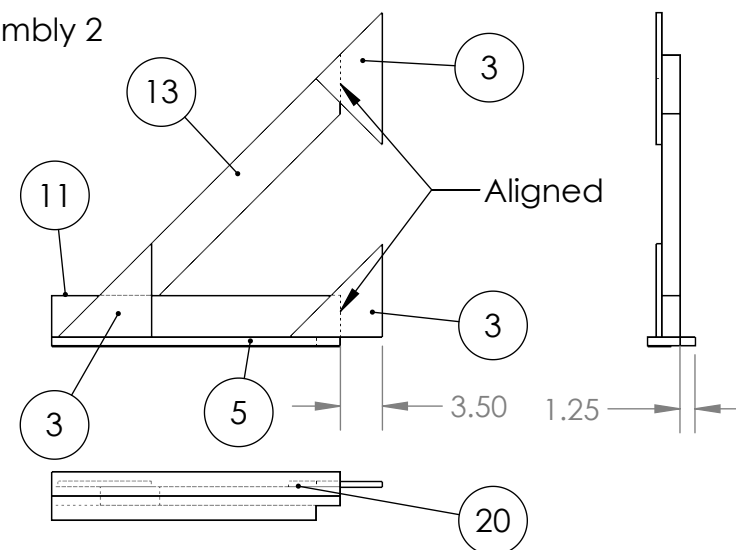
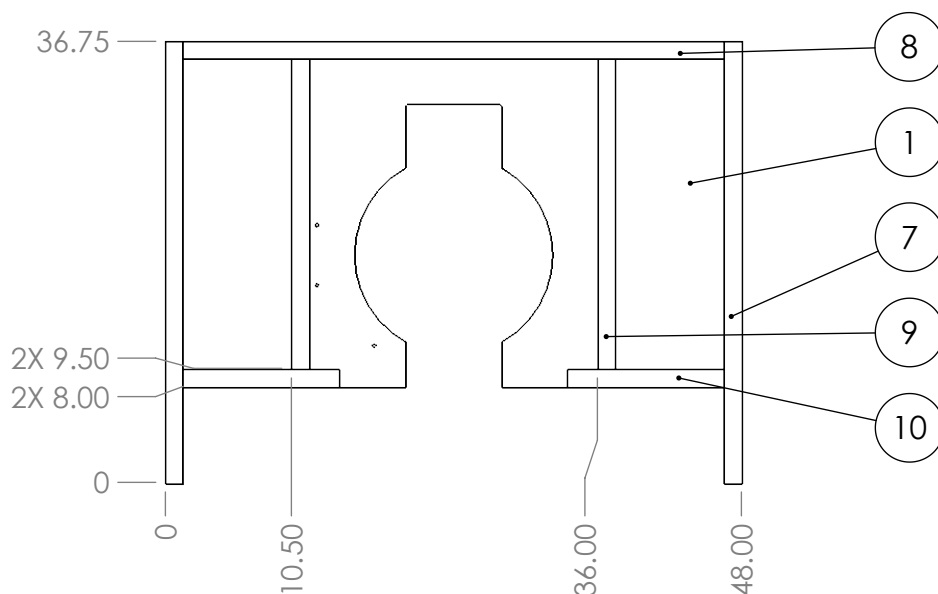
1

2

1

Subassembly 1

Subassembly 2



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

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



FIRST
ROBOTICS
COMPETITION



TITLE:

Loading Station

SIZE

A

DWG. NO.

TE-19108

REV

A

SCALE: 1:16 WEIGHT:

SHEET 3 OF 15

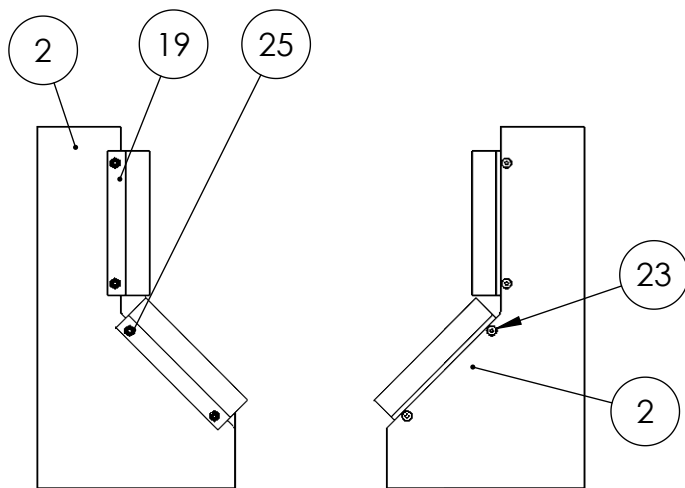
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B



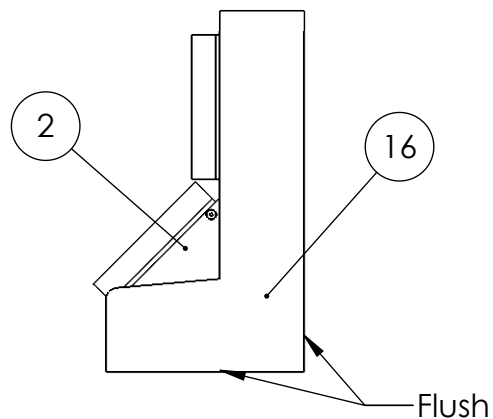
Front

Back

Note:

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

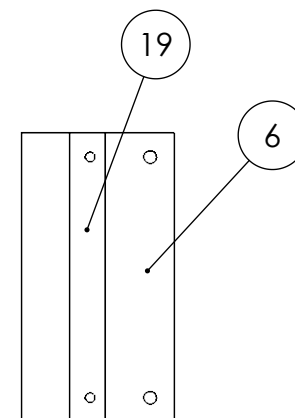
Subassembly 3:



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

B

A

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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

NAME DATE

DRAWN

CHECKED

ENG APPR.

MFG APPR.

Q.A.

COMMENTS:



TITLE:

Loading Station

SIZE

A

DWG. NO.

TE-19108

REV

A

SCALE: 1:16 WEIGHT:

SHEET 4 OF 15

2

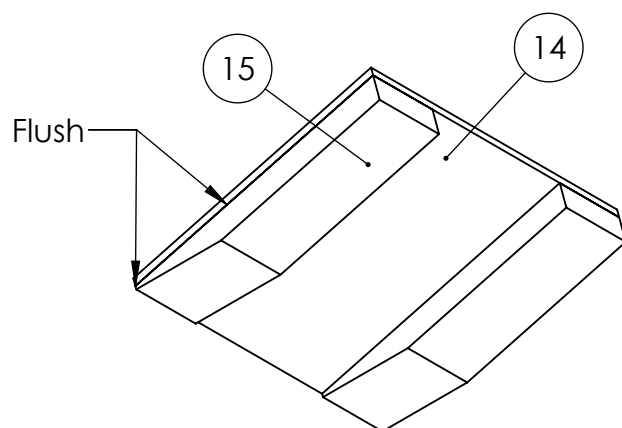
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A

2

1

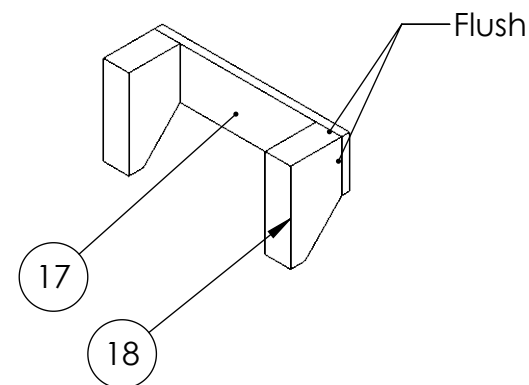
Subassembly 5:



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.

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:

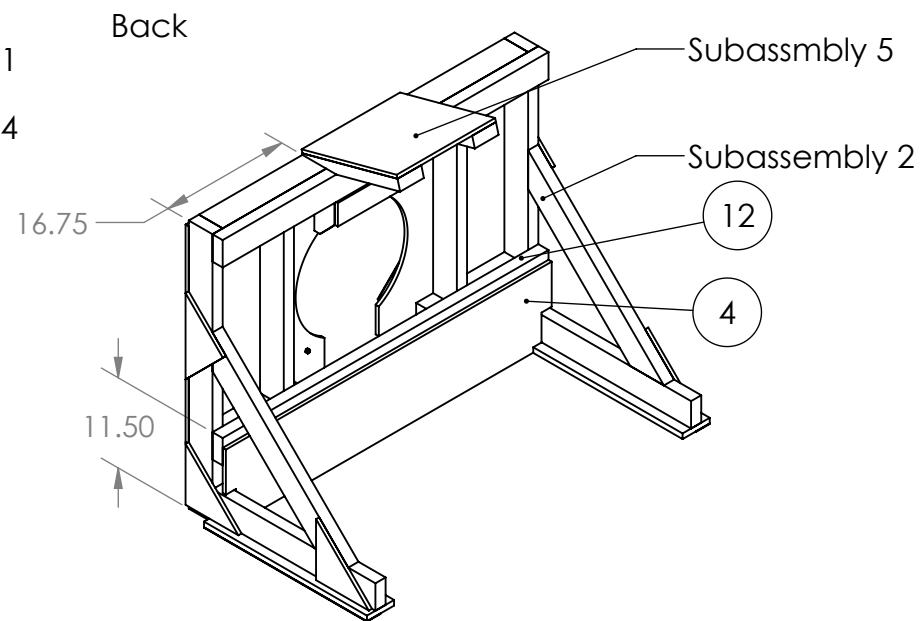
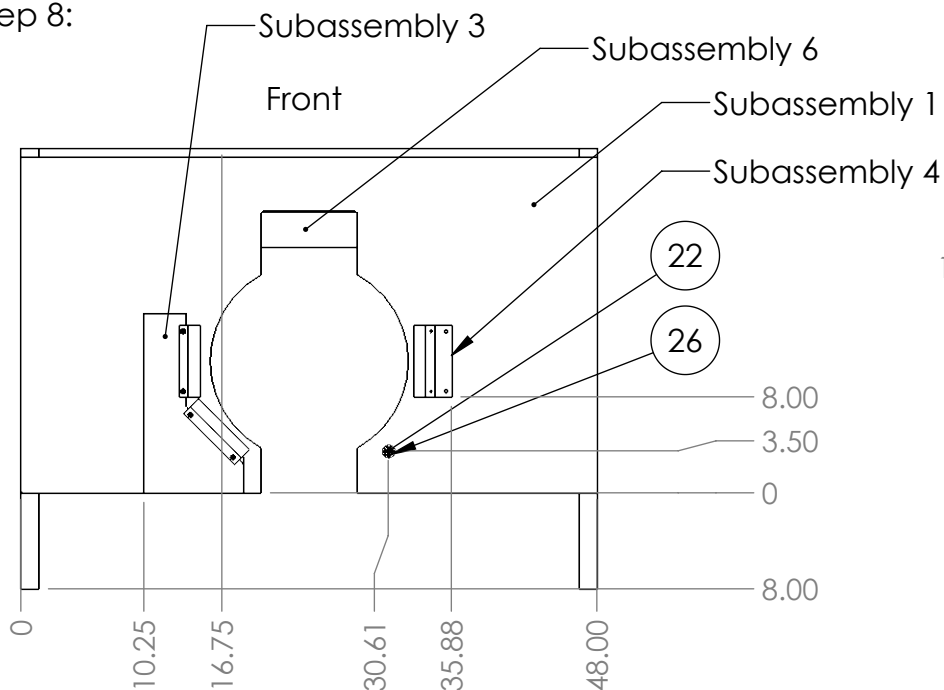
Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	A
SCALE: 1:16		WEIGHT:
		SHEET 5 OF 15

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



FIRST
ROBOTICS
COMPETITION



TITLE:

Loading Station

SIZE

A

DWG. NO.

TE-19108

REV

A

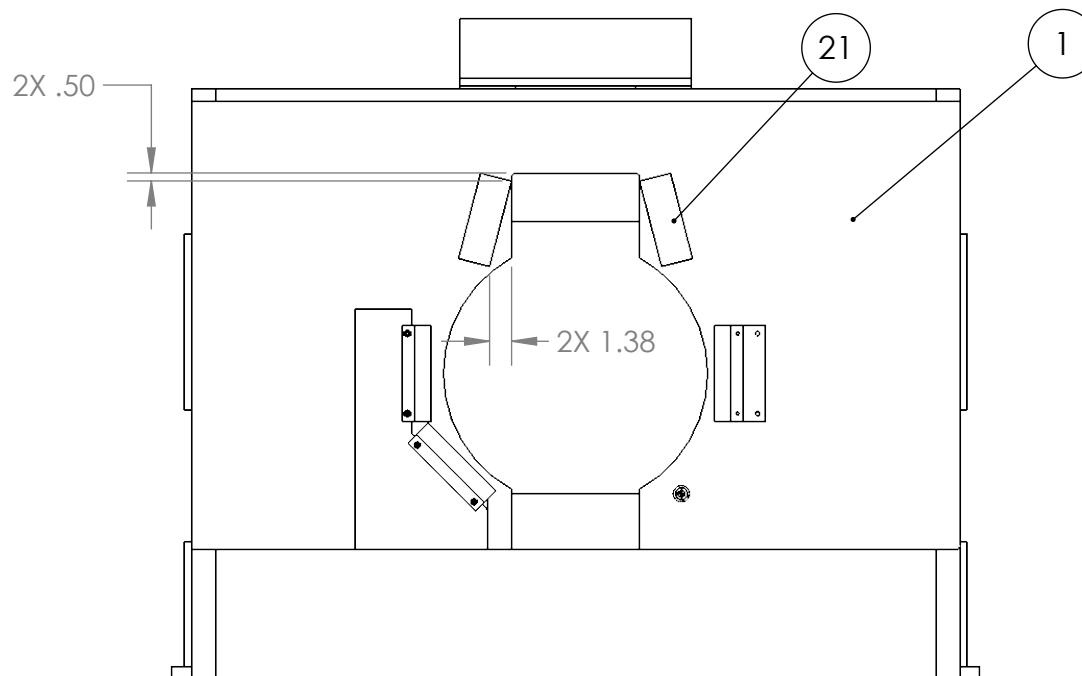
SCALE: 1:16 WEIGHT:

SHEET 6 OF 15

2

1

Step 10:



Note:

Attach (21) to (1) as shown.

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



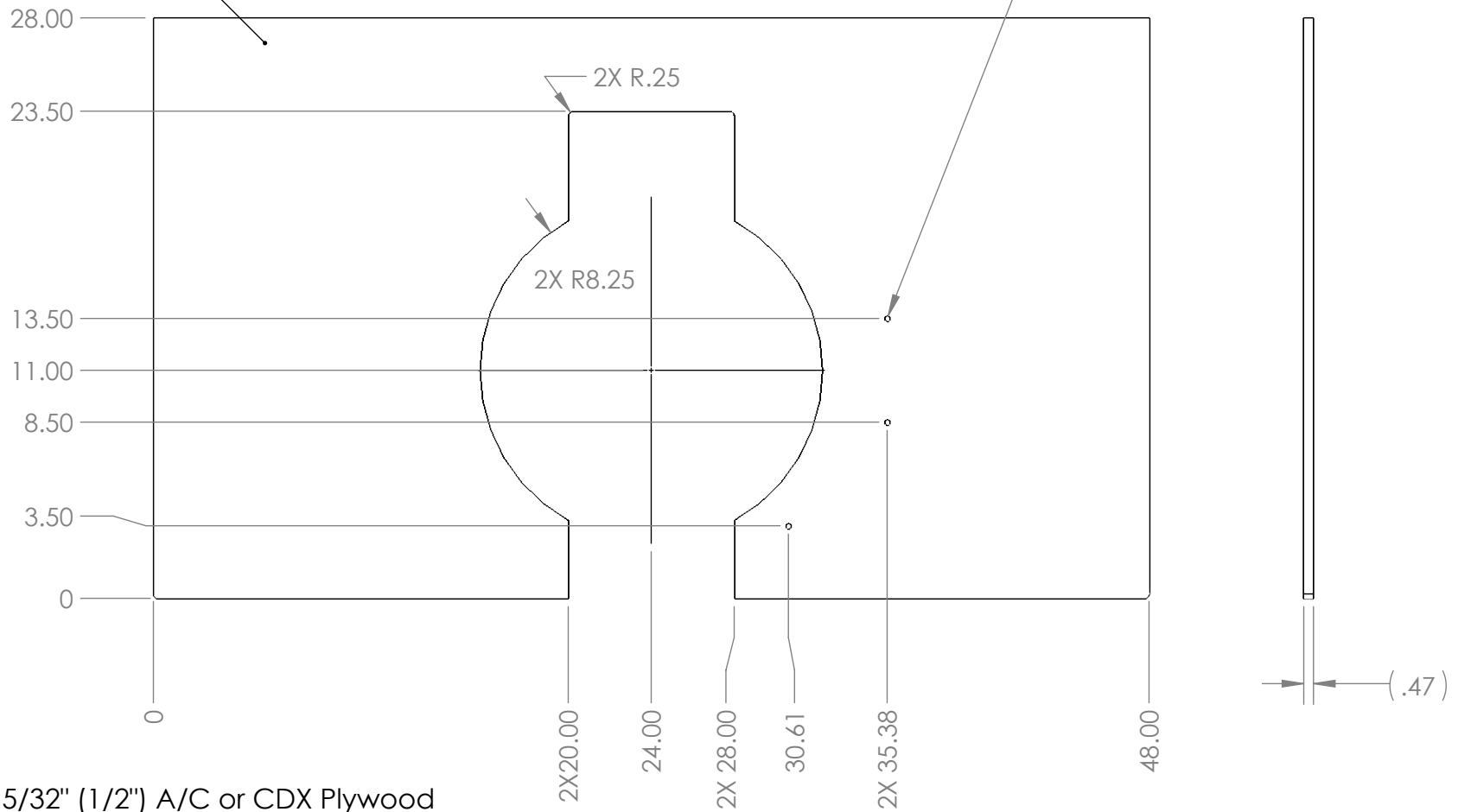
TITLE:
Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	A
SCALE: 1:16		WEIGHT:
		SHEET 7 OF 15

2

1

TE-19108-01



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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:		

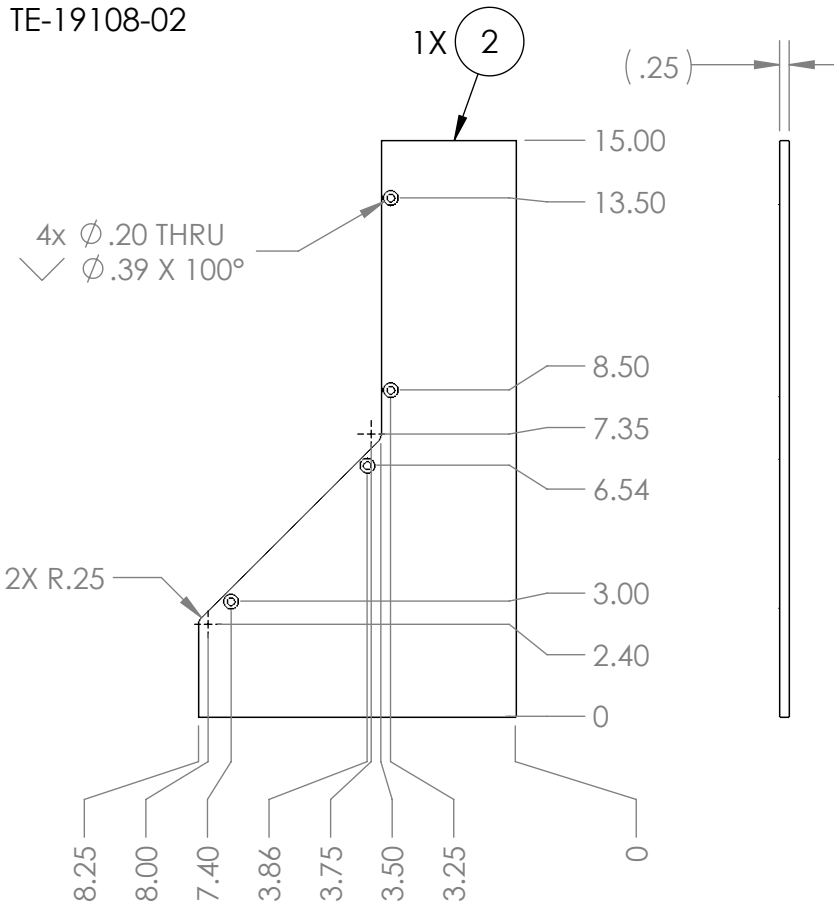


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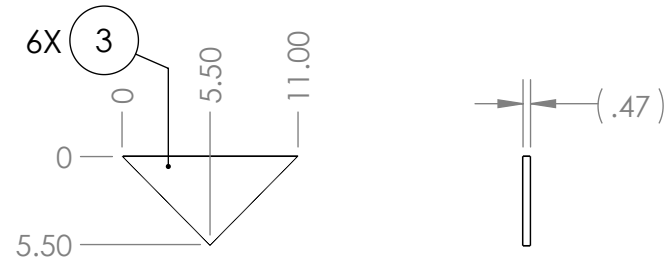
SIZE	DWG. NO.	REV
A	TE-19108	A
SCALE: 1:16 WEIGHT:		SHEET 8 OF 15

TE-19108-02



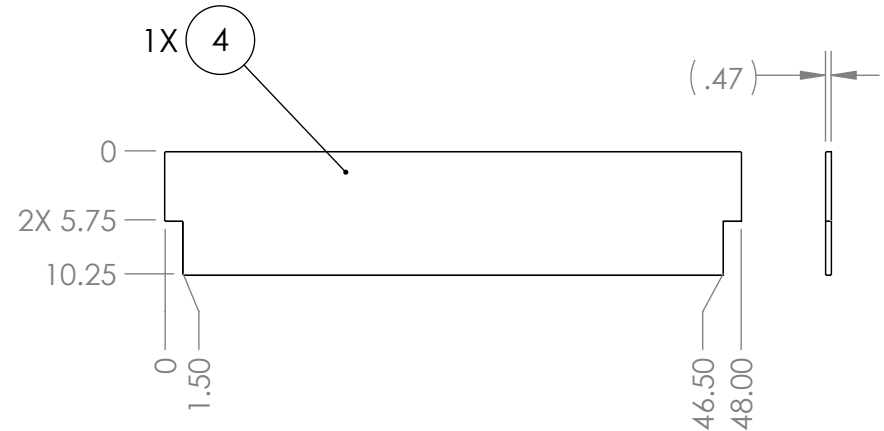
Note:
Material 1/4" Hardboard

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

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



TITLE:

Loading Station

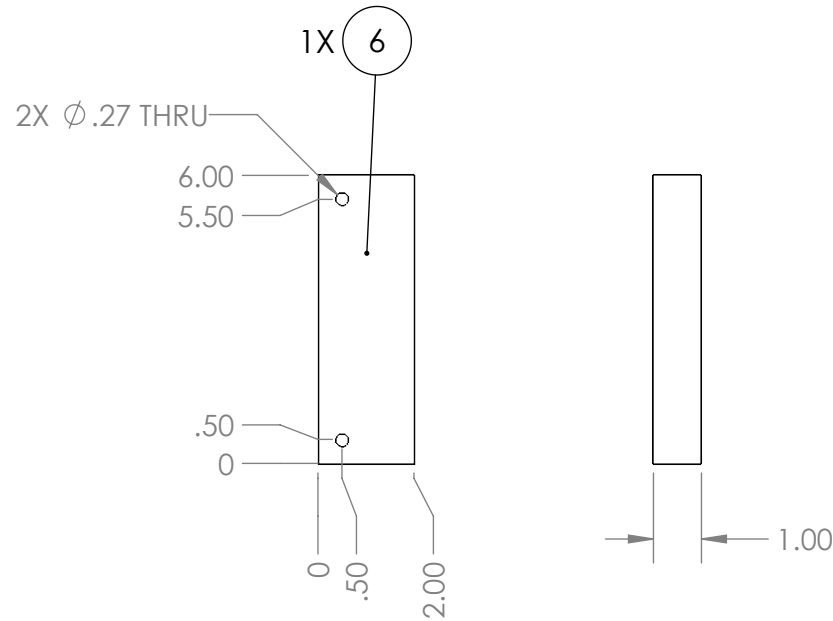
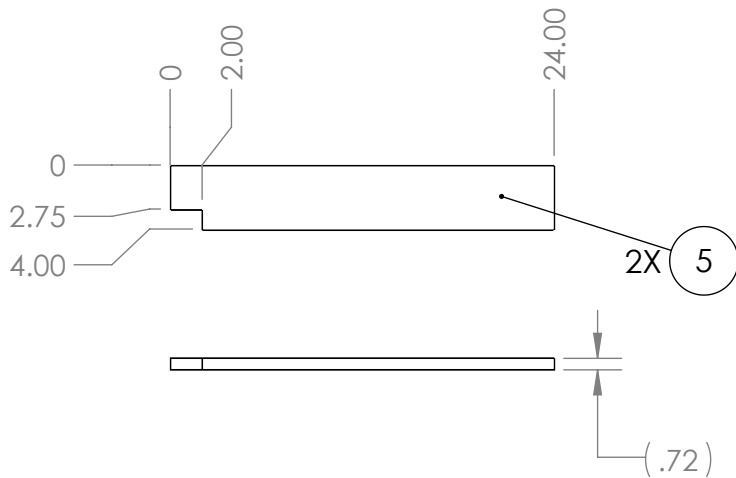
SIZE	DWG. NO.	REV
A	TE-19108	A
SCALE: 1:16		WEIGHT:
		SHEET 9 OF 15

2

1

TE-19108-05

TE-19108-06



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

Notes:
Material 2"x 4" Lumber Pine

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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:
Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	A

SCALE: 1:16	WEIGHT:	SHEET 10 OF 15
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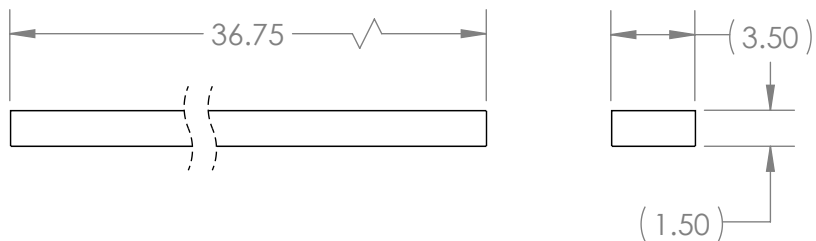
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1

2

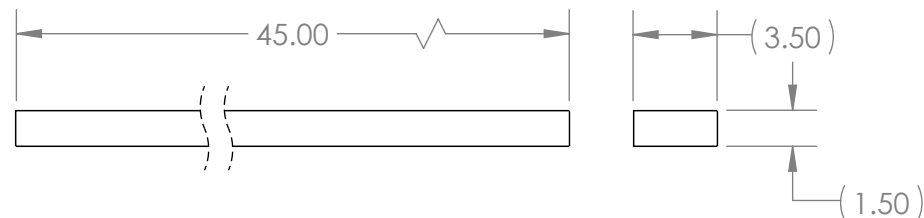
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TE-19108-07



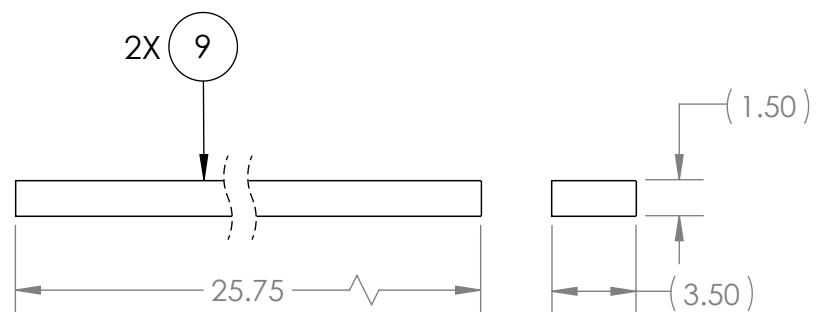
Notes:
Material 2"x 4" Lumber Pine

TE-19108-08



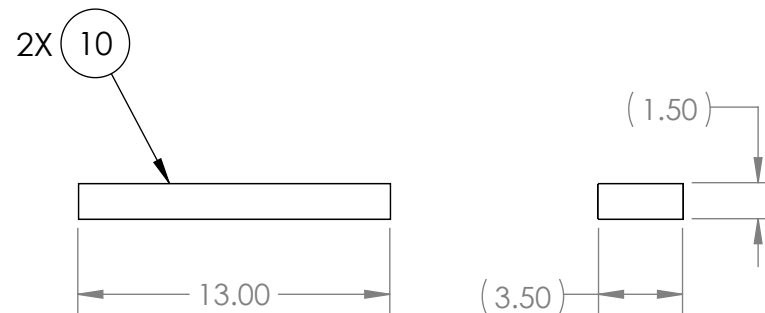
Notes:
Material 2"x 4" Lumber Pine

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

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

A

DWG. NO.

TE-19108

REV

A

SCALE: 1:16 WEIGHT:

SHEET 11 OF 15

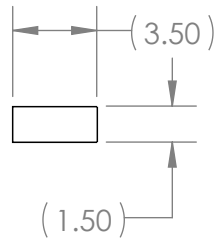
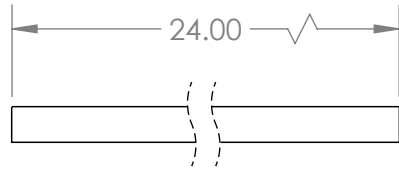
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1

2

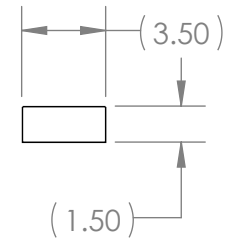
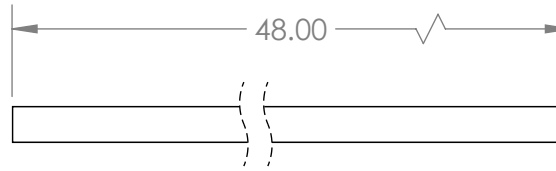
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TE-19108-11



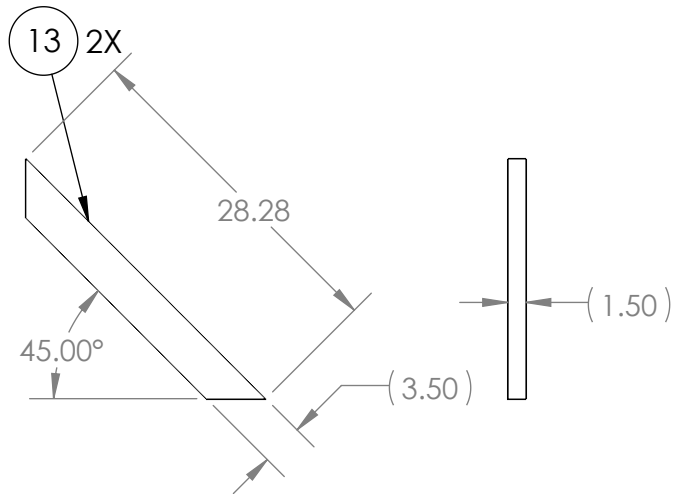
Notes:
Material 2"x 4" Lumber Pine

TE-19108-12



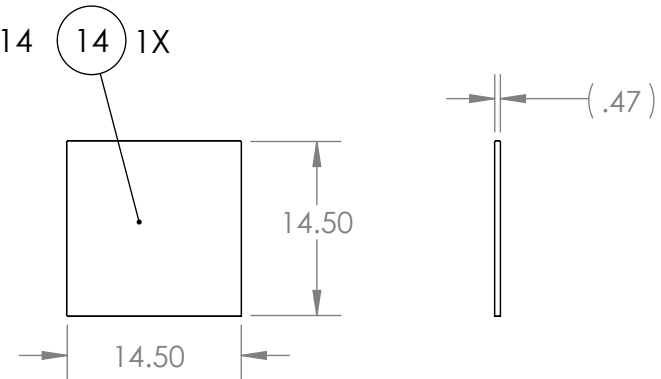
Notes:
Material 2"x 4" Lumber Pine

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

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MFG APPR.

Q.A.

COMMENTS:



TITLE:

Loading Station

SIZE

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DWG. NO.

TE-19108

REV

A

SCALE: 1:16 WEIGHT:

SHEET 12 OF 15

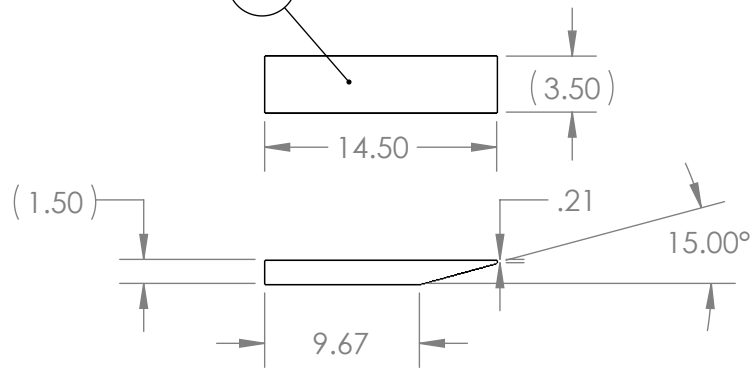
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1

B

TE-19108-15

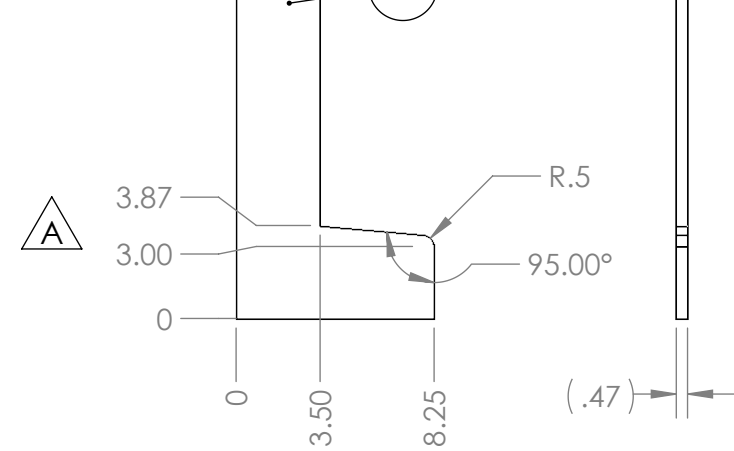
2X (15)



Note:
Material 2"x4" Pine Lumber

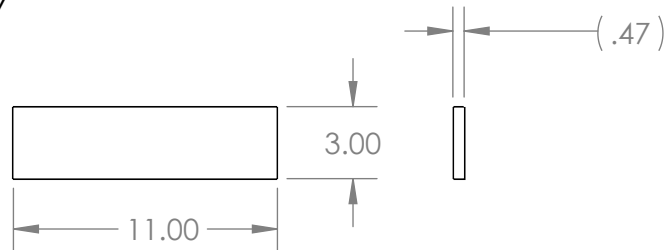
TE-19108-16

15.00 1X (16)



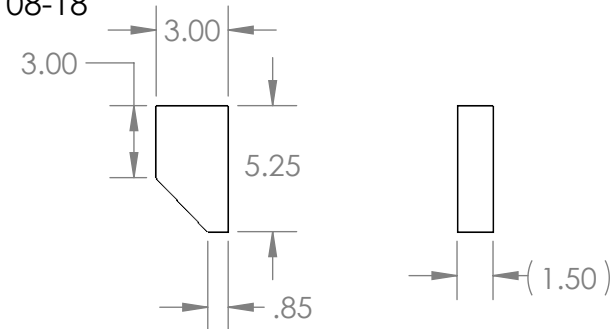
Note:
Material 15/32"(1/2") A/C or CDX Plywood

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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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

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Q.A.

COMMENTS:

NAME

DATE



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TITLE:

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SIZE

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DWG. NO.

TE-19108

REV

A

SCALE: 1:16 WEIGHT:

SHEET 13 OF 15

B

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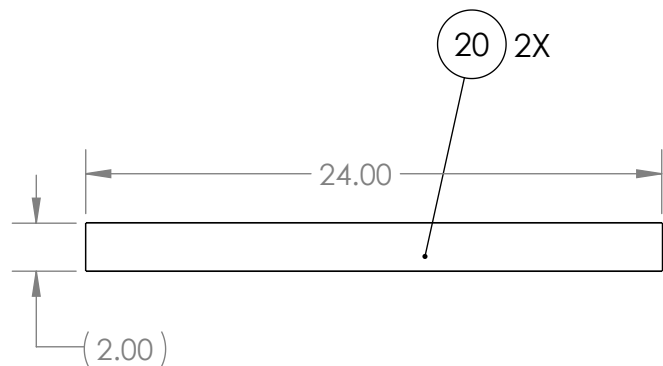
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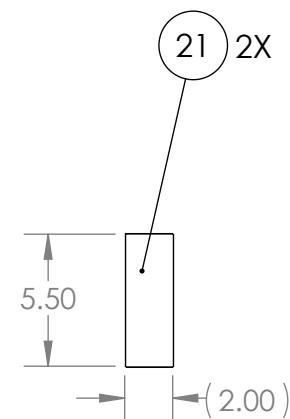
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TE-19108-20



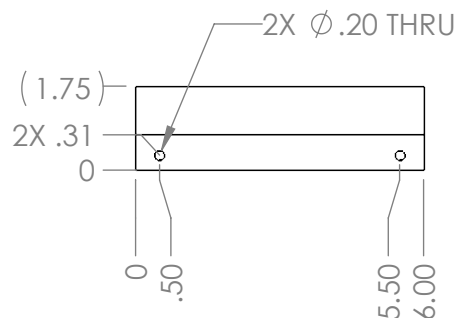
2" Hook Fastener

TE-19108-21



2" Vision Tape

TE-19108-19



Note:
Material Frost King C35PH

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		TOLERANCES:	CHECKED		
		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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TITLE:

Loading Station

SIZE

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DWG. NO.

TE-19108

REV

A

SCALE: 1:16 WEIGHT:

SHEET 14 OF 15

2

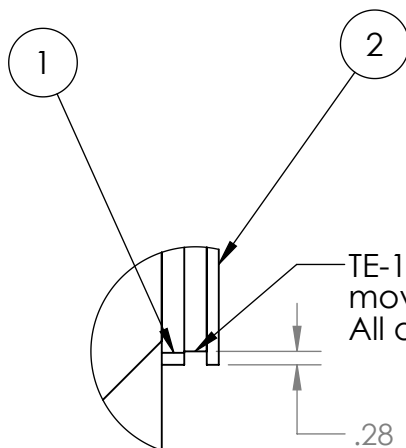
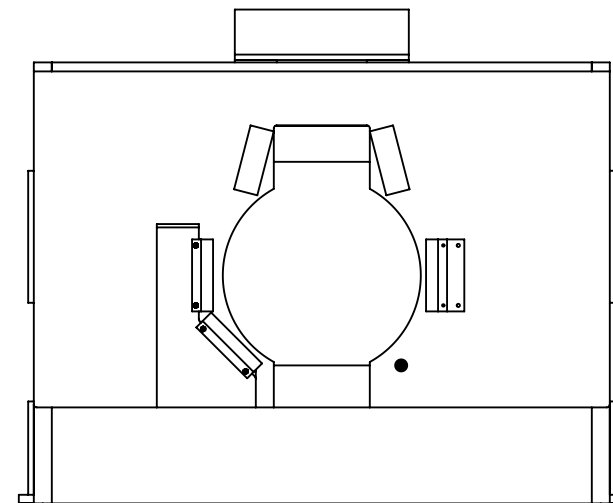
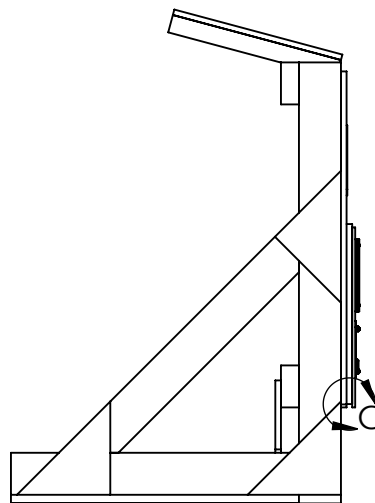
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2

1



This page shows the change needed to revise an initial Rev TE-19108 to function as Rev A intends without having to remake TE-19108-16.



TE-19108-16 initial release version needs to be moved up 0.28" (~9/32") relative to the mating parts. All other alignment stays the same.

DETAIL C
SCALE 1 : 4

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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
ROBOTICS
COMPETITION**



Modeling Solutions Partner

TITLE:

Loading Station

SIZE	DWG. NO.	REV
A	TE-19108	A

SCALE: 1:16 WEIGHT: SHEET 15 OF 15

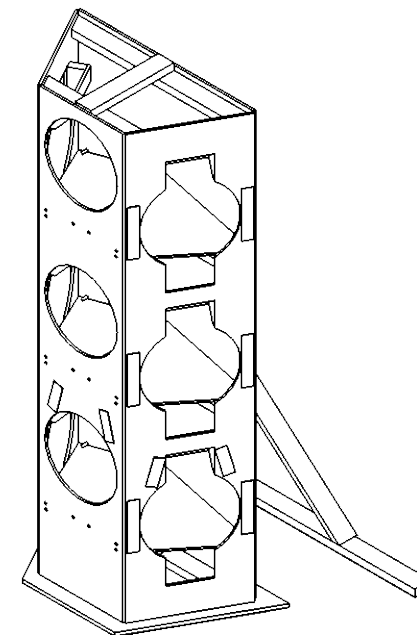
2

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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				CHECKED					
				ENG APPR.					
				MFG APPR.					
				Q.A.					
NEXT ASSY		USED ON		MATERIAL		COMMENTS:		<p>TITLE:</p> <p>Full Rocket</p>	
APPLICATION		DO NOT SCALE DRAWING		SIZE		DWG. NO.			REV
				SCALE: 1:32		WEIGHT:			SHEET 1 OF 11

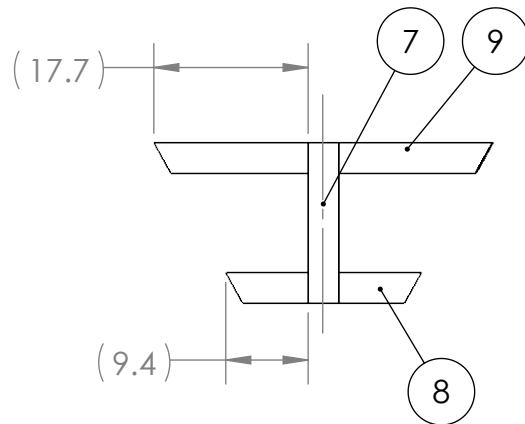
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1

2

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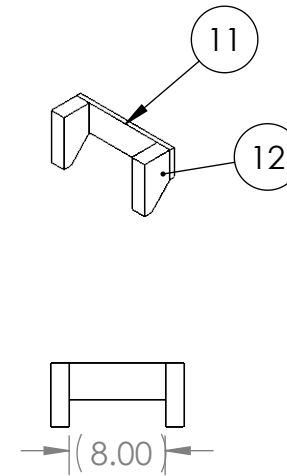
Subassembly 1: QTY 4



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			



FIRST
ROBOTICS
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SOLIDWORKS
Modeling Solutions Partner

TITLE:

Full Rocket

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

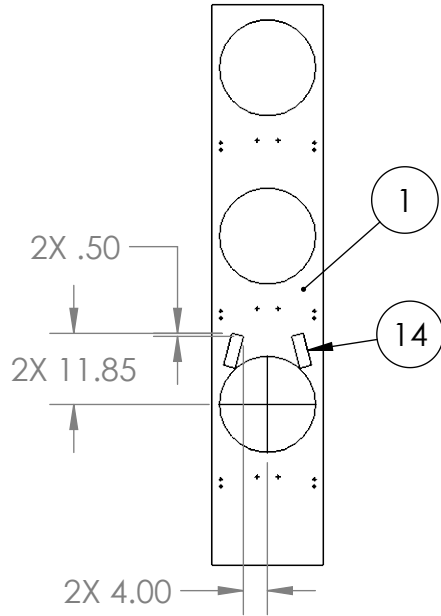
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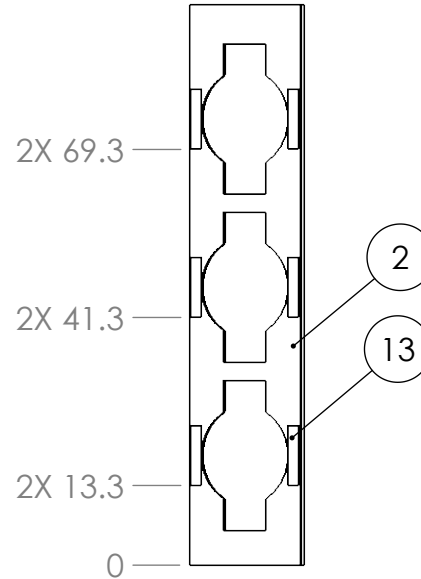
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Subassembly 3:



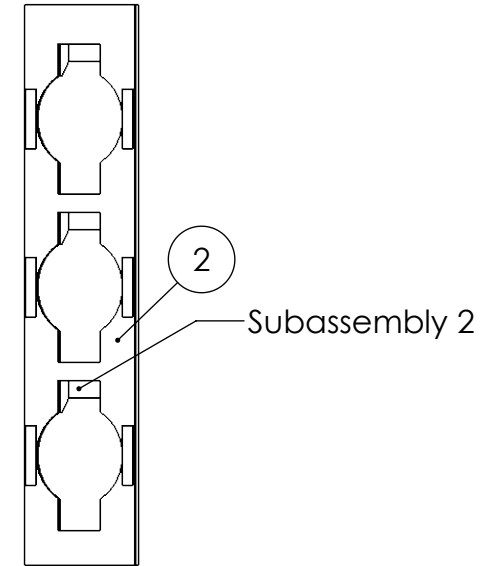
Note:

Attach (14)x2 to (1).

Subassembly 4:
Qty. 2

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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APPLICATION

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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

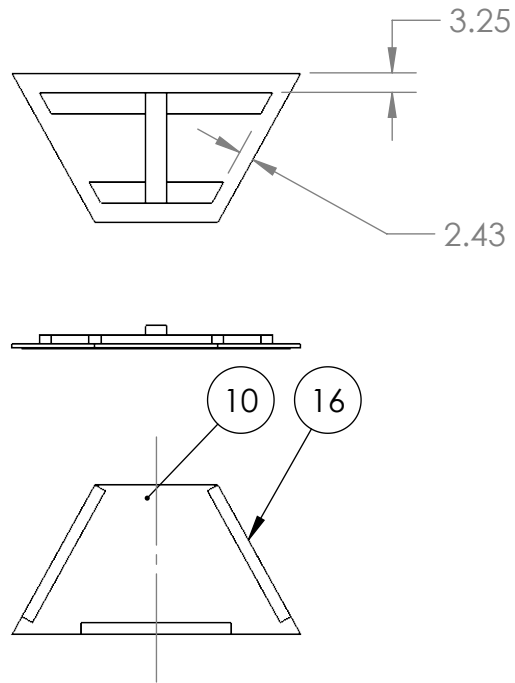
SCALE: 1:32 WEIGHT:

SHEET 3 OF 11

2

1

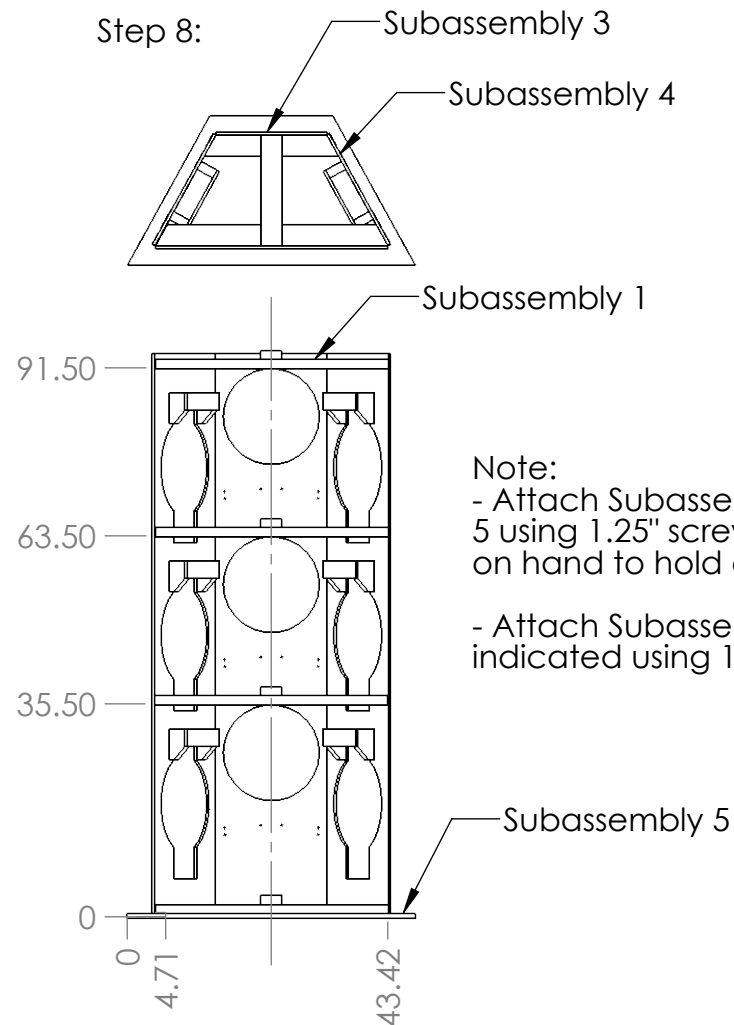
Subassembly 5:



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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		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
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CHECKED		
ENG APPR.		
MFG APPR.		
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COMMENTS:		



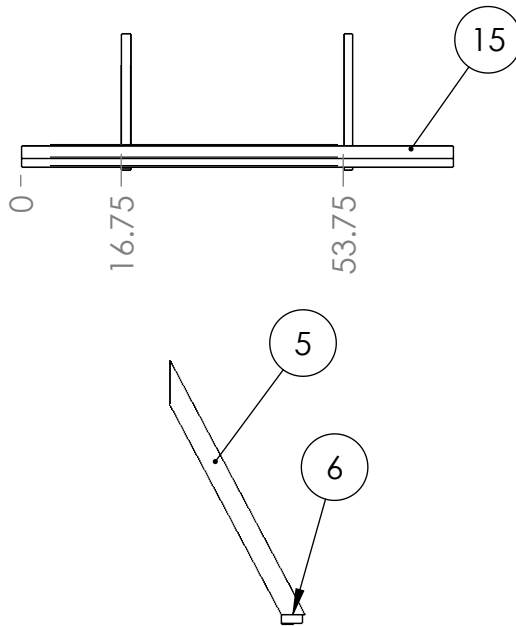
TITLE:

Full Rocket

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

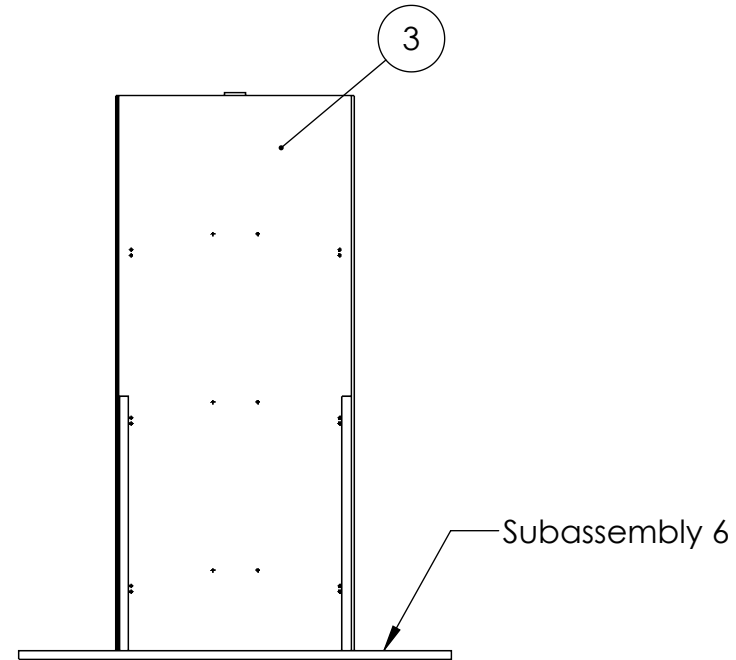
Subassembly 6:

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

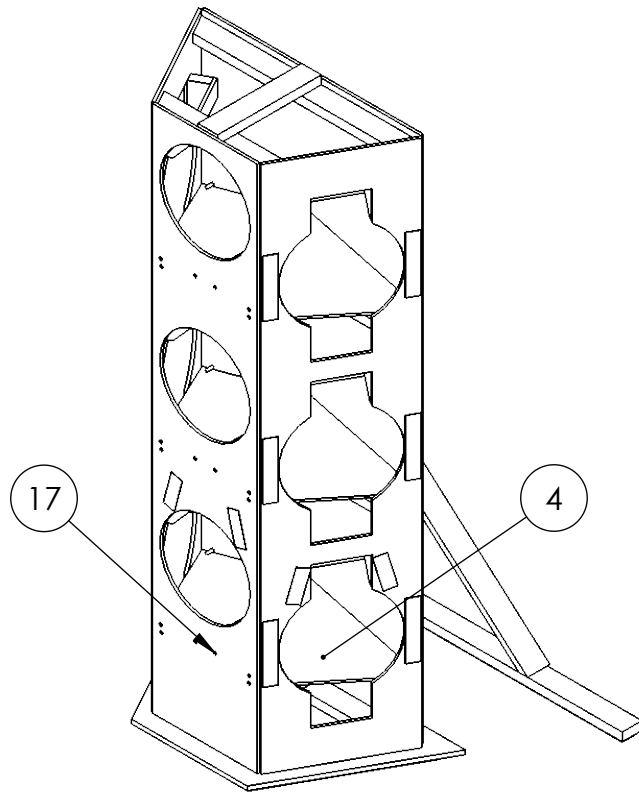


TITLE:

Full Rocket

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

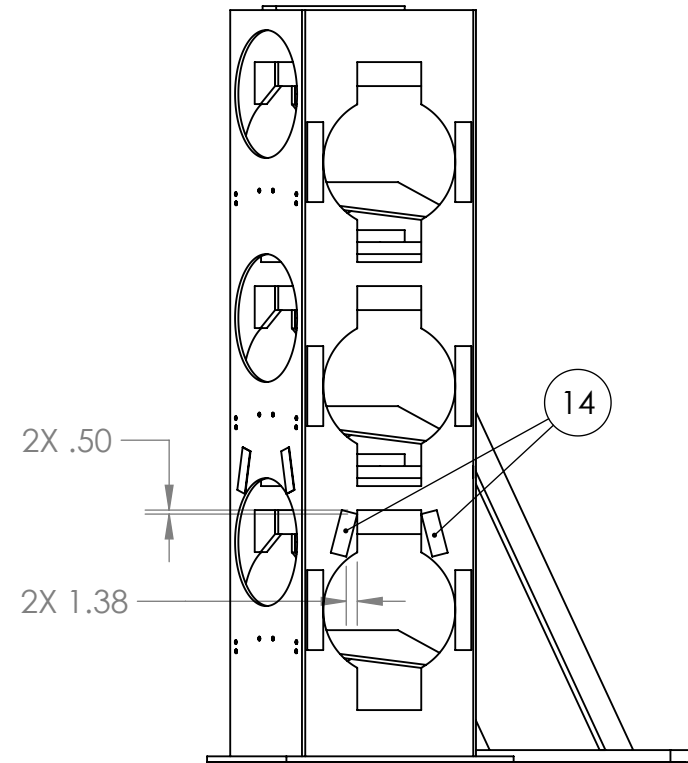
B



Note:

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

1



Note:

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

A

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

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MFG APPR.		
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COMMENTS:		



TITLE:

Full Rocket

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

2

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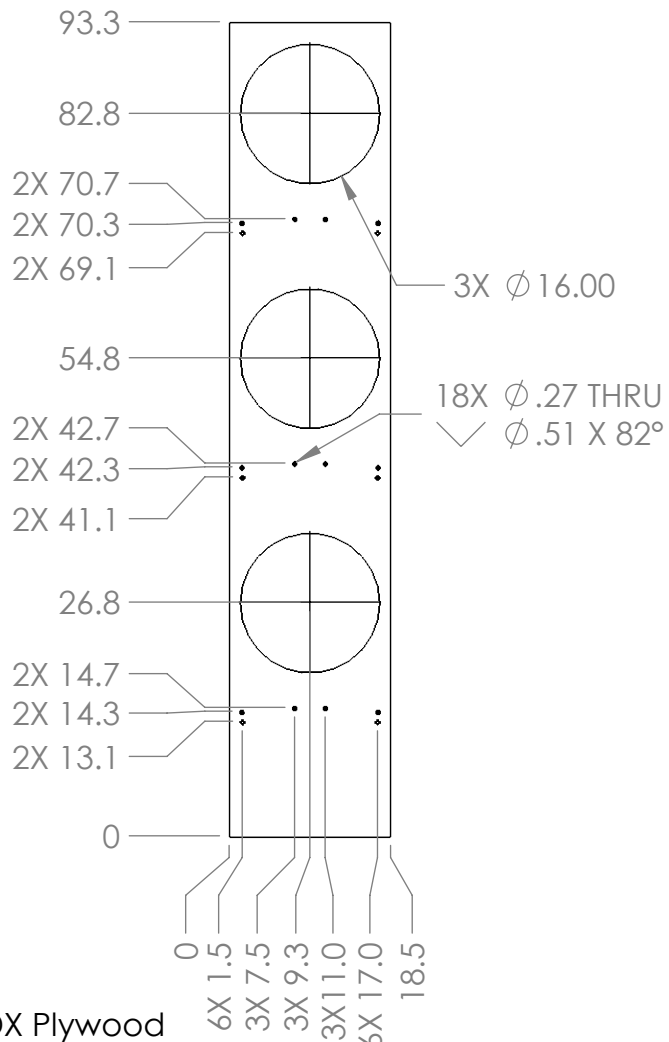
A

B

TE-19113-01

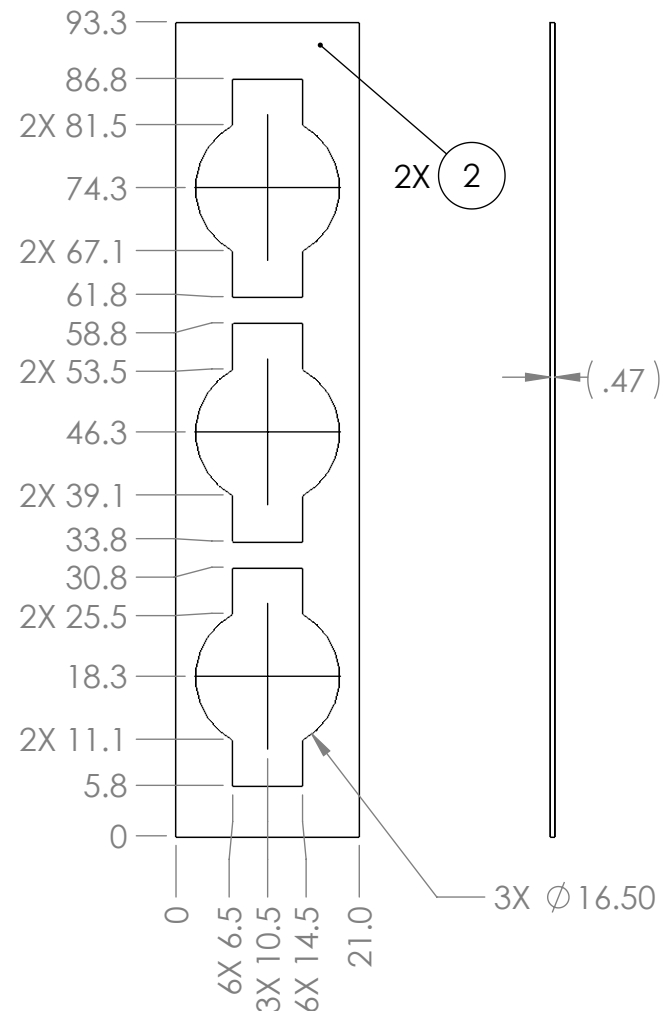
1X (1)

(.47)



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

TE-19113-02



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

B

A

A

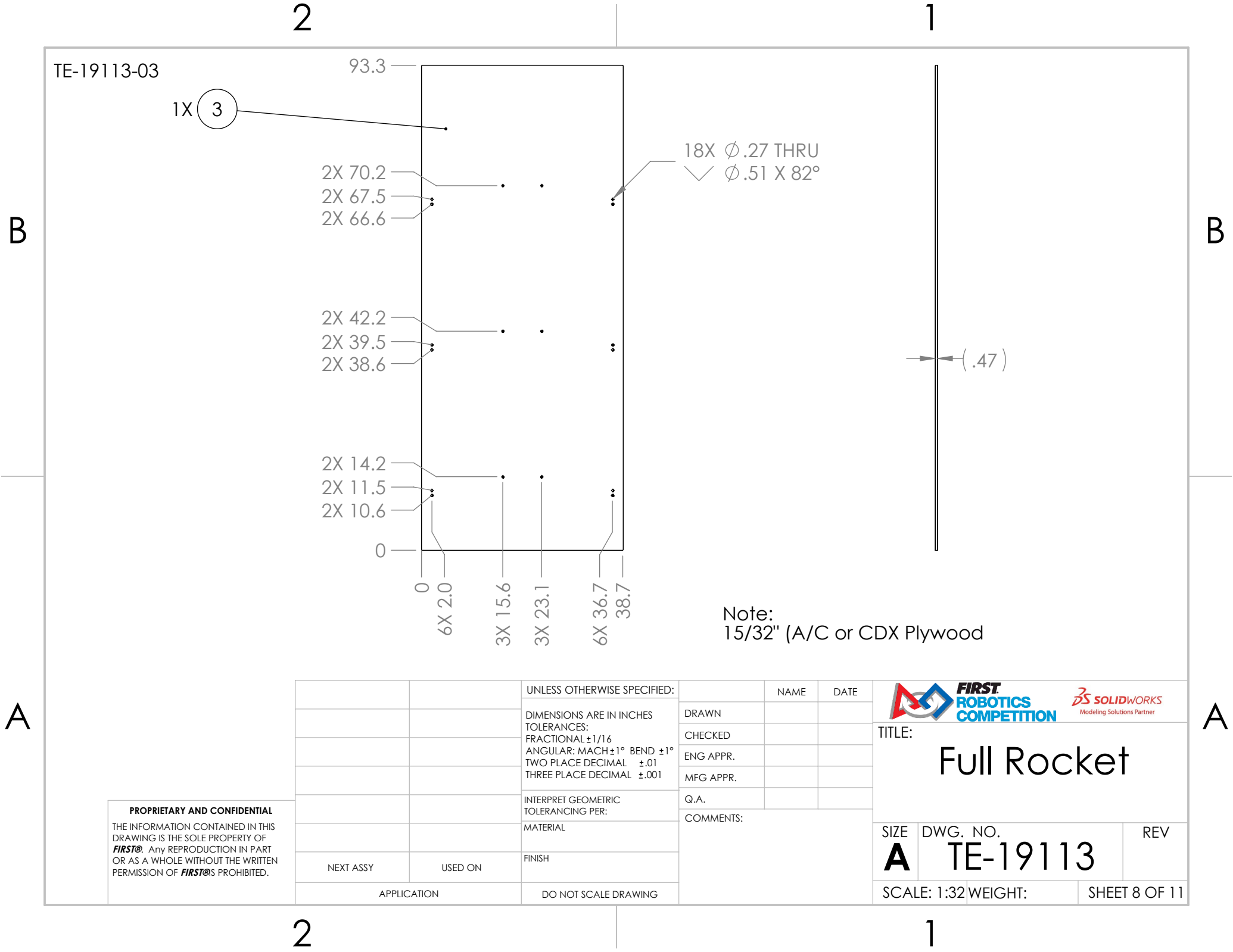
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		TOLERANCES:
		FRACTIONAL ±1/16
		ANGULAR: MACH ±1° BEND ±1°
		TWO PLACE DECIMAL ±.01
		THREE PLACE DECIMAL ±.001
		INTERPRET GEOMETRIC TOLERANCING PER:
		MATERIAL
		FINISH
NEXT ASSY	USED ON	
APPLICATION		DO NOT SCALE DRAWING

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



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



A

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

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

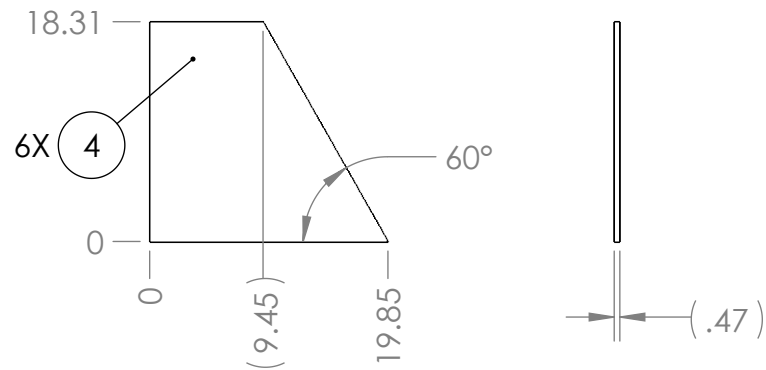


TITLE: Full Rocket		
SIZE A	DWG. NO. TE-19113	REV
SCALE: 1:32		WEIGHT:
SHEET 8 OF 11		

2

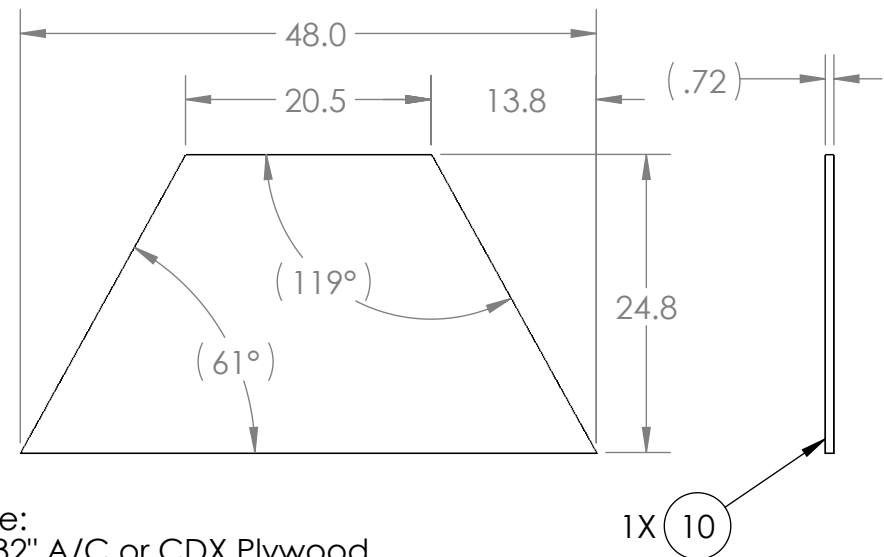
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TE-19113-04



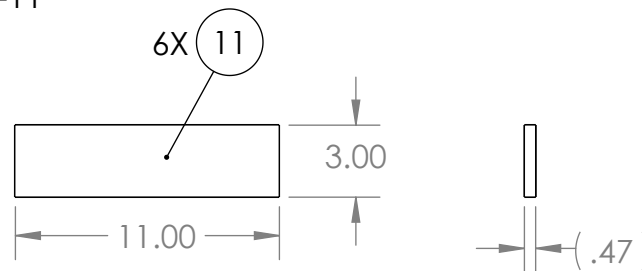
Note:
15/32" A/C or CDX Plywood

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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		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:

Full Rocket

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

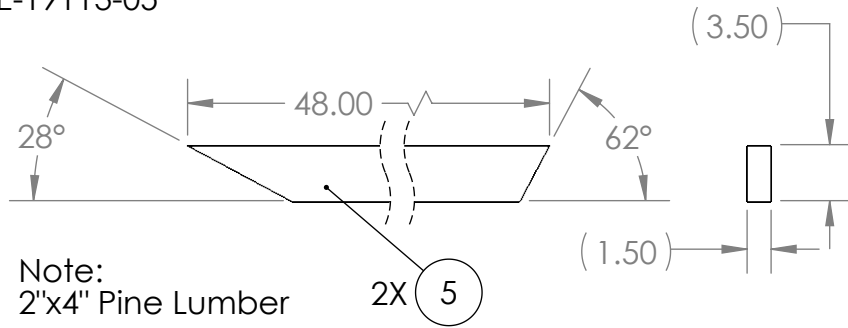
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1

2

1

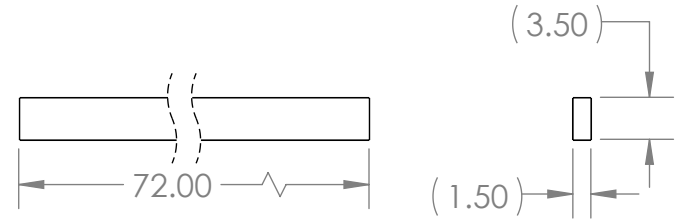
TE-19113-05



Note:
2"x4" Pine Lumber

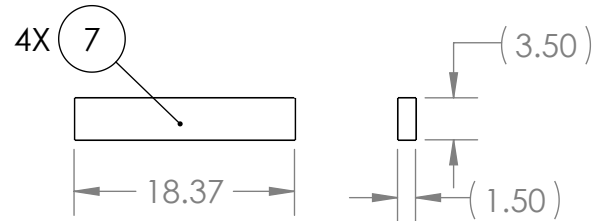
2X (5)

TE-19113-06



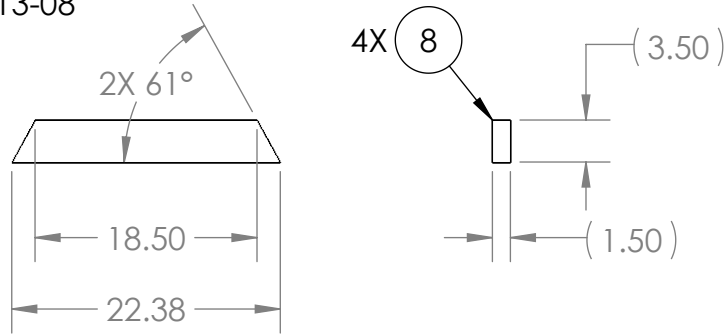
Note:
2"x4" Pine Lumber

TE-19113-07



Note:
2"x4" Pine Lumber

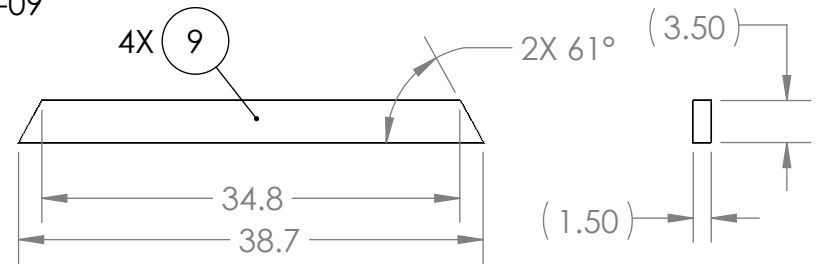
TE-19113-08



Note:
2"x4" Pine Lumber

4X (8)

TE-19113-09



Note:
2"x4" Pine Lumber

4X (9)

2X 61° (3.50)

(1.50)

B

B

A

A

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

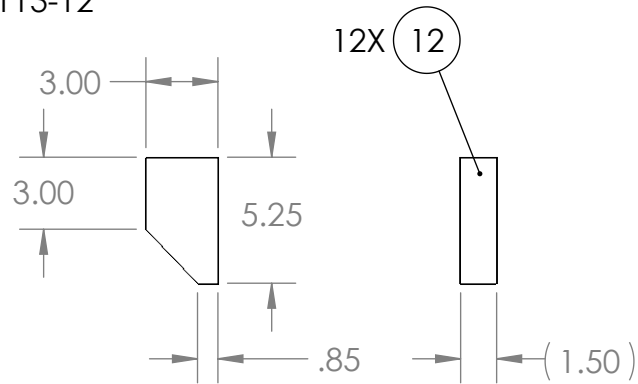
2

1

2

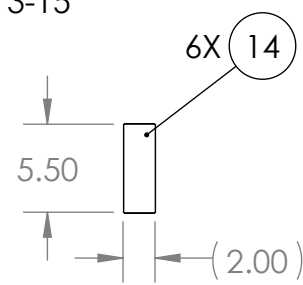
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TE-19113-12



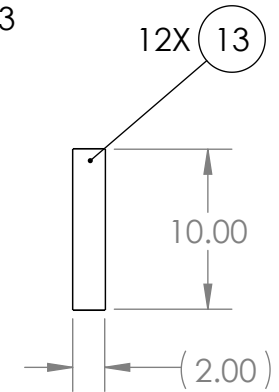
Note:
2"x 4" Pine lumber

TE-19113-15



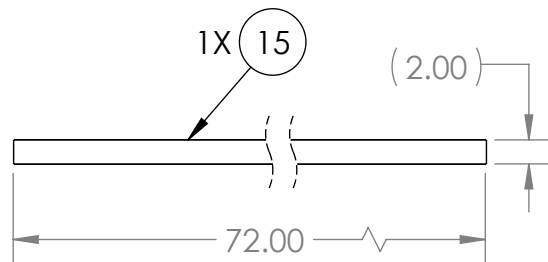
2" Vison Tape

TE-19113-13



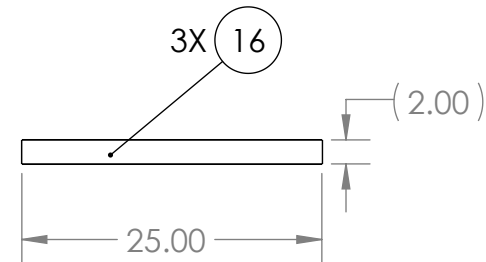
2" Hook Fastener

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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THREE PLACE DECIMAL $\pm .001$

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL

FINISH

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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