<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-19102-01</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>TE-19102-02</td>
<td>5</td>
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<tr>
<td>3</td>
<td>TE-19102-03</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>TE-19102-04</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>TE-19102-05</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>TE-19102-06</td>
<td>4</td>
</tr>
</tbody>
</table>

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

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/16
ANGULAR: MACH ±1° BEND ±1°
TWO PLACE DECIMAL: ±.01
THREE PLACE DECIMAL: ±.001

UNLESS OTHERWISE SPECIFIED:

TITLE: 2"x 4" Hab lvl 3

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Note:
Attach 1 and 2 with 2.5" screws
Attach 1, 2, and 4 with 1.25" screws
Pre drill if needed

Step 1:

Step 2:

Note:
Assemble Item 3 QTY 2 together with 2.5" screws
Attach with 2.5" screws to rest of assembly
Step 3:

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.

Note:

Step 4:

Add item 5 sides with 1.25" screws.
47.75

2 x 4 Pine Lumber

44.75

2 x 4 Pine Lumber

21.28

2 x 4 Pine Lumber

Note:
2 x 4 Pine Lumber

Note:
2 x 4 Pine Lumber

Note:
2 x 4 Pine Lumber

<table>
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<th>UNLESS OTHERWISE SPECIFIED:</th>
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<th>DATE</th>
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<td>TOLERANCES:</td>
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<tr>
<td>FRACTIONAL: 1/16</td>
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<tr>
<td>ANGULAR: MACH 1° BEND 1°</td>
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<tr>
<td>TWO PLACE DECIMAL: 0.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THREE PLACE DECIMAL: 0.001</td>
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</tr>
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</table>

| INTERPRET GEOMETRIC TOLERANCING PER: |
| MATERIAL: | |
| FINISH: |
| NEXT ASSY: |
| USED ON: |
| APPLICATION: |

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

TITLE: 2"x 4" Hab lvl 3

SIZE| DWG. NO. | REV
---|---------|----
A | TE-19102 | |

SCALE: 1:16 WEIGHT: SHEET 4 OF 5

PROPRIETARY AND CONFIDENTIAL
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Note:
A/C or CDX 23/32" Plywood

Note:
1/8" Hardboard

Note:
2"x 4" Lumber Pine

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
FRACTIONAL ±1/16
ANGULAR: MACH ±1° BEND ±1°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.001

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL
FINISH

APPLICATION
DONOTSCALEDRAWING

TITLE:
2"x 4" Hab lvl 3

REV

SHEET 5 OF 5
Note:
To build the entire Hab, build QTY 2 of the TE-19103

<table>
<thead>
<tr>
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<th>PART NUMBER</th>
<th>QTY.</th>
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<tbody>
<tr>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>2</td>
<td>TE-19103-02</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>te-19103-03</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>TE-19103-04</td>
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Material

<table>
<thead>
<tr>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>23/32&quot; (3/4&quot;) A/C or CDX Plywood</td>
</tr>
<tr>
<td>2&quot;x 4&quot;x 8'</td>
</tr>
<tr>
<td>1.25&quot; wood screws</td>
</tr>
<tr>
<td>2.5&quot; wood screws</td>
</tr>
</tbody>
</table>
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
Step 3:

Note:
Attach item 4 and 3 to the lower part of item 2 with pre drilled 2.5" screw.
Notes:
A/C or CDX plywood 23/32"
<table>
<thead>
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<th>PART NUMBER</th>
<th>QTY.</th>
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</thead>
<tbody>
<tr>
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<td>2</td>
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<td>2</td>
</tr>
<tr>
<td>3</td>
<td>TE-19105-03</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>TE-19105-04</td>
<td>1</td>
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<td>5</td>
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<td>4</td>
</tr>
<tr>
<td>6</td>
<td>TE-19105-06</td>
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</tr>
<tr>
<td>7</td>
<td>TE-19105-07</td>
<td>2</td>
</tr>
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<table>
<thead>
<tr>
<th>Material</th>
<th>QTY</th>
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<tbody>
<tr>
<td>23/32&quot; (3/4&quot;) A/C or CDX Plywood</td>
<td>1 sheet</td>
</tr>
<tr>
<td>2&quot;x 4&quot;x 8' Lumber Pine</td>
<td>5</td>
</tr>
<tr>
<td>1.25&quot; Wood screw</td>
<td>~40</td>
</tr>
<tr>
<td>2.5&quot; Wood screw</td>
<td>~30</td>
</tr>
</tbody>
</table>

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
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

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Step 1:
Attach Item 5 and 6 with 2.5" screws
Attach Item 1, 5, and 6 with 1.25" screws
Pre-drill

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

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
Note: A/C or CDX 23/32” Plywood

Note: A/C or CDX 23/32” Plywood

Note: A/C or CDX 23/32” Plywood

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±1/16
ANGULAR: MACH ±1°  BEND ±1°
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.001

INTERPRET GEOMETRIC
TOLERANCING PER:

MATERIAL
FINISH

APPLICATION
DO NOT SCALE DRAWING
Note: 2x 4" Pine Lumber

Note: 2x 4" Pine Lumber

Half Hab
<table>
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<th>PART NUMBER</th>
<th>QTY.</th>
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</tr>
<tr>
<td>2</td>
<td>TE-19106-02</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>TE-19106-03</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>TE-19106-04</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>TE-19106-05</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>TE-19106-06</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>TE-19106-07</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>TE-19106-08</td>
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</tr>
<tr>
<td>9</td>
<td>TE-19106-09</td>
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<tr>
<td>10</td>
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</tr>
<tr>
<td>16</td>
<td>TE-19106-16</td>
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</tr>
<tr>
<td>17</td>
<td>TE-19106-17</td>
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<tr>
<td>18</td>
<td>Tee nut .375_16</td>
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</tr>
<tr>
<td>19</td>
<td>hex nut ...375_16</td>
<td>6</td>
</tr>
<tr>
<td>20</td>
<td>hex .375_16...625</td>
<td>6</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>15/32&quot; (1/2&quot;) A/C or CDX Plywood</td>
<td>1.5</td>
</tr>
<tr>
<td>23/32&quot; (3/4&quot;) A/C or CDX Plywood</td>
<td>.125</td>
</tr>
<tr>
<td>2&quot;x2&quot;x8'</td>
<td>1.25</td>
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<tr>
<td>2&quot; x 4' x 8'</td>
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<tr>
<td>TEE nut .3/8&quot;-16</td>
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<tr>
<td>3/8&quot;-16 nut</td>
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<td>Hex Head 3/8&quot;-16 x0.75</td>
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<tr>
<td>1.25&quot; wood screws</td>
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<td>2.5&quot; wood screws</td>
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<tr>
<td>Vision Tape</td>
<td>11&quot;</td>
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<tr>
<td>2&quot; hook tape</td>
<td>63.5&quot;</td>
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</tbody>
</table>

**Single Bay Side**

UNLESS OTHERWISE SPECIFIED:

- DIMENSIONS ARE IN INCHES
- TOLERANCES:
  - FRACTIONAL ±1/16
  - ANGULAR: MACH ±1° BEND ±1°
  - TWO PLACE DECIMAL ±.01
  - THREE PLACE DECIMAL ±.001

- INTERPRET GEOMETRIC TOLERANCING PER:
- MATERIAL
- NEXT ASSY
- USED ON
- FINISH

**TITLE:** Single Bay Side

**SIZE** | **DWG. NO.** | **REV**
----------|--------------|------
A          | TE-19106     |      

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

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**FIRST® Robotics Competitions**

SOLIDWORKS Modeling Solutions Partner
Step 1:
TE-19006-01 Sub Assembly
QTY(1) Mirror (1)

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

Step 2:

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.
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.
Step 5:

Notes:
Thread 19 all the way on to 20.
Insert into 18 repeat, for all instances.
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
Step 8:

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

Step 9:

Notes:
Attach assemblies from Step 5 to Step 8
Pre drill and use 1.25" screws. Step 5 over hangs .41 on both sides.
Step 10:
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.

Notes:
Attach 17 to 4, mirror for the other side.
Single Bay Side

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

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

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
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

NAME DATE

DRAWN CHECKED ENG APPR.
MFG APPR.
Q.A.
COMMENTS:
Note: 15/32" A/C or CDX Plywood

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

Note: 2" x 2" Pine Lumber

Note: 2" x 2" Pine Lumber
Note: 23/32" A/C or CDX Plywood

Note: 2" x 4" Pine Lumber

Note: 2" x 4" Pine Lumber

Note: 2" x 4" Pine Lumber

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

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

NAME DATE

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

DOUBLE BAY SIDE

TITLE:

Single Bay Side

SIZE DWG. NO. REV

A TE-19106

SCALE: 1:24 WEIGHT: SHEET 10 OF 12

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TE-19106-11

11.00

3.00

111X

.47

TE-19106-12

3.00

5.25

46°

.85

TE-19106-13

2X

3.00

(1.50)

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

TE-19106-14

1X

3.75

141X

.47

2"X4" Pine Lumber

Note:

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

Note:

2"X4" Pine Lumber

Note:

2"X4" Pine Lumber

Note:

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

Note:

2"X4" Pine Lumber

Note:

15/32" (1/2") A/C or CDX Plywood
TE-19106-15

2X (15)

10.00

Note:
2" Hook Fastener

TE-19106-18

2X (16)

21.75

Note:
2" Hook Fastener

TE-19106-19

2X (17)

5.50

Note:
2" Vison tape

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<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>QTY.</th>
</tr>
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<tbody>
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<td>1</td>
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</tr>
<tr>
<td>2</td>
<td>TE-19107-02</td>
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</tr>
<tr>
<td>3</td>
<td>TE-19107-03</td>
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<td>4</td>
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<td>5</td>
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<td>6</td>
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<td>TE-19107-07</td>
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<td>19</td>
<td>Tee nut .375_16</td>
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<tr>
<td>20</td>
<td>hex nut .375_16</td>
<td>6</td>
</tr>
<tr>
<td>21</td>
<td>hex .375_16 .625</td>
<td>6</td>
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Material

<table>
<thead>
<tr>
<th>Material</th>
<th>QTY</th>
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</thead>
<tbody>
<tr>
<td>15/32&quot; (1/2&quot;) A/C or CDX Plywood</td>
<td>1.5 sheets</td>
</tr>
<tr>
<td>1/8&quot; Hardboard</td>
<td>.25 sheet</td>
</tr>
<tr>
<td>23/32&quot; (3/4&quot;) A/C or CDX Plywood</td>
<td>.125 sheet</td>
</tr>
<tr>
<td>2&quot; x 2&quot; x 8&quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>2&quot; x 4&quot; x 8&quot;</td>
<td>1</td>
</tr>
<tr>
<td>TEE nut 3/8&quot;-16</td>
<td>6</td>
</tr>
<tr>
<td>Hex Nut 3/8&quot;-16</td>
<td>6</td>
</tr>
<tr>
<td>Hex Head 3/8&quot;-16 .75</td>
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</tr>
<tr>
<td>2&quot; Hook Fastener</td>
<td>63.5&quot;</td>
</tr>
<tr>
<td>2&quot; Vison Tape</td>
<td>11&quot;</td>
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<tr>
<td>1.25&quot; wood screws</td>
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</tr>
<tr>
<td>2.5&quot; wood screws</td>
<td>25</td>
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</table>
Step 1:
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

Step 2:
QTY (1)

Note:
Attach  8  10  9  to  3
Pre-drill and use 1.25" wood screws

Step 3:
QTY (1)

Note:
Attach 10  9  8  to  2
Pre-drill and use 1.25" wood screws

UNLESS OTHERWISE SPECIFIED:

| Dimensions are in inches |
| Tolerances: |
| Fractional: ±1/16 |
| Angular: Mach ±1° Bend ±1° |
| Two Place Decimal: ±.01 |
| Three Place Decimal: ±.001 |

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL

FINISH

APPLICATION

DO NOT SCALE DRAWING
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”
Step 6:
Install Tee Nut 19
Hammer in to seat

Step 7:
Flip over
Attach 16 to 6 front.
Hook should be tangent to the circular cutouts.
Step 8:

Note:
Attach 21 to 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
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
Pre-drill and use 2.5" screws
Step 13:

Note:
Attach 18 to 6
Note:
Material: 15/32" (1/2") A/C or CDX Plywood
Note: Material: 15/32" (1/2") A/C or CDX Plywood

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

Note: Material: 1/8" hardboard

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/16
ANGULAR: MACH ±1° BEND ±1°
TWO PLACE DECIMAL: ±.01
THREE PLACE DECIMAL: ±.001

INTERPRET GEOMETRIC TOLERANCING PER:

MATERIAL
FINISH

NEXT ASSY
USED ON
APPLICATION

DO NOT SCALE DRAWING

TITLE: Cargo Front Single

SIZE DWG. NO. REV
A TE-19107 1

SCALE: 1:24 WEIGHT: SHEET 11 OF 14

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Note: Material 2"x 2" Pine Lumber

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

Note: Material 2"x 4" Pine Lumber
TE-19107-12

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

TE-19107-13

Note: Material: 2" x 4" Pine Lumber

Note: Material 2" x 4" Pine Lumber

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

UNLESS OTHERWISE SPECIFIED:

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<td>THREE PLACE DECIMAL ±.001</td>
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INTERPRET GEOMETRIC TOLERANCING PER:

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PROPRIETARY AND CONFIDENTIAL
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TITLE: Cargo Front Single

SIZE | DWG. NO. | REV |
-----|---------|-----|
A    | TE-19107|     |

SCALE: 1:24 WEIGHT: SHEET 13 OF 14
Note:
2" Hook Fastener

Note:
2" Vison Tape

Note:
2" Hook Fastener
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<td>26</td>
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Note: Set up for one side
Mirror Assembly for Half Field for the opposite side

REVISIONS

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<td>1/30/2019</td>
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<tr>
<td>Nylock 10-24</td>
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<td>2&quot; Hook Fastener</td>
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**Loading Station**

**Material:**
- Flat head 10-24 X0.625"
- 15/32"(1/2") A/C or CDX Plywood
- 1/4" Hardboard
- 2" x 4" x 8'
- Frost King C35PH
- McMaster 9540K953
- Button Head 1/4"-20 x 1.25
- Nylock 1/4"-20
- Nylock 10-24
- Frost King door sweep
- 2" Hook Fastener
- 2" Vison Tape

**Screws:**
- 1.25" wood screws (~90)
- 2.5" wood screws (~40)
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.
Subassembly 3:

- Attach 19 to the back of 2, flush on indicated edges.
- Use 1.25" screws, but do not screw in all the way.

Note:
Attach 19 to 2 with 23 and 25.

Subassembly 4:

Note:
Attach 19 to 6 with 1.25" screws.
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.
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.
Step 10:

Note:
Attach 21 to 1 as shown.
Note: Material 15/32" (1/2") A/C or CDX Plywood

UNLESS OTHERWISE SPECIFIED:

DIAMETERS ARE IN INCHES
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 CHECKED
ENG APPR. MFG APPR.
Q.A. COMMENTS:

TITLE: Loading Station

SIZE DWG. NO. REV
A TE-19108 A

SCALE: 1:16 WEIGHT: SHEET 8 OF 15
Note: Material 23/32" (3/4") A/C or CDX Plywood

Notes: Material 2" x 4" Lumber Pine
Notes: Material 2"x 4" Lumber Pine

Notes: Material 2"x 4" Lumber Pine

Notes: Material 2"x 4" Lumber Pine

Notes: Material 2"x 4" Lumber Pine

Title: Loading Station

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| INTERPRET GEOMETRIC TOLERANCING PER: | |
| MATERIAL | |

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Proprietary and Confidential
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Drawing tools: SolidWorks®
Note:
Material 2"x4" Pine Lumber

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

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

Note:
Material 2"x4" Pine Lumber
2" Hook Fastener

2" Vison Tape

Note:
Material Frost King C35PH

TE-19108-19

2X Ø .20 THRU

TE-19108-19

2X .31

Material Frost King C35PH
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.
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<th>QTY.</th>
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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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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.
Subassembly 3:

Note: Attach 14 x 2 to 1.

Subassembly 4:

2X 69.3
2X 41.3
2X 13.3

Note:
- Attach 13 x 6 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.
Subassembly 5:

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

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.
Subassembly 6:

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

Step 10:

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
Note:
- Insert 17x36 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.
Note: 15/32" A/C or CDX Plywood

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

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±1/16
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

FULL ROCKET

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

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FIRST® ROBOTICS COMPETITION

MODELING SOLUTIONS PARTNER

FIRST®

REVOLUTIONIZING ROBOTICS EDUCATION
Note:
15/32" (A/C or CDX Plywood)
**Note:** 2"x4" Pine Lumber

**TE-19113-05**

- 28° to 62°
- 48.00
- (3.50)
- 2X 5

**TE-19113-06**

- 72.00
- (1.50)

**TE-19113-07**

- 4X 7
- 18.37
- (1.50)

**TE-19113-08**

- 2X 61°
- 18.50
- 22.38

**TE-19113-09**

- 2X 61° (3.50)
- 34.8
- 38.7

**Note:** 2"x4" Pine Lumber

---

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Note:
2" x 4" Pine lumber

2" Vison Tape
2" Hook Fastener

2" Hook Fastener
2" Hook Fastener

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/16
ANGULAR: MACH ± 1° BEND ± 1°
TWO PLACE DECIMAL ± .01
THREE PLACE DECIMAL ± .001

INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH

APPLICATION
DO NOT SCALE DRAWING

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