Note: If you are planning to disassemble frequently, you may want to consider using bolted connections instead of screws. It is helpful to consider ability to move assembly through doors before fastening sub-assemblies together.

Hardware Needed:

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-22010</td>
<td>Hub - Simple Build - Fender Assembly</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>TE-22020-Multiple</td>
<td>Hub - Simple Build - Lower Hub Assembly - Multiple</td>
<td>1</td>
</tr>
</tbody>
</table>

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:

FRACTIONAL: ±1/16
ANGULAR: ±1°
BEND: ±1°
TWO PLACE DECIMAL: ±0.01
THREE PLACE DECIMAL: ±0.005

MATERIAL/FINISH:

DO NOT SCALE DRAWING

PROPRIETARY AND CONFIDENTIAL

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.
Note: On field, there is a protrusion in approximately this location. See GE-22300 for details.
Step 1:

1. Align (2) to (1), as shown.
2. Connect using 2" Long Screws. It is recommended to 10x screws, 5x screws into each 4" x 4" Lumber on (2), as shown in Section A-A.
Exploded View

Hardware Needed:
#8 x 2” Long Screw - Qty 10

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-22013</td>
<td>HUB - Basic Build - Fender Front Assembly</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>TE-22017</td>
<td>HUB - Basic Build - Fender Side Assembly</td>
<td>2</td>
</tr>
</tbody>
</table>

UNLESS OTHERWISE SPECIFIED:

- SCALE: 1:6

- MATERIAL/FINISH: 

- TOLERANCES:
  - DIMENSIONS ARE IN INCHES
  - FRACTIONAL: 1/16
  - ANGULAR: MACH 1° BEND 1/16
  - TWO PLACE DECIMAL: 0.13
  - THREE PLACE DECIMAL: 0.125

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COMMENTS:
- REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

TITLE: Hub - Simple Build - Fender Assembly

SIZE: 1/4 DRAWING

REV.

TEAM

A A

B B

C C

D D

HUB  KAMC  12/30/2021

Sheet 1 of 3

DRAWN
Step 1:
1. Align 2x 2 to 1 as shown.
2. Connect using 2" long screws. It is recommended to use 5x screws into each 2.
Hardware Needed:

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-22011</td>
<td>HUB - Simple Build - Fender Front Horizontal 2x4</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>TE-22012</td>
<td>HUB - Simple Build - Fender Front Assembly</td>
<td>1</td>
</tr>
</tbody>
</table>

Step 1:
1. Align 1 to 2 as shown, using dimensions provided on Sheet 2.
2. Connect using 2" long screws. It is recommended to use 7x screws into each 1.
Exploded View

Hardware:
- #8 x 2" Long Screw - Qty 16
- #8 x 2.5" Long Screw - Qty 8

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-22014</td>
<td>HUB - Simple Build - Fender Side Horizontal 2x4</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>TE-22015</td>
<td>HUB - Simple Build - Fender Vertical 2x4</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>TE-22016</td>
<td>HUB - Simple Build - Fender Side Assembly</td>
<td>1</td>
</tr>
</tbody>
</table>

UNLESS OTHERWISE SPECIFIED:
- MATERIAL/FINISH:
- DIMENSIONS ARE IN INCHES
- TOLERANCES:
  - FRACTIONAL: ±1/16
  - ANGULAR: MACH ±1° BEND ±1°
  - TWO PLACE DECIMAL: ±0.13
  - THREE PLACE DECIMAL: ±0.125

TEAM NAME DATE

DRAWN KAMC 12/30/2021

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COMMENTS:
- REMOVE ALL BURRS AND SHARP EDGES.

DO NOT SCALE DRAWING

Size: 1:4  Sheet: 1 of 3
Step 1

1. Align 2x (1) and 2x (2), as shown.
2. Attach using 2.5" long screws. It is recommended to use 2x screws into each interface between 2 and 1.

Step 2

1. Align 3 (3) to the assembly made in Step 1, as shown.
2. Attach using 2" Long Screws. It is recommended to use 5x screws into each 2 and 3x screws into each 1.
Step 1:
1. Align 4x 2 to 1, as shown on Sheet 2.
2. Connect using 3.5" long screws. It is recommended to use 4x screws into each.
   Note: Be careful not to place screws too close to the edges of 2.

Hardware Needed:

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-22024</td>
<td>Hub - Simple Build - Lower Hub Ring Full Assembly - Multiple</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>TE-22025</td>
<td>HUB - Simple Build - Vertical for Lower Hub Ring 4x4</td>
<td>4</td>
</tr>
</tbody>
</table>

Note: Use TE-22020 Single if you are only forming 1/4 ring.
Note: On Field, there is a protrusion in approximately this location. See GE-22300 for details.

Spacing critical for attachment to Fender Assembly (TE-22010)

Mass: 39.50 [39 \frac{1}{2}] in.

Dimensions are in inches.

Tolerances:
- Fractional: ±\frac{1}{16}
- Angular: Mach ±1° Bend ±1°
- Two place decimal: ±.13
- Three place decimal: ±.125

Material/Finish:
- Do not scale drawing.

Comments:
- Remove all burrs and sharp edges.

UNLESS OTHERWISE SPECIFIED:

TITLE: Hub - Simple Build - Lower Hub Assembly - Multiple

SCALE: 1:12

Sheet 2 of 2
Note:
1. Radii located at internal corners are provided predominately for teams making parts with a router. A 90 degree angle is sufficient clearance.
2. Use TE-22021-Single if you are forming only 1/4 ring.

To convert TE-22021-Single to TE-22021-Multiple, cut the corner of part, as shown.
Step 1:
1. Align 2x1 as shown.
2. Connect using 1.25" long screws. It is recommended to use 8x screws. Screws should ONLY be placed around the arc. Avoid placing screws on the triangular ends.

Note: Use TE-22023-Single if you are only forming a 1/4 ring.

Hardware:
#6 x 1.25" Long Screw - Qty 8
Exploded View

Hardware Needed:

#8 x 2" Long Screw - Qty 8

Note: Use TE-22023-Single if you are only forming a 1/4 ring.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TE-22022</td>
<td>Hub - Simple Build - Lower Hub Ring Connection Plate</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>TE-22023-Multiple</td>
<td>Hub - Simple Build - Lower Hub Ring Assembly - Multiple</td>
<td>4</td>
</tr>
</tbody>
</table>

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL: ±1/16
ANGULAR: ±1°, BEND: ±1°
TWO PLACE DECIMAL: ±.13
THREE PLACE DECIMAL: ±.125

MATERIAL/FINISH:

DO NOT SCALE DRAWING

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COMMENTS:

REMOVE ALL BURRS AND SHARP EDGES.

TEAM

DRAWN

KAMC

12/30/2021

TITLE:

Hub - Simple Build - Lower Hub Ring Full Assembly - Multiple

SIZE

DWG. NO.

REV

C

TE-22024

SCALE: 1:8

SHEET 1 OF 3
1. Align 4x 2 as shown. Attachment will happen in next step.

2. Connect using 2" long screws. It is recommended to use only 2x screws towards the center of 1, 1x into each 1. This will ensure there is room for connection when added to TE-22020-Multiple.

Align Edges

Align Corners

1. Align 4x 1 onto the ring formed in Step 1, as shown.

2. Connect using 2" long screws. It is recommended to use only 2x screws towards the center of 1, 1x into each 1. This will ensure there is room for connection when added to TE-22020-Multiple.