EZ-Shade Tarp Arm
#113170

<table>
<thead>
<tr>
<th>Features</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Adjustable Arm</td>
<td>Extends from 8’ to 12’ in 4’ increments (when anchored to base plate).</td>
</tr>
<tr>
<td>Maximum Building Height</td>
<td>10’ to 10’ 6”</td>
</tr>
<tr>
<td>Maximum Building Width</td>
<td>20’</td>
</tr>
</tbody>
</table>
Important Information

READ THIS DOCUMENT BEFORE YOU BEGIN

This guide provides helpful hints and important information needed to safely assemble and properly use the 113170 EZ-Shade Tarp Arm. Read and understand this guide before you begin.

SAFETY PRECAUTIONS

• Use a portable GFCI (Ground Fault Circuit Interrupter) when working with electric power tools and cords. Use battery-powered tools if possible.
• Exercise caution when using all tools.
• Wear gloves and eye protection.

SAMPLE ASSEMBLY PROCEDURE

Steps outlining the assembly process are as follows:
1. Verify that all parts are included in the shipment. Notify customer service with questions or concerns.
2. Read these instructions and all additional documentation included with the shipment before you begin.
3. Gather the tools and assistants needed for assembly.

BASIC CARE AND MAINTENANCE

Proper care and maintenance is important. Check the following items periodically:
• Check all fasteners that secure cover material to the tarp arms to ensure they are tight.
• Grease the pivot bolt every 6 months or more depending on use and conditions.
• Check mounting hardware to ensure that all fasteners remain tight.

TOOLS

The following list identifies the tools needed for assembly. Additional tools may be needed depending on application.
• Tape measure and gloves.
• Marker to mark locations on concrete pier.
• Tool to punch holes through fabric or film.
• Wrench set and socket and ratchet set that includes 9/16” and 15/16” tools.
• 3/4” masonry bit to drill mounting holes for 3/4” anchor bolts.

CUSTOMER-SUPPLIED MATERIALS

Additional parts, materials, and equipment are supplied by the customer/contractor:
• Concrete for concrete piers. Minimal pier dimensions: Diameter: 12”; Height: 24”
• Equipment to dig holes for piers and wrench to tighten anchor bolts.
• Cover material to cover shelter.
• Fasteners and materials to attach cover material to shelter frame.
• Materials to construct an anchor for each pivot arm when cover material is pulled over frame.

WARNING: THE 113170 EZ-SHADE TARP ARM AND ATTACHED COVER MATERIAL ARE HEAVY! FAILURE TO FOLLOW THESE PRECAUTIONS CAN RESULT IN PROPERTY DAMAGE OR SERIOUS INJURY:
• DO NOT OPERATE THE PIVOT ARMS WITHOUT ASSISTANCE. NEVER OPERATE ALONE.
• WIND CAN DAMAGE COVER AND PIVOT ARM ASSEMBLY. DO NOT ATTEMPT TO COVER OR UNCOVER THE SHELTER DURING WINDY OR STORMY CONDITIONS.
• ANCHOR THE ASSEMBLY TO THE GROUND AFTER PULLING COVER OVER THE SHELTER. DO NOT ALLOW THE COVER MATERIAL AND PIVOT ARMS TO REMAIN UNSECURED AFTER COVER IS PULLED INTO PLACE.
• INSPECT PIVOT ARMS AND ALL FASTENERS BEFORE EACH USE TO ENSURE ALL ARE TIGHT.
• INSPECT THE AREA AROUND THE SHELTER TO ENSURE NO ONE OR NOTHING IS PRESENT WHEN PULLING OR REMOVING THE COVER MATERIAL.
• GRAVITY PULLS PIVOT ARMS TOWARD THE GROUND. WIND CAN SLOW OR SPEED THIS MOVEMENT. EXERCISE CAUTION DURING OPERATION.
• ANCHOR PIVOT ARMS TO THE GROUND WHEN EXTREME WEATHER IS EXPECTED.

WARNING: NEVER LEAVE THE PIVOT ARMS IN A VERTICAL OR ANGLED POSITION. ARMS MUST REMAIN ON THE GROUND AT ALL TIMES.
Diagram below shows the top view of a sample cold frame. The 113170 tarp arms are installed at each end of the frame and are anchored to customer-supplied concrete piers. Consult the remainder of this guide for additional details.

**WARNING:** NEVER LEAVE THE PIVOT ARMS IN A VERTICAL OR ANGLED POSITION. ARMS MUST REMAIN ON THE GROUND AT ALL TIMES.
1. **CONSTRUCT CONCRETE PIERS FOR THE BASE PLATES**

Complete these steps:

1. Review the diagrams on this page to layout the pier positions at each end of building frame.

   **NOTE:** If building includes closed ends and pedestrian doors, review the drawings showing these features. Set the piers far enough away from the end walls to allow doors to fully open when shade material or film is pulled into place.

2. Contact a local contractor to construct concrete piers. Follow all established codes for the region. Minimum dimensions: Diameter @ 12”; Height @ 24”. See diagram at the right. **Align piers with the center of the frame at each end.**

3. While concrete sets, continue with the assembly.

**ATTENTION:** For shelters with an end wall and door, position pier and pivot arm mounting base in a location that allows door to fully open when in use. Align center of pier with center of shelter. Set top of pier at finished grade.
Assembly Instructions

ASSEMBLE THE 113170 EZ-SHADE TARP ARM

Complete these steps:

1. Consult the diagram on this page and construct the 113170 canopy arm assemblies. Use these fasteners to attach the 113166 brackets.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAG363B</td>
<td>HEX CAP 3/8X3&quot; ZINC EACH</td>
<td>8</td>
</tr>
<tr>
<td>FAME08B</td>
<td>BULK FLATWASH 3/8&quot; ZINC (ea)</td>
<td>16</td>
</tr>
<tr>
<td>FALB04B</td>
<td>NUT 3/8-16 ZNC EACH</td>
<td>8</td>
</tr>
<tr>
<td>112317</td>
<td>2&quot; SQUARE CAP PLUGS</td>
<td>4</td>
</tr>
</tbody>
</table>

2. Install the 112317 plugs in each end of the assembled tube as shown.
ASSEMBLE THE 113170 EZ-SHADE TARP ARM—continued

3. Connect the canopy arms to the 113176 pivot arms.

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<td>FALB04B</td>
<td>NUT 3/8-16 ZINC EACH</td>
<td>4</td>
</tr>
<tr>
<td>113165</td>
<td>TUBE CLAMP BUSHING</td>
<td>4</td>
</tr>
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**ATTENTION:** Measure the height of the shelter frame and adjust the pivot arms to be approximately 18" higher. See diagram for details.

4. Continue with the next procedures.

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**Step 2**

Frame Height

+18"

Maximum building width: 20'.

Finished Grade

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Canopy Arm Assembly

After required length is determined, align mounting holes, insert 113165 bushings, and secure connection using fasteners identified in the table.

Frame height plus 18".

Pivot Arm Assembly

Maximum building height: 10' to 10' 6".
Assembly Instructions

ATTACH PIVOT ARM ASSEMBLY TO BASE AND ANCHOR BASE TO PIER

Complete these steps:

1. Connect each pivot arm assembly to a mounted base plate using the fasteners noted below. Apply a thin film of grease to each bolt before installing.

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<thead>
<tr>
<th>Part Number</th>
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<tr>
<td>104804</td>
<td>5/8&quot; x 5&quot; A325 HEAVY HEX BOLT GLV</td>
<td>2</td>
</tr>
<tr>
<td>108851</td>
<td>WASHER 5/8&quot; F436 GALV A325</td>
<td>4</td>
</tr>
<tr>
<td>104806</td>
<td>5/8&quot;-11 DH GRADE HD HEX NUT GALV A325</td>
<td>2</td>
</tr>
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</table>

   **ATTENTION:** Tighten the bolt and nut until snug. Pivot arm should swing freely when bolt is tight.

   After tightening fastener, grease the bushing to ensure the connection is properly lubricated. Use a multi-purpose grease.

2. Verify that concrete has set and mark the anchor bolt locations on the pier. Use the pivot arm assembly to position the base correctly. See diagram below.

3. After marking the anchor bolt locations, drill the bolt holes in the pier using a 3/4" masonry bit.

   **NOTE:** Do not drill concrete if it has not set. Doing so may cause it to crack when anchor bolts are driven into place.

4. Set base in place and drive anchor bolts into mounting holes.

5. Tighten the nuts to secure the assembly to the pier.

6. Repeat the steps to attach the remaining base plate to the remaining pier.

7. Continue with the next procedure.
ATTACH COVER MATERIAL

The example shows a film-covered greenhouse where the shade material is pulled over the building using the 113170 EZ-Shade Tarp Arm.

Complete these steps:

1. Determine which direction you want to pull the cover material over the shelter, position material along frame, and secure to frame.

   **NOTE:** Attaching a baseboard at ground level throughout the length of the shelter and then securing cover material to that baseboard is recommended. Contact your sales representative for additional suggestions or to purchase additional materials. In some instances, it may be best to pull the material over the frame, attach the edge to the building, then attach the other edge to the canopy arms.

2. Take both pieces of the 8’ u-channel (111948) and cut each one in half.

3. Attach one piece of u-channel to each edge of fabric clamp (113171). See the diagrams above.

   **HINT:** With assistance, pull material over frame, attach one edge to building, then attach remaining edge to each pivot arm.

   **DO NOT ATTEMPT TO PULL MATERIAL ON A WINDY OR STORMY DAY OR WHEN SUCH CONDITIONS ARE EXPECTED.**
4. ATTACH COVER MATERIAL

4. Stretch material out and attach the free edge to the canopy arms. Fold the material edge 3-4 times (minimum) and sandwich that edge between the canopy arm and the fabric clamp. Use hand clamps (or similar tools) to hold fabric and fabric clamp in place to install bolts.

5. Take a sharp tool and punch a hole in the material at each bolt location.

6. Insert the 5/16" carriage bolts through the fabric clamp and install the flat washers and nuts. Tighten all fasteners.

7. Repeat steps to secure cover material to the remaining canopy arm at the other end of the shelter.

8. With assistance, test the system as shown on the following page.

Amount of material that extends beyond the edge of canopy arm depends on shelter width and height.

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<tbody>
<tr>
<td>FAH322</td>
<td>CARR BOLT 5/16X3-1/2 GLV B100</td>
<td>12</td>
</tr>
<tr>
<td>FAME51B</td>
<td>FLAT WASHER 5/16&quot; GLV /EA BULK</td>
<td>12</td>
</tr>
<tr>
<td>FALB32B</td>
<td>NUT HOTDIP GLV 5/16-18 EACH</td>
<td>12</td>
</tr>
</tbody>
</table>

END VIEW—CANOPY ARM AND SHADE MATERIAL CONNECTION:

Diagram above shows edge of cover folded and sandwiched between the canopy arm tube and the fabric clamp.
ATTENTION: Clear all area around the shelter before operating.

**IMPORTANT:** Anchor both pivot arms to the ground to prevent damage and injury *when material is pulled over shelter.*

**WARNING:** NEVER LEAVE THE PIVOT ARMS IN A VERTICAL OR ANGLED POSITION. ARMS MUST REMAIN ON THE GROUND AT ALL TIMES.