

Universal Arch Installation Guide

The Universal Arch is specifically engineered for **self-installation by boat owners** and designed for easy shipping worldwide. Its modular, dismantlable construction allows for quick assembly and excellent fit customization, making it an ideal choice for DIY enthusiasts who want a robust, versatile solar arch.

Components Overview

The Universal Arch typically ships in three main parts:

- Two side frames constructed from 38mm outer diameter (OD) tubes.
- One top frame section made from a slightly larger OD tube, designed to slide over the side frames for width adjustment.
- Additional smaller fittings such as swivel arms, bracket mounts for wind generators, outboard cranes, and stern lights.

Tools Required

- Screwdrivers (Phillips and flat head)
- Ratchet straps (preferably two long straps)
- Ratchet spanners or wrench set
- Drill with bits (if minor adjustments are needed)
- Marine-grade silicone sealant
- Measuring tape
- Protective gloves and eye protection (for safety)
- Angle grinder with cutting disc and flap discs (for any necessary trimming or smoothing of tube ends)
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Step-by-Step Installation Instructions

1. Frame Assembly

- Begin by loosely assembling the three main arch components. Slide the side frame legs into the larger diameter top tube section, adjusting width to fit your boat's beam.
- Align the predrilled holes and insert bolts but **do not fully tighten** at this stage. The side legs are intentionally longer than required to provide flexibility for fine adjustments.

2. Corner Bracing

- Attach the corner swivel arms using the provided screws (two per swivel). These provide added rigidity and allow minor angle corrections.
- Avoid tightening the top-to-side joints until the arch perfectly conforms to your boat's shape.

3. Additional Bracket Installation

- Fit any additional bolt-on accessories such as wind generator brackets, outboard cranes, or stern light brackets. This can be done while the arch is disassembled or after partial assembly.

4. Positioning on the Boat

- With help from a second person, lift the arch onto the boat. The rear swivel fittings slide inside the arch's base tubes and once correct angle identified secured by two M6 bolts each side. Position the rear fittings so the arch can pivot like a hinge—allowing it to be lifted fully upright or lowered back onto the pontoon while both rear legs remain securely seated in their fitting positions. This hinge-like arrangement enables smooth raising and lowering of the arch, facilitating front leg trimming to the correct length without the need to remove or reposition the rear legs.
- The front legs, designed with a 10-degree backward lean, help avoid obstructions such as backstays. They come slightly longer for adjustment purposes.
- For comfortable fitting, it's ideal to position the boat with the stern facing the pontoon, or if possible, with the stern and one side (port or starboard) alongside the pontoon. This positioning facilitates easier access and safer installation.

5. Front Leg Positioning and Cutting

- Position the front fittings next to the legs and measure the required length to cut to achieve a perfect fit (approx. 10 degrees angle) with the rear legs and maintain the 10 degrees angle.

6. Final Fixing and Levelling

- Cut the front legs to size if necessary to achieve 10 degrees, then firmly secure all four legs to the arch. Predrill necessary penetrations using drill bit and bolt the arch using backing plates from the inside of the boat.
- Ensure the arch is level both side-to-side and front-to-back.

7. Sealing and Tightening

- Apply marine-grade silicone sealant around all holes beneath the fitting plates to prevent water ingress and corrosion.
- Tighten all bolts and screws to make the arch a solid, cohesive structure.
- Inspect the metalwork carefully to avoid scratches or damage during installation.

Safety Considerations

- Always wear protective gloves and eye protection during installation.
- Use proper lifting techniques and assistance to avoid injury.
- Apply **masking tape on the deck** and surrounding areas to protect gelcoat or woodwork from scratches during installation.
- Take care to securely hold all tools and components at all times to prevent dropping them, which could cause damage to the boat or injury.
- Using an **umbrella or a similar protective cover** can be very helpful to catch any falling parts and protect the deck below.
- Do not overtighten bolts, which can cause damage to threads or the structure.
- Ensure a stable working environment, especially on marine decks or docks.