# Welding Procedure

Model: 7’ Micro

**NOTE:** Before welding read these instructions in their entirety.
**NOTE:** Although this version of the instructions does not contain images an updated version with images is in progress.

The provided text outlines the recommended process for welding the hull and emphasizes the prevention of twisting and the use of specific welding techniques.

**Welding Direction:** Welding should proceed from the stern (back) to the bow (front). This direction is intended to help prevent twisting of the hull during the welding process.

**Welding Order:** Welding should also proceed from the bottom to the top of the hull. This helps to distribute heat and prevent distortion.

**Back Stitching:** The welding process should use back stitching in approximately 6-inch segments. Back stitching involves welding in short, discontinuous segments and can help to control heat input and minimize distortion.

**Welding the Entire Hull:** The entire hull should be welded both inside and out.

**Stringer Welding:** Stringers only require stitch welds. Unlike the hull, they do not need to be fully welded on all sides.

**Welding Methods:** Either MIG or TIG welding is suitable for the hull. However, TIG welding is preferred for windscreens and windshields. TIG welding is known for its precision and clean welds which helps the aesthetic finish of windscreens and windshields.

**Bottom Assembly:**

- Clamp to join the tabs located on the front of the bottom and squeeze the tabs together until both sides fit together tightly and evenly.
- **Stitch weld the seam together**. This ensures the bow retains its shape and alignment for further assembly.

- Using 2 sturdy ratchet straps and, cinching them up evenly, pull up the tip of the bow. Use the center stringer as a guide to form the radius of the keel. ***Note: Use sturdy clamps or bolt in eyelets to pull off of.***
- Fully weld the center seam and grind away high points such that the center stringer lies flat.
- Ensure that the tip of the center stringer meets the front tip of the bottom and stitch weld the center stringer into place.

**Pump Box Assembly:**

- Lay the transom front down on a flat surface and place the pump box into the opening.
- Tack into place.

**Transom Placement:**

- Rest the bottom on a flat surface and mark a line **½-inch from the rear**. This line corresponds to the notches on the bottom and indicates the precise **location for the transom.**
- **Ensuring the transom is square to the bottom, Tack weld it into place**.
- **Weld in a temporary piece of scrap** to hold the transom in place while you continue the rest of the steps. This will assist with stability and accuracy during the welding process.

**Chine Placement:**

- Draw a guide-line continuing the bottom to the tip of the bow **and then trim off the bow tip tabs**.
- Butt the rear of the chine against the bottom and clamp it into place.
- **Working from the rear to the front**, tack weld the chines into place.
- The chines should level off toward the front.
- Use a few short stitch welds to ensure no tacks break.

**Stringer Placement & Bulkhead/Bench Assembly:**

- With the bulkhead/bench upside down, place each of the gussets next to the notch on the stringer and **weld into place.**
- **Using the bulkhead/bench as a template**, lay the stringers on the bottom and ensure the following:
    - Rear of stringers are against the transom
    - Stringers are centered to the hull

    - Stringers are 11 ¾ inches apart.
- With everything placed correctly, stitch weld the stringers to the bottom.

**Side Placement:**

- **Ensuring that the transom is still square**, position the sides such that their rear bottom corners line up with the transom and their bottoms are flush against the outer edge of the chines.
- With the side in position, working from the back to the front, **tack the sides to the bottom until you reach the bulkhead/bench placement.**
- *******NOTE: Stop here and slide in the bulkhead/bench before continuing.********
- Tack the side to the transom.

**Bulkhead/bench Placement:**

- Slide the bulkhead/bench into an approximate location. For now, leave loose so it may be moved later. *****Note: It must be mocked into place before the side fitment is complete. It will not fit into the hull once the sides are welded to the front tips.***
- Use the engine cover to set the distance between the transom and the engine cover: The engine cover should maintain a 3/16 inch gap between both the transom and the bulkhead. *****Note: Use a piece of 3/16" material to set the gaps.***
- **Ensure the engine compartment is square**.
- Complete the fitment to close up the sides.

**Side Combing Placement:**

- Butt the side combing into the cutout along the top edge of the sides and clamp into place. **Working from the rear to the front, tack weld the combing to the side.**

**Fordeck Placement:**

- Working from the back to the front, tack weld the foredeck/dash to the sides.
- If the combings are leaning inward they can be pried out in 12-inch increments and, working from side to side, tacked into place.

**Swimdeck and Pump Box Placement:**

- Place the swimdeck sides to be flush with the sides and transom and tack into place.
- Position the swimdeck on top of the pump box and tack into place.

**Windshield Placement:**

- From the tip of the bow, mark back to 10 ½ inches.  Align the center of your windshield to this point and, while ensuring symmetry and working from side to side, tack into place.

**Engine Cover Brace Placement:**

- Flip the engine cover upside down and fit the brace into the center and tack in.

**Foredeck Brace Placement:**

- Goes in vertically with the bent side face down and pushed forward for a snug fit between the combings.

**Completing your boat:**

- Fully weld the top and all interior seams.
- Flip the boat over and fully weld all the exterior seams.