

Orenco Tank Shield™ In-Shop Installation

Before You Begin

Read these instructions thoroughly before installing the Orenco Tank Shield. They cover the installation of the Tank Shield and mounting brackets on a fiberglass (FRP) or PVC riser cut from bulk riser pipe, in a shop setting, before the tank and access riser(s) are buried. These instructions do not cover installing the Tank Shield and mounting brackets to tanks and risers that have been buried. For more information on cutting Orenco FRP bulk pipe into access risers, see [NIN-RLA-RF-2, FRP Bulk Riser Pipe Processing Instructions](#).

Step 1. Gather Components, Tools, and Supplies

Gather the following items necessary to complete this installation:

- Drill bit, 1/4in (6.4mm), carbide
- Drill, electric
- Hex key, 3/16in
- Socket, 7/16in
- Lid bolt catch kit (FRP risers only)
 - Bolt catch (4 each)
 - Hex socket head bolts, 1/4in (8 each)
 - Nylon locking nuts, 1/4in (8 each)
 - Washers, 1/4in (8 each)
- Mounting bracket drilling fixture
 - RF24-BCGUIDE, 24in (600mm) risers
 - RF30-BCGUIDE, 30in (750mm) risers
- Tank Shield mounting kit
 - Hex socket head bolts, 1/4in (8 each)
 - Nylon locking nuts, 1/4in (8 each)
 - Mounting brackets, Tank Shield (4 each)
 - Washers, 1/4in (8 each)

Step 2. Drill Mounting Bracket Holes

Step 2a. Place the mounting bracket drilling fixture on top of the access riser.

- Make sure all four fixture arms are resting on the top of the riser.
- Make sure all four braces on the undersides of the arms are in contact with the inside riser wall.

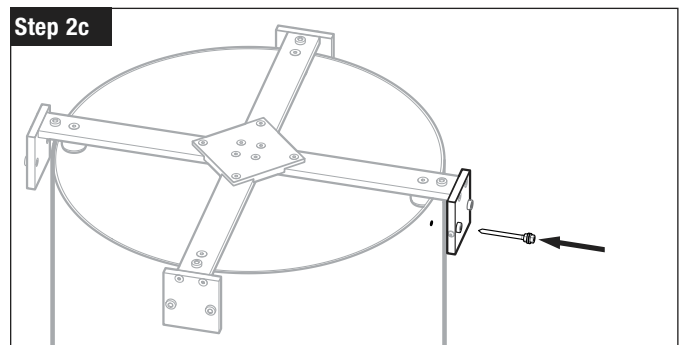
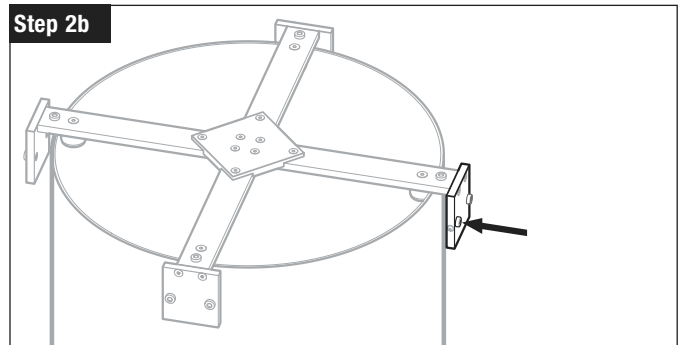
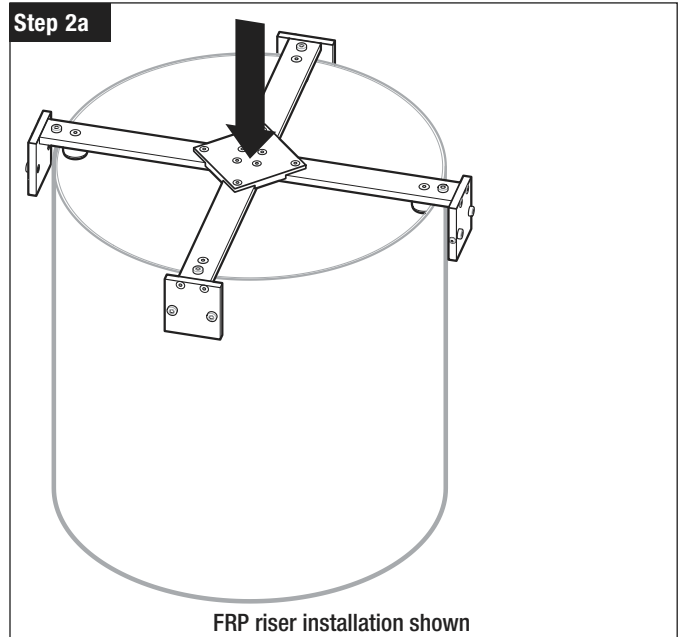
Step 2b. Use the drilling fixture as a guide to drill a hole through the riser wall with the 1/4in (6.4mm) carbide drill bit.

Step 2c. Insert the drilling fixture's holding pin through the hole.

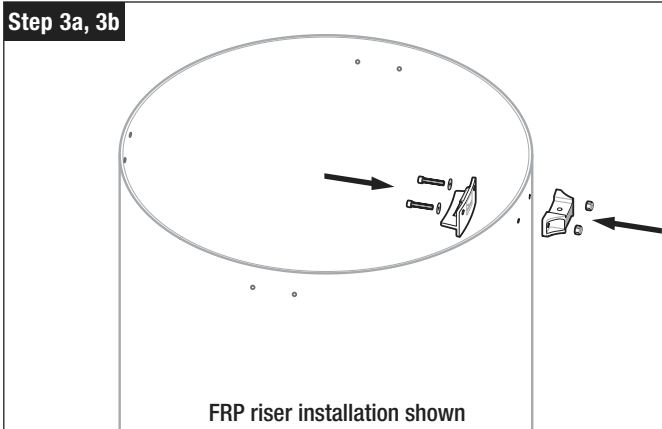
- This keeps the fixture in place so that the remaining holes are drilled at the correct locations.

Step 2d. Drill the remaining mounting bracket holes.

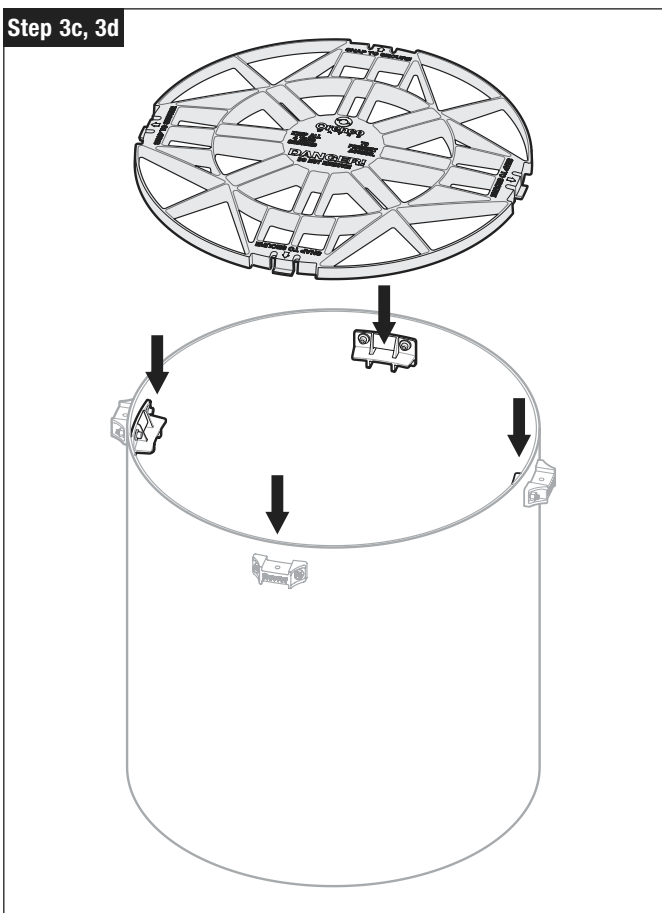
Step 2e. Remove the holding pin and the drilling fixture.



Step 3a, 3b



Step 3c, 3d



Step 3. Install Mounting Brackets

Step 3a. Assemble the mounting brackets and hardware.

• **For FRP risers:**

1. Select two bolts from the Tank Shield mounting kit.
2. Place a washer from the kit on each bolt.
3. Align the holes in the mounting bracket with the holes in the riser.
4. Press the bolts through the holes in the mounting bracket and the riser wall.
5. Press a lid bolt catch from the lid bolt catch kit onto the bolts.
6. Thread the nylon lock nuts onto the bolts.
7. Repeat for the remaining mounting brackets and lid bolt catches.

• **For ribbed PVC risers:**

1. Select two bolts from the Tank Shield mounting kit.
2. Place a washer from the kit on each bolt.
3. Align the holes in the mounting bracket with the holes in the riser.
4. Press the bolts through the holes in the mounting bracket and the riser wall.
5. Place a washer from the Tank Shield mounting kit on each bolt.
6. Thread the nylon lock nuts onto the bolts.
7. Repeat for the remaining mounting brackets.

Step 3b. Tighten the nuts and bolts with the hex key and socket.

- Tighten until the mounting brackets are snug against the riser wall.
- Do not over-tighten.

Step 3c. Place the Tank Shield on the mounting brackets.

- Align the tabs on the Tank Shield with the tab catches on the mounting brackets.

Step 3d. Press the Tank Shield down onto the tab catches until all four tabs snap into place.

- Make sure that the Tank Shield is securely snapped into place.