

## **Installing A Shoot-Through-The-Hull Transducer**

It is critical to select the right place for mounting. Most boat manufacturers leave any foam or coring out of a small portion of the planning pad at the transom for mounting a shoot-thru hull transducer. You could contact your manufacturer or your dealer to see if your boat is so equipped and to find out their preferred/suggested mounting location. It's also critical to avoid any thru-hull fittings that may impede performance. If the location you select has a thru-hull water pickup or discharge port, bubbles are created when the boat move through the water and this creates interference or "noise" that may ruin the operation of the unit.

Once a location is selected, be sure it is fairly flat inside the hull. If the area is rough or uneven, sand until fairly smooth. Theoretically, you should not have to grind away much fiberglass. Sanding with a fairly coarse grit...maybe 80... ensures some "tooth" for epoxy or other adhesive to adhere to. You can use a sanding block, but a small finish sander or reciprocal palm sander will speed the process.

A trolling motor transducer is ideal, due to small face size, but a transom mount transducer will work fine, just be sure the area for mounting is large enough for it to sit flat. When I say flat, I don't mean it has to shoot straight down exactly...it just has to be flat to the mounting surface to avoid air gaps between the transducer face and the hull. You will still have a good mount even if the area selected is angled due to the hull's deadrise angle, it just may not point straight down. This will not affect the depth unless you were using a special very narrow beam transducer.

Next, once the surfaces are prepped, I like to take the boat out and run it to see if the location selected works ok. To do this, you need an extra hand on board. Ideally, you need someone to hold the transducer in place on the hull and to have the transducer covered with water to ensure no air exists between the face of the transducer and the hull for the test. You can usually get by just pouring a 5 gallon bucket of water into the hull to barely cover the transducer when at rest and up on plane. As an alternative, you could silicone the transducer in with caulk designed for above the water line to hold it in place. Just be sure to use a caulk that can be easily removed once set. It's still a good idea to add water to make sure no air gaps exist.

The test should consist of sitting still and with the boat up on plane at low, mid and high (WOT) speeds. If it works...great. If not, try running the gain up to max and try it. If it reads at rest but not at speed, you may have an air gap or there may be foam, plywood or air between the inside & outside surfaces of the hull at that location. If so, you have no choice but to move the transducer.

Once tested and if it performs well, you then have the choice of epoxy, or you can simply use 3M 5200 high-performance polyurethane adhesive/sealant you can buy at Boaters World, West Marine, etc. This stuff is the best adhesive sealant I've ever used, but it requires 48 hours to set and 72 hours to cure. It will cure underwater. Once set, it is hard to remove, so plan accordingly. The transducer can be removed by sliding a thin-blade screwdriver or other heavy-duty blade under the lip, puncturing the sealant, so the edge of the transducer can be pried up. It's tough, but it can be done.

To use it or any other adhesive, coat the mounting surface with a THIN layer and coat the face of the transducer with a THIN layer. Make sure the face of the transducer does not show any gaps or bubbles. When I say thin layer, be sure to use enough adhesive to fill any gaps between the face of the transducer and the hull. Next, press the face of the transducer down onto the mounting surface and then "wiggle" it back and forth very slightly with heavy pressure to force out any air bubbles.

Once in place, weight with a brick (clean!) or other heavy object and allow it to set for 72 hours. Assuming the area was flat and properly prepped as above, you should now have a good mount and a well-performing installation.

Although it takes a lot of space to type all this, the above is really pretty simple and is mostly common sense, so don't be afraid to try.

One alternative...and a good one some folks use is to build a shallow "dam" of epoxy or 5200 around the installation. The dam can then be filled with water to reduce any air gaps. I rarely install that way except on large displacement vessels like trawlers, etc., which are more stable in the water.

Be prepared to lose some sensitivity by shooting through the hull, the fiberglass will absorb some of the transducer power output...probably 25-40%.

Good luck!

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