

The no-hole transducer alternative

Why drill a hole in the bottom of your boat?

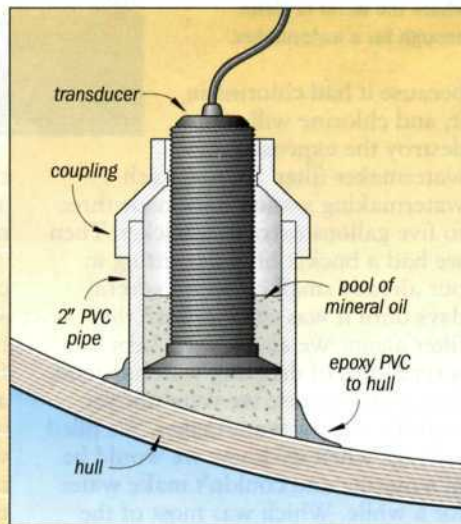
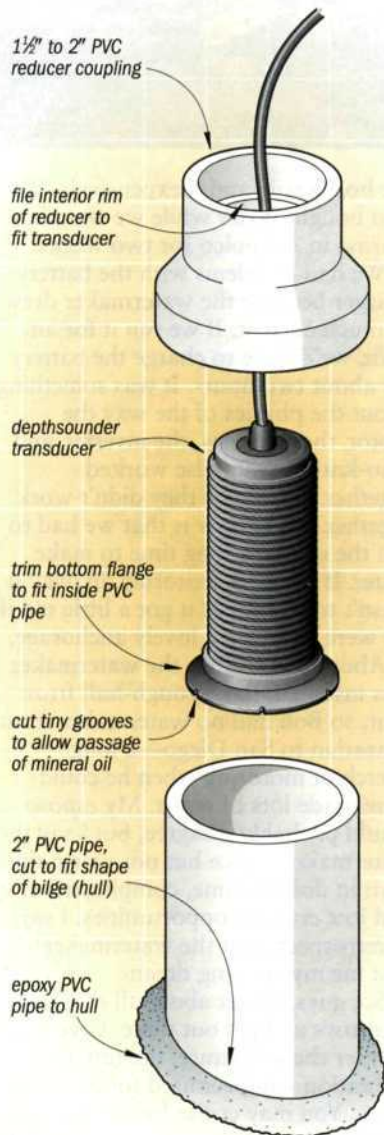
Most depthsounder transducers sold for use on sailboats these days are designed to be mounted through the hull. But some folks blanch at the idea of drilling huge holes in the bottoms of their boats. Others worry that the barely discernable bump on their hull will

have barely discernable effects on their boatspeed. And if your hull has much deadrise, the transducer won't be pointing straight down. For in-hull installations, manufacturers usually recommend that the transducer be epoxied directly to the interior of the hull, but this does nothing to solve the

some bright color, then carefully center the face of the transducer flange over the pipe and press it against the wet paint. Let the paint dry, then grind the edge of the flange down to the circular line you've created. If you achieve a perfect fit, next use a hacksaw to cut three tiny grooves in the edge of the flange, equally spaced about its circumference. If the fit is less than perfect, you probably won't need the grooves.

Next cut an appropriate length of pipe at an angle that matches the deadrise angle in your bilge at the point where you want to mount the transducer. Then fit the transducer inside the reducing coupling. With most transducers you need only a bit of work with a file on the coupling's interior rim to get the transducer body to fit neatly into it. Assemble the three pieces—pipe, coupling, and transducer—as shown in the illustration, with the bottom face of the transducer just slightly above the angled bottom of the pipe. Once it is properly positioned, bond the transducer body to the coupling with plumber's epoxy putty.

Finally, mix up some epoxy filler and bond the pipe to the hull. Once the epoxy sets, pour in a little mineral oil—just enough to cover the transducer flange when it is inserted—and fit the transducer/coupling cap on the pipe. As you push the transducer down into the pool of oil, the tiny grooves you cut will allow the excess oil to squeeze up above the flange. In a seaway this excess may slop around a bit, but the oil trapped below the flange will remain stable and bubble-free, providing a nice medium for the transducer's signals to travel through. The sounder's performance will be slightly impaired, but only in depths greater than 150 feet or so. Unless you are a dragger or an oceanographer, this shouldn't matter. □



An in-hull installation is feasible only if your hull is solid laminate. Any voids or coring will interfere with the transducer's signals.

deadrise problem, and you'll probably have to destroy the transducer if you want to remove it later.

Another option is to make an in-hull housing for the transducer. This will allow you to mount the transducer perpendicular to the ground, and you'll also be able to remove it easily for inspection or replacement. Building a housing is cheap and easy. All you need is a short length of 2" PVC pipe and one 2" × 1 1/2" PVC reducing coupling.

Step one is to trim the bottom flange of the transducer to fit inside the pipe. You want as close a fit as possible. Paint the rim of the pipe