

Installation Instructions

Thru-Hull Multifunctional Transducer

Model 400 Series

IMPORTANT – PLEASE READ THESE INSTRUCTIONS COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION OF THE THRU-HULL TRANSDUCER.

WARNING: DO NOT INSTALL THIS TRANSDUCER IN AN ALUMINUM HULL. THE HULL WILL BE DAMAGED BY ELECTROLYSIS.

APPLICATION CONSIDERATIONS:

- Plastic housings are recommended for fiberglass or metal hulls. Never install a plastic Thru-Hull housing into a wooden boat hull. The swelling of the wood may overstress the plastic housing causing a fracture to occur.
- Bronze housings are recommended for wood or fiberglass hulls. Never install a bronze housing in a metal hull, because electrolytic corrosion can occur.
- Stainless steel housings are recommended for metal hulls to prevent electrolytic corrosion from occurring.
- Never install a metal housing in a hull with a positive ground.

LOCATION

The transducer must be positioned in the hull at a location that assures a smooth, bubble-free flow of water across the transducer face. This is particularly important if satisfactory depth and speed performance is to be achieved. Under no circumstances, should it be located directly aft of any hull fitting or other protrusion on the hull.

Generally, at least for power, the best location is aft of amidships and as close to the keel or centerline of the boat as possible. On sailboats, placement too close to the keel should be avoided because of the “shading” of the sound beam. Forward of the keel is usually a good position.

After determining the best location from the outside, consider the need for room inside the hull to tighten the mounting nuts and sufficient

headroom to allow removal of the speed/temp module. In the standard length (3 ¾”) stem model, 5 ¼” will be needed above the top of the speed and temp stem. The long stem model (6”) the distance needed is approximately 7 ½”.

FAIRING BLOCK

Unless the transducer can be installed in a fairly flat area on the hull (dead rise angle should not exceed 8° - 10°), a fairing/leveling block must be used to assure that the sonar beam is projected downward. A block of hardwood cut to the shape of the transducer but ½” wider, must be sawed at an angle to match the dead rise. See Figure 1. A prefabricated fairing block is available from your dealer.

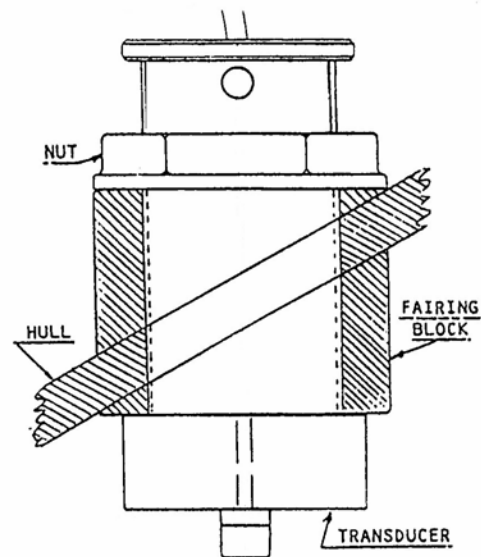


Figure 1 – Fairing block installation

INSTALLATION

Warning: Always wear the proper safety goggles, dust mask and clothing during the installation procedure.

Installation Instructions

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Model 400 Series

Note: For a cored fiberglass hull, the thru-hull transducer installation should only be performed by a trained technician. Improper sealing of the core material can lead to premature failure or possible water leakage.

Two holes are required to mount the transducer. A 2" (50mm) hole aft for the speed/temp housing and a 9/16" (14mm) hole forward for the depth cable stem. Drill small holes first from the inside. These will be locating holes for the final drilling. A hole mounting pattern showing the required spacing dimension is included with these instructions. See Figure 2.

1. From the outside, enlarge the aft locating hole to 1/4" or whatever size is necessary for the pilot drill of the 2" hole saw. Drill the pilot hole vertically, followed by the hole saw. Drill 9/16" hole vertically also.
2. After drilling, remove any rough edges around the hole and thoroughly clean and sand the inside and outside surfaces around the hole.
3. Remove the hull nut and small stem nut from the transducer housing.
4. Apply a generous amount, approximately 1/16" thick, of a good marine adhesive/sealing compound around the lip of the housing that contacts the hull. The compound should also extend up the side wall of the housing and small stem, 1/4" higher than the combined thickness of the hull and hull nut. This will ensure there is sealant in the threads to seal the hull and stem nut securely in place.
5. From the outside of the hull, insert the transducer housing and gently rotate the housing to squeeze out and excess sealant.

6. From the inside, thread down the hull nut and stem nut until they make contact with either the hull or fairing block, if used. Both the hull nut and stem nut should then be tighten to a snug fit using slip joint pliers.

CAUTION: DO NOT OVERTIGHTEN EITHER THE HULL NUT OR THE STEM NUT.

7. Remove any excess sealant on the outside of the hull to ensure there is smooth water flow over the face of the transducer.

CABLE ROUTING

In routing the cable to the sounder, avoid placing it near or parallel to other electrical cables, particularly ignition and alternator wiring. Use care when routing the cable through bulkheads and other parts of the vessel to avoid tearing the cable jacket thus exposing it to the harsh environment.

CHECKING FOR LEAKS

CAUTION: Never install a thru-hull transducer and leave the boat in the water unattended for several days.

After installation of the thru-hull transducer, and the proper time allotment for the adhesive to setup correctly, place the vessel in the water and immediately check around the thru-hull transducer for leaks. Small leaks by not be immediately visible. It is best not to leave the vessel in the water for more than 3 hours before checking it again for leaks. If a leak is observed, repeat the "Installation" procedure with extra care taken during steps 5 thru 7.

CARE AND MAINTENANCE

To avoid marine growth, particularly in a warm salt water environment, it is good practice to remove the insert module (Retractable only) if the boat is to remain inactive for any prolonged

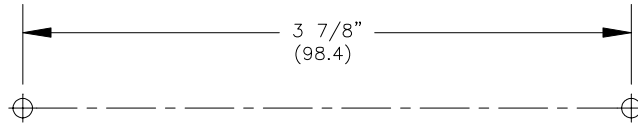
Installation Instructions

Thru-Hull Multifunctional Transducer

Model 400 Series

period. To do this, first have the blanking plug with O-rings installed and lubricated ready for insertion as the insert module is retracted.

If on removal of the insert module, any evidence of marine growth or fouling is evident, it should be removed before re-installation. Anti fouling paint may be applied to surfaces exposed to salt water. DO NOT paint any o-ring or o-ring grooves.



HOLE MOUNTING PATTERN FOR DRILLING PILOT HOLES

SCALE-----NONE

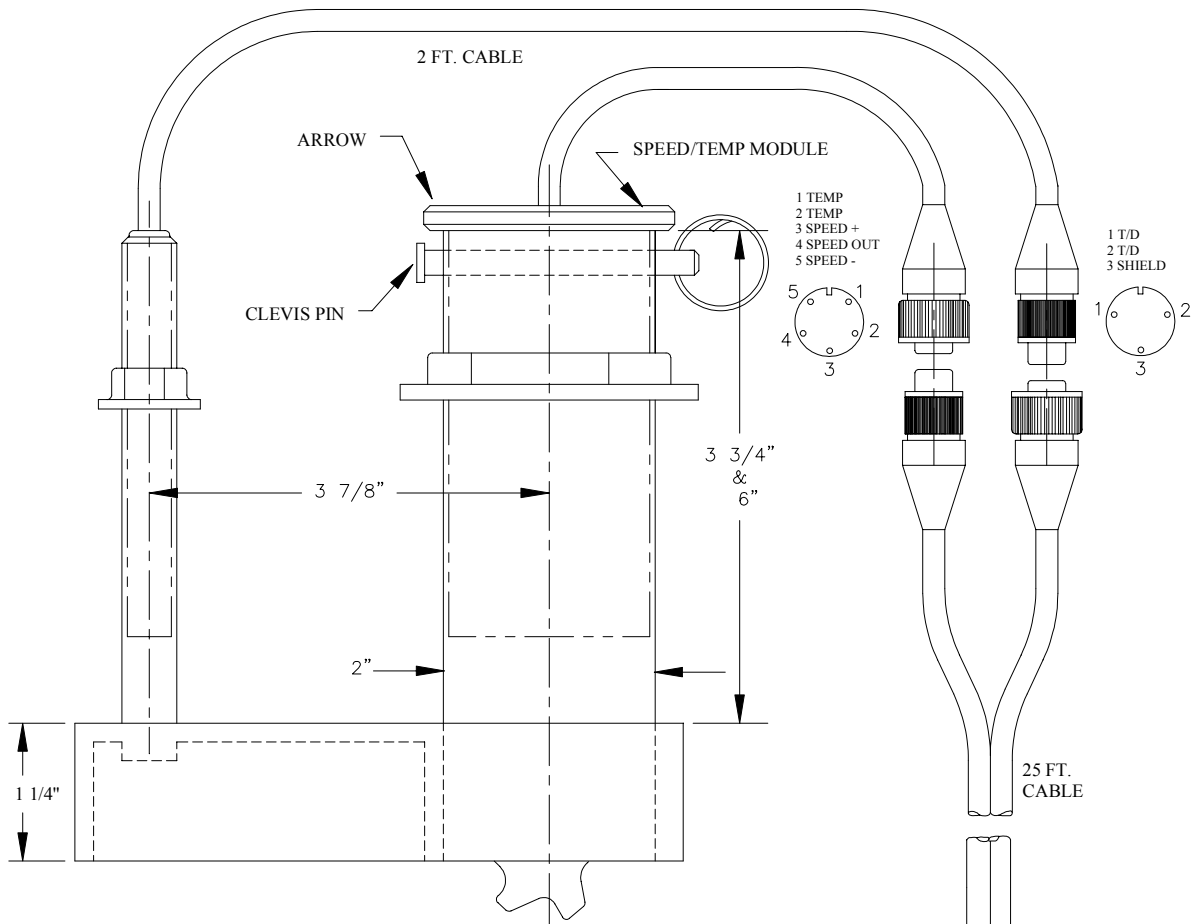


FIGURE 2
NOT TO SCALE
MODEL 400 AND 500

- GREEN 1 SPEED SINGLE
- RED 2 SPEED +VOLT
- BLUE 3 TRANSDUCER
- BARE 4 SHIELD
- BLACK 5 TRANSDUCER
- BROWN 6 TEMP
- WHITE 7 TEMP
- BARE 8 SPEED -VOLT

- GREEN 1 SPEED SIGNAL
- RED 2 SPEED +VOLT
- BLUE 3 NARROW BEAM
- YELLOW 4 WIDE BEAM
- BLACK 5 XDUCER COMMON
- BROWN 6 TEMPERATURE
- WHITE 7 TEMPERATURE
- BARE 8 SPEED -VOLT

