

Display Installation and Operation Manual



WARNING!!!!
This depth sounder should not be used as a navigational aid to prevent grounding, boat damage, or personal injury. Always operate the boat at slow speeds in unfamiliar water, or if you suspect shallow water or submerged objects, as water depth may change too quickly to allow time for you to react.

TRANSDUCER SELECTION

The transducer supplied with the DF1000D is suitable for installation and operation on most boats. For optimal performance the transducer should be mounted to the transom of the boat as per the installation instructions supplied with the transducer installation instructions. On fiberglass hulls (non-cored) and some aluminum hulls it can be glued to the inside of the hull, but this type of installation will reduce the performance of the DF1000D slightly.

Some boats may require a specialized transducer. If after completely reviewing the transducer installation instructions supplied with the transducer you find that the supplied transducer is not appropriate for your vessel, please contact NMP at 888-667-2767, or visit us on the internet at www.norcrossmarine.com for exchange information. You may exchange your new and unused transducer for another type, but keep in mind that some transducers may have additional costs.



Included Transom/In-Hull Transducer

PARTS AND TOOLS LIST

Parts Supplied in Packaging

Before installing your DF1000D Depth Sounder, please ensure that the following parts are included in the packaging:

- DF1000D Depth Sounder Display
- Flush Mount Bracket and Hardware
- Power Cable Attached to the Unit
- Warranty Card

If any items are missing or damaged, please contact our Customer Service Department at 888-667-2767.

Tools and Supplies Required for Installation

- 2" Hole Saw and Drill
- Wire Connectors Suitable for Connecting the Power Wire to Your Vessel
- Wire Cutting/Crimping Tool
- Marine Sealant

IMPORTANT!!!!
Install the transducer before installing the display to ensure that the transducer cable is long enough to reach your desired mounting location. Read ALL the instructions completely before proceeding with the installation.

DISPLAY INSTALLATION

Installation of the DF1000D Display

1. Find a location on the boat that will allow clear viewing of the LCD Display. Please keep in mind that the wires for the transducer and power must reach the mounting location.
2. After finding the right location for the display, mark a 2-inch hole.
3. Check behind the desired mounting location for any cables or wiring which could be damaged, then cut out the 2-inch hole and seal any exposed wood with a marine sealant.
4. Insert the display from the front of the panel, and install the bracket and locking nut from the rear of the panel (see Figure 1). Make sure that the face of the display is rotated upright and aligned to your satisfaction for easy viewing from the vessel's helm.

The DF1000D can also be surface mounted using NMP's exclusive MB01 Adjustable Surface Mount Bracket (see Figure 2). Please see your local retailer, or contact NMP's by phone **888-667-27637**, or online at www.norcrossmarine.com for purchase information. You must attached the extension rod to the mounting stud on the back of the DF1000D display before inserting the display into the MB01.

Figure 1

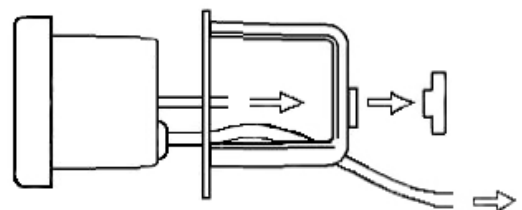
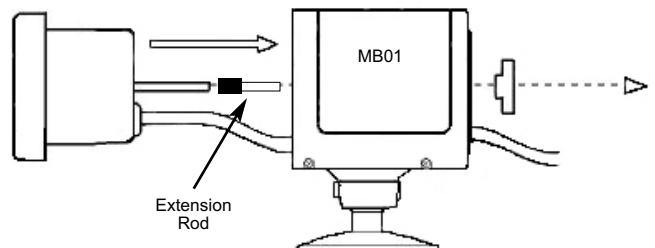


Figure 2



Installing the Face and Bezel

1. Place the face over the display (Figure 3B) making sure to line up the cut outs on the face with the notches on the display.
2. While holding the bezel (Figure 3A) place it over the display and turn counterclockwise until the bezel locks into place.

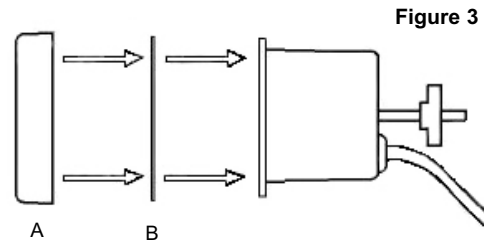


Figure 3

Wiring of the Power Cable

The DF1000D has no ON/OFF switch. Therefore, you will need to wire it to a power source that will turn the unit on as power is applied. The Key Switch or an ON/OFF power switch will be suitable for powering the DF1000D.

1. Connect the BLACK wire to the negative (-) battery terminal or suitable ground (see Figure 4).
2. Connect the RED wire to a positive (+) 12 Volt switchable power source (key switch, on/off switch) (see Figure 4).

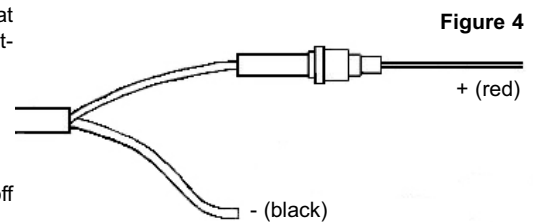


Figure 4

Connecting the Transducer Cable

To connect the transducer cable to the display, align the plug from the transducer with the plug from the display and press together as per figure Figure 5.

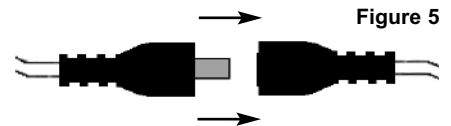


Figure 5

OPERATING THE DF1000D

The DF1000D's auto-ranging, auto-sensitivity features means that you never have to worry about adjustments. Simply turn the power on, and your ready to go. The DF1000D emits sound signals that travel through water, and then calculates the amount of time that elapsed while the signal traveled down to the bottom and returned back to the transducer. This time is calculated by the DF1000D and displayed as a depth reading. Extremely dirty water, very soft bottom, high speeds, deep water, or a combination of the above will result in incomplete or inaccurate readings. Under these conditions variable readings or " - - - " (Figure 6) will be displayed.

Figure 6



NOTICE!!!!

All user selected settings will be retained when the power is turned off, therefore they will not need to be reset when the power is turned back on.

Setting the Units of Measure

The UNITS of measure for depth readout and alarm functions can be set in 4 easy steps. The two settings available are Feet (FT) and Meters (M).

To Set the Units:

1. Press and hold the "UP" and "DOWN" keys at the same time for 5 seconds until the units indicator (FT or M) blinks (Figure 7).
2. To set the units to FEET press the "UP" key. "FT" will flash on the Display.
3. To set the units to METERS press the "DOWN" key. "M" will flash on the Display.
4. The display will return to the normal operation mode automatically after five seconds.

Figure 7



Figure 8

Setting the Shallow Water Alarm

The shallow alarm function can be set for depths ranging from 3 to 200 feet and triggers an alarm when the depth is less than the setting.

To set the SHALLOW ALARM (upper alarm):

1. Press the "UP" key located on the front of the DF1000D display (Figure 8). The current alarm setting will be displayed on the display. "000" is the default setting.
2. Pressing the "UP" key will increase the selected value. Pressing the "DOWN" key will reduce the value. Pressing and releasing the key will change the value in 1-foot increments per second. Holding down the key will change the value in 9 foot increments per second.
3. After your selection is made, the display will return to normal operation after 5 seconds.
4. The "▲" and "▲" icons will now be present.



Figure 9

Setting the Deep Water Alarm

The DEEP alarm function can be set for depths ranging from 3 to 200 feet and triggers an alarm when the depth is more than the setting.

To set the DEEP ALARM (lower alarm):

1. Press the "DOWN" key located on the front of the DF1000D display (Figure 9). The current alarm setting will be displayed on the display. "000" is the default setting.
2. Pressing the "UP" key will increase the selected value. Pressing the "DOWN" key will reduce the value. Pressing and



- releasing the key will change the value in 1-foot increments per second. Holding down the key will change the value in 9 foot increments per second.
- 3. After your selection is made, the unit will return to normal operation after 5 seconds.
- 4. The "▲" and "▼" icons will now be present

When triggered, the alarm sounds an audible "alarm" for ten seconds while flashing the warning LED and the "▲" and "▼" icons on the display. After 10 seconds the audible alarm mutes and the warning LED and the "▲" and "▼" icons continue to blink until the depth increases, or the alarm is reset. To reset the alarm repeat step 1 thru 4.

Setting the Keel Offset

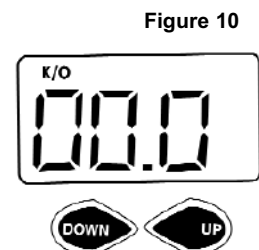
The Keel Offset feature is used to adjust the depth readings displayed by the DF1000D to compensate for the depth of the water required for your vessel to operate safely.

For Example: If your boat's draft is 3 feet, the Keel Offset feature should be set to 3 feet. The DF1000D will then subtract 3 feet from the actual depth reading, and display this figure as the depth. If the water depth is 5 feet and the Keel Offset is set to 3 feet, the depth will be displayed as 2 feet, indicating to the operator that there is 2 feet of safe operating water.

The maximum Keel Offset setting is 20 FT (6.1 M), settable in .1 (1/10th) Foot or Meter increments. The DF1000D will read "---" when a negative value occurs due to the Keel Offset Subtraction.

To set the KEEL OFFSET:

1. Press and hold the "UP" and "DOWN" keys at the same time for 3 seconds. When "K/O" begins flashing in the upper left hand corner of the display, release the keys. (see figure 10)
2. Press the "UP" key to increase the Keel Offset value. Press the "DOWN" key to reduce the value.
3. The display will return to the normal operation mode after five seconds if no keys are pressed.
4. "K/O" will remain illuminated in the top left hand corner indicating that the depth readings are adjusted to the Keel Offset setting.



WARNING!!!!

If you are unsure of the Draft of your vessel, please consult with the vessel's manufacturer before setting the Keel Offset. An improper Keel Offset setting can cause accidentally grounding of the vessel and may cause severe damage to the vessel and it's passengers.

TROUBLESHOOTING

There are no user repairable parts within the DF1000D. Attempting to repair the unit yourself will only void the warranty. If you have a problem with your DF1000D, consult the following troubleshooting guide. If this does not remedy your problem, please contact NMP at 888-667-2767 for assistance.

WARNING: Disassembly of the electronic components within this unit may result in exposure to lead in the form of solder, which is known to the state of California to cause cancer, birth defects, and other reproductive harm.

The DF1000D does not turn on.

1. Check the inline fuse located on the main power supply to the unit. If it is blown, replace it with a 1 amp, normal blow fuse. Clean all corrosion from the fuse housing, and replace the fuse holder assembly if necessary.
2. Check the power cable connection. Be sure that the unit is connected to a known power source: RED wire to positive, BLACK wire to negative or ground.
3. Ensure that the power source is powered using a test light, or some other reliable form of testing 12 volt power.
4. If you are sure that the unit is receiving power and is still not turning on, please refer to the warranty and service section.

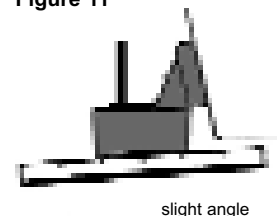
The Bottom Reading is Random, Flashing, or Appears as "---" on the display.

1. The depth is less than 2.5 feet or greater than 200 feet. Operate the unit under normal operating specifications and check to see if it operating properly.
2. If this condition occurs only at certain speeds, then a transducer adjustment is needed. Refer to the "Helpful Hints for Transducer Installation" section below. Refer to the Transducer Installation Instructions for adjustment procedures.
3. Under certain circumstances the DF1000D may not perform at the best of its ability. Extremely dirty water, very soft bottom, high speeds, deep water, or a combination of the above will result in incomplete or inaccurate readings. Please refer to the Transducer Installation Instructions to minimize the effects of these conditions.
4. If the transducer is transom mounted check to make sure that the transducer is not "kicked-up". To prevent damage to the transducer, it will automatically release from the mounting bracket (kick-up) when it is impacted. If this occurs refer to the Transducer Installation Instructions to reset the transducer for normal operation. If this happens frequently make sure that the trailer or boat lift supports do not interfere with the transducer during loading and unloading.
5. Check the transducer cable connection on the back of the unit. Make sure that the connection is made as per the instructions in the Connecting the Transducer section of this manual.
6. Contact NMP at 888-667-2767 for assistance if you are unable to correct the problem.

Helpful Hints for Transducer Installation (Transom Mounting)

1. Make sure the transducer is not mounted in any area where the water flow is interrupted by propeller turbulence or aerated water. If standing at eye level, behind the transducer and looking forward along the bottom of the boat hull there should NOT be any strakes, chimes, steps, or hull fittings inline with the transducer. If there are any of these obstructions, the transducer will need to be relocated to achieve optimal performance. The transducer CAN NOT be transom mounted on a Stepped-Hull vessel, it must only be in-hull mounted.
2. Make sure that the leading edge (bow - side closest to the bow of the boat) of the transducer extends at least 1/8" (3 mm) below the bottom of the hull. Also make sure that the trailing edge (stern - side furthest from the bow of the boat) is 1/16" to 1/18" (1-3 mm) below the leading edge (Figure 11)

Figure 11



Helpful Hints for Transducer Installation (In-Hull Mounting)

1. The hull must be made out of solid fiberglass or a maximum 1/8" (3 mm) aluminum. The unit will not work through wood, plastic, or any other composite material.
2. The glue in location must be in direct contact with the water at all times during operation. The transducer CAN NOT be mounted in any area where the water flow is interrupted by propeller turbulence or aerated water. It MUST NOT be mounted behind any strakes, chimes, steps, or hull fittings that will disrupt the flow of clean water to the transducer (in line with the mounting location of the transducer and the bow of the boat). If there are any of these obstructions, the transducer will need to be relocated to achieve optimal performance.
3. If mounting in-hull on a stepped hull vessel, the transducer must be mounted in a location where there are no steps forward of the transducer (between the transducer mounting location and the bow of the boat). Keep in mind that the glue in location must be in direct contact with the water at all times during operation or incorrect depth readings will occur.

The Transducer Cable Supplied with the Transducer is Too Short for My Installation, Can It Be Extended

YES: To extend the transducer cable:

1. Using a wire cutter, cut the cable on the transducer side 3" (76 mm) from the plug and the cable on the display side 1" (25 mm) from the plug.
2. At both cuts, strip back the rubber cable cover 1" (25 mm) exposing the three internal wires (blue, white, and bare).
3. Using a soldering iron, solder the desired length extension cable (available at a boating supply store or by calling 888-667-2767) between the depth sounder display and the transducer. Be certain that the blue, white and bare wires are connected properly between the depth sounder display and the transducer and make sure the colors are consistently matched throughout the splice.
4. Using electrical tape, or heat shrink tubing make certain that the soldered connections are completely sealed and protected against accidental electrical interference.

Specifications

Colors	White/Black Interchangeable
Mounting Location	In-Dash, Surface Mount (MB01)
Case Dimensions	2" Dia, 3.4" Depth
LCD Window Size	1.65" x 0.87"
Button Type	Waterproof Membrane
Backlighting	Green SoftGlow
Readout	2.5'-99.9', 100'-200'
Power Requirement	11-14Vdc, 200mA max
Current Drain	40mA, Nominal
Units of Measure	Feet and Meters
Transmit Power	250W (max)
Depth Range Max	200 Ft (60.7 M)
Depth Range Min	2.5 Ft (.7 M)
Alarm Signaling	Visual and Audible
Audible Alarm Location	Internal
Upper Alarm Range	3-200ft, Full Range (1 - 60.7 M)
Lower Alarm Range	3-200ft, Full Range (1 - 60.7 M)
Keel Offset	0-20Ft, .1 Ft Increments (0 - 6.1 M)

Options and Accessories (available at www.norcrossmarine.com)



Adjustable Surface Mounting Bracket (P/N - MB01)



Alloy Bezel Kits

- Chrome P/N - BZ05
- Brushed Silver P/N - BZ04
- Gold P/N - BZ03

NORCROSS MARINE PRODUCTS, INC 2-YEAR LIMITED WARRANTY

To be eligible for warranty coverage your product must have a copy of the Warranty Registration Card on file with NorCross Marine Products, Inc. (NMP), so be sure to submit the included registration card within 10 days of purchase. You may also register on our website.

NorCross Marine Products, Inc. (NMP) warrants, to the original purchaser, this product to be free from defects in materials and workmanship for **Two (2) Years** from the date of purchase. If the unit fails to perform as described in the product's written specifications, due to a defect in materials or workmanship, we will repair it free of charge to the customer for parts or labor. The customer, however, is responsible for any costs associated with returning the unit to NorCross. This warranty is void if damage or malfunction is due to abuse, misuse, accident, failure to reasonably maintain, improper installation or use, or unauthorized alteration or repairs. Norcross retains the exclusive right to repair or replace the unit at its sole discretion, and holds this right as the exclusive remedy available to the customer against NorCross for any defect, malfunction, or non-conformity concerning the product, or for any loss or damage resulting from any other cause whatsoever.

Norcross will respond to all warranty claims within a reasonable time after receipt of the unit from the original purchaser, with such response time not to exceed thirty days without written notification of delay to customer.

To be eligible for the warranty a copy of the original sales receipt is required as the proof of purchase and a copy of the Warranty registration card must also be on file with NMP.

To Obtain Warranty Service:

1. Contact NMP via telephone (888-667-2767) or email (customerservice@norcrossmarine.com) to obtain a Return Authorization Number.
2. Securely pack the unit along with a copy of the original sales receipt, a description of the defect. Please be sure to include your name, address, email address, and a daytime phone number.
3. Write your assigned Return Authorization Number from Step 1 on the outside of the box.
4. Send prepaid via insured and traceable transportation to: NorCross Marine Products, Inc., Warranty Department, 6450 Kingspoint Parkway, Suite 6, Orlando, FL 32819.
5. You can check the status of your return by sending an email to customerservice@norcrossmarine.com. Be sure to include your name and Return Authorization Number in the email.



6450 Kingspoint Parkway, Suite 6
Orlando, FL 32819
www.norcrossmarine.com
(p) 888-667-2767

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Transducer Installation and Adjustment Manual

The MT01 Transom/In-Hull Transducer is suitable for installation and operation on most boats. For optimal performance the transducer should be mounted to the transom of the boat as per the installation instructions. On fiberglass hulls (non-cored) and some aluminum hulls it can be glued to the inside of the hull, but this type of installation will reduce the performance of the depth sounder slightly.

Some boats may require a specialized transducer. If after completely reviewing the transducer installation instructions you find that the supplied transducer is not appropriate for your vessel, please contact NMP at 888-667-2767, or visit us on the internet at www.norcrossmarine.com for exchange information. You may exchange your new and unused transducer for another type, but keep in mind that some transducers may have additional costs.

PARTS AND TOOLS LIST

Before installing the MT01, please ensure that the following parts are included in the packaging:

- Transducer with 25' of Cable and Plug
- Transducer Support Bracket with Attached Kick-Up Bracket
- (2) Tapered Plastic Shims
- (2) Cable clamps
- Clam Shell Cable Cover
- (2) #10 x 1.25" self-tapping screws
- (2) #6 x .25" self-tapping screws

If any items are missing or damaged, please contact our Customer Service Department at 888-667-2767.

Tools and Supplies Required for Installation

- Electric Drill
- 1/4" (6 mm) drill bit, hole saw or spade bit (cable thru-hull pass through)
- 1/8" (3mm) drill bit (cable clamp and clam shell cover mounting holes)
- 9/64" (4 mm) drill bit (Kick-Up Bracket mounting holes)
- Marine Sealant
- Straight Edge
- Screwdrivers
- Pencil
- Tie Wraps
- Water based antifouling paint (transom mount installation)
- Plastic Bag (in-hull installation)
- Petroleum Jelly (in-hull installation)
- 2 Part Epoxy Adhesive (in-hull installation)
- 30 Grit Sandpaper (in-hull installation)
- Safety Goggles
- Dust Mask
- Masking Tape

TRANSOM MOUNTING THE TRANSDUCER

Does the Installation Vessel Have These Characteristics?

1. Outboard, inboard/outboard, single inboard, or jet-drive propulsion.
2. Hull deadrise angle below 30°.
3. Transom angle from 3-20°.

Mounting Location

To obtain the best performance, the transducer should be mounted in a location where the water flow is aeration and turbulence-free. Try to mount the transducer as close to the centerline of the boat as possible.

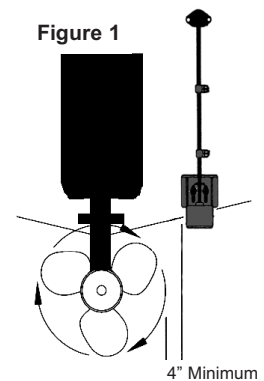
- On a single drive boat mount on the starboard side at least 4" (101 mm) beyond the radius of the propeller (see Figure 1 above).
- On a twin drive boat mount the transducer between the drives making certain that the transducers not directly in front of either drive or propeller.
- On an inboard boat mount the transducers far to the port or starboard as possible so that the propeller turbulence does not effect the performance of the sensor.



IMPORTANT!!!!

Install the transducer before installing the display to ensure that the transducer cable is long enough to reach your desired mounting location. If the transducer cable needs to be extended, please follow the instructions in the Troubleshooting Guide before starting the installation.

Read ALL the instructions completely before proceeding with the installation.



NOTICE!!!!

If the answer to any of these questions is no, skip to the In-Hull Mounting Instructions within this manual or call 888-667-2767 to inquire about exchanging the transducer.

CAUTION!!!!

Do not mount the transducer in an area of turbulence or bubbles:

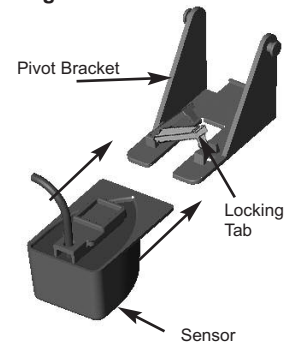
- Near water intake or discharge openings.
- Behind strakes, struts, fittings or hull irregularities.
- Behind eroding paint, hull deformities, or marine growth

Avoid mounting the transducer where the boat may be supported during trailering, launching, hauling, or storage.

Assembling and Mounting

1. With the Locking Tab in the up position, align the transducer and bracket as per Figure 2 and slide the transducer into the Pivot Bracket until it cannot slide any further. (minimal force is required)
2. Press the Locking Tab down against the Pivot Bracket until it locks firmly into place.
3. Tape the template inserted in this manual against the hull as per Figure 3.
4. At the desired mounting location, position the template so the arrow at the bottom is aligned with the bottom edge of the vessel making certain that the template is parallel to the waterline of the vessel.
5. Using a 9/64" (4 mm) drill bit, drill two holes 7/8" (22 mm) deep at the locations indicated on the template marked with an "X". To prevent drilling too deeply, wrap masking tape around the bit 7/8" (22 mm) from the point. To minimize surface cracking on fiberglass hulls use a chamfer or countersink bit. If either is not available, start drilling with a 1/4" (6 mm) bit to a depth of 1/16" (1 mm), then finish the hole with the 9/64" (4mm) bit.
6. Apply a marine sealant to the threads of the two #10 x 1-1/4" self-tapping screws and screw the bracket to the hull. DO NOT tighten the screws completely until you position the transducer as per the next section.

Figure 2



Positioning

The bracket is designed for a standard 13° transom angle. To determine if the plastic shim is needed, position the transducer at the desired location. Using a straight edge, compare the underside of the transducer relative to the underside of the hull. The stern (trailing edge) of the transducer should be 1/16" – 1/8" (1 – 3 mm)

IMPORTANT!!!!

Align the included shims (Figure 4) to achieve a slight angle as per Figure 5 below. To prevent aeration, NEVER position the transducer in a manner that the Leading Edge (bow) is LOWER than the Trailing Edge (stern).

below the bow (leading edge) of the sensor.

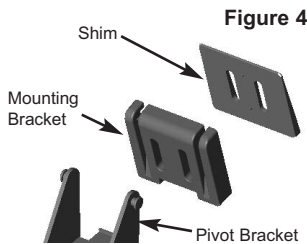


Figure 4

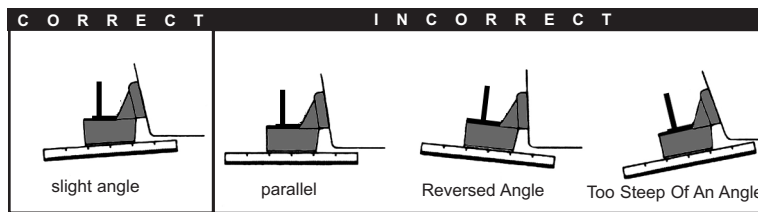


Figure 5

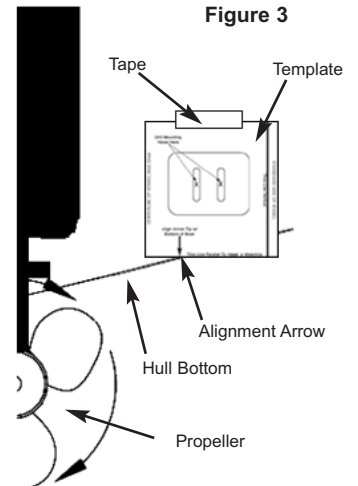


Figure 3

Tightening

Slide the transducer up or down to provide a projection of 1/8" inches (3 mm) below the hull bottom and then tighten the screws.

IMPORTANT!!!!

Do not allow the transducer to extend more than 1/8"(3 mm) of an inch below the bottom of the boat as this will create increased aeration and turbulence.

Cable Routing

Route the transducer cable over the transom, through a deck or splash-well drain hole or through a new hole drilled in the transom.

1. If a new hole is required, it MUST be drilled well above the waterline.
2. Mark the desired location with a pencil
3. Check for obstructions behind the desired location inside the hull.
4. Drill a hole through the transom using a 3/4" or 19 mm hole saw or spade bit.
5. Route the cable over or through the transom.
6. On the outside of the hull secure the cable against the transom using the included cable clamps. Evenly distribute the clamps between the transducer and the location where the cable passes through or over the hull and mark the location with a pencil (Figure 6).
7. At the marked locations, use a 1/8" (3 mm) bit to drill a hole 3/8" (10 mm) deep. To prevent drilling too deeply, wrap masking tape around the bit 3/8"
8. Apply marine sealant to the threads of the 2 #6 x 1/2" self-tapping screws, position the two cable clamps and fasten them in place. (skip to #13 if the cable was routed over the transom or a hole that was already in the hull)
9. If a hole has been drilled in the transom position the clam shell cover over the cable where it enters the hull and mark the two screw holes.
10. Use a 3 mm or 1/8" bit to drill a hole 10 mm (3/8") deep. To prevent drilling too deeply, wrap masking tape around the bit 10 mm (3/8") from the point of the bit.
11. Fill the remaining space in the hole with marine sealant.
12. Apply marine sealant to the 2 #6 x 1/2" self-tapping screws and fasten the cable clam shell cover into place.
13. Route the cable to the depth sounder to the mounting location of the depth sounder. To reduce electrical interference, separate the transducer cable from other electrical wiring. Coil any excess cable and secure it in place using tie-wraps.
14. Refer to the depth sounder owner's manual to connect the transducer to the instrument.

Figure 6



Checking for Leaks

WARNING!!!!

When the boat is placed in the water, immediately check for leaks around the screws and any holes drilled in the hull. Never install a transducer and leave the boat in the water unchecked.

Antifouling Paint

Marine growth can accumulate rapidly on the transducer's surface. If the vessel is left in saltwater for extended periods of time, all components of the transducer below the waterline must be painted with **WATER BASED** antifouling paint.

- Never use ketone-based paint, as this type of paint can damage to the transducer's plastic shell.
- Clear, spray on antifouling paints are very easy to apply and can be purchased from your local boating supply store.
- Reapply paint as needed to prevent marine growth.

Testing

1. Become familiar with the depth sounders function and performance at idle speeds.
2. Gradually increase the boat speed and observe performance of the depth sounder.
4. If the performance improves when turning, the sensors position probably needs adjustment because it is in aerated water.
5. Move the transducer farther down on the transom.
6. If the performance does not improve, move the transducer closer to the centerline making sure to fill any unused screw holes with marine sealant.

IMPORTANT!!!!

High Speed performance of the depth sounder may require extensive adjustment and testing to find the best transducer mounting location. This transducer has been tested to perform up to 63 MPH in a transom mount application. Not all boat hull configuration will allow for this type of performance. If you are not satisfied with the performance of the depth sounder, it is recommended that you seek the advice of a professional marine electronics installer.

IN-HULL MOUNTING THE TRANSDUCER

IMPORTANT!!!!
Please read the instructions completely before proceeding with the installation.

Applications

- High Speed Boats to increase the performance of the depth sounder.
- Trailer boats to prevent accidental damage to the transducer from trailering.
- Shallow draft boats to prevent accidental damage to the transducer to from intentional or unintentional ground.
- **NON-CORED** hulls or Aluminum Hulls thinner than 1/8"

Hull Material

Since the hull absorbs acoustic energy, transmitting through the hull reduces the transducers performance. Fiberglass hulls are often reinforced in places for added strength. These cored areas contain balsa wood or structural foam which are poor sound conductors. To achieve optimal performance, find a location where the hull laminate is solid (not cored).

Location

Consult the boat manufacturer for the best in-hull transducer placement. If this information is unavailable, follow the guidelines below and see Figure 7.

- Outboard powerboats - Install as close to the stern as possible
- Inboard / outboard powerboats - Install close to the engine(s)
- Inboard powerboats - Install forward of the propeller(s) and shaft(s)
- Sailboats - Install near the centerline of the hull and forward of the leading edge of the keel

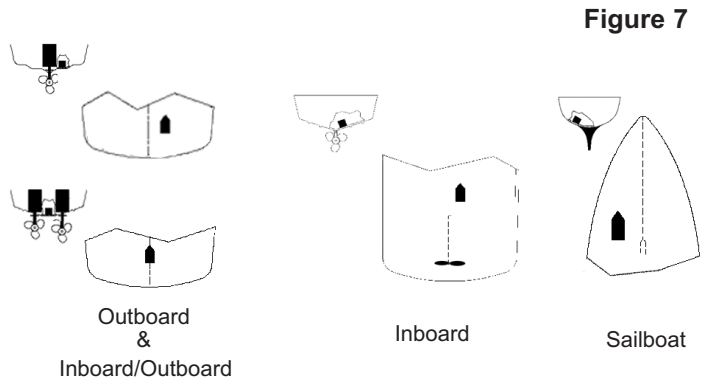


Figure 7

Testing at the Selected Location

- Place the boat into a body of water where the depth is generally known (you may also consider using a stick to hang the transducer over the side of the vessel to develop known depth readings).
- While the boat is anchored, use one of the methods below in Figure 8 to test the depth sounder with the transducer at the desired in-hull location.
- If the test readings noticeably differ from the known depth you will need to find another location.
- If the readings are similar mark the spot in the hull and proceed to Selecting the Adhesive.

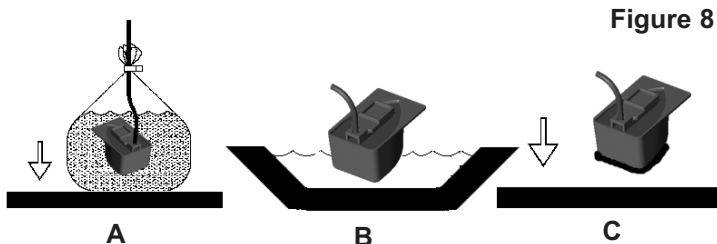


Figure 8

FIGURE 8A

- If the hull surface is not smooth, sand it with 30 grit sandpaper until a smooth surface is obtained. Partially fill a thin plastic bag with water, place the transducer inside and close it tightly with a tie wrap. Wet the surface of the hull and press the transducer face against it through the bag.

FIGURE 8B

- If the transducer will be located in an area in the hull that holds water, place the transducer against the hull and allow bilge water to cover the surface where the transducer touches the hull.

FIGURE 8C

- If the hull surface is not smooth, sand it with 30 grit sandpaper until a smooth surface is obtained. Coat the face of the transducer with petroleum jelly and press it against the hull with a twisting motion. Use duct tape to hold it in place.

IMPORTANT!!!!

If you do not get satisfactory depth readings, try different locations inside the hull. If you cannot obtain a satisfactory reading using these methods, you will not be able to mount the transducer in-hull on your vessel. Please contact NMP at 888-667-2767 for transducer exchange information.

Selecting the Adhesive

Use a viscous slow-cure epoxy or a fairly rigid, one part adhesive sealant. In cold climates, a one-part polyurethane adhesive, such as Boat-Life's Life Seal, may be best. Do not use "5 minute" epoxies because they are generally brittle. RTV (silicone) adhesives (Weather Sealants, "Rubbery" Caulks, 3M 5200, etc) are not recommended because most of the sound energy is lost.

Gluing In Place

1. All surfaces to be bonded must be smooth, clean and dry. If the hull surface is not smooth, sand it with 30 grit sandpaper until a smooth surface is obtained in an area a little larger in diameter than the length of the transducer.
2. Clean and dry both the selected area and the face of the transducer with a weak solvent to remove any dust, grease or oil.
3. Prepare the adhesive as per the directions supplied with the adhesive.
4. Apply a generous amount of adhesive to the center of the face of the transducer (side opposite from the cable).
5. Press the transducer face onto the hull with a twisting motion to expel all air bubbles. (If the hull is slanted, temporarily secure the transducer in place with duct tape.) Allow the adhesive to cure as per the manufacturer's instructions.
6. After the adhesive has cured, route the cable to the depth sounder mounting location. To reduce electrical interference, separate the transducer cable from other electrical wiring and coil and secure the excess cable in place using tie-wraps.

WARNING!!!!

DO NOT glue the transducer in place until the location is tested as per the "Testing at the Selected Location" section in this manual.

TROUBLESHOOTING GUIDE

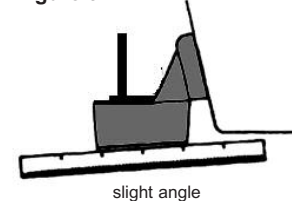
The Depth Reading on the Depth Sounder is Random, Flashing, and Inconsistent

1. Operate the unit under normal operating specifications and check to see if it operating properly (pay attention to minimum and maximum depth capabilities).
2. If this condition occurs only at certain speeds, then a transducer adjustment is needed. Refer to the "Helpful Hints for Transducer Installation" section below. Refer to the Transducer Adjustment Instructions for adjustment procedures.
3. Under certain circumstances sonar may not perform at the best of its ability. Extremely dirty water, very soft bottom, high speeds, deep water, or a combination of the above will result in incomplete or inaccurate readings. Please refer to the Transducer Adjustment Instructions to minimize the effects of these conditions.
4. If the transducer is transom mounted check to make sure that the transducer is not "kicked-up". To prevent damage to the transducer, it will automatically release from mounting bracket (kick-up) when it is impacted. If this occurs refer to the Transducer Installation Instructions to reset the transducer for normal operation. If this happens frequently make sure that the trailer or boat lift bunks do not interfere with the transducer during loading and unloading.
5. Check the transducer cable connection on the back of the depth sounder. Make sure that the connection is made as per the instructions supplied with the depth sounder.
6. Contact NMP at 888-667-2767 for assistance if you are unable to correct the problems.

Helpful Hints for Transducer Installation (Transom Mounting)

1. Make sure the transducer is not mounted in any area where the water flow is interrupted by propeller turbulence or aerated water. If standing at eye level, behind the transducer and looking forward along the bottom of the boat hull there should NOT be any strakes, chimes, steps, or hull fittings inline with the transducer. If there are any of these obstructions, the transducer will need to be relocated to achieve optimal performance. The transducer CAN NOT be transom mounted on a Stepped-Hull vessel, it must only be in-hull mounted.
2. Make sure that the leading edge (bow - side closest to the bow of the boat) of the transducer extends at least 1/8" (3 mm) below the bottom of the hull. Also make sure that the trailing edge (stern - side furthest from the bow of the boat) is 1/16" to 1/18" (1-3 mm) below the leading edge.

Figure 9



Helpful Hints for Transducer Installation (In-Hull Mounting)

1. The hull must be made out of solid fiberglass or a maximum 1/8" (3 mm) aluminum. The unit will not work through wood, plastic, or any other composite material.
2. The glue in location must be in direct contact with the water at all times during operation. The transducer CAN NOT be mounted in any area where the water flow is interrupted by propeller turbulence or aerated water. It MUST NOT be mounted behind any strakes, chimes, steps, or hull fittings that will disrupt the flow of clean water to the transducer (in line with the mounting location of the transducer and the bow of the boat). If there are any of these obstructions, the transducer will need to be relocated to achieve optimal performance.
3. If mounting in-hull on a stepped hull vessel, the transducer must be mounted in a location where there are no steps forward of the transducer (between the transducer mounting location and the bow of the boat). Keep in mind that the glue in location must be in direct contact with the water at all times during operation or incorrect depth readings will occur.

The Transducer Cable Supplied with the Transducer is Too Short for My Installation, Can It Be Extended

YES: To extend the transducer cable:

1. Cut the cable on the transducer side 1" (28 mm) from the plug. If the depth sounder display also has a plug, you will need to cut this plug off as well.
2. At both cuts, strip back the rubber cable cover 1" (28 mm) exposing the three internal wires (blue, white, and bare).
3. Using a soldering iron, solder the desired length extension cable (available at a boating supply store or by calling 888-667-2767) between the depth sounder display and the transducer. Be certain that the blue, white and bare wires are connected properly between the depth sounder display and the transducer and make sure the colors are consistently matched throughout the splice.
4. Using electrical tape, or heat shrink tubing make certain that the soldered connections are completely sealed and protected

against accidental electrical interference.

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Specifications

Sonar Beam Angle	20 Degrees
Sonar Frequency	200 KHZ
Transducer Cable Length	25 Feet (7.6 M)

WARNING: Disassembly of the electronic components within this unit may result in exposure to lead in the form of solder, which is known to the state of California to cause cancer, birth defects, and other reproductive harm.



