INSTALLATION AND OPERATION MANUAL

In Dash Digital Depth Sounder with Transom/Glue-In Transducer

To ensure safety and many years of trouble-free operation of your product, please read this manual carefully before using this product.

SAFETY INFORMATION:

- Periodically wipe the face with a dry cloth. Do not use abrasives or solvents on this device.
- Only qualified personnel should perform repairs or servicing not covered in this manual.
- The LCD used in the product is made of glass. Therefore, it can break when the product is dropped or impacted.
- Keep this product away from heat sources such as radiators, heaters, stoves and other heat generating sources. Do not store in extreme temperatures above 150° F (65° C).
- Shade the LCD during storage. Do not expose LCD to direct sunlight for extended periods of time.

NOTES, NOTICES, AND CAUTIONS

WARNING: Indicates a potential for property damage, personal injury or death.

IMPORTANT: Indicates potential damage to the device and tells you how to avoid it.

NOTICE: Indicates important information that helps you make better use of the device and tells you how to correct a performance problem.

I**NFORMATION**: Indicates resources to obtain the proper information to help you make the most of your device.

INFORMATION:
Read this manual completely before attempting to use or install your device. Visit our website for advanced troubleshooting and technical support.

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.

PARTS SUPPLIED IN PACKAGING

The following parts should be included with the display:

- Digital Depth Sounder Display
- White and Black Faces and Bezels
- Thick Dash Extension Rod (optional on some models, see package for details)
- Flush Mount Bracket and Hardware
- Display Power Harness and Waterproof Fuse Holder Attached to the Unit

The following parts should be included with the transducer:

- Transom/Glue-In Transducer with 30 ft 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
- (4) #6 x 1/2” self-tapping screws

If any items are missing or damaged, please contact our Technical Service department.

SELECTING THE PROPER TRANSDUCER INSTALLATION

Transom mounting is suitable for the following vessels:

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

Glue-in mounting is suitable for the following vessels:

- 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 from intentional or unintentional ground.
- NON-CORED hulls or aluminum hulls thinner than 1/8".
- Inboard vessels that have a lot of running gear that creates significant turbulence.

NOTICE:

Glue-in mounting of the transducer is NOT suitable for all vessels. You MUST test the glue-in location on the water prior to using epoxy to permanently affix it to the hull. If you cannot obtain satisfactory readings during on water testing you will need to transom mount the transducer, or switch to a customer transducer.

INSTALLING THE DISPLAY

Tools & Supplies Required for Installation

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

STEP 1

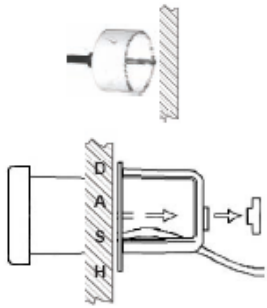
Installing the Display

1. Find a location on the boat that will allow clear viewing of the display. Keep in mind that the wires for the transducer and power must reach the mounting location.
2. After finding the right location, mark a 2-inch hole. (If your boat has a pre-cut hole in the dash panel, simply remove the hole plug and proceed to Step 5.)

IMPORTANT:

Check behind the desired cutting area for wires, switches, etc. that may be damaged during cutting. If these obstructions are present, use masking tape to hold them out of the way during cutting.

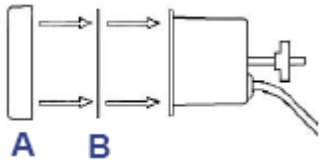
3. Cut out the 2-inch hole using the 2” hole saw.
4. Seal any exposed wood with a marine sealant.
5. Insert the display from the front of the panel, feed the wires through the bracket and install the bracket and locking nut from the rear of the panel. Make sure that the face of the display is rotated upright and aligned to your satisfaction for easy viewing from the vessel’s helm.



STEP 2

Installing the Face and Bezel

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



STEP 3

Connecting of the Power Cable

The display has no ON/OFF switch. Therefore, you will need to connect the power harness 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 unit.

1. Connect the BLACK wire in the harness to a negative (-) terminal or suitable ground.
2. Connect the RED wire in the harness to a positive (+) 12 Volt switchable power source (key switch, on/off switch, terminal block, etc).

NOTICE:

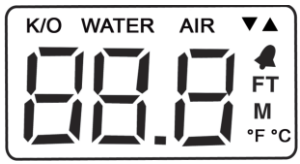
Never use “Twist-On” or “Automotive” type connectors. These connectors do not form a solid electrical connection and are more likely to corrode.

STEP 4

Testing the Display Installation

Before continuing with your installation, you should test the unit to make sure the power wires are properly attached.

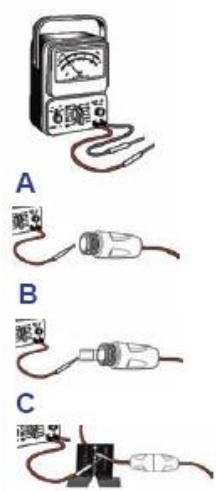
1. Apply power to the unit by turning on the power source that you've attached the red and black wires to.
2. The buzzer should beep three times while the display illuminates all the LCD graphics for 2 seconds. "---" will then be shown on the LCD.



If the display operates as per #2 above, continue to the "Basic Operation" section.

If the display does not turn ON:

1. Check the power source using a test light or DC volt meter. Make sure there is 12 volt power where the power harness connects to both the positive and negative sources.
2. Check the fuse holder assembly with a test light or DC volt meter. Connect the ground for the test meter or light to the vessel's negative power source.
3. Remove the fuse and check for 12 volt power at the spring located inside the fuse housing that is connected to the vessel's power source. If 12 volt power is present continue to the next step. If power is not present, return to Step 1.
4. Insert the fuse and check for 12 volt power at the end of the fuse. If 12 volt power is present continue to Step C. If power is not present, replace the fuse.
5. Reassemble the fuse housing. Strip back a quarter of an inch of wire cover on the display side of the fuse housing and test for 12 volt power. If 12 volt power is present continue to Step 2.D. If power is not present, replace the fuse housing assembly..



NOTICE:

The fuse used in the In Dash Depth Sounder is a .25A, 250V fuse. Do not rely on a visual inspection of the fuse to determine if it is functioning. If your depth sounder will not turn on, ALWAYS test the fuse with a test light or voltage meter.

GETTING TO KNOW YOUR DIGITAL DEPTH SOUNDER DEPTH

The unit's auto-ranging, auto-sensitivity features means that you never have to worry about adjustments. Simply turn the power on, and you're ready to go. The Depth Sounder 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 microprocessor 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 "- - -" will be displayed.

NOTICE:

This depth sounder has a non-volatile memory. ALL settings will be stored when the power is turned OFF.

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. You must be in the "Depth Sounder" mode to adjust this setting.

To set the SHALLOW ALARM (upper alarm):

1. Press the "UP" key to access the shallow water alarm setting. The icon will illuminate and the ▲ indicator will blink.
2. Pressing the "UP" key will increase the selected value. Pressing the "DOWN" key will reduce the value.
3. Pressing and releasing the key will change the value in 1-foot increments per second.
4. Holding down the key will change the value in 9 foot increments per second.
5. After the desired setting is achieved, the display will return to normal operation after 5 seconds.
6. The ▲ and indicators will now be illuminated to indicate that a shallow water alarm is set.

When triggered, the alarm sounds an audible buzzer 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 steps 1 thru 5.

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. You must be in the "Depth Sounder" mode to adjust this setting.

To set the DEEP ALARM (lower alarm):

1. Press the "DOWN" key to access the deep water alarm setting. The icon will illuminate and the ▼ indicator will blink.
2. Pressing the "UP" key will increase the selected value. Pressing the "DOWN" key will reduce the value.
3. Pressing and releasing the key will change the value in 1-foot increments per second.
4. Holding down the key will change the value in 9 foot increments per second.
5. After the desired setting is achieved, the display will return to normal operation after 5 seconds.
6. The ▼ and indicators will now be illuminated to indicate that a deep water alarm is set.

When triggered, the alarm sounds an audible buzzer 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 steps 1 thru 5.

KEEL OFFSET

The Keel Offset feature is used to adjust the depth readings displayed by the device to compensate for the depth of the water required for your vessel to operate safe (*typically referred to as your vessel's "Draft")*

For Example: If your boat's draft is 3 feet, the Keel Offset feature should be set to 3 feet. The device 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), and can be set in .1 *(1/10th)* Feet or Meter increments. The unit will read "---" when a negative value occurs due to the Keel Offset subtraction.

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 its passengers.

To set the Keel Offset:

1. Press and hold the "UP" and "DOWN" keys until the **K/O** indicator begins to blink. *(approximately 6 seconds)*.
2. Release the Keys.
3. Press the "UP" key to increase the Keel Offset value. Press the "DOWN" key to reduce the value.
4. The display will return to the normal operation mode after five seconds if no keys are pressed.
5. "K/O" will remain illuminated in the top left hand corner indicating that the depth readings are adjusted to the Keel Offset setting.

UNITS OF MEASURE

The units of measure for the depth readout and alarm functions can be set in 4 easy steps. The two settings available are Feet (FT) and Meters (M). You must be in the "Depth Sounder" mode to adjust this setting.

To Set the Units of Measure:

1. Press and hold the "UP" and "DOWN" keys until the current unit of measure begins to blink. *(approximately 8 seconds)*.
2. Release the Keys.
3. To set the units to FEET press the "UP" key. "FT" will flash on the Display.
4. To set the units to METERS press the "DOWN" key. "M" will flash on the Display.

5. The display will return to the normal operation mode automatically after five seconds.

IMPORTANT:

Install and test the display in the desired mounting location before attempting the transducer installation.

TRANSOM MOUNTING THE TRANSDUCER

IMPORTANT:

Transom mounting the transducer is suitable for most vessels and generally offers the best performance. If you decide to glue the transducer in-hull, you MUST test the location on water prior to permanently affixing it to the hull. If you cannot obtain satisfactory readings during on water testing you will need to transom mount the transducer, or switch to a custom transducer. If you have determined that you are going to try to glue the transducer in-hull, please skip to the next section.

Tools & Supplies Required for Installation

- Power Drill
- 5/8” (16 mm) drill bit, hole saw or spade bit
- 1/8” (3 mm) drill bit
- 9/64” (4 mm) drill bit
- Marine Sealant/Caulk
- 30 Grit Sandpaper
- “Phillips” Screwdriver
- Pencil
- Tie Wraps
- Water Based Antifouling Paint
- Masking Tape

Transom mounting is suitable for the following vessels:

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

NOTICE:

To get a good “view” of the mounting location, while the vessel is out of the water, position yourself at the transom and look at the bottom of the hull towards the bow. Using illustrations A thru I, note anything that could interrupt the clean flow of water to the transducer mounting location.

NOTICE:

To achieve maximum performance try the following:

Have someone run the boat on plane for you in smooth water. CAREFULLY look over the transom at the water flowing from the bottom of the boat. Find the location which produces the least amount of turbulence (air bubbles). This is the location you will want to mount the transducer.

NOTICE:

To prevent drilling holes 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.

STEP 1

CHOOSING A MOUNTING LOCATION

To obtain the best performance, the transducer should be mounted in a location where the water flow beneath the hull is aeration and turbulence-free. Try to mount the transducer as close to the centerline of the boat as possible. Consult the boat manufacturer for the best in-hull transducer placement. If this information is unavailable, follow the guidelines below.

A. On a single drive outboard or inboard/outboard boat, mount on the starboard side at least 4" beyond the radius of the propeller.

B. On a twin outboard or inboard/outboard boat, mount between the drives, making certain that the transducer is not directly in front of either drive or propeller (avoid aligning directly in line with the bottom of the boat if the hull comes to a point).

C. On an inboard boat, mount as far to the port or starboard as possible so that the propeller turbulence does not affect the performance of the sensor.

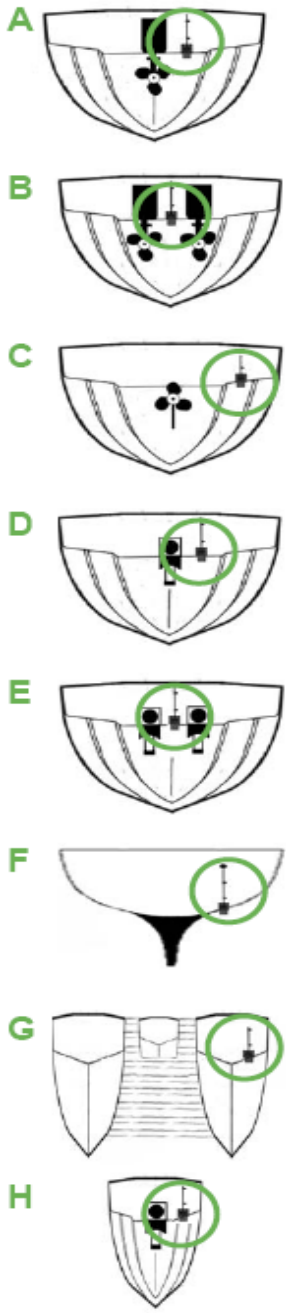
D. On a single jet drive boat, mount on the starboard side at least 4” outside the intake grate.

E. On twin jet drive boats, mount on the center line, between the intake grates (avoid aligning directly in line with the bottom of the boat if the hull comes to a point).

F. On sailboats, mount on the starboard side at least 6" outside the keel.

G. On pontoon boats and catamarans, mount on the starboard hull at least 2" outside the hull protector or centerline.

H. On PWC's, mount on the starboard side, at least 2" outside the intake grate.



NOTICE:

To deliver consistent, accurate readings, the transducer must have a continuous supply of non-turbulent water. Do not mount the transducer in an area of turbulence or bubbles.

Mounting Location "DONT's

Never install the transducer where the boat may be supported during trailering, launching, hauling, or storage.

NEVER MOUNT:

A. Behind water intakes, discharge openings, or thru-hull fittings.

B. Behind strakes, struts, or hull irregularities.

C. Behind transom steps or pockets.

D. Behind eroding paint, hull deformities, or marine growth.

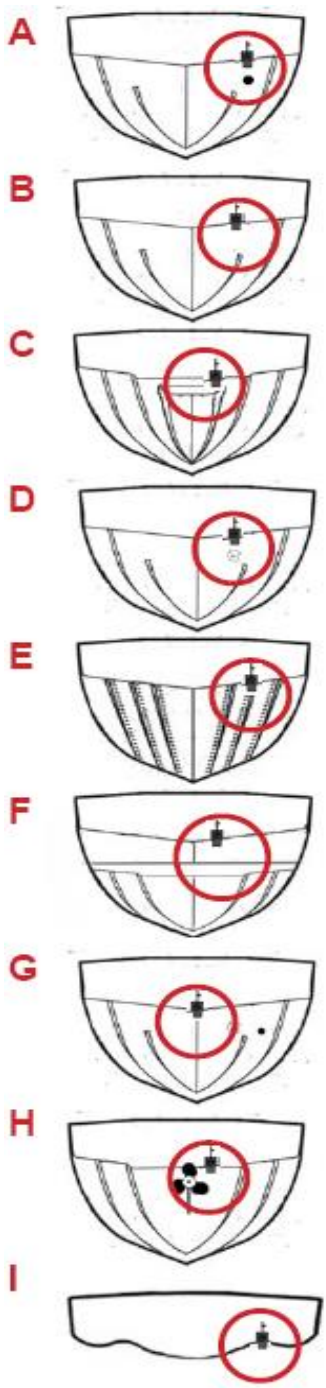
E. Behind rivets or strakes on aluminum boats.

F. Behind the step on stepped hulls.

G. Directly on the "V" in the hull.

H. Behind propellers or anywhere propeller turbulence will interrupt the flow of "clean" water to the transducer.

I. In areas where the hull has a reverse angle.



STEP 2

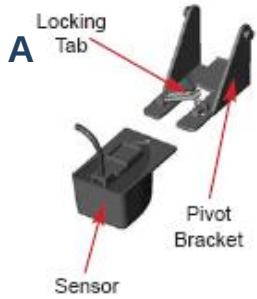
ASSEMBLING THE TRANSOM MOUNT BRACKET

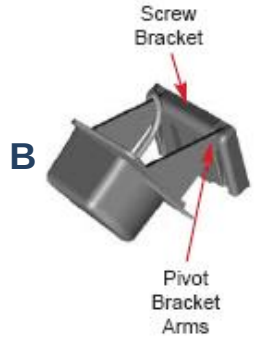
1. With the Locking Tab in the up position, align the transducer and bracket, then slide the transducer into the Pivot Bracket until it cannot slide any further *(minimal force is required) (illustration A).*

2. Press the Locking Tab down against the Pivot Bracket until it locks firmly into place.

3. Slide the Pivot Bracket arms through the back of Screw Bracket as pictured. *(illustration B).*

4. Grasp the transducer in your hand as shown in the picture to the right. Rest the screw bracket against a solid object (ground) and press the Pivot Bracket into the Screw Bracket with enough force until it snaps into place *(illustration C).*





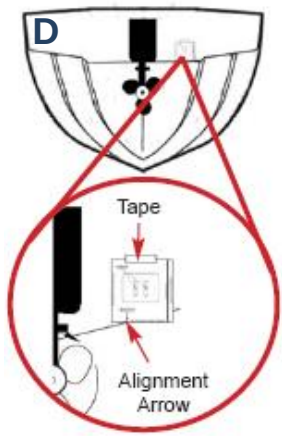
NOTICE:

To unlock the locking tab use a flat head screwdriver to pry the tab up.

STEP 3

Mounting the Transom Mount Bracket

1. Locate Transom Template inserted in this manual.
2. 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.
3. 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".



4. 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) below the bow (leading edge) of the sensor.

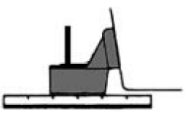
5. Apply a marine sealant to the threads of the two #10 x 1-1/4" self-tapping screws and screw the bracket to the hull. DO NOT tighten the screws completely until you position the transducer as per # 4 above.

NOTICE

Do not allow the leading edge of 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.

NOTICE:

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

CORRECT	INCORRECT		
 Slight Angle	 Parallel	 Reversed Angle	 Too Steep of An Angle

STEP 4

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. If a new hole is required, it MUST be drilled well above the waterline.

To Drill a Cable Pass Through:

1. Mark the desired location with a pencil.
2. Check for obstructions behind the desired location inside the hull.
3. Drill a 5/8” or 16 mm hole through the transom.
4. Route the cable through the transom.
5. 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.
6. At the marked locations, use a 1/8" (3 mm) bit to drill a hole 3/8" (10 mm) deep.
7. 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 *(illustration A).*

Skip to #12 if the cable was routed over the transom or a hole that was already in the hull.

8. If a hole has been drilled in the transom for the cable pass through, position the clam shell cover over the cable where it enters the hull and mark the two screw holes.
9. 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.
10. Fill the remaining space in the hole with marine sealant *(illustration B).*
11. Apply marine sealant to the 2 #6 x 1/2" self-tapping screws and fasten the cable clam shell cover into place *(illustration C).*
12. Route the cable to the mounting location of the depth sounder transducer plug. To reduce electrical interference, separate the transducer cable from other electrical wiring. Coil any excess cable and secure it in place using tie wraps.
13. Lubricate the plug by applying a generous amount of silicon grease or petroleum jelly to the ridge on the Display plug *(illustration D)*
14. Plug the cable into the transducer plug on the depth sounder.

A

B

C

D

STEP 5

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 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

STEP 6

Testing and Troubleshooting the Transom Mount Installation

1. Make sure that the display is functioning properly by following the display testing procedures in the Display Installation and Operation Manual.
2. Place the vessel in the water. Once the display is turned ON, it will display the test sequence and then display the current depth.
3. Become familiar with the depth sounder's function and performance at idle speeds.
4 Gradually increase the boat speed and observe the depth readings *(pay attention to minimum and maximum depth capabilities).*
5. If "---" readings appear:
    - 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 Page 4 of this manual 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.
    - Have someone run the boat on plane for you in smooth water. CAREFULLY look over the transom at the water flowing from the bottom of the boat over the base of the transducer. The water should be "Clean" with very little turbulence (air bubbles). If there are any air bubbles or turbulence seen passing underneath the transducer, move the transducer farther down on the transom bracket. If the performance does not improve, move the transducer to "Clean Water" making sure to fill any unused screw holes with marine sealant.

NOTICE

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 an In-Hull application. Not all boat hull configurations 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.

GLUING THE TRANSDUCER IN-HULL

NOTICE:

Please use extreme caution when selecting your adhesive as the overall performance and enjoyment of your depth sounder depends heavily on the type of adhesive you use. **USE ONLY A 2-PART, SLOW CURE EPOXY**

Tools and Supplies Required

- Plastic Bag
- Petroleum Jelly
- 30 Grit Sandpaper
- 2 Part Epoxy Adhesive
- Tie Wraps

Vessel Hull Types Acceptable for In-Hull Installation

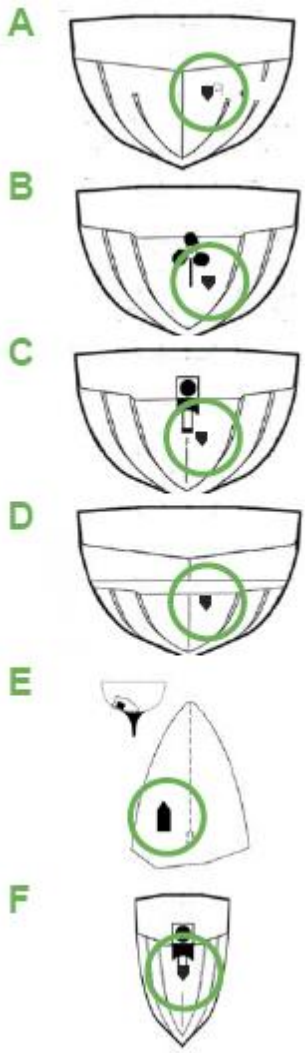
- High speed boats to increase the performance of the depth sounder.
- Trailer boats to prevent accidental damage to the transducer from trailering.
- Shallow draft boats to prevent accidental damage to the transducer from intentional or unintentional ground.
- **NON-CORED** hulls or aluminum hulls thinner than 1/8”.
- Inboard vessels that have a lot of running gear that creates significant turbulence.

STEP 1

Choosing a Mounting Location

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 wood or structural foam which are poor sound conductors. To achieve optimal performance, find a location where the hull's laminate is solid (not cored).

To obtain the best performance, the transducer should be mounted in a location where the water flow beneath the hull is aeration and turbulence-free. Try to mount the transducer as close to the centerline of the boat as possible. Consult the boat manufacturer for the best in-hull transducer placement. If this information is unavailable, follow the guidelines below.



A. Outboard, Inboard/Outboard Powerboats - Install as close to the stern and centerline as possible.

B. Inboard Powerboats - Install forward of the propeller(s), shaft(s), and running gear, as close to the centerline as possible. Keep in mind that many Ski Boats have fins that you need to avoid mounting near.

C. Jet Boats - Install forward of the intake grate, as close to the centerline as possible.

D. Stepped Hulls - Install forward of the step, as close to the centerline as possible.

E. Sailboats - Install near the centerline of the hull and forward of the leading edge of the keel.

F. Personal Watercraft (PWC) - Install forward of the intake grate, as close to the centerline as possible *(under the engine).*

Mounting Location "DONT's"

NOTICE:

To deliver consistent, accurate readings, the transducer must have a continuous supply of non-turbulent water. Do not mount the transducer in an area of turbulence or bubbles.

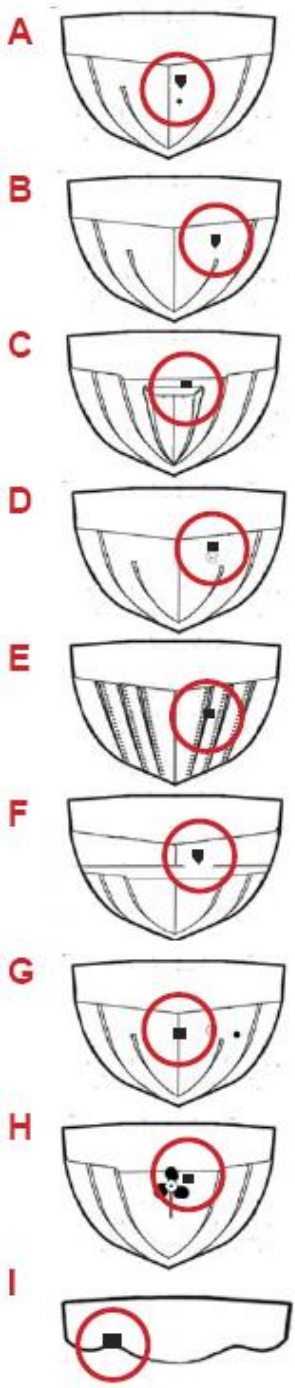
Never install the transducer where the boat may be supported during trailering, launching, hauling, or storage. Hull flexing may cause air pockets to form in the 2 Part Epoxy used to bond the transducer to the hull which over time will reduce the performance of the depth sounder.

WARNING:

Never install the transducer without testing the installation as per Step 2 below.

NEVER MOUNT:

- **A.** Behind water intakes, discharge openings or thru hull fittings.
- **B.** Behind strakes, struts, or hull irregularities.
- **C.** Behind transom steps or pockets.
- **D.** Behind eroding paint, hull deformities, or marine growth.
- **E.** Behind rivets or strakes on aluminum boats.
- **F.** Behind the step on stepped hulls.
- **G.** Directly on the "V" in the hull.
- **H.** Behind propellers or anywhere propeller turbulence will interrupt the flow of "clean" water to the transducer.
- **I.** In areas where the hull has a reverse angle.



NOTICE:

To get a good "view" of the mounting location, while the vessel is out of the water, position yourself at the transom and look at the bottom of the hull towards the bow. Using illustrations A thru I, note anything that could interrupt the clean flow of water to the transducer mounting location.

STEP 2

Test the Selected Location

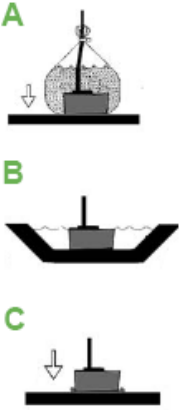
1. Anchor/Moor the vessel in a body of water away from other boat traffic.

NOTICE:

Turn OFF all other sonar devices on your boat and locate the vessel at least 50 feet from the nearest vessel.

2. Plug the transducer cable into the back of the depth sounder display and turn the display ON. Once the display is turned ON, it will display the test sequence and then display the current depth. Make sure the Keel Offset feature is turned OFF.

3. Place the transducer close to your ear (do not press up against your ear). If the transducer is properly connected it will be emitting a ticking sound *(similar to a wrist watch).* If you do not hear this ticking sound, recheck your connections or visit our Customer Service Center for advanced troubleshooting.
4. Hold the transducer over the side of the vessel so that it is the same distance below the water surface as it would be at the in-hull mounting location. Note the depth that is being displayed on the Depth Sounder.



NOTICE:

Certain environmental conditions may restrict the performance of the depth sounder. Extremely dirty water, very soft bottom, high speeds, deep water, or a combination of the above will result in incomplete or inaccurate readings. If "-- -" appears on the display, relocate the vessel to cleaner water.

5. Remove the transducer from the water. Use one of the methods below to test the depth readings with the transducer at the desired in-hull location selected in Step 1.

   A. 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 the hull through the bag. Proceed to # 6.

   B. 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. Proceed to # 6.

   C. 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. Proceed to # 6.

NOTICE:

One of the easiest ways to temporarily secure the transducer in hull is by following 5-B and wrapping the cable around the transducer as pictured.

6. If "---" readings appear or the readings are noticeably different from the depth displayed when the transducer was hung over the side of the boat, you will need to find another location. If the readings are similar mark the spot in the hull and proceed to # 7.
7. Temporarily anchor the transducer on the marked spot using duct tape.
8. Remove the vessel from its mooring and operate it at idle speeds while getting to know the functions and performance of the depth sounder.
9. Gradually increase the boat speed and observe the depth readings *(make sure you stay in water between 2.5 and 200 feet deep).*
10. If "---" readings appear:

    - Put the vessel in a slow turn. If "---" disappears when turning, the transducer's position probably needs adjustment because it is in aerated water.
    - If "---" does not disappear while turning, relocate the transducer using any one of the methods in # 5 and repeat #5 thru #10.

- If following 5-B, make sure that your "---" readings are not caused by the bilge water flowing away from the transducer face while turning, accelerating or decelerating.

11. **DO NOT** proceed to the next step until you are satisfied with the readings. If you have difficulties please visit our Customer Service Center on our website for technical assistance.

STEP 3

Gluing the Transducer In Place

APPROVED EPOXY	I N C O R R E C T
 2 Part, Slow Cure, Clear Epoxy	 ANY ADHESIVE OR GLUE THAT IS NOT 2 PART, SLOW CURE EPOXY *(Silicon Sealant, Weather Sealants, "Rubbery" Caulks, Construction Adhesives, 5 Minute or Quick Cure Epoxies, Rubber Cements, Colored Epoxies, etc)*

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 *(DO NOT mix the epoxy on the transducer)*.

4. Apply a generous amount of adhesive to the entire face of the transducer (side opposite from the cable) and the inside of the hull.

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.

NOTICE:
Try to align the transducer so that the point is aimed at the bow of the vessel.

STEP 4

Routing the Cable

1. After the adhesive has cured, route the cable the mounting location of the depth sounder transducer plug. To reduce electrical interference, separate the transducer cable from other electrical wiring. Coil any excess cable and secure it in place using tie-wraps.
2. Plug the cable into the corresponding cable on the Digital Depth Sounder display.

STEP 5

Testing and Troubleshooting the Glue-In Installation

NOTICE:
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 70 MPH in an In-Hull application. Not all boat hull configurations 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.

To Test Your Transducer Installation:

1. Make sure that the display is functioning properly by following the display testing procedures in the Display Installation and Operation Manual.
2. Place the vessel in the water. Once the display is turned ON, it will display the test sequence and then display the current depth.

NOTICE:

If "---" appears on the display, make sure that there is at least 2.5 feet of water between the bottom of the transducer and the bottom of the water body. Also make sure that the Keel Offset feature is turned OFF.

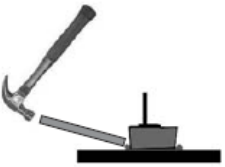
3. Become familiar with the depth sounders function and performance at idle speeds.
4. Gradually increase the boat speed and observe the depth readings *(pay attention to minimum and maximum depth capabilities).*
5. If you are not happy with the readings there are very little adjustments that you can do at this time. You will need to remove the transducer and return to Step 1 of the Glue-In Instructions.

NOTICE:

Certain environmental conditions may restrict the performance of the depth sounder. 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 Steps 1 & 2 of this section to minimize the effects of these conditions. If you are not happy with the performance of your depth sounder, please visit our website for technical support. Rest assured that this depth sounder is engineered to the highest standards. It is highly likely that your dissatisfaction is due to improper installation and/or setup, and our technical support resources can get your system working properly.

To Remove the Transducer:

1. Place a piece of wood against the base of the transducer.
2. Gently "TAP" the piece of wood with a hammer. DO NOT strike the transducer directly.
3. Once the transducer is removed from the hull, sand the excess epoxy adhesive off with sandpaper *(minor sandpaper scratches will not harm the transducer)*. DO NOT use chemicals to remove the excess epoxy



TROUBLESHOOTING AND FREQUENTLY ASKED QUESTIONS

INFORMATION:
If you have questions about this device please call Tech Service at 877-663-8396.
Troubleshooting • Product Knowledgebase
Product Specifications

Sonar Cross Talk:

If you experience incorrect depth readings on your Digital Depth Sounder display, but nothing on another fish finder screen on the same boat (or vice versa) then you are experiencing sonar cross-talk interference. The only real solution is to move the transducers further away from each other. This can help keep the transducer cones from intersecting, but because cones get wider as the depth increases, the problem can not usually be completely solved by position only. Changing one of the sounders to another model that runs on a different frequency will solve the problem.

Poor Performance:

If you are not happy with the performance of your depth sounder, please visit our website for technical support. Rest assured that this depth sounder is engineered to the highest standards and is part of the best selling family of depth sounders in the world. It is highly likely that your dissatisfaction is due to improper installation and/or setup and our Technical Service resources can get your system working properly.

WARRANTY

This device is covered by a Limited Lifetime Warranty.*

- Make a copy of your original purchase receipt and staple it to this manual. *You will need to present it in the rare occurrence that you need to send your product in for service.*

**Sierra Limited Lifetime Warranty can be found on the following page.*

Sierra Customer Satisfaction Warranty (Professional Installer)

WARRANTY

Limited Warranty (to include Sierra, Shields and Instrumentation Product Groups):
SIERRA INTERNATIONAL INC. ("SIERRA") warrants its products to be free of defects in workmanship and materials for the useful life of the product (the "Warranty"). If a SIERRA product fails to comply with the Warranty, SIERRA will repair or replace the defective product free of charge. The Warranty is subject to the additional terms, conditions and limitations set forth below.

Warranty Claims for Professionally Installed Products:
For any SIERRA product that was originally installed on a vessel by a dealer or other professional installer that fails to comply with the Warranty, in addition to repairing or replacing the product free of charge, SIERRA will also reimburse the customer for reasonable labor charges incurred to replace the product, and reasonable towing and other similar incidental expenses incurred as a result of the failure of the product to comply with the Warranty. Labor will be calculated based on the installer's posted shop rate that is competitive with their local market rates. The original work order along with the original invoice and a copy of the new re-work order must be provided to SIERRA to file a claim for reimbursement of labor expenses. Towing charges will also be paid based on reasonable and customary rates in the local trading area. A copy of the original invoice for the towing service must be provided to SIERRA to file a claim for reimbursement of towing expenses.

ALL PROFESSIONAL INSTALLER WARRANTY CLAIMS MUST BE SUBMITTED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

Dealers may file all warranty claims on our SONAR Pro website at sonar.seastarsolutions.com
A free user account is required. Dealers may also continue to use the options below.

WITHOUT LABOR CLAIM - The dealer may return any allegedly defective SIERRA product to the distributor from whom it was purchased for analysis. The product shall be tagged with the SIERRA part number, date of purchase and the alleged cause of failure. The distributor will then forward the product to SIERRA with a request for credit. If SIERRA determines that the part failed to comply with the Warranty and otherwise qualifies for Warranty coverage under the terms hereof, SIERRA will issue credit for the product to the distributor. The distributor will reimburse the dealer. SIERRA will not issue credit for any products that are not returned to SIERRA. Products not manufactured or distributed by SIERRA will be held for disposition for 30 days.

WITH LABOR CLAIM – All warranty claims for which reimbursement of labor and/or towing expenses is sought are subject to prior authorization. In addition to SONAR Pro, dealers may call 217-324-9428 to discuss any such claim with a SIERRA representative. In order to process all claims quickly and efficiently, the following must be shipped directly to SIERRA via a traceable and insurable method (i.e. UPS, Federal Express, Registered U.S. Mail, etc.):

1. The allegedly defective product and any related damaged parts.
2. A written estimate detailing the following information:
   a. A complete list, including part numbers, of all products required for the warranty repair.
   b. The shop labor rate and a breakdown of the time required for the repair.
   c. The year, model and serial number of the warranted engine or drive.
   d. The name and address of the distributor the products were purchased from.
   e. The name, address and phone number of the end consumer.
3. The original work order or receipt detailing the initial installation of the allegedly defective product.
4. Any receipts detailing additional expenses.

Failure to provide required documentation and information may void all or part of the Warranty coverage.

Proof of delivery will be required on all lost shipments.
NOTE: Concerning labor claims on older products that cannot be rectified due to the unavailability of OEM replacement parts; SIERRA reserves the right to extend only the market value of the OEM product.

Send claims to:
TECHNICAL SERVICE
SIERRA INTERNATIONAL INC.
1 Sierra Place
Litchfield, IL 62056-3029
(877) 663-8396

Limitations:
THE EXPRESS WARRANTY SET FORTH ABOVE IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. SIERRA does not warrant against, and the Warranty shall be void with respect to, damages or defects arising out of any of the following:

- improper or abnormal use or handling of SIERRA's products;
- installation or use of a SIERRA product in a manner that is inconsistent with SIERRA's application information, guidelines, instructions and/or specifications;
- defects in products or components not manufactured by SIERRA;
- non-SIERRA made products or components;
- SIERRA products transferred from a vessel on which they were originally installed;
- SIERRA products transferred from the engine on which they were originally installed;
- failure to maintain SIERRA products in accordance with SIERRA's application information, guidelines, instructions and/or specifications;
- ordinary wear and tear resulting from the operation and/or use of the SIERRA product.

This warranty also does not apply to products which have been altered or upon which repairs have been affected or attempted by persons other than pursuant to written authorization by SIERRA.

THIS STATEMENT OF LIMITED WARRANY IS NOT A STATEMENT OF THE USEFUL LIFE OF ANY SIERRA PRODUCT. WHEN SIERRA WARRANTS ITS PRODUCTS FOR THE USEFUL LIFE OF THE PRODUCT, THIS DOES NOT GUARANTEE THAT THE PRODUCT WILL LAST FOREVER OR FOR THE LIFE OF THE VESSEL. THE LENGTH OF THE USEFUL LIFE OF SIERRA'S PRODUCTS WILL VARY DEPENDING ON THE TYPE OF PRODUCT, AS SPECIFIED IN SIERRA'S APPLICATION INFORMATION, GUIDELINES, INSTRUCTIONS AND SPECIFICATIONS FOR EACH PARTICULAR PRODUCT. PLEASE REFER TO THE INFORMATION PROVIDED WITH YOUR SIERRA PRODUCT IN ORDER TO DETERMINE THE USEFUL LIFE OF THAT PRODUCT.

The sole and exclusive obligation of SIERRA shall be to repair or replace the defective products in the manner set forth above. SIERRA shall not have any other obligation with respect to the products or any part thereof, whether based on contract, tort, strict liability or otherwise. Under no circumstances, whether based on this Warranty or otherwise, shall SIERRA be liable for any special, punitive or consequential damages.

SIERRA's employees or representatives' ORAL OR OTHER WRITTEN STATEMENTS DO NOT CONSTITUTE WARRANTIES, shall not be relied upon by customer, and are not a part of the warranty stated herein.

If any part of this Limited Warranty is determined to be void or illegal, the remainder shall remain in full force and effect.

LEGAL

INFORMATION:

Made in China. Tested to comply with FCC, CE & ROSH standards if applicable. Visit our website for compliance and warranty information. All Specifications and Prices Subject to Change Without Notice.

NOTES