

**BRONZE THRU-HULL SIDE IMAGING® TRANSDUCERS**

531875-1\_C

**OVERVIEW**

Following are instructions for the installation of this accessory. Before you start the installation, we encourage you to read these instructions carefully in order to get the full benefit from your Humminbird® accessory.

 **NOTE:** This accessory requires drilling a hole in both the port and starboard sides of your boat hull. Therefore, installation should be performed by a qualified marine technician.

 **NOTE:** This type of transducer installation is not recommended for trailerable boats.

**Transducers:** This accessory includes two Side Imaging® transducers: one for each side of your boat hull. The transducer cables are labeled to identify the port transducer and the starboard transducer. The transducers connect to a Y-cable, which can be connected directly to an ONIX® control head or to a networked Black Box Sonar [SM2000 or SM3000 only].

 **NOTE:** If your transducers do not include port and starboard labels, contact Customer Service.

**Supplies:** In addition to the hardware supplied with your transducers, you will need a drill, a small drill bit for a pilot hole, a hole saw to fit the threaded stem of the transducer, a large adjustable wrench, a level, safety glasses and dust mask, and marine-grade silicone sealant.

**Customer Service:** To purchase additional equipment, or if you find that any items are missing from your installation kit, visit our Web site at [humminbird.com](http://humminbird.com) or call Humminbird Customer Service at 1-800-633-1468.

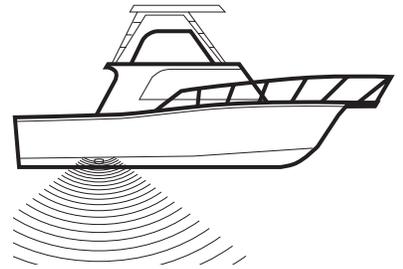
**INSTALLATION**

Perform the procedures in the following sections to install the transducers on your boat.

**1 | Test the Transducers Prior to Installation**

Prior to installation, test the transducers to make sure that no damage occurred during shipping.

1. Locate the PORT and STARBOARD labels that are attached to the transducer cables.
2. Connect the transducer cable connector labeled PORT to the Y-cable connector labeled PORT.
3. Connect the transducer cable connector labeled STARBOARD to the Y-cable connector labeled STARBOARD.
- 4a. **ONIX:** Insert the Y-cable connector into the SONAR-TEMP port on the control head.  
OR
- 4b. **Black Box Sonar [SM2000 or SM3000 only]:** Insert the Y-cable connector into the SI/DI/2D SONAR port on the Black Box Sonar.
5. After connecting the Y-cable, hold the transducers in the water over the side of the boat to confirm proper operation. If the transducer is working properly, you should be able to see the bottom on the control head display. The bottom image should be relatively strong and there should be detailed structure on the display.
6. After confirming proper operation, disconnect the Y-cable from the ONIX or Black Box Sonar, depending on your system configuration.
7. Disconnect the transducer cable connectors from the Y-cable connectors.

**Thru-Hull Installation**

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**2 | Locate the Transducer Mounting Positions**

Consider the following to find the best mounting location to install each transducer:

**Outside the boat** - The best location for the transducers will be aft midship, close to the centerline of the boat.

- The transducers should be mounted forward of the propellers on inboard boats, and separated adequately from other transducers, strakes, rivet lines, or other protrusions. Make sure that there is nothing in front, behind, or to the side of each transducer that is closer than 12 inches.

**WARNING!** Do NOT install the transducer in line with the engine intake.

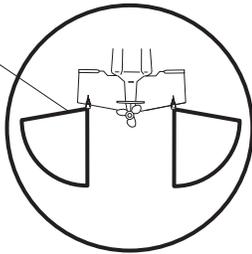
**Side Imaging** - The Side Imaging transducers have some special requirements because of their side viewing capabilities.

- The Side Imaging transducer must not have anything obstructing the “view” of the side looking beams, i.e. nothing can be in the line of sight of these beams (not a hull, motor, or other transducer, etc).
- In order for the side beams to be displayed accurately, the transducer must be mounted at 20 degrees.

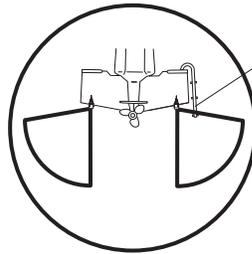
**NOTE:** Rough seas, high speed, and air bubbles can also affect the reading of the Side Imaging transducer.

**Determining the Transducer Mounting Locations:**
**Unobstructed Side Imaging View**

The Side Imaging beams require an unobstructed view for proper operation.


**Obstructed Side Imaging View**

Confirm that there are no elements on the boat that obstruct the Side Imaging beams.



**Down Imaging®** - The starboard transducer also includes a Down Imaging beam element.

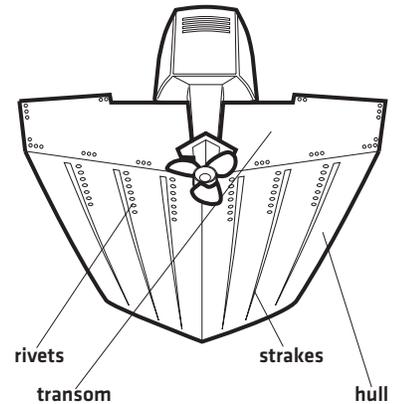
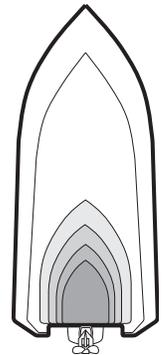
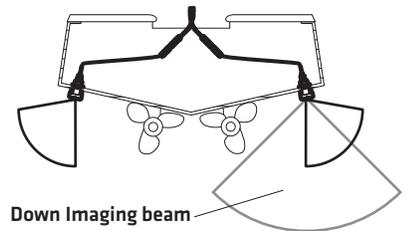
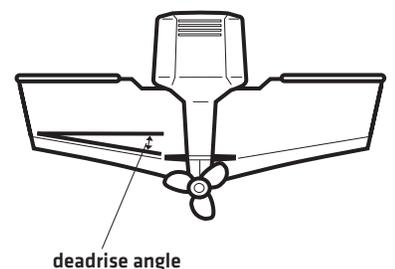
- The Down Imaging beam must not have anything obstructing the “view” of the down looking beam, i.e. nothing can be in the line of sight of the beam (not a hull, motor, or other transducer, etc).

**NOTE:** Rough seas, high speed, and air bubbles can also affect the reading of the Down Imaging beam.

**Inside the boat** - There must be room to access the mounting location for installation and cable routing.

**Deadrise**

- The transducer must be seated at 20 degrees when mounted, so that it will point the beam element(s) straight down. If the selected mounting location has a hull deadrise that is less than or greater than 20 degrees, a leveling block should be used to level the transducer housing and direct the sonar signal straight down.
- If you need to use the leveling block, make sure that the inside surface of the hull is smooth enough to seat the leveling block securely.

**Areas of Possible Turbulence**

**Preferred Mounting Location**

**Down Imaging Beam**

**Deadrise Angle**


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**Installation scenarios for consideration**

- **V-Shaped Hull:** Install one thru-hull Side Imaging transducer on each side of the V.
- **Two Back Engines:** Install the thru-hull Side Imaging transducers outboard from the dual engines.



**NOTE:** If the included transducer will not work for your application, you may exchange it, NEW and UNASSEMBLED, with mounting hardware included, for a transducer appropriate for your application - often at very little or no charge depending on the transducer. See the FAQ [Frequently Asked Questions] section of our Web site at [humminbird.com](http://humminbird.com) or contact Customer Service.

**3 | Drill the Hole and Prepare the Leveling Block**

Before attaching your transducer, you will need to decide which type of installation to use:

- **Standard Installation, where the deadrise is 20 degrees:** You do not need to use a leveling block because the transducer will be mounted directly to the hull. Plan to drill the hole perpendicular to the hull.
- **Alternate Installation, where the deadrise is less than or greater than 20 degrees:** Use the included leveling block and cut at the appropriate angle to compensate for the deadrise. The transducer, when mounted, must be seated at 20 degrees. Plan to drill the hole so the transducer will sit at 20 degrees with the installed leveling block.



**CAUTION!** Before you drill, make sure you are drilling in the correct orientation according to the installation guidelines.

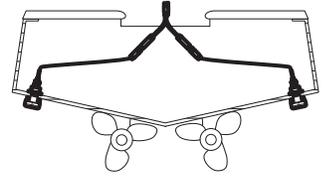
**Standard Installation (deadrise is 20 degrees)**

1. From the outside of the hull, drill a small pilot hole [smaller than the centering bit of your drill bit or hole saw], at the mounting location you selected in procedure 2. **Drill the hole perpendicular to the hull.**
2. Use the pilot hole [from the outside of the hull] to drill a hole sized to fit the threaded stem of the transducer. **Drill the hole perpendicular to the hull.**
3. Thoroughly clean and deburr the drilled hole and clean the outside of the hull.
4. If you are not using a leveling block, skip to procedure 5, **Attach the Transducer.**

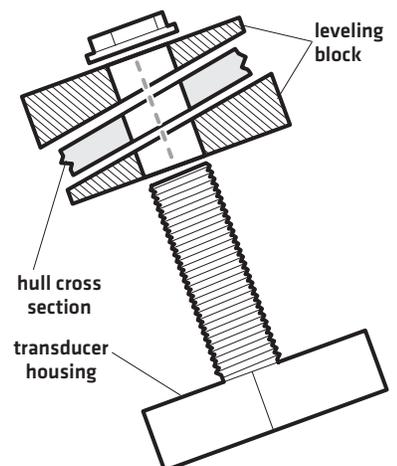
**Alternate Installation (deadrise is less than or greater than 20 degrees)**

Use the included leveling block to compensate for the deadrise.

1. Determine the angle to drill the hole so the transducer will sit at 20 degrees with the installed leveling block.
2. From the outside of the hull, drill a small pilot hole [smaller than the centering bit of your drill bit or hole saw], at the mounting location you selected in procedure 2 and at the angle you determined in step 1.
3. Thoroughly clean and deburr the drilled hole, and clean the outside of the hull.
4. Measure the angle of the deadrise of the hull at the selected mounting location.
5. Cut the leveling block to compensate for the deadrise angle so the transducer will sit at 20 degrees. **The leveling block should be cut into two equal pieces:** one which mounts outside the hull and is shaped to match the profile of the transducer, and one which mounts inside the hull and provides a level surface for the fasteners. The thinnest wall of the outside leveling block must be at least 1/8" [3 mm].

**Installation Scenarios:  
V-Shaped Hull or Two Back  
In-Board Engines**

**NOTE:** A separately-purchased fairing block can also be used to create a hydrodynamic waterflow around the transducer body. The design and fabrication of this block varies greatly with different hull shapes; therefore, it should be customized by a qualified marine technician. If you plan to install a fairing block, the transducer must be mounted at 20 degrees.

**Leveling Block Assembly to Hull**

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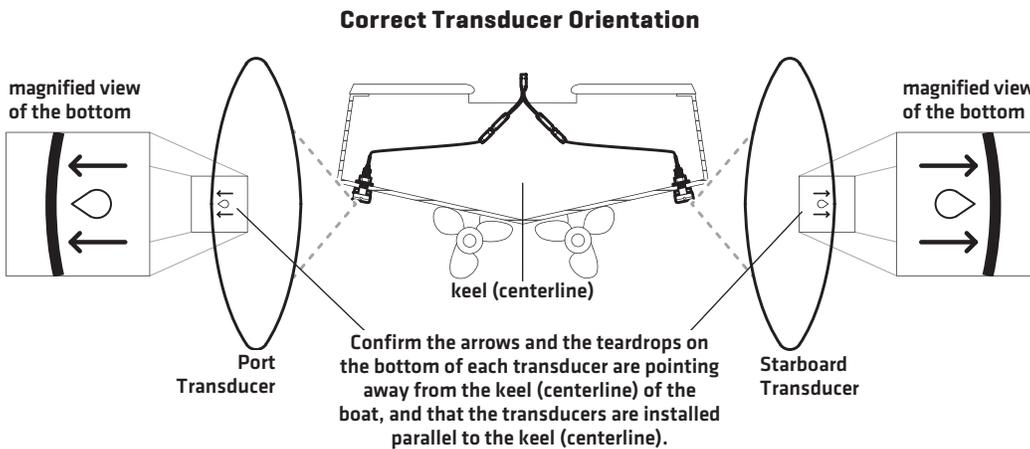
- Test the cut of the leveling block by holding it up to the hull at the selected mounting location. Measure the angle of the leveling block to confirm it's seated at 20 degrees. Adjust as needed.

### 4 | Confirm Correct Transducer Orientation

Before proceeding with the installation, review the following transducer installation requirements:

**NOTE:** This type of transducer is directional in nature and must be aligned according to the requirements listed below. **Failure to correctly align the transducers will result in incorrect bottom readings and incorrect fish locations.**

- Look at the bottom of each transducer and locate the arrows and the teardrop [see the illustration *Locating the Arrows and the Teardrop*]. The transducers must be installed with the arrows and the teardrop pointing away from the keel [or centerline of the boat] and towards the waterline, as shown in the illustration below.
- The transducers must be installed parallel to the keel [centerline] of the boat.
- The transducer labeled PORT must be installed on the port side of the boat. The transducer labeled STARBOARD must be installed on the starboard side of the boat.



### 5 | Attach the Transducer

Perform the procedures in this section to install the transducers on your boat.

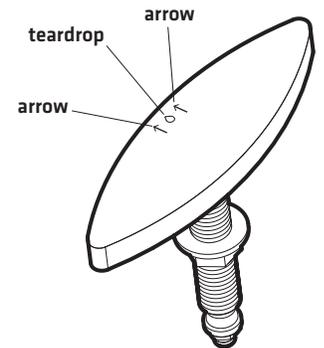
- Locate the PORT and STARBOARD labels on the transducer cables, and select the transducer required for the current installation.
- Feed the transducer cable through the drilled hole.
- Locate the teardrop and arrows on the bottom of the transducer. **Confirm the arrows and the teardrop are pointing towards the waterline and away from the keel [centerline].** Refer to procedure 4, *Confirm Correct Transducer Orientation*.
- After confirming correct transducer orientation, temporarily install the transducer with the leveling block [if using] to check the fit. Confirm the transducer is seated at 20 degrees.

**NOTE:** This type of transducer is directional in nature and must be aligned according to the requirements listed in procedure 4, **Confirm Correct Transducer Orientation**. **Failure to correctly align the transducers will result in incorrect bottom readings and incorrect fish locations.** For assistance, contact Customer Service.

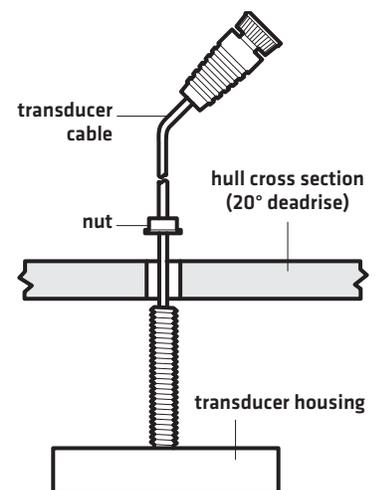
- Apply a generous amount of marine-grade silicone sealant or slow-curing epoxy inside the drilled hole and along the mating surfaces of the transducer housing. Seal the mating edges of the leveling block [if using] as well.

#### Locating the Arrows and the Teardrop

(arrows and teardrop must point away from the keel [centerline])



#### Attaching the Transducer: Standard Installation without a Leveling Block



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6. Confirm the transducer is correctly aligned (refer to procedure 4, *Confirm Correct Transducer Orientation*), and insert the transducer into the drilled hole from outside the boat with the leveling block (if using one), then install the nut onto the threaded stem from inside the boat.



**NOTE:** If you are using a leveling block outside the hull to correct for deadrise, you must use the other half of the leveling block inside the hull to provide a level bearing surface.

7. Tighten the nut to 10 ft/lbs or use moderate pressure on an adjustable wrench.



**CAUTION!** Do not overtighten the nuts.

8. Remove the excess adhesive sealant from the outside of the hull to ensure smooth water flow over the transducer.
9. **Repeat:** Repeat steps 1 through 8 to install the second transducer on the opposite side of your boat hull.

### 6 | Route and Connect the Transducer Cables

The transducer cables must be routed to the point where the control head or Black Box Sonar (depending on your system configuration) is mounted.



**NOTE:** Your boat may have a pre-existing wiring channel or conduit that you can use for the transducer cables.

1. Route and secure both transducer cables, avoiding areas where they may be damaged or interfere with normal boating operations.



**CAUTION!** Do not cut or shorten the transducer cable, and try not to damage the cable insulation. Route the cable as far as possible from any VHF radio antenna cables or tachometer cables to reduce the possibility of interference. If the cable is too short, extension cables are available to extend the transducer cable up to a total of 50'. For assistance, contact Customer Service.



**CAUTION!** Do NOT mount the cables where the connectors could be submerged in water or flooded. If cables are installed in a splash-prone area, it may be helpful to apply dielectric grease to the inside of the connectors to prevent corrosion. Dielectric grease can be purchased separately from a general hardware or automotive store.

2. Connect the transducer cable connector labeled PORT to the Y-cable connector labeled PORT. Hand-tighten the screw nut to secure the cable.
3. Connect the transducer cable connector labeled STARBOARD to the Y-cable connector labeled STARBOARD. Hand-tighten the screw nut to secure the cable.
- 4a. **ONIX:** Insert the Y-cable connector into the SONAR-TEMP port on the control head.  
or
- 4b. **Black Box Sonar (SM2000 or SM3000 only):** Insert the Y-cable connector into the SI/DI/2D SONAR port on the Black Box Sonar.



**NOTE:** The ports are labeled and the connectors are keyed to prevent incorrect installation, so be careful not to force the connector into the wrong port.

5. Hand-tighten the screw nut to secure the cable.

Your fishfinder is now ready for operation. See your control head operations manual for further details.

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**Environmental Compliance Statement:** It is the intention of Johnson Outdoors Marine Electronics, Inc. to be a responsible corporate citizen, operating in compliance with known and applicable environmental regulations, and a good neighbor in the communities where we make or sell our products.

**WEEE Directive:** EU Directive 2002/96/EC "Waste of Electrical and Electronic Equipment Directive (WEEE)" impacts most distributors, sellers, and manufacturers of consumer electronics in the European Union. The WEEE Directive requires the producer of consumer electronics to take responsibility for the management of waste from their products to achieve environmentally responsible disposal during the product life cycle.

WEEE compliance may not be required in your location for electrical & electronic equipment (EEE), nor may it be required for EEE designed and intended as fixed or temporary installation in transportation vehicles such as automobiles, aircraft, and boats. In some European Union member states, these vehicles are considered outside of the scope of the Directive, and EEE for those applications can be considered excluded from the WEEE Directive requirement.



This symbol (WEEE wheelie bin) on product indicates the product must not be disposed of with other household refuse. It must be disposed of and collected for recycling and recovery of waste EEE. Johnson Outdoors Marine Electronics, Inc. will mark all EEE products in accordance with the WEEE Directive. It is our goal to comply in the collection, treatment, recovery, and environmentally sound disposal of those products; however, these requirements do vary within European Union member states. For more information about where you should dispose of your waste equipment for recycling and recovery and/or your European Union member state requirements, please contact your dealer or distributor from which your product was purchased.

**CONTACT HUMMINBIRD**

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



**WARNING!** Disassembly and repair of this electronic unit should only be performed by authorized service personnel. Any modification of the serial number or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty.



**WARNING!** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

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