



Transducer Installation

This document covers the installation of all 83/200kHz, 50/200kHz and Downscan transducers using transom and shoot-thru hull installation methods, where applicable. This manual is divided into two parts, covering traditional sonar and downscan sonar.

Make sure you read all the installation instructions before drilling holes in your vessel!

Mounting the transducer

Transducer location selection and installation are two of the most critical steps in sonar installation. To function properly the transducer must be in the water at all times, and in a location that has a smooth flow of water when the boat is moving.

Research

Before starting the installation of the transducer, it's advised to check the following:

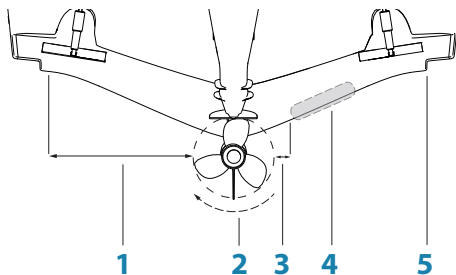
- Find out if the boat builder has a recommended installation location
- Establish direction of rotation of the propeller(s)
- With the boat traveling at cruising speed, watch the water flow behind the boat to find the area with the smoothest flow (least bubbles)

Tools and Supplies (not included)		
Drill	Slotted-head (Phillips) drill bit	Marine-grade above/below waterline sealant
1" (25mm) drill bit	Adjustable wrenches or socket wrench	

Tools and Supplies (not included) - Shoot-thru hull (Pod and Skimmer)		
Alcohol wipes	60 and 160 grit sandpaper	Marine-grade above/below waterline epoxy

Select a transducer location

The primary aim is to stay clear of propeller and hull-generated turbulence, while mounting the transducer as close to the center of the vessel as possible.



1. Avoid mounting within 3.3' (1m) to port of propeller
2. Conventional clockwise propeller rotation
3. Avoid mounting within 3" (7.5cm) to starboard of propeller
4. Best mounting location - undisturbed water flow
5. Planing strake - avoid mounting behind here



NOTE: Reverse the distance guides (1 & 3) from propeller if the engine has a counterclockwise configuration.



NOTE: *Boats with strakes or ribs on the hull can create large amounts of turbulence at higher speeds. A good transducer location on these types of boats is between the ribs closest to the engine.*



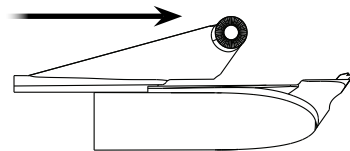
NOTE: *If the transducer is not placed in a smooth flow of water, interference caused by bubbles and turbulence may show on-screen in the form of random lines or dots. The unit could also lose bottom signal when the boat is on plane.*



NOTE: *Trim tabs will vary in the amount of turbulence they create as they are adjusted, stay clear of these.*

Transom slide mount

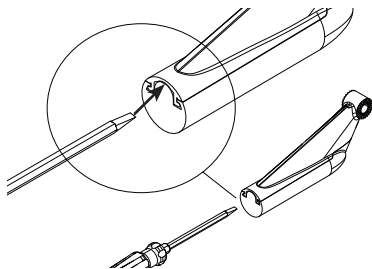
DSI and HDI 83/200kHz transducers come ready to be attached to a trolling motor mount or scupper mount. To install on the transom, attach the transom slide mount to the transducer.



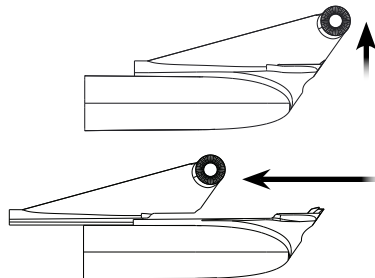
Removing the transom slide mount

The slide can be removed from the DSI transducer by depressing the release tab with a flathead screwdriver and sliding off the transom slide mount.

The HDI 83/200kHz transom slide mount is removed by carefully pulling out slide mount and then pulling down on the slide mount.

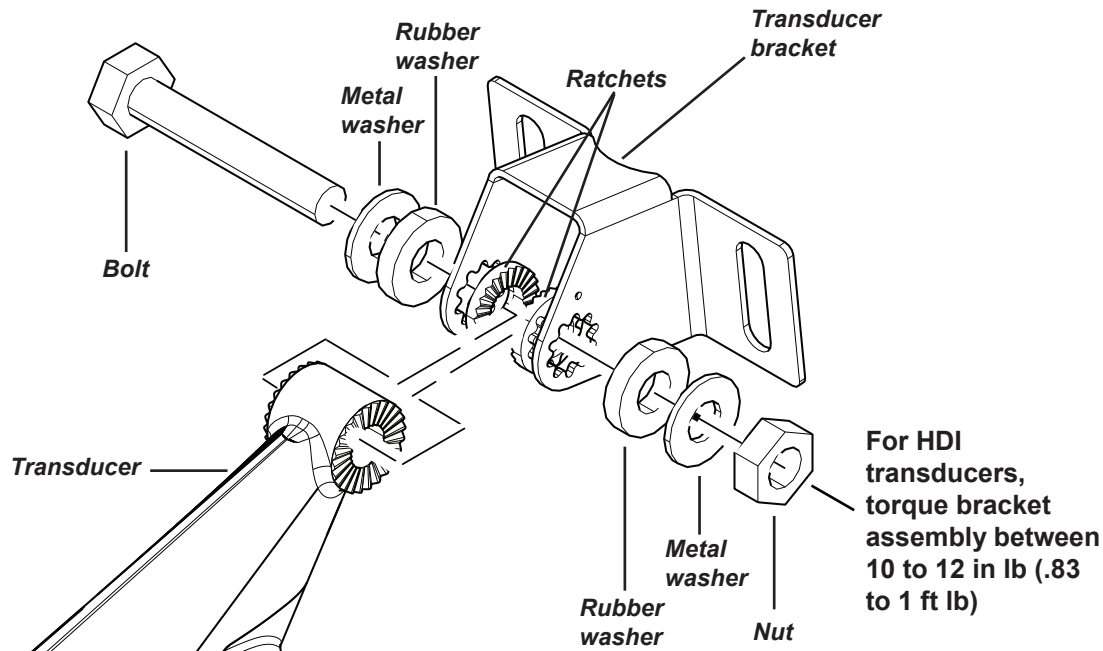


Removing DSI slide mount

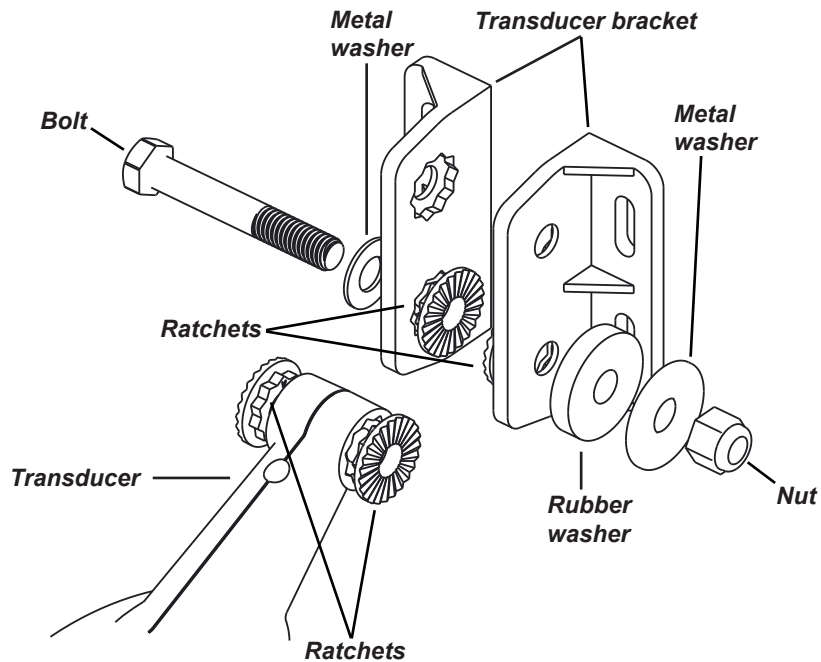


Removing HDI slide mount

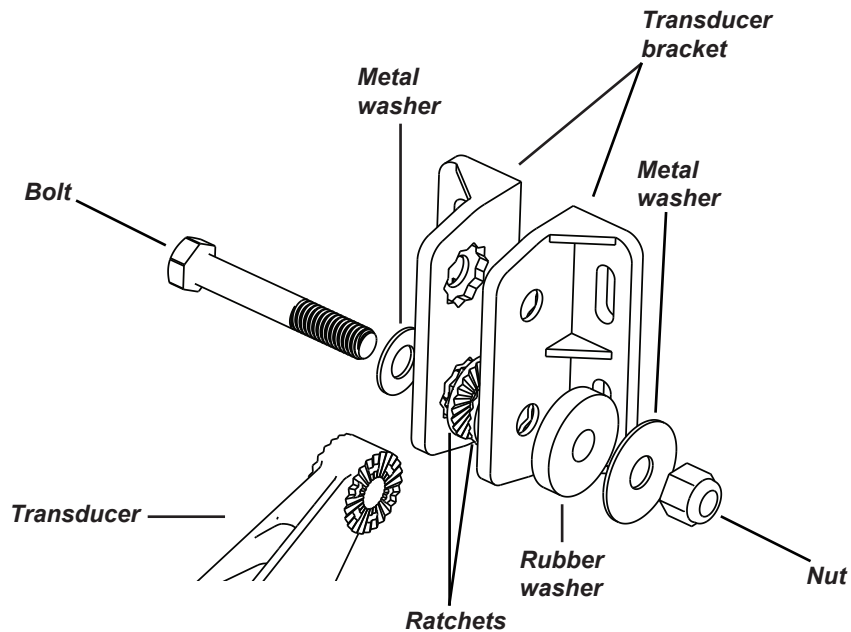
One-piece bracket assembly
Conventional 83/200kHz, HDI 83/200kHz & DSI 455/800kHz



Conventional 50/200kHz



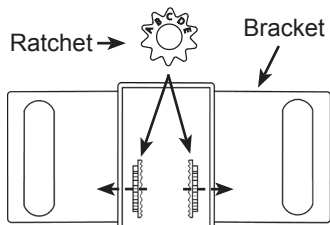
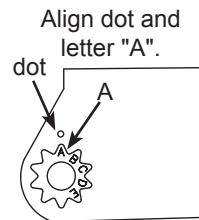
Two-piece bracket assembly HDI 50/200kHz



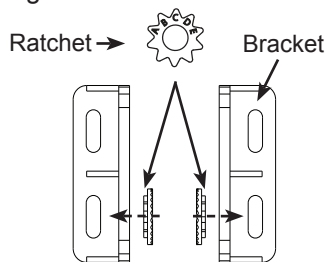
Aligning Ratchets on bracket

Ratchets help you adjust the transducer so it is parallel to the ground.

1. Insert the ratchets into the bracket with the letter "A" aligned with the dot stamped on the outside of the transducer bracket.
2. Slide the transducer into the bracket and slide the bolt through the transducer bracket.
3. Hold the transducer assembly against the transom. Look at the transducer from the side. If it is parallel to the ground, then the "A" position is correct.
4. If the transducer face is not parallel to the ground, repeat Steps 1-3 aligning letter "B" aligned with the dot stamped in the bracket.
5. Check to see if the transducer will adjust so its face is parallel with the ground. Repeat this process until the transducer face is parallel to the ground.



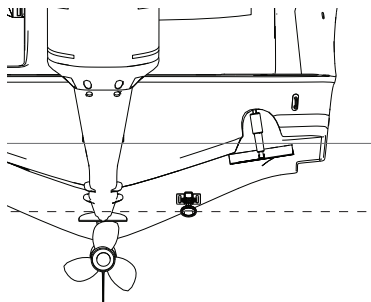
One-piece bracket



Two-piece bracket

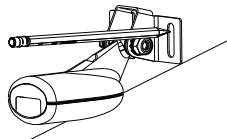
Transom mount

The transducer should be installed parallel with the transom's waterline, not the bottom of the boat (deadrise).



NOTE: Ensure the entire bottom surface of the transducer hangs at least couple of millimeters (1/16ths of an inch) lower than the bottom of the hull.

Hold the transducer with bracket up to the transom of the boat and trace the slotted screw hole locations (two on the 83/200 KHz transducer, and four on the 50/200 KHz transducer). Mark drilling points in the middle of each outline, to allow for transducer height adjustment. Drill pilot holes to suit fasteners.



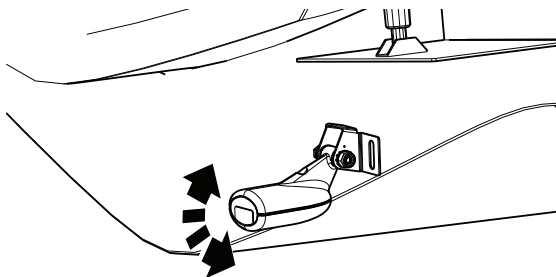


NOTE: Check that there is nothing on the other side of the mounting surface that may be damaged by drilling.

Attach the transducer to the transom, using supplied stainless steel screws. Drill a 1" (25mm) hole above the waterline, large enough to pass the connector through. Secure the cable to the hull at regular intervals using cable P clips or saddles and ensure that moving parts such as an outboard motor or boarding ladder can't snag the cable.

Adjusting the transducer

If the sounder image shows interference lines on the screen when moving, which worsen with speed, it may be possible to eliminate these by adjusting the transducer's angle.



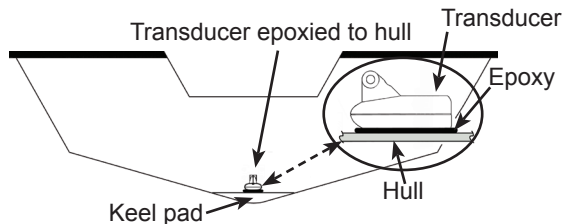


NOTE: *A transducer that is tilted too far in either direction will not perform well, missing targets, and/or losing the bottom at speed.*

If performance does not improve with tilting, try adjusting the height of the transducer relative to the transom of the boat. If the transducer is too high it may be seeing cavitation caused by the trailing edge of the transom.

Shoot-thru hull

In a shoot-thru-hull installation the transducer is epoxied to the inside of the boat hull. A transducer can not shoot through wood or metal hulls. Before attempting any installation on boats with flotation material within the hull, consult the boat manufacturer.



For shoot-thru-hull applications, many boat hulls have a flat keel pad that offers a good transducer mounting surface. Make sure the Skimmer transducer is oriented so the nose of the transducer is facing the bow (front) of the boat.

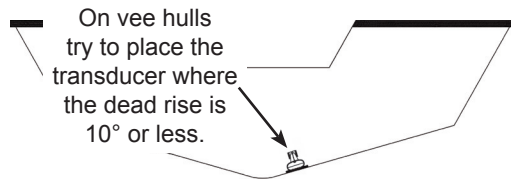


NOTE: Downscan imaging performance may be degraded if HDI transducers are installed using the shoot-thru hull method.

Before you epoxy the transducer to the hull, make sure the area is clean, dry and free of oil or grease.

The surface of the hull must be flat so the entire transducer face is in contact with the hull. Also, make sure the cable is long enough to reach the sonar unit.

Be careful! The transducer will be extremely difficult to remove once the epoxy is set.





WARNING: Do not remove material from the inner hull. Careless grinding on the hull could damage hull integrity. Contact the boat dealer or manufacturer to confirm hull specifications.

To use shoot-thru-hull installation:

1. Use 60 grit sandpaper to sand the hull and 160 grit sandpaper to sand the face of the transducer. The sanded area on the hull should be smooth to the touch and about 1-1/2 times the diameter of the transducer.
2. Clean the hull and the face of the transducer with an alcohol wipe to remove any dust.
3. Apply a thin layer of epoxy 1/16" (1.5 mm) on the face of the transducer and the sanded area on the hull. **Epoxy is available at store.navico.com/lowrance (Part No. 106-98).**
4. Press the transducer into the epoxy, turning it to force out any air bubbles from under the transducer face. Make sure there are no air pockets between the transducer and the hull.
5. Stop pressing when it bottoms out on the hull. Apply pressure to hold the transducer in place while the epoxy sets. Allow the epoxy to set before moving the boat.
6. When finished, the face of the transducer should be parallel with the hull with a minimum amount of epoxy between the hull and transducer.



NOTE: If the transducer has a built-in temp sensor, it will only show the temperature of the hull, not the water temp.

Contact information

Customer Service:

1-800-628-4487

(8 a.m. to 5 p.m. Central Standard Time, M-F)

(Canada)

1-855-361-1564

canada@navico.com

(8 a.m. to 5 p.m. Eastern Standard Time, M-F)

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