

NX Combi Transducer



Installation and Operation Manual
English



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1 Registration

Registering this product

Once you have checked that you have all the listed parts, please take time to fill in the warranty document and return it to your national distributor.

By returning the warranty card, it will assist your distributor to give you prompt and expert attention. Keep your proof of purchase. Also, your details are added to our customer database so that you automatically receive new product catalogues when they are released.

Warranty conditions see 4.

2 Installation

- **The installation includes 6 major steps:**

1. Read the installation and operation manual.
2. Plan where to install the WSI-box, transducers and instruments.
3. Run the cables.
4. Install the WSI-box, transducers and instruments.
5. Learn the functions and calibrate your system.

Before you begin drilling ... think about how you can make the installation as neat and simple as your boat will allow. Plan where to position the transducers, Server and instruments. Think about leaving space for additional instruments in the future.

If you are doubtful about the installation, obtain the services of an experienced technician.

3 Mounting of Transom transducer

3.1 Applications

Powerboats with outboard, inboard/outboard, or jet drives. Not recommended for inboard boats.

Adjusts to transom angles from 3°-19°.

Allows sound beam to be oriented vertically on hulls with a deadrise angle of up to 30°.

The transducer is designed for high speed operation up to 50 knots.

3.2 Part specification

The Star transom transducer is delivered with all parts for mounting. Check prior to installation.

Qty.	Item
1	Transducer incl. 8 m (24 ft) cable
1	Bracket
1	Tapered plastic shim
1	Transom cable cover
2	Cable clamps
2	Screws for mounting of transducer
4	Screws for mounting of cable cover and clamps

3.3 Installation of Transom transducer

3.3.1 Tools and materials needed

Scissors

19 mm (3/4") drill (optional) for transom hole

Masking tape

3 mm (1/8") drill for cable clamps holes

Safety goggles

Straight edge / ruler

Dust mask

Marine sealant

Electric drill

Screwdrivers

4 mm (9/64") drill for bracket holes

Pencil

Chamfer bit or 6 mm (1/4") drill for bracket holes in fiberglass

Tie-wraps

Water based antifouling paint (mandatory in salt water)

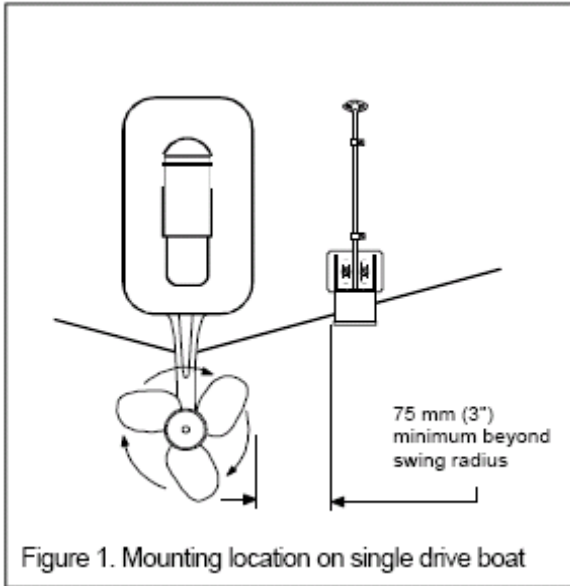
3.3.2 Mounting location

To ensure the best performance, the transducer must be submerged in aeration and turbulence free water. Mount the transducer as close to the centreline of the boat as possible. On slower, heavier, displacement hulls, positioning it farther from the centreline is acceptable. On boats designed to direct air under hull, move the transducer away from the centreline. Single drive boat: Mount the transducer on the side of the boat where the propeller is rotating downward at least 75 mm (3") beyond the swing radius of the propeller (see Figure 1).

Twin drive boat: Mount the transducer between the drives.

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

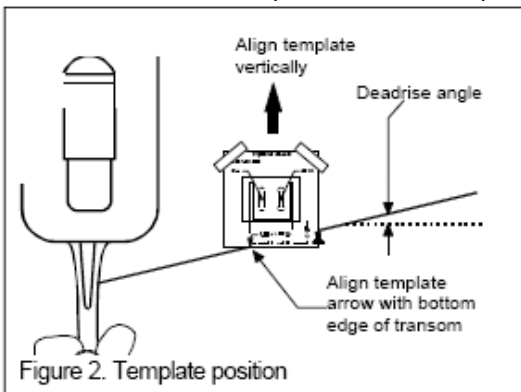
- Near water intake or discharge openings.
- Behind strakes, struts, fittings, or hull irregularities.
- Behind eroding paint (an indication of turbulence).



3.3.3 Assembling and positioning

1. Insert the top of the transducer's mounting arms into the slots on the top back of the bracket. Rotate the bracket down until the bottom snaps onto the transducer.
2. Cut-out the template printed on last page. At the location selected, position the template so that the arrow at the bottom is aligned with the bottom edge of the transom. Being sure the template is parallel to the water, tape it in place (see Figure 2).

Note: On aluminium hulls, position the arrow tip 6 mm (1/4") below the hull bottom.



3.3.4 Mounting and adjusting

Caution! Always wear safety goggles and a dust mask.

1. Using a 4 mm (9/64") drill bit to drill two holes 22 mm (7/8") deep at the location indicated. To prevent drilling too deeply, wrap masking tape around the drill bit 22 mm (7/8") from the point.

Note! To minimise surface cracking on Fibreglas hulls, chamfer the gelcoat. If a chamfer bit is not available, start drilling with a 6 mm (1/4") drill bit to a depth of 1mm (1/16").

2. Position the transducer at the selected location. Using a straight edge, sight the underside of the transducer relative to the underside of the hull. The stern of the transducer should be 1-3 mm (1/16-1/8") below the bow of the hull. To be sure your transducer is angled correctly, compare it to Figure 3. The bracket is designed for a standard 13° angle transom.

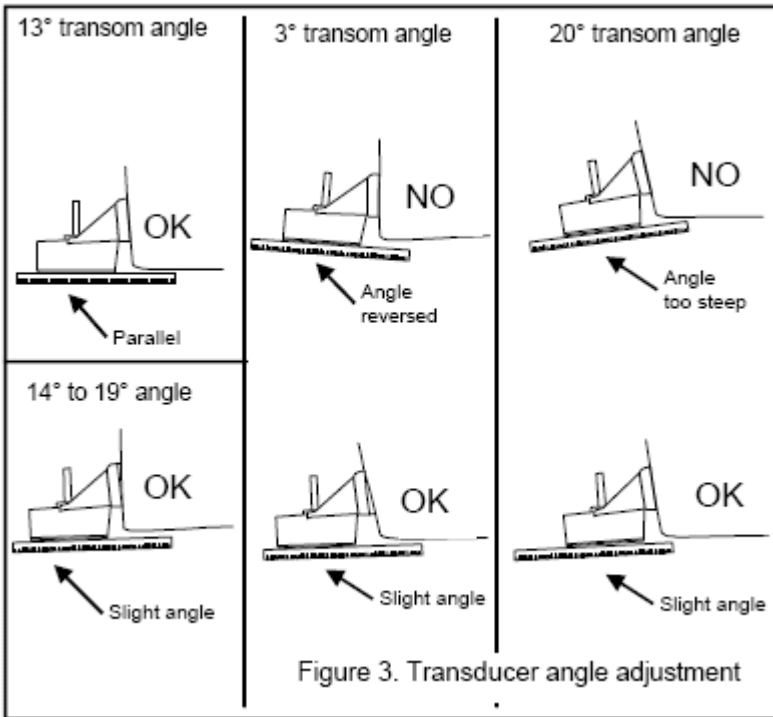


Figure 3. Transducer angle adjustment

To adjust the transducer's angle relative to the hull, use the tapered plastic shim provided. On boats with a 3° angle (stepped transom and jet boats) use the shim with the tapered end down. If the transom angle is 20° (small aluminium and Fibreglas boats) use the shim with the tapered end up. Simply snap the shim into place and, using the straight edge, sight the angle again to ensure that it is correct. Note! For other transom angles; fabricate a custom shim from plastic or an oily wood such as teak.

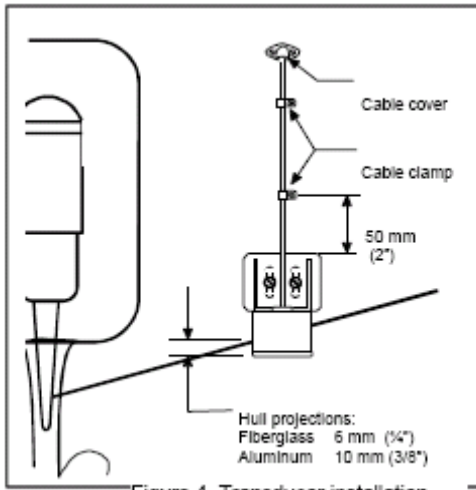
Warning! Do not position the transducer farther down than necessary to avoid increasing drag, spray, and water noise and decreasing boat speed.

3. Apply a marine sealant to the two screws to prevent water seepage into the transom. Screw the bracket to the hull. Using the vertical adjustment space available on the bracket slots, slide the transducer up or down to provide a 6 mm (1/4") projection on fibreglas boats or a 10 mm (3/8") projection on aluminium boats (see Figure 4).

3.3.5 Routing of Transom transducer cable

Route the transducer cable over the transom, through a drain hole, or through a new hole drilled in the transom above the water line. Caution! Always wear safety goggles and a dust mask.

1. If a hole must be drilled, choose a location well above the waterline. Check for obstructions such as trimtabs, pumps, or wiring inside the hull. Mark the location with a pencil. Drill a hole through the transom using a 17 mm (11/16") hole saw or spade bit (to accommodate the cable cover).
2. Route the cable over or through the transom.
3. On the outside of the hull secure the cable on the transom using the cable clamps and cable cover (see Figure 4).



- a) Position a cable clamp 50 mm (2") above the bracket and mark the mounting hole with a pencil. Position the second cable clamp halfway between the first clamp and the cable hole and mark this mounting hole.
- b) Open the appropriate slot in the transom cable cover. Position the cover over the cable where it enters the hull. Mark the two screw holes.
- c) At each of the four marked locations, use a 3 mm or 1/8" drill bit to drill a hole 10 mm (3/8") deep.
- d) Apply marine sealant to the space around the cable and the threads of the four screws to prevent water from seeping into the transom.
- e) Push the cover over the cable and screw it in place. Position the two cable clamps and fasten them in place .

Warning! Never shorten the cable between the transducer and the amplifier box; that will change the impedance of the cable and void the warranty.

- 4) Route the cable to the WSI-box. To reduce electrical interference, separate the transducer cable from other electrical wiring and sources of noise. To prevent damage, coil any excess cable and secure it in place with tie-wraps.
- 5) Refer to figure 5 to connect the transducer to the WSI-box.

3.4 Testing in water

- 1) Become familiar with your instrument performance at a low speed.
- 2) Gradually increase the boat speed and observe the gradual degradation of performance due to aerated water flowing over the transducer's face.
- 3) If the degradation is sudden (not gradual), identify the boat speed at which the onset occurred. Return the boat to this speed, then gradually increase speed while making moderate turns in both directions.

If the performance improves when turning, the transducer's position probably needs adjustment because it is in aerated water. First move the transducer down 6 mm (1/4") farther into the water. If the performance does not improve satisfactorily, move the transducer closer to the centreline. Fill unused screw holes with marine sealant.

Note! To overcome the effect of surface roughness on an aluminium boat, it may be necessary to move the transducer down so that it projects 15 mm (3/4") below the transom.

5 Maintenance, repair, and replacement

Aquatic growth can accumulate rapidly reducing the transducer's performance in weeks. Clean the assembly with a soft cloth and mild household detergent. If fouling occurs, use a stiff brush or putty knife to remove the growth being careful to avoid making scratches. In severe cases, wet sand the surface with fine grade wet / dry paper.

If the paddle wheel becomes fouled or inoperable, it can be removed for cleaning. Gently push back on one retaining arm and slide the shaft out. After cleaning, reinsert the shaft by pushing back on the retaining arm. Be sure the shaft ends are secure in the retaining arm notches.

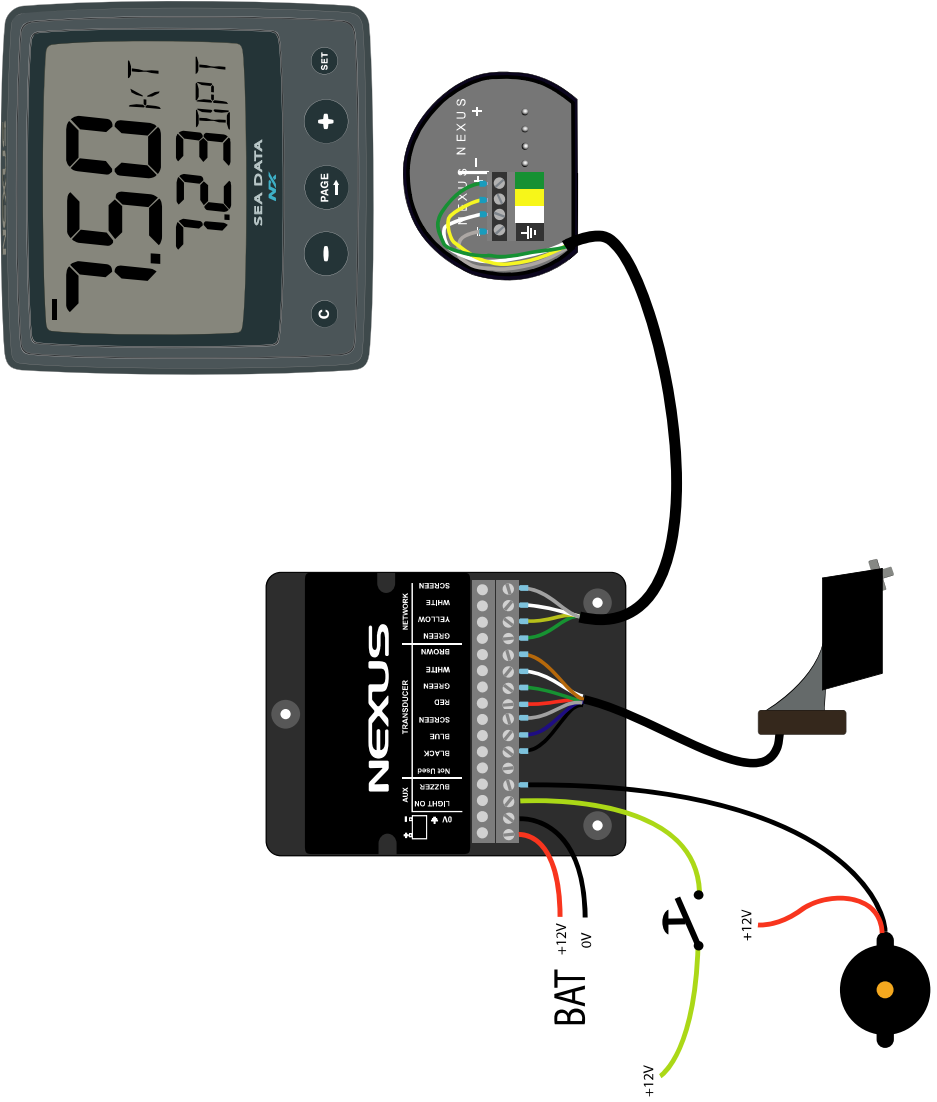
Antifouling paint

Surfaces exposed to salt water that do not interlock, should be coated with antifouling paint. Use water based antifouling paint only. Never use ketone based paint since ketones can attack many types of plastic. Apply paint every 6 months or at the beginning of each boating season.

Parts and accessories

Broken or worn parts should be replaced immediately. The water-lubricated paddle wheel bearings have a life of up to 5 years on low-speed boats (less than 10 knots) and 2 years on high-speed vessels.

3.5 Electrical Installation



3.6 Technical specifications WSI-box

cable:	8 m (26 ft).
Power supply:	12V DC (10-16V). The instruments are polarity protected
Power consumption at 12V:	WSI-box: 0,2W.
Temperature range:	Storage: -30°to +80°C (-22°to +176°F) Operation: -10° to +70°C (14°to +158°F)
Weight:	130 gram. (7.76 oz).
Speed Range:	0 – 45 kts
Depth Range:	0.5m - 70m

CE approval

The products conforms to the EMC requirements for immunity and emission according to EN 50 08-1.

4 Warranty

WARRANTY

GENERAL

All our products are designed and built to comply to the highest class industry standards. If the products are correctly installed, maintained and operated, as described in the installation and operation manual, they will provide long and reliable service. Our international Network of distributors can provide you with the information and assistance you may require virtually anywhere in the world.

Please read through and fill in this warranty card and send it to your national distributor for product registration.

LIMITED WARRANTY

The warranty covers repair of defective parts due to faulty Manufacturing and includes labour when repaired in the country of purchase. The warranty period is stated in the product manual, and commences from the date of purchase. The above warranty is the Manufacturer's only warranty and no other terms, expressed or implied, will apply. The Manufacturer specifically excludes the implied warranty of merchantability and fitness for a particular purpose.

CONDITIONS

- The supplied warranty card and receipt with proof of purchase date, must be shown to validate any warranty claim. Claims are to be made in accordance with the claims procedure outlined below.
- The warranty is non-transferrable and extends only to the original purchaser.
- The warranty does not apply to Products from which serial numbers have been removed, faulty installation or incorrect fusing, to conditions resulting from improper use, external causes, including service or modifications not performed by the Manufacturer or by its national distributors, or operation outside the environmental parameters specified for the Product.
- The Manufacturer will not compensate for consequential damage caused directly or indirectly by the malfunction of its equipment. The Manufacturer is not liable for any personal damage caused as a consequence of using its equipment.
- The Manufacturer, its national distributors or dealers are not liable for charges arising from sea trials, installation surveys or visits to the boat to attend to the equipment, whether under warranty or not. The right is reserved to charge for such services at an appropriate rate.
- The Manufacturer reserves the right to replace any products returned for repair, within the warranty period, with the nearest equivalent, if repair within a reasonable time period should not be possible.
- The terms and conditions of the warranty as described do not affect your statutory rights.

CLAIMS PROCEDURE

Equipment should be returned to the national distributor, or one of its appointed dealers, in the country where it was originally purchased. Valid claims will then be serviced and returned to the sender free of charge.

Alternatively, if the equipment is being used away from the country of purchase, it may be returned to the national distributor, or one of its appointed dealers, in the country where it is being used. In this case valid claims will cover parts only. Labour and return postage will be invoiced to the sender at an appropriate rate.

DISCLAIMER

Common sense must be used at all times when navigating and the Manufacturer's navigation equipment should only be considered as aids to navigation.

The Manufacturer's policy of continuous improvement may result in changes to product specification without prior notice.

File id:

WARRANTY CARD
TO BE RETURNED TO YOUR NATIONAL DISTRIBUTOR

OWNER:

Name: _____

Street : _____

City/Zip Code : _____

Country: _____

Product name:

Serial number:

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Date of purchase: _____ Date installed: _____

Dealers stamp:

Tick here if you do not wish to receive news about future products

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