INSTALLATION INSTRUCTION SUPPLEMENT

IMPORTANT
Use these instructions along with your sensor installation instructions.
These instructions supersede all other instructions where they differ.

WARNING

Installation of the anti-rotation bolt is mandatory!

Failure to install the anti-rotation bolt may result in the fairing rotating while the boat is underway. The effect may be violent movement and loss of steering. This could result in serious injury or death to passengers and/or damage to the boat or other property.

High Speed Fairing

For Sensor Models: B45, B46, B256, B260,
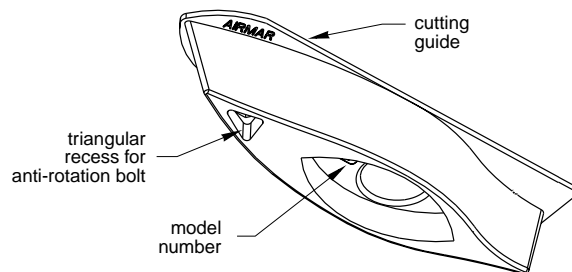B744V, SS505, SS544V

Figure 1. High-Speed Fairing—B744V Shown

Caution: *Never install a bronze housing in a metal hull because electrolytic corrosion will occur.*

Tools and Materials Needed

Digital level *or* bubble level & protractor
Band saw *or* hand saw
Safety goggles
Dust mask
Rasp *or* power tool
Electric drill
Drill bits, hole saw(s) (see Specifications Table 1)
 Pilot hole   3mm *or* 1/8"
Sandpaper
File (installation in metal hull)
Mild household detergent *or* weak solvent (alcohol)
Marine sealant (3M # 5200)
Slip-joint pliers
Mallet
For installation in a cored fiberglass hull, additional tools and materials are needed (see page 4).

Identify Your Model

The model # appears in the recess of the fairing (see Figure 1).

Specifications Table 1

Sensor Model	Max. Hull Thickness (measured perpendicular to water surface)	Min. Fairing Thickness	Drill Bit for Sensor	Drill Bit for Anti-rotation Bolt
B45	50mm (2")	35mm (1-3/8")	22mm *or* 7/8"	10mm *or* 3/8"
B46	40mm (1-5/8")	35mm (1-3/8")	22mm *or* 7/8"	10mm *or* 3/8"
B256	45mm (1-3/4")	38mm (1-1/2")	30mm *or* 1-3/16"	13mm *or* 1/2"
B260	45mm (1-3/4")	74mm (2-7/8")	33mm *or* 1-5/16"	13mm *or* 1/2"
B744V	19mm (3/4")	32mm (1-1/4")	51mm *or* 2"	10mm *or* 3/8"
SS505	56mm (2-1/4")	32mm (1-1/4")	22mm *or* 7/8"	10mm *or* 3/8"
SS505 in metal hull	56mm (2-1/4")	32mm (1-1/4")	25mm *or* 1"	10mm *or* 3/8"
SS544V	19mm (3/4")	32mm (1-1/4")	51mm *or* 2"	10mm *or* 3/8"
SS544V in metal hull	19mm (3/4")	32mm (1-1/4")	54mm *or* 2-1/8"	10mm *or* 3/8"

The min. hull thickness for all sensor models is 6mm (1/4").
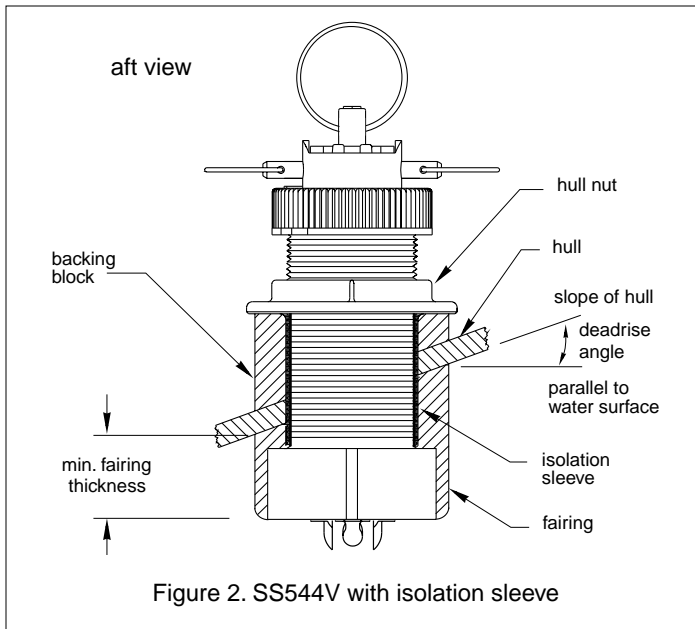
aft view

Figure 2. SS544V with isolation sleeve

Cutting the Fairing

1. Measure the deadrise angle of the hull at the selected mounting location using a digital level, or bubble level and protractor (see Figure 2).

2. Tilt the band saw table to the measured angle and secure the cutting fence (see Figure 3).

   Note: Be sure to orient the fairing on the band saw so the angle cut matches the intended side of the hull and not the mirror image.

3. Place the fairing on the table so the cutting guide rests against the fence. The end with the triangular recess will be pointing toward you for installation on the port side of the boat or pointing away from you for installation on the starboard side.

   Note: The end of the fairing with the triangular recess always points forward toward the bow when installed.

4. There is a minimum thickness for the fairing at its thinnest dimension (see Figure 2 and Specifications Table 1).

   Warning: Always wear safety goggles and a dust mask.

5. Recheck steps 1 through 4; then cut the fairing.

6. Shape the fairing to the hull as precisely as possible with a rasp or power tool.

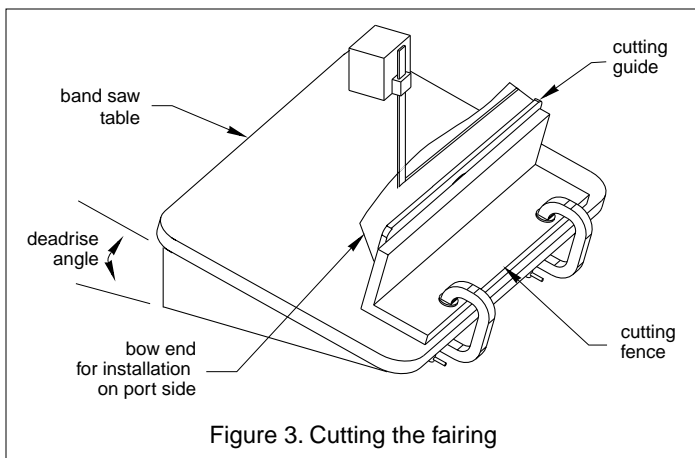7. Use the remaining section of the fairing as the backing block.

Figure 3. Cutting the fairing

Installation

Cored Fiberglass Hull—Follow separate instructions on page 4.

Caution: Never use solvents. Cleaners, fuel, paint, sealants, and other products may contain strong solvent, such as acetone, which attack plastics greatly reducing their strength.

Notice: Never pull, carry, or hold the sensor by the cable as this may sever internal connections.

Drilling a Hole for the Sensor

Warning: Always wear safety goggles and a dust mask.

1. Drill a 3mm or 1/8" pilot hole perpendicular to the waterline from inside the hull (see Figure 2). If there is a rib, strut or other hull irregularity near the selected mounting location, drill from the outside. (If the pilot hole is drilled in the wrong location, drill a second hole in a better location. Apply masking tape to the outside of the hull over the incorrect hole and fill it with epoxy.)

2. Using the appropriate size drill bit or hole saw, cut a hole from outside the hull (see Specification Table 1).

3. Sand and clean the area around the hole, inside and outside, to ensure that the sealant will adhere properly to the hull. If there is any petroleum residue inside the hull, remove it with either mild household detergent or a weak solvent (alcohol) before sanding.
   Metal hull—Remove all burrs with a file and sandpaper.

Drilling a Hole for the Anti-rotation Bolt

Dry fit the sensor to locate the hole for the anti-rotation bolt.

1. **B45, B46, B256, B260, SS505**—Remove the hull nut from the sensor (see Figure 2).

2. Thread the sensor cable through the large hole in the fairing and through the mounting hole in the hull. Seat the sensor firmly in the recess in the fairing (see Figure 4).

   Note: The sensor must be flush with the fairing. If it is recessed more than 0.5mm (1/64") inside the fairing, you may carefully file or sand the fairing flush with the sensor.

   Warning: Always wear safety goggles and a dust mask.

3. Attach the appropriate size drill bit to your drill (see Specifications Table 1). Slide the sensor's stem with the fairing in place into the mounting hole. (*Be sure the triangular recess in the fairing is pointing forward toward the bow.*) While holding the assembly in place and using the bolt hole in the fairing as your guide, drill a hole through the hull for the anti-rotation bolt.

4. Remove the assembly and cable from the mounting hole.

5. Sand and clean the area around the hole, inside and outside, to ensure that the sealant will adhere properly to the hull. If there is any petroleum residue inside the hull, remove it with either mild household detergent or a weak solvent (alcohol) before sanding.
   Metal hull—Remove any burrs around both holes with a file and sandpaper.

Bedding the Sensor

1. Remove the sensor from the fairing.

2. **Stainless steel sensor in metal hull only**—Slide the appropriate size isolation sleeve over the cable and onto the stem of the sensor as far down as possible (see Figure 2). *Be sure* the top of the isolation sleeve will be below the top of the backing block to prevent the sleeving from interfering with tightening the hull nut.

   Caution: To prevent electrolytic corrosion, never allow direct contact between a stainless steel sensor and a metal hull!

3. Apply a 2 mm (1/16") thick layer of marine sealant to the sides of the sensor that will contact the fairing and up the stem 6 mm (1/4") higher than the combined thickness of the fairing, hull, backing block, and hull nut. This will ensure there is marine sealant in the threads to seal the hull and hold the hull nut securely in place (see Figure 4).
   Stainless steel sensor in metal hull—Apply the marine sealant to the outside of the sleeving instead of the stem itself.

4. Thread the sensor cable through the fairing and seat the sensor firmly within the recess in the fairing.

5. Apply a 2 mm (1/16") thick layer of marine sealant to the surface of the fairing that will contact the hull.

Bedding the Anti-rotation Bolt and Installing

1. From outside the hull, thread the cable through the mounting hole. Push the stem of the sensor (with the fairing in place) into the mounting hole using a twisting motion to squeeze out excess sealant (see Figure 4).

   Caution: Never strike the sensor.

2. From inside the hull, slide the backing block onto the sensor cable and stem seating the backing block firmly against the hull. Screw the hull nut in place and tighten it with slip-joint pliers.
   Wood hull—Allow for the wood to swell.
   Fiberglass hull—*Do not* over-tighten and crush the hull.
   Stainless steel sensor in metal hull—*Be sure* the top of the

isolation sleeve is below the top of the backing block to prevent the sleeving from interfering with tightening the hull nut.

3. Apply a 2 mm (1/16") thick layer of marine sealant to the anti-rotation bolt, 6 mm (1/4") higher than the combined thickness of the fairing, hull, backing block, washer, and nut. This will ensure that there is marine sealant on the threads to seal the hull and hold the nut securely in place (see Figure 4).

4. Apply a 2 mm (1/16") thick layer of marine sealant to one side of the nut.

5. Push the bolt through the fairing and into the hull.

6. From inside the hull, slide the washer onto the bolt. Slide the nut onto the bolt with the *sealant side facing the backing block*. Screw the nut in place and tighten it with slip-joint pliers.
   Wood hull—Allow for the wood to swell.
   Fiberglass hull—*Do not* over-tighten and crush the hull.

7. Apply marine sealant to the *FLAT* side of the triangular plug. Push the plug into the triangular recess in the fairing. *The triangular plug fits one way only. Be sure* the curved side of the plug is exposed, matching the curve on the outside of the fairing. Tap it into place with a mallet.

   Note: For smooth water flow over the transducer, be sure that the external surface of the installed triangular plug is FLUSH with the external curved surface of the fairing.

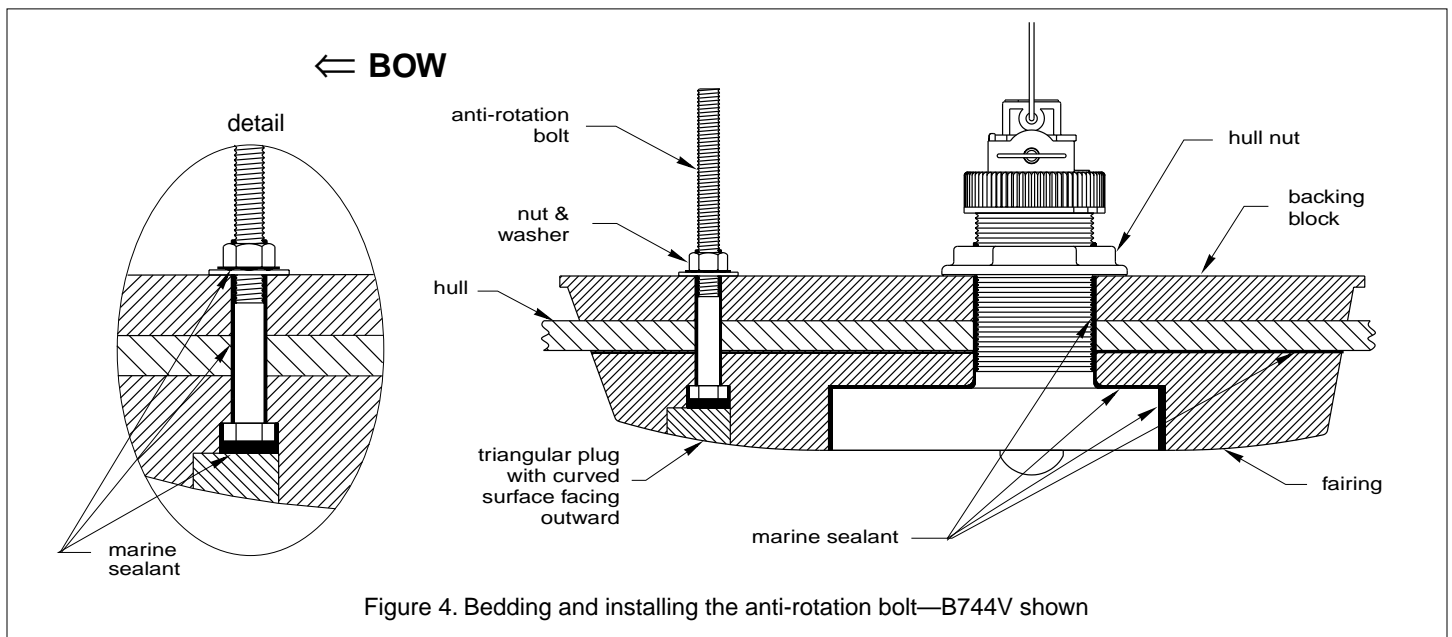8. Proceed with the installation instructions that came with your sensor beginning with "Installing" step #4.

Figure 4. Bedding and installing the anti-rotation bolt—B744V shown

Installation in a Cored Fiberglass Hull

The core (wood or foam) *must* be cut and sealed carefully. The core *must* be protected from water seepage, and the hull *must* be reinforced to prevent it from crushing under the hull nut allowing the sensor to become loose.

Additional Tools and Materials Needed

Drill bit(s), hole saw(s) (see Specifications Table 2)
Cylinder
Wax
Tape
Casting epoxy

Preparing a Cored Fiberglass Hull

Warning: Always wear safety goggles and a dust mask.

1. Drill a 3mm or 1/8" pilot hole from inside the hull (see Figure 5). If there is a rib, strut, or other hull irregularity near the selected mounting location, drill from the outside. If the hole is drilled in the wrong location, drill a second hole in a better location. Apply masking tape to the outside of the hull over the incorrect hole and fill it with epoxy.

2. Using the appropriate size drill bit or hole saw cut a hole from outside the hull through the *outer* skin only (see Specification Table 2). *Be sure* to hold the drill plumb, so the hole will be perpendicular to the water surface.

Specifications Table 2

| Model	Drill Bit for Sensor (outer skin)	Min. Size Drill Bit for Sensor (inner cored hull)	Drill Bit for Anti-rotation Bolt (outer skin)	Min. Size Drill Bit for Anti-rotation Bolt (inner cored hull)
B45	22mm *or* 7/8"	35mm *or* 1-3/8"	10mm *or* 3/8"	19mm *or* 3/4"
B46	22mm *or* 7/8"	35mm *or* 1-3/8"	10mm *or* 3/8"	19mm *or* 3/4"
B256	30mm *or* 1-3/16"	40mm *or* 1-5/8"	13mm *or* 1/2"	25mm *or* 1"
B260	33mm *or* 1-5/16"	44mm *or* 1-3/4"	13mm *or* 1/2"	25mm *or* 1"
B744V	51mm *or* 2"	60mm *or* 2-3/8"	10mm *or* 3/8"	19mm *or* 3/4"
SS505	22mm *or* 7/8"	35mm *or* 1-3/8"	10mm *or* 3/8"	19mm *or* 3/4"
SS544V	51mm *or* 2"	60mm *or* 2-3/8"	10mm *or* 3/8"	19mm *or* 3/4"
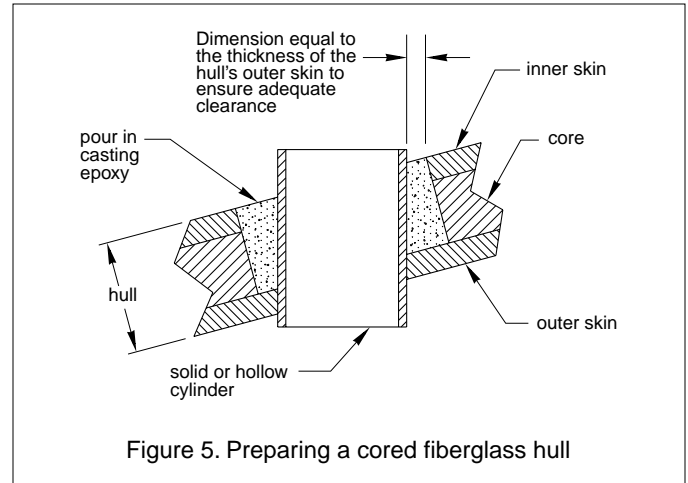
Figure 5. Preparing a cored fiberglass hull

3. Using the appropriate size drill bit or hole saw cut through the *inner* skin and most of the core from inside the hull keeping the drill perpendicular to the hull (see Specification Table 2). The core material can be very soft. Apply only light pressure to the hole saw after cutting through the inner skin to avoid accidentally cutting the outer skin.

   Caution: The optimal interior hole diameter is affected by the hull's thickness and deadrise angle. It must be large enough in diameter to allow the core to be completely sealed.

4. Remove the plug of core material, so the *inside* of the outer skin and the inner core of the hull is fully exposed. Sand and clean the inner skin, core, and the outer skin around the hole.

5. Coat a hollow or solid cylinder of the correct diameter with wax and tape it in place. Fill the gap between the cylinder and hull with casting epoxy. After the epoxy has set, remove the cylinder.

   Caution: Always completely seal the hull to prevent water seepage into the core.

6. Sand and clean the area around the hole, inside and outside, to ensure that the sealant will adhere properly to the hull. If there is any petroleum residue inside the hull, remove it with either mild household detergent or a weak solvent, such as alcohol, before sanding.

7. Follow the same procedure to prepare the hull for the anti-rotation bolt ("Preparing a Cored Fiberglass Hull", steps 2 through 6).

8. Proceed with the installation beginning with "Bedding the Sensor" on page 2.

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