

# OWNER'S GUIDE &

# INSTALLATION INSTRUCTIONS

Transom Mount *with Integrated Release Bracket*

**TRIDUCER® Multisensor**

Model: P58

Patent <http://www.airmar.com/patent.html>

04/08/19  
D-17-404-01-rev.6  
17-404-01-rev.6

**Follow the precautions below for optimal product performance and to reduce the risk of property damage, personal injury, and/or death.**

**WARNING:** Always wear safety glasses, a dust mask, and ear protection when installing.

**WARNING:** When the boat is placed in the water, immediately check for leaks around the screws and any other holes drilled in the hull.

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

**CAUTION:** Never strike the transducer with anything except the palm of the hand. Never strike the paddlewheel.

**CAUTION:** The bracket protects sensor from frontal impact only.

**CAUTION:** Never use solvents. Cleaners, fuel, sealant, paint, and other products may contain solvents that can damage plastic parts, especially the transducer's face.

**IMPORTANT:** Please read the instructions completely before proceeding with the installation. These instructions supersede any other instructions in your instrument manual if they differ.

## Applications

- Recommended for boats up to 8m (25') long
- Not recommended for boats with inboard engine(s)
- Not recommended for a stepped hull
- Adjusts to *transom* angles from 3°–20°
- Vertically orients sound beam on hull with *deadrise* angle up to 28°
- Requires a minimum of 89mm (3-1/2") of vertical space to install
- Good operation up to 44 kn (50MPH)

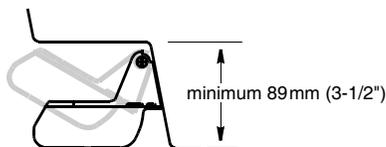
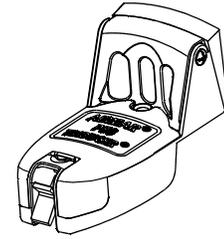


Figure 1. Stepped transom: vertical space required

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Record the information found on the cable tag for future reference.

Part No. \_\_\_\_\_ Date \_\_\_\_\_ Frequency \_\_\_\_\_ kHz



## Pretest Speed & Temperature Functions

Connect the sensor to the instrument and spin the paddlewheel. Check for a speed reading and the approximate air temperature. If there is no reading(s) or it is inaccurate, check the connections and repeat the test. If there is still no reading(s) or it is inaccurate, return the product to your place of purchase.

## Mounting Location

**CAUTION:** Do not mount the sensor in line with or near water intake or discharge openings or behind strakes, fittings, or hull irregularities that may disturb the water flow.

**CAUTION:** Do not mount the sensor in a location where the boat may be supported during trailering, launching, hauling, or storage.

- For the best performance, the sensor must be in contact with smooth water. To identify an area of "clean" water, observe the water flow off the transom while the boat is underway.
- Allow vertical space above the bracket for it to release and rotate the sensor upward (Figure 1).
- Mounting the sensor on the side of the transom where the propeller blades are moving downward is preferred (Figure 2).
- Mount the sensor as close to the centerline (keel) of the boat as possible to ensure the sensor remains in the water when the boat is turning.
  - **Single drive boat**—Mount the sensor at least 75mm (3") beyond the swing radius of the propeller.
  - **Twin drive boat**—Mount the sensor between the drives.
  - **Trim tabs**—Mount the sensor inside the trim tab, space permitting.
  - **Stepped transom**—Mount the sensor on the lowest step being sure there is enough space above the bracket for it to release and rotate the sensor upward (Figure 1).

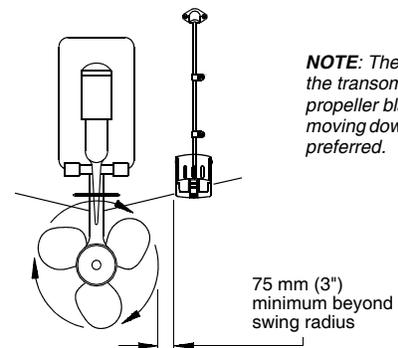


Figure 2. Mounting location on single drive boat

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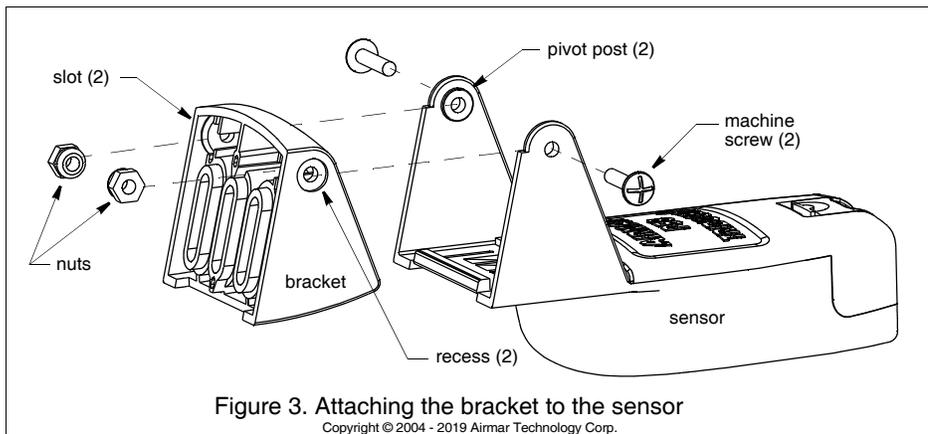


Figure 3. Attaching the bracket to the sensor

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## Tools & Materials

Safety glasses  
 Dust mask  
 Ear protection  
 Screwdrivers  
 Pencil  
 Electric drill  
 Drill bits and hole saws:  
     Bracket holes                      4mm, #23, or 9/64"  
     Transom hole (optional)        2mm or 1/16" larger than connector Ø  
 Cable clamp holes 3mm or 1/8"  
 Masking tape  
 Angle finder  
 Marine sealant (suitable for below waterline)  
 Straight edge  
 Grommets (some installations)  
 Cable ties  
 Water-based anti-fouling paint (**mandatory in salt water**)

## Installation

### Attaching the Bracket to the Sensor

1. Insert the sensor's pivot posts into the recesses on the sides of the bracket (Figure 3).
2. Press the two nuts into the slots in the back of the bracket.
3. Align the holes in the sensor, bracket, and nuts. Insert the two machine screws capturing the nuts. Tighten the machine screws until the sensor will stay in the "up" (released) position unaided.

### Hole Drilling

**CAUTION:** To prevent drilling too deeply, wrap masking tape around the bit 22mm (7/8") from the point.

**NOTE: Fiberglass hull**—Minimize surface cracking by running the drill in reverse until the gelcoat is penetrated.

1. At the selected location, position the sensor, so it projects 3mm (1/8") below the bottom edge of the transom (Figure 4).
2. *Being sure the bottom of the sensor is parallel to the waterline*, mark the location of the screw holes with an "X" in the center of the two outer most slots.
3. Using a 4mm, #23, or 9/64" drill bit, drill two holes 22mm (7/8") deep at the locations indicated.

### Compensating for Transom Angle: Shims

For the best performance, the transducer beam must be aimed straight at the bottom. Since the transom of most boats is angled, the bracket must compensate for it. Measure the transom angle of the boat with an angle finder.

- **Standard transom** (12° transom angle)—The bracket is designed for a standard 12° transom angle. The 9° shim is *not* needed for this installation. If your boat is capable of speeds above 20kn

(28MPH), install the bracket with the 4.5° shim, taper *down* (Figure 5).

- **Stepped transom and jet boats** (3° transom angle)—Use the 9° shim with the taper *down*. If your boat is capable of speeds above 20kn (28MPH), install the bracket with both the 9° and 4.5° shims, taper *down* (Figure 5). Install the 4.5° shim against the transom after shaving the interfering portion of the rails and lower bump. Place the 9° shim and bracket assembly on top.
- **Small aluminum and fiberglass boats** (20° transom angle)—Use the 9° shim with the taper *up* (Figure 5). If your boat is capable of speeds above 20kn (28MPH), install the bracket with the 4.5° shim, taper *up*.

- **Deadrise angles greater than 16°**—The hull projection will be zero.
- **If you are unsure about using the shim(s)** Experiment with the shims by following the instructions "Mounting & Adjusting."

## Mounting & Adjusting

**CAUTION:** Do not position the leading edge of the sensor deeper in the water than the trailing edge because aeration will occur.

**CAUTION:** Do not position the sensor deeper into the water than necessary to avoid increasing drag, spray, and water noise and reducing boat speed.

1. Apply marine sealant to the threads of two, #10 x 1-1/4", self-tapping bracket screws to prevent water seepage into the transom. *Be sure the nuts are in the slots in the back of the bracket and any shim(s) is in place* (Figure 3). Screw the sensor to the hull (Figure 4). *Do not tighten the screws completely at this time.*
2. Using a straight edge, sight the underside of the sensor relative to the underside of the hull (Figure 5). The trailing edge of the sensor should be 1–6mm (1/16–1/4") below the leading edge.
3. Using the vertical adjustment space in the bracket slots, slide the sensor up or down until the bottom left corner of the sensor projections 0–3mm (0–1/8") below the bottom of the hull (Figure 4). When you are satisfied with the position of the sensor, tighten the two bracket screws.

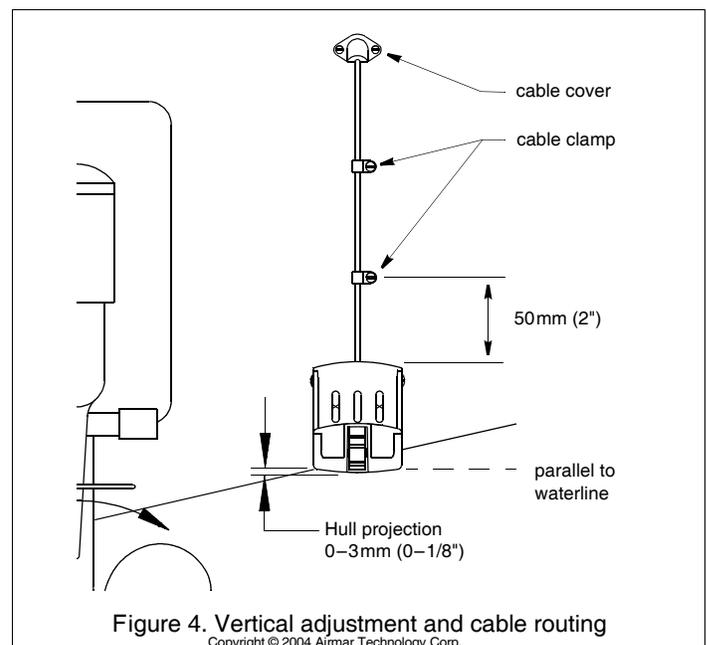


Figure 4. Vertical adjustment and cable routing

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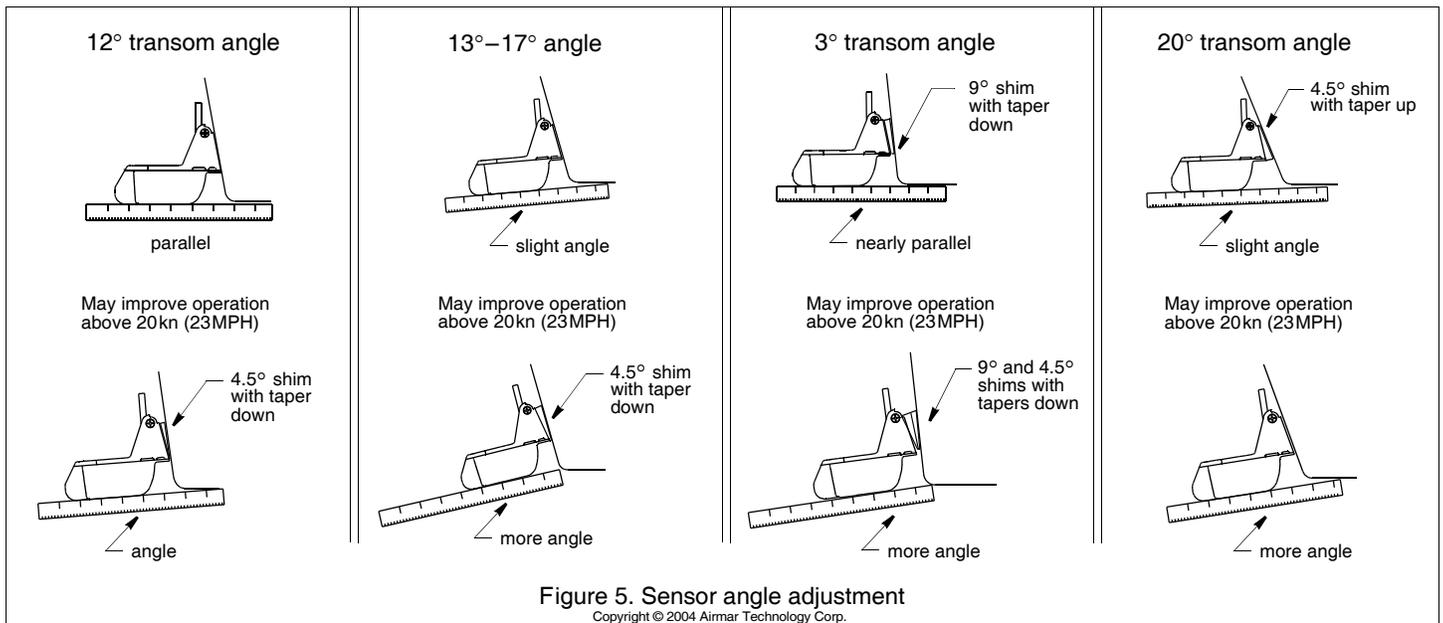


Figure 5. Sensor angle adjustment

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## Testing on the Water

1. Become familiar with your echosounder's performance at a speed of 4kn (5MPH).
2. Gradually increase the boat speed and observe the gradual decline in performance due to turbulent water flowing under the transducer's face.
3. If the decline in performance 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.
4. If the performance improves while turning toward the sensor side, the transducer's position probably needs adjustment. The sensor is probably in aerated water.

**To improve performance**, try the following one at a time in the order given, in small increments.

- a. Increase the sensor's angle in the water. Review "Compensating for Transom Angle: Shims" and Figure 5.
- b. Move the sensor deeper into the water in increments of 3mm (1/8") (Figure 4).
- c. Move the sensor closer to the centerline of the boat. Fill unused screw holes with marine sealant.

**NOTE: High-speed operation** [above 35kn (40MPH)] may require less projection in the water to improve performance. Move the sensor upward on the transom.

5. **Calibration**—To match the speed shown on the display to the actual speed of the boat, you may need to calibrate the instrument. Refer to your instrument owner's manual.

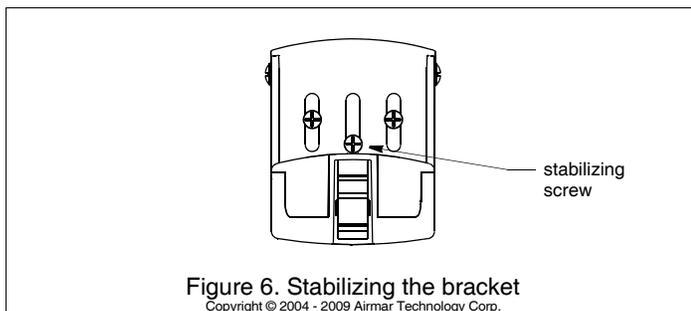


Figure 6. Stabilizing the bracket

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## Stabilizing the Bracket

Stabilize the bracket by installing the third bracket screw at the bottom of the center slot (Figure 6). Using a 4mm, #23, or 9/64" drill bit, drill a hole 22mm (7/8") deep.

Apply marine sealant to the threads of the third #10 x 1-1/4" self-tapping screw to prevent water seepage into the transom. Tighten the screw.

## Cable Routing & Connecting

**CAUTION:** Do not remove the connector to ease cable routing. If the cable must be cut and spliced, use Airmar's splash-proof Junction Box No. 33-035 and follow the instructions provided. Removing the waterproof connector or cutting the cable, except when using a water-tight junction box, will void the sensor warranty.

Route the sensor cable over the transom, through a drain hole, or through a new hole drilled in the transom **above the waterline**.

1. If a hole must be drilled through the transom, choose a location **well above the waterline** (Figure 4). Check for obstructions such as trim tabs, pumps, or wiring inside the hull. Mark the location with a pencil. Drill a hole using the appropriate size bit to accommodate the connector.
2. Route the cable over or through the transom.
3. On the outside of the hull, secure the cable against the transom using the cable clamps. Position one cable clamp 50mm (2") above the bracket and mark the mounting hole with a pencil.
4. Position the second cable clamp halfway between the first clamp and the cable hole. Mark this mounting hole.
5. If a hole has been drilled through the transom, open the appropriate slot in the cable cover. Position the cover over the cable where it enters the hull. Mark the two mounting holes.
6. At each of the marked locations, use a 3mm or 1/8" bit to drill a hole 10mm (3/8") deep.
7. Apply marine sealant to the threads of the #6 x 1/2" self-tapping screws to prevent water from seeping into the transom. If you have drilled a hole through the transom, apply marine sealant to the space around the cable where it passes through the transom.
8. Position the two cable clamps and fasten them in place. If used, push the cable cover over the cable and screw it in place.

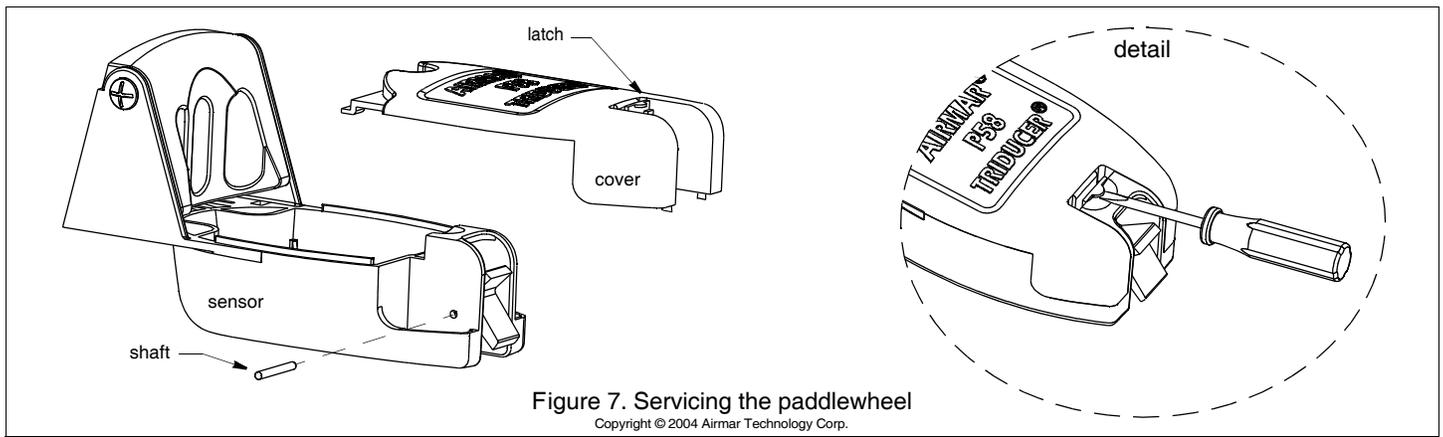


Figure 7. Servicing the paddlewheel  
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9. Route the cable to the instrument being careful not to tear the cable jacket when passing it through the bulkhead(s) and other parts of the boat. Use grommets to avoid chafing. To reduce electrical interference, separate the sensor cable from other electrical wiring and the engine(s). Coil any excess cable and secure it in place with cable ties to prevent damage.
10. Refer to your echosounder owner's manual to connect the sensor to the instrument.

### Checking for Leaks

When the boat is placed in the water, **immediately** check for leaks around the screws and any other holes drilled in the hull. Note that very small leaks may not be readily observed. Do not leave the boat in the water unchecked for more than three hours.

### Operation & Maintenance

#### Releasing the Sensor

The sensor releases easily when it is fastened to the hull. Give a sharp blow to the bottom of the sensor using the palm of the hand. Do not strike the paddlewheel.

#### Anti-fouling Paint

Surfaces exposed to salt water that *do not interlock*, must be coated with anti-fouling paint. Use **water-based** anti-fouling paint only. Never use ketone-based paint, since ketones can attack many types of plastic possibly causing damage to the sensor. Apply paint every 6 months or at the beginning of each boating season.

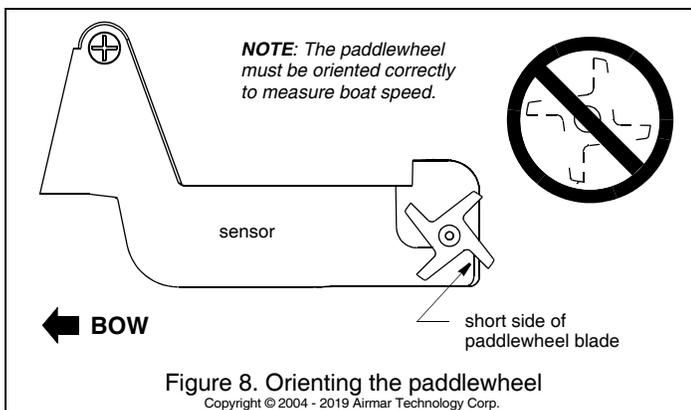


Figure 8. Orienting the paddlewheel  
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### Cleaning

Aquatic growth can accumulate rapidly on the sensor's surface reducing performance within weeks. Clean the transducer's face with a Scotch-Brite® scour pad and mild household detergent taking care to avoid making scratches. If the fouling is severe, lightly wet sand with fine grade wet/dry paper.

### Servicing the Paddlewheel

**CAUTION:** The paddlewheel must be oriented correctly to measure boat speed.

If the paddlewheel becomes fouled or inoperable, remove it for cleaning. Remove the sensor's cover by inserting the blade of a **small** screwdriver under the latch (Figure 7). Then push forward while prying upward. Use a small finish nail to push out the paddlewheel shaft.

Orient the short side of the paddlewheel blades correctly (Figure 8). Slide the shaft through the holes in the sensor and paddlewheel (Figure 7). *Be sure* the ends of the shaft are flush with the sensor. Insert the forward tabs of the cover into the sensor. Press down on the back of the cover until the latch snaps into place. (If necessary, use a **small** blade screwdriver to depress the tabs on either side of the latch until they snap under the sensor.)

### Sensor Replacement & Parts

The information needed to order a replacement sensor is printed on the cable tag. Do not remove this tag. When ordering, specify the part number, date, and frequency in kHz. For convenient reference, record this information on the top of page one.

Lost, broken or worn parts should be replaced immediately. The water-lubricated paddlewheel bearings have a life of up to 5 years on low-speed boats [less than 10kn (11MPH)] and 2 years on high-speed vessels. Obtain parts from your instrument manufacturer or marine dealer.

#### Gemeco

#### USA

Tel: 803-693-0777  
email: sales@gemeco.com

#### Airmar EMEA

#### Europe, Middle East, Africa

Tel: +33.(0)2.23.52.06.48  
email: sales@airmar-emea.com