RVM-100

TRANSOM REALVISION™ MAX 3D SONAR TRANSDUCERS

INSTALLATION INSTRUCTIONS

English (en-US)
Date: 01-2023
Document number: 87432 (Rev 1)

Raymarine®

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CHAPTER 1: IMPORTANT INFORMATION

Safety warnings

Warning: Product installation and operation

- This product must be installed and operated in accordance with the instructions provided. Failure to do so could result in personal injury, damage to your vessel and/or poor product performance.
- Raymarine highly recommends certified installation by a Raymarine approved installer. A certified installation qualifies for enhanced product warranty benefits. Register your warranty on the Raymarine website: www.raymarine.com/warranty

Warning: High voltage

This product contains high voltage. Do NOT remove covers or attempt to access internal components, unless specifically instructed in the documentation provided.

Warning: Switch off power supply

Ensure the vessel's power supply is switched OFF before starting to install this product. Do NOT connect or disconnect equipment with the power switched on, unless instructed in this document.

Warning: Transducer cables

Do not remove the transducer cable whilst the product is powered on, doing so can cause sparks. If the transducer cable is accidently removed whilst the product is powered on, switch the product's power off, replace the cable and then switch the power back on.

Warning: Sonar operation

- NEVER touch the transducer face when the sonar is powered on.
- SWITCH OFF the sonar if divers are likely to be within 7.6 m (25 ft) of the transducer.

Product warnings

Warning: Maximum transducer cable length

The maximum length of cable between a RealVision™ Max 3D transducer and a MFD/sonar module (including the transducer's captive cable) must NOT exceed 18 m (59 ft). Cable lengths greater than this may cause damage to the RealVision™ Max 3D transducer and MFD/sonar module.

Warning: Positive ground systems

Do not connect this unit to a system which has positive grounding.

Warning: Transducer operation

Only test and operate the transducer in the water. Do NOT operate out of water as overheating may occur.

Caution: Service and maintenance

This product contains no user serviceable components. Please refer all maintenance and repair to authorized Raymarine dealers. Unauthorized repair may affect your warranty.

Warning: Marine-grade sealant

Only use marine-grade neutral cure polyurethane sealants. Do NOT use sealants containing acetate or silicone, which can cause damage to plastic parts.

Warning: Petrochemicals

Prolonged exposure to petrochemicals such as gasoline and diesel oil etc. may cause the transducer to discolor and degrade.

Warning: Anti-fouling

- Failure to comply with the provided anti-fouling and transducer cleaning instructions may affect your product warranty.
- Only use water-based anti-fouling paint.
- Do NOT use ketone or copper-based anti-fouling paint.

Regulatory notices

Declaration of Conformity

FLIR Belgium BVBA declares that the following products are in compliance with the EMC Directive 2014/30/EU:

- RVM-100 RealVision™ Max 3D transom mount transducer, part number A80703

The original Declaration of Conformity certificate may be viewed on the relevant product page at www.raymarine.com/manuals.

Disclaimer

Raymarine does not warrant that this product is error-free or that it is compatible with products manufactured by any person or entity other than Raymarine.

Raymarine is not responsible for damages or injuries caused by your use or inability to use the product, by the interaction of the product with products manufactured by others, or by errors in information utilized by the product supplied by third parties.

Warranty registration

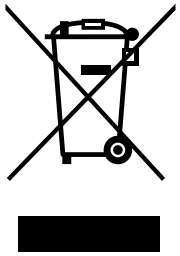
To register your Raymarine product ownership, please visit www.raymarine.com and register online.

It is important that you register your product to receive full warranty benefits. Your unit package includes a bar code label indicating the serial number of the unit. You will need this serial number when registering your product online. You should retain the label for future reference.

Product disposal

Dispose of this product in accordance with the WEEE Directive.

The Waste Electrical and Electronic Equipment (WEEE) Directive requires the recycling of waste electrical and electronic equipment which contains materials, components and substances that may be hazardous and present a risk to human health and the environment when WEEE is not handled correctly.



Equipment marked with the crossed-out wheeled bin symbol indicates that the equipment should not be disposed of in unsorted household waste.
Local authorities in many regions have established collection schemes under which residents can dispose of waste electrical and electronic equipment at a recycling center or other collection point.
For more information about suitable collection points for waste electrical and electronic equipment in your region, refer to the Raymarine website: www.raymarine.eu/recycling.

IMO and SOLAS

The equipment described within this document is intended for use on leisure marine boats and workboats NOT covered by International Maritime Organization (IMO) and Safety of Life at Sea (SOLAS) Carriage Regulations.

Technical accuracy

To the best of our knowledge, the information in this document was correct at the time it was produced. However, Raymarine cannot accept liability for any inaccuracies or omissions it may contain. In addition, our policy of continuous product improvement may change specifications without notice. As a result, Raymarine cannot accept liability for any differences between the product and this document. Please check the Raymarine website (www.raymarine.com) to ensure you have the most up-to-date version(s) of the documentation for your product.

Publication copyright

CHAPTER 2: DOCUMENT INFORMATION

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2.1 Applicable products

This document is applicable to the following products:

- **RVM-100** RealVision™ Max 3D Plastic transom mount transducer, part number A80703.

2.2 Document information

This document contains important information related to the installation of your Raymarine® product.

The document includes information to help you:

- Plan your installation and ensure you have all the necessary equipment.
- Install and connect your product as part of a wider system of connected marine electronics.
- Troubleshoot problems and obtain technical support if required.

This and other Raymarine® product documents are available to download in PDF format from www.raymarine.com/manuals

2.3 Product documentation

The following documentation is applicable to your product:

Applicable documents

- **87432** — RVM-100 RealVision ™ Max 3DTransom Mount Transducer Installation Instructions (This document).
- **87294** — RVM-100 / RVM-100 RealVision ™ Max 3D Transom Mount Transducer Mounting Template.
- **81406** — LightHouse™ 4 Advanced Operation Instructions (Includes transducer calibration and operation instructions for the Sonar / Fishfinder app on your MFD).

This and other Raymarine product documents are available to download in PDF format from www.raymarine.com.

Related documents

- **87436** — RVM1600 RealVision ™ Max 3D External Sonar Module Installation Instructions.
- **87305** — RV-100 / RVM-100 Hull / Step Bracket Installation Instructions.
- **87306** — RV-100 / RVM-100 Jack Plate Mount and Spacer Kit Installation Instructions.

Document illustrations

Your product and if applicable, its user interface may differ slightly from that shown in the illustrations in this document, depending on product variant and date of manufacture.

All images are provided for illustration purposes only.

Operation instructions

For detailed operation instructions for your product, refer to the documentation that accompanies your display.

All product documentation is available to download from the Raymarine website: www.raymarine.com/manuals.

CHAPTER 3: PRODUCT AND SYSTEM OVERVIEW

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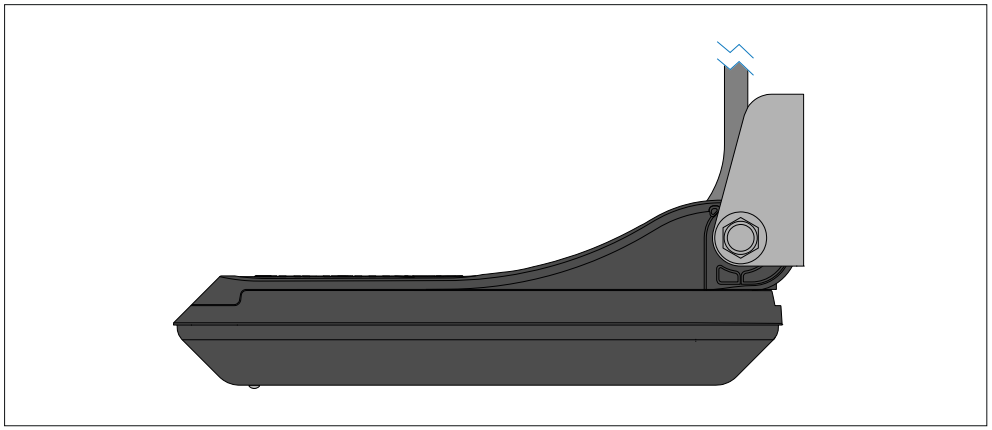
3.1 Product overview

The RVM-100 transducer is a transom mount RealVision™ Max 3D transducer, with plastic construction.



In conjunction with a RealVision™ Max 3D compatible multifunction display or sonar module, the RVM-100 transducer produces realistic 3D representations of the objects below your vessel, to help you identify underwater structures and locate fish.

RealVision™ Max 3D transducers benefit from improved ping rates and tighter beamwidths, resulting in sharper sonar images, detailed wrecks, and distinct fish targets. RealVision™ Max 3D transducers also provide higher contrast color palettes for accentuating targets, allowing fish targets to stand out from the water column noise.

The transducer has the following sonar channels:

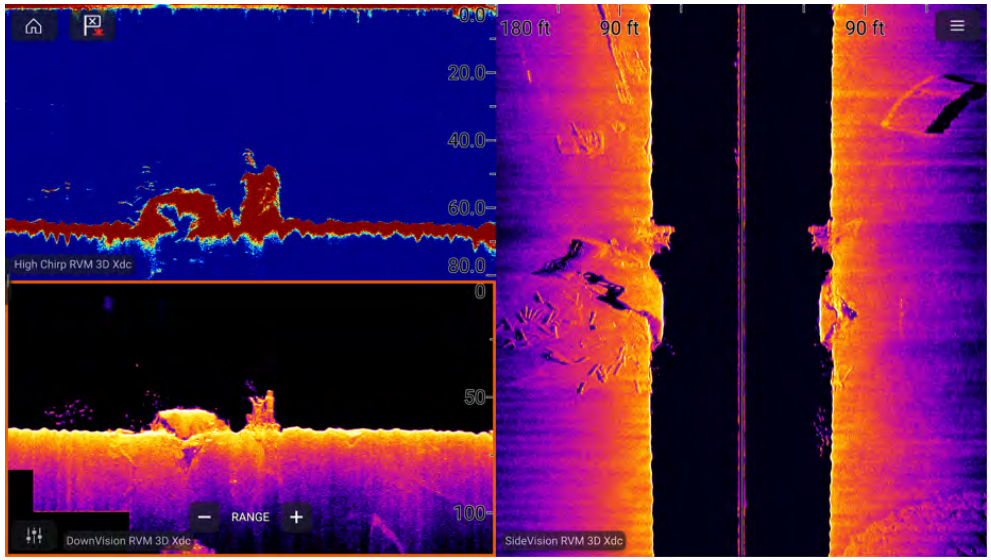
- 4 sonar channels, combined in a single transducer:
  - RealVision™ Max 3D
  - SideVision™
  - DownVision™
  - Conical High CHIRP / Low CHIRP 600 W / 200 kHz
- RealVision™ Max 3D transducers include a built-in AHRS (Attitude and Heading Reference System) sensor that helps stabilize 3D imaging automatically, by compensating for vessel motion.
- The transducer provides easy transom mounting, and can also be mounted on a step, trolling motor or on a jack plate when using the relevant accessories:
  - Step mount bracket (part number A80479).
  - Trolling motor mount (part number: A80483).
  - Jack plate mount (part number A80480).
  - Jack plate spacer kit (part number A80482).
- 8 m (26.2 ft) fitted cable.

RealVision™ Max 3D overview

RealVision™ Max 3D transducers offer the following range of improvements over RealVision™ 3D transducers:

- Improved ping rates and tighter beamwidths, resulting in sharper sonar images, detailed wrecks, and distinct fish targets.
- Higher resolution DownVision and SideVision imaging, combined with higher contrast color palettes — making it easier to identify structure, and allowing fish targets to stand out from the water column noise.
- More accurate target location capability, making it easier to pinpoint the position of a wreck or set up a drift.
- New 600 W High CHIRP frequency provides deeper traditional sonar range and stronger target returns.

RealVision™ 3D Max screen example



Sonar range

The sonar range is the effective depth or distance that the transducer can operate to, **in optimum weather conditions**.

The following ranges apply to RealVision™ Max 3D sonar channels:

Note:

The listed sonar channel ranges are indicative only, and are subject to change depending upon the connected transducer.

Sonar channel	Range
CHIRP sonar:	0.6 m (2 ft) to 366 m (1,200 ft)
DownVision™:	0.6 m (2 ft) to 183 m (600 ft)
SideVision™:	0.6 m (2 ft) to 91 m (300 ft)
RealVision™ Max 3D:	0.6 M (2 ft) to 91 m (300 ft)

Compatible sonar modules and displays

Transducers must be connected to a compatible sonar module to interpret and transmit the sonar image to a display screen. The sonar module may be external or internal (built-in) to the display.

Your transducer is compatible with the following sonar modules:

- Axiom™ 2 Pro range of MFDs, which include a compatible internal sonar module.
- RVM1600 RealVision™ Max 3D external sonar module.

Note:

The transducer is NOT compatible with the RVX1000 RealVision™ 3D external sonar module, or the internal sonar modules built-in to Axiom™, Axiom™+ and Axiom™ Pro MFDs.

RealVision transducer extension cables

Your transducer is supplied with a fitted cable, for some installations (including all split-pair transducer installations) it may be necessary to extend the length of the transducer cable.

Note:

- For best performance, cable runs should be kept to a minimum.
- Only use Raymarine® transducer extension cables.

Raymarine® offers he following optional extension cables are available:

- RealVision™ transducer extension cable 3 m (9.8 ft) (part number A80475)
- RealVision™ transducer extension cable 5 m (16.4 ft) (part number A80476)
- RealVision™ transducer extension cable 8 m (26.2 ft) (part number A80477)

Split pair transducers: Extension cables fitted between the transducer and the ‘Y’ cable must be fitted in equal length pairs (i.e.: each transducer’s final cable length must be the same).

Warning: Maximum transducer cable length

The maximum length of cable between a RealVision™ Max 3D transducer and a MFD/sonar module (including the transducer’s captive cable) must NOT exceed 18 m (59 ft). Cable lengths greater than this may cause damage to the RealVision™ Max 3D transducer and MFD/sonar module.

CHAPTER 4: PARTS SUPPLIED

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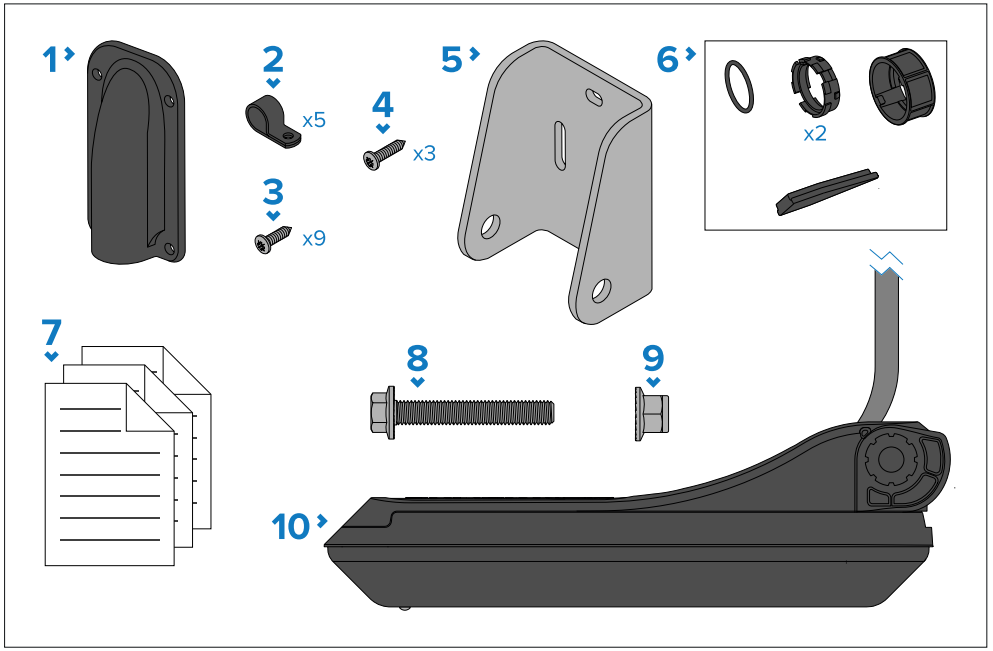
4.1 Parts supplied

The following parts are supplied in the box.

Unpack your product carefully to prevent damage or loss of parts. Check the box contents against the list below. Retain the packaging and documentation for future reference.



Item	Description
1	Escutcheon plate
2	5 x Cable clips
3	9 x Self tapper screw (3.9x13) (4 x for escutcheon and 5 x for cable clips)
4	3 x Self tapper screw (4.2x18) (for transducer mounting bracket installation)
5	Transducer mounting bracket

Item	Description
6	Cable connector kit, consisting of: • O Ring • Split ring x 2 (1 x spare) • Locking collar • Split ring fitting tool
7	Documentation pack
8	M10 x 65 serrated bolt
9	M10 serrated nylock nut
10	Transducer (including fitted 8 m / 26.2 ft cable)

CHAPTER 5: PRODUCT DIMENSIONS

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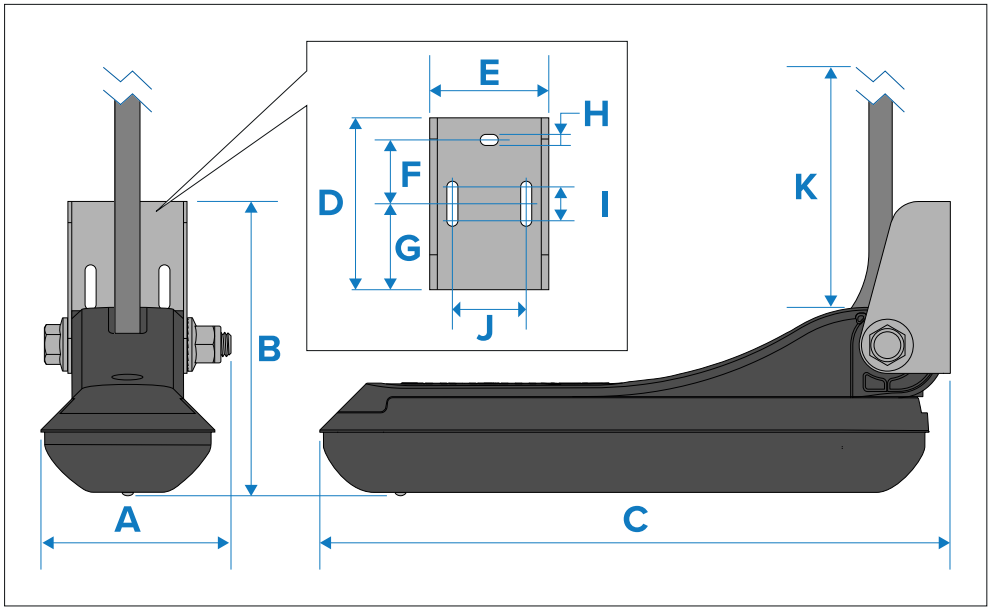
5.1 Transducer dimensions

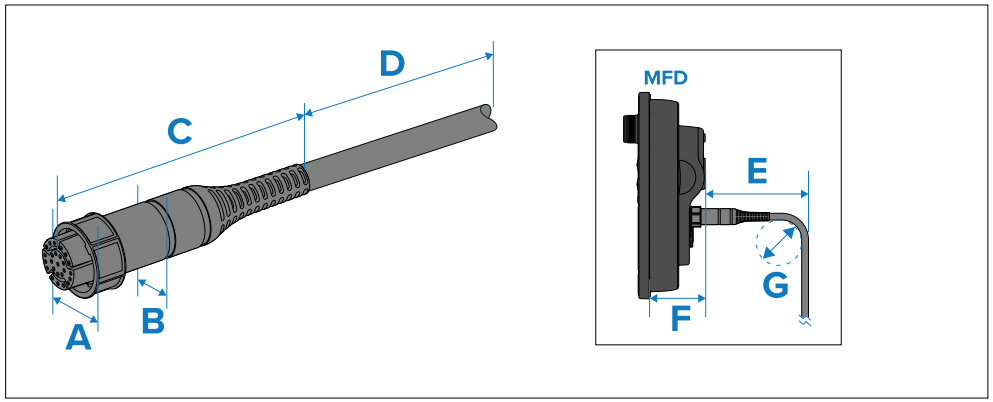


Item	Dimension
A	76.00 mm (3.00 in)
B	120.00 mm (4.72 in)
C	256.6 mm (10.10 in)
D	70.00 mm (2.76 in)
E	48.5 mm (1.91 in)
F	26.00 mm (1.01 in)
G	35.00 mm (1.38 in)
H	4.50 mm (0.18 in)
I	13.80 mm (0.54 in)
J	30.00 mm (1.18 in)
K	8 m (26.2 ft) fitted cable

5.2 RealVision transducer cable connector dimensions

The dimensions of the transducer cable and cable connector are shown below.

Cable connector dimensions



Item	Dimension
A	32.00 mm (1.26 in)
B	25.00 mm (1.00 in)
C	96.00 mm (3.80 in)
D	Cable length: • **Single (All-in-one) transducer** fitted cable length: 8 m (26.2 ft). • **Split pair transducer** fitted cable length: 2 m (6.5 ft).
E	This dimension is dependent on your MFD variant. Refer to your MFD installation instructions.
F	This dimension is dependent on your MFD variant. Refer to your MFD installation instructions.
G	35.00 mm (1.40 in)

Note:

For installations where space behind the display is limited, a right-angled transducer cable adaptor is available (A80515). Using the right angled cable adaptor will reduce dimension E above by 20 mm (0.79 in.)

CHAPTER 6: LOCATION REQUIREMENTS

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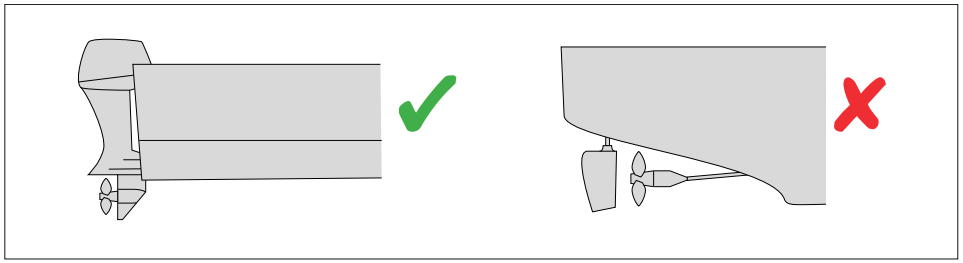
6.1 Location requirements

The guidelines below should be followed when selecting a location for the transducer.

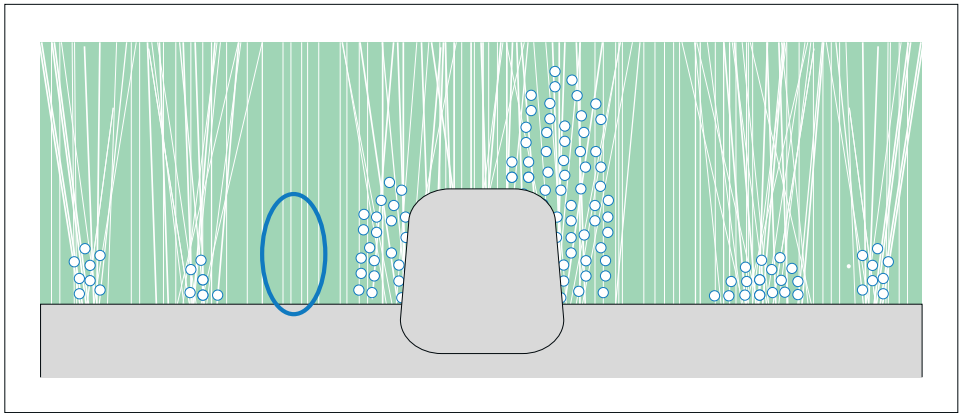
Note:

Optimum transducer location will vary depending on vessel type. Optimum transducer height and angle should be obtained by testing the transducer with the vessel in the water.

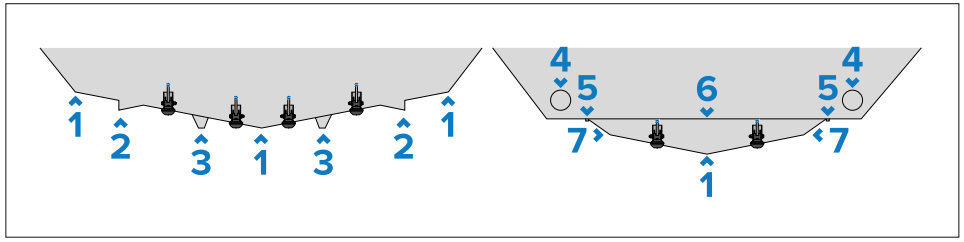
- The transducer is NOT suitable for mounting on vessels where the transom is aft of the propeller(s).



- To obtain the best location for your transducer, observe the transom whilst underway. Install in an area away from wake caused by the propeller(s) and where the least amount of turbulence and aeration occurs.

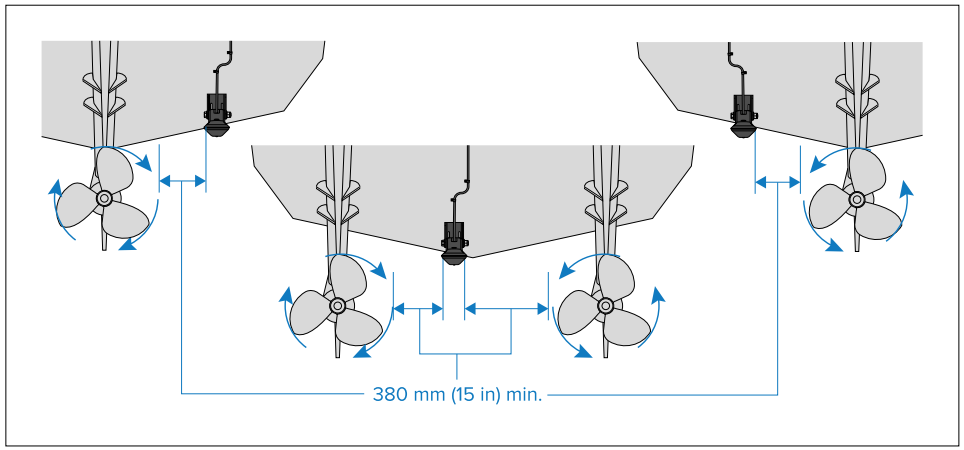


- Turbulence can be caused by chines (1), skegs (2), strakes, (3), outlets and exhausts (4), rows of rivets (5) steps (6) and ribs (7). Do NOT install your transducer aft of these locations or in areas of turbulence created by them.

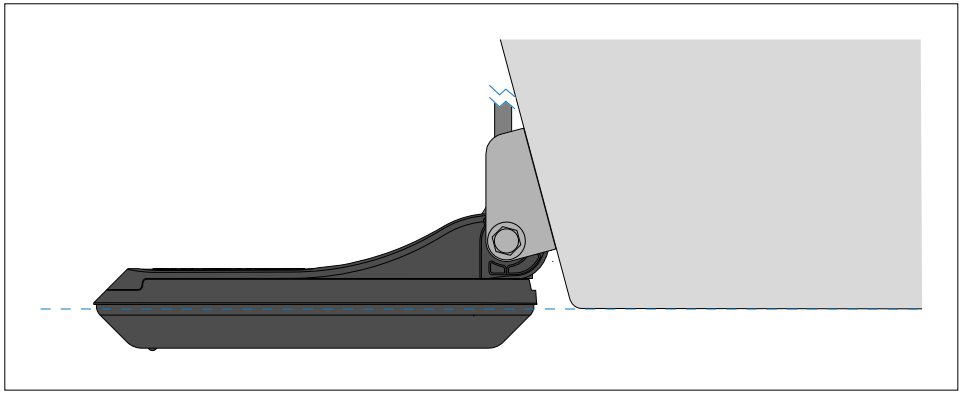


Note: The illustration above provides potential transducer locations for the hull types depicted. Before selecting a location ensure that all of the location requirements have been met.

- The transducer should be mounted as close to the centerline of the vessel as possible, ensuring that:
  - if the centerline has a chine (is pointed) the transducer is offset.
  - the transducer remains submerged when planing and turning.
  - the transducer is a sufficient distance from the propeller(s).
- The transducer should be mounted a minimum of 380 mm (15 in) away from the propeller(s). For clockwise rotating propellers, mount the transducer on the starboard side, for counter-clockwise, mount on the port side. On a twin engine vessel mount the transducer close to the centerline or just offset from the centerline.



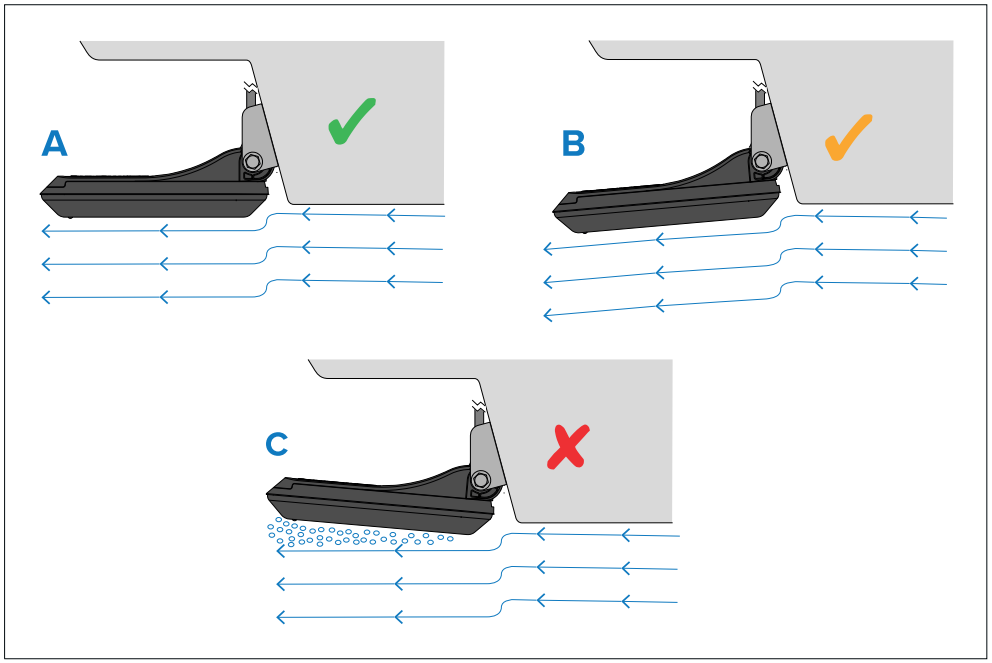
- The transducer should be positioned so that the bottom half of the transducer is lower than the lowest point of the hull in the vicinity of the transducer. In the following illustrations, the dashed line indicates the lowest point of the hull in the vicinity of the transducer.



- The transducer should also be mounted in a location where no load will be applied to the transducer during launching, lifting, trailering and storage of the vessel.

6.2 Transducer angle requirements

The face of the transducer must be set to an appropriate angle.



- **A** — For best results the transducer face should usually be angled so that it is parallel to the waterline whilst the vessel is underway.
- **B** — Tilting the transducer down slightly may be required for best results on high speed vessels and vessels that run bow-high.
- **C** — Tilting the transducer upwards is not recommended as this can cause aeration across the transducer face.

6.3 EMC installation guidelines

Raymarine® equipment and accessories conform to the appropriate Electromagnetic Compatibility (EMC) regulations, to minimize electromagnetic interference between equipment and minimize the effect such interference could have on the performance of your system.

Correct installation is required to ensure that EMC performance is not compromised.

Note:

In areas of extreme EMC interference, some slight interference may be noticed on the product. Where this occurs the product and the source of the interference should be separated by a greater distance.

For **optimum** EMC performance we recommend that wherever possible:

- Raymarine® equipment and cables connected to it are:
  - At least 1 m (3.3 ft) from any equipment transmitting or cables carrying radio signals e.g. VHF radios, cables and antennas. In the case of SSB radios, the distance should be increased to 2 m (6.6 ft).
  - More than 2 m (6.6 ft) from the path of a radar beam. A radar beam can normally be assumed to spread 20 degrees above and below the radiating element.
- The product is supplied from a separate battery from that used for engine start. This is important to prevent erratic behavior and data loss which can occur if the engine start does not have a separate battery.
- Raymarine® specified cables are used.
- Cables are not cut or extended, unless doing so is detailed in the installation manual.

Note:

Where constraints on the installation prevent any of the above recommendations, always ensure the maximum possible separation between different items of electrical equipment, to provide the best conditions for EMC performance throughout the installation.

CHAPTER 7: INSTALLATION

CHAPTER CONTENTS

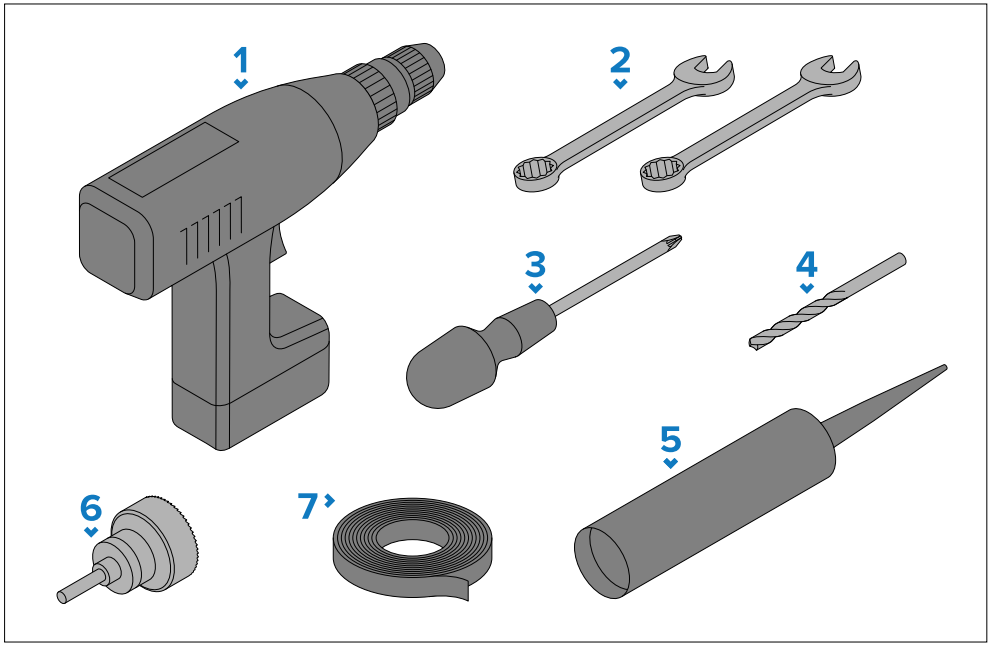
7.1 Warnings and cautions

Important:

Before proceeding, ensure that you have read and understood the warnings and cautions provided in the following section of this document:
p.7 — Important information

7.2 Tools required

The following tools are required to install your transducer.



1. Power drill
2. 2 x 14 mm (9/16”) wrenches or small adjustable wrenches.
3. Pozi-drive screw driver
4. Drill bit (suitable for pilot holes)

Note: The size of the drill bit required should be suitable for the fixings screws and the material and thickness of the mounting surface. Please refer to the parts supplied list for the fixing screws provided.

5. Marine-grade neutral cure polyurethane sealant (non-acetate and non-silicone based)
6. 25 mm (1 inch) Hole saw (only required if you are routing the cable through the transom and / or a bulkhead.)
7. Masking or Adhesive tape (Used to fix the mounting template to the mounting surface)

Warning: Marine-grade sealant

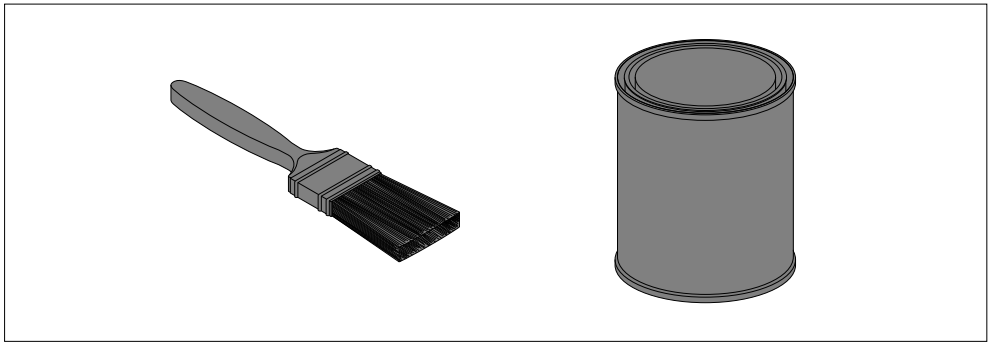
Only use marine-grade neutral cure polyurethane sealants. Do NOT use sealants containing acetate or silicone, which can cause damage to plastic parts.

Anti-fouling

Where local regulations allow, it is recommended that you coat your transducer using a water-based anti-fouling paint. This will help prevent the build-up of organic growth, which can reduce transducer performance.

Important:

- Before applying water-based anti-fouling paint, check that local environmental rules and regulations do not prohibit the use of anti-fouling paint.
- Never use copper-based anti-fouling paint as this can impact transducer performance.
- Never use ketone-based anti-fouling paint as this can attack the transducer’s plastic, damaging the transducer.
- Paint your transducer using a brush, do not use a spray can or a sponge roller as these methods can cause tiny air bubbles to be incorporated in the paint, which will also reduce transducer performance.



The anti-fouling paint should be applied in a thin and even coat covering all externally exposed transducer surfaces.

You should clean your transducer regularly and re-apply anti-fouling paint every 6 months, or sooner depending on how rapidly organic growth builds up.

For guidance on transducer cleaning refer to **p.44 — Transducer cleaning**

For instructions on re-applying anti-fouling paint refer to **p.44 — Re-applying anti-fouling paint**

7.3 Pre-installation test

Warning: Transducer operation

Only test and operate the transducer in the water. Do NOT operate out of water as overheating may occur.

Testing the transducer

Transducer operation should be checked before installation. For the purposes of this test you do not need to assembly the connector locking collar.

For detailed information on using the Fishfinder / Sonar app please refer to the operation instructions for your MFD.

1. Connect the transducer to the relevant connector on your MFD or sonar module that is connected to your MFD.
2. Fully submerge the transducer in water.
3. Power up your MFD and / or Sonar module.
4. Open a Fishfinder / Sonar app on your MFD.
5. If required, select the relevant transducer from the Transducer settings tab (*[Menu > Transducer > Transducer]*).
6. If required, select the relevant channel from the Channel selection options (*[Menu > All channels]*).
7. Check that accurate depth and where applicable temperature readings are displayed.
8. If you experience difficulties obtaining readings then contact Raymarine Technical Support.

7.4 Transducer cable routing guidance

Guidance for routing your transducer's cable is provided below.

Important:

The transducer cable's connector is supplied with a separate locking collar assembly. Do NOT fit the locking collar assembly until after the cable has been routed to the display.

- The route the transducer cable will take to your MFD or sonar module should be planned before installing the transducer.
- The transducer is supplied with an 8 m (26.2 ft) fitted cable. If the cable length is too short then extension cables are available to lengthen the cable run.

Note: It is recommended that a maximum of two cable extensions are used, with the total cable length not exceeding 18 m (59 ft).

- The cable should be routed as far away as practical from VHF radio antennas and cabling.
- There should be sufficient slack is left at the transducer end to allow for the transducer to be tilted up and down.
- Any excess cable should be coiled up at a convenient location.
- The cable should be secured at regular intervals.

Caution: Transducer cable

- Do NOT use the transducer cable to lift or suspend the transducer; always support the transducer body directly during installation.
- Do NOT cut, shorten, or splice the transducer cable.
- Do NOT remove the connector.

If the cable is cut, it cannot be repaired. Cutting the cable will also void the warranty.

RealVision transducer extension cables

Your transducer is supplied with a fitted cable, for some installations (including all split-pair transducer installations) it may be necessary to extend the length of the transducer cable.

Note:

- For best performance, cable runs should be kept to a minimum.
- Only use Raymarine® transducer extension cables.

Raymarine® offers he following optional extension cables are available:

- RealVision™ transducer extension cable 3 m (9.8 ft) (part number A80475)
- RealVision™ transducer extension cable 5 m (16.4 ft) (part number A80476)
- RealVision™ transducer extension cable 8 m (26.2 ft) (part number A80477)

Split pair transducers: Extension cables fitted between the transducer and the 'Y' cable must be fitted in equal length pairs (i.e.: each transducer's final cable length must be the same).

Warning: Maximum transducer cable length

The maximum length of cable between a RealVision™ Max 3D transducer and a MFD/sonar module (including the transducer's captive cable) must NOT exceed 18 m (59 ft). Cable lengths greater than this may cause damage to the RealVision™ Max 3D transducer and MFD/sonar module.

7.5 Mounting

Mounting the transom mount bracket

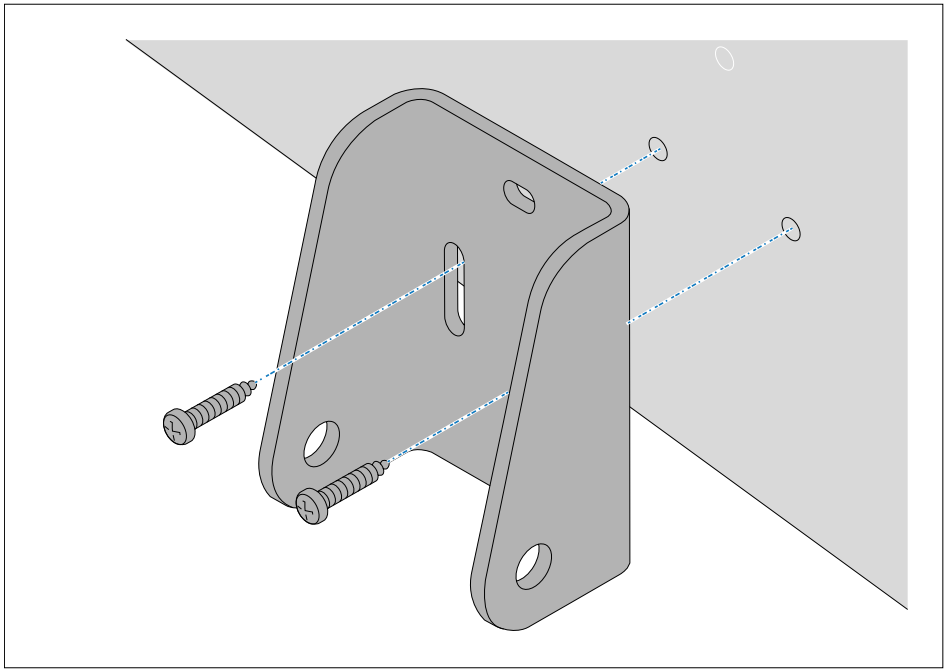
The transducer must be mounted on the transom using the mounting bracket provided. The steps below describe the initial mounting steps required in order to test your transducer's performance.

Important:

- Initially only the 2 holes for the height adjustment screws are required to secure the mounting bracket to the transom. The third screw is used to finalize the installation once the transducer has been tested and adjusted to obtain optimum performance.
- To help prevent chipping of fiberglass hulls, use painter's tape to mask the drill hole areas, behind the mounting template.

1. Fix the supplied transducer mounting template to the selected location, using masking or self-adhesive tape.
2. Ensure the template is parallel to the waterline.
3. Drill 2 x holes for the adjustment slot screws as indicated on the template.

4. Using a pozi-drive screw driver and the screws provided, secure the transom mount bracket using the 2 adjustment slots.



Note:

The third screw is not used until the transducer has been successfully tested.

Mounting the transducer

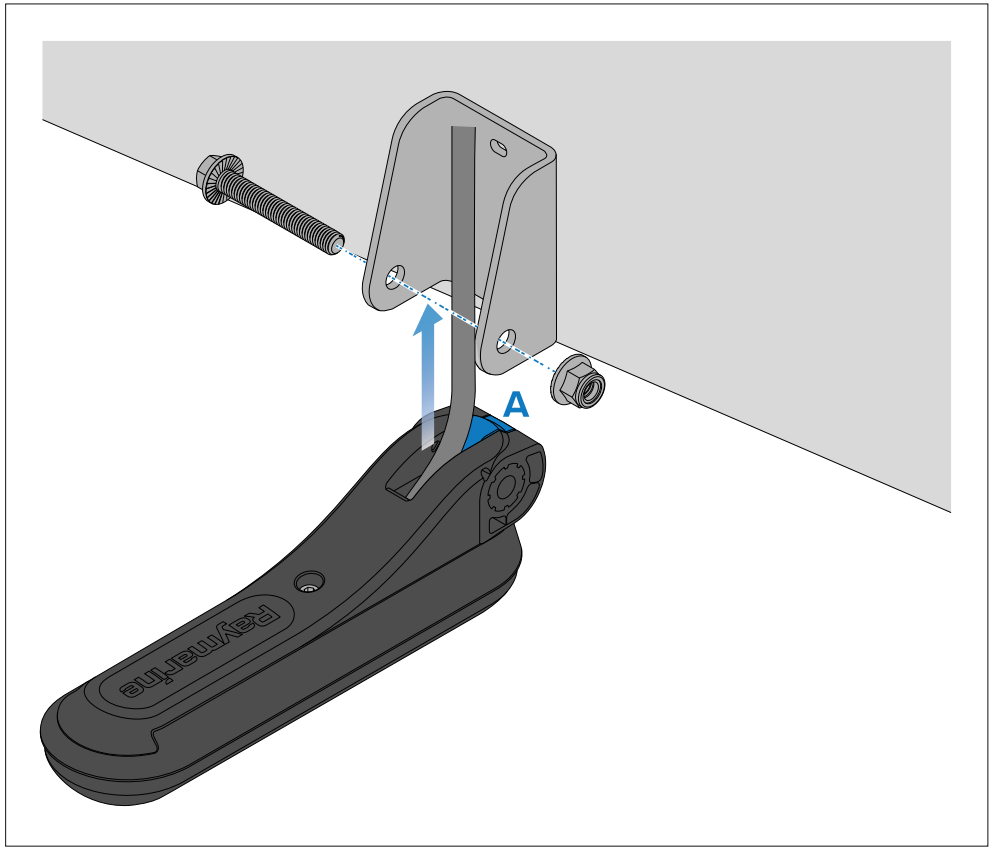
The transducer is mounted to the mounting bracket using the supplied nut and bolt.

Important:

- Only perform the installation with your vessel out of the water.
- Do NOT lift or suspend the transducer using its cable.
- Do NOT overtighten the bolt. Overtightening may cause damage to the transducer.

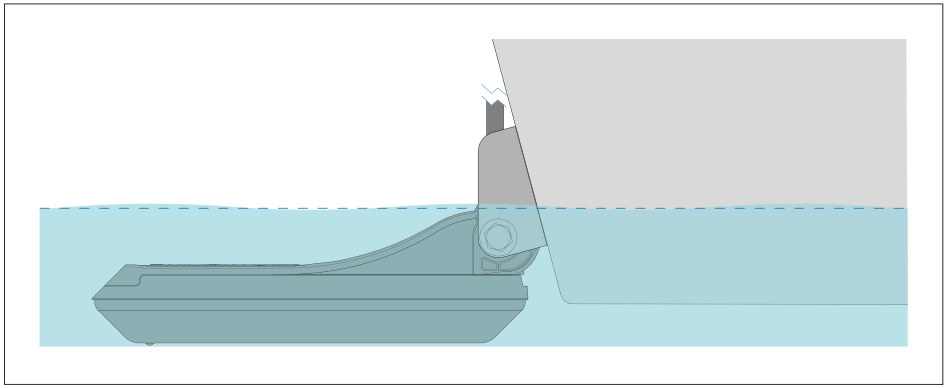
Note:

The screw located on top of the transducer is used when connecting the transducer to a mounting adaptor such as the Step mount bracket (A80479). You do not need to adjust this screw for transom mount installations.



1. Ensure that the plastic chock (marked '**A**' in the illustration) is positioned in front of the transducer cable. If it is not, push the chock into the correct position, aligning the hole in the chock with the holes in the transducer.
2. Position the transducer between the arms of the mounting bracket.
3. Align the hole in the transducer with the holes in the mounting bracket.
4. Slide the mounting bolt through the holes.
5. Screw the flanged nylock nut onto the end of the mounting bolt.

6. Tighten the nut onto the mounting bolt, using 2 x 14 mm wrenches or adjustable wrenches, until the transducer is secure, but can still be adjusted (tilted) by hand.
7. Tilt the transducer so that the bottom face of the transducer will be parallel with the waterline and tighten the nut and bolt until the transducer is held firmly in place.



Routing the cable

Always use the supplied cable clips to secure the transducer cable to the transom. If the cable will be routed through the transom, use the escutcheon plate to cover the hole.

1. Plan the route your cable will take to the MFD or sonar module.

   For cable routing guidance, refer to:
   p.26 — Transducer cable routing guidance

2. If required, drill a 25 mm (1 inch) hole in the transom at the desired location to route the cable through.
3. If required, drill 25 mm (1 inch) holes through any bulkheads that you want to route the cable through.
4. Round off the edges of any holes using a file to avoid damaging the cable on any sharp burrs.
5. Route the transducer cable to the MFD or sonar module, connecting any necessary extension cables.
6. Secure the cable to the transom using the supplied cable clips and screws.

   For detailed instructions, refer to: ***Securing the cable***

7. Where applicable, cover the hole in the transom using the supplied escutcheon plate.

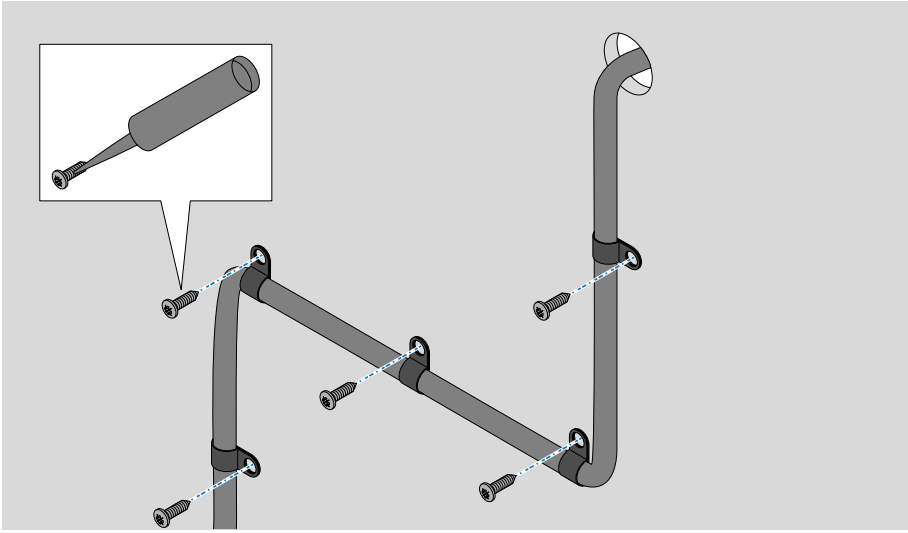
   For detailed instructions, refer to: ***Mounting the escutcheon plate***

Securing the cable

Use the supplied cable clips and screws to secure the transducer cable to the transom.

Note:

After applying marine grade sealant, always allow time for the sealant to fully cure before returning your vessel to the water.



1. When placing the first cable clip, ensure there is sufficient slack in the transducer cable to allow the transducer to tilt up and down.
2. Drill a pilot hole at the desired location.
3. Attach the cable clip to the cable.
4. Apply marine grade sealant to the thread of the cable clip screw.
5. Push the screw through the mounting hole in the cable clip.
6. Insert the screw into the pilot hole and tighten.

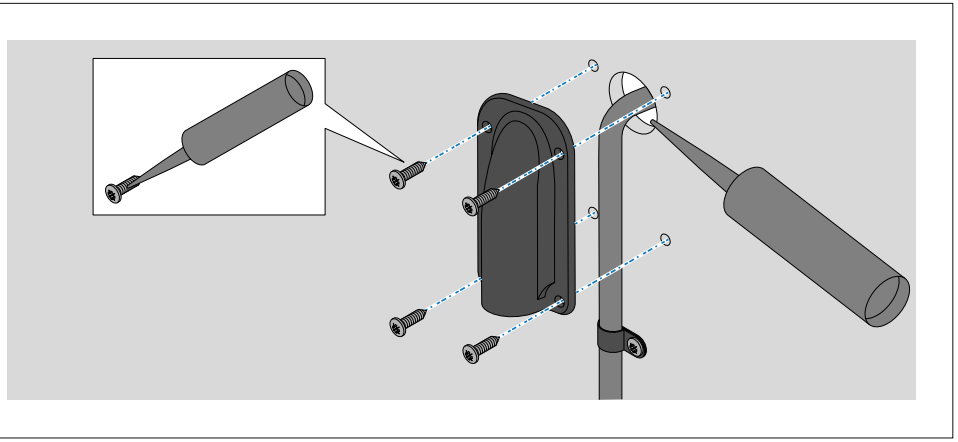
7. Pull the cable so that it is tight, ready for the next cable clip.
8. Repeat steps 2 to 7 for all cable clips.

Mounting the escutcheon plate

For installations where the transducer cable passes through the transom the supplied escutcheon plate should be used to cover the hole.

Note:

After you apply marine grade sealant always allow time for the sealant to fully cure before putting your vessel back in the water.



1. Hold the escutcheon plate in place over the hole in the transom.
2. Mark the location of the escutcheon plate's mounting holes on the transom.
3. Drill pilot holes in the marked locations.
4. Fill the hole with marine grade sealant.
5. Apply marine grade sealant to the threads of the supplied screws.
6. Insert and tighten screws.

7.6 Testing and adjusting the transducer

After the initial installation has been carried out, the transducer should be tested and — if required — adjusted prior to finalizing the installation.

The testing should be carried out with your vessel in the water, with a depth greater than 0.7 m (2.3 ft) but less than the maximum depth range of the transducer / sonar channel.

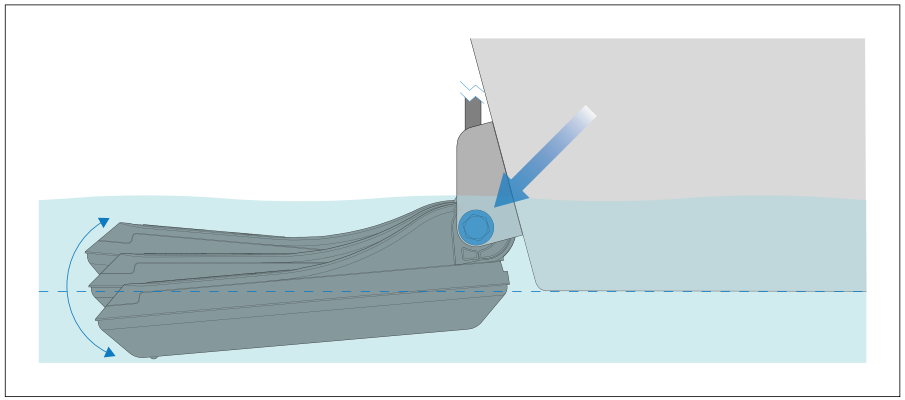
Note:

- It may not always be possible to obtain depth readings at higher speeds, due to air bubbles passing under the transducer.
- It may be necessary to make several adjustments to the transducer before obtaining optimum performance.
- If the transducer requires repositioning, ensure all old holes are filled with marine grade sealant.

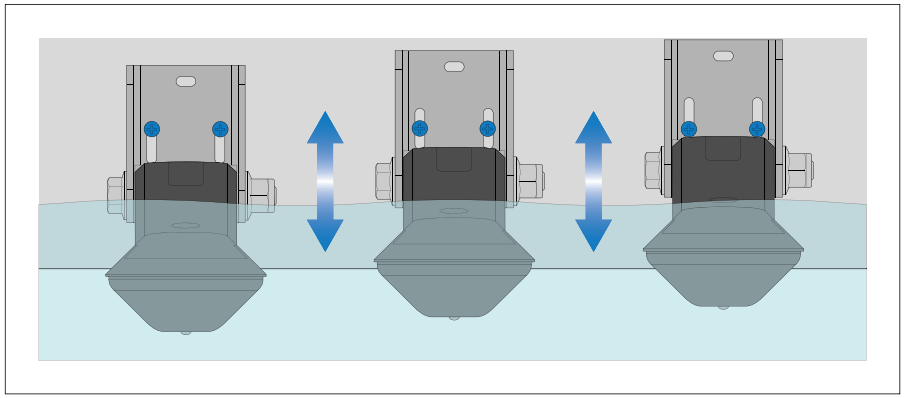
1. Open the Fishfinder / Sonar app on your MFD, and select the *[SONAR]* option from the menu.

   After a few seconds, the sea bottom should be visible onscreen, and a depth reading displayed.
2. Start moving your vessel at a low speed, ensuring you have a depth reading and a clear image is displayed.
3. Gradually increase the vessel speed whilst checking the sonar image. If the image becomes poor or the bottom is missing at lower speeds, then the transducer needs to be adjusted.
4. Angle and height adjustments should be made in small increments and re-tested each time until you obtain optimum performance.
   i. Loosen the mounting bolt to adjust the transducer angle.

Angle adjustment



ii. Loosen the 2 mounting bracket screws to adjust the transducer height.



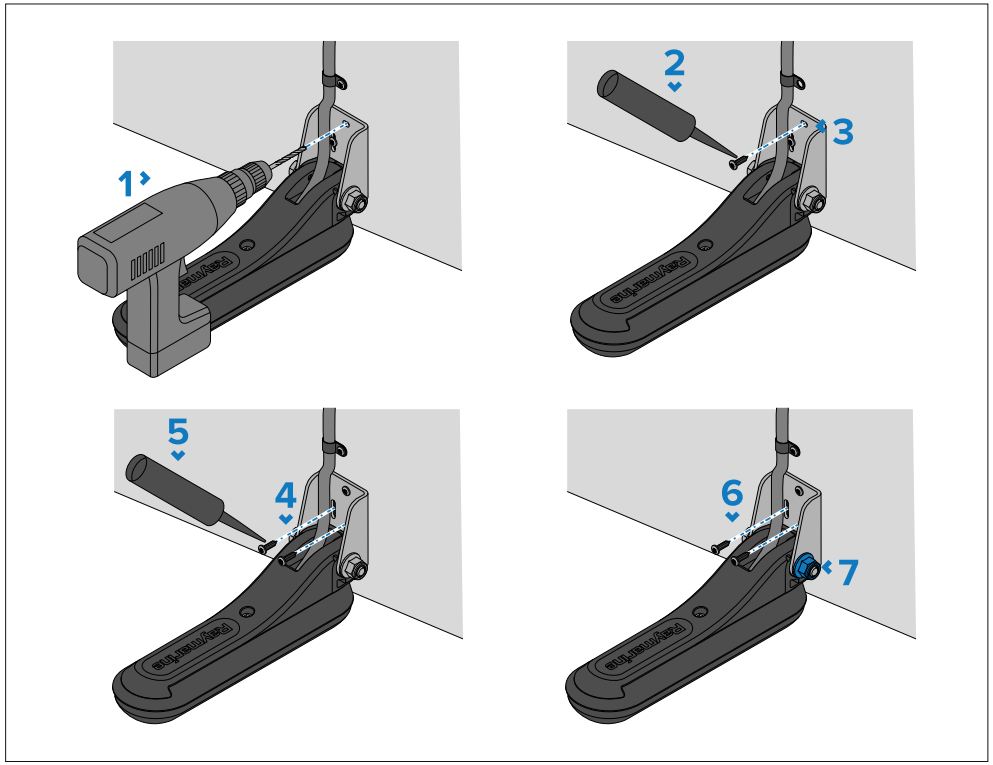
5. Re-tighten the mounting bolt and mounting screws before re-testing.

7.7 Finalizing the transducer mounting

After making any necessary adjustments to achieve optimum performance for your vessel, the transducer installation must be finalized by locking the transducer's position.

Note:

After you apply marine grade sealant, always allow time for the sealant to fully cure before returning your vessel to the water.



1. Drill the hole for the final locking screw, taking care not to damage the mounting bracket.
2. Apply marine grade sealant to the screw thread.
3. Insert and tighten the third 'locking' screw.
4. Carefully remove the 2 x screws in the adjustment slots.
5. Apply marine grade sealant to the screw threads.
6. Re-insert and tighten the screws.

7. Fully tighten the nut and bolt.

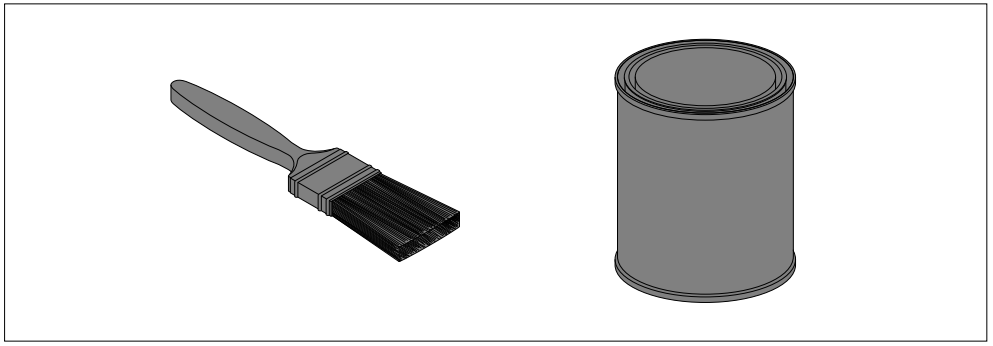
   Do not exceed a torque of 35 N·m (25.8 lbf·ft). The transducer should not be easily moveable by hand, and should remain in its normal operating position when your vessel is underway.

7.8 Anti-fouling

Where local regulations allow, it is recommended that you coat your transducer using a water-based anti-fouling paint. This will help prevent the build-up of organic growth, which can reduce transducer performance.

Important:

- Before applying water-based anti-fouling paint, check that local environmental rules and regulations do not prohibit the use of anti-fouling paint.
- Never use copper-based anti-fouling paint as this can impact transducer performance.
- Never use ketone-based anti-fouling paint as this can attack the transducer's plastic, damaging the transducer.
- Paint your transducer using a brush, do not use a spray can or a sponge roller as these methods can cause tiny air bubbles to be incorporated in the paint, which will also reduce transducer performance.



The anti-fouling paint should be applied in a thin and even coat covering all externally exposed transducer surfaces.

You should clean your transducer regularly and re-apply anti-fouling paint every 6 months, or sooner depending on how rapidly organic growth builds up.

For guidance on transducer cleaning refer to **p.44 — Transducer cleaning**

For instructions on re-applying anti-fouling paint refer to **p.44 — Re-applying anti-fouling paint**

CHAPTER 8: CABLES AND CONNECTIONS — GENERAL INFORMATION

CHAPTER CONTENTS

8.1 General cabling guidance

Cable types and length

It is important to use cables of the appropriate type and length.

- Unless otherwise stated only use cables supplied by Raymarine.
- Where it is necessary to use non-Raymarine cables, ensure that they are of correct quality and gauge for their intended purpose. (e.g.: longer power cable runs may require larger wire gauges to minimize voltage drop along the run).

Strain relief

Use adequate strain relief for cabling to ensure that connectors are protected from strain and will not pull out under extreme sea conditions.

Cable shielding

Ensure that cable shielding is not damaged during installation and that all cables are properly shielded.

Caution: Transducer cable

- Do NOT use the transducer cable to lift or suspend the transducer; always support the transducer body directly during installation.
- Do NOT cut, shorten, or splice the transducer cable.
- Do NOT remove the connector.

If the cable is cut, it cannot be repaired. Cutting the cable will also void the warranty.

CHAPTER 9: CONNECTIONS

CHAPTER CONTENTS

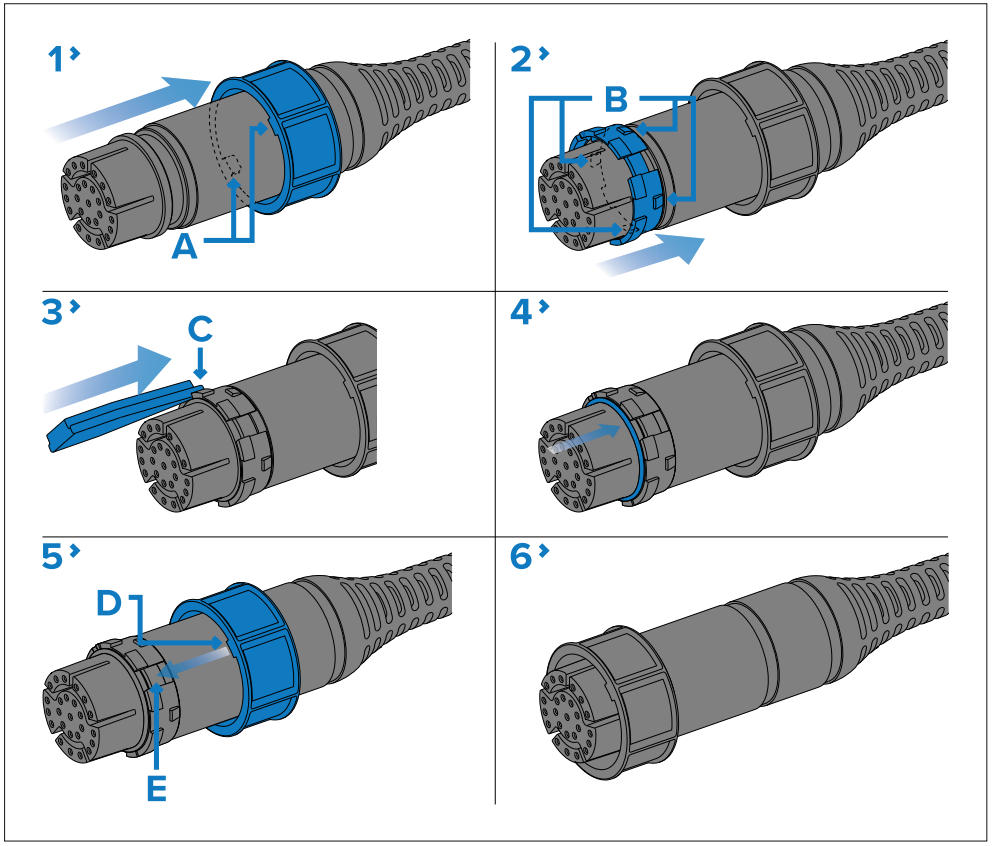
9.1 Attaching the connector locking collar

The supplied cable is provided with a separate locking collar assembly, ensuring that the cable connection is secure.

This procedure describes how to attach the locking collar to the cable connector. The locking collar parts are supplied in a separate bag, in the package with your product.

Important:

Ensure that you route the cable all the way to its destination **before** attaching the locking collar.



1. Slide the locking collar over the end of the connector, then push it towards the cable-end of the connector. Ensure that the lugs on the locking collar (labelled 'A' in the illustration), are closest to the plug-end of the connector.
2. Slide the split-ring over the end of the connector, then push it towards the cable-end of the connector. Ensure that the tabs on the split-ring (labelled 'B' in the illustration), are closest to the cable-end of the connector.

   The split-ring slides easily for approximately 1 cm (0.39 in) onto the connector, before butting up against the connector moulding.

3. Carefully insert the pointed end of the supplied tool into the split-ring's gap (labelled 'C' in the illustration). Use the tool to gently lever the split ring over the moulding on the connector until it snaps into position approximately 0.5 cm further back towards the cable-end of the connector.

   Always use the supplied tool when attaching the split ring. The split ring may become overstretched and break if you try to attach it without using the tool. A spare split ring is supplied with the locking collar assembly, in case of breakage.

4. Slide the O-ring (arrowed) over the end of the connector, and ensure that it is seated squarely against the connector moulding, adjacent to the split-ring.
5. Slide the locking collar towards the plug-end of the connector, rotating the collar as necessary to ensure that the lugs on the locking collar (labelled 'D' in the illustration) pass through the channels (labelled 'E') in the split-ring.

   The locking collar slides easily towards the plug-end of the connector, before butting up against the split-ring moulding.

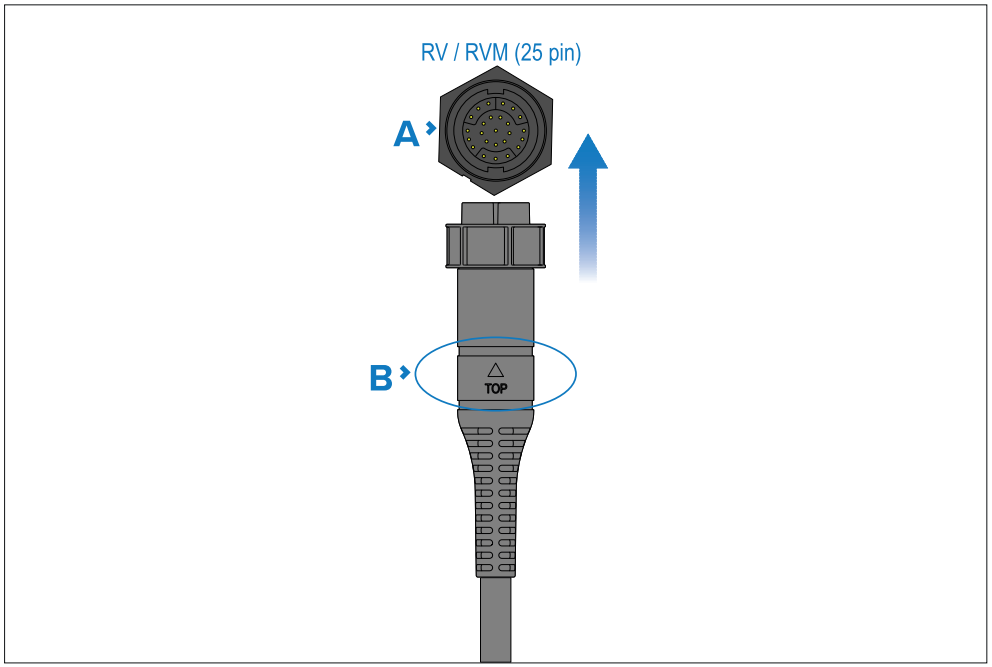
6. Grasp the body of the connector with one hand, then with the other hand, pull the locking collar firmly towards the plug-end of the connector.

   As you pull the locking collar, it clicks into place over the split-ring. The locking collar stays in position on the connector, but rotates freely.

9.2 Connecting the transducer

The transducer can be connected directly to the RealVision™ connector on the rear of Axiom™ 2 Pro MFDs, or the RVM1600 sonar module.

A right-angled connector adaptor cable (A80515) is available for installations where space behind the MFD is limited.



- **A** — MFD / sonar module connector.
- **B** — Orientation indicator.

1. Ensure the power supply to your MFD / sonar module is switched off.
2. Ensuring correct orientation, push the connector fully into the RealVision connection of your MFD / sonar module.

   The cable connector includes a marking to indicate the top of the connector.

3. Turn the locking collar clockwise to secure the connection.

9.3 RealVision transducer extension cables

Your transducer is supplied with a fitted cable, for some installations (including all split-pair transducer installations) it may be necessary to extend the length of the transducer cable.

Note:

- For best performance, cable runs should be kept to a minimum.
- Only use Raymarine® transducer extension cables.

Raymarine® offers he following optional extension cables are available:

- RealVision™ transducer extension cable 3 m (9.8 ft) (part number A80475)
- RealVision™ transducer extension cable 5 m (16.4 ft) (part number A80476)
- RealVision™ transducer extension cable 8 m (26.2 ft) (part number A80477)

Split pair transducers: Extension cables fitted between the transducer and the 'Y' cable must be fitted in equal length pairs (i.e.: each transducer's final cable length must be the same).

9.4 Maximum transducer cable length

The maximum length of cable between a RealVision™ Max 3D transducer and a MFD/sonar module (including the transducer's captive cable) must NOT exceed 18 m (59 ft). Cable lengths greater than this may cause damage to the RealVision™ Max 3D transducer and MFD/sonar module.

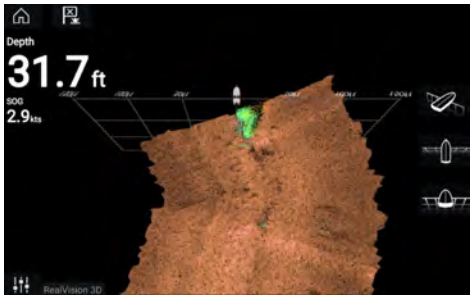
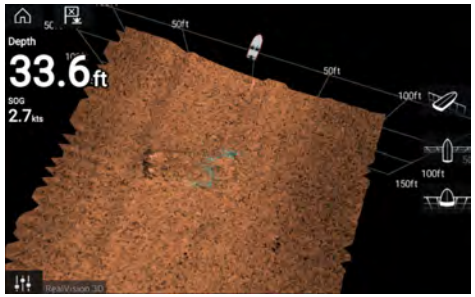
CHAPTER 10: SYSTEM CHECKS AND TROUBLESHOOTING

CHAPTER CONTENTS

10.1 RealVision™ AHRS calibration

RealVision™ transducers include a built-in AHRS (Attitude and Heading Reference Sensor), which measures the motion of your vessel to assist in the rendering of sonar images. After installation all RealVision™ transducers require calibration.

An uncalibrated transducer can produce an offset to the front edge of the render of the bottom in the sonar image, as illustrated below.

Uncalibrated	Calibrated
	

Calibration is an automatic process and starts after your vessel has turned approximately 100° at a speed of between 3 –15 knots. Calibration requires no user input, however at least a 270° turn is required before the calibration process can determine the local deviation and apply a relevant offset.

The time it takes to complete the calibration process will vary according to the characteristics of the vessel, the installation environment of the transducer, and the levels of magnetic interference at the time of conducting the process. Sources of significant magnetic interference may increase the time required to complete the calibration process. Certain areas with substantial magnetic deviation may require extra circles or “figure of 8” manoeuvres to be performed. Examples of such sources of magnetic interference include:

- Vessel engines
- Vessel alternators
- Marine pontoons
- Metal-hulled vessels
- Underwater cables

Note:

In some circumstances, it is beneficial to disable Realvision AHRS if local sources of magnetic interference are distorting the sonar image. Realvision AHRS can be disabled from *[Settings]*.

[Menu > Settings > Sounder > AHRS stabilization]

Note:

The Calibration process will require repeating after a *[Sonar reset]* or MFD *[Factory reset]*.

10.2 Troubleshooting

The troubleshooting section provides possible causes and the corrective action required for common problems that are associated with the installation and operation of your product.

Before packing and shipping, all Raymarine® products are subjected to comprehensive testing and quality assurance programs. If you do experience problems with your product, this section will help you to diagnose and correct problems to restore normal operation.

If after referring to this section you are still having problems with your product, please refer to the *Technical support* section of this manual for useful links and Raymarine® Product Support contact details.

Sonar troubleshooting

Scrolling image is not being displayed

Possible causes	Possible solutions
Sonar disabled	Enable *[Ping]* from the Fishfinder app’s sounder tab: *[Menu > Settings > Sounder > Ping enable]*.
Incorrect transducer selected	Check that the correct transducer is selected in the Fishfinder app’s Transducer tab: *[Menu > Settings > Transducer]*.

Possible causes	Possible solutions
Damaged cables	1. Check that the transducer cable connector is fully inserted and locked in position. 2. Check the power supply cable and connectors for signs of damage or corrosion, replace if necessary. 3. With the unit turned on, try flexing the cable near to the display connector to see if this causes the unit to re-boot/lose power, replace if necessary. 4. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion, replace if necessary. 5. With the product under load, using a multi-meter, check for high voltage drop across all connectors/fuses etc (this can cause the Fishfinder applications to stop scrolling or the unit to reset/turn off), replace if necessary.
Damaged or fouled transducer	Check transducer condition, ensuring it is not damaged and is free from debris/fouling. If necessary, clean or replace your transducer. After cleaning or replacement coat the transducer using a water-based anti-fouling paint.
Wrong transducer fitted	Check product and transducer documentation and ensure that the transducer is compatible with your system.

Possible causes	Possible solutions
External sonar module: network connection problem.	Check that the unit is correctly connected to your display or network switch. Check all connections to ensure that they are secure, clean and free from corrosion, replace if necessary.
External sonar module: software mismatch between equipment may prevent communication.	Ensure all Raymarine® products contain the latest available software, check the Raymarine® website: www.raymarine.com/software for software compatibility.

No depth reading / lost bottom lock

Possible causes	Possible solutions
Transducer location	Check that the transducer has been installed in accordance with the instructions provided with the transducer.
Transducer angle	If the transducer angle is too great the beam can miss the bottom, adjust transducer angle and recheck.
Transducer kicked-up	If the transducer has a kick-up mechanism, check that it has not kicked up due to hitting an object.
Power source insufficient	With the product under load, using a multi-meter, check the power supply voltage as close to the unit as possible to establish actual voltage when the current is flowing. (Check your product's Technical specification for power supply requirements.)
Damaged or fouled transducer	Check transducer condition, ensuring it is not damaged and is free from debris/fouling. If necessary, clean or replace your transducer. After cleaning or replacement coat the transducer using a water-based anti-fouling paint.

Possible causes	Possible solutions
Damaged cables	1. Check the unit's connector for broken or bent pins. 2. Check that the cable connector is fully inserted into the unit and that the locking collar is in the locked position. 3. Check the cable and connectors for signs of damage or corrosion, replace if necessary. 4. With the unit turned on, try flexing the power cable near to the display connector to see if this causes the unit to re-boot/lose power, replace if necessary. 5. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion, replace if necessary. 6. With the product under load, using a multi-meter, check for high voltage drop across all connectors/fuses etc (this can cause the Fishfinder applications to stop scrolling or the unit to reset/turn off), replace if necessary.
Vessel speed too high	Slow vessel speed and recheck.
Bottom too shallow or too deep	The bottom depth may be outside of the transducers depth range, move vessel to shallower or deeper waters as relevant and recheck.
Ping depth limit set	If using a transducer with greater than 600 W power, check if the *[Ping depth limit]* has been enabled: *[Menu > Settings > Transducer > Ping depth limit]*. If you are in water deeper than the specified *[Ping depth limit]* then the transducer may not provide depth readings. Disable or adjust setting and retry.

Poor / problematic image

Possible causes	Possible solutions
Targets will appear differently if your vessel is stationary (e.g.: fish will appear on the display as straight lines).	Increase vessel speed.
Scrolling paused or speed set too low	Unpause or increase sonar scrolling speed.
Sensitivity settings may be inappropriate for present conditions.	Check and adjust sensitivity settings or perform a Sonar reset.
Damaged cables	1. Check the unit's connector for broken or bent pins. 2. Check that the cable connector is fully inserted into the unit and that the locking collar is in the locked position. 3. Check the cable and connectors for signs of damage or corrosion, replace if necessary. 4. With the unit turned on, try flexing the power cable near to the display connector to see if this causes the unit to re-boot/lose power, replace if necessary. 5. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion, replace if necessary. 6. With the product under load, using a multi-meter, check for high voltage drop across all connectors/fuses etc (this can cause the Fishfinder applications to stop scrolling or the unit to reset/turn off), replace if necessary.

Possible causes	Possible solutions
Transducer location	• Check that the transducer has been installed in accordance with the instructions provided with the transducer. • If a transom mount transducer is mounted too high on the transom it may be lifting out of the water, check that the transducer face is fully submerged when planing and turning.
Transducer kicked-up	If the transducer has a kick-up mechanism, check that it has not kicked up due to hitting an object.
Damaged or fouled transducer	Check transducer condition, ensuring it is not damaged and is free from debris/fouling. If necessary, clean or replace your transducer. After cleaning or replacement coat the transducer using a water-based anti-fouling paint.
Damaged transducer cable	Check that the transducer cable and connection is free from damage and that the connections are secure and free from corrosion.
Turbulence around the transducer at higher speeds may affect transducer performance	Slow vessel speed and recheck.
Interference from another transducer	1. Turn off the transducer causing the interference. 2. Reposition the transducers so they are farther apart.
Unit power supply fault	Check the voltage from the power supply, if this is too low it can affect the transmitting power of the unit.

Resetting the sonar module

You can use the reset function on a compatible Raymarine multifunction display to restore the sonar module to its factory default settings.

In the fishfinder application:

1. Select *[Menu]*.
2. Select *[Set-up]*.
3. Select *[Sounder Set-up]*.
4. Select *[Sonar Reset]*.
5. Select *[Yes]* to confirm or *[No]* to abort the operation, as appropriate.

The unit will now be reset to factory default settings.

CHAPTER 11: MAINTENANCE

CHAPTER CONTENTS

11.1 Routine checks

The following periodic checks should be made:

- Examine cables for signs of damage, such as chafing, cuts or nicks.
- Check that the cable connectors are firmly attached and that their locking mechanisms are properly engaged.

Note:

Cable checks should be carried out with the power supply switched off.

Warning: High voltage

This product contains high voltage. Adjustments require specialized service procedures and tools only available to qualified service technicians. There are no user serviceable parts or adjustments. The operator should never remove the cover or attempt to service the product.

11.2 Transdducer cleaning

You must clean your transducer regularly to remove organic growth. Organic growth can build up quickly on the bottom face of your transducer; this can impact transducer performance in a matter of weeks.

Important:

- When cleaning growth from an anti-fouled transducer, take care not to let paint dust and other debris enter the water, as this can have an impact on aquatic life.
- Take care not to scratch the surface of the transducer as this can impact transducer performance.
- Do NOT use harsh cleaning solvents such as acetone as this will damage the transducer.

Follow the guidance below to clean growth from your transducer:

- Use a soft cloth and a mild household cleaning detergent to clean mild growth build up.
- Use a scouring pad, such as a green Scotch Brite™ pad and a mild household cleaning detergent to clean moderate growth build up.
- You may need to use a fine grade wet and dry paper and a mild household cleaning detergent to clean severe build up.

11.3 Re-applying anti-fouling paint

If you have applied anti-fouling paint to your transducer, it is important to re-apply it at least every 6 months, to maintain effectiveness.

Follow the instructions below to re-apply anti-fouling paint.

Important:

- Following environmental best practice, preparation and re-application of the anti-fouling paint should be performed using suitable washdown facilities, which ensures paint particles do not enter the water and impact aquatic life.
- Take care not to scratch the transducer face, as this may impact transducer performance.

1. Remove your vessel from the water.
2. Clean your transducer, ensuring all organic growth is removed.
3. Remove any flaking anti-foul paint.
4. Use a soft dry cloth to remove any loose bits of paint.
5. Re-apply a water-based anti-fouling paint.

CHAPTER 12: TECHNICAL SUPPORT

CHAPTER CONTENTS

12.1 Raymarine product support and servicing

Raymarine provides a comprehensive product support service, as well as warranty, service, and repairs. You can access these services through the Raymarine website, telephone, and e-mail.

Product information

If you need to request service or support, please have the following information to hand:

- Product name.
- Product identity.
- Serial number.
- Software application version.
- System diagrams.

You can obtain this product information using diagnostic pages of the connected display.

Servicing and warranty

Raymarine offers dedicated service departments for warranty, service, and repairs.

Don't forget to visit the Raymarine website to register your product for extended warranty benefits: http://www.raymarine.co.uk/display/?id=788.

United Kingdom (UK), EMEA, and Asia Pacific:

- E-Mail: emea.service@raymarine.com
- Tel: +44 (0)1329 246 932

United States (US):

- E-Mail: rm-usrepair@flir.com
- Tel: +1 (603) 324 7900

Web support

Please visit the "Support" area of the Raymarine website for:

- **Manuals and Documents** — http://www.raymarine.com/manuals
- **Technical support forum** — https://raymarine.custhelp.com/app/home
- **Software updates** — http://www.raymarine.com/software

Worldwide support

United Kingdom (UK), EMEA, and Asia Pacific:

- Help desk: https://raymarine.custhelp.com/app/ask
- Tel: +44 (0)1329 246 777

United States (US):

- Help desk: https://raymarine.custhelp.com/app/ask
- Tel: +1 (603) 324 7900 (Toll-free: +800 539 5539)

Australia and New Zealand (Raymarine subsidiary):

- E-Mail: aus.support@raymarine.com
- Tel: +61 2 8977 0300

France (Raymarine subsidiary):

- E-Mail: support.fr@raymarine.com
- Tel: +33 (0)1 46 49 72 30

Germany (Raymarine subsidiary):

- E-Mail: support.de@raymarine.com
- Tel: +49 40 237 808 0

Italy (Raymarine subsidiary):

- E-Mail: support.it@raymarine.com
- Tel: +39 02 9945 1001

Spain (Authorized Raymarine distributor):

- E-Mail: sat@azimut.es
- Tel: +34 96 2965 102

Netherlands (Raymarine subsidiary):

- E-Mail: support.nl@raymarine.com
- Tel: +31 (0)26 3614 905

Sweden (Raymarine subsidiary):

- E-Mail: support.se@raymarine.com
- Tel: +46 (0)317 633 670

Finland (Raymarine subsidiary):

- E-Mail: support.fi@raymarine.com
- Tel: +358 (0)207 619 937

Norway (Raymarine subsidiary):

- E-Mail: support.no@raymarine.com
- Tel: +47 692 64 600

Denmark (Raymarine subsidiary):

- E-Mail: support.dk@raymarine.com
- Tel: +45 437 164 64

Russia (Authorized Raymarine distributor):

- E-Mail: info@mikstmarine.ru
- Tel: +7 495 788 0508

12.2 Learning resources

Raymarine has produced a range of learning resources to help you get the most out of your products.

Video tutorials

Raymarine official channel on YouTube

- http://www.youtube.com/user/RaymarineInc

Training courses

Raymarine regularly runs a range of in-depth training courses to help you make the most of your products. Visit the Training section of the Raymarine website for more information:

- http://www.raymarine.co.uk/view/?id=2372

Technical support forum

You can use the Technical support forum to ask a technical question about a Raymarine product or to find out how other customers are using their Raymarine equipment. The resource is regularly updated with contributions from Raymarine customers and staff:

- https://raymarine.custhelp.com/app/home

CHAPTER 13: TECHNICAL SPECIFICATION

CHAPTER CONTENTS

13.1 Physical specification

Specification	
Dimensions (including bracket):	• Length: 256.6 mm (10.10 in) • Height: 120.5 mm (4.74 in)
Cable length:	8 m (26.2 ft)
Weight (including bracket):	0.647 kg (1.42 lb)

13.2 Environmental specification

Specification	
Operating temperature range:	–2°C (28.4°F) to + 55°C (131°F)
Storage temperature range:	–20°C (23°F) to + 70°C (158°F)
Waterproof rating:	• IPx6 (surfaces exterior to hull, only) • IPx7 • IPx8

13.3 RealVision™ Max 3D sonar specification

The following specification only applies to RealVision™ Max 3D products.

Specification	
Sonar channels:	• RealVision™ Max 3D • SideVision™ • DownVision™ • Conical High CHIRP/Low CHIRP 600 W/200 kHz
Sensors:	• Temperature sensor • AHRS (Attitude and Heading Reference System) sensor

Sonar range

The sonar range is the effective depth or distance that the transducer can operate to, **in optimum weather conditions**.

The following ranges apply to RealVision™ Max 3D sonar channels:

Note:

The listed sonar channel ranges are indicative only, and are subject to change depending upon the connected transducer.

Sonar channel	Range
CHIRP sonar:	0.6 m (2 ft) to 366 m (1,200 ft)
DownVision™:	0.6 m (2 ft) to 183 m (600 ft)
SideVision™:	0.6 m (2 ft) to 91 m (300 ft)
RealVision™ Max 3D:	0.6 M (2 ft) to 91 m (300 ft)

13.4 Conformance specification

Specification	
Standards:	• EN 60945:2002 • IEC 28846:1993 • EMC Directive 2014/30/EU • Australia and New Zealand: C-Tick, Compliance Level 2

CHAPTER 14: SPARES AND ACCESSORIES

CHAPTER CONTENTS

14.1 Accessories

Extension cables and adapters

- **A80515** — RealVision™ transducer right-angled adapter cable 400 mm (15.7 in.).
- **A80475** — RealVision™ transducer extension cable 3 m (11.8 ft.).
- **A80476** — RealVision™ transducer extension cable 5 m (19.7 ft.).
- **A80477** — RealVision™ transducer extension cable 8 m (31.5 ft.).

Mounting accessories

- **A80479** — RealVision™ transducer step mount.
- **A80480** — RealVision™ transducer jack plate mount
- **A80482** — RealVision™ transducer jack plate spacer kit

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