

CPT-90DVS / CPT-100DVS Installation instructions



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 recommends certified installation by a Raymarine approved installer. A certified installation qualifies for enhanced product warranty benefits. Contact your Raymarine dealer for further details, and refer to the separate warranty document packed with your product.



Warning: High voltages

This product may contain high voltages. Do NOT remove any covers or otherwise 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.

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.

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.

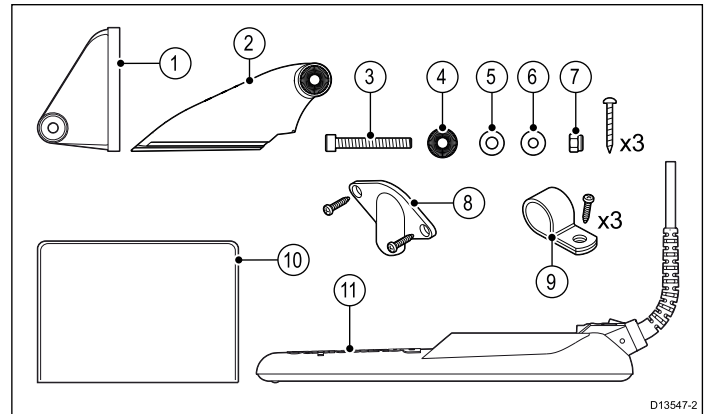
If the cable is cut, it cannot be repaired. Cutting the cable will also void the warranty.

Caution: Product cleaning

When cleaning products:

- Lightly rinse or flush with clean, cool fresh water.
- If your product has a display screen, do NOT wipe the screen with a dry cloth, as this could scratch the screen coating.
- Do NOT use: abrasive, acidic, ammonia, solvent of chemical based cleaning products.
- Do NOT use a jet wash.

Parts supplied



1. Mounting bracket
2. Ratchet arm
3. M5 Hex ratchet bolt
4. Ratchet plate
5. Compression washer
6. M5 washer
7. M5 locking nut
8. *Escutcheon (for through-transom cable routing), plus 2 screws
9. *P-clips and 3 screws
10. Documentation
11. Transducer with cable

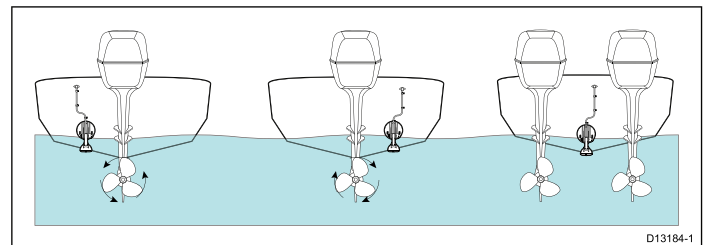
Note: * NOT supplied with CPT-90DVS variant.

Selecting a location for the transducer

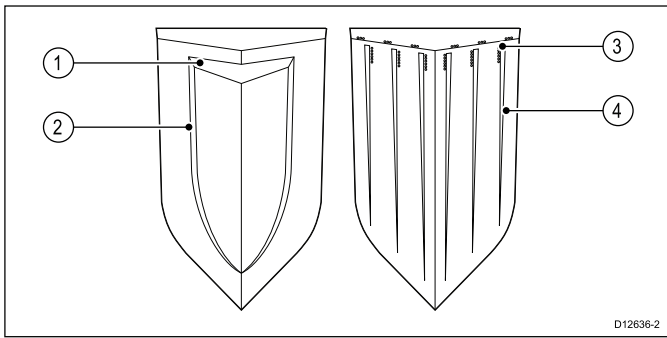
This product is supplied with a transom mount transducer. The guidelines below should be followed when selecting a location for the transducer.

Note: The transducer is not suitable for mounting on vessels where the transom is aft of the propeller(s).

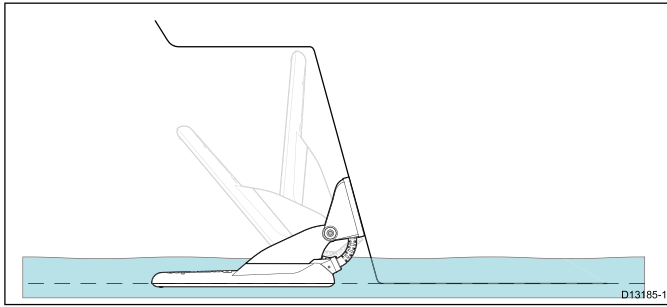
For best performance the transducer must be installed in a location with the least turbulence and aeration. The most effective way to determine this is by checking the water flow around the transom whilst underway.



- Mount close to the keel (centerline), in a position where the transducer element will be fully submerged when the vessel is planing and turning.
- Mount a suitable distance from the propeller(s) to avoid wake.
- 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 between the engines.
- Turbulence can be caused by a number of other factors such as steps (1), ribs (2), rows of rivets (3) and strakes (4). The turbulence appears aft of these locations.



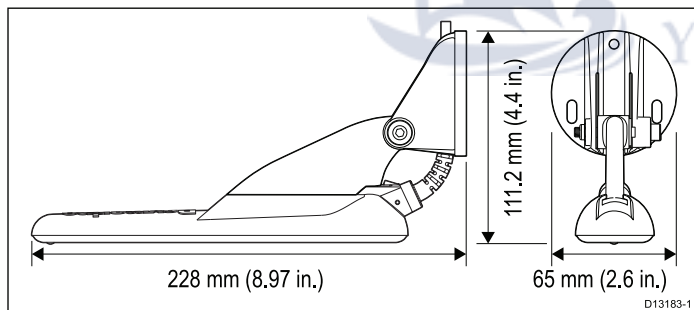
- Air trapped under the front of the vessel can travel under the hull and appear as aeration aft.
- If installing on the step of a stepped transom, allow sufficient room above the transducer for transducer kick up.



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.

Product dimensions – CPT-DV / CPT-DVS / CPT-100DVS / CPT-90DVS

The transducer's dimensions including the transom mounting bracket are shown below.



- The CPT-DV cable length is 4 m (13.1 ft.)
- The CPT-DVS cable length is 6 m (19.7 ft.)
- The CPT-90DVS cable length is 6 m (19.7 ft.)
- The CPT-100DVS cable length is 10 m (32.8 ft.)

Cable routing

Cable routing requirements for the transducer cable.

Important: To avoid interference, the cable must be routed as far away from VHF radio antenna cables as possible.

- The cable can be routed through or over the transom.
- Check that the cable is long enough to reach the equipment that it will be connected to. An optional 4 m (13.1 ft) extension cable is available if required.
- Ensure there is enough slack in the transducer cable, at the transducer end, to allow the transducer to pivot up and down.
- Secure the cable at regular intervals using cable clips. Please note, cable clips are not supplied with all transducer variants.

- Fill all transom mounting holes with marine-grade neutral cure polyurethane sealant prior to tightening securing screws.
- Fill the transom cable hole with marine-grade neutral cure polyurethane sealant after routing the cable (if routing through the transom).
- Use an escutcheon to cover over the transom cable hole (if routing through the transom). Please note, an escutcheon is not supplied with all transducer variants.
- Any excess cable can be coiled up at a convenient location.

Note: Do NOT use sealants containing acetate or silicone, which can cause damage to plastic parts.

Maximum transducer cable length

The maximum recommended cable length from the transducer to the unit is shown below.

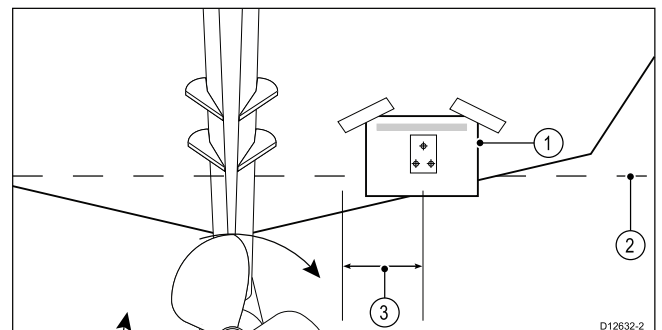
CPT-DV	8 m (26.2 ft.) — 4 m (13.1 ft.) supplied cable + 4 m (13.1 ft.) extension cable
CPT-DVS	10 m (32.8 ft.) — 6 m (19.7 ft.) supplied cable + 4 m (13.1 ft.) extension cable
CPT-90DVS	10 m (32.8 ft.) — 6 m (19.7 ft.) supplied cable + 4 m (13.1 ft.) extension cable
CPT-100DVS	14 m (45.9 ft.) — 10m (32.8 ft.) supplied cable + 4 m (13.1 ft.) extension cable

Note: Extending the transducer cable beyond the maximum stated length will cause poor performance.

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 transducers performance. After testing the transducer you must finish the mounting following the instructions in the *Finishing the transducer mounting* section.

1. Fix the transducer mounting template to the selected location, using masking or self-adhesive tape.

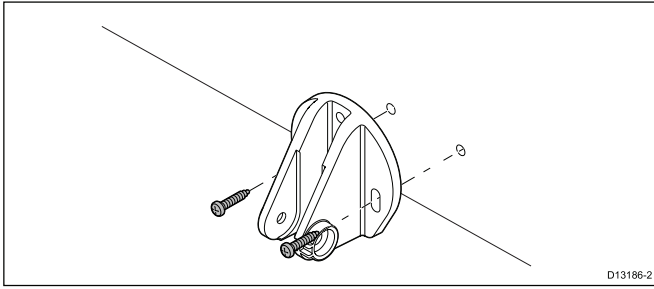


1	Transducer mounting template
2	Waterline
3	Mounting away from propeller

2. Ensure the template is parallel to the waterline.
3. Drill 2 x holes for the adjustment slot screws as indicated on the template.

Note: Do NOT drill the third mounting hole at this stage.

- Fill the 2 holes with marine grade sealant.
- Using a pozi-drive screw driver and the screws provided, secure the transom mount bracket using the 2 adjustment slots.

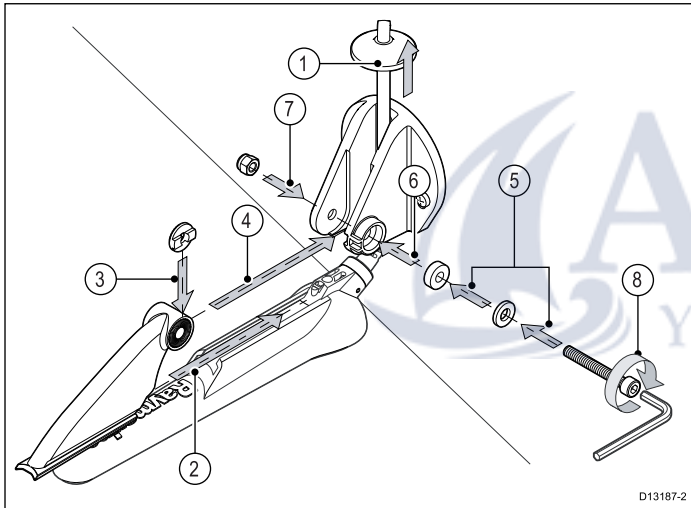


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Note: The third locking screw is not used until the transducer has been successfully tested.

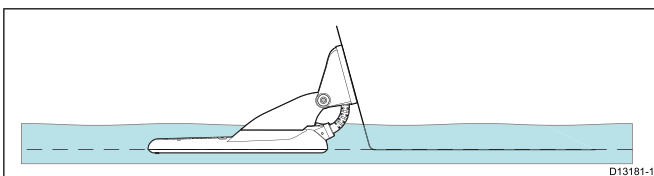
Mounting the transducer

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 transducers performance. After testing the transducer you must finish the mounting following the instructions in the *Finishing the transducer mounting* section.



D13187-2

- Feed the transducer cable between the posts on the mounting bracket as shown.
- Slide the ratchet arm into the guide on the top of the transducer, ensuring it locks in place.
- Hold the ratchet plate in place on the ratchet arm as shown.
- Insert the ratchet arm between the mounting bracket posts, aligning the center hole with the holes in the posts.
- Slide the M5 washer and then the compression washer onto the ratchet bolt.
- Slide the ratchet bolt through the mounting bracket assembly.
- Insert the M5 locking nut into the captive housing on the mounting bracket.
- Using a 4 mm Hex wrench (allen key) tighten the ratchet bolt until the ratchet mechanism is engaged but can still be adjusted by hand.
- Position the transducer so that the bottom face of the transducer will be parallel with the waterline and tighten the ratchet bolt.



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The transducer position will be adjusted further during testing.

Testing and adjusting the transducer

Once the initial mounting procedures have been carried out, the transducer must be tested prior to finishing the mounting.

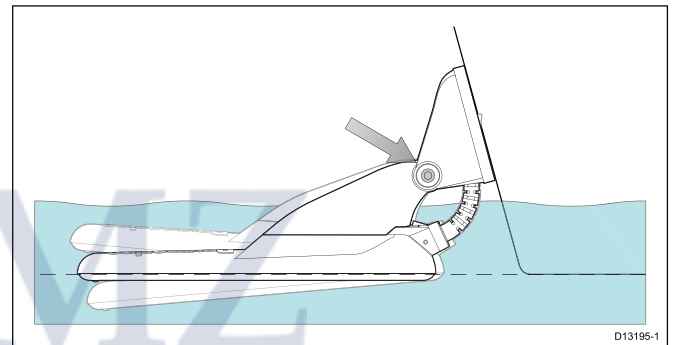
The testing should be carried out with your vessel in the water, with a depth greater than 0.7 m (2.3 ft) but less than the maximum depth range of the transducer.

Important: The Sonar channel will be able to maintain readings at higher vessel speeds and at greater depths than the **DownVision™** application.

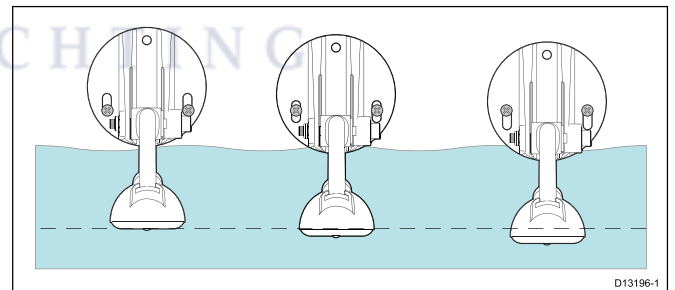
- Press and hold the **Power** button to power the unit on.
- Complete the Start-up wizard and tutorial.
- Open the relevant application.

The bottom should be visible onscreen and a depth reading displayed.

- Start moving your vessel at a low speed, ensuring you have a depth reading and a clear image is displayed.
- Gradually increase the vessel speed whilst checking the display, if the image becomes poor or the bottom is missing at lower speeds then the transducer needs to be adjusted.
- Angle and height adjustments should be made in small increments and re-tested each time until you obtain optimum performance.



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D13196-1

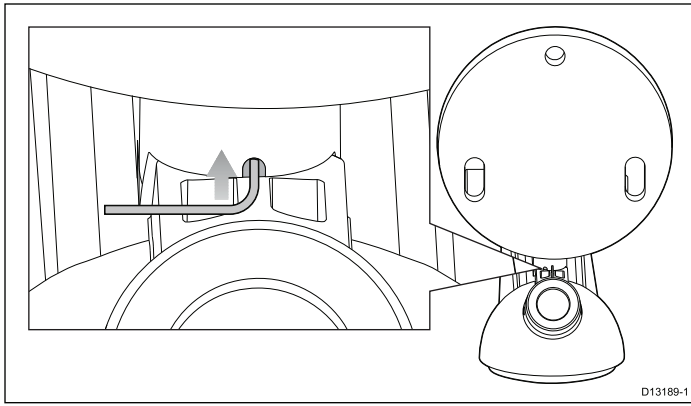
- Loosen the ratchet arm bolt to adjust the transducer angle.
- Loosen the 2 mounting bracket screws to adjust the transducer height.
- Re-tighten the ratchet arm bolt and mounting screws before re-testing.

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.

Removing the transducer

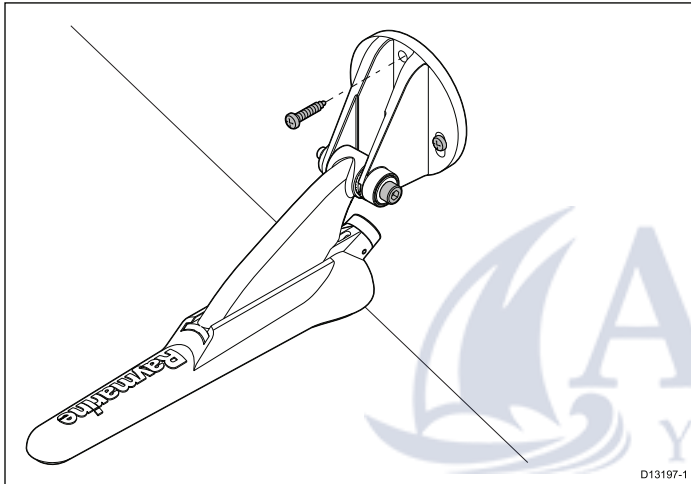
The transducer can be released from the bracket by inserting a small metal rod such as a paperclip into the transducer release hole located as shown.



1. Insert the metal rod into the transducer release hole.
2. Slide the transducer off of the bracket.

Finalizing the transducer mounting

Once you have achieved optimum performance at the desired vessel speeds the transducer must be locked into position to complete the installation.



1. Drill the locking hole location taking care not to damage the mounting bracket.
2. Fill the locking hole with marine grade sealant.
3. Secure the transducer and bracket by fully tightening all 3 mounting screws.
4. Secure the ratchet arm bolt, by tightening until the compression washer is compressed and then add another 1/4 turn. If the transducer kicks up at speed then tighten further.

Important: Take care to ensure that the pivot bolt is not overtightened as this will prevent kick-up and may cause damage.