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Drive temp gauge installation instructions

Model Number: DCSDT (color)

The Livorsi drive temp gauge kit easily installs into most outdrives. It is important to verify that the probe provided fits the outdrive before beginning installation. Some boats may have been custom designed at the factory. As with any modification to your boat, it is recommended that this kit be installed by a qualified mechanic.

This kit includes the following components:

1 - 2" gauge 100°-300°F

1 – Deutsch connector harness

1 – drive temp to above Deutsch harness (25')

1 – instruction

ENSURE THAT THE TEMP PROBE FITS YOUR OUTDRIVE BEFORE BEGINNING INSTALLATION.

Drilling through the transom

Once it has been confirmed that the sensor will fit the outdrive, look at the transom of the boat from the inside and find a spot that is ABOVE the water line and clear of any internal hardware mounted on the inner transom.

The specific location will be determined once it is known where the UPPER vent plug is on the drive – all makes have different locations. The vent hole's location will assign which side of the transom will need to be targeted for the drill hole which will allow the probe harness to pass inside.

Once that is established, make certain that the outdrive can turn fully from stop to stop, and also full up and down with the proposed location of the drill hole, to ensure no binding or pulling of the braided probe hose.

Remember: approx three inches of the braided hose will be inserted into the hole in the transom so allow for that when placing the hole spot.

Tip: On Volvo drives, the vent plug is usually located on the top of the drive, allowing the option of drilling the hole on either side, or directly above.

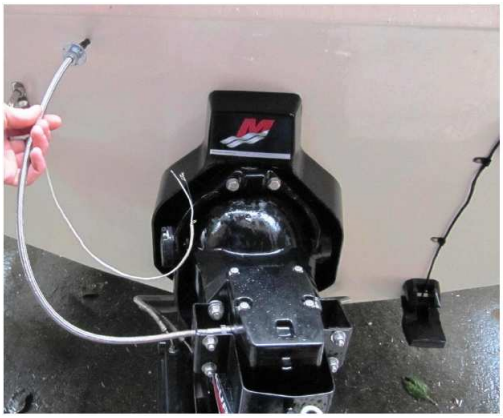
Note: When checking the thread on the sender probe, make certain there are no clearance issue, so the probe tip does not interfere with anything.

After determining a clear spot on the inner transom, drill a small (1/4") pilot hole from the inside of the boat through the transom. This will provide a locating hole you can see from the outside of the boat.

Drill the hole for the through-hull fitting.

Using a 9/16 drill bit, turn the drill reverse first, and once past the gel coat, back forward to finish drilling the remaining holes.

CAUTION: The through-hull fitting MUST be mounted above the waterline to be most effective. Failure to do so may result in a leak.



Installing the through-hull fitting

Feed the sensor cable that is attached to the temp probe assembly through the transom hole forward to the dash.

Tip: when feeding the cabling through the transom, put one bullet connector through at a time (one behind the other) to allow them to fit through the hole.

Once all the cabling is pulled through the transom hole, push the through-hull fitting against the transom, and mark the three screw holes.

Make pilot holes for the three screws; and ONLY drill 1" deep into the transom.

Slide the large piece of the through-hull fitting as far as possible to the opposite end as the probe.

Apply a liberal amount of silicone in a circle around the big hole for the cable, and push a small amount into the three holes to aid in the seal of the screws as well.

Allow the sealant to dry before putting boat back into the water. 3M 4200 or comparable alternative is recommended.

Push the through-hull fitting against the transom and screw it in.

WARNING: DO NOT over tighten the screws, as they may strip. This part is done by "feel".

Installing the probe

Remove the vent plug, and also remove the existing seal from the vent plug for re-use.

Sometimes the seal may not come out with the plug – verify that it is still on the vent plug or stuck to the outdrive. Inspect it thoroughly – if there is any doubt that it is less than perfect, replace it with another from a local parts store.

CAUTION: The gear housing is made of aluminum. Over-torquing will cause thread damage. Be careful.

Tighten the probe until it begins to seat in the housing. Use the correct size wrench, turn the probe ¼ turn.

Now that the probe and through-hull fitting are installed, double check the routing of the braided hose by moving the drive side to side, and also up and down.

If the full range of motion is not limited or endangering the hose, slide the rubber grommet on the hose into the through-hull fitting then secure nut on the fitting.

Tighten until the rubber begins to be 'squashed' around the hose. DO NOT over tighten. If desired, use additional silicon to seal the inside.

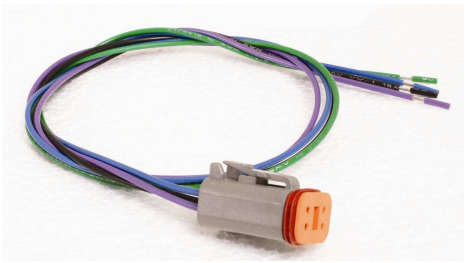
Gauge installation

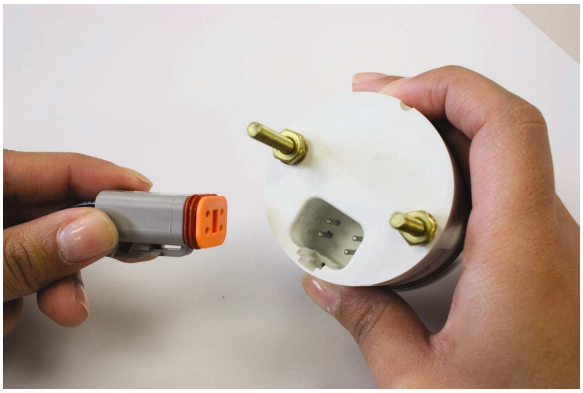
Select a location on your dash to mount the gauge, and if there is an existing hole to use, route wiring to that point and install the gauge.

If no existing hole is present, one will need to be made. Using a 2 1/6" (preferred) or a 2 1/8" hole saw, inspect the backside of the area planned for the hole to be made, to make certain no cables or wires are obstructing the spot.

Using one of hole saws and its pilot drill, begin the hole and stop before the saw hits the gel coat. Once it is ready, reverse the drill direction and score the surface with the saw, so that the potential of the gel coat cracking will be minimized.

Mount the gauge into the hole, using the supplied mounting bracket and hardware, and tighten only to 5 in lbs. Over torquing will void warranty. Find the mating connector for the gauge and prepare to plug the harness into the back of the gauge.





From the harness for the gauge, it is a simple plug in until it clicks and that's it. The wires from the connector are labeled; and should be connected as follows:

Pin 1: Blue; connect to optional 12v+ switched lighting source
Pin 2: Violet; connect to 12v+ switched and fused power source (1 amp is sufficient)
Pin 3: Black (2); connect to good engine or battery ground, and bullet connector to mating connector of temp probe harness
Pin 4: Green; connect to mating connector of temp probe harness

The kit is now ready for power up and testing.

With key on, and a cold drive, you will more than likely see no movement from the pointer. It is possible to test the probe in the drive with any heat source (light bulb, hair dryer, etc.) radiating near the probe should cause the pointer on the gauge to rise. (Removal of the probe for this testing is strongly recommended)

Take care not to overheat the sensor (open flame, excessive heat temps over 325°F) as they may ruin the sensor and void warranty. An intermittent or erratic reading could indicate a ground problem.

Operating hints for the drive temp kit

Due to the variance in operating temps from model to model, it is recommended that the outdrive be serviced by an authorized service center prior to any attempt at determining normal operating ranges.

With the outdrive in optimal condition, observe the operating temps at maximum RPM as well as normal cruising RPM for general boating, and record these numbers. Deviations from these established operating ranges could indicate problems in the lower unit.