

Water Pick-Up Kits Overview & Ordering Instructions



Water Pick-Up Kits

Tides Marine Water Pick-Up Kits include everything needed to connect SureSeals to a point in the engine's raw water cooling system. This water is necessary for proper lubrication of the lip seal and PTFE bearing in the SureSeal housing. There are two types of kits available.

Hose Tee Kits are used to tap into flexible cooling hoses.

Hose Barb Kits are used to tap into a threaded port (typically a drain plug) in the raw water cooling system. See diagram, below.

Hose Tee Kits

If you plan to use a hose tee, measure the inside diameter of the hose you will be tapping into and match it to the corresponding size in the specification table. Note the overall length of the hose tee in the table to make sure there is enough room available to install the fitting.

Then, make sure the branch fitting outside diameter matches that of the water injection fitting on your SureSeal.

SureSeals used on propeller shafts with an outside diameter up to and including 2- 3/4" will have a 3/8" injection fitting. For shafts 3" and larger, the correct injection fitting is 1/2".

Hose Barb Kits

If you will be using a hose barb to complete your water pick-up system, remove the drain plug at the point on the engine you have selected (see below) and determine its thread size. Find the

corresponding thread size in the specification table and choose the fitting with the hose barb dimension that matches your SureSeal (3/8" or 1/2").

Note that the use of a Hose Barb in the raw water cooling system requires careful installation and additional maintenance once installed.

Caution: ↓

Vented Loops

When the engine (or engines) is located below the waterline OR water lift mufflers are installed, a vented loop may be required to prevent the back-flow of water through the exhaust system and into the engine(s). ABYC guidelines regarding vented loop materials and installation practices should be followed.

The water pick-up fitting should be installed in the "pressure side" of the vented loop "T". This vented loop should be as far above the waterline as is practical (a minimum distance of 12" is required).

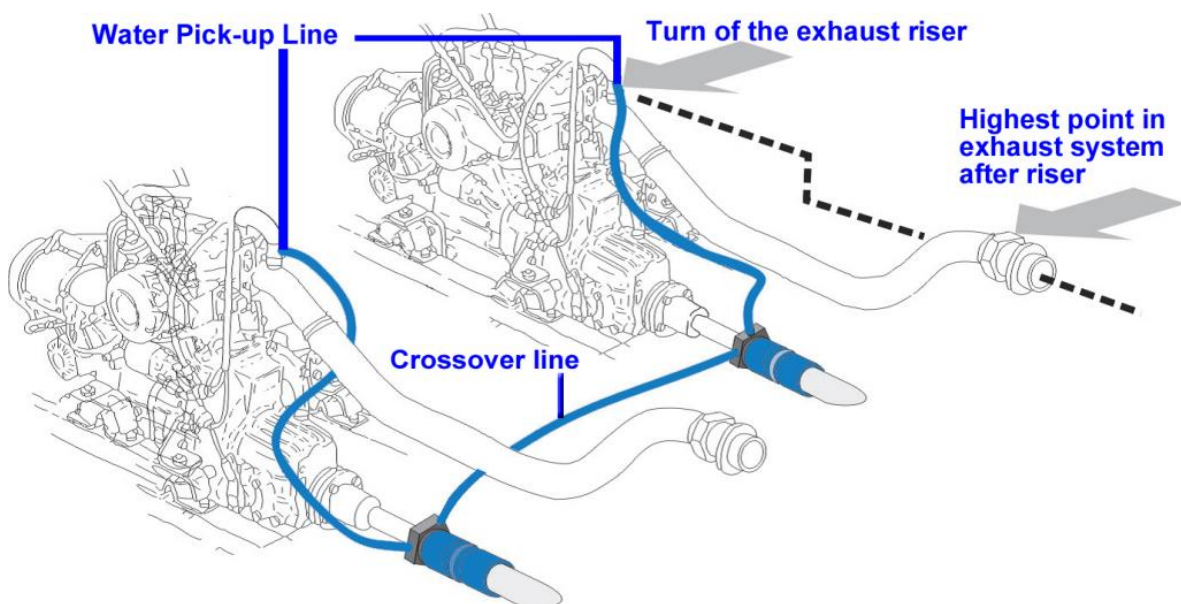
Water Lift Mufflers

In twin engine applications using water lift mufflers, a check valve in each water pick-up line is required if a crossover line is installed.

General

Vented loops and check valves should be inspected for proper function at least twice a year. Read the SureSeal installation instructions provided with each SureSeal carefully before proceeding. If you have any questions, contact Tides Marine for assistance.

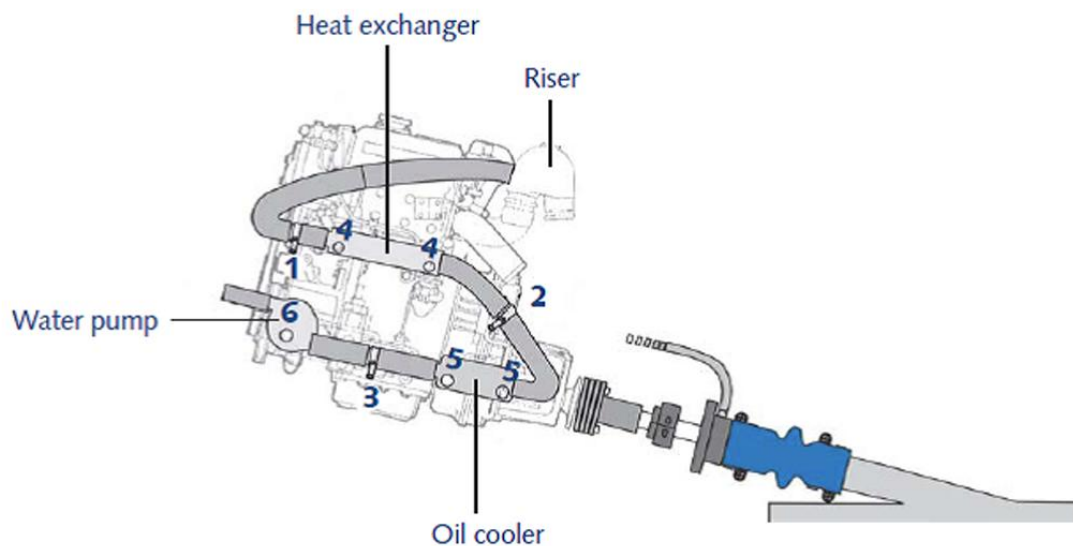
CAUTION: The turn of the Exhaust Riser MUST be ABOVE the rest of the Exhaust System.
Before operating the vessel you MUST TEST the Water Supply.



Recommended Water Pick-Up Points in Order of Preference

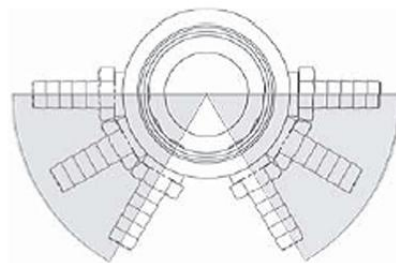
Refer to diagram, below.

1. Hose Tee: In-line between the heat exchanger and riser (as close to the heat exchanger as possible).
2. Hose Tee: In-line between the oil cooler and the heat exchanger.
3. Hose Tee: In-line between the water pump and the oil cooler.
4. Drain Plug: Hose barb in the heat exchanger.
5. Drain Plug: Hose barb in oil cooler (if oil cooler is on pressure side of water pump). The bore should be at least 0.20".
6. Drain Plug: Hose barb in the back of the water pump. Be sure the drain is on the pressure side of the pump.



NOTE: The preferred water pick-up point would be a hose tee located in the raw water discharge hose between the heat exchanger and the riser. This location does not take any water from the cooling system until after it has run its course through the water pump, oil cooler and heat exchanger.

Locate the hose tee AS CLOSE TO THE HEAT EXCHANGER AS POSSIBLE to ensure adequate head pressure.



Position branch fitting in either shaded area.

Water Pick-Up Hose

The water pick-up hose(s) should be routed from the pick-up point on the engine to the SureSeal® in a manner which eliminates or minimizes the possibility of chafing, burning or kinking. Turns made by the hose should be minimized to improve water flow.

Hose support clips, clamps and ties used to dress the hose should not be so tight as to crush the hose or restrict water flow.

Tides also recommends that a bit of slack be left in the hose near the SureSeal® to allow for some movement. This will minimize loading of the SureSeal® on the shaft during normal vessel operation.

Other Important Installation Notes

A. Vented Loops

When the engine(s) is/are installed below the waterline (or water-lift mufflers are used), a vented loop may be required to prevent back-flooding of water through the exhaust system and into the engine.

Follow ABYC guidelines regarding materials and installation practices. The vented loop or siphon break should be checked for proper function annually at a minimum.

The water pick-up fitting should be installed on the “pressure” side of the vented loop “T”. This vented loop should be as far above the waterline as is practical (a minimum of 12” is required).

B. Check Valves

In twin-engine installations with water-lift mufflers, a check valve in each of the water pick-up lines is required if a crossover line is used between two SureSeals. The check valves should be checked for proper function annually at a minimum.

Maintenance

A. Tides Marine SureSeals require no winterization. Winterization fluids will not harm the SureSeals.

B. SureSeal assemblies should be inspected at least annually.

- i. Inspect the blue articulating hose for damage.
- ii. Inspect the hose clamps for corrosion.
- iii. Remove the water injection hoses from each SureSeal and make sure the fittings and hoses are free of debris.
- iv. **It is very important to regularly check the pick-up point and water flow in the engine's**

raw water cooling system. The water flow should be checked anytime the vessel has run hot or been aground.

If this fitting is a hose barb, Tides recommends that you remove the fitting from the pick-up point. Make sure it is free of debris, corrosion, etc. It is also a good idea to inspect the pick-up point for any debris that may have collected since the last inspection.

If your water pick-up system uses hose tees, you should not have to remove the tee. Simply check the branch fitting on the tee to make sure it is free of debris.

- v. If your water pick-up system has any shut-off valves, check valves, siphon breaks or sight-gauges, be sure to inspect these as well.
- vi. Make sure all hoses and clamps are re-assembled securely once you have completed any regularly scheduled inspections.