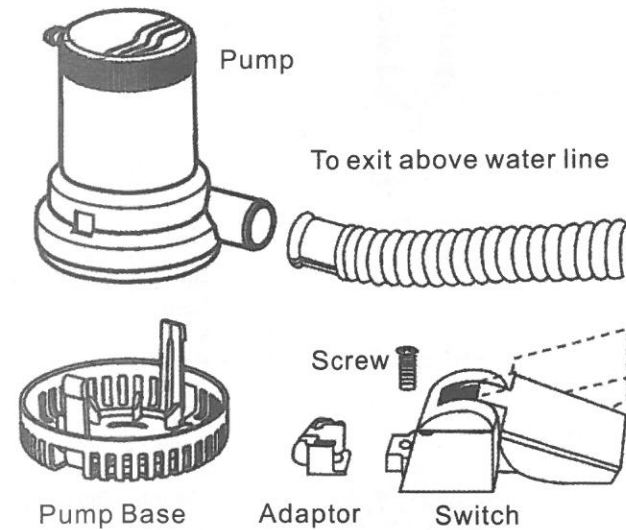
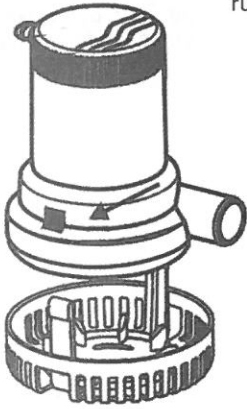


INSTRUCTIONS

STEP 1

Remove the strainer from the bottom of the pump by depressing the lock tabs on both sides of the pump.

CAUTION: Strainer must always be properly installed before attaching and running pump.



STEP 2

Determine the desired location for the pump. If only one pump is used it is usually located where the water is deepest in the bilge while the boat is at rest. The installation must allow for complete drainage of the hose. All water pockets must be eliminated by having the hose running level or continuously upward.

STEP 3

Position the strainer so that pump nozzle is in the proper position to connect to the discharge hose.

STEP 4

A. If attaching the strainer to wood, fasten with stainless steel screws.
B. If attaching the strainer to metal or fiberglass, first mount a wooden block and then fasten the strainer to the wooden block.

STEP 5

Mount the pump on the strainer so that both 1 1/2" lock-tabs snap into place. (The pump may be reversed on these tabs if so desired.)

STEP 6

Attach 1 1/8" I. D. Hose to the discharge nozzle and fasten with a stainless steel clamp. The hose (Model #80) is recommended because it will not kink when making sharp bends.

If your pump is replacing a competitive model with small diameter hose which is hard to replace, you may use the Adaptor Model #69 to adapt to the smaller hose.

Note:

Restricting the flow from the pump by using a smaller hose does not damage the pump. However, it will reduce the flow.

STEP 7 Thru-hull Fittings

A. For most installations, install a full size 1 1/8" I. D. Thru-hull fitting to achieve the rated flow of the pump. Located the thru-hull fitting at least 12" above the water line to prevent water from flowing back into the hull when the pump is off.



B. For stern installations, place the 1 1/8" thru-hull fitting high enough in the stern so that submergence of the fitting will not occur under any conditions.

STEP 8 wiring

In order to prevent electrolysis and corroded wire connections, its essential that all wire ends and terminals be sealed with heavy duty marine sealant and located above the highest possible water level by fastening with insulated staples or plastic straps.

When installing your pump, 16 gauge wire should be used. However, if your installation is over 20" from the battery source, the wire size should be increased to 14gauge. Using a wire which is too small causes undesirable heat in the wires and results in a voltage drop and lower performance of the pump

STEP 9 fusing

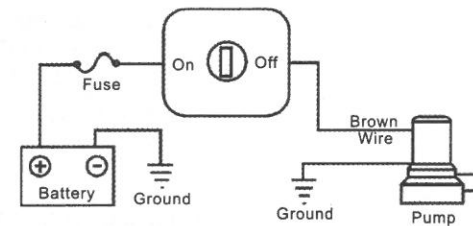
To protect your electrical wiring and automatic switch from possible overload install a fuse in the positive(+) lead from the battery.

If using a panel switch with a fuse holder, check to see that the proper fuse is being used. You may wish to install a panel Switch with a built-in fuse holder

STEP 10

Follow one of the two wiring diagrams:
Wiring for manual Operation

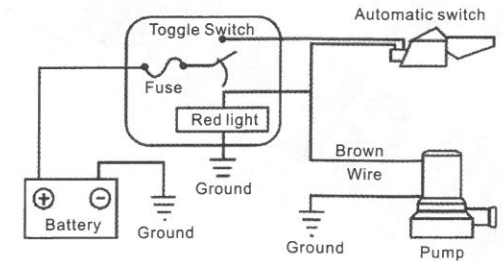
The manual system is the simplest system but it only provides ON-OFF control of the pump. Consequently, pump are often left ON longer than necessary.



Wiring for Automatic Operation

The automatic system assures that the vessel is always pumped out, even when unattended. It extends the life of the pump and your battery by automatically shutting the pump off when the water has been pumped out.

The automatic system can also provide for manual control of the pump by installing a panel switch. These switches have a "fail-safe" feature which automatically returns the switch to the "off" position, preventing the pump from being inadvertently left on.



STEP 11

Polarity is important. If it is not correct, the pump rotate backwards. Water will still come out of the discharge nozzle but the flow will be very much reduced. On the 1500/2000 pump the correct polarity will be obtained when the brown wire of the pump is connected to the POS or +side of the battery. The way to verify that the direction of rotation (and thus the polarity) is correct is to look into the running and see if the impeller rotates in the direction of the arrow molded into the bottom. Never insert fingers or other objects into the inlet hole.

Storage

The pump itself is not affected by freezing temperatures. However, if the pump is embedded in ice or surrounded by ice, it cannot be used. Never turn the pump on if it is embedded in or surrounded by ice