

## Technical Service Bulletin 19

Hot/Cold Shower Option

**Revision # 1**

April 6, 2000

### Parts Needed

Complete Shower kit – MPL0011491	2 male spade connectors
Teflon tape	2 female spade connectors
Tie wraps	6 #8 hose clamps
Brass T-joint (if heater option is installed)	

### Kit Includes

Water Pump	Temperature Control Box	Spray head w/ hose
6 #8 hose clamps	PVC T-joint	Pump to mixer hose
Hot water hose	Cold water hose	4 #10 Screws
6 #8 Screws	3 PVC 90deg elbows	PVC elbow w/ thumbscrew

### Tools Needed

Drill	Flat head screwdriver	Razor knife
Wire cutters	Wire crimpers	Jig saw
Philips screw driver	1/8" drill bit	Tape measure
Safety glasses	Hose cutters	Pliers

### WARNING

Always be sure to wear OSHA approved eye protection when using a drill or saw as these have the potential to throw debris into the air.

### Procedure

#### Step 1 –Bulkhead Removal

Remove port side trunk bulkhead separating trunk from gas tank by removing thumbscrew on the bottom of panel. Once the panel is free remove it from the trunk storage area and place carpet side down on a clean working surface.

#### Step 2 – Control Box Installation

You will need to cut a 4 ¾" tall and 9 ¼" wide rectangular hole in this panel section. This hole should be located 9 ¾" in from the left side and 2" down from the top edge when looking at the bulkhead panel from the back. Mark out the hole location, making sure to double check for level and size. The hole must be large enough for the Shower Control Unit to pass through when installed from the front (carpeted) side, but small enough to allow the screw holes in the front flange space to fasten to the bulkhead.

Cut hole using a jig saw. Next, check Shower Control Unit for proper fit and level appearance. Make final installation using the 6 #8 self-taping screws included after drilling 1/8" pilot holes.

### Step 3 – Mount Water Pump

Before mounting the water pump, install the supplied elbow after preparing them by wrapping the threaded ends with Teflon tape. Mount the shower water pump on the back of trunk bulkhead. The pump's mounting plate should be installed 4 inches in from the right side of bulkhead and 6 3/4" up from bottom edge. Use the included 4 #10 self-taping screws after predrilling pilot holes using a 1/8" drill bit.

After mounting the water pump to back of the bulkhead feed the showerhead's hose through the control box. Connect the hose to the left (*Out*) side of the water pump using the included hose clamp. Next, connect the gray hose to center (*mixer*) plumbing connection on the control box using preinstalled thumbscrew. Finally, measure and cut and install the gray hose to connect to right (*In*) side of pump.



### Step 4 – Panel Removal

First, completely remove motorbox assembly by removing the four thumbscrews holding the box in place. After placing motorbox in a safe location, remove the aft seat cushions and base. Next, remove the two aft hatches between the fuel tank bulkhead and the engine, exposing the shaft log and steering cable bracket. Finally, remove the engine shroud by unscrewing the four thumbscrews attaching it to the engine.

### Step 5 – Routing of Hoses

Return port bulkhead to trunk. Note: For ease of future maintenance leave the bulkhead inside the trunk leaning against the aft end of trunk compartment. This will allow adequate distance for easy removal.

Route the red and blue hoses between the forward face of the fuel tank and the back of the aft seat. The hoses need to be routed through the starboard side of the bilge.

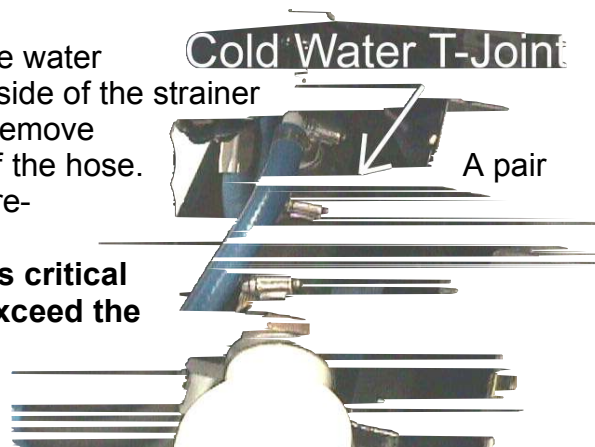
**NOTE: Make sure to tie off hoses to avoid rubbing or binding on the prop shaft.**

### Step 6 – Cold Water Connection

Locate the hose attached to the engine side of the water strainer. Loosen the hose clamps on the engine side of the strainer and the clamps from the engine water intakes. Remove the hose completely. Cut 2 1/2" from the middle of the hose. of heavy-duty cutters will be needed to cut the wire-

reinforced hose. **Note: Make certain the two remaining sections are of identical length. It is critical that the new hose/fitting assembly does not exceed the length of the hose before it was cut.**

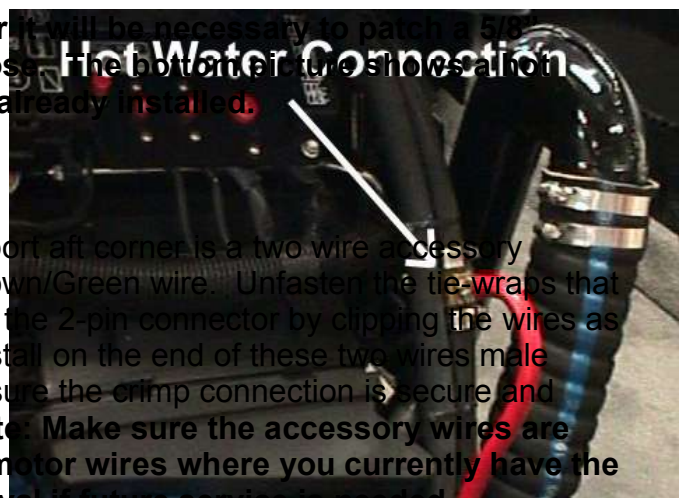
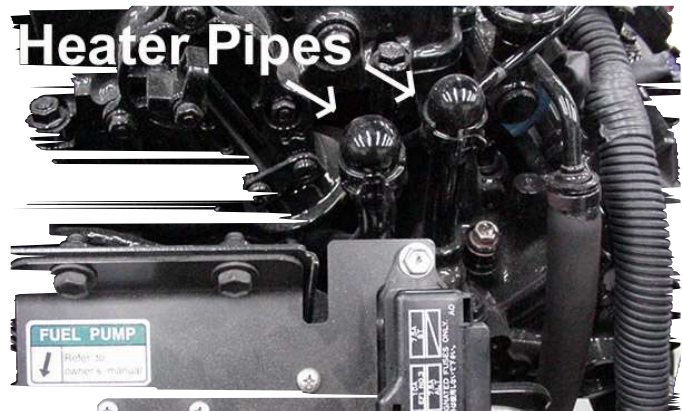
Clamp the cut hose ends onto the supplied PVC T-joint using hose clamps. Reinstall the modified hose between the water strainer and engine water intakes. Install included threaded hose end onto the PVC T-joint after preparing the threaded end with Teflon tape.



Measure and cut blue hose to length after verifying hose is unknicked. Use hose clamp to connect blue hose to unused hose end of PVC T-joint.

### Step 7 – Hot Water Connection

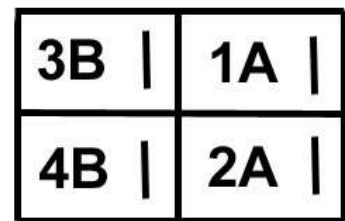
The red (hot water) hose should be attached to one of the heater pipe on the back of the engine. First, remove the rubber cap and clamp from the starboard heater pipe. Next, cut the hose to the proper length and attach to the heater pipe with the clamp removed from the heater pipe cap. Make sure to secure the hot water hose to prevent contact with any of the engine components that may become extremely hot. **NOTE: On boats that already have an installed heater/defroster it will be necessary to patch a 5/8" brass T-joint into the starboard heater hose. The bottom of the shower pump water connection in a boat with a heater already installed.**



### Step 8 – Wiring

Inside the trunk, attached to the hull at the port aft corner is a two wire accessory connector containing a Black wire and a Brown/Green wire. Unfasten the tie-wraps that hold these wires out of the way and remove the 2-pin connector by clipping the wires as close to the connector as possible. Next, install on the end of these two wires male plastic shrouded spade connectors. Make sure the crimp connection is secure and making a positive electrical connection. **Note: Make sure the accessory wires are long enough to reach the shower pump motor wires where you currently have the bulkhead as this will allow for easy removal if future service is needed.**

Solder a section of wire onto the red wire from the shower motor long enough to reach the switch on the back of the control box. Making sure to heat shrink the solder connection to prevent accidental shorting. On the end of the extended wire crimp a female spade connector and plug it into position A1 (see diagram). Next, crimp a female spade connector onto a section of black wire which will be connected on one side to switch position 3B and crimped into the same female spade connector as the shower motor's black wire on the other end. Finally, make a section of red wire long enough to reach the accessory plug with a female spade connector on either end. This jumper wire should be connected to switch position 2A on one end and the Brown/green wire from the accessory plug on the other end. The Black wire from the motor and shower switch should be connected to the Black wire from the accessory plug.



**Note: It is recommended that you use different size spade connectors for the black-black and brown/green-red wire connections to avoid misconnection at a later date.**

### Step 9 – Reinstall Bulkheads

Reinstall the trunk bulkheads making sure to install the port (shower) bulkhead first, followed by the starboard bulkhead. Make sure that all the hoses fit easily behind the

port bulkhead without kinking or being crushed. Once both bulkheads are in place make sure the showerhead's hose is easily extended and retracted. Finally, retighten thumbscrews on both bulkheads and cleanup any hose scraps that may have accumulated.

### Step 10 – Accessory Panel

The accessory plug used to wire the shower pump in Step 8 has been prewired at the factory to the top, right hand Accessory switch for optional upgrades.

