

# 9 WATER SYSTEM

The fresh water system provides fresh water to various areas of the yacht.

## WATER TANKS

The fresh water system on the MS 390 PT has two water tanks located port and starboard of the generator. They hold a total of 118 gallons of water. There are two fills located on the aft starboard side coaming. The second is located in the starboard side companion way amidships. The vent is on the starboard side of the hull.

To fill the fresh water tank:

1. Make sure the dockside water supply is suitable for drinking. Not all dockside water is drinking water. Check with the dockmaster if necessary.
2. Open the water tank fill fitting.
3. Using the hose from the dockside water supply, fill the tank until water starts flowing through the vent.
4. Close the fill fitting.

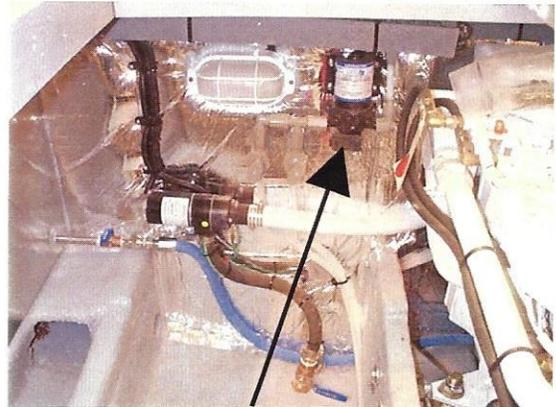
## FRESH WATER PUMP

The fresh water pump supplies water to the system under pressure when the dockside water supply is not connected (figure # 1). The fresh water pump is located on the forward engine room bulkhead on the portside of the engine. The fresh water pump breaker switch on the DC side of the MDP controls its operation. When the breaker is switched to ON, the pump will run until the hot and cold water systems are pressurized. An automatic pressure switch shuts the pump off until the pressure drops to a preset level (for example, a pressure drop caused by opening a faucet). The pump will then run again until the system is pressurized and turn itself off. The pump has a built-in check valve to prevent backflow through the pump.

The fresh water pump also supplies water to the forward and aft fresh water washdowns. The forward wash down is located at the bow. The aft wash down is located at the stern, mounted on the portside coaming (figure # 2).

If the pump runs from time to time even though no water is being used, a leak in a water line is a likely cause. Check all lines for a leak and repair.

Figure # 1



FRESH WATER PUMP

**Important:** Operate the fresh water pump only when there is water in the tank. Running the pump dry will damage the impeller.

Figure # 2

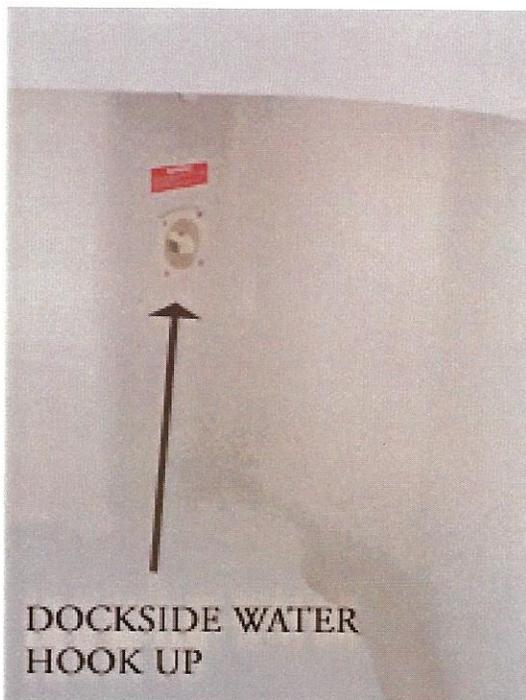


## DOCKSIDE WATER SUPPLY

When you are docked, you can connect a pressurized dock water supply to your yacht. A dockside water supply will pressurize the yacht's water system without using the water pump.

The dockside water inlet is on port side at the stern under the coaming (see figure # 3). Connecting a portable (drinking) water hose from a local water source to this inlet provides water under pressure to the fresh water system without using the pump.

Figure # 3



WARNING: Do not leave boat unattended with the dockside water hose connected. Dockside water should be connected during periods of heavy water use only.

Dockside water often comes from a municipal water supply or similar source which supplies water at a higher pressure than the yacht's onboard system pressure. The pressure regulator on the water inlet reduces the pressure of the dockside supply to match the yacht system's lower pressure.

This dockside water does not fill the water tanks. The check valve mounted in the water lines near the tank pickups prevents backflow into the tanks.

**Note:** Before you connect your yacht's water system to the dockside water supply, make sure the dockside water supply is suitable for drinking. Check with the dockmaster to be sure.

To connect the dockside water inlet to your yacht's water system:

1. Connect a garden hose to the dockside water supply.
2. Connect the other end of the hose to the dockside water spigot.
3. Open the cold water faucet closest to the dockside water inlet on the yacht.
4. Open the dockside water supply spigot. As soon as a steady stream of water comes out of the faucet on the boat, close the spigot.
5. Check the yacht's water system for leaks. This inspection is particularly important when you use the dockside water hookup for the first time.

The fresh water system is now ready for use.

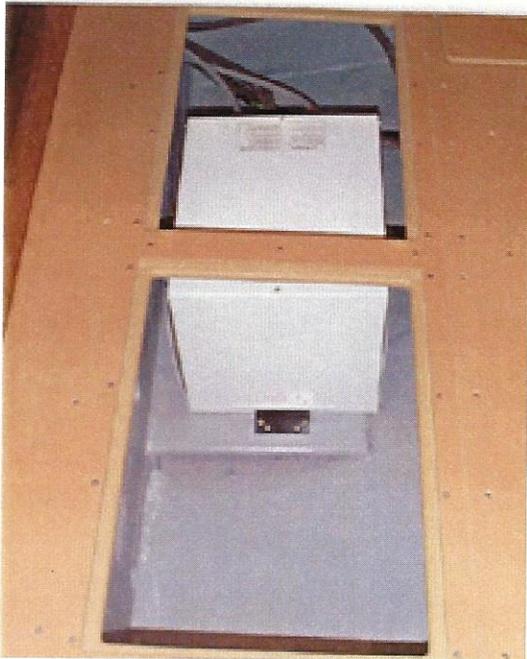
**Important:** Always disconnect the dockside water supply when you leave your boat unattended. A major leak or break in the system could flood your yacht. Excess water in the bilge may sink your yacht or flood the batteries and engine. Your warranty does not cover this damage.

## WATER HEATER

The fresh water pump supplies water to the water heater from the water tanks. The water heater capacity on the MS 390 PT is 6 gallons. A breaker on Line 2 of the AC Control Center controls the operation of the heater. The heater will not operate using DC power.

The water heater is located under the bunk in the guest state room (figure # 4). Remove the cushion, and the two boards from the portside bunk to expose the water heater.

Figure # 4



The heater on the MS 390 PT has a heat exchanger which captures heat from the engine coolant. The heat exchanger provides hot water while underway. Inlet and outlet lines circulate coolant from the engine through the heat exchanger back to the engine. An electric valve on the inlet line protects the engine from loss of coolant in case one of the lines or the heat exchanger is leaking.

**Important:** Before turning the water heater circuit breaker ON, make sure the water heater is full of water. Turning on power to an empty heater could damage the heating elements and make the water heater useless.

Follow these procedures to use the water heater:

1. Make sure the water heater is full of water. Open a hot water faucet and allow a steady stream of water to flow out of the faucet to remove all air from the hot water circuit.
2. With the generator running or shore power connected to your yacht, switch on the WATER HEATER circuit breaker at the AC Control Center. If you are using the generator, you must move the slide bar up and switch on the PARALLEL circuit breaker.
3. Wait for the water in the tank to heat up, then use as you would at home.



**CAUTION**

**CAUTION:** Hydrogen gas may form inside water heater if it is not used for two weeks or more. Hydrogen gas is flammable. Open galley hot water faucet for several minutes before using any electrical appliance. Do not smoke and keep open flame away while faucet is open.

## TROUBLESHOOTING

Problem	Cause	Solution
Air in system	Tank empty.	Fill both water tanks.
Fresh water pump cycles on and off	Leak in water system.	Locate leak and repair.
No water at showers or sinks with faucets on	FRESH WATER PUMP breaker off. Tank empty. Blocked or pinched water lines. Loose electrical connections. Defective pump.	Switch breaker to ON. Refill. Clear obstruction or straighten line. Check connections; tighten as needed. See your dealer for service. See your dealer for service.
Low water pressure at all sinks and showers	Defective pump.	See your dealer for service.
Low water pressure at one sink	Pinched waterline.	Straighten line.
No hot water (AC Power)	Water heater breaker off.	Switch breaker to ON.