

Startup and maintenance to the DHW System

All the air must be purged from the DHW lines before the system can be run to make hot water. Improper purging will result in air in the pump causing the pump to cavitate and damage the pump. Systems are shipped from the factory with biodegradable RV antifreeze pumped into the desuperheater or priority coils. If proper purging methods are followed this antifreeze will easily be purged from the system.

Step 1: Filling the Hot Water Tank

Close boiler drain valves and the isolation valves to the Hydro-Temp system. Open the cold water supply feeding the DHW tank. Open a hot water tap in the building and allow air to bleed out of tank. Alternatively you can depress lever on the tank relief valve to remove air trapped in the tank. Once the building plumbing is purged it is important to purge the air that is remaining in the Hydro-Temp system and plumbing between the hot water tank and the Hydro-Temp system. *Purging the building plumbing even with the isolation valves open to the Hydro-Temp system will not purge the air from the Hydro-Temp system.*

Step 2: Purging the Hydro-Temp Hot Water Loop

Attach a hose to the boiler drain A (refer to drawings H005672C, H005672B, or H005673B)) and run the hose to a floor drain or outside. Close the isolation valve B at the bottom of the DHW tank. Open the isolation valve A at the cold-water inlet on the DHW tank and allow the water to flow out the hose. Allow the water to run for a few minutes while checking for air leaving the drain hose. Once all of the air has been purged, close isolation valve A and open the isolation valve B. Allow the water to flow through the system and out the hose. Run for approximately 5 to 10 minutes while checking for air leaving the drain hose. To insure no air is trapped anywhere, open both valve A and valve B to allow flow both ways. Allow water to run for approximately one minute. Once purging is complete, close the boiler drain valve, remove the hose and ensure that both isolation valves "A & B" are open. Wiring to the DHW pump is normally left unwired in the Hydro-Temp's electrical box and tagged with the proper reconnection location. This wire should only be hooked up after the system is properly purged to prevent pump damage.

Step 3: Setting Hot Water Temperature (Priority only)

Refer to the hot water section of the Protostar user manual. Here you will find how to set the set points for

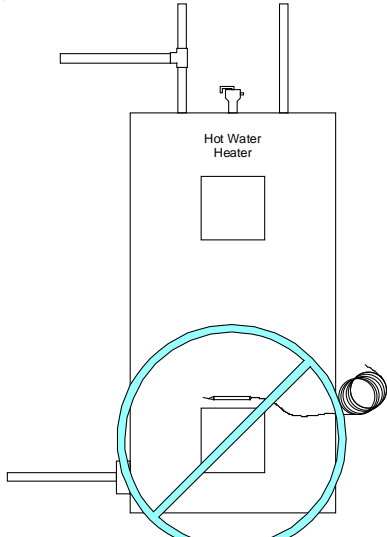
DHW (Domestic hot water) heating and AHW (Auxiliary hot water) heating. Note: Auxiliary hot water heating normally refers to "infloor" or "Pool" heating.

Plumbing to a Marathon hot water tank.

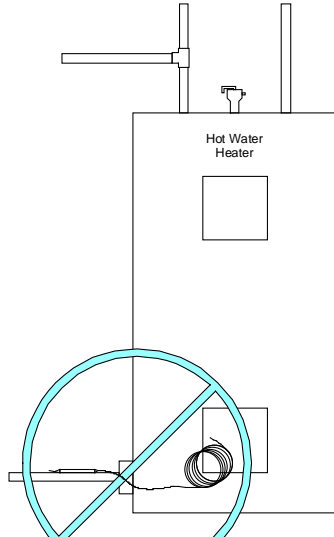
When plumbing the Hydro-Temp hot water heating system to a Marathon hot water tank you need to keep a couple of things in mind. All fittings must be mechanical fittings at the tank; due to the tank being plastic you cannot solder or braze close to the tank. The direction of flow in and out of the tank and plumbing is the same as with a steel tank. **Never use plastic fittings (CPVC or Pex) when connecting between the tank and the Hydro-Temp system.**

5.4 Priority Hot Water DHW Sensors

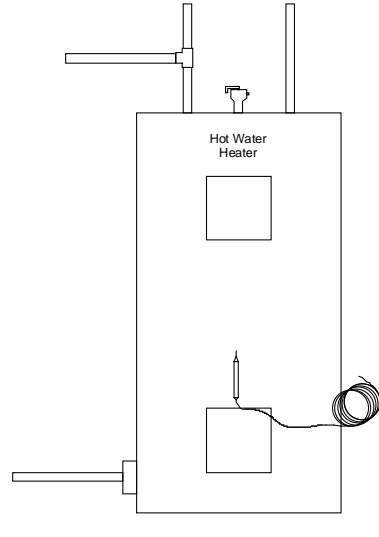
Systems with the On-Demand priority hot water generation will include a few extra sensors. Most are internal to the system and require no field installation. The Domestic hot water tank sensor must be mounted directly on the hot water tank. This sensor will allow the Hydro-Temp unit to turn on and off as needed to heat the hot water. The sensor should be installed vertically above or beside the bottom element between the steel tank and the insulation as shown in the illustration below. Vertical mounting provides proper surface contact between the sensor and the round tank. The sensor must be tight against the tank and well insulated. Proper installation of the sensor is critical. If the sensor were to come loose the system could easily overheat the tank, damaging the tank and/or the Hydro-Temp system. After installation make appropriate wiring connections to the Hydro-Temp system. Wire the two legs of the sensor to the terminal strip labeled "DHW Tank Temp". Hydro-Temp provides a mounting bracket to aid in keeping the DHW tank sensor in direct contact with most conventional hot water tanks. The clip, installation instructions and DHW tank sensor will be shipped in a small plastic bag with one of the two wires connected to the terminal strip inside the electrical box of the Hydro-Temp system. The other wire is intentionally left loose so the system will recognize no sensor is connected.



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