

# WATER HEATER CONNECTIONS

## WATER HEATER INSTALLATIONS

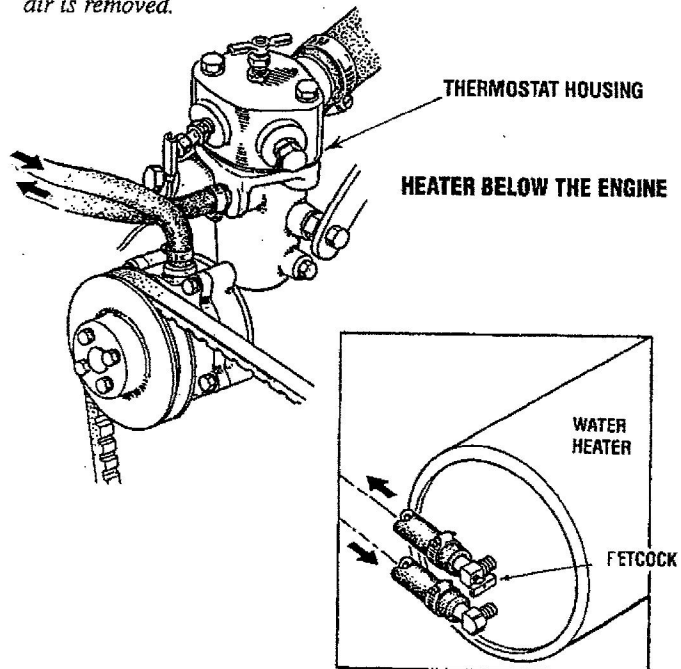
This engine is equipped with connections for the plumbing of engine coolant to heat an on-board water heater. The water heater should be mounted in a convenient location either in a high or low position in relation to the engine, so that the connecting hoses from the heater to the engine can run in a reasonably direct line without any loops which might trap air.

Hoses should rise continuously from their low point at the heater to the engine so that air will rise naturally from the heater to the engine. If trapped air is able to rise to the heater, then an air bleed petcock must be installed at the higher fitting on the heater for bleeding air while filling the system.

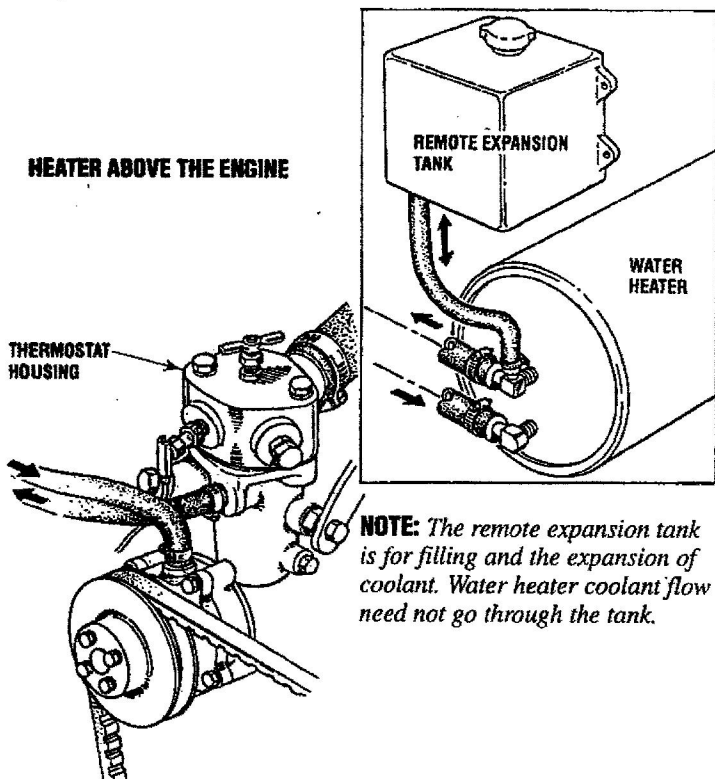
**NOTE:** If any portion of the heating circuit rises above the engine's closed cooling system pressure cap, then a pressurized (aluminum) remote expansion tank (Kit #024177) must be installed in the circuit to become the highest point. Tee the remote expansion tank into the heater circuit, choosing the higher of the two connections for the return. Tee at the heater, and plumb a single line up to the tank's location and the other back to the engine's return. Install the remote expansion tank in a convenient location so the fresh water coolant level can easily be checked. The remote expansion tank will now serve as a check and system fill point. The plastic coolant recovery tank is not used when the remote expansion tank kit is installed, since this tank serves the same function.

The pressure cap on the engine's manifold should be installed after the engine's cooling system is filled with coolant. Finish filling the cooling system from the remote tank after the system is filled and is free of air and exhibits good coolant circulation. During engine operation, checking the engine's coolant should be done at the remote tank and not at the engine manifold cap. The hose connection from the heater to the remote expansion tank should be routed and supported so it rises continuously from the heater to the tank, enabling any air in the system to rise up to the tank and out of the system.

**NOTE:** Air bleed petcocks are located on the engine's heat exchanger and on the thermostat housing. Open these petcocks when filling the engine's fresh water system to allow air in the coolant circuit to escape. Close tightly after all the air is removed.



## HEATER ABOVE THE ENGINE



**NOTE:** The remote expansion tank is for filling and the expansion of coolant. Water heater coolant flow need not go through the tank.

## HOSE CONNECTIONS

The hose adapters (nipples) coming off the engine (thermostat housing and water pump housing) are sized for 3/8" I.D. hose. An adapter is available (#302391) that will increase the size to 5/8" I.D. hose.

