

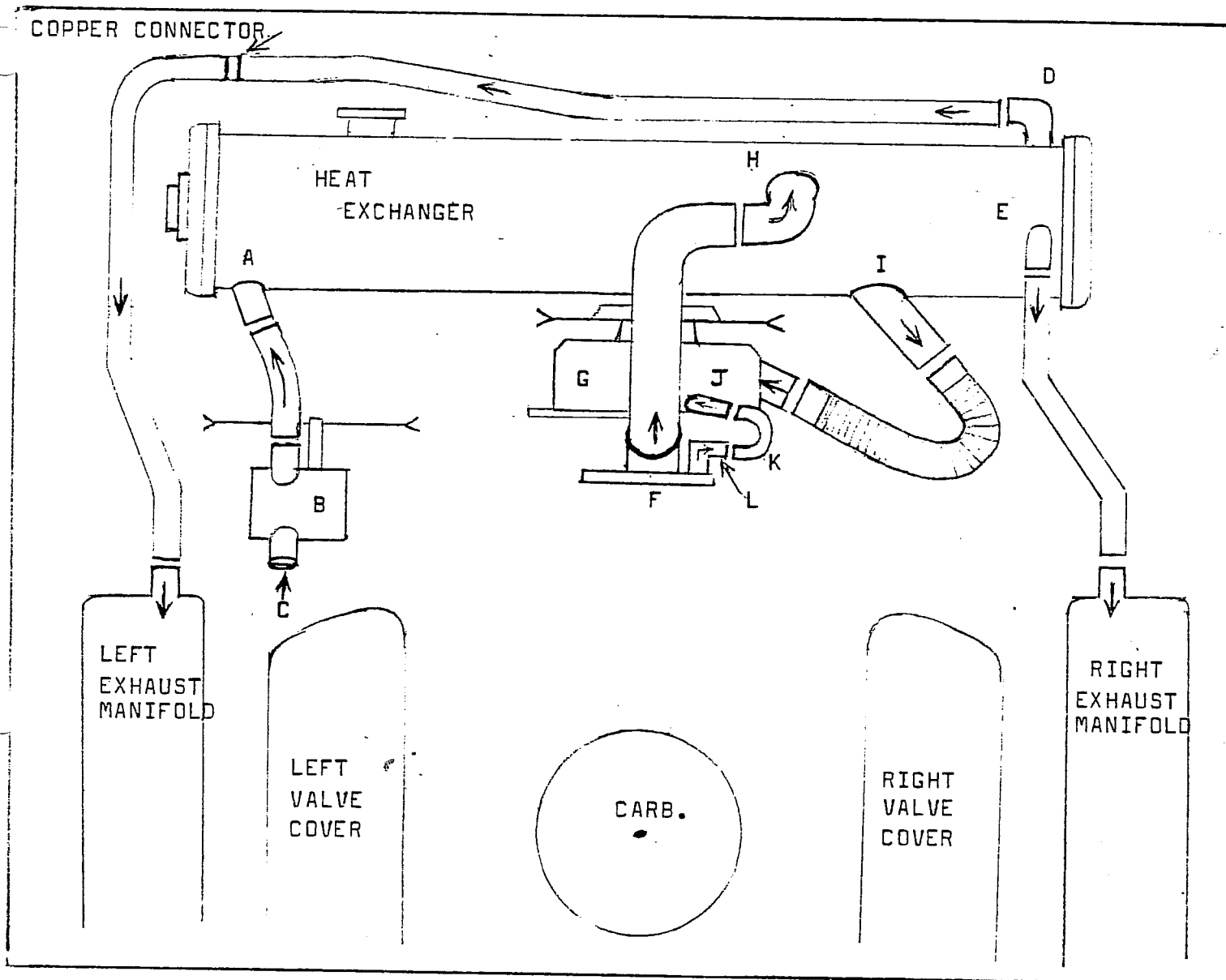
NOTE: In these instructions, the words RIGHT and LEFT will be used. Viewing the engine as if you were standing at the STERN looking toward the BOW, the RIGHT side of the engine would correspond to your Right.

1. Drain water from cylinder block and Exhaust Manifolds, both sides.
2. Remove and discard the thermostat housing (top front center of engine) also all the hoses attached to it, including the large metal (cast) elbow connected to the circulating pump's inlet.
- 3.A. Loosen the belt adjustment bolts on both the alternator and sea water pump.  
B. Remove belts and the large pulley on the engine circulating pump. It is held on by four bolts on the front hub, which have 1/2" hex heads.  
C. Note the pressed steel brace to the alternator. Loosen it's bolts and swing it up, and out of the way.
4. Remove the hollow hex headed plug from the engine circulating water pump and install the 3/8" N.P.T. X 5" long pipe nipple supplied. (It has a slight curve in it) tighten so the curve is aft. This will later connect to the new thermostat housings small "by-pass" spud, with a 5/8" "U" shaped hose.  
NOTE: If hot water heater is to be used, discard "U" hose and connect heater hoses to these spuds.
- 5.A. Notice that there is one horizontal bolt located in the TOP CENTER of the circulating pump's body. We will use this center bolt as a reference point. Remove and discard the second bolt to the RIGHT of the center. It is approximately 3-3/4" long and holds the pump body to the engine block.  
B. Take cooler mounts # 0-26-8 and place the new 5/16" X 4" bolt thru the lower hole in mount, then screw this long bolt in finger tight. The upper hole in this mount uses a 3/8" X 3-3/4" bolt with a 3" spacer. With the mount held vertical, screw this into the corresponding hole in the RIGHT cylinder head. Tighten both bolts.
6. Take the new thermostat housing and thermostat with gasket from the kit. Clean engine gasket surface and install with new bolts supplied. BE SURE to install the thermostat correctly, (pointed end forward toward cooler.)
- 7.A. Go to the reference bolt used in paragraph # 5 (top center of circulating pump's body.)  
B. Remove and discard the next bolt over to the LEFT of that center bolt.  
C. Screw, into that hole, the 5/16" X 3" bolt supplied in kit. It will protrude THRU the pump housing. Place Heat Exchanger mount # 302-351-L onto the protruding bolt, (curved "cradle" of mount forward) and use the 5/16" Nut and Lock Washer from kit to secure mount in place. Hold mount vertical while tightening nut.
8. Replace pump pulley and adjust belts to correct tension.
9. Place Heat Exchanger with Fill Cap up and the large hose spuds to the RIGHT, onto the two mounts. Center unit. Use clamps from kit to secure it in place. Locate the worm screws on the clamps, under the mounts curved section, with screw-driver slot forward.
10. HOSING UP:
  - A. Connect large flex hose between circulating pumps large inlet, then curving around the alternator up to the large angled spud on the lower RIGHT of the Heat Exchanger. Clamp. Be sure hose does not rub on engine parts.
  - B. Place the 1-1/2" - 90 degree curved hose from thermostat housing to elbow on unit.
  - C. Use the 1-1/4" X 8-1/2" hose to connect from the sea water pump up to the corresponding spud under LEFT end of unit.
  - D. Re-use original 1" curved hoses on front of Exhaust Manifolds to connect to the two 1" elbows on the unit. ("D" and "E" on the schematic.) The SHORT end of one hose will require cutting to correct length for the RIGHT side. On the LEFT side, use the original hose extended with 11" of hose and a copper connector supplied in kit. BE SURE all hose clamps are in place and tightened.

NOW REFER TO THE "INITIAL START-UP CHECK LIST SHEET."

P/N# V106

SCHEMATIC DIAGRAM OF THE SAN JUAN COOLING SYSTEM INSTALLED ONTO  
 THE VOLVO AQ 240/280 (351 C.I.D. FORD BLOCK)  
 AQ 190/208 (302 C.I.D. FORD BLOCK)



- A. Sea Water into Heat Exchanger
- B. Original Sea Water Pump. (Unchanged)
- C. Sea Water into Pump from lower unit. (Unchanged)
- D. Sea Water OUT of Heat Exchanger. Connects to hose spud on forward end of LEFT Exhaust Manifold.
- E. Sea Water OUT of Heat Exchanger. Connects to hose spud on forward end of RIGHT Exhaust Manifold.
- F. New Thermostat Housing. Be sure Thermostat is installed with correct end forward, toward Heat Exchanger.
- G. Engine's Circulating Water Pump.
- H. Coolant into Heat Exchanger from Thermostat Housing.
- I. Coolant out of Heat Exchanger to Circulating Pump's large inlet.
- J. By-Pass water enters 3/8" N.P.T. hole in circulating pumps side thru 5" long curved pipe nipple. If an automotive hot water heater is to be used, discard short By-Pass "U" shaped hose (letter K) and connect the two heater hoses to "J" and "L".
- L. Small By-Pass outlet spud on Thermostat Housing.