

# SAN JUAN FRESH WATER COOLING SYSTEMS

## FOR VOLVO 740 SERIES COOLING BLOCK ONLY

V107

### NO EXTRAS TO BUY

This is not a kit, but a COMPLETE SYSTEM which includes fresh water cooling of the Engine and Exhaust manifolds.

#### THIS UNIT CONSISTS OF:

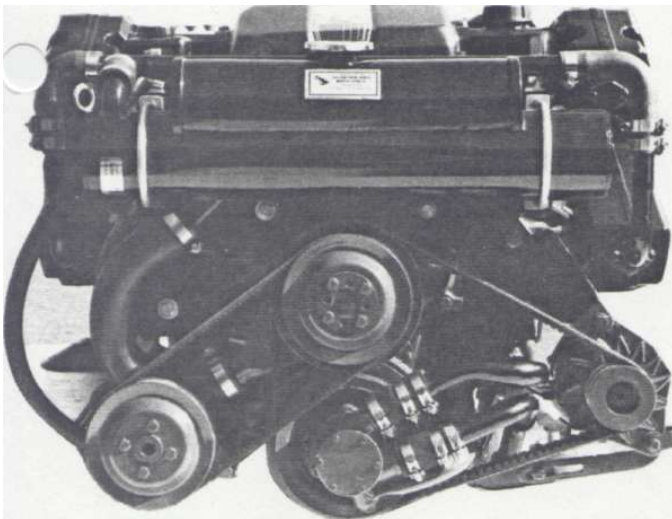
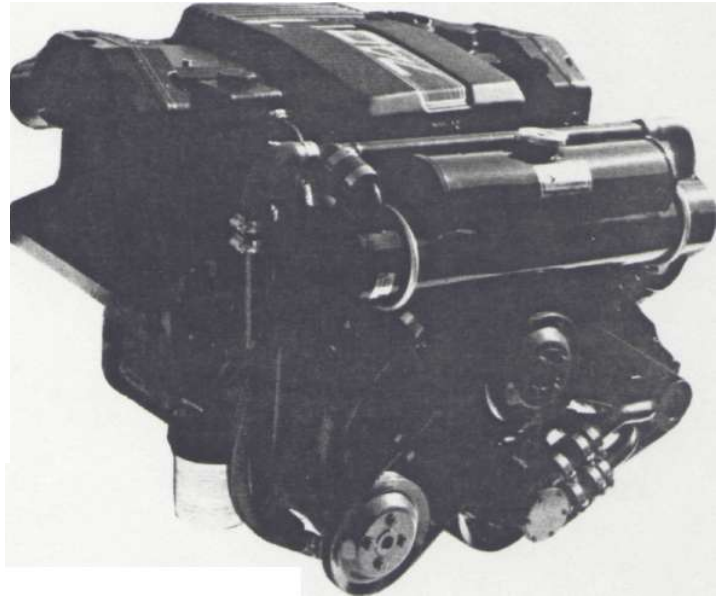
Cooler Assembly with Expansion Tank, Fill Cap and Mounting Brackets, Manifold Blanks and Thermostats.

Other components to complete system include all hose, hose clamps, nuts and bolts and water divider.

Detailed Instruction Sheet.

All Metal parts in kit are painted gloss black.

Ample clearance is provided for engine control cables as well as access to the electrical connections and voltage regulator, etc.



#### • DURABLE

To insure years of satisfactory service, entire unit is constructed of pure copper with silver alloys. Also equipped with standard zinc pencil to protect against local electrolytic action.

#### • QUICKLY INSTALLED

This kit can be installed by anyone with a few common hand tools. No drilling, cutting or threading.

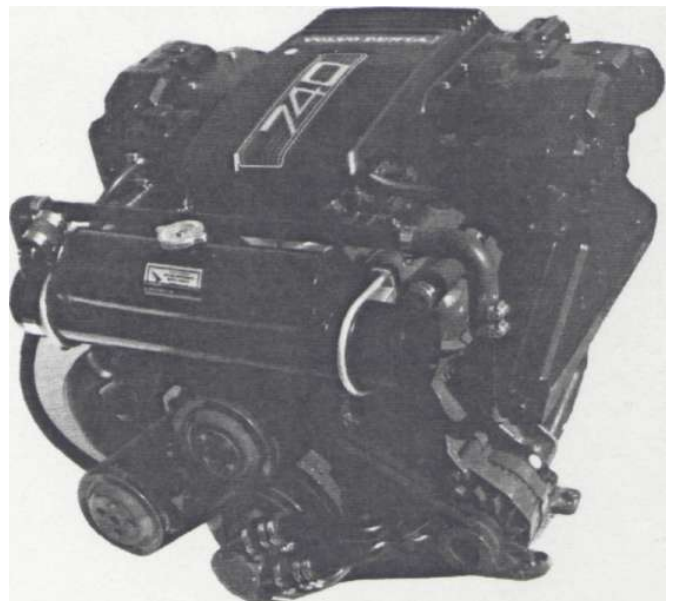
#### • COMPLETELY ON ENGINE

This San Juan Cooler is completely on engine, including cooler, mounting brackets, etc. Nothing in the "Bilge."

### SPECIAL ADVANTAGES

#### OF THE SAN JUAN COOLING SYSTEMS

- Longer Engine Life.
- No corrosion or harmful salt deposits.
- More uniform operating temperatures are assured for greater fuel economy and the elimination of harmful sludge.
- Permanent-type Anti-freeze may be used to insure year around protection.
- Equipped with standard zinc pencil to protect against electrolytic action.
- Workmanship and material fully guaranteed.



**SAN JUAN ENGINEER & MANUFACTURING CO.**

766 Marine Drive, Bellingham, WA 98225

## INSTRUCTION FOR INSTALLING THE SAN JUAN COOLING SYSTEM ON

SERIES 740 VOLVO 7.4 STERN DRIVE

P/N# V107

NOTE: Right and Left sides of engine correspond to your right or left as when the engine is viewed while standing at the rear of vessel and looking forward.

## 1. Drain Engine and Exhaust Manifolds:

a. Right Block drain is located low on side of block and just forward of the starter. Left drain is also low on block and just aft of the Left Front Motor Support.

b. Exhaust manifold drains are under each manifold and near thier centers.

2.a. Remove the hoses and tubes from the thermostat housing. The tubes must be altered (cut) as shown on instruction Sheets #A and B. Then Remove and Discard the original thermostat housing (two 9/16" Hex bolts straight down at the top front center of engine).

b. Save and re-use the original thermostat. Place the new thermostat housing with new gasket over the thermostat, (BE SURE pointed end is UP) and secure housing in place using the two 3/8" x 1" long bolts.

## 3. Installing the Heat Exchanger Mounting Plate.

a. On the front of the Right cylinder head are three threaded holes. Remove and Discard the bolt that holds the Power Steering Pump adjustment arm. Also on the same head there is a threaded hole just below where the Intake manifold bolts to the head. These two locations will secure the Right side of the mounting plate with two 7/16" x 2 1/2" bolts and spacers. The 1 1/4" spacer goes on over the Power Steering pump adjusting arm while the other hole uses a 1 5/8" long spacer.

b. On the front of the Left cylinder head, also just below where the intake manifold bolts to the head is another threaded hole. This hole is used to secure the Left end of the mounting plate. It uses a 3/8" x 2 1/4" bolt with a 1 1/4" spacer.

c. Place the bolts with flat washers and spacers thru the mounting plate and start all the bolts into the heads. Tighten bolts evenly and firmly.

4.a. Take the Heat Exchanger and place the two large "U" bolts around the body, one near each end of the Expansion Tank. Place an aluminum cradle over the U bolts ends. Hold the Heat Exchanger assembly up to the mounting plate with fill cap straight UP and the large outlet spud to the Right side of the engine start the U bolts into the corresponding holes in the plate. Screw on the Self locking nuts supplied and tighten them evenly until ONE thread is thru the nut. DO NOT OVER TIGHTEN.

b. Install the cuved tubes, cut as per Sheet B, onto the front of each exhaust manifold. Tighten Flanges with the tubes pointing straight UP.

## 5. Connecting Hoses:

a. Use the original large curved hose to connect between the engine pumps Large Outlet and the large outlet under the Heat Exchanger. This must be cut to correct length. Use Care not to cut it too short.

CONTINUED

- 5.b. Use the 1 1/2" 90° hose between the new thermostat housing and the 1 1/2" diameter elbow on the right rear of the expansion tank. Clamp.
- c. Install the original water supply tube, cut as per instruction Sheet #A, back over the left valve cover. Push rear end into the 90° hose on the oil cooler and connect the cut end to the Heat Exchanger's sea water inlet spud on the Heat Exchanger's Left end, pointing back with the 1 1/8" x 6" Long Hose. Be Sure to double clamp the hose onto the tube.
- d. Supplied in the kit is a water dividing Tee. Install it using the 1 1/4" x 2" hose from the short side leg of tee to the elbow on the upper Right end of the Heat Exchanger. Long leg of tee to Left side of engine. Connect the Tee Legs to the Exhaust manifold tubes cut in step 2a. as per instruction Sheet #B., using the two 1" 90° hoses supplied. The 1 90° hose with the long leg is used on the Left. Shorter leg hose, 1" 90°, to the Right. Push hoses down over tubes and double clamp them on the manifold tubes. Clamp and Tighten.
- e. Route overflow hose so it is clear of the V belts.

Recheck all Hose Clamps and Connections, close drain cocks.  
NOW READ AND FOLLOW START UP SHEET f11A.

NOTE: In freezing weather the exhaust manifolds MUST BE DRAINED and OIL COOLERS ECT. also the sea water side of the Heat Exchanger. This drain also holds the Zinc Anode - Replace if erroded away.

Cooling System Capacity is approximately 15 U.S. Quarts.

SAN JUAN ENGINEERING & MANUFACTURING 766 MARINE

DRIVE \* BELLINGHAM, WASHINGTON 98225 USA

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