



### Preliminary steps:

1) Remove starter and alternator.

2) Remove the three 1/8" pipe threaded drain plugs from the block and manifold; (1) at the forward and aft end of the starter side of the block, and (1) in the lower rear corner of the manifold.

**NOTE:** If the cooling system has not been serviced in many years, the plugs may have to be drilled out. If, after drilling out the plugs, the threads cannot be cleaned up with an 1/8" pipe tap; the drain hole(s) can be drilled out to 7/16" and threaded using a 1/4" pipe tap. Pipe taps and replacement 1/4" brass pipe plugs are available at most hardware stores.

3) Probe into each drain with a coat-hanger-sized wire to insure that they are open. If the drain on the manifold is clogged, it will be virtually impossible to open it without removing the freeze-out plug nearest the drain and probing the drain from inside the cooling jacket. Fortunately, it is not essential to remove the manifold drain for the following flushing operation.

### Flushing the block:

1) Install the 1/8" pipe threaded 6" long brass nipple in one of the drain holes in the block, and an 1/8" brass pipe plug in the other block drain.

2) On early model engines, use the 1/8" brass 45 degree street-el (provided in kit) to facilitate reaching the drain hole behind the distributor.

**NOTE:** On late model engines, the 6" nipple can be left installed in the aft block drain after the flushing operation is complete to facilitate draining the block for winterizing or other servicing (using the 1/8" brass cap provided to close the end of the nipple). On early model engines, there is insufficient space for the nipple after the alternator is re-installed; however, the 45 degree elbow can be left in place with an 1/8" pipe plug installed to make subsequent draining somewhat easier.

### Steps 3, 4, 5, and 6 apply to late model engines:

3) Remove the thermostat housing, both fittings, and the thermostat.

4) Install the 3/8" brass street-el in the outlet of the thermostat housing (the side marked "MAN"), and the 3/8" pipe plug in the inlet (the side marked "WP").

5) Re-install the thermostat housing, but leave the thermostat out until after flushing is complete.

6) Re-install the 90-degree elbow back into the by-pass hose (coming from the "T" fitting in the water jacket side plate) and cap it using the 3/8" pipe cap provided in kit.

7) Into the 3/8" street-el previously installed in the outlet of the thermostat housing; install one of the 3/8" hex nipples, followed by a 3/8" x 1/2" reducer bushing, and then one of the female garden hose fittings.

### Step 8 applies only to early model engines:

8) Remove the fitting at the aft end of the manifold and install a 1/2" hex nipple and one of the female garden hose fittings.

**NOTE:** While it is preferable to flush the block and manifold separately, so as not to cause all the crud from the block to pass through the manifold; on early model engines, it is more practical to flush the block and manifold together.

**9)** Connect a pressurized garden hose to the inlet fittings on the block; and the discharge hose (provided in kit) to the outlet of the thermostat housing, or rear of the manifold (in early models). Use the stainless hose clamp in the kit to secure the discharge hose to the male garden hose barb fitting also provided in the kit.

**10)** Flush the block while monitoring the level of crud leaving via the clear discharge hose. It is best to stop-start the incoming water frequently to maximize the agitation within the cooling passages. When the water in the discharge hose runs clear, reconnect the influent water to the opposite drain plug and flush as before.

### **Flushing the Manifold: (Late Models)**

**1)** Remove the fittings from both ends of the manifold.

**2)** Install one of the female garden hose fittings at one end of the manifold using one of the 1/2" hex nipples. Install the other female garden hose at the other end of the manifold using a 1/2" x 3/8" reducer bushing to the garden hose fitting.

**3)** Connect the garden hose (from water supply) to the end of the manifold that has the ball valve, and the clear discharge hose (provided in kit) to the other end.

**4)** Flush until the discharge water is clear and then reverse the fittings and flush from the other direction.

