

Q: What is the best way to check the water jackets for a water leak while the engine is still on the boat?

A: The easiest way to pressure test the block (without removing the head) is to first plug the outlet of the thermostat housing. Then remove the hose from the outlet of the water pump, and install a Shroeder valve in the end of the hose, so that a standard bicycle tire pump with a built in pressure gauge can be used for the test. A Shroeder valve is the standard valve used on automobiles, and they are available at any auto parts store. The block should be able to hold 20 psi for an hour or more without a noticeable drop in pressure.

It would be preferable to remove the manifold for the above pressure test so that the valve ports can be inspected during the test. You can pressure test the manifold by holding your thumb over one port while blowing into the other. If the manifold is leaking, you should be able to blow through it rather easily.

It is also preferable to drain the water out of the block and head for the test and listen for an air leak. Small leaks in a combustion chamber (particularly the combustion chamber of the head) can usually be heard through the spark plug hole.

If pressure decays rapidly in the block and head, look for water leaking out through one or more exhaust or intake ports. If water is leaking from an intake or exhaust port, it may be impossible to see exactly where the water is originating, but a defective block would definitely be indicated and the block would have to be removed from the engine and taken to a machine shop for evaluation.