V.38

SERVICE BULLETIN

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MODEL: W58

SUBJECT: Two Pass Manifold

The W58 employs a two pass manifold. It is a key feature of a new cooling system first appearing on the W58. The system is vented by the pressure cap at the return side of the fresh water circulating pump, the point of the lowest pressure within the system. This has the advantage of increasing cooling capacity by preventing cavitation at the fresh water pump under higher temperature conditions.

This system will ultimately be incorporated on most models.

The schematic on the overleaf shows the water flow. Operation of the circuit is as follows:

1. The thermostat has a permanent by-pass port of .06 square inches to assure water flow through the manifold while the engine is warming up. Replacement thermostats must have this permanent by-pass port.

2. Hot water leaving the engine thermostat housing passes through the inside half of the water jacketed exhaust manifold to the heat exchanger inlet.

3. Water leaving the heat exchanger enters a fresh water cooled oil cooler, if used.

4. Water leaving the oil cooler or heat exchanger enters the outside half of the water jacketed manifold.

5. The outside half of the manifold is comprised of two sections: a cooling path adjacent to the exhaust passage and an air removal path which allows entrained air to rise to the top of the manifold.

6. The pressure cap is located at the top of the air removal path.

7. From the manifold, coolant returns to the suction side of the fresh water pump.

The system is designed to accept an optional coolant recovery tank. This useful accessory offers several advantages, including:

1. A remote fill point for the circuit, in which case it should be located slightly higher than the engine's pressure cap.

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