Coolant Recovery Tank a diagnostic tool

WHEN THE ENGINE IS COLD

- Top off, the radiator by filling the recovery tank
- You have a leak - if the level in the recovery tank, goes down
- You should see anti-freeze in the recovery tank

WHEN THE ENGINE IS HOT

- Have enough volume in the tank, to allow for expansion in the cooling system
- If the level does not raise when the engine is hot
- Your radiator cap may not be working

MORE

- Read the manual - next slide
- If you change the recovery tank, make sure the volume of the new tank is sufficient

Coolant Recovery System

Any air or vapor in the cooling system will be forced to the coolant reservoir under the liquid level and leave through the vent tube at the top of the reservoir. As the system cools, the extra coolant in the reservoir will be drqwn back to the radiator through the vent valve. In this manner, the radiator will keep itself full at all times. The need for additional coolant can be detected by observing the level of coolant in the reservoir at the "COLD" level line when the engine is cold.

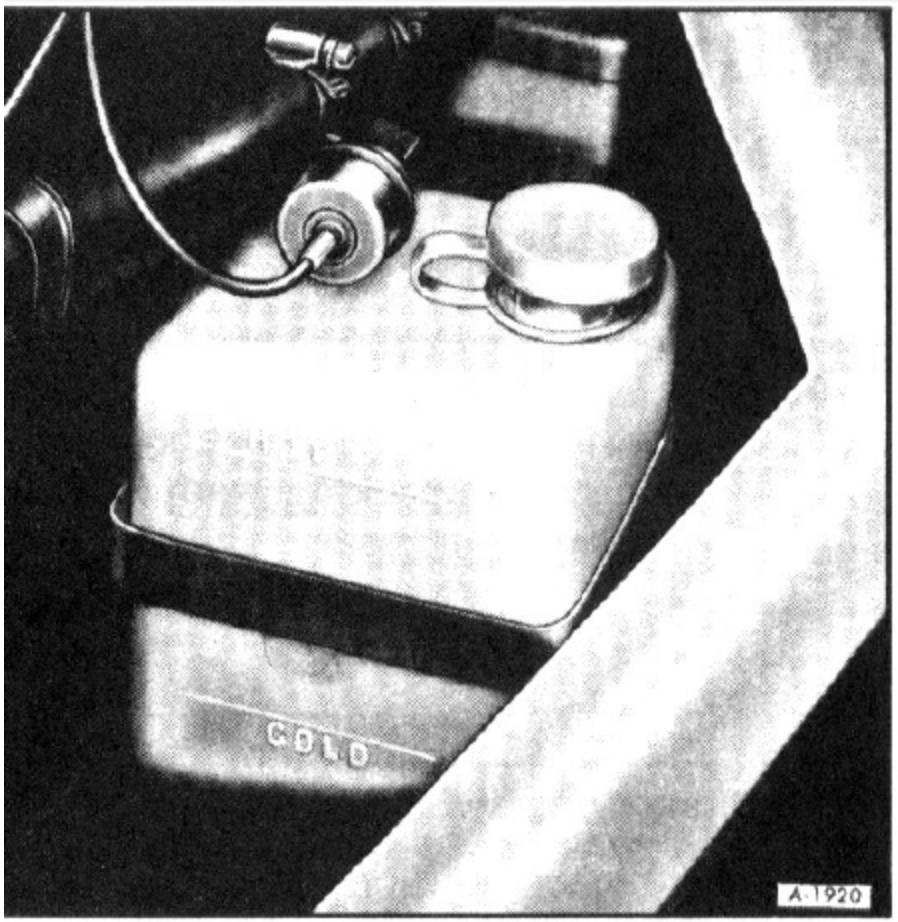

Figure 2–Coolant Recovery Reservoir

GENERAL DESCRIPTION

The engine cooling system is the closed-pressure type with thermostatic control of coolant circulation. The radiator is equipped with separate coolers in the right tank which aid in cooling engine oil and automatic transmission fluid (See figure 1).

The cooling system is sealed by a pressure type radiator filler cap which causes the system to operate at higher than atmospheric pressure. The higher pressure raises the boiling point of the coolant and increases the cooling effeciency of the radiator. The 9 pound pressure cap used raises the coolant boiling point approximately 22 degrees F.

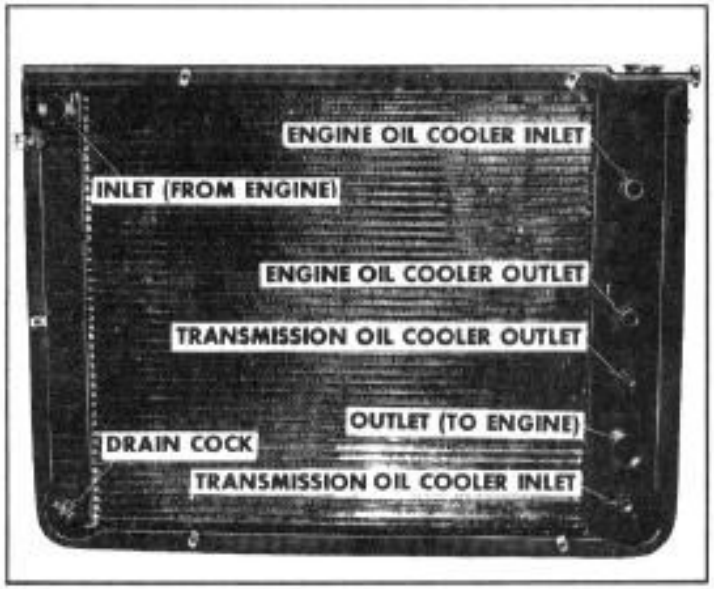

Figure 1–Radiator Core

The pressure type radiator filler cap contains a blow off or pressure valve and a vacuum or atmospheric valve. The pressure valve is held against its seat by a spring of predetermined strength which protects the radiator by relieving the pressure if the pressure should exceed that for which the radiator is designed.

The vacuum valve is held against its seat by a light spring which permits opening of the valve to relieve vacuum created when the system cools off.

A pressure-vacuum valve radiator cap is used which allows the coolant to expand through the pressure valve in the center of the cap without building unnecessary pressure. The expanding coolant flows into the coolant reservoir (See figure 2). The vent valve closes due to expansion and coolant flow. The nominal 9 pound pressure will not be reached until the system is working at maximum capacity.

Any air or vapor in the cooling system will be forced to the coolant reservoir under the liquid level and leave through the vent tube at the top of the reservoir. As the system cools, the extra coolant in the reservoir will be drqwn back to the radiator through the vent valve. In this manner, the radiator will keep itself full at all times. The need for additional coolant can be detected by observing the level of coolant in the reservoir at the "COLD" level line when the engine is cold.