

TEST PROCEDURES

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SIGHT GLASS REFRIGERANT LEVEL TEST

The sight glass, which is an integral part of the filter-drier, is a refrigerant level indicator (Fig. 1). To check the refrigerant level, clean the sight glass and start the car engine. Place the air conditioning controls on A/C, the fan switch on high and the temperature lever on cool. The room temperature should be at least 70°F. After operating for a few minutes in this manner, check the sight glass.

(1) If the sight glass is clear, the A/C clutch is engaged, the compressor discharge line is warm and the compressor inlet line is cool; the system has a full charge.

(2) If the sight glass is clear, the A/C clutch is engaged and there is no significant temperature difference between compressor inlet and discharge lines; the system is empty or nearly empty. Connect a gauge to the compressor discharge port. If the gauge reads less than 25 psi, the low pressure cut-off switch has failed.

(3) If the sight glass is clear and the A/C clutch is disengaged; the clutch is defective or, the clutch circuit is open, or the system is out of refrigerant. Perform low pressure cut-off switch to determine condition.

(4) If the sight glass shows foam or bubbles, the system could be low on charge. Occasional foam or bubbles is normal when the room temperature is above 110°F or below 70°F.

Adjust the engine speed to 1600 RPM on six cylinder cars and 1300 RPM on eight cylinder cars. Block the airflow thru the condenser to increase the compressor discharge pressure to 225 to 250 psig. If sight glass still shows bubbles or foam, system charge level is low.

The refrigerant system will not be low on charge unless there is a leak. Find and repair the leak. If the leak can be repaired without discharging the system, the low refrigerant charge level can be corrected as follows. Maintaining the discharge pressure of 225 to 250 psig. add refrigerant gas through compressor suction line until foam is cleared from sight glass. Then add exactly amount of refrigerant shown below.

Carline	Refrigerant
All Vehicles	13 oz.

LOW-PRESSURE CUT-OFF SWITCH TEST

The Low Pressure Cut-Off Switch, which is located on the filter-drier, is wired in series with the compressor magnetic clutch. It cuts off the electrical power supply to the clutch when refrigerant pressure drops below the control point of the switch (Fig. 1).

Whenever the system is inactivated by the low pressure cut-off switch due to the loss of refrigerant, refrigerant oil may also have been lost. Therefore, to prevent damage to the compressor due to operation without sufficient lubrication, the leak must be repaired and the compressor oil level checked before final charge of the system.

The switch is a sealed, factory calibrated unit. No attempt shall be made to adjust or otherwise repair it. If it is found to be defective it must be replaced.

To Test the Switch (Engine Off)

(1) Remove protective rubber boot from low pressure cut-out switch and jumper leads together.

(2) Press the A/C button.

(3) Momentarily turn the ignition switch on (**do not crank the engine**), listen for the compressor clutch engaging.

(4) If the clutch does not engage, the clutch, wiring or fuse may be defective. Check the clutch circuit and clutch.

(5) If clutch engages, connect the manifold gauge set and read discharge pressure. At any pressure of 25 psig. and above, switch must actuate clutch.

If the discharge pressure is below 25 psig. refrigerant system is low of charge or empty due to a leak. This check must be performed. For corrective action refer to refrigerant leak repair procedure.

(6) Reconnect boot on switch and perform step number 3.

If the clutch does not engage, discharge the system, replace the switch, and recharge the system.

HIGH PRESSURE RELIEF VALVE

The High Pressure Relief Valve is located on the filter-drier opposite the low pressure cut-off switch. Its function is to prevent damage to the air conditioning system in the event that excessive pressure develops due to condenser air flow being restricted by,