RENAULT VACUUM ADVANCE CORRECTION

Le Car

DESCRIPTION

This system is designed to advance ignition timing when the engine is cold. The components of the system are a distributor with 2 sending units, a solenoid valve, oil thermal switch, switching relay, and distributor vacuum advance mechanism.

OPERATION

When oil temperature is below 59°F (15°C), the thermal switch is closed. The solenoid valve closes, cutting off vacuum to the distributor advance mechanism. The switching relay connects the secondary sending unit (in distributor) to the ignition control unit. The secondary sending unit is offset 6° (flywheel) from the primary sending unit.

When oil temperature rises past the thermal switch operating point, the switch opens. This switches vacuum to the advance mechanism and causes the switching relay to reconnect the primary sending unit to the ignition control unit. Ignition timing is now controlled by vacuum advance.

On air conditioned models, a second vacuum solenoid valve is provided. When the air conditioning compressor is "ON", the solenoid allows manifold vacuum to reach the vacuum advance mechanism. The additional advance raises engine speed to compensate for the compressor load.

TESTING

1) Disconnect hose from vacuum advance mechanism on distributor and connect a vacuum gauge. With engine idling at normal operating temperature, vacuum should be low. As engine speed is increased, vacuum should increase.

2) Disconnect electrical lead from oil thermal switch (right side of oil pan). Connect lead to ground. No vacuum should be present on vacuum gauge. Ignition timing should advance to 9° BTDC. Reconnect oil thermal switch wire.

3) On air conditioned vehicles, turn on air conditioning so compressor operates. Gauge should indicate more than 12 in. Hg vacuum.

4) If system operates as described, reconnect advance hose. If not operating properly, check oil thermal switch. When temperature is below 59°F (15°C), switch should have continuity between terminal and ground. Above that temperature, there should be no continuity.

5) If system still does not operate properly, check electrical connections to switching relay and distributor.

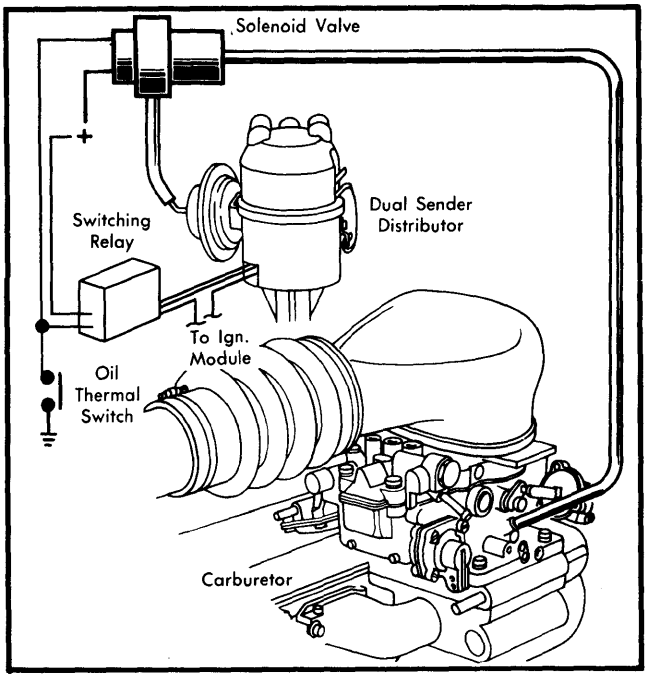

Fig. 1 Le Car Vacuum Advance Correction System