RENAULT EXHAUST GAS RECIRCULATION

Le Car

DESCRIPTION

The exhaust gas recirculation system is designed to control formation of NOx emissions. This is done by reintroducing some exhaust gas back into the combustion chamber. The exhaust gases are lower in temperature than the combustion flame. By reducing combustion chamber temperatures, NOx formation is reduced.

The system on Federal vehicles includes an EGR valve, coolant switch, choke switch, gearbox switch, and an EGR vacuum solenoid. California vehicles use an EGR valve and thermal vacuum switch.

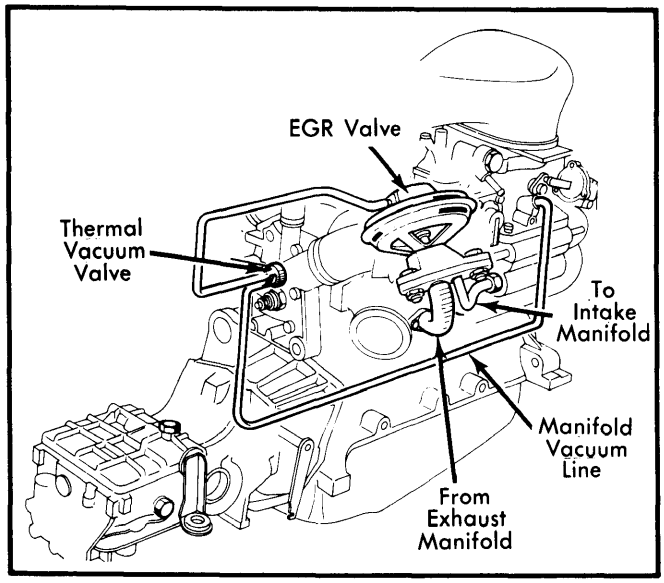

Fig. 1 Le Car Exhaust Gas Recirculation System (California System Shown)

OPERATION

The Federal system normally operates at all times, regardless of coolant temperature. However, the system has an overheat mode which operates when the choke knob is out, gearbox is in neutral, and coolant is over 113° F (45° C). When these conditions exist, the EGR vacuum solenoid is energized and full manifold vacuum is applied to the EGR valve. The system prevents overheating due to extended use of the choke.

The California EGR system has a thermal vacuum switch that allows vacuum to the EGR valve whenever the coolant is over 113° F (45° C). Below specified temperature, there is no EGR.

The back-pressure controlled EGR valve operates only when exhaust pressure is high enough to close a vacuum bleed port. Manifold vacuum then pulls the valve open, allowing exhaust gases to enter the intake manifold. When exhaust back pressure drops, the bleed port is opened, intake vacuum bleeds off, and the valve closes. See *Fig. 2*.

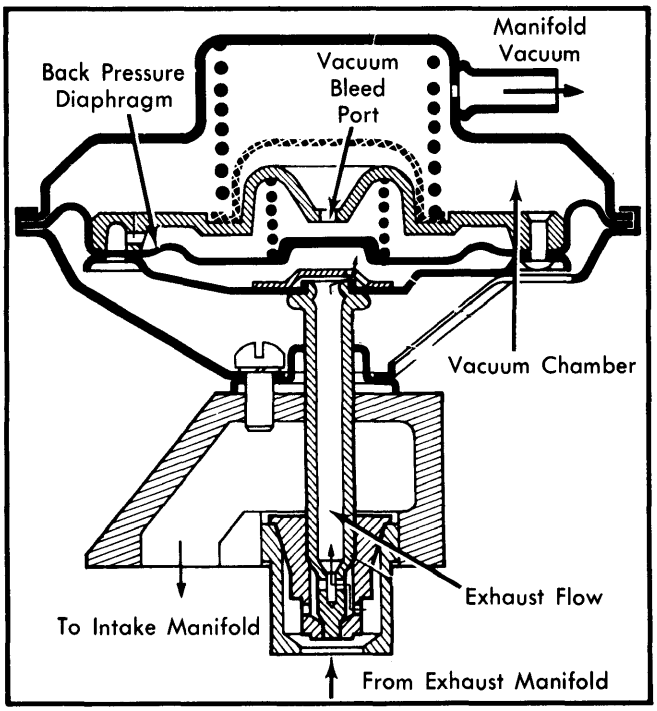

Fig. 2 Le Car EGR Valve

TESTING

Warm engine to normal operating temperature. Accelerate engine while watching valve stem through open area at bottom of valve. Stem movement indicates the valve is operating.

MAINTENANCE

The EGR system must be cleaned and inspected every 12,000 miles. Remove valve and clean off exhaust deposits. Check condition of hoses and connections.