

PEUGEOT EXHAUST GAS RECIRCULATION

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DESCRIPTION

The exhaust gas recirculation system is used to prevent the escape of oxides of nitrogen (NO_x) emissions through the exhaust system. The EGR valve recycles, according to engine mode, a measured amount of exhaust gas back into the intake system. This helps lower peak combustion temperatures and thus reduces formation of NO_x emissions. The diaphragm-type EGR valve is operated by a pressure differential between intake manifold vacuum and exhaust back-pressure.

An amplifier is also used to assist recirculation by measuring the volume of air flow drawn in by the engine. The vacuum signals from the ports in the carburetor are amplified by this unit and are used to balance the intake air volume and the volume of recirculated exhaust gases. The amplifier receives vacuum signals from three points in the system: carburetor throat, intake manifold vacuum, and above the carburetor throttle plate.

A thermostatic valve located in the engine block allows vacuum to flow to the vacuum amplifier when coolant temperature exceeds 131°F (55°C). Below about 125°F (51°C), the thermostatic valve is closed, no vacuum flows to amplifier, and no EGR takes place.

TESTING

EGR VALVE

- 1) Make a visual inspection of the EGR system for obvious faults or areas of possible leaks.
- 2) Loosen connection at end of EGR valve (opposite diaphragm end). Remove EGR mounting screws and rotate EGR valve 180°. Tighten connection at end of EGR valve.
- 3) Plug hole in intake manifold where EGR valve was removed. Do not plug valve itself.

NOTE — This procedure is to be performed with engine at normal operating temperature so thermo valve will not cut off EGR.

- 4) Start engine. At idle, there should be no flow of exhaust gases at the outlet hole in the EGR valve flange. At partial load (higher RPM), the vacuum acts on the EGR valve diaphragm to open the valve and there should be exhaust gas flow through the EGR valve outlet hole.

- 5) If diaphragm of valve does not move, disconnect vacuum line from the EGR valve. Connect manifold vacuum (green hose at tee) to EGR valve.

- 6) If diaphragm now moves, the vacuum amplifier is probably defective (first recheck all vacuum fittings for proper connection) and should be replaced if determined to be faulty.

- 7) If diaphragm still does not move, EGR valve is faulty and should be repaired or replaced.

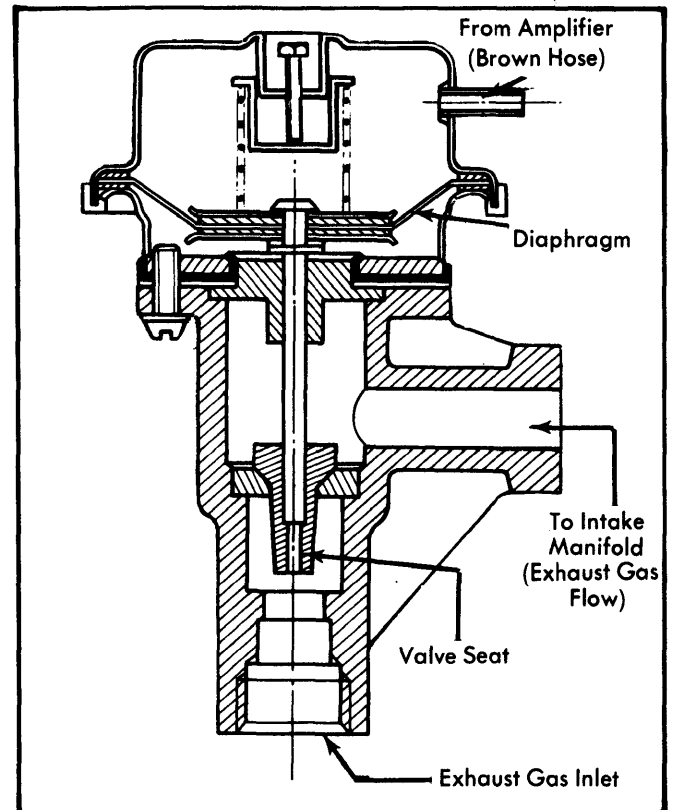


Fig. 1 Sectional View of EGR Valve

MAINTENANCE

EGR valve should be disassembled and cleaned every 12,500 miles. The EGR maintenance warning light should be reset.

RESETTING EGR WARNING LIGHT

- 1) Unbolt the maintenance switch from inside of left front wheelwell. Pull down switch without disconnecting speedometer cables.
- 2) Remove covers (outer and inner) from warning device and turn reset button counterclockwise until reaching a stop point. This will reset maintenance warning light to zero.
- 3) Ensure warning light on dashboard is out. Replace covers and reinstall device in wheelwell.