

CHRYSLER CORP. EXHAUST GAS RECIRCULATION

DESCRIPTION

Exhaust gas recirculation allows a predetermined amount of hot exhaust gas to recirculate and dilute incoming air/fuel mixture. This diluting of the mixture reduces high heat peaks during combustion, thereby reducing NOx emissions.

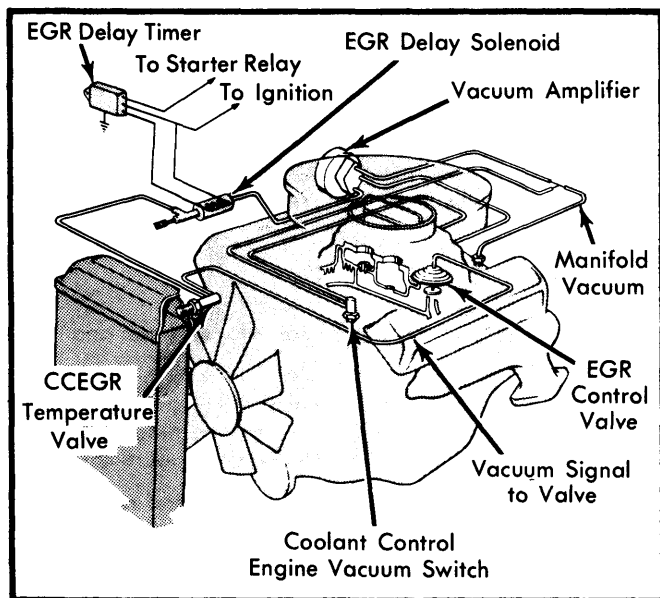


Fig. 1 Typical Venturi Vacuum Control EGR System

OPERATION

Two different EGR systems are used: Venturi Vacuum Control and Ported Vacuum Control. The EGR valve used with each system is identical; the difference is in the method of controlling vacuum to the valve. Only the Ported Vacuum Control system is used on Omni and Horizon; other Chrysler Corp. vehicles may use either type of system.

Venturi Vacuum Control System – A vacuum tap at throat of carburetor venturi is used to provide control vacuum. Because of the low amount of vacuum, it is necessary to use a vacuum amplifier to increase vacuum to a level required to operate E.G.R. valve. Elimination of recycle at wide open throttle is accomplished by a dump diaphragm which compares venturi and manifold vacuum to determine when wide open throttle is reached. At wide open throttle, the internal reservoir is "dumped", limiting output to E.G.R. valve opening point. Opening point is set above manifold vacuum available at wide open throttle, permitting E.G.R. valve to be closed at wide open throttle.

Ported Vacuum Control System – A slot type port in carburetor throttle body, which is exposed to an increasing percentage of manifold vacuum as throttle valve opens, provides vacuum directly to E.G.R. valve. The flow rate is dependent on manifold vacuum, throttle position, and exhaust gas back-pressure. Recycle at wide open throttle is eliminated by calibrating valve opening point above manifold vacuum available at wide open throttle as port vacuum cannot exceed manifold vacuum.

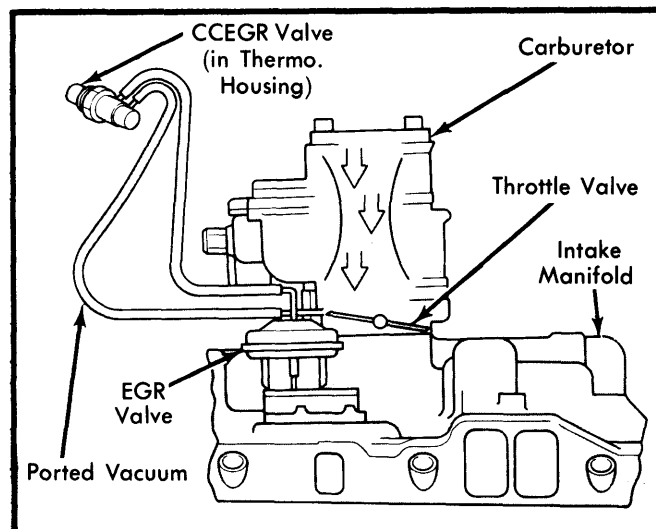


Fig. 2 Ported Vacuum Control EGR System as Used on Omni and Horizon

COOLANT CONTROL EGR VALVE (CCEGR)

NOTE – Location of CCEGR valve is as follows: On 4 cylinder engines, valve is in thermostat housing. On 6 cylinder engines, valve is in cylinder head. On V8 engines, valve is in intake manifold.

CCEGR Color Code & Temperature Chart

Color Code	Opening Temp. (°F)
Black	98
Yellow	125
Red	150

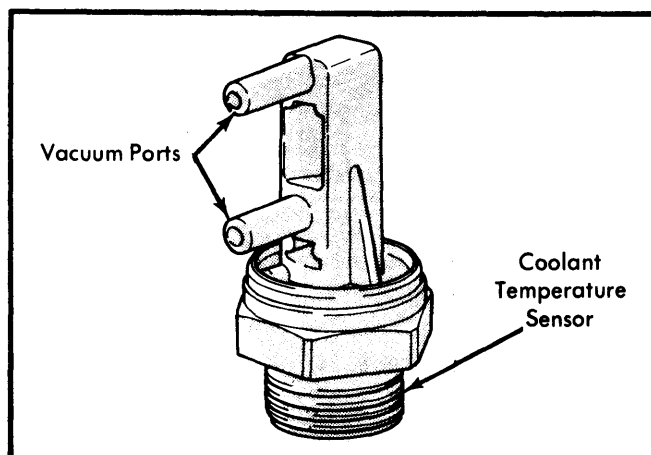


Fig. 3 Coolant Control EGR Valve