Fiat Exhaust Gas Recirculation

All Models

DESCRIPTION

The Exhaust Gas Recirculation (EGR) system is designed to reduce the formation of oxides of nitrogen (NOx). This is accomplished by recirculating a metered amount of exhaust gases back into the intake system where it mixes with the air/fuel mixture. By adding these gases to the air/fuel mixture, the combustion temperatures are lowered, thereby reducing NOx emissions. The system consists of an EGR valve, a thermo valve, and various connecting hoses and pipes.

OPERATION

Exhaust gases are picked up from the exhaust manifold. The EGR valve is placed in circuit between the exhaust and intake manifolds to control the flow of exhaust gas. The valve is actuated by exhaust back pressure and regulated by a ported vacuum signal. The vacuum signal is taken from a port above the throttle plate in the carburetor. The vacuum signal is interrupted by the thermo valve which senses engine coolant temperature.

With the engine cold the thermo valve is closed. This blocks the vacuum signal to the EGR valve. The EGR valve remains closed, preventing recirculation of exhaust gases. Thus, the air/fuel mixture is not diluted during cold engine operation.

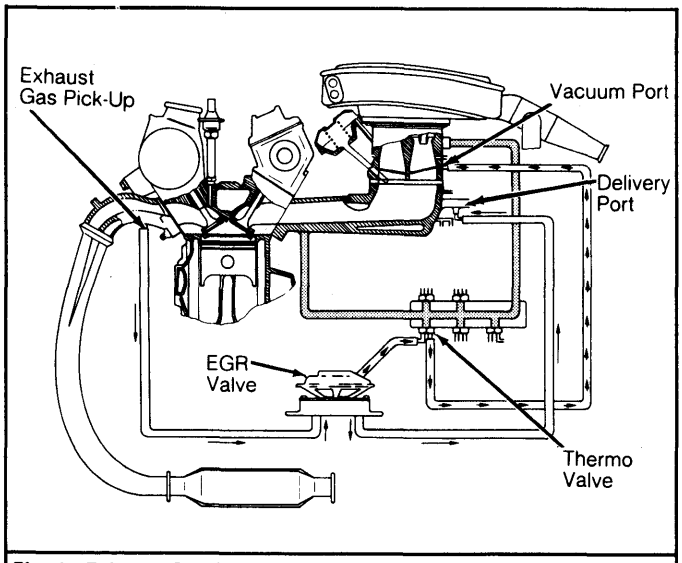

Fig. 1: Exhaust Gas Recirculation System (Typical)

With the engine warm the thermo valve is opened. This applies a vacuum signal to the EGR valve. This signal, in combination with exhaust gas back-pressure, will cause the EGR valve to open, allowing recirculation of exhaust gases. Due to the positioning of the vacuum signal port in the carburetor bore, the recirculation of gases is greatest under high engine loads.

MAINTENANCE

EGR SYSTEM

At 25,000 mile intervals, a catalyst/EGR system light comes on. After servicing EGR system, reset maintenance reminder light. Locate odometer switch in engine compartment. *See Fig. 2.* Remove lock wire, unscrew cap and turn screw to "50". After 50,000 miles, turn screw back to "25".

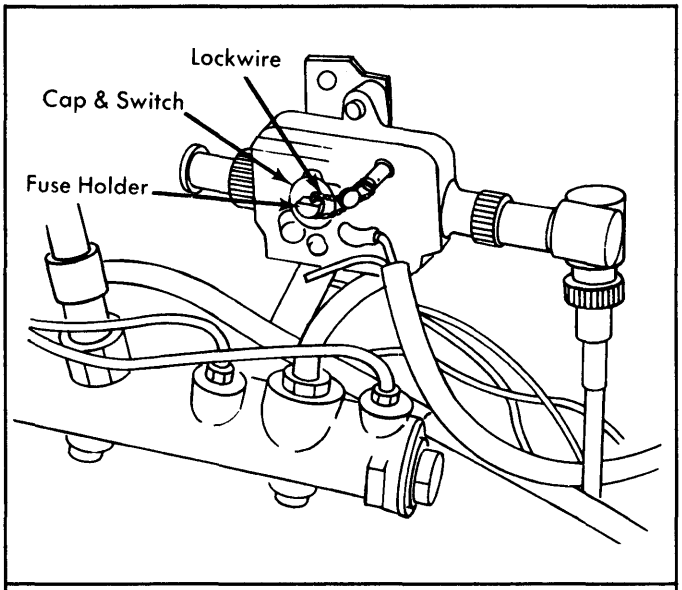

Fig. 2: Catalyst/EGR System Odometer Switch