PEUGEOT AIR INJECTION

505

DESCRIPTION

Peugeot gasoline engines use air injection to decrease exhaust emissions and improve performance of the catalytic converter. The systems inject fresh air into the exhaust manifold or catalytic converter. The air mixes with exhaust gases and permits any unburned gasses to burn in the exhaust pipe.

Systems on 505 models include an air pump with relief valve, diverter valve, thermostatic air slide valve, electrovalve, check valves, delay valve, vacuum switch, and air silencer.

OPERATION

The air pump operates whenever the engine is running. A pressure relief valve diverts air to atmosphere whenever pump pressure exceeds 6.5 psi (.43 kg/cm²). When engine coolant is below 130°F (55°C), air passes through the thermostatic air slide valve and is directed to the exhaust manifold. As the engine warms up, less air is directed to the exhaust manifold and some is sent to the catalytic converter. When coolant is above 131°F (55°C), all injected air through the thermostatic slide valve is sent to the catalytic converter.

When manifold vacuum is high, the vacuum switch opens the electrovalve. This allows a small amount of air to the exhaust manifold. The oxygen sensor interprets this as a lean mixture and the electronic control unit richens the mixture slightly. The result is better driveability at small throttle openings. When the throttle is wide open for more than about 15 seconds, air injection is stopped because vacuum signal is not strong enough to open the diverter valve. The delay valve keeps the diverter valve open (to continue injection) if the throttle is wide open for brief periods of less than 11-17 seconds.

TESTING

NOTE — *Testing procedures for the 505 air injection system are not available from manufacturer.*

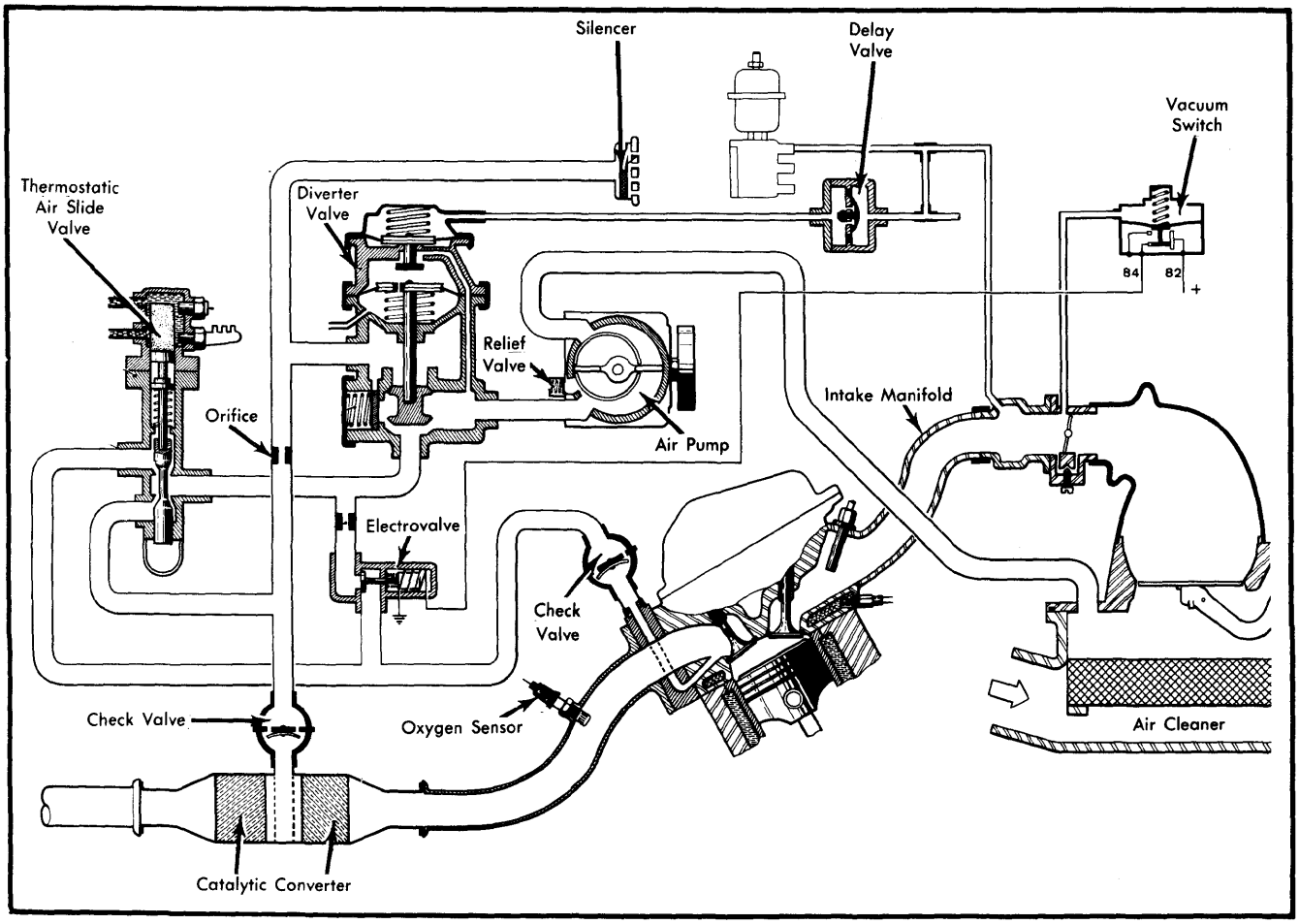

Fig. 1 Peugeot 505 Air Injection System