

MAZDA PISTON ENGINE

GLC
626
B2000

DESCRIPTION

The Fuel Evaporation control system prevents the escape of raw fuel vapors to atmosphere. System consists of a sealed fuel filler cap, special fuel tank with integral vapor separator (external liquid/vapor separator on GLC Station Wagon), check valve (except Federal B2000), purge control valve (except Federal B2000), water thermo valve (except Federal B2000), charcoal canister and connecting lines and hoses. A vacuum controlled evaporative shutter valve is installed on Calif. GLC (Auto. Trans.) and 626 models to control carburetor vapors.

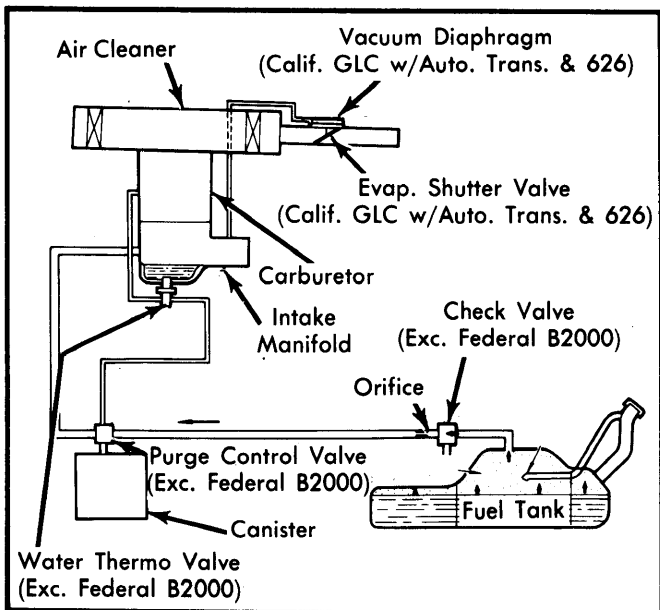


Fig. 1 Schematic Of Typical Mazda Piston Engine Fuel Evaporation Control System

OPERATION

When engine is not running, fuel vapors from fuel tank flow to carbon canister for storage. The check valve (if equipped) prevents pressure or vacuum from forming in system. On Calif. GLC (Auto. Trans.) and 626 models, when engine is started, manifold vacuum opens evaporative shutter valve to allow fresh air into carburetor. On all models, when engine coolant temperature reaches 131°F (55°C), water thermo valve opens and intake manifold vacuum is directed to purge control valve (if equipped). When manifold vacuum opens purge control valve, fresh air is drawn through inlet hole at bottom of canister. Vapors are drawn through air cleaner, into the engine and burned.

TESTING

EVAPORATIVE LINE CHECK

1) Disconnect evaporative hose from canister. Connect the detached hose to a "U" tube type pressure gauge.

2) Gradually apply low air pressure into "U" tube so that difference of water level should be 14" (356 mm).

3) Then, bind the inlet of the "U" tube and leave bound for 5 minutes. If water drops no more than 1" (25 mm) after 5 minutes, evaporative line is in good condition.

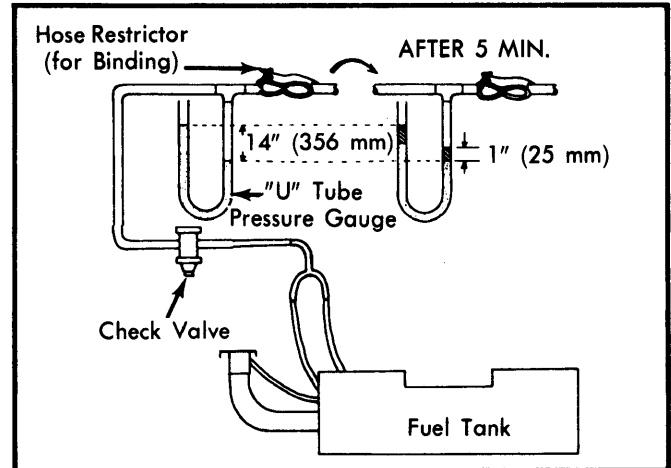


Fig. 2 Testing Evaporative Lines Using "U" Tube Pressure Gauge

CHECK VALVE (EXC. FEDERAL B2000)

1) Remove check valve from lines. Connect a pressure gauge with tee on the nipple leading to the fuel tank and hold finger over opposite nipple. Fig. 3.

2) Blow through open end of tee fitting. When pressure gauge reads .78-1.0 psi (0.055-0.70 kg/cm²), the valve should be open.

NOTE — Valve must be held horizontally.

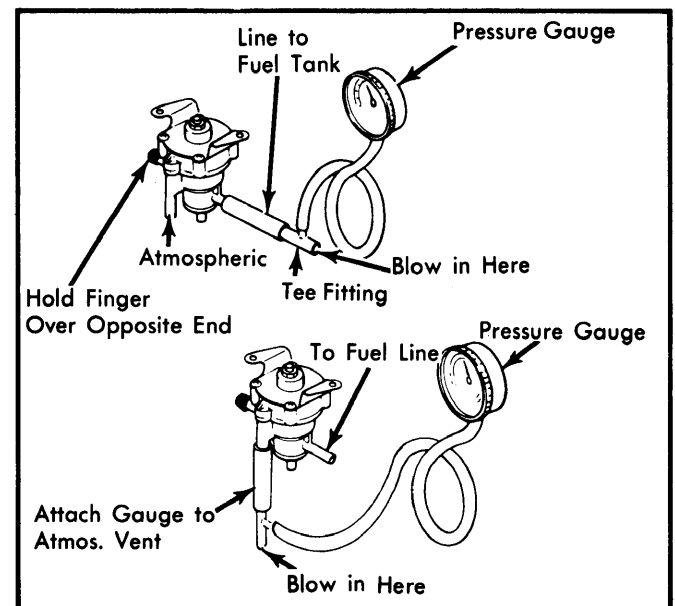


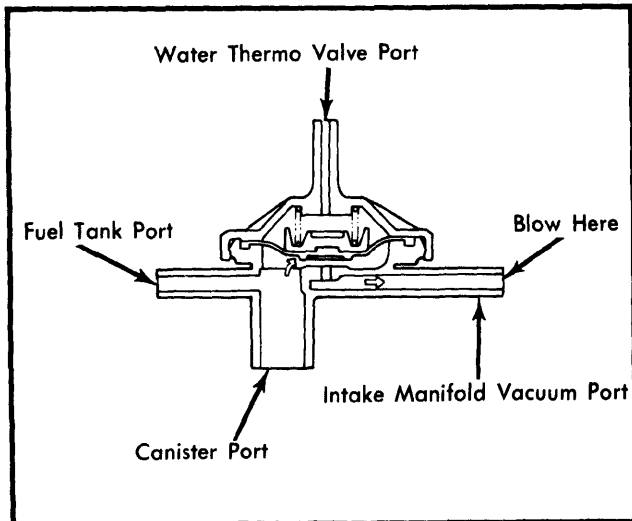
Fig. 3 Testing Fuel Evaporation Check Valve

1980 Fuel Evaporation Systems

MAZDA PISTON ENGINE (Cont.)

PURGE CONTROL VALVE (EXC. FEDERAL B2000)

- 1) Disconnect manifold vacuum hose from manifold. Disconnect and plug purge control valve-to-water thermo valve hose.
- 2) Start engine and run at idle. Blow through manifold vacuum tube. Air should not pass through control valve.



**Fig. 4 Testing Purge Control Valve
(Exc. Federal B2000)**

- 3) Unplug thermo valve hose and reconnect to purge control valve. Blow through manifold hose again. Air should pass through control valve. If valve does not respond as described, replace purge control valve.

WATER THERMO VALVE (EXC. FEDERAL B2000)

Disconnect water thermo valve-to-purge control valve hose. Start engine and run at idle. With engine cold, no suction should be felt. With engine coolant temperature above 131°F (55°C), suction should be felt. If not, replace water thermo valve.

SHUTTER VALVE (CALIF. GLC w/AUTO. TRANS. & 626)

Remove air cover and element. With engine cold, shutter valve should be completely closed. Start engine and run at idle. Shutter valve should be open. With engine running, disconnect and reconnect vacuum hose to shutter valve diaphragm. Shutter valve should open and close smoothly. If not, replace shutter valve.

MAINTENANCE

Check entire system for proper functioning every 15,000 miles. Check valve should be tested every 25,000 miles. Replace parts as necessary.