1974-79 EXHAUST EMISSION SYSTEMS
Mazda Fuel Evaporation

Piston Engines

DESCRIPTION

The fuel evaporation system prevents the escape of raw fuel vapors to the atmosphere. System consists of a sealed fuel filler cap, fuel tank, liquid/vapor separator (station wagon), check valve (GLC), charcoal canister, and connecting hoses and lines.

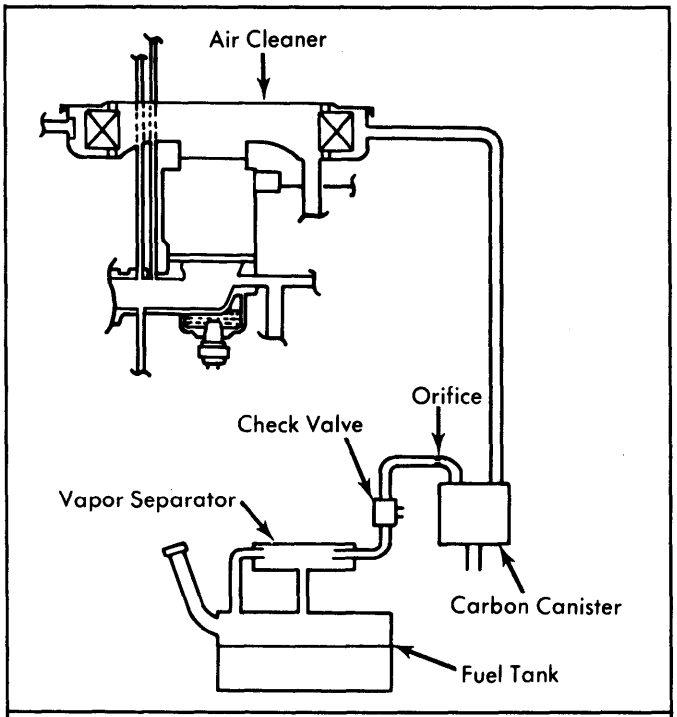

Fig. 1: Typical Piston Engine Fuel Evaporation System

OPERATION

With engine off, vapors and liquid fuel flow from fuel tank into vapor separator. Liquid fuel is returned to fuel tank while vapors flow to carbon canister where they are stored until engine is started. Check valve prevents pressure of vacuum from forming in system.

With engine running, fuel vapors stored in canister are purged by fresh air drawn from 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. Gradually apply low air pressure into "U" tube so that difference of water level should be 14" (356 mm).

2) Now 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.

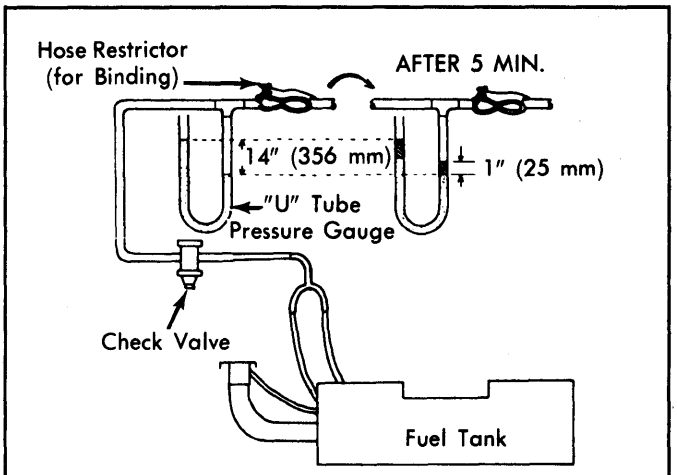

Fig. 2: Testing Evaporative Lines Using "U" Tube Pressure Gauge

CHECK VALVE TEST

GLC & 626 - 1) Remove check valve from lines. Connect a pressure gauge with tee fitting on nipple leading to fuel tank and hold finger over opposite nipple. *See Fig. 3.*

2) Blow through open end of tee fitting. When pressure gauge reads .78-1.0 psi (.05-.07 kg/cm²) on GLC or .57-1.14 psi (.04-.08 kg/cm²) on 626, the valve should be open.

3) Remove pressure gauge and connect it to atmospheric vent nipple, using same tee fitting. With valve held horizontally, blow through open end of fitting. Valve should open at .14-.71 psi (.01-.05 kg/cm²).

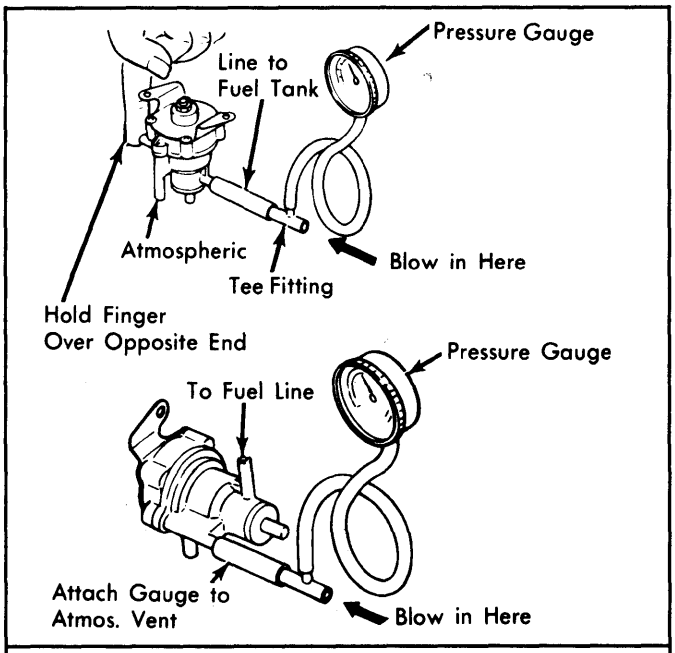

Fig. 3: Testing Fuel Evaporation Check Valve

MAINTENANCE

Check entire system for proper functioning every 12,500 miles. Check valve should be tested every 25,000 miles. Replace parts as necessary.