MAZDA PISTON ENGINE
SPARK DELAY TIMING CONTROL SYSTEM

626
B2000

DESCRIPTION

The Spark Delay Timing Control System is used to reduce HC and NOx emissions by delaying vacuum to distributor advance unit during acceleration. System components and application vary among models as noted:

626 – This system consists of a water thermo valve which prevents vacuum advance until engine coolant temperature reaches 129°F (54°C).

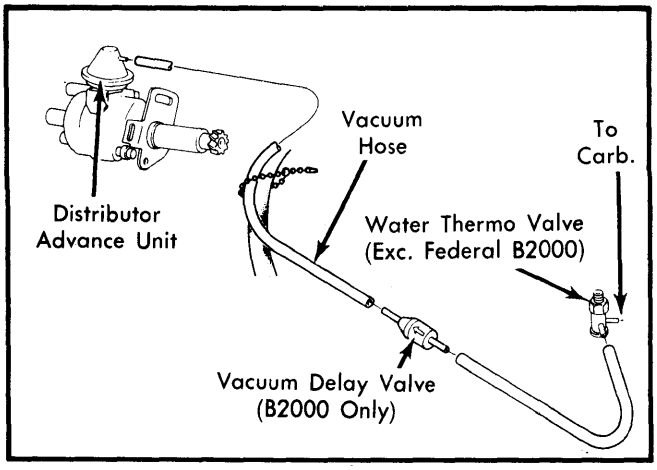

Fig. 1 Schematic of Mazda 626 and B2000 Spark Delay Timing Control System

B2000 – This system consists of delay valve which reduces vacuum advance during acceleration mode. Calif. models are also equipped with a water thermo valve which prevents advance until engine coolant temperature is above 122°F (50°C).

TESTING

VACUUM DELAY VALVE (B2000 ONLY)

1) Remove plug from intake manifold. Disconnect spark delay valve-to-distributor vacuum hose at distributor and connect directly to intake manifold vacuum.

2) On California models, disconnect water thermo valve-to-spark delay valve vacuum hose at spark delay valve and connect a vacuum gauge. On Federal models, disconnect spark delay valve-to-carburetor vacuum hose and connect vacuum gauge.

3) Start engine and idle. Note idle vacuum level. Pull intake manifold vacuum source off and record time it takes vacuum to decrease 11.8 in. Hg from idle vacuum reading. If time exceeds 4-6 seconds, replace spark delay valve.

WATER THERMO VALVE

Insert valve and thermometer in container of water. Heat water gradually and note temperature when air can be blown through valve. If temperature does not meet specifications, replace water thermo valve.

MAZDA PISTON ENGINE HOT IDLE COMPENSATION SYSTEM

GLC
626

DESCRIPTION

The Hot Idle Compensation System supplies additional air to intake manifold under hot idle conditions to maintain smooth idle and reduce emissions. A bimetal valve in air cleaner opens passage from air cleaner to intake manifold. When this happens, fresh air mixes with rich air/fuel mixture (caused by sustained idle) and creates better combustion. Valve opens between 145-160°F (63-71°C).

TESTING

HOT IDLE COMPENSATOR

When engine is cold or air temperature is normal, detach air hose from intake manifold and try to pull air through with vacuum pump. No air should pass through compensator. Using a heat lamp, heat valve to temperature above 155°F (69°C) and try to pull air through hose. Air should pass through compensator. If not, replace compensator.

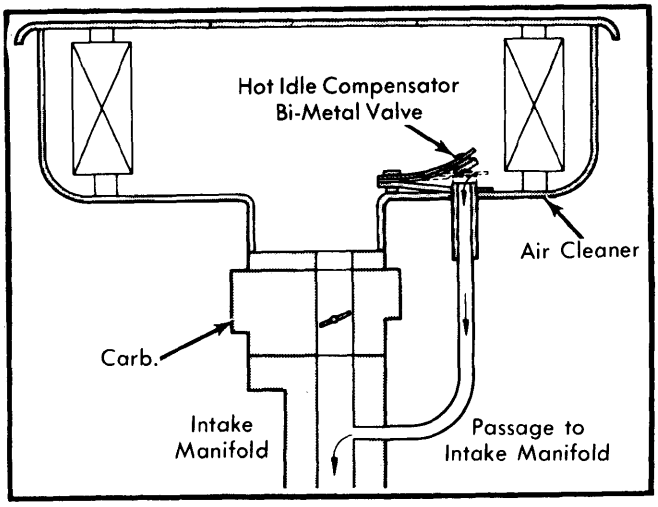

Fig. 1 Mazda Hot Idle Compensator Valve