

1980 Exhaust Emission Systems

MAZDA PISTON ENGINE SPARK DELAY TIMING CONTROL SYSTEM

**GLC
626
B2000**

DESCRIPTION

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

GLC — This system consists primarily of a delay valve to reduce vacuum to distributor advance during acceleration. Two water thermo switches, a three-way solenoid valve, an igniter and timer unit are also installed to retard ignition timing for 2 minutes when engine coolant temperature is between 50-122°F (10-50°C). As engine temperature increases, timing advances from 1°BTDC to 5°BTDC.

626 — This system consists of a water thermo valve which prevents vacuum advance until engine coolant temperature is above 122°F (50°C).

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).

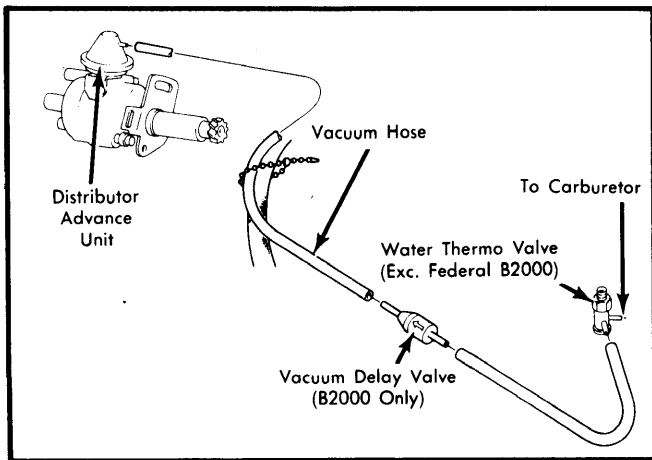


Fig. 1 Schematic of Mazda 626 and B2000 Spark Delay Timing Control System

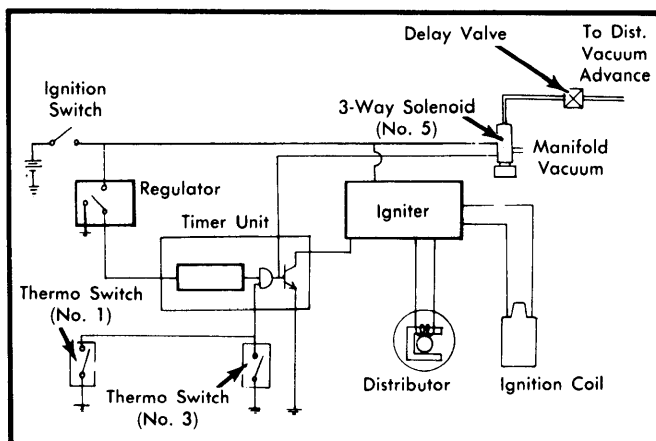


Fig. 2 Schematic of Mazda GLC Spark Delay Timing Control System

TESTING

VACUUM DELAY VALVE

- 1) Remove vacuum delay valve. Connect distributor side of valve to intake manifold vacuum source. Connect vacuum gauge to opposite side of valve.
- 2) 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. (300 mm) Hg from idle vacuum reading. Time period should be within specifications shown in chart. If not, replace spark delay valve.

Delay Valve Test Times	
Application	Seconds
GLC	
Calif. Auto. Trans.	4-10
All Others	10-20
B2000	4-6

3-WAY SOLENOID VALVE (GLC ONLY)

- 1) Disconnect carburetor vacuum sensing tube from valve. Disconnect spark delay vacuum tube from solenoid valve and attach suitable hose.
- 2) Disconnect electrical lead (Lt. Green/Black) from valve and ground terminal with jumper wire. Disconnect additional electrical lead (Yellow/Black) from solenoid valve.
- 3) Blow through hose connected in step 1). Air should escape at carburetor port. Apply battery voltage to electrical terminal (Yellow/Black). Blow through hose again. Air should escape through air filter. If solenoid valve does not operate as described, replace solenoid valve.

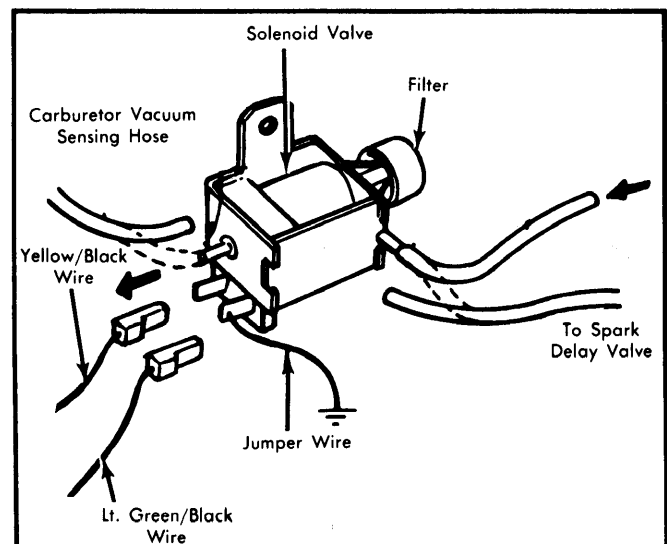


Fig. 3 Testing Mazda GLC 3-Way Solenoid Valve