1972 MAZDA PISTON ENGINE MODIFICATION

1200 (1972)
808 (1972)
616 (1972)
618 (1972)

DESCRIPTION

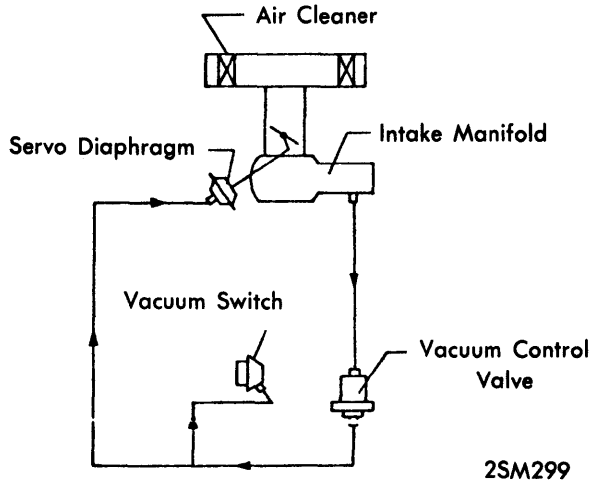
The exhaust emission control system on all except 808 models consists of a throttle opener, which controls throttle during deceleration; an ignition control system, which regulates advance and retard of ignition; and a slow fuel cut valve, which prevents dieseling when ignition is turned off. 808 models, with manual transmission, use only the throttle positioner, while 808 automatic transmission California cars use a throttle positioner and a vacuum switch connected to intake manifold. Non-California 808 automatic transmission models require no special equipment to meet exhaust emission regulations.

OPERATION

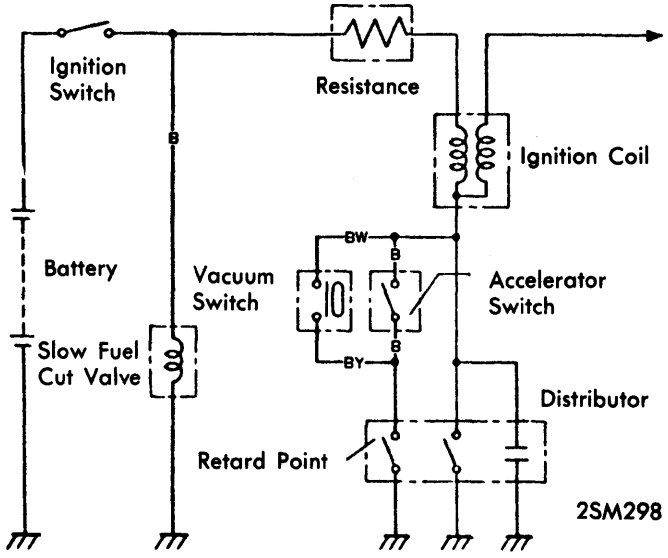
Throttle Opener System – The system is made up of a servo diaphragm connected to primary throttle valve, and a vacuum control valve, which is located between the intake manifold and servo diaphragm. Throttle opener system uses intake manifold vacuum during deceleration to slightly open primary throttle valve. Primary throttle is held open until engine slows to 1400 RPM (1800 & 616), 1300 RPM (1200) or 1200 RPM (808).

Ignition Control System (1200, 616 & 1800) – Consists of a vacuum switch which is located between vacuum control valve and servo diaphragm of throttle opener system; accelerator switch, which is attached to throttle linkage at carburetor; and a retard contact point set in distributor. Vacuum switch is controlled by vacuum from vacuum control valve on deceleration. When vacuum control valve is in operation the vacuum switch closes, thereby retarding ignition. When vacuum control valve is not operating, ignition timing will return to normal advance. When manifold vacuum exceeds 80 mm Hg (3.15 in. Hg) switch opens and timing changes from 2° BTDC to 8° BTDC to improve high speed running. Accelerator switch operates when accelerator is depressed. At idle, accelerator switch closes and retards ignition timing. When accelerator is depressed, switch opens and normal advance occurs.

Ignition Control System (Calif. 808 With Auto. Trans.) – On these models a vacuum switch, mounted on intake manifold, is used to control ignition timing. Switch functions in same manner as described above. An accelerator switch is not used.



VACUUM CIRCUIT

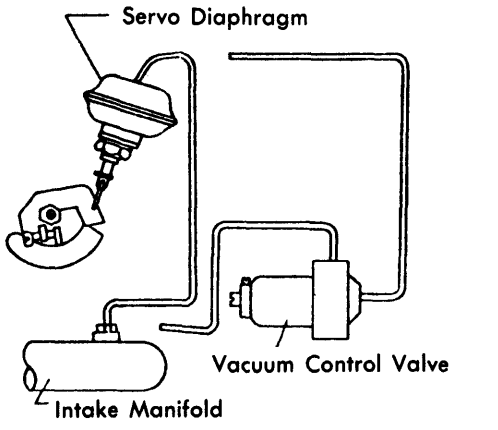


WIRING DIAGRAM

ADJUSTMENT

Servo Diaphragm – Start engine, set engine to 700-750 RPM. Stop engine and disconnect vacuum sensing tube between vacuum control valve and intake manifold. Connect tube to intake manifold and servo diaphragm, attach tachometer, remove vacuum sensing tube between carburetor and distributor. Start engine and check engine RPM. If engine RPM is 1400 ± 100 RPM (1800 & 616), 1300 ± 100 RPM (1200) or 1200 ± 100 RPM (808) servo diaphragm is normal. Achieve specified RPM by adjusting throttle opener adjusting screw. Disconnect tube from intake manifold, engine speed should return to 700-750 RPM. If preceding checks can not be achieved servo diaphragm is defective.

Slow Fuel Cut Valve – Fuel is cut off immediately when ignition switch is turned off. The switch is located on carburetor.



CHECKING OF SERVO DIAPHRAGM