

## MERCEDES-BENZ 4.5 LITER ENGINE MODIFICATION

280 SE 4.5, 280 SEL 4.5, 300 SEL 4.5 (1973)  
450 SL & 450 SLC (1973)

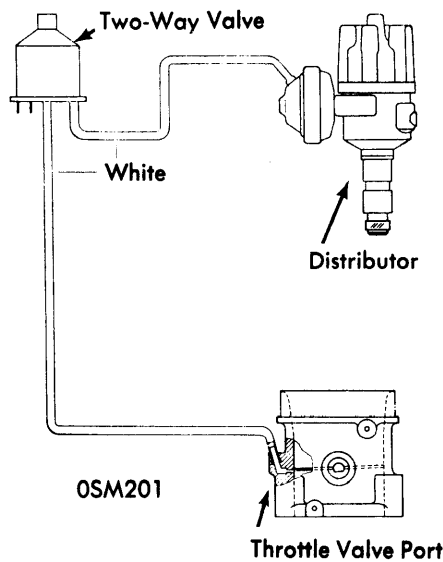
### DESCRIPTION

Exhaust emission control system consists of Bosch electronic fuel injection, an ignition change-over device and a deceleration fuel shut-off device. Components of system are a 212°F temperature sensing switch, a two-way valve and a relay which controls two-way valve.

### OPERATION

**Ignition Change Over** — A two-way valve is incorporated in vacuum line between intake manifold and distributor vacuum retard unit. When two-way valve is not activated, vacuum is applied to diaphragm of vacuum unit which retards ignition timing. If coolant temperature is above 212°F, temperature switch is closed and this activates two-way valve, eliminating vacuum to distributor retard unit. Also, when air conditioning is switched on, two-way valve is also activated. This will cause ignition timing to be advanced by about 12°.

**Fuel Shut-Off** — During deceleration, with a closed throttle, fuel delivery will be shut-off by electronic injection control unit. Fuel shut-off is dependent on coolant temperature. Both engine speed cut-off as well as cut-in points are variable. They will be at a higher RPM with low coolant temperature and at a lower RPM with high coolant temperature.



VACUUM SYSTEM SCHEMATIC

### TESTING

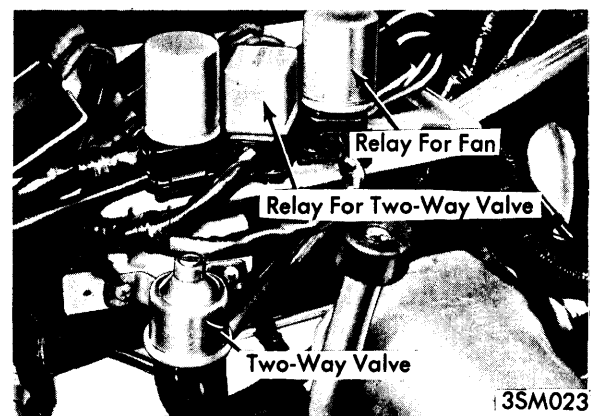
**Checking Ignition Change-Over** — Connect timing light and tachometer and check ignition timing at idle, should be 5° ATDC. Connect wire of 212°F temperature switch to ground, ignition timing should advance by about 12° and engine speed should increase by about 200 RPM. Reconnect temperature switch wire and switch on air conditioning. This should also advance ignition and raise engine speed by about 100 RPM. If ignition retard is not cancelled, check two-way valve and relay.

**Checking Two-Way Valve & Relay** — Connect test light to plug for two-way valve and switch on ignition. Ground wire of 212°F temperature switch. If test light, lights, relay is functioning. If relay is functioning and ignition retard is not cancelled, replace two-way valve.

**Checking 212° F Temperature Switch** — Connect test light to temperature switch and 12 volt power source. At a coolant temperature above 212°F, test light should be lit.



TWO-WAY VALVE RELAY (450 MODELS)



TWO-WAY VALVE & RELAYS (EXC. 450 MODELS)