## MERCEDES-BENZ

**All Models (Exc. Diesel)**

### DESCRIPTION

The fuel evaporation system is used to prevent raw fuel vapors from escaping to the atmosphere. System consists of special fuel tank, special filler cap, vent valve, purge valve and charcoal canister.

### OPERATION

#### EVAPORATION SYSTEM (ENGINE NOT RUNNING)

Fuel tank pressure is maintained by the vent valve: a pressure/vacuum relief valve. When engine is off and vapors expand (heated by sun), the pressure relief valve in vent valve opens, allowing fuel vapors to escape to the charcoal canister.

As fuel cools down, volume is reduced, creating a vacuum in fuel tank. Below a preset value, the vacuum portion of vent valve opens, allowing air and/or fuel vapors from the canister to travel to the fuel tank and reduce the vacuum.

If system malfunction causes fuel tank pressure to increase above 1.5-4.5 psi (.1-.3 kg/cm²), relief valve portion of filler cap opens to vent excess pressure.

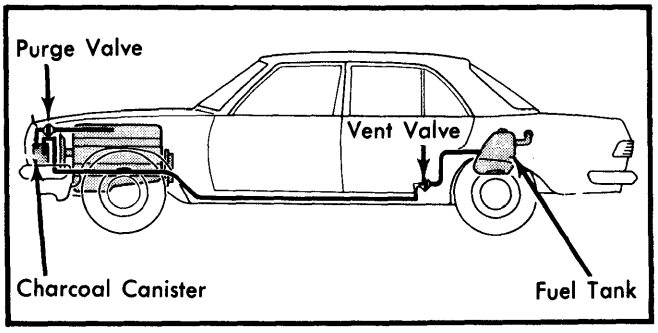


***Fig. 1 Fuel Evaporation Components (All Models)***

#### PURGE SYSTEM (ENGINE RUNNING)

The charcoal canister is connected to carburetor or throttle housing by a hose which contains the purge valve. When engine is running and vacuum in purge line exceeds .9-1.4 in. Hg, the purge valve opens and vapors stored on charcoal can be drawn into the intake system.

As throttle plate opens, two purge bores (which end in a common passage) are exposed to venturi vacuum. This results in metered purging during light loads (partial throttle).

At idle or coasting, these two bores are on atmospheric side of throttle valve, the purge valve is closed and no purging results.

### TESTING

#### PURGE VALVE

1) Disconnect black plastic hose at canister.

2) Start engine and run at idle, with finger on end of hose. No vacuum should be felt.

3) Increase engine speed to 2000 RPM. Vacuum should increase as speed increases.

4) If there is no vacuum, check all canister hose connections and hoses for proper condition (blow out hoses with air if necessary).

5) Disconnect purge hose at throttle housing and repeat check. If vacuum is felt here, replace purge valve.

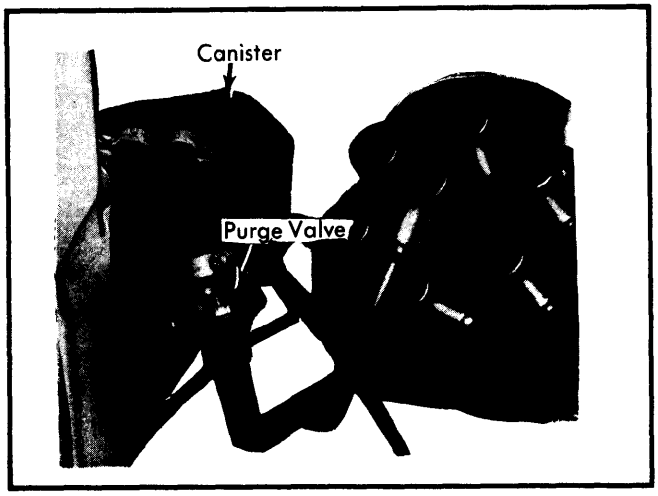


***Fig. 2 Purge Valve Installation***