MERCEDES-BENZ

NOTE — This system not used on Mercedes-Benz Diesel models.

DESCRIPTION & OPERATION

Mercedes-Benz Fuel Evaporation Control System is designed to prevent fuel vapors from being emitted into the atmosphere. This is accomplished by use of a modified fuel system as follows:

Fuel Tank & Filler Cap — Fuel tank is fitted with a non-vented (sealed) filler cap and tank is vented by two vent lines extending from the top of the tank to the bottom of a compensating tank mounted in the trunk compartment.

Compensating Tank — This tank is mounted in the trunk compartment above the main fuel tank and serves as an overflow tank (for expanded fuel caused by high ambient temperatures) and a separator tank to prevent liquid fuel from entering the vent line to the engine. Liquid fuel will be returned to the main fuel tank through the combination vent and return line. A breathing line from the top of the compensating tank is connected to the valve assembly.

Valve Assembly — Models up to 1971 have valve located in trunk compartment adjacent to compensating tank. Models from 1972 on have valve located on underside of vehicle in the rear seat area. Valve assembly consists of three valves which control venting of the fuel tank and flow of fuel vapors to engine as detailed and shown in illustration.

Vent Valve (a) — This valve opens when vapor pressure in tank reaches 0.17-0.26 psi to allow fuel vapors to be discharged through the vent line to the engine.

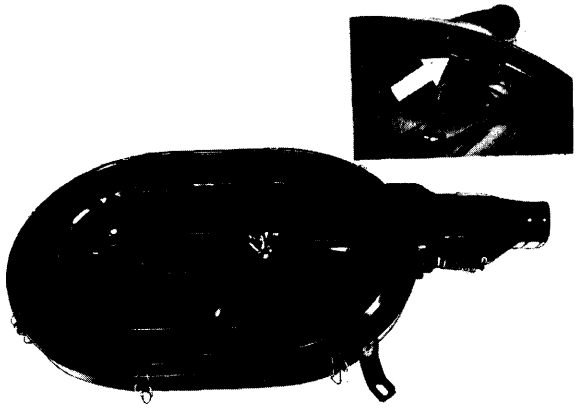
Breathing Valve (b) — This valve will compensate for any condition of less-than-atmospheric pressure in the fuel tank (due to decrease of fuel temperature or normal use of fuel from the tank). Valve opens at a pressure of 0.17-0.26 psi and allows outside air to enter system.

Pressure Relief Valve (c) — This valve will prevent an excessive pressure build-up in tank (due to restriction in vent line to engine, failure of vent valve, or other causes). When pressure in the system increases to 0.50-0.71 psi, valve opens and fuel vapors will escape into the atmosphere.

Vent Line to Engine — This vent line extends from valve assembly (vent valve chamber in valve assembly) to an engine connection at the front of the engine crankcase (4 & 6 Cyl. Engines) or oil pump (V8 Engines). A restricting nozzle is located in the line at the engine connection. Fuel vapors are stored in the engine crankcase when engine is not running, and are discharged through the crankcase ventilation system and burned in the combustion chamber when the engine is operated.

Air Cleaner — (1972 250 & 250C Models) — An activated carbon ring is placed in air cleaner to adsorb evaporated fumes from carburetor fuel bowl.

Air Cleaner — (1973 280 & 280C Models) — An extra valve is installed in air intake connection of air pre-warming duct. This valve prevents emission of fuel vapors through pre-warming device when engine is warm.



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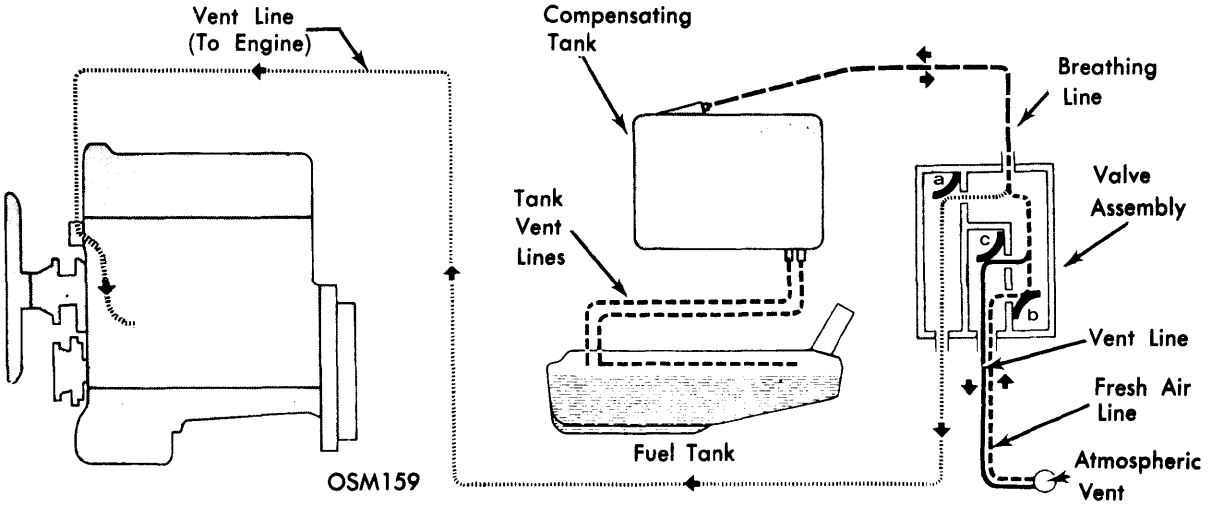
AIR CLEANER (280 & 280C)

MAINTENANCE

System does not normally require any maintenance. Should any component become damaged or not operate properly, it should be replaced.



FUEL EVAPORATION CONTROL SYSTEM (SCHEMATIC)