

## MERCEDES-BENZ

All Models

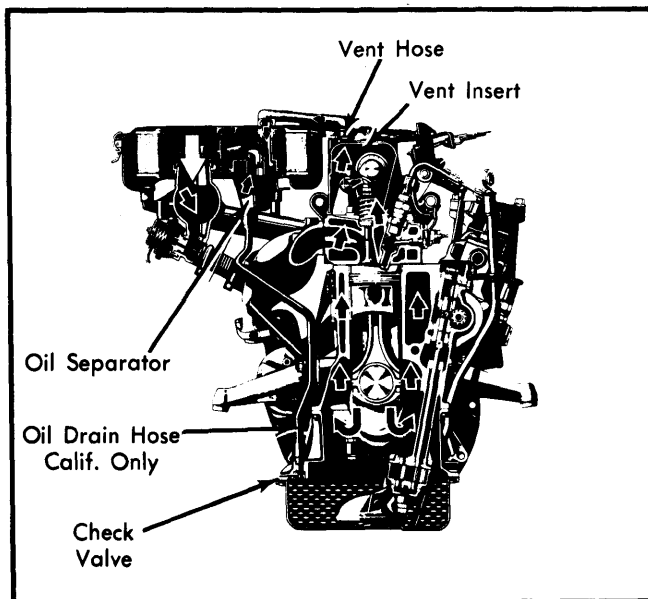
### DESCRIPTION & OPERATION

**Diesel Models** — The system consists of a vapor separator in the air cleaner, a vent hose to the cylinder head cover, and a vent insert in the cylinder head cover. California models have a drain hose from the oil separator to the engine oil pan. A check valve in the pan prevents vapors from traveling up the vent line.

Blow-by gases and vapors are drawn by intake manifold vacuum through the vent insert, hose, and oil separator and into the air cleaner. There they mix with the incoming mixture and are drawn into the cylinders and burned.

**Turbo Diesel Models** — The blow-by gases and crankcase vapors flow through the hose connection on cylinder head cover to intake line in front of compressor. Together with intake air, they are drawn into the combustion chambers. A bypass line, located between clean air end of air filter and breather line enables the compressor to draw up clean air at high speeds along with blow-by gases and crankcase vapors. The additional intake of clean air will restrict the vacuum in crankcase.

California models have an oil return line from the oil separator (in air cleaner) to the oil pan. A check valve located in the pan keeps vapors from coming up the drain line.



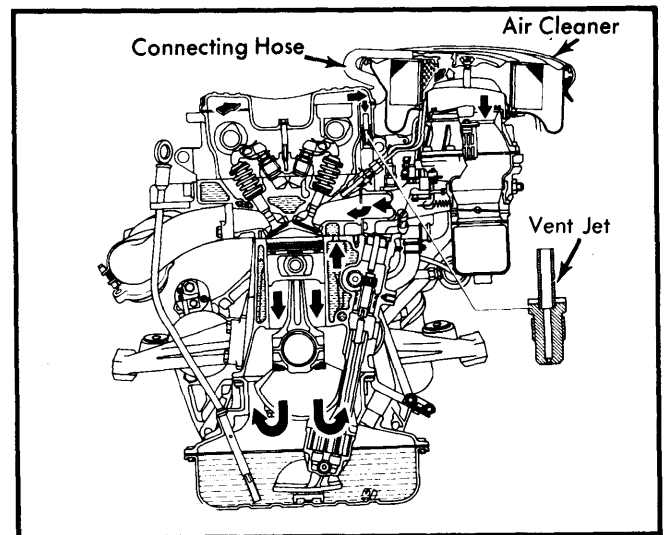
**Fig. 1 Diesel Crankcase Ventilation System California 300 Series Shown, Others Similar**

**280 Models** — The system includes a sealed oil filler cap, vent jet in camshaft cover, and a hose connecting vent jet to air cleaner.

The engine blow-by gases and crankcase vapors are routed from the cylinder head cover to the idle air duct in the intake manifold via the vent jet. From this point gases flow through the intake manifold to the combustion chamber.

In the lower and partial load range, intake manifold vacuum draws clean air from the air filter through the air hose connec-

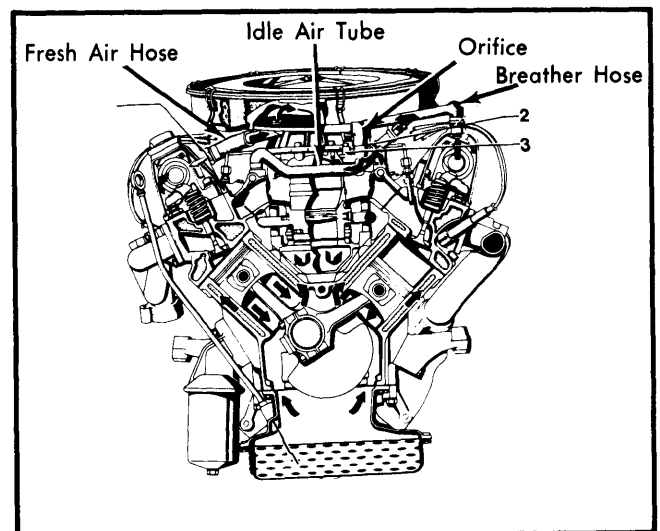
ted to the cylinder head cover, picking up blow-by gases from the engine along the way.



**Fig. 2 Crankcase Ventilation System 280 Series**

**450 Models** — The system consists of a fresh air hose from air cleaner to right cylinder head cover, a breather hose from left cylinder head cover, a 2 mm orifice, and a connection in the idle air distributor.

During idle or low speed operation, vapors are drawn through the orifice, into the idle air distributor tubes, then into the intake manifold. Fresh air to vent the engine comes through the air cleaner and right cylinder head cover hose. During high speed operation, vapors pass through hose into air cleaner and are drawn in to be burned. The idle air distributor is heated by engine coolant to prevent vapors from freezing in cold weather.



**Fig. 3 Crankcase Ventilation System 450 Series**

### MAINTENANCE

The crankcase ventilation system is maintenance free, but hoses should be checked to ensure they are in good condition and free of obstructions.