Crankcase Ventilation

SIMCA CLOSED

DESCRIPTION & OPERATION

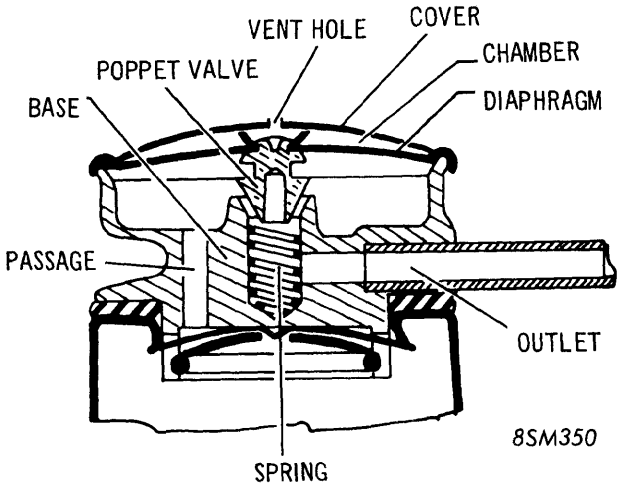
A special valve mounted laterally on the cylinder block, provides a connection between the inside of the engine and the fuel system at the carburetor base.

P.C.V. Valve

A cover is crimped onto the top of the valve body. This cover contains a hole which vents to the outside air the volume of the chamber, between the cover and a flexible diaphragm. Atmospheric pressure is applied to the upper surface of this diaphragm. The pressure existing in the interior of the engine is exerted upon the underside of the diaphragm by means of a passage. The diaphragm carries a poppet valve whose conical surface is in line with a conical seat, machined at the outlet of a duct, which is connected by a rubber hose to the vacuum take-off located in the base of the carburetor. A spring normally holds the poppet valve away from the seat, so that there is a passage connecting the inside of the engine to the base of the carburetor. The sealed interior of the engine is not open to outside air except by means of a carburetor vacuum connection, and crankcase vapors are sucked into engine intake system. Position of the poppet valve with respect to its seat is a fuction of the difference between atmospheric pressure and pressure existing in the crankcase-to-carburetor circuit. During engine operation, when vacuum in this circuit exceeds a predetermined value of about 50 grams per sq. cm. (0.7 psi) or 37 mm Hg (1.5 in. Hg), the atmospheric pressure on the upper side of the diaphragm pushes it inward and the poppet valve moves closer to its seat, thus reducing the area of the passage as well as the section vacuum. In extreme cases of high vacuum in the carburetor, the poppet valve is held in contact with its seat, completely closing the connection between the crankcase and the carburetor until a proper balance is again established.

CHECKING & MAINTENANCE

Check for oil leaks around valve body and diaphragm. Start engine, open and close throttle rapidly — check for movement of diaphragm. If diaphragm fails to move, check vacuum hose and vacuum inlet fitting on carburetor for obstruction. If no obstruction is found, ventilator valve should be replaced. *NOTE — Ventilator valve must be replaced every 12,000 miles or 12 months, whichever occurs first.*



SIMCA PCV VALVE