

PCV SYSTEM

Article Text

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Sunday, March 19, 2000 01:47AM

ARTICLE BEGINNING

1987 Crankcase Ventilation
VOLKSWAGEN

DESCRIPTION

Closed crankcase ventilation systems usually consist of one or more of the following: PCV valve, oil separator, blow-by filter and connecting hoses. For illustrations of typical PCV systems, see Fig. 1.

OPERATION & SERVICE PROCEDURES

All closed crankcase systems draw crankcase blow-by, vapors and gases into the combustion system rather than allowing it to escape to the atmosphere. Crankcase gases mix with air/fuel mixture and are burned in the combustion chamber. This is accomplished with one or more of the following components:

PCV VALVE

Most crankcase ventilation systems use a PCV valve. It is basically a one-way check valve, held closed by spring pressure when engine is not running. This prevents hydrocarbon fumes from collecting in intake manifold which can result in hard starting.

When engine is running, manifold vacuum pulls PCV valve open allowing crankcase fumes to enter intake manifold. If engine backfires through intake manifold, PCV valve closes and stops any flow of gases. This prevents ignition of fumes in crankcase.

The PCV valve is usually located in a valve cover, intake manifold or in-line. To check, idle engine and place finger over PCV valve hose connection. If vacuum is not felt, PCV valve is defective. Generally, if PCV valve operation is questionable, replacement is recommended.

CAUTION: Do not suck air through PCV valve. Fuel vapor and petroleum substances inside PCV valve are harmful.

OIL SEPARATOR

Some systems utilize an oil separator to separate engine oil from crankcase vapor. Oil collected in the oil separator returns to the oil pan by an oil return hose.

BLOW-BY FILTER

The PCV system usually contains one or more filters to filter gases and/or fresh air before entering intake system. These

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filters should be checked occasionally and replaced as necessary.

CONNECTING HOSES & PIPES

All crankcase ventilation systems use connecting hoses and pipes to carry crankcase gases, engine vacuum and/or outside air. Hoses and pipes should be checked for clogging and leaks and replaced as necessary.

NOTE: Following figures are representative of typical crankcase ventilation systems for various manufacturers.

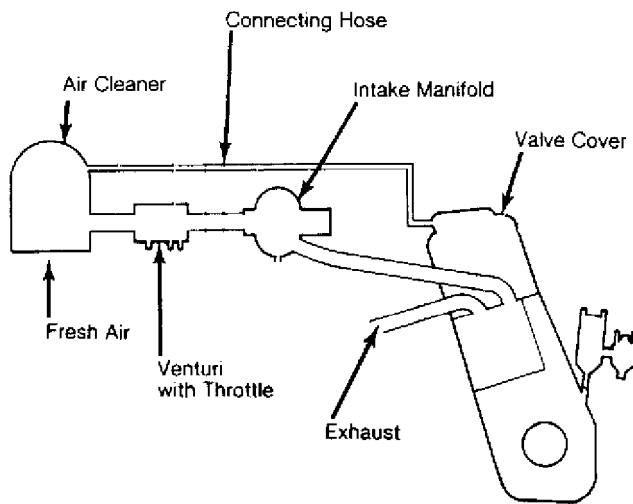


Fig. 1: Volkswagen Crankcase Ventilation System
Courtesy of Volkswagen United States, Inc.

END OF ARTICLE