Crankcase Ventilation

1961-62 OLDSMOBILE OPEN SYSTEM

DESCRIPTION

1961-62 models incorporate an "open" crankcase ventilation system "Type 1". The system consists of a valve controlled by intake manifold vacuum, appropriate hose connections between crankcase and intake manifold and an unmodified crankcase breather cap.

OPERATION

Air enters system through oil filler cap and is circulated through engine. After circulating through the engine air is returned to intake manifold through an exhaust tube which extends from the crankcase ventilation outlet in valve cover to a spring loaded regulator valve. This valve regulates amount of air to meet changing operating conditions. The regulator valve is controlled by intake manifold vacuum. During idle, intake manifold vacuum is high. This high vacuum overcomes tension of spring and seats valve. With valve in seated position, all ventilating air passes through a calibrated orifice in the valve, and there is minimum ventilation. As engine speed increases and manifold vacuum decreases, the spring forces valve off its seat and to full open position, which increases flow of ventilating air.

SERVICE PROCEDURES

The "open" crankcase ventilation system should be serviced and cleaned every 10,000 miles. When cleaning system follow the procedure below:

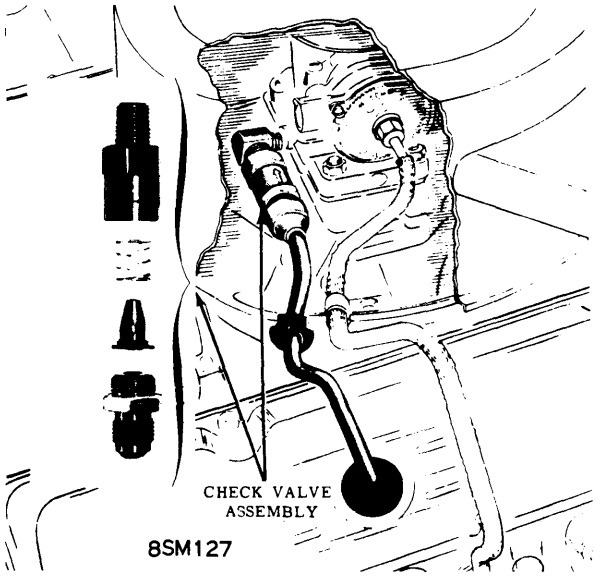
Ventilator Valve Service - Remove hoses and blow out with compressed air. Remove valve and disassemble. Clean valve with solvent, blow dry, and inspect spring and valve for distortion and etching. Clean small bleed hole in valve with a 1/16" drill. **Twist drill by hand only.** *NOTE* - When assembling valve, the spring end coil must be in groove just under head of valve. If this is not properly installed, the valve may not close and will result in a rough idle. Clean crankcase and intake manifold connectors, and install valve and hoses.

Crankcase Breather - The crankcase inlet breather cap should be washed in solvent and re-oiled with SAE 20 oil at every oil change.

Rocker Arm Cover Inlet Breather - The rocker arm cover inlet breather should be removed, cleaned in a solvent and reoiled at every oil change interval.

SYSTEM CHECKING

Rough idle or crankcase fumes escaping through crankcase breather is an indication the system may need service.



OPEN CRANKCASE DEVICE

1963-65 OLDSMOBILE V6 OPEN SYSTEM

DESCRIPTION

1963-65 V6 engines used an "open" crankcase ventilation system, "Type 1". This system consists of a valve controlled by intake manifold vacuum, appropriate hose connections between crankcase and intake manifold and an unmodified crankcase breather cap.

OPERATION

Air enters system through oil filler cap and is circulated through engine. After circulating through engine air is returned to intake manifold through an exhaust tube which extends from the crankcase ventilation outlet in valve cover to a regulator valve. This valve regulates amount of air to meet changing operating conditions. The regulator valve is controlled by intake manifold vacuum. During idle, intake manifold vacuum is high. High vacuum overcomes the valve and seats the valve. With valve in this position, all ventilating air passes through a calibrated orifice in valve, and

1963-65 OLDSMOBILE V6 OPEN SYSTEM (Cont.)

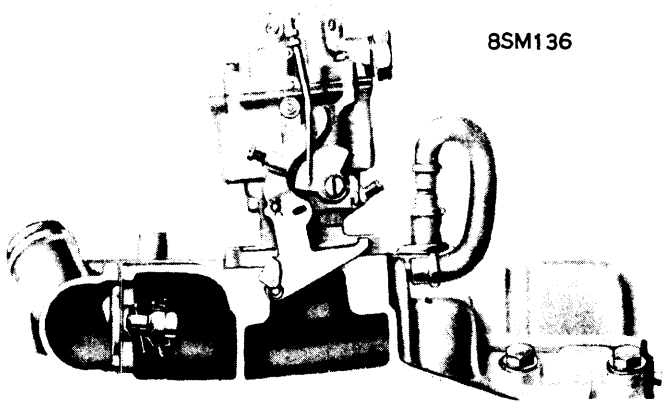
there is minimum ventilation. As engine speed increases and manifold vacuum decreases, the valve moves off its seat to a full open position which increases flow of ventilating air.

SERVICE PROCEDURE

Ventilator Valve Service - Blow compressed air through hoses and replace "open" crankcase ventilation valve at every oil filter change.

TESTING

Rough idle or crankcase fumes escaping through crankcase breather is an indication the system may need service.



CRANKCASE VENTILATION HOSE CONNECTIONS

1963-65 OLDSMOBILE V8 OPEN SYSTEM

DESCRIPTION

Oldsmobile in 1963-65 on V8 engines used a "open" crankcase ventilation system, "SPECIAL TYPE I". This "open" system consists of a valve controlled by intake manifold vacuum, appropriate hose connections between crankcase and intake manifold, and a modified crankcase breather cap, which has two orifices.

OPERATION

Air enters system through oil filler cap and is circulated through engine. After circulating through engine air is returned to intake manifold through an exhaust tube which extends from crankcase ventilation outlet in valve cover to a regulator valve. This valve regulates amount of air to meet changing operating conditions. The regulator valve is controlled by intake manifold vacuum. During idle, and low engine RPM, crankcase vapors are drawn into intake manifold through small hose. Flow is controlled by an orifice in carburetor throttle body fitting. The diaphragm in regulator valve is closed. At higher engine RPM, air flow through air cleaner snorkel opens diaphragm in regulator valve. This allows the major portion of crankcase vapors to be drawn through large hose into air cleaner. This flow is controlled by two orifices in breather cap assembly. *See illustration of diaphragm regulator valve.*

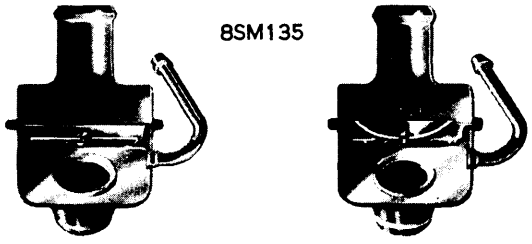
SERVICE PROCEDURE

The "open" crankcase ventilation system should be serviced and cleaned every 12,000 miles (or at the oil change period nearest to this interval). When cleaning system follow procedure below:

Ventilator Valve Service - Blow compressed air through hoses. Remove valve and clean in kerosene. Blow compressed air through small tubing of valve assembly. Clean bleed hole in connector at carburetor with 1/16" drill. *NOTE* - Not necessary to remove connector; however, if carburetor service is performed, clean out hole with kerosene and compressed air.

TESTING

Rough idle or crankcase fumes escaping through crankcase breather is an indication the system may need service.



At idle, and low engine r.p.m., crankcase vapors are drawn into the intake manifold through the small hose. Flow is controlled by an orifice in the carburetor throttle body fitting. The diaphragm valve is closed.

At higher engine r.p.m., air flow through the air cleaner snorkel opens the diaphragm valve. This allows the major portion of the crankcase vapors to be drawn through the large hose into the air cleaner. This flow is controlled by two orifices in the breather cap assembly.

VENTILATOR VALVE OPERATION