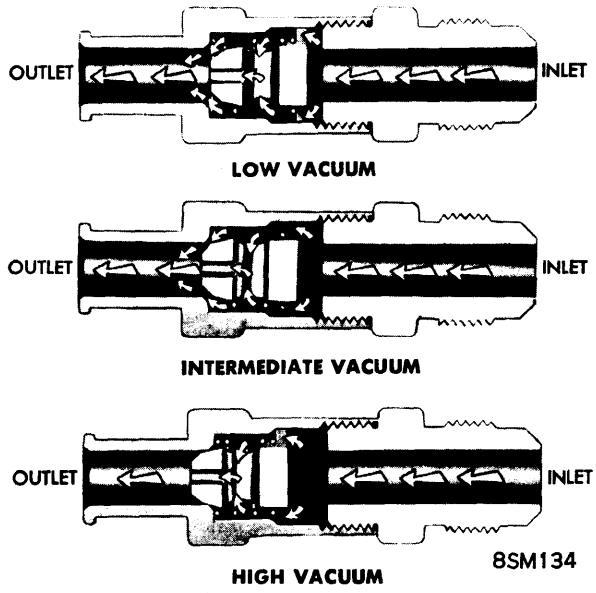
1961-68 FORD MOTOR CO. OPEN SYSTEM

DESCRIPTION

1961-62 California cars, 1963-65 cars, except 1963 6 Cyl. engines, and 1966-67 non-California cars use an "open" crankcase ventilation, "Type 1". The main elements of the positive ventilation system are a vented breather cap and a hose connecting crankcase ventilation outlet to a spring-loaded regulator valve.

1963 Std. 6 Cyl. Engine – A different ventilation system was used. See "1963 Ford Motor Co. 6 Cyl. System" story in this section.

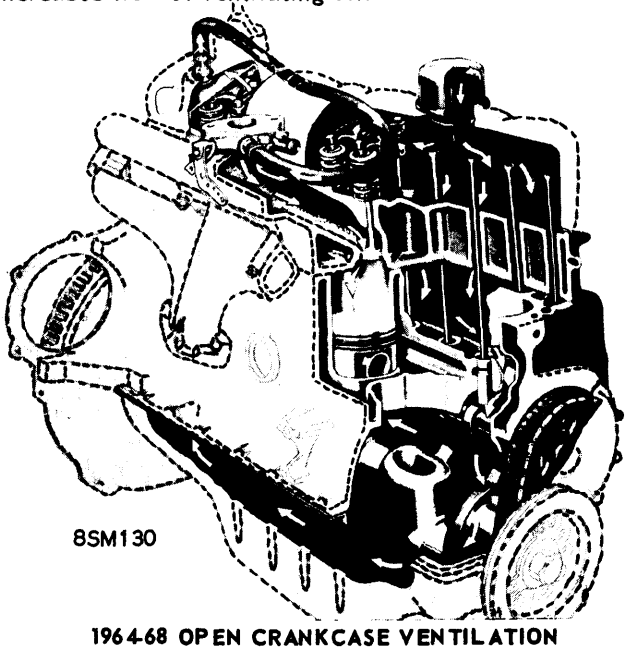
1963 6 Cyl. Special Police and Taxi Engines – As an option another type of system was used. This system is basically the same as the standard system, except for the following changes. The adapter contains an oil separator unit. This separator contains a chamber that traps contaminants and prevents them from reaching the regulator valve assembly.



REGULATOR VALVE OPERATION (TYPICAL)

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 crankcase ventilation outlet in left side of the engine to a spring loaded regulator valve which 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. The high vacuum overcomes the tension of the spring pressure and seats the valve. With the valve in this 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 to full open position which increases flow of ventilating air.

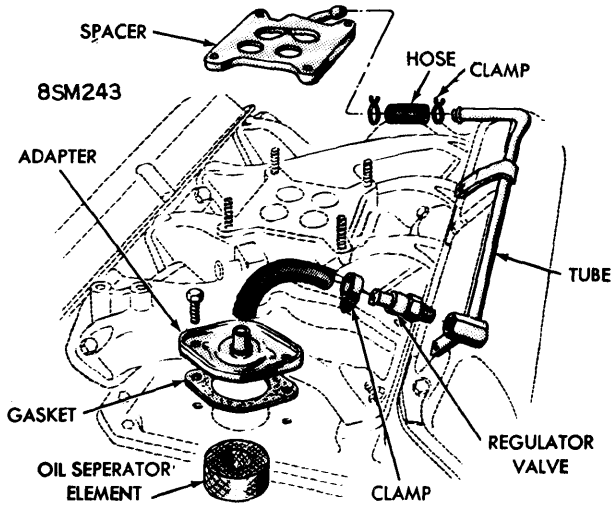


1964-68 OPEN CRANKCASE VENTILATION SYSTEM (TYPICAL)

SERVICE PROCEDURES

"Open" crankcase ventilation system should be serviced every 9,000 miles. At this interval, the breather cap should be cleaned with solvent, then remove the crankcase ventilation regulator valve, exhaust tube, and connections. Clean the valve and exhaust tube in clean carburetor solvent and dry them with comptessed air. Clean the rubber hose connections with a low volatility petroleum base solvent and dry them with compressed air.

Vent Tube Type Crankcase Ventilation System - The road draft tube seldom requires cleaning except during a high mileage engine overhaul. However, if there is evidence of crankcase pressure, tube should be checked for excessive sludge and cleaned out if necessary. In addition, on the 352" and 390" V8 engines, maze screen in intake manifold baffle plate should be cleaned in solvent to remove any accumulation of sludge deposits.



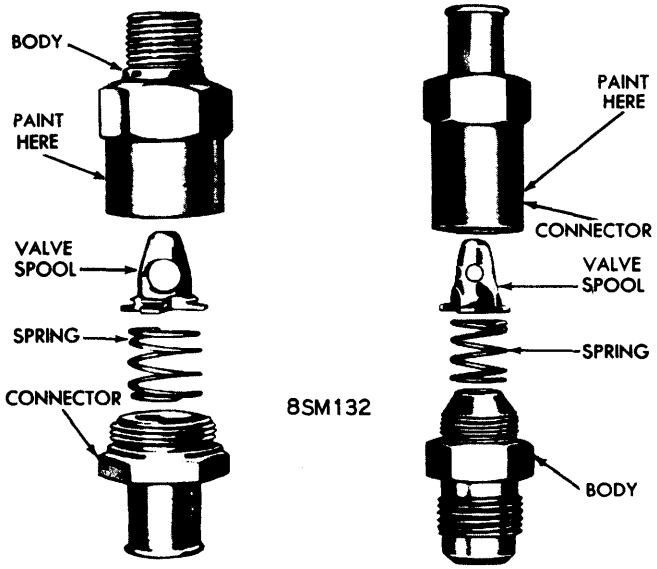
LINCOLN CRANKCASE VENTILATION SYSTEM

1961-68 FORD MOTOR CO. OPEN SYSTEM (Cont.)

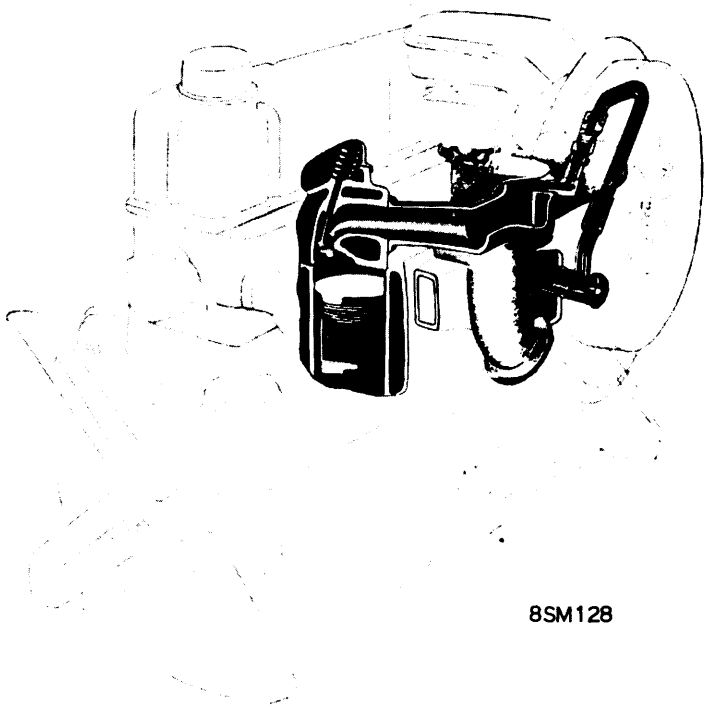
SMOG REDUCTION SYSTEM TEST

Loping or rough engine idle is a symptom of malfunctioning smog reduction system. *NOTE - Under no circumstances should the system be disconnected or an attempt made to compensate for poor idle by performing carburetor adjustments. The removal of the smog reduction system from the engine, which has been designed and calibrated with this feature, will adversely affect fuel economy and engine ventilation which will result in shortening engine life.*

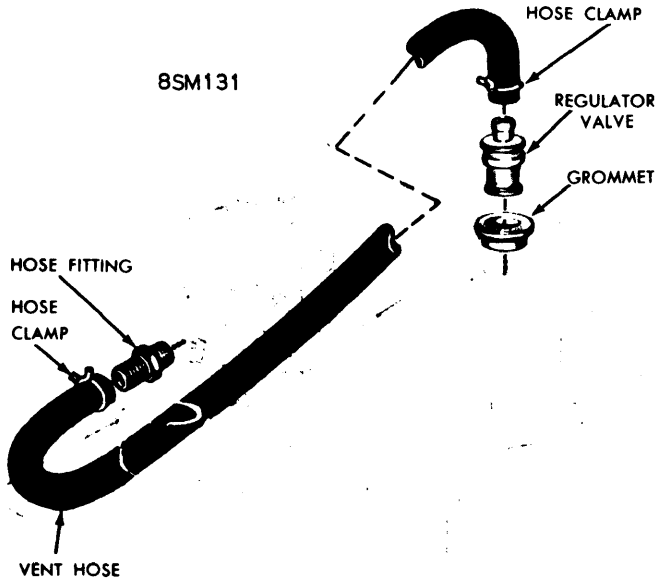
Service Tool - A service tool may be fabricated from a known good service regulator valve to simulate the entire system air input into the fuel air mixture. This will prevent the possibility of performing carburetor adjustments to compensate for a smog ventilation



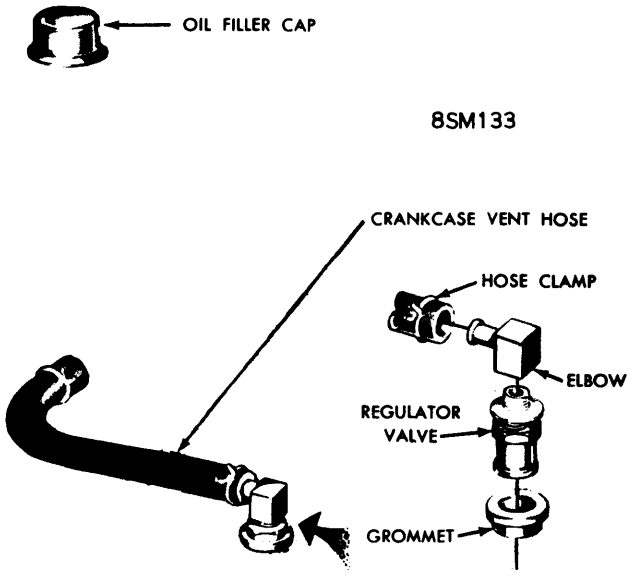
REGULATOR VALVES FOR TEST PURPOSES



1961-62 FORD SMOG REDUCTION SYSTEM



1964-67 OPEN CRANKCASE VENTILATION SYSTEM COMPONENTS



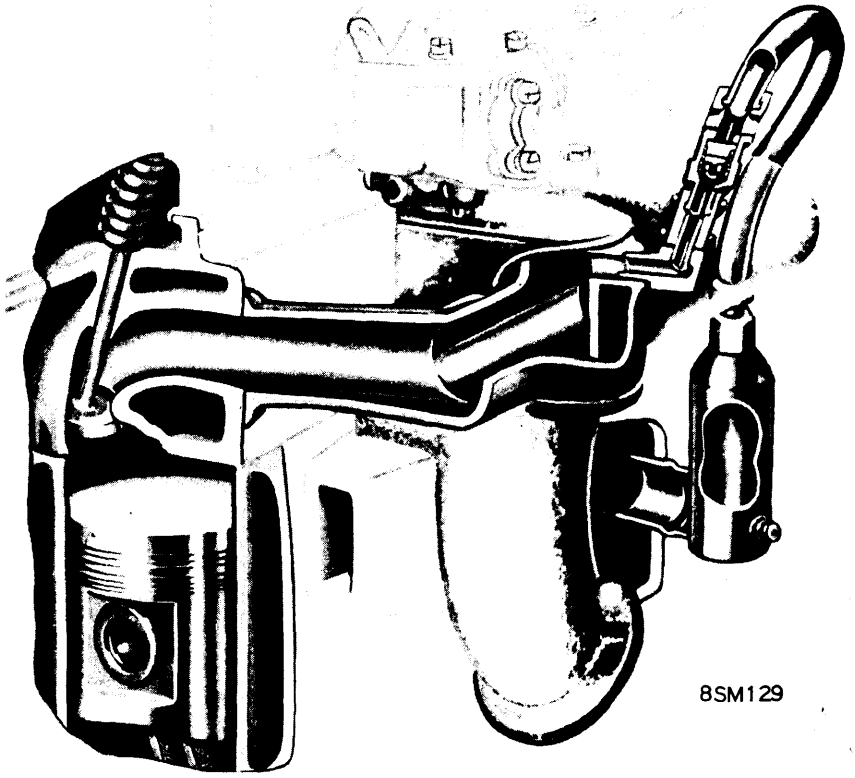
OPEN CRANKCASE VENTILATION SYSTEM

1961-68 FORD MOTOR CO. OPEN SYSTEM (Cont.)

system that is not operating properly, or rough or loping engine idle complaints being incorrectly diagnosed as smog reduction system malfunction. To fabricate regulator valves for test purposes, obtain service regulator valves for six cylinder and eight cylinder engines and rework them as follows: Disassemble the valve. Interchange the position of the valve spool and the spring, then assemble the valves in the order shown in illustration and identify valves for respective engine usage. *NOTE - These valves should not be used as replacement parts.*

Test Procedure - To eliminate or confirm engine smog reduction system as a source of engine loping or rough idle complaints, proceed as follows: Disconnect regulator valve at intake manifold side of the ventilation tube. Attach service valve tool to connection which leads to intake manifold. Leave opposite end of valve vented to the atmosphere. Start the engine and observe idle in comparison to the prior idle condition. If loping or rough condition remains with regulator valve tool installed smog reduction system is not at fault. Further engine diagnosis and repair will have to be conducted to find the fault. If idle condition is satisfactory, proceed with the servicing of the system as outlined under "SERVICE PROCEDURES".

Air Intake Test - This is an additional test to check the operation of smog system and is recommended for testing of 1965-68 models. An AC positive crankcase ventilation tester is used for this test. *Refer to AC* Tester story in this section.



1963 SPECIAL POLICE AND TAXI OPEN CRANKCASE VENTILATION SYSTEM