1970-71 CHRYSLER CORP. VAPOR SAVER SYSTEM

DESCRIPTION & OPERATION

Vapor Saver System is designed to reduce fuel evaporation to the atmosphere through the use of a closed system in which fuel evaporation emissions from the fuel tank and carburetor flow through a vent line to the crankcase air cleaner (part of crankcase ventilation system). With engine not running, these fumes are collected in the engine crankcase. With engine running, these fumes are purged from the crankcase together with normal crankcase vapors through the regular crankcase ventilation line extending to the carburetor base. Fumes are then drawn into the intake manifold and burned in the engine. This system requires fuel system modifications as follows:

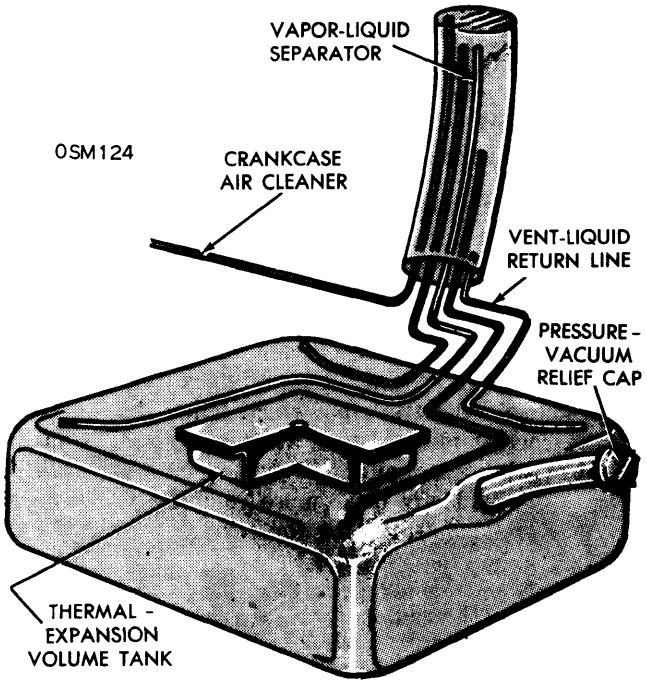
Fuel Tank & Filler Cap – Filler cap is identified by words "Pressure-Vacuum" and normally seals the tank (cap releases under pressure of ½-1 psi or vacuum of ¼-½ psi). Fuel tank has four vent lines connected to separator tube (see Vapor-Liquid Separator) and a 1.4 gallon overfill limiter tank located within top of main tank. This limiter tank is closed except for a small inlet hole in the bottom and remains essentially empty when main tank is filled to provide for thermal expansion of the fuel due to temperature changes.

Vapor-Liquid Separator & Vent Lines – Separator consists of an angle mounted steel tube within the trunk (or quarter panel on Station Wagons). Vent tubes (one from each corner of fuel tank) extend into the separator and tubes are of different heights to provide for positive venting of the tank regardless of vehicle position. One vent line is short and provides a return line to the tank for liquid fuel or condensate within the separator. Vapor vent line to crankcase air cleaner ends at highest point in separator and has a small orifice to minimize liquid fuel transfer to crankcase.

Carburetor Bowl Vent – Carburetors used with Vapor Saver system have a hose connection at the bowl vent outlet to control fuel vapors from the carburetor bowl. These hoses are connected differently on 6 and V8 engines as follows:

6 Cyl. Engines – Hose is connected into the crankcase via a connecting nipple on the fuel pump. Fuel pump also incorporates a bleed device which prevents build-up of pressure in fuel supply line between pump and carburetor. *NOTE – In event of fuel pump replacement, it is important correct pump be used.*

V8 Engines – Hose is connected to separate fitting on crankcase inlet air cleaner.



FUEL TANK & VENT ASSEMBLY (TYPICAL)

MAINTENANCE

Vapor Saver system should not require any maintenance in normal service. For periodic maintenance of closed crankcase ventilation system, see *"Crankcase Ventilation – Domestic"*.

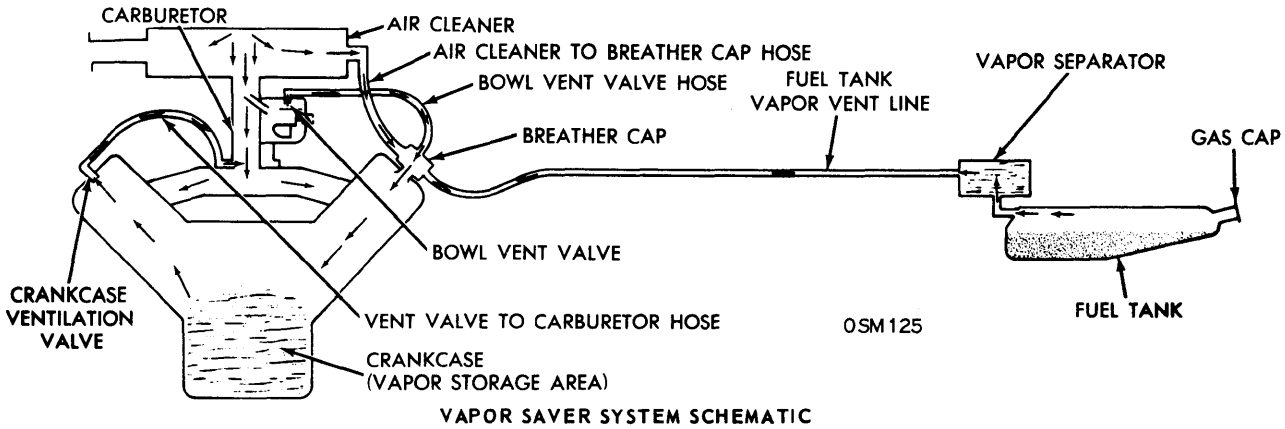
TROUBLE SHOOTING & DIAGNOSIS

Loss of fuel or escape of fuel vapors through filler cap indicates one or more of the following conditions:

1) Defective seal between filler cap and filler neck.

2) Defective release valve in fuel tank filler cap. For quick check, hold cap against mouth and blow into hole in release valve housing. An open valve or immediate leak with light breath pressure, or failure of valve to open with strong breath pressure indicates a defective cap.

3) Vent lines between fuel tank and vapor separator, vent line between vapor separator and crankcase air inlet cleaner, or limiter tank inlet hole in fuel tank plugged. Disconnect hoses and clean lines. *NOTE – If fuel tank requires purging, remove plug in access hole at top of limiter tank and purge expansion chamber separately through this hole.*



VAPOR SAVER SYSTEM SCHEMATIC