

Fuel Evaporation

1972 CHRYSLER CORP. VAPOR SAVER SYSTEM

DESCRIPTION & OPERATION

System is designed to reduce fuel vapor emissions from entering the atmosphere through the use of a closed system in which fuel vapors from the fuel tank and carburetor flow through a vent line to an activated charcoal canister. When the engine is not running, fuel vapors are adsorbed by activated charcoal in the canister. When the engine is running, these vapors are drawn into the combustion system through the positive crankcase ventilation system. This action purges and renews the adsorption quality of the charcoal.

Fuel Tank Filler Cap – Filler cap is identified by words "Pressure-Vacuum". Relief valves in cap are a safety feature and operate only to prevent excessive pressure or vacuum in the tank caused by a malfunction in the system or damage to vent lines.

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 charcoal canister ends at highest point in separator.

Overfill Limiting Valve – Valve is located in vent line between vapor-liquid separator and charcoal canister. Valve prevents overfilling of fuel tank. It is made of brass, has a needle type design and operates at pressures of 12

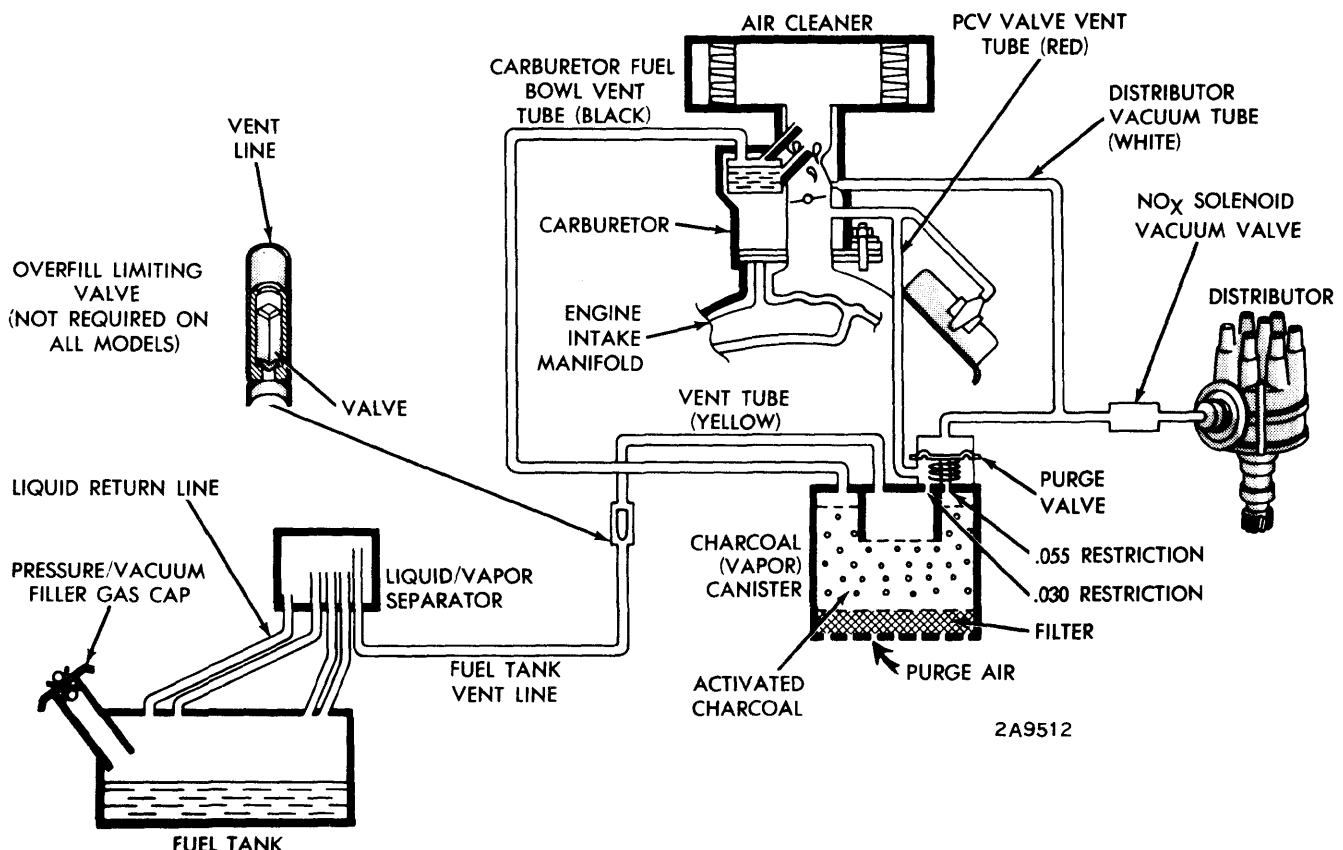
to 16 inches of water pressure. When fuel tank is filled to base of filler tube, vapors can no longer escape and they become entrapped above the fuel. Vapor flow through vent line is blocked by limiting valve and filler tube is blocked by fuel. Under this condition no more fuel can be pumped into the tank. At any time pressures in tank rise above operating pressures of the valve, valve opens and allows vapors to flow forward to charcoal canister.

Charcoal Canister – Canister is filled with activated charcoal which adsorbs and stores fuel vapors when engine is not running. When engine is started, vapors are purged from the carbon through the .030" restriction and the positive crankcase ventilation line (at idle speed), and also through the .055" restriction when the purge valve is open. Purge valve is controlled by the same vacuum that operates distributor vacuum advance, it is closed when engine is idling and open when engine is running above idle speed.

Carburetor Bowl Vent – Carburetors have a hose connection at the bowl vent outlet to control fuel vapors from the carburetor bowl. This hose is connected to the charcoal canister.

MAINTENANCE

The only service normally required for the system is to replace the filter located in the bottom of the charcoal canister each 12 months or 12,000 miles. Replace more frequently if vehicle is driven in dusty areas. **NOTE** – Hoses used in this system are specially manufactured and if replacement becomes necessary use only fuel resistant hose.



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