

CHRYSLER CORP.

DESCRIPTION

Evaporation Control System (ECS) is designed to reduce fuel vapor emissions from entering the atmosphere through use of a closed fuel tank, and carburetor. Fuel vapors from fuel tank and carburetor are vented to crankcase, on 1970-71 systems, and to an activated charcoal canister on later systems. With the engine not running, fuel vapors are collected in crankcase, early designs, or absorbed by activated charcoal in later designs. When the engine is operating, stored fuel vapors are purged from storage and burned in engine. System components consist of vapor-liquid separator, or ECS tank dome, fuel resistant vapor vent hoses, activated charcoal canister with fiber glass air filter, and purge valve on heavy duty system. All fuel tank gas caps have pressure relief valves to prevent excessive pressure or vacuum conditions within tank.

OPERATION

Vapor-Liquid Separator & Vent Lines (1970-71) - Depending on tank design, four internal fuel tank vent tubes may be used to remove vapor from tank to vapor-liquid separator. The separator is a piece of two inch steel tubing mounted near fuel tank with four tank vent tubes of different heights, so tank will always be vented regardless of vehicle position. One vent line to tank is short so fuel can drain back to tank. The vent to crankcase is highest tube and has a small orifice to minimize liquid fuel transfer to crankcase.

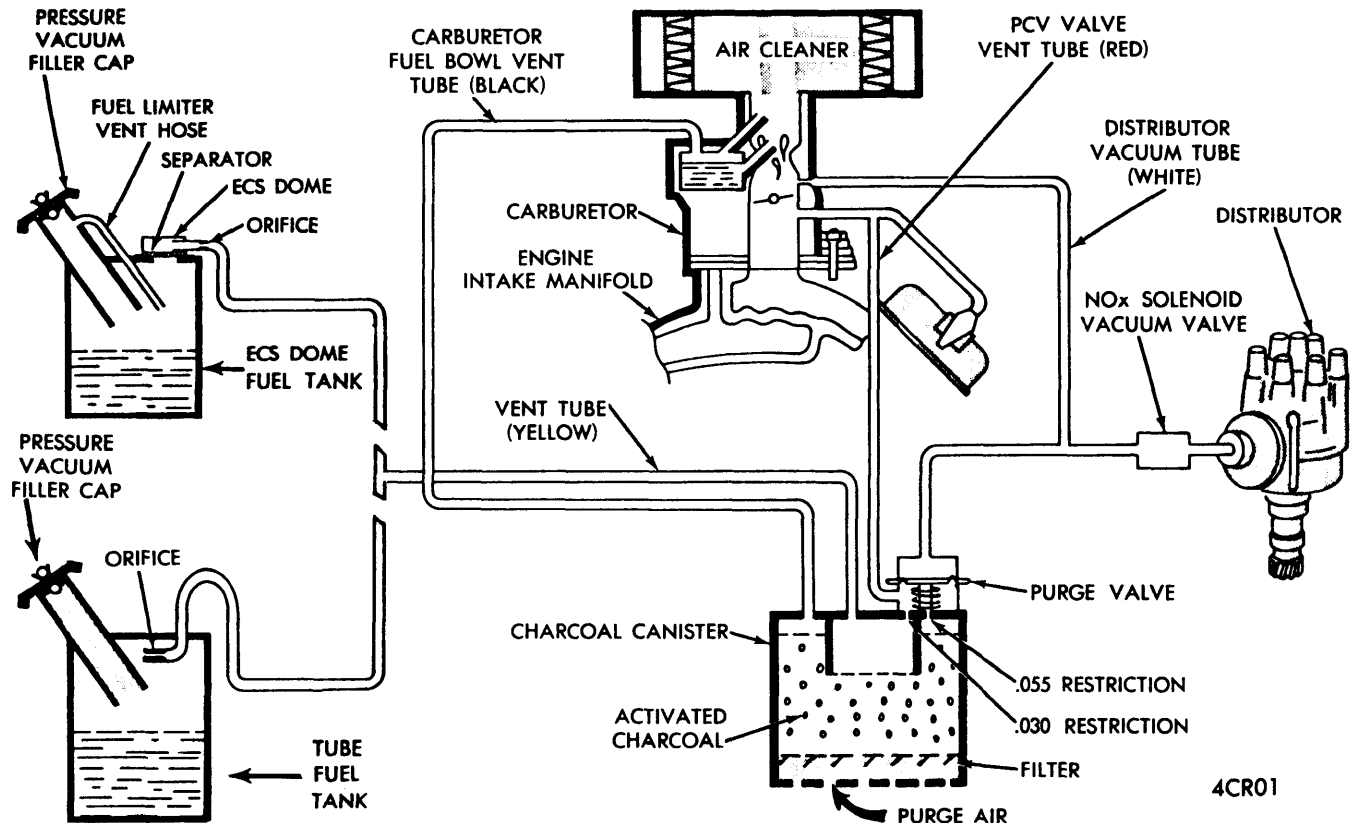
Vapor-Liquid Separator (1972-74) - ECS dome is a vapor space above fuel level within tank and provides vapor-liquid separation by gravity. Some models employ a foam type polyurethane disc to assist in vapor-liquid separation with ECS dome tanks. Depending on tank design, some models use only

a compound loop in vent line to charcoal canister to prevent fuel from entering vent system. Both systems use a metered orifice in vent line at tank to prevent liquid fuel from entering vent line.

Activated Charcoal Canister (1972-74) - Fuel vapors from tank and carburetor are absorbed by charcoal and held until drawn out by engine vacuum. As canister is purged, air is drawn into canister through filter in bottom. This process of vapor accumulation and purging can continue indefinitely if charcoal does not become contaminated by entry of liquid fuel, and by use of a filter to prevent entry of particles in purging air. Two types of canisters are used, for light duty systems, three hose connections are on canister top. Heavy duty applications have four hoses and a purge valve on canister top. Light duty units purge the canister with a hose leading to a vacuum connection on carburetor, and uses throttle valve as a purge valve. This system improves hot idle quality by eliminating purging during idle. Heavy duty systems require four hoses and a purge valve with an additional .055" orifice and it is controlled by distributor vacuum. Heavy duty units purge canister at idle through a .030" orifice. When engine speed is above idle, distributor vacuum causes purge valve to open allowing .055" orifice to pass stored vapors to carburetor. *NOTE - Some carburetors have internally vented fuel bowls and do not require a vent line.*

MAINTENANCE

The only service normally required for system is to replace filter located in bottom of charcoal canister every 12 months or 12,000 miles. Replace more often if vehicle is driven in dusty areas. *NOTE - Hoses used in this system must be fuel resistant.*



**EVAPORATION CONTROL SYSTEM
(HEAVY DUTY SHOWN, OTHERS TYPICAL)**

4CR01