

Fuel Evaporation

1970-72 AMERICAN MOTORS FUEL TANK VAPOR EMISSION CONTROL

DESCRIPTION & OPERATION

System is designed to prevent fuel vapors from being discharged into atmosphere through use of a closed system in which fuel vapors from fuel tank flow through a vent line to a charcoal canister (V8 engines with automatic transmissions) or to cylinder head cover (all 6 cylinder engines and V8 engines with synchro-mesh transmissions). With engine not running, these vapors are collected in the crankcase (6 cylinder and V8 engines with synchro-mesh) or in the charcoal canister (V8 engines with automatic transmissions). With engine running, these fuel vapors are drawn into the regular crankcase ventilation system and burned in the engine.

Fuel Tank Filler Cap – Filler cap incorporates a two-way relief valve which is closed to atmosphere under normal operating conditions. Relief valve is calibrated to open only when a pressure of .5-1.0 psi or a vacuum of .25"-.5" occurs. When pressure or vacuum is relieved, valve returns to normally closed position. Filler cap is identified by a black colored relief valve housing. *NOTE* – It is normal to occasionally encounter an air pressure release when removing filler cap.

Fuel Tank – Fuel tank on all models (except Gremlin) incorporates an integral fuel expansion tank to provide an air displacement area for normal fuel expansion due to temperature changes (fuel passes through small holes in tank as fuel volume increases). Fuel tank on Gremlin models is designed to provide an adequate air displacement area for fuel expansion.

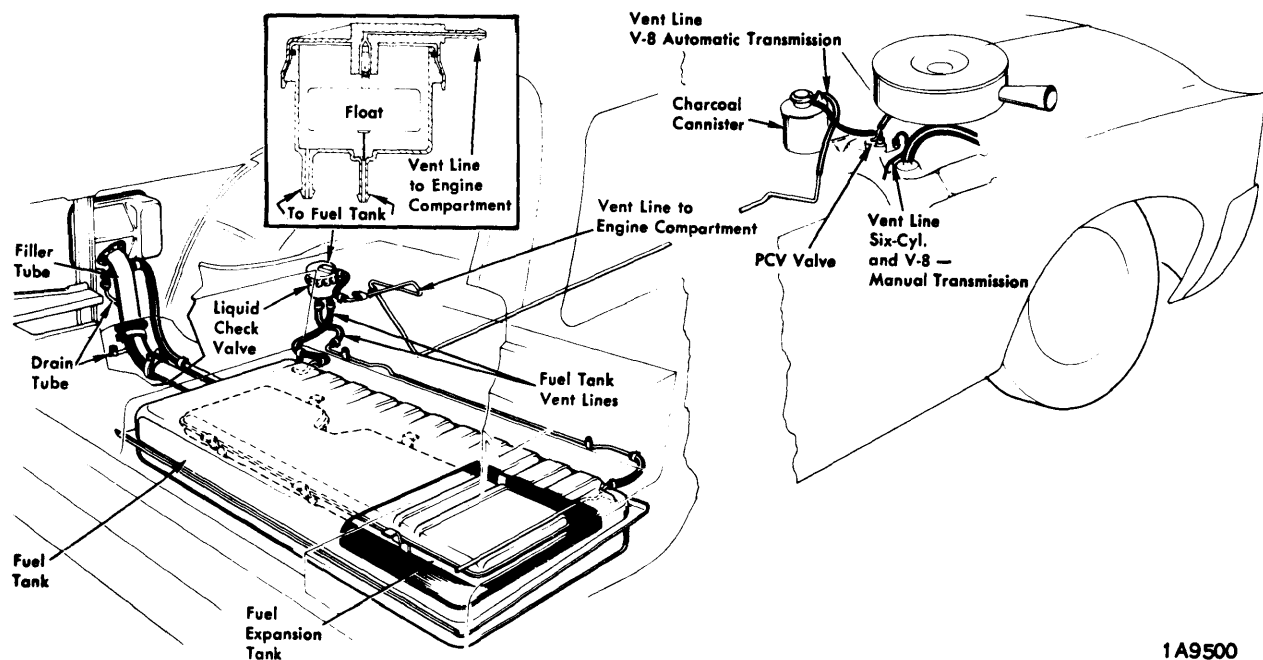
Check Valve – *NOTE* – Check valve is not used on Gremlin models. Vent lines from fuel tank terminate in check valve assembly (located above tank). Check valve consists of a float operated needle valve which prevents liquid fuel flowing through the vent line to the canister or crankcase under any condition (such as parking on a steep grade or fuel expansion due to high ambient temperatures).

Charcoal Canister – *NOTE* – Used only on models equipped with V8 engines and automatic transmissions. Fuel tank vent line (from check valve) is connected to a canister filled with activated carbon and located in engine compartment. With engine not running, fuel vapors are stored in this canister. Canister is also connected to crankcase ventilation system and with engine running, fuel vapors are drawn into engine and burned (this action clears canister and renews its storage capacity).

MAINTENANCE

Evaporative Emission Control – Inspect liquid check valve (except Gremlin) and all hose connections after first 18,000 miles, and then at 12,000 mile intervals. Replace charcoal canister inlet filter after first 18,000 miles, and then at 12,000 intervals.

Crankcase Ventilation System – For periodic maintenance of this system, see "Crankcase Ventilation – Domestic".



EVAPORATIVE EMISSION CONTROL SYSTEM (TYPICAL)