

Fuel Evaporation Systems

INTERNATIONAL HARVESTER CO.

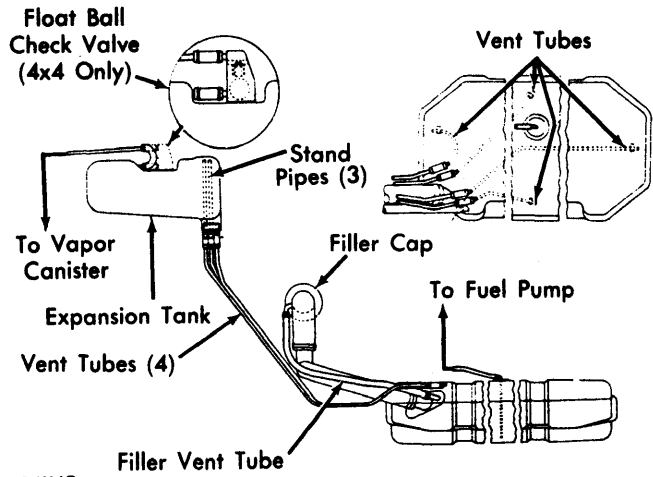
DESCRIPTION

In 1970 California and 1971 nationwide a fuel evaporative emission control system was introduced to control amount of gasoline vapors entering atmosphere from vehicle's fuel system. During periods of gasoline expansion and vaporization, fuel vapors from fuel tank and carburetor float bowl are routed to a charcoal filled canister where they are adsorbed by the charcoal. When engine is operating, stored fuel vapors are drawn from canister into intake manifold and burned in engine. System consists of; a fuel tank with multiple vapor vent outlets, a fuel cap with vacuum and pressure relief valves, an expansion tank (liquid/vapor separator), a charcoal canister, an air flow control orifice, a float ball check valve (4x4 models only) and connecting lines and fittings.

OPERATION

Fuel Tank - Tanks are designed to provide space to allow for expansion of gasoline without overflowing out of filler opening. Multiple vapor vent outlets permit passage of gasoline vapors and expanding gasoline from tank. Vent outlets are so positioned in tank that at least one vent will be above fuel level no matter what attitude of vehicle.

Liquid/Vapor Separator - An externally mounted expansion tank is used as a liquid/vapor separator. Any liquid fuel which enters tank is separated from fuel vapors and drained back into fuel tank by hoses connected to expansion tank. Fuel vapors are allowed to pass to vapor canister.

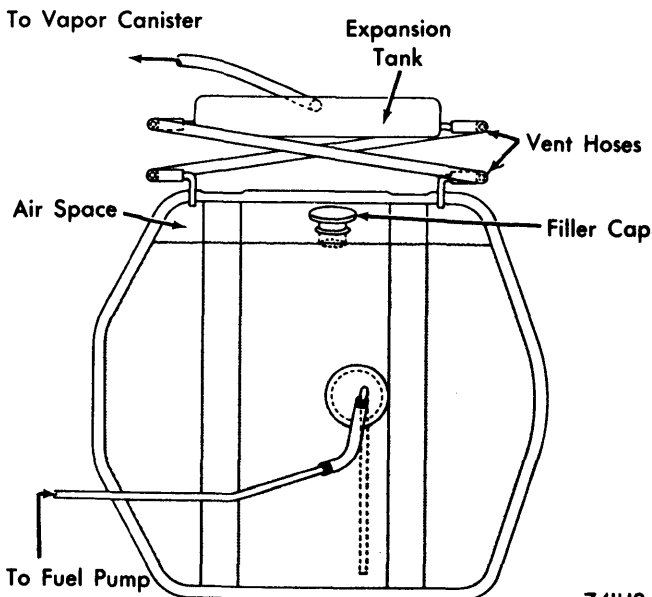


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FUEL & EXPANSION TANK (1971 UNDER CAB TYPE)

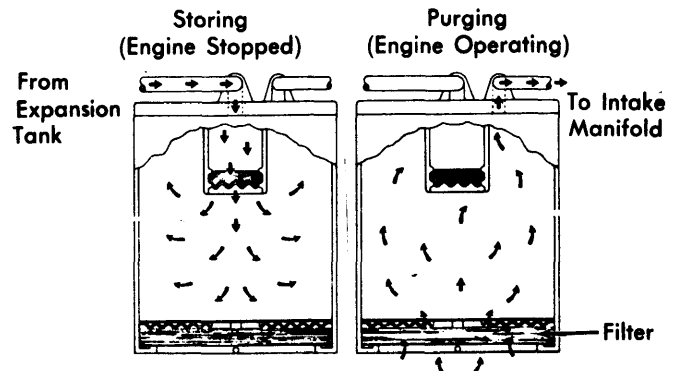
Float Ball Check Valve (4x4 Only) - Check valve is mounted at vapor outlet fitting on expansion tank. Valve is normally open to allow vapor to pass. During steep downgrade operation with full fuel tank, liquid fuel may fill expansion tank. When this occurs float ball check valve closes to prevent liquid beyond expansion tank. Valve is used only on under cab type tanks.

Vapor Canister - Canister is used to collect and store fuel vapors in activated charcoal particles. When engine is not running, fuel vapors are adsorbed and held by charcoal in canister. When engine is running, vacuum draws fresh air through filter in bottom of canister, through charcoal and into intake manifold. Fresh air purges charcoal canister and fuel vapors are burned in engine. Air flow through canister is limited by a .025" diameter orifice located in intake manifold vacuum fitting.



741H3

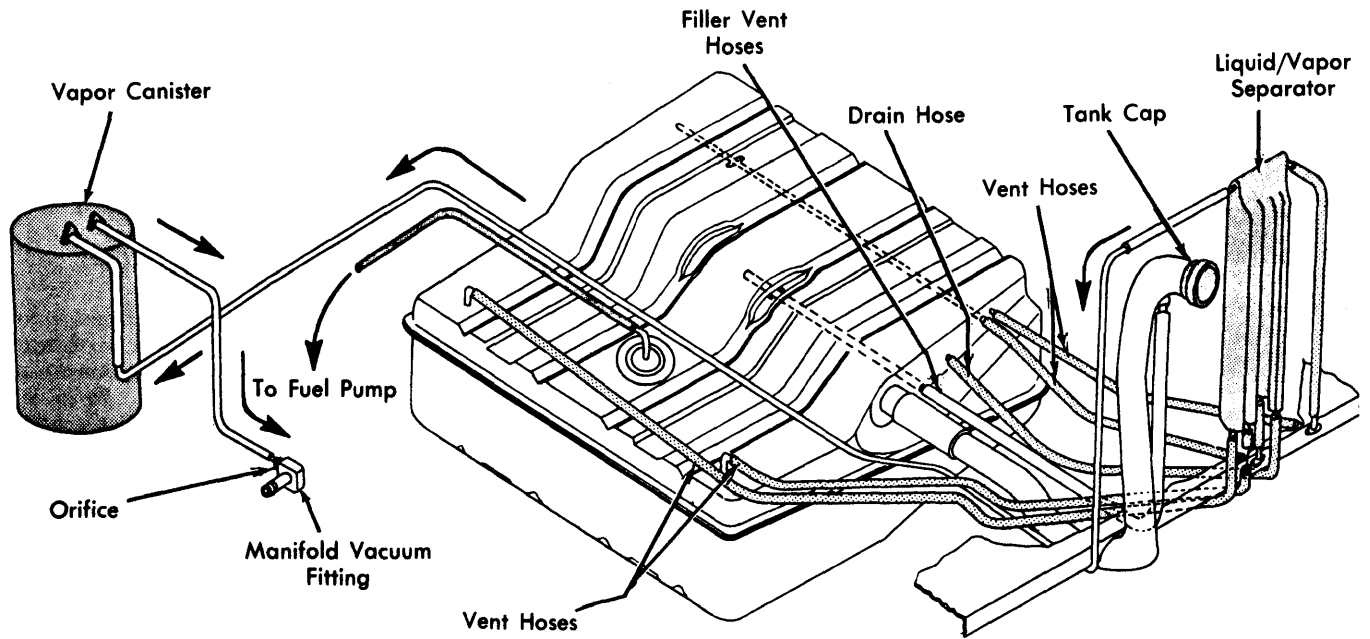
FUEL & EXPANSION TANK (REAR PANEL TYPE)



741H4

VAPOR STORAGE CANISTER

INTERNATIONAL HARVESTER CO. (Cont.)



FUEL EVAPORATIVE EMISSION CONTROL SYSTEM (TYPICAL)

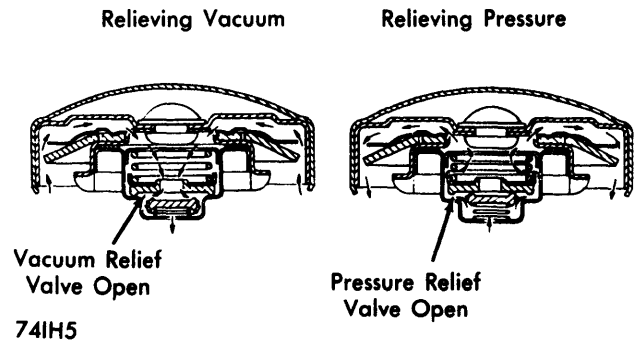
74IH1

Fuel Tank Cap – Cap is designed to prevent passing gasoline vapors to atmosphere. Cap incorporates a vacuum relief valve set to open at approximately .25-.50 psi and a pressure relief valve set to open at approximately .75-1.25 psi.

NOTE – Replace fuel tank cap with same type only.

MAINTENANCE

Operating of Emission Control System is automatic and requires no adjustment. The air filter should be cleaned every 12,000 miles, more often under dusty conditions.



Vacuum Relief Valve Open

74IH5

Pressure Relief Valve Open

FUEL TANK CAP