1971-74 FORD MOTOR CO. FUEL EVAPORATION EMISSION CONTROL

DESCRIPTION

A closed system designed to prevent fuel vapors being emitted to the atmosphere, the fuel evaporative emission system consists of a two-way vented filler cap, a specially designed fuel tank, a fuel vapor separator, a carbon filled canister and various fuel vapor vent lines.

Fuel Tank Filler Cap – Cap is sealed with a built in pressure-vacuum relief valve. Cap releases under pressure of ¾-1¼ psi or vacuum of ¼ psi. Under normal operating conditions, cap operates as a check valve allowing air to enter tank as gasoline is used while preventing vapors from escaping through cap.

Fuel Tank – Fill limiting is accomplished through filler neck configuration and/or internal vent lines within filler neck and tank. System is designed to permit approximately 10-12% air space when tank is filled to capacity. This space provides for thermal expansion. Tank is also designed to provide a vapor space above fuel level. Area is sufficient to permit adequate breathing space for the vapor separator.

Vapor Separator – Two types of separators are used. The first type has an orifice and is filled with a foam material that acts as a multiple baffle system to separate raw fuel and vapor to eliminate raw fuel entering vapor line. This separator mounts directly to tank by either a cam lock ring or a plate with four retaining screws. The second type consists of a 90° elbow and in some cases contains a float. This separator mounts directly to tank by means of a rubber grommet (similar to a PCV valve).

NOTE – Ford and Mercury Police Interceptor models use an in-tank fuel pump. Vapor separator is combined with fuel pump. The entire assembly is retained by a cam lock ring.

Carbon Canister – Fuel tank vent line (from vapor separator) is connected to a canister filled with activated carbon located in engine compartment.

OPERATION

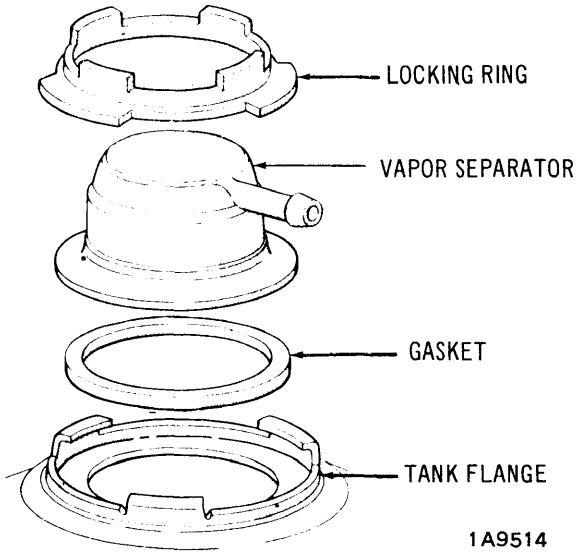
Fuel vapors trapped in sealed fuel tank are vented through the orifice vapor separator assembly in top of tank. Vapors leave separator assembly through a single vapor line and continue to carbon canister (in engine compartment) where they are adsorbed by activated carbon until such time as they are purged to engine by means of a hose connected to air cleaner.

SERVICE PROCEDURES

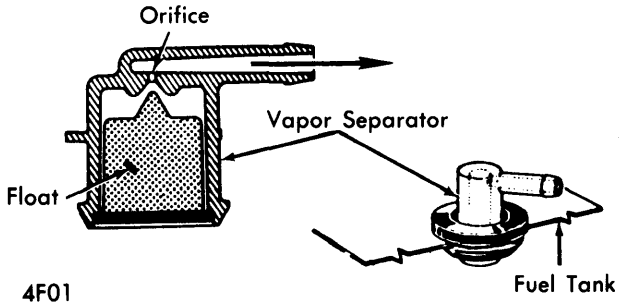
NOTE – Damaged fuel filler cap or contamination that renders pressure vacuum valve inoperative may result in deformation of tank.

Vapor Separator – Remove vapor hose and on foam filled typed remove retaining plate screws, or turn cam lock ring counterclockwise to remove separator. *NOTE – If separator is on bottom of fuel tank, drain tank before removing separator.* On 90° elbow type, remove and install separator in the same manner as a PCV valve.

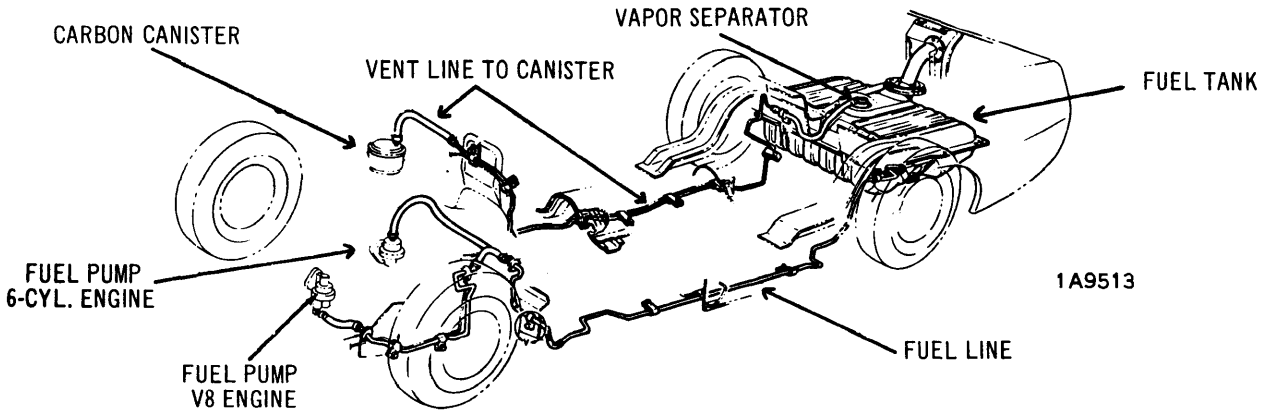
Fuel Tank – Fuel tanks do not require special repair procedures and may be cleaned and/or repaired using standard procedures for steel fuel tanks.



VAPOR SEPARATOR ASSEMBLY (FOAM FILLED TYPE – TYPICAL)



VAPOR SEPARATOR ASSEMBLY (90° ELBOW TYPE – TYPICAL)



FUEL EVAPORATIVE EMISSION CONTROL SYSTEM (TYPICAL)