1974-79 EXHAUST EMISSION SYSTEMS
Volvo Fuel Evaporation

All Models

DESCRIPTION

The fuel evaporation system is designed to prevent fuel vapor emissions from the fuel system being discharged into the atmosphere. Fuel system is completely sealed and vented only through a carbon canister.

FUEL TANK & FILLER CAP

Tank is fitted with a pressure safety valve type cap which allows excessive tank pressure or vacuum to escape. Tank is vented by two vent lines, one from filler neck and the other from top of tank to a balance valve.

BALANCE VALVE

Valve is a pressure and vacuum relief valve. When fuel tank pressure rises above .7-2.8 psi (.05-.20 kg/cm²), pressure relief valve opens and vents fumes to carbon canister. Vacuum relief valve opens when vacuum in tank exceeds a predetermined level and lets air in through carbon canister filter.

CARBON CANISTER

Canister is filled with activated carbon and has a replaceable foam filter in the bottom. Vent line from balance valve is connected to canister and fuel vapors from tank are absorbed by carbon when engine is not running.

Another vent line on canister connects to air intake of fuel injection inlet duct via air valve. When engine is running faster than idle, air drawn in through bottom of canister and fuel vapors are drawn into engine and burned. This purging action renews absorbing capacity of the carbon.

AIR VALVE

This valve controls connection between carbon canister and intake duct. When engine is at idle (high vacuum) air valve is closed. When vacuum drops (engine speeds up) valve opens and air is drawn through canister and canister is purged of fuel fumes.

MAINTENANCE

Foam plastic filter in bottom of carbon canister should be replaced every 45,000 miles.

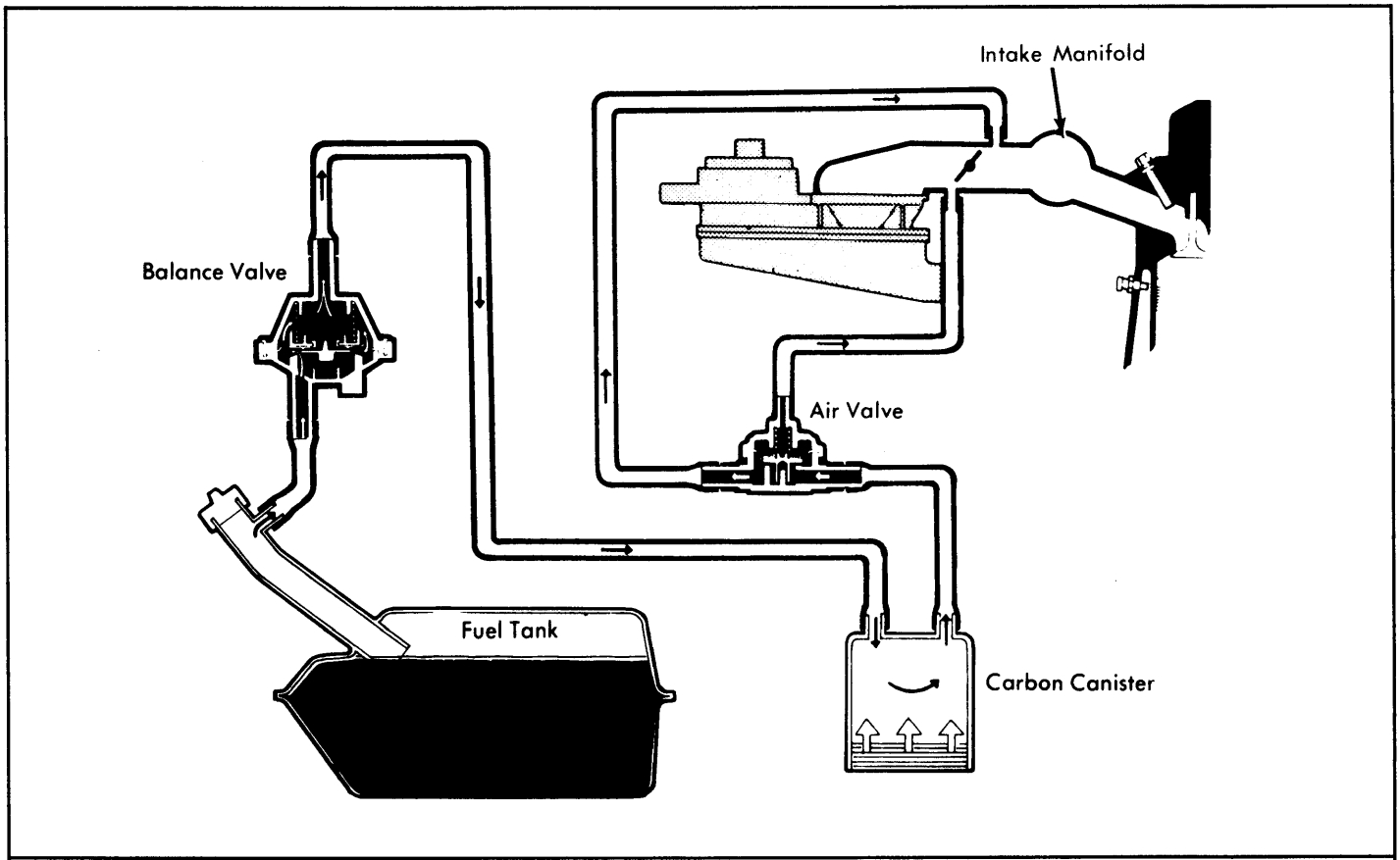

Fig. 1: Fuel Evaporation System Diagram