1982 Fuel Evaporation Systems

VOLKSWAGEN

Jetta, Quantum, Rabbit, Rabbit Pickup, Scirocco, Vanagon

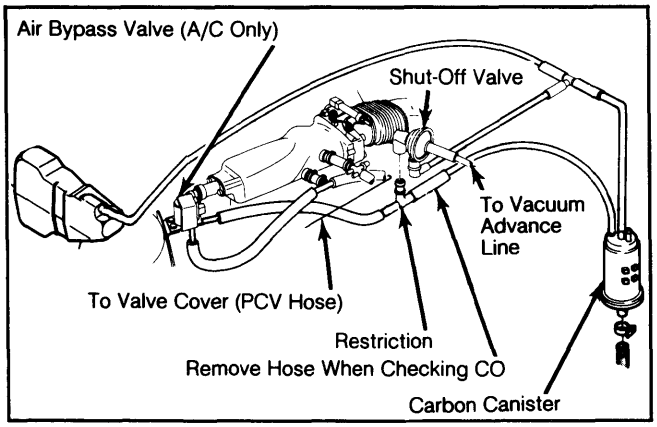
DESCRIPTION

The sealed Volkswagen fuel evaporation system prevents fuel vapors from escaping to the atmosphere through the following controls.

FUEL TANK VENTING

An expansion chamber in the fuel tank and vent lines are part of the fuel tank vent system. These components prevent fuel from escaping to the outside at extreme high temperatures and when the vehicle is driven or parked at an incline or any other non-level position.

Fig. 1: Rabbit Carbon Canister-to-Intake Manifold Flow



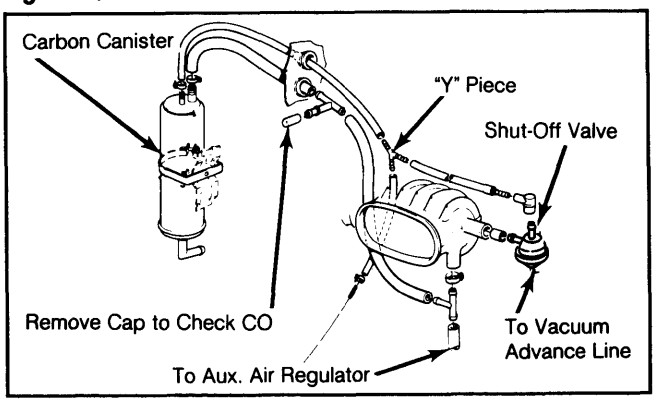
CARBON CANISTER

Vapors from fuel tank are trapped in carbon canister. Canister is connected to fuel tank vent system. Fuel vapors can flow from the canister through a restrictor to the intake manifold at idle to be burned.

OPERATION

Fuel vapors pass through the carbon canister and deposit hydrocarbons on the surface of the carbon. When the engine is running, fresh air entering the canister through an opening cleans the carbon and routes the hydrocarbons via the air cleaner back to the engine for combustion. On all fuel injected models, a fuel return line is used to prevent excessive pressure build-up at idle speeds.

Fig. 2: Quantum Carbon Canister-to-Intake Manifold Flow



MAINTENANCE

Every 15,000 miles visually inspect the entire system and correct any deficiencies noted.

VOLVO

All Models

DESCRIPTION

The Fuel Evaporation Control 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. System consists of fuel tank safety valve cap, a roll over valve, carbon canister, purge valve, and various connecting hoses.

OPERATION

The fuel tank is fitted with a pressure safety valve type cap which allows excessive tank pressure or vacuum to escape. Tank is vented by a vent line through roll over valve and to the carbon canister.

A roll over valve is located in the vent line close to the fuel tank. Valve is designed to prevent fuel spillage if vehicle rolls over. Valve is open until vehicle is at a 45° angle, or more, from horizontal.

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

Fig. 1: 4-Cyl. CIS Non-Turbo Fuel Evaporation System