1982 Crankcase Ventilation

PEUGEOT

All Models

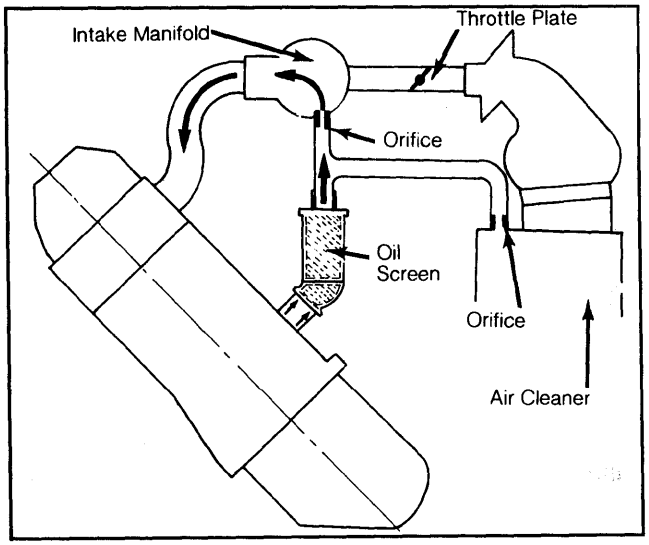
DESCRIPTION

Peugeot vehicles use crankcase ventilation systems to prevent blow-by gases from reaching the atmosphere. Gasoline models use similar systems, which include a PCV valve with oil screen, manifold calibrated jet (orifice), air cleaner orifice, and connecting hoses. Diesel models have a hose from the valve cover to the intake manifold that recirculates crankcase vapors.

OPERATION

On gasoline models, intake manifold vacuum at idle pulls blow-by vapors through the oil screen, calibrated jet, and into intake manifold. The calibrated jet stabilizes ventilation flow at a rate that will not affect idle mixture. When engine speed and load are high, blow-by exceeds the capacity of the calibrated jet. Intake manifold vacuum is low, but air cleaner vacuum is high enough to pull vapors into air cleaner and through engine.

Fig. 1: Typical Crankcase Ventilation System



505 models shown; others similar.

PORSCHE

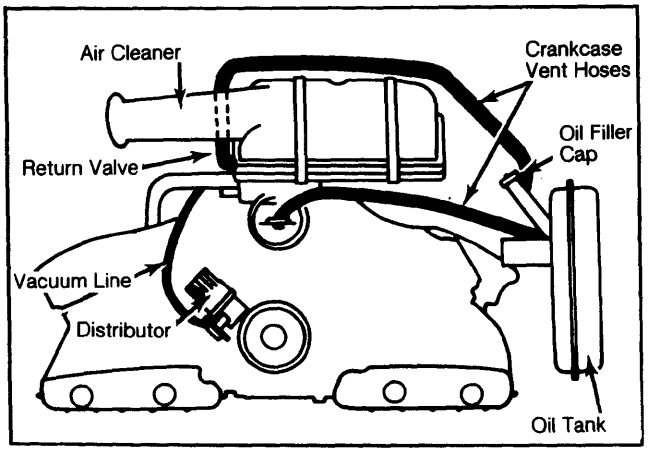
911SC, 924, 924 Turbo, 928, 944

DESCRIPTION & OPERATION

911SC MODELS

Components of system include a connecting hose located between crankcase and oil tank, and a second hose connecting oil tank to return valve at air cleaner. Vapors and blow-by gases from crankcase are taken into oil tank, where excess oil is separated from gases. The gases are then drawn into intake chamber through a hose that has a metered orifice and flame arrestor.

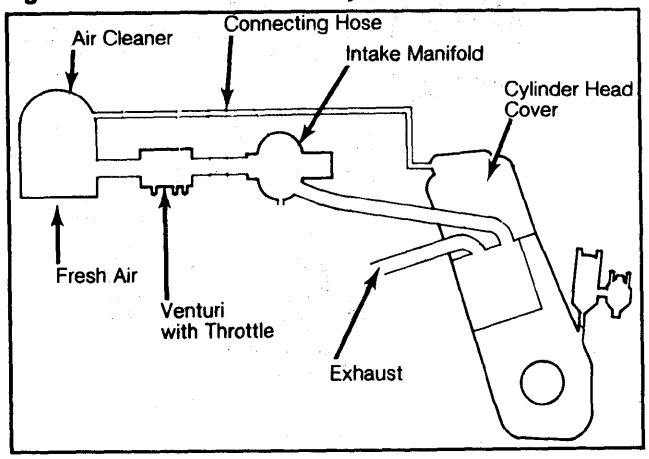
Fig. 1: Crankcase Ventilation System for 911SC



924 MODELS

System recycles blow-by gases through a connecting hose between crankcase breather and air cleaner. Vapors and gases produced in crankcase are mixed with fresh air from air cleaner and drawn into engine for burning.

Fig. 2: Crankcase Ventilation System for 924 Models



924 TURBO MODELS

Blow-by gases are routed from crankcase to an oil trap. When the gases reach the oil trap, excess oil is removed from gases and routed back to crankcase through a return hose. The remaining gases are drawn into air cleaner and then into engine for burning.

928 MODELS

Blow-by gases are routed from crankcase to an oil separator where any excess oil in the gases can settle and flow back to oil pan. From oil separator blow-by gases continue to lower section of air cleaner. A pre-heating line runs across part of the vent hose. This helps keep blow-by gases at a temperature which is more suitable for combustion once they are taken into combus-

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PORSCHE (Cont.)

tion chamber. A flame guard is also installed in inlet adaptor of air cleaner (lower portion) to prevent backfire flame from reaching crankcase.

944 MODELS

Blow-by gases leave crankcase through a cast riser bore and then enter ventilation dome in the oil filler neck. The ventilation dome acts as an oil trap for gases. From the trap, gases are routed to engine intake for combustion. Any trapped fresh oil passes through a drain tube and into the oil pan.

Fig. 3: 924 Turbo Crankcase Ventilation System

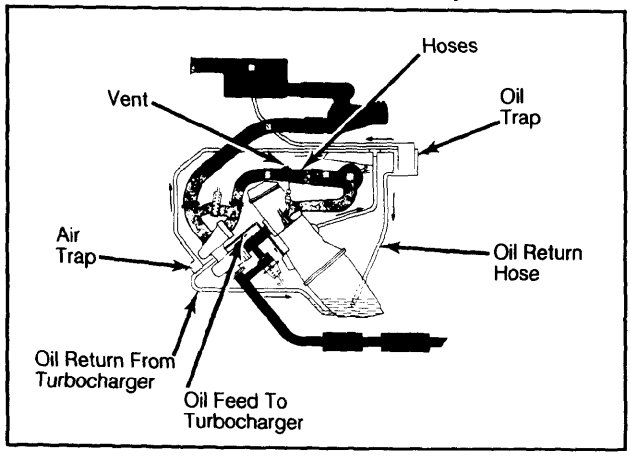
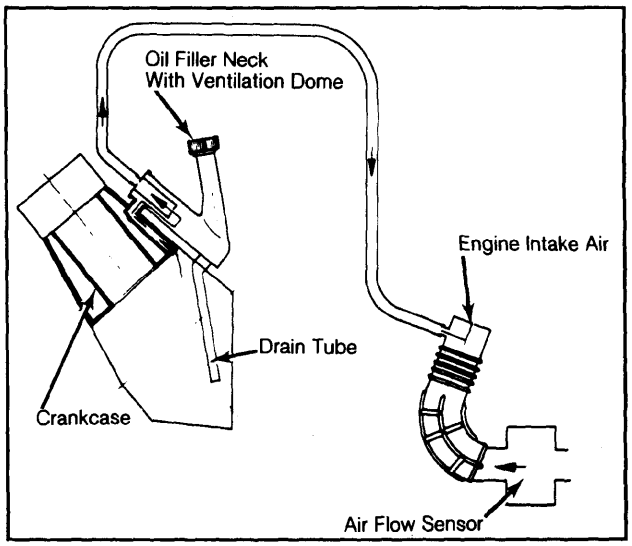


Fig. 4: 944 Crankcase Ventilation System



MAINTENANCE

Inspect system operation and hoses every 30,000 miles. For proper operation of crankcase ventilation system and engine it is important that oil filler cap and all connections be tight, not allowing the intake of any additional air.

RENAULT

Fuego, Le Car, 18i

DESCRIPTION

A crankcase ventilation system is used to recycle crankcase vapors back into the intake system for reburning. The system consists of an oil separator (which separates the oil from the vapors) and necessary connecting hoses. Metered orifices are also used in the hoses to control the amount of crankcase vapors being recycled into the intake system.

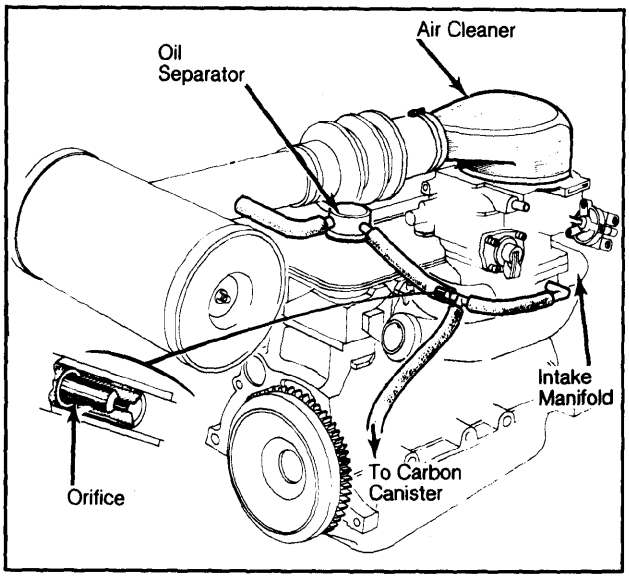
OPERATION

LE CAR

The oil-carrying fumes from the rocker cover are drawn into the oil separator. The oil is divided from the vapors and returned to the crankcase. From the oil separator, the vapors are drawn into the intake system for reburning. The .059" (1.5 mm) restricted orifice is located between the rocker arm cover and the intake manifold. It controls the amount of crankcase vapor reaching the intake manifold at any one time.

When engine speeds and loads are low, vacuum draws crankcase vapors through the hose to the intake manifold. At higher loads, both hoses are used, and at full throttle, all ventilation is provided through the hose to the air cleaner. The evaporative emissions canister is also purged through the same hoses used for the crankcase ventilation system.

Fig. 1: Renault Le Car Crankcase Ventilation



FUEGO & 18i

Oil fumes from the crankcase are routed to an oil separator, then drawn through one of 2 circuits into the engine. The upper circuit leads to a throttle body port just downstream from the airflow sensor, and the hose contains a .197" (5 mm) orifice. The lower circuit leads to the intake manifold and is connected to the fuel evapora-