

Since high ambient temperatures and the self-heating effect of the fuel flowing back from the engine will heat the fuel tank and result in fuel vapors which, according to pertinent USA legislation, are not permitted to escape into the open air.

To maintain these regulations, the USA versions of the respective vehicles are provided with a fuel tank evaporation control system, explained below as installed in Type 109.057.

The fuel tank is connected to the compensation tank (capacity 4.5 lits.) by two lines. The location of the compensating tank differs from type to type. It is installed in the trunk either at the right or left (Fig. 1).

Both are supply and return lines. At the uppermost point of the compensating tank is the air inlet and outlet line which leads to the combination valve system (3).

This valve system is subdivided into air outlet, air inlet and pressure relief valve (a, b and c).

The **air outlet valve (a)** opens at a pressure of 0.025 kp/cm².

The evaporative fuel vapors are flowing to the engine through a line installed in parallel with the fuel line. The line enters into the crankcase at connection (4).

From here, the evaporative fuel gases are sucked off through the crankcase breathing system and are thereby entering the combustion chambers.

A nozzle of 2.0 mm dia. is installed in the connection prior to entering the crankcase and serves the purpose of metering the evaporative fuel vapors.

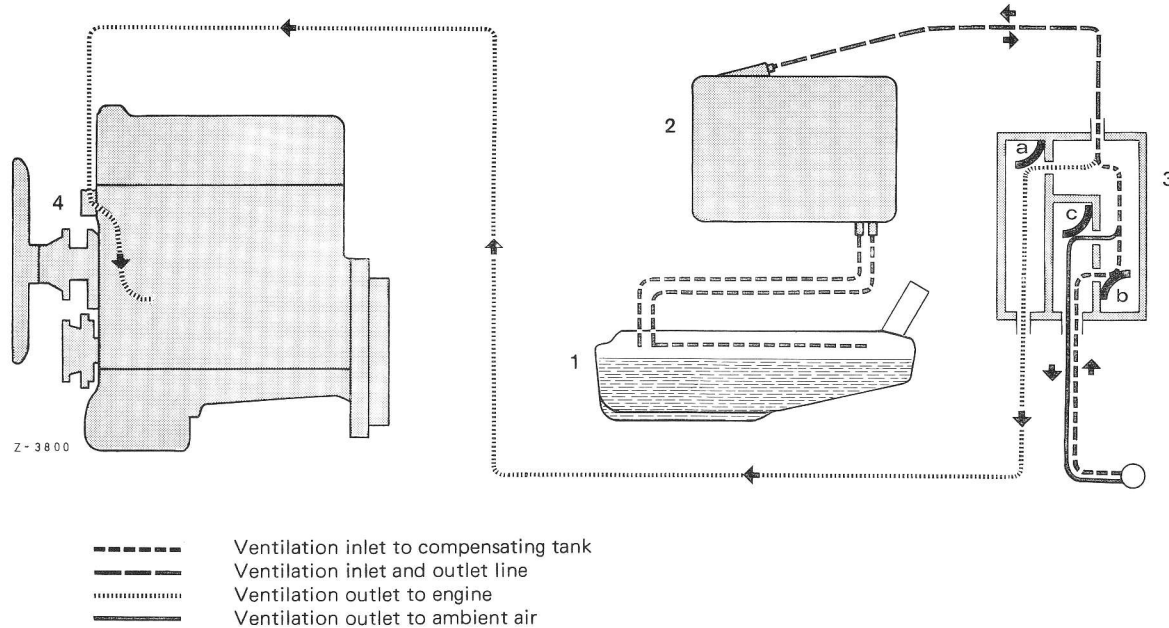
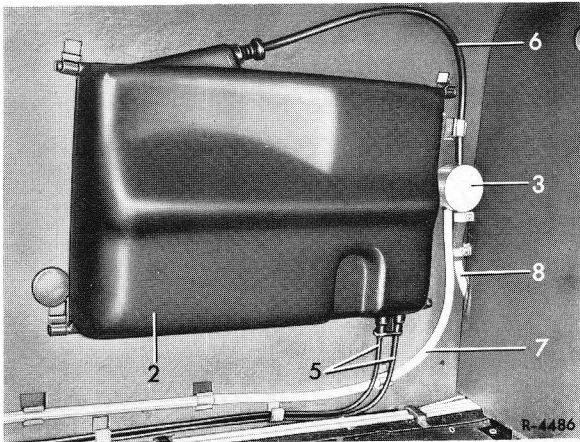


Fig. 1 Arrangement on Type 109.057

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|---------------------------|-------------------------|
| 1 Fuel tank | a Air outlet valve |
| 2 Compensating tank | b Air inlet valve |
| 3 Valve system | c Pressure relief valve |
| 4 Connection on crankcase | |

47.0 Fuel Evaporation System Functional Description



If the pressure in the combination valve system (3) is at 0.055 kp/cm^2 , the **pressure relief valve (c)** opens and permits the evaporative fuel vapors to flow out through the ventilation inlet line.

Cooling down of the fuel tank (for example when parking the vehicle overnight) may result in a vacuum in the tank. To neutralize this vacuum, fresh air is permitted to enter the tank through the **ventilation inlet valve (b)** (opening pressure 0.0062 kp/cm^2).

Fig. 2

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|-------------------------------------|--|
| 2 Compensating tank | 7 Ventilation outlet line to engine |
| 3 Valve system | 8 Ventilation inlet and outlet line (to ambient air) |
| 5 Supply and return lines | |
| 6 Ventilation inlet and outlet line | |