

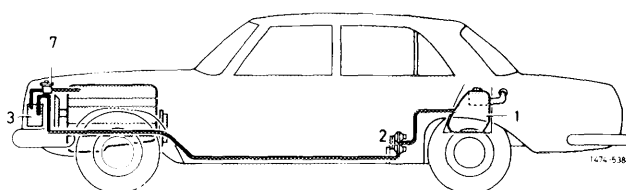
A. General

The fuel evaporation control system prevents the escape of fuel evaporation vapors from fuel system into atmosphere.

B. (J) 1976-1980, (USA) 1976

Function diagram

- 1 Fuel tank
- 2 Valve system
- 3 Charcoal canister
- 4 Draw-off valve



Components of fuel evaporation control system:

Valve system

The valve system is located underneath vehicle at level of rear leg room.

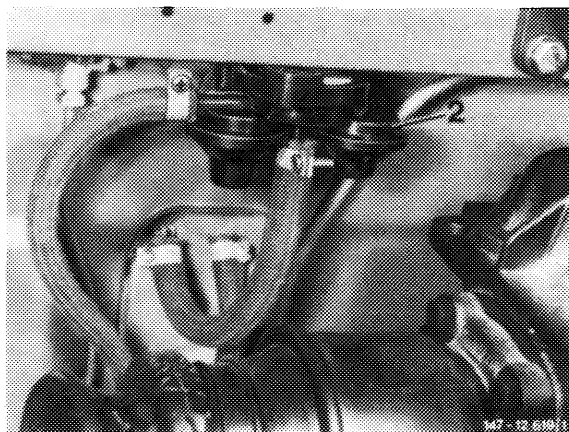
The valve system comprises three valves:

- 1. Negative venting valve
- 2. Pressure relief valve
- 3. Positive venting valve

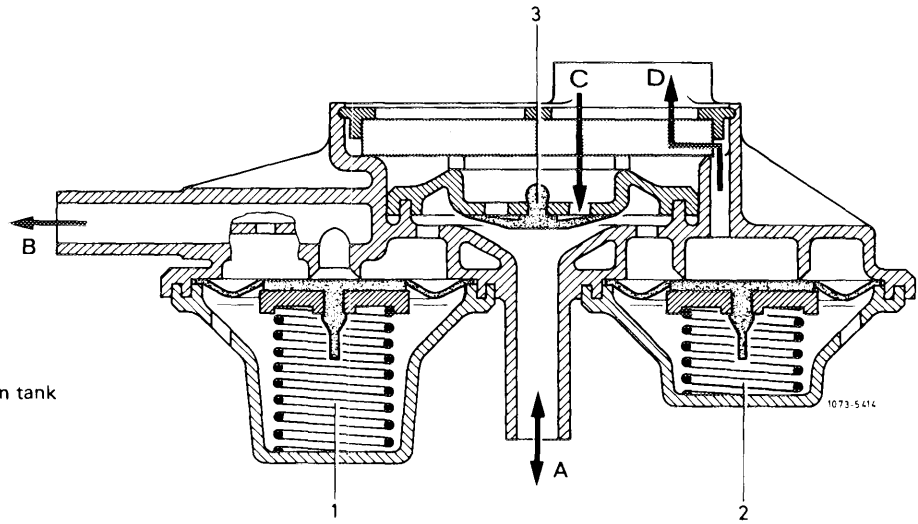
The **negative venting valve** opens at a slight overpressure. The evaporation vapors will flow via negative venting valve (1) (direction B) in a line toward charcoal canister.

The **pressure relief valve** is a safety valve and opens when the fuel evaporation control system is subject to overpressure. The fuel vapors are vented directly into the atmosphere.

The **positive venting valve** opens when cooling down of fuel tank results in underpressure.

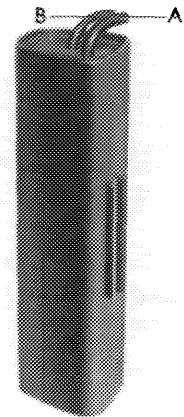


- 1 Negative venting valve
- 2 Pressure relief valve
- 3 Positive venting valve
- A Inlet to valve system/  
outlet to vent of fuel expansion tank
- B To charcoal canister
- C Fresh air inlet
- D Outlet pressure relief valve



**Charcoal canister**

The fuel evaporation vapors from fuel tank are stored in charcoal canister and are drawn-off again while driving.

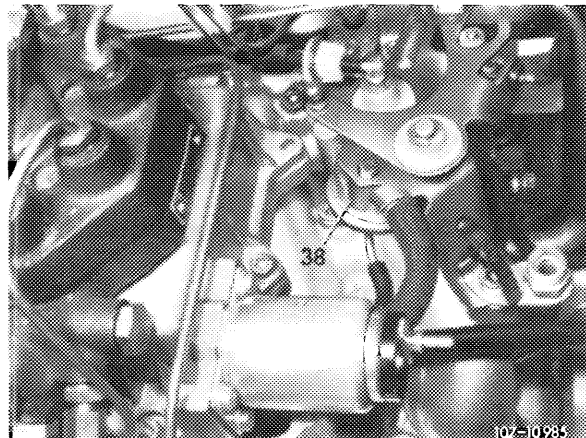


- A Connection tank vent
- B Connection purge valve

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**Purge valve**

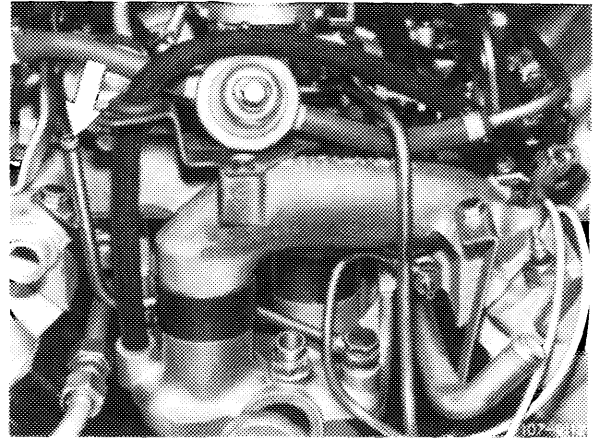
The purge valve is controlled by vacuum from throttle valve. If the diaphragm is energized by vacuum, the valve opens and the vapors can be drawn-off from charcoal canister.



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### Intake manifold connection

To draw fuel evaporation vapors from charcoal canister, the intake manifold is provided with a connection (arrow).



### Functional description

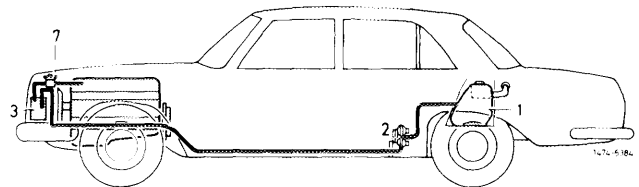
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The fuel evaporation vapors from fuel tank are stored in charcoal canister with engine stopped and are drawn from charcoal canister with engine running, depending on intake manifold vacuum.

When the throttle valve is open, diaphragm of the purge valve is energized by a vacuum and the valve is opened.

The stored vapors will be drawn from charcoal canister under influence of intake manifold vacuum.

- 1 Fuel tank
- 2 Valve system
- 3 Charcoal canister
- 7 Purge valve

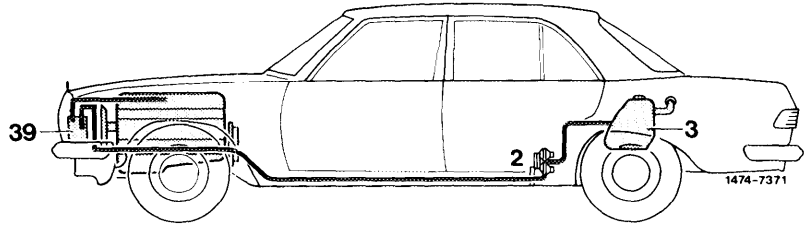


### C. 1977

The vacuum-controlled purge valve is no longer installed. The throttle valve has a draw-off connection which is connected to charcoal canister by way of a black plastic line.

**Function diagram**

- 2 Valve system
- 3 Fuel tank
- 39 Charcoal canister

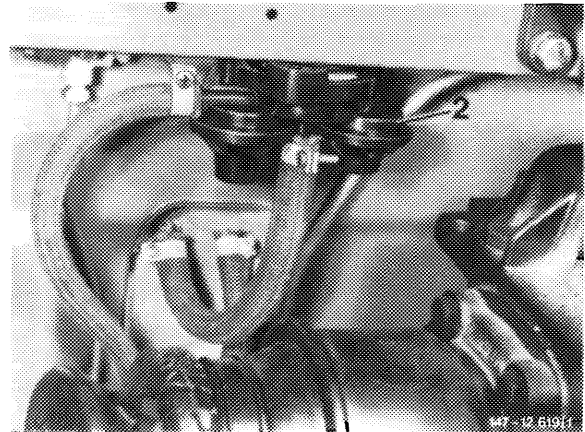


**Components of fuel evaporation control system:**

**Valve system**

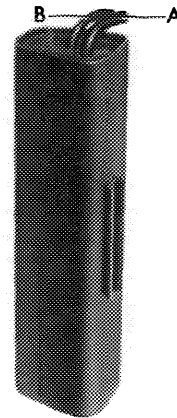
The valve system is mounted under vehicle at level of rear leg room.

For functional description of valve system refer to section "B. (J) 1976–1980, (USA) 1976".



**Charcoal canister**

The fuel evaporation vapors from fuel tank are stored in charcoal canister and are drawn off again from canister while driving.

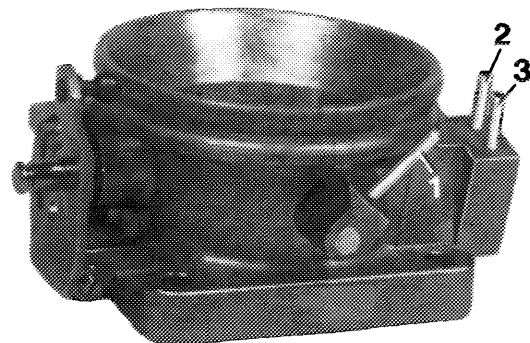


- A Connection to valve system
- B Purge system to throttle valve housing

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**Throttle valve housing**

The throttle valve housing is provided with a connection for drawing evaporation vapors from charcoal canister.



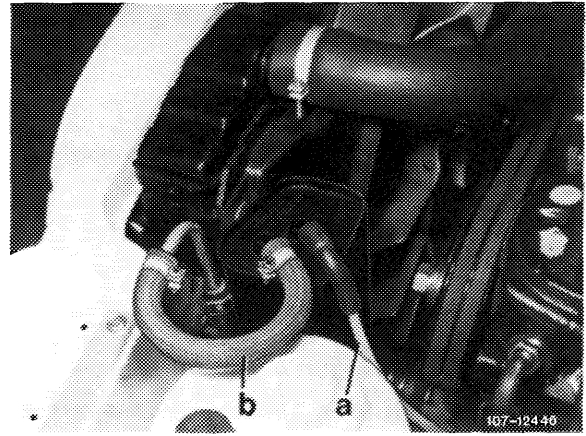
- 1 Vacuum connection ignition timing retard
- 2 Vacuum connection ignition timing advance
- 3 Vacuum connection charcoal canister

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## Functional description

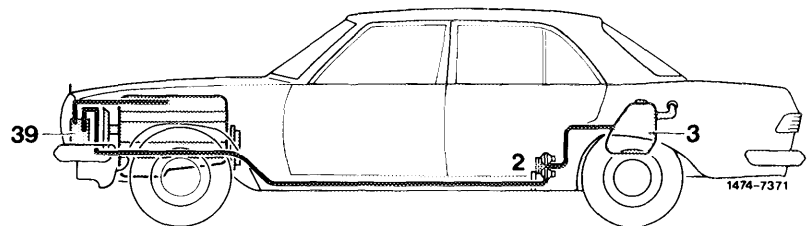
The fuel evaporation vapors from fuel tank are routed via valve system (2) into charcoal canister.

The fuel evaporation vapors are stored in charcoal canister with the engine stopped, and are drawn-off into throttle valve housing with the engine running, starting at a given throttle valve position.



- a To throttle valve housing
- b From valve system

- 2 Valve system
- 3 Fuel tank
- 39 Charcoal canister

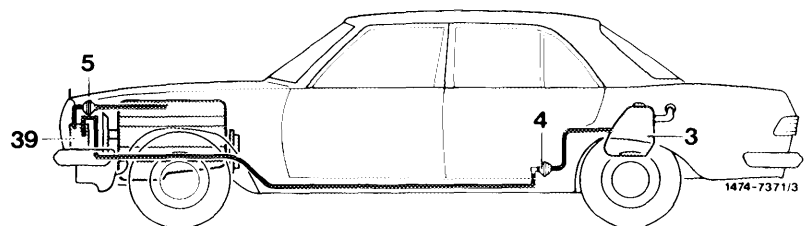


## D. 1978–1980

The vent valve unit replaces the valve system. A purge valve (regenerating valve) is installed into draw-off line between charcoal canister and throttle valve housing.

## Function diagram

- 3 Fuel tank
- 4 Vent valve
- 5 Purge valve (regenerating valve)
- 39 Charcoal canister

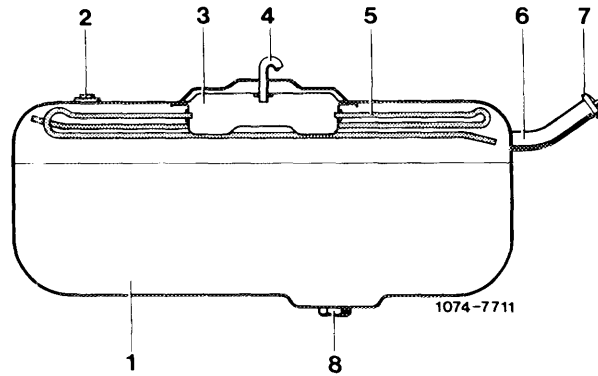


The system comprises the following components:

**Fuel tank**

The fuel tank with its pipe system and the collecting pan correspond to the already known version.

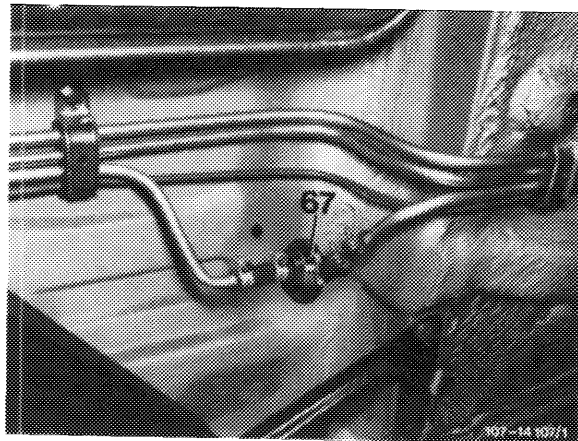
- |                              |                             |
|------------------------------|-----------------------------|
| 1 Fuel tank                  | 5 Pipe system               |
| 2 Immersion tube transmitter | 6 Filler neck               |
| 3 Expansion tank             | 7 Closing cap               |
| 4 Connection diverter valve  | 8 Connection fuel feed line |



**Vent valve unit**

The vent valve unit (67) is mounted under vehicle at level or rear leg room and comprises a negative venting valve and a positive venting valve.

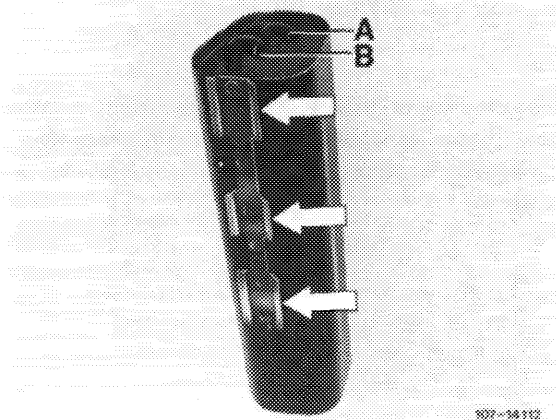
**Note:** Starting model year 1980, a vent valve unit of reduced diameter is optionally valid. Function and effect are the same.



**Charcoal canister**

The charcoal canister corresponds to the already known version, except that the fastener (arrow) has been modified.

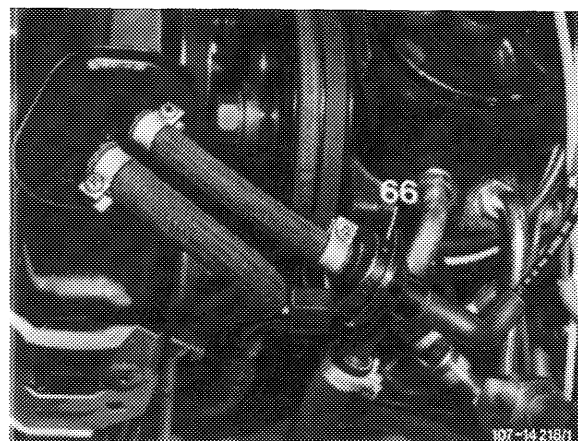
- |  |
|--|
| A Suction line to throttle valve housing |
| B Fuel tank negative vent                |



**Regenerating valve**

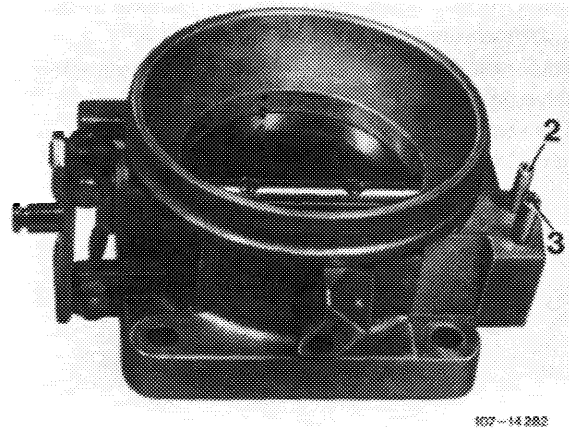
The regenerating valve (66) is located in regenerating line from charcoal canister to throttle valve housing.

**Note:** Starting model year 1980, a regenerating valve of smaller diameter is optionally valid. Function and operation are the same.



### Throttle valve housing

The throttle valve housing has been slightly modified as compared with model year 1977. To prevent mixing up vacuum connections, the OD of the vacuum connection to charcoal canister has been enlarged from 4 to 5 mm. For drawing evaporation vapors from charcoal canister two regenerating bores were provided above throttle valve.

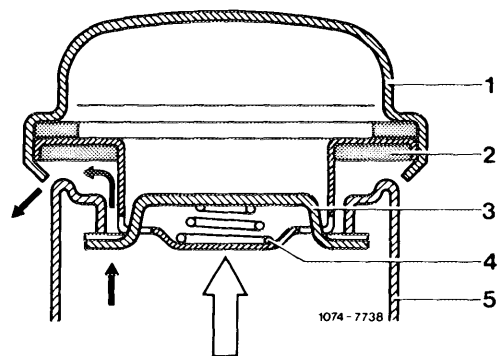


- 2 Vacuum connection ignition advance
- 3 Vacuum connection charcoal canister

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### Fuel tank closing cap

To prevent increased overpressure in fuel tank, the fuel tank closing cap has been modified.



- 1 Closing cap
- 2 Sealing ring
- 3 Closing clip
- 4 Compression spring
- 5 Filler neck

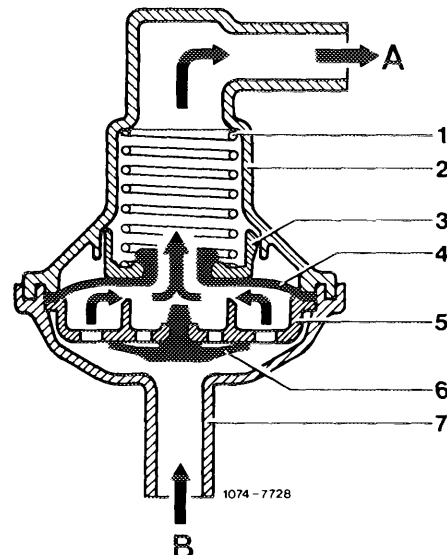
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### Functional description

#### Evaporation system

The vent valve unit increases the pressure in fuel tank to 30–50 mbar. As a result, fewer fuel evaporation vapors will escape from fuel tank.

If the pressure in fuel tank amounts to 30–50 mbar, the negative venting valve (4) will open and permit the fuel evaporation vapors to flow to charcoal canister where they are stored when the engine is stopped.

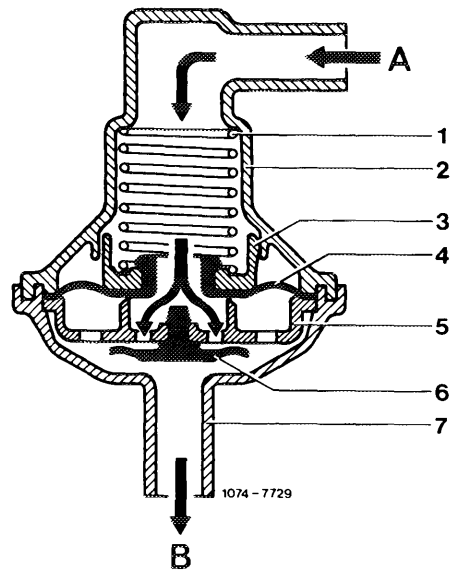


Vent valve unit to charcoal canister opened

- 1 Compression spring
- 2 Valve housing
- 3 Spring retainer
- 4 Vent valve unit
- 5 Valve plate
- 6 Positive venting valve
- 7 Connection
- A Connection charcoal canister
- B Connection fuel tank

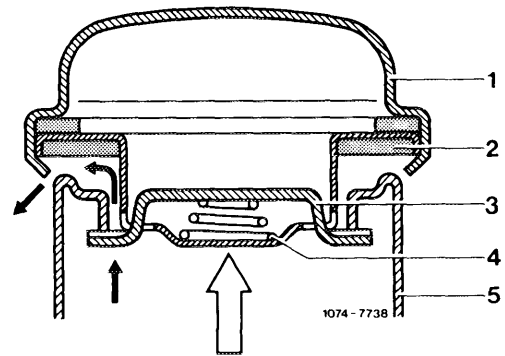
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When the fuel is cooling down, the decreasing volume is compensated by the intake of air or fuel evaporation vapors from charcoal canister via vent valve unit (6) starting at a vacuum of 1–16 mbar. The vent valve unit (6) will close when the vacuum in fuel tank drops below 1 mbar.



Vent valve unit to fuel tank opens

If the pressure in fuel tank increases by 100–130 mbar as a result of a failure in evaporation system, the fuel evaporation vapors will escape from fuel tank through closing cover.



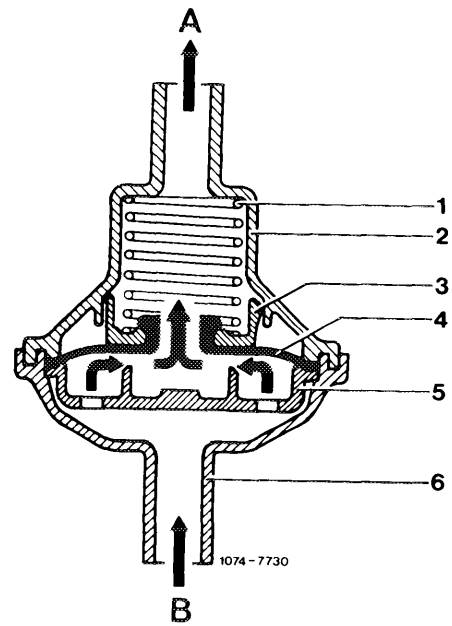
- 1 Closing cover
- 2 Sealing ring
- 3 Closing clip
- 4 Compression spring
- 5 Filler neck

### Regenerating system

The charcoal canister is connected to throttle valve housing by means of a line, in which the regenerating valve is installed.



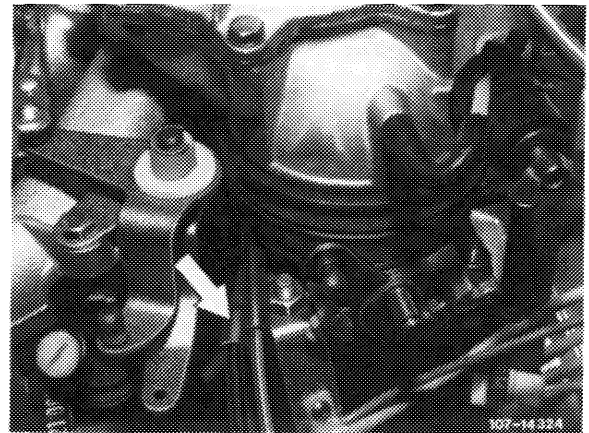
If with the engine running the vacuum value of 30–50 mbar in regenerating line is exceeded, the regenerating valve will open. The fuel evaporation vapors stored in charcoal canister can then be drawn off depending on position of throttle valve.



Regenerating valve (open)

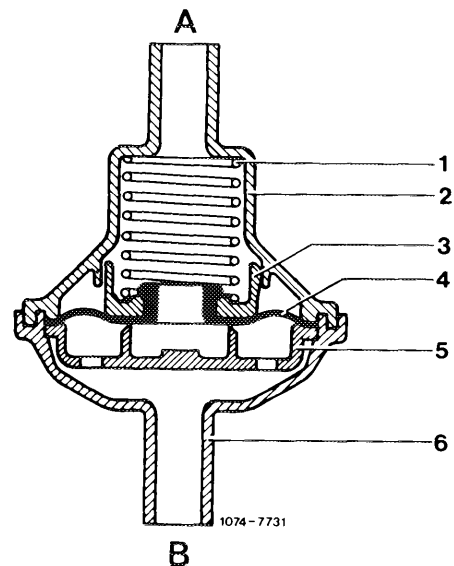
- |                      |                                     |
|----------------------|-------------------------------------|
| 1 Compression spring | 5 Valve plate                       |
| 2 Valve housing      | 6 Connection                        |
| 3 Spring retainer    | A Connection throttle valve housing |
| 4 Vent valve unit    | B Connection charcoal canister      |

When the throttle valve opens, the two regenerating bores in throttle valve housing which are entering a common channel are passed over one after the other. As a result, regeneration in lower partial load range of engine will start at a dosage rate that the driving characteristics are not influenced.



Arrow = suction connection throttle valve

At idle and while coasting (deceleration) (throttle valve closed) the two regenerating bores are on atmospheric side of throttle valve. The regenerating valve is closed, there is no regeneration in charcoal canister.

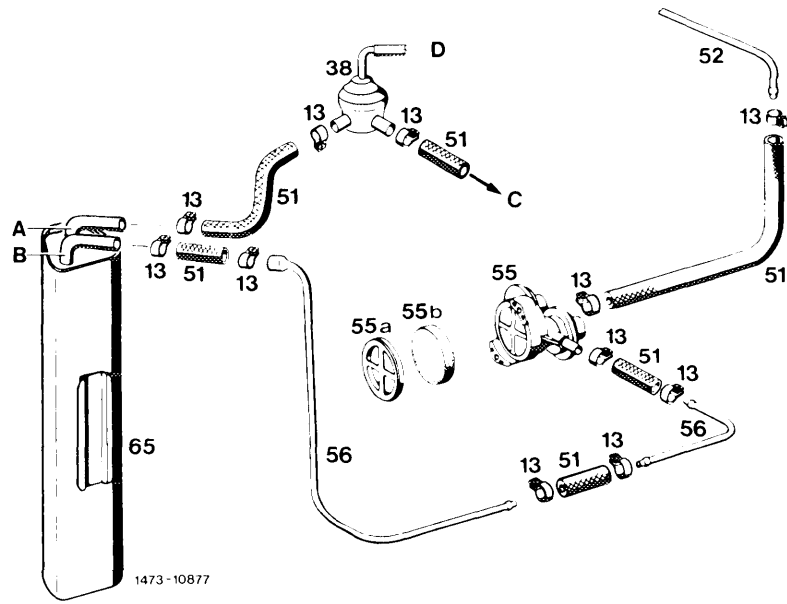


Regenerating valve (closed)

# Survey fuel evaporation control system

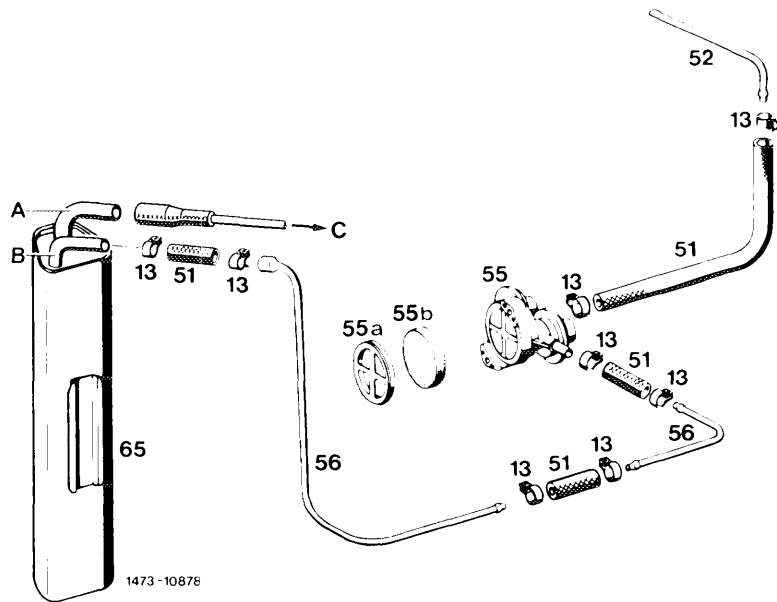
(J) 1976-1980, (USA) 1976

- 13 Hose clamp
- 51 Fuel hose
- 52 Vent line from fuel tank
- 55 Valve system
- 55a Cap
- 55b Filter
- 56 Vent line
- 65 Charcoal canister
- A Draw-off connection
- B Vent line connection
- C Intake manifold draw-off connection
- D Vacuum throttle valve housing



(AUS) (USA) 1977

- 13 Hose clamp
- 51 Fuel hose
- 52 Vent line from fuel tank
- 55 Valve system
- 55a Cap
- 55b Filter
- 56 Vent line
- 65 Charcoal canister
- A Draw-off connection
- B Vent line connection
- C Draw-off connection throttle valve housing



- 13 Hose clamp
- 51 Fuel hose line
- 52 Vent line from fuel tank
- 56 Vent line
- 65 Charcoal canister
- 66 Regenerating valve
- 67 Vent valve unit
- a To throttle valve housing
- A Draw-off connection
- B Vent line connection

