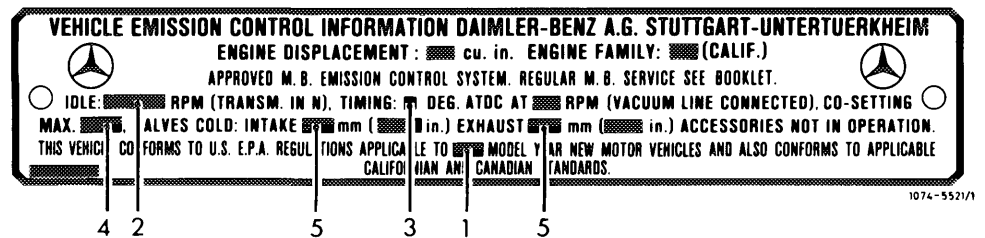


California version model year 1974

A. General

Information plate

Vehicles are identified by information plate basic color green.



- 1 Model year
- 2 Idle . . . rpm
- 3 Timing at . . . rpm
- 4 Emission value at idle
- 5 Valve clearance

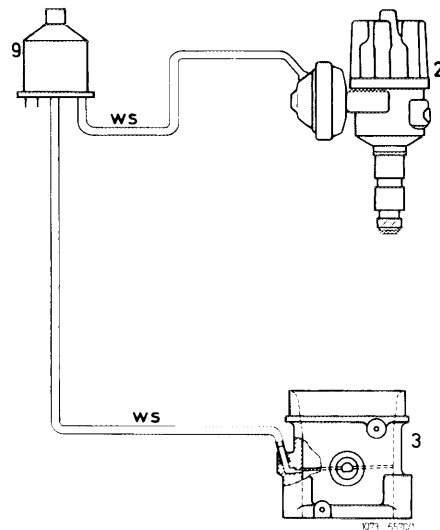
B. Ignition timing

The ignition timing influences the running characteristics of the engine.

Ignition timing in direction of "retard" results in a higher engine temperature, longer periods of dwell and thereby in a reduction of CH and CO values.

Function diagram

- 2 Ignition distributor
- 3 Throttle valve housing
- 9 Switchover valve

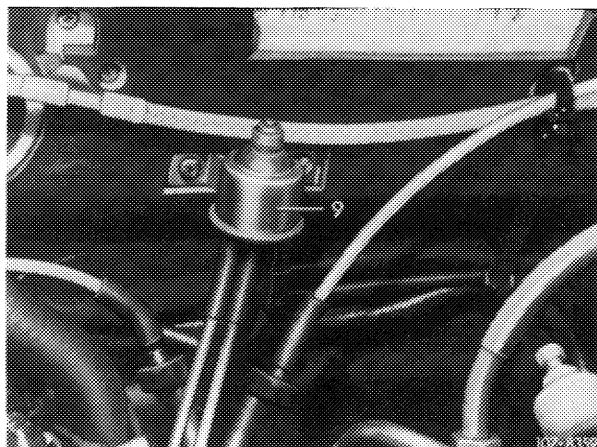
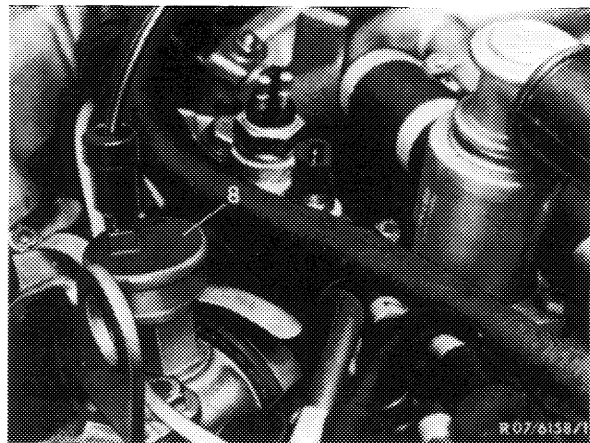


Vacuum adjustment in direction of "retard" becomes effective at the following operating conditions:

- Below 100 °C coolant temperature.
- Engine at idle.
- Engine decelerating (coasting) (throttle valve at idle speed stop).
- Air conditioning system switched off.

Switching vacuum adjustment on or off in direction of "retard" is effected by means of switchover valve (9), which is contacted by temperature switch 100 °C (8) via relay (19).

Below 100 °C coolant temperature, the temperature switch 100 °C (8) is opened, the switchover valve (9) is de-energized. Vacuum flows from throttle valve housing (3) via switchover valve (9) to diaphragm of vacuum unit of ignition distributor.



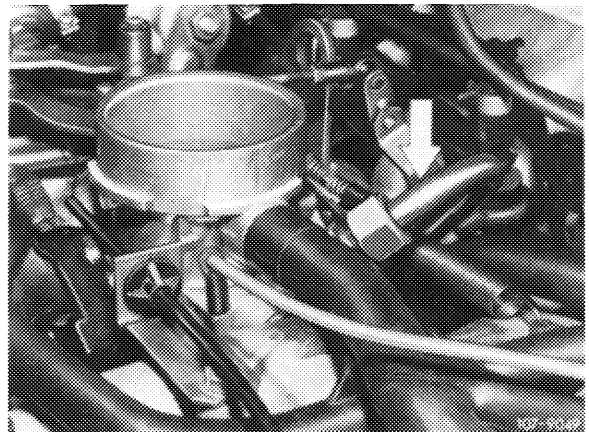
C. EGR (exhaust gas recirculation)

To reduce nitrogen oxides in exhaust gases, a portion of the gases from the exhaust manifold is returned to throttle valve housing in front of throttle valve. The quantity of the returned exhaust gas is controlled in dependence of the throttle valve position and the intake pipe vacuum.

EGR components:

Throttle valve housing with connection

EGR line (arrow)



EGR is activated:

- During acceleration.
- During partial load operation.
- During idle.
- During deceleration (coasting).

Note: At idle and while decelerating (coasting) only a slight quantity of exhaust gas is recirculated and drawn off via idle speed system.

Operation

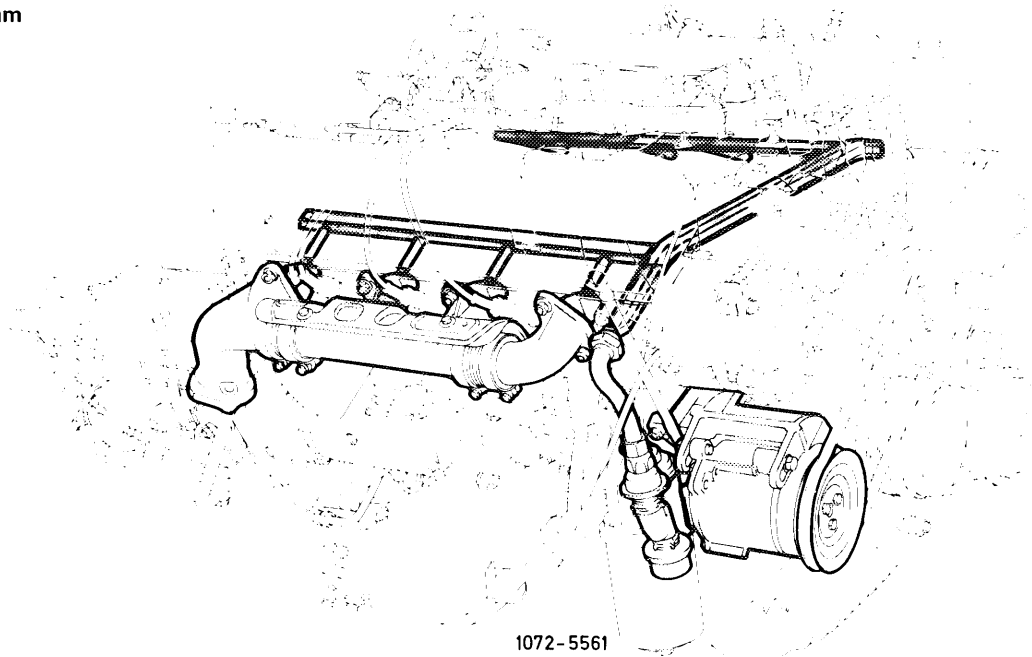
With the engine running and depending on throttle valve position and intake pipe vacuum, exhaust gases are recirculated from front exhaust pipe via EGR line into throttle valve housing. From there, the gases flow through intake pipe and intake valves back into combustion chamber.

D. Air injection

To reduce the incompletely burnt components in exhaust gas, air is injected into hot zone behind exhaust valves.

To prevent backfiring in exhaust the air injection is controlled via vacuum control valve (44).

Function diagram

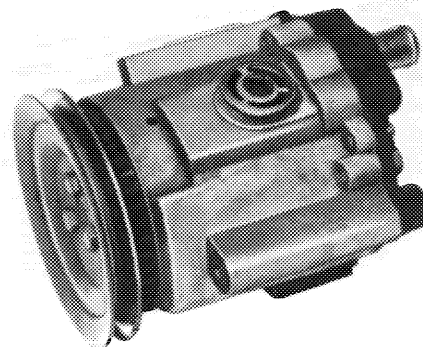


Components of air injection:

Air pump (Saginaw pump)

The air pump is an impeller pump with a maintenance-free centrifugal filter which cleans the drawn in air.

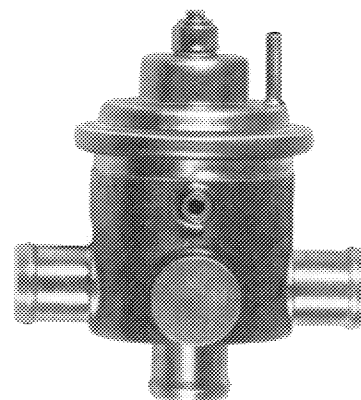
A safety valve on pump housing blows off the delivered air at a given overpressure to protect the pump vanes against overloads.



107-8959

Diverter valve

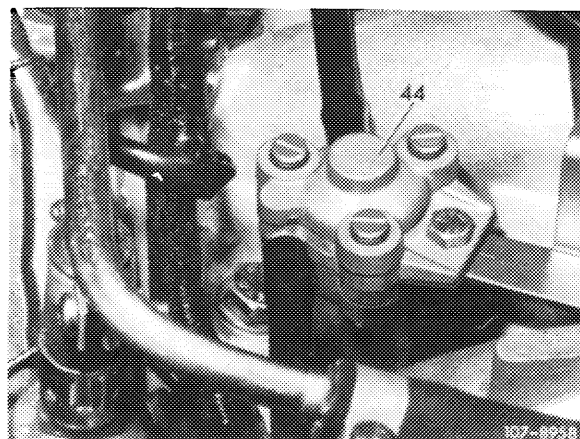
The diverter valve serves the purpose of controlling the air volume during deceleration (coasting) at vacuum values above 533 mbar (400 mm Hg) through an air filter (silencer).



107-9139

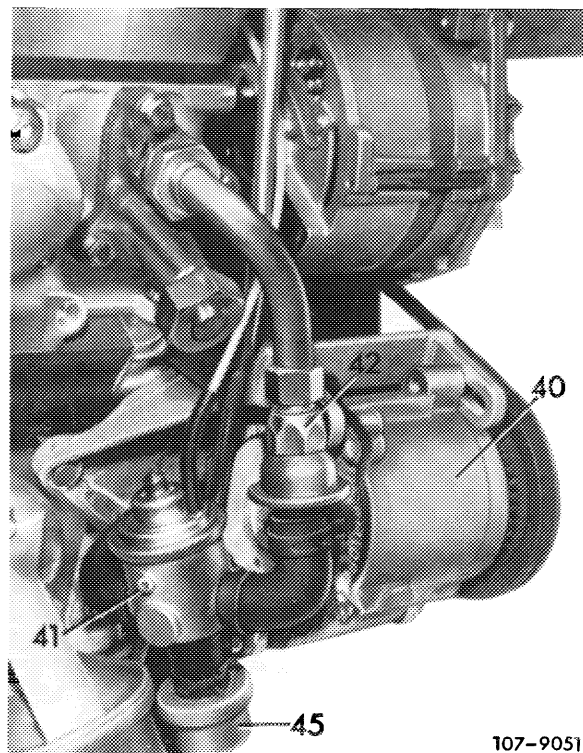
Vacuum control valve (44)

Air injection or air discharge is controlled by means of the vacuum control valve which is directly connected to intake pipe vacuum.



Check valve (42)

The check valve prevents hot exhaust gases from flowing into air line.



107-9051

Operation

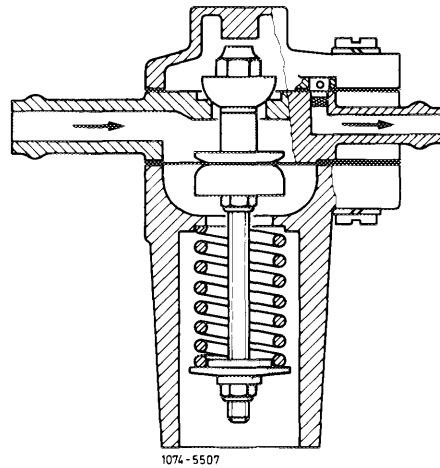
The air pump (40) is driven by the crankshaft via a V-belt and delivers constantly air when the engine is running. The air flows into cylinder heads via the diverter valve (41) and the check valve (42), or into the open air via the air filter (45).

The air injection or air discharge is controlled by the vacuum control valve (44) which is directly connected to the intake pipe vacuum.

Operation of vacuum control valve

The annular space of the valve above the diaphragm is negatively vented by the intake pipe vacuum.

At a vacuum of approx. 533 mbar (400 mm Hg) caused by the permanently set spring, the diaphragm is pushed upwards by atmospheric air. This opens the passage in direction of arrow and the diverter valve (41) is provided with a vacuum.

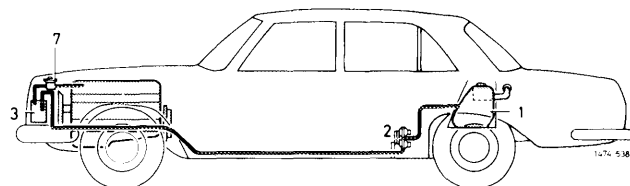


E. Fuel evaporation control system

A fuel evaporation control system has been installed to improve emission characteristics which have nothing to do with engine combustion.

Function diagram

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

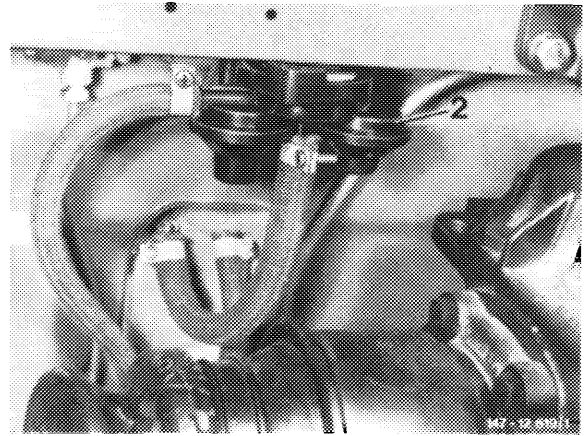


Components of fuel evaporation control system:

Valve system

The valve system is mounted under vehicle at level of rear legroom. The system comprises three valves:

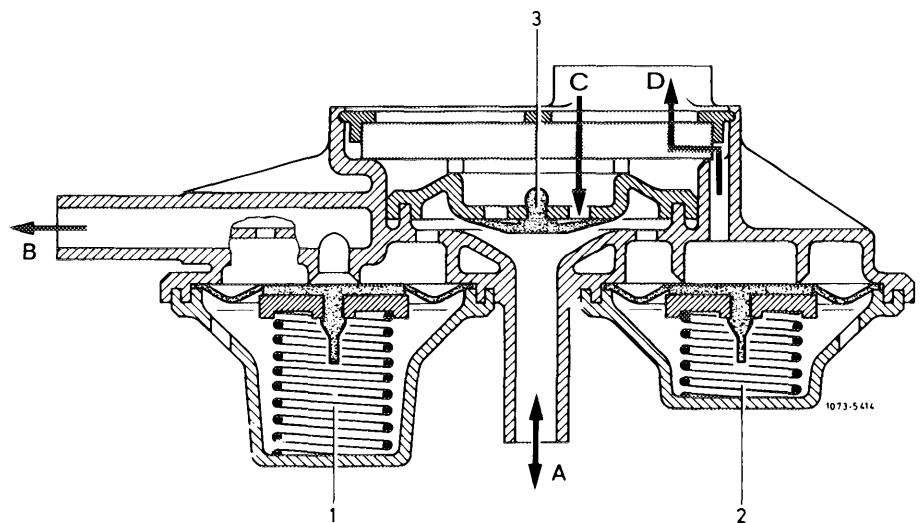
1. Negative vent valve
2. Pressure relief valve
3. Positive vent valve



The **negative vent valve** opens at a slight overpressure. The evaporation vapors will flow through negative vent valve (1) (direction B) into a line to charcoal canister.

The **pressure relief valve** is a safety valve and opens in the event of an overpressure in fuel evaporation control system. The fuel vapors are vented directly into the open air.

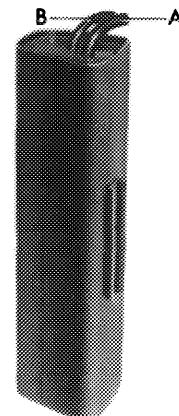
The **positive vent valve** opens in the event of a vacuum caused when the fuel tank is cooling down.



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

Charcoal canister

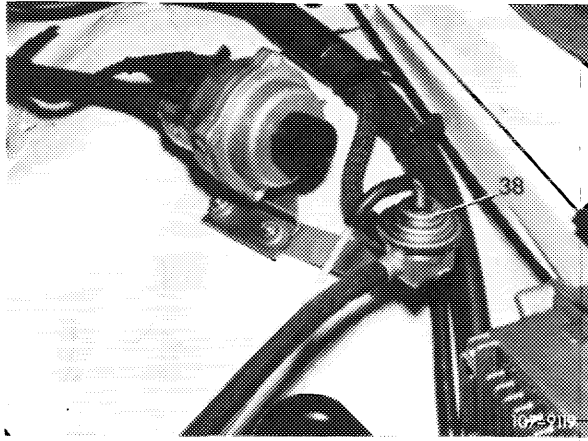
The fuel evaporation vapors from fuel tank are stored in charcoal canister and are drawn off again when driving.



- A Connection tank vent
B Connection purge valve

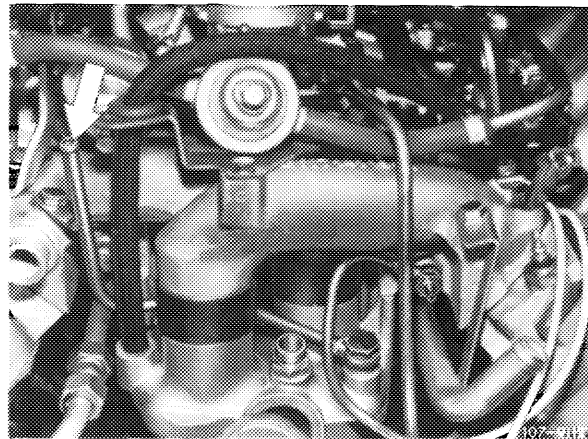
Purge valve

The purge valve is controlled by the vacuum of the throttle valve. If the diaphragm is activated by a vacuum, the valve opens and the gases can be drawn off from charcoal canister.



Intake pipe connection

The intake pipe is provided with a connection (arrow) to draw off the fuel evaporation vapors from charcoal canister.



Operation

The fuel evaporation vapors from fuel tank are stored in charcoal canister when the engine is stopped, and are drawn off when the engine is running in dependence of the intake pipe vacuum.

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

The intake pipe vacuum will draw the stored gases from charcoal canister.