

### Standard version

### Operation

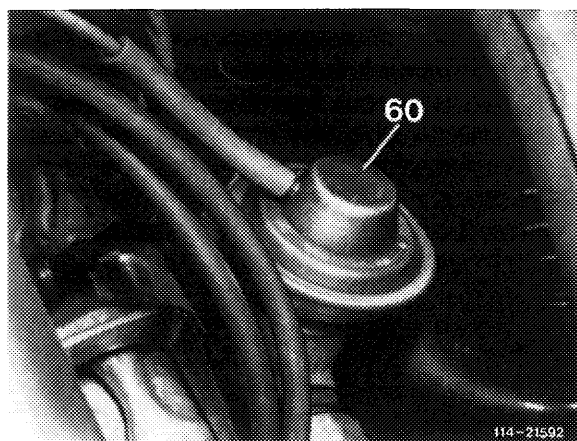
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To reduce nitrogen oxides ( $\text{NO}_x$ ) a portion of the gases from the exhaust manifold is returned to the intake manifold through a valve.

The quantity of the returned exhaust gases is adapted to load conditions in such a manner that no driving errors will result.

As from a coolant temperature of approx.  $50^\circ\text{C}$  in cylinder head a portion of the exhaust gases will be returned to the intake manifold in middle and upper partial load range. The addition of exhaust gases to the fuel mixture reduces the combustion temperature and thereby the generation of nitrogen oxides. The quantity of the recirculated exhaust gases depends on throttle valve position (vacuum on throttle valve).

60 EGR valve



Depending on throttle valve position, the EGR valve (60) is activated with more or less vacuum.

The EGR valve (60) fastened to exhaust manifold opens and permits a given quantity of exhaust gases to flow back into intake manifold through recirculating line.

EGR is activated:

Above  $50^\circ\text{C}$  coolant temperature.  
In middle and upper partial load range.

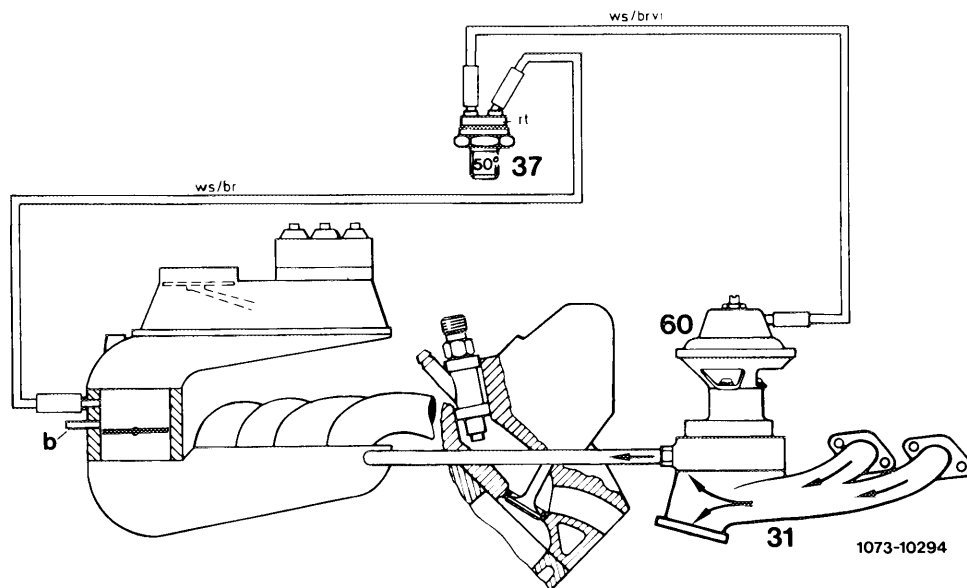
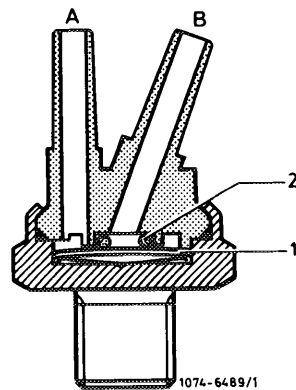
No exhaust gas will be recirculated at idle, during decel operation and in lower partial load range. At full load, the vacuum will also not be able to keep the EGR valve open.

Below 50 °C coolant temperature the bimetallic plate rests against O-ring and closes connection "B".

As from 50 °C coolant temperature the bimetallic plate will snap downwards under influence of heat. Both connections are connected to each other.

The vacuum line to EGR valve must be plugged to connection "A", since this is the only way to guarantee absolute sealing between bimetallic plate and O-ring.

- 1 Bimetallic plate
- 2 O-ring
- A To EGR Valve
- B To throttle valve housing (vacuum side)



- 31 Exhaust manifold
- 37 Thermovalve 50 °C
- 60 EGR valve
- b To ignition distributor

- br = brown
- rt = red
- vi = purple
- ws = white