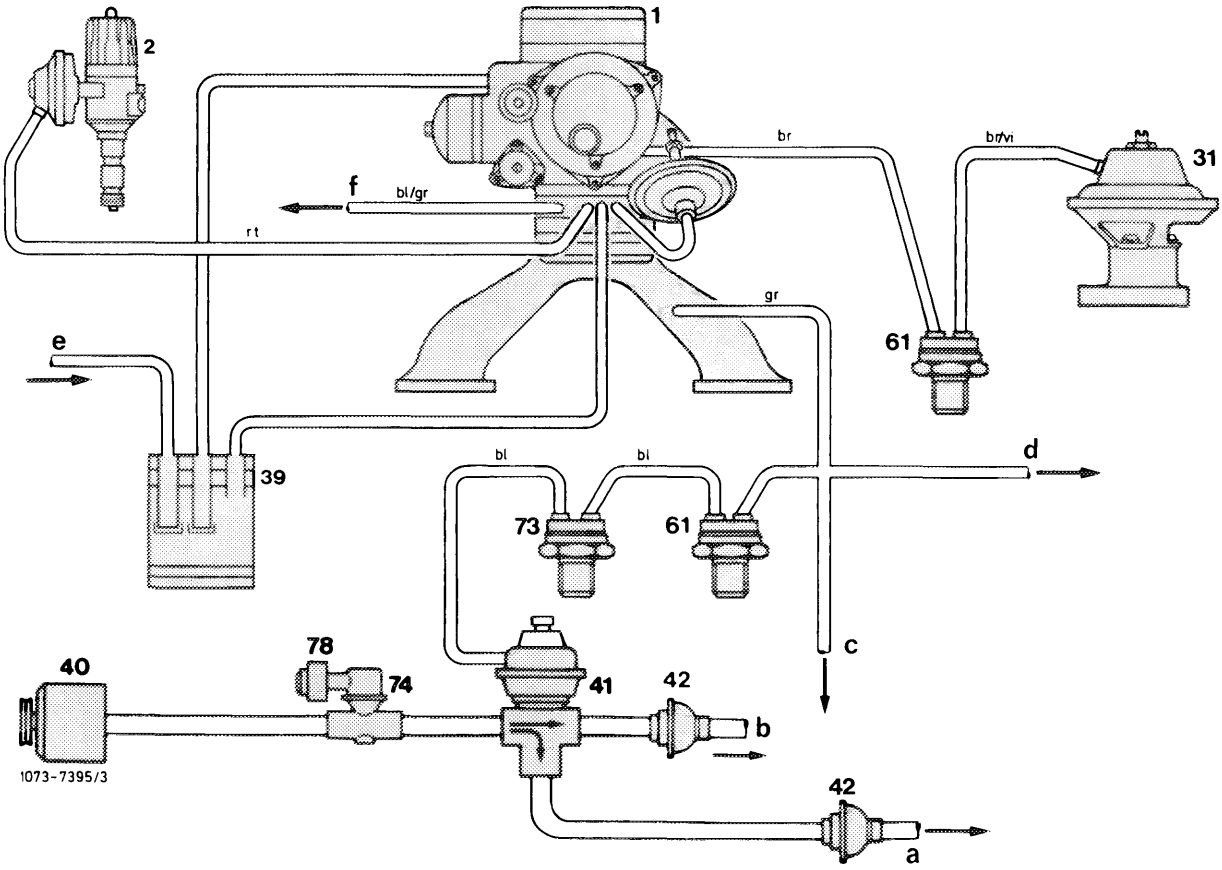
Federal and California version, tourist vehicles model year 1977/78

For complaints such as: Poor warming-up characteristics of engine, poor idle speed, engine not accelerating or splashing during acceleration, check emission control system for function.

Test conditions: Engine at operating temperature, run engine at idle speed.

Test the following: EGR, air injection and fuel evaporation control system.

Function diagram model year 1977

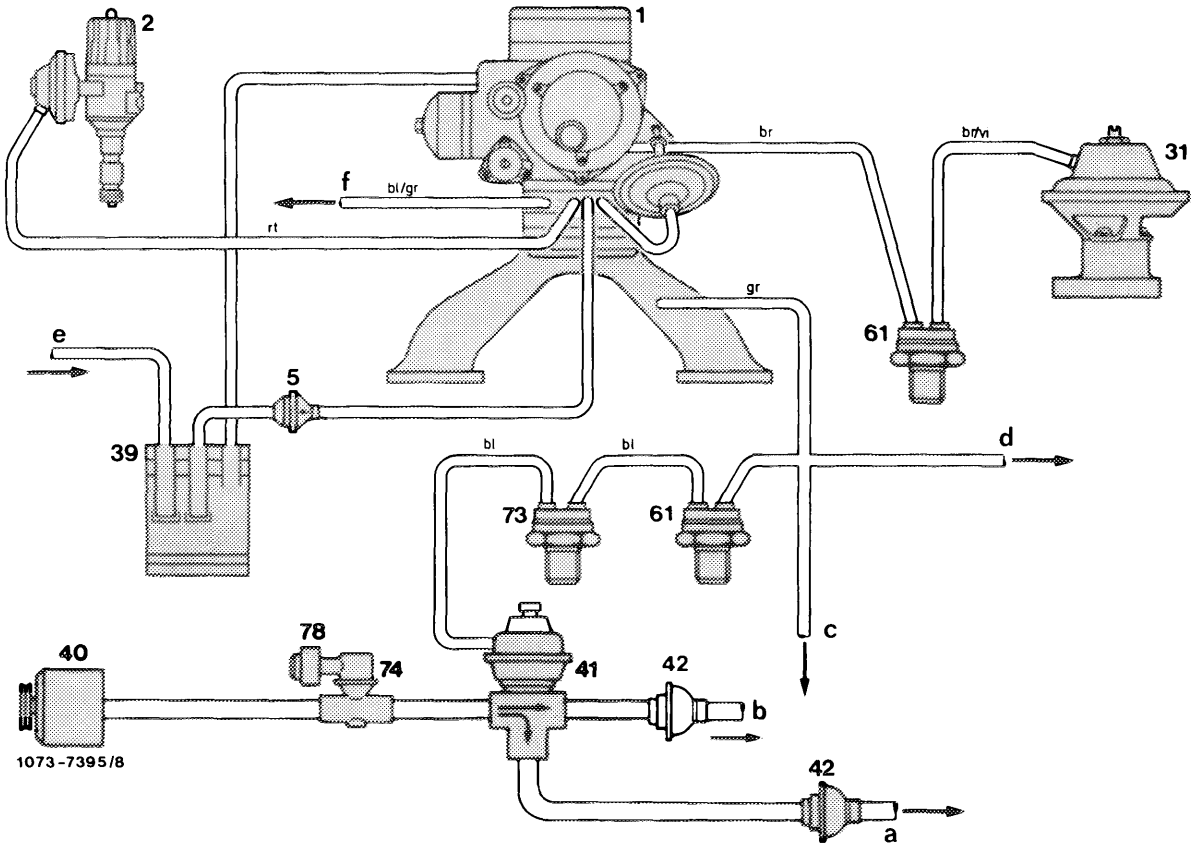


1 Carburetor
2 Ignition distributor
31 EGR valve
39 Charcoal canister
40 Air pump
41 Air switchover valve
42 Check valve
61 Thermovalve 17 °C (blue) at front on engine adjacent to ignition distributor for EGR
61 Thermovalve 17 °C (blue) at rear on engine for air switchover
73 Thermovalve 50 °C
74 Pressure relief valve
78 Air filter for silencing
a To cylinder head
b To catalyst
c Air conditioning system
d Central locking system
e Connection tank vent
f To air filter

bl = blue
br = brown
gr = grey
rt = red
vi = purple

Note: On tourist vehicles connection "b" leads to vehicle floor, where the air filter for silencing is at end of line.

Function diagram model year 1978



1 Carburetor
2 Ignition distributor
5 Regenerating valve
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Note: On tourist vehicles connection "b" leads to vehicle floor, where the air filter for silencing is at end of line.

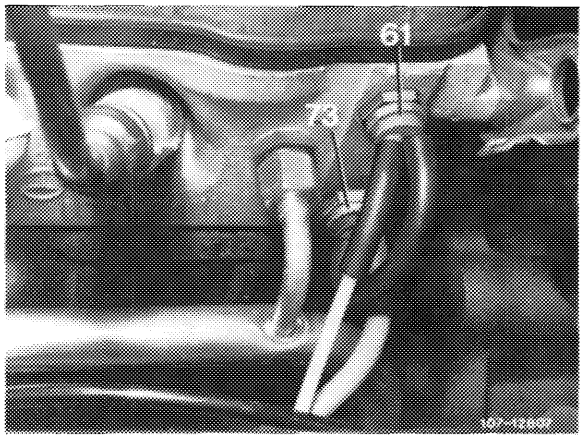
Testing EGR

Pull brown vacuum line from carburetor and grey vacuum line from intake pipe. Then plug brown vacuum line to intake pipe.

Engine runs irregularly or stops.	Engine operation not changing.

Testing vacuum line

Brown vacuum line from carburetor should be plugged to diagonal connection of thermovalve (61) and the brown/purple vacuum line on EGR valve to straight connection of thermovalve. Check vacuum line for leaks and blow through vacuum tapping connection on carburetor.

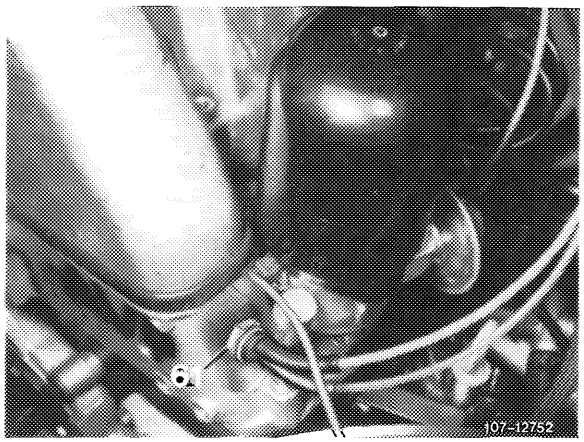


Testing thermovalve (61) at front on engine adjacent to ignition distributor

The thermovalve is identified by blue plastic member and by designation "50 AB 5" punched into metal part.

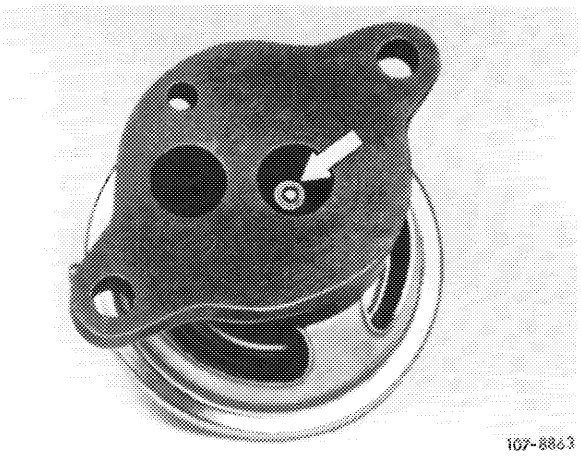
Pull off brown/purple vacuum line. Run engine and accelerate.

Vacuum should be felt on free connection only during acceleration.



Testing EGR valve (31)

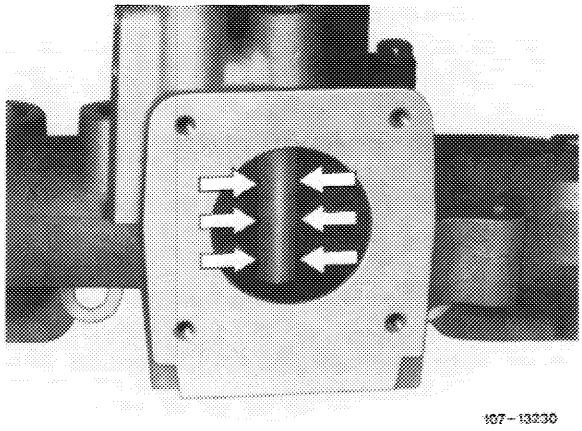
Remove EGR valve. Plug brown/purple vacuum line to removed valve. Run engine and slightly increase idle speed. For this purpose, keep bores in intake pipe closed or cover. Valve cone (arrow) should lift from seat. If not, replace EGR valve.



If engine operation is still not changing:

Clean EGR bores in intake pipe

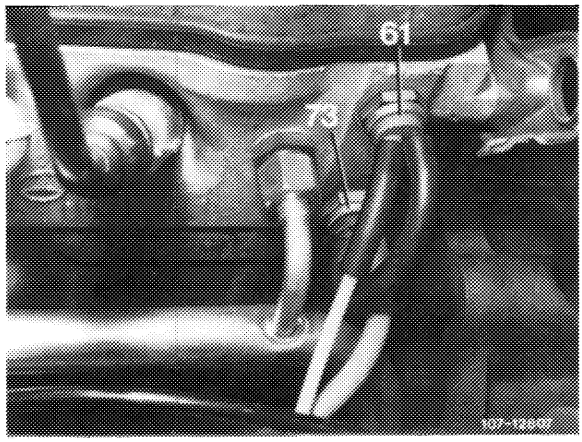
Clean cross bores in distributing pipe from residue and blow out with compressed air.



Testing air injection

Connect CO measuring instrument to exhaust gas backpressure line and read emission value. Change vacuum hose from straight connection of thermovalve (73) to straight connection of thermovalve (61).

Emission value clearly decreasing.	Emission value not decreasing.



Test vacuum lines

The grey vacuum line of intake pipe should be connected to blue vacuum line and diagonal connection of thermovalve (61) by means of a distributor.

Test vacuum

Test on straight connection of thermovalve (61) for vacuum. If vacuum is available, replace air switchover valve (41).

If no vacuum is available:

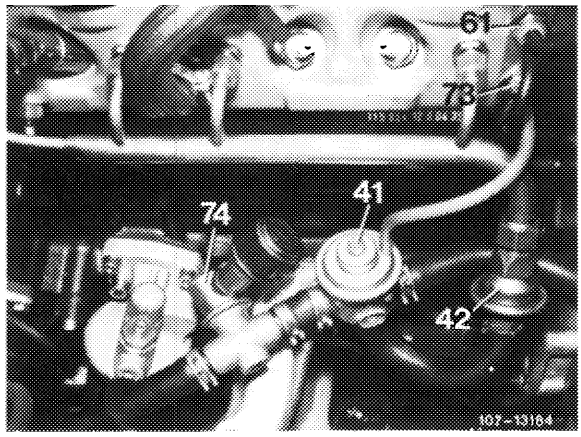
Pull blue vacuum line from thermovalve (61) and check for vacuum.

If no vacuum is available:

Replace thermovalve (61).

If no vacuum is available:

Remove vacuum line to intake pipe and blow out with compressed air.



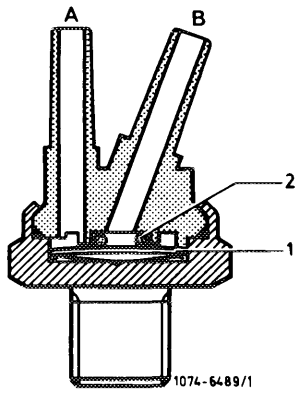
Test thermovalve (73)

If upon completion of these jobs the CO value is still not down, check thermovalve (73) for passage and replace, if required.

Below approx. 50 °C the thermovalve is open, above approx. 50 °C it is closed.

The thermovalve is identified by the black plastic member with a green dot and by the designation "50 AA 13" punched into metal part.

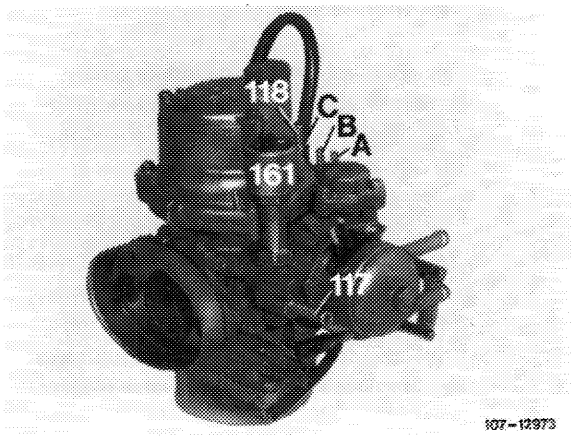
Note: In the course of model year 1978 the thermovalve has been modified for better identification. The plastic member is green, the punched-in designation is "50 AC 13".



Testing fuel evaporation control system

Pull cable plug from solenoid of float chamber positive venting valve (161). Hold solenoid with one hand and reattach cable plug.

Solenoid noticeably switching.	Solenoid not switching.



Testing solenoid

Switch on ignition. Connect test lamp to cable plug. With ignition switched on, the test lamp should light up. If not, check fuse.

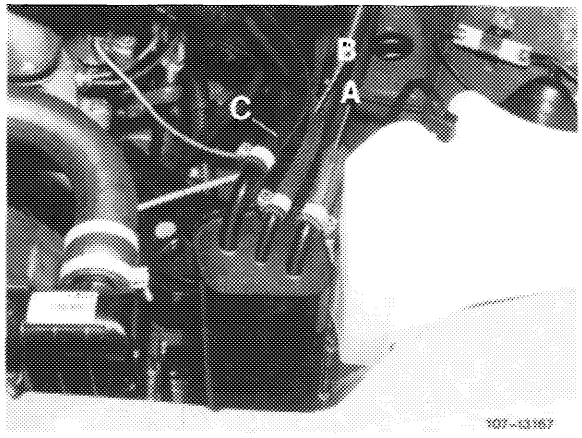
If test lamp lights up and solenoid is not switching, replace float chamber positive vent valve (161).

Testing fuel evaporation control system

Remove draw-off line (connection "B") to carburetor on charcoal canister, keep closed with one finger and connect vacuum gauge.

Slowly increase engine speed to above approx. 2,000/min.

No vacuum at idle. Vacuum increases with increasing speed.	No vacuum increase with increasing speed.

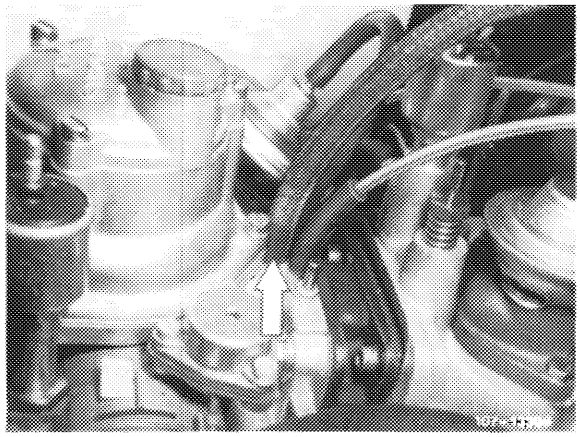


Model year 1977

Test draw-off hose

The draw-off hose should be plugged to carburetor flange (arrow).

Check hose for leaks and blow through connection on carburetor flange.



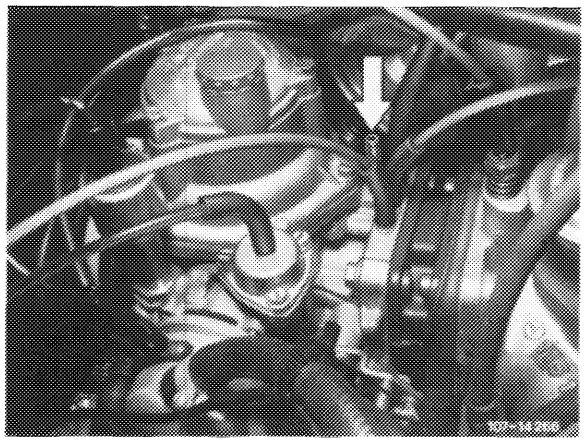
Model year 1978

Test draw-off hose and regenerating valve

The draw-off hose should be plugged to carburetor flange (arrow). Check hose for leaks and blow through connection on carburetor flange.

If there is still no vacuum, pull draw-off hose from regenerating valve and repeat test.

If vacuum is available, replace regenerating valve.



End of test