

07.3—125 Checking choke system

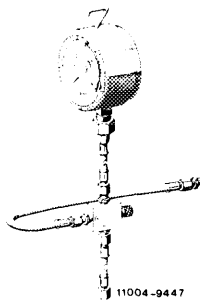
Test values

System pressure at idle with engine cold or at operating temperature		5.0—5.6 bar gauge pressure
Control pressure at idle with engine at operating temperature	Warm-up compensator stabilized	3.4—3.8 bar gauge pressure at 530 mbar ¹⁾
	Full load enrichment at idle (vacuum hose pulled off)	2.8—3.2 bar gauge pressure
Control pressure according to ambient temperature at idle with engine cold		min. 0.5 bar gauge pressure (refer to diagram)
Starting voltage		10 volts

¹⁾ If control pressure is not attained, check intake manifold vacuum (refer to section "Checking control pressure at idle with engine at operating temperature").

Special tool

Pressure measuring device



102 589 00 21 00

Conventional tools

Voltmeter and ohmmeter

Revolution counter

Checking

1 Pull off cable plug on warm-up compensator and on cold starting valve.

2 Starting voltage

Check voltmeter while paying attention to polarity on battery.

Pull cable 4 from ignition coil. Actuate starter for a short moment while reading voltage. Nominal value 10 Volts. If the nominal value is not attained, check battery, charge or renew, if required.

3 Check air flow sensor plate and control piston for easy operation, fuel pressures and for internal leaks, as well as breakaway time of warm-up compensator (07.3–120).

Checking cold-starting valve for function and leaks

5 Remove cold-starting valve (98) with fuel line connected.

6 Hold cold-starting valve into a container.

Checking function

7 Switch-on ignition.

8 Connect cold-starting valve with separate cable to B+ and ground. Cold-starting valve should eject in cone shape.

Attention!

Connect cable first to cold-starting valve to avoid sparking.

No separate cable is required below + 15° C, attach cable plug instead and pull cable plug from safety switch.

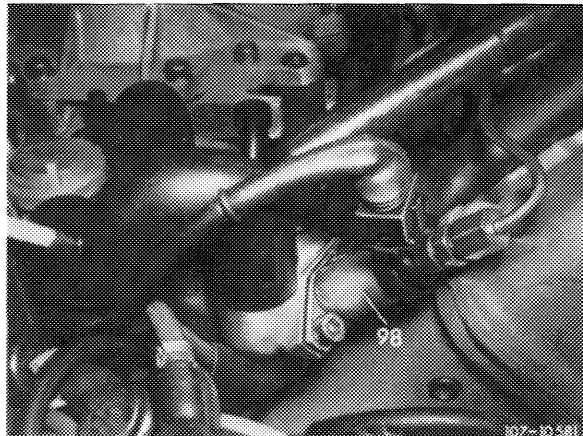
Checking for leaks

9 Loosen separate cable connection on cold-starting valve. Dry cold-starting valve at nozzle. No drops should show up.

10 Switch-off ignition.

11 Mount cold-starting valve with new seal.

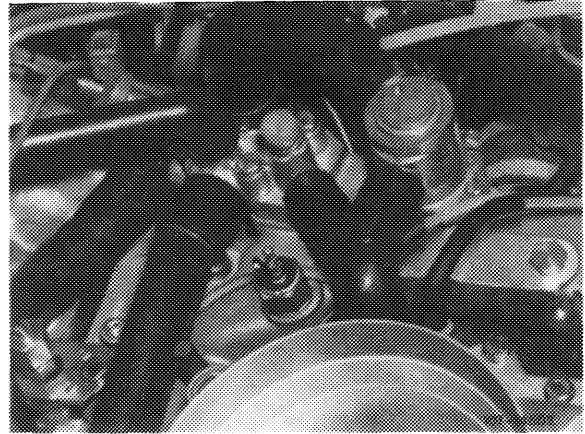
12 Return cable plug to safety switch and cold-starting valve.



Checking thermo-time switch

The cold-starting valve is actuated only at coolant temperatures below $+15^{\circ}\text{C}$ by means of closed thermotime switch.

The actuating time increases with decreasing temperature and attains approx. 12 seconds at -20°C .



Testing below $+15^{\circ}\text{C}$ coolant temperature

13 Connect voltmeter to connection of cold-starting valve.

14 Actuate starter. Voltmeter should then indicate 10 Volts for a given time, depending on coolant temperature.

The switching time increases with decreasing temperature by approx. 1.5 seconds per 5°C .

e. g. $+15^{\circ} = 0$ seconds
 $+10^{\circ} = 1.5$ seconds

During this test, it is recommended to check thermo-time switch also with an ohmmeter.

Test value **below** $+15^{\circ}\text{C}$:

Connection G-ground = approx. $48\ \Omega$

Connection W-ground = approx. $0\ \Omega$

(Contacts in switch closed).

Test above $+15^{\circ}\text{C}$ coolant temperature

Above $+15^{\circ}\text{C}$ coolant temperature, the thermo-time switch can be tested with an ohmmeter only. For this purpose, pull plug from thermo-time switch.

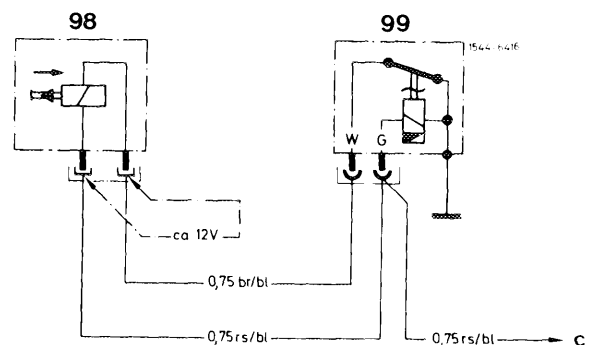
Test value **above** $+15^{\circ}\text{C}$:

Connection G-ground = approx. $62\ \Omega$

Connection W-ground = approx. $270\ \Omega$

(Contacts in switch opened).

Put back plug.



98 Cold starting valve
99 Thermo time switch
C To terminal 50

Checking switch-off point of supplementary air valve

19 The engine speed should be 800–1000/min immediately upon cold start. The speed will then increase to approx. 1200–1300/min and will return to normal idling speed at approx. 70 °C coolant temperature.

20 Connect fuel lines, run engine once again and check all fuel connections for leaks.