

## 07.3–125 Checking choke system

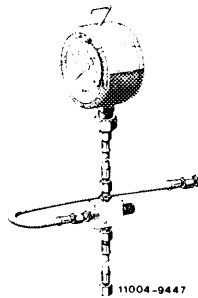
### Test values in bar gauge pressure

Engine		110.984/985 110.986/987	110.988/989 110.990
System pressure at idle with engine cold or at operating temperature		5.0–5.6	
Control pressure at idle with engine at operating temperature	Warm-up compensator stabilized	3.4–3.8 at 530 mbar <sup>1)</sup>	3.6–4.0
	Full load enrichment at idle (vacuum hose pulled of)	2.8–3.2	
Control pressure according to ambient temperature at idle with engine cold		min. 0.5 (refer to diagram)	
Starting voltage		10 V	

<sup>1)</sup> If the control pressure is not attained, check intake manifold vacuum (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

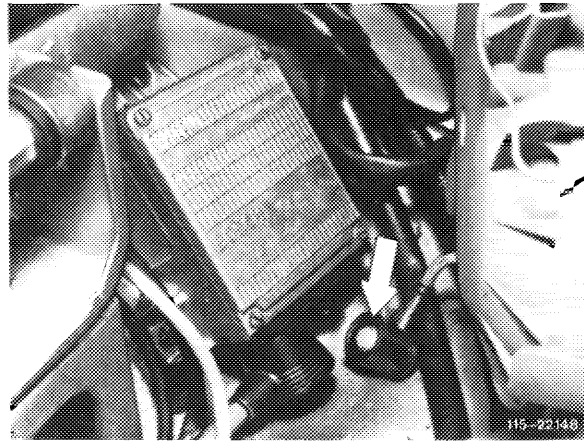
1 Pull cable plug from warm-up compensator and from cold starting valve.

## 2 Checking starting voltage.

Pull plug from ignition transmitter on switching unit (green cable) or plug protective plug, part no. 102 589 02 21 00, on diagnosis socket.

Operate starter for a short moment while reading voltage. Nominal value min. 10 Volts. If nominal value is not attained, test battery, charge or replace, if required.

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

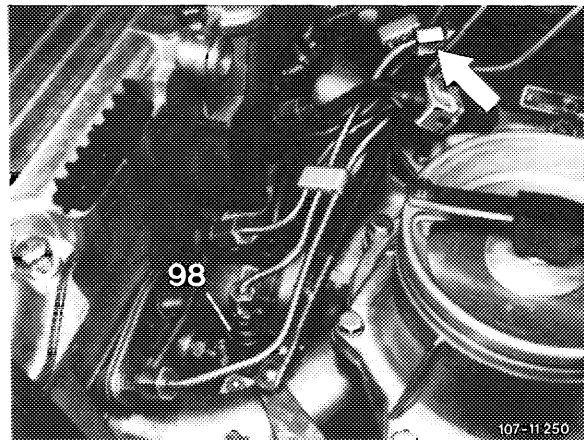


## Checking cold-starting valve for function and leaks

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4 Unscrew fuel line on cold-starting valve (98) and remove cold-starting valve.

5 Loosen fuel line (arrow) on fuel distributor and turn in such a manner that the cold starting valve can be again connected. Then hold cold starting valve into a container.



## Checking function

6 Switch-on ignition.

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

### Attention!

Connect cable first to cold starting valve so that no sparking occurs.

No separate cable need be used below +15 °C, plug-on cable plug instead and pull cable plug from safety switch.

## Checking for leaks

8 Loosen separate cable connection on cold starting valve. Dry cold starting valve on nozzle. No drops should form.

9 Switch off ignition.

10 Mount cold starting valve with new seal.

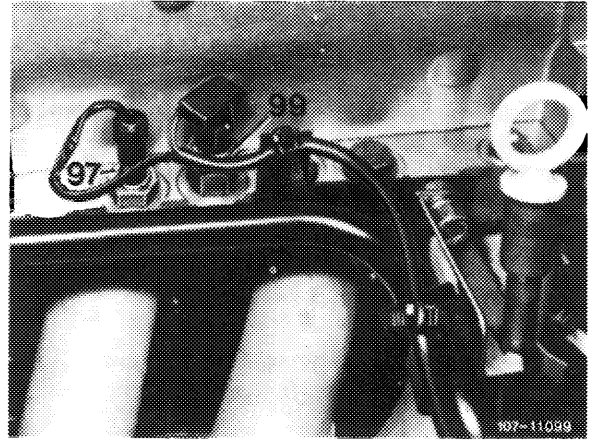
11 Plug cable plug on safety switch and on cold-starting valve again.

## Testing thermo time switch

The cold starting valve is actuated by closed thermo time switch only at coolant temperatures below +15 °C.

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

99 Thermo time switch



## Testing below +15 °C coolant temperature

12 Connect voltmeter to connection of cold starting valve.

13 Actuate starter. Depending on coolant temperature, voltmeter should then indicate 10 Volts for a given period.

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

e.g. + 15 °C = 0 seconds  
+10 °C = 1.5 seconds

It is recommended to test thermo time switch additionally with an ohmmeter for this test.

Test value **below** +15 °C:

Connection G-ground = approx. 48 Ω  
Connection W-ground = approx. 0 Ω

(Contacts in switch closed).

## Testing above +15 °C coolant temperature

Above +15 °C coolant temperature the thermo time switch can be tested only by means of an ohmmeter. For this purpose, pull plug from thermo time switch.

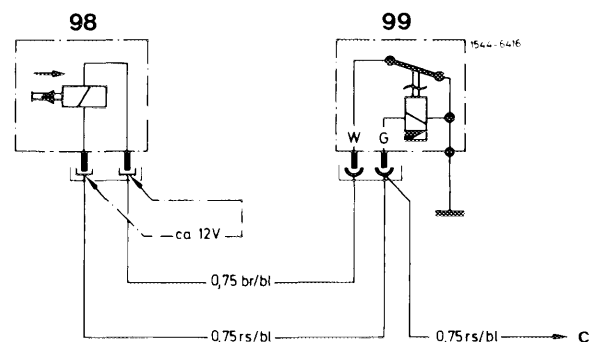
Test values **above** +15 °C:

Connection G-ground = approx. 62 Ω  
Connection W-ground = approx. 270 Ω

(Contacts in switch open).

Re-attach plug.

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



### Testing cutoff point of auxiliary air valve

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14 Following a cold start, the engine speed should amount to approx. 800–1000/min. The speed will then increase to approx. 1200–1300/min, and will drop to normal idle speed at approx. 70 °C.

15 Stop engine. Disconnect pressure measuring device while catching fuel with a rag.

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