07.3–125 Checking choke system

Job No. of flat rates or standard texts and flat rates data 07–2353.

Scope

Checking series resistor of ignition system (TCI 4 prior to September 1981).
Checking fuel pressures and stabilizing time of warm-up compensator (07.3–120, section "Checking control pressure in idle when engine cold").
Checking cold start valve for function and leaks.
Checking thermo time switch.
Checking auxiliary air valve.

Test values in bar gauge pressure

Engine		116.960/961 117.960/961	116.962/963 116.963 NV KAT (closed-loop) 117.962/963
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[1])	3.4–3.8 intake manifold vacuum independent
	Full load enrichment at idle (vacuum hose pulled off)	2.6–3.0	–
	Full load enrichment with engine stopped	–	2.6–3.0
	Acceleration enrichment at idle (both vacuum hoses pulled off)		
Control pressure according to ambient temperature at idle with engine cold		min. 0.5 (refer to diagram)	

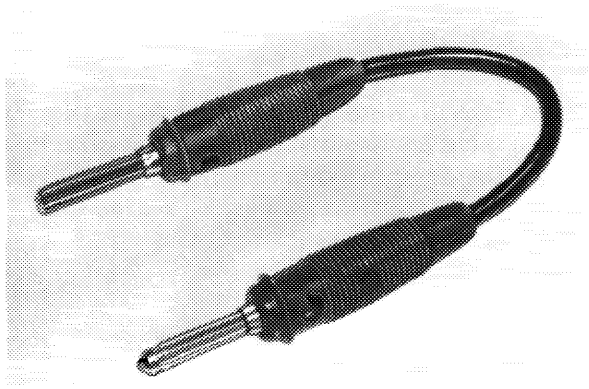
[1]) If the control pressure is not attained, check intake manifold vacuum (section "Checking control pressure at idle with engine at operating temperature" 07.3–120).

Transistorized ignition system TCI 4 (prior to September 1981[1])

Series resistor bridge (while starting)	10 Volts

[1]) Starting September 1981 TCI 8z without series resistors.

Shop-made tool



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Checking

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

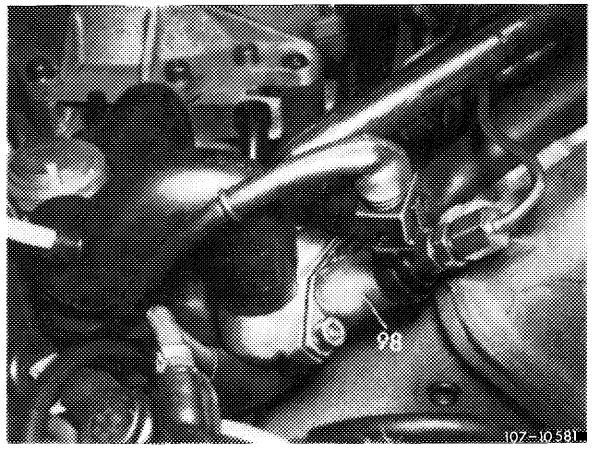
2 Check series resistor bridge. For this purpose, connect positive cable of voltmeter to series resistor 0.4 Ω at output end. Start engine and read voltage during starting procedure. Nominal value 10 Volts.

If the nominal values are not attained, test ignition system (15–562).

Checking cold start valve for function and leaks

3 Remove cold start valve (98) with fuel line connected.

4 Hold cold start valve into a container.



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Checking for function

5 Switch on ignition.

6 Connect cold start valve to B + and ground with separate cable. Spray pattern of cold start valve should be cone-shaped.

Attention!
Connect cable first to cold start valve to prevent sparking.

No separate cable is required below + 15 °C, plug on cable plug instead and operate starter.

Checking for leaks

7 Loosen separate cable connection on cold start valve. Dry cold start valve on nozzle. No drop should be building up.

8 Switch off ignition.

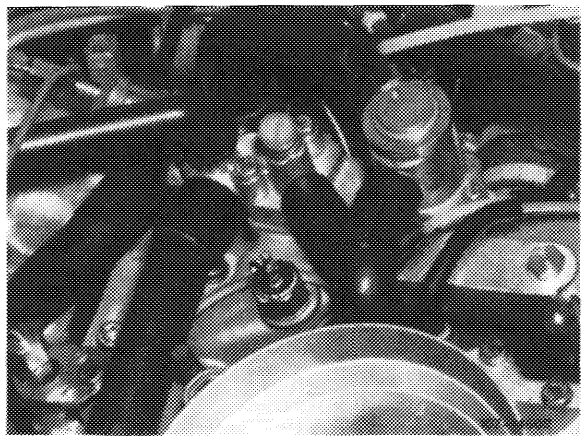
9 Mount cold start valve with new seal.

10 Plug cable plug back again onto cold start valve.

Checking thermo time switch

Cold start valve is operated only at coolant temperatures below + 15 °C by means of closed thermo time switch.

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



Checking below + 15 °C coolant temperature

11 Connect voltmeter to connection of cold start valve.

12 Actuate starter. Voltmeter should then indicate 10 volts for a definite period depending on coolant temperature.

The switching period increases by approx. 1.5 seconds per 5 °C under influence of decreasing temperature.

e.g. + 15 ° = 0 second
+ 15 ° = 1.5 seconds

During this test, an additional checkup of thermo time switch (99) with an ohmmeter is recommended.

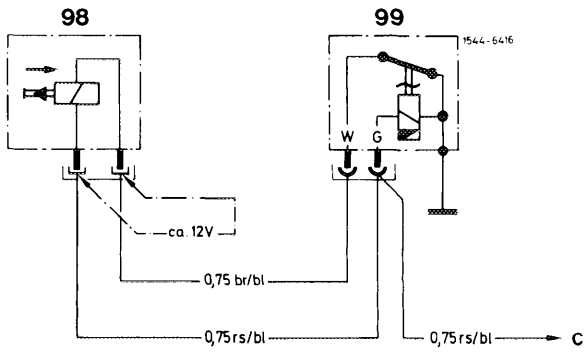
Test value **below** +15 °C:
Connection G-ground = approx. 48
Connection W-ground = approx. 0
(contacts in switch closed).

Testing above +15 °C coolant temperature

Above +15 °C coolant temperature the thermo time switch (99) can be tested with an ohmmeter only. For this purpose, pull plug from thermo time switch.

Test value **above** +15 °C:
Connection G-ground = approx. 62
Connection W-ground = approx. 270
(contacts in switch open).

Put back plug on thermo time switch.



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

Checking cutout point of auxiliary air valve

13 Following a cold start, the engine speed should amount to approx. 800–1000/min. Speed will subsequently increase to approx. 1200–1300/min and drop again to normal idle speed at approx. 70 °C coolant temperature.

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

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