Alustatunnus
B10M 41051

Polku
2500/Diagnostics//Boost pressure, test

Malli
B10M

Tunniste
75698775

Julkaisupäivämäärä
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Tunnus/Käyttö
25003-3

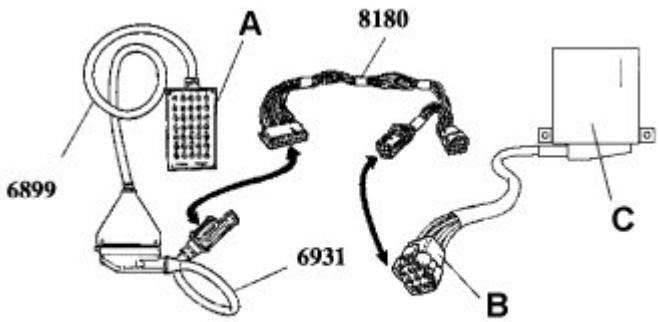
25003-3 Boost pressure, test

Low charging pressure and fuel system malfunction can cause the following symptoms: low start torque, low full speed output and smoky exhaust gases.

THD 103/104

Special tools: 9996899, 9996931, 9998180, 9510060

1



A	Test box
B	Nine-unit test socket
C	EDC control unit

The charging pressure is checked in two stages: on a switched-off engine; and on an engine while driving. The voltage measured corresponds to a measurement in kPa.

Wiring is as shown in the fig.

Measuring is between both measuring points on test box 9996899.

As an alternative, measuring can be done directly by plugging into the nine-unit test socket. See Nine-unit test socket.

Special tools: 9996899

Measuring on a switched-off engine

1

Nine-unit test socket

This type of measuring is done to ensure that the charging pressure sensor gives a measurement that with a fault-free charging pressure sensor agrees with the should value (refer to) and also that we have a reference voltage which corresponds to the voltage fed to the charging pressure sensor from the control unit.

Measuring is done as follows with the engine switched off and the starting key in the drive position:

Measuring on the test box (9996899)

measuring points 1-4, reference voltage
measuring points 3-4, charging pressure (voltage)

alternative measuring, by directly plugging into the test socket.

pin 1 and earth, reference voltage
pin 3 and earth, charging pressure (voltage)

Compare with the should values in for the resp. engine.

Special tools: 9996899

Correction of values measured

2

Unorm =	Measured voltage, charging pressure	x	5 / Measured reference voltage
If the measuring is done at a temperature other than +20°C, the Unorm must be adjusted according to the table, see overleaf.			

In order to be able to compare the voltage measured for max. charging pressure with the voltage given in for the respective engine, the value must be corrected in relation to reference voltage that can vary. This new value we call the Unorm value.

If the measuring is done at an ambient temperature other than 20°C, the measured value must be accordingly adjusted (refer to table overleaf).

The rectified voltage is then compared with the voltage given in for the charging pressure in question.

Measuring on the engine during driving

3

The engine must be at full load during the driving in order to reach max. turbo pressure.

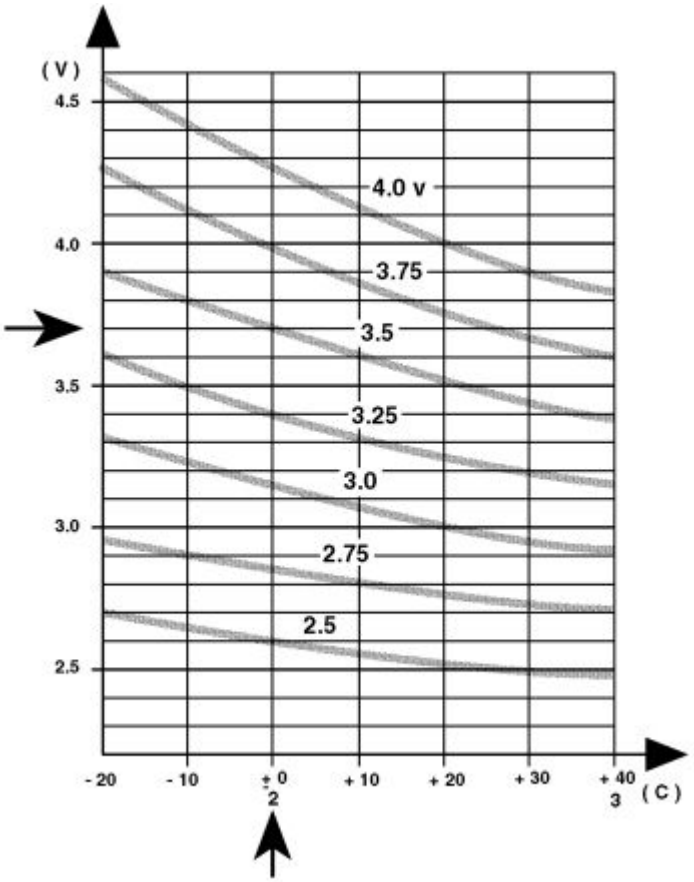
Measuring is done in the same way and between the same pins as Measuring on a switched-off engine.

If the charging pressure is low, check:

possible damage to the turbo-compressor
fuel filters, fuel feed pressure
charging pressure sensor
control rod travel, injection pump (refer to 23673-4 Injection pump, check on test bench and 23673-4 Injection pump, check on test bench).

Example

4



The turbo pressure voltage is measured at 3.7 V at an ambient temperature of 0°C.

Go in on the vertical axis on the diagram to 3.7 V.
Follow the horizontal axis up to where it intersects the vertical axis for ambient temperature (0°C).
The rectified voltage is read-off on the respective curve on the diagram. In our example 3.5 V, which corresponds to the voltage at 20°C.