

Checking components

Checking coolant temperature sender

Special tools, workshop equipment, testers, measuring instruments and auxiliary items required

- ☐ Fault reader V.A.G 1551 or vehicle system tester V.A.G 1552 with cable V.A.G 1551/3
- ☐ Test box V.A.G 1598/31
- ☐ Hand multimeter V.A.G 1526 or multimeter V.A.G 1715
- ☐ Adapter set V.A.G 1594
- ☐ Current flow diagram

Test conditions

- Engine must be cold.

Test sequence

- Connect the fault reader V.A.G 1551 (V.A.G 1552). Then switch ignition on and select engine control unit with the "Address word" 01.
(Connecting fault reader and selecting engine control unit => Page [01-12.](#))

→ Indicated on display:

Rapid data transfer HELP Select function XX

- Press keys 0 and 8 for the function "Read measured value block" and confirm entry with Q key.

→ Indicated on display:

Read measured value block HELP Input display group number XX
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- Press keys 0, 0 and 4 for "Display group number 4" and confirm entry with Q key.

→ Indicated on display:
(1...4 = Display zones)

Read measured value block 4 <input type="checkbox"/> 1 2 3 4

- Read off coolant temperature value in display zone 3.
Specification: approx. coolant temperature

If 30 °C or 49.5 °C is displayed:

- Check resistance values =>Page [24-60](#)
- Start engine and run at idling speed.
The temperature value must increase uniformly

Note:

The display on the fault reader is graduated in 1.5 °C increments.

If the engine control unit recognises a fault

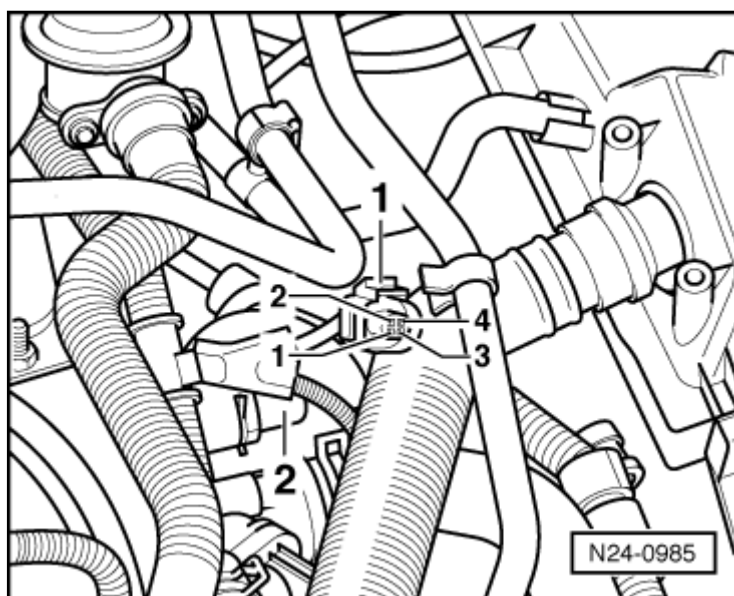
from the coolant temperature sender (G62) with "ignition on" two fixed replacement values (30 °C or 49.5 °C) dependent on the intake air temperature (below or above approx. 20 °C) are displayed. A model sequence set in the control unit (continual rise in temperature in specific increments) is used to start. The temperature display on the fault reader therefore rises even though the connector G62 is disconnected.

If the figure does not increase uniformly:

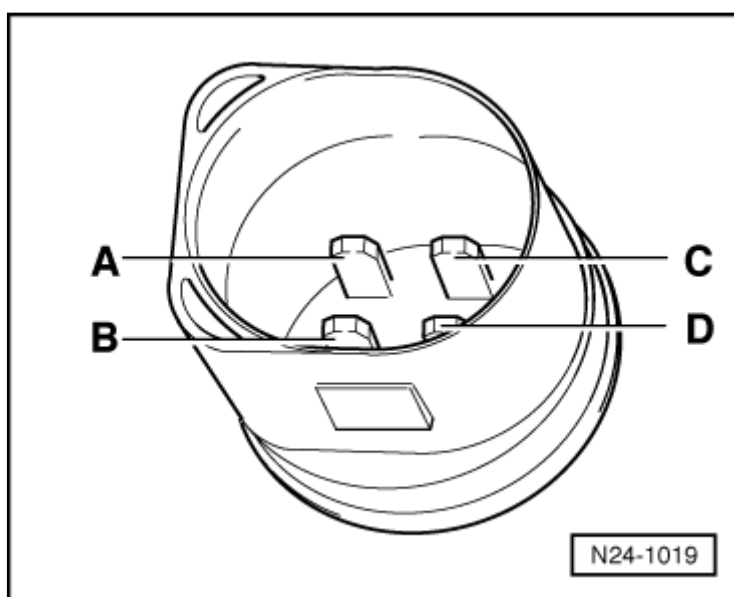
- Press ☐ key.
- Press keys 0 and 6 for the function "End output" and confirm entry with the Q key.
- Switch off ignition.

Checking resistance of temperature sender

- → Pull 4 pin connector -1- off coolant temperature sender (G62) -2-.



- → Perform resistance measurement on coolant temperature sender (G62) contact C (signal) and D (earth).



→ Scale A shows resistance values for temperature range 0...50 °C and scale B

the values for temperature range 50...100 °C.

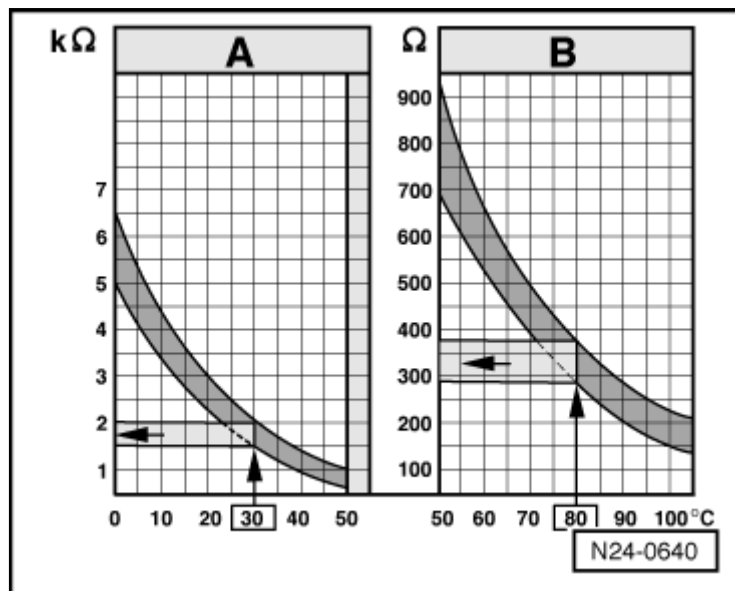
Examples:

- 30 °C is in range A and corresponds to a resistance of 1.5...2.0 kΩ
- 80 °C is in range B and corresponds to a resistance of 275...375 Ω

If the specification is not obtained:

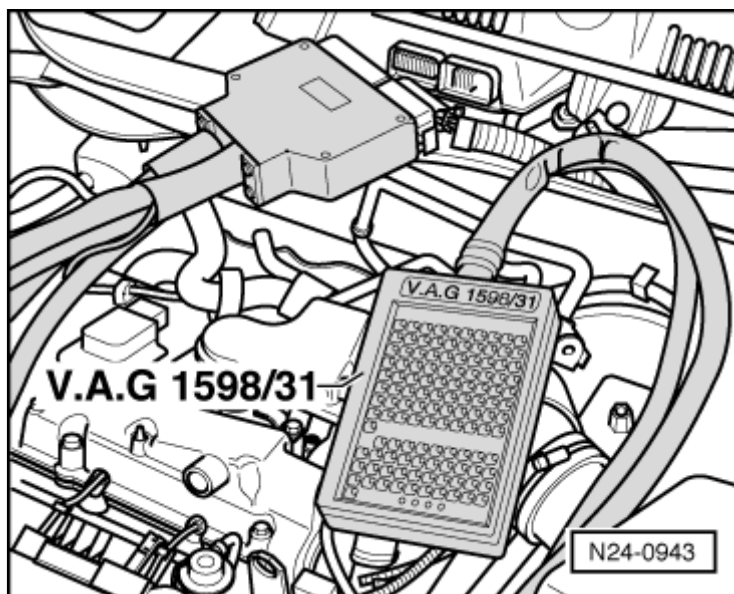
- Renew coolant temperature sender (G62).

If the specification is obtained:

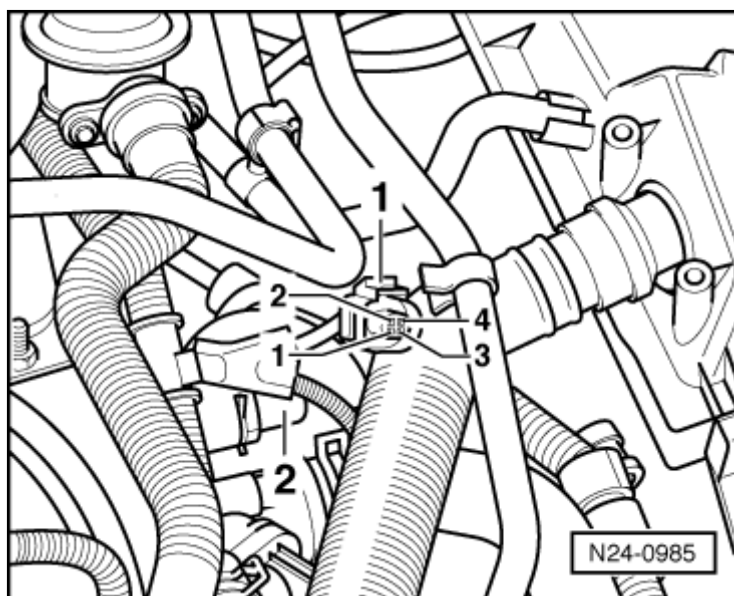


Checking wiring

- → Connect test box V.A.G 1598/31 to control unit wiring harness. The engine control unit remains disconnected.



- → Check wiring between test box socket and 4-pin connector for open circuit using current flow diagram.
 - Contact 4 and test box socket 83
 - Contact 3 and test box socket 104
 - Wire resistance: max. 1.5 Ω
- Check wires for short to one another and to vehicle earth.
 - Test box socket 83 and test box socket 104
 - Test box socket 104 and vehicle earth
 - Specification: ∞Ω
- Additionally check both wires for short to battery positive.



Note:

When servicing connectors only gold-plated contacts are to be used.

If there is no fault in the wiring and the resistance measurement values are OK.:

- Renew engine control unit => Page [24-120](#).