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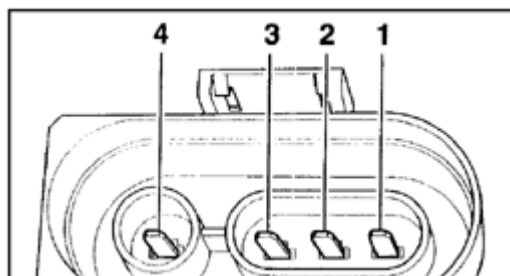
Heated Oxygen Sensor (HO2S) before Three Way Catalytic Converter (TWC), checking

Heated oxygen sensor, checking

Notes:

- ◆ G39 = Heated Oxygen Sensor (HO2S), bank 1
- ◆ G108 = Heated Oxygen Sensor (HO2S) 2, bank 2
- ◆ Functional check of HO2S -G39- or -G108- ⇒ Repair Group 01, Read measuring value block, display group 010 or 041

- Disconnect Heated Oxygen Sensors (HO2S) - G39- or -G108- harness connector (component locations ⇒ [page 24-1](#)).



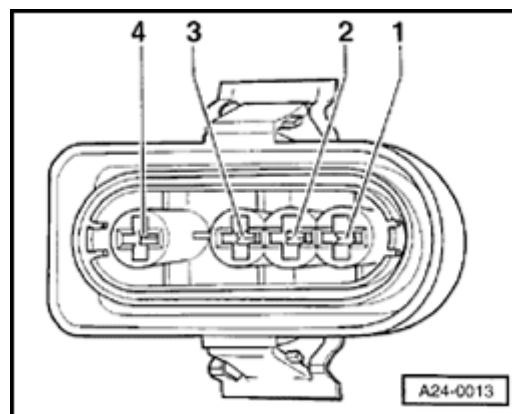
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- Switch multimeter (Fluke 83 or equivalent) to measure resistance (Ω) and check for continuity between terminal 4 oxygen sensor signal wire (measured at oxygen sensor connector) and engine Ground (GND).

If continuity is not obtained:

- Replace heated oxygen sensor.

If continuity obtained:



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- Switch multimeter to 2 volt range and connect between terminal 4 on harness connector and engine Ground (GND).

- Switch ignition ON.

Specified value: 400 ± 50 mV

If the specified value is not obtained, check wiring to ECM as follows:

- Switch ignition OFF.
- Connect VAG 1598/19 test box to ECM harness connector \Rightarrow [page 01-255](#) .
- Check wiring for continuity between terminal 4 (HO2S -G39-) and terminal 20 on ECM connector A.

Specified value: max. 1 Ω

- Check wiring for continuity between terminal 4 (HO2S 2 -G108-) and terminal 21 on ECM connector A.

Specified value: max. 1 Ω

If the specified value is not obtained:



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- Eliminate short or open circuit in wiring using wiring diagram.

If wiring OK:

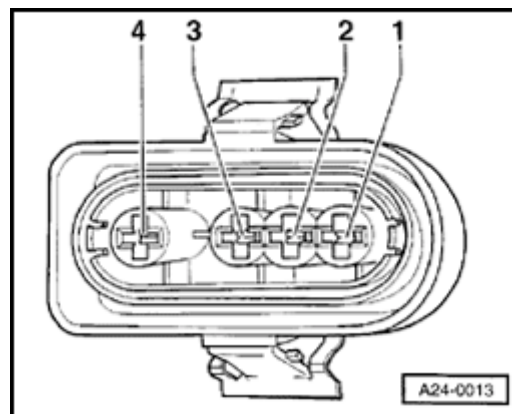
- Replace ECM ⇒ [page 01-265](#) .

Oxygen sensor heater, checking

Notes:

- ◆ Z19 = Oxygen Sensor (O2S) heater, bank 1
- ◆ Z28 = Oxygen Sensor (O2S) heater, bank 2
- ◆ For functional check of O2S heaters -Z19- or -Z28- ⇒ Repair Group 01, Read measuring value block, display group 040

- Disconnect O2S heater connector -Z19- or -Z28- (component locations ⇒ [page 24-1](#)).



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- Switch multimeter (Fluke 83 or equivalent) to measure voltage and connect between terminals 1 (B+) and 2 (GND).
- Start engine and let idle.
Specified value: approx. 12 to 14 volts

If the specified value is not obtained:

- Check oxygen sensor heater fuse.
- Check fuel pump relay ⇒ [page 24-24](#) .



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- Check wiring for continuity between terminal 1 and fuse in fuse holder using wiring diagram (if necessary check terminal assignments).

Specified value: max. 1 Ω

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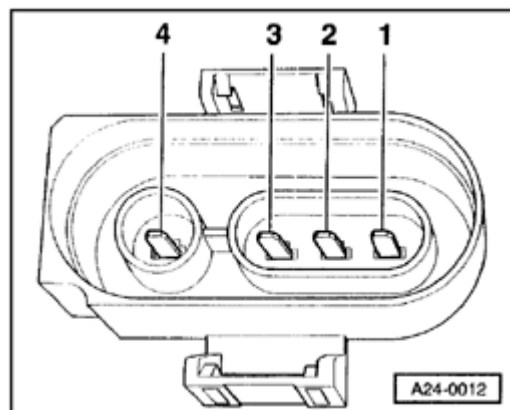
- Check wiring for continuity between terminal 2 (O2S heater -Z19-) and terminal 10 on ECM connector E.

Specified value: max. 1 Ω

- Check wiring for continuity between terminal 2 (O2S heater -Z28-) and terminal 9 on ECM connector E.

Specified value: max. 1 Ω

If the specified value is obtained:



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- Switch multimeter (Fluke 83 or equivalent) to measure resistance (Ω) and connect between terminals 1 and 2.

Specified value at room temperature: approx. 2 to 5 Ω

Note:

With small increases in temperature, resistance will increase sharply.

If the specified value is not obtained:

- Replace heated oxygen sensor.