P2254

Oxygen Sensor Ahead of Catalytic Converter, Bank 2 – Virtual Ground Line – Open Circuit

Diagnostic conditions

- Battery voltage between 10 V and 16 V
- Time after the engine is started longer than 10 seconds

Possible cause of fault

- Open circuit in virtual ground line
- Oxygen sensor faulty (open circuit)
- DME control module faulty

Affected terminals

DME control module connector A, pin 12, and oxygen sensor connector ahead of TWC, bank 2, pin 5

Diagnosis/troubleshooting

Note!

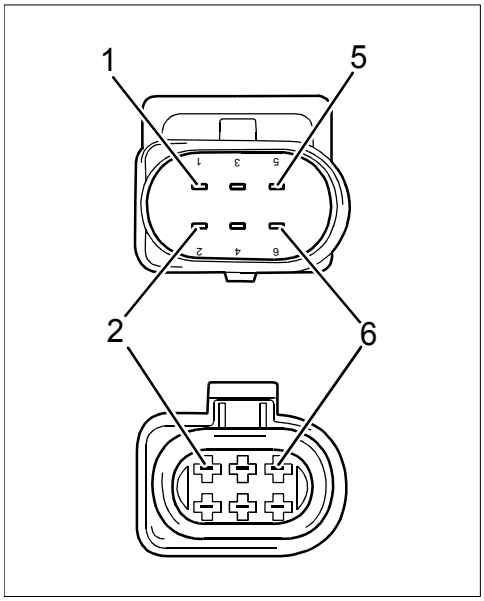
Do not use contact spray on the oxygen sensor plug connections as this may cause irreparable damage to the wiring (contamination of the oxygen sensor via the reference air channel).

Note!

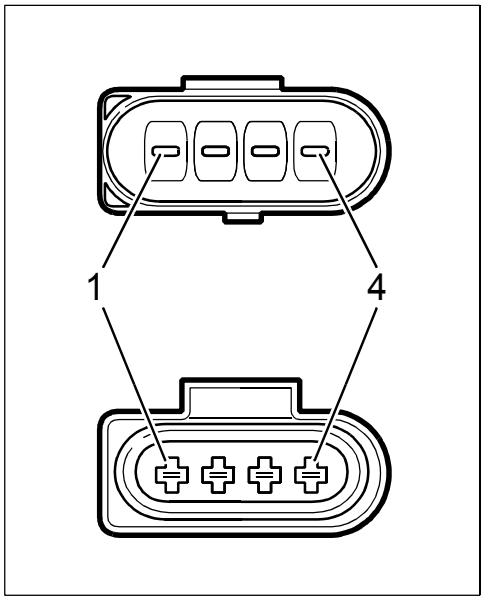
Do not confuse oxygen sensor ahead of catalytic converter and oxygen sensor behind catalytic converter as this will cause implausible fault entries.

Distinguishing feature of both sensors:

Oxygen sensor in front of catalytic converter (LSU) has a six-pin connector ►



Oxygen sensor behind catalytic converter (LSF) has a four-pin connector ►



Note!

If connector A is disconnected from the DME control module and the ignition is or was switched on, the 'DME Control Module TIME-OUT' fault is recorded in many control modules.

Note!

If control module connector A was disconnected from the DME in the course of troubleshooting or if the voltage supply was interrupted elsewhere (battery, fuse), the throttle adjusting unit must be adapted!

Work instruction			Display OK	If not OK
1	Check supply voltage	♦ Disconnect oxygen sensor plug connection ahead of TWC, bank 2 ♦ Visual inspection ♦ Ignition on ♦ Check voltage between oxygen sensor connector towards DME, pin 1, and pin 5 ♦ Ignition off	Approx. 450 mV ⇒ Step 2	⇒ Step 2
2	Check line between oxygen sensor and DME control module for continuity	♦ Remove connector A from DME control module ♦ Visual inspection ♦ Measure resistance between DME control module connector A, pin 12, and pin 5 of oxygen sensor connector towards control module	< 2 Ω ⇒ Step 3	Repair wire and correct the cause of the fault if necessary → End
3	Replace oxygen sensor		→ End	⇒ Step 5
4	Check whether additional faults have been recorded		⇒ Step 5	Work through faults in accordance with instructions → End
5	Replace DME control module		Observe the notes on possible causes of faults in the introduction at all times!	

Work instruction			Display OK	If not OK
1	Check supply voltage	♦ Disconnect oxygen sensor plug connection ahead of TWC, bank 2 ♦ Visual inspection ♦ Ignition on ♦ Measure voltage between pins 1 and 5 of the oxygen sensor connector ♦ Ignition off	Approx. 450 mV ⇒ Step 2	⇒ Step 3
2	Check line between DME control module and oxygen sensor for continuity	♦ Pull off plug A from DME control module ♦ Visual inspection ♦ Measure resistance between DME control module connector A, pin 12, and pin 5 of oxygen sensor connector towards control module	< 2 Ω ⇒ Step 4	Repair wire and correct the cause of the fault if necessary → End
3	Check line between DME control module and oxygen sensor for continuity	♦ Pull off plug A from DME control module ♦ Visual inspection ♦ Measure resistance between DME control module connector A, pin 12, and pin 5 of oxygen sensor connector towards control module	< 2 Ω ⇒ Step 5	Repair wire and correct the cause of the fault if necessary → End
4	Replace oxygen sensor		→ End	
5	Check whether additional faults are entered		⇒ Step 6	Work through faults in accordance with instructions → End
6	Replace DME control module		Observe the notes on possible causes of faults in the introduction at all times!	