Date:	March 22, 2021
Order No:	07.16-N-072398
Group:	07.16

SUBJECT: **Instructions for handling fault code P011684 in combination with fault codes for air path, coolant thermostat or coolant water pump.**

Model 906 with engine OM651 and code ZU8 (national version for USA)
MY 2014 – 2016 Mercedes-Benz and Freightliner Sprinter

Model: 2500 and 3500

Symptom: MIL Illuminated.
Fault Code P011684 (Component 'Coolant temperature sensor' has a malfunction. There is a signal below the permissible limit value) is stored in the CDI control unit (N3/33) in combination with fault codes for air path, coolant thermostat or coolant water pump.

Information: Fault codes:

- P010100 Component 'Hot film mass air flow sensor' has a malfunction.
- P02EC00 Diesel intake air flow 'A' control system. High air flow detected.
- P02ECFA Diesel intake air flow 'A' control system. High air flow detected.
- P012800 The coolant temperature is below the coolant thermostat specified temperature.
- P261F71 Component 'Switchable coolant pump' has a malfunction. The actuator is blocked.
- P040209 The flow rate of the exhaust gas recirculation positioner (high pressure) is too high.

Please Note: The fault codes for air path, coolant thermostat or coolant water pump are erroneously set when fault code P011684 is triggered in the CDI control unit (N3/33).

Remedy: Follow diagnostic instructions below for fault code P011684 and ignore the fault codes for air path, coolant thermostat or coolant water pump.

Workshops with Generic Scan-Tool, follow the diagnostic instructions starting on page three of this CV Bulletin.

No action is required for erroneously set fault codes for air path, coolant thermostat or coolant water pump.

Mercedes-Benz and Freightliner Dealerships with Xentry Diagnostics, please follow the Xentry guided test for fault code P011684 (see AD00.00-D-2000-04SD).

No action is required for erroneously set fault codes for air path, coolant thermostat or coolant water pump.

Information: Please refer to XENTRY TIPS or StarTekInfo for the most up-to-date information.

⚠Warning	**Risk of injury**. Skin or eye injuries may result when handling hot or glowing objects.	Wear protective gloves, protective clothing and safety glasses, if necessary.	AS00.00-Z-0002-01A
⚠Warning	**Risk of accident** from vehicle starting off by itself when engine running. **Risk of injury** (bruises and burns) resulting from working on the engine while it is being started or when it is running. Perform engine test run and check engine in area of high-pressure line (**1**) for lea	Secure vehicle to prevent it from starting off by itself. Wear closed and snug-fitting work clothes. Do not touch hot or rotating parts.	AS00.00-Z-0005-01A
⚠Warning	**Risk of injury** to skin and eyes suffering scalding from contact with hot coolantspray. **Risk of poisoning** from swallowing coolant.	Do not open cooling system unless coolant temperature is below 90 °C. Open cap slowly and release the pressure. Do not pour coolant into beverage containers. Wear protective gloves, protective clothing and safety glasses.	AS20.00-Z-0001-01A
⚠Caution	**Risk of injury** caused by scraping or cutting body parts on sharp vehicle parts	Always wear protective gloves when working on or near sharp and non-deburred vehicle parts. Deburr repair panels.	AS00.00-Z-0017-01A

1. Check component B11/17 (Coolant temperature sensor) by means of actual value.

Test procedure

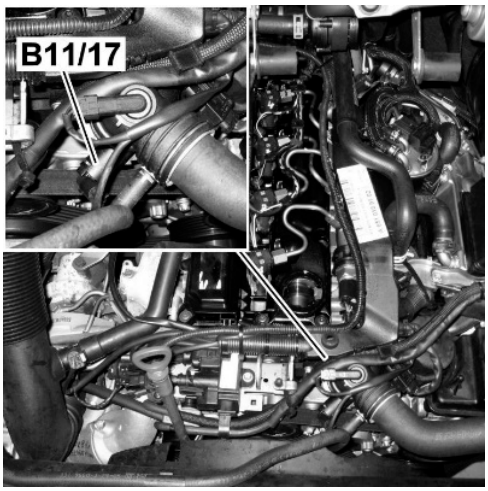
- Connect scan tool to OBD port
- Ignition ON

Status of associated actual values

- Coolant temperature
- Coolant temperature (raw value)
- Engine oil temperature

Specified value

- The actual value must be plausible



Note

- In the event of a fault, the control unit provides a substitute value.
- When the plug-in connector of component 'B11/17 (Coolant temperature sensor)' is disconnected, the value 'Engine oil temperature' is displayed.
- If component 'B40/9 (Engine oil temperature sensor)' is also defective, the actual value is 90°C.
- When the plug-in connector of component 'B11/17 (Coolant temperature sensor)' is disconnected, the value 5.00V is displayed.

Question

Are the actual values OK?

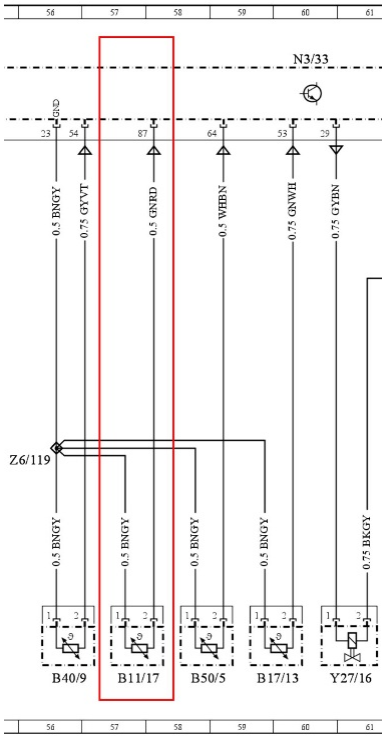
YES: **The actual value is OK**

Note:

- In the event of stored faults with high frequency count or in the event of customer complaints, check electrical lines and connectors for loose contact and corrosion.

End of test

NO: The actual value is not OK



2. Check supply voltage of component B11/17 (coolant temperature sensor)

Legend

B11/17 (Coolant temperature sensor)

N3/33 (CDI control unit)

Z6/119 (Sensor ground connection connector sleeve)

Special Tools

Adapter cable 220 589 00 99 34

Test procedure

- Switch off ignition
- Unplug connector at B11/17
- Connect Adapter Cable to wiring harness of B11/17
- Switch on ignition
- Check Voltage reading between Pin 1 and Pin 2 of wiring harness connector at B11/17 using Digital Multimeter

The specified value must be between 4.75V and 5.25V

If the value is Not OK, check the wiring harness between components B11/17 to control unit N3/33.
If the value is OK, skip to step three.

3. Check resistance of component B11/17

Check Resistance:

- Switch off ignition
- Unplug connector at B11/17
- Connect Adapter Cable to component B11/17
- Check resistance (Ω) between Pin 1 and Pin 2 of B11/17 using Digital Multimeter

Specified values:

Temperature	Resistance in Ω
10°C	4.85kΩ ... 5.00kΩ
20°C	2.94kΩ ... 3.24kΩ
30°C	1.90kΩ ... 2.10kΩ
40°C	1.27kΩ ... 1.40kΩ
50°C	855Ω ... 945Ω
60°C	590Ω ... 650Ω
70°C	420Ω ... 460Ω
80°C	305Ω ... 335Ω
90°C	220Ω ... 240Ω
100°C	160Ω ... 180Ω

If the actual value is OK, check the wiring harness and connectors for loose contact pins and corrosion.

If the actual value is Not OK, replace component B11/17.

In case of additional questions, please contact us using the contact form on StarTekInfo.

https://www.startekinfo.com/help/contact