

P2581

Fault code description

Turbo speed - Voltage too high or short circuit to supply

Possible cause

1. Faulty wiring
2. Faulty connector
3. Faulty sensor

Additional information

Turbo speed monitoring

Set condition of fault code

The PMCI-2 detects a turbo speed above 129,999 rpm for more than 3 seconds.

Reset condition of fault code

This fault code will change to inactive immediately after the diagnostic runs and passes.

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P2581, Diagnostic information

Technical data

["Sensor, turbo speed \(F683\)"](#)

Location of component(s)

["Location information, PMCI-2"](#)

Electrical diagram(s)

["PMCI-2"](#)

Description of component(s)

["Turbo speed sensor \(F683\)"](#)

Block diagram

["PMCI-2"](#)

Step by step troubleshooting



Please perform the troubleshooting steps below using the breakout harness if necessary to check electrical components such as sensors, electrical control units or harnesses. Back probing is not recommended as it could damage the harness. The ignition should always be in the **OFF** position when connecting or disconnecting electrical components to reduce the likelihood of damage to the electrical components.



- This troubleshooting tree is based on the assumption that supply power and earth to the PMCI are functioning properly.
- Disconnecting the PMCI connectors during the troubleshooting process will result in multiple errors.
- For specific electrical component information and pin out locations, always refer to the technical data in Rapido.
- It is necessary to exit the '**active errors**' screen in DAVIE and run the diagnostic test again to identify any change in errors.
- Remember that the truck's operational or mechanical issues may be the root cause of both active and inactive codes. Refer to the 'possible causes' section in Rapido.

Step 1

Visual inspection - Visually inspect all applicable connectors and harnesses for corrosion, damage and rubbing during each step of the diagnostic procedure. Proceed to step 2.

Step 2

With key **OFF**, disconnect the turbo speed sensor. Measure the resistance between the signal and earth pins of the turbo speed sensor.



Resistance values change with temperature

- **If the resistance is acceptable** – Proceed to step 3
- **If the resistance is NOT acceptable** – Replace the sensor and reconnect the harness, then proceed to the verification procedure listed at the end of this document



If the turbo speed sensor is replaced, do not over-tighten the zip tie around the wire harness convolute. Over-tightening can cause wire fretting.

Step 3

With key **OFF**, disconnect the engine harness from the PMCI. Perform a continuity test on all the wires associated with the turbo speed sensor:

- **If the continuity is acceptable** – Proceed to step 4.
- **If the continuity is NOT acceptable** – Replace and reconnect the harness, then proceed to the verification procedure listed at the end of this document.

Step 4

With key **OFF**, inspect the connection pins of the harness, sensor and PMCI:

- **If the pins are acceptable** – Proceed to step 5.
- **If the pins are NOT acceptable** – Replace and reconnect the engine harness. Proceed to the verification procedure listed at the end of this document.

Step 5

With key **OFF**, disconnect the turbo speed sensor and remove it from the turbo. Check for damaged housing or contact with shaft:

- If no damage is found – Proceed to step 6.
- If damage is found – Contact the Engine Support Center for further instructions



If the turbo speed sensor is replaced, do not over-tighten the zip tie around the wire harness convolute. Over-tightening can cause wire fretting.

When removing the turbo speed sensor, ensure that the O-ring is also removed. This will prevent the accidental installation of two O-rings.

Step 6

Possible PMCI failure – Contact the Engine Support Center for further instructions on replacement of the PMCI.

Verification procedure

With DAVIE connected and key **ON**, clear the errors. Start the engine and let it idle to verify with DAVIE that the errors do not re-occur.

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