P170C

Fault code description

NOx sensor before catalyst - Data erratic, intermittent or incorrect, during overrun

Possible cause

1. Faulty NOx sensor (F844)
2. Faulty fuel system
3. NOx sensor deviation

Additional information

The measured engine NOx emissions are compared with the expected engine NOx emissions during coasting (fuel injection cut-off).

The engine NOx emissions are measured by the NOx sensor before catalyst (F844).

Set condition of fault code

The PCI ECU (D420) detects that the measured engine NOx emissions differ too much from the expected engine NOx emissions after 3 seconds during coasting (fuel injection cut-off).

Reset condition of fault code

This fault code changes to inactive when the fault is no longer detected.

To validate the repair, drive the vehicle until the coolant temperature is at least 70°C [158°F]. Once the minimum target temperature has been reached, obtain an engine speed of at least 1800 rpm within the legal speed limit. Once the target rpm has been reached, leave the vehicle in gear, release the accelerator pedal and allow the vehicle to coast for at least 22 seconds until the vehicle downshifts or idles. This test should be conducted four times within the specified operational targets. Be aware of the traffic situation.

For Eaton Ultrashift transmissions and Alison Autoshift transmissions, lock it in manual mode in whatever gear you choose.

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P170C, Diagnostic information

Technical data

"Sensor, NOx before catalyst (F844)"

Location of component(s)

"Location information, PMCI-2"

Electrical diagram(s)

"PMCI-2"

Description of component(s)

"Sensor, NOx before catalyst (F844)"

Block diagram

"PMCI-2"

Step by step troubleshooting

Please perform the troubleshooting steps below by utilising 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 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 a 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 by step 1: Visual Inspection

Troubleshooting steps

Visually inspect the associated component connections and wiring for any of the following:

1. Bent, broken, corroded or loose pins.
2. Moisture or dirt in the connections.
3. Damage to the wire harness or insulation.
4. Damaged or disconnected ECU connections.

Was there evidence of any of the above?

- Yes – Clean, adjust, repair, or replace affected components for any issues identified.

  Use DAVIE to re-check for the presence of active faults. If this fault is no longer active, then this issue has been resolved. If this fault is still active, proceed to step 2.
- No – Proceed to step 2.

Step by step 2: Electrical checks NOx sensor before catalyst (F844)

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the connector of the NOx sensor before catalyst (F844).
3. Measure on the front side of the wiring harness connector of the NOx sensor

before catalyst (F844):

- Connect pin 4 (+probe) with pin 3 (-probe). Switch the ignition ON. The value should be Ubat.
- Connect pin 3 (+probe) with battery negative pole (-probe). Switch the ignition ON and switch on all consumers. The value should be <0.5 V.
- Connect pin 1 (+probe) with pin 2 (-probe). Switch the ignition OFF. Disconnect the ground cable from the battery. Disconnect the vehicle communication interface (VCI) of DAVIE. The value should be ± 60 Ω.

Are the measured electrical values outside of the expected range or limits?

- Yes – There may be a problem with the wiring harness. Troubleshoot the wiring harness or contact the Engine Support Center (ESC).
- No – Proceed to step 3.

Step by step 3: NOx sensor before catalyst installation

Troubleshooting steps

1. Check whether the NOx sensor before catalyst is broken or incorrectly installed.

Is the NOx sensor before catalyst broken or incorrectly installed?

- Yes – Replace the identified component or install it correctly. Proceed to step 4.
- No – Proceed to step 5.

Step by step 4: Validate repair

Troubleshooting steps

1. Use DAVIE to re-check for the presence of active faults.

Is the fault code inactive?

- Yes – Issue resolved.
- No – Proceed to step 5.

Step by step 5: Contact PACCAR Engine Support Center

Contact the PACCAR Engine Support Center
for further assistance.

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