P170B

Fault code description

Lambda - Data valid but too high

Possible cause

1. Faulty lambda sensor
2. Leakage in EGR system
3. Blockage in EGR system
4. Leakage in intake air system
5. Blockage in intake air system
6. Leakage in exhaust system
7. Blockage in exhaust system
8. Failure in fuel system
9. Faulty boost pressure sensor
10. Faulty EGR boost temperature sensor
11. Faulty EGR valve
12. Faulty VTG
13. Incorrect type of fuel used

Additional information

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Set condition of fault code

This diagnostic starts when the coolant temperature is above 122°F (50°C) and it runs continuously.

The PMCI-2 detects a difference between the measured and the calculated air/fuel ratio.

Reset condition of fault code

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

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P170B, Diagnostic information

Technical data

"Sensor, lambda (F834)"

Location of component(s)

"Location information, PMCI-2"

Electrical diagram(s)

"PMCI-2"

Description of component(s)

"Lambda sensor (F834)"

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: Check fault codes

Step 1A: Check for fuel system related fault codes

Troubleshooting steps

1. Use DAVIE to check for any other active or inactive fault codes. One or more faults could have been the cause of this fault.

Are any other fuel system related faults active?

- Yes – Proceed to other related fault codes.
- No – Proceed to step 2A

Step by step 2: Confirm the active Fault

Step 2A: Test drive to confirm this fault

Troubleshooting steps

1. Perform the following pre-check steps to confirm that this fault is still active before continuing with this procedure:
   - Use DAVIE to clear the existing active faults
   - Take the truck for a 30-minute test drive
   - Use DAVIE to re-check for the presence of active faults

Is this fault still active?

- Yes – Proceed to step 3A
- No – Stop troubleshooting. This issue has been resolved.

Step by step 3: Intake Air Checks

Step 3A: Ancillary test: air-side pressure

Troubleshooting steps

1. Refer to the prescribed test procedure to determine if an exhaust leak may be affecting Lambda sensor (F834) performance.

Does the test fail to complete or result in a failed state?

- Yes – Clean or repair any issues found. Refer to Step 6A to perform the corresponding repair verification cycles to confirm that the related fault condition has been corrected. Use DAVIE to retest for active faults. If this fault is still active, proceed to Step 4A
- No – Proceed to Step 4A

Step by step 4: Fuel System Checks

Step 4A: Visual inspection: fuel leaks

Troubleshooting steps

1. Visually inspect the associated fuel system component connections for any of the following:
   - Signs of fuel leaks occurring in any related joints, lines, pumps, rails, and check valves
   - Bent or broken fuel lines or fittings
   - Fuel component parts not installed correctly
   - Damaged or loose electrical connections for the injectors and unit pumps

Was there evidence of any of the above?

- Yes – Correct or repair any issues found. Refer to Step 6A to perform the corresponding repair verification cycles to confirm that the related fault condition has been corrected. Use DAVIE to retest for active faults. If this fault is still active, proceed to Step 5A.
- No – Proceed to Step 5A.

Step by step 5: Lambda Sensor Checks

Step 5A: Visual inspection: lambda sensor (F834)

Troubleshooting steps

1. Visually inspect the associated fuel system component connections for any of the following:
   - Damaged or loose connectors
   - Bent, broken, corroded or loose connector pins
   - Moisture or dirt in the connections
   - Damage to the wire harness or insulation
   - The correct parts are not installed
   - ECU connections are damaged or disconnected
   - The Lambda sensor is damaged or incorrectly installed

Was there evidence of any of the above?

- Yes – Clean or repair any issues found. If the lambda sensor (F834) is found to be damaged or broken, replace it. Refer to Step 6A to perform the corresponding repair verification cycles to confirm that the related fault condition has been corrected. Use DAVIE to retest for active faults. If this fault is still active, proceed to step 5B.
- No – Proceed to step 5B.

Step 5B: Electrical checks: lambda sensor (F834)

Troubleshooting steps

1. Refer to the corresponding Checking Data in Engine Service – Rapido for associated supply and signal voltages, and related connector pin test points.

Are measured values outside of the expected range?

- Yes – Repair any issues found, or replace the sensor if measured values indicate a sensor error. Refer to Step 6A to perform the corresponding repair verification cycles to confirm that the related fault condition has been corrected. Use DAVIE to retest for active faults.
- No – Proceed to step 7A

Step by step 6: Repair verification cycles

Step 6A: Repair verification cycle: system initiation

Drive the truck under normal conditions until the coolant temperature reaches a minimum of 150°F. This cycle can be conducted with or without a loaded trailer.

Step 6A: Repair verification cycle: steady state

This cycle is best performed on a level grade road (least amount of incline possible) and under load using a trailer. If a loaded trailer is unavailable, produce an engine load by turning the A/C and fan to ON. With the System Initiation cycle complete, proceed to a road with a minimum speed limit of 50 mph, then get to the highest gear possible with the engine speed between 1100-1500 rpm, and set the cruise control. Run this cycle for roughly 3 to 5 miles or in three separate 1-mile increments if a steady 3 to 5 miles is unachievable.

Step by step 7: Contact PACCAR Engine Support Center

Step 7A: Assistance.

Contact the PACCAR Engine Support Center
for further assistance.

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