P1168

Fault code description

Fuel temperature - Data valid but too high

Possible cause

1. Faulty fuel blender
2. Blocked leak flow restriction
3. Low fuel level and very high ambient temperatures
4. Faulty temperature sending unit (F803)
5. Short, open or broken wiring

Additional information

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Set condition of fault code

After the truck has been running for more than 200 seconds, fuel temperature monitoring is enabled. Then, if the fuel temperature is above 203°F (95°C) for more than 30 seconds, the Fuel temperature – Fuel temperature high fault code is set.

Reset condition of fault code

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P1168, Diagnostic information

Technical data

"Sensor, fuel temperature (F803)"

Location of component(s)

"Location information, PMCI-2"

Electrical diagram(s)

"PMCI-2"

Description of component(s)

"Fuel temperature sensor (F803)"

"Fuel pressure control valve"

Block diagram

"PMCI-2"

Step by step troubleshooting

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 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 1: Verify fuel level

Troubleshooting steps

1. Verify that the fuel level is within normal range. Low fuel in a high ambient temperature can cause high fuel temperatures.

Is fuel below normal range and is the ambient temperature high?

- Yes – Add fuel. Proceed to step 2.
- No – Proceed to step 2.

Step 2: Verify fuel pressure

Troubleshooting steps

1. Perform the fuel leakage shutoff valve test found on Engine Rapido.
2. Perform the fuel pressure test found on Engine Rapido.

Does the fuel pressure pass these tests?

- Yes – Proceed to step 3.
- No – Repair as needed. Proceed to the validation step.

Step 3: Verify fuel temperature

Troubleshooting steps

1. Drive the truck under conditions similar to those that caused the fault code.
2. Stop the truck.

3. Use DAVIE to view the fuel temperature.

    ▪ A passing fuel blender temperature is 100 to 125°F.

    ▪ A failing fuel blender temperature is above 160°F.

    ▪ A passing fuel blender bypassed fuel is 80 to 100°F.

Is the fuel blender temperature above 160°F?

▪ Yes – Replace the fuel blender. Proceed to step 4.

▪ No – Contact Engine Support Center (ESC).

Step 4: Inspect the fuel sensor and connector pins

Troubleshooting steps

1. Turn the key switch OFF.

2. Disconnect the fuel temperature sensor.

3. Inspect the fuel temperature sensor connector/harness interface for:

    ▪ corroded or dirty pins,

    ▪ damaged pins,

    ▪ pushed back or expanded pins,

    ▪ loose connector,

    ▪ moisture in or on the connector,

    ▪ connector shell damage,

    ▪ missing or damaged connector seals and/or

    ▪ wire insulation damage.

Has dirt or damage been found?

▪ Yes – Clean, repair or replace the damaged connection or harness if possible. Proceed to step 5.

▪ No – Proceed to step 5.

Step 5: Check the circuit response before the sensor

Troubleshooting steps

1. Turn the key switch OFF.

2. Disconnect the fuel temperature sensor.

3. Pin the power supply leg.

- If voltage is 4.8V to 5.2V – Pass. Proceed to step 6.

- If voltage is lower than 4.8V or higher than 5.2V – Fail. Repair/replace harness as needed, then retest. Proceed to step 6.

Step 6: Check the circuit response after the sensor

Troubleshooting steps

1. Turn the key switch OFF.

2. Disconnect the fuel sensor.

3. Place a jumper wire between the power supply and the harness at the sensor connector.

4. Pin the return leg of the circuit.

- If voltage is 4.8V to 5.2V – Pass. Proceed to step 7.

- If voltage is lower than 4.8V or higher than 5.2V – Fail. Repair/replace harness on signal return leg as needed, then retest. Proceed to step 7

Step 7: Check the continuity of sensor signal pin to chassis earth

Troubleshooting steps

1. Turn the key switch OFF.

2. Disconnect the fuel temperature sensor.

3. Pin the sensor signal pin to the chassis earth.

Does the ohmmeter indicate that there is continuity between the sensor signal pin and the chassis earth?

- Yes – Repair/replace the grounded portion of the circuit on the return leg as needed, then retest. Proceed to step 7.

- No – Proceed to step 8.

Step 8: Validation

Troubleshooting steps

1. Turn the key switch ON.

2. Drive the truck under conditions similar to those that caused the fault code.

3. Use DAVIE to view the active fault codes.

Is P1168 still active?

- Yes – Contact the Engine Support Center (ESC).

- No – The repair is complete.

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