P1127

Fault code description

Intercooler temperature - High

Possible cause

1. Failed fan hub or control valve
2. Dirty intercooler
3. Blocked intercooler
4. Failed sensor (F750)
5. Faulty wiring
6. Operating high load with ambient temperatures above 50°C (122°F)

Additional information

The intercooler outlet temperature is measured before the EGR mixer by the intercooler temperature sensor (F750).

Set condition of fault code

This diagnostic starts five minutes after the engine starts, and the engine speed must be higher than 650 rpm. The diagnostic runs continuously.

The PMCI-2 ECU detects that the temperature is higher than 75°C (167°F) for more than 60 seconds.

Reset condition of fault code

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

M028178 - 07/22/2015 17:10:17

P1127, Diagnostic information

Technical data

"Sensor, intercooler temperature (F750)"

Location of component(s)

"Location information, PMCI-2"

Electrical diagram(s)

"PMCI-2"

Description of component(s)

"Intercooler temperature sensor (F750)"

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 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

Visually inspect intercooler for restriction or blockage of external air flow.

Is the intercooler restricted?

- No – Proceed to step 2.

- Yes– Remove restriction and proceed to step 2.

Step 2

Check fan operation. Idle engine and activate engine fan with dash switch. If an engine fan dash switch is unavailable, manually engage the engine fan.

Does the fan engage with switch on?

- No – Stop engine. Remove air line to fan hub. Restart engine. If fan engages, then repair fan control solenoid. If fan does not engage, then repair fan hub. Reattach air line. Proceed to step 3.
- Yes– Proceed to step 3.

Step 3

Find and inspect related electrical connectors for broken, corroded, or rubbing connectors and bent, broken, loose or corroded pins. Remove sensor and visually inspect tip for breakage (some soot deposits are expected due to EGR back-flow).

Was a broken electrical connection or sensor tip found?

- No – Reinstall sensor. Proceed to step 4
- Yes– Repair failed component. Reinstall sensor. Proceed to step 4

Step 4

Use DAVIE to select and monitor temperature sensors for comparison. Idle engine for 5 minutes with the fan engaged. Using DAVIE, check the air temperature after intercooler sensor reading and compare it to the ambient temperature.

Is the air temperature after intercooler sensor reading more than 5°C (9°F) higher than the ambient temperature?

- No – Sensor is operative. Either the problem has been fixed, or the high temperature may have been caused by temporary blockage of the intercooler or by operating at high load in an extremely warm environment - more than 50°C (122°F). Troubleshoot any remaining fault codes.
- Yes– Proceed to step 5.

Step 5

Ensure that the ignition key/switch has been set to OFF before disconnecting related cables.

Check temperature sensor circuit by measuring the electrical resistance between pins C17 and C40 at the PMCI connector (harness side). A diagram and a table of expected resistance vs. temperature is available in the sensor technical data.

Is the measured resistance outside the range limits in the table?

- No– Sensor is operative. Proceed to step 8.
- Yes – Proceed to step 6.

Step 6

Ensure that the ignition key/switch has been set to OFF before disconnecting related cables.

Check temperature sensor by measuring the electrical resistance between pins 1 and 2 at the sensor connector. A diagram and a table of expected resistance vs. temperature is available in the sensor technical data

Is the measured resistance outside the range limits in the table?

- No– There is a bad connection between the PMCI and the sensor connector. Inspect and repair/replace harness as necessary and proceed to step 7.

- Yes – Sensor has failed. Replace sensor and proceed to step 7.

Step 7

Use DAVIE to select and monitor temperature sensors for comparison. Idle engine for 5 minutes with the fan engaged. Using DAVIE, check the air temperature after intercooler sensor reading and compare it to the ambient temperature.

Is the air temperature after intercooler sensor reading more than 5°C (9°F) higher than the ambient temperature?

- No – Repair is successful.
- Yes– Proceed to step 8.

Step 8

Contact the Engine Support Center for further assistance.

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