P0127

Fault code description

Intercooler temperature - Data valid but too high

Possible cause

1. Fouled intercooler
2. Damaged intercooler
3. Faulty wiring
4. Operating high load with ambient temperatures above 50°C (122°F).

Additional information

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

Engine torque is reduced.

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 a threshold value for a long time

Reset condition of fault code

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

M028253 - 07/22/2015 16:14:40

P0127, 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

- Perform the troubleshooting steps below using the breakout harness, if necessary, to check electrical components, such as sensors, electrical control units, and 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 components.

- 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.
- 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: Related fault codes

Step 1A: Related fault codes

Troubleshooting steps

1. Turn the key switch ON.
2. Use DAVIE to check for related fault codes.
3. Before troubleshooting this fault, take note of any other active or inactive fault codes. One or more other faults could have been the cause of this fault.

Are these or any other related codes active?

- Yes – Proceed with the appropriate fault code.
- No – Proceed to step 2A

Step by step 2: Intercooler checks

Step 2A: Visual Inspection intercooler sensor (F750)

Troubleshooting steps

1. Visually inspect the associated component connections and wiring 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
- Battery level is low, contacts are not tight
- Sensor broken or not installed correctly

Was there evidence of any of the above?

- Yes – Repair or replace as needed. Perform repair verification cycles and use DAVIE Diagnostics to verify that the fault code is no longer active. If the fault code is no longer active, this repair is complete. If the fault code is still active, proceed to step 2B.
- No – Proceed to Step 2B.

Step 2B: Electrical Checks intercooler sensor (F750)

Troubleshooting steps

1. Refer to the links at the top of this document or Engine Rapido for associated values and related connector pin test points.

Are measured values within expected range?

- Yes – Proceed to step 2C.
- No – Repair or replace as needed. Perform repair verification cycles and use DAVIE Diagnostics to verify that the fault code is no longer active. If the fault code is no longer active, this repair is complete. If the fault code is still active, proceed to step 2C.

Step 2C: Air leak test

Troubleshooting steps

1. Perform the following test to determine whether there are leaks in the air system.
2. Inspection of piping for cracked or loose

clamps

3. Application of a solution of soapy water in the suspected area and inspection for bubbles. If the engine is operated at high idle, soap bubbles are drawn in.
4. Listening for a high-pitched whining or sucking noise in the air intake path at the turbo charger, nearby piping and connections.

Is there an air leak?

- Yes – If you observe any leakage make sure that all the clamps are tight, that there is no damage to the hose or tubing and compressor and that the housing is sealing. Run the verification cycle to re-check with DAVIE for the presence of active faults. If the fault code is no longer active, this repair is complete. If the fault code is still active, proceed to step 2D.
- No – Proceed to step 2D.

Step 2D: Coolant temperature

Troubleshooting steps

1. Check the front intercooler for leaks, remove one of the bottom plugs from the housing and check for white powder or coolant leaks.
2. Check the intercooler core for plugging with rust or contamination
3. Perform a leak test to observe leakage from the draincock and the lower radiator outlet.

Is the coolant temperature above normal?

- Yes – Radiator must be repaired or replaced. Run the verification cycle to re-check with DAVIE for the presence of active faults. If the fault code is no longer active, this repair is complete. If the fault code is still active, proceed to step 3.

- No – Proceed to step 3.

Step by step 3: Repair Verification Cycle

Step 3A: Repair verification cycle steady state

Troubleshooting steps

1. 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 engine load by turning the A/C and fan to ON
2. 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 and 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.

Is this fault code still active?

- Yes – Proceed to step 4A
- No – Troubleshooting complete

Step by step 4: Contact PACCAR Engine Support Center

Step 4A: Contact PACCAR Engine Support Center

For further assistance in diagnosing this issue or for confirmation prior to the replacement of suspect components, contact the PACCAR Engine Support Call Center.

M046290 - 07/22/2015 18:03:18