P3864

Fault code description

Pump module - Short circuit to supply

Possible cause

1. Short circuit to supply or open circuit in the pump module harness.
2. Failed pump module.
3. Failed EAS-3 actuator ECU.

Additional information

This fault may result in engine torque reduction or vehicle speed limiting.

Set condition of fault code

This diagnostic runs continuously when the key switch is in the ON position.

The EAS-3 actuator detects that the DEF pressure sensor signal voltage is greater than 4.75 Volts.

DEF injection into the SCR system is disabled.

Reset condition of fault code

To validate the repair, start the engine and let it idle for one minute.

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

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P3864, Diagnostic information

Technical data

"Pump module (L074)"

Location of component(s)

"Location information, EAS-3"

Electrical diagram(s)

Refer to the OEM service manual for more information.

Description of component(s)

"Pump module (L074)"

Block diagram

"Block diagram EAS-3"

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.

- Disconnecting the EAS 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.

- It is necessary to exit the fault code menu 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 fault codes. Refer to the 'possible causes' section.

Step by step 1: Check fault codes

Step 1A: Check for EAS-3 actuator sensor supply fault codes

Troubleshooting steps

1. Turn the key switch ON.
2. Use DAVIE to check for fault codes.

Is fault code P3917 active?

- Yes – Proceed with the appropriate fault code.
- No – Proceed to step 1B

Step 1B: Check for fault codes

Troubleshooting steps

1. Turn the key switch ON.
2. Use DAVIE to check for fault codes.

Is fault code P3864 inactive?

- Yes – Proceed to step 4A
- No – Proceed to step 2A

Step by step 2: Check the DEF pressure sensor and the circuit

Step 2A: Inspect the pump module and connector pins

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the pump module from the harness.
3. Inspect the pump module harness and connector for:

1. corroded or dirty pins

2. damaged pins

3. pushed back or expanded pins

4. loose connector

5. moisture in or on the connector

6. connector shell damaged

7. missing or damaged connector seals

8. wire insulation damage

Dirty or damaged pins/connector?

- Yes – A dirty or damaged connection has been detected. Clean, repair or replace the damaged connection or harness if possible - Proceed to step 4A

- No – Proceed to step 2B

Step 2B: Check the circuit response

Troubleshooting steps

1. Turn the key switch OFF.

2. Disconnect the pump module from the harness.

3. Place a jumper wire between the DEF pressure sensor signal pin and the earth pin at the pump module connector.

4. Turn the key switch ON.

5. Check for the appropriate circuit response after 30 seconds.

6. Use DAVIE to read the fault codes.

    Multiple fault codes related to the pump module will become active.

Is fault code P3865 active and P3864 inactive?

- Yes – Proceed to step 2C

- No – Proceed to step 3A

Step 2C: Check the DEF pressure sensor supply voltage and earth circuit

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the pump module from the harness.
3. Turn the key switch ON.
4. Measure the voltage between the DEF pressure sensor supply pin and the sensor earth pin at the connector

Is the voltage 4.75 to 5.25 VDC?

- Yes – Proceed to step 2D
- No – Proceed to step 3A

Step 2D: Check the fault codes and verify the pump module DEF pressure sensor condition

Troubleshooting steps

1. Turn the key switch OFF.
2. Connect all components.
3. Turn the key switch ON.
4. Check for the appropriate circuit response after 30 seconds.
5. Use DAVIE to read the fault codes.

Is fault code P3864 active?

- Yes – A damaged DEF pressure sensor has been detected. Replace the pump module. Proceed to step 4A
- No – The removal and re-installation of the connector corrected the fault. Proceed to step 4A

Step by step 3: Check the EAS-3 actuator and the harness

Step 3A: Inspect the EAS-3 actuator and the harness connector pins

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the EAS-3 actuator from the harness.

3. Inspect the harness and EAS-3 actuator
    connector for:

    1. corroded or dirty pins

    2. damaged pins

    3. pushed back or expanded pins

    4. loose connector

    5. moisture in or on the connector

    6. connector shell damaged

    7. missing or damaged connector
        seals

    8. wire insulation damage

Dirty or damaged pins/connector?

- Yes – A dirty or damaged connection has
  been detected. Clean, repair or replace the
  damaged connection or harness if possible
  - Proceed to step 4A

- No – Proceed to step 3B

Step 3B: Check for a pin-to-pin short circuit in the harness

Troubleshooting steps

1. Turn the key switch OFF.

2. Disconnect the EAS-3 actuator from the
    harness.

3. Disconnect the pump module from the
    harness.

4. Check for a pin-to-pin short circuit.

5. Measure the resistance between the
    EAS-3 actuator connector DEF pressure
    sensor signal pin and all other pins in the
    harness.

Is the resistance greater than 100k ohms?

- Yes – Proceed to step 3C

- No – A pin-to-pin short circuit has been
  detected in the harness. Repair or replace
  the harness - Proceed to step 4A

Step 3C: Check for an inactive fault code

Troubleshooting steps

1. Connect all components.

2. Turn the key switch ON.

3. Check for the appropriate circuit response after 30 seconds.

4. Use DAVIE to read the fault codes.

Is fault code P3864 inactive?

- Yes – The removal and re-installation of the connector corrected the fault - Proceed to step 4A

- No – Return to the troubleshooting steps - Proceed to step 1A

  If all the steps have been completed and checked again, contact the Engine Support Center for further instructions on replacement of the EAS-3 actuator.

Step by step 4: Clear the fault code

Step 4A: Disable the fault code

Troubleshooting steps

1. Connect all components.

2. Operate the system within the 'reset condition of the fault code' found in the fault code information.

3. Use DAVIE to verify if the fault codes are inactive.

Is fault code P3864 inactive?

- Yes – Proceed to step 5B

- No – Return to the troubleshooting steps - Proceed to step 1A

  If all the steps have been completed and checked again, contact the Engine Support Center for further instructions.

Step 4B: Clear the inactive fault codes

Troubleshooting steps

1.   Connect all components

2.   Turn the key switch ON.

3.   Use DAVIE to clear the inactive fault codes.

Have all the fault codes been cleared?

- Yes – Repair complete

- No – Troubleshoot any remaining active fault codes

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