P3847

Fault code description

AdBlue dosing valve - Short circuit to supply

Possible cause

1. Shortage to supply voltage in the dosing valve.
2. Shortage to supply voltage in the dosing valve harness.
3. Failed EAS-3 actuator ECU.

Additional information

DEF injection into the SCR system could be disabled.

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

Set condition of fault code

This diagnostic runs when the DEF dosing valve is activated.

The EAS-3 ECU detects that the dosing valve voltage is above a set value.

Reset condition of fault code

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

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

M027959 - 07/23/2015 02:16:08

P3847, Diagnostic information

Technical data

"Valve, dosing (L075)"

Location of component(s)

"Location information, EAS-3"

Electrical diagram(s)

Refer to the OEM service manual for more information.

Description of component(s)

"Valve, dosing (L075)"

Block diagram

"Block diagram EAS-3"

Step by step troubleshooting

Please perform the troubleshooting steps below by 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.

- 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

any 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 fault codes

Troubleshooting steps

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

Is fault code P3847 active?

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

Step by step 2: Check the DEF dosing valve and the circuit

Step 2A: Check the DEF dosing valve and connector pins

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the DEF dosing valve from the harness.
3. Check the DEF dosing valve 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. Damage to the connector shell
    7. Missing or damaged connector seals
    8. Wire insulation damage

Dirty or damaged pins/connector?

- Yes – A dirty or damaged connection has been detected. If possible, clean, repair or replace the damaged connection or harness - Proceed to step 4A
- No – Proceed to step 2B

Step 2B: Check the resistance of the DEF dosing valve

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the DEF dosing valve from the harness.
3. Check the DEF dosing valve resistance.
4. Measure the resistance between the DEF dosing valve signal and the earth pin.

Is the resistance 11 to 18 ohms?

- Yes – Proceed to step 2C
- No – An internal short or open circuit has been detected. Replace the DEF dosing valve. Proceed to step 4A

Step 2C: Check for a pin to earth short circuit in the DEF dosing valve

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the DEF dosing valve from the harness.
3. Check for a short circuit in the DEF dosing valve.
4. Measure the resistance between the DEF dosing valve signal pin and the metal case of the DEF dosing valve.
5. Measure the resistance between the DEF dosing valve earth pin and the metal case of the DEF dosing valve.

Is the resistance greater than 100k ohms?

- Yes – Proceed to step 3A

- No – Short circuit in the DEF dosing valve. Replace the DEF dosing valve. Proceed to step 4A

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

Step 3A: Check 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. Check 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. Damage to the connector shell
    7. Missing or damaged connector seals
    8. Wire insulation damage

Dirty or damaged pins/connector?

- Yes – A dirty or damaged connection has been detected. If possible, clean, repair or replace the damaged connection or harness - Proceed to step 4A
- No – Proceed to step 3B

Step 3B: Check for an open circuit in the harness

Troubleshooting steps

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

4. Measure the resistance of the DEF dosing valve signal wire between the EAS-3 actuator connector pin and the DEF dosing valve connector pin.
5. Measure the resistance of the DEF dosing valve earth wire between the EAS-3 actuator connector pin and the DEF dosing valve connector pin.

Is the resistance less than 10 ohms?

- Yes – Proceed to step 3C
- No – An open circuit has been detected in the harness. Repair or replace the harness - Proceed to step 4A

Step 3C: Check for a pin to earth 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 DEF dosing valve from the harness.
4. Check for a pin to earth short circuit.
5. Measure the resistance of the DEF dosing valve signal wire between the EAS-3 actuator connector pin and the engine block earth.
6. Measure the resistance of the DEF dosing valve earth wire between the EAS-3 actuator connector pin and the engine block earth.

Is the resistance greater than 100k ohms?

- Yes – Proceed to step 3D
- No – A pin to earth short circuit has been detected in the harness. Repair or replace the harness - Proceed to step 4A

Step 3D: 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 DEF dosing valve from the harness.
4. Check for a pin-to-pin short circuit.
5. Measure the resistance between the DEF dosing valve signal pin and all other pins in the harness.
6. Measure the resistance between the DEF dosing valve earth pin and all other pins in the harness.

Is the resistance greater than 100k ohms?

- Yes – Proceed to step 3E
- No – A pin-to-pin short circuit has been detected in the harness. Repair or replace the harness - Proceed to step 4A

Step 3E: Check for an inactive fault code

Troubleshooting steps

1. Connect all components.
2. Turn the key switch ON.
3. Operate the system in order for the diagnostics to run. Perform the 'DEF pump module override test'. For more information go to 'Explanatory notes to DAVIE'
4. Use DAVIE to read the fault codes.

Is fault code P3847 inactive?

- Yes – The removal and installation of the connector corrected the fault - Proceed to step 4A
- No – Failed DEF dosing valve. Replace the DEF dosing valve - Proceed to step 4A

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 P3847 inactive?

- Yes – Proceed to step 4B
- 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 5B: 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

M046794 - 07/23/2015 02:25:19