P3793

Fault code description

Diesel particulate filter (DPF) - Filter severely damaged

Possible cause

1. The exhaust temperature sensor before or after the DPF failed in-range.
2. Fuel dosing module malfunction.
3. A blocked DOC.
4. A damaged engine fuel injector causing unburned fuel to enter the exhaust system.
5. An engine malfunction that is causing excessive fuel or oil to enter the exhaust system.
6. An engine malfunction that is causing excessive black smoke.

Additional information

DEF injection into the SCR system is disabled.

Set condition of fault code

The set condition depends on the "release sequence number"

Release sequence number <14:

The EAS-3 ECU detects that the exhaust temperature after the DPF is above 1742°F (950°C) or the DPF temperature difference is above 662°F (350°C) for more than 30 seconds.

Release sequence number ≥14:

The EAS-3 ECU detects that the exhaust temperature after the DPF is above 1742°F (950°C) or the DPF temperature difference is above 1004°F (540°C) for more than 15 seconds.

Reset condition of fault code

This fault code indicates that the DPF requires

an inspection according to the guidelines for re-use. See Engine Rapido job: 'check/clean DPF element'. Replace the filter if it does not pass the inspection.

This fault code will change to inactive after the exhaust temperature after the DPF or the DPF temperature difference has dropped below the threshold set limit until the next key cycle.

This fault cannot be cleared from the ECU's memory. Contact the Engine Support Center for further instructions.

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P3793, Diagnostic information

Technical data

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Location of component(s)

"Location information, EAS-3"

Electrical diagram(s)

Refer to the OEM service manual for more information.

Description of component(s)

"DPF unit"

Block diagram

"Block diagram EAS-3"

Step by step troubleshooting

Please 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.

- 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 fault codes

Troubleshooting steps

1. Turn the key switch ON.
2. Use DAVIE to check for fault codes related to the aftertreatment temperature sensors.

Is fault code P3750, P3751, P3752, P3753, P3754, P3755, P3756, P3757 or P3758 active?

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

Step by step 2: Check the aftertreatment exhaust gas temperature sensors

Step 2A: Monitor the exhaust gas temperature sensors

Troubleshooting steps

1. Turn the key switch ON.
2. Engine idling longer than ten minutes.
3. Monitor the exhaust gas temperature sensors with DAVIE.
   - Let the engine idle for ten minutes to stabilise the exhaust gas temperatures.
   - If any fault occurs, go to the appropriate fault code.
   - If no fault occurs, record the value of the DOC and DPF exhaust gas

temperature sensors

Does the value of the sensors vary by more than 75°F (24°C)?

- Yes – Proceed to step 6A after completing the following checks.
  - Check for a short circuit from the signal pin of the relevant temperature sensor to all other pins in the harness.
  - Check for a short circuit in the DOC/DPF temperature sensor interface.
  - If no short circuit is found, replace the temperature sensor that is reading higher or lower than the other sensors.
- No – Proceed to step 3A

Step by step 3: Check the DPF

Step 3A: Check the DPF for damage

Troubleshooting steps

1. Turn the key switch OFF.
2. Remove and inspect the DPF. See Engine Rapido job: 'check/clean DPF element'
3. Clean the DPF as needed. Refer to the cleaning machine manufacturing instructions.

DPF discolouration does not indicate a failed filter. See Engine Rapido job: 'check/clean DPF element'.

Is the DPF damaged according to the Engine Rapido job: 'check/clean DPF element'

- Yes – The DPF may need to be replaced. Contact the Engine Support Center for confirmation before replacing the DPF. Proceed to step 4A.
- No – Proceed to step 4A.

Step by step 4: Inspect the DOC

Step 4A: Check the DOC for soot accumulation

Troubleshooting steps

1. Remove the DOC.
2. Inspect the DOC.
3. Check the inlet side of the DOC for soot accumulation.

Are more than 50 percent of the cells on the inlet side blocked by soot?

- Yes – Clean the DOC - Proceed to step 4B
- No – Proceed to step 4B

Step 4B: Check the DOC for cracks in the cell wall

Troubleshooting steps

1. Remove the DOC.
2. Inspect the DOC.
3. Check for cracks in the DOC cell walls.

Are there any cracks in the cell walls?

- Yes – Replace the DOC - Proceed to step 5A
- No – Proceed to step 5A

Step by step 5: Check the fuel dosing module

Step 5A: Inspect the fuel dosing module

Troubleshooting steps

1. Turn the key switch OFF.
2. Remove the fuel dosing module.
3. Place the fuel dosing module in a measuring container and cover the measuring container.
4. Perform the 'fuel dosing module leak test'. For more information, go to 'Explanatory notes to DAVIE'.

Does the fuel dosing module meet the

specifications?

- Yes – An engine-related failure, such as high oil consumption, fuel system problems etc., could be the cause. Check for engine-related failures. Proceed to step 6A
- No – Failed fuel dosing module. Replace the fuel dosing module and inspect the aftertreatment system for possible damage - Proceed to step 6A

Step by step 6: Clear the fault code

Step 6A: 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 that the fault codes are inactive.

Is fault code P3787 inactive?

- Yes – Proceed to step 6B
- 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 6B: 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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