P3785

Fault code description

Diesel particulate filter (DPF) - Differential pressure too high level

Possible cause

1. The DPF may be blocked with soot.
2. The engine has been operating under light load conditions that prevented exhaust temperatures from being high enough to actively regenerate the DPF.
3. The DPF may have reached the service interval.
4. The DPF pressure sensor has malfunctioned.
5. The OEM wiring harness to the sensors on the DPF unit or sensor connector pin installation could be incorrect.
6. The OEM harness connectors may be connected to the wrong aftertreatment temperature sensor.
7. The DPF can accumulate an excessive amount of ash in a short period of time due to excessive oil consumption or due to non-combustible elements such as, but not limited to, iron, potassium or calcium, contained in the fuel supply or additives.
8. An engine malfunction that is increasing smoke output.

Additional information

The soot load in the DPF is estimated using the DPF pressure sensor and the calculated soot output of the engine.

This fault code indicates that the soot load inside the DPF has reached the maximum level. Regeneration of the DPF at this stage is not possible. The DPF must be inspected. If it passes the inspection, it can be cleaned using

an approved cleaning machine. If it does not pass the inspection, it must be replaced.

The engine power is derated.

Set condition of fault code

This diagnostic runs continuously when the engine speed is greater than the set limit and when the calculated exhaust gas flow rate is above a calibratable value.

The EAS-3 ECU detects that the DPF is blocked or that the differential pressure across the DPF is above the maximum limit.

Reset condition of fault code

The fault will change to inactive after the differential pressure across the DPF has dropped below the maximum severity level while the calculated exhaust gas flow rate is above a calibratable value.

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P3785, 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.

Is fault code P3785 active?

- Yes – Proceed to step 1B
- No – Proceed to step 6A

Step 1B: Check for fault codes

Troubleshooting steps

1. Turn the key switch ON.
2. Use DAVIE to check for fault codes related to the DPF pressure sensor.

Is fault code P3759, P3760, P3761, P3762 or P3790 active?

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

Step by step 2: Check the DPF pressure sensor

Step 2A: Monitor the DPF pressure sensor

Troubleshooting steps

1. Turn the key switch ON.
2. Engine OFF.
3. Monitor the DPF pressure sensor with DAVIE.

Is the differential pressure reading 0±0.44 PSI (0±0.03 bar) with the key switch ON and the engine OFF?

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

Step 2B: Inspect the DPF pressure sensor tubes

Troubleshooting steps

1. Turn the key switch OFF.
2. Disconnect the DPF pressure sensor tubes.
3. Check the DPF pressure sensor tubes for blockage or leakages.

Are there damaged, disconnected or blocked tubes?

- Yes – Clean, repair or replace the damaged pressure sensor tubes - Proceed to step 5A
- No – Check for a pin-to-pin short circuit in the differential pressure signal wire. If no short circuit is found, replace the DPF pressure sensor - Proceed to step 6A

Step by step 3: Check the aftertreatment exhaust gas temperature sensors

Step 3A: 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 3B

Step 3B: 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 4A

Step by step 4: Check the maintenance interval

Step 4A: Inspect the ash cleaning maintenance interval

Troubleshooting steps

1. Check the ash cleaning maintenance interval. It is possible that the ash cleaning maintenance interval has been ignored and the filter needs to be cleaned.

Refer to the maintenance schedule for the recommended ash cleaning interval.

Has the ash cleaning interval been followed?

- Yes – Proceed to step 5A
- No – Clean the DPF. Proceed to step 5A

Step by step 5: Check the DPF

Step 5A: 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 6A.
- No – 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 P3785 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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