P3789

Fault code description

Diesel Particulate Filter (DPF) - Soot level high (3)

Possible cause

1. The engine has been operating under light load conditions that prevented exhaust temperatures from being high enough to actively regenerate the DPF.
2. The regeneration inhibit switch has been turned on too often (misuse). Check the occurrence count of fault code P3792.
3. 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 may be triggered if the application is not operating at a duty cycle that is high enough to regenerate the DPF. This fault code indicates that the exhaust temperature exiting the turbocharger is not high enough to regenerate the soot that is trapped in the DPF. It may be necessary to increase the duty cycle of the application in order to prevent blocking of the DPF.

At this soot level, stationary regeneration is still possible.

Set condition of fault code

This diagnostic runs continuously when the engine speed is greater than the set limit.

The EAS-3 ECU detects that the soot load inside the DPF has reached level 3 (moderately severe level).

Reset condition of fault code

The fault is cleared after a stationary

regeneration of the DPF and the soot load in the aftertreatment diesel particulate filter has dropped below soot level 3.

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P3789, Diagnostic information

Technical data

"Sensor, DPF pressure (F837)"

Location of component(s)

"Location information, EAS-3"

Electrical diagram(s)

Refer to the OEM service manual for more information.

Description of component(s)

"Sensor, DPF pressure (F837)"

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.

Are fault codes other than P3789 active?

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

Step by step 2: Stationary regeneration

Step 2A: Perform the DPF regeneration test

Troubleshooting steps

1. Turn the key switch ON.
2. Start the engine.
3. Perform the 'DPF regeneration test'. For more information, go to 'Explanatory notes to DAVIE'.

Fault code P3788 will become active during the regeneration. This is a normal operation as the soot is removed from the DPF.

Is fault code P3789 active after the regeneration is completed?

- Yes – Check for active fault codes that may have become active during the regeneration. Troubleshoot possible engine

failure, creating excessive black smoke. Proceed to step 3A

- No – Check for a damaged DPF. 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: 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 that the fault codes are inactive.

Is fault code P3789 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 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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