P3823

Fault code description

Tank heater valve - Failed to thaw

Possible cause

1. DEF tank heater valve stuck closed
2. Blockage or restrictions in the coolant plumbing to the DEF tank heater valve
3. Engine coolant level low
4. Malfunctioning DEF tank heater valve
5. Malfunctioning DEF tank temperature sensor
6. Malfunctioning EAS-3 actuator is unable to command tank heating.

Additional information

DEF injection into the aftertreatment system may be disabled if the DEF solution is frozen.

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

Set condition of fault code

This diagnostic runs continuously when:

- the engine is running, and
- the coolant temperature is above 160ºF (71ºC), and
- the DEF tank temperature is between -13ºF (-25ºC) and 43ºF (6ºC), and
- the DEF tank heater is in the defrosting or heating mode

This diagnostic runs when the DEF tank temperature is being maintained by using the DEF tank heater system.

This fault code is set when the DEF tank temperature has been at normal operating levels, but the DEF tank is no longer able to maintain the proper temperature and is in danger of freezing.

Reset condition of fault code

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

To validate the repair make sure the conditions for running the diagnostic are met.

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P3823, Diagnostic information

Technical data

"Valve, tank heater (L076)"

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, tank heater (L076)"

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 fault codes

Troubleshooting steps

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

Is fault code P3853, P3854, P3855, P3856, P3871, P3872, P3873, P3904 or P3905 active?

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

Step by step 2: Check the DEF tank heater system

Step 2A: Check the DEF tank heater coolant lines

Troubleshooting steps

1. Turn the key switch OFF.
2. Inspect the tank heater coolant lines and connectors for:
   - leaking or damaged coolant lines
   - kinked, restricted or blocked coolant lines
   - loose connections
   - leaking seals and gaskets

Refer to the OEM service manual for details on coolant line routing and flow.

Are leaks or damage found in the tank heater

system?

- Yes – Repair or replace the leaking or damaged coolant lines, fittings or seals. Verify that the engine coolant level is within normal operating range before returning to service. Proceed to step 4A
- No – Proceed to step 2B

Step 2B: Check the engine coolant level

Troubleshooting steps

1. Turn the key switch OFF.
2. Check the engine coolant level. Make sure that the coolant level is within normal operating levels.

Is the engine coolant level correct?

- Yes – Proceed to step 3A
- No – Add coolant to the engine as necessary. Proceed to step 4A

Step by step 3: Check the DEF tank heater system operation.

Step 3A: Verify proper operation of the tank heater valve.

Troubleshooting steps

1. Turn the key switch OFF.
2. Activate the DEF tank heater valve with DAVIE.
3. Make sure the tank heater valve is operating correctly, not stuck closed or slow to respond, and able to fully open.

Is the tank heater control valve operating correctly?

- Yes – Proceed to step 4A
- No – Repair or replace the tank heater 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 P3823 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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