

P1359

Fault code description

VTG turbo charger actuator learning - Malfunction

Possible cause

1. Turbo stuck (due to ice or soot, for example)
2. Actuator gear worn
3. Turbo selector gear worn
4. Faulty actuator

Additional information

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Set condition of fault code

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Reset condition of fault code

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

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P1359, Diagnostic information

Technical data

["Actuator, rotary speed \(L037\)"](#)

Location of component(s)

["Location information, PMCI-2"](#)

Electrical diagram(s)

["PMCI-2"](#)

Description of component(s)

["Actuator, rotary speed \(L037\)"](#)

Block diagram

["PMCI-2"](#)

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.



- This troubleshooting tree is based on the assumption that supply power and earth to the PMCI are functioning properly.
- Disconnecting the PMCI 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 in Rapido.
- Exit the '**active errors**' screen 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 codes. Refer to the 'possible causes' section in Rapido.

Step 1

With DAVIE connected and key **ON**, reprogram the engine basis software with the most recent PRS file.

Navigate through DAVIE and monitor errors.

- **If the fault is still active** – Proceed to step

2.

- If the fault is NO longer active – Proceed to the verification procedure.

Step 2

Has the actuator recently been removed or replaced?

- Yes – Repeat the installation procedure.
Proceed to the verification procedure.
- No – Proceed to step 3.

Step 3

Check if the fault status has changed to inactive if the engine idles for more than ten seconds. Has the fault status changed to inactive?

- Yes – Proceed to the verification procedure.
- No – Proceed to step 4

Step 4

With the connector disconnected, turn the key ON. Check the voltage between the earth terminal and the supply terminal circuit at the connector harness. (Refer to the OEM manual for the system voltage)

- If the voltage found is within the specifications – Proceed to step 5.
- If the voltage found is NOT within the specifications – Check the PMCI-2 ECU for other active faults and solve these first.

Step 5

Use the sector span tool to check the range of travel for the turbo sector gear. Follow the job instructions 'Replace VGT turbocharger actuator' in Engine Rapido.

Is the turbo sector gear able to reach both span

zones (regardless of the effort needed to move it)?

- **Yes** – Proceed to step 6.
- **No** – Turbo will need to be replaced.

Step 6

Check the actuator output gear for damage. Is the actuator output gear damaged?

- **Yes** – Contact the Engine Support Center for further instruction on replacement of the actuator.
- **No** – Proceed to step 7.

Step 7

Check the actuator output gear for adequate rotation (minimum of one complete rotation). Is the actuator output rotation adequate?

- **Yes** – Proceed to step 8.
- **No** – Contact the Engine Support Center for further instruction on replacement of the actuator.

Step 8

Contact the Engine Support Center for further instruction.

Verification procedure

With DAVIE connected and key **ON**, clear the errors. Start the engine and let it idle to verify with DAVIE that the errors do not re-occur.

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