

P3431

Fault code description

Engine brake solenoid valve cylinder 4 - Short circuit to ground on ECU (D365) pin (A21)

Possible cause

1. Faulty wiring
2. Faulty connector
3. Faulty solenoid valve

Additional information

-

Set condition of fault code

-

Reset condition of fault code

-

M028110 - 07/22/2015 17:16:08

This information applies exclusively to the entered chassis number or the selected engine type. Please take into account that this information may change daily. Therefore the provided information is only valid on 12-15-2015. You cannot derive any rights from the information provided with respect to vehicles and/or components of another series, with another chassis number, and/or of another date. (/)

P3431, Diagnostic information

Technical data

["MX engine brake solenoid valve \(B411, B412, B413, B414, B415, B416\)"](#)

Location of component(s)

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

Electrical diagram(s)

["PMCI-2"](#)

Description of component(s)

-

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.
- It is necessary to 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.



- Following each step, the connector removed for testing **MUST** be re-connected before proceeding to the next test.
- The High Side Driver Short Circuit Low electrical error will only be triggered when the engine brake is in operation.

Step 1

Visual inspection - Visually inspect all

applicable connectors and harnesses for corrosion, damage and rubbing during each step of the diagnostic procedure. Proceed to step 2.

Step 2

With key **OFF**, disconnect the pass-through connector located on the exterior of the engine. Turn the key **ON** and measure the voltage between the signal terminal on the encapsulated harness side of the connector and a battery earth:

- If the measured voltage is approximately 3.5 V – Proceed to step 4.
- If the measured voltage is approximately 0.0 V – Proceed to step 3.

Step 3

With key **OFF**, disconnect the encapsulated harness at the PMCI connector. Turn the key **ON** and measure the voltage between the signal terminal of the PMCI and a battery earth:

- If the measured voltage is approximately 3.5 V – Replace the encapsulated harness. Proceed to the verification procedure listed at the end of this document.
- If the measured voltage is approximately 0.0 V – Proceed to step 5.

Step 4

With key **OFF**, disconnect the signal connector from the engine brake solenoid. Turn the key **ON** and measure the voltage between the signal terminal wire and a battery earth:

- If the measured voltage is approximately 3.5 V – Proceed to the verification procedure listed at the end of this document.
- If the measured voltage is approximately

0.0 V – Replace the pass-through harness.
Proceed to the verification procedure listed
at the end of this document.

Step 5

Possible PMCI failure - Contact the Engine
Support Center for further instructions about
replacing the PMCI.

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.

M046689 - 07/22/2015 19:13:25

This information applies exclusively to the entered chassis number or the selected engine type. Please take into account that this information may change daily. Therefore the provided information is only valid on 12-15-2015. You cannot derive any rights from the information provided with respect to vehicles and/or components of another series, with another chassis number, and/or of another date. (/)