P0017

Fault code description

Crankshaft speed signal - Not corresponding with engine position

Possible cause

1. Interruption or short circuit to earth on pin A56 of the ECU

2. Interruption on pin A55 of the ECU

3. Faulty or soiled crankshaft sensor (F552) and/or camshaft sensor (F558)

4. Too large an air gap between the crankshaft sensor (F552) and the flywheel

5. Too large an air gap between the camshaft sensor (F558) and the pulse wheel

6. Incorrect timing gear setting

7. Damaged flywheel and/or pulse wheel

Additional information

Monitoring camshaft to crankshaft synchronisation

Set condition of fault code

-

Reset condition of fault code

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

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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 12-12-2015. 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. (/)

P0017, Diagnostic information

Technical data

"Sensor, crankshaft (F552)"

"Sensor, camshaft (F558)"

Location of component(s)

"Location information, PMCI-2"

Electrical diagram(s)

"PMCI-2"

Description of component(s)

"Crankshaft sensor (F552)"

"Camshaft sensor (F558)"

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 any 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

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 crankshaft sensor from the engine harness and start the engine:

- If the engine starts – Proceed to step 3.
- If the engine does NOT start – Proceed to the step by step diagnostic for code P0016

Step 3

With key OFF, disconnect the crankshaft sensor. Measure the resistance between the signal and earth pins of the crankshaft sensor

> [i] Resistance values change with temperature

- If the resistance is acceptable – Proceed to step 8.
- If the resistance is NOT acceptable – Replace the sensor and reconnect the harness. Proceed to the verification procedure listed at the end of this document.

Step 4

With key OFF, disconnect the engine harness from PMCI. Perform a continuity test on all wires associated with the sensor:

- If the continuity is acceptable – Proceed to step 5.
- If the continuity is NOT acceptable – Replace the engine harness and reconnect. Proceed to the verification procedure listed at the end of this document

Step 5

With key OFF, inspect the connecting pins of the engine harness, sensor harness and PMCI:

- If the pins are acceptable – Proceed to step 6.

- If the pins are NOT acceptable – Replace the engine harness and reconnect. Proceed to the verification procedure listed at the end of this document. .

Step 6

With key OFF, reconnect all the harnesses. Reprogram the ECU. Proceed to the verification procedure listed at the end of this document:

- If the code is still active– Proceed to step 11

- If no code is present – Repair is complete.

Step 7

Possible PMCI failure – Contact the Engine Support Center for further instructions on replacement of the PMCI.

Step 8

With key OFF, disconnect the camshaft sensor. Crank the engine. Use an AC voltmeter to check the voltage between the signal and earth pins of the camshaft sensor:

- If the voltage is acceptable – Proceed to step 4.

- If the voltage is NOT acceptable – Proceed to step 9.

Step 9

With key OFF, remove the sensor and check for debris or damage:

- If Debris is found – Clean the sensor, reinstall and repeat step 8.

- **If Damage is found** – Replace the sensor and repeat step 8.

- **If No Debris or Damage is found** – Proceed to step 10.

Step 10

With key OFF, inspect the crankshaft tone wheel for damage through sensor pass-through:

- **If No damage is found** – Proceed to step 11.

- **If Damage is found** – Replace Flywheel (see Engine Rapido for information on Flywheel replacement). Proceed to the verification procedure listed at the end of this document.

Step 11

Verify correct timing of Crankshaft and Camshaft Gears:

- **If correct** – Proceed to step 7.

- **If not correct** – Check engine timing (see engine Rapido for instructions on timing the engine). Proceed to the verification procedure listed at the end of this document. If P0017 is still active - Proceed to step 7.

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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