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Title: Stumble or misfire on acceleration and setting cam codes on I6 engines from 1995 to present.*

Applies To: DT466 DT530 DT570 Maxxforce Engines

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

08/27/2015 - Fixed links to manuals.

DESCRIPTION

Stumble or misfire on acceleration and setting cam codes on I6 engines from 1995 to present.*

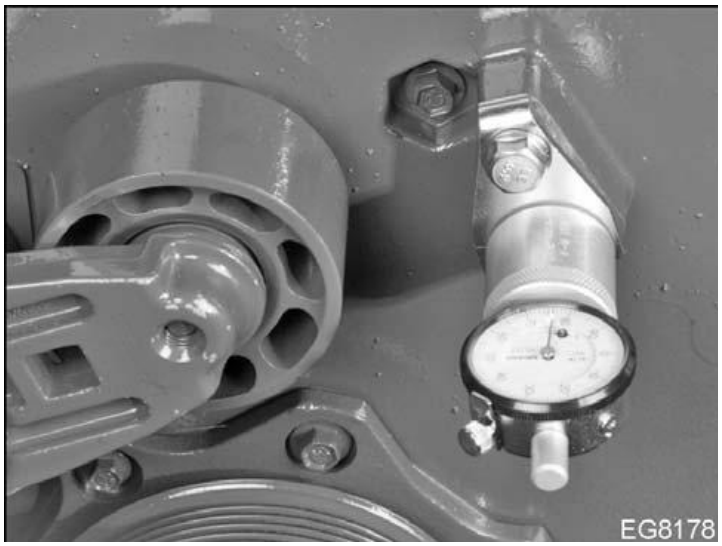
POSSIBLE DIAGNOSTIC TROUBLE CODES

DTC	MODULE	DESCRIPTION
143	ECM	Wrong number of CMP signal transitions per cam revolution
144	ECM	CMP signal noise detected
1143	ECM	CMP signal incorrect for CKP sync
1144	ECM	CKP signal noise detected

PROCEDURES

1. These cam codes can be set due to camshaft end play out of spec and may not even set a code at all but the truck is experiencing a surge, stumble, or misfire under a load during acceleration.
2. The camshaft end play will need to be checked, to do this you will need tool ZTSE4414 on pre EGR engines.

3. Remove the cam sensor and install the camshaft end play tool. Once the tool is installed rotate clockwise by hand 14 times and stop to zero out the tool. Next rotate the engine by hand 14 times counter clockwise and record the reading. The end play should be 0.005-0.013in, if it is higher than this the cam gear has walked off the camshaft.



4. This tool can also be used to measure camshaft run out as well. Install the tool and crank the engine and watch the fluctuation. Subtract the min and max number from each other and compare that reading to the spec of 0.008in or less.
5. On EGR and Maxxforce engines use this same method but a depth gauge will have to be used it measure the camshaft end play, no more the 0.013in.

RESOLUTION

The front cover will have to be removed and the cam gear will have to be replaced.

***Note**: if a truck has repeat injector tip failures on pre EGR engines, follow this procedure and check the camshaft end play.

OTHER RESOURCES

- Use the engine Service Manual for the proper procedure on the installation of the cam gear.
- https://evalue.internationaldelivers.com/service/SVCDOCS/Navistar/engine/eges2101.htm - Pre EGR DT
- https://evalue.internationaldelivers.com/service/SVCDOCS/Navistar/engine/eges2652.htm - EGR DT
- https://evalue.internationaldelivers.com/service/SVCDOCS/Navistar/engine/eges335.htm - MaxxForce DT

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