

TO: Service Locations

FROM: Service Systems Development

SUBJECT: **GHG17 DD Engine Platform With Water-In-Fuel Fault Codes SPN: 97
And Multiple FMI**

ISSUE

Some trucks are logging Water-In-Fuel fault codes SPN: 97 with multiple FMI variations. However, there is no actual water in the fuel tanks or on the bottom of the fuel filter module when the Water Drain Bowl Valve is opened. See Figure 1, item #1 in the left picture, for the location of the Water Drain Bowl Valve.

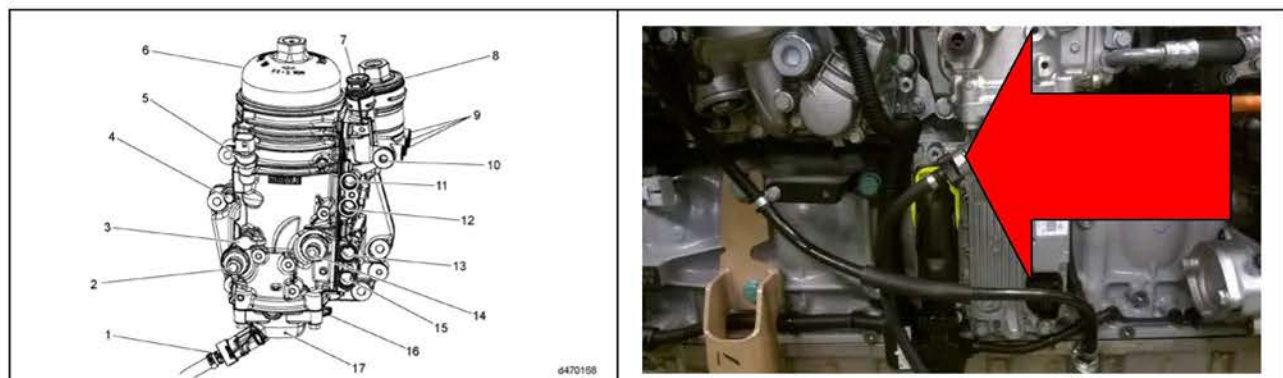


Figure 1 – Location of Water Drain Bowl Valve

CAUSE

The cause of the fault codes is due to coolant leaking internally in the watercooled Exhaust Gas Recirculation (EGR) Valve Actuator. The coolant then wicks down the electrical connector pigtail to the Engine Sensor Harness, and then to the Motor Control Module (MCM) 120-pin electrical connector. The EGR Valve Actuator and Water-In-Fuel Sensor share some wiring in the Engine Sensor Harness.

See Figure 2 for the location of the EGR Valve Actuator and Engine Sensor Harness connection for the DD13 and DD15.

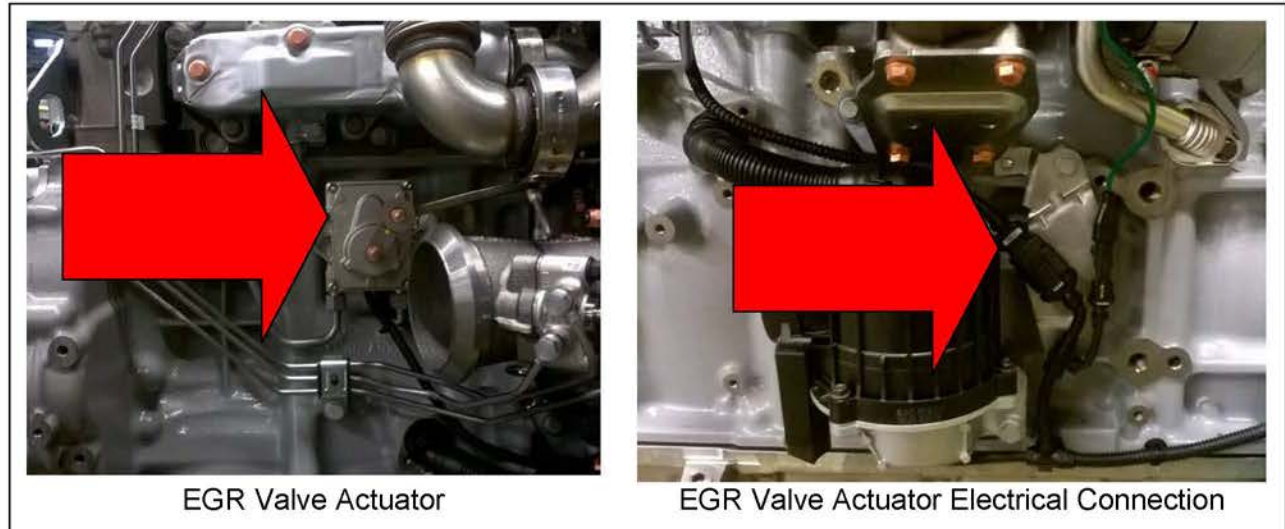


Figure 2 – Location of EGR Valve Actuator and Electrical Connection

REQUIRED ACTION

Follow the published troubleshooting for the applicable Water-In-Fuel code in Power Service Literature in the *GHG17 Troubleshooting Manual* (DDC-SVC-MAN-0191). If no water is found in the Water Drain Bowl, disconnect the EGR Valve Actuator connection to the Engine Sensor Harness and inspect both connectors for signs of coolant intrusion, corrosion, etc. If found, replace both the EGR Valve Actuator and Engine Sensor Harness. Inspect the Water-In-Fuel Sensor electrical connector for signs of coolant intrusion, corrosion, etc. If found, replace the Water-In-Fuel Sensor. Inspect the 120-pin connector at the MCM for signs of coolant intrusion, corrosion, etc. If found, replace the MCM. See Figures 3-5 for examples of damaged connectors.

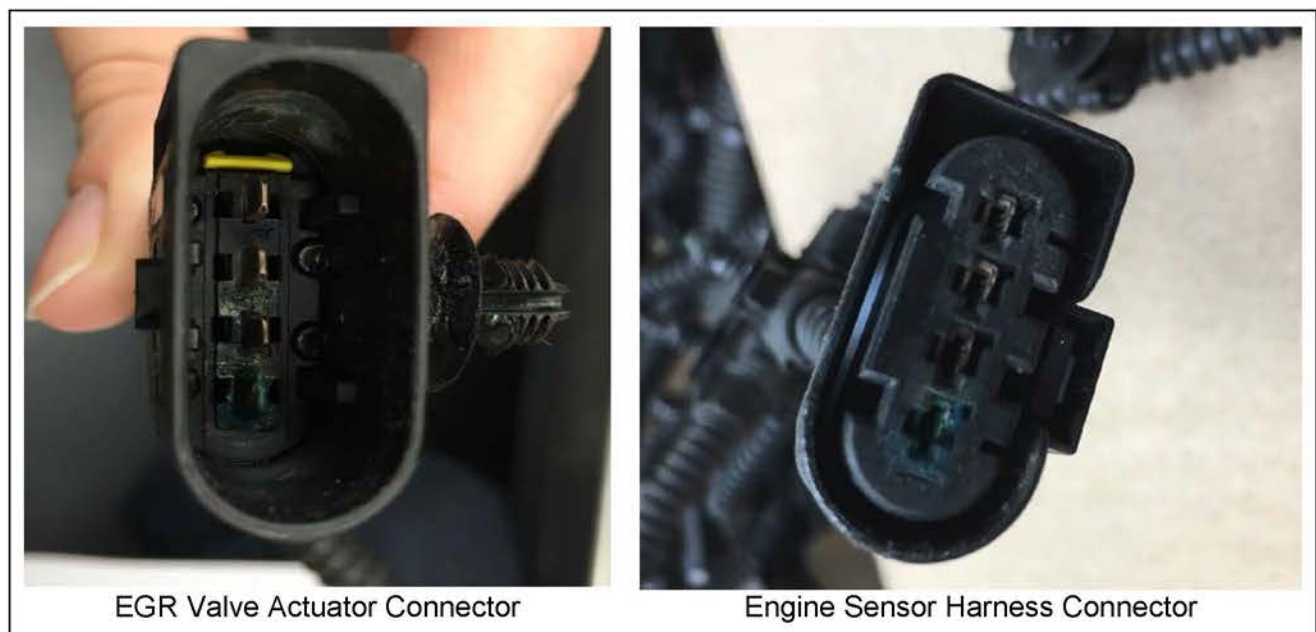


Figure 3 – Example of Damaged Connection at EGR Valve Actuator Connection



Figure 4 – Example of Damaged Connection at Water-In-Fuel Sensor Connection

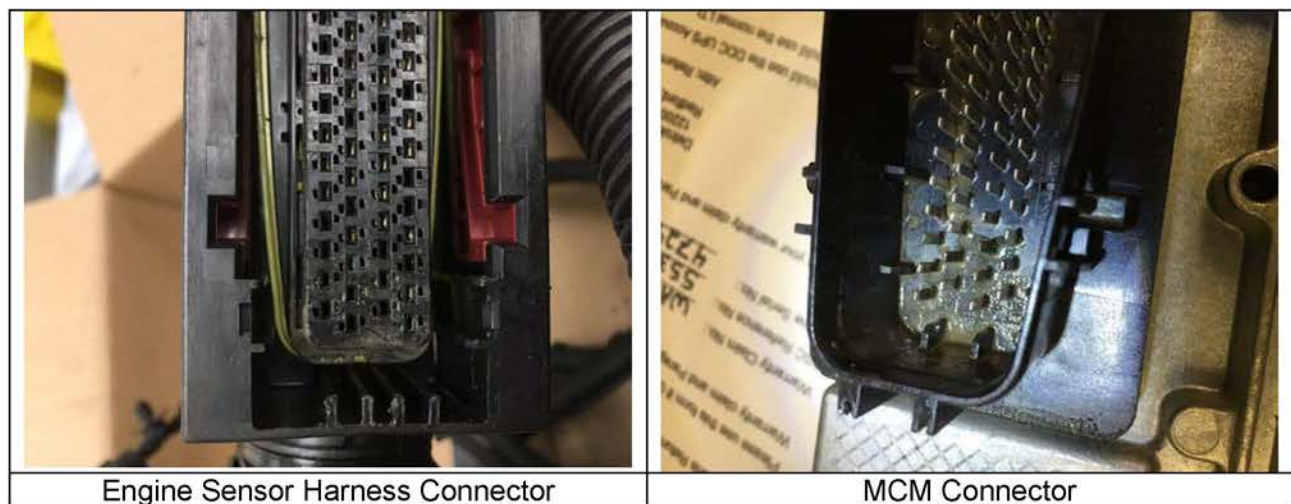


Figure 5 – Example of Damaged Connection at MCM 120-Pin Connection

MATERIAL

Reference the eParts Catalog for the applicable engine serial number for any parts that may need replacing.

REPAIR PROCEDURE

Follow the applicable repair procedures in the *GHG17 DD Platform Workshop Manual* (DDC-SVC-MAN-0190).

Note that if the EGR valve actuator is being replaced, it must be fully installed onto the engine with all necessary hardware attached before the ignition is turned on for the first time in the valve actuator's life. This is noted in the EGR Valve Actuator Installation procedures in the *GHG17 DD Platform Workshop Manual* (DDC-SVC-MAN-0190). This is because the EGR Valve Actuator does a "slow learn" the first time it's powered up to correctly learn the end stops as it fully cycles. Subsequent ignition sequences only have a "quick learn." If the EGR Valve Actuator is not correctly installed, the initial "slow learn" will be incorrect. This can be corrected by running the "EGR Actuator Slow Learn" procedure in DiagnosticLink®. Choose "EGR Actuator Slow Learn" from the Actions » EGR menu to display the EGR Actuator Slow Learn dialog box.

CLAIM PROCESS

Normal in-warranty procedures apply. **Proactive removal of properly functioning parts is not allowed under warranty.**

If a mechanical failure is found in warranty, file the claim against the appropriately failed EGR Valve Actuator part number.

- Claim type: 1 (base warranty) or 2 (extended coverage)
- Fault type: 83
- PFP for DD13/DD15: A4711501394
- PFP for DD16: A4701500694
- Parts return: Required. Reference letter [15CSA-24](#) for shipping information.

Troubleshooting may include the following labor operations and times:

- Labor Operation 061006, EGR Valve Actuator R&R
- Labor Operation 021905A, Engine Sensor Harness Diagnostics-Easy
- Labor Operation 021905, Engine Sensor Harness R&R
- Labor Operation 021900, Motor Control Module (MCM) R&R
- Labor Operation 021901, Reprogram One Module (MCM, CPC, or ACM)
- Labor Operation 021802, Detroit Sensor R&R
- Admin Labor Operation 939-6010B

CONTACT INFORMATION

Please contact the Detroit Customer Support Center at 800-445-1980 or email csc@daimler.com if you have any questions.