



Technical Service Bulletin

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Fault Codes 1713, 1715, 3868, 4277, 4572, and 4677 Caused by Diesel Exhaust Fluid (DEF) Tank Heater Control Valve Stuck Partially Open

Fault Codes 1713, 1715, 3868, 4277, 4572, and 4677 Caused by Diesel Exhaust Fluid (DEF) Tank Heater Control Valve Stuck Partially Open

Warranty Statement

The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

Contents

Product Affected

- B6.7 CM2350 B121B
- B6.7 CM2450 B155B
- F3.8 CM2350 F120B
- F3.8 CM2350 F132B
- ISB6.7 CM2350 B101
- ISL9 CM2350 L101
- ISX12 CM2350 X102
- ISX15 CM2350 X101
- ISX15 CM2350 X114B
- ISX15 CM2350 X116B
- L9 CM2350 L116B
- L9 CM2350 L123B
- L9 CM2450 L126B
- QSB4.5 CM2350 B106
- QSB4.5 CM2350 B122
- QSB6.7 CM2350 B105
- QSB6.7 CM2350 B112
- QSF3.8 CM2350 F107
- QSF3.8 CM2350 F118
- QSF3.8 CM2350 F119
- QSL9 CM2350 L102

- QSL9 CM2350 L107
- QSL9 CM2350 L118
- QSL15 CM2350 X105
- QSL15 CM2350 X106
- QSL15 CM2350 X118
- X12 CM2350 X119B
- X12 CM2450 X137B
- X15 CM2450 X124B
- X15 CM2450 X134B

Issue

Symptom

- Fault Codes:
 - FC1713: Aftertreatment 1 Diesel Exhaust fluid tank heater - Data Valid but Above Normal Operating Range - Moderately Severe Level
 - FC1715: Aftertreatment Diesel Exhaust Fluid Quality - Root Cause Not Known
 - FC3868: Aftertreatment Diesel Exhaust Fluid Quality - Abnormal Update Rate
 - FC4277: Aftertreatment Diesel Exhaust Fluid Quality - Abnormal rate of change
 - FC4572: Aftertreatment 1 Diesel Exhaust Fluid Tank Temperature - Abnormal Update Rate
 - FC4677: Aftertreatment 1 Diesel Exhaust Fluid Tank Level - Abnormal Update Rate

Root Cause

- These fault codes can be caused by an aftertreatment diesel exhaust fluid (DEF) tank heater coolant control valve that is **not** closing completely.

Verification

- Perform Troubleshooting for FC1713, Aftertreatment 1 Diesel Exhaust fluid tank heater - Data Valid but Above Normal Operating Range - Moderately Severe Level.

Resolution

- A) If aftertreatment diesel exhaust fluid tank heater coolant control valve is functioning normally and no issues are found, continue troubleshooting the following fault codes:
 - FC3868: Aftertreatment Diesel Exhaust Fluid Quality - Abnormal Update Rate
 - FC4572: Aftertreatment 1 Diesel Exhaust fluid tank Temperature - Abnormal Update Rate
 - FC4677: Aftertreatment 1 Diesel Exhaust Fluid Tank Level - Abnormal Update Rate
- B) If aftertreatment DEF tank heater coolant control valve is **not** operating correctly and is allowing coolant to flow through aftertreatment DEF tank heater circuit, repair or replace aftertreatment DEF tank heater control valve as directed in Fault Code 1713 troubleshooting tree. See equipment manufacturer service information for direction on aftertreatment DEF tank heater control valve replacement.

- If resolution B above was performed and the fault codes below become active again, continue troubleshooting the following fault codes:
 - FC3868: Aftertreatment Diesel Exhaust Fluid Quality - Abnormal Update Rate
 - FC4572: Aftertreatment 1 Diesel Exhaust fluid tank Temperature - Abnormal Update Rate
 - FC4677: Aftertreatment 1 Diesel Exhaust Fluid Tank Level - Abnormal Update Rate

Document History

Date	Details
2017-4-19	Module Created
2020-11-2	Added product affected.
2021-4-16	Added product affected.
2021-7-29	Added QSX15 CM2350 X105, QSX15 CM2350 X106, and QSX15 CM2350 X118.
2026-8-10	Updated Fault Codes list and Symptoms section.

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