

**SUBJECT****SB-10057565-1797****High Voltage Isolation Fault Code Troubleshooting****MODEL**

I01 (i3 and i3 REx)

I12 (i8)

INFORMATION

The monitoring of isolation resistance is intended to ensure proper separation (isolation) between HV+ or HV- and the vehicles ground. When the isolation resistance between HV+/- and ground drops below a predetermined threshold, a Drivetrain Malfunction check control message (CCM 794) will be displayed. This condition will not lead to a breakdown or prevent restarting.

In addition, the following fault codes are stored in the EME and SME:

- 222814 – HV Battery, Insulation warning
- 22280F – HV Battery, Insulation error
- 21F0E3 – Insulation error in total system
- 21F0E4 – Insulation warning in total system

Since isolation resistance is monitored as a continuous loop in the high voltage network, troubleshooting these faults to find the faulty component can be challenging, especially when the fault is not currently present. The test plan (ABL_DIT_AT6100_HVISO) is very effective at locating isolation faults that are currently present, and should be run anytime the vehicle has an isolation fault code stored. However, in a scenario where the fault is not currently present, the test plan is not capable of locating the faulty component.

When troubleshooting an isolation fault that is not currently present and cannot be reproduced, the following is necessary:

- Find out from the customer what conditions were surrounding the illumination of the CCM. This includes information such as:
 - When did it occur (i.e. immediately after startup, during city/highway driving, upon shutdown, etc.)?
 - Did it occur after any notable driving conditions (i.e. driving over railroad tracks, driving through a large puddle, etc)?
 - How often is the Drivetrain Malfunction CCM present?
 - Was the REx engine running, and for how long?
 - Environmental conditions (i.e. approximate temp, raining, etc).
 - Was vehicle drivability affected in any way?
 - Any other information that is believed to be relevant.
- Submit a TC PuMA case entitled “I01 Isolation Faults” for further assistance.

WARRANTY INFORMATION

Not applicable

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