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BATTERY, MOUNTING AND CABLES – VEHICLES WITH: NON-ELECTRIC VEHICLES

BATTERY (G2401003)

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PRINCIPLES OF OPERATION

For a detailed description of the battery system and operation, refer to the relevant Description and Operation section of the workshop manual REFER to: [Battery, Mounting and Cables - \[+\] Non-Electric Vehicles](#) (414-01A Battery, Mounting and Cables - Vehicles With: Non-Electric Vehicles, Description and Operation).

INSPECTION AND VERIFICATION

 CAUTION:

Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault and may also cause additional faults in the vehicle being checked and/or the donor vehicle.

 NOTES:

- Generic scan tools may not read the codes listed, or may read only five digit codes. Match the five digits from the scan tool to the first five digits of the seven digit code listed to identify the fault (the last two digits give additional information read by the manufacturer-approved diagnostic system).
- When performing voltage or resistance tests, always use a digital multimeter that has the resolution ability to view 3 decimal places. For example, on the 2 volts range can measure 1mV or 2 K Ohm range can measure 1 Ohm. When testing resistance always take the resistance of the digital multimeter leads into account.
- Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.
- If Diagnostic Trouble Code(s) (DTC)s are recorded and, after performing the pinpoint tests, a fault is not present, an intermittent concern may be the cause. Always check for loose connections and corroded terminals.

1. Verify the customer concern

2. Visually inspect for obvious signs of mechanical or electrical damage

Visual Inspection

MECHANICAL

ELECTRICAL

MECHANICAL	ELECTRICAL
■ Generator ■ Drive belt ■ Drive belt tensioner ■ Generator pulley ■ Check the security of the generator fixings	■ Generator ■ Battery ■ Battery connections ■ Starter motor ■ Harnesses and connectors ■ Fuses ■ Charge warning lamp function

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step

4. If the cause is not visually evident check for DTCs and refer to the DTC Index

5. Check the Jaguar Land Rover claims submission system for open campaigns. Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and complete the recommendations as required

POWER SUPPLY SERVICE MODE DIAGNOSTIC ROUTINE APPLICATION



NOTE:

The Jaguar Land Rover approved battery support unit **must** be disconnected when the diagnostic routine application runs through its process.

Connect the Jaguar Land Rover approved diagnostic equipment to the vehicle. Locate and run the 'Power supply service mode diagnostic' application by following the on-screen instructions

The diagnostic routine will perform five tests as follows:

1. Check the customer and vehicle system's battery usage. To do this it will interrogate the Battery Monitoring Sensor (BMS) for data, this is only applicable for vehicles with a battery age greater than 30 days, **do not** reset the battery time in service counter prior to running this application. This will give guidance as to the customer and vehicle use of available power and how this has affected the battery for example high discharge due to use of the in car entertainment without the engine running
2. Check for known DTCs that will prevent the tests that will follow from being performed, this will show updated help text around these DTCs
3. Set the generator to mid voltage point, this will check that the Local Interconnect Network (LIN) bus is working correctly and that the generator is able self regulate, this is done by checking the voltage and current at the generator and the battery

4. Switch the generator off, this will check that the LIN bus is working correctly and that the generator is able to self regulate, this is done by checking the voltage and current at the generator and the battery
5. Switch the generator to max charge, this will check that the LIN bus is working correctly and that the generator is able to self regulate, this is done by checking the voltage and current at the generator and the battery

When the routine application is complete, exit the session. Using the Jaguar Land Rover approved battery diagnostic equipment complete any further specific battery tests as required

SYMPTOM CHART

SYMPTOM	POSSIBLE CAUSES	ACTION
DTC B11DB-87 set in Gateway Module	- Gateway Module connections insecure - Battery monitoring sensor	- Using the Jaguar Land Rover approved diagnostic equipment, refer to the 'Auto Stop-Start System' guided diagnostic - To navigate to the guided diagnostic select - 'Guided Diagnostics' /'Powertrain'/'Engine'/'Auto Stop-Start system'
Battery power to vehicle interrupted	High resistance between battery terminals and clamps	Refer to the Battery Diagnostics instructions for the Midtronics GRX-3080 / EXP-1080 / GR8-1180 Diagnostic Battery Chargers in this Section

FURTHER BATTERY DIAGNOSTICS

For further guidance in diagnosing battery issues, refer to the battery diagnostics instructions for the Midtronics GRX-3080 / EXP-1080 / GR8-1180 Diagnostic Battery Chargers in this section

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For a list of DTC that could be set on this vehicle, please refer to Section 100-00.