



SIM 61 06 07

2023-10-25

Discharged Battery: Energy Diagnosis Must Be Performed

This Service Information Bulletin (Revision 3) replaces SI M61 06 07 **dated May 2021**.**What's New** (Specific text highlighted):

- Situation
- Procedure, updates in process
- Claim Information, removal of Midtronics battery tester
- Removal of M61 06 07 Attachment

 THIS REPAIR IS MOBILE FRIENDLY
MODEL

All vehicles produced from 3/2004 (except I-Bus vehicles)

SITUATION

MINI electrical systems have continued to develop over the past few years. As a result, the demand on the batteries has increased. Breakdowns due to an empty battery or problems in the vehicles electrical system can have various causes, most of which are not due to the battery itself. For this reason, a battery replacement will permanently eliminate the problem only in the rarest of cases.

The energy diagnosis test module helps to localize these causes. This document covers important information for the dealer on how to handle “discharged battery” complaints.

Without performing the energy diagnosis test plan, the root cause of a discharged battery cannot be identified. In order to properly repair the vehicle the first time, it is very important that the diagnostic test plan is performed to completion; with all results taken into consideration.

CAUSE

A discharged battery can have various causes, most of which do not concern the battery itself. **A failed battery is often the symptom, not the cause.** A fully serviceable battery can fail when an electrical component causes the battery to discharge; the battery becomes internally damaged and must be replaced. For more information, reference BMW Group’s “TECHNIPEDIA”.

For this reason, replacing the battery is not usually a permanent repair. The cause of the discharged battery must be analyzed in order to guarantee a proper repair.

PROCEDURE

Vehicles with an advanced intelligent battery sensor (IBS) can now monitor the condition of the battery to determine if it needs to be recharged or replaced. The analysis and testing of the battery’s SoC (State of Charge) and SoH (State of Health) is now performed using ISTA (Integrated Service Technical Application) diagnosis.

- For vehicles **with High Voltage (HV) battery faults**, perform the applicable test plan and proceed with the test plan recommendations
- For all models **with other battery faults (specifically the 12 V battery)**, the “Energy Diagnosis” must be performed for **all** discharged battery complaints

Complete the energy diagnosis test plan on every vehicle with a discharged battery.

1. Fault analysis (Energy Diagnosis)

There are currently two paths to access the energy diagnosis test plan:

- a. If a power management fault is stored, ISTA will select the energy diagnosis test plan automatically.
- b. To manually select the test plan, navigate to: “Vehicle Management > Troubleshooting > Function structure > Body > Voltage supply > Energy diagnosis”

If fault codes are stored, the test plan displays the **“Most Likely Causes”**. Complete the test plan by processing **all “Most Likely Causes”**. Start from **the top**, where the **most recent cause** of the discharged battery is listed.

If the cause of the battery failure is undetermined, work through **all selections in the General information section** to determine the cause of the failure.

When no “Most Likely Causes” are found, the results screen will display: **“Most Likely Cause (0), is undetermined”**. Thoroughly work through **all selections in the General information section to determine the cause of the battery failure**.

NOTE: When the test plan displays “State of charge of the battery is too low **Recharge battery!**”, charge the battery until it is fully charged.

- Disconnect the ICOM, battery charger, and allow the vehicle to sit for a minimum of 3 hours
- This enables the IBS to update the batteries SoC in the engine control (DME, EDME)
- Additionally, a battery with a surface charge has a slightly elevated voltage and may give false readings

When a vehicle battery is **unrecoverable after extended charging**, it can be exchanged to continue the Energy Diagnosis test plan. **Do not register the exchanged battery until the Energy Diagnosis test plan is thoroughly completed**. When battery registration or programming is performed, the stored energy history will be deleted. This may cause a vehicle comeback repair visit if the root cause of the discharged battery undetermined.

- **Do not register a battery exchange until the Energy Diagnosis test plan has been fully completed**
- **Do not program the vehicle until the Energy Diagnosis test plan has been completed**

Ensure you have completed all “Most Likely Causes” and all selections in the General information section when the root cause of the discharged battery cannot be determined.

When possible, allow the vehicle to rest overnight to verify the repair and ensure its start ability.

NOTE: Some sections of the Energy Diagnosis test plan are conditional to the responses entered by the technician. The results that are returned are directly determined by the information which the technician inputs.

Providing incorrect answers may lead to inadequate and/or misdiagnosis of the vehicle, increasing the possibility of a comeback repair visit, in addition to the refusal or debit of the applicable claim submission.

2. The following is a list of reasons for a discharged battery, indicated by the results of the test plan.

A. Examples of vehicle faults

- Battery fault (aged battery – only on IBS-equipped vehicles)
- Alternator fault
- Vehicle is not entering sleep mode (sleep mode prevented)
- Vehicle is constantly woken from sleep mode
- Closed-circuit current is too high

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- Exhaustive battery charge (**for information only**)
- Terminal 30g-f shutdown due to start capability limit (**for information only**)
- Terminal 30F shutdown due to start capability limit (**for information only**)
- Terminal 30B electric fan or coolant pump after-run (**for information only**)
- Undetermined
- Lights/hazard warning lights left on for too long

“Lights left on” is only considered a vehicle fault, and can only be claimed under applicable limited warranty if the following conditions exist:

1. If other “Most Likely causes” are listed that indicate the battery was already heavily discharged (listed as **for information only** above).
2. If the State of Charge readings for the last 5 days indicate a heavily discharged battery (typically below 40%).

B. Examples of operating faults

- Lights/hazard warning lights are left on too long
- Terminal R or terminal 15 left on too long (this fault may also be set when the vehicle is in the workshop – if the mileage the fault set is the same as the current mileage of the vehicle)
- Vehicle is parked for an excessively long immobilization period
- Parking lights, roadside parking lights or hazard warning flashers were switched on too long
- Average driving performance (short-distance driving)
- The vehicle was used intensively without the engine being started (a long period in the PWF status “residing”)
- Vehicle used when stationary
- Frequent or long-term use of auxiliary energy consumers (e.g., remote-controlled functions or pre-heating), which can also prevent going to sleep and increased electrical consumption

C. General Information

General information is available in the energy diagnosis test plan and can be accessed at any time. Additional information is available for diagnosis of power management and battery issues.

For claim submissions, work through all selections in the General Information.

- **Battery** (displays the current and last five days’ values for the SOC and start capability limit)
- **Closed-circuit current monitoring** (list the last 12 closed current monitoring processes for vehicles equipped with an (IBS) Intelligent battery sensor)
- **Stationary period/ Stationary use** (displays the number of days the vehicle has been parked and not driven)
- **Average driving performance** (displays a value and explanation for average number and trips in a single numeric value)
- **Consumer reduction** (displays energy load reduction)
- **Charge states** (displays the amount of time in each SoC range by hours) charge status is reset by programming or battery registration.
- **Aging battery** (displays a stress value based on the age of the battery)
- **Battery tests** (for the charge acceptance and start voltage dips added to general information. This makes extended evaluation of the battery possible, allowing potential damage to the battery to be detected by charging the battery within a 10-minute period and monitoring the amperage charge acceptance of the battery). (Note: currently unavailable for PHEV and BEV vehicles)
- **Battery check control messages** (displays stored battery relevant check control messages)
- **History of test module changes** (displays history of most recent test module changes)
- **Determined fault causes** (displays [1] “Most Likely Cause”)

If a new battery is installed, the “Energy Diagnosis” test plan should be completed prior to registering the new battery. When the battery is registered, the stored energy history is deleted. This may cause the vehicle to return if the root cause of the discharged battery is not determined.

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Checking the charging system

Refer to the MINI diagnosis system for testing the alternator using the following path: “Vehicle management > Troubleshooting > Function structure > Drive > Engine electronics > Power supply, vehicle electrical system > Alternator”.

Checking the battery condition

Refer to SI M61 01 02 for battery requirements.

New battery registration

Registration of the new battery is necessary using the MINI diagnosis system service function. If the new battery is not registered, erroneous messages (check control) may appear.

Use the following path to register the new battery: “Vehicle management > Service functions > Body > Voltage supply > Battery > Register battery change”.

Recharging the battery

Refer to SI M61 03 07 for information on connecting the battery charger.

CLAIM INFORMATION

To claim an eligible faulty battery, either under the MINI New Passenger Car Limited Warranty, or the MINI Original (Genuine) Parts Warranty (eligible In-dealer workshop repairs only), the Energy Diagnosis test plan must first be performed to completion.

To assist you in determining the coverage on a battery, please refer to the following guidelines:

Battery Replacement covered under warranty when the results of the Energy Diagnosis test plan are:

- A vehicle fault; or
- An undetermined fault; or
- An operating fault such as unfavorable driving profile (e.g., driven extremely short distances) and the Energy Diagnosis results indicate the battery needs to be replaced.

A “Stand-alone” faulty battery is claimed using the battery Repair Code listed in AIR.

Other Repairs

If it is determined that some other **covered** vehicle fault and repair caused the battery to fail, the failed battery is to be claimed under the AIR Repair Code that applies to the failed (causal) component or repair (for example, alternator, permanent failure).

Battery Replacement are not covered under warranty when the results of the Energy Diagnosis test plan are:

Operating faults: Such as the vehicle being parked too long (vehicle parked for extended periods without proper battery maintenance), battery not maintained, etc.

Based on which one applies to your dealer, please refer to **SI M01 01 20 or M01 04 20** for the applicable procedure for documenting, claiming, and explaining, on the RO and in the claim comments, your diagnosis work time (WT), job/repair work time (WT), and the vehicle repairs your dealer performed, unless otherwise required by State law.

FEEDBACK REGARDING THIS BULLETIN

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Warranty Feedback	To submit feedback for the CLAIMS section of this bulletin: Submit an IDS ticket to the Warranty Department, or use the chat available in the Warranty Documentation Portal
Parts Feedback	To submit feedback for the PARTS section of this bulletin: Submit an IDS ticket to the Parts Department

Supporting Materials

[picture_as_pdf M61 06 07 Attachment.pdf](#)

Diagnosis of Battery complaints on BN2000 vehicles

Possible complaints: Slow/no crank, time and date reset, CC message "High battery drain", reduction or shutdown of individual consumer

