



This Service Information bulletin supersedes SI B61 13 05 **dated May 2014**.

NEW designates changes to this revision

SUBJECT

Discharged Battery: Energy Diagnosis Must Be Performed

MODEL

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

SITUATION

The electrical system of BMW vehicles has been subject to an ongoing development process over the last few years. This has led to increased demands being placed on the battery. This document covers important information for the dealer on how to handle “discharged battery” complaints.

In order to properly repair the vehicle the first time in the workshop, it is very important that the diagnostic test plans are performed to completion, with all results taken into consideration.

Without performing the energy diagnosis test plan, the root cause of the discharged battery cannot be identified. This increases the chances of a repeat repair.

CAUSE

A discharged battery can have various causes, most of which do not concern the battery itself. A failed battery is often the symptom and not the cause. A fully serviceable battery fails when an electrical component causes the battery to discharge; the battery becomes internally damaged and must be replaced.

For more information, refer to www.batteryuniversity.com/parttwo-42B.htm. 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

Before starting diagnosis, refer to the attached flowchart, which will guide you through this procedure and can be used as a reference guide for all E-Series and F01/F02 vehicles produced up to 9/2010.

All F-Series vehicles, starting with the F01/F02 produced from 9/2010, are equipped with advanced onboard battery diagnostics. This advanced battery diagnosis is now part of the energy diagnosis test plan with the introduction of ISTA 3.41.

For all models, it is recommended that “Energy Diagnosis” be performed on all discharged battery complaints.

1. Fault analysis (Energy Diagnosis)

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

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

- If a power management fault is stored, ISTA will select the energy diagnosis test plan automatically.
- The test plan can also be selected manually: “Function structure>Body>Power supply>Energy Diagnosis.”

2. Once the test plan is run, the number [1] “**Most Likely Cause**” is automatically displayed if any faults are found by the test plan. Complete the test plan by processing all the “Most Likely Causes.” Start from [1], where the most recent cause of a discharged battery is listed. If no “Most Likely Causes” are found, the results screen will display: “Most Likely Cause (0),” is undetermined.
3. 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
- Closed-circuit current infringement
- 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 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%).

NEW B. Examples of operating faults

- Lights/hazard warning lights left on for too long
- Terminal R or terminal 15 left on for 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 parked for too long
- Vehicle used when stationary

NEW C. General Information

General information is available in the energy diagnosis test plan and can be accessed at any time. With the introduction of ISTA 3.49.10, additional information is now available for the technician for assistance with diagnosis of power management and battery issues.

- Results of the last closed-circuit monitoring sessions (only for vehicles equipped with an IBS)
- Battery (displays the current and last five days' values for the SOC and start capability limit)
- Battery test (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)
- State of charge histogram (displays the amount of time in each SOC range by hours and minutes)
- Average journey overview (journeys from the last five weeks, and the average number of kilometers per journey driven in the last five weeks are displayed)
- Immobilization period (the number of days that the vehicle was parked and not driven)
- History of most recent changes in the test module (displays the changes in this test module with this ISTA version).

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.

WARRANTY INFORMATION

NEW To claim an eligible faulty battery either under the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks or the BMW Original Parts Warranty (eligible In-center workshop repairs), the Energy Diagnosis test plan must be performed to completion.

When required, a Midtronics' Battery Test procedure must also be performed. The Midtronic battery tester printout(s) must be retained with the repair order.

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

Covered under warranty when the results of the Energy Diagnosis test plan show:

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

A “Stand-alone” faulty battery is claimed using the battery defect code listed in KSD2.

NEW Other Repairs

NEW 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 KSD2 defect code that applies to the failed (causal) component or repair (e.g., alternator, permanent failure).

Not covered under warranty when the results of the Energy Diagnosis test plan shows:

- An operating fault such as the vehicle being parked too long (vehicle parked for extended periods without proper battery maintenance), battery not maintained, etc.

ATTACHMENTS

View PDF attachment [B611305 BN2000 Battery Diagnosis](#).

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