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This Service Information bulletin supersedes SI B61 13 05 **dated March 2008.**

**NEW** designates changes to this revision

#### **SUBJECT**

### **Dead Battery - Energy Diagnosis Must Be Performed**

#### **MODEL**

E90, E91, E92, E93 (3 Series)

E60, E61 (5 Series)

E63, E64 (6 Series)

E65, E66 (7 Series) from 3/2004 vehicle production

E70 (X5)

#### **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 "dead battery" complaints.

A dead battery can have various causes, most of which do not concern the battery itself. For this reason, replacing the battery is not usually a permanent repair. The cause of the dead battery must be analyzed in order to guarantee a proper repair.

Only use the latest diagnostic software when diagnosing dead battery complaints.

For this reason, "Energy Diagnosis" must be performed on all dead battery complaints. At the conclusion of the "Energy Diagnosis" test plan, a diagnostic code will be generated.

This code must be included in the "Comments" section when submitting the warranty claim. Failure to quote the diagnostic code in the comments of the warranty claim may result in a delay in processing or refusal of the warranty claim.

In some cases, the "Energy Diagnosis" test plan stops before the results screen can be displayed. This error is corrected with the release of DIS V53.

The two exceptions to the rule are:

- Battery damage and leakage
- Use of mobile service and battery replacement to restore customer drivability as soon as possible. In the case of a battery replacement during a roadside repair, a subsequent service appointment

needs to be scheduled for the customer in order to perform an energy diagnosis to locate and address the cause of the battery failure, as well as to register the replacement battery.

## CAUSE

Refer to the "Procedure" section of this service information for details.

## PROCEDURE

### 1. Fault analysis (Energy Diagnosis)

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

- If a power management fault is stored, the DIS will select the energy diagnosis test plan automatically.
- The test plan can also be selected manually: "Function selection>Complete vehicle>Body>Power supply>Energy diagnosis>Execute energy diagnosis>Test plan".

Note: The vehicle must have had a dead battery before Energy Diagnosis can be performed. Also, fault codes must not be deleted.

Once the test plan has finished, the "Most Likely Causes" are automatically displayed if any are calculated by the test plan (new with DIS V53). Finish the test plan by processing all the "Most Likely Causes" starting from [1]. If no "Most Likely Causes" are calculated, the results screen will be displayed: "Most Likely Cause (0)".

Possible causes are:

#### Vehicle fault

- Battery fault/alternator fault
- Vehicle is not entering sleep mode
- Vehicle is constantly awoken from sleep mode
- Closed-circuit current is too high
- Exhaustive battery charge (**for information only**).
- Terminal 30g-f shutdown due to start capability limit (**for information only**).
- Undetermined

#### Operating fault

If one of the causes shown below is displayed in "Most Likely Cause", this is not considered a factory defect and a warranty claim should not be submitted, even though a diagnostic code is generated at the end of the test plan.

- Lights/hazard warning lamps left on for too long

- **NEW** Terminal R/15 left on for too long

Except for the vehicles listed below, the fault is set when the engine is off and terminal 15/R is left on for more than 30 minutes, and the power supply drops below 11.5 volts for at least 2 minutes. The amount of time that terminal 15/R is left on is accurate.

For the following vehicles, this fault is not reliable and should not be considered a customer error:

- E65 and E66 (7 Series)
- E90, E91, and E92 (3 Series) prior to 3/07
- E60 and E61 (5 Series), vehicle integration level prior to E060-07-09-500
- E63 and E64 (6 Series), vehicle integration level prior to E060-07-09-500
- E70 (X5) prior to 3/07
- Unfavorable driving profile (e.g., extremely short distances)
- Vehicle parked for too long

A functional description of Energy Diagnosis and terminal control, together with troubleshooting information, can be found in the Energy Diagnosis test module.

## 2. Closed circuit current measurement

Refer to [SI B61 08 00](#), Closed Circuit Current Measurement, for the procedure and troubleshooting hints.

Refer to the DIS/GT1 functional description for further information. Use the following path to access this information:

- All except E65 and E66: Complete vehicle>Drive>Voltage and current control>Voltage and current supply>Off-load current measurement.
- E65 and E66: Complete vehicle>Body>Power supply>Closed-circuit current performance>Closed-circuit current diagnosis.

## 3. Checking the charging system

Refer to [SI B04 25 02](#) for information on how to test the charging system.

## 4. Checking the battery condition

Refer to [SI B04 25 02](#) for information on how to test the battery.

Refer to the DIS/GT1 functional description for further information. Use the following path to access this information:

- All except E65 and E66: Complete vehicle>Drive>Voltage and current control>Voltage and current generation
- E65 and E66: Complete vehicle>Body>Power supply>Alternator

## 5. New battery registration

Registration of the new battery is necessary, using the DIS/GT1 service function. If the new battery is not registered, erroneous messages (check control) may appear.

Use the following path to register the new battery: "Function selection>Service functions>Body>Power supply>Battery>Register battery change>Test plan". Follow the test plan instructions.

**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 dead battery is not determined.**

## 6. Recharging the battery

Refer to [SI B04 11 02](#) for information on how to recharge the battery.

### WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty.

<b>Defect Code:</b>	<b>61 21 07 59 00</b>	
<b>Labor Operation:</b>	<b>Labor Allowance:</b>	<b>Description:</b>
Refer to KSD*	Refer to KSD	Refer to KSD

\*Main Work - use this labor operation number when this is the only repair being performed, or if this is the main repair when performed along with other repairs at the same time. If this is not the main repair, refer to KSD for the associated (+) labor operation code.

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