

**SUBJECT****Intelligent Battery Sensor Diagnosis Hints****MODEL**

E60 (5 Series)

E61 (5 Series)

E63 (6 Series)

E64 (6 Series)

E70 (X5)

E71 (X6)

E82 (1 Series)

E88 (1 Series)

E84 (X1)

E89 (Z4)

E90 (3 Series Sedan)

E91 (3 Series Sports Wagon)

E92 (3 Series Coupe)

E93 (3 Series Convertible)

SITUATION

The vehicle enters the workshop with one or more of the following complaints:

- Check Control Message related to battery discharge
- No-start condition
- Consumer power reduction (reduced blower speed, heated seats operation, etc.)
- The following fault codes may be stored in the DME
 - a. 2E8B – Intelligent battery sensor, signal
 - b. 2E8C – Intelligent battery sensor, function
 - c. 2E8D – Intelligent battery sensor, signal transmission
 - d. 2E8E – Intelligent battery sensor, communication

CAUSE

A faulty battery or IBS sensor (**not both**)

The power management system and IBS in the vehicle cannot determine if the battery needs to be replaced. This is normal operation for all E-Series vehicles because they do not have the Advanced IBS sensor that the F-Series vehicles do.

An external battery tester (Midtronics EXP-1000) must be used to determine if the battery needs to be replaced. Energy Diagnosis will not prompt for a battery replacement unless the battery is “aged.” When energy diagnosis identifies the battery as “aged,” it means the amount of energy discharge over the course of the life of the battery has reached its maximum (worn out).

In most cases, energy diagnosis states that the battery is OK. This is typically an indication of the current State of Charge (SoC), not the State of Health (SoH).

The SoC is defined as the current amount of energy left in the battery (displayed as a percentage). The SoH is defined as an evaluation of the condition of the battery over a period of time (displayed as a percentage).

For more information about batteries, refer to Training Manual ST051, “07 Battery Basics.”

PROCEDURE

1. Perform diagnosis using ISTA. Complete all test plans related to power management faults that are stored, including the energy diagnosis test plan.
2. If no power management faults are stored and only IBS faults are stored, complete the test plans linked to the faults mentioned in the situation above. **Only replace the IBS sensor when prompted by the test plan.** If no IBS faults are stored in the vehicle, proceed to the next step.
3. Test the battery using a Midtronics EXP-1000 battery tester. Follow the tester recommendation.
4. As a result of diagnosis, either the battery or the IBS must be replaced. Further analysis has shown that replaced IBS sensors are not defective if they were replaced without a fault code stored.

General diagnosis hints:

- View the State of Charge (SoC) and starting ability values to determine what shape the battery has been in currently and for the last five days. This can be accessed directly in the energy diagnosis test plan under general information.
- If the SoC values for the last five days consistently show between 30% to 40%, the battery is worn out. Proceed to the next point.
- The state of health of the battery can only be tested using the BMW battery tester (Midtronics EXP-1000 recommended, especially for AGM batteries).
- SoC values that show as “undetermined” in ISTA do not indicate an error with the IBS, but rather a worn-out battery or a vehicle issue that does not allow sufficient rest time for the vehicle (sleep inhibitor or frequent wakeups).

WARRANTY INFORMATION

This Service Information provides diagnostic information and hints.

If performing the diagnostics procedures outlined in this Service Information bulletin result in eligible and covered work, claim this work with the applicable defect code and/or labor operations listed in KSD2.