

**SB-10052358-7413**

SI B12 12 13  
Engine Electrical Systems

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Technical Service

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**SUBJECT**

**N52T Alternator-Related Malfunctions: Overcharging or Undercharging**

**MODEL**

F10

F25

With the N52T engine

**SITUATION**

Many different complaints may arise from alternator-related malfunctions, due to charging sporadically or not charging at all, for example:

- Electrical consumers no longer work or are switched off.
- Various warning lamps such as EGS, DSC, ABS, etc., illuminate.
- Electrically assisted steering feels stiffer.
- The alternator is not charging or causes an overvoltage in the vehicle electrical system.
- The battery is discharged or has been overcharged due to an overvoltage charging condition.
- The engine may cut off depending on the battery state of charge, but a restart is possible.

These problems occur intermittently when the engine is at operating temperature and the following faults are found stored in the DME fault code memory:

- CD9304 – Bit-serial data interface, signal: communication fault  
and
- 213301 – Power management, overvoltage: Overvoltage detected  
and/or
- 213401 – Power management, undervoltage: Undervoltage detected

**CAUSE**

- A faulty ignition coil disrupts the alternator temporarily: the alternator is not defective.
- A faulty ignition coil disrupts the alternator frequently: the alternator is defective.

Note: There is no fault code entry in the DME memory for the faulty ignition coil.

**CORRECTION**

1. Perform all recommended test plans with ISTA/D.
2. Check the Bit serial data interface bus (BSD) in accordance with test module:

**AT1214\_BSD – BSD Communication**

3. Replace all ignition coils (even if a fault was found on the BSD bus).
4. With the new ignition coils installed, manually bring up the alternator test module and perform the “Function test”:

**AT1214\_TVD\_GEN – Alternator**

The path to this test module (the filter has a check in the Procedure [ABL] box) is:

**Functional structure / 03 Body / Voltage supply / Alternator**

Only replace the alternator if this test module instructs you to do so.

5. Charge and check the battery.
6. Clear the fault memory.

**WARRANTY INFORMATION**

Not applicable.

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