



Mercedes-Benz

The best or nothing.

Star Bulletin



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Order No.: S-B-15.40/73
Group: 15

SUBJECT: MY-All, Engine 111 in Model 124, 163, 170, 202, 203, 208, 210
Engine 112 in Model 129, 163, 170, 202, 203, 208, 209, 210, 211, 220, 230
Engine 113 in Model 129, 163, 164, 171, 202, 203, 208, 209, 210, 211, 215, 219, 220, 230, 251
Engine 137 in Model 215, 220
Engine 271 in ModelS 171, 203, 209, 211
Engine 272 in Model 164, 171, 203, 209, 211, 219, 221, 230, 251
Engine 273 in Model 164, 209, 211, 219, 221, 230, 251
Engine 275 in Model 215, 220, 221, 230
Engine 642 in Model 164, 203, 209, 211, 219, 221, 251
Engine 648 in Model 211, 220
Engine 155 in Model 199
Engine 285 in Model 240
Alternator Diagnosis

For some time our vehicles/engines have been equipped with alternators which communicate with the ME or CDI engine control via an interface.

This results in changes to the system diagnosis and when testing the alternator a distinction is made between the conventional alternator with terminal 61 without interface and alternators with BSS interface or LIN interface.

"CONVENTIONAL" alternator not linked to the engine control unit (MSG)

- No form of communication between the alternator and engine control unit
- Engine control unit cannot assist during the alternator test
- Testing not possible with DAS - only with external technology (Volt-Ampere-Tester)

"BSS" alternator linked to the engine control unit per BSS

- BSS = Bit Synchrone Schnittstelle (bit synchronous interface), communication ECU → alternator
- Testing possible via engine control unit - Diagnosis Assistance System

This bulletin has been created and maintained in accordance with MBUSA-SLP S423QH001, Document and Data Control, and MBUSA-SLP S424HH001, Control of Quality Records.

"LIN" alternator linked to the engine control unit per LIN

- LIN = Local Interconnect Network, communication engine control unit ↔ Diagnosis Assistance System possible
- Testing possible via engine control unit - Diagnosis Assistance System

In addition to the above-mentioned information, WIS release 06/2006 also contains a function description concerning the topic, "Power supply for on-board electrical system".

NOTE: With "conventional" alternators, it is important to note that the full charging current is not generated immediately after the engine is started. The full charging current is only generated after a load response delay. It is essential to observe the information in the description "Load response" in the document GF15.40-P-0001A.

WIS Documents

Alternator without interface (conventional)	GF15.40-P-0001A	Power supply for on-board electrical system, function
Alternator with BSS interface	GF15.40-P-0001B	Power supply for on-board electrical system, function
Alternator with LIN interface	GF15.40-P-0001C	Power supply for on-board electrical system, function

For Engine 285 refer to GF15.40-P-0001B On-Board Electrical System Power Supply, function

NOTE: One of the basic innovations is the diagnosis capability of the alternators with BSS-/LIN interface. These can be tested with Star Diagnosis and without an external tester.

The test step is listed in DAS for the engine model designations stated below in the CDI engine control unit under "Actuations" and "List of tests run", and/or in the ME engine control unit under "List of tests run" and as of DAS-DVD 01/2006, also under "Actuations".

Whether a BSS interface or an LIN interface is present is recognized via the communication between the DAS and engine control unit. The test prerequisites for the alternator test are listed in the DAS and must be observed. The test itself is arranged as a test sequence and is menu-assisted.

Additionally, the specified values have been updated for charging current and regulation voltage for all alternators. In the process it should be noted in particular that the upper limit value of the regulation voltage can now be up to 15 V. Refer to WIS for valid specified values.

All alternators which do not have a BSS-/LIN interface cannot be checked with Star Diagnosis. Testing with Volt-Ampere-Tester continues to be planned for these The corresponding AR documents are in the WIS).

Commercially available volt ampere testers should be used.

Engine and Corresponding Alternator

Engine	Engine Control Unit	Alternator
111	PEC, HFM-SFI, ME2.0	Conventional (without interface)
112, 113, 155	ME2.8	Conventional (without interface)
137	ME2.7	Conventional (without interface)
166	ECM	Conventional (without interface)
266	SIM266	LIN
271	SIM4	BSS
272, 273	ME9.7	LIN
275	ME2.7.1	Conventional (BSS alternator, but not supported by engine control unit)
275	ME2.7.2	LIN
285	ME2.7.1	Conventional (BSS alternator, but not supported by engine control unit)
611, 612, 613	CDI	Conventional (without interface)
628	CDI V1	Conventional (BSS alternator, but not supported by engine control unit)
629	CDI 5	LIN
640	CDI A	LIN
642	CDI 4	LIN
646	CDI 3	Conventional (without interface)
646	CDI 3 (UP)	BSS
647	CDI 4	Conventional (without interface)
648	CDI 3 (UP)	BSS
668	CDI	Conventional (without interface)

Engines on Which Alternator Test Can Be Carried Out with DAS

Engine	Engine Control Unit	Alternator
266	SIM266	LIN
271	SIM4	BSS
272, 273	ME9.7	LIN
275	ME2.7.2	LIN
285	ME2.7.2	LIN

Engine	Engine Control Unit	Alternator
640	CDI A	LIN
646, 648	CDI 3 (UP)	BSS
642	CDI 4	LIN
629	CDI 5	LIN