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## Fault message in instrument cluster "Battery, Service Required"

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Topic number	LI54.10-P-060389
Version	1
Design group	54.10 Battery, voltage supply, voltage converter
Date	12-09-2014
Validity	Model series 240 all model designations and variants
Reason for change	
Reason for block	

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### Complaint:

Fault message in instrument cluster "Battery, Service Required" and/or "Consumer Shutoff" and/or battery symbol in display without message.

### Cause:

1. Alternator power electronics defective.
2. Transition resistance due to poor crimping at one of the cable lugs of the main positive line ( $\varnothing$  115 mm<sup>2</sup>). This can be logged as an alternator fault in the engine CU . The system fails the DAS guided alternator test (ME2.7.2). An alternative alternator test using a multimeter or HMS (ME2.7.1) finds no obvious problems.

### Remedy:

Perform an additional voltage test of the alternator in parallel with the guided alternator test in DAS for ME2.7.2 and an alternative test using a multimeter or HMS for ME2.7.1 in addition to the SI15.40-P-0009A (Service Bulletin) alternator test for Maybach and the generally applicable diagnosis specifications for alternator testing, see SI15.40-P-0003A (Service Bulletin).

### Procedure for additional voltage test:

Connect a multimeter to each of the two positive contacts of the alternator at the same time and record the voltage values while the engine is running.

After approx. one minute (charging delay) the alternator delivers the full charging voltage.

When recording the voltage values, the charging voltage between the two positive contacts should be approximately equal (max. difference 0.2 V) and there should be no voltage fluctuations.

### Evaluation of additional voltage test:

If

- the voltage at the alternator is less than 13.5V or
  - voltage fluctuations occur or
  - the voltage difference between the two positive contacts is  $> 0.2$  V,
- then the alternator is defective and must be replaced.

If the additional alternator test is unsuccessful, all line connections must be checked for corrosion, tight seating and transition resistance.

# XENTRY

Additionally check for a possible voltage drop in the main positive line between the front prefuse box F32 and rear prefuse box F33/1 (Ø 115 mm²).

If a voltage drop is found, the wiring harness is defective and must be replaced.

**Note:** The main positive line must not be repaired, soldered or recrimped, see also AH00.19-P-1000-08A.

Both situations require approval for the repair. For this reason it is absolutely essential to create a PTSS case with the requested analysis results and send it to us.

Symptoms
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system display message / Battery/Alternator - Serviced Required
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system display message / Low voltage Switch off consumers
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system display message / Low voltage Charge battery

Control unit/fault code		
Control unit	Fault code	Fault text
ME 2.7.2-Motor electronics 2.7.2 (ME272AMG)	2094	G2 (generator):Alternator serial interface(P0620)
ME 2.7.2-Motor electronics 2.7.2 (ME272AMG)	2093	LIN message from component 'G2 (generator)' not received
ME-SFI 2.7.1-Motor electronics 2.7.1 (ME271)	P2095	No connection to component G2 (generator)(P0620)
ME-SFI 2.7.1-Motor electronics 2.7.1 (ME271)	P2094	G2 (generator)(P0620)

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 240 540 00 06			Wiring harness from front prefuse box to rear prefuse box	1	Left-hand drive, version V 240	X
A 240 540 01 06			Wiring harness from front prefuse box to rear prefuse box	1	Right-hand drive, version V 240	X
A 240 540 01 05			Wiring harness from front prefuse box to rear prefuse box	1	Left-hand drive, version W 240	X
A 240 540 02 05			Wiring harness from front prefuse box to rear prefuse box	1	Right-hand drive, version W 240	X
A 285 150 00 50			Alternator	1		X
A 285 150 00 50	80		Alternator	1		X

Work units				
Op. no.	Operation text	Time	Damage code	Note

# XENTRY

54-7940	REPLACE CABLE SET FROM FRONT PREFUSE BOX F32 TO REAR PREFUSE BOX F33/1	ZM	54019 74	
15-5070	REPLACE ALTERNATOR	ZM	15101 73	

Validity		
Vehicle	Engine	Transmission
Maybach 240	*	*

Full model designation breakdown		
Vehicle	Engine	Transmission
240.077	285.980	722.649
240.078	285.950	722.649
240.079	285.980	722.649
240.177	285.980	722.649
240.178	285.950	722.649
240.179	285.980	722.649