

## Vehicle cannot be unlocked/ vehicle does not start - starter battery discharged

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Topic number	LI54.10-P-060374
Version	7
Design group	54.10 Battery, voltage supply, voltage converter
Date	05-11-2016
Validity	BR205 BR217 BR222 BR253
Reason for change	Cause revised
Reason for block	

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### Complaint:

- Vehicle cannot be unlocked/ vehicle does not start

- Display message in instrument cluster "Battery - Start Engine - See Owner's Manual" - only vehicles as of modification year 2014 (as of SA code 805)

Attachments	
File	Description
Beispiel_Buswachhalter.pdf	Example for reading bus keepawake event from electrical system data
Beispiel Kl. 15 EIN_de.pdf	Example for terminal 15 ON
example terminal 15 active.pdf	Example for terminal 15 ON
example_BUS_keep_awake.pdf	Example for bus keepawake event

### Cause:

1. Only affects model series 205/222 with SA code 550 - Trailer hitch:

Software of AHE (trailer recognition) control unit produces bus keepawake event and thus causes unwanted discharge of the starter battery

2. Only affects model series 217/222 with SA code M005 - 4MATIC

Software of electric steering (N68) produces bus keepawake event and thus causes unwanted discharge of the starter battery

3. Affects model series 205/217/222 with SA code 889 - Keyless-Go or SA code 893 - Keyless Start

4. Affects model series 205 with SA code 520 or 522 Head Unit NTG5

# XENTRY TIPS

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Software of Audio 20 radio produces bus keepawake event and thus causes unwanted discharge of the starter battery

5. Affects model series 222 with SA code ME05 (PlugIn Hybrid)

Fault in infrastructure produces permanent bus keepawake event in on-board charger control unit

## Remedy:

1. Only affects model series 205/222 with SA 550 - Trailer hitch:

- Ask the customer whether he used the trailer hitch (SA code 550) immediately before the problem occurred.

- If "yes", work through the service measure "\$1406P31B16 10 Update software of trailer recognition (AHE) control unit" for the vehicle in question. Only affects control units (AHE) with software release A2059025802! Control units with software release A2059026904 are therefore not affected! In addition, charge the starter battery as described in WIS and check it before handing the vehicle back over to the customer.

2. Only affects model series 217/222 with SA code M005 - 4MATIC

Use XENTRY Diagnostics to access the electrical system diagnosis for the driver-side SAM (N10/6)

Driver-side SAM (N10/6) --> Actual values --> Electrical system data

To be able to assess whether a bus keepawake event caused the battery discharge, it is necessary to examine the stationary cycles. A constantly active CAN is identified by the text "Interior CAN awake unusually long" (see attachment). If this text is not displayed, the battery discharge has a different cause.

If it is confirmed that the battery was discharged by a bus keepawake event, the electric steering control unit (N68) must be flashed to the current version (14/29 00). To invoice the overall claim, use the damage code 46494 90 "Electric rack-and-pinion steering control unit".

3. Affects model series 205/217/222 with SA code 889 - Keyless-Go or SA code 893 - Keyless Start

Note: This customer complaint does not indicate a technical fault in the vehicle. The customer unintentionally left the vehicle with terminal 15 "on". This occurs when the Keyless-Go or Keyless Start button on the EZS is pressed again after opening the driver door (once = terminal 15R active; twice = terminal 15 active). If the customer parks the vehicle in this condition, it is not possible to lock it from outside and the vehicle is found unlocked at the breakdown location. Any diagnostic work cannot be invoiced Warranty.

Use XENTRY Diagnostics to access the electrical system diagnosis

for the driver-side SAM (N10/6). Driver-side SAM (N10/6) --> Actual values --> Electrical system data

To be able to assess whether the battery was discharged by switching on terminal 15, it is necessary to examine the stationary cycles. A constantly switched-on terminal 15 is identified by the text "Ignition ON for long time" (see attachment). If this text is not displayed, the battery discharge has a different cause.

In vehicles of model series 205, 217 and 222 as of production date 06/2015, the function of automated circuit switching was introduced. If the customer parks his vehicle with circuit 15 active, this is automatically switched back to circuit 15R after 15 minutes. After another 30 minutes, circuit 15R is automatically switched off. This functionality will actively assist in reducing breakdown cases.

4. Affects model series 205 with SA code 520 or 522 Head Unit NTG5

Use XENTRY Diagnostics to access the electrical system diagnosis for the driver-side SAM (N10/6)

Driver-side SAM (N10/6) --> Actual values --> Electrical system data

To be able to assess whether a circuit 30g bus keepawake event caused the battery discharge, it is necessary to examine the stationary cycles. A constantly active CAN is identified by the text "Interior CAN awake unusually long" (see attachment). If this text is not displayed, the battery discharge has a different cause.

# XENTRY TIPS

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If it is confirmed that the battery was discharged by a circuit 30g bus keepawake event, the Audio 20 control unit (A26/17) must be flashed to the current version (14/26 00 - E16.3 or higher). The necessary software release is available as of XENTRY version 09/2014. To invoice the overall claim, use the damage code 87100 54 "Head Unit control unit".

## 5. Affects model series 222 with SA code ME05 (PlugIn Hybrid)

Use XENTRY Diagnostics to access the electrical system diagnosis

for the driver-side SAM (N10/6). Driver-side SAM (N10/6) --> Actual values --> Electrical system data

To be able to assess whether a bus keepawake event caused the battery discharge, it is necessary to examine the stationary cycles. A constantly active CAN is identified by the text "Interior CAN awake unusually long" (see attachment). If this text is not displayed, the battery discharge has a different cause. Only affects LG charger control units (N83/5) with software release A0009054922! Control units with software release A0009026827 are therefore not affected! In addition, charge the 12 V starter battery as described in WIS and check it before handing the vehicle back over to the customer.

If it is confirmed that the battery was discharged by a bus keepawake event, the LG charger control unit (N83/5) must be flashed to the current version (A0009026827).

To invoice the overall claim, use the damage code 5420 W 90 "High-voltage battery charger control unit".

Note: The customer should always be advised that there is a fault in the infrastructure for charging the high-voltage battery! The infrastructure must also be tested so as to guarantee correct charging of the high-voltage battery and the associated functions.

6. Please continue to report vehicles with complaints concerning the battery or the on-board electrical system, on which the measures described above are ineffective, before commencing repair work if possible, via PTSS case with the information listed below.

1. Detailed customer complaint

2. Control unit log of driver SAM (N10-6) Only the original PDF file (not scanned documents)

3. Midtronics battery test results - AR54.10-P-1129LW

4. Battery part number and terminal stamp 5. Results of no-load current measurement When the CAN is active, the no-load current consumption is approx. 4.5 - 8.5 A. In this case, immediately connect a battery charger to the jump-start connection point. This will prevent a circuit 30 reset until the cause can be clarified. Then a scan of the interior CAN (body CAN) must be generated with SD-Scan. The file in "asc" format must be attached to the corresponding PTSS case.

7. For vehicles as of production date 06/2015 (SA code 806), both memory entries from the bus keepawake detection function in the EZS are required.

Note: Do not use items 3 and 4 for BR205 vehicles with code "U98" - Lithium-ion starter battery or for BR217/222 AMG model designations!

- Was the trailer hitch used before the problem was discovered (only vehicles with SA code 550 Trailer recognition)?

- Did the customer find the vehicle locked or unlocked at the breakdown location (vehicles with SA code 889 Keyless-Go or SA code 893 "Keyless Start")?

- Is the problem vehicle a demonstration vehicle?

Note on bus keepawake detection: In model series 205/217/222 with SA code 804 or 805, the bus keepawake detection function in the EZS control unit (N73) is not available until further notice.

The electrical system diagnosis in the driver-side SAM (N10/6) must be used to validate bus keepawake events. There you should find the text "Interior CAN active unusually long" in the relevant "stationary cycle". If this text does not appear, the cause of the discharge of the starter battery is not a bus keepawake event.

--> A software update of the EZS control unit (N73) is available in the Bus keepawake unit recording menu in the EZS control unit (N73).

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The bus keepawake detection function will be available in vehicles as of production date 06/2015. When a bus keepawake event is detected, it is identified by the fault memory entry "U116000 - A bus keepawake event was detected". The two memory entries for the bus keepawake detection function are displayed as usual under "Actual values" when the EZS control unit (N73) is accessed! In vehicles prior to production date 06/2015, no indication is given, as previously.

Symptoms
Overall vehicle / Power supply / Battery/On-board electrical system / Battery function / Battery discharges
Overall vehicle / Power supply / Battery/On-board electrical system / Battery function / Battery cannot be charged
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system display message / Low voltage Charge battery
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system display message / Charging

Control unit/fault code		
Control unit	Fault code	Fault text
N10/6 - Front signal acquisition and actuation module (Driver-side SAM) (BC_F222) (S (222),S (217),C (205))	B1F4500	The starter battery has excessive resistance. _
N73 - Electronic ignition lock (EZS) (EIS222) (S (222),S (217),C (205))	U116000	A bus keepawake unit was detected. _

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 000 982 86 08			60 Ah starter battery	1	Not code "U98"	X
A 004 541 86 01			70 Ah starter battery	1	Not code "U98"	X
A 000 982 21 08			80 Ah starter battery	1	Not code "U98"	X
A 001 982 68 08			78 ah lithium-ion starter battery	1	Model series 205 with SA code "U98"; model series 217/222 - only AMG model designations and SA code M157 or M279	X
A 005 541 10 01			95 ah starter battery	1	Not code "U98"	X
A 000 982 18 08			105 Ah starter battery	1	Not code "U98"	X

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
54-1011	PERFORM QUICK TEST			Use the damage code for the component causing the damage!
54-0640	CHECK BATTERY SYSTEM (AFTER QUICK TEST)			Use the damage code for the component causing the damage!

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54-1109	CHECK CONDITION OF BATTERY			Not code "U98", not AMG model designations Use the damage code for the component causing the damage!
54-1126	REPLACE BATTERY (AFTER CHECK)			Use the damage code for the component causing the damage!
54-0650	MAINTAIN ON-BOARD ELECTRICAL SYSTEM VOLTAGE (FOR TESTING AND DIAGNOSIS WORK)			Use the damage code for the component causing the damage!
54-0991	PROGRAM CONTROL UNIT ..... (AFTER QUICK TEST)			Use the damage code for the component causing the damage!
54-0992	CODE CONTROL UNIT..... (AFTER QUICK TEST)			Use the damage code for the component causing the damage!
54-0645	CHECK NO-LOAD CURRENT CONSUMPTION			Use the damage code for the component causing the damage!

WIS-References			
Document number	Title	Note	Allocation
AR54.10-P-1129LW	Battery - Check condition	Not BR205 with code "U98" Lithium-ion starter battery or BR222 AMG model designations	Cause
AR54.10-P-1130LW	Charge battery		Remedy

Validity		
Vehicle	Engine	Transmission
C (205) - 205.002	*	*
C (205) - 205.003	*	*
C (205) - 205.004	*	*
C (205) - 205.005	*	*
C (205) - 205.006	*	*
C (205) - 205.007	*	*
C (205) - 205.008	*	*
C (205) - 205.009	*	*
C (205) - 205.012	*	*
C (205) - 205.036	*	*
C (205) - 205.037	*	*
C (205) - 205.040	*	*
C (205) - 205.042	*	*
C (205) - 205.043	*	*
C (205) - 205.044	*	*
C (205) - 205.045	*	*
C (205) - 205.047	*	*
C (205) - 205.048	*	*

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C (205) - 205.049	*	*
C (205) - 205.064	*	*
C (205) - 205.066	*	*
C (205) - 205.086	*	*
C (205) - 205.087	*	*
C (205) - 205.140	*	*
C (205) - 205.142	*	*
C (205) - 205.143	*	*
C (205) - 205.145	*	*
C (205) - 205.147	*	*
C (205) - 205.148	*	*
C (205) - 205.204	*	*
C (205) - 205.205	*	*
C (205) - 205.207	*	*
C (205) - 205.208	*	*
C (205) - 205.209	*	*
C (205) - 205.212	*	*
C (205) - 205.236	*	*
C (205) - 205.237	*	*
C (205) - 205.240	*	*
C (205) - 205.242	*	*
C (205) - 205.243	*	*
C (205) - 205.244	*	*
C (205) - 205.245	*	*
C (205) - 205.247	*	*
C (205) - 205.248	*	*
C (205) - 205.264	*	*
C (205) - 205.266	*	*
C (205) - 205.286	*	*
C (205) - 205.287	*	*
C (205) - 205.304	*	*
C (205) - 205.308	*	*
C (205) - 205.340	*	*
C (205) - 205.342	*	*
C (205) - 205.345	*	*
C (205) - 205.348	*	*
GLC (253)	*	*
S (217) - 217.364	*	*
S (217) - 217.377	*	*
S (217) - 217.378	*	*
S (217) - 217.379	*	*
S (217) - 217.382	*	*
S (217) - 217.384	*	*

# XENTRY TIPS

S (217) - 217.385	*	*
S (222)	*	*