

P54.21-2677-09

Shown on model 211.0

1 Ground cable

2 Multimeter (shown symbolically)

3 Negative terminal








4  Adapter cable5  Alligator clip













G1 Battery

N82 Battery control module

Modification notes

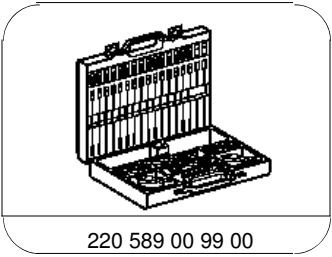
13.3.06	Method to support on-board electrical system changed	Operation steps 8 to 11	
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 Danger!	Risk of explosion caused by oxyhydrogen gas. Risk of poisoning and caustic burns caused by swallowing battery acid. Risk of injury caused by burns to skin and eyes from battery acid or when handling damaged lead-acid batteries	No fire, sparks, open flames or smoking. Wear acid-resistant gloves, Wear acid protective clothing and glasses. Only pour battery acid into suitable and appropriately marked containers.	AS54.10-Z-0001-01A
	Notes on battery		AH54.10-P-0001-01A
1	Remove luggage compartment floor cover from luggage compartment or open load compartment floor	 Depending on model.	
2	Remove spare tire cover or spare tire well trim panel from trunk	 Depending on model and vehicle equipment.	
	Checking		
3	Prepare vehicle for the measurement	 Observe the following notes: <ul style="list-style-type: none"> ● Battery (G1) must be fully charged (min. 12.4 V). ● Transmitter key must be set to position "1" (circuit 15R). ● No charger should be connected to vehicle. ● All electrical consumers (e.g. radio, ventilation blower, etc.) must be switched off. ● Rotary light switch must be set to position "0". ● All doors, glove compartment and engine hood must be closed (driver door window must be open). ● Trunk lid must remain open to allow measurements to be performed on battery (G1). 	
4	Connect STAR DIAGNOSIS, perform quick test and document any faults in battery control unit (N82), instrument cluster and rear SAM control unit with fuse and relay	 The test sheet must be filled out in all dealers with obligation to ship back the old part (test market) and be sent back to QEC with the old part.	

	Connect STAR DIAGNOSIS and read out fault memory		AD00.00-P-2000-04A
5	In Diagnosis Assistance System (DAS), change to control unit menu and select battery control unit (N82). Allow actual values to be displayed on screen		
6	Perform voltage measurement directly at negative terminal (3) and at positive terminal of battery (G1). Document measured voltage value in analysis sheet	 With transmitter key position "1" (circuit 15R).	
7	Check voltage value displayed by battery control unit (N82). Compare voltage value "circuit 30" displayed in DAS with value measured by multimeter (2). Document measured values in analysis sheet	 A maximum deviation of ± 1 V (absolute) is permissible. If this tolerance is exceeded, the battery control unit (N82) must be replaced with a new unit.	
8	Connect negative terminal (3) of battery (G1) to ground (circuit 31) using adapter line (4) (arrow)	 Use a suitable adapter line (4) and alligator clips (5). 	*220589009900
9	Detach ground line (1) from battery control unit (N82)		
10	Connect multimeter (2) between negative terminal (3) of battery (G1) and connection of ground line (1) on battery control unit (N82)	 It is essential for the multimeter (2) to be connected free from interruption in order to prevent a voltage reset of the control unit. Set the highest possible current measuring range on the multimeter (2). Current of up to 20 A can flow during the measurement.	
11	Disconnect adapter line (4) from ground (circuit 31) (arrow)		*220589009900
12	Check battery charging current with transmitter key set to position "1" (circuit 15R) and with trunk lid or rear-end door open. Then check charging current with standing lamps also switched on. Document measured values in analysis sheet	 Compare the battery charging current displayed on the DAS with the value measured by the multimeter (2). A negative battery charging current indicates discharging of the battery (G1). A positive battery charging current indicates charging of the battery (G1). After the measured current values have settled, a tolerance of ± 1 A (absolute) between the multimeter (2) and the DAS measured values must not be exceeded. If this tolerance is exceeded, the battery control unit (N82) is defective and must be replaced with a new unit.	
13	Check temperature value displayed by battery control unit (N82). Document measured values in analysis sheet	 For this test, the vehicle must already have been in the workshop for some time so that the temperature of the battery control unit (N82) corresponds to room temperature. Read off the ambient temperature on the instrument cluster. The temperature value displayed in the DAS should not exceed a tolerance of ± 10 °C relative to the ambient temperature. If temperatures above 80 °C are displayed, the battery control unit (N82) is not functioning correctly and must be replaced with a new unit.	
14	Connect adapter line (4) to ground (circuit 31) (arrow)		*220589009900
15	Remove multimeter (2)		
16	Attach ground line (1) to battery control unit (N82)		*BA54.10-P-1004-01C
17	Remove alligator clips (5) with adapter line (4)		*220589009900
18	Read out and erase fault memory and disconnect STAR DIAGNOSIS		
19	Install remaining parts onto vehicle		

 **Battery**

Number	Designation	Model
BA54.10-P-1004-01C	Nut, ground lead to battery control unit	M8 Nm 12



220 589 00 99 00

Electrical connection kit