12.4 Mirror, Steering Column Adjustment, Heated Mirrors (MSC) Model 210

Diagnosis – Function Test

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 1.0 Driver-side outside rearview mirror adjustment	Ignition: **ON,** or front door open (only within 5 minutes). Set outside rearview mirror-left/right (S21s8) to driver-side mirror (left) and adjust mirror.	Adjust mirror: – up – down – forward – backward	23 ⇒ 1.0 – 3.0, 5.0 – 8.0
⇒ 2.0 Front passenger-side outside rearview mirror adjustment	Ignition: **ON,** or front door open (only within 5 minutes). Set outside rearview mirror-left/right (S21s8) to front passenger mirror (right) and adjust mirror.	Adjust mirror: – up – down – forward – backward	23 ⇒ 1.0, 2.0, 4.0, 10.0 – 13.0
⇒ 3.0 Electrically adjustable steering column adjustment	Ignition: **ON,** or driver's/front passenger door open. Press steering column up/down switch or steering column in/out switch (S91s11, S91s12)	Adjust steering column – up – down – forward – backward	23 ⇒ 2.0, 17.0, 18.0, 19.0
⇒ 4.0 ***Non-USA vehicles only, continue to next test step.***	–	–	–
⇒ 5.0 Outside rearview mirror heating.	Ignition: **ON** After approx. 1 minute touch mirror with palm of hand.	Both outside rearview mirror lenses heat up. **Note:** ON or OFF heating temperatures < 59 °F: mirror heating **ON** > 77 °F: mirror heating **OFF**	23 ⇒ 8.0, 9.0

[1] Observe Preparation for Test, see 22.

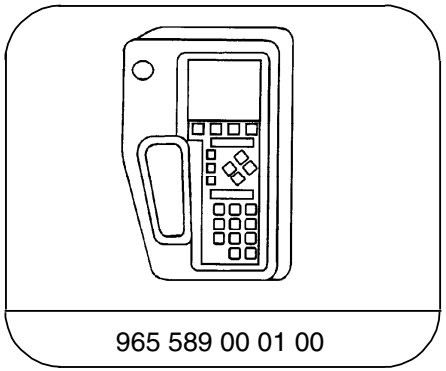
Diagnosis – Diagnostic Trouble Code (DTC) Memory (MSC)

Preparation for Test:

1. Check fuses F1–22, and F4–3 OK.
2. Connect Hand-Held Tester (HHT) to 38-pole data link connector (X11/4) according to connection diagram shown in section 0.

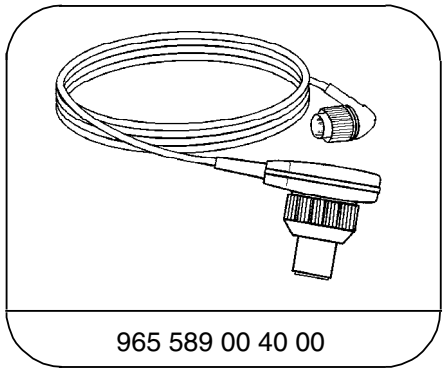
The diagnostic trouble codes (DTC's) can only be read out and erased **using the Hand-Held Tester (HHT)**.

Special Tools



965 589 00 01 00

Hand-Held-Tester



965 589 00 40 00

Test cable

⚠CAUTION!

Erasing the Mirror, steering column adjustment, heated mirrors (MSC) DTC memory, will also erase the DTC memory for the Combination Control Module (N10-1) and Convenience Feature (CF).

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC	Possible cause	Test step/Remedy [1]
B1000	Combination control module (N10-1)	Replace N10-1
B1001	Left/right front ESA control module (N32/1, N32/2) (with memory)	N32/1 or N32/2
B1010	Low voltage < 10 V	–
B1011	Excess Votage > 15.5 V	–
B1013	Circuit 15R	23 ⇒ 2.0
B1015	Circuit 30C, fuse F4–7	23 ⇒ 2.0
B1017	Circuit 31B	23 ⇒ 2.0
B1022	Driver's seat does not communicate via CAN data line	D.M., Body and Accessories, Vol. 4, 15.3, 23 ⇒ 21.0, 22.0, 23.0, 24.0, 25.0
B1024	CAN low-interior bus	D.M., Body and Accessories, Vol. 4, 15.3, 23 ⇒ 22.0, 24.0, 25.0
B1025	CAN high-interior bus	D.M., Body and Accessories, Vol. 4, 15.3, 23 ⇒ 21.0, 23.0, 25.0
B1114	Electrically adjustable steering column switch wire Γ–	23 ⇒ 7.0, 8.0, 9.0
B1119	Outside rearview mirror vertical/horizontal/left/right adjustment (S21s6/s7/s8) >25 sec. Γ–, Γ+, circuit 30 –//–, circuit 31 –//–	23 ⇒ 1.0, 3.0, 4.0
B1213	Electrically adjustable and heated driver-side outside rearview mirror (with memory) (M21/4) >25 sec., wiring –//–	23 ⇒ 12.0, 13.0, 14.0

[1] Observe Preparation for Test, see 22.

Diagnosis – Diagnostic Trouble Code (DTC) Memory

DTC 	Possible cause	Test step/Remedy [1]
B1214	Electrically adjustable and heated driver-side outside rearview mirror (with memory) (M21/4) >2 sec., wiring –//–	23 ⇒ 7.0, 8.0, 9.0
B1408	Verticle adjustment motor (M21/5m1) (up/down) ⌜⌝, wiring ⌜⌝ Horizontal adjustment motor (M21/5m2) (in/out) ⌜⌝, wiring ⌜⌝	23 ⇒ 5.0, 7.0 23 ⇒ 6.0, 8.0
B1409	Verticle adjustment motor (M21/4m1) (up/down) ⌜⌝, wiring ⌜⌝ Horizontal adjustment motor (M21/4m2) (in/out) ⌜⌝, wiring ⌜⌝	23 ⇒ 11.0, 12.0 23 ⇒ 10.0, 13.0
B1410 B1411	Combination control module (N10-1) does not switch	N10-1

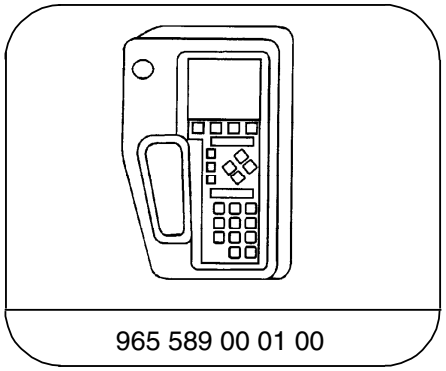
[1] Observe Preparation for Test, see 22.

Diagnosis – Recalling Actual Values using HHT

Preparation for Test:

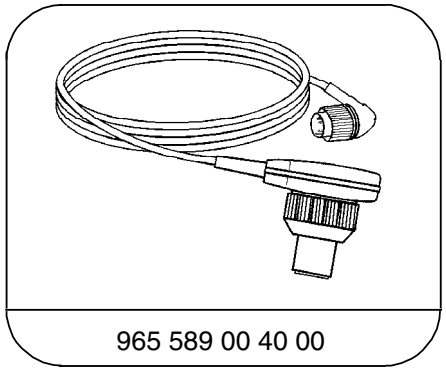
1. Fuses F1–22, F4–3, F4–7 ok,
2. Connect the Hand-Held Tester (HHT) to X11/4, according to diagram, see section 0.

Special Tools



965 589 00 01 00

Hand-Held-Tester



965 589 00 40 00

Test cable

Erasing the Mirror, steering column adjustment, heated mirrors (MSC) DTC memory, will also erase the DTC memory for the Combination Control Module (N10-1) and Convenience Feature (CF).

Diagnosis – Actual Values

Actual Value 	Possible cause	Test step/Remedy [1]
01	Circuit 15R, circuit 15, Left/right front door switch (S17/3, S17/4)	23 ⇒ 2.0 D.M., Body and Accessories Volume 2, 5.2, 23 ⇒ 5.0, 6.0
02	Memory store button switch (S91s9), pressed	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
03	Memory button 1 switch (S91s6), recall memory	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
04	Memory button 2 switch (S91s7), recall memory	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
05	Memory button 3 switch (S91s8), recall memory	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
06	Outside rearview mirror-vertical adjustment (S21s6)	23 ⇒ 3.0, 4.0
07	Outside rearview mirror-horizontal adjustment (S21s7)	23 ⇒ 3.1, 4.1
08	Activation of vertical adjustment motor (M21/4m1, M21/5m1) by combination control module (N10-1)	23 ⇒ 5.0, 11.0
09	Activation of horizontal adjustment motor (M21/4m2, M21/5m2) by combination control module (N10-1)	23 ⇒ 6.0, 10.0
10	Potentiometer voltage supply for (M21/4m1, m2,M21/5m1, m2)	23 ⇒ 9.0, 14.0
11	Memory button 1 switch (S91s6), recall memory	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0

[1] Observe Preparation for Test, see 22.

Diagnosis – Actual Values

Actual Value 	Possible cause	Test step/Remedy [1]
12	Store memory using memory button 2 switch (S91s7), with memory store button switch (S91s9)	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
13	Recall memory, using memory button 2 switch (S91s7)	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
14	Store memory, using memory button 3 switch (S91s8) with memory store button switch (S91s9)	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
15	Recall memory, using memory button 3 switch (S91s8)	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
16	Memory store button switch (S91s9), pressed	D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 18.0
17	Steering column up/down switch (S91s11)	23 ⇒ 17.1
18	Steering column in/out switch (S91s12)	23 ⇒ 17.0
19	Activation of tilt adjustment motor (M20/m2) (up/down) by combination control module (N10-1)	23 ⇒ 19.0
20	Activation of telescopic adjustment motor (M20/m1) (in/out) by combination control module (N10-1)	23 ⇒ 18.0
21	Tilt adjustment motor (M20m2), defective potentiometer or wiring –//–	23 ⇒ 19.1
22	Telescopic adjustment motor (M20m1), defective potentiometer or wiring –//–	23 ⇒ 18.1
23	Voltage supply for potentiometer (M20m1, M20m2)	23 ⇒ 18.1, 19.1

[1] Observe Preparation for Test, see 22.

Diagnosis – Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy [1]
Complete mirror and steering column adjustment does not function	Combination control module (N10-1)	23 ⇒ 2.0
Driver-side outside rearview mirror adjustment does not function	Combination control module (N10-1) Outside rearview mirror vertical/horizontal/left/right adjustment (S21s6/s7/s8) Electrically adjustable and heated driver-side outside rearview mirror (M21/5)	23 ⇒ 5.0, 6.0, 9.0 23 ⇒ 3.0 23 ⇒ 12.0 – 14.0
Front passenger outside rearview mirror adjustment does not function	Combination control module (N10-1) Outside rearview mirror vertical/horizontal/left/right adjustment (S21s6/s7/s8) Electrically adjustable and heated front pasenger outside rearview mirror (M21/4)	23 ⇒ 10.0, 11.0, 14.0 23 ⇒ 4.0 23 ⇒ 7.0 – 9.0
Driver-side outside rearview mirror heating does not function	Driver-side outside rearview mirror, voltage supply	23 ⇒ 15.0
Front passenger outside rearview mirror heating does not function	Front passenger outside rearview mirror, voltage supply	23 ⇒ 16.0
Steering column adjustment does not function	Steering column up/down/in/out switch (S91s11, S91s12) Combination control module (N10-1) ESC motor group (M20) CAN H/CAN L data line open circuit or short circuit	23 ⇒ 17.0, 23 ⇒ 18.0, 19.0, D.M., Body and Accessories, Volume 2, 5.2, 23 ⇒ 21.0 – 25.0

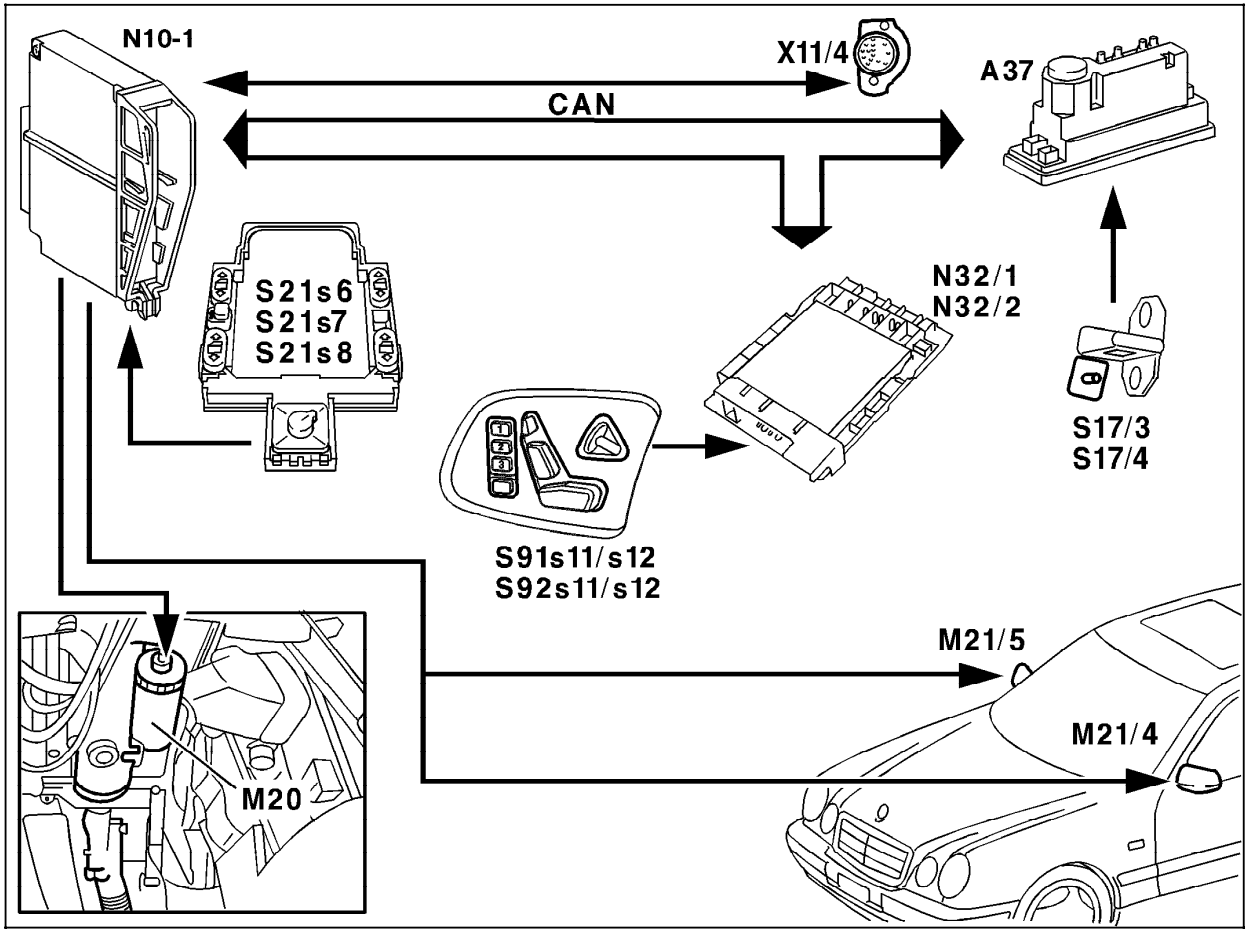
[1] Observe Preparation for Test, see 22.

Diagnosis – Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy [1]
Memory for mirror and steering column adjustment does not function	Voltage supply for combination control module (N10-1) Left front ESA switch group (S91) Driver-side outside rearview mirror potentiometer Front passenger outside rearview mirror potentiometer Steering column potentiometer Combination control module (N10-1)	23 ⇒ 2.0 D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0 23 ⇒ 9.0 23 ⇒ 14.0 23 ⇒ 18.0, 19.0 N10-1
Automatic dimming for interior rearview mirror does not function	RCL receiver (interior rearview mirror (A26/7) Voltage supply for automatic dimming feature	23 ⇒ 20.0

[1] Observe Preparation for Test, see 22.

Electrical Test Program – Connection of Components



U91.29-0209-06

Figure 1

A34	PSE control module, combined functions
M20	ESC motor group
M21/4	Electrically adjustable and heated driver-side outside rearview mirror (with memory)
M21/5	Electrically adjustable and heated passenger-side outside rearview mirror (with memory)
N10-1	Combination control module
N32/1	Left front ESA control module (with memory)
N32/2	Right front ESA control module (with memory)
S17/3	Left front door switch
S17/4	Right front door switch
S21s6	Outside rearview mirror-vertical adjustment
S21s7	Outside rearview mirror-horizontal adjustment
S21s8	Outside rearview mirror-left/right
S91s11	Steering column up/down switch
S91s12	Steering column in/out switch
X11/4	Data link connector (DTC readout)

Electrical Test Program – Preparation for Test

Preliminary work:
Diagnosis - Diagnostic Trouble Code (DTC) Memory 12

Preparation for Test:

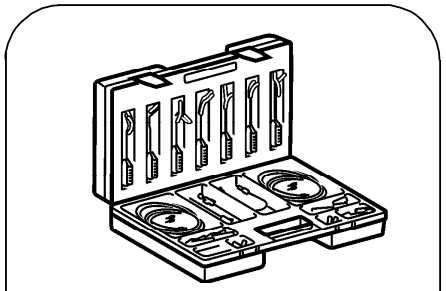
1. Check fuses F1–16, F1–22, F4–3, F4–7 OK.
2. Battery voltage 11 – 14 V,
3. Ignition key inposition “1“, or door open when measuring voltage.

Electrical wiring diagrams :
Electrical Troubleshooting Manual, Model 210, Volume 2, group 46, 80

i

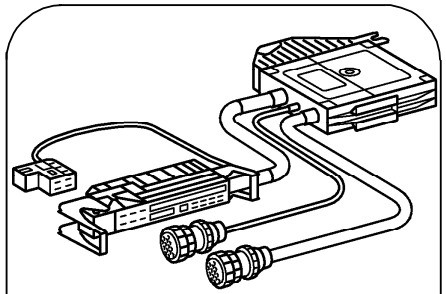
Outside rearview driver-side and front passenger-side mirror adjustment is only possible within a time span of 5 minutes via the outside rearview mirror vertical/horizontal adjustment (S21s6/s7).

Special Tools



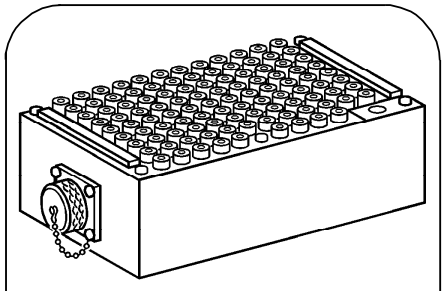
201 589 00 99 00

Electrical connecting set



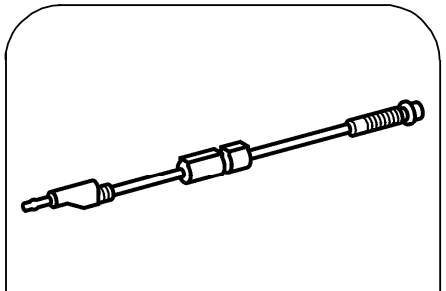
210 589 01 63 00

78-pin test cable



129 589 00 21 00

126-pin socket box



124 589 37 63 00

Fused cable

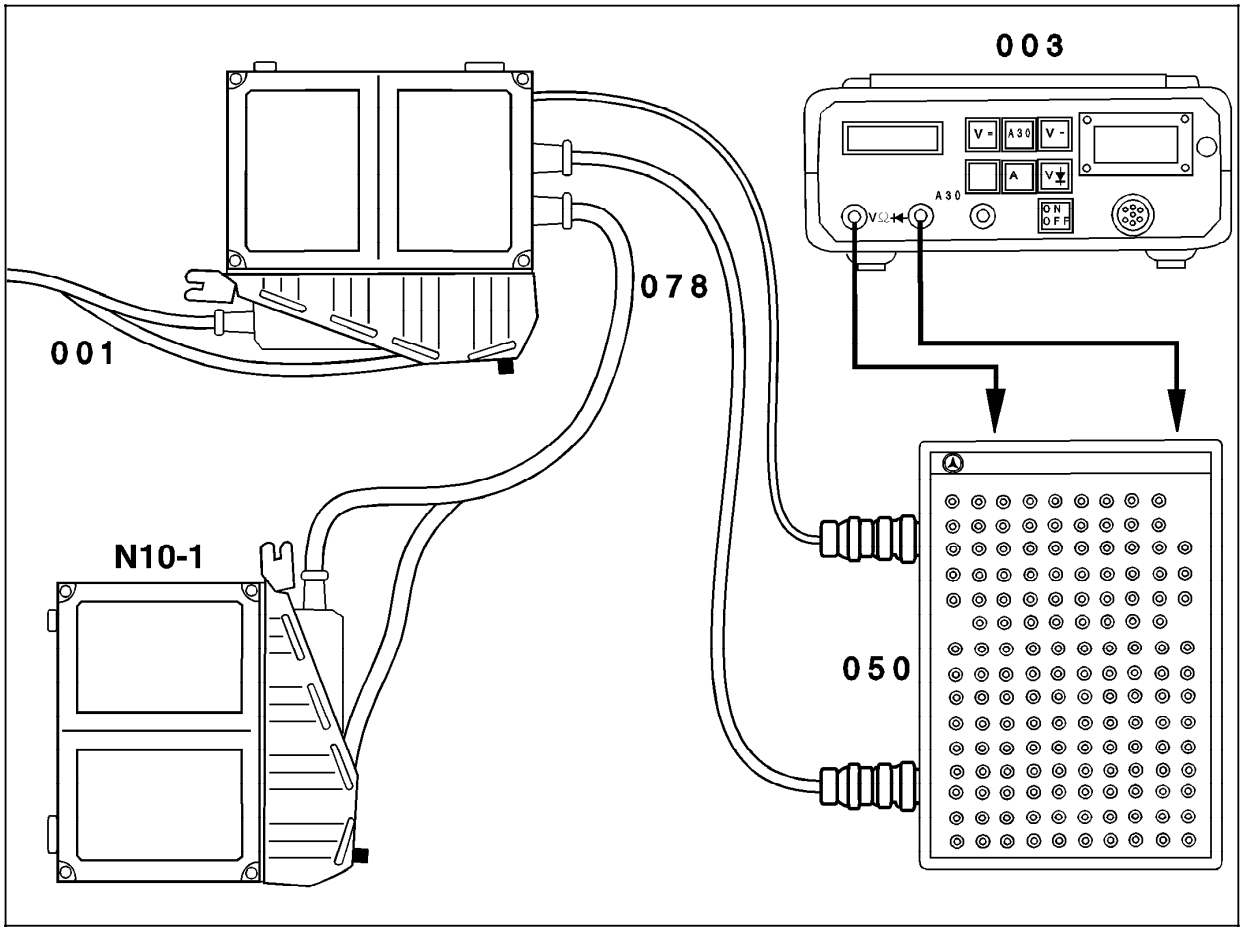
Conventional tools, test equipment

Description	Brand, model, etc.
Multimeter 1)	Fluke models 23, 83, 85, 87

1) Available through the MBUSA Standard Equipment Program.

Electrical Test Program – Test

Connection Diagram - Socket Box



U82.40-0210-06

Figure 1

001	Vehicle harness
003	Multimeter
050	Socket box (126-pole)
078	Test cable 210 589 01 63 00
N10-1	Combination control module

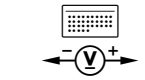
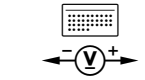
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	B1119	**Center console switch group (S21)** Voltage supply	S21 ⊥ V+ → 6 (2)	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 1.1
1.1		Center console switch group (S21) Voltage supply	S21 4 (2) V+ → 6 (2)	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 1.2
1.2		Center console switch group (S21) Illumination	S21 ⊥ V+ → 1 (1)	Connector disconnected at S21. Parking lamps: ON	11 – 14 V	Voltage supply, circuit 58d, S21
2.0	B1015 B1017	**Combinationcontrol module (N10-1)** Voltage supply Circuit 30C	N10-1 ⊥ V+ → 6	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 2.1
2.1		Combinationcontrol module (N10-1) Voltage supply Circuit 31B	N10-1 43 (A) V+ → 6 (A)	Ignition: **OFF**	11 – 14 V	Wiring, ⇒ 2.2

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.2	B1013	Combinationcontrol module (N10-1) Voltage supply Circuit 15R	N10-1 ⊥ — V — 3 (A)	Ignition: **ON**	11 – 14 V	Wiring, ⇒ 2.3
3.0	B1119	**Outside rearview mirror-vertical adjustment (S21s6) switch** Activate combination control module (N10-1)	N10-1 69 (A) — V — 52 (A)	Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, ⇒ 1.0 ⇒ 3.1 Center console switch group (S21)
3.1		Outside rearview mirror-horizontal adjustment (S21s7) switch Activate combination control module (N10-1)	N1-01 ⊥ — V — 69 (A)	Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror S21s7: Press left S21s7: Press right	 4 – 7 V < 1 V 11 – 14 V	Wiring, S21

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0	B1119	**Outside rearview mirror-vertical adjustment (S21s6) switch** Activate combination contro l module (N10-1)	N10-1  68 (A) — 52 (A)	Ignition: **ON** Set outside rearview mirror-left/right (s21s8): To right mirror S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, ⇒ 4.1, Center console switch group (S21).
4.1		Outside rearview mirror-horizontal adjustment (S21s7) switch Activate combination contro l module (N10-1)	N10-1  ⊥ — 68 (A)	Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To right mirror S21s7: Press left S21s7: Press right	 4 – 7 V < 1 V 11 – 14 V	Wiring, S21

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0	B1408	**Activation of vertical adjustment motor (M21/5m1) (front passenger mirror) by combination control module (N10-1)**	M21/5m1 4 (1) — (V) — 5 (1)	Disconnect connector (1) at front passenger outside rearview mirror (M21/5). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To right mirror S21s7: Press left S21s7: Press right	 11 – 14 V – 11 to – 14 V	Wiring, S21, N10-1
6.0	B1408	**Activation of horizontal adjustment motor (M21/5m2) (front passenger mirror) by combination control module (N10-1)**	M21/5m2 4 (1) — (V) — 3 (1)	Disconnect connector (1) at front passenger rearview mirror (M21/5). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To right mirror S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, S21, N10-1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0	81408	**Vertical adjustment motor (M21/5m1) (front passenger mirror) vertical adjustment**	M21/5m1 3 (1) — 1 (1) 2 (1) — 4 (1)	⚠ **CAUTION!** Disconnect connector (1) at front passenger outside rearview mirror (M21/5). Bridge sockets 5 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/5m1
8.0	81409	**Horizontal adjustment motor (M21/5m2) (front passenger mirror) horizontal adjustment**	M21/5m2 5 (1) — 1 (1) 2 (1) — 4 (1)	⚠ **CAUTION!** Disconnect connector (1) at front passenger rearview mirror (M21/5). Bridge sockets 3 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/5m2
9.0	81213	**Electrically adjustable and heated front passenger outside rearview mirror (M21/5) (Memory)** Potentiometer voltage supply	N10-1 ⊥ — V — 53	Ignition: **ON**	4 – 5 V	Wiring, ⇒ 9.1, Combination control module (N10-1).

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
9.1		Electrically adjustable and heated front passenger outside rearview mirror (M21/5) potentiometer	N10-1 76 (A) — V — 32 (A) N10-1 76 (A) — V — 33 (A)	Ignition: **ON** Adjust mirror in various directions using vertical/horizontal adjustment (S21s7, or S21/s8).	Values change within the range of 0 – 5 V	Wiring, M21/5m1, M21/5m2
10.0	B1409	**Horizontal adjustment motor (M21/5m2) (Driver-side mirror) horizontal adjustment by combination control module (N10-1)**	M21/4m2 4 (1) — V — 3 (1)	Disconnect connector (1) at driver-side rearview mirror (M21/4). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror S21s7: Press forward S21s7: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, Center consle switch group (M21), N10-1

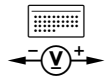
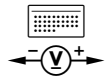
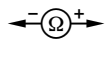
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
11.0	81409	**Vertical adjustment motor (M21/4m1) (Driver-side mirror) vertical adjustment by combination control module (N10-1)**	M21/4m1 4 (1) — V — 5 (1)	Disconnect connector (1) at passenger-side mirror (M21/4). Ignition: **ON** Set outside rearview mirror-left/right (S21s8): To left mirror. S21s6: Press forward S21s6: Press backward	 – 11 to – 14 V 11 – 14 V	Wiring, Center console switch group (M21), N10-1
12.0	81214 81409	**Vertical adjustment motor (M21/4m1) (Driver-side mirror)**	M21/4m1 5 (1) — 1 (1) 2 (1) — 4 (1)	⚠ **CAUTION!** Disconnect connector (1) at driver-side rearview mirror (M21/4). Bridge sockets 5 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/4m1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
13.0	B1214 B1409	**Vertical adjustment motor (M21/4m2) (Driver-side mirror)**	M21/4m1 3 (1) — (1) 1 2 (1) — (1) 4	⚠ **CAUTION!** Disconnect connector (1) at driver-side rearview mirror (M21/4). Bridge sockets 3 and 1 with fused jumper wire 124 589 37 63 00 Ignition: **ON**	Motor runs.	M21/4m2
14.0	B1214	**Electrically adjustable and heated driver-side outside rearview mirror (M21/4) Memory** Potentiometer voltage supply	N10-1 ⊥ — V — 70 (A)	Ignition: **ON**	4 – 5 V	Actual values reached, ⇒ 14.1 Wiring, Combination control module (N10-1).
14.1		Electrically adjustable and heated driver-side outside rearview mirror (M21/4) Memory Potentiometer	N10-1 76 (A) — V — 33 (A) N10-1 76 (A) — V — 32 (A)	Ignition: **ON** Adjust mirror in various directions using vertical/horizontal adjustment (S21s7, or S21/s8).	Values change within the range of 0 – 5 V	Wiring, M21/4m1, M21/4m2

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
15.0		**Mirror heating (driver-side outside mirror)** Voltage supply	M21/4  2 (1) — V — 1 (1)	Disconnect connector (1) from driver-side outside rearview mirror (M21/4). Ignition: **ON**	11 – 14 V	Wiring.
16.0		**Mirror heating (front passenger outside mirror)** Voltage supply	M21/5  2 (1) — V — 1 (1)	Disconnect connector (1) from front passenger rearview outside mirror (M21/5). Ignition: **ON**	11 – 14 V	Wiring.
17.0	B1114	**Steering column in/out switch (S91s12)** Resistance	N32/1  12 (1) — Ω — 8 (1)	Disconnect connector (1) at left front ESA control module (N32/1). S91s12: Rest position S91s11: Press forward Press backward	 approx. 470 Ω approx. 39 Ω approx. 16 Ω	Wiring, ⇒ 17.1, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, Left front ESA switch group (S91).

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
17.1		Steering column up/down switch (S91s11) Resistance	N32/1 12 (1) — Ω — 8 (1)	Disconnect connector (1) at left front ESA control module (N32/1). S91s11: Press up Press down	 approx. 124 Ω approx. 65 Ω	Wiring, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, ⇒ 18.1, S91
18.0		**Activation of telescopic adjustment motor (M20m1) by combination control module (N10-1)**	M20m1 2 (4) — V — 1 (4)	Disconnect connector (4) from ESC motor group (M20). Ignition: **ON** S91s12: Press forward Press backward	 For 1– 2 sec.: 11 – 14 V – 11 to – 14 V	Wiring, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, ⇒ 18.1, Left front ESA switch group (S91), N10-1
18.1		Voltage supply to M20m1 potentiometer from N10-1	M20m1 ⊥ — V — 2 (3)	Disconnect connector (3) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 18.2
18.2		Voltage supply to M20m1 potentiometer from N10-1	M20m1 1 (3) — V — 2 (3)	Disconnect connector (3) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 18.3, N10-1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
18.3		Potentiometer	N10-1 28 (A) — V — 54 (A)	Ignition: **ON** Press S91s12 forward or backward.	While motor is running, values change within range of 0 – 5 V.	Wiring, M20m1
19.0		**Activation of tilt adjustment motor (M20m2) by combination control module (N10-1)**	M20m2 2 (1) — V — 1 (1)	Disconnect connector (1) from ESC motor group (M20). Ignition: **ON** S91s11: Press up Press down	For 1– 2 sec.: – 11 to – 14 V 11 – 14 V	Wiring, D.M., Body and Accessories Volume 4, 15.3, 23 ⇒ 2.0, ⇒ 19.1, Left front ESA switch group (S91), N10-1
19.1		Voltage supply to M20m2 potentiometer from N10-1	M20m1 ⊥ — V — 3 (3)	Disconnect connector (2) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 19.2
19.2		Voltage supply to M20m1 potentiometer from N10-1	M20m2 4 (2) — V — 3 (2)	Disconnect connector (3) from ESC motor (M20). Ignition: **ON**	4 – 5 V	Wiring, ⇒ 19.3, N10-1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
19.3		Potentiometer	N10-1  29 —()— 54 (A) (A)	Ignition: **ON** Press S91s12 up or down.	While motor is running, values change within range of 0 – 5 V.	Wiring, M20m2
20.0		**RCL receiver (interior rearview mirror) (A26/7)** Voltage supply Electronic dimming	A26/6 2 —()— 5	Disconnect connector on A26/7. Ignition: **ON**	11 – 14 V	Wiring.