

15.1 Electric Seat Adjustment (ESA)

Model 129

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 1.0	Left front ESA control module (N32/1) Voltage supply	<p>N32/1</p> <p>1 —(—) ←(—) V(—) + —) 2</p> <p>1 —(—) ←(—) V(—) + —) 4</p> <p>1 —(—) ←(—) V(—) + —) 3</p> <p>(2) (2)</p>	Connector (2) unplugged from N32/1.	11 – 14 V 11 – 14 V 11 – 14 V	Wiring, CF relay module (K24).
⇒ 2.0	Fore/aft switch (S91s1) Resistance	<p>N32/1</p> <p>4 —(—) ←(—) Ω(—) + —) 3</p> <p>(1) (1)</p>	Connector (1) unplugged from N32/1. Press switch (S91s1): forward backward	approx. 2.2 kΩ approx. 43 Ω approx. 16 Ω	Wiring, S91
⇒ 3.0	Fore/aft motor (M27m1) Voltage supply Up to 11/96	<p>N32/1</p> <p>2 — —) ←(—) V(—) + —) 1</p> <p>(7) (7)</p> <p>N32/1</p> <p>3 — —) ←(—) V(—) + —) 5</p> <p>4 — —) ←(—) V(—) + —) 5</p> <p>(7) (7)</p>	Connector (1) plugged at N32/1. Set backrest vertical. Connector (7) unplugged from N32/1. Press switch (S91s1): forward backward	< 1 V 11 – 14 V –11 to –14 V approx. 5 V approx. 5 V	Wiring, S91, N32/1

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 6.0	<p>Front raise/lower motor (M27m3) Voltage supply</p> <p>Up to 11/96</p>	<p>N32/1</p> <p>2 — ←(V)→ — 1 (6) (6)</p> <p>N32/1</p> <p>3 — ←(V)→ — 5 (6) (6)</p> <p>N32/1</p> <p>4 — ←(V)→ — 5 (6) (6)</p>	<p>Connector (1) plugged in at N32/1. Connector (6) unplugged from N32/1. Press switch (S91s3): raise front lower front</p>	<p>< 1 V</p> <p>11 – 14 V -11 to -14 V</p> <p>approx. 5 V</p> <p>approx. 5 V</p>	<p>Wiring, S91, N32/1</p>

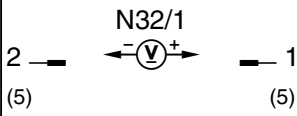
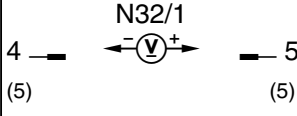
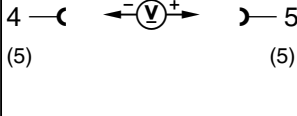
Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ [6.0]	<p>Front raise/lower motor (M27m3) Voltage supply Hall sensor</p> <p>As of 12/96</p>	<p style="text-align: center;">N32/1</p> <p style="text-align: center;">←(V)→</p> <p>2 — (6) — 1 (6)</p> <p style="text-align: center;">N32/1</p> <p style="text-align: center;">←(V)→</p> <p>4 — (6) — 5 (6)</p> <p style="text-align: center;">N32/1</p> <p style="text-align: center;">←(V)→</p> <p>4 — (6) — 5 (6)</p>	<p>Connector (1) plugged in at N32/1. Connector (6) unplugged from N32/1. Press switch (S91s3):</p> <p style="padding-left: 40px;">raise front</p> <p style="padding-left: 40px;">lower front</p> <p>Open connector (6) and connect to N32/1</p>	<p>< 1 V</p> <p>for 1 second: 11 – 14 V</p> <p>for 1 second: –11 to –14 V</p> <p>11 – 14 V</p> <p>7.7 – 8.8 V or 11.3 – 12.7 V</p>	<p>Wiring, S91, N32/1</p> <p>N32/1</p> <p>Wiring, M27m3</p>




Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 9.0	Rear raise/lower motor (M27m2) Voltage supply Up to 11/96	<p style="text-align: center;">N32/1</p> <p style="text-align: center;">←-V+</p> <p>2 — (5) — 1 (5)</p> <p style="text-align: center;">N32/1</p> <p style="text-align: center;">←-V+</p> <p>4 — (5) — 5 (5)</p> <p style="text-align: center;">N32/1</p> <p style="text-align: center;">←-V+</p> <p>3 — (5) — 5 (5)</p>	Connector (1) plugged in N32/1. Connector (5) unplugged from N32/1. Press switch (S91s3): raise rear lower rear	< 1 V 11 – 14 V -11 to -14 V approx. 5 V approx. 5 V	Wiring, S91, N32/1

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ [9.0]	Rear raise/lower motor (M27m2) Voltage supply Hall sensor As of 12/96	  	Connector (1) plugged in at N32/1. Connector (5) unplugged from N32/1. Press switch (S91s3): raise front lower front	< 1 V for 1 second: 11 – 14 V for 1 second: -11 to -14 V 11 – 14 V 7.7 – 8.8 V or 11.3 – 12.7 V	Wiring, S91, N32/1 N32/1 Wiring, M27m2

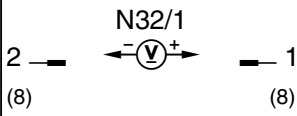
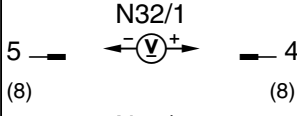
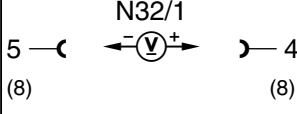
Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 12.0	Backrest fore/aft motor (M27m5) Voltage supply Up to 11/96	N32/1 2 —  — 1 (8) (8)	Connector (1) plugged in at N32/1. Connector (8) unplugged from N32/1. Press switch (S91s5): forward rearward	< 1 V 11 – 14 V -11 to -14 V approx. 5 V approx. 5 V	Wiring, S91, N32/1
		N32/1 5 —  — 4 (8) (8)			
		N32/1 3 —  — 4 (8) (8)			

15.1 Electric Seat Adjustment (ESA)

Model 129

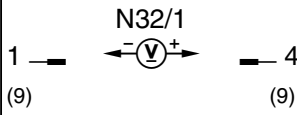
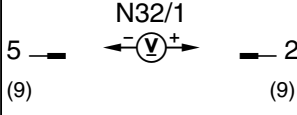
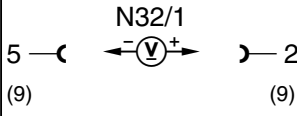
Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ [12.0]	Rear raise/lower motor (M27m5) Voltage supply Hall sensor As of 12/96		Connector (1) plugged in at N32/1. Connector (8) unplugged from N32/1. Press switch (S91s5): raise front lower front	< 1 V for 1 second: 11 – 14 V for 1 second: -11 to -14 V	Wiring, S91, N32/1
				11 – 14 V	N32/1
			Open connector (8) and connect to N32/1	7.7 – 8.8 V or 11.3 – 12.7 V	Wiring, M27m5

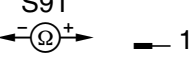
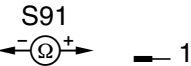
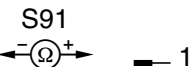
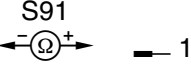
Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 15.0	<p>Head restraint raise/lower motor (M27m4) Voltage supply</p> <p>Up to 11/96</p>	<p>N32/1 4 — ←(V)→ — 1 (9) (9)</p> <p>N32/1 5 — ←(V)→ — 2 (9) (9)</p> <p>N32/1 3 — ←(V)→ — 2 (9) (9)</p>	<p>Connector (1) plugged in at N32/1. Connector (9) unplugged from N32/1.</p> <p>Press switch (S91s4): raise lower</p>	<p>< 1 V</p> <p>-11 to -14 V 11 – 14 V</p> <p>approx. 5 V</p> <p>approx. 5 V</p>	<p>Wiring, S91, N32/1</p>

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ [15.0]	Head restraint raise/lower motor (M27m4) Voltage supply Hall sensor As of 12/96	  	Connector (1) plugged in at N32/1. Connector (9) unplugged from N32/1. Press switch (S91s4): raise lower	< 1 V for 1 second: -11 to -14 V for 1 second: 11 – 14 V 11 – 14 V 7.7 – 8.8 V or 11.3 – 12.7 V	Wiring, S91, N32/1 N32/1 Wiring, M27m4

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 17.0	Left front power seat switch group (S91), position memory Resistance	<p>4 —  — 1</p> <p>2 —  — 1</p> <p>5 —  — 1</p> <p>4 —  — 1</p>	<p>Connector (1) unplugged from N32/1.</p> <p>Memory button 1 switch: Rest position: approx. 2.2 kΩ Push button: approx. 167 Ω</p> <p>Memory button 2 switch: Rest position: approx. 2.2 kΩ Push button: approx. 330 Ω</p> <p>Memory button 3 switch: Rest position: approx. 2.2 kΩ Push button: approx. 330 Ω</p> <p>Green memory button switch: Rest position: approx. 2.2 kΩ Push button: approx. 330 Ω</p>		S91

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 18.0	Left front power seat switch group (S91) Voltage supply	<p>N32/1 4 — ←(V)+ — 1 4 — ←(V)+ — 2 4 — ←(V)+ — 3 (1) (1)</p>	Connector (1) unplugged from N32/1.	approx. 5 V approx. 5 V approx. 5 V	N32/1
⇒19.0	Left seat proximity control module (N32/5) Voltage supply	<p>N32/1 4 — ←(V)+ — 2 1 — ←(V)+ — 2 (4) (4)</p>	Connector (4) unplugged from N32/1.	11 – 14 V 11 – 14 V	N32/1
⇒ 20.0	Left seat proximity control module (N32/5) Voltage supply	<p>N32/1 ⊥ ←(V)+ — 4 (4)</p>	Move backrest backward until it rests against soft top compartment wall. Unplug connector (4) from N32/1. Open connector and remove the wiring. Plug the connector in again at N32/1.	> 4 V	Wiring, N32/5

15.1 Electric Seat Adjustment (ESA)

Model 129

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 21.0	Left front power seat switch group illumination (S91e1) Voltage supply		S91 removed. Connector (1) unplugged from S91. Parking lamps turned on.	11 – 14 V	Wiring.
⇒ 22.0	Left backrest lock switch (S52/1) (left seat) Right backrest lock switch (S52/2) (left seat) Resistance	 	Left backrest lock safety package (N32/7) unplugged. Backrest latched. Backrest unlatched. Backrest latched. Backrest unlatched.	< 1 Ω > 20 kΩ < 1 Ω > 20 kΩ	Wiring, S52/1, S52/2
⇒ 23.0	Left front power seat switch group (S91) Resistance		Connector (1) disconnected from N32/1.	approx. 2.2 kΩ approx. 2.2 kΩ approx. 2.2 kΩ	Wiring, S91

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 24.0	Left backrest lock safety package (N32/7) Voltage supply		N32/7 disconnected. Ignition: ON Note: If N32/7 is unplugged, the acoustical warning from the right backrest lock safety package (N32/8) sounds for approx. 20 seconds.	11 – 14 V	⇒ 24.1
⇒ 24.1	Wiring between the left and right backrest lock safety package		Left and right backrest lock safety packages unplugged.	< 1 Ω	Wiring.
⇒ 25.0	Left backrest lock safety package (N32/7) Signal output for automatic latch		Connector (4) unplugged from N32/1. Backrest unlatched. Both doors closed. Ignition: ON	> 4 V	Wiring, N32/7
⇒ 26.0	Seat belt/backrest lock reminder lamp (A1e9)		Ignition: ON Start engine. Right backrest unlatched. Both doors closed.	Reminder lamp must illuminate.	If the nominal value is obtained: Wiring, N32/7 If the nominal value is not obtained: Wiring, A1e9

Electrical Test Program - Test (left seat)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 27.0	Warning signal from left backrest lock safety package (N32/7) and from right backrest lock safety package (N32/8)		N32/8 unplugged. Connector N32/8 removed. Open connector and remove socket 3. Plug N32/8 into connector again. Ignition: ON Start engine Left and right backrest latched. Both doors closed.	Reminder lamp goes out.	If the nominal value is not obtained: Wiring, N32/7 If the nominal value is obtained: N32/8.