14.3 Heated seats (HS)

Contents

14.3a Models 170, 202 as of 09/95, 208, 210

Heated front seats

Diagnosis – Function Test

Preparation for Test:

The switches (left/right) for the front heated seats are integrated into the Front HS Control Module (N25/5). The control module can only be replaced as a complete unit.

1. Review section 0, 10, 20, 22, 23, 31
2. Review following documents in WIS: GF00.19-P-1000A. Also review ETM documents: PE91.00-P-1100B (model 170), PE91.00-P-1100D Models 208, 202) and PE91.00-P-1100A (model 210).

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 1.0 Seat heating stage **I**	Ignition: **ON** Press front of left front HS switch (N25/5s1) or right front HS switch (N25/5s2), respectively.	1 LED in switch will iluminate. Seat cushion and backrest cushion will warm up.	23 ⇒ 1.0, 5.0, 7.0
⇒ 2.0 Seat heating stage **II**	Ignition: **ON** Press rear of left front HS switch (N25/5s1) or right front HS switch (N25/5s2), respectively.	2 LED'S in switch will illuminate. Seat cushion and backrest cushion will warm up noticeably more than stage **I.**	23 ⇒ 1.0, 5.0, 7.0
⇒ 3.0 Dimming of indicator lamps in stages **I** or **II**	Ignition: **ON** Seat heaters switched on. Parking lamps switched on.	LED'S for stage **I** or **II** light up brightly. LED'S become dimmer (based on adjustable cockpit illumination).	23 ⇒ 1.0 23 ⇒ 2.0, 3.0, 4.0

[1] Observe Preparation for Test, see 22.

Diagnosis – Complaint Related Diagnostic Chart

Preparation for Test:

The switches (left/right) for the front heated seats are integrated into the Front HS Control Module (N25/5). The control module can only be replaced as a complete unit.

1. Review section 0, 10, 20, 22, 23, 31
2. Review following documents in WIS: GF00.19-P-1000A.. Also review ETM documents: PE91.00-P-1100B (model 170), PE91.00-P-1100D Models 208, 202) and PE91.00-P-1100A (model 210).

Complaint/Problem	Possible cause	Test step/Remedy [1]
Entire front seat (left and right) heater system does not function.	Front HS control module (N25/5), voltage supply	23 ⇒ 1.0
Left front seat cushion and seatback heating does not function.	Front HS control module (N25/5), voltage supply Left front seat cushion heater element (R13/1) and left front backrest heater element (R13/2)	23 ⇒ 1.0, 23 ⇒ 5.0, 23 ⇒ 6.0
Right front seat cushion and seatback heating does not function.	Front HS control module (N25/5), voltage supply Right front seat cushion heater element (R13/3) and right front backrest heater element (R13/4)	23 ⇒ 1.0, 23 ⇒ 7.0, 23 ⇒ 8.0

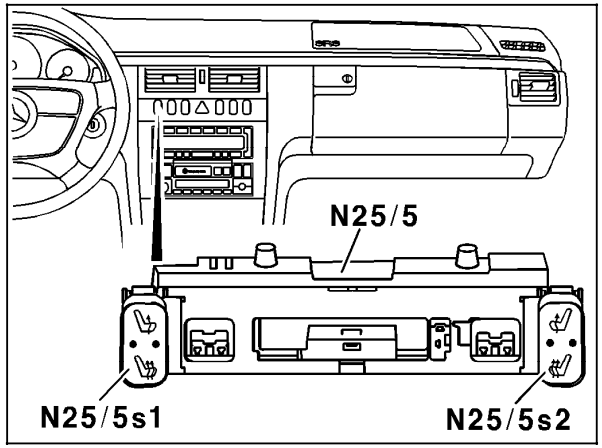
[1] Observe Preparation for Test, see 22.

Diagnosis – Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy [1]
Indicator lamps in left front HS switch (N25/5s1) or right front HS switch (N25/5s2) **do not** function. Seat heating **does** function.	N25/5s1 indicator lamps N25/5s2 indicator lamps	Front HS control module (N25/5). Front HS control module (N25/5).
Dimming of indicator lamps in left front HS switch (N25/5s1) or right front HS switch (N25/5s20) does not function.	N25/5s1 dimming N25/5s2 dimming	23 ⇒ 2.0, 3.0, 4.0 23 ⇒ 2.0, 3.0, 4.0
Illumination of indicator lamps in left front seat heater switch (S51/1) or right front seat heater switch (S51/2) does not function.	N25/5s1 or N25/5s2 illumination	23 ⇒ 2.0, 3.0, 4.0 Front HS control module (N25/5).

[1] Observe Preparation for Test, see 22.

Electrical Test Program – Component Location



P91.29-0214-01

Figure 1 Models 202, 208, 210

N25/5	Front HS control module
N25/5s1	Left front HS switch
N25/5s2	Right front HS switch

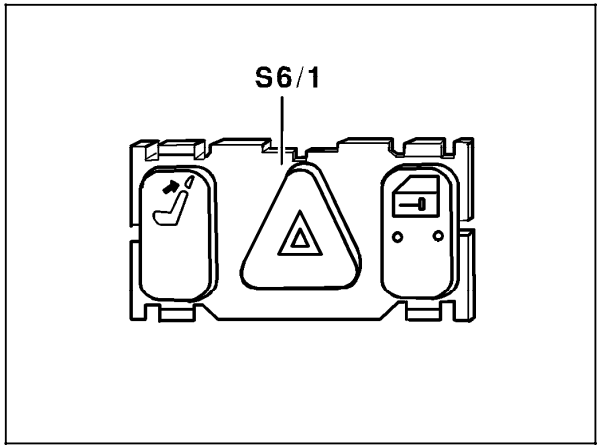


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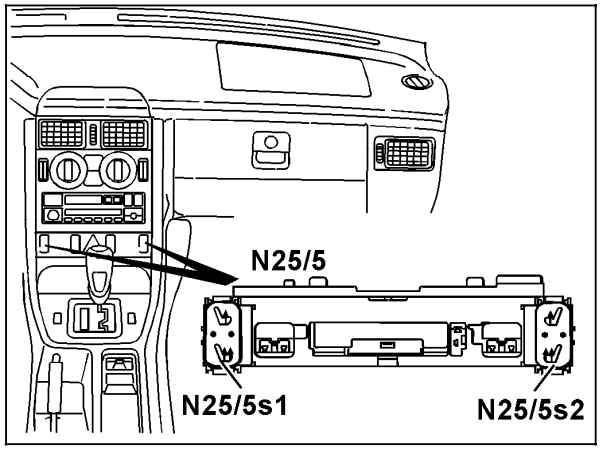
Figure 2

S6/1	Cockpit switch group



P91.29-0234-01

Figure 3 Model 170

N25/5	Front HS control module
N25/5s1	Left front HS switch
N25/5s2	Right front HS switch

Electrical Test Program – Preparation for Test

Preparation for Test:

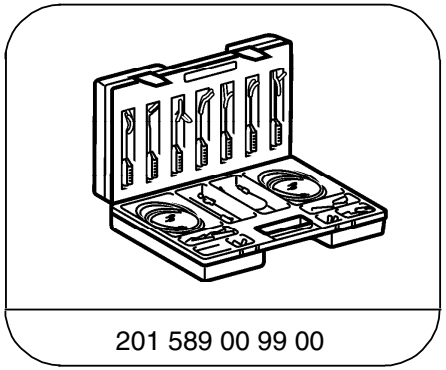
The switches (left/right) for the front heated seats are integrated into the Front HS Control Module (N25/5). The control module can only be replaced as a complete unit.

1. Review section 0, 11, 14, 20, 22, 23
2. Battery voltage 11 – 14 V,
3. Check fuses ok.

Electrical wiring diagrams:

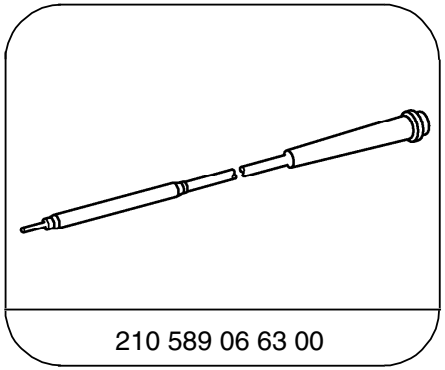
Electrical Troubleshooting Manual, Model 170, Volume 2, group 91,
Electrical Troubleshooting Manual, Model 202, Volume 2, group 91,
Electrical Troubleshooting Manual, Model 208, Volume 2, group 91,
Electrical Troubleshooting Manual, Model 210, Volume 2, group 91.

Special Tools



201 589 00 99 00

Electrical connecting set



210 589 06 63 00

Adapter cable

Electrical Test Program – Preparation for Test

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

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		**Front HS control module (N25/5)** Voltage supply Circuit 30	N25/5 ⊥ (V) ⟩— 4	Ignition: **OFF**	11 – 14 V	Wiring.
		Circuit 15R	N25/5 ⊥ (V) ⟩— 2	Ignition: **Position "1"**		
2.0		**Front HS control module (N25/5)** Voltage supply for circuit 58d from cockpit switch group (S6/1)	S6/1 4 —((V) ⟩— 9	Adjust cockpit illumination to HI, Parking lamps: ON	11 – 14 V	Wiring.
3.0		**Cockpit switch group (S6/1)** Circuit 58d internal connection	S6/1 9 — (Ω) ⟩— 58d	Ignition: **OFF**	< 1 Ω	S6/1
4.0		**Cockpit switch group (S6/1)** Circuit 31 internal connection	S6/1 4 — (Ω) ⟩— 31	Ignition: **OFF**	< 1 Ω	S6/1

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0		**Left front seat cushion heater element (R13/1) and left front backrest heater element (R13/2)** Voltage supply Models 170, 208, 210 Model 202	X55/3 ⊥ V ⟩— 4 (C) X55/3 ⊥ V ⟩— 2 (C)	Ignition: **ON** Left front HS switch (N25/5s1) set to heating stage **II**. N25/5s1 set to heating stage **I**	0 – 1 V 9 – 14 V Proper interval indicated on multimeter.	Wiring, ⇒ 1.0, Front HS control module (N25/5) ⇒ 5.1
5.1		R13/1 and R13/2 Voltage supply Ground Models 170, 208, 210 Model 202	X55/3 1 —(V ⟩— 4 (C) (C) 1 —(X55/3 V ⟩— 2 (C) (C)	Ignition: **ON** Left front HS switch (N25/5s1) set to heating stage **II**.	11 – 14 V	Wiring.

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
6.0		**Left front seat cushion heater element (R13/1)** Resistance		Disconnect connector C at X55/3.		R13/1
		Model 210	X55/3 1 (C) – Ω – 4 (C)	MB tex seats	2.6 – 3.4 Ω	
				Leather seats	3.9 – 4.7 Ω	
		Model 202	X55/3 3 (C) – Ω – 4 (C)	Cloth and MB tex seats	2.5 – 3.0 Ω	
		Model 170, 208	X55/3 1 (C) – Ω – 4 (C)		Model 170 2.0 – 2.5 Ω Model 208 2.4 – 2.9 Ω	

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
6.1		Left front backrest heater element (R13/2) Resistance		Disconnect connector C at X55/3.		R13/2
		Model 210	X55/3 2 (C) – Ω – 3 (C)	MB tex seats	2.5 – 3.2 Ω	
				Leather seats	3.8 – 4.5 Ω	
		Model 202	X55/3 1 (C) – Ω – 2 (C)	Cloth and MB tex seats	2.5 – 3.0 Ω	
		Model 170, 208	2 (C) – X55/3 Ω – 2 (C)		Model 170 2.2 – 2.7 Ω Model 208 2.8 – 3.3 Ω	

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0		**Right front seat cushion heater element (R13/3) and left front backrest heater element (R13/4)** Voltage supply Models 170, 208, 210 Model 202	X55/4 ⊥ V) 4 (C) X55/4 ⊥ V) 2 (C)	Ignition: **ON** Right front HS switch (N25/5s2) set to heating stage **II**. N25/5s2 set to heating stage **I**	0 – 1 V 9 – 14 V Proper interval indicated on multimeter.	Wiring, ⇒ 1.0, Front HS control module (N25/5), ⇒ 7.1
7.1		R13/3 and R13/4 Voltage supply Ground Models 170, 208, 210 Model 202	X55/4 1 (C) V) 4 (C) 1 (C) X55/4 V) 2 (C)	Ignition: **ON** Right front HS switch (N25/5s2) set to heating stage **II**.	9 – 14 V	Wiring.

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
8.0		**Right front seat cushion heater element (R13/3)**		Disconnect connector C at X55/4.		R13/3
		Resistance	X55/4			
		Model 210	1 (C) – Ω – 4 (C)	MB tex seats	2.6 – 3.4 Ω	
				Leather seats	3.9 – 4.7 Ω	
		Model 202	X55/4 1 (C) – Ω – 2 (C)	Cloth and MB tex seats	3.0 – 3.5 Ω	
		Model 170, 208	X55/4 1 (C) – Ω – 4 (C)		Model 170 2.0 – 2.5 Ω Model 208 2.4 – 2.9 Ω	

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
8.1		Right front backrest heater element (R13/4) Resistance		Disconnect connector C at X55/4.		R13/4
		Model 210	X55/4 2 (C) – Ω – 3 (C)	MB tex seats	2.5 – 3.2 Ω	
				Leather seats	3.8 – 4.5 Ω	
		Model 202	X55/4 3 (C) – Ω – 4 (C)	Cloth and MB tex seats	2.5 – 3.0 Ω	
		Model 170, 208	X55/4 2 (C) – Ω – 3 (C)		Model 170 2.2 – 2.7 Ω Model 208 2.8 – 3.3 Ω	