

15.2a Model 202

Front Power Seat Adjustment without Memory

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Diagnosis - Function Test

Test step/Test sequence	Test condition	Nominal value	Possible cause/Remedy ¹⁾	
⇒ 1.0 Front power seat, fore/aft adjustment	Ignition: ON Activate power seat switch (S22s3, S23s3) fore/aft	Front seat adjusts forward/backward	Left seat 23 ⇒ 1.0 23 ⇒ 2.0 23 ⇒ 3.0 23 ⇒ 31.0	Right seat 23 ⇒ 16.0 23 ⇒ 17.0 23 ⇒ 18.0 23 ⇒ 32.0
⇒ 2.0 Front power seat, front seat height adjustment	Ignition: ON Activate power seat switch (S22s2, S23s2) up/down	Front seat front adjusts up/down	Left seat 23 ⇒ 1.0 23 ⇒ 4.0 23 ⇒ 5.0 23 ⇒ 31.0	Right seat 23 ⇒ 16.0 23 ⇒ 19.0 23 ⇒ 20.0 23 ⇒ 32.0
⇒ 3.0 Front power seat, rear seat height adjustment	Ignition: ON Activate power seat switch (S22s4, S23s4) up/down	Front seat rear adjusts up/down	Left seat 23 ⇒ 1.0 23 ⇒ 6.0 23 ⇒ 7.0 23 ⇒ 31.0	Right seat 23 ⇒ 16.0 23 ⇒ 21.0 23 ⇒ 22.0 23 ⇒ 32.0
⇒ 4.0 Front power seat, backrest adjustment	Ignition: ON Activate power seat switch (S22s5, S23s5) fore/aft	Front seat backrest adjusts forward/backward	Left seat 23 ⇒ 1.0 23 ⇒ 8.0 23 ⇒ 9.0 23 ⇒ 31.0	Right seat 23 ⇒ 16.0 23 ⇒ 23.0 23 ⇒ 24.0 23 ⇒ 32.0

¹⁾ Observe Preparation for Test, see 22.

Diagnosis - Function Test

Test step/Test sequence	Test condition	Nominal value	Possible cause/Remedy ¹⁾	
<p>⇒ 5.0 Front power seat, head restraint adjustment</p>	<p>Ignition: ON Activate power seat switch (S22s1, S23s1) up/down</p>	<p>Front seat head restraint adjusts up/down</p>	<p>Left seat 23 ⇒ 1.0 23 ⇒ 10.0 23 ⇒ 11.0 23 ⇒ 31.0</p>	<p>Right seat 23 ⇒ 16.0 23 ⇒ 25.0 23 ⇒ 26.0 23 ⇒ 32.0</p>

1) Observe Preparation for Test, see 22.

Diagnosis - Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy ¹⁾
Left front power seat adjustment does not function	Convenience realy module (K24) Left door switch (S17/3) Right door switch (S17/4) Left front power seat switch (S22)	23 ⇒ 33.0 23 ⇒ 34.0 23 ⇒ 34.0 23 ⇒ 31.0
Left front power seat, fore/aft adjustment does not function	Left front power seat motor group, fore/aft motor (M25m1)	23 ⇒ 2.0, 3.0
Left front power seat, front seat height adjustment does not function	Left front power seat motor group, front raise/lower motor (M25m3)	23 ⇒ 4.0, 5.0
Left front power seat, rear seat height adjustment does not function	Left front power seat motor group, rear raise/lower motor (M25m2)	23 ⇒ 6.0, 7.0
Left front power seat, backrest adjustment does not function	Left front power seat motor group, backrest fore/aft motor (M25m5)	23 ⇒ 8.0, 9.0
Left front power seat, head restraint adjustment does not function	Left front power seat motor group, head restraint raise/lower motor (M25m4)	23 ⇒ 10.0, 11.0

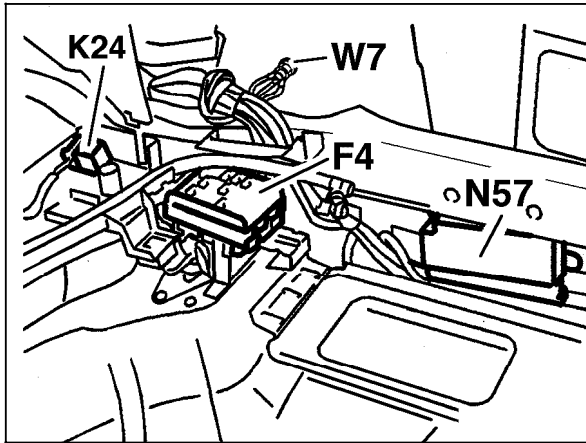
¹⁾ Observe Preparation for Test, see 22.

Diagnosis - Complaint Related Diagnostic Chart

Complaint/Problem	Possible cause	Test step/Remedy ¹⁾
Right front power seat adjustment does not function	Convenience realy module (K24) Left door switch (S17/3) Right door switch (S17/4) Right front power seat switch (S23)	23 ⇒ 33.0 23 ⇒ 34.0 23 ⇒ 34.0 23 ⇒ 32.0
Right front power seat, fore/aft adjustment does not function	Right front power seat motor group, fore/aft motor (M26m1)	23 ⇒ 17.0, 18.0
Right front power seat, front seat height adjustment does not function	Right front power seat motor group, front raise/lower motor (M26m3)	23 ⇒ 19.0, 20.0
Right front power seat, rear seat height adjustment does not function	Right front power seat motor group, rear raise/lower motor (M26m2)	23 ⇒ 21.0, 22.0
Right front power seat, backrest adjustment does not function	Right front power seat motor group, backrest fore/aft motor (M26m5)	23 ⇒ 23.0, 24.0
Right front power seat, head restraint adjustment does not function	Right front power seat motor group, head restraint raise/lower motor (M26m4)	23 ⇒ 25.0, 26.0

¹⁾ Observe Preparation for Test, see 22.

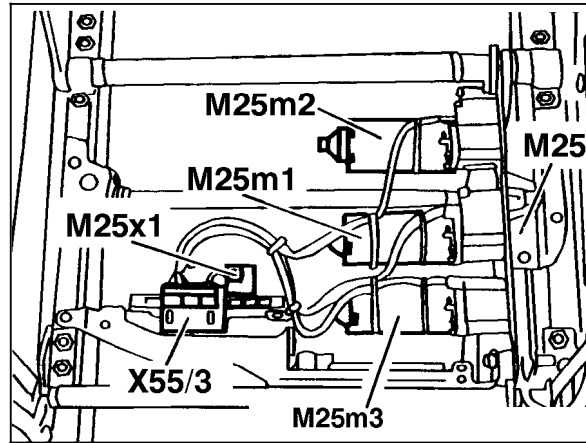
Electrical Test Program - Component Locations



P82-5949-13

Figure 1
Model 202

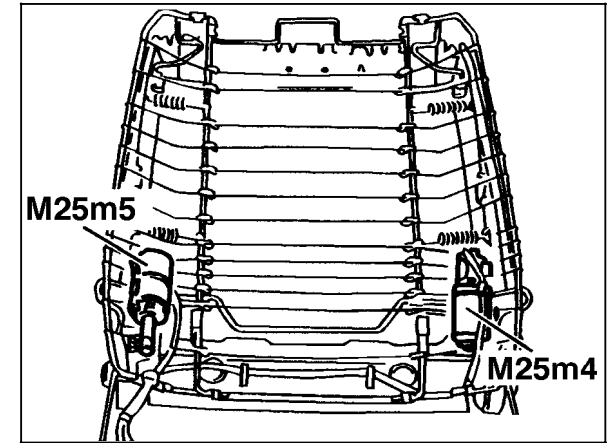
F4 Rear fuse box (19-fuse, in trunk)



P91-5550-13

Figure 2
Model 202

M25 Left front power seat motor group
 M25m1 Fore/aft motor
 M25m2 Rear raise/lower motor
 M25m3 Front raise/lower motor
 M25x1 Fore/aft motor connector
 X55/3 Left seat contact strip

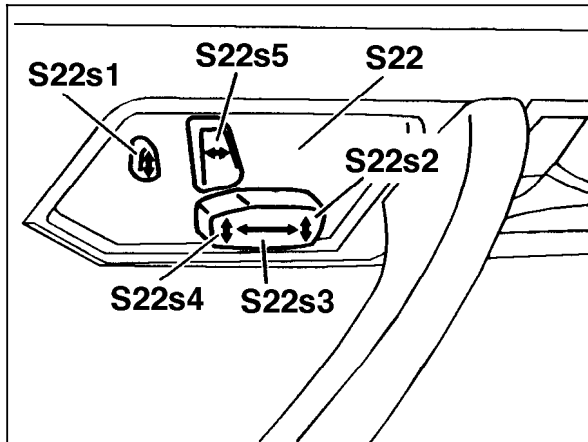


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Figure 3
Model 202

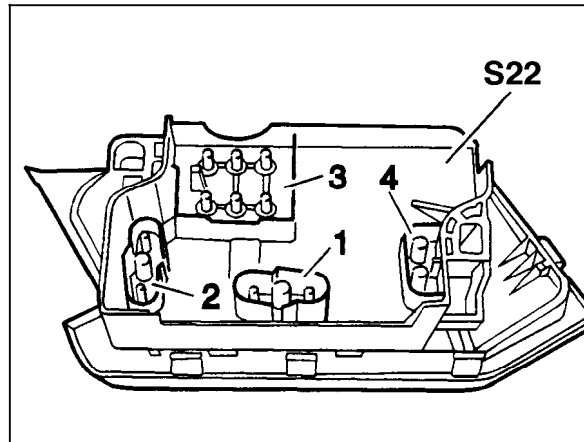
M25m4 Head restraint raise/lower motor
 M25m5 Backrest fore/aft motor

Electrical Test Program - Component Locations



P91-5549-13

Figure 4
Model 202



P91-5604-13

Figure 5
Model 202

- S22 Left front power seat switch
- S22s1 Head restraint up/down
- S22s2 Front seat height
- S22s3 Seat fore/aft
- S22s4 Rear seat height
- S22s5 Backrest

- S22 Left front power seat switch

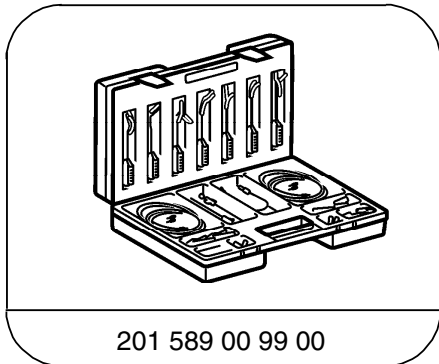
Electrical Test Program - Preparation for Test

1. Battery voltage 11 – 14 V.
2. Fuses F3-26, F4-1, F4-2, F4-3, F4-4, F4-9 O.K.

Electrical wiring diagrams

Electrical Troubleshooting Manual, Model 202.

Special Tools



201 589 00 99 00

Electrical connecting set

Equipment

Digital multimeter ¹⁾



Fluke model 23 with 80i-410 current probe
Sun DMM-5

¹⁾ Available through the MBUSA Standard Equipment Program.

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 1.0	Non – USA vehicle only Continue to next step				
⇒ 2.0	Left front power seat motor group, fore/aft motor (M25m1) Voltage supply		Ignition: ON Disconnect contact strip (X55/3). Press left front power seat switch (S22s3): forward backward	11 – 14 V -11 to -14 V	Wiring, Left front power seat switch (S22).
⇒ 3.0	Left front power seat motor group, fore/aft motor (M25m1) Resistance		–	0.5 – 15 Ω	Left front power seat motor group, fore/aft motor (M25m1).
⇒ 4.0	Left front power seat motor group, front raise/lower motor (M25m3) Voltage supply		Ignition: ON Disconnect contact strip (X55/3). Press seat switch (S22s2): seat front height up seat front height down	11 – 14 V -11 to -14 V	Wiring, Left front power seat switch (S22).
⇒ 5.0	Left front power seat motor group, front raise/lower motor (M25m3) Resistance		–	0.5 – 15 Ω	Left front power seat motor group, front raise/lower motor (M25m3).

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 6.0	Left front power seat motor group, rear raise/lower motor (M25m2) Voltage supply	X55/3 12 —() — 11	Ignition: ON Disconnect contact strip (X55/3). Press seat switch (S22s2): seat rear height up seat rear height down	11 – 14 V -11 to -14 V	Wiring, Left front power seat switch (S22).
⇒ 7.0	Left front power seat motor group, rear raise/lower motor (M25m2) Resistance	X55/3 11 —  — 12	–	0.5 – 15 Ω	Left front power seat motor group, rear raise/lower motor (M25m2).

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 8.0	Left front power seat motor group, backrest fore/aft motor (M25m5) Voltage supply	X55/3 2 — (← ⊖ ⊕ →) — 1	Ignition: ON Disconnect contact strip (X55/3). Press seat switch (S22s5): backrest forward backrest rearward	11 – 14 V -11 to -14 V	Wiring, Left front power seat switch (S22).
⇒ 9.0	Left front power seat motor group, backrest fore/aft motor (M25m5) Resistance	X55/3 2 — — ← ⊖ ⊕ → — — 1	–	0.5 – 15 Ω	Left front power seat motor group, backrest fore/aft motor (M25m5).
⇒ 10.0	Left front power seat motor group, head restraint raise/lower motor (M25m4) Voltage supply	X55/3 3 — (← ⊖ ⊕ →) — 4	Ignition: ON Disconnect contact strip (X55/3). Press seat switch (S22s1): head restraint up head restraint down	11 – 14 V -11 to -14 V	Wiring, Left front power seat switch (S22).
⇒ 11.0	Left front power seat motor group, head restraint raise/lower motor (M25m4) Resistance	X55/3 3 — — ← ⊖ ⊕ → — — 4	–	0.5 – 15 Ω	Left front power seat motor group, head restraint raise/lower motor (M25m4).

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 12.0 thru 16.0	Non – USA vehicle only Continue to next step				
⇒ 17.0	Right front power seat motor group, fore/aft motor (M26m1) Voltage supply		Ignition: ON Disconnect contact strip (X55/4). Press left front power seat switch (S23s3): forward backward	11 – 14 V -11 to -14 V	Wiring, Right front power seat switch (S23).
⇒ 18.0	Right front power seat motor group, fore/aft motor (M26m1) Resistance		–	0.5 – 15 Ω	Right front power seat motor group, fore/aft motor (M26m1).
⇒ 19.0	Right front power seat motor group, front raise/lower motor (M26m3) Voltage supply		Ignition: ON Disconnect contact strip (X55/4). Press seat switch (S23s2): seat front height up seat front height down	11 – 14 V -11 to -14 V	Wiring, Right front power seat switch (S23).
⇒ 20.0	Right front power seat motor group, front raise/lower motor (M26m3) Resistance		–	0.5 – 15 Ω	Right front power seat motor group, front raise/lower motor (M26m3).

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 21.0	Right front power seat motor group, rear raise/lower motor (M26m2) Voltage supply	X55/4 11 —(— ⊖ ⊕ —)— 12	Ignition: ON Disconnect contact strip (X55/4). Press seat switch (S23s2): seat rear height up seat rear height down	11 – 14 V -11 to -14 V	Wiring, Right front power seat switch (S23).
⇒ 22.0	Right front power seat motor group, rear raise/lower motor (M26m2) Resistance	X55/4 12 — — ⊖ ⊕ — — 11	–	0.5 – 15 Ω	Right front power seat motor group, rear raise/lower motor (M26m2).

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 23.0	Right front power seat motor group, backrest fore/aft motor (M26m5) Voltage supply		Ignition: ON Disconnect contact strip (X55/4). Press seat switch (S23s5): backrest forward backrest rearward	11 – 14 V -11 to -14 V	Wiring, Right front power seat switch (S23).
⇒ 24.0	Right front power seat motor group, backrest fore/aft motor (M26m5) Resistance		–	0.5 – 15 Ω	Right front power seat motor group, backrest fore/aft motor (M26m5).
⇒ 25.0	Right front power seat motor group, head restraint raise/lower motor (M26m4) Voltage supply		Ignition: ON Disconnect contact strip (X55/4). Press seat switch (S23s1): head restraint up head restraint down	11 – 14 V -11 to -14 V	Wiring, Right front power seat switch (S23).
⇒ 26.0	Right front power seat motor group, head restraint raise/lower motor (M26m4) Resistance		–	0.5 – 15 Ω	Right front power seat motor group, head restraint raise/lower motor (M26m4).

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 27.0 thru 30.0	Non – USA vehicles only Continue to next step				
⇒ 31.0	Left front power seat switch (S22) Voltage supply	<p>2 —(←(V)→)— 1 (4) (4)</p>	Ignition: ON Disconnect connector (4) from seat switch (S22)	11 – 14 V	Wiring, Convenience relay module (K24).
		<p>2 —(←(V)→)— 2 (2) (1)</p>	Disconnect connectors (1, 2) from seat switch (S22)	11 – 14 V	
⇒ 32.0	Right front power seat switch (S23) Voltage supply	<p>2 —(←(V)→)— 2 (6) (5)</p>	Ignition: ON Disconnect connectors (5, 6) from seat switch (S23)	11 – 14 V	Wiring, Convenience relay module (K24).
		<p>2 —(←(V)→)— 1 (8) (8)</p>	Disconnect connector (8) from seat switch (S23)	11 – 14 V	

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 33.0 Up to 2/97 As of 3/97	Convenience relay module (K24) Voltage supply	5 — (← ⊖ ⊕ →) — 3 K24	Ignition: OFF Disconnect module (K24)	11 – 14 V	Wiring
		5 — (← ⊖ ⊕ →) — 2		11 – 14 V	
		5 — (← ⊖ ⊕ →) — 4	Ignition key in position “1”	11 – 14 V	
			Ignition: OFF Disconnect module (K24)		
		6 — (← ⊖ ⊕ →) — 8 K24		11 – 14 V	
		6 — (← ⊖ ⊕ →) — 3		11 – 14 V	
		6 — (← ⊖ ⊕ →) — 2	Ignition key in position “1”	11 – 14 V	
		6 — (← ⊖ ⊕ →) — 4	Ignition key in position “1”	11 – 14 V	

Electrical Test Program - Testing

Test step DTC	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 34.0 Up to 2/97	Door switch (S17/3, S17/4) Voltage supply	<p>K24 6 —(←(V)→)— 2</p>	Ignition: OFF Disconnect module (K24) Front doors: closed Left front door: open Left front door: closed Right front door: open	0–2 V 11 – 14 V 0–2 V 11 – 14 V	Wiring, Left door switch (S17/3), Right door switch (S17/4), Pneumatic control module (A37/2), Convenience control module (N57).
As of 3/97		<p>K24 3 —(←(V)→)— 1</p> <p>K24 3 —(←(V)→)— 7</p>	Ignition: OFF Disconnect module (K24) Left front door: open Left front door: closed Right front door: open Right front door: closed	11 – 14 V 0–2 V 11 – 14 V 0–2 V	Wiring, Left door switch (S17/3), Right door switch (S17/4),

Electrical Test Program - Testing

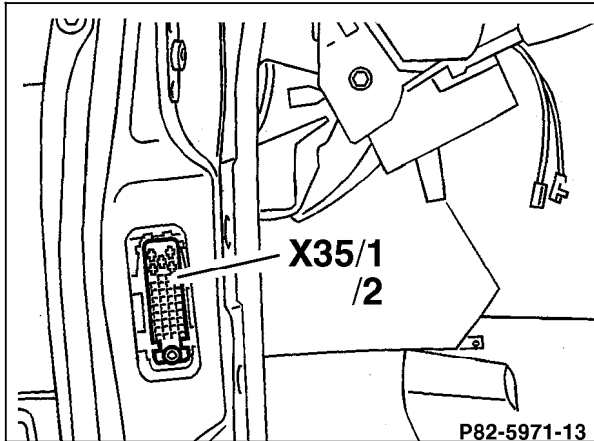


Figure 1

- X35/1 Left front door plug connection
- X35/2 Right front door plug connection

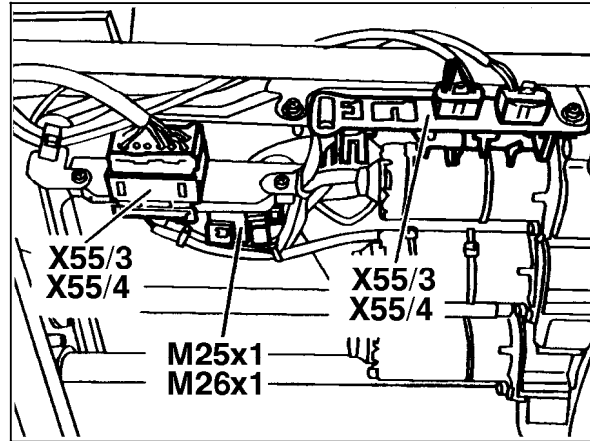


Figure 2

- X55/3 Left seat contact strip
- X55/4 Right seat contact strip
- M25x1 Left front power seat motor group connector
- M26x1 Right front power seat motor group connector

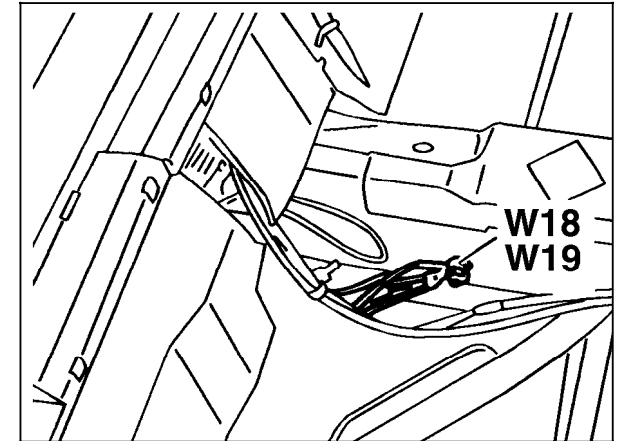


Figure 3

- W18 Ground (left front seat crossmember)
- W19 Ground (right front seat crossmember)