

12.5 Model 170

Mirror Adjustment, heated mirrors

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Diagnosis - Function Test

Test step/Test sequence	Test condition	Nominal value	Possible cause/Remedy ¹⁾
⇒ 1.0 Left outside mirror adjustment	Ignition: ON Turn mirror adjustment switch (S50) to the left mirror adjustment position and adjust.	Mirror adjustment: up down left right	23⇒ 1.0, 2.0, 4.0, 5.0
⇒ 2.0 Right outside mirror adjustment	Ignition: ON Turn mirror adjustment switch (S50) to the right mirror adjustment position and adjust.	Mirror adjustment: up down left right	23⇒ 1.0, 3.0, 6.0, 7.0
⇒ 3.0 Outside mirrors heating	Ignition: ON After approx. 1 minute feel mirror glass with hand.	Both mirror lenses warm up. i up to production 12/96 Mirrors are continuously heated with ignition in position 1 (circuit 15 ON) as of production 12/96 With ignition in position 1 (circuit 15 ON) temperature switching thresholds < 15° C (59° F): Mirror heating ON > 25° C (77° F): Mirror heating OFF	23⇒ 8.0, 9.0

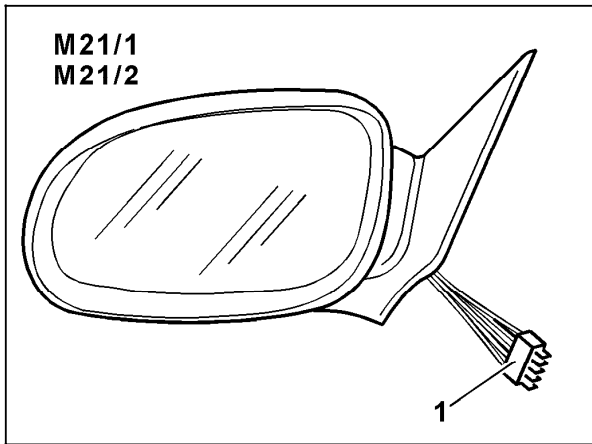
¹⁾ Observe Preparation for Test, see 22.

Diagnosis - Complaint Related Diagnostic Chart

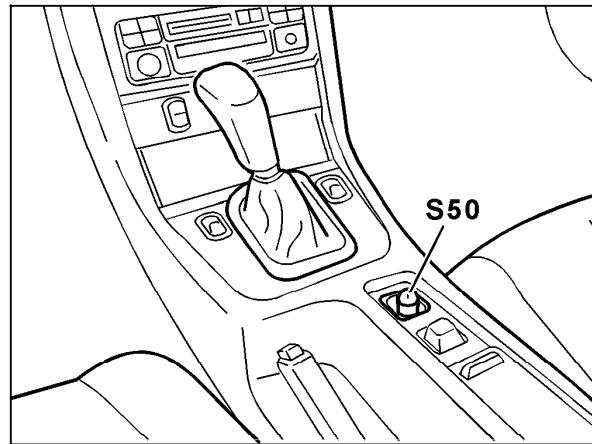
Complaint/Problem	Possible cause	Remedy/Test step ¹⁾
Entire mirror adjustment not functioning.	Outside mirror control switch (S50).	23 ⇒ 1.0
Left outside mirror adjustment not functioning.	Outside mirror control switch (S50). Electrically adjustable and heated driver side outside rearview mirror (M21/1).	23 ⇒ 1.0 23 ⇒ 2.0, 4.0, 5.0
Right outside mirror adjustment not functioning.	Outside mirror control switch (S50). Electrically adjustable and heated front passenger side outside rearview mirror (M21/2).	23 ⇒ 1.0 23 ⇒ 3.0, 6.0, 7.0
Left side mirror heating not functioning.	Electrically adjustable and heated driver side outside rearview mirror (M21/1) power distribution.	23 ⇒ 8.0
Right side mirror heating not functioning.	Electrically adjustable and heated front passenger side outside rearview mirror (M21/2) power distribution.	23 ⇒ 9.0
Outside mirror control switch (S50) illumination not functioning.	Outside mirror control switch (S50) illumination power distribution.	23 ⇒ 10.0

¹⁾ Observe Preparation for Test, see 22.

Electrical Test Program - Component Locations



P88.79-0225-01



P88.79-0233-01

Figure 1

- M21/1 Electrically adjustable and heated driver-side outside rearview mirror
- M21/2 Electrically adjustable and heated front passenger outside rearview mirror
- 1 Connector

Figure 2

- S50 Outside mirror control switch

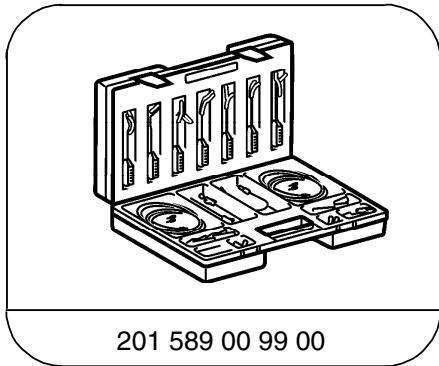
Electrical Test Program - Preparation for Test

1. Battery voltage 11-14 V.
2. Fuse must be O.K.
3. For voltage measurements - ignition switch in position 2

Wiring diagrams

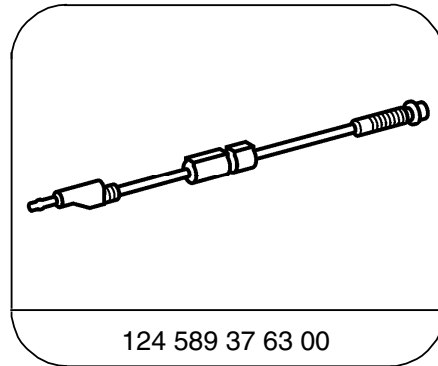
Electrical Troubleshooting Manual, Model 170

Special Tools



201 589 00 99 00

Electrical connecting set



124 589 37 63 00

Fused cable


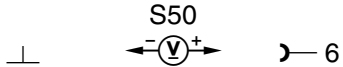
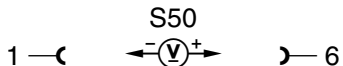
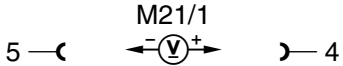
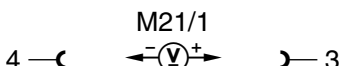
Equipment



Multimeter ¹⁾

Fluke models 23, 83, 85, 87

¹⁾ Available through the MBUSA Standard Equipment Program.


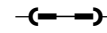
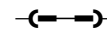

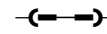
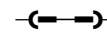

Electrical Test Program - Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		Outside mirror control switch (S50) Voltage supply		Ignition: ON	11 – 14 V	Wiring ⇒ 1.1
1.1		Outside mirror control switch (S50) Voltage supply		Ignition: ON	11 – 14 V	Wiring
2.0		Outside mirror control switch (S50) Electrically adjustable and heated driver-side outside rearview mirror motor actuation (M21/1)	 	<p>Connector to electrically adjustable and heated driver-side outside rearview mirror motor M21/1 disconnected</p> <p>Ignition: ON switch set to left outside mirror</p> <p>Press S50 switch towards front Press S50 switch towards back</p> <p>Press S50 switch to the left Press S50 switch to the right</p>	<p>11 – 14 V</p> <p>-11 to -14 V</p> <p>11 – 14 V</p> <p>-11 to -14 V</p>	Wiring S50

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0		<p>Outside mirror control switch (S50) Electrically adjustable and heated front passenger outside rearview mirror motor actuation (M21/2)</p>	<p>M21/2 3 —(⊖ ⊕)— 4</p> <p>M21/2 4 —(⊖ ⊕)— 5</p>	<p>Connector to front passenger outside rearview mirror motor M21/2 disconnected</p> <p>Ignition: ON switch set to right outside mirror</p> <p>Press S50 towards front Press S50 towards back</p> <p>Press S50 to the left Press S50 to the right</p>	<p>11 – 14 V –11 to –14 V</p> <p>11 – 14 V –11 to –14 V</p>	<p>Wiring S50</p>
4.0		<p>Left outside mirror, vertical adjustment motor (M21/1m1)</p>	<p>M21/1m1 3 —(⊖ ⊕)— 1</p> <p>2 —(⊖ ⊕)— 4</p>	<p> Connector to driver-side outside rearview mirror motor M21/1 disconnected</p> <p>Bridge pins 3 (male) with pin 1 (female) and pin 2 with pin 4 of the connector as shown using test cable 124 589 37 63 00</p> <p>Ignition: ON</p>	<p>Electric motor runs</p>	<p>M21/1m1</p>



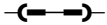

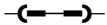







12.5 Mirror, Steering Column Adjustment, Heated Mirrors (MSC)

Model 170

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0		Left outside mirror, horizontal adjustment motor (M21/1m2)	<p>M21/1m2</p> <p>5 —  — 1</p> <p>2 —  — 4</p>	<p> Connector to driver-side outside rearview mirror motor M21/1 disconnected</p> <p>Bridge pin 5 (male) with pin1 (female) and pin 2 with pin 4 of the connector as shown using test cable 124 589 37 63 00 Ignition: ON</p>	Electric motor runs	M21/1m2
6.0		Right outside mirror, vertical adjustment motor (M21/2m1)	<p>M21/2m1</p> <p>3 —  — 1</p> <p>2 —  — 4</p>	<p> Connector to front passenger outside rearview mirror motor M21/2 disconnected</p> <p>Bridge pins 3 (male) with pin1 (female) and pin 2 with pin 4 of the connector as shown using test cable 124 589 37 63 00 Ignition: ON</p>	Electric motor runs	M21/2m1

12.5 Mirror, Steering Column Adjustment, Heated Mirrors (MSC)

Model 170

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0		Right outside mirror, horizontal adjustment motor (M21/2m2)	<p>M21/2m2</p> <p>5 —  —  — 1</p> <p>2 —  —  — 4</p>	<p></p> <p>Connector to driver-side outside rearview mirror motor M21/2 disconnected</p> <p>Bridge pins 5 (male) with pin 1 (female) and pin 2 with pin 4 of the connector as shown using test cable 124 589 37 63 00</p> <p>Ignition: ON</p>	Electric motor runs	M21/2m2
8.0		Left outside mirror heating element (M21/1r1) Voltage supply	<p>M21/1r1</p> <p>2 —  —  — 1</p>	<p>Connector to driver-side outside rearview mirror motor M21/1 disconnected</p> <p>Ignition: ON</p>	11 – 14 V	Wiring
9.0		Right outside mirror heating element (M21/2r1) Voltage supply	<p>M21/2r1</p> <p>2 —  —  — 1</p>	<p>Connector to front passenger outside rearview mirror motor M21/2 disconnected</p> <p>Ignition: ON</p>	11 – 14 V	Wiring
10.0		Outside mirror control switch illumination (S50) Voltage supply	<p>S50</p> <p> —  — 2</p>	<p>Head lights switched on</p>	11 – 14 V	Wiring Voltage supply circuit 58d