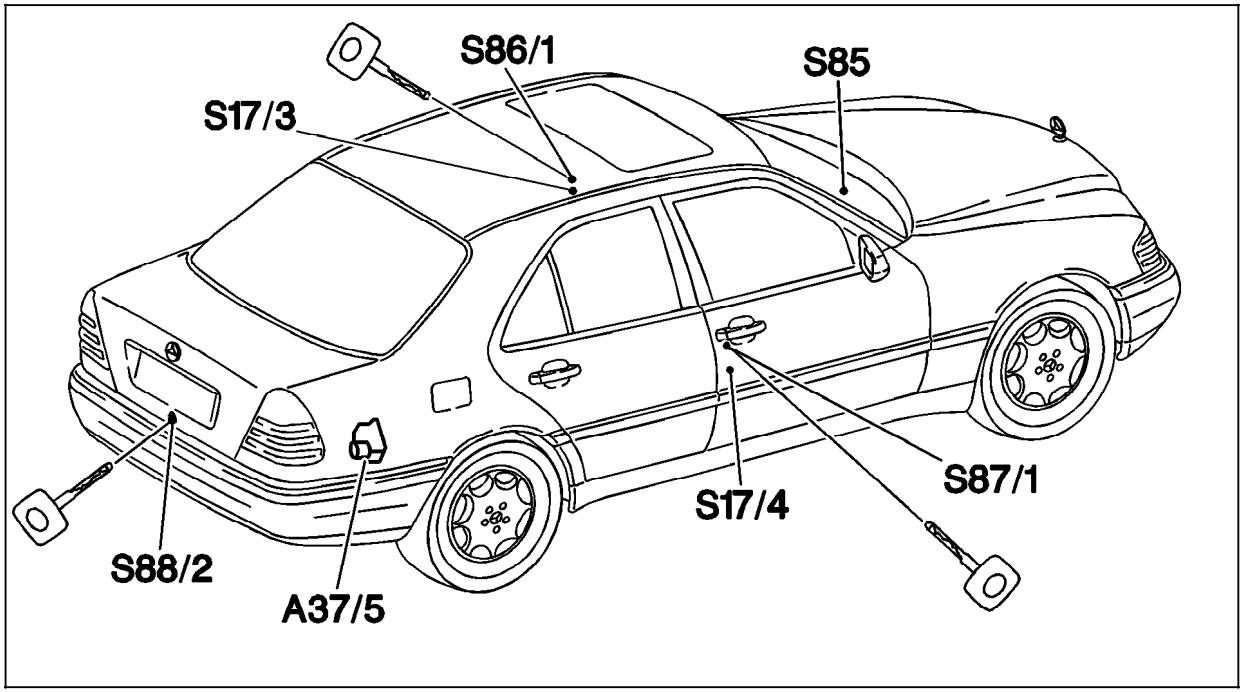
3.2 Central Locking (PSE/CL)
Model 202

Diagnosis – Function Test (Central Locking)

Component Location



P80-5127-55

Figure 1

A37/5 PSE control module
S17/3 Left front door switch
S17/4 Right front door switch
S85 CL interior control switch
S86/1 Left front door lock switch (CF)
S87/1 Right front door lock switch (CF)
S88/2 Trunk lid lock switch (CF)

Diagnosis – Function Test (Central Locking)

Preparation for Test:

1. **Model 202 up to 11/94:** Check fuse F3–33 ok,
2. **Model 202 as of 12/94:** Check fuse F1–27 ok,
3. Battery voltage 11 to 14 V.
4. Vehicle unlocked.
5. All doors and trunk lid closed.

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 1.0 Locking vehicle via left front door	Turn key in left front door lock to right.	All doors, trunk lid and filler flap lock in 3 sec.	Vehicle does not lock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 ⇒ 1.0, 5.0 Vehicle does not lock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 1.0, 32 ⇒ 2.0

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test (Central Locking)

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 2.0 Unlocking vehicle via left front door	Turn key in left front door lock to left.	All doors, trunk lid and filler flap unlock in 3 sec.	Vehicle does not unlock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 PSE ⇒ 1.0, 5.0 Vehicle does not unlock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 2.0, 32 ⇒ 1.0
⇒ 3.0 Locking vehicle via right front door	Turn key in right front door lock to left.	All doors, trunk lid and filler flap lock in 3 sec.	Vehicle does not lock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 PSE ⇒ 1.0, 3.0 Vehicle does not lock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 1.0, 32 ⇒ 2.0

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test (Central Locking)

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 4.0 Unlocking vehicle via right front door	Turn key in front door lock to the right.	All doors, trunk lid and filler flap unlock in 3 sec.	Vehicle does not unlock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 PSE ⇒ 1.0, 3.0 Vehicle does not unlock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 2.0, 32 ⇒ 1.0
⇒ 5.0 Locking vehicle via trunk lid	Turn key in trunk lid lock to the right.	All doors, trunk lid and filler flap lock in 3 sec.	Vehicle does not lock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 PSE ⇒ 1.0, 4.0 Vehicle does not lock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 1.0, 32 ⇒ 2.0

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test (Central Locking)

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 6.0 Unlocking vehicle via trunk lid	Turn key in trunk lid lock to the left.	All doors, trunk lid and filler flap unlock in 3 sec.	Vehicle does not unlock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 PSE ⇒ 1.0, 4.0 Vehicle does not unlock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 2.0, 32 ⇒ 1.0
⇒ 7.0 Locking vehicle via central locking interior control switch	All doors closed. Vehicle unlocked from outside. Press switch in locking position.	All doors, trunk lid and filler flap lock in 3 sec.	Vehicle does not lock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 PSE ⇒ 1.0, 2.0. Vehicle does not lock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 1.0, 32 ⇒ 2.0

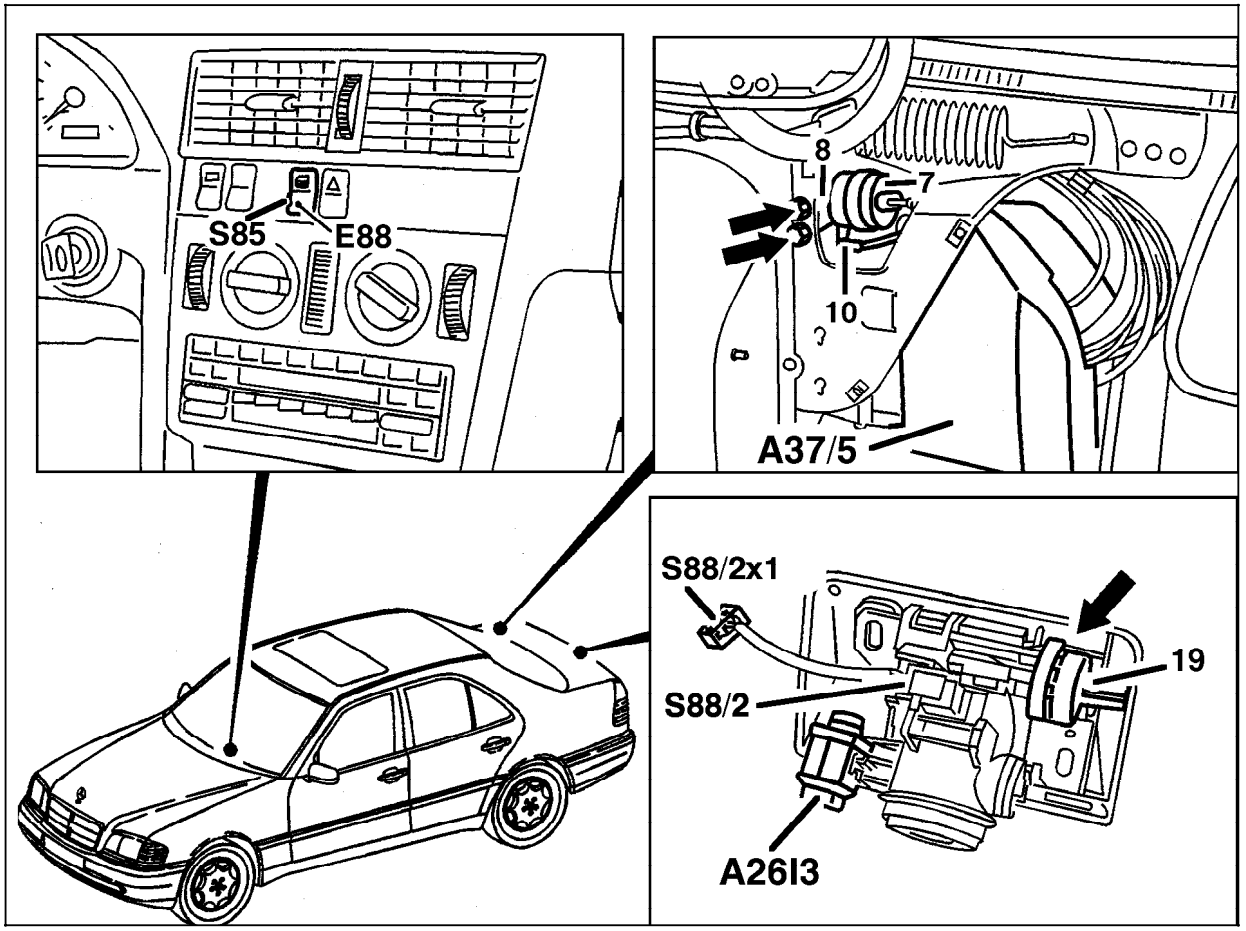
[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test (Central Locking)

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 8.0 Unlocking vehicle via central locking interior control switch	Front doors closed. Press central locking switch interior control in unlocking position.	All doors, trunk lid and filler flap unlock in 3 sec.	Vehicle does not unlock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 ⇒ 1.0, 2.0. Vehicle does not unlock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 2.0, 32 ⇒ 1.0
⇒ 9.0 Unlocking vehicle by opening a front door	Vehicle locked via the central locking interior control switch. Open a front door via inside door handle only.	All doors, trunk lid and filler flap unlock in 3 sec.	Vehicle does not unlock and pump motor in PSE control module (A37/4, A37/5) **does not run**. 23 ⇒ 1.0, 6.0 Vehicle does not unlock even though pump motor in PSE control module (A37/4, A37/5) **runs**. 32 PSE ⇒ 2.0, 32 ⇒ 1.0

[1] Observe Preparation for Test, see 22.

Electrical Test Program – Component Locations (CL)

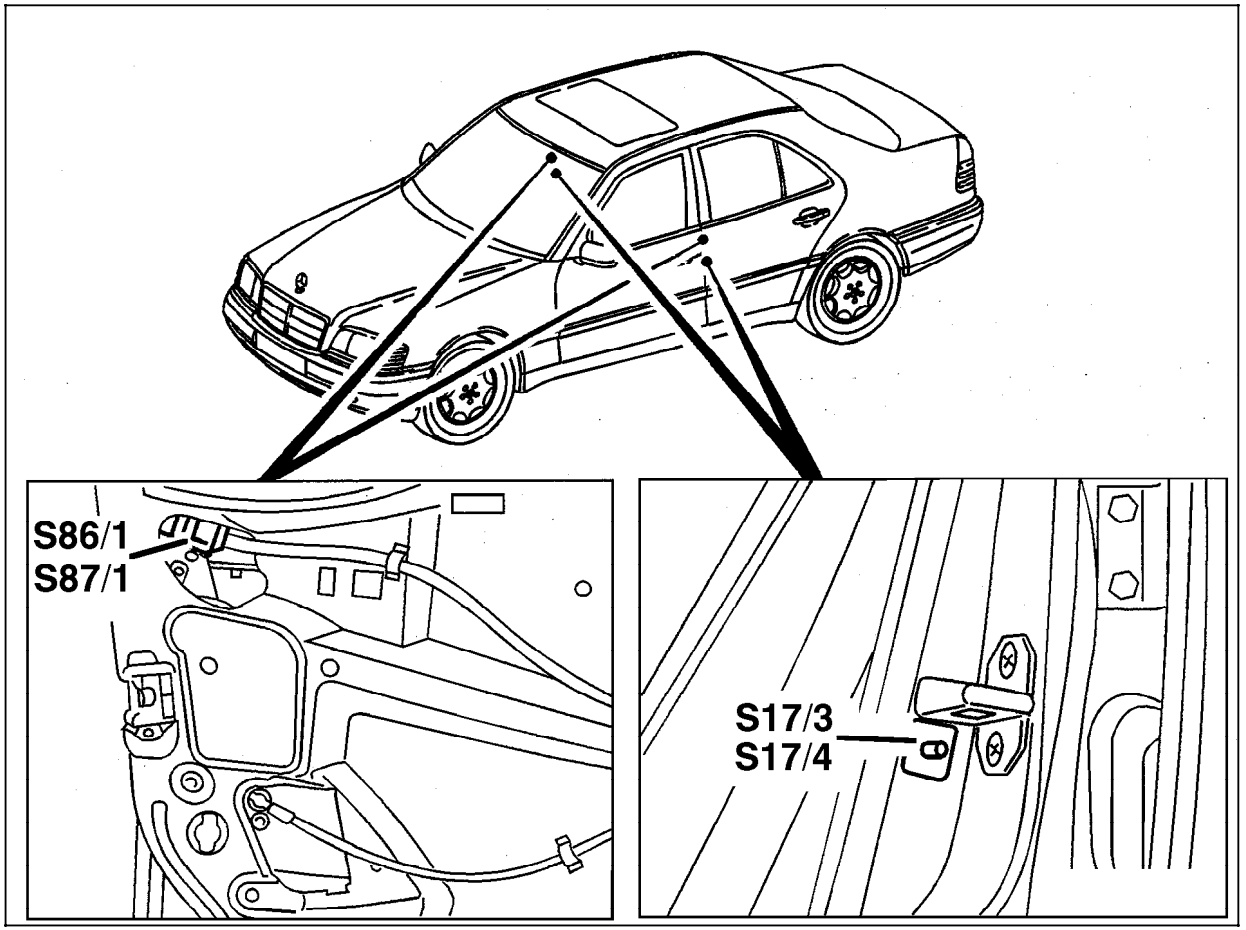


P80-5128-57

Figure 1

A37/4	PSE control module (vehicles w/o OSB, not pictured)
A37/5	PSE control module
S85	CL interior control switch
S88/2	Trunk lid lock switch (CF)
S88/2x1	Trunk lid lock switch connector (CF)

Electrical Test Program – Component Locations (CL)



P80-5151-57

Figure 2

S17/3 Left front door switch
S17/4 Right front door switch
(mirror image of left shown)
S86/1 Left front door lock switch (CF)
S87/1 Right front door lock switch (CF)
(mirror image of left shown)

Electrical Test Program - Preparation for Test (Central Locking)

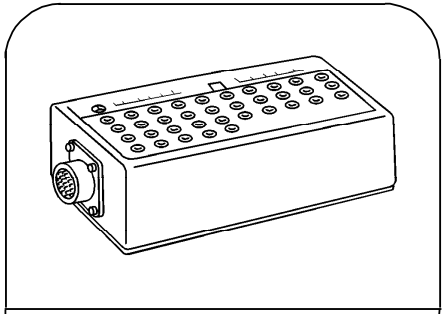
Preparation for Test:

1. **Model 202 up to 11/94:** Check fuse F3–33 ok,
2. **Model 202 as of 12/94:** Check fuse F1–27 ok,
3. Provide access to PSE control module (A37/4, A37/5).
4. Connect socket box with test cable according to connection diagram, see 22, Figure 1.

Electrical Wiring Diagrams

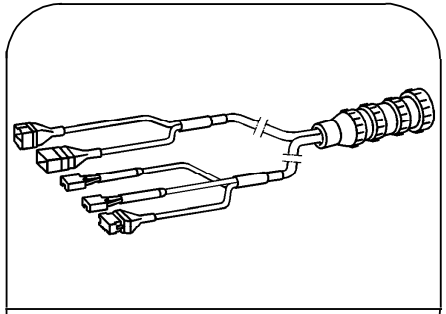
See Electrical Troubleshooting Manual, Model 202, Volume 2, group 80

Special Tools



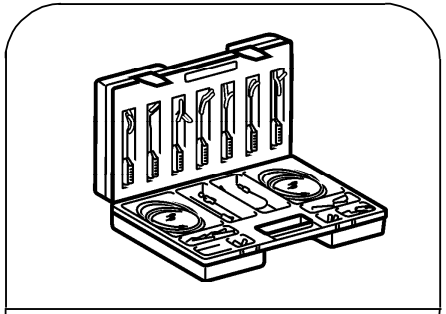
124 589 00 21 00

35-pin socket box



202 589 04 63 00

14-pin test cable



201 589 00 99 00

Electrical connecting set

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 - Preparation for Test (Central Locking)

Connection Diagram - Socket Box

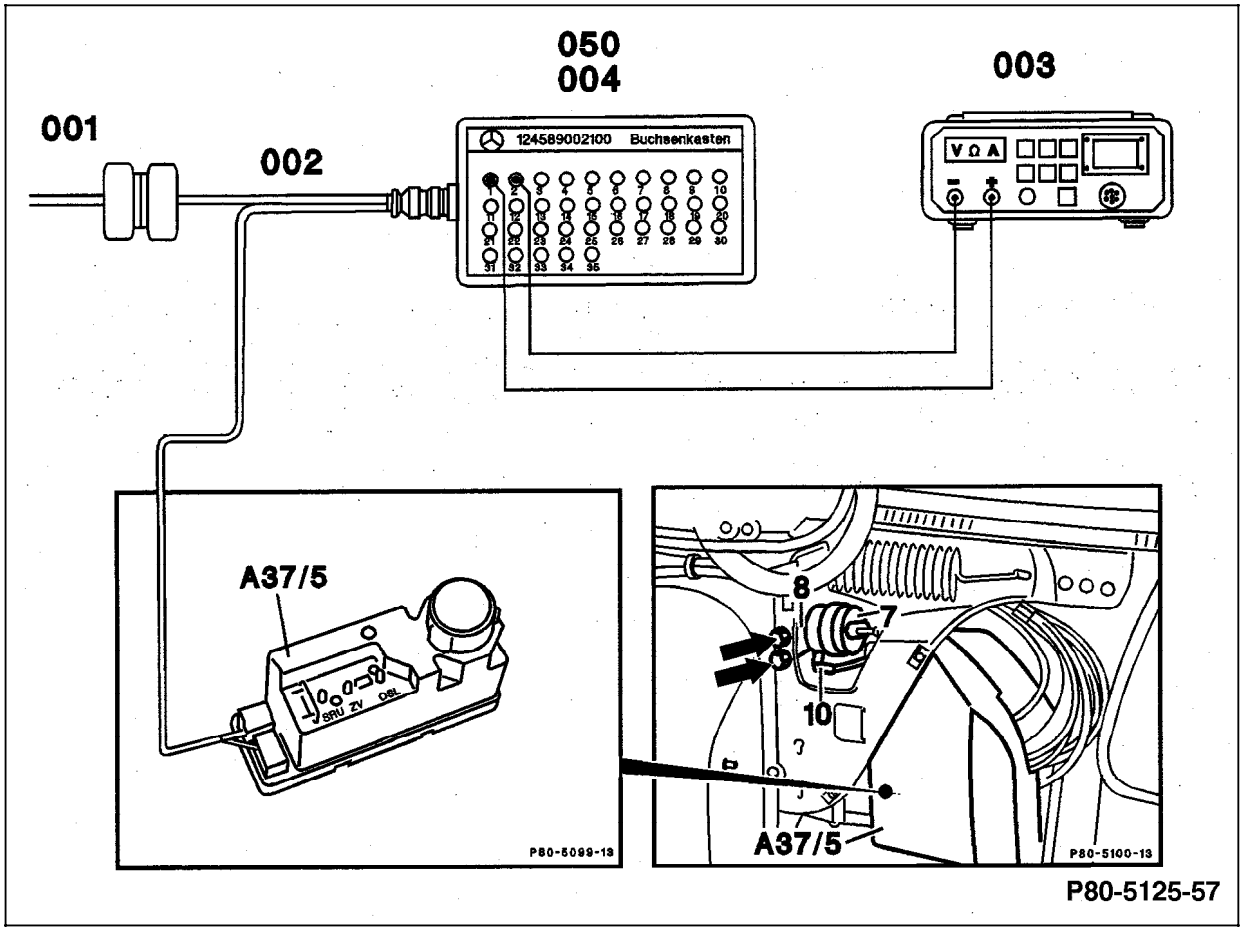


Figure 1

001	PSE control module connector
002	Test cable
003	Multimeter
004/050	Socket box (35-pole)
A37/5	PSE control module

P80-5125-57

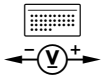
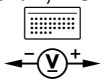
Electrical Test Program – Test (Central Locking

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 1.0	**PSE control module (A37/4, A37/5)** Voltage supply Circuit 30	A37/4, A37/5  2 (C.2) — 8 (C.8)		11 – 14 V	Wiring, Circuit 30, ⇒ 1.1
⇒ 1.1	Circuit 30	A37/4, A37/5  ⊥ — 8 (C.8)		11 – 14 V	Wiring, Circuit 30.

Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 2.0	**Central locking interior control switch (S85)**		Left and right front door closed, vehicle unlocked from outside. S85: **Rest position** **Press to lock**	CL: locks.	Wiring, ⇒ 2.1, 32 ⇒ 2.0, 32 PSE ⇒ 1.0, PSE control module (A37/4, A37/5).
			Press to unlock:	CL: unlocks.	Wiring, ⇒ 2.1, 32 ⇒ 1.0, 32 PSE ⇒ 2.0, A37/4, A37/5.

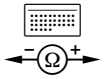
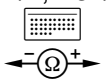
Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 2.1	S85	A37/4, A37/5  6 (C.6) — 8 (C.8)	Disconnect PSE control module (A37/4, A37/5) from . S85: **Rest position** **Press and hold to Lock**	 <1 V 11 – 14 V	Wiring, S85.
		A37/4, A37/5  2 (C.2) — 6 (C.6) 7 — 8 **Additionally with vehicles up to 11/93**	S85: **Rest position** **Press and hold to unlock**	<1 V 11 – 14 V	

Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 3.0	**Right front door lock switch circuit (convenience, S87/1)**		Vehicle locked. Turn key to right, **Hold to unlock:**	CL: unlocks.	Wiring, ⇒ 3.1, 3.2, ⇒ 4.1, 4.2, ⇒ 5.1, 5.2, 32 ⇒ 1.0, 32 PSE ⇒ 2.0, PSE control module (A37/4, A37/5), Convenience control module (N57). Also if so equipped: ATA control module (N26).
			Turn key to left, **Hold to lock**.	CL: locks.	Wiring, ⇒ 3.1, 3.2, ⇒ 4.1, 4.2, ⇒ 5.1, 5.2, 32 ⇒ 2.0, 32 PSE ⇒ 1.0, A37/4, A37/5, N57. Also if so equipped: N26.

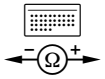
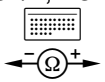
Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 3.1	S87/1	A37/4, A37/5  2 (C.2) — 1 (C.1)	Disconnect PSE control module (A37/4, A37/5) from ⌨. Disconnect (X35/1) at left front door plug. Disconnect (S88/2x1) at trunk lid switch connector. S87/1: **Rest position**. **Hold to unlock**	 >20 kΩ <40 Ω	Wiring, S87/1.
⇒ 3.2	S87/1	A37/4, A37/5  2 (C.2) — 3 (C.3)	 S87/1: **Rest position** **Hold to lock**	 >20 kΩ <60 Ω	Wiring, S87/1.

Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 4.0	**Trunk lid switch circuit (convenience, S88/2)**		Turn key to left, **Hold to unlock**	CL: unlocks.	Wiring, ⇒ 3.1, 3.2, ⇒ 4.1, 4.2, ⇒ 5.1, 5.2, 32 ⇒ 1.0, 32 PSE ⇒ 2.0, PSE control module (A37/4, A37/5), Convenience control module (N57). Also if so equipped: ATA control module (N26).
			Turn key to right, **Hold to lock**	CL: locks.	Wiring, ⇒ 3.1, 3.2, ⇒ 4.1, 4.2, ⇒ 5.1, 5.2, 32 ⇒ 2.0, 32 PSE ⇒ 1.0, A37/4, A37/5, N57. Also if so equipped: N26.

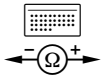
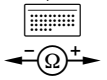
Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 4.1	S88/2	A37/4, A37/5  2 (C.2) — 1 (C.1)	Disconnect PSE control module (A37/4, A37/5) from  Disconnect (X35/1) left front and (X35/2) right front connectors. S88/2: **Rest position** **Hold to unlock**	 >20 kΩ <40 Ω	Wiring, S88/2.
⇒ 4.2	S88/2	A37/4, A37/5  2 (C.2) — 3 (C.3)	 S88/2: **Rest position** **Hold to lock**	 >20 kΩ <60 Ω	Wiring, S88/2.

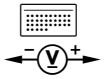
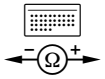
Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 5.0	**Left front door lock switch circuit (convenience, S86/1)**		Turn key to left. **Hold to unlock**	CL: unlocks.	Wiring, ⇒ 3.1, 3.2, ⇒ 4.1, 4.2, ⇒ 5.1, 5.2, 32 ⇒ 1.0, 32 PSE ⇒ 2.0, PSE control module (A37/4, A37/5), Convenience control module (N57). Also if so equipped: ATA control module (N26).
			Turn key to right. **Hold to lock**	CL: locks.	Wiring, ⇒ 3.1, 3.2, ⇒ 4.1, 4.2, ⇒ 5.1, 5.2, 32 ⇒ 2.0, 32 PSE ⇒ 1.0, A37/4, A37/5, N57. Also if so equipped: N26.

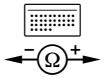
Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 5.1	S86/1	A37/4, A37/5  2 (C.2) — 1 (C.1)	Disconnect PSE control module (A37/4, A37/5) from ⌨. Disconnect (X35/2) at right front door plug. Disconnect trunk lid lock switch (S88/2). S86/1: **Rest position** **Hold to unlock**	 >20 kΩ <40 Ω	Wiring, S86/1.
⇒ 5.2	S86/1	A37/4, A37/5  2 (C.2) — 3 (C.3)	 S86/1: **Rest position** **Hold to lock**	 >20 kΩ <60 Ω	Wiring, S86/1.

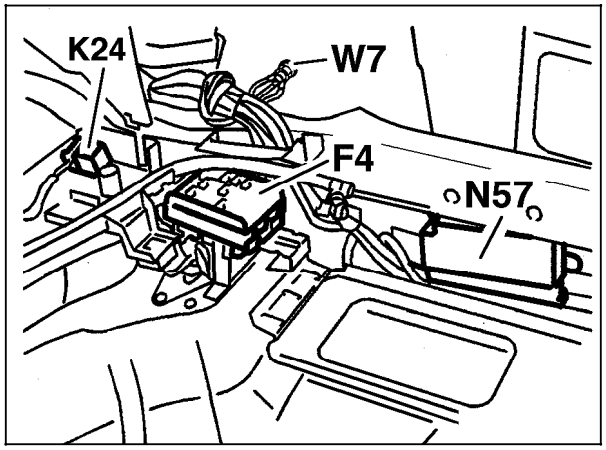
Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 6.0	**Left front door switch circuit (S17/3)** **Right front door switch circuit (S17/4)**	A37/4, A37/5  2 (C.2) — V — 5 (C.5)	Remove fuse F3-33. All doors closed. **Alternately open and close front doors.** **Both front doors closed.** **One front door open.**	 11 – 14 V <1 V	Wiring, ⇒ 6.1, ⇒ 6.2, PSE control module (A37/4, A37/5), Convenience control module (N57).
⇒ 6.1	S17/3	A37/4, A37/5  2 (C.2) — Ω — 5 (C.5)	Disconnect PSE control module (A37/4, A37/5) from  . Disconnect right front door switch (S17/4). **Open left front door.** **Close left front door.**	 <40 Ω >20 kΩ	Wiring, S17/3.

Electrical Test Program - Test (Central Locking)

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 6.2	S17/4	A37/4, A37/5  2 (C.2) — 5 (C.5)	Disconnect PSE control module (A37/4, A37/5) from  . Disconnect left front door switch (S17/3). **Open right front door.** **Close right front door.**	 <40 Ω >20 kΩ	Wiring, S17/4.

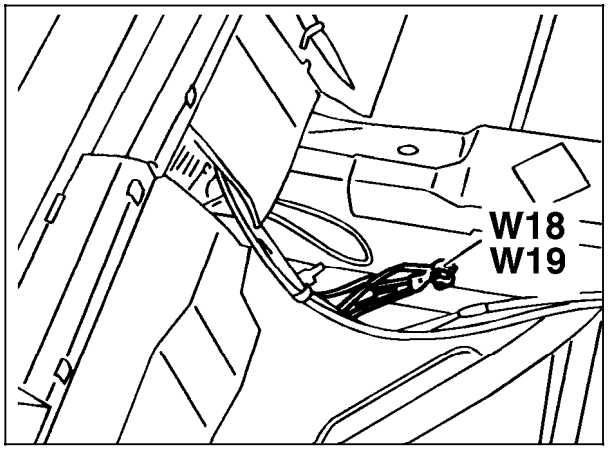
Electrical Test Program - Test (Central Locking)



P82-5949-13

Figure 1

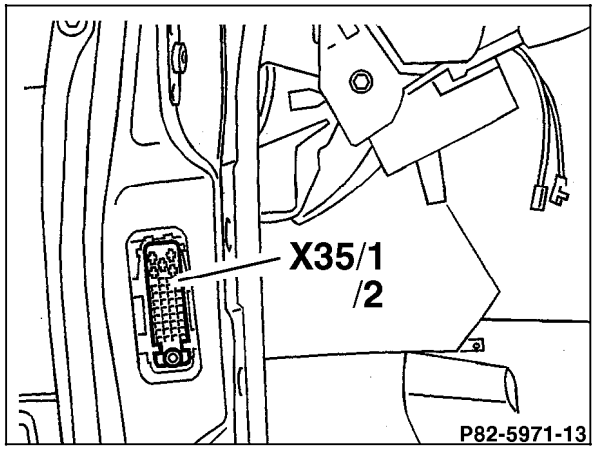
W7 Ground (right wheelhousing in trunk)



P91-5552-13

Figure 2

W18 Ground (left front seat crossmember)
W19 Ground (right front seat crossmember) (mirror image of left shown)

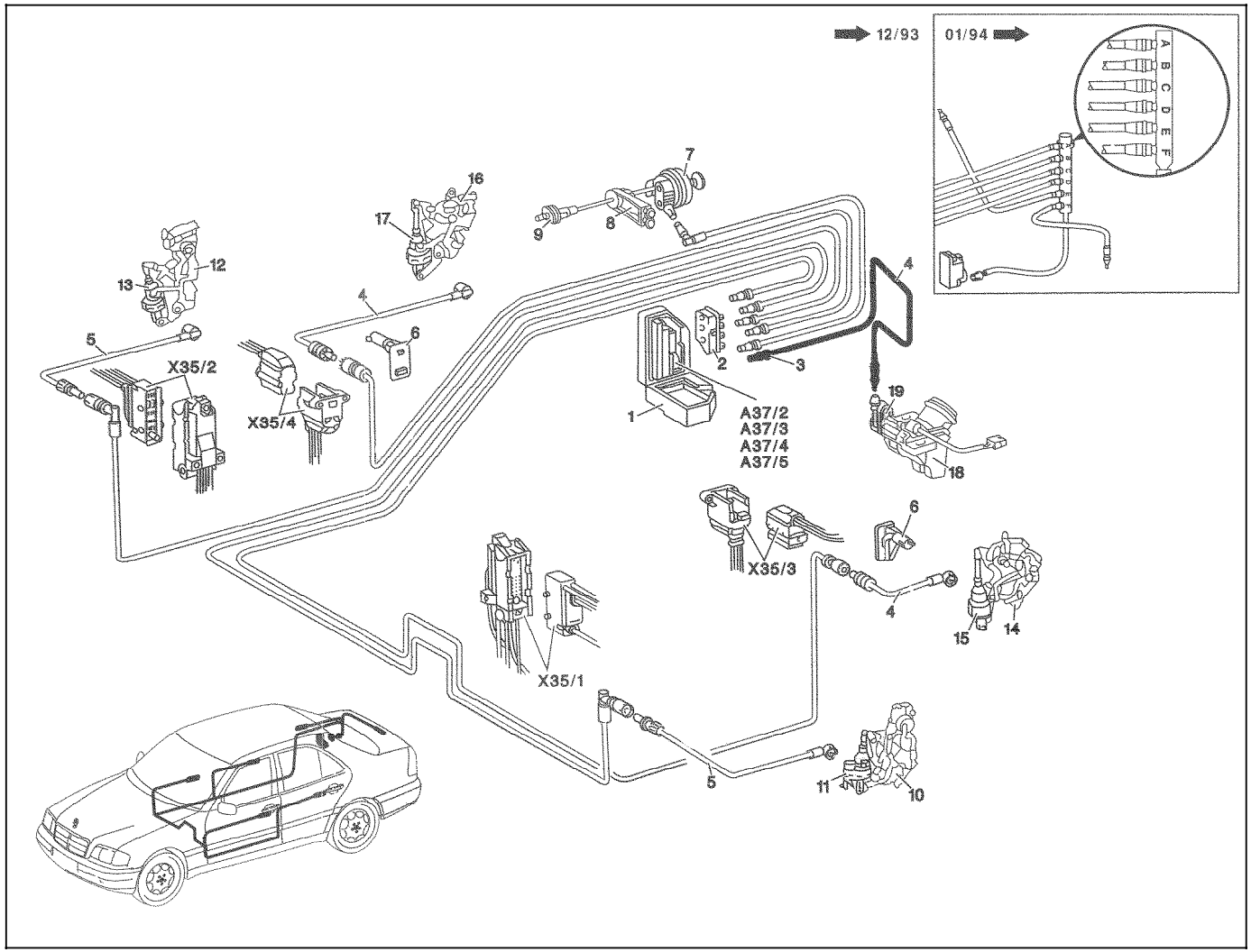


P82-5971-13

Figure 3

X35/1 Left front door separation point
X35/2 Right front door separation point (mirror image of left shown)

Electrical Test Program – Component Locations (CL)



P80-5183-06x

Figure 1

A37/4	PSE control module (CL, MVA)
A37/5	PSE control module (CL, MVA, OSB)
X35/1	Left front door separation point
X35/2	Right front door separation point
X35/3	Left rear door separation point
X35/4	Right rear door separation point
1	Foam cube
2	Pneumatic multiple connector (up to 12/93)
3	Pneumatic hose set (color coded: yellow = CL; transparent = MVA; grey = OSB)
4	Pneumatic hose, left/right rear door
5	Pneumatic hose, left/right front door
7	Fuel tank filler flap actuator
8	Fuel tank filler flap actuator support
9	Fuel tank filler flap sleeve
10	Left front door lock
11	Left front door CL actuator
12	Right front door lock
13	Right front door CL actuator
14	Left rear door lock
15	Left rear door CL actuator
16	Right rear door lock
17	Right rear door CL actuator
18	Trunk lid lock
19	Trunk lid CL actuator

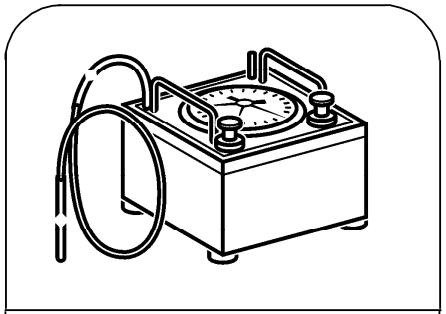
Pneumatic Test Program – Test (CL)

Preliminary work:
PSE Control Module Test . . . . . 32 **PSE**

Data (mbar)

Test procedure	Permissible deviation
Allowable system leakage at 600 mbar pressure or 300 mbar vacuum in 1 minute.	30 mbar
Allowable leakage of actuators with lines at 600 mbar pressure or 300 mbar vacuum in 1 minute.	25 mbar

Special Tools



201 589 13 21 00

Tester

Pneumatic Test Program – Test (CL)

A. Entire system

Preparation for Test:

Vehicles up to approx. 12/93:

1. Disconnect pneumatic multiple connector from PSE control module.
2. Connect tester to bottom side of pneumatic multiple connector at **ZV** (CL) using connector 129 805 04 44.

Vehicles as of approx. 01/94:

1. Disconnect **yellow** pneumatic line with socket from PSE control module.
2. Connect tester to disconnected pneumatic line using with connector 129 805 04 44.

Parts Required for Test:

1	Connector	129 805 04 44
2	Connection hose, 50 mm long	007 997 61 82
1	Pneumatic line, 1 m long	000 158 14 35

Note:

The connections on the PSE control module and pneumatic multiple connector are marked with their German acronyms. In other words:
ZV (German) = **CL** (English),
SRU (German) = **MVA** (English),
OSL (German) = **OSB** (English).

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	**Complete system pressurized**	**Yellow** connector on tester. Connector **ZV** on bottom side of multiple connector.	Apply 600 mbar pressure to entire system.	Pressure loss 30 mbar in 1 minute.	33 PSE ⇒ 1.0, 32 ⇒ 3.0
2.0	**Complete system evacuated**	**Black** connector on tester. Connector **ZV** on bottom side of multiple connector.	Apply 300 mbar vacuum to entire system.	Vacuum loss 30 mbar in 1 minute.	33 PSE ⇒ 2.0, 32 ⇒ 4.0

Pneumatic Test Program – Test (CL)

B. Individual lines with actuators

Preparation for Test:

Vehicles up to approx. 12/93:

1. Pry off **yellow and black** pneumatic lines at pneumatic multiple connector (using a 7 mm open end wrench).
2. Connect tester to each of the **yellow** or **black** CL pneumatic lines using connector 007 997 61 82.

Vehicles as of approx. 01/94:

1. Disconnect pneumatic line leading to the non-operating pneumatic actuator at the pneumatic distributor. Letters on the distributor indicate to which of the CL actuators the pneumatic line leads.

A → Left front door
B → Right front door
C → Left rear door
D → Right rear door
E → Fuel tank filler flap
F → Trunk lid

Note:

1. If an actuator does not operate correctly and no leakage is found, check the respective lines for kinks or blockages.
2. On vehicles as of approx. 06/94, the disconnected pneumatic lines are to be reconnected to the distributor with connector 007 997 61 82.

Parts Required for Test:

1 Connector, 50 mm long 007 997 61 82

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0	**Line and actuator pressurized**	**Yellow** connector on tester.	Apply 600 mbar pressure to line and actuator.	Pressure drop 25 mbar in 1 minute.	32 ⇒ 5.0, 32 ⇒ 7.0
4.0	**Line and actuator evacuated**	**Black** connector on tester.	Apply 300 mbar vacuum to line and actuator.	Vacuum loss 25 mbar in 1 minute.	32 ⇒ 6.0, 32 ⇒ 8.0

Pneumatic Test Program – Test (CL)

C. Actuators

Preparation for Test:

1. Remove actuator, see SMS, Repair Instructions,

Job No.'s AR80.20–2160, AR80.20–2200, AR80.20–2300, AR80.20-2400.

2. Connect vacuum/pressure tester to pneumatic connection of actuator.

Parts Required for Test:

1	Pneumatic line	129 800 09 15
1	Connector, 50 mm long	007 997 61 62
1	Connector	129 805 04 44

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0	**Actuator holds pressure**	**Yellow** connector on tester.	Apply 600 mbar pressure to actuator.	Pressure drop 25 mbar in 1 minute.	Actuator leaks. Replace actuator.
6.0	**Actuator holds vacuum**	**Black** connector on tester.	Apply 300 mbar vacuum to actuator.	Vacuum loss 25 mbar in 1 minute.	Actuator leaks. Replace actuator.

Pneumatic Test Program – Test (CL)

D. Lines

Preparation for Test:

1. Connect tester to one end of pneumatic line and plug other end with cap 000 987 29 45.

Parts Required for Test:

1	Cap	000 987 29 45
1	Connection piece (30 mm long)	007 997 61 82

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
7.0	**Line holds pressure**	**Yellow** connector on tester.	Apply 600 mbar pressure to lines.	Pressure drop 0 mbar in 1 minute.	Pneumatic line leaks. Repair/replace line.
8.0	**Line holds vacuum**	**Black** connector on tester.	Apply 300 mbar vacuum to lines.	Vacuum loss 0 mbar in 1 minute.	Pneumatic line leaks. Repair/replace line.