3.5 Remote Trunk Release (PSE/RTR)
Models 129, 140 as of M.Y. 1998

Activation of the Pneumatic System Equipment (PSE):
When the remote trunk release switch (S15) is pressed, the PSE control module (A37) is activated via a ground signal.
The radio signal transmitted via the transmitter key is received by the antenna of the DAS radio frequency/infrared control module (N54/4), as a result, the control module in turn activates the PSE control module.
The infrared signal from the IR transmitter key has no effect on the remote trunk lid release function.

Diagnosis – Function Test (Remote Trunk Release)

Preparation for Test:

1. Trunk lid has not been locked separately (using mechnical key).
2. Rear trunk lid is closed.
3. Battery voltage 11 – 14 V
4. Check fuses ok.

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 1.0 Open trunk lid via RTR switch (S15).	Press remote trunk lid release switch (S15). Trunk lid has not been locked separately (using mechnical key).	Trunk lid opens. LED in switch is illuminated.	Trunk lid does not open and pump motor in PSE control module (A37) **does not run**. PSE version coding incorrect, PSE (A37). Trunk lid does not open even though pump motor in PSE control module (A37) **runs**. Mechanical fault in trunk lid lock. 23 PSE/RTR ⇒ 2.0, 32 PSE/RTR ⇒ 1.0, 32 PSE ⇒ 12.0,

[1] Observe Preparation for Test, see 22.

Diagnosis – Function Test (Remote Trunk Release)

Test step/Test scope	Test condition	Nominal value	Possible cause/Remedy [1]
⇒ 2.0 Open trunk lid via unlock button (radio signal) of transmitter key.	Vehicle is unlocked via remote central locking. Trunk lid has not been locked via mechanical key. Press unlock button on transmitter key.	Trunk lid opens. LED in switch is illuminated.	Trunk lid does not open and pump motor in PSE control module (A37) **does not run**. PSE version coding incorrect, IR transmitter key, PSE (A37). Trunk lid does not open even though pump motor in PSE control module (A37) **runs**. Mechanical fault in trunk lid lock. 23 PSE/RTR ⇒ 2.0, 23 PSE ⇒ 6.0, 4.10 11, 32 PSE/RTR ⇒ 1.0, 32 PSE ⇒ 2.0

[1] Observe Preparation for Test, see 22.

Electrical Test Program – Component Locations (RTR)

Model 129

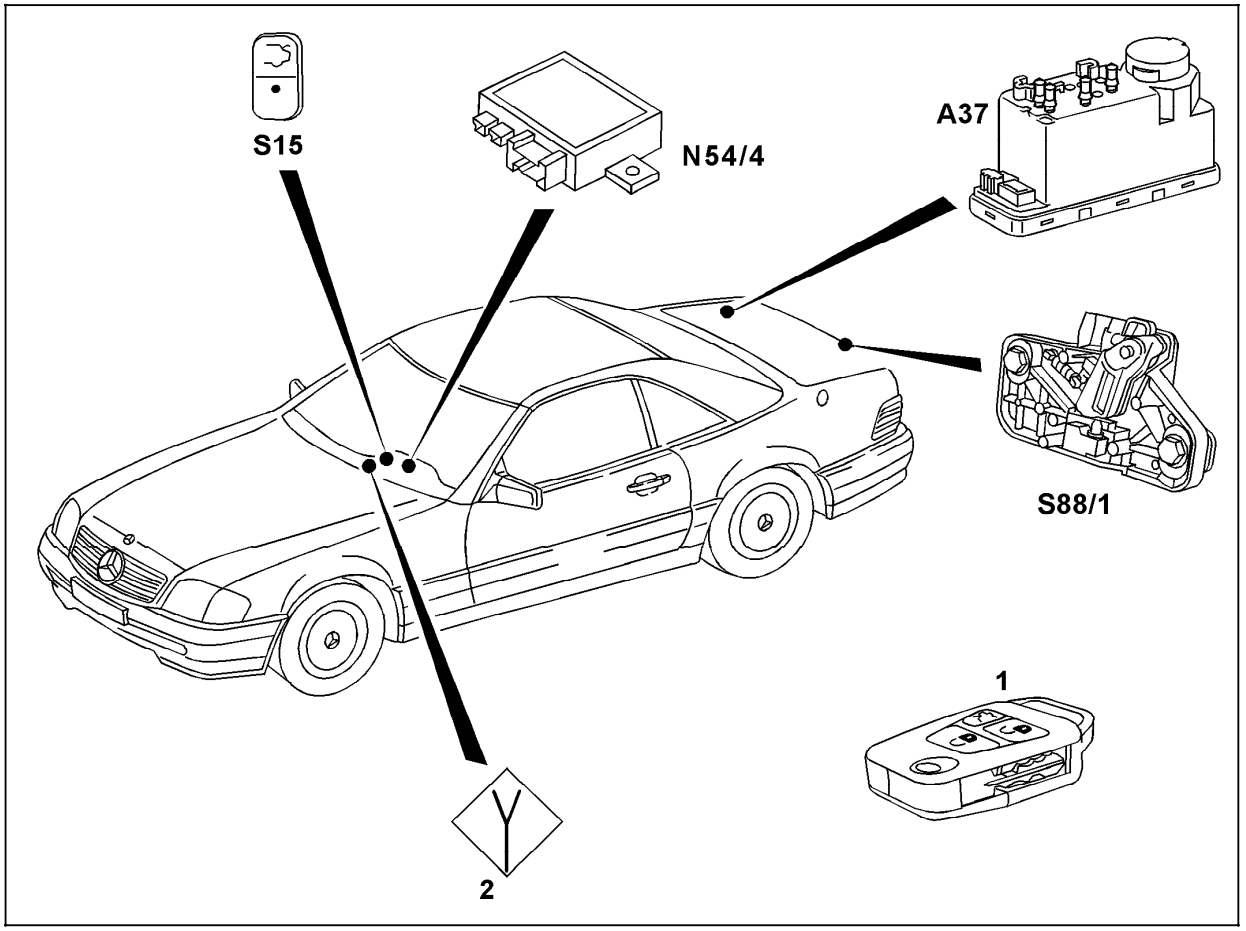

Figure 1

A37	PSE control module, combined functions
N54/4	DAS radio frequency/infrared control module
S15	Remote trunk release switch
S88/1	Rotary tumbler/trunk lid microswitch
1	Transmitter key
2	Antenna

Electrical Test Program – Component Locations (RTR)

Model 140

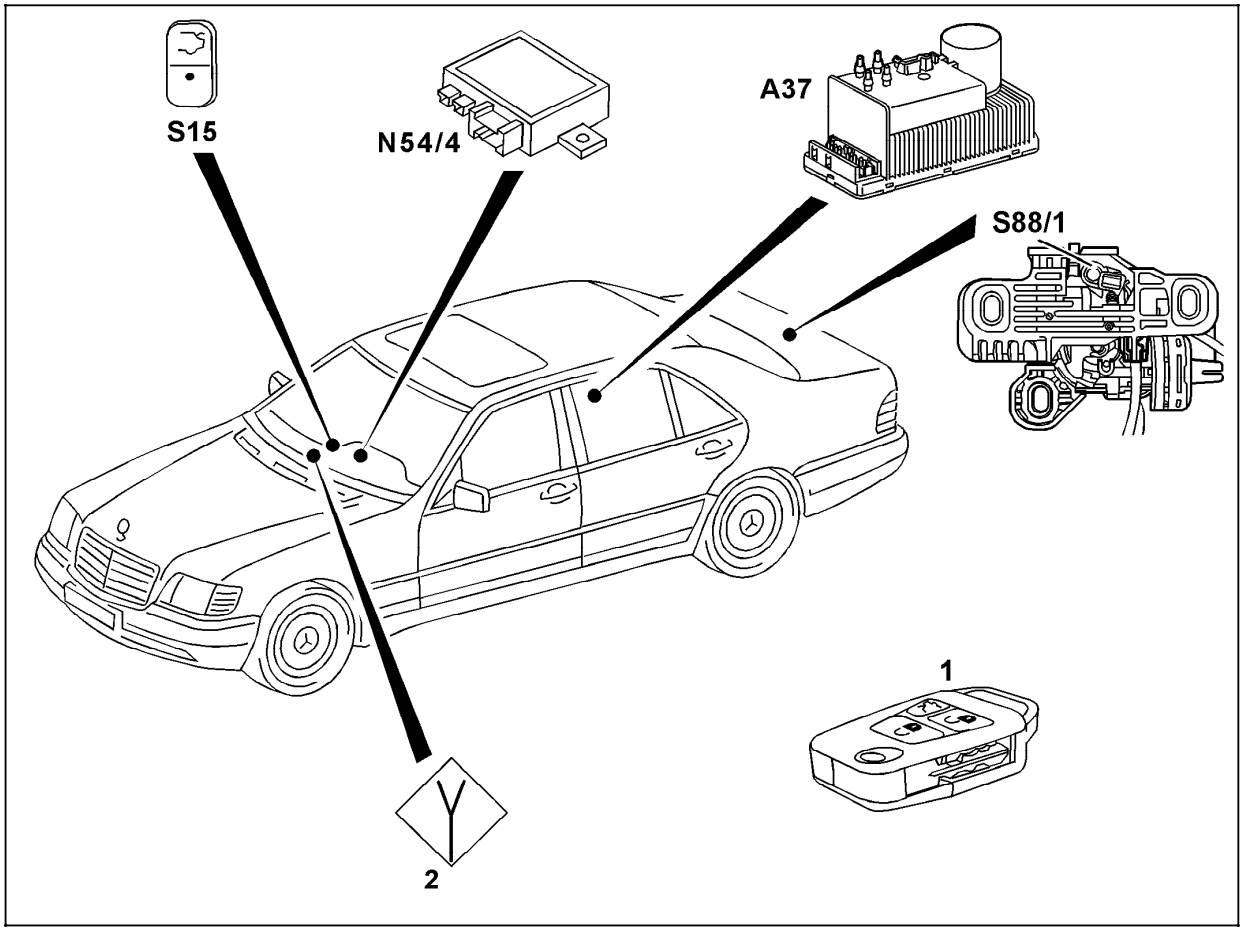

Figure 2

A37	PSE control module, combined functions
N54/4	DAS radio frequency/infrared control module
S15	Remote trunk release switch
S88/1	Rotary tumbler/trunk lid microswitch
1	Transmitter key
2	Antenna

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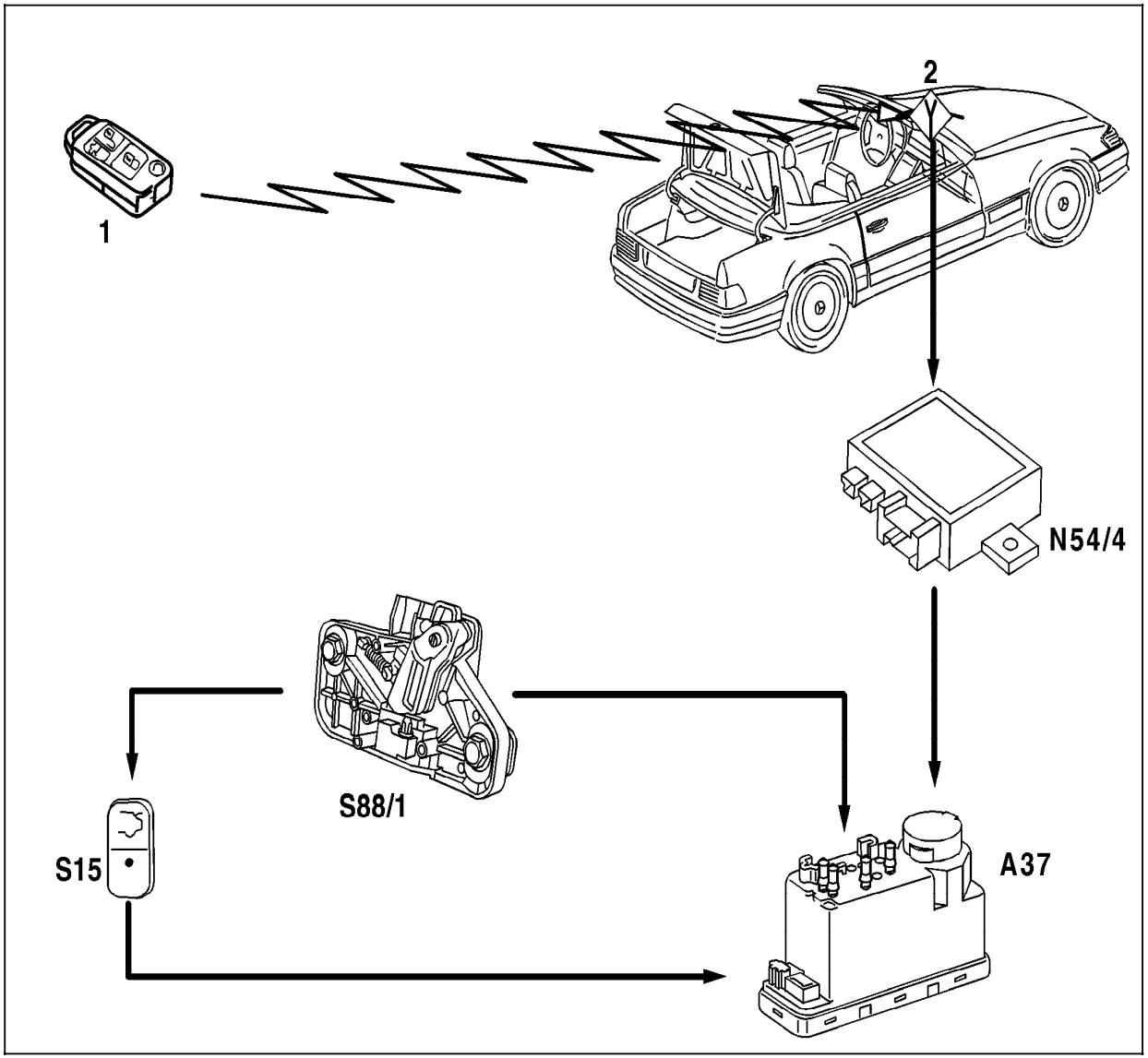
Electrical Test Program – Connection of Components

Model 129



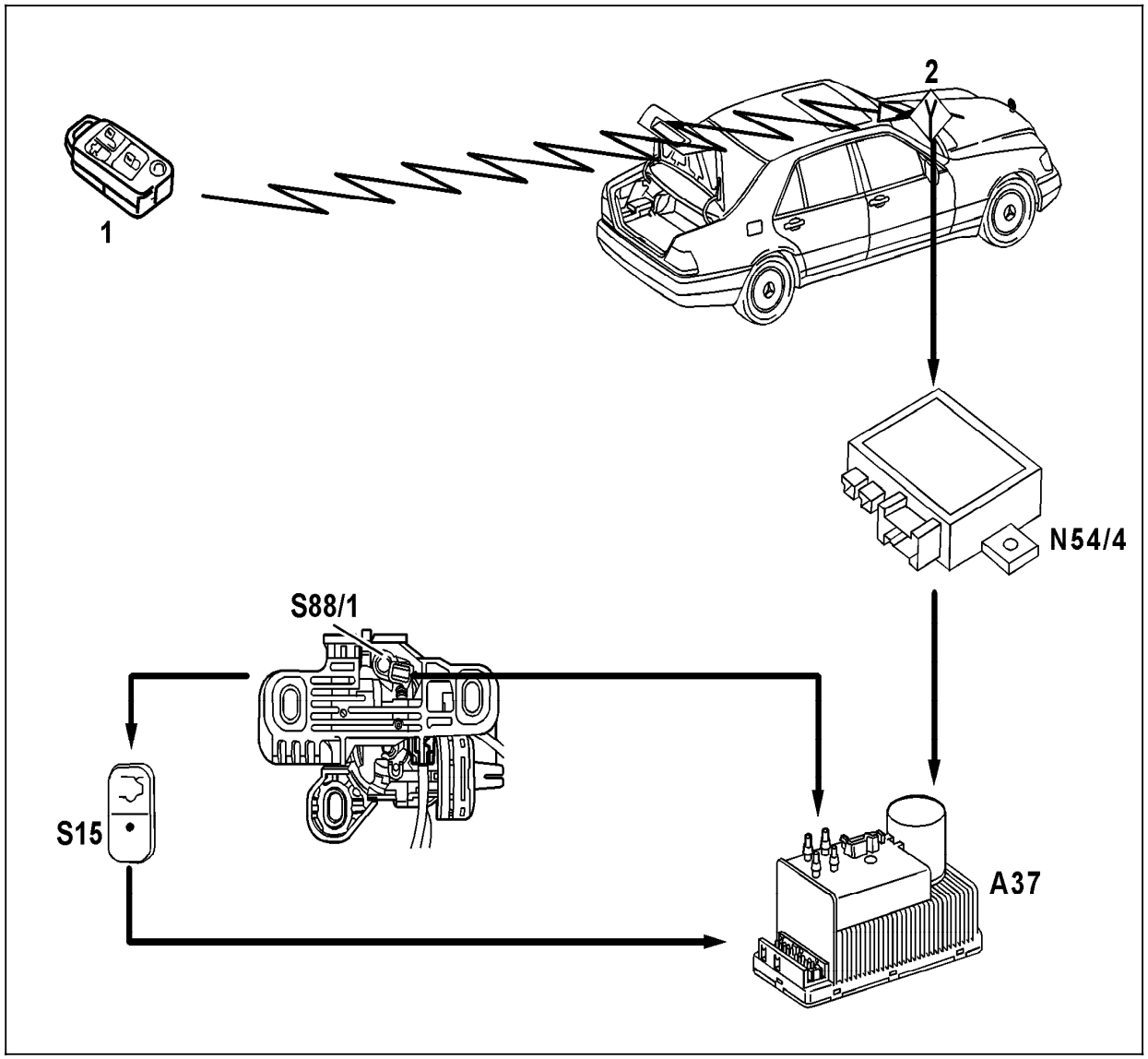
P80.20-0427-06

Figure 1

A37	PSE control module, combined functions
N54/4	DAS radio frequency/infrared control module
S15	Remote trunk release switch
S88/1	Rotary tumbler/trunk lid microswitch
1	Transmitter key
2	Antenna

Electrical Test Program – Connection of Components

Model 140



P80.20-0428-06

Figure 2

A37	PSE control module, combined functions
N54/4	DAS radio frequency/infrared control module
S15	Remote trunk release switch
S88/1	Rotary tumbler/trunk lid microswitch
1	Transmitter key
2	Antenna

Electrical Test Program - Preparation for Test

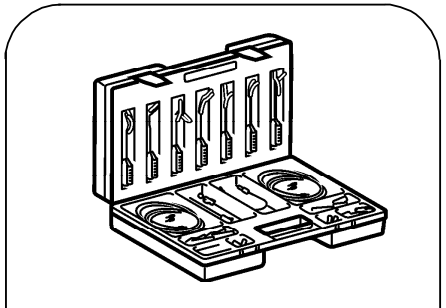
Preparation for Test:

1. Insert module specific module into HHT
2. Battery voltage 11 – 14 V,
3. Fuses ok,
5. Connect socket box with test cable according to connection diagram, see 22, Figures 1, 2 and 3 accordingly, for model being tested.
6. Review section 0, 11, 12, 20, 21, 22, 31, 32.

Electrical Wiring Diagrams:

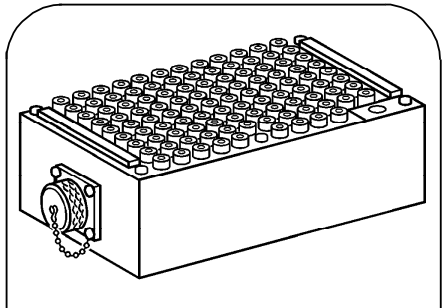
See Electric Troubleshooting Manual, Model 129, Volume 2, group 80,
Model 140, Volume 2, group 80,
Model 170, Volume 2, group 80

Special Tools



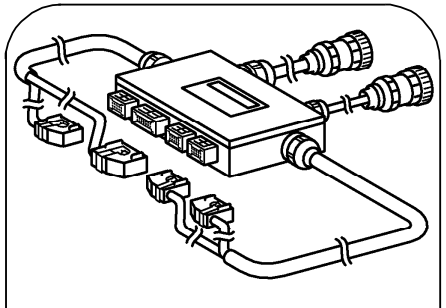
201 589 00 99 00

Electrical connecting set



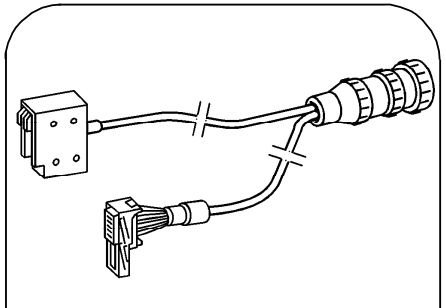
129 589 00 21 00

126-pin socket box



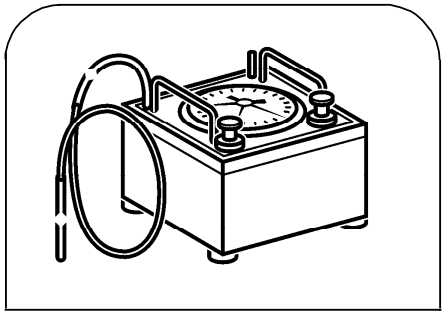
202 589 16 63 00

Test cable (82-pin)



140 589 13 63 00

21-pin test cable



201 589 13 21 00

Tester

Test equipment; See MBUSA Standard Service Equipment Program

Description	Brand, model, etc.
Digital multimeter	Fluke models 23, 77 III, 83, 85, 87

Electrical Test Program - Preparation for Test

Connection Diagram - Socket Box
Model 129

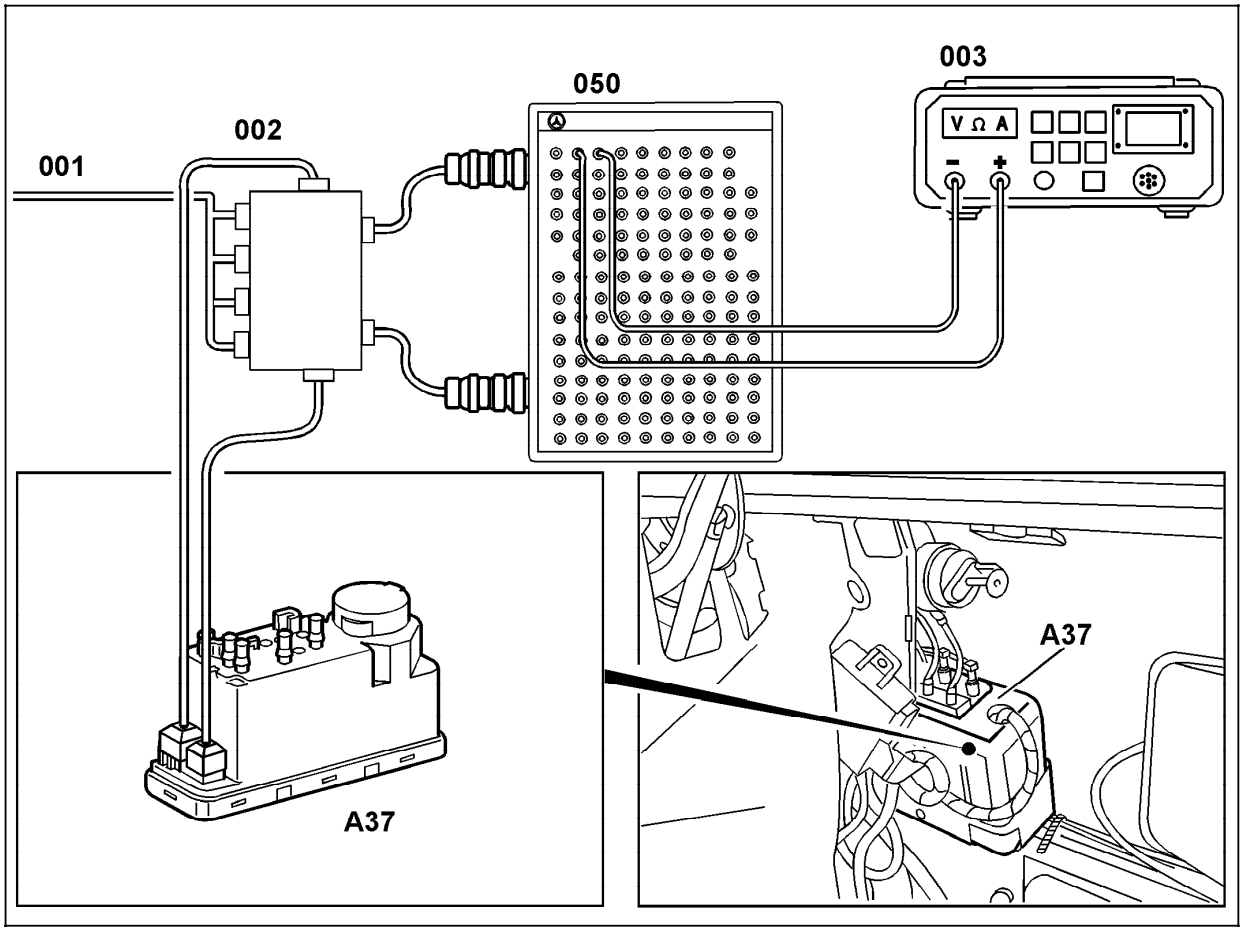


Figure 1

001	PSE control module connector
002	Test cable (202 589 16 63 00)
003	Multimeter
050	Socket box (35-pole)
A37	PSE control module, combined functions

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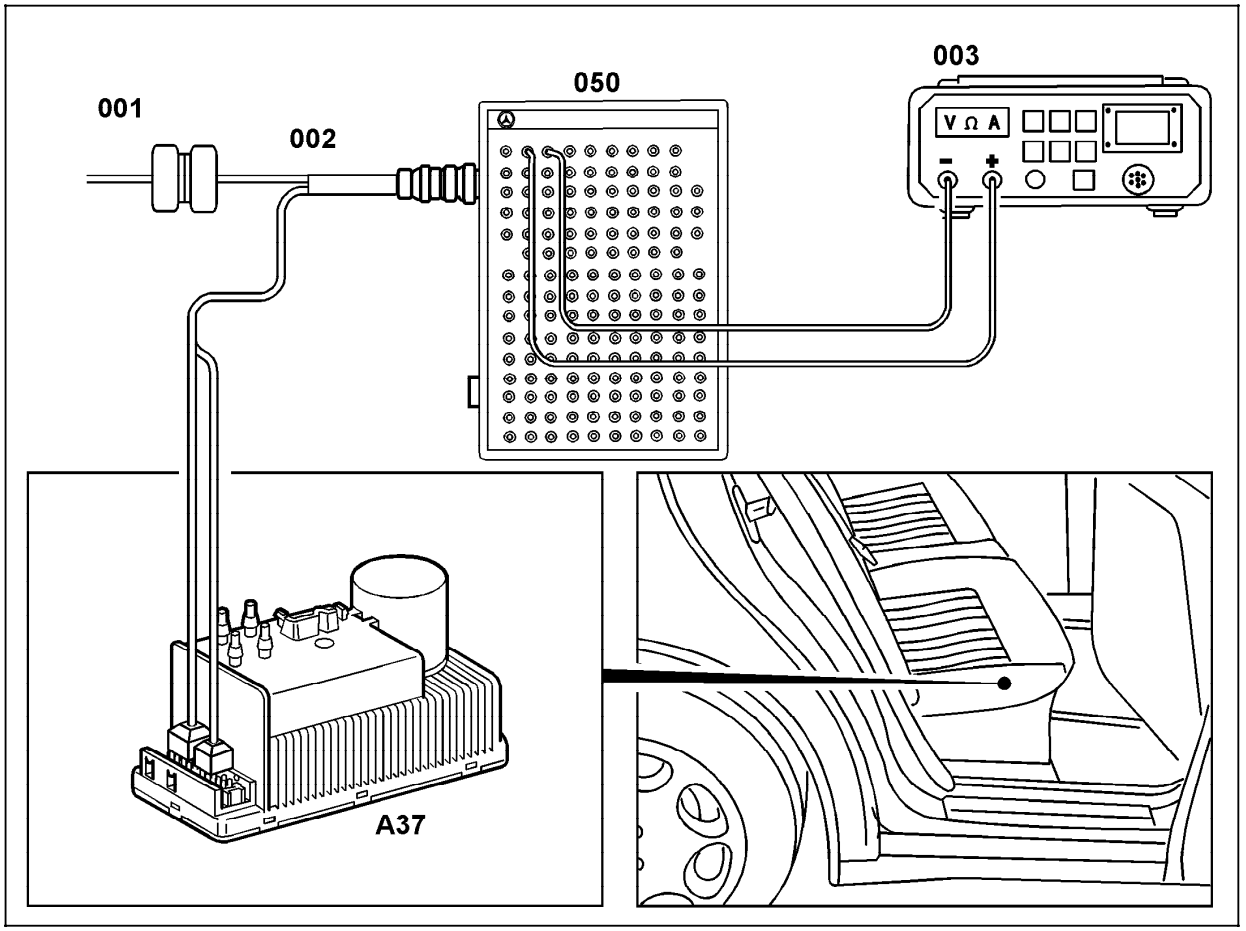
Electrical Test Program - Preparation for Test

Connection Diagram - Socket Box
Model 140



P80.20-0443-06

Figure 2

001	PSE control module connector
002	Test cable (140 589 13 63 00)
003	Multimeter
050	Socket box (35-pole)
A37	PSE control module, combined functions

Electrical Test Program - Preparation for Test

Connection Diagram - Socket Box
Model 170

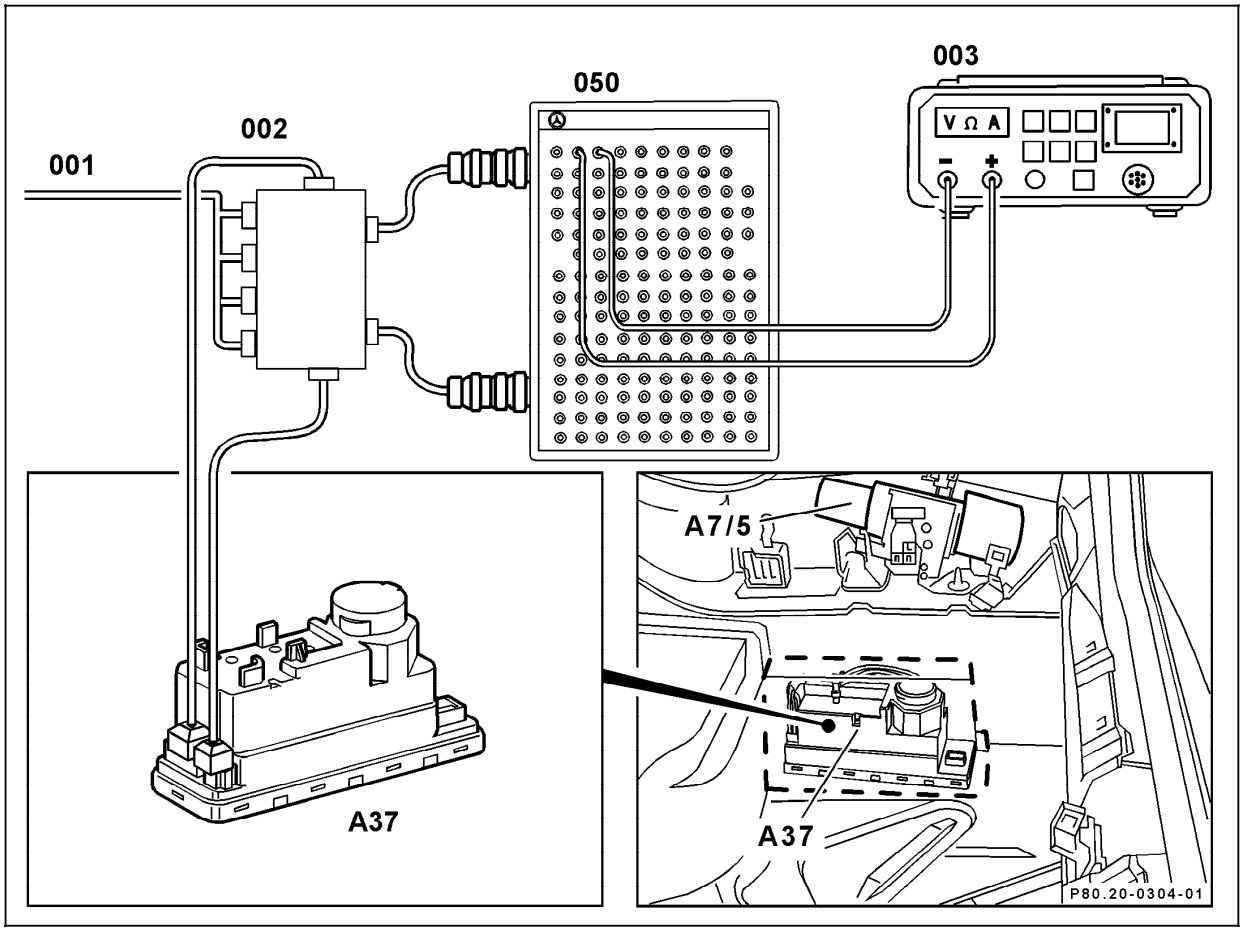


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Figure 3

001	PSE control module connector
002	Test cable (202 589 16 63 00)
003	Multimeter
050	Socket box (35-pole)
A37	PSE control module, combined functions

Electrical Test Program - Preparation for Test

Connections - PSE control module

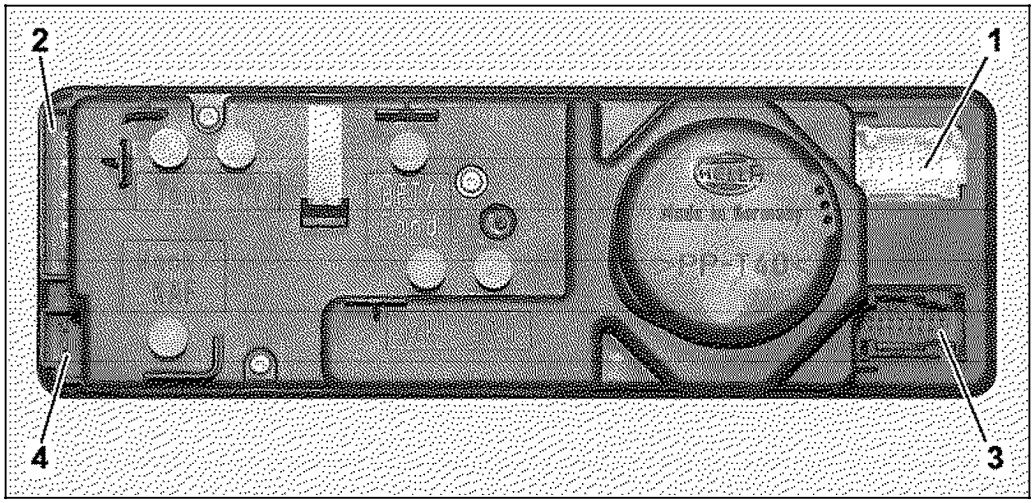

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Figure 4

1	Connector 1 (control line PSE)
2	Connector 2 (voltage supply PSE)
3	Connector 3 (control line ATA)
4	Connector 4 (load connections ATA)

Electrical Test Program – Test

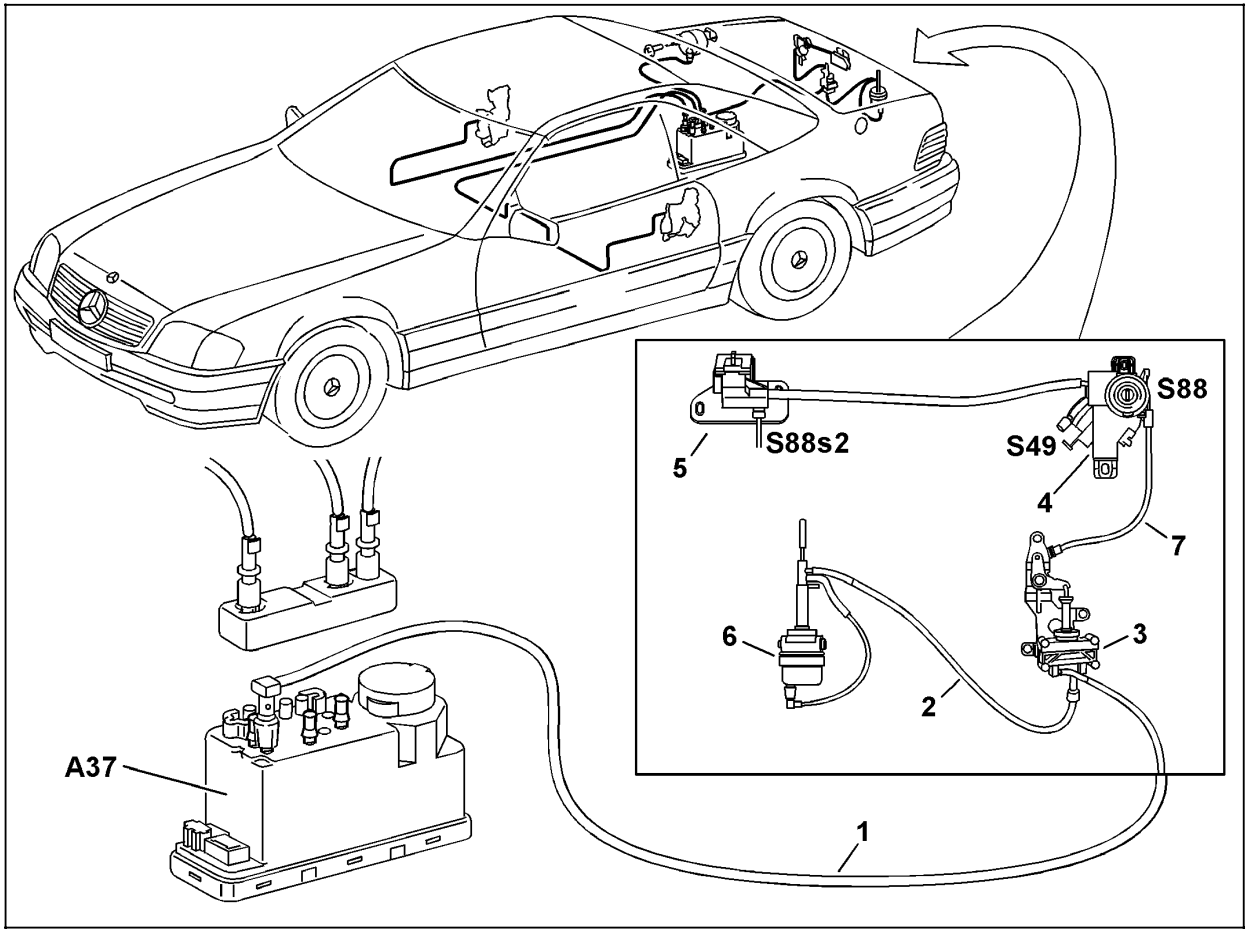
⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0		**Remote trunk release via remote trunk lid release switch (S15)**		Trunk lid closed. Trunk lid not locked with mechanical key. Remote trunk release switch (S15): **Press switch**	Trunk lid opens. LED in switch illuminated.	Wiring, PSE (A37), ⇒ 1.1, 23 PSE/RTR ⇒ 2.0, 32 PSE/RTR ⇒ 1.0, 32 PSE ⇒ 12.0
1.1		**Remote trunk lid release switch (S15)** **Model 140** **Model 129**	A37 9 — V — 7 A37 58 — V (2.12)	Disconnect (A37) from . S15: **Rest position** **Press and Hold**	<1 V 11 – 14 V	Wiring, S15

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.0		**Rotary tumbler/trunk lid microswitch (S88/1)**		Unlock trunk lid via remote trunk lid release switch (S15).	LED in switch (S15) illuminated.	Wiring, S88/1, ⇒ 2.1, 23 PSE ⇒ 8.0
2.1		**Rotary tumbler/trunk lid microswitch (S88/1)** **Model 140** **Model 129**	A37 18 — V — 7 A37 61 — V — (+) (2.15)	Disconnect (A37) from . Trunk lid: **Open** **Closed**	 <1 V 11 – 14 V	Wiring, S88/1

Pneumatic Test Program – Component Locations (RTR)

Model 129



P80.20-0423-06

Figure 1

A37	PSE control module, combined functions
1	Pneumatic line, RTR
2	Pneumatic line, actuator/trunk lid riser
3	Actuator, RTR
4	Trunk lid lock
5	Trunk lid locking
6	Trunk lid riser
7	Bowden cable

Pneumatic Test Program – Component Locations (RTR)

Model 140

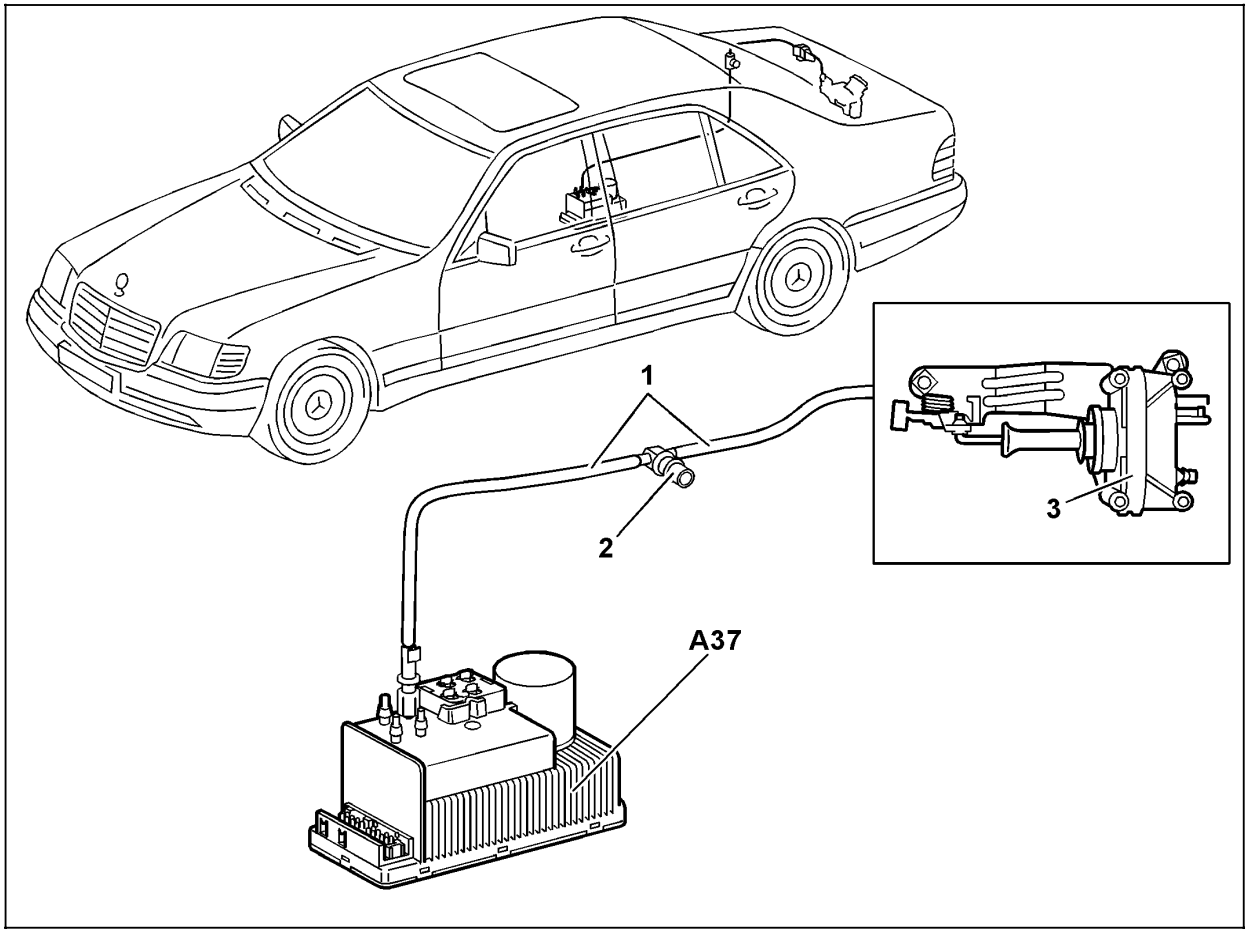


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Figure 2

A37	PSE control module, combined functions
1	Pneumatic line, RTR
2	T-connector, RTR/RHR
3	Actuator, RTR

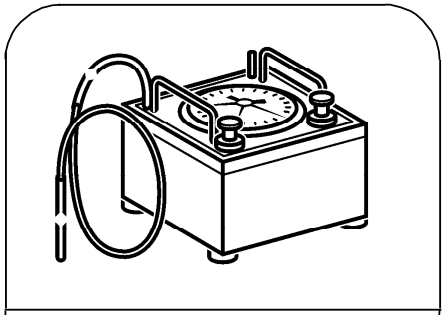
Pneumatic Test Program – Test (RHR)

Preliminary work:
PSE control module voltage supply . . . . . 23 **PSE** ⇒ 1.0, 2.0
PSE Control Module Test . . . . . 32 **PSE**

Data (mbar)

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

Special Tools



201 589 13 21 00

Tester

Pneumatic Test Program – Test (RHR)

A. Entire System

Preparation for Test:

1. Disconnect **yellow** central locking (CL) pneumatic line from PSE control module.
2. Connect tester to disconnected pneumatic line using connector 202 805 03 44.

i

If an actuator does not operate correctly and no leakage is found, check the respective lines for kinks or blockages.

Parts Required for Test:

1	Connector	202 805 03 44
2	Rubber 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 to connector	Apply 600 mbar pressure to entire system.	Pressure loss 30 mbar in 1 minute.	32 PSE/RTR ⇒ 2.0, 32 PSE/RTR ⇒ 3.0, 32 PSE/RTR ⇒ 4.0, 32 PSE/RTR ⇒ 5.0, 32 PSE/RHR ⇒ 1.0

Pneumatic Test Program – Test (RTR)

B. Pneumatic line with RTR actuator

Preparation for Test:

1. Disconnect pneumatic line connected to connector **F** of pneumatic distributor.
2. Connect tester to disconnected pneumatic line using rubber hose, part no. 007 997 61 82.

i

After testing, reconnect prior disconnected pneumatic line using rubber hose part no. 007 997 61 82 to pneumatic distributor.

Parts Required for Test:

1	Rubber hose, 50 mm long	007 997 61 82

Parts Required for Repair

Rubber hose (as necessary)	007 997 61 82

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.0		**Actuator, RTR pressurized**	**Yellow** connector on tester.	Apply 600 mbar pressure to RTR actuator.	Pressure loss 25 mbar in 1 minute.	Actuator leaks, Replace.
3.0		**Actuator, RTR with trunk lid riser, pressurized**	**Yellow** connector on tester.	Apply 600 mbar pressure to RTR actuatorwith pneumatic line to trunk lid riser..	Pressure loss 25 mbar in 1 minute.	Actuator leaks, Replace. 32 PSE/RTR ⇒ 4.0, 32 PSE/RTR ⇒ 5.0

Pneumatic Test Program – Test (RTR)

B. Pneumatic line with RTR actuator (continued)

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0		**Trunk lid riser, evacuated**	**Yellow** connector on tester.	Apply 600 mbar pressure to trunk lid riser.	Pressure loss 25 mbar in 1 minute.	Trunk lid riser leaks, Replace.

Pneumatic Test Program – Test (RTR)

C. Pneumatic line

Preparation for Test:

1. Remove trunk lid lock.
2. Connect tester to pneumatic connector.

Parts Required for Test:

1	Pneumatic line, 1m long	000 158 14 35
2	Connector, 50 mm long	007 997 61 82

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
5.0		**Vacuum leak test**	**Black** connector on tester.	Apply 300 mbar vacuum to pneumatic line.	Vacuum loss 0 mbar in 1 minute.	Pneumatic line leaks, Replace/repair.