

3.5 **Manifold Vacuum Assist (PSE/MVA)**
Model 140 as of M.Y. 1998

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Activation of the Pneumatic System Equipment (PSE):
Working pressure of the PSE for manifold vacuum asisst (MVA) is controlled entirely by the pressure switch within the PSE control module, provided it has received the ignition ON signal via the CAN-interface or **REST** ON signal when Ignition is OFF.

3.5 Pneumatic System Equipment (PSE)

Models 129, 140, 170 as of M.Y. 1998

ElectricalTest Program – Component Locations (MVA)

Model 140 sedan shown

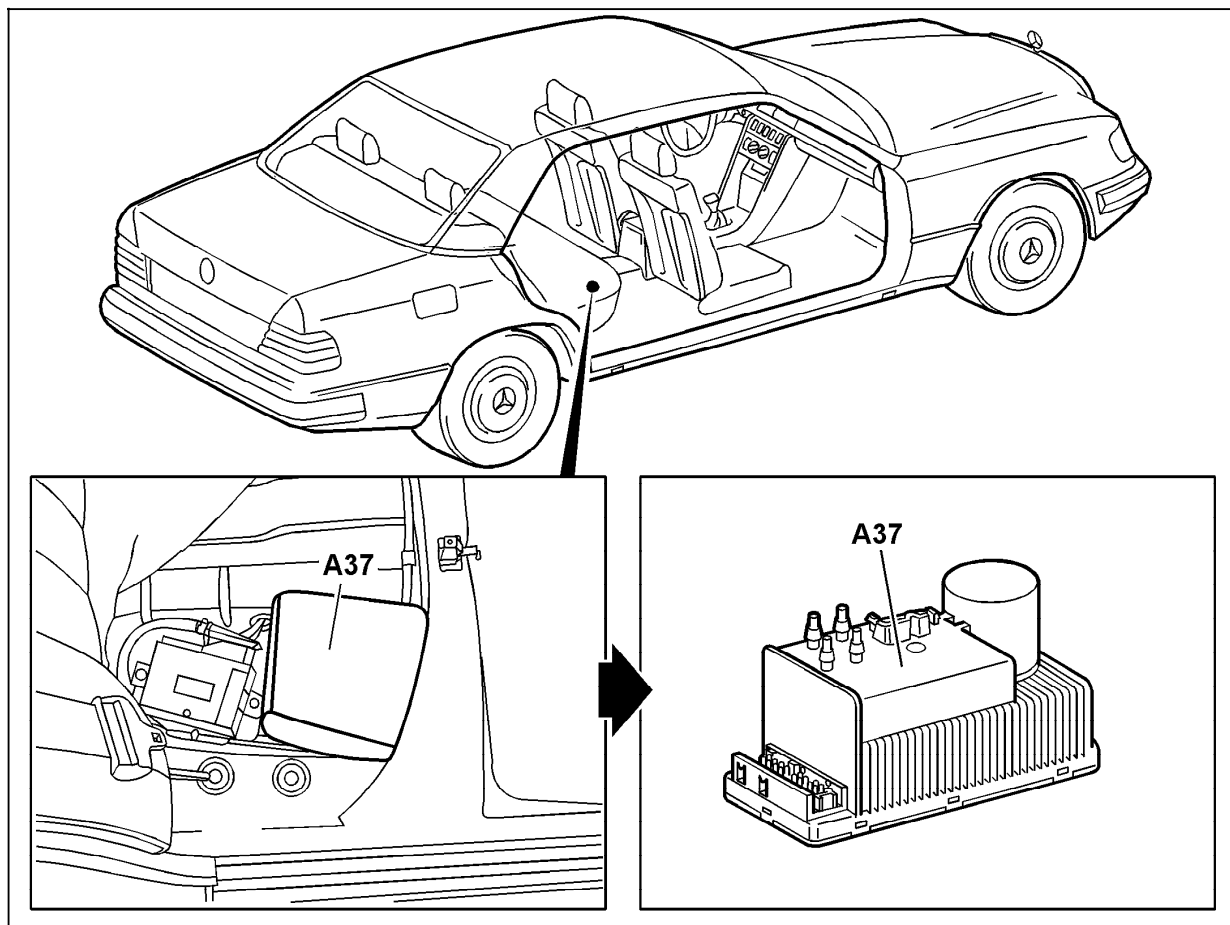


Figure 1

A37 PSE control module, combined functions

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3.5 Pneumatic System Equipment (PSE)

Models 129, 140 170 as of M.Y. 1998

Pneumatic Test Program – Component Locations (MVA)

Model 140 sedan shown

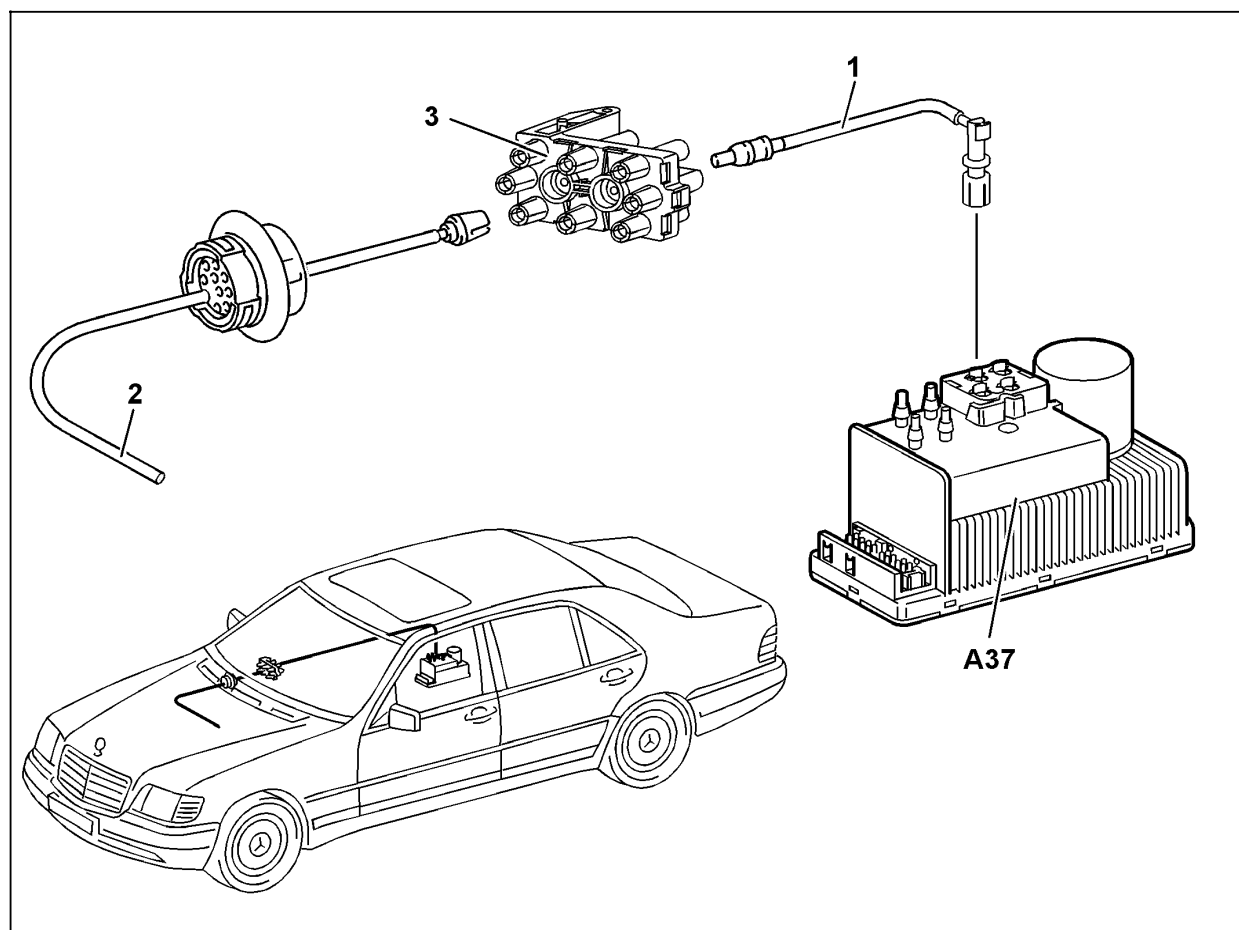


Figure 1

- A37 PSE control module, combined functions
- 1 Pneumatic line, MVA, frame floor
- 2 Pneumatic line, MVA, engine compartment
- 3 Pneumatic distributor connector

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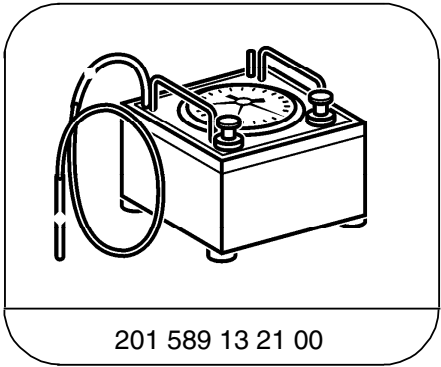
Pneumatic Test Program – Test (MVA)

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 leakage of pneumatic lines and vacuum distribution blockat 300 mbar vacuum in 1 minute.	30 mbar
Allowable leakage of vacuum distribution block with line at 300 mbar vacuum in 1 minute.	25 mbar

Special Tools



Tester

Pneumatic Test Program – Test (MVA)

A. Entire System

Preparation for Test:

1. Provide access to PSE control module (A37), disconnect **transparent** MVA pneumatic line with socket from PSE control module.
2. Connect tester to bottom side of pneumatic multiple connector at **SRU** (MVA) using connector 202 805 03 44.
3. Connect tester to disconnected pneumatic line using connector 202 805 03 44.
4. Provide access to vacuum distribution block in right component compartment and pry off all pneumatic lines except **transparent** MVA line at connection 1.



If no leakage is found during test of MVA, check any connected pneumatic systems for leaks as well.

Parts Required for Test:

1	Connector	202 805 03 44
1	Rubber hose, 50 mm long	007 997 61 82
2	Connector	124 805 02 44
1	Cap	000 987 11 45

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	Pneumatic line	Black connector on tester to connector.	Apply 300 mbar vacuum to entire system.	Vacuum loss 30 mbar in 1 minute.	32 PSE/MVA ⇒ 2.0, 32 PSE/MVA ⇒ 3.0

Pneumatic Test Program – Test (MVA)

B. Vacuum distributor block

Preparation for Test:

1. Provide access to vacuum distribution block.
2. Disconnect pneumatic lines at vacuum distribution block.
3. Connect tester to **white** pneumatic line (pneumatic connector # 6).
4. Connect tester to one end of pneumatic line (s) and plug other end with cap, part no. 000 987 11 45.

Parts Required for Test:

1	Connector	202 805 03 44
1	Rubber hose, 50 mm long	007 997 61 82
1	Pneumatic line, 1m long	000 158 14 35
1	Cap	000 987 11 45



If vacuum is not available at the vacuum distribution block with the PSE control module operating correctly, check the effected lines for clogging or kinks.

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.0	Vacuum applied to pneumatic lines	Black connector on tester.	Apply 300 mbar vacuum to vacuum distribution block and lines.	Vacuum loss 0 mbar in 1 minute.	Vacuum distributor block leak. Replace.

Pneumatic Test Program – Test (MVA)

C. Lines

Preparation for Test:

1. Connect tester to pneumatic lines.

Parts Required for Test:

1	Cap	000 987 11 45
1	Rubber hose, 50 mm long	007 997 61 82
1	Connector	202 805 03 44

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0	Vacuum leakage	Black connector on tester.	Apply 300 mbar vacuum to pneumatic lines.	Vacuum loss 0 mbar in 1 minute.	Pneumatic lines. Repair/Replace.