

3.1 Pneumatic System Equipment (PSE)

Contents

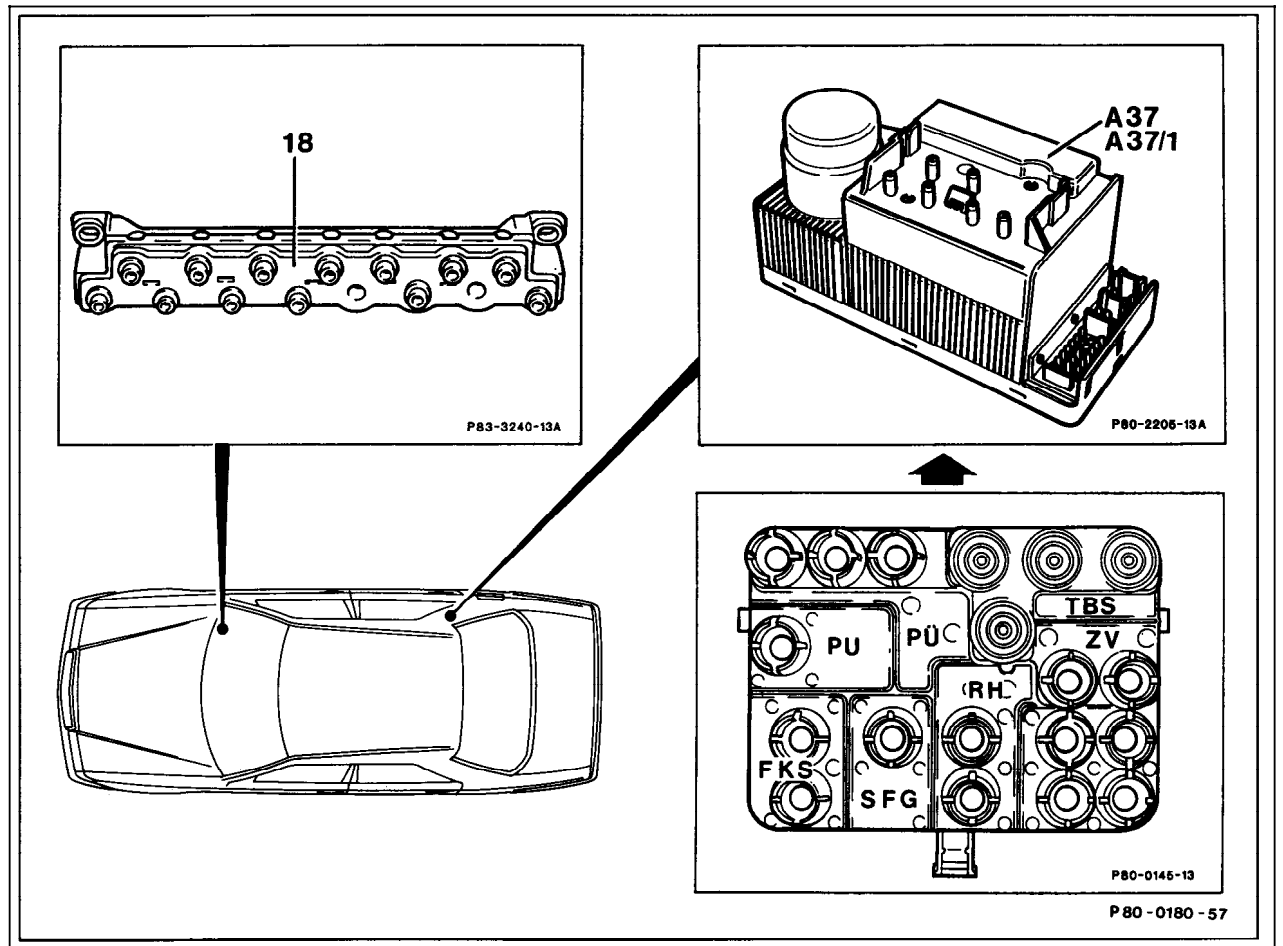
3.1 Manifold Vacuum Assist (PSE/MVA) Model 140

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Diagnosis

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Pneumatic Test Program - Component Locations (Manifold Vacuum Assist)



P80-0180-57

P80-0180-57

Figure 1

18 Vacuum distribution block
 A37, A37/1 PSE control module

Pneumatic Test Program – Test (MVA)

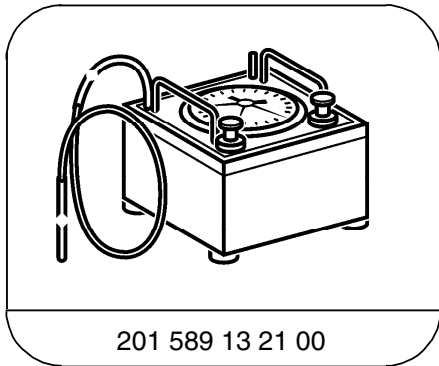
Preliminary work:

Diagnosis - Diagnostic Trouble Code (DTC) Memory	11 PSE
PSE control module voltage supply	23 PSE ⇒ 1.0
PSE Control Module Test	32 PSE

Data (mbar)

Test procedure	Permissible deviation
Allowable leakage of pneumatic multiple connector, pneumatic lines and vacuum distribution block at 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



201 589 13 21 00

Tester

Pneumatic Test Program – Test (MVA)

A. Pneumatic multiple connector, pneumatic line with vacuum distribution block

Preparation for Test:

Vehicles up to 07/94:

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

Vehicles as of 08/94:

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

All vehicles:

1. Provide access to vacuum distribution block in right footwell and pry off all pneumatic lines, except **transparent** MVA line at connection 6.
2. Plug connections 5 and 13.

Parts Required for Test:

1	Connector	129 805 04 44
2	Connector	129 800 95 15
2	Cap	000 987 29 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),

RH (German) = **BA** (English),

FKS (German) = **RHR** (English),

SFG (German) = **RTG** (English),

PÜ/P+ (OSL) (German) = **PÜ/P+ (OSB)** (English),

PU/P- (SRU) (German) = **PU/P- (MVA)** (English).

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	Pneumatic multiple connector, pneumatic line with vacuum distribution block	Black connector on tester.	Apply 300 mbar vacuum to entire system.	Vacuum loss 30 mbar in 1 minute.	33 PSE ⇒ 1.0, 12 ⇒ 2.0.

Pneumatic Test Program – Test (MVA)

B. Line with vacuum distribution block

Preparation for Test:

Vehicles up to 07/94:

1. Pry off **transparent** manifold vacuum assist (MVA) pneumatic line at pneumatic multiple connector (using a 7 mm open end wrench).
2. Connect tester to **transparent** MVA pneumatic line using connector 007 997 61 82.

Vehicles as of 08/94:

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

All vehicles:

1. Provide access to vacuum distribution block in right footwell and pry off all pneumatic lines except **transparent** MVA line at connection 6.
2. Plug connections 5 and 13.

Parts Required for Test:

- | | | |
|---|-----------------------|---------------|
| 1 | Connector, 50 mm long | 007 997 61 82 |
| 1 | Connector | 129 805 04 44 |

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
2.0	Vacuum applied to vacuum distribution block and pneumatic line	Black connector on tester.	Apply 300 mbar vacuum to vacuum distribution block and line.	Vacuum loss 25 mbar in 1 minute.	12 ⇒ 3.0, 12 ⇒ 4.0.

Pneumatic Test Program – Test (MVA)

C. Vacuum distribution block

Preparation for Test:

1. Remove vacuum distribution block.
2. Connect vacuum/pressure tester to connection **6**, color code **white**.
3. Plug connections 5 and 13.

Parts Required for Test:

- | | | |
|---|-----------------------|---------------|
| 1 | Pneumatic line | 129 800 09 15 |
| 1 | Connector, 50 mm long | 007 997 61 82 |
| 2 | Connector | 129 800 95 15 |
| 2 | Cap | 000 987 29 45 |

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
3.0	Vacuum leakage	Black connector on tester.	Apply 300 mbar vacuum to vacuum distribution block.	Vacuum loss 25 mbar in 1 minute.	Vacuum distribution block.

Pneumatic Test Program – Test (MVA)

D. Line

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	Connector, 50 mm long	007 997 61 82
1	Connector	129 805 04 44

Note:

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

⇒	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
4.0	Line holds vacuum	Black connector on tester.	Apply 300 mbar vacuum to pneumatic line.	Vacuum loss 0 mbar in 1 minute.	Pneumatic line.