

Pneumatic Test Program - PSE Control Module Test

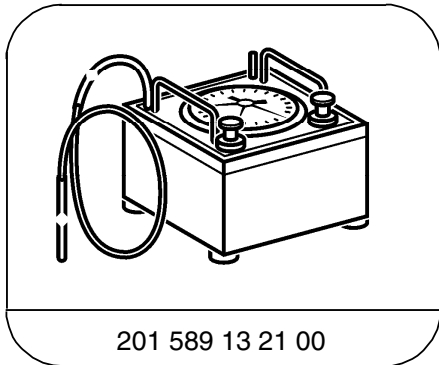
Preparation for Test:

1. Connect reservoir with vacuum Y-distributor to vacuum/pressure tester.
2. Provide access to PSE control module (A37, A37/1) and disconnect PSE pneumatic multiple connector (do not disconnect electrical wiring harness).
3. Connect vacuum/pressure tester with reservoir to PSE control module (A37, A37/1).

Notes:

1. Before testing the safety switch time of the consumers, as well as between the tests for **P+** (pressure) and **P-** (vacuum), interrupt the PSE control module power supply for at least 3 seconds.
2. After testing of the PSE control module, disconnect the power for approx. 3 seconds (to erase DTC memory and safety memory).
3. After completing the PSE control module test, do not operate any system which would require vacuum or pressure supply for approx. 10 minutes.

Special Tools



Tester

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Preliminary work:
 Diagnosis - Diagnostic Trouble Code (DTC) Memory 11

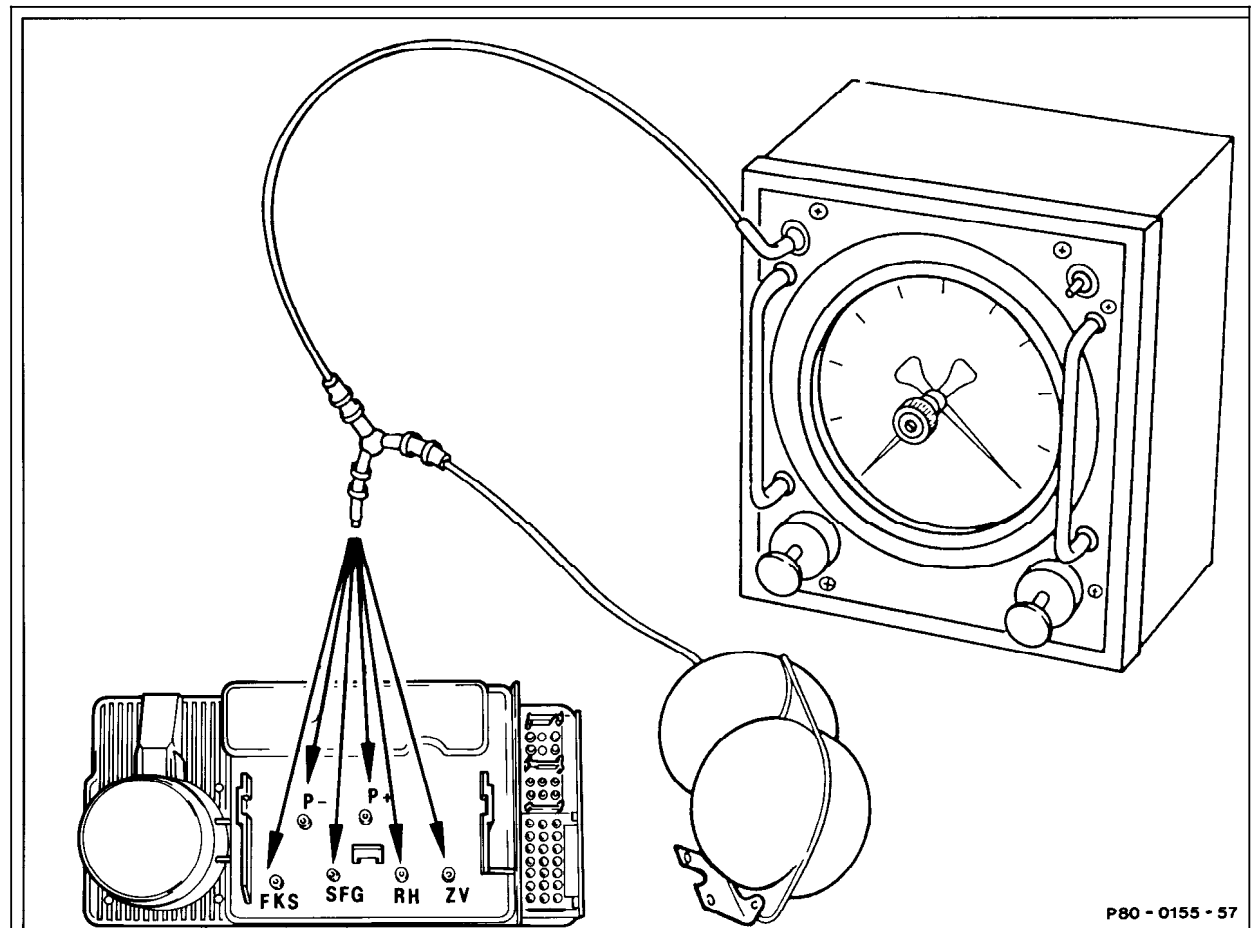


Figure 1

- ZV Central locking (CL)
- RH Backup assist (BA)
- SFG Retractable trunk lid grip (RTG)
- FKS Rear head restraint retraction (RHR)
- P+ Pressure connection
- P- Vacuum connection

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Preparation for Test:

1. Check fuse F2-5, F4-3 and fuse F4-11.
2. Battery voltage 11 - 14 V.
3. Provide access to PSE control module (A37, A37/1).
4. Disconnect pneumatic multiple connector from PSE control module (A37, A37/1).

Parts Required for Test:

- | | | |
|---|----------------------|---------------|
| 1 | Reservoir | 107 800 08 19 |
| 1 | Vacuum Y-distributor | 017 078 01 45 |
| 5 | Cap | 000 987 29 45 |

Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 1.0	Central locking system Vacuum supply	PSE control module connector ZV to black connector on tester.	Cap connections on the PSE control module: Bosch: P-, P+, SFG, FKS, RH Hella: Pu, Pü, SFG, FKS, RFH Lock central locking system.	450 mbar in 1.1 sec.	23 ⇒ 1.0, 23 PSE/CL ⇒ 1.0 - 4.0 PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 2.0	Central locking system Pressure supply	PSE control module connector ZV to yellow connector on tester.	Cap connections on the PSE control module: Bosch: P-, P+, SFG, FKS, RH Hella: Pu, Pü, SFG, FKS, RFH Unlock central locking system.	450 mbar in 0.7 sec.	23 ⇒ 1.0, 23 PSE/CL ⇒ 1.0 - 4.0 PSE control module (SMS, Repair Instructions, Job No. 80-270).

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Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 3.0	Backup assist Pressure supply	PSE control module connector RH to yellow connector on tester.	Cap connections on the PSE control module: Bosch: P-, P+, ZV, SFG, FKS Hella: Pu, Pü, ZV, SFG, FKS Ignition: ON Engage reverse gear.	Pump runs after approx. 0.3 sec. delay. 450 mbar in 0.7 sec.	23 ⇒ 1.0, 23 PSE/BA ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 4.0	Backup assist Vacuum supply	PSE control module connector RH to black connector on tester.	Cap connections on the PSE control module: Bosch: P-, P+, ZV, SFG, FKS Hella: Pu, Pü, ZV, SFG, FKS Ignition: ON After at least 10 seconds, move selector lever out of reverse gear.	Pump runs after approx. 10 sec. delay. 450 mbar in 1.1 sec.	23 ⇒ 1.0, 23 PSE/BA ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 5.0	Retractable trunk lid grip Pressure supply	PSE control module connector SFG to yellow connector on tester.	Cap connections on the PSE control module: Bosch: P-, ZV, RH, FKS Hella: Pu, ZV, RFH, FKS Unlock central locking system. Open trunk lid.	450 mbar in 0.7 sec.	23 ⇒ 1.0, 23 PSE/RTG ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).

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Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 6.0	Retractable trunk lid grip Vacuum supply	PSE control module connector SFG to black connector on tester.	Cap connections on the PSE control module: Bosch: P-, ZV, RH, FKS Hella: Pu, ZV, RFH, FKS Close trunk lid.	Pump runs after approx. 0.5 sec. delay. 450 mbar in 1.1 sec.	23 ⇒ 1.0, 23 PSE/RTG ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 7.0	Orthopedic seat backrest (lumbar support or multi-contour backrest) Pressure supply	PSE control module connector P+ to yellow connector on tester.	Cap connections on the PSE control module: Bosch: P-, SFG, FKS, RH Hella: Pu, SFG, FKS, RFH Switch ignition off, then on.	Pump runs after approx. 4 sec. delay. 450 mbar in 0.7 sec.	23 ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 8.0	Head restraint retraction Vacuum supply	PSE control module connector FKS to black connector on tester.	Cap connections on the PSE control module: Bosch: P-, P+, ZV, RH, SFG Hella: Pu, Pü, ZV, RFH, SFG Rear head restraints raised Ignition: ON Activate the rear head restraint retraction switch.	450 mbar in 1.1 sec.	23 ⇒ 1.0, 23 PSE/RTG ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).

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Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 9.0	Intake manifold vacuum assist Vacuum supply	PSE control module connector P- to black connector on tester.	Cap connections on the PSE control module: Bosch: P+, ZV, SFG, FKS, RH Hella: Pü, ZV, SFG, FKS, RFH Switch ignition off, then on.	Pump runs after approx. 8 sec. delay. 450 mbar in 1.1 sec.	23 ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 10.0	Control of the REST function Vacuum supply	PSE control module connector P- to black connector on tester.	Ignition: OFF Engine coolant temperature >50° C. Cap the transparent PSE line at the PSE control module junction connector. Push REST on N22/1	Pump runs at 450 mbar in 1.1 seconds.	23 ⇒ 1.0, 7.0 PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 11.0	Central locking system Safety switch time	—	Cap connections on the PSE control module: Bosch: P-, P+, SFG, FKS, RH Hella: Pu, Pü, SFG, FKS, RFH Lock or unlock the central locking system.	PSE control module runs approx. 10±1 sec.	23 ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).

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Test step	Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
⇒ 12.0	Additional consumers P- Safety switch time	–	Cap connections on the PSE control module: Bosch: P+, RH Hella: Pü, RFH Switch ignition off, then on.	PSE control module runs approx. 60 sec.	23 ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).
⇒ 13.0	Additional consumers P+ Safety switch time	–	Cap connections on the PSE control module: Bosch: P-, RH Hella: Pu, RFH Switch ignition off, then on.	PSE control module runs approx. 60 sec.	23 ⇒ 1.0, PSE control module (SMS, Repair Instructions, Job No. 80-270).