

Special Tools

1 Suction pressure gauge	0–10 atm	or gauge set
1 High-pressure gauge	0–40 atm	
5 Thermometer	– 20° C to + 70° C	
1 Hygrometer		

Note

If complaints are made because of poor air-conditioning performance, test system in accordance with procedure described below which can be used with ambient temperatures of + 20° C to + 40° C. All test values can be read after 15 minutes of continuous operation.

Test Procedure

- 1 Check tension of V-belt for compressor drive.
- 2 Cover fresh air intake grille at left and right in front of windshield (Fig. 1).

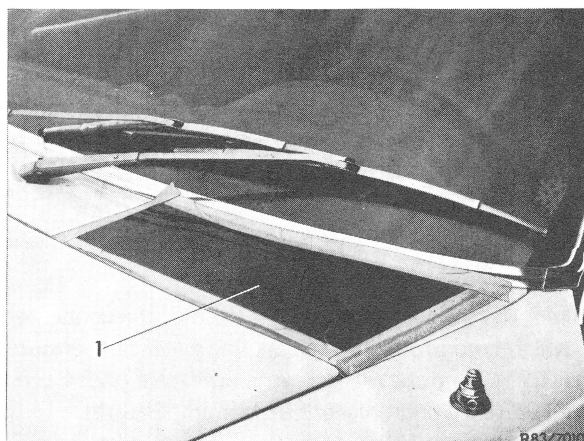


Figure 1

- 1 Cover on fresh air intake grille

- 3 Close operating lever (3 and 4) for air in upward and downward direction. Set operating lever (5 and 6) for heating way down (to off) (Fig. 2).

- 4 Insert one thermometer each into lateral nozzles and into summer air nozzles.

- 5 Attach one thermometer for outside air temperature (ambient temperature) approx. 2 m from driver's end.

- 6 Set temperature vacuum switch (2) to full cooling capacity (inside) and blower switch (1) to full blower speed (step 4) (Fig. 2).

- 7 Place a hygrometer into tray of center console.

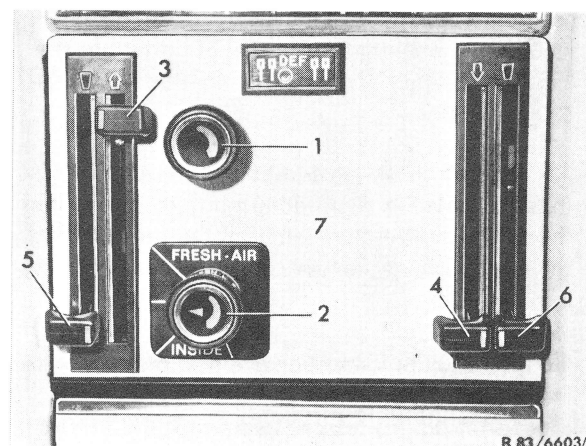


Figure 2

Layout of blower and temperature vacuum switch

- 1 Blower switch
- 2 Temperature vacuum switch with warning lamp
- 3 Operating lever for air, top (position "open")
- 4 Operating lever for air, bottom (position "open")
- 5 Operating lever heater left
- 6 Operating lever heater right
- 7 Cover

83.1 Performance Test of Air-Conditioning System

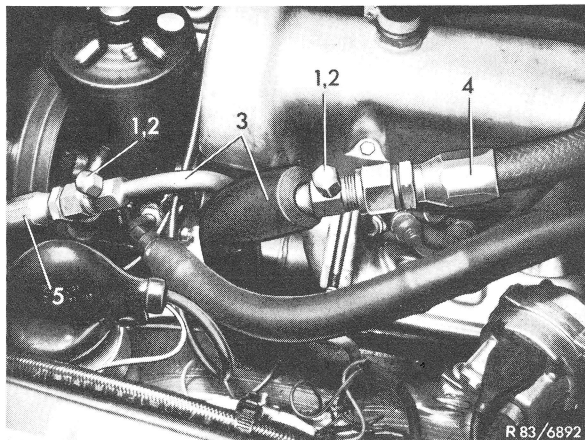


Figure 3
Service valves on pipeline

- 1 Cap
- 2 Valve insert
- 3 Pipeline
- 4 Hose line from evaporator to compressor
- 5 Hose line from compressor to condenser

8 Unscrew caps (1) on pipeline (3) (Figure 3). Then connect hose line from gauge set to service valves (3 and 4). Make sure that the connecting nipple of the hose lines has a pressure pin in center (Fig. 4).

9 Run engine at approx 2,000 rpm.

10 Open window and close vehicle doors.

11 Check on sight glass in receiver whether refrigerant is flowing free of bubbles. Add refrigerant if required. If more than 200 grams of refrigerant are lost, check system for leaks (refer to Job No. 83.0–830 and 840).

12 Read all check values after approx. 15 minutes (refer to table Fig. 5). Cooling = difference between the outside temperature (ambient temperature) and the mean value of the four cold air outlet temperatures in vehicle.

13 If the values for suction and high pressure named in Table are in agreement, but the required cooling is not attained, the temperature switch must be set accordingly. But the cold air outlet temperature should not be below 0° C at the lowest blower stage (fixed stage) and the difference between the coldest and the warmest outlet temperature should not be less than 3° C.

For details concerning adjustment of temperature vacuum switch refer to 83.1–540.

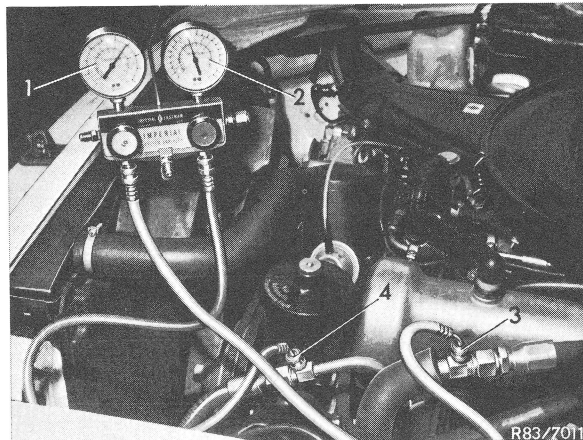


Figure 4
Gauge set on service valves

- 1 Suction pressure gauge
- 2 High-pressure gauge
- 3 Service valve (suction end)
- 4 Service valve (discharge end)

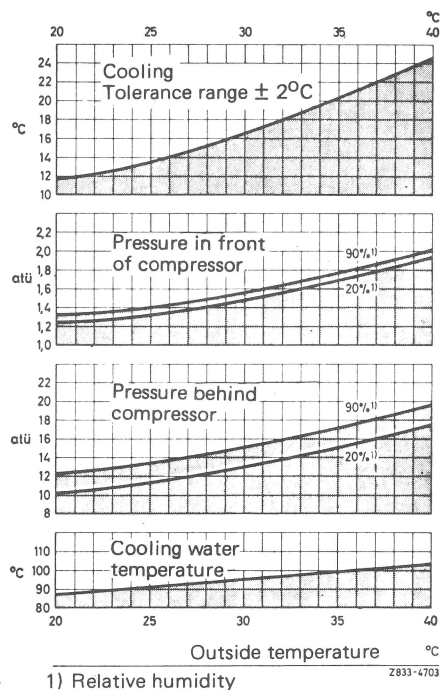


Figure 5
Check values

14 The supplementary fan in front of the condenser, which is controlled via the cooling water temperature (100° C) and the refrigerant temperature (62° C), will be switched on at higher outside temperatures.

15 Remove covers on fresh air intake grilles again.

16 Remove hose lines on service valves and close service valves again with caps.

17 Take thermometer and hygrometer from vehicle.