

B. Function test of air conditioning system

Data

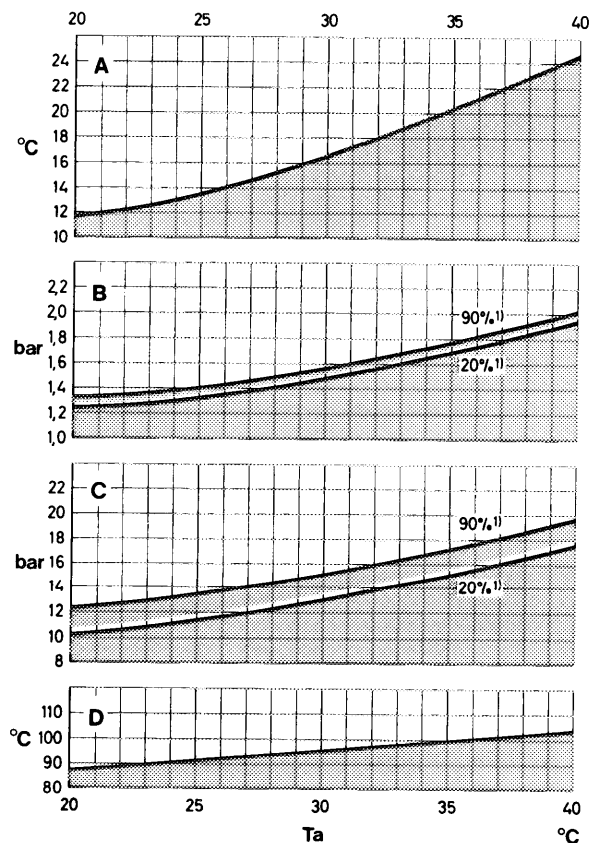
Angle of rotation temperature switch, lefthand steering up to 08/81 and righthand steering	315° ± 5°
Difference between coldest and warmest outlet temperature max.	3° C
Coldest air outlet temperature	1° C
Conventional tools	
1 suction pressure gauge	1 bar vacuum (atu) to 10 bar gauge pressure (atü)
_____ or assembly tester	
1 high-pressure gauge	0–40 bar gauge pressure (atü)
5 thermometers	–20° C + 70° C
1 hygrometer (measuring unit for humidity)	

Note

When working on air conditioning system, pay attention to safety rules (83–504).

For a workshop check with regard to complaints about insufficient cooling efficiency or during a trouble diagnosis on air conditioning system proceed according to the following test method which applies to ambient temperatures from + 20° C to + 40° C. All check data can be read after 15 minutes of continuous operation.

- 1) Relative humidity
- Ta Outside temperature (°C)
- A Air outlet temperature (°C)
- B Pressure in front of compressor (bar)
- C Pressure following compressor (bar)
- D Coolant temperature (°C)



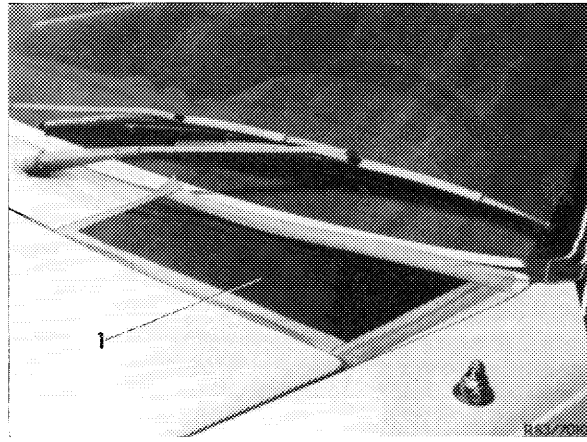
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Test conditions

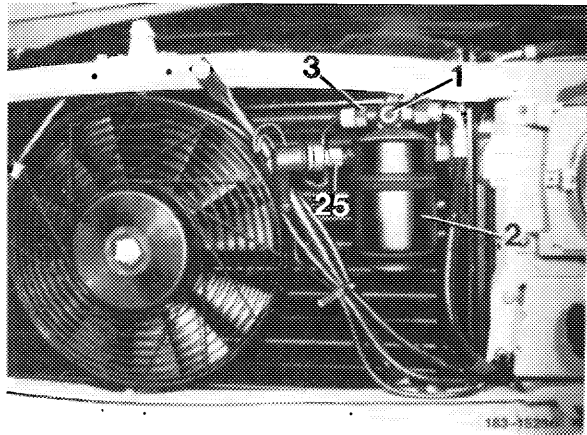
1 Vehicle should not be exposed to sunlight before and during test.

2 Check tension of V-belt for compressor drive.

3 Cover fresh air intake grille at left and right in front of windshield.



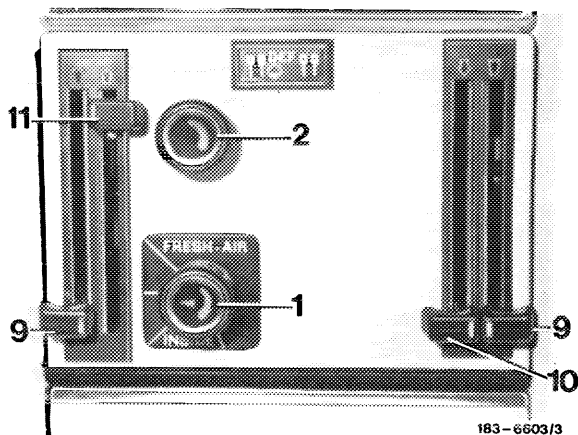
4 Engage air conditioning system and check receiver dehydrator through sight glass (1), whether refrigerant flows free of bubbles when the electromagnetic clutch has been engaged. Add refrigerant to system if insufficiently filled. Check system for leaks if refrigerant loss is above 200 g (83-512).



5 Lefthand steering up to August 1981 and righthand steering, close operating lever (10 and 11) for air in upward and downward direction. Set operating lever (9) for heating completely down (Off).

6 Insert one thermometer each into side nozzles and into summer air nozzles.

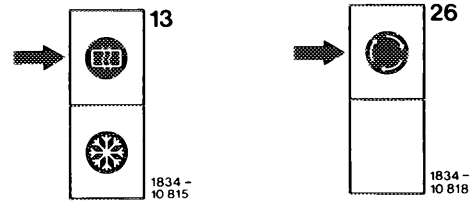
7 Attach one thermometer for fresh air temperature (ambient temperature) approx. 2 m from driver's position.



8 Check angle of rotation of temperature switch by turning knob of temperature vacuum switch (1) clockwise up to stop. The marking on knob of temperature vacuum switch should arrive at end of green key. If the angle of rotation of the temperature vacuum switch is smaller, replace temperature switch.

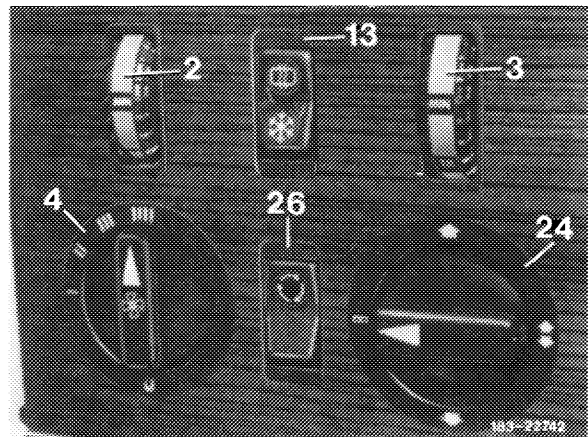
9 Set temperature vacuum switch (1) to full cooling capacity and set blower switch (2) to full blower speed (stage 4).

10 On lefthand steering vehicles starting 09/81, set temperature dials (2 and 3) to „MIN“, push switch (13) and (26) at symbol (arrows).



11 Turn air distribution switch (24) to symbol and air flow switch (4) to 4th blower stage.

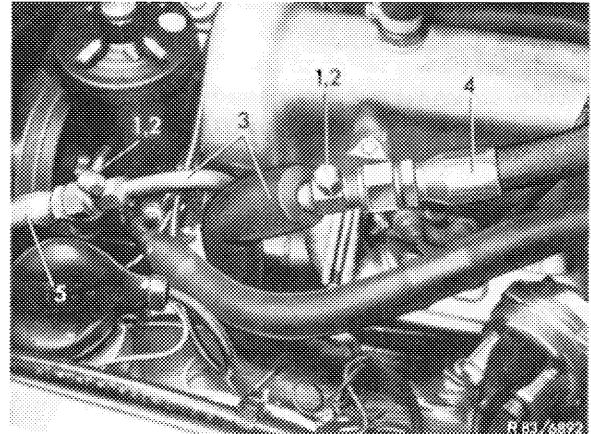
12 Place a hygrometer into storage tray of center console.



13 Unscrew closing caps (1) on pipe line (3). Then connect hose lines from assembly tester to service valves (3 and 4). Make sure that the connecting nipple of the hose lines has a thrust pin in center.

Service valves on pipe line

- 1 Closing cap
- 2 Valve insert
- 3 Pipe line
- 4 Hose line from evaporator to compressor
- 5 Hose line from compressor to condenser

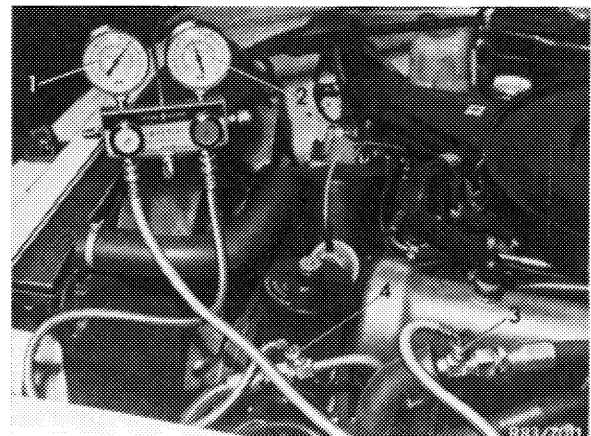


14 Open window and close vehicle doors.

15 Run engine at approx. 2000/min.

Assembly tester on service valves

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

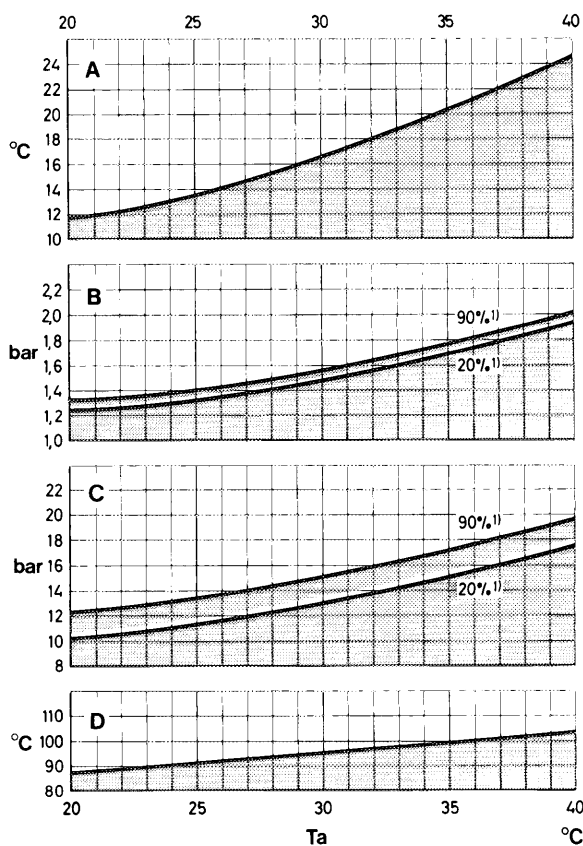


16 After approx. 15 minutes of operation, read values on thermometers and pressure gauge, as well as on hygrometer.

Note: Cooling = difference between medium value of recirculating air intake temperature on blower and medium value of cold air outlet temperature.

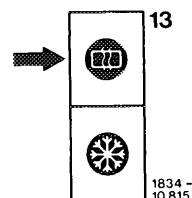
17 Check suction and high pressure in dependence of ambient temperature and relative humidity by means of table. Check air outlet temperature (mean value of the four cold air outlet temperatures) also according to values on table. The difference between the coldest and the warmest outlet temperature should not be more than 3°C.

- 1) Relative humidity
- Ta Outside temperature (°C)
- A Air outlet temperature (°C)
- B Pressure in front of compressor (bar)
- C Pressure following compressor (bar)
- D Coolant temperature (°C)



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18 Check cutout temperature of temperature regulator by inserting 1 thermometer into center nozzle. Set blower switch to stage 1 and temperature vacuum switch (1) to full refrigerating capacity, on lefthand steering vehicle starting 09/81 push switch (13) at symbol (arrow). Run engine at approx. 2000/min. Following the 3rd cutout of electromagnetic clutch, the air outlet temperature should amount to approx. +3°C, but should not be below +1°C.



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19 Adjust temperature switch (83–542).

20 The auxiliary fan in front of condenser (if installed) which is switched via coolant temperature (100 °C) and refrigerant temperature (62 °C or 52 °C) switches on at higher outside temperatures.

21 Remove covers on fresh air intake grille.

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

23 Remove thermometer and hygrometer from vehicle.