


Test conditions	Observe items 1 to 4
Differential between coldest and warmest outlet temperature	Measured between switching off and switching on of the refrigerant compressor, max. 3 °C
Coldest air outlet temperature from center nozzle	Measures + 5 ± 1 °C with selector wheel position MIN engaged and function selection 

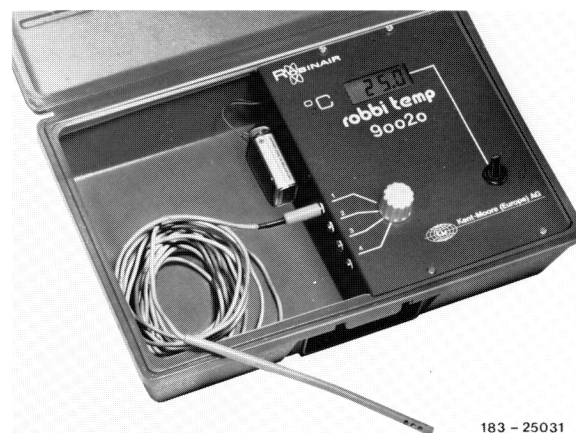
Conventional tools

1 suction pressure gauge	or assembly tester	1 bar vacuum up to 10 bar gauge pressure
1 high-pressure gauge		0-40 bar gauge pressure
2 Thermometers		-20 °C to +70 °C
1 hygrometer		

Digital measuring instrument with 4 measuring probes

Robbi temp 90020
Air temperature measuring probe 90023
(4.5 m cable length)

Supplier, e.g.:
Switzerland: Kent-Moore (Europe) AG
P.O. Box, CH-6340 Baar
Germany: Kälte-Fischer
Postfach 266, Augsburgstr. 289-291
D-70324 Stuttgart

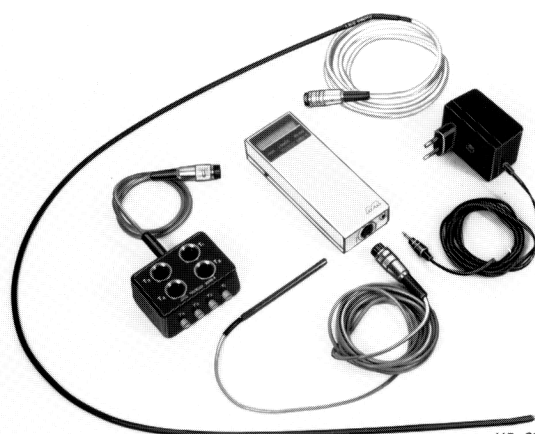


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Digital temperature measuring instrument with 4 measuring probes

Therm 2263-2
4-fold measuring point
changeover switch 2235-4
Air temperature measuring probe W453-5
(3 m cable length)

Supplier, e.g.:
Germany: Ahlborn Meß- und Regelungstechnik,
Eichenfeldstr. 1 - 3,
D-83607 Holzkirchen



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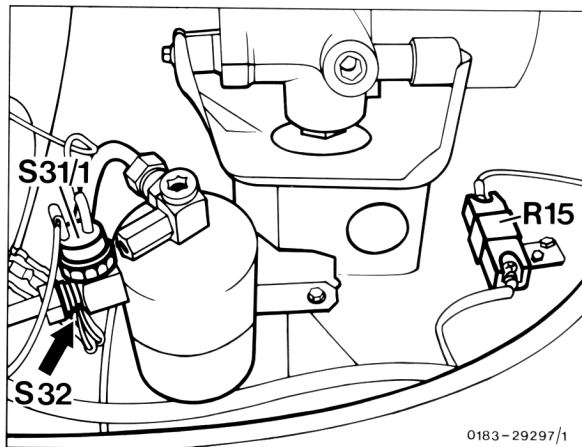
Note

Carry out test when receiving complaints on the automatic climate control or for fault diagnosis.

Test conditions

- 1 The vehicle should not be exposed to the sun before and during the test.
- 2 Check tension of the poly-V-belt for the compressor drive.

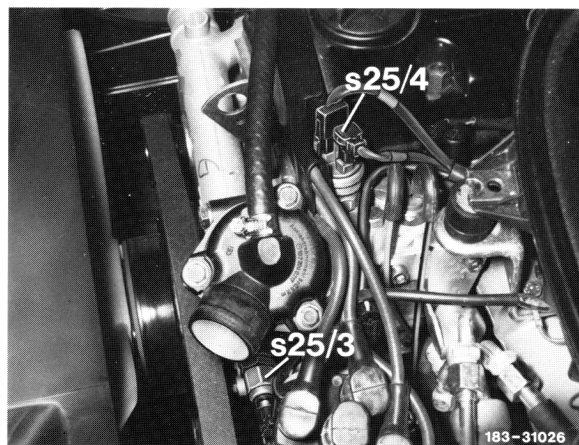
3 Check auxiliary fan function by switching on the ignition and shorting the two flat terminals on the pressure switch (S32). The auxiliary fan should start running at the 1st speed.



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Then bridge the 2-pole coupling on the temperature switch (S25/4 or S25/5). The auxiliary fan 2nd speed should start up. Simultaneously observe the direction of rotation of the auxiliary fan (clockwise). On vehicles with 1-pole temperature switch (up to approx. 8/85), hold the 1-pole coupling to ground.

S25/4 Temperature switch 100/110 °C
Model 124.0 with 4-cylinder engine



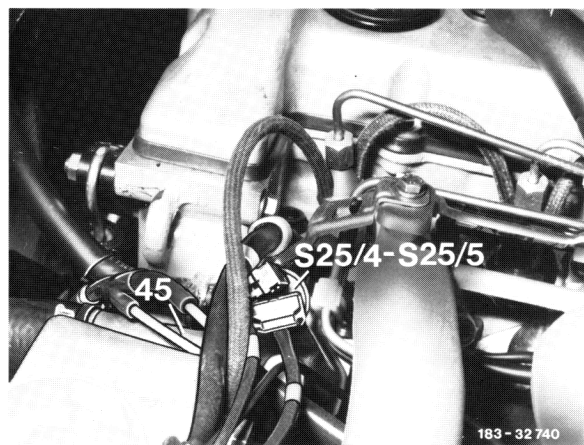
183-31026

S25/5 Temperature switch 105/115 °C
Model 124.0/2 with 6-cylinder engine




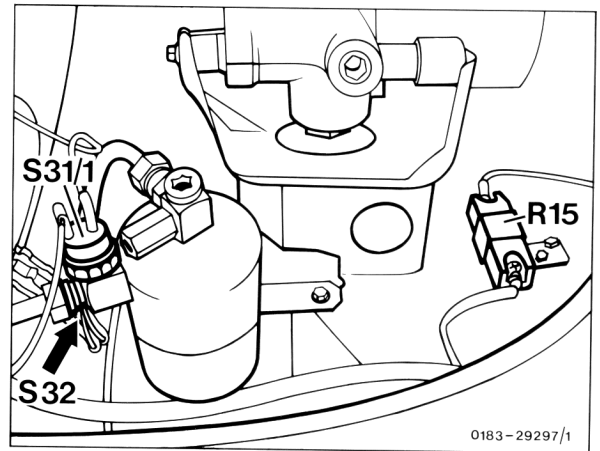
183-31024

S25/4, S25/5 Temperature switch 100/110 °C
and 105/115 °C
Models 124.1/3



183-32740

4 Check fluid level in the air conditioner. To do so, pull off a cable on the pressure switch (S31/1), allow engine to run at idle speed (> 750/min) and switch on the automatic climate control with the function selection . Clean the sight glass (arrow) in the fluid reservoir. Observe sight glass and reconnect the cable to pressure switch (S31/1) at the same time. Shortly before the electromagnetic coupling is switched on, the refrigerant should rise and subsequently flow through without bubbles (i.e. refrigerant no longer visible).





Caution!

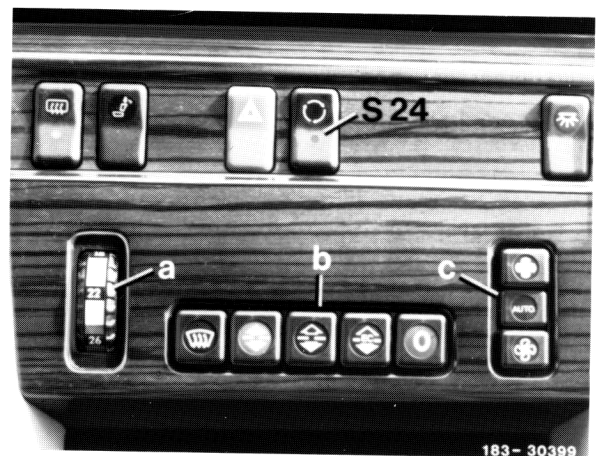
At major refrigerant loss, or empty system, the voltage for the refrigerant compressor is interrupted by the pressure switch (S31/1). The circuit is closed again when the pressure rises to 0.6 bar above the switch-off pressure.

Note

If the refrigerant compressor does not switch on, bridge the cables from the pressure switch S31/1) and check fluid level according to item 4. If the refrigerant compressor does not switch on still, check the compressor cut-out (83-605) or the activation of the compressor (83-604, test steps 1 to 5 and 21).

Checking

- 1 Engage temperature selector wheel (A) in "MIN".
- 2 On the pushbutton switch (b), switch on the function selection  and on the blower switch (c) the function selection .
- 3 Open the center and lateral nozzles and switch off switch (S24) (fresh air).



4 Insert a thermometer (arrow) into the left or right center nozzle.

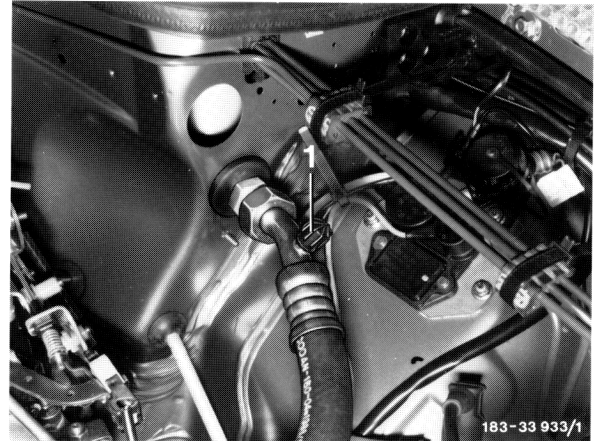
5 Provide a thermometer for ambient temperature (room temperature) approx. 2 m from the driver's side at the outside of the vehicle.

6 Place a hygrometer into the tray of the center console.

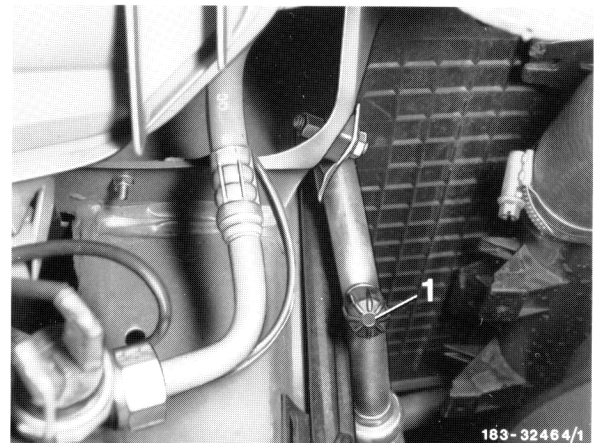


7 Remove caps (1). Then connect hose pipes to the suction pressure or high-pressure gauges on the service valves. Ensure that the connection fittings of the hose pipes are provided with a pressure pin in the center.

1 Cap on suction pipe



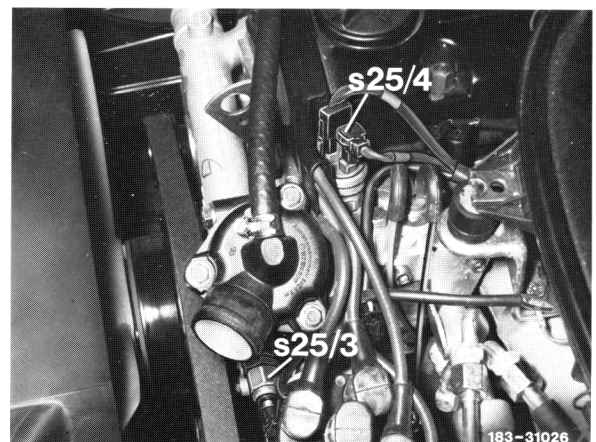
1 Cap on pressure pipe



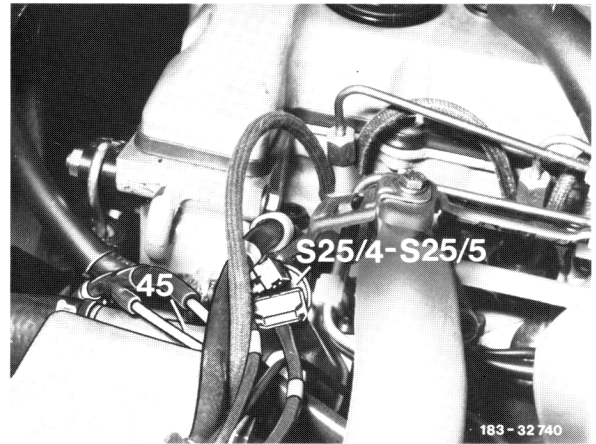
8 Open windows and close vehicle doors.

9 On vehicles with 4-cylinder engine, pull off 2-pole coupling from temperature switch 100/110 °C (S25/4) and bridge so that the electromagnetic coupling of the engine fan runs during the entire test.

S25/4 Temperature switch 100/110 °C
Engine 102 up to 08/89



25/4 Temperature switch 100/110 °C
Engine 601



10 Run engine with approx. 2000/min.

11 After approx. 10 minutes of operating time, read values of the thermometers and pressure gauges as well as the hygrometer.

Note

The specified values, refer to the diagram, are maximum values and may not be exceeded.

Possible causes if the values deviate from the specifications:

a) Suction/high pressure

- Suction pressure too low and high pressure too high: Expansion valve defective, fluid reservoir or condenser or evaporator clogged.
- Suction pressure too high and high pressure too low: Expansion valve defective.
- Suction and high pressure identical: Refrigerant compressor defective.

b) Temperature

Outlet temperature too low or too high:
Temperature sensor evaporator faulty or the supply cables are interrupted or shorted to ground (check according to 83-604, test step 3) or control unit defective.

Diagram for model 124.0/2

- 1) Relative humidity of the air
- Ta Outside temperature (°C)
- A Air outlet temperature (°C)
- B Pressure before the compressor (bar)
- C Pressure after the compressor (bar)
- D Coolant temperature (°C)

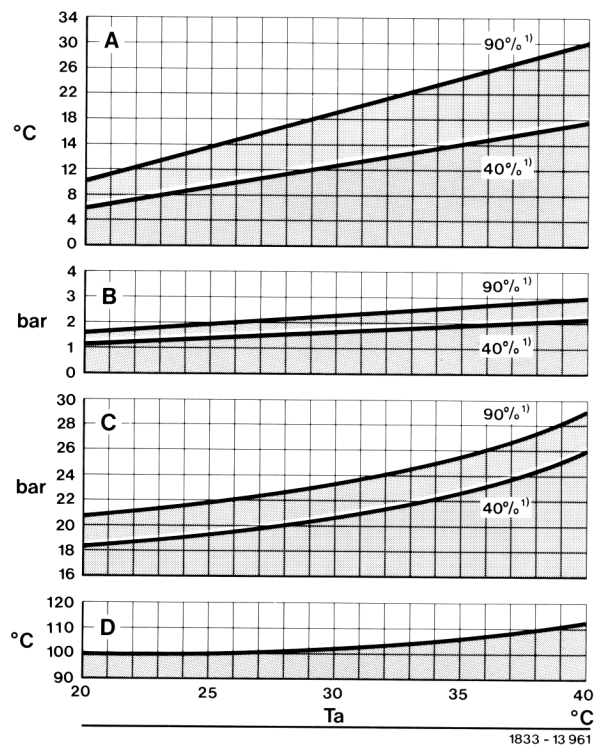
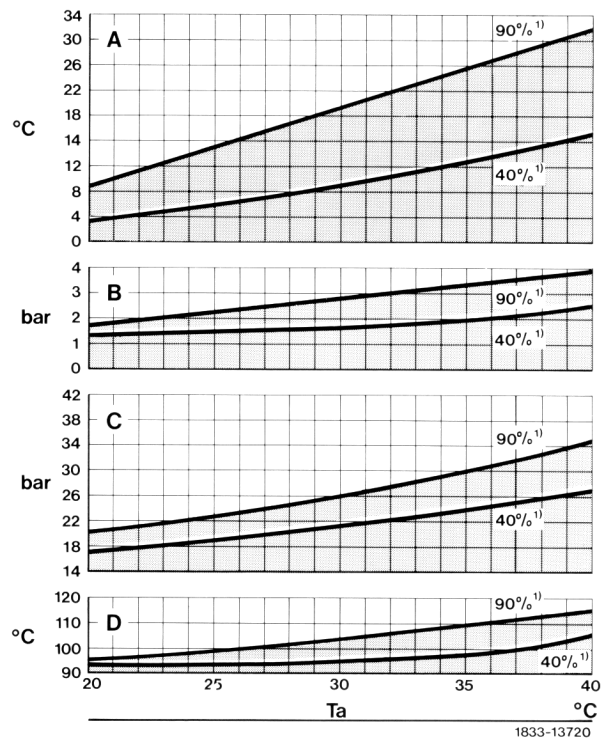


Diagram for model 124.1/3

- 1) Relative humidity of the air
- Ta Outside temperature (°C)
- A Air outlet temperature (°C)
- B Pressure before the compressor (bar)
- C Pressure after the compressor (bar)
- D Coolant temperature (°C)



12 Remove hose pipes from the service valves and again close the service valves with the caps.

13 On vehicles with 4-cylinder engine, reconnect 2-pole coupling to the temperature switch 100/110 °C (S25/4)

14 Remove thermometer and hygrometer from the vehicle.