

83–607 Output test

Data

Outside (ambient) temperatures °C (°F)		Humidity %	Outlet temperatures Center nozzle Lateral nozzle left °C (°F) °C (°F)		Compressure pressures in bar (atu) Suction end Pressure end	
25	(78)	40	< 6	< 8	0.9	13.0
			(< 43)	(< 46)		
30	(86)	40	< 8	< 10	1.1	15.0
			(< 46)	(< 50)		
35	(96)	40	< 10	< 12	1.3	16.0
			(< 50)	(< 54)		
40	(104)	40	< 14	< 16	1.5	18.0
			(< 57)	(< 61)		
40	(104)	60	< 22	< 25	2.0	21.0
			(< 72)	(< 78)		

Conventional tools

1 Suction pressure gauge	or assembly tester	1 bar gauge pressure (atu) to 10 bar gauge pressure (atu)
1 High-pressure gauge		0–40 bar gauge pressure (atu)
3 Thermometers		-20 °C + 70 °C
1 Hygrometer		
1 Tester ATC 331		made by Deutsche Ranco GmbH Postfach 1560 6832 Hockenheim

Note

For tests in workshop in the event of complaints due to insufficient cooling or heating capacity and for trouble diagnosis on air conditioning systems proceed according to the following test method which is applicable for ambient temperatures from +25 °C to +40 °C.

All control values can be read after 10 minutes of constant operation.

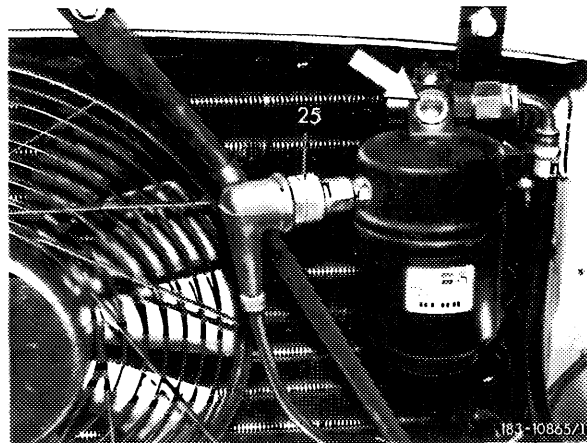
A. Refrigerant capacity

Test

The vehicle should not be exposed to sunshine before and during the test.

1 Test tension of V-belt for compressor drive.

2 Engage air conditioning system and watch through sight glass (refer to arrow, Fig.) in receiver dehydrator whether the refrigerant flows free of bubbles shortly after switching on electromagnetic clutch. Add refrigerant if system is insufficiently filled. In the event of a refrigerant loss above 200 grams, check system for leaks.



Layout of pressure switch in receiver dehydrator

25 Pressure switch for refrigerant compressor

3 Mount a thermometer for outside air temperature (ambient temperature) approx. 2 m from driver's side.

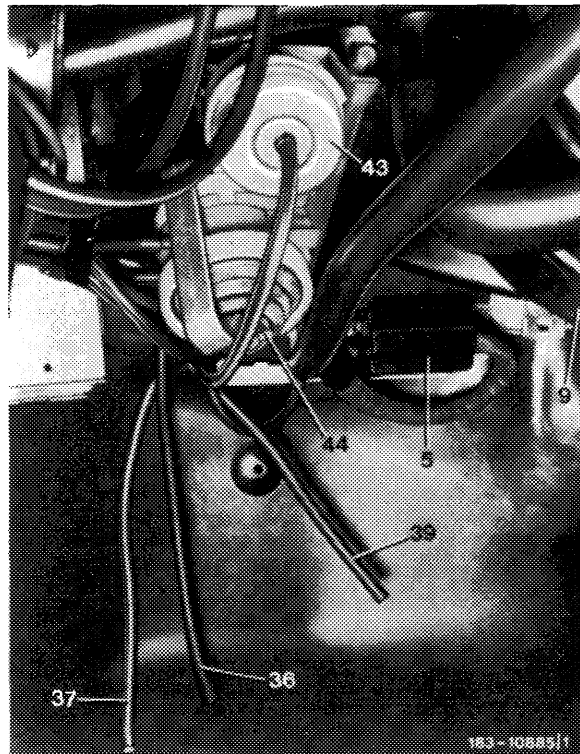
4 Place a hygrometer into tray of center console.

5 Remove panelling at bottom right and connect tester to plug connection (5) (83-602).

6 Connect suction and pressure gauges to service valves.

7 Insert one thermometer each into center nozzle and lateral nozzle at left.

8 Close vehicle doors and windows, as well as engine hood.



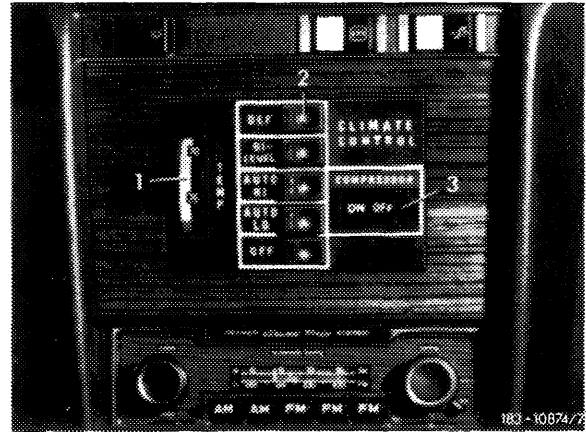
Layout of 10-point plug connection for tester

- 5 10-point plug connection for tester
- 9 Blower
- 36 Vent line for legroom flap
- 37 Vacuum connection for tester
- 39 Vent line for regulating valve
- 43 Vacuum element for fresh air portion of fresh air-recirculating air changeover switch
- 44 Vacuum element of fresh air-recirculating air changeover switch

9 On tester, move mode switch into position "Park" and voltmeter switch into position "Blower Volts". Set pushbutton switch on control unit to position "HI", "ON/OFF" switch of refrigerant compressor to position "ON". Run engine at 2500 to 3000/min.

Layout of control unit

- 1 Temperature dial
- 2 Pushbutton switch
- 3 "ON/OFF" switch of refrigerant compressor



10 Read air outlet temperatures and refrigerant pressures after 8 to 10 minutes (refer to table).

Note: When testing refrigerant capacity also take into consideration that in test position "Park" the system operates in position 100 % fresh air and the blower in 2nd stage "HI" (approx. 9 V). During this test the system is not operated at max. refrigerant capacity. Lower outlet temperatures will be attained under normal operating conditions.

B. Heating capacity

Test

- 1 Start vehicle engine.
- 2 Push "DEF" button.
If the tester is not yet connected, move mode switch on tester into position "HEAT", voltmeter switch into position "Blower Volts" and pushbutton switch on control unit into position "DEF".
- 3 Plug thermometer into defroster nozzle at left.
- 4 After attaining operating temperature, run engine at 2500 to 3000/min.
- 5 Read thermometer after approx. 5 minutes. Thermometer should indicate at least 60 °C (140 °F).