

The manual test permits checking the function (operation) of all components of an automatic climate control system.





Additional pointed tests for finding the cause of a fault are only required in the event of deviations from the functions or air outlets shown here.

Run engine at idle and at operating temperature during entire test.

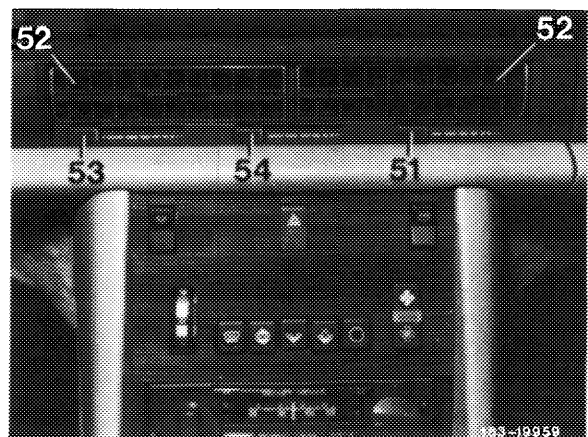


Open fresh air levers (51, 53 and 54). Open side vents left and right (56) (turn wheel in upward direction). Remove glove box (68-140).

Air conditions

- Outside air 
- Cooled air 
- Heated air 
- Leak air (warm) 

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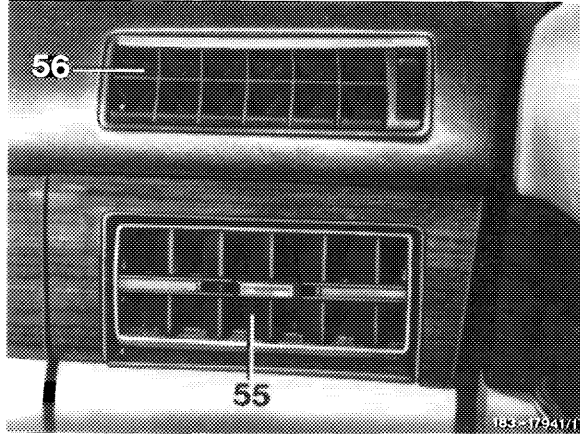


Layout of swivel inserts for air outlet-center

- 51 Lever for air outlet right (55)
- 52 Swivel inserts for air outlet-center
- 53 Lever for air outlet left (55)
- 54 Lever for center air outlet (52)

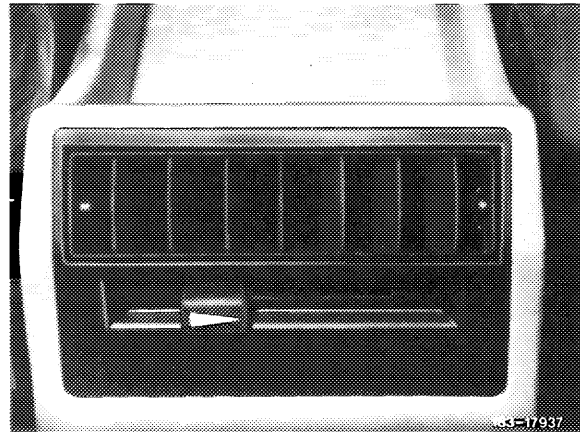
Layout of air outlets right  
(mirror image left)

- 55 Swivel insert for air outlet right
- 56 Insert for side vent right —  
turn wheel in upward direction = open

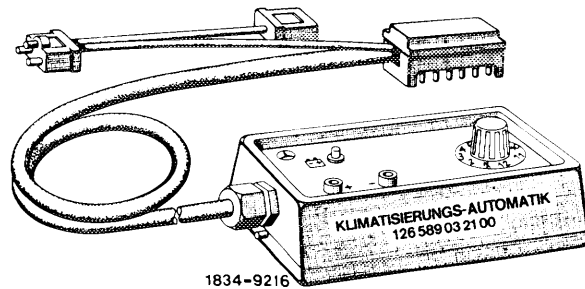


### Note

1. In the event of an electrical test of monovalve (with voltmeter, test lamp or the like) be sure to avoid a short, since in such a case the electric switching unit for temperature control will be damaged.
2. Only "non-heatable" or "cooled" air will flow out of swivel insert for rear passenger compartment vent, independent of selected button.

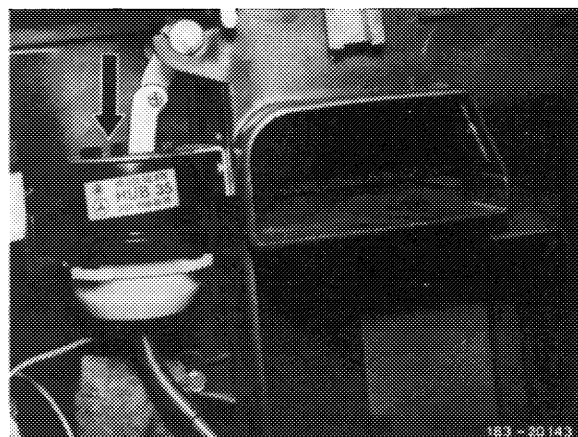


3. At room temperatures  $> 25^{\circ}\text{C}$  the cycling of the heating water valve cannot be readily shown during 2nd and 6th test. For this purpose, the vehicle interior should be cooled down to approx.  $22^{\circ}\text{C}$  (with doors and windows, as well as sliding roof, closed).
4. Other tests can be made with adaptor for automatic climate control 126 589 03 21 00.

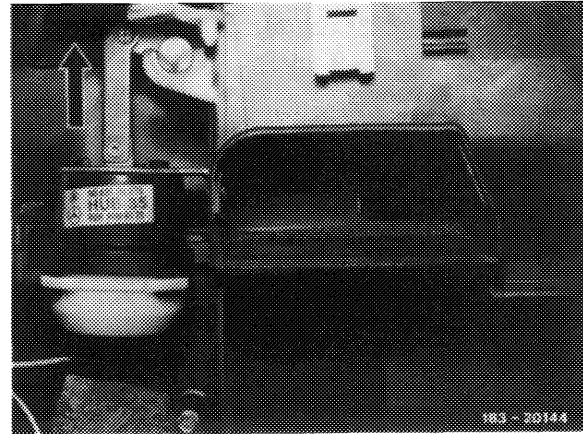


5. The function of the scoop air flap can be checked by means of position of connecting rod of vacuum element 41. For this purpose, remove leg room cover on driver's side.

Connecting rod inserted:  
Flap opened.



Connecting rod extended:  
Flap closed.

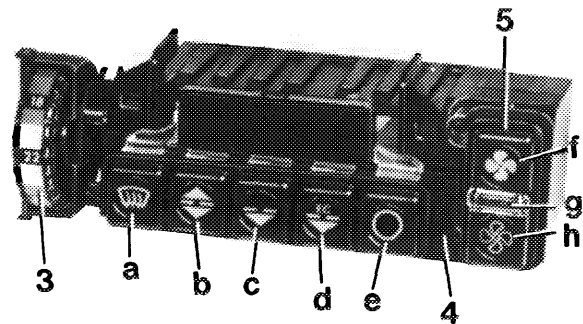


41 Vacuum element for scoop air flap

## 6. Illustration of special operating conditions:

Only one button at a time should be pushed on principle. The operating conditions described below are therefore not included in test scope. They are shown only to assist customers if such a condition has been established by chance. No damage will occur, even if the vehicle is driven for an extended period.

- a) **All buttons "a" — "e" not pushed:**  
Operating condition similar to "c", but the lowest automatic blower stage will then be raised to 3rd stage.
- b) **Button "e" pushed in combination with another button:**  
System always in switched-off condition.
- c) **Buttons "c" and "d" pushed at the same time:**  
Operating condition similar to "d", but 3rd blower stage will drop to 2nd stage.
- d) **Buttons "b" and "c" pushed at the same time:**  
Operating condition similar to "b", but 3rd blower stage will drop to 2nd stage.
- e) **Buttons "a" and "b" pushed at the same time:**  
Operating condition similar to "a", but leg room flaps will be additionally open.
- f) **Operation of button "a" (DEF) will always predominate in relation to selector dial and blower.**
- g) **Buttons "b" and "d" pushed at the same time:**  
Function similar to "b", but compressor will be switched off.



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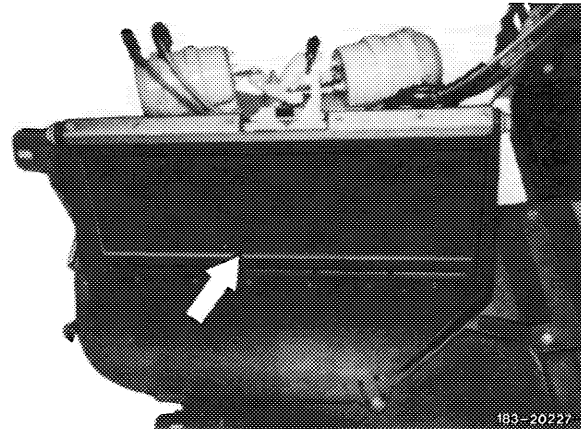
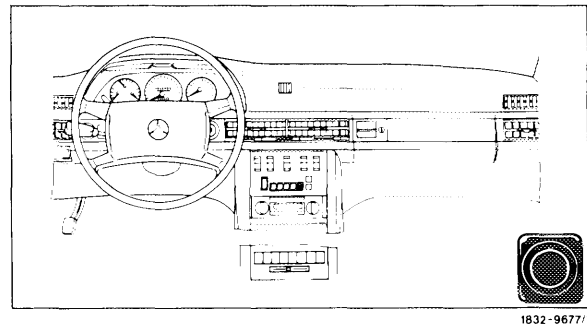
**Test 1:**

Selector dial	Function button	Blower
22 °C	"e"	"AUTOM"

- Monovalve closed (+ and – are connected).
- Compressor switched off.
- Main air flap closed.
- Blower not running.

The electronic system is ready for operation.

Refer to vacuum function diagram 5, (83–604), and for all additional tests also to electric wiring diagram (83–601).



Main air flap closed  
(no fresh air supply)

**Test 2:**

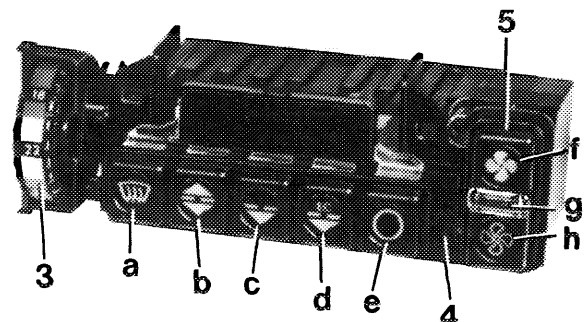
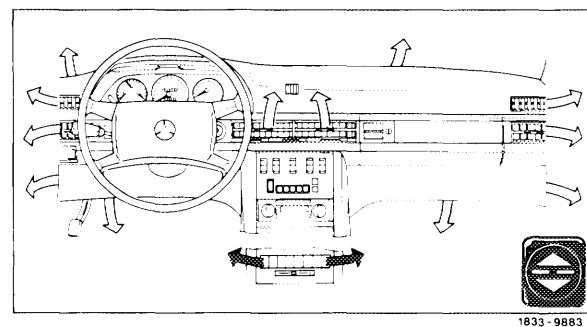
Selector dial	Function button	Blower
22 °C	"b"	"AUTOM"

Establish condition "mode change" (overlap) by turning temperature dial slowly in upward or downward direction until leg room flaps and center nozzles are open.

- Monovalve cycling (every 4 to 5 seconds).  
At temperatures  $> 25^{\circ}$  refer to 83–601, item 2.
- Compressor switched on.
- Main air flap open (fresh air).
- Blower starts after approx. 10 seconds.
- Recirculating pump running.

Control unit

- 3 Temperature dial
- 5 Blower switch
- a-e Function selection buttons
- f Max. blower stage (6th stage)
- g Automatic blower (2nd – 5th stage)
- h Minimum blower stage (1st stage)



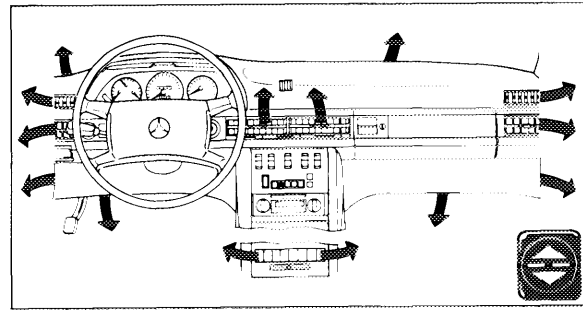
**Test 3:**

Selector dial	Function button	Blower
MIN (engaged)	"b"	"AUTOM"

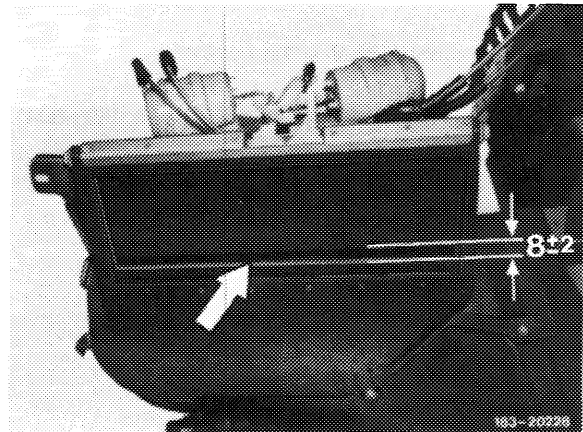
- Monovalve closed (+ and – are connected).
- Recirculating pump not running.
- Compressor switched on at outside temperatures >4 °C.
- Main air flap in position "recirculated air" (20 % fresh air, 80 % recirculated air).
- Blower running (10 V or 5th stage).

Also refer to vacuum function diagram 2b, (83–604).

Main air flap opened approx. 8 mm (recirculated air)



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183-20728

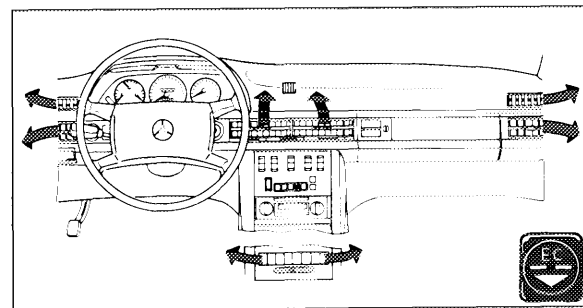
**Test 4:**

Selector dial	Function button	Blower
MIN (engaged)	"d"	"AUTOM"

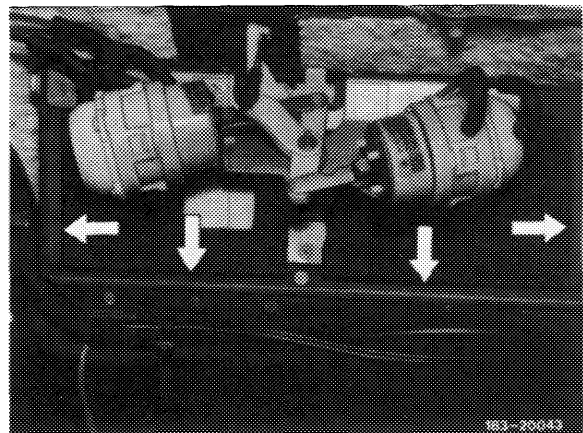
- Monovalve closed (+ and – are connected).
- Recirculating pump not running.
- Compressor switched off.
- Main air flap open (fresh air).
- Blower running (10 V or 5th stage).

Also refer to vacuum function diagram 4a, (83–604).

Main air flap open (fresh air)



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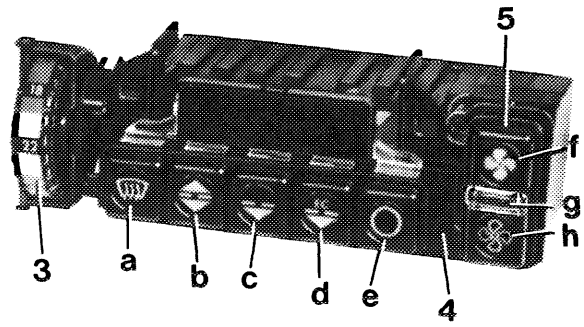
183-20043

**Test 5:**

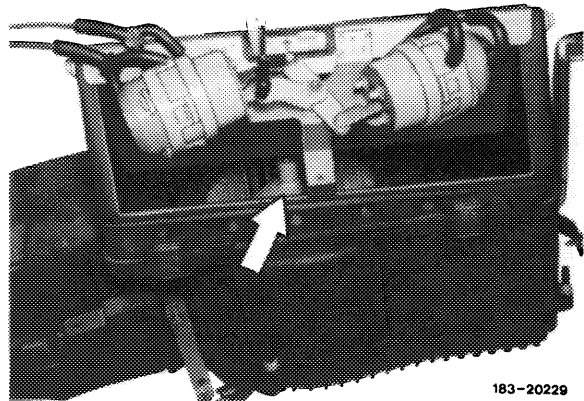
Selector dial	Function button	Blower
MIN (engaged)	"c"	"h"

- Scoop air flap open.
- Monovalve closed (+ and – are connected).
- Recirculating pump not running.
- Main air flap in position "recirculated air" (20 % fresh air, 80 % recirculated air).
- Blower running (4 V or 1st stage).

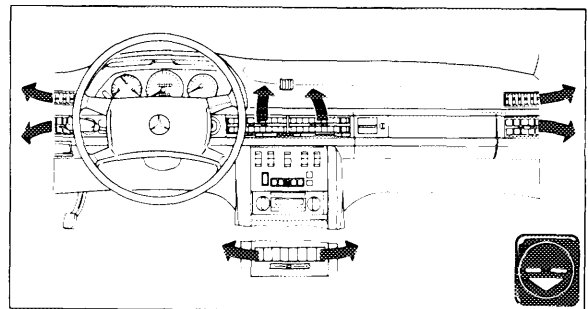
Also refer to vacuum function diagram 3b, (83–604).



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



183-20229



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**Air conditions**

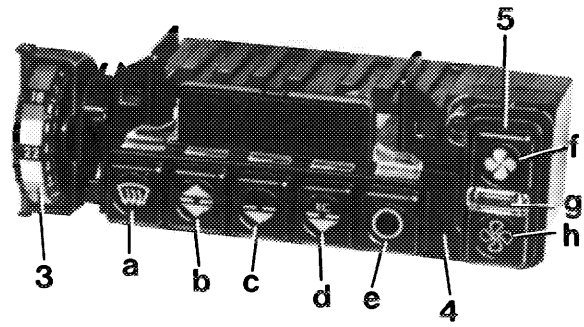
- Outside air 
- Cooled air 
- Heated air 
- Leak air (warm) 

1834-9854

**Test 6:**

Selector dial	Function button	Blower
22 °C	"c"	"AUTOM"

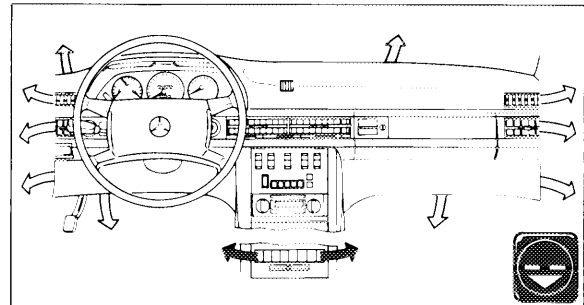
Set up condition "mode change" (overlap) by slowly turning temperature dial in upward or downward direction until leg room flaps and center nozzles are opened. Wait until blower has switched to 5 V or 2nd stage.



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5 V on blower = preparation for next test!

- Monovalve cycling (every 4 to 5 seconds). At temperatures > 25 °C refer to job no. 83-601, item 2.
- Compressor switched on.
- Main air flap open (fresh air).
- Recirculating pump running.



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**Air conditions**

- Outside air
- Cooled air
- Heated air
- Leak air (warm)



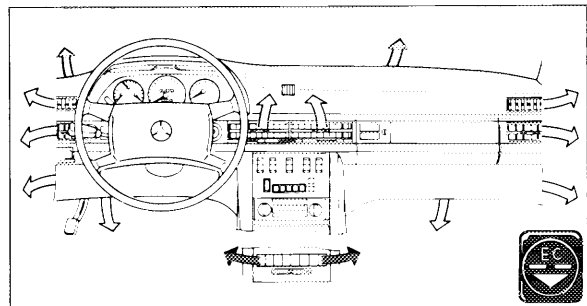
1834-9884

**Test 7:**

Selector dial	Function button	Blower
22 °C	"d"	"AUTOM"

- Blower switches one stage higher (from 5 V to 6.5 V or from 2nd to 3rd stage).
- Monovalve cycling (every 4-5 seconds).
- Compressor switched off.
- Main air flap open (fresh air).
- Recirculating pump running.

83.7-601/7

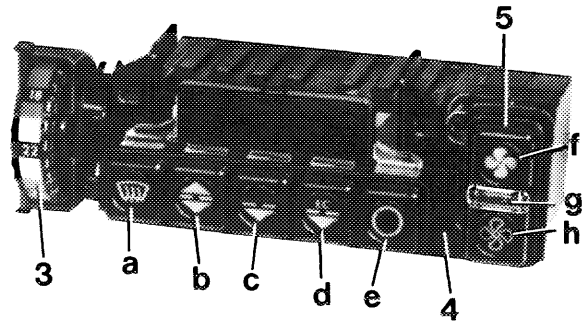


1833-9884

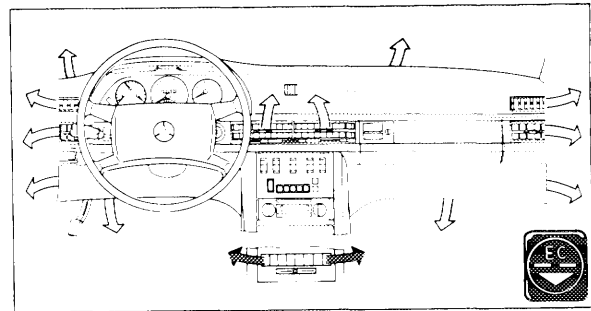
**Test 8:**

Selector dial	Function button	Blower
22 °C	"d"	"f"

- Blower running at max. speed (6th stage).
- Monovalve cycling (every 4–5 seconds).
- Compressor switched off.
- Main air flap open (fresh air).
- Recirculating pump running.



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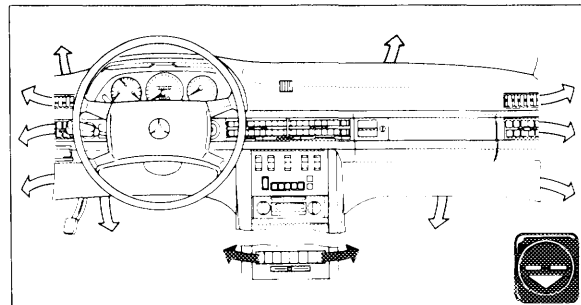


1833-9884

**Test 9:**

Selector dial	Function button	Blower
MAX	"c"	"AUTOM"

- Monovalve open (no – connected).
- Recirculating pump running.
- Compressor switched on.
- Blower running (10 V or 5th stage).
- Scoop air flap and center nozzle flap closed (no air from center nozzle).



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Also refer to vacuum function diagram 3, (83–604).

**Air conditions**

- Outside air
- Cooled air
- Heated air
- Leak air (warm)

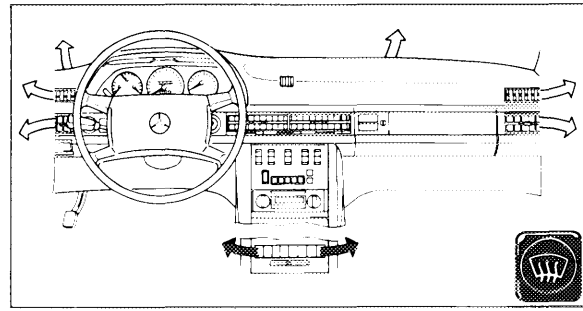
1834-9884

**Test 10:**

Selector dial	Function button	Blower
At will	"a"	At will

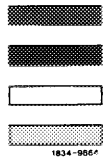
- Blower running at max. speed (6th stage).
- Monovalve open (no – connected).
- Recirculating pump running.
- Compressor switched on at outside temperatures >4 °C.
- Main air flap open (fresh air).

Also refer to vacuum function diagram 1, 83–604.



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**Air conditions**  
 Outside air  
 Cooled air  
 Heated air  
 Leak air (warm)

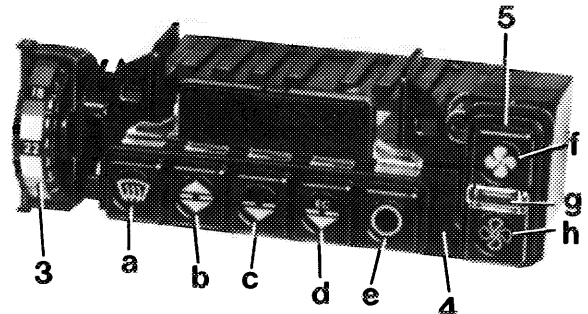


1834-985

**Test 11:**

Selector dial	Function button	Blower
MIN	"b"	"f"

- After switching to "b", cold air should come immediately out of center nozzle: Scoop air flap open.

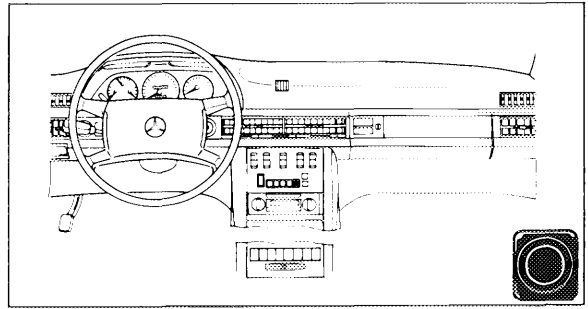


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**Test 12:**

Selector dial	Function button	Blower
22 °C	"e"	"g"

- Monovalve closed (+ and – connected).
- Recirculating pump not running.
- Compressor not switched on.
- Main air flap closed.
- Blower not running.



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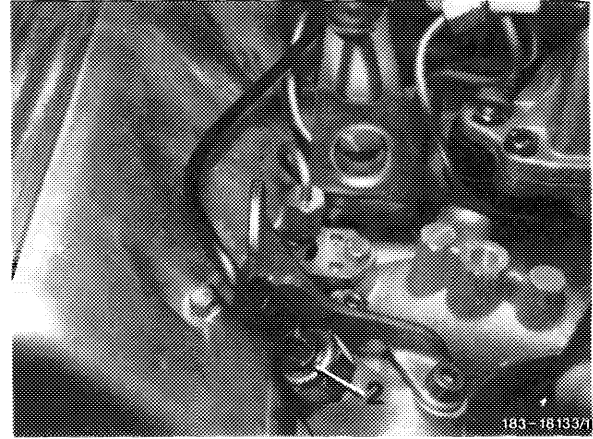
**Test 13:**

Pull coupling from cold engine lock (2).

Selector dial	Function button	Blower
MAX	"c"	"g"

- Main air flap closed.
- Blower not running.

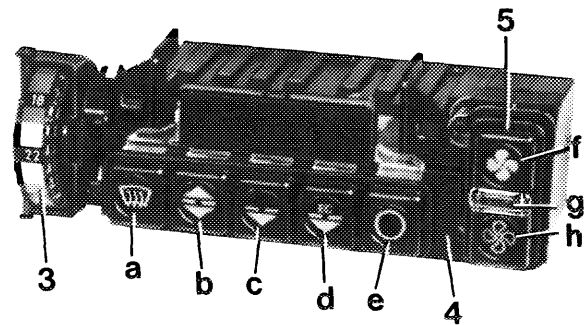
**Do not yet** plug-on coupling of cold engine lock.



**Test 14:**

Selector dial	Function button	Blower
MIN	"c"	"g"

- Main air flap in position "recirculated air".
- Blower starts running after approx. 10 seconds (5 V to 10 V or 2nd stage to 5th stage).
- Plug-in coupling of cold engine lock.



For all tests, also refer to electric wiring diagram (83-601/11).

