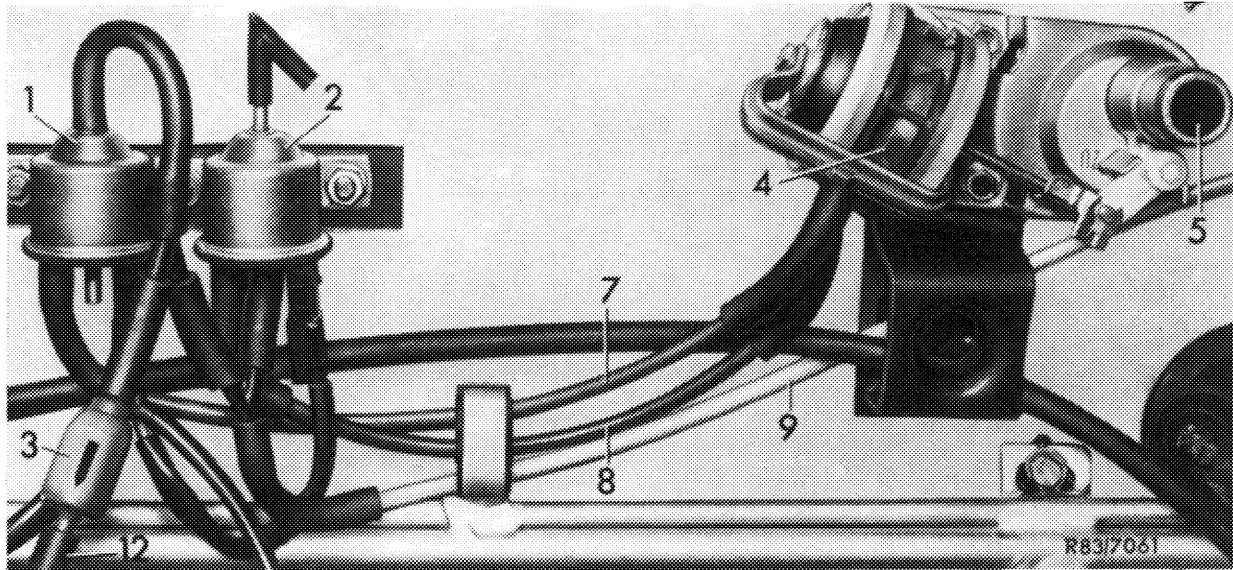


Operation 1st version

Model	107.023	up to chassis end no.	009 969
	107.024		008 255
	107.043		011 626
	107.044		021 956



Layout of control system

- |                   |                                  |                               |
|-------------------|----------------------------------|-------------------------------|
| 1 Control valve 1 | 4 Vacuum element                 | 9 Vacuum line to supply tank  |
| 2 Control valve 2 | 5 Heater valve                   | 12 Vacuum line to intake pipe |
| 3 Check valve     | 7, 8 Venting line or vacuum line |                               |

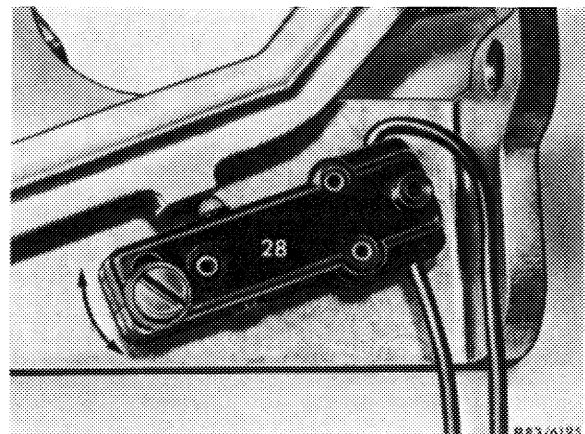
Control of heating system comprises the following components:

- a) Electrical section (microswitches and solenoid valves)
- b) Pneumatic section (vacuum control)
- c) Mechanical section (heater valve)

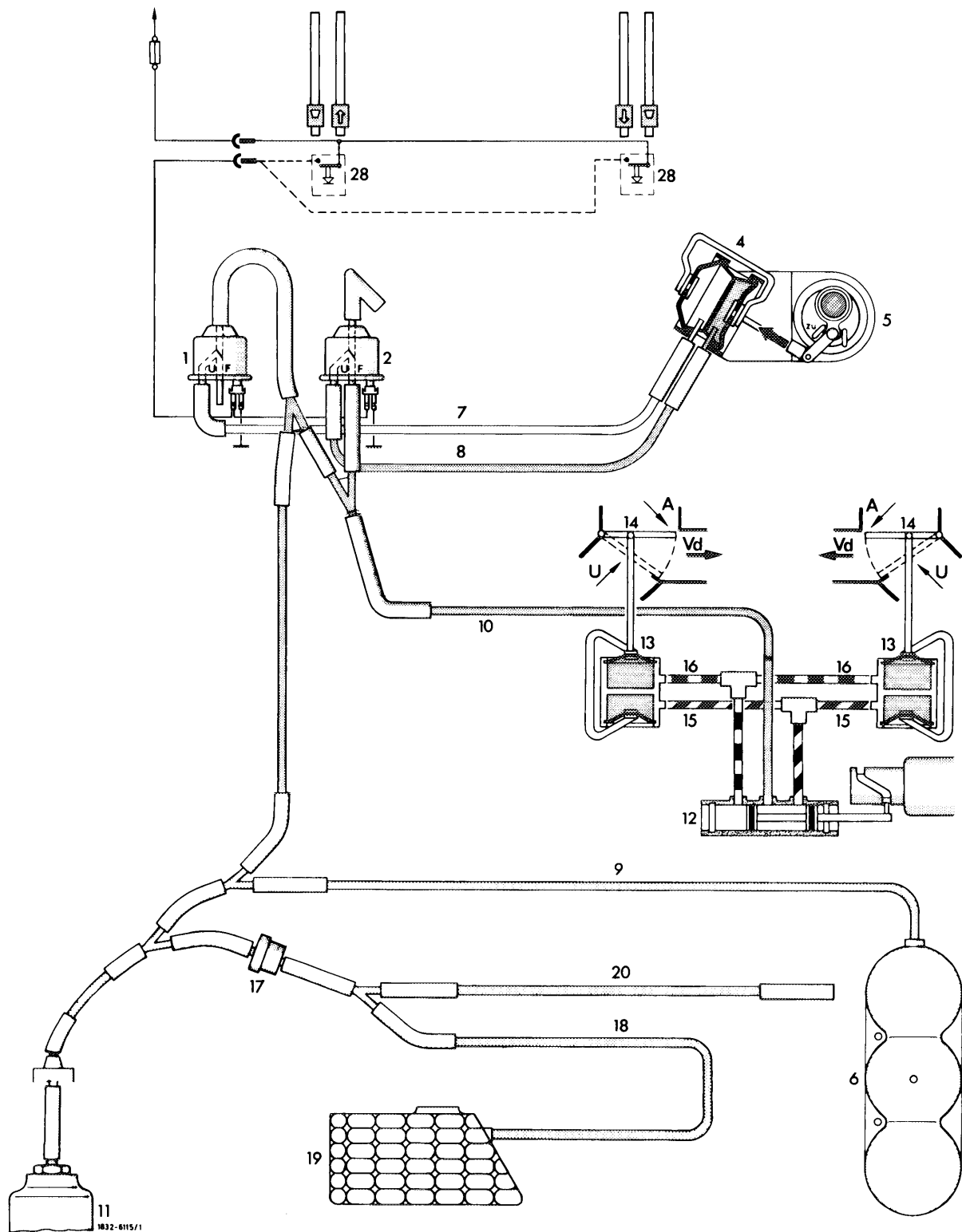
**a) Electrical section**

The two outer operating levers of the heating system are actuating one microswitch (28) each.

If both outer levers are in their lower-most position (cold), the power circuit is interrupted (wiring diagram heater closed).



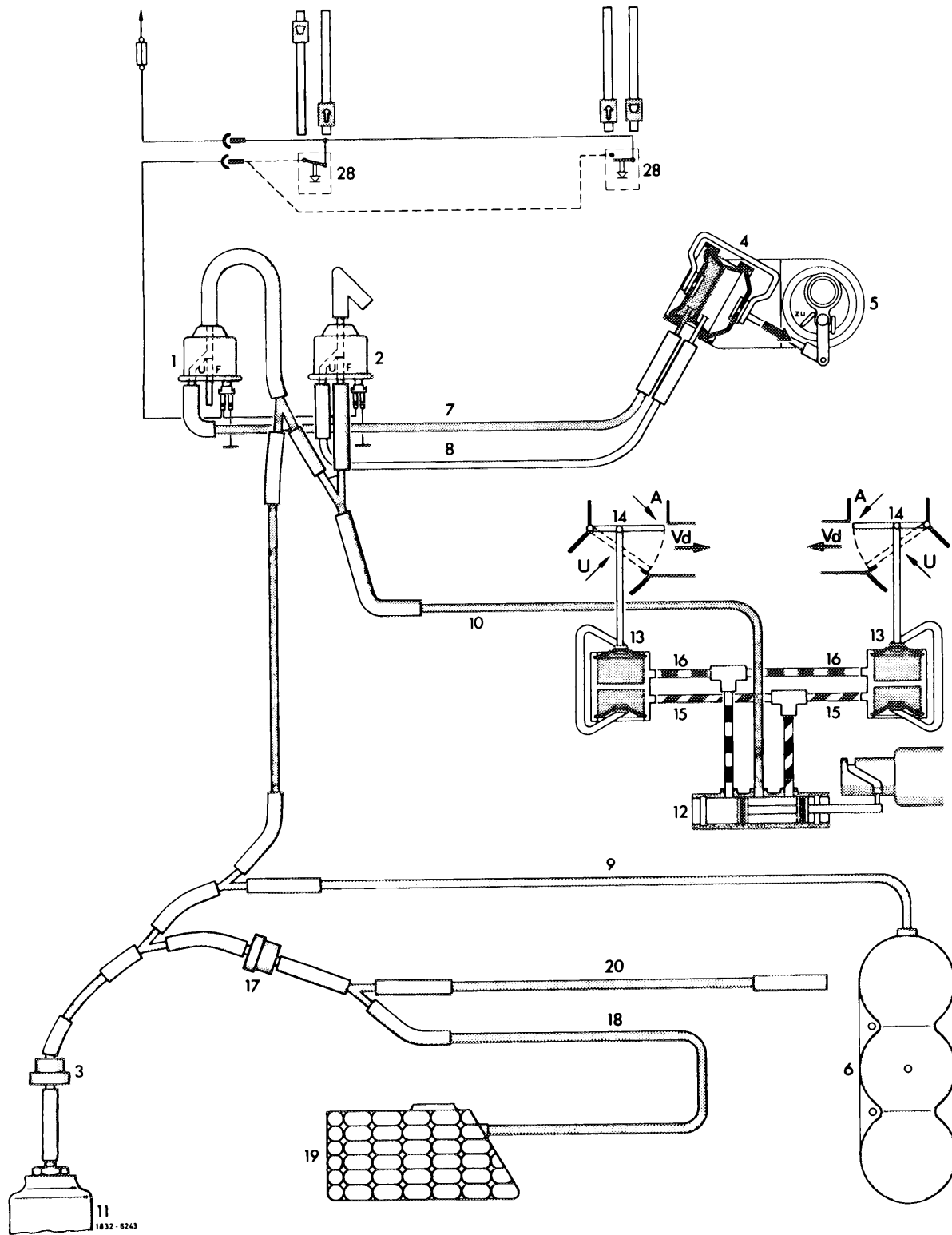
Switch position "heater closed"




 Ventilation (connection to atmosphere)

- |   |   |   |
|---|---|---|
| 1 Control valve 1                                   | 11 Vacuum connection on intake pipe                                 | 20 Vacuum line to switch for central locking system |
| 2 Control valve 2                                   | 12 Vacuum switch for climate control                                | 28 Microswitch on control system                    |
| 3 Check valve for heating/ climate control          | 13 Vacuum element left and right for fresh air/circulating air flap | A Fresh air   |
| 4 Vacuum element                                    | 14 Fresh air/circulating air flap                                   | U Circulating air                                   |
| 5 Heater valve                                      | 15 Vacuum line dark green   | Vd Evaporator                                       |
| 6 Supply tank                                       | 16 Vacuum line light green  |   |
| 7 Venting line                                      | 17 Check valve for central locking system                           |   |
| 8 Vacuum line                                       | 18 Vacuum line to supply tank for central locking system            |   |
| 9 Vacuum line to supply tank                        | 19 Supply tank (central locking system)                             |   |
| 10 Vacuum line to vacuum switch for climate control |   |   |

Switch position "heater open"



Vacuum      ——— Ventilation (connection to atmosphere)

- |   |   |   |
|---|---|---|
| 1 Control valve 1                                   | 11 Vacuum connection on intake pipe                                 | 20 Vacuum line to switch for central locking system |
| 2 Control valve 2                                   | 12 Vacuum switch for climate control                                | 28 Microswitch on control system                    |
| 3 Check valve for heating/ climate control          | 13 Vacuum element left and right for fresh air/circulating air flap |   |
| 4 Vacuum element                                    | 14 Fresh air/circulating air flap                                   | A Fresh air   |
| 5 Heater valve                                      | 15 Vacuum line drak green   | U Circulating air                                   |
| 6 Supply tank                                       | 16 Vacuum line light green  | Vd Evaporator                                       |
| 7 Venting line                                      | 17 Check valve for central locking system                           |   |
| 8 Vacuum line                                       | 18 Vacuum line to supply tank for central locking system            |   |
| 9 Vacuum line to supply tank                        | 19 Supply tank (central locking system)                             |   |
| 10 Vacuum line to vacuum switch for climate control |   |   |

Each of these microswitches is always used to control both control valves (1 and 2). Both valves are located at the front wall at the right in engine compartment.

If one of the two outer levers is moved upwards, the microswitch is actuated and the circuit is closed. Valves (1 and 2) will change over.

## b) Pneumatic section

### Color code of vacuum lines

#### 1st version

Line	Color	Remarks
9	green	up to approx. August 1971
10	red	
9	red	starting approx. September 1971
10	green	
11	medium green white	in version without options for climate control or central locking system

The design of both valves is the same. Vacuum lines are connected differently to valves.

In the position "heater closed" (both operating levers for the heater are at bottom) valve (1) for the vacuum is closed.

Valve (2) opens the way for the vacuum to the vacuum element (4). There is now a connection between the line to the intake pipe via connection F of valve (2) to connection U and via line (8) to vacuum element.

The vacuum element is connected to atmosphere (vented) via line (7) and connections U and F on valve (1).

In position "heater open" (at least one operating lever for the heater is moved in the direction of "heating" to the extent that the power circuit is closed by the microswitch) the connection between the vacuum element and the line to intake pipe is established via connection U of valve (1) and line (7). The vacuum element is connected to atmosphere (vented) via line (8), connection U and the upper connection on valve (2).

Lines 9 or 10 and 11 establish the connection between the intake pipe and the supply tank (6). This supply tank is in the legroom at the left, behind the panelling of the front wall pillar.

**c) Mechanical section**

The heater valve can be switched to position "open" or "closed". Intermediate positions are not possible. The air outlet temperature on heater is controlled by means of air guide flaps which are actuated by the two outer heater control levers.

**Operation 2nd version**

Model	107.022	starting	begin of production
	107.023		chassis end no. 009 970
	107.024		008 256
	107.042		begin of production
	107.043		chassis end no. 011 627
	107.044		021 957

Control of heating system comprises the following components:

- a) Pneumatic section (vacuum control)
- b) Mechanical section (heater valve)

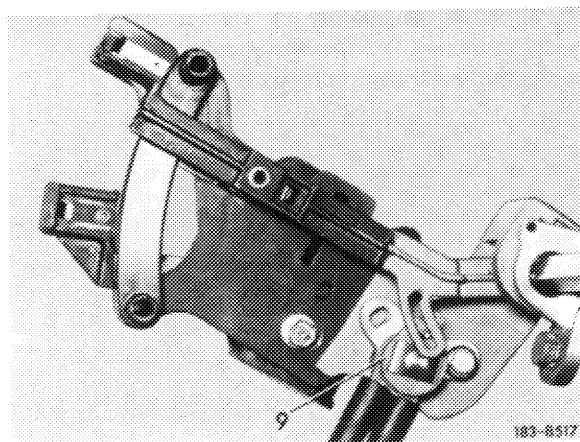
**a) Pneumatic section**

The vacuum is controlled by the two vacuum change-over switches (9 and 10) which are screwed to control system.

Both vacuum changeover switches (9 and 10) are similar in design. The vacuum lines are differently connected to changeover switches (9 and 10).

**Color code of vacuum lines**

	2nd version	3rd version
Line	Color	
2	grey	grey
6	grey-light blue	red-grey
8	red-green	red-green
11	red	red
12	red	red
18	green-yellow	green-yellow
20	grey-yellow	grey-yellow
22	yellow	yellow



In position "heater closed" (both operating levers (15) for the heater are at bottom) both changeover switches (9 and 10) will activate the vacuum. The vacuum element (13) on heater valve (14) will then be attracted via vacuum line (12).

In position "heater open" (at least one operating lever (15) for the heater is far enough in direction of "heating" that one changeover switch will interrupt the vacuum) the vacuum element (13) on heater valve (14) is connected to atmosphere via vacuum line (12) and changeover switch (9 or 10). The heater valve (14) is opened by the spring force.

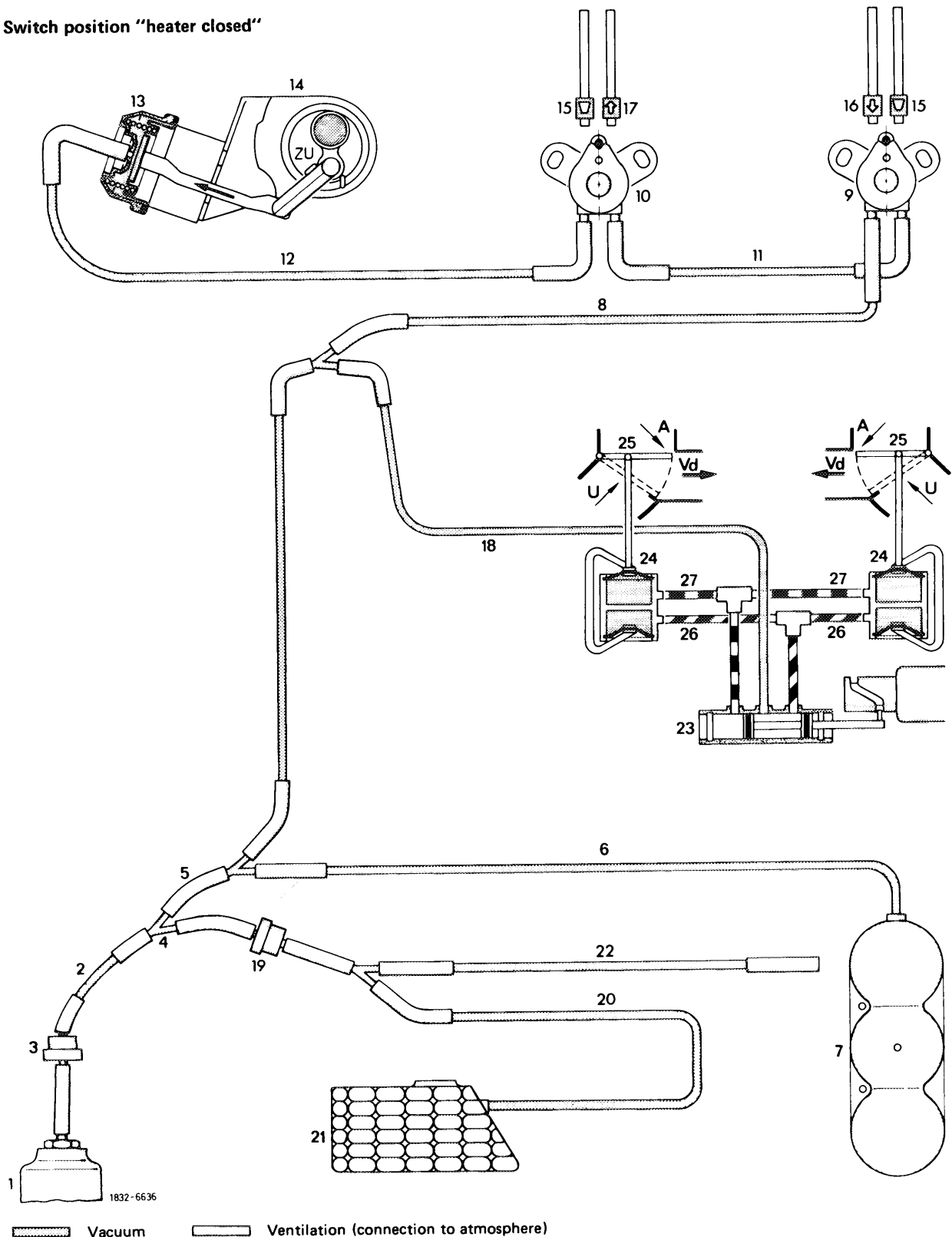
The vacuum line (6) establishes the connection between intake pipe and the supply tank (7). The supply tank (7) is behind partition at the left between the front wall pillar and the front fender.

If the vacuum system is defective, the heater valve (14) is opened by spring pressure. The arrangement of the mixing air flaps permits that in spite of an open heater valve only a slight amount of warm air will escape from heating system in position "heater closed". Only the heat exchanger is heated.

#### **b) Mechanical section**

The heater valve can be switched to position "open" or "closed". Intermediate positions are not possible. The air outlet temperature on heater is controlled by means of mixing air flaps which are actuated by the two outer heater control levers (15).

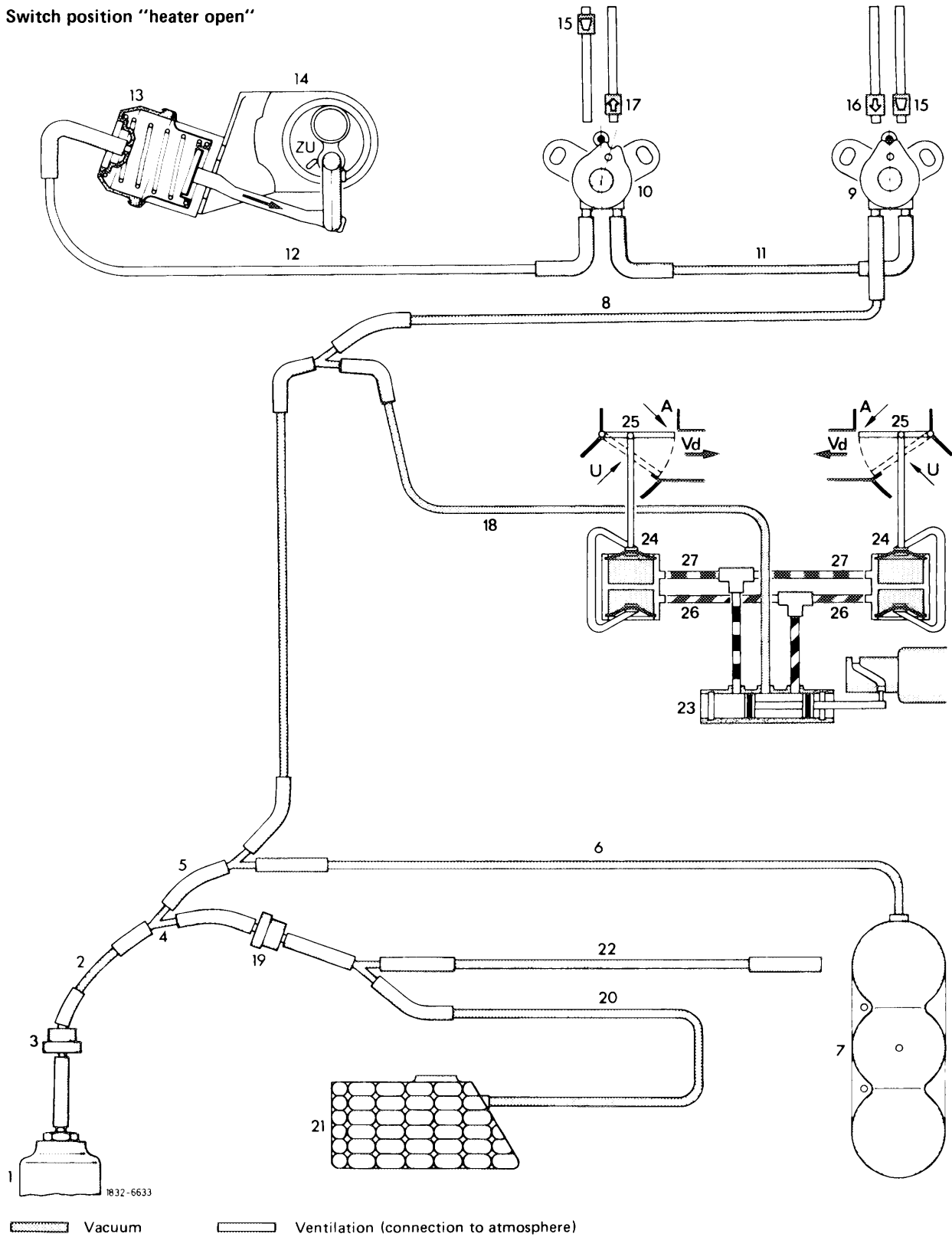
Switch position "heater closed"



 Vacuum    
  Ventilation (connection to atmosphere)

- |  |  |  |
|--|--|--|
| 1 Vacuum connection on intake pipe                   | 13 Vacuum element (heater valve)   | 23 Vacuum switch for climate control       |
| 2 Vacuum line from check valve to distributor        | 14 Heater valve  | 24 Vacuum element for circulating air flap |
| 3 Check valve  | 15 Operating lever for heater  | 25 Circulating air flap                    |
| 4 Distributor  | 16 Operating lever for ventilation (legroom and rear compartment)        | 26 Vacuum line light green                 |
| 5 Connection   | 17 Operating lever for air outlet at windshield                          | 27 Vacuum line dark green                  |
| 6 Vacuum line to supply tank                         | 18 Vacuum line to temperature vacuum switch for climate control (option) | A Fresh air                                |
| 7 Supply tank for heater/climate control             | 20 Vacuum line to supply tank (central locking system)                   | U Circulating air                          |
| 8 Vacuum line to right-hand vacuum changeover switch | 21 Supply tank (central locking system)                                  | Vd Evaporator                              |
| 9 Vacuum changeover switch right                     | 22 Vacuum line to switch for central locking system                      |  |
| 10 Vacuum changeover switch left                     |  |  |
| 11 Vacuum connecting line                            |  |  |
| 12 Vacuum line to vacuum element red                 |  |  |

Switch position "heater open"



Vacuum      Ventilation (connection to atmosphere)

- |  |   |   |
|--|---|---|
| 1 Vacuum connection on intake pipe                   | 13 Vacuum element (heater valve)  | 22 Vacuum line to switch for central locking system |
| 2 Vacuum line from check valve to distributor        | 14 Heater valve   | 23 Vacuum switch for climate control                |
| 3 Check valve  | 15 Operating lever for heater   | 24 Vacuum element for circulating air flap          |
| 4 Distributor  | 16 Operating lever for ventilation (legroom and rear compartment)                     | 25 Circulating air flap                             |
| 5 Connection   | 17 Operating lever for air outlet at windshield                                       | 26 Vacuum line light green                          |
| 6 Vacuum line to supply tank                         | 18 Vacuum line to temperature vacuum switch for climate control (option)/medium green | 27 Vacuum line dark green                           |
| 7 Supply tank for heating/climate control            | 19 Check valve for central locking system (option)                                    | A Fresh air   |
| 8 Vacuum line to right-hand vacuum changeover switch | 20 Vacuum line to supply tank (central locking system)                                | U Circulating air                                   |
| 9 Vacuum changeover switch right                     | 21 Supply tank (central locking system)   | Vd Evaporator                                       |
| 10 Vacuum changeover switch left                     |   |   |
| 11 Vacuum connecting line                            |   |   |
| 12 Vacuum line to vacuum element red                 |   |   |