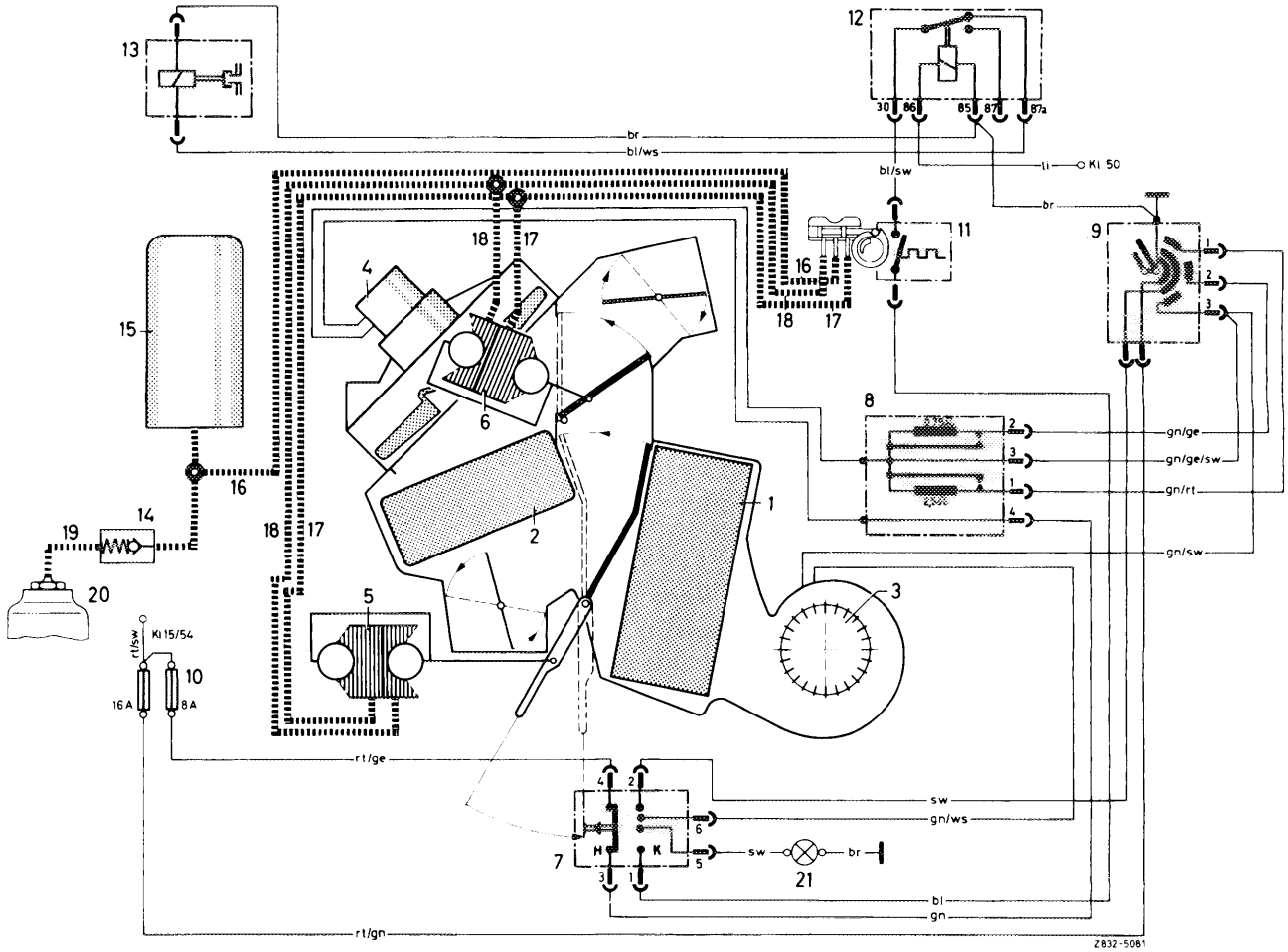
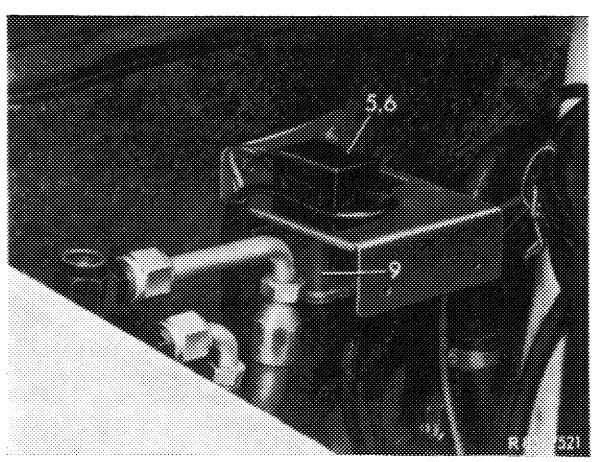
A. Electrical function of air conditioning system



Wiring diagram of air conditioning system (version 2) for all models
El. wiring diagram for all models except 114.06 and 114.07 (up to August 1974)

1 Evaporator
2 Heat exchanger
3 Cooling blower
4 Heater blower
5 Vacuum element
6 Vacuum element
7 Changeover switch (heating, cooling)
8 Pre-resistors
9 Blower switch
10 Fuse for heating and cooling blower (8 or 16 amps)
11 Temperature vacuum switch
12 Relay
13 Electromagnetic clutch
14 Check valve
15 Vacuum reservoir
16 Vacuum line, medium green
17 Control line (cooling), light green
18 Control line (heating), dark green
19 Vacuum line, white
20 Vacuum connection on intake pipe
21 Indicator lamp

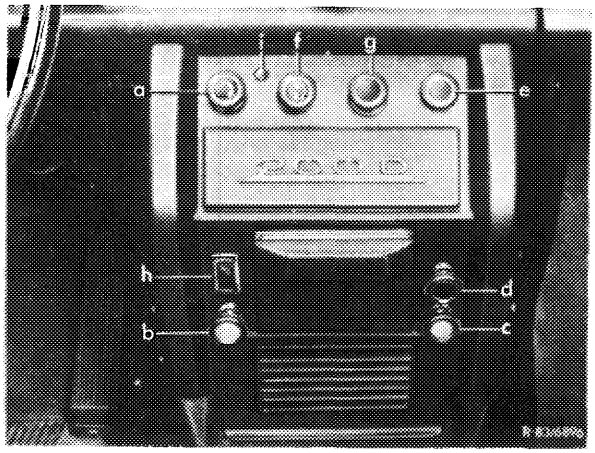
1 When the ignition is switched on, the auxiliary fuses (5 and 6) are energized via terminal 15/54.



Layout of fuse box and relay on all lefthand steering models except 114.06 and 114.07

5 Fuse 16 amps (air conditioning system)
6 Fuse 8 amps (heater blower)
9 Relay for air conditioning system

2 When the air conditioning system is switched on (turning operating lever into position "K" or turning temperature vacuum switch clockwise) the contact to heater blower in changeover switch (7) is interrupted and contacts (K) to cooler blower are closed.



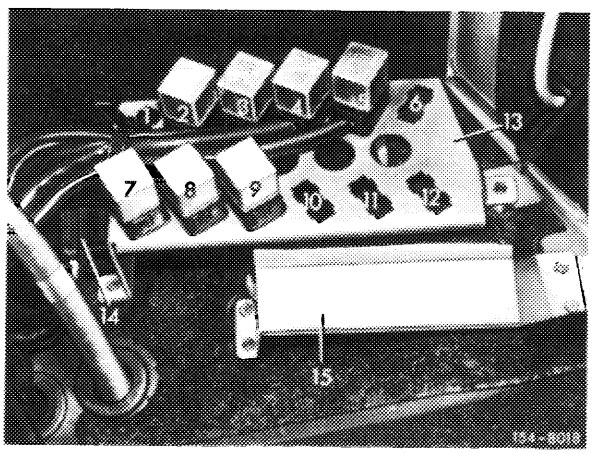
a Temperature vacuum switch
i Indicator lamp (no longer installed starting Sep. 1, 1975)

3 Switching-on of blower switch (2) will energize changeover switch (7), terminal 2. The cooling blower motor is connected to ground by means of a second control circuit in blower switch, in position 1 via 2.5 Ω resistance and in position 2 via 0.75 Ω resistance. In position 3, ground is switched directly to blower motor.

4 Simultaneously, the indicator lamp (11) is also energized via changeover switch (7), terminal 5, and the temperature switch (8) is energized via changeover switch (7) terminal 1.

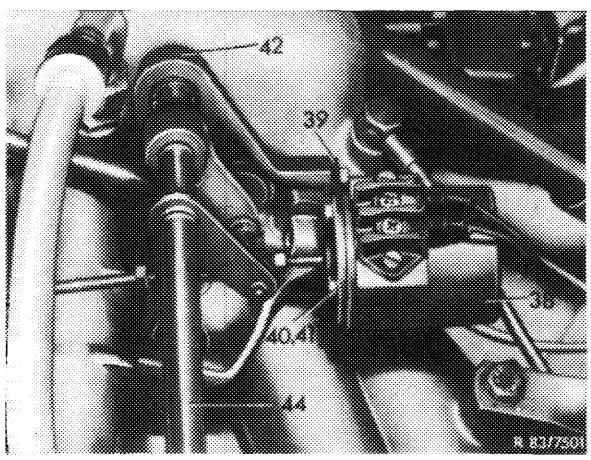
5 By switching-on temperature switch (8) the electromagnetic clutch (10) is energized via relay (9) terminal 30/87a.

6 When the starter is actuated, relay (9) terminal (86) is energized via terminal 50 of starter, so that the circuit to the electromagnetic clutch is interrupted during the starting operation.



Layout of relay on models 114.06/07
1 Relay for air conditioning system
2 Relay for auxiliary fan

7 Model 114.022 is provided with a solenoid (12 or 38) for maintaining constant speed, which is energized via terminal 87a of relay (9) when the air conditioning system is switched on.

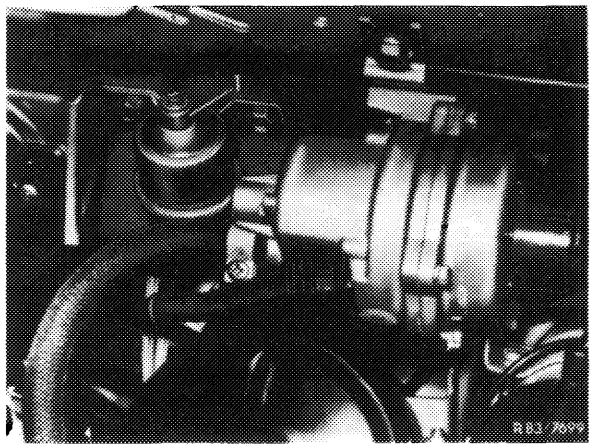


Layout of solenoid on model 114.022

38	Solenoid	41	Fixed screw
39	Holder	42	Bearing bracket
40	Spring washer	44	Regulating shaft

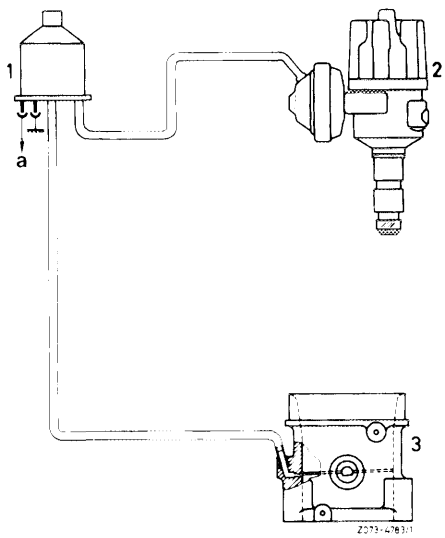
8 On model 114.062/072, ignition timing in direction "retard" is cancelled by a two-way valve (1) to keep speed constant in idling range.

With the air conditioning switched on, the valve is energized by terminal 87a of relay (9).



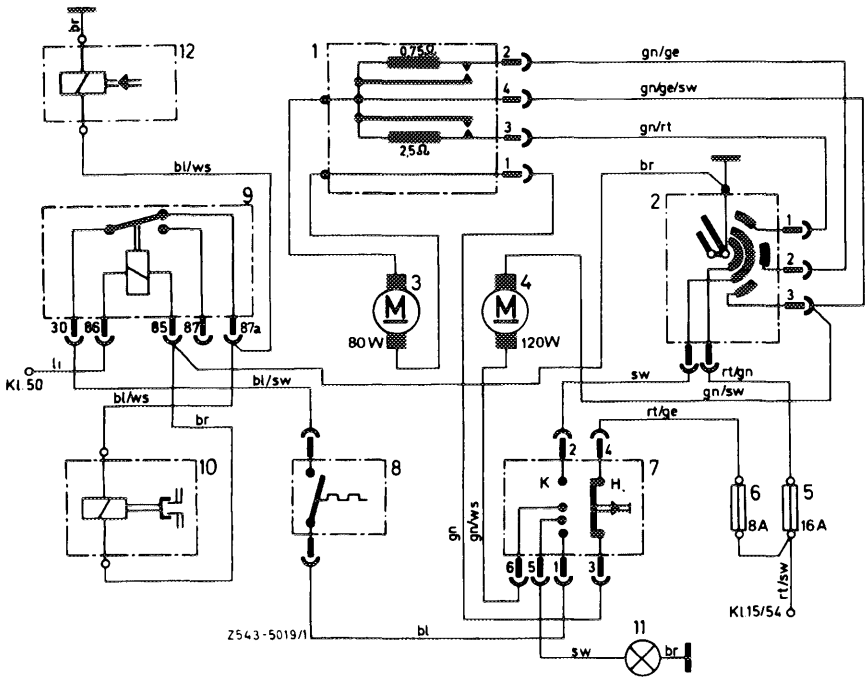
Layout of two-way valve on model 114.062/072

1 Two-way valve



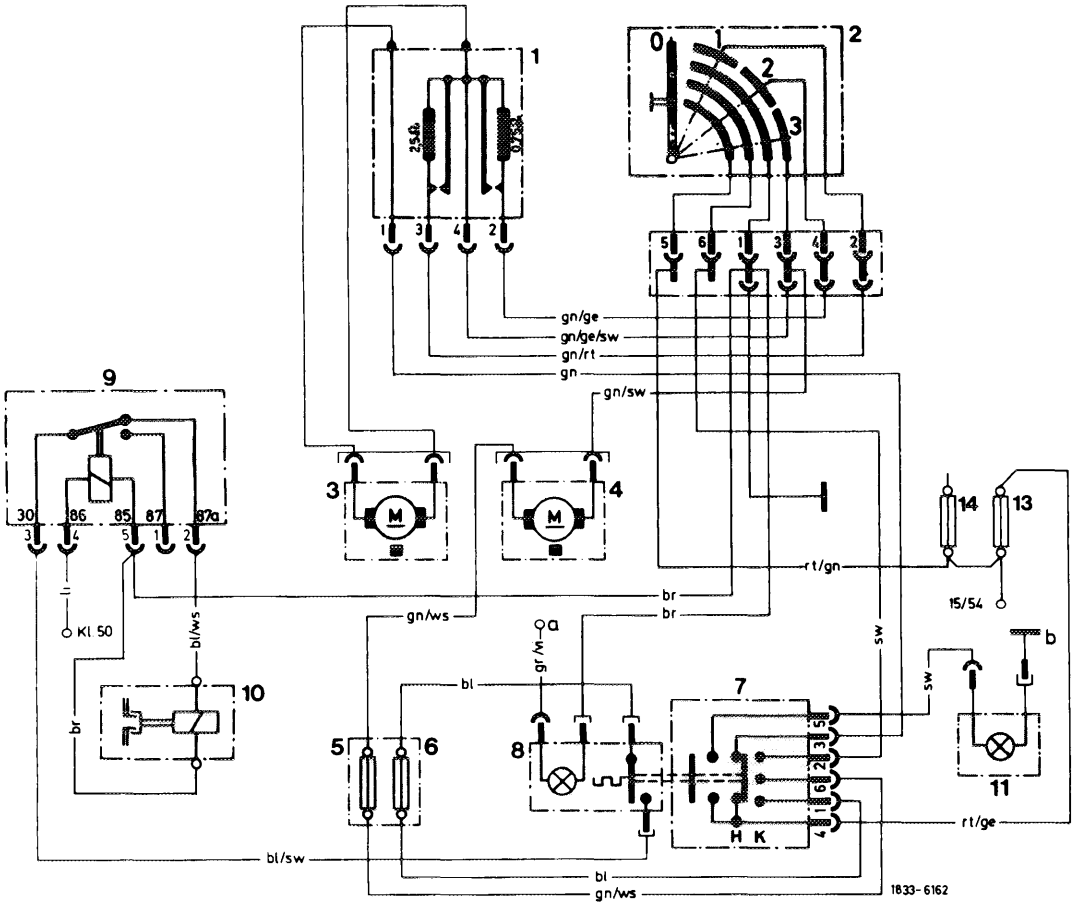
Maintaining constant speed on models 114.062 and 114.072

1 Two-way valve
2 Ignition distributor
3 Throttle valve housing
a To relay (9) terminal 87a



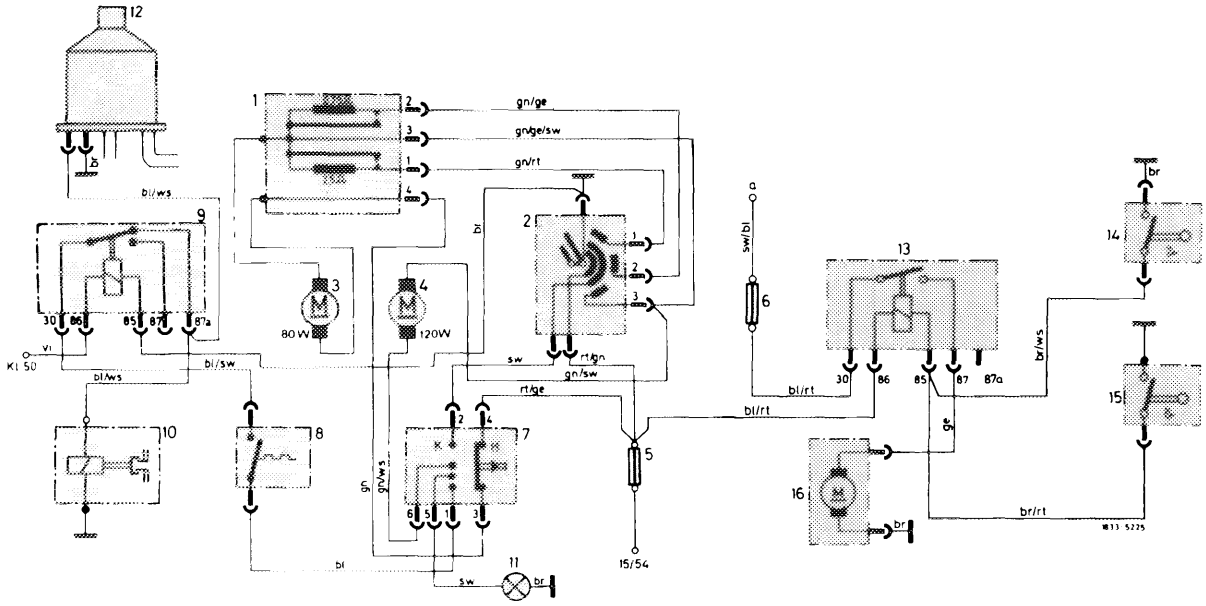
Electric wiring diagram air conditioning system for all models **except** 114.06 and 114.07 (up to August 1974)

1 Pre-resistors
2 Blower switch
3 Heater blower
4 Cooling blower
5 Additional fuse 16 amps (air conditioning system)
6 Additional fuse 8 amps (heater blower)
7 Changeover switch
8 Temperature switch
9 Relay
10 Electromagnetic clutch
11 Indicator lamp
12 Solenoid for keeping speed constant (114.022 only)



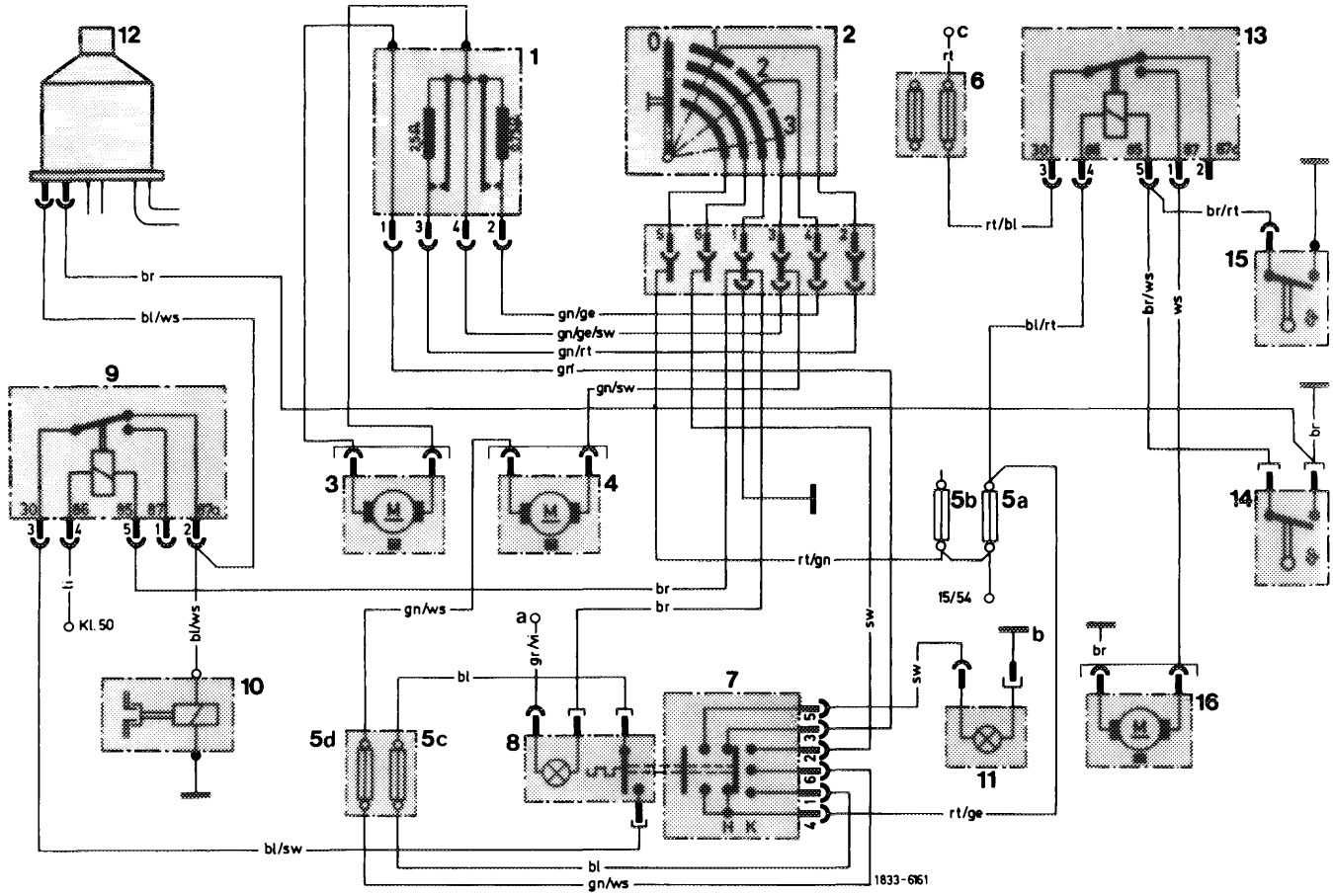
Electric wiring diagram air conditioning system for models 114/115 **except** 114.06 and 114.07 (starting August 1974)

1 Pre-resistors
2 Blower switch with intermediate plug
3 Heater blower (80 W)
4 Cooling blower (120 W)
5 Additional fuse 8 amps (cooling blower)
6 Additional fuse 5 amps (electromagnetic clutch)
7 Changeover switch
8 Temperature switch
9 Relay
10 Electromagnetic clutch
11 Indicator lamp (no longer installed starting Sep.1, 75)
13 Main fuse box terminal 15/54 fuse no. 6 (5 amps) Model 115/114 fuse no. 3
14 Main fuse box terminal 15/54 **in front of** fuse no. 6
a Rotary light switch terminal K
b Flat plug connection



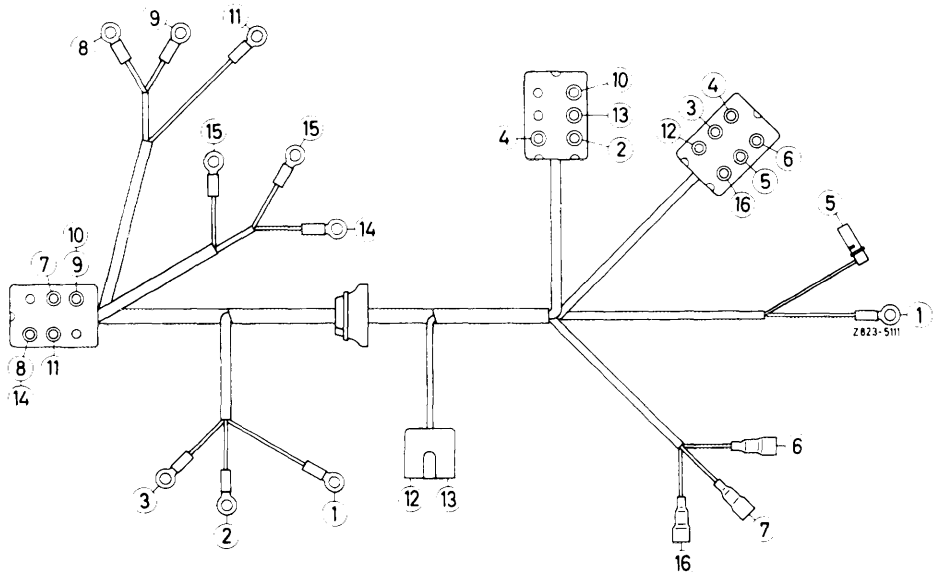
El. wiring diagram air conditioning system and auxiliary fan for models 114.06 and 114.07 (up to August 1974)

1 Pre-resistors
2 Blower switch
3 Heater blower
4 Cooling blower
5 Main fuse box
fuse 6 (16 amps)
6 Additional fuse, auxiliary fan (16 amps)
7 Changeover switch (heating/cooling)
8 Temperature switch
9 Relay (air-conditioning system)
10 Electromagnetic clutch
11 Indicator lamp
12 Two-way valve for maintaining constant speed (114.062 and 114.072 only)
13 Relay (auxiliary fan)
14 Temperature switch (52 °C or 62 °C)
15 Temperature switch (100 °C)
16 Auxiliary fan
a Terminal 30 (fuse 1, input)



Electric wiring diagram air conditioning system and auxiliary fan for models 114.06 and 114.07 (starting August 1974)

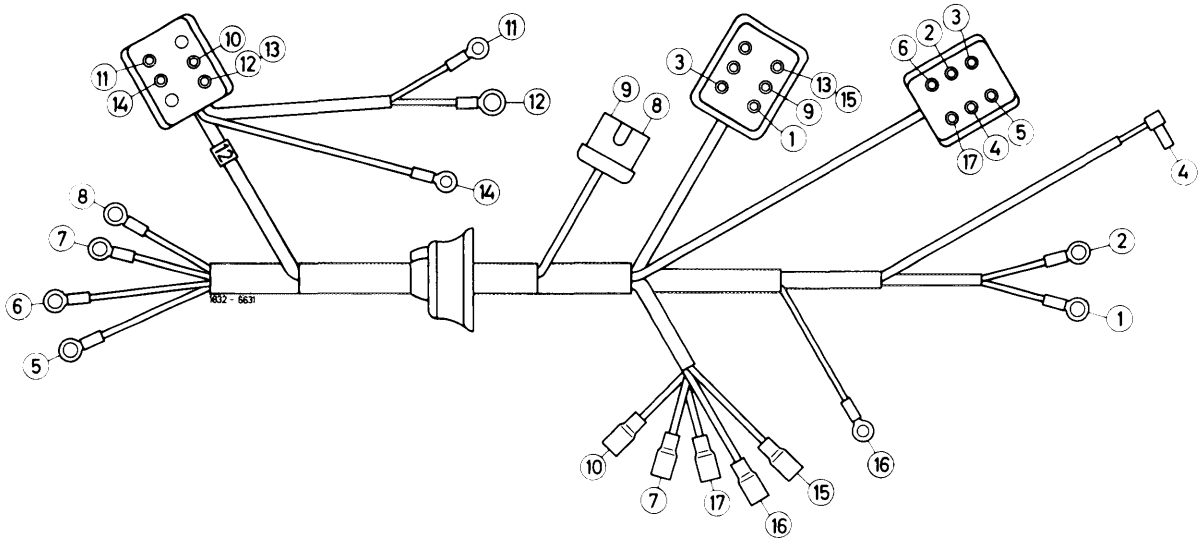
1 Pre-resistors
2 Blower switch with intermediate plug
3 Heater blower (80 W)
4 Cooling blower (120 W)
5a Main fuse box fuse 6 (5 amps)
5b Main fuse box **in front of** fuse no. 6
5c Additional fuse box electromagnetic clutch (5 amps)
5d Additional fuse box cooling blower (8 amps)
6 Additional fuse, auxiliary fan (16 amps)
7 Changeover switch (heating/cooling)
8 Temperature switch
9 Relay (air conditioning system)
10 Electromagnetic clutch
11 Indicator lamp (no longer installed starting Sep. 1, 1975)
12 Two-way valve for maintaining constant speed (114.062 and 114.072 only)
13 Relay (auxiliary fan)
14 Temperature switch (62 °C)
15 Temperature switch (100 °C)
16 Auxiliary fan
a Rotary light switch terminal K
b Flat plug connection cigar lighter
c Cable connector (oil tank) terminal 30



Supplementary harness air conditioning system for all models except 114.06 and 114.07 up to August 1974 (on USA vehicles in main harness).

Functional layout and color code

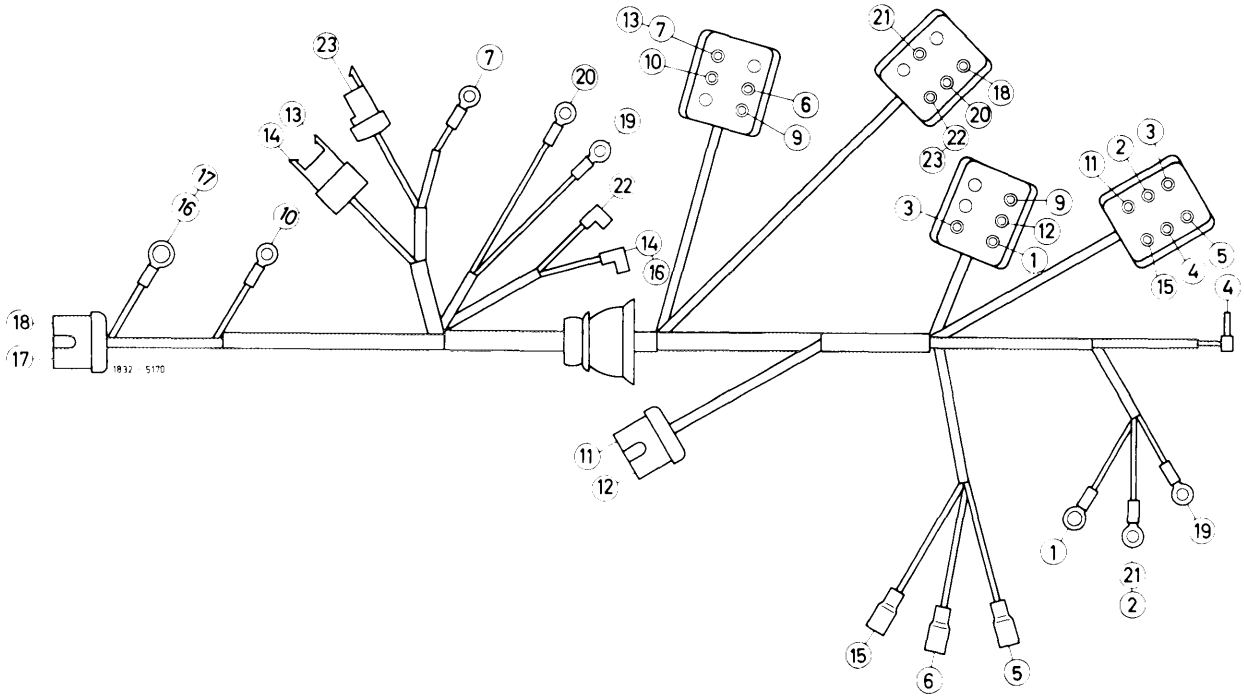
Line no.	El. line from	to	Color code
1	Main fuse box 15/54	Additional fuse box (bridge)	red/black
2	Intermediate plug (op. system for heater)	Additional fuse box (fuse (5) 16 amps)	red/green
3	Changeover switch (7) terminal 4	Additonal fuse box (fuse (6) 8 amps)	red/yellow
4	Changeover switch (7) terminal 2	Intermediate plug (op. system for heater)	black
5	Changeover switch (7) terminal 3	Pre-resistor (1) contact bushing terminal 1	green
6	Changeover switch (7) terminal 1	Temperature switch (8)	blue
7	6-pole coupling terminal 30 (relay 9)	Temperature switch (8)	blue/black
8	6-pole coupling terminal 87 a (relay 9)	Electromagnetic clutch (10)	blue/white
9	6-pole coupling terminal 85 (relay 9)	Electromagnetic clutch (10) ground	brown
10	6-pole coupling terminal 85 (relay 9)	Intermediate plug (operating system for heater)	brown
11	6-pole coupling terminal 86 (relay 9)	Starter terminal 50	lilac
12	Changeover switch (7) terminal 6	2-pole coupling cooling blower (4)	green/white
13	Intermediate plug (operating system for heater)	2-pole coupling cooling blower (4)	green/black
14	6-pole coupling terminal 87 a (relay 9)	Solenoid for maintaining constant speed (12)	blue/white
15	Solenoid for maintaining constant speed (12)	Ground	brown
16	Changeover switch (7) terminal 5	Indicator lamp (11)	black



Supplementary harness air conditioning system for all models except 114.06 and 114.07 starting August 1974 (on USA vehicles in main harness).

Functional layout and color code

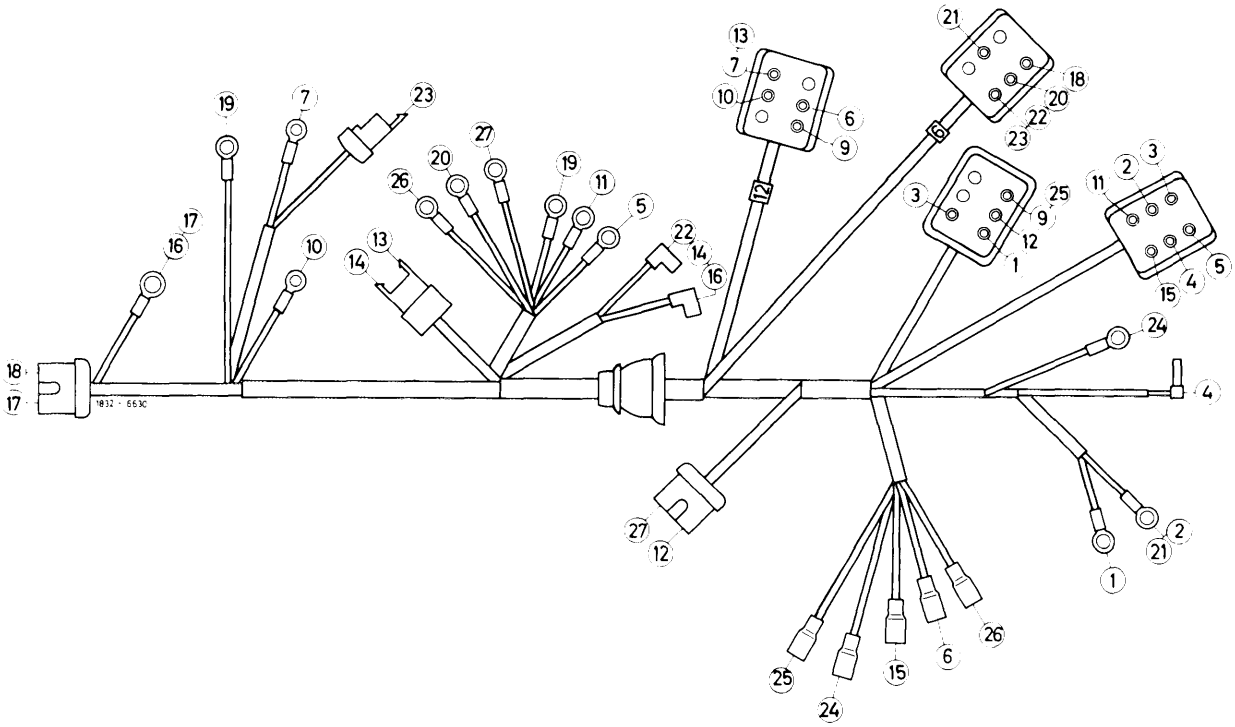
Line no.	El. line from	to	Color code
1	Main fuse box terminal 15/54 **in front of fuse no. 6**	Intermediate plug (2) (op. system for heater) terminal 5	red/green
2	Main fuse box terminal 15/54 fuse no. 6 model 115.114 fuse no. 3/13	Changeover switch (7) terminal 4	red/yellow
3	Intermediate plug (2) terminal 6	Changeover switch (7) terminal 2	black
4	Pre-resistor (1) contact bushing terminal 1	Changeover switch (7) terminal 3	green
5	Additional fuse box (6) 5 amps fuse	Changeover switch (7) terminal 1	blue
6	Additional fuse box (5) 8 amps fuse	Changeover switch (7) terminal 6	green/white
7	Additional fuse box (6) 5 amps fuse	Temperature switch (8)	blue
8	Additional fuse box (5) 8 amps fuse	2-pole coupling cooling blower (4)	green/white
9	Intermediate plug (2) terminal 3	2-pole coupling cooling blower (4)	green/black
10	6-pole coupling terminal 30 (relay 9)	Temperature switch (8)	blue/black
11	6-pole coupling terminal 87 a (relay 9)	Electromagnetic clutch (10) +	blue/white
12	6-pole coupling terminal 85 (relay 9)	Electromagnetic clutch (10) –	brown
13	6-pole coupling terminal 85 (relay 9)	Intermediate plug (2) terminal 1	brown
14	6-pole coupling terminal 86 (relay 9)	Starter terminal 50	lilac
15	Intermediate plug (2) terminal 1	Temperature switch (8)	brown
16	Rotary light switch terminal K	Temperature switch 2-pole coupling	gray/purple
17	Indicator lamp (11) (no longer installed Sep. 1, 75)	Changeover switch (7) terminal 5	black



Supplementary harness air conditioning system for models 114.06 and 114.07 up to August 1974 (on USA vehicles in main harness)

Functional layout and color code

Line no	El. line from	to	Color code
1	Main fuse box fuse 6	Intermediate plug (op. system for heater)	red/green
2	Main fuse box fuse 6	Changeover switch (7) terminal 4	red/yellow
3	Changeover switch (7) terminal 2	Intermediate plug (op. system for heater)	black
4	Changeover switch (7) terminal 3	Pre-resistor (1) contact bushing terminal 1	green
5	Changeover switch (7) terminal 1	Temperature switch (8)	blue
6	6-pole coupling terminal 30 (relay 9)	Temperature switch (8)	blue/black
7	6-pole coupling terminal 87 a (relay 9)	Electromagnetic clutch (10)	blue/white
9	6-pole coupling terminal 85 (relay 9)	Intermediate plug (op. system for heater)	brown
10	6-pole coupling terminal 86 (relay 9)	Starter terminal 50	lilac
11	Changeover switch (7) terminal 6	2-pole coupling cooling blower (4)	green/white
12	Intermediate plug (op. system for heater)	2-pole coupling cooling blower (4)	green/black
13	6-pole coupling terminal 87 a (relay 9)	Two-way valve for maintaining constant speed (12)	blue/white
14	Temperature switch (receiver dehydrator)	Two-way valve for maintaining constant speed (ground)	brown
15	Changeover switch (7) terminal 5	Indicator lamp (11)	black
16	Temperature switch (receiver dehydrator)	Ground	brown
17	2-pole coupling auxiliary fan	Ground	brown
18	2-pole coupling auxiliary fan	6-pole coupling terminal 87 (relay 13)	yellow
19	Main fuse box fuse 1 input (terminal 30)	Additional fuse box	black/blue
20	Additional fuse box	6-pole coupling terminal 30 (relay 13)	blue/red
21	Main fuse box fuse 6	6-pole coupling terminal 86 (relay 13)	blue/red
22	6-pole coupling terminal 85 (relay 13)	Temperature switch (receiver dehydrator)	brown/white
23	6-pole coupling terminal 85 (relay 13)	Temperature switch 100 °C (cooling water)	brown/red



Supplementary harness air conditioning system for models 114.06 and 114.07 starting August 1974
(on USA vehicles in main harness)

Functional layout and color code

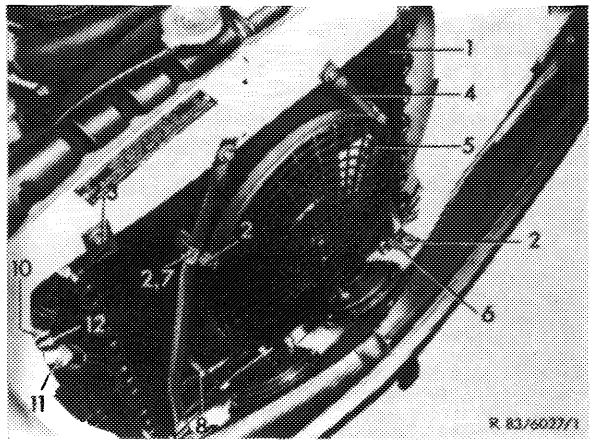
Line no.	El. line from	to	Color code
1	Main fuse box in front of fuse 6	Intermediate plug (2) (op. system for heater)	red/green
2	Main fuse box fuse 6	Changeover switch (7) terminal 4	red/yellow
3	Changeover switch (7) terminal 2	Intermediate plug (2) (op. system for heater)	black
4	Changeover switch (7) terminal 3	Pre-resistor (1) contact bushing terminal 1	green
5	Changeover switch (7) terminal 1	Additional fuse box (50) 5 amps fuse electromagnetic coupling (10)	blue
6	6-pole coupling terminal 30 (relay 9)	Temperature switch (8)	blue/black
7	6-pole coupling terminal 87 a (relay 9)	Electromagnetic clutch (10)	blue/white
9	6-pole coupling terminal 85 (relay 9)	Intermediate plug (2) (op. system for heater)	blue
10	6-pole coupling terminal 86 (relay 9)	Cable connector terminal 50	lilac
11	Changeover switch (7) terminal 6	Additional fuse box (50) 8 amps fuse cooling blower (4)	green/white
12	Intermediate plug (2) (op. system for heater)	2-pole coupling cooling blower (4)	green/black
13	6-pole coupling terminal 87 a (relay 9)	Two-way valve for maintaining constant speed (12)	blue/white
14	Temperature switch (14) (receiver dehydrator)	Two-way valve for maintaining constant speed (ground)	brown
15	Changeover switch (7) terminal 5	Indicator lamp (11) (no longer installed starting Sep. 1, 1975)	black
16	Temperature switch ([14] receiver dehydrator)	Ground	brown
17	2-pole coupling auxiliary fan (16)	Ground	brown
18	2-pole coupling auxiliary fan (16)	6-pole coupling terminal 87 (relay 13)	white
19	Cable connector (c) oil tank, terminal 30	Additional fuse box (6) 16 amps fuse	red

Functional layout and color code (ctd)

Line no.	El. line from	to	Color code
20	Main fuse box (6)	6-pole coupling terminal 30 (relay 13)	red/blue
21	Main fuse (5a) fuse 6	6-pole coupling terminal 86 (relay 13)	blue/red
22	6-pole coupling terminal 85 (relay 13)	Temperature switch (14) receiver dehydrator	brown/white
23	6-pole coupling terminal 85 (relay 13)	Temperature switch (15) 100 °C cooling water	brown/red
24	Rotary light switch terminal K	Lights temperature switch (8)	gray/purple
25	Intermediate plug (op. system for heater)	Lights temperature switch (8)	brown
26	Additional fuse box (5c) 5 amps fuse	Temperature switch (8)	blue
27	Additional fuse box (5d) 8 amps fuse	2-pole coupling cooling blower (4)	green/white

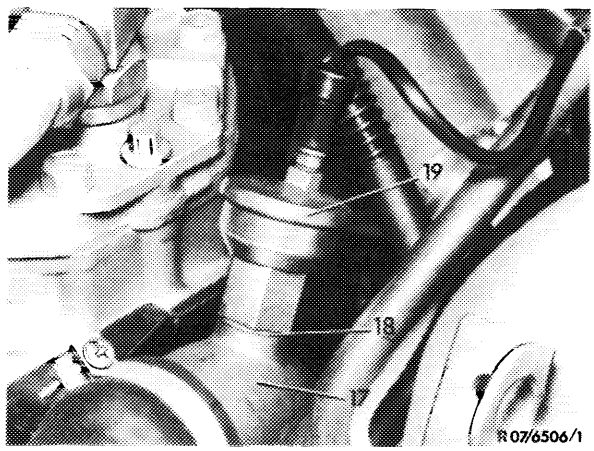
B. Electric function of auxiliary fan

1 On vehicles with air conditioning system an electrical auxiliary fan (5) is located in front of condenser (1) to provide a good cooling performance when driving bumper to bumper in cities at high outside temperatures.

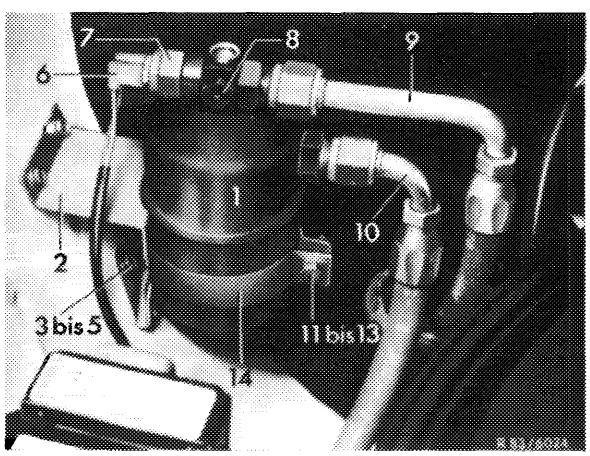


Layout el. auxiliary fan
5 El. auxiliary fan

2 The electric auxiliary fan is controlled by a 100 °C temperature switch (19) in cooling circuit and a 62 °C temperature switch (7), (on 4-cylinder models 52 °C), in receiver dehydrator.



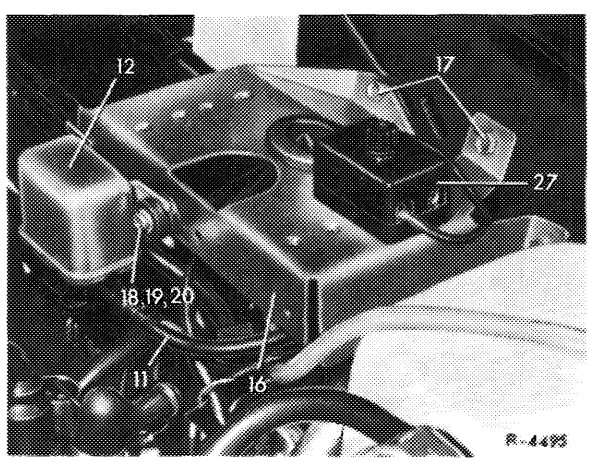
Temperature switch 100 °C in housing cover of cooling water thermostat
17 Cover
18 Sealing ring
19 Thermostat



Temperature switch 52 °C or 62 °C receiver dehydrator
1 Receiver dehydrator
7 Temperature switch

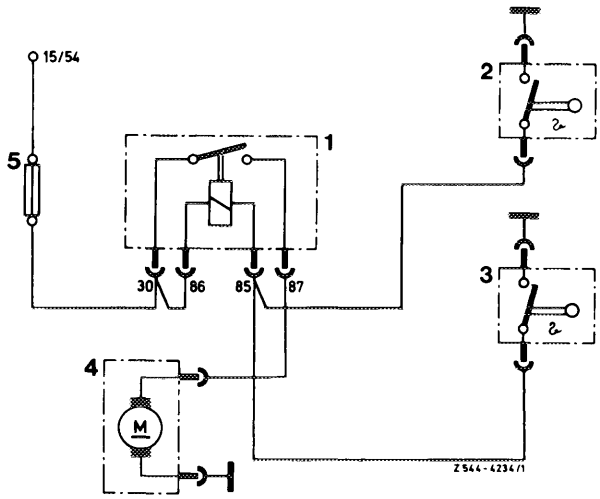
3 When the ignition is switched on, terminal 30 or 86 of relay (1 or 13) will be energized by terminal 15/54 of main fuse box via additional fuse box (27) (on all models except 114.06/07).

On USA vehicles terminal 86 of relay (6) is also energized.



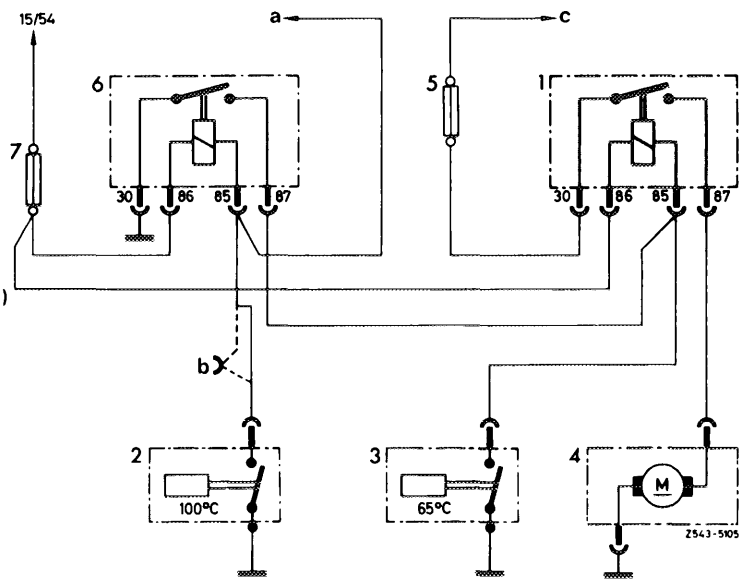
4 After attaining a refrigerant temperature of more than 62 °C (on 4-cylinder models 52 °C) or a coolant temperature of approx. 100 °C, the respective temperature switch (2 and 3) will connect terminal 85 of relay (1 or 13) to ground. On USA vehicles the 100 °C temperature switch (2) connects relay (6) terminal 85 to ground. As a result, terminal 85 of relay (1) is connected to ground via terminal 87 of relay (6).

5 The auxiliary fan (4) is energized via terminal 87 of relay (1 or 13).



El. wiring diagram for auxiliary fan (except USA vehicles and models 114.06 and 114.07)

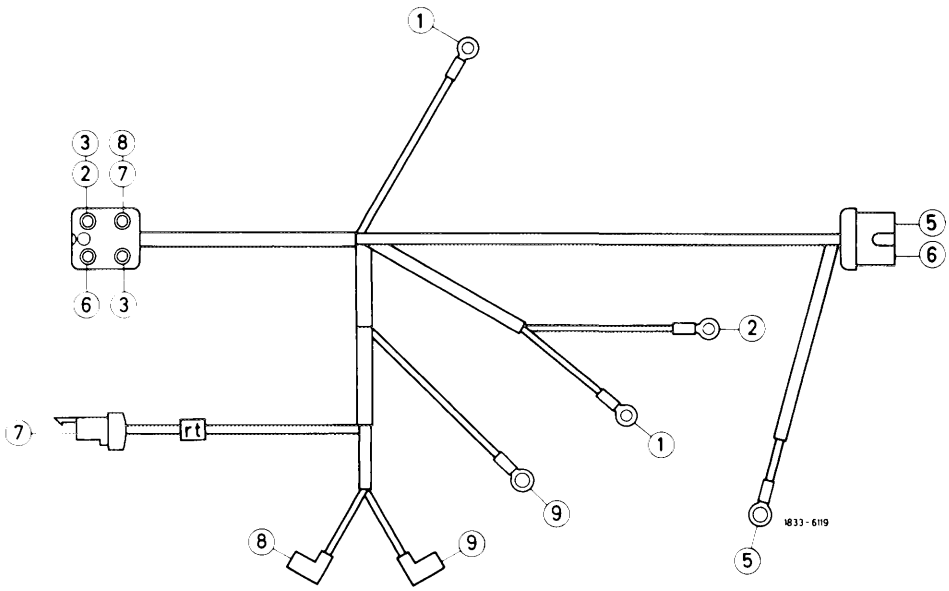
1 Relay
2 Temperature switch (52 °C or 62 °C)
3 Temperature switch (100 °C)
4 Auxiliary fan
5 Fuse (16 amps)



El. wiring diagram for auxiliary fan (USA version)

a Relay box exhaust gas (model 114.011/023 only)
b Relay disconnecting rpm switch from auxiliary fan (model 115.010 only)
c Fuse no. 1 terminal 30
1 Relay auxiliary fan
2 Temperature switch (100 °C)
3 Temperature switch (52 °C or 62 °C)
4 Auxiliary fan
5 Additional fuse (16 amps)
6 Relay disconnection 100 °C temperature switch from 52 °C or 62 °C temperature switch*
7 Fuse no. 4 terminal 15/54

* not on model 115.015 starting model year 1973
115.017, 114.060/073 starting model year 1975



Supplementary harness for auxiliary fan
(on USA vehicles in main harness, on model 114.06/07 in supplementary harness air conditioning system).

Functional layout and color code

Line no.	El. line from	to	Color code
1	Main fuse box terminal 15/54 **in front of** fuse no. 6	Additional fuse box (5) 16 amps	red/black
2	4-pole coupling terminal 30 (relay 1)	Additional fuse box (5)	red/blue
3	4-pole coupling terminal 30 (relay 1)	4-pole coupling terminal 86 (relay 1)	brown
5	2-pole coupling auxiliary fan (4)	Ground	brown
6	2-pole coupling auxiliary fan (4)	4-pole coupling terminal 87 (relay 1)	yellow
7	Temperature switch (3) 100 °C	4-pole coupling terminal 85 (relay 1)	brown/yellow
8	Temperature switch (2) 52 °C or 62 °C	4-pole coupling terminal 85 (relay 1)	brown/yellow
9	Temperature switch (2)	Ground	brown

C. Pneumatic function of air conditioning system

Diagram vacuum control (version 1)

1 Vacuum switch
2 Vacuum element left
3 Vacuum element right
4 Clamp
5 Vacuum connection on intake pipe, on diesel vehicles vacuum line from vacuum pump to brake unit
6 Check valve
7 Vacuum reservoir
8 Vacuum line, white
9 Vacuum line, medium green
10 Vacuum line, light green
11 Vacuum line, dark green
12 Connection
13 Distributor
14 Climate cabinet
a Vacuum connection front
b Vacuum connection rear
c Vacuum connection top
d Vacuum connection bottom
e Front wall

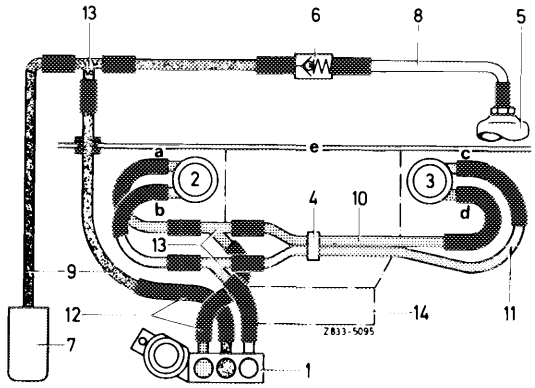
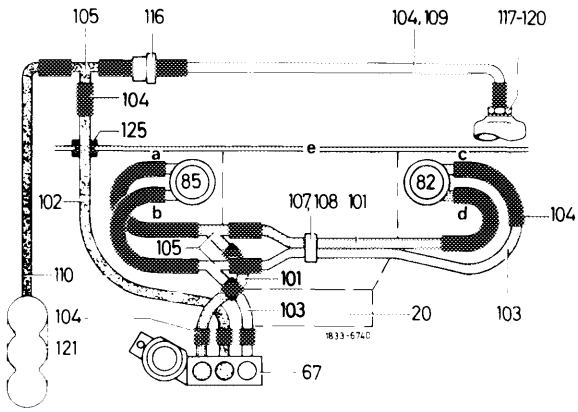


Diagram vacuum control (version 2)

20 Climate cabinet
67 Vacuum switch
85 Vacuum element left
82 Vacuum element right
101 Vacuum line, green-light blue
102 Vacuum line, green-yellow
103 Vacuum line, green-orange
104 Connection
105 Distributor
107, 108 Clamp
109 Vacuum line, gray
110 Vacuum line, gray-light blue
117–120 Vacuum connection on intake pipe
116 Check valve
121 Vacuum reservoir
a Vacuum connection front
b Vacuum connection rear
c Vacuum connection top
d Vacuum connection bottom
e Front wall

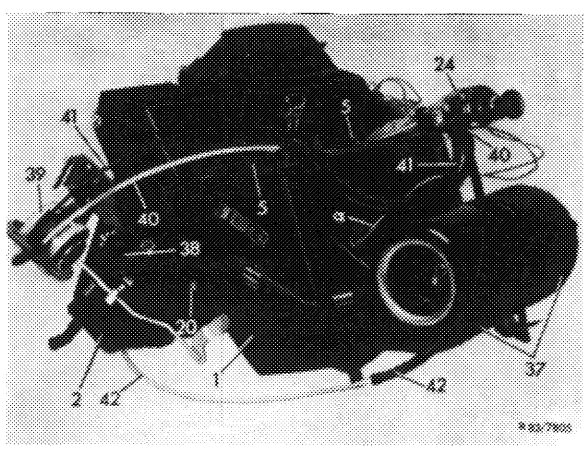


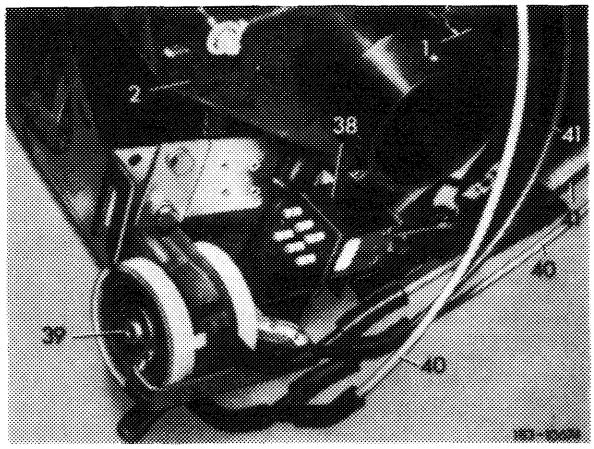
1 Due to the operation of the air conditioning system (ambient air cooling) the heating ducts must be closed against outside air when the air conditioning system is operated. This function: Closing the heating duct, opening the cooling duct; simultaneously switching current supply from heater blower to cooling blower and vice versa, is handled by two switchover flaps which are connected in parallel but not coupled mechanically and are actuated by vacuum elements (3 and 6 or 2 and 3). Air ducts to legroom or rear compartment are excepted.

2 The vacuum elements are controlled by a combined vacuum-temperature switch.

Layout of vacuum line on climate cabinet (version 1)

1 Evaporator housing
2 Heater box
5 Tensioning spring
20 Oval or hex. head sheet-metal screw
24 Temperature vacuum switch
37 Cooling blower
38 Changeover switch
39 Vacuum element
40 Control line, light green (cooling)
41 Control line, dark green (heating)
42 Vacuum line, medium green
a Capillary with temperature sensor

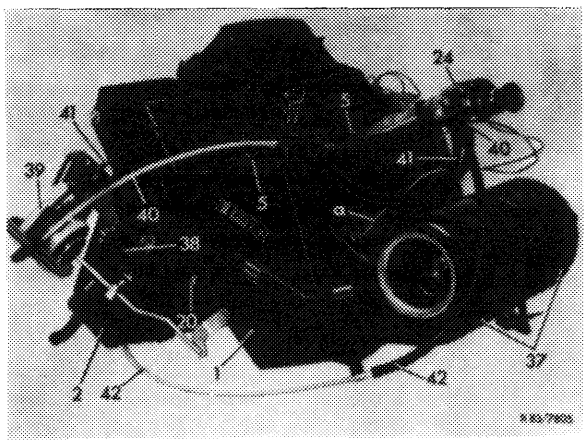




Layout vacuum lines on climate cabinet (version 2)

1 Evaporator housing
2 Heater box
38 Changeover switch
39 Vacuum element left
40 Control line (cooling), green-light blue
41 Control line (heating), green-orange

3 The vacuum elements are attached to heater box at the left and right. The control rod of the lefthand element actuates simultaneously the changeover switch (38) for heating and cooling blower (37).



4 The vacuum elements (2 and 3) are supplied by way of a vacuum connection on intake pipe or on diesel models by vacuum line between vacuum pump and brake unit.

5 A vacuum reservoir (7) on front wall pillar at outside left serves to hold the required vacuum supply. A check valve (6) installed in vacuum line (8) between intake pipe and vacuum reservoir guarantees that enough vacuum is always available for actuating switchover flaps.