



## ENGINE COOLING

166

## **ENGINE COOLING - Description**

The engine radiator and air conditioner condenser cooling system consists of one fan operated at two different speeds.

- the first speed is activated at a first coolant temperature level or at a certain air conditioner coolant pressure.
- The second speed cuts in at a higher temperature or pressure threshold.

The fan is operated via special relays.

The fan power supply line is protected by two special maxifuses.

Both fuses and relays are housed in a relay carrier control unit located on the left side of the engine bay.

## ENGINE COOLING - Functional description

The power supply to fan N11 is controlled by two relays R7 (1. speed) and R6 (2. speed), located in relay control unit B3 .

Both relays are supplied with power directly from the battery - junction unit A5 - by a line protected by a special fuse F9 for R7 and F8 for R6 , all located in B3 .

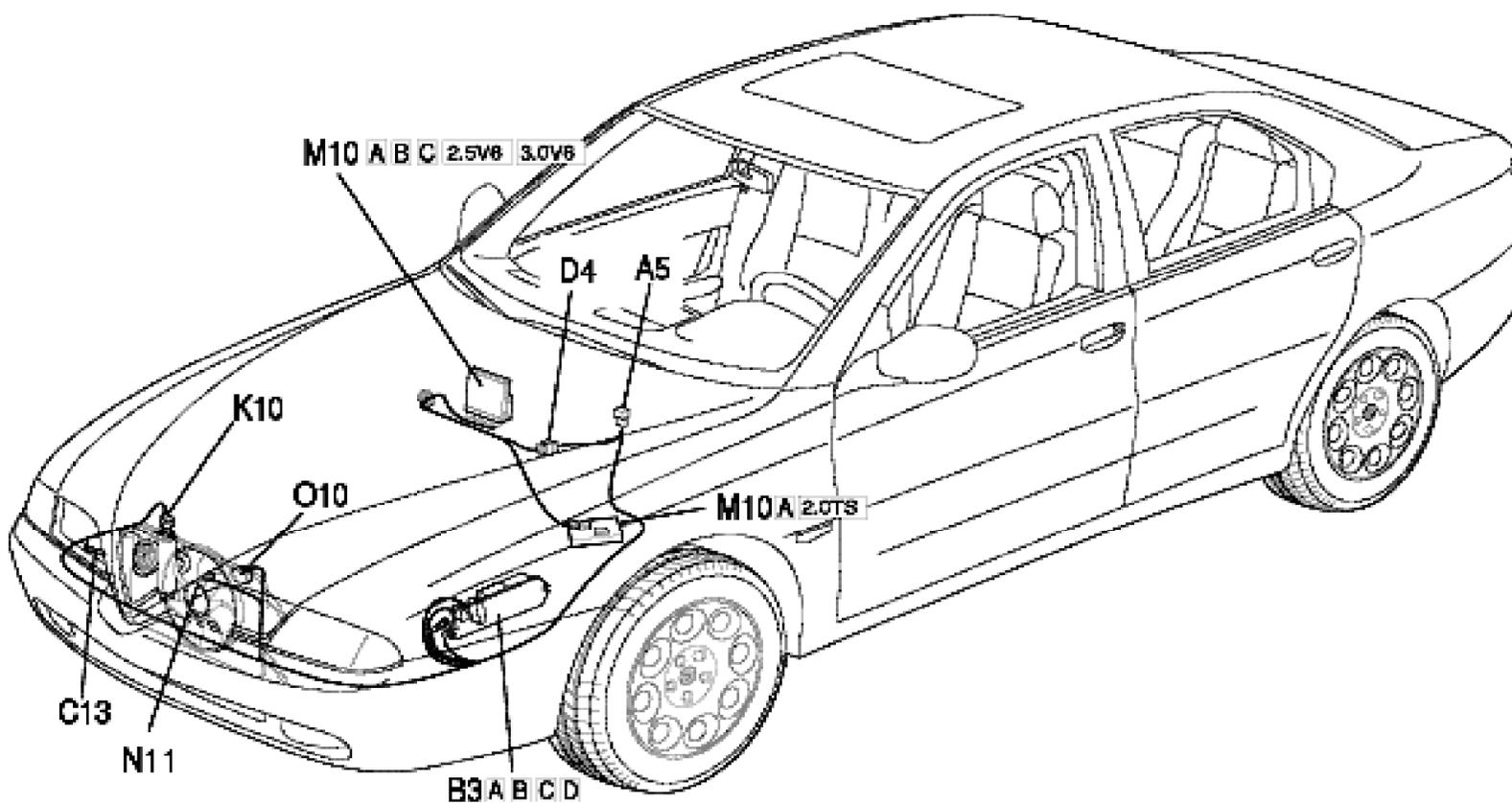
if the coolant temperature reaches the first temperature stage, or the 4-stage pressure switch K10 - pin 3 - indicates to control unit M10 - pin 34 of connector A - that the first pressure stage has been reached, control unit M10 sends a signal to 1st speed relay R7 from pin 13 of connector A.

if the engine coolant reaches a higher temperature level, or the 4-stage pressure switch K10 - pin 6 - indicates to control unit M10 - pin 35 of connector A - that a higher pressure level has been reached, control unit M10 sends an earth signal to 2nd speed relay R6 from pin 4 of connector A.

When 1st speed relay R7 is excited, it sends an earth signal through additional resistance O10 to operate fan N11 , which turns at the first speed (slow).

When 2nd speed relay R6 is excited, it sends an earth signal directly to fan N11 , which turns at the maximum speed.

## ENGINE COOLING - Location of components



Component code

A5

B1

B1

Name

Terminal board

Junction unit

Junction unit

Assembly reference

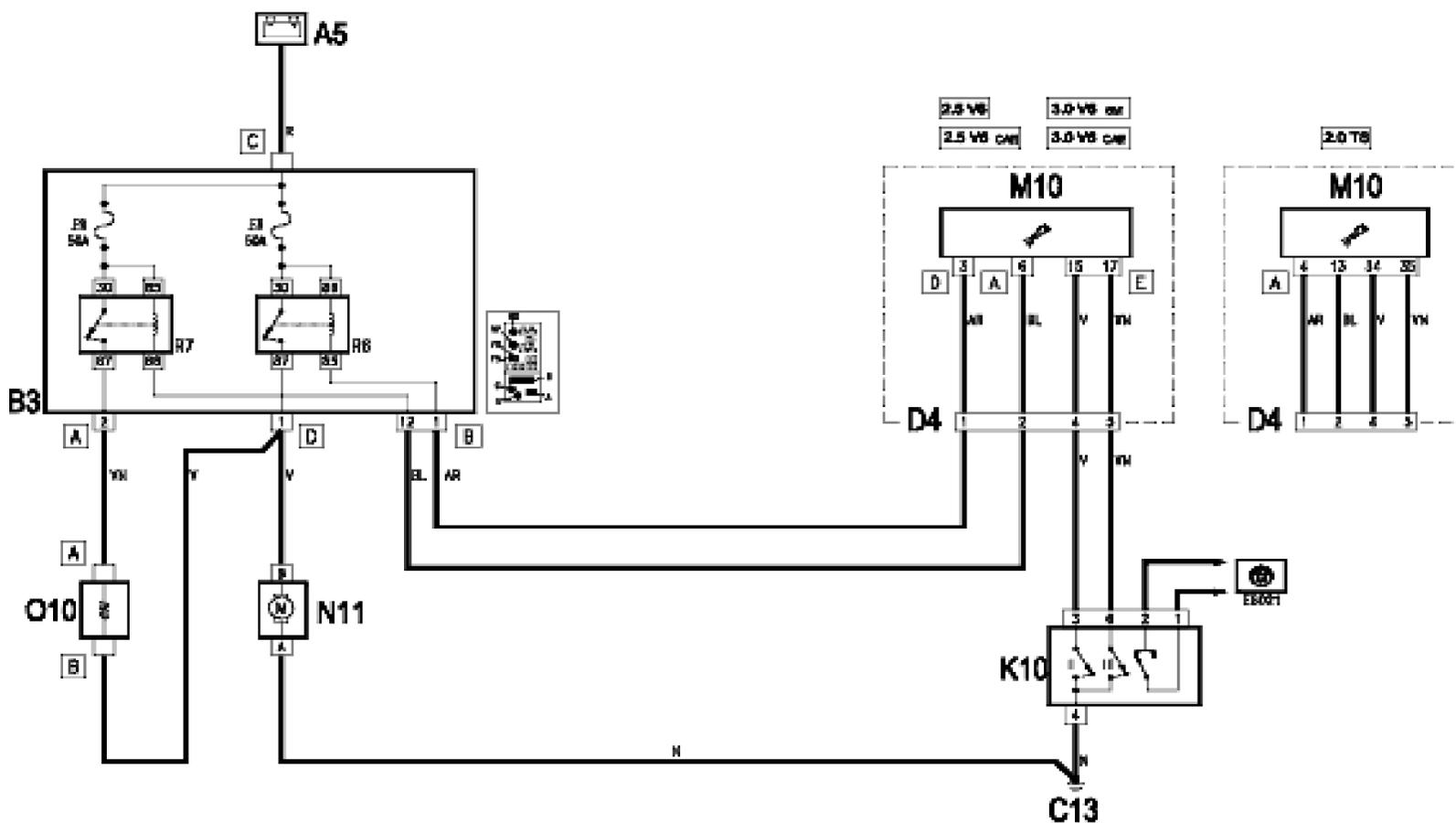
-

-

5505A

B3	Relay unit	5505A
B8	(MAXI FUSE) for engine fan	-
B99	Battery fuses junction unit (CBA)	5530B
C10	Front left earth	-
C11	Right front earth	-
C13	Front earth on left side panel	5505A
D4	Engine front connection	-
J30	Engine cooling fan. low. speed. relay	-
J30	Engine fan 1st <sup>o</sup> speed relay	-
K10	4 stage pressure switch	5040B
M10	Engine management control unit	-
M10	Engine management control unit	1056B
N11	Engine electric fan motor	-
N11	Engine electric fan motor	1088E
N12	Engine electric fan motor	-
N12	Engine fan motor -2	1088E
O10	Engine fan adjustment resistor	1088E
O12	Engine fan adjustment resistor -2	1088E
O12	Engine fan adjustment resistor	-

# ENGINE COOLING - Wiring diagram



Component code  
 A5  
 B1  
 B1

Name  
 Terminal board  
 Junction unit  
 Junction unit

Assembly reference  
 -  
 -  
 5505A

B3	Relay unit	5505A
B8	(MAXI FUSE) for engine fan	-
B99	Battery fuses junction unit (CBA)	5530B
C10	Front left earth	-
C11	Right front earth	-
C13	Front earth on left side panel	5505A
D4	Engine front connection	-
J30	Engine cooling fan. low. speed. relay	-
J30	Engine fan 1st° speed relay	-
K10	4 stage pressure switch	5040B
M10	Engine management control unit	-
M10	Engine management control unit	1056B
N11	Engine electric fan motor	-
N11	Engine electric fan motor	1088E
N12	Engine electric fan motor	-
N12	Engine fan motor -2	1088E
O10	Engine fan adjustment resistor	1088E
O12	Engine fan adjustment resistor -2	1088E
O12	Engine fan adjustment resistor	-