



ENGINE COOLING

186 - Multipla

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 operation of the fan is achieved by means of two special relays located in the relay and fuse box in the engine compartment.

The fan supply line is protected by a special maxifuse, located next to the above mentioned box, whilst the circuit for energizing the relays is protected by the fuse which protects other services.

The fan therefore only comes on when the ignition is switched ON.

ENGINE COOLING - Functional description

The supply for the fan N11 arrives directly from the battery from the line for the maxifuse B8 : the fan therefore operates when it receives an earth command.

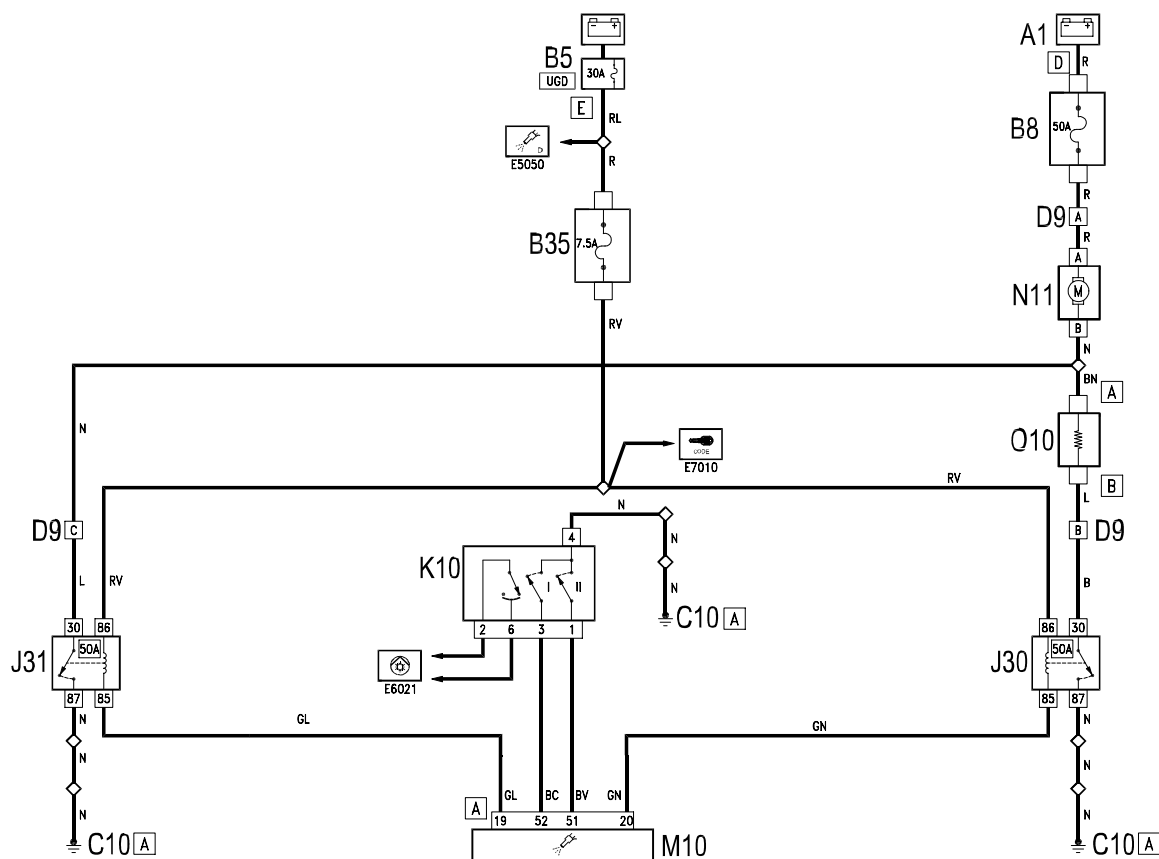
The relays J30 and J31 have coils supplied by the line for maxifuse UGD of B5 protected by fuse B35.

They are energized by an earth signal coming from the engine control unit M10 .

if the coolant temperature reaches the first temperature stage, or the 4-stage pressure switch K10 - pin 3 - indicates to control unit M10 - pin 52 of connector A - that the first pressure stage has been reached, control unit M10 sends a signal to 1st speed relay R7 from pin 20 of connector A. The relay then sends an earth signal which, via the additional resistance O10 , operates the fan N11 which rotates at the first (slow) speed.

If the engine coolant reaches a higher temperature level or the 4 stage pressure switch K10 (pin 1) signals to the control unit M10 (pin 51 of connector A) that a high pressure stage has been reached, then the control unit M10 sends an earth signal (from pin 19 of connector A) to the 2nd speed fan relay J31 which energizes the coil. The relay then sends an earth signal directly to the fan N11 which rotates at the maximum speed.

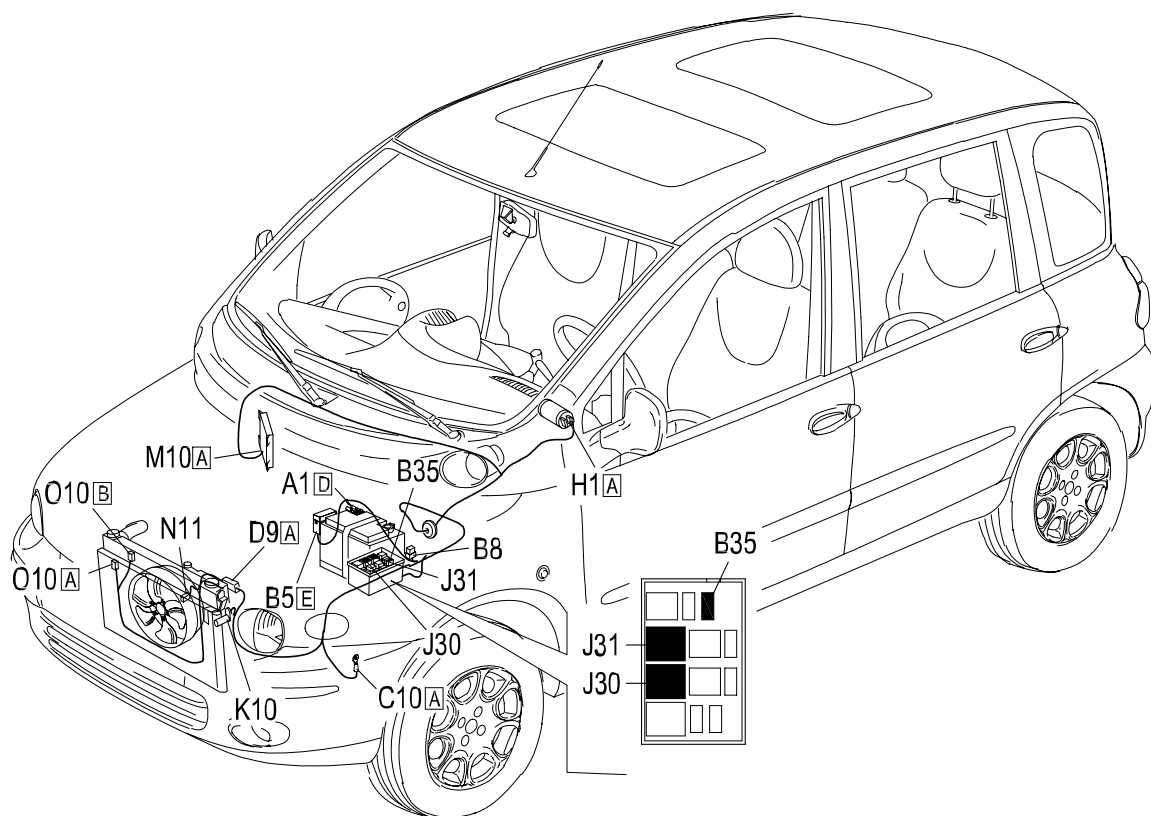
ENGINE COOLING - Wiring diagram



Component code	Name	Assembly reference
A1	Battery	5530B
B5	MAXI FUSE box	5505A
B8	Engine fan fuse (MAXI FUSE)	-
B8	MAXI FUSE for engine fan	-
B25	Ignition-operated services supply fuse 1554	-
B25	Supply fuse ignition-operated services (15/54)	-
B35	Injection memory and CODE fuse	-
C10	Left front earth	-
C10	front earth left	-
D4	Front/engine junction	-
D4	Frontengine coupling	-
D9	Front radiator coupling	-
D9	Front/radiator junction	-
H1	Ignition switch	5520A
J30	Engine fan 1st speed relay	-
J30	Relay 1 engine fan speed	-
J31	Engine fan 2nd speed relay	-
J31	Relay 2 engine fan speed	-
K5	3 stage pressure switch	5540B
K10	4 stage pressure switch	5040B
K10	4 stage pressure switch	5540B
M10	Engine management ECU	1056B

M10	Engine management ECU	1060G
M10	Engine management control unit	-
M10	Engine management control unit	1056B
M10	Engine management control unit	1058A
M10	Engine management control unit	1060G
N11	Engine electric fan motor	1088E
O10	Engine fan adjustment resistor	1088E

ENGINE COOLING - Location of components



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J30	Engine fan 1st speed relay	-
J30	Relay 1 engine fan speed	-
J31	Engine fan 2nd speed relay	-
J31	Relay 2 engine fan speed	-
K5	3 stage pressure switch	5540B
K10	4 stage pressure switch	5040B
K10	4 stage pressure switch	5540B
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