

## **SUPPLEMENTARY AIR CONDITIONER DESCRIPTION**

The basic air conditioner is complemented by a supplementary air conditioner to offer all passengers comfortable environmental conditions by taking in cool air even when temperature and relative humidity are high.

The supplementary air condition is activated with the basic air conditioner by means of a specific button on the air conditioning system control panel. Special adjustable, positionable direct the air flow toward passengers in the central and rear seating rows.

The supplementary air conditioner is activated automatically when the basic air conditioner is turned on.

The power supplies are protected by special fuses in the engine bay junction unit, underfacia control unit and optional underfacia control unit.

## **SUPPLEMENTARY AIR CONDITIONER OPERATIONAL DESCRIPTION**

The supplementary air conditioner is activated by pressing a key located in climate control unit M070 - pin 4 -. Control unit M070 receives a power supply via the ignition and directly from the battery at pins 3 and 2. The ignition-operated power supply is protected by fuse F31, located in underfacia junction unit B002, and fuse F34, located in the optional underfacia junction unit B101. An activation control from pin 3 of control unit M070 reaches relays J132 and J121. Both relays are excited and supply battery power to switch H100. Relay J132 turns on the first speed automatically to supply fan N084 via resistor O031 - pins 1 and 3. For the second speed, the power supply flows through resistance load O030 - pins 2 and 3 -; while the power supply for the third speed is directed to motor N084 - pin 1 -.

The direct battery power supply supplied to relays J121 and 132 is protected by fuse F56, located in optional junction unit B101.

Component code	Description
B002	JUNCTION UNIT UNDER DASHBOARD
B099	MAXI FUSE BOX ON BATTERY
B101	OPTIONAL JUNCTION UNIT UNDER THE DASHBOARD
D021	DASHBOARD/AIR CONDITIONING-HEATER COUPLING
D097	SHORT CIRCUITING COUPLING
D160	DASHBOARD/OPTIONAL DASHBOARD COUPLING
D161	OPTIONAL DASHBOARD/AIR CONDITIONING COUPLING
D180	AIR CONDITIONING/ADDITIONAL AIR CONDITIONING COUPLING

### **Description**

The vehicle climate control system is achieved through the duct/distributor unit and heater. The air conditioning system integrates the heater with the function of producing cold and dehumidified air achieved by switching on the compressor and the cooling system. The climate is controlled by means of three control knobs on the facia: The left-hand knob controls air ventilation at four different speeds by means of an electrical control the center knob controls the mechanical warm and cold air mixing flap; the right-hand knob controls opening of the flaps that govern air flow distribution mechanically via a cable. The control for different fan speeds is via a resistance partitioner protected against temperature surges by a thermal fuse. A cursor under the knobs on the control unit modulates the recirculation function mechanically via a cable. The control unit is lit with the side lights on. The entire system is protected by dedicated fuses housed in the engine bay and under-facia junction units. Fan activation is governed by a specific relay. The fan can only be activated with the key ON.

## Operational Description

The climate control system control unit M070 receives an ignition-operated supply at pin 3 along the line protected by fuse F31 located in the engine compartment junction unit B001. When the climate control fan selector H081 is turned to select the first, second or third speed the passenger compartment air fan adjustment resistance O030 receives a reference earth. The remote control switch H022 protects the passenger compartment air fan N085: when the maximum speed is switched on and the high speed remote control switch J041 contact is closed, the passenger compartment air fan remote control switch J022 switches the position of its contact and the passenger compartment air fan N085, initially supplied and protected by the line for fuse F55 located in the junction unit under the dashboard B002 is supplied and protected by the line for fuse F05 located in the engine compartment junction unit B001. When the air conditioning is switched on the climate control system control unit M070 supplies the air conditioning/heater controls light G045. The same control unit receives an earth signal at pin 1.

Component code	Description
B001	JUNCTION UNIT
B002	JUNCTION UNIT UNDER DASHBOARD
B099	MAXI FUSE BOX ON BATTERY
C015	DASHBOARD EARTH, DRIVER'S SIDE
C016	AIR CONDITIONING UNIT EARTH
D018	ADDITIONAL FRONT/DASHBOARD COUPLING
D021	DASHBOARD/AIR CONDITIONING-HEATER COUPLING
D097	SHORT CIRCUITING COUPLING
D161	OPTIONAL DASHBOARD/AIR CONDITIONING COUPLING
G045	AIR CONDITIONING/HEATER CONTROLS LIGHT
H001	IGNITION SWITCH
H081	CLIMATE CONTROL FAN CONTROL
J022	PASSENGERS COMPART. AIR ELECTRIC FAN REMOTE CONTROL SWITCH
J034	PASSENGER COMPARTMENT AIR FAN SPEED RELAY 1
J035	PASSENGER COMPARTMENT AIR FAN RELAY
J041	PASSENGER COMPARTMENT AIR FAN MAXIMUM SPEED RELAY
M070	CLIMATE CONTROL SYSTEM CONTROL UNIT
O030	PASSENGER COMPARTMENT AIR FAN ADJUSTMENT RESISTOR

## DESCRIPTION OF COMPRESSOR ENGAGEMENT

The left button on the climate control system control unit switches on the air cooling and dehumidification circuit, activating the air conditioning compressor. The above button enables operation of the air cooling circuit, but actual compressor activation is also dependent upon activation of: the four-stage pressure switch located on the coolant circuit that locks air conditioner activation if coolant pressure is too low or high; the engine control unit that excludes compressor operation in accordance with engine management mode; e.g. in the case of high engine temperatures or high engine load (sudden acceleration); information from the antifrost thermostat about the presence or absence of condensation on the air conditioning system pipes. The compressor supply circuit is controlled by a special relay located in the engine bay junction unit. The relay supply line is protected by a special fuse

## FUNCTIONAL DESCRIPTION OF COMPRESSOR ENGAGEMENT

The compressor activation circuit is controlled by relay T05, contained in engine bay junction unit B001. This is supplied directly by a line from the battery that enters at pin 1 of control unit connector F and is protected by fuse F19, located in the control unit. During engine start-up, control unit M010 of connector A pin 13 excites relay T09 to provide it with an earth signal. The relay receives power directly from the battery protected by fuse F18. Relay T05 is supplied in turn and excited by engine control unit M010, connector A pin 18, when compressor activation is required. The compressor activation request comes from climate control unit M070 - pin 4. The signal firstly reaches electronic thermostat N086 and then antifrost thermostat K160. Engine control unit M010 processes signal from both frost thermostats and multistage pressure switch K010. If the pressure and temperature readings from the air conditioning system are correct, the control unit excites relay T05 via pin 18 of connector A to supply compressor L020. Climate control unit M070 receives a power supply via the ignition and direct from the battery. The former is protected by fuse F31 housed in underfacia junction unit B002 and the latter is protected by fuse F34 housed in optional junction unit B101. The climate control unit contains its own internal lighting that comes on when the side lights are on.

Component code	Description
B001	JUNCTION UNIT
B002	JUNCTION UNIT UNDER DASHBOARD
B099	MAXI FUSE BOX ON BATTERY
B101	OPTIONAL JUNCTION UNIT UNDER THE DASHBOARD
C010	LEFT FRONT EARTH
C016	AIR CONDITIONING UNIT EARTH
D004	FRONT/ENGINE COUPLING
D018	ADDITIONAL FRONT/DASHBOARD COUPLING
D021	DASHBOARD/AIR CONDITIONING-HEATER COUPLING
D097	SHORT CIRCUITING COUPLING
D160	DASHBOARD/OPTIONAL DASHBOARD COUPLING
D161	OPTIONAL DASHBOARD/AIR CONDITIONING COUPLING
D180	AIR CONDITIONING/ADDITIONAL AIR CONDITIONING COUPLING
H001	IGNITION SWITCH
J020	AIR CONDITIONING COMPRESSOR ENGAGEMENT RELAY
J021	COMPRESSOR ENGAGEMENT ADDITIONAL REMOTE-CONTROL SWITCH
K010	4 STAGE PRESSURE SWITCH
K086	FROST SENSOR
L020	AIR CONDITIONING COMPRESSOR ENGAGEMENT ELECTRO-MAGNET
M010	ENGINE MANAGEMENT ECU
M070	CLIMATE CONTROL SYSTEM CONTROL UNIT