

ESPACE

6 Air conditioning

61A HEATING

61B INDEPENDENT HEATER UNIT

62A AIR CONDITIONING

JK0B - JK0D - JK0F - JK0G - JK0H - JK0J - JK0K

77 11 316 082

Edition 3 - AUGUST 2002

EDITION ANGLAISE

"The repair methods given by the manufacturer in this document are based on the technical specifications current when it was prepared.

The methods may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed".

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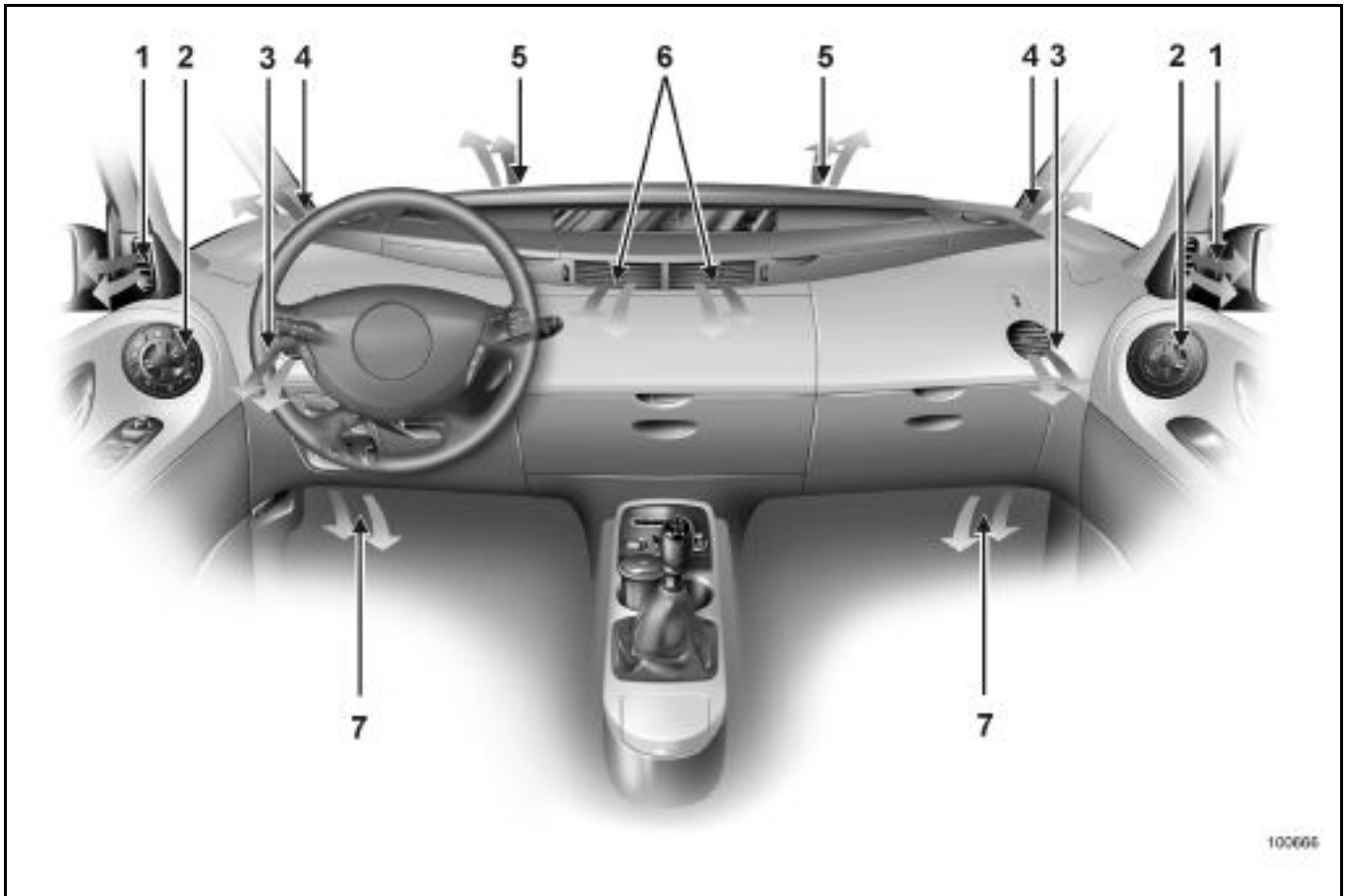
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Air conditioning

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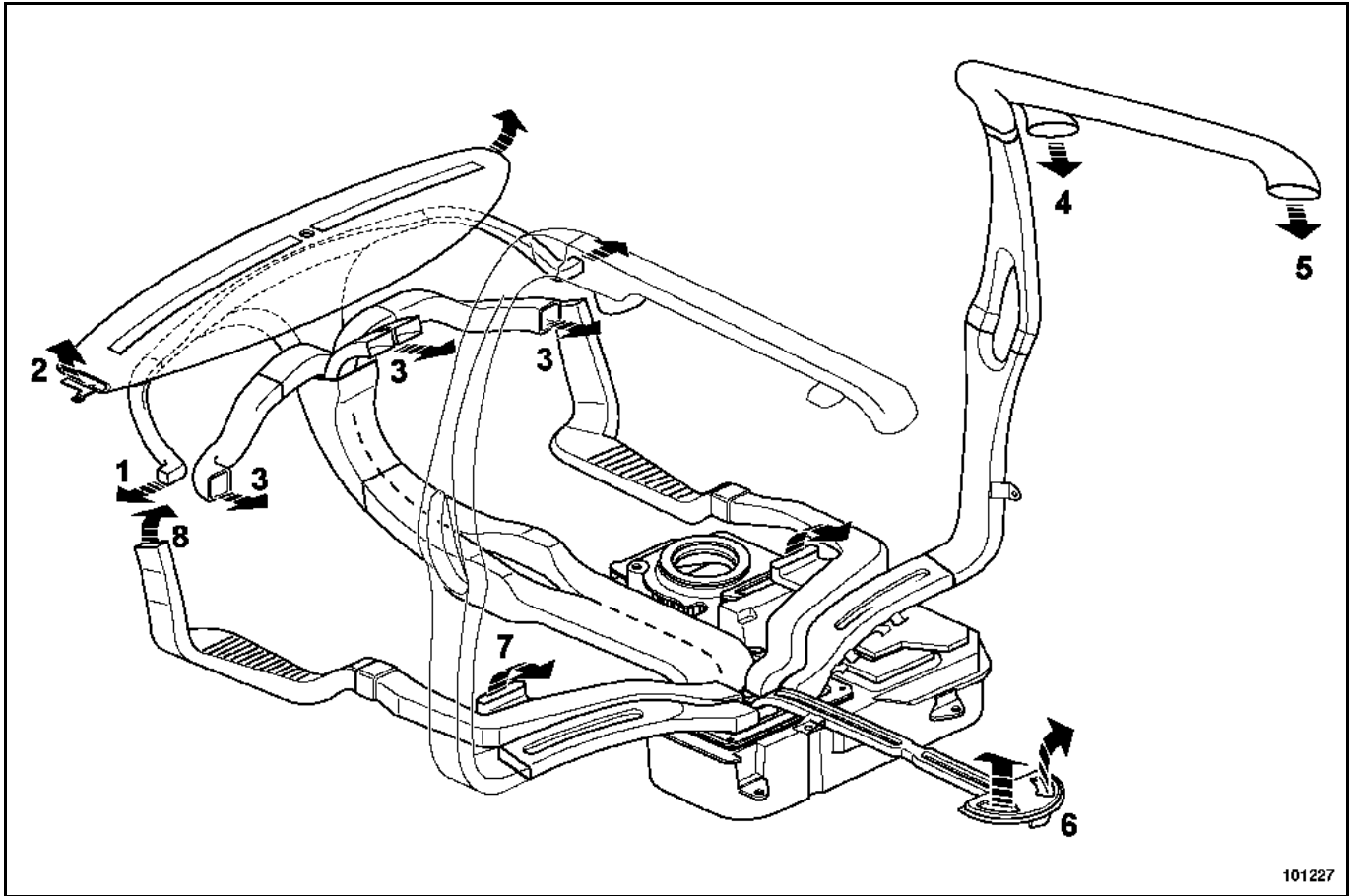
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AIR DISTRIBUTION: DESCRIPTION OF THE AIR VENTS IN THE PASSENGER COMPARTMENT



- 1 Side door window demisting vents
- 2 Air conditioning controls
- 3 Side vents
- 4 Side window demisting vents
- 5 Windscreen demisting vents
- 6 Central air vents
- 7 Heater outlets in the front seat footwells

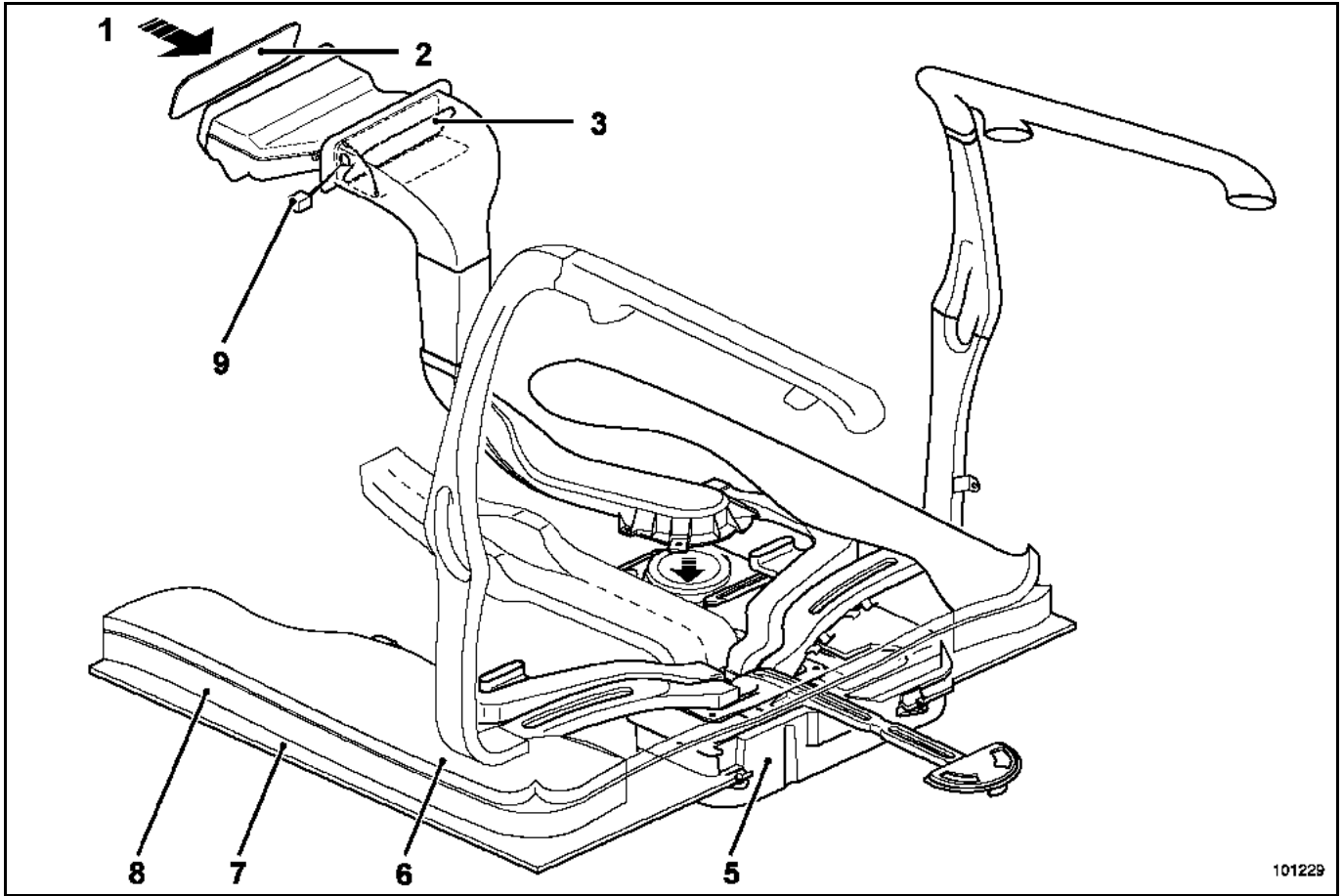
DESCRIPTION OF THE VARIOUS AIR OUTLETS



101227

- 1 De-icing
- 2 De-icing
- 3 Ventilation (front seats)
- 4 Ventilation (centre seats)
- 5 Ventilation (rear seats)
- 6 Heating (rear seats)
- 7 Heating (centre seats)
- 8 Footwell heating (front seats)

LOCATION



- 1 External air inlet
- 2 Cabin filter
- 3 Air manifold
- 4 Fan air inlet
- 5 Air conditioning apparatus
- 6 Carpet
- 7 Floor
- 8 Soundproofing
- 9 Air quality sensor

HEATER RESISTANCE

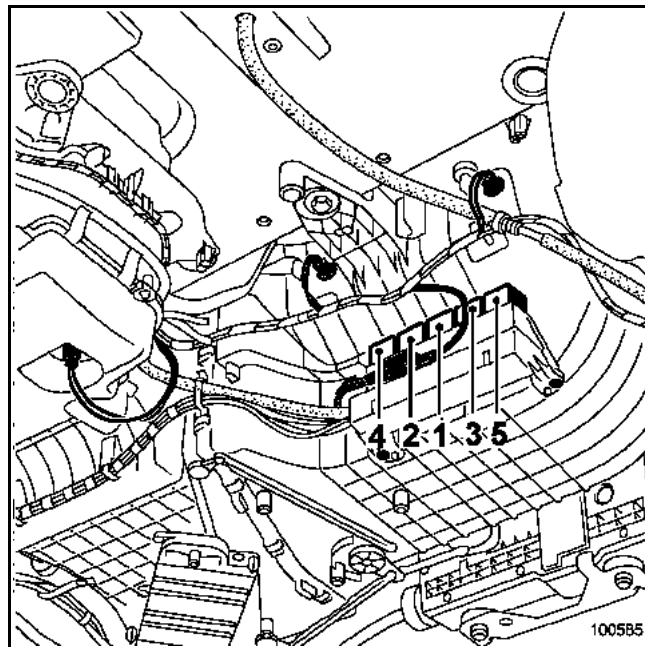
The vehicle is fitted with an electric radiator called a heating resistor.

This heating resistor is there to improve the heating function by directly heating the air supplied to the passenger compartment.

The electric heating resistor is located in the distribution unit.

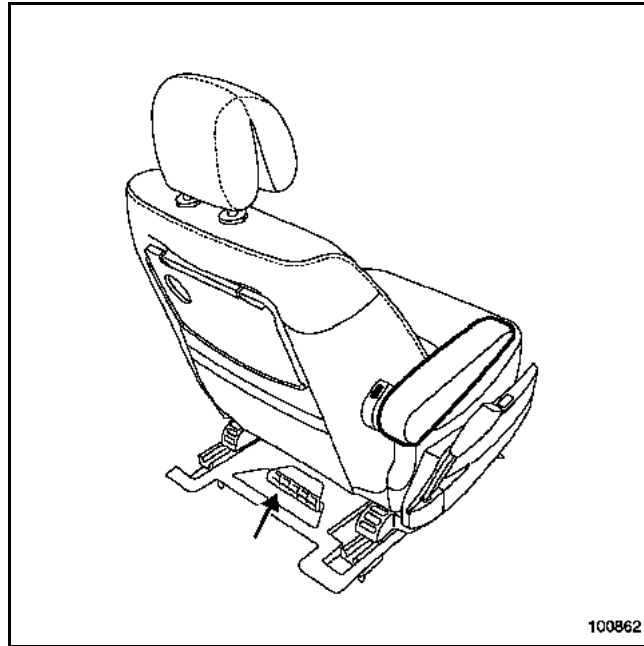
It is made up of five separate components.

These individual components are controlled by five relays:

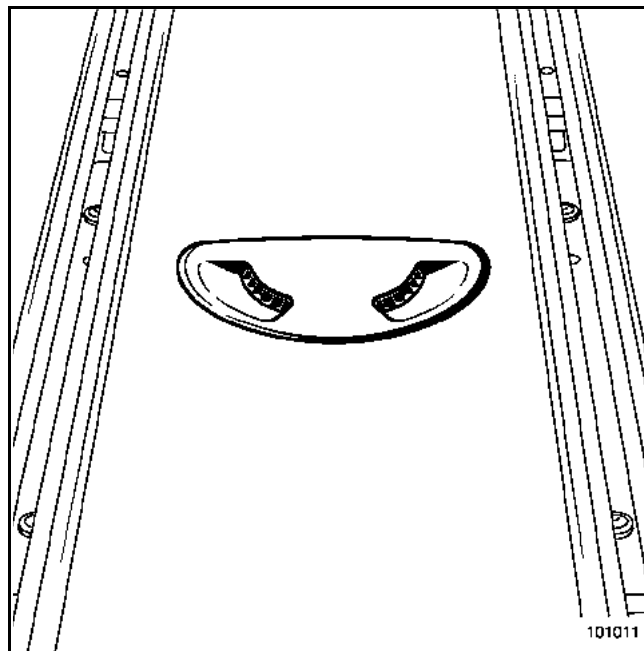


- relay (1) controls a single resistor,
- relays (2) and (3) control an assembly of two resistors,
- relays (4) and (5) control an assembly of two resistors,
- the assembly is controlled by the air conditioning computer.

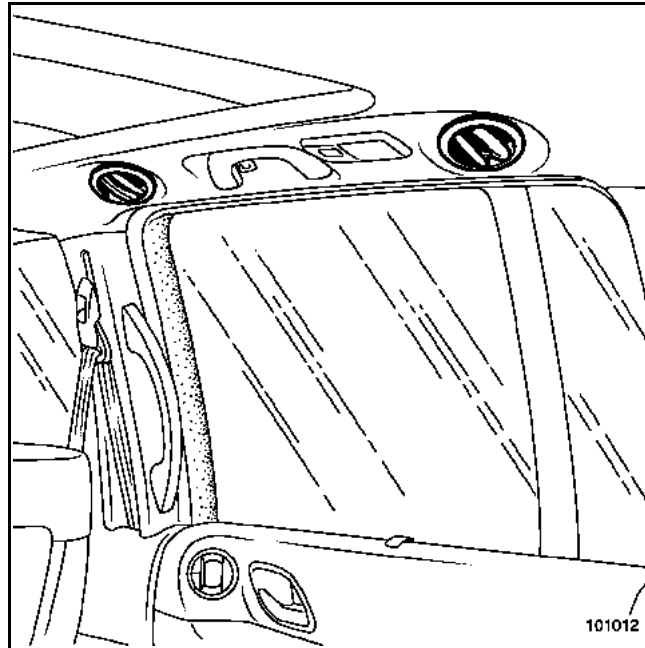
Heater outlets in the centre seat footwells



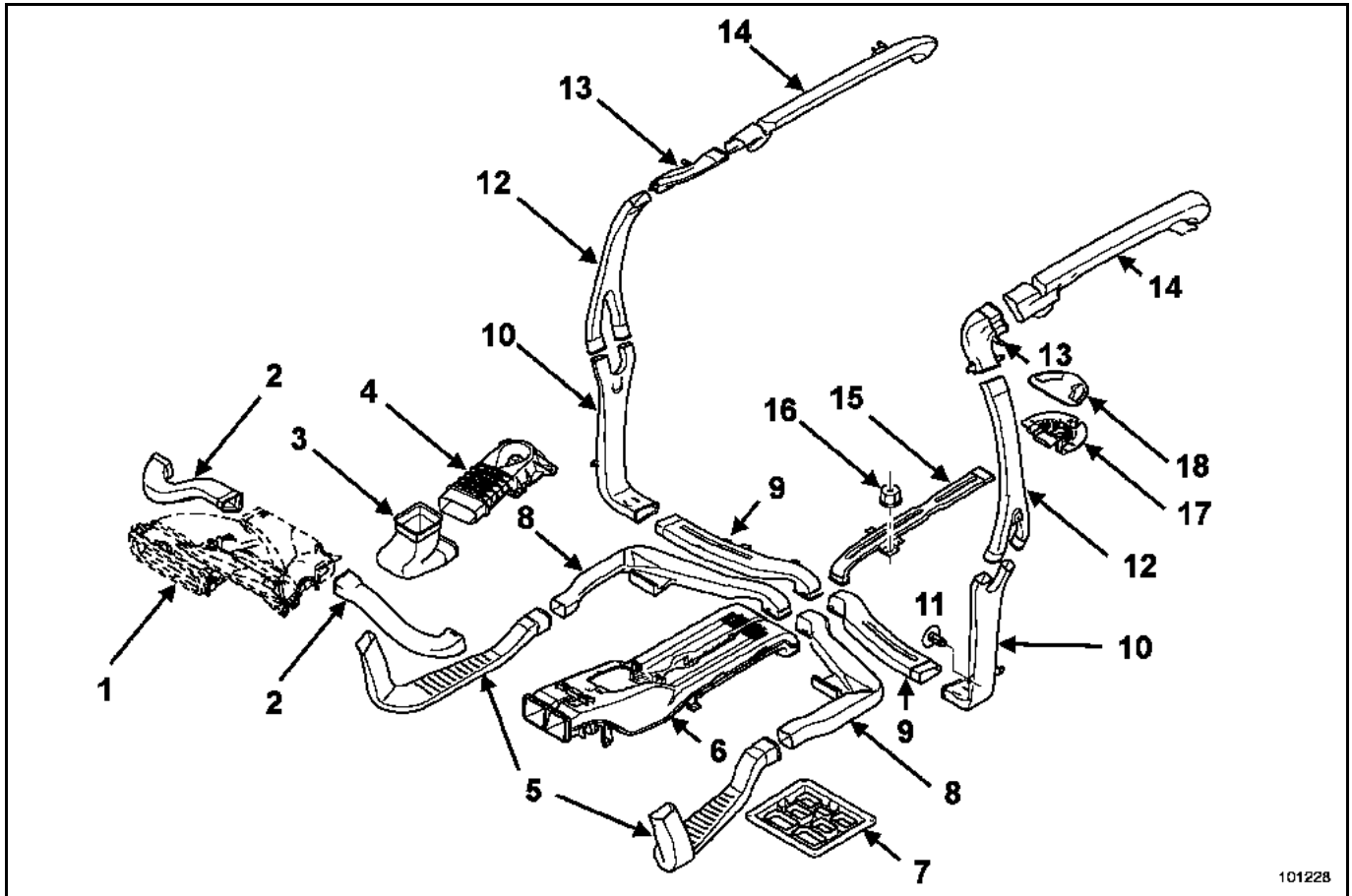
Heater outlet in the rear seat footwells



Heater outlet at the top of the rear seats.



AIR DISTRIBUTION DUCTS



101228

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 Passenger compartment air manifold 2 Front left and right ventilation duct 3 Air inlet intermediate duct 4 Fan assembly air inlet 5 Heater duct in the left and right footwells 6 Front ventilation de-icing duct 7 Interface between the air duct and the air conditioning unit 8 Heater duct on the left and right in the middle 9 Rear air duct on the left and right of the floor | <ul style="list-style-type: none"> 10 Lower B-pillar rear left and right air duct 11 Plastic rivet 12 Upper B-pillar rear left and right air duct 13 Right and left bent air duct 14 Right and left courtesy light air duct 15 Heating duct in the rear seat footwells 16 Nut 17 Heater outlet in the rear seats 18 Heater vent in the rear seats |
|---|--|

AIR MANIFOLD

REMOVAL

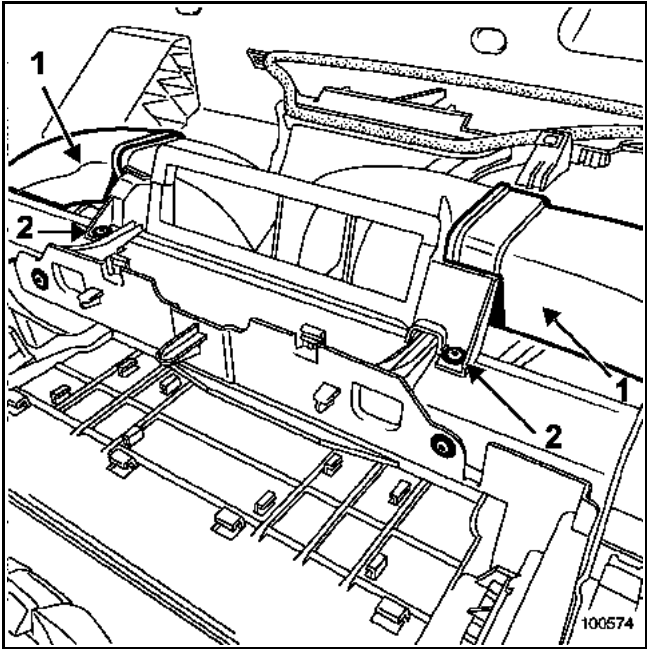
IMPORTANT:
Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

Disconnect the battery.

Remove:

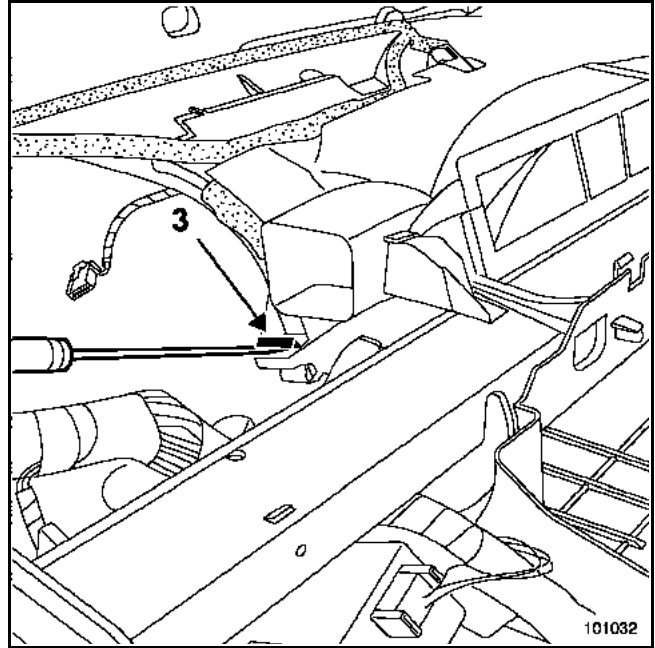
- the top of the dashboard,
- the central section of the dashboard (see Section 57A-B).

The two air ducts must be removed to reach the central air distributor clips.



Remove:

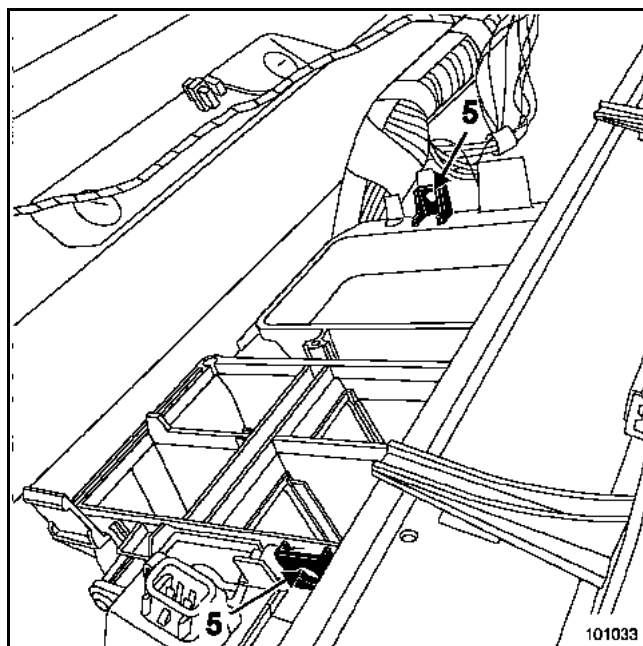
- the two air ducts (1),
- the two bolts (2).



Unclip on each side at (3).

Remove the passenger compartment air manifold

REFITTING

**IMPORTANT:**

When refitting the air manifold, fix it in place by fitting screws in the designated holes.

Refit:

- the air ventilation manifold,
- the two bolts (2),
- the two bolts (5),
- the two air ducts (1),
- the centre section of the dashboard,
- the bottom of the dashboard (see Section **57A-B**).

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section **8**).

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section **8**).

NOTE:

When replacing the air manifold, refit the recirculation motor and the air quality sensor.

FRONT VENTILATION DE-ICING DUCT

REMOVAL

IMPORTANT:

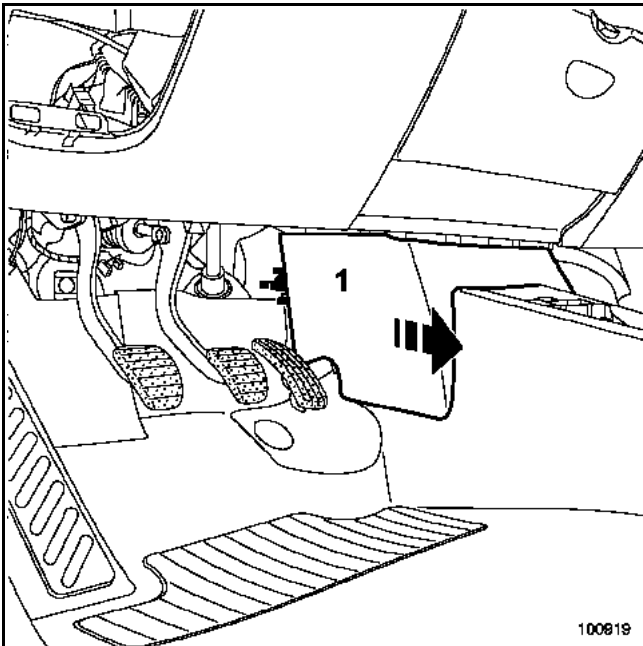
Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

Put the vehicle on a lift.

Disconnect the battery.

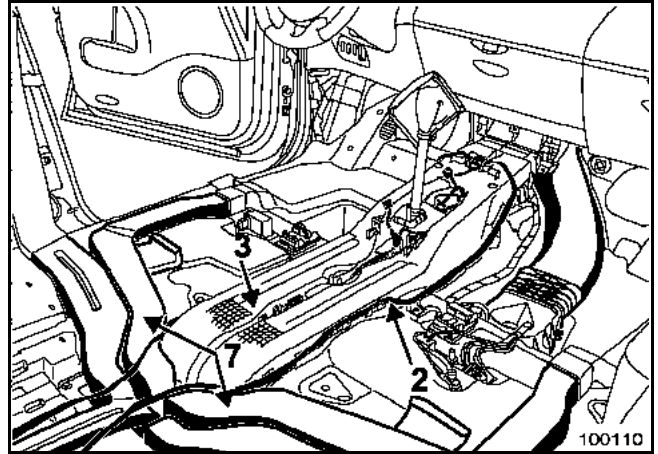
Remove:

- the front seats (see Section 72A-A),
- the B-pillar linings,
- the door sill trims (see Section 71A),
- the centre console (see Section 57A).



Remove:

- the cover (1),
- the front carpet (see Section 71A).



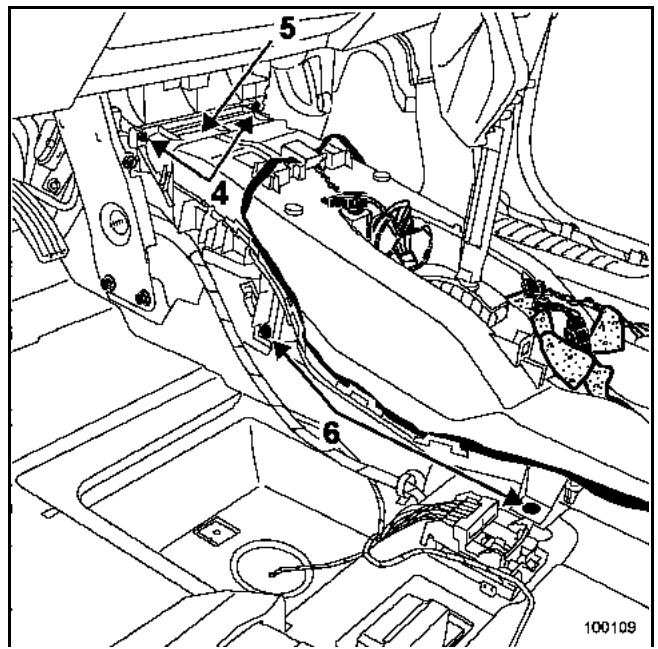
Release:

- the starter aerial (2) attached to the air duct (3),
- the air duct wiring (3).

Remove the mounting bolts (4).

Extract the part (5).

Remove the bolts (6).



Release:

- the air duct electrical wiring (3),
- the air ducts partially (7) and remove the air duct (3).

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section **8**).

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section **8**).

NOTE:

- Place the starter aerial (2) in the correct position on the air duct (3).
- To refit the front seats, refer to Section **72A-A**.

FAN AIR INLET DUCTS ASSEMBLY

REMOVAL

IMPORTANT:
Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

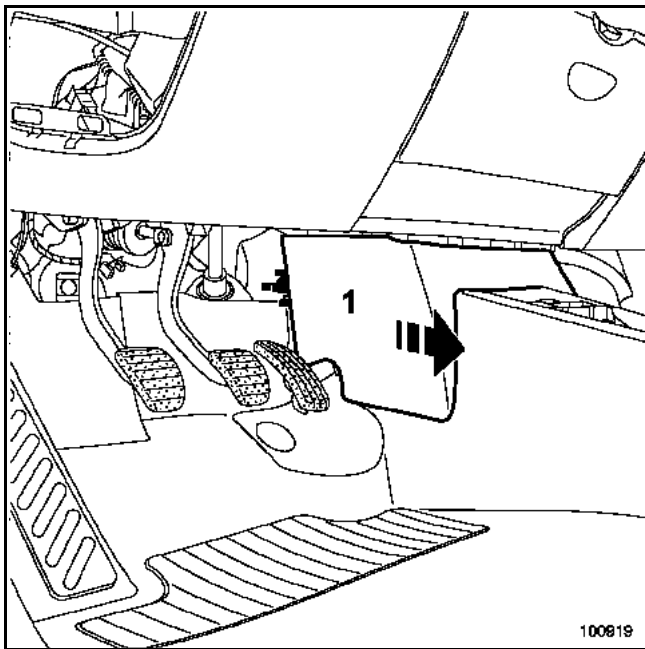
Put the vehicle on a lift.

Disconnect the battery.

Remove the front right-hand seat (see Section 72A-A).

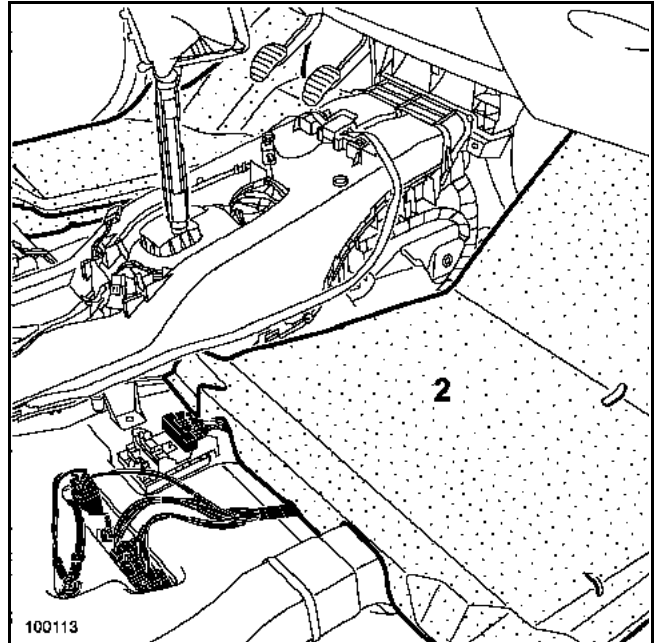
Remove:

- the B-pillar lining on the right-hand side,
- the door sill linings on the right-hand side (see Section 71A),

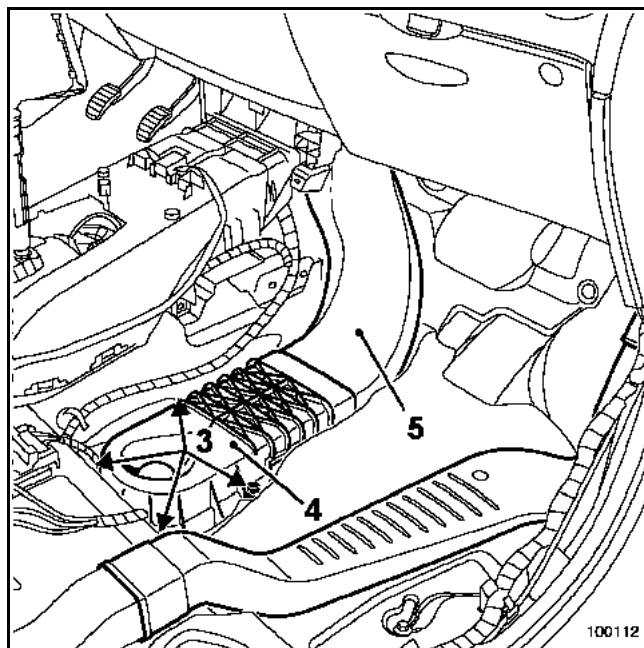


Remove the cover (1).

Pull back the carpet at the front partially on the right to gain access to the air duct.



Remove the soundproofing material (2).



Remove:

- the four mounting nuts (3),
- ducts (4) and (5).

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

- Place the starter aerial (1) in the correct position on the air duct.
- For refitting the right front seat, see Section 72A-A.

HEATER DUCT IN THE FRONT LEFT OR RIGHT FOOTWELLS

REMOVAL

IMPORTANT:

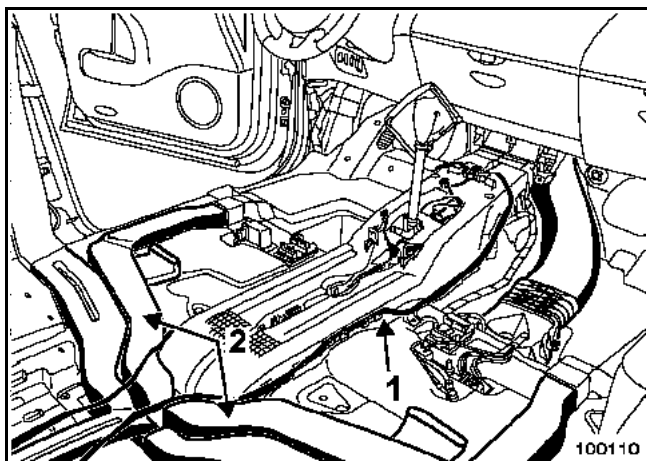
Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

Put the vehicle on a lift.

Disconnect the battery.

Remove:

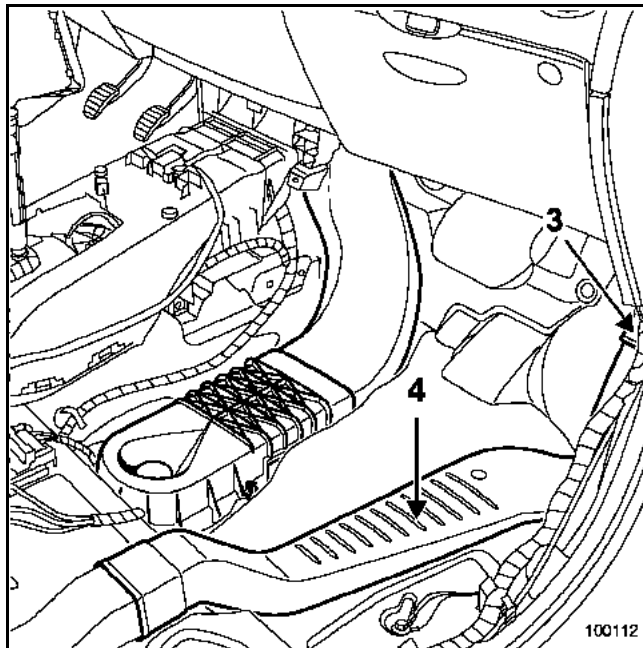
- the front seat concerned (see Section 72A-A),
- the B-pillar lining concerned,
- the door sill lining concerned (see Section 71A),
- the centre console (see Section 57A),
- the front carpet concerned (see Section 71A-A).



Partially release the starter aerial (1) on the air duct.

Remove the air duct (2) concerned.

Remove the soundproofing material at the front.



Fit a plastic clip around the duct (3) to prevent the duct weld from coming apart.

Remove the air duct (4) concerned.

REFITTING

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

- Place the starter aerial (1) in the correct position on the air duct.
- For refitting the right front seat, see Section 72A-A.

CENTRE AIR HEATING DUCT

REMOVAL

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

Put the vehicle on a lift.

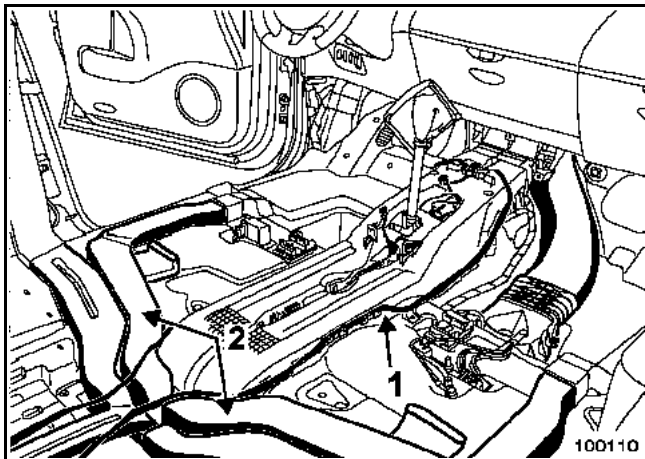
Disconnect the battery.

Remove:

- the front seats (see Section 72A-A),
- the B-pillar linings,
- the door sill linings (see Section 71A).

Partially remove:

- the carpet by rolling it back on itself from the centre of the "apparatus duct" interface towards the central console,



- the starter aerial (1) on the air duct.

Remove the air duct (2).

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

NOTE:

Place the starter aerial (1) in the correct position on the air duct.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

INTERFACE BETWEEN THE AIR DUCT AND THE AIR CONDITIONING UNIT

REMOVAL

IMPORTANT:

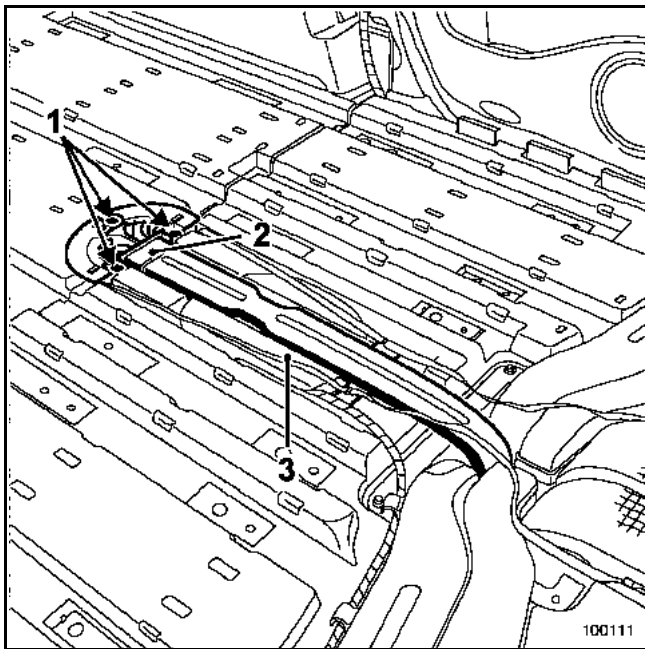
Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

Put the vehicle on a lift.

Disconnect the battery.

Remove:

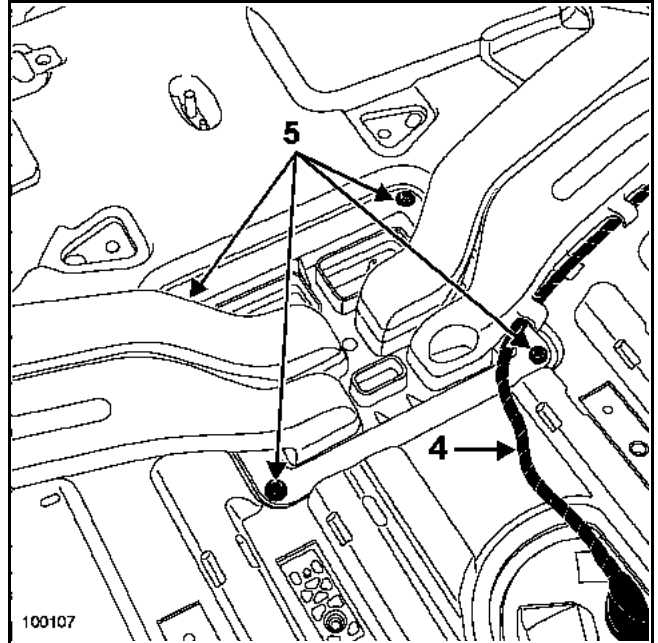
- the front seats (see Section 72A-A),
- all the rear seats,
- the centre console (see Section 57A),
- the rear carpet (see Section 71A).



- the three bolts (1).

Release:

- the assembly (2) taking care not to damage the starter aerial (3) on the air duct,
- the starter aerial (3) on the air duct.



Release the electrical harness (4).

Remove the six floor air ducts.

Remove the four bolts from the (5) from the apparatus duct interface.

REFITTING

Place the starter aerial in the correct position.

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

NOTE:

Place the starter aerial (1) in the correct position on the air duct.

WARNING:

- To refit the front seats, refer to Section 72A-A.
- Connect the battery; carry out the necessary programming (see Section 8).

REAR FLOOR DUCT\

REMOVAL

IMPORTANT:

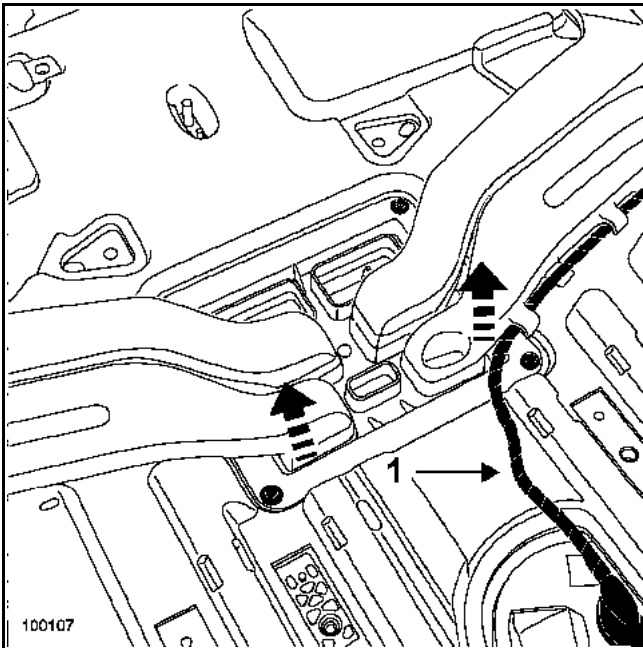
Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

Put the vehicle on a lift.

Disconnect the battery.

Remove:

- the front seats (see Section 72A-A),
- all the rear seats,
- the centre console (see Section 57A),
- the rear carpet (see Section 71A).



Separate:

- the starter aerial partially from the air duct
- the electrical harness (1).

Extract the air duct(s) concerned.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

NOTE:

Place the starter aerial (1) in the correct position on the air duct.

WARNING:

- To refit the front seats, refer to Section 72A-A.
- Connect the battery; carry out the necessary programming (see Section 8).

HEATING DUCTS IN THE REAR SEAT FOOTWELLS

REMOVAL

IMPORTANT:

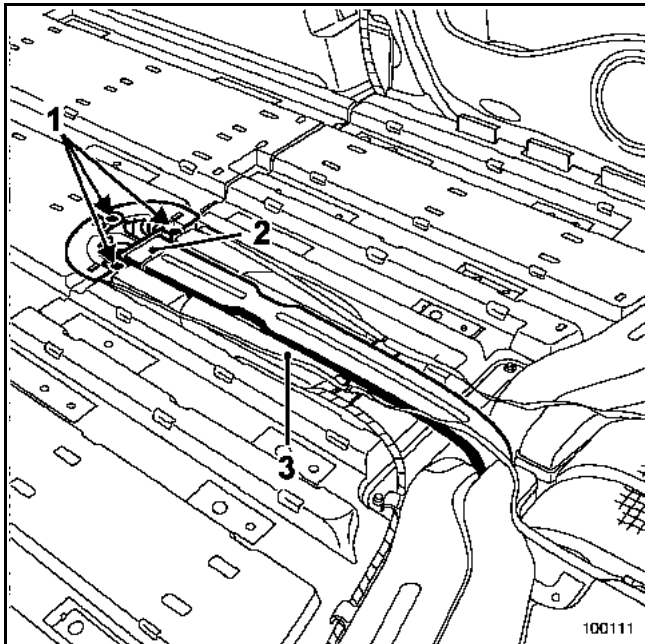
Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

Put the vehicle on a lift.

Disconnect the battery.

Remove:

- the front seats (see Section 72A-A),
- all the rear seats,
- the centre console (see Section 57A),
- the carpet at the rear (see Section 71A).



- the three bolts (1).

Release:

- the assembly (2) taking care not to damage the starter aerial (3) on the air duct,
- the starter aerial (3) on the air duct.

REFITTING

Place the starter aerial in the correct position.

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

NOTE:

Place the starter aerial (1) in the correct position on the air duct.

WARNING:

- To refit the front seats, refer to Section 72A-A.
- Connect the battery; carry out the necessary programming (see Section 8).

LOWER B-PILLAR REAR AIR DUCT

REMOVAL

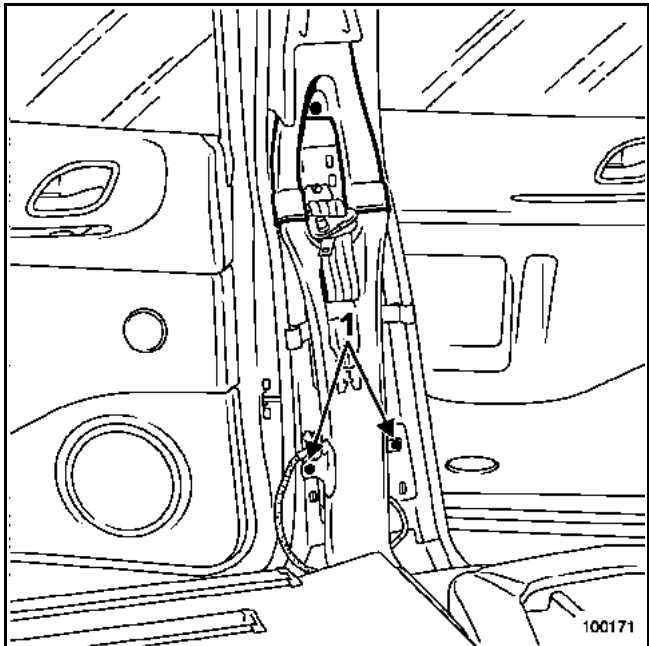
IMPORTANT:
Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

Disconnect the battery.

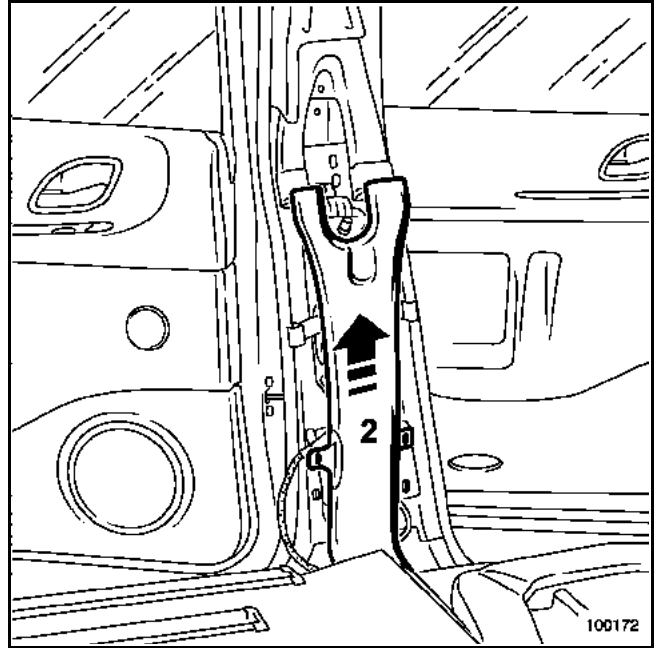
Remove the lower section of the trim from the B-pillar (see Section 59A-A).

Move the front seat concerned forward as far as possible.

Move the rear seat concerned back as far as possible.



Unclip the plastic rivets (1).



Release the lower air sleeve downwards

Detach the sleeve (2).

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:
Restart the airbag computer again using the diagnostic tools (see Section 8).

IMPORTANT:
Connect the battery; carry out the necessary programming (see Section 8).

UPPER B-PILLAR REAR AIR DUCT

REMOVAL

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

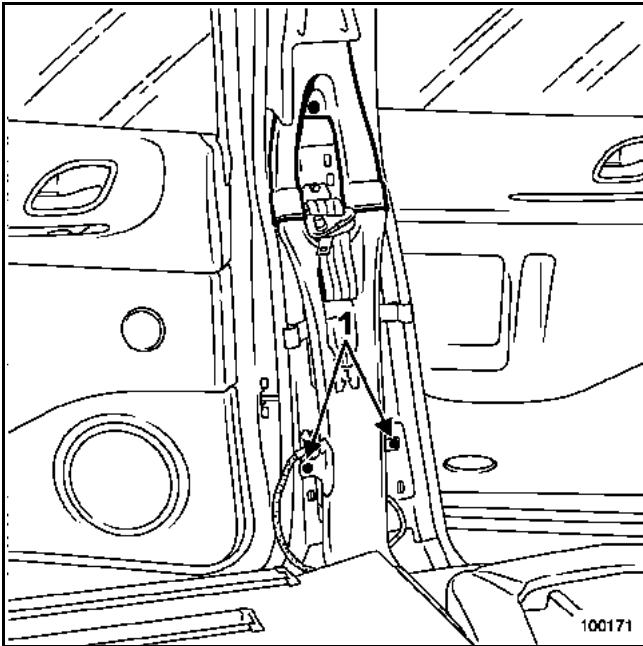
Disconnect the battery.

Remove:

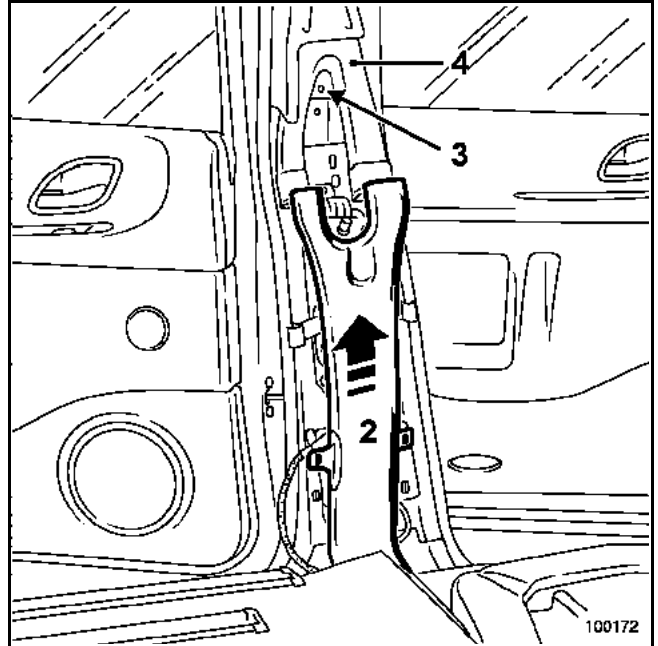
- the lower section of the trim from the B-pillar (see Section 59A-A).
- the upper section of the trim from the B-pillar (see Section 71A-C).

Move the front seat concerned forward as far as possible.

Move the rear seat concerned back as far as possible.



Unclip the plastic rivets (1).



Release the lower air sleeve downwards then upwards

Detach the sleeve (2).

Unclip the plastic rivet (3).

Remove the air duct (4) by moving it downwards.

REFITTING

Proceed in the reverse order to removal.

Fit the upper B-pillar rear air duct inside the B-pillar.

Fit the upper B-pillar rear air duct in the angled air duct.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

UPPER AIR DUCT

REMOVAL

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

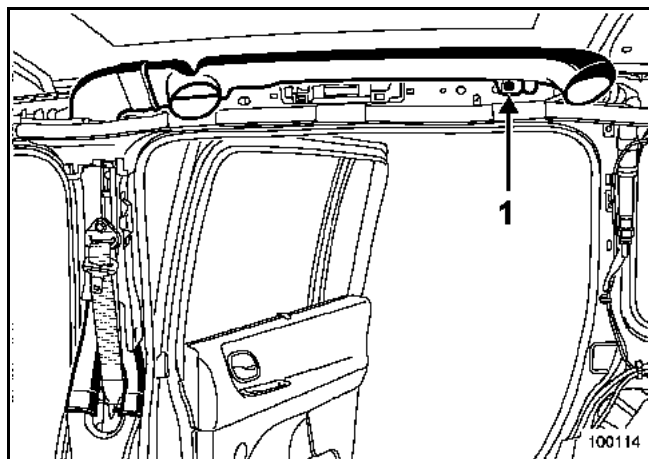
The upper air ducts can be accessed after removing the quarter panel trim and headlining; (refer to Section 71A Body shell interior trim).

Disconnect the battery.

Remove:

- the quarter panel lining.
- the head lining.

Partially release the side curtain airbag (see Section 88C).



Unclip the plastic rivet (1).

Remove the upper air duct.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

ANGLED AIR DUCT

REMOVAL

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

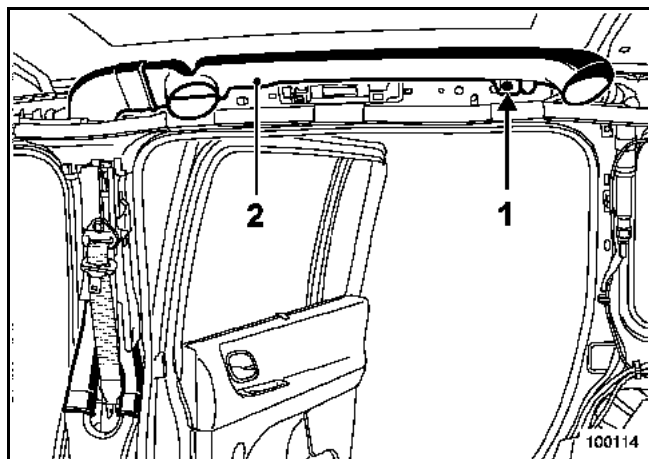
The upper air ducts can be accessed after removing the quarter panel and headlinings; (refer to Section 71A Body shell interior trim).

Disconnect the battery.

Remove:

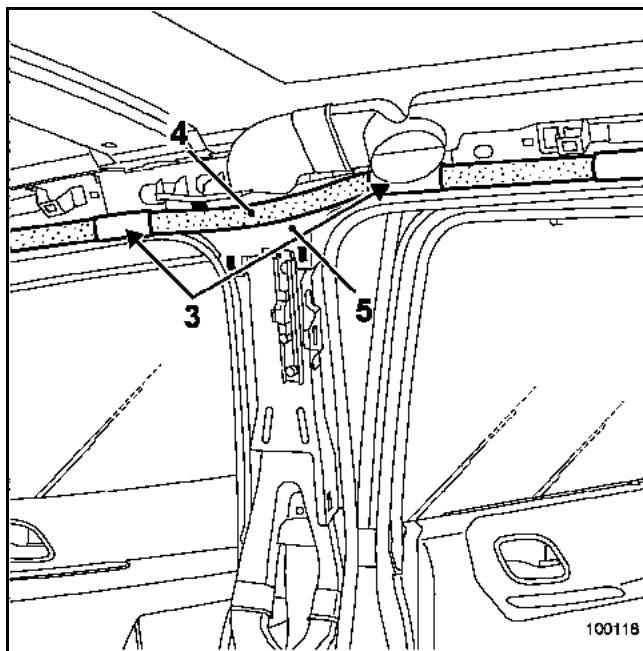
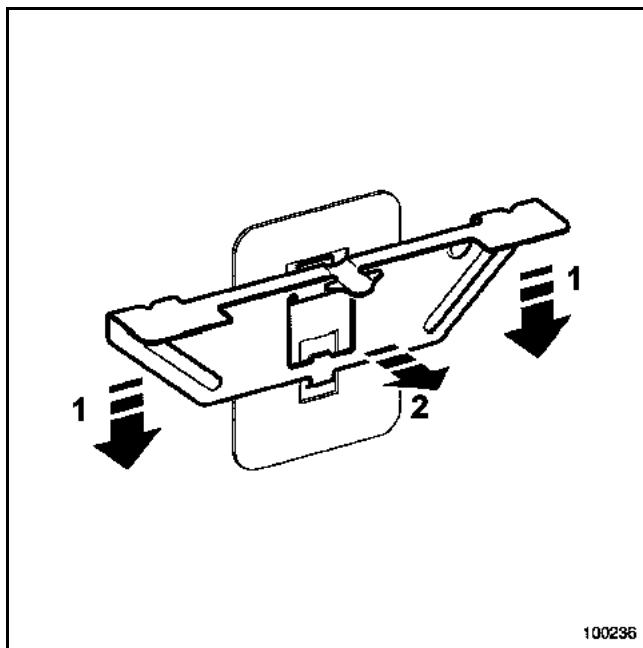
- the quarter panel lining,
- the head lining.

Partially release the side curtain airbag (see Section 88C).



Unclip the plastic rivet (1).

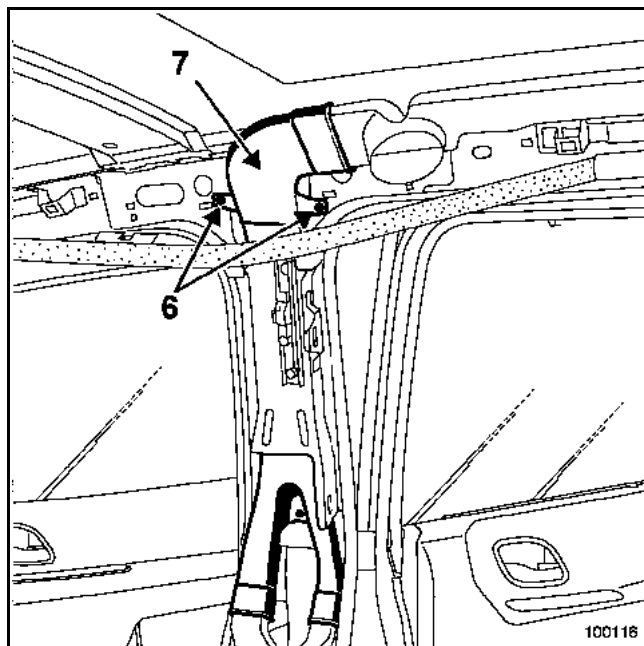
Remove the upper air duct (2).



Remove the clips (3) from the side curtain airbag (see Section 88C).

Partially release the curtain airbag (4).

Remove the part (5).



Unclip the rivets (6) and remove the angled air duct (7).

REFITTING

Correctly position:

- the air ducts,
- the part (5) (see previous page),
- the clips (3) (see previous page).

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

IMPORTANT:

Start up the airbag computer again using the diagnostic tools (see Section 8).

HEATING

Air vents on the head lining

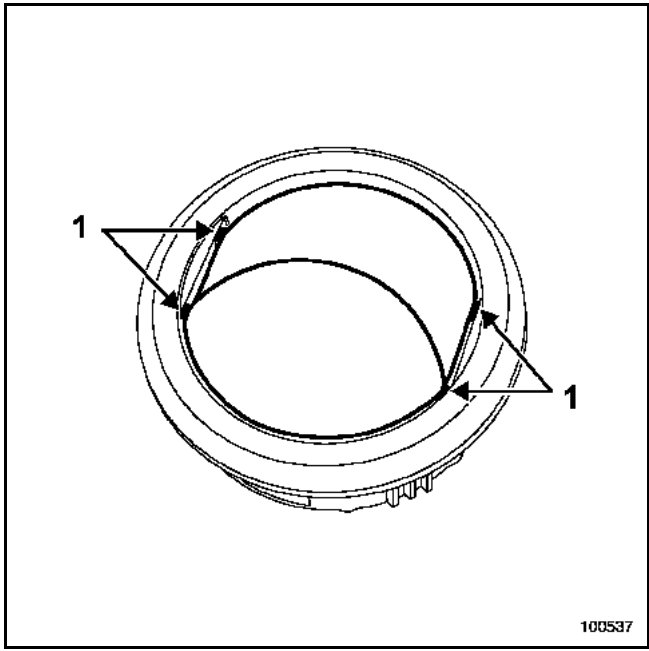
61A

To replace the entire air vent (see Section 71A).

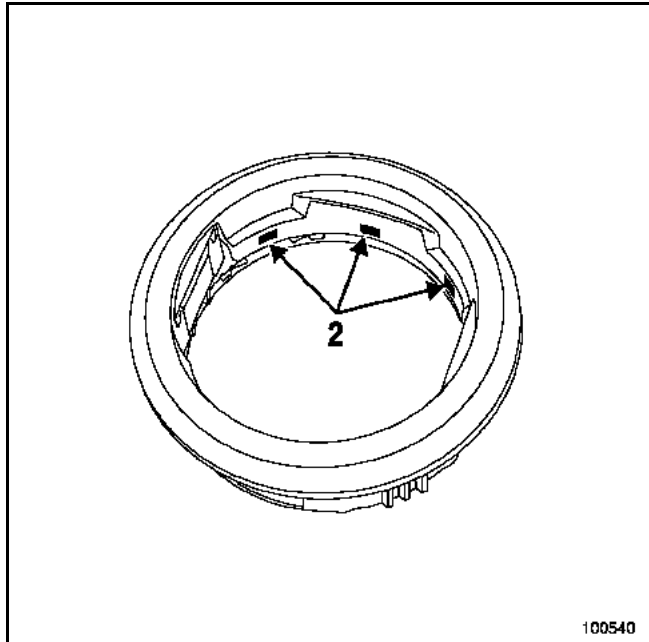
NOTE:
It is possible to replace the opening valve on the air vent (if broken) without removing the head lining.

IMPORTANT:
Before starting any work on the airbag system, lock the computer using the diagnostic tool (see Section 8).

REMOVAL



Undo the four lugs (1) using a small flat screwdriver



- Release:
- the clips (2),
 - the exterior surround.

REFITTING

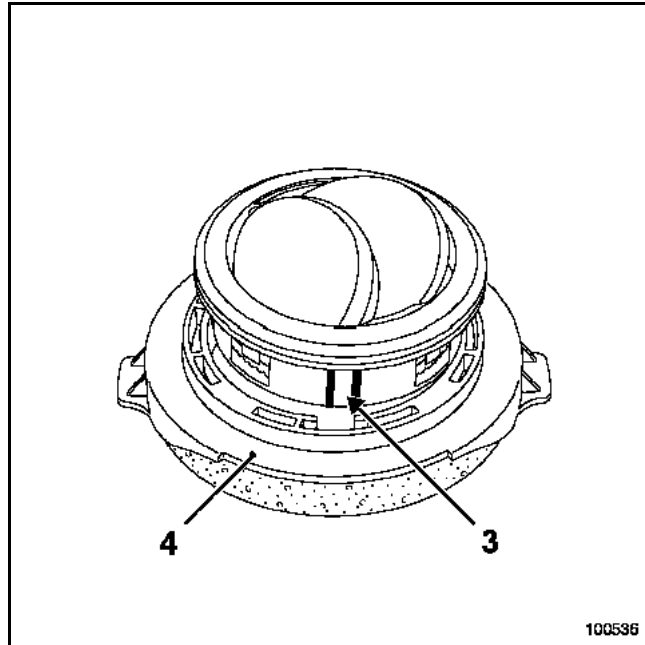
NOTE:

- The part is supplied in two sections,
- Part (4) (see diagram on the next page) remains in place behind the lining.

HEATING

Air vents on the head lining

61A

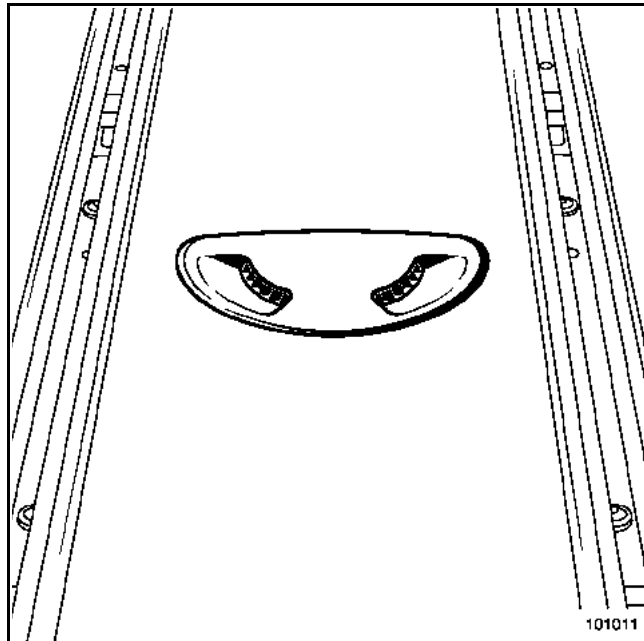


Fit the valve assembly using the indexing guides (3).

Clip both sections.

REMOVAL

Move the front seat or seats concerned forward.



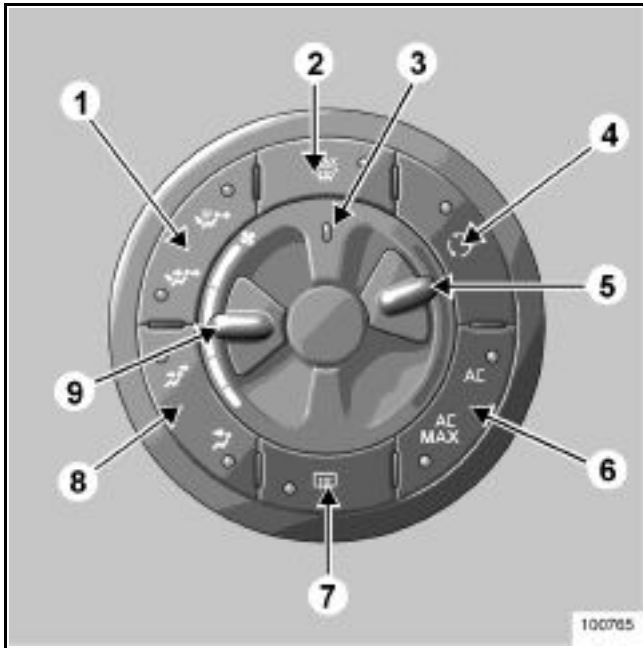
Remove the vent.

REFITTING

NOTE:
Before refitting the vent, check that nothing is blocking the duct.

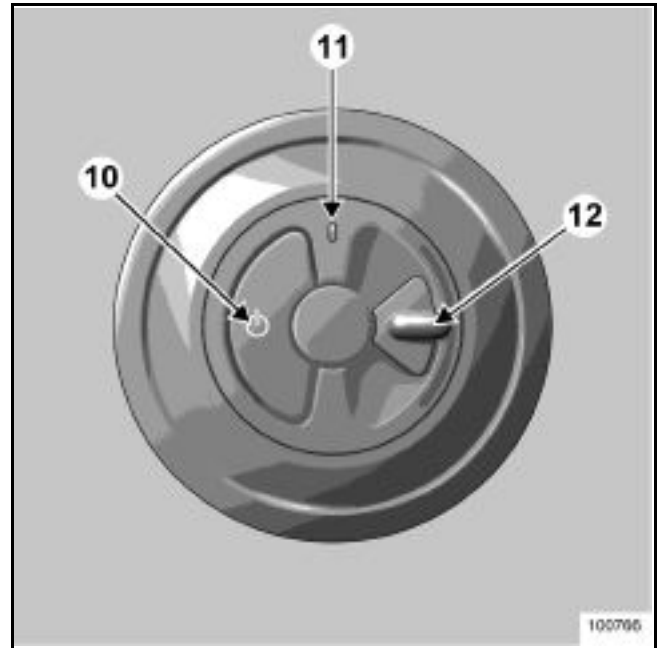
I - HEATING - AIR CONDITIONING

1 - DRIVER CONTROL



- 1 Choice of air distribution
- 2 "Clear view" button to demist and de-ice the windows
- 3 Separate driver/passenger temperature adjustment operating indicator light
- 4 Air recirculation selection
- 5 Air temperature adjustment dial
- 6 Air conditioning selection
- 7 Rear screen de-icing selection
- 8 Choice of air distribution
- 9 Blower speed adjustment dial

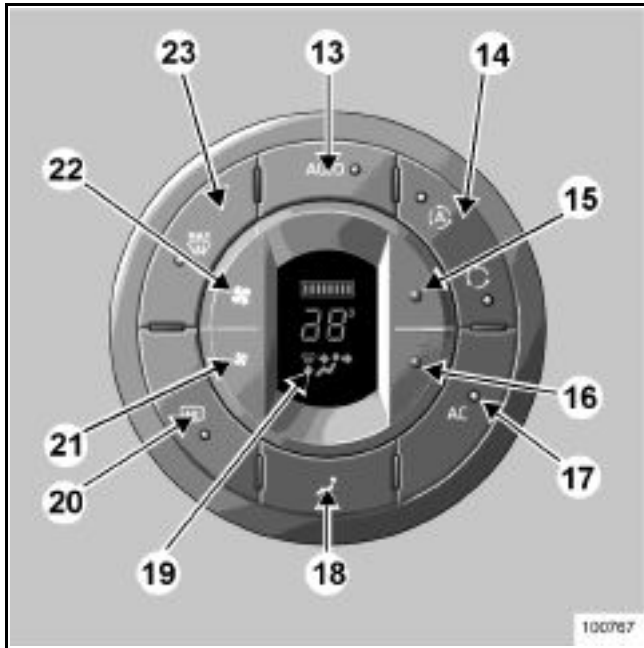
2 - PASSENGER CONTROL



- 10 Air temperature adjustment selection button for the passenger
- 11 Separate driver/passenger temperature adjustment operating indicator light
- 12 Air temperature adjustment dial for the passenger

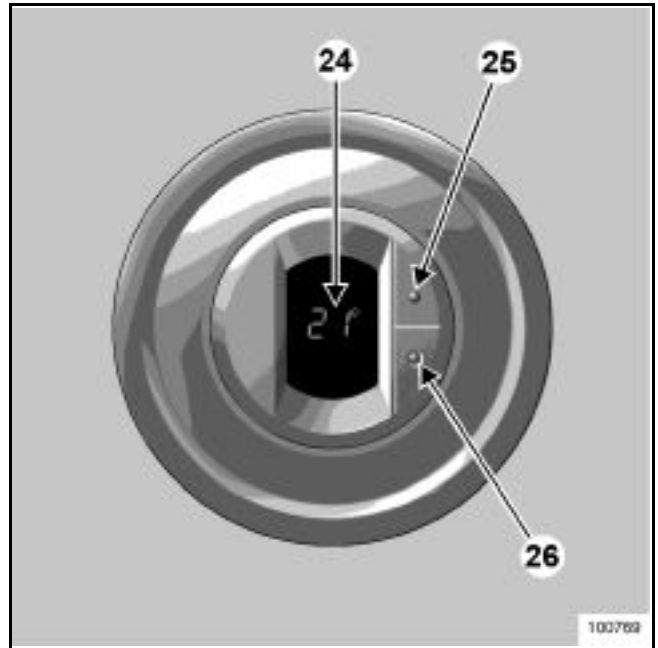
II - AUTOMATIC AIR CONDITIONING

1 - DRIVER CONTROL



- 13 Automatic mode selection button
- 14 Air recirculation button to operate manual or automatic recirculation
- 15 Passenger compartment air temperature adjustment button
- 16 Passenger compartment air temperature adjustment button
- 17 Air conditioning selection button
- 18 Passenger compartment air distribution adjustment button
- 19 Driver's control panel display
- 20 Rear screen de-icing selection button
- 21 Blower speed adjustment button
- 22 Blower speed adjustment button
- 23 "See Clear" button to de-ice the windows and windscreen

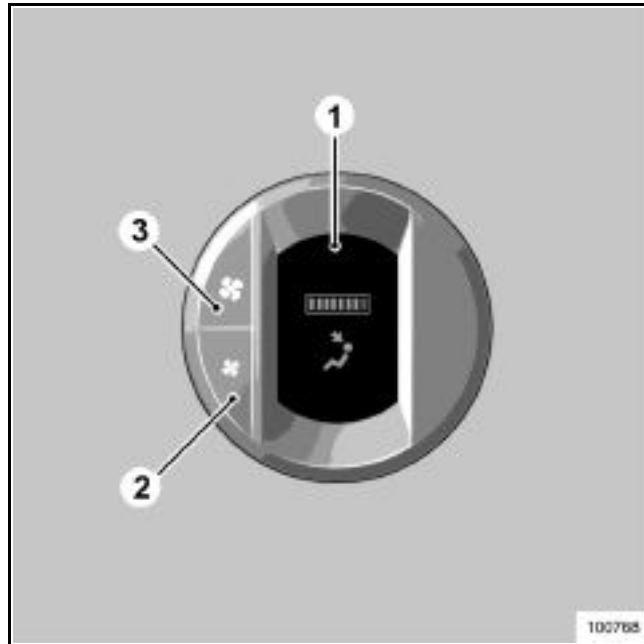
2 - PASSENGER CONTROL



- 24 Control panel display
- 25 Passenger compartment air temperature adjustment button
- 26 Passenger compartment air temperature adjustment button

I - AUTOMATIC AIR CONDITIONING

1 - PASSENGER CONTROL

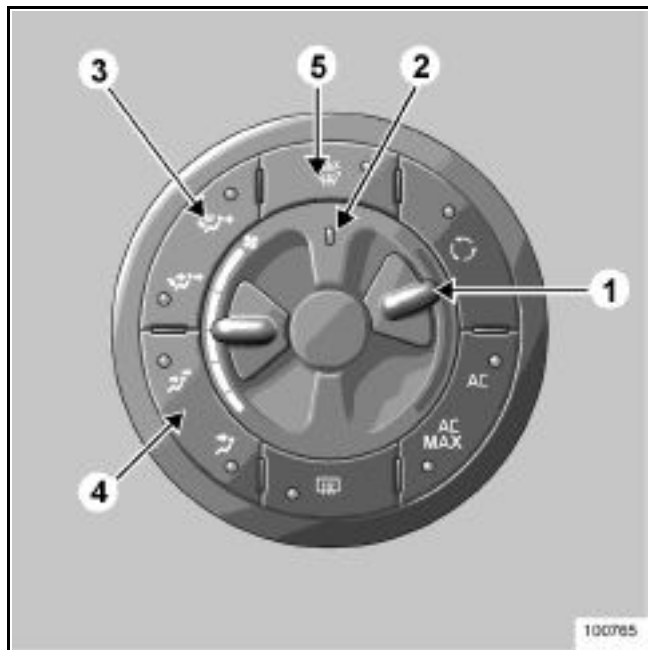


- 1 Control panel display
- 2 Blower speed adjustment button
- 3 Blower speed adjustment button

I - HEATING - AIR CONDITIONING

1 - DRIVER CONTROL

a - Temperature adjustment



The dial (1) adjusts the air temperature in the passenger compartment. The higher the position of the dial, the more the air temperature is increased.

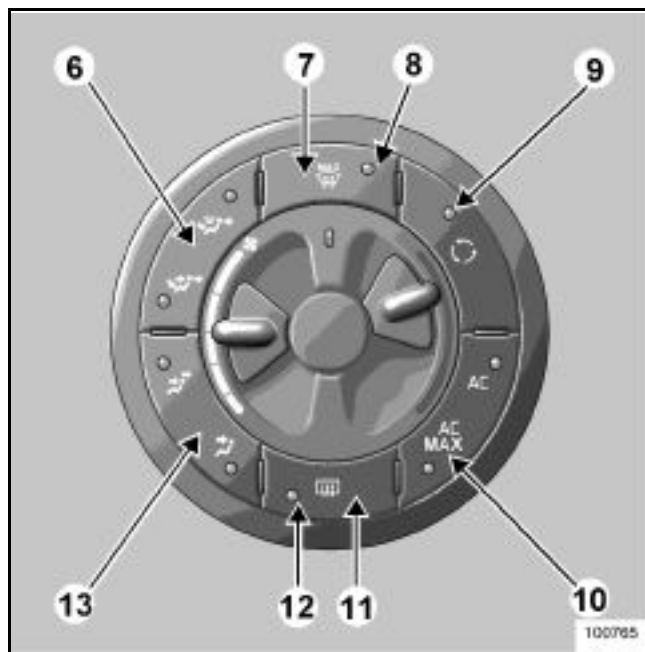
There are two categories of use:

- the indicator light (2) is off. The dial (1) adjusts the air temperature in the whole passenger compartment. When this dial is working, the passenger control panel does not function.
- the indicator light (2) is lit. The dial (1) adjusts the air temperature on the driver's side. There are two ways to return to air temperature adjustment for the whole passenger compartment: press one of the air distribution buttons (3) or (4) for about two seconds. The indicator light (2) goes out.

NOTE:

- Each time the ignition is switched on, temperature adjustment reverts to the whole passenger compartment: the indicator light (2) is off.
- When the (5) "Clear view" button is switched on, the passenger control dial is deactivated. In this case, the indicator light (2) goes out.

b - The "See clear" function



Press the button (7), the operation indicator light (8) comes on.

This function rapidly de-ices and demists the windscreen, front side windows, electric door mirrors and the electric rear screen (operating indicator light (12) on).

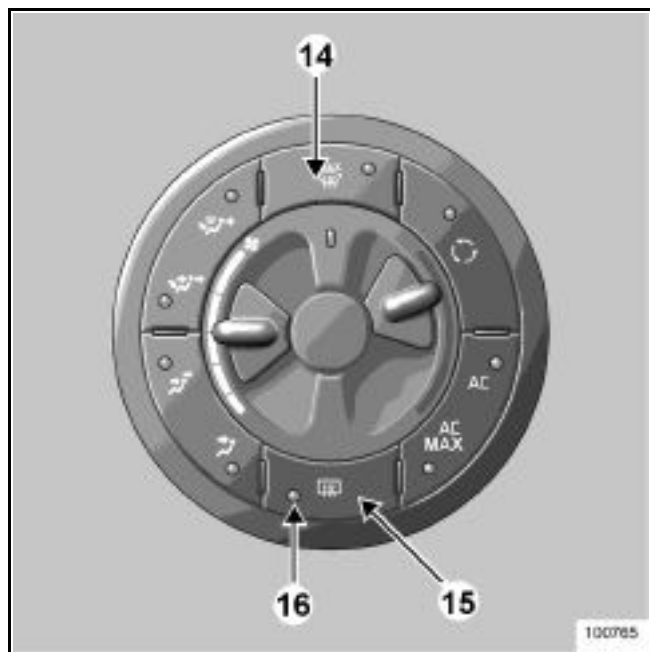
For increased efficiency, it automatically switches on the air conditioning (operating indicator (10) lit) and switches off the air recirculation (operating indicator (9) off).

The optimal air flow is thus directed towards the windscreen and front side windows.

There are two ways of exiting this function:

- press the button (7) again,
- press one of the air distribution button (6) or (13).

c - De-icing: rear screen and door mirror demisting



Press button (15), the operation indicator light (16) comes on.

This function performs de-icing and rapid electric demisting of the rear screen and electric de-icing door mirrors.

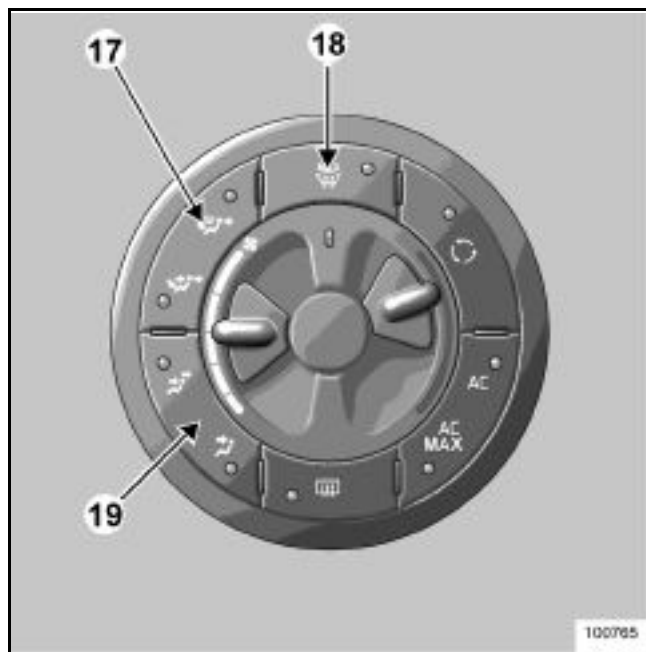
There are two ways of stopping this:

- it switches off automatically after a time determined by the system,
- by pressing button (15) again.

NOTE:

The rear screen and door mirrors are automatically de-iced when the "See clear" (14) function is operating.

d - Air distribution in the passenger compartment, buttons 17 and 19



The operating indicator lit shows which position has been selected.

NOTE:

If the "See clear" function button (18) is on, the air is automatically directed towards the windscreen and side windows: the operation indicators on buttons (17) and (19) are off.

Button (17):

Pressing button (17) successively transfers distribution from one of the following types to the other:

Windscreen - side window and feet of the front and rear occupants distribution:

- the air is directed towards the windscreen, side windows and feet of the front and rear occupants.

Distribution to the front and rear air vents and feet of the front and rear occupants.

Button (19):

Pressing button (19) successively transfers distribution from one of the following types to the other:

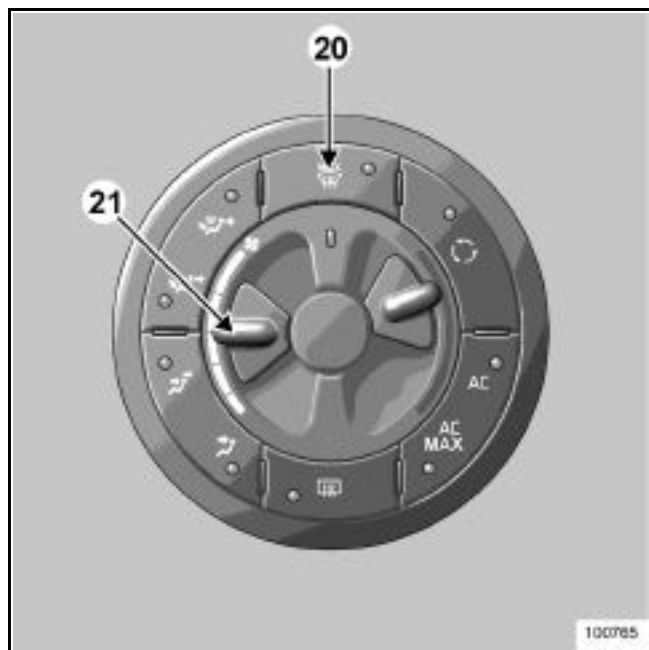
Front and rear air vent distribution:

- the air comes out of the front and rear air vents.

Front air vent distribution:

- the air comes out of the front air vents.

e - Blower speed adjustment



Move the dial (21) to adjust the blower speed.

The higher the position of the dial (21), the more the blower speed is increased.

If the dial (21) is at its lowest point:

- the blower speed is zero,
- the air conditioning switches off automatically.

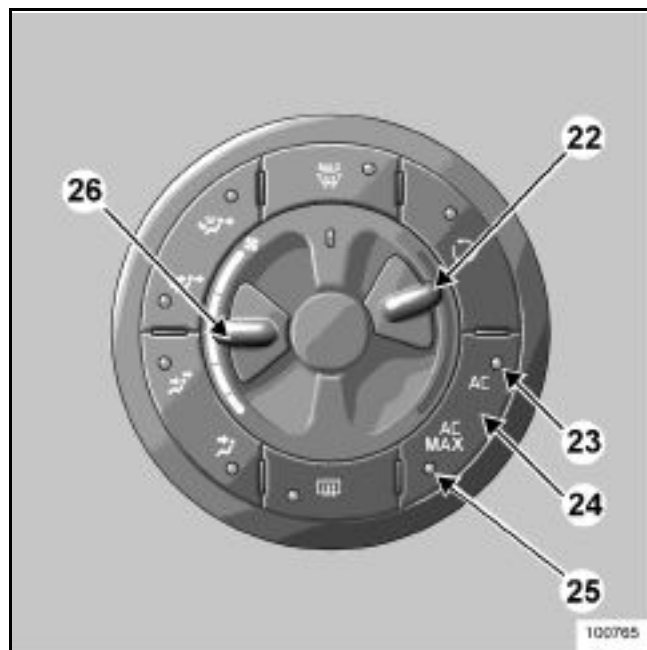
Advice for using this function:

For your comfort, it is advised that you keep a minimum amount of ventilation to ensure that air is renewed in the passenger compartment and to give a stable air temperature.

NOTE:

When the "Clear view" function button (20) is on, it is normal for the blower speed to increase to de-ice and demist the windscreen and side windows more efficiently.

f - Air conditioning control



Button (24) switches the air conditioning system on or off.

Press successively on button (24) to select:

- The air conditioning function:
 - the operating indicator (23) is lit, this is the standard use: the system determines the exact level of cooling required, according to the external conditions.
- The maximum air conditioning function:
 - the operating indicator light (25) is lit.
 - the coolant level is at the maximum,
- Air conditioning off:
 - operating indicator lights (23) and (25) are off.

Advice on using the air conditioning.

Use the air conditioning to:

- lower the temperature in the passenger compartment,
- remove condensation more rapidly.

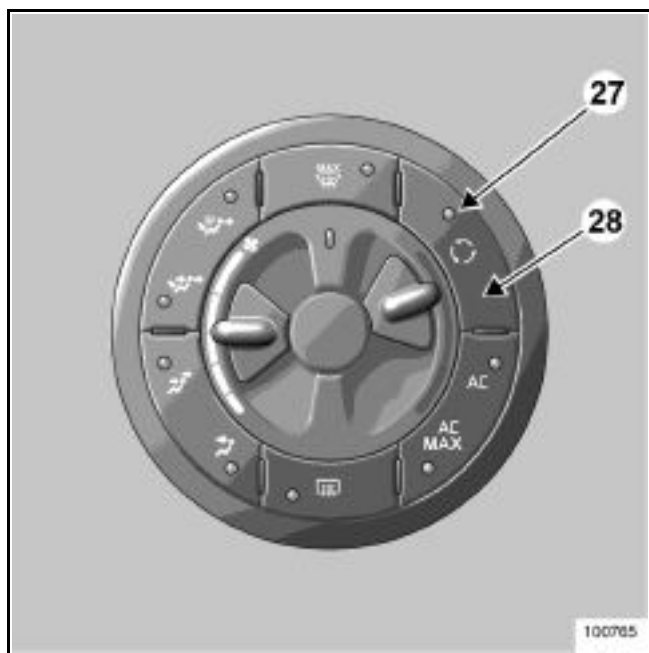
NOTE:

- There is no cold air when dial (26) is in the lowest position,
- The air temperature in the passenger compartment may be altered at any time by moving the temperature adjustment dial (22),
- The "See clear" function starts the air conditioning: the operating indicator light (25) is lit.

If no cold air is being produced:

Check that the controls are positioned correctly and that the fuses are in sound condition. If not, switch off the air conditioning (press button (24) so that the operating indicator lights (23) and (25) are off) and consult a RENAULT Dealer.

g - Selecting air recirculation (isolation of the passenger compartment)



Press the button (28), the operation indicator light (27) comes on.

When this function is switched on, the air from the passenger compartment is recirculated and no external air is admitted.

Advice on using air recirculation:

Air recirculation enables you to:

- isolate the passenger compartment from the external atmosphere (travelling in a polluted area etc.);

- to reach the desired temperature in the passenger compartment more quickly.

IMPORTANT:

Prolonged use of air recirculation can lead to condensation forming on the side windows and the windscreen and discomfort due to air not being renewed in the passenger compartment.

It is therefore advisable to switch to normal operation (external air) by pressing button (28) again as soon as air recirculation is no longer required.

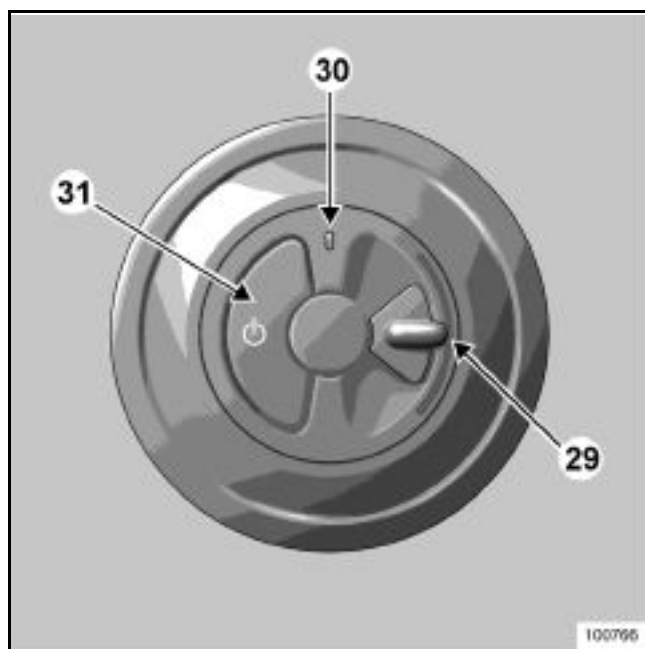
According to the external conditions, the system gives a time limit to air recirculation: the operating indicator (27) goes out

NOTE:

Air recirculation cuts out automatically when the "See clear" is in service.

2 - Passenger control

a - Air temperature adjustment



The dial (29) adjusts the air temperature in the passenger compartment. The higher the position of the dial, the more the air temperature is increased.

There are two categories of use:

- the operating indicator (30) is off. The dial (29) does not work because the driver's control adjusts the temperature for the whole passenger compartment when it is working,
- the indicator light (30) is lit. The dial (29) adjusts the air temperature for the passenger.

To adjust the air temperature differently to the driver, press button (31): the operating indicator (30) lights up, the temperature can then be adjusted using the dial (29). To return to temperature adjustment for the whole passenger compartment, press button (31) again. The indicator light (30) is off.

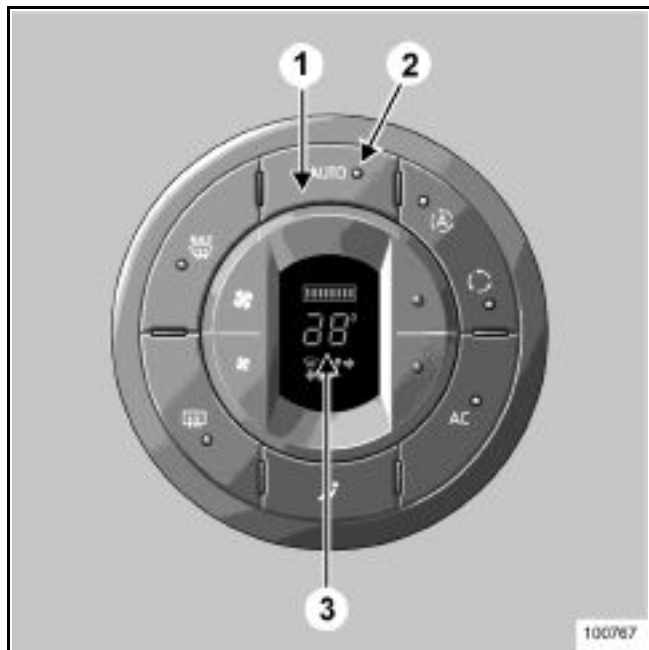
NOTE:

- Each time the ignition is switched on, temperature adjustment reverts to the whole passenger compartment: the indicator light (30) is off.
- The dial (29) cannot be activated if the "See clear" function on the driver's control unit is working. In this case, the indicator light (30) goes out.

I - AUTOMATIC AIR CONDITIONING

1 - DRIVER CONTROL

a - Automatic mode selection

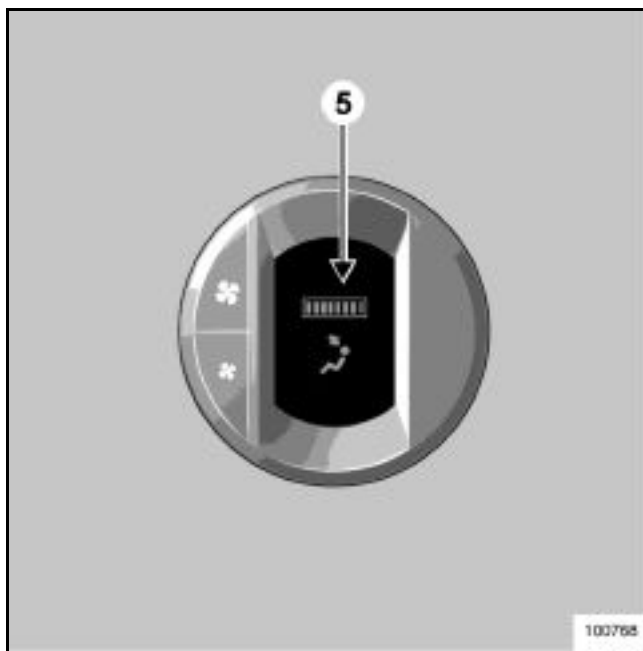
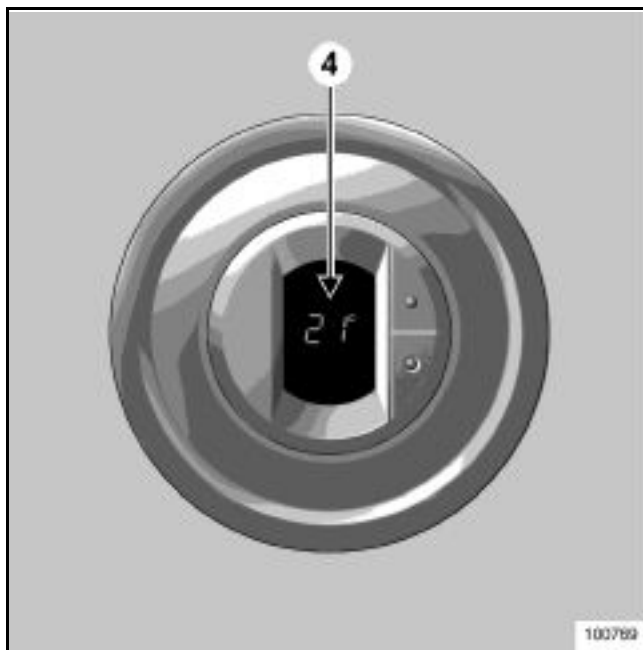


Press button (1). The operating indicator (2) lights up.

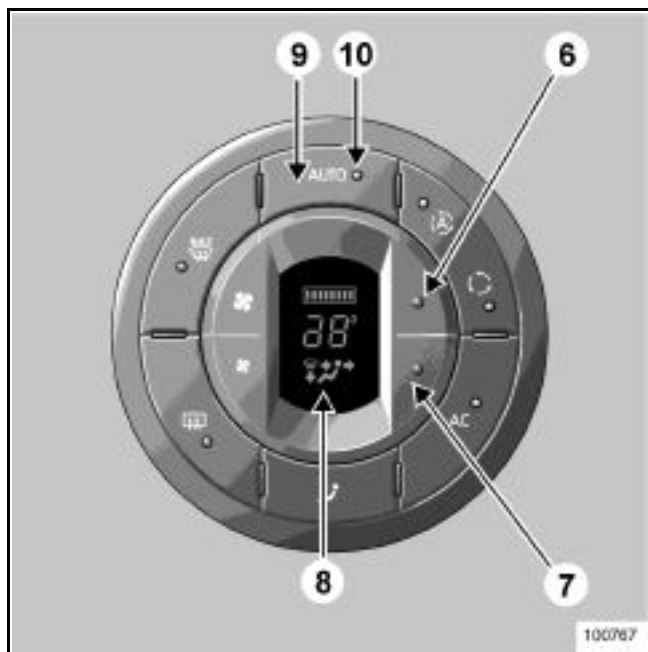
This is the advised mode of use: in fact, the automatic air conditioning system guarantees (except in cases of extreme use) that the atmosphere in the passenger compartment is comfortable and that a good level of visibility is maintained.

To do this, the system affects:

- ventilation speed;
- air distribution;
- management of air recirculation;
- switching the air conditioning on or off,
- the air temperature on the right or left.



The operating indicator lights and the information shown on displays (3), (4) and (5) show the choice of system and adjustments.

b - Driver's temperature level adjustment

To increase the temperature, press button (6).

To lower the temperature, press button (7).

The temperature level can be adjusted from 16 to 26°C.

There are two categories of use:

- using buttons (6) and (7) on the driver's side, the temperature level may be adjusted for the whole passenger compartment; the temperatures on the displays (8) and the one on the passenger control are always the same,
- using buttons (6) and (7) the temperature level may be adjusted on the driver's side only.

There are two ways for the driver to readjust the temperature level in the whole passenger compartment:

- after switching off the ignition for at least 20 minutes,
- by keeping the AUTO button (9) pressed down until the operating indicator light (10) flashes, even if it is already lit.

NOTE:

The temperature displayed on the passenger side is the same as the one displayed on the driver's side.

SPECIAL FEATURE:

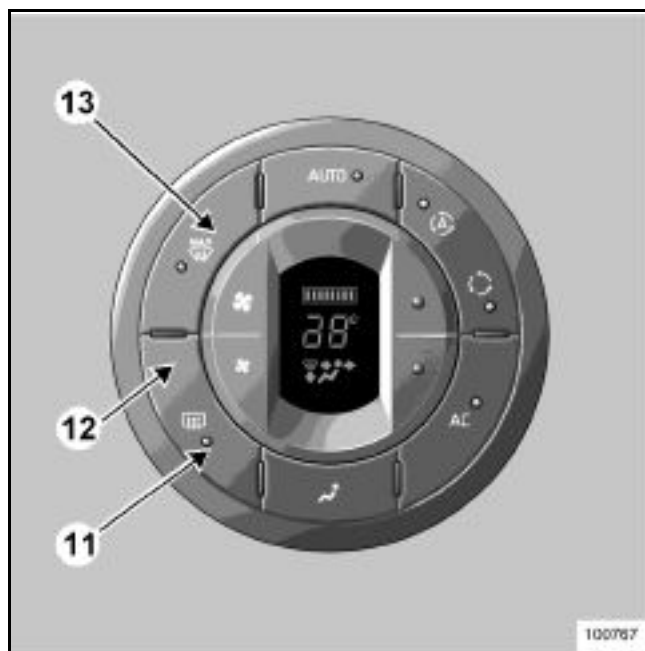
The RENAULT card stores the settings selected by the user. It is therefore advisable to always keep the same RENAULT card so that your personal settings can be retrieved.

TEMPERATURES:

The temperatures displayed relate to a comfort level.

When starting the vehicle in cold or hot conditions, increasing or decreasing the value displayed does not mean that comfort will be attained more rapidly (whatever the comfort level indicated, the system performs the optimum increase or decrease in temperature).

In general, unless causing a particular problem, the air vents should always be open whatever the climatic conditions.

c - De-icing/demisting rear screen and door mirrors

Press button (12), the operation indicator light (11) comes on.

This function performs de-icing and rapid electric demisting of the rear screen and electric de-icing door mirrors.

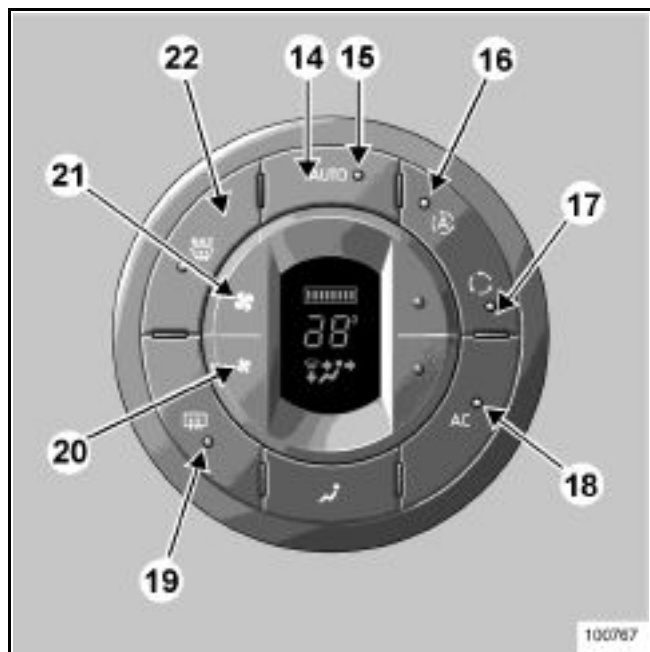
To exit this function:

- it switches off automatically after a time determined by the system,
- press button (12) again.

NOTE:

The rear screen and electric door mirrors de-icing function comes on automatically when the "See clear" (13) button is pressed.

d - "Clear view" function



Press the "see clear" button (22), the operation indicator light (21) comes on.

The light (15) on the AUTO button (14) switches off.

This function rapidly de-ices and demists the windscreen, front side windows, electric door mirrors and the electric rear screen (operating indicator light (19) on).

For increased efficiency, it automatically switches on the air conditioning (operating indicator (18) lit) and switches off the air recirculation (operating indicator (16) and (17) off).

The optimal air flow is thus directed towards the windscreen and front side windows.

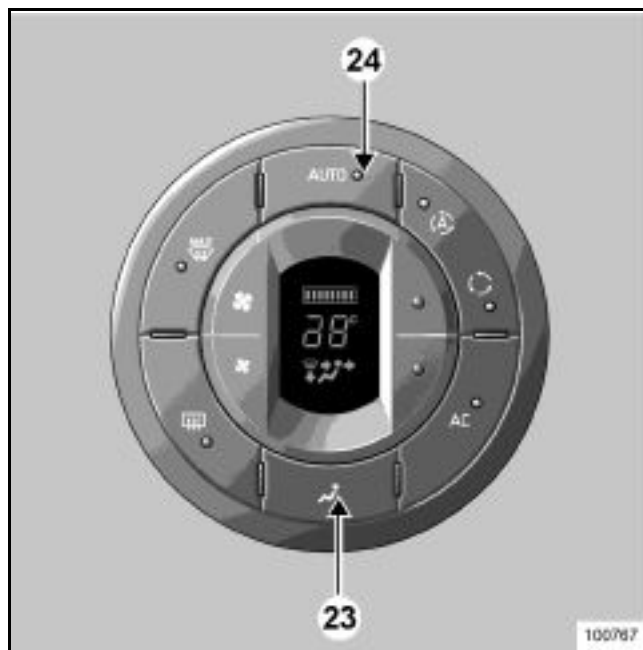
NOTE:

To alter the flow of air (which may produce some noise in the passenger compartment), press button (20).

There are two ways of exiting this function:

- press the AUTO button (14) and the light (15) comes on
- press button (22) again and the indicator light (21) switches off.

e - Altering automatic mode and air distribution in the passenger compartment, button (6)



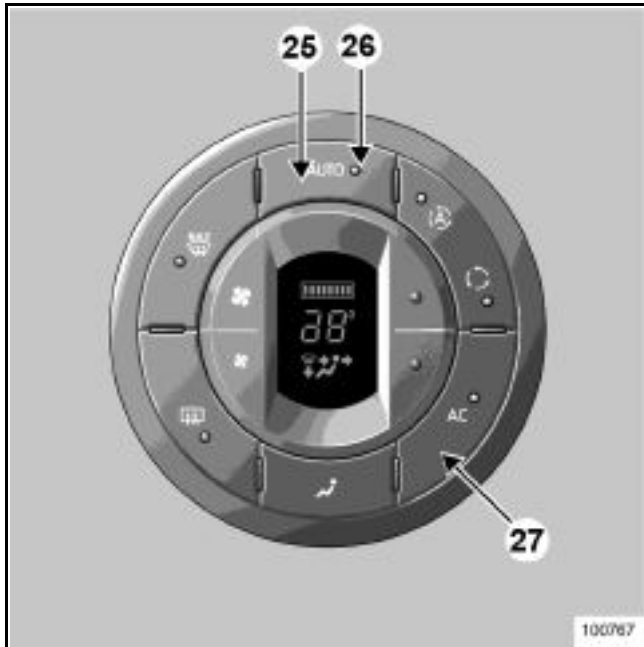
In automatic mode, the system controls the air distribution in the passenger compartment (indicator light (24) on), but it is possible to alter the choice made by the system.

Automatic mode is exited by pressing button (23), (indicator light (24) off). However, in this case, only the air distribution is no longer automatically controlled by the system.

There are three possible air distribution options which are obtained by pressing button (23) successively.

- the air comes out of the front air vents,
- the air comes out of the front and rear air vents,
- the air is directed towards the feet of the occupants.

e - Altering automatic mode and switching the air conditioning on or off



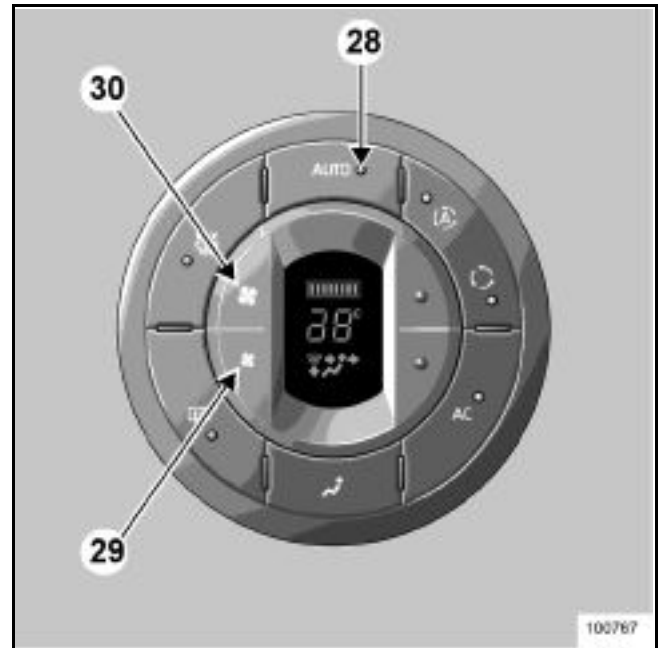
In automatic mode, the system switches the air conditioning on or off according to external climatic conditions.

Automatic mode is exited by pressing button (27), (indicator light (26) off).

Button (27) switches the air conditioning system on or off.

To return to automatic mode, press button (25).

g - Altering automatic mode and blower speed



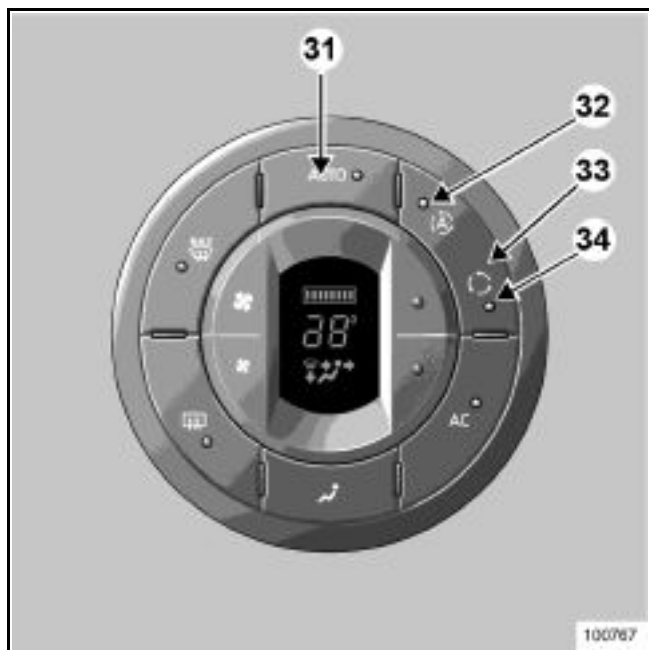
In automatic mode, the system controls the blower speed and adapts it to best reach and maintain the temperature level.

Automatic mode is exited by pressing button (29) or (30), (indicator light (28) off).

These buttons (29) and (30) decrease or increase blower speed respectively.

In automatic mode, under cold external conditions, the blower does not start straight away at maximum speed. It increases until the engine coolant temperature is sufficient to reheat the air in the passenger compartment. This may take between a few seconds to several minutes.

h - Selecting air recirculation (isolation of the passenger compartment)



The air conditioning system uses air from outside to cool or heat the passenger compartment.

However, by using the "recirculation" function, it is possible to isolate the passenger compartment from the external atmosphere, for example, when travelling in polluted areas.

NOTE:

The "automatic recirculation" function is activated by pressing the AUTO button (31) (indicator light (32) lit).

Successive presses on button (33) obtain:

- automatic recirculation,
- manual recirculation,
- external air.

Automatic recirculation

- The indicator light (32) comes on. The system analyses the quality of the air outside and, when necessary, automatically isolates the passenger compartment.

Manual recirculation

- the indicator light (34) comes on. Air is taken from the passenger compartment and is recirculated, with no air being taken from outside the vehicle.

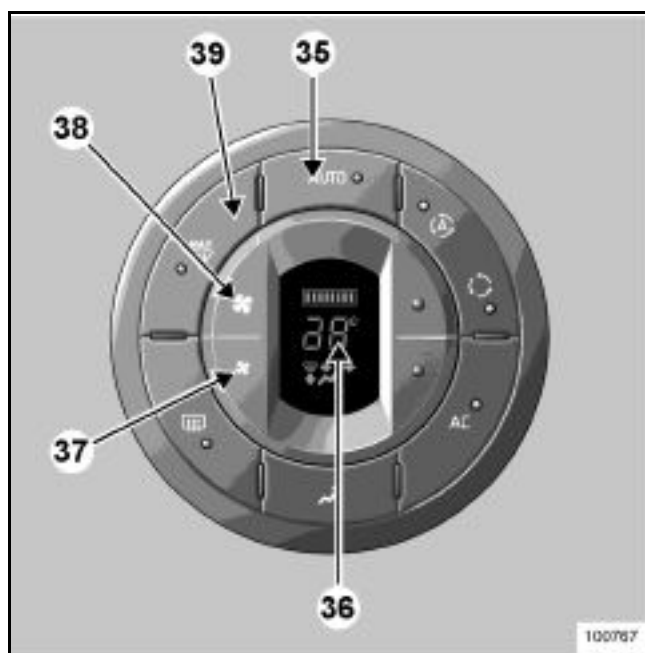
NOTE:

Prolonged use of manual recirculation can lead to condensation forming on the side windows and the windscreen and discomfort due to air not being renewed in the passenger compartment. We therefore recommend that you return to automatic recirculation (indicator light (32) lit) or outside air as soon as manual recirculation is no longer necessary.

External air:

- operating indicator lights (32) and (34) are off.

i - Stopping the system



Press button (37) for display (36), for the front and rear passengers.

The system is then stopped.

In this situation, the passenger compartment is sealed off from the external atmosphere

To exit this function, press the AUTO button (35), the "See clear" button (39) or button (38).

j - MISCELLANEOUS

No cool air production

- Check that the controls are positioned correctly and that the fuses are in good condition. If not switch off the air conditioning function and contact a RENAULT Dealer.

Consumption:

- When the air conditioning is on, increased fuel consumption is normal (especially in urban areas).

IMPORTANT:

Do not open the refrigerant circuit.

Operating fault

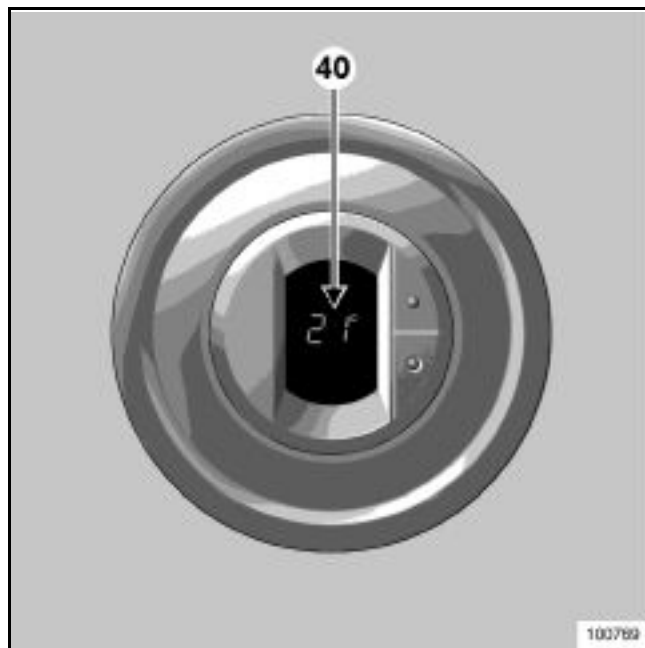
- If there is decreased efficiency in de-icing, demisting or air conditioning, this could mean that the air intake filter cartridge is clogged.
- After using the air conditioning for a prolonged period, it is usual to note that water from condensation is present under the vehicle.

Vehicles fitted with an auxiliary heater

- Some vehicles are fitted with an auxiliary heater to heat the passenger compartment more quickly.
- This device only works when the engine is running and in cold weather.
- When it is running, it is usual to see a small amount of smoke on the right side of the vehicle coming from the heater exhaust system.

2 - PASSENGER CONTROL

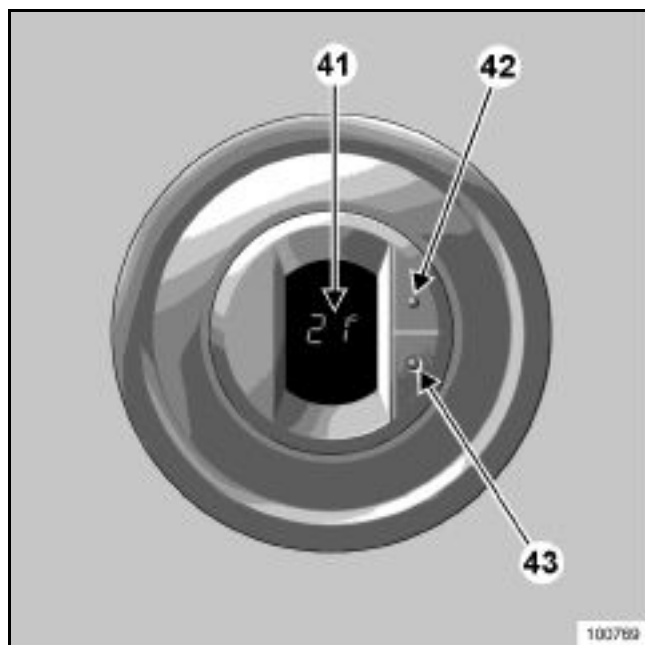
a - Automatic mode selection



This function is only controlled by the driver's controls.

When automatic mode is running, the indicator light (40) shows the choice of system and adjustments.

b - Comfort level adjustment



To increase the temperature, press button (42).

To lower the temperature, press button (43).

The comfort level can be adjusted from 16 to 26°C.

Use buttons (43) and (42) to adjust the temperature level separately on the left and right-hand sides.

The temperature is shown on the display (41).

Buttons (42) and (43) adjust the temperature level on the passenger side.

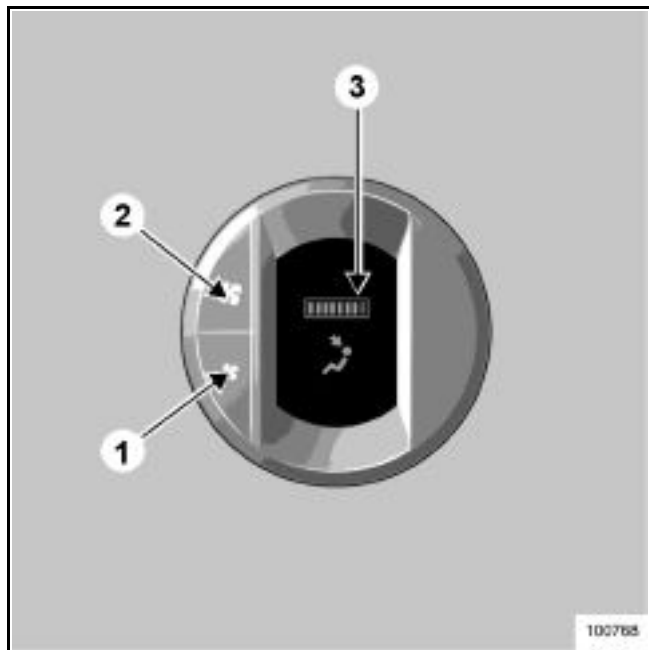
NOTE:

The system can only be stopped by the driver's control.

I - AUTOMATIC AIR CONDITIONING

1 - REAR PASSENGER CONTROLS

a - Adjusting blower speed in the rear seats



For vehicles fitted with them, the controls located in each of the rear doors can be used to adjust the blower speed from the air vents for the rear passengers.

The indicator (3) is made up of several illuminated lines and shows the requested blower speed.

Press button (2) to increase the blower speed.

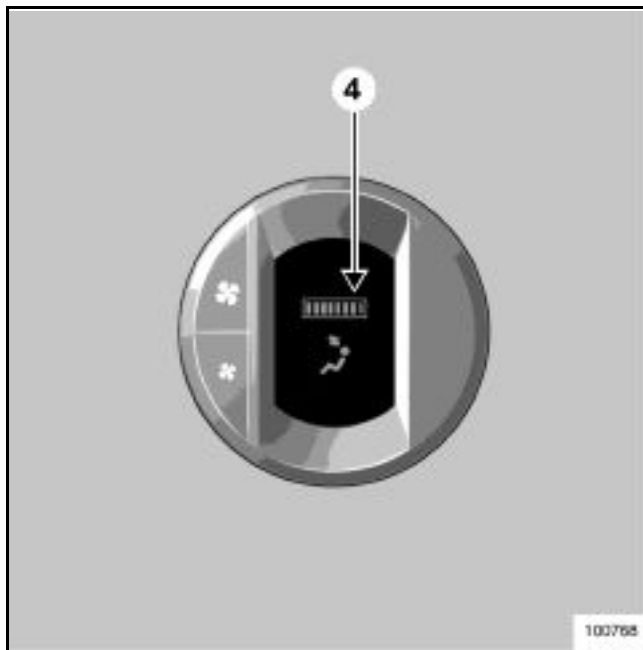
Press button (1) to decrease the blower speed.

To cancel blown air in the rear seats, press button (1) until the last line on the indicator (3) disappears.

There are two ways to return to normal blower speed (minimum adjustment speed defined by the system) in the rear seats:

- after switching off the ignition for at least 20 minutes,
- by keeping the AUTO button (25) on the driver's control unit pressed down until the operating indicator (26) flashes, even if it is already lit (see page 61A-16).

b - Conditions of use



In some cases (such as, for example, when the passenger compartment is very hot), the blower speed cannot be further increased if the last red line on the indicator (4) is lit. It will be possible once again when the red line goes out.

HEATING

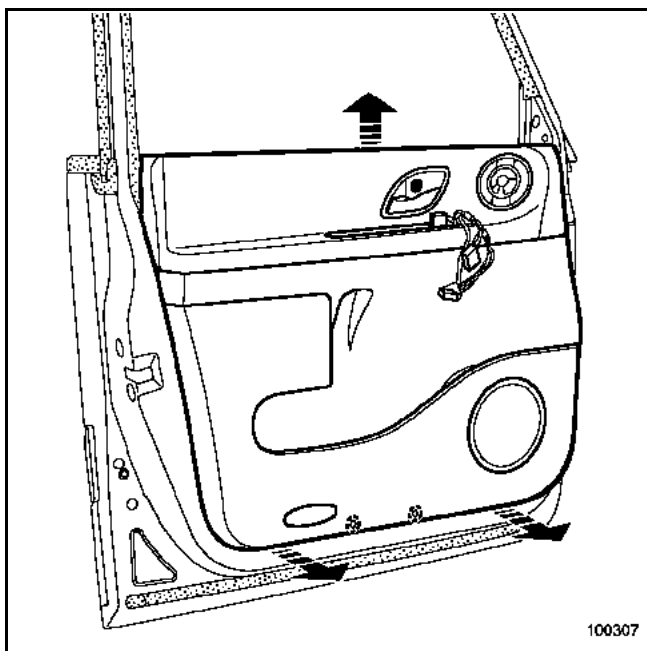
Removing and refitting the control panel

61A

There are two control panels, driver's and passenger; these are located on the linings of the front doors. They are removed in the same way.

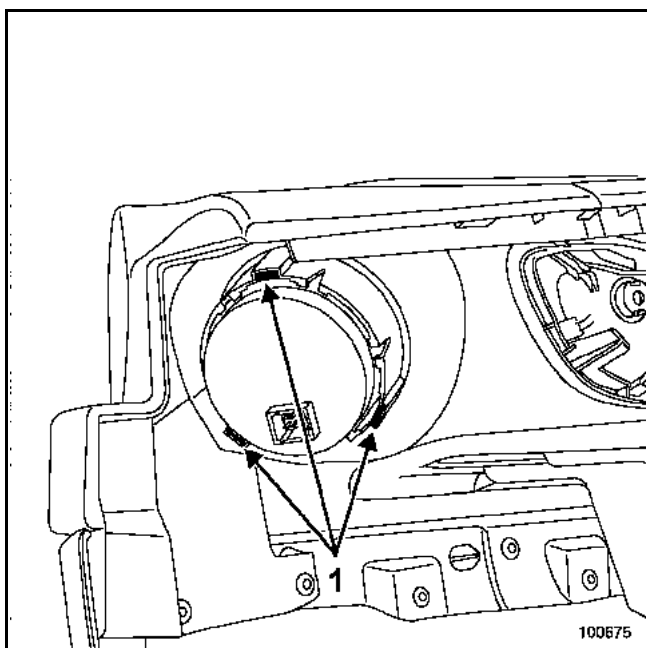
REMOVAL

Disconnect the battery.



Remove the panel linings (See Section 72A Side opening elements trim).

Disconnect the various connectors.



Insert a flat screwdriver in the notches (1), put pressure on the screwdriver to release the control unit concerned.

NOTE:

The control unit comes out forwards.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Before refitting the lining panel, check that the controls on the control unit are working properly.

HEATING

Removing/refitting the rear control panel

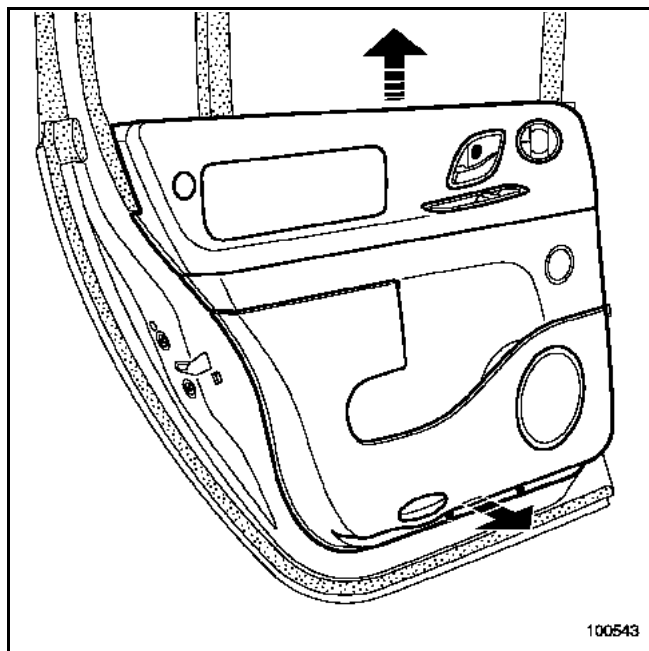
61A

There are two passenger control panels; these are located on the rear door linings.

Both panels are removed in the same way.

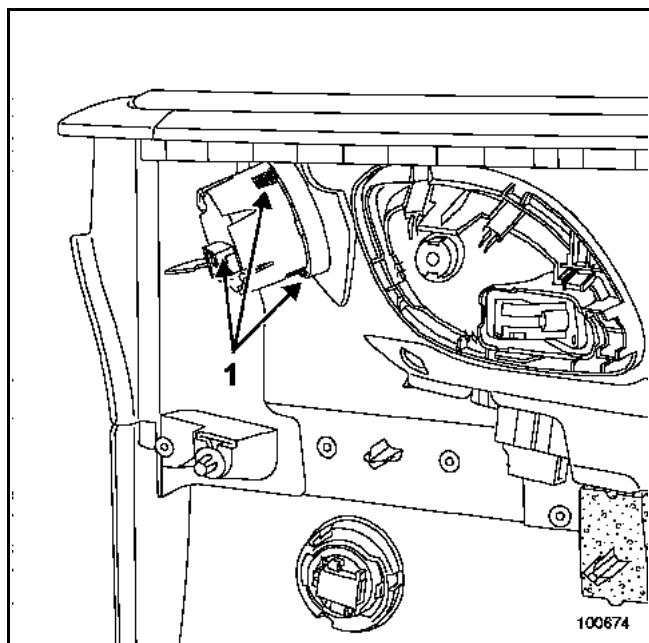
REMOVAL

Disconnect the battery.



Remove the lining panel (See Section 72A Side opening elements trim).

Disconnect the various connectors.



Place a flat screwdriver in the notches (1).

Put pressure on the screwdriver to release the relevant control unit.

NOTE:

The control unit comes out forwards.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

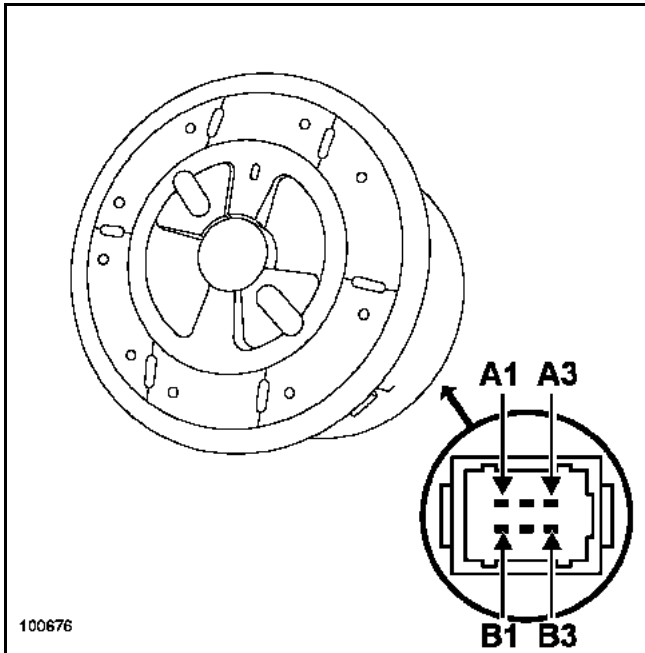
Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Before refitting the lining panel, check that the controls on the control unit are working properly.

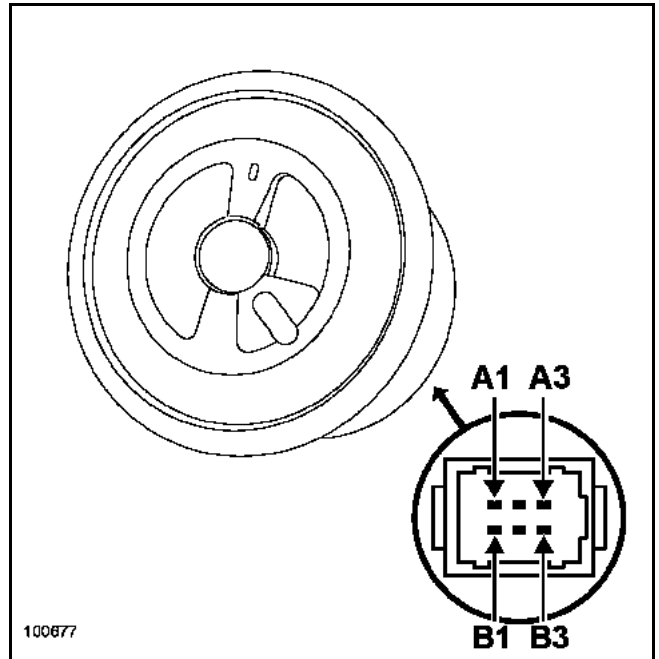
I - HEATING - AIR CONDITIONING

1 - DRIVER CONTROL



Track description	Track	Input - Output
+ 12 V after ignition	A1	Input
Electrical earth	A2	Input
Data exchange line between the computer and the air conditioning control panel	A3	Input/Output
0 V Rheostat	B1	
Driver's side output	B2	Input
20 V supply	B3	
Not used		

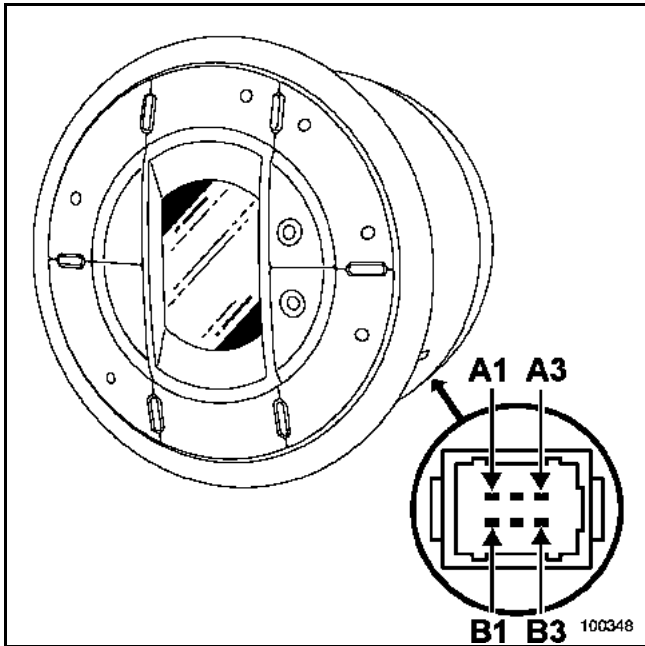
2 - PASSENGER CONTROL



Track description	Track	Input - Output
+ 12 V after ignition	A1	Input
Electrical earth	A2	Input
Not used	A3	
0 V Rheostat	B1	
Passenger side output	B2	Input
20 V supply	B3	
Data exchange line between the computer and the air conditioning control panel	B3	Input/Output

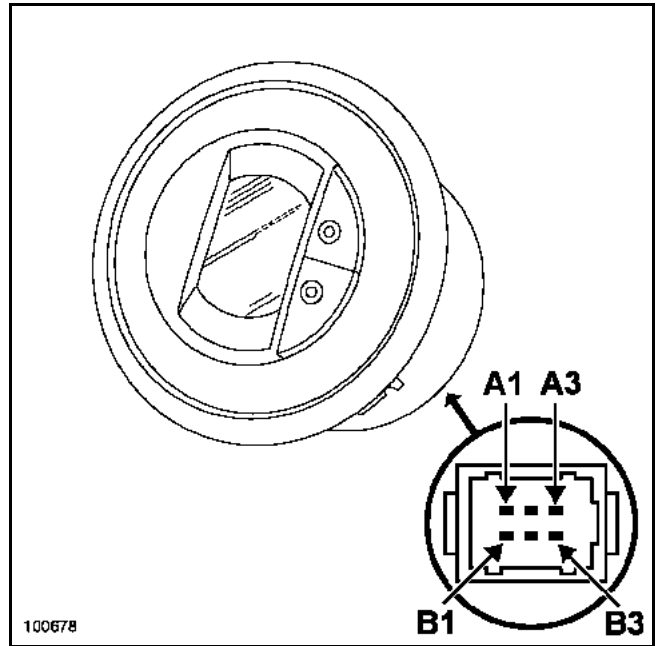
II - AUTOMATIC AIR CONDITIONING

1 - DRIVER CONTROL



Track description	Track	Input - Output
+ 12 V after ignition	A1	Input
Electrical earth	A2	Input
Data exchange line between the computer and the air conditioning control panel	A3	Input/Output
0 V Rheostat	B1	
Driver's side output	B2	Input
20 V supply	B3	
Not used		

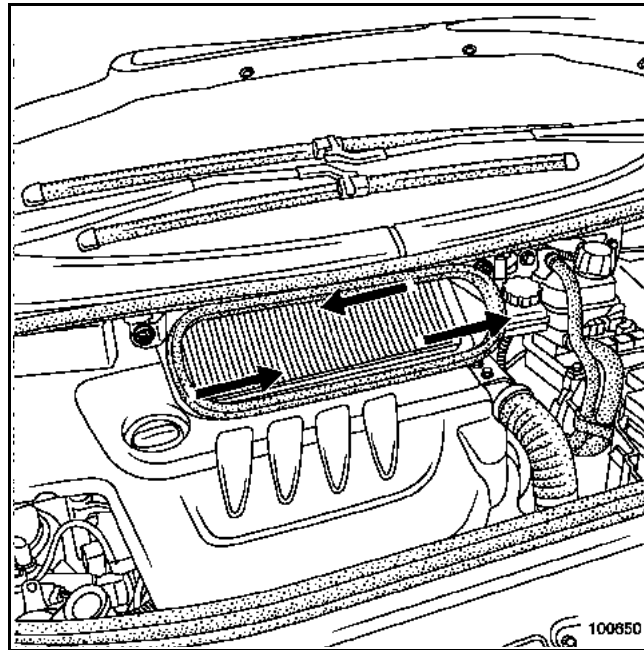
2 - PASSENGER CONTROL



Track description	Track	Input - Output
+ 12 V after ignition	A1	Input
Electrical earth	A2	Input
Not used	A3	
0 V Rheostat	B1	
Passenger side output	B2	Input
20 V supply		
Data exchange line between the computer and the air conditioning control panel	B3	Input/Output

REMOVAL

Open the bonnet.



Rotate the cabin filter by pressing the top of the filter.

Remove the cabin filter.

REFITTING

Proceed in the reverse order to removal.

HEATING

Air distribution unit

61A

SPECIAL TOOLING REQUIRED

Hydraulic jack

TIGHTENING TORQUES (in daNm)



Heater bracket mounting bolts	2.1
Sub-frame rear mounting bolts	10.5
Rear tie-rod mounting bolts	10.5
Side plastic cover mounting bolts	2.1
Air conditioning cover protection mounting bolts	2.1
Air conditioning cover mounting bolts	0.2
Seat mounting nuts	4.4
Pipe mounting nuts on the internal flange	0.8
Air distribution unit mounting bolt.	2.1

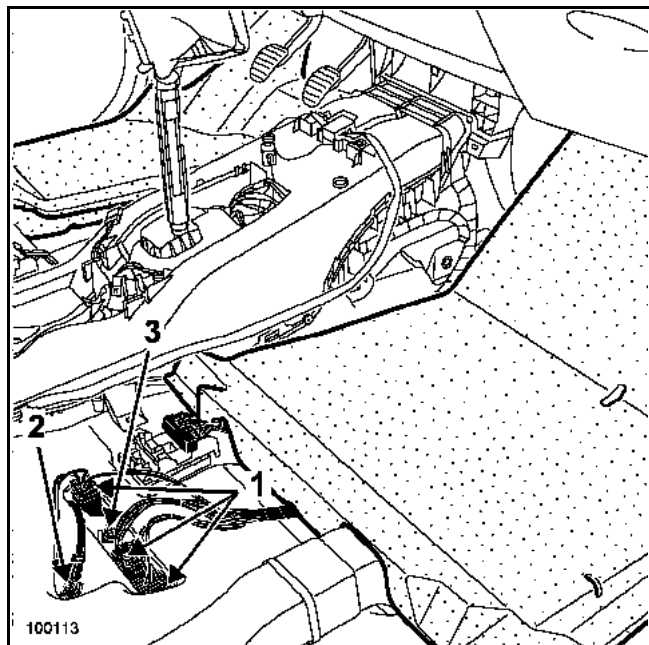
REMOVAL

Put the vehicle on a two-post lift

Drain the refrigerant circuit using a filling station.

Disconnect the battery.

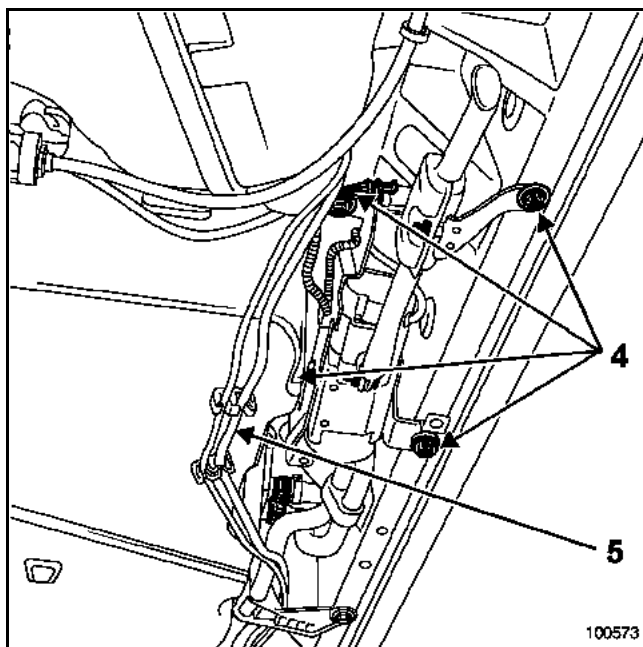
Remove the front right-hand seat (see Section **72A** **Follow the safety advice**) to gain access to the various connections attached to the air distribution unit.



Disconnect the three connectors (1).

Remove:

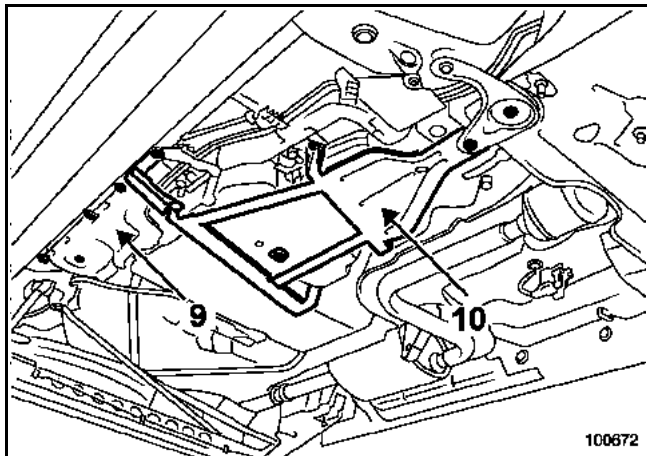
- the earth strap (2),
- the supply strap (3).



For vehicles fitted with an auxiliary heater

Unscrew the four bolts from the auxiliary heater mounting (4) to remove the air conditioning unit.

Release the fuel supply pipes (5) from the air conditioning cover.

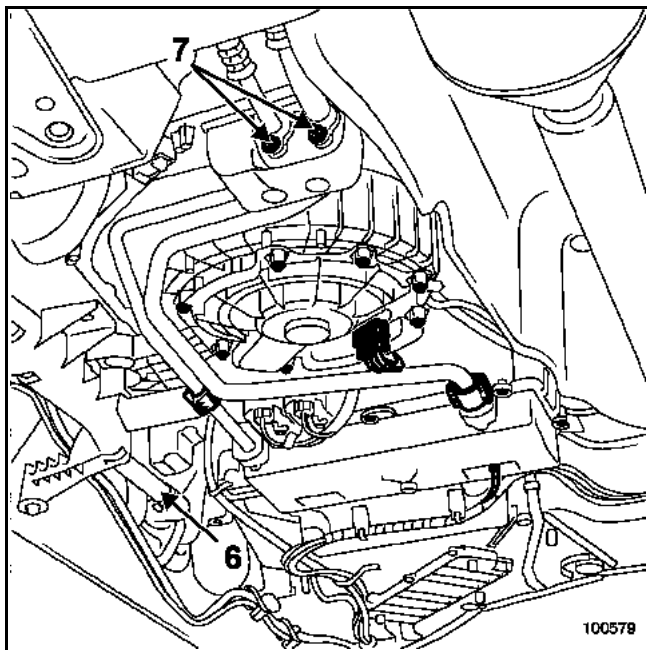


Remove:

- the side plastic cover (9), for vehicles not fitted with additional heating,
- the air conditioning cover (10) protection,
- release the parking brake cable on the air conditioning cover.

NOTE:

It is not necessary to remove the air conditioning cover to remove the distribution unit from the vehicle.



Drain the circuit of coolant (6).

Remove the two mounting nuts (7).

Remove the air conditioning pipes.

Fit the plugs into the ports.

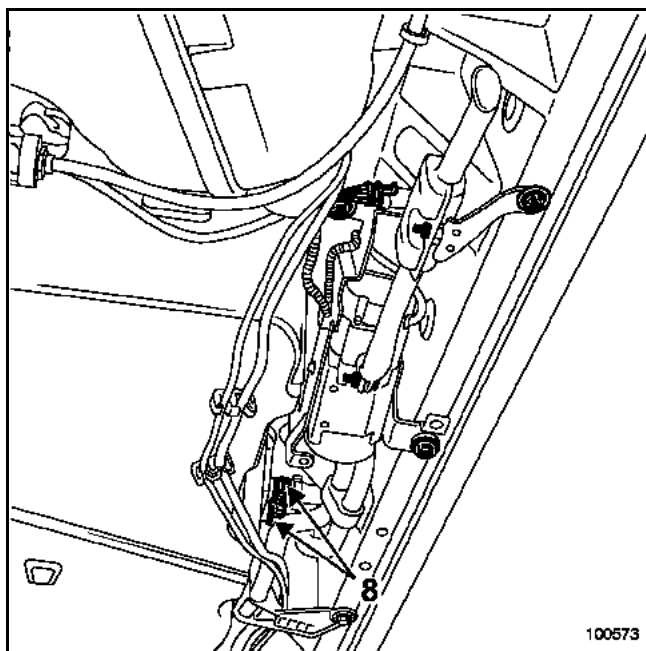
NOTE:

This operation requires two people.

Fit a hydraulic jack under the air conditioning cover.

Remove all the mounting bolts from the air conditioning unit.

Remove the auxiliary heater support if the vehicle has one.



Gently lower the air conditioning unit to remove the coolant hoses (8).

Remove the air conditioning unit from the vehicle.

Turn over the vehicle air conditioning unit then remove the air conditioning cover.

Remove the air conditioning cover to reach the air distribution unit.

REFITTING

Proceed in the reverse order to removal.

NOTE:

Do not forget to reconnect the connectors and to attach the two front straps to attach the front passenger seat.

Fill the refrigerant circuit using a filling station.

Fill and bleed the refrigerant system, (see Section **19A Filling and Bleeding**).

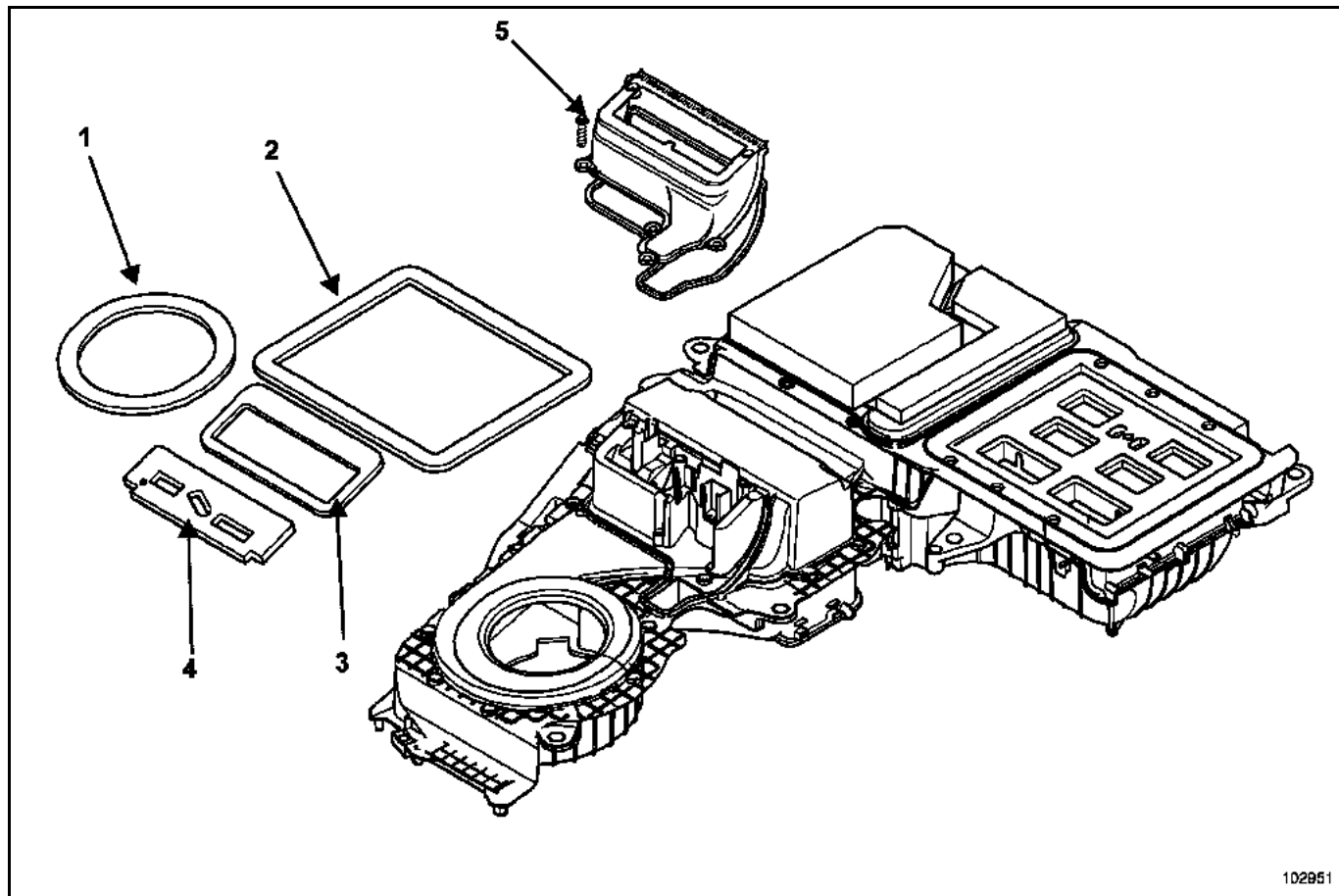
IMPORTANT:

Connect the battery; carry out the necessary programming (see **Section 8**).

Perform a leak test, with the engine running and with the air conditioning and blower on full, using a leak detector, within five minutes after the filling operation.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **sub-frame rear mounting bolts (10.5 daNm)**,
- the **rear tie-rod mounting bolts (10.5 daNm)**
- the **side plastic cover mounting bolts (2.1 daNm)**,
- the **air conditioning cover protection mounting bolts (2.1 daNm)**,
- the **air conditioning cover mounting bolts (0.2 daNm)**,
- the **seat mounting nuts (4.4 daNm)**,
- the **pipe mounting nuts on the internal bracket (2.1 daNm)**.



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REMOVAL

Put the vehicle on a two-post lift.

Drain the refrigerant circuit using a filling station.

Disconnect the battery.

NOTE:

- This operation is carried out after the distribution unit has been removed (see Section **61A Distribution unit**).

Each time the distribution unit is removed, the seal needs to be replaced: (1), (2), (3) and (4).

NOTE:

- To access seal (4), part (5) needs to be removed.

REFITTING

Proceed in the reverse order to removal.

Check that all the connectors are connected.

Fill the refrigerant circuit using a filling station.


WARNING:

- Connect the battery; carry out the necessary programming (see Section **8**).

NOTE:

- Make sure the air conditioning is working properly by running the fan at maximum speed.
- If it does not get cold, look for leaks (see Section **62A Looking for leaks**).

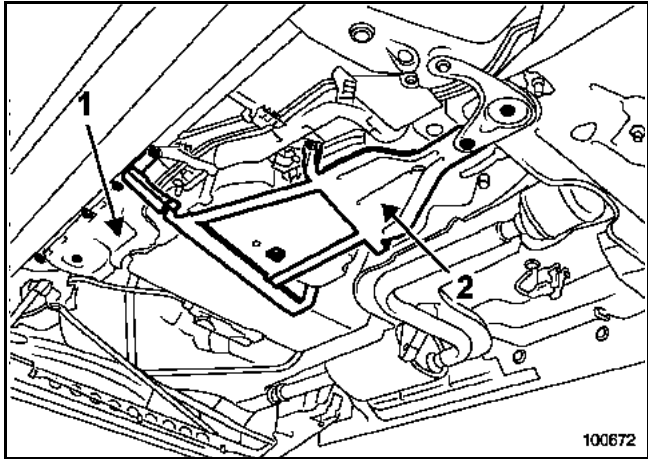
SPECIAL TOOLING REQUIRED
Hydraulic jack

TIGHTENING TORQUES (in daNm)	
Heater support mounting bolts	2.1
Sub-frame rear mounting bolts	10.5
Rear tie-rod rear mounting bolts	10.5
Side plastic cover mounting bolts	2.1
Air conditioning cover protection mounting bolts	2.1
Air conditioning cover mounting bolts	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

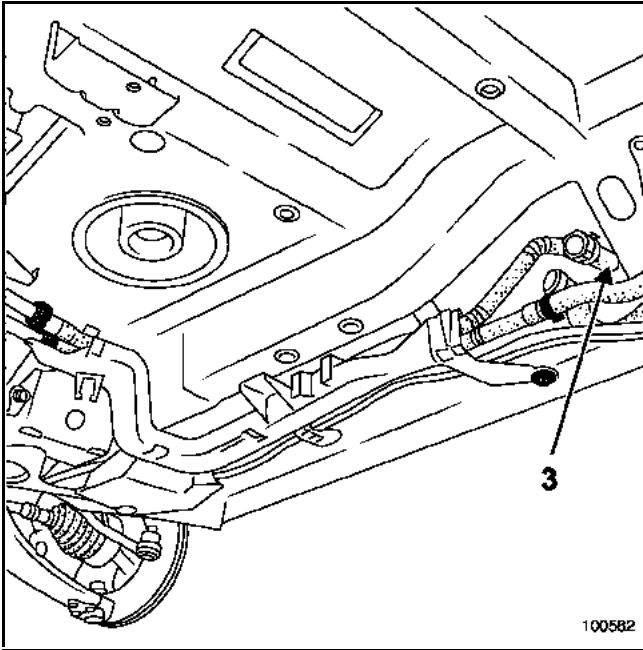


Remove:

- the side plastic cover (1), for vehicles not fitted with an auxiliary heater,
- the air conditioning cover (2) protection.

Release:

- the parking brake cable on the air conditioning cover.
- the fuel supply pipes attached to the air conditioning cover.



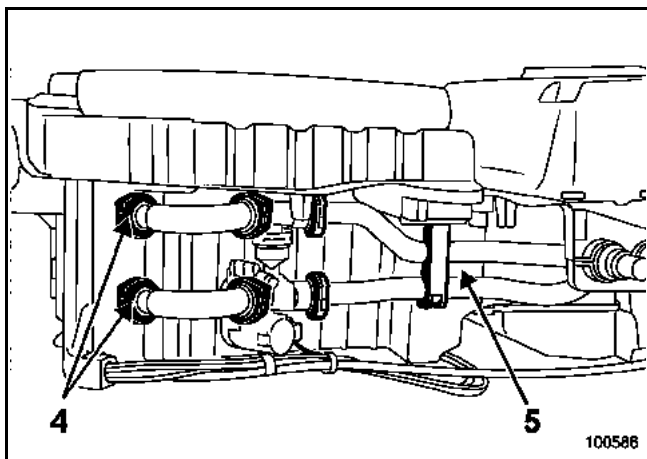
Drain the circuit of refrigerant at (3).

IMPORTANT:
The flow is rapid.

Fit a hydraulic jack under the air conditioning cover.

Remove all the mounting bolts from the air conditioning cover.

Remove the air conditioning cover.



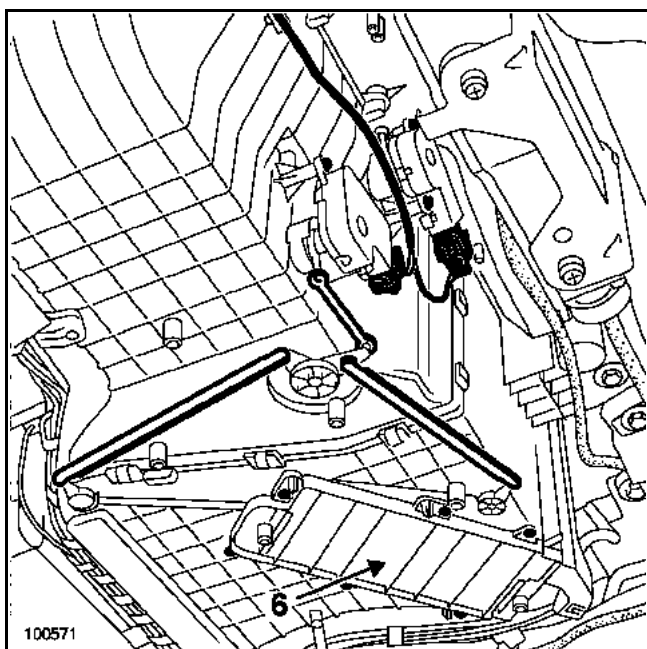
Remove:

- the two mounting clips from the radiator (4),
- the retaining bracket from the coolant pipes (5).

Remove the coolant pipes.

IMPORTANT:

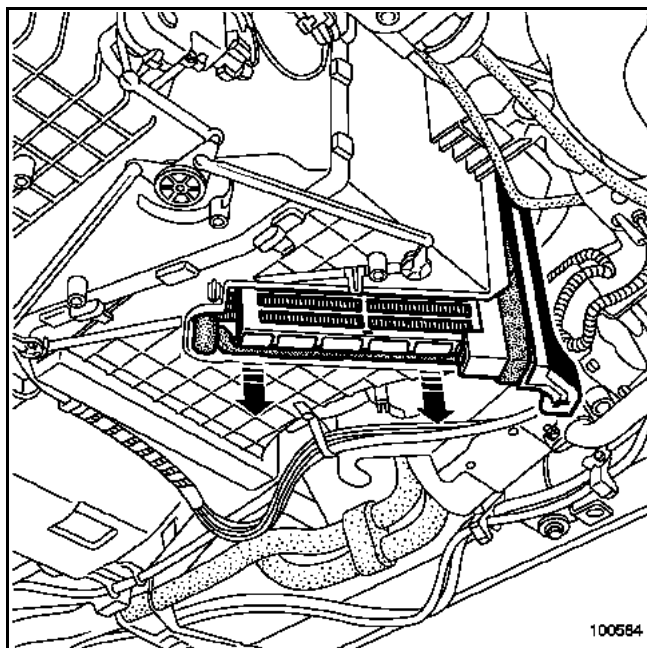
When removing the radiator cover/heating resistor, take care not to drop and damage them.



Remove the cover (6).

IMPORTANT:

There will still be some coolant remaining in the pipes and radiator.



Remove the heating resistor (see Section **61A Heating resistor**) with the heater radiator.

REFITTING

Proceed in the reverse order to removal.

Fill and bleed the cooling system, (see Section **19A Filling and Bleeding**).

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section **8**).

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **sub-frame rear mounting bolts (10.5 daNm)**,
- the **rear tie-rod rear mounting bolts (10.5 daNm)**,
- the **side plastic cover mounting bolts (2.1 daNm)**,
- the **air conditioning cover protection mounting bolts (2.1 daNm)**,
- the **air conditioning cover mounting bolts (0.2 daNm)**.

HEATING Fan assembly

61A

SPECIAL TOOLING REQUIRED

Hydraulic jack

TIGHTENING TORQUES (in daNm)

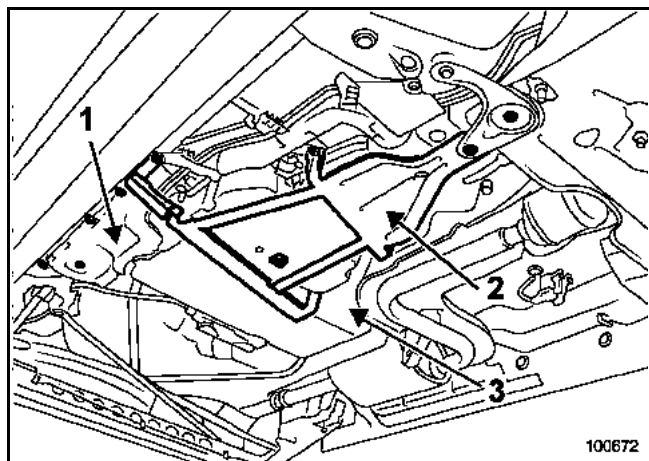


Heater support mounting bolts	2.1
Sub-frame rear mounting bolts	10.5
Rear tie-rod rear mounting bolts	10.5
Side plastic cover mounting bolts	2.1
Air conditioning cover protection mounting bolts	2.1
Air conditioning cover mounting bolts	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



Remove:

- the side plastic cover (1), for vehicles not fitted with an auxiliary heater,
- the air conditioning cover (2) protection,

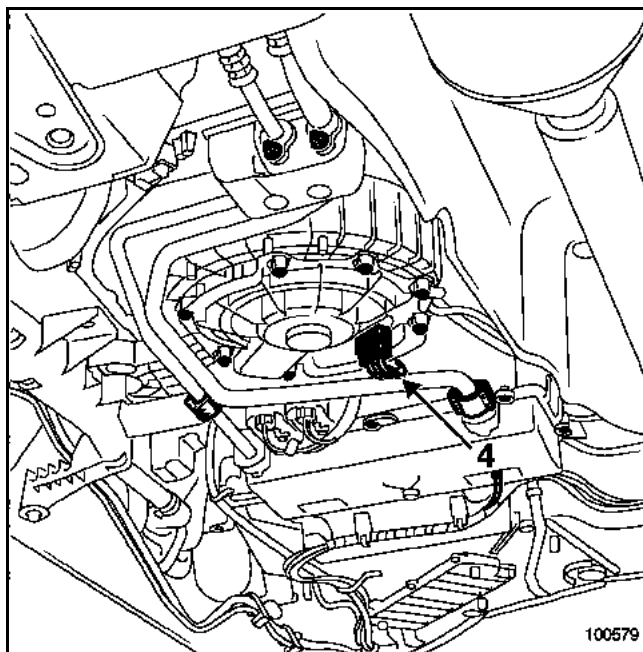
Release:

- the parking brake cable on the air conditioning cover (3)
- the fuel supply pipes attached to the air conditioning cover.

Fit a hydraulic jack under the air conditioning cover.

Remove all the mounting bolts from the air conditioning cover.

Remove the air conditioning cover.



Disconnect the connector from the fan assembly (4).

Support the fan assembly and remove the mounting bolts.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **sub-frame rear mounting bolts (10.5 daNm)**,
- the **rear tie-rod rear mounting bolts (10.5 daNm)**,
- the **side plastic cover mounting bolts (2.1 daNm)**,
- the **air conditioning cover protection mounting bolts (2.1 daNm)**,
- the **air conditioning cover mounting bolts (0.2 daNm)**,

EQUIPMENT REQUIRED

Hydraulic jack

Special feature: the blower propeller is powered by two motors. These are controlled separately. Each one has its own power unit.

TIGHTENING TORQUES (in daNm)

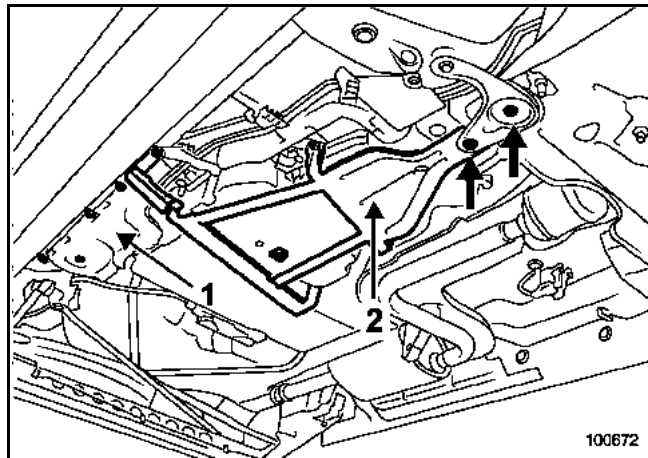


Heater support mounting bolts	2.1
Rear tie-rod rear mounting bolts	10.5
Side plastic cover mounting bolts	2.1
Air conditioning cover protection mounting bolts	2.1
Air conditioning cover mounting bolts	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



Remove:

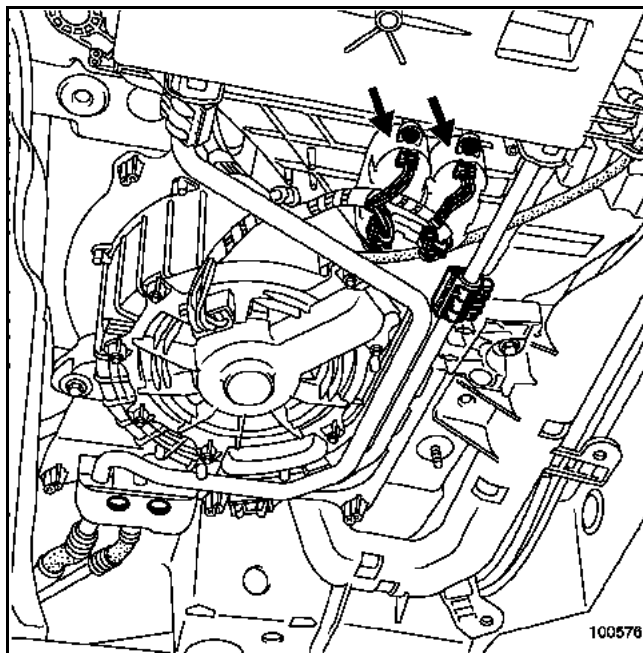
- the side plastic cover (1), for vehicles not fitted with an auxiliary heater,
- the air conditioning cover (2) protection.

Release the fuel supply pipes from the air conditioning cover.

Fit a hydraulic jack under the air conditioning cover.

Remove all the mounting bolts from the air conditioning cover and take it out.

The power unit controls the speed of the blower depending on the requirements determined by the automatic control.



Remove:

- the power unit connector concerned,
- the power unit bolts concerned,
- the power unit concerned.

REFITTING

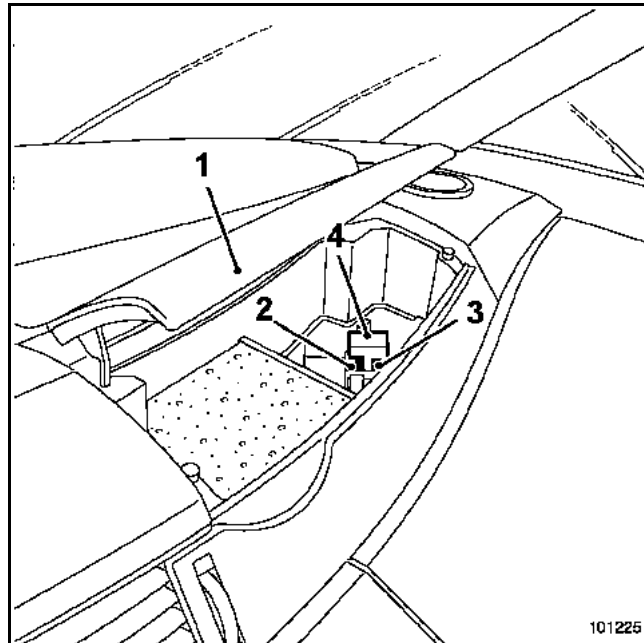
Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

REMOVAL

Disconnect the battery.



Open the cover (1).

Lift the flap.

Remove:

- the bulb (2),
- the 30A fuse (3),
- the passenger compartment fan assembly relay (4).

REFITTING

Proceed in the reverse order to removal.

NOTE:

It is necessary to disconnect the fuses using the designated pliers.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).


HEATING

Heating resistor

61A

SPECIAL TOOLING REQUIRED

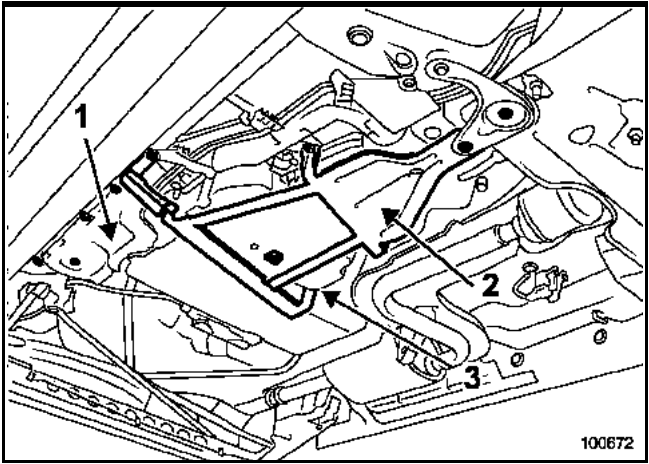
Hydraulic jack

TIGHTENING TORQUES (in daNm)	
Heater support mounting bolts	2.1
Rear tie-rod rear mounting bolts	10.5
Side plastic cover mounting bolts	2.1
Air conditioning cover protection mounting bolts	2.1
Air conditioning cover mounting bolts	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



- Remove:
- the side plastic cover (1), for vehicles not fitted with an auxiliary heater,
 - the air conditioning cover (2) protection.

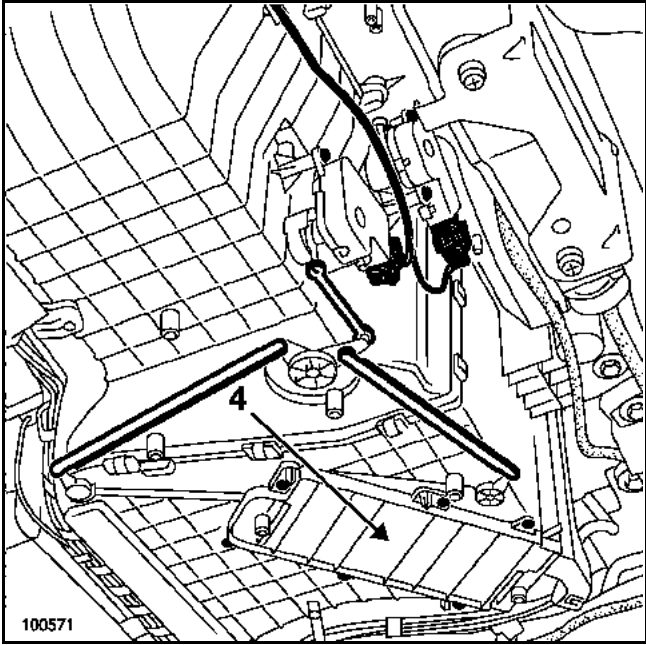
- Release:
- the parking brake cable on the air conditioning cover (3),
 - Release the fuel supply pipes from the air conditioning cover.

Fit a hydraulic jack under the air conditioning cover.

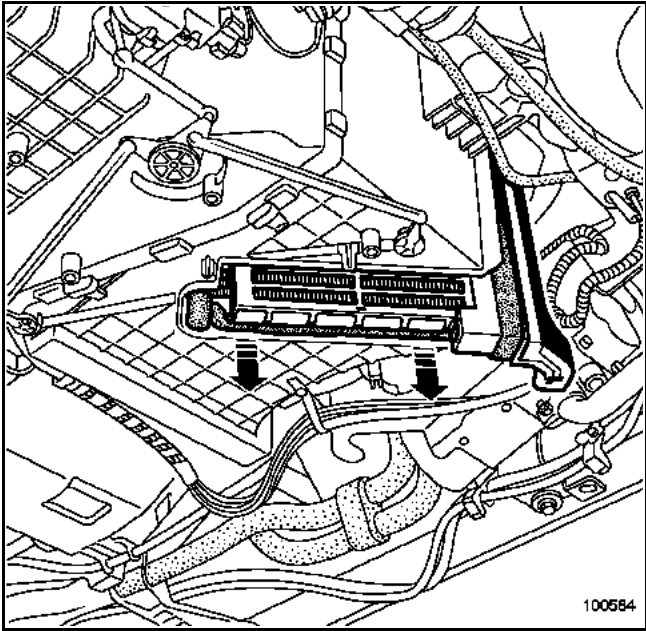
Remove all the mounting bolts from the air conditioning cover.

Remove the air conditioning cover.

IMPORTANT:
When removing the radiator cover/heating resistor, take care not to drop and damage them.



Remove the cover (4).



Lower the resistor.

HEATING

Heating resistor relay

61A

EQUIPMENT REQUIRED

Hydraulic jack

TIGHTENING TORQUES (in daNm)

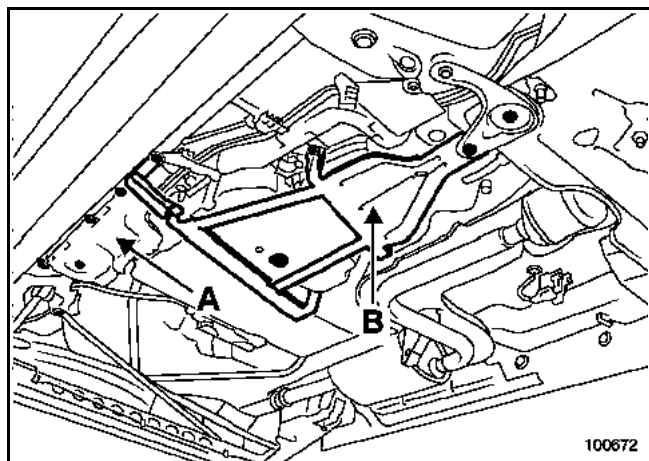


Heater support mounting bolts	2.1
Rear tie-rod rear mounting bolts	10.5
Side plastic cover mounting bolts	2.1
Air conditioning cover protection mounting bolts	2.1
Air conditioning cover mounting bolts	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



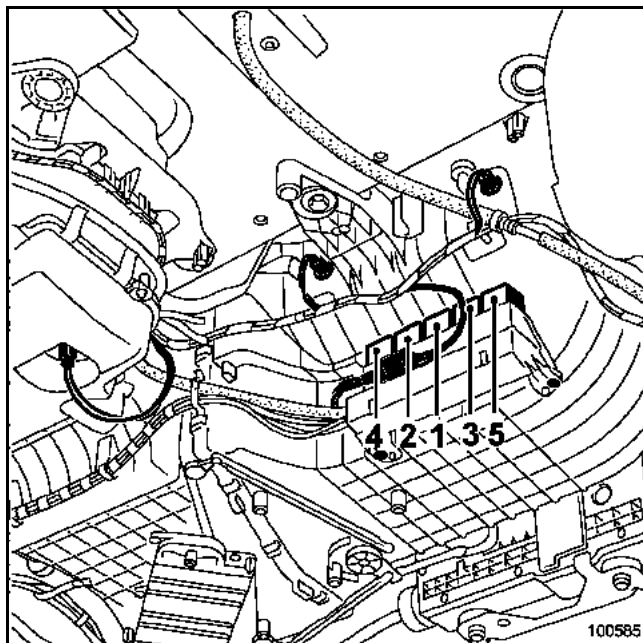
Remove:

- the side plastic cover for vehicles not fitted with additional heating (A),
- the air conditioning cover protection (B).

Release the fuel supply pipes from the air conditioning cover.

Fit a hydraulic jack under the air conditioning cover.

Remove all the mounting bolts from the air conditioning cover and take it out.



Remove the relay concerned.

REFITTING

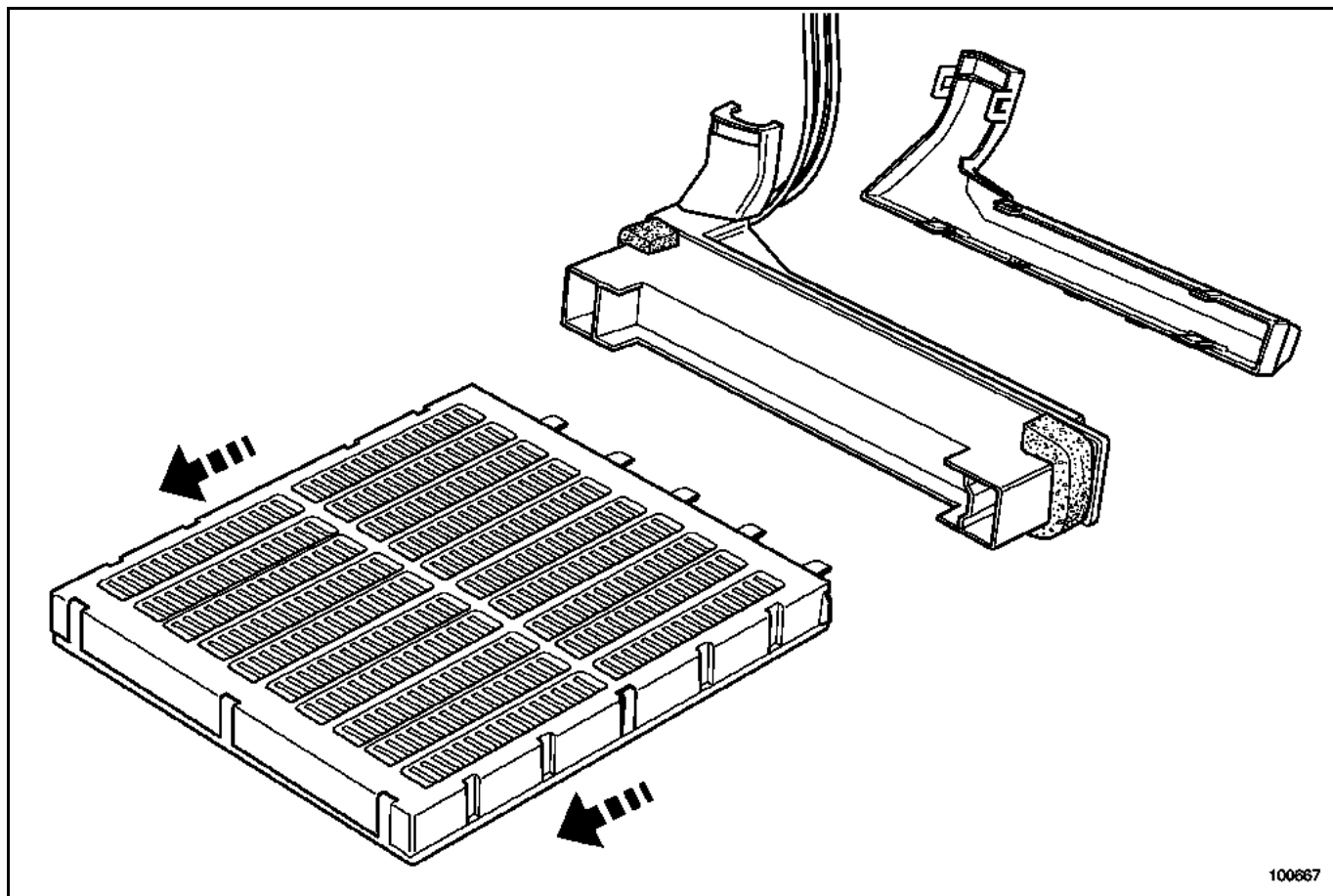
Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **sub-frame rear mounting bolts (10.5 daNm)**,
- the **rear tie-rod rear mounting bolts (10.5 daNm)**,
- the **side plastic cover mounting bolts (2.1 daNm)**,
- the **air conditioning cover mounting bolts (0.2 daNm)**.



100667

Remove the resistor from its connector.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

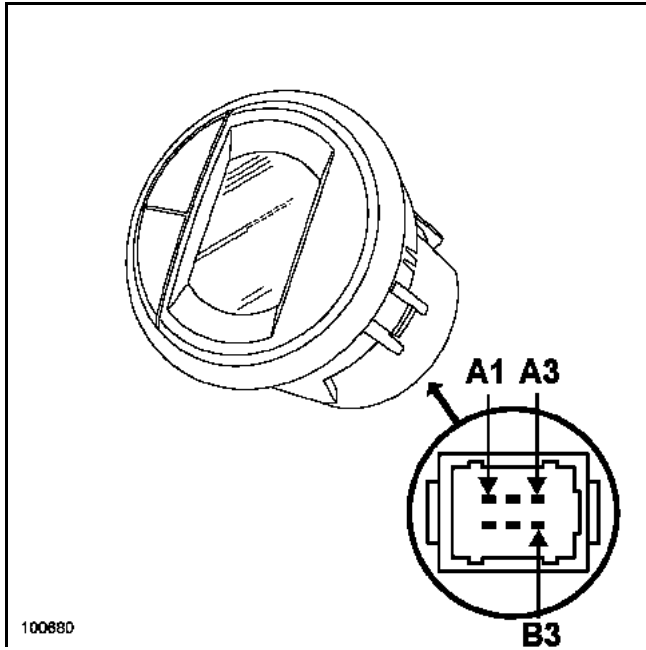
Connect the battery; carry out the necessary programming (see Section 8).

Tighten to torque:

- the heater mounting bolts (2.1 daNm),
- the sub-frame rear mounting bolts (10.5 daNm),
- the rear tie-rod rear mounting bolts (10.5 daNm),
- the side plastic cover mounting bolts (2.1 daNm),
- the air conditioning cover protection mounting bolts (2.1 daNm),
- the air conditioning cover mounting bolts (0.2 daNm).

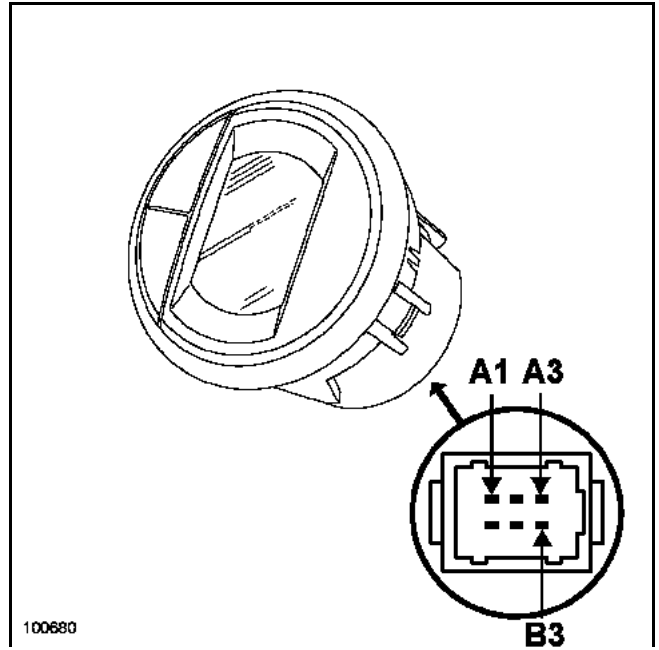
II - AUTOMATIC AIR CONDITIONING

3 - REAR PASSENGER CONTROL ON THE DRIVER'S SIDE



Track description	Track	Input - Output
+ 12 V after ignition	A1	Input
Electrical earth	A2	Input
Data exchange line between the computer and the air conditioning control panel	A3	Input/Output
Driver's side output	B2	Input
20 V supply	B3	Input
Right-hand drive electronic earth		

4 - REAR PASSENGER CONTROL ON THE PASSENGER SIDE

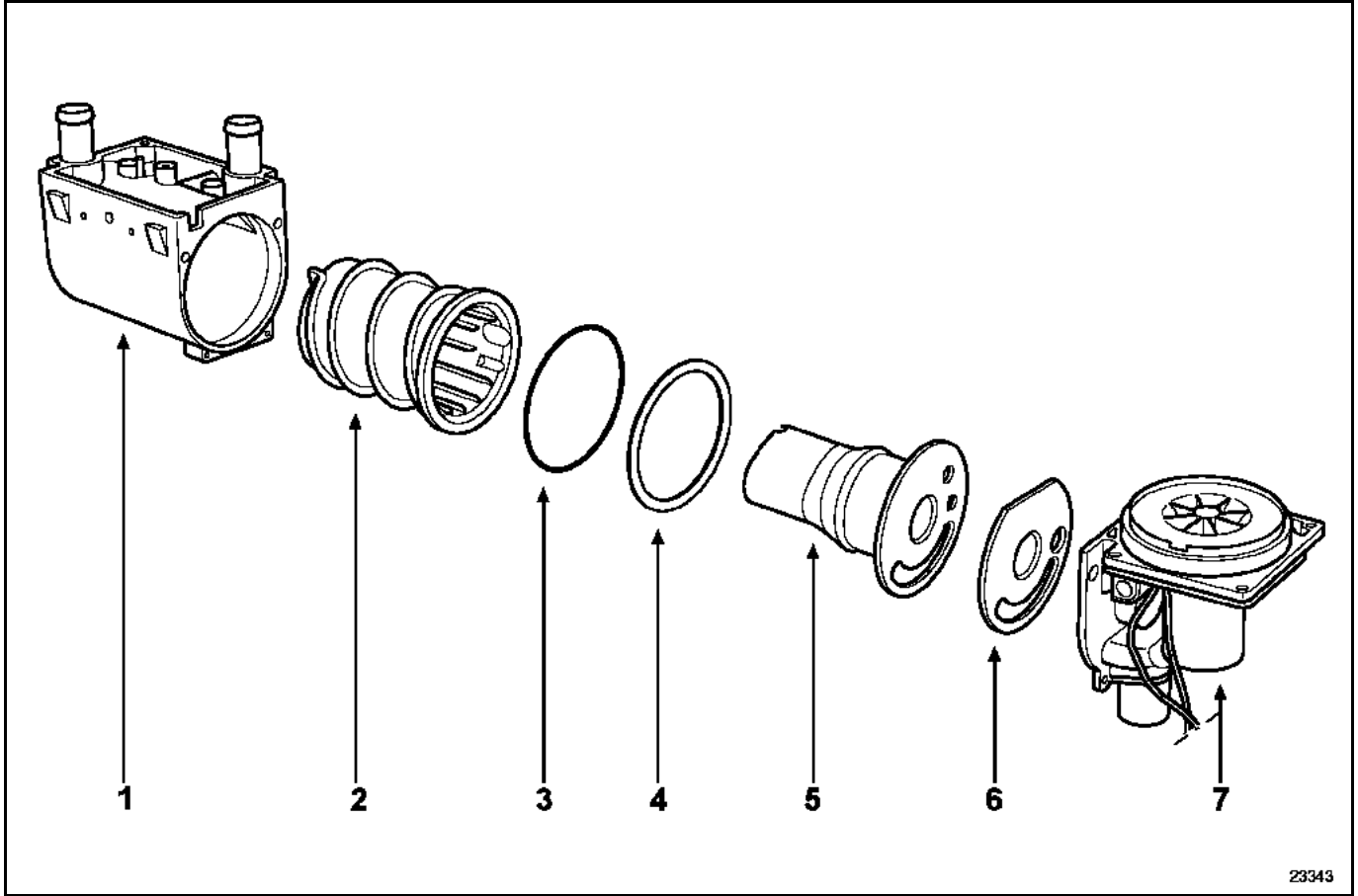


Track description	Track	Input - Output
+ 12 V after ignition	A1	Input
Electrical earth	A2	Input
Data exchange line between the computer and the air conditioning control panel	A3	Input/Output
Passenger side output	B2	Input
20 V supply	B3	Input
Left-hand drive electronic earth		

INDEPENDENT HEATER UNIT

Exploded view

61B



- 1 Heater body
- 2 Heat exchanger
- 3 Heat exchanger O-ring
- 4 Compression ring seal
- 5 Combustion chamber
- 6 Ventilation seal
- 7 Blower unit

INDEPENDENT HEATER UNIT

Fuel supply hose

61B

Essential equipment

Component jack

METERING PUMP

Tightening torque



Acoustic mass mounting bolt	6.2 daNm
fuel tank mounting bolts	2.1 daNm
parking brake unit mounting bolt	2.1 daNm

IMPORTANT

During this operation, it is essential to:

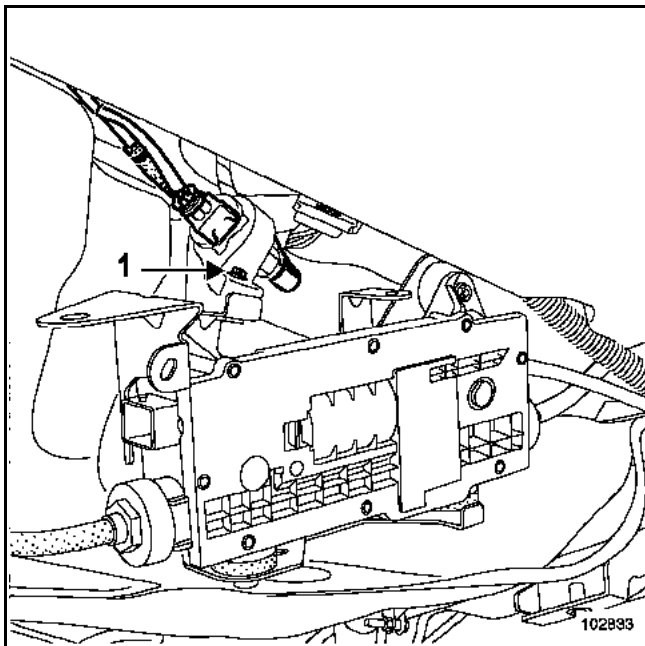
- refrain from smoking or bringing hot objects close to the work area,
- use suitable protection against fuel splashes caused by the residual pressure in the pipes,
- protect sensitive areas from petrol discharge,
- watch out for petrol discharge when the fuel tank is full.

REMOVAL

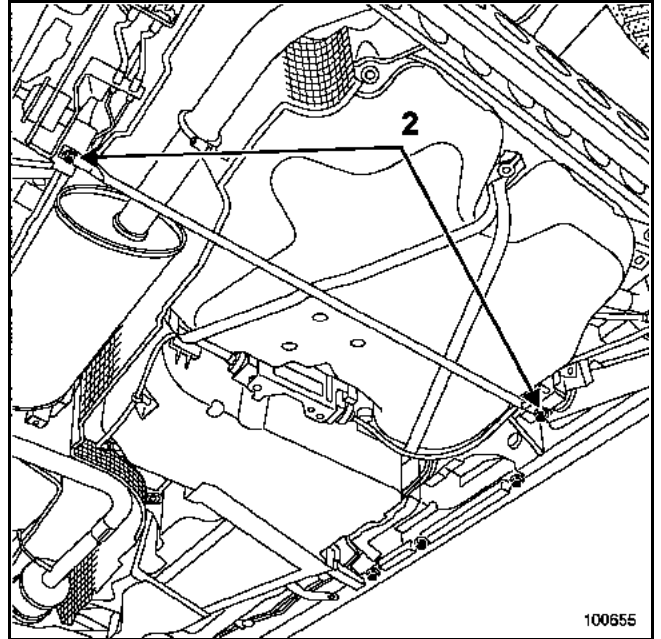
Put the vehicle on a two-post lift.

Disconnect the battery.

Remove the parking brake control unit with its mounting (refer to Section 61B, Metering pump).

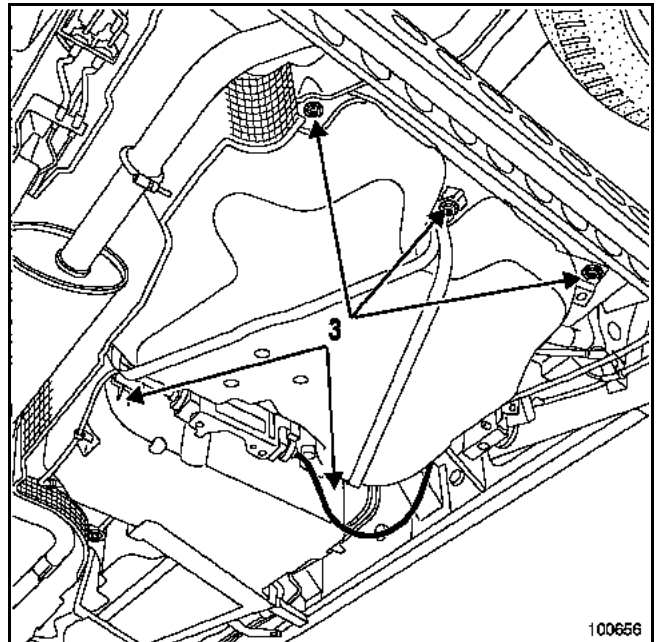


Remove metering pump mounting bolt (1).



Remove:

- tie-bar mounting bolts (2),
- the tie-rod.



Position a hydraulic jack under the fuel tank.

Remove the tank mounting bolts (3).

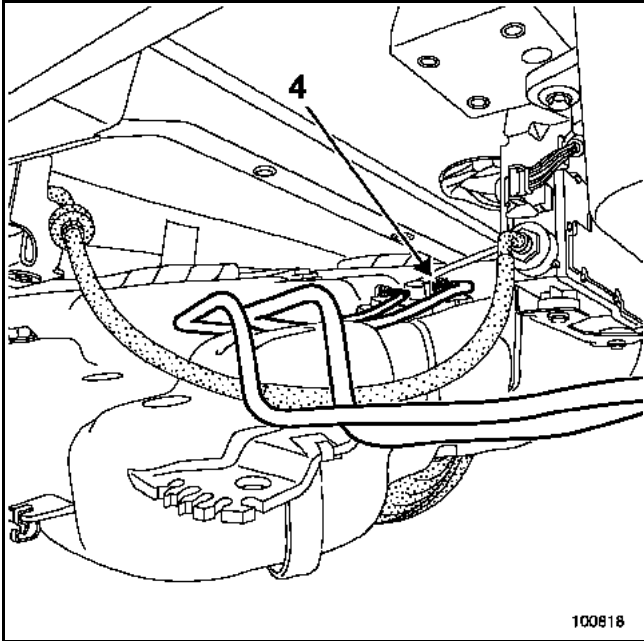
INDEPENDENT HEATER UNIT

Fuel supply hose

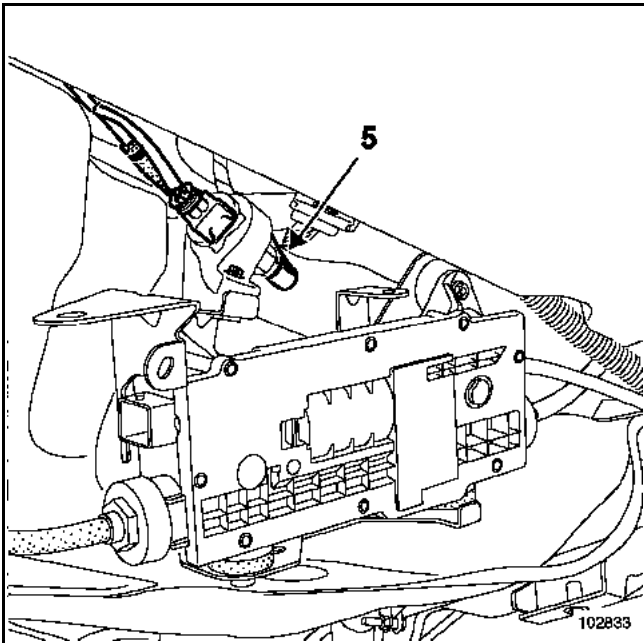
61B

WARNING

Take care not to set the tank on the heat shield.



Lower the tank gently then disconnect the supply pipe (4).



Disconnect the supply pipe (5).

REFITTING

Proceed in the reverse order to removal.

Take care not to pinch the pipes.

Tighten to torque:

- the acoustic bar mounting bolts (6.2 daNm),
- the tank mounting bolts (2.1 daNm),
- the the parking brake unit mounting bolt (2.1 daNm).

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Fuel supply hose

61B

HEATER

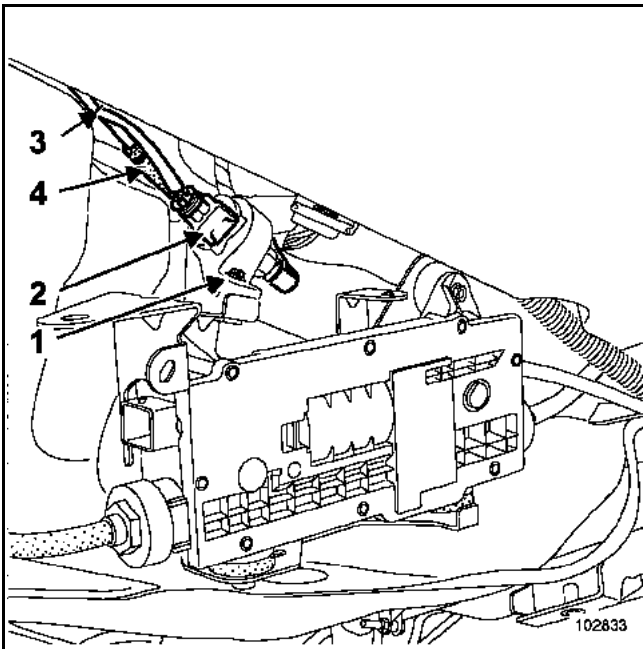
Tightening torque	
additional heater mounting bolt	2.1 daNm
parking brake unit mounting bolt	2.1 daNm

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

Remove the parking brake control unit with its mounting (refer to Section **61B, Metering pump**).



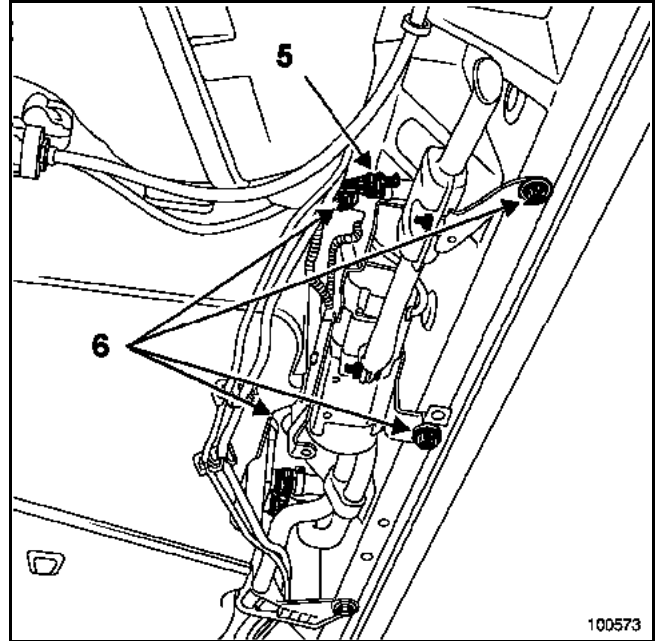
Remove the metering pump mounting bolt (1).

Disconnect metering pump connector (2).

Remove:

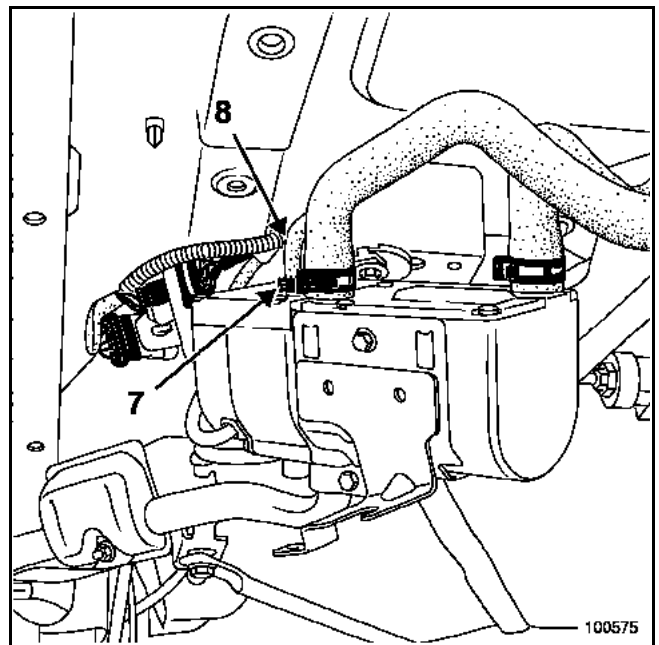
- the mounting clamp (3),
- the hose (4) attached to the metering pump.

Release the hose wiring harness assembly.



Disconnect the heater connector (5).

Remove the four mounting bolts (6) while supporting the heater.



Remove the mounting clamp (7).

Disconnect the heater supply hose (8).

INDEPENDENT HEATER UNIT

Fuel supply hose

61B

REFITTING

Proceed in the reverse order to removal.

Tighten to torque:

- the **additional heater mounting bolts (2.1 daNm)**,
- the **parking brake unit mounting bolts (2.1 daNm)**.

WARNING

Connect the battery; carry out the necessary programming (see Section **8**).

INDEPENDENT HEATER UNIT

Coolant hose

61B

Tightening torque



additional heater mounting bolt

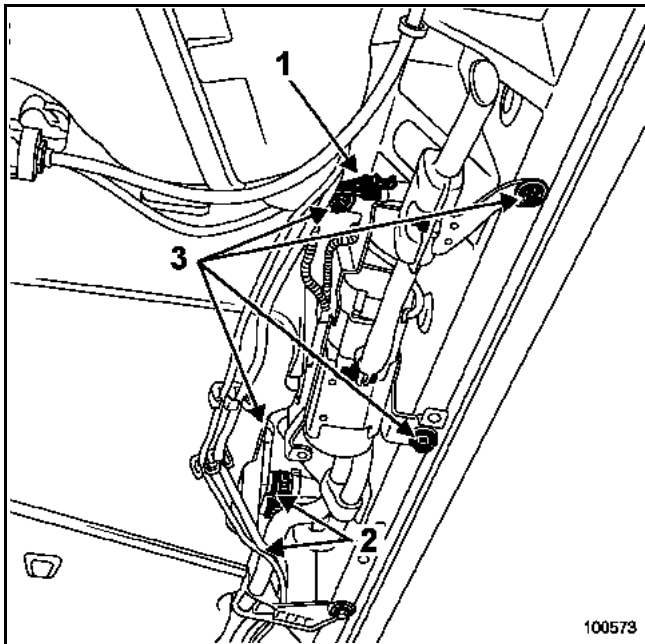
2.1 daNm

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

Fit the hose clips on each side of the coolant supply pipes in the engine compartment.

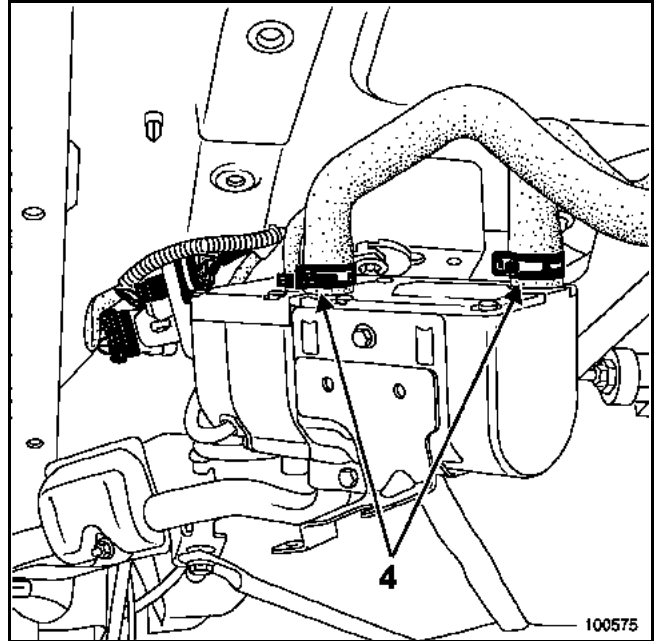


Disconnect:

- the connector (1),
- the hoses in (2).

Remove the four heater mounting bolts (3).

Support the heater.



Remove the clamps (4).

Disconnect the hoses.

REFITTING

Proceed in the reverse order to removal.

Tighten to torque the **additional heater mounting bolts (2.1 daNm)**.

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Metering pump

61B

The metering pump is attached to the parking brake control unit mounting.

Tightening torque

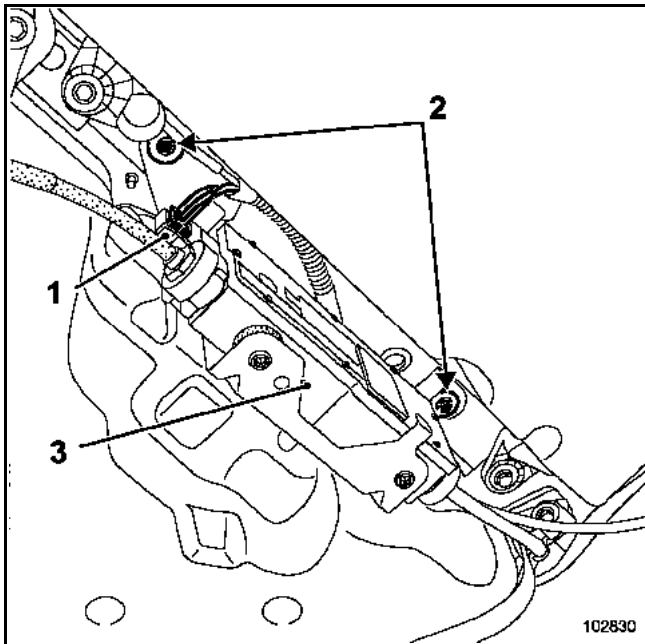


Parking brake unit mounting bolt	2.1 daNm
----------------------------------	----------

REMOVAL

Put the vehicle on a two-post lift.

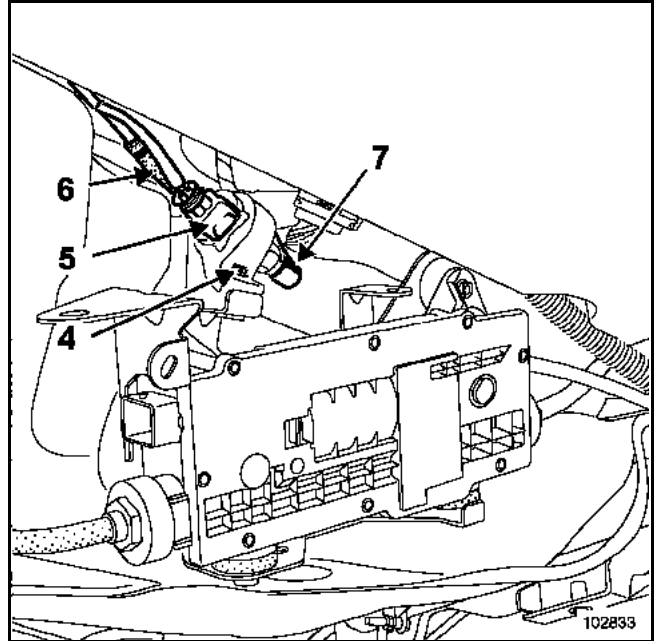
Disconnect the battery.



Disconnect the connector (1).

Remove the two parking brake control unit mounting bolts (2).

Release the parking brake control unit (3) with its mounting.



Remove the mounting bolt (4).

Disconnect the connector (5).

Remove the hose clamp (6).

Disconnect:

- hose (6),
- hose (7).

Remove the metering pump.

REFITTING

Proceed in the reverse order to removal.

Tighten to torque the **parking brake unit mounting bolt (2.1 daNm)**.

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Heater unit silencer

61B

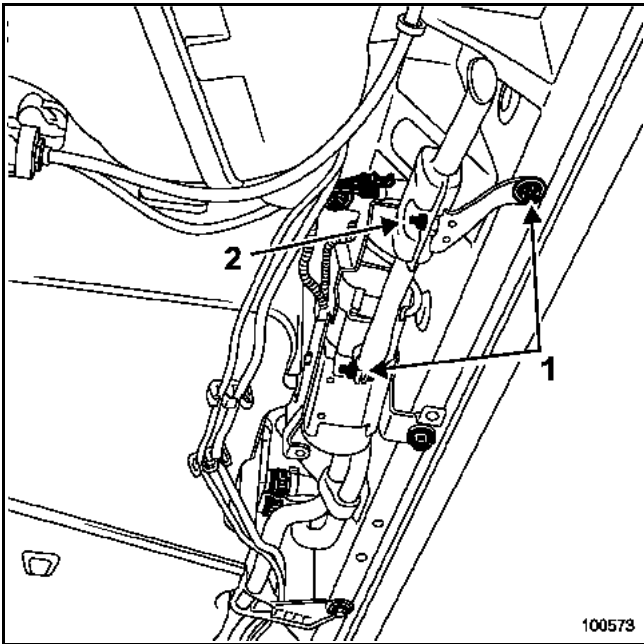
Tightening torque	
silencer mounting bolt	0.8 daNm
heater mounting bolt	2.1 daNm



REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



Remove:

- bolts (1),
- bolt (2),
- silencer.

REFITTING

Proceed in the reverse order to removal.

Tighten to torque:

- the **silencer mounting bolts (0.6 daNm)**,
- the **heater mounting bolts (2.1 daNm)**.

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Control unit

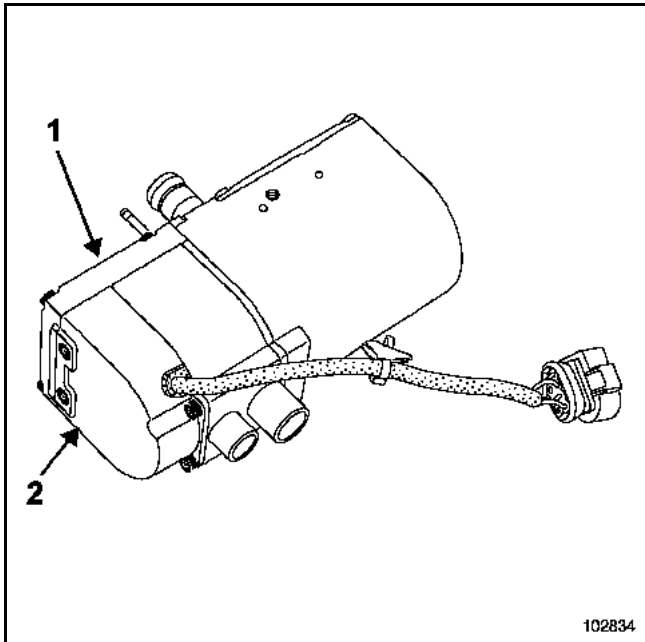
61B

Tightening torque	
heater mounting bolt	2.1 daNm
bolt securing the heater to the mounting	0.6 daNm



Remove the heater (refer to Section 61B, **Remove/refit the heating unit**).

Dismantle the heater (refer to Section 61B **"Dismantle/refit the heating unit"**).



Remove:

- cover (1),
- control unit (2),

Disconnect the connector inside the control unit using a small screwdriver.

Note:
Risk of breaking the support lugs of the connector.

REFITTING

Proceed in the reverse order to removal.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **mounting bolts securing the heater to its mounting (0.6 daNm)**.

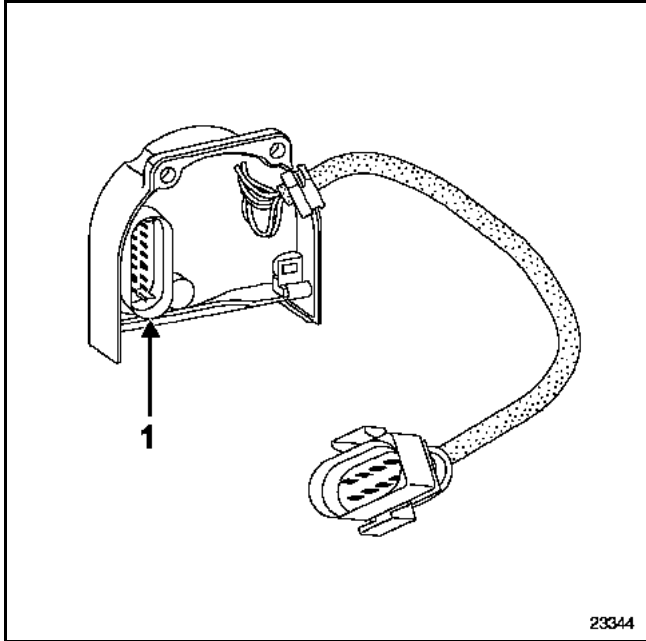
WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Track allocation

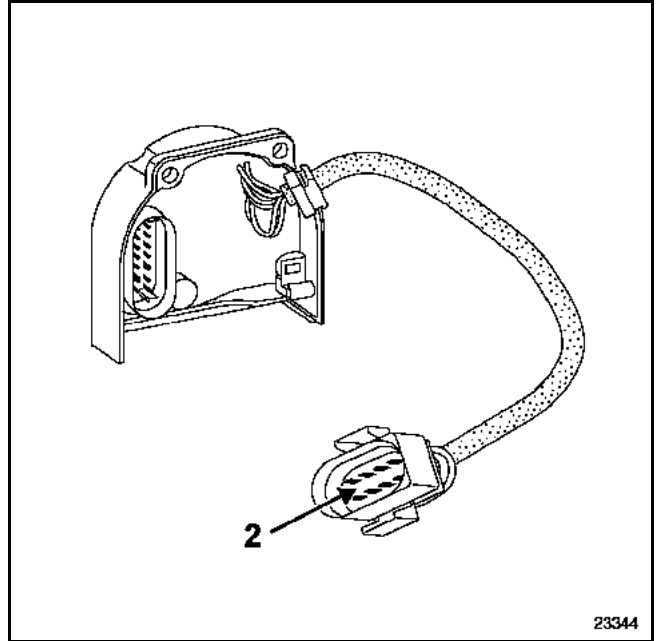
61B



23344

(1) 14-track connector

Track	Description
1	Flame detector
2	Flame detector
3	Overheating switch
4	Overheating switch
5	Temperature sensor
6	Temperature sensor
7	Not used
8	Not used
9	+ Heater plug
10	Not used
11	Not used
12	- Heater plug
13	+ Blower unit
14	- Blower unit



23344

(2) 8-track connector

Track	Description
1	+ 12 V
2	- Battery
3	Not used
4	+ Metering pump signal
5	Fault finding
6	+ Temperature switch
7	+ After ignition
8	Not used

INDEPENDENT HEATER UNIT

External wiring harness

61B

Tightening torque



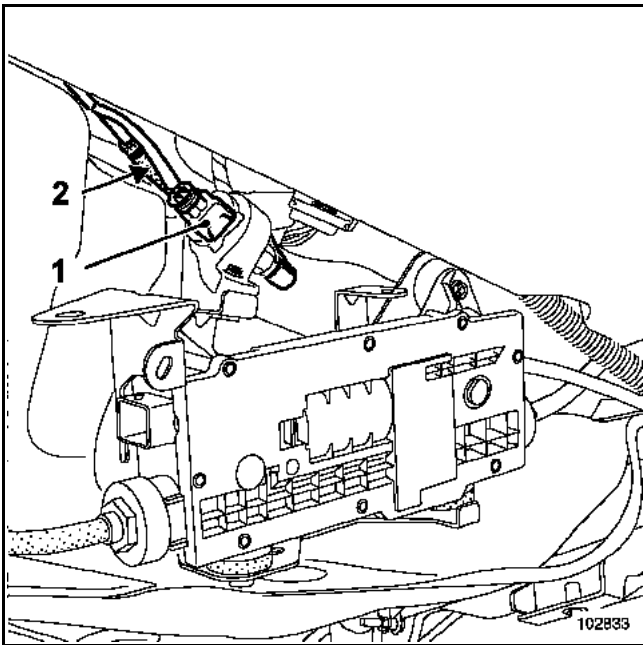
additional heater mounting bolt	2.1 daNm
parking brake unit support mounting bolt	2.1 daNm

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

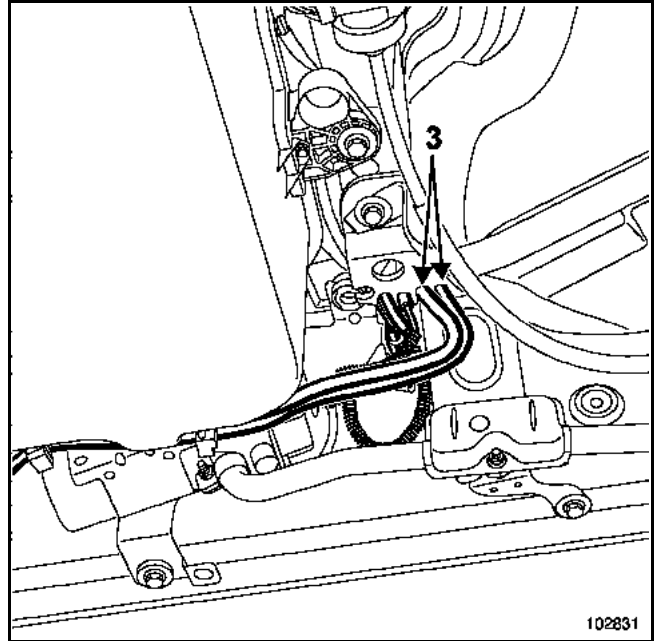
Remove the parking brake control unit with its mounting (refer to Section **61B, Metering pump**).



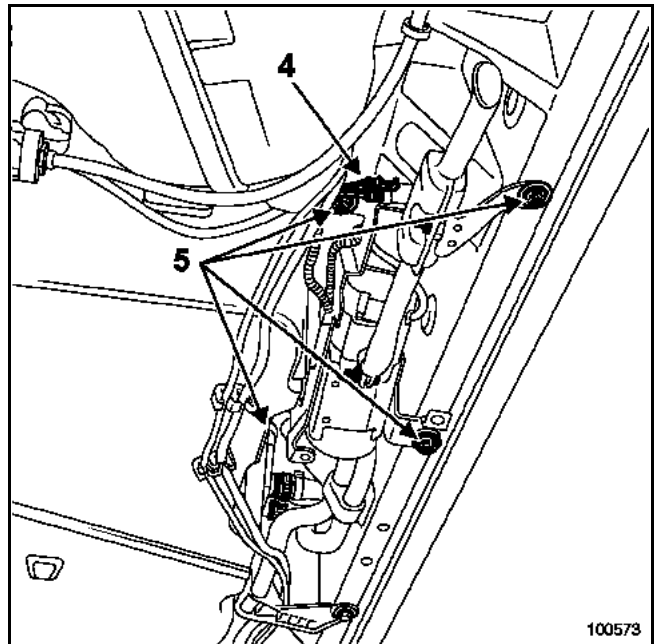
Disconnect the connector (1).

Remove the clamp.

Disconnect the fuel hose (2).



Release the hose and wiring harness assembly (3) attached to the fuel tank.



Disconnect the connector (4).

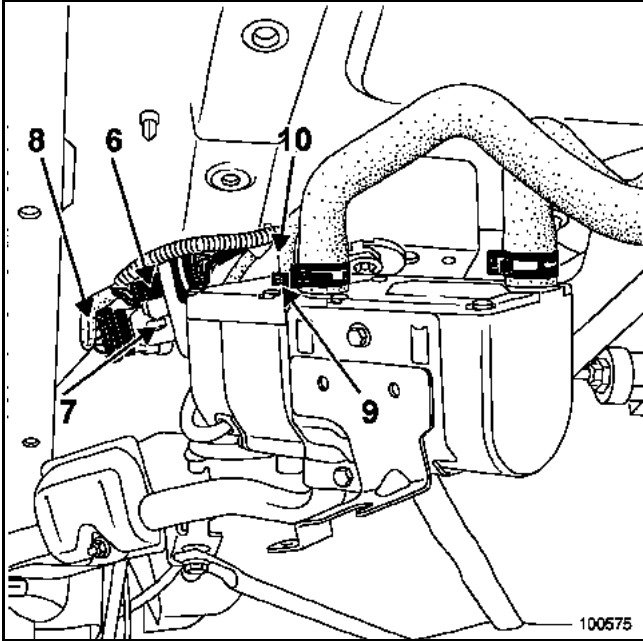
Remove the four mounting bolts (5) from the heater mounting.

INDEPENDENT HEATER UNIT

External wiring harness

61B

Support the heater.



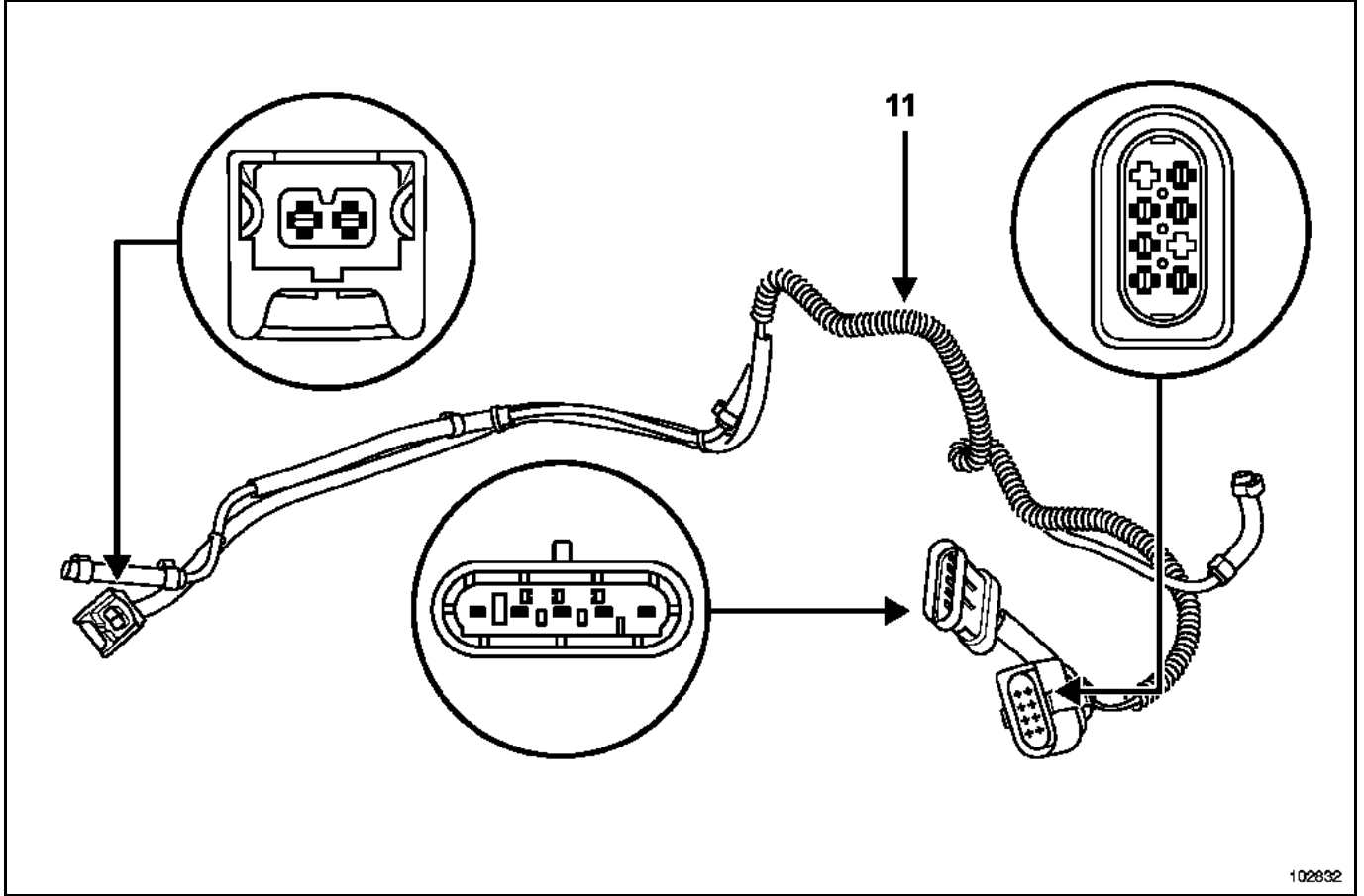
Disconnect the connector (6).

Unclip in (7) the connector (8).

Release the mounting clamp (9).

Release the heater feeding hose (10).

Remove the "feeding hose and wiring harness" assembly from the fuel tank.



Remove the clamps.

Release the sheath (11).

REFITTING

Proceed in the reverse order to removal.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **heating unit mounting bolts (2.1 daNm)**.

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Removal/refitting the heater unit

61B

Tightening torque



additional heater mounting bolt

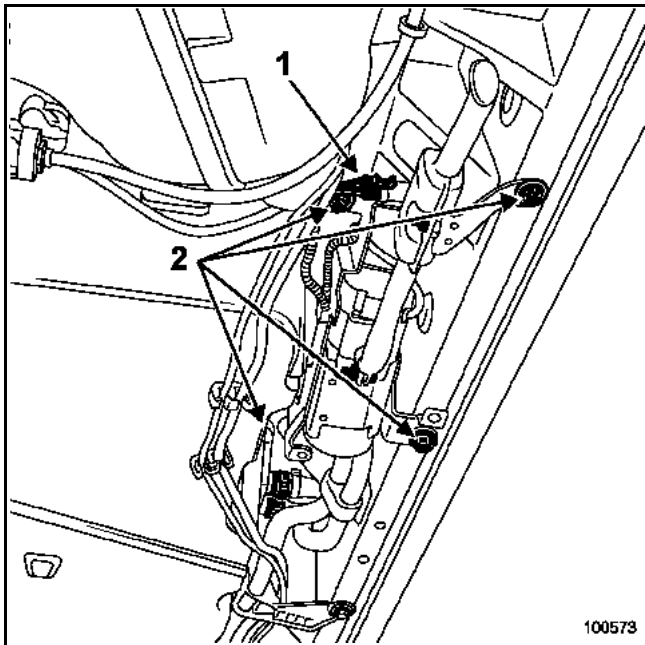
2.1 daNm

The heater unit is located on the right-hand side, underneath the vehicle, between the chassis and the air conditioning unit.

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

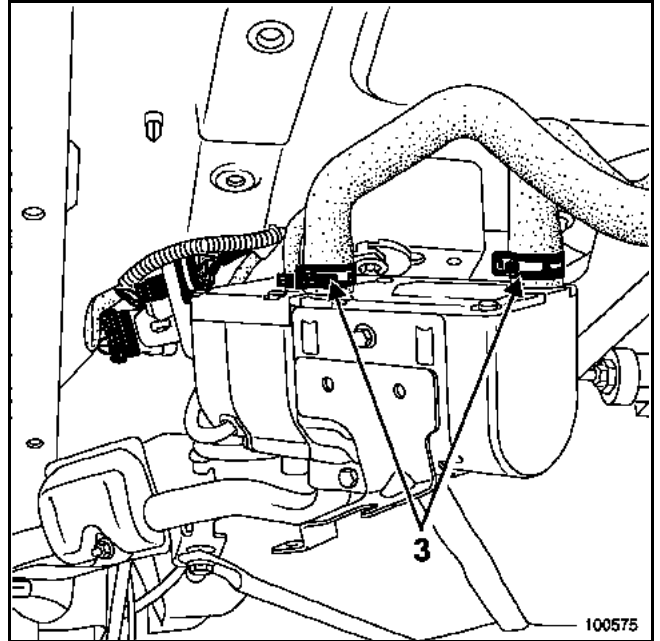


Fit a hose clip on each cooling hose.

Disconnect the connector (1).

Remove the four heater mounting bolts (2).

Support the heater.



Release the hose mounting clamps (3).

Disconnect the hoses.

REFITTING

Proceed in the reverse order to removal.

Tighten to torque:

– the **additional heater mounting bolt (2.1 daNm)**,

Fill up the coolant.

Bleed the cooling circuit.

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Dismantling/refitting the heater

61B

Tightening torque



heater mounting bolt	2.1 daNm
additional heater mounting bolt	0.6 daNm

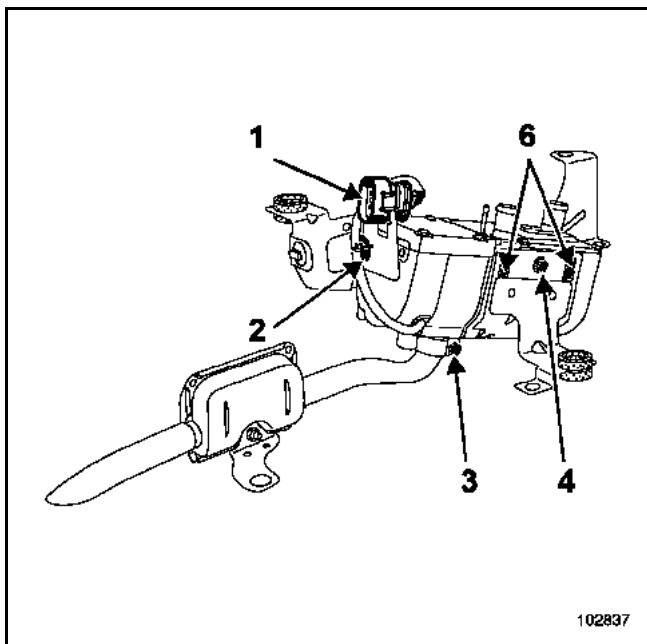
The heater unit is located on the right-hand side, underneath the vehicle, between the chassis and the air conditioning unit.

DISMANTLING

Put the vehicle on a two-post lift.

Disconnect the battery.

Remove the heater (refer to Section 61B, Removing/refitting the heating apparatus).



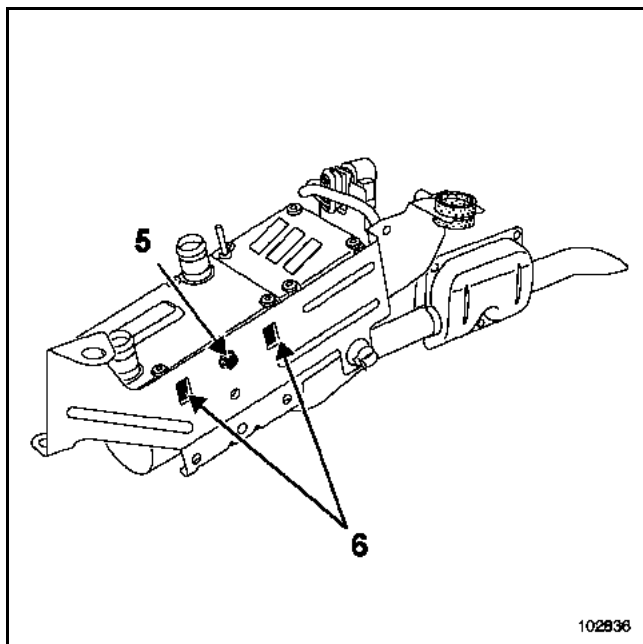
Disconnect the connector (1).

Remove the clip (2).

Loosen the bolt (3).

Remove the silencer on the heater side.

Remove the heater mounting bolts (4).



Remove the heater mounting bolt (5).

Remove the heater mounting by releasing it from the catches (6).

REFITTING

Proceed in the reverse order to removal.

Fill up the coolant.

Bleed the cooling circuit.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **mounting bolts securing the heater to its mounting (0.6 daNm)**.

WARNING

Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Blower unit

61B

Tightening torque

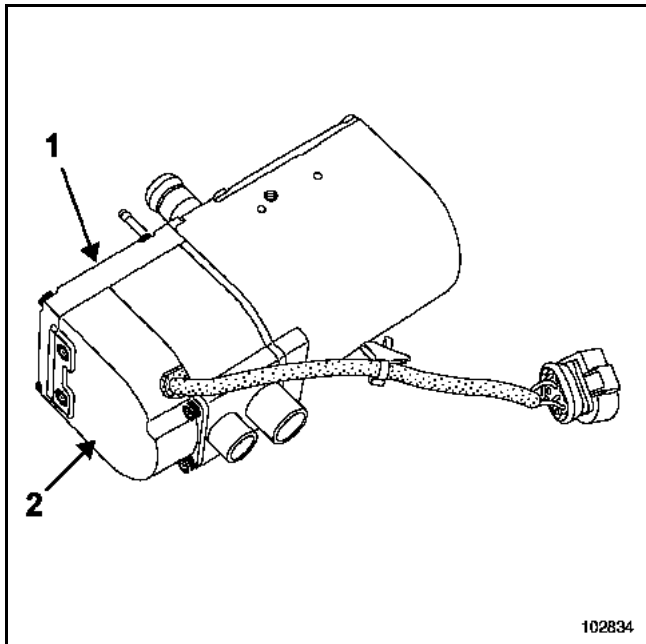


heater mounting bolt	2.1 daNm
additional heater mounting bolt	0.6 daNm

REMOVAL

Remove:

- the heater (refer to Section 61B, **Remove/refit the heating apparatus**).
- the silencer (refer to Section 61B, **Silencer**),
- the heater mounting (refer to Section 61B, **Dismantling/refitting the heater unit**).

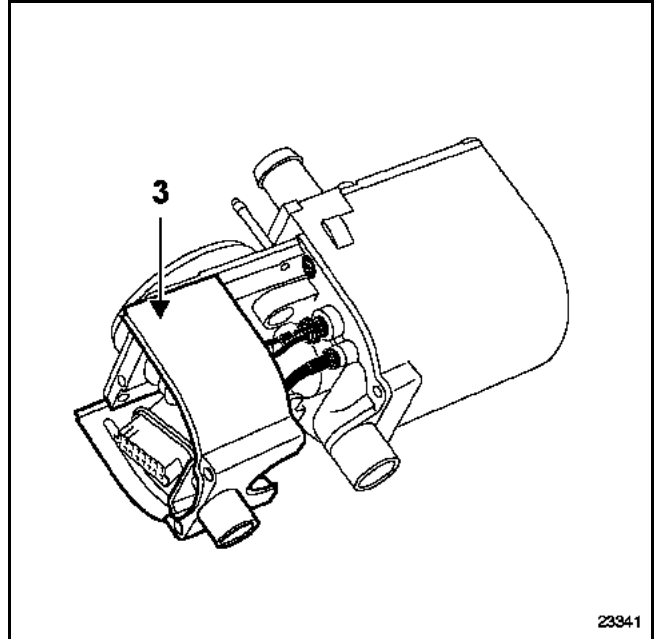


Remove:

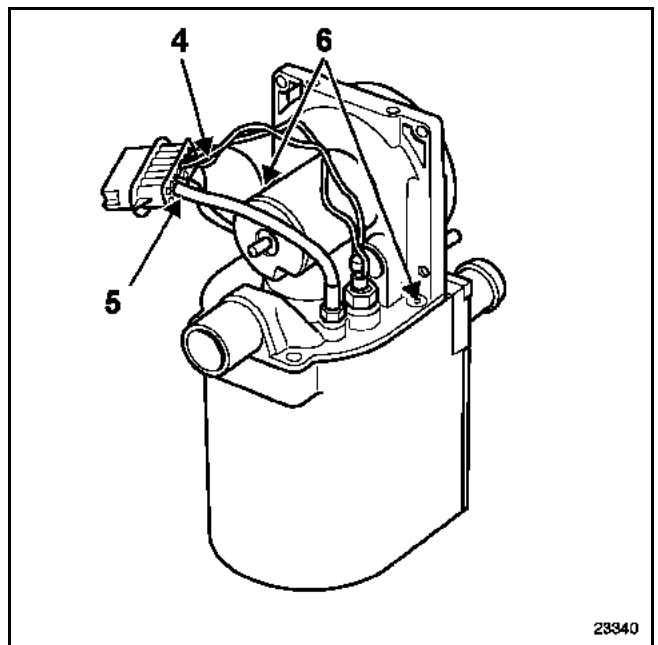
- cover (1),
- command unit (2),

Disconnect the connector inside the control unit using a small screwdriver.

Note:
Risk of breaking the support lugs of the connector.



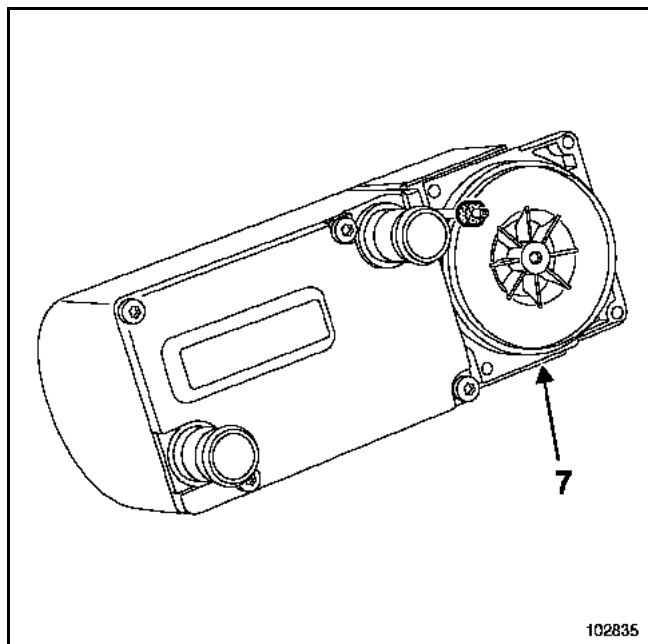
Remove the unit (3) to access the heater plug and the flame detector.



Remove the clips using a set of gauge rods (Ms 787):

- from the heater plug (4),
- from the flame detector (5),
- from the blower unit.

Remove the two mounting bolts (6).



Remove the blower unit (7).

WARNING

Before refitting, check the condition of the connectors.

REFITTING

Proceed in the reverse order to removal.

Fill up the coolant.

Bleed the cooling circuit.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **mounting bolts securing the heater to its mounting (0.6 daNm)**.

WARNING

- The blower unit seal must be replaced.
- The seal has a positioning lug.
- Connect the battery; carry out the necessary programming (see Section 8).

INDEPENDENT HEATER UNIT

Internal electrical harness

61B

Tightening torque

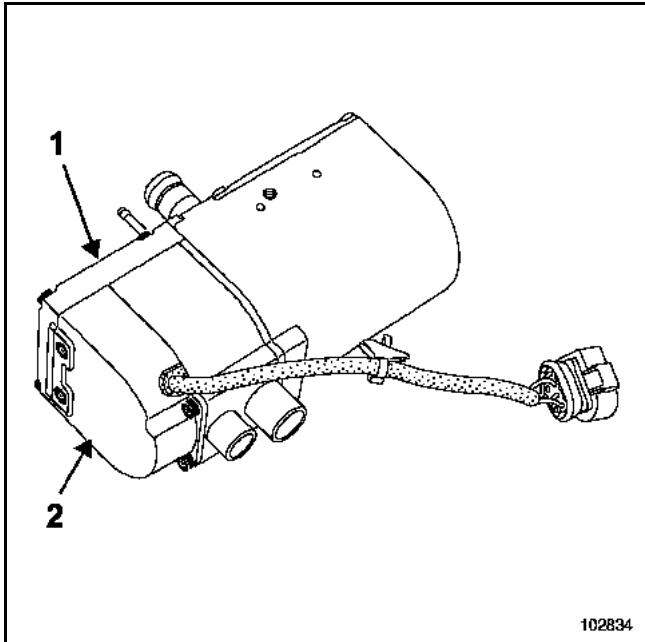


heater mounting bolt	2.1 daNm
additional heater mounting bolt	0.6 daNm

REMOVAL

Remove:

- the heater (refer to Section 61B, **Remove/refit the heating apparatus**).
- the silencer (refer to Section 61B, **Silencer**),
- the heater mounting (refer to Section 61B, **Dismantling/refitting the heater apparatus**).

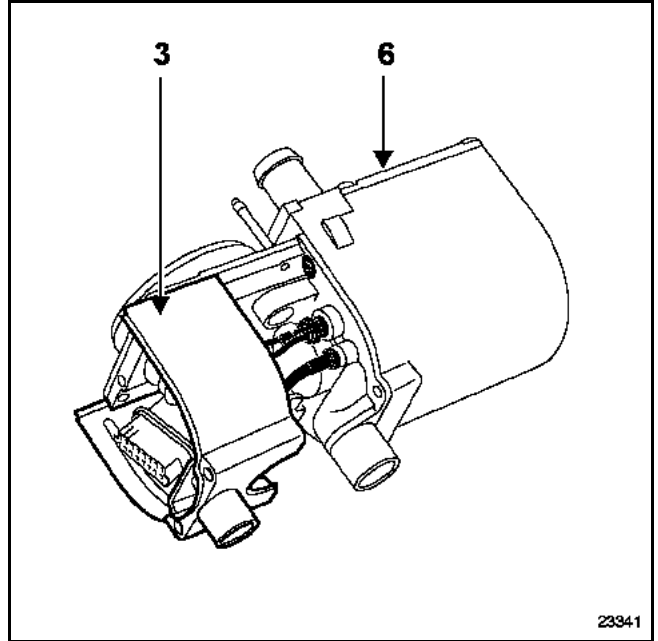


Remove:

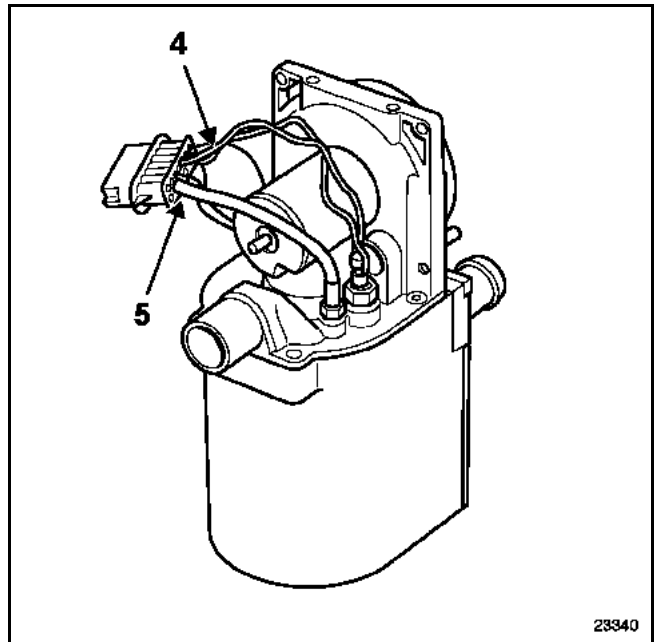
- the cover (1),
- the command unit (2),

Remove the internal connector of the control unit using a small screwdriver.

Note:
Risk of breaking the support lugs of the connector.



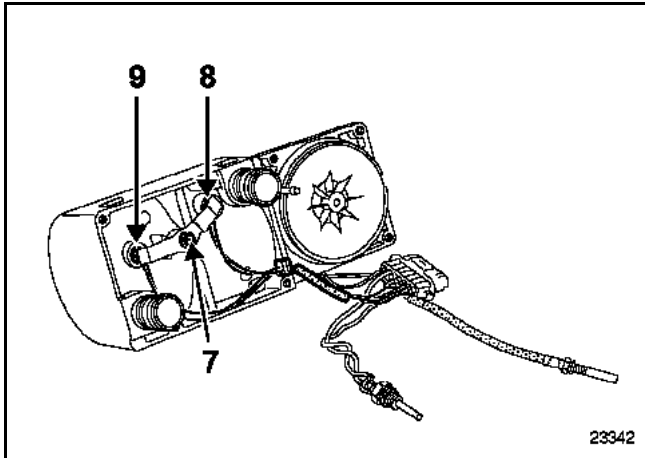
Remove the unit (3) to access the heater plug and the flame detector.



Remove the clips using a set of gauge rods (Ms 787):

- from the heater plug (4),
- from the flame detector (5),
- from the blower unit.

Remove the cover (6).



Undo bolt (7).

Remove:

- the support lug,
- the temperature sensor (8),
- the overheating switch (9),
- the electric wiring harness assembly.

REFITTING

Proceed in the reverse order to removal.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **mounting bolts securing the heater to its mounting (0.6 daNm)**.

WARNING

Before refitting, check the condition of:

- the O-rings;
- the connectors.

Connect the battery; carry out the necessary programming (see Section 8).

Tightening torque

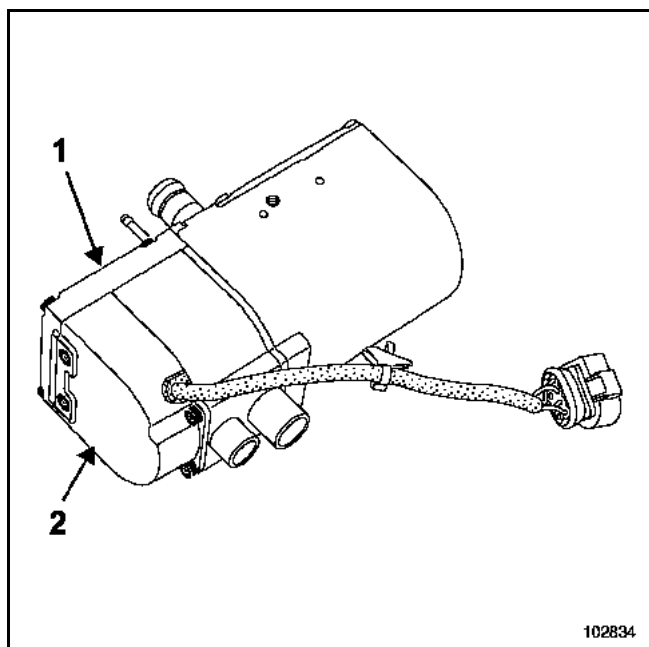


heater mounting bolt	2.1 daNm
additional heater mounting bolt	0.6 daNm

REMOVAL

Remove:

- the heater (refer to Section 61B, **Remove/refit the heating unit**).
- the silencer (refer to Section 61B, **Silencer**),
- the heater mounting (refer to Section 61B, **Dismantling/refitting the heater unit**).

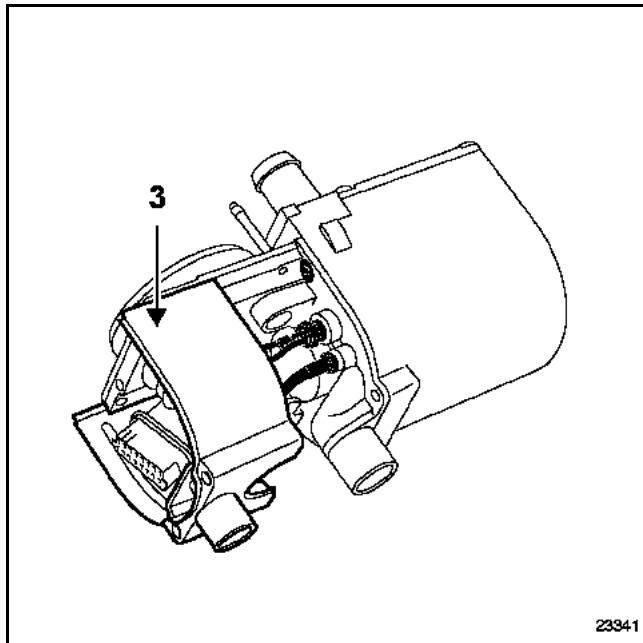


Remove:

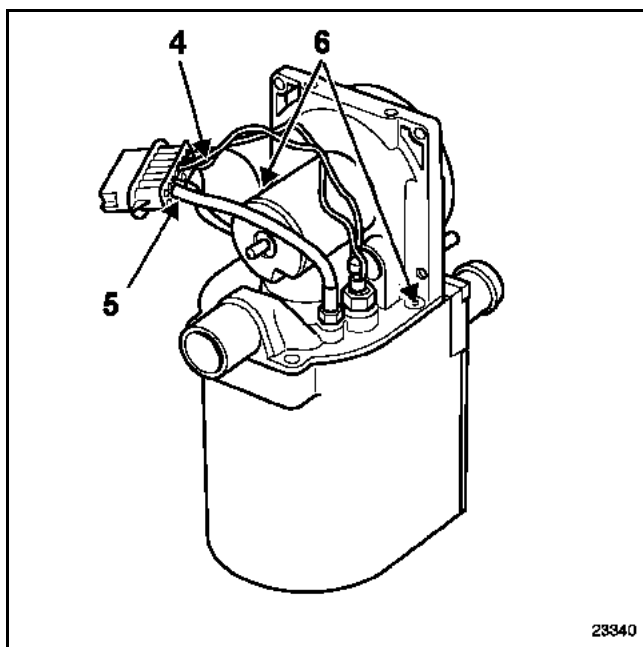
- cover (1),
- control unit (2),

Disconnect the connector inside the control unit using a small screwdriver.

Note:
Risk of breaking the support lugs of the connector.



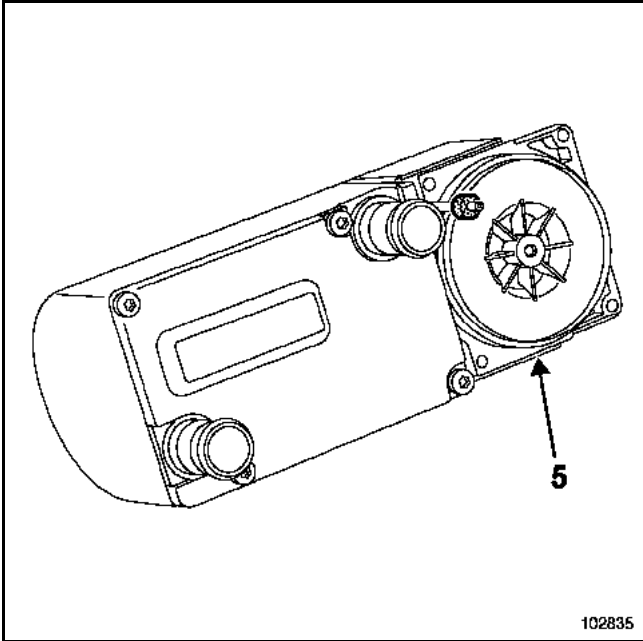
Remove the unit (3) to access the heater plug and the flame detector.



Remove the clips using a set of gauge rods (Ms 787):

- from the heater plug (4),
- from the flame detector (5),
- from the blower unit.

Remove the two mounting bolts (6).



Remove:

- the blower unit (5),
- the combustion chamber.

Place a large, flat screwdriver in the inside of the coolant supply duct to remove the heat exchanger.

Remove the O-ring seal with a thin screwdriver (refer to Section **61B, Independent heater unit**).

REFITTING

WARNING

Before refitting, check the condition of the connectors.

Note:

- The blower unit seal must be replaced.
- Lubricate the heat exchanger seal.
- Carefully place the seal on the combustion chamber.
- Position the blower unit seal correctly, the seal has a positioning lug.

Proceed in the reverse order to removal.

Fill up the coolant.

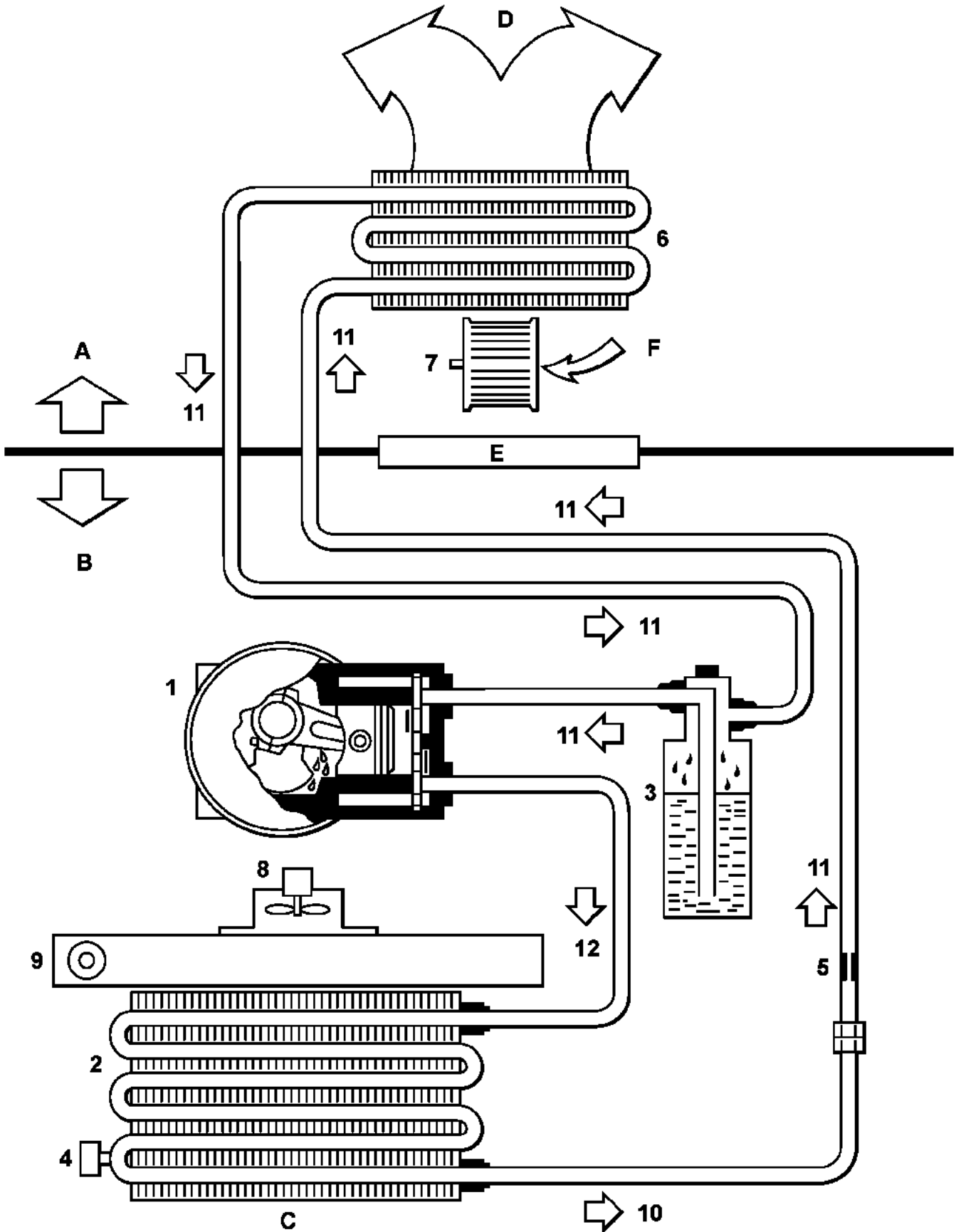
Bleed the cooling circuit.

Tighten to torque:

- the **heater mounting bolts (2.1 daNm)**,
- the **mounting bolts securing the heater to its mounting (0.6 daNm)**.

WARNING

- Connect the battery; carry out the necessary programming (see Section **8**).



91096-4

- A Vehicle underbody
 - B Engine compartment
 - C External air
 - D To air mixing unit
 - E Bulkhead
 - F External or recirculated air
-
- 1 Compressor
 - 2 Condenser
 - 3 Rechargeable battery, air dryer or dehydration canister (rechargeable battery)
 - 4 Pressure sensor
 - 5 Pressure relief valve
 - 6 Evaporator
 - 7 Climate control fan
 - 8 Engine cooling fan
 - 9 Engine radiator
 - 10 High pressure fluid
 - 11 Low pressure vapour
 - 12 High pressure vapour

INFORMATION ON THE FLUID

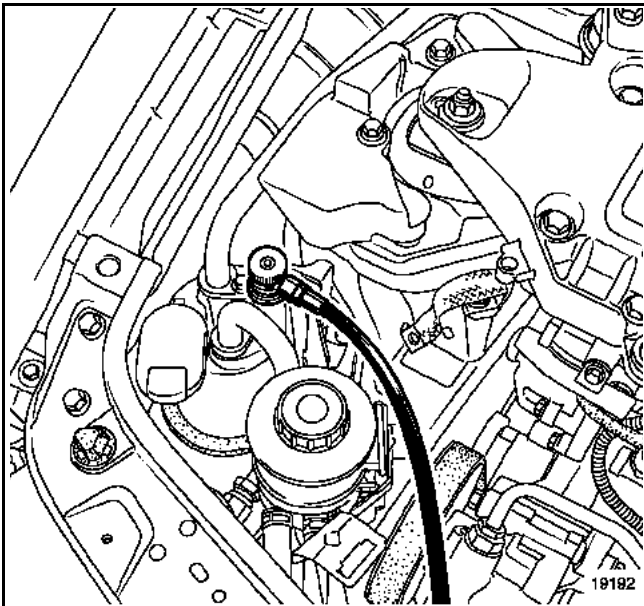
A label in the engine compartment shows the technical specifications of the refrigerant.

More detailed information about this fluid is contained in the "**Air conditioning - new R134a refrigerant**" section.

USING A FILLING STATION

Espace models are unique in having a single connection for the entire air-conditioning circuit.

For gas recovery, emptying or refill operations **R134a**, use only the filling station high-pressure hose (example diagram below for Robinair **R134a**).



For all other filling stations, follow the instructions and contact the equipment supplier.

NOTE:

- As each component is disconnected, plug up openings to prevent moisture from entering the circuit.
- For the same reason, the plugs on the replacement parts should be removed at the very last minute.
- Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within five minutes after the filling operation.
- Strictly follow the instructions about oil top-ups when working on air-conditioning circuit components.

F4R atmospheric - F4R turbocharged - F9Q ENGINES

Compressor:
DELPHI HARRISON 7CVCe

Gear ratio: **1.37**

- Oil for **DELPHI HARRISON** compressor:
**Oil capacity 200 cm³ ± 10, for topping up always
use Sanden SP10 oil**
- Refrigerant:
R134a: 1000 g ± 35

G9T ENGINE

– Compressor
DELPHI HARRISON 7CVCe

Gear ratio: **1.33**


- Oil for **DELPHI HARRISON** compressor:
**Oil capacity 220 cm³ ± 10, for topping up always
use Sanden SP10 oil**
- Refrigerant fluid:
R134a: 1000 g ± 35

V4Y ENGINE

– Compressor:
CALSONIC V6

Gear ratio: **1.17**

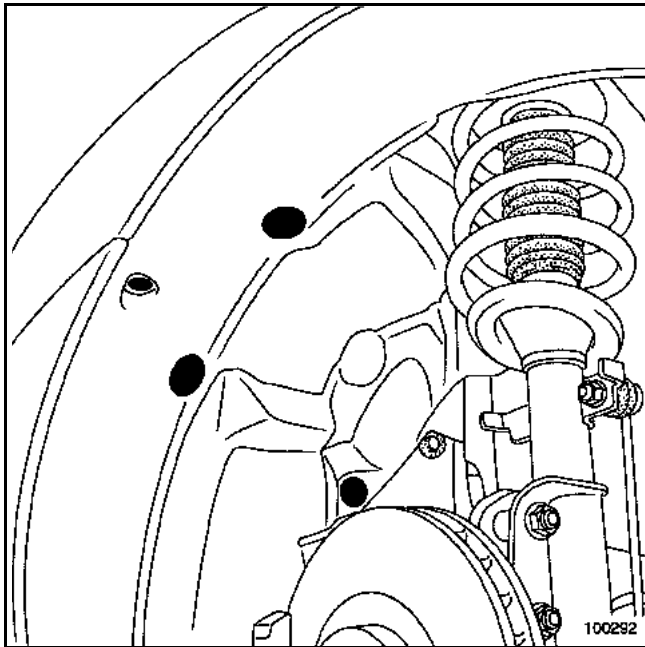
- Compressor oil **CALSONIC**:
**oil capacity 220 cm³ ± 10.
For topping up use SANDEN SP10 oil**
- Refrigerant fluid:
R134a: 1000 g ± 35

TIGHTENING TORQUES (in daNm) 	
Mounting nuts of the pipes on the condenser	0.8
Wheel bolts	13

REMOVAL

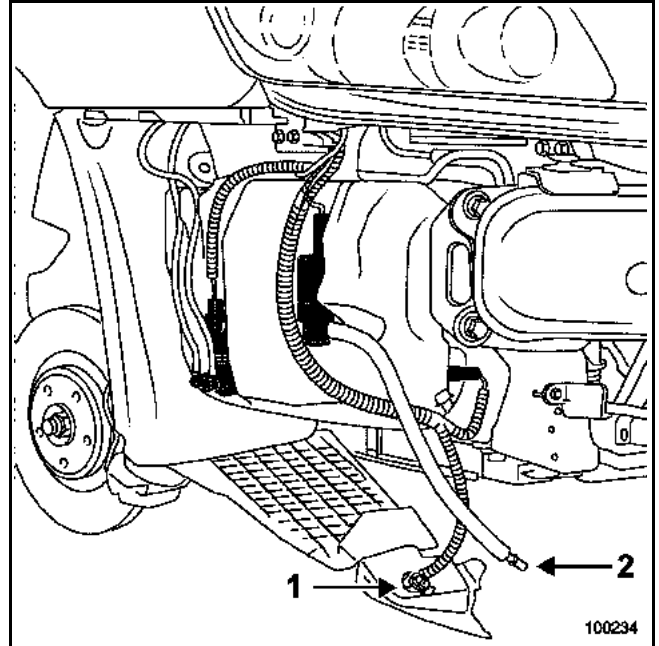
Drain the coolant circuit using a filling station.

Disconnect the battery.



Remove:

- part of the engine undertray,
- part of the wheel arch liners.



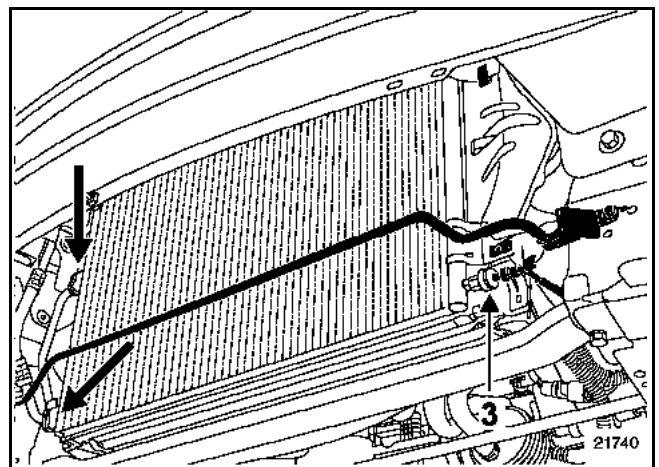
Disconnect the fog light power connectors (1) (if the vehicle is equipped with the option).

Remove the two side mounting bolts.

Partially release the bumper (see Section 55A).

Disconnect the headlight washer jet connectors (2) (if the vehicle is equipped with the option).

Remove the radiator grille-bumper unit (this step requires two workers).



Remove the unions of the coolant circuit pipes on the condenser and seal them.

Disconnect the pressure sensor (3).

Remove:
– the lower mounting clips of the condenser.

NOTE:

The condenser is removed from below.

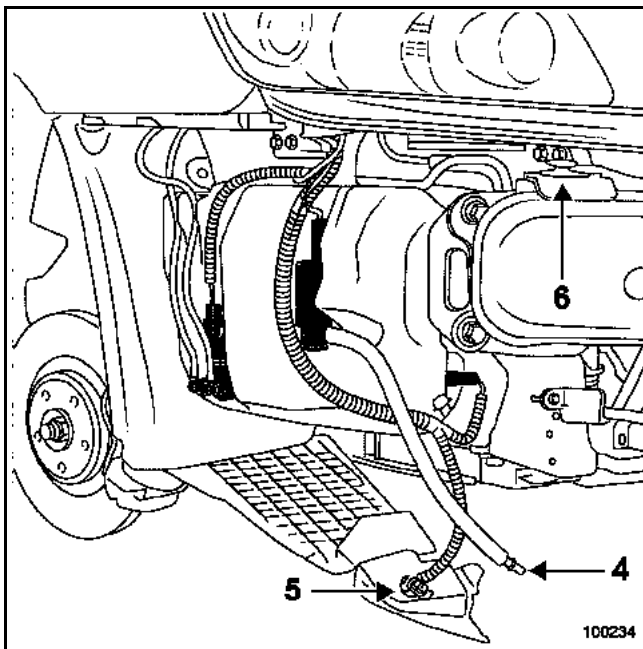
REFITTING

Check that the condenser is correctly secured.

Oil the pipe seals with the recommended oil.

Proceed in the reverse order to removal.

Replace the bumper unit (this step requires two workers).



Connect:

- the pressure sensor,
- the headlight washer jet power connection (4) (if the vehicle is equipped with the option),
- the fog light connections (5) (if the vehicle is equipped with the option).

Position the bumper in front of the cross member, then line up the guide plates with the markers (6).

Check the side centring clips and the bumper are correctly secured.

Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

Torque tighten **the hose mounting nut on the condenser (0.8 daNm)**.

TIGHTENING TORQUES (in daNm)	
Mounting nuts of the pipes on the condenser	0.8
Wheel bolts	13

REMOVAL

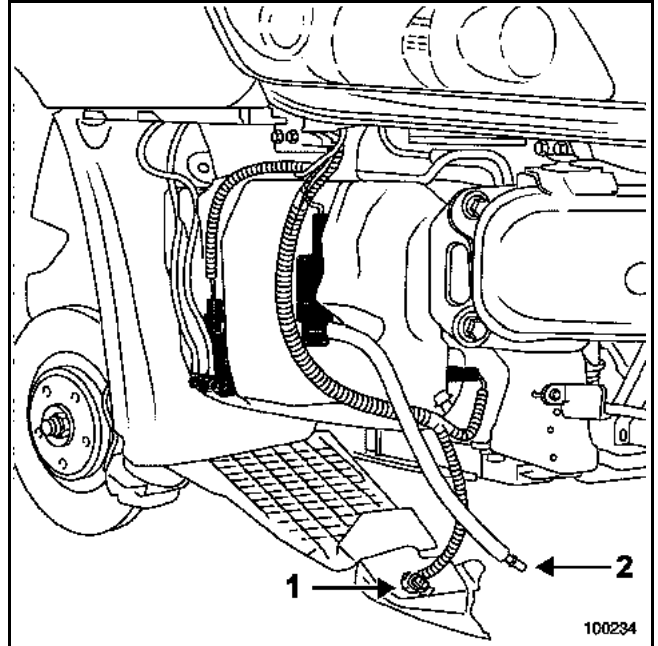
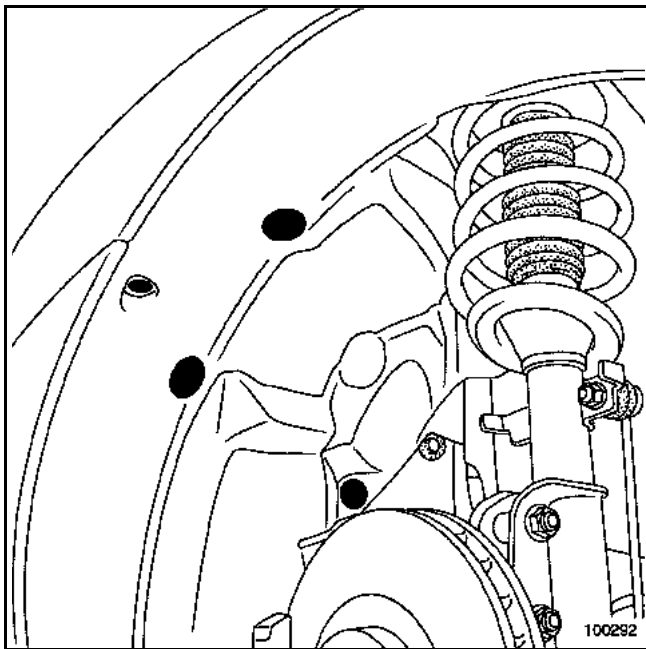
Put the vehicle on a two-post lift.

Disconnect the battery.

Drain the refrigerant circuit using the filling station.

Remove:

- the engine undertray,
- part of the wheel arch liners.



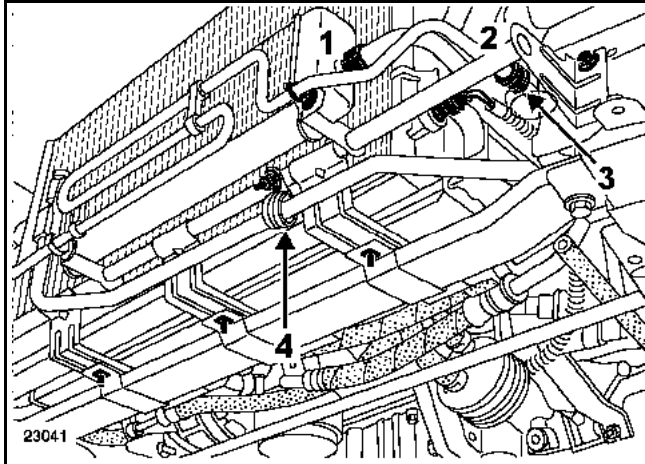
Disconnect the fog light power connectors (1) (if the vehicle is equipped with the option).

Remove the two side mounting bolts.

Partially detach the bumper.

Disconnect the headlight washer jet connectors (2) (if the vehicle is equipped with the option).

Remove the radiator grille-bumper unit (this step requires two workers).



Remove:

- the bumper radiator grille assembly (two people required),
- the radar (see section concerned),
- the clip (3) and (4),
- the oil cooler (1) (see section concerned),
- the oil cooler mounting (2),
- the unions of the cold loop pipes on the condenser,
- the lower mounting clips of the condenser,
- the condenser (from below).

REFITTING

Check that the condenser is correctly secured.

Oil the hose seals with the recommended oil.

Proceed in the reverse order to removal.

Refit the oil cooler (see Section **19A**).

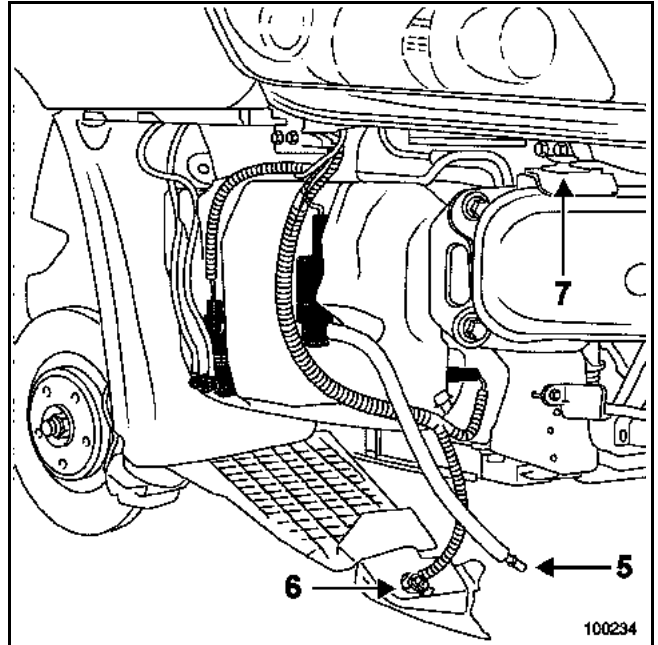
Ensure the radiator and condenser fins are not damaged during refitting; protect them if necessary.

Replace the bumper unit (this step requires two workers).

Connect the headlight washer jet connectors (5) (if the vehicle is equipped with the option).

Connect the fog light connections (6) (if the vehicle is equipped with the option).

Position the bumper in front of the cross member, then line up the guide plates with the markers (7).



Check that the side centring clips (7) and the bumper are correctly secured.

Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section **8**).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

Torque tighten **the hose mounting nut on the condenser (0.8 daNm)**.

TIGHTENING TORQUES (in daNm)



Mounting nut on the dehydration canister 0.8

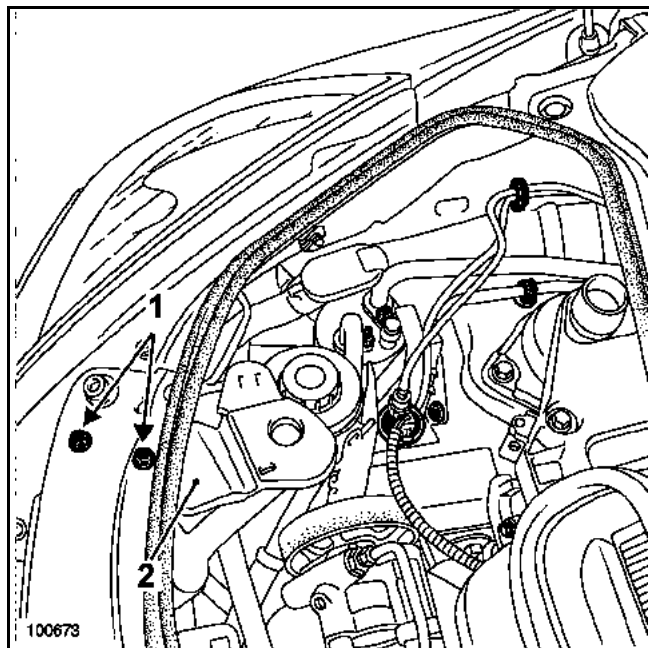
Mounting bolt on the dehydration canister 0.8

REMOVAL

Remove the covers.

Drain the coolant circuit using a filling station.

Disconnect the battery.



Remove the two bolts (1) from the plate (2).

Remove from their mountings:

- the power steering reservoir,
- the fuel vapour absorber bleed solenoid valve (on F4R engines),
- the diesel filter (on G9T - F9Q and P9X engines).

Remove:

- the two clamps securing the pipes to the dehydration canister,
- the dehydration canister with its mounting.

REFITTING

Oil the hose seals with the recommended oil.

Proceed in the reverse order to removal.

Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.


Tighten to torque:

- the mounting nut on the dehydration canister (**0.8 daNm**).
- the mounting bolts on the dehydration canister (**0.8 daNm**).

AIR CONDITIONING Compressor

62A

F4R ENGINE

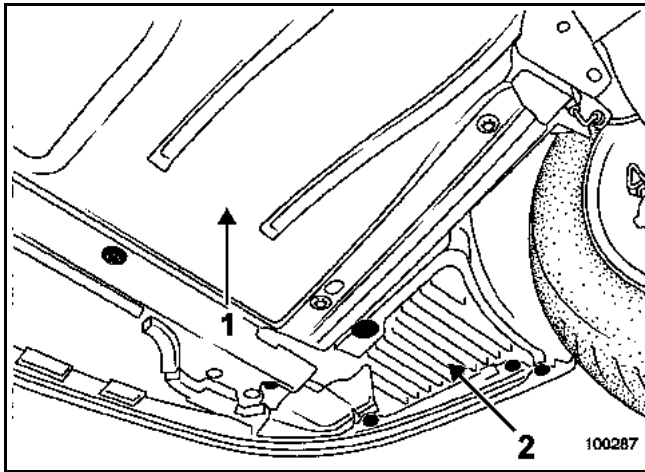
TIGHTENING TORQUES (in daNm)	
Compressor mounting bolt	2.5
Attaching the coolant hoses to the compressor	0.8
Wheel bolts	13

REMOVAL

Put the vehicle on a two-post lift.

Drain the coolant circuit using a filling station.

Disconnect the battery.

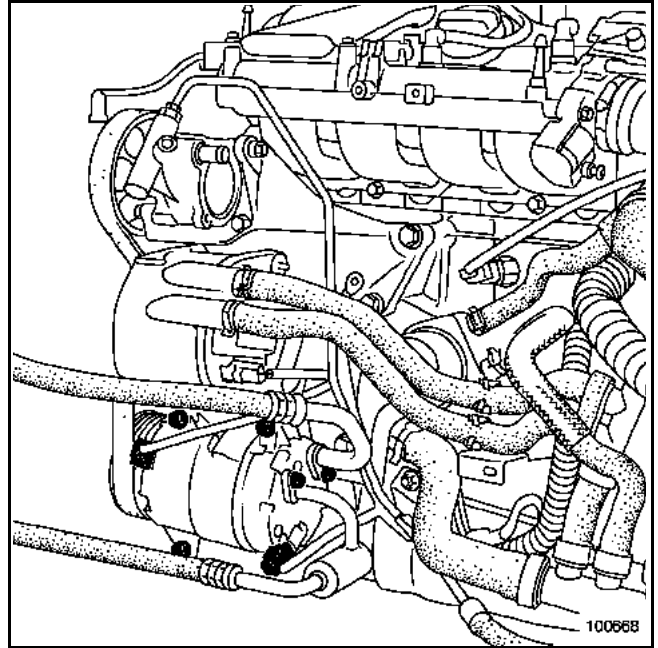


Remove:

- the engine undertray (1),
- the front right-hand wheel,
- part of the right mudguard (2),
- the right side protection attached to the side member,
- the accessories belt (see **Section 11A, Accessories belt tension**).

NOTE:

all removed belts must be replaced.



Remove the air-conditioning hoses on the compressor.

Plug up the air-conditioning hoses.

Disconnect the two compressor connectors

Remove:

- the cross member under the compressor,
- the three compressor bolts.

Remove the compressor.

REFITTING

If you need to fit a new compressor, remember that they come pre-filled with oil.

Oil the hose seals with the recommended oil.

Proceed in the reverse order to removal.

Fill the refrigerant circuit using a filling station.

IMPORTANT:


Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

Tighten to torque:

- the compressor mounting bolts (**2.5 daNm**),
- the refrigerant hose attachment on the compressor (**0.8 daNm**),
- the wheel bolts (**13 daNm**).

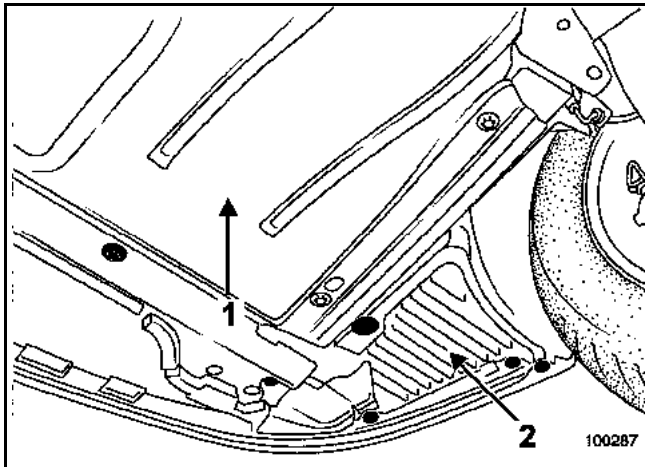
TIGHTENING TORQUES (in daNm)	
Compressor mounting bolt	2.5
Attaching the coolant hoses to the compressor	0.8
Wheel bolts	13

REMOVAL

Put the vehicle on a two-post lift.

Drain the coolant circuit using a filling station.

Disconnect the battery.

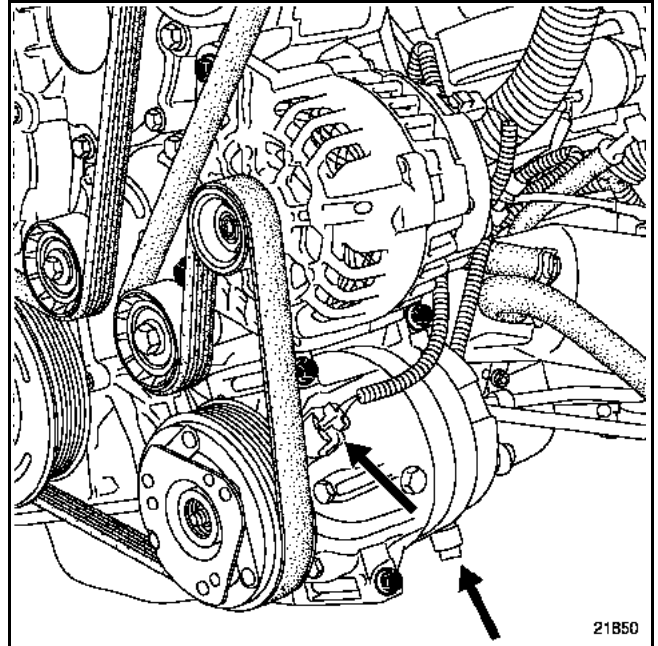


Remove:

- the engine undertray (1),
- the front right-hand wheel,
- part of the right mudguard (2),
- the right side protection attached to the side member,
- the accessories belt (see Section 11A "Accessories belt tension").

NOTE:

all removed belts must be replaced.



Remove the air-conditioning hoses on the compressor.

Plug up the air-conditioning hoses.

Disconnect the two compressor connectors

Remove:

- the cross member under the compressor,
- the three compressor bolts.

Remove the compressor.

REFITTING

If you need to fit a new compressor, remember that they come pre-filled with oil.

Oil the hose seals with the recommended oil.

Proceed in the reverse order to removal.

Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.


Tighten to torque:

- the compressor mounting bolts (**2.5 daNm**)
- the refrigerant hose attachment on the compressor (**0.8 daNm**),
- the wheel bolts (**13 daNm**).

AIR CONDITIONING Compressor

62A

P9X ENGINE

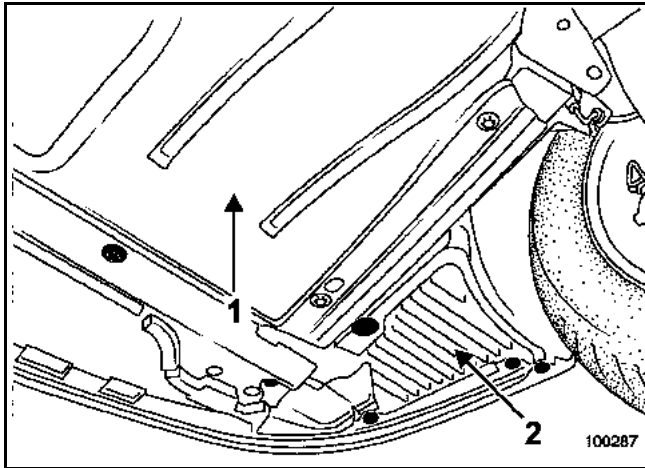
TIGHTENING TORQUES (in daNm)	
Compress mounting bolt towards the accessories belt	2.5
Compressor mounting bolt towards the oil filter	5
Attaching the coolant hoses to the compressor	2.1
Wheel bolts	13

REMOVAL

Put the vehicle on a two-post lift.

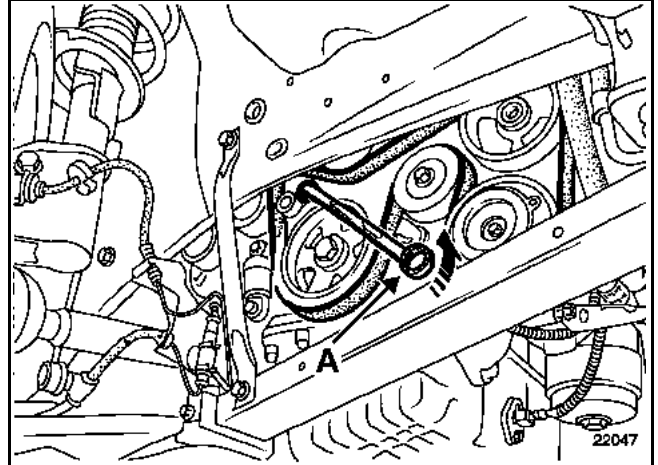
Drain the coolant circuit using a filling station.

Disconnect the battery.



Remove:

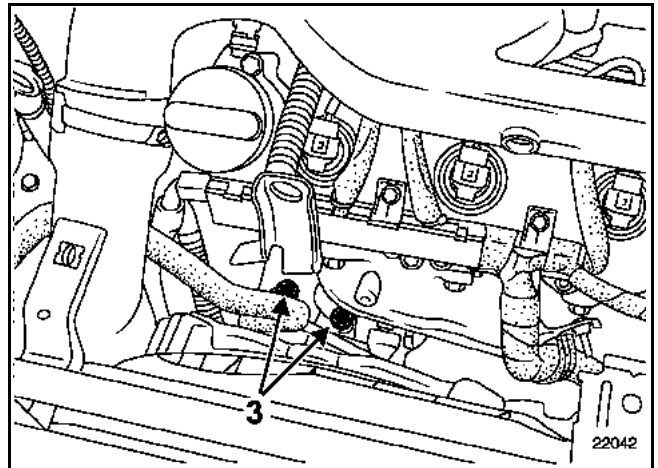
- the engine undertray (1),
- the front right-hand wheel,
- part of the right mudguard (2),
- the right side protection attached to the side member.



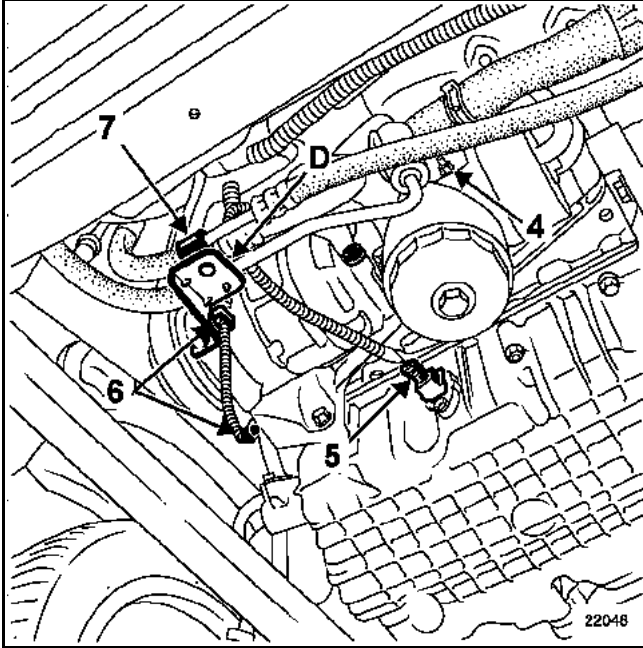
Remove the accessories belt (see Section 11A Accessories Belt Tension).

NOTE:

all removed belts must be replaced.



Remove the air-conditioning hoses (3) from the compressor and plug them.



Remove:

- the air conditioning pipe nut (4),
- the connections (5),
- the two electrical harness clips (6),
- the power steering oil pipe clip (7),
- the refrigerant pipe nut (8),
- the cross member under the compressor,
- the three compressor mounting bolts.

Plug up the air-conditioning hoses.

REFITTING

If you need to fit a new compressor, remember that they come pre-filled with oil.

Oil the hose seals with the recommended oil.

Proceed in the reverse order to removal.

Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.


Tighten to torque:

- the compressor mounting bolts, one of which is located on top of the other side of the accessories belt (**2.5 daNm**),
- the compressor mounting bolt near the oil filter (**5 daNm**),
- the refrigerant hose attachment on the compressor (**2.1 daNm**),
- the wheel bolts (**13 daNm**).

AIR CONDITIONING Compressor

62A

V4Y ENGINE

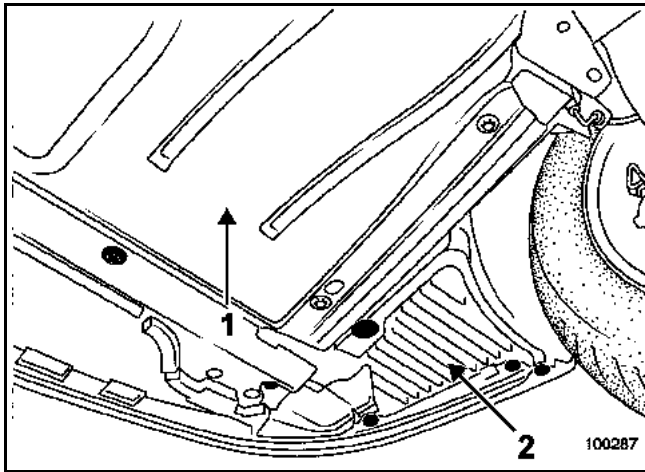
TIGHTENING TORQUES (in daNm)	
Compressor mounting bolt	2.5
Attaching the coolant hoses to the compressor	0.8
Wheel bolts	13

REMOVAL

Put the vehicle on a two-post lift.

Drain the coolant circuit using a filling station.

Disconnect the battery.

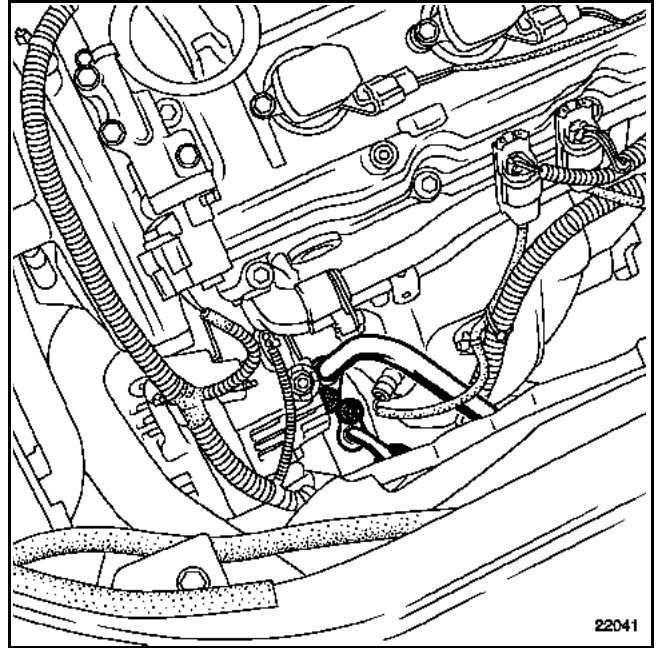


Remove:

- the engine undertray (1),
- the front right-hand wheel,
- part of the right mudguard (2),
- the right side protection attached to the side member,
- the accessories belt (see **Section 11A, Accessories belt tension**).

NOTE:

all removed belts must be replaced.



Remove the air-conditioning hoses on the compressor.

Plug up the air-conditioning hoses.

Disconnect the two compressor connectors

Remove:

- the cross member under the compressor,
- the four compressor bolts.

Remove the compressor.

REFITTING

If you need to fit a new compressor, remember that they come pre-filled with oil.

Oil the hose seals with the recommended oil.

Proceed in the reverse order to removal.

Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

Tighten to torque:

- the compressor mounting bolts (**2.5 daNm**),
- the refrigerant hose attachment on the compressor (**0.8 daNm**),
- the wheel bolts (**13 daNm**).

EQUIPMENT REQUIRED

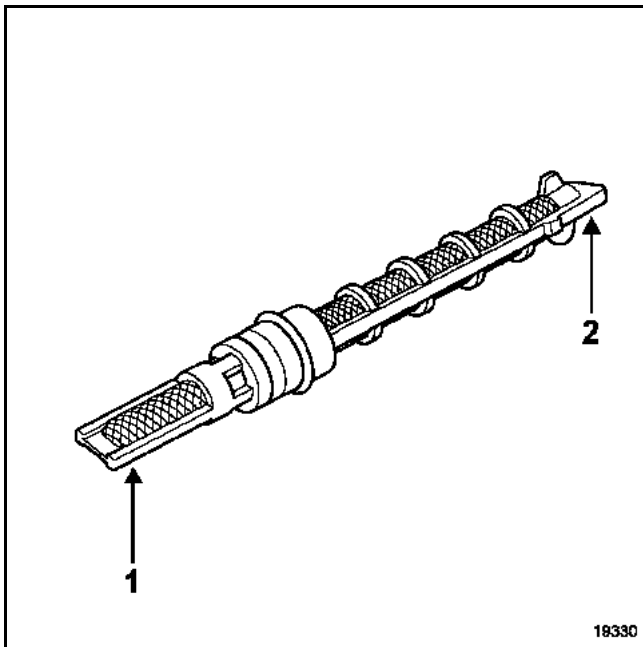
Hydraulic jack

TIGHTENING TORQUES (in daNm)



Heater mounting screw	2.1
Rear mounting bolt of rear tie-rod	10.5
Side plastic cover mounting bolt	2.1
Air-conditioning cover protection mounting bolt	2.1
Air-conditioning cover mounting bolt	0.2

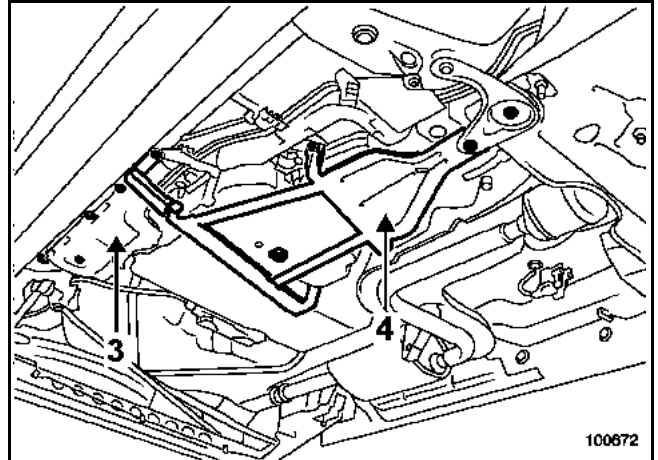
Espace models are fitted with a calibrated choke pressure relief valve.



- 1 evaporator side
- 2 condenser side

REMOVAL

- Put the vehicle on a two-post lift.
- Drain the coolant circuit using a filling station.
- Disconnect the battery.



Remove:

- the side plastic cover (3) on vehicles without extra heating,
- the air-conditioning cover protection (4).

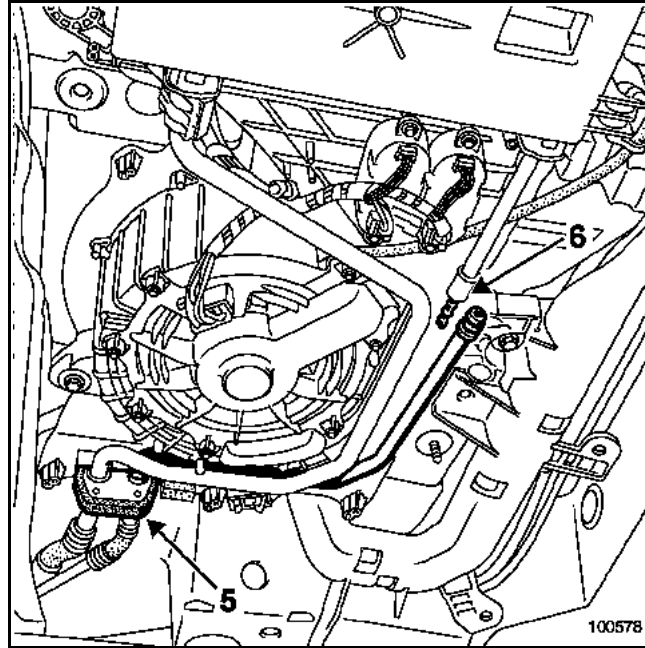
Release:

- the parking brake cable on the air-conditioning cover,
- the air-conditioning cover inlet hoses.

Place a component jack under the air-conditioning cover.

Remove all the air-conditioning cover mounting bolts.

Remove the air-conditioning cover.



Remove:

- the retaining bracket (5) holding the unit,
- the hose retaining clip at (6).

Disconnect the hoses.

Remove the calibrated choke with curved long-nosed pliers.

REFITTING

Proceed in the reverse order to removal.

Fill the refrigerant circuit using a filling station.

NOTE:

Before reinstalling the air-conditioning cover, do not forget to perform a leak test with the engine running, air-conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

EQUIPMENT REQUIRED

Hydraulic jack

TIGHTENING TORQUES (in daNm)



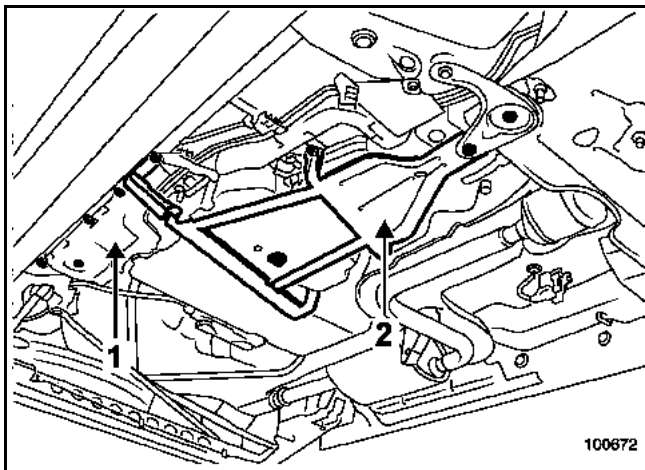
Heater mounting screw	2.1
Rear mounting bolt of rear tie-rod	10.5
Side plastic cover mounting bolt	2.1
Air-conditioning cover protection mounting bolt	2.1
Air-conditioning cover mounting bolt	0.2

REMOVAL

Put the vehicle on a two-post lift.

Drain the coolant circuit using a filling station.

Disconnect the battery.

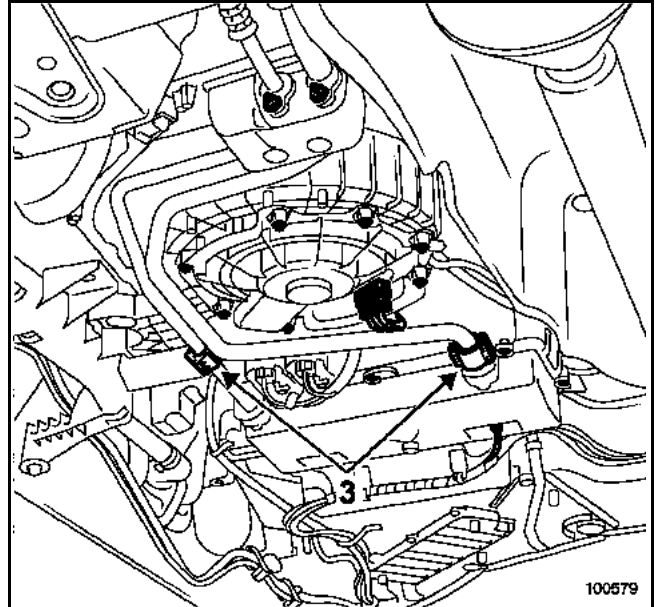


Remove:

- the side plastic cover (1) on vehicles without extra heating,
- the air-conditioning cover protection (2).
- remove the parking brake cable from the air-conditioning cover,
- remove the air-conditioning cover inlet hoses.

Place a component jack under the air-conditioning cover.

Remove all mounting bolts from the air-conditioning cover and take off the cover.



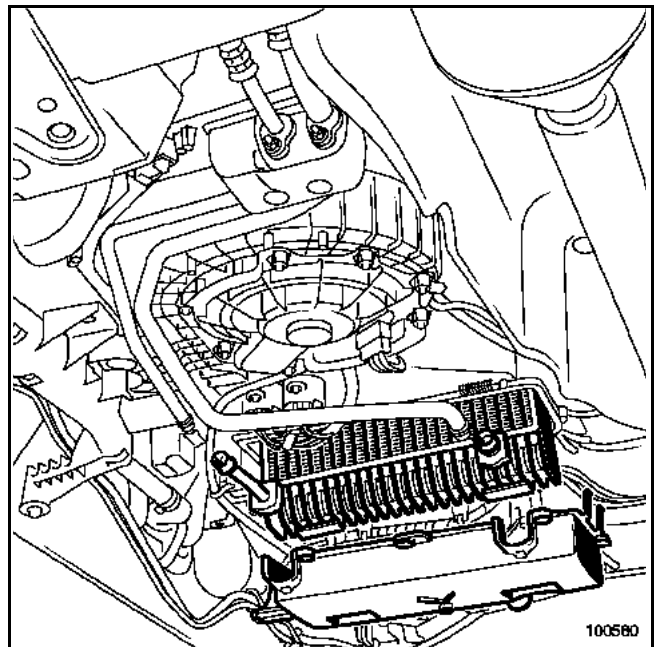
Remove:

- the two clips (3),
- the evaporator sensor connector.

Disconnect the evaporator hoses.

IMPORTANT:

Carefully hold the evaporator when removing the cover.



Remove the evaporator cover with it.

REFITTING

Proceed in the reverse order to removal.


Fill the refrigerant circuit using a filling station.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Before reinstalling the air-conditioning cover, do not forget to perform a leak test with the engine running, air-conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUES (in daNm)	
Intermediary wiring harness mounting nuts	0.8
Bolt on the dehydration canister	0.8

LOW PRESSURE HOSE BETWEEN THE EVAPORATOR AND THE DEHYDRATION CANISTER

To remove the high-pressure pipe between the condenser and evaporator, the engine must be removed.

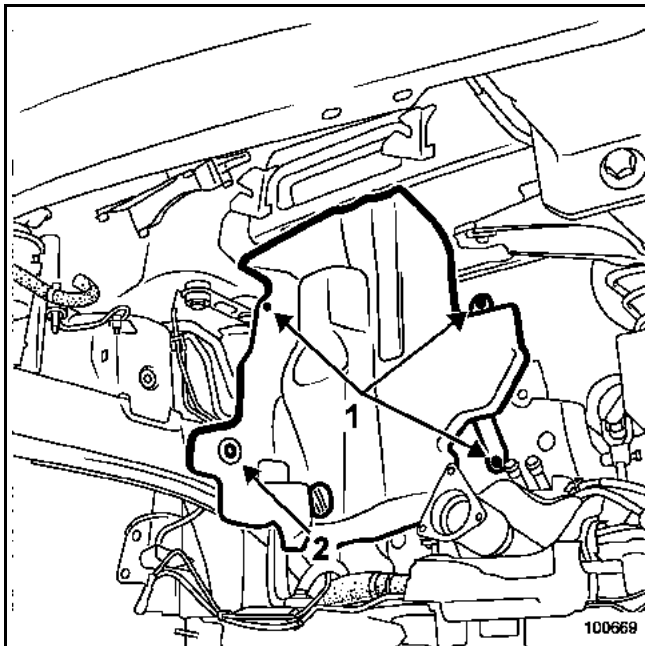
Some vehicles are equipped with heat shields.

REMOVAL

Put the vehicle on a two-post lift.

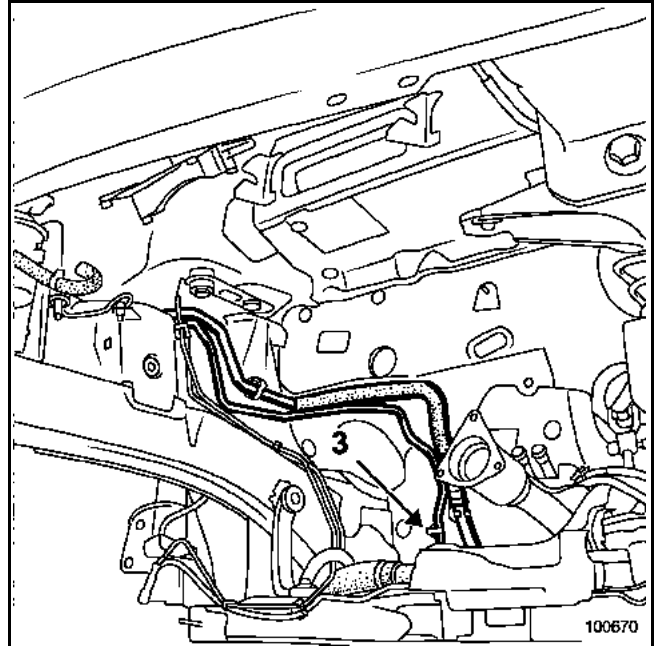
Disconnect the battery.

Drain the coolant circuit using a filling station.



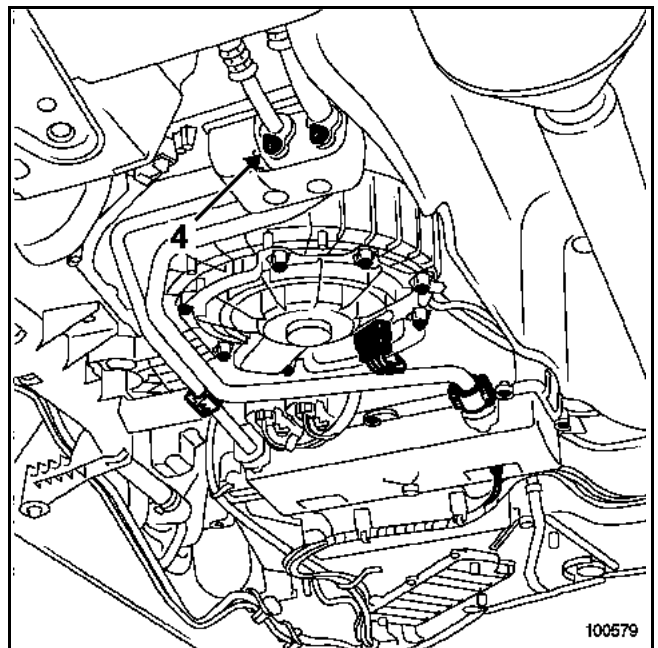
Remove:

- the engine (see Section 10A "Engine and Peripherals"),
- the three aluminium fasteners (1),
- the plastic fastener (2),
- the heat shield (if the vehicle has one),
- the air-conditioning hose mounting bolt on the dehydration canister.



Release:

- the fuel pipes on the chassis,
- the air-conditioning hose from its mounting (3).



Remove the mounting nut (4) from the intermediary wiring harness.

Remove the air-conditioning hose.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.

Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUES (in daNm)	
Intermediary wiring harness mounting nuts	0.8
Bolt on condenser	0.8

HIGH PRESSURE HOSE BETWEEN THE CONDENSER AND THE EVAPORATOR

To remove the high-pressure pipe between the condenser and evaporator, the engine must be removed.

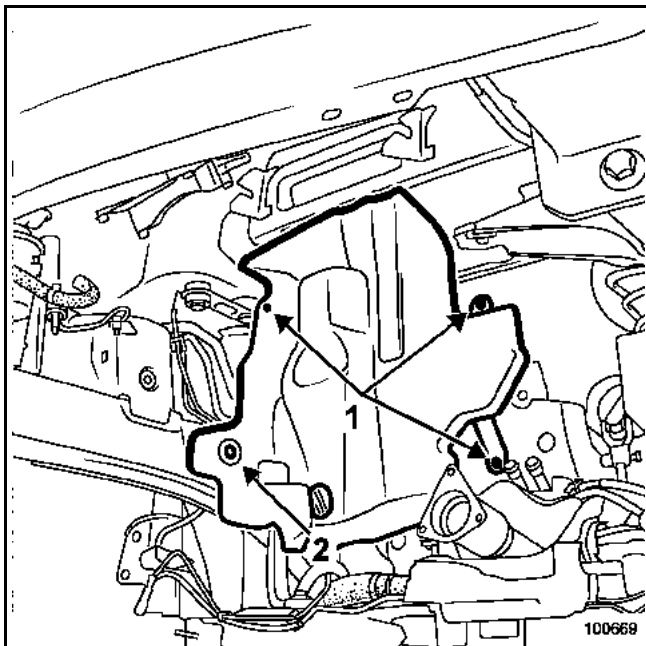
Some vehicles are equipped with heat shields.

REMOVAL

Put the vehicle on a two-post lift.

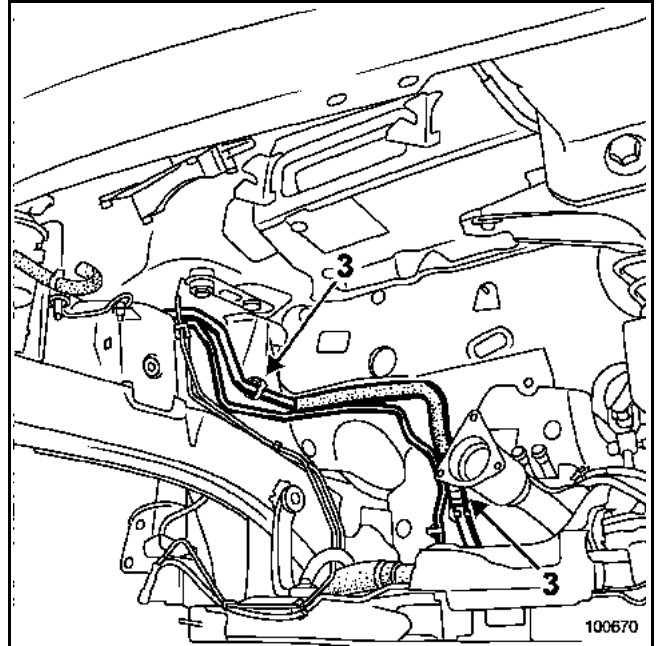
Disconnect the battery.

Drain the coolant circuit using a filling station.



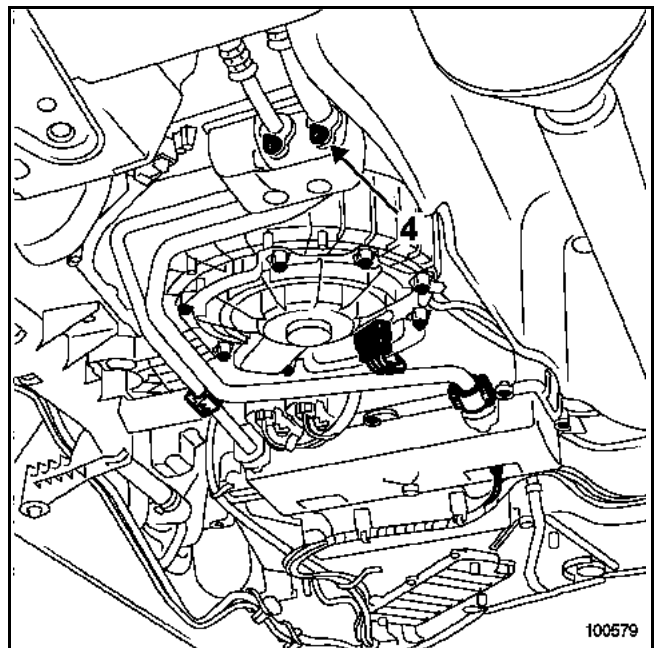
Remove:

- the engine (see Section 10A "Engine and Peripherals"),
- the three aluminium fasteners (1),
- the plastic fastener (2),
- the heat shield (if the vehicle has one).



Release:

- the fuel pipes on the chassis,
- the air-conditioning hose from its mounting (3).



Remove the mounting nut (4) from the intermediary wiring harness.

Remove the air-conditioning hose.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.


Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUES (in daNm)	
Mounting nut on the condenser	0.8
Bolt on compressor	0.8

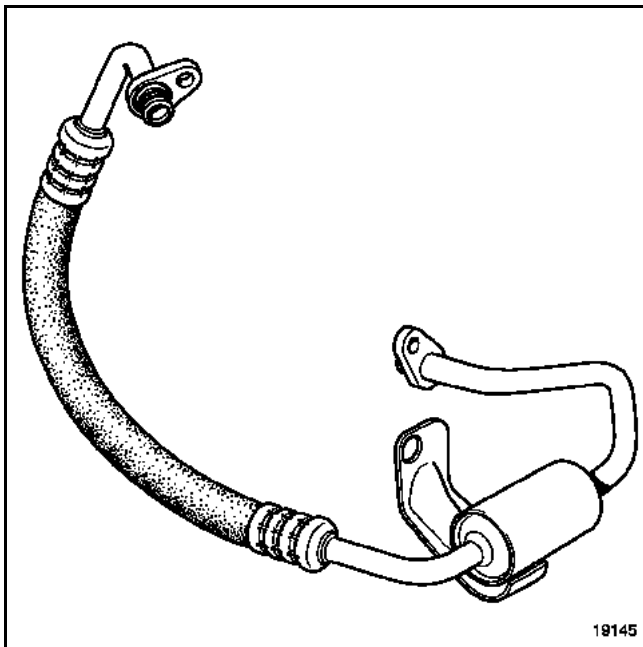
HIGH PRESSURE HOSE BETWEEN THE COMPRESSOR AND THE CONDENSER

REMOVAL

Vehicle on a two-post lift.

Disconnect the battery.

Drain the **R134a** refrigerant circuit using a filling station.



Remove:

- the covers,
- the engine undertray,
- the front bumper (see Section **55A**),
- the mounting nut on the condenser (see section **62A**),
- the bar under the compressor,
- the two mounting bolts on the compressor,
- the hose.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.


Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section **8**).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUES (in daNm)	
Mounting nut on the condenser	0.8
Bolt on compressor	0.8

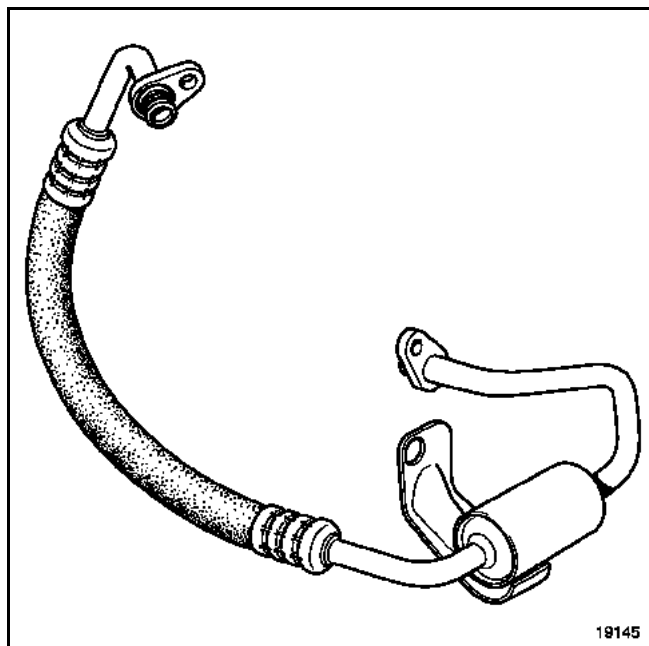
HIGH PRESSURE HOSE BETWEEN THE COMPRESSOR AND THE CONDENSER

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

Drain the **R134a** refrigerant circuit using a filling station.



Remove:

- the covers,
- the engine undertray,
- the front bumper (see Section **55A**),
- the mounting nut on the condenser (see section **62A**),
- the bar under the compressor,
- the two mounting bolts on the compressor,
- the hose.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.


Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section **8**).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUES (in daNm)	
Nut on the dehydration canister	0.8
Compressor mounting bolt	0.8

LOW PRESSURE HOSE BETWEEN THE DEHYDRATION CANISTER AND THE COMPRESSOR

REMOVAL

Disconnect the battery.

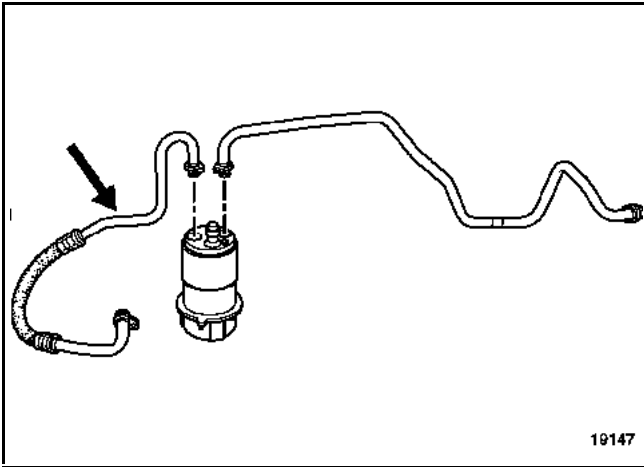
Drain the **R134a** refrigerant circuit using a filling station.

Remove the covers.

Unclip the power steering reservoir.

Remove:

- the mounting nut on the dehydration canister,
- the mounting bolt on the compressor.



Remove the hose.

Fit the plugs in the ports.

REFITTING

Proceed in the reverse order to removal.


Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUE (in daNm)	
Mounting nut on the condenser	0.8
Bolt on compressor	0.8

LOW PRESSURE HOSE BETWEEN THE DEHYDRATION CANISTER AND THE COMPRESSOR

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

Drain the **R134a** refrigerant circuit using a filling station.

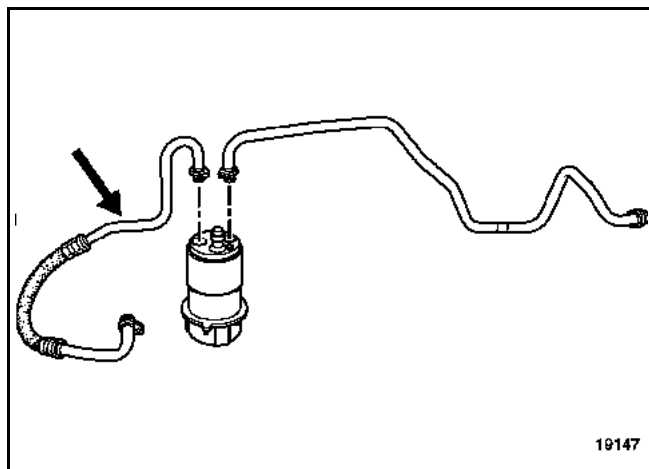
Remove:

- the covers,
- the engine undertray.

Unclip the power steering reservoir.

Remove:

- the mounting nut on the dehydration canister,
- the mounting bolt on the compressor.



Remove the hose.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.

Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUE (in daNm)


Mounting nut on the condenser	0.8
Bolt on compressor	0.8

LOW-PRESSURE HOSE BETWEEN COMPRESSOR AND CONDENSER
REMOVAL

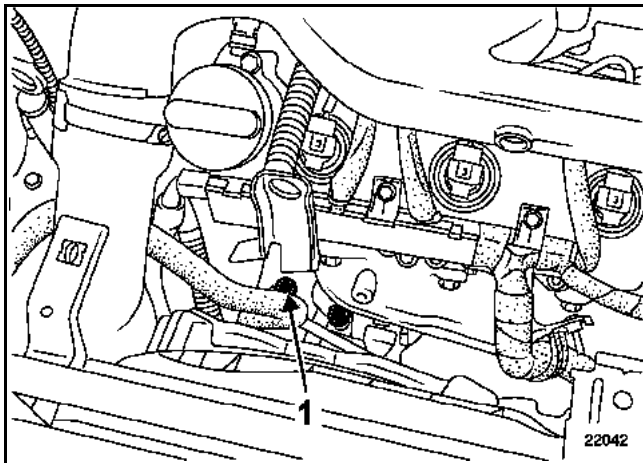
Vehicle on a two-post lift.

Disconnect the battery.

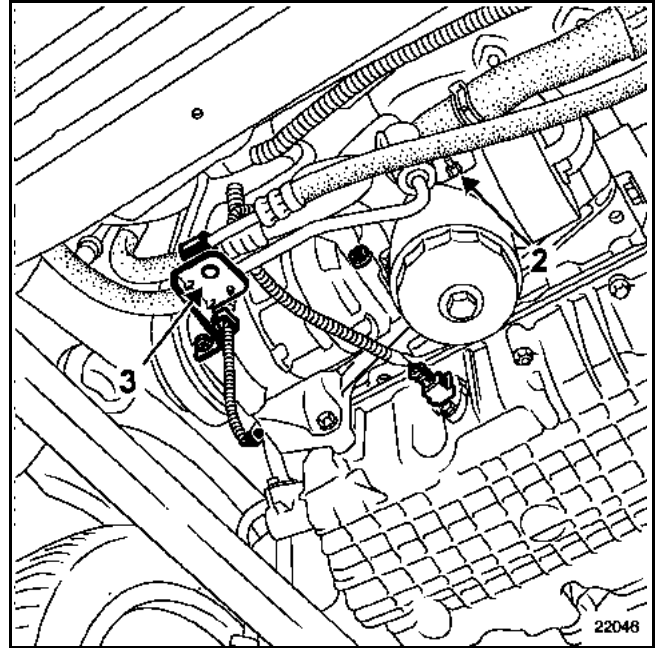
Drain the **R134a** refrigerant circuit using a filling station.

Remove:

- the covers,

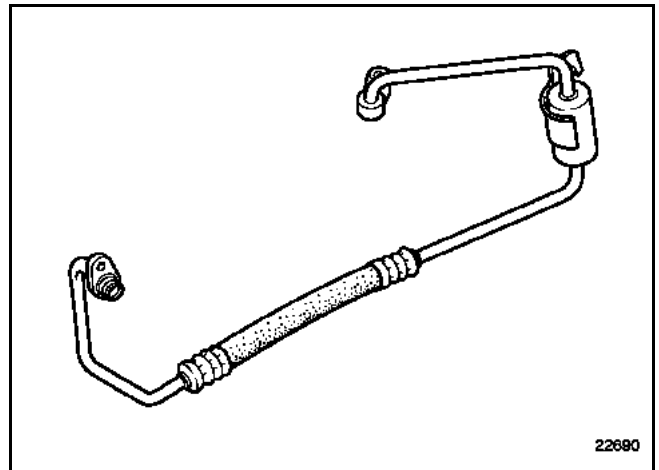


- the mounting bolt (1) on the compressor,
- the engine undertray,
- the front bumper (see Section **55A**),
- the mounting bolt on the condenser (see Section **62A: "Condenser"**).



Remove:

- the bar under the compressor,
- the mounting nut (2) on the oil filter,
- the retaining bracket (3).



Remove the hose.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.

Reattach the connector to the fan assembly connector.

Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUE (in daNm)


Mounting nut on the condenser	0.8
Bolt on compressor	0.8

LOW PRESSURE HOSE BETWEEN THE DEHYDRATION CANISTER AND THE COMPRESSOR
REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

Drain the **R134a** refrigerant circuit using a filling station.

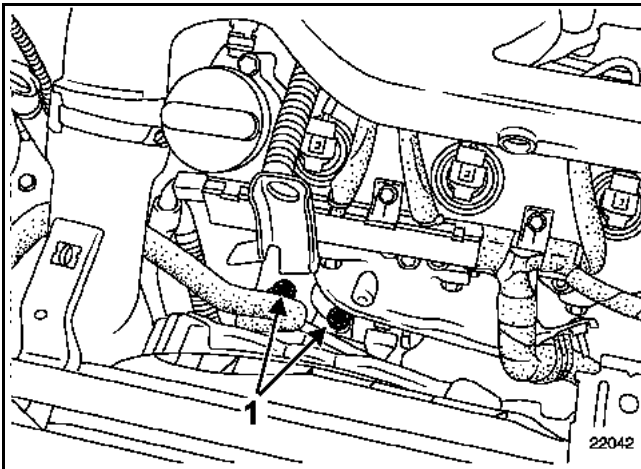
Remove:

- the covers,
- the switch on the diesel filter with the clip.

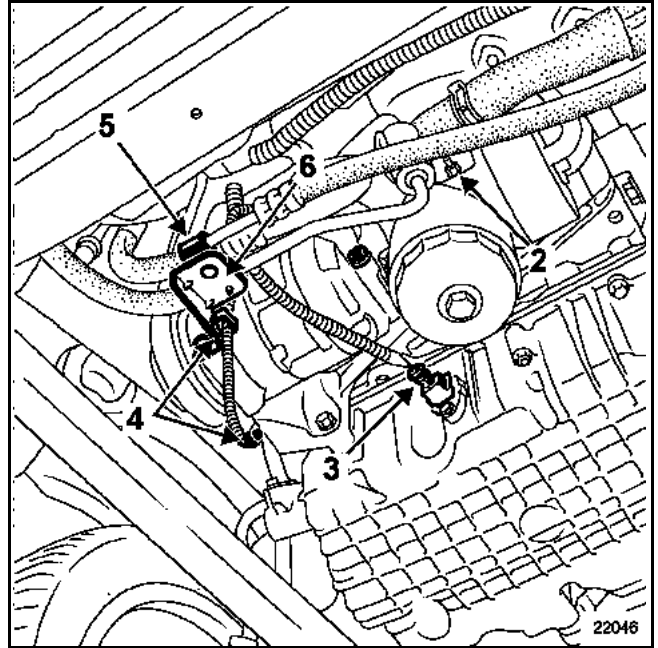
Unclip the power steering reservoir.

Remove:

- the mounting nut on the dehydration canister,



- the two mounting bolts (1) on the compressor,
- the engine undertray.



Remove:

- the air conditioning pipe nut (2),
- the connections (3).

Remove the electrical harness at (4).

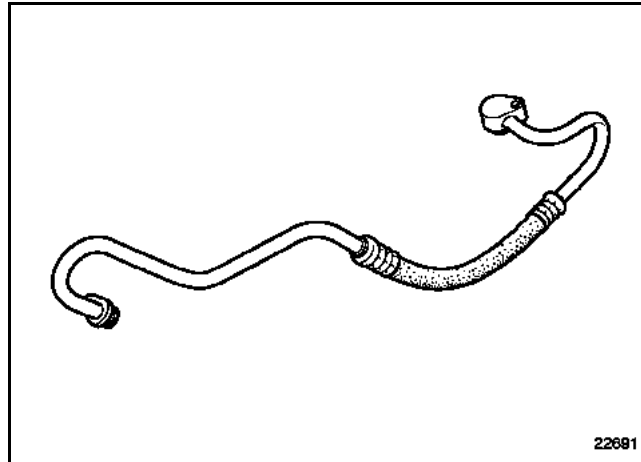
Remove:

- the cross member under the compressor,
- the mounting nut (5) on the bracket (6),
- the power-assisted steering mounting bracket (6) on the compressor.

Remove the compressor-condenser from the compressor so that the dehydration canister-compressor hose can be removed.

NOTE:

To remove the air-conditioning hose, the electrical harness must be removed without damaging it.



Remove the hose from underneath.

Fit the plugs into the ports.

REFITTING

Proceed in the reverse order to removal.

Reattach the connector to the fan assembly connector.


Oil the hose seals with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

TIGHTENING TORQUE (in daNm)	
Pressure sensor	0.9

REMOVAL

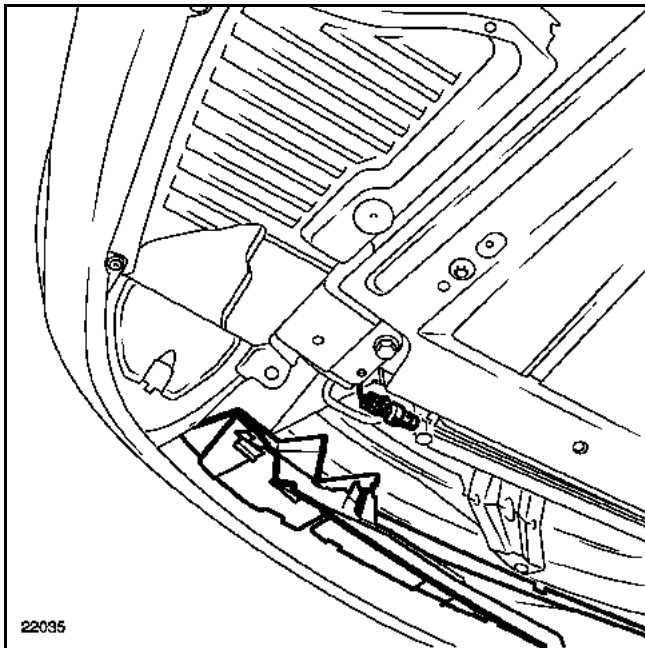
Put the vehicle on a two-post lift.

Disconnect the battery.

NOTE:

The pressure sensor can be removed without draining the refrigerant circuit.

Remove the four front engine cover mounting bolts.



Move the front engine cover to one side.

Disconnect the pressure sensor.

Remove the pressure sensor.

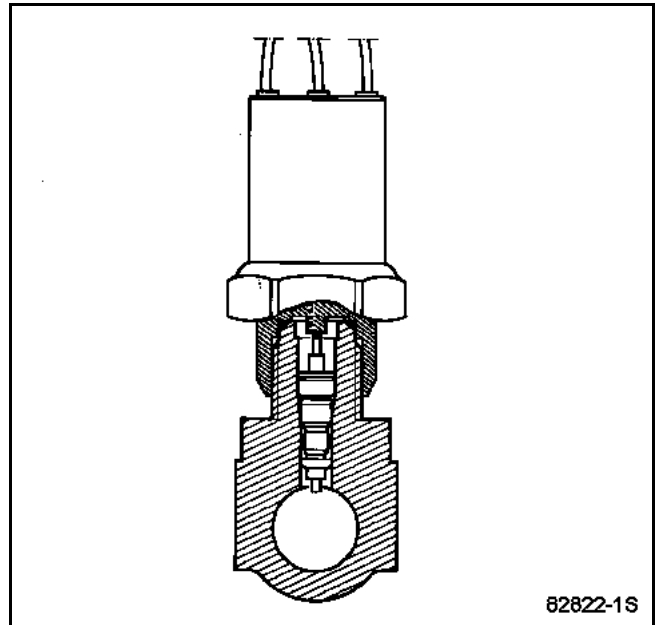
The pressure sensor located at the condenser outlet protects the refrigerant circuit.

- Low-pressure cut-off: **2 bar**.
- High-pressure cut-off: **27 bar**.

It informs the injection computer of the pressure in the refrigerant circuit.

The injection computer controls the engine cooling fans depending on the high pressure in the refrigerant circuit and the vehicle speed.

An automatic shut-off valve isolates the circuit from the environment when the switch is removed.



REFITTING

Proceed in the reverse order to removal.

Replace the seal if it is damaged, protecting the pressure sensor end piece threading to avoid damaging the seal during fitting.

Lubricate the seal with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

P9X ENGINE

TIGHTENING TORQUE (in daNm)



Pressure sensor

0.9

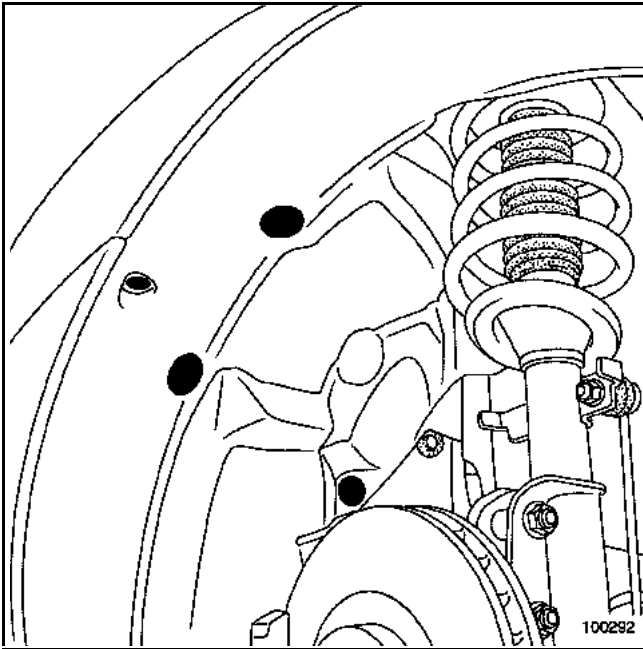
REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.

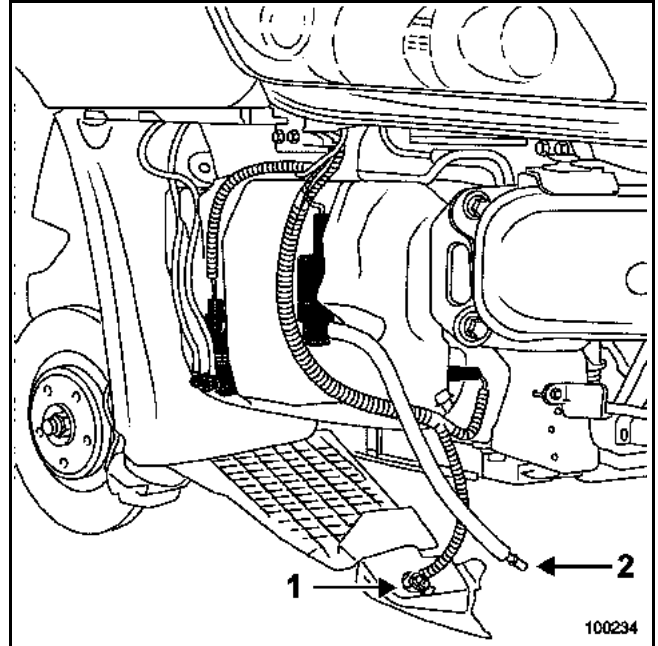
NOTE:

- The pressure sensor can be removed without draining the refrigerant circuit.
- An automatic shut-off valve isolates the circuit from the environment when the switch is removed.



Partially remove:

- the engine undertray,
- the wheel arch liners.



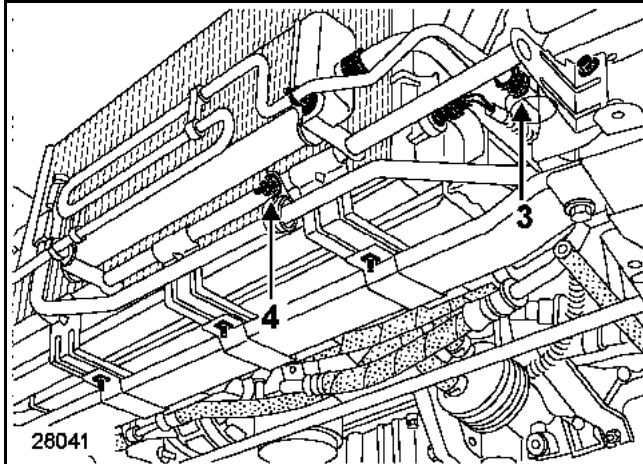
Disconnect the fog light power connectors (1) (if the vehicle is equipped with the option).

Remove the two side mounting bolts.

Partially release the bumper (see Section 55A).

Disconnect the headlight washer jet connectors (2) (if the vehicle is equipped with the option).

Remove the radiator grille-bumper unit (this step requires two workers).



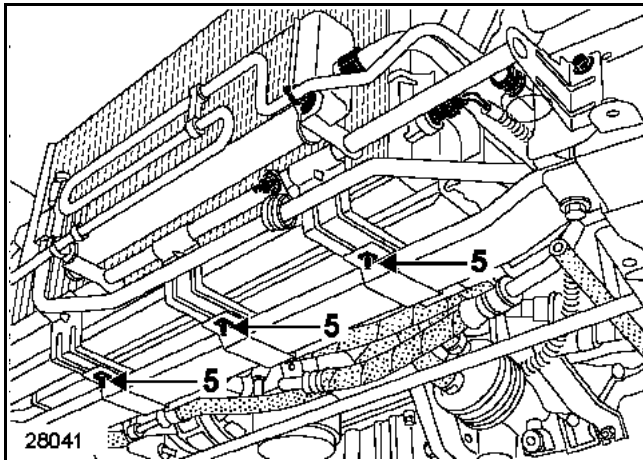
Remove:

- the pressure sensor connections,
- the clip (3) and (4),

Separate the oil radiator from its mounting without removing it and leave it suspended.

Remove:

- the radiator mounting attachments at (5) in order to move it,
- the pressure sensor.

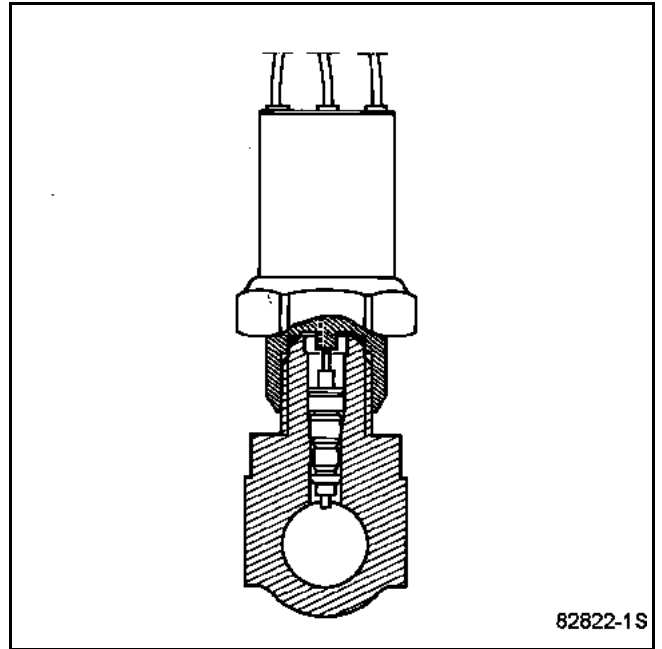


The pressure sensor located at the condenser outlet protects the refrigerant circuit.

- Low-pressure cut-off: **2 bar**.
- High-pressure cut-off: **27 bar**.

It informs the injection computer of the pressure in the refrigerant circuit.

The injection computer controls the engine cooling fans depending on the high pressure in the refrigerant circuit and the vehicle speed.



REFITTING

Proceed in the reverse order to removal.

Replace the seal if it is damaged, protecting the pressure sensor end piece threading to avoid damaging the seal during fitting.

Lubricate the seal with the recommended oil.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

NOTE:

Perform a leak test with the engine running and air conditioning and fan at maximum, and check with a leak detector within **5 minutes** after the filling operation.

The recirculation motor positions the air inlet flap according to the requirements determined by the automatic control.

NOTE:

- Do not detach the insulation sensor directly from the top as it could break when placed on top of the dashboard.

IMPORTANT:

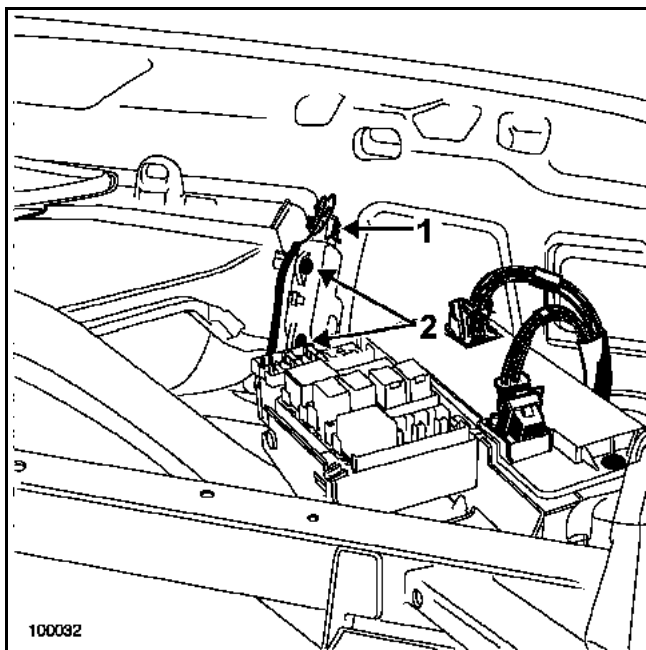
pyrotechnic systems (airbags and pretensioners) must not be handled near to a heat source or flame - they may be triggered.

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

REMOVAL

Disconnect the battery.



Remove:

- the top of the dashboard.
- the instrument panel (see Section 57B).

Disconnect the connector (1).

Remove:

- the two recirculation motor mounting bolts (2),
- the recirculation motor.

REFITTING

Proceed in the reverse order to removal.

WARNING:

- Connect the battery; carry out the necessary programming (see Section 8).
- Start up the airbag computer again using the diagnostic tools (see Section 8).

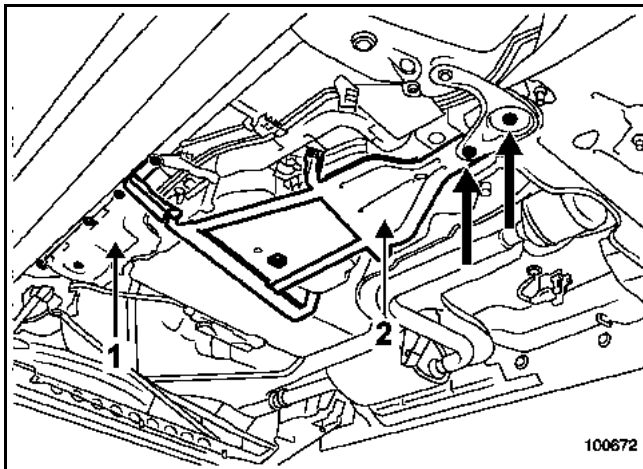
SPECIAL TOOLING REQUIRED	
Mot. 1608	Torque screwdriver
EQUIPMENT REQUIRED	
Component jack	

TIGHTENING TORQUE (in daNm)	
Heater mounting screw	2.1
Rear mounting bolt of rear tie-rod	10.5
Side plastic cover mounting bolt	2.1
Air-conditioning cover protection mounting bolt	2.1
Air-conditioning cover mounting bolt	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery



Remove:

- the side plastic cover (1) on vehicles without extra heating,
- the air conditioning cover protection (2).

Release:

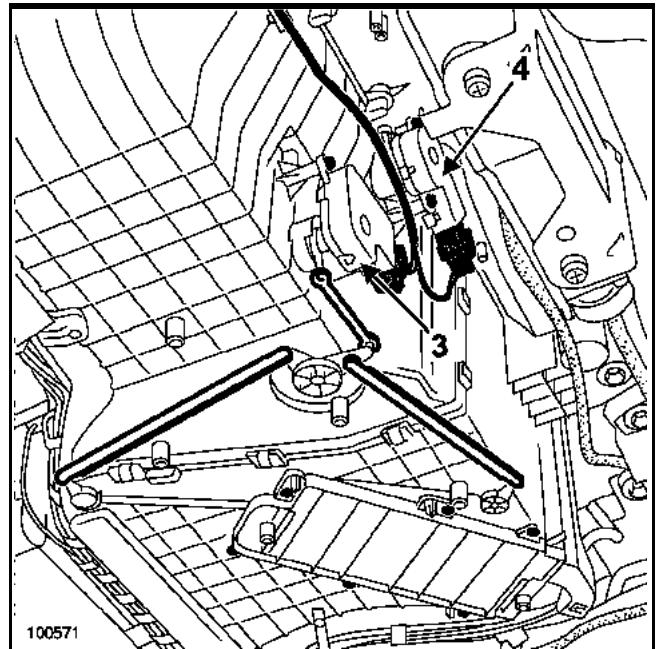
- the parking brake cable on the air-conditioning cover,
- the air-conditioning cover inlet hoses.

Place a component jack under the air-conditioning cover.

Remove all the air-conditioning cover mounting bolts.

Remove the air-conditioning cover.

The mixing motor positions the air inlet flap depending on the requirements determined by automatic control.



3 LH mixer motor

4 RH mixer motor

Disconnect the connector concerned.

Remove:

- the two mounting bolts from the mixer motor concerned,
- the mixer motor concerned.


REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

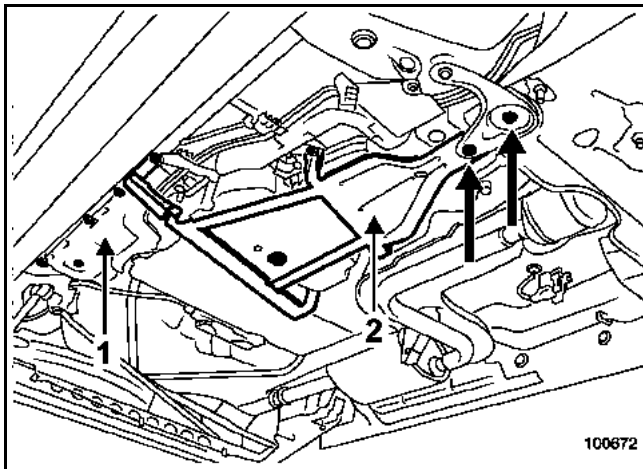
SPECIAL TOOLING REQUIRED	
Mot. 1608	Torque screwdriver
EQUIPMENT REQUIRED	
Component jack	

TIGHTENING TORQUE (in daNm)	
Heater mounting screw	2.1
Rear mounting bolt of rear tie-rod	10.5
Side plastic cover mounting bolt	2.1
Air-conditioning cover protection mounting bolt	2.1
Air-conditioning cover mounting bolt	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



Remove:

- the side plastic cover (1) on vehicles without extra heating,
- the air conditioning cover protection (2).

Release:

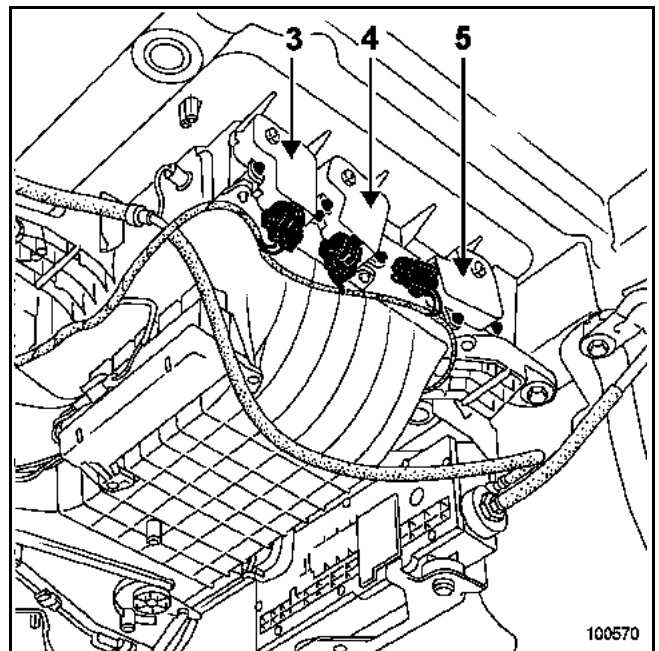
- the parking brake cable on the air-conditioning cover,
- the air-conditioning cover inlet hoses.

Place a component jack under the air-conditioning cover.

Remove all the air-conditioning cover mounting bolts.

Remove the air-conditioning cover.

The distribution motors position the air inlet flap depending on the requirements determined by automatic control.



- 3 Front distribution motor
- 4 Leg distribution motor
- 5 Rear distribution motor

Disconnect the connector concerned.

Remove:

- the two mounting bolts from the distribution motor concerned,
- the distribution motor concerned.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

The de-icing motor positions the air inlet flap according to the requirements determined by the automatic control.

The de-icing motor is accessible after removing the dashboard.

REMOVAL

IMPORTANT:

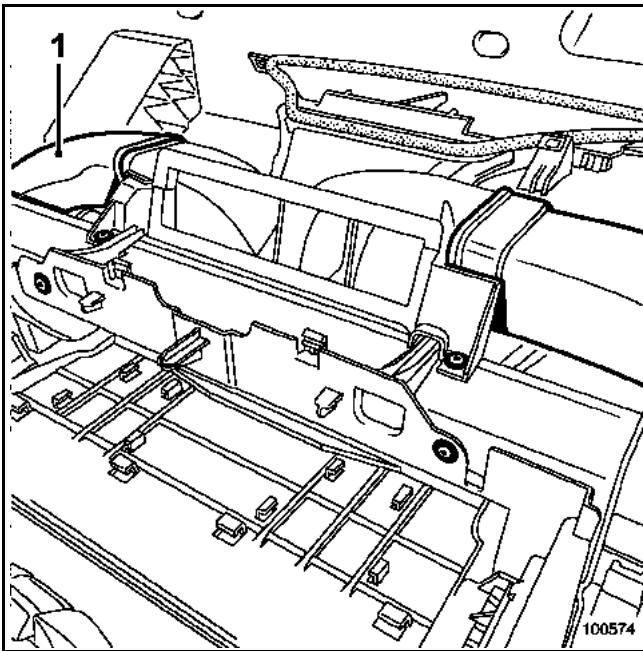
Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

Disconnect the battery.

Remove:

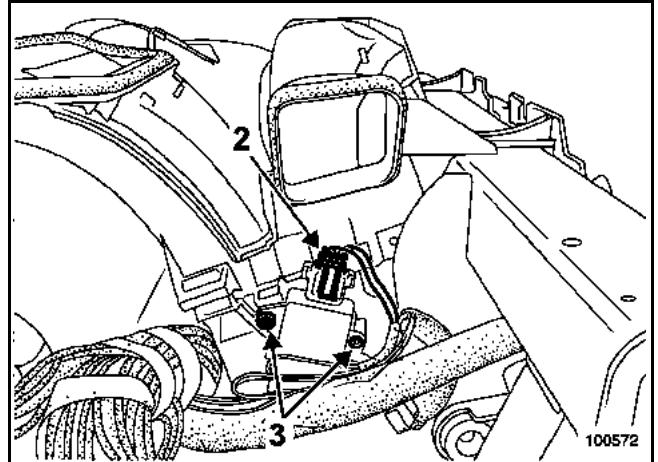
- the top of the dashboard.
- the middle section of the dashboard (see Section 57A-B).

The air duct (1) to the de-icing motor must be removed.



Remove the air duct (1).

Remove the de-icing motor connector (2).



Remove the two bolts (3).

Lift out the de-icing motor.

REFITTING

Proceed in the reverse order to removal.

WARNING:

- Connect the battery and carry out the necessary programming.
- Start up the airbag computer again using the diagnostic tools (see Section 8).

NOTE:

- Do not detach the insulation sensor directly from the top as it could break when placed on top of the dashboard.

IMPORTANT:

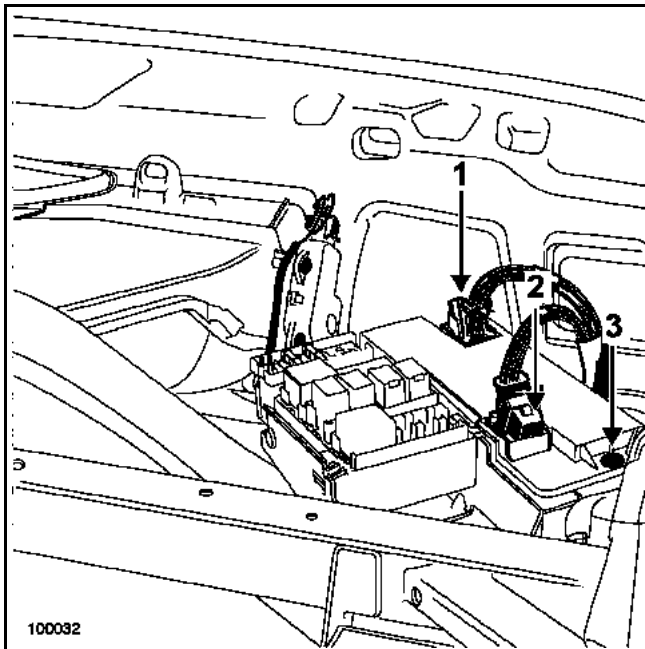
pyrotechnic systems (airbags and pretensioners) must not be handled near to a heat source or flame - they may be triggered.

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

REMOVAL

Disconnect the battery.

**Remove:**

- the top of the dashboard.
- the instrument panel (see Section 57B).
- the two connectors (1) and (2) from the air-conditioning computer casing,
- the air-conditioning computer casing bolt (3).

Remove the air-conditioning computer casing.

REFITTING

Proceed in the reverse order to removal.

WARNING:


- Connect the battery and carry out the necessary programming.
- Start up the airbag computer again using the diagnostic tools (see Section 8).

AIR CONDITIONING

Evaporator sensor

62A

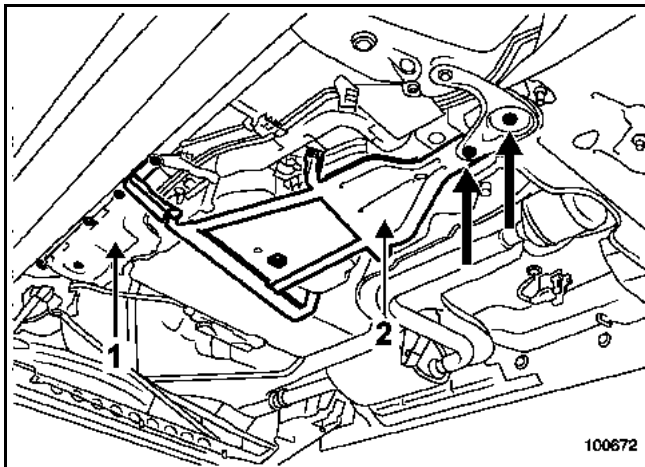
SPECIAL TOOLING REQUIRED	
Mot. 1608	Torque screwdriver
EQUIPMENT REQUIRED	
Component jack	

TIGHTENING TORQUE (in daNm)	
Heater mounting screw	2.1
Rear mounting bolt of rear tie-rod	10.5
Side plastic cover mounting bolt	2.1
Air-conditioning cover protection mounting bolt	2.1
Air-conditioning cover mounting bolt	0.2

REMOVAL

Put the vehicle on a two-post lift.

Disconnect the battery.



Remove:

- the side plastic cover (1) on vehicles without extra heating,
- the air conditioning cover protection (2).

Release:

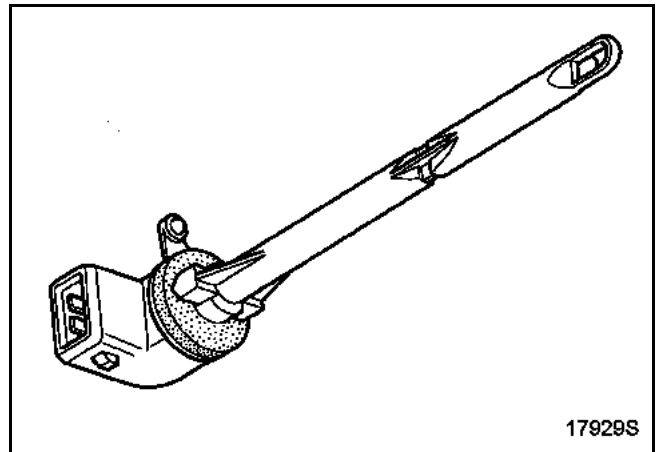
- the parking brake cable on the air-conditioning cover,
- the air-conditioning cover inlet hoses.

Place a component jack under the air-conditioning cover.

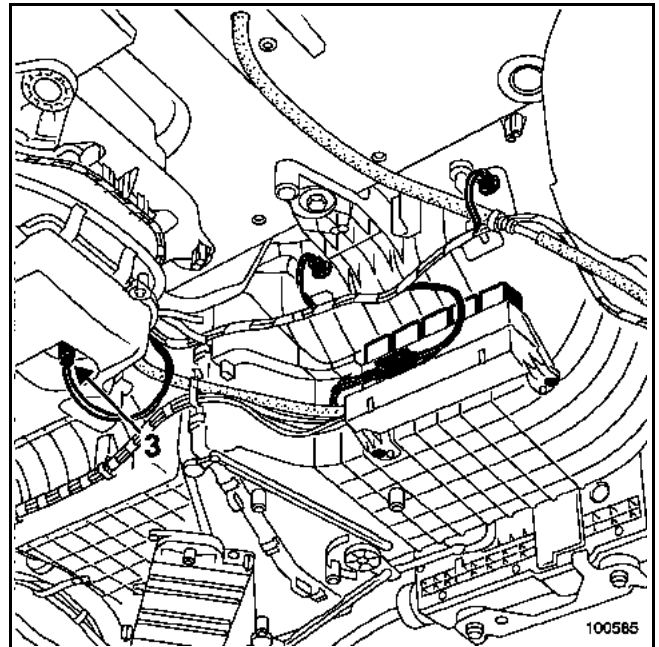
Remove all the air-conditioning cover mounting bolts.

Remove the air-conditioning cover.

The evaporator sensor provides information about the temperature at the evaporator outlet.



It is a negative temperature coefficient thermistor.



Disconnect connector (3) from the evaporator sensor.

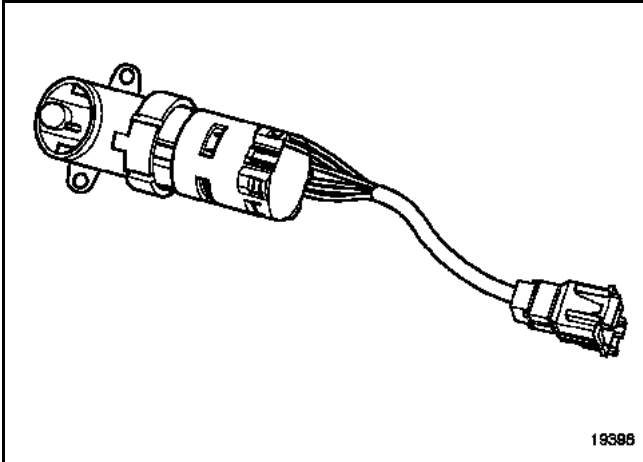
Turn the sensor a quarter turn to remove it.

REFITTING

Proceed in the reverse order to removal.

IMPORTANT:

Connect the battery; carry out the necessary programming (see Section 8).

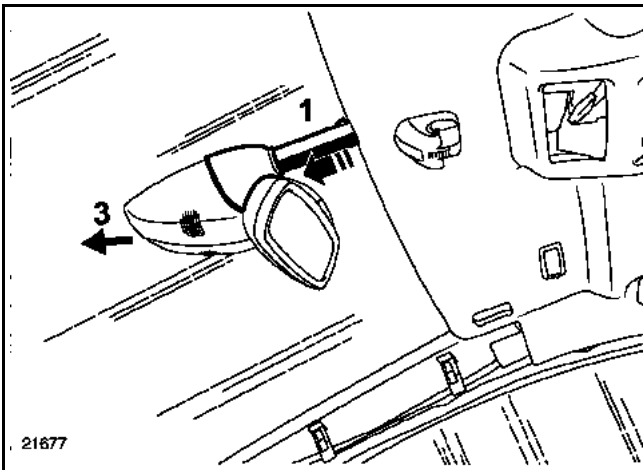


The passenger compartment sensor provides information about the temperature inside the vehicle.

It is a negative temperature coefficient thermistor.

LOCATION

The sensor is located in the courtesy light.



REMOVAL

Remove:

- the upper cover at (1),
- the lower cover (3) (see Section 57A),
- the two micro-turbine mounting bolts located inside the cover (3),
- the micro-turbine assembly.

Disconnect the wiring.

REFITTING

Proceed in the reverse order to removal.

AIR CONDITIONING

External temperature sensor

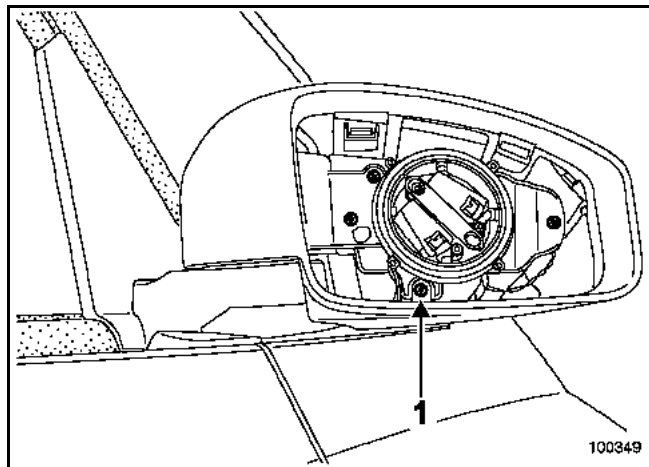
62A

The exterior sensor provides information about the temperature outside the vehicle.

It is a negative temperature coefficient thermistor.

LOCATION

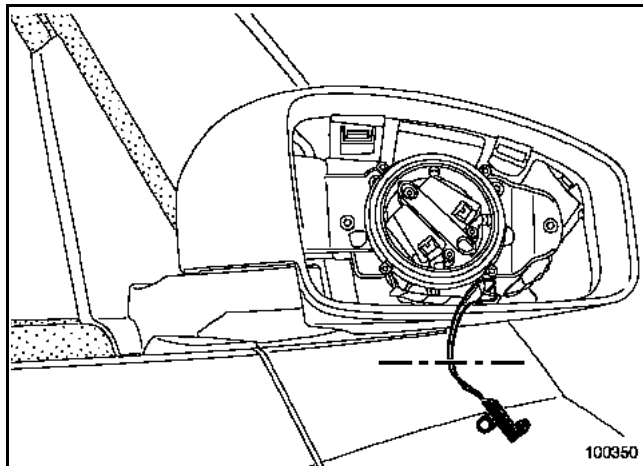
The sensor is located in the right-hand rear-view mirror.



REMOVAL

Remove:

- the rear-view mirror glass,
- the sensor unit (remove bolt (1)).



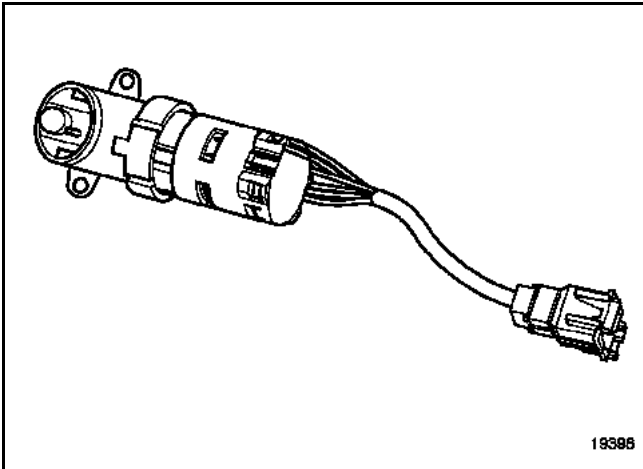
Cut the sensor wiring.

REFITTING

Make a wire joint with the new sensor.

Proceed in the reverse order to removal.

The humidity sensor is located in the micro-turbine.

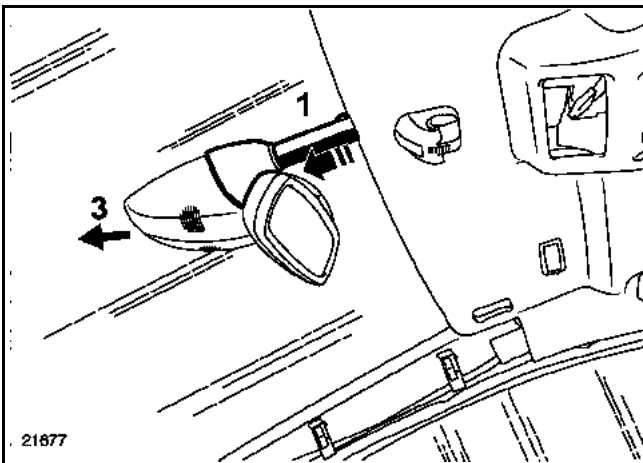


The sensor measures the humidity in the passenger compartment.

It is a capacitive sensor: the resistance changes with humidity.

LOCATION

The sensor is located in the courtesy light.



REMOVAL

Remove:

- the upper cover at (1),
- the lower cover (3) (see Section 57A),
- the two micro-turbine mounting bolts located inside the cover (3),
- the micro-turbine assembly.

Disconnect the wiring.

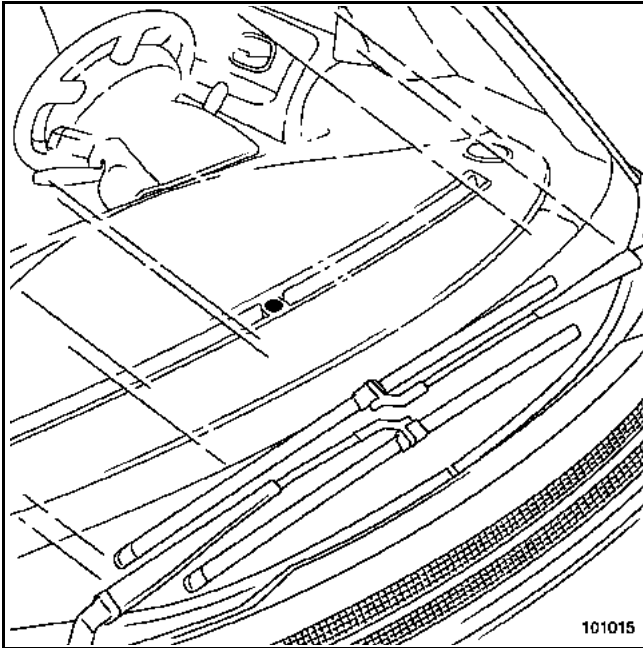
REFITTING

Proceed in the reverse order to removal.

The sunshine sensor informs the computer so that the air flow from the vents can be corrected depending on solar radiation.

LOCATION

The sensor is located at the centre of the dashboard.



REMOVAL

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

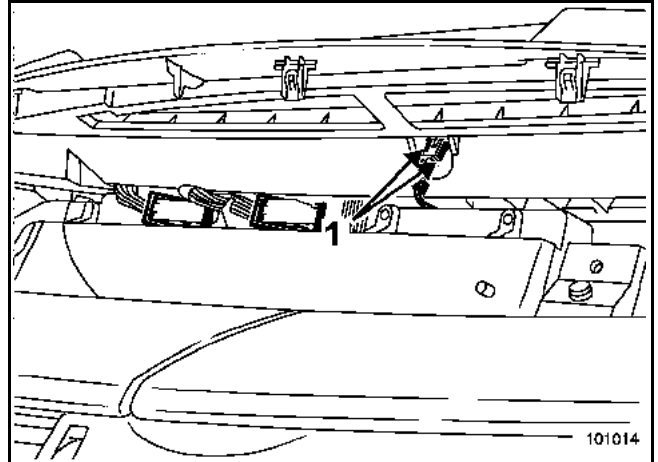
IMPORTANT:

pyrotechnic systems (airbags and pretensioners) must not be handled near to a heat source or flame - they may be triggered.

NOTE:

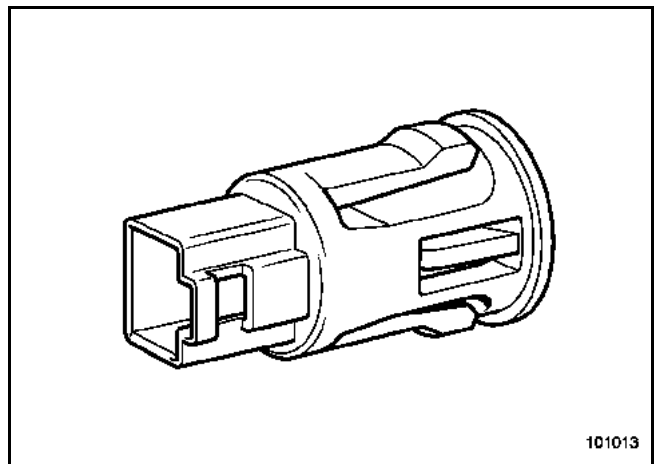
Do not detach the insulation sensor directly from the top as it might break.

The insulation sensor is accessible after removing the top of the dashboard.



Disconnect the battery.

Remove the top of the dashboard (see Section 57).



Remove:

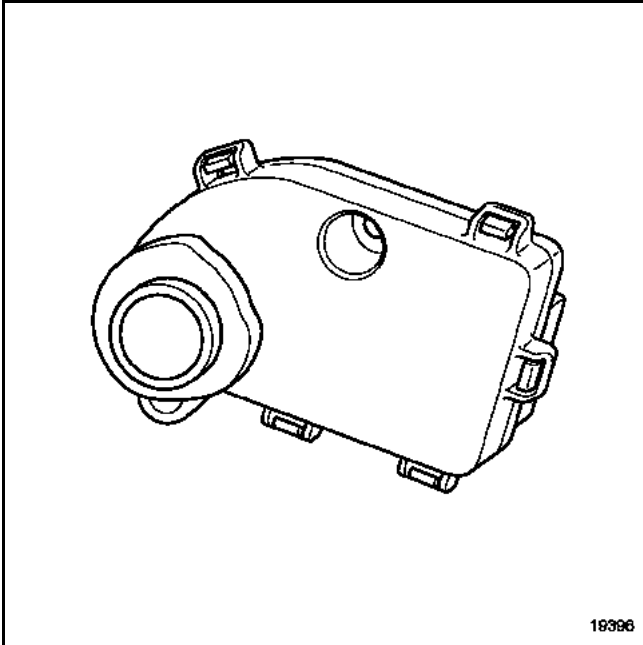
- the insulation sensor connector,
- the insulation sensor (press on the two legs (1)).

WARNING:

- Connect the battery and carry out the necessary programming.
- Start up the airbag computer again using the diagnostic tools (see Section 8).

The sensor permanently analyses the change in gas concentration.

The sensor is protected by a membrane which allows gas molecules through but traps humidity and dust.



REMOVAL

IMPORTANT:

Before starting any work on the airbag system, lock the computer using the diagnostic tools (see Section 8).

IMPORTANT:

pyrotechnic systems (airbags and pretensioners) must not be handled near to a heat source or flame - they may be triggered.

NOTE:

Do not detach the insulation sensor directly from the top as it could break when placed on top of the dashboard.

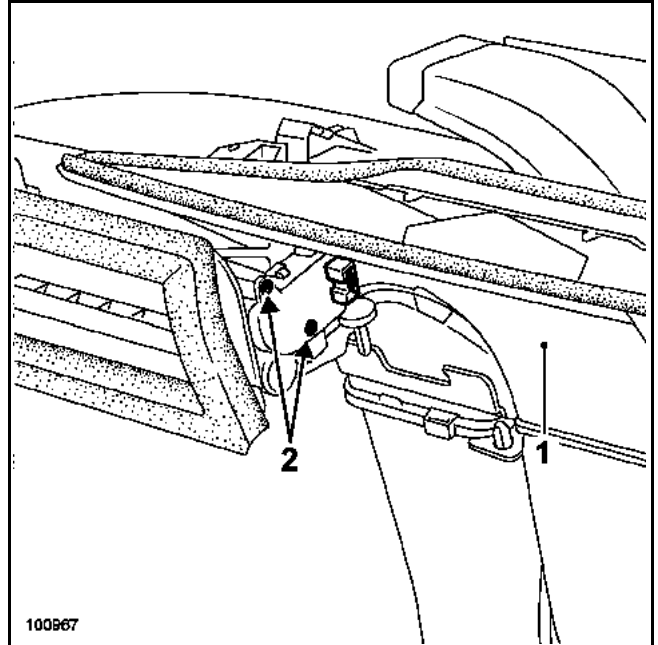
The air quality sensor is accessible after removing:

- the top of the dashboard.
- the top of the instrument panel.

Disconnect the battery.

Remove:

- the top of the dashboard.
- the instrument panel (see Section 57B).



Slide a hand between the part (1) and the bulkhead.

Remove:

- the air quality sensor connector,
- the two air quality sensor bolts (2).

Lift out the air quality sensor.

REFITTING

Proceed in the reverse order to removal.

WARNING:

- Connect the battery and carry out the necessary programming.
- Start up the airbag computer again using the diagnostic tools (see Section 8).