RENAULT

6 Air conditioning



62A AIR CONDITIONING

X91

AUGUST 2009

EDITION ANGLAISE

All rights reserved by Renault.

Copying or translating, in part or in full, of this document or use of the service part reference numbering system is forbidden without the prior written authority of Renault.

[&]quot;The repair procedures given by the manufacturer in this document are based on the technical specifications current when it was prepared.

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

LAGUNA III - Section 6

Contents

Pages

61A	HEATING		61A	HEATING		
	Cabin filter: Removal - Refitting	61A-1		Mixing motor: Removal - Refitting	61A-41	
	Rear air distribution duct: Removal - Refitting	61A-3		Distribution motor: Removal - Refitting	61A-47	
	Distribution unit: Removal - Refitting	61A-5		Passenger compartment temperature sensor:	a	
	Heater matrix: Removal - Refitting	61A-11		Removal - Refitting Humidity sensor: Removal -	61A-55	
	Fan assembly: Removal - Refitting	61A-16		Refitting Solar radiation sensor:	61A-56	
	Fan assembly: Cleaning	61A-20		Removal - Refitting	61A-57	
	Heating resistor relays: Removal - Refitting	61A-21		Toxicity sensor. Removal - Refitting	61A-58	
	Heating resistors: Removal - Refitting	61A-27		1		
	Passenger compartment fan assembly control unit: Removal - Refitting	61A-31	62A	Air conditioning: Precautions for the repair	62A-1	
	Control panel: Removal - Refitting	61A-34		Air conditioning: Parts and consumables for the repair	62A-2	
	Front side air distribution duct: Removal - Refitting	61A-35		Air conditioning: Check	62A-3	
	Front footwell air distribution		Refrigerant circuit: Check	62A-6		
	duct: Removal - Refitting	61A-36		Refrigerant circuit: Draining - Filling	62A-7	
	Recirculation motor: Removal - Refitting	61A-38		Condenser: Removal -		
	Demisting motor: Removal - Refitting	61A-40		Refitting Dehydrator reservoir: Removal - Refitting	62A-10 62A-17	

Contents

62A AIR CONDITIONING

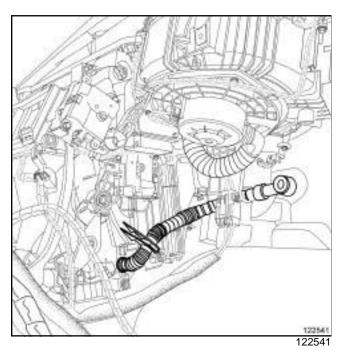
Dehydrator reservoir filter: Removal - Refitting	62A-18
Compressor: Removal - Refitting	62A-21
Expansion valve: Removal - Refitting	62A-29
Evaporator: Removal - Refitting	62A-45
Evaporator: Cleaning	62A-46
Condenser - expansion valve connecting pipe: Removal - Refitting	62A-47
Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting	62A-63
Pressure sensor: Removal - Refitting	62A-77
Evaporator sensor: Removal - Refitting	62A-78
Exterior air temperature sensor: Removal - Refitting	62A-80
Compressor - condenser connecting pipe: Removal - Refitting	62A-82
Compressor - intermediate pipe connecting pipe: Removal - Refitting	62A-89
Air conditioning computer: Removal - Refitting	62A-91

Cabin filter: Removal - Refitting

REMOVAL

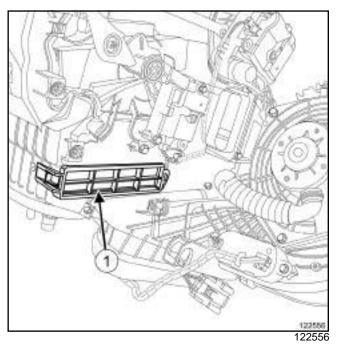
I - REMOVAL PREPARATION OPERATION

- □ Disconnect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- □ Remove:
 - -the glovebox (see **Glovebox**: **Removal Refitting**) (MR 416, 57A, Interior equipment),
 - -the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36).



☐ Remove the refrigerant pipe from the glovebox.

II - REMOVAL OPERATION FOR PART CONCERNED



- ☐ Unclip the cabin filter access flap (1).
- ☐ Remove the cabin filter access flap.

Note:

Foreign bodies (leaves, insects etc.) are likely to accumulate in the cabin filter. Remove the filter with care so as to prevent foreign bodies getting into the evaporator.

- ☐ Check for foreign bodies in the cabin filter housing, and clean thoroughly if necessary.
- ☐ Remove the passenger compartment filter.

REFITTING

I - REFITTING PREPARATIONS OPERATION

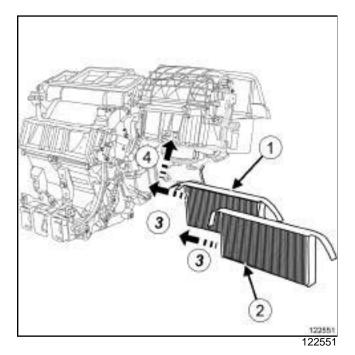
□ parts always to be replaced: Cabin filter (30,02, 01,14).

Note:

The "TOP" marks must be on top of the filters and the arrows must be pointing towards the evaporator.

Cabin filter: Removal - Refitting

II - REFITTING OPERATION FOR PART CONCERNED



- □ Refit:
 - the two passenger compartment After-Sales filters (1) and (2) according to the arrows (3) then (4),
 - the cabin filter access flap.
- ☐ Clip the access flap onto the cabin filter.

III - FINAL OPERATION.

- ☐ Refit the refrigerant pipe to the glovebox.
- ☐ Refit:
 - -the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36),
 - -the glovebox (see **Glovebox: Removal Refit-ting**) (MR 416, 57A, Interior equipment).
- ☐ Connect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).

Rear air distribution duct: Removal - Refitting



ELECTRONIC PARKING BRAKE or FOOT BRAKE MANUAL CONTROL

REMOVAL

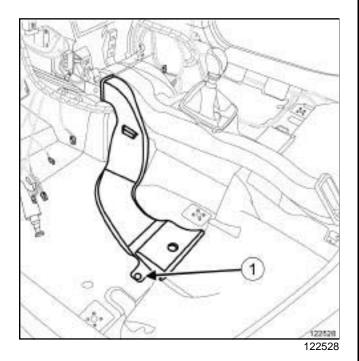
REMOVAL PREPARATION OPERATION

- □ Disconnect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- □ Remove the centre console (see Centre console: Removal - Refitting) (MR 416, 57A, Interior equipment).

1 - Rear left-hand air distribution duct

□ Remove:

- -the driver's seat (see **Complete front seat: Removal Refitting**) (MR 416, 75A, Front seat frames and runners),
- the front door sill lining (see **Front door sill lining: Removal Refitting**) (MR 416, 71A, Body internal trim),
- the carpet retaining clip.
- ☐ Partially fold back the carpet towards the rear of the vehicle.



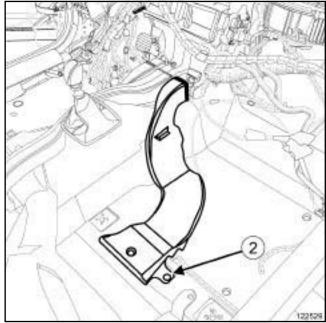
□ Remove:

- the rear left-hand air distribution duct clip (1),
- the rear left-hand air distribution duct.

2 - Rear right-hand air distribution duct

□ Remove:

- the front passenger seat (see Complete front seat: Removal - Refitting) (MR 416, 75A, Front seat frames and runners),
- the front door sill lining (see Front door sill lining: Removal Refitting) (MR 416, 71A, Body internal trim),
- the carpet retaining clip.
- ☐ Partially fold back the carpet towards the rear of the vehicle.



122529

☐ Remove:

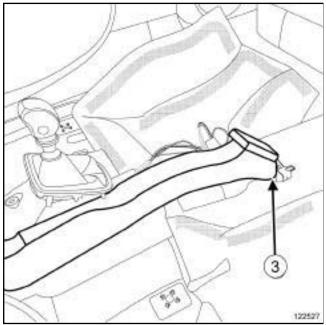
- the rear right-hand air distribution duct clip (2),
- the rear right-hand air distribution duct.

Rear air distribution duct: Removal - Refitting

ELECTRONIC PARKING BRAKE or FOOT BRAKE MANUAL CONTROL

3 - Central air distribution duct

ELECTRONIC PARKING BRAKE



122527

- □ Remove:
 - the central air distribution duct clip (3),
 - the central air distribution duct.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

1 - Rear left-hand air distribution duct

- ☐ Refit:
 - the rear left-hand air distribution duct,
 - the rear left-hand air distribution duct clip,
 - the carpet,
 - the carpet retaining clip,
 - the front door sill lining (see **Front door sill lining: Removal Refitting**) (MR 416, 71A, Body internal trim),
 - -the driver's seat (see **Complete front seat: Removal Refitting**) (MR 416, 75A, Front seat frames and runners).

2 - Rear right-hand air distribution duct

- □ Refit:
 - the rear right-hand air distribution duct,
 - the rear right-hand air distribution duct clip,
 - the carpet,
 - the carpet retaining clip,
 - the front door sill lining (see Front door sill lining: Removal - Refitting) (MR 416, 71A, Body internal trim),
 - the front passenger seat (see Complete front seat: Removal - Refitting) (MR 416, 75A, Front seat frames and runners).

3 - Central air distribution duct

ELECTRONIC PARKING BRAKE

- ☐ Refit:
 - the central air distribution duct,
 - the central air distribution duct clip.

II - FINAL OPERATION.

- □ Refit the centre console (see Centre console: Removal Refitting) (MR 416, 57A, Interior equipment).
- ☐ Connect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).

Distribution unit: Removal - Refitting



Special tooling required Ms. 583 Pipe clamps.

Equipment required

refrigerant charging station

Tightening torques	7)
expansion valve - com- pressor connecting pipe bracket bolt on the expansion valve	8 N.m
expansion valve - con- denser connecting pipe bracket bolt on the expansion valve	8 N.m
air filter unit air outlet pipe clip on the throttle valve	5.5 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

I - REMOVAL PREPARATION OPERATION

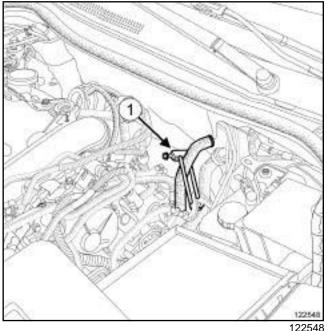
WARNING

Consult the device's operating manual to avoid incorrect use.

Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).

☐ Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).

F4R or K4M or K9K or M4R or M9R



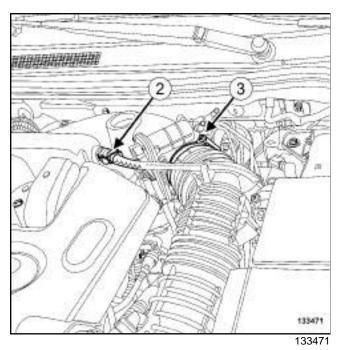
- 12254
- ☐ Fit the (1) (Ms. 583) on the heater matrix pipes.
- ☐ Disconnect the heater matrix pipes.

□ Remove:

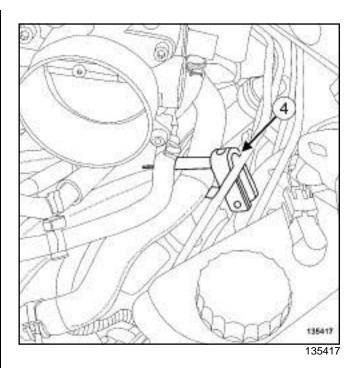
- the windscreen wiper arms (see Windscreen wiper arm: Removal Refitting) (85A, Wiping Washing),
- the scuttle panel grille (see **Scuttle panel grille: Removal Refitting**) (56A, Exterior equipment),
- the scoop under the scuttle panel grille (see **Scoop** under the scuttle panel grille: Removal Refitting) (56A, Exterior equipment).

HEATING Distribution unit: Removal - Refitting

V4Y



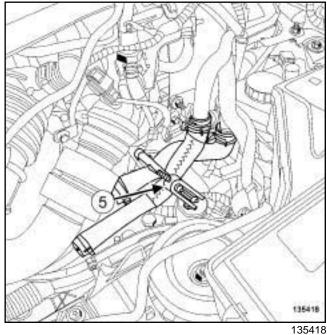
- □ Disconnect the brake servo non-return valve (2) from the intake distributor.
- ☐ Unclip the brake servo non-return valve pipe on the air filter unit air outlet pipe.
- ☐ Loosen the clip (3) on the air filter unit air outlet pipe on the throttle valve.
- ☐ Move aside the air filter unit air outlet pipe on the throttle valve.



- ☐ Fit the (4) (Ms. 583) on the heater matrix pipes.
- ☐ Disconnect the heater matrix pipes.

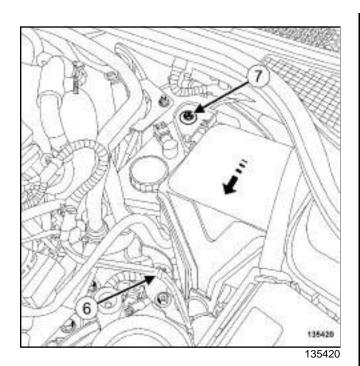
V9X

☐ Remove the air filter unit (see Air filter unit: Removal - Refitting) (12A, Fuel mixture).

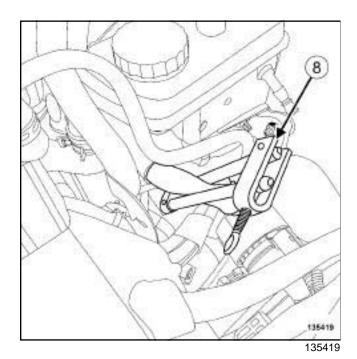


☐ Fit the tool (5) (Ms. 583) on the coolant pipes.

Distribution unit: Removal - Refitting



- ☐ Unclip the electrical wiring at (6).
- ☐ Remove the bolt (7) from the max fuse box.
- ☐ Move the max fuse box in the direction of the arrow.



- ☐ Fit the tool (8) (Ms. 583) on the coolant pipes.
- ☐ Disconnect the heater matrix pipes.
- □ Remove:
 - the expansion valve compressor connecting pipe bracket bolt on the expansion valve,

- the expansion valve condenser connecting pipe bracket bolt on the expansion valve.
- □ Disconnect:
 - the expansion valve compressor connecting pipe on the expansion valve,
 - the expansion valve condenser connecting pipe on the expansion valve,

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

□ Remove:

- the expansion valve compressor connecting pipe on the expansion valve,
- the expansion valve condenser connecting pipe on the expansion valve,
- ☐ Insert the blanking plugs.
- Unclip the heat shield.

WARNING

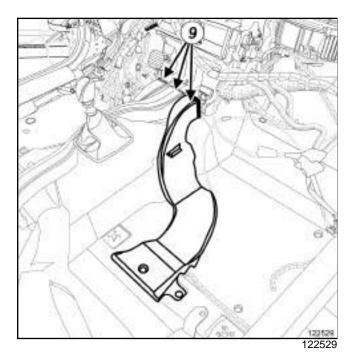
To prevent the surrounding components from overheating, do not damage (tear, pierce, bend, etc.) a heat shield.

Any damaged heat shields must be replaced.

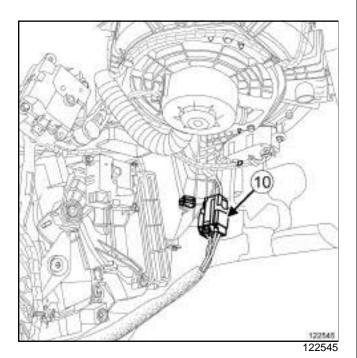
- Remove the heat shield.
- ☐ Remove:
 - the dashboard (see Dashboard: Removal Refitting) (57A, Interior equipment),
 - the dashboard cross member (see Dashboard cross member: Removal - Refitting) (42A, Upper front structure).

Distribution unit: Removal - Refitting

II - OPERATION FOR REMOVAL OF PART CONCERNED



☐ Unclip the rear air distribution ducts (9) from the distribution unit.



- □ Disconnect the connector (10).
- ☐ Move the electrical wiringto one side.
- ☐ Remove the distribution unit.
- □ Remove the following components from the distribution unit:
 - the cabin filter,
 - the passenger compartment blower unit,

- the heater matrix,
- the heating resistor relay housing,
- the heating resistor,
- the passenger compartment blower unit control unit,
- the recirculation motor,
- the demisting motor,
- the air mixing motor,
- the distribution motor,
- the toxicity sensor,
- the evaporator sensor,
- the climate control computer.

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ Always replace the connecting pipe seals.
- Refit the following components onto the distribution unit:
 - the cabin filter,
 - the passenger compartment blower unit,
 - the heater matrix,
 - the heating resistor relay housing,
 - the heating resistor,
 - the passenger compartment blower unit control unit,
 - the recirculation motor,
 - the demisting motor,
 - the air mixing motor,
 - the distribution motor,
 - the toxicity sensor,
 - the evaporator sensor,
 - the climate control computer.

II - REFITTING OPERATION FOR PART CONCERNED

- Refit the distribution unit.
- Fit the electrical wiring.
- ☐ Connect the connector (10).
- ☐ Clip the rear air distribution ducts onto the distribution unit.

Distribution unit: Removal - Refitting

III - FINAL OPERATION

☐ Refit:

- -the dashboard cross member (see **Dashboard** cross member: Removal Refitting) (42A, Upper front structure),
- the dashboard (see **Dashboard: Removal Refitting**) (57A, Interior equipment).

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

	Remove	the	blan	kina	pluas.
--	--------	-----	------	------	--------

- ☐ Fit new seals to the connecting pipes.
- □ Lubricate the seals with air conditioning oil to facilitate fitting (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

☐ Connect:

- the expansion valve compressor connecting pipe on the expansion valve.
- the expansion valve condenser connecting pipe on the expansion valve,

☐ Refit:

- the expansion valve compressor connecting pipe bracket bolt on the expansion valve,
- the expansion valve condenser connecting pipe bracket bolt on the expansion valve.

☐ Tighten to torque:

- -the expansion valve compressor connecting pipe bracket bolt on the expansion valve (8 N.m),
- -the expansion valve condenser connecting pipe bracket bolt on the expansion valve (8 N.m),

F4R or K4M or K9K or M4R or M9R			
□ Remove the tool (1) (Ms. 583) from the heater matrix pipes.			
☐ Connect the heater matrix pipes.			
V4Y			
☐ Remove the tool (Ms. 583) from the heater matrix pipes.			
☐ Connect the heater matrix pipes.			
☐ Refit the air filter unit air outlet pipe on the throttle valve.			
☐ Torque tighten the air filter unit air outlet pipe clip on the throttle valve (5.5 N.m).			
☐ Clip the brake servo non-return valve pipe on the air filter unit air outlet pipe.			
☐ Connect the brake servo non-return valve on the intake distributor.			
V9X			
☐ Remove the tool (Ms. 583) from the heater matrix pipes.			
☐ Connect the heater matrix pipes.			
☐ Fit the max fuse box.			
☐ Refit the max fuse box bolt.			
☐ Clip on the electrical wiring.			
☐ Refit the air filter housing (see Air filter unit: Removal - Refitting) (12A, Fuel mixture).			

☐ Connect the battery (see Battery: Removal - Refit-

- fill up and bleed the cooling system (see Cooling

- fill the refrigerant circuit using the refrigerant

charging station (see 62A, Air conditioning, Re-

frigerant circuit: Draining - Filling, page 62A-7).

☐ Check there are no leaks using the electronic de-

system: Draining - Refilling) (19A, Cooling),

ting) (80A, Battery).

☐ Perform the following operations:

HEATING Distribution unit: Removal - Refitting

 - the scoop under the scuttle panel grille (see Scoop under the scuttle panel grille: Removal - Refit- ting) (56A, Exterior equipment),
□ Refit:
☐ Clip the heat shield.
☐ Fit the heat shield.

- the scuttle panel grille (see **Scuttle panel grille: Removal Refitting**) (56A, Exterior equipment),
- -the windscreen wiper arms (see **Windscreen wiper arm: Removal Refitting**) (85A, Wiping Washing).
- ☐ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).

HEATING Heater matrix: Removal - Refitting

Special tooling required		
Ms. 583	Pipe clamps.	

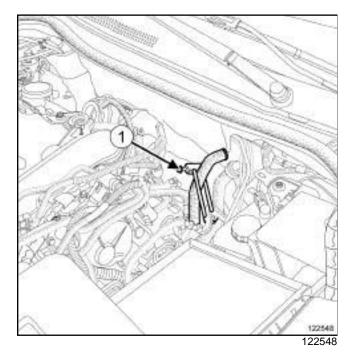
Tightening torques ▽	
air pipe clip on the throt- tle valve	5.5 N.m

REMOVAL

I - REMOVAL PREPARATION OPERATION

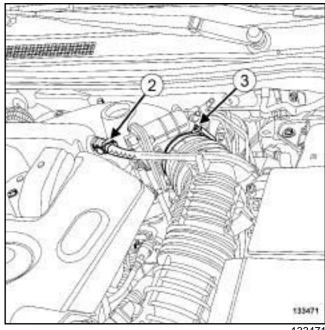
☐ Disconnect the battery (see Battery: Removal - Refitting) (80A, Battery).

F4R or K4M or K9K or M4R or M9R



☐ Fit the (Ms. 583) on the heater matrix pipes.

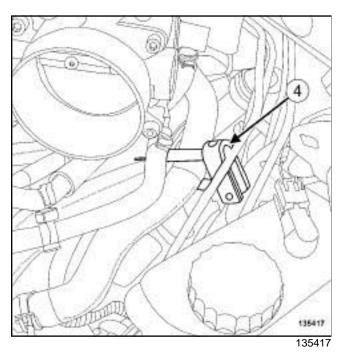
V4Y



133471

- ☐ Disconnect the brake servo non-return valve from the intake distributor.
- ☐ Unclip the brake servo non-return valve hose on the air filter unit air outlet pipe.
- ☐ Loosen the clip on the air filter unit air outlet pipe on the throttle valve.
- ☐ Move aside the air filter unit air outlet pipe on the throttle valve.

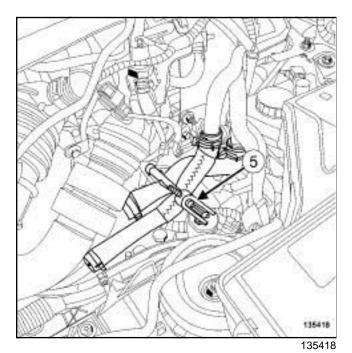
HEATING Heater matrix: Removal - Refitting



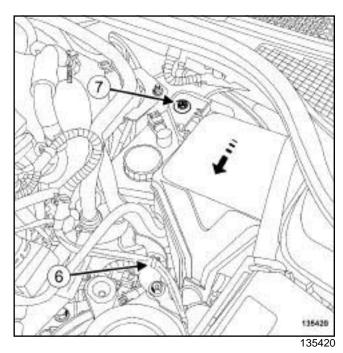
☐ Fit the (Ms. 583) on the heater matrix pipes.

V9X

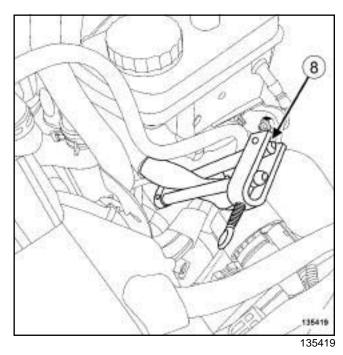
☐ Remove the air filter unit (see Air filter unit: Removal - Refitting) (12A, Fuel mixture).



☐ Fit the tool (Ms. 583) on the coolant pipes.



- ☐ Unclip the electrical wiring at (6).
- ☐ Remove the bolt (7) from the max fuse box.
- ☐ Move the max fuse box in the direction of the arrow.

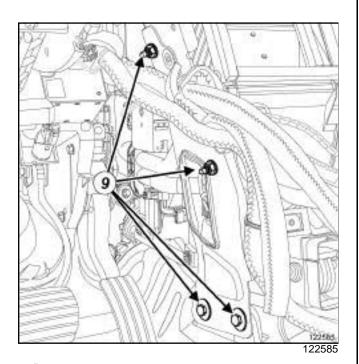


☐ Fit the tool (Ms. 583) on the coolant pipes.

Heater matrix: Removal - Refitting

□ Remove:

- -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment),
- -the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36).



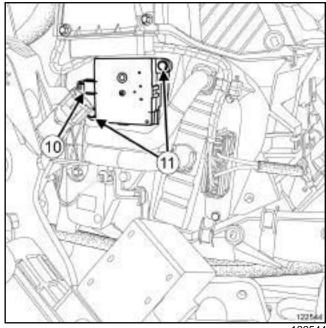
□ Remove:

- the reinforcement plate bolts (9),
- the reinforcement plate.

LEFT-HAND DRIVE

☐ Remove the accelerator pedal (see Accelerator pedal: Removal - Refitting) (37A, Mechanical component controls).

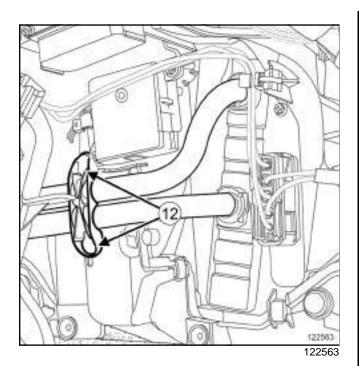
RIGHT-HAND DRIVE, and AIR CONDITIONING 02



122544

- $\hfill \Box$ Disconnect the left-hand mixer motor connector (10)
- □ Remove:
 - the bolts (11) from the left-hand mixer motor,
 - the left-hand mixer motor.

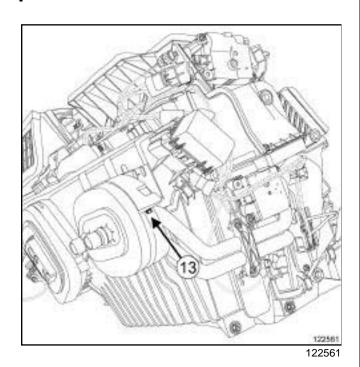
Heater matrix: Removal - Refitting



□ Remove:

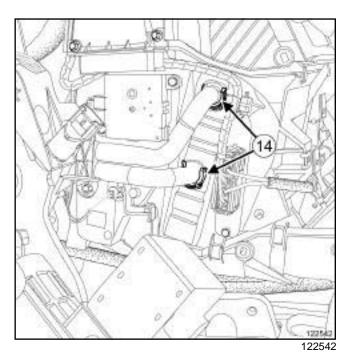
- the bolts (12) from the heater matrix rigid pipes retaining bracket,
- the heater matrix rigid pipes retaining bracket.

LEFT-HAND DRIVE



☐ Remove the bulkhead bracket bolt (13) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



☐ Remove the clips (14) from the heater matrix rigid pipes.

WARNING

Prepare for the flow of fluid, and protect the surrounding components.

- ☐ Put a protective cover on the floor carpet.
- ☐ Position a container to collect the coolant under the rigid pipes.
- ☐ Move the heater matrix rigid pipes aside.
- ☐ Remove the heater matrix.

REFITTING

I - REFITTING PREPARATION OPERATION

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

☐ Always replace the heater matrix rigid pipe clips

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the heater matrix.
- ☐ Fit the heater matrix rigid pipes.

Heater matrix: Removal - Refitting

☐ Refit the heater matrix rigid pipe clips.	☐ Clip the brake servo non-return valve hose on the air filter unit air outlet pipe.
III - FINAL OPERATION	☐ Connect the brake servo non-return valve to the in-
☐ Refit:	take distributor.
- the bulkhead bracket bolt,	
- the heater matrix rigid pipes retaining bracket,	☐ Connect the battery (see Battery: Removal - Refit-
- the heater matrix rigid pipes retaining bracket bolts.	ting) (80A, Battery).
LEET HAND DON'S	☐ Fill up and bleed the cooling system (see Cooling system: Draining - Refilling) (19A, Cooling).
LEFT-HAND DRIVE	system. Draining - Remining) (19A, Cooling).
□ Refit the accelerator pedal (see Accelerator pedal: Removal - Refitting) (37A, Mechanical component controls).	
RIGHT-HAND DRIVE, and AIR CONDITIONING 02	
☐ Refit the left-hand mixer motor.	
☐ Connect the left-hand mixer motor connector.	
I	
☐ Refit, to the driver's side:	
- the reinforcement plate,	
-the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36),	
 -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment). 	
☐ Remove the tools (Ms. 583).	
F	
V9X	
☐ Fit the max fuse box.	
□ Refit the max fuse box bolt.	
☐ Clip on the electrical wiring.	
□ Refit the air filter housing (see Air filter unit: Removal - Refitting) (12A, Fuel mixture).	
F	
V4Y	
☐ Refit the air filter unit air outlet pipe on the throttle valve.	
☐ Torque tighten the air pipe clip on the throttle valve (5.5 N.m).	

Fan assembly: Removal - Refitting

LEFT-HAND DRIVE

Equipment required

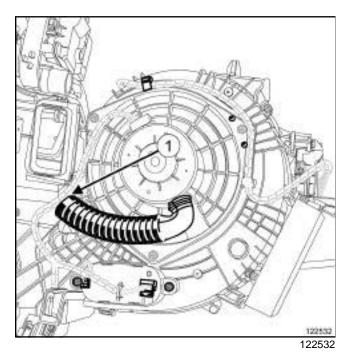
Diagnostic tool

REMOVAL

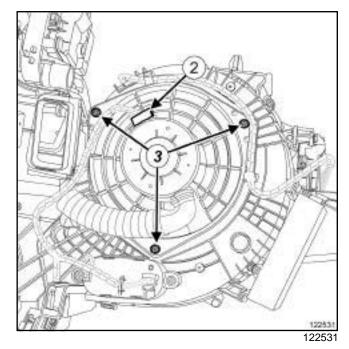
I - REMOVAL PREPARATION OPERATION

- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Remove the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



□ Disconnect the refrigerant pipe (1) from the distribution unit.



- □ Disconnect the blower unit connector (2) .
- ☐ Unclip the wiring harness from the blower unit.
- ☐ Remove:
 - the bolt (3) from the motor-driven fan assembly,
 - the blower unit with the refrigerant pipe.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the blower unit with the refrigerant pipe.
- ☐ Clip the blower unit wiring harness into place.
- ☐ Connect the blower unit connector.

II - FINAL OPERATION.

Note:

To avoid causing mechanical damage to the blower unit, ensure that the ends of the refrigerant pipe are inserted correctly.

Refit the blower unit with the refrigerant pipe.

- ☐ Connect the refrigerant pipe to the distribution unit.
- □ Refit the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).
- □ Connect the battery (see Battery: Removal Refitting) (80A, Battery).

Fan assembly: Removal - Refitting

LEFT-HAND DRIVE

- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Passenger compartment ventilation fan assembly" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Fan assembly: Removal - Refitting

RIGHT-HAND DRIVE

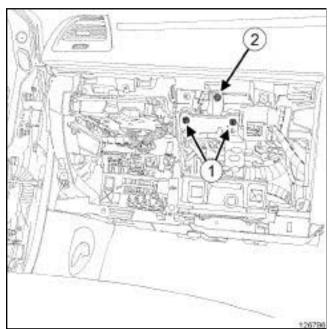
Equipment required

Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

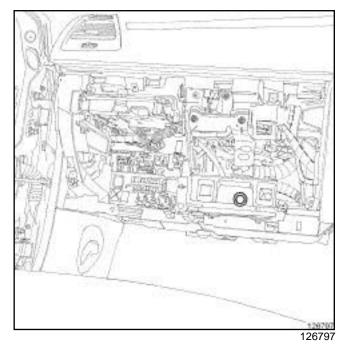
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- ☐ Remove the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).



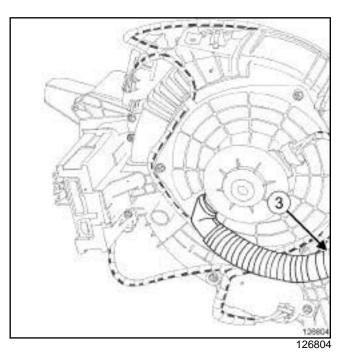
126796

☐ Remove:

- the nuts (1) from the glovebox mounting,
- the bolt (2) from the glovebox mounting.



- ☐ Disconnect the glovebox refrigerant pipe from its support.
- ☐ Remove the glovebox support.



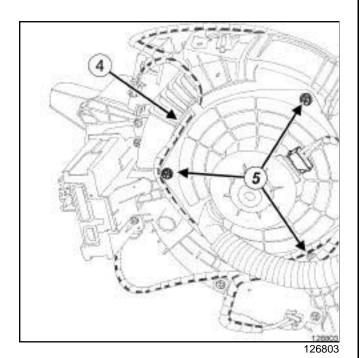
☐ Disconnect the refrigerant pipe (3) from the distribution unit.

Fan assembly: Removal - Refitting

61A

RIGHT-HAND DRIVE

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Disconnect the blower unit connector.
- ☐ Unclip the motor-driven fan assembly electrical wiring at (4).
- □ Remove:
 - the bolt (5) from the motor-driven fan assembly,
 - the blower unit with the refrigerant pipe.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the blower unit.
- ☐ Clip the electrical wiring to the motor-driven fan assembly.
- ☐ Connect the connector to the motor-driven fan assembly.

II - FINAL OPERATION.

Note:

To avoid causing mechanical damage to the blower unit, ensure that the ends of the refrigerant pipe are inserted correctly.

Remove the motor-driven fan assembly with the refrigerant pipe.

- ☐ Connect the refrigerant pipe to the distribution unit.
- ☐ Refit the glovebox mounting.
- ☐ Refit the glovebox refrigerant pipe to its mounting.
- ☐ Refit the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).
- ☐ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Passenger compartment ventilation fan assembly" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Fan assembly: Cleaning

CLEANING

I - CLEANING PREPARATION OPERATION

□ Remove:

- the windscreen wiper arms (see Windscreen wiper arm: Removal Refitting) (MR 415, 85A, Wiping Washing),
- -the scuttle panel grille (see Scuttle panel grille: Removal Refitting) (MR 416, 56A, Exterior equipment),
- the scoop under the scuttle panel grille (see **Scoop** under the scuttle panel grille: Removal Refitting) (MR 416, 56A, Exterior equipment).

II - CLEANING

☐ Draw any foreign bodies out of the passenger compartment blower unit.

III - FINAL OPERATION.

□ Refit:

- the scoop under the scuttle panel grille (see **Scoop** under the scuttle panel grille: Removal Refitting) (MR 416, 56A, Exterior equipment),
- -the scuttle panel grille (see Scuttle panel grille: Removal Refitting) (MR 416, 56A, Exterior equipment),
- the windscreen wiper arms (see **Windscreen wiper arm: Removal Refitting**) (MR 415, 85A, Wiping Washing).

Heating resistor relays: Removal - Refitting

RIGHT-HAND DRIVE

Equipment required

Diagnostic tool

Note:

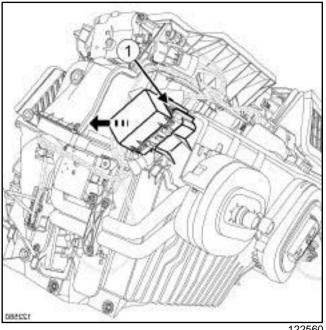
To remove the relay box and its wiring, it is necessary to remove the dashboard (see Dashboard: Removal - Refitting) (57A, Interior equipment).

REMOVAL

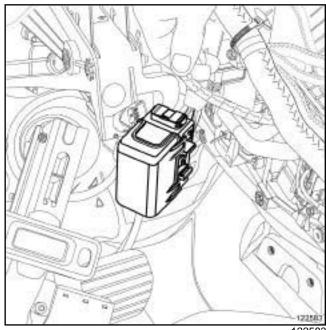
I - REMOVAL PREPARATION OPERATION

- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Remove:
 - -the dashboard lower trim (see **Dashboard lower** trim: Removal - Refitting) (57A, Interior equipment).
 - -the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36),
 - the clutch pedal (see Clutch pedal: Removal Refitting) (37A, Mechanical component controls).

II - OPERATION FOR REMOVAL OF PART CONCERNED



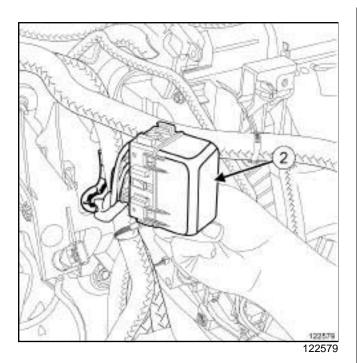
☐ Place a screwdriver at (1) and unclip the relay box on the distribution unit.



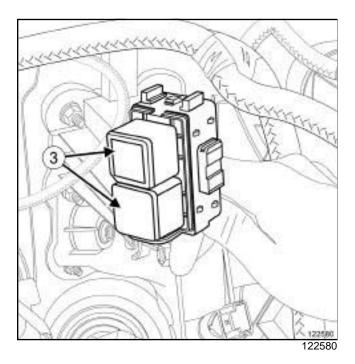
☐ Bring the relay box towards the floor carpet.

Heating resistor relays: Removal - Refitting

RIGHT-HAND DRIVE



☐ Unclip the relay box cover (2).

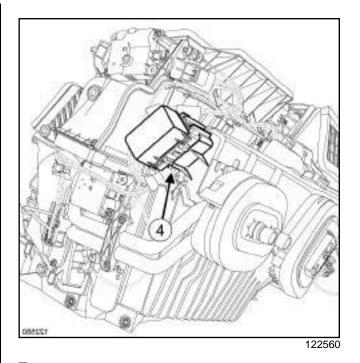


☐ Remove the heating resistor relays (3).

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the heating resistor relays.
- ☐ Clip on the relay box cover.



Note:

To ensure the relay box is fitted correctly, take care to reposition the wiring (4) properly in its housing.

☐ Refit the relay box on the distribution unit.

II - FINAL OPERATION.

☐ Refit:

- the clutch pedal (see Clutch pedal: Removal Refitting) (37A, Mechanical component controls),
- the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36),
- the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment),
- □ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,

Heating resistor relays: Removal - Refitting

RIGHT-HAND DRIVE

- select "Passenger compartment heater resistance relay 1 or passenger compartment heater resistance relay 2" in the "List of components controlled by this computer" section,
- carry out the operations described in the "After repair procedure" section.

Heating resistor relays: Removal - Refitting

LEFT-HAND DRIVE

Equipment required

Diagnostic tool

Note:

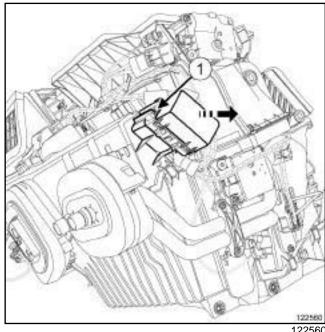
To remove the relay box and its wiring, it is necessary to remove the dashboard (see Dashboard: Removal - Refitting) (57A, Interior equipment).

REMOVAL

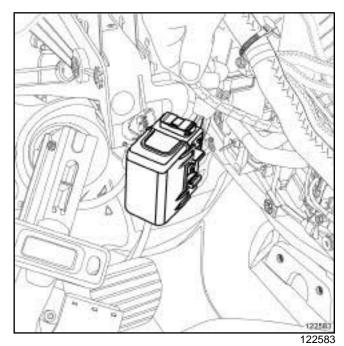
I - REMOVAL PREPARATION OPERATION

- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Remove:
 - -the dashboard lower trim (see **Dashboard lower** trim: Removal - Refitting) (57A, Interior equipment).
 - -the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36),
 - -the brake light switch (see Brake pedal switch: Removal - Refitting) (37A, Mechanical component controls).
 - -the accelerator pedal (see Accelerator pedal: Removal - Refitting) (37A, Mechanical component controls).

II - OPERATION FOR REMOVAL OF PART CONCERNED



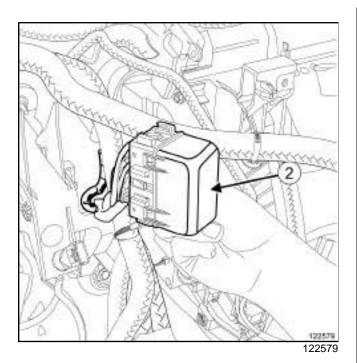
☐ Place a screwdriver at (1) and unclip the relay box on the distribution unit.



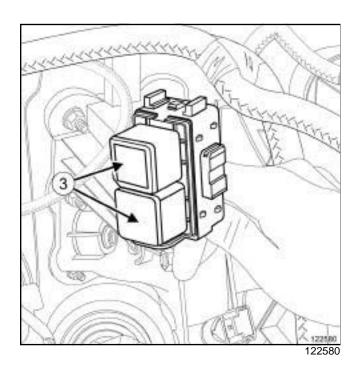
☐ Bring the relay box towards the floor carpet.

Heating resistor relays: Removal - Refitting

LEFT-HAND DRIVE



☐ Unclip the relay box cover (2).

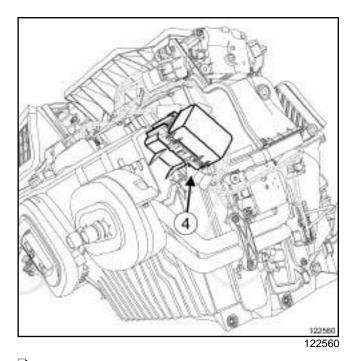


☐ Remove the heating resistor relays (3).

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the heating resistor relays.
- ☐ Clip on the relay box cover.



Note:

To ensure the relay box is fitted correctly, take care to reposition the wiring (4) properly in its housing.

☐ Refit the relay box on the distribution unit.

II - FINAL OPERATION.

□ Refit:

- the accelerator pedal (see Accelerator pedal: Removal Refitting) (37A, Mechanical component controls),
- the brake light switch (see Brake pedal switch: Removal - Refitting) (37A, Mechanical component controls),
- the front footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36),
- the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment).
- ☐ Connect the battery (see **Battery**: **Removal Refitting**) (80A, Battery).
- □ Apply the after repair procedure using the Diagnostic tool :
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,

Heating resistor relays: Removal - Refitting

LEFT-HAND DRIVE

- display the "Before/after repair procedure" for the selected computer,
- select "Passenger compartment heater resistance relay 1 or passenger compartment heater resistance relay 2" in the "List of components controlled by this computer" section,
- carry out the operations described in the "After repair procedure" section.

Heating resistors: Removal - Refitting

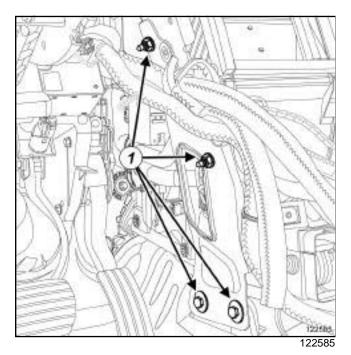
Equipment required

Diagnostic tool

REMOVAL

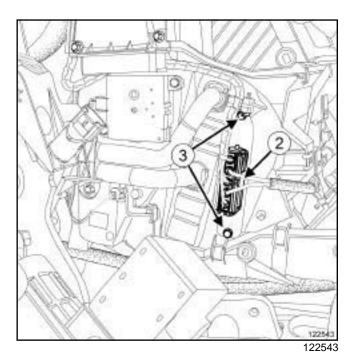
I - REMOVAL PREPARATION STAGE

- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- □ Remove:
 - -the dashboard lower trim: Removal Refitting) (57A, Interior equipment),
 - the front left-hand footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36).



- ☐ On the driver's side, remove:
 - the bolts (1) from the reinforcement plate,
 - the reinforcement plate.

II - OPERATION FOR REMOVAL OF PART CONCERNED



- □ Disconnect the connector (2) from the heating resistor.
- □ Remove:
 - the heating resistor bolts (3),
 - the heating resistor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the heating resistor.
- ☐ Connect the heating resistor connector.

II - FINAL OPERATION.

- ☐ Refit, to the driver's side:
 - the reinforcement plate,
 - the front left-hand footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36),
 - the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment).
- □ Connect the battery (see Battery: Removal Refitting) (80A, Battery).

Heating resistors: Removal - Refitting

- □ Apply the after repair procedure using the **Diagnos**tic tool :
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Passenger compartment heating resistor" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Heating resistors: Removal - Refitting

RIGHT-HAND DRIVE

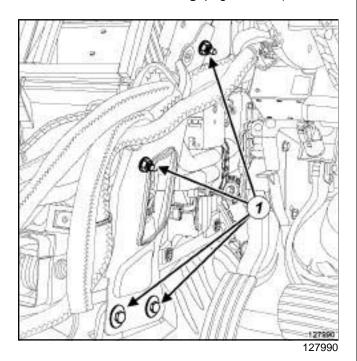
Equipment required

Diagnostic tool

REMOVAL

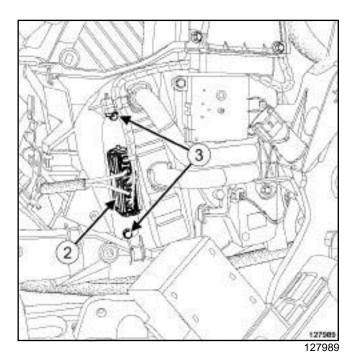
I - REMOVAL PREPARATION STAGE

- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Remove:
 - -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment),
 - the front right-hand A-pillar air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36).



- ☐ On the driver's side, remove:
 - the bolts $(\mathbf{1})$ from the reinforcement plate,
 - the reinforcement plate.

II - OPERATION FOR REMOVAL OF PART CONCERNED



- □ Disconnect the connector (2) from the heating resistor.
- ☐ Remove:
 - the heating resistor bolts (3),
 - the heating resistor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the heating resistor.
- ☐ Connect the heating resistor connector.

II - FINAL OPERATION.

- ☐ Refit, to the driver's side:
 - the reinforcement plate,
 - the front right-hand A-pillar air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36),
 - the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment).
- □ Connect the battery (see Battery: Removal Refitting) (80A, Battery).

Heating resistors: Removal - Refitting

61A

RIGHT-HAND DRIVE

- □ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Passenger compartment heating resistor" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

LEFT-HAND DRIVE

Equipment required

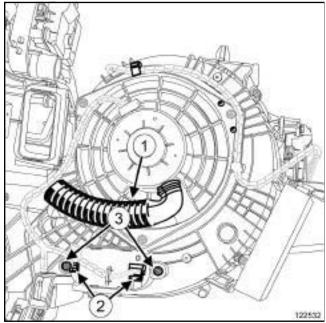
Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- ☐ Remove the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



122522

- ☐ Disconnect the refrigerant pipe (1) from the blower
- ☐ Disconnect the connectors (2) from the control unit of the blower unit.
- □ Remove:
 - the blower unit control unit bolts (3),
 - the blower unit control unit.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

☐ Refit the blower unit control unit.

□ Connect the connectors to the blower unit control unit.

II - FINAL OPERATION.

Note:

To avoid causing mechanical damage to the blower unit, ensure that the ends of the refrigerant pipe are inserted correctly.

- Connect the refrigerant pipe to the blower unit.
- ☐ Refit the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).
- ☐ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Power module for passenger compartment ventilation fan assembly" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

RIGHT-HAND DRIVE

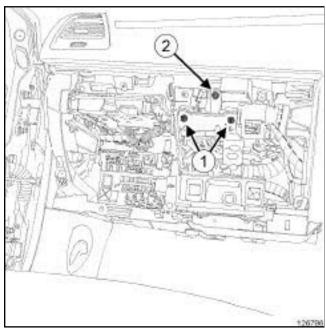
Equipment required

Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

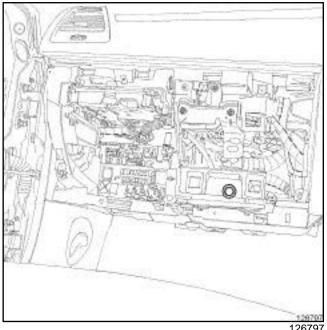
- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Remove the glovebox (see Glovebox: Removal -Refitting) (57A, Interior equipment).



126796

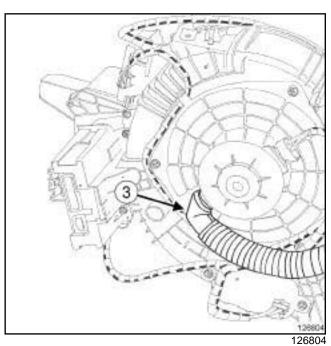
□ Remove:

- the nuts (1) from the glovebox mounting,
- the bolt (2) from the glovebox mounting.



126797

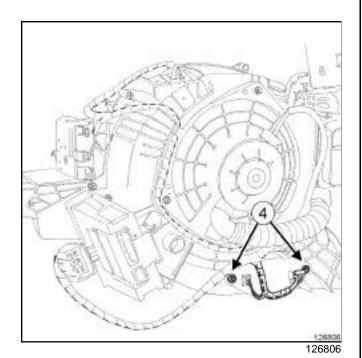
- ☐ Move the glovebox refrigerant pipe to one side away from the mounting.
- ☐ Remove the glovebox support.



☐ Move the refrigerant pipe (3) away from the motordriven fan assembly.

RIGHT-HAND DRIVE

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Disconnect the control unit connectors from the motor-driven fan assembly.
- □ Remove:
 - the bolts (4) from the motor-driven fan assembly control unit,
 - the motor-driven fan assembly control unit.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the motor-driven fan assembly control unit.
- ☐ Connect the connectors on the motor-driven fan assembly control unit.

II - FINAL OPERATION.

Note:

To avoid causing mechanical damage to the blower unit, ensure that the ends of the refrigerant pipe are inserted correctly.

- ☐ Refit the refrigerant pipe onto the motor-driven fan assembly.
- Refit the glovebox mounting.
- ☐ Refit the glovebox refrigerant pipe on its mounting.

- ☐ Refit the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).
- □ Connect the battery (see **Battery**: **Removal Refitting**) (80A, Battery).
- □ Apply the after repair procedure using the Diagnostic tool :
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Power module for passenger compartment ventilation fan assembly" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Control panel: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

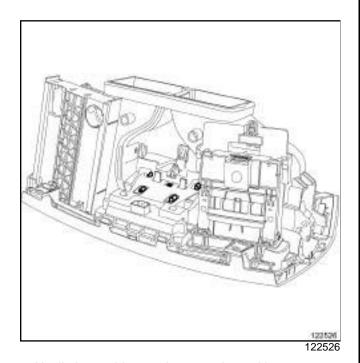
Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

- □ Disconnect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- □ Remove:
 - -the radio (see **Radio: Removal Refitting**) (MR 415, 86A, Radio),
 - the centre front panel (see Centre front panel: Removal Refitting) (MR 416, 57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Unclip by pushing on the control panel lugs.
- ☐ Remove the control panel.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the control panel.
- ☐ Clip on the control panel.

II - FINAL OPERATION.

- □ Refit:
 - the centre front panel (see Centre front panel: Removal Refitting) (MR 416, 57A, Interior equipment),
 - the radio (see **Radio: Removal Refitting**) (MR 415, 86A, Radio).
- ☐ Connect the battery (see **Battery**: **Removal Refitting**) (MR 415, 80A, Battery).
- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Air conditioning control panel" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Front side air distribution duct: Removal - Refitting

Note:

The front side air distribution duct cannot be separated from the dashboard.

☐ If replacing the front side air distribution duct (see Dashboard: Removal - Refitting) (MR 416, 57A, Interior equipment).

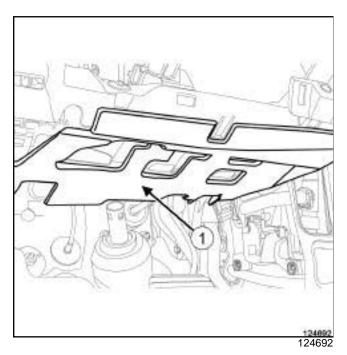
Front footwell air distribution duct: Removal - Refitting

REMOVAL

I - REMOVAL PREPARATION OPERATION

1 - Driver's side

□ Remove the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (MR 416, 57A, Interior equipment).



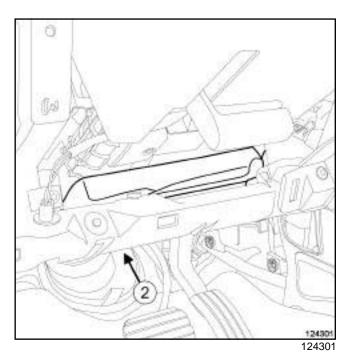
☐ Remove the protector under the dashboard.

2 - Passenger side

□ Remove the glovebox (see Glovebox: Removal - Refitting) (MR 416, 57A, Interior equipment).

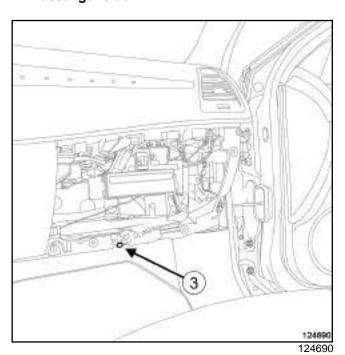
II - OPERATION FOR REMOVAL OF PART CONCERNED

1 - Driver's side



- ☐ Remove the clip (2) from the A-pillar air distribution duct using unclipping pliers.
- ☐ Remove the A-pillar air distribution duct.

2 - Passenger side



- ☐ Remove the clip (3) from the A-pillar air distribution duct using unclipping pliers.
- ☐ Remove the A-pillar air distribution duct.

Front footwell air distribution duct: Removal - Refitting

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

Driver and passenger side

- ☐ Refit the A-pillar air distribution duct.
- ☐ Refit the clip for the front footwell air distribution duct.

II - FINAL OPERATION.

1 - Driver's side

- □ Refit:
 - -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (MR 416, 57A, Interior equipment),
 - the protector under the dashboard.

2 - Passenger side

☐ Refit the glovebox (see **Glovebox: Removal - Refitting**) (MR 416, 57A, Interior equipment).

Recirculation motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required Diagnostic tool **REMOVAL** I - REMOVAL PREPARATION OPERATION □ Activate the recirculation mode.

RIGHT-HAND DRIVE

fitting) (80A, Battery).

☐ Remove the dashboard (see Dashboard: Removal - Refitting) (57A, Interior equipment).

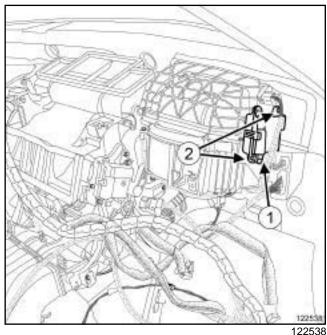
☐ Disconnect the battery (see Battery: Removal - Re-

LEFT-HAND DRIVE

NAVIGATION AID 4

- ☐ Remove the navigation computer (see **Navigation** computer: Removal - Refitting) (83C, On-board telematics system).
- ☐ Remove the glovebox (see Glovebox: Removal -Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Remove the bolts (1) from the recirculation motor.
- ☐ Move the recirculation motor aside.
- ☐ Disconnect the connector (2) from the recirculation motor.
- □ Remove the recirculation motor.

REFITTING

I - REFITTING OPERATION FOR PART **CONCERNED**

- ☐ Connect the recirculation motor connector.
- □ Refit the recirculation motor.

II - FINAL OPERATION

RIGHT-HAND DRIVE

☐ Refit the dashboard (see Dashboard: Removal -Refitting) (57A, Interior equipment).

LEFT-HAND DRIVE

☐ Refit the glovebox (see Glovebox: Removal - Refitting) (57A, Interior equipment).

Recirculation motor: Removal - Refitting

61A

AIR CONDITIONING 01 or AIR CONDITIONING 02

NAVIGATION AID 4 ☐ Refit the navigation computer (see Navigation computer: Removal - Refitting) (83C, On-board telematics system). ☐ Connect the battery (see Battery: Removal - Refitting) (80A, Battery). ☐ Apply the after repair procedure using the Diagnostic tool: - connect the Diagnostic tool, - select "Climate control computer", - go to repair mode,

- display the "Before/after repair procedure" for the
- computer selected,
 select "Air recirculation valve motor" in the "List of components controlled by this computer" part,
- carry out the operations described in the "After repair procedure" section.

Demisting motor: Removal - Refitting

AIR CONDITIONING 02

Equipment required

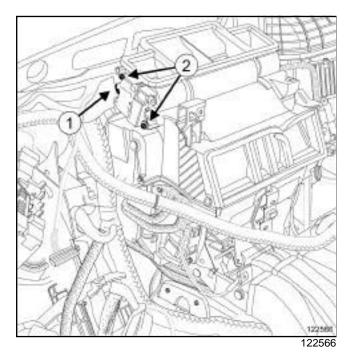
Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Activate the ventilation distribution in "face" mode
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- ☐ Remove the dashboard (see Dashboard: Removal Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Disconnect the demisting motor connector.
- □ Remove:
 - the demisting motor bolts,
 - the demisting motor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- □ Refit the demisting motor.
- ☐ Connect the demisting motor connector.

II - FINAL OPERATION.

- □ Refit the dashboard (see **Dashboard: Removal Refitting**) (57A, Interior equipment).
- ☐ Connect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Demisting valve motor" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Mixing motor: Removal - Refitting

LEFT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Adjust the temperature adjustment control in the cold position.
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).

Passenger side

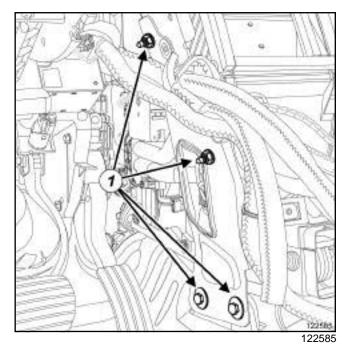
NAVIGATION AID 4

- □ Remove the navigation computer (see Navigation computer: Removal Refitting) (83C, On-board telematics system).
- □ Remove:
 - -the glovebox (see **Glovebox**: **Removal Refitting**) (57A, Interior equipment),
 - the front right-hand A-pillar air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal Refitting, page 61A-36).

AIR CONDITIONING 02

Driver's side

- □ Remove:
 - -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment),
 - -the front left-hand footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36).



□ Remove:

- the bolts (1) from the reinforcement plate,
- the reinforcement plate.

61A**-**41

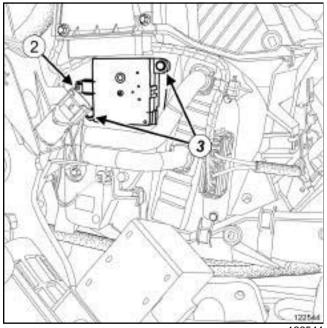
Mixing motor: Removal - Refitting

LEFT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - OPERATION FOR REMOVAL OF PART CONCERNED

AIR CONDITIONING 02

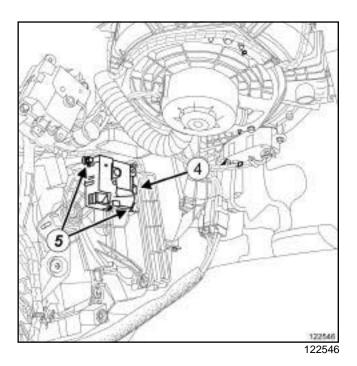
Driver's side



122544

- □ Disconnect the left-hand mixer motor connector (2).
- ☐ Remove:
 - the bolts (3) from the left-hand mixer motor,
 - the left-hand mixer motor.

Passenger side



☐ Disconnect the right-hand mixer motor connector (4)

□ Remove:

- the bolts (5) from the right-hand mixer motor,
- the right-hand mixer motor.

REFITTING

I - REFITTING OPERATION FOR PART **CONCERNED**

AIR CONDITIONING 02

Driver's side

- ☐ Refit the left-hand mixer motor.
- ☐ Connect the left-hand mixer motor connector.

Passenger side

- ☐ Refit the right-hand mixer motor.
- ☐ Connect the right-hand mixer motor connector.

Mixing motor: Removal - Refitting

LEFT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - FINAL OPERATION AIR CONDITIONING 02 Driver's side □ Refit: - the reinforcement plate, - the front left-hand footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36), -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment). Passenger side ☐ Refit: - the front right-hand A-pillar air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36), -the glovebox (see Glovebox: Removal - Refitting) (57A, Interior equipment). **NAVIGATION AID 4** ☐ Refit the navigation computer (see Navigation computer: Removal - Refitting) (83C, On-board telematics system). ☐ Connect the battery (see Battery: Removal - Refitting) (80A, Battery). ☐ Apply the after repair procedure using the **Diagnos**tic tool: - connect the Diagnostic tool, select "Climate control computer", - go to repair mode,

- -display the "Before/after repair procedure" for the computer selected,
- -select "Left-hand air mixing valve motor or righthand air mixing valve motor" in the "List of components controlled by this computer" section,
- carry out the operations described in the "After repair procedure" section.

Mixing motor: Removal - Refitting

RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Adjust the temperature adjustment control in the cold position.
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).

Passenger side

NAVIGATION AID 4

□ Remove the navigation computer (see Navigation computer: Removal - Refitting) (83C, On-board telematics system).

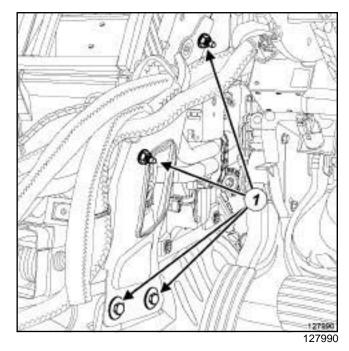
□ Remove:

- -the glovebox (see **Glovebox**: **Removal Refitting**) (57A, Interior equipment),
- -the front left-hand footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36).

AIR CONDITIONING 02

Driver's side

- □ Remove:
 - -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equipment),
 - -the front right-hand A-pillar air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36).



□ Remove:

- the bolts (1) from the reinforcement plate,
- the reinforcement plate.

61A**-**44

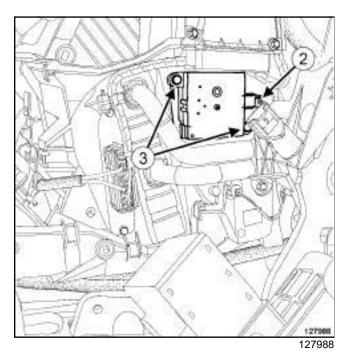
Mixing motor: Removal - Refitting

RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - OPERATION FOR REMOVAL OF PART CONCERNED

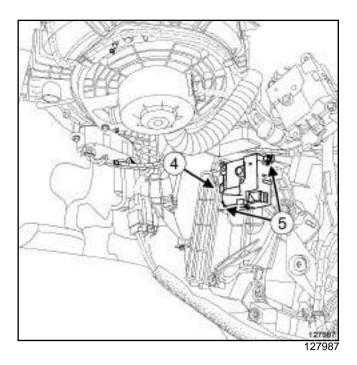
AIR CONDITIONING 02

Driver's side



- □ Disconnect the left-hand mixer motor connector (2).
- ☐ Remove:
 - the bolts (3) from the right-hand mixer motor,
 - the right-hand mixer motor.

Passenger side



- ☐ Disconnect the left-hand mixer motor connector.
- □ Remove:
 - the left-hand mixer motor bolts,
 - the left-hand mixer motor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

AIR CONDITIONING 02

Driver's side

- ☐ Refit the right-hand mixer motor.
- ☐ Connect the right-hand mixer motor connector.

Passenger side

- ☐ Refit the left-hand mixer motor.
- ☐ Connect the left-hand mixer motor connector.

Mixing motor: Removal - Refitting

IR CONDITIONING 02

RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or A				
II - FINAL OPERATION				
AIR CONDITIONING 02				
Driver's side				
□ Refit:				
- the reinforcement plate,				
 - the front right-hand A-pillar air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36) 				
 -the dashboard lower trim (see Dashboard lower trim: Removal - Refitting) (57A, Interior equip- ment). 				
•				
Passenger side				
□ Refit:				
 - the front left-hand footwell air distribution duct (see 61A, Heating, Front footwell air distribution duct: Removal - Refitting, page 61A-36), 				
-the glovebox (see Glovebox: Removal - Refit-ting) (57A, Interior equipment).				
NAVIGATION AID 4				
 □ Refit the navigation computer (see Navigation computer: Removal - Refitting) (83C, On-board telematics system). 				
1				
Connect the bettery (see Pettery Perseyal Petit				
□ Connect the battery (see Battery: Removal - Refitting) (80A, Battery).				
☐ Apply the after repair procedure using the Diagnostic tool :				
- connect the Diagnostic tool ,				
- select "Climate control computer",				
- go to repair mode,				
 display the "Before/after repair procedure" for the computer selected, 				

-select "Left-hand air mixing valve motor or righthand air mixing valve motor" in the "List of compo-

- carry out the operations described in the "After re-

nents controlled by this computer" section,

pair procedure" section.

61A-46

Distribution motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

REMOVAL

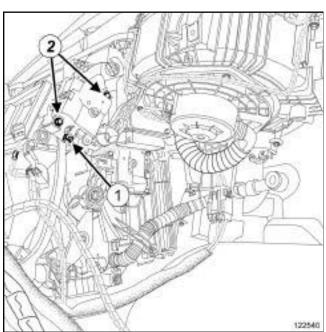
I - REMOVAL PREPARATION OPERATION

- ☐ Activate the air distribution in "face" mode
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).

NAVIGATION AID 4

- □ Remove the navigation computer (see Navigation computer: Removal Refitting) (83C, On-board telematics system).
- ☐ Remove the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



122540

- ☐ Disconnect the connector (1) from the distribution motor.
- □ Remove:
 - the bolts (2) from the distribution motor,
 - the distribution motor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the distribution motor.
- ☐ Connect the distribution motor connector.

II - FINAL OPERATION

☐ Refit the glovebox (see Glovebox: Removal - Refitting) (57A, Exterior equipment).

NAVIGATION AID 4

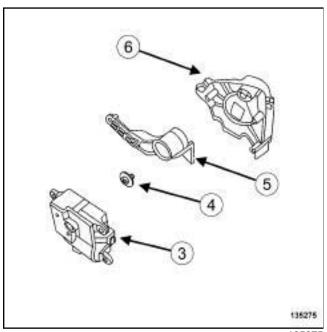
- □ Refit the navigation computer (see Navigation computer: Removal Refitting) (83C, On-board telematics system).
- ☐ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the computer selected,
 - select "Footwell air distribution flap motor" in the "List of components controlled by this computer" section.
 - carry out the operations described in the "After repair procedure" section.

Distribution motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

OPERATION

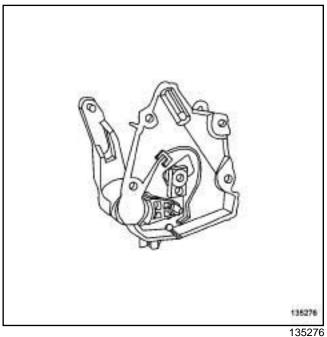
SYSTEM COMPONENTS



135275

- ☐ The distribution system is composed of:
 - (3): Distribution motor,
 - (4): A-pillar duct linkage bolt,
 - (5): A-pillar duct linkage,
 - (6): Distribution motor retaining plate.

I - REMOVAL



Note:

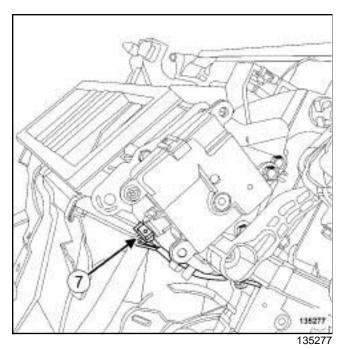
If the distribution motor cannot be positioned in « face » mode for the removal operation, it is locked in place by the retaining plate. Please follow the procedure below to remove it.

Note:

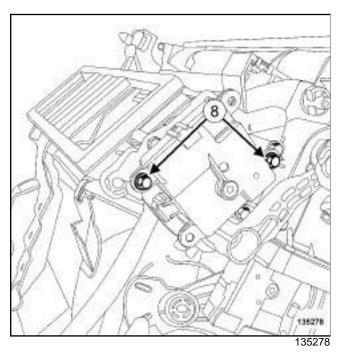
When the motor is removed, both the motor and the retaining plate must be replaced.

HEATING Distribution motor: Removal - Refitting

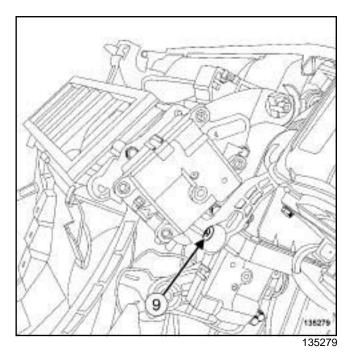
AIR CONDITIONING 01 or AIR CONDITIONING 02



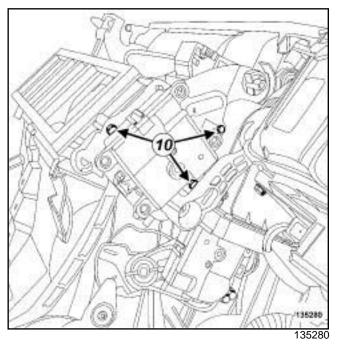
☐ Disconnect the connector (7) from the distribution motor.



☐ Remove the distribution motor bolts (8) .



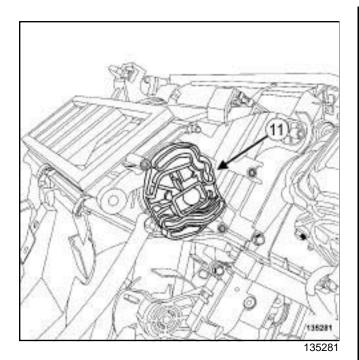
☐ Remove the bolt (9) from the A-pillar duct linkage.



- ☐ Remove:
 - the distribution motor retaining plate bolts (10),
 - the air distribution assembly.

HEATING Distribution motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

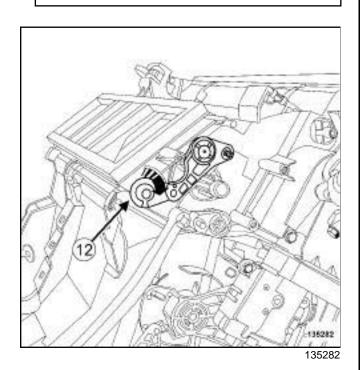


☐ Remove the cam (11).

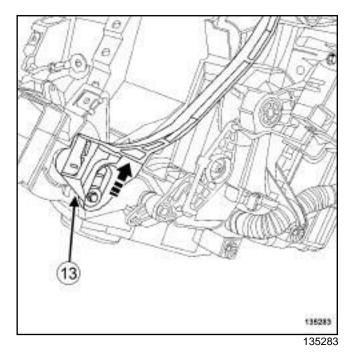
II - REFITTING

Note:

To ensure that the system operates correctly, the front and rear face-level air distribution flaps must be open.



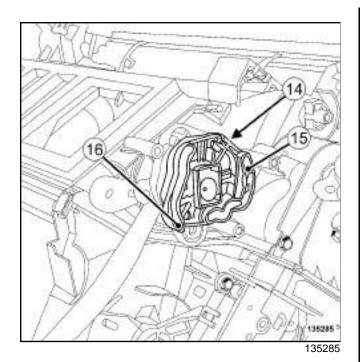
☐ Turn the linkage (12) clockwise fully.

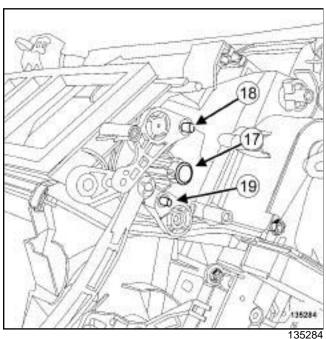


☐ Move the linkage (13) completely upwards.

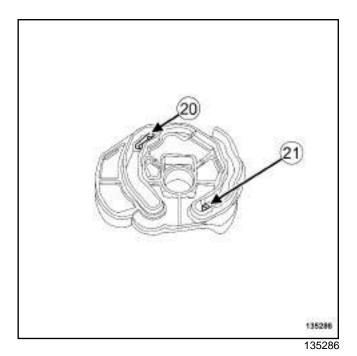
Distribution motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

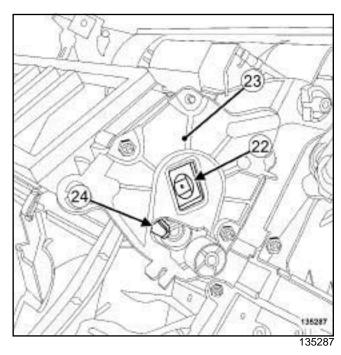




- □ Refit the cam (14) on the shaft (17).
- □ Position:
 - the guide finger (18) in its groove (15),
 - the guide finger (19) in its groove (16) .



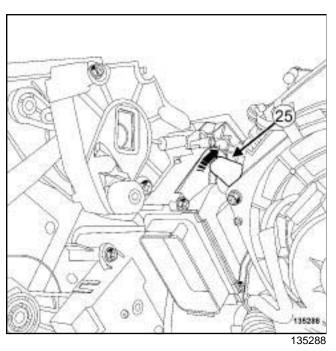
☐ Check that the guide fingers are visible through the cam openings (20) and (21).



- ☐ Refit the distribution motor retaining plate.
- ☐ Check that:
 - the rectangular housing (22) of the cam and the opening of the retaining plate (23) line up,
 - the guide groove (24) of the cam appears in the lower opening of the motor retaining plate.

HEATING Distribution motor: Removal - Refitting

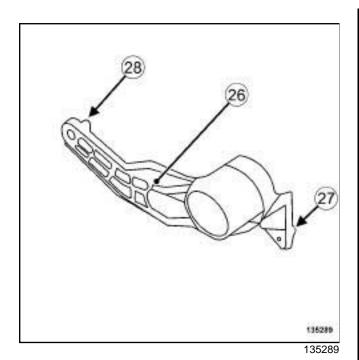
AIR CONDITIONING 01 or AIR CONDITIONING 02

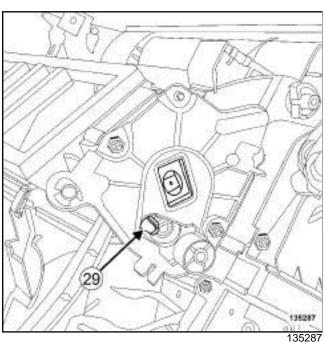


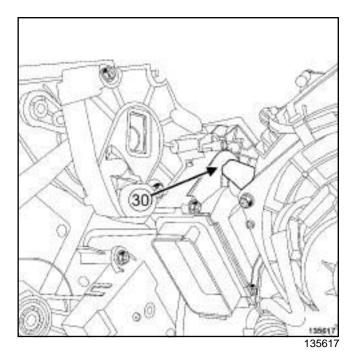
☐ Turn the A-pillar air distribution flap linkage (25) fully clockwise.

Distribution motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02







- □ Refit the A-pillar duct linkage (26) by inserting:
 - the guide finger (27) in the cam groove (29),
 - the guide finger (28) in the groove (30) of the A-pillar air distribution flap.
- ☐ Refit the A-pillar duct linkage bolt.

Note:

The new distribution motor is configured to face mode only.

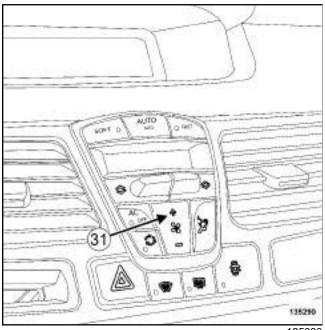
- ☐ Refit the distribution motor.
- ☐ Connect the distribution motor connector.
- ☐ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Apply the after repair procedure using the Diagnostic tool :
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the computer selected,
 - select "Footwell air distribution flap motor" in the "List of components controlled by this computer" section.
 - carry out the operations described in the "After repair procedure" section.

Distribution motor: Removal - Refitting

AIR CONDITIONING 01 or AIR CONDITIONING 02

Note:

To ensure that the system operates correctly, program all of the flap stops.



135290

- □ Switch on the air conditioning control panel by pressing the « + » button (31).
- ☐ Increase the air flow by pressing the «+ » button (31) again.
- ☐ Check that the air flow increases as the speed of the passenger compartment fan assembly increases.

Note:

If during the check, the air flow does not increase or the number of propeller blades on the control panel display remains unchanged, programming of the flap stops was not performed correctly.

It is therefore necessary to repeat the previous assembly operations.

Passenger compartment temperature sensor: Removal - Refitting



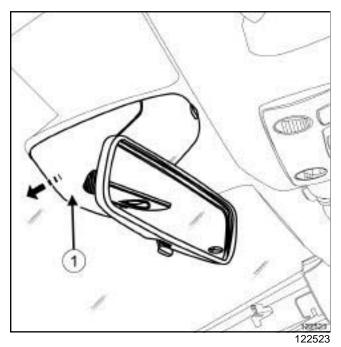
AIR CONDITIONING 02

Equipment required

Diagnostic tool

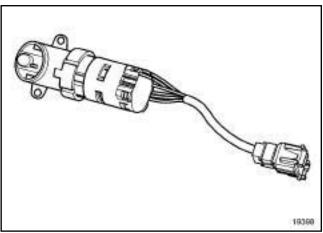
REMOVAL

I - REMOVAL PREPARATION OPERATION



☐ Unclip the lower cover (1) of the interior rear-view mirror in the direction of the arrow.

II - OPERATION FOR REMOVAL OF PART CONCERNED



19398

- □ Disconnect the passenger compartment temperature sensor connector.
- □ Remove:
 - the passenger compartment temperature sensor bolts,
 - the passenger compartment temperature sensor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the passenger compartment temperature sensor
- ☐ Connect the passenger compartment temperature sensor connector.

II - FINAL OPERATION.

- □ Clip on the lower cover of the interior rear-view mirror.
- □ Apply the after repair procedure using the **Diagnos**tic tool :
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Passenger compartment temperature and humidity detector" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Humidity sensor: Removal - Refitting



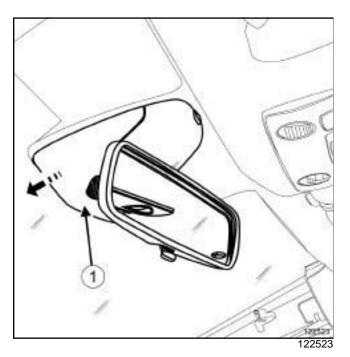
AIR CONDITIONING 02

Equipment required

Diagnostic tool

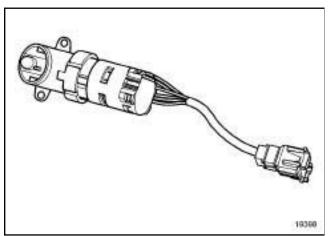
REMOVAL

I - REMOVAL PREPARATION OPERATION



☐ Unclip the lower cover (1) of the interior rear-view mirror in the direction of the arrow.

II - OPERATION FOR REMOVAL OF PART CONCERNED



19398

- ☐ Disconnect the humidity detector connector.
- □ Remove:
 - the humidity detector bolts,

- the humidity detector.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the humidity detector.
- ☐ Connect the humidity detector connector.

II - FINAL OPERATION.

- ☐ Clip on the lower cover of the interior rear-view mirror.
- Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Passenger compartment temperature and humidity detector" in the "List of components controlled by this computer,
 - carry out the operations described in the "After repair procedure" section.

Solar radiation sensor: Removal - Refitting

Note:

The solar radiation sensor is integrated into the rain and light sensor, for removal (see **Rain and light sensor: Removal - Refitting**) (MR 415, 85A, Wiping - Washing).

Toxicity sensor: Removal - Refitting

AIR CONDITIONING 02

Equipment required Diagnostic tool Note: The toxicity sensor will be removed blind. REMOVAL I - REMOVAL PREPARATION OPERATION

LEFT-HAND DRIVE

fitting) (80A, Battery).

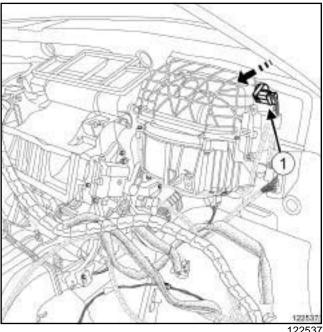
☐ Remove the glovebox (see Glovebox: Removal -Refitting) (57A, Interior equipment).

☐ Disconnect the battery (see Battery: Removal - Re-

RIGHT-HAND DRIVE

☐ Remove the dashboard (see **Dashboard: Removal** - Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



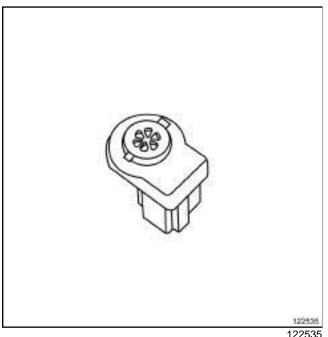
- 122537
- □ Disconnect the toxicity sensor connector (1).
- ☐ Remove the toxicity sensor by turning it a quarter of a turn anti-clockwise.
- ☐ Remove the toxicity sensor.

Toxicity sensor: Removal - Refitting

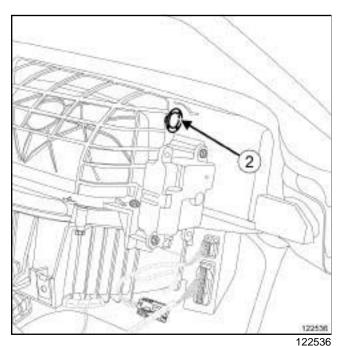
AIR CONDITIONING 02

REMOVAL

I - REFITTING OPERATION FOR PART **CONCERNED**



122535



- ☐ Refit the toxicity sensor into its housing (2).
- ☐ Install the toxicity sensor by turning it a quarter of a turn clockwise.
- ☐ Connect the toxicity sensor connector.

II - FINAL OPERATION.

LEFT-HAND DRIVE

☐ Refit the glovebox (see Glovebox: Removal - Refitting) (57A, Interior equipment).

RIGHT-HAND DRIVE

☐ Refit the dashboard (see Dashboard: Removal -Refitting) (57A, Interior equipment).

- ☐ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Apply the after repair procedure using the **Diagnos**tic tool:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Toxicity sensor" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Air conditioning: Precautions for the repair



AIR CONDITIONING 01 or AIR CONDITIONING 02

I - SAFETY

IMPORTANT

The following must be worn when handling refrigerant:

- gloves,
- protective goggles (with side shields if possible).

In the event of refrigerant fluid coming into contact with the eyes, rinse well with clean water continuously for **15 minutes**. If possible, have an eye rinse unit available.

If refrigerant comes into contact with your eyes, consult a doctor immediately. Inform the doctor that the burns were caused by **R134A** refrigerant.

In the event of contact with other unprotected parts of the body (event though the safety advice has been observed), rinse well with clean water continuously for **15 minutes**.

IMPORTANT

Work requiring the use of refrigerant must be carried out in a well-ventilated area.

The refrigerant must not be stored in a shaft, a pit, a hermetically sealed room, etc.

Refrigerants are colourless and odourless fluids.

Refrigerant is heavier than air. As a result there is a risk of asphyxia for those working close to the ground and less than **5 m** away from the working area (pit, well, air vents, etc.).

Switch on gas extraction systems.

At temperatures above **100°C**, the refrigerant will decompose and produce a highly irritant gas.

IMPORTANT

It is forbidden to smoke close to an open refrigerant circuit.

II - GENERAL RECOMMENDATIONS

It is possible to place components in the drying oven after painting or to carry out work near the system if the temperature does not exceed **80°C**.

IMPORTANT

To prevent refrigerant from leaking, never repair a faulty air conditioning circuit component.

Replace all faulty components.

It is essential to follow the routing of the connecting pipes.

Ensure that the refrigerant connecting pipes are correctly fitted so that they will not come into contact with metal parts in the engine compartment.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

WARNING

To avoid damaging the surface of the air conditioning pipes when removing the seals, do not use a tool with a metallic end piece.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

To prevent any leaks, check that the seal and surface of the pipe are in good condition. The seal and the surface must be clean and free from scratches.

WARNING

Lubricants are not mutually compatible: always observe the type and quantity of oil recommended for each compressor even when topping up as this could damage the cold loop components.

Always close the oil cans again after use to keep moisture out and never use oil contained in a can that has been open for a long time (viscous appearance).

Air conditioning: Parts and consumables for the repair

62A

AIR CONDITIONING 01 or AIR CONDITIONING 02

To obtain the correct oil (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products).

Table of vehicle refrigerant capacities according to their engines and various specifications.

Engine	Compressor	Type of oil	Total quantity of oil in circuit (ml or cm ³)	Refrigerant capacity (g)
K9K	- VALEO KC 88 L	PAG - SP 10	150 ± 10	650 ± 35
K4M				
M4R				
F4R				
M9R				
V4Y				
V9X	ZEXEL-VALEO			

Table of quantities of oil to add when replacing components:

Operation on the air conditioning circuit	Quantity of oil (ml or cm ³)		
Circuit oil change	Measure the volume recovered and add the same quantity of new oil		
Split hose or other rapid leak	100		
Replacement of a condenser (integrated dehydrator reservoir)	Quantity recovered + 30		
Replacement of an evaporator	Quantity recovered + 30		
Replacing a hose	Quantity recovered + 10		
Removing/refitting the compressor	Quantity recovered		
Replacement of a compressor	None added		
Standard replacement of a compressor	Top up as necessary		
Replacing a compressor and one or several air conditioning circuit component(s).	None added		
Standard replacement of a compressor and replacement of one or several air conditioning circuit component(s)	Top up as necessary		

Air conditioning: Check

AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

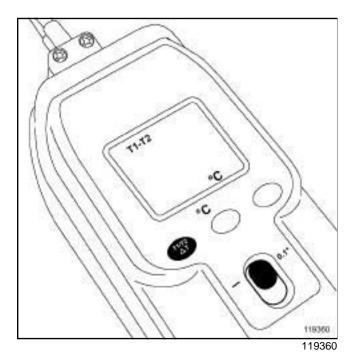
Dual-sensor temperature measuring device

Note:

When performing RENAULT maintenance, check the air conditioning system at the end of the vehicle's maintenance program so that the engine will be cold.

I - PREPARATION OPERATION FOR THE MEASUREMENT DEVICE

- ☐ Check that the measurement device functions properly (see the device's instruction manual).
- ☐ Set units to °C.
- ☐ Set the device's sensitivity to **0.1°C**.



 \Box Set the reading mode to $(\Delta T) = (T1 - T2)$



- Check the two sensors T1 and T2 in order to calculate the correction (Δ) to be applied to the measurement (T1 T2). the two sensors must indicate the same measurement under the same conditions. Check the sensors by:
 - bringing the ends of the 2 sensors together until they touch,
 - placing the sensors in the air flow of an air vent,
 - setting the passenger compartment fan assembly to top speed.
 - waiting for the value to become stable.
 - recording the correction value (Δ).

Note:

It is not necessary to start the vehicle. The device display is in mode (ΔT) = (T1 - T2).

WARNING

Note the difference and sign as soon as the temperature becomes stable.

Calculate the correction (Δ) = - (T1 - T2) to be applied to the measurement (ΔT) .

Examples:

If (T1 - T2) = - 0.3 $^{\circ}$ C, correct the measurement (Δ T) by (Δ) = + 0.3 $^{\circ}$ C

If (T1 - T2) = + 0.3° C, correct the measurement (Δ T) by (Δ) = - 0.3° C

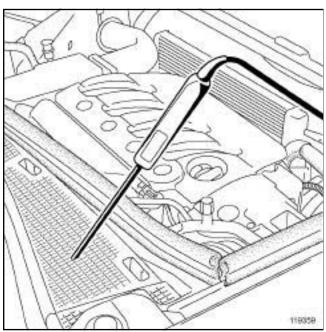
Air conditioning: Check

AIR CONDITIONING 01 or AIR CONDITIONING 02

II - VEHICLE PREPARATION OPERATION

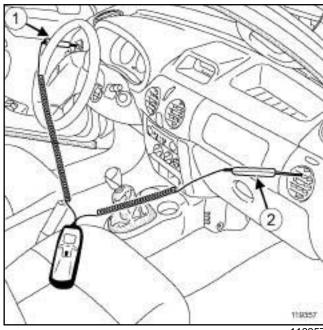
- ☐ Put the vehicle in the shade, where the temperature is greater than or equal to 15°C minimum.
- Close the bonnet.
- Open the front windows.
- ☐ Start the engine and let it idle.
- ☐ Set the air conditioning controls with:
 - recirculation mode in the external position,
 - the ventilation distribution in "face" mode,
 - the temperature control to coldest temperature setting in front (and at the back, if it exists),
 - the speed of the passenger compartment fan assembly set to maximum (switch off the rear control if it exists).
 - -the front side and centre air vents open with the vanes in a neutral position,
 - the air conditioning system must be turned on (indicator light illuminated).
- ☐ Wait 5 minutes with the engine idling before taking any measurements.

III - MEASUREMENTS



- 119359
- □ Record the air temperature at the scuttle panel grille (T3).
 - open the bonnet, depending on the vehicle, to access the scuttle panel grille.
 - -place the sensor where air is drawn through the scuttle panel grille.

- wait for the value to become stable.
- record the T3 temperature value.
- close the bonnet if it was opened.



119357

- □ Record the air temperature at the left air vent (T1), and at the right air vent (T2).
 - fit sensor T1 in the left air vent (1).
 - fit sensor T2 in the right air vent (2).
- Record the differences in temperature once the (ΔT) value has stabilised:
 - between T3 and the higher of values T1 or T2, (T3
 highest value).
 - record this difference in temperature.
 - between T1 and T2 (read the (Δ T) value (T1-T2) display mode).
 - record the difference in temperature (ΔT) according to the correction (Δ) to be applied to the measurement.
- □ If the (ΔT) =(T1-T2) measurement is unstable, follow the procedure below:

Note:

Depending on the vehicle's air conditioning system programming, this check method may not be applicable because the engine cooling fan assembly has been activated. Its operation renders the (ΔT) value between T1 and T2 unstable To eliminate this error, the fan assembly must be activated for the entire period over which temperature T1 and T2 measurements are recorded.

Air conditioning: Check

62A

AIR CONDITIONING 01 or AIR CONDITIONING 02

- ☐ Activate the engine cooling fan assembly operation by modifying the engine speed.
 - -stabilise the engine speed at 2000 rpm while T1 and T2 temperature measurements are being recorded.
 - check that the engine cooling fan assembly operating.
 - record the temperatures by following the instructions given in the paragraph MEASUREMENTS.

IV - FAULT FINDING PROCEDURE

- ☐ The following two following conditions must be met:
 - the difference between T3 and the higher of the two values T1 or T2, must be greater than or equal to 5°C.
 - -the difference between T1 and T2 must be less than or equal to **2°C**.

Note:

If one of these two conditions is not met, then the air conditioning system is not working properly. Should this be the case, refer to the fault finding procedure for the air conditioning system for the vehicle concerned.

Refrigerant circuit: Check

62A

AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

After any work on air conditioning circuit leaks on the Laguna II, Vel Satis and Espace IV, check that filling fault **DF033 Refrigerant** is not present, using the **Diagnostic tool**. If it is present, clear it. The compressor cannot operate until the fault is cleared.

There are several types of detector:

- electronic detectors,
- trace detectors.

Note:

To carry out an after repair check, use the procedure for the electronic detector (1). To carry out a more thorough check for leaks, use a trace detector (2).

Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).

REFRIGERANT CIRCUIT SEALING CHECKING OPERATION

1 - Electronic detectors:

WARNING

Consult the device's operating manual to avoid incorrect use.

- ☐ Switch on the electronic detector.
- ☐ Start the engine.
- ☐ Let the air conditioning system run for **15 minutes**.
- Switch off the engine.

□ Check the sealing of the refrigerant circuit using the electronic trace detector (follow the trace of the circuit as closely as possible, to limit variations due to other gases).

Note:

If replacing a defective part (see **62A**, **Air conditioning**).

2 - Trace detectors

WARNING

Consult the device's operating manual to avoid incorrect use.

WARNING

To avoid damaging the cold loop components (corrosions, etc.), do not use dye if the traces reveal that some product has already been injected.

- ☐ Check for dye on the cold loop components with the ultraviolet light.
- Inject the dye.
- ☐ Start the engine.
- ☐ Let the air conditioning system run for **15 minutes**.
- ☐ Switch off the engine.
- ☐ Check the refrigerant circuit sealing by scanning the circuit with the **ultraviolet light**.

Note:

If replacing a defective part (see **62A**, **Air conditioning**).

□ Affix a label (supplied with the dye capsule), to indicate that dye has been used (as close as possible to the filler valves).

AIR CONDITIONING Refrigerant circuit: Draining - Filling

AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

WARNING

Consult the device's operating manual to avoid incorrect use.

WARNING

To avoid damaging the cold loop components (corrosions, etc.), do not use dye if the traces reveal that some product has already been injected.

Note:

A summary table gives the quantities of refrigerant in the system according to the engine type (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).

Refrigerant circuit: Draining - Filling



AIR CONDITIONING 01 or AIR CONDITIONING 02

I - RECOVERING REFRIGERANT FLUID

Note:

- If the air conditioning circuit is fitted with a single filler valve, some filling equipment only requires the use of the high pressure pipe (refer to the filling station instructions).
- Depending on the situation, run the system for a few minutes before recovering the coolant to improve drainage.

Note:

It is essential to follow these procedures to prevent:

- gas escaping when the circuit is opened,
- pollution of the environment through the release of gas into the atmosphere when the circuit is opened or when a vacuum is created.

When draining or checking the refrigerant fill load, three scenarios are to be taken into account:

- the engine is running and the air conditioning is in operation (A),
- the engine is running but the air conditioning is not in operation (B),
- the engine is not running nor is the air conditioning in operation (C).

☐ Scenario A:

- Operate the air conditioning until the cooling fan assembly is triggered twice,
- Switch off the engine,
- -drain for the first time (note down the original value),
- wait 15 minutes.
- check that the relative pressure is no more than **0** bar,
- repeat the cycles until the relative pressure is equal to or less than **0 bar**,
- add together the values of the various draining operations; the fill is confirmed as being correct if the volume of refrigerant fluid is the specified fill +35g or -100g.

Scenario B:

- -run the engine until the cooling fan is triggered twice,
- Switch off the engine,

- drain for the first time (note down the value),
- wait 15 minutes.
- run the engine until the cooling fan is triggered twice,
- Switch off the engine,
- drain for the second time (note down the value),
- repeat the cycles until the relative pressure is equal to or less than **0 bar**,
- add together the values of the various draining operations; the fill is confirmed as being correct if the volume of refrigerant fluid is the specified fill +35g or -100g.

Scenario C:

- drain for the first time (note down the value),
- wait 2 hours,
- repeat the cycles until the relative pressure is equal to or less than 0 bar.
- add together the values of the various draining operations; the fill is confirmed as being correct if the volume of refrigerant fluid is the specified fill +35g or -100g.

II - CREATING A VACUUM

□ It is essential to carry out vacuum extraction correctly before loading, otherwise the air conditioning will not work properly.

There are two scenarios to consider:

- vacuum created immediately after discharge (scenario A),
- vacuum created after an interval of several hours or days (scenario B).

Scenario A:

- creation of a vacuum takes 20 minutes.

Scenario B:

- creation of a vacuum takes **45 minutes** to eliminate any trace of moisture.
- ☐ Test the seal once the vacuum has been created (some stations do this automatically).

III - FILLING

☐ Fill up the refrigerant circuit using the refrigerant charging station.

Refrigerant circuit: Draining - Filling

AIR CONDITIONING 01 or AIR CONDITIONING 02

- ☐ Top up the oil with the recommended type and volume of oil and refrigerant, depending on the work carried out (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Check there are no leaks using the electronic detector (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6).

WARNING

After injecting dye into the refrigerant, be sure to indicate this on a label (supplied with the dye capsule), and the date of the operation.

Position the label so it is visible near to the cold loop filler valve.

□ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).

Condenser: Removal - Refitting



F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

connecting pipe nuts

8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

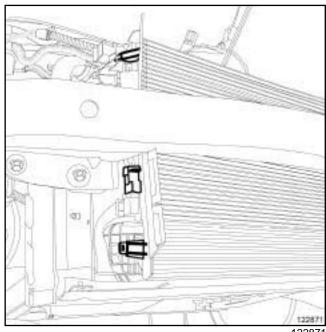
REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle**: Towing and lifting) (02A, Lifting equipment).
- ☐ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7) .
- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Remove:
 - -the front bumper (see Front bumper: Removal -Refitting) (55A, Exterior protection),

- the headlights (see Headlight: Removal Refitting) (80B, Headlights),
- the front end panel (see Front end panel: Removal - Refitting) (42A, Upper front structure).

II - OPERATION FOR REMOVAL OF PART CONCERNED

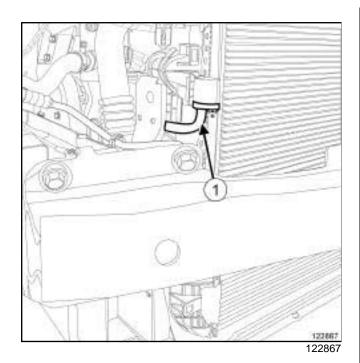


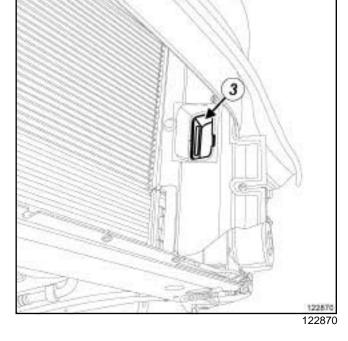
122871

☐ Unclip the right-hand air deflector.

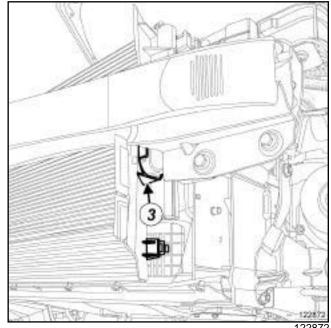
AIR CONDITIONING Condenser: Removal - Refitting

F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02









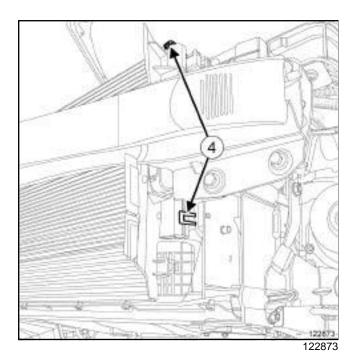
- \square Remove the nuts from the condenser connecting pipes (1) and (2).
- ☐ Disconnect the condenser connecting pipes (1) and (2).
- ☐ Insert the blanking plugs.

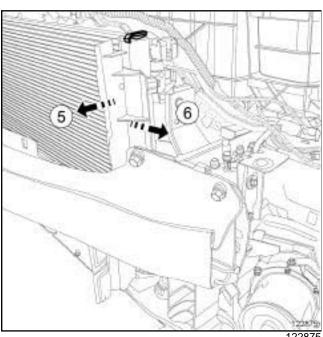
- ☐ Unclip:
 - the air pipe from the left-hand deflector (3),
 - the left-hand air deflector (3) .

Condenser: Removal - Refitting



F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02





- ☐ Unclip the condenser.
- ☐ Remove the condenser in the direction of the arrows (5) and (6).

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals on the condenser connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- □ Lubricate the seals using recommended air conditioning oil (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2) to make fitting easier.
- ☐ Fit new seals on the condenser connecting pipes.
- ☐ Refit the condenser.
- ☐ Clip:
 - the condenser,
 - the left-hand air deflector,
 - the air pipe onto the left-hand deflector.
- ☐ Remove the blanking plugs.
- ☐ Connect the connecting pipes to the condenser.
- ☐ Torque tighten the **connecting pipe nuts (8 N.m)**.
- ☐ Clip on the right-hand air deflector.

III - FINAL OPERATION.

- ☐ Refit:
 - the front end panel (see Front end panel: Removal Refitting) (42A, Upper front structure),
 - the headlights (see Headlight: Removal Refitting) (80B, Headlights).
- □ Connect the battery (see Battery: Removal Refitting) (80A, Battery).

Condenser: Removal - Refitting

62A

F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).
Use the electronic sensor (see 62A , Air conditioning , Refrigerant circuit: Check , page 62A-6) to check that there are no leaks.
Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
Refit the front bumper (see Front bumper: Removal - Refitting) (55A, Exterior protection).
Adjust the headlight beams (see Headlight: Adjust-ment) (80B, Headlights).

AIR CONDITIONING Condenser: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

Tightening torques

connecting pipe nuts

8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

I - REMOVAL PREPARATION OPERATION

☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).

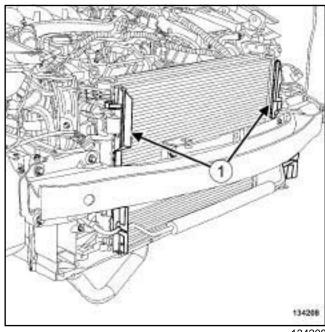
WARNING

Consult the device's operating manual to avoid incorrect use.

- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Remove:
 - the engine cover,
 - the engine undertray bolts,

- the engine undertray,
- the upper cover on the cooling radiator,
- the front wheels (see **Wheel: Removal Refitting**) (35A, Wheels and tyres),
- the front wheel arch liners (see Front wheel arch liner: Removal - Refitting) (55A, Exterior protection).
- the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
- the headlights (see Headlight: Removal Refitting) (80B, Headlights),
- the bonnet catch (see Bonnet lock: Removal -Refitting) (52A, Non-side opening element mechanisms),
- the horn (see Audible warning: Removal Refitting) (82B, Horn),
- the front end panel (see Front end panel: Removal Refitting) (42A, Upper front structure).

II - OPERATION FOR REMOVAL OF PART CONCERNED

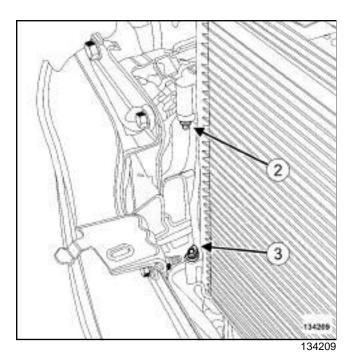


134208

☐ Unclip the air deflectors (1).

AIR CONDITIONING Condenser: Removal - Refitting

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

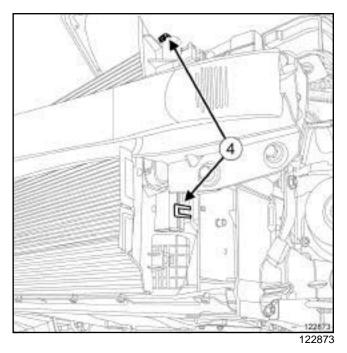


- ☐ Remove the nut (2) from the «compressor condenser » connecting pipe.
- ☐ Remove the nut (3) from the «expansion valve condenser » connecting pipe.

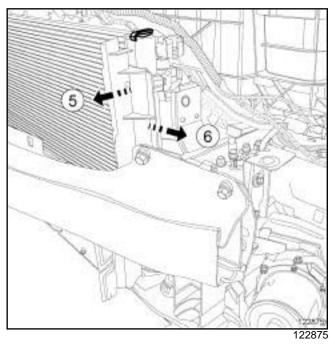
WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- ☐ Disconnect the following from the condenser:
 - the « compressor condenser » connecting pipe,
 - -the « expansion valve condenser » connecting pipe.
- ☐ Insert the blanking plugs.



☐ Unclip the condenser at (4).



☐ Remove the condenser following the direction arrows (5) and (6).

Condenser: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

REFITTING

I - REFITTING PREPARATION OPERATION

□ parts always to be replaced: refrigerant pipe seal (30,02,02,52).

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Remove the blanking plugs.
- ☐ Lubricate its new seals using recommended air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Fit new seals to the refrigerant connecting pipes.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the condenser.
- ☐ Couple the connecting pipes to the condenser.
- ☐ Torque tighten the **connecting pipe nuts (8 N.m)**.
- Clip on the air deflectors.

III - FINAL OPERATION

- ☐ Connect the battery (see Battery: Removal Refitting) (80A, Battery).
- □ Consult the amount of refrigerant and oil required before filling the refrigerant circuit (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Perform the following operations:
 - refill the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7),
 - a leakage test (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6).

- □ Check the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
- □ Refit:
 - the front end panel (see **Front end panel: Remov- al Refitting**) (42A, Upper front structure),
 - the audible warning (see Audible warning: Removal Refitting) (82B, Horn),
 - the bonnet catch (see Bonnet lock: Removal -Refitting) (52A, Non-side opening element mechanisms),
 - the headlights (see Headlight: Removal Refitting) (80B, Headlights),
 - the front bumper (see **Front bumper: Removal Refitting**) (55A, Exterior protection),
 - the front wheel arch liners (see Front wheel arch liner: Removal - Refitting) (55A, Exterior protection).
 - the front wheels (see **Wheel: Removal Refitting**) (35A, Wheels and tyres),
 - the upper cover on the cooling radiator,
 - the engine undertray,
 - the engine cover.
- □ Adjust the headlight beams (see Headlight: Adjustment) (80B, Headlights).

Dehydrator reservoir: Removal - Refitting



AIR CONDITIONING 01 or AIR CONDITIONING 02

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

The dehydrator reservoir cannot be separated from the condenser.

- ☐ If replacing the dehydrator reservoir filter (see 62A, Air conditioning, Dehydrator reservoir filter: Removal Refitting, page 62A-18).
- ☐ If removing or replacing the dehydrator reservoir (see 62A, Air conditioning, Condenser: Removal Refitting, page 62A-10).

Dehydrator reservoir filter: Removal - Refitting



AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

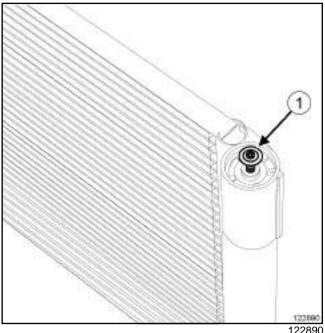
Always replace the dehydrator filter kit.

REMOVAL

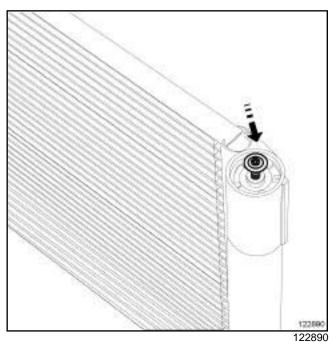
I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle**: Towing and lifting) (MR 415, 02A, Lifting equipment).
- ☐ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7) .
- ☐ Disconnect the battery (see Battery: Removal Refitting) (MR 415, 80A, Battery).
- □ Remove:
 - -the front bumper (see Front bumper: Removal -Refitting) (MR 416, 55A, Exterior protection),
 - -the headlights (see Headlight: Removal Refitting) (MR 415, 80B, Headlights),
 - the front end panel (see Front end panel: Removal - Refitting) (MR 416, 42A, Upper front structure).
 - -the condenser (see 62A, Air conditioning, Condenser: Removal - Refitting, page 62A-10).

II - REMOVAL OPERATION FOR PART CONCERNED



☐ Screw a type **M5** bolt a few turns on the dehydrator reservoir cap.

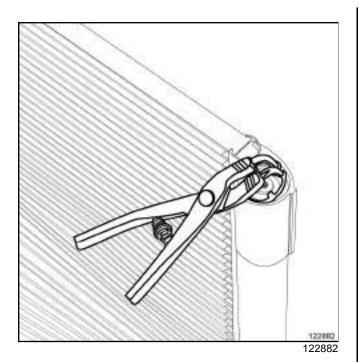


☐ Push the bolt using a screwdriver to push the dehydrator reservoir cap downwards to detach the circlip.

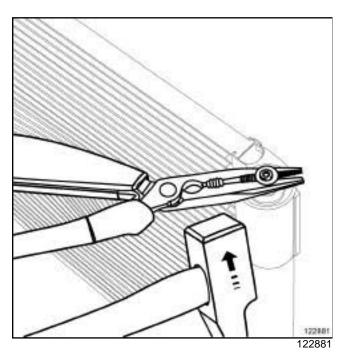
Dehydrator reservoir filter: Removal - Refitting



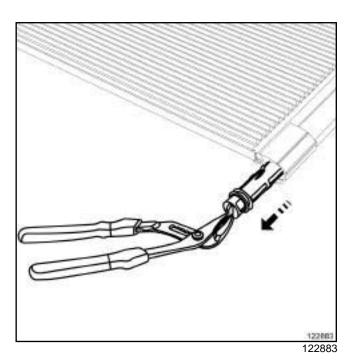
AIR CONDITIONING 01 or AIR CONDITIONING 02



☐ Remove the circlip using circlip pliers.



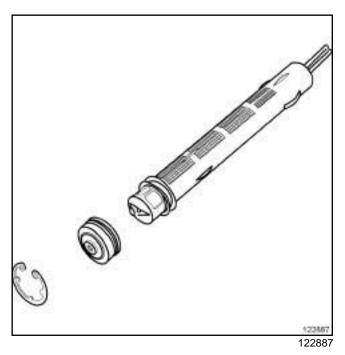
- ☐ Clamp the M5 bolt using long-nosed pliers.
- ☐ Strike the long-nosed pliers from underneath to remove the cap from the dehydrator reservoir.
- ☐ Remove the cap from the dehydrator reservoir.



☐ Remove the filter element using adjustable pliers.

REFITTING

I - REFITTING PREPARATIONS OPERATION



☐ Fit new seals to the new dehydrator reservoir cap.

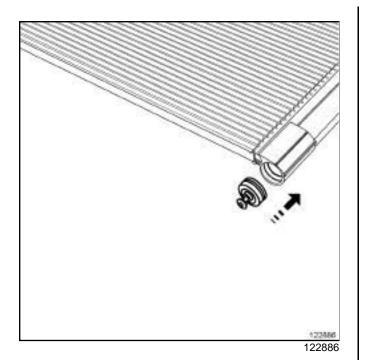
II - REFITTING OPERATION FOR PART CONCERNED

□ Refit the new filter element in the opening of the dehydrator reservoir

Dehydrator reservoir filter: Removal - Refitting



AIR CONDITIONING 01 or AIR CONDITIONING 02



- ☐ Refit the cap to the dehydrator reservoir.
- Push the cap in as far as possible.
- □ Refit the circlip.

Note:

When pressurising the air conditioning circuit, the dehydrator reservoir filter and cap will automatically fit in place.

III - FINAL OPERATION.

- □ Refit the condenser (see 62A, Air conditioning, Condenser: Removal Refitting, page 62A-10).
- ☐ Fill the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- ☐ Connect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- □ Refit:
 - the front end panel (see **Front end panel: Removal Refitting**) (MR 416, 42A, Upper front structure),
 - -the headlights (see **Headlight: Removal Refitting**) (MR 415, 80B, Headlights).
- □ Check there are no leaks using the electronic detector (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6).

- □ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
- ☐ Refit the front bumper (see Front bumper: Removal Refitting) (MR 416, 55A, Exterior protection).
- ☐ Adjust the headlights (see **Headlight: Adjustment**) (MR 415, 80B, Headlights).

Compressor: Removal - Refitting



F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

Diagnostic tool

Tightening torques ▽	
compressor bolts	25 N.m
bolts for the connecting pipe brackets	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

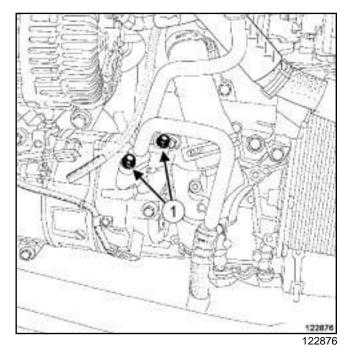
REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).

□ Remove:

- the front right-hand wheel (see **Wheel: Removal Refitting**) (35A, Wheels and tyres),
- the front right-hand wheel arch liner (see **Front** wheel arch liner: Removal Refitting) (55A, Exterior protection),
- the accessories belt (see Accessories belt: Removal Refitting) (11A, Top and front of engine).

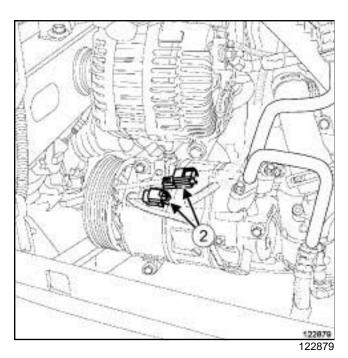


- ☐ Remove the bolts from the compressor connecting
- ☐ Uncouple the compressor connecting pipes
- ☐ Insert the blanking plugs.

pipes (1).

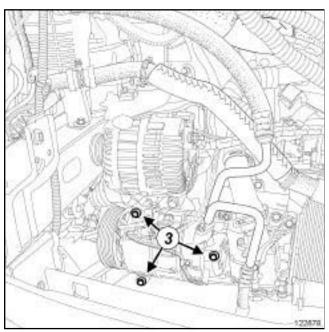
Compressor: Removal - Refitting

F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



□ Disconnect the compressor connectors (2).

II - OPERATION FOR REMOVAL OF PART CONCERNED



122878

□ Remove:

- the compressor bolts (3),
- the compressor from below.

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the compressor connecting pipe seals.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

Note:

When replacing the compressor due to damage, it is essential to replace the filter for the dehydrator reservoir (see 62A, Air conditioning, Dehydrator reservoir filter: Removal - Refitting, page 62A-18).

Note:

For the quantity of oil to add when replacing a compressor (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the compressor.
- ☐ Torque tighten the compressor bolts (25 N.m).

III - FINAL OPERATION

- ☐ Remove the blanking plugs.
- ☐ Connect the compressor connectors.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

Compressor: Removal - Refitting

ONING 01 or AIR CONDITIONING 02

TF	4R or K4M or K9K or M4R or M9R, and AIR CONDITI
0	Lubricate the seals using recommended air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
	WARNING
	To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.
	Fit new seals to the compressor connecting pipes.
	Connect the connecting pipes to the compressor.
	Torque tighten the bolts for the connecting pipe brackets (8 N.m) .
	Refit the accessories belt (see Accessories belt: Removal - Refitting) (11A, Top and front of engine).
	Connect the battery (see Battery: Removal - Refitting) (80A, Battery).
	Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).
	In the event of replacement, apply the after repair procedure:
	- Switch on the ignition,
	- Check that the air conditioning is off,
	- Switch the ventilation to speed 2,
	- Put the temperature setting at minimum,
	- Select the air recirculation position,
	- Start the engine.
	-Run the air conditioning in manual mode (in the case of climate control do not press auto),
	- Run the engine at idle speed for 3 minutes with air conditioning,
	- Switch off the engine.
	Check there are no leaks using the electronic detector (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) .
	Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
	Refit:
	-the front right-hand wheel arch liner (see Front

wheel arch liner: Removal - Refitting) (55A, Ex-

- the front right-hand wheel (see Wheel: Removal -

Refitting) (35A, Wheels and tyres).

terior protection),

- ☐ Apply the after repair procedure using the **Diagnos**tic tool:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the computer selected,
 - select "Compressor clutch" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

Compressor: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required refrigerant charging station

Tightening torques	
compressor bolts	25 N.m
compressor bolts	55 N.m
compressor bolts	61 N .m
« compressor - condenser» connect- ing pipe bracket bolt on the compressor	8 N .m
« intermediate pipe - compressor» connect- ing pipe bracket bolt on the compressor	8 N.m

IMPORTANT

To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

I - REMOVAL PREPARATION OPERATION

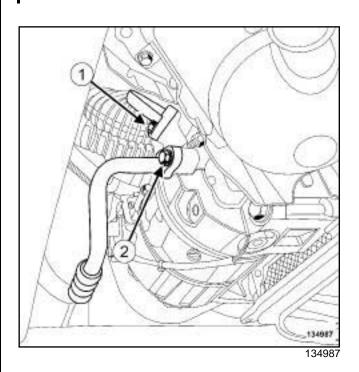
☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).

WARNING

Consult the device's operating manual to avoid incorrect use.

- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- □ Remove:
 - the front right-hand wheel (see Wheel: Removal -Refitting) (35A, Wheels and tyres),
 - the front right-hand wheel arch liner (see **Front wheel arch liner: Removal Refitting**) (55A, Exterior protection),
 - the accessories belt (see Accessories belt: Removal) (11A, Top and front of engine).

V4Y



□ Remove:

 the bolt (1) from the « compressor - condenser » connecting pipe bracket on the compressor,

Compressor: Removal - Refitting

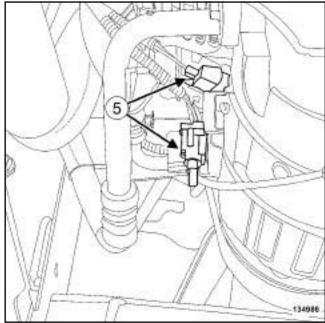
62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

-the bolt (2) of the bracket for the « intermediate pipe - compressor » connecting pipe on the compressor.

II - OPERATION FOR REMOVAL OF PART CONCERNED

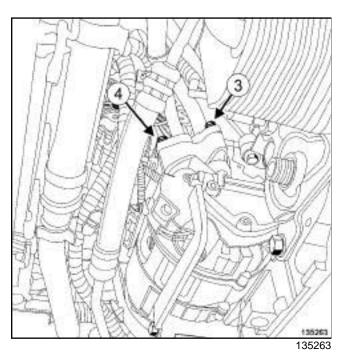
V4Y



134986

□ Disconnect the compressor connectors (5) .

V9X



□ Remove:

- -the bolt (3) from the « compressor condenser » connecting pipe bracket on the compressor,
- -the bolt (4) of the bracket for the «intermediate pipe compressor » connecting pipe on the compressor.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

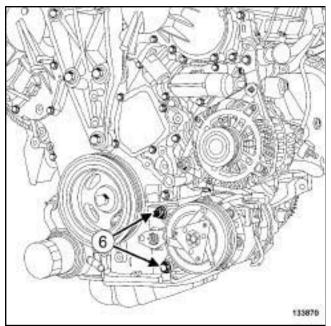
□ Disconnect:

- -the « compressor condenser » connecting pipe from the compressor,
- -the « intermediate pipe compressor » connecting pipe from the compressor.
- ☐ Remove the connecting pipe seals.
- ☐ Insert the blanking plugs.

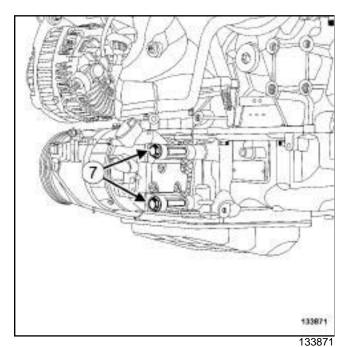
Compressor: Removal - Refitting



V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

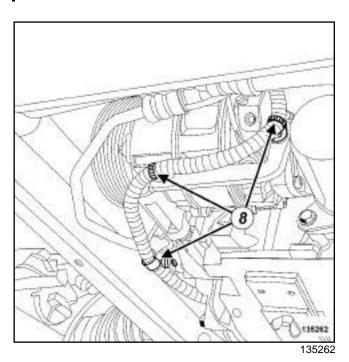


133870

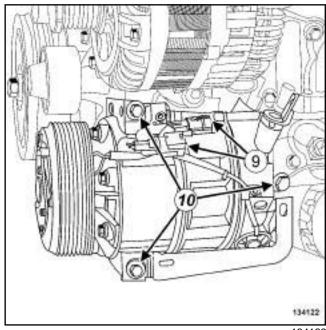


- □ Remove:
 - the compressor bolts (6) and (7),
 - the compressor.





☐ Unclip the electrical wiring on the compressor at (8).



134122

- \Box Disconnect the compressor connectors (9) .
- ☐ Remove:
 - the compressor bolts (10),
 - the compressor.

Compressor: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

REFITTING

I - REFITTING PREPARATION OPERATION

□ parts always to be replaced: refrigerant pipe seal (30,02,02,52).

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Remove the blanking plugs.
- □ Lubricate the new seals using recommended air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Fit new seals to the compressor connecting pipes.

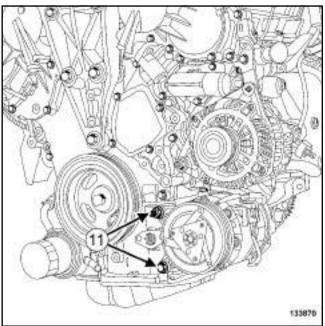
II - REFITTING OPERATION FOR PART CONCERNED.

☐ Refit the compressor.

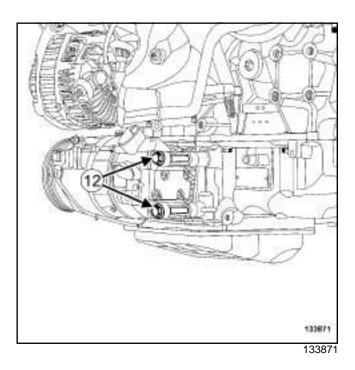
V9X

☐ Torque tighten the **compressor bolts (25 N.m)**.

V4Y



133870



- ☐ Fit the compressor bolts without tightening.
- ☐ Tighten to torque and in order:
 - the compressor bolts (55 N.m) (11) ,
 - the compressor bolts (61 N.m) (12) .

Compressor: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

V9X
□ Clip the electrical wiring onto the compressor.
☐ Connect the compressor connectors.
III - FINAL OPERATION
□ Connect:
 - the « compressor - condenser » connecting pipe to the compressor,
 - the « intermediate pipe - compressor » connecting pipe to the compressor.
□ Refit:
 - the bolt of the « compressor - condenser » con- necting pipe bracket on the compressor,
 - the bolt of the « intermediate pipe - compressor » connecting pipe bracket on the compressor.
☐ Torque tighten:
 -the « compressor - condenser » connecting pipe bracket bolt on the compressor (8 N.m),
 -the « intermediate pipe - compressor » con- necting pipe bracket bolt on the compressor (8 N.m).
□ Refit the accessories belt (see Accessories belt: Removal) (11A, Top and front of engine).
☐ Consult the required refrigerant quantities before filling the circuit (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
☐ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Re-
frigerant circuit: Draining - Filling, page 62A-7) .
frigerant circuit: Draining - Filling, page 62A-7). In the event of replacement, apply the after repair
frigerant circuit: Draining - Filling, page 62A-7). In the event of replacement, apply the after repair procedure:
frigerant circuit: Draining - Filling, page 62A-7). In the event of replacement, apply the after repair procedure: - Switch on the ignition,

- Select the air recirculation position,

-Run the air conditioning in manual mode (in the

case of climate control do not press auto),

- Start the engine.

- Run the engine at idle speed for **3 minutes** with air conditioning,
- Switch off the engine.
- ☐ Check for leaks (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6).
- □ Check the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
- □ Refit:
 - the front right-hand wheel arch liner (see Front wheel arch liner: Removal - Refitting) (55A, Exterior protection),
 - the front right-hand wheel (see **Wheel: Removal Refitting**) (35A, Wheels and tyres).

Expansion valve: Removal - Refitting



K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

	Special tooling required
Car. 1363	Set of trim removal levers.

Equipment required

refrigerant charging station

Tightening torques ▽	
expansion valve bolts	6 Nm
bolt securing the bracket of the expansion valve - compressor connecting pipe on the expansion valve	8 N.m
bolt securing the bracket of the expansion valve - condenser connecting pipe on the expansion valve	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Always replace the expansion valve each time it is removed (After-Sales part kit).

Note:

Use blanking plugs for the fuel circuits with part no. 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

REMOVAL

I - REMOVAL PREPARATION OPERATION

□ Drain the coolant circuit (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7)

- Disconnect the battery (see Battery: Removal Refitting) (MR 415, 80A, Battery).
- □ Remove:
 - the front wiper arms (see Windscreen wiper arm: Removal - Refitting) (MR 415, 85A, Wiping - Washing).
 - the scuttle panel grille (see Scuttle panel grille: Removal - Refitting) (MR 416, 56A, Exterior equipment),
 - the scoop under the scuttle panel grille (see **Scoop** under the scuttle panel grille: Removal Refitting) (MR 416, 56A, Exterior equipment).
- Unclip the heat shield.

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

All damaged heat shields must be replaced.

Remove the heat shield.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

☐ Remove:

- the bolt securing the bracket of the expansion valve
 compressor connecting pipe on the expansion valve,
- the bolt securing the bracket of the expansion valve
 condenser connecting pipe on the expansion valve.

□ Disconnect:

- the expansion valve compressor connecting pipe on the expansion valve,
- the expansion valve condenser connecting pipe on the expansion valve.

☐ Remove:

- the expansion valve compressor connecting pipe on the expansion valve,
- the expansion valve condenser connecting pipe on the expansion valve.
- ☐ Insert the blanking plugs.

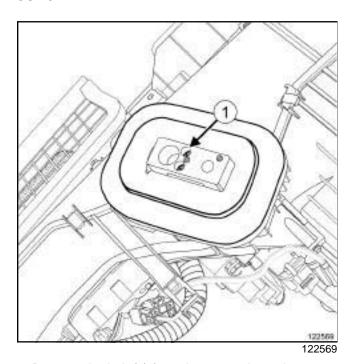
K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

☐ Unclip the high and low pressure refrigerant fluid connecting pipes from the four clips along the front wing and under the ABS unit.

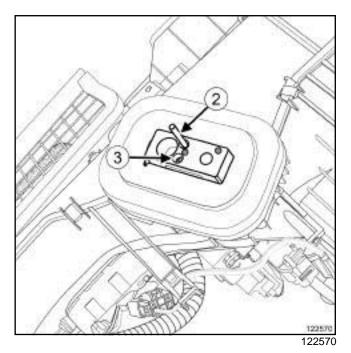
WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

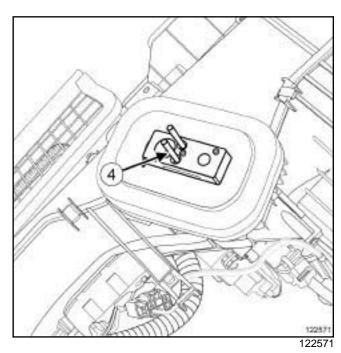
II - OPERATION FOR REMOVAL OF PART CONCERNED



☐ Remove the bolt (1) from the expansion valve.



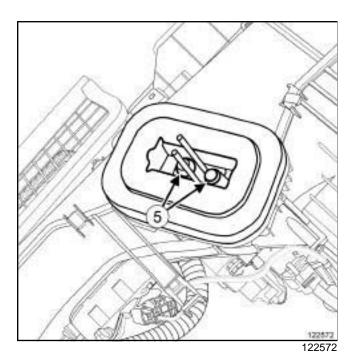
- ☐ Fit the first threaded rod (2) (M5 X 80, 80 mm long) in place of the bolt (1).
- ☐ Remove the bolt (3) from the expansion valve.



☐ Fit the second threaded rod (4) (M5 X 80, 80 mm long) in place of the bolt (2).



K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- □ Remove:
 - the expansion valve,
 - -the seals (5) of the refrigerant fluid connecting pipes.

REFITTING

I - REFITTING PREPARATION OPERATION

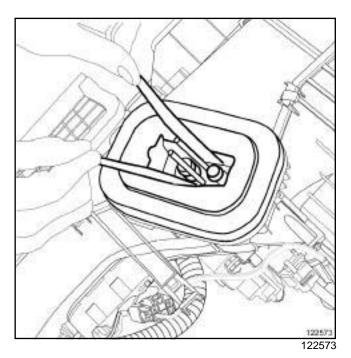
WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

Fit the new seals on the refrigerant fluid connecting pipes.

☐ Oil the seals using air conditioning oil to make fitting easier.

II - REFITTING OPERATION FOR PART CONCERNED

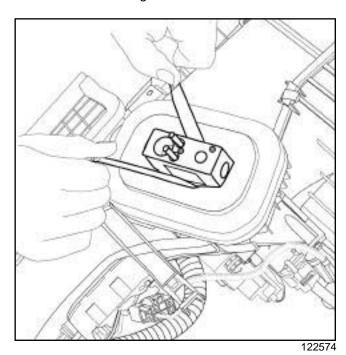


□ Position the (Car. 1363).

Note:

Do not damage the sealing foam seal.

☐ Remove the sealing foam seal.



Position the expansion valve on the threaded rods.

K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



Push on the expansion valve and pull on the threaded rods to fit the expansion valve on the evaporator connecting pipes.



- ☐ Remove the first threaded rod (2) (M5 X 80, 80 mm long).
- ☐ Refit the bolt corresponding to the expansion valve.



- □ Remove the second threaded rod (4) (M5 X 80, 80 mm long).
- ☐ Refit the bolt corresponding to the expansion valve.
- ☐ Remove the **(Car. 1363)**.
- ☐ Torque tighten the expansion valve bolts (6 Nm).

III - FINAL OPERATION.

☐ Remove the blanking plugs.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

Fit the new seals on the high and low pressure refrigerant fluid connecting pipes.

- ☐ Oil the seals using air conditioning oil to make fitting easier.
- ☐ Clip the high and low pressure refrigerant fluid connecting pipes into the four clips along the front wing and under the ABS unit.
- □ Fit
 - the expansion valve condenser connecting pipe on the expansion valve.
 - the expansion valve compressor connecting pipe on the expansion valve,

62A

K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

☐ Connect:	Refit the front wiper arms (see Windscreen wipe
 - the expansion valve - condenser connecting pipe on the expansion valve. 	arm: Removal - Refitting) (MR 415, 85A, Wiping Washing).
 the expansion valve - compressor connecting pipe on the expansion valve, 	
□ Refit:	
 the bolt securing the bracket of the expansion valve compressor connecting pipe on the expansion valve, 	
 the bolt securing the bracket of the expansion valve condenser connecting pipe on the expansion valve. 	
☐ Tighten to torque:	
-the bolt securing the bracket of the expansion valve - compressor connecting pipe on the expansion valve (8 N.m),	
 the bolt securing the bracket of the expansion valve - condenser connecting pipe on the ex- pansion valve (8 N.m). 	
□ Connect the battery (see Battery: Removal - Refitting) (MR 415, 80A, Battery).	
☐ Fill the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).	
☐ Position the (Car. 1363).	
☐ Check that there are no leaks using the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6).	
Note:	
To ensure that the check is performed correctly, bring the end of the sensor tool closer to the retaining bracket by moving aside the sealing foam seal using tool (Car. 1363).	
Remove the (Car. 1363).	
□ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).	
☐ Fit the heat shield.	
☐ Clip on the heat shield.	
□ Refit:	
- the scoop under the scuttle panel grille (see Scoop under the scuttle panel grille: Removal - Refitting) (MR 416, 56A, Exterior equipment).	
-the scuttle panel grille (see Scuttle panel grille: Removal - Refitting) (MR 416, 56A, Exterior	

equipment),

Expansion valve: Removal - Refitting



F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

	Special tooling required
Car. 1363	Set of trim removal levers.

Equipment required

refrigerant charging station

Tightening torques ▽	
expansion valve bolts	6 N.m
expansion valve - com- pressor connecting pipe bracket bolt on the expansion valve	8 N.m
expansion valve - con- denser connecting pipe bracket bolt on the expansion valve	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use plugs which have already been used to plug a fuel circuit.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Drain the coolant circuit (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7)
- □ Disconnect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).

□ Remove:

- the windscreen wiper arms (see Windscreen wiper arm: Removal Refitting) (MR 415, 85A, Wiping Washing),
- the scuttle panel grille (see Scuttle panel grille: Removal - Refitting) (MR 416, 56A, Exterior equipment),
- the scoop under the scuttle panel grille (see **Scoop** under the scuttle panel grille: Removal Refitting) (MR 416, 56A, Exterior equipment).

WARNING

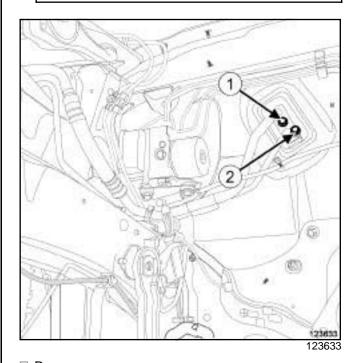
To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

All damaged heat shields must be replaced.

- Unclip the upper heat shield.
- ☐ Remove the upper heat shield.
- ☐ Unclip the lower heat shield.
- ☐ Move the lower heat shield to one side.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.



Remove:

- the bolt (1) for the expansion valve - compressor connecting pipe bracket on the expansion valve,

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

-the bolt (2) for the expansion valve - condenser connecting pipe bracket on the expansion valve.

☐ Disconnect:

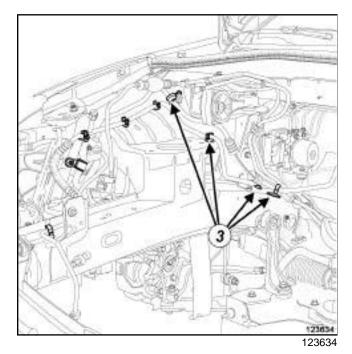
- the expansion valve compressor connecting pipe on the expansion valve,
- the expansion valve condenser connecting pipe on the expansion valve,

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

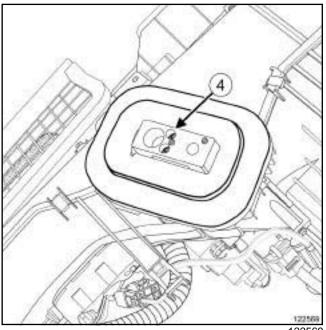
□ Remove:

- the expansion valve compressor connecting pipe from the expansion valve,
- -the expansion valve condenser connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.



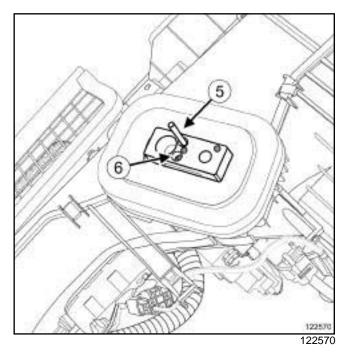
☐ Unclip the refrigerant low pressure and high pressure connecting pipes at (3).

II - OPERATION FOR REMOVAL OF PART CONCERNED



122569

☐ Remove the bolt (4) from the expansion valve.

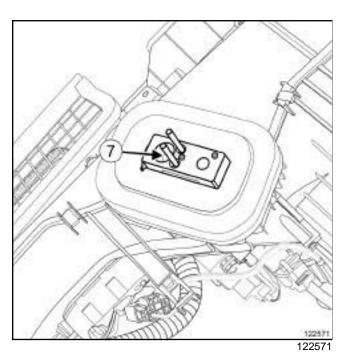


- □ Position the first threaded rod (5) M5 X 80 length = 80 mm in place of the bolt (4).
- ☐ Remove the bolt (6) from the expansion valve.

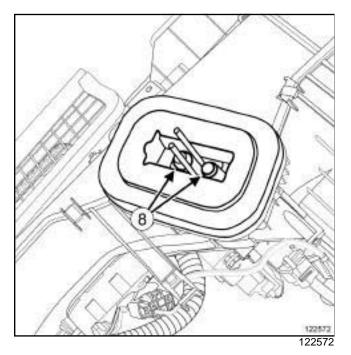
Expansion valve: Removal - Refitting



F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



□ Position the second threaded rod (7) M5 X 80 length = 80 mm in place of the bolt (6).



□ Remove:

- the expansion valve,
- the seals (8) of the refrigerant connecting pipes.

REFITTING

I - REFITTING PREPARATION OPERATION

WARNING

Do not remove the blanking plugs from each component until the last moment.

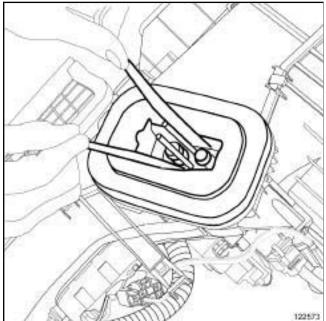
Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

Always replace:

- the expansion valve each time it is removed (aftersales part kit),
- the new expansion valve connecting pipe seals.

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - REFITTING OPERATION FOR PART CONCERNED



122573

WARNING

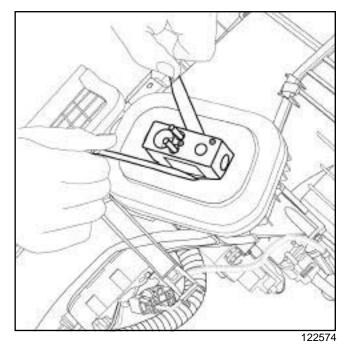
To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Fit new seals to the expansion valve connecting pipes.
- □ Oil the seals using air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Fit the (Car. 1363).

Note:

Do not damage the foam seals.

■ Move the foam seals to one side.



☐ Position the expansion valve on the threaded rods.



☐ Push the expansion valve and pull the threaded rods to fit the expansion valve to the evaporator connecting pipes.

Expansion valve: Removal - Refitting



F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- □ Remove the second threaded rod (7) M5 X 80 (length = 80 mm).
- ☐ Refit the bolt (6) on the expansion valve.



- □ Remove the first threaded rod (5) M5 X 80 (length = 80 mm).
- ☐ Refit the bolt (4) on the expansion valve.
- ☐ Remove the (Car. 1363).
- ☐ Torque tighten the expansion valve bolts (6 N.m).

III - FINAL OPERATION.

Remove the blanking plugs.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Fit new seals to the high pressure and low pressure refrigerant connecting pipes.
- ☐ Oil the seals using air conditioning oil to make fitting easier.
- ☐ Clip the high pressure and low pressure refrigerant connecting pipes to the four clips along the front wing and under the braking hydraulic unit.

☐ Fit:

- the expansion valve condenser connecting pipe on the expansion valve,
- the expansion valve compressor connecting pipe on the expansion valve.

□ Connect:

- the expansion valve condenser connecting pipe on the expansion valve,
- the expansion valve compressor connecting pipe on the expansion valve.

□ Refit:

- the expansion valve compressor connecting pipe bracket bolt on the expansion valve,
- the expansion valve condenser connecting pipe bracket bolt on the expansion valve.

☐ Torque tighten:

- the expansion valve compressor connecting pipe bracket bolt on the expansion valve (8 N.m),
- the expansion valve condenser connecting pipe bracket bolt on the expansion valve (8 N.m),
- □ Connect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- ☐ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).

62A

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

☐ Fit the (Car. 1363) .	
Note:	
To carry out the check correctly, place the end piece of the detector tool as close to the retaining bracket as possible by removing the foam seals using the (Car. 1363).	
Check there are no leaks using the electronic detector (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) .	
Remove the (Car. 1363).	
Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).	
Fit the lower heat shield.	
Clip on the lower heat shield.	
Refit the upper heat shield.	
Clip on the upper heat shield.	
Refit:	
- the scoop under the scuttle panel grille (see Scoop under the scuttle panel grille: Removal - Refitting) (MR 416, 56A, Exterior equipment).	
-the scuttle panel grille (see Scuttle panel grille: Removal - Refitting) (MR 416, 56A, Exterior equipment),	
- the windscreen wiper arms (see Windscreen wiper arm: Removal - Refitting) (MR 415, 85A, Wiping - Washing).	



V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

	Special tooling required
Car. 1363	Set of trim removal levers.

Tightening torques ▽	
expansion valve bolts	6 N.m
connecting pipe bracket bolt for the «expansion valve - intermediate pipe »	8 N.m
connecting pipe bracket bolt for the « condenser - expansion valve »	8 N.m

IMPORTANT

To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

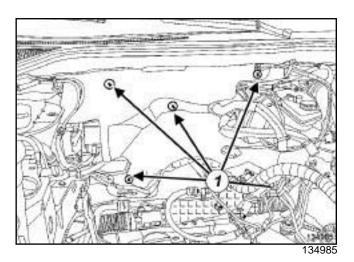
WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- □ Remove the engine and gearbox assembly (see Engine gearbox assembly: Removal Refitting) (10A, Engine and peripherals).



Unclip the heat shield.

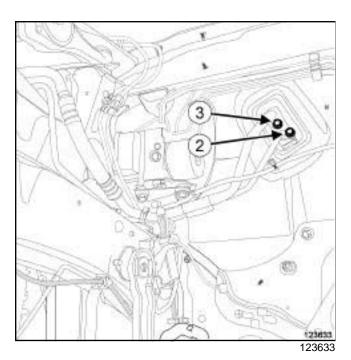
WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce, bend, etc.) a heat shield.

Any damaged heat shields must be replaced.

☐ Remove the heat shield.

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02



□ Remove:

- -the « condenser expansion valve » connecting pipe bracket bolt (2),
- -the « expansion valve intermediate pipe » connecting pipe bracket bolt (3) .

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

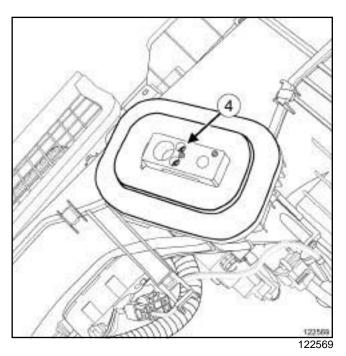
□ Disconnect:

- the « condenser expansion valve » connecting pipe from the expansion valve,
- -the « expansion valve intermediate pipe » connecting pipe from the expansion valve.
- ☐ Remove the connecting pipe seals.
- □ Insert the blanking plugs.

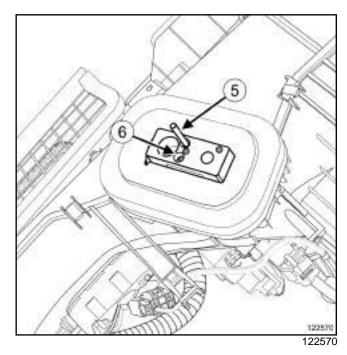
□ Remove:

- -the « condenser expansion valve » connecting pipe,
- -the « expansion valve intermediate pipe » connecting pipe.

II - OPERATION FOR REMOVAL OF PART CONCERNED



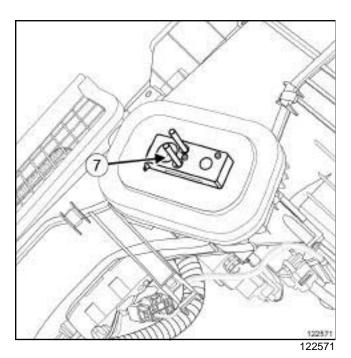
☐ Remove the bolt (4) from the expansion valve.



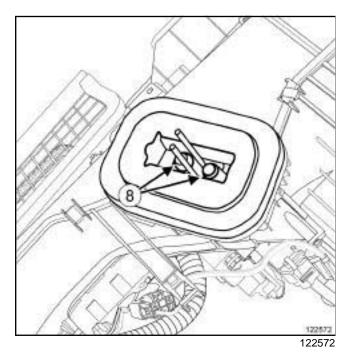
- □ Position the first threaded rod (5) M5 X 80 length = 80 mm in place of the bolt (4).
- ☐ Remove the bolt (6) from the expansion valve.

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- □ Position the second threaded rod (7) M5 X 80 length = 80 mm in place of the bolt (6).
- ☐ Remove the expansion valve.



□ Remove the seals (8) from the expansion valve connecting pipes.

REFITTING

I - REFITTING PREPARATION OPERATION

□ parts always to be replaced: refrigerant pipe seal (30,02,02,52).

□ parts always to be replaced: Expansion valve (30,02,02,07).

WARNING

Do not remove the blanking plugs from each component until the last moment.

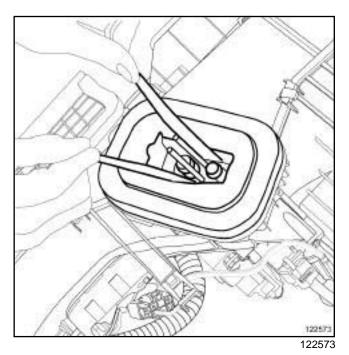
Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Remove the blanking plugs.
- □ Oil the seals using air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Fit new seals to the refrigerant connecting pipes.

II - REFITTING OPERATION FOR PART CONCERNED



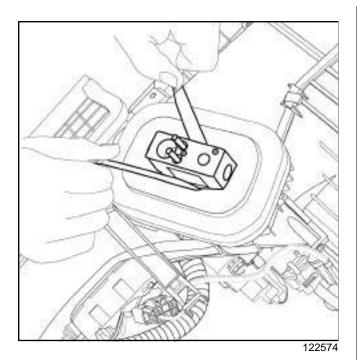
□ Position the (Car. 1363).

Note:

Do not damage the foam seals.

□ Remove the foam seal.

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02



Position the expansion valve on the threaded rods.



□ Push the expansion valve and pull the threaded rods to fit the expansion valve to the evaporator connecting pipes.



- □ Remove the first threaded rod (5) M5 X 80 length = 80 mm.
- ☐ Refit the corresponding bolt to the expansion valve.



- □ Remove the second threaded rod (7) M5 X 80 length = 80 mm.
- ☐ Refit the corresponding bolt to the expansion valve.
- ☐ Remove the tool (Car. 1363).
- ☐ Torque tighten the expansion valve bolts (6 N.m).

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

III - FINAL OPERATION ☐ Clip: -the « expansion valve - intermediate pipe » connecting pipe, -the « condenser - expansion valve » connecting pipe. □ Connect: -the « expansion valve - intermediate pipe » connecting pipe to the expansion valve, -the « condenser - expansion valve » connecting pipe to the expansion valve. □ Refit: -the « expansion valve - intermediate pipe » connecting pipe bracket bolt, -the « condenser - expansion valve » connecting pipe bracket bolt. ☐ Tighten to torque: -the connecting pipe bracket bolt for the « expansion valve - intermediate pipe» N.m), -the connecting pipe bracket bolt for the « condenser - expansion valve » (8 N.m). ☐ Refit the heat shield. Clip the heat shield. ☐ Refit the engine - gearbox assembly (see Engine gearbox assembly: Removal - Refitting) (10A, Engine and peripherals).

Evaporator: Removal - Refitting

62A

AIR CONDITIONING 01 or AIR CONDITIONING 02

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

The evaporator cannot be separated from the distribution unit.

☐ If removing or replacing the evaporator (see 61A, Heating, Distribution unit: Removal - Refitting, page 61A-5).

Evaporator: Cleaning

AIR CONDITIONING 01 or AIR CONDITIONING 02

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

C	LEANING
	Unclip the left trim from the centre console.
	Remove the evaporator sensor (see 62A , Air conditioning , Evaporator sensor: Removal - Refitting , page 62A-78) .
	Apply antibacterial cleaner (see Vehicle: Parts and consumables for the repair) (04B, Consumables - Products).
	Leave the product to work for 15 minutes.
	Refit the evaporator sensor (see 62A, Air conditioning, Evaporator sensor: Removal - Refitting, page 62A-78) .
	Clip the left trim onto the centre console.
	Activate the low speed motor-driven fan assembly for ${\bf 5}$ min.

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required
refrigerant charging station

T	
Tightening torques ♡	
bolt securing the bracket of the condenser - expansion valve con- necting pipe on the expansion valve	8 N .m
nut securing the bracket for the condenser - expansion valve con- necting pipe on the con- denser	8 N .m
engine tie-bar bolt on the body	115 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

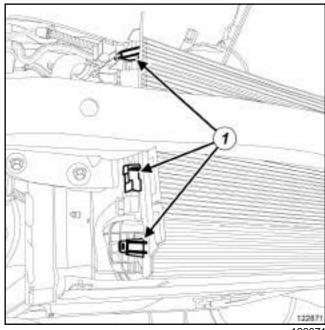
WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- ☐ Disconnect the battery (see Battery: Removal Refitting) (80A, Battery).
- ☐ Remove:
 - the engine undertray,
 - the front bumper (see Front bumper: Removal -Refitting) (55A, Exterior protection),
 - the right-hand headlight (see Headlight: Removal
 Refitting) (80B, Headlights).



122871

- \Box Unclip the front right-hand air deflector at (1) .
- Unclip the fuel hoses.

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

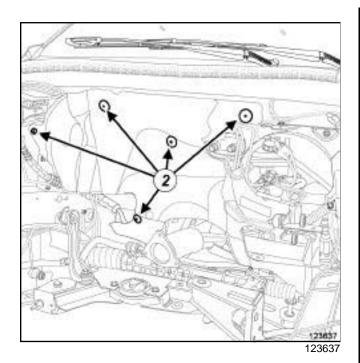
All damaged heat shields must be replaced.

- ☐ Remove the expansion bottle bolt.
- ☐ Remove the expansion bottle.

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



□ Remove:

- the heat shield clips (2),
- the heat shield partially.

K9K

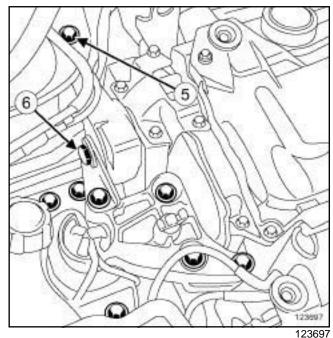


☐ Remove:

- the bolt (3) from the engine tie-bar on the body,
- the bolt (4) from the engine tie-bar on the cover,

- the engine tie-bar from the right-hand suspended engine mounting.

M9R



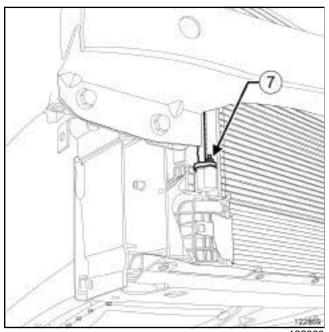
□ Remove:

- the bolt (5) from the engine tie-bar on the body,
- the bolt $(\mathbf{6})$ from the engine tie-bar on the cover,
- the engine tie-bar from the right-hand suspended engine mounting.

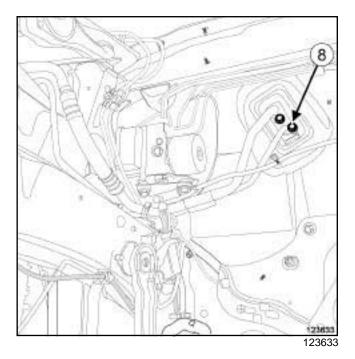
Condenser - expansion valve connecting pipe: Removal - Refitting

K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

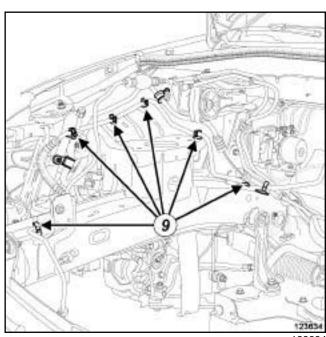
II - OPERATION FOR REMOVAL OF PART CONCERNED



- 122869
- □ Remove the nut (7) securing the bracket of the condenser expansion valve connecting pipe to the condenser.
- ☐ Disconnect the condenser expansion valve connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.



- □ Remove the bolt (8) securing the bracket for the condenser - expansion valve connecting pipe to the expansion valve.
- ☐ Disconnect the condenser expansion valve connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.



- 123634
- ☐ Unclip the condenser expansion valve connecting pipe at (9).
- □ Remove the condenser expansion valve connecting pipe.

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals on the refrigerant fluid connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle

□ Remove the blanking plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Fit the new seals on the refrigerant fluid connecting pipes.
- ☐ Lubricate the seals using air conditioning oil to make fitting easier.
- ☐ Refit the condenser expansion valve connecting pipe.
- ☐ Clip on the condenser expansion valve connecting pipe.
- ☐ Connect the condenser expansion valve connecting pipe to the expansion valve.
- ☐ Refit the bolt securing the bracket for the condenser expansion valve connecting pipe on the expansion valve.
- ☐ Connect the condenser expansion valve connecting pipe to the condenser.
- □ Refit the nut securing the bracket for the condenser - expansion valve connecting pipe on the condenser.
- ☐ Tighten to torque:
 - the bolt securing the bracket of the condenser expansion valve connecting pipe on the expansion valve (8 N.m),

 the nut securing the bracket for the condenser expansion valve connecting pipe on the condenser (8 N.m).

III - FINAL OPERATION.

K9K □ Refit: - the engine tie-bar to the right-hand suspended engine mounting, - the engine tie-bar bolt on the body, - the engine tie-bar bolt on the cover. ☐ Tighten the engine tie-bar bolt on the cover. ☐ Torque tighten the engine tie-bar bolt on the body (115 N.m). M9R ☐ Refit: - the engine tie-bar to the right-hand suspended engine mounting, - the engine tie-bar bolt on the body, - the engine tie-bar bolt on the cover. ☐ Tighten the engine tie-bar bolt on the cover. ☐ Torque tighten the engine tie-bar bolt on the body (115 N.m). ☐ Connect the battery (see Battery: Removal - Refitting) (80A, Battery). ☐ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Re-

☐ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).

to check that there are no leaks.

frigerant circuit: Draining - Filling, page 62A-7) .

☐ Use the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6)

- □ Refit:
 - the heat shield,
 - the heat shield clips.
- Position the expansion bottle.

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02		
☐ Refit the expansion bottle bolt.		
☐ Clip on the fuel hoses.		
☐ Clip on the front right-hand air deflector.		
□ Refit:		
 - the right-hand headlight (see Headlight: Removal - Refitting) (MR 415, 80B, Headlights), 		
-the front bumper (see Front bumper: Removal - Refitting) (MR 415, 55A, Exterior protection),		
- the engine undertray.		
☐ Adjust the headlights (see Headlight: Adjustment) (MR 415, 80B, Headlights).		

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

K4M or M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

bolt securing the bracket of the condenser expansion valve con-

necting pipe on the expansion valve

nut securing the bracket of the condenser expansion valve connecting pipe on the condenser 8 N.m

8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

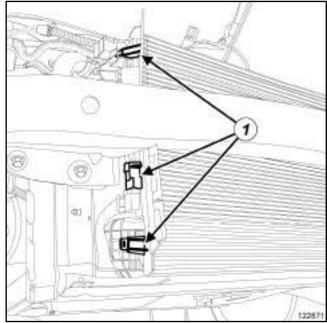
WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- □ Disconnect the battery (see **Battery**: **Removal Refitting**) (80A, Battery).
- □ Remove:
 - the engine undertray,
 - the front bumper (see Front bumper: Removal Refitting) (55A, Exterior protection),
 - the right-hand headlight (see **Headlight: Removal Refitting**) (80B, Headlights).



- 122871
- ☐ Unclip the front right-hand air deflector at (1).
- Unclip the fuel hoses.
- ☐ Remove the expansion bottle bolt.
- ☐ Remove the expansion bottle.

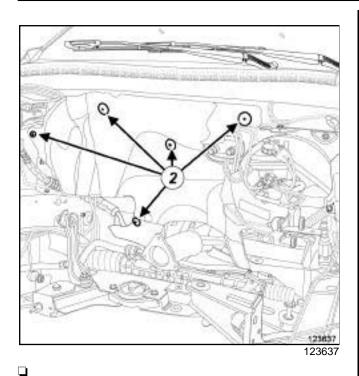
REMOVAL

I - REMOVAL PREPARATION OPERATION

☐ Position the vehicle on a two-post lift (see **Vehicle**: **Towing and lifting**) (02A, Lifting equipment).

Condenser - expansion valve connecting pipe: Removal - Refitting

K4M or M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



WARNING

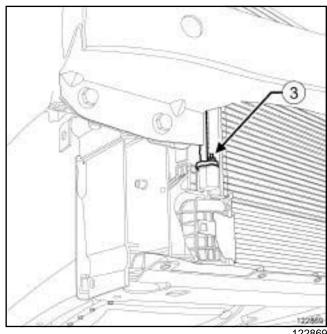
To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

All damaged heat shields must be replaced.

□ Remove:

- the heat shield clips (2),
- the heat shield partially.

II - OPERATION FOR REMOVAL OF PART CONCERNED

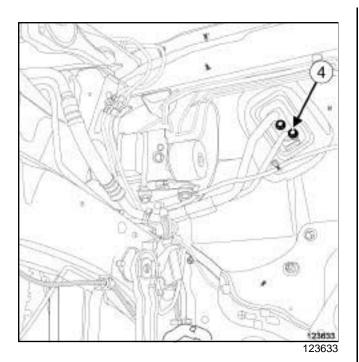


- ☐ Remove the nut (3) securing the bracket for the condenser - expansion valve connecting pipe on the condenser.
- □ Disconnect the condenser expansion valve connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.

Condenser - expansion valve connecting pipe: Removal - Refitting

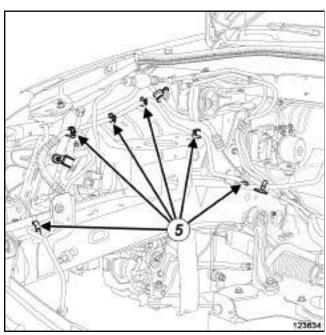
62A

K4M or M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- ☐ Remove the bolt (4) securing the bracket for the condenser expansion valve connecting pipe to the ex-
- ☐ Disconnect the condenser expansion valve connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.

pansion valve.



123634

- ☐ Unclip the condenser expansion valve connecting pipe at (5).
- □ Remove the condenser expansion valve connecting pipe.

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals of the condenser - expansion valve connecting pipe.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

☐ Remove the plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

☐ Lubricate the seals using air conditioning oil to make fitting easier.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Fit new seals onto the «condenser expansion valve » connecting pipes.
- ☐ Refit the condenser expansion valve connecting pipe.
- ☐ Clip on the condenser expansion valve connecting pipe.
- ☐ Connect:
 - the condenser expansion valve connecting pipe to the expansion valve,
 - the condenser expansion valve connecting pipe to the condenser.
- ☐ Tighten to torque:
 - the bolt securing the bracket of the condenser expansion valve connecting pipe on the expansion valve (8 N.m),
 - the nut securing the bracket of the condenser expansion valve connecting pipe on the condenser (8 N.m).

III - FINAL OPERATION.

□ Connect the battery (see Battery: Removal - Refitting) (80A, Battery).

62A

Condenser - expansion valve connecting pipe: Removal - Refitting

K4M or M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02 ☐ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7) . ☐ Use the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) to check that there are no leaks. □ Refit: - the heat shield, - the heat shield clips. Position the expansion bottle. ☐ Refit the expansion bottle bolt. Clip on the fuel hoses. ☐ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3). ☐ Clip on the front right-hand air deflector. □ Refit: - the right-hand headlight (see Headlight: Removal - Refitting) (80B, Headlights), -the front bumper (see Front bumper: Removal -Refitting) (55A, Exterior protection), - the engine undertray. ☐ Adjust the headlight beam (see **Headlight**: **Adjust-**

ment) (80B, Headlights).

Condenser - expansion valve connecting pipe: Removal - Refitting

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

refrigerant charging station

Tightening tor	ques 🗇
"condenser - expansion valve" connecting pipe bracket bolt on the expansion valve	8 Nm
nut for the "condenser - expansion valve" con- necting pipe bracket on the condenser	8 Nm

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use plugs which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

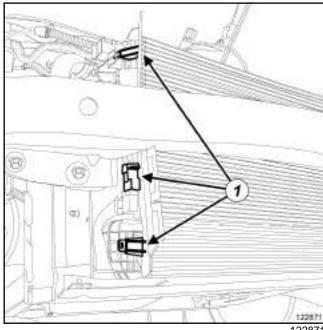
In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

☐ Position the vehicle on a two-post lift (see **Vehicle**: Towing and lifting) (MR 415, 02A, Lifting equipment).

- ☐ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).
- ☐ Disconnect the battery (see Battery: Removal Refitting) (MR 415, 80A, Battery).
- □ Remove:
 - the engine undertray,
 - the front bumper (see Front bumper: Removal -Refitting) (MR 415, 55A, Exterior protection),
 - the right-hand headlight (see Headlight: Removal - Refitting) (MR 415, 80B, Headlights).



- ☐ Unclip the right-hand front air deflector at (1).
- Detach the fuel hoses.
- ☐ Remove the expansion bottle bolt.
- ☐ Remove the expansion bottle.

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

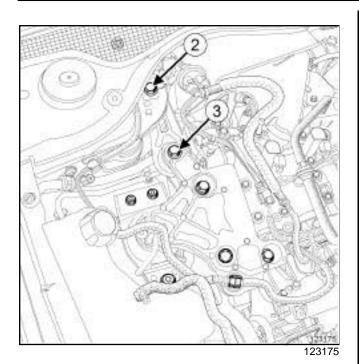
All damaged heat shields must be replaced.

□ Remove:

- the heat shield clips,
- the heat shield (partially).

Condenser - expansion valve connecting pipe: Removal - Refitting

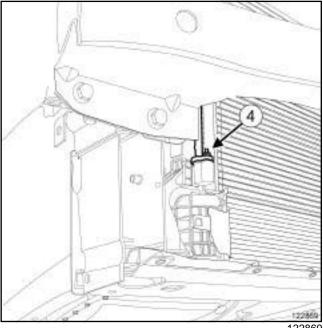
F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



□ Remove:

- the bolt (2) from the engine tie-bar on the body,
- the bolt (3) from the engine tie-bar on the cover,
- -the engine tie-bar from the right-hand suspended engine mounting.

II - REMOVAL OPERATION FOR PART CONCERNED



- ☐ Remove the nut (4) from the "condenser expansion valve" connecting pipe bracket on the condenser.
- ☐ Uncouple the "condenser expansion valve" connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.

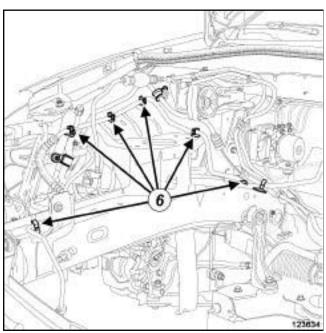
Condenser - expansion valve connecting pipe: Removal - Refitting

62A

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- ☐ Remove the bolt (5) from the "condenser expansion valve" connecting pipe bracket on the expansion valve.
- ☐ Uncouple the "condenser expansion valve" connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.



123634

- ☐ Unclip the "condenser expansion valve" connecting pipe at (6).
- ☐ Remove the "condenser expansion valve" connecting pipe.

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals for the refrigerant connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

□ Remove the blanking plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Fit new seals to the refrigerant connecting pipes.
- ☐ Lubricate the seals using the air conditioning oil to make fitting easier.
- ☐ Refit the "condenser expansion valve" connecting pipe.
- ☐ Clip on the "condenser expansion valve" connecting pipe.
- ☐ Couple the "condenser expansion valve" connecting pipe to the expansion valve.
- ☐ Refit the "condenser expansion valve" connecting pipe bracket bolt on the expansion valve.
- ☐ Couple the "condenser expansion valve" connecting pipe to the condenser.
- ☐ Refit the nut to the "condenser expansion valve" connecting pipe bracket on the condenser.
- ☐ Torque tighten:
 - the "condenser expansion valve" connecting pipe bracket bolt on the expansion valve (8 Nm),
 - the nut for the "condenser expansion valve" connecting pipe bracket on the condenser (8 Nm).

62

Condenser - expansion valve connecting pipe: Removal - Refitting

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

_	
Ш	- FINAL OPERATION.
	Connect the battery (see Battery: Removal - Refitting) (MR 415, 80A, Battery).
	Fill up the refrigerant circuit using the refrigerant charging station (see 62A , Air conditioning , Refrigerant circuit: Draining - Filling , page 62A-7).
	Check there are no leaks using the electronic detector (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6).
	Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
	Refit:
	- the engine tie-bar on the right-hand suspended engine mounting,
	- the bolt mounting the engine tie-bar on the body,
	- the bolt mounting the engine tie-bar on the cover,
	Tighten:
	- the bolt mounting the engine tie-bar on the cover,
	- the bolt mounting the engine tie-bar on the body,
	Refit:
	- the heat shield,
	- the heat shield clips.
	Position the expansion bottle.
	Refit the expansion bottle bolt.
	Clip on the fuel hoses.
	Clip on the right-hand front air deflector.
	Refit:
	 - the right-hand headlight (see Headlight: Removal - Refitting) (MR 415, 80B, Headlights),
	-the front bumper (see Front bumper: Removal - Refitting) (MR 415, 55A, Exterior protection),
	- the engine undertray.
	Adjust the headlights (see Headlight: Adjustment) (MR 415, 80B, Headlights).

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Tightening torques

« condenser - expansion valve » connecting pipe bracket bolt on the expansion valve

8 N.m

IMPORTANT

To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

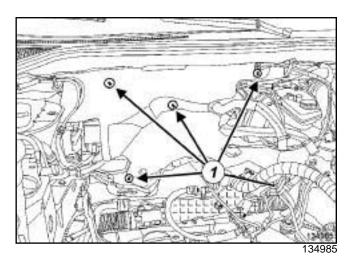
WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove the engine gearbox assembly (see Engine gearbox assembly: Removal Refitting) (10A, Engine gearbox assembly).



☐ Unclip the heat shield at (1).

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce, bend, etc.) a heat shield.

Any damaged heat shields must be replaced.

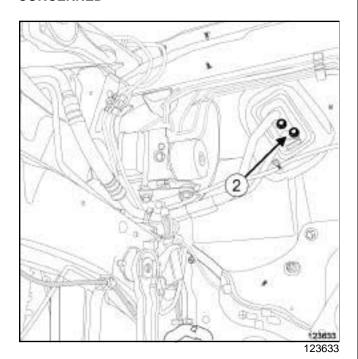
- □ Remove:
 - the heat shield,
 - the expansion bottle (see Expansion bottle: Removal Refitting) (19B, Cooling).

Condenser - expansion valve connecting pipe: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - OPERATION FOR REMOVAL OF PART CONCERNED

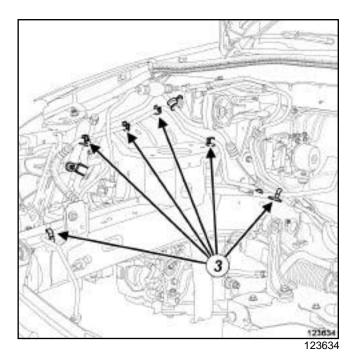


☐ Remove the bolt (2) from the « condenser - expansion valve » connecting pipe bracket on the expansion valve.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- ☐ Disconnect the «condenser expansion valve» connecting pipe from the expansion valve.
- ☐ Remove the seals from the « condenser expansion valve » connecting pipe.
- ☐ Insert the blanking plugs.



- ☐ Unclip the « condenser expansion valve » connecting pipe at (3).
- ☐ Remove the « condenser expansion valve » connecting pipe.

REFITTING

I - REFITTING PREPARATION OPERATION

□ parts always to be replaced: refrigerant pipe seal (30,02,02,52).

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Remove the blanking plugs.
- □ Oil the seals using air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Fit new seals on the refrigerant connecting pipes.

62A

Condenser - expansion valve connecting pipe: Removal - Refitting

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

	REFITTING OPERATION FOR PART ONCERNED
	Refit the « condenser - expansion valve » connecting pipe.
	Clip the « condenser - expansion valve » connecting pipe.
	Connect the « condenser - expansion valve » connecting pipe to the expansion valve.
	Refit the bolt for the «condenser - expansion valve» connecting pipe bracket on the expansion valve.
	Torque tighten the «condenser - expansion valve» connecting pipe bracket bolt on the expansion valve (8 N.m).
Ш	- FINAL OPERATION
	Refit:
	-the expansion bottle (see Expansion bottle: Removal - Refitting) (19B, Cooling),
	- the heat shield.
	Clip the heat shield.
	Refit the engine - gearbox assembly (see Engine - gearbox assembly: Removal - Refitting) (10A, Engine - gearbox assembly).

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required
refrigerant charging station

Tightening torques ▽	
bolt securing the bracket of the expansion valve - intermediate pipe connecting pipe to the expansion valve	8 N.m
nut securing the bracket of the intermediate pipe - compressor connect- ing pipe to the interme- diate pipe	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- □ Position the vehicle on a two-post lift (see Vehicle: Towing and lifting) (MR 415, 02A, Lifting equipment).
 □ Drain the refrigerent circuit using the refrigerent.
- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).
- □ Disconnect the battery (see Battery: Removal Refitting) (MR 415, 80A, Battery).
- ☐ Unclip the fuel hoses.
- ☐ Remove the expansion bottle bolt.
- ☐ Remove the expansion bottle.

WARNING

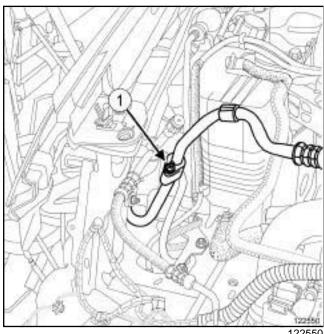
To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

All damaged heat shields must be replaced.

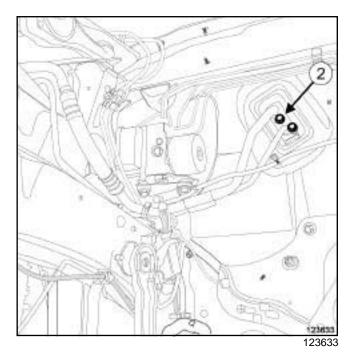
- □ Remove:
 - the heat shield clips,
 - the heat shield partially.

M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

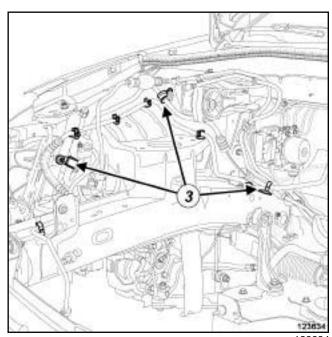
II - OPERATION FOR REMOVAL OF PART CONCERNED



- 12255
- □ Remove the nut (1) securing the bracket of the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Disconnect the intermediate pipe compressor connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.



- ☐ Remove the bolt (2) securing the bracket of the expansion valve intermediate pipe connecting pipe from the expansion valve.
- ☐ Disconnect the expansion valve intermediate pipe connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.



- 123634
- ☐ Unclip the expansion valve intermediate pipe connecting pipe at (3).
- ☐ Remove the expansion valve intermediate pipe connecting pipe.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting

62A

M4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals on the refrigerant fluid connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle

☐ Remove the plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Lubricate the seals using air conditioning oil to make fitting easier.
- ☐ Fit the new seals on the refrigerant fluid connecting pipes.
- ☐ Refit the expansion valve intermediate pipe connecting pipe.
- ☐ Clip on the expansion valve intermediate pipe connecting pipe.
- ☐ Connect the expansion valve intermediate pipe connecting pipe to the expansion valve.
- ☐ Refit the bolt securing the bracket of the expansion valve intermediate pipe connecting pipe to the expansion valve.
- ☐ Connect the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Refit the nut securing the bracket of the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Tighten to torque:
 - the bolt securing the bracket of the expansion valve intermediate pipe connecting pipe to the expansion valve (8 N.m),
 - the nut securing the bracket of the intermediate pipe compressor connecting pipe to the intermediate pipe (8 N.m).

III - FINAL OPERATION.

- □ Connect the battery (see **Battery**: **Removal Refitting**) (MR 415, 80A, Battery).
- ☐ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- ☐ Use the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) to check that there are no leaks.
- □ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
- ☐ Refit:
 - the heat shield,
 - the heat shield clips.
- Position the expansion bottle.
- ☐ Refit the expansion bottle bolt.
- ☐ Clip on the fuel hoses.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



K4M or K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required	
refrigerant charging station	

Tightening torques ♡	
bolt securing the bracket of the expansion valve - intermediate pipe con- necting pipe on the expansion valve	8 N.m
nut securing the bracket of the intermediate pipe - compressor connect- ing pipe on the interme- diate pipe	8 N.m
engine tie-bar bolt on the body	115 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

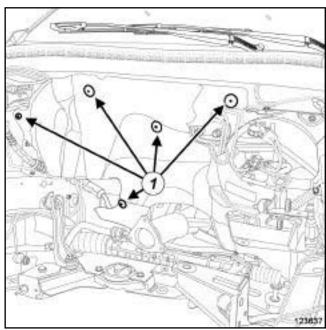
WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- □ Position the vehicle on a two-post lift (see Vehicle: Towing and lifting) (MR 415, 02A, Lifting equipment).
- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- □ Disconnect the battery (see **Battery**: **Removal Refitting**) (MR 415, 80A, Battery).
- ☐ Unclip the fuel hoses.
- ☐ Remove the expansion bottle bolt.
- ☐ Remove the expansion bottle.



123637

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

All damaged heat shields must be replaced.

□ Remove:

- the clips on the heat shield at (1),
- the heat shield partially.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



K4M or K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

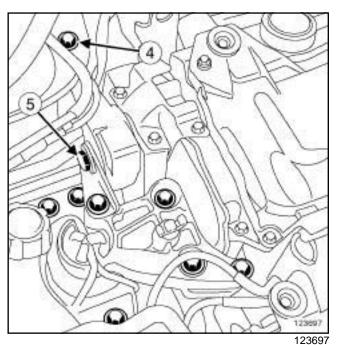
K9K



☐ Remove:

- the bolt (2) from the engine tie-bar on the body,
- the bolt (3) from the engine tie-bar on the cover,
- the engine tie-bar from the right-hand suspended engine mounting.

M9R

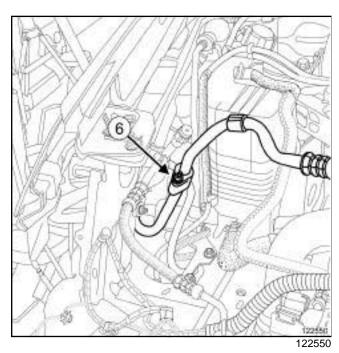


□ Remove:

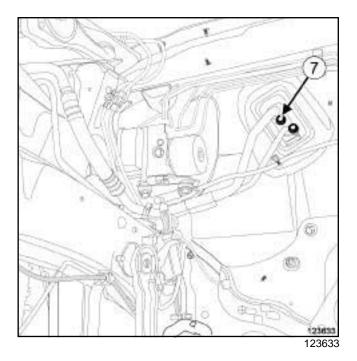
- the bolt (4) from the engine tie-bar on the body,
- the bolt (5) from the engine tie-bar on the cover,
- the engine tie-bar from the right-hand suspended engine mounting.

K4M or K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

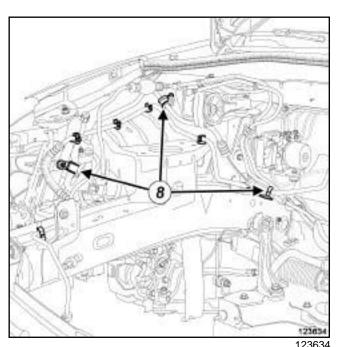
II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Remove the nut (6) securing the bracket of the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Disconnect the intermediate pipe compressor connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.



- ☐ Remove the bolt (7) securing the bracket for the expansion valve intermediate pipe connecting pipe to the expansion valve.
- ☐ Disconnect the expansion valve intermediate pipe connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.



- 120004
- ☐ Unclip the expansion valve intermediate pipe connecting pipe at (8).
- ☐ Remove the expansion valve intermediate pipe connecting pipe.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting

62A

K4M or K9K or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals on the refrigerant fluid connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

☐ Remove the plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Lubricate the seals using air conditioning oil to make fitting easier.
- ☐ Fit the new seals on the refrigerant fluid connecting pipes.
- ☐ Refit the expansion valve intermediate pipe connecting pipe.
- ☐ Clip on the expansion valve intermediate pipe connecting pipe.
- ☐ Connect the expansion valve intermediate pipe connecting pipe to the expansion valve.
- ☐ Refit the bolt securing the bracket of the expansion valve intermediate pipe connecting pipe to the expansion valve.
- ☐ Connect the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Refit the nut securing the bracket of the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Tighten to torque:
 - -the bolt securing the bracket of the expansion valve intermediate pipe connecting pipe on the expansion valve (8 N.m),
 - the nut securing the bracket of the intermediate pipe - compressor connecting pipe on the intermediate pipe (8 N.m).

III - FINAL OPERATION.

K9K	
□ Refit:	
	tio har to the right hand avenanded on
gine mounti	tie-bar to the right-hand suspended en- ing,
- the engine t	tie-bar bolt on the body,
- the engine t	tie-bar bolt on the cover.
☐ Tighten the e	engine tie-bar bolt on the cover.
☐ Torque tighte (115 N.m).	en the engine tie-bar bolt on the body
M9R	
■ Refit:	
- the engine	tie-bar to the right-hand suspended en- ing,
- the engine t	tie-bar bolt on the body,
- the engine	tie-bar bolt on the cover.
☐ Tighten the e	engine tie-bar bolt on the cover.
	en the right-hand suspended engine ngine tie-bar bolt on the body (115
	battery (see Battery: Removal - Refit- 5, 80A, Battery).
charging sta	efrigerant circuit using the refrigerant ation (see 62A, Air conditioning, Re- cuit: Draining - Filling, page 62A-7).
tioning, Ref	ctronic sensor (see 62A, Air condi- frigerant circuit: Check, page 62A-6) there are no leaks.
correctly (se	he air conditioning system is operating ee 62A, Air conditioning, Air condieck, page 62A-3).
☐ Refit:	
- the heat shi	ield,
- the heat shi	ield clips.
	expansion bottle.
	ansion bottle bolt.

Clip on the fuel hoses.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required refrigerant charging station

Tightening torques	$\overline{\mathcal{D}}$
bolt securing the bracket for the expansion valve - intermediate pipe con- necting pipe to the expansion valve	8 N.m
nut securing the bracket for the intermediate pipe - compressor connect- ing pipe to the interme- diate pipe	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

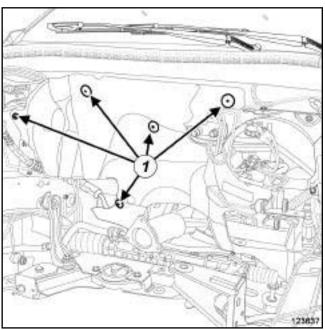
WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- □ Position the vehicle on a two-post lift (see Vehicle: Towing and lifting) (MR 415, 02A, Lifting equipment).
- ☐ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- □ Disconnect the battery (see Battery: Removal Refitting) (MR 415, 80A, Battery).
- ☐ Unclip the fuel hoses.
- ☐ Remove the expansion bottle bolt.
- ☐ Remove the expansion bottle



123637

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce bend etc.) a heat shield.

All damaged heat shields must be replaced.

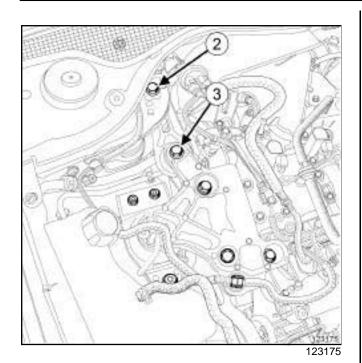
□ Remove:

- the heat shield clips (1),
- the heat shield partially.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



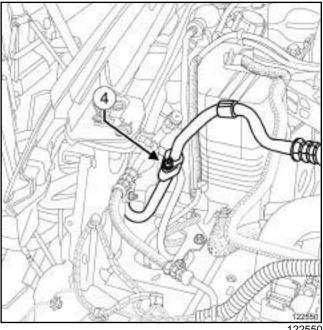
F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



□ Remove:

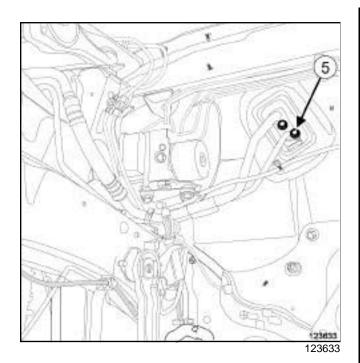
- the bolt (2) from the engine tie-bar on the body,
- the bolt (3) from the engine tie-bar on the cover,
- the engine tie-bar from the right-hand suspended engine mounting.

II - OPERATION FOR REMOVAL OF PART CONCERNED

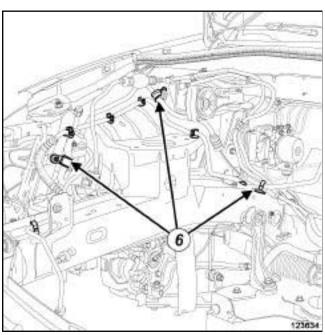


- 122330
- □ Remove the nut (4) securing the bracket for the intermediate pipe compressor connecting pipe on the intermediate pipe.
- ☐ Disconnect the intermediate pipe compressor connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- ☐ Remove the bolt (5) securing the bracket of the expansion valve - intermediate pipe connecting pipe to the expansion valve.
- ☐ Disconnect the expansion valve intermediate pipe connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.



- ☐ Unclip the expansion valve intermediate pipe connecting pipe at (6).
- ☐ Remove the expansion valve intermediate pipe connecting pipe.

REFITTING

I - REFITTING PREPARATION OPERATION

☐ Always replace the seals on the refrigerant fluid connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

☐ Remove the plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

 \Box

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Lubricate the seals using air conditioning oil to make fitting easier.
- ☐ Fit the new seals on the refrigerant fluid connecting pipes.
- ☐ Refit the expansion valve intermediate pipe connecting pipe.
- ☐ Clip on the expansion valve intermediate pipe connecting pipe.
- ☐ Connect the expansion valve intermediate pipe connecting pipe to the expansion valve.
- ☐ Refit the bolt securing the expansion valve intermediate pipe connecting pipe to the expansion valve.
- □ Connect the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Refit the nut securing the bracket for the intermediate pipe - compressor connecting pipe to the intermediate pipe.
- ☐ Tighten to torque:
 - the bolt securing the bracket for the expansion valve - intermediate pipe connecting pipe to the expansion valve (8 N.m),
 - the nut securing the bracket for the intermediate pipe - compressor connecting pipe to the intermediate pipe (8 N.m).

62A

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting

F4R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Ш	- FINAL OPERATION.
	Connect the battery (see Battery: Removal - Refitting) (MR 415, 80A, Battery).
	Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).
	Use the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) to check that there are no leaks.
	Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).
	Refit:
	- the engine tie-bar to the right-hand suspended engine mounting,
	- the engine tie-bar bolt on the body,
	- the engine tie-bar bolt on the cover.
	Tighten:
	- the engine tie-bar bolt on the cover,
	- the engine tie-bar bolt on the body.
	Refit:
	- the heat shield,
	- the heat shield clips.
	Position the expansion bottle.
	Refit the expansion bottle bolt.
	Clip on the fuel hoses.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Tightening torques ♡	
bolt for the «expansion valve - intermediate pipe » connecting pipe bracket on the intermediate pipe	8 N.m
« expansion valve - intermediate pipe » con- necting pipe bracket bolt on the expansion valve	8 N.m

IMPORTANT

To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

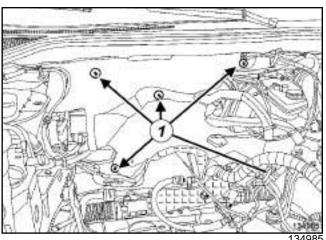
WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle**: Towing and lifting) (02A, Lifting equipment).
- ☐ Remove the engine gearbox assembly (see Engine - gearbox assembly: Removal - Refitting) (10A, Engine - gearbox assembly).



☐ Unclip the heat shield at (1).

WARNING

To prevent the surrounding components from overheating, do not damage (tear, pierce, bend, etc.) a heat shield.

Any damaged heat shields must be replaced.

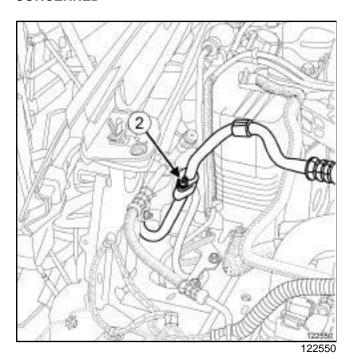
- □ Remove:
 - the heat shield,
 - the expansion bottle (see Expansion bottle: Removal - Refitting) (19B, Cooling).

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting



V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - OPERATION FOR REMOVAL OF PART CONCERNED

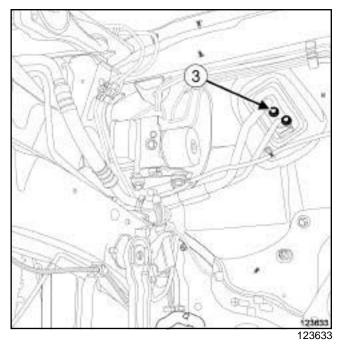


☐ Remove the nut (2) from the « expansion valve - intermediate pipe » connecting pipe bracket on the intermediate pipe.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- ☐ Disconnect the «expansion valve intermediate pipe » connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.



☐ Remove the bolt (3) from the « expansion valve - intermediate pipe » connecting pipe bracket on the expansion valve.

WARNING

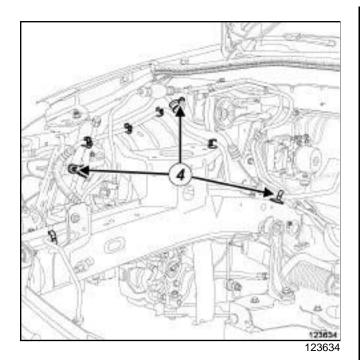
In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- ☐ Disconnect the « expansion valve intermediate pipe » connecting pipe from the expansion valve.
- ☐ Insert the blanking plugs.

Expansion valve - intermediate pipe connecting pipe at the expansion valve outlet: Removal - Refitting

62A

V4Y or V9X, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- ☐ Unclip the « expansion valve intermediate pipe » connecting pipe at (4).
- □ Remove:
 - -the « expansion valve intermediate pipe » connecting pipe,
 - -the « expansion valve intermediate pipe » connecting pipe seals.

REFITTING

I - REFITTING PREPARATION OPERATION

□ parts always to be replaced: refrigerant pipe seal (30,02,02,52).

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

□ Remove the blanking plugs.

- □ Oil the seals using air conditioning oil to make fitting easier (see 62A, Air conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2).
- ☐ Fit new seals to the refrigerant connecting pipes.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the « expansion valve intermediate pipe » connecting pipe.
- ☐ Clip the « condenser expansion valve » connecting pipe
- ☐ Connect the « expansion valve intermediate pipe » connecting pipe to the intermediate pipe.
- ☐ Refit the bolt from the « expansion valve intermediate pipe » connecting pipe bracket on the intermediate pipe.
- ☐ Connect the « expansion valve intermediate pipe » connecting pipe to the expansion valve.
- ☐ Refit the bolt from the « expansion valve intermediate pipe » connecting pipe bracket on the expansion valve.
- ☐ Tighten to torque:
 - the bolt for the « expansion valve intermediate pipe » connecting pipe bracket on the intermediate pipe (8 N.m),
 - the « expansion valve intermediate pipe» connecting pipe bracket bolt on the expansion valve (8 N.m).

III - FINAL OPERATION

- □ Refit:
 - the expansion bottle (see Expansion bottle: Removal Refitting) (19B, Cooling),
 - the heat shield.
- ☐ Clip the heat shield.
- □ Refit the engine gearbox assembly (see Engine gearbox assembly: Removal Refitting) (10A, Engine gearbox assembly).

AIR CONDITIONING Pressure sensor: Removal - Refitting

62A

AIR CONDITIONING 01 or AIR CONDITIONING 02

Tightening torques	
pressure sensor	9 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

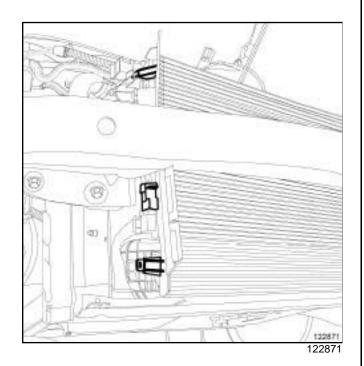
Note:

An automatic shut-off valve isolates the circuit from the outside during removal; do not drain the refrigerant from the circuit.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 415, 02A, Lifting equipment).
- □ Remove the front bumper (see Front bumper: Removal Refitting) (MR 416, 55A, Exterior protection).



☐ Remove the right-hand air deflector.

II - REMOVAL OPERATION FOR PART CONCERNED

- ☐ Disconnect the pressure sensor connector.
- ☐ Remove the pressure sensor.

III - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the pressure sensor.
- ☐ Torque tighten the **pressure sensor (9 N.m)**.
- ☐ Connect the pressure sensor.

IV - FINAL OPERATION.

- ☐ Refit the right-hand air deflector.
- □ Refit the front bumper (see Front bumper: Removal Refitting) (MR 416, 55A, Exterior protection).

Evaporator sensor: Removal - Refitting



AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

IMPORTANT

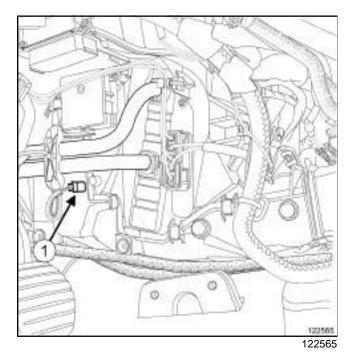
Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

REMOVAL

I - REMOVAL PREPARATION OPERATION

☐ Unclip the left trim from the centre console.

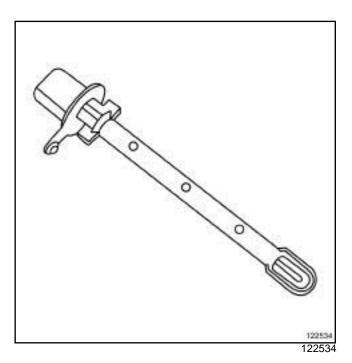
II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Disconnect the evaporator sensor connector. (1)
- ☐ Remove the evaporator sensor by rotating it a quarter of a turn.
- ☐ Remove the evaporator sensor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED



- □ Refit the evaporator sensor in its housing (2) .
- ☐ Fit the evaporator sensor by rotating it a quarter of a turn.
- ☐ Connect the evaporator sensor connector.

II - FINAL OPERATION.

☐ Clip the left trim onto the centre console.

Evaporator sensor: Removal - Refitting

62A

AIR CONDITIONING 01 or AIR CONDITIONING 02

- ☐ Apply the after repair procedure using the **Diagnostic tool**:
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - select "Evaporator sensor" in the "List of components controlled by this computer" section,
 - carry out the operations described in the "After repair procedure" section.

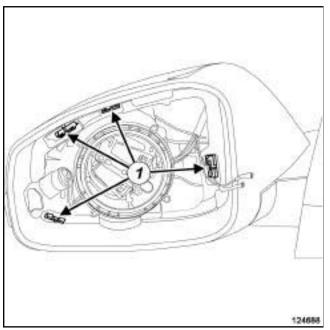
Exterior air temperature sensor: Removal - Refitting



REMOVAL

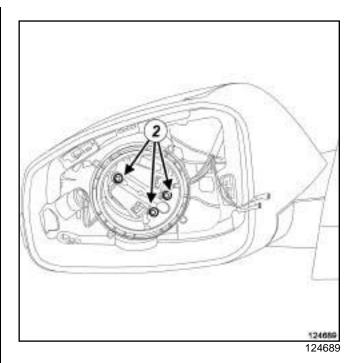
I - REMOVAL PREPARATION OPERATION

- □ Remove:
 - the right-hand door mirror glass (see Door mirror glass: Removal - Refitting) (MR 416, 56A, Exterior equipment),
 - the right-hand door mirror cover (see **Door mirror** casing: Removal Refitting) (MR 416, 56A, Exterior equipment).



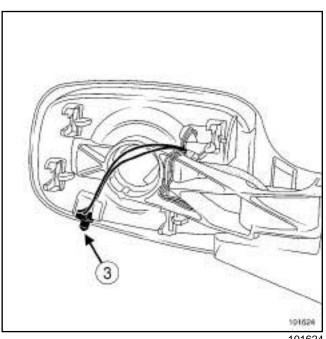
124688

☐ Unclip the right-hand door mirror trim piece by pressing on the lugs (1).



- ☐ Remove the bolts (2) from the electric motor.
- ☐ Disconnect the electric motor connector.
- ☐ Remove the electric motor.

II - OPERATION FOR REMOVAL OF PART CONCERNED



101624

- ☐ Unclip the external air temperature sensor (3) from its support.
- □ Remove the exterior air temperature sensor (see Wiring: Repair) (Technical Note 6015A, 88A, Wiring).

62A

Exterior air temperature sensor: Removal - Refitting

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the exterior air temperature sensor (see Wiring: Repair) (Technical Note 6015A, 88A, Wiring).
- ☐ Clip the external air temperature sensor onto its support.

II - FINAL OPERATION

- ☐ Connect the electric motor connector.
- ☐ Refit:
 - the electric motor,
 - the electric motor bolts.
- ☐ Clip the right-hand door mirror trim piece.
- □ Refit:
 - the right-hand door mirror cover (see **Door mirror** casing: Removal Refitting) (MR 416, 56A, Exterior equipment),
 - the right-hand door mirror glass (see Door mirror glass: Removal - Refitting) (MR 416, 56A, Exterior equipment).

Compressor - condenser connecting pipe: Removal - Refitting

62A

F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required refrigerant charging station

	Tightening torques ▽	
	bolt securing the bracket of the compressor - con- denser connecting pipe to the compressor	8 N.m
•	nut securing the bracket of the compressor - con- denser connecting pipe to the condenser	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

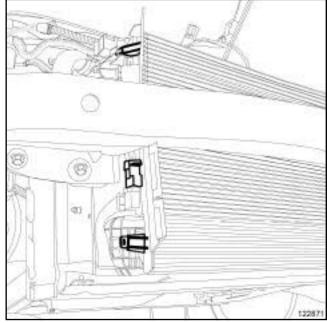
In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

□ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 415, 02A, Lifting equipment).

- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- ☐ Remove the engine undertray.
- □ Disconnect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- □ Remove:
 - the front bumper (see **Front bumper: Removal Refitting**) (MR 416, 55A, Exterior protection),
 - the right-hand headlight (see Headlight: Removal
 Refitting) (MR 415, 80B, Headlights).



122871

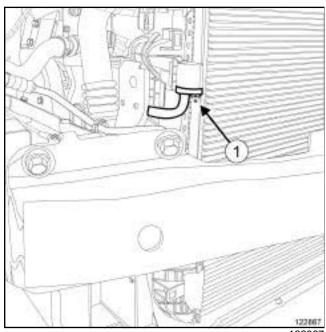
☐ Unclip the front right-hand air deflector.

Compressor - condenser connecting pipe: Removal - Refitting

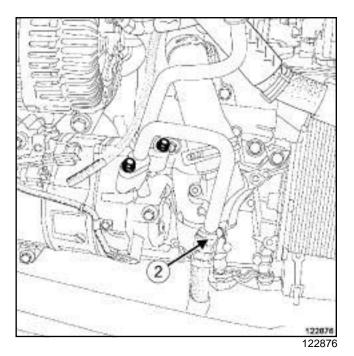


F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

II - OPERATION FOR REMOVAL OF PART CONCERNED



- 122867
- □ Remove the nut (1) securing the bracket of the compressor condenser connecting pipe from the condenser.
- ☐ Disconnect the condenser compressor connecting pipe from the condenser.
- ☐ Insert the blanking plugs.



☐ Remove the bolt (2) securing the bracket for the compressor - condenser connecting pipe from the compressor.

Disconnect the compressor - condenser connecting pipe from the compressor.

- ☐ Insert the blanking plugs.
- ☐ Remove the compressor condenser connecting pipe from underneath.

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals on the refrigerant fluid connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

☐ Remove the plugs from the cold loop openings.

62A

Compressor - condenser connecting pipe: Removal - Refitting

F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02 **II - REFITTING OPERATION FOR PART** ☐ Refit the engine undertray. **CONCERNED** ☐ Adjust the headlights (see **Headlight: Adjustment**) (MR 415, 80B, Headlights). WARNING To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free. ☐ Lubricate the seals using air conditioning oil to make fitting easier. ☐ Fit the new seals on the refrigerant fluid connecting pipes. ☐ Refit the compressor - condenser connecting pipe. ☐ Connect the compressor - condenser connecting pipe to the compressor. ☐ Refit the bolt securing the bracket of the compressor - condenser connecting pipe to the compressor. ☐ Connect the compressor - condenser connecting pipe to the condenser. ☐ Refit the nut securing the bracket of the compressor - condenser connecting pipe to the condenser. ☐ Tighten to torque: - the bolt securing the bracket of the compressor - condenser connecting pipe to the compressor (8 N.m), - the **nut securing the bracket of the compressor** - condenser connecting pipe to the condenser (8 N.m). **III - FINAL OPERATION.** ☐ Connect the battery (see Battery: Removal - Refitting) (MR 415, 80A, Battery). ☐ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7) . ☐ Use the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) to check that there are no leaks. ☐ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3). ☐ Clip on the front right-hand air deflector. □ Refit: - the right-hand headlight (see Headlight: Removal - Refitting) (MR 415, 80B, Headlights),

- the front bumper (see **Front bumper: Removal - Refitting**) (MR 416, 55A, Exterior protection).

Compressor - condenser connecting pipe: Removal - Refitting

62A

V4Y or V9X

Equipment required

refrigerant charging station

Tightening torques « compressor - 8 N.m condenser» connecting pipe bracket nut on the compressor - 8 N.m condenser» connecting pipe bracket nut on the condenser connecting pipe bracket nut on the condenser

IMPORTANT

To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

REMOVAL

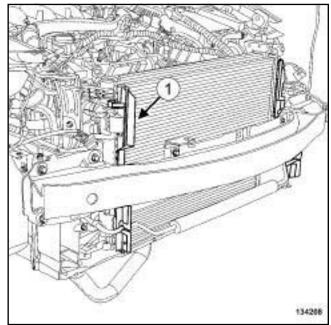
I - REMOVAL PREPARATION OPERATION

☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).

WARNING

Consult the device's operating manual to avoid incorrect use.

- □ Drain the coolant circuit refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- ☐ Remove the engine undertray.
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- □ Remove:
 - the front bumper (see **Front bumper: Removal Refitting**) (55A, Exterior protection),
 - the right-hand headlight (see Headlight: Removal
 Refitting) (80B, Headlights).



134208

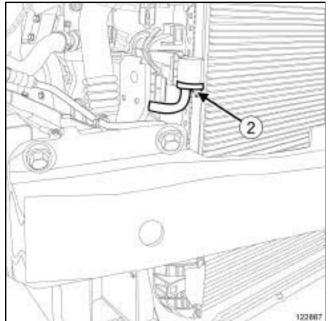
☐ Unclip the front right-hand air deflector (1).

Compressor - condenser connecting pipe: Removal - Refitting

62A

V4Y or V9X

II - OPERATION FOR REMOVAL OF PART CONCERNED



12286

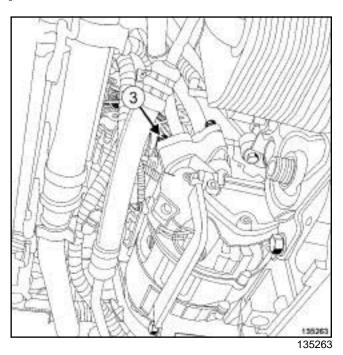
□ Remove the nut (2) from the «compressor condenser» connecting pipe bracket on the condenser.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- ☐ Disconnect the «compressor condenser» connecting pipe from the condenser.
- ☐ Insert the blanking plugs.

V9X



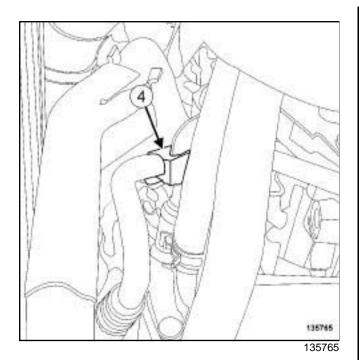
□ Remove the bolt (3) securing the bracket for the « compressor - condenser » connecting pipe to the compressor.

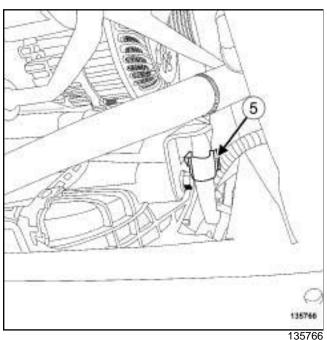
WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

☐ Disconnect the « compressor - condenser » connecting pipe from the compressor.

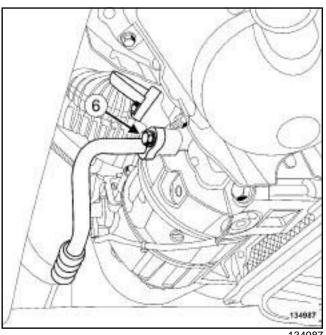
V4Y or V9X





☐ Unclip the connecting pipe at (4) and (5).

V4Y



134987

□ Remove the bolt (6) securing the bracket for the « compressor - condenser » connecting pipe to the compressor.

WARNING

In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

- □ Disconnect the «compressor condenser» connecting pipe from the compressor.
- □ Remove the « compressor condenser » connecting pipe.
- □ Remove the « compressor condenser » connecting pipe seals.
- ☐ Insert the blanking plugs.

REFITTING

- I REFITTING PREPARATION OPERATION
- ☐ parts always to be replaced: refrigerant pipe seal (30,02,02,52).

AIR CONDITIONING

62A

Compressor - condenser connecting pipe: Removal - Refitting V4Y or V9X **III - FINAL OPERATION** ☐ Unclip the right-hand front air deflector. **WARNING** Do not remove the blanking plugs from each ☐ Connect the battery (see Battery: Removal - Refitcomponent until the last moment. ting) (80A, Battery). ☐ Consult the amount of refrigerant and oil required Also, do not remove the components from their packaging until they are to be fitted to the vehibefore filling the refrigerant circuit (see 62A, Air conditioning, Air conditioning: Parts and concle. sumables for the repair, page 62A-2). ☐ Perform the following operations: **WARNING** - refill the refrigerant circuit using the refrigerant To avoid any leaks, check that the pipe surface is charging station (see 62A, Air conditioning, Resound before positioning the new seal. The surfrigerant circuit: Draining - Filling, page 62A-7), face must be clean and scratch free. - a leakage test (see 62A, Air conditioning, Refrig-☐ Remove the blanking plugs. erant circuit: Check, page 62A-6). ☐ Check the air conditioning system is operating cor-☐ Lubricate the new seals using recommended air rectly (see 62A, Air conditioning, Air conditionconditioning oil to make fitting easier (see 62A, Air ing: Check, page 62A-3). conditioning, Air conditioning: Parts and consumables for the repair, page 62A-2). □ Refit: ☐ Fit the new seals on the « compressor - condenser » - the right-hand headlight (see Headlight: Removal connecting pipe. - Refitting) (80B, Headlights), - the front bumper (see Front bumper: Removal -Refitting) (55A, Exterior protection). II - REFITTING OPERATION FOR PART **CONCERNED** ☐ Refit the engine undertray. □ Refit the «compressor - condenser» connecting pipe. ☐ Connect the « compressor - condenser » connecting pipe: - to the compressor, - to the condenser. ☐ Refit the nut to the « compressor - condenser » connecting pipe bracket: - on the condenser, - on the compressor. ☐ Tighten to torque: -the « compressor - condenser » connecting pipe bracket nut on the compressor (8 N.m), -the « compressor - condenser » connecting pipe bracket nut on the condenser (8 N.m). V9X ☐ Clip on the « compressor - condenser » connecting pipe.

Compressor - intermediate pipe connecting pipe: Removal - Refitting



F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required
refrigerant charging station

_		
I	Tightening torques	
	bolt securing the bracket of the intermediate pipe - compressor connect- ing pipe to the compres- sor	8 N.m
	nut securing the bracket of the intermediate pipe - compressor connect- ing pipe to the interme- diate pipe	8 N.m

IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

Note:

Use blanking plugs for the fuel circuits with part numbers 77 01 208 229 or 77 01 476 857 to plug any openings exposed to the open air. They must be clean. Do not use any which have already been used to plug a fuel circuit.

WARNING

To prevent moisture from entering the system, place plugs on the cold loop components which are open to the air.

WARNING

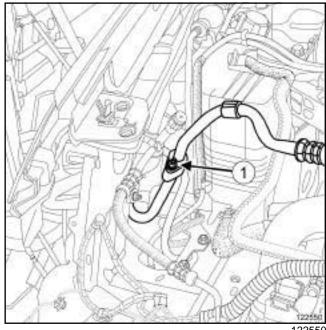
In order to avoid any refrigerant leaks, do not damage (deform, twist, etc.) the pipe.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- □ Position the vehicle on a two-post lift (see Vehicle: Towing and lifting) (MR 415, 02A, Lifting equipment).
- □ Drain the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining Filling, page 62A-7).
- □ Disconnect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).

II - OPERATION FOR REMOVAL OF PART CONCERNED

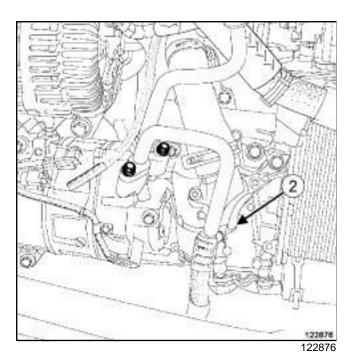


- 122550
- □ Remove the nut (1) securing the bracket of the intermediate pipe compressor connecting pipe from the intermediate pipe.
- ☐ Disconnect the intermediate pipe compressor connecting pipe from the intermediate pipe.
- ☐ Insert the blanking plugs.

Compressor - intermediate pipe connecting pipe: Removal - Refitting



F4R or K4M or K9K or M4R or M9R, and AIR CONDITIONING 01 or AIR CONDITIONING 02



- ☐ Remove the bolt (2) securing the bracket of the intermediate pipe compressor connecting pipe from the compressor.
- ☐ Disconnect the intermediate pipe compressor connecting pipe from the compressor.
- ☐ Fit anti-contamination caps.
- ☐ Remove the intermediate pipe compressor connecting pipe upwards.

REFITTING

I - REFITTING PREPARATION OPERATION

□ Always replace the seals on the refrigerant fluid connecting pipes.

WARNING

Do not remove the blanking plugs from each component until the last moment.

Also, do not remove the components from their packaging until they are to be fitted to the vehicle.

☐ Remove the plugs from the cold loop openings.

II - REFITTING OPERATION FOR PART CONCERNED

WARNING

To avoid any leaks, check that the pipe surface is sound before positioning the new seal. The surface must be clean and scratch free.

- ☐ Lubricate the seals using air conditioning oil to make fitting easier.
- ☐ Fit the new seals on the refrigerant fluid connecting pipes.
- ☐ Refit the intermediate pipe compressor connecting pipe.
- ☐ Connect the intermediate pipe compressor connecting pipe to the compressor.
- □ Refit the bolt securing the bracket of the intermediate pipe compressor connecting pipe to the compressor.
- ☐ Connect the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Refit the nut securing the bracket of the intermediate pipe compressor connecting pipe to the intermediate pipe.
- ☐ Tighten to torque:
 - the bolt securing the bracket of the intermediate pipe compressor connecting pipe to the compressor (8 N.m).
 - the nut securing the bracket of the intermediate pipe - compressor connecting pipe to the intermediate pipe (8 N.m).

III - FINAL OPERATION.

- □ Connect the battery (see **Battery: Removal Refitting**) (MR 415, 80A, Battery).
- □ Fill up the refrigerant circuit using the refrigerant charging station (see 62A, Air conditioning, Refrigerant circuit: Draining - Filling, page 62A-7).
- ☐ Use the electronic sensor (see 62A, Air conditioning, Refrigerant circuit: Check, page 62A-6) to check that there are no leaks.
- □ Check that the air conditioning system is operating correctly (see 62A, Air conditioning, Air conditioning: Check, page 62A-3).

Air conditioning computer: Removal - Refitting



LEFT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

IMPORTANT

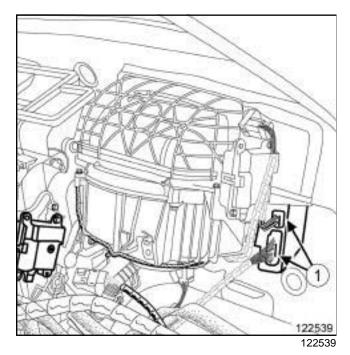
Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

REMOVAL

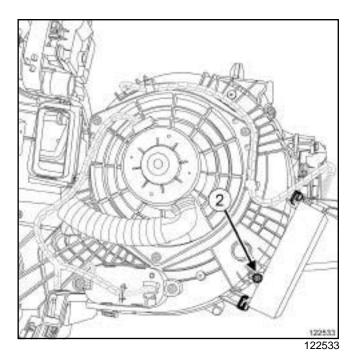
I - REMOVAL PREPARATION OPERATION

- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- ☐ Remove the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).

II - OPERATION FOR REMOVAL OF PART CONCERNED



□ Disconnect the connectors (1) from the climate control computer.



☐ Remove:

- the bolt (2) on the climate control computer,
- the climate control computer.

III - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the climate control computer.
- ☐ Connect the climate control computer connectors.

IV - FINAL OPERATION.

- □ Refit the glovebox (see **Glovebox: Removal Refitting**) (57A, Interior equipment).
- □ Connect the battery (see **Battery**: **Removal Refitting**) (80A, Battery).
- □ Apply the after repair procedure using the Diagnostic tool :
 - connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - carry out the operations described in the "After repair procedure" section.

Air conditioning computer: Removal - Refitting



RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

Equipment required

Diagnostic tool

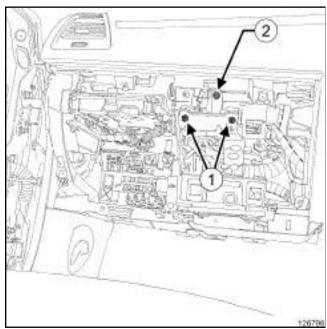
IMPORTANT

Consult the safety and cleanliness advice and operation recommendations before carrying out any repair (see 62A, Air conditioning, Air conditioning: Precautions for the repair, page 62A-1).

REMOVAL

I - REMOVAL PREPARATION OPERATION

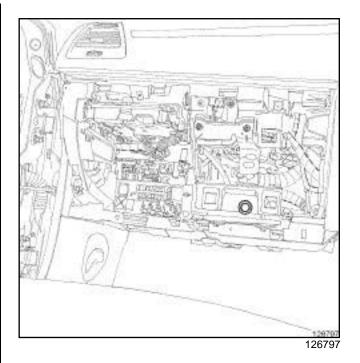
- □ Disconnect the battery (see **Battery: Removal Refitting**) (80A, Battery).
- ☐ Remove the glovebox (see Glovebox: Removal Refitting) (57A, Interior equipment).



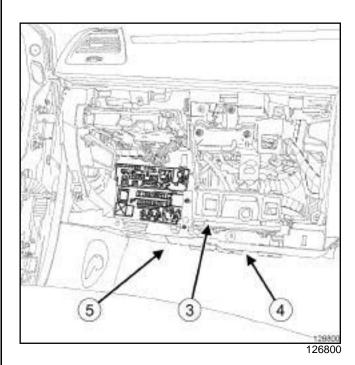
12679

□ Remove:

- the nuts (1) from the glovebox mounting,
- the bolt (2) from the glovebox mounting.



- Move the glovebox refrigerant pipe to one side away from the mounting
- $\ \square$ Remove the glovebox support.



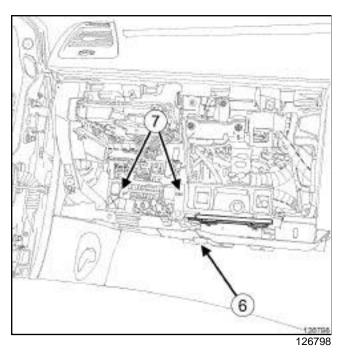
□ Remove:

- the passenger side front footwell air distribution duct pin (3)
- the passenger side front footwell air distribution duct (4) ,
- the soundproofing (5).

Air conditioning computer: Removal - Refitting

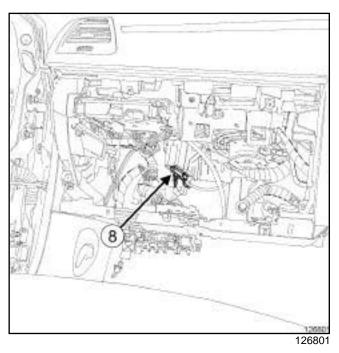


RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

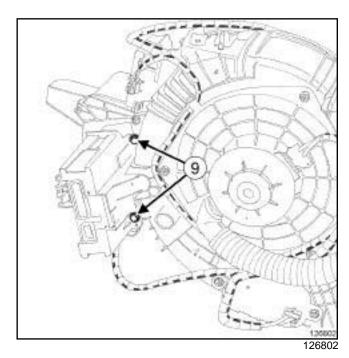


- ☐ Unscrew the under-dashboard light (6).
- ☐ Move aside the under-dashboard light.
- □ Remove:
 - the bolts (7) from the passenger compartment fuse and relay box mounting,
 - -the passenger compartment fuse and relay box mounting.
- ☐ Unclip the passenger compartment fuse and relay box.
- Move aside the passenger compartment fuse and relay box.

II - OPERATION FOR REMOVAL OF PART CONCERNED



□ Disconnect the connectors (8) from the climate control computer.

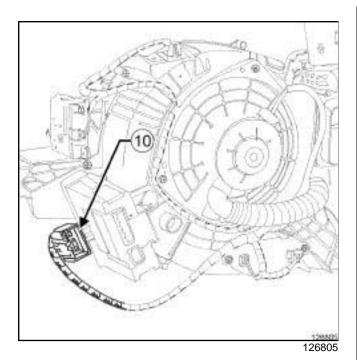


- □ Remove the bolts (9) from the climate control computer mounting unit.
- Move aside the climate control computer mounting unit.

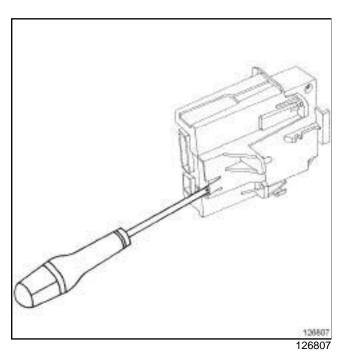
Air conditioning computer: Removal - Refitting



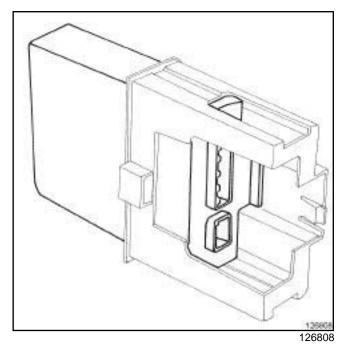
RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02



☐ Unclip the connector (10) for the passenger compartment fan assembly control unit from the climate control computer mounting unit.



Unclip the climate control computer from its mounting.



☐ Remove the climate control computer.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the climate control computer.
- ☐ Clip the connector for the passenger compartment fan assembly control unit to the climate control computer mounting unit.
- ☐ Refit the climate control computer mounting unit.
- ☐ Connect the climate control computer connectors.

II - FINAL OPERATION.

- ☐ Fit the passenger compartment fuse and relay box.
- ☐ Clip on the passenger compartment fuse and relay box.
- □ Refit the passenger compartment fuse and relay box mounting.
- ☐ Fit the under-dashboard light.
- ☐ Screw on the under-dashboard light.
- Refit:
 - the soundproofing,
 - the passenger side front footwell air distribution duct.
 - the glovebox mounting.
- ☐ Refit the glovebox refrigerant pipe on its mounting.

Air conditioning computer: Removal - Refitting

62A

RIGHT-HAND DRIVE, and AIR CONDITIONING 01 or AIR CONDITIONING 02

ting) (57A, Interior equipment).
Connect the battery (see Battery: Removal - Refitting) (80A, Battery).

- □ Apply the after repair procedure using the **Diagnostic tool**:
 - -connect the Diagnostic tool,
 - select "Climate control computer",
 - go to repair mode,
 - display the "Before/after repair procedure" for the selected computer,
 - carry out the operations described in the "After repair procedure" section.