TECHNICAL NOTE
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Service 0422

RENAULT All Types except Espace

Type XXX X

5/Section 62

This note cancels and replaces Technical Note n° 2402A Part No : 77 11 185 549

62 CONVERTING FROM R12 TO R134a REFRIGERANT

- Engine : **All**
- Gearbox : **All**

Basic Manual :
- Air Conditioning - General Methods (R12).
- Air Conditioning - New Refrigerant R134a
- Vehicle Workshop Manual - Section 6

This Technical Note contains information to ensure the operation and maintenance of vehicles containing refrigerant type R12. Production of this gas is prohibited from 31 December 1995 and will be replaced by refrigerant type R134a.

SUMMARY

AIR CONDITIONING
Conversion from R12 to R134a

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As R12 will no longer be produced from 31 December 1995, to ensure that vehicles containing this refrigerant fluid may continue to be operated and maintained, information is given below for all vehicles in the range.

NEW VEHICLES

No conversion is permitted on a new vehicle containing R12 **before** it is marketed

Even though the operation "conversion from R12 to R134a" does not affect reliability, it alters performance and the operating noise from the air conditioning system.

The complete refrigerant system must be replaced to make these vehicles conform.
This means: the compressor, condenser, dehydrating bottle, pressure release valve, evaporator, pipes and seals.

USED VEHICLES

Preliminary remarks :

Vehicles whose refrigerant circuit uses R12 should not be converted to R134a as long as R12 is still available. The refrigerant circuit should preferably be filled with the fluid for which it was designed.

General information:

Before converting a vehicle, check the operation of the air conditioning system :
- any faulty components in the refrigerant circuit must be replaced. Any O rings removed must be replaced.

For any operation on the vehicle following its conversion to R134a :
- only use R134a refrigerant and SANDEN SP 20 oil,
- provide accurate details on the information label (see section "Procedure for Converting Vehicles").

IMPORTANT : When ordering parts to carry out the conversion, please retain the criteria "R12" to make your selection.

NOTE : It will still be possible to receive parts marked "R12" or "R134a" until unification of parts is completed.

AIR CONDITIONING
Conversion from R12 to R134a

PROCEDURE FOR CONVERTING VEHICLES

1) Collect the R12 contained in the vehicle refrigerant circuit then apply a vacuum using the filling - collecting station suited for this gas.

IMPORTANT :
The **greatest care** should be taken when performing this operation to minimise the amount of R12 and mineral oil (ELF RIMA 100) remaining in the system.

To improve collection, start the engine and run the air conditioning system in recycling mode, using a slow passenger compartment fan speed, until the compressor has operated twenty times (10 to 15 minutes operation).

If you have a DIAVIA AT 41 166, type equipment or equivalent, oil collection and separation from the refrigerant fluid is carried out automatically.

If this equipment is not available, the **compressor must be removed** and the mineral oil drained from it. The method for this is described in section 6 of the vehicle Workshop Repair Manual.

2) Disconnect the R12 filling - collecting station.

3) Replace the dehydrating bottle (parts delivered currently can receive both R12 and R134a). Replace the seals using the following kits :
   - **77 00 204 314** for the Renault 19,
   - 77 **00 204 080** for the rest of the vehicle range.

   Special Points for Renault 19
   On vehicles using R12 refrigerant we are going to fit the condenser as used on vehicles using R134a refrigerant. Interchangeability is clear for the network. An order should be placed using the criteria "R12" until the updated parts document arrive.

   The methods are described in Section 6 of the vehicle Workshop Repair Manuals.

4) Connect the filling - collecting station for R134a (ROBINAIRE X 34 701 REN, DIAVIA AT 41 167 or equivalent) and apply a vacuum to the circuit.
The section "Air Conditioning - New Refrigerant R134a" gives detailed instructions on the use of this equipment.

OBSERVATION : As the vehicle circuit refill valves are not compatible with the extension pieces of the R134a station we would ask you to fit the conversion elements and identification label to the vehicle (Kit 77 **01 204 882**).

PROCEDURE FOR CONVERTING VEHICLES (cont)

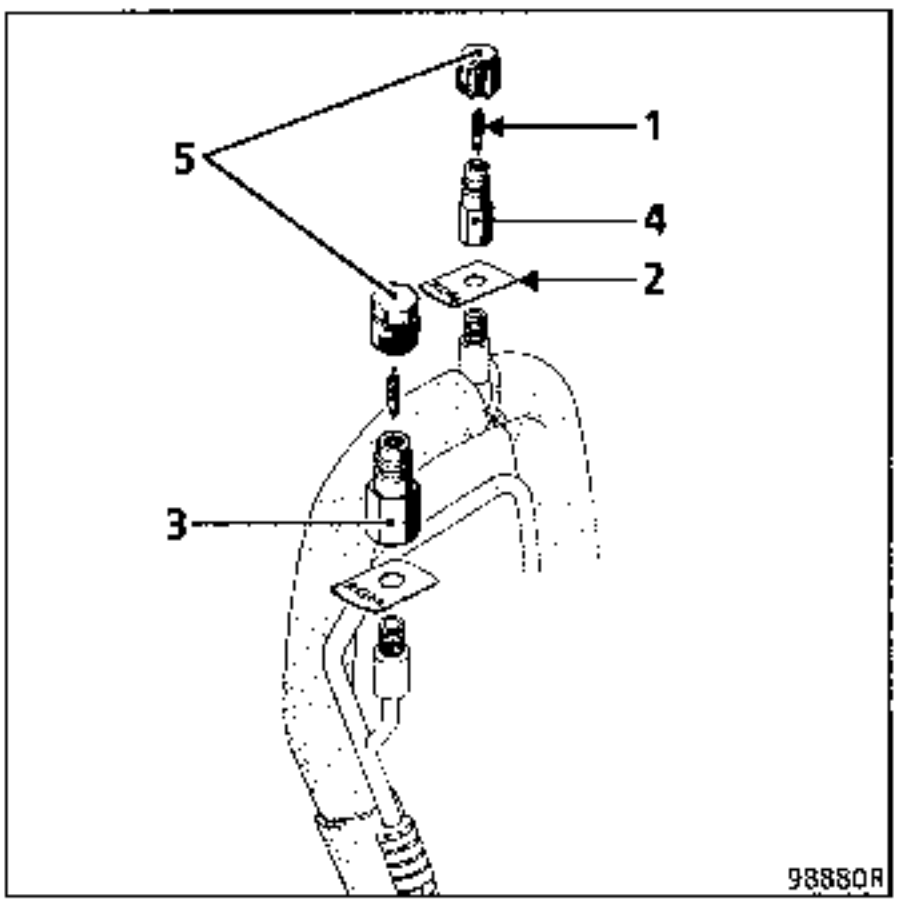
CONVERSION

a) Remove the caps from the vehicle filling valves.
b) Remove the valve barrel (1) from the vehicle valves using a conventional removal tool (for wheel valves).
c) Apply the identification labels (2) to the filling valves.
d) Use "LOCTITE FRENBLOC" (271 ; red) on the threads of the adapters (3) and (4) and screw them on to the filling valve.

High pressure	⇒	small pipe,
	⇒	adaptor diameter 16 mm (3).
Low pressure	⇒	large pipe,
	⇒	adaptor diameter 13 mm (4).

Tightening torque : 1 daN.m.

e) Replace the valve caps (5) with those provided with the adapters.



5) Adding the oil: **135 cc of SANDEN SP 20 oil** :
   - if one of the filling - collecting stations specified previously is available, the oil is added using the machine,
   - if your machine has no oil addition measurement facility, the compressor must be removed to add the oil.

6) Fill the circuit. The amount of R134a required for vehicles in the range is shown in the section "Refrigerant Quantities".

7) Check that the air conditioning system is operating correctly.

8) To avoid any risk of the circuit being filled with refrigerant fluid R12 during any later operations, **fit an information label** (date of the conversion, type and quantity of the new refrigerant and oil, etc...) around the pipes, as close as possible to the filling valves.
(Label: **77 11 178 677** (technical documentation part number) Cover: **49 39 125 600** (stationery part number)).

IDENTIFICATION LABEL

Example of the information label to be ordered and fitted near the filling valves :

AIR CONDITIONING

This vehicle has received the : **"R12 / R134a MODIFICATION"**

Date of conversion : .....

Quantity of R134a : ..... **Quantity of SANDEN SP 20 oil :** .....

Parts replaced when converted and thereafter :

Parts	Dates	PArts	Dates
Dehydrating bottle		Pipes :	
Condenser		– Dehydrating bottle - expansion valve	
Evaporator		– Expansion valve - compressor	
Expansion valve		– Compressor - condenser	
Compressor		– Condenser - Dehydrating bottle	

⚠ **THIS VEHICLE CAN NO LONGER USE R12 REFRIGERANT** 77 11 178 677

AIR CONDITIONING
Conversion from R12 to R134a

TABLE OF R134a REFRIGERANT QUANTITIES REQUIRED FOR CONVERSION FROM R12 TO R134a

Vehicles	Special Points	Quantity of R12 before conversion	Quantity of R134a after conversion
RENAULT 9 and 11 RENAULT 18 and FUEGO SUPER 5 and EXTRA	–	750 to 800 g	650 g ± 50 g
RENAULT 19 and 21	–	950 g ± 50 g	800 g ± 50 g
RENAULT 25	Compressors SD5xx	1050 g ± 50 g	850 g ± 50 g
	Compressors SD7xx	950 g ± 50 g	800 g ± 50 g
CLIO	Original fit	950 g ± 50 g	800 g ± 50 g
	DIAVIA 2nd fit	900 g ± 50 g	750 g ± 50 g
SAFRANE	–	1050 g ± 50 g	850 g ± 50 g