

PRECAUTIONS FOR THE REPAIR



Note, one or more warnings are present in this procedure



WARNING

Before carrying out any operation on a vehicle fitted with the Stop & Start system, always follow the safety instructions (see 01D, Mechanical introduction, Vehicle: Precautions for the repair) .

1. GENERAL INFORMATION

All information contained in these manuals is intended exclusively for automotive industry professionals.

The documentation is intended to cover all vehicles in the RENAULT range throughout the world, but may not cover equipment designed for use in specific countries.

The procedures and fault finding procedures recommended and described in this manual have been designed by automotive industry repair professionals.



WARNING

Any work performed on the vehicle's high voltage network entails a risk of death by electrocution. An operator is authorized by the company that employs him/her, subject to certain mandatory training and skills.

1- GENERAL RECOMMENDATIONS

Observe basic principles of vehicle repair.

The quality of repair depends first and foremost on the care exercised by the person in carrying it out.

■ To ensure good repair:

- protect the sensitive areas of the vehicle (seats, steering wheel, wings, etc.),
- unless otherwise indicated, all repairs must be done with the ignition off,
- when welding on the vehicle, it is advisable to remove or disconnect components near the repair area that could be affected by the heat,

- use recommended professional products and original parts,
- observe the tightening torques,
- replace roll pins, self-locking or bonded nuts or bolts every time they are removed,
- take care with electrical and electronic components which cannot withstand excess voltage and improper handling; replace any electrical and electronic components which have experienced a voltage drop,
- make sure that the connectors are correctly clipped,
- do not pull on the wiring,



WARNING

Risks of serious burns or electric shock that may prove fatal.

It is strictly prohibited to repair orange high-voltage cables and connectors.

Take care not to damage orange high-voltage cables.

Systematically replace damaged high-voltage cables.



CAUTION

To prevent contamination of disconnected connectors and sockets, hermetically seal the connectors and sockets using a plastic bag and a securing clip. For traction battery sockets, use traction battery caps Vehicle: Parts and consumables for the repair.

For any prolonged disconnection of connectors of the orange high-voltage circuit, verify the presence of plugs or protection plastic bags.

Do not splash any liquid, regardless of its type (oil, cleaner, etc.), on the electric and electronic components (charger, converter, electric engine, wirings and connectors, traction battery and 12V battery, computers, sensors, etc.).

■ To ensure good repair:

- check for the sealing plugs on the connectors,
- do not just replace parts one after the other, carry out detailed fault finding beforehand,
- carry out a final check before returning the vehicle to the customer (set the clock, check the alarm operation, check the lights and indicators etc.),
- clean and degrease the sections to be bonded (threads, stub axle splines) to ensure proper adherence.
- Deactivate the start and stop mode for all interventions requiring the bonnet opening.

The design quality of our vehicles demands that nothing is left to chance in making a good repair, and it is essential to refit parts or components exactly as they were originally (for instance: heat shields, wiring

routing, pipe routing, particularly in the area of the orange high-voltage wirings).

Do not blow away dust (brakes, etc.), vacuum them up or clean the component with a cleaning agent (such as a brake cleaning product).

Use professional products and apply them with care, for example do not apply too much sealing paste to the sealing surface.

Exhaust gases (petrol and diesel) are pollutants. Operate engines or self-contained heaters with care and always use exhaust gas extractors.

Ensure that there is no risk of a short circuit occurring when the electrical connections are reconnected (e.g. charger, converter, traction battery and 12V battery, etc.). Some points need greasing, others do not, therefore particular attention should be paid during refitting operations to ensure that they work properly under all conditions.

2- SPECIAL TOOLING - EASE OF USE

The repair procedures have been designed using special tools; they must therefore be carried out using these tools to ensure a high degree of working safety and quality of repair.

The equipment we have approved has undergone careful research and testing, and must be used and maintained with care.

3- RELIABILITY - UPDATING

New repair procedures are constantly being developed in the interests of repair quality, either with new products (emission control, injection, electronics, etc.), or in fault finding. Be sure to consult the Workshop Repair Manuals or Technical Notes or fault finding summaries before any servicing operation.

Since vehicle specifications are subject to change during their commercial life, it is essential to check whether there are any updated Technical Notes when seeking information.

4- SAFETY

Operations on certain equipment and certain parts (for instance: spring-shock absorber assembly, electric traction reduction gearing, brake system, ABS, airbag, etc.) require particular attention to be paid to safety, cleanliness and care.

The safety symbol used in this manual indicates that special attention must be paid to the procedure or the tightening torque values.

 Working safely:

- use suitable tools which are in good condition (use of "multi-purpose" tools, such as adjustable pliers, etc., should be avoided wherever possible),
- use supports and adopt a correct posture when performing heavy work or raising loads,
- make sure that the procedure used is not dangerous,
- do not wear any jewellery or other small objects during an operation,
- use personal protection (gloves, safety glasses, work shoes, masks, skin barrier creams, etc.),
- always follow the safety instructions associated with the operation to be performed,
- do not smoke when working on vehicles,
- use smoke extractors (welding, exhaust gases, etc.),
- do not use harmful products in unventilated rooms,
- do not overstrain yourself or attempt inappropriate work operations,
- use axle stands when working under a vehicle raised on a jack,
- do not ingest any chemicals (brake fluid, coolant, etc.),
- do not open the cooling circuit when it is hot and pressurised,
- take care with components that are liable to start up suddenly (engine cooling fan, etc.).

 Respecting the environment:

- do not allow waste refrigerants to escape into the atmosphere,
- do not dispose of waste vehicle fluids (oil, brake fluid, etc.) in drains,
- do not burn discarded products (tyres, etc.).

5- CONCLUSION

The procedures contained in this document merit your attention. Please read them carefully in order to reduce the risk of injury, and avoid using incorrect procedures that could damage the vehicle or make it dangerous in use.

Following the recommended procedures will help you to provide a quality of service which will ensure the vehicles achieve the highest levels of performance and reliability.

Maintenance and repair operations must be carried out under the proper conditions to ensure that our vehicles run safely and reliably.



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