RENAULT

4 Panelwork

X44

JUNE 2009 **EDITION ANGLAISE**

TWINGO - Section 4

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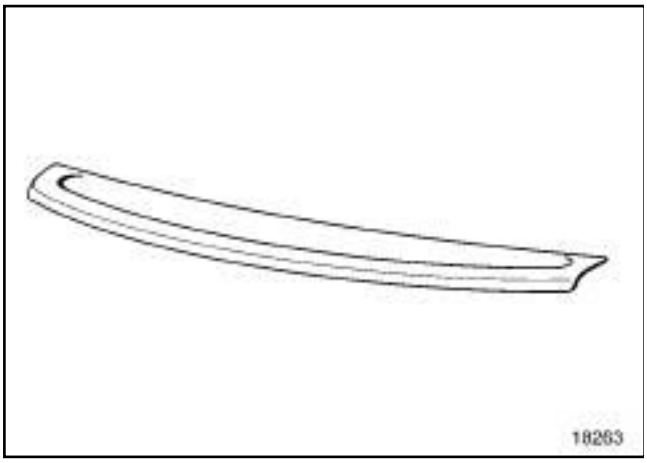
I - DASHBOARD PROTECTOR CAR.1818

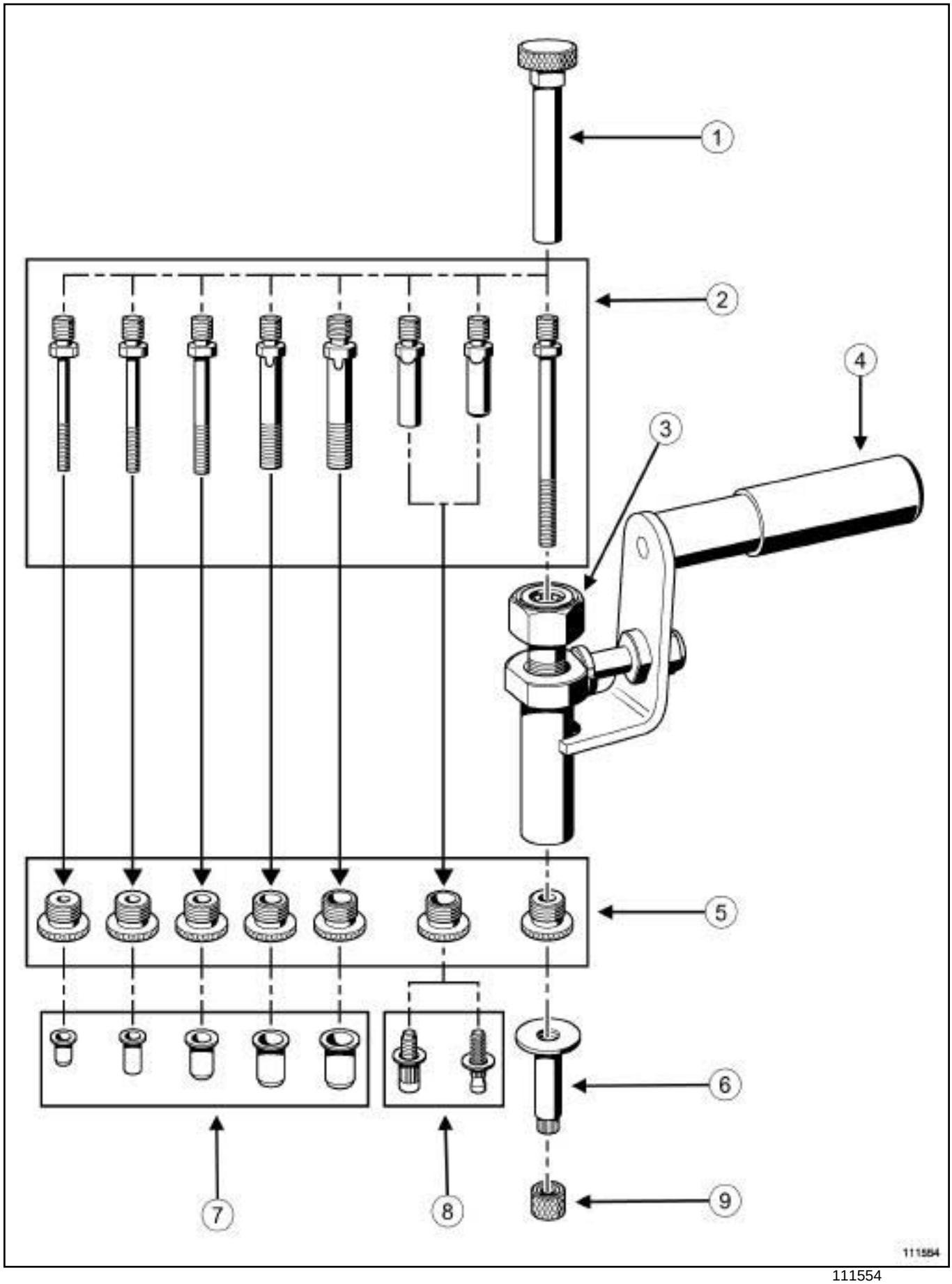


18263

❑ When replacing the windscreen:

- remove the windscreen pillar trims,
- position the dashboard protector to avoid damaging the dashboard when cutting the cement bead.

II - CRIMPED NUT FITTING TOOL CAR.1504



111554

❑ Components of tool **Car. 1504** :

- (**1**) : Mandrel mounting,
- (**2**) : Mandrels,
- (**3**) : Tightening bolt,
- (**4**) : Body,
- (**5**) : Anvils,
- (**6**) : Special nut,
- (**7**) : Nut,
- (**8**) : Studs,
- (**9**) : Thrust nut.

1 - Tool preparation

❑ Select the mandrel, anvil and insert assembly adapted to the crimping operation to be carried out.

❑ Screw the mandrel ***(2)*** into the mandrel mounting ***(1)*** (left-hand thread).

❑ Tighten the bolt ***(3)*** onto the body ***(4)*** until the stop (left-hand thread).

❑ Screw the anvil ***(5)*** into the body ***(4)*** (left-hand thread)

❑ Fit the assembly ***(1)*** and ***(2)*** into the body of the tool.

❑ Screw the insert (left-hand thread) onto the pull rod.

Note:

To fit the special nut ***(6)*** , insert the mandrel ***(2)*** through the nut to be crimped and tighten it onto the thrust nut ***(9)*** .

WARNING

Each time a panel is stripped in the workshop (e.g. when drilling), degrease and wipe the area and then use a fine paintbrush to apply the following:

- a pre-treatment primer,
- a two-part primer,
- paint in the vehicle body colour.

2 - Using the tool

❑ Turn the tightening bolt ***(3)*** using a **24 mm** wrench while holding the tool handle.

WARNING

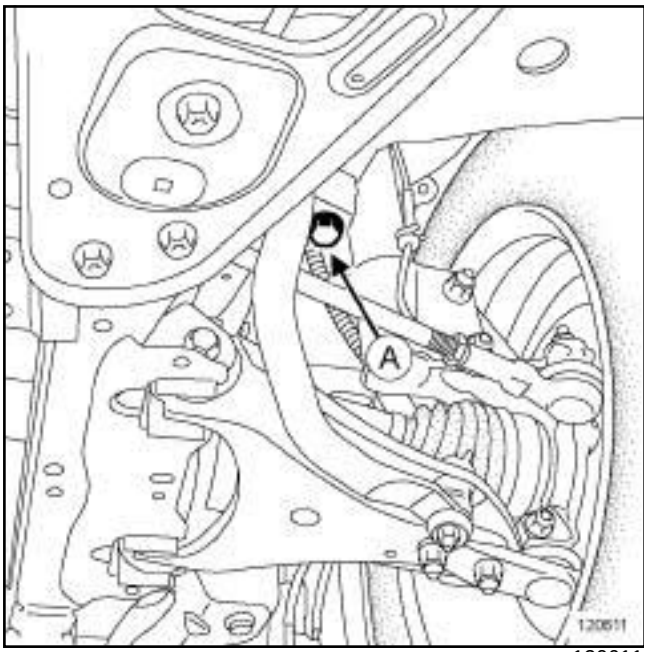
The operator should be able to feel when the crimping is complete (more force required for tightening).

The insert has been crimped correctly when there is no rotational play. Carry out this check before unscrewing the « pull rod - mandrel» assembly.

C44

I - MAIN FRONT TRIM-SETTING REFERENCE POINTS

1 - Front sub-frame in place

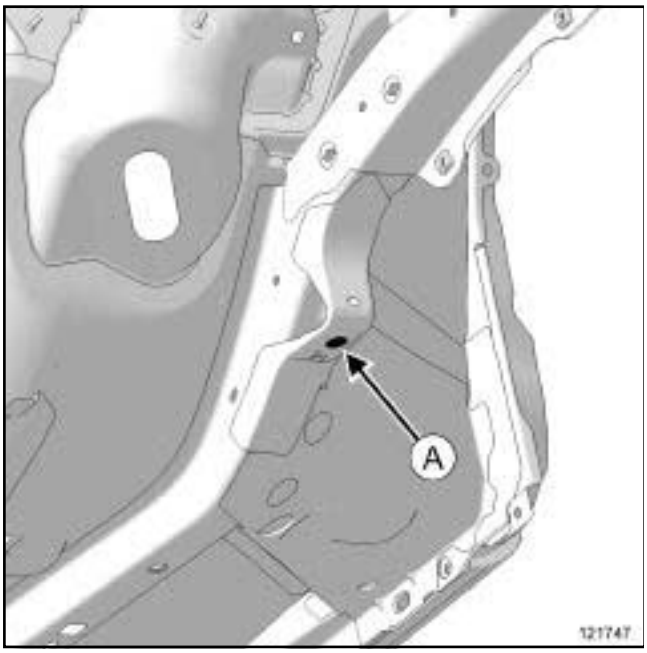


120611

the jig covers the subframe bolt (**A**) .

Use this situation for a rear impact or a light frontal impact without removing the mechanical components.

2 - Front sub-frame removed



121747

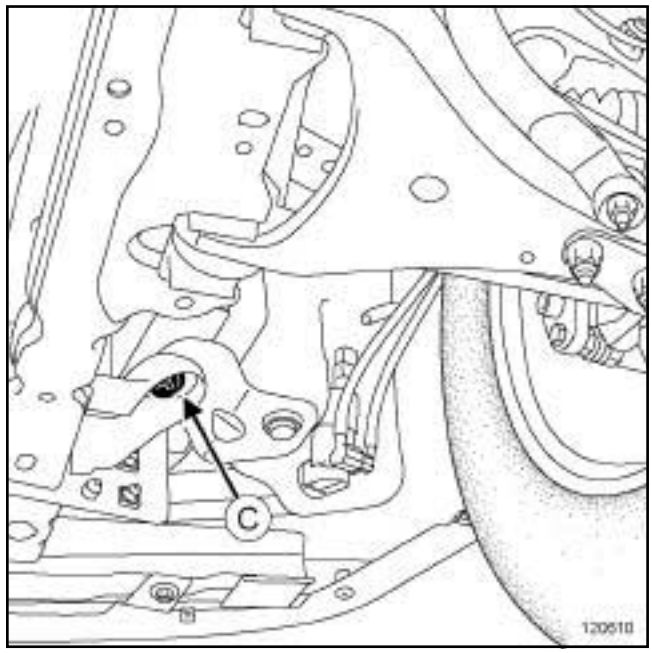
The jig rests against the rear section of the side member and is centred in the sub-frame rear mounting hole (**A**) .

Use this situation for a frontal impact with removal of the mechanical components.

Note:

If it is suspected that one of these points may be deformed, use two additional points located in an area not affected by the impact in order to confirm trim-setting.

II - SECONDARY FRONT TRIM-SETTING REFERENCE POINT



120610

The jig covers the front subframe front mounting bolt (**C**) .

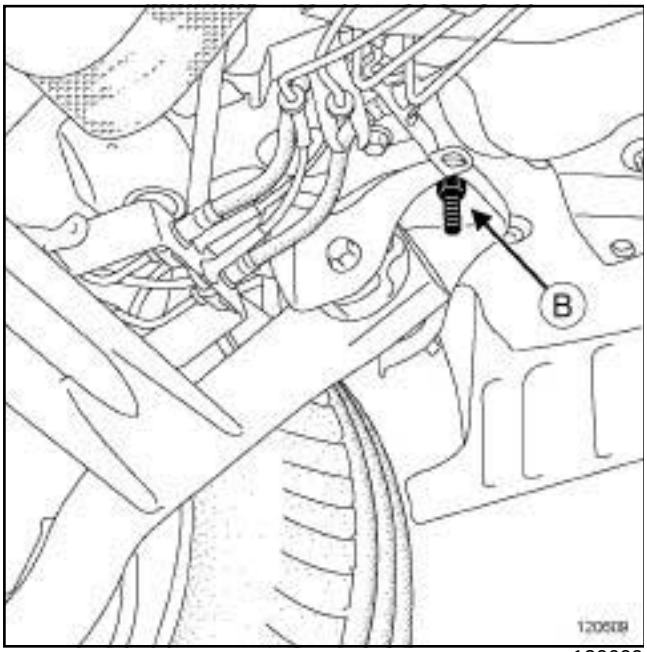
Use this situation to confirm the trim-setting following a rear impact, (e.g.: to replace a rear side member assembly).

It is used to confirm the vehicle level in case of doubt about the deformation of a main rear reference point.

C44

III - TRIM-SETTING MAIN REAR REFERENCE POINTS

1 - Rear mechanical components in place

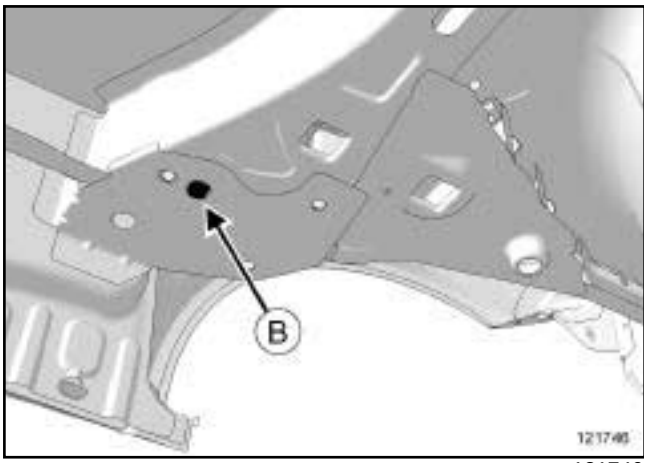


120609

The jig supports the underside of the rear axle fork and is centred in the rear axle bolt tapped hole (**B**) .

Use this situation for a frontal impact or a light rear impact.

2 - Rear mechanical components removed



121746

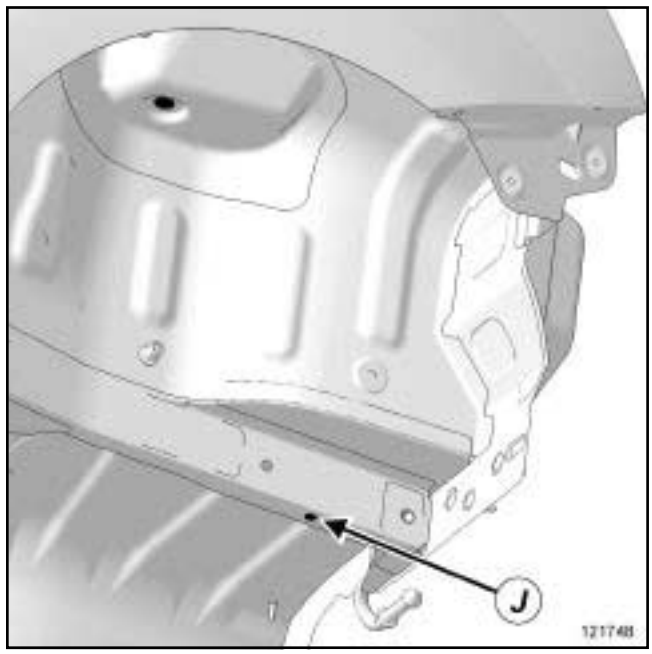
The jig rests under the rear side member and is centred on tapped hole (**B**) .

Use this situation for a rear impact with removal of the mechanical components.

Note:

If it is suspected that one of these points may be deformed, use two additional points located in an area not affected by the impact in order to confirm trim-setting.

IV - SECONDARY REAR TRIM-SETTING REFERENCE POINT



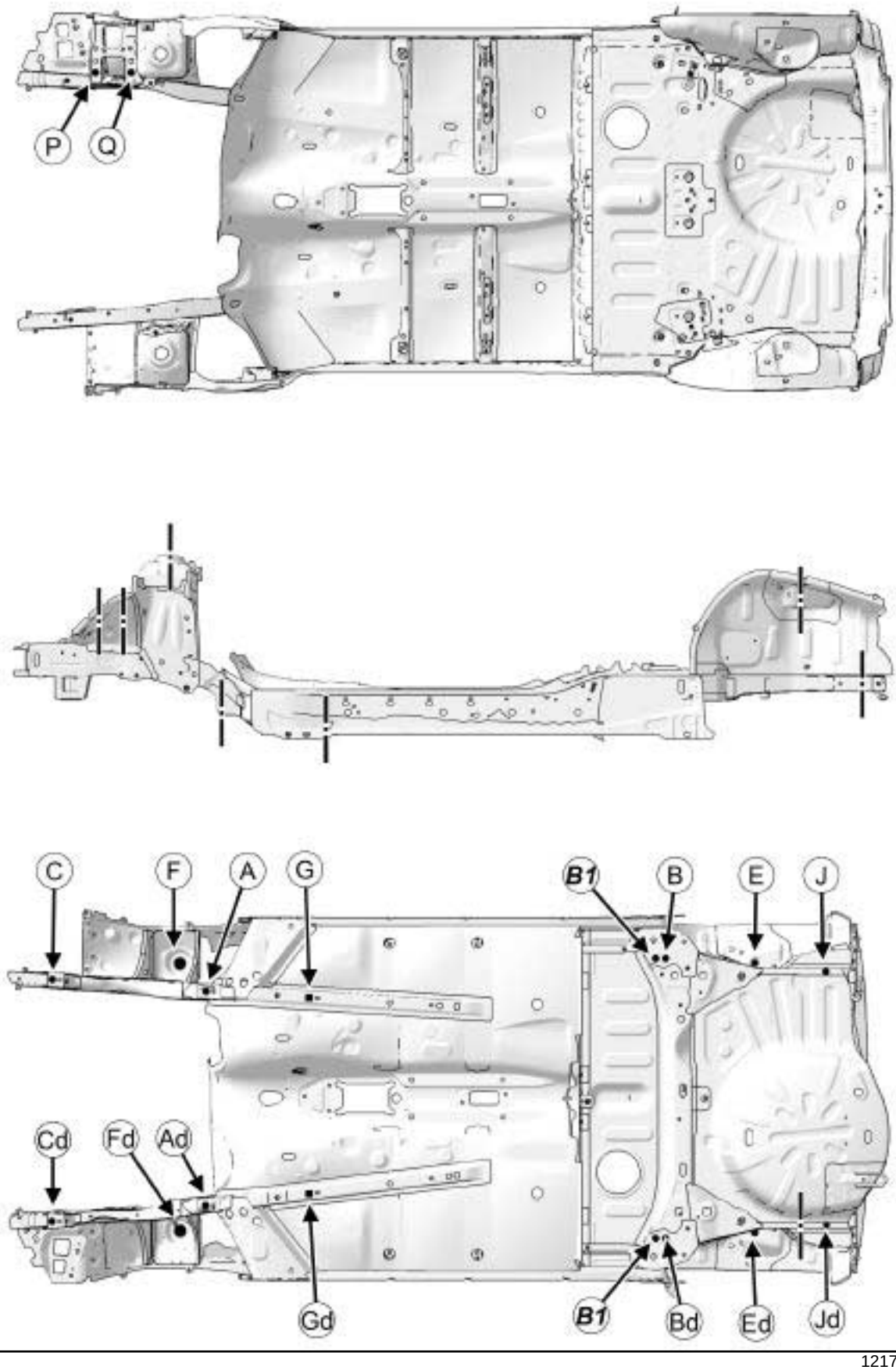
121748

The jig rests under the rear side member and is positioned in the hole (**J**) .

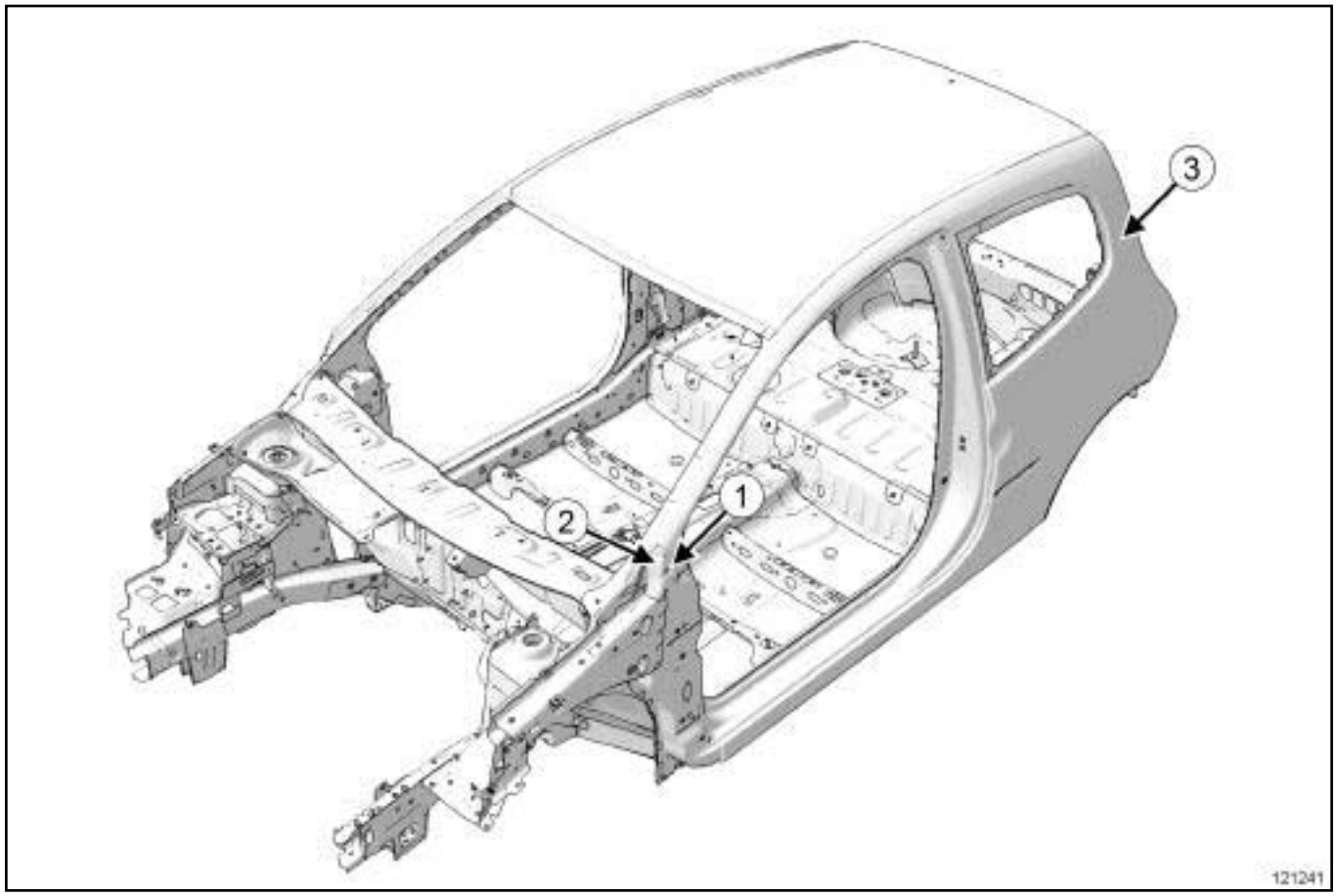
Use this situation to confirm the trim-setting following a frontal impact (e.g.: to replace a complete front half unit).

It is used to confirm the vehicle trim setting in case of doubt about the deformation of a main front reference point.

	Description	X	Dimension Y	Dimension Z	Diameter	Angle (in degrees)
A	Front subframe rear mounting, without mechanical components	205	402.5	71		
	Front sub-frame rear mounting with mechanical components	205	402.5	38		
B1	Rear axle assembly front mounting, without mechanical components	1906	-530	129		
	Rear axle assembly front mounting, with mechanical components	1906	-530	126		
B	Rear axle leader pin without mechanical components	1934	-530	129		
C	Front left-hand mounting of front sub-frame without mechanical components	-385	-447	130		
	Front left-hand mounting of front sub-frame with mechanical components	-385	-447	125		
	Front right-hand mounting of front sub-frame without mechanical components	-385	465	130		
	Front right-hand mounting of front sub-frame with mechanical components	-385	465	125		
E	Rear shock absorber upper mounting	2342	-535	477.5	18.2	
F	Front shock absorber upper mounting	18.5	-545.5	657	48	X: 3.02° Y: 1°
G	Rear section of front left-hand side member	600	-375	-3.7		
Gd	Rear section of front right-hand side member	600	351.6	-5		
J	Rear side member rear leader pin	2858	-481	162.5	10.2	
K	Front cross member	-578.5	277.6	275.7	6	
P	Engine front mounting	-247	483.5	514		
Q	Engine rear mounting	-113	483.5	514		

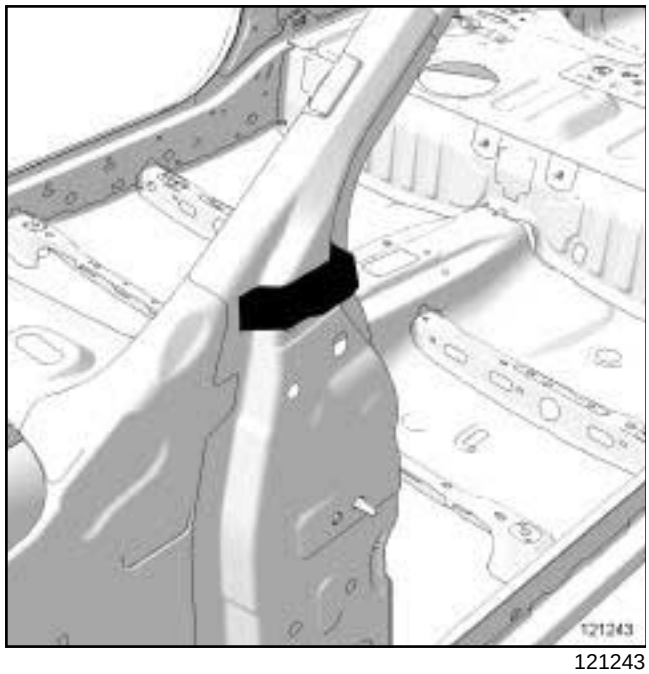


121743



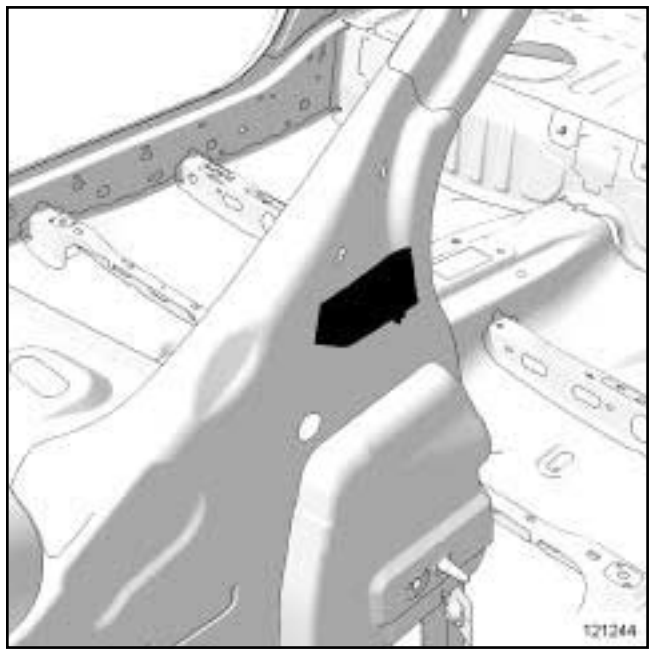
121241

DETAILED VIEW OF THE POSITION OF HOLLOW SECTION INSERTS ON THE VEHICLE



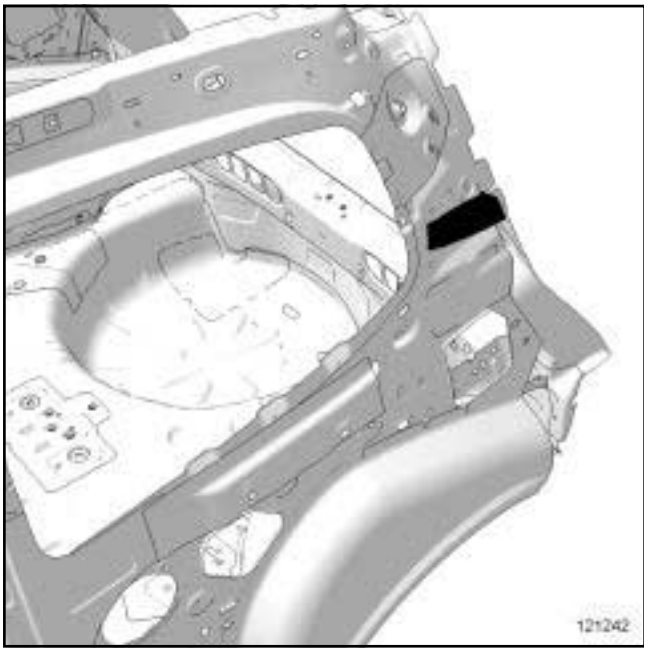
121243

A-pillar insert ***(1)*** .



121244

A-pillar reinforcement insert ***(2)*** .



121242

Rear wing panel insert ***(3)*** .

Hollow section inserts: Precautions for the repair

The expanding inserts ensure that the vehicle cavities are sealed and soundproofed. They react to the temperature when the bodywork is immersed in the cataphoretic bath at the factory. These conditions cannot be reproduced on the bodywork.

As inserts are not recoverable, always replace expanding inserts.

The inserts supplied by the **Parts Department** are identical to the original parts.

To obtain the same sealing and soundproofing properties, carry out the following operations:

- clean the bonding surfaces with heptane,
- if necessary, block the holes in the insert using pieces cut from a soundproofing pad.
- apply a bead of preformed trim sealing mastic around and inside the insert holes,
- fit the insert by compressing the mastic.

WARNING

Do not refit the part after compressing the bead.

When EGW welding, protect the inserts from spatter and heat dispersion.

For example, use a heat shield.

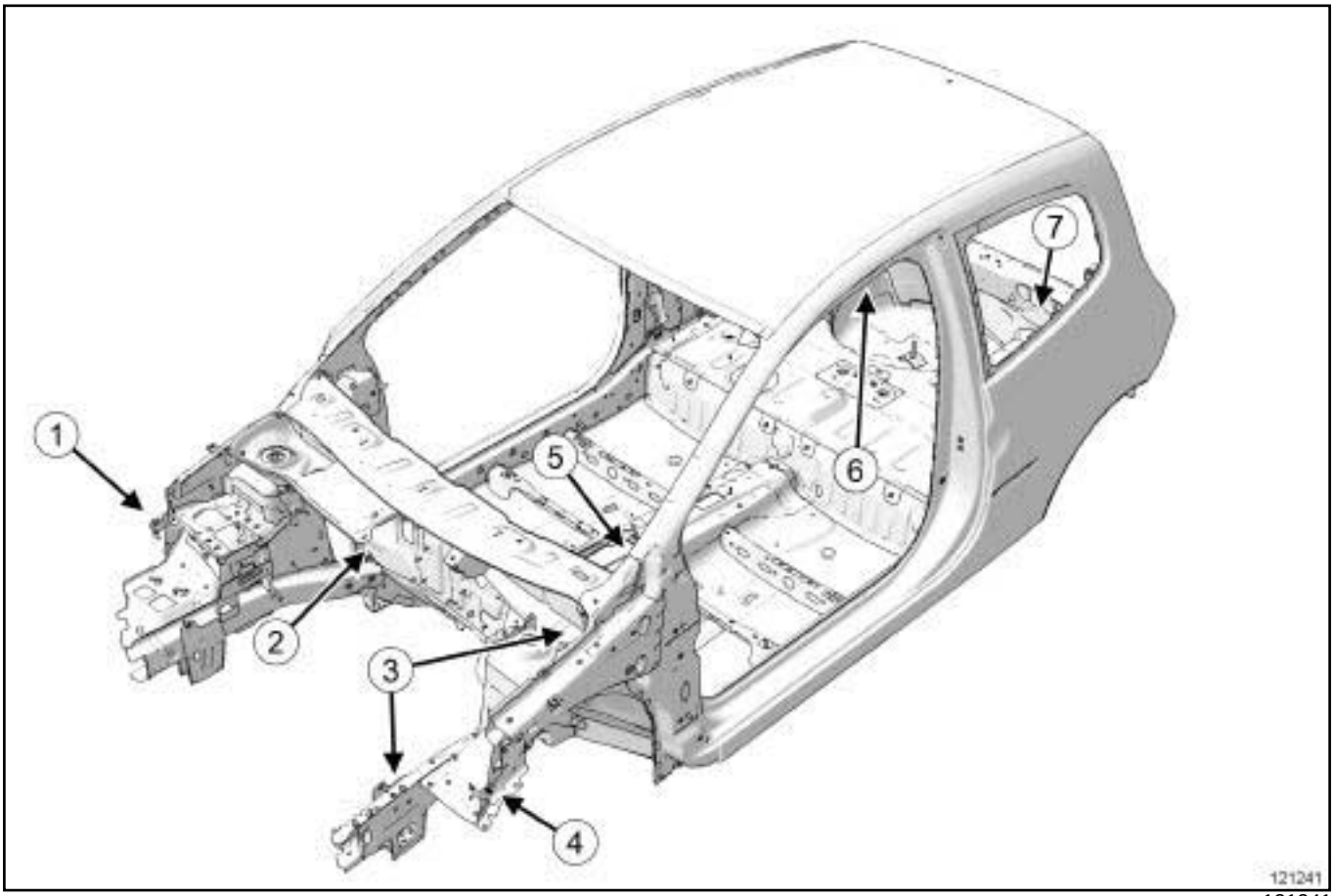
In some cases, it is possible to replace the accessible part of the insert only, which must be cut out of the replacement part.

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

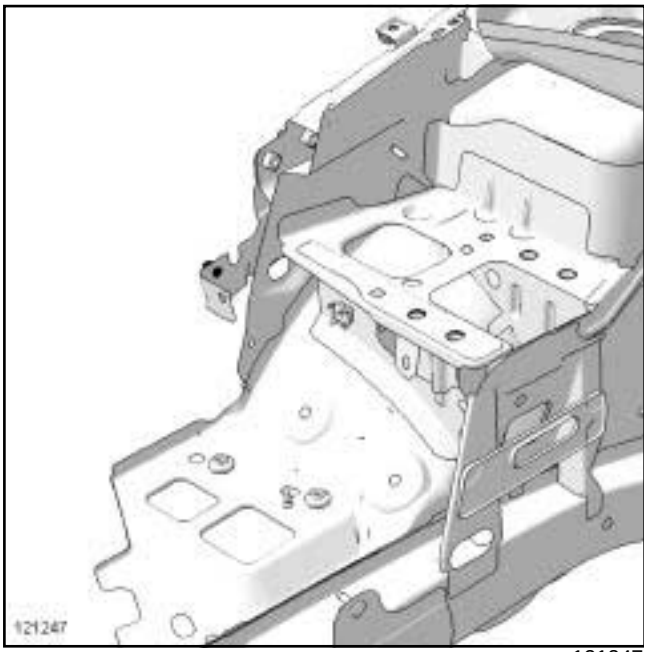
Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

For the earth stud fitting procedure, see **MR 400**.



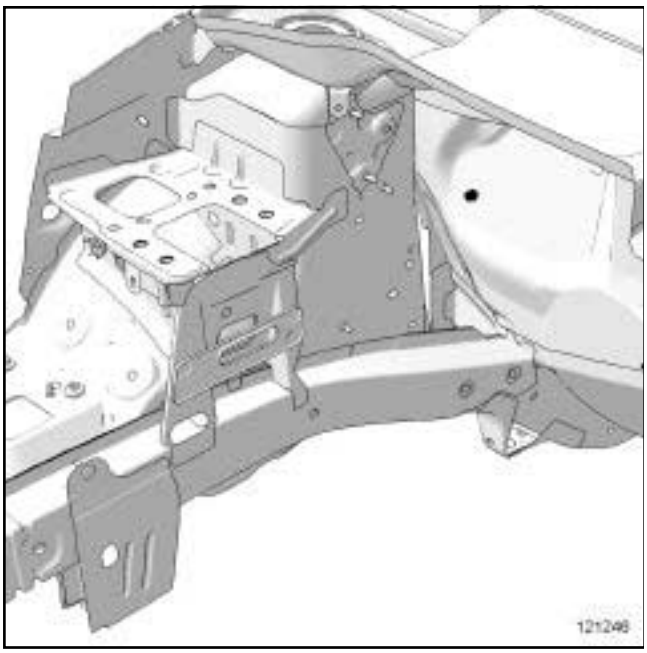
121241

DETAILED VIEW OF THE POSITION OF EARTHS ON THE VEHICLE



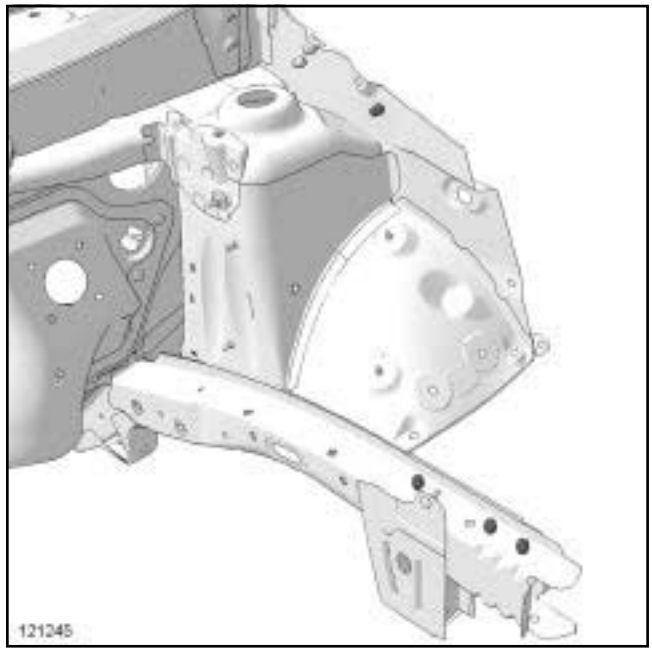
121247

Earth stud on the front right-hand wing lower bracket ***(1)*** .



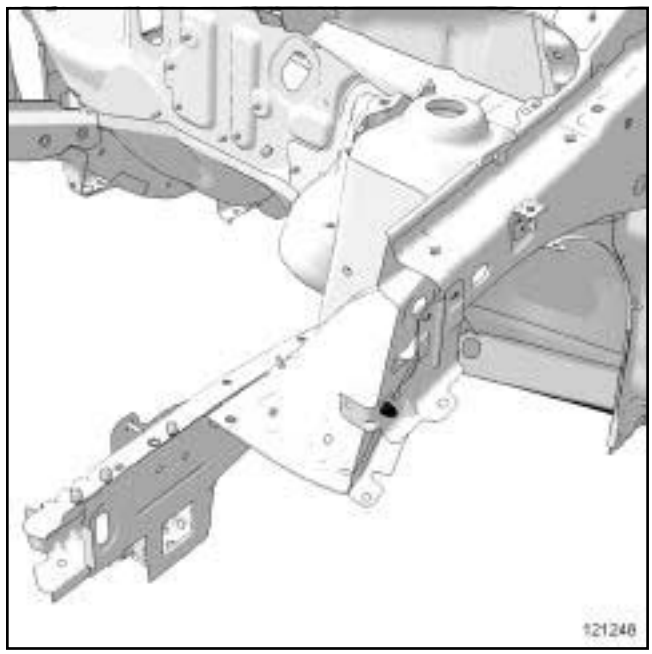
121246

Earth stud on the bulkhead ***(2)*** .



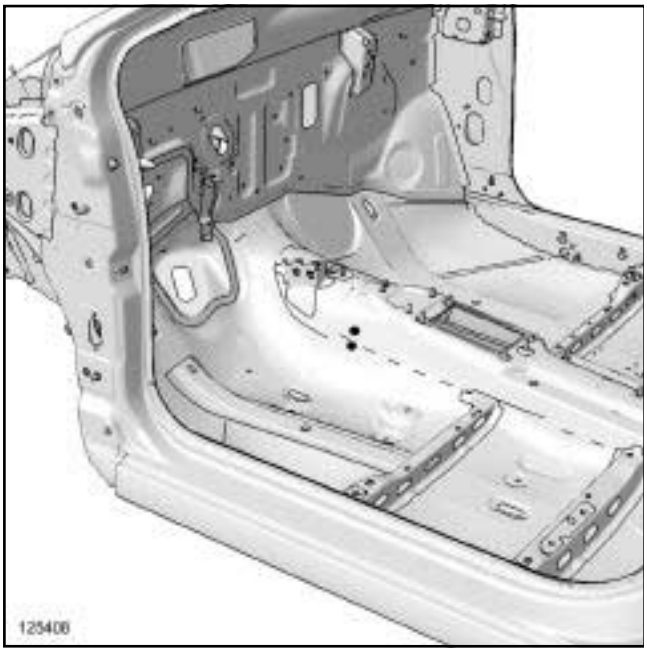
121245

Earth stud on the front left-hand side member and scuttle side panel ***(3)*** .



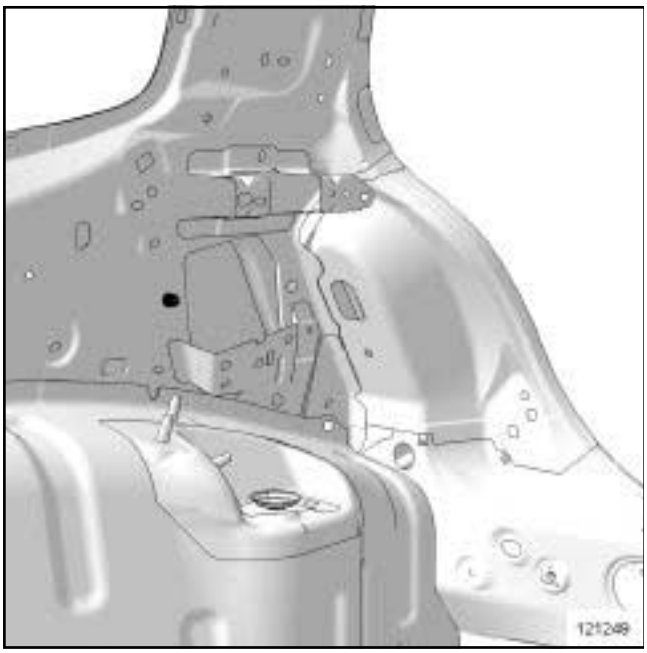
121248

Earth stud on the front left-hand wing lower bracket ***(4)*** .



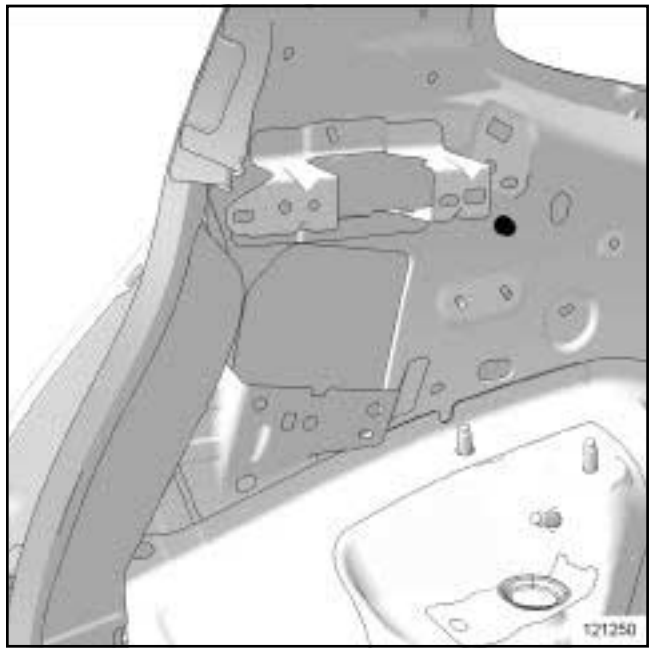
125408

Earth stud on the tunnel ***(5)*** .



121249

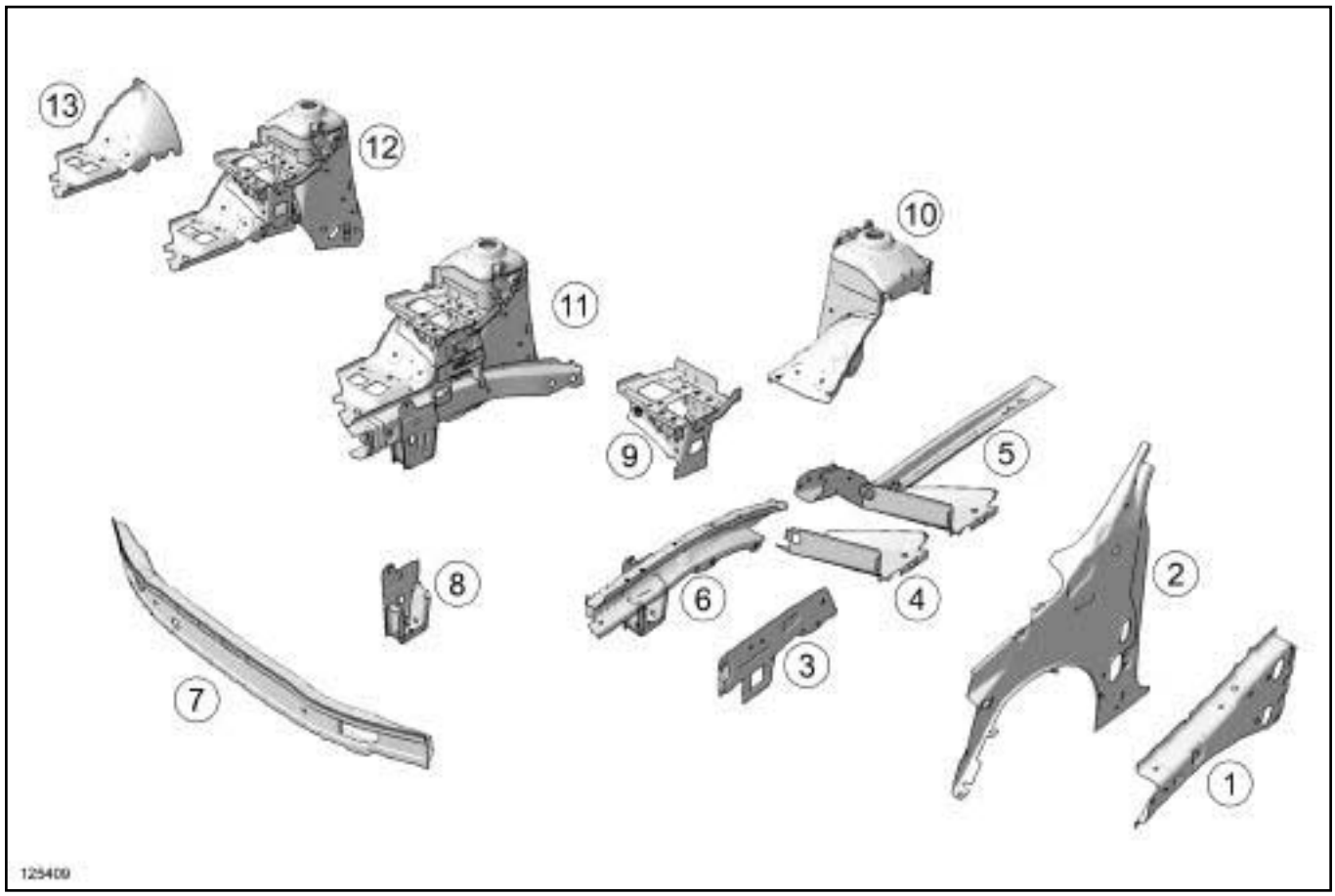
Earth stud on the right-hand rear quarter lining ***(6)*** .



121250

Earth stud on the rear quarter lining ***(7)*** .

FRONT STRUCTURE

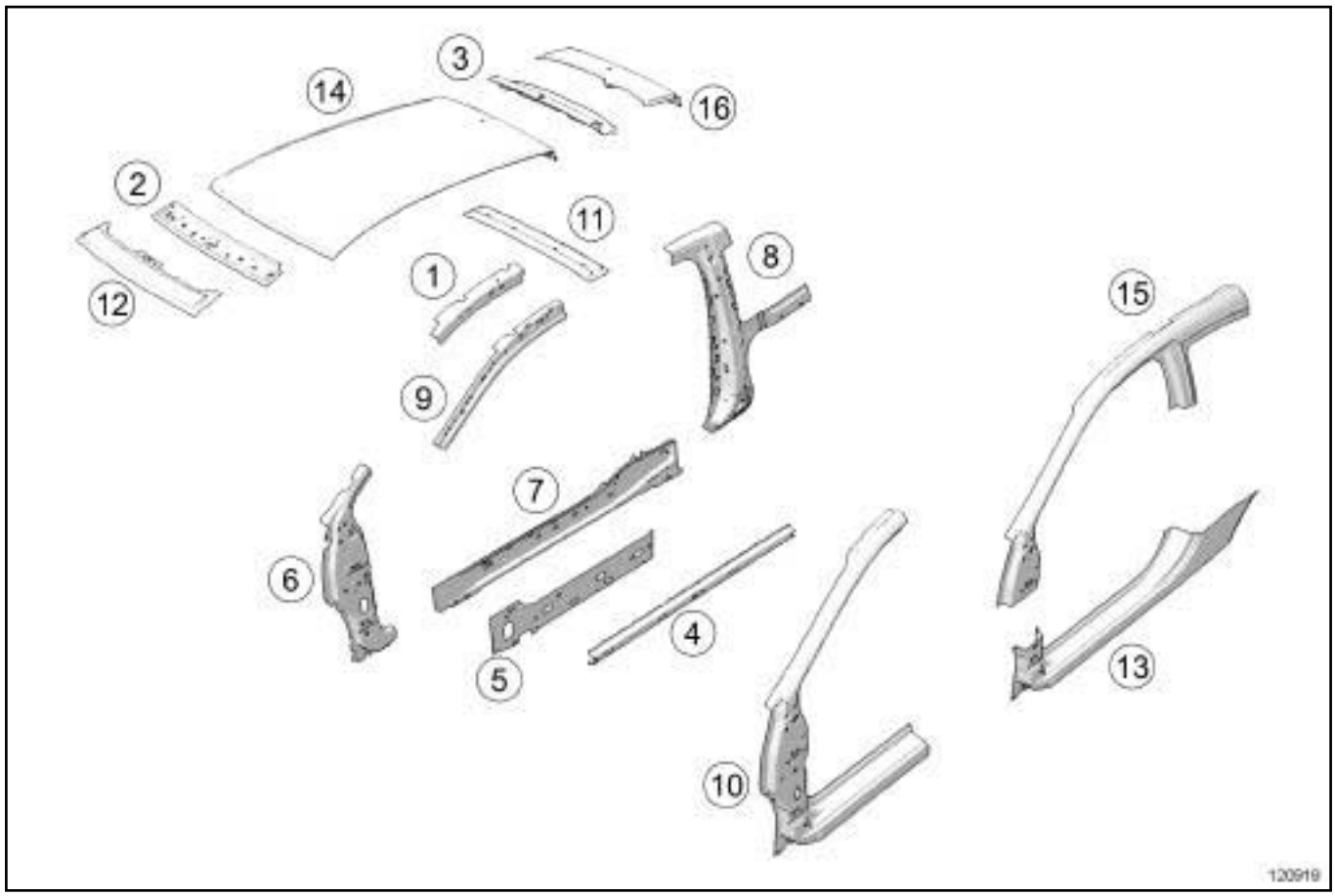


125409

No.	Description	Classification	Type	Thickness (mm)
(**1**)	Scuttle side panel upper reinforcement	(see **42A**, **Front upper structure**, **Upper reinforcement of scuttle side panel: Description**, page **42A-19**)		
(**2**)	Scuttle side panel	(see **42A**, **Front upper structure**, **Scuttle side panel: Description**, page **42A-16**)		
(**3**)	Front section of front side member closure panel	(see **41A**, **Front lower structure**, **Front side member closure panel, front section: Description**, page **41A-13**)		
(**4**)	Centre floor front side cross member	(see **41B**, **Centre lower structure**, **Centre floor front side cross member: Description**, page **41B-7**)		
(**5**)	Front side member rear part	(see **41A**, **Front lower structure**, **Front side member, rear section: Description**, page **41A-15**)		
(**6**)	Front side member front section	(see **41A**, **Front lower structure**, **Front side member, front section: Description**, page **41A-8**)		
(**7**)	front-end lower cross member	(see **41A**, **Front lower structure**, **Front end lower cross member: Description**, page **41A-2**)		
(**8**)	Front mounting of front sub-frame	(see **41A**, **Front lower structure**, **Front subframe front mounting: Description**, page **41A-18**)		

No.	Description	Classification	Type	Thickness (mm)
(**9**)	Engine stand	(see **41A**, **Front lower structure**, **Engine stand: Description**, page **41A-21**)		
(**10**)	Front left-hand wheel arch	(see **42A**, **Front upper structure**, **Front wheel arch: Description**, page **42A-22**)		
(**11**)	Front half unit	(see **41A**, **Front lower structure**, **Front half unit: Description**, page **41A-24**)		
(**12**)	Front right-hand wheel arch	(see **42A**, **Front upper structure**, **Front wheel arch: Description**, page **42A-22**)		
(**13**)	Front wheel arch, front section	(see **42A**, **Front upper structure**, **Front wheel arch: Description**, page **42A-22**)		

SIDE STRUCTURE

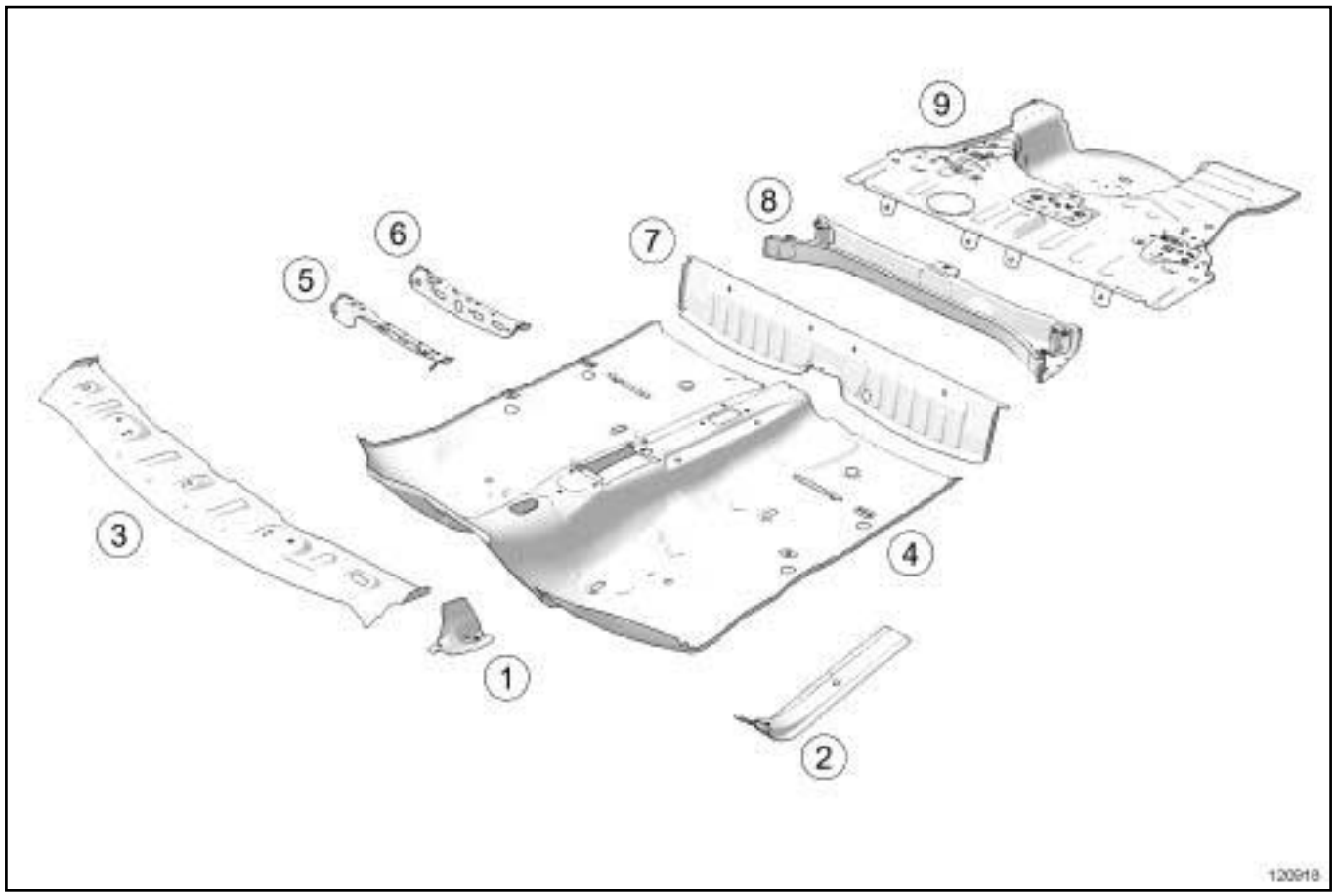


120919

No.	Description	Classification	Type	Thickness (mm)
(**1**)	Roof drip moulding lining	(see **MR 400**)	HLE	**1.3**
(**2**)	Normal roof front cross member	(see **45A**, **Top of body**, **Roof front cross member: General description**, page **45A-8**)	Mild steel	**1**
(**3**)	Roof rear cross member	(see **45A**, **Top of body**, **Roof rear cross member: General description**, page **45A-10**)	HLE	**1.2**
(**4**)	Sill pane stiffener	(see **41C**, **Side lower structure**, **Sill panel stiffener: Description**, page **41C-15**)		
(**5**)	Sill panel reinforcement	(see **41C**, **Side lower structure**, **Sill panel reinforcement: Description**, page **41C-13**)		
(**6**)	A-pillar reinforcement	(see **43A**, **Side upper structure**, **A-pillar reinforcement: Description**, page **43A-6**)		
(**7**)	Sill panel closure panel	(see **41C**, **Side lower structure**, **Sill panel closure panel: Description**, page **41C-10**)		

No.	Description	Classification	Type	Thickness (mm)
(**8**)	B-pillar reinforcement	(see **43A**, **Side upper structure**, **B-pillar reinforcement: Description**, page **43A-10**)		
(**9**)	Windscreen pillar lining	(see **Windscreen pillar lining: Description**)		
(**10**)	A-pillar	(see **43A**, **Side upper structure**, **A-pillar: Description**, page **43A-2**)		
(**11**)	Roof centre cross member	(see **Roof centre cross member: Description**)		
(**12**)	Front section of roof	(see **45A**, **Top of body**, **Roof front section: Description**, page **45A-6**)		
(**13**)	Sill panel	(see **41C**, **Side lower structure**, **Sill panel: Description**, page **41C-5**)		
(**14**)	Roof	(see **45A**, **Top of body**, **Roof: Description**, page **45A-2**)		
(**15**)	Upper body	(see **43A**, **Side upper structure**, **Upper body: Description**, page **43A-17**)		
(**16**)	Rear section of roof	(see **45A**, **Top of body**, **Roof rear section: Description**, page **45A-7**)		

CENTRAL STRUCTURE

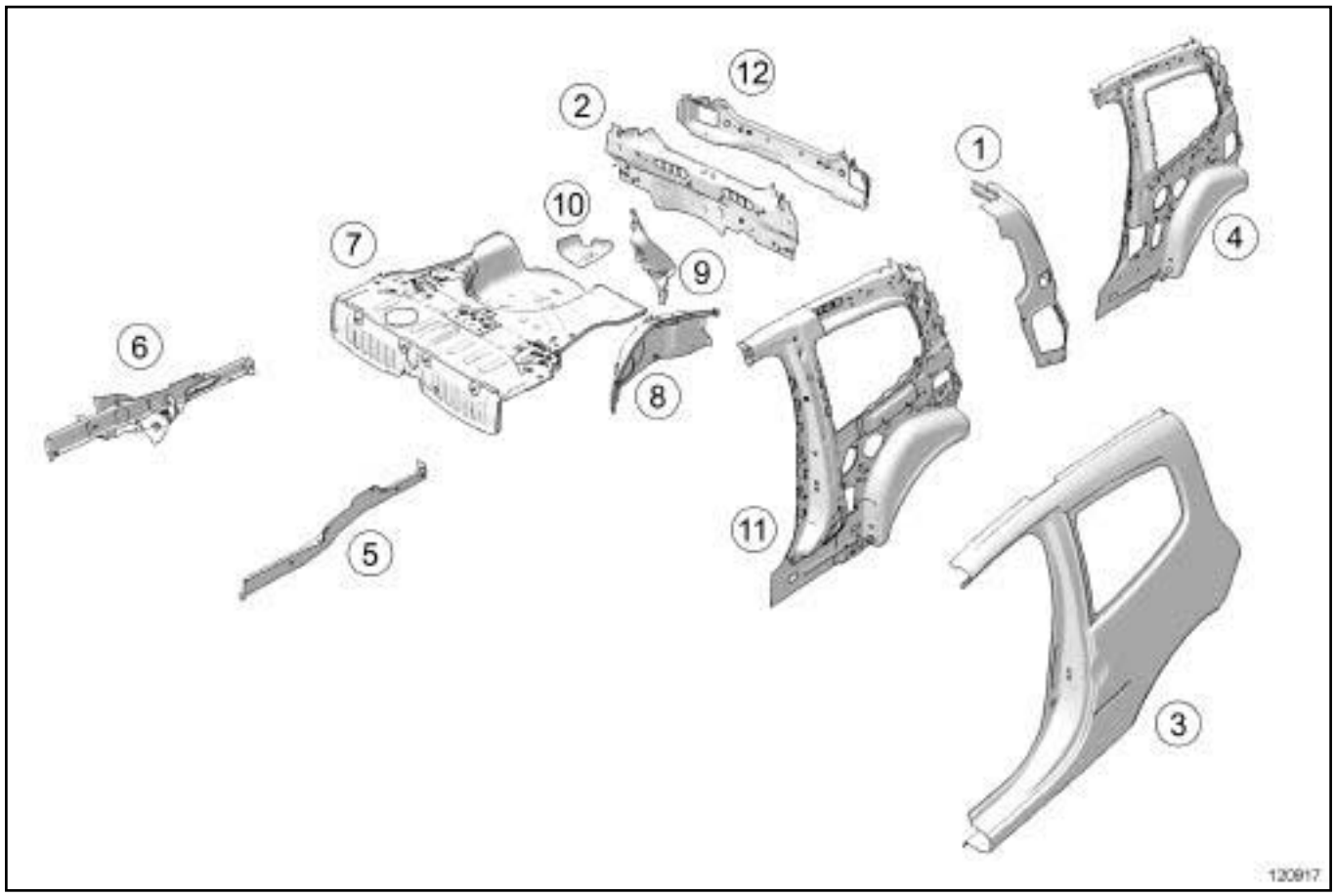


120918

No.	Description	Classification	Type	Thickness (mm)
(**1**)	Central floor reinforcement	(see **41A**, **Front lower structure**, **Front side member, rear section: Description**, page **41A-15**)	HLE	**1.5**
(**2**)	Front side member offset stiffener	(see **41B**, **Centre lower structure**, **Centre floor, side section: Description**, page **41B-3**)	Very high yield strength	**2.5**
(**3**)	Windscreen aperture lower cross member closure panel	(see **42A**, **Front upper structure**, **Windscreen aperture lower cross member closure panel: Description**, page **42A-28**)		
(**4**)	Centre floor, side section	(see **41B**, **Centre lower structure**, **Centre floor, side section: Description**, page **41B-3**)		
(**5**)	Front cross member under front seat	(see **41B**, **Centre lower structure**, **Front cross member under front seat: Description**, page **41B-9**)		
(**6**)	Rear cross member under front seat	(see **41B**, **Centre lower structure**, **Rear cross member under front seat: Description**, page **41B-11**)		

No.	Description	Classification	Type	Thickness (mm)
(**7**)	Rear floor front cross member	(see **41D**, **Rear lower structure**, **Rear floor front cross member: Description**, page **41D-12**)		
(**8**)	Rear floor centre cross member	(see **41D**, **Rear lower structure**, **Rear floor centre cross member: Description**, page **41D-14**)		
(**9**)	Rear floor	(see **41D**, **Rear lower structure**, **Rear floor: Description**, page **41D-1**)		

REAR STRUCTURE

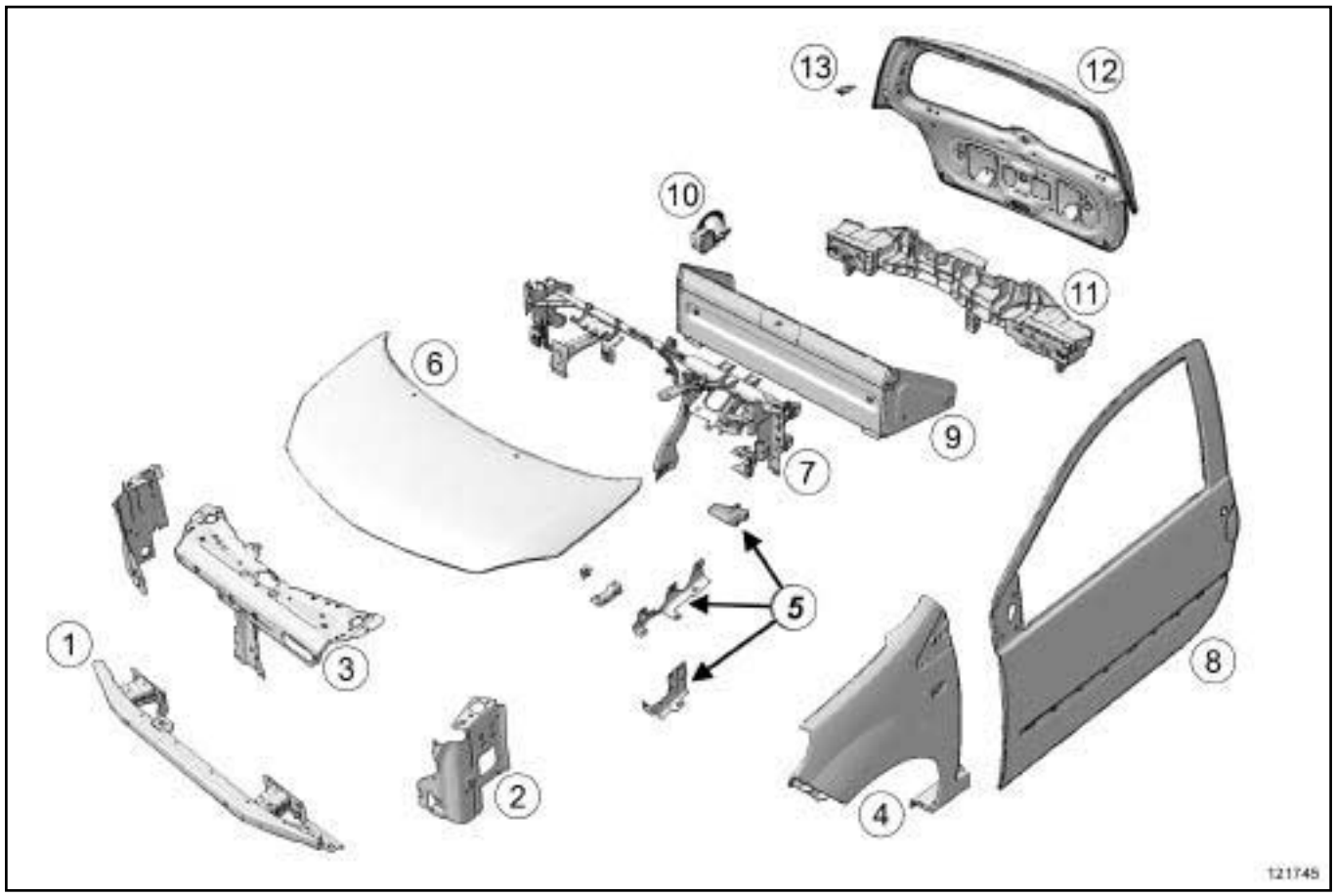


120917

No.	Description	Classification	Type	Thickness (mm)
(**1**)	Quarter panel rear upper stiffener	(see **MR 400**)	HLE	**1**
(**2**)	Rear end panel lining	(see **44A**, **Rear upper structure**, **Rear end panel assembly: Description**, page **44A-22**)	Mild steel	**0.95**
(**3**)	Rear wing panel	(see **44A**, **Rear upper structure**, **Rear wing panel: Description**, page **44A-2**)		
(**4**)	Outer rear wheel arch	(see **44A**, **Rear upper structure**, **Outer rear wheel arch: Description**, page **44A-10**)		
(**5**)	Rear side member	(see **41D**, **Rear lower structure**, **Rear side member: Description**, page **41D-8**)		
(**6**)	Rear side member assembly	(see **41D**, **Rear lower structure**, **Rear side member assembly: Description**, page **41D-5**)		
(**7**)	Rear floor	(see **41D**, **Rear lower structure**, **Rear floor: Description**, page **41D-1**)		
(**8**)	Inner wheel arch	(see **44A**, **Rear upper structure**, **Inner rear wheel arch: Description**, page **44A-14**)		

No.	Description	Classification	Type	Thickness (mm)
(**9**)	Rear light mounting	(see **44A**, **Rear upper structure**, **Rear lights mounting: Description**, page **44A-6**)		
(**10**)	Rear towing eye	(see **41D**, **Rear lower structure**, **Rear towing eye: Description**, page **41D-16**)		
(**11**)	Quarter panel lining	(see **44A**, **Rear upper structure**, **Quarter panel lining: Description**, page **44A-17**)		
(**12**)	Rear end panel	(see **44A**, **Rear upper structure**, **Rear end panel: Description**, page **44A-25**)		

REMOVABLE STRUCTURE

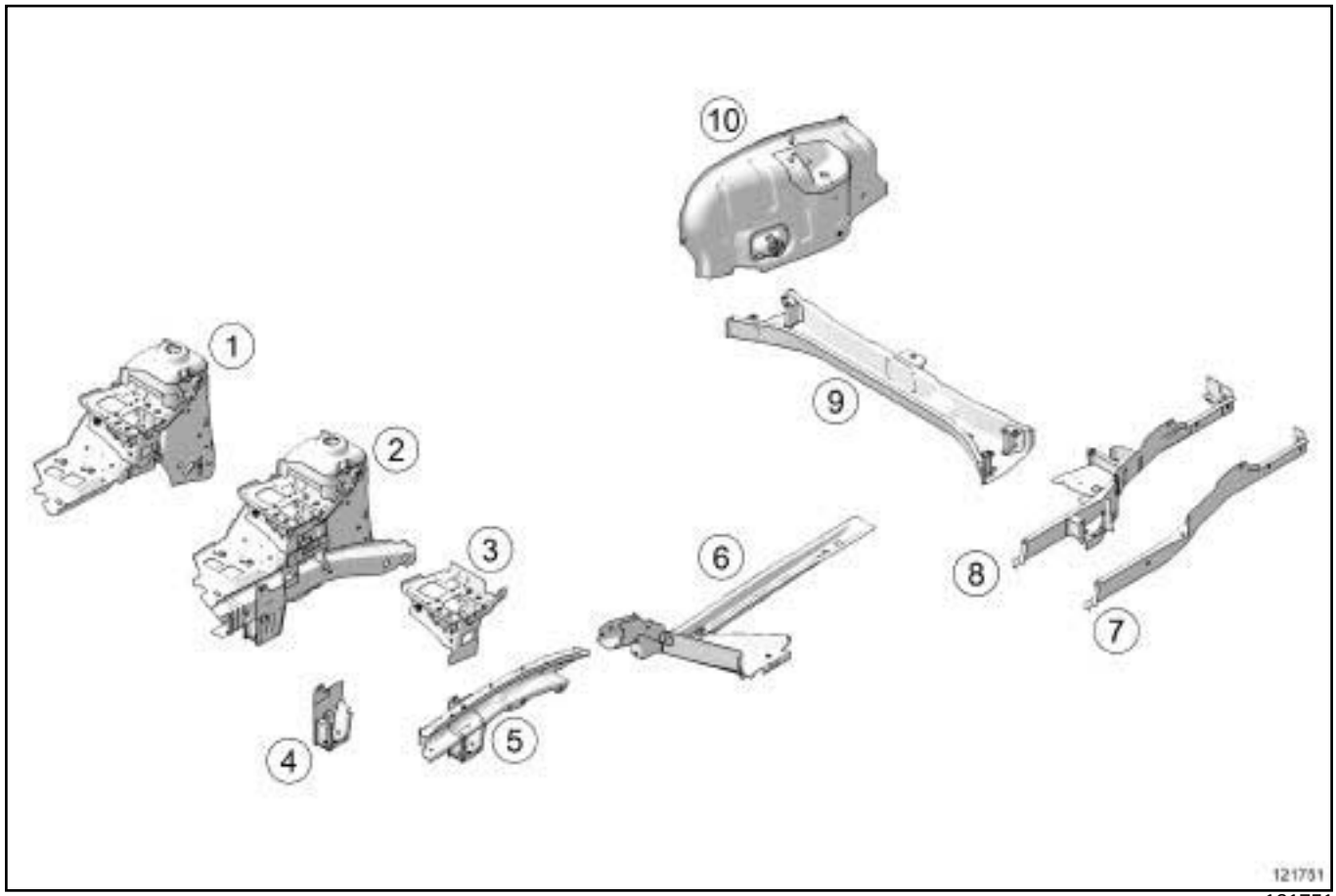


121745

No.	Description	Classification	Type
(**1**)	Radiator mounting cross member	(see **41A**, **Front lower structure**, **Radiator mounting cross member: Removal - Refitting**, page **41A-5**)	Steel
(**2**)	Headlight carrier panel	(see **42A**, **Front upper structure**, **Headlight carrier panel: Removal - Refitting**, page **42A-11**)	Steel
(**3**)	Front upper cross member	(see **42A**, **Front upper structure**, **Front upper cross member: Removal - Refitting**, page **42A-13**)	Steel
(**4**)	Front wing	(see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**)	Noryl
(**5**)	Front wing mounting support	(see **42A**, **Front upper structure**, **Front wing upper mounting support: Removal - Refitting**, page **42A-7**)	Steel

No.	Description	Classification	Type
(**6**)	Bonnet	(see **48A**, **Non-side opening elements**, **Bonnet: Removal - Refitting**, page **48A-1**)	Steel
(**7**)	Dashboard cross member	(see **42A**, **Front upper structure**, **Dashboard cross member: Removal - Refitting**, page **42A-26**)	Steel
(**8**)	Front side door	(see **47A**, **Side opening elements**, **Front side door: Removal - Refitting**, page **47A-1**)	Steel
(**9**)	Offset rear floor, front section	(see **41D**, **Rear lower structure**, **Raised rear floor, front section: Removal - Refitting**, page **41D-4**)	Steel
(**10**)	Filler neck	(see **Filler neck: Removal - Refitting**) (MR 411, 19C, Tank)	Noryl
(**11**)	Rear impact lower cross member	(see **41D**, **Rear lower structure**, **Rear impact lower cross member: Removal - Refitting**, page **41D-18**)	Steel
(**12**)	Tailgate	(see **48A**, **Non-side opening elements**, **Tailgate: Removal - Refitting**, page **48A-6**)	Steel
(**13**)	Strut mounting reinforcement	(see: **MR 400, 40A, General information**)	Steel

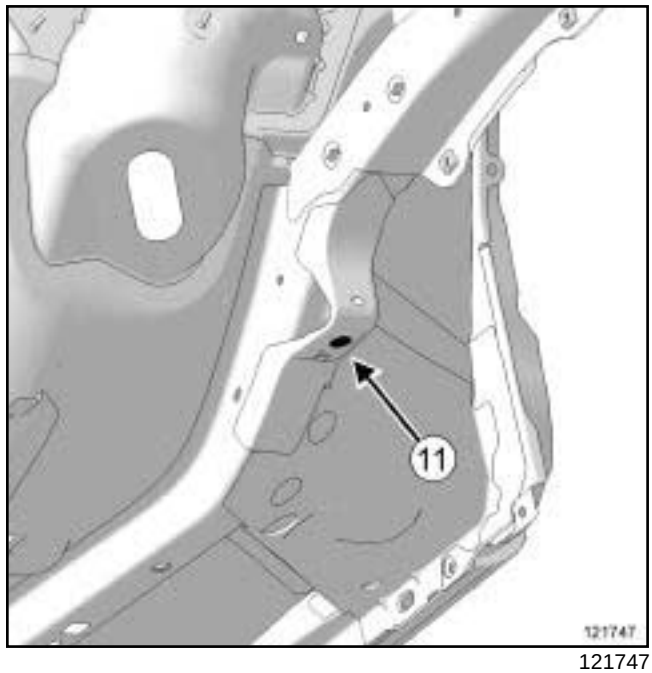
I - PARTS REQUIRING THE USE OF A BODY JIG BENCH



121751

(**1**) Front wheel arch
(**2**) Front half-unit
(**3**) Engine mounting
(**4**) Subframe left-hand front mounting
(**5**) Front side member front section
(**6**) Rear side member rear section
(**7**) Rear side member
(**8**) Rear side member assembly
(**9**) Rear floor centre cross member
(**10**) Inner rear wheel arch

II - FRONT SUBFRAME REAR MOUNTING



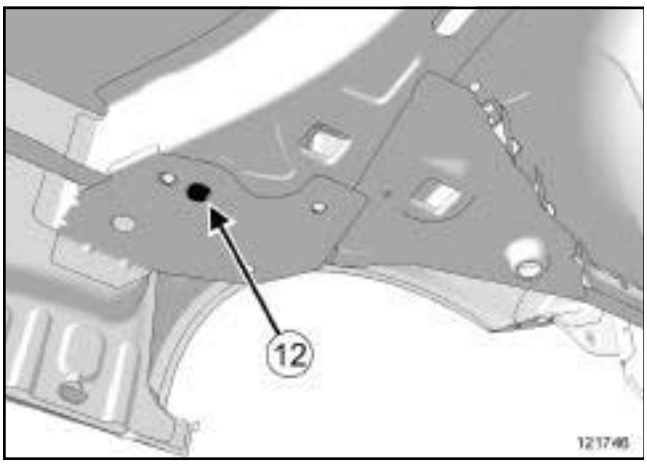
121747

The jig rests against the rear section of the side member and is centred in the sub-frame rear mounting hole (**11**) .

The jig is used for replacing a complete front half unit.

IMPORTANT
This point contributes to ensuring the front axle geometry. This point aligns the subframe of the front axle in relation to the body. This point has a direct influence on all of the front axle angles.

III - REAR AXLE ASSEMBLY FRONT MOUNTING



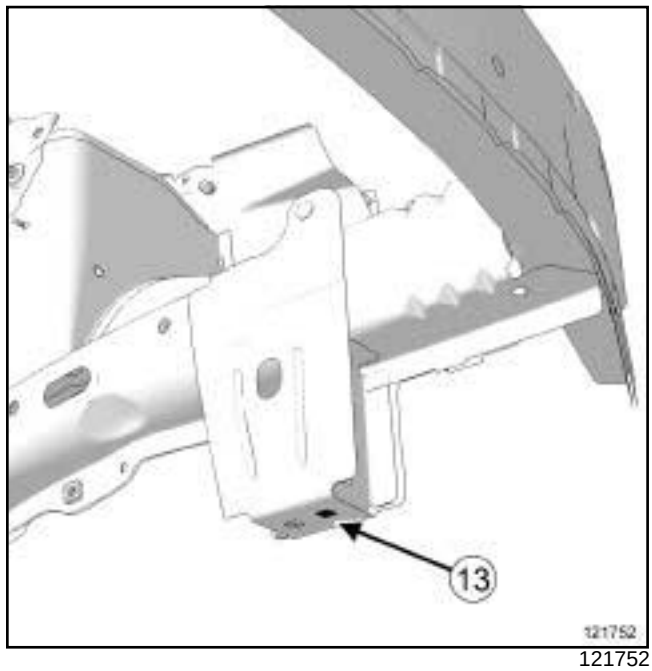
121746

The jig supports the underneath of the rear axle assembly mounting unit and is centred on threaded hole (**12**) of the rear axle bearing mounting.

The jig is used for replacing a rear side member assembly.

IMPORTANT
These points contribute to ensuring the alignment of the rear axle in relation to the body. These points have a direct influence on all of the path angles of the vehicle.

IV - FRONT SUBFRAME FRONT MOUNTING



121752

The jig supports the underneath of the front sub-frame mounting and is centred on tapped hole (**13**) .

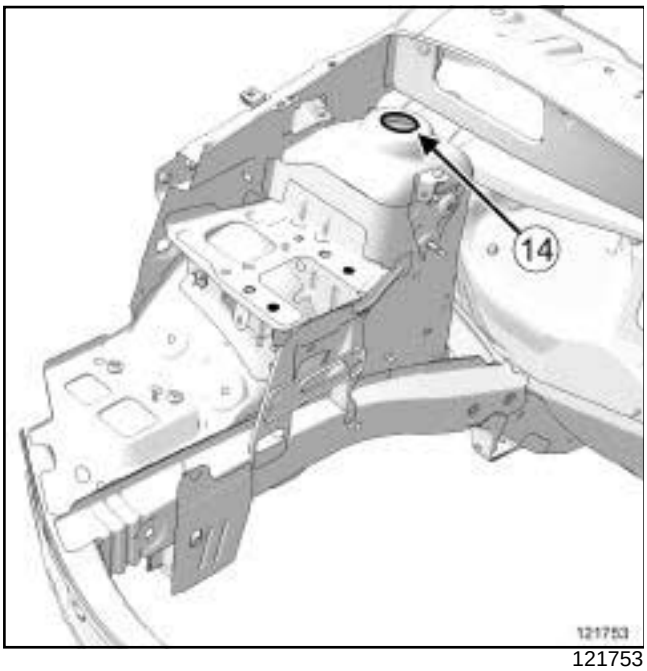
The jig is used to replace:

- a complete front side member,

- a front half unit.

IMPORTANT
This point contributes to ensuring the front axle geometry. This point aligns the subframe of the front axle in relation to the body. This point has a direct influence on all of the front axle angles.

V - FRONT SHOCK ABSORBER UPPER MOUNTING



121753

The jig supports the underneath of the shock absorber cup and is centred on the hole (**14**) of the shock absorber cup.

The jig is used to replace:

- a wheel arch,

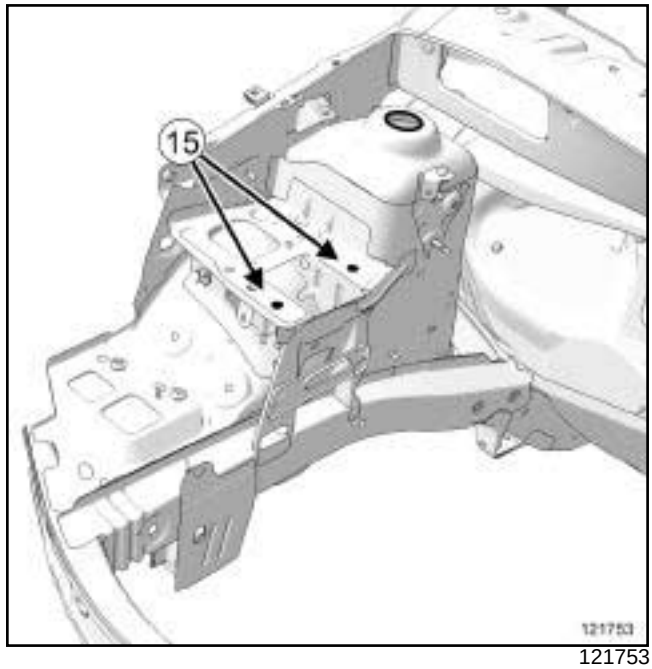
- a front half unit.

The jig is also used in straightening.

IMPORTANT

This point contributes to ensuring the front axle geometry. This point aligns the subframe of the front axle in relation to the body. This point has a direct influence on all of the front axle angles.

VI - ENGINE MOUNTING



121753

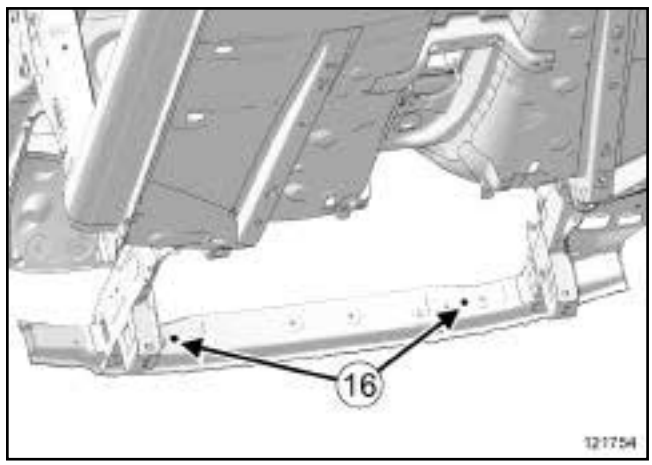
The jig rests on the engine mounting and is centred on engine mounting securing holes (**15**) .

The jig is used with the subframe removed for the replacement of:

- a front half unit.

- the engine mounting.

VII - FRONT IMPACT CROSS MEMBER MOUNTING



121754

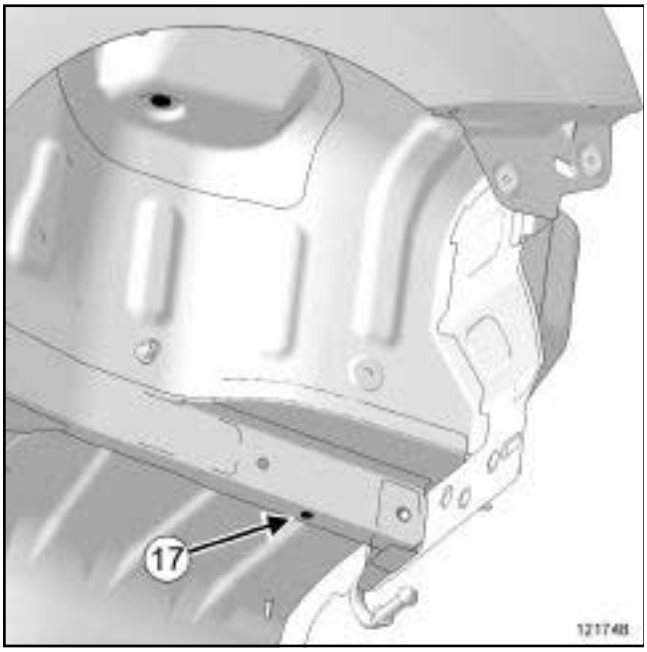
The jig rests vertically against the front end lower cross member mounting unit, it is centred in the mounting holes (**16**) .

The jig is used to replace:

- the radiator cross member mounting,

- the front side member completely or partially,.

VIII - REAR SIDE MEMBER END



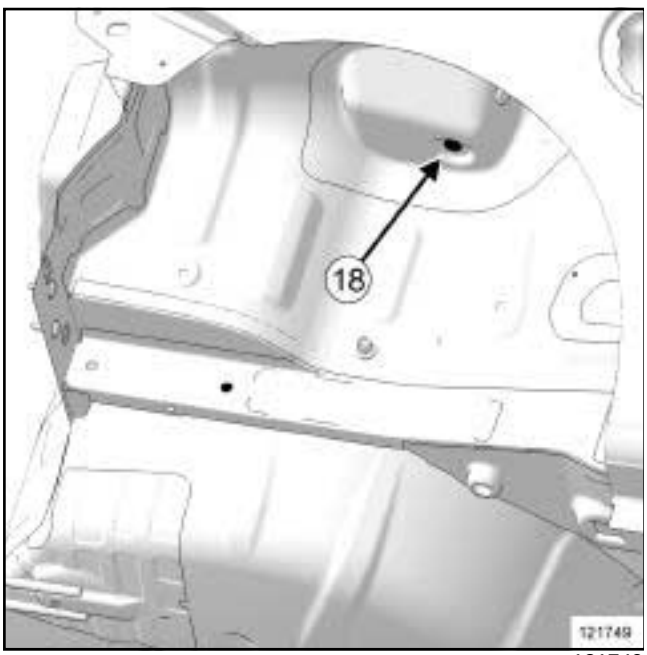
121748

The jig rests under the rear side member and is centred in hole (**17**) .

The jig should be used with the mechanical components in place to realign a rear side member.

The jig is used with the mechanical components removed, under the same conditions, to replace the complete rear side member.

IX - INNER REAR WHEEL ARCH



121749

The jig supports the underneath of the rear shock absorber cup and is centred on hole (**18**) .

The jig is used when replacing the rear wheel arch.

I - - CLASSIFYING INFORMATION

This information is classified in two complementary documents:

1 - Vehicle structure bodywork repair procedures (MR of the vehicle concerned)

This document comprises two sections:

a - Section 0:

This section does not contain repair methods, it only contains description information; it consists of several subsections:

- 01C Vehicle bodywork specifications,
- 02A Lifting equipment,
- 02B Bodywork innovations,
- 03B Collision,
- 04B Consumables - Products,
- 04E Painting,
- 05B Bodywork equipment and tooling.

b - Section 4:

This section consists of several subsections:

- 40A General information,
- 41A Lower front structure,
- 41B Lower central structure,
- 41C Lower side structure,
- 41D Lower rear structure,
- 42A Upper front structure,
- 43A Upper side structure,
- 44A Upper rear structure,
- 45A Top of body,
- 47A Side opening elements,
- 48A Non-side opening elements.

These subsections are linked to the Replacement Parts Catalogue and contain two types of information:

- Section 1: **General description**. This section contains information relating to generic structural spare parts and to their design. This information may be the same for several vehicles.
- Section 2: **Description, Removal - Refitting, Strip - Rebuild and Adjustment**. This section contains information relating to structural spare parts and the special features of the vehicle concerned.

Note:

Always read both parts in order to have all the necessary information to repair the vehicle.

2 - Fundamentals of the structure bodywork repair (MR 400)

This document comprises two sections:

a - Section 0:

this section consists of several subsections:

- 04F Bodywork products and mountings
- 05B Bodywork equipment and tooling

b - Section 4:

This section contains information on the basic operating ranges which concern the bodyshop technician.

this section consists of several subsections:

- 40A General information
- 40B Electrical resistance welded connections
- 40C Gas metal arc welded connections (GMAW)
- 40D Laser welded connections
- 40E Partial replacement connections
- 04F Bonded connections
- 40G Riveted connections
- 40H Screw connections
- 40J Protective devices

II - INFORMATION SEARCH

Questions	Answers
Features of specific tools to repair a given vehicle.	Refer firstly to section 0 of the Vehicle MR then refer to the « special tooling catalogue » or the « garage equipment catalogue » .
Features of specific products to repair a given vehicle.	Firstly refer to section 0 of the Vehicle MR then refer to the « IXELL product catalogue » .
Description and part number of a specific tool to repair a given vehicle.	Firstly refer to section 0 of the Vehicle MR.
Using a bodywork tool.	Refer to subsection 40A of the Vehicle MR.
Information concerning the replacement parts of a given vehicle regarding: - the possibilities of replacement with the position on vehicle, - an adaptation before the assembly, - a cutting place with the special notes on this cut, - special notes on right-left symmetry. - special features of the version or equipment.	Refer to the subsection which corresponds to the part concerned: 41 to 48 of the Vehicle MR.
Information concerning the spare parts of a given vehicle, the composition and the specifications of each part it contains.	Firstly refer to the parts description exploded view in subsection 40 of the Vehicle MR.
	If this is detailed in the document, refer to subsections 41 to 48 of the Vehicle MR which corresponds to the part concerned.
	If this does not appear in the description, refer to subsection 41 to 48 for the part in the next level up.
Information concerning: - details of panel overlap on a joint, - a procedure and an operational mode relating to a new type of assembly in Renault, - a method for using a tool or a new product which is unfamiliar in Renault.	Refer to the subsection which corresponds to the part concerned: 41 to 48 of the Vehicle MR then subsection 40 of Vehicle MR 400.
Towing and raising a vehicle after an accident.	Firstly refer to subsection 02A of the Vehicle MR then the equipment catalogue.
Combination of impacts to repair a given vehicle.	Refer to subsection 03B of the Vehicle MR.
Fault finding on an impact for a given vehicle.	Firstly refer to subsection 03B of the Vehicle MR or MR 400.

Questions	Answers
Logic of impact fault finding.	See MR 400.
General instructions for: - repair, - safety, - preparing a vehicle, - tool classification, - precautions for repair.	Refer to section 0 of the Vehicle MR or MR 400.

III - SYMBOLS FOR STRUCTURE REPAIR PROCEDURES

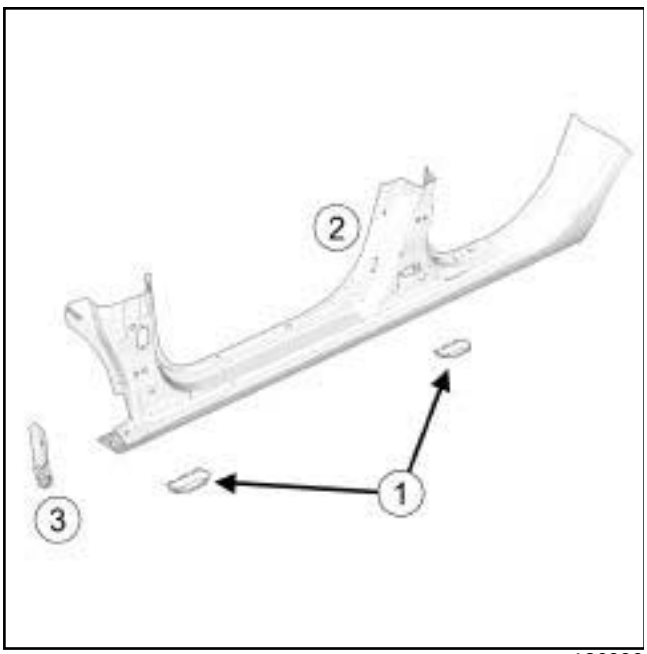
You will find below the detailed explanations of all the symbols used in the structure bodywork methods.

At the top of each DU you will find a reminder of these different components:

- the tightening torques,

- the specific tools.

1 - Specifications of spare parts



136096

When a spare part consists of several parts, a table indicates the components of the spare part with notes on the illustration.

No.	Description	Type	Thickness (mm)
(**1**)			
(**2**)			
(**3**)			

2 - In the event of replacement

Only on illustrations of replacement parts, the bold lines indicate the possible cuts that can be made in the case of a partial replacement.

A list indicates the name and the marks that delimit the replacement

The options for replacing this part are as follows:

- complete replacement A-D-F,

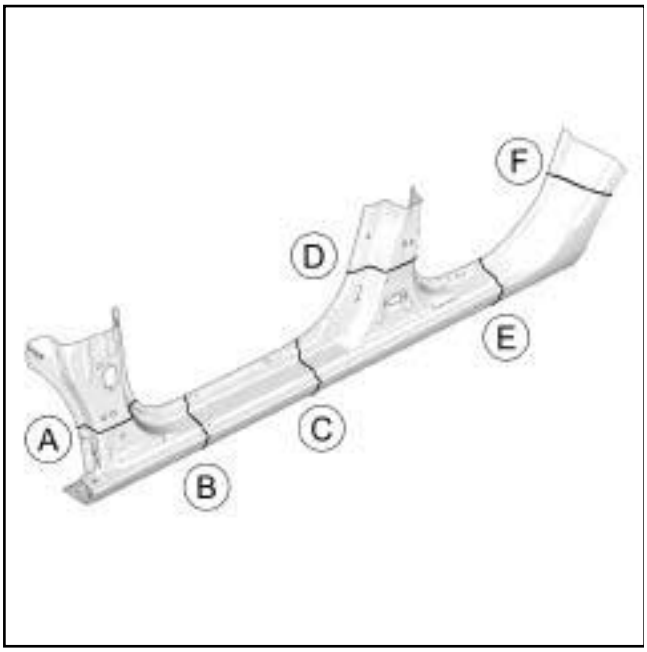
- front end partial replacement A-C,

- front section partial replacement A-D-E,

- partial replacement under door B-C,

- rear section partial replacement C-D-F,

- rear end section partial replacement E-F.



136098

3 - Part in position on the vehicle

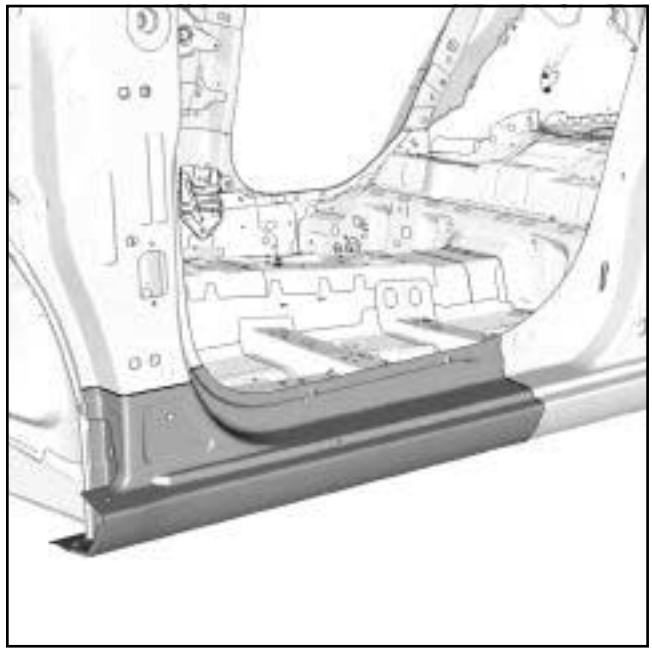
The spare part is always shaded when shown on the vehicle.

The drawings prioritise the different parts depending on the replacement method.

The illustration should show the part to be replaced without the neighbouring components as if they have already been removed.

However, some diagrams may not follow this rule in order to better depict the part in its location.

The structural repair methods are carried out using uncoated steel bodywork panels. The original mastics are not illustrated.



136107

The hidden parts of the spare part are shown with dotted lines.

137597

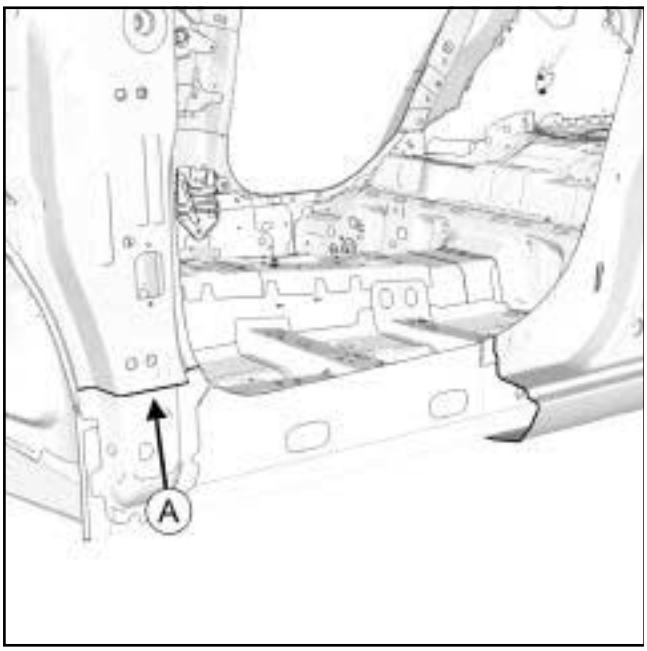
When a part is symmetrical (identical right and left side), there will only be one side shown in the method (e.g.: partial replacement of rear section rear floor).

This means that the same operation is to be carried out on the opposite side (number of spot welds, etc.).

If the opposite is the case, specific details are indicated (including cases with right- and left-hand versions).

4 - Symbols for detailed views

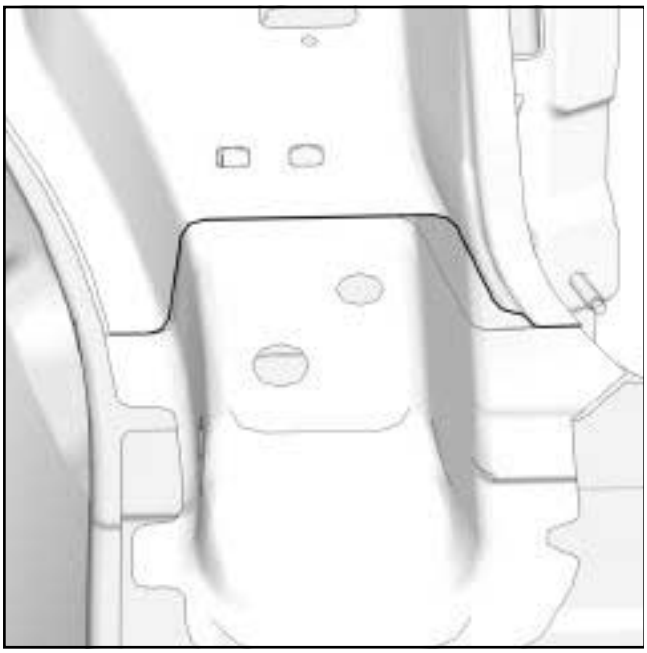
The detailed views define the space between the part to replace and the vehicle structure.



136108

The mark (**A**) designates the viewing direction of the detailed view for proper orientation of the associated detailed view.

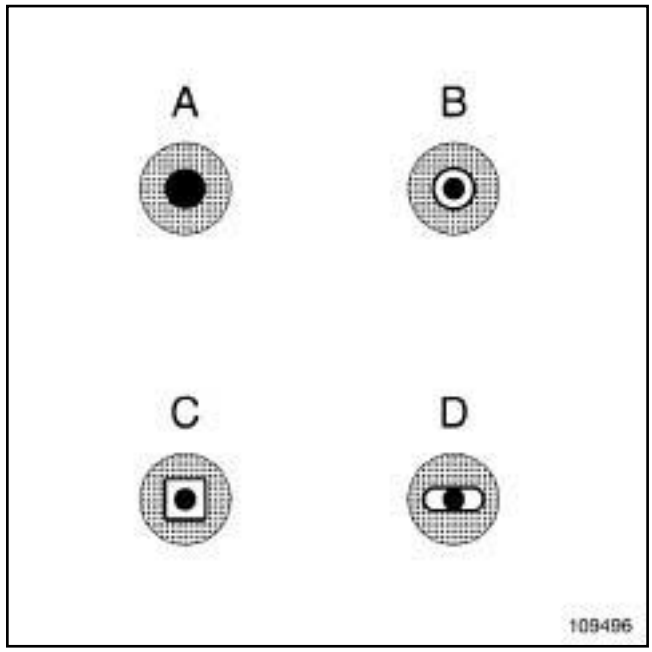
Detailed view A



136100

5 - Symbols for opening element adjustments

Different symbols indicate the possibilities for adjustment



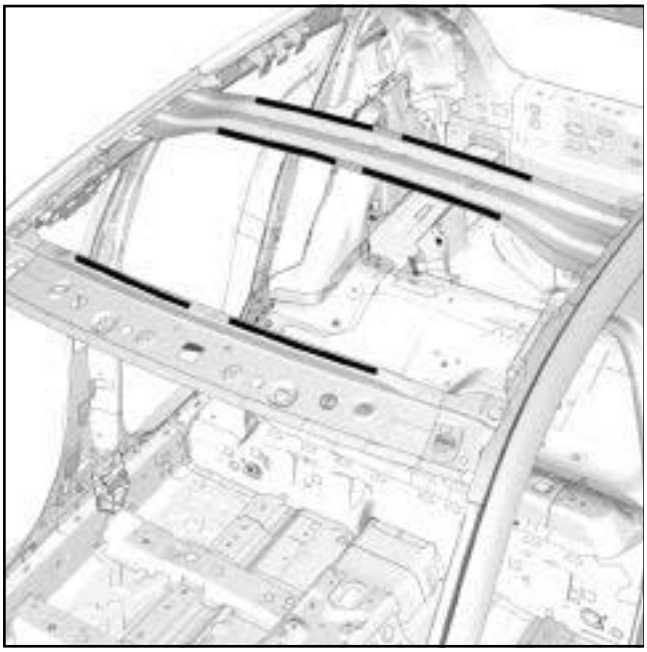
109496

The mountings are shaded.

137603

6 - Symbols for adhesives and mastics

A shaded band represents the path of a bead of adhesive or mastic.



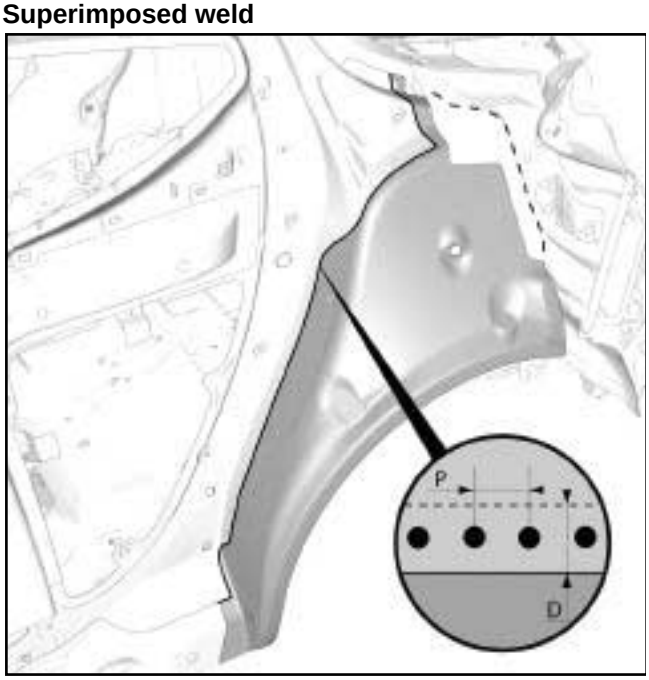
136359

7 - Symbols for welds

Different symbols represent the type of weld to be made if it is not an original weld.

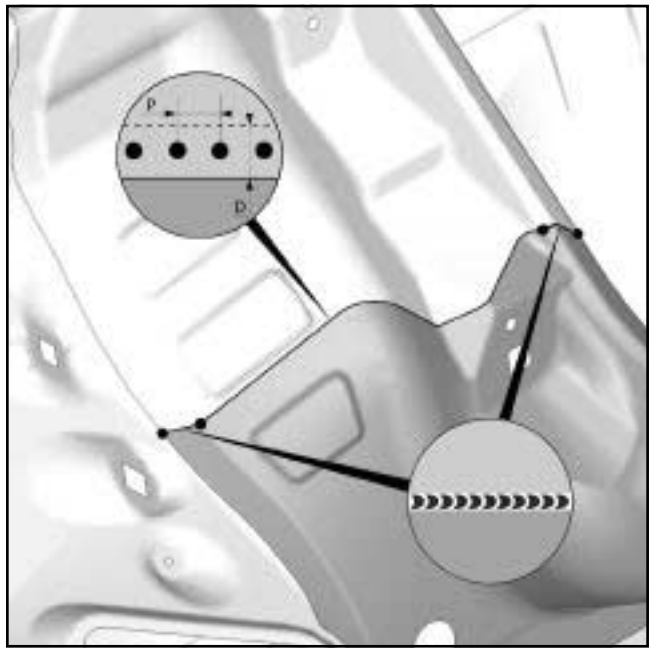
In case of superimposed or joggle welds, the type of weld to be made is indicated in the text accompanying the illustration.

Superimposed weld



137559

Combination of two types of welds



137242

If two types of welds are used, points delimit the areas.

WARNING

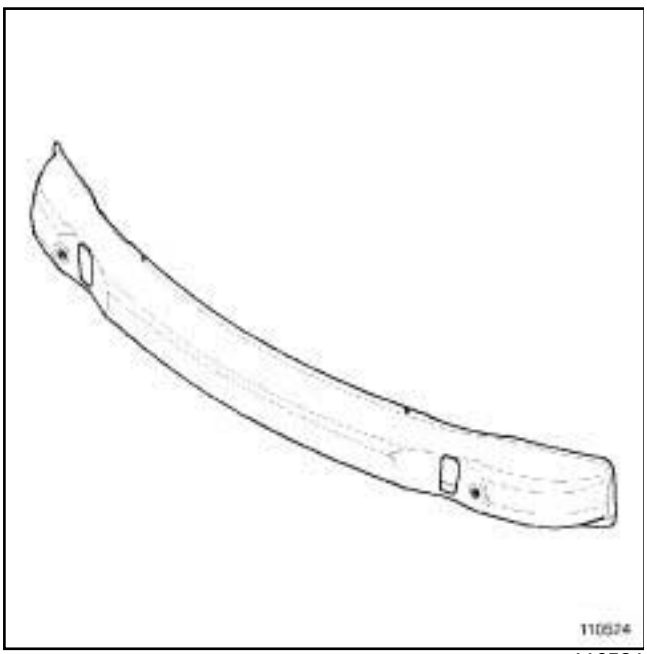
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

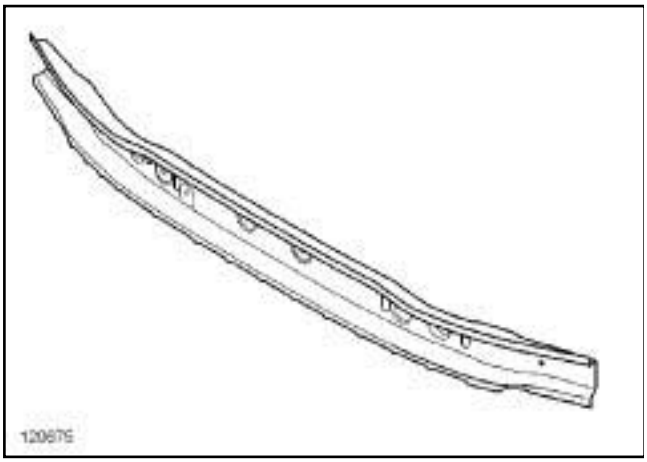
For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

DESIGN OF THE STRUCTURAL COMPONENT



110524

A special feature of this part is that it is welded to the front side members.



120675

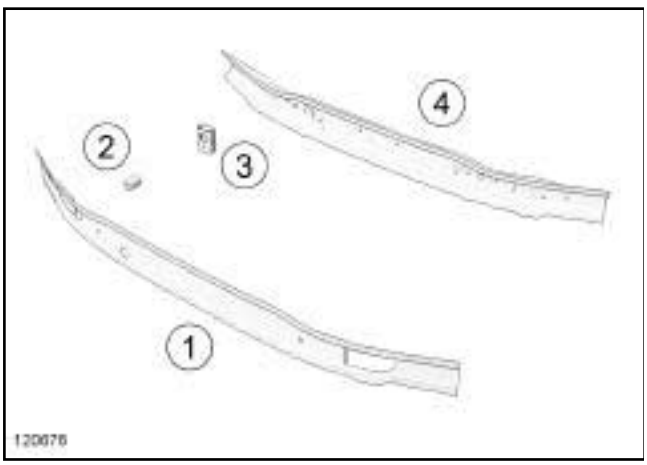
There is only one way of replacing this part:

- complete replacement.

Note:

The repair bench does not have to be used, on condition that the side members have not been affected by the impact.

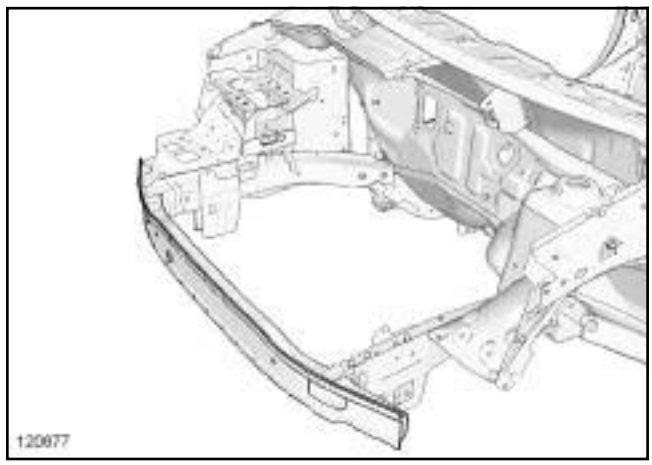
I - COMPOSITION OF THE SPARE PART



120676

No.	Description	Type	Thic-kness (mm)
(**1**)	Front cross member closure panel	HLE	**1.5**
(**2**)	Tow hitch socket	Mild steel	**-**
(**3**)	Front tow hitch support	Mild steel	**3**
(**4**)	Front end cross member	HLE	**1.5**

II - PART FITTED

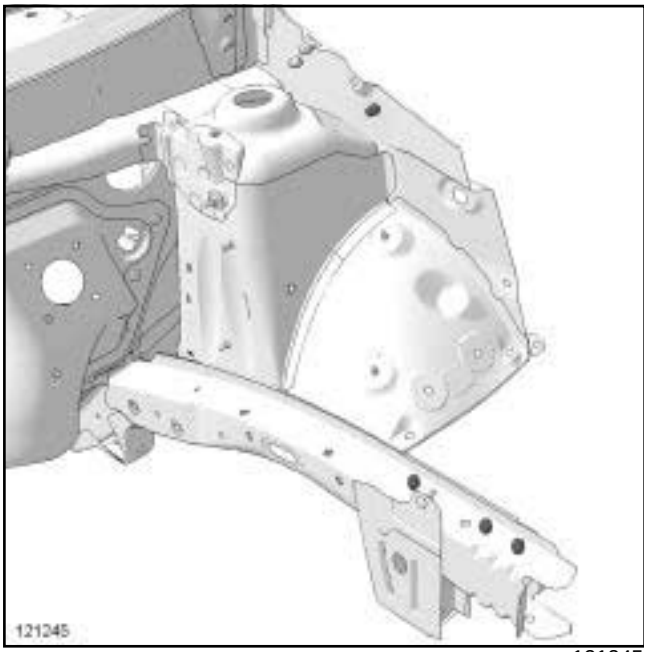


120677

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

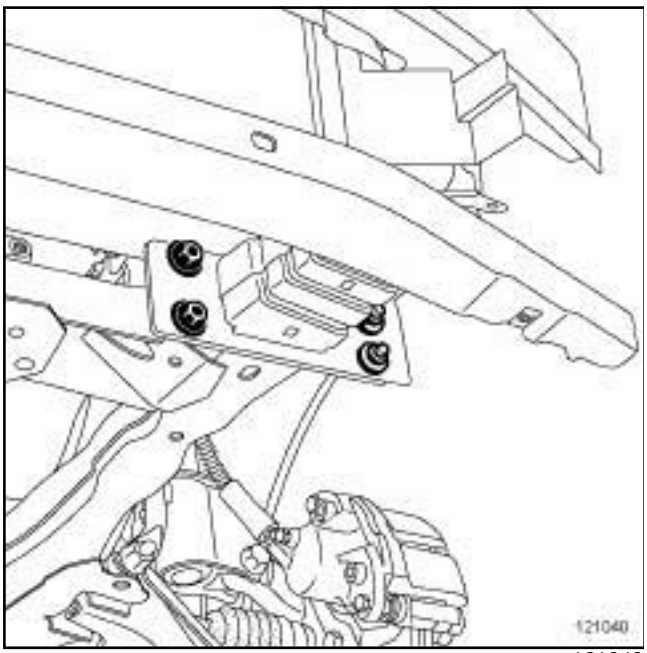
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



121040

This steel part, which bolts onto the end of the front axle subframe, combines two functions:

- absorption of front impact forces,

- radiator support cross member.

Tightening torques ▽	
radiator mounting cross member bolts	**44 Nm**

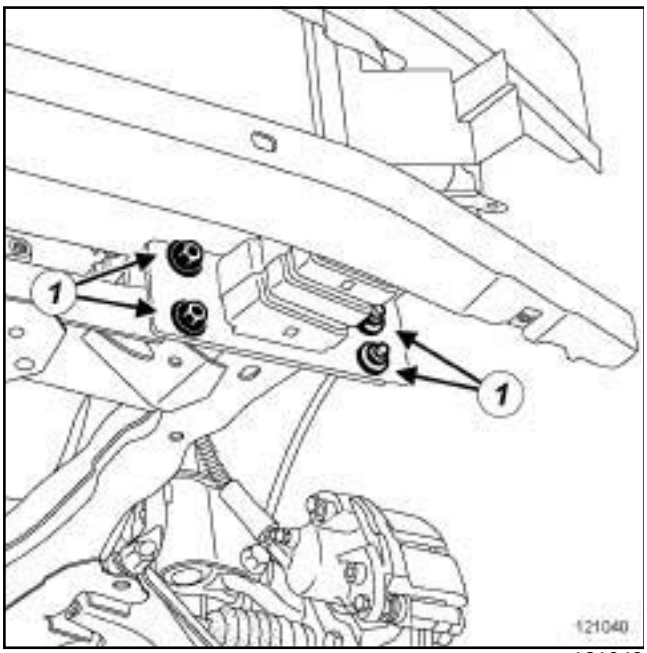
REMOVAL

I - REMOVAL PREPARATION OPERATION

❏ Remove the front bumper ((see **Front bumper: Removal - Refitting**)).

❏ Attach the radiator upper section.

II - OPERATION FOR REMOVAL OF PART CONCERNED



121040

❏ Remove:

- the bolts (**1**) ,
- the radiator mounting cross member.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❏ Refit:

- the radiator mounting cross member,
- the bolts ***(1)*** .

❏ Torque tighten the **radiator mounting cross member bolts (44 Nm)**.

II - FINAL OPERATION.

❏ Detach the radiator upper section.

❏ Refit the front bumper ((see **Front bumper: Removal - Refitting**)).

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

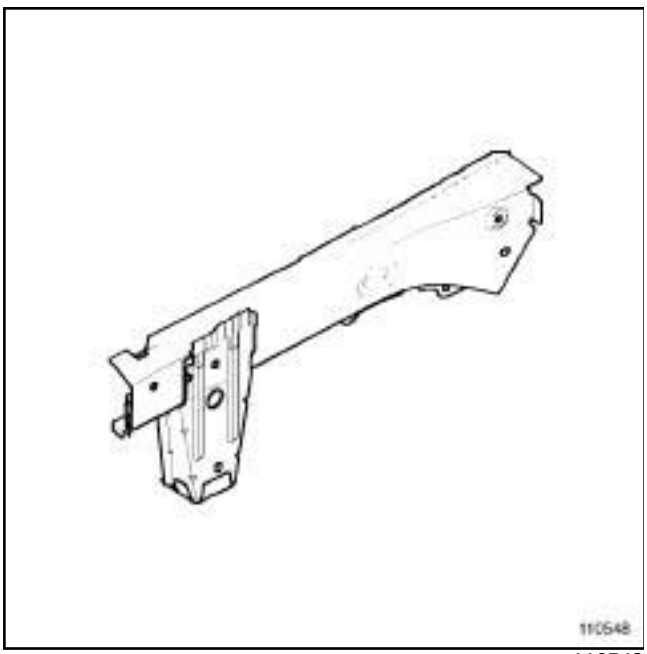
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

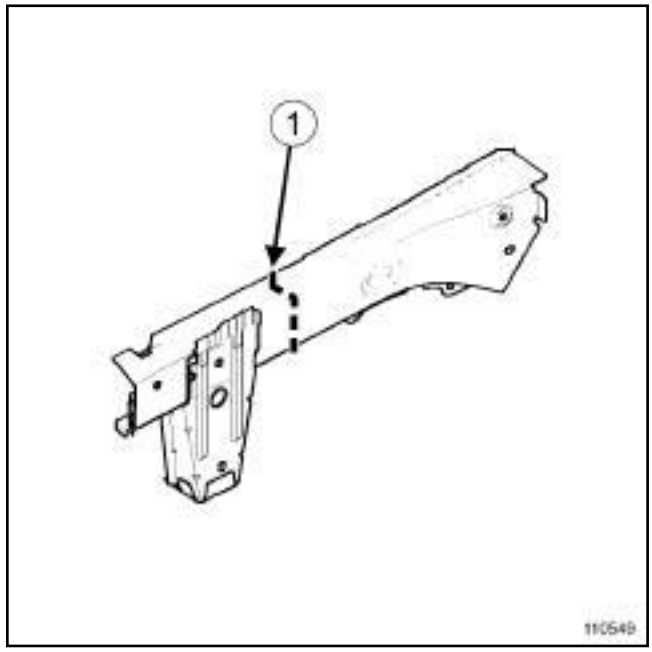
I - DESIGN OF THE STRUCTURAL COMPONENT



110548

This is a basic part; its only function is that of front side member, front section.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110549

Cut 1:

This line marks the place in which it is possible to make a partial replacement.

This operation allows you to access the inside of the hollow section of the structural element to straighten it.

Note:

For the partial replacement of parts constituting a single structural component, it is essential to stagger the welds of each of the components.

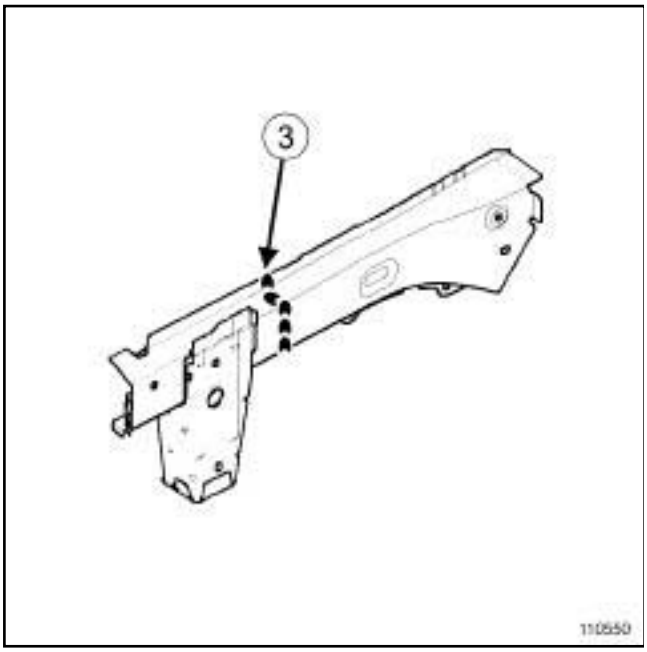
In this case, the side member weld line must be staggered from that of its closure panel.

III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

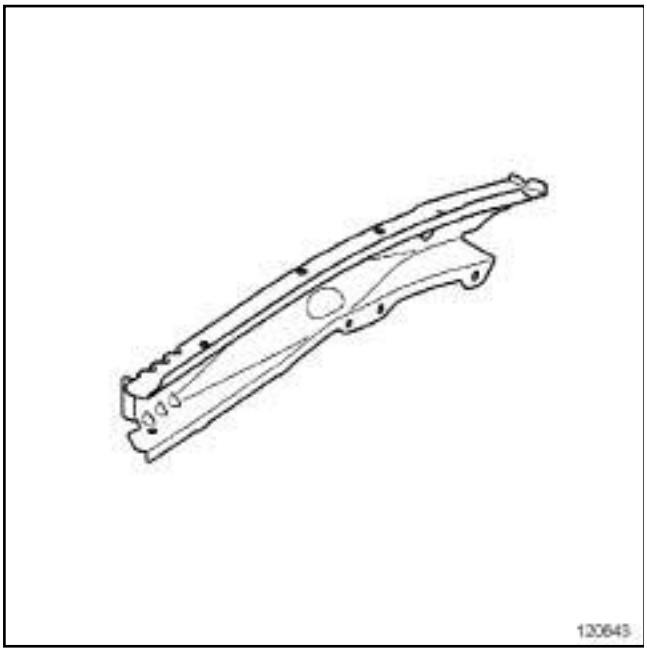
WARNING
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



110550

Line (**3**) on the drawing shows a butt weld by continuous EGW welding.


120643

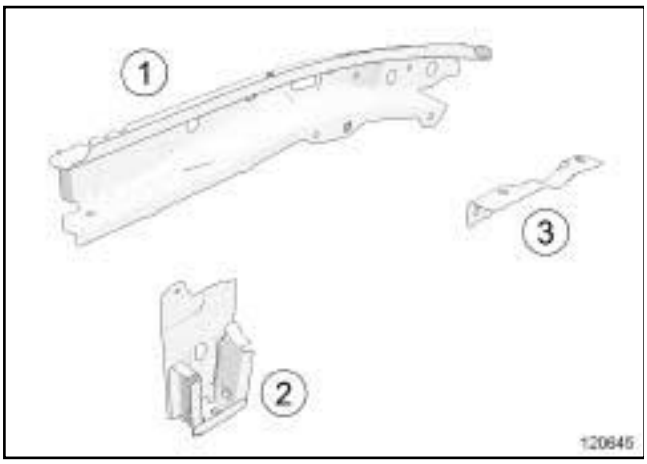
The options for replacing this part are as follows:

- partial replacement,
- complete replacement.

IMPORTANT
The straightening bench must be used.

I - COMPOSITION OF THE SPARE PART

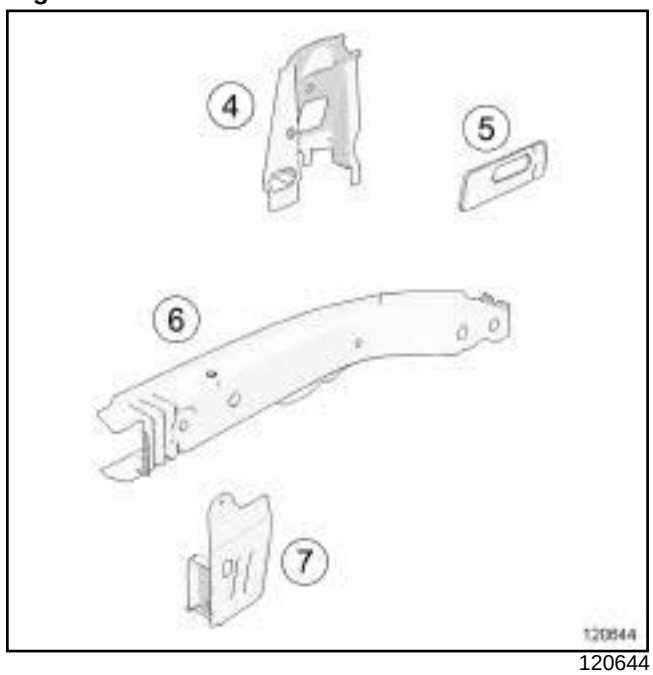
Left side



120645

No.	Description	Type	Thic-kness (mm)
(**1**)	Front side member front section	HLE	**1.5**
(**2**)	Front mounting of front subframe	HLE	**1.2**
(**3**)	Front side member inner stiffener	Mild steel	**1.2**

Right-hand side



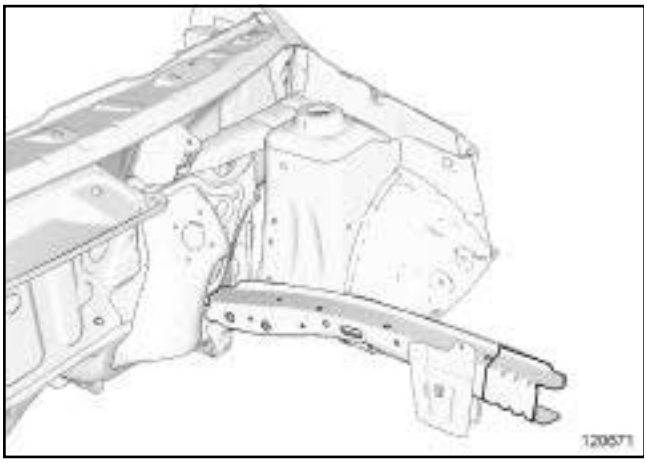
120644

No.	Description	Type	Thic-kness (mm)
(**4**)	Engine mounting reinforcement	Mild steel	**1.5**
(**5**)	Engine mounting stiffener closure panel component	Mild steel	**1**
(**6**)	Front side member front section	HLE	**1.5**
(**7**)	Front mounting of front subframe	HLE	**1.2**

II - PART FITTED

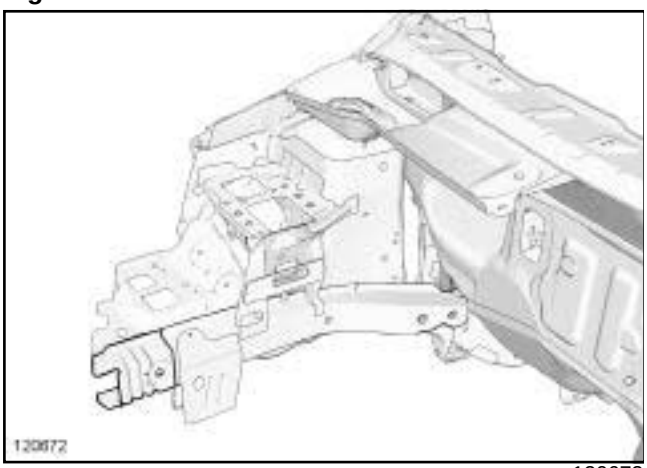
1 - Partial replacement

Left side



120671

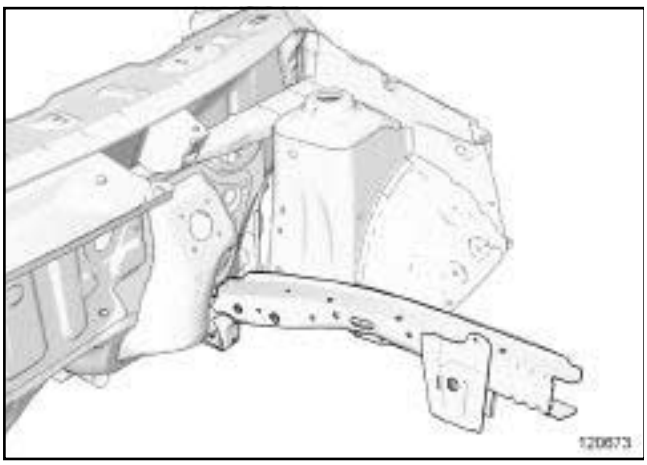
Right-hand side



120672

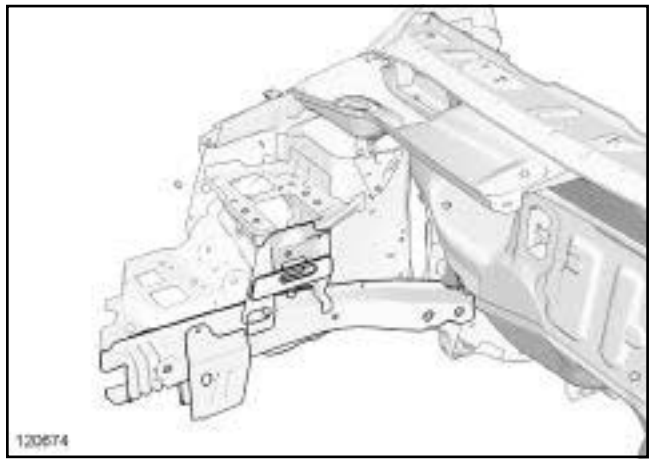
2 - Complete replacement

Left side



120673

Right-hand side

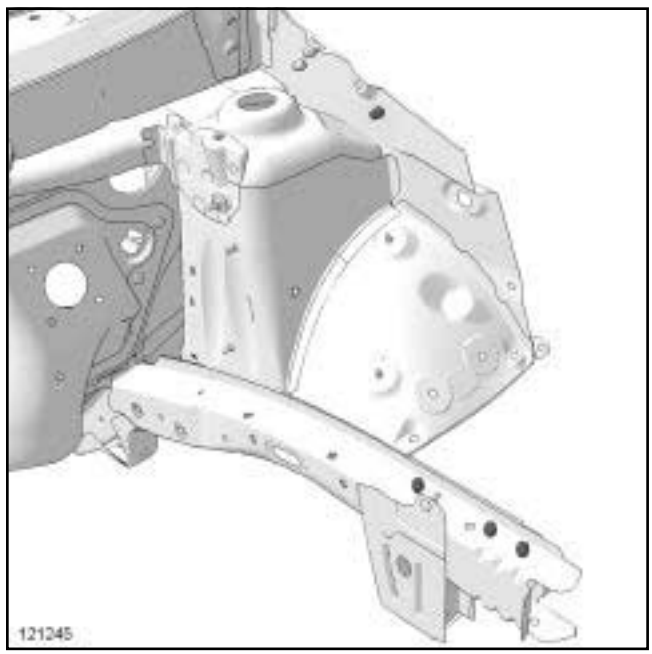


120674

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

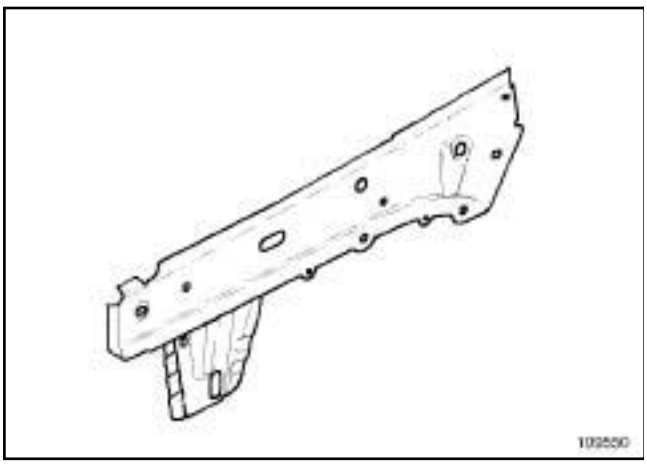
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

I - DESIGN OF THE STRUCTURAL COMPONENT



109550

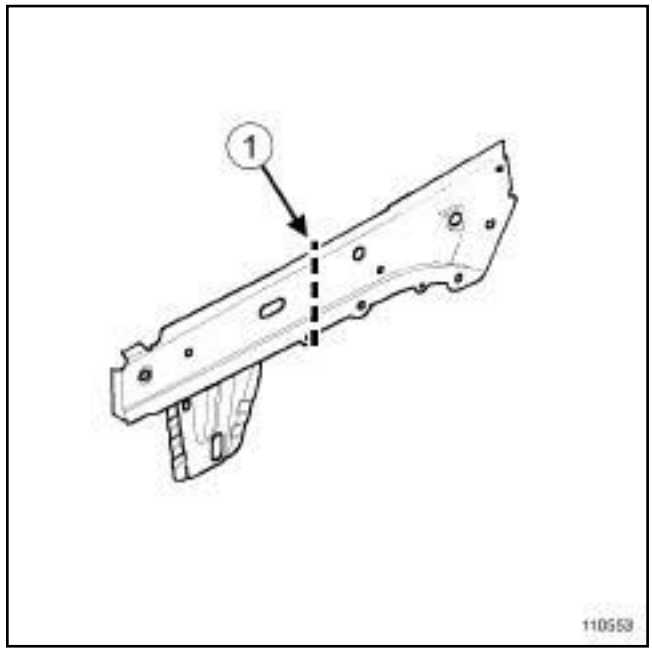
This is a basic part; its only function is that of front side member closure panel, front section.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT

Note:

For the partial replacement of parts constituting a single structural component, it is essential to stagger the welds of each of the components.

For removal of the side member (see **Front side member: Description**) .



110553

Cut 1:

This line shows the centre of the area in which it is possible to carry out a partial replacement.

This operation allows you to access the inside of the hollow section of the structural component to straighten it.

III - ASSEMBLY INSTRUCTIONS FOR A PARTIAL REPLACEMENT

In this case, the side member weld line must be staggered from that of its closure panel.

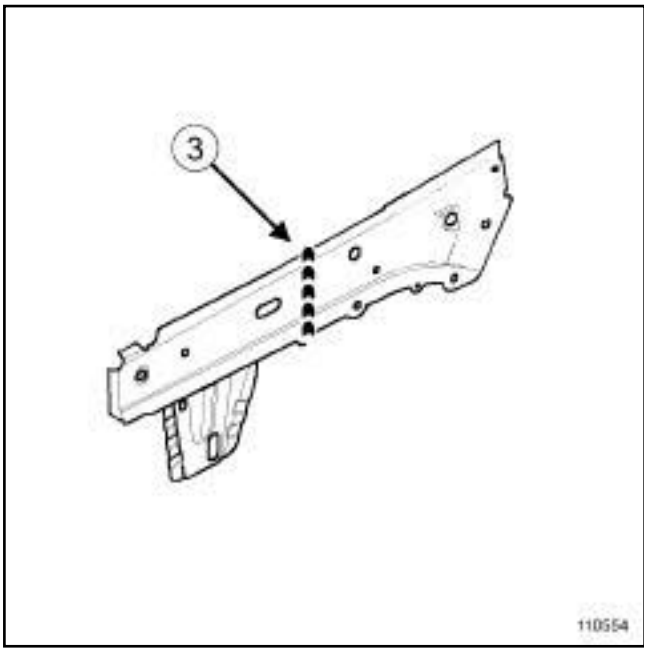
Note:

For the partial replacement of parts constituting a single structural component, it is essential to stagger the welds of each of the components.

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



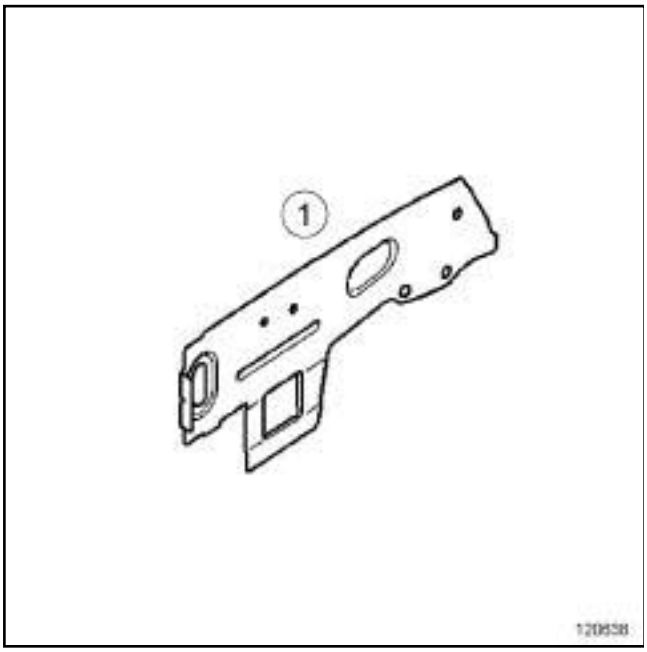
110554

Line (**3**) on the drawing shows a butt weld by continuous EGW welding.

The options for replacing this part are as follows:

- partial replacement,
- complete replacement.

I - COMPOSITION OF THE SPARE PART



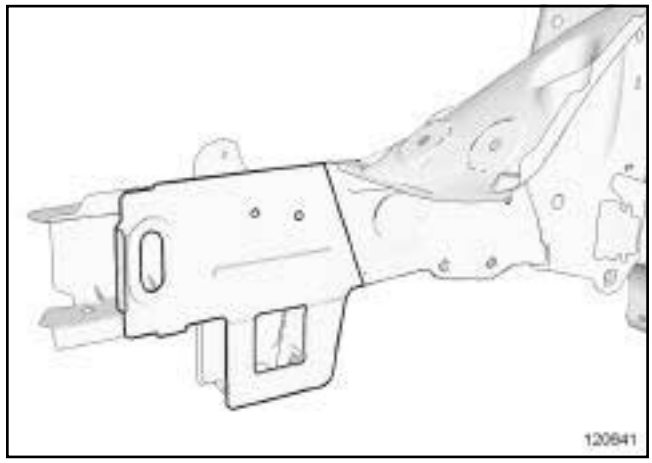
120638

No.	Description	Type	Thic-kness (mm)
(**1**)	Front section of front side member closure panel	HLE	**1.4**

II - PART FITTED

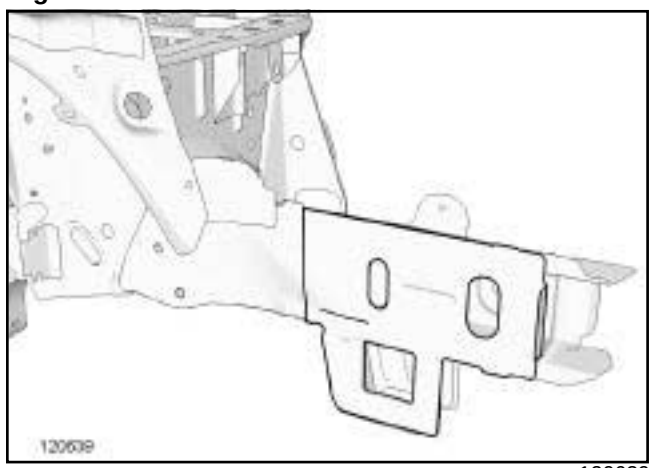
1 - Partial replacement

Left-hand side



120641

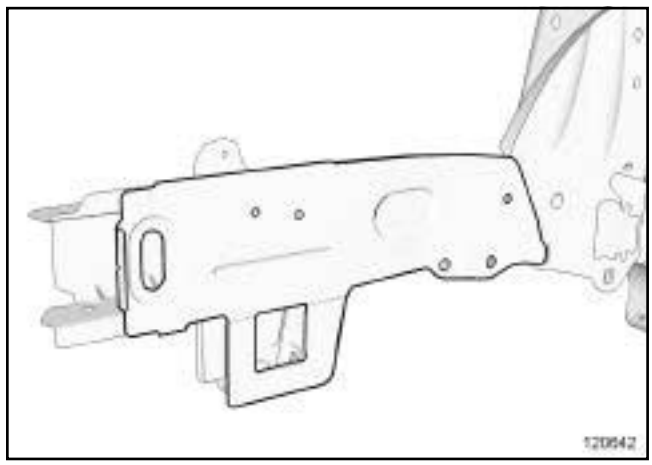
Right-hand side



120639

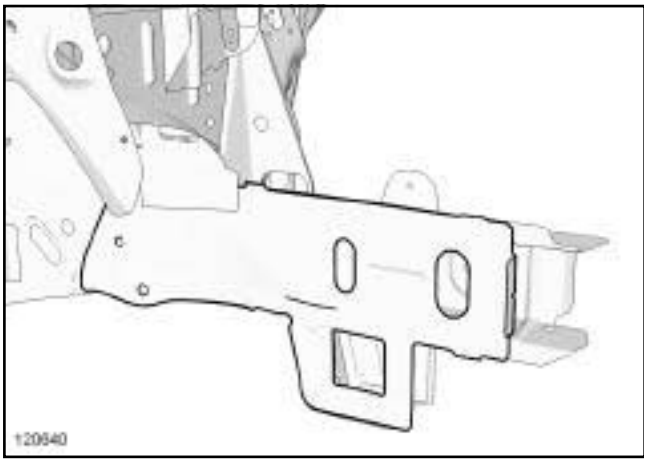
2 - Complete replacement

Left-hand side



120642

Right-hand side

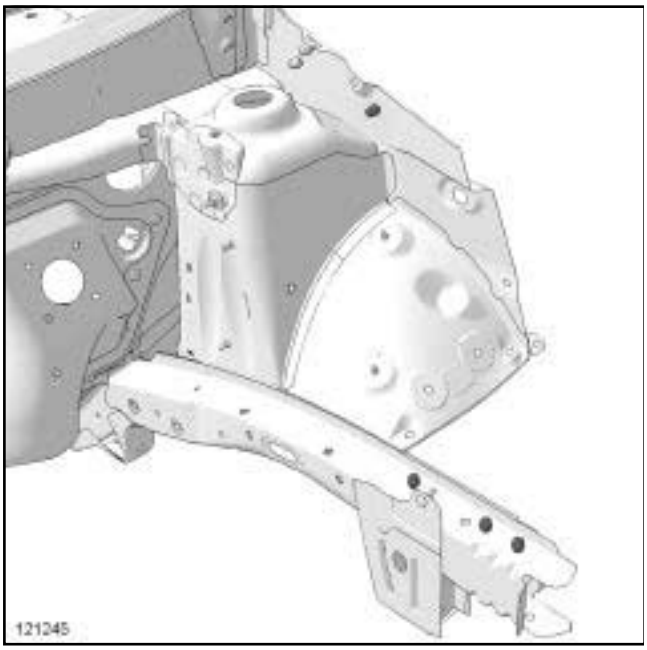


120640

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS

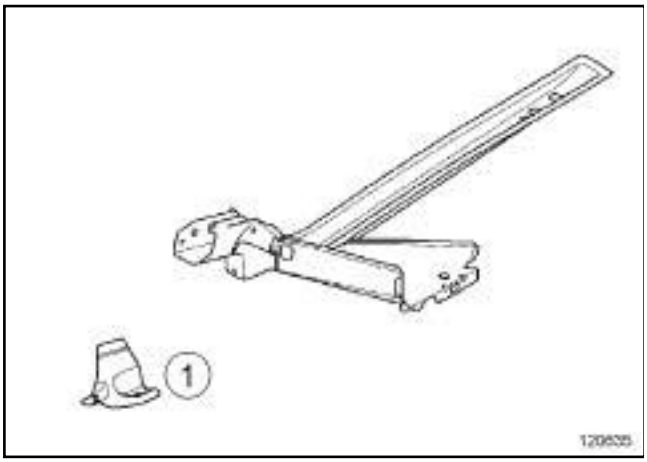


121245

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).



120635

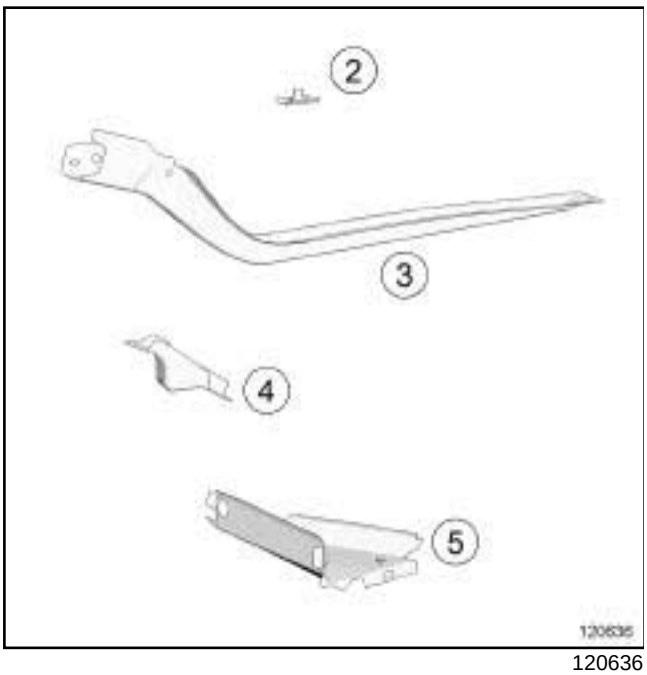
To replace this part, also order the centre floor reinforcement (**1**) .

There is only one way of replacing this part:

- complete replacement.

IMPORTANT
The straightening bench must be used.

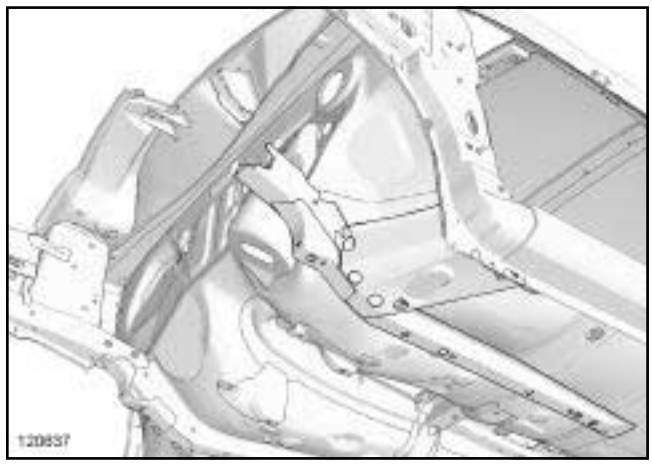
I - COMPOSITION OF THE SPARE PART



120636

No.	Description	Type	Thic-kness (mm)
(**2**)	Front subframe rear mounting stiffener	Mild steel	**2**
(**3**)	Front side member rear part	HLE	**2**
(**4**)	Front subframe rear mounting	Mild steel	**2.5**
(**5**)	Centre floor front side cross member	Mild steel	**1**

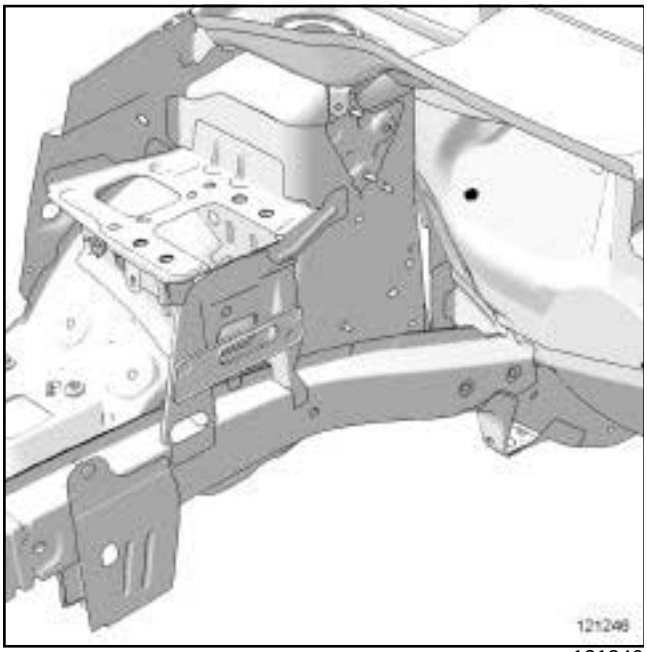
II - PART FITTED



120637

WARNING
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

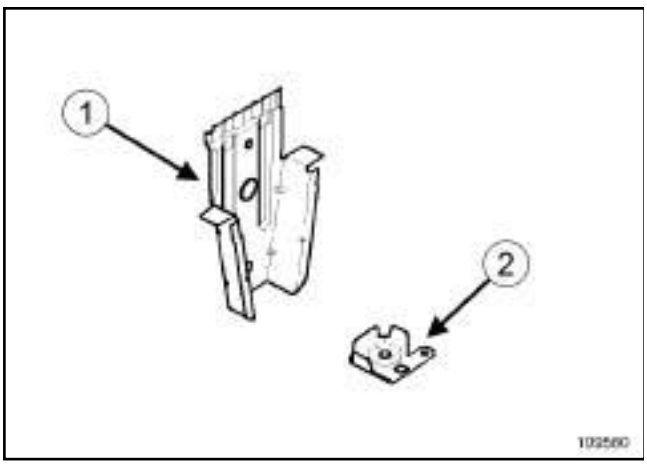
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

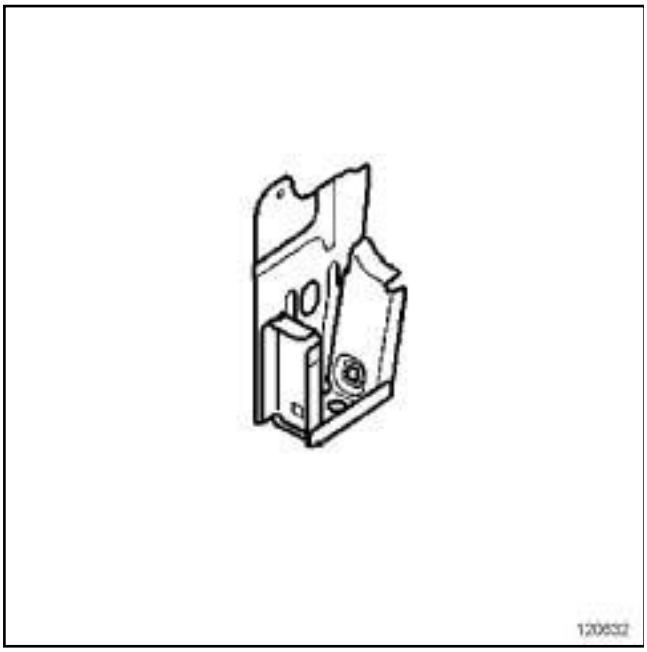
DESIGN OF THE STRUCTURAL COMPONENT



109560

This part comprises two components:

- front subframe front mounting support unit (**1**) ,
- front subframe front mounting component (**2**) .



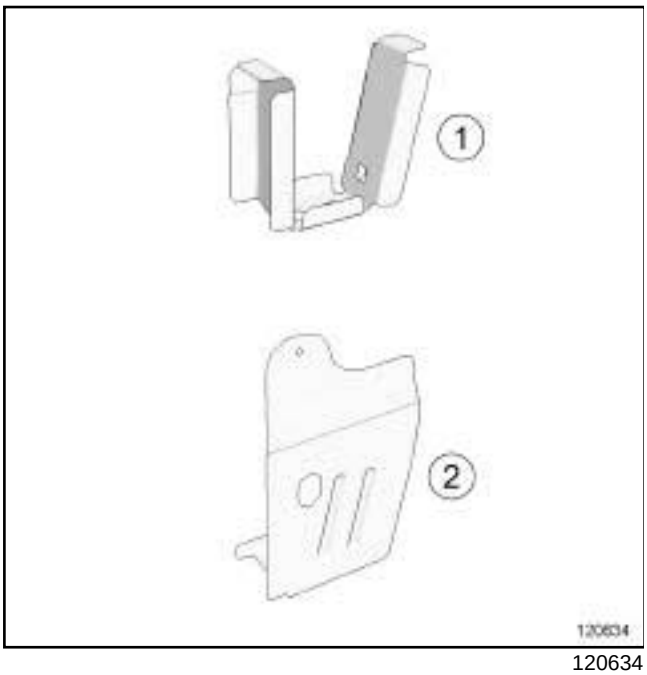
120632

There is only one way of replacing this part:

- complete replacement.

IMPORTANT
The straightening bench must be used.

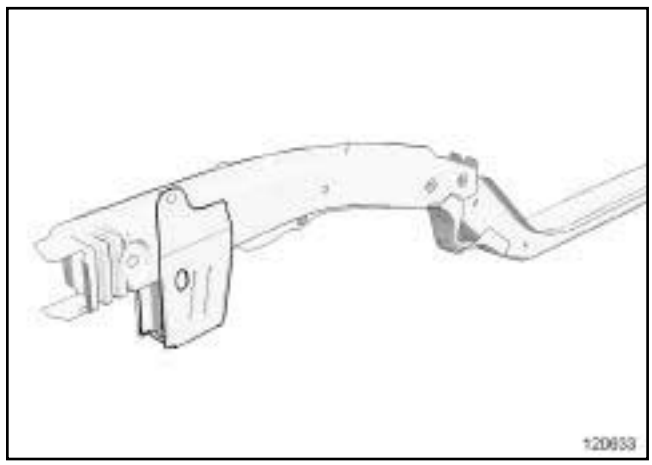
I - COMPOSITION OF THE SPARE PART



120634

No.	Description	Type	Thic-kness (mm)
(**1**)	Front mounting of subframe, outer section	HLE	**1.2**
(**2**)	Front mounting of subframe, inner section	HLE	**1.2**

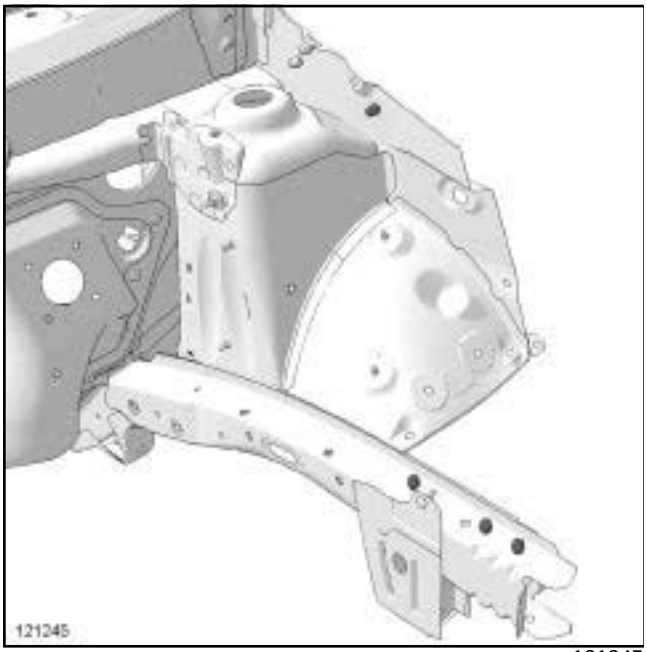
II - PART FITTED



120633

WARNING
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

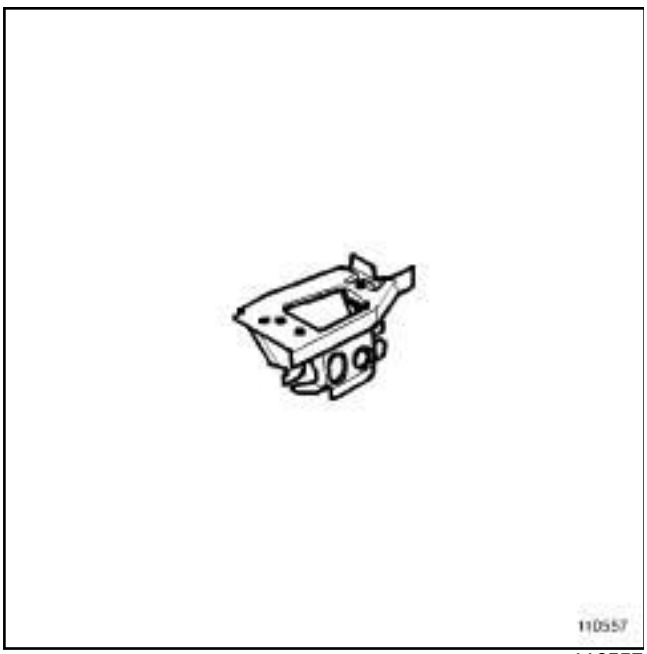
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

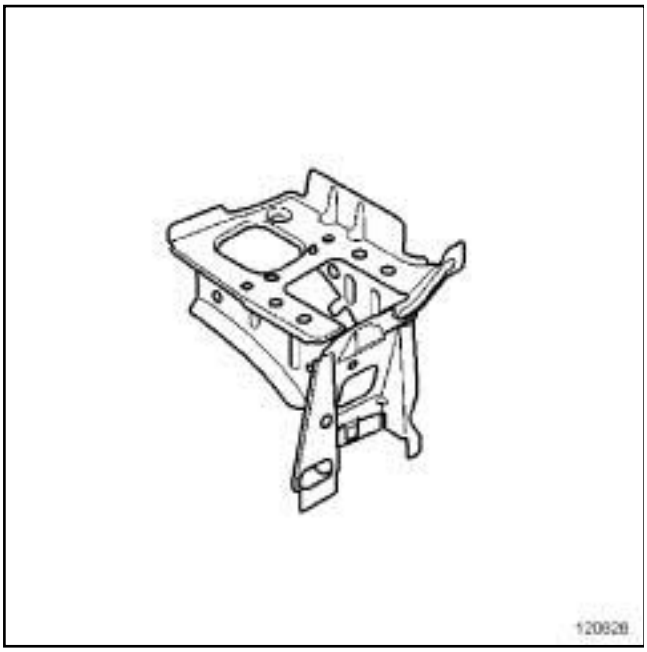
For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



110557

This is a basic part; it only functions as an engine mounting.



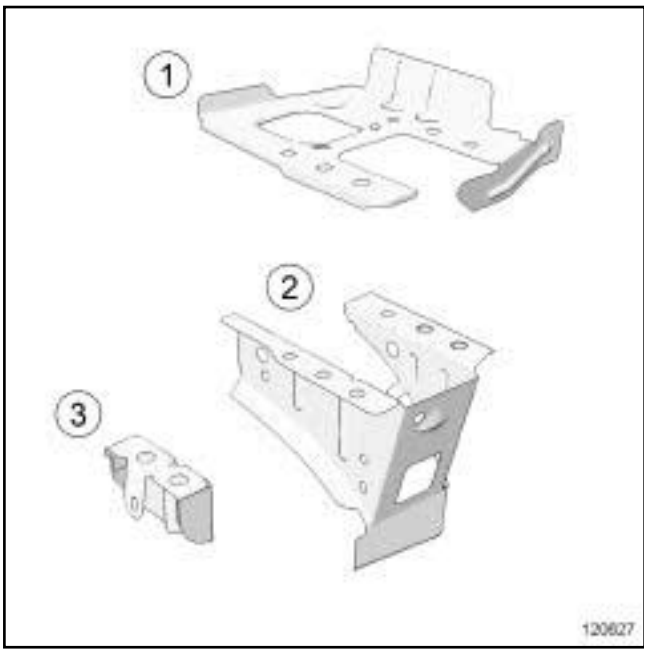
120626

There is only one way of replacing this part:

- complete replacement.

IMPORTANT
The straightening bench must be used.

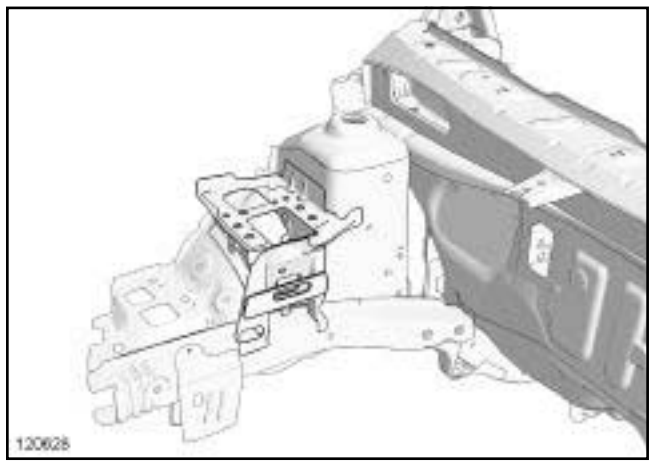
I - COMPOSITION OF THE SPARE PART



120627

No.	Description	Type	Thic-kness (mm)
(**1**)	Engine support plate	Mild steel	**2**
(**2**)	Engine mounting height adjuster	Mild steel	**1.8**
(**3**)	Engine height adjuster stiffener	HLE	**2**

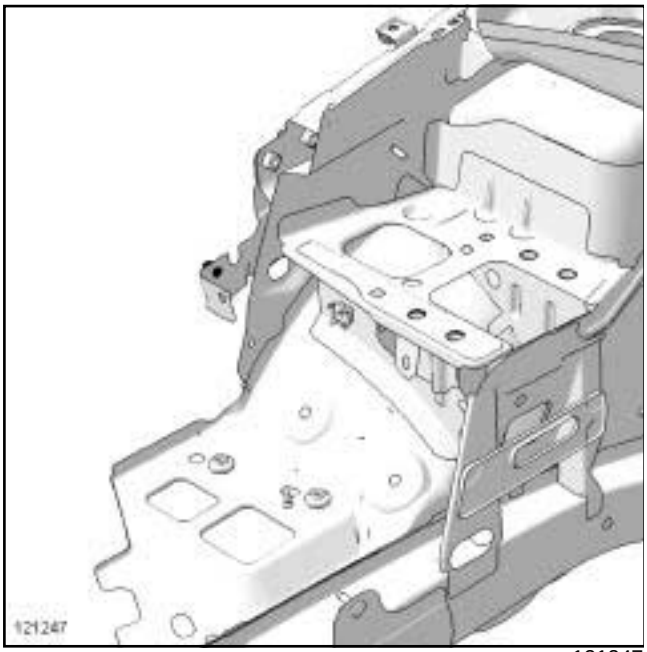
II - PART FITTED



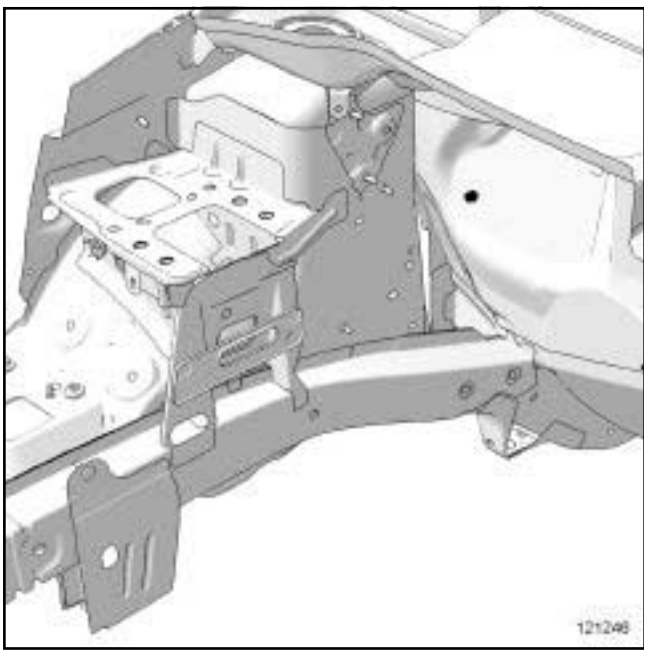
120628

WARNING
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121247



121246

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

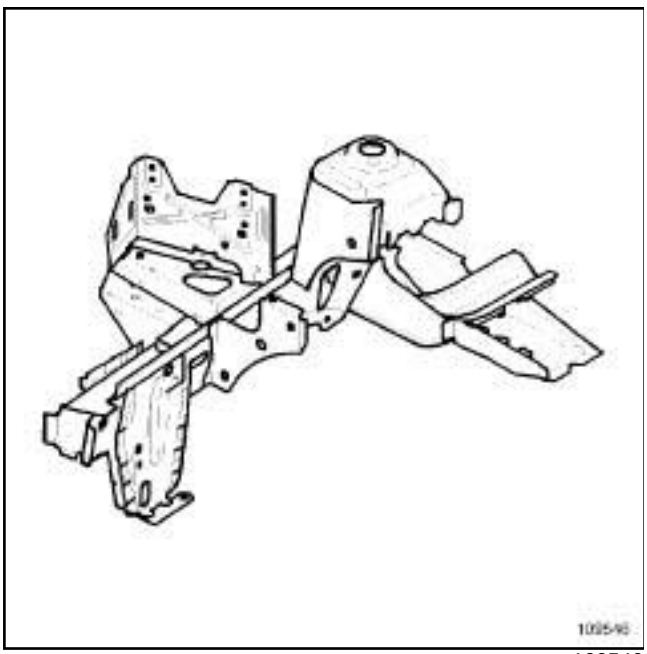
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT

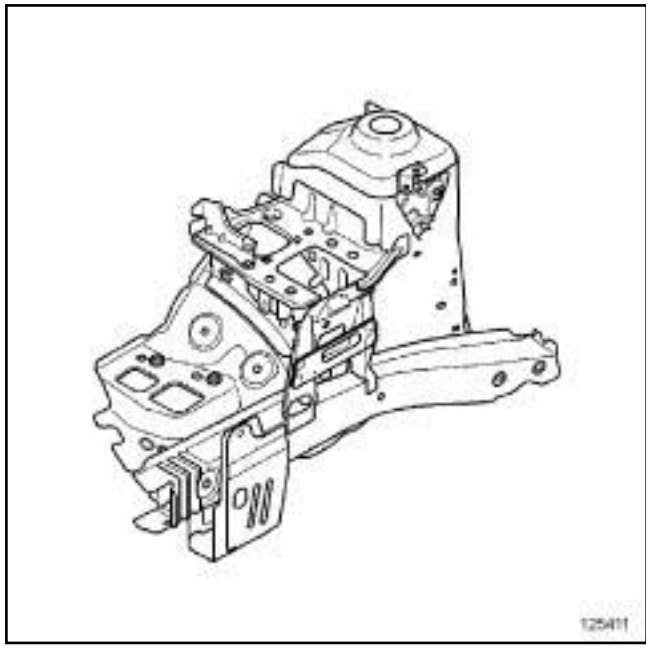


109546

The special feature of this type of part is that it combines the functions of front side member, front wheel arch, centre floor front side cross member and front end side cross member, and is made up of several panels of different types and thicknesses.

C44

Right-hand side



125411

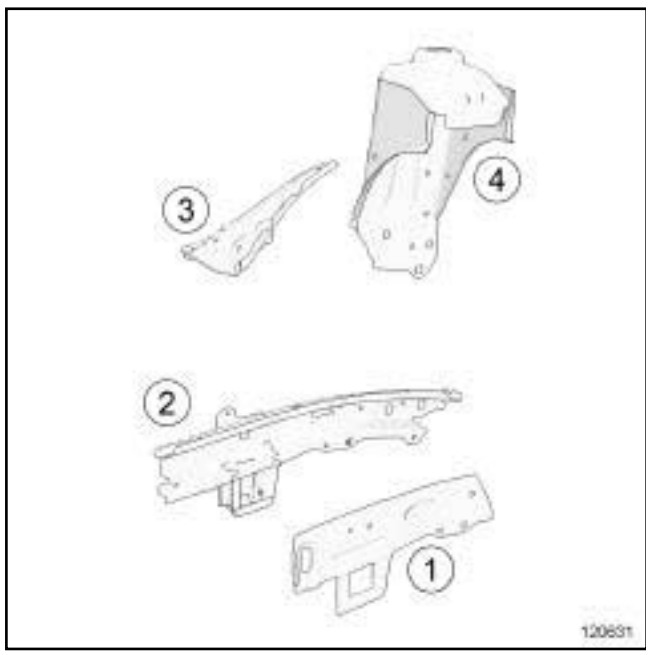
There is only one way of replacing this part:

- complete replacement.

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

I - COMPOSITION OF THE SPARE PART

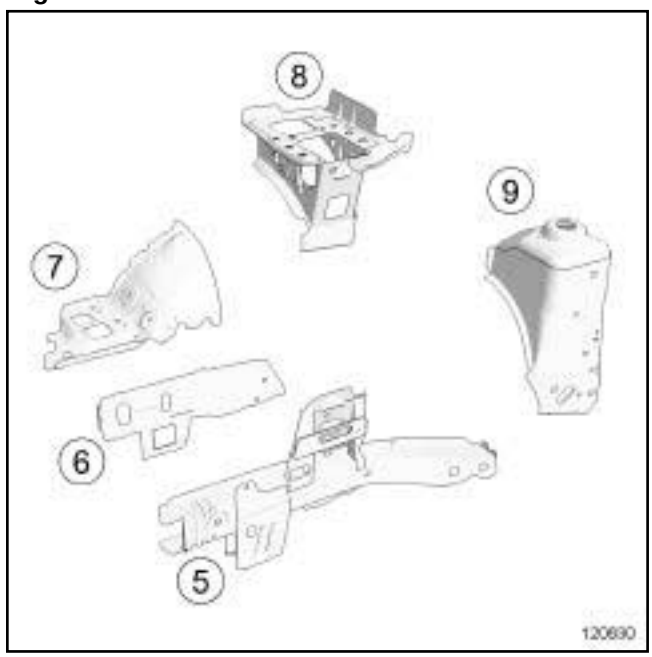
Left side



120631

No.	Description	Type	Thic-kness (mm)
(**1**)	Front side member closure panel	HEL	**1.4**
(**2**)	Side member, front section	HEL	**1.5**
(**3**)	Wheel arch	Mild steel	**1.2**
(**4**)	Cup height adjuster	Mild steel	**1.3**

Right-hand side



120630

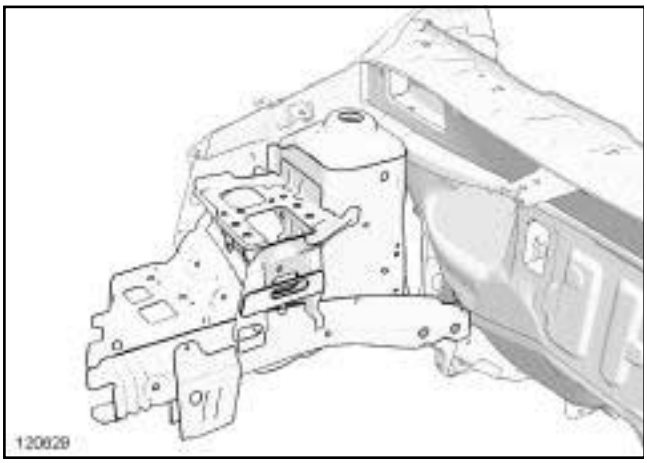
No.	Description	Type	Thic-kness (mm)
(**5**)	Side member, front section	HEL/ Mild steel	**1.5**
(**6**)	Front side member closure panel	HEL	**1.4**
(**7**)	Wheel arch	Mild steel	**1.2**

C44

No.	Description	Type	Thic-kness (mm)
(**8**)	Engine stand	HEL/ Mild steel	**2**
(**9**)	Front cup height adjuster	Mild steel	**1.3**

II - PART IN POSITION

Complete replacement



120629

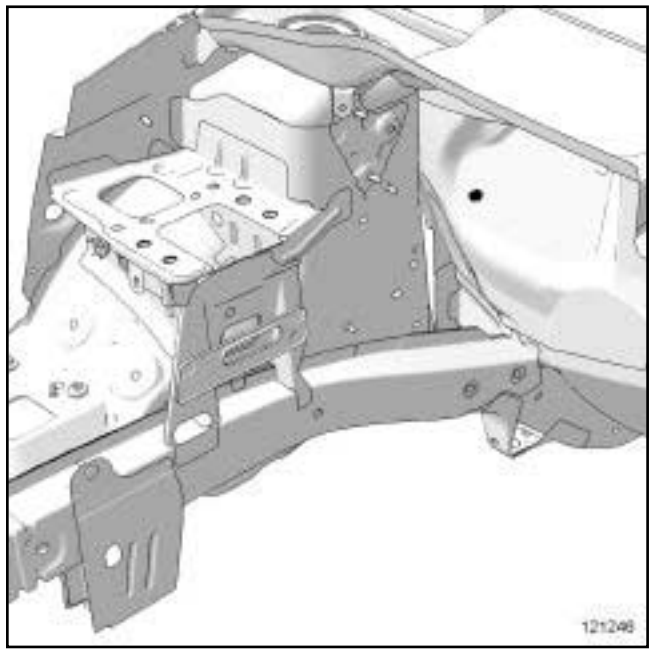
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT

If the mating faces of the parts to be welded are not accessible, use EGW plug welds instead of the original resistance welds (see **MR 400**)

III - POSITIONING OF THE NEARBY ELECTRICAL EARTHS



121246

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

WARNING

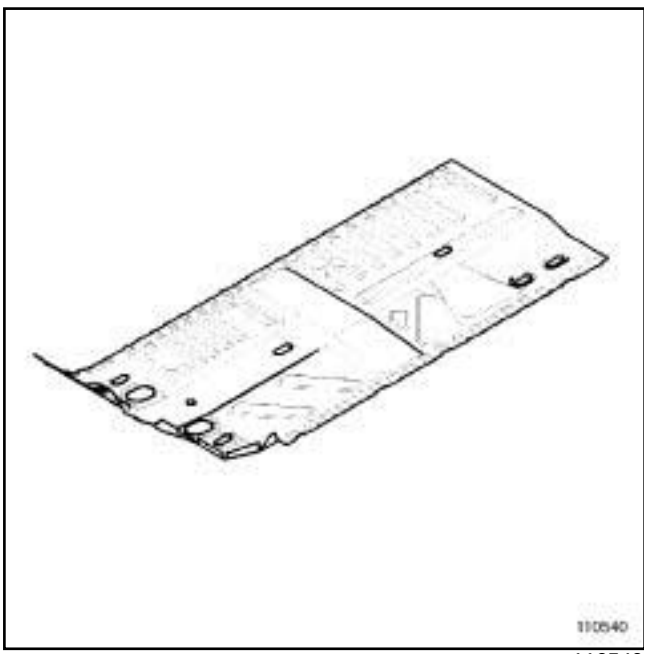
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, (see **MR 400**).

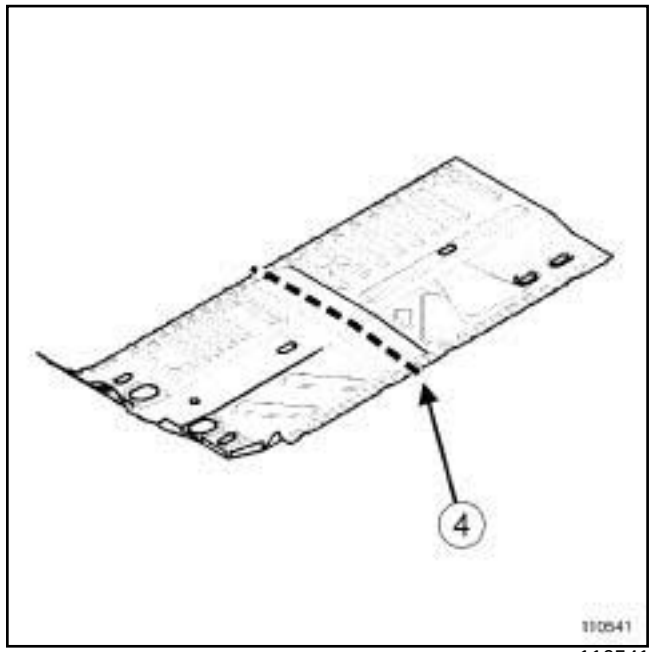
I - DESIGN OF THE STRUCTURAL COMPONENT



110540

This is a basic part; its only function is that of centre floor side section.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110541

This cutting line (**4**) affects the option of partially replacing the centre floor side section.

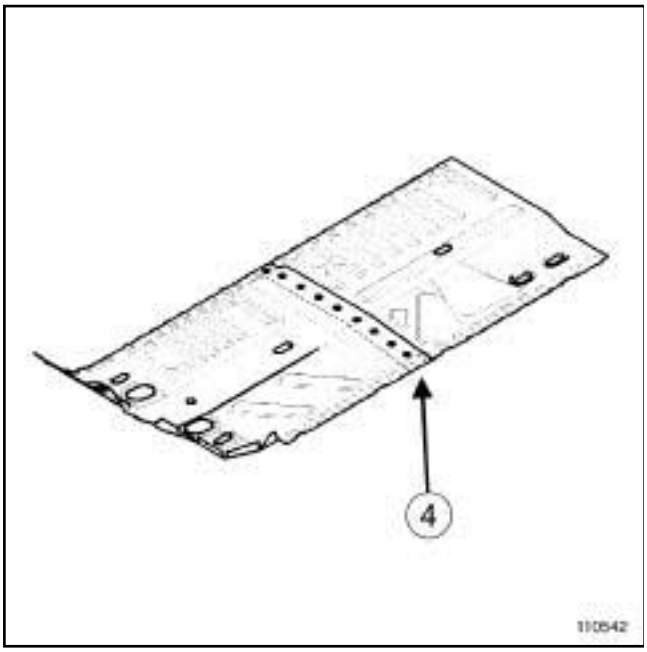
III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400, 40A, General Information**).



110542

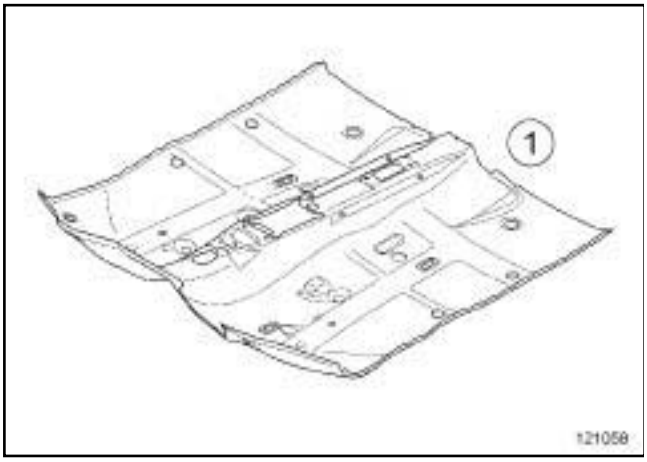
Weld line (**4**) on the diagram shows the partial front or rear replacement and a weld by joggling with plug welds at regular intervals.

Centre floor, side section: Description

The options for replacing this part are as follows:

- partial replacement of the front side section,
- partial replacement of the rear side section,
- side section replacement.

I - COMPOSITION OF THE SPARE PART

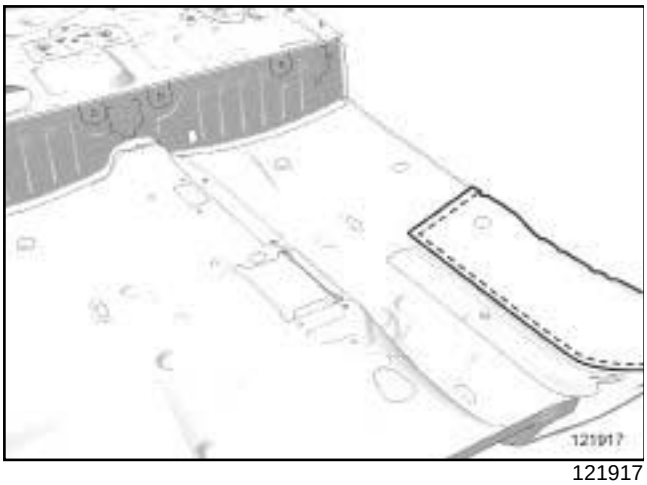


121058

No.	Description	Type	Thic-kness (mm)
(**1**)	Centre floor	Mild steel	**0.95**

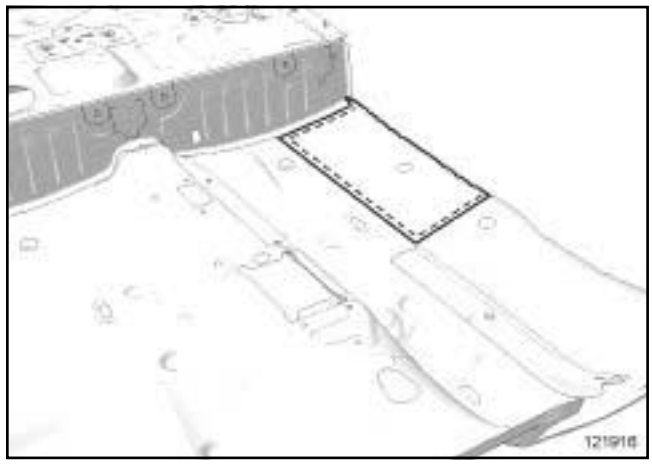
II - PART IN POSITION

1 - Partial replacement of front side section



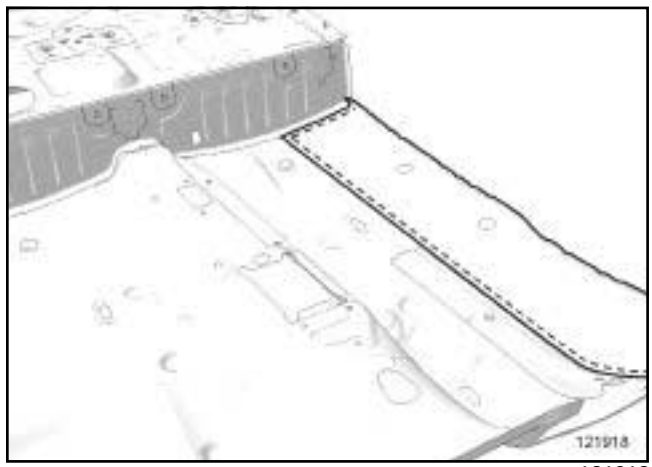
121917

2 - Partial replacement of rear side section



121916

3 - Side section replacement

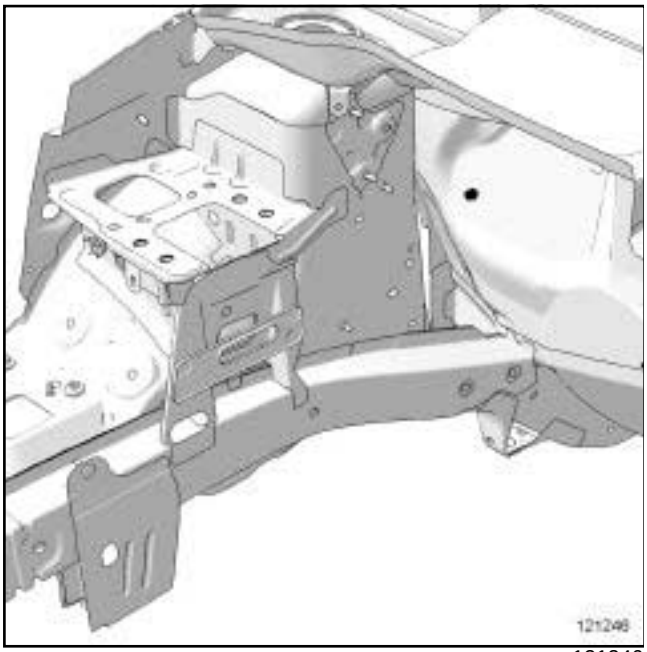


121918

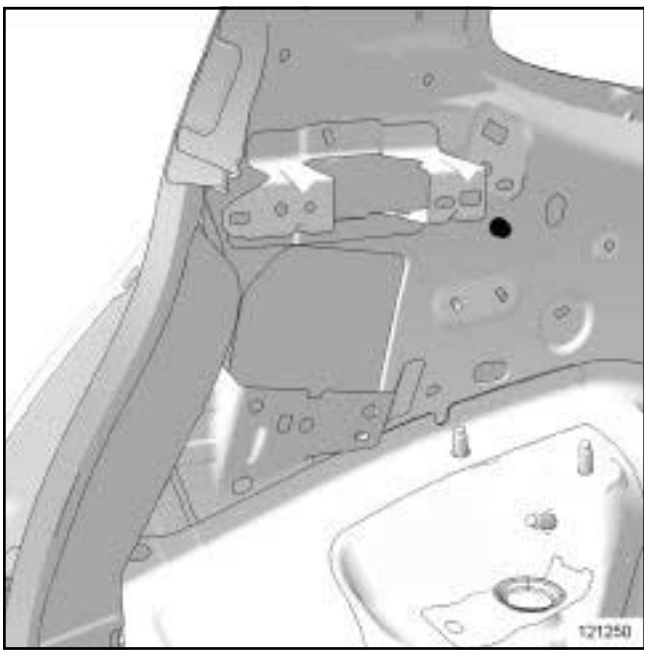
WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

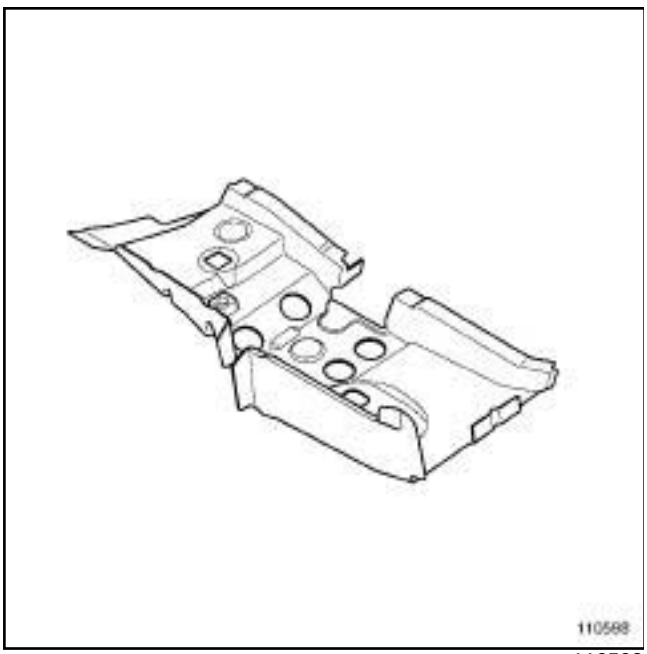
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

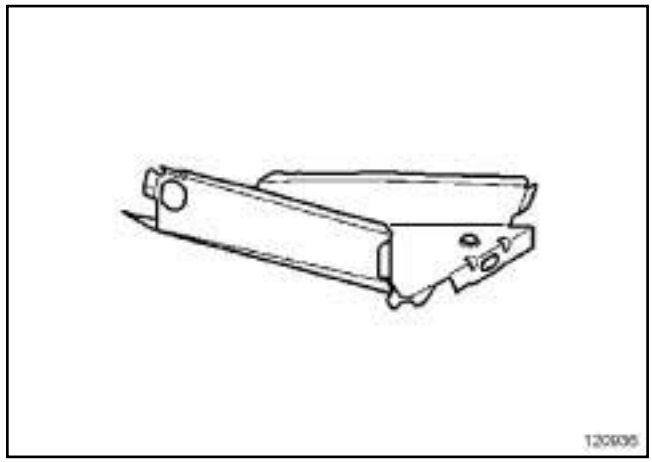
For a detailed description of a particular connection, see **MR 400**.

I - DESIGN OF THE STRUCTURAL COMPONENT



110598

This is a basic part; it only fulfils the function of a centre floor front side cross member.

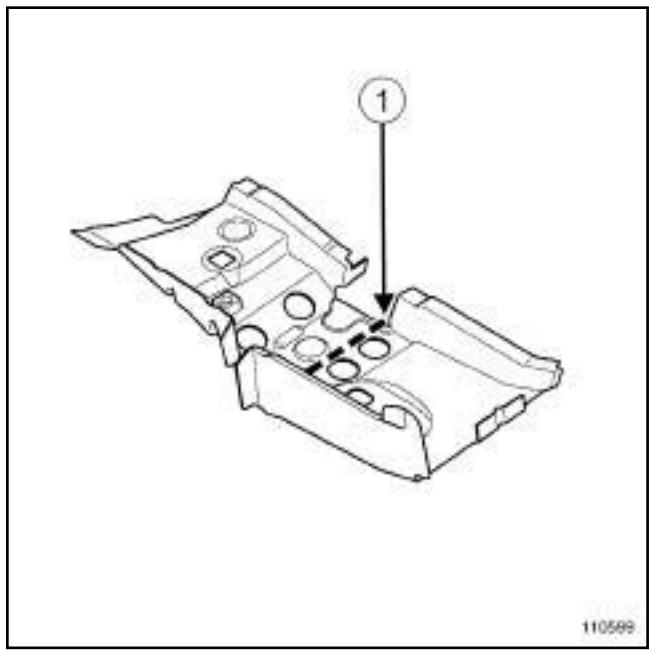


120936

This is a basic part; it only fulfils the function of a centre floor front side cross member.

There is no partial replacement for this part, the repair bench is not required.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110599

The line (**1**) in the drawing shows the area in which it is possible to carry out a partial replacement.

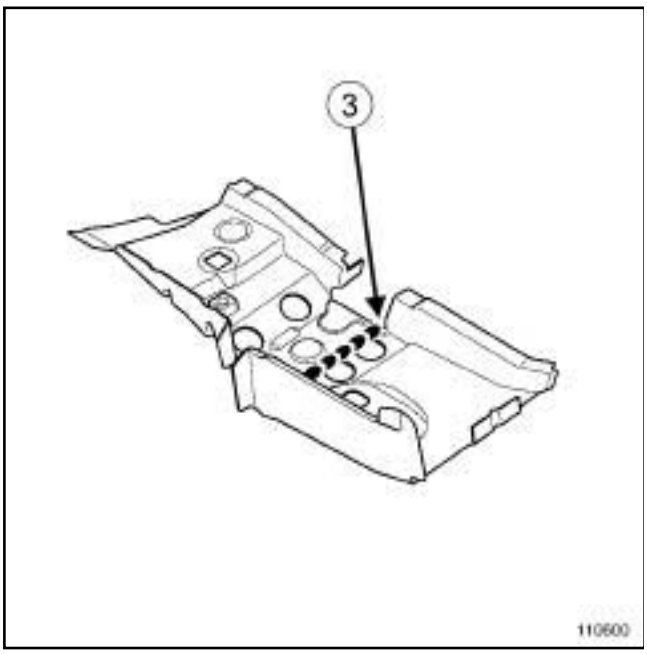
III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



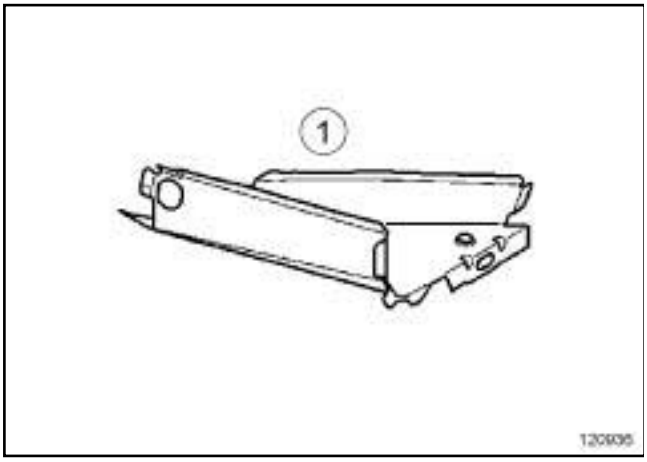
110600

Line (**3**) on the drawing shows a butt weld by continuous EGW welding.

There is only one way of replacing this part:

- complete replacement.

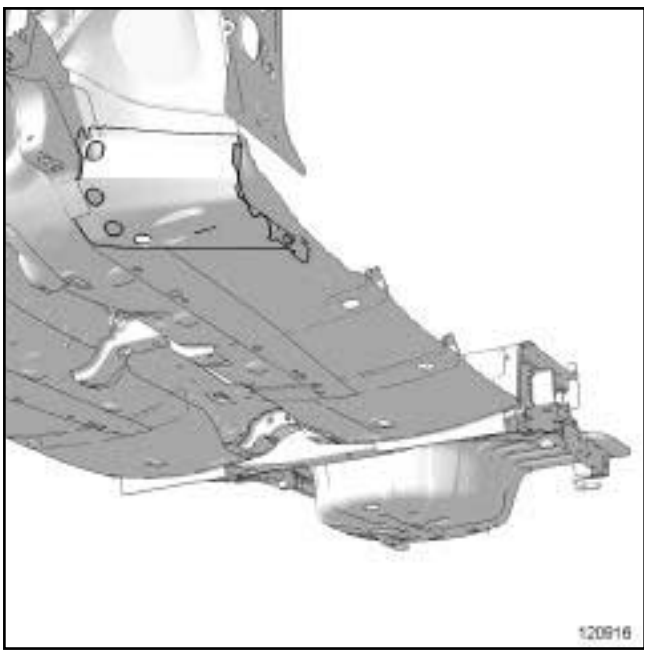
I - COMPOSITION OF THE SPARE PART



120936

No.	Description	Type	Thickness (mm)
(**1**)	Centre floor front side cross member	Mild steel	**1**

II - PART FITTED

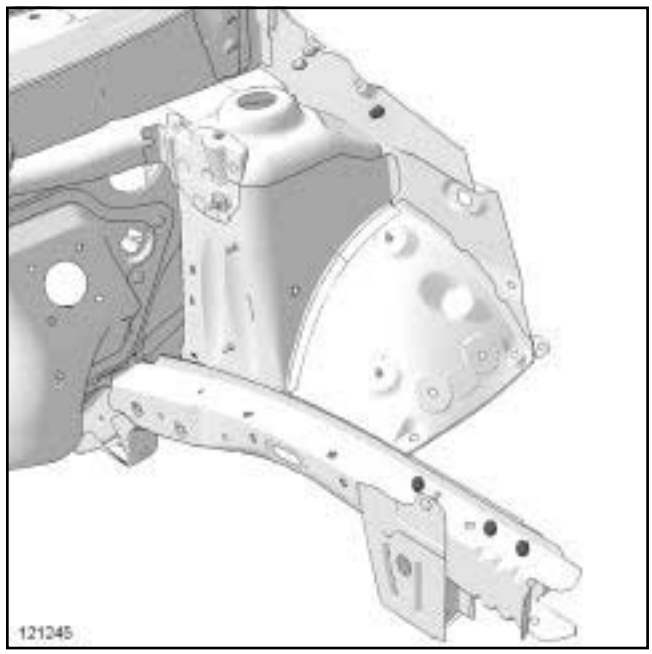


120916

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

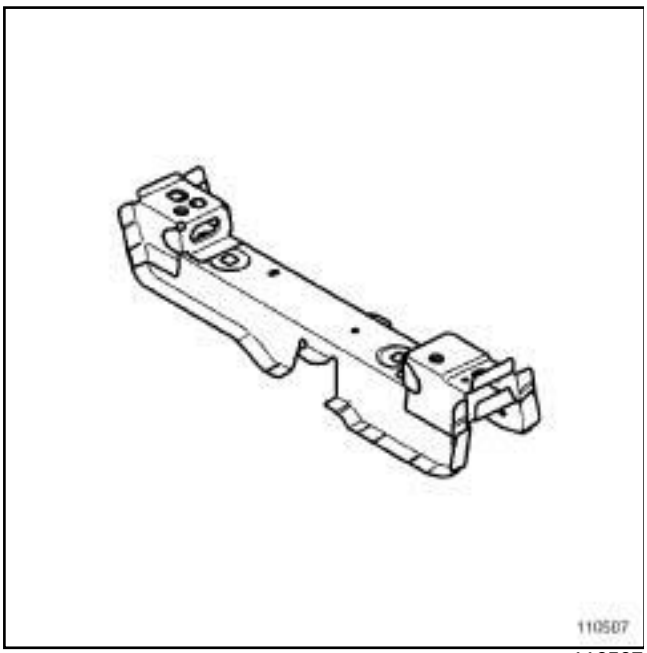
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

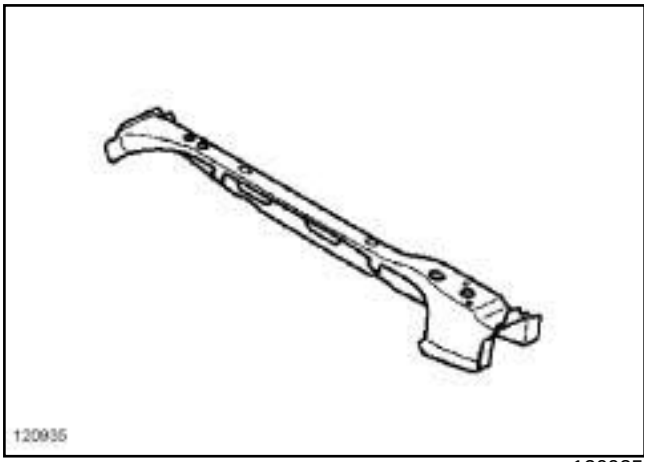
For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



110507

This is a basic part; its function is to secure the front section of the front seat and to stiffen the bodywork in the event of a side impact.

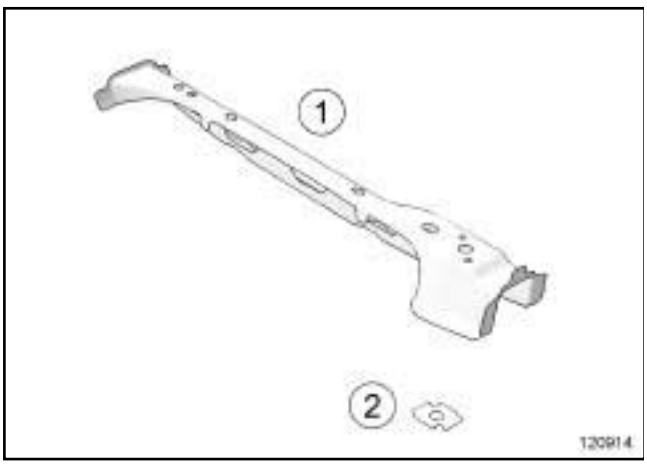


120935

There is only one way of replacing this part:

- complete replacement.

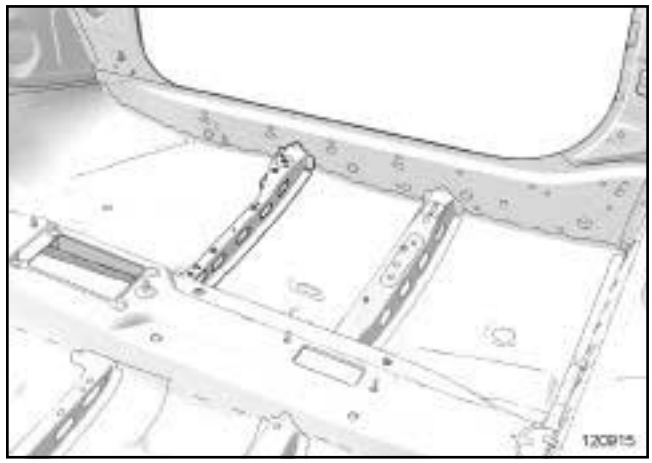
I - COMPOSITION OF THE SPARE PART



120914

No.	Description	Type	Thic-kness (mm)
(**1**)	Front cross member under front seat	HEL	**1**
(**2**)	Front cross member stiffener under the front seat	HEL	**1.2**

II - PART FITTED

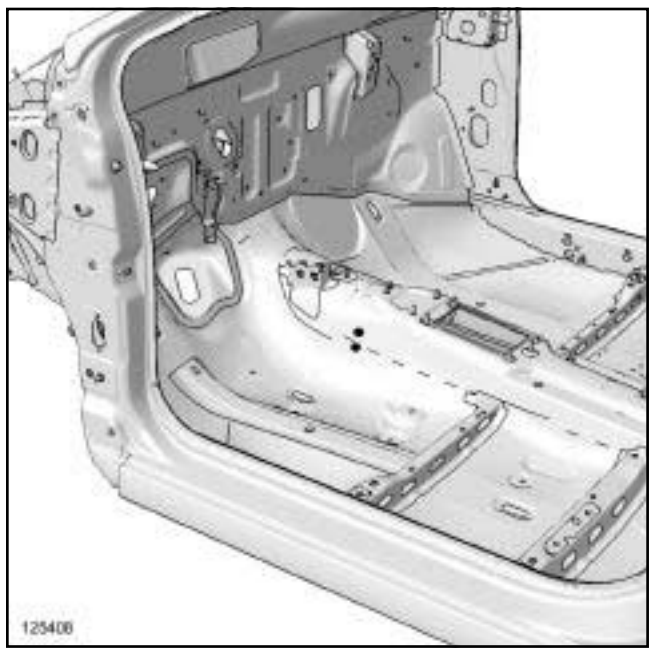


120915

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



125408

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

Note:

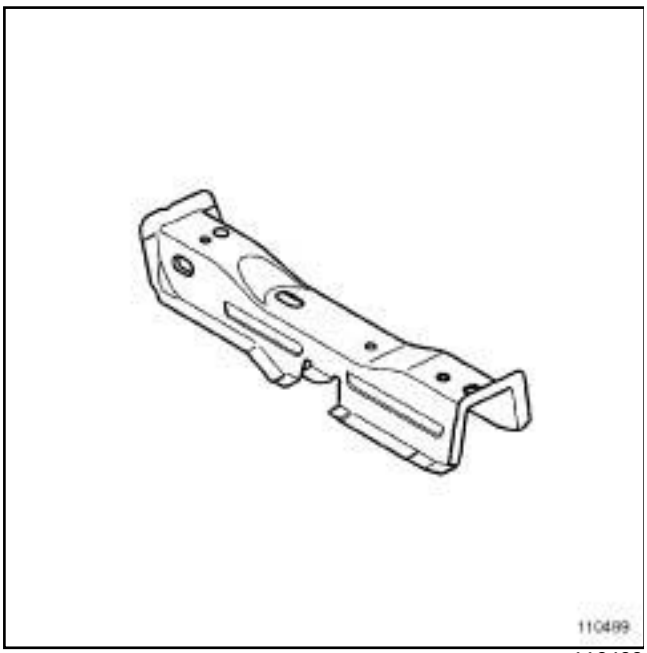
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, see **MR 400**.

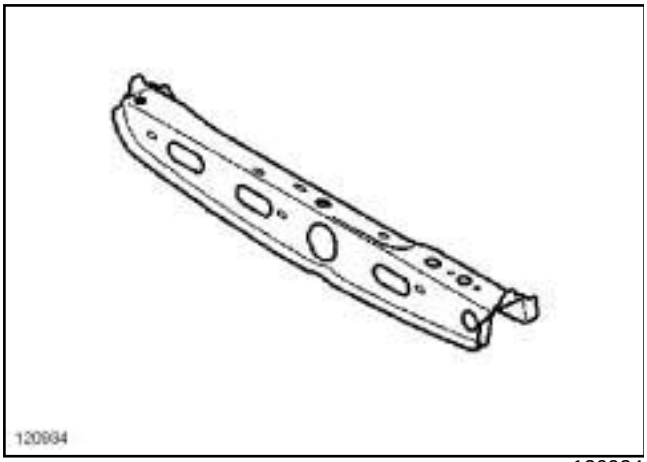
DESIGN OF THE STRUCTURAL COMPONENT



110499

This is a basic part. It serves as a mounting for the rear part of the front seat and to rigidify the body in the event of a side impact.

C44

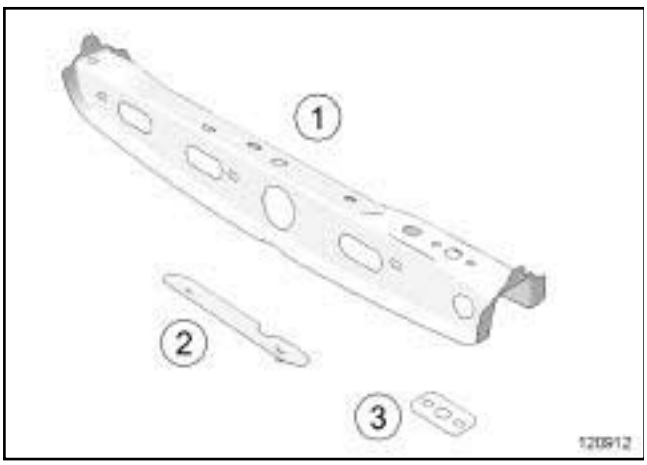


120934

There is only one way of replacing this part:

- complete replacement.

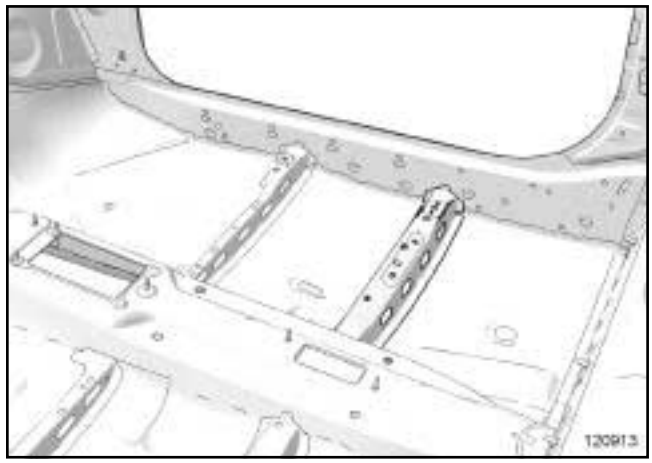
I - COMPOSITION OF THE SPARE PART



120912

No.	Description	Type	Thic-kness (mm)
(**1**)	Rear cross mem-ber under front seat	HEL	**1**
(**2**)	Rear cross mem-ber under front seat mounting plate	HEL	**2**
(**3**)	Rear cross mem-ber stiffener under front seat	HEL	**1.2**

II - PART FITTED

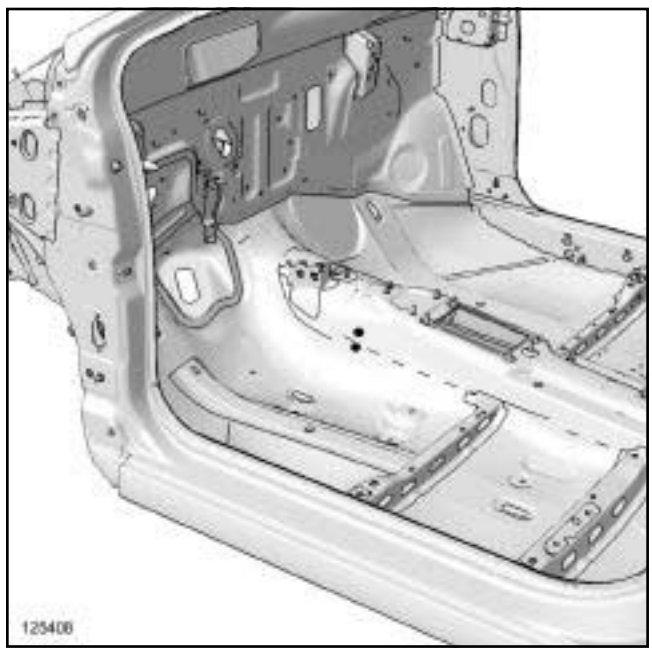


120913

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



125408

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

Note:

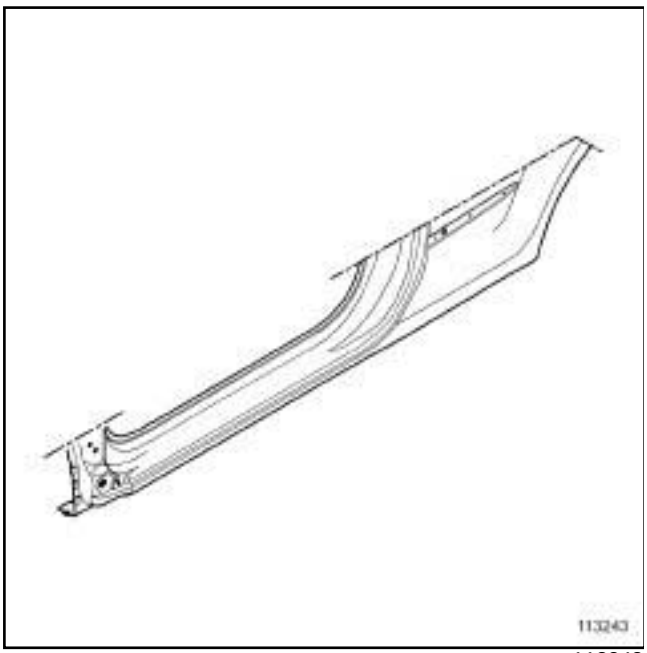
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, (see **MR 400**).

I - DESIGN OF THE STRUCTURAL COMPONENT

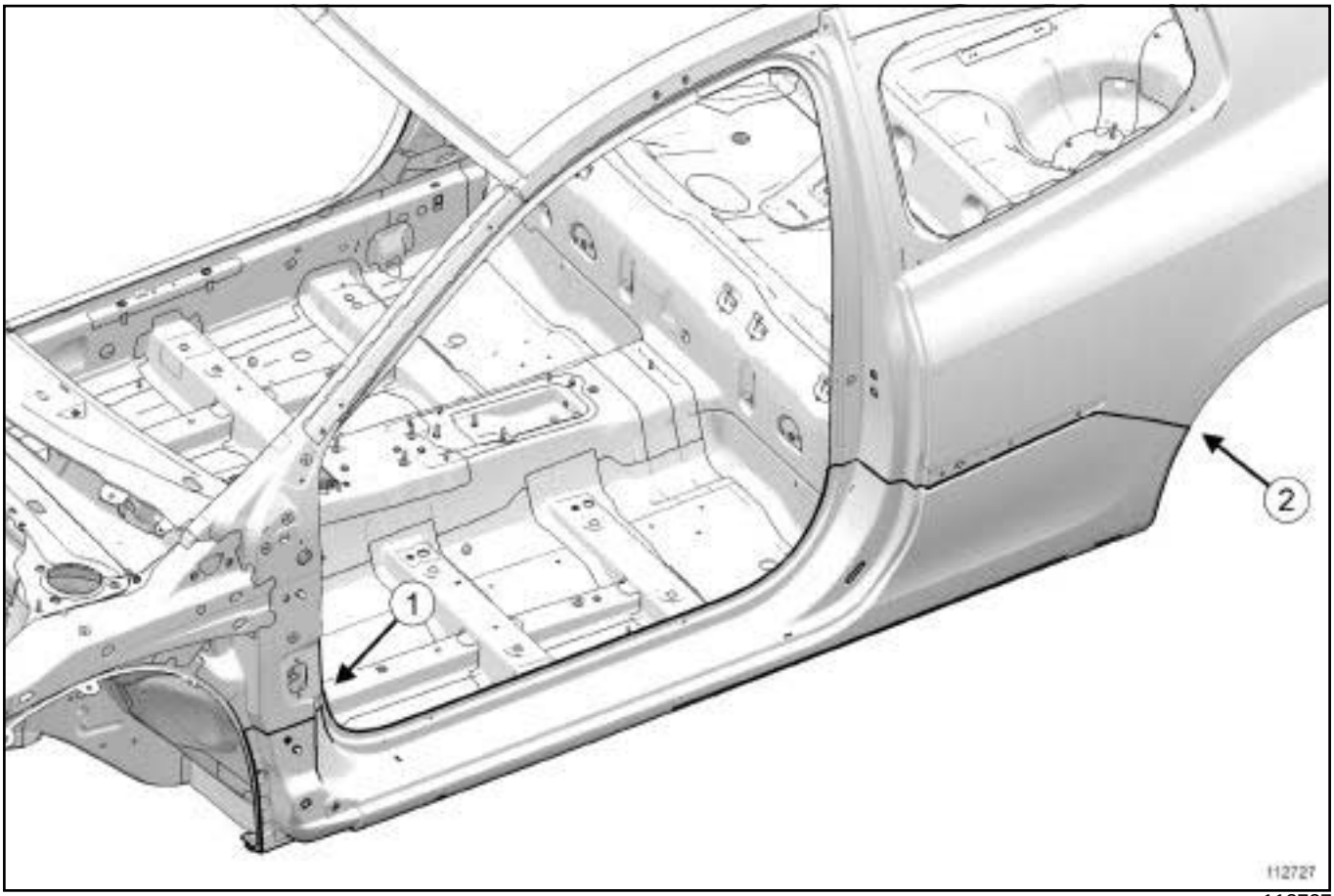


113243

The special feature of this part is that it is butt welded by laser on the lower section with two types of panels and two different thicknesses.

This part is removed by cutting into the complete body side. This part fulfils the basic function of the sill panel. It can be replaced partially by following the cuts described as follows.

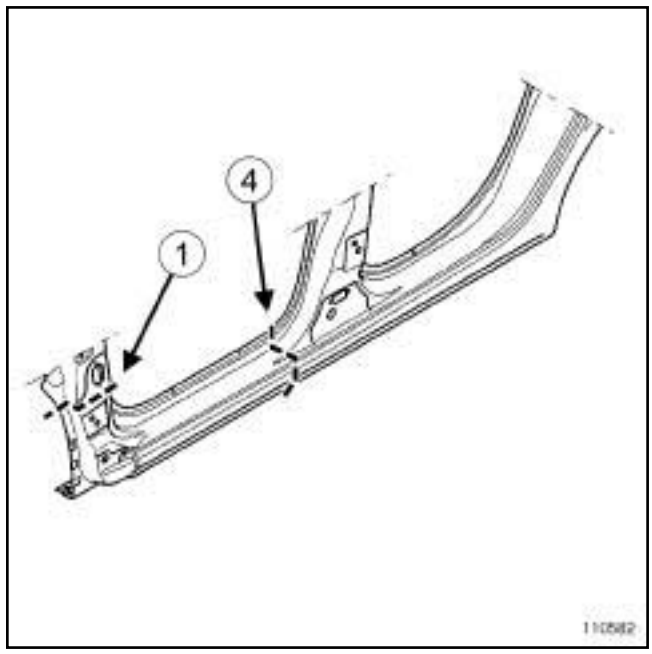
II - AREA TO BE CUT FOR COMPLETE REPLACEMENT



112727

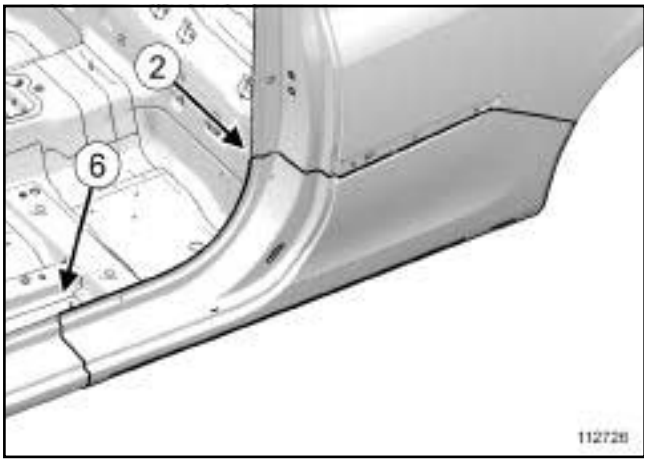
The lines (**1**) and (**2**) mark the cutting areas for the complete replacement of the sill panel.

III - AREA TO BE CUT FOR PARTIAL REPLACEMENT



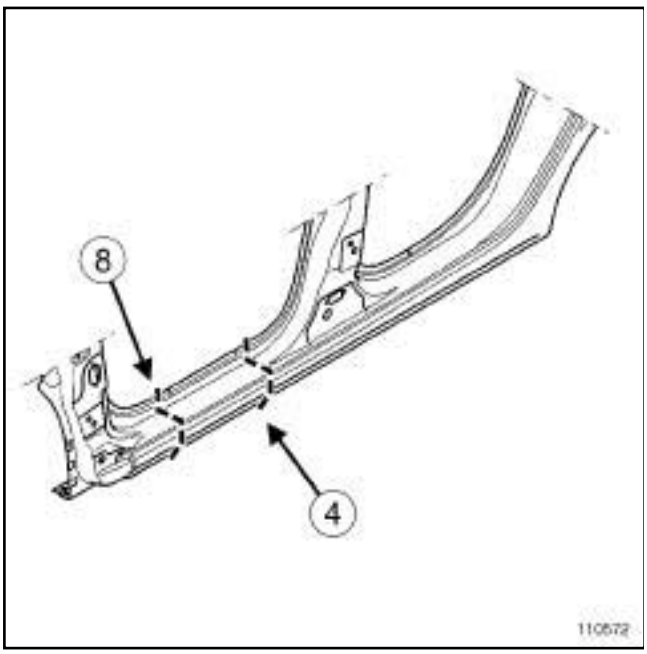
110582

The lines (**1**) and (**4**) mark the areas for the partial replacement of the front of the sill panel.



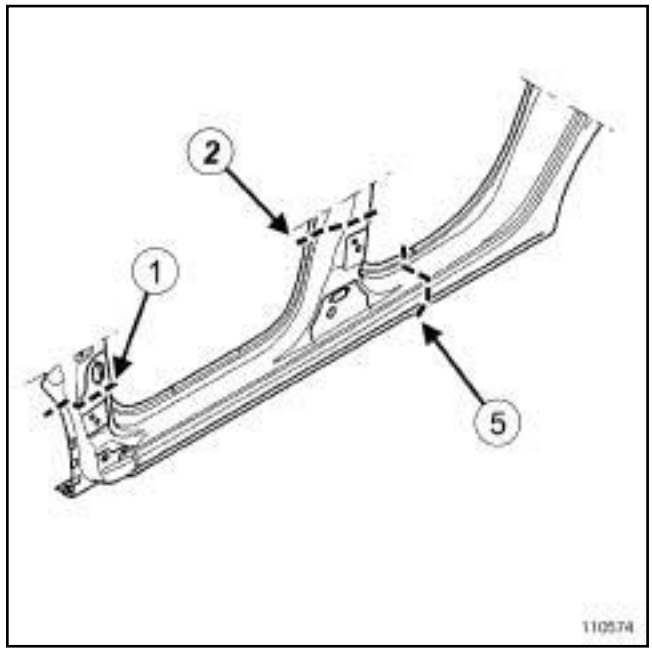
112726

The lines (**2**) and (**6**) mark the cutting areas for the partial replacement of the rear of the sill panel.

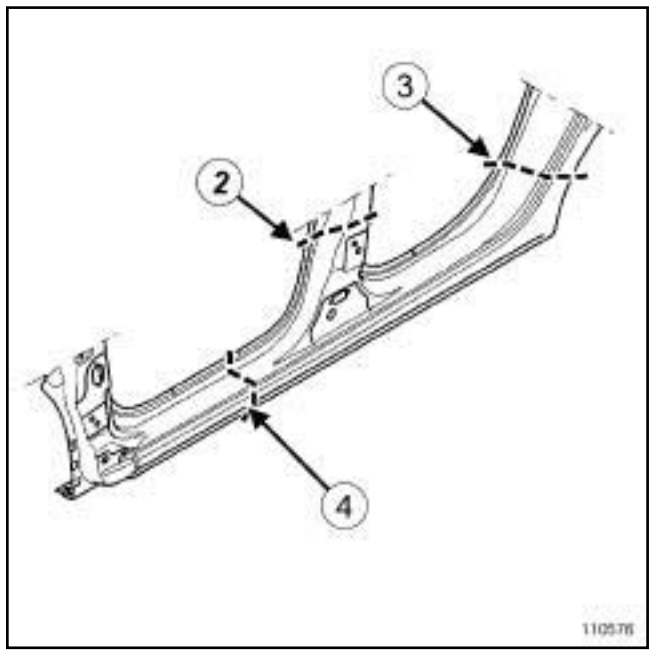


110572

The lines (**4**) and (**8**) mark the cutting areas for the partial replacement of the sill panel section under the door.



110574



110576

Previous cuts can be used to carry out more extensive partial replacements:

- front partial replacement, cut (**1**) , (**2**) and (**5**)

- Rear partial replacement, cut (**2**) , (**3**) and (**4**) .

These operations allow you to access the inside of the hollow section of the structural element to straighten it.

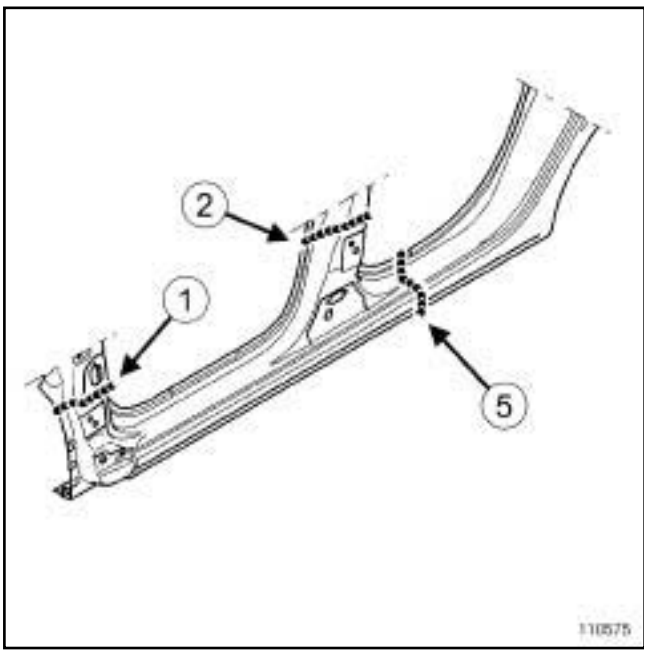
IV - ASSEMBLY INSTRUCTIONS FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



110575

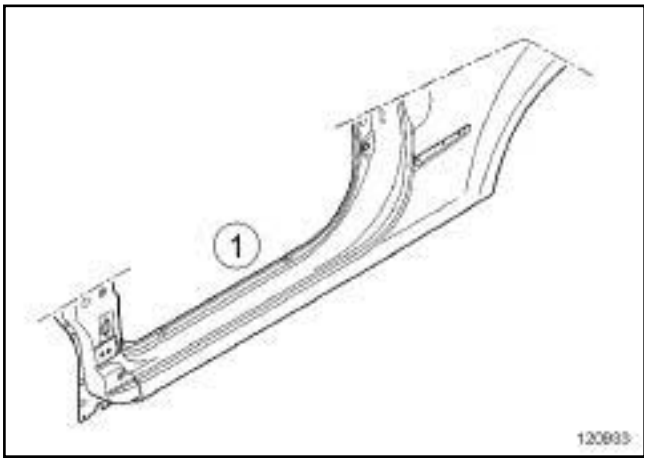
Lines (**1**) , (**2**) and (**5**) on the drawing show a butt weld by continuous EGW welding.

The welds described in this procedure are all identical.

The options for replacing this part are as follows:

- front partial replacement,
- partial replacement under door:
- Rear partial replacement
- complete replacement.

I - COMPOSITION OF THE SPARE PART

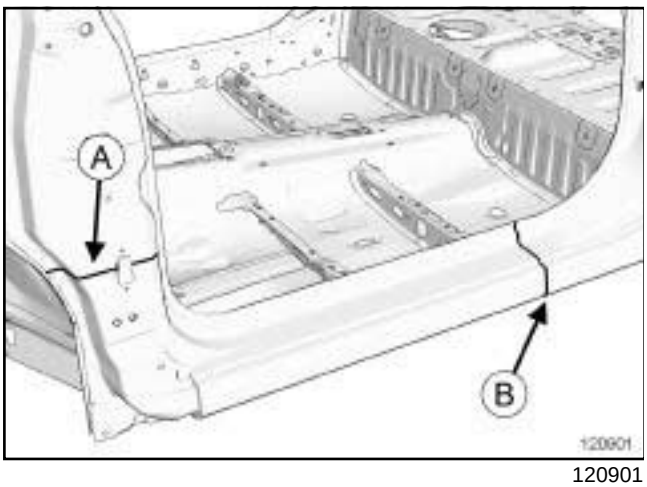


120933

No.	Description	Type	Thic-kness (mm)
(**1**)	Sill panel	Mild steel	**0.75**

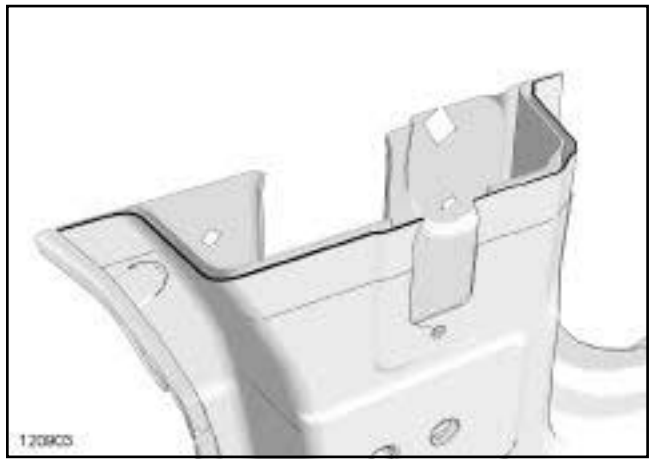
II - PART IN POSITION

1 - Partial front replacement

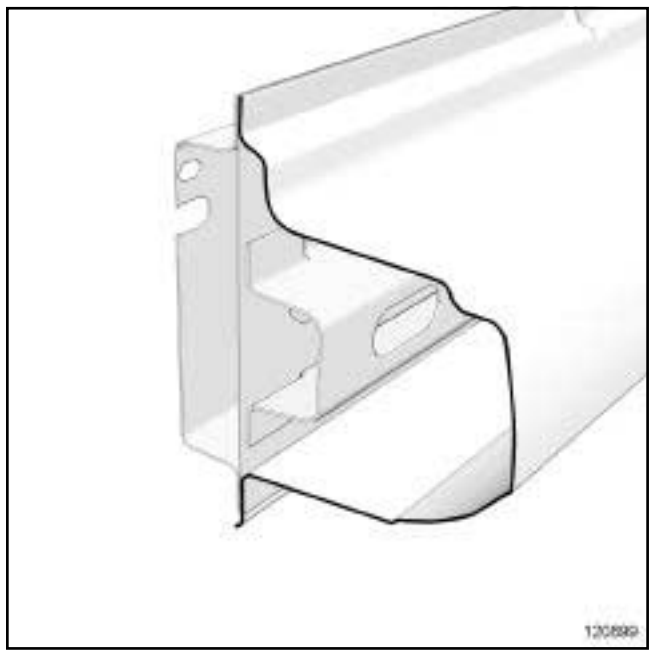


120901

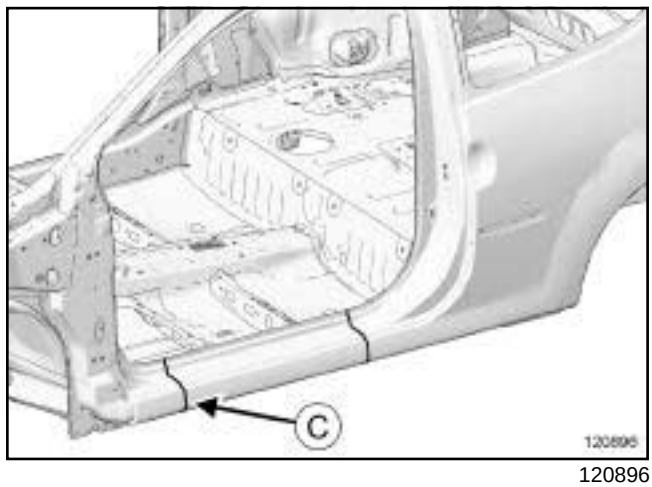
Section A


120903

Section B

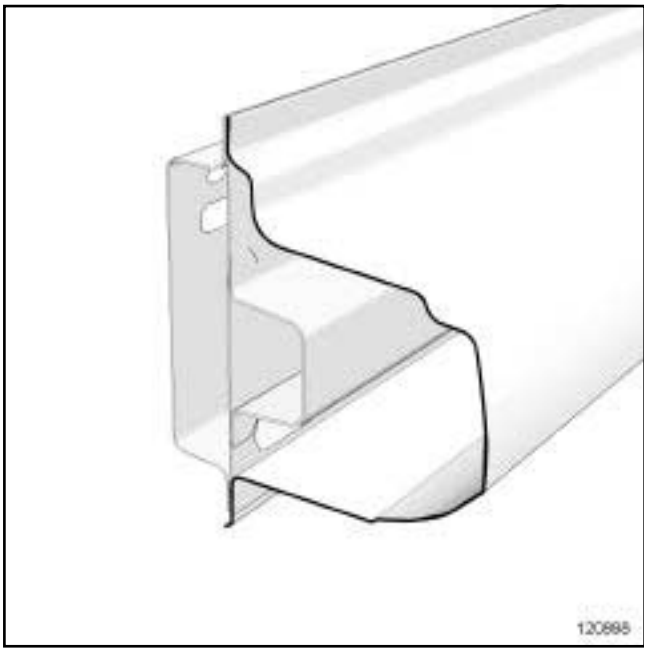

120899

2 - Partial replacement under door



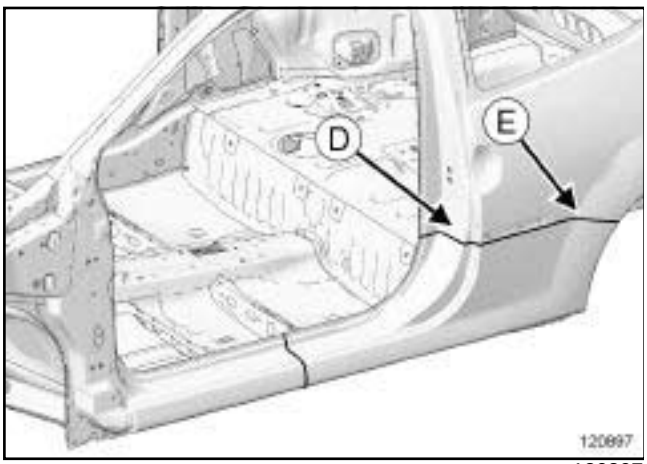
120896

Section C



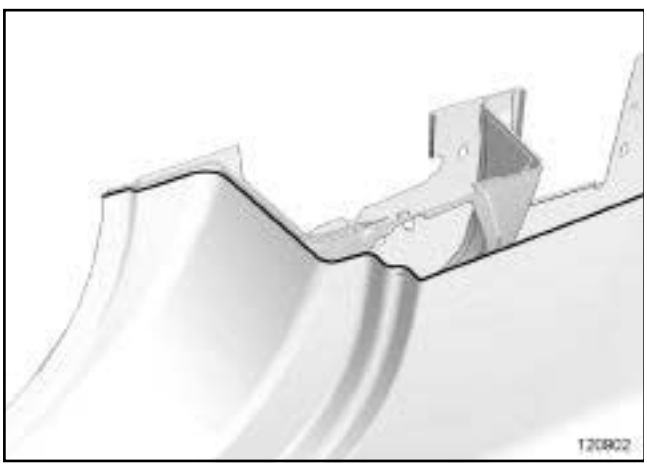
120898

3 - Partial rear replacement



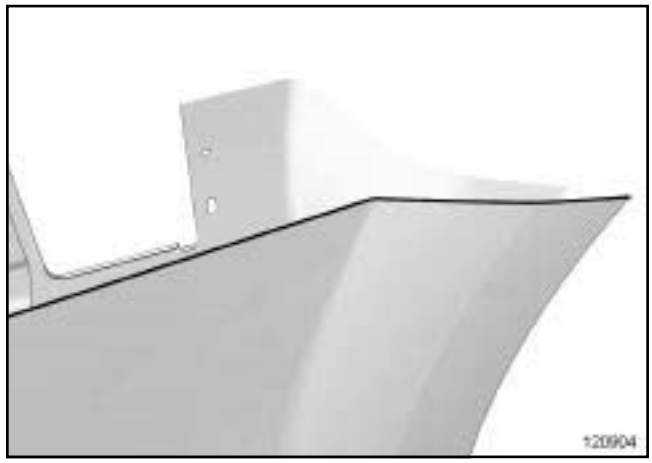
120897

Section D



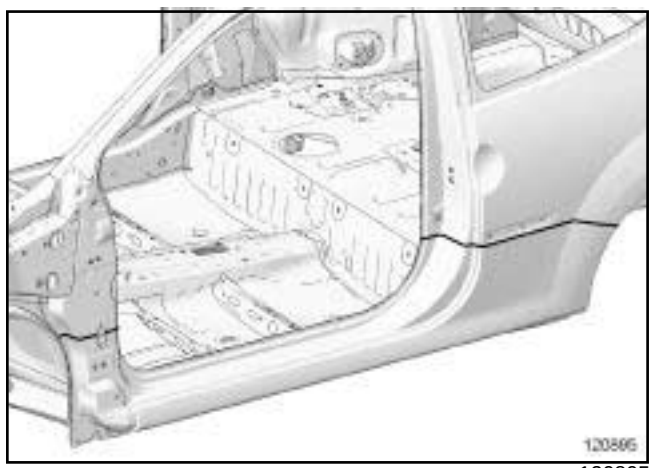
120902

Section E



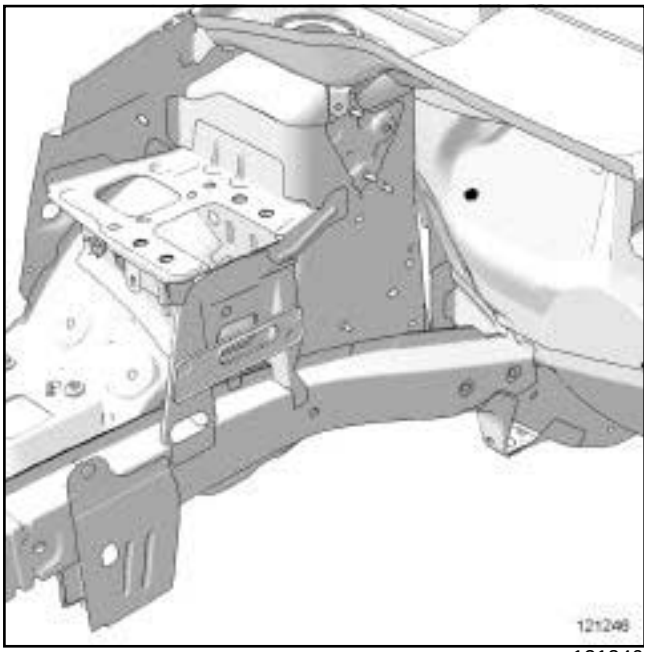
120904

4 - Complete replacement

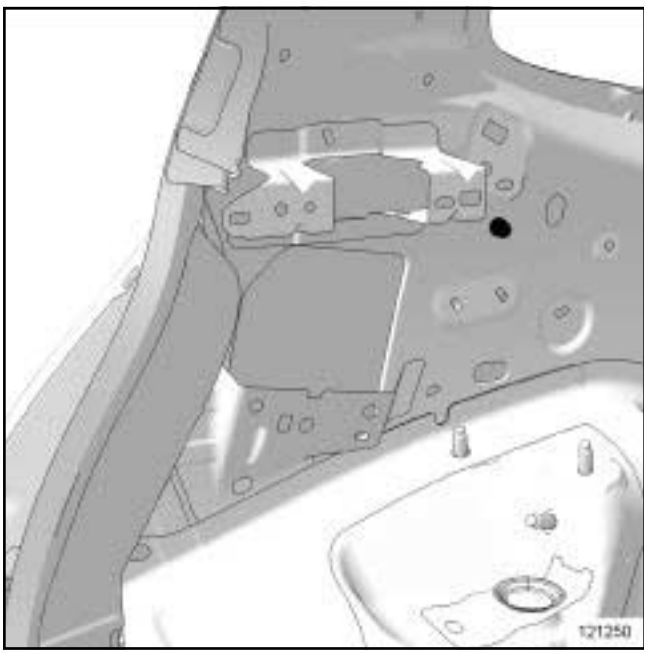


120895

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

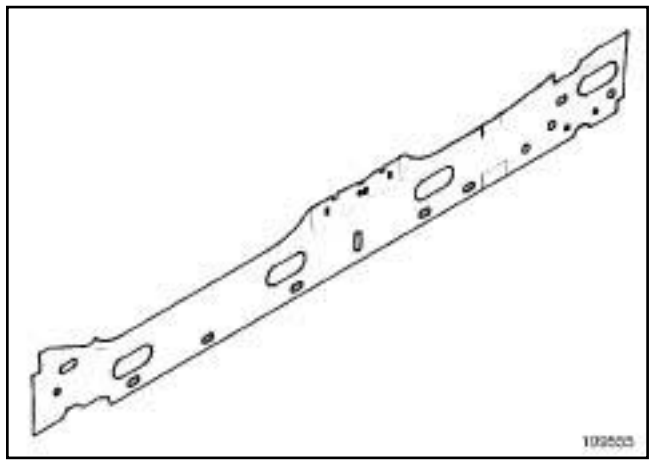
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, (see **MR 400**).

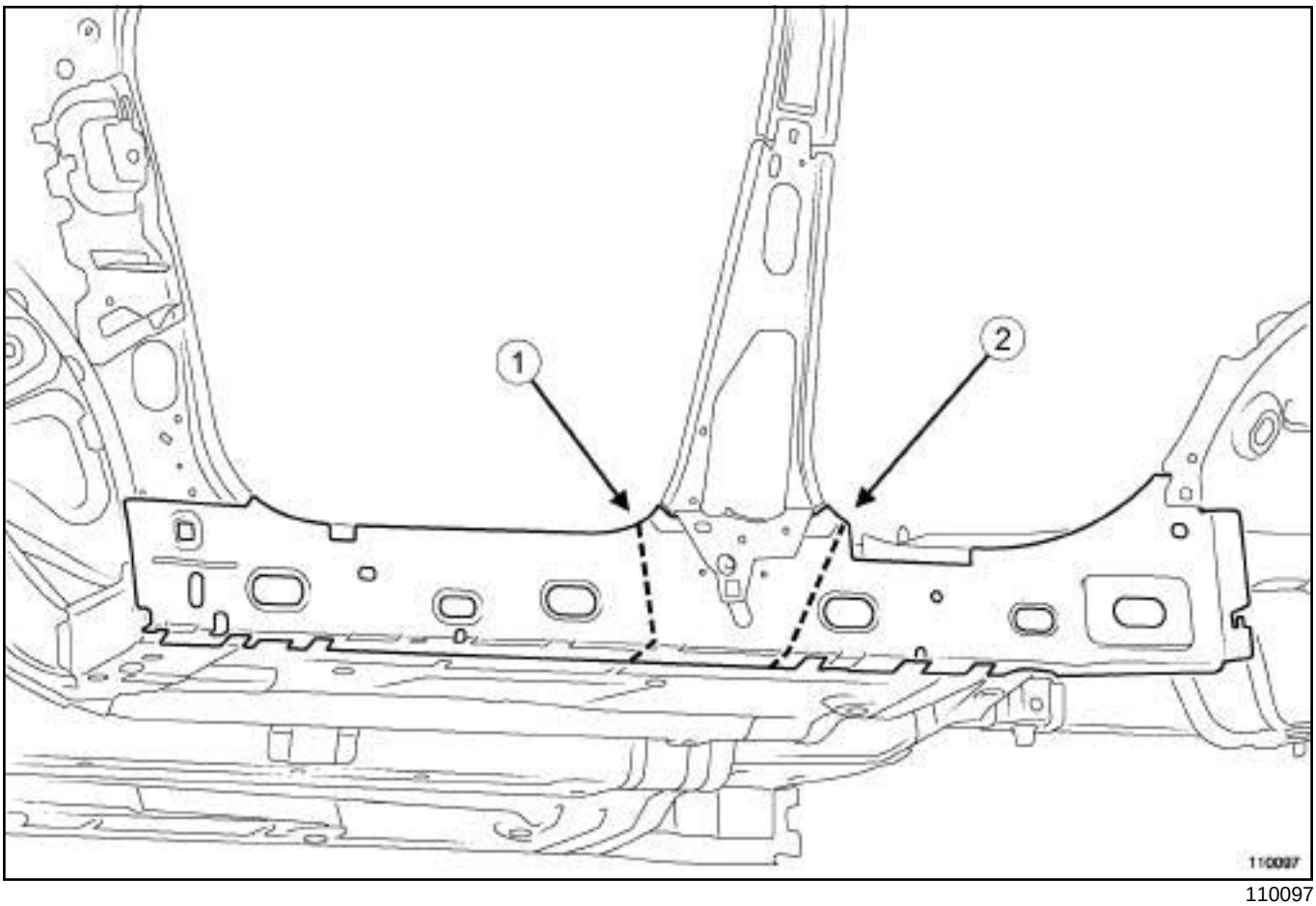
I - DESIGN OF THE STRUCTURAL COMPONENT



109555

This is a basic part; its only function is that of a sill panel closure panel.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110097

III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

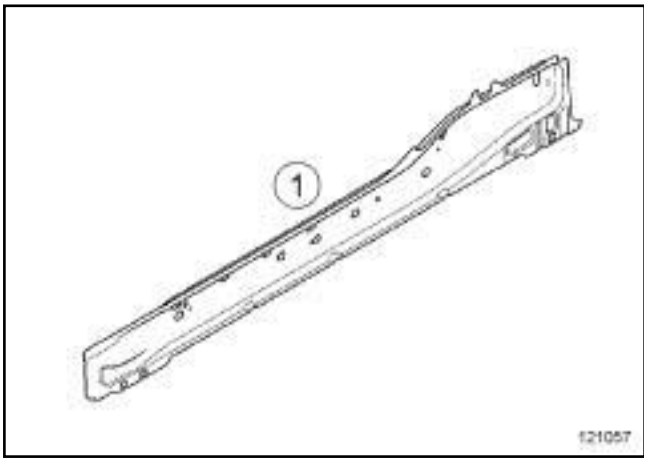
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various options are described in the basic instructions for structural bodywork repair (see **MR 400**).

The options for replacing this part are as follows:

- front partial replacement,
- rear partial replacement.

I - COMPOSITION OF THE SPARE PART

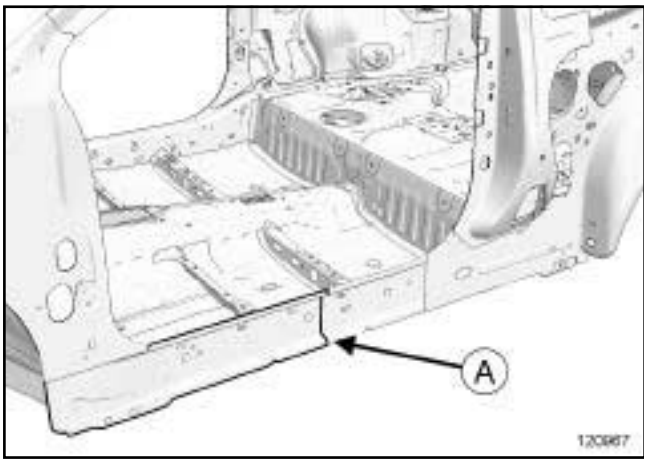


121057

No.	Description	Type	Thic-kness (mm)
(**1**)	Sill closure panel component	HLE	0.95

II - PART FITTED

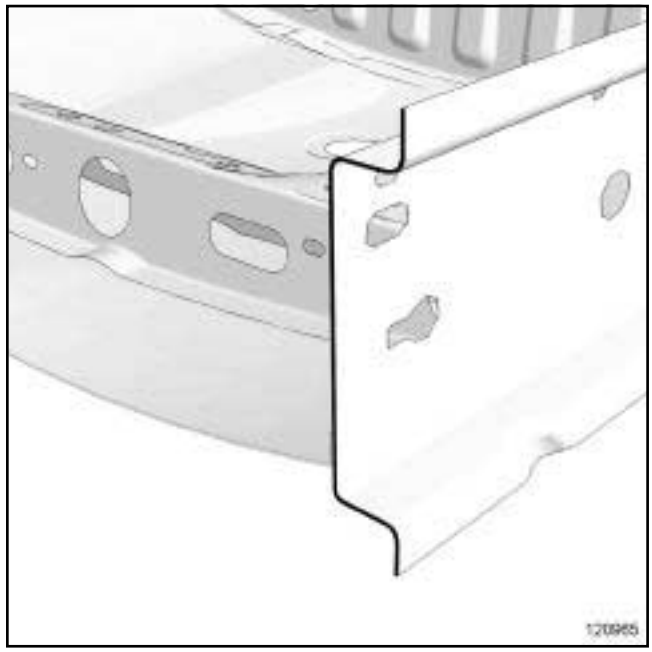
1 - Partial front replacement



120967

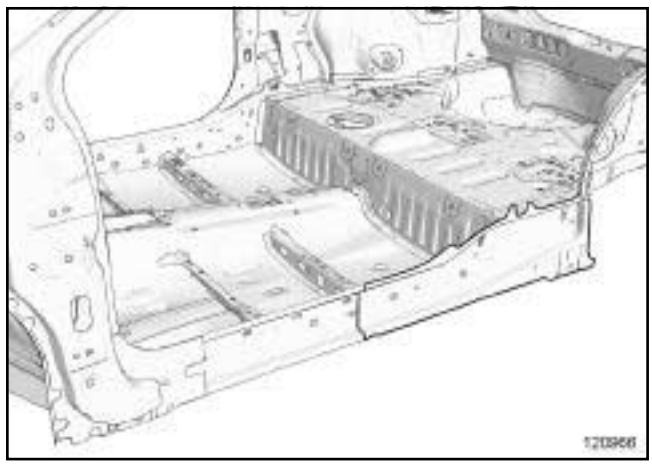
WARNING
For the partial replacement of parts constituting a single structural component, it is essential to stagger the welds of each of the components.

Section A



120965

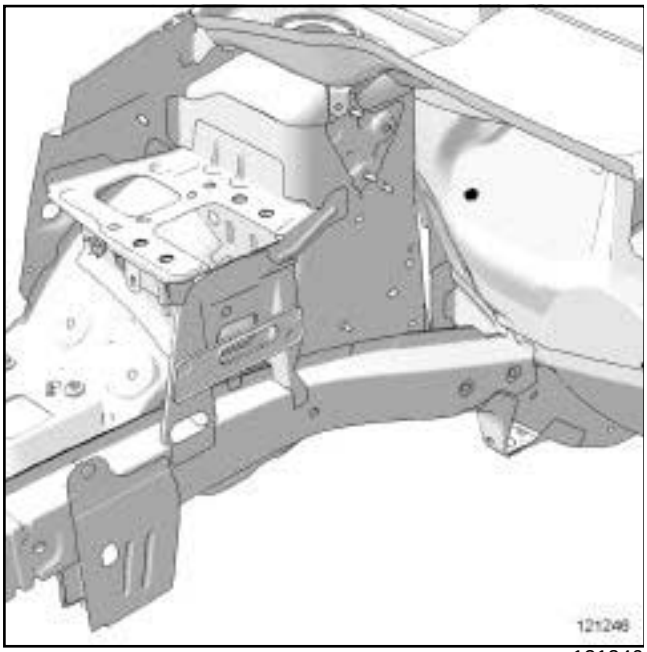
2 - Partial rear replacement



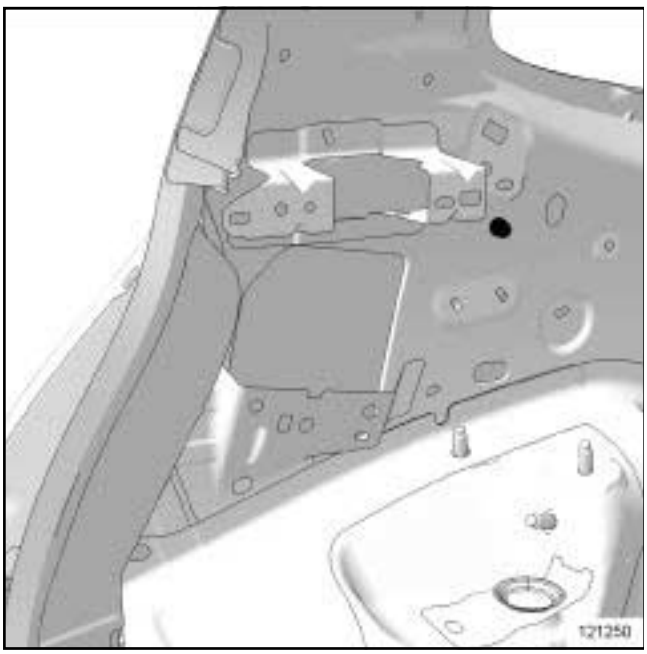
120966

WARNING
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

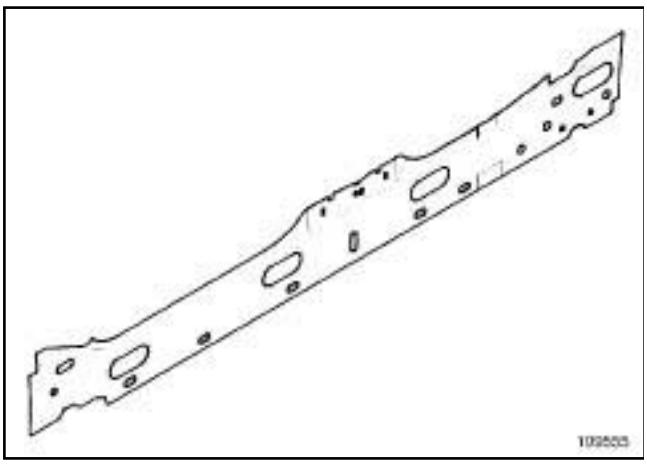
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, see **MR 400**.

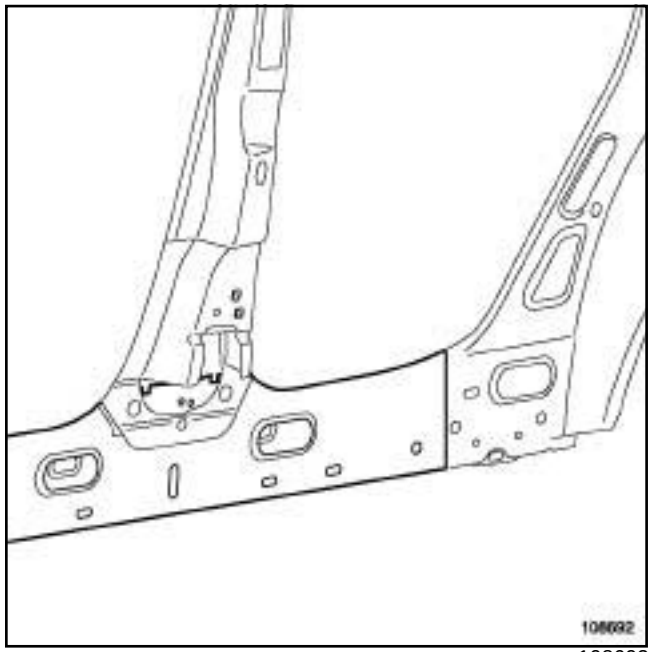
I - DESIGN OF THE STRUCTURAL COMPONENT



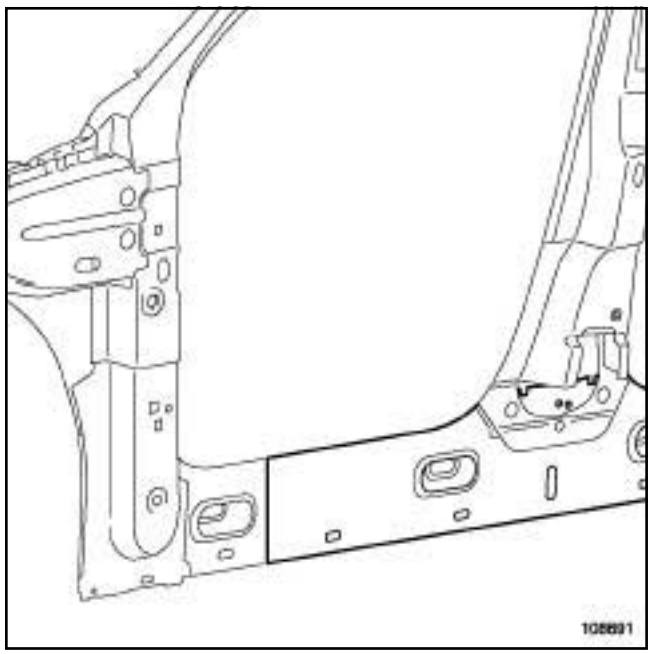
109555

This is a basic part, its only function is as a sill panel reinforcement and it is not linked to any other part.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



108692

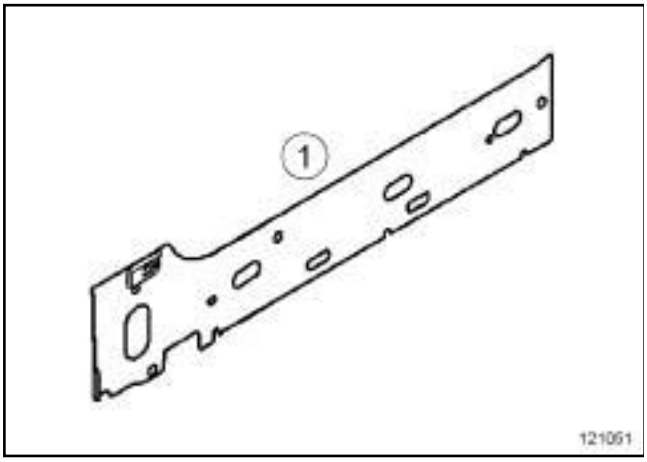


108691

The options for replacing this part are as follows:

- front partial replacement,
- Rear partial replacement
- complete replacement.

I - COMPOSITION OF THE SPARE PART

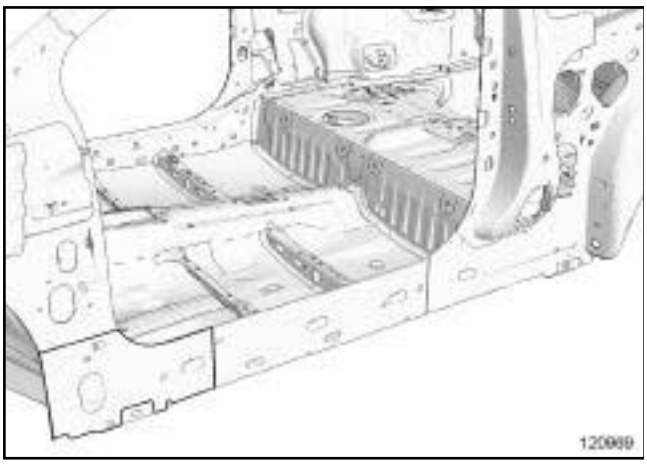


121051

No.	Description	Type	Thickness (mm)
(**1**)	Body side closure panel component	HLE	0.85

II - PART IN POSITION

1 - Partial front replacement

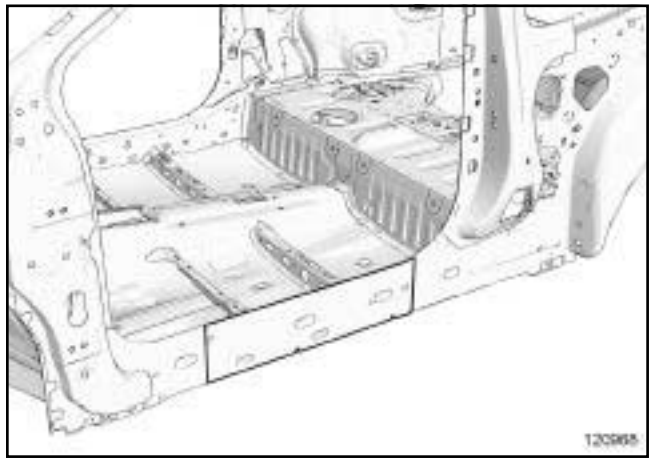


120969

WARNING

For the partial replacement of parts constituting a single structural component, it is essential to stagger the welds of each of the components.

2 - Partial rear replacement

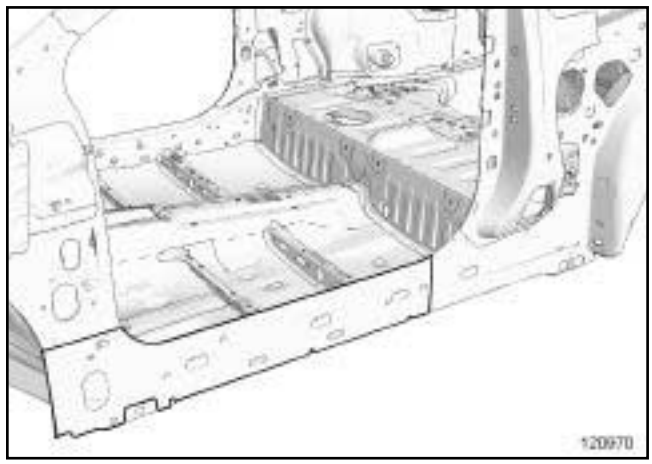


120968

WARNING

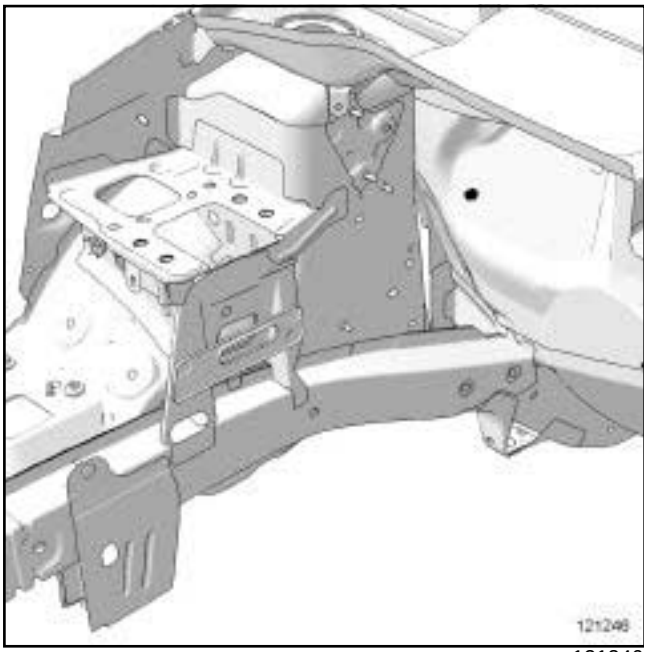
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

3 - Complete replacement



120970

III - POSITIONING OF THE NEARBY ELECTRICAL EARTHS



121246

IMPORTANT

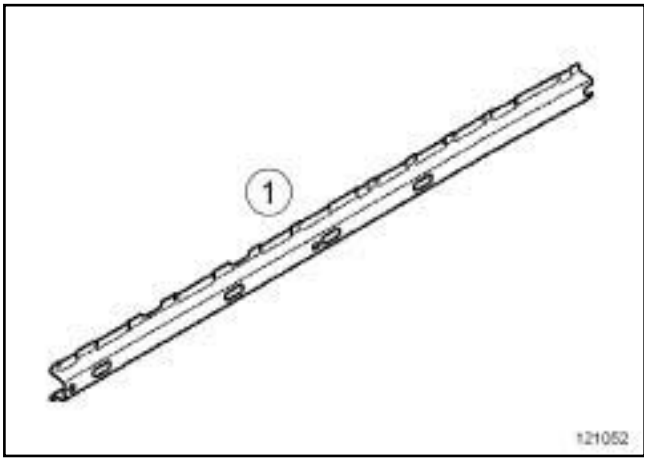
To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

The options for replacing this part are as follows:

- front partial replacement,
- Rear partial replacement
- complete replacement.

I - COMPOSITION OF THE SPARE PART

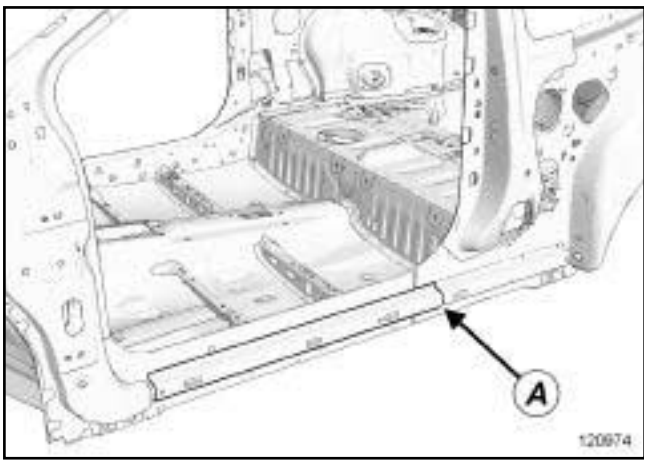


121052

No.	Description	Type	Thickness (mm)
(**1**)	Body side closure panel component stiffener	HLE	1.2

II - PART IN POSITION

1 - Partial front replacement

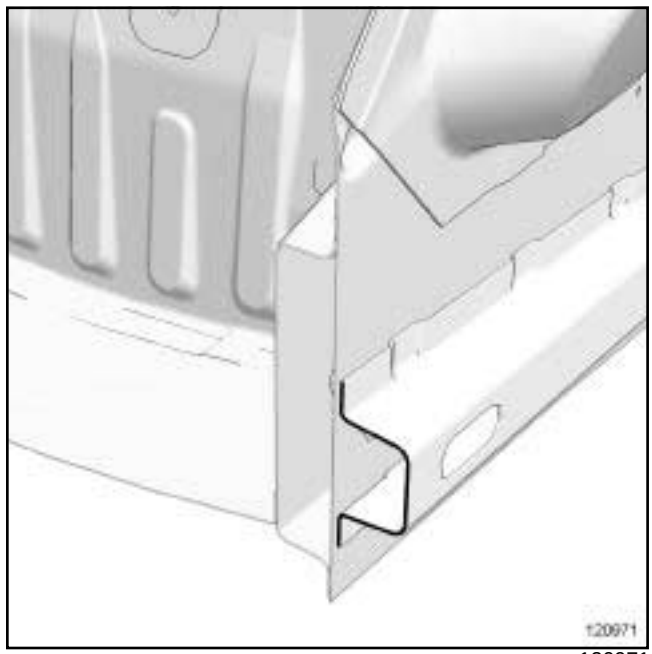


120974

WARNING

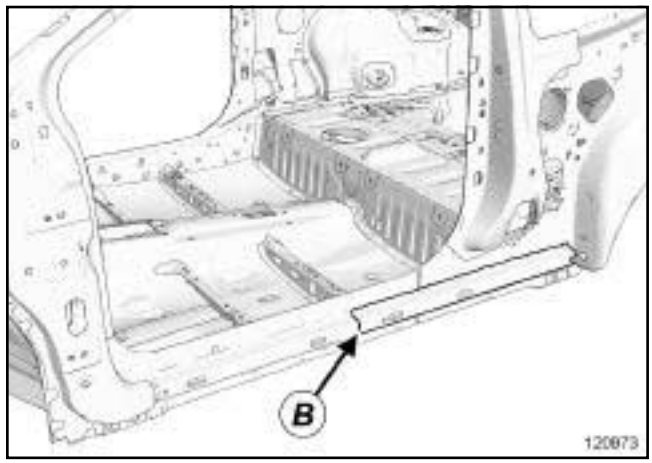
For the partial replacement of parts constituting a single structural component, it is essential to stagger the welds of each of the components.

Section A



120971

2 - Partial rear replacement

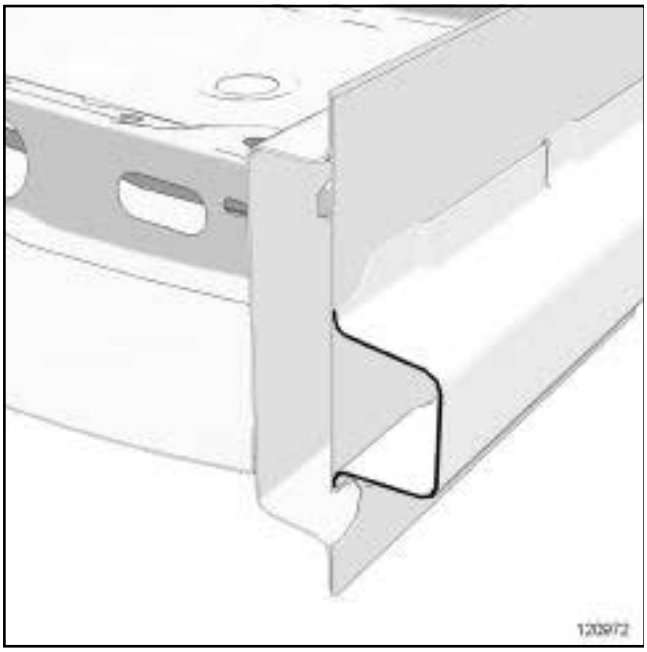


120973

WARNING

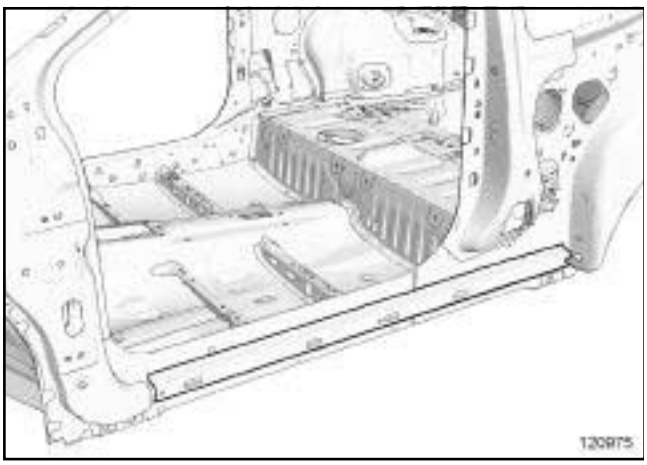
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

Section B



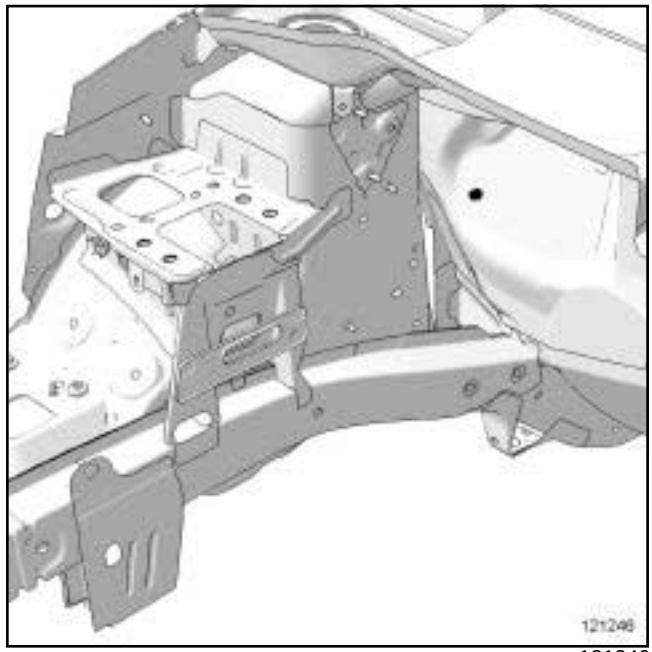
120972

3 - Complete replacement

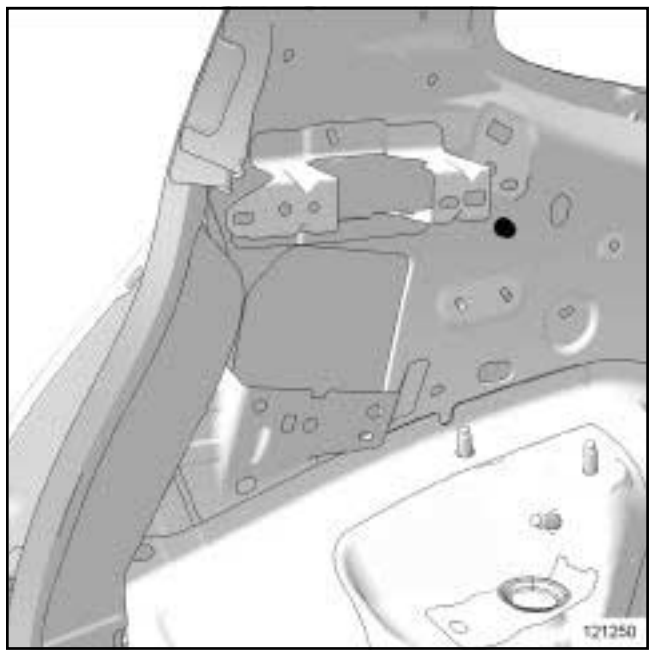


120975

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

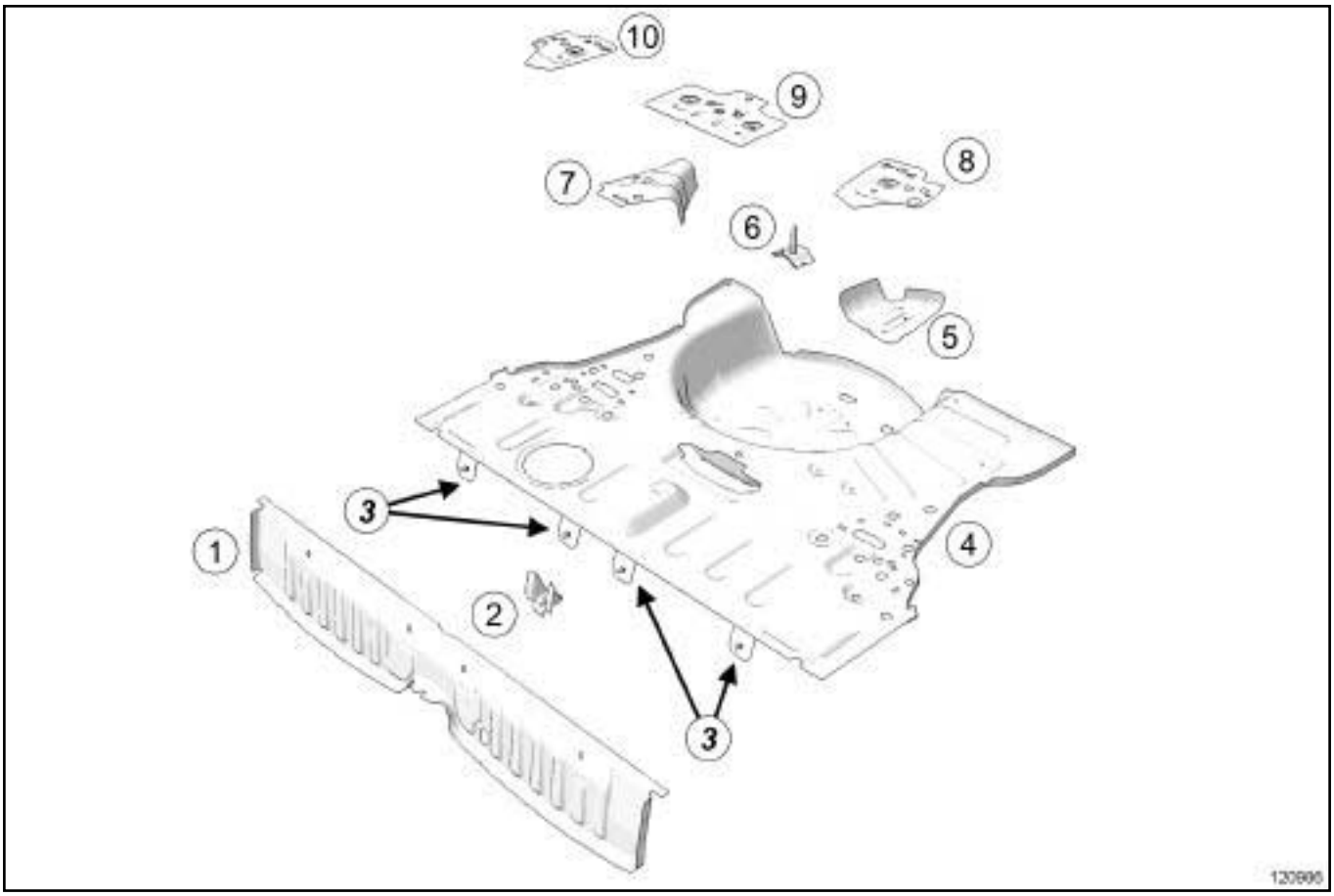
The earth of the welding machine must be placed as close as possible to the weld area.


121059

The options for replacing this part are as follows:

- Rear partial replacement
- complete replacement.

I - COMPOSITION OF THE SPARE PART

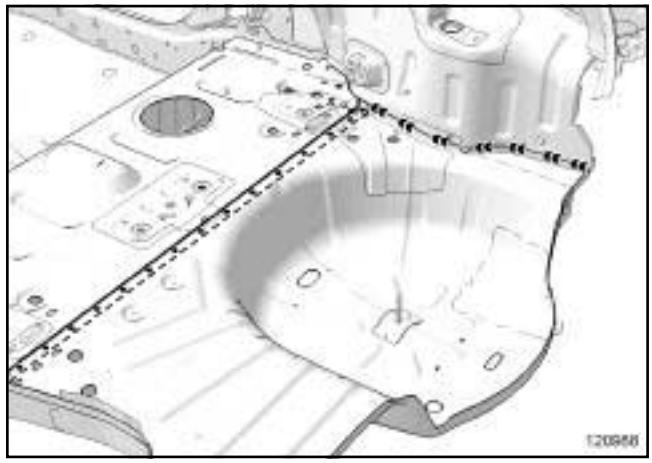


120986

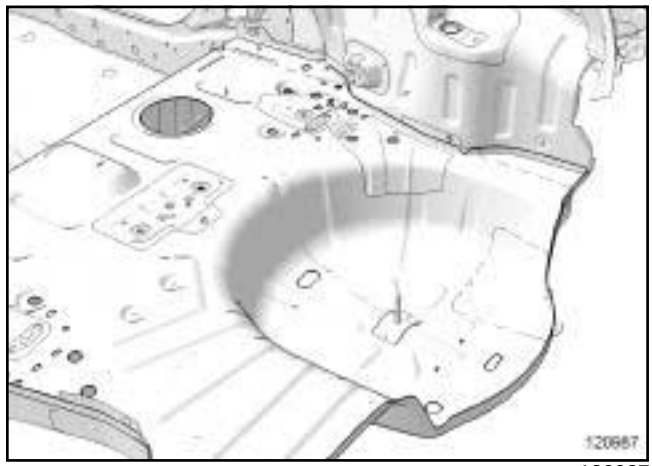
No.	Description	Type	Thic-kness (mm)
(**1**)	Cross member	HLE	1.5
(**2**)	Reservoir front centre mounting	HLE	1.17
(**3**)	Rear seat runners front stiffener	Mild steel	1.2
(**4**)	Rear floor	Mild steel	0.65
(**5**)	Rear tow eye mounting	Mild steel	1.8
(**6**)	Emergency spare wheel bridge mounting piece unit	Mild steel	1.17
(**7**)	Emergency spare wheel arch rear stiffener	HLE	1.5
(**8**)	Left-hand rear seat stiffener mounting	HLE	1.7
(**9**)	Rear seat rear centre stiffener mounting	HLE	1.7
(**10**)	Right-hand rear seat rear stiffener mounting	HLE	1.7

II - PART FITTED

1 - Partial rear replacement


120988

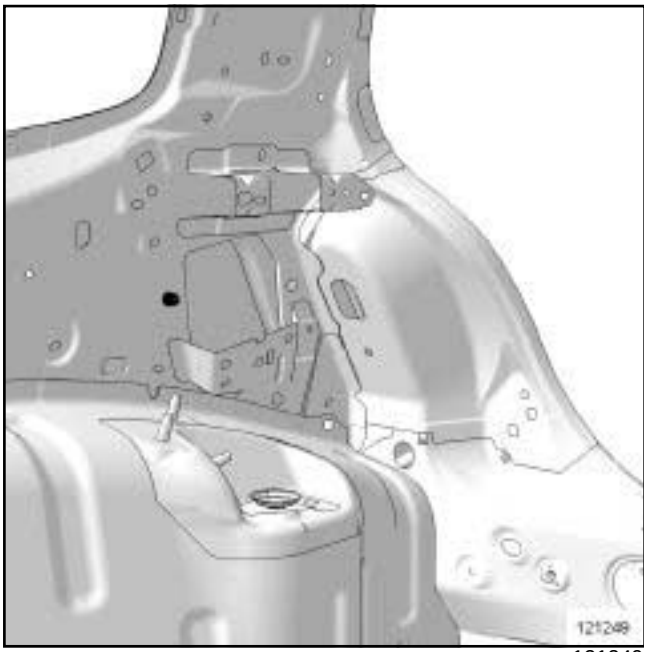
2 - Complete replacement


120987

WARNING

If the spot welds cannot be made as they originally were with an electrical spot welding machine, they should be replaced with securing beads.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

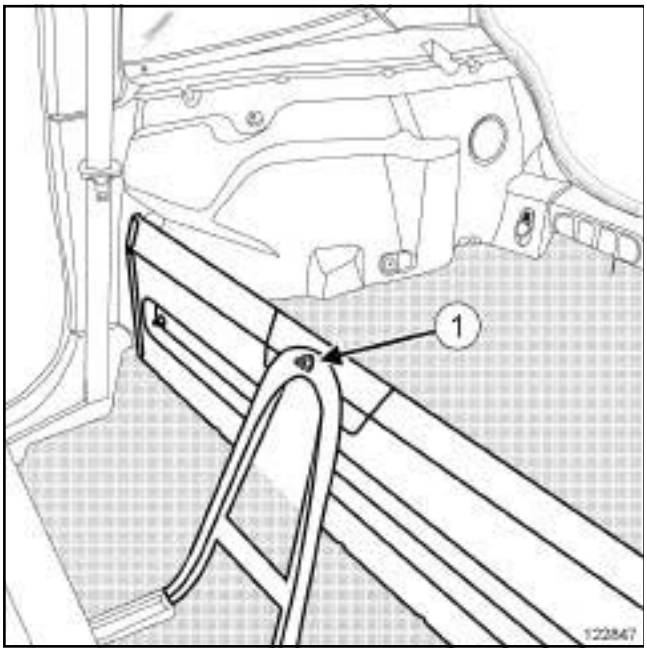
G44

REMOVAL

I - REMOVAL PREPARATION OPERATION

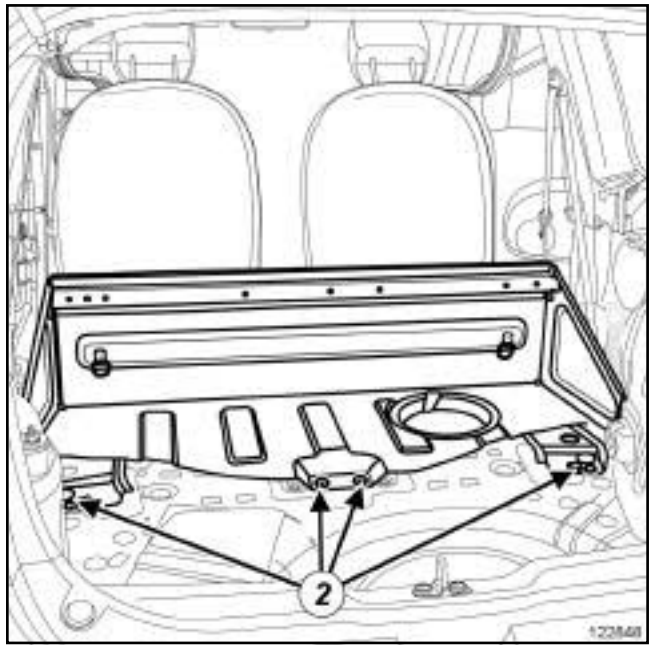
❑ Remove the rear loading trim (see **Rear loading trim: Removal - Refitting**) (MR 412, 71A, Body internal trim).

II - OPERATION FOR REMOVAL OF PART CONCERNED



122847

❑ Remove the bolt (**1**) .



122848

❑ Remove:

- the bolts (**2**) ,
- the front section of the attached rear floor.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

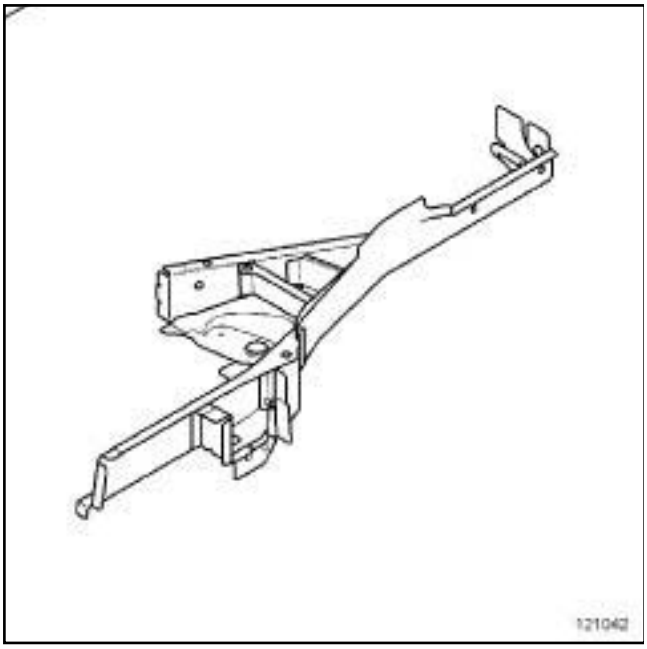
❑ Refit:

- the front section of the attached rear floor,
- the bolts ***(1)*** and ***(2)*** .

II - FINAL OPERATION.

❑ Refit the rear loading trim (see **Rear loading trim: Removal - Refitting**) (MR 412, 71A, Body internal trim).

C44



121042

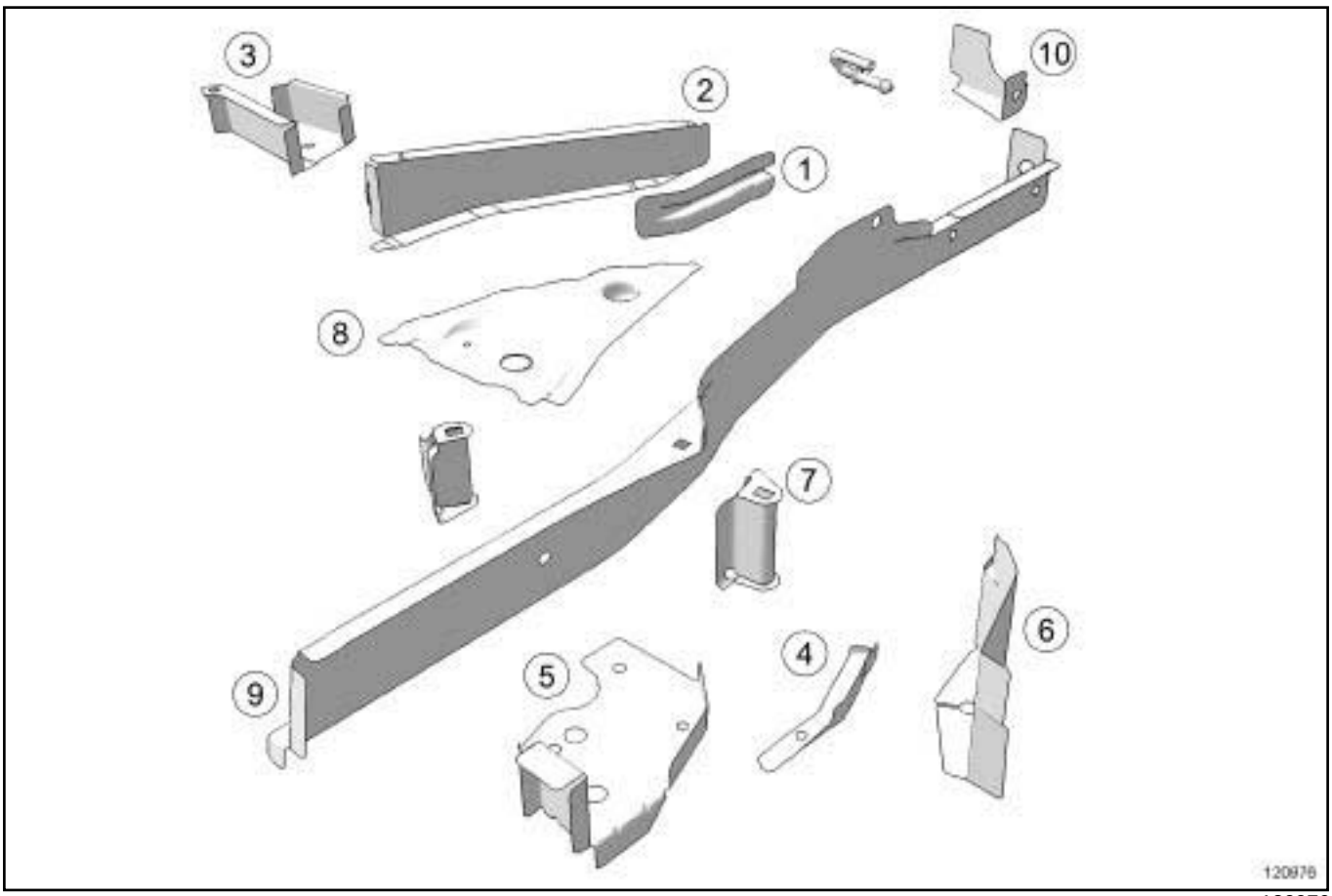
There is only one way of replacing this part:

- complete replacement.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

I - COMPOSITION OF THE SPARE PART

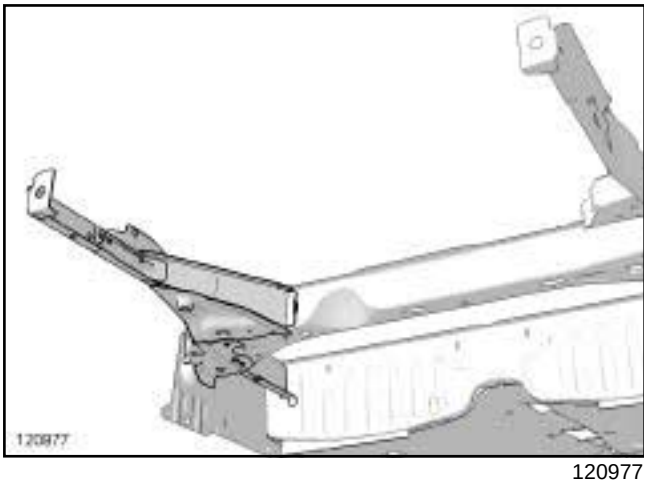


120976

C44

No.	Description	Type	Thic-kness (mm)
(**1**)	Rear side member reinforcement	HLE	**1.5**
(**2**)	Connection component reinforcement	HLE	**1.5**
(**3**)	Rear spring cup reinforcement	HLE	**1.5**
(**4**)	Side cross member reinforcement	Mild steel	**0.95**
(**5**)	Lower section of rear side cross member	HLE	**0.95**
(**6**)	Upper section of rear side cross member	HLE	**0.95**
(**7**)	Rear axle bearing spacer	HLE	**2.5**
(**8**)	Rear spring cup	HLE	**1.5**
(**9**)	Rear side member	HLE	**1.5**
(**10**)	Exhaust mounting stiffener	Mild steel	**2**

II - PART FITTED

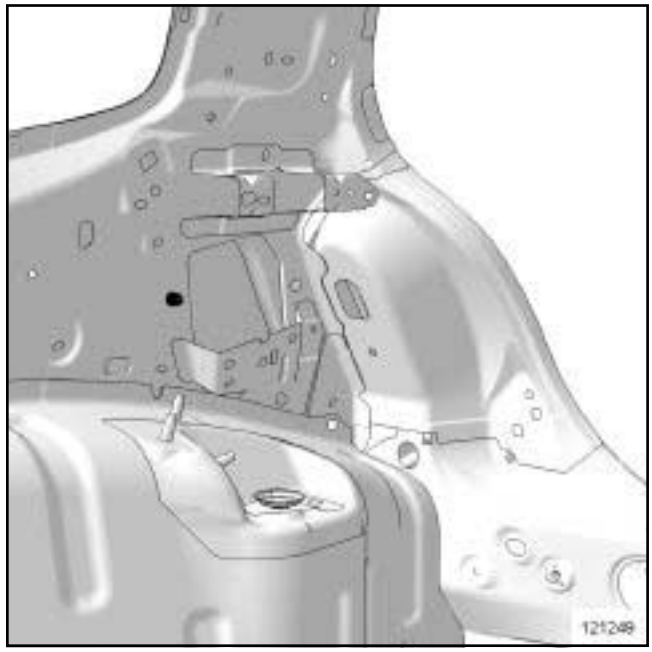


120977

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

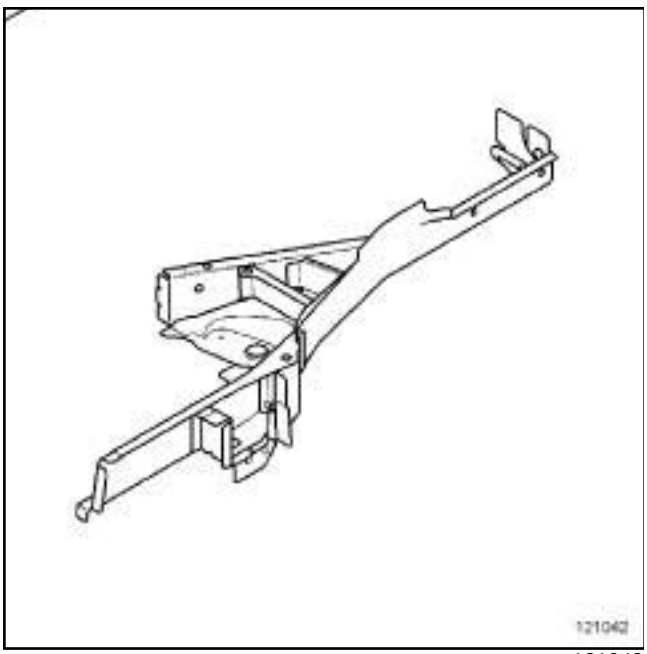
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, see **MR 400**.

I - DESIGN OF THE STRUCTURAL COMPONENT



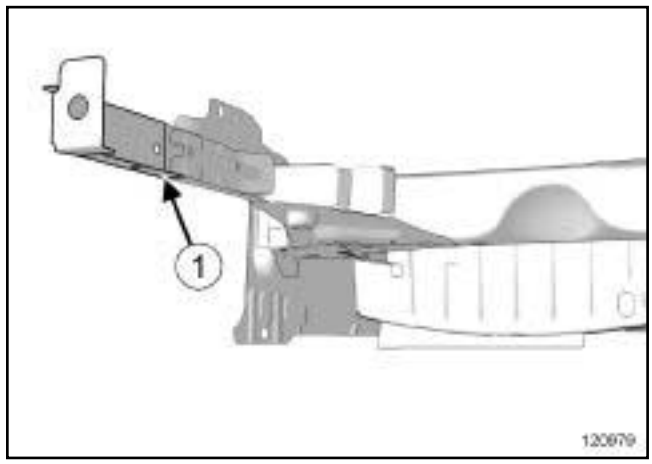
121042

This is a basic part; it simply fulfils the function of a rear side member.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT

Cut 1:

This line marks the area in which it is possible to make a partial replacement.



120979

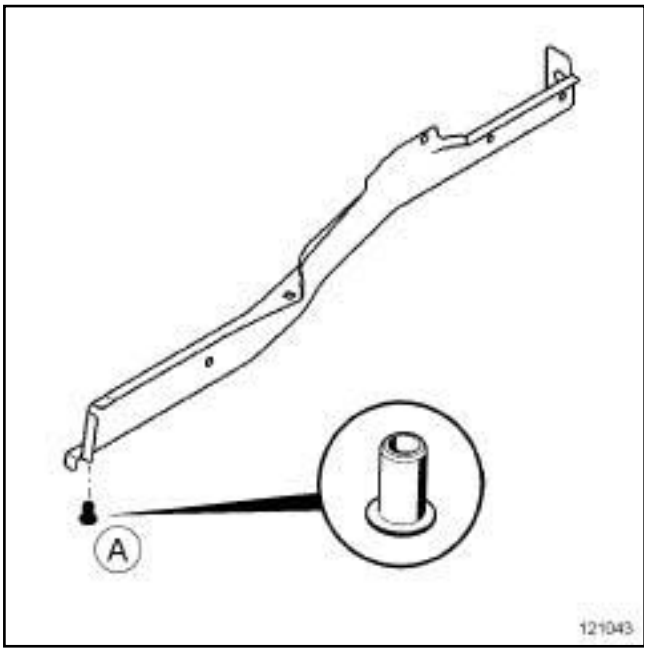
This marking shows the area in which it is possible to make a partial replacement.

III - ASSEMBLY INSTRUCTIONS FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



121043

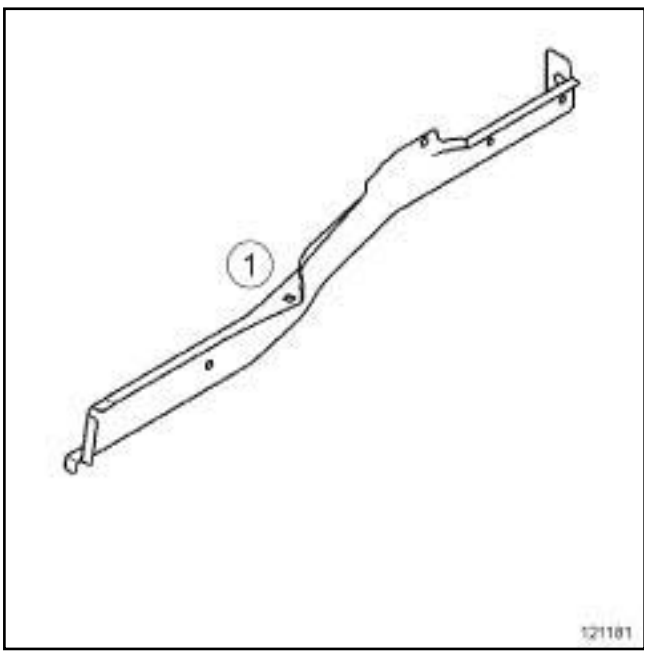
To replace this part, order the crimped nut (**A**) . To fit the crimped nut ((see **Bolted connection with crimped mounting: Fitting**) Fitting).

There is only one way of replacing this part:

- Partial replacement of the rear section.

IMPORTANT
The straightening bench must be used.

I - COMPOSITION OF THE SPARE PART

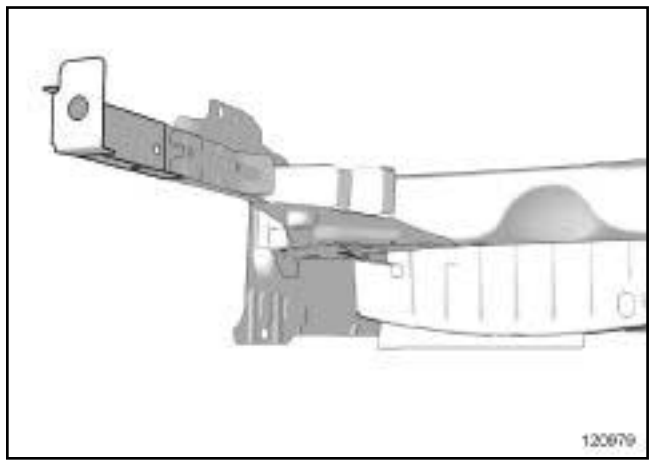


121181

No.	Description	Type	Thickness (mm)
(**1**)	Rear side member	HLE	1.5

II - PART IN POSITION

Partial replacement of the rear section

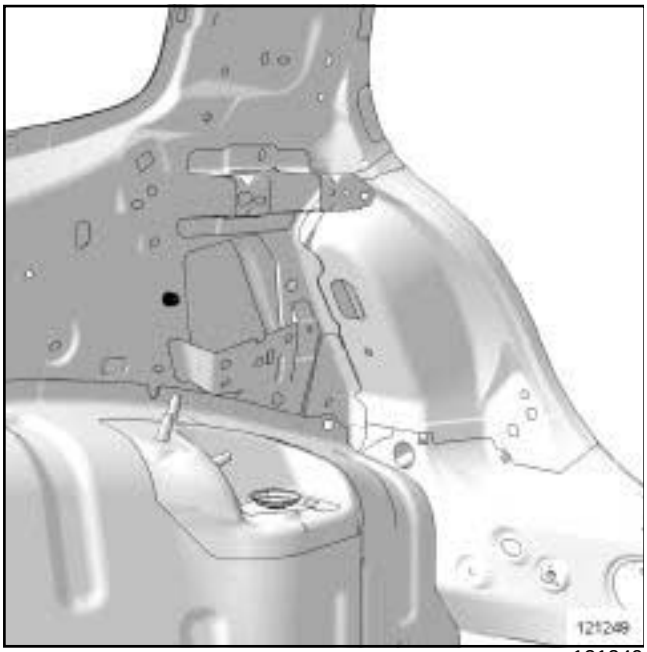


120979

WARNING
The position of this cut must be observed, and is determined according to the position of the internal reinforcements or acoustic inserts cut.

WARNING
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

WARNING

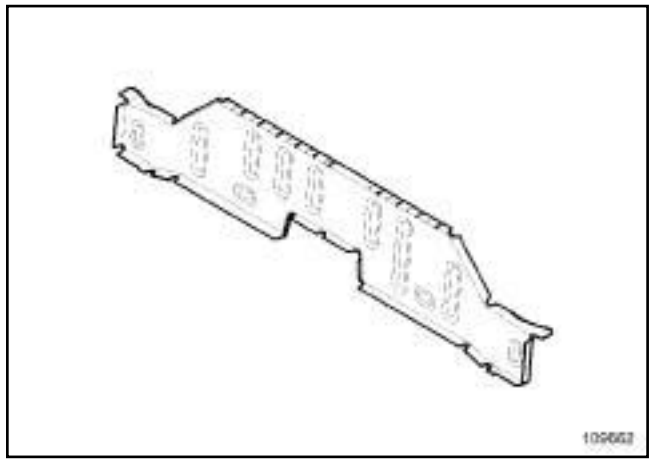
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

I - DESIGN OF THE STRUCTURAL COMPONENT

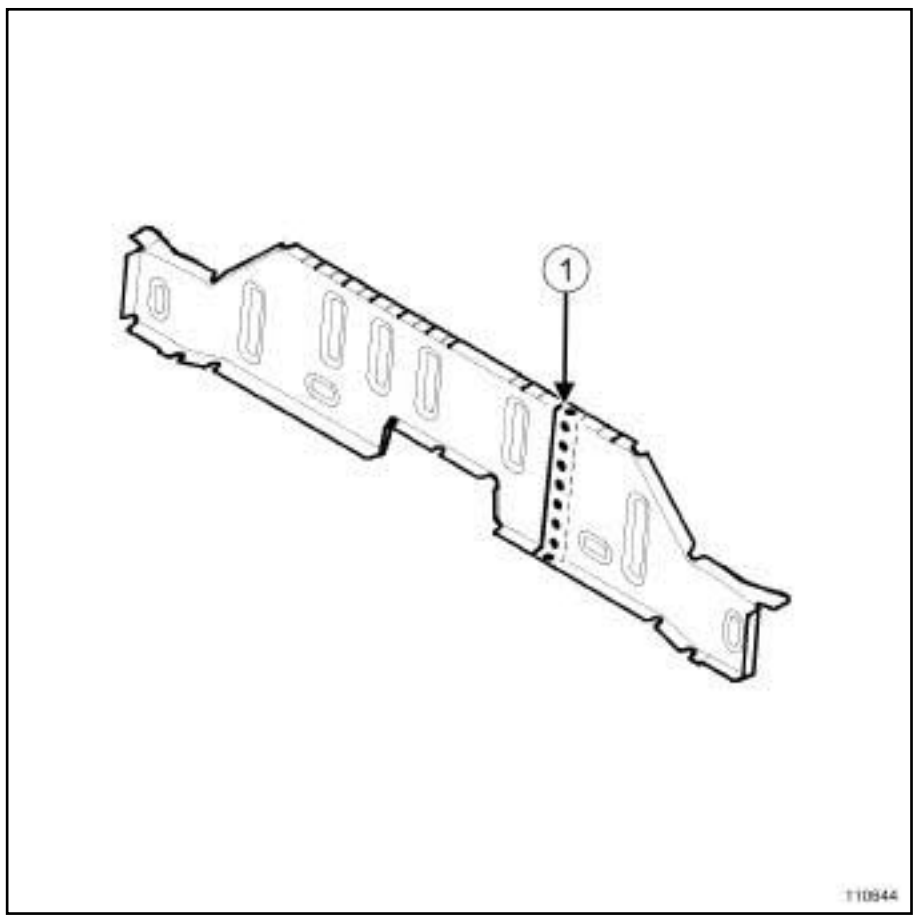


109662

This part is commonly called « cross member » .

The rear seat anchoring reinforcements are connected to the rear floor front cross member.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110644

Cut 1:

This line marks the place in which it is possible to make a partial replacement.

This operation allows you to access the inside of the hollow section of the structural element to straighten it.

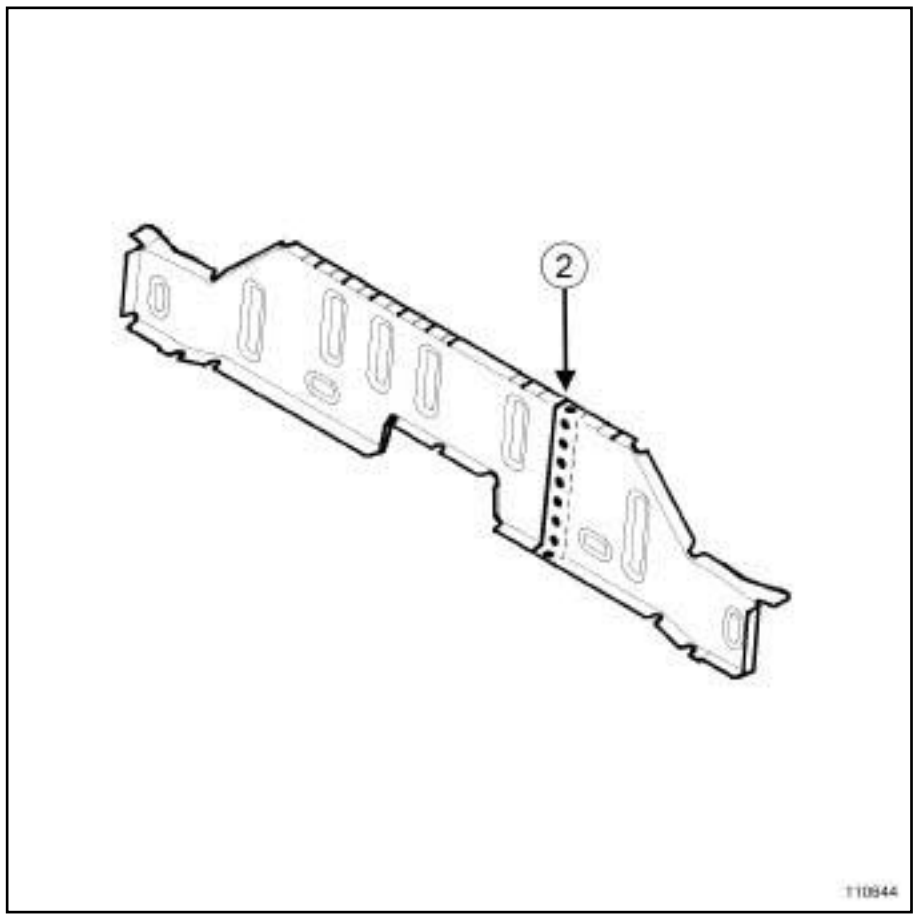
III - ASSEMBLY INSTRUCTIONS FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

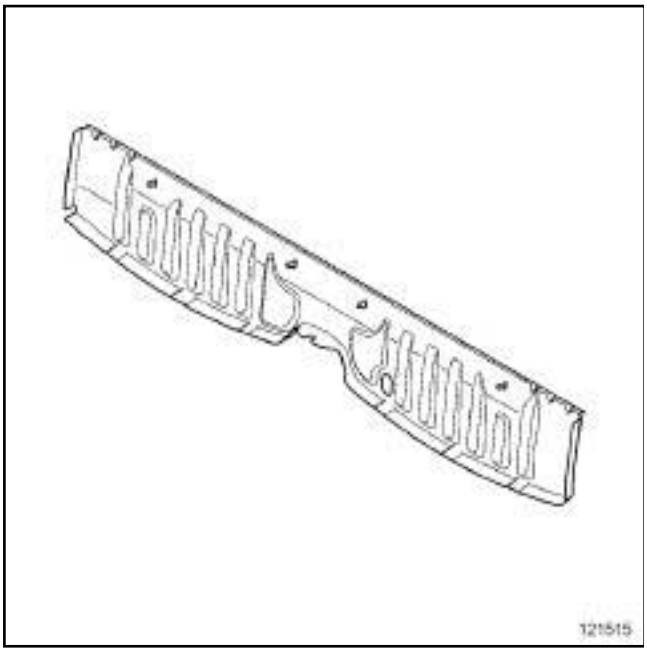
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400, 40A, General Information**).



110644

Line (**2**) on the diagram shows a joint made by joggling connected with plug welds at regular intervals.

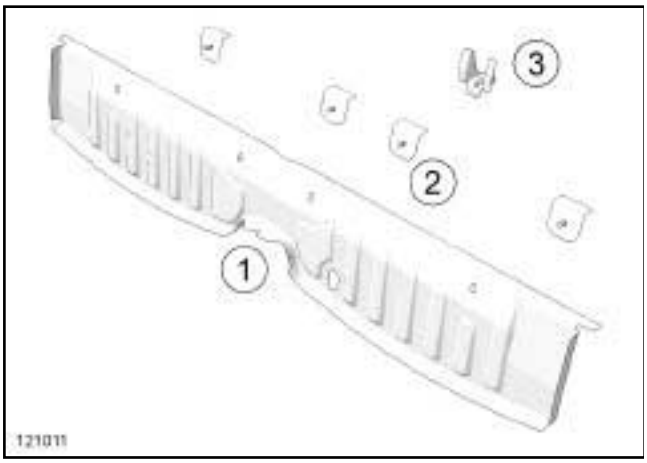


121515

There is only one way of replacing this part:

- partial replacement.

I - COMPOSITION OF THE SPARE PART

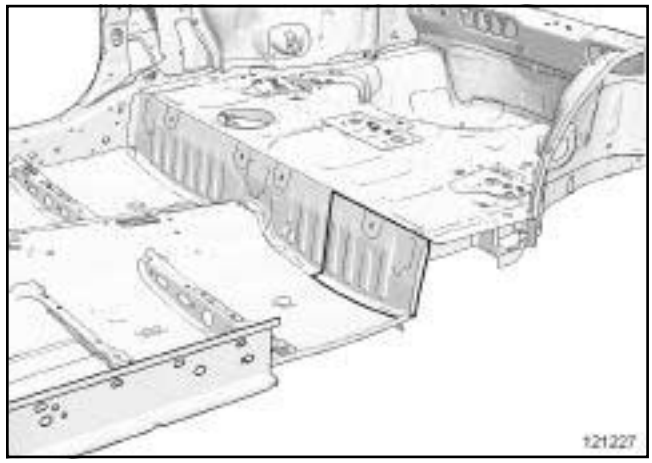


121011

No.	Description	Type	Thic-kness (mm)
(**1**)	Cross member	HLE	1.5
(**2**)	Rear seat runner front stiffener	Mild steel	1.2
(**3**)	Front centre reservoir mounting	HLE	1.2

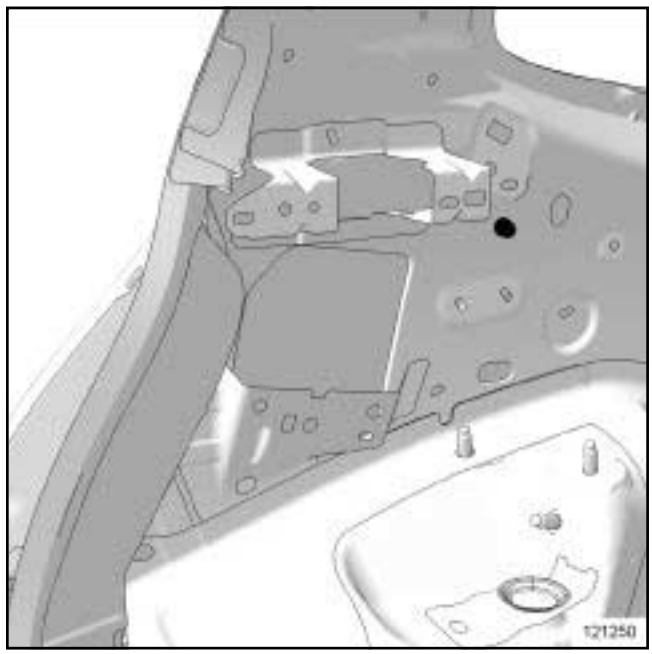
II - PART IN POSITION

Partial replacement



121227

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

WARNING

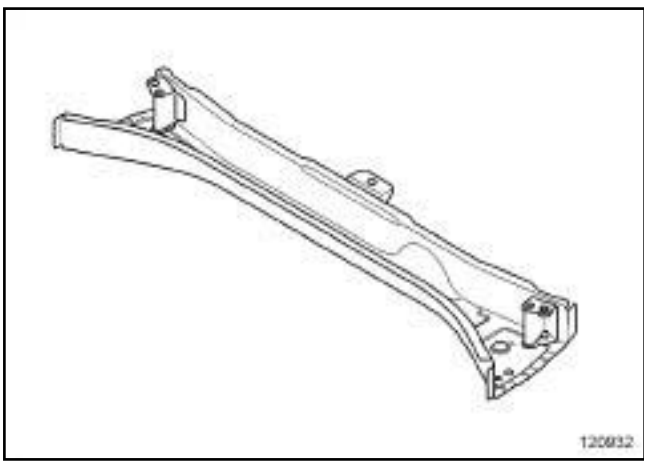
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading this general information, check that there are no special notes associated with this vehicle. These special notes will be specified if applicable in other parts of this subsection dealing with the part.

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

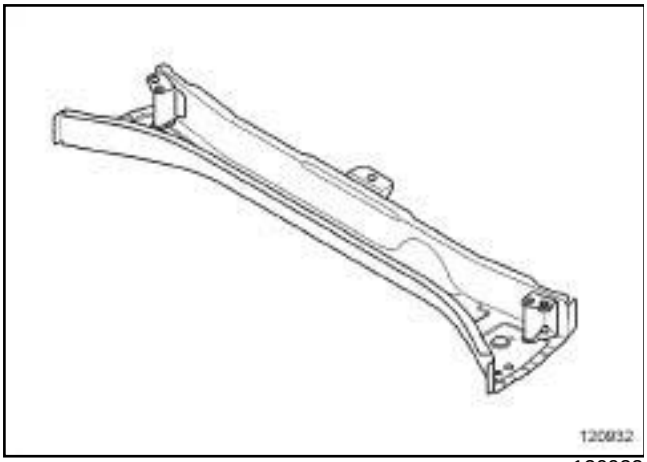
DESIGN OF THE STRUCTURAL COMPONENT



120932

This is a basic part; it only fulfils the function of a rear floor centre cross member.

C44


120932

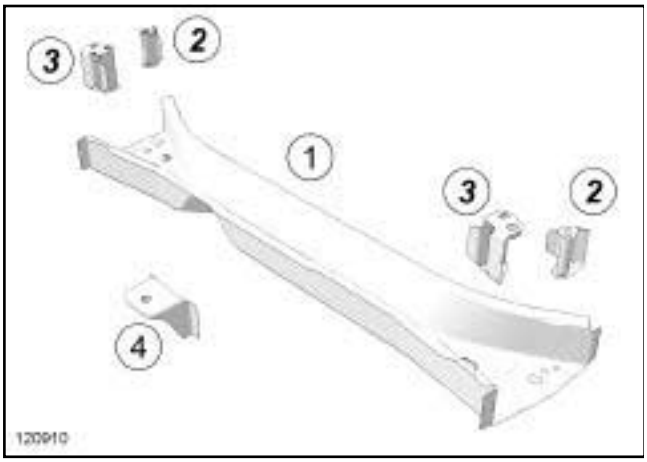
120932

There is only one way of replacing this part:

- complete replacement.

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

I - COMPOSITION OF THE SPARE PART

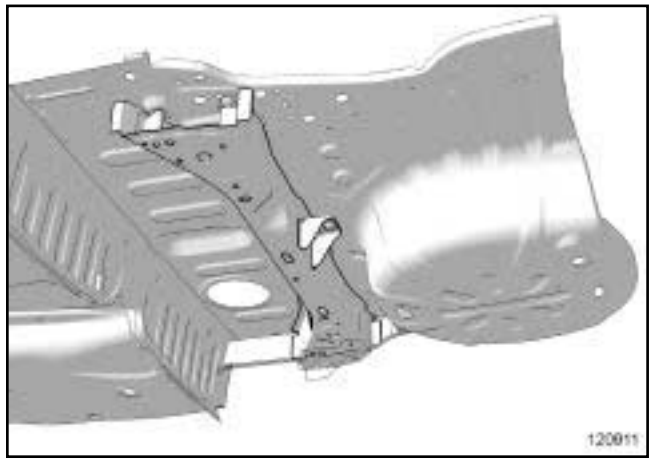


120910

120910

No.	Description	Type	Thic-kness (mm)
(**1**)	Rear centre cross member	HLE	**1.2**
(**2**)	Rear axle bearing spacer	HLE	**2.5**
(**3**)	Rear axle bearing spacer mounting	HLE	**2.5**
(**4**)	Rear seatback stiffener mounting	HLE	**1.2**

II - PART FITTED

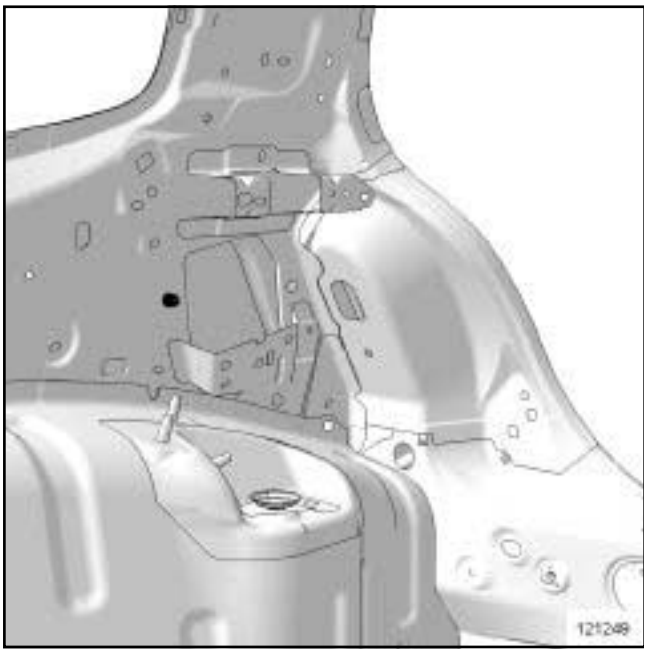

120911

120911

IMPORTANT
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

C44

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

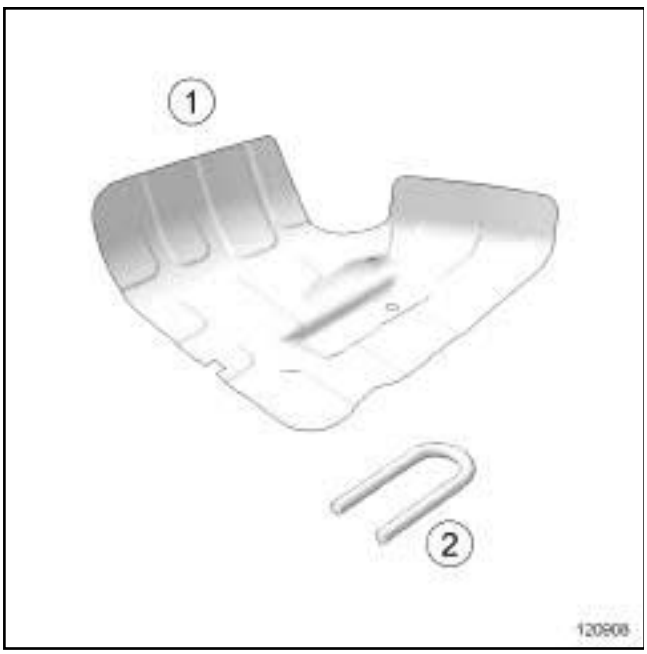
Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

120931

There is only one way of replacing this part:

- complete replacement.

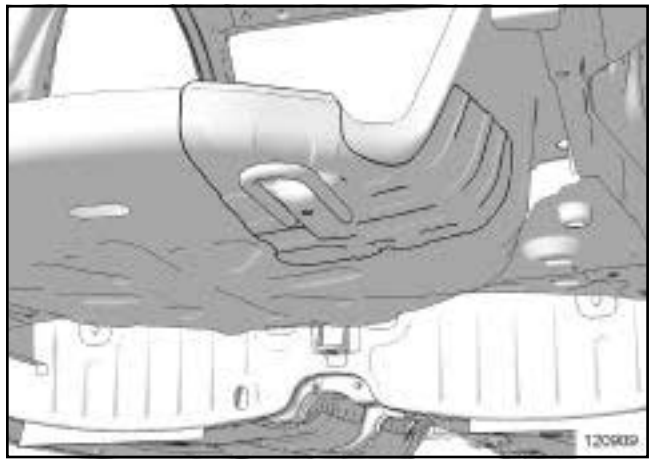
I - COMPOSITION OF THE SPARE PART



120908

No.	Description	Type	Thic-kness (mm)
(**1**)	Rear tow eye mounting	Mild steel	**1.8**
(**2**)	Rear towing and lashing wire	Mild steel	∅ **10**

II - PART FITTED

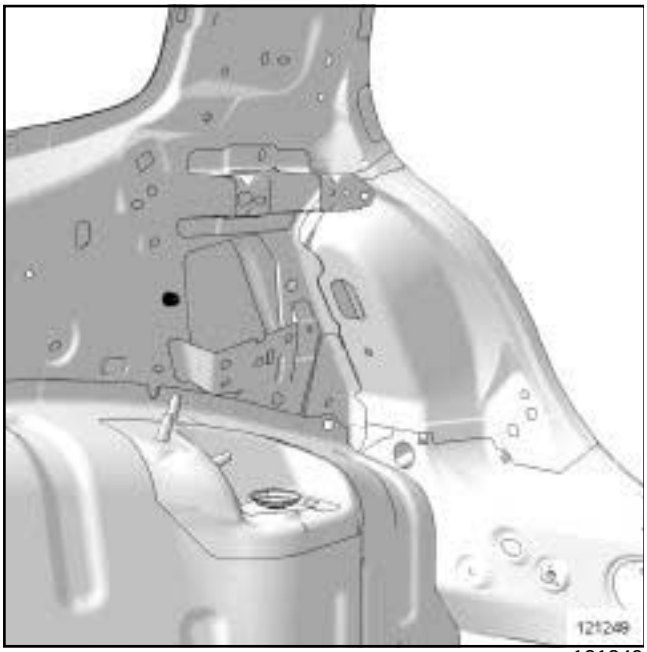


120909

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

REMOVAL

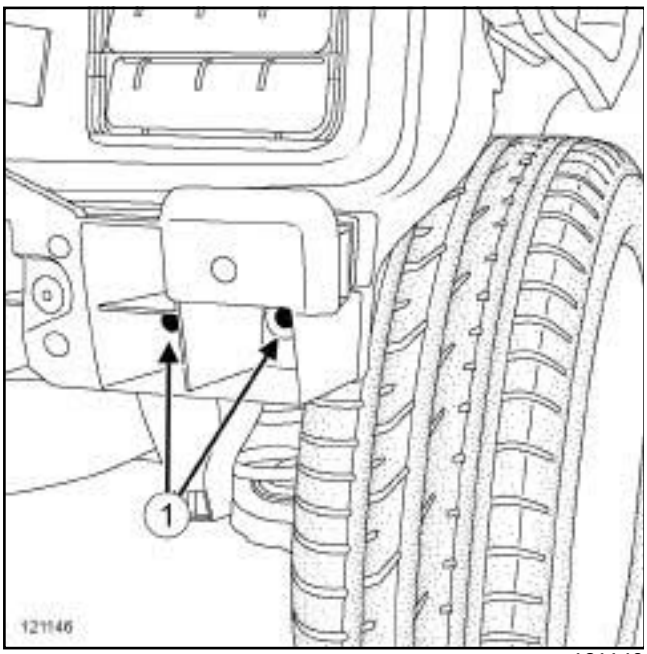
I - REMOVAL PREPARATION OPERATION

❑ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 412, 02A, Lifting equipment).

❑ Remove:

- the rear lights on the wing (see **Rear wing light: Removal - Refitting**) (MR 411, 81A, Rear lighting),
- the rear bumper (see **Rear bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection).

II - OPERATION FOR REMOVAL OF PART CONCERNED



121146

❑ Remove:

- the nuts (**1**) ,
- the rear impact lower cross member.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- the rear impact lower cross member,
- the nuts ***(1)*** .

II - FINAL OPERATION.

❑ Refit:

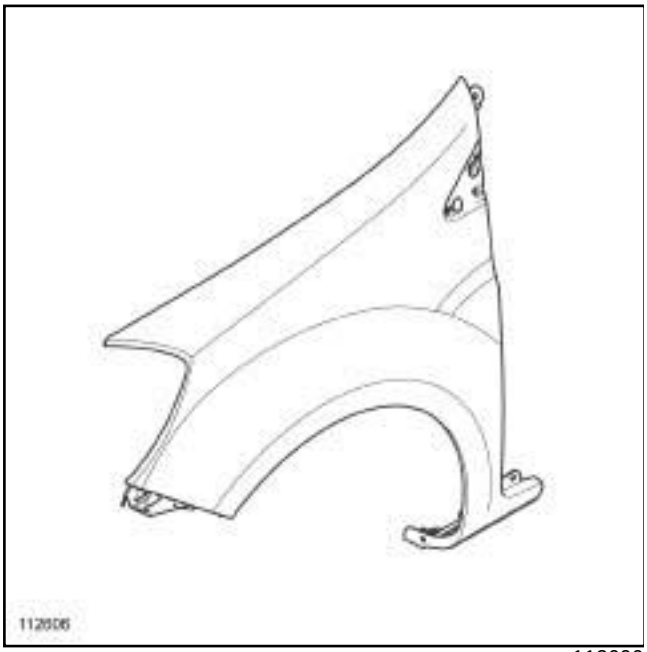
- the rear bumper (see **Rear bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the rear lights on the wing (see **Rear wing light: Removal - Refitting**) (MR 411, 81A, Rear lighting).

Note:

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

I - DESIGN OF THE STRUCTURAL COMPONENT



112606

This type of front wing has the following characteristics:

- plastic wing (NORYL),

- wing bolted to its upper mounting bracket.

II - REMOVAL - REFITTING

Note:

In all cases of removal of a component without its replacement with a new one, mark the position of the mountings before removing the mountings to avoid adjustments during refitting.

To remove or replace the front wing, remove:

- the front wheel arch liner,

- the front bumper,

- the headlight,

- the windscreen lower trim piece.

III - ADJUSTMENT

Note:

The front wing is the penultimate removable component to be fitted to the vehicle body in the factory.

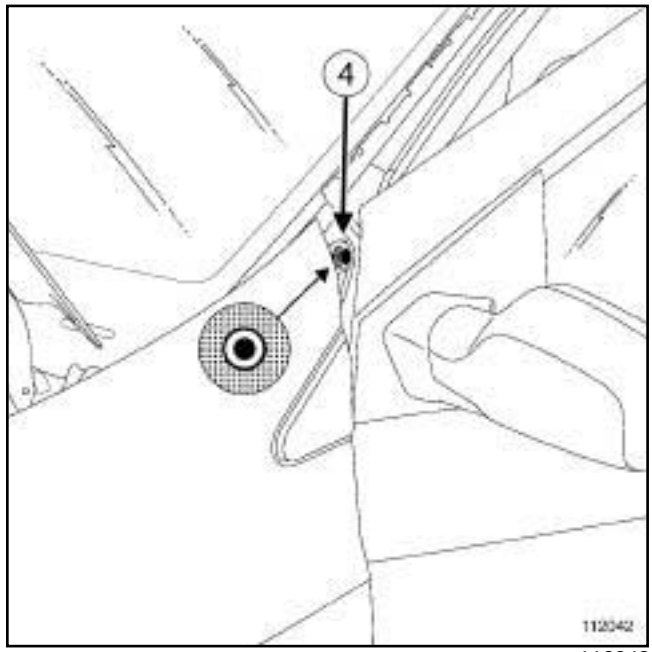
For final adjustment, correctly position all the other components including the bumper and the headlights for them to be correctly positioned.

Two main areas of adjustment may be identified:

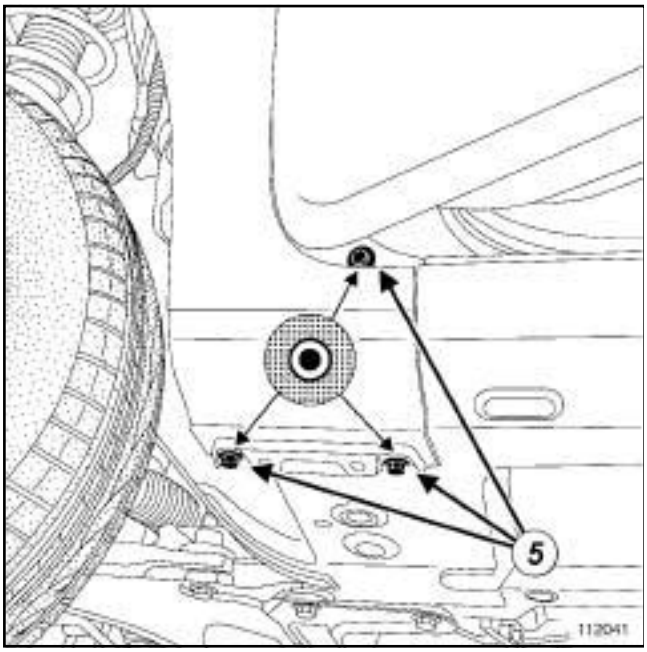
- the adjustment of the rear area,

- the adjustment of the front area

1 - Adjustment of the rear area:

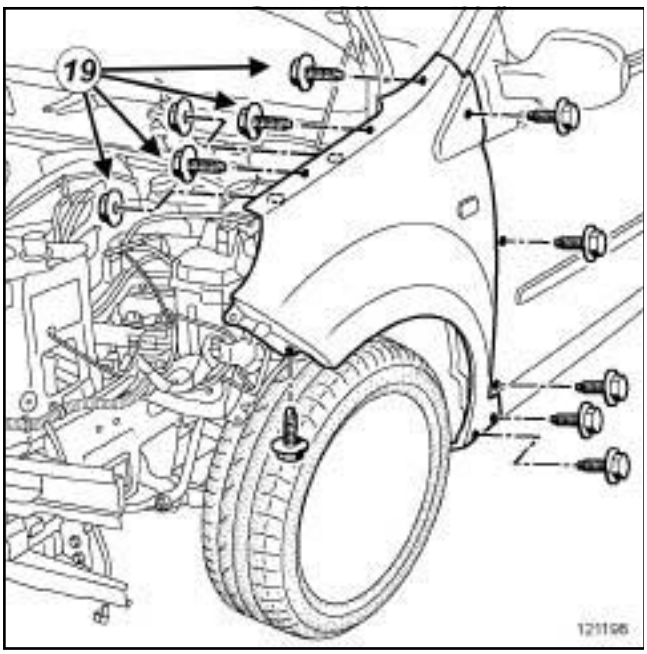


112042

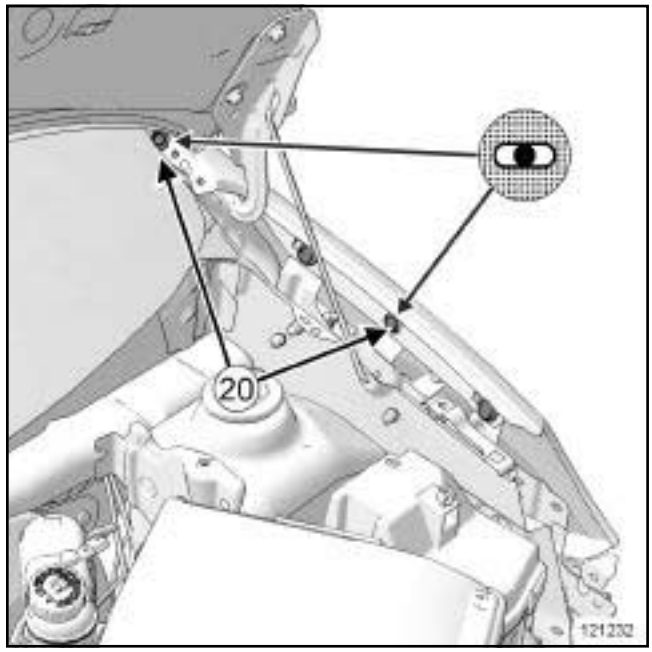


112041

Adjust the flush fitting and alignment with the front door using mountings (**4**) and (**5**) .



121198



121232

Adjust the alignment of the wing using mountings (**19**) and (**20**) .

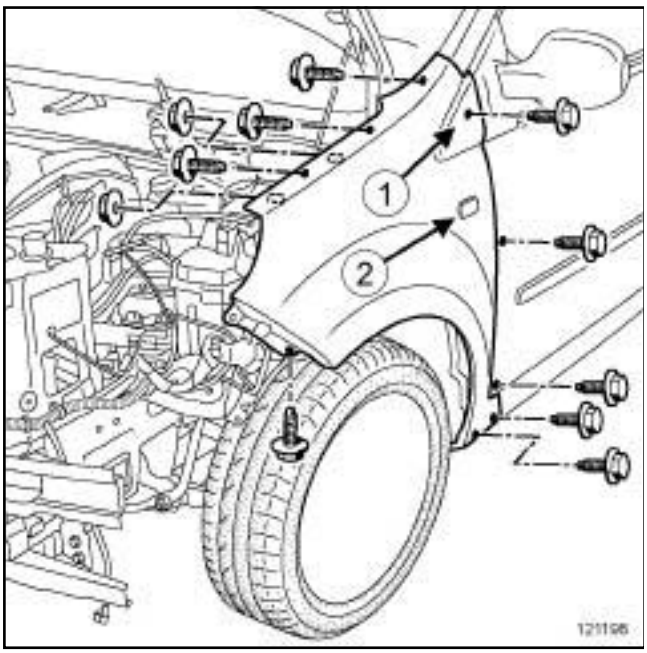
REMOVAL

I - REMOVAL PREPARATION OPERATION

❑ Remove:

- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the halogen headlight (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights).

II - REMOVAL OPERATION FOR PART CONCERNED



121198

❑ Remove:

- the trim (**1**) ,
- the indicator (**2**) ,
- the windscreen trim piece.

❑ Disconnect the indicator.

❑ Remove:

- the bolts,
- the front wing.

REFITTING

I - REFITTING PREPARATIONS OPERATION

❑ In addition, order the wing upper reinforcement and mounting angle bracket.

II - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- the front wing,
- the bolts.

❑ Connect the indicator.

❑ Refit:

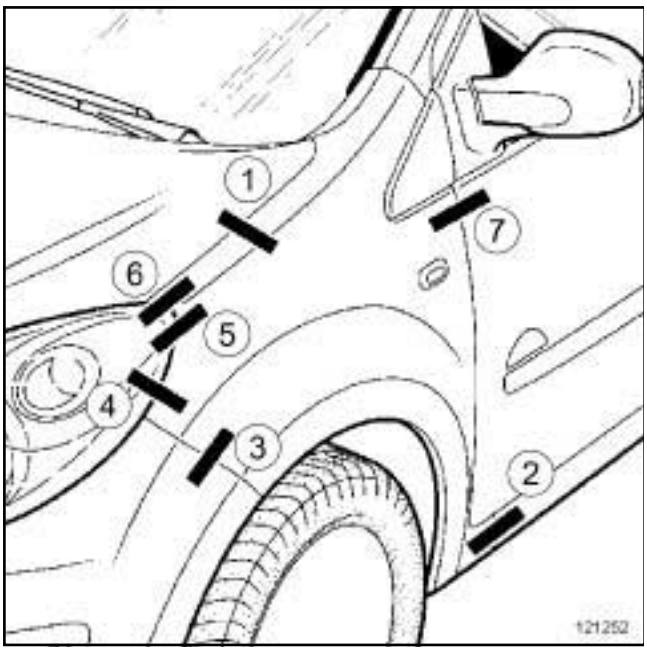
- the windscreen trim piece,
- the indicator ***(2)*** ,
- the trim (**1**) .

III - FINAL OPERATION.

❑ Refit:

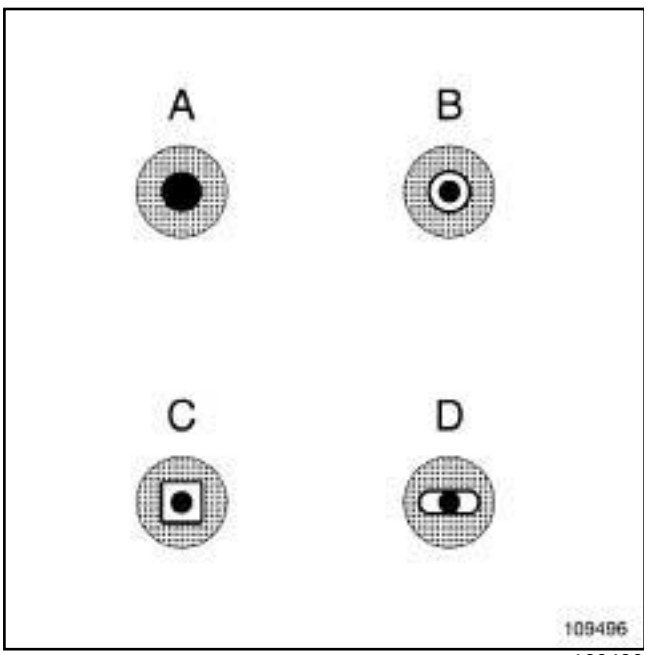
- the halogen headlight (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).

ADJUSTMENT



121252

❏ For information on panel gap values (see **Vehicle panel gaps: Adjustment value**) (MR 412, 01C, Vehicle bodywork specifications).



109496

❏ Symbols A, B, C and D show the adjustment options.

The black dot in the centre represents the body of the bolt.

The grey section represents the component to be adjusted.

The white section represents the adjustment area.

I - ADJUSTMENT WITH BONNET

❏

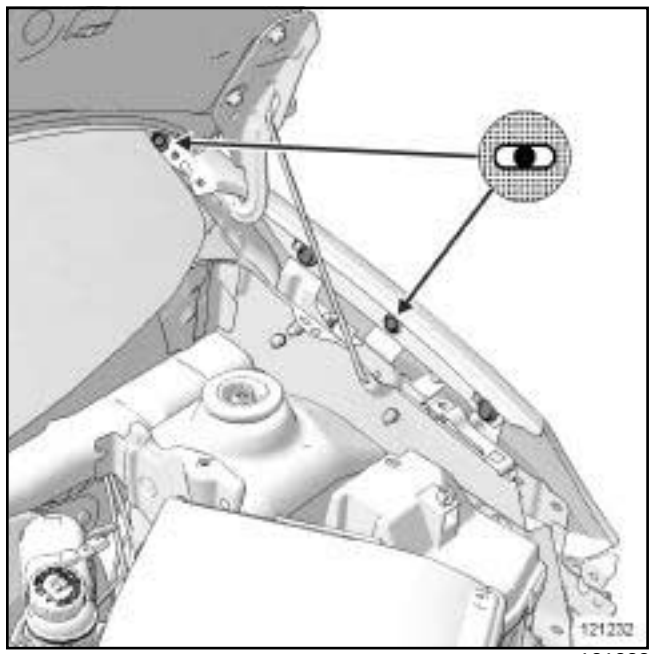
Note:

Adjust the front wing with the bonnet during reinstallation of the front wing upper mounting support (see **42A**, **Front upper structure**, **Front wing upper mounting support: Removal - Refitting**, page **42A-7**) .

II - ADJUSTMENT WITH BUMPER AND FRONT DOOR

❏ Remove:

- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection).

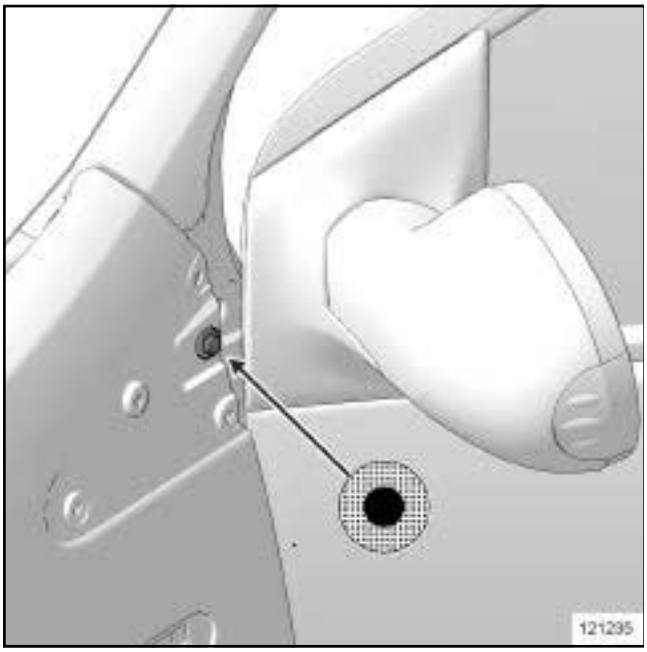


121232

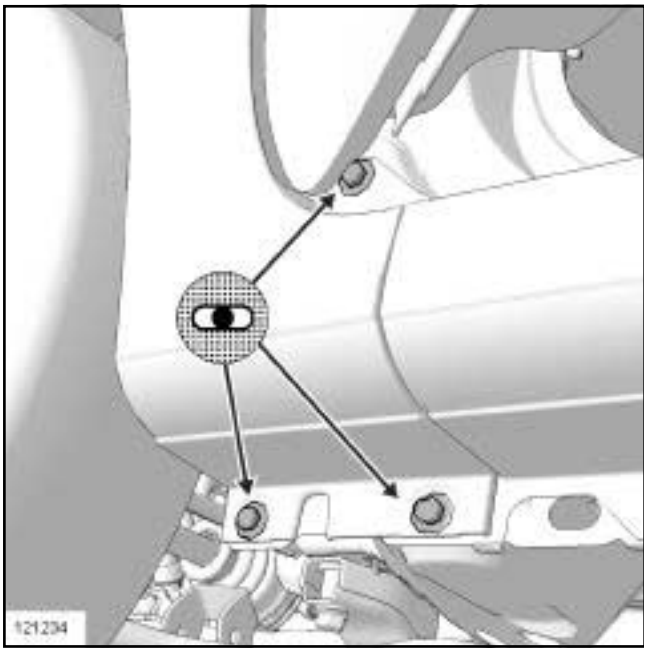
❏ Adjust the panel gaps with the front door.

Note:

Tighten the plastic nuts moderately so as not to damage them.

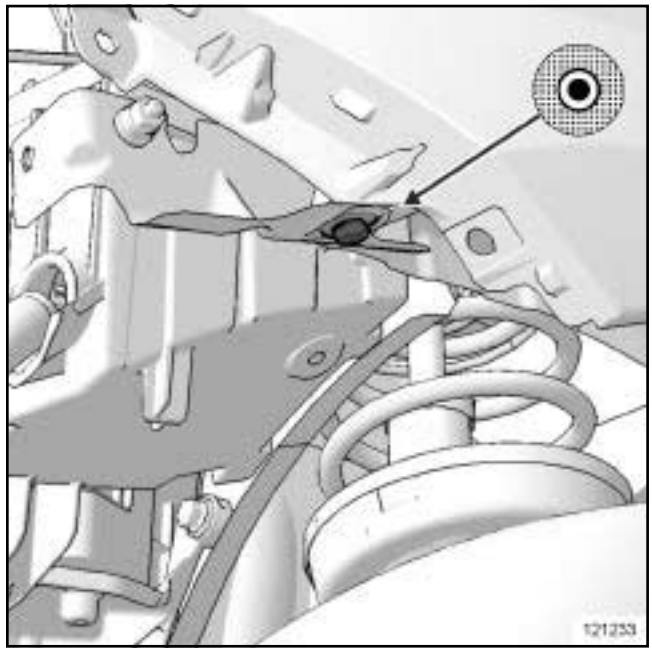


121235



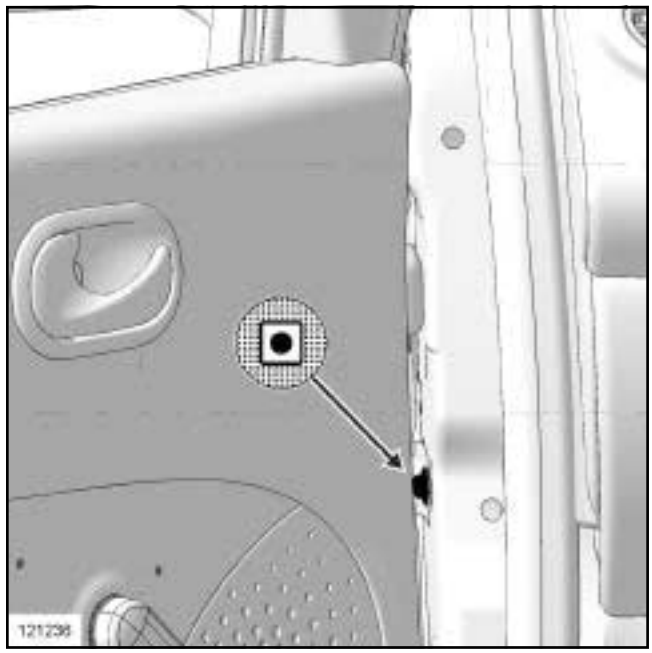
121234

❏ Adjust the panel gaps with the front door and the sill panel.



121233

❏ Adjust the panel gaps with the headlight.



121236

❏ Adjust the panel gaps with the front door.

❏ Refit:

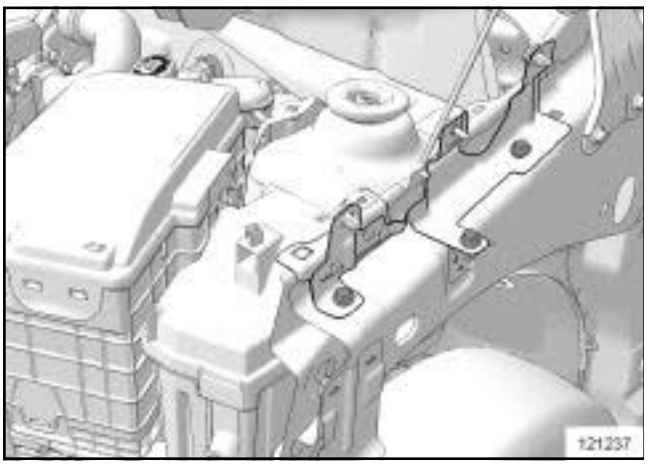
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).

WARNING

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

DESIGN OF THE STRUCTURAL COMPONENT



121237

This is a basic part, it fulfils the function of front wing upper mounting support and it enables the front wing to be adjusted in the X and Y axes.

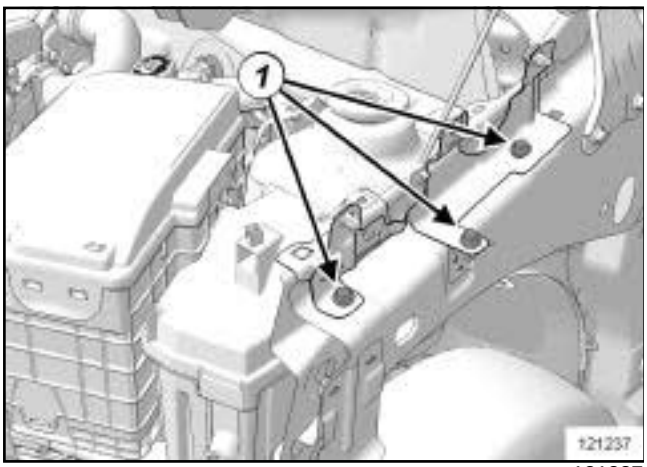
REMOVAL

I - REMOVAL PREPARATION OPERATION

❏ Remove:

- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the halogen headlight (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



121237

❏ Remove:

- the bolts (**1**) ,
- the front wing upper mounting support ,

III - REFITTING OPERATION FOR PART CONCERNED

❏ Refit:

- the front wing upper mounting support,
- the bolts (**1**) .

IV - FINAL OPERATION.

❏ Refit:

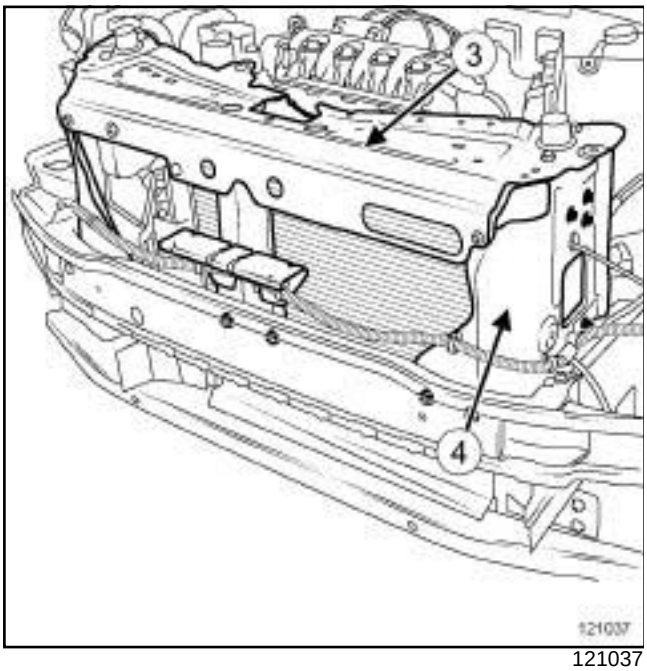
- the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) ,
- the halogen headlight (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).

Note:

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

DESIGN OF THE STRUCTURAL COMPONENT



121037

A special feature of this part is that it is composed of an upper cross member (**3**) and two side sections (**4**) , which are bolted onto the vehicle.

REMOVAL

I - REMOVAL PREPARATION OPERATION

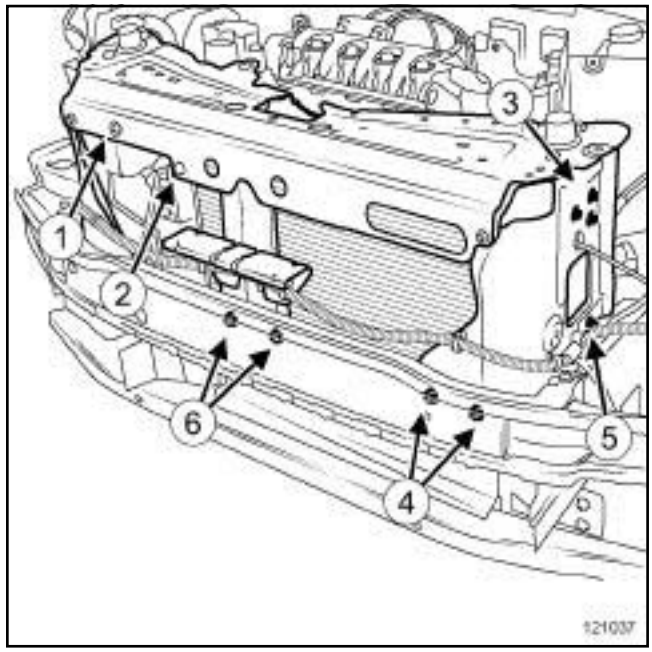
❏ Remove:

- the front bumper ((see **Front bumper: Removal - Refitting**)),
- the headlights ((see **Halogen headlight: Removal - Refitting**)),
- the bonnet catch ((see **Bonnet lock: Removal - Refitting**)).

II - OPERATION FOR REMOVAL OF PART CONCERNED

❏ Unclip the wiring harness.

❏ Remove the bonnet opening cable.



121037

❏ Remove the bolt (**1**) from the coolant bottle.

❏ Unclip the coolant bottle.

❏ Remove:

- the bolt (**2**) from the cooling radiator deflector,
- the bolts (**3**) from the cooling radiator support,
- the bolts (**4**) .

❏ Undo:

- the nut (**5**) ,
- the bolts (**6**) .

> Note:
>
> The bolts (**4**) and (**6**) can be accessed between the front end lower cross member and the cooling radiator.

❏ Remove the front end panel.

> Note:
>
> The front end panel is made up of the front upper cross member and the headlight carrier panels.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❏ Refit:

- the front end panel,

- the bolts ***(4)*** ,
- the bolts ***(3)*** on the cooling radiator support,
- the bolt ***(2)*** on the cooling radiator deflector.

❏ Tighten:

- The bolts ***(6)*** ,
- the nut ***(5)*** .

❏ Clip on the coolant bottle.

❏ Refit the bolt ***(1)*** on the coolant bottle.

❏ Position the bonnet opening release cable.

❏ Clip on the wiring harness.

II - FINAL OPERATION.

❏ Refit:

- the bonnet catch ((see **Bonnet lock: Removal - Refitting**)),
- the headlights ((see **Halogen headlight: Removal - Refitting**)),
- the front bumper ((see **Front bumper: Removal - Refitting**)).

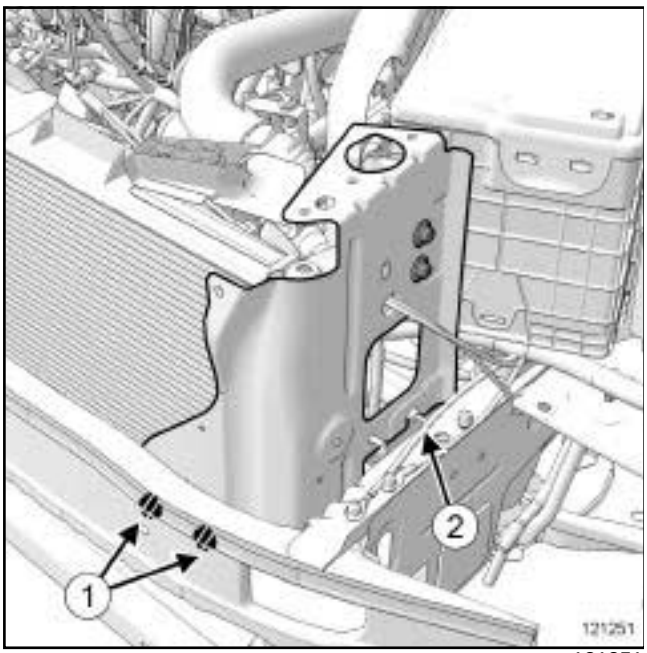
REMOVAL

I - REMOVAL PREPARATION OPERATION

❑ Remove:

- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the halogen headlight (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the bonnet catch (see **Bonnet lock: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the front upper cross member (see **42A**, **Front upper structure**, **Front upper cross member: Removal - Refitting**, page **42A-13**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



121251

❑ Loosen nut (**2**) .

❑ Remove:

- the bolts (**1**) ,
- the headlight carrier panel.

REFITTING

I - REFITTING PREPARATIONS OPERATION

❑

WARNING
For any adjustment or removal - refitting procedure where it is necessary to separate a bolted connection, reapply the mating and sealing anti-corrosion protection to the bolts using filler mastic in a pre-formed bead.

II - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- the headlight carrier panel,
- the bolts ***(1)*** .

❑ Tighten the nut ***(2)*** .

III - FINAL OPERATION.

❑ Refit:

- the front upper cross member (see **42A**, **Front upper structure**, **Front upper cross member: Removal - Refitting**, page **42A-13**) ,
- the bonnet catch (see **Bonnet lock: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the halogen headlight (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection).

WARNING

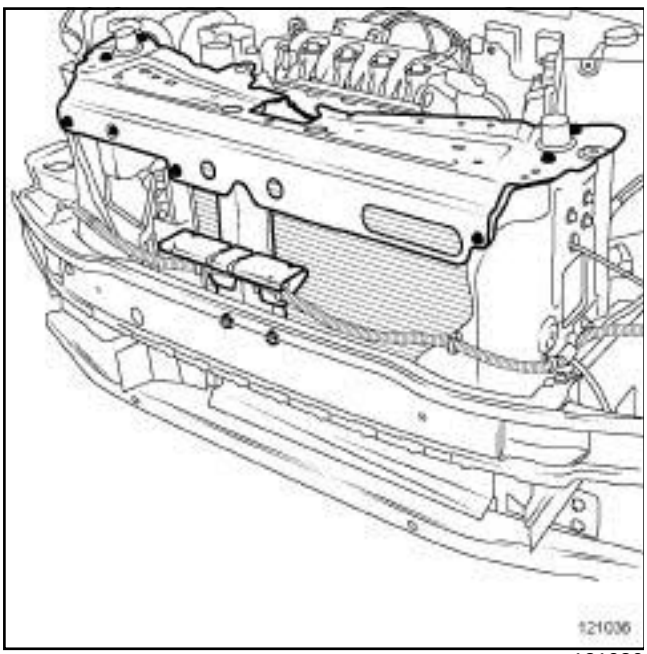
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

DESIGN OF THE STRUCTURAL COMPONENT

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.



121036

The special feature of this part it that it concurrently serves two functions:

- front upper cross member,
- front headlight mounting.

REMOVAL

I - REMOVAL PREPARATION OPERATION

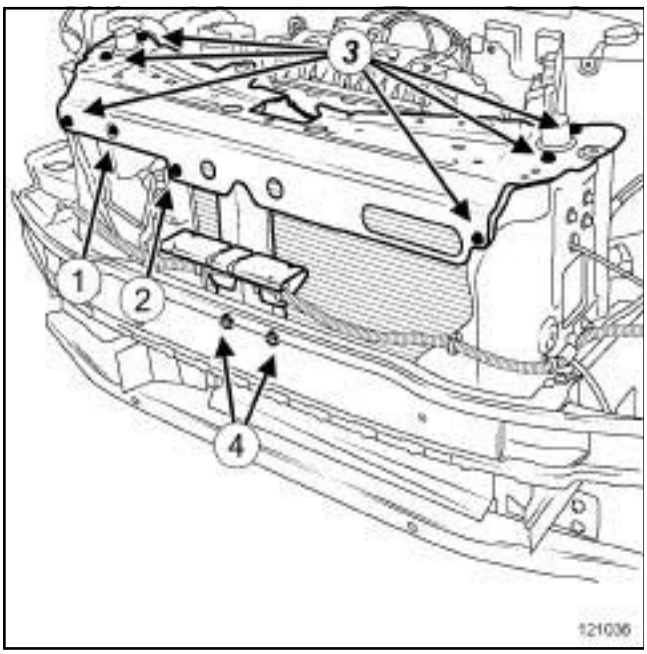
❏ Remove:

- the front bumper ((see **Front bumper: Removal - Refitting**)),
- the headlights ((see **Halogen headlight: Removal - Refitting**)),
- the bonnet catch ((see **Bonnet lock: Removal - Refitting**)).

II - OPERATION FOR REMOVAL OF PART CONCERNED

❏ Unclip the wiring harness.

❏ Remove the bonnet opening cable.



121036

❏ Remove the bolt (**1**) from the coolant bottle.

❏ Unclip the coolant bottle.

❏ Remove:

- the bolt (**2**) from the cooling radiator deflector,
- the front upper cross member bolts (**3**) .

❏ Undo the bolts (**4**) .

> Note:
>
> The bolts (**4**) can be accessed between the front end lower cross member and the cooling radiator.

❏ Remove the front upper cross member.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❏ Refit:

- the front upper cross member,
- the bolts ***(3)*** ,
- the bolt ***(2)*** on the cooling radiator deflector.

❏ Tighten the bolts ***(4)*** .

❏ Clip on the coolant bottle.

❏ Refit the bolt ***(1)*** on the coolant bottle.

❏ Position the bonnet opening release cable.

❏ Clip on the wiring harness.

II - FINAL OPERATION.

❏ Refit:

- the bonnet catch ((see **Bonnet lock: Removal - Refitting**)),
- the headlights ((see **Halogen headlight: Removal - Refitting**)),
- the front bumper ((see **Front bumper: Removal - Refitting**)).

Note:

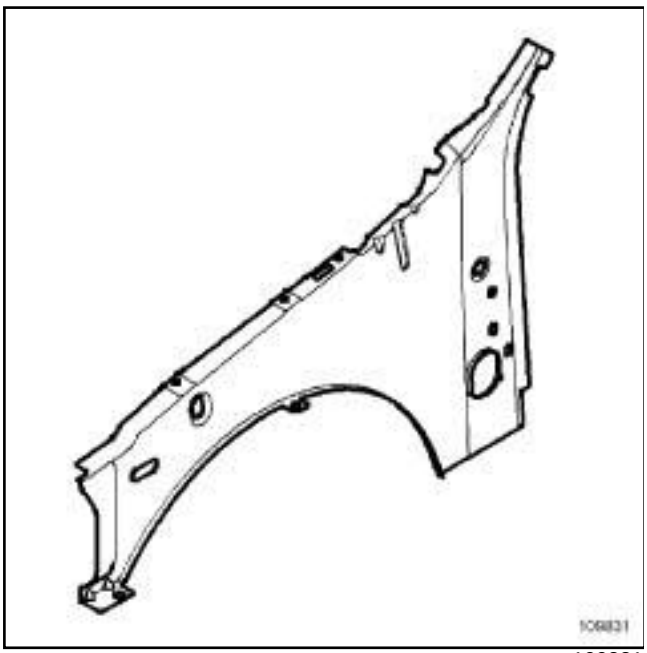
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

I - DESIGN OF THE STRUCTURAL COMPONENT



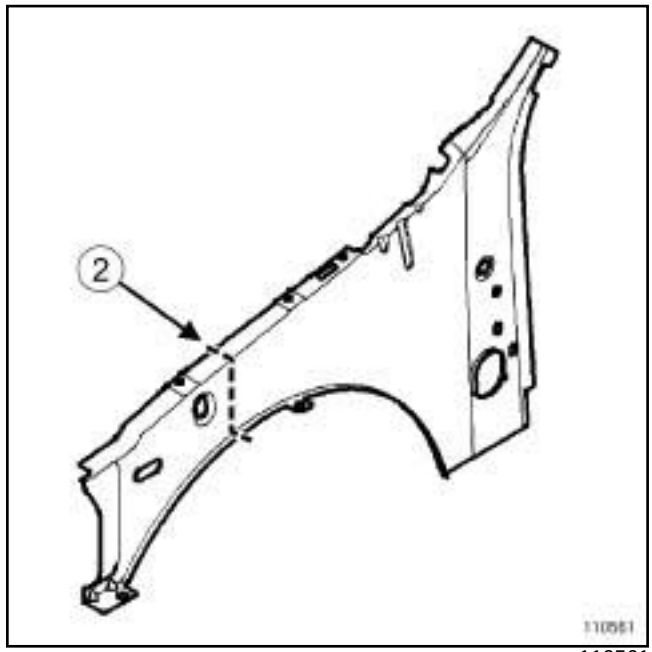
109831

The special feature of this part it that it concurrently serves two functions:

- scuttle side panel,

- A-pillar lining.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110561

Cutting line (**2**) shows the area in which it is possible to make a cut.

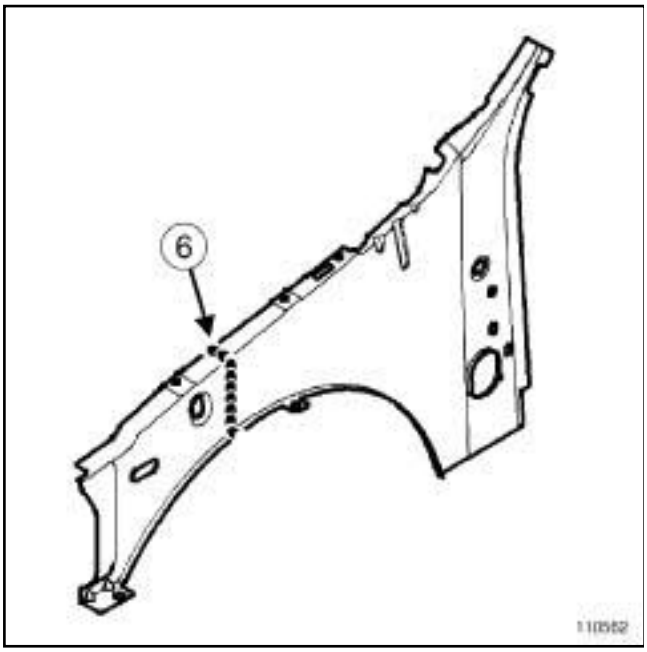
III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

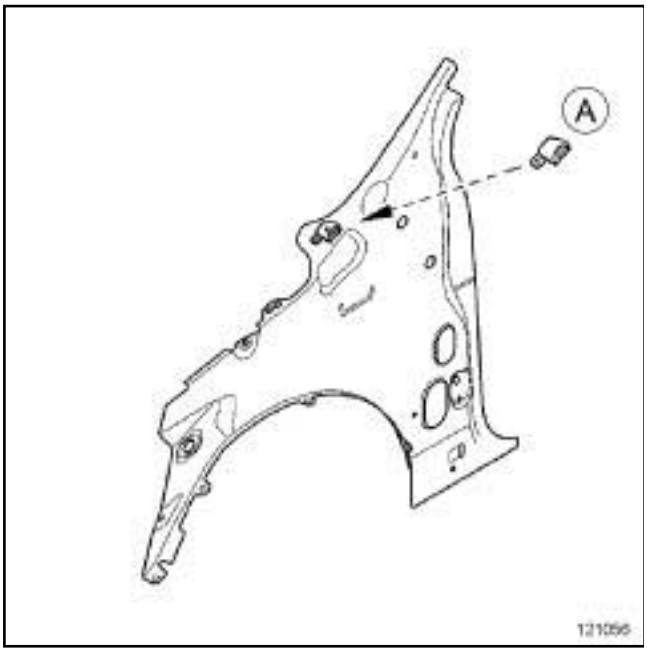
If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



110562

Line (**6**) on the diagram shows the partial replacement and an EGW butt weld.

Depending on the exact position of the cut, a weld made by joggling connected with plug welds at regular intervals may also be used.



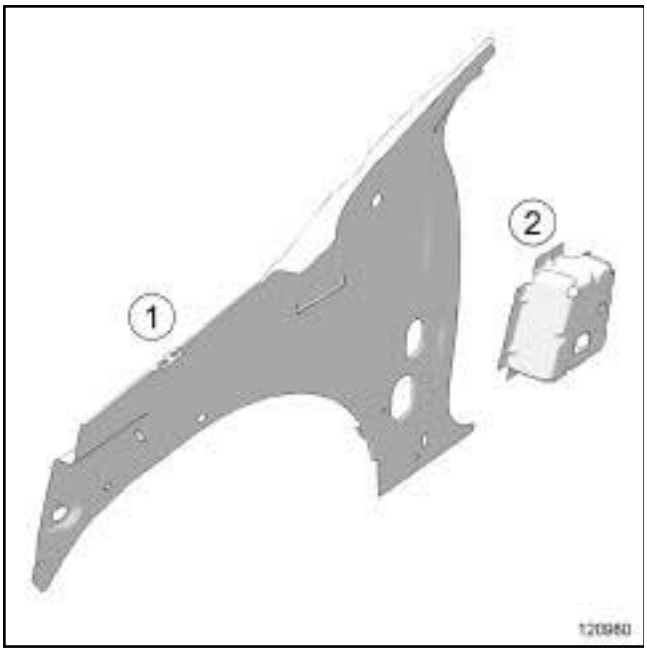
121056

To replace this part, also order the front wing mounting bracket (**A**) .

The options for replacing this part are as follows:

- partial replacement of the front end section,
- partial frontal replacement

I - COMPOSITION OF THE SPARE PART

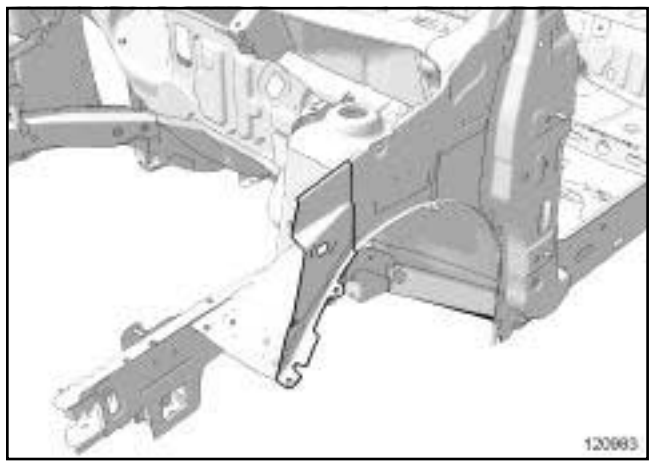


120980

No.	Description	Type	Thic-kness (mm)
(**1**)	A-pillar lining	Mild steel	**0.9**
(**2**)	Dashboard mounting unit	Mild steel	**1.5**

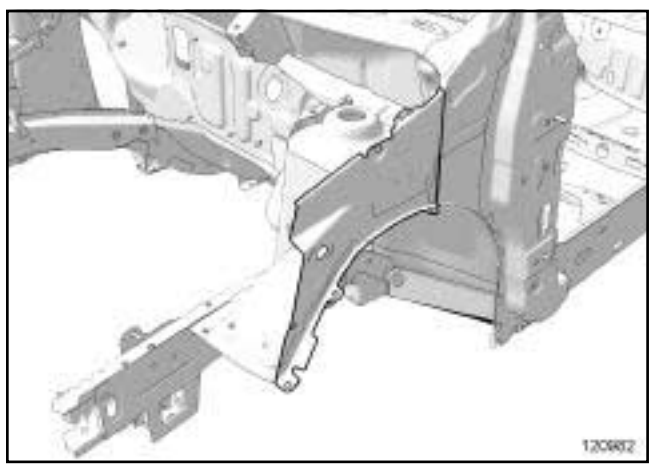
II - PART IN POSITION

1 - Partial replacement of the front end section

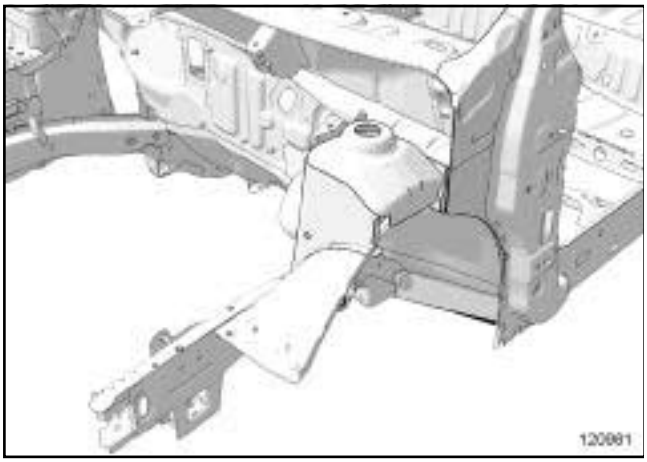


120983

2 - Partial front replacement



120982



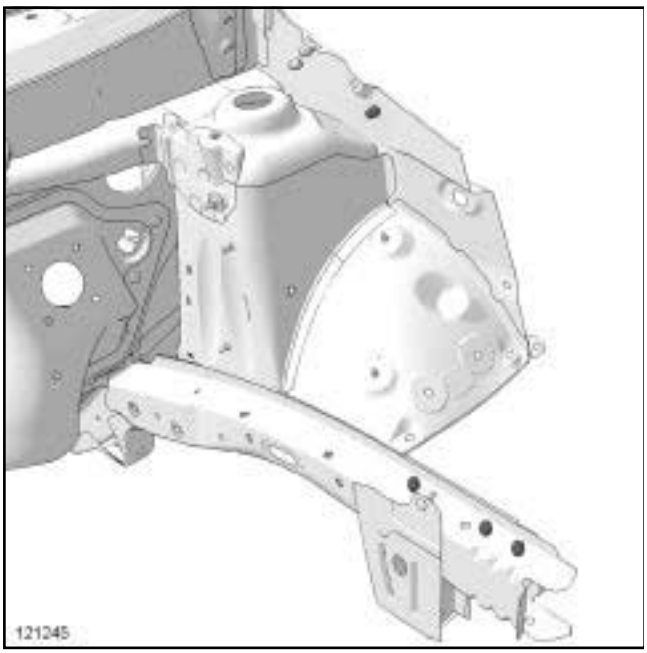
120981

This cut gives access to the front wheel arch.

IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

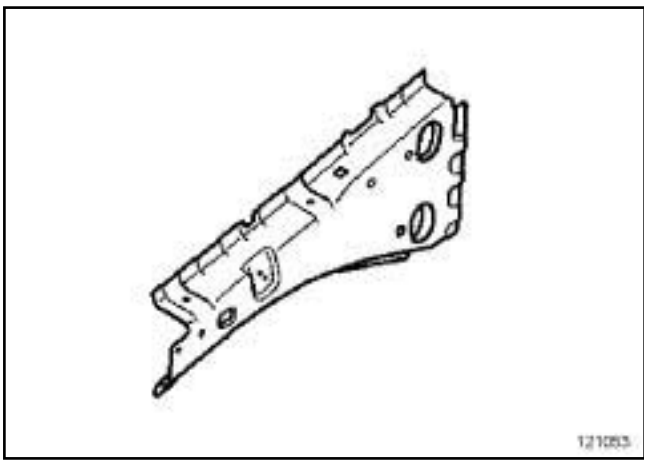
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

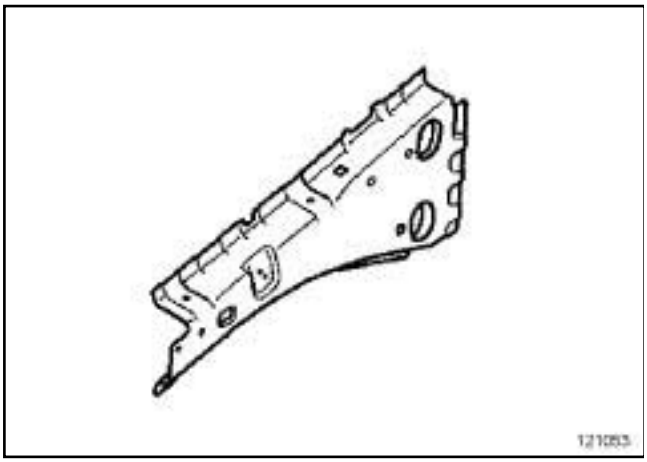
DESIGN OF THE STRUCTURAL COMPONENT



121053

121053

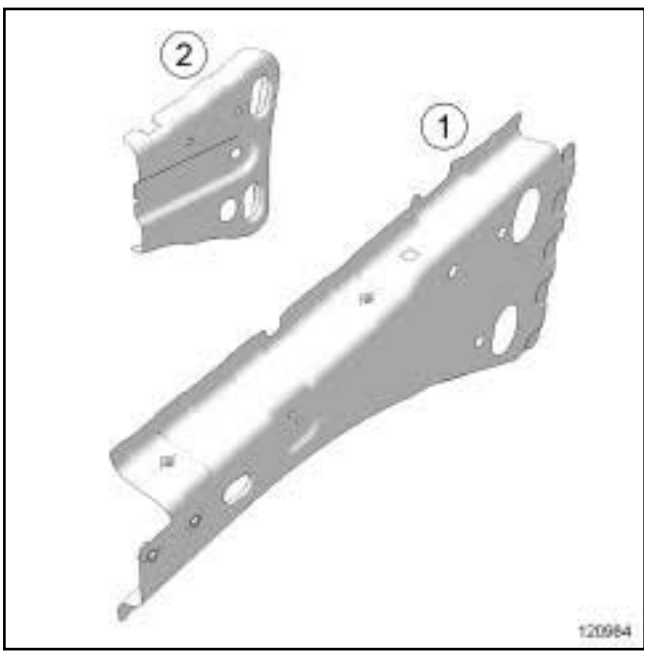
This type of part secures the bonnet hinge mounting and the front wing upper mounting support.


121053

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

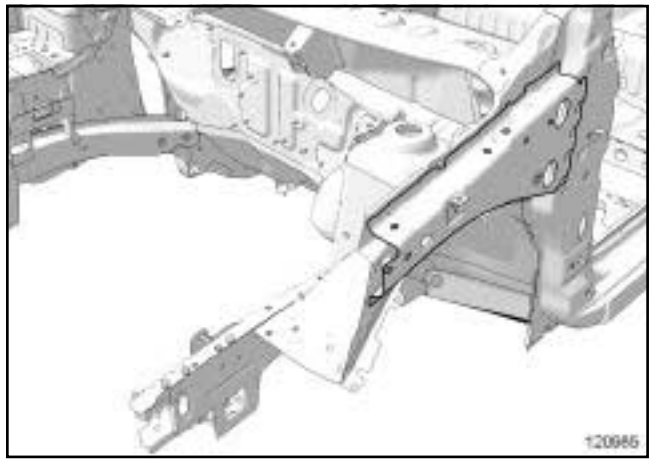


120984

No.	Description	Type	Thic-kness (mm)
(**1**)	A-pillar lining reinforcement	HLE	**0.9**
(**2**)	A-pillar lining reinforcement rear stiffener	HEL	**1.3**

II - PART IN POSITION

Complete replacement


120985

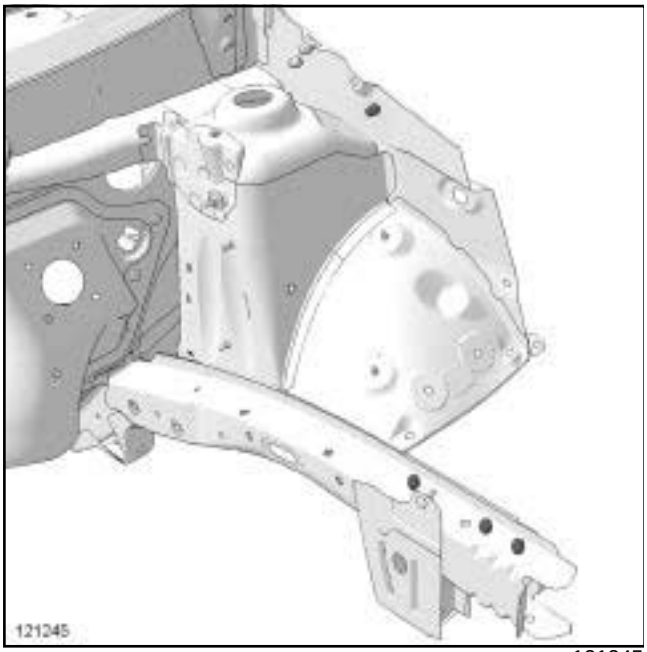
IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

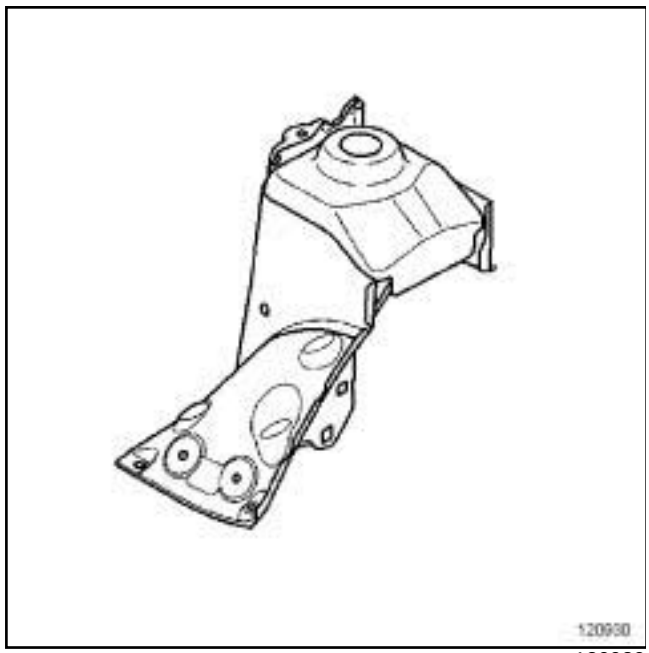
Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT

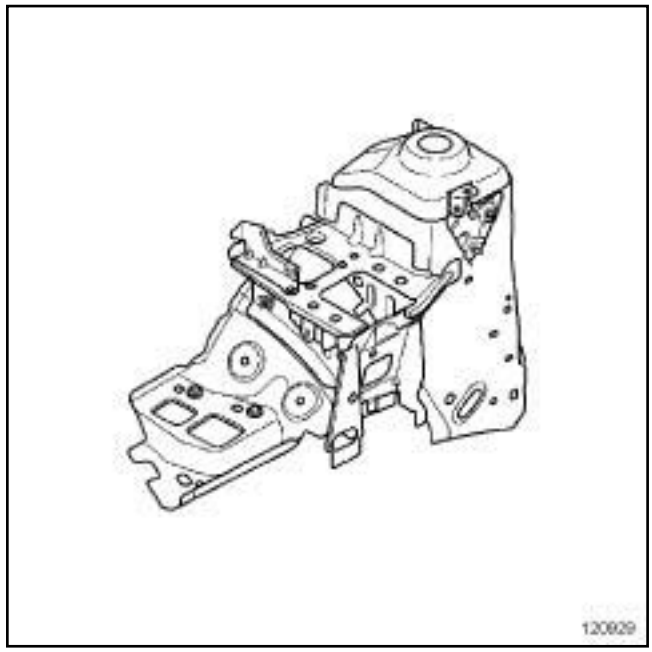
Left side



120930

This part consists of a wheel arch front section and a windscreen wiper mechanism mounting.

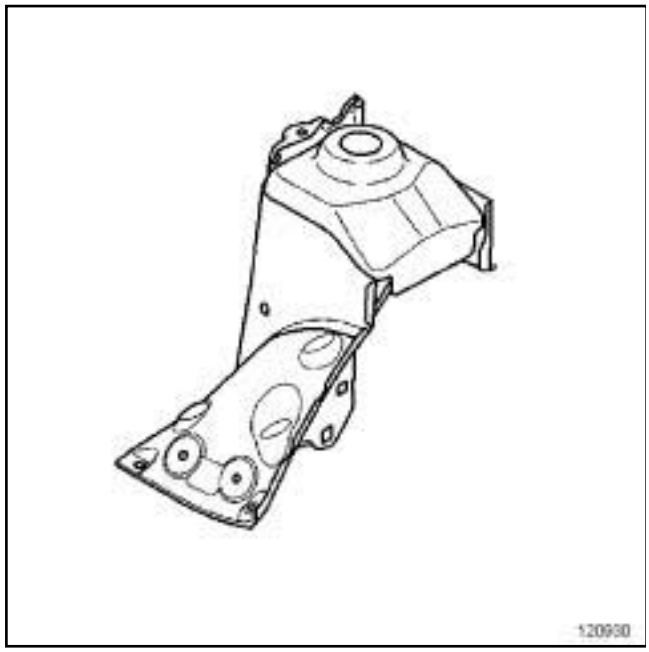
Right-hand side



120929

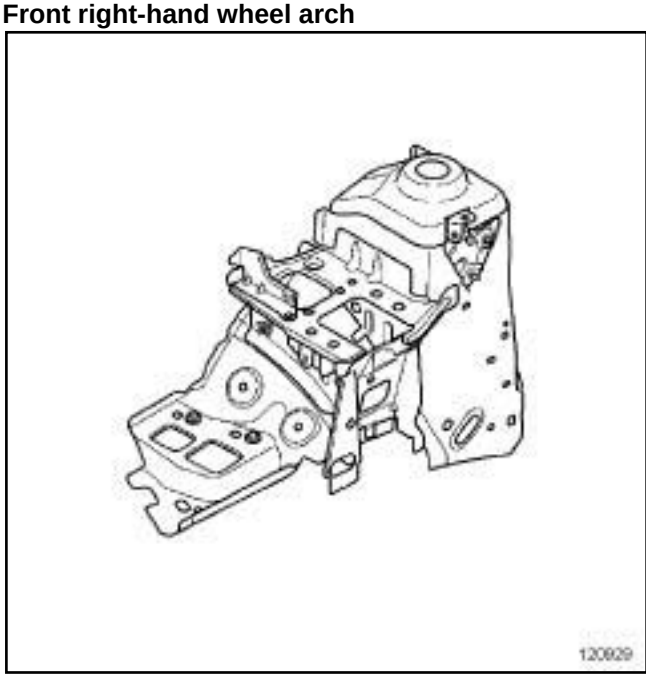
This part consists of a wheel arch front section and an engine mounting.

Front left-hand wheel arch



120930

Front right-hand wheel arch



120929

There is only one way of replacing this part:

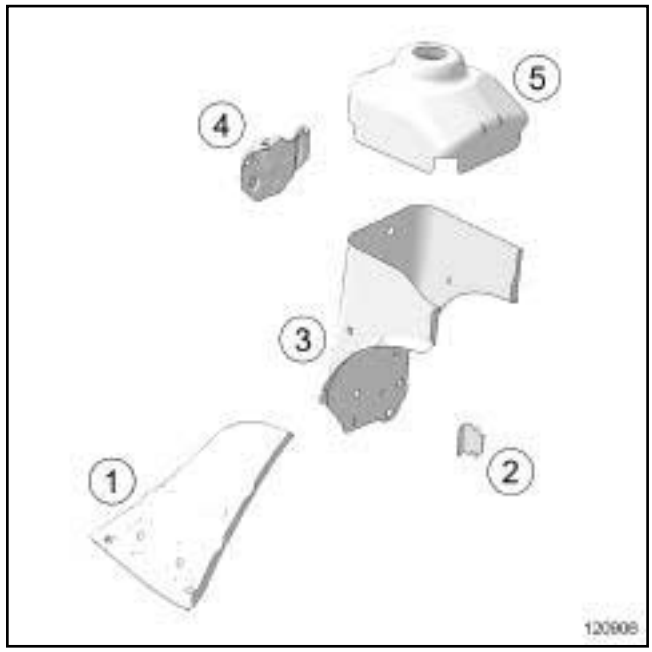
- complete replacement.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

I - COMPOSITION OF THE SPARE PART

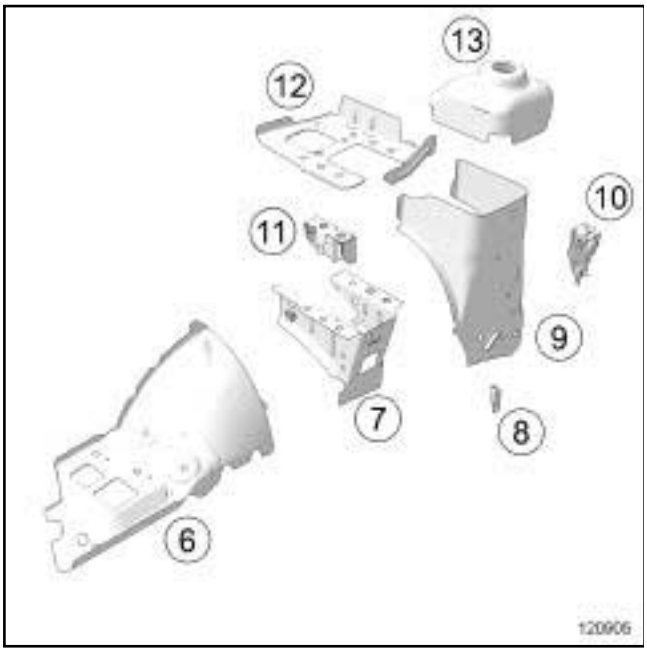
Front left-hand wheel arch



120906

No.	Description	Type	Thic-kness (mm)
(**1**)	Wheel arch	Mild steel	**1.2**
(**2**)	Angle bracket	Mild steel	**2**
(**3**)	Shock absorber cup height adjus-ter	Mild steel	**1.3**
(**4**)	Wiper motor fixed support	Mild steel	**1.6**
(**5**)	Shock absorber cup	Mild steel	**2**

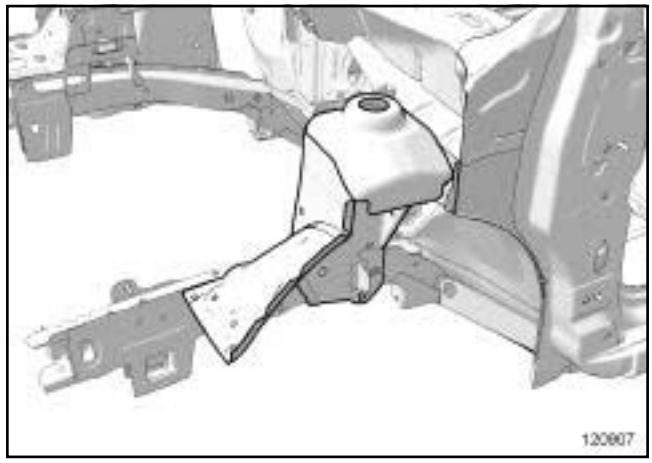
Front right-hand wheel arch



120905

No.	Description	Type	Thic-kness (mm)
(**6**)	Wheel arch	Mild steel	**1.2**
(**7**)	Engine mounting height adjuster	Mild steel	**1.8**
(**8**)	Angle bracket	Mild steel	**2**
(**9**)	Shock absorber cup height adjus-ter	Mild steel	**1.3**
(**10**)	Scuttle panel fixed central sup-port	Mild steel	**0.95**
(**11**)	Engine mounting height adjuster stiffener	HLE	**2**
(**12**)	Engine support plate	Mild steel	**2**
(**13**)	Shock absorber cup	Mild steel	**2**

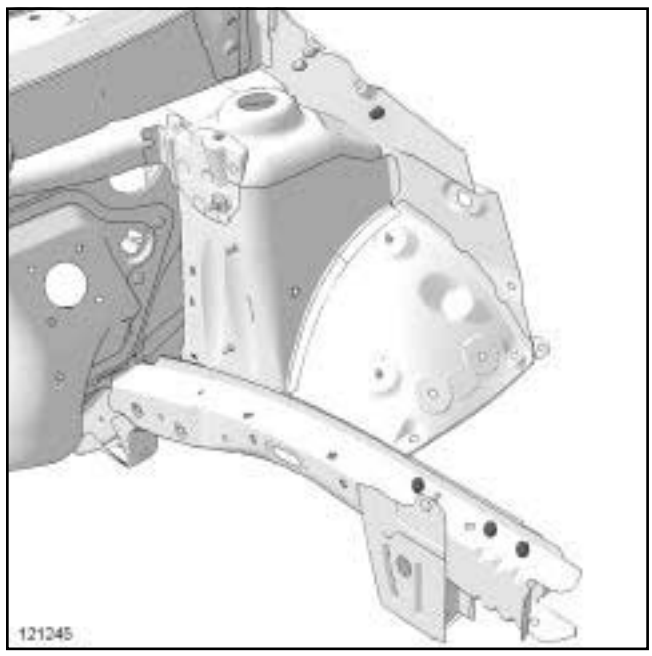
II - PART IN POSITION



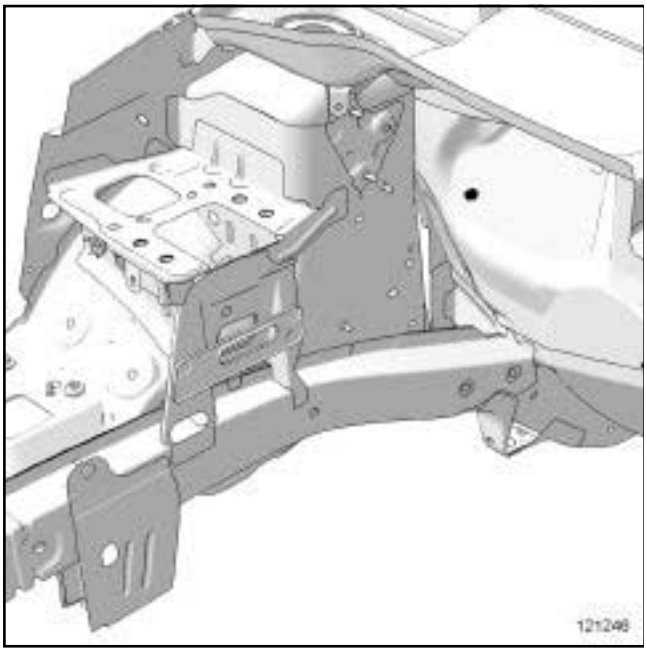
120907

IMPORTANT
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245



121246

WARNING
To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

WARNING

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

DESIGN OF THE STRUCTURAL COMPONENT

110658

This is the basic part; it only fulfils the function of the front section of the front wheel arch.

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

Equipment required
Diagnostic tool

Tightening torques ▽	
the dashboard cross member bolts	**21 Nm**
windscreen aperture lower cross member tie-rod bolt	**21 Nm**
the bulkhead tie-rod bolt	**8 Nm**
the flange bolts	**21 Nm**

REMOVAL

❑

IMPORTANT

To avoid any risk of triggering when working on or near a pyrotechnic component (airbags or pretensioners), lock the airbag computer using the diagnostic tool.

When this function is activated, all the trigger lines are inhibited and the airbag warning light on the instrument panel lights up continuously (ignition on).

IMPORTANT

Never handle the pyrotechnic systems (pretensioners or airbags) near to a source of heat or naked flame - they may be triggered.

I - REMOVAL PREPARATION OPERATION

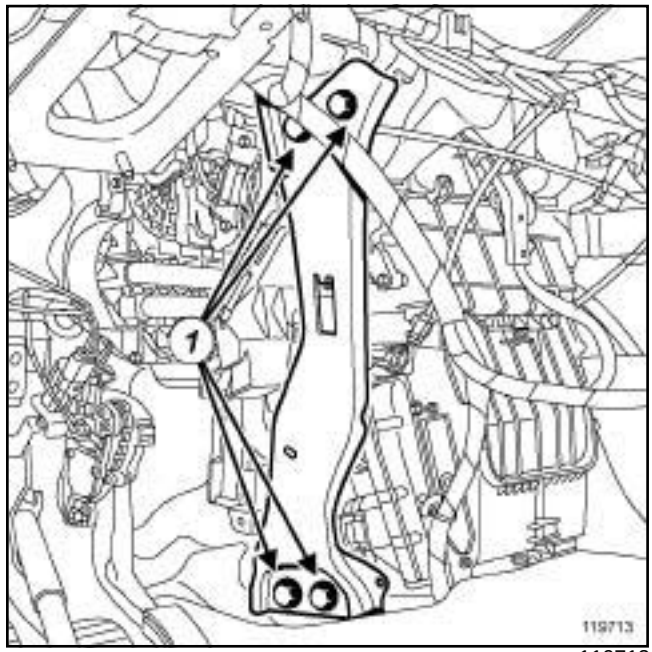
❑ Lock the airbag computer using the **Diagnostic tool** (see **Fault finding - Replacement of components**) (MR 413, 88C, Airbags and pretensioners).

❑ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 411, 80A, Battery).

❑ Remove:

- the dashboard (see **Dashboard: Removal - Refitting**) (MR 412, 57A, Interior equipment),
- the steering column (see **Steering column: Removal - Refitting**) (MR 411, 36A, Steering assembly).

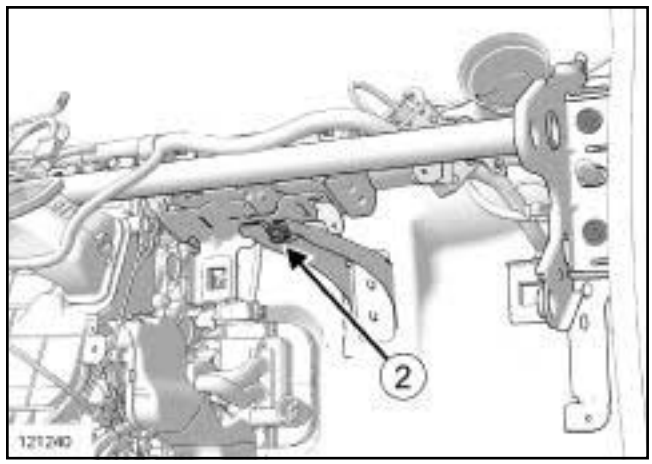
II - OPERATION FOR REMOVAL OF PART CONCERNED



119713

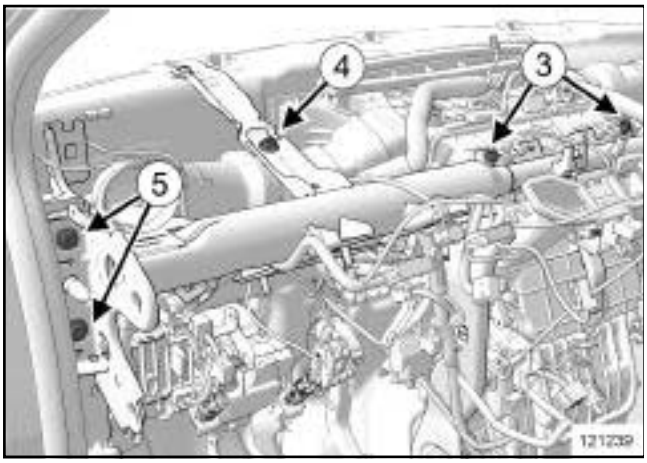
❑ Remove:

- the dashboard cross member wiring harnesses,
- the flange bolts (**1**) ,
- the flange.



121240

❑ Remove the bulkhead tie-rod bolt (**2**) .



121239

❑ Remove:

- the bolts (**3**) ,
- the windscreen aperture lower cross member tie-rod bolt (**4**) ,
- the dashboard cross member bolts (**5**) ,
- the dashboard cross member.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- the dashboard cross member,
- the dashboard cross member bolts ***(5)*** .
- the windscreen aperture lower cross member tie-rod bolt ***(4)*** ,
- the bolt ***(3)***
- the bulkhead tie-rod bolts ***(2)*** ,
- the flange,
- the flange bolts ***(1)*** ,
- the dashboard cross member wiring harnesses,

❑ Torque tighten:

- **the dashboard cross member bolts (21 Nm)**,
- **windscreen aperture lower cross member tie-rod bolt (21 Nm)**,
- **the bulkhead tie-rod bolt (8 Nm)**,
- **the flange bolts (21 Nm)**.

II - FINAL OPERATION.

❑ Refit:

- the steering column (see **Steering column: Removal - Refitting**) (MR 411, 36A, Steering assembly),
- the dashboard (see **Dashboard: Removal - Refitting**) (MR 412, 57A, Interior equipment).

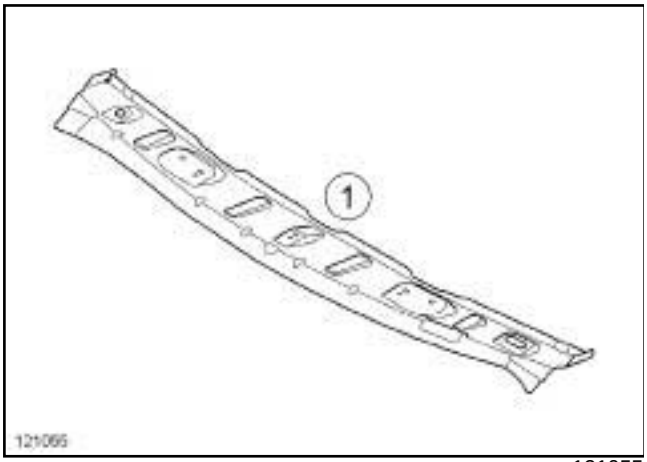
❑ Connect the battery (see **Battery: Removal - Refitting**) (MR 411, 80A, Battery).

❑ Unlock the airbag computer using the **Diagnostic tool** (see **Fault finding - Replacement of components**) (MR 413, 88C, Airbags and pretensioners).

There is only one way of replacing this part:

- partial replacement.

I - COMPOSITION OF THE SPARE PART

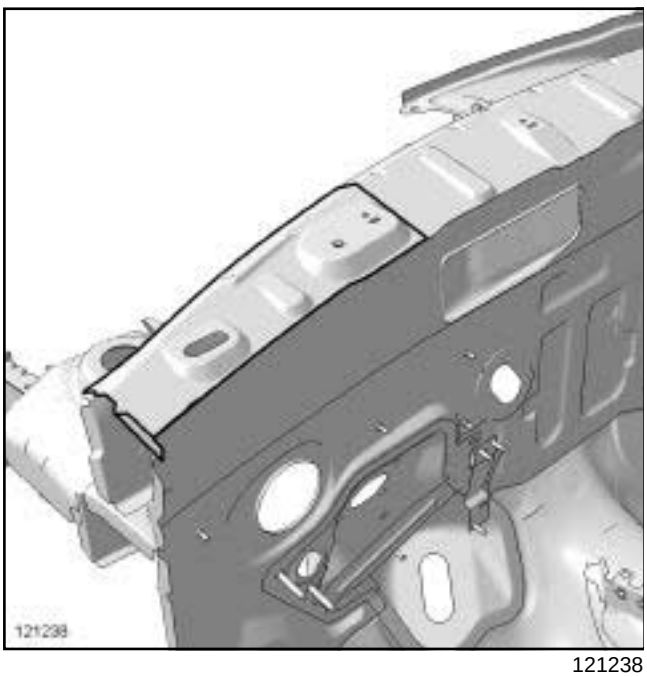


121055

No.	Description	Type	Thic-kness (mm)
(**1**)	Windscreen aperture lower cross member closure panel	Mild steel	**0.75**

II - PART IN POSITION

Partial replacement

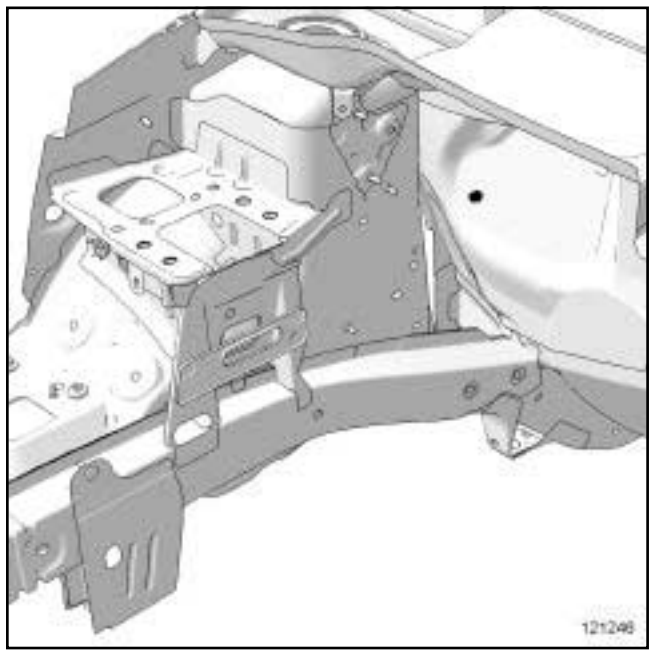


121238

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

WARNING

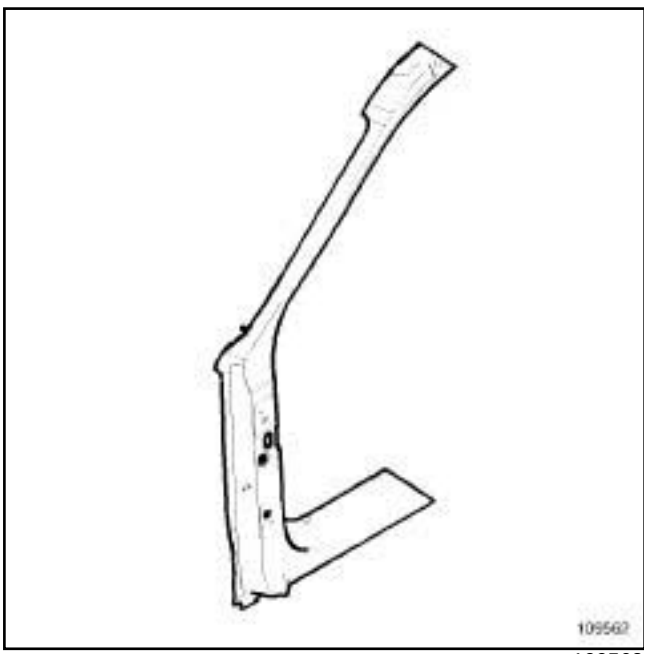
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

DESIGN OF THE STRUCTURAL COMPONENT

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.



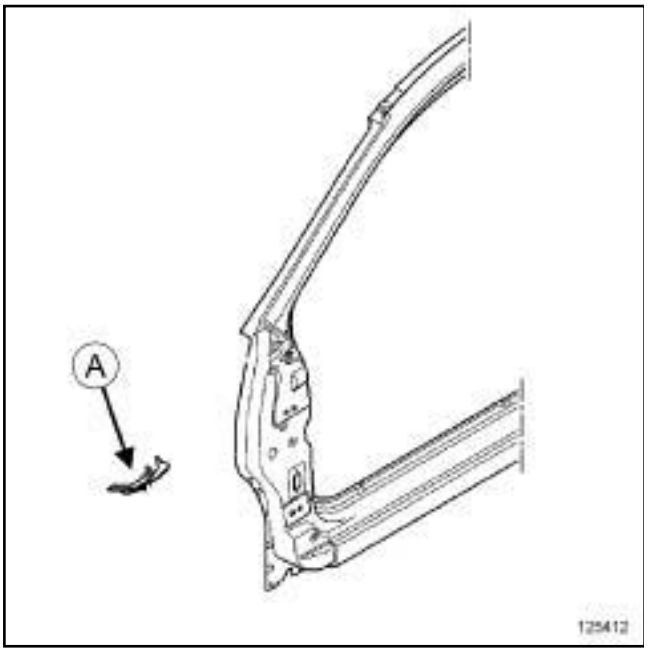
109562

The design of this part is identical for all three vehicles.

On the Modus, the A-pillar is obtained by extension from the body side front section.

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.



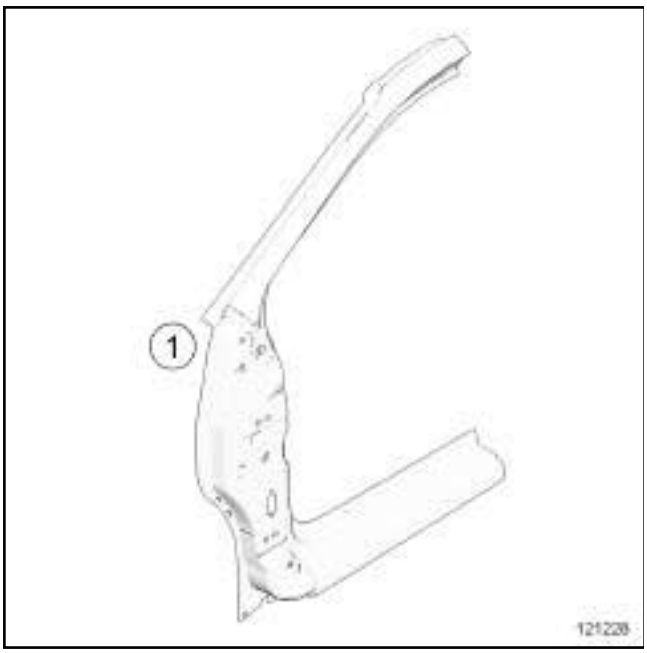
125412

To replace this part, order the A-pillar expanding insert (**A**) .

The options for replacing this part are as follows:

- partial replacement of the lower front section,
- front partial replacement,
- complete replacement.

I - COMPOSITION OF THE SPARE PART

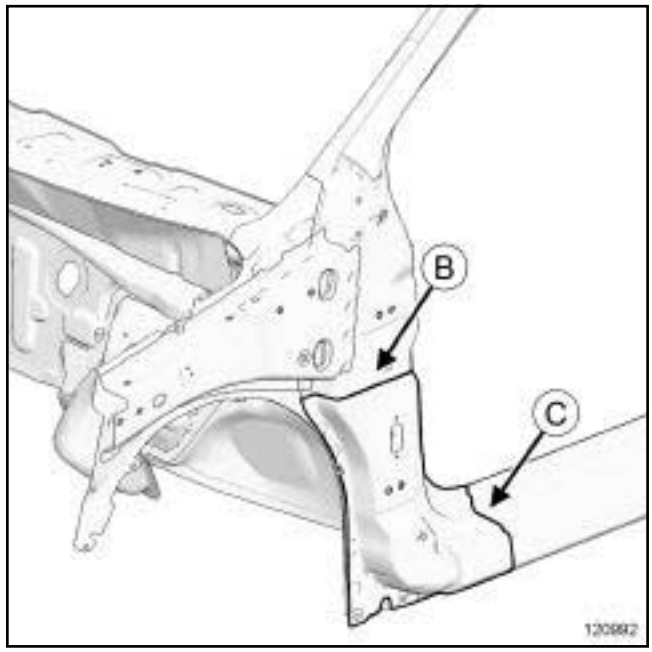


121228

No.	Description	Type	Thic-kness (mm)
(**1**)	Body side	Mild steel	**0.75**

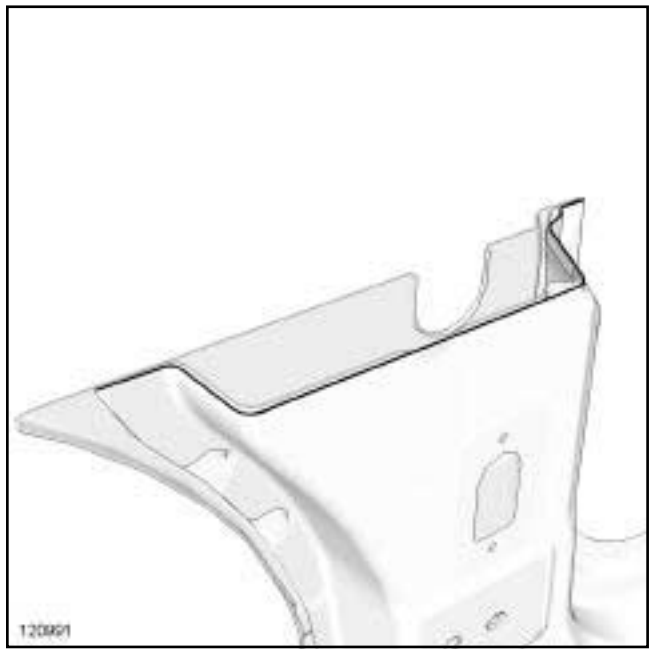
II - PART IN POSITION

1 - Partial replacement of the lower front section



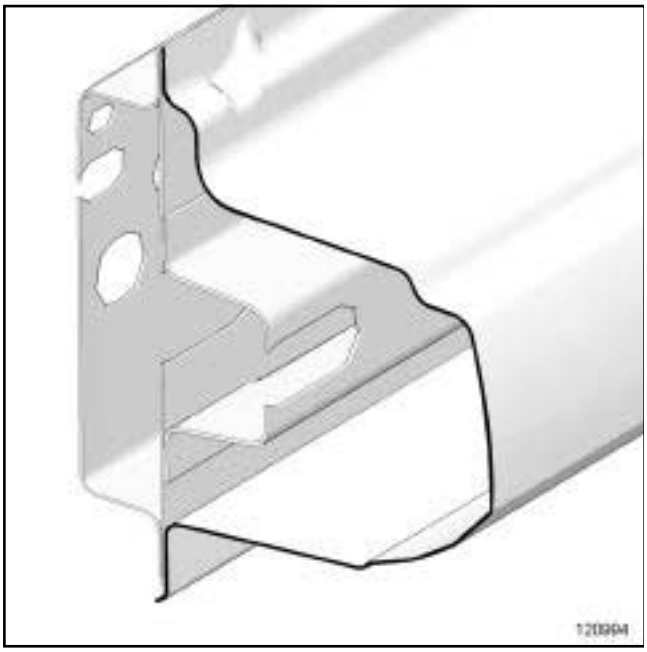
120992

Section B



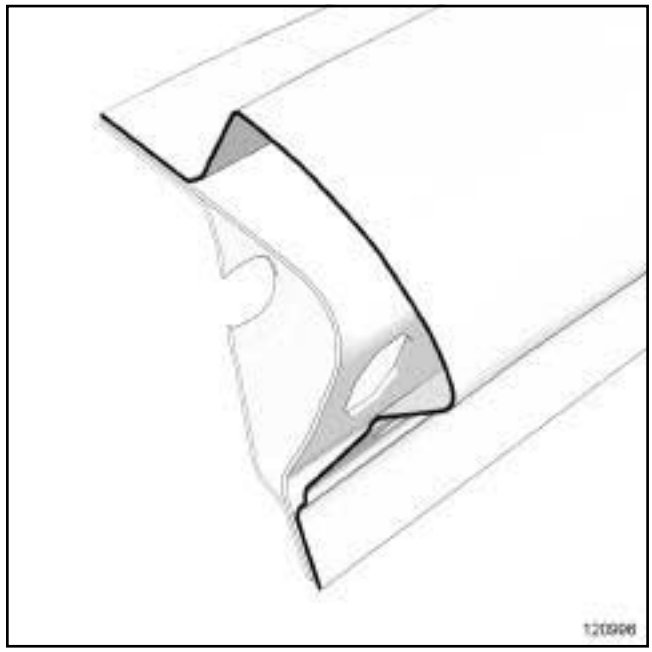
120991

Section C



120994

Section D

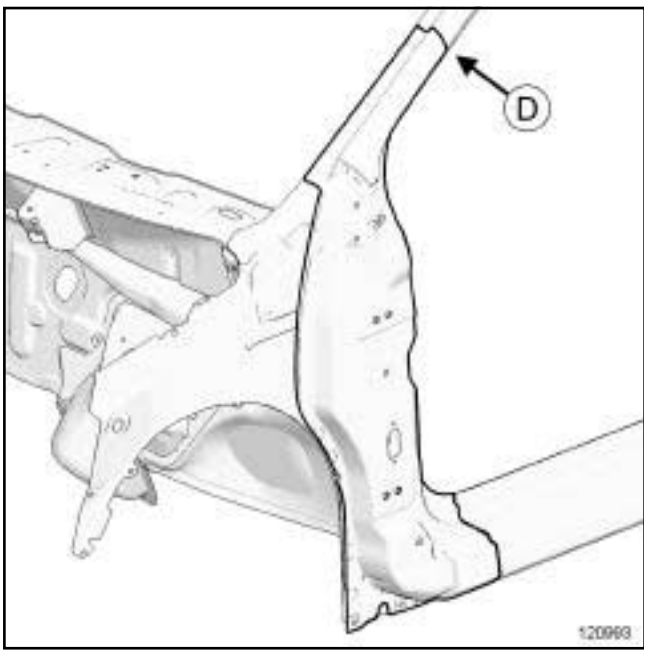


120996

WARNING
Respect the position of this cut which has been determined in accordance with the position of the inner stiffeners or acoustic inserts, in order to prevent damaging the parts (inner stiffener and/or acoustic insert).

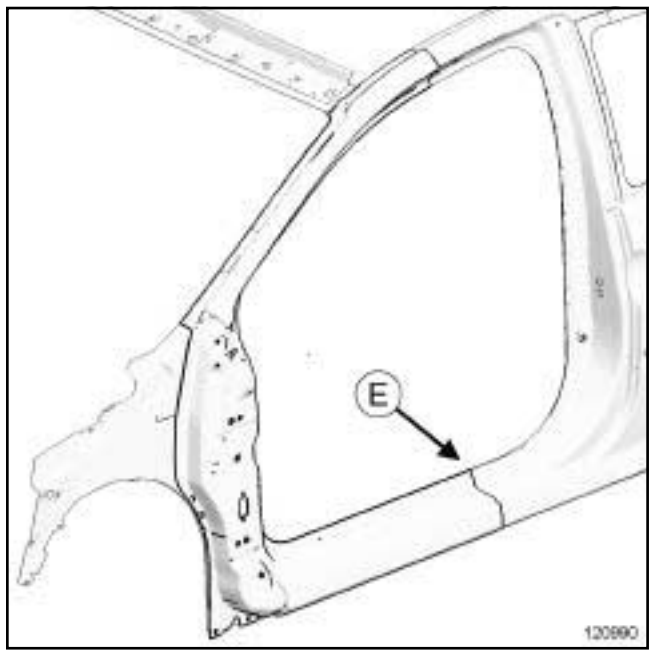
WARNING
Respect the position of this cut which has been determined in accordance with the position of the inner stiffeners or acoustic inserts, in order to prevent damaging the parts (inner stiffener and/or acoustic insert).

2 - Partial front replacement



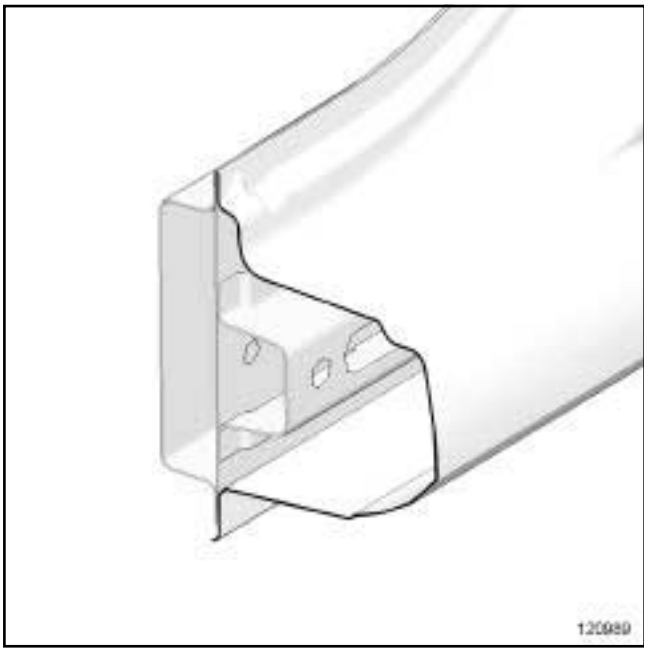
120993

3 - Complete replacement



120990

Section E



120989

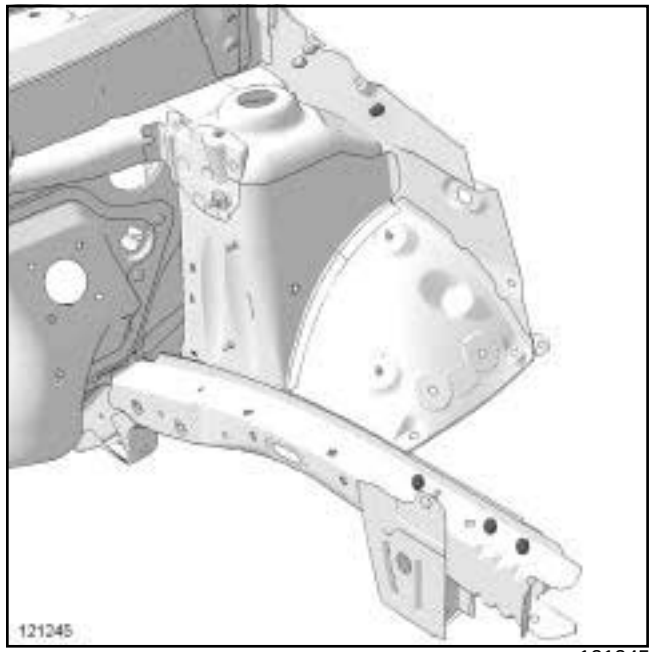
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

WARNING

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

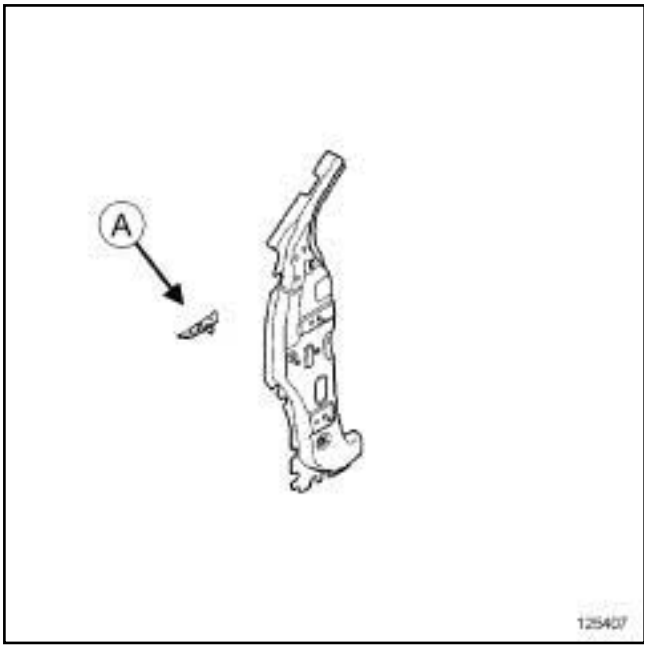
DESIGN OF THE STRUCTURAL COMPONENT

112718

This is a basic part, its only function is that of an A-pillar reinforcement.

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.



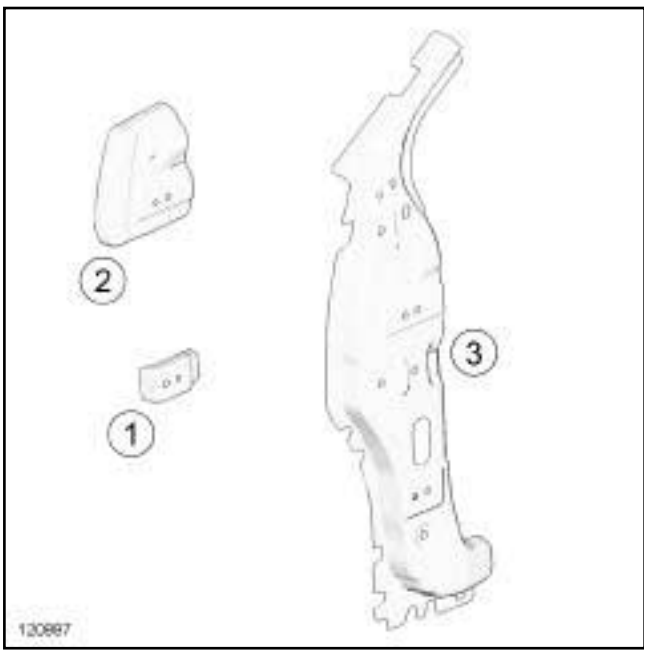
125407

To replace this part, order the A-pillar reinforcement expanding insert (**A**) .

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

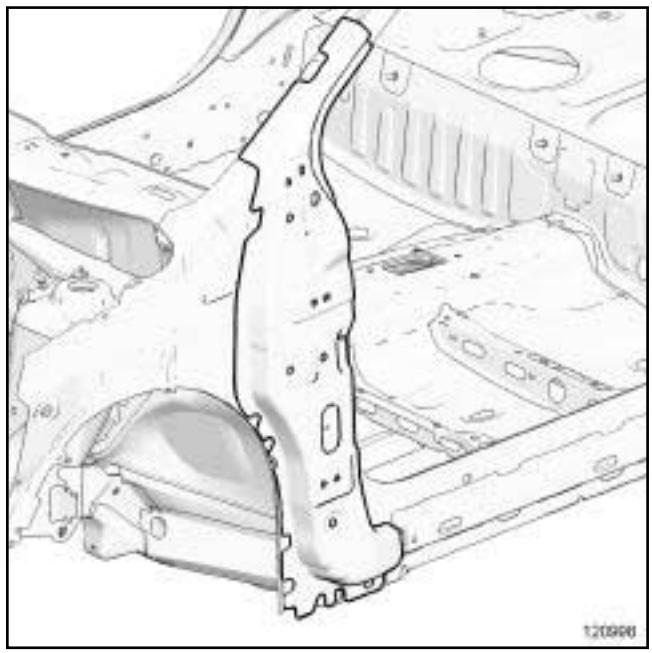


120997

No.	Description	Type	Thic-kness (mm)
(**1**)	Lower hinge rein-forcement	HEL	**1.5**
(**2**)	Upper hinge rein-forcement	HEL	**2**
(**3**)	A-pillar reinforce-ment	HEL	**0.95**

II - PART IN POSITION

Complete replacement



120998

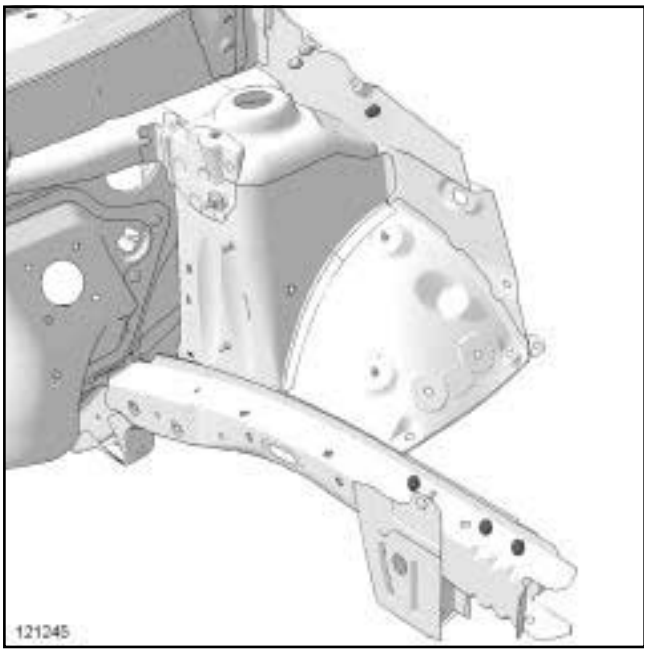
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121245

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

Note:

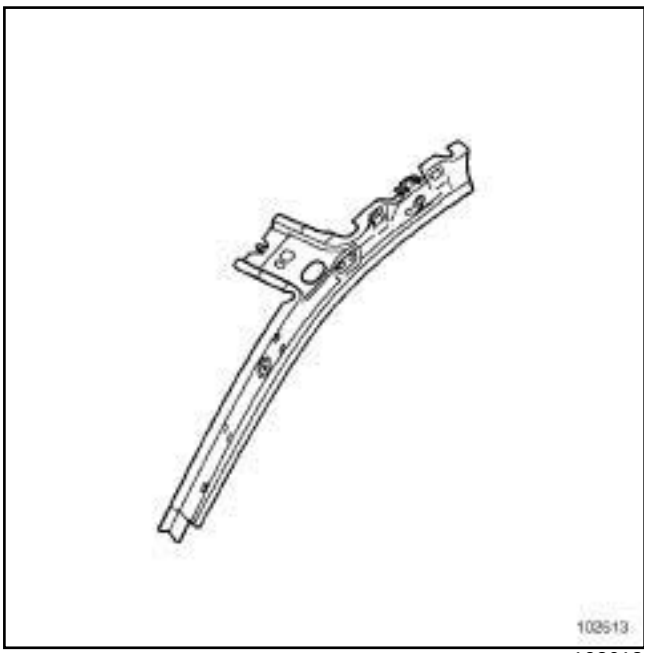
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



102613

This is a basic part, its only function is that of the windscreen pillar lining.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

Note:

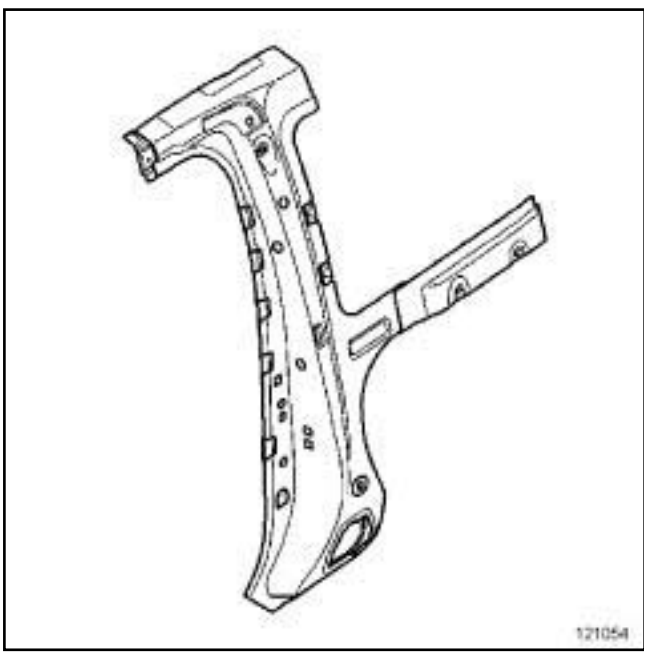
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

I - DESIGN OF THE STRUCTURAL COMPONENT



121054

The special feature of this part is that it combines several functions:

- B-pillar reinforcement,

- quarter panel reinforcement.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT

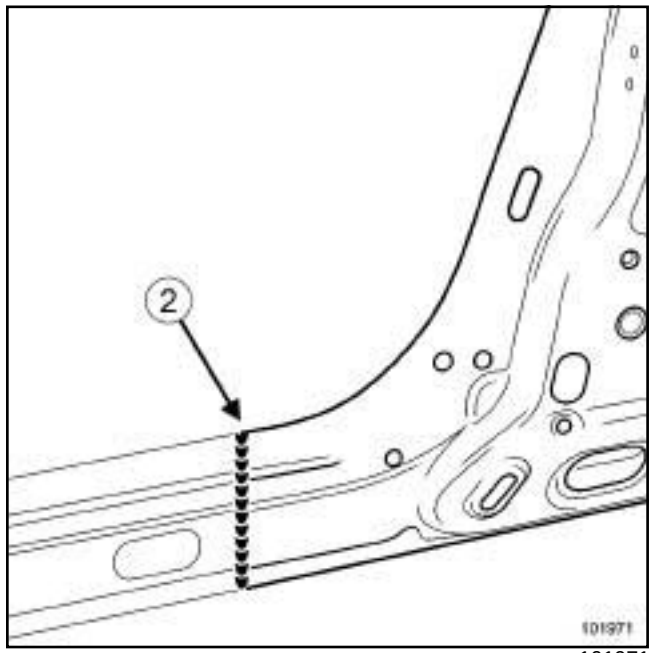
III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

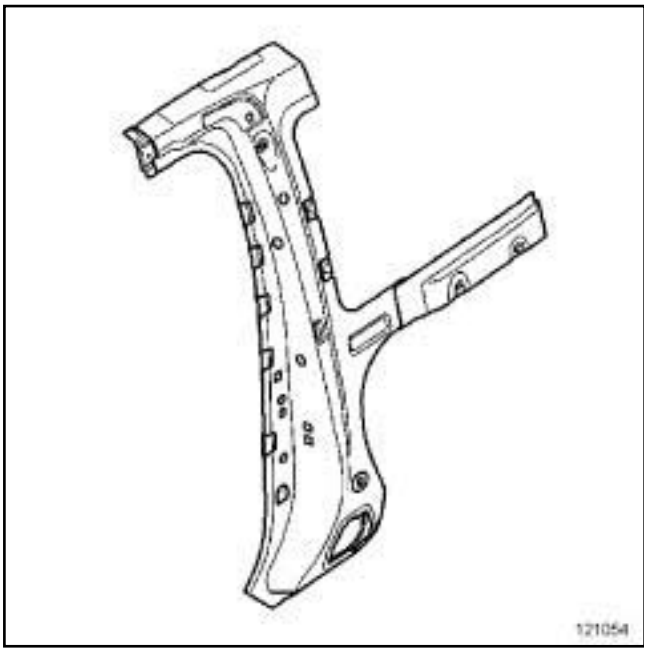
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various options are described in the basic instructions for structural bodywork repair (see **MR 400**).



101971

Line (**2**) on the drawing shows a butt weld by continuous EGW welding.



121054

There is only one way of replacing this part:

- complete replacement.

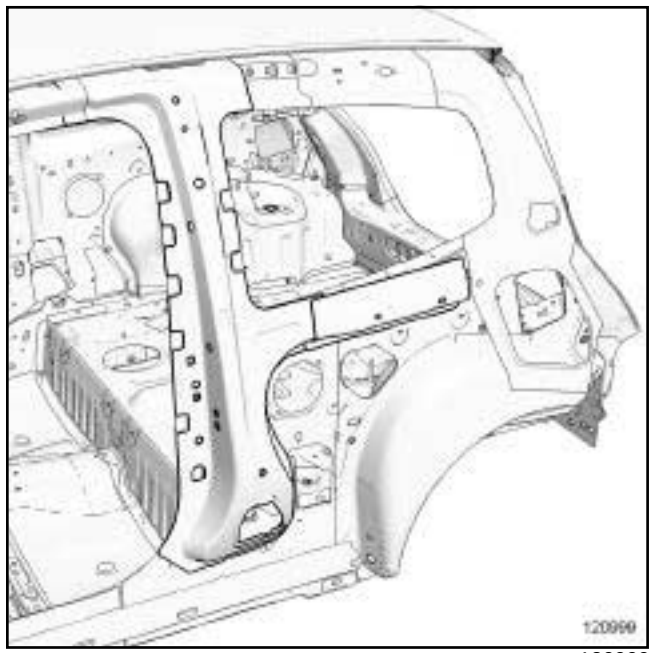
I - COMPOSITION OF THE SPARE PART

121000

No.	Description	Type	Thic-kness (mm)
(**1**)	B-pillar reinforcement lower lining	HLE	**1.2**
(**2**)	B-pillar reinforcement lining	HLE	**1.4**
(**3**)	Crumple plate	HLE	**2.5**
(**4**)	B-pillar reinforcement	HLE	**1.8**
(**5**)	Quarter panel strip reinforcement	Mild steel	**0.75**

II - PART FITTED

Complete replacement



120999

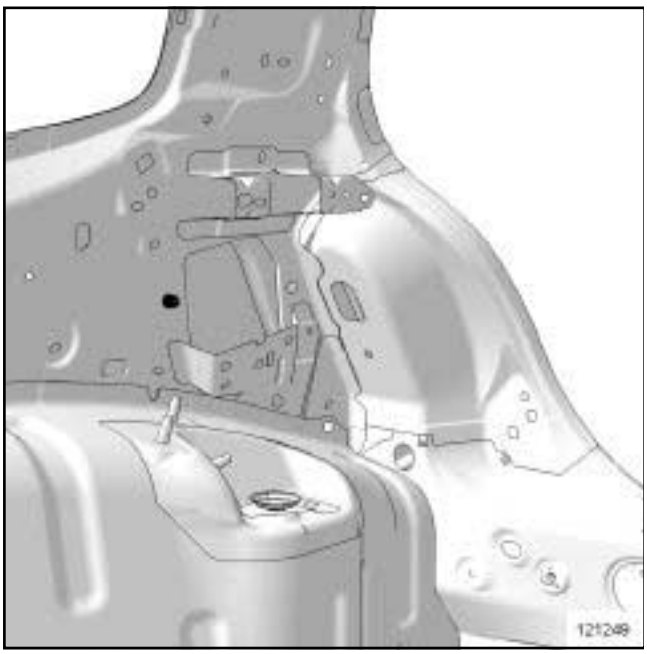
WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

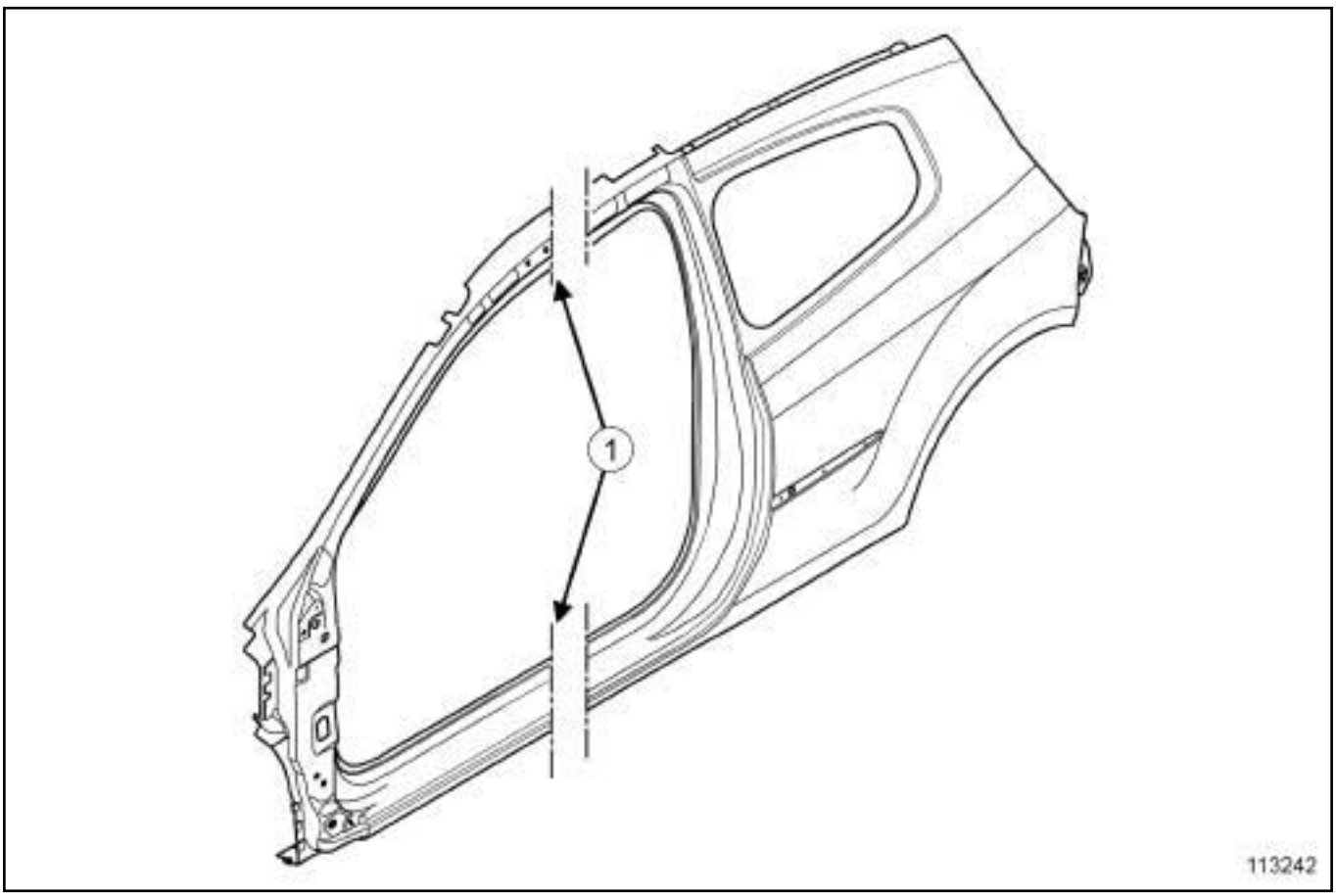
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection (see **MR 400**).

DESIGN OF THE STRUCTURAL COMPONENT



113242

The two parts must be welded at the joint (**1**) and butt welded by continuous EGW welding.

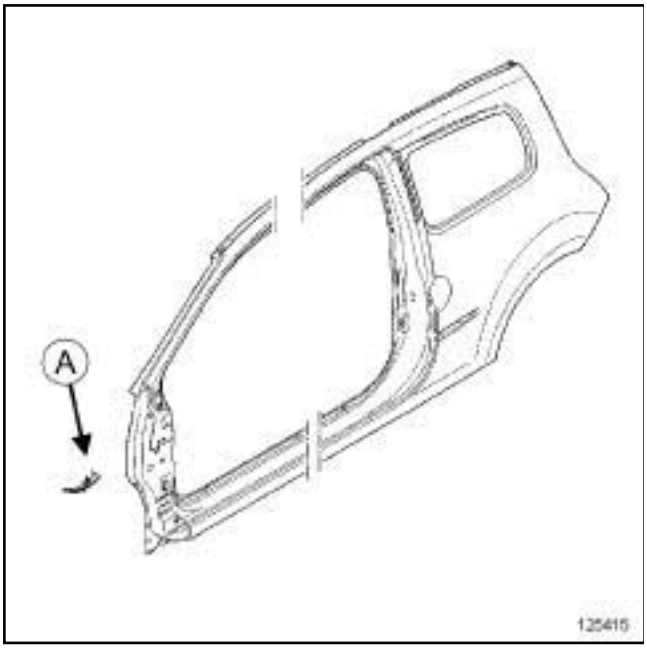
If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

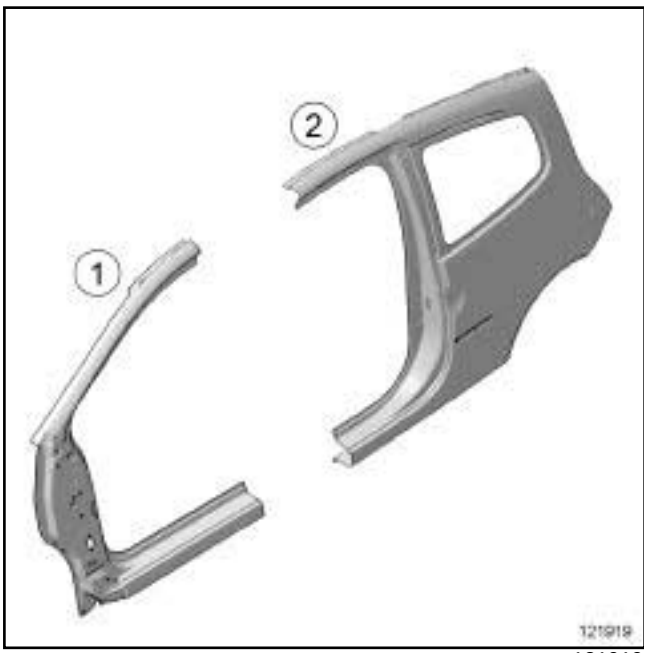
The body side is achieved by welding the rear wing and the body side front section.

C44



125415

To replace this part, order the A-pillar expanding insert (**A**) .



121919

To carry out a replacement of this part, order the A-pillar (**1**) with the rear wing panel (**2**) .

The parts supplied are long enough to cover the parts to be replaced.

For details on the procedures, (see **43A**, **Side upper structure**, **A-pillar: Description**, page **43A-2**) and (see **44A**, **Rear upper structure**, **Rear wing panel: Description**, page **44A-2**) .

For a detailed description of a particular connection, see **MR 400**.

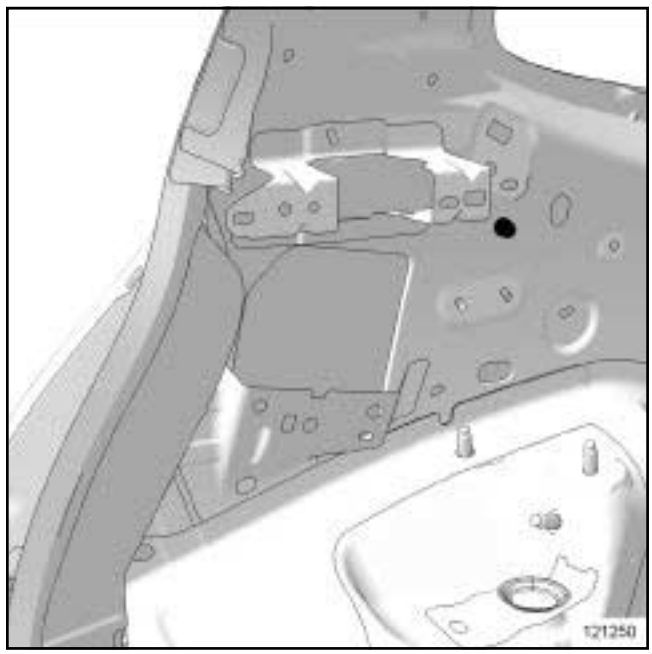
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT

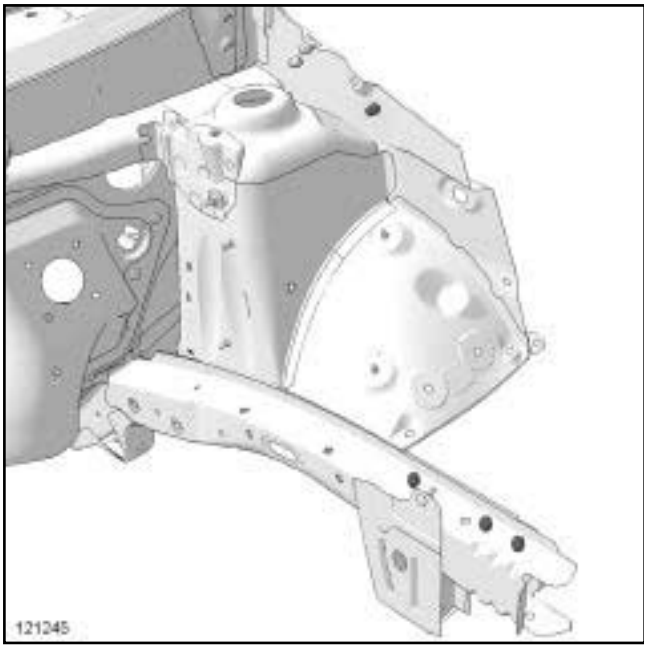
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

POSITIONING OF LOCAL ELECTRICAL EARTHS



121250

C44



121245

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

Note:

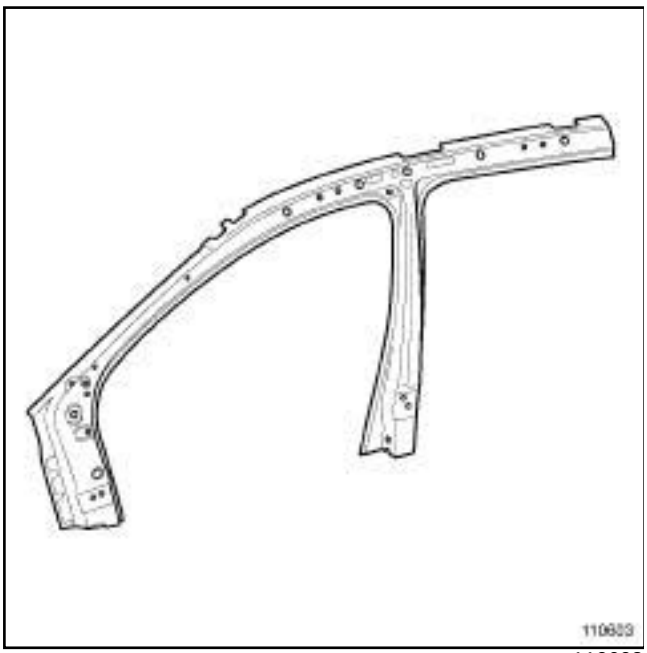
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

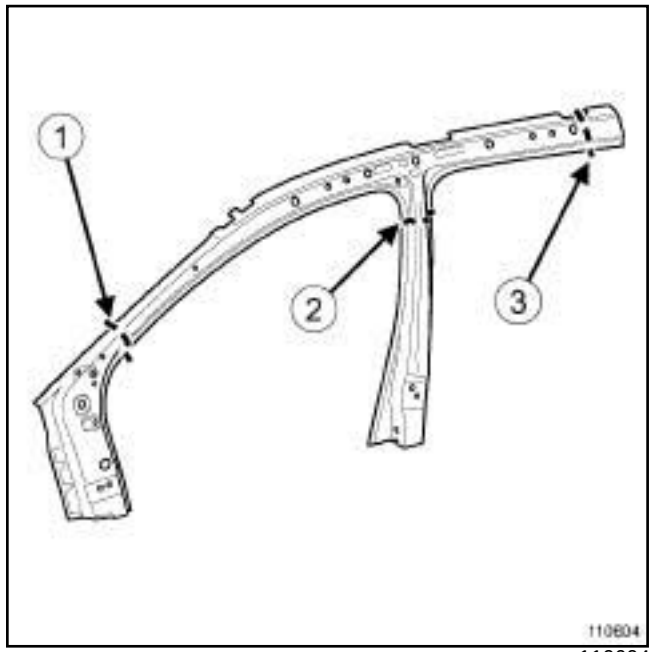
I - DESIGN OF THE STRUCTURAL COMPONENT



110603

This is a basic part; its only function is that of an upper body.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



110604

Lines (**1**) , (**2**) and (**3**) in the drawing show the area in which partial replacement may be carried out.

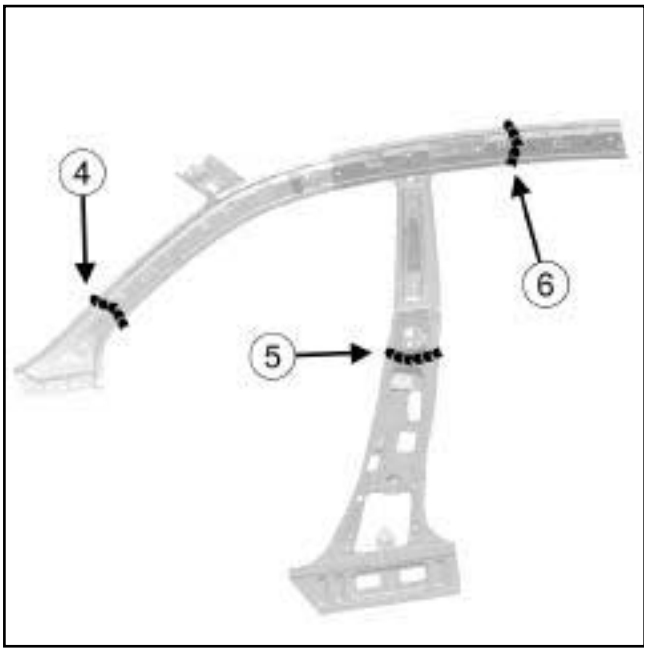
III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

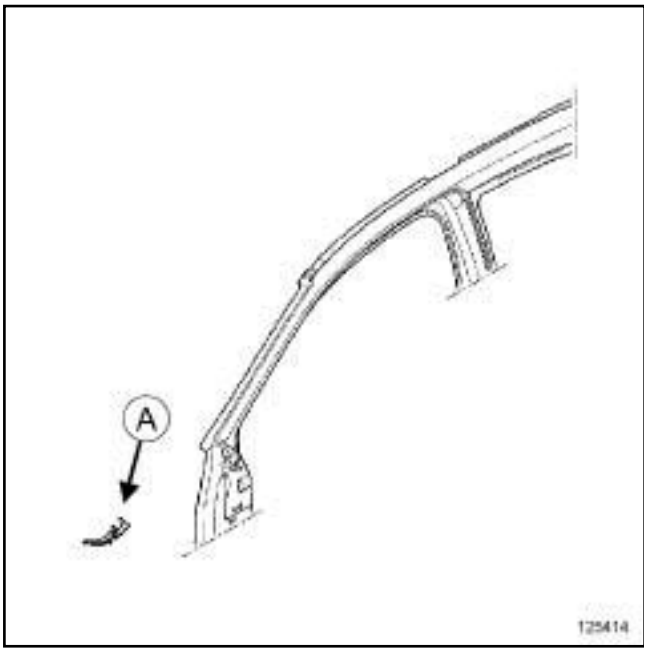
If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



132023

Lines (**4**) , (**5**) and (**6**) on the drawing show a butt weld by continuous EGW welding.

Weld (**6**) along the butt weld line.



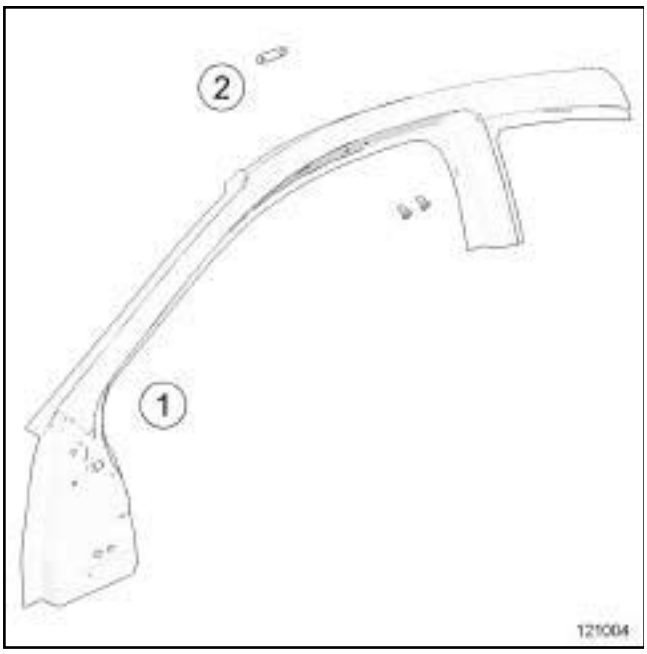
125414

To replace this part, also order the A-pillar insert (**A**) .

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

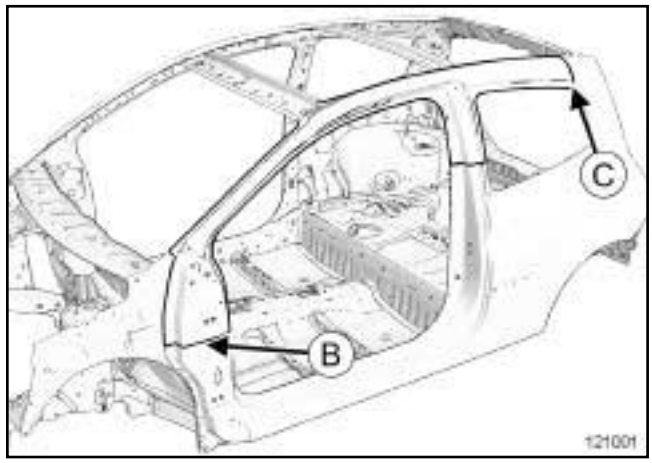


121004

No.	Description	Type	Thic-kness (mm)
(**1**)	Body side	Mild steel	**0.75**
(**2**)	Roof bar mount-ting reinforce-ment	Mild steel	**1.5**

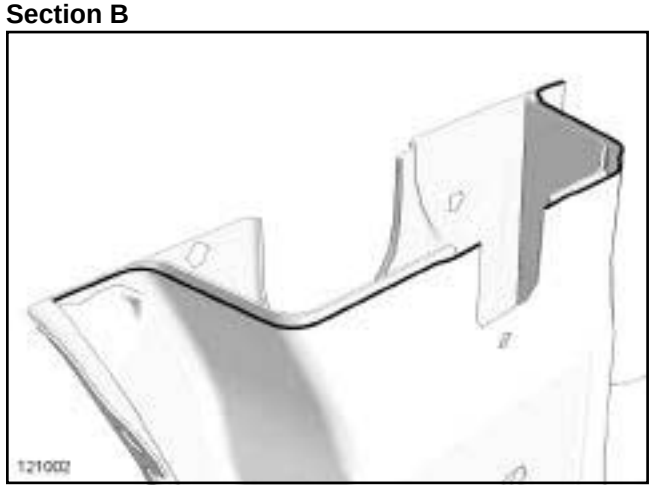
II - PART IN POSITION

Complete replacement



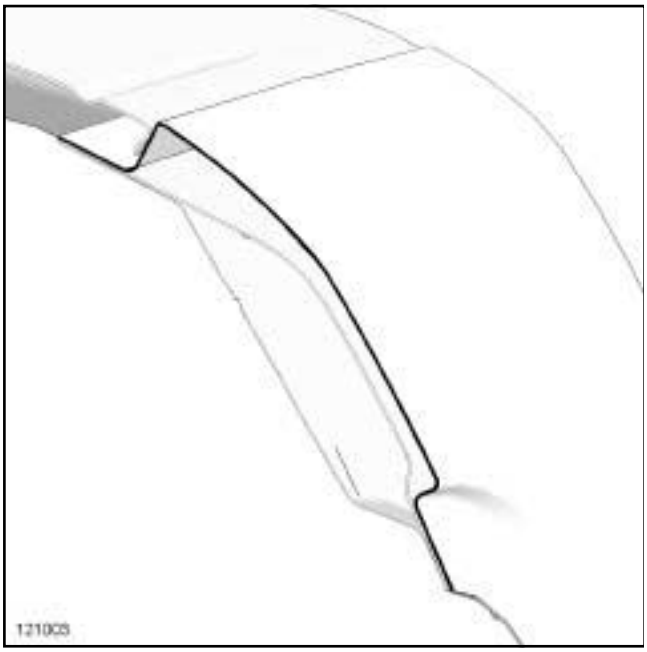
121001

Section B



121002

Section C



121003

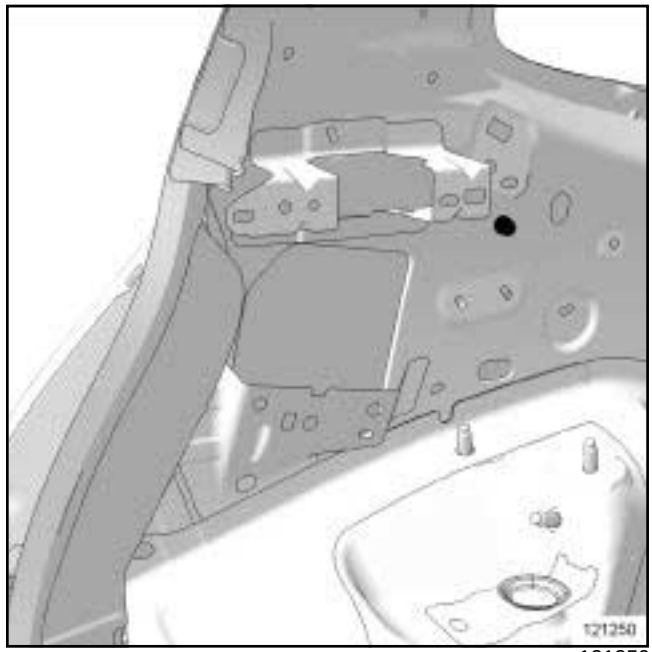
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

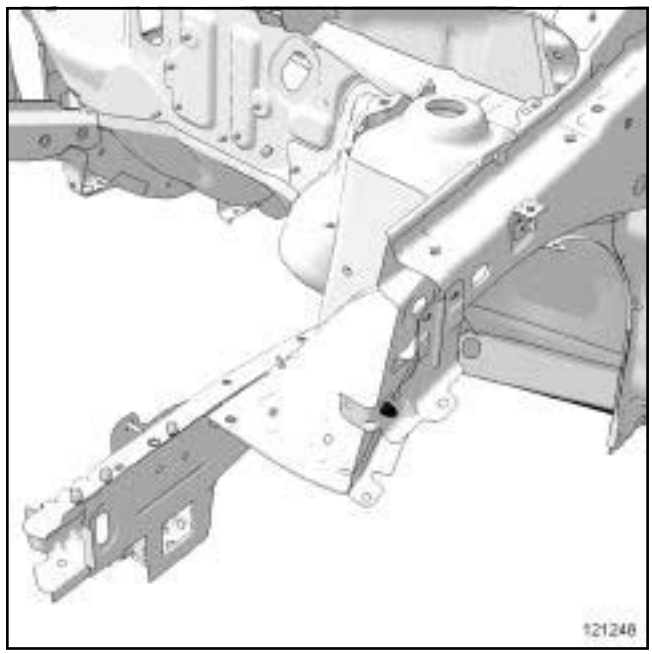
IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121250



121248

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

Note:

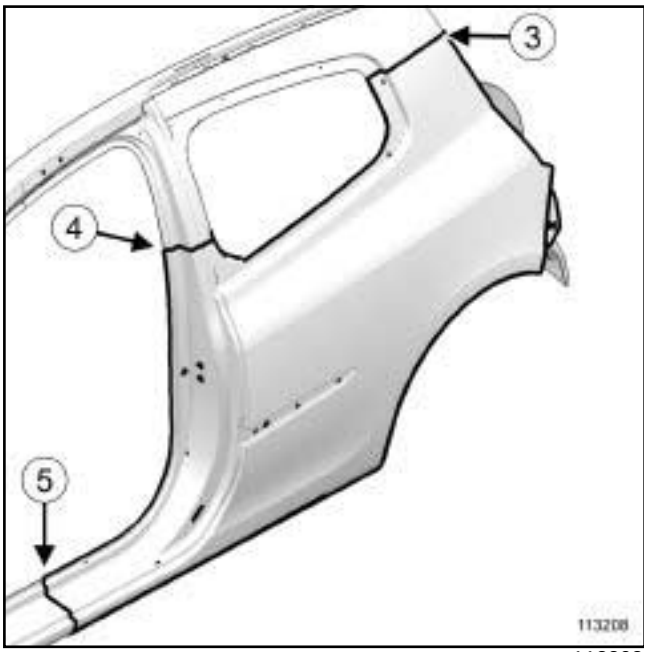
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

I - AREA TO BE CUT FOR PARTIAL REPLACEMENT



113208

Lines (**3**) , (**4**) and (**5**) in the drawing show the areas in which it is possible to carry out a partial replacement.

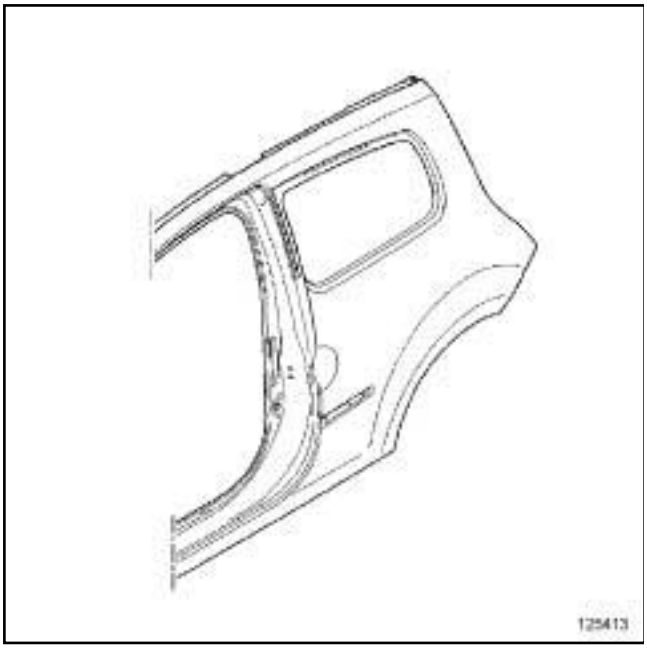
II - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

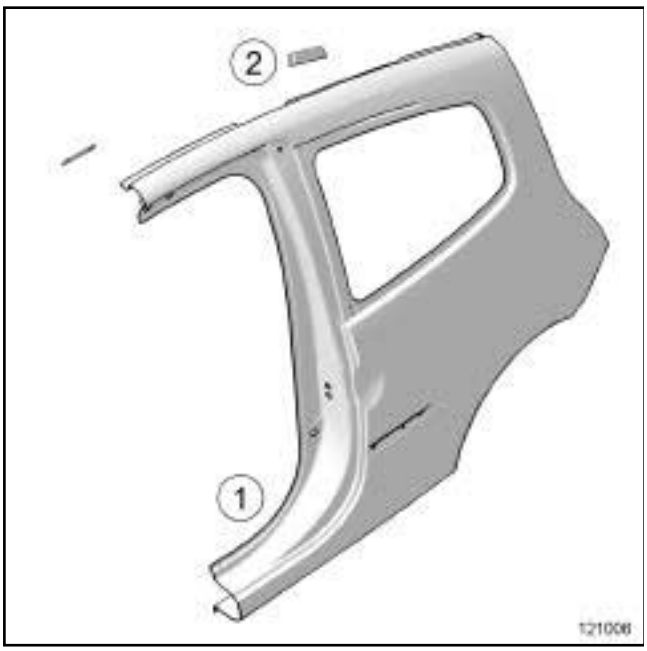


125413

the options for replacing this part are as follows:

- partial replacement,
- complete replacement.

I - COMPOSITION OF THE SPARE PART

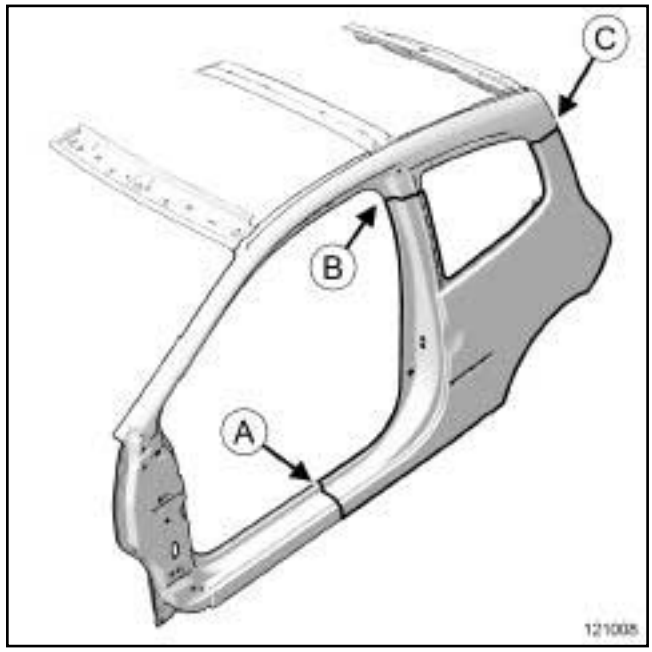


121006

No.	Description	Type	Thickness
(**1**)	Body side	Mild steel	**0.75**
(**2**)	Roof bar mounting reinforcement	Mild steel	**1.5**

II - PART IN POSITION

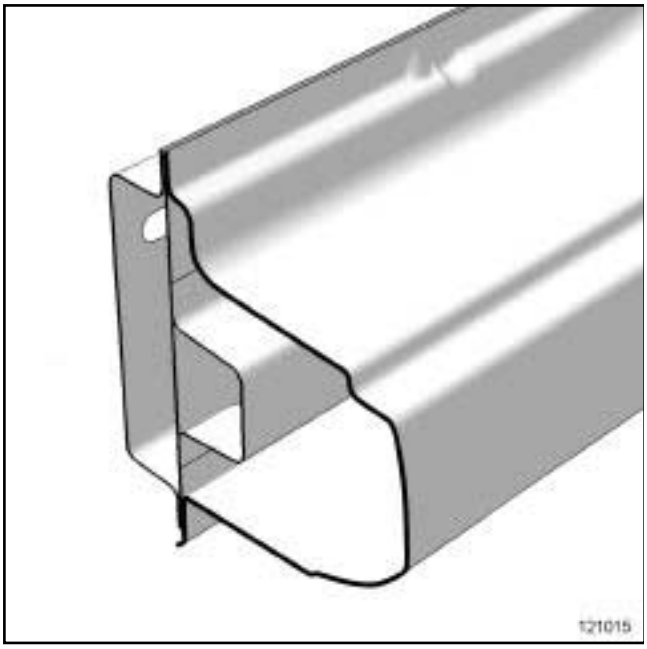
1 - Partial replacement



121008

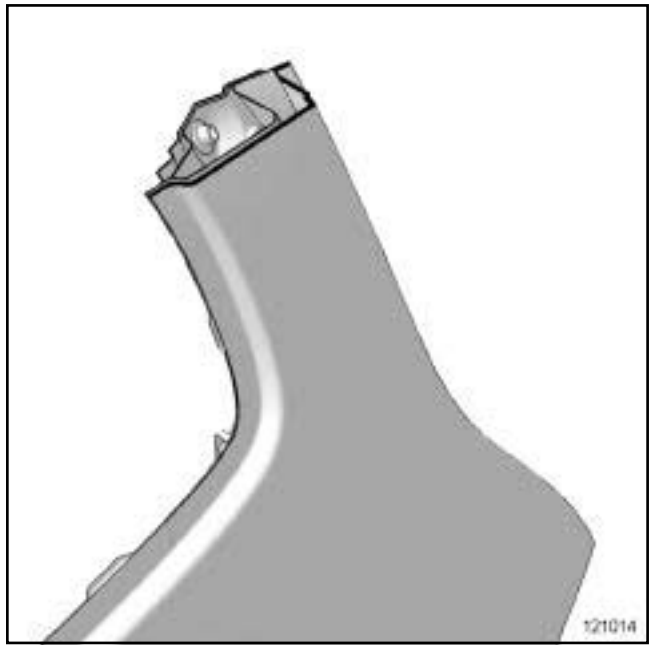
C44

Section A



121015

Section C

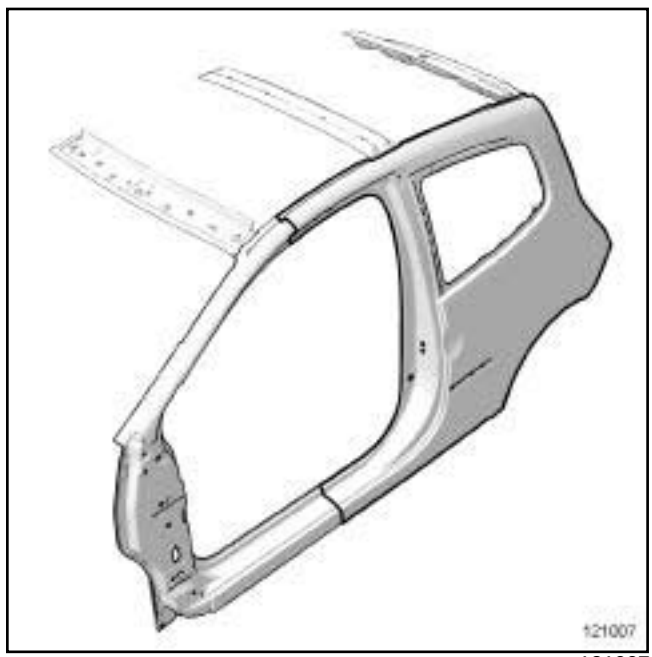


121014

Section B

121005

2 - Complete replacement



121007

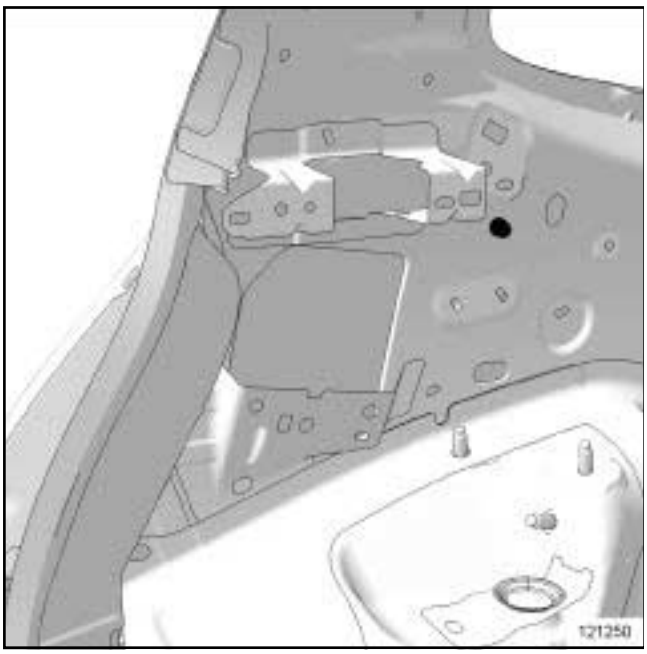
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121250

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

WARNING

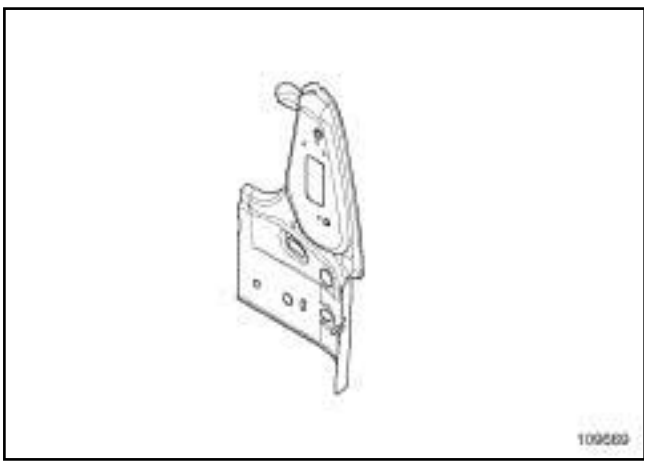
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

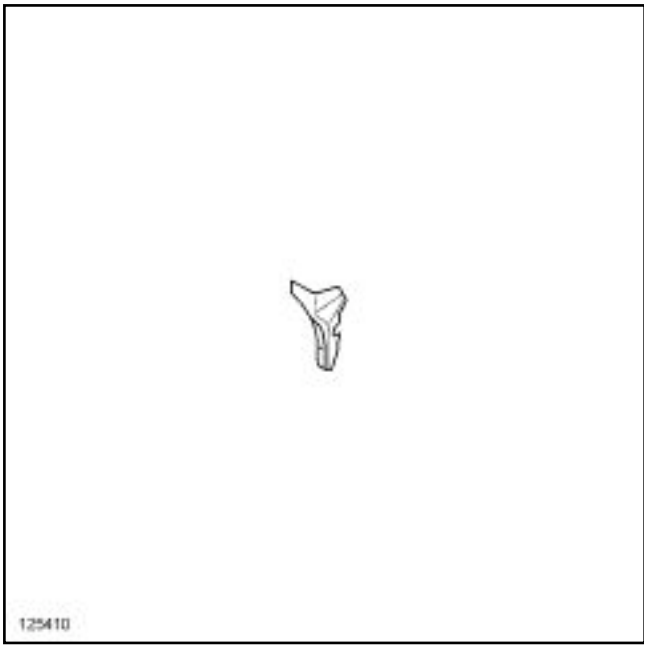
DESIGN OF THE STRUCTURAL COMPONENT



109669

This is a basic part; its only function is that of a rear lights mounting.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400, 40A, General Information**).

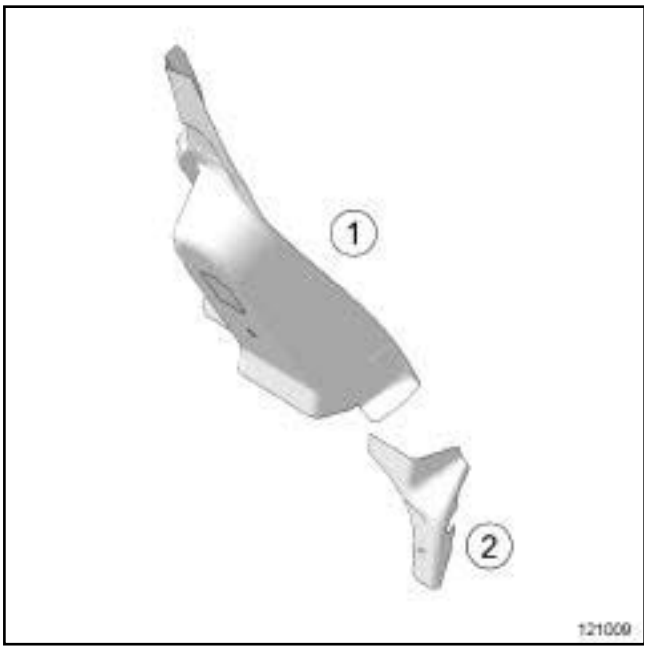


125410

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

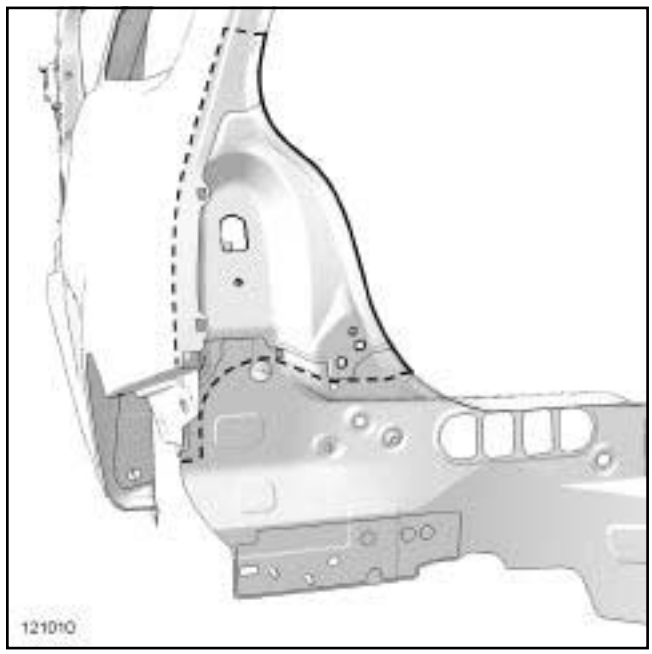


121009

No.	Description	Type	Thic-kness (mm)
(**1**)	Light mounting	Mild steel	**1.2**
(**2**)	Light mounting component lower bracket	HEL	**0.95**

II - PART IN POSITION

Complete replacement



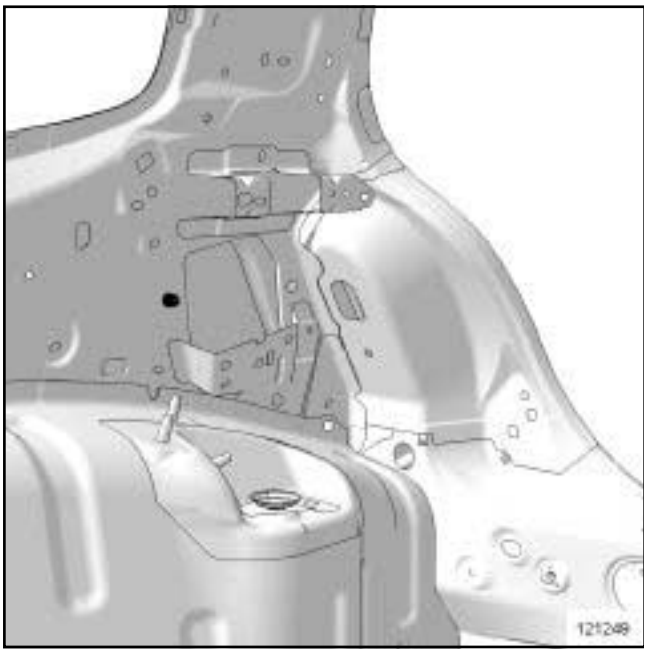
121010

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

C44

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121249

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

Note:

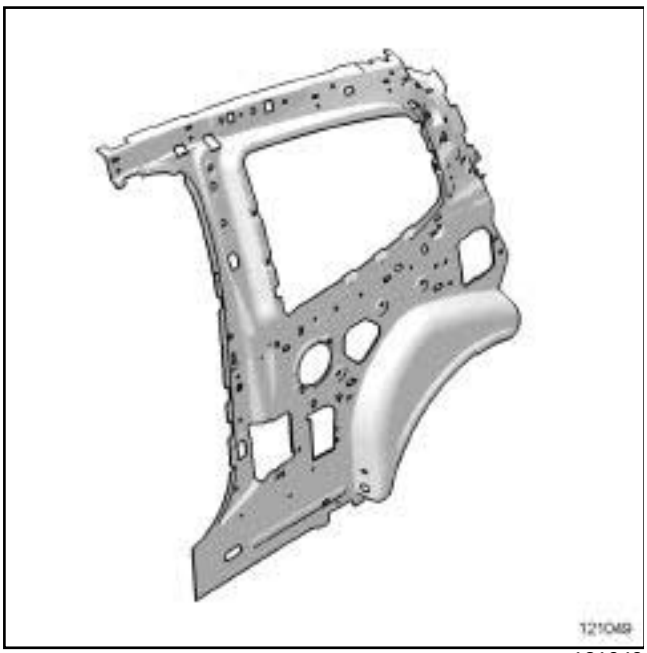
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

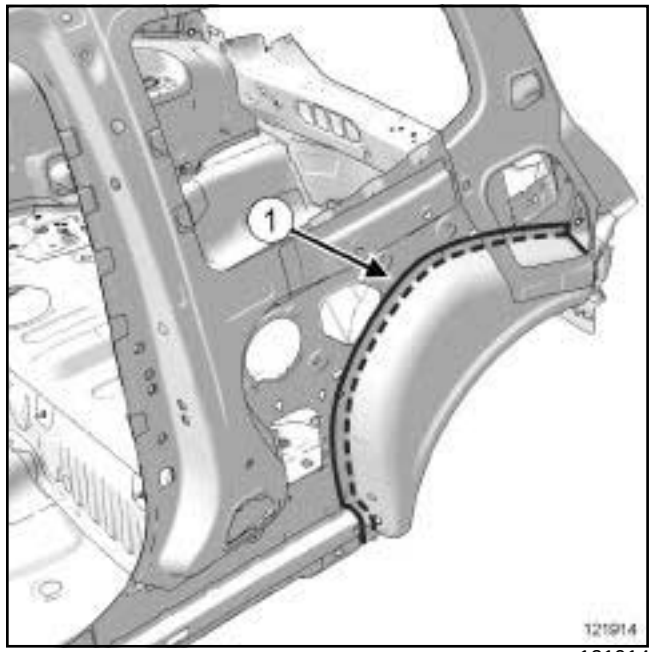
I - DESIGN OF THE STRUCTURAL COMPONENT



121049

The special feature of this part is its extension from the quarter panel lining to create the external rear wheel arch.

II - AREA TO BE CUT FOR PARTIAL REPLACEMENT



121914

The line (**1**) in the drawing shows the area in which it is possible to carry out a partial replacement.

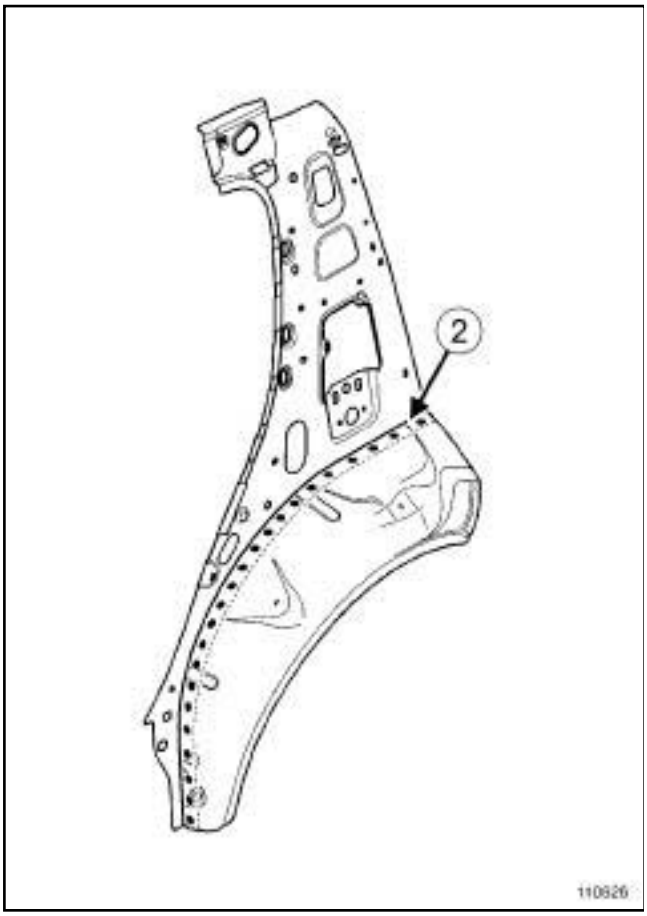
III - ASSEMBLY METHOD FOR A PARTIAL REPLACEMENT

Only the connections which are specific to the partial replacement by cutting are indicated.

WARNING

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).



110626

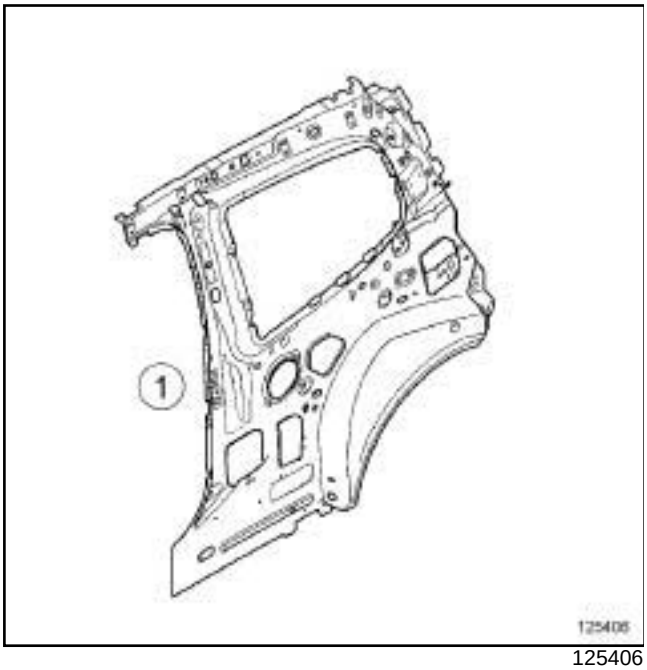
Line (**2**) on the diagram shows partial replacement and a weld by joggling with plug welds at regular intervals.

There is only one way of replacing this part:

- partial replacement.

I - COMPOSITION OF THE PART CONCERNED

EQUIPMENT LEVEL EA0 or EQUIPMENT LEVEL EA1 or EQUIPMENT LEVEL EA3 or EQUIPMENT LEVEL EA5 or EQUIPMENT LEVEL EAG or EQUIPMENT LEVEL EZ2 or EQUIPMENT LEVEL EZ4



125406

No.	Description	Type	Thickness (mm)
(**1**)	Quarter panel lining	Mild steel	**0.65**

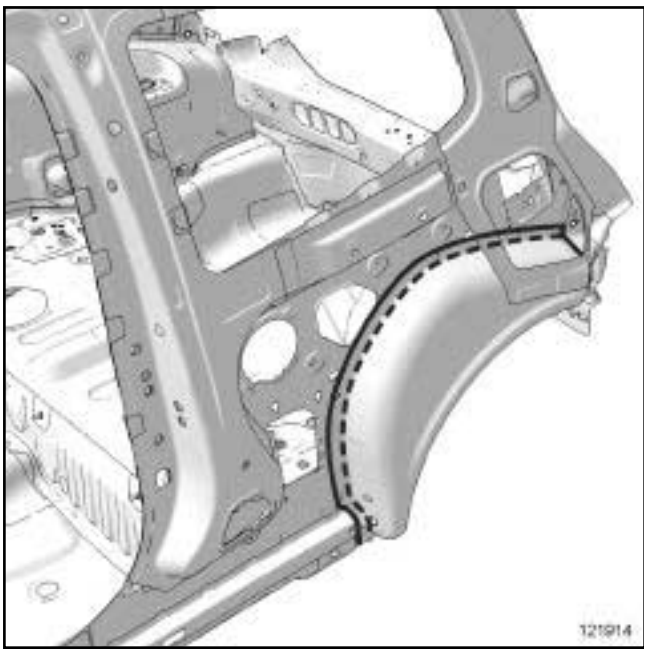
EQUIPMENT LEVEL SPORT

131678

No.	Description	Type	Thickness (mm)
(**2**)	Left-hand quarter panel lining closure panel component	Mild steel	**1**

II - PART IN POSITION

EQUIPMENT LEVEL EA0 or EQUIPMENT LEVEL EA1 or EQUIPMENT LEVEL EA3 or EQUIPMENT LEVEL EA5 or EQUIPMENT LEVEL EAG or EQUIPMENT LEVEL EZ2 or EQUIPMENT LEVEL EZ4

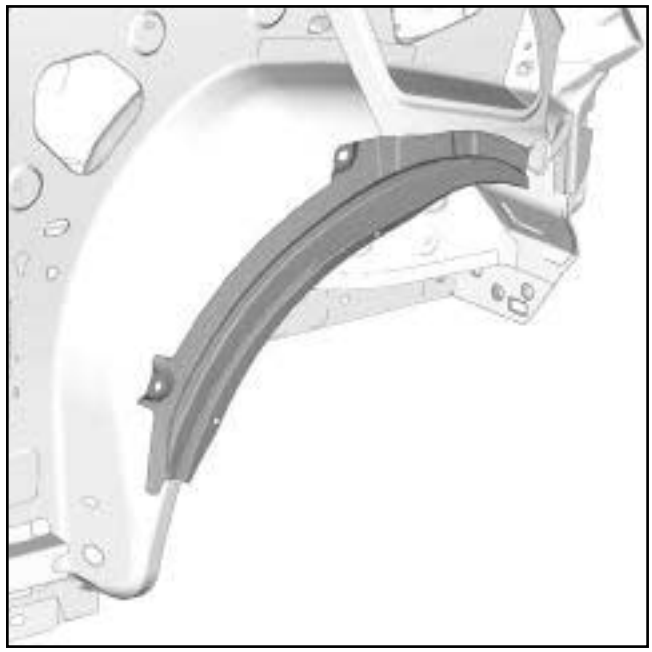


121914

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

EQUIPMENT LEVEL SPORT

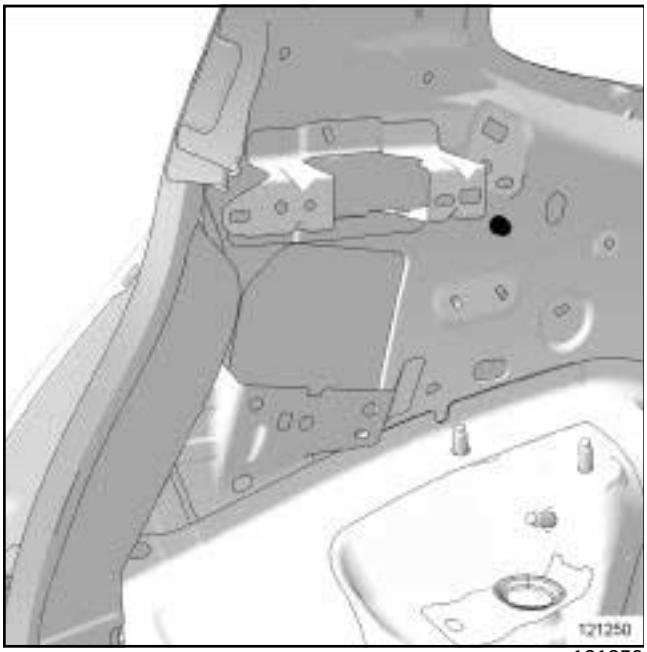


131677

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121250

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400)**.

IMPORTANT

Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

Note:

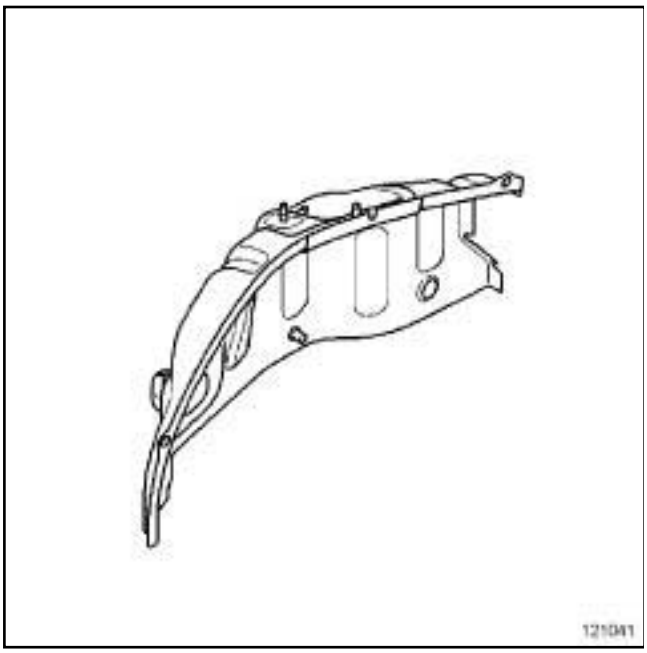
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT

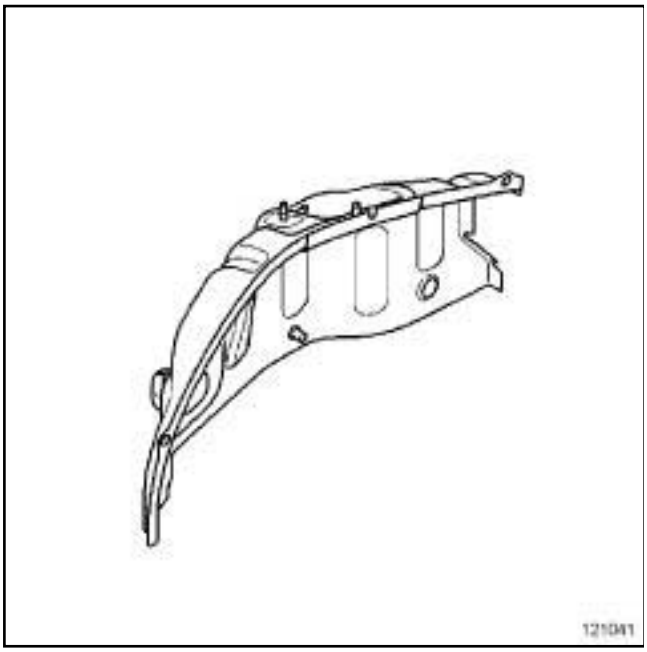


121041

121041

The special feature of this part is that is combines the functions of the rear inner wheel arch and the rear shock absorber mounting.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

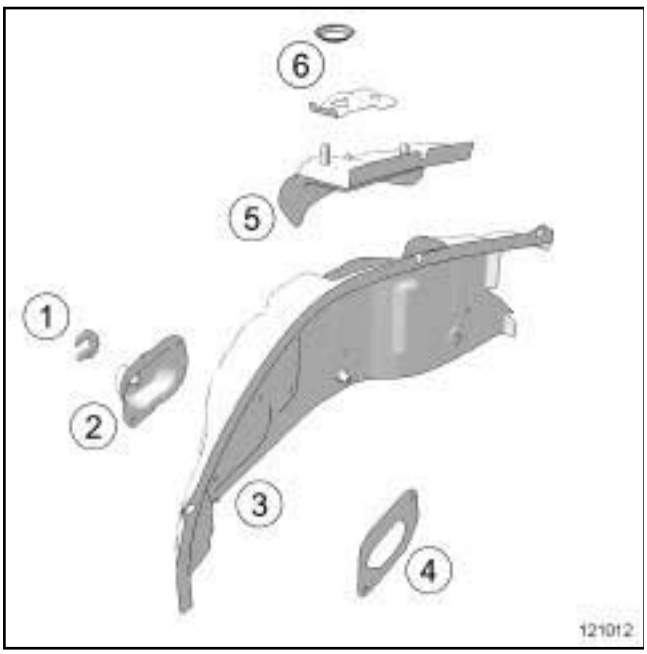

121041

There is only one way of replacing this part:

- complete replacement.

IMPORTANT
Use a repair bench to ensure the positioning of the points and the geometry of the axle assemblies.

I - COMPOSITION OF THE SPARE PART

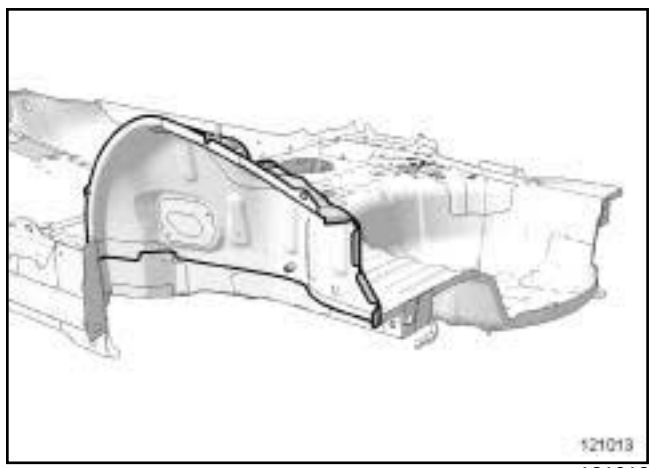


121012

No.	Description	Type	Thic-kness (mm)
(**1**)	Seatback retai-ning hook	HLE	**1.2**
(**2**)	Seatback fixed mounting	THLE	**2**
(**3**)	Inner wheel arch	Mild steel	**0.75**
(**4**)	Rear seatback fixed mounting reinforcement	HLE	**1.2**
(**5**)	Shock absorber mounting cup	Mild steel	**1.5**
(**6**)	Shock absorber turret mounting	HLE	**2**

II - PART IN POSITION

Complete replacement

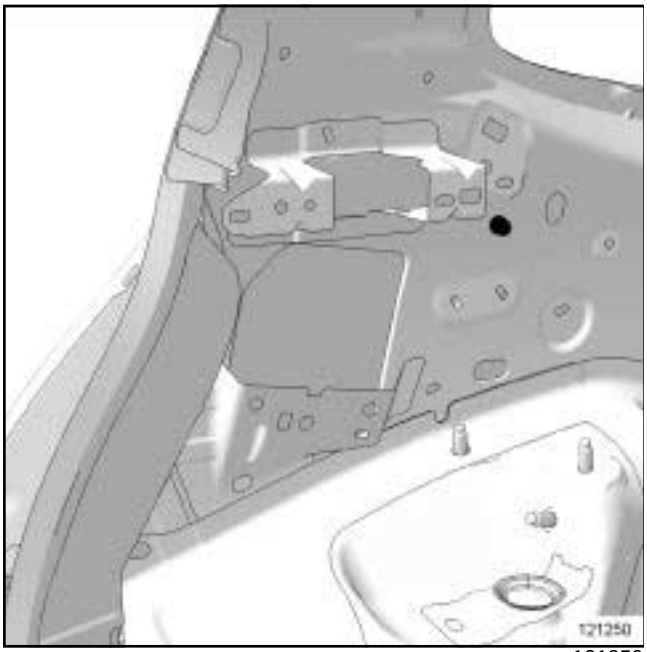

121013

Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT
If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121250

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

WARNING

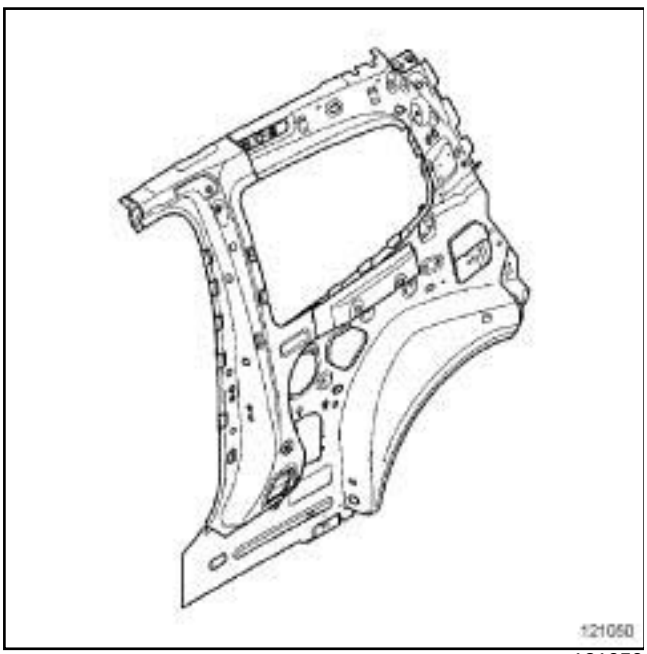
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400, 40A, General Information**.

DESIGN OF THE STRUCTURAL COMPONENT



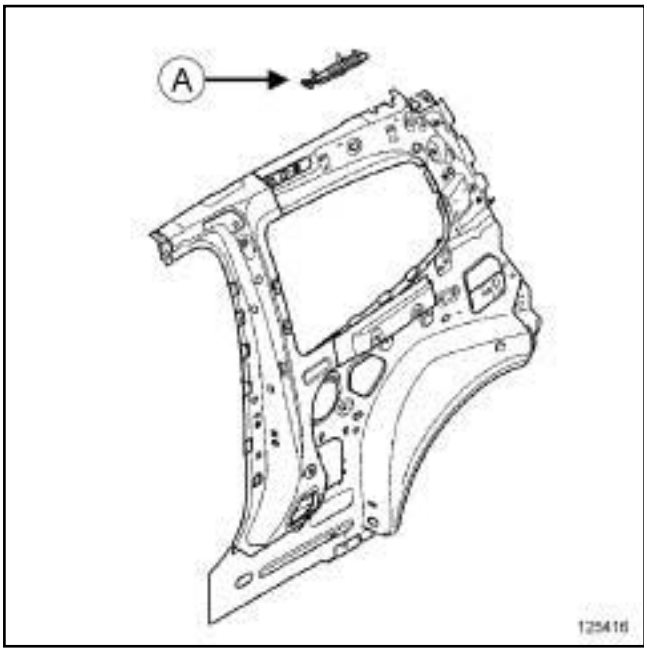
121050

The special feature of this part it that it concurrently serves two functions:

- quarter panel lining,

- outer rear wheel arch.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400, 40A, General Information**).



125416

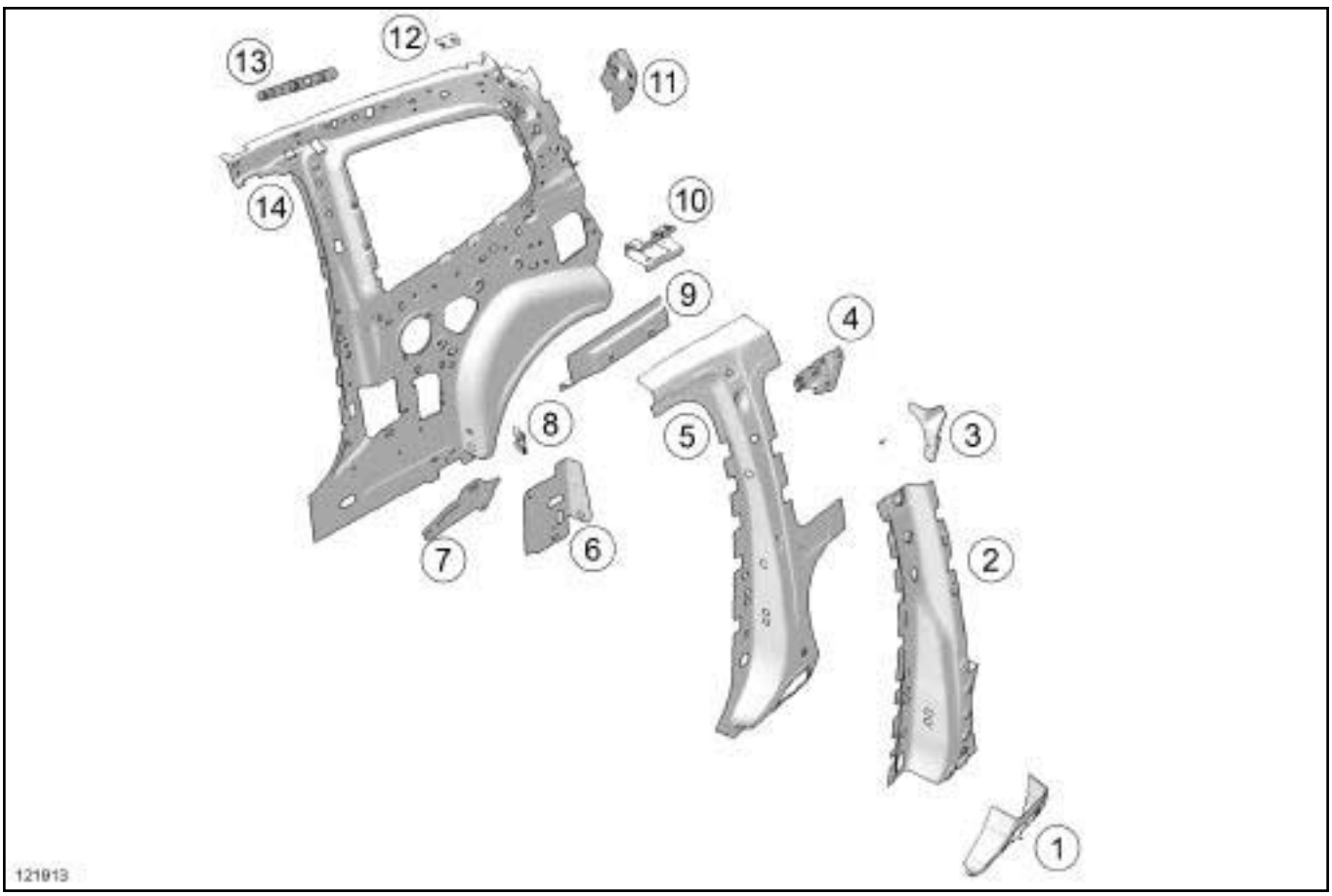
To replace this part, order the roof drip moulding lining insert (**A**) .

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

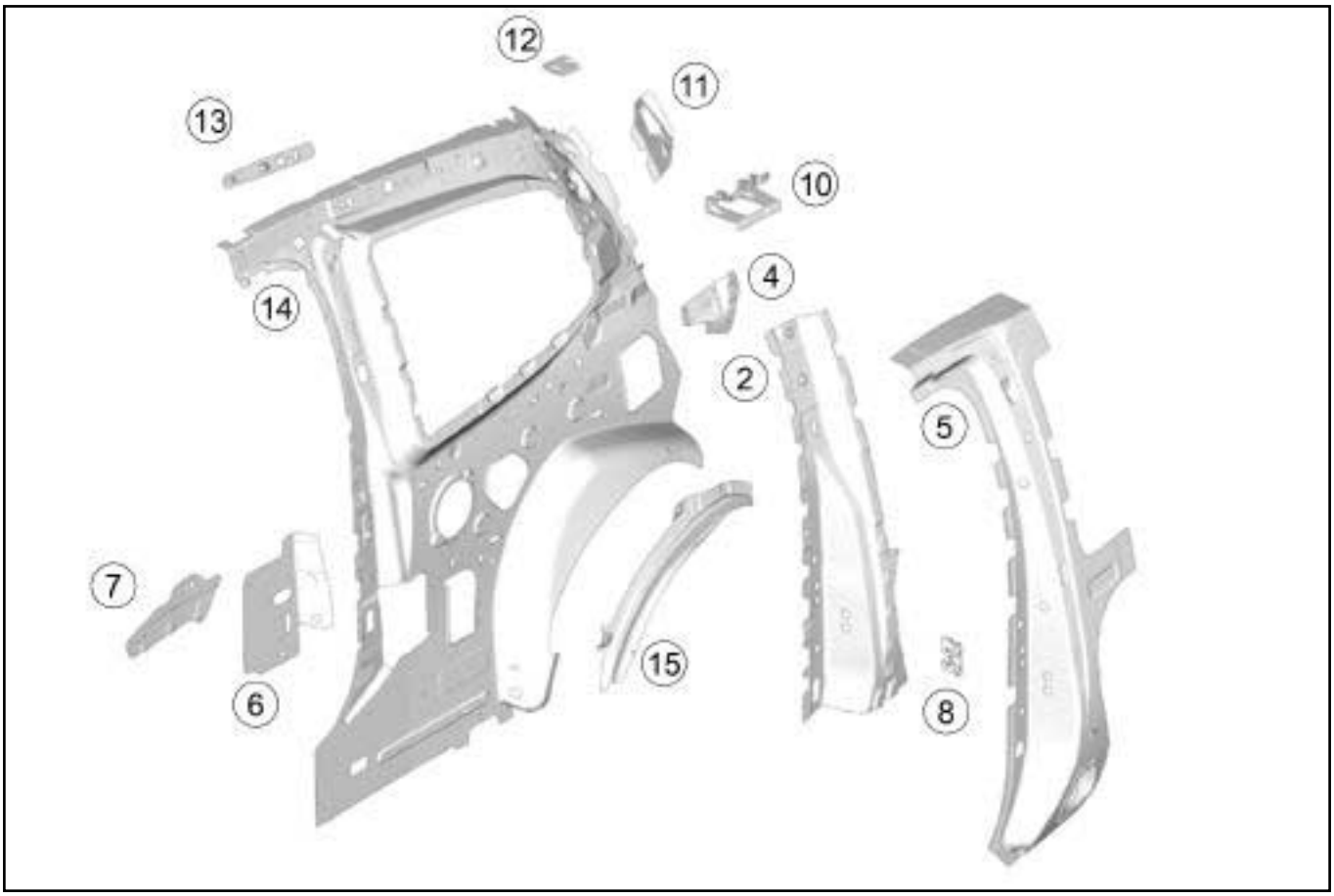
EQUIPMENT LEVEL EA0 or EQUIPMENT LEVEL EA1 or EQUIPMENT LEVEL EA3 or EQUIPMENT LEVEL EA5 or EQUIPMENT LEVEL EAG or EQUIPMENT LEVEL EZ2 or EQUIPMENT LEVEL EZ4



121913

No.	Description	Type	Thic-kness (mm)
(**1**)	B-pillar reinforcement lower lining	HLE	**1.2**
(**2**)	B-pillar reinforcement lining	HLE	**1.4**
(**3**)	Quarter panel lining reinforcement	Mild steel	**0.95**
(**4**)	Seat belt inertia reel anchorage reinforcement	Mild steel	**1.95**
(**5**)	B-pillar reinforcement	HLE	**1.8**
(**6**)	Jacking point reinforcement	HLE	**0.95**
(**7**)	Quarter panel lining reinforcement plate	Mild steel	**1.1**
(**8**)	Crumple plate	HLE	**2.5**
(**9**)	Quarter panel strip reinforcement	Mild steel	**0.75**
(**10**)	Side rear parcel shelf support structure	Mild steel	**1**
(**11**)	Seat belt inertia reel anchorage reinforcement	HLE	**1.2**
(**12**)	Mounting reinforcement on strut body	HLE	**2**
(**13**)	Airbag mounting reinforcement	Mild steel	**0.85**
(**14**)	Quarter panel lining	Mild steel	**0.65**

EQUIPMENT LEVEL SPORT



131676

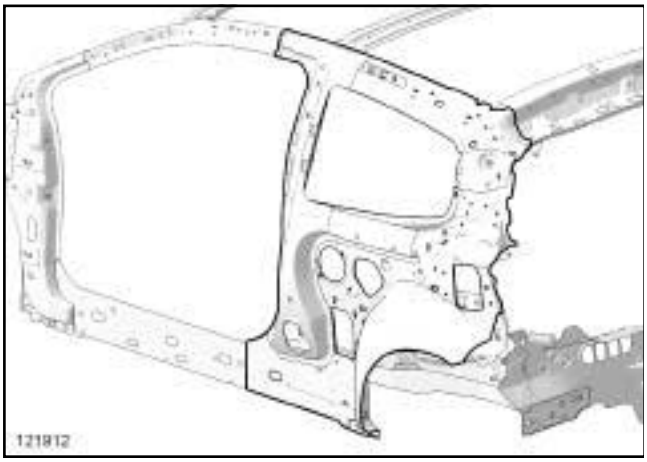
No.	Description	Type	Thic-kness (mm)
(**2**)	B-pillar reinforce-ment lining	HLE	**1.4**
(**4**)	Seat belt inertia reel anchorage reinforcement	Mild steel	**1.95**
(**5**)	B-pillar reinforce-ment	HLE	**1.8**
(**6**)	Jacking point reinforcement	HLE	**0.95**
(**7**)	Quarter panel lining reinforce-ment plate	Mild steel	**1.1**
(**8**)	Crumple plate	HLE	**2.5**

No.	Description	Type	Thic-kness (mm)
(**10**)	Side rear parcel shelf support structure	Mild steel	**1**
(**11**)	Seat belt inertia reel anchorage reinforcement	HLE	**1.2**
(**12**)	Mounting reinfor-cement on strut body	HLE	**2**
(**13**)	Airbag mounting reinforcement	Mild steel	**0.85**
(**14**)	Quarter panel lining	Mild steel	**0.65**
(**15**)	Left-hand quar-ter panel lining closure panel component	Mild steel	**1**

II - PART FITTED

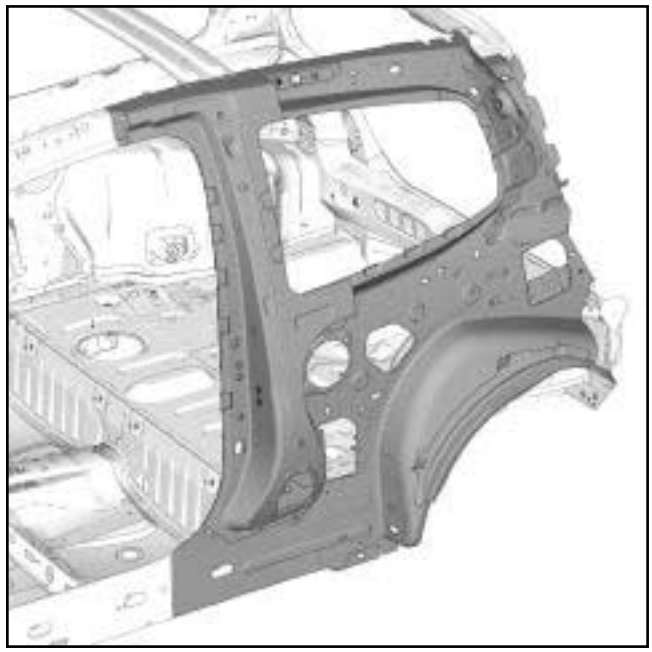
Complete replacement

EQUIPMENT LEVEL EA0 or EQUIPMENT LEVEL EA1 or EQUIPMENT LEVEL EA3 or EQUIPMENT LEVEL EA5 or EQUIPMENT LEVEL EAG or EQUIPMENT LEVEL EZ2 or EQUIPMENT LEVEL EZ4



121912

EQUIPMENT LEVEL SPORT



131675

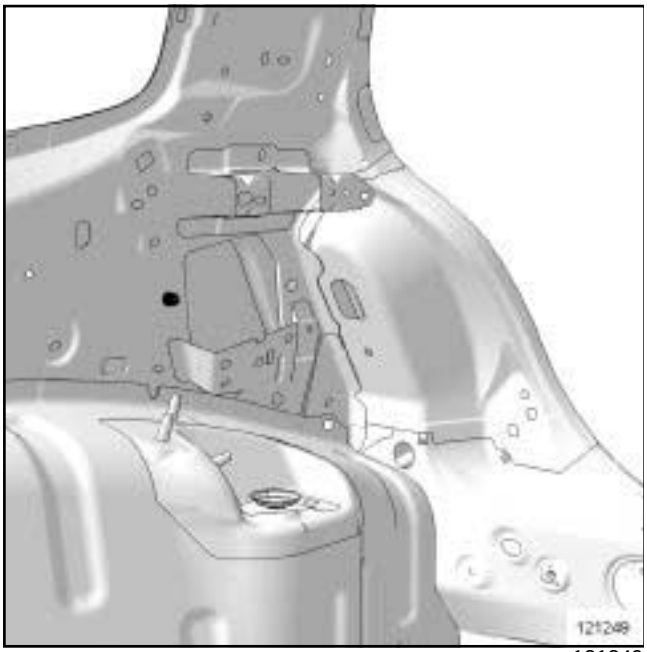
Note:

For more detailed information on welded connections with three thicknesses, see **MR 400**.

IMPORTANT

If the mating faces of the parts to be welded are not accessible, make EGW plug welds to replace the original resistance welds (see **MR 400**).

III - POSITIONING OF LOCAL ELECTRICAL EARTHS

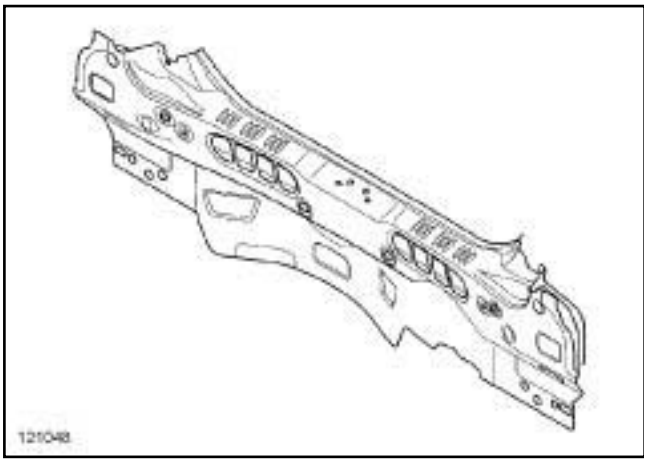


121249

WARNING

To avoid damaging the vehicles electric and electronic components, the earths of any wiring harness near the weld area must be disconnected.

Position the earth of the welding machine as closely as possible to the weld area (see **MR 400**).

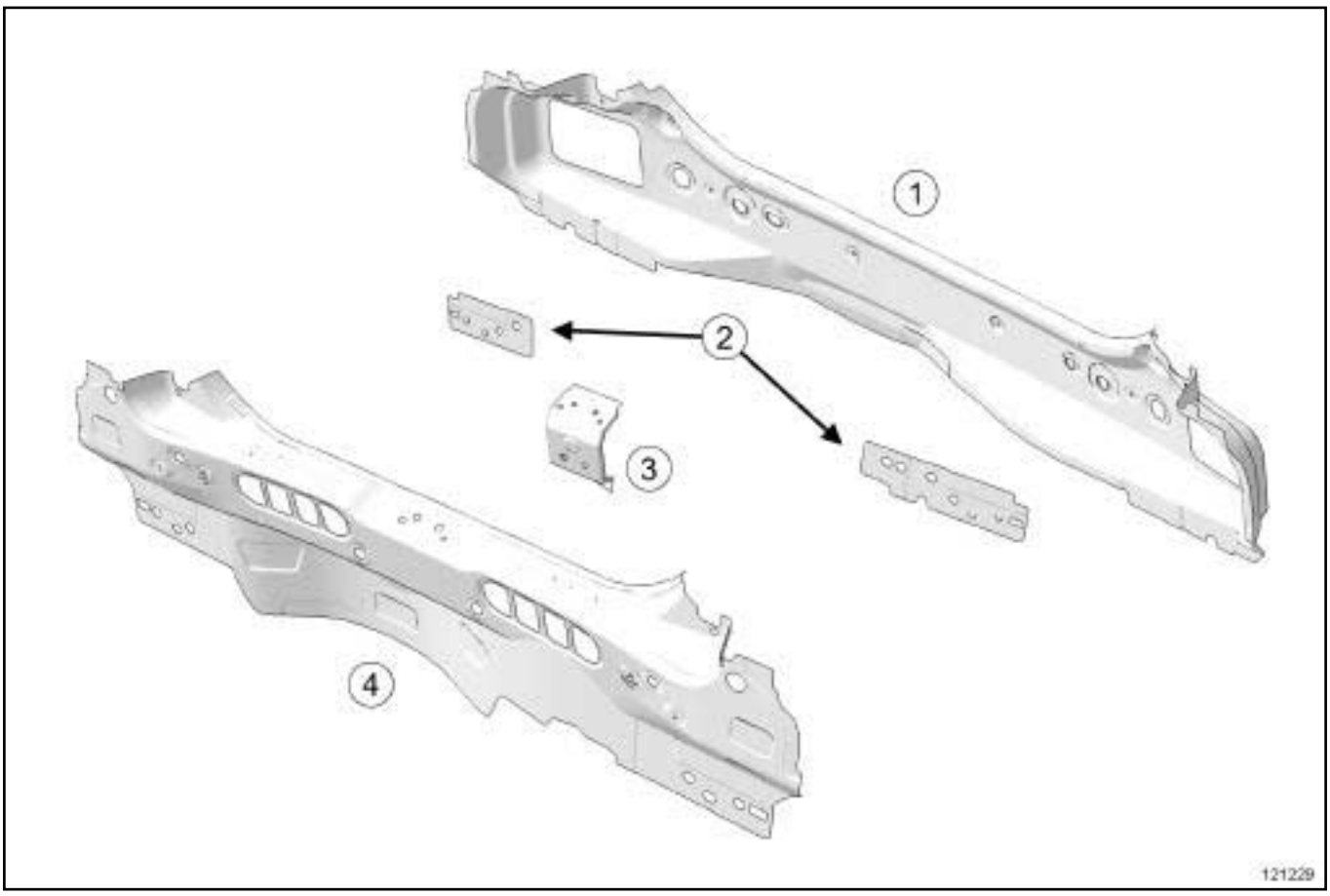


121048

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

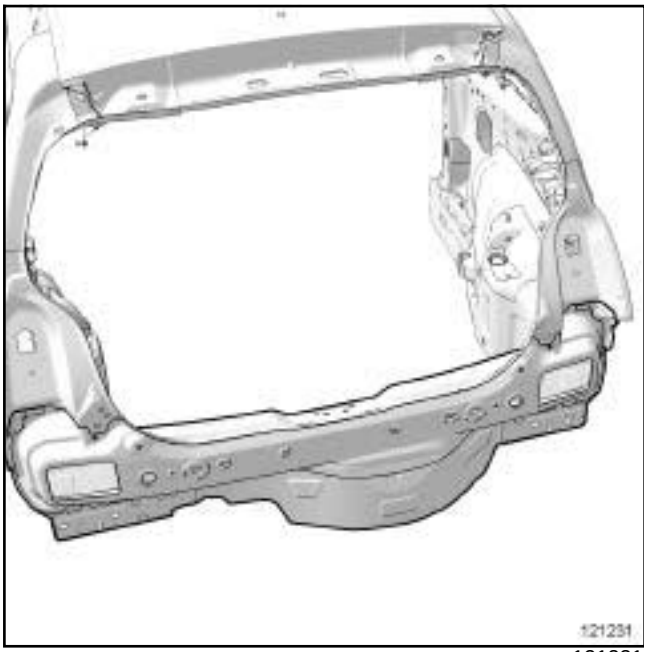


121229

No.	Description	Type	Thic-kness (mm)
(**1**)	Rear end panel	Mild steel	**0.65**
(**2**)	Rear bumper absorber mount-ting	HLE	**1.8**

No.	Description	Type	Thic-kness (mm)
(**3**)	Tailgate striker plate stiffener	Mild steel	**1.2**
(**4**)	Rear end panel lining	Mild steel	**0.95**

II - PART FITTED



121231

WARNING

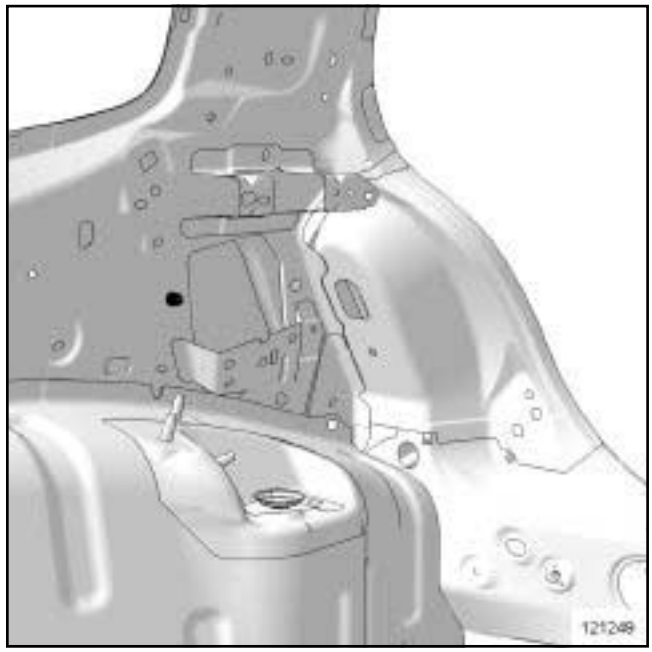
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

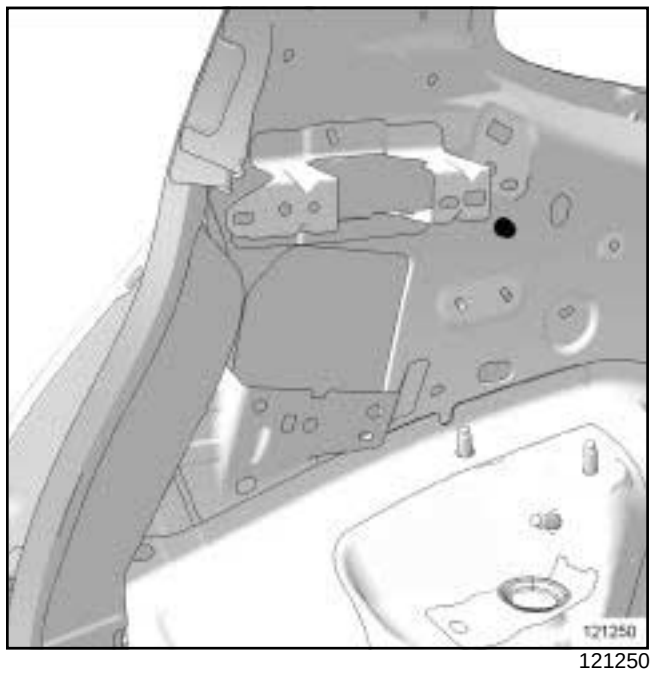
III - POSITIONING OF LOCAL ELECTRICAL EARTHS

Right-hand side



121249

Left side



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

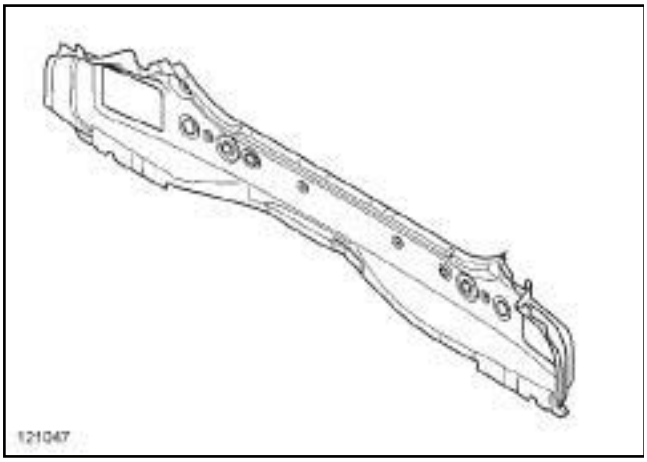
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



121047

The special feature of this part it that it concurrently serves two functions:

- rear end panel,

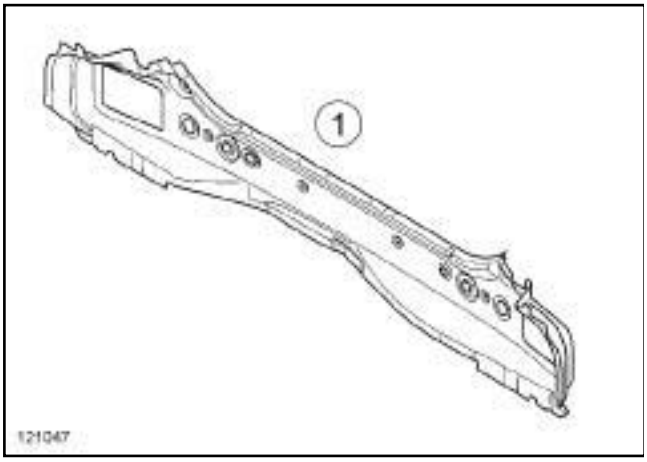
- rear end panel lining.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

There is only one way of replacing this part:

- complete replacement.

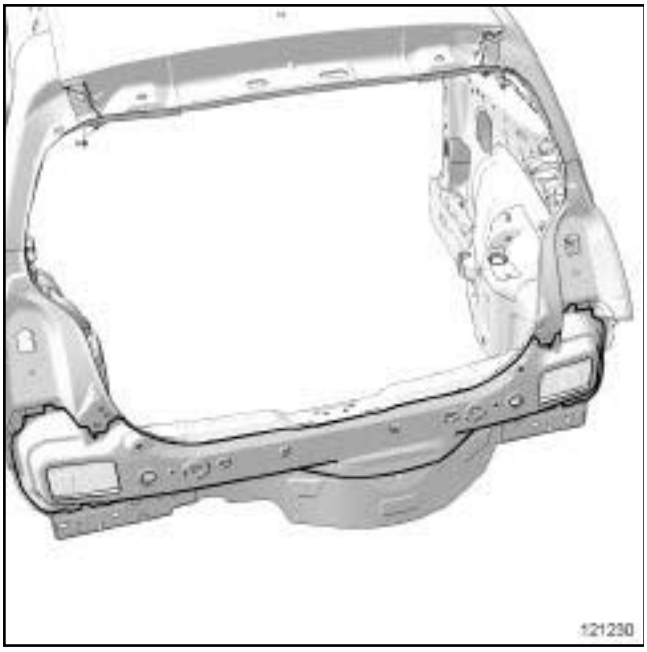
I - COMPOSITION OF THE SPARE PART



121047

No.	Description	Type	Thic-kness (mm)
(**1**)	Rear end panel	Mild steel	**0.65**

II - PART FITTED



121230

WARNING

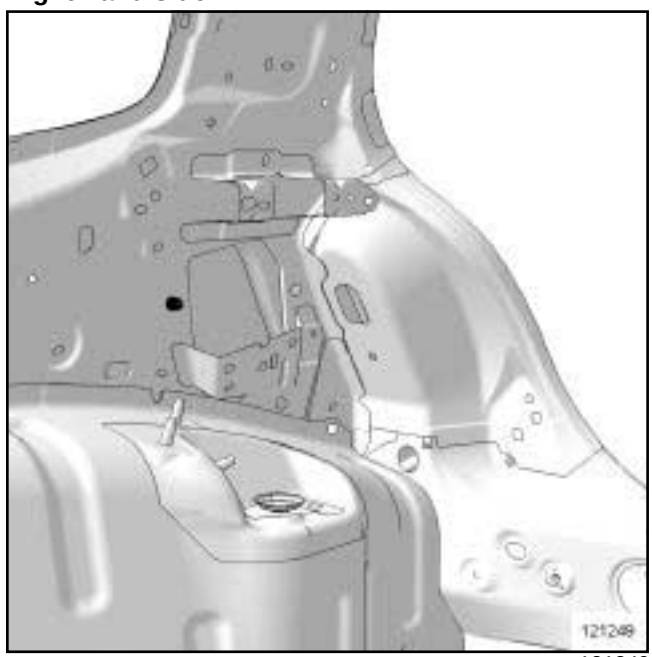
If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

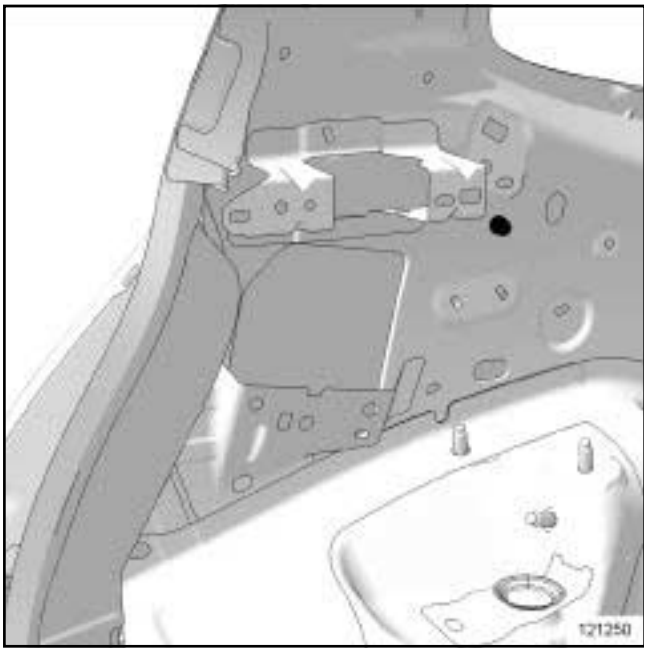
III - POSITIONING OF LOCAL ELECTRICAL EARTHS

Right-hand side



121249

Left side



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

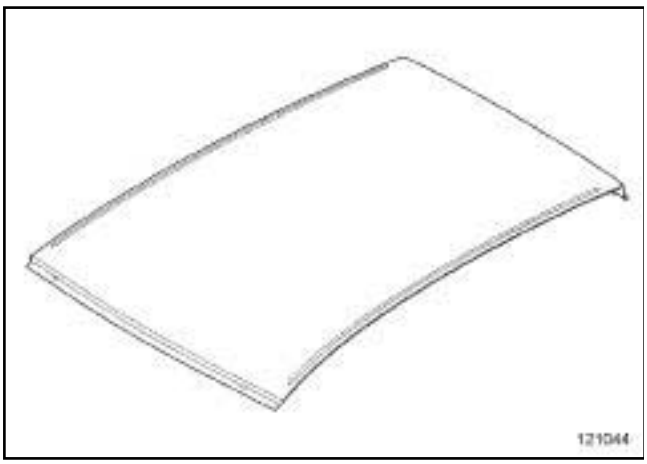
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



121044

This is a basic part; its only function is that of a roof.

The special feature of the roof is that it is laser welded to the body sides.

For vehicles fitted with a sunroof, the roof only has a front section and a rear section.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

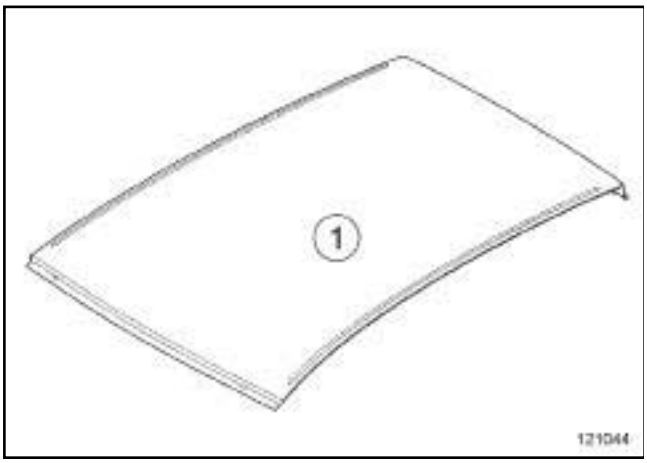
Special tooling required	
Car. 1786	Levelling tool for bodywork seal

Equipment required
safety strap(s)

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART



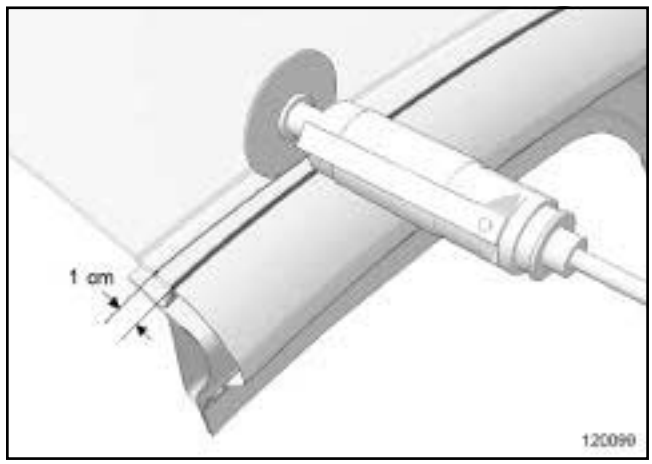
121044

No.	Description	Type	Thickness (mm)
(**1**)	Roof	Mild steel	**0.75**

II - PART FITTED

1 - Dismantling

a - Cutting

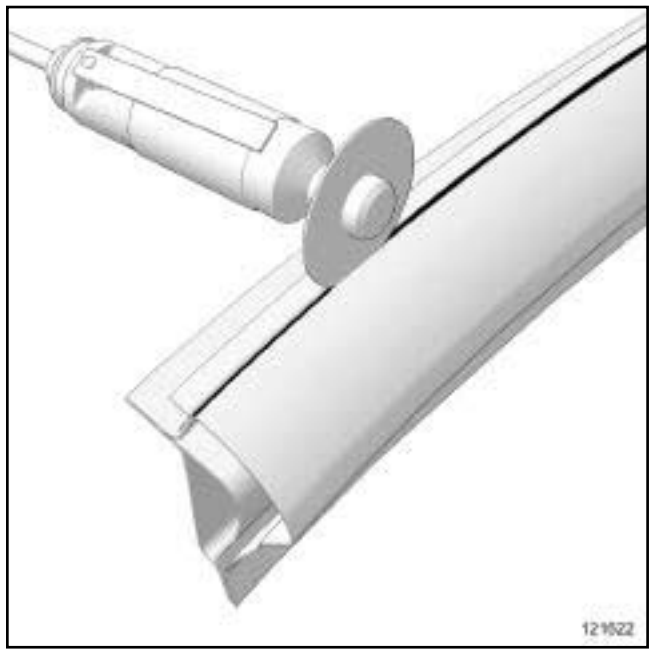


120099

Cut **1 cm** from the weld (see **MR 400, Basic instructions for structural bodywork repair, 40A, General information, Cutting tool for a structural component: Use**).

Remove the damaged part.

b - Grinding



121622

Weaken the weld without removing it, using a straight grinder fitted with a cutting disc.

Remove the remaining metal strips.

Level off the weld residue (see **MR 400, Basic instructions for structural bodywork repair, 40A, General information, Tool for levelling off weld residue: Use**).

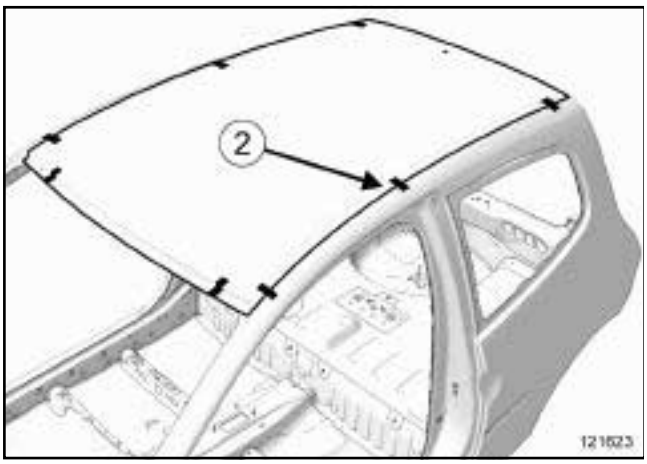
2 - Preparation before assembly

a - Positioning and adjustment

Position the spare part, adjust it and fit it using locking pliers (see **MR 400, Basic instructions for structural bodywork repair, 40A, General information, Tool for adjusting and supporting a structural component: Use**).

If necessary, reassemble the adjacent components and check the panel gaps.

b - Marking and identifying the joints



121623

Mark the optimum position of the roof with masking tape between the spare part and the body side (**2**) .

Remove the replacement part.

c - Preparing the mating faces on the spare part

Gently sand the internal mating faces on the bonding zones of the spare part with **P320** dry sand paper or a red abrasive pad, without removing the protection.

Prepare the rest of the replacement part according to the joint type.

d - Preparing the mating faces on the vehicle

Gently sand the internal mating face bonding zones on the vehicle with **P320** dry sand paper or a red abrasive pad, without removing the protection.

Prepare the rest of the vehicle according to the joint type.

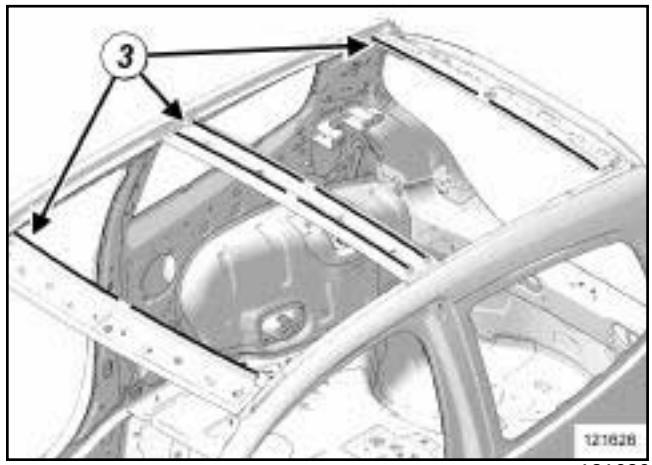
e - Apply the protection before assembly

Apply the spare part and vehicle protection before assembly (see **MR 400, Basic instructions for structural bodywork repair, 40A, General information, Pre-assembly anticorrosion protection product: Use**).

3 - Assembly

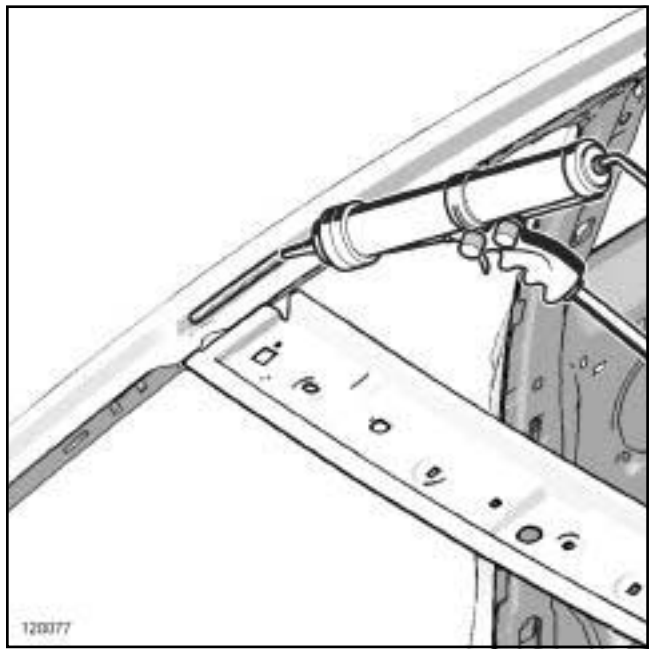
a - Application of the bonding products

Degrease the bonding zones on the replacement part and the vehicle using heptane.



121626

Apply a cement bead of **M.J. Pro** to the roof cross members (**3**) .



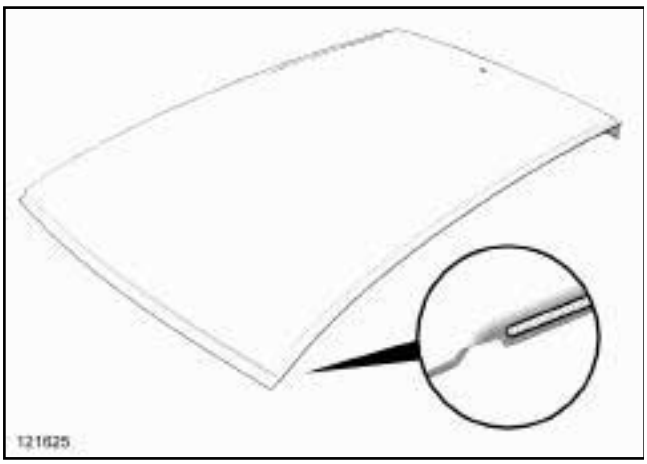
120077

Apply a bead of **HIGH PERFORMANCE STRUCTURAL ADHESIVE** to the entire internal mating face on the body side (see **MR 400, Basic instructions for structural bodywork repair, 40A, General information, Connection by rigid bonding: Description**).

Smooth the **HIGH PERFORMANCE STRUCTURAL ADHESIVE** using a small brush.

121624

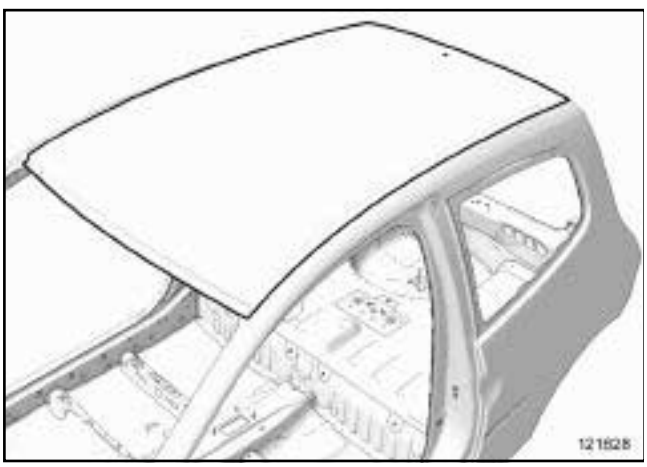
Apply **HIGH PERFORMANCE STRUCTURAL ADHESIVE** to the body side again at (**4**) .



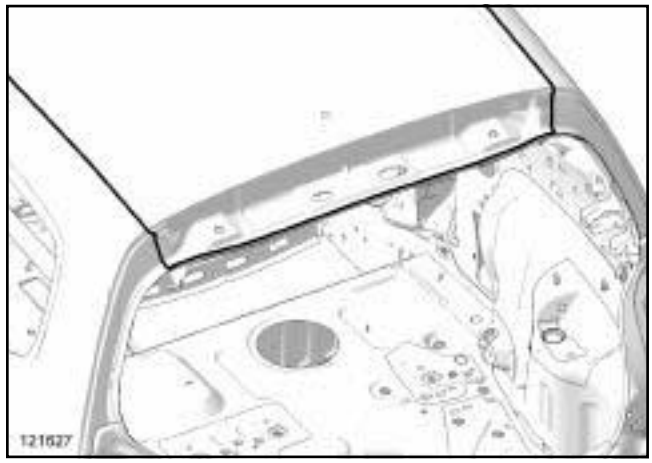
121625

Apply a bead of **HIGH PERFORMANCE STRUCTURAL ADHESIVE** to the spare part.

b - Fitting and adjusting the replaced parts

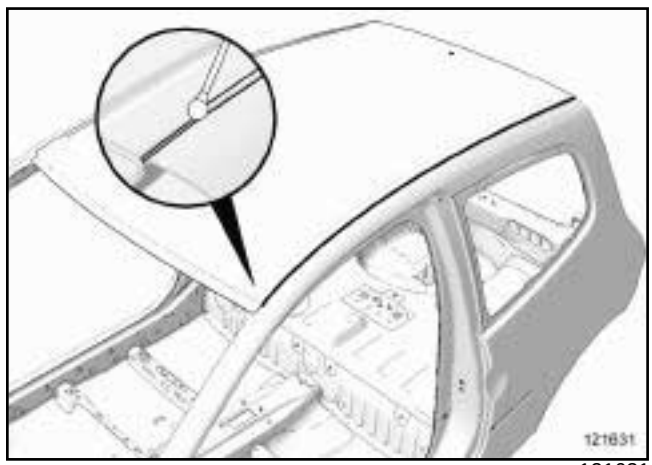


121628



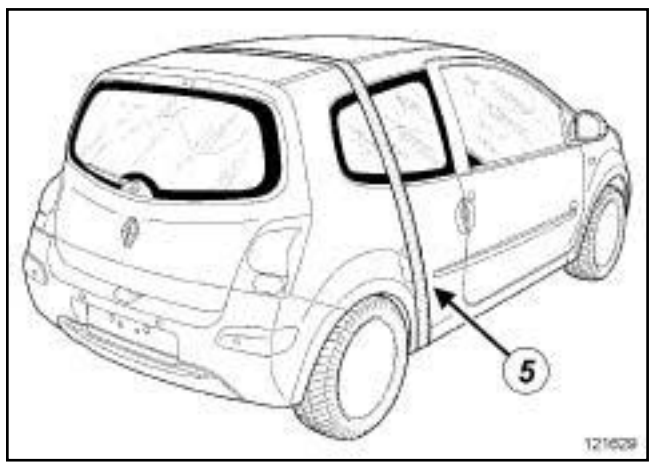
121627

Position the replacement part on the vehicle.

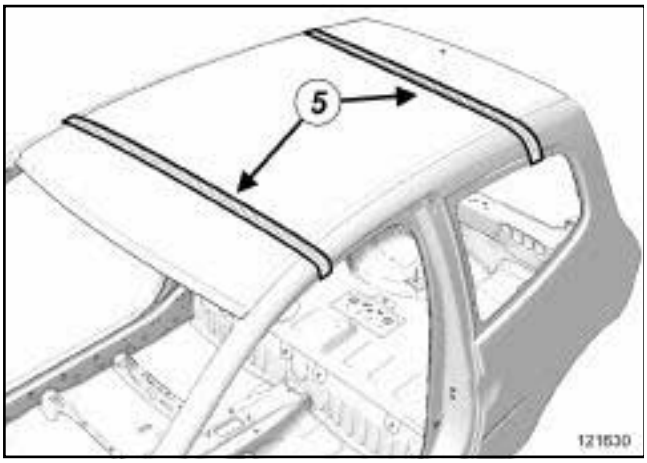


121631

Scrape off the surplus of bonding before it dries using the **(Car. 1786)**.



121629



121630

Hold the spare part with locking pliers (at the front and rear cross members) and the **safety strap(s)** to position it securely according to the markings made earlier (**5**) (see **MR 400, Basic instructions for structural bodywork repair, 40A, General information, Tools for adjusting and supporting a structural component: Use**).

Note:

To fit the safety straps without removing the quarter panel windows, use **3** safety straps.

Let the adhesive dry for **10 hours** at an ambient temperature or for **2 hours** at **60°C**.

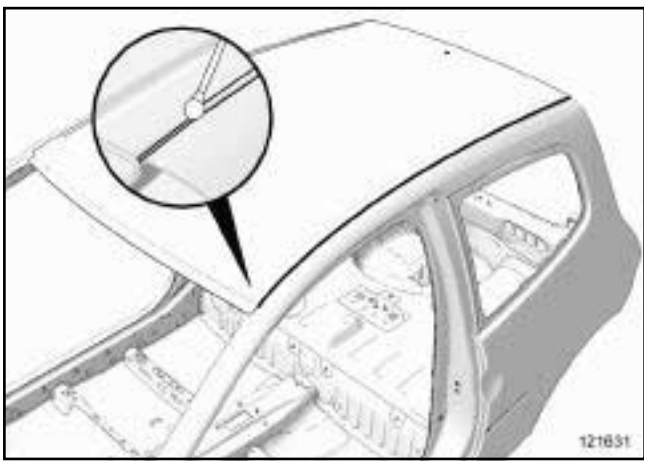
c - Making the other joints

Make the rest of the replacement part joints.

4 - Finishing after assembly

Applying finishing product

Prime the side bonding areas.



121631

Apply a finishing seal, type **M. J. Pro** to the side bonding areas.

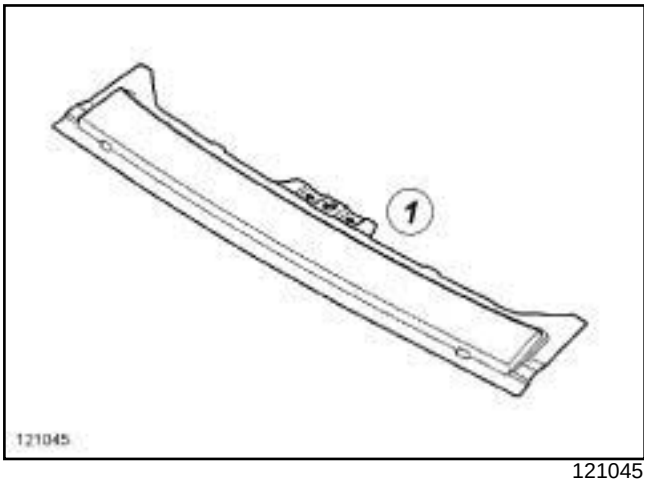
Scrape off the surplus of bonding before it dries using the **(Car. 1786)**.

There is only one way of replacing this part:

- complete replacement.

This operation only affects versions equipped with a sunroof.

I - COMPOSITION OF THE SPARE PART

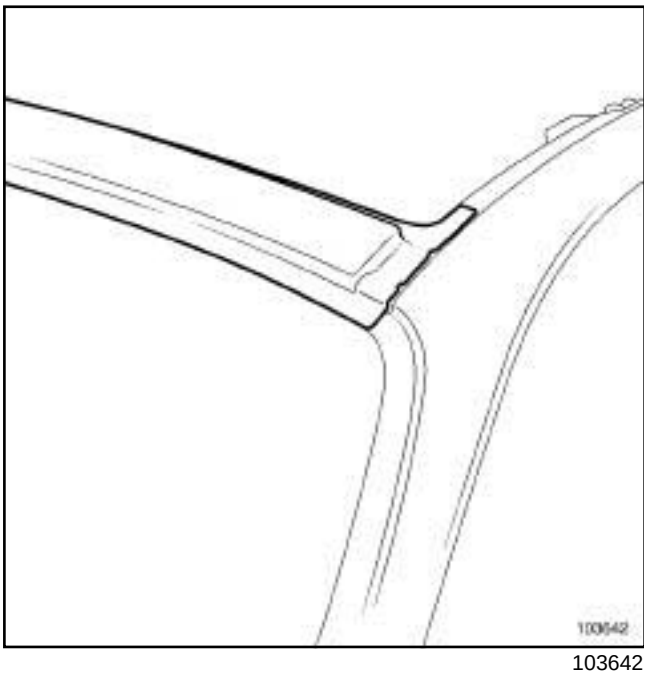


121045

No.	Description	Type	Thic-kness (mm)
(**1**)	Front section of roof	Mild steel	**0.65**

II - PART IN POSITION

Complete replacement

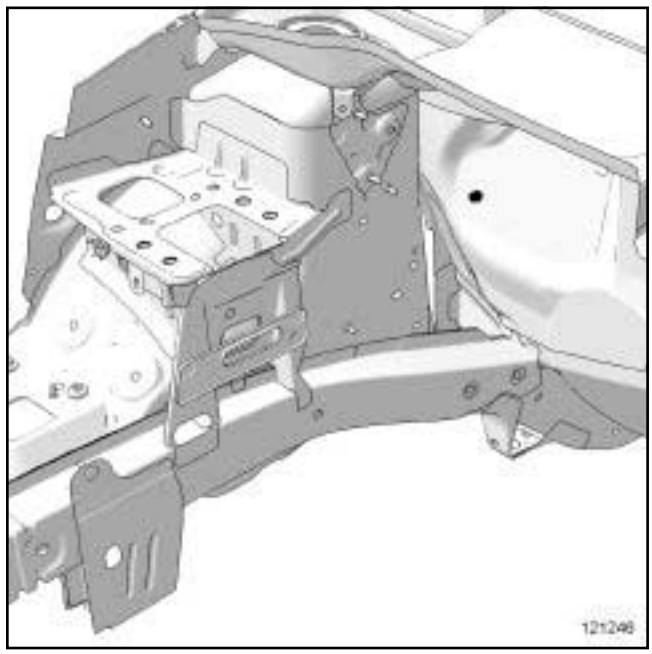


103642

IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121246

IMPORTANT

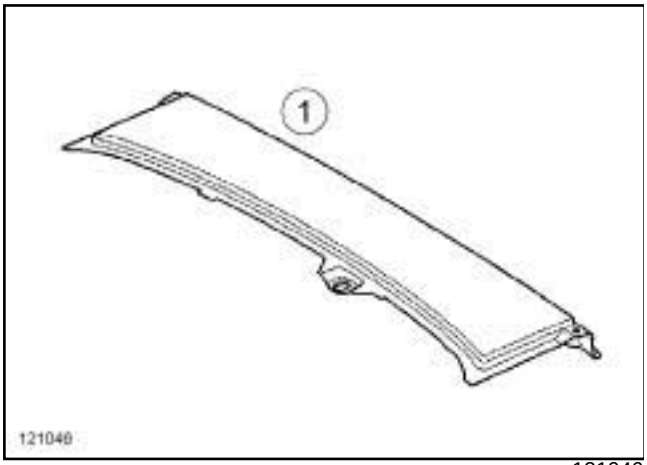
To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

There is only one way of replacing this part:

- complete replacement.

I - COMPOSITION OF THE SPARE PART

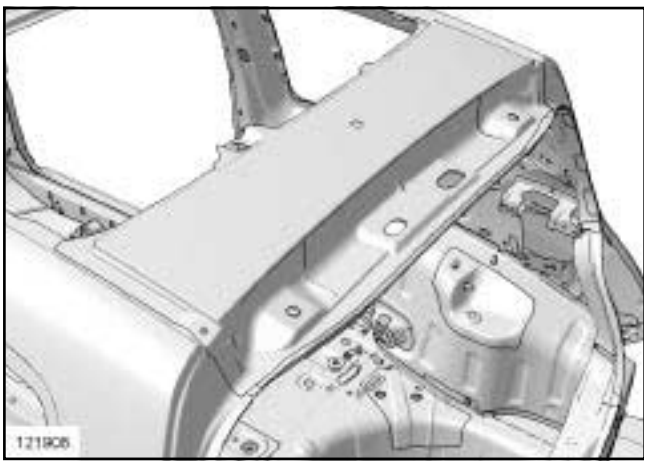


121046

No.	Description	Type	Thickness (mm)
(**1**)	Rear section of roof	Mild steel	**0.65**

II - PART IN POSITION

Complete replacement



121908

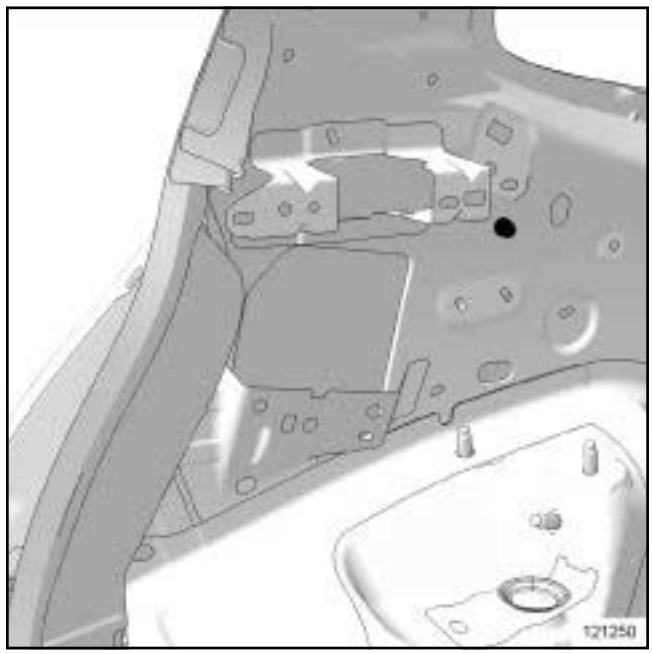
IMPORTANT

For welded connections in three thicknesses, the spot welds on the part replaced should be made in the same place as for the original joint to retain its mechanical properties.

WARNING

If the spot welds cannot be made as they were originally using an electrical spot welding machine, they should be replaced with plug welds after holes have been drilled in the first panel.

III - POSITIONING OF LOCAL ELECTRICAL EARTHS



121250

IMPORTANT

To avoid damaging the vehicle's electric and electronic components, the battery and the earths of any wiring harness near the weld area must be disconnected.

The earth of the welding machine must be placed as close as possible to the weld area.

Note:

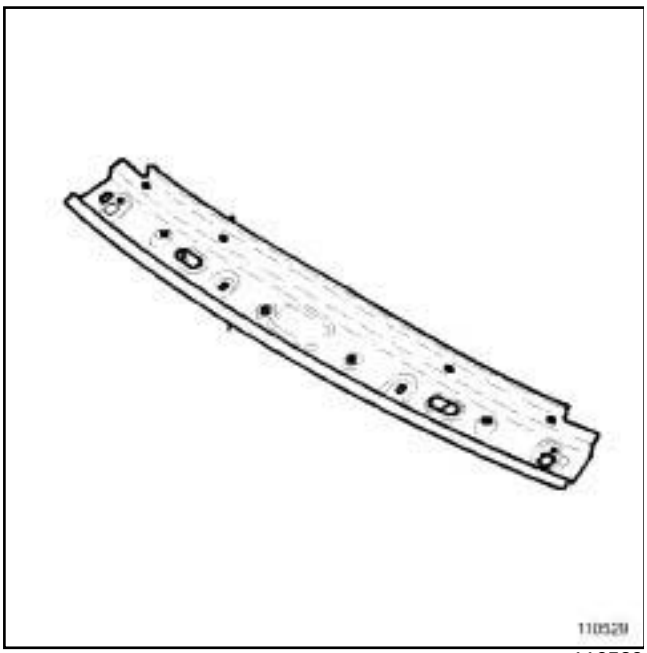
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

DESIGN OF THE STRUCTURAL COMPONENT

Note:

For a detailed description of a particular connection, see **MR 400**.



110529

This is a basic part; its only function is that of a roof front cross member and roof stiffener by means of a cemented connection.

For other issues regarding access to mating faces, the various replacement possibilities are described in the basic instructions for structural bodywork repair (see **MR 400**).

Note:

The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT

122769

This is a basic part, it only fulfils the function of a roof middle cross member.

If there are other issues regarding access to mating faces, the various replacement options are described in the basic instructions for structural bodywork repair (see **MR 400**).

Note:

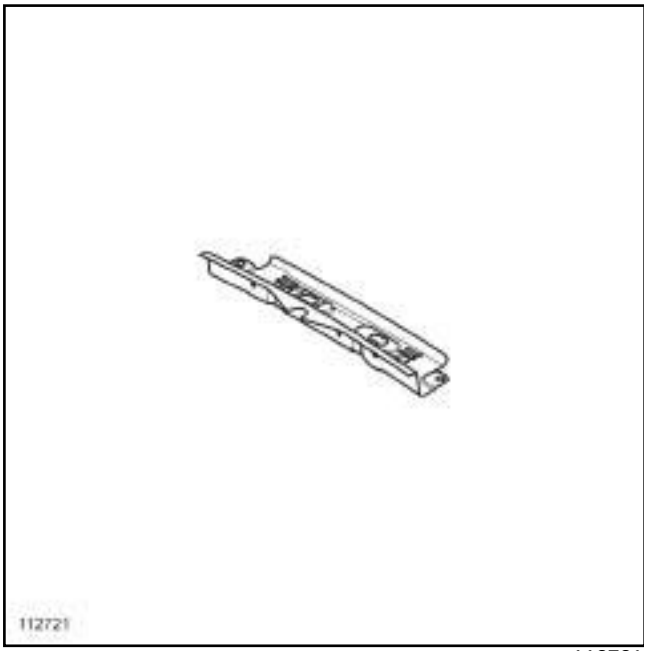
The information contained in the following describes the general repair procedure for all vehicles having the same design for this part.

Before reading the following general information, make sure that there are no special notes associated with the vehicle. These special notes are specified if necessary in other parts of the sub-section dealing with the component.

Note:

For a detailed description of a particular connection, see **MR 400**.

DESIGN OF THE STRUCTURAL COMPONENT



112721

This is a basic part; its only function is that of roof rear cross member as well as roof stiffener by means of a cemented connection.

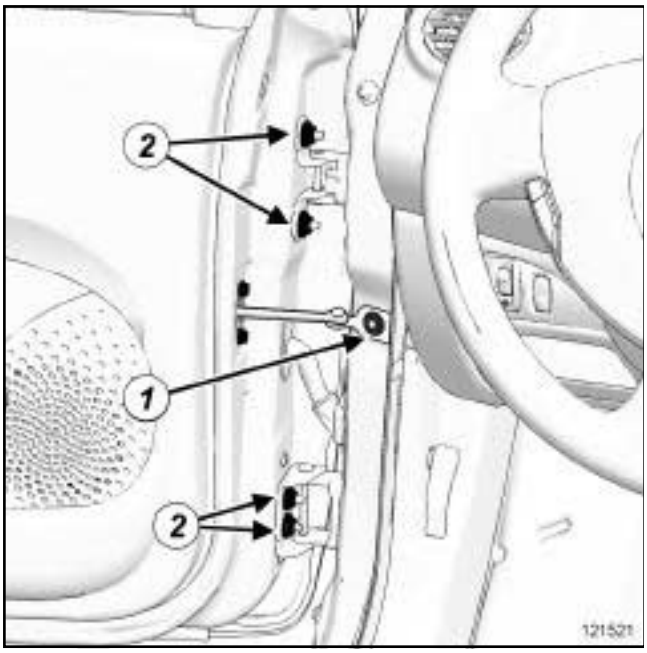
For other issues regarding access to mating faces, the various replacement possibilities are described in the basic instructions for structural bodywork repair (see **MR 400**).

I - REMOVAL WITHOUT HINGES

1 - REMOVAL PREPARATION OPERATION

❏ Disconnect the door wiring harness supply connector.

2 - OPERATION FOR REMOVAL OF PART CONCERNED



121521

❏ Remove:

- the bolt (**1**) ,
- the bolts (**2**) ,
- the door.

II - REFITTING WITHOUT HINGES

1 - OPERATION FOR REFITTING PART CONCERNED

❏ Refit:

- the door,
- the bolts ***(2)*** ,
- the bolt ***(1)*** .

❏ Adjust the door clearances and shut lines (see **47A**, **Side opening elements**, **Front side door: Adjustment**, page **47A-5**) .

2 - FINAL OPERATION

❏ Connect the wiring harness supply connector.

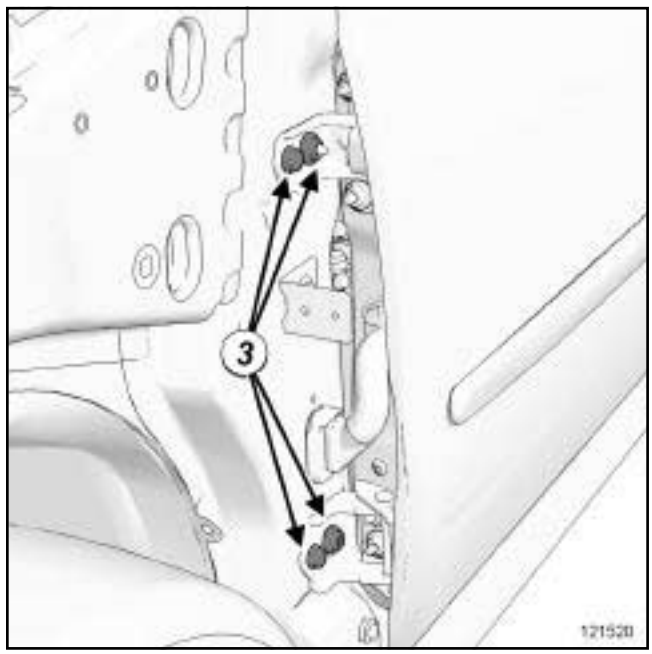
III - REMOVAL WITH HINGES

1 - REMOVAL PREPARATION OPERATION

❏ Remove the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) .

❏ Disconnect the door wiring harness supply connector.

2 - OPERATION FOR REMOVAL OF PART CONCERNED



121520

❏ Remove:

- the bolt ***(1)*** ,
- the bolts (**3**) ,
- the door.

IV - REFITTING WITH HINGES

1 - OPERATION FOR REFITTING PART CONCERNED

❏ Refit:

- the door,
- the bolts ***(3)*** ,
- the bolt ***(1)*** .

❏ Adjust the door clearances and shut lines (see **47A**, **Side opening elements**, **Front side door: Adjustment**, page **47A-5**) .

2 - FINAL OPERATION

❏ Connect the wiring harness supply connector.

❏ Refit the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) .

STRIPPING

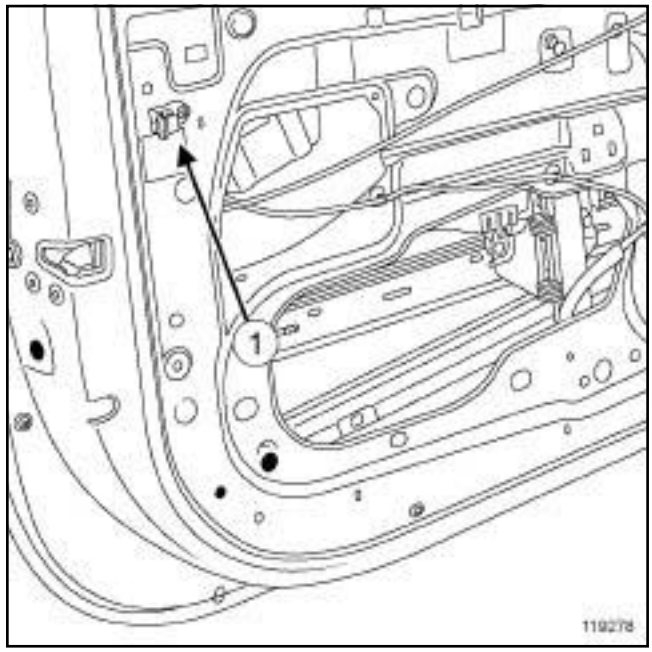
❑ The order of the operations described below applies specifically to replacing the door.

> Note:
>
> It is possible to carry out the stripping operations on the vehicle before removing the door.

STRIPPING OPERATION FOR PART CONCERNED

❑ Remove:

- the door mirror (see **Door mirror: Removal - Refitting**) (MR 412, 56A, Exterior equipment),
- the front side door trim (see **Front side door trim: Removal - Refitting**) (MR 412, 72A, Side opening element trim),
- the front side door exterior weatherstrip (see **Front side door exterior weatherstrip: Removal - Refitting**) (MR 412, 66A, Window sealing),
- the front side door interior weatherstrip.
- the front side door glass run channel (see **Front side door window run channel: Removal - Refitting**) (MR 412, 66A, Window sealing),
- the door sealing film (see **Door sealing film: Removal - Refitting**) (MR 412, 65A, Opening element sealing),
- the front side sliding door window (see **Front side door sliding window: Removal - Refitting**) (MR 412, 54A, Windows),
- the front side door electric window winder mechanism (see **Front side door electric window mechanism: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms) or the front side door manual window winder mechanism (see **Front side door manual window winder mechanism: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the exterior door handle (see **Exterior door handle: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side door lock barrel (see **Front side door lock barrel: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side door lock (see **Front side door lock: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side door check strap (see **Front side door check strap: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms).



119278

❑ Remove:

- the rivet (**1**) ,
- the front side door trim mounting bracket (**1**) ,
- the front door rubbing strip (see **Front side door protective strip: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the wiring harness.

REBUILDING

REBUILDING OPERATION FOR PART CONCERNED

❑ Refit:

- the wiring harness,
- the front door rubbing strip (see **Front side door protective strip: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front side door trim mounting bracket ***(1)*** ,
- the rivet ***(1)*** ,
- the front side door check strap (see **Front side door check strap: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side door lock (see **Front side door lock: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side door lock barrel (see **Front side door lock barrel: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),

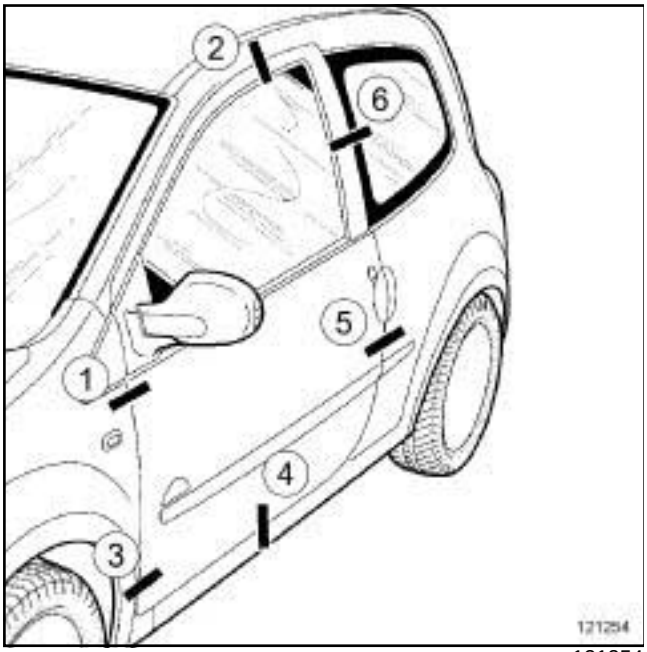
- the exterior door handle (see **Exterior door handle: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side door electric window winder mechanism (see **Front side door electric window mechanism: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms) or the front side door manual window winder mechanism (see **Front side door manual window winder mechanism: Removal - Refitting**) (MR 412, 51A, Side opening element mechanisms),
- the front side sliding door window (see **Front side door sliding window: Removal - Refitting**) (MR 412, 54A, Windows),
- the door sealing film (see **Door sealing film: Removal - Refitting**) (MR 412, 65A, Opening element sealing),
- the front side door glass run channel (see **Front side door window run channel: Removal - Refitting**) (MR 412, 66A, Window sealing),
- the front side door interior weatherstrip.
- the front side door exterior weatherstrip (see **Front side door exterior weatherstrip: Removal - Refitting**) (MR 412, 66A, Window sealing),
- the front side door trim (see **Front side door trim: Removal - Refitting**) (MR 412, 72A, Side opening element trim),
- the door mirror (see **Door mirror: Removal - Refitting**) (MR 412, 56A, Exterior equipment).

ADJUSTMENT

❑ For information on the front side door adjustment values (see **Vehicle panel gaps: Adjustment value**) (MR 412, 01C, Vehicle bodywork specifications).

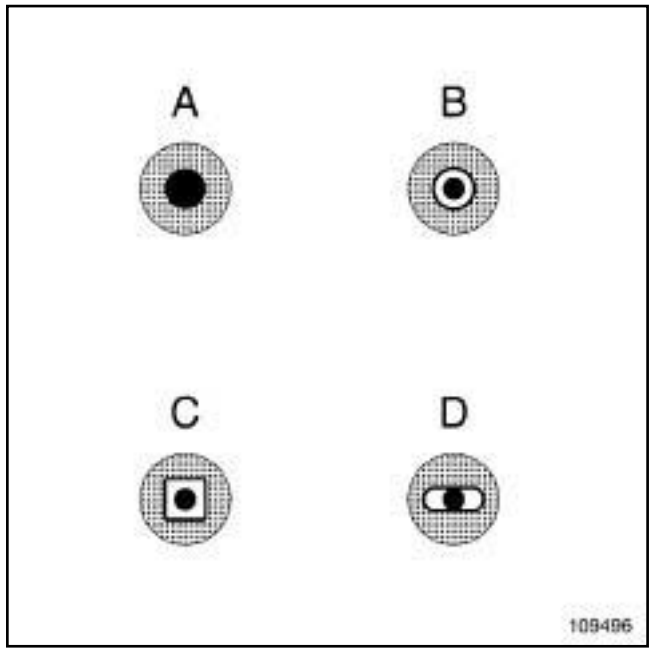
❑ There are two options for adjusting the door:

- by means of the mountings on the door box section (opening clearance adjustment),
- by means of the mountings on the A-pillar (adjusting the panel gaps) this operation requires the removal of the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) .



121254

❑ Observe the adjustment sequence.



109496

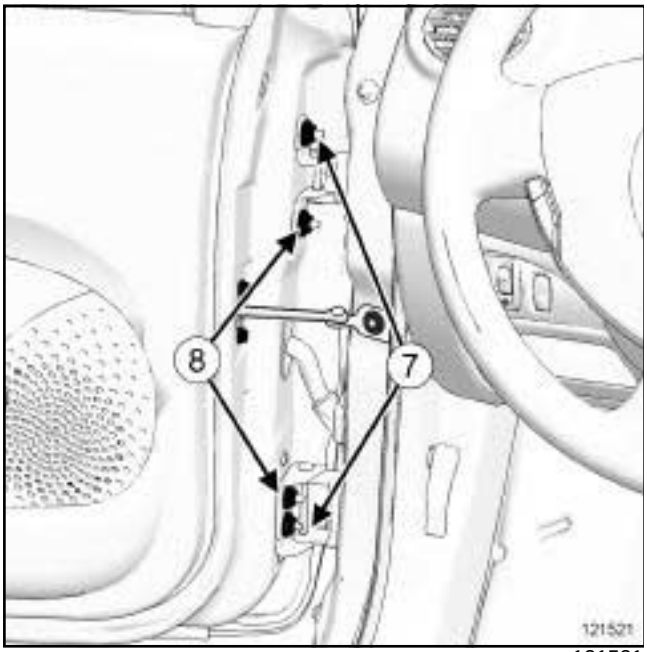
❑ Symbols A, B, C, and D show the adjustment options.

The black dot in the centre represents the body of the bolt.

The grey section represents the component to be adjusted.

The white section represents the adjustment area.

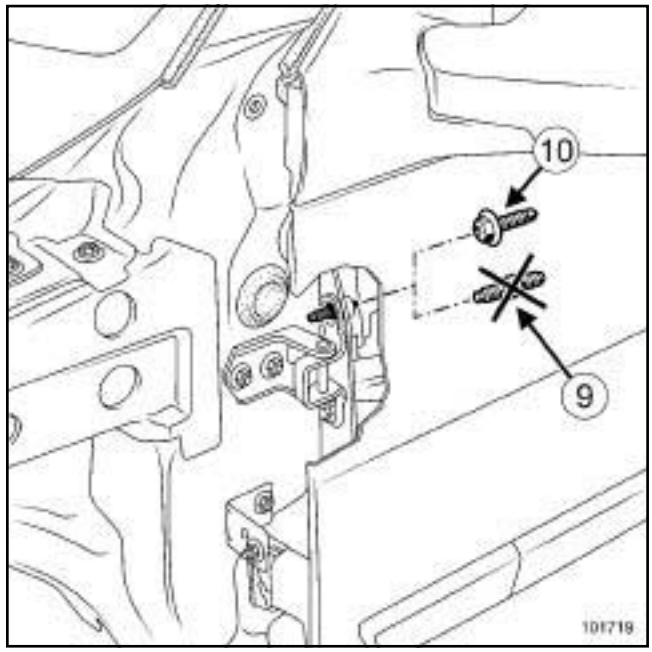
I - ADJUSTING THE FLUSH FITTING WITH THE FRONT WING



121521

❏ Remove the indexing bolts (**7**) .

❏ Undo the nuts (**8**) .



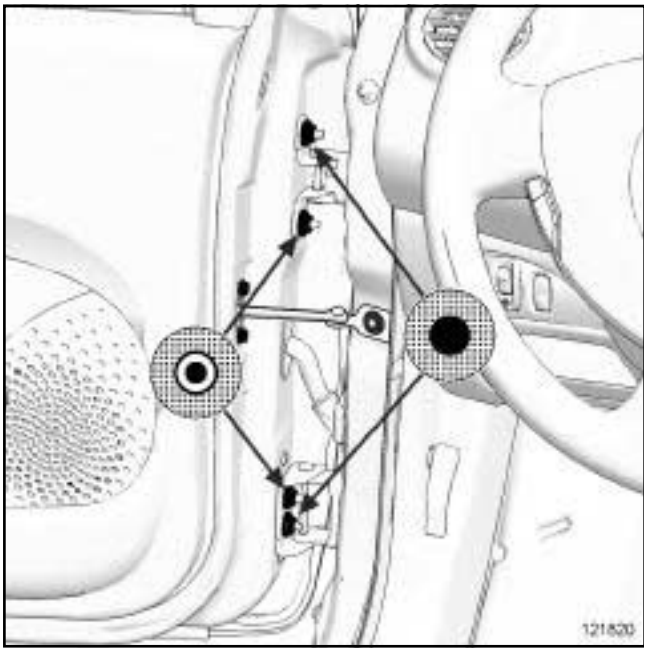
101719

❏ Replace the original indexing studs (**9**) with bolts (**10**) , available from the **Parts Department**, to enable flush fitting adjustment.

Note:

To increase the adjustment available, enlarge the holes on the original hinges.

After-Sales hinges are supplied with square slots.


121820

❏ Adjust the flush fitting with the front wing.

❏ Tighten the nuts ***(8)*** .

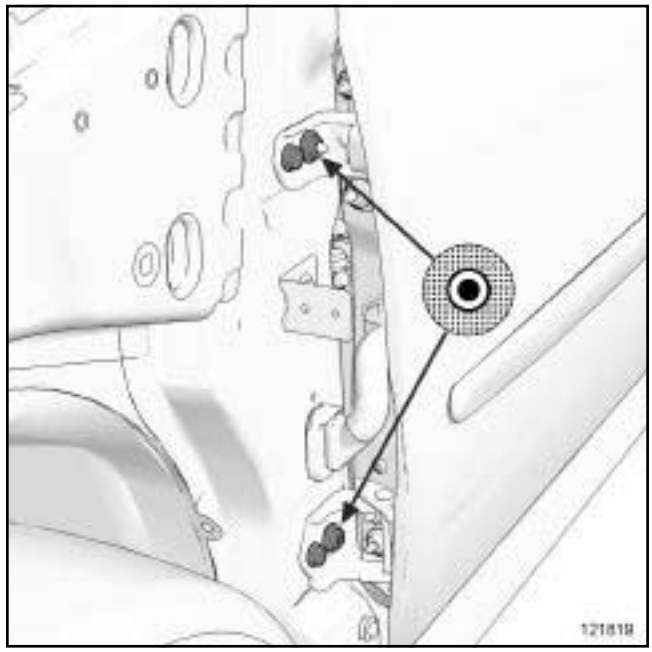
❏ Refit the nuts ***(7)*** .

II - ADJUSTING THE PANEL GAPS WITH THE REAR WING

121520

❏ Remove the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) .

❏ Undo the nuts (**11**) .


121819

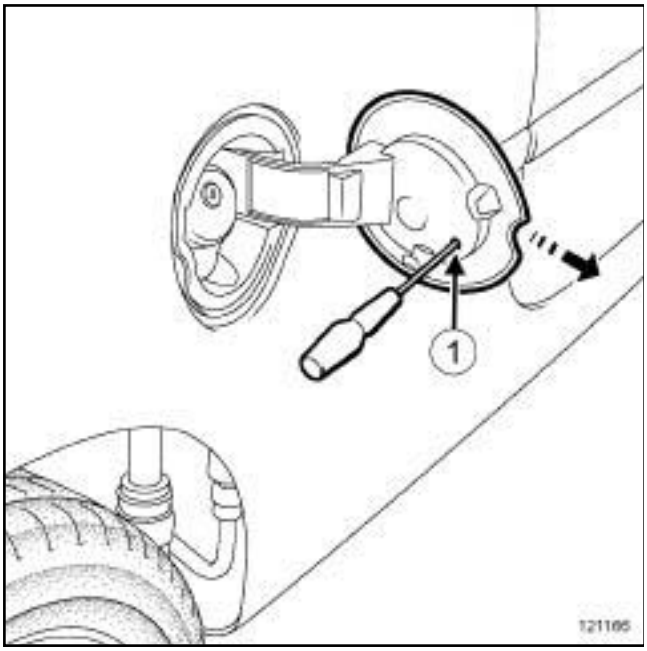
❏ Adjust the panel gaps with the rear wing.

❏ Tighten the nuts ***(11)*** .

❏ Refit the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) .

REMOVAL

OPERATION FOR REMOVAL OF PART CONCERNED



121166

❏ Press (**1**) using a thin screwdriver.

❏ Detach the fuel tank flap cover.

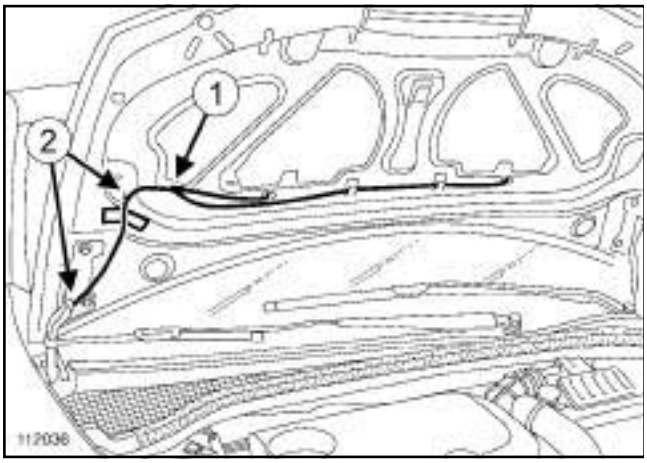
REFITTING

REFITTING OPERATION FOR PART CONCERNED

❏ Attach the fuel tank flap cover.

I - REMOVAL BY MEANS OF THE BONNET BOLTS

1 - REMOVAL PREPARATION OPERATION

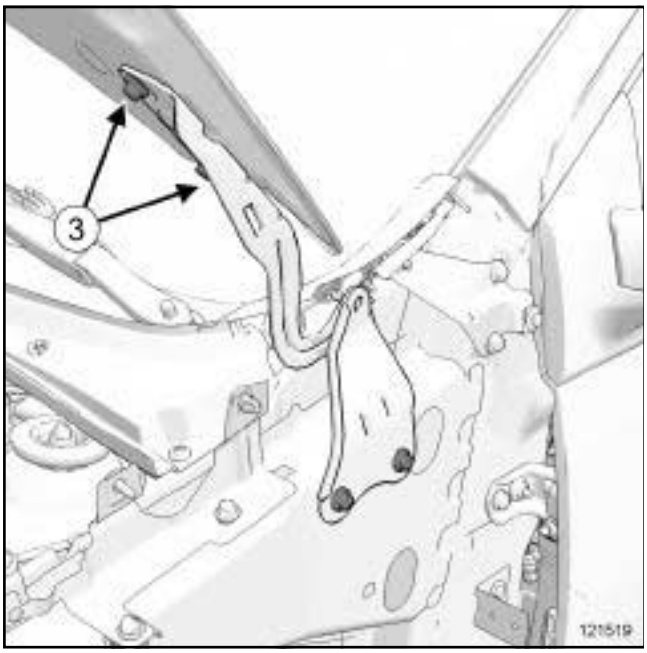


112036

❏ Disconnect the pipe (**1**) .

❏ Unclip the pipe at (**2**) .

2 - OPERATION FOR REMOVAL OF PART CONCERNED



121519

❏ Remove:

- the bolts (**3**) ,
- the bonnet.

II - REFITTING BY MEANS OF THE BONNET BOLTS

1 - OPERATION FOR REFITTING PART CONCERNED

❏ Refit:

- the bonnet,
- the bolts ***(3)*** .

❏ Adjust the opening clearances and flush fitting (see **48A**, **Non-side opening elements**, **Bonnet: Adjustment**, page **48A-4**) .

2 - FINAL OPERATION

❏ Clip on the pipe at ***(2)*** .

❏ Connect the pipe at ***(1)*** .

III - REMOVAL BY MEANS OF THE BONNET HINGE BOLTS

1 - REMOVAL PREPARATION OPERATION

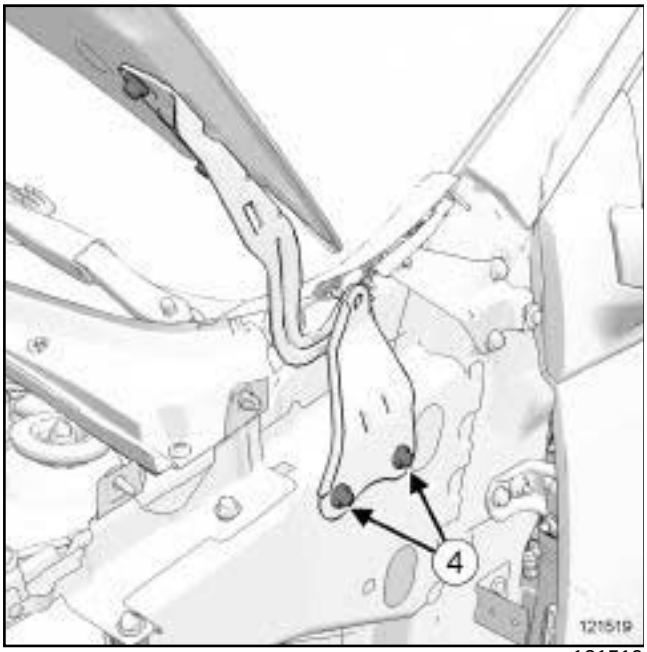
❏ Remove:

- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the halogen headlights (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) ,

❏ Disconnect the pipe at ***(1)*** .

❏ Unclip the pipe at ***(2)*** .

2 - OPERATION FOR REMOVAL OF PART CONCERNED



121519

❏ Remove:

- the bolts (**4**) ,
- the bonnet.

IV - REFITTING BY MEANS OF THE BONNET HINGE BOLTS

1 - OPERATION FOR REFITTING PART CONCERNED

❏ Refit:

- the bonnet,
- the bolts ***(4)*** .

❏ Adjust the opening clearances and flush fitting (see **48A**, **Non-side opening elements**, **Bonnet: Removal - Refitting**, page **48A-1**) .

2 - FINAL OPERATION

❏ Clip on the pipe at ***(2)*** .

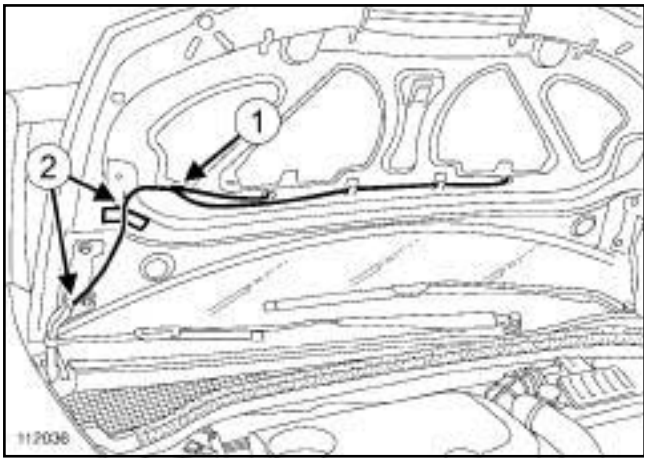
❏ Connect the pipe at ***(1)*** .

❏ Refit:

- the front wing (see **42A**, **Front upper structure**, **Front wing: Removal - Refitting**, page **42A-3**) ,
- the halogen headlights (see **Halogen headlight: Removal - Refitting**) (MR 411, 80B, Headlights),
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 412, 55A, Exterior protection),
- the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).

STRIPPING

STRIPPING OPERATION FOR PART CONCERNED



112036

❏ Disconnect the pipe at (**1**) .

❏ Unclip:

- the pipe at (**2**) ,
- the jets.

❏ Remove the different blanking covers from the bonnet.

REBUILDING

REBUILDING OPERATION FOR PART CONCERNED

❏ Refit the different blanking covers on the bonnet.

❏ Clip:

- the jets,
- the pipe at ***(2)*** .

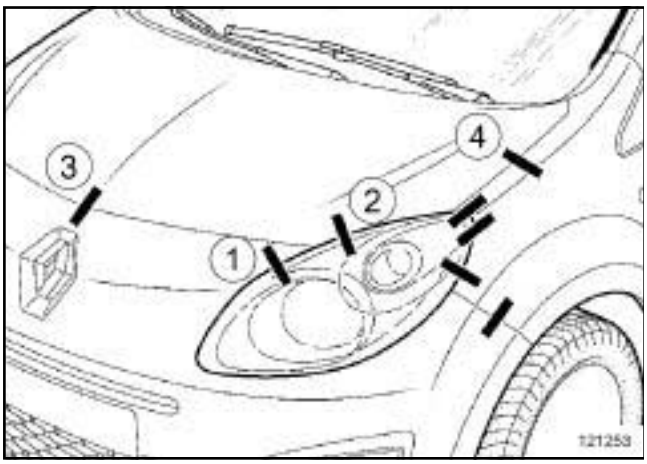
❏ Connect the pipe at (**1**) .

ADJUSTMENT

❑ For information on the adjustment values for the bonnet (see **Vehicle panel gaps: Adjustment value**) (MR 412, 01C, Vehicle bodywork specifications).

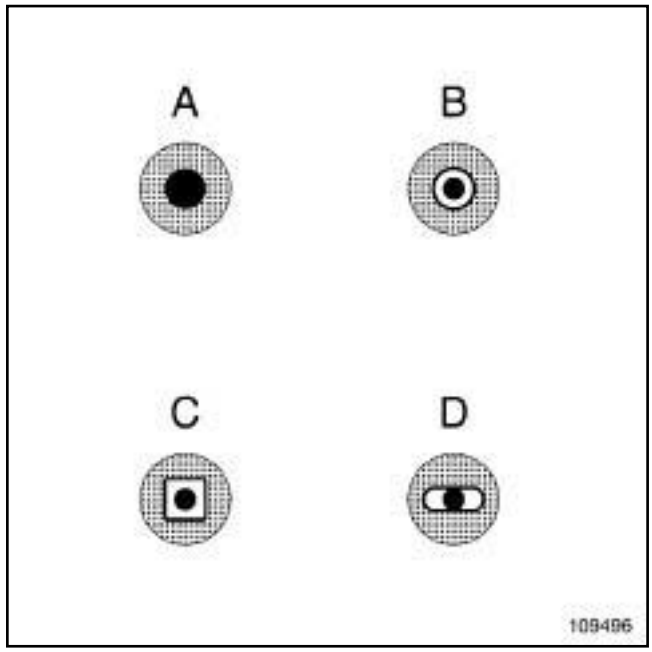
❑ There are two options for adjusting the bonnet:

- using the bonnet bolts,
- using the bonnet hinge bolts. This operation requires the removal of the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).



121253

❑ Observe the adjustment sequence.



109496

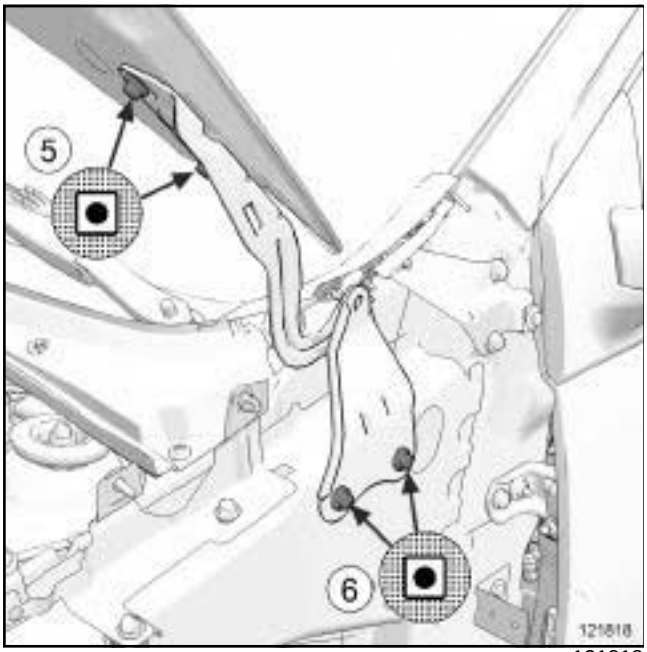
❑ Symbols A, B, C and D show the adjustment options.

The black dot in the centre represents the body of the bolt.

The grey section represents the component to be adjusted.

The white section represents the adjustment area.

I - ADJUSTMENT BY MEANS OF THE BONNET BOLTS



121818

- ❏ Loosen the bolts (**5**) .
- ❏ Adjust the bonnet panel gaps.
- ❏ Tighten the bolts (**5**) .

II - ADJUSTMENT BY MEANS OF THE BONNET HINGE BOLTS

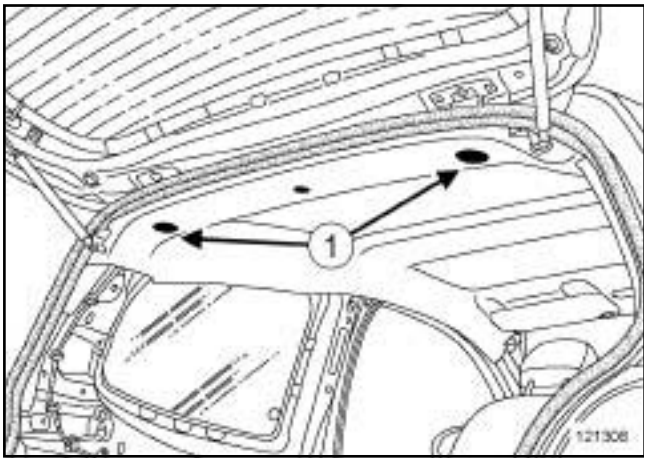
- ❏ Remove the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).
- ❏ Loosen the bolts ***(6)*** .
- ❏ Adjust the bonnet flush fitting.
- ❏ Tighten the bolts ***(6)*** .
- ❏ Refit the front wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 412, 55A, Exterior protection).

REMOVAL

I - REMOVAL PREPARATION OPERATION

❑ Remove:

- the tailgate trim (see **Tailgate trim: Removal - Refitting**) (MR 412, 73A, Non-side opening elements trim),
- the high level brake light (see **3rd brake light: Removal - Refitting**) (MR 411, 81A, Rear lighting).



121306

❑ Remove the blanking covers (**1**) .

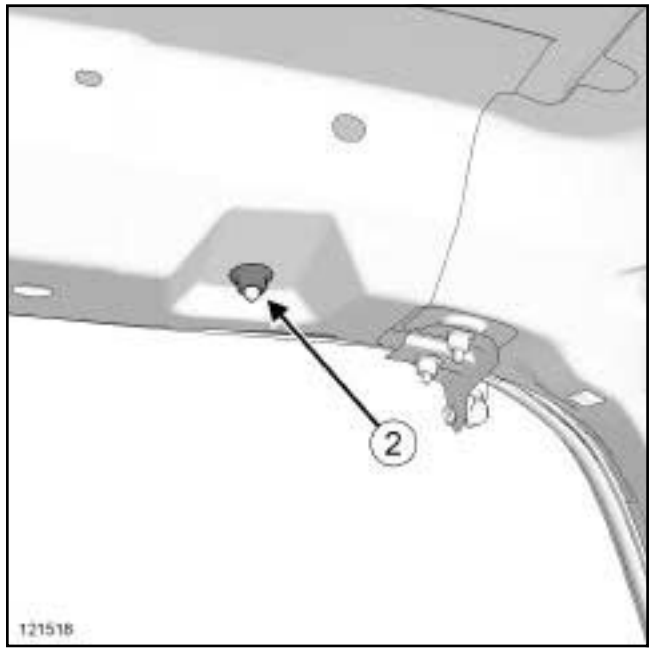
❑ Disconnect the connectors:

- the rear screen wiper motor,
- the tailgate lock,
- the tailgate exterior door handle,
- the heated rear screen.

❑ Remove:

- the tailgate electrical supply harness,
- the tailgate washer jet tube,
- the tailgate gas struts (see **Tailgate strut: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms).

II - OPERATION FOR REMOVAL OF PART CONCERNED



121518

❑ Remove:

- the nuts (**2**) ,
- the tailgate.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- the tailgate,
- the nuts (**2**) .

II - FINAL OPERATION.

❑ Refit:

- the tailgate gas strut (see **Tailgate strut: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the tailgate washer jet tube,
- the tailgate electrical supply harness,

❑ Connect the connectors:

- the heated rear screen,
- the tailgate exterior door handle,
- the tailgate lock,
- the rear screen wiper motor,

❑ Refit:

- the blanking covers ***(1)*** ,
- the high level brake light (see **3rd brake light: Removal - Refitting**) (MR 411, 81A, Rear lighting),
- the tailgate trim (see **Tailgate trim: Removal - Refitting**) (MR 412, 73A, Non-side opening elements trim).

STRIPPING

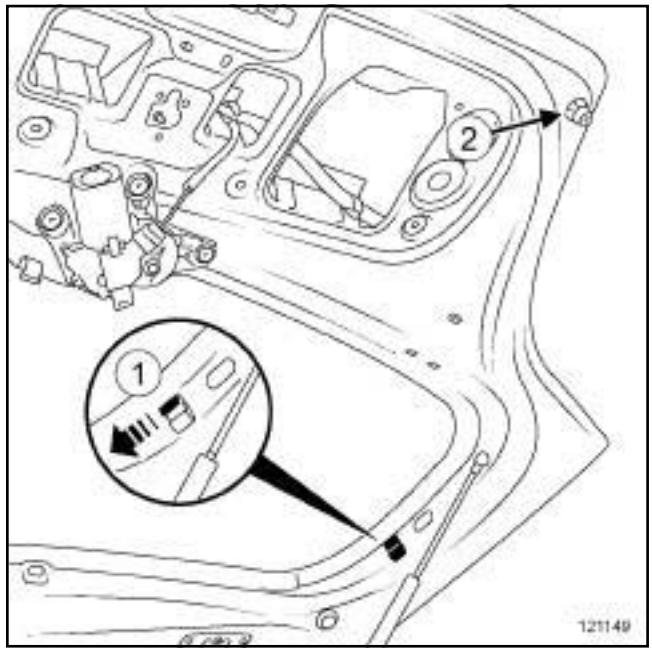
❑ Described below is a special sequence of operations for tailgate replacement.

> Note:
>
> It is possible to carry out the trim removal operations on the vehicle before removing the tailgate.

STRIPPING OPERATION FOR PART CONCERNED

❑ Remove:

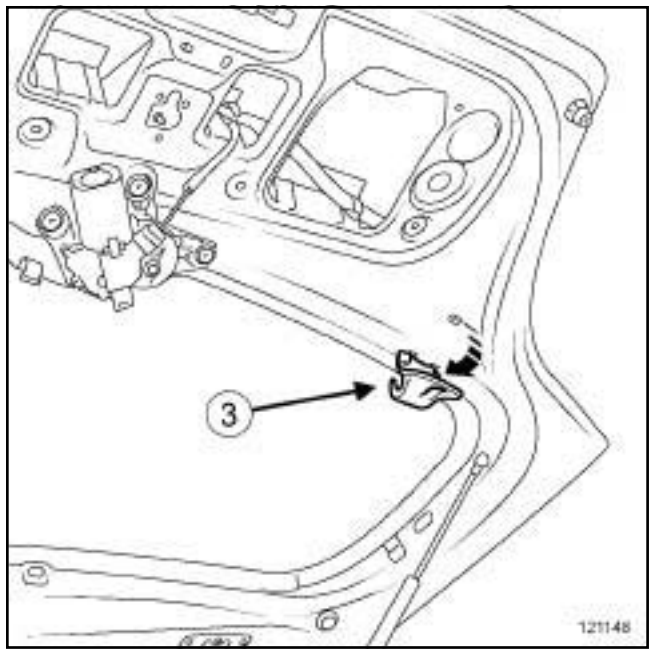
- the rear screen wiper arm (see **Rear screen wiper arm: Removal - Refitting**) (MR 411, 85A, Washing - Wiping),
- the tailgate trim (see **Tailgate trim: Removal - Refitting**) (MR 412, 73A, Non-side opening elements trim),
- the rear screen wiper motor (see **Rear screen wiper motor: Removal - Refitting**) (MR 411, 85A, Washing - wiping),
- the tailgate lock (see **Tailgate lock: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the tailgate exterior door handle (see **Tailgate exterior opening control: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the high level brake light (see **3rd brake light: Removal - Refitting**) (MR 411, 81A, Rear lighting),
- the rear screen (see **Rear screen: Removal - Refitting**) (MR 412, 54A, Windows),
- the wiring harness,
- the different tailgate blanking covers,
- the tailgate washer jet tube.



121149

❑ Remove:

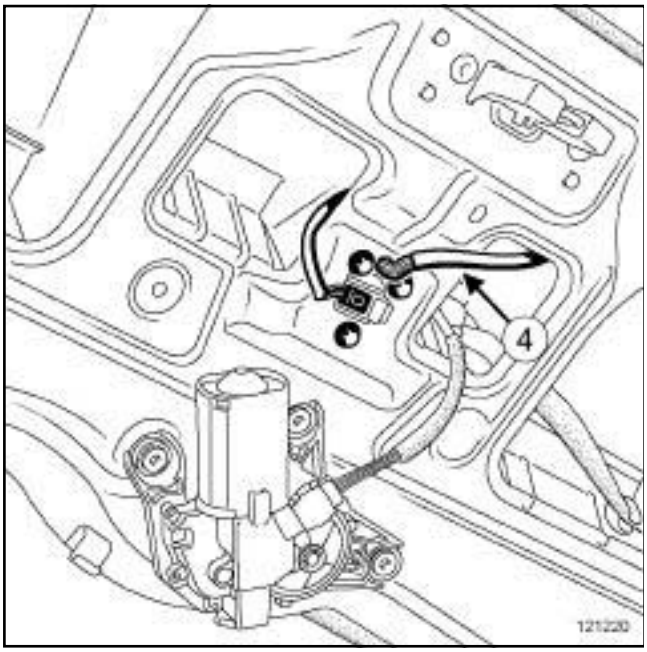
- the rear parcel shelf mounting hook (**1**) ,
- the closing end stop (**2**) .



121148

❑ Remove (depending on equipment level):

- the rear parcel shelf hinge hook (**3**) ,
- the rear parcel shelf stop.



121220

❑ Remove the hose (**4**) .

REBUILDING

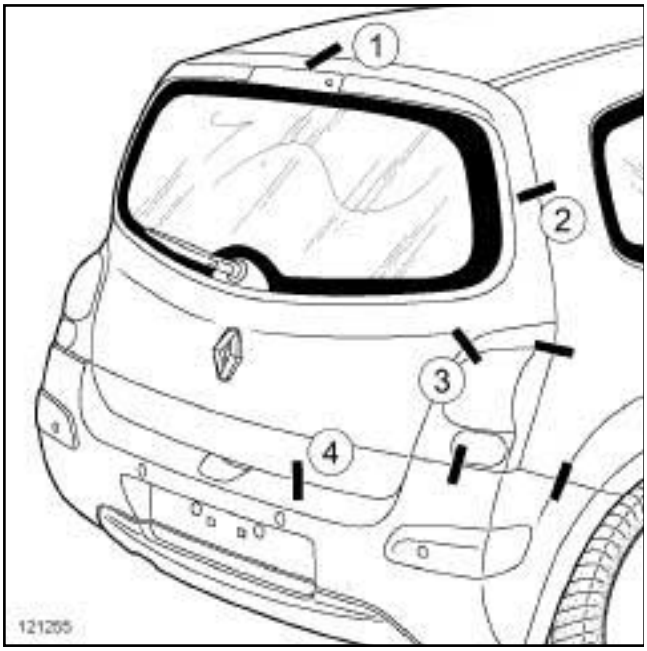
REBUILDING OPERATION FOR PART CONCERNED

❑ Refit:

- the pipe ***(4)*** ,
- the rear parcel shelf stop (depending on equipment level),
- the rear parcel shelf hinge hook ***(3)*** (depending on equipment level),
- the closing end stop ***(2)*** ,
- the rear parcel shelf mounting hook ***(1)*** ,
- the different tailgate blanking covers,
- the wiring harness,
- the tailgate washer jet tube,
- the rear screen (see **Rear screen: Removal - Refitting**) (MR 412, 54A, Windows),
- the high level brake light (see **3rd brake light: Removal - Refitting**) (MR 411, 81A, Rear lighting),
- the tailgate exterior door handle (see **Tailgate exterior opening control: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the tailgate lock (see **Tailgate lock: Removal - Refitting**) (MR 412, 52A, Non-side opening element mechanisms),
- the rear screen wiper motor (see **Rear screen wiper motor: Removal - Refitting**) (MR 411, 85A, Washing - wiping),
- the tailgate trim (see **Tailgate trim: Removal - Refitting**) (MR 412, 73A, Non-side opening elements trim),
- the rear screen wiper arm (see **Rear screen wiper arm: Removal - Refitting**) (MR 411, 85A, Washing - wiping).

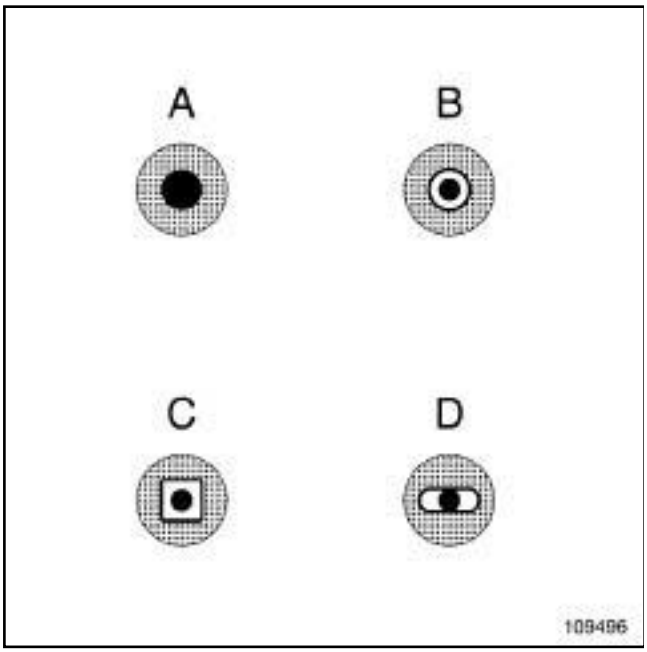
ADJUSTMENT

❑ For information on the adjustment values for the tailgate (see **Vehicle panel gaps: Adjustment value**) (MR 412, 01C, Vehicle bodywork specifications).



121255

❑ Observe the adjustment sequence.



109496

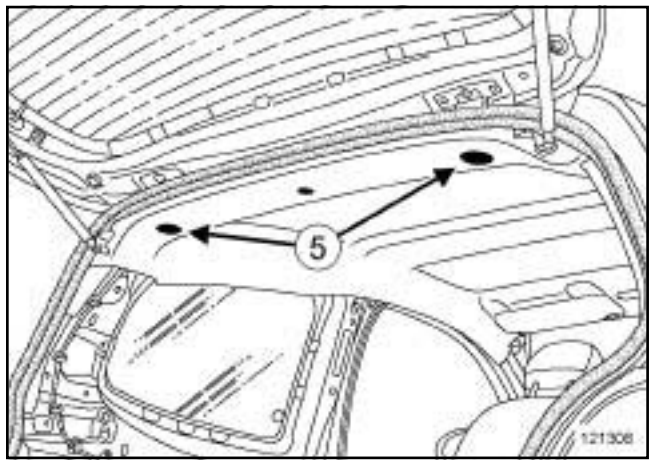
❑ Symbols A, B, C and D show the adjustment options.

The black dot in the centre represents the body of the bolt.

The grey section represents the component to be adjusted.

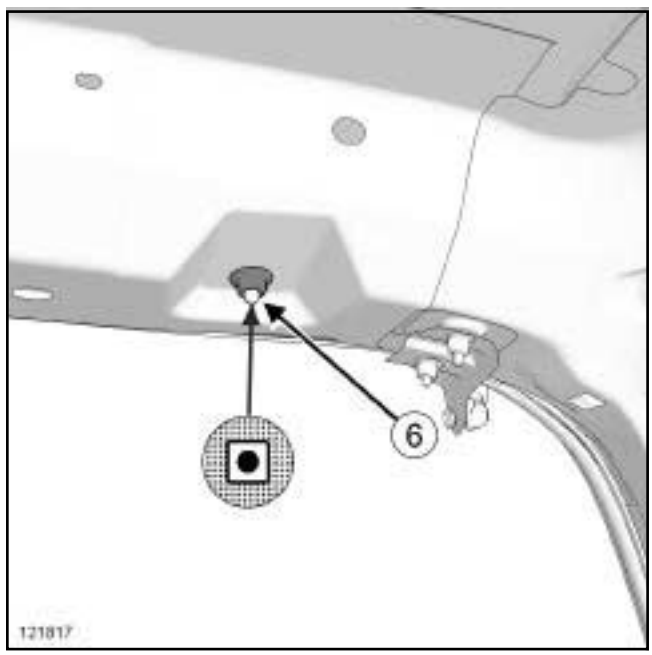
The white section represents the adjustment area.

ADJUSTMENT USING THE HINGE NUTS



121306

❑ Remove the blanking covers (**5**) .



121817

❑ Undo the nuts (**6**) .

❑ Adjust the panel gaps and flush fittings on the tailgate.

❑ Tighten the nuts ***(6)*** .

❑ Refit the blanking covers ***(5)*** .