3 WELDED PANEL REPLACEMENT

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CENTER PILLAR 3-12
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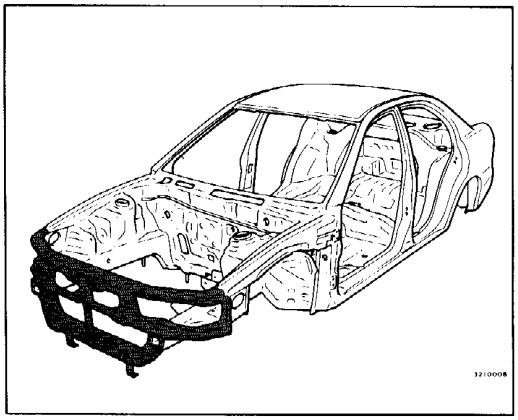
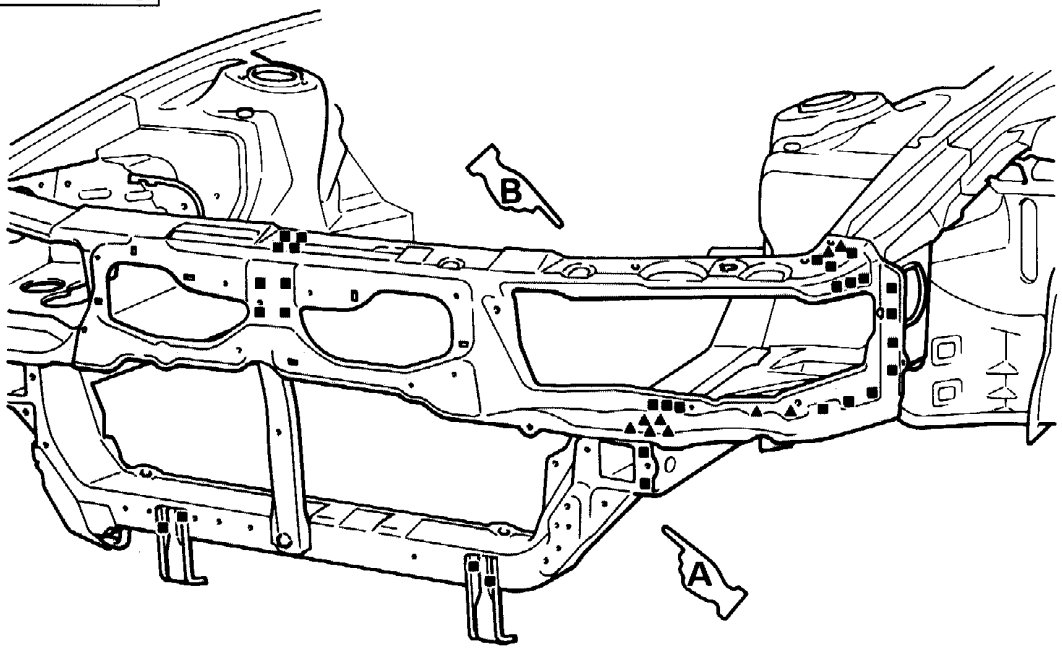
NOTES

HEADLAMP SUPPORT



Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS



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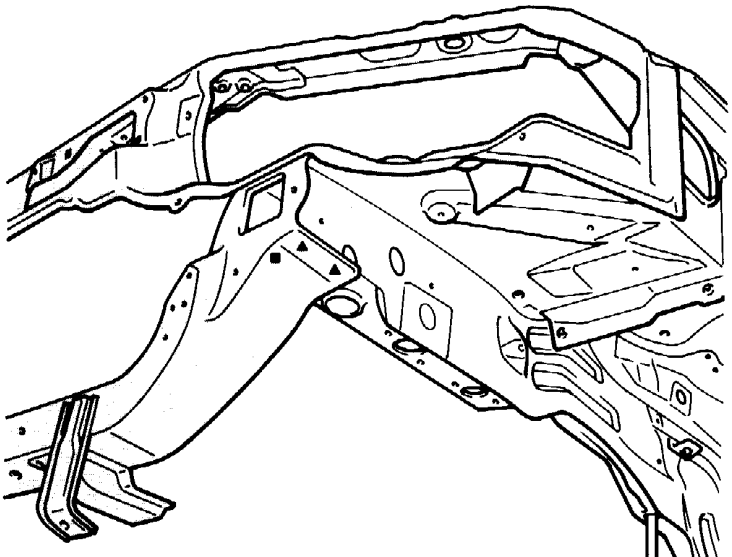

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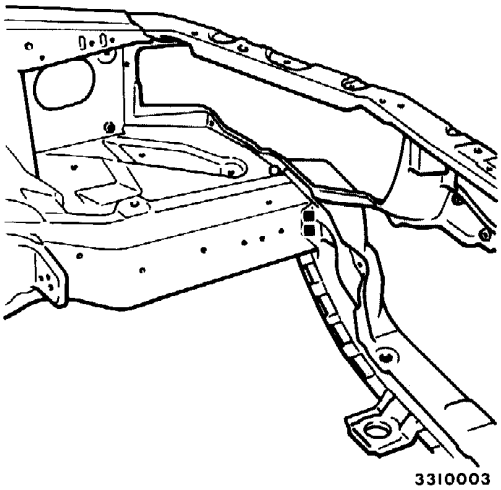

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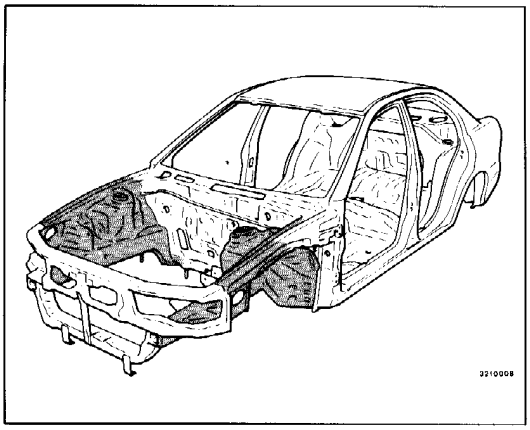
B

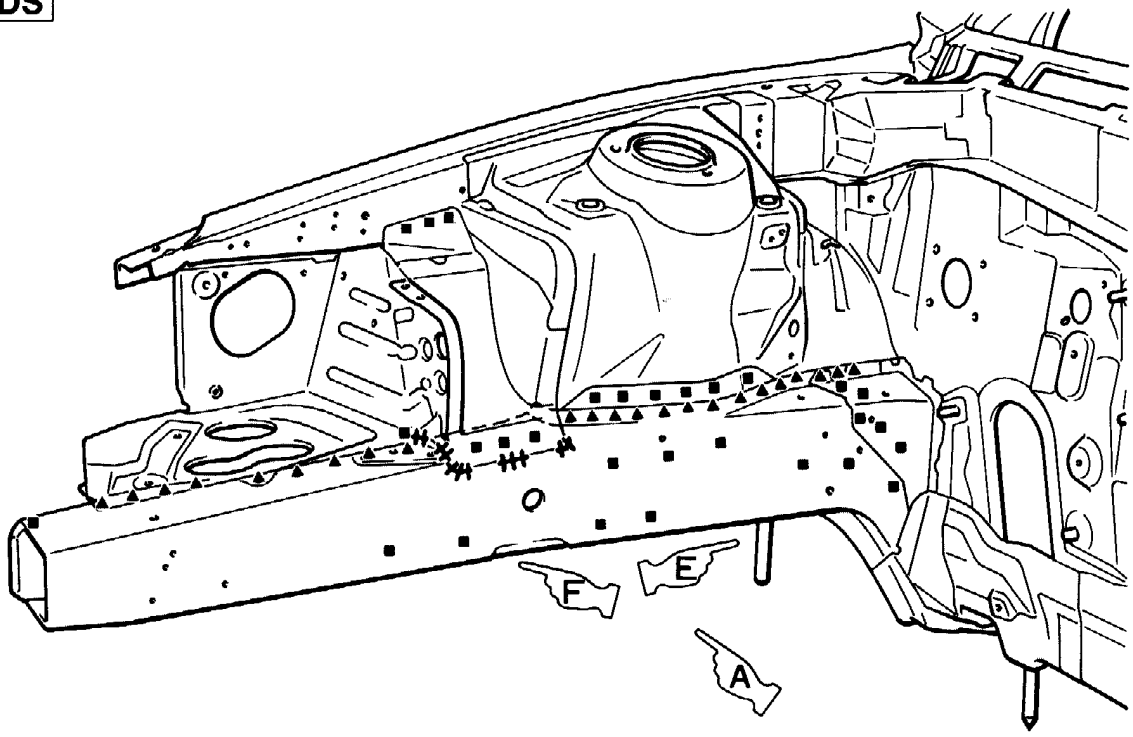
3

FENDER SHIELD



Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
|||||||||||	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS



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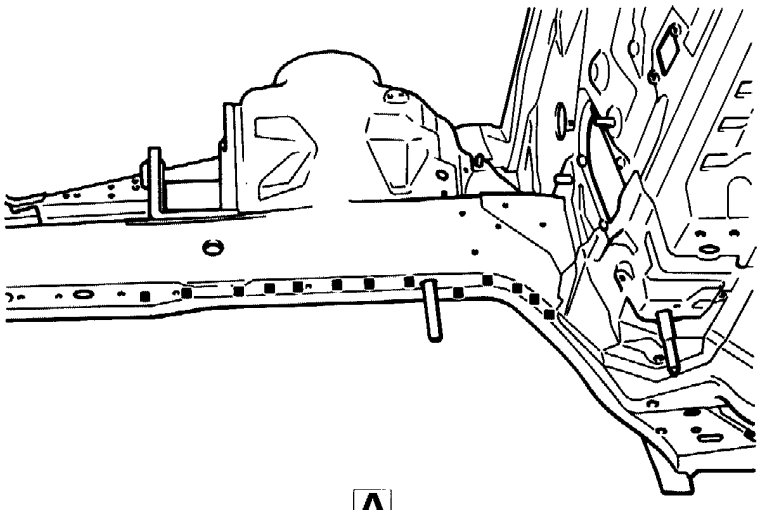

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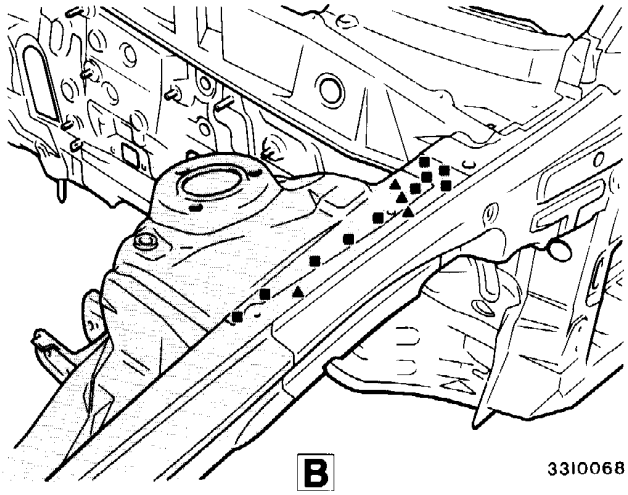
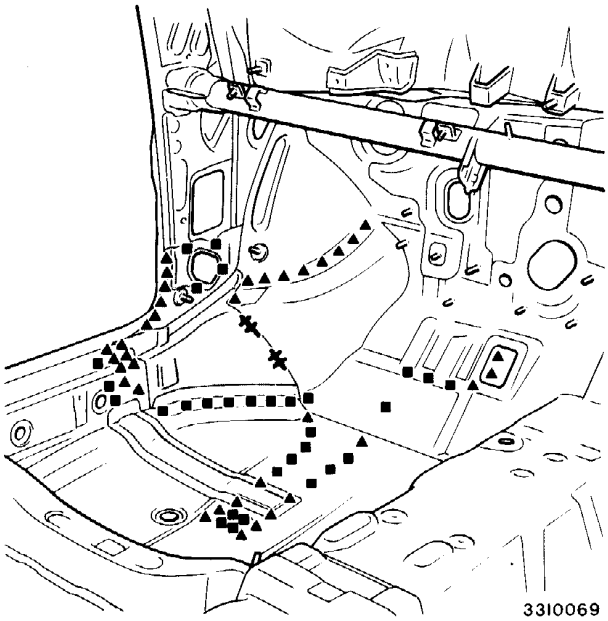
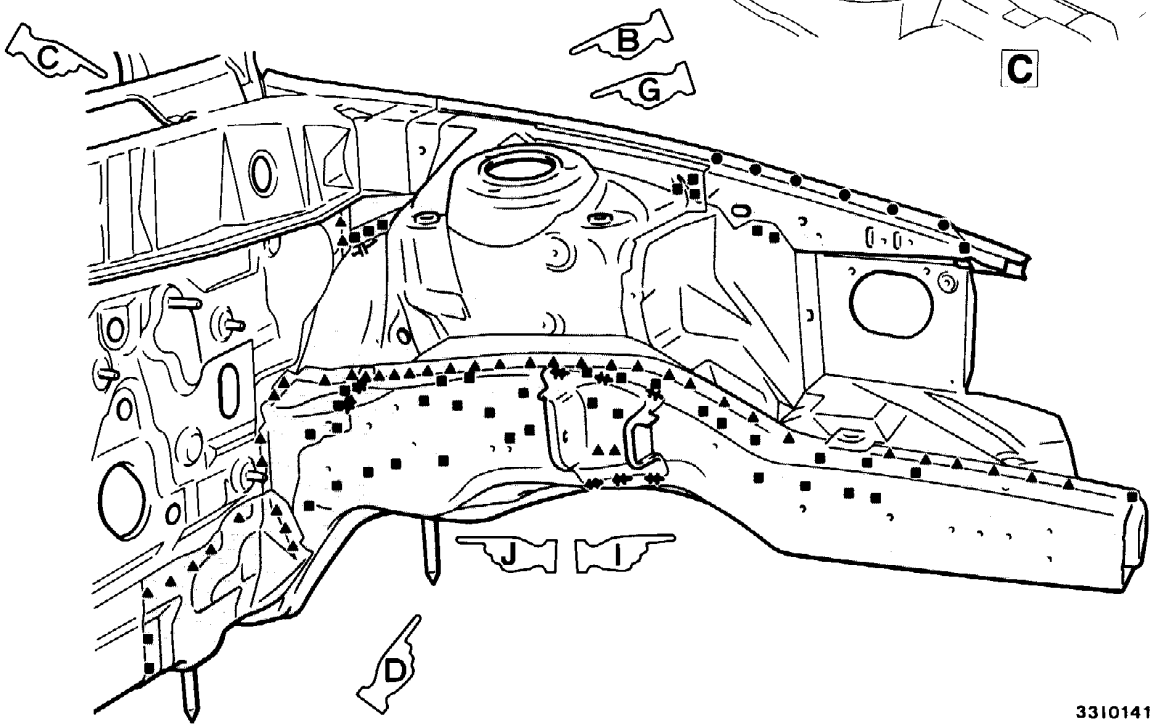
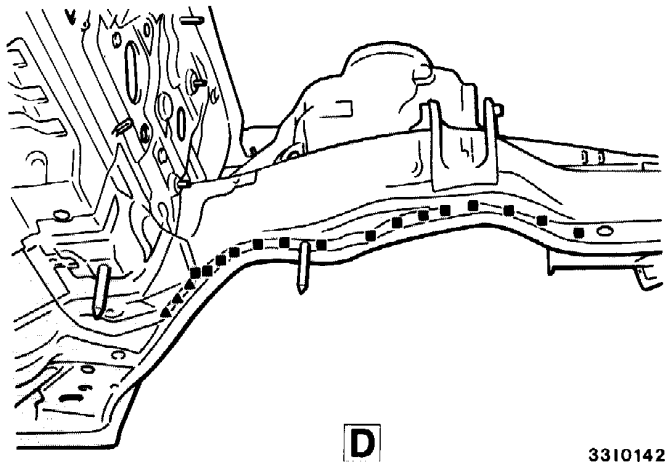
NOTE:
For weld points with the headlamp support, refer to P.3-3 – Headlamp Support.









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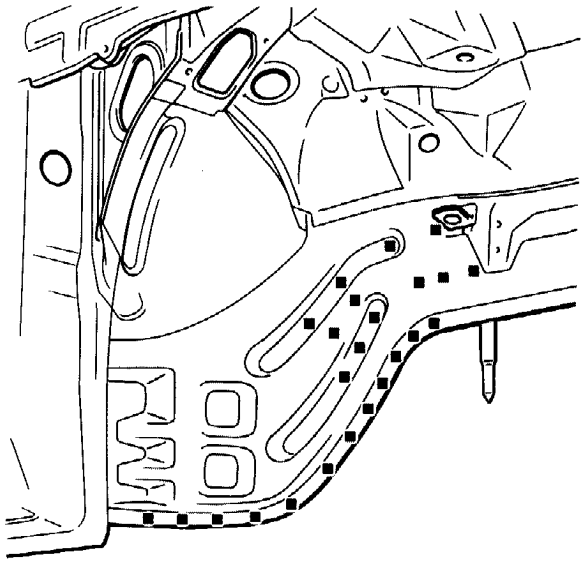

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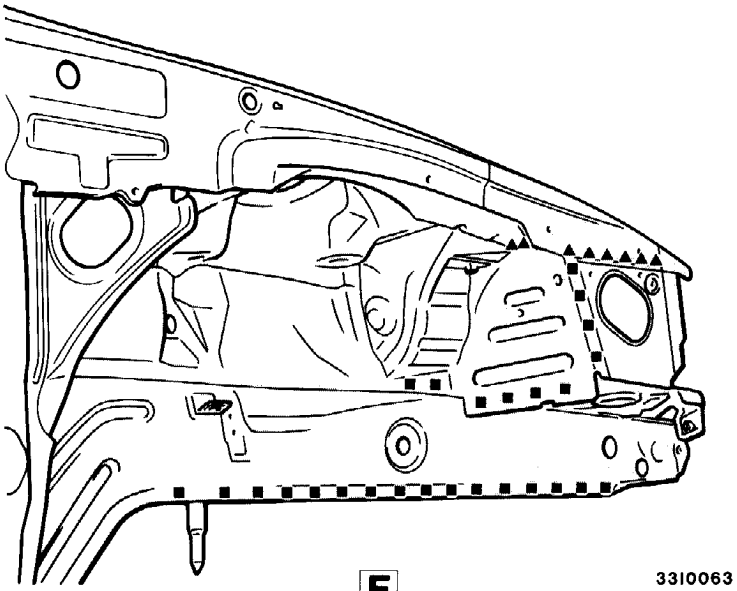
3310062



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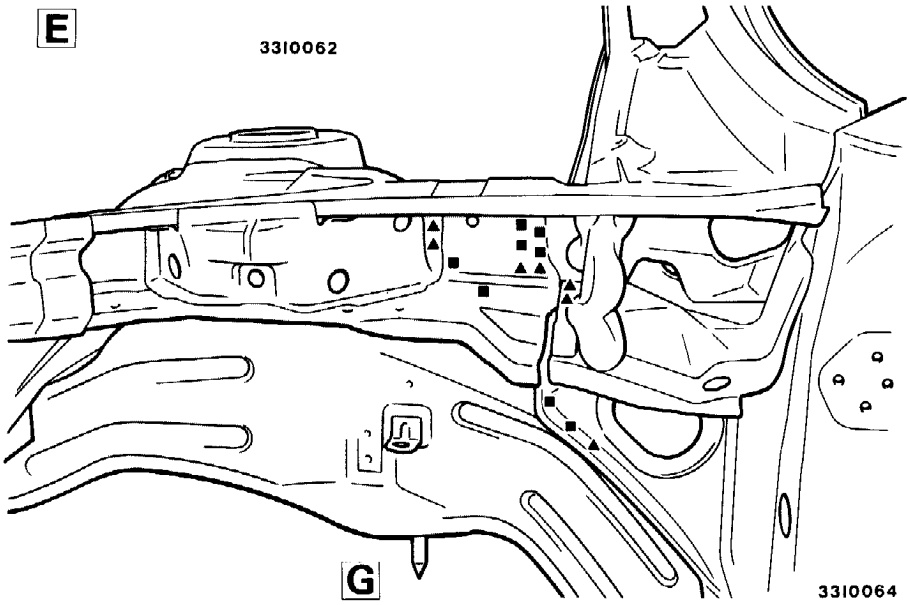

G

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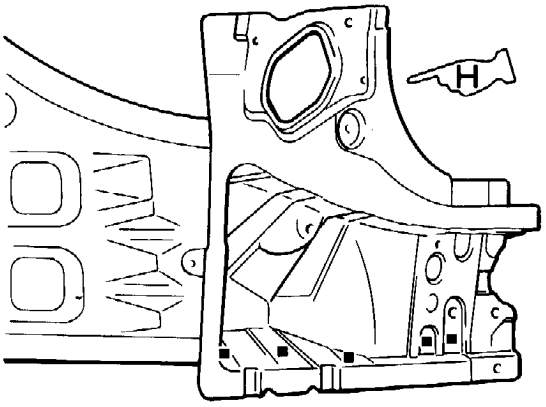
(View with the front upper frame extension outer panel removed)



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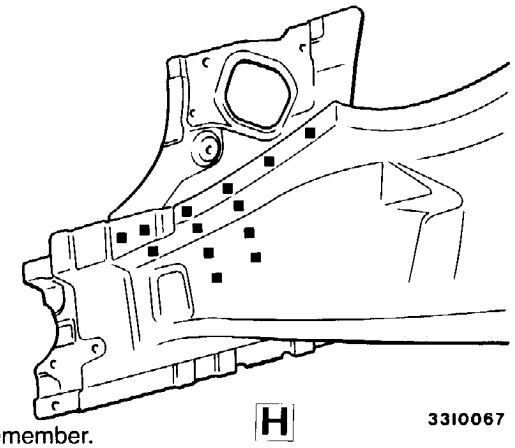
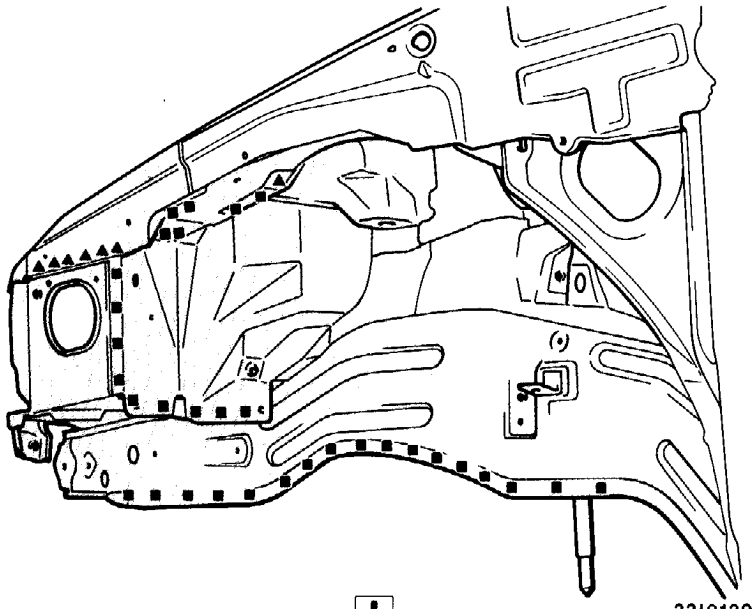


H

3310067

Indicates weld points between the front floor side sill, inner, front and the sidemember.

NOTE:
For weld points with the front upper frame extension, refer to P.3-8 – Front Pillar.



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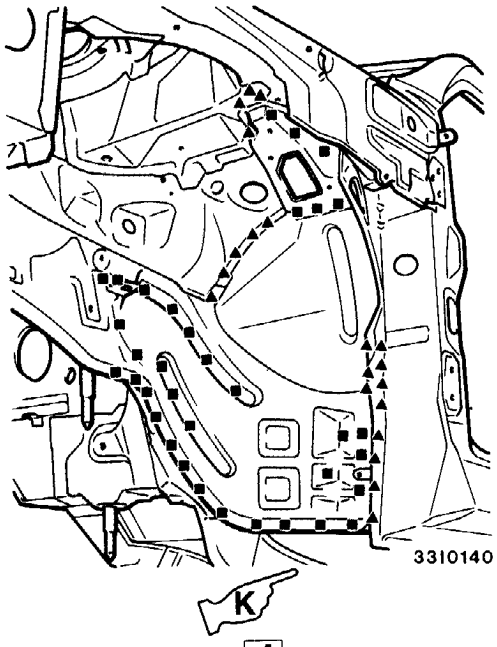

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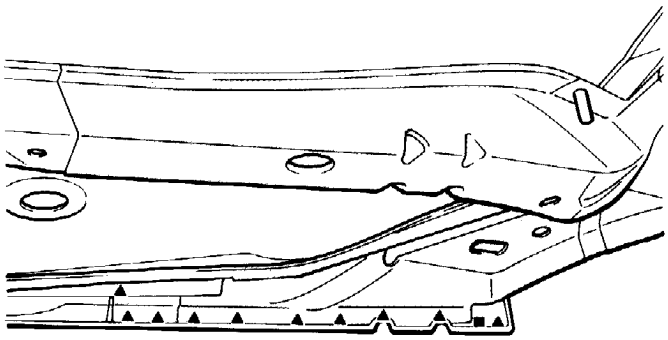

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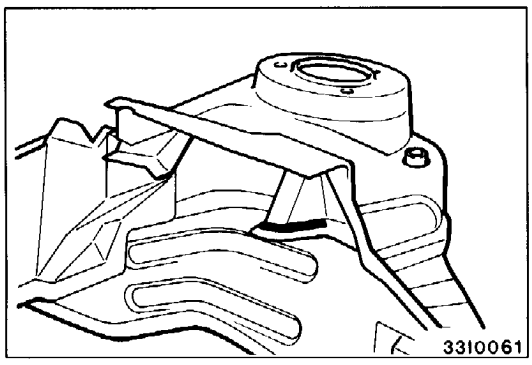


NOTES WITH REGARD TO REPAIR WORK

INSTALLATION

When installing the front upper frame, inner, apply sealant to the spring housing panel in the places shown in the illustration.

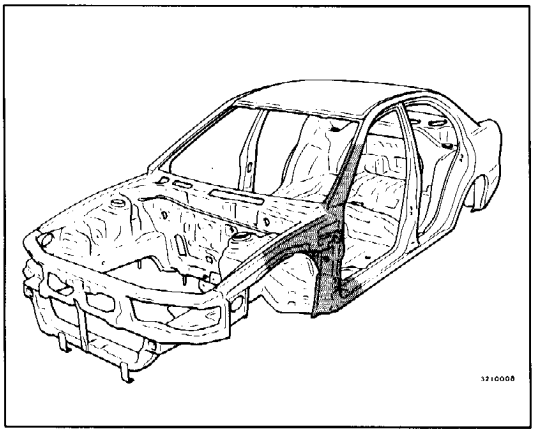
■ : Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420

Caution

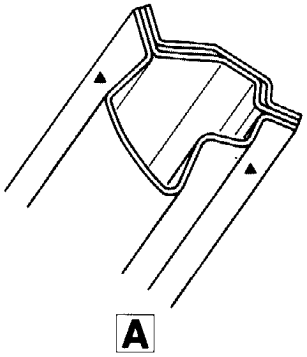
Do not apply the sealant in the welding locations, as the sealant could ignite during welding.

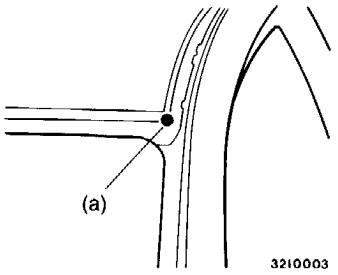
FRONT PILLAR

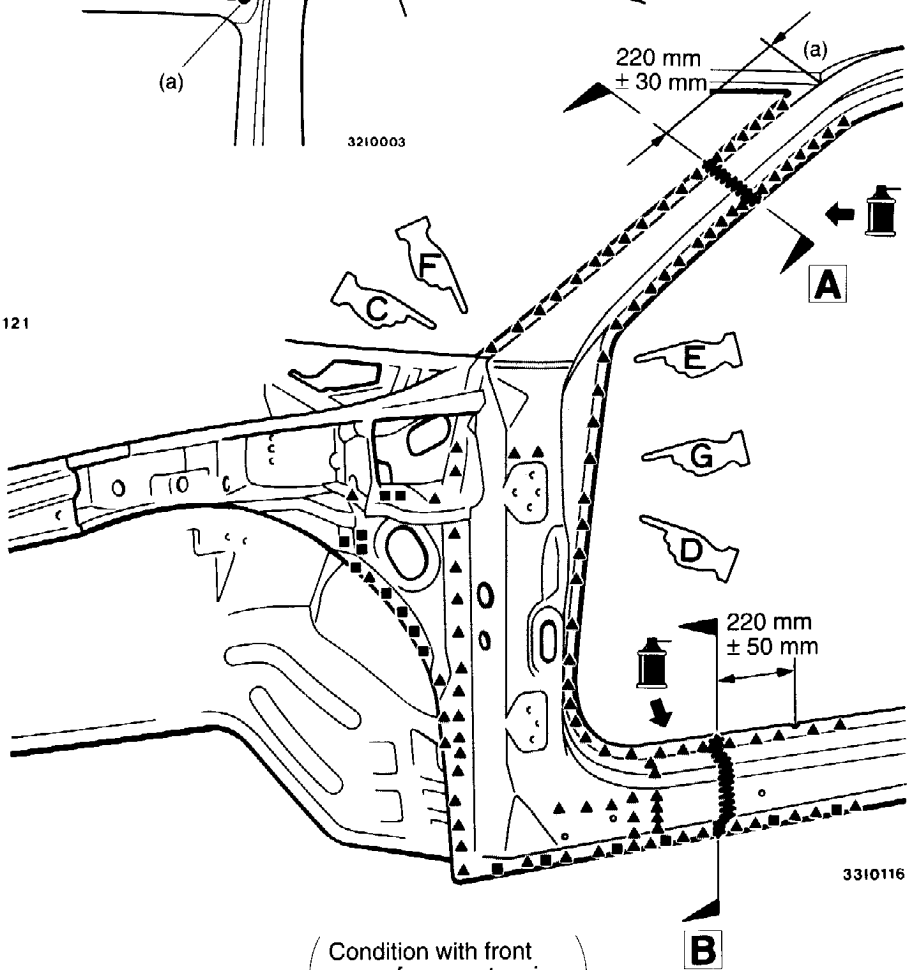


Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
ooooooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS

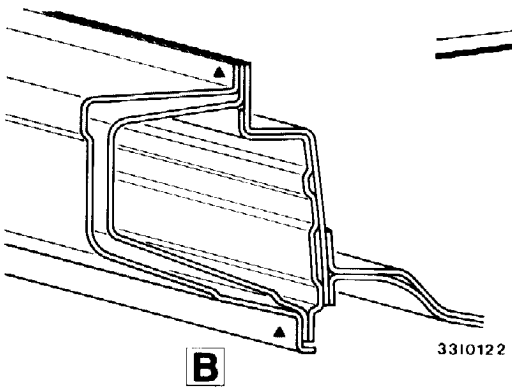






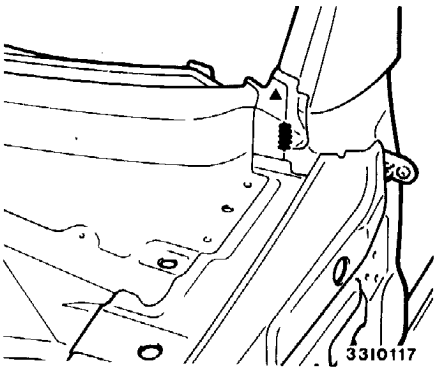
3310121

Condition with front upper frame extension, outer removed

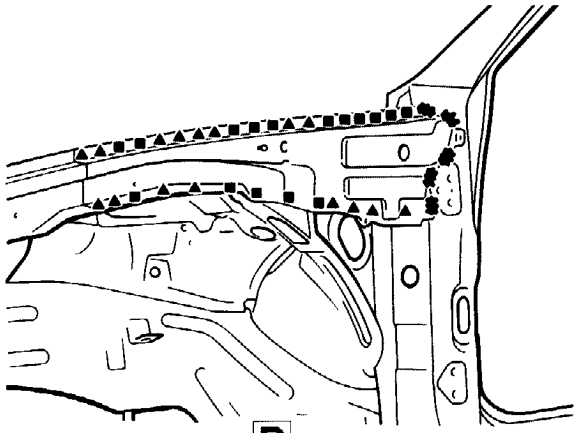


3310122

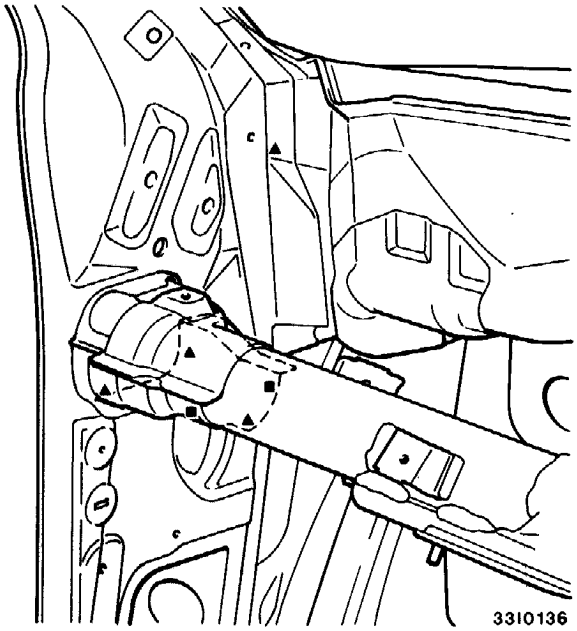
Caution
Use equipment (such as a pneumatic saw) which does not produce heat when repairing locations where foaming agent is used, otherwise the foaming agent may ignite.



C



D



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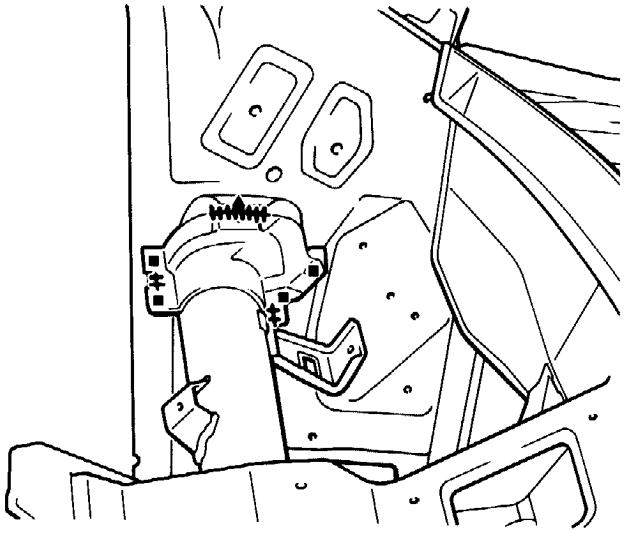

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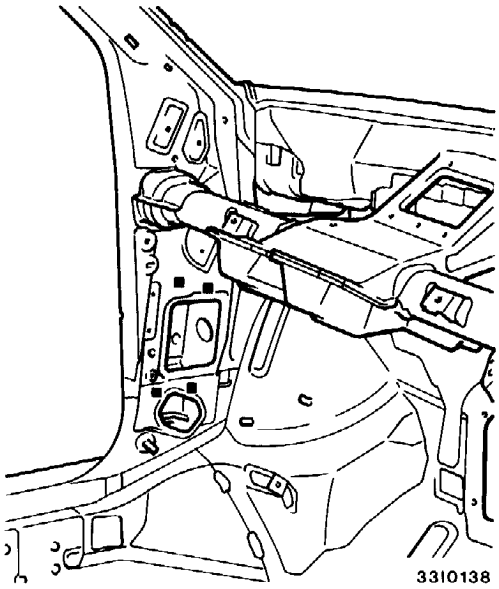

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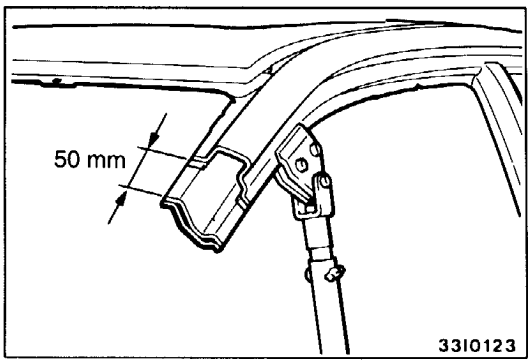
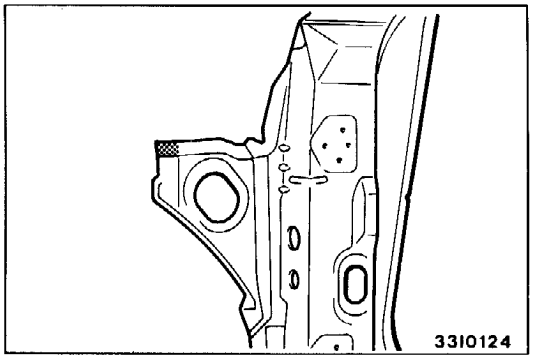


NOTES WITH REGARD TO REPAIR WORK

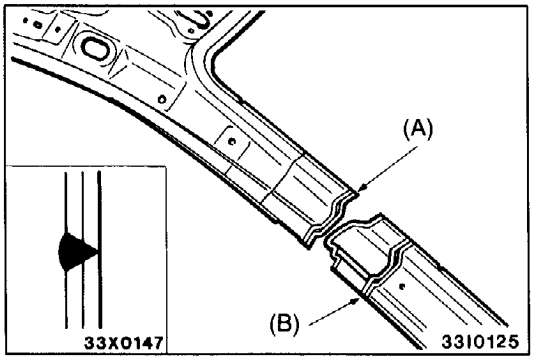
INSTALLATION

(1) When cutting the front pillar, move the cutting position up by 50 mm for both the outer side and the inner side in order to maintain strength.
(2) Join the new front pillar, outer and front pillar, inner into an assembly before installing them to the body.

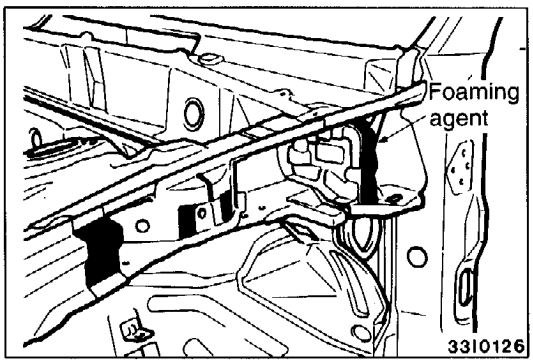


(3) Apply body sealant in the place shown in the illustration when installing the front pillar assembly to the body.

▒ : Body sealant



(4) When butt-welding the new front pillar inner and front pillar reinforcement, inner to the vehicle body, grind the panel cuts indicated by (A) and (B) in the illustration into a V shape in order to make it easier to weld two panels together simultaneously.



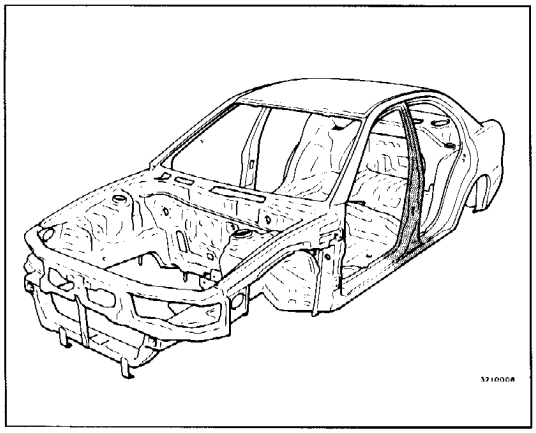
(5) When installing the front upper frame extension, outer, apply adhesive to the panel and the foaming agent in the places shown in the illustration.

■ : Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420

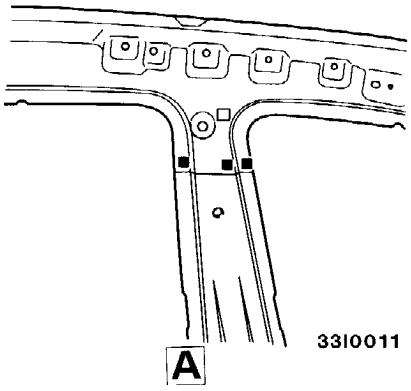
NOTES

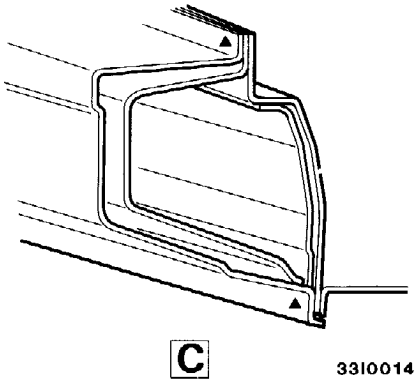
CENTER PILLAR

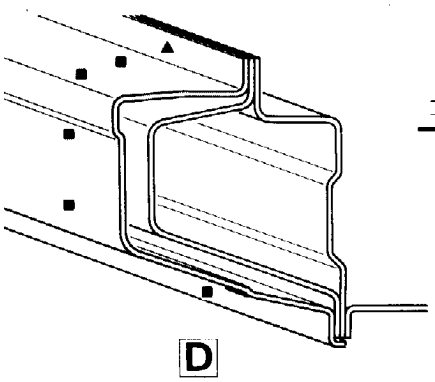


Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
ooooooooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

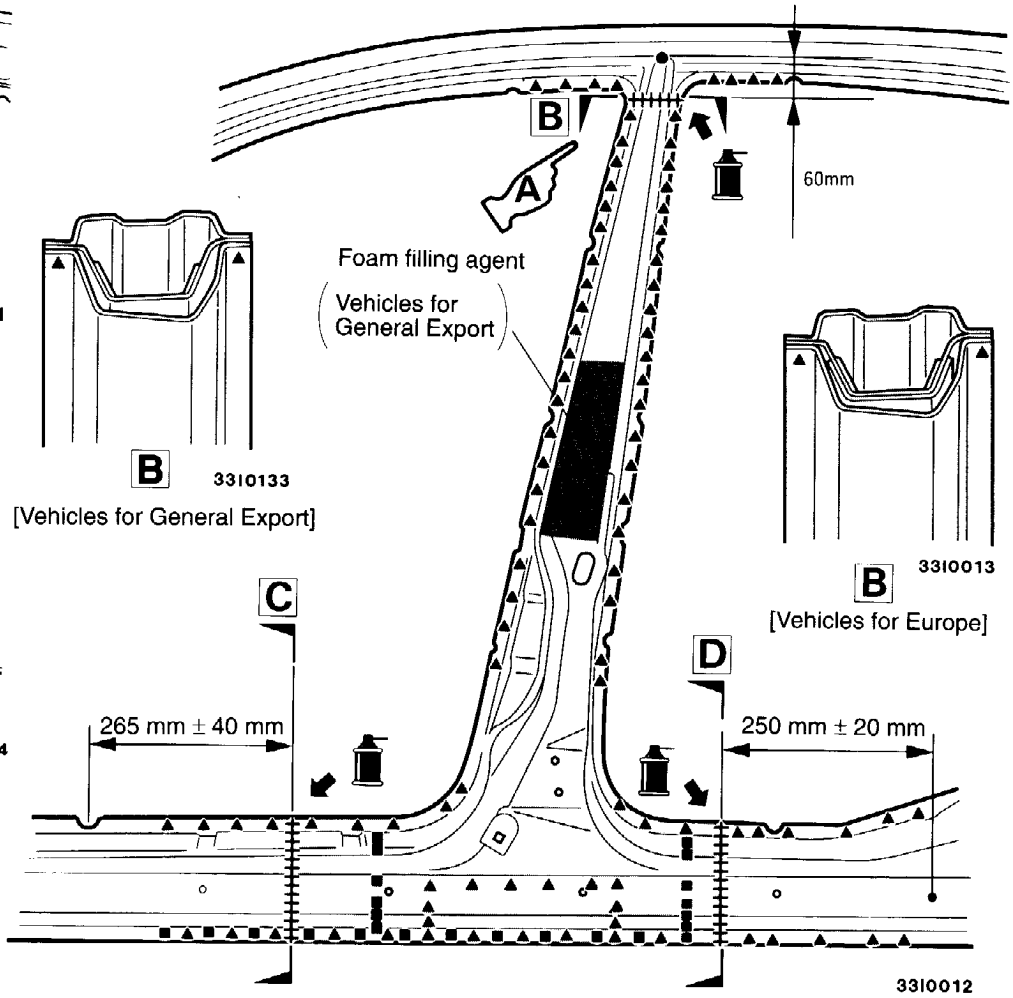
REPAIR WELDS



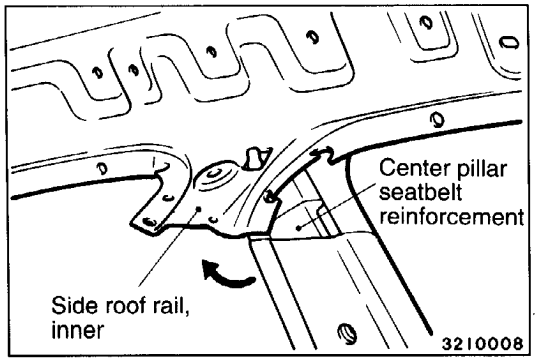




[Vehicles for General Export]



[Vehicles for Europe]

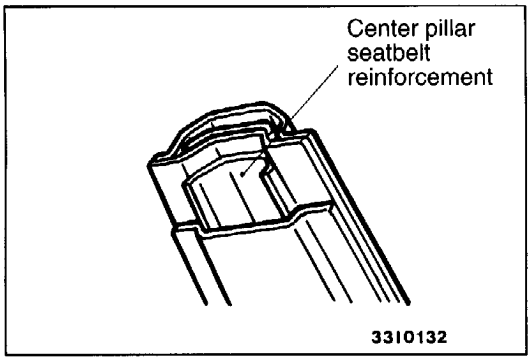


NOTES WITH REGARD TO REPAIR WORK

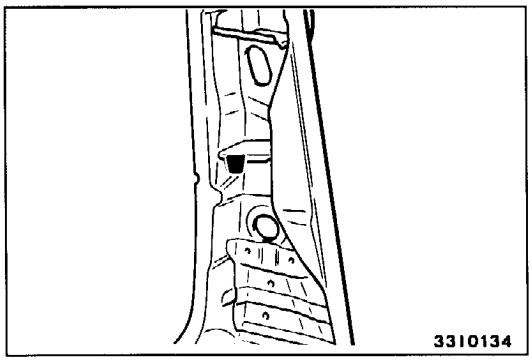
[Vehicles for Europe]

REMOVAL

(1) Separate the weld points so that the side roof rail, inner can be bent as shown in the illustration.



(2) Cut the center pillar outer panel, center pillar outer reinforcement and center pillar reinforcement above the center pillar seatbelt reinforcement.



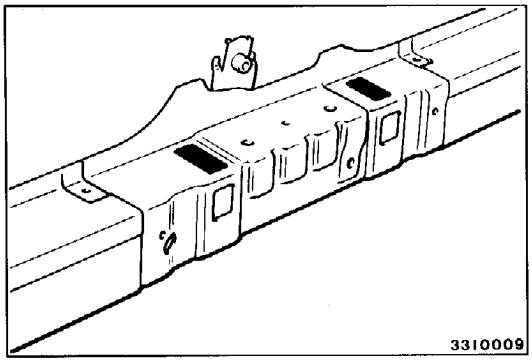
INSTALLATION

(1) The side sill reinforcement and side sill bulkhead will not be replaced, so remove them from the new part.

(2) When installing the center pillar, inner, apply adhesive to the rear door check bulkhead in the place shown in the illustration.

■: Adhesive

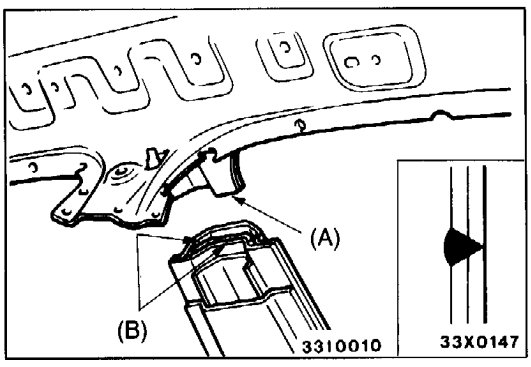
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420



(3) Apply adhesive to the body side of the side sill reinforcement.

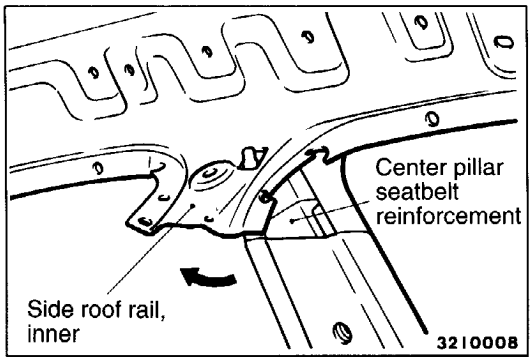
■: Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420



(4) When butt-welding the new center pillar outer reinforcement and center pillar reinforcement, inner to the vehicle body, grind the panel overlapping sections indicated by (A) and (B) in the illustration into a V shape in order to make it easier to weld two panels together simultaneously from inside the passenger compartment.

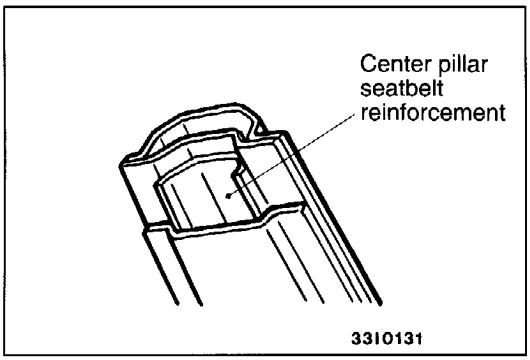
(5) Weld the center pillar outer panel from outside the vehicle. After welding the center pillar, return the side roof rail, inner to its original position and weld it.



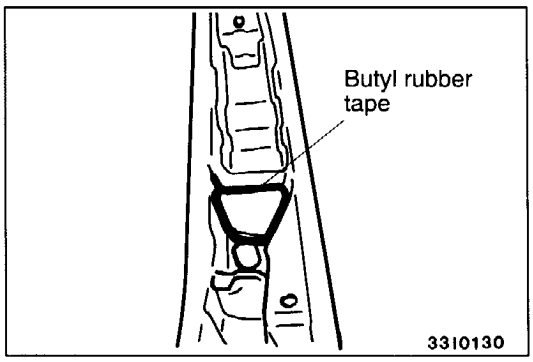
[Vehicles for General Export]

REMOVAL

(1) Separate the weld points so that the side roof rail, inner can be bent as shown in the illustration.



(2) Cut the center pillar outer panel and center pillar reinforcement above the center pillar seatbelt reinforcement.

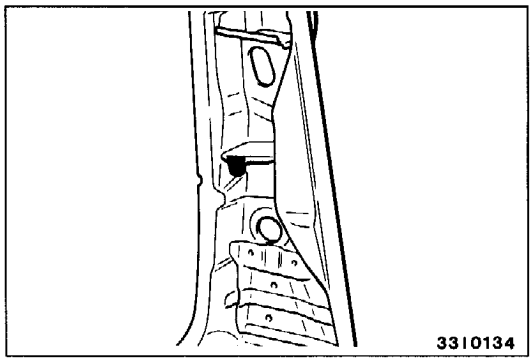


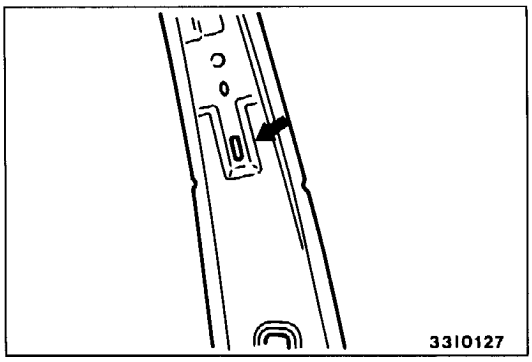
INSTALLATION

(1) The side sill reinforcement and side sill bulkhead will not be replaced, so remove them from the new part.
(2) When filling the center pillar, outer with foaming agent, seal the gaps with butyl rubber tape to prevent any foaming agent from leaking out.
(3) When installing the center pillar, inner, apply adhesive to the rear door check bulkhead in the place shown in the illustration.

■: Adhesive

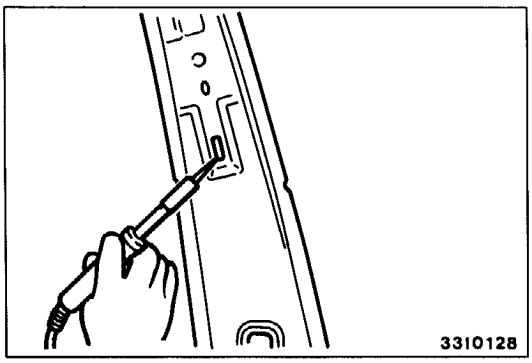
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420



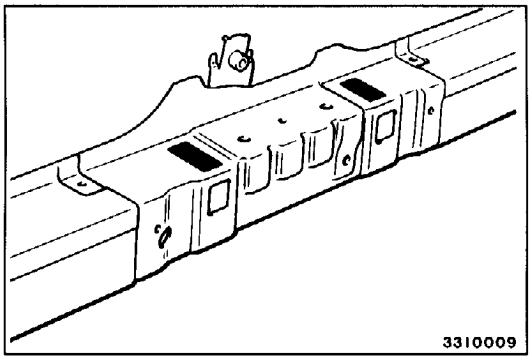


(5) After installing the center pillar inner panel, insert bolts into the holes in the weld nuts used to install the door hinges, and cover over the other holes and the flanges with sheet metal aluminum tape.
(6) Stand the center pillar up so that it is installed to the body, and then fill it with foam filling agent through the hole shown in the illustration.

Foam filling agent: 3M Super Panel Filler



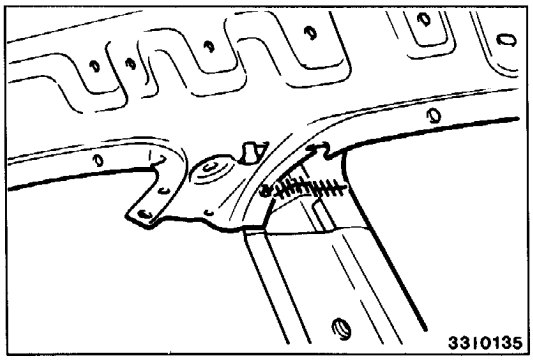
(7) After filling the center pillar with foam filling agent, the agent will flow out from the hole, so catch it in a box or similar item. If the foam filling agent leaks out of any gaps, these gaps should be covered over.
After two hours have passed, remove the aluminium tapes and bolts, and solder the hole so that the clips are inserted securely.



(8) Apply adhesive to the body side of the side sill reinforcement.

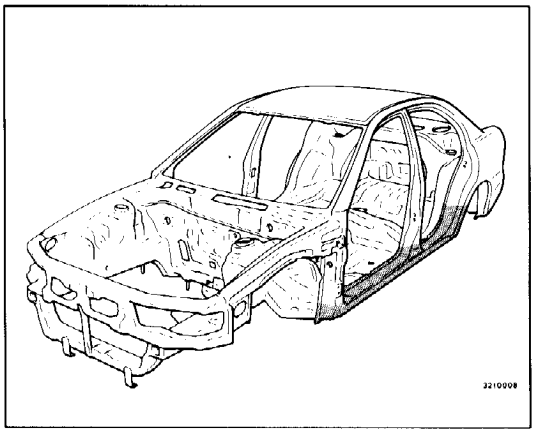
■: Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420



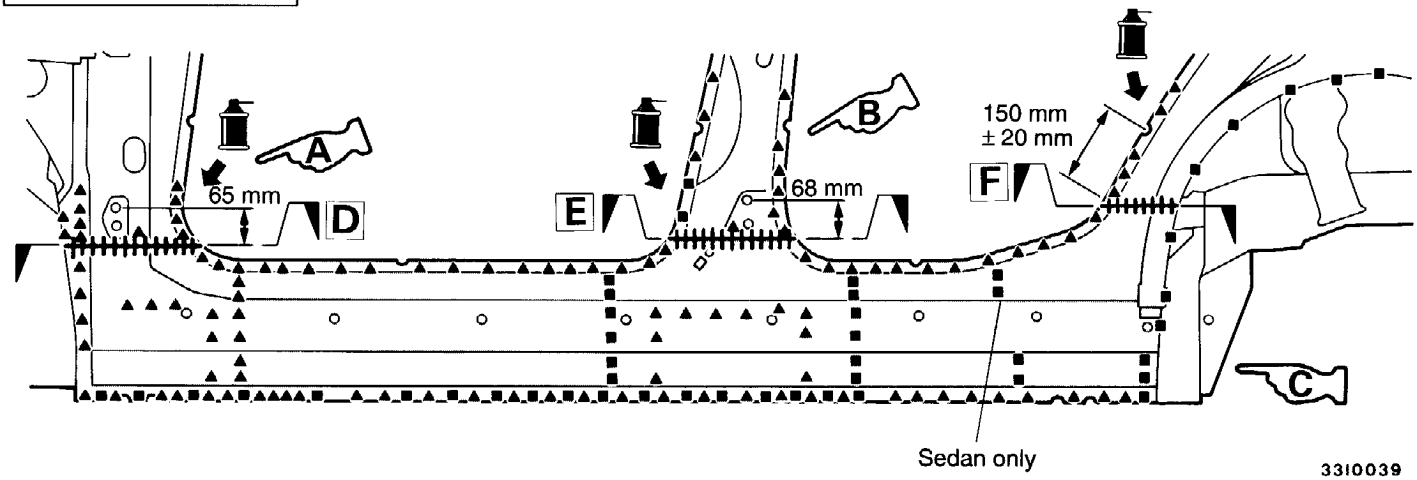
(9) Weld the center pillar outer panel from outside the vehicle. Weld the center pillar reinforcement securely from inside the vehicle. After welding the center pillar, return the side roof rail, inner to its original position and weld it.

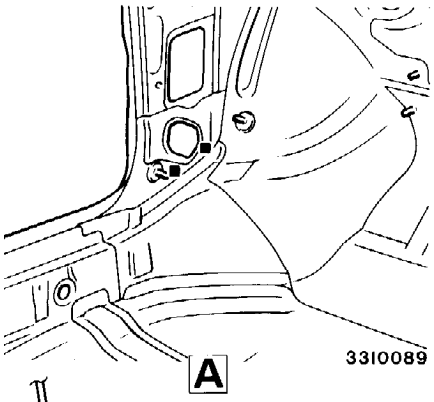
SIDE SILL

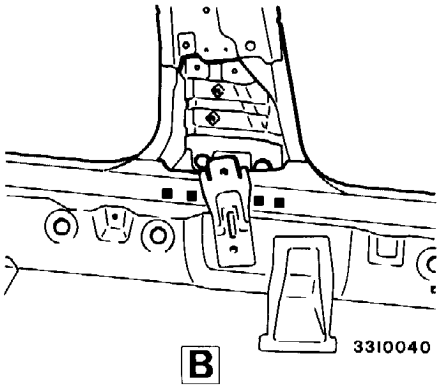


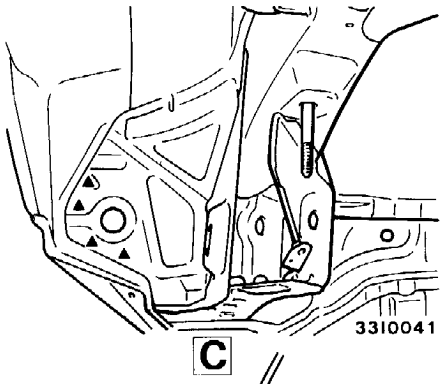
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
○○○○○○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

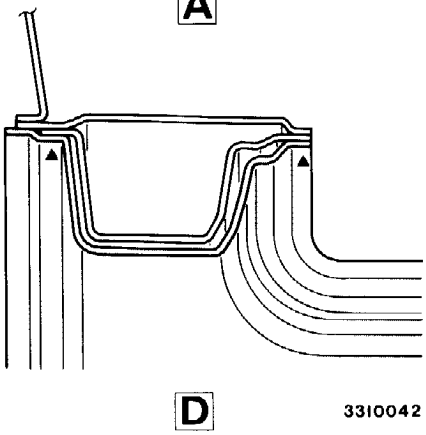
REPAIR WELDS

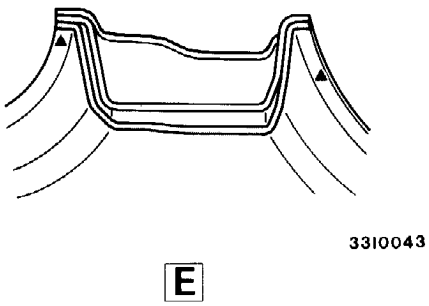


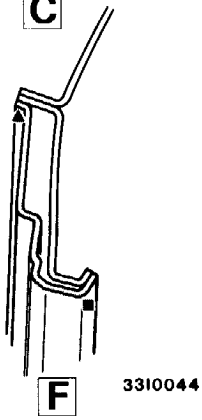






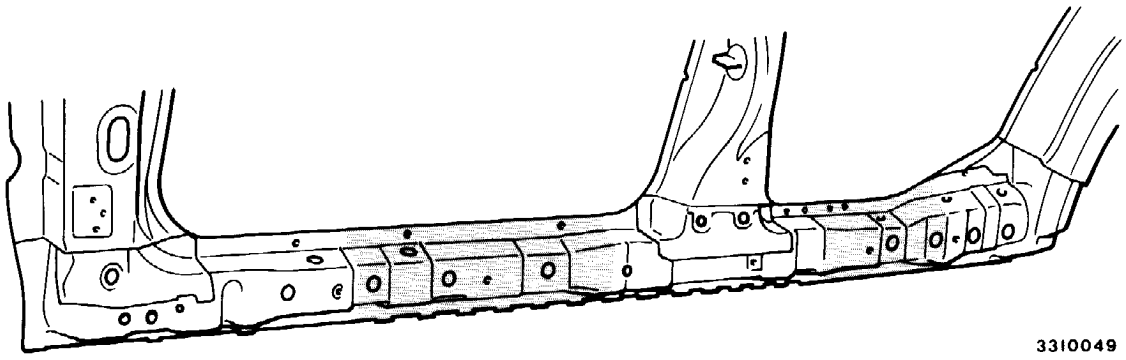






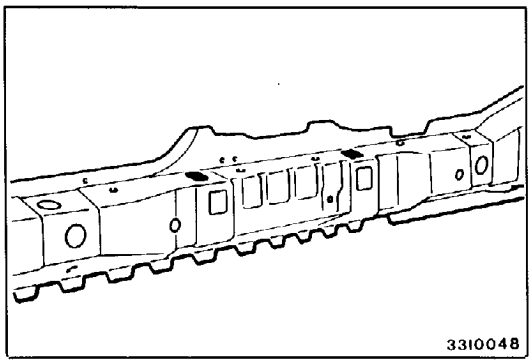
NOTE:
Replace parts in accordance with the extent of the damage.

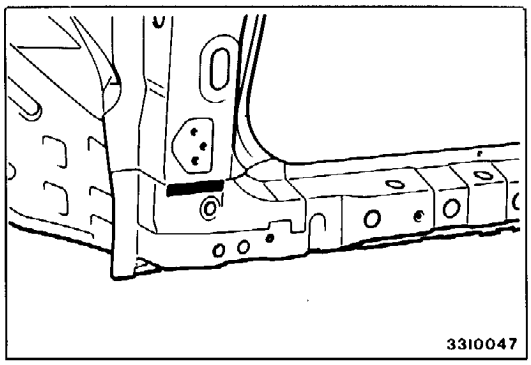
Caution
The side sill reinforcement should be cut 50 mm away from the butt-weld between it and the side outer panel.

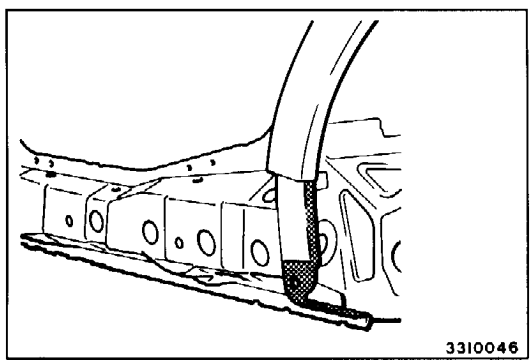


(View with side outer panel removed)

: Area that can be cut







NOTES WITH REGARD TO REPAIR WORK

INSTALLATION

(1) When installing the side sill reinforcement to the body, apply adhesive in the places shown in the illustration.

: Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420

(2) When installing the side outer panel, apply adhesive to the front pillar reinforcement in the places shown in the illustration.

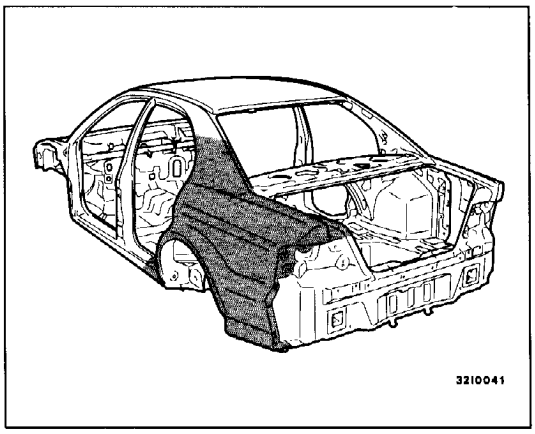
: Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420

(3) When installing the side outer panel, apply body sealant to the quarter inner panel in the places shown in the illustration.

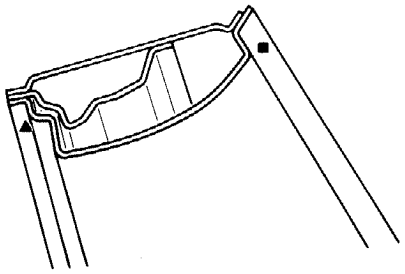
: Body sealant

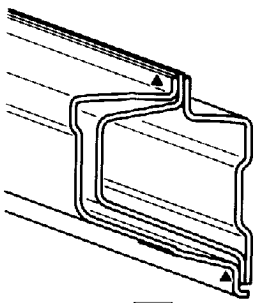
QUARTER, OUTER <Sedan>

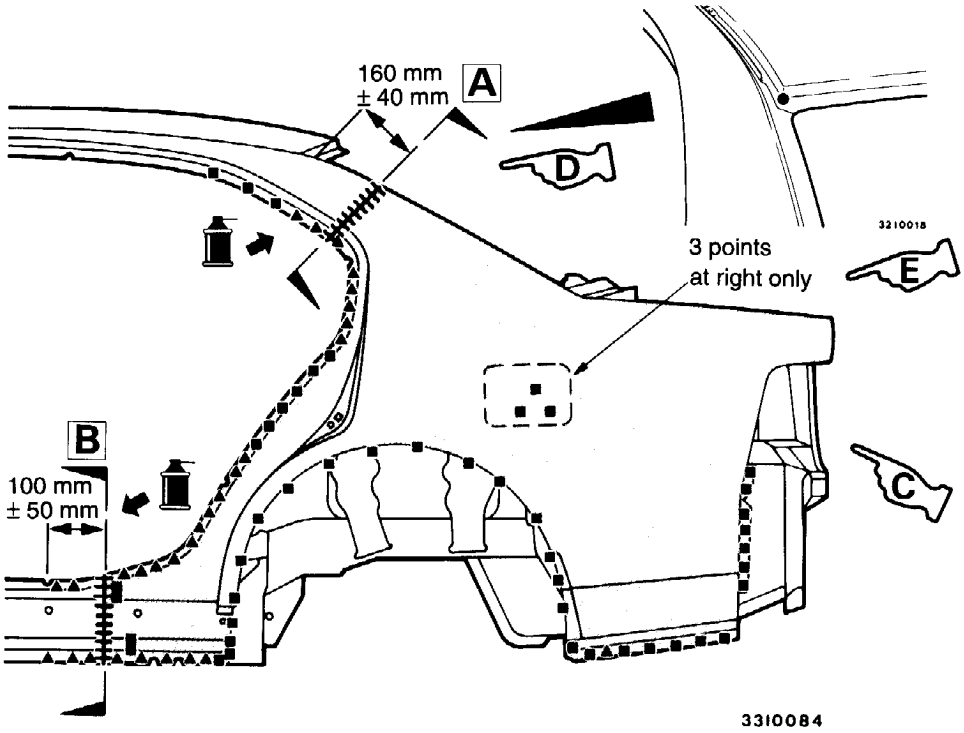


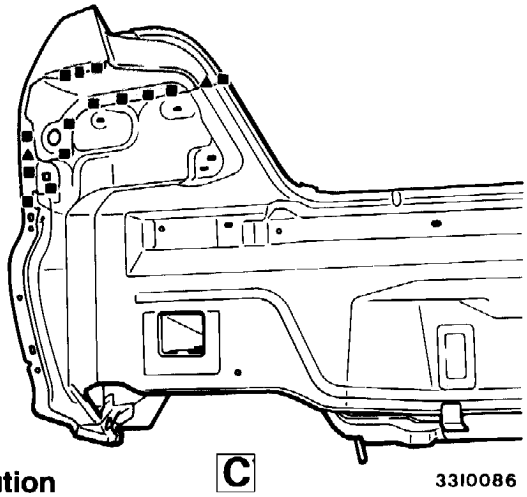
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

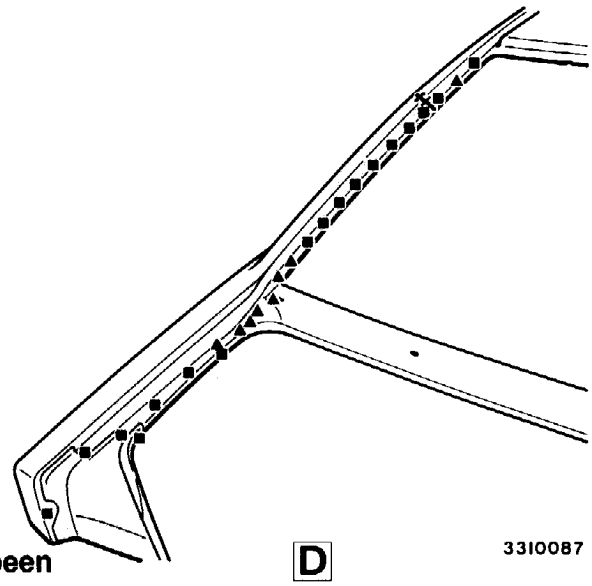
REPAIR WELDS



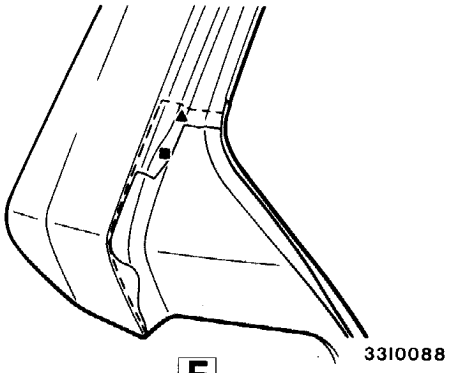






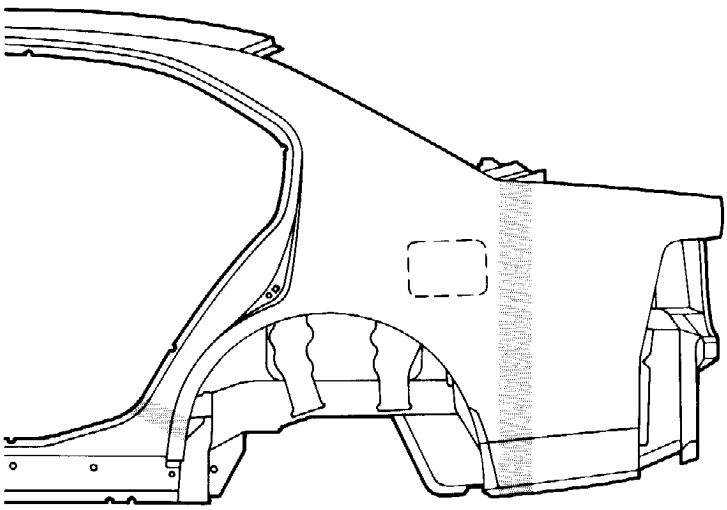


Caution
Do not heat the places where foaming agent has been used, otherwise the foaming agent may ignite.



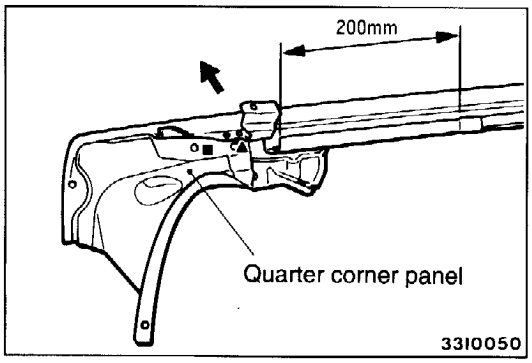
E

NOTE
Parts can also be replaced depending on the extent of the damage.



: Area that can be cut

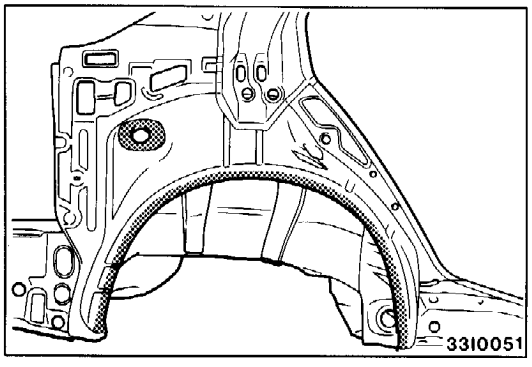
Caution
(1) Avoid cutting the fuel filler neck bracket (right side).
(2) Use equipment (such as a pneumatic saw) which does not produce heat when repairing locations where stiffener is used, otherwise the stiffener may ignite.



NOTES WITH REGARD TO REPAIR WORK

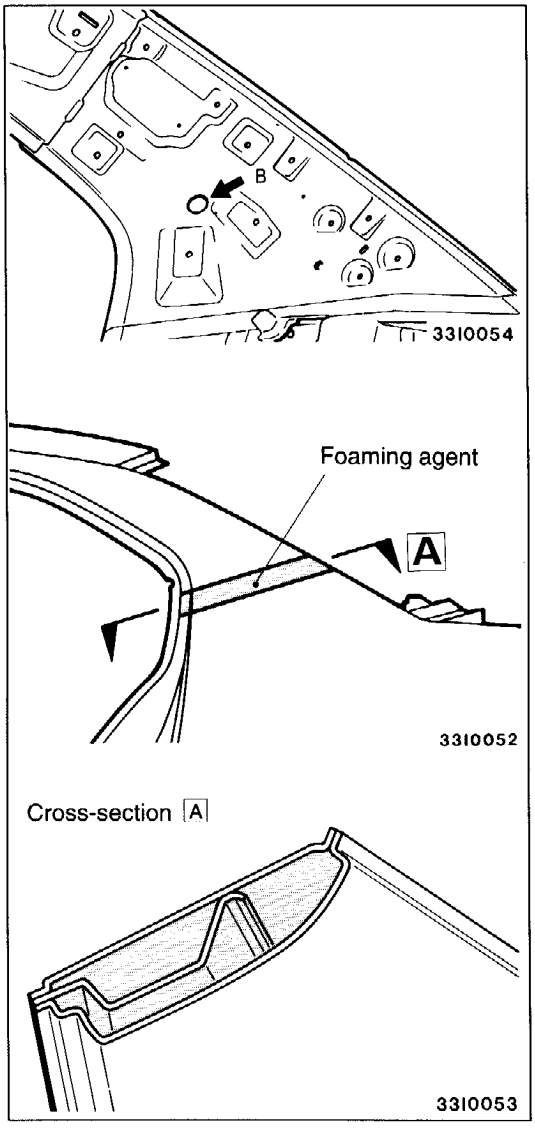
REMOVAL

To remove the quarter corner panel, cut away the side outer panel in the place shown in the illustration, and then separate the quarter corner panel weld points.

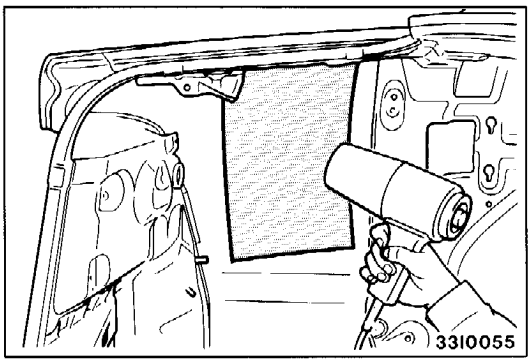


INSTALLATION

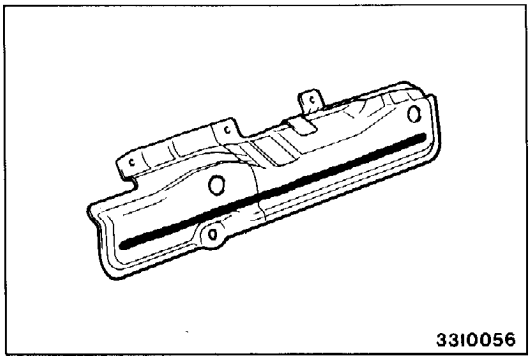
(1) Apply body sealant to the body in the places shown in the illustration.



(2) After installing the side outer panel, fill the section shown in the illustration with foaming agent through hole (B).



(3) After replacing the side outer panel, attach stiffener to the place shown in the illustration, and then use a hair drier or similar tool to heat the stiffener so that it hardens.



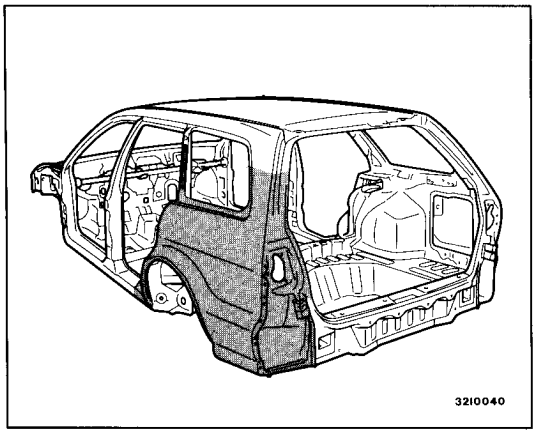
(4) When installing the quarter panel support trunk side, apply adhesive in the place shown in the illustration.

■: Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420

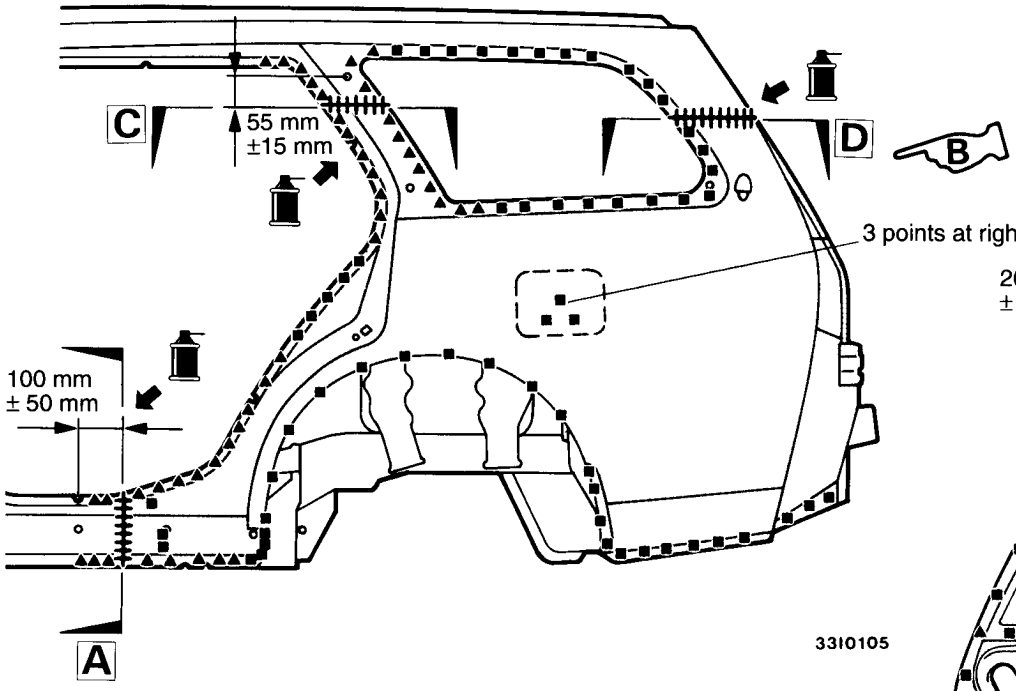
NOTES

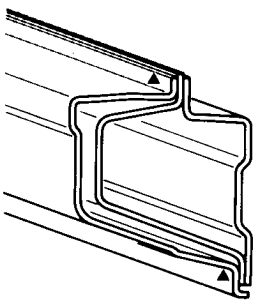
QUARTER, OUTER <Wagon>

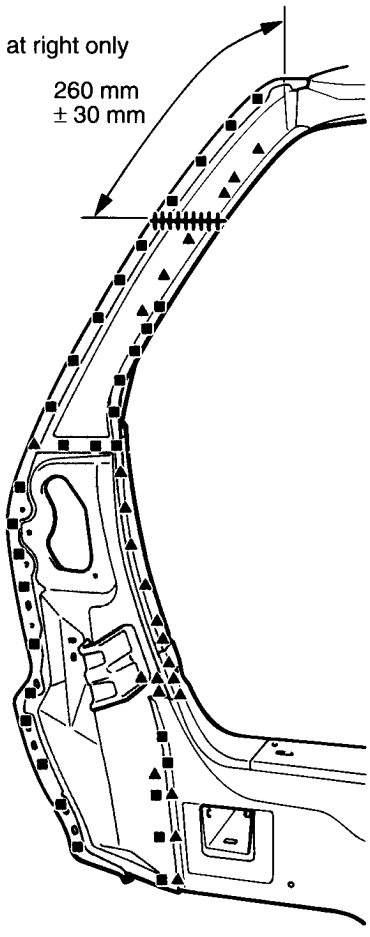


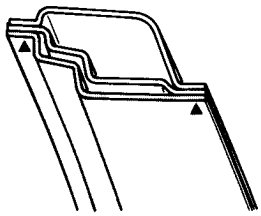
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS

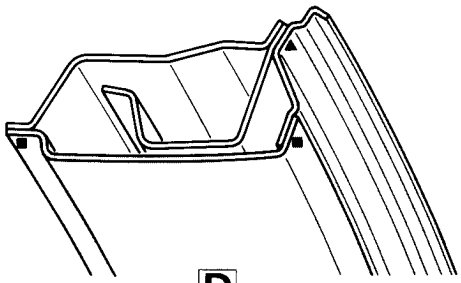






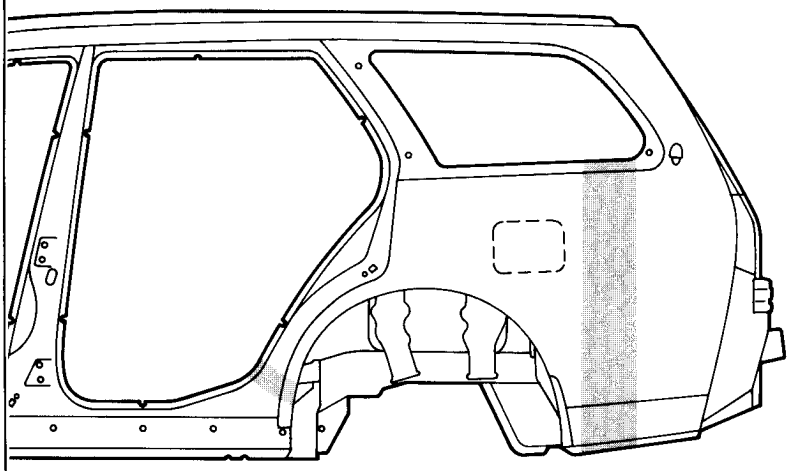


C 3310108



D 3310109

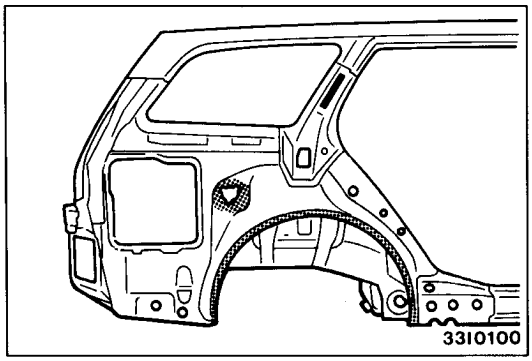
NOTE
Parts can also be replaced depending on the extent of the damage.



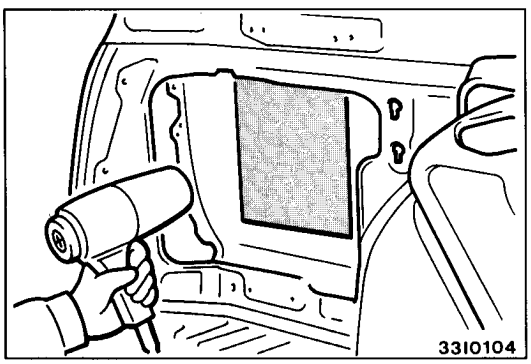
3010010

▒ : Area that can be cut

Caution
(1) Avoid cutting the fuel filler neck bracket (right side).
(2) Use equipment (such as a pneumatic saw) which does not produce heat when repairing locations where stiffener is used, otherwise the stiffener may ignite.



3310100



3310104

NOTES WITH REGARD TO REPAIR WORK

INSTALLATION

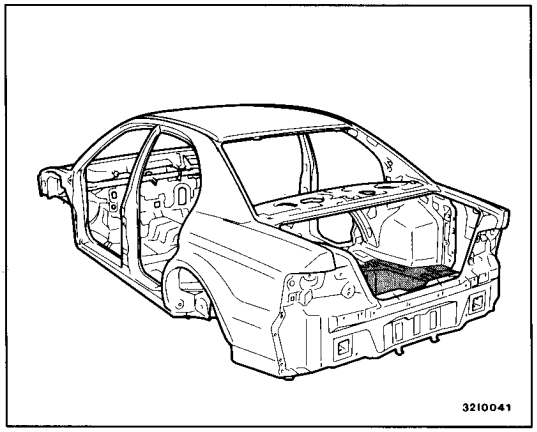
(1) When installing the quarter outer panel, apply body sealant and structural adhesive to the places shown in the illustration.

▒ : Body sealant
■ : Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420

(2) After installing the quarter outer panel, attach stiffener to the place shown in the illustration, and then use a hair drier or similar tool to heat the stiffener so that it hardens.

REAR FLOOR <Sedan>



Symbol	Operation description
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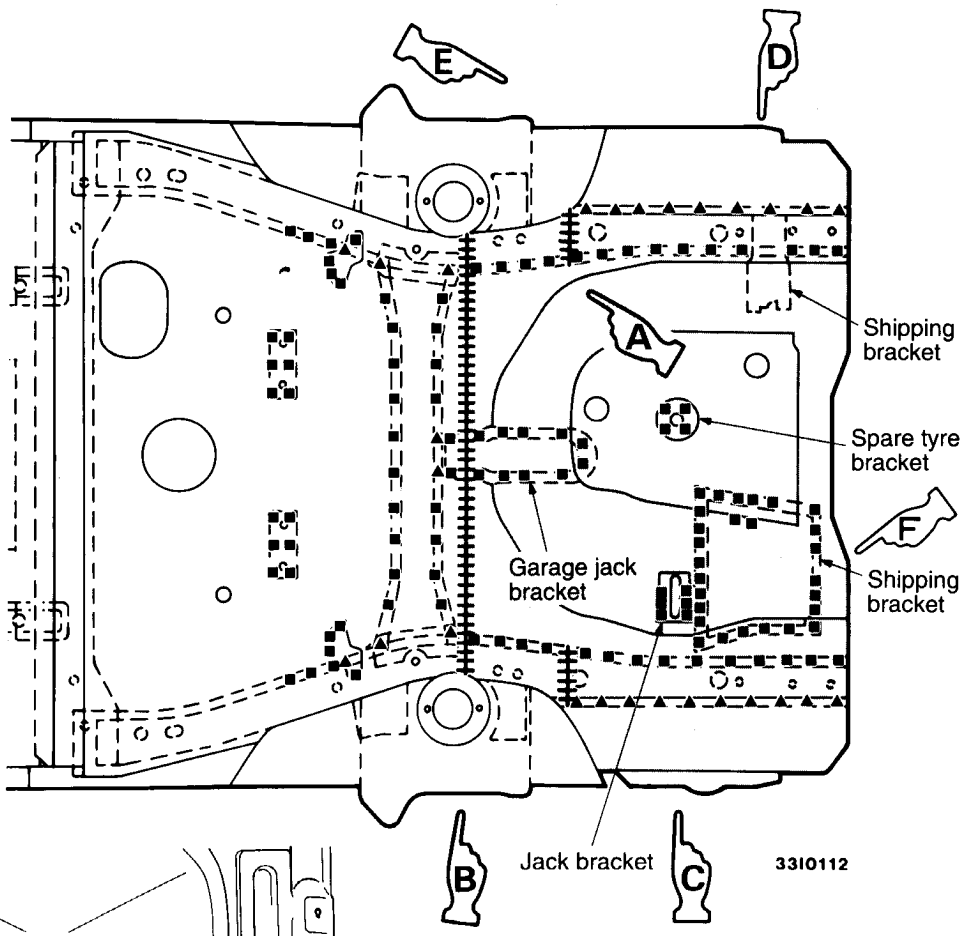
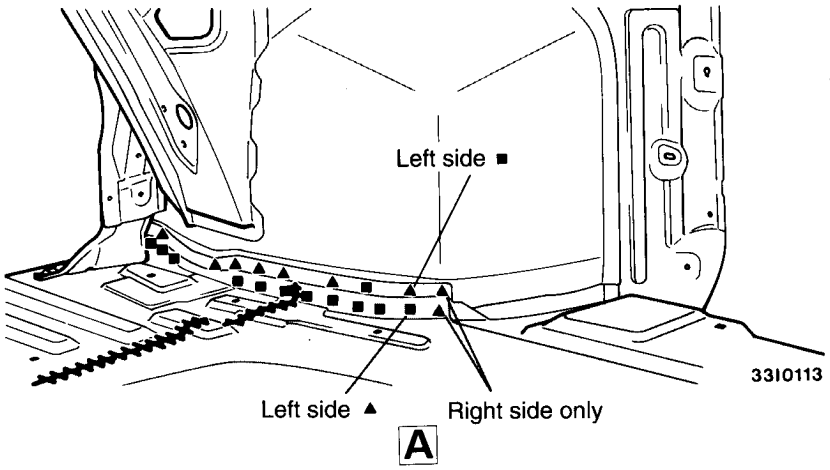
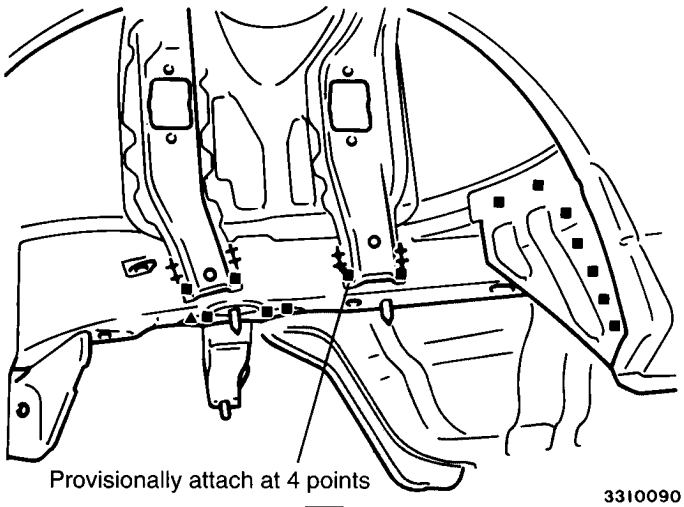
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS





NOTE:
For weld points with the rear end panel, refer to P.3-30 – Rear End Panel.



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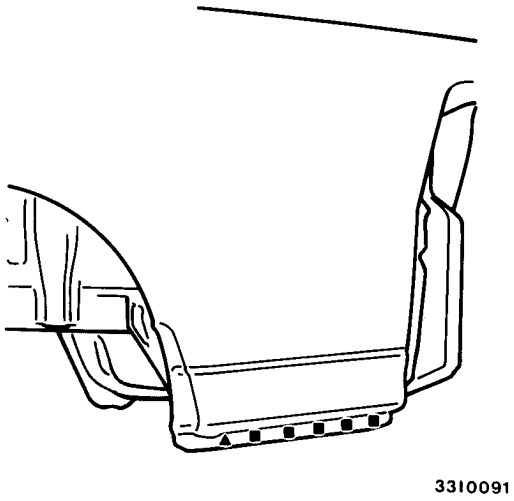

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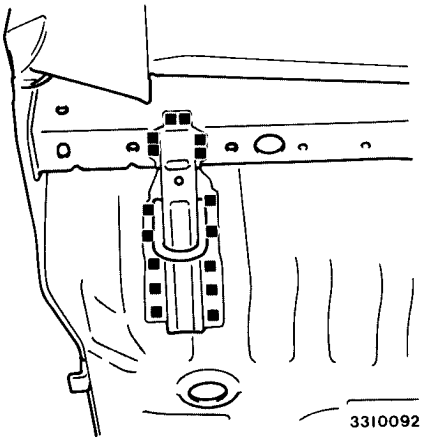

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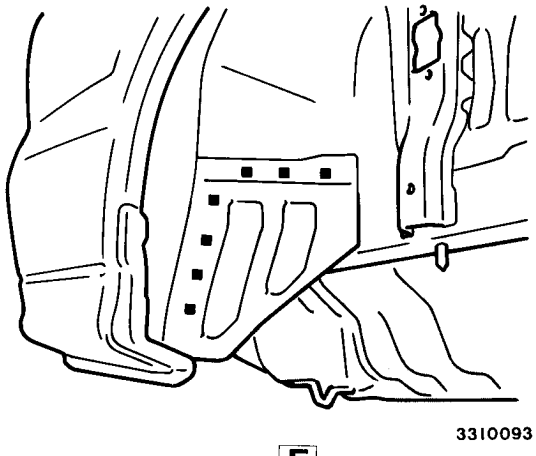

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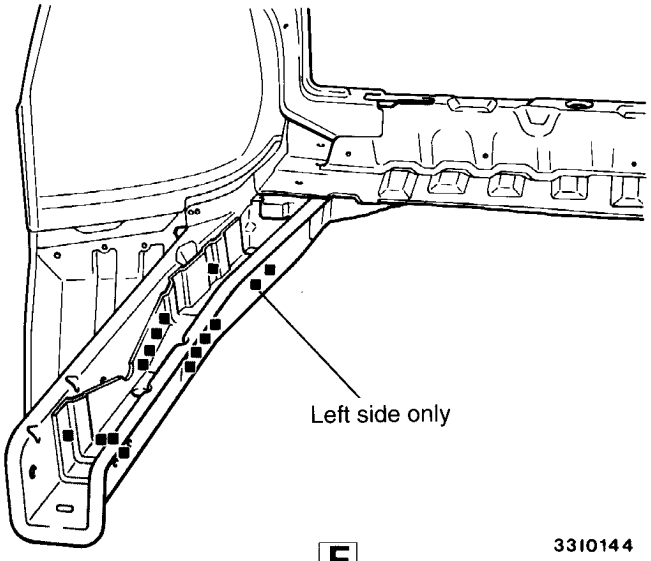
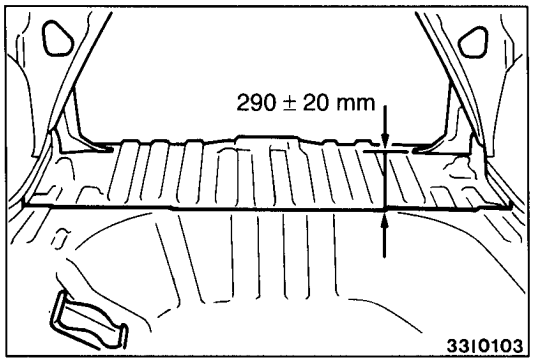


F

[Vehicles for GCC]

(Indicates the weld points between the rear floor sidemember and the rear floor sidemember reinforcement.)

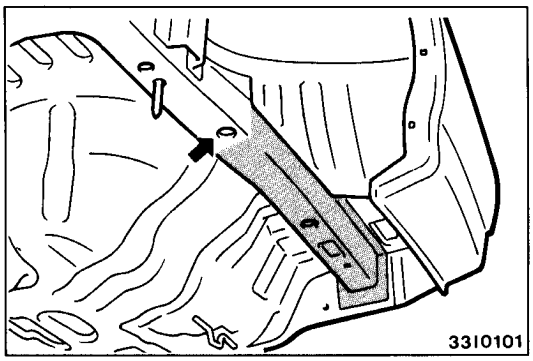


NOTES WITH REGARD TO REPAIR WORK

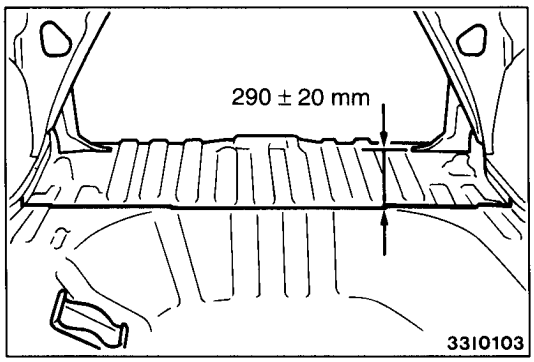
[Except for GCC]

REMOVAL

(1) In order to make cutting of the rear floor pan easier, separate the weld points on the garage jack bracket before cutting.
(2) Cut the rear floor pan 290 ± 20 mm from the seat back brace extension, lower.



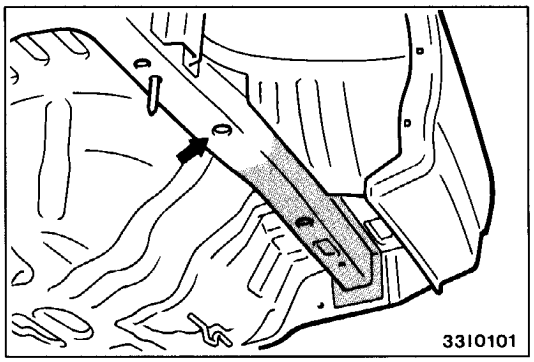
(3) Cut the rear floor sidemember behind the drain hole indicated by (⬅) in the illustration.



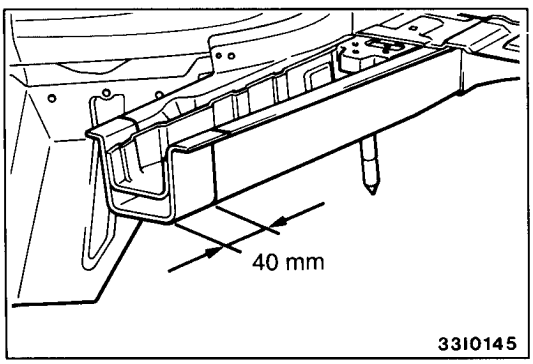
[Vehicles for GCC]

REMOVAL

(1) In order to make cutting of the rear floor pan easier, separate the weld points on the garage jack bracket before cutting.
(2) Cut the rear floor pan 290 ± 20 mm from the seat back brace extension, lower.



(3) Cut the rear floor sidemember together with the rear floor sidemember reinforcement 40 mm or more behind the drain hole indicated by the arrow (⬅) in the illustration.

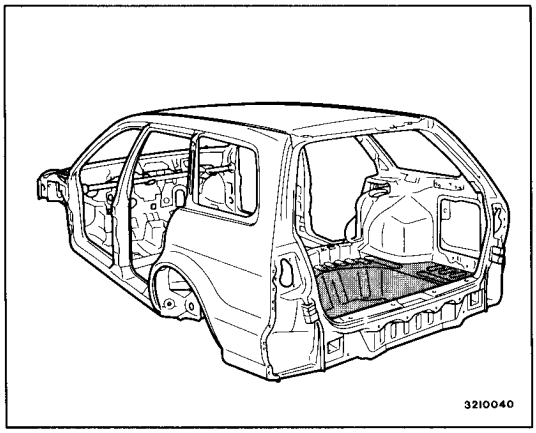


INSTALLATION

(1) Cut only the rear floor sidemember 40 mm forward of the rear floor sidemember cut on the body side.
(2) Measure the new part so that it fits to the body side, and then cut it.
(3) Butt-weld the rear floor sidemember reinforcement from the inside, and butt-weld the rear floor sidemember from the outside.

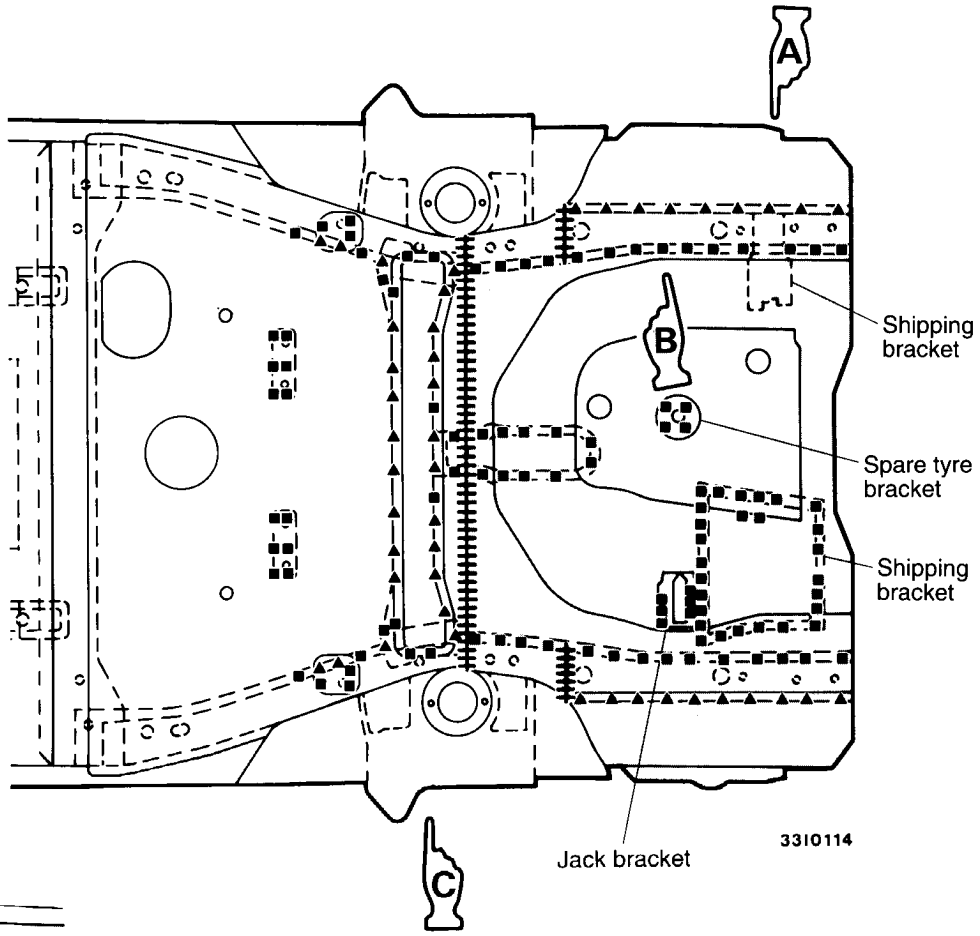
NOTES

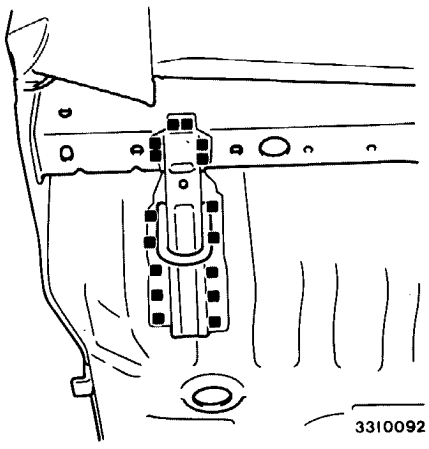
REAR FLOOR <Wagon>



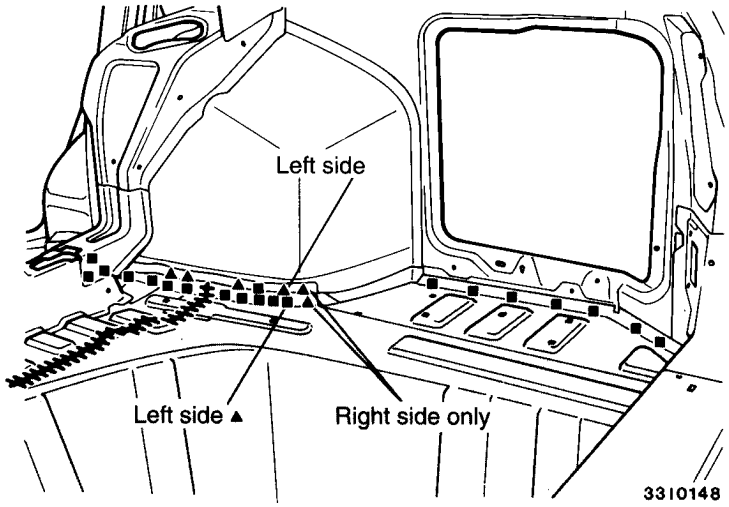
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS





NOTE:
For weld points with the rear end panel, refer to P.3-31 – Rear End Panel



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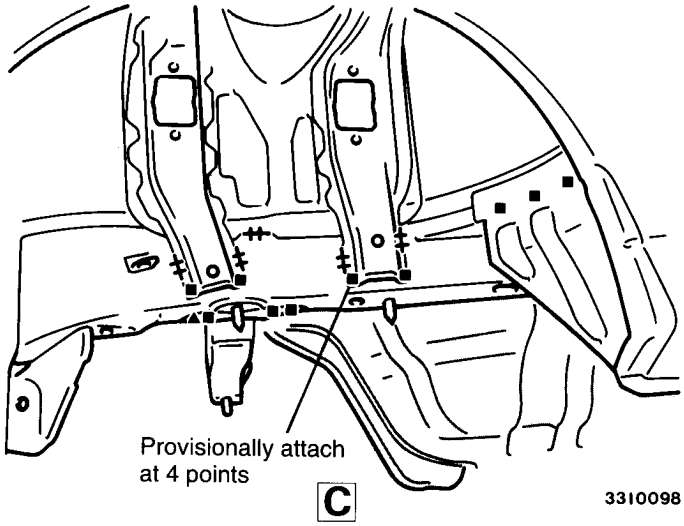

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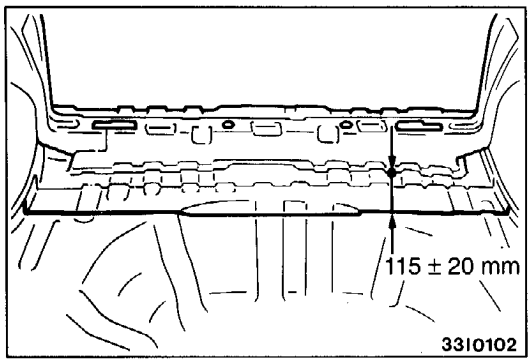
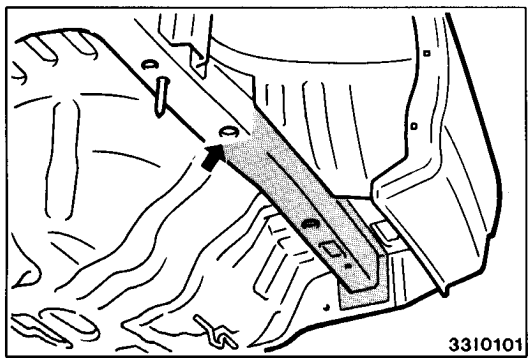


NOTES WITH REGARD TO REPAIR WORK

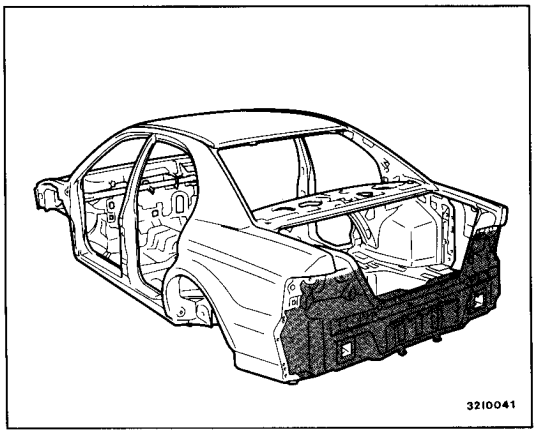
REMOVAL

(1) In order to make cutting of the rear floor easier, separate the weld points on the garage jack bracket before cutting.
(2) Cut the rear floor pan 115 ± 20 mm behind the rear floor crossmember upper.



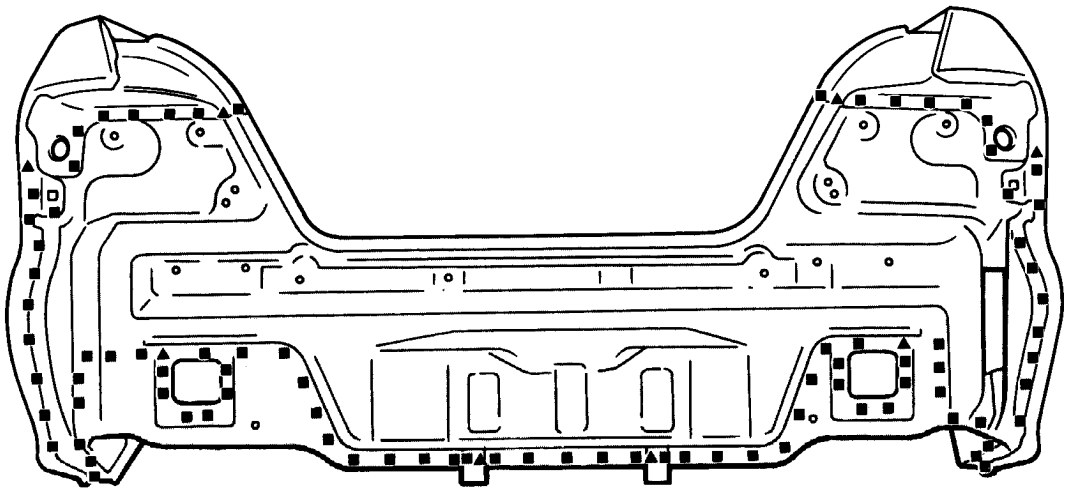
(3) Cut the rear floor sidemember behind the drain hole shown in the illustration.

REAR END PANEL <Sedan>

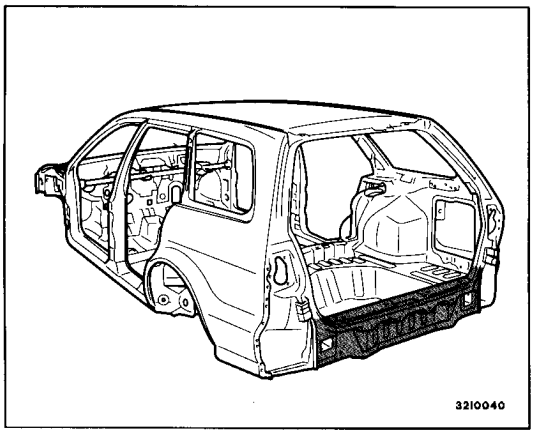


Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS

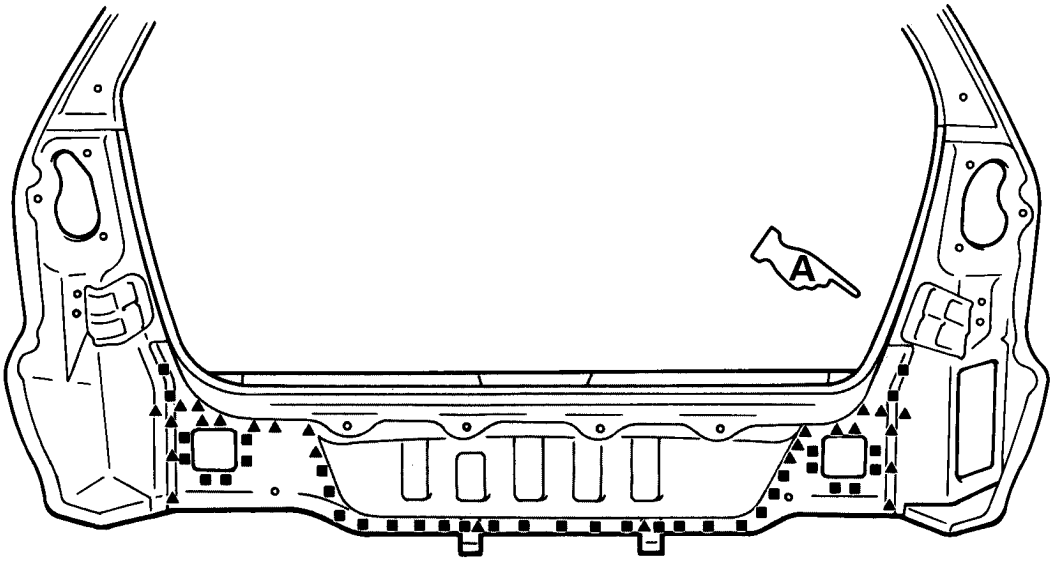


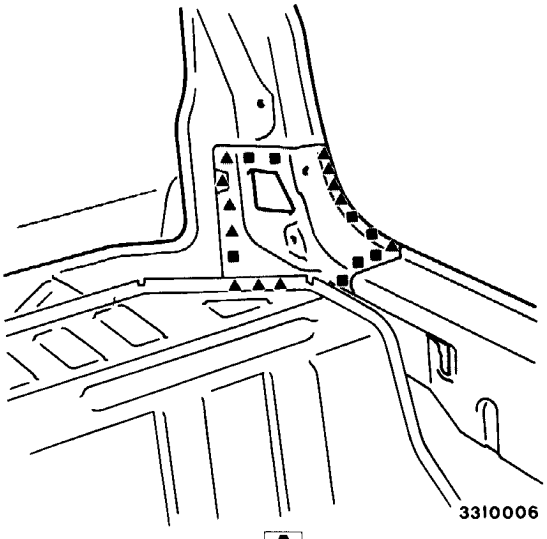
REAR END PANEL <Wagon>



Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
|||||||||||	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

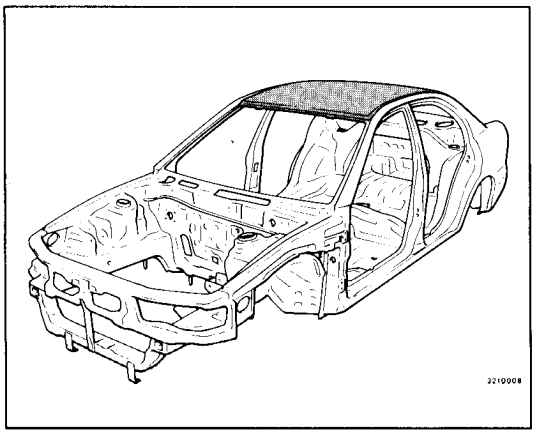
REPAIR WELDS





A

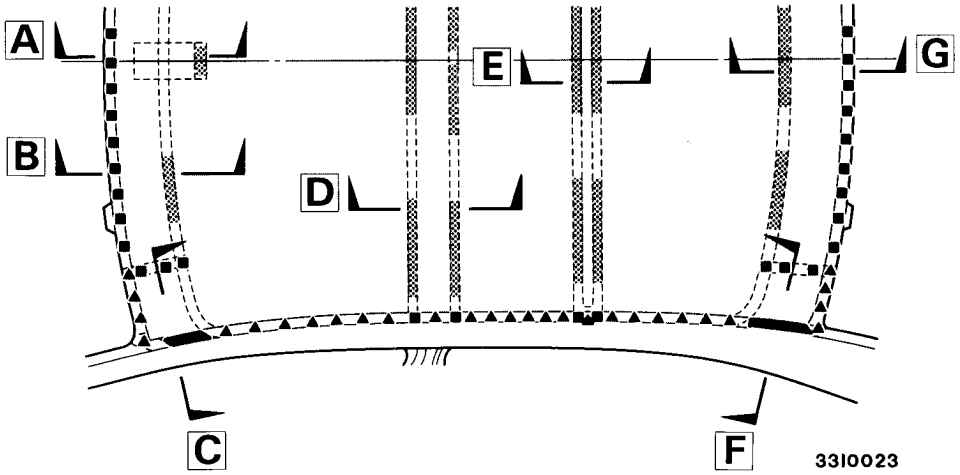
ROOF <Sedan>



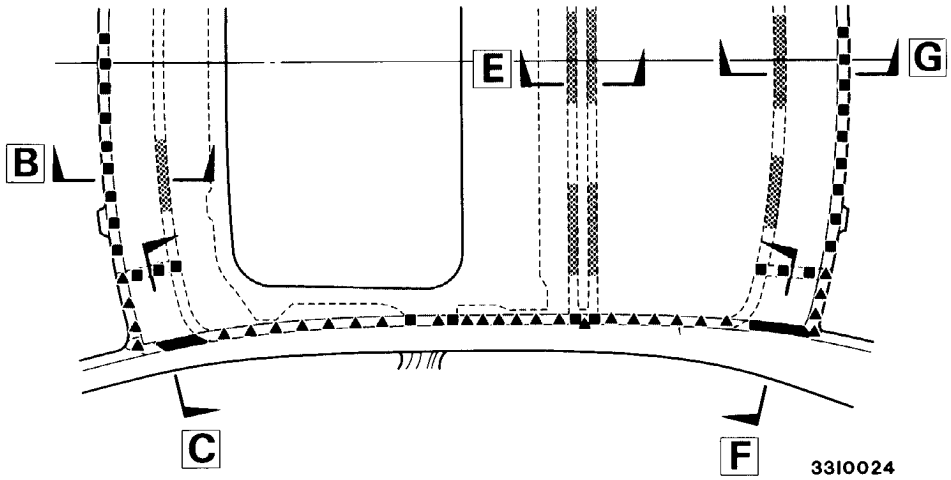
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS

Standard roof



Sunroof

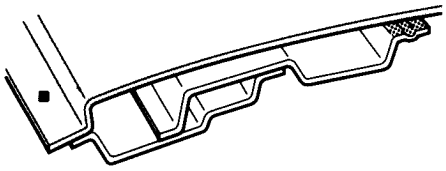


▒ : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

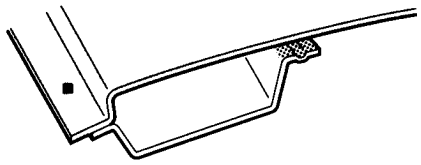
■ : Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420



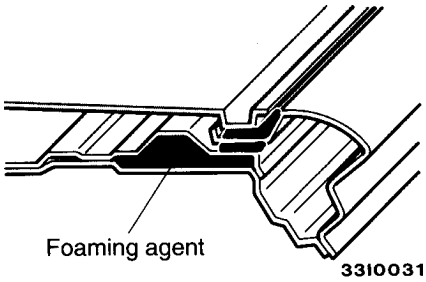
3310029

A



3310027

B



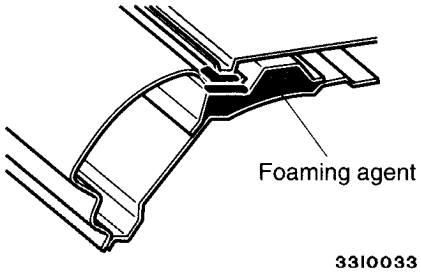
3310031

C

D 3310032

33M0013

E



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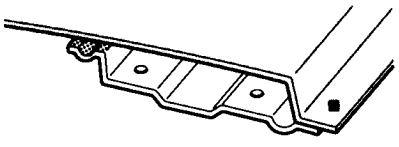
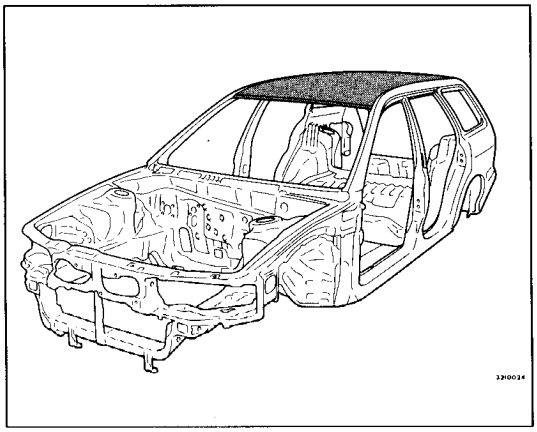


3310034

G

Caution
Use equipment (such as a pneumatic saw) which does not produce heat when repairing locations where foaming agent is used, otherwise the foaming agent may ignite.

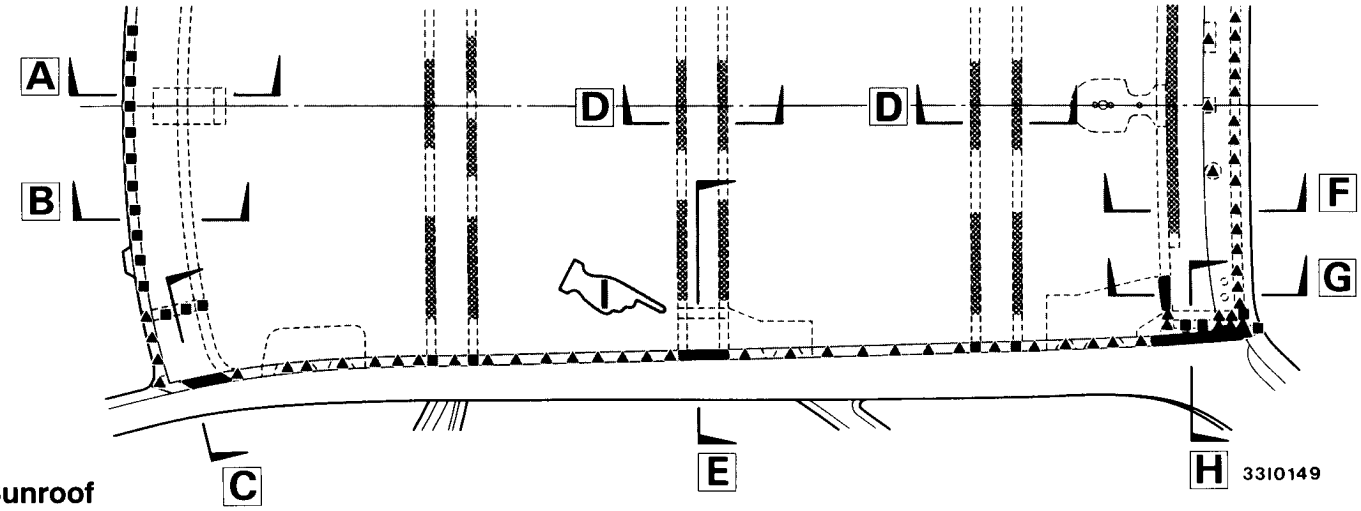
ROOF <Wagon>



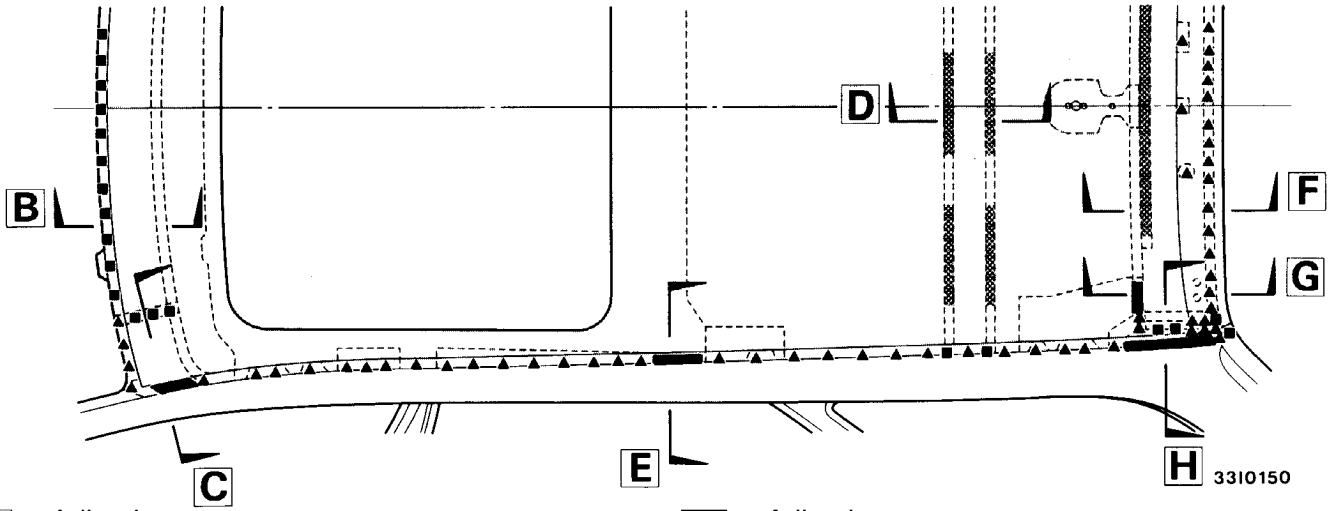
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS

Standard roof



Sunroof

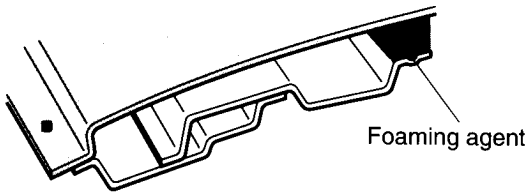


▒ : Adhesive

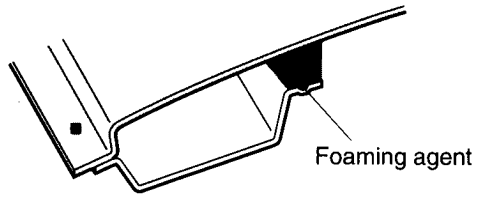
Adhesive	Type
	Chloroprene-base drying sealant

■ : Adhesive

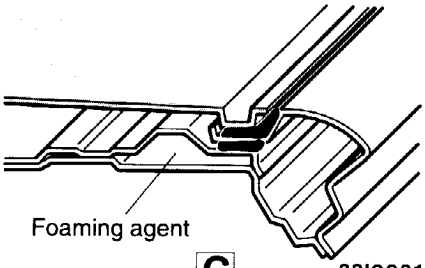
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-420



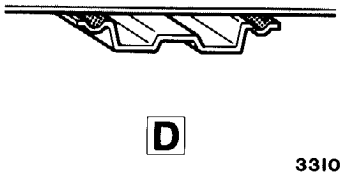
A 3310030



B 3310028



C 3310031



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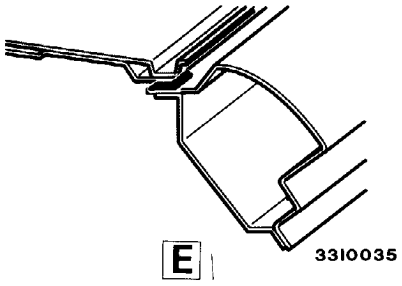

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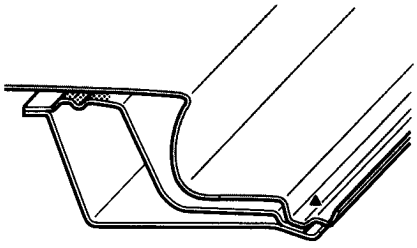
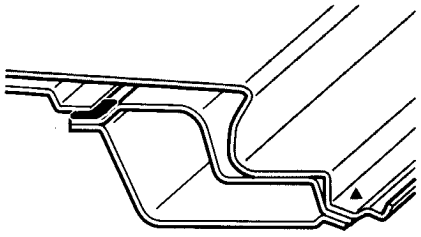


F 3310036



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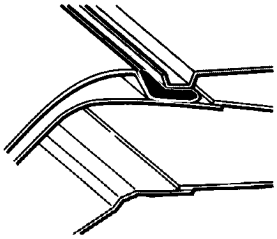
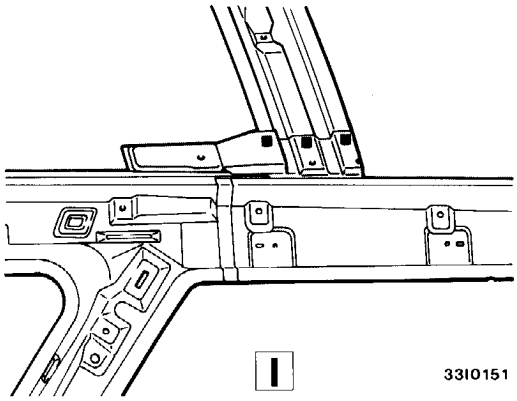
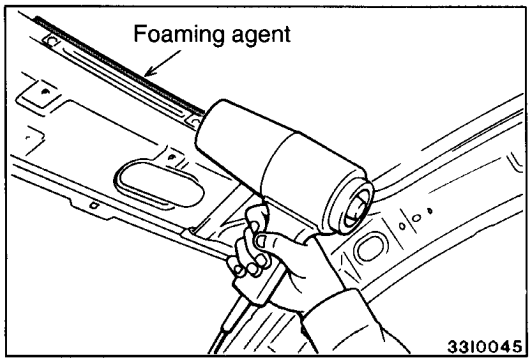


H 3310038



I 3310151

Caution
Use equipment (such as a pneumatic saw) which does not produce heat when repairing locations where foaming agent is used, otherwise the foaming agent may ignite.



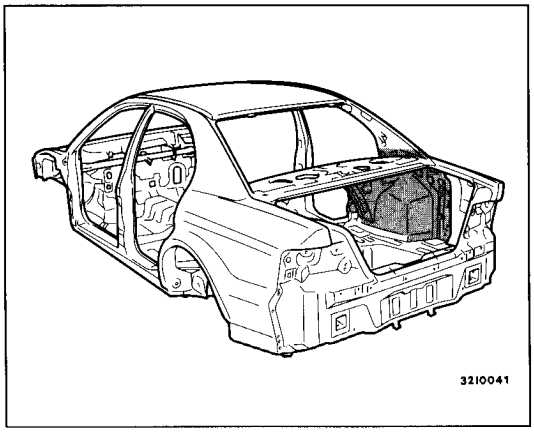
3310045

NOTES WITH REGARD TO REPAIR WORK

INSTALLATION

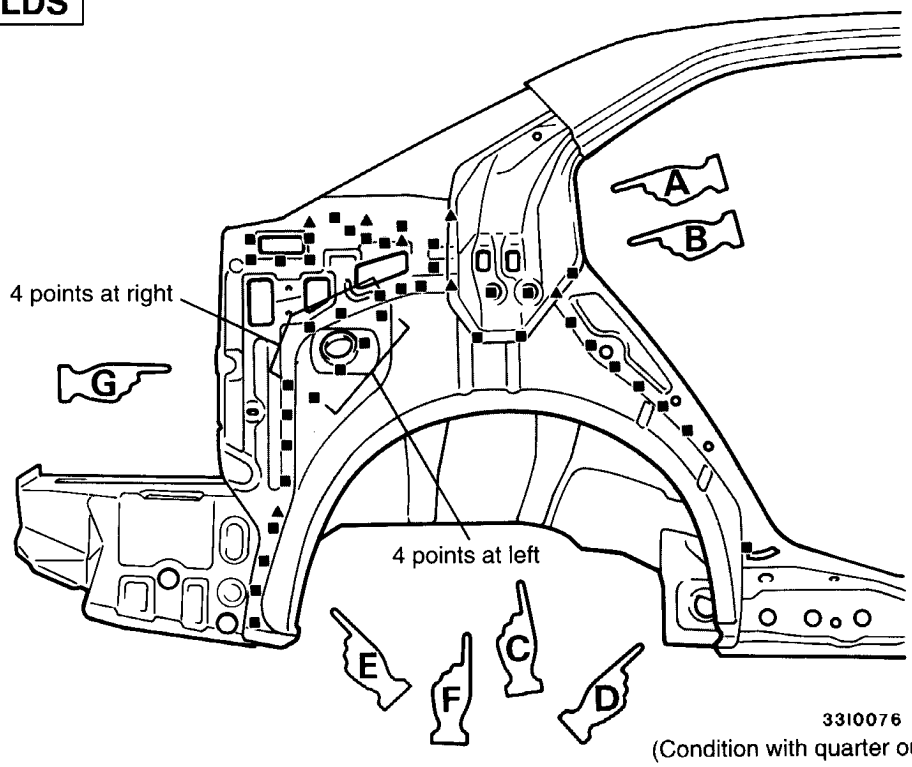
Heat the foaming agent which is used between the map lamp bracket, roof rail front, inner and roof panel with a hair drier until it foams.

QUARTER, INNER <Sedan>



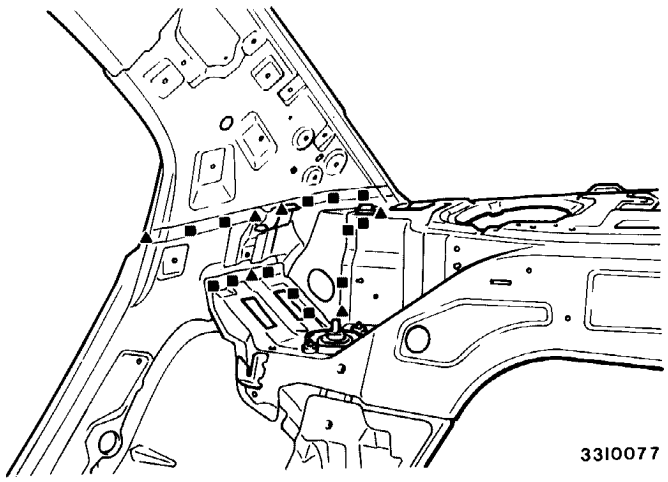
Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS



3310076

(Condition with quarter outer removed)



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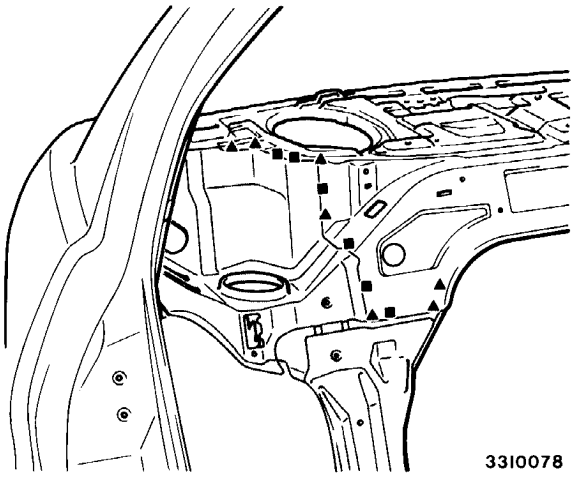

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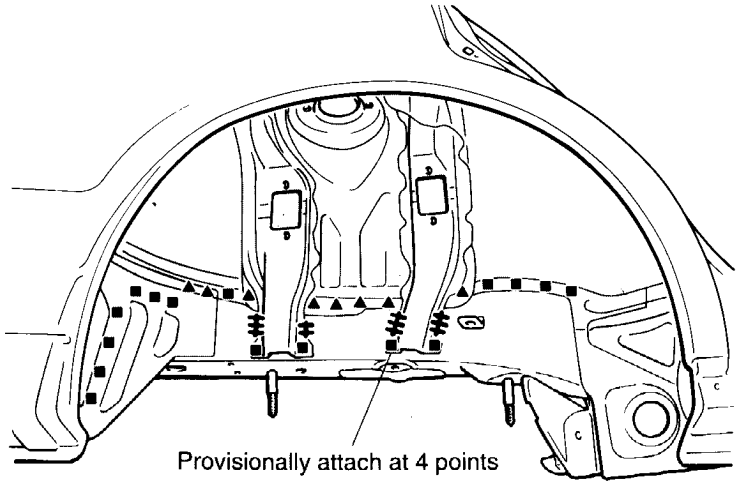

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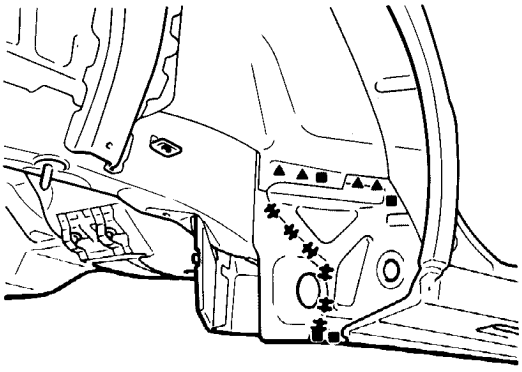
C



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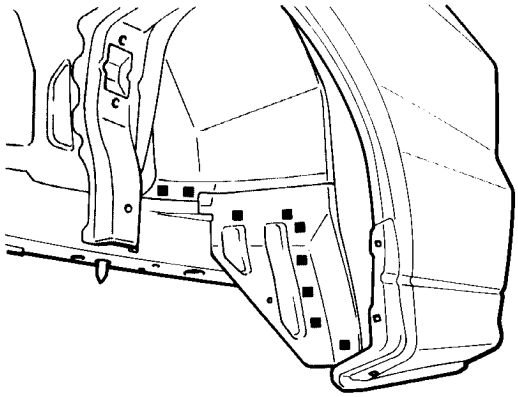
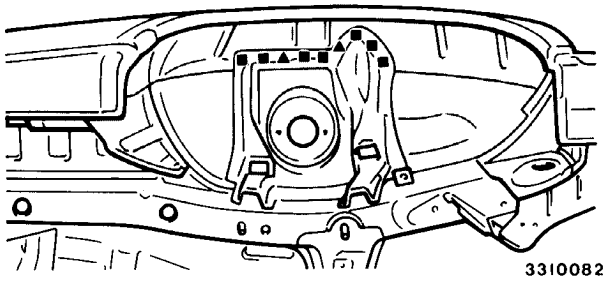


E (Left side)

3310081



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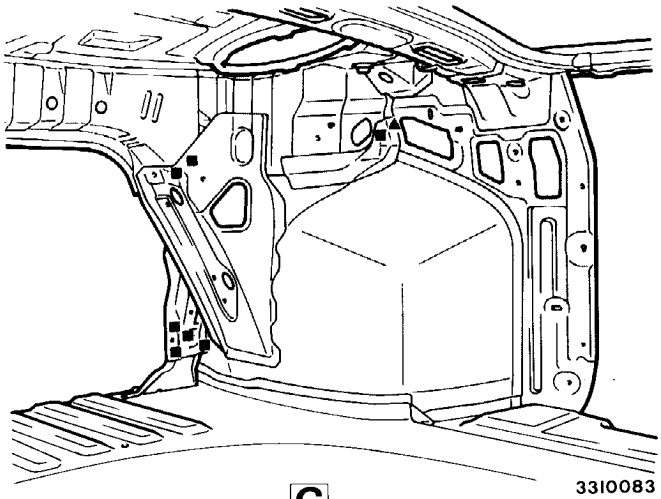
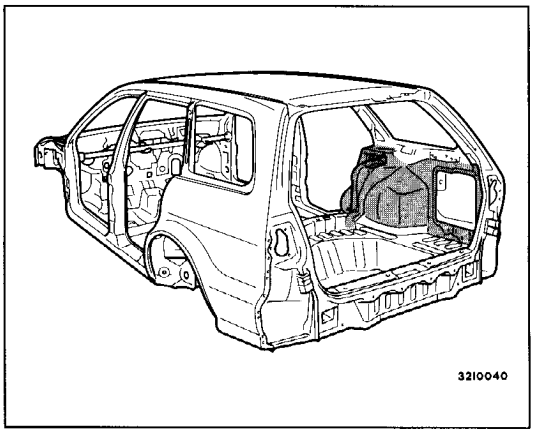
F



3310083

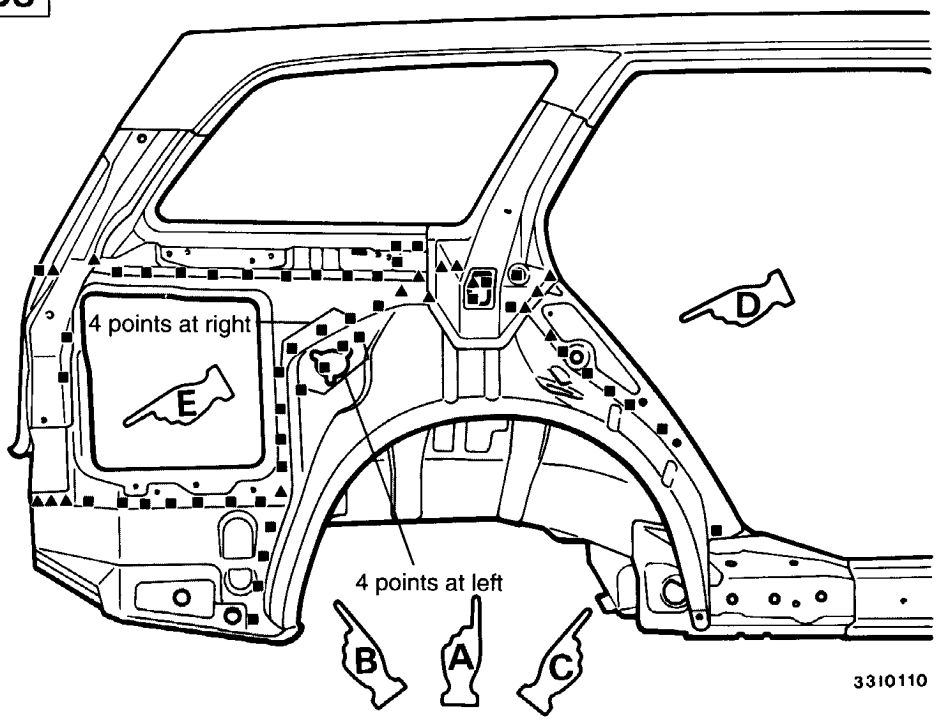
G

QUARTER, INNER <Wagon>

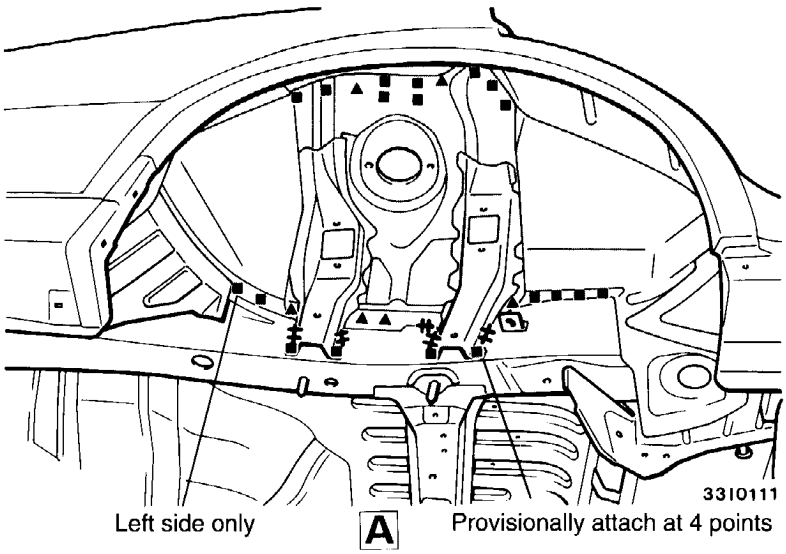


Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
⫴⫴⫴⫴⫴⫴⫴⫴⫴⫴	MIG arc welding (continuous)
∞∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

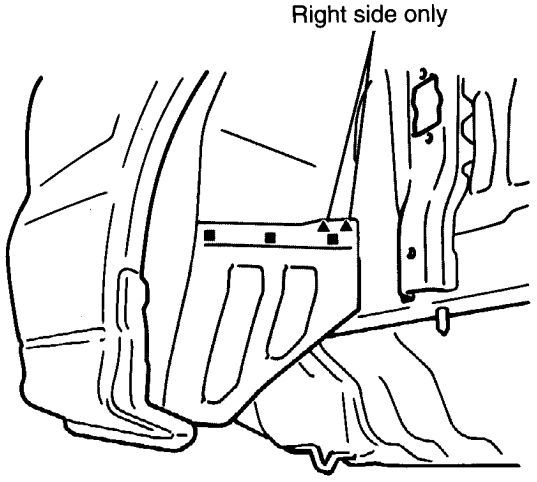
REPAIR WELDS



(Conditions with quarter outer removed)



Right side only



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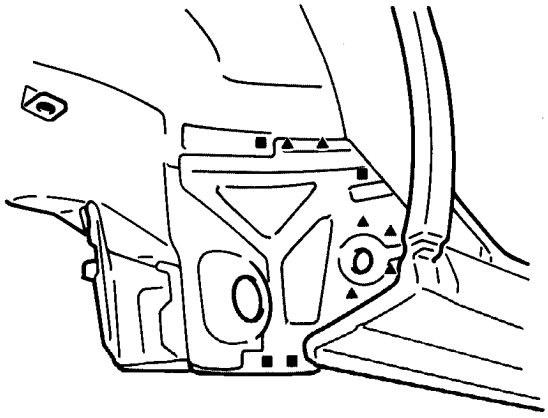
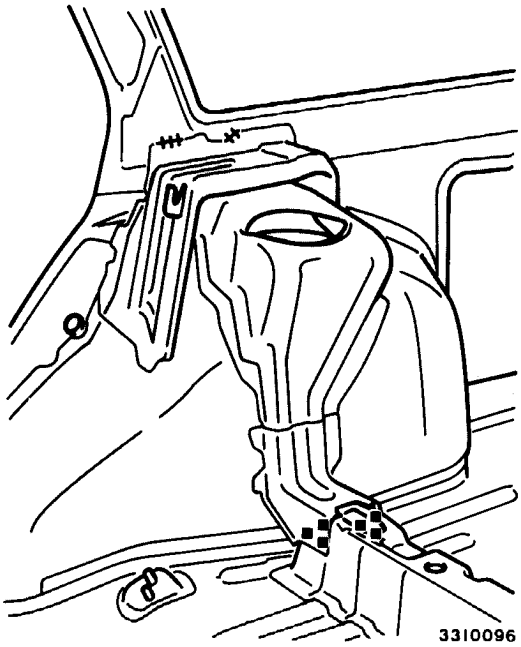


C 3310095



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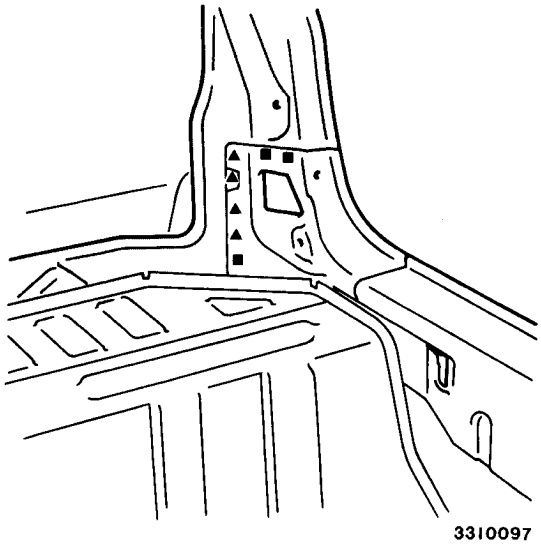
D



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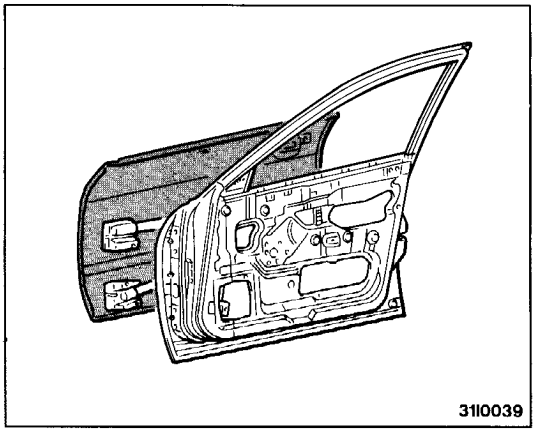
E

FRONT DOOR OUTER PANEL



Symbol	Operation description
● ● ● ●	Spot welding
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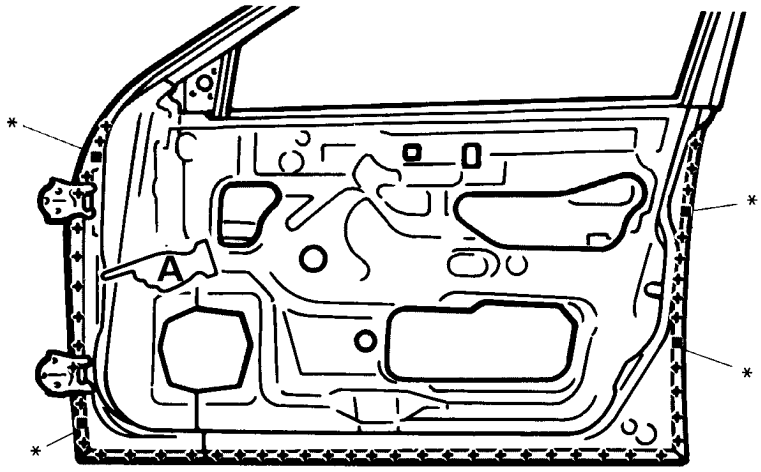
∞∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS



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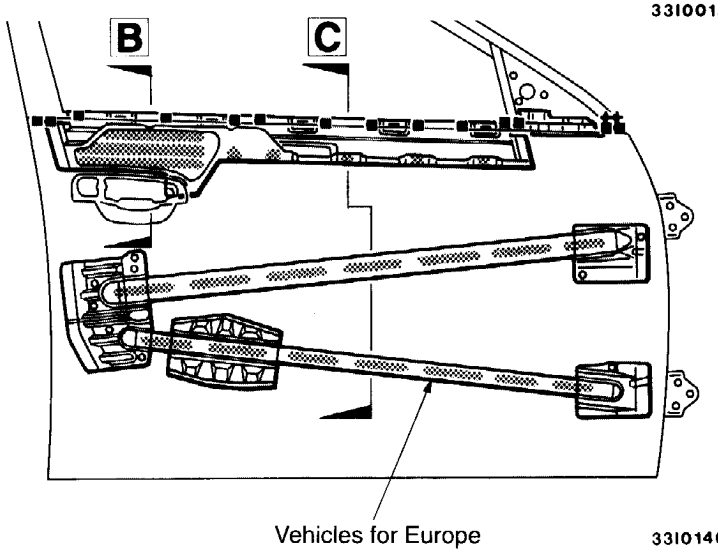

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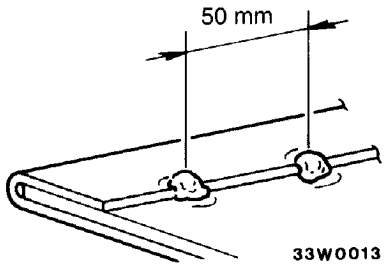
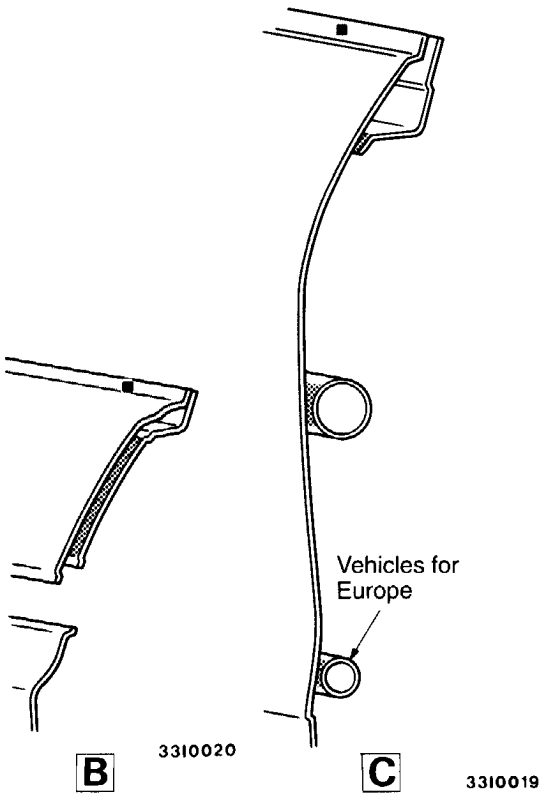


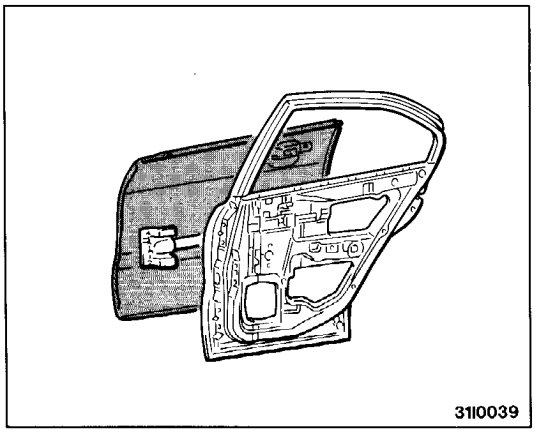


▒▒ : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

NOTES
(1) Weld point* indicates manufacturer's welding point. (Unnecessary at repair work)
(2) After hemming the door outer panel, MIG spot weld the flange overlap section at a pitch of approx. 50 mm.

REAR DOOR OUTER PANEL



Symbol	Operation description
● ● ● ●	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
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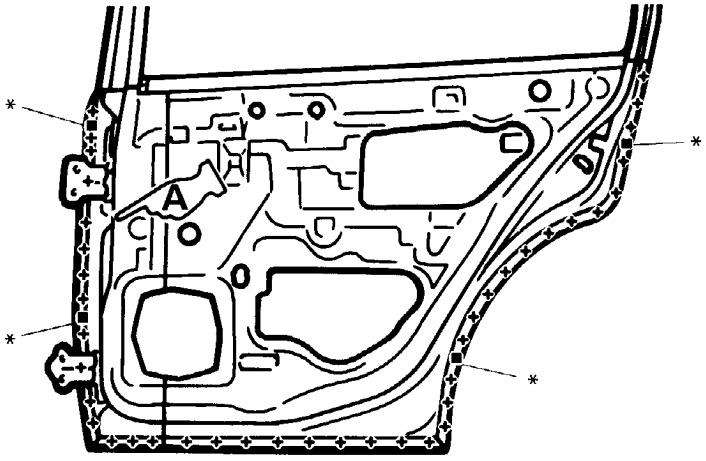
∞∞∞∞∞∞∞∞∞	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

REPAIR WELDS



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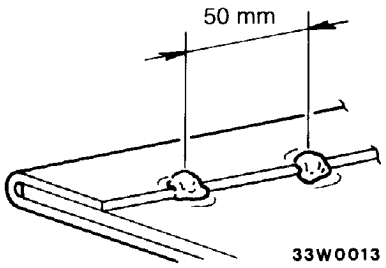
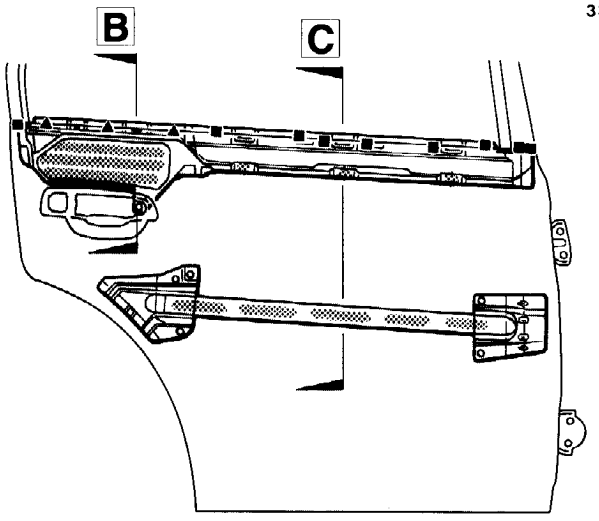
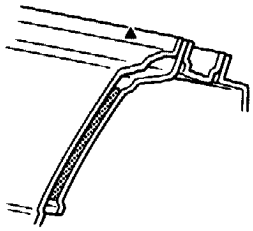


A





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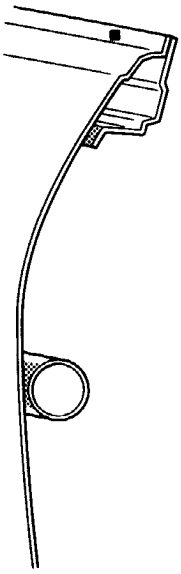

3310021

C

3310147

▒ : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

NOTES
(1) Weld point* indicates manufacturer's welding point. (Unnecessary at repair work)
(2) After hemming the door outer panel, MIG spot weld the flange overlap section at a pitch of approx. 50 mm.