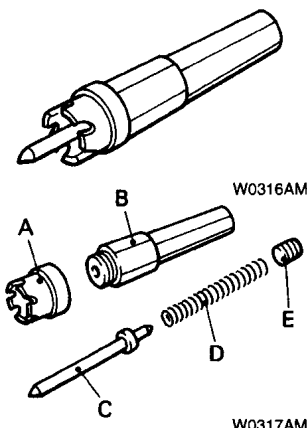

3 WELDED PANEL REPLACEMENT

SPECIAL TOOLS	3-2
NOTES WITH REGARD TO REPAIR WORK ...	3-2
HEADLAMP SUPPORT	3-4
FENDER SHIELD	3-6
FRONT PILLAR	3-8
SIDE SILL	3-10
REAR END CROSSMEMBER	3-12
QUARTER PANEL, OUTER	3-13
REAR FLOOR	3-15
ROOF	3-18
QUARTER PANEL, INNER	3-20
FRONT DOOR PANEL, OUTER	3-21

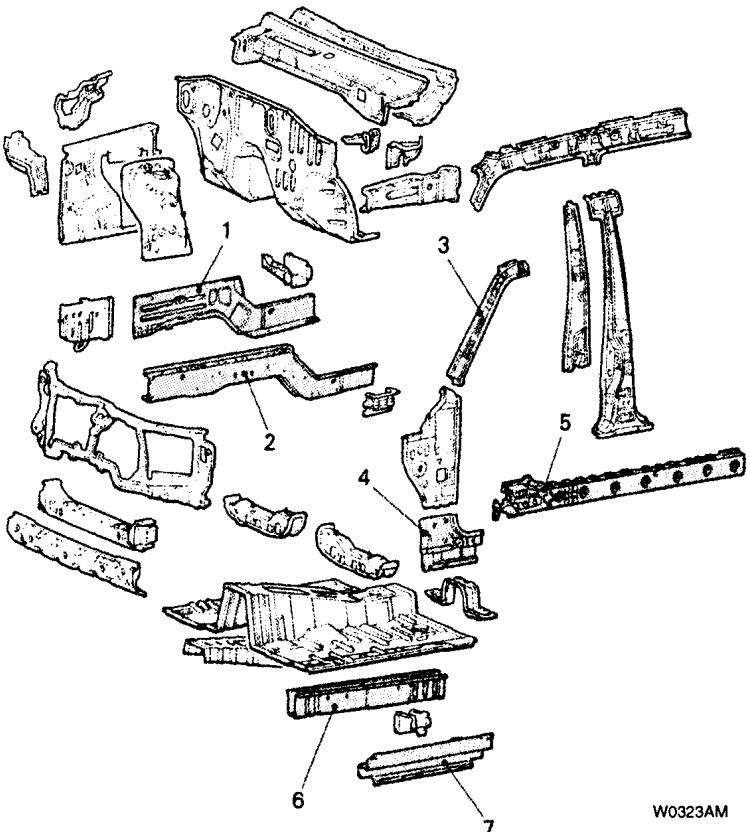
SPECIAL TOOLS

Tool	Number	Name	Use
	MB991776	Hole cutter type G	Cutting of the spot welded section
	A: MB991777	Hole cutter	
	B: MB991778	Shank	
	C: MB991779	Center pin	
	D: MB991780	Spring	
	E: MB991781	Hexagon socket head bolt	

NOTES WITH REGARD TO REPAIR WORK

At the sections shown below where the high-residue austenite steel panels are used, the spot section is thermally hardened and is difficult to cut, so a hole cutter (MB991776) or a low-speed drill (500 to 700 r/min) should be used for cutting.

Sections using high-residue austenite steel panels

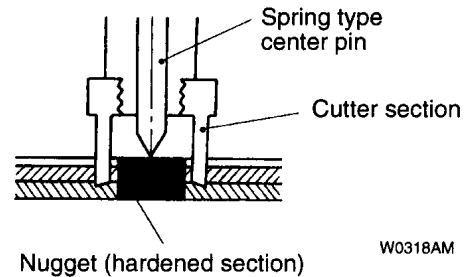
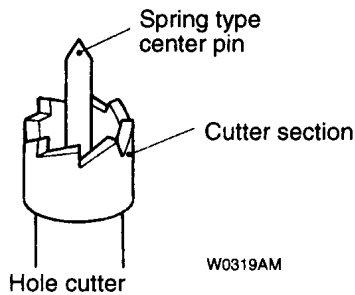
Usage sections	Name
	1. Front sidemember, outer
	2. Front sidemember, inner
	3. Front pillar, inner upper
	4. Front pillar inner lower extension
	5. Side sill outer reinforcement
	6. Front floor sidemember
	7. Front floor side sill, inner

Cutting Methods

To adapt to the in-house factory, cut with one of the following two methods.

Cutting with a hole cutter

Cut the outer periphery of the nugget (hardened section) of the sport welding in a circular shape.



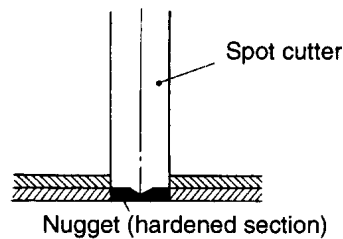
NOTE

As the center will easily deviate, accurately punch the center.

Cutting with a low-speed drill (500 to 700 r/min)

1. Using the low-speed drill, cut the nugget with a spot cutter.

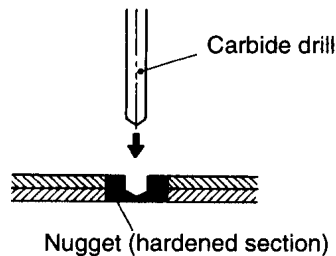
If cutting is not possible with this method, use the pre-hole method given in section 2.



2. Cutting with the pre-hole method

(1) Using the low-speed drill, open a pre-hole* at the center of the nugget with a carbide drill.

* With the regular spot cutter, a load of 50-60% will concentrate at the top, so open a hole beforehand to protect the tip.

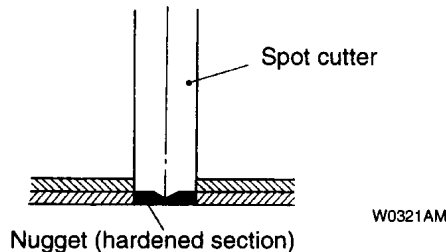


Tool	Material	Dimensions	Speed
Carbide drill	Carbide	Ø3 mm	700 r/min

Caution

As the center will easily deviate, accurately punch the center.

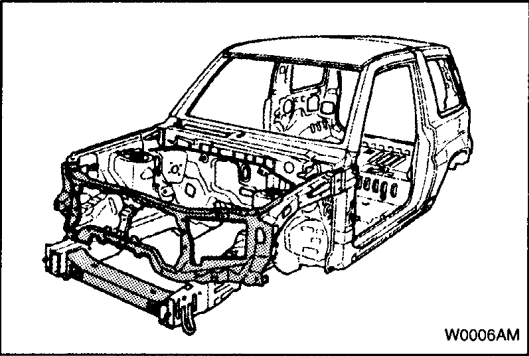
(2) Using the low-speed drill, cut the nugget with a spot cutter.



Caution

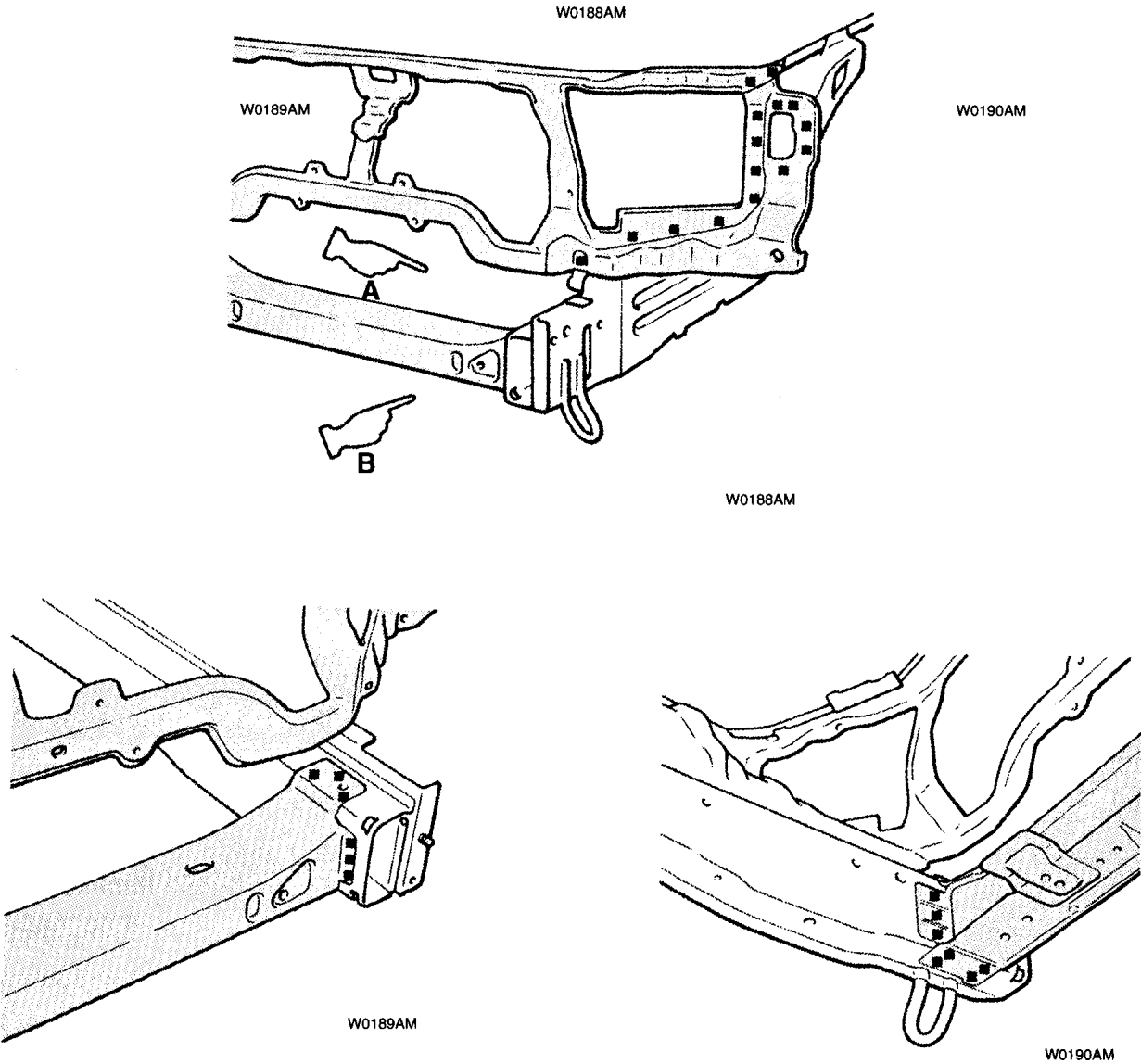
Depending on the type (manufacturer) of the spot cutter, it may be possible only to cut several points using this method. In this case, cut with the hole cutter.

HEADLAMP SUPPORT

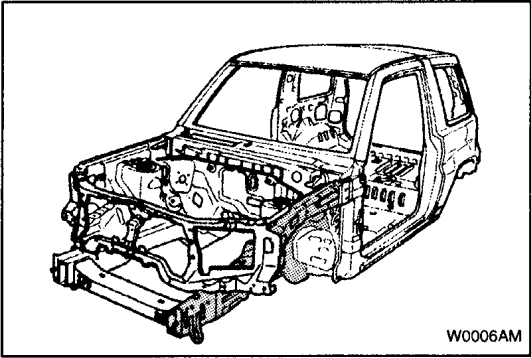


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS

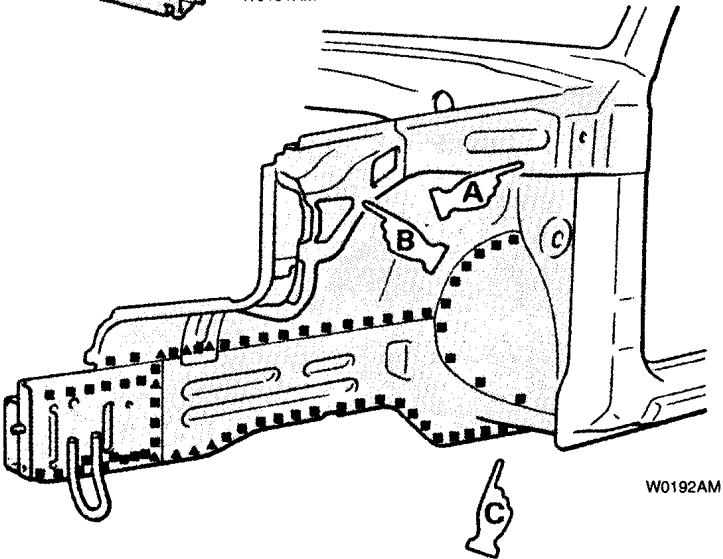
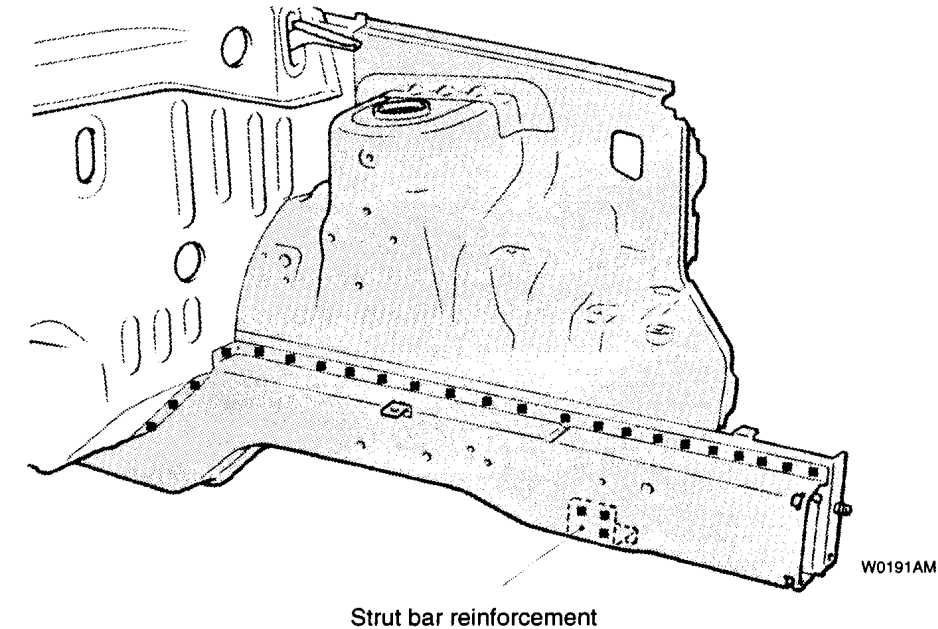


FENDER SHIELD

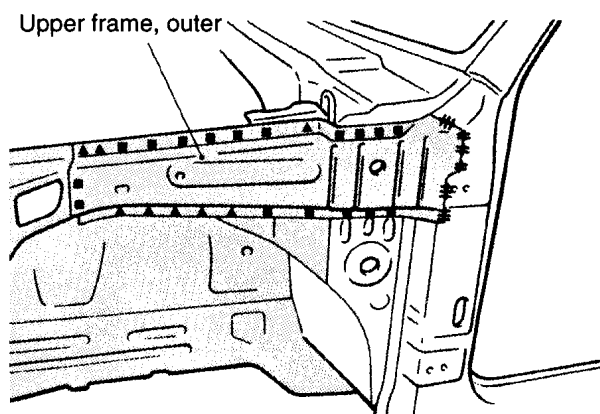


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS

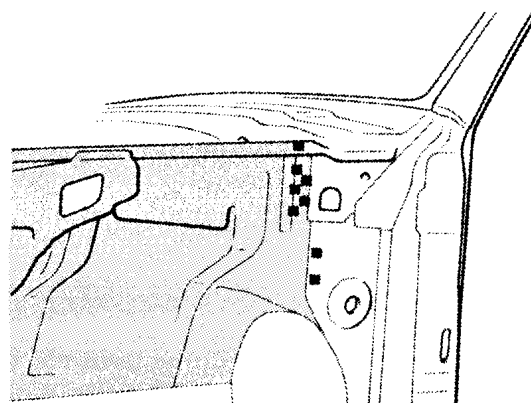


NOTE
For the weld points for the headlamp support, refer to P.3-4 – Headlamp Support.



W0193AM

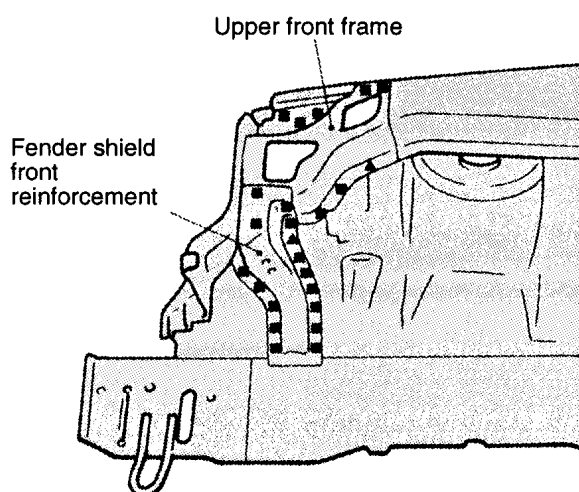
A



W0194AM

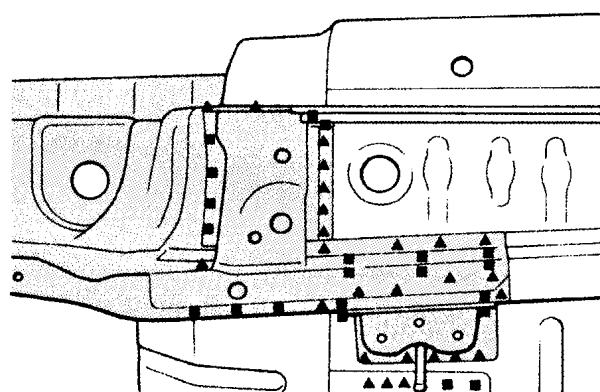
A

(with the upper, outer removed)



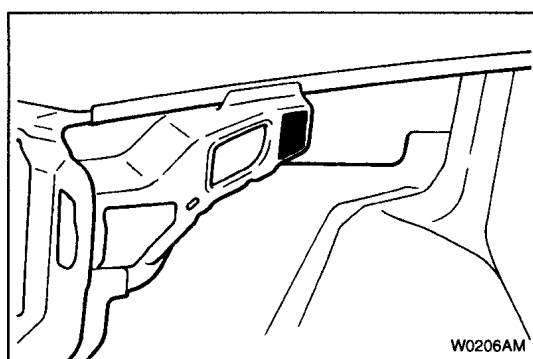
W0195AM

B



W0335AM

C



W0206AM

NOTES WITH REGARD TO REPAIR WORK

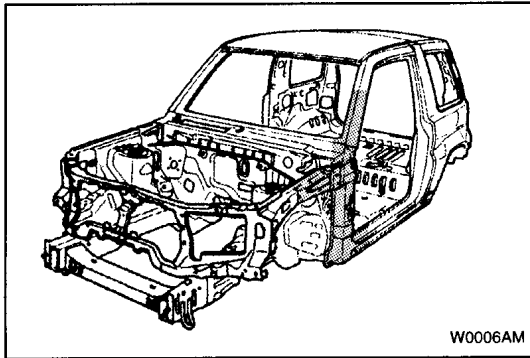
INSTALLATION

When installing the new outer upper frame, outer, apply structural adhesive.

■ : Adhesive

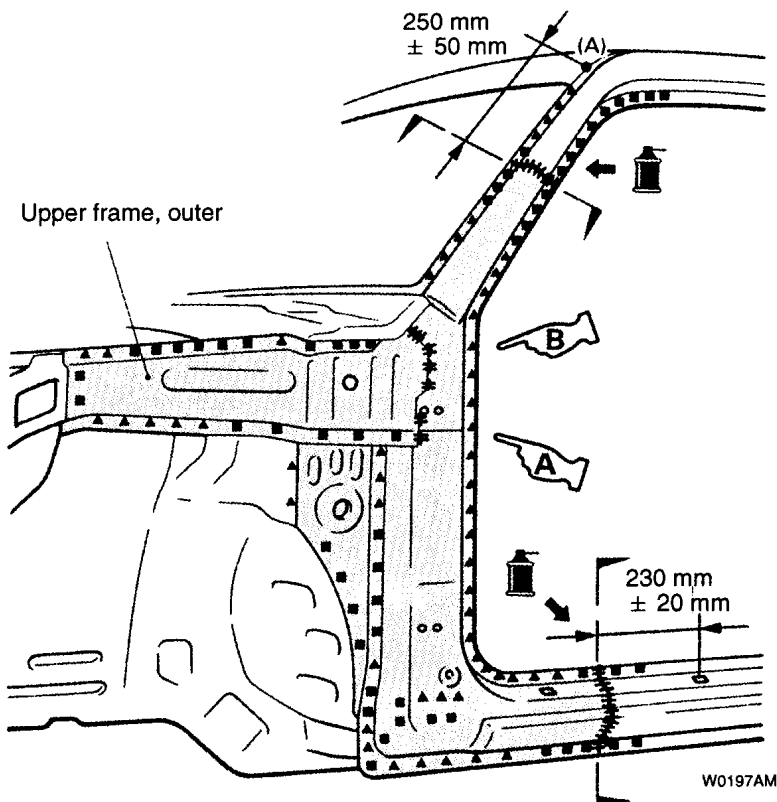
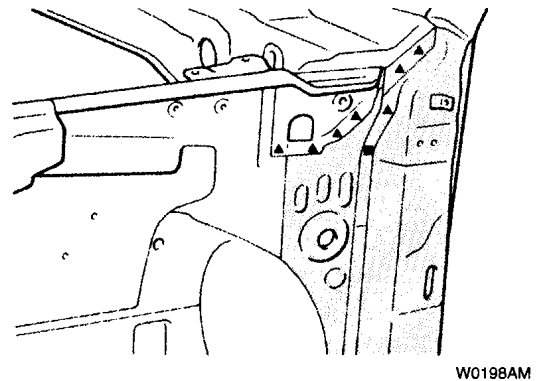
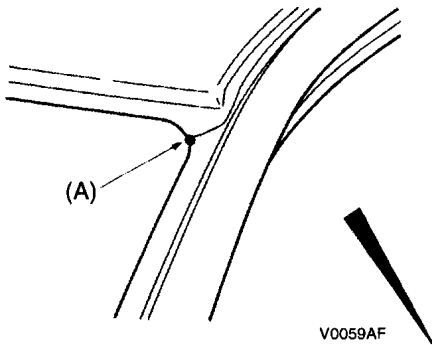
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460
		3M DP-420

FRONT PILLAR

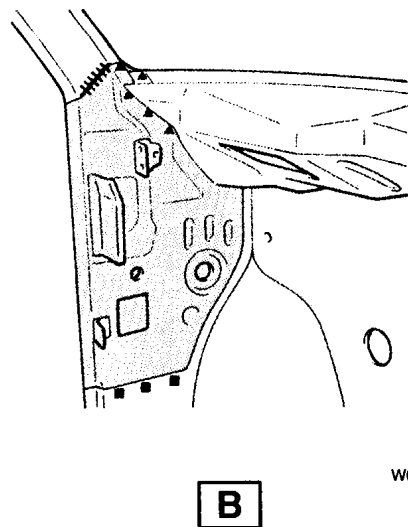


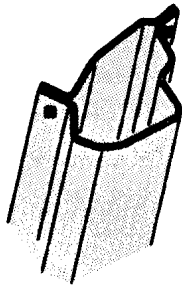
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS



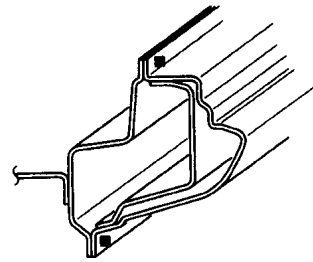
A
(With the upper frame, outer removed)





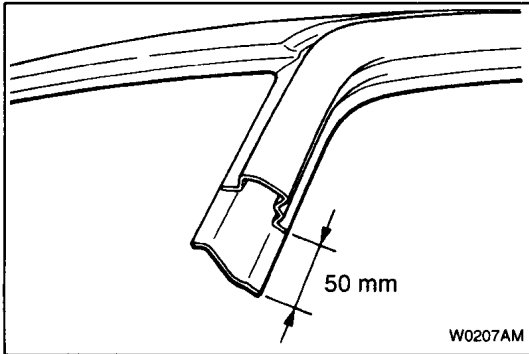
C

W0200AM

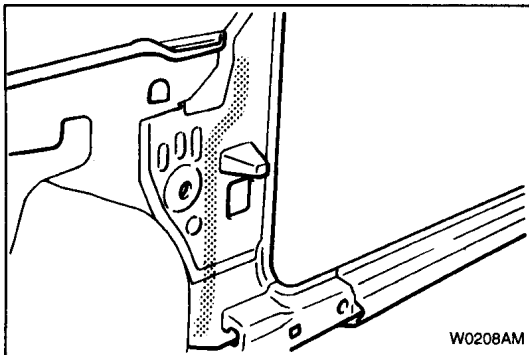


D

W0201AM



W0207AM



W0208AM

NOTES WITH REGARD TO REPAIR WORK

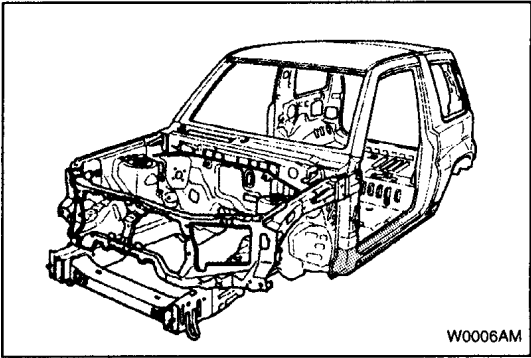
INSTALLATION

- (1) When cutting the front pillar, cut the outer panel off the inner panel by 50 mm, as shown, to ensure strength.

- (2) When installing a new outer side panel, apply body sealant at the sections of the front pillar, inner shown in the illustration.

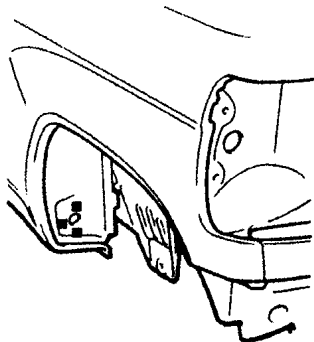
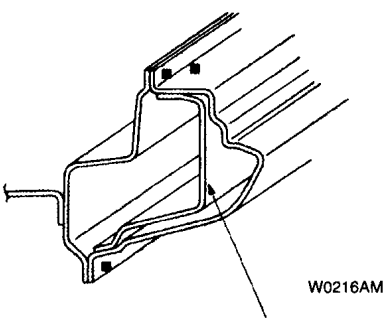
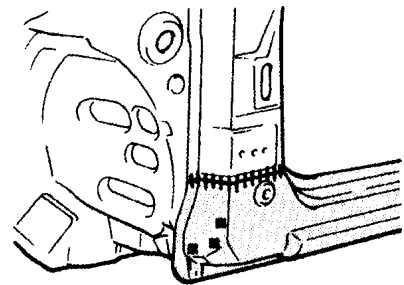
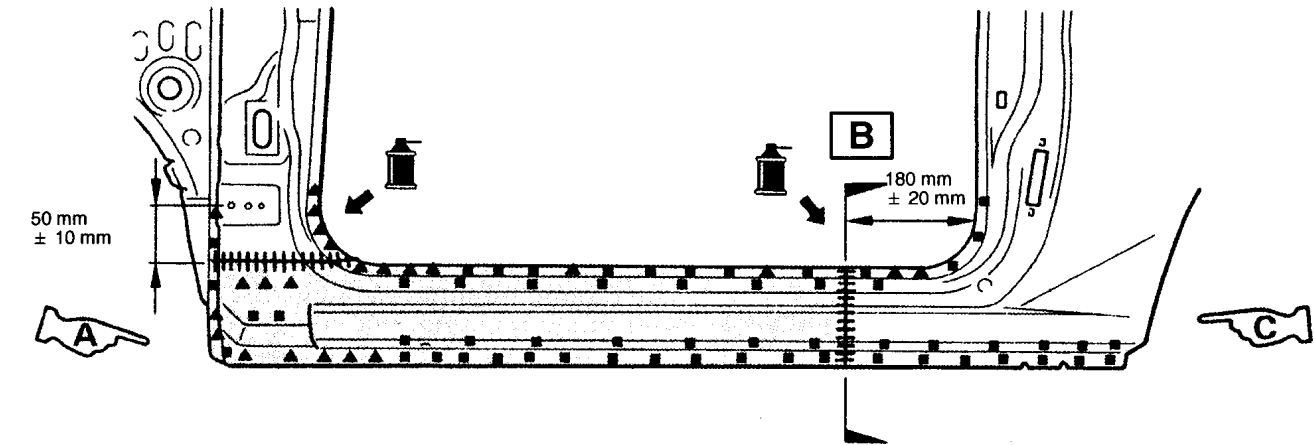
 : Body sealant

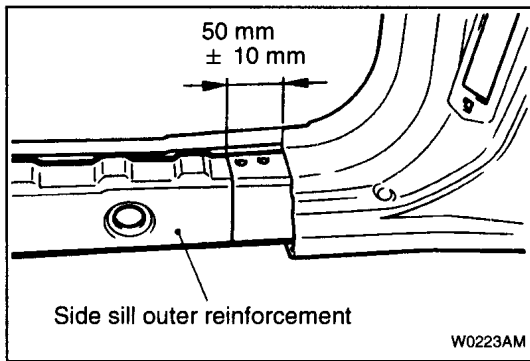
SIDE SILL



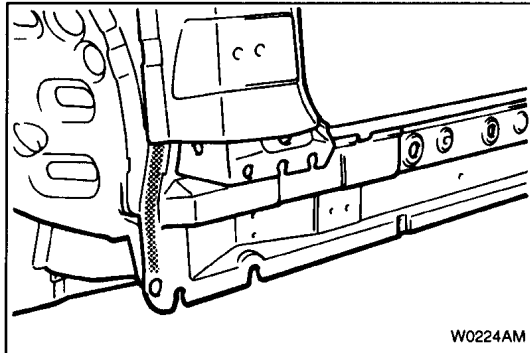
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS



**NOTES WITH REGARD TO REPAIR WORK****REMOVAL**

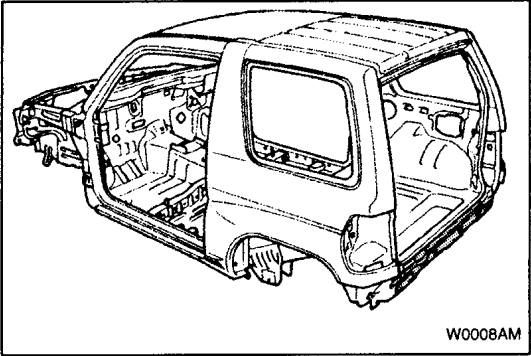
Cut the side sill outer reinforcement with the side outer panel at a position 50 mm ± 10 mm in front of the cutting face.

**INSTALLATION**

When installing a new side outer panel, apply body sealant on the front edge of the side sill shown in the illustration.

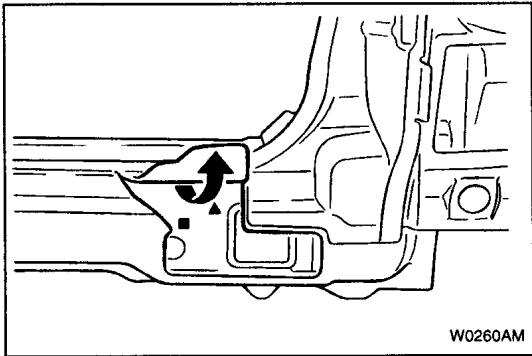
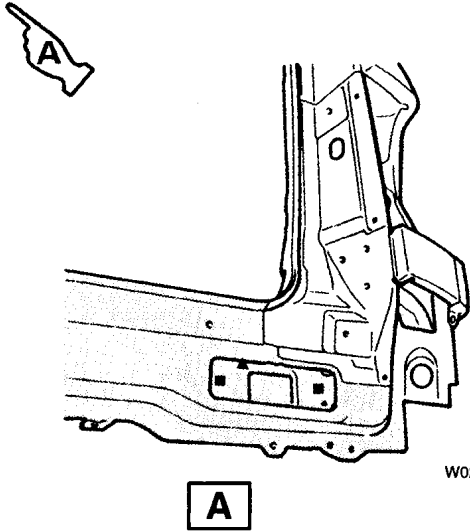
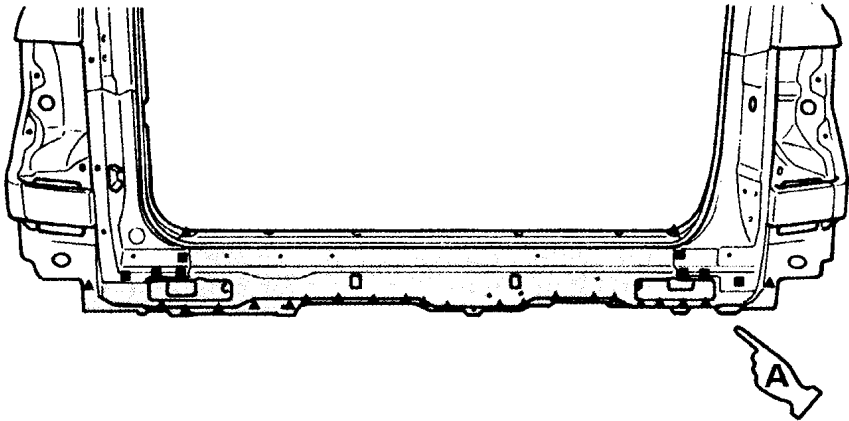
■ :Body sealant

REAR END CROSSMEMBER



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.)

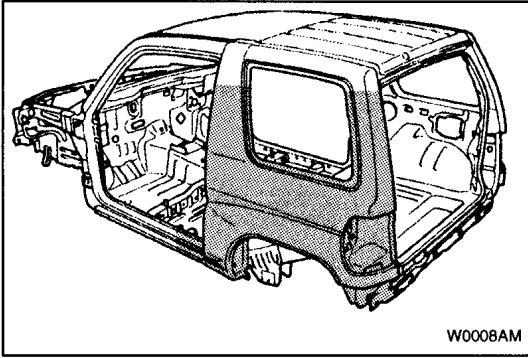
REPAIR WELDS



NOTES WITH REGARD TO REPAIR WORK
REMOVAL

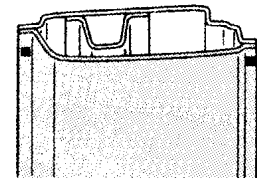
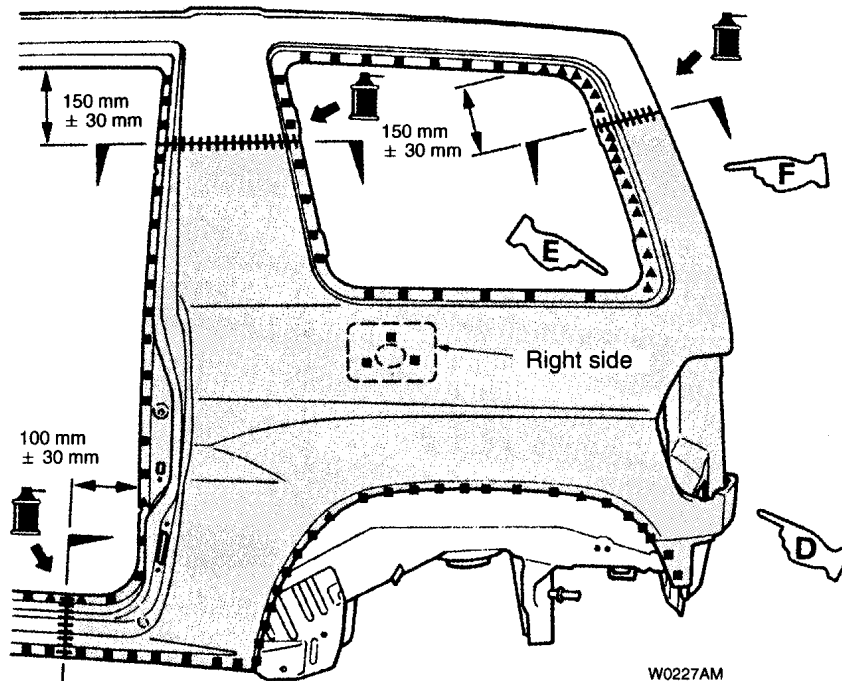
For the welding at the sections shown in the illustration, use the work hole for the rear end outer crossmember, make notches in the panel, bend the panel upward and remove.

QUARTER PANEL, OUTER

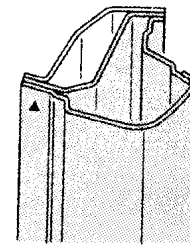


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

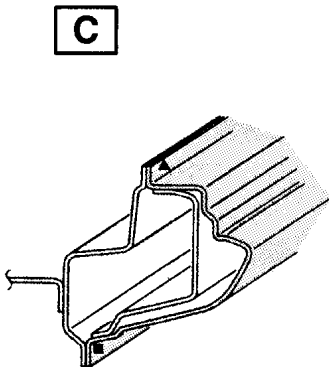
REPAIR WELDS



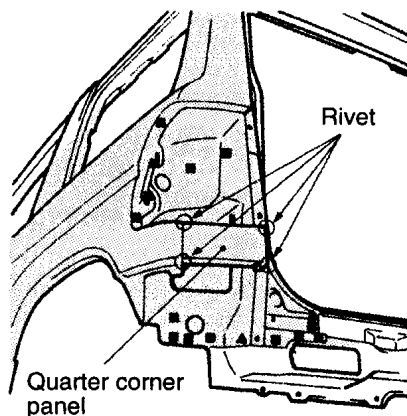
A



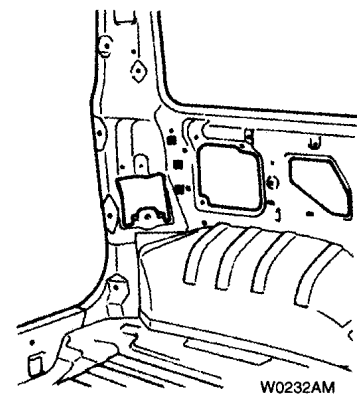
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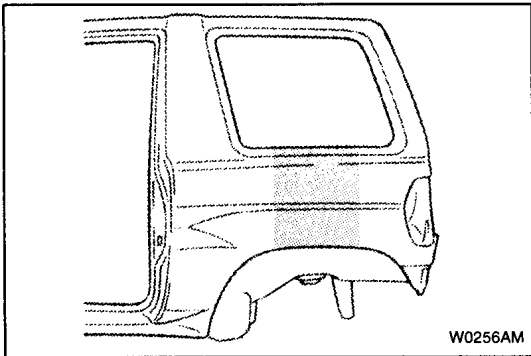
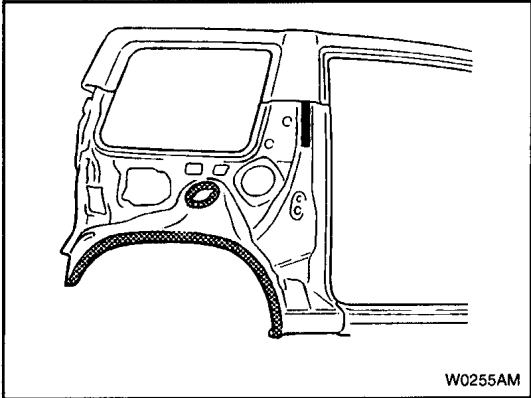
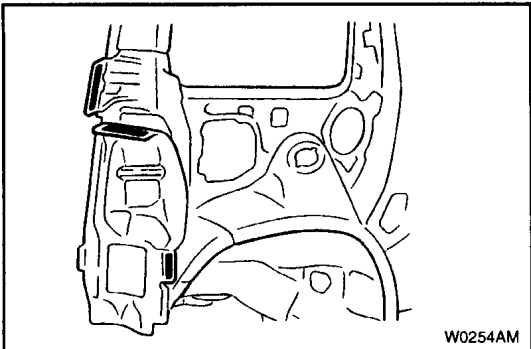
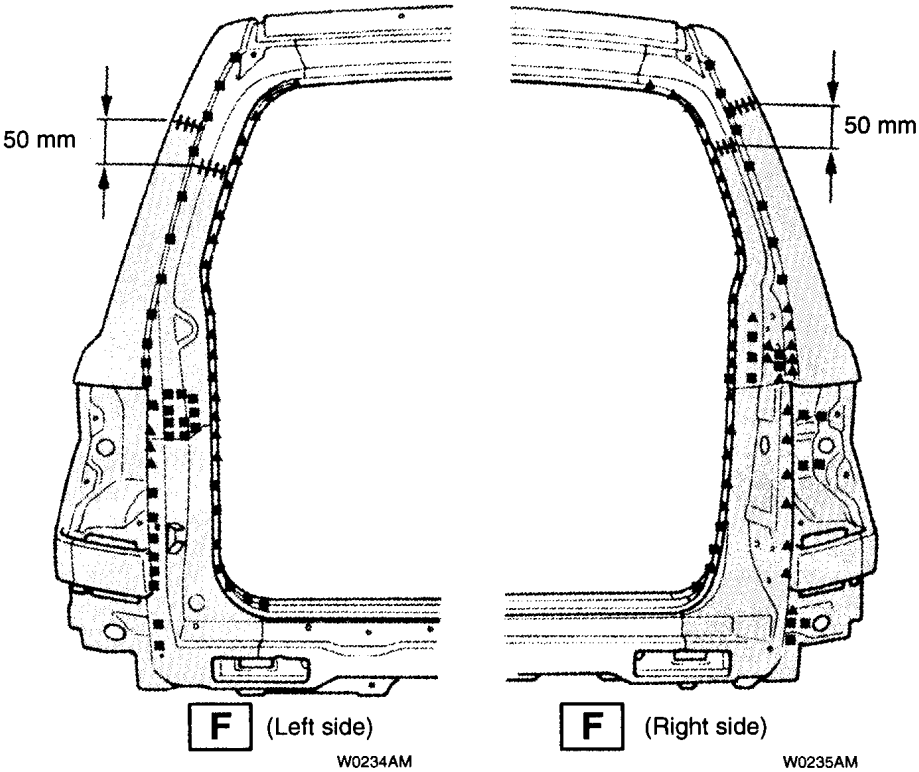
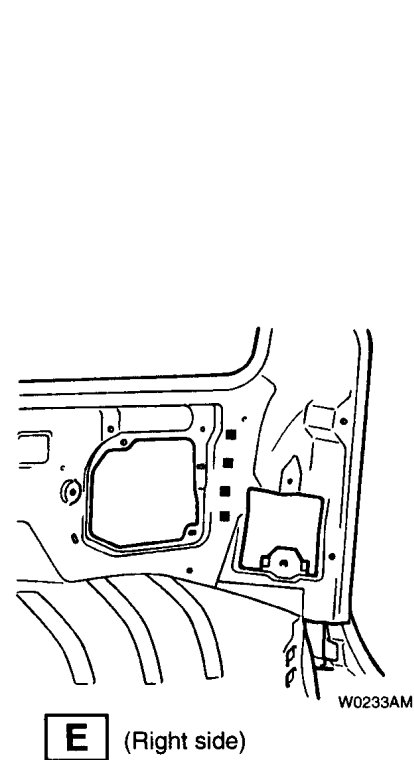
C



D



E (Left side)



NOTES WITH REGARD TO REPAIR WORKS

INSTALLATION

When installing the side outer panel, apply adhesive at the sections shown in the illustration.

■ : Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460
		3M DP-420

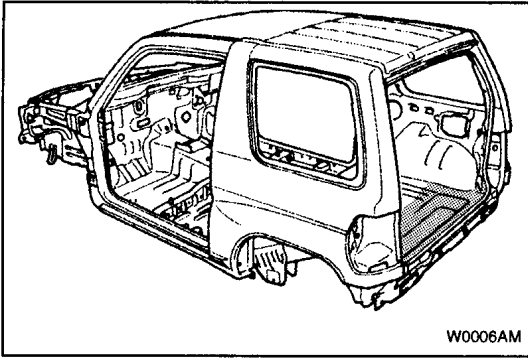
■ : Adhesive

Adhesive	Type
	Cholorprene-base drying sealant

Reference: The part can be replaces according to the range of damage.

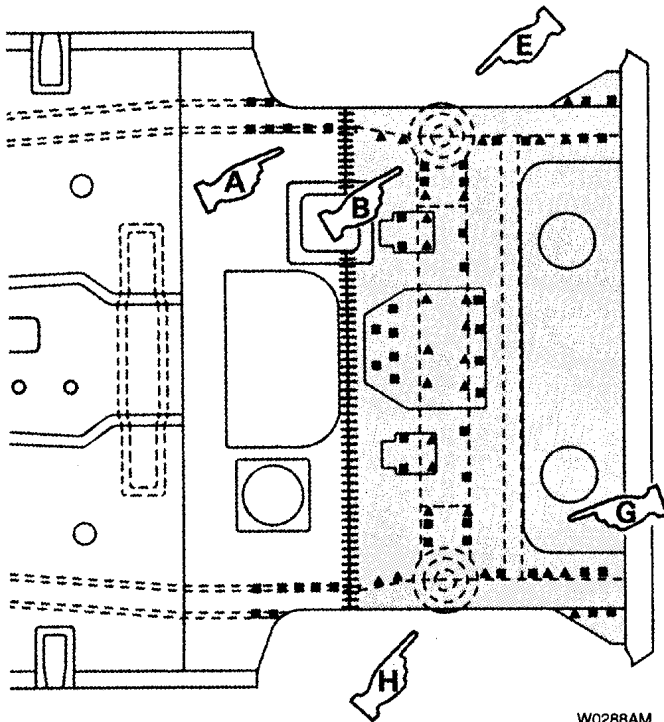
■ : Cutting range

REAR FLOOR

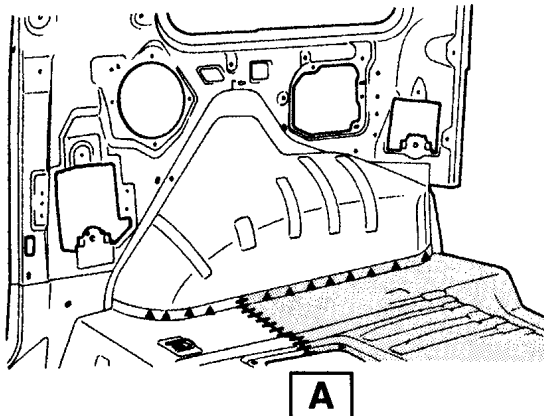
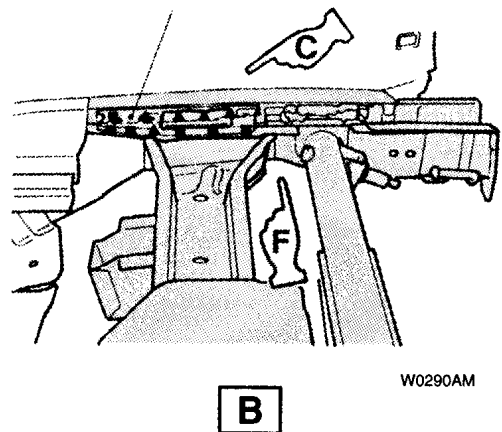


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS

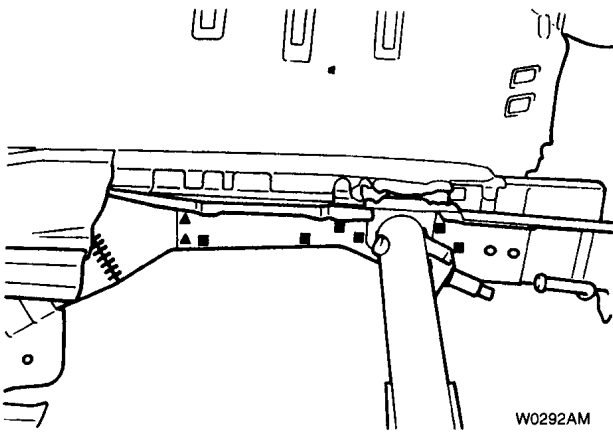


rear seat belt reinforcement

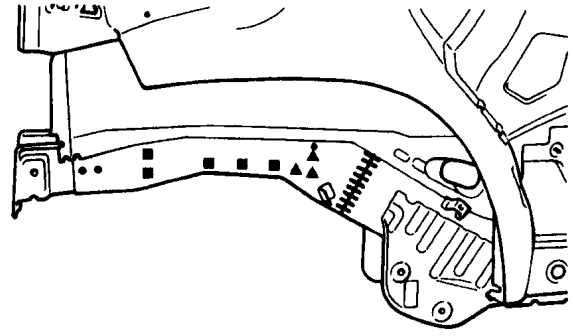


NOTE

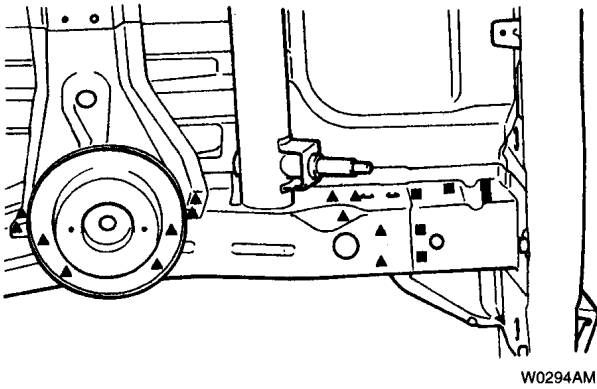
For the weld point to the rear end crossmember, refer to P.3-12 – Rear end crossmember



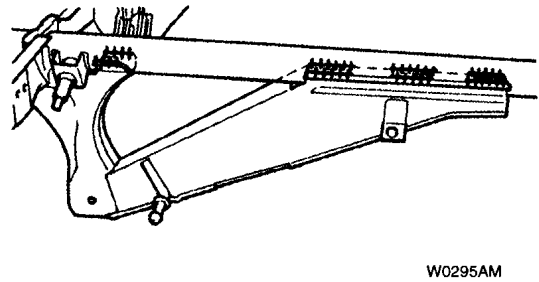
D



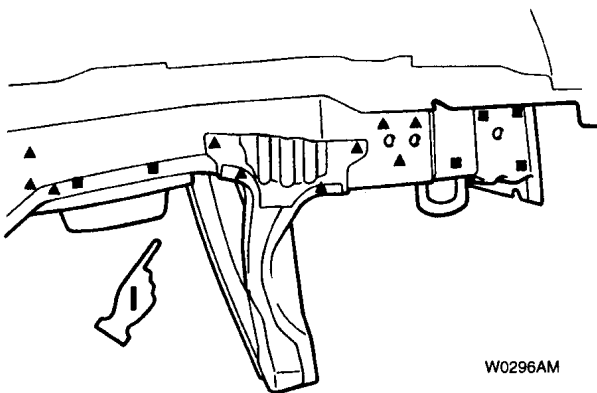
E



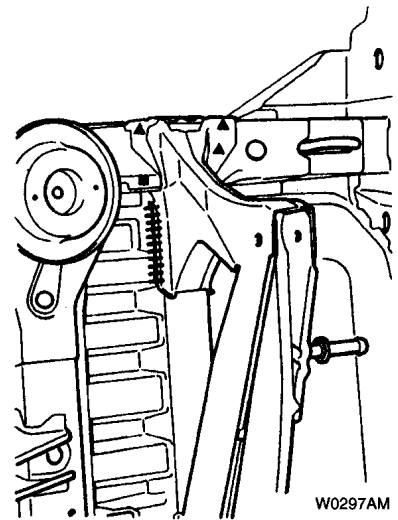
F



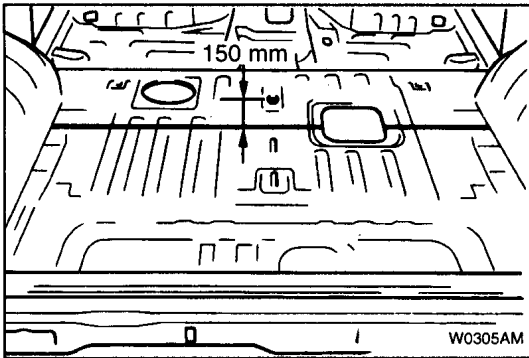
G



H



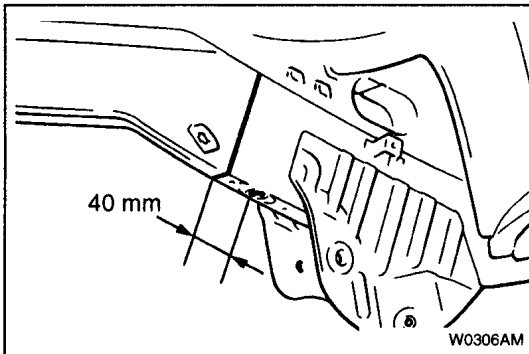
I



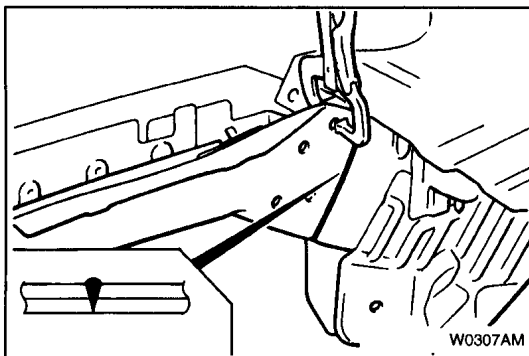
NOTES WITH REGARD TO REPAIR WORK

REMOVAL

- (1) Cut the rear floor pan 150 mm behind the body center point shown.



- (2) Cut the rear floor sidemember with the rear floor sidemember 40 mm behind the hole shown.

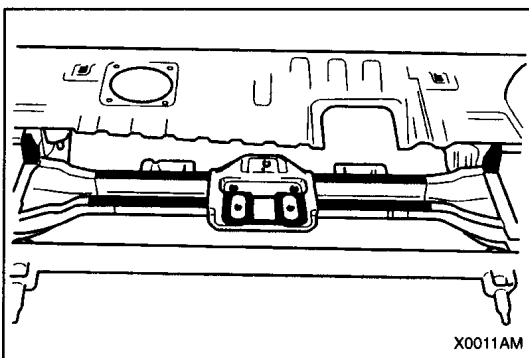


INSTALLATION

- (1) Cut the new part to match the cutting surface of the rear floor sidemember on the body side.

Caution

Cut the welded surface in V-shape and secure the strength of the welded section.

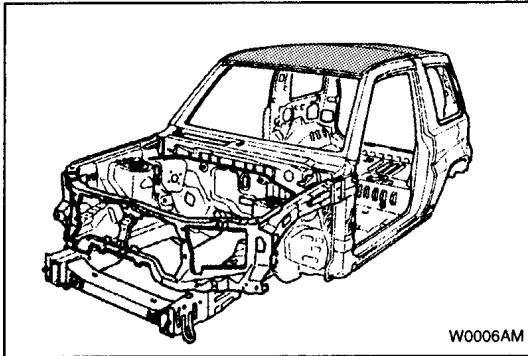


- (2) When the installing in the rear floor pan, apply adhesive on the rear floor crossmember and rear seat belt center reinforcement at the sections shown in the illustration.

■ : Adhesive

Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420

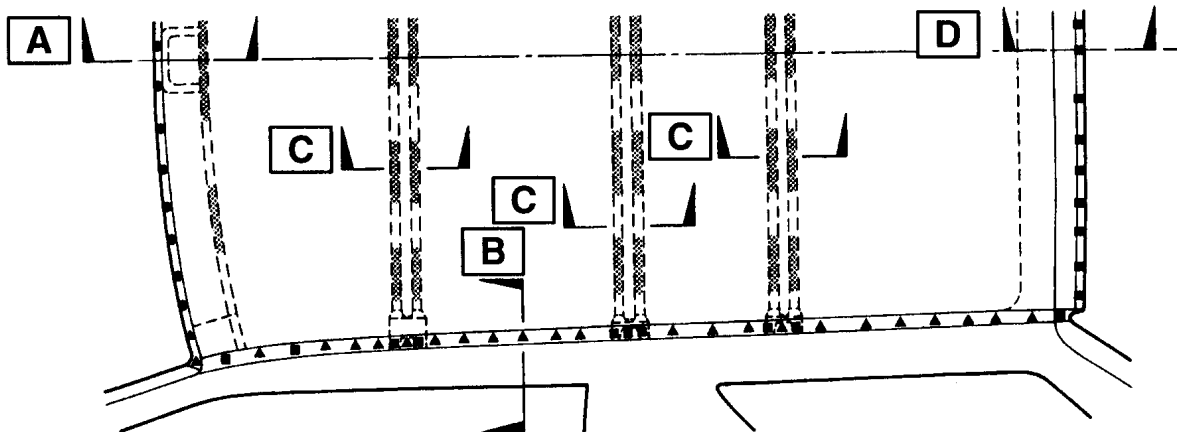
ROOF



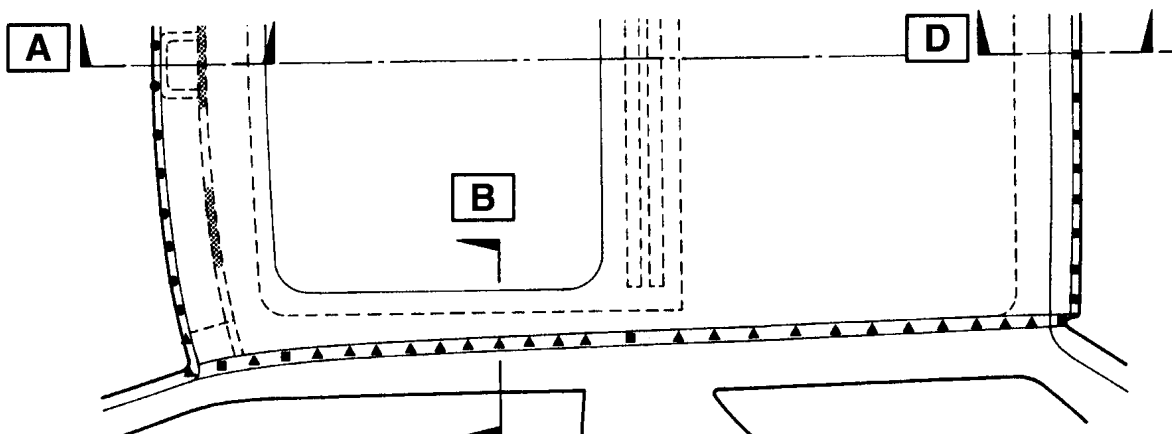
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○ ○ ○ ○ ○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS

STANDARD ROOF

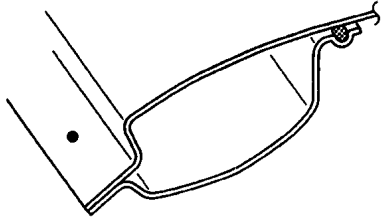


SUNROOF



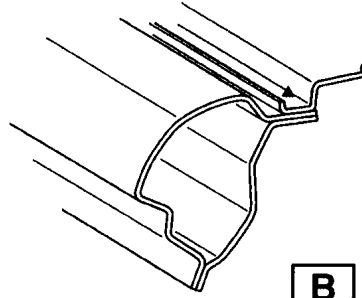
 : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant



A

W0263AM



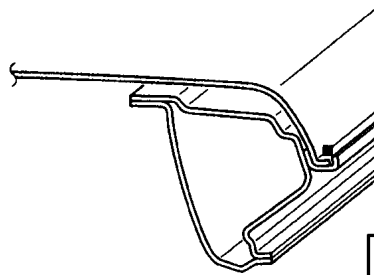
B

W0264AM



C

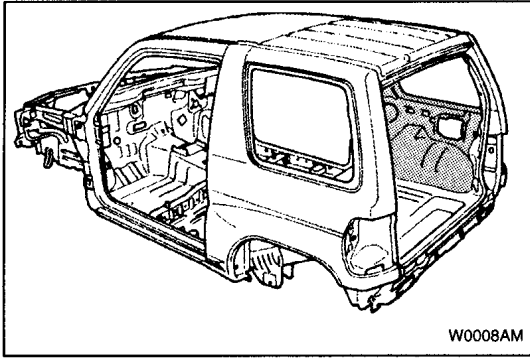
W0265AM



D

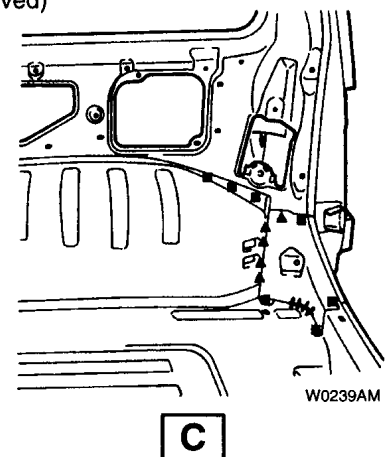
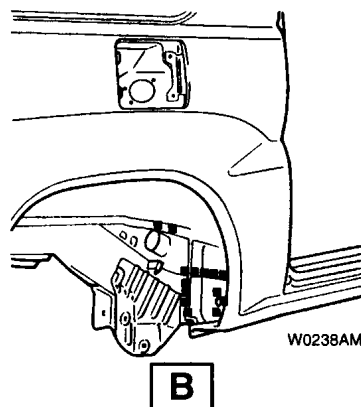
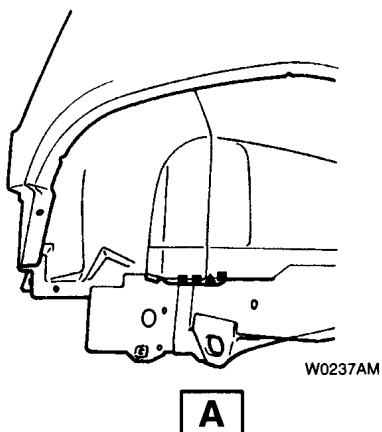
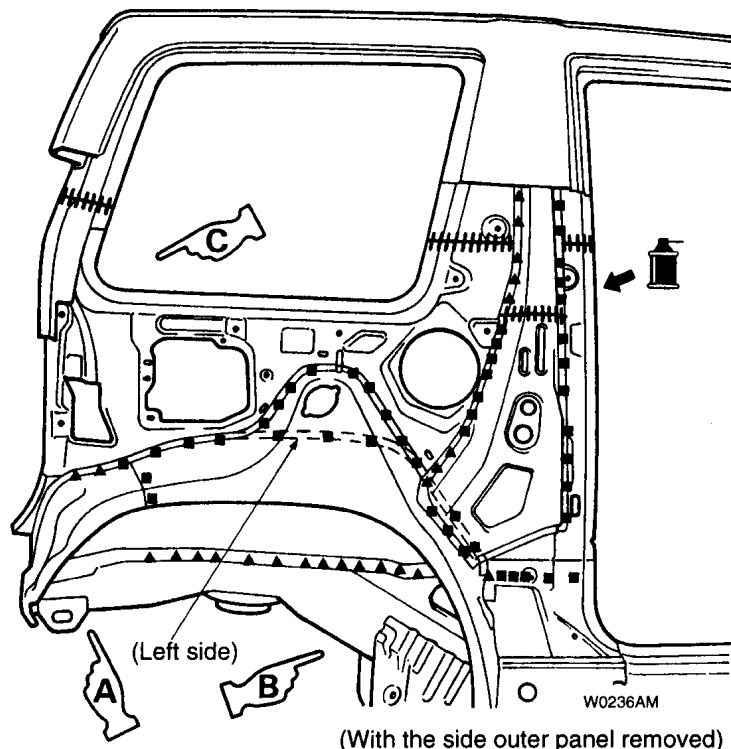
W0266AM

QUARTER PANEL, INNER

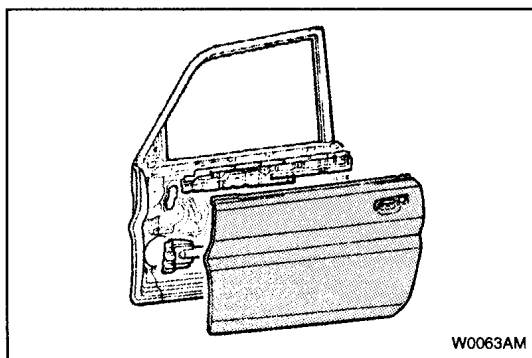


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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

REPAIR WELDS

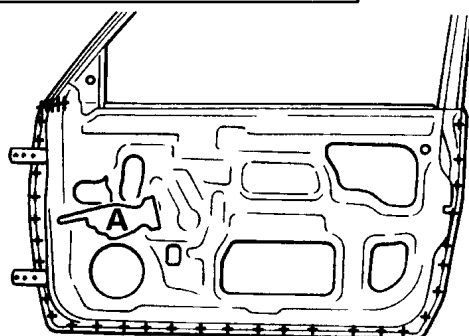


FRONT DOOR PANEL, OUTER



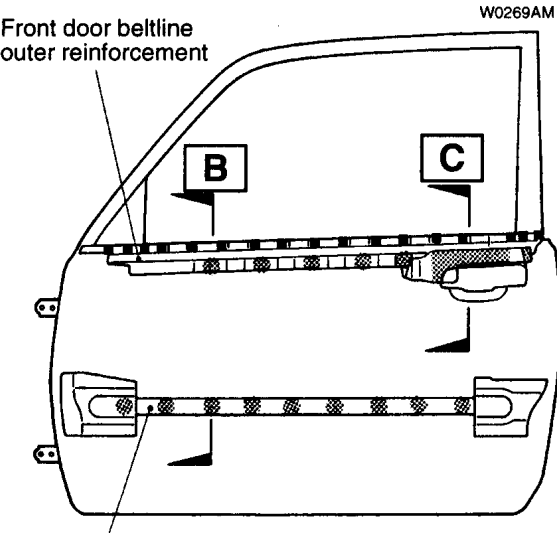
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ Indicates two panels to be welded ▲ Indicates three panels to be welded
+ + + +	MIG spot welding
+++++	MIG arc welding (continuous)
o o o o o	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply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

REPAIR WELDS



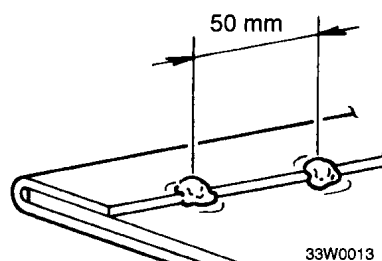
Front door beltline
outer reinforcement

W0269AM

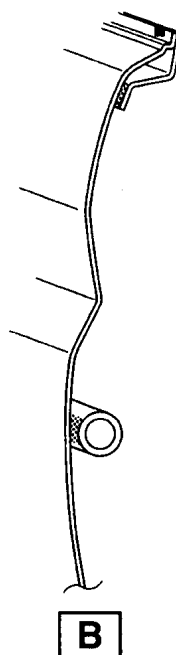


Front door side door beam

W0270AM

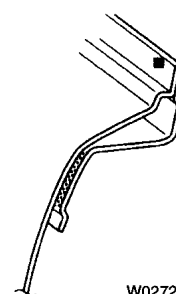


A



B

W0271AM



W0272AM

C

: Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

NOTE

After hemming the door outer panel, MIG spot weld the flange overlap section at a pitch of approx. 50 mm.