

3 WELDED PANEL REPLACEMENT

<SPACE RUNNER/SPACE WAGON>

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FENDER SHIELD 3-3

<SPACE RUNNER>

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SIDE SILL 3-8

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<SPACE WAGON>

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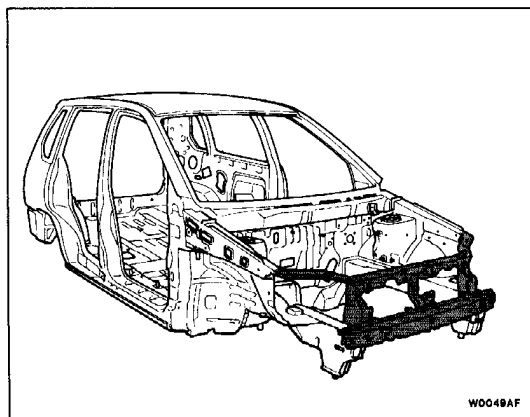
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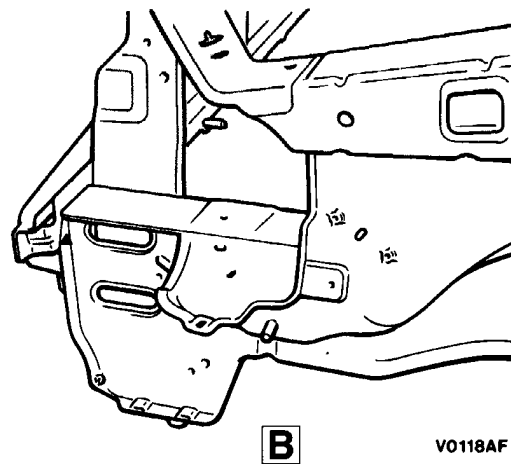
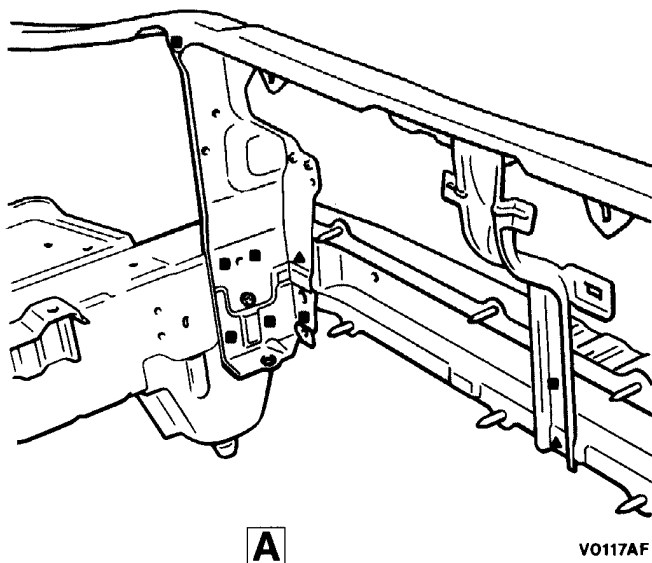
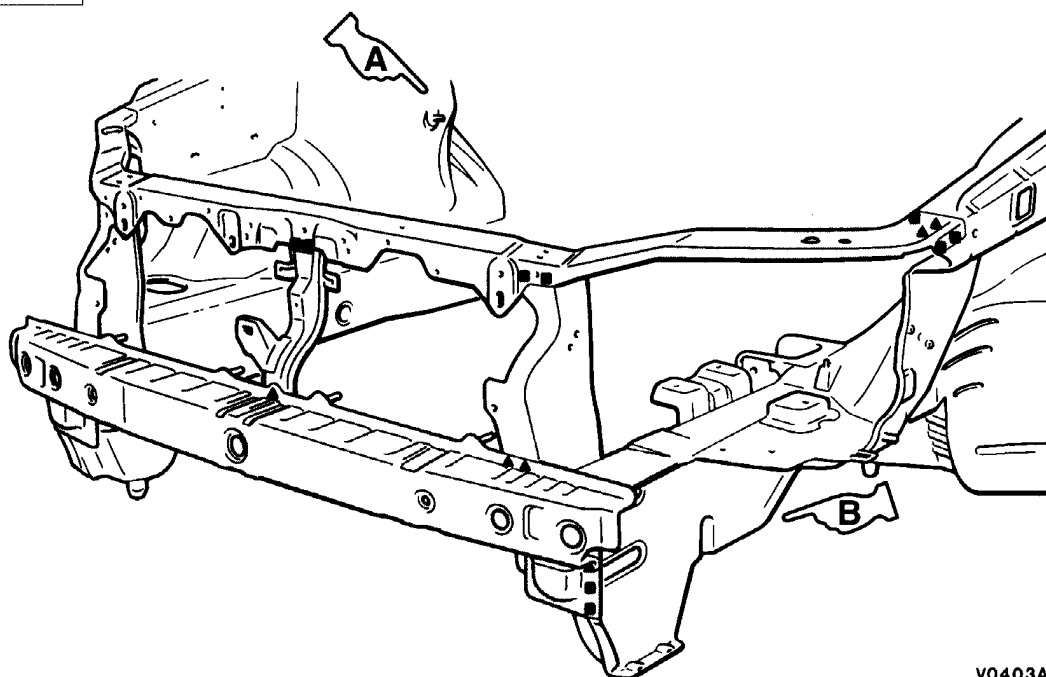
REAR DOOR OUTER PANEL 3-51

HEADLAMP SUPPORT <SPACE RUNNER, SPACE WAGON>



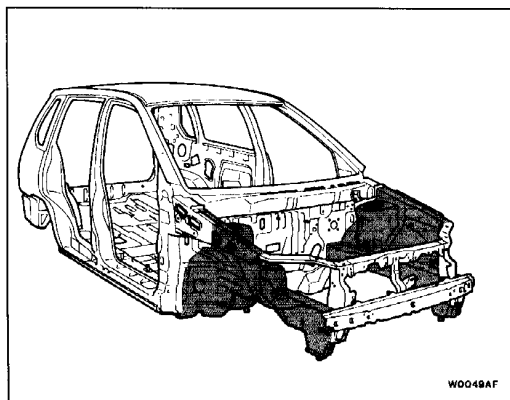
REPAIR WELDS

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)
oooooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



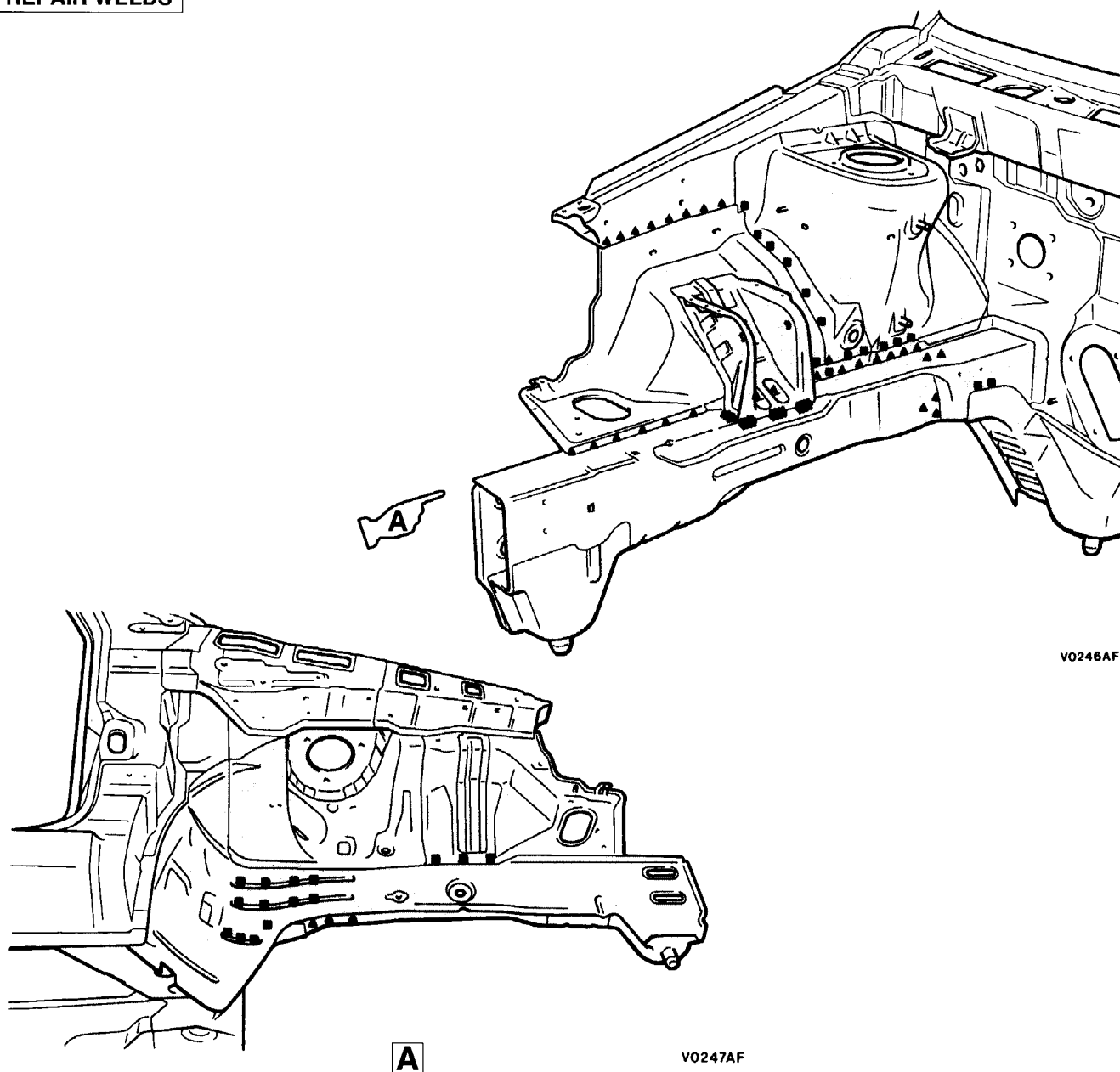
NOTE: The shapes of parts for the SPACE WAGON differ from those shown, but the weld locations are the same.

FENDER SHIELD <SPACE RUNNER, SPACE WAGON>

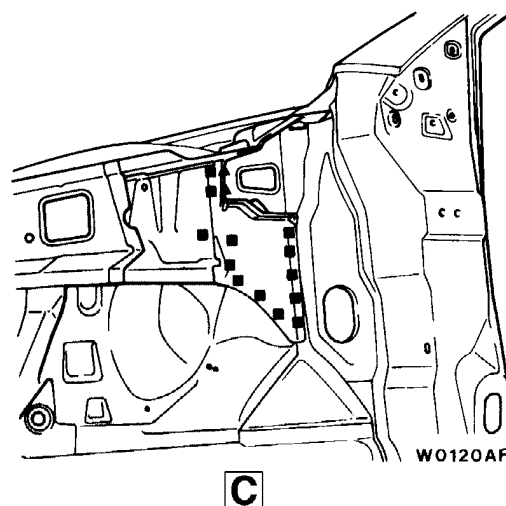
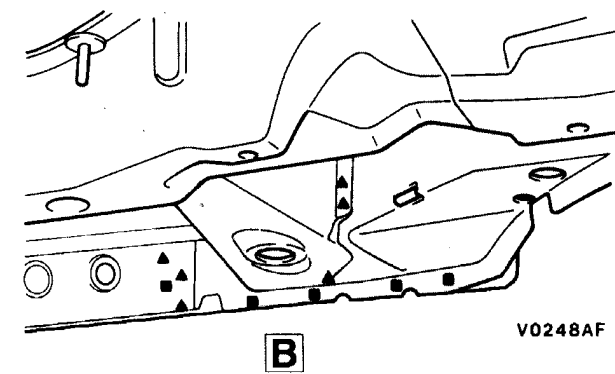


REPAIR WELDS

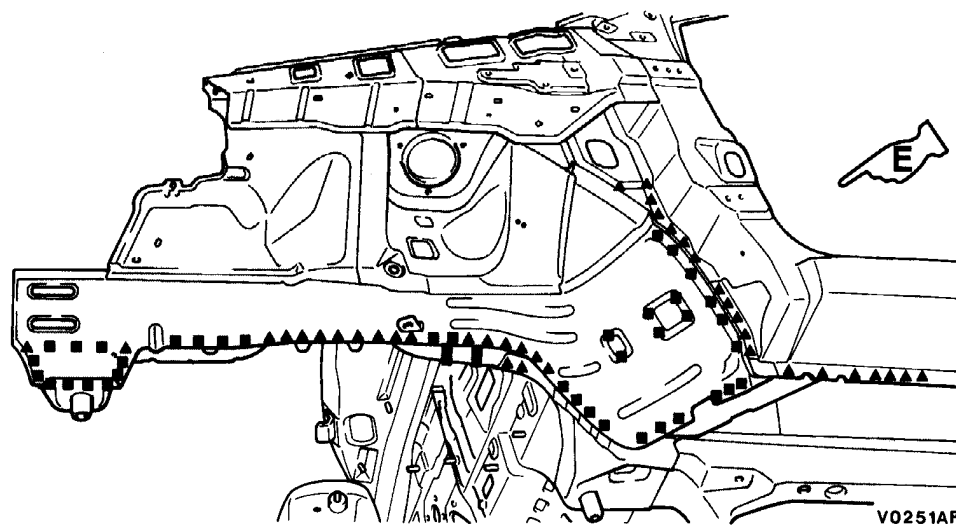
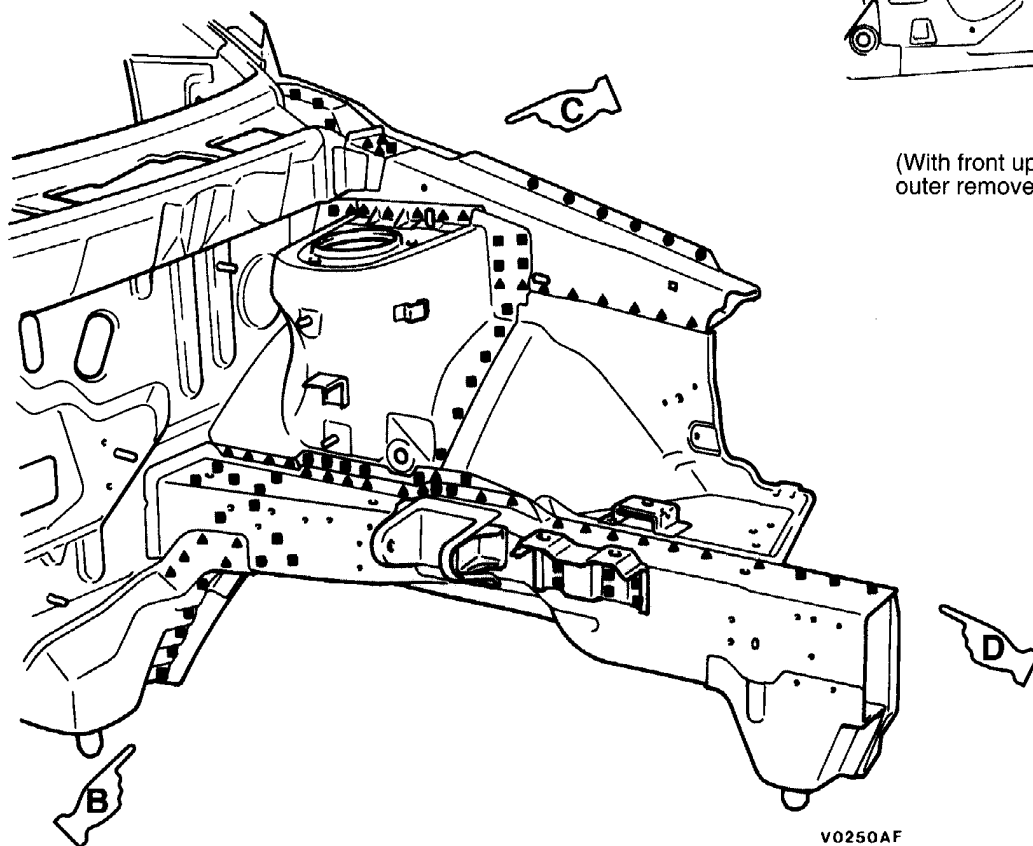
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	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



NOTE: Refer to P. 3-2 — Headlamp Support for the weld locations between the fender shield and headlamp supports.

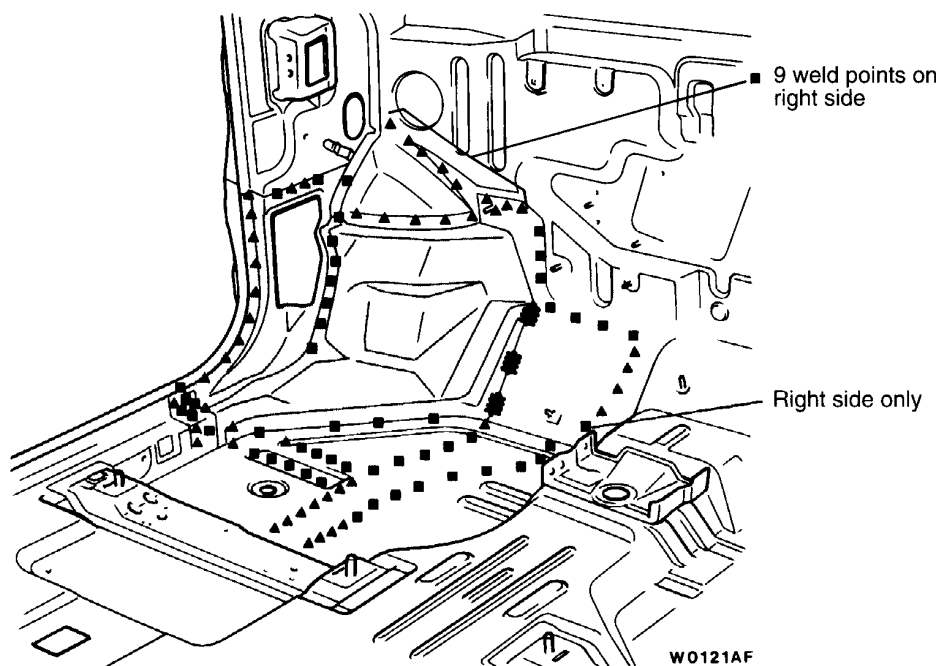


(With front upper frame extension,
outer removed)



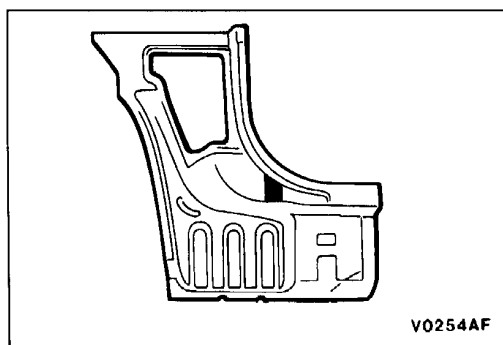
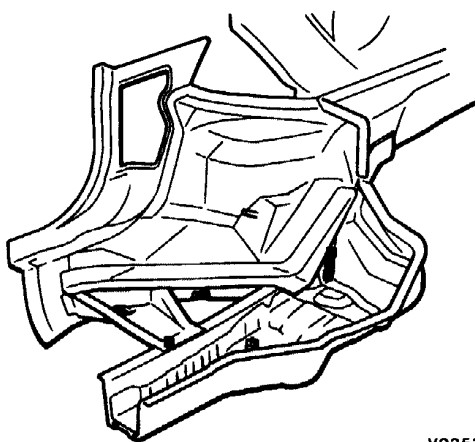
D

NOTE: Refer to P. 3-6 – Front Pillar for the weld locations between the fender shield and the front upper frame extension, outer.



E

3



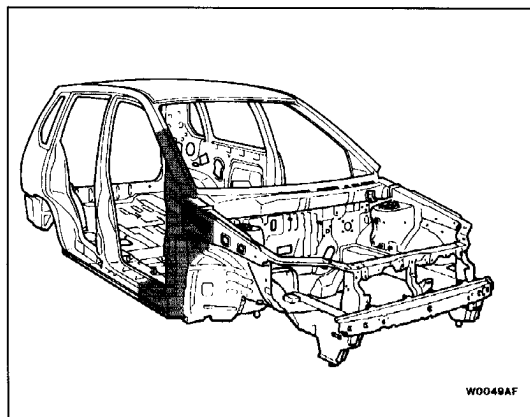
NOTES WITH REGARD TO REPAIR WORK INSTALLATION

When installing the front floor side sill, inner, rear, apply structural adhesive in the place shown in the illustration.

■ : Adhesive

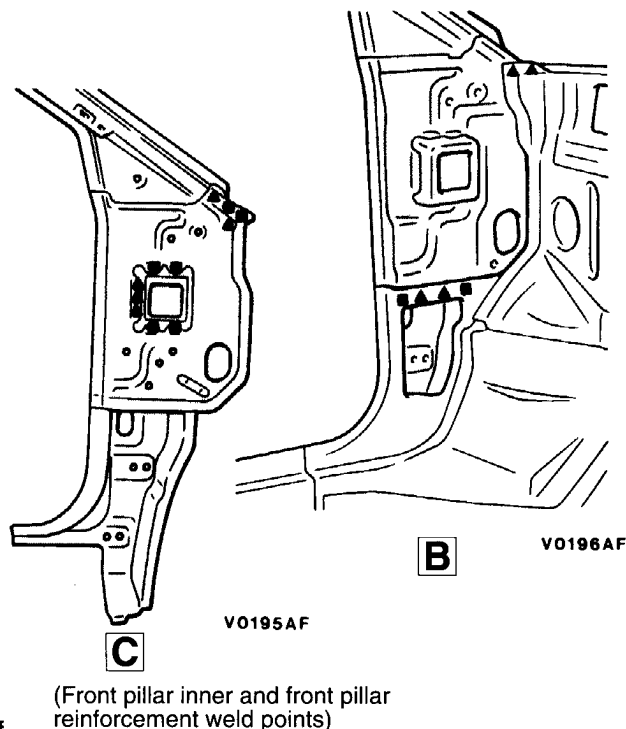
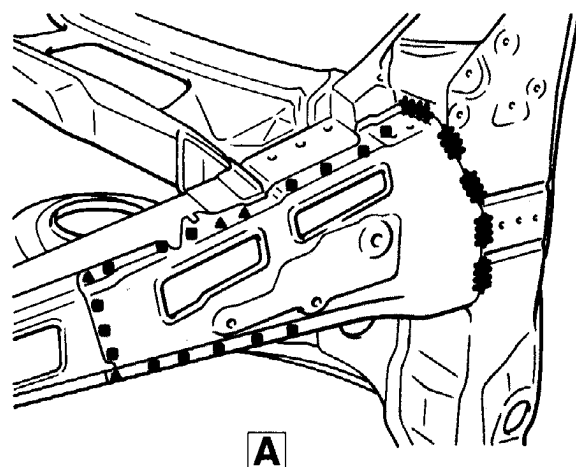
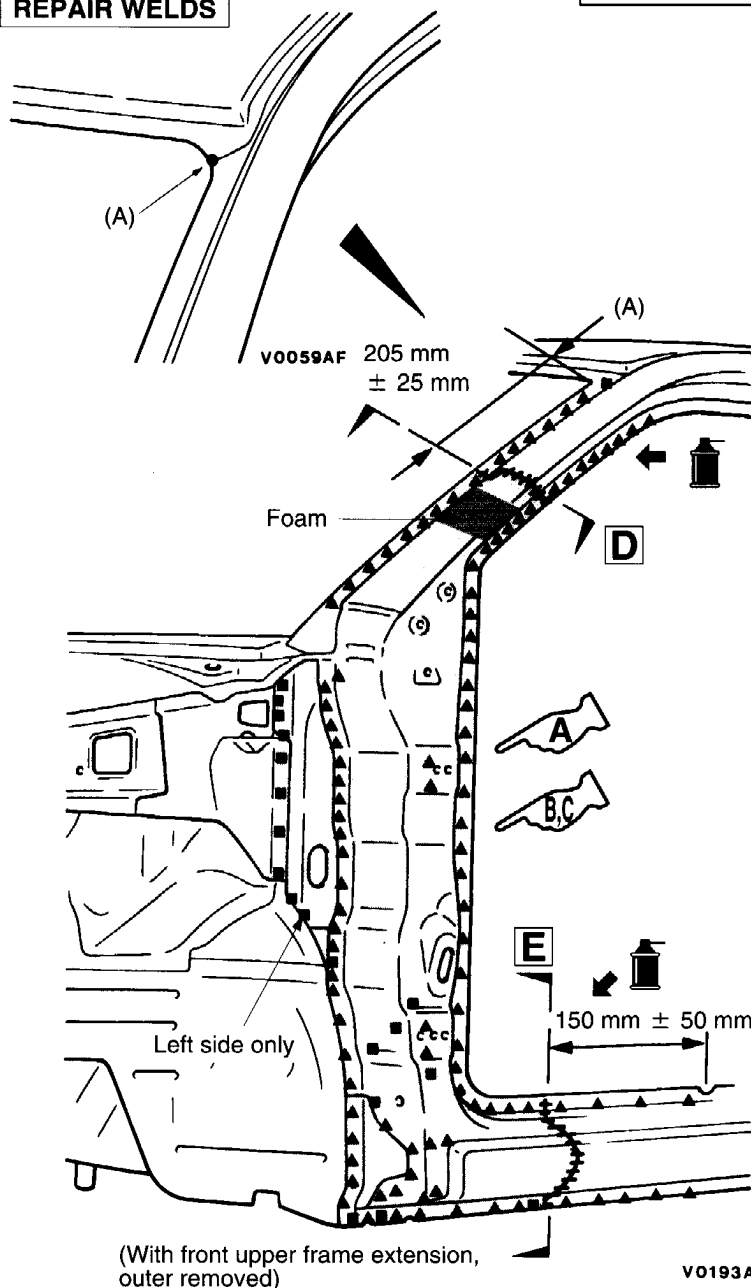
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420

FRONT PILLAR <SPACE RUNNER>

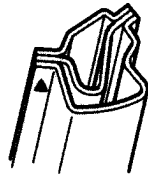


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
++++	MIG spot welding
	MIG arc welding (continuous)
ooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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

REPAIR WELDS

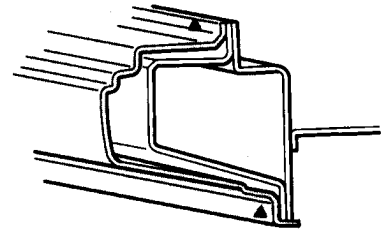


NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.



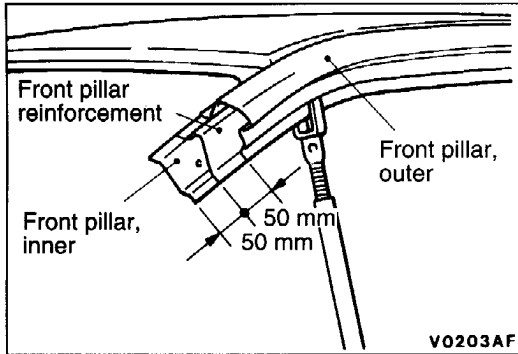
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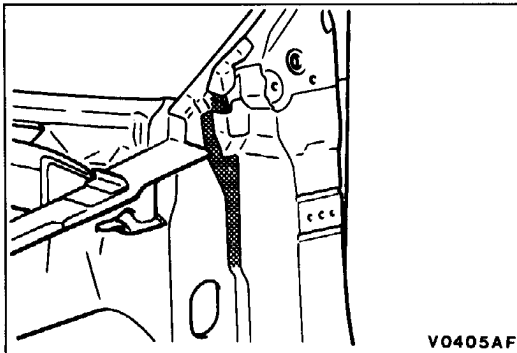


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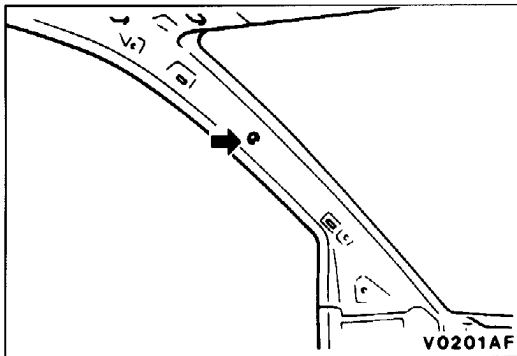
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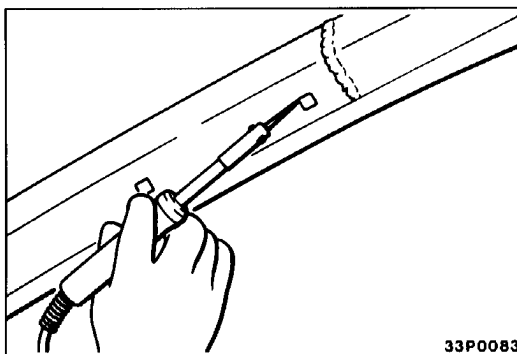
V0203AF



V0405AF



V0201AF



33P0083

NOTES WITH REGARD TO REPAIR WORK INSTALLATION

1. Cut the front pillar into 50 mm sections in order to maintain strength.
2. Install the new front pillar, inner and front pillar reinforcement to the body as a sub-assembly.
3. When carrying out butt-welding, weld the front pillar, inner from inside the passenger compartment, and weld the front pillar reinforcement from outside the passenger compartment.

4. When installing the front pillar, outer, apply body sealant to the front pillar, inner in the places shown in the illustration.

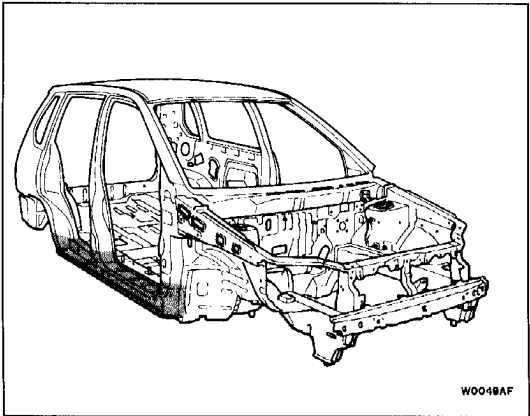
 : Body sealant

5. After installing the front pillar, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow

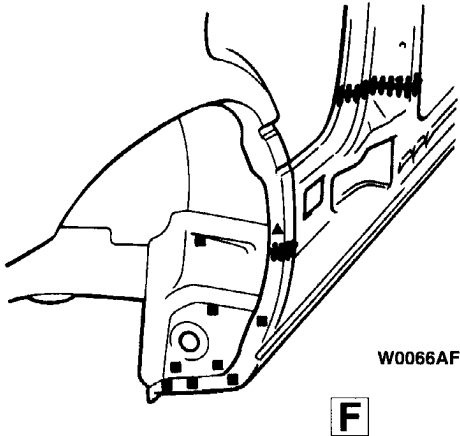
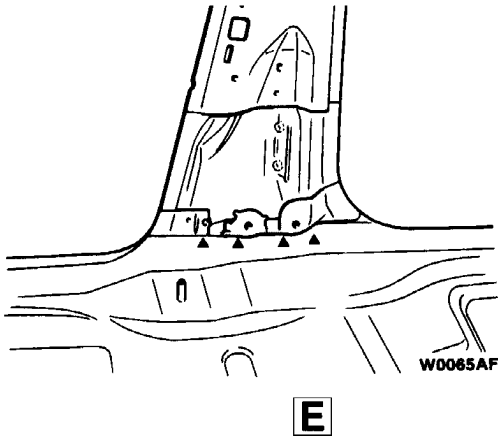
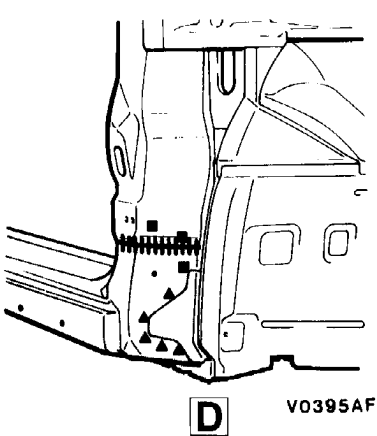
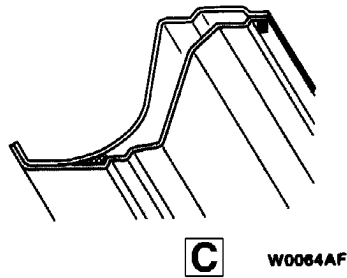
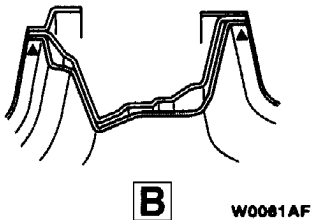
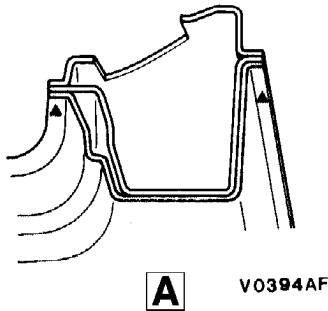
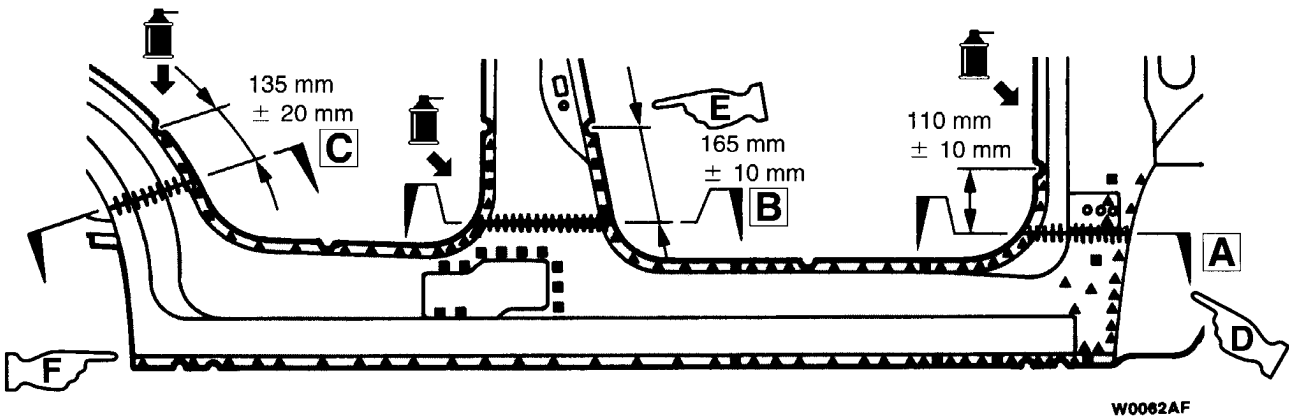
6. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

SIDE SILL (DOUBLE-DOOR SIDE) <SPACE RUNNER>



REPAIR WELDS

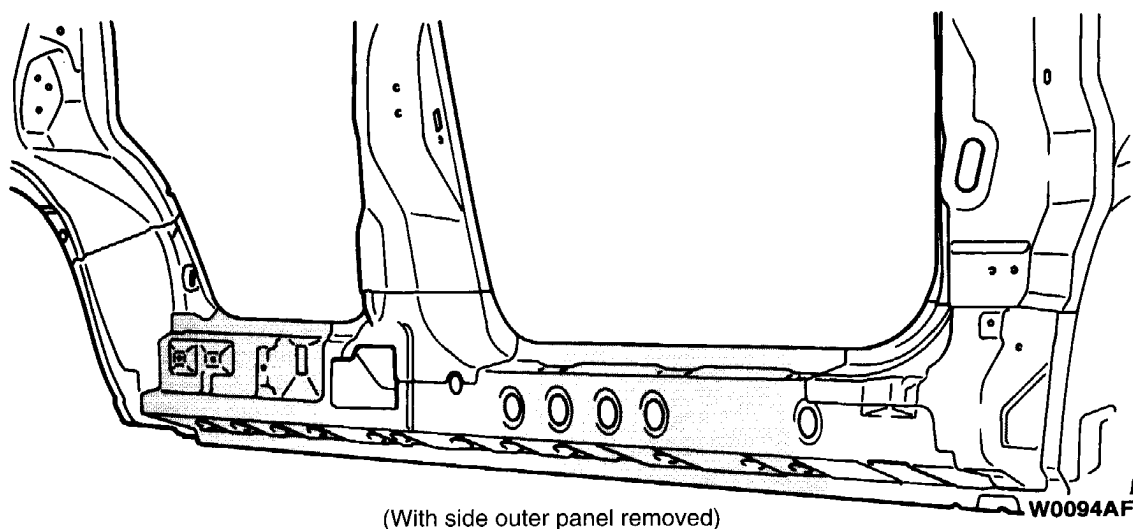
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
	MIG arc welding (continuous)
○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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



NOTE: The parts can also be replaced depending on the extent of the damage.

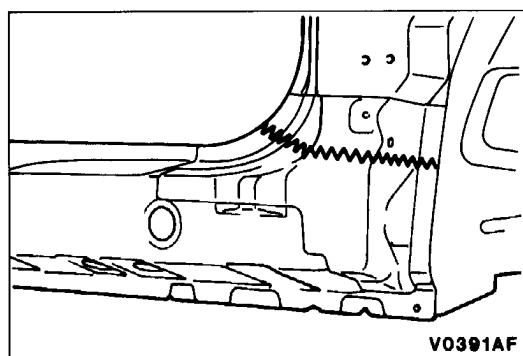
Caution

Cut the side sill reinforcement 50 mm from the place where it is butt-welded to the side outer panel.



(With side outer panel removed)

 : Areas that can be cut

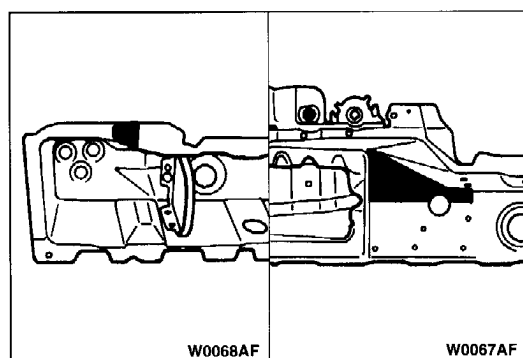


NOTES WITH REGARD TO REPAIR WORK

REMOVAL

When removing the side sill reinforcement, cut the front pillar reinforcement, outlower in the place sho in the illustration, and then pull it downward to remove it.

After installing the side sill reinforcement, weld the parts securely.



INSTALLATION

- When installing the side sill reinforcement, apply structural adhesive in the places shown in the illustration.

 : Adhesive

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

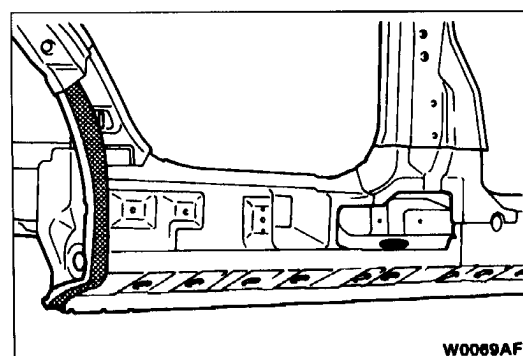
- When installing the side sill, outer, apply structural adhesive in the place shown in the illustration.

 : Adhesive

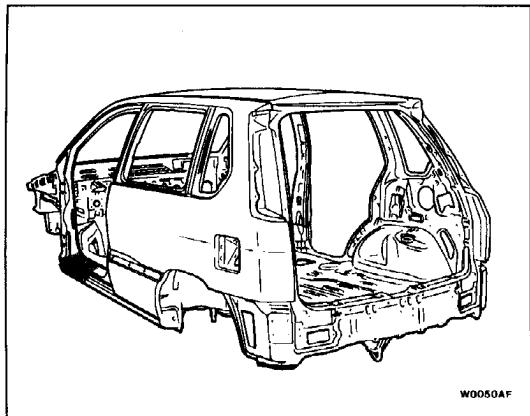
Adhesive	Type
	Chloroprene-base drying sealant

 : Adhesive

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

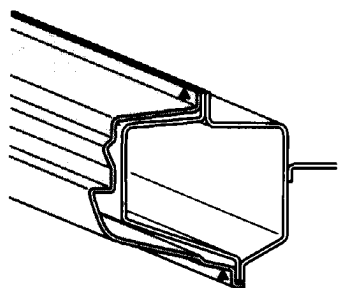
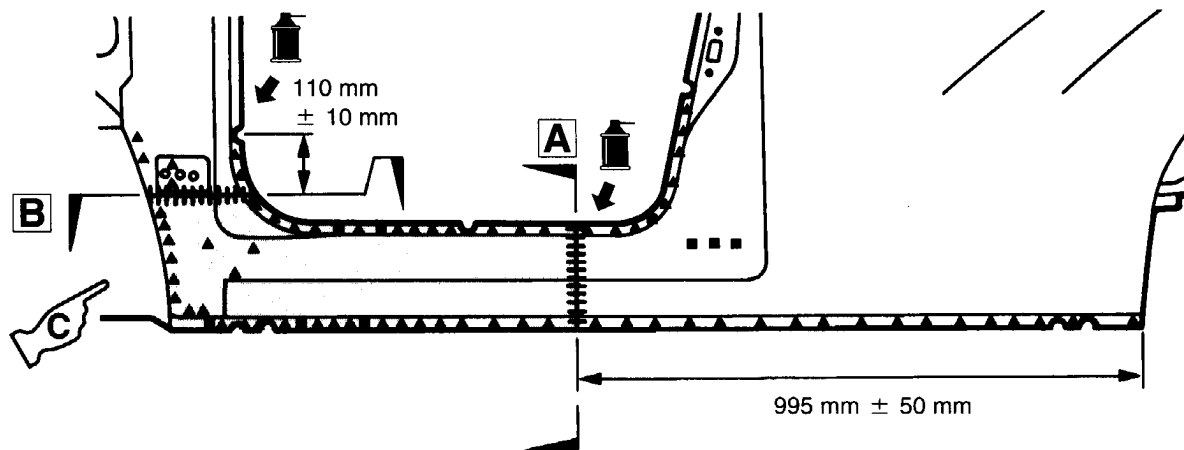


SIDE SILL (SINGLE-DOOR SIDE) <SPACE RUNNER>

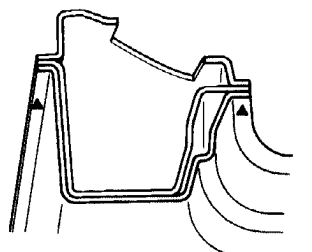


REPAIR WELDS

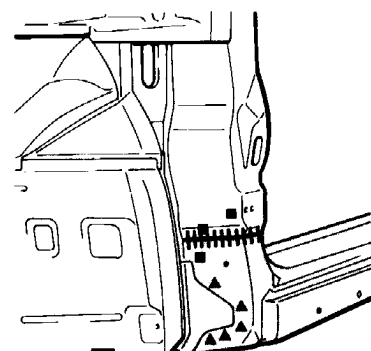
Symbol	Operation description
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++++	MIG spot welding
	MIG arc welding (continuous)
ooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



A



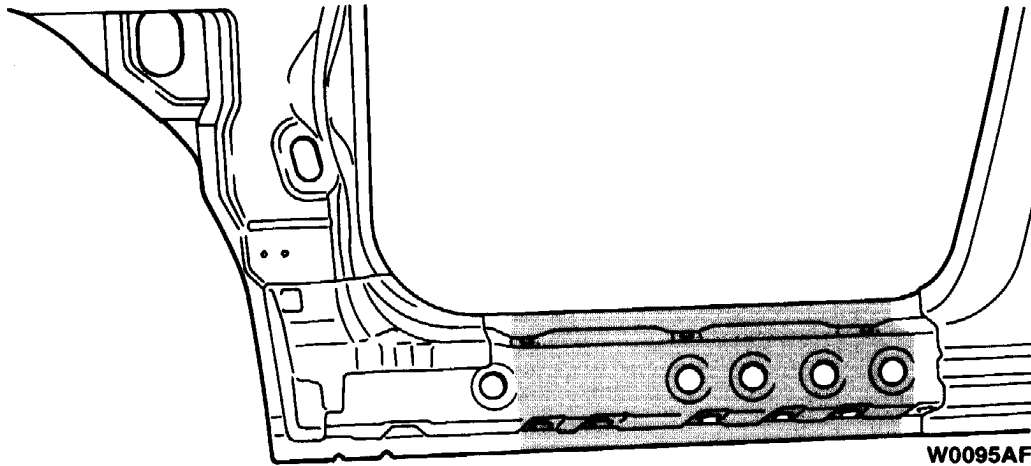
B



C

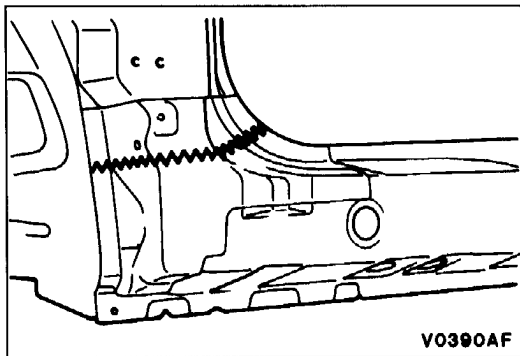
Caution

Cut the side sill reinforcement 50 mm from the place where it is butt-welded to the side outer panel.



(With side outer panel removed)

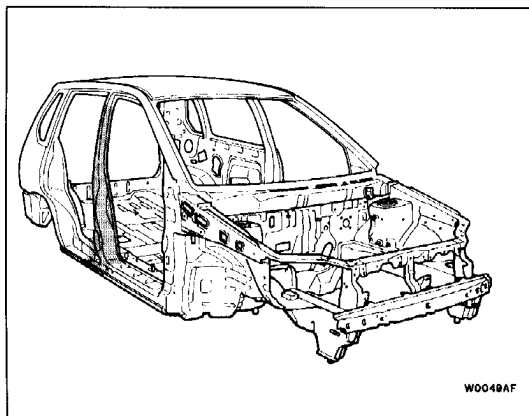
 : Areas that can be cut

**NOTES WITH REGARD TO REPAIR WORK
REMOVAL**

When removing the side sill reinforcement, cut the front pillar reinforcement, outlower in the place sho in the illustration, and then pull it downward to remove it.

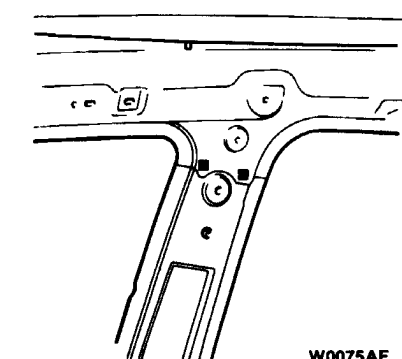
After installing the side sill reinforcement, weld the parts securely.

CENTER PILLAR <SPACE RUNNER>

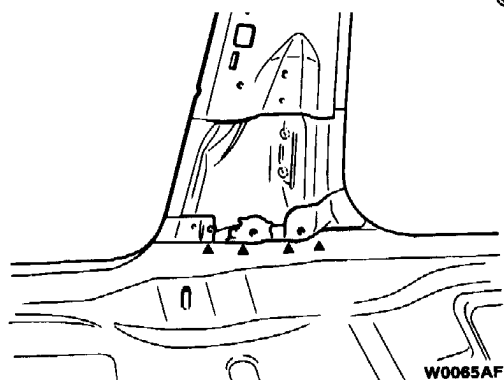


REPAIR WELDS

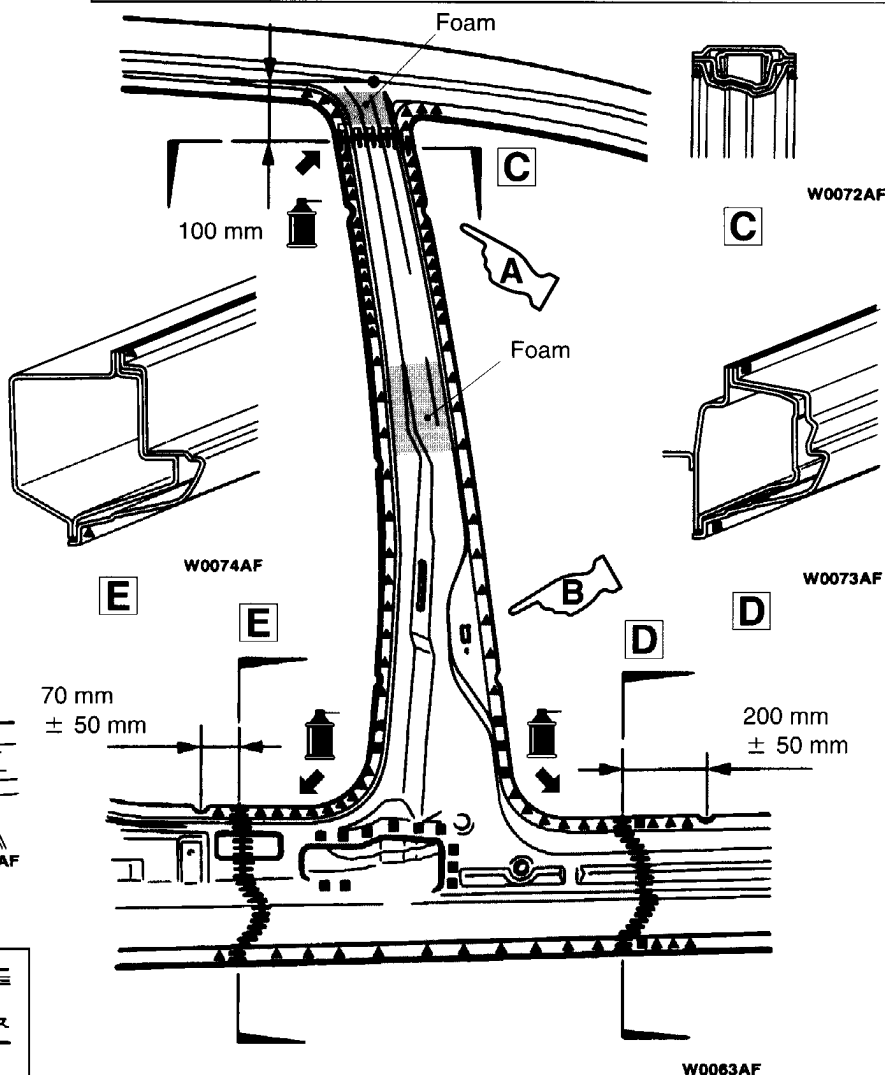
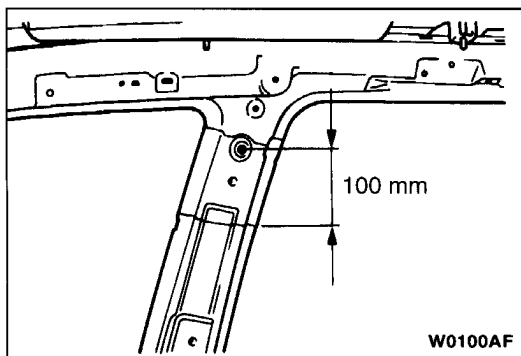
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	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



A



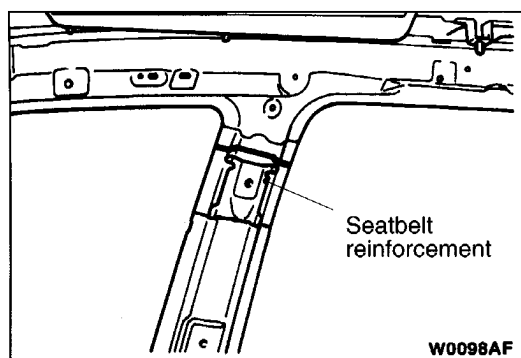
B



NOTES WITH REGARD TO REPAIR WORK REMOVAL

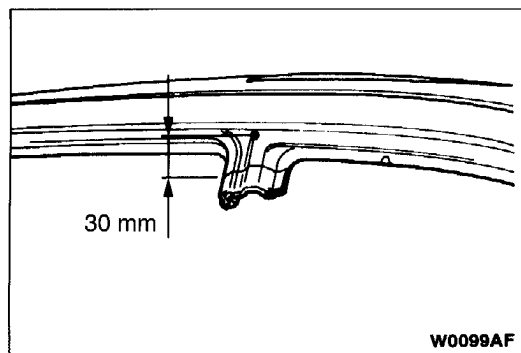
1. When cutting the center pillar, cut the center pillar, inner in the place shown in the illustration, and then remove the upper section.

NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.

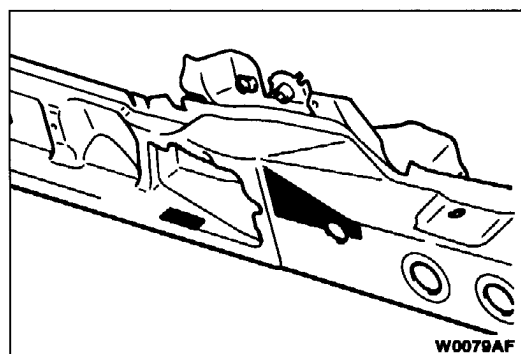


2. Cut the center pillar, outer and the center pillar outer reinforcement above the seatbelt reinforcement. When welding, remove the foam from the upper section of the pillar, otherwise there is the danger that the foam may ignite.

INSTALLATION



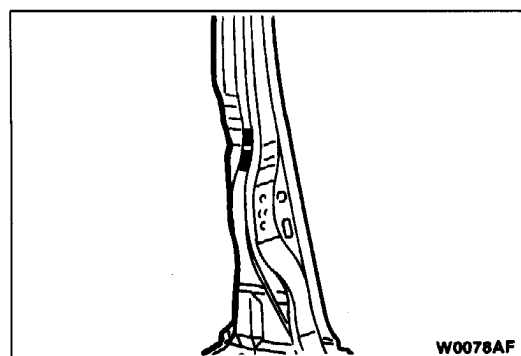
1. Cut only the center pillar, outer 30 mm above the cut section so that the center pillar outer reinforcement can be welded in the correct position. Cut the supplementary part so that it matches.



2. When installing the center pillar outer reinforcement, apply structural adhesive to the side sill reinforcement in the places shown in the illustration, and then butt-weld from inside the passenger compartment.

■ : Adhesive

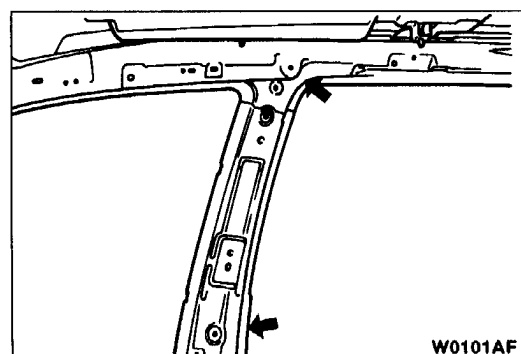
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420



3. When installing the center pillar, outer, apply structural adhesive to the center pillar outer reinforcement in the places shown in the illustration.

■ : Adhesive

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



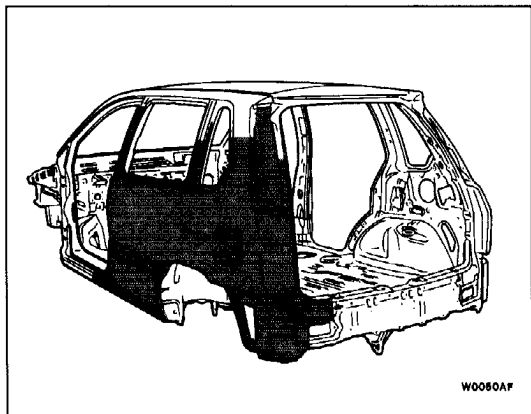
4. After installing the center pillar, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow

5. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

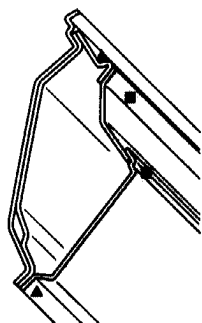
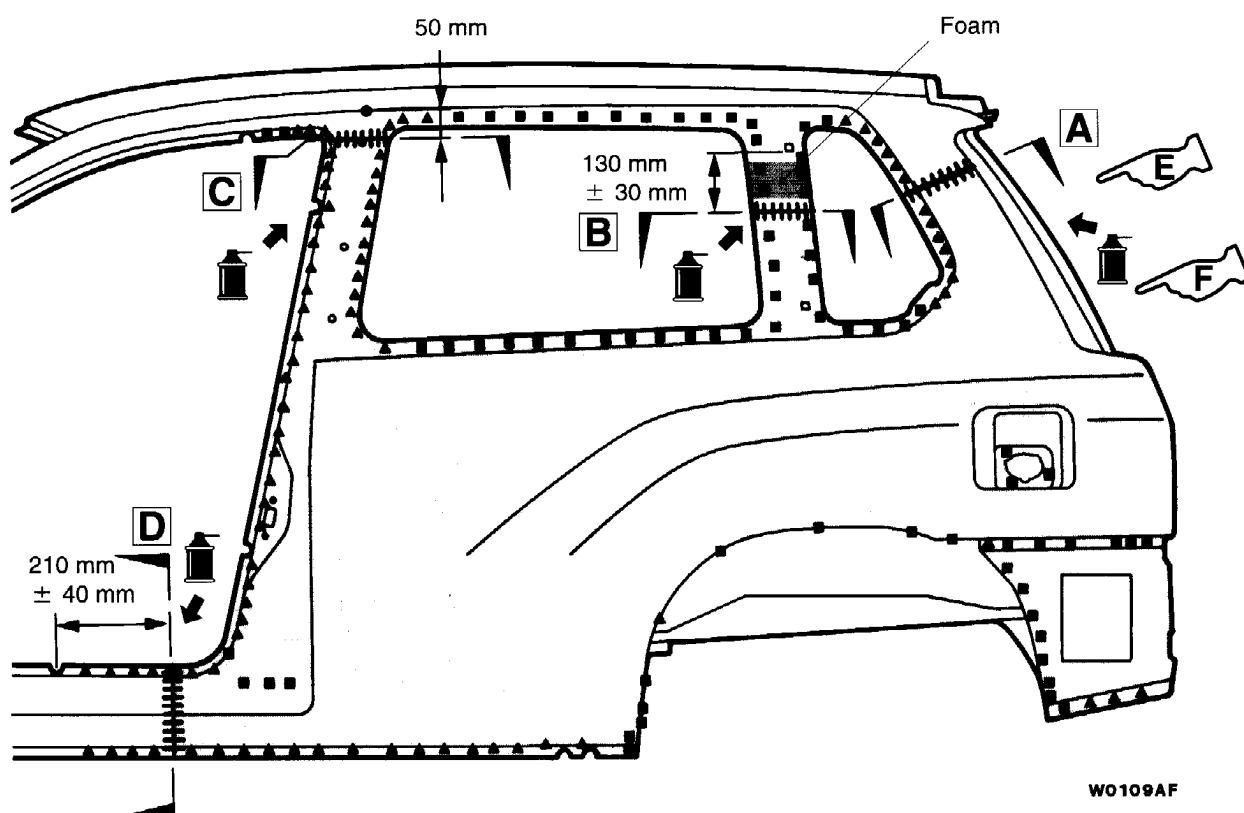
3-14 WELDED PANEL REPLACEMENT – Quarter, Outer <SPACE RUNNER>

QUARTER, OUTER (SINGLE-DOOR SIDE) <SPACE RUNNER>

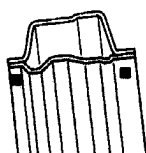


REPAIR WELDS

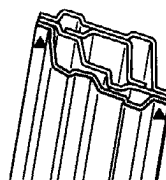
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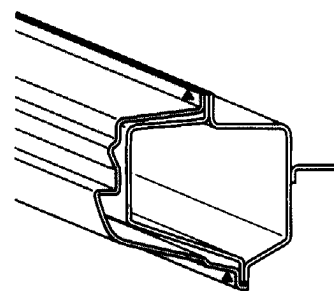
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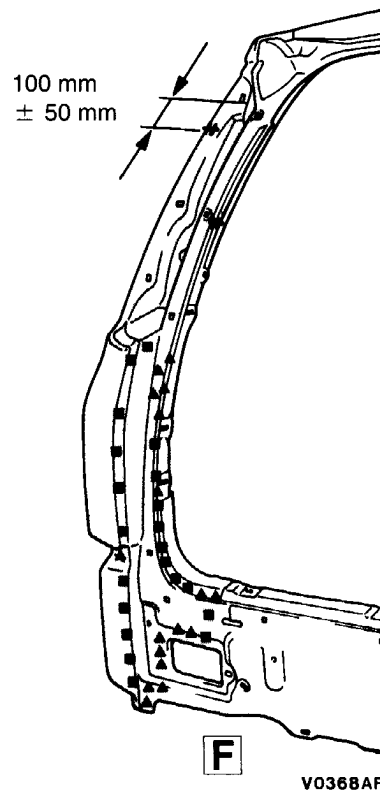
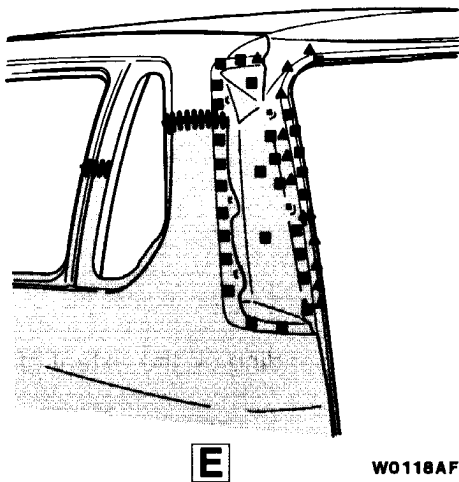


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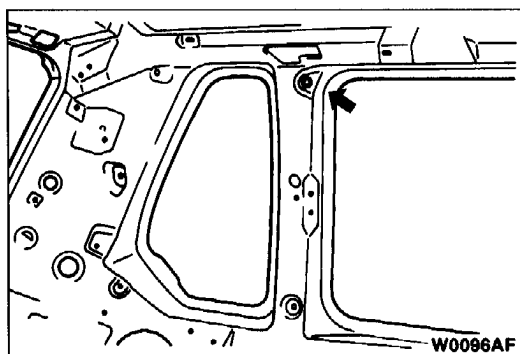
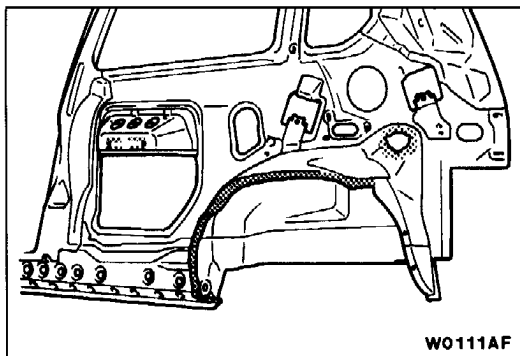


W0071AF

NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.



NOTE: Cut the quarter outer extension, center about 50 mm away from the cut section of the quarter outer panel so that the two cuts are not in the same position.



NOTES WITH REGARD TO REPAIR WORK INSTALLATION

1. When installing the quarter panel, outer, apply adhesive in the place shown in the illustration.

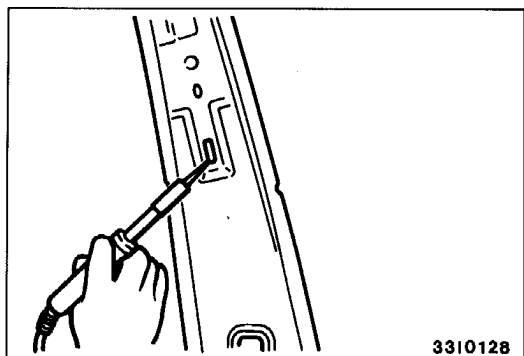
 : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

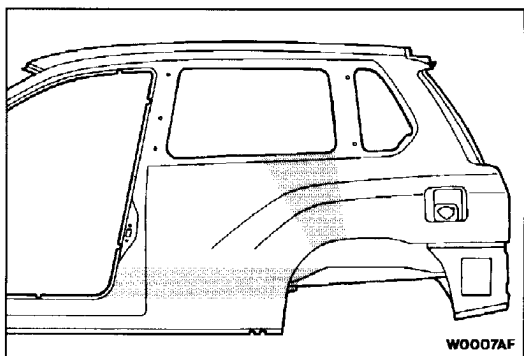
2. If the foam was removed when the rear pillar was cut, after installing the quarter panel, outer, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow

3-16 WELDED PANEL REPLACEMENT – Quarter, Outer <SPACE RUNNER>



3. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

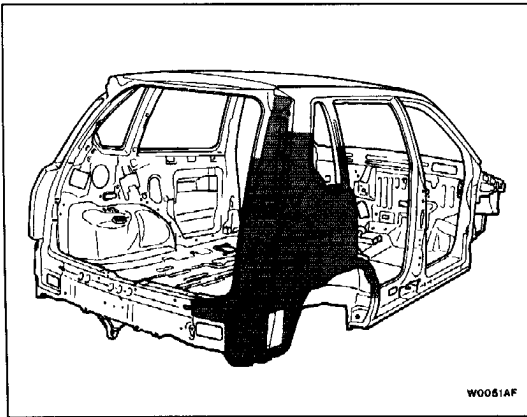


NOTE:

The parts can also be replaced depending on the extent of the damage.

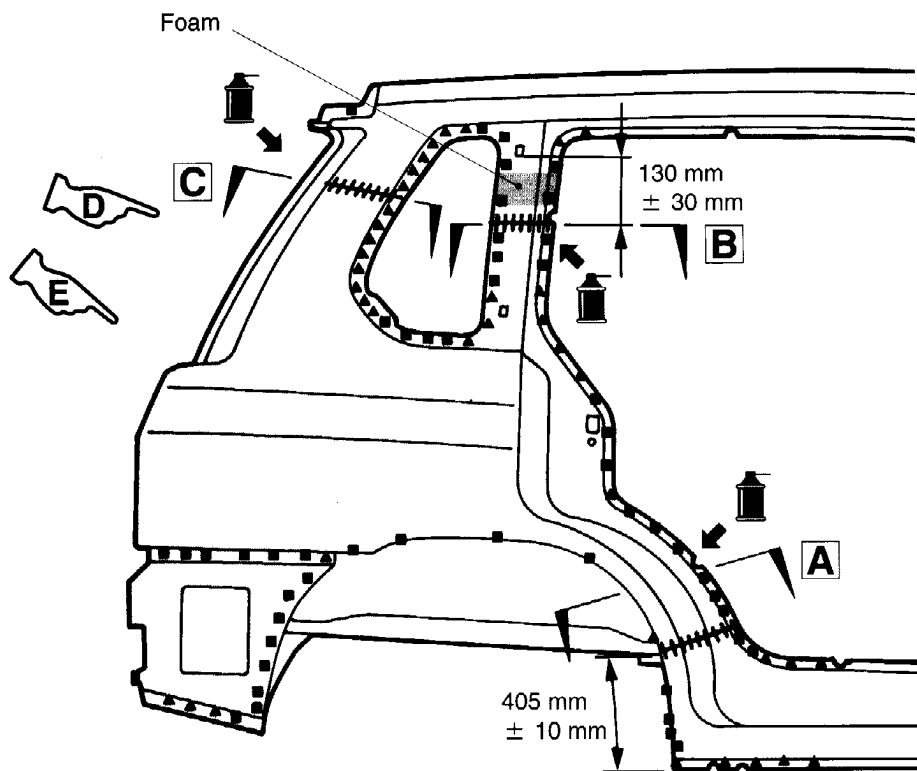
 : Areas that can be cut

QUARTER, OUTER (DOUBLE-DOOR SIDE) <SPACE RUNNER>

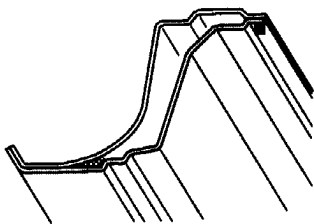


REPAIR WELDS

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.)

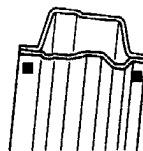


W0110AF



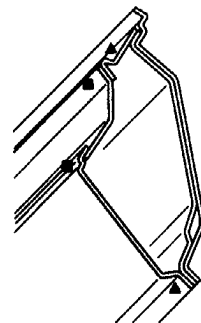
A

W0064AF



B

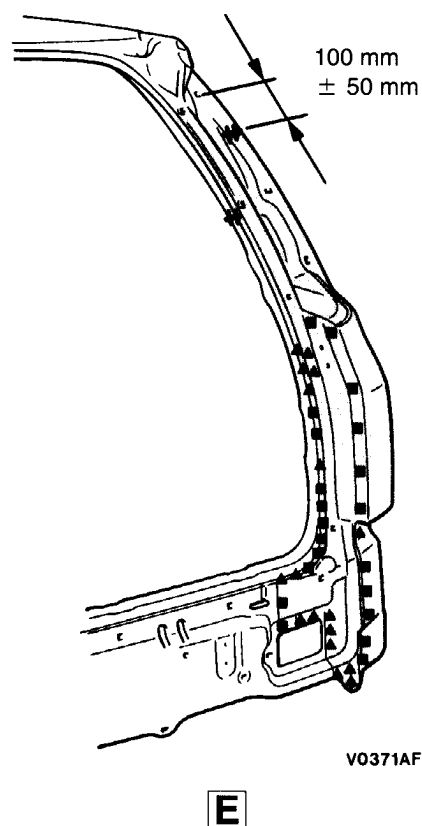
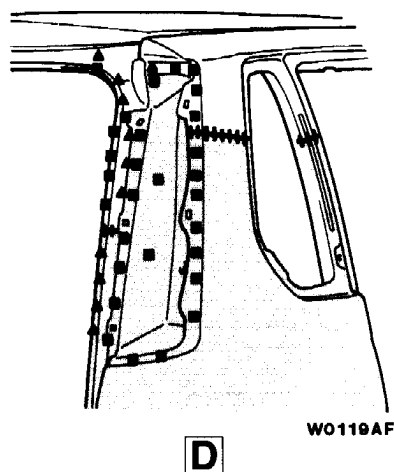
V0359AF



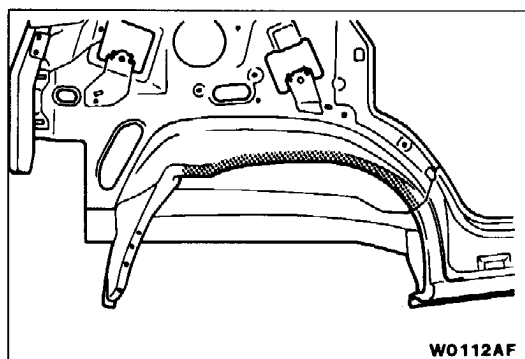
C

V0355AF

NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.



NOTE: Cut the quarter outer extension, center about 50 mm away from the cut section of the quarter outer panel so that the two cuts are not in the same position.

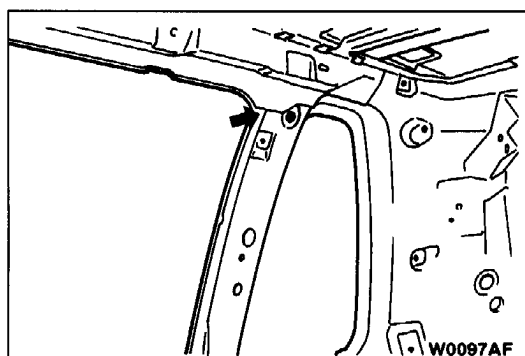


NOTES WITH REGARD TO REPAIR WORK INSTALLATION

1. When installing the quarter panel, outer, apply adhesive in the place shown in the illustration.

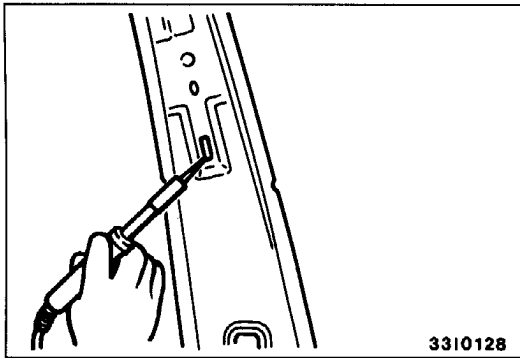
 : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant



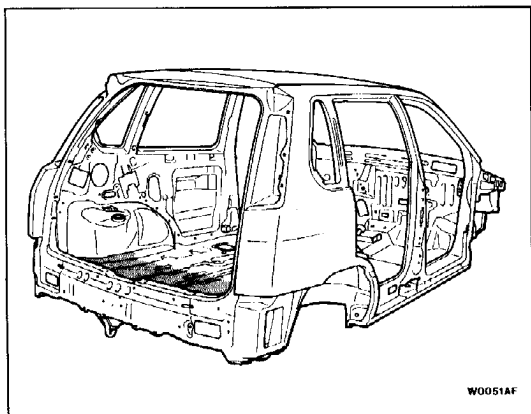
2. If the foam was removed when the rear pillar was cut, after installing the quarter panel, outer, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow



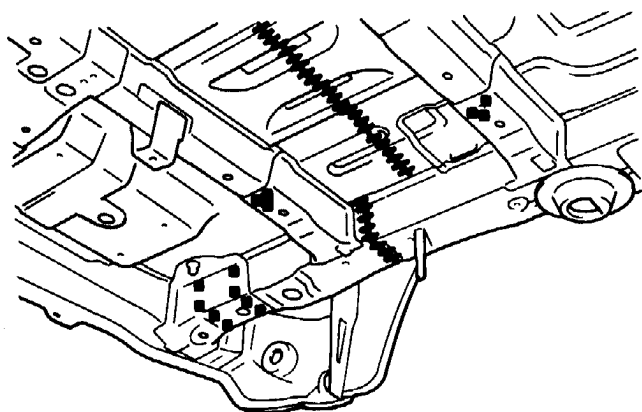
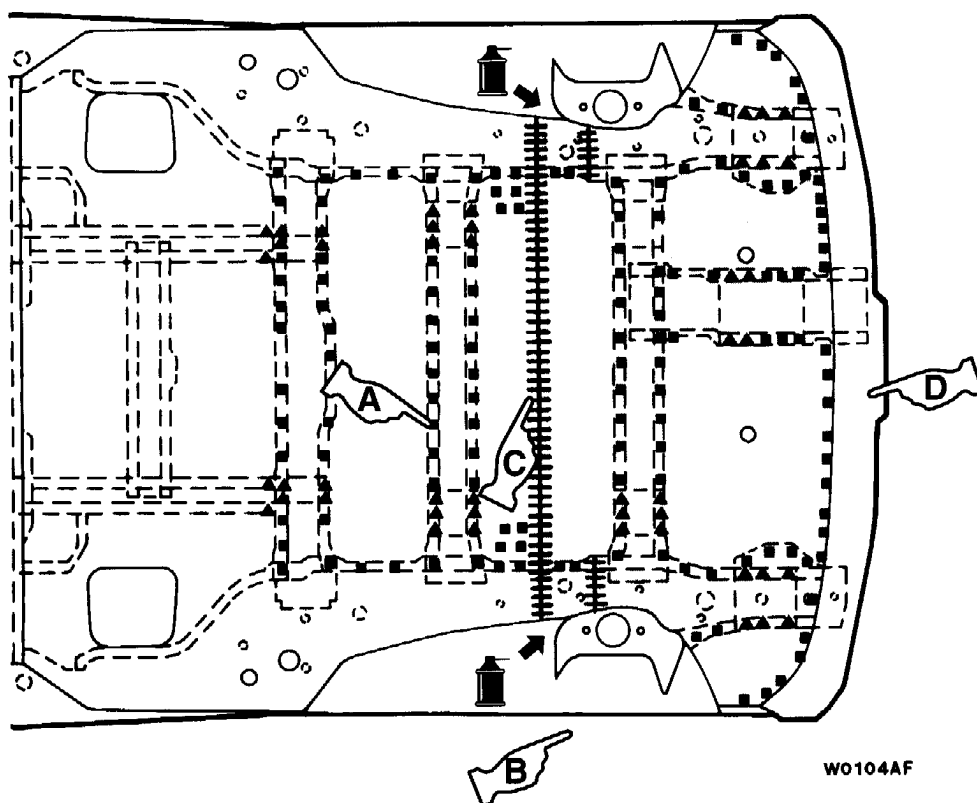
3. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

REAR FLOOR <SPACE RUNNER>



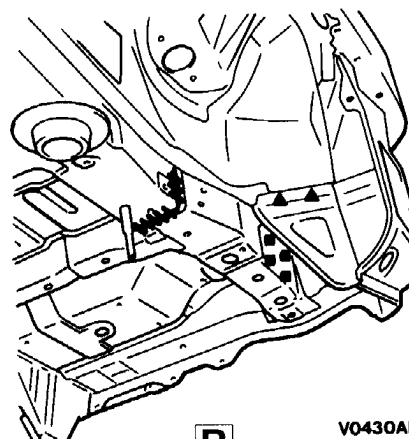
REPAIR WELDS

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)
ooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



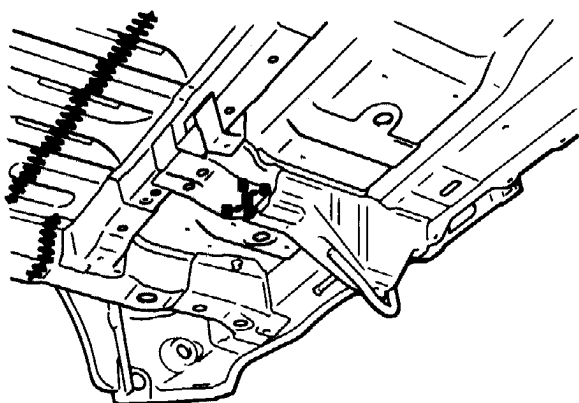
A

V0429AF

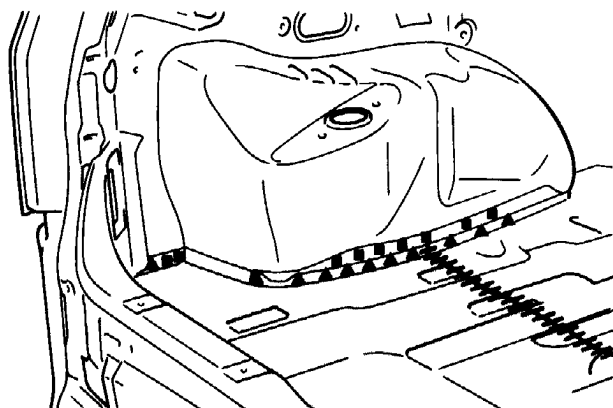


B

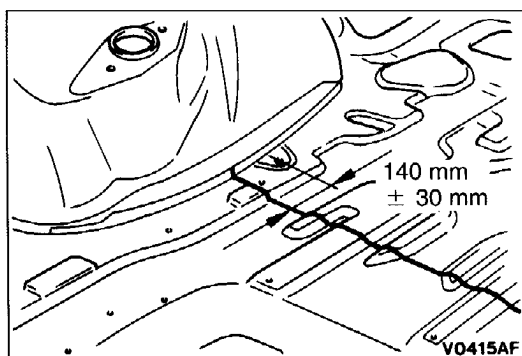
V0430AF

**C**

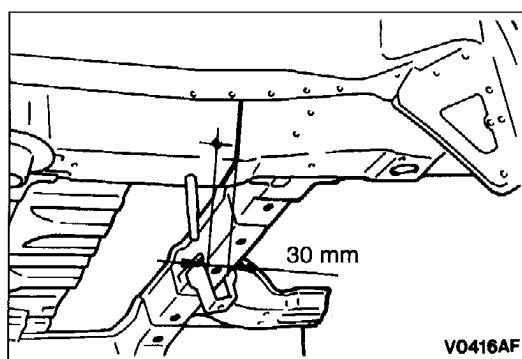
V0421AF

**D**

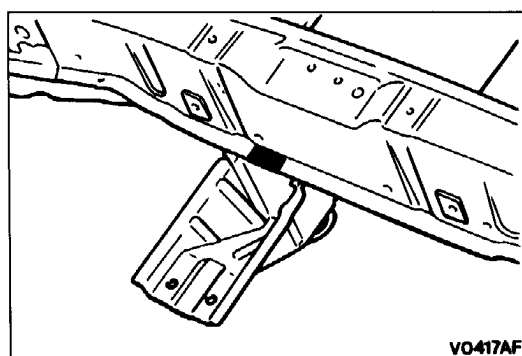
W0107AF



V0415AF



V0416AF



V0417AF

NOTES WITH REGARD TO REPAIR WORK

REMOVAL

1. When cutting the rear floor pan, make the cut 140 mm $\pm$ 30 mm to the rear of the seatbelt mounting hole as shown in the illustration.
2. Cut the rear floor sidemember 30 cm to the rear of the hole as shown in the illustration.

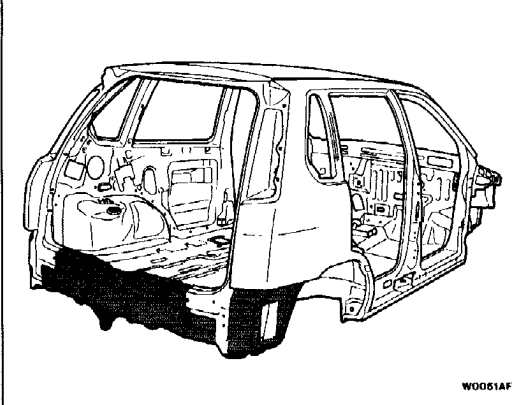
INSTALLATION

1. When installing the rear floor pan and the rear end crossmember, apply structural adhesive to the rear end crossmember in the place shown in the illustration.

■ : Adhesive

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

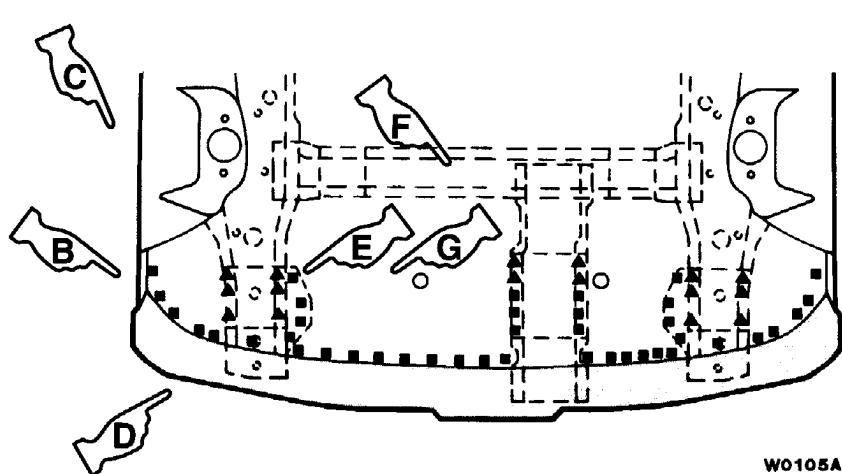
REAR END CROSSMEMBER <SPACE RUNNER>



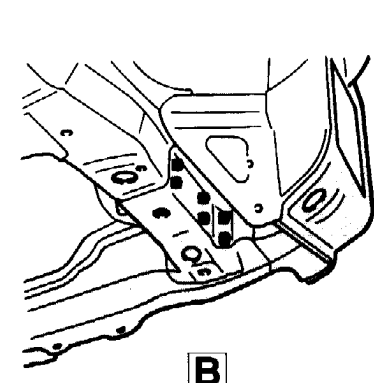
W0051AF

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)
oooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

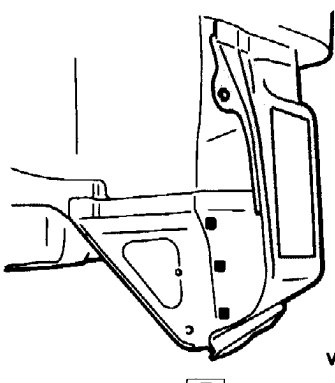
REPAIR WELDS



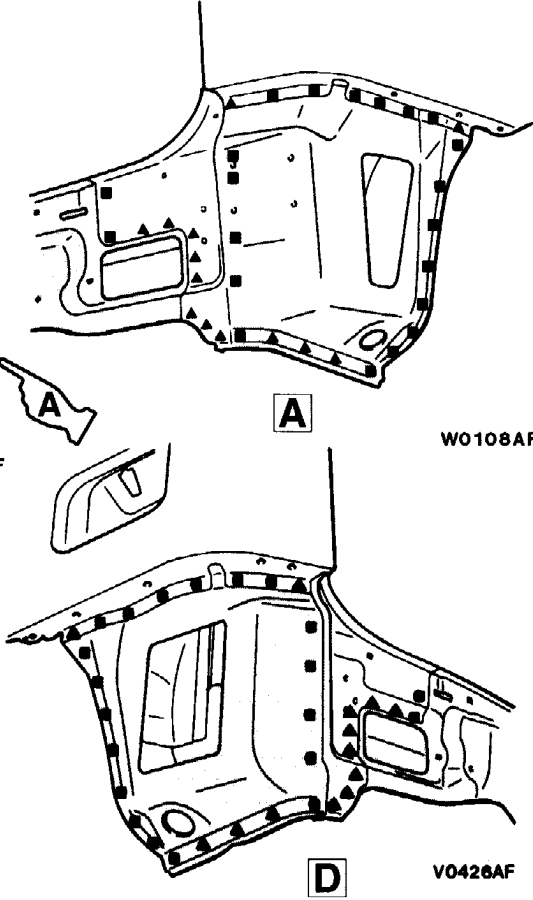
W0105AF



V0424AF

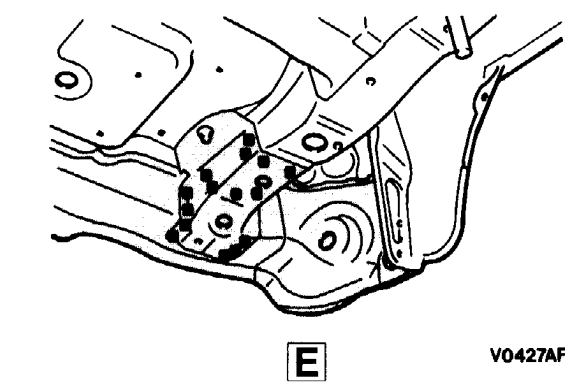


V0425AF

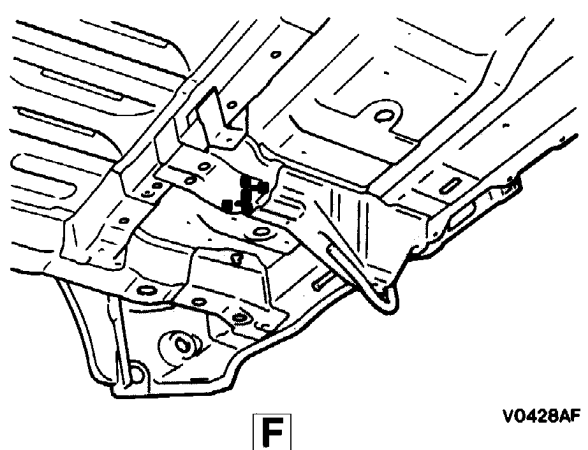


W0108AF

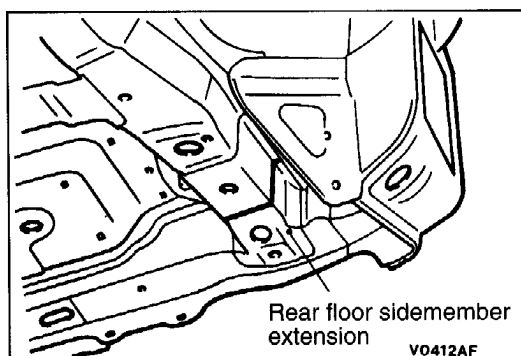
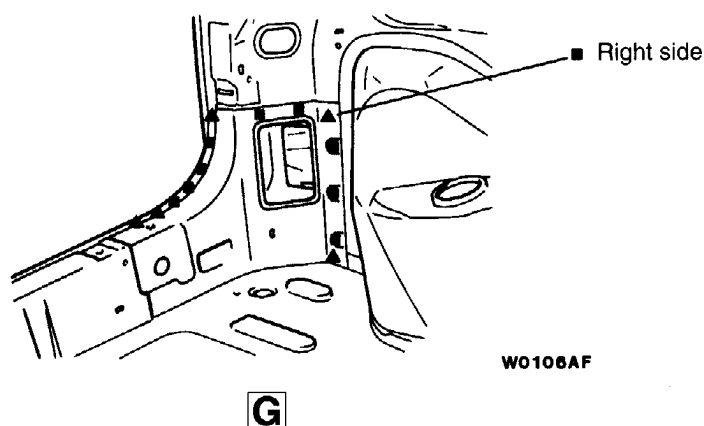
V0426AF



V0427AF



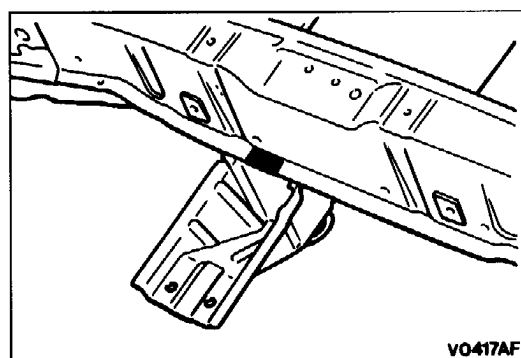
V0428AF



NOTES WITH REGARD TO REPAIR WORK

REMOVAL

1. Before removing the rear end crossmember, remove the quarter outer extension, lower.
2. When removing the rear end crossmember, cut the rear floor sidemember extension in the place shown in the illustration.

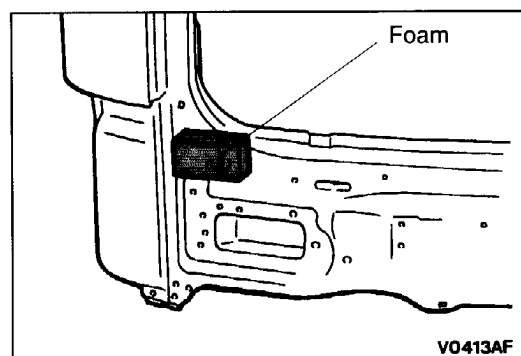


INSTALLATION

1. When installing the rear end crossmember, apply structural adhesive in the place shown in the illustration.

■ : Adhesive

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

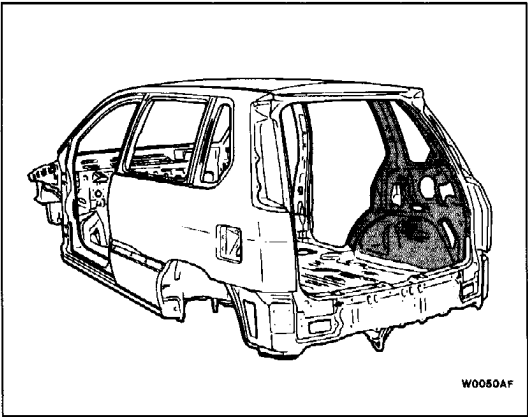


2. After installing the rear end crossmember, seal the nearby holes with panel tape so that foam can be added, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow

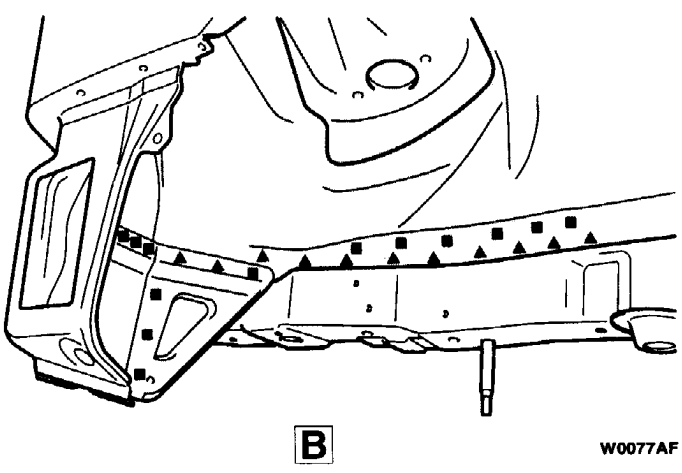
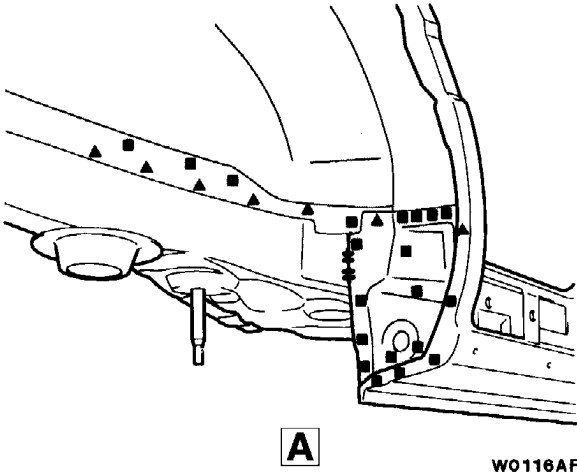
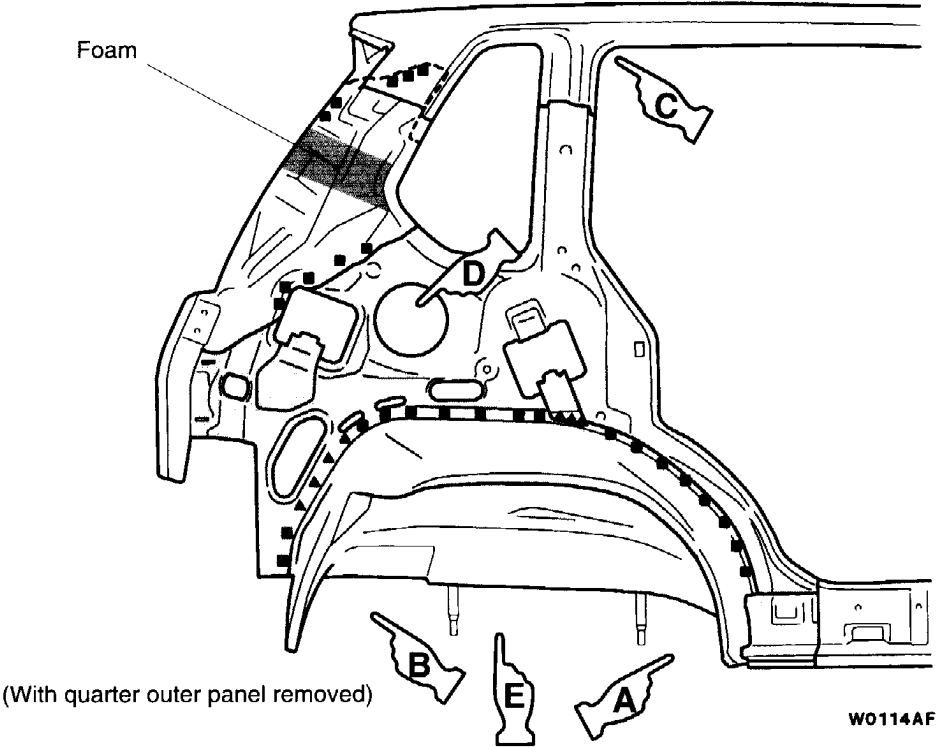
3. About 2 hours after the foam has been added, remove the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

QUARTER, INNER (DOUBLE-DOOR SIDE) <SPACE RUNNER>

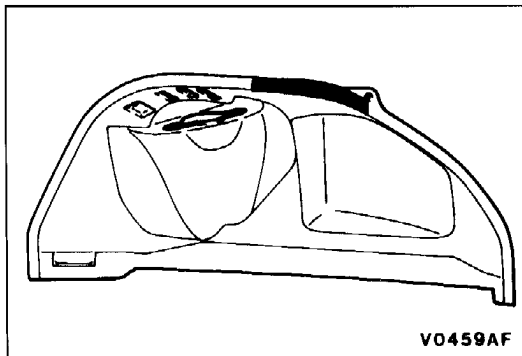
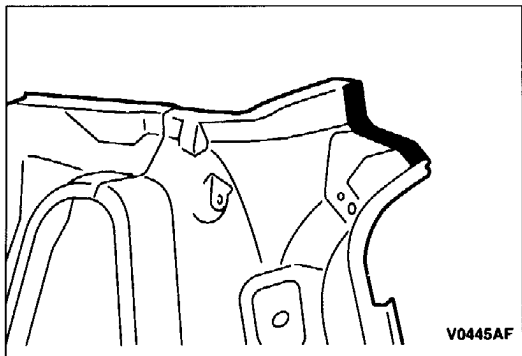
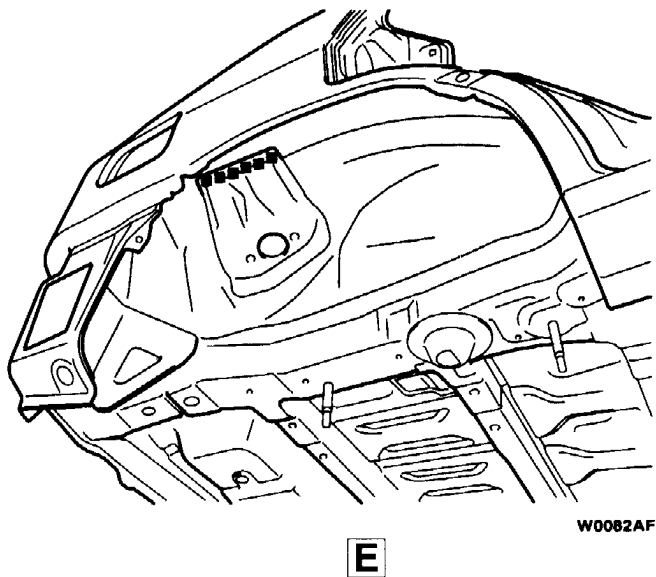
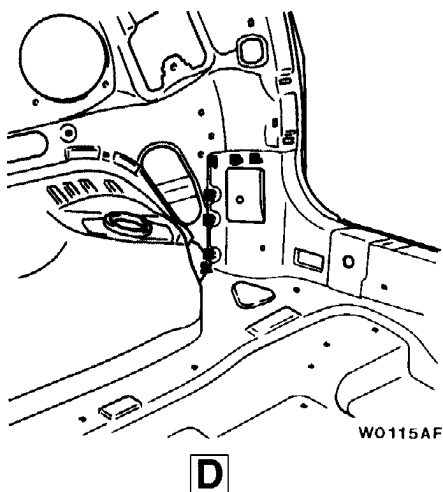
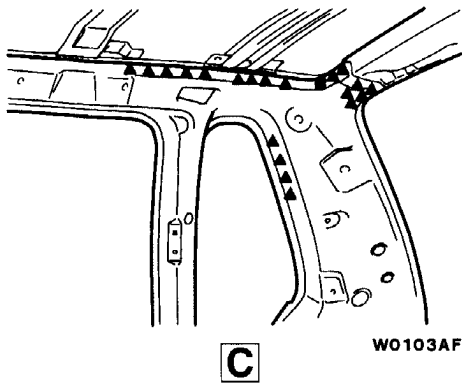


REPAIR WELDS

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.)



NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.



**NOTES WITH REGARD TO REPAIR WORK
INSTALLATION**

1. When installing the quarter, inner, apply structural adhesive to the gate pillar reinforcement, upper in the place shown in the illustration.

■ : Adhesive

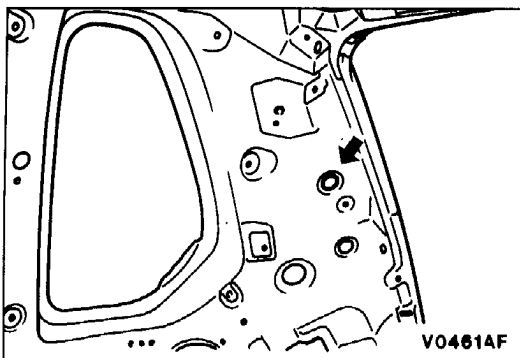
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420

2. When installing the rear wheel housing, inner, apply adhesive in the place shown in the illustration.

■ : Adhesive

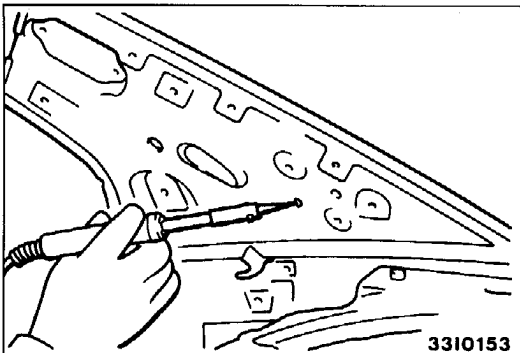
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420

3-26 WELDED PANEL REPLACEMENT – Quarter, Inner <SPACE RUNNER>



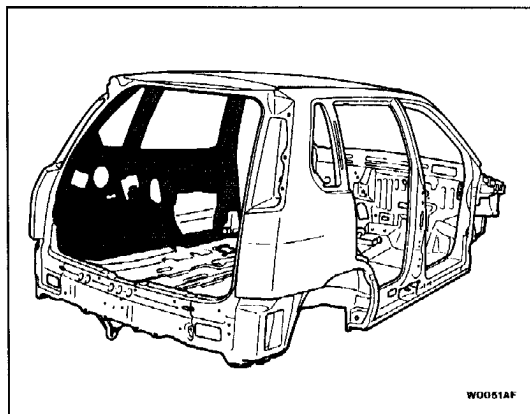
3. After installing the quarter, inner, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow



4. About 2 hours after the foam has been added, remove the bolts and panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

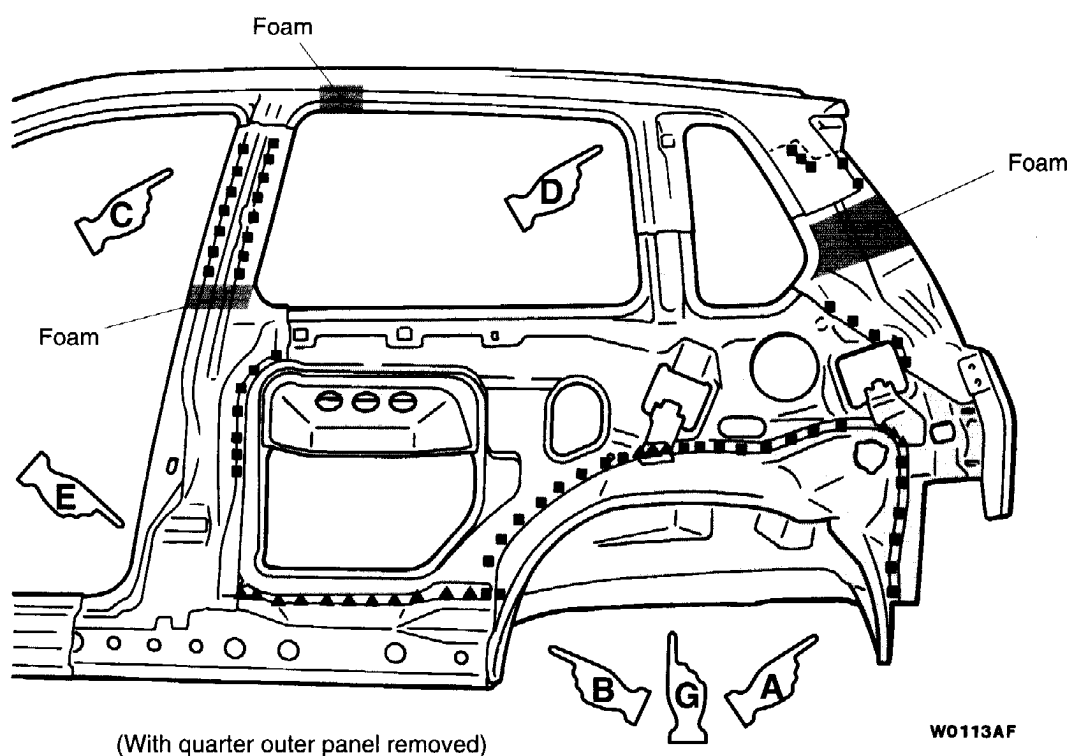
QUARTER, INNER (SINGLE-DOOR SIDE) <SPACE RUNNER>



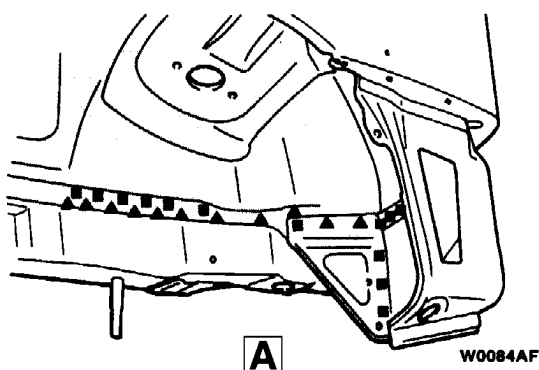
W0051AF

REPAIR WELDS

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.)

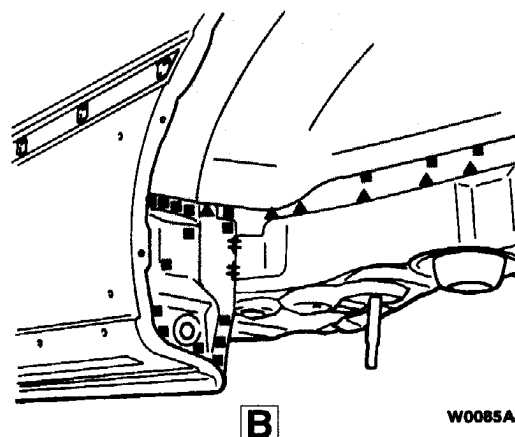


W0113AF



A

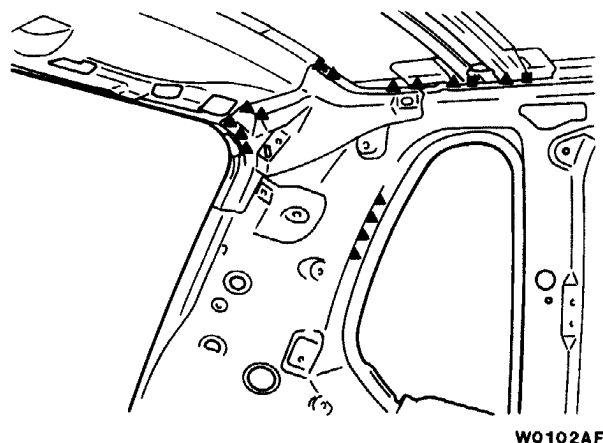
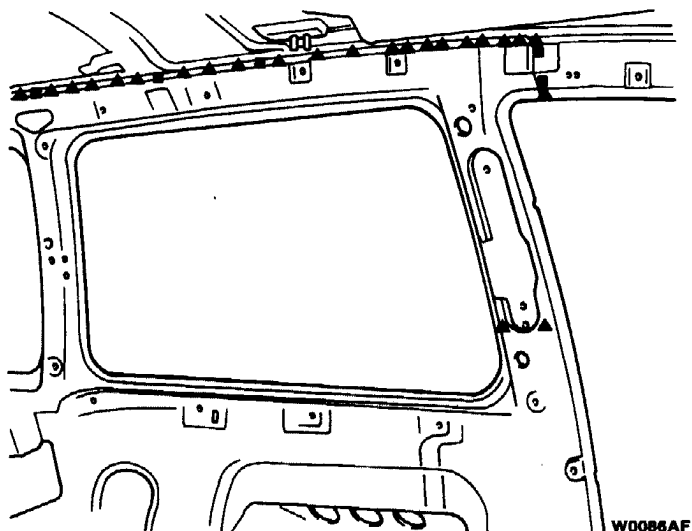
W0084AF



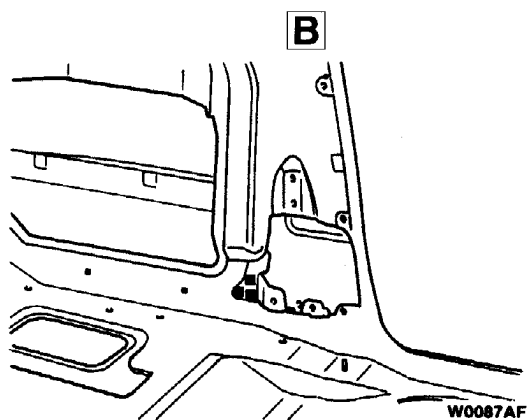
B

W0085AF

NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.

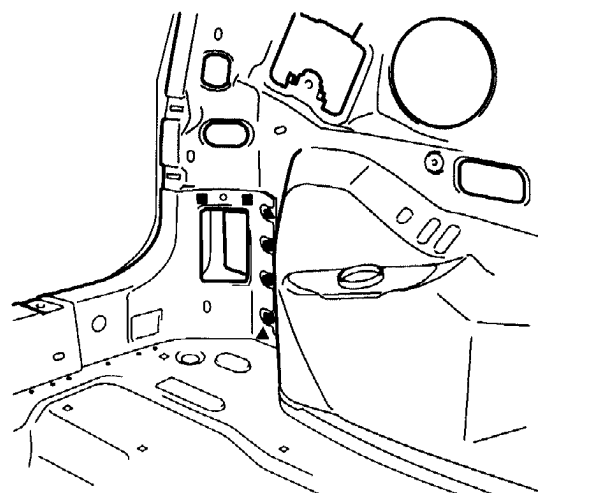


C

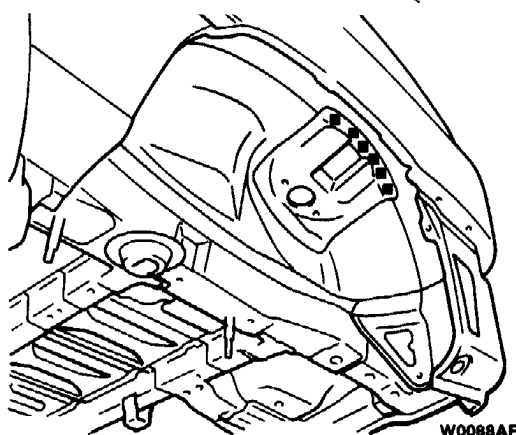


B

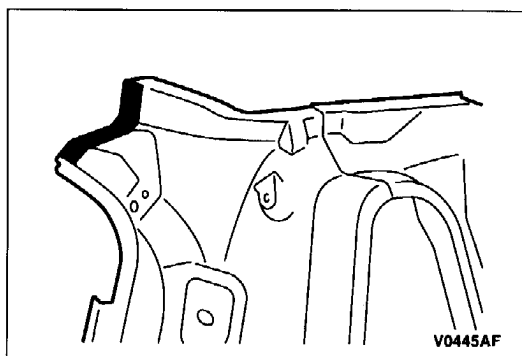
D



E



F

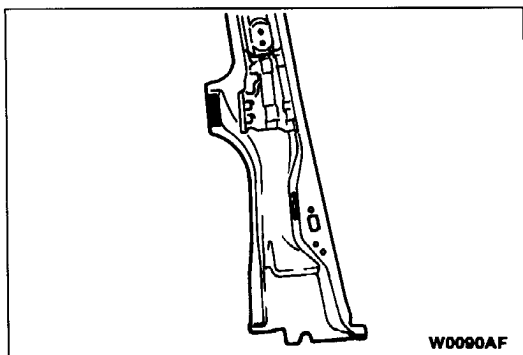


NOTES WITH REGARD TO REPAIR WORK INSTALLATION

1. When installing the quarter, inner, apply structural adhesive to the gate pillar reinforcement, upper in the place shown in the illustration.

■ : Adhesive

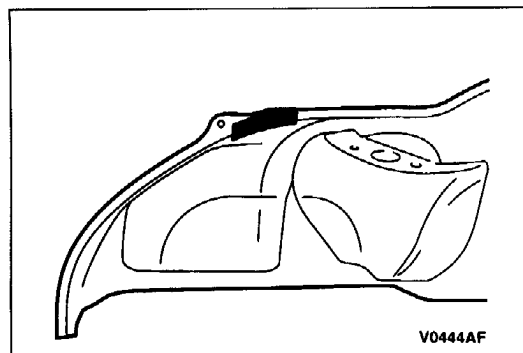
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420



2. In the same way, apply structural adhesive to the center pillar outer reinforcement in the places shown in the illustration.

■ : Adhesive

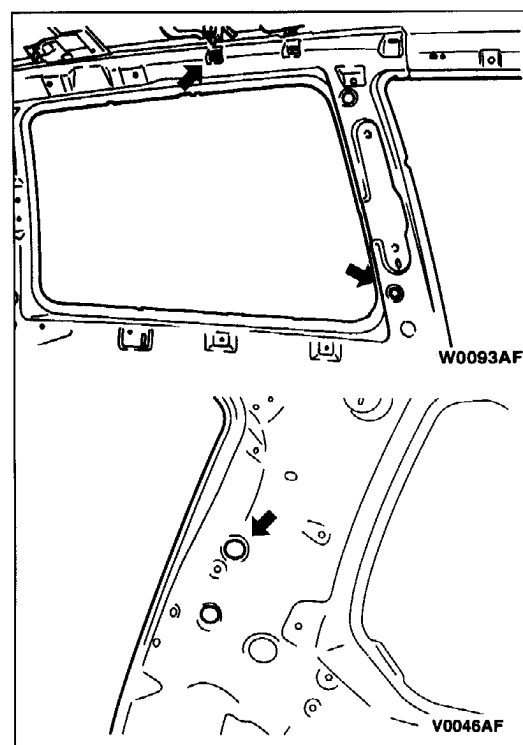
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420



3. When installing the rear wheel housing, inner, apply structural adhesive in the place shown in the illustration.

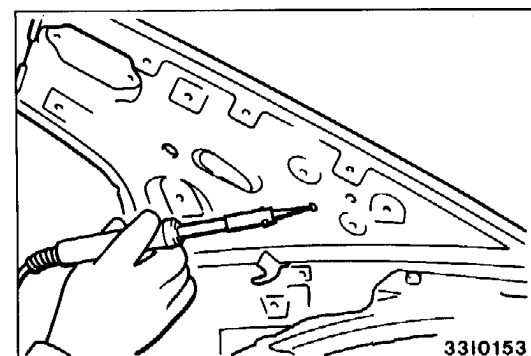
■ : Adhesive

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



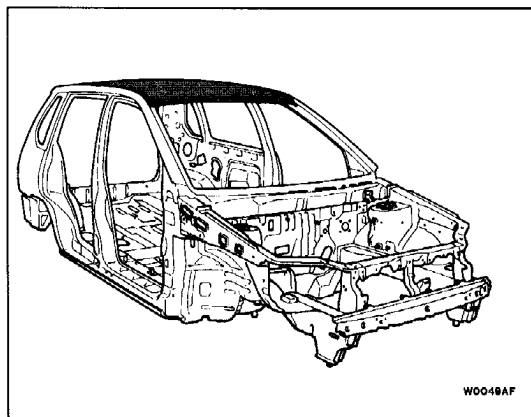
4. After installing the quarter, inner, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow



5. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

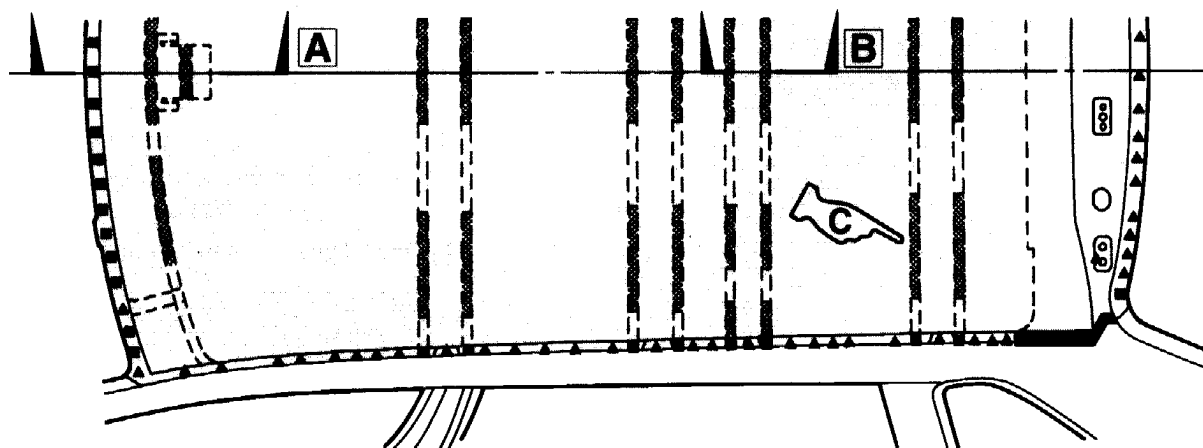
ROOF <SPACE RUNNER>



REPAIR WELDS

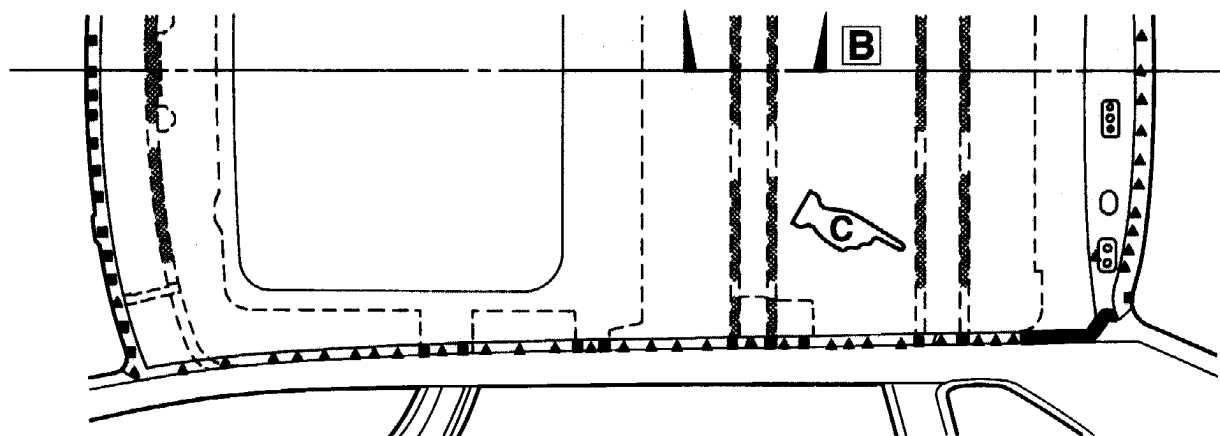
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
++++	MIG spot welding
	MIG arc welding (continuous)
○○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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

Standard roof



V0366AF

Sunroof



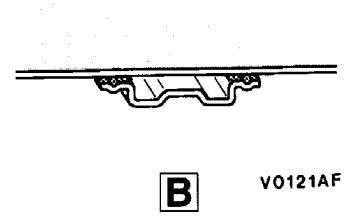
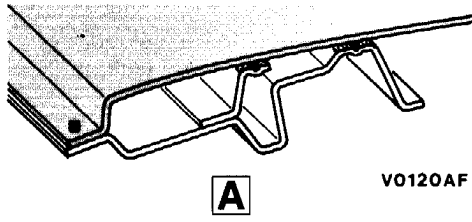
V0367AF

: Adhesive

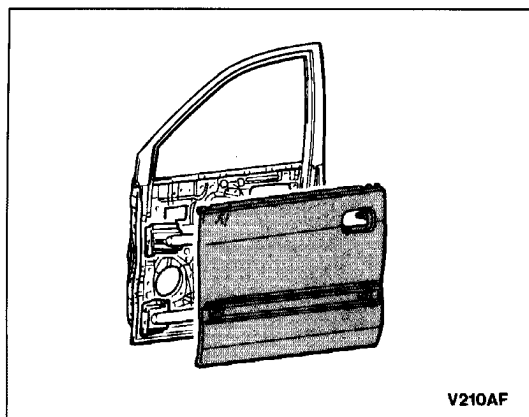
Adhesive	Type
	Chloroprene-base drying sealant

: Adhesive

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

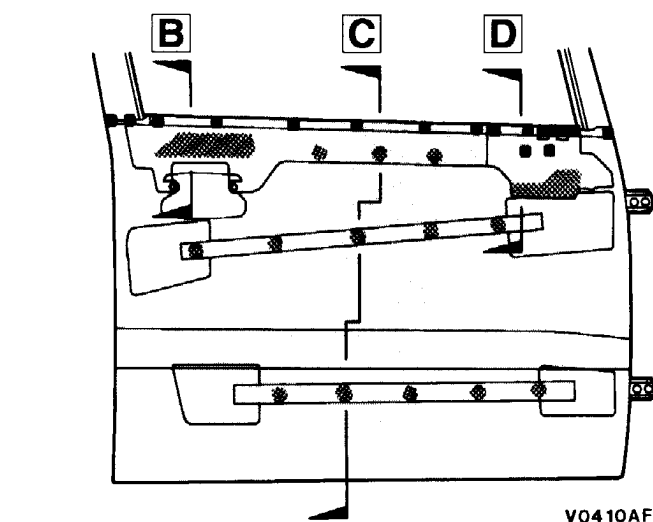
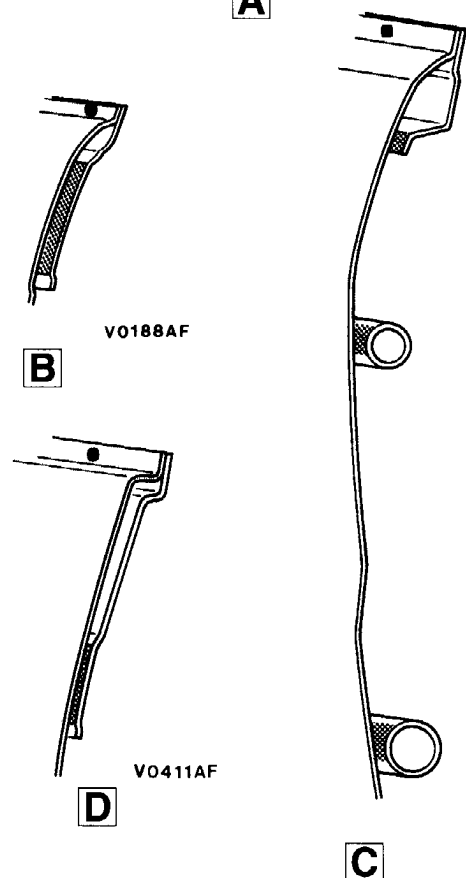
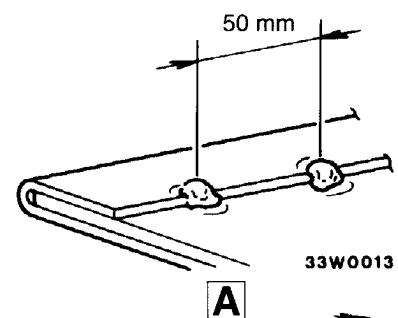
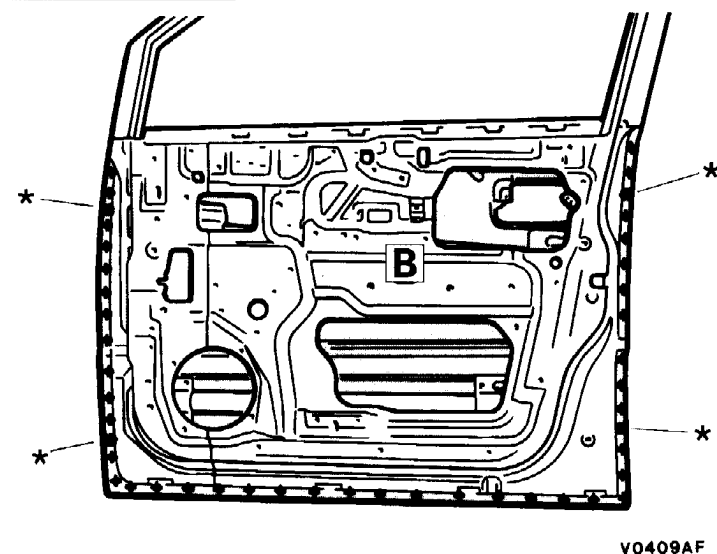


FRONT DOOR OUTER PANEL <SPACE RUNNER>



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

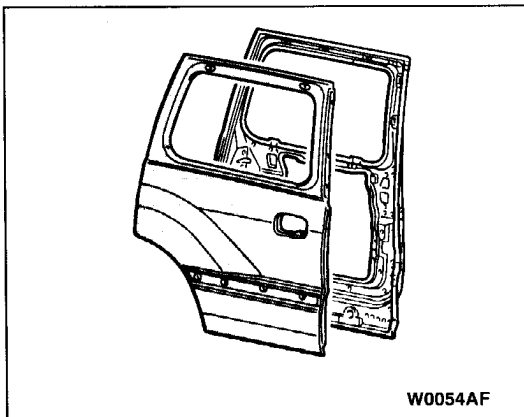


: Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

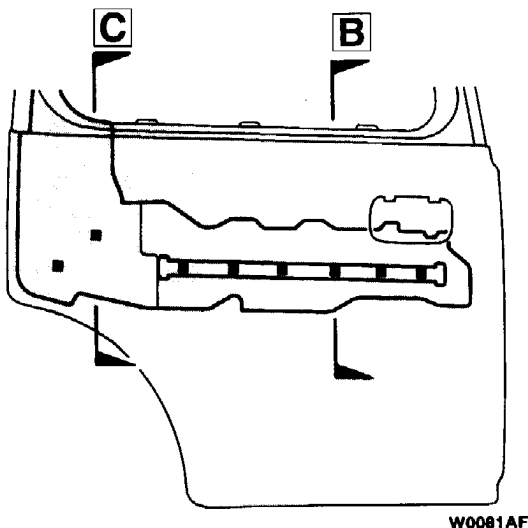
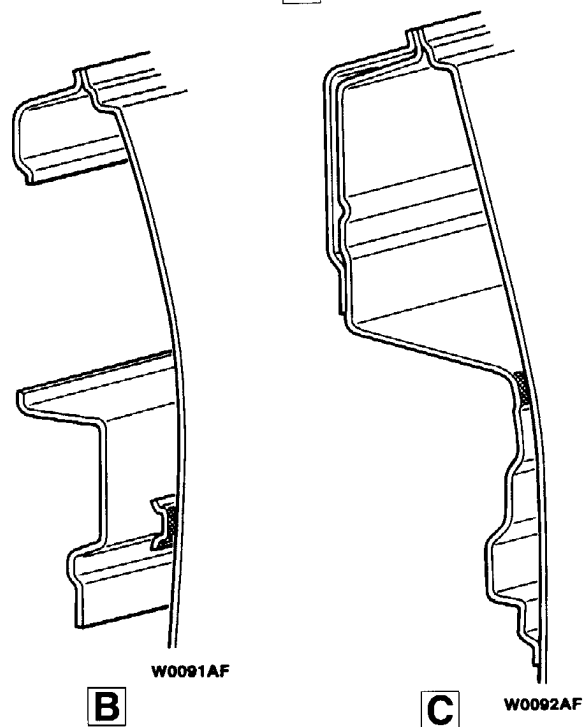
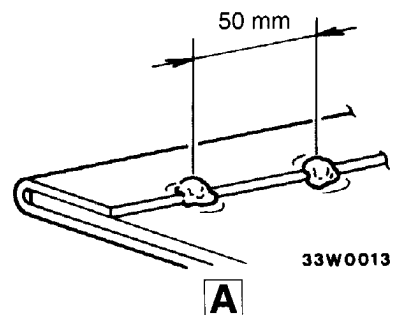
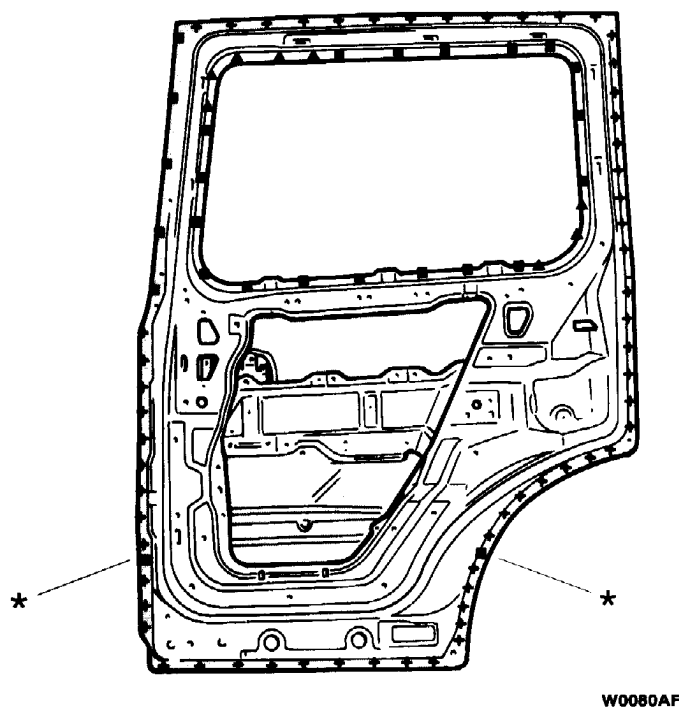
NOTE: (1) Weld points marked with * indicate manufacturer's joints; these are not necessary when doing repair work.
(2) After hemming the front door outer panel, MIG spot weld the bent-over section of the flange at a pitch of approximately 50 mm.

REAR DOOR OUTER PANEL <SPACE RUNNER>



REPAIR WELDS

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)
ooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

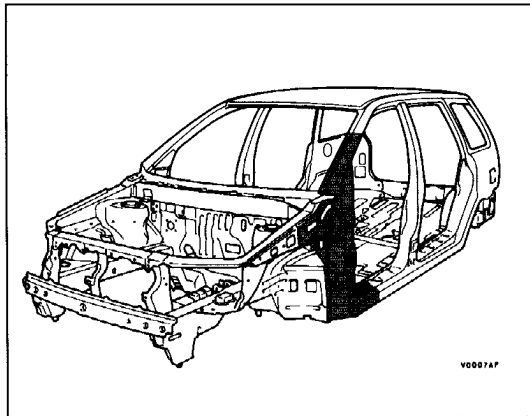


: Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

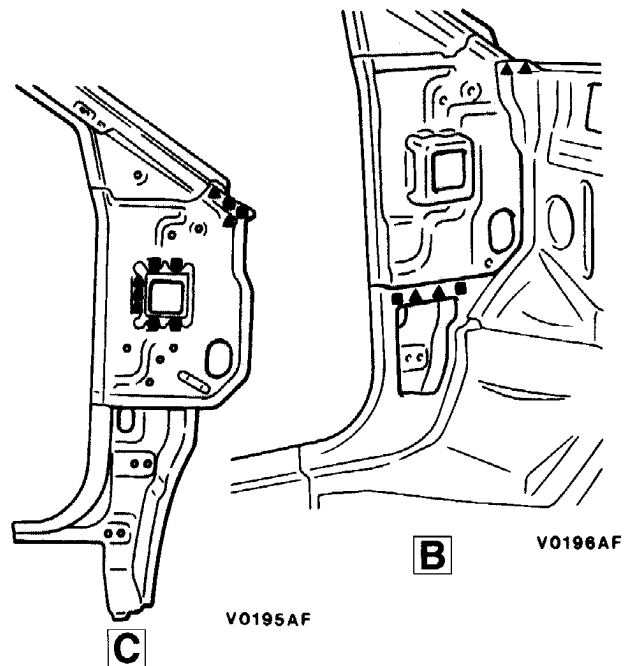
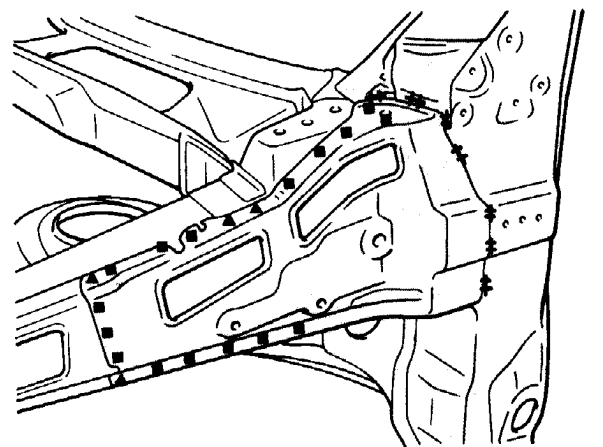
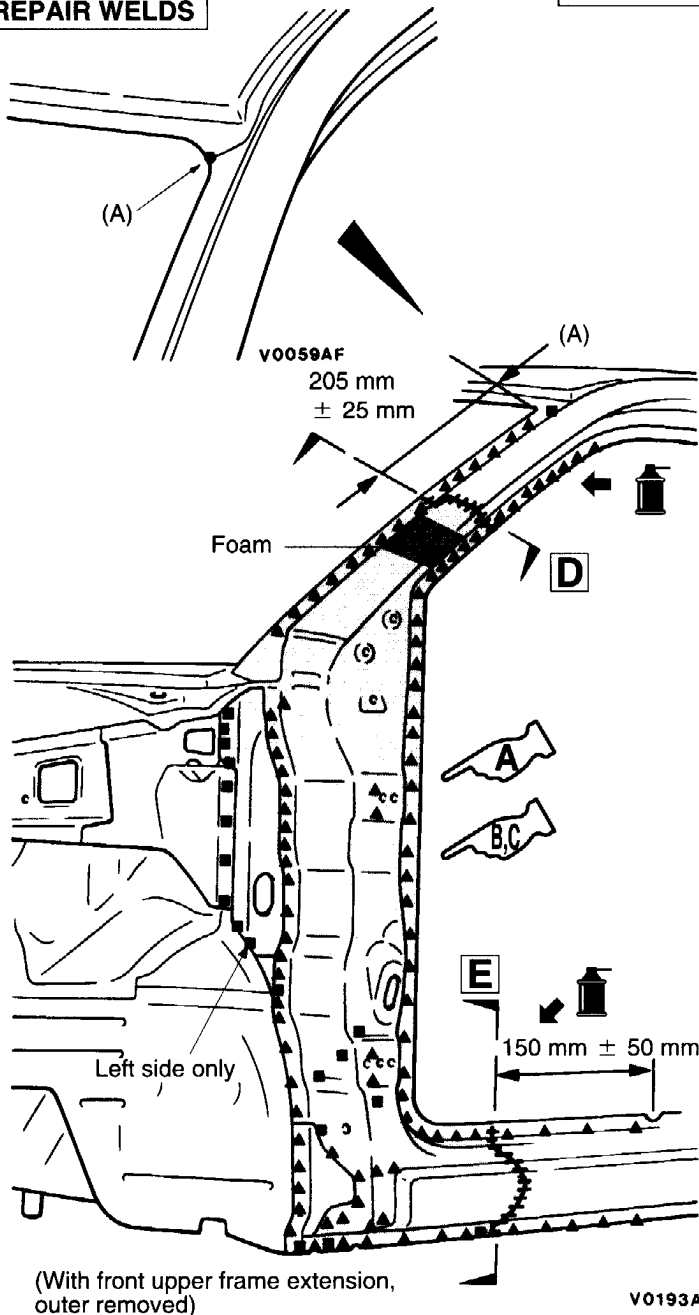
NOTE: (1) Weld points marked with * indicate manufacturer's joints; these are not necessary when doing repair work.
(2) After hemming the rear door outer panel, MIG spot weld the bent-over section of the flange at a pitch of approximately 50 mm.

FRONT PILLAR <SPACE WAGON>



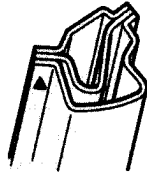
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
	MIG arc welding (continuous)
○○○○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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

REPAIR WELDS

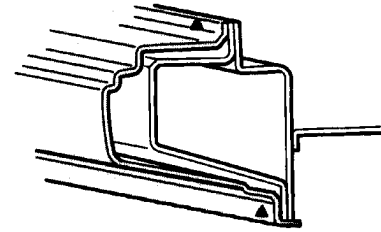


(Front pillar inner and front pillar reinforcement weld points)

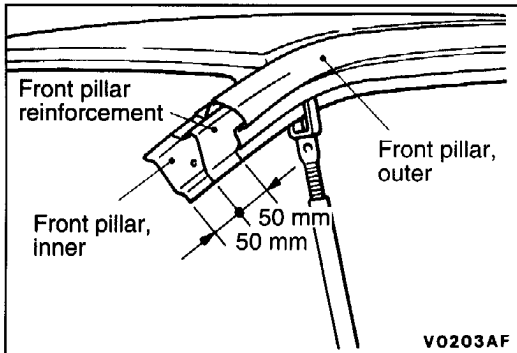
NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.



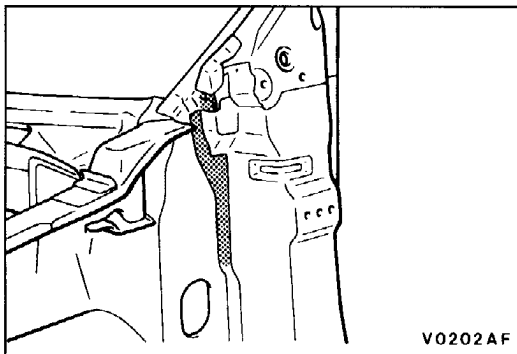
VO200AF

D

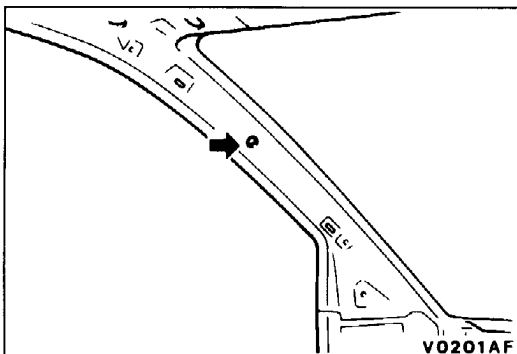
VO199AF

E

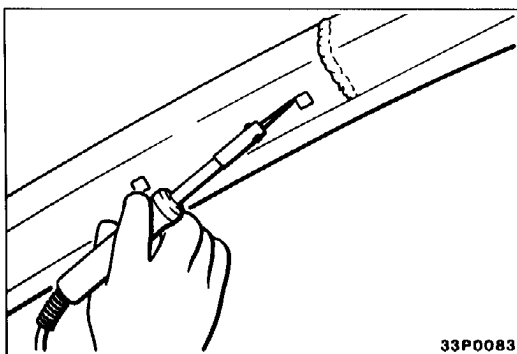
V0203AF



V0202AF



V0201AF



33P0083

NOTES WITH REGARD TO REPAIR WORK INSTALLATION

1. Cut the front pillar into 50 mm sections in order to maintain strength.
2. Install the new front pillar, inner and front pillar reinforcement to the body as a sub-assembly.
3. When carrying out butt-welding, weld the front pillar, inner from inside the passenger compartment, and weld the front pillar reinforcement from outside the passenger compartment.
4. When installing the front pillar, outer, apply body sealant to the front pillar, inner in the places shown in the illustration.

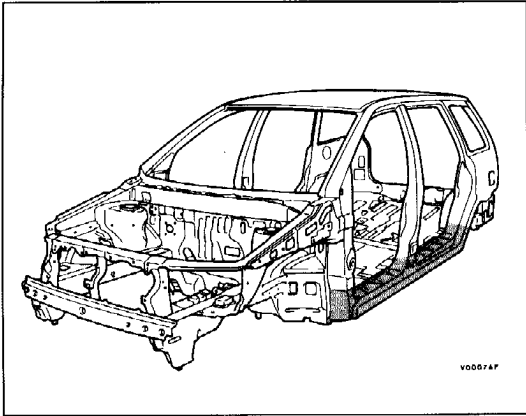
 : Body sealant

5. After installing the front pillar, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow

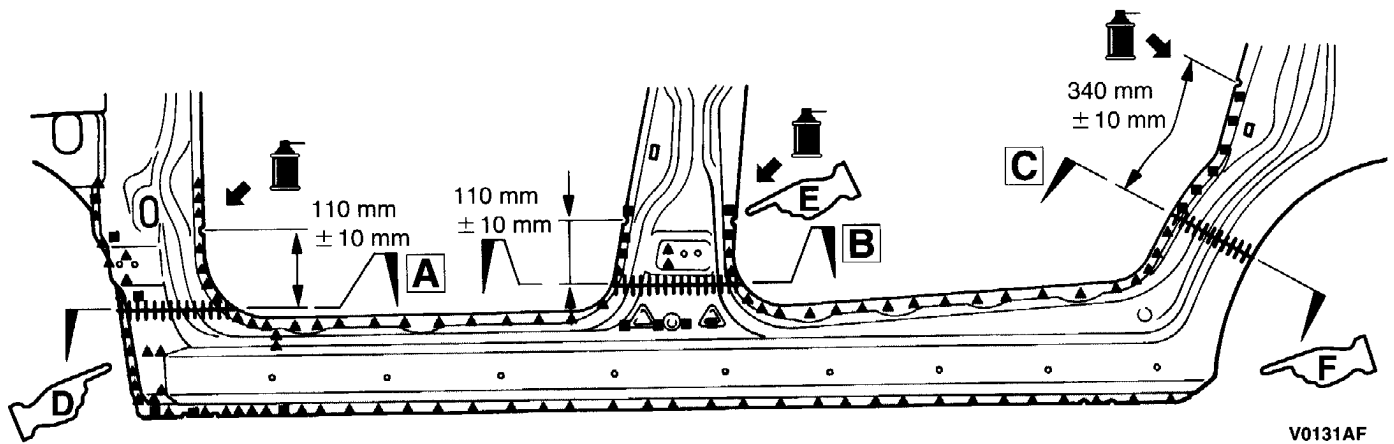
6. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

SIDE SILL <SPACE WAGON>

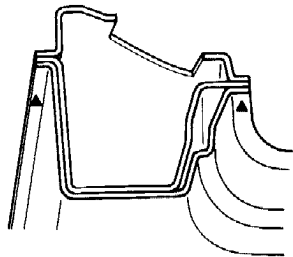


REPAIR WELDS

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.)

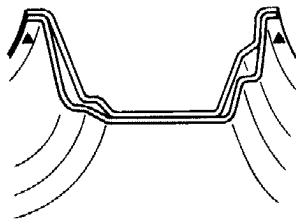


V0131AF



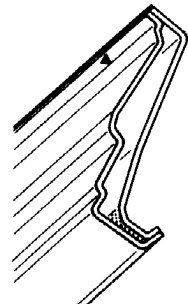
V0132AF

A



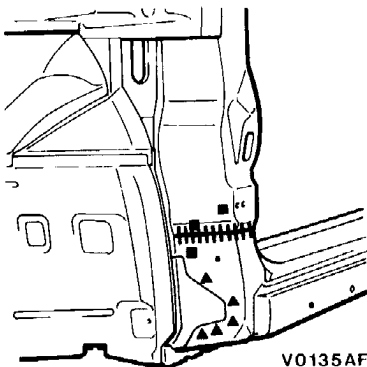
V0133AF

B



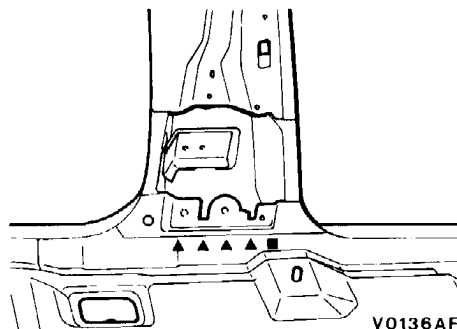
V0134AF

C



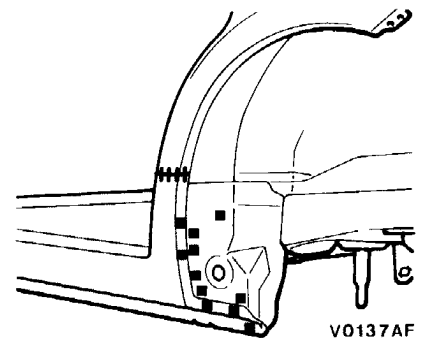
V0135AF

D



V0136AF

E



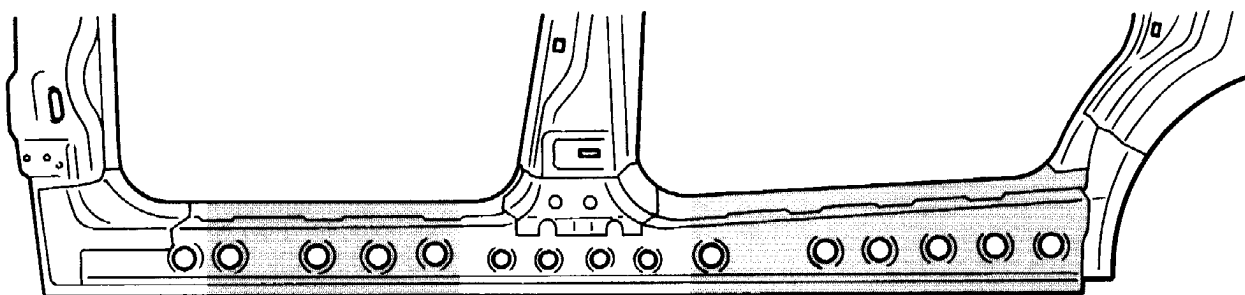
V0137AF

F

NOTE: The parts can also be replaced depending on the extent of the damage.

Caution

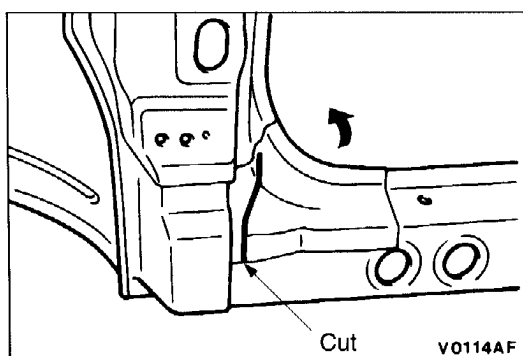
Cut the side sill reinforcement 50 mm from the place where it is butt-welded to the side outer panel.



(With side outer panel removed)

V0115AF

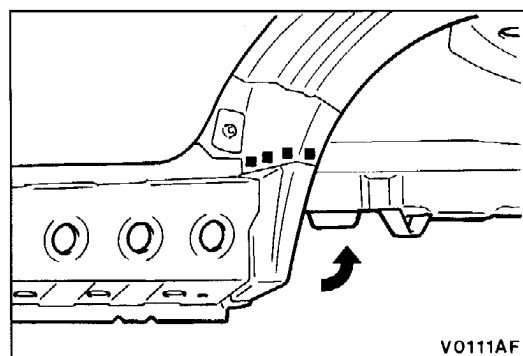
 : Areas that can be cut



V0114AF

NOTES WITH REGARD TO REPAIR WORK REMOVAL

1. When removing the side sill reinforcement, make a cut in the front pillar reinforcement, outer, lower in the place shown in the illustration, and then bend the part upward.



V0111AF

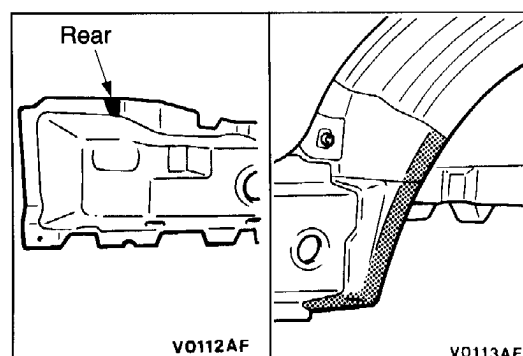
2. When removing the side sill reinforcement, separate the weld points shown in the illustration between the quarter panel, inner and the shield plate, front, and then bend the parts inward and pull out the side sill reinforcement.

INSTALLATION

1. When installing the side sill reinforcement, apply structural adhesive in the place shown in the illustration.

 : Adhesive

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



V0112AF

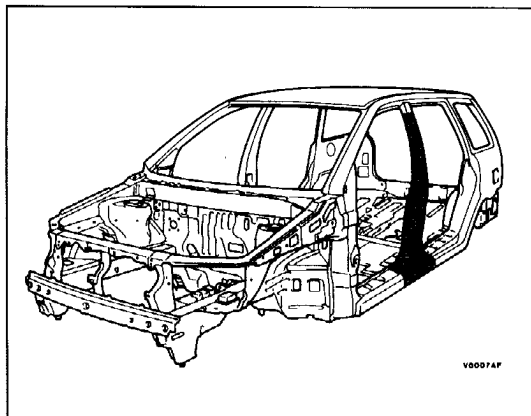
V0113AF

2. When installing the side sill, outer, apply adhesive to the quarter panel, inner and the shield plate, front in the places shown in the illustration.

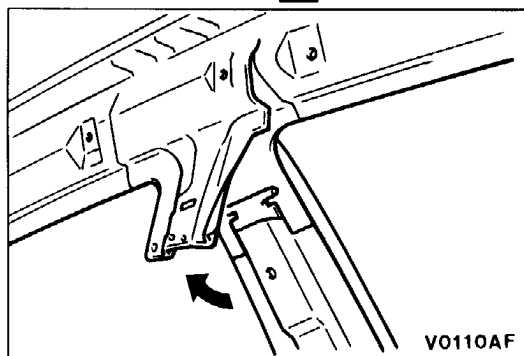
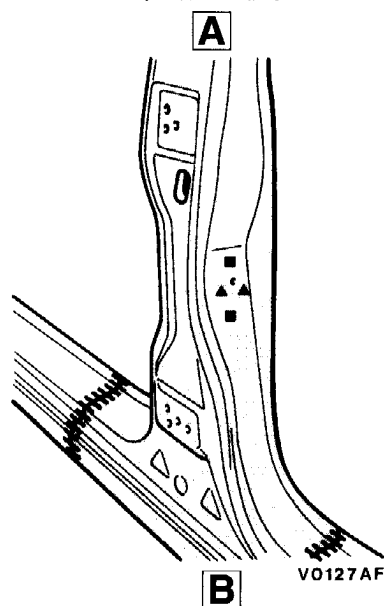
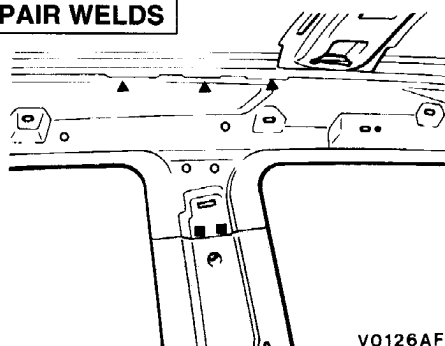
 : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

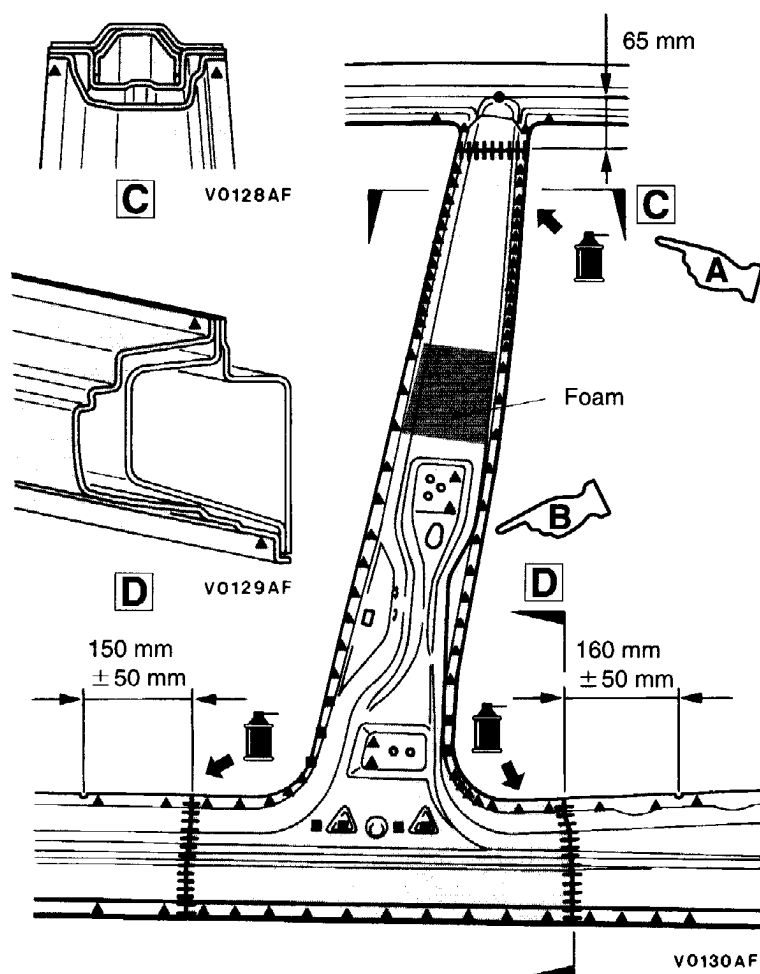
CENTER PILLAR <SPACE WAGON>



REPAIR WELDS



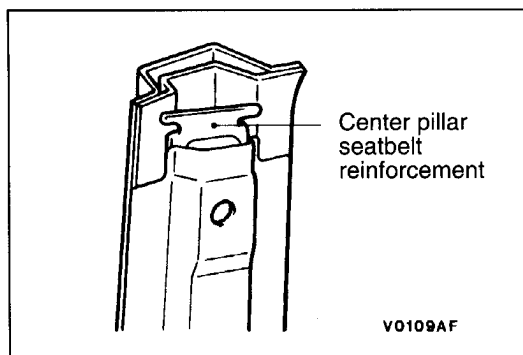
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
++++	MIG spot welding
	MIG arc welding (continuous)
○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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



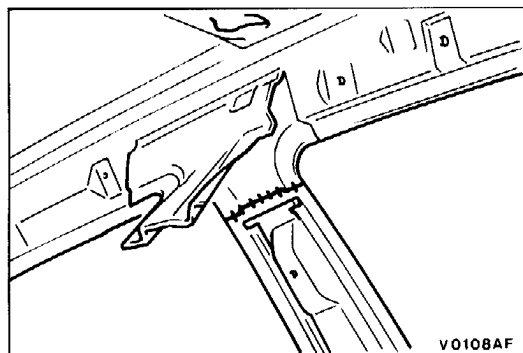
NOTES WITH REGARD TO REPAIR WORK REMOVAL

1. When cutting the center pillar, make a cut in the side roof rail, inner in the place shown in the illustration, separate the weld points between the side roof rail, inner and the center pillar, and bend the side roof rail, inner.

NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.

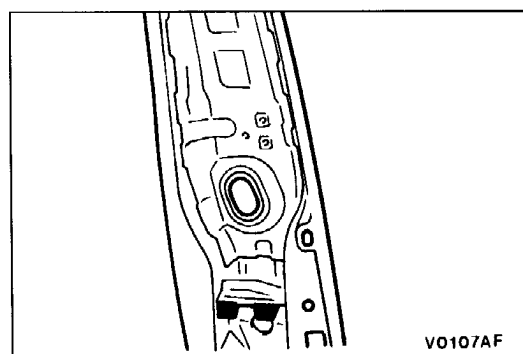


2. Cut the center pillar, outer and the center pillar outer reinforcement above the seatbelt reinforcement.



INSTALLATION

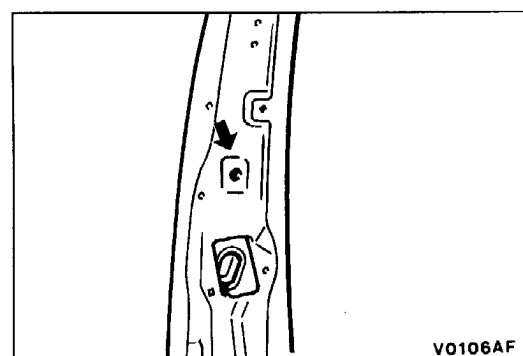
1. Install the center pillar outer reinforcement and the center pillar, outer to the body as a sub-assembly. Butt-weld the center pillar outer reinforcement from inside the passenger compartment, and weld the center pillar, outer from outside the passenger compartment.



2. When installing the center pillar, inner, apply structural adhesive to the rear door check reinforcement in the places shown in the illustration.

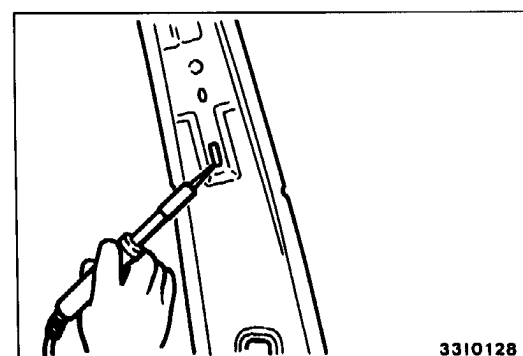
■ : Adhesive

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



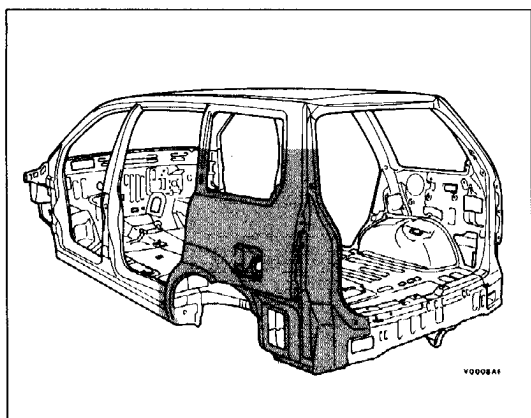
3. After installing the center pillar, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow



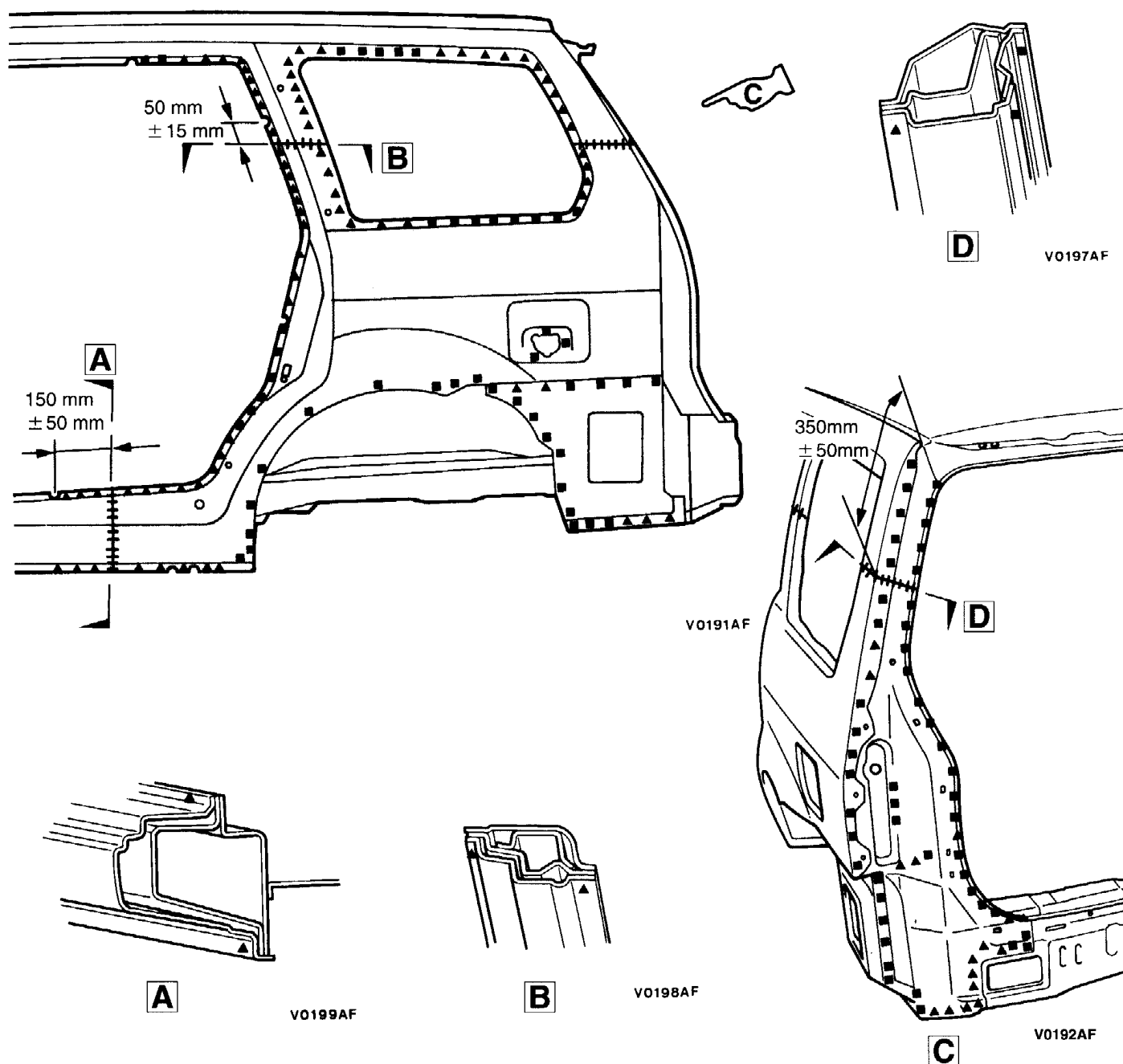
4. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

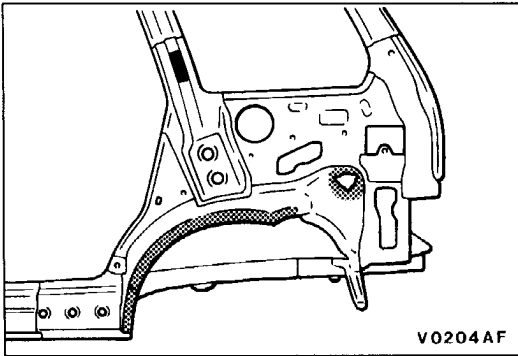
QUARTER, OUTER <SPACE WAGON>



REPAIR WELDS

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)
oooooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)





NOTES WITH REGARD TO REPAIR WORK INSTALLATION

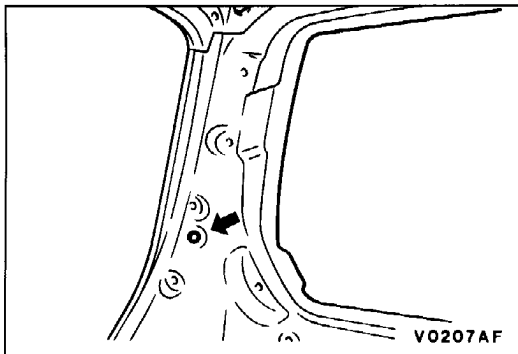
1. When installing the quarter panel, outer, apply adhesive in the places shown in the illustration.

 : Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

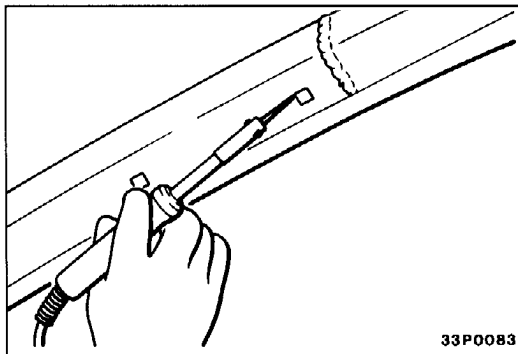
 : Adhesive

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

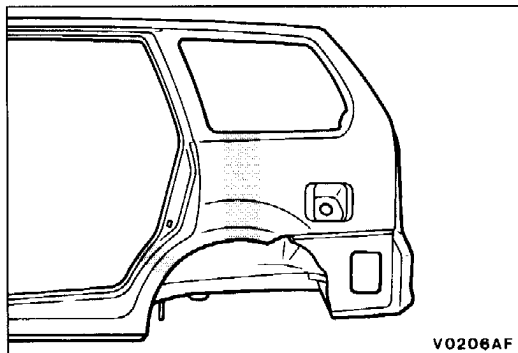


2. After installing the quarter panel, outer, seal the holes and flanges with bolts and panel tape, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow



3. About 2 hours after the foam has been added, remove the bolts and the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

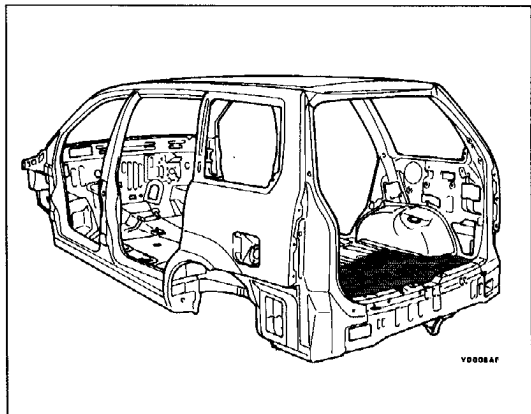


NOTE:

The parts can also be replaced depending on the extent of the damage.

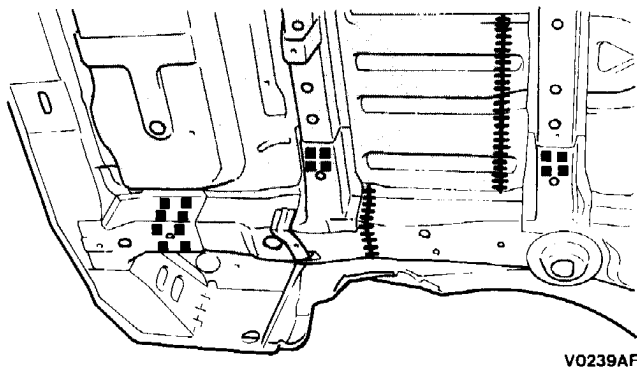
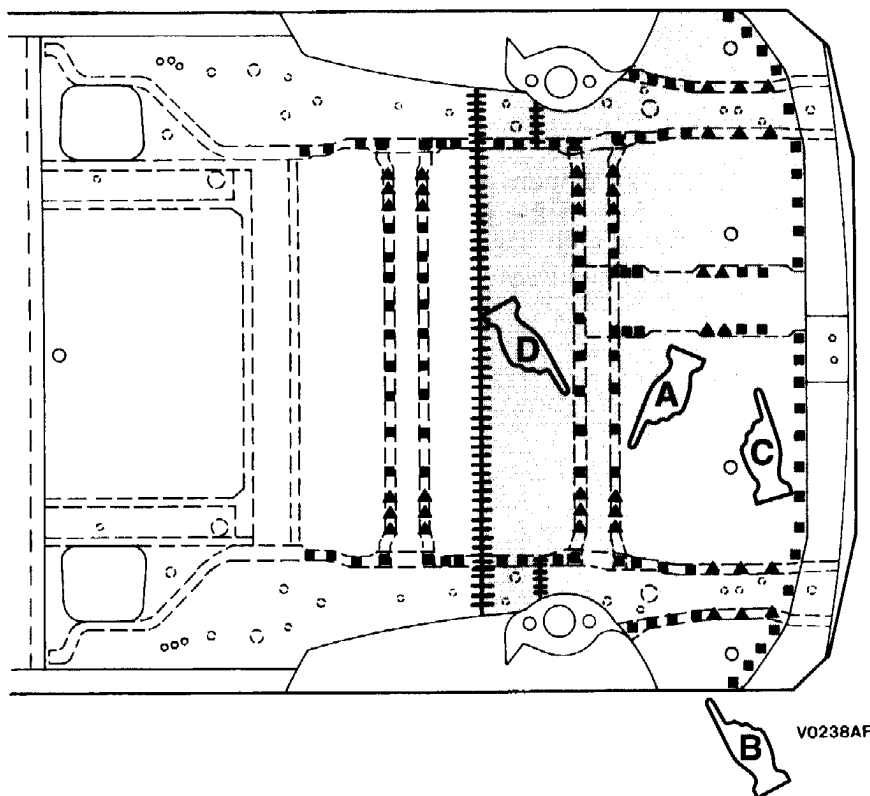
 : Areas that can be cut

REAR FLOOR <SPACE WAGON>

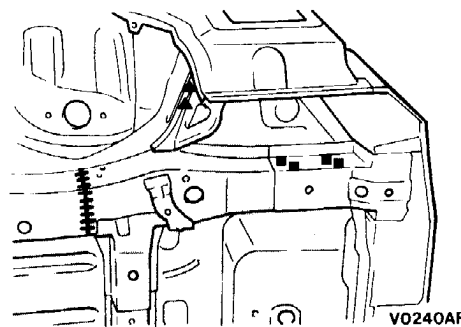


REPAIR WELDS

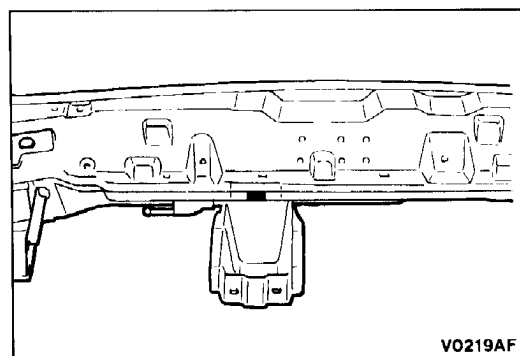
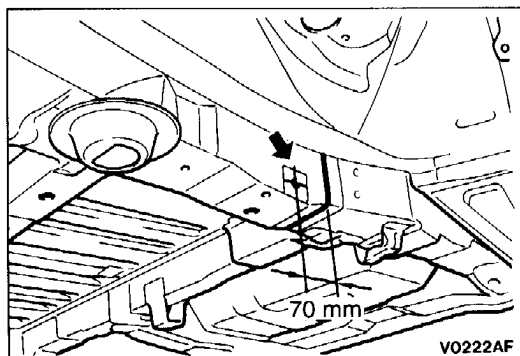
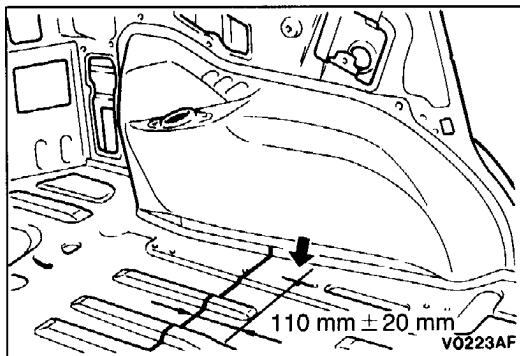
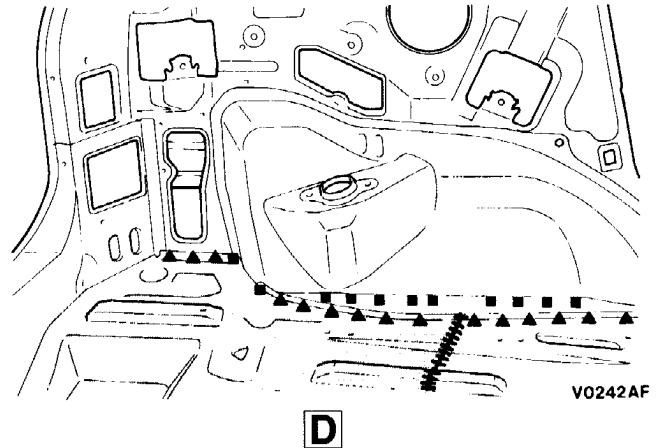
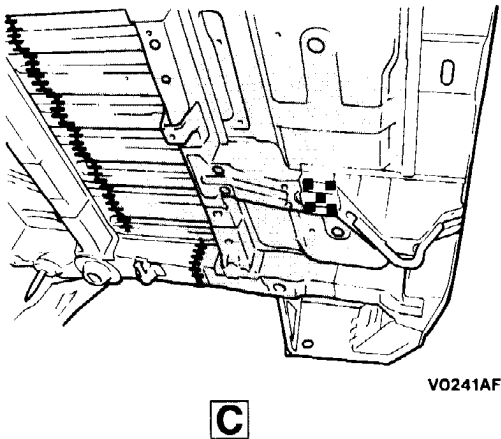
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
++++	MIG spot welding
	MIG arc welding (continuous)
○○○○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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



A



B



NOTES WITH REGARD TO REPAIR WORK

REMOVAL

1. When cutting the rear floor pan, make the cut 110 mm ± 20 mm to the rear of the clip hole as shown in the illustration.
2. Cut the rear floor sidemember 70 mm to the rear of the hole as shown in the illustration.

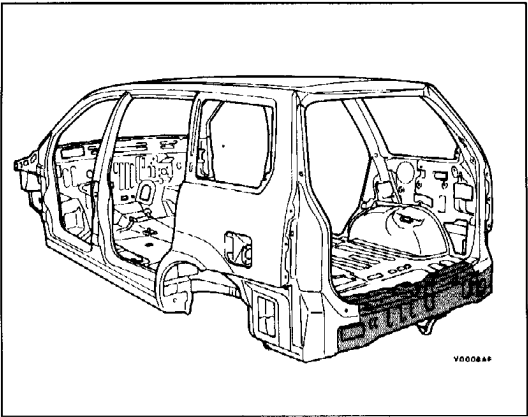
INSTALLATION

3. When installing the rear floor pan and the rear end crossmember, apply structural adhesive to the rear end crossmember in the place shown in the illustration.

■ : Adhesive

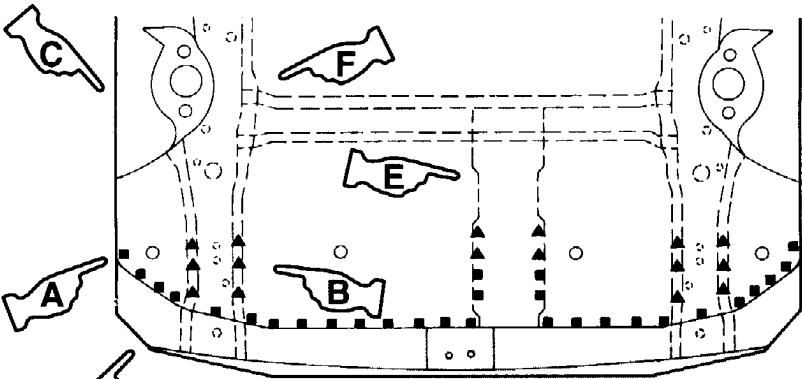
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420

REAR END CROSSMEMBER <SPACE WAGON>

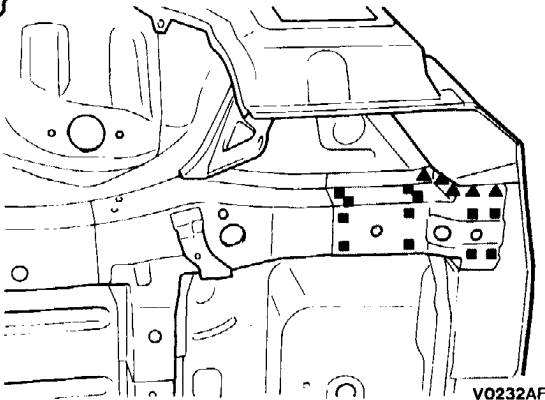


Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
	MIG arc welding (continuous)
oooooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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

REPAIR WELDS

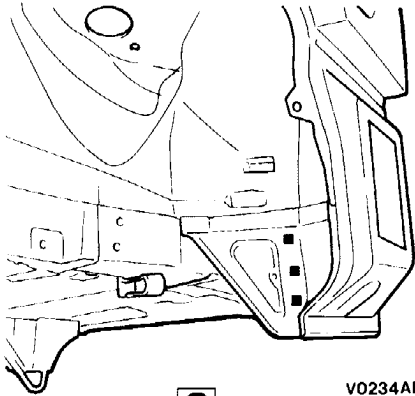


V0231AF



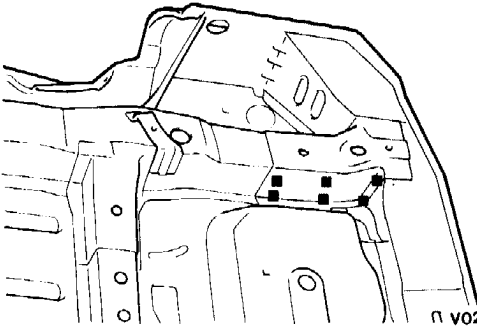
V0232AF

A



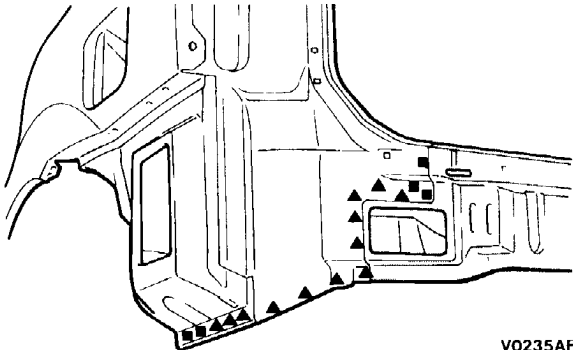
V0234AF

C



V0233AF

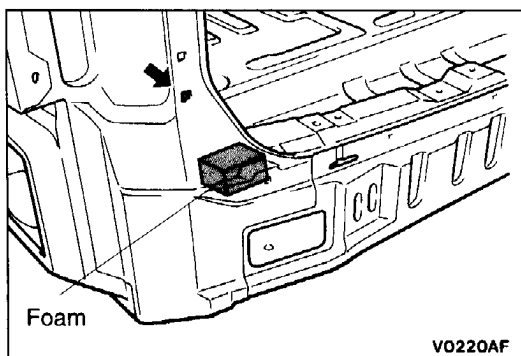
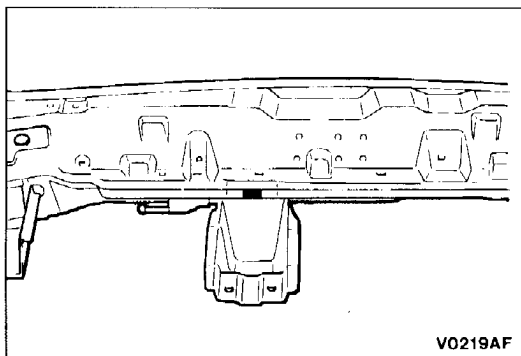
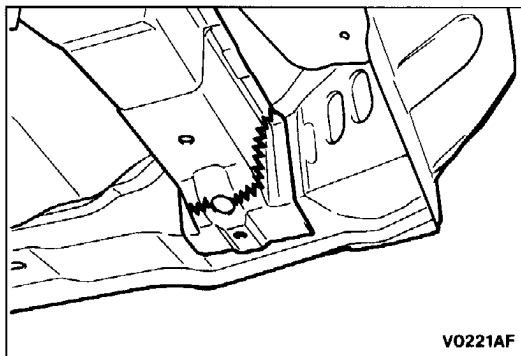
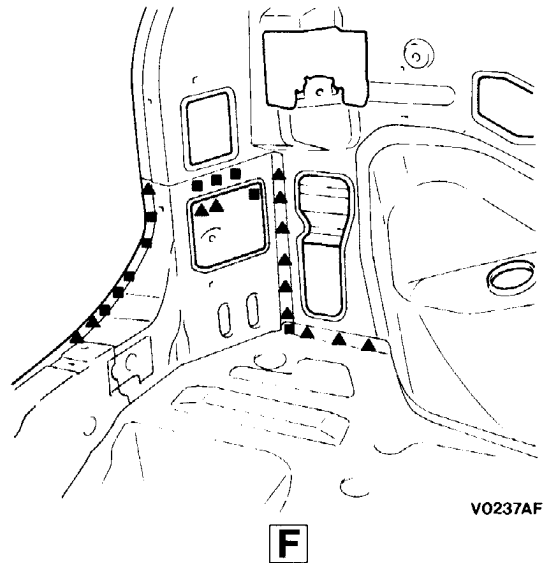
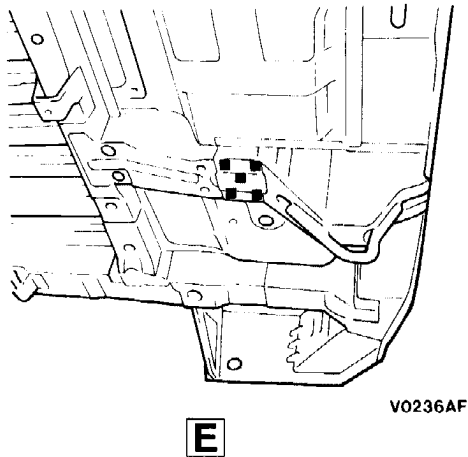
B



V0235AF

D

NOTE: When repairing locations where foam has been used, there is the danger that the foam may ignite, so do not use any tools which may cause fire.



NOTES WITH REGARD TO REPAIR WORK

REMOVAL

1. When removing the rear end crossmember, cut the rear floor sidemember extension in the place shown in the illustration.

INSTALLATION

1. When installing the rear end crossmember, apply structural adhesive in the place shown in the illustration.

■ : Adhesive

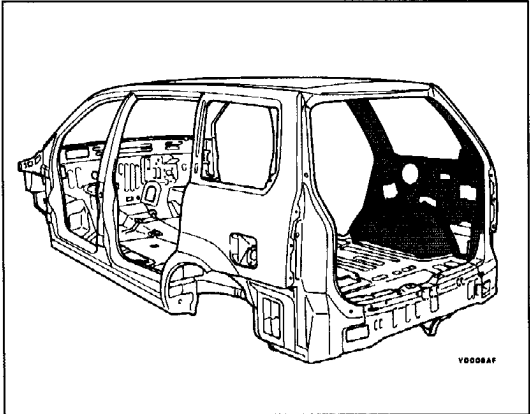
Adhesive	Type	Brand
	Epoxyresin adhesive	3M DP-460 3M DP-420

2. After installing the rear end crossmember, seal the nearby holes with panel tape so that foam can be added, and then fill with foam through the hole shown in the illustration.

Foam : 3M ULTRAPRO Panel foam – Yellow

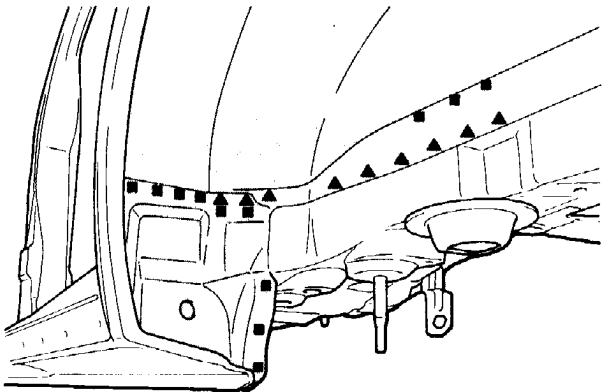
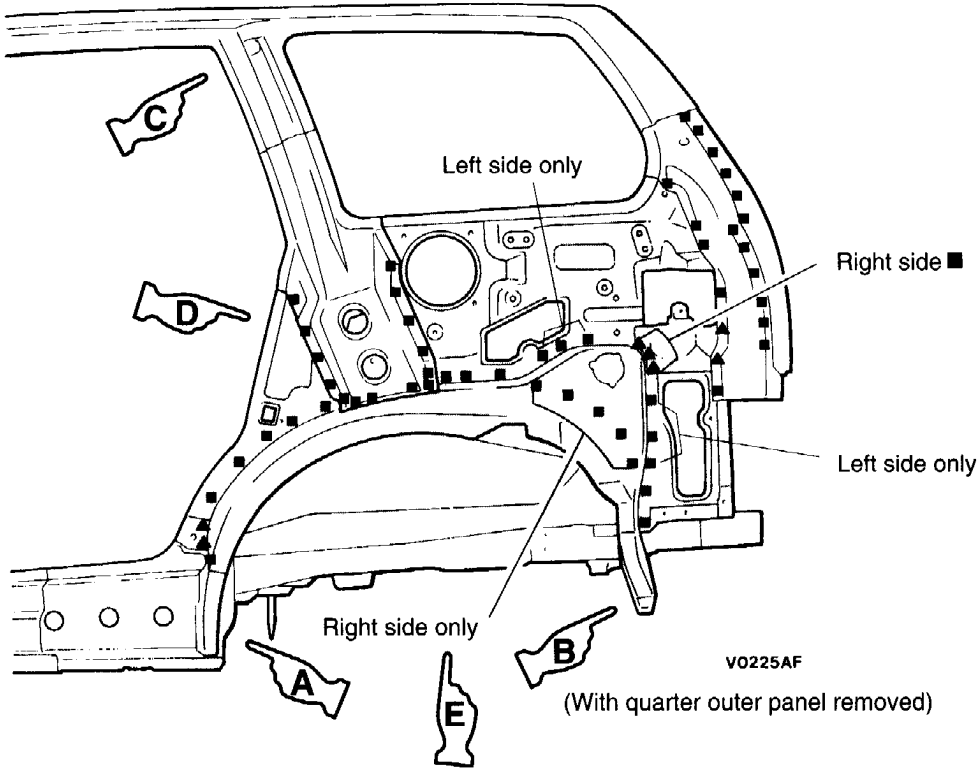
3. About 2 hours after the foam has been added, remove the panel tape, and then shape the exposed holes with a soldering iron so that the clips will fit into them securely.

QUARTER, INNER <SPACE WAGON>

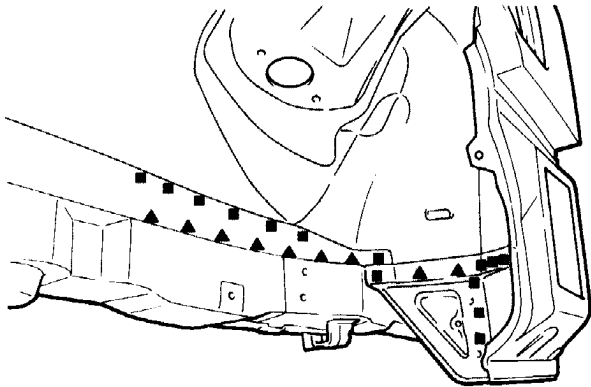


REPAIR WELDS

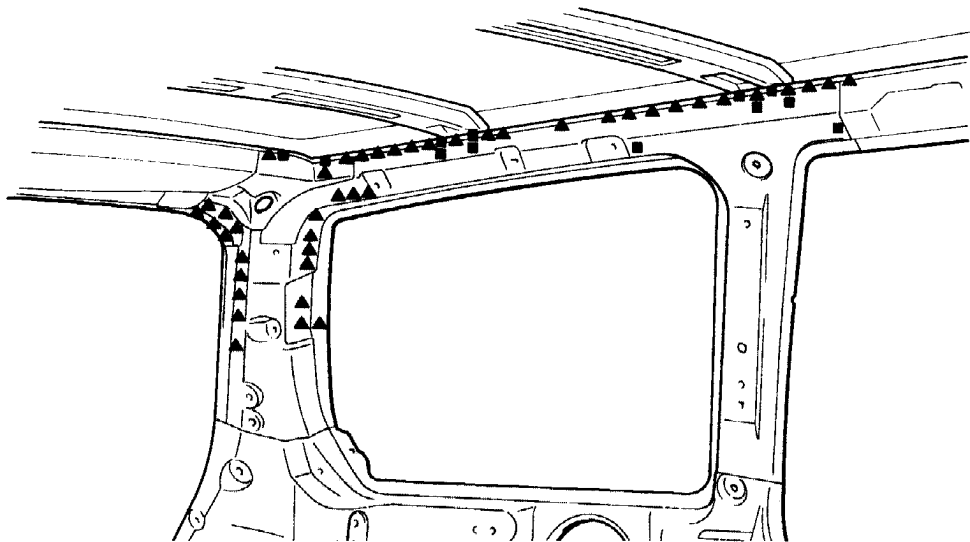
Symbol	Operation description
• • • •	Spot welding
■ ■ ▲ ▲	MIG plug welding ■ indicates two panels to be welded ▲ indicates three panels to be welded
+ + + +	MIG spot welding
	MIG arc welding (continuous)
○○○○○○	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally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



V0226AF

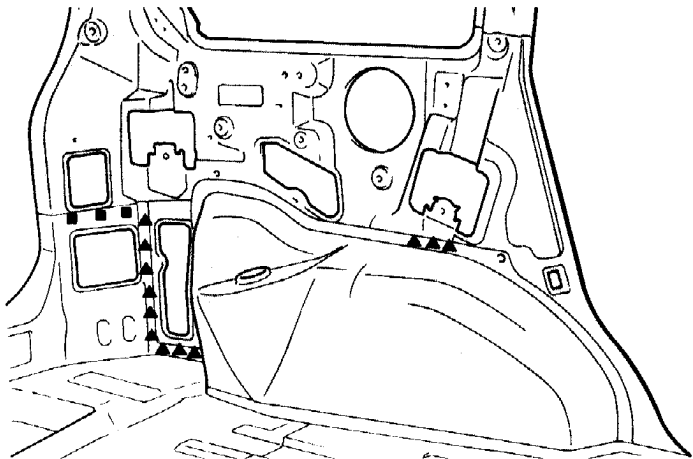


V0227AF



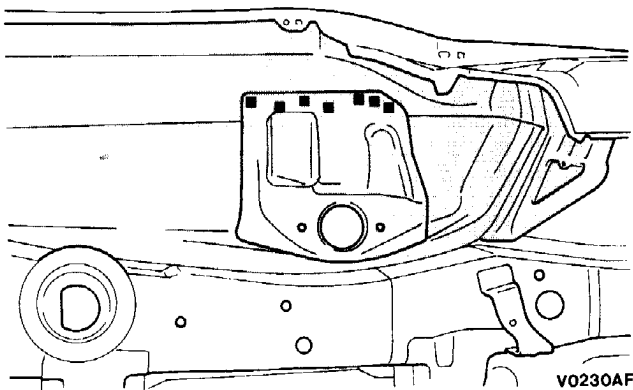
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V0228AF



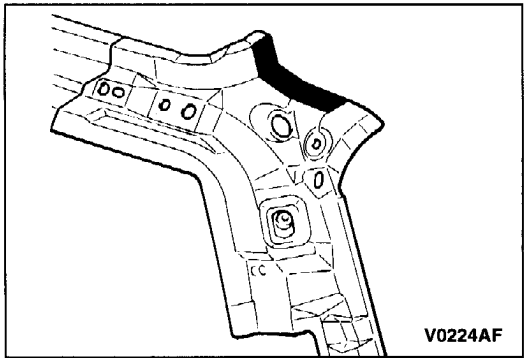
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V0229AF



E

V0230AF



V0224AF

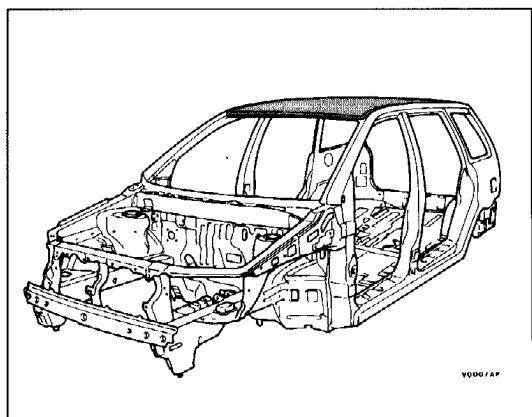
NOTES WITH REGARD TO REPAIR WORK INSTALLATION

1. When installing the quarter inner panel, apply structural adhesive to the gate pillar reinforcement, upper in the place shown in the illustration.

■ : Adhesive

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

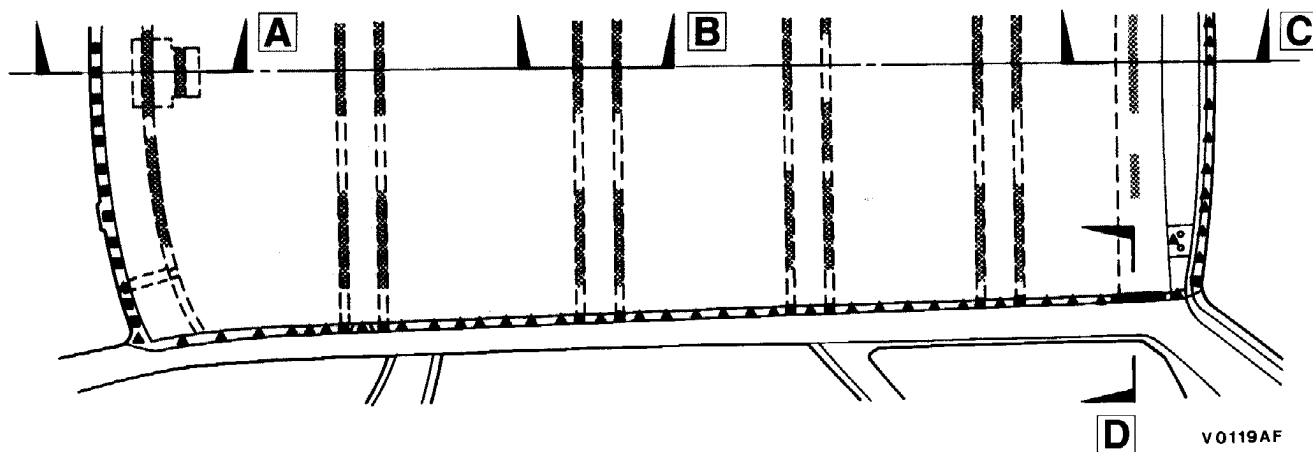
ROOF <SPACE WAGON>



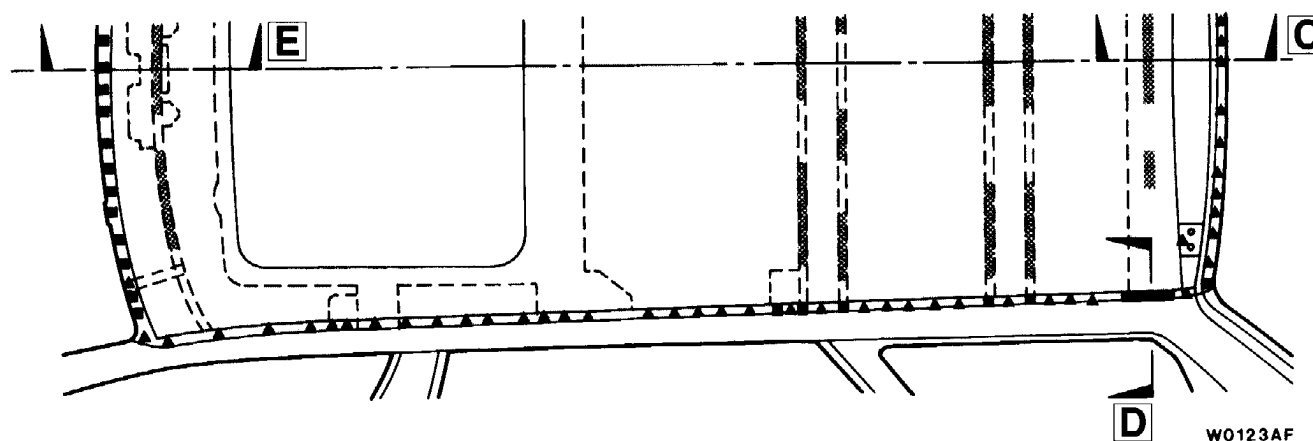
REPAIR WELDS

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)
oooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)

Standard roof



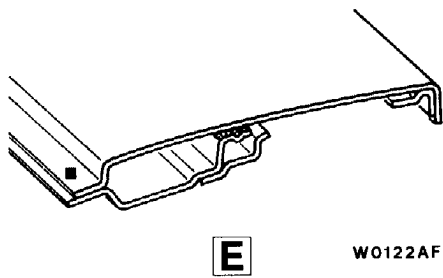
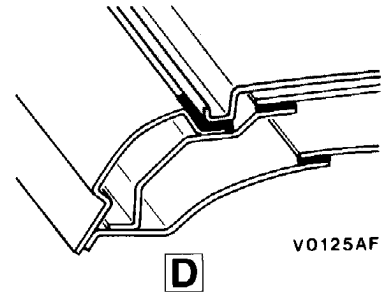
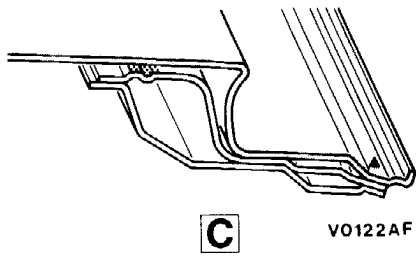
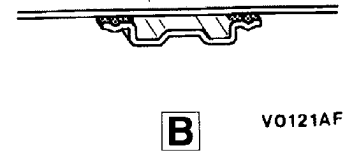
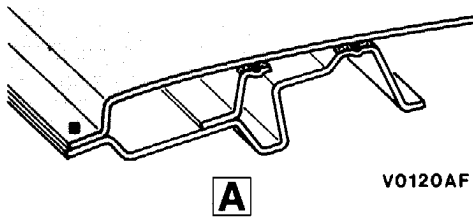
Sunroof


 : Adhesive

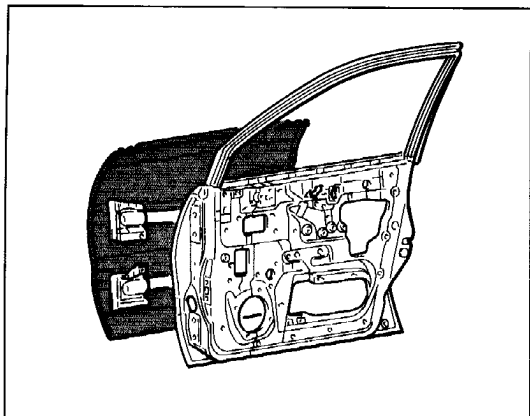
Adhesive	Type
	Chloroprene-base drying sealant

 : Adhesive

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

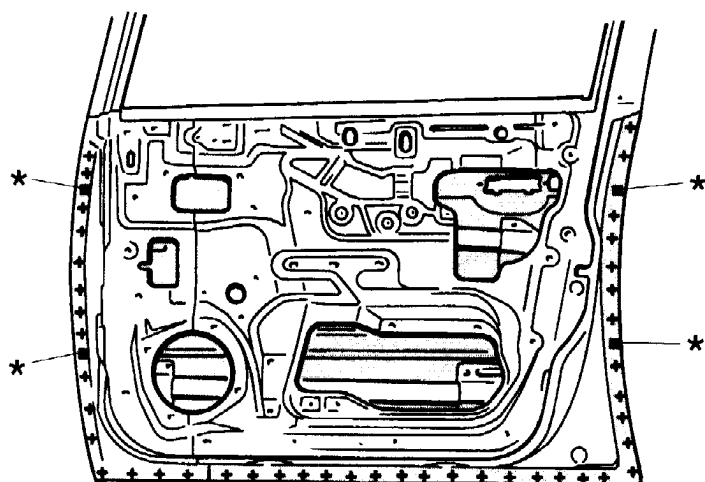


FRONT DOOR OUTER PANEL <SPACE WAGON>

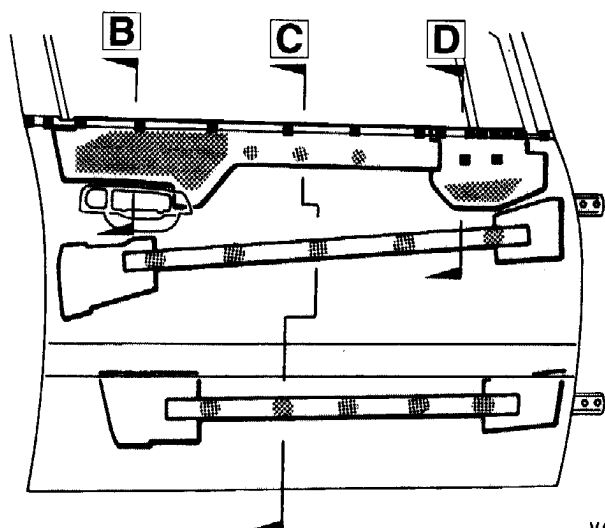


REPAIR WELDS

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)
ooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



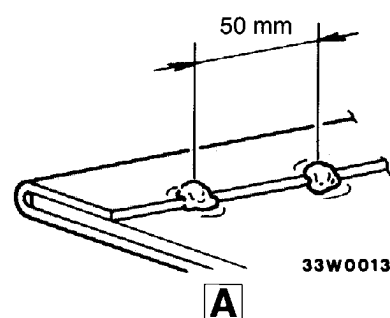
V0208AF



V0187AF

: Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

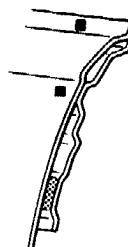


A



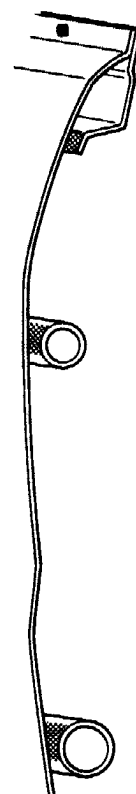
V0188AF

B



V0189AF

D

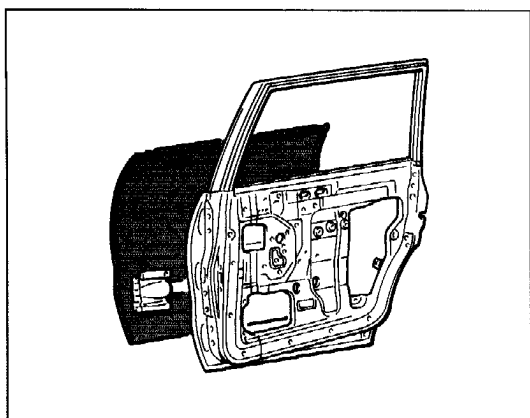


V0190AF

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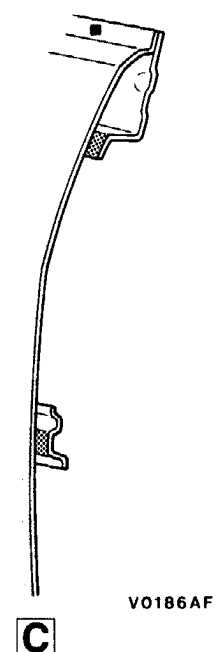
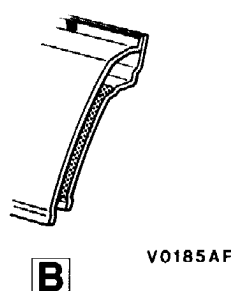
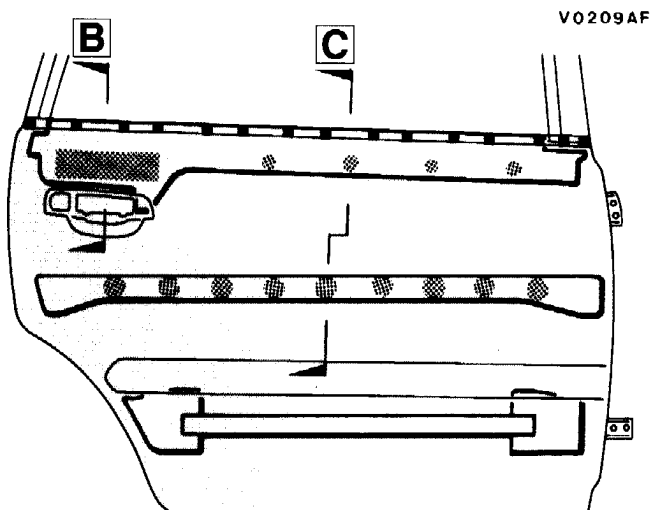
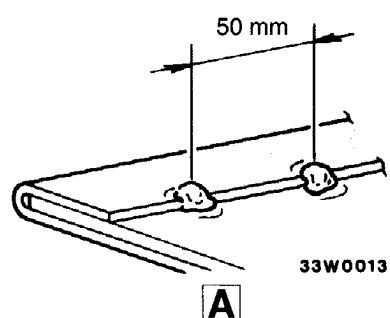
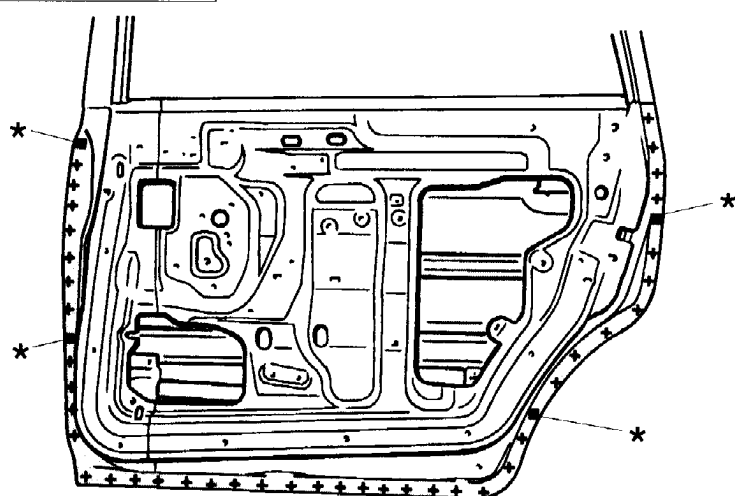
NOTE: (1) Weld points marked with * indicate manufacturer's joints; these are not necessary when doing repair work.
(2) After hemming the front door outer panel, MIG spot weld the bent-over section of the flange at a pitch of approximately 50 mm.

REAR DOOR OUTER PANEL <SPACE WAGON>



REPAIR WELDS

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)
ooooo	Braze welding
	Anti-corrosion agent application locations (Use access holes to apply liberally to butt-welded joints.)



: Adhesive

Adhesive	Type
	Chloroprene-base drying sealant

NOTE: (1) Weld points marked with * indicate manufacturer's joints; these are not necessary when doing repair work.
(2) After hemming the rear door outer panel, MIG spot weld the bent-over section of the flange at a pitch of approximately 50 mm.