INTRODUCTION

This Body Repair Manual provides detailed repair procedures for repair of commonly damaged structural panels on the Hyundai H-1. To aid in the information of the damaged vehicle, body construction, replacement parts, body dimensions, body sealing locations, corrosion protection and body repair procedures service are contained herein.

The repair procedures specify locations where body members may be structurally sectioned. All of the repair procedures have been performed on Hyundai H-1 body shells and that is currently available in most auto body repair shops. Each repair procedure was subjected to testing and evaluation to insure that the structural integrity of the vehicle was maintained as a result of the repair procedure.

The repair procedures illustrated in this manual were developed to simplify body repair in order to reduce insurance costs, and indirectly, cost of ownership.

The vehicle should not be sectioned in locations other than those illustrated in this repair manual. Furthermore, these repair procedures DO NOT apply to any other vehicle. The individuals performing the work must assume full responsibility for the quality of their workmanship.

We believe this manual to be helpful for Hyundai dealers, and anticipate it to be effectively used for Hyundai vehicle bodies.

For the services of other than collision-damaged body parts of the Hyundai H-1, refer to the H-1 shop manual.

The illustrations and descriptive text in this manual were correct at the time of printing. It is the policy of HYUNDAI MOTOR COMPANY to continuously improve its products. Specifications and procedures are subject to change at any time without notice.

Aug, 1997, Printed Korea

CONTENTS

GENERAL INFORMATION

GENERAL GUIDE LINES AND PRECAUTIONS

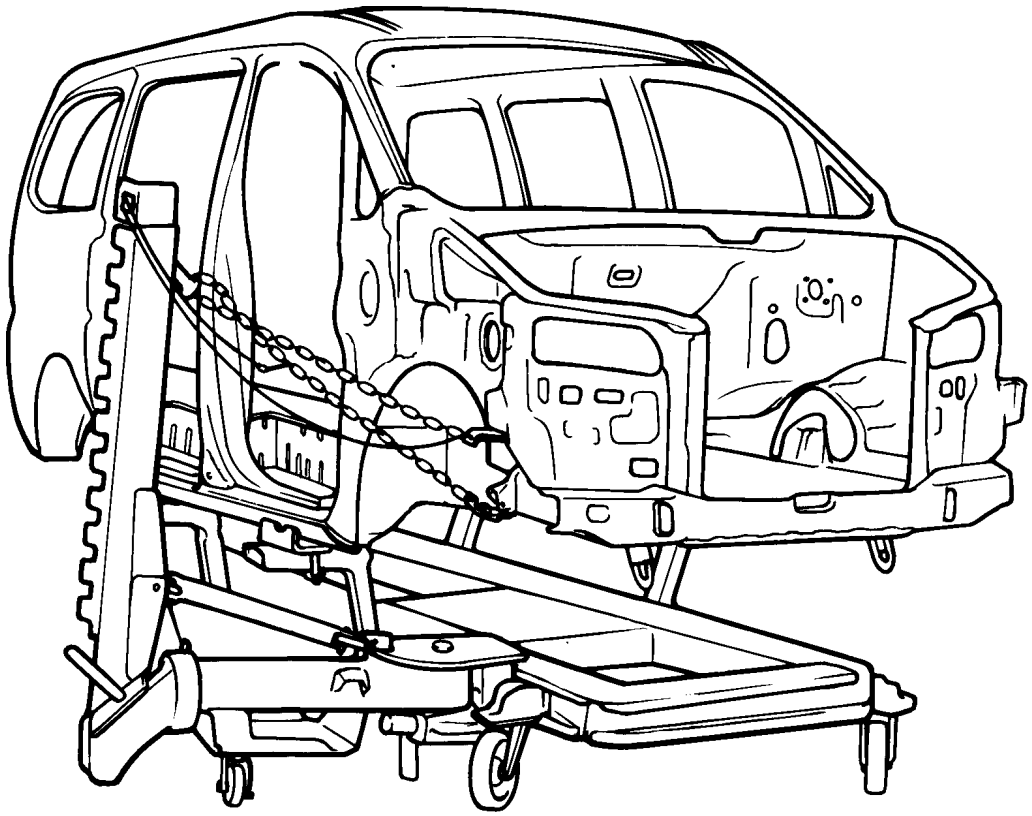
The Hyundai H-1 is a completely new vehicle design. During its development, close attention has been given to safety, stability, weight and corrosion protection. Typical of unit body design, the Hyundai H-1 is designed so that the front and rear compartments will absorb much of the collision energy so that the passengers are better protected. During collisions, these front and rear energy absorbing systems may be severely damaged. During repair, these damaged areas must be returned to their original strength and geometry. If this is not properly done, the vehicle will not provide the intended level of protection to its occupants in the event of another collision.

The repairs described in this manual were performed on H-1 body shells. In some instances special fixtures were welded in place to support the structure. During the repair of an actual vehicle, the interior would be fully disassembled and standard jack screws or portable braces may be used for temporary support.

During the repair of an accident involved vehicle, the vehicle must first be returned to pre-impact dimensions prior to beginning the sectioning repair procedures. The extent of damage that must be repaired should then be evaluated to determine the appropriate repair procedures. This manual provides locations and procedures where structural sectioning may be employed. It is the responsibility of the repair technician, based upon the extent of damage, to determine which location and procedure is suitable for the particular damaged vehicle.

During the repair of a collision damaged automobile, it is impossible to fully duplicate the methods used in the factory during the vehicle manufacture. Therefore, auto body repair techniques have been developed to provide a repair that has strength properties equivalent to those of the original design and manufacture.

Certain guidelines and precaution are noted as follow.



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SRSCM (SRS CONTROL MODULE)

GENERAL

The supplemental restraint system (SRS AIRBAG) is designed to supplement the seat belt to help reduce the risk or severity of injury to the driver and passenger by activating and deploying the driver and passenger side airbag in certain frontal collisions.
The SRS (Airbag) consists of : a driver side airbag module located in the center of the steering wheel, which contains the folded cushion and an inflator unit ; a passenger side airbag module located in the passenger side crash pad contains the folded cushion assembled with inflator unit ;SRSCM located on the floor under the heater core which monitors the system, an accelerometer which senses the vehicle deceleration, a spring interconnection (clock spring) located within the steering column; system wiring and wiring connector; and a knee bolster located under the steering column. The impact sensing function of the SRSCM is carried out by electronic accelerometer that continuously measure the vehicle's acceleration and delivers a corresponding signal through amplifying and filtering circuity to the microprocessor.
Deployment of the airbag is designed to occur in frontal or near-frontal impacts of moderate of severe force.
Only authorized service personnel should do work on or around the SRS components. Those service personnel should read this manual carefully before doing any work. Extreme care must be used when servicing the SRS to avoid injury to the service personnel (by inadvertent deployment of the airbag) or the driver (by render the SRS inoperative).

CUSTOMER CAUTIONS

Failure to carry out service operations in the correct sequence could cause the airbag system to unexpectedly deploy during servicing, possibly leading to a serious injury. Further, if a mistake is made in servicing the airbag system, it is possible that the airbag may fail to operate when required. Before performing service (including removal or installation of parts, inspection or replacement), be sure to read the following items carefully.

1. Be sure to proceed airbag related service after approx. 30 seconds or longer from the time the ignition switch is turned to the LOCK position and the negative (-) terminal cable is disconnected from the battery. The airbag system is equipped with a back-up power source to assure the deployment of airbag when the battery cable is disconneted by an accident. The back-up power is available for approx. 150ms.
2. When the negative(-) terminal cable is disconnected from the battery, memory of the clock and audio systems will be canceled. So before starting work, make a record of the contents memorized by the audio memory system. When the work is finished, reset the audio system and adjust the clock.
3. Malfunction symptoms of the airbag system are difficult to confirm, so the diagnostic codes become the most important source of information when troubleshooting.
4. When troubleshooting the airbag system, always inspect the diagnostic codes before disconnecting the battery.
5. Never use airbag parts from another vehicle. When replacing parts, replace them with new parts.
6. Never attempt to disassemble and repair the airbag modules (DAB,PAB), clock spring and wiring in order to reuse them.
7. If any component of SRS has been dropped, or if there are cracks, dents or other defects in the case, bracket or connector, replace them with new ones.
8. After work on the airbag system is completed, perform the SRS SRI check.
   The airbag indicator lamp can be interrupted by other curcuit fault in some cases. Therefore if the airbag indicator lamp goes on, be sure to erase the DTC codes using Scan tool just after repairing or replacing the troubled parts including fuse.
9. Especially in case of welding the body, never fail to disconnect the battery negative (-) terminal.
10. WARNING/CAUTION labels are attached to the periphery of the air-bag components.
    Refer to the H-1 SHOP MANUAL.

ELECTRONIC PARTS

Vehicles today include a great many electronic parts and components, and these are in general very susceptible to adverse effects caused by overcurrent, reverse current, electromagnetic waves, high temperature, high humidity impacts, etc.
In particular such electronic components can be damaged if there is a large current flow during welding from the body side.
Therefore, take the following precautions during body repair to prevent damage to the CONTROL MODULS (ECM, TCM, ABS CM, SRS CM, etc.)

1. Before removing and inspecting the electrical parts or before starting electric welding operations, disconnect the negative (-) terminal cable from the battery.
2. Do not expose the CONTROL MODULS to ambient temperatures above 80°C (176°F).

   NOTE :
   If it is possible the ambient temperatures may reach 80°C (176°F) or more, remove the CONTROL MODULS from the vehicle before starting work.

3. Be careful not to drop the CONTROL MODULS and not to apply physical shocks to them.

CORROSION PROTECTION AND SEALING

Proper corrosion protection and sealing is an important part of any repair. When reviewing these repair procedures, it is important to recognize the need for corrosion restoration to provide for long term strength of the repaired member.

A two part epoxy primer was applied to the metal surfaces during the latter part of the repair. For closed sections, such as front and rear rails, rocker panels and pillars, the primer is applied without applying the metal conditioner and the conversion coating. These steps are omitted to insure that no rinse water is trapped in the closed sections. The primer application is followed by an application of an oil or wax based rust proofing material.

After the corrosion restoration process for the closed sections are completed, then the process can be applied to all exterior sections. For exterior surfaces, both metal conditioner and conversion coating treatments are applied to the exterior surface prior to application of the epoxy primer. The procedure in applying the corrosion restoration process is important order to insure that moisture, due to the water rinsing of the metal conditioner and conversion coating is not inadvertently trapped inside any closed section before the epoxy primer and rust proofing materials have been applied.

Appropriate seam sealers are then applied to all joints. Follow manufacturer's recommendations for the appropriate type of seam sealer to be used at each seam or joint.

WELDING

All repairs in this manual require the use of a Metal-Inert Gas (MIG) welder, Gas (oxyacetylene) welding must not be used.
Both high strength steel and mild steel can be welded using the MIG welder. The I-CAR recommendations for welding should be followed. The shielding gas should be 75% Argon and 25% CO2.
The recommended welding wire size is 0.23" and the wire should satisfy the American Welding Society standard code AWSER70S-6.

During the repair process, plug welds are used to duplicate original factory spot welds. All plug welds should be done with the MIG welder. An 8 mm (5/16") hole is placed in the top (welding side) sheetmetal.

You then begin welding along the edges and the spiral towards the center (see illustration). This is important so that weld penetration between the two metal pieces takes place along the circumference of the circle.

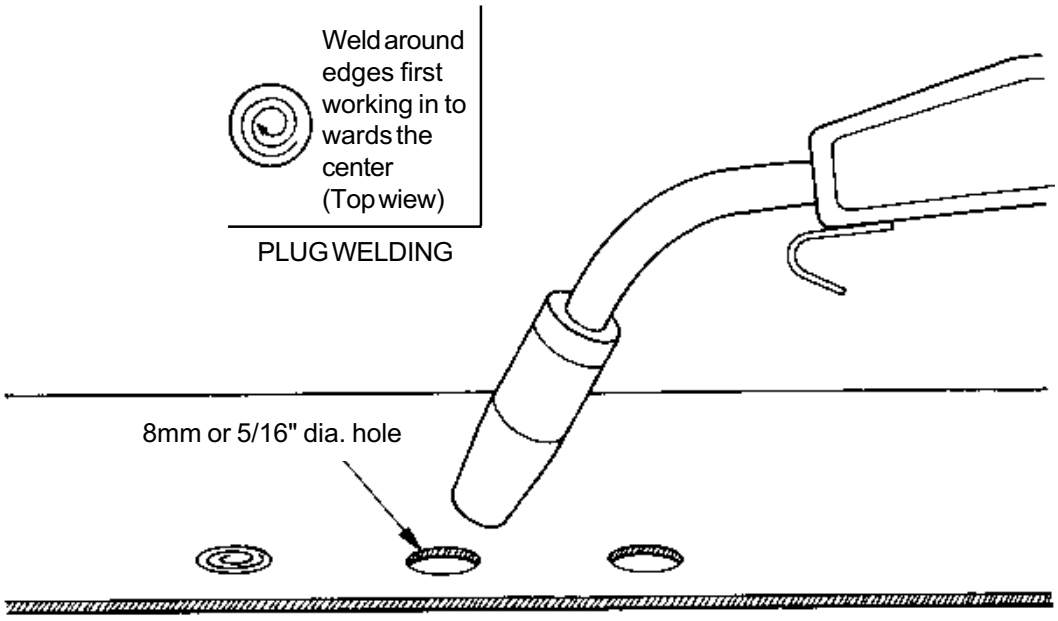


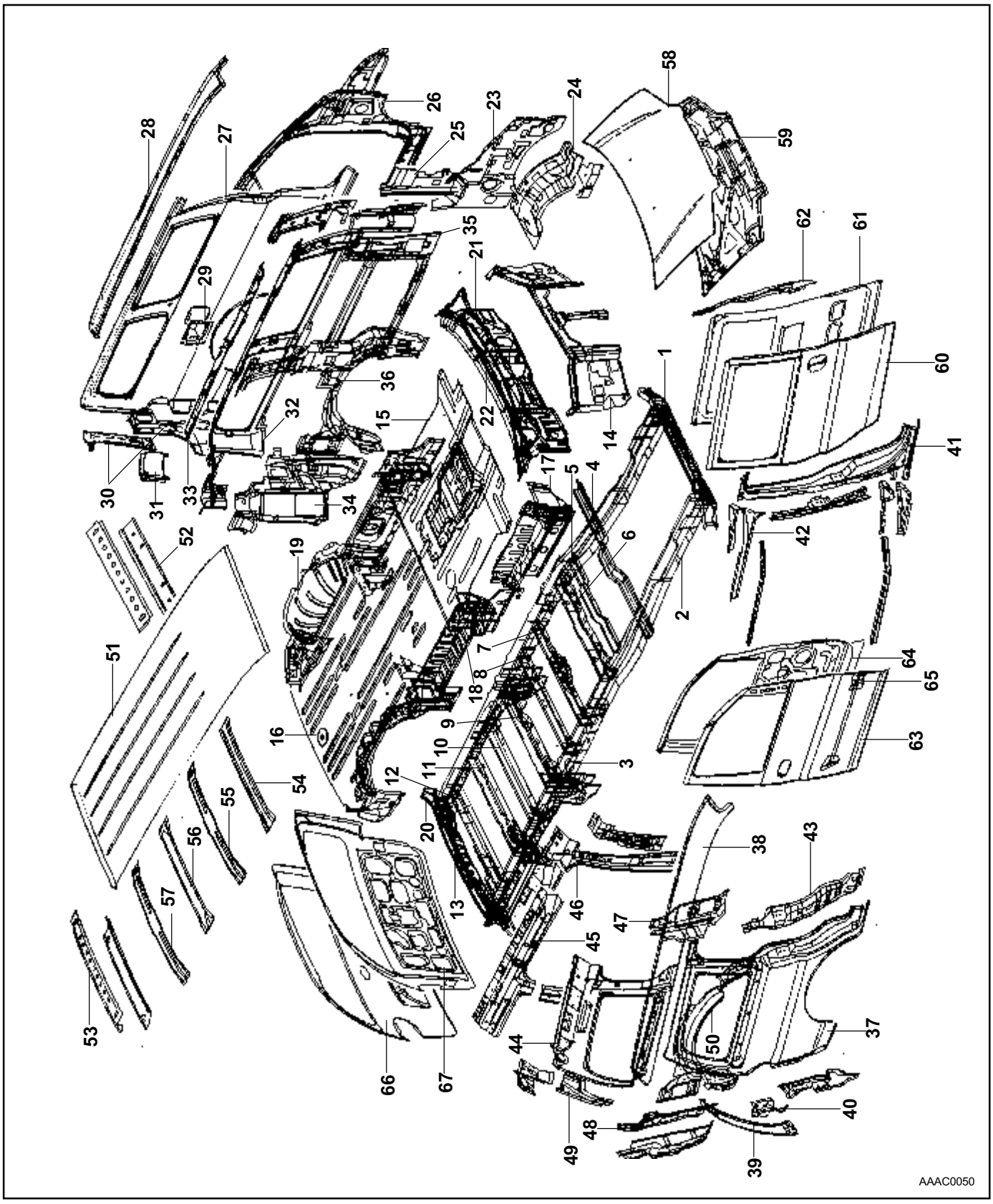
Illustration-Welding in collision Repair

CON-0040

BODY CONSTRUCTION

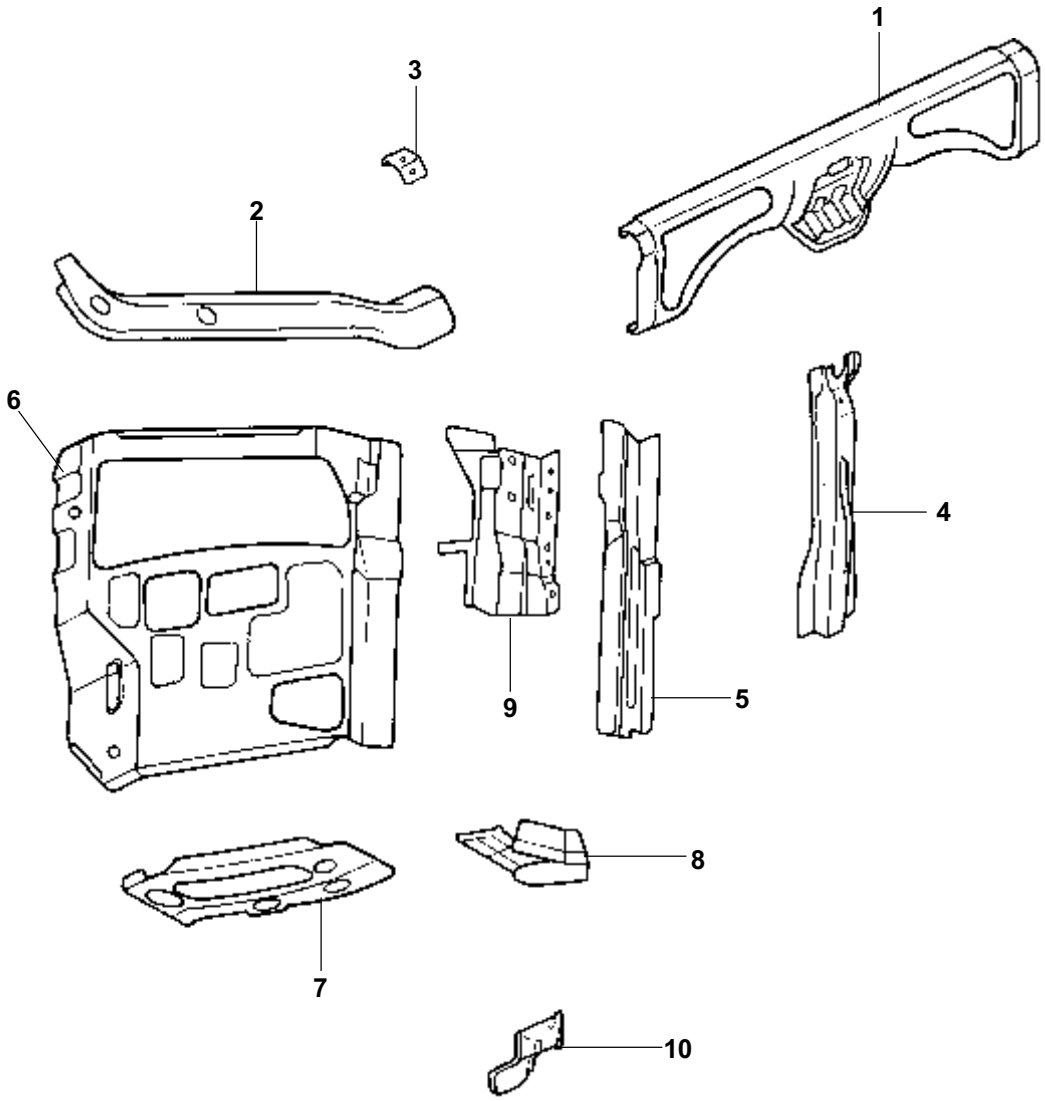
BODY COMPONENTS

Body construction will sometimes differ depending on specifications and country of destination. Therefore, please keep in mind that the information contained herein is based on vehicles for general destination.



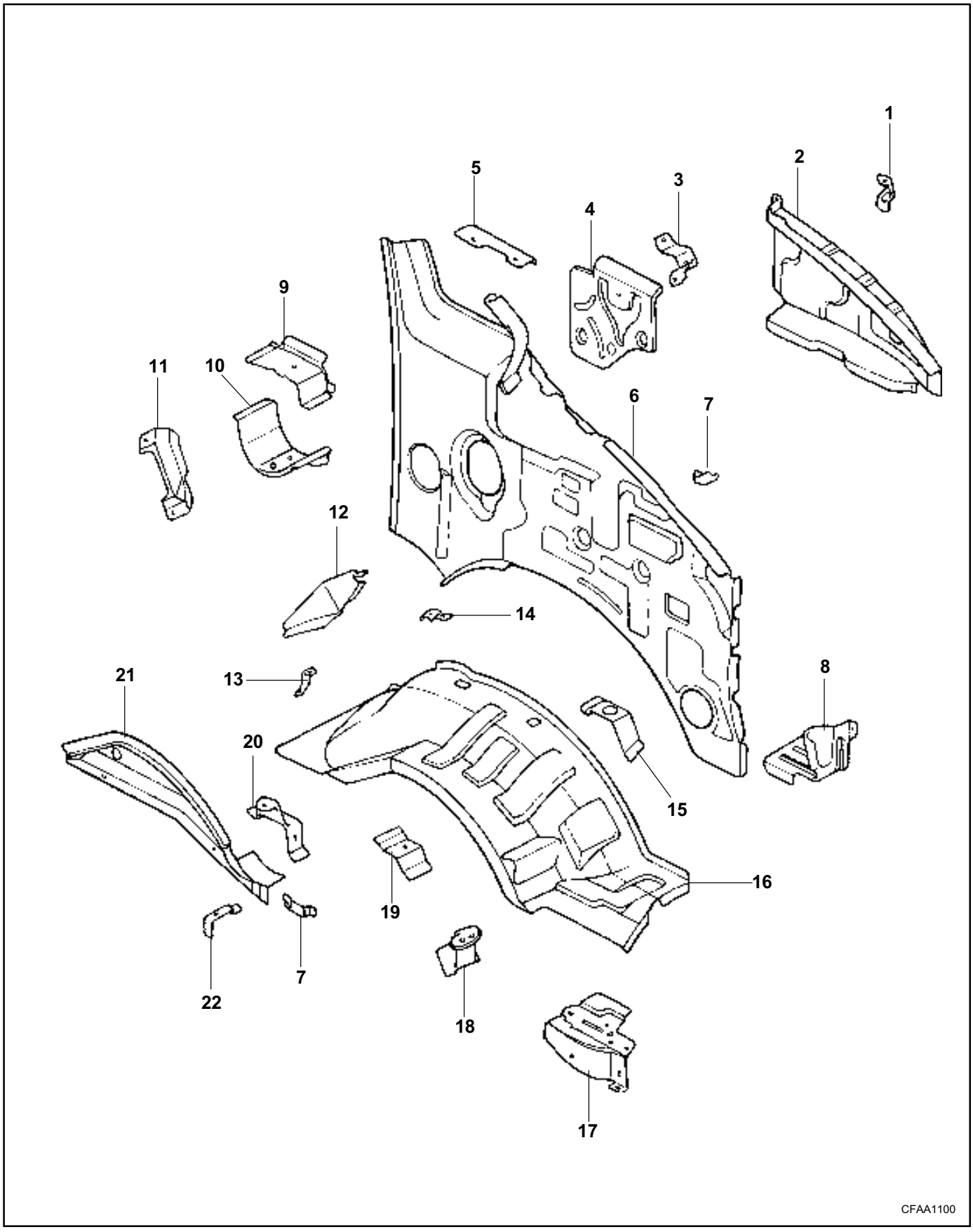
No.	PART NAME	No.	PART NAME
1	Front end crossmember.	40	Gusset panel (RH).
2	Front sidemember.	41	"B" outer pillar (RH).
3	Rear side member.	42	Rear door side outer rail.
4	Crossmember No.1.	43	"C" pillar lower reinforcement (RH).
5	Crossmember No.2.	44	Quarter inner panel (RH).
6	Crossmember No.3.	45	Roof side inner reinforcement (RH).
7	Crossmember No.4.	46	"B" inner pillar (RH).
8	Crossmember No.5.	47	"C" inner pillar (RH).
9	Crossmember No.6.	48	"D" inner pillar (RH).
10	Crossmember No.7.	49	"D" pillar upper reinforcement.
11	Crossmember No.8.	50	Wheel house outer rear panel (RH).
12	Crossmember No.9-1.	51	Roof panel.
13	Rear end crossmember.	52	Roof front rail.
14	Radiator support panel.	53	Roof rear rail.
15	Center floor panel.	54	Roof bow (A).
16	Rear floor panel.	55	Roof bow (B).
17	Front step panel.	56	Roof bow (C).
18	Rear step panel.	57	Roof bow (D).
19	Rear wheel house panel.	58	Hood outer panel.
20	Quarter inner lower panel.	59	Hood inner panel.
21	Dash panel.	60	Rear door outer panel.
22	Cowl panel.	61	Rear door inner panel.
23	Front apron inner panel.	62	Front door hinge face reinforcement.
24	Front wheel house panel.	63	Front door outer panel.
25	Front apron outer panel.	64	Front door inner panel.
26	Front pillar panel.	65	Front door reinforcement beam.
27	Quarter outer panel (LH).	66	Tail gate outer panel.
28	Roof side outer panel (LH).	67	Tail gate inner panel.
29	Fuel filler neck bracket.		
30	Quarter outer rear extension.		
31	Gusset panel (LH).		
32	Quarter inner panel (LH).		
33	Quarter inner upper panel (LH).		
34	"D" inner pillar (LH).		
35	Quarter inner lower panel (LH).		
36	Wheel house outer rear panel (LH).		
37	Quarter outer panel (RH).		
38	Roof side outer panel (RH).		
39	Quarter outer rear extension (RH).		

FRONT BODY RADIATOR SUPPORT COMPLETE



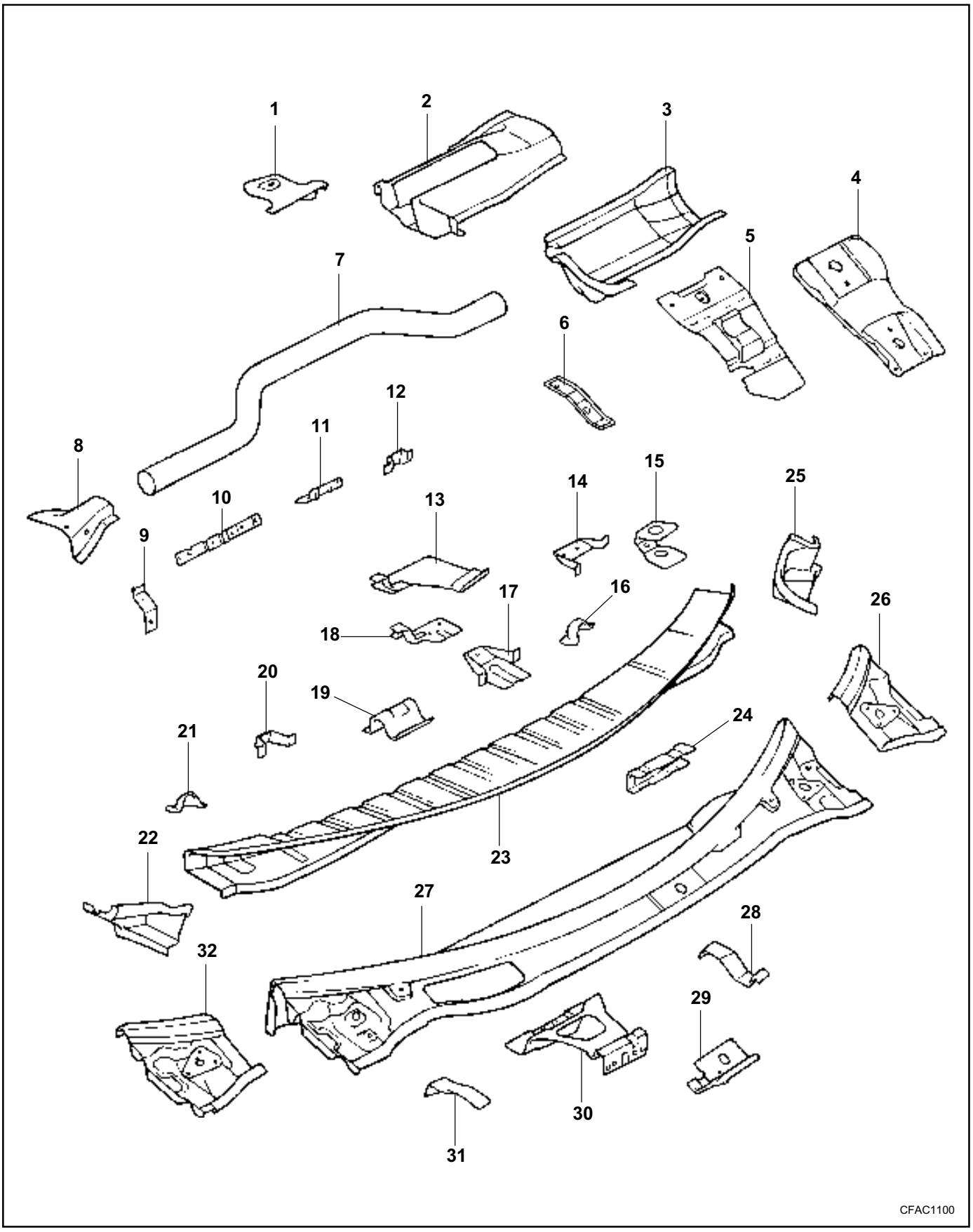
No.	PART NAME
1	Radiator support upper member center.
2	Radiator support upper member (LH).
3	Radiator upper mounting reinforcement.
4	Radiator support center member.
5	Head lamp support reinforcement.
6	Head lamp support panel.
7	Head lamp support cover (A) extension.
8	Head lamp support lower (B) extension.
9	Head lamp support upper reinforcement.
10	Radiator lower mounting reinforcement.

FRONT APRON INNER COMPLETE



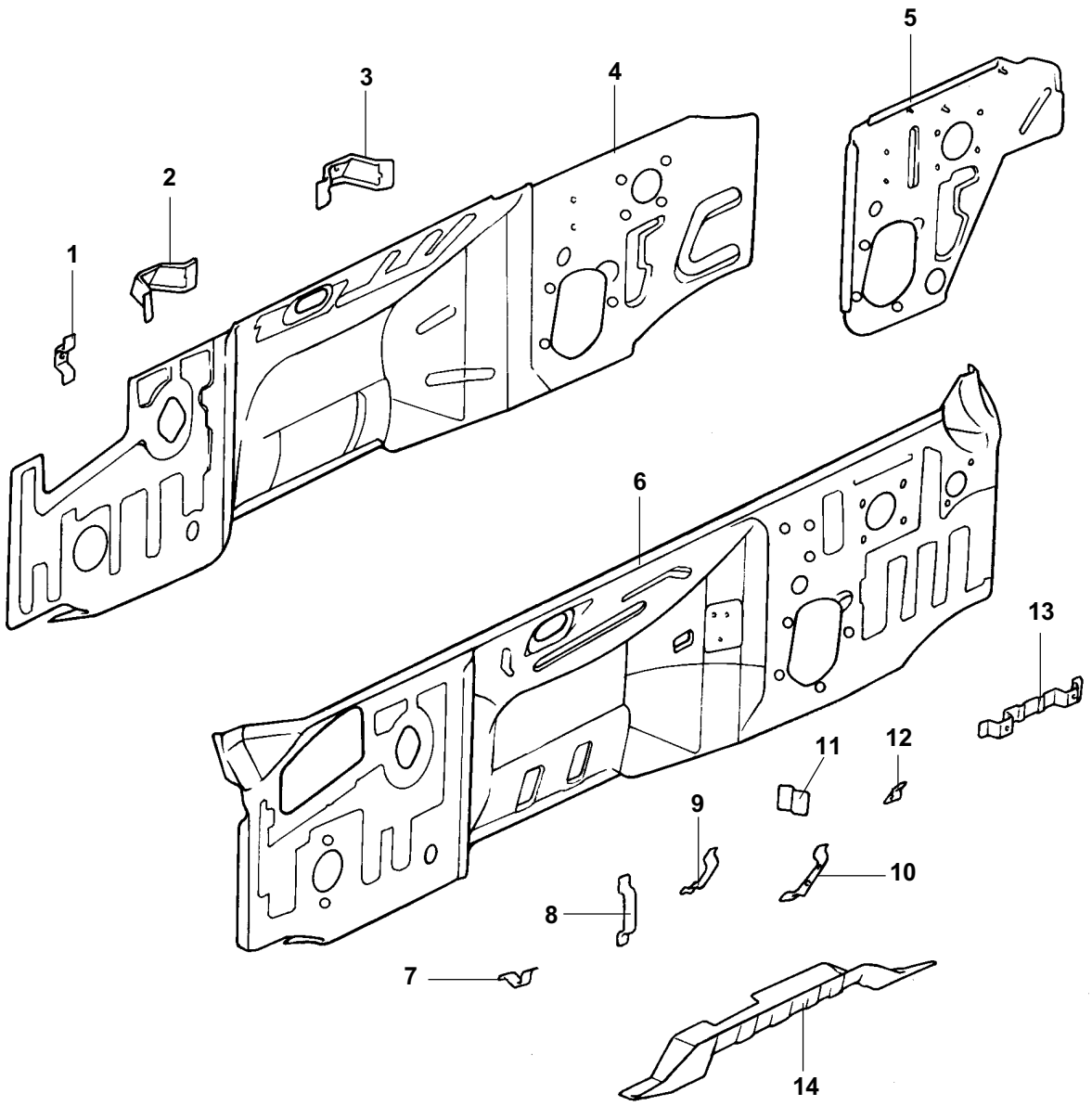
No.	PART NAME
1	Fender mounting (D) bracket.
2	Front apron outer panel.
3	Front apron support.
4	Deck member mounting reinforcement.
5	Quarter glass defrost bracket.
6	Front apron inner panel.
7	Tube bracket.
8	Fender mounting (A) bracket.
9	Deck member mounting bracket.
10	Deck member mounting lower bracket.
11	Crash pad mounting bracket.
12	Foot rest bracket.
13	Under cover duct mounting bracket.
14	Brake tube mounting bracket.
15	Washer reservoir tank mounting bracket.
16	Front wheel house panel.
17	Extension front wheel house (A) panel.
18	Air cleaner mounting bracket.
19	Battery tray mounting reinforcement.
20	Air cleaner mounting (B) bracket.
21	Front wheel house side panel extension.
22	Brake pipe mounting bracket.

COWL COMPLETE



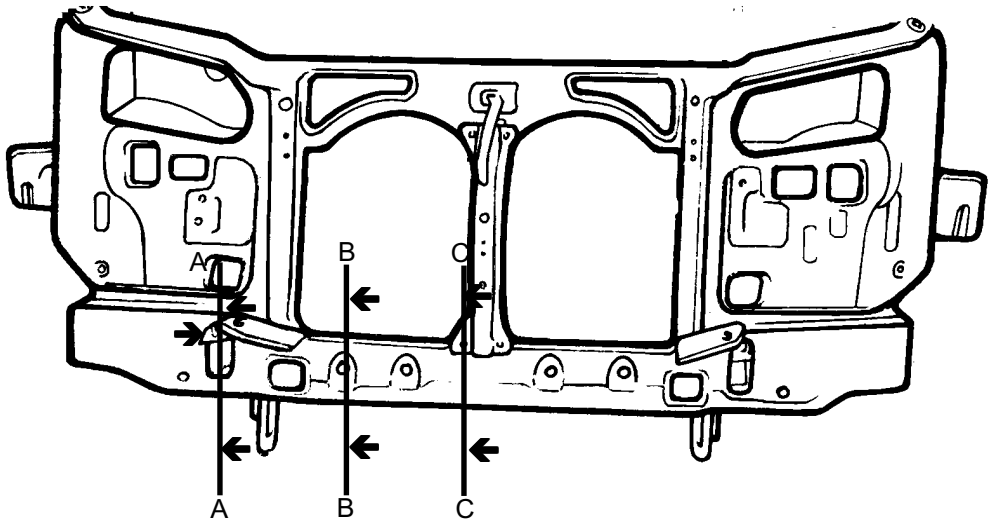
No.	PART NAME
1	Bar upper bracket.
2	Bar mounting bracket upper.
3	Bar mounting bracket lower.
4	Steering column mounting plate.
5	Bar mounting lower plate.
6	Cowl crossmember mounting bracket.
7	Cowl cross bar.
8	Bar mounting bracket (RH).
9	Blower mounting bracket.
10	Evaporator mounting bracket.
11	Instrument panel center mounting bracket.
12	Instrument panel mounting bracket (LH).
13	Deck crossmember upper support.
14	Brake booster mounting bracket.
15	Crash pad mounting bracket.
16	Crash pad bracket (LH).
17	Brake padel mounting bracket.
18	Deck crossmember lower support.
19	Crash pad center bracket.
20	Heater mounting upper bracket.
21	Crash pad bracket (RH).
22	Cowl side inner panel (RH).
23	Cowl inner upper center panel.
24	Cowl inner upper bulk head.
25	Cowl side inner panel (LH).
26	Cowl side reinforcement bracket (LH).
27	Cowl top outer panel.
28	Cowl top outer support No.2.
29	Window pivot center reinforcement.
30	Window motor mounting bracket.
31	Cowl top outer support No.1.
32	Cowl side reinforcement bracket (RH).

DASH COMPLETE



No.	PART NAME	No.	PART NAME
1	Blower mounting bracket.	8	Brake tube, No.4 bracket.
2	Heater mounting bracket (RH).	9	Brake tube, No.3 bracket.
3	Heater mounting bracket (LH).	10	Brake tube, No.2 Bracket.
4	Dash panel reinforcement.	11	Brake tube, No.5 bracket.
5	Steering column reinforcement panel.	12	Brake tube, No.6 bracket.
6	Dash panel.	13	Sol mounting bracket.
7	Heater protector bracket.	14	Dash lower reinforcement.

FRONT END CROSSMEMBER



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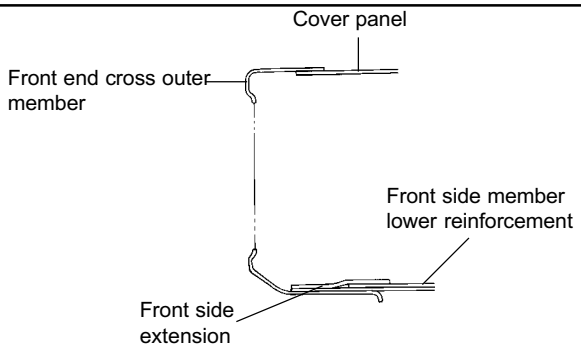
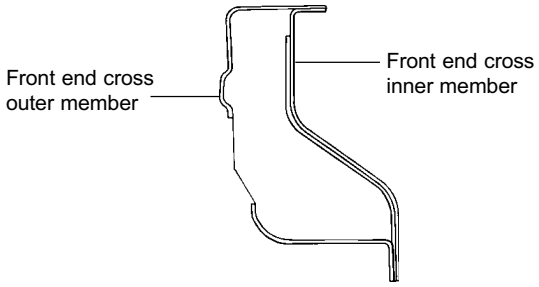
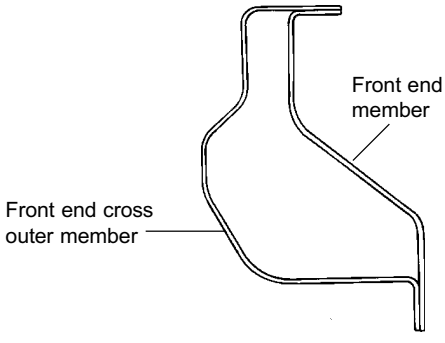


SECTION A - A' CFAF1100

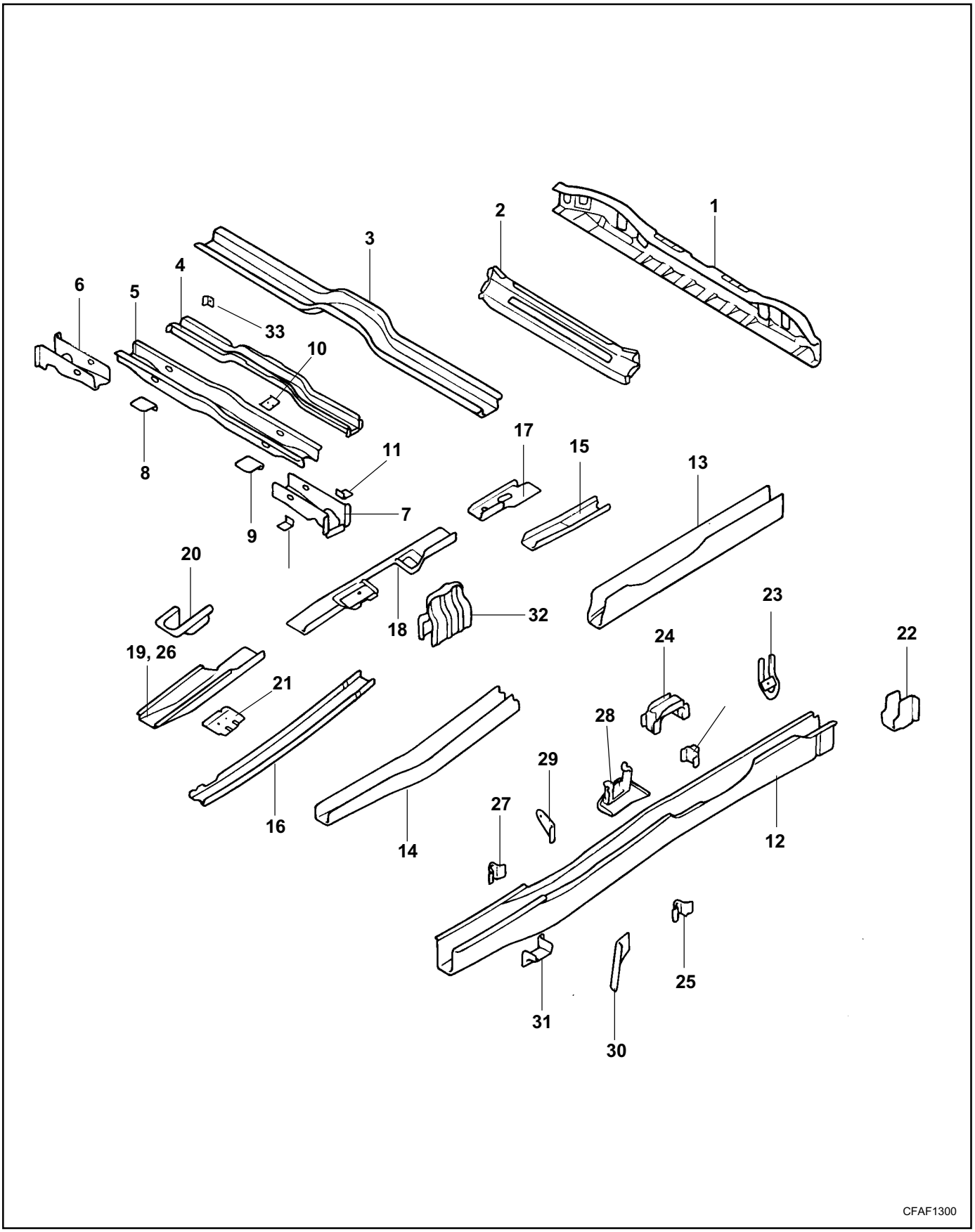


SECTION B - B' CFAF1110



SECTION C - C' CFAF1120

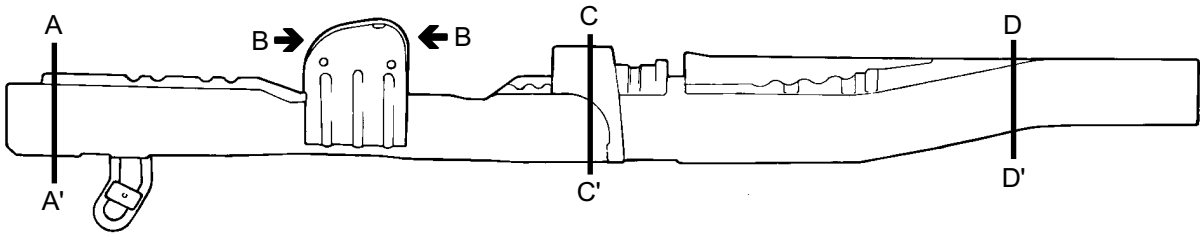
FRONT SIDEMEMBER COMPLETE (2WD)



No.	PART NAME
1	Front end crossmember outer.
2	Front end crossmember inner.
3	No.1 crossmember.
4	No.2 crossmember.
5	No.3 crossmember.
6	No.3 crossmember support (LH).
7	No.3 crossmember support (LH).
8	Seat anchor (D) reinforcement (LH).
9	Seat anchor (D) reinforcement (RH).
10	Fuel tank mounting reinforcement.
11	Heater protector mounting bracket.
12	Front sidemember.
13	Front sidemember reinforcement (A).
14	Front sidemember reinforcement (B).
15	Front sidemember reinforcement (C).
16	Front sidemember reinforcement (D).
17	Cover (A) panel.
18	Cover (B) panel.
19	Cover (C) panel.
20	Gusset (B).
21	Seat anchor (B) reinforcement.
22	Front side extension.
23	Front hook.
24	Engine mounting reinforcement.
25	Bulk head (A).
26	Bulk head (B).
27	Bulk head (C).
28	Strut bracket plate.
29	Hanger support.
30	Shield bracket.
31	No.1 crossmember gusset.
32	Upper arm mounting bracket.
33	Clutch hose bracket.

FRONT END CROSSMEMBER

(Cross - Sectional Views)



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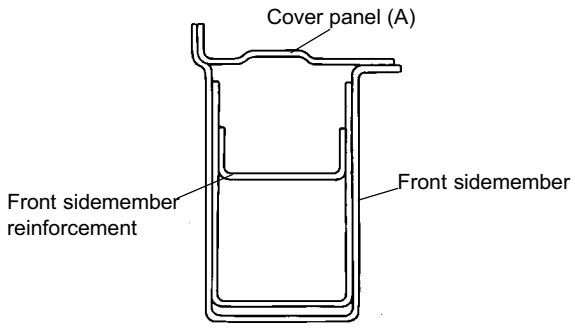

SECTION A - A'

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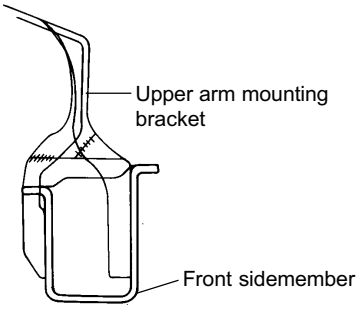

SECTION B - B'

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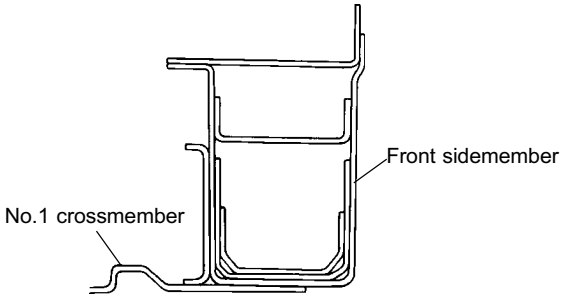
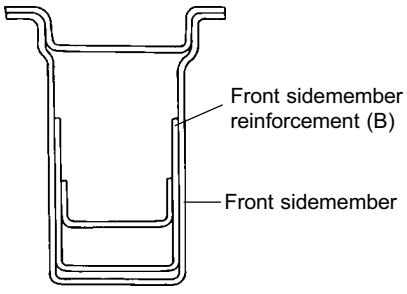


SECTION C - C'

CFAF1230



SECTION D - D'

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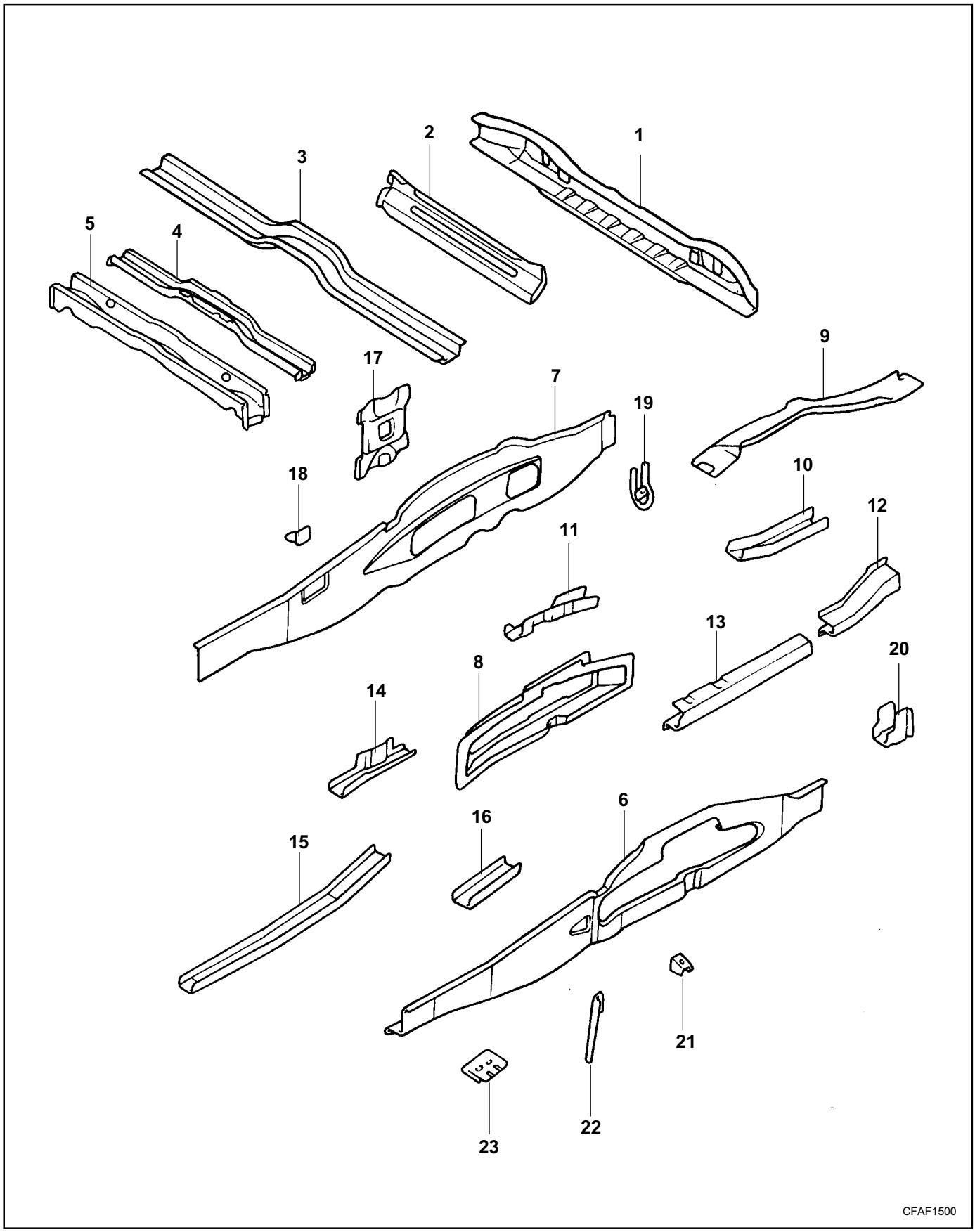
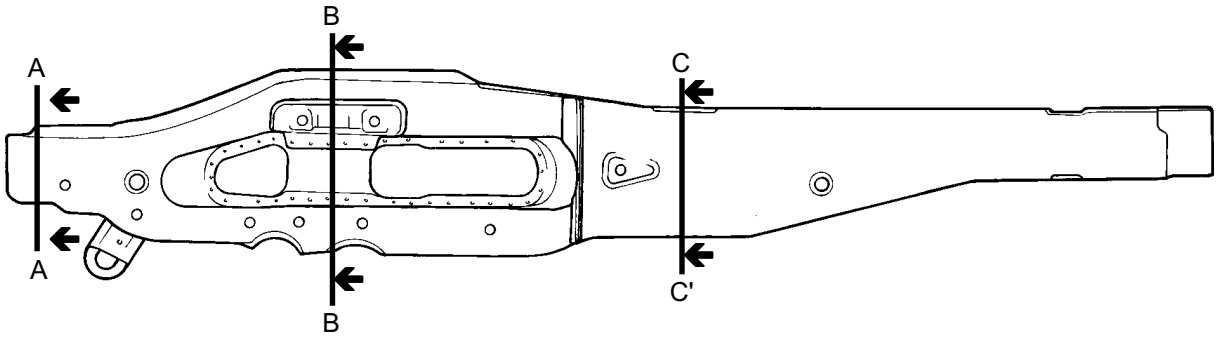
FRONT SIDEMEMBER COMPLETE (4WD)



No.	PART NAME
1	Front end crossmember.
2	Front end cross innermember.
3	No.1 crossmember.
4	No.2 crossmember.
5	No.3 crossmember.
6	Front sidemember outer.
7	Front sidemember inner.
8	Front sidemember outer extension (LH).
9	Cover panel.
10	Front sidemember front (A) reinforcement.
11	Front sidemember front (B) reinforcement.
12	Front sidemember lower (A) reinforcement.
13	Front sidemember lower (B) reinforcement.
14	Front sidemember rear (A) reinforcement.
15	Front sidemember rear (B) reinforcement.
16	Transmission mounting reinforcement.
17	Front sidemember center reinforcement.
18	Hanger support.
19	Front hook.
20	Front side extension.
21	Rear stopper bracket.
22	Shield panel bracket.
23	Seatanchor (B) reinforcement.

FRONT SIDEMEMBER (4WD)

(Cross - Sectional Views)



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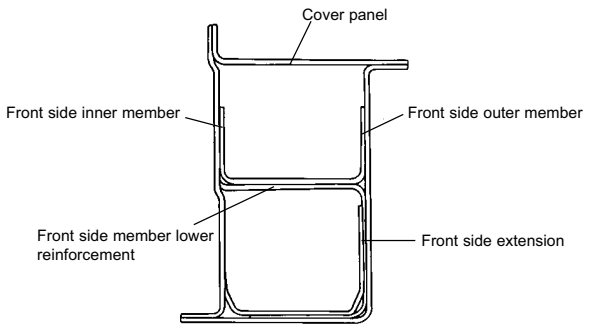

SECTION A - A'

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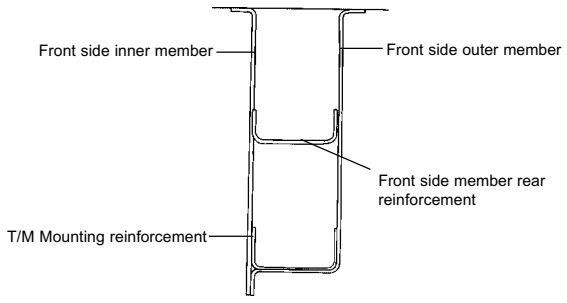

SECTION C - C'

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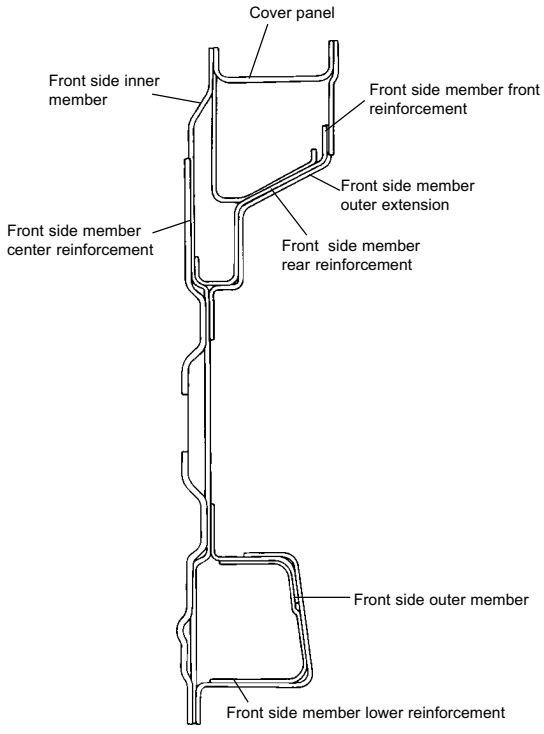

SECTION B - B'

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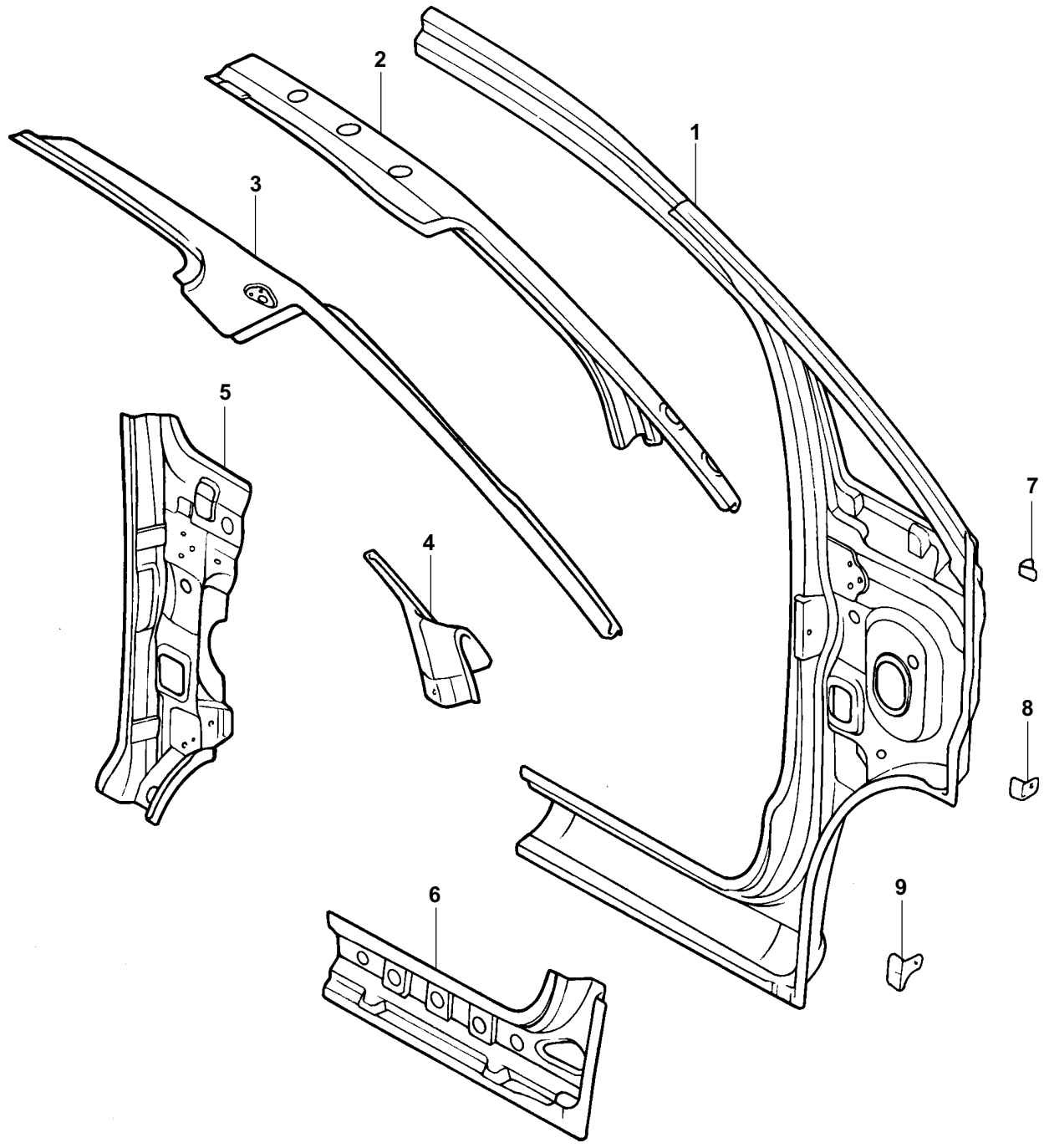
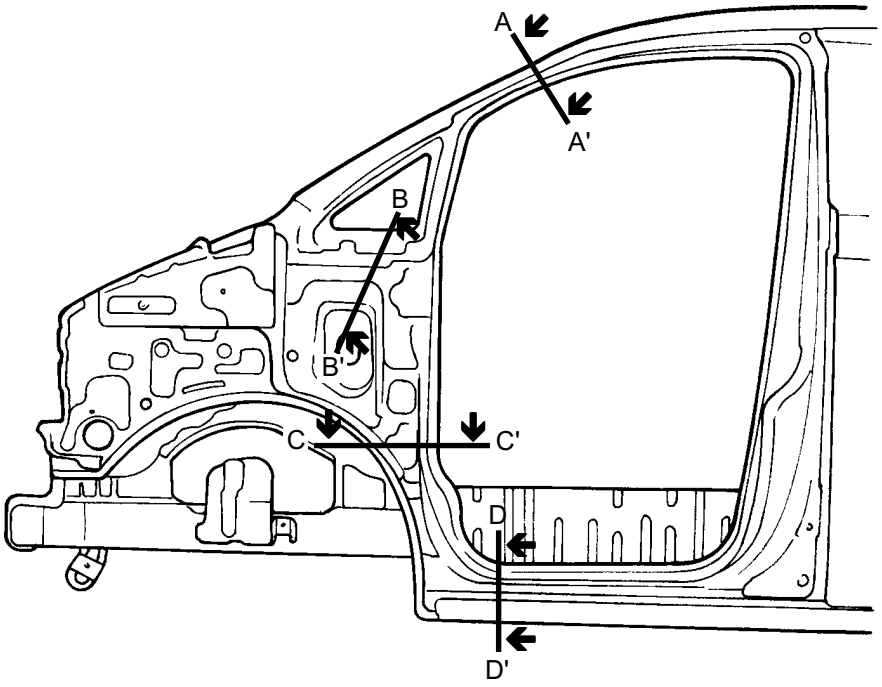
SIDE BODY FRONT PILLAR COMPLETE



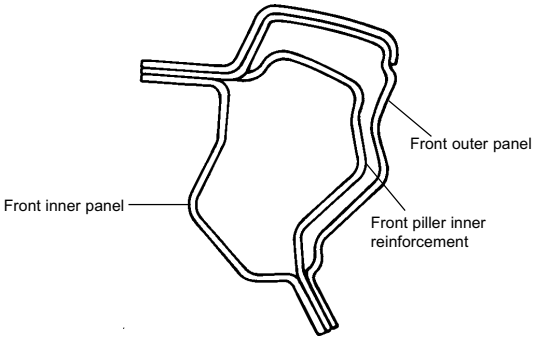
No.	PART NAME	No.	PART NAME
1	Front outer panel.	6	Front sill side outer reinforcement.
2	Front pillar inner reinforcement.	7	Fender mounting bracket (B).
3	Front inner panel.	8	Fender mounting bracket (C).
4	Front pillar inner extension.	9	Fender mounting bracket (E).
5	Front door hinge reinforcement.		

FRONT PILLAR AND APRON PANEL

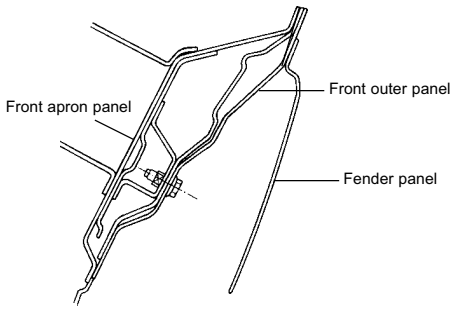
(Cross - Sectional Views)



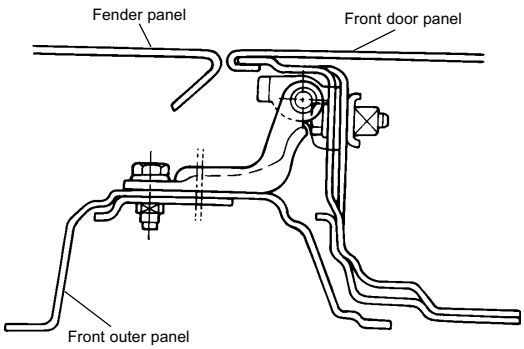
CFAP1100



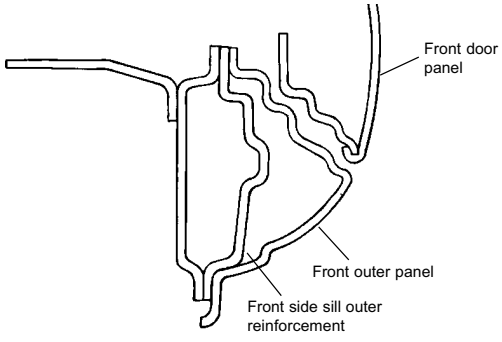
SECTION A - A' CFAP1110



SECTION B - B' CFAP1120

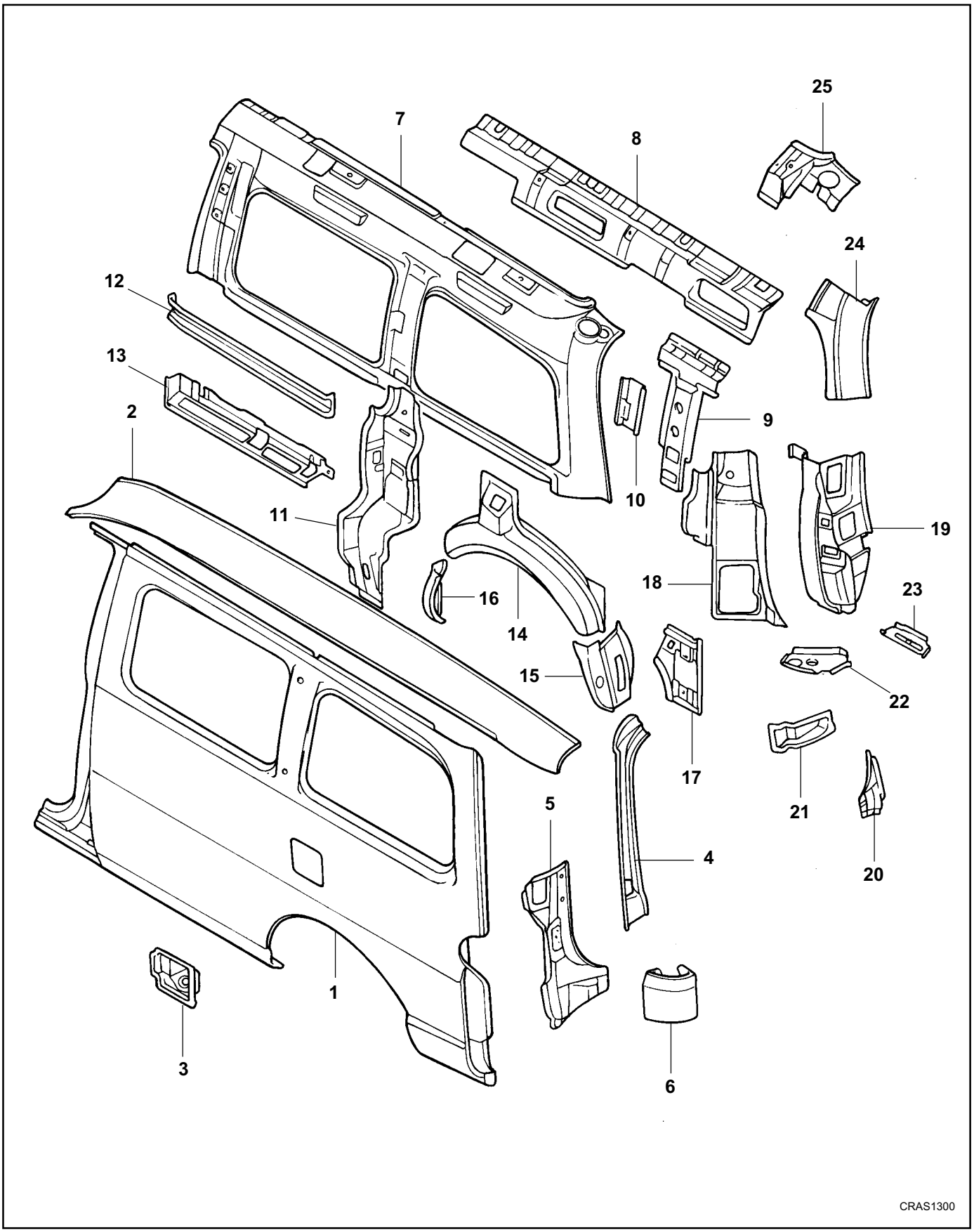


SECTION C - C' CFAP1130



SECTION D - D' CFAP1140

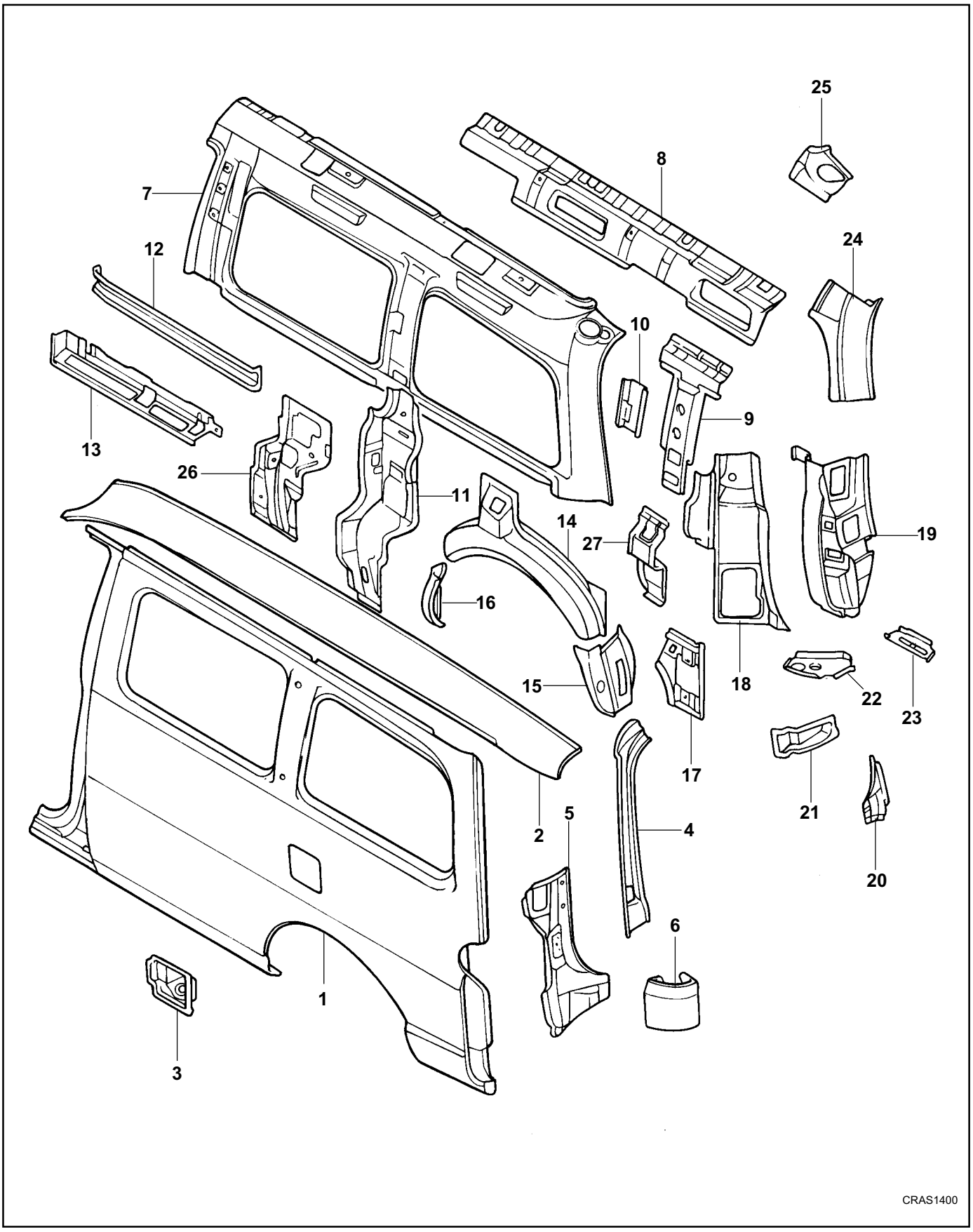
REAR END STRUCTURE (SHORT BODY)



REAR END STRUCTURE

No.	PART NAME
1	Quarter outer panel.
2	Roof side outer panel.
3	Fuel filler neck braket.
4	Quarter outer rear upper extension.
5	Quarter outer rear lower extension.
6	Rear gusset panel.
7	Quarter inner panel.
8	Roof side inner reinforcement.
9	"C" pillar upper reinforcement.
10	Seat belt "C" pillar reinforcement.
11	"C" inner panel.
12	Center sidemember.
13	Lower sidemember.
14	Wheel house outer panel rear.
15	Wheel house outer lower panel rear.
16	Wheel house outer lower front.
17	Seat belt "D" bracket.
18	"D" inner panel.
19	"D" pillar lower reinforcement.
20	"D" pillar lower extension.
21	"D" pillar support.
22	Jack bracket.
23	"D" pillar cover.
24	"D" pillar upper reinforcement.
25	"D" pillar upper extension.
26	"C" pillar lower extension.
27	Seat belt mounting reinforcement.

REAR END STRUCTURE (LONG BODY)

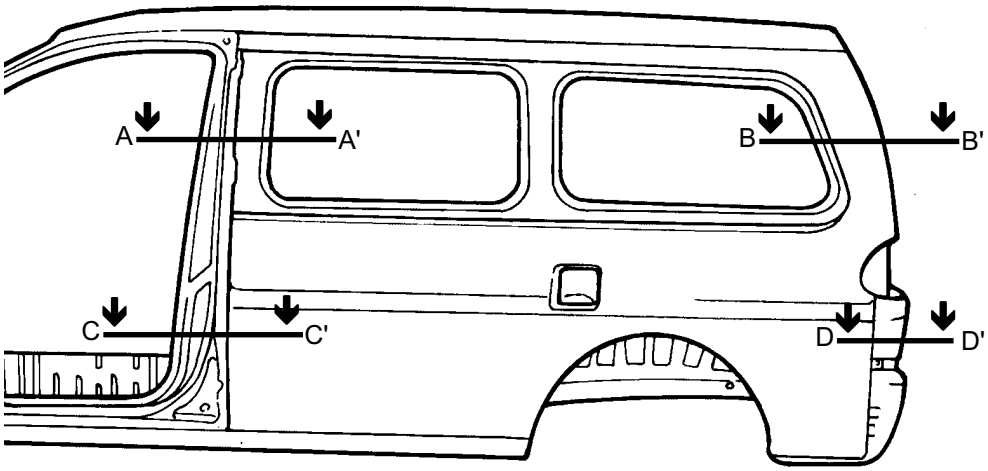


REAR END STRUCTURE

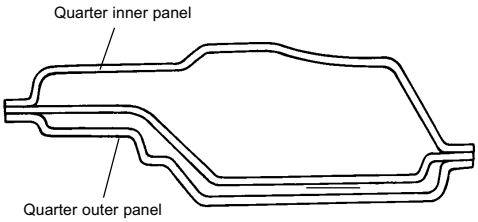
No.	PART NAME
1	Quarter outer panel.
2	Roof side outer panel.
3	Fuel filler neck braket.
4	Quarter outer rear upper extension.
5	Quarter outer rear lower extension.
6	Rear gusset panel.
7	Quarter inner panel.
8	Roof side inner reinforcement.
9	"C" pillar upper reinforcement.
10	Seat belt "C" pillar reinforcement.
11	"C" inner panel.
12	Center sidemember.
13	Lower sidemember.
14	Wheel house outer panel rear.
15	Wheel house outer lower panel rear.
16	Wheel house outer lower front.
17	Seat belt "D" bracket.
18	"D" inner panel.
19	"D" pillar lower reinforcement.
20	"D" pillar lower extension.
21	"D" pillar support.
22	Jack bracket.
23	"D" pillar cover.
24	"D" pillar upper reinforcement.
25	"D" pillar upper extension.
26	"C" pillar lower extension.
27	Seat belt mounting reinforcement.

REAR END STRUCTURE (LH)

(Cross - Sectional Views)

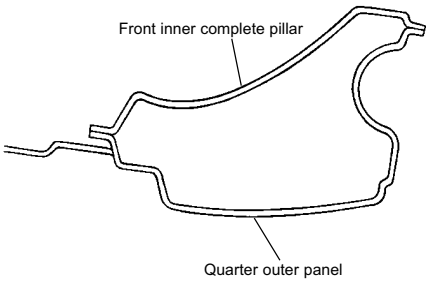


CRAS1100



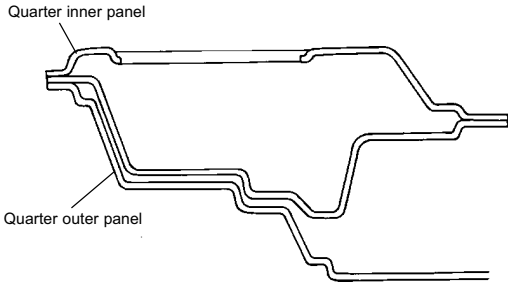
SECTION A - A'

CRAS1110



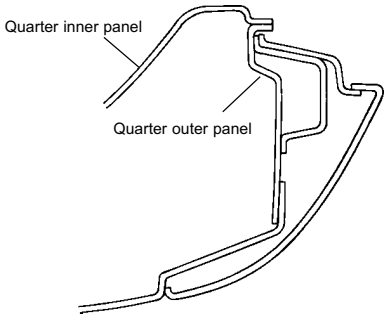
SECTION B - B'

CRAS1120



SECTION C - C'

CRAS1130

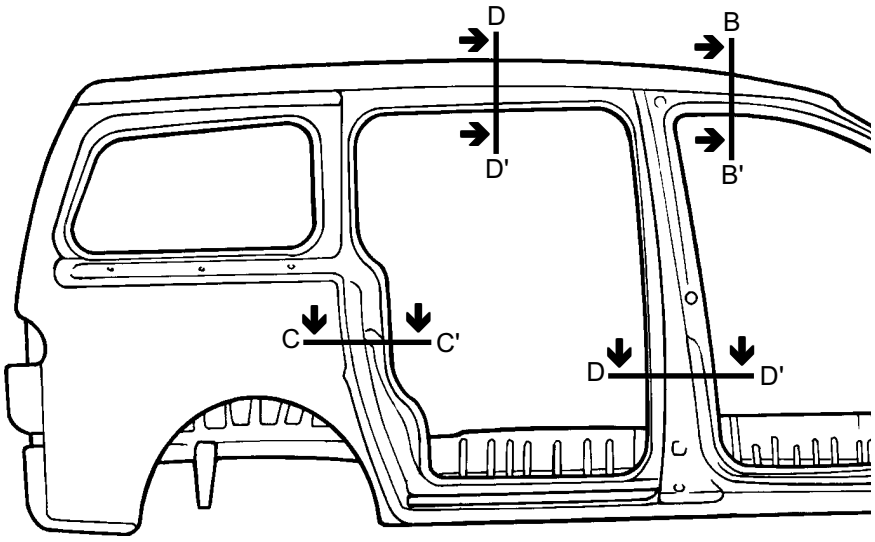


SECTION D - D'

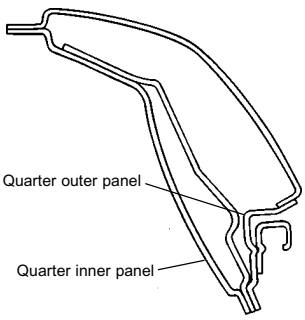
CRAS1140

REAR END STRUCTURE (RH)

(Cross - Sectional Views)

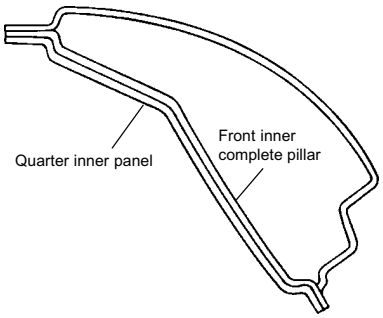


CRAS1200



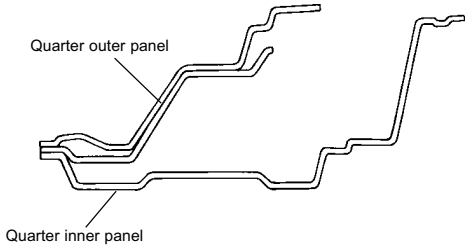
CRAS1210

SECTION A - A'



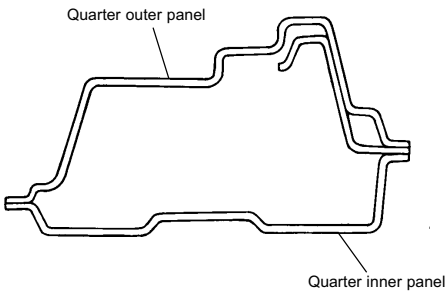
CRAS1220

SECTION B - B'



CRAS1230

SECTION C - C'

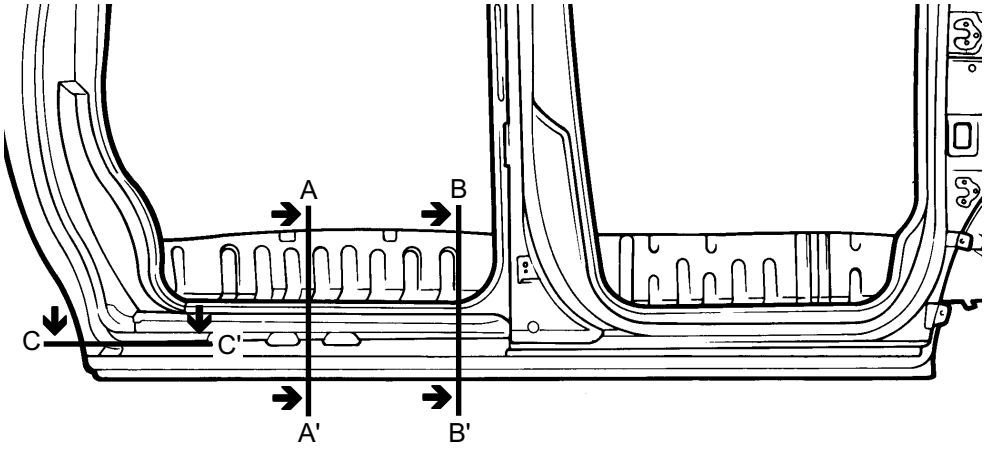


CRAS1240

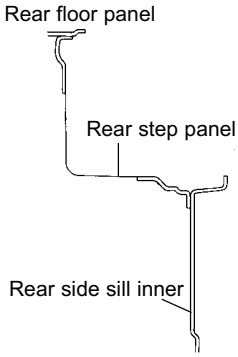
SECTION D - D'

REAR STEP PANEL

(Cross - Sectional Views)

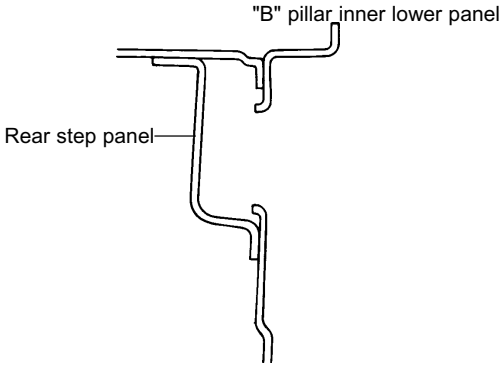


CRAS1400



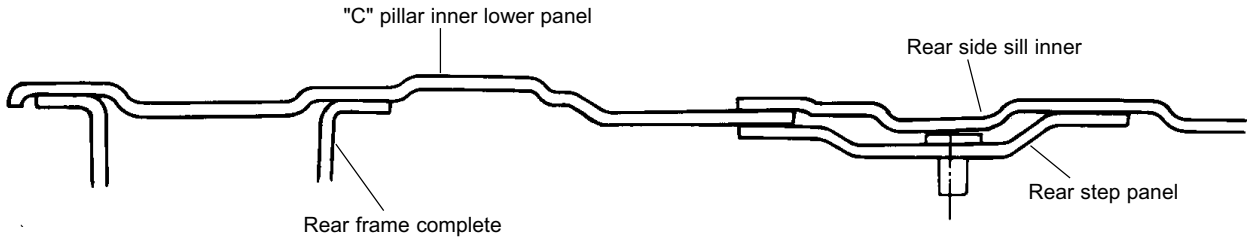
SECTION A - A'

CRAS1250



SECTION B - B'

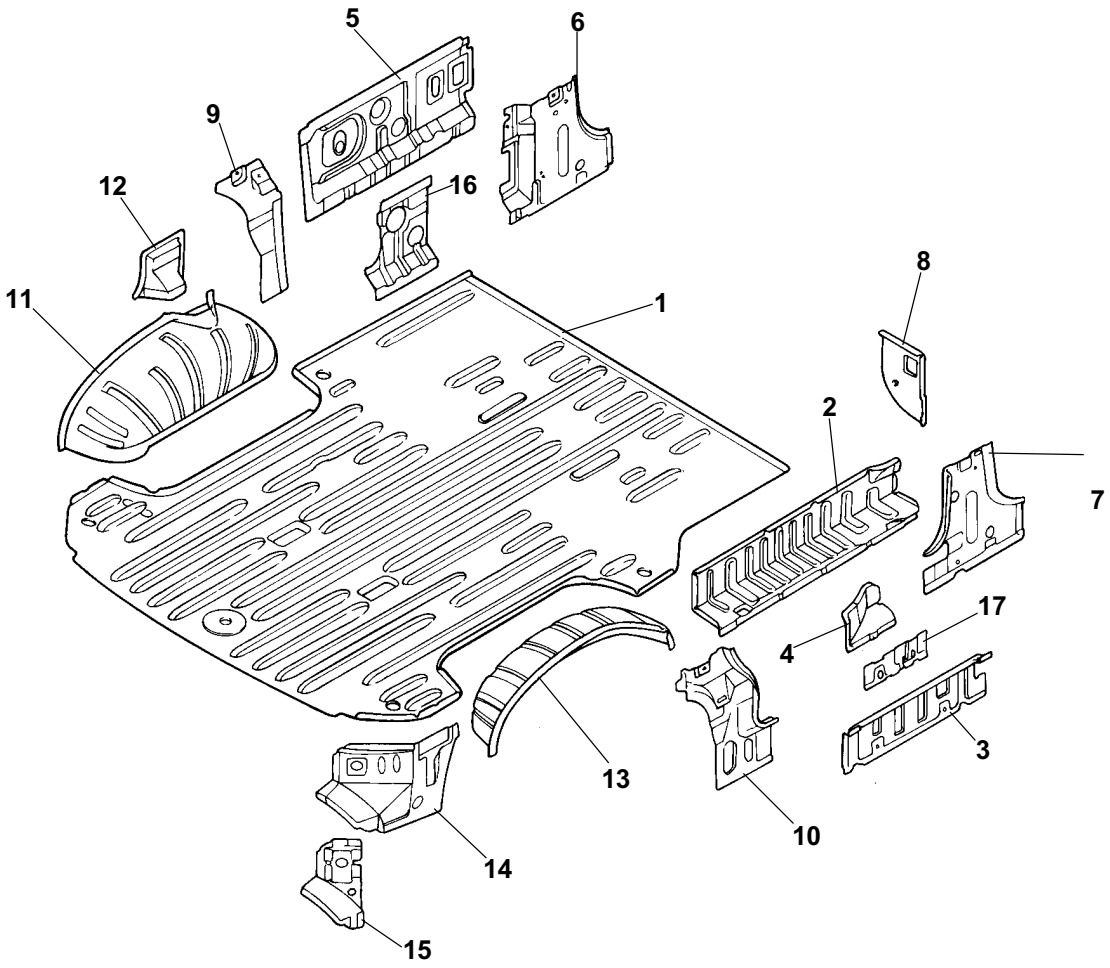
CRAS1260



SECTION C - C'

CRAS1270

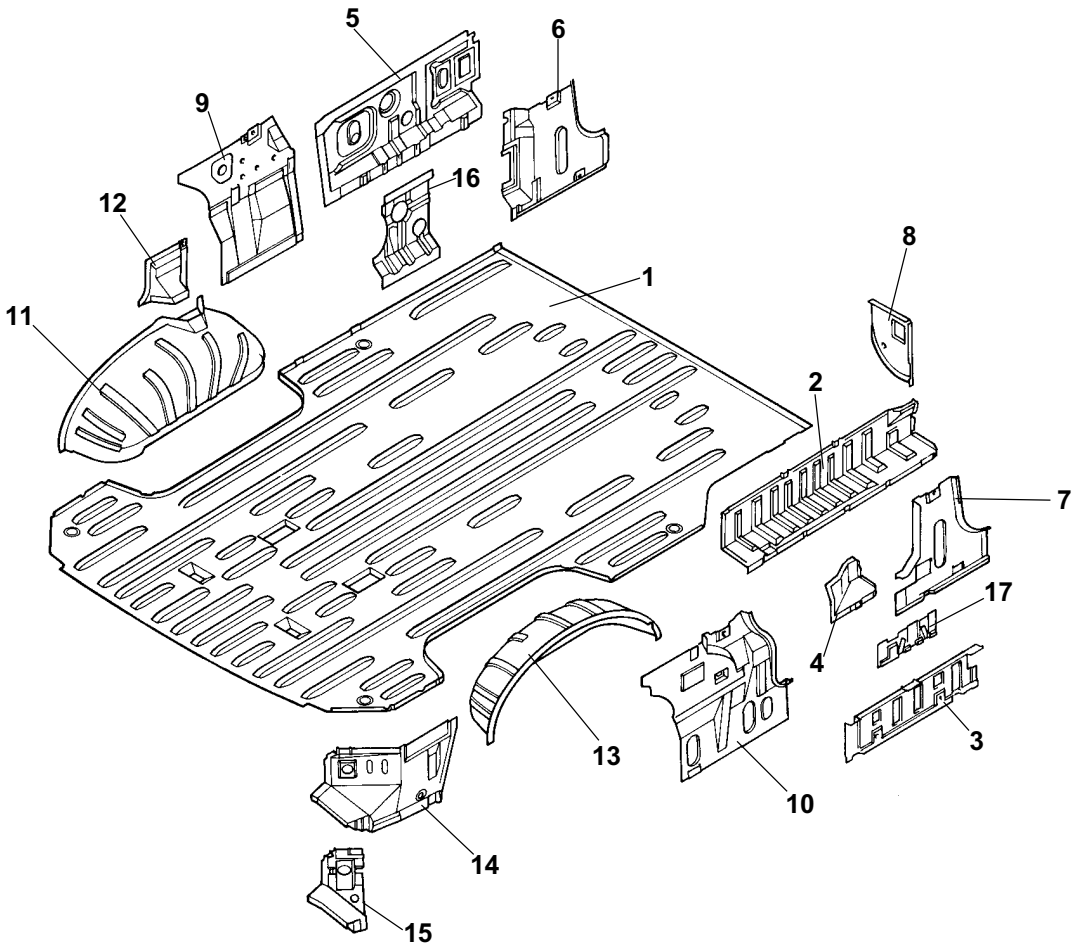
REAR FLOOR COMPLTE (SHORT BODY)



CUAF1400

No.	PART NAME
1	Rear floor panel.
2	Rear step panel.
3	Rear side sill inner (RH).
4	Rear step panel extension.
5	Quart inner lower front panel (LH).
6	"B" pillar inner lower panel (LH).
7	"B" pillar inner lower panel (RH).
8	Rear step cover (LH).
9	"C" pillar inner lower panel (LH).
10	"C" pillar inner lower panel (RH).
11	Rear wheel house inner panel (LH).
12	Rear wheel house inner panel extension (LH).
13	Rear wheel house inner panel (RH).
14	Quarter inner lower rear panel (LH).
15	Quarter inner lower rear reinforcement (LH).
16	Hanger attach plate (LH).
17	Hanger attach plate (RH).

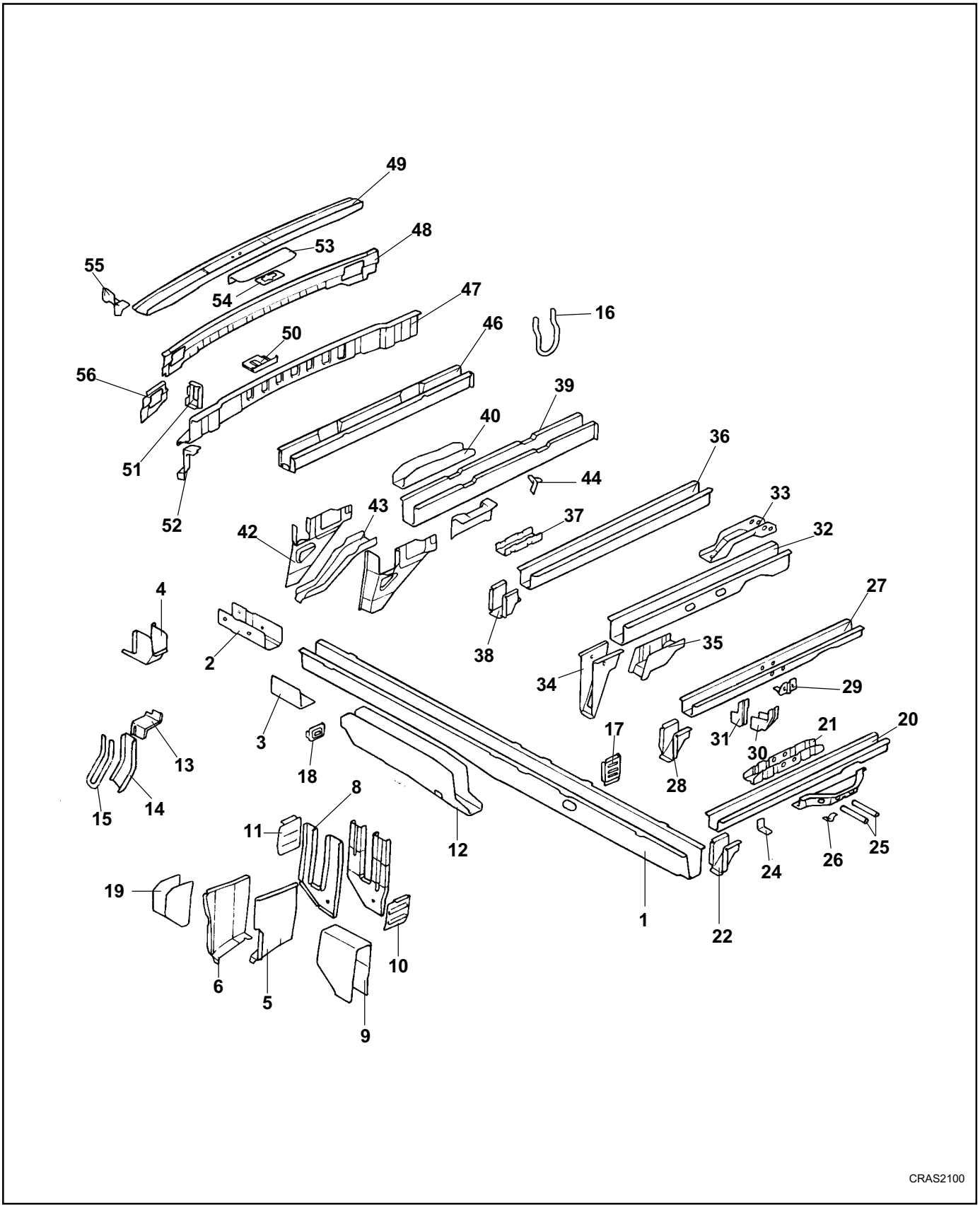
REAR FLOOK COMPLETE (LONG BODY)



CUAF1500

No.	PART NAME
1	Rear floor panel.
2	Rear step panel.
3	Rear side sill inner (RH).
4	Rear step panel extension.
5	Quarter inner lower front panel (LH).
6	"B" pillar inner lower panel (LH).
7	"B" pillar inner lower panel (RH).
8	Rear step cover (LH).
9	"C" pillar inner lower panel (LH).
10	"C" pillar inner lower panel (RH).
11	Rear wheel house inner panel (LH).
12	Rear wheel house inner panel extension (LH).
13	Rear wheel house inner panel (RH).
14	Quarter inner lower rear panel (LH).
15	Quarter inner lower rear reinforcement (LH).
16	Hanger attach plate (LH).
17	Hanger attach plate (RH).

REAR SIDEMEMBER COMPLETE (SHORT BODY, 2WD)



No.	PART NAME	No.	PART NAME
1	Rear sidemember.	31	Fuel tank rear plate.
2	Hitch member reinforcement.	32	No.6 Crossmember.
3	Brack stopper bracket.	33	No.6 Crossmember reinforcement.
4	Brack stopper bracket support.	34	No.6 Crossmember support.
5	Rear side (A) brace.	35	Upper arm mounting bracket.
6	Rear side (B) brace.	36	No.7 Crossmember.
7	Sprag hanger inner bracket.	37	No.7 Crossmember reinforcement (LH).
8	Sprag hanger outer bracket.	38	No.7 Crossmember reinforcement (RH).
9	Sprag hanger bracket.	39	No.8 Crossmember.
10	Sprag hanger (A) gusset.	40	No.8 Crossmember reinforcement.
11	Sprag hanger (B) gusset.	41	Rear lateral front bracket.
12	Rear sidemember lower reinforcement.	42	Rear lateral rod rear bracket.
13	Rear hook support.	43	Rear lateral rod inner bracket.
14	Plate.	44	Hose wagon rear bracket (RH).
15	Hook.	45	Shock absorber upper bracket.
16	Shipping hook.	46	No. 9-1 Crossmember.
17	Bulkhead (K) (LH).	47	Rear end crossmember inner.
18	Bulkhead (N) (RH).	48	Rear end crossmember outer lower.
19	Rear brace support.	49	Rear end crossmember outer upper.
20	No.4 Crossmember.	50	Spare tire mounting reinforcement.
21	No.4 Crossmember reinforcement.	51	Bulkhead (M).
22	No.4 Crossemember support.	52	Rear end crossmember support.
23	Center bearing mounting bracket.	53	Gate lock reinforcement.
24	Heater protector mounting Bracket.	54	Gate lock bracket.
25	Center bearing bracket pipe.	55	Quarter inner lower rear extension.
26	Parking cable (B) bracket.	56	Rear end crossmember outer lower reinforcement.
27	No.5 Crossmember.		
28	No.5 Crossmember support.	57	No. 7 Support reinforcement.
29	Parking cable (C) bracket.		
30	Fuel tank rear bracket.		

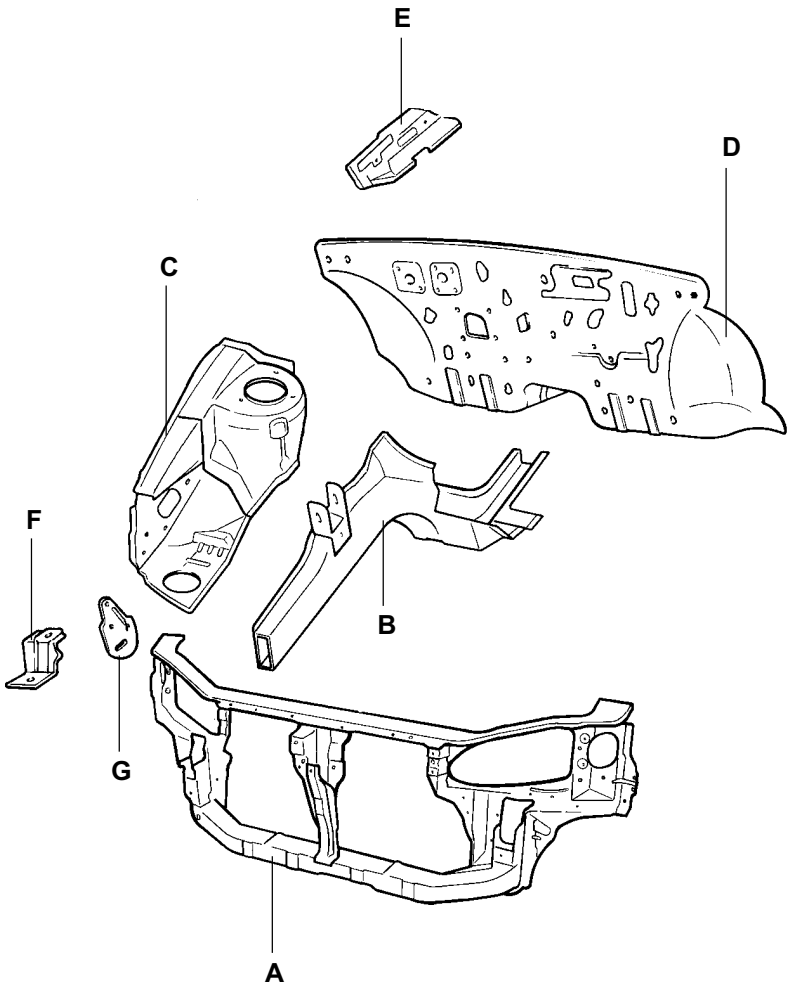
REPLACEMENT PARTS

REPLACEMENT PARTS

The following section illustrates replacement parts used in the repairs described in this manual. It is important that only Hyundai replacement parts be used in making these repairs to ensure the repairs are made with the highest possible standards for fit, safety and corrosion protection.

For a more complete listing of service parts, refer to an authorized Hyundai dealership.

FRONT BODY

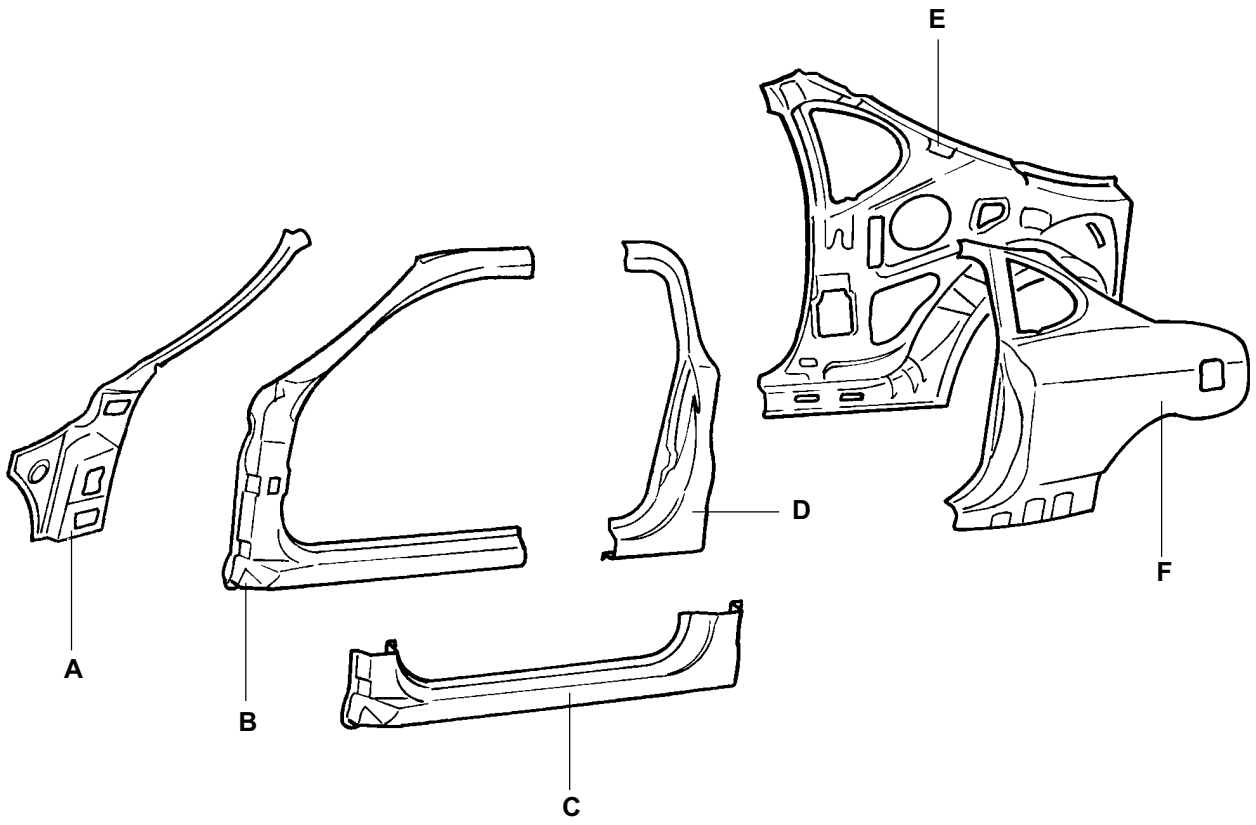


BB02

	PART NAME	
A	RADIATOR SUPPORT PANEL COMPLETE	
B	FRONT SIDEMEMBER ASSEMBLY	LH/RH
C	FENDER APRON PANEL ASSEMBLY	LH/RH
D	DASH COMPLETE PANEL ASSEMBLY	
E	COWL SIDE OUTER UPPER PANEL	LH/RH
F	BRACKET ASSEMBLY	LH/RH
G	FRONT SHIPPING HOOK	

CON-0090

SIDE BODY

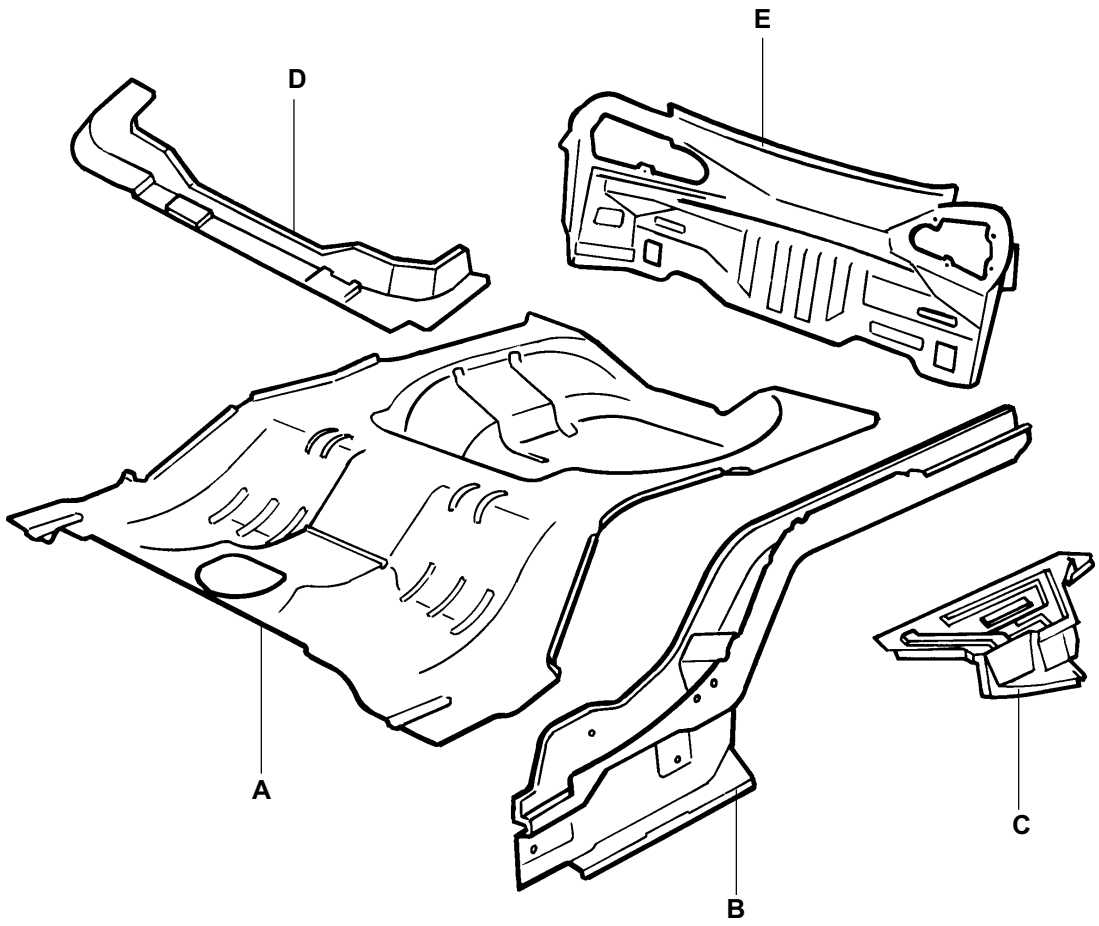


BC02

	PART NAME	
A	FRONT INNER PILLAR ASSEMBLY	LH/RH
B	FRONT PILLAR OUTER PANEL	LH/RH
C	SIDE SILL OUTER PANEL	LH/RH
D	CENTER OUTER PILLAR ASSEMBLY	LH/RH
E	QUARTER INNER PANEL ASSEMBLY	LH/RH
F	QUARTER OUTER PANEL ASSEMBLY	LH/RH

CON-0400, 0545, PRO-1430

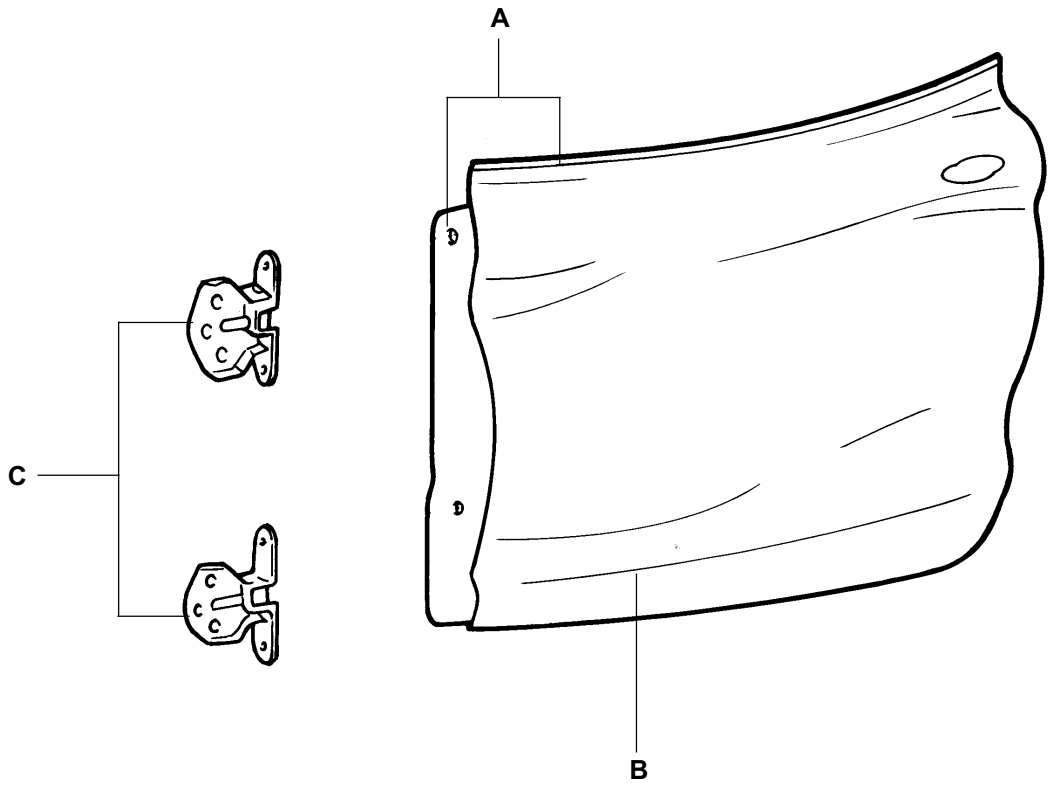
REAR BODY



BC03

	PART NAME	
A	REAR FLOOR PANEL	
B	REAR FLOOR SIDEMEMBER ASSEMBLY	LH/RH
C	REAR FLOOR SIDE PANEL	LH/RH
D	REAR FLOOR CENTER CROSSMEMBER ASSEMBLY	
E	BACK PANEL ASSEMBLY	

DOOR



BC04

	PART NAME	
A	FRONT DOOR PANEL ASSEMBLY	LH/RH
B	FRONT DOOR OUTER PANEL	LH/RH
C	DOOR HINGE ASSEMBLY	LH/RH

REP-1770,0010,0020, PRO-1800

BODY DIMENSIONS

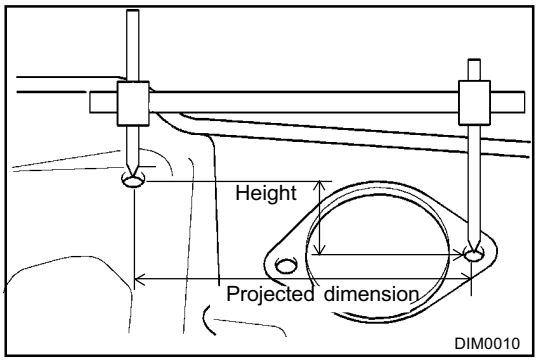
GENERAL

1. Basically, all measurements in this manual are taken with a tacking gauge.
2. When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
3. For measuring dimensions, both projected dimension and actual-measurement dimension are used in this manual.

MEASUREMENT METHOD

PROJECTED DIMENSIONS

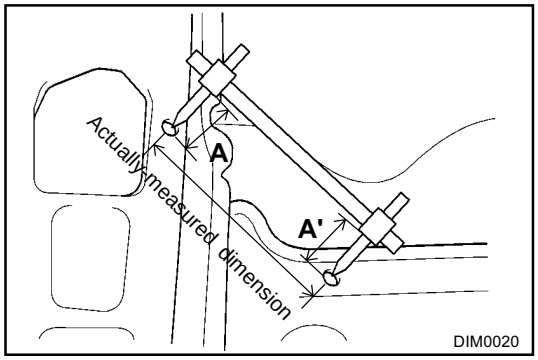
1. These are the dimensions measured when the measurement points are projected into the reference plane, and are the reference dimensions used for body alterations.
2. If the length of the tacking gauge probes are adjustable, make the measurement by lengthening one probe by the amount equivalent to the difference in height of the two surfaces.



ACTUAL-MEASUREMENT DIMENSIONS

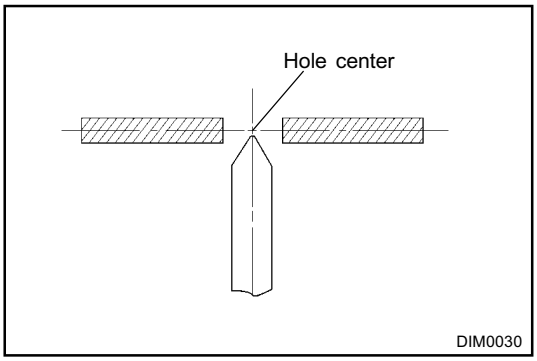
1. These dimensions indicate the actual linear distance between measurement points, and are the reference dimensions for use if a tacking gauge is used for measurement.
2. Measure by first adjusting both probes to the same length (A=A').

NOTE
Check the probes and gauge itself to make sure there is no free play.



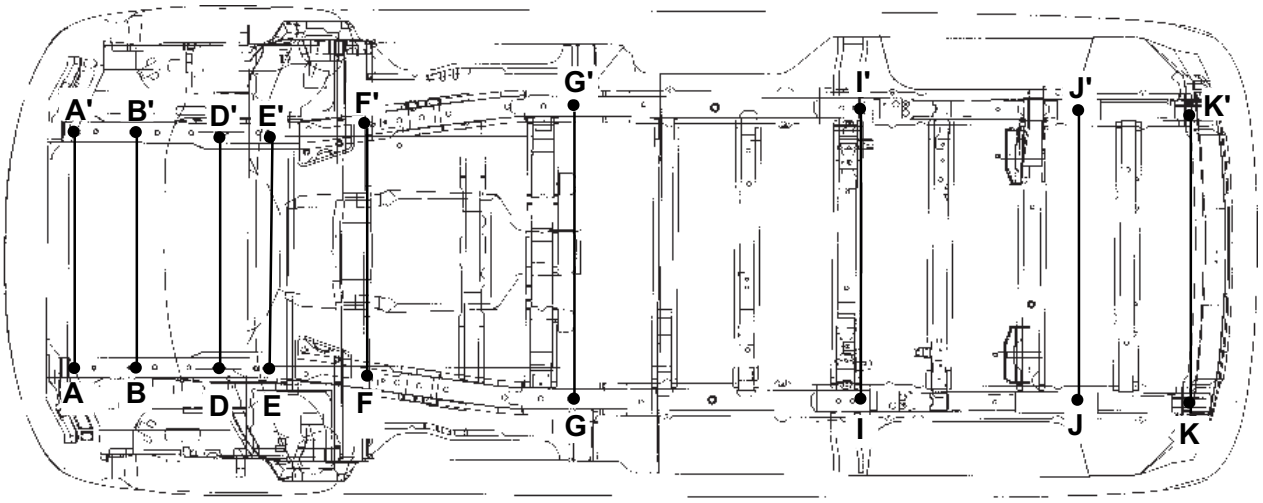
MEASUREMENT POINT

1. Measurements should be taken at the hole center.

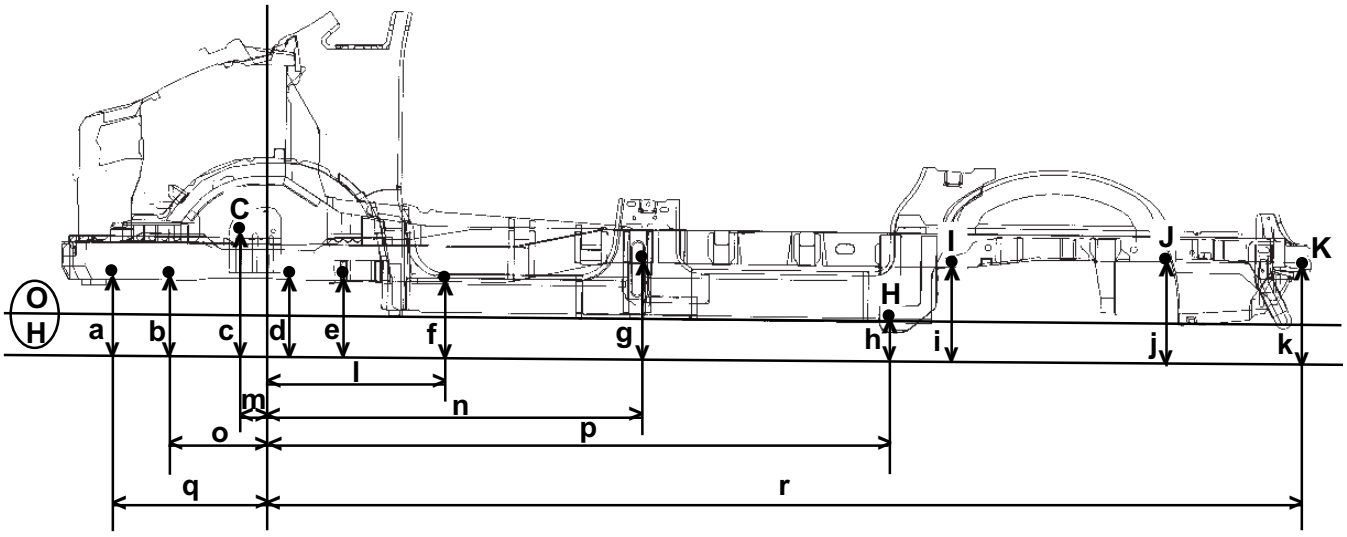


UNDER BODY (ACTUAL-MEASUREMENT DIMENSIONS)

SHORT BODY (2WD)



SHORT2

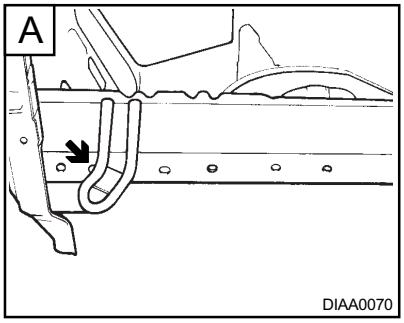


SHORT1

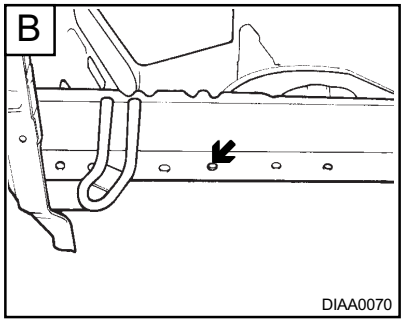
* These dimensions indicated in this figure are actual-measurement dimensions.

(SHORT BODY : 2WD)

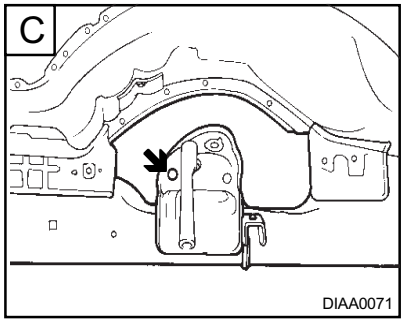
Point symbol	A-A'	B-B'	D-D'	E-E'	F-F'	G-G'	I-I'	J-J'
Length (mm)	872	867	870	909	960	1084	1114	1080
Point symbol	K-K'	a	b	c	d	e	f	g
Length (mm)	1082	220	224.7	403	226.5	220	229	300
Point symbol	h	i	j	k	l	m	n	o
Length (mm)	115	299	330	272.6	597	115	1325	290
Point symbol	p	q	r					
Length (mm)	2295	587	3651					



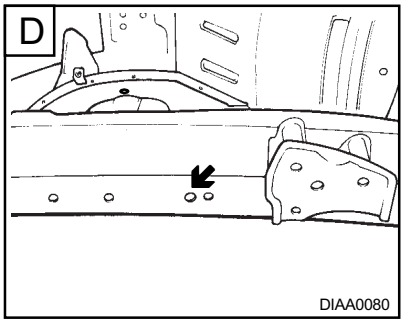
Location hole
(∅20)



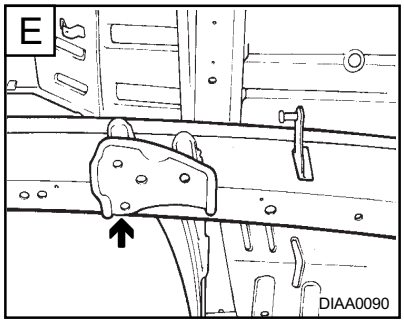
Engine mounting crossmember
(∅16)



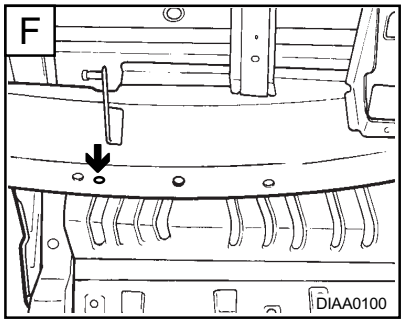
Front upper arm mounting
(∅15)



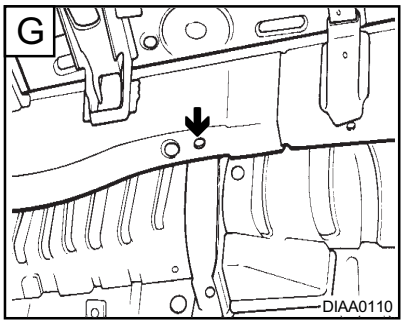
Axle mounting hole
(∅18)



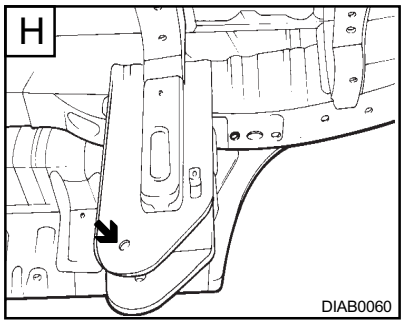
Strut bar mounting hole
(∅16)



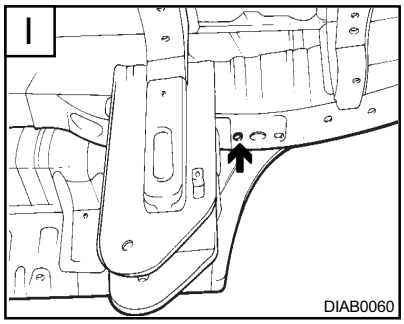
Manual transmission mounting
hole (∅14)



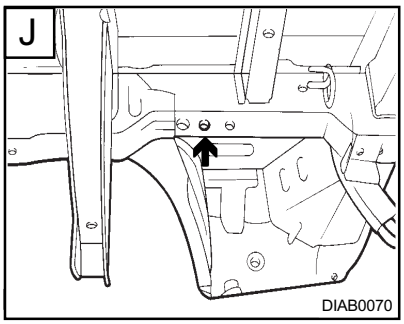
Tooling hole
(∅20)



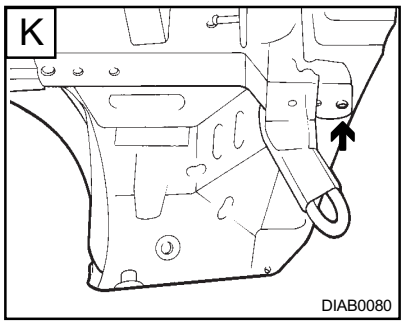
Rear leaf spring mounting
(∅13)



Clamp mounting bracket
(∅13)

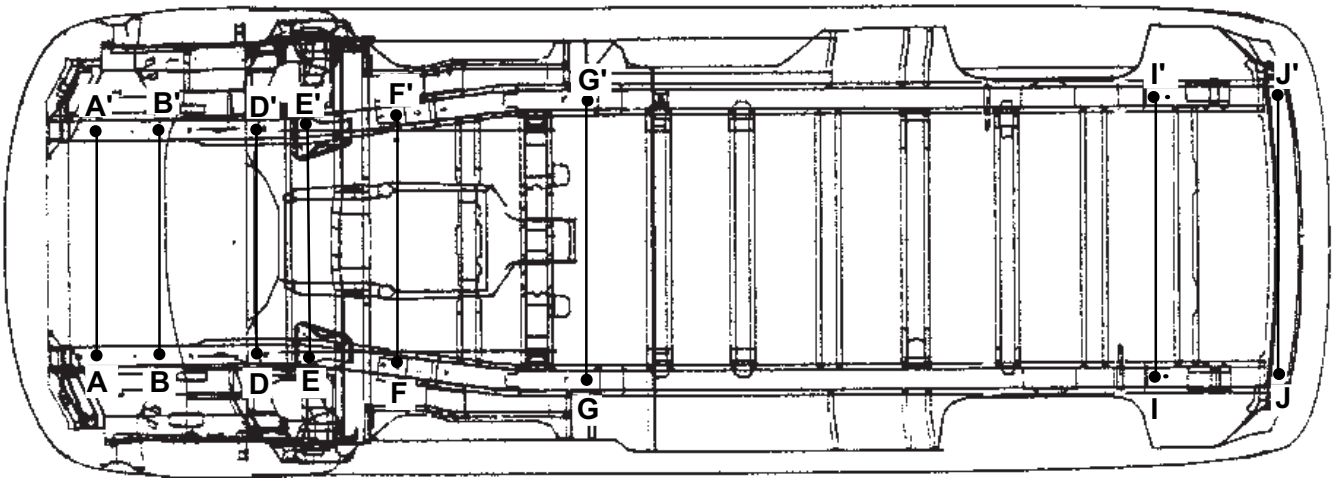


Location hole
(∅25)

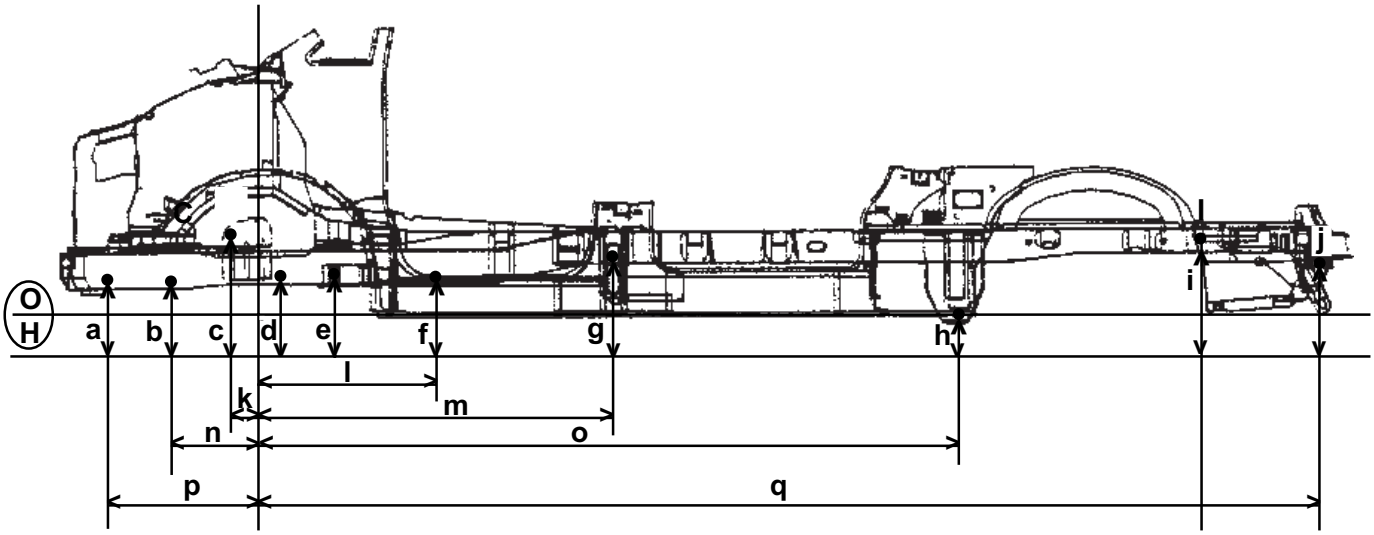


Rear bumper stay mounting
hole (∅11)

LONG BODY (2WD)



LONG2

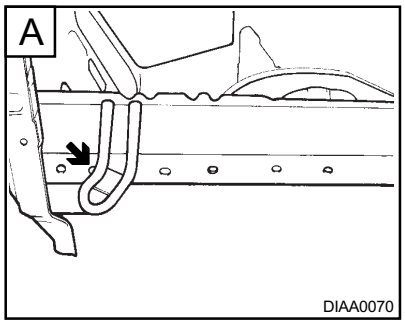


LONG1

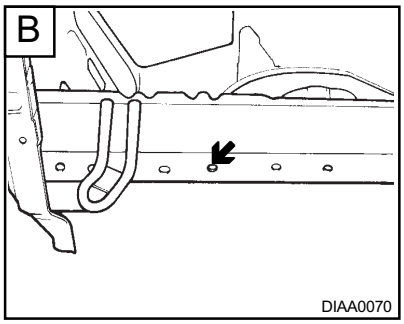
* These dimensions indicated in this figure are actual-measurement dimensions.

(LONG BODY : 2WD)

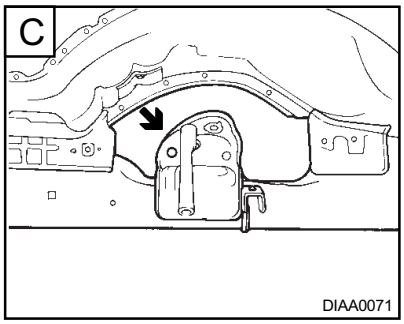
Point symbol	A-A'	B-B'	D-D'	E-E'	F-F'	G-G'	I-I'	J-J'
Length (mm)	872	867	870	909	960	1084	1082	1082
Point symbol	a	b	c	d	e	f	g	h
Length (mm)	220	224.7	403	226.5	223.4	229	300	115
Point symbol	i	j	k	l	m	n	o	p
Length (mm)	330	272.6	115	597	1325	290	2565	587
Point symbol	q							
Length (mm)	3991							



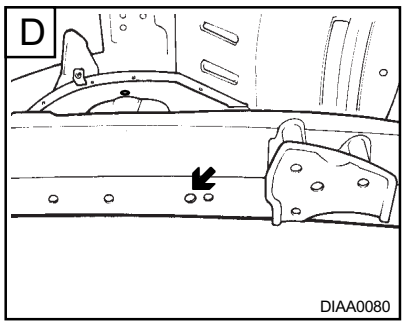
Location hole
(∅20)



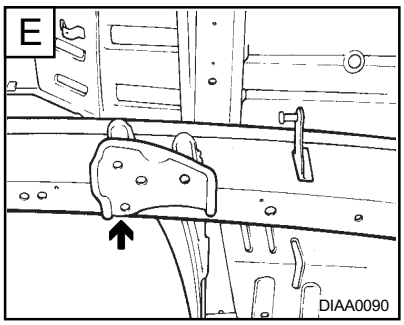
Engine mounting crossmember
(∅16)



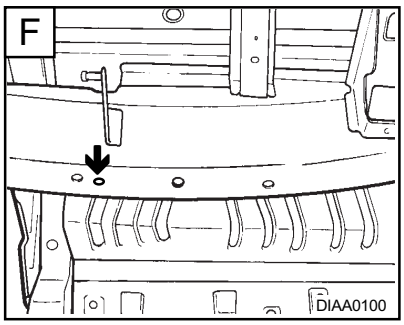
Front upper arm mounting
(∅15)



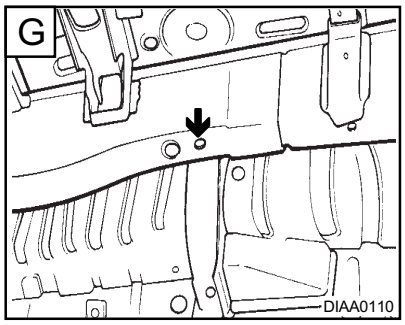
Axle mounting hole
(∅18)



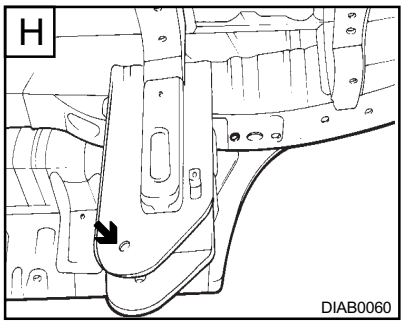
Strut bar mounting hole
(∅16)



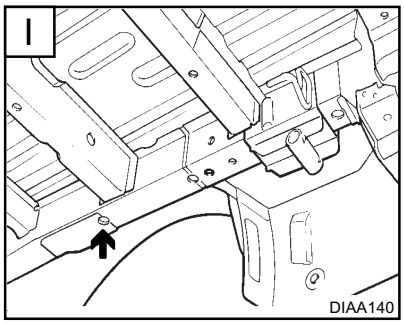
Manual transmission mounting
hole (∅14)



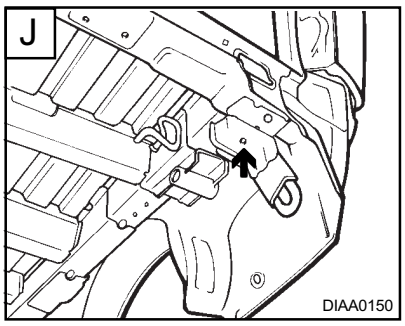
Tooling hole
(∅20)



Rear leaf spring mounting hole
(∅13)

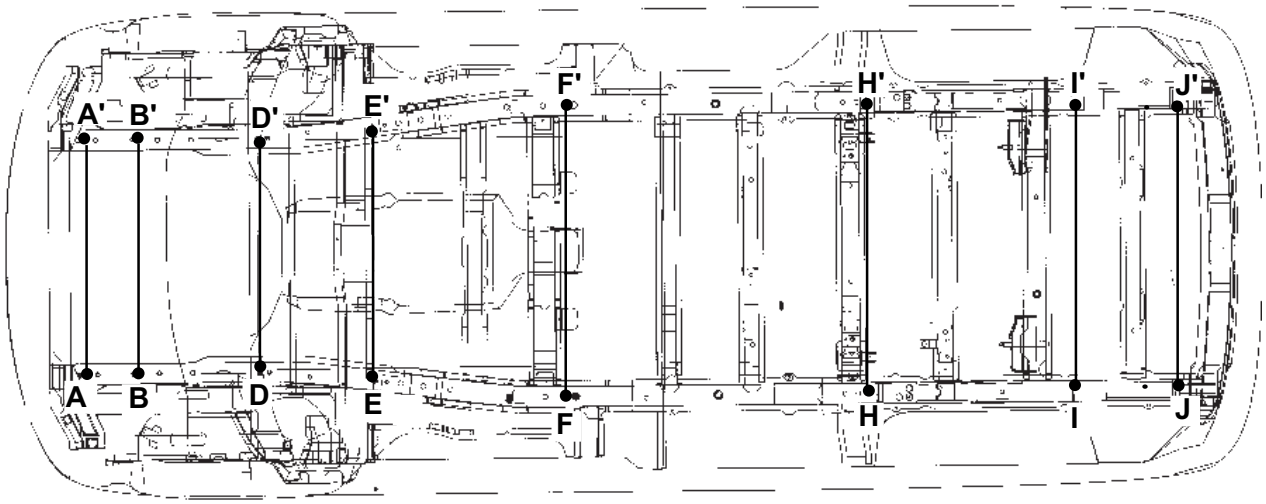


Tooling hole
(∅25)

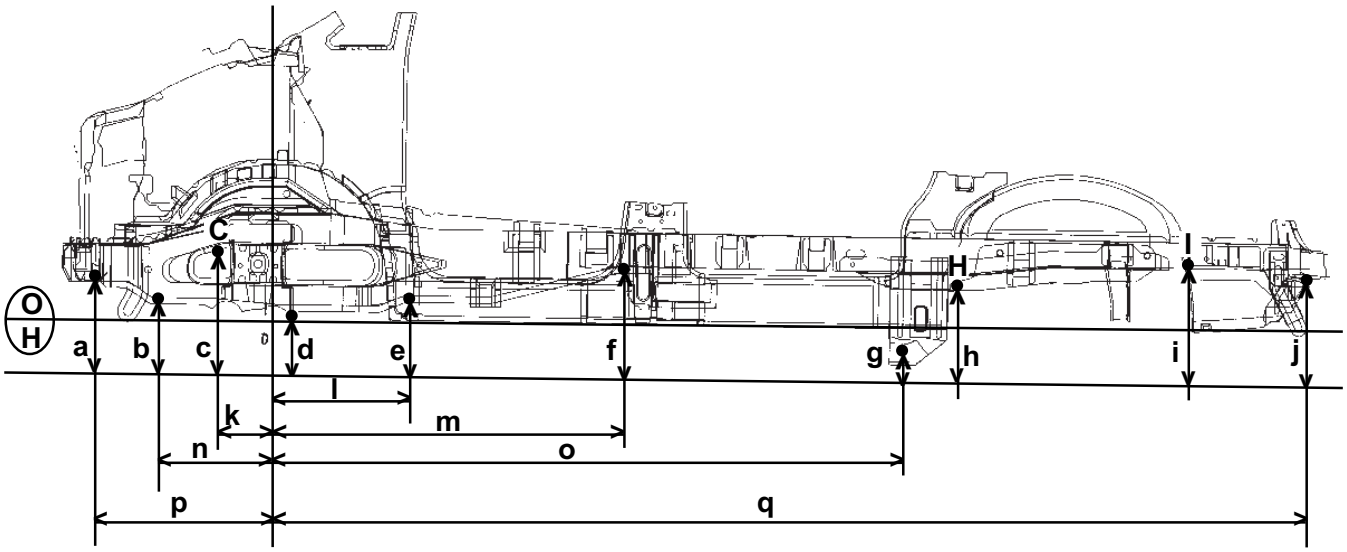


Rear bumper stay mounting
hole (∅25)

SHORT BODY (4WD)



4WD-2

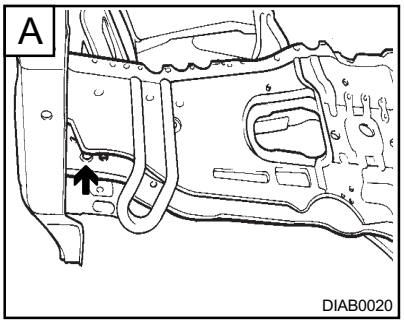


4WD-1

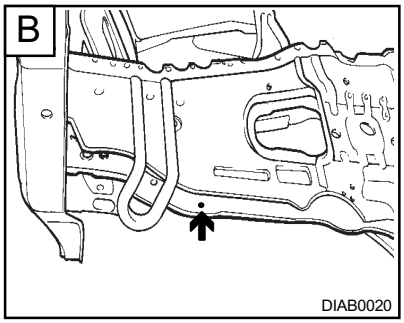
* These dimensions indicated in this figure are actual-measurement dimensions.

(SHORT BODY : 4WD)

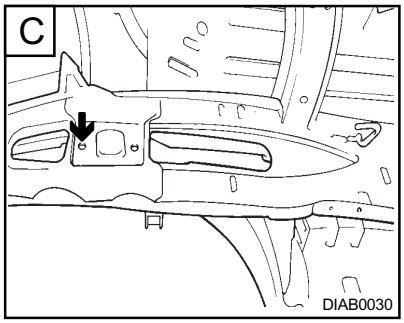
Point symbol	A-A'	B-B'	D-D'	E-E'	F-F'	H-H'	I-I'	J-J'
Length (mm)	872	860	870	960	1084	1080	1082	1082
Point symbol	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**
Length (mm)	220.2	164.2	282	148.2	184.2	300.2	38	272.6
Point symbol	**i**	**j**	**k**	**l**	**m**	**n**	**o**	**p**
Length (mm)	330	272.6	115	510	1268	380	2295	587
Point symbol	**q**							
Length (mm)	3651							



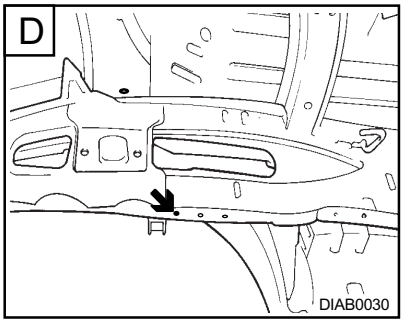
Location hole
(∅20)



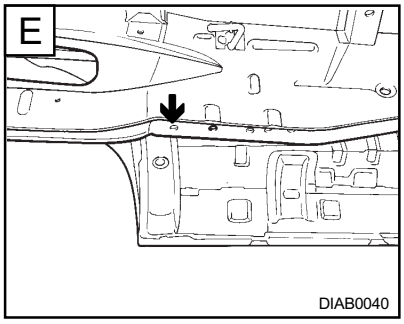
Engine crossmember mounting hole (∅16)



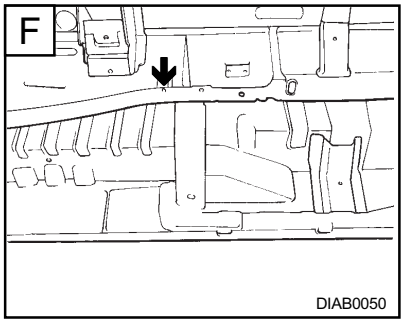
Upper arm mounting hole
(∅15)



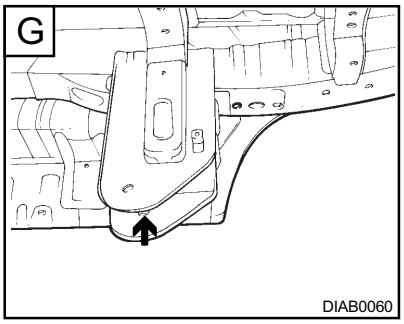
Front suspension mounting crossmember (∅16)



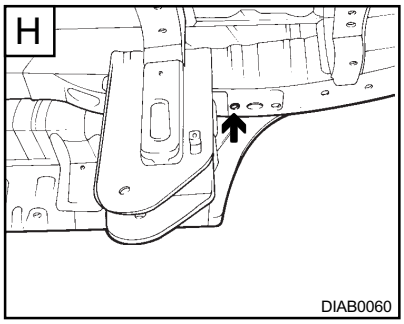
Manual transmission mounting crossmember (∅13)



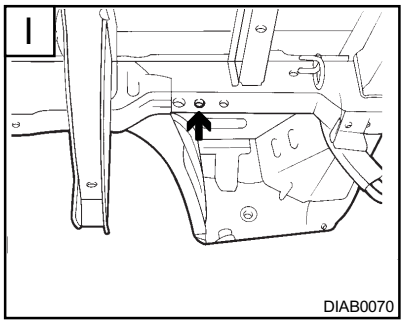
Tooling hole
(∅25)



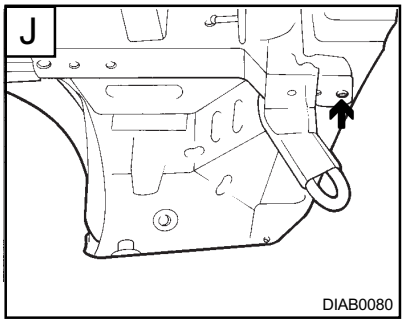
Rear leaf spring mounting
(∅13)



Mounting clamp braket hole
(∅13)

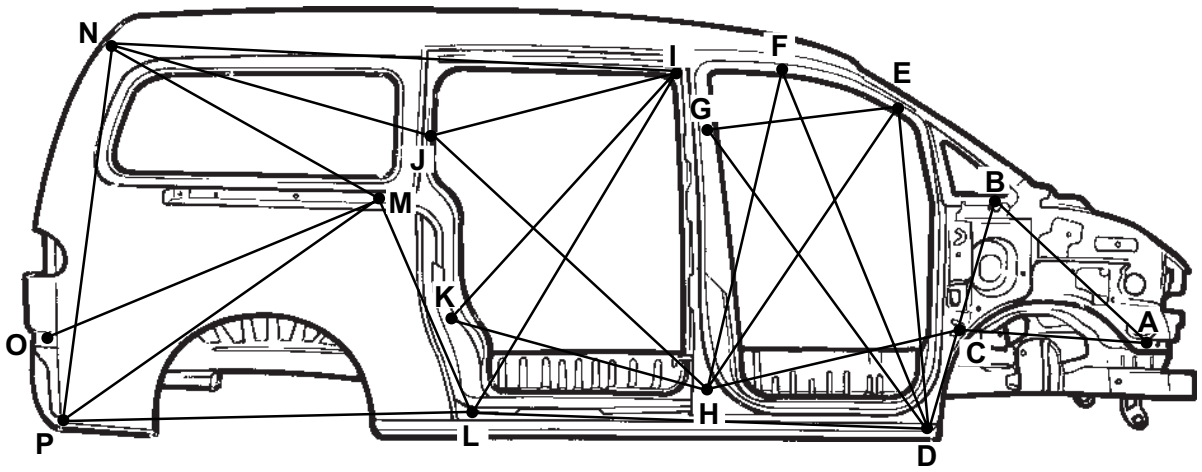


Trailer mounting hole
(∅16)



Rear bumper stay mounting hole (∅25)

SIDE BODY (RH)



DIAC0010

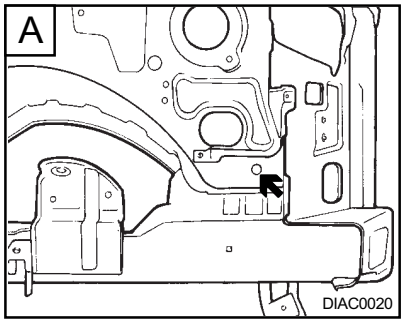
* These dimensions indicated in this figure are actual-measurement dimensions.

(SHORT BODY)

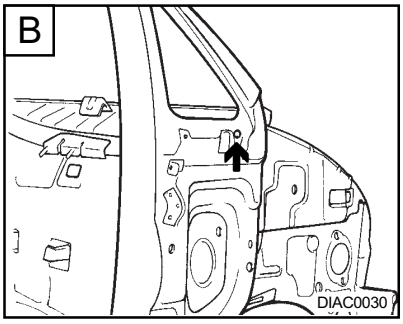
Point symbol	A-B	A-C	B-D	C-H	D-E	D-F	D-G	E-G
Length (mm)	861	833	948	1014	1289	1562	1506	753
Point symbol	**D-L**	**E-H**	**F-H**	**H-J**	**H-K**	**I-J**	**I-K**	**I-L**
Length (mm)	969	1289	1212	1428	1026	963	1255	1490
Point symbol	**I-N**	**J-N**	**L-M**	**L-P**	**M-N**	**M-O**	**M-P**	**N-P**
Length (mm)	1880	976	860	1220	919	1036	1246	1467

(LONG BODY)

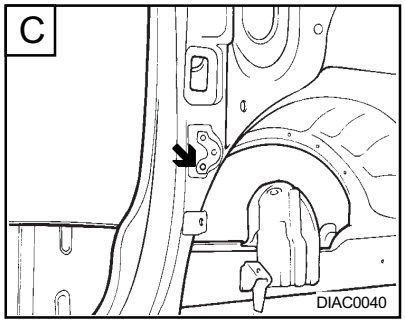
Point symbol	A-B	A-C	B-D	C-H	D-E	D-F	D-G	E-G
Length (mm)	861	833	948	1014	1289	1562	1506	753
Point symbol	**D-L**	**E-H**	**F-H**	**H-J**	**H-K**	**I-J**	**I-K**	**I-L**
Length (mm)	969	1289	1212	1428	1026	963	1255	1490
Point symbol	**I-N**	**J-N**	**L-M**	**L-P**	**M-N**	**M-O**	**M-P**	**N-P**
Length (mm)	2210	1295	860	1559	1195	1338	1503	1467



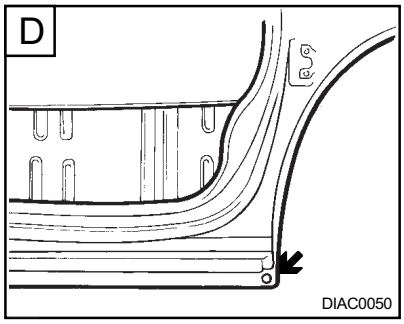
Location hole
(∅15)



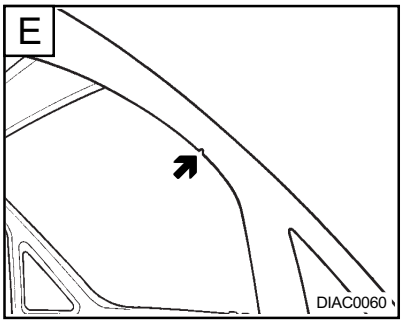
Fender mounting hole
(∅9)



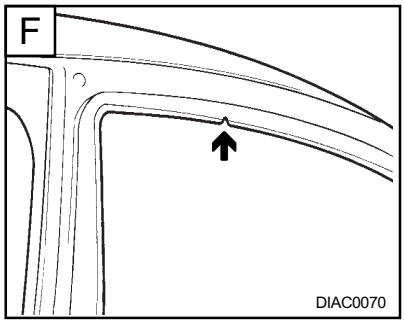
Front door hinge mounting hole
(∅11)



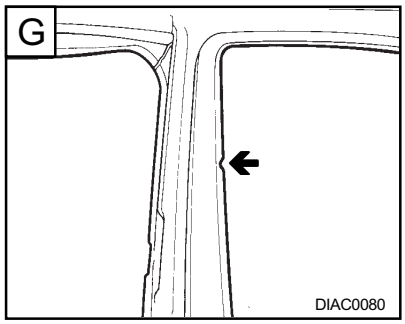
Tooling hole
(∅12)



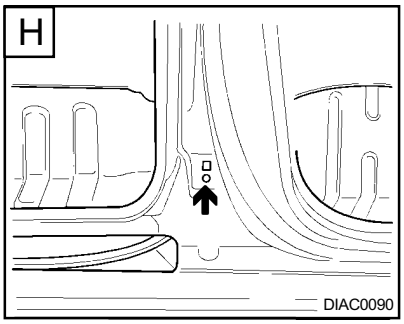
Front pillar outer position notch



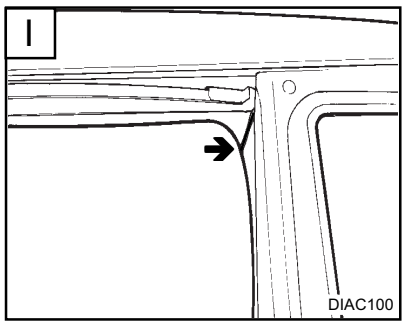
Front pillar outer position notch



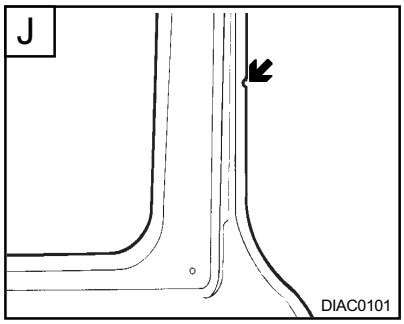
Center pillar outer position
notch



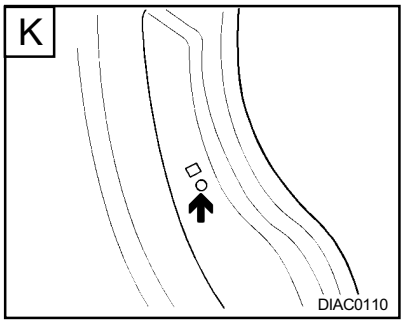
Door switch mounting hole
(∅6.6)



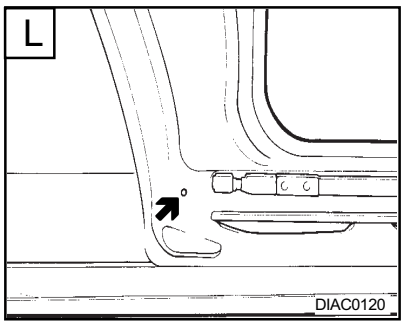
Center pillar outer and rear
door side outer



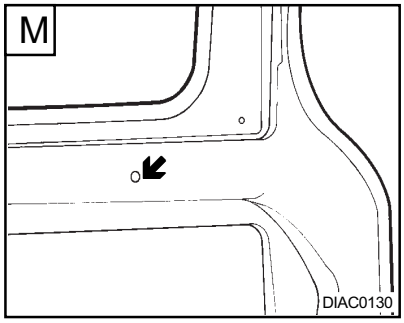
Quarter outer panel position
notch



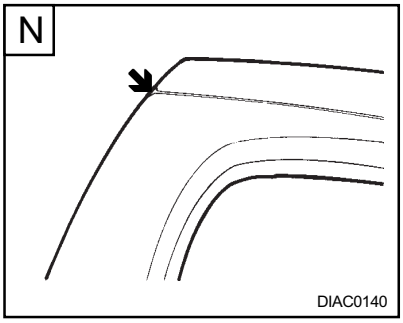
Door switch mounting hole
(∅9)



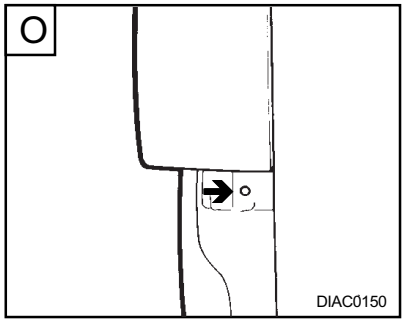
Lower rail stopper mounting
(∅9)



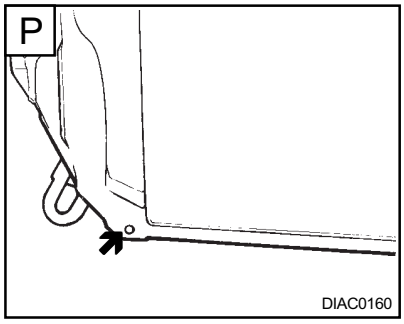
Center rail mounting hole
(∅9)



Quarter outer and roor side
outer matching

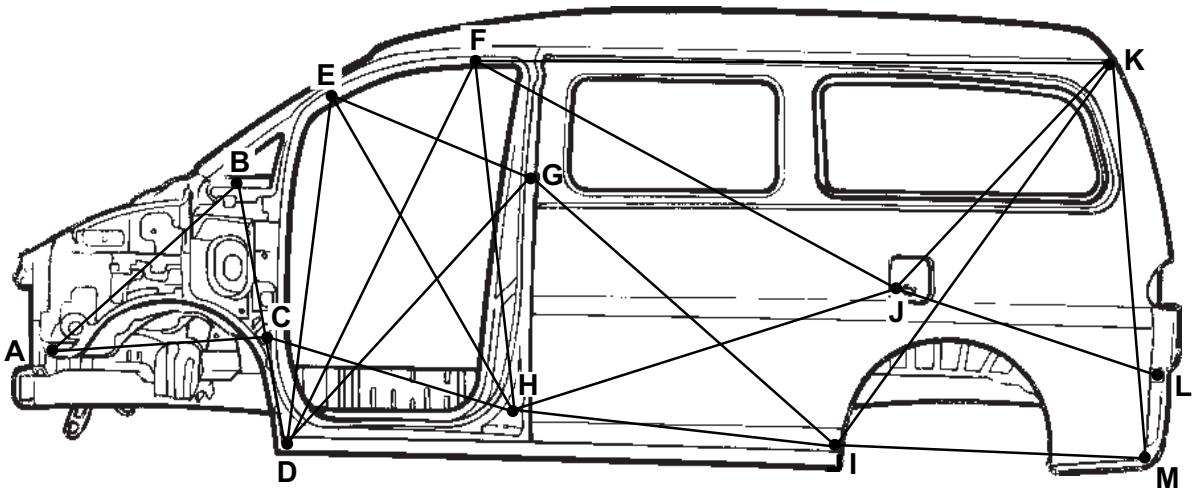


Rear bumper mounting hole
(∅8)



Rear bumper mounting
(∅8)

SIDE BODY (RH)



DIAC0210

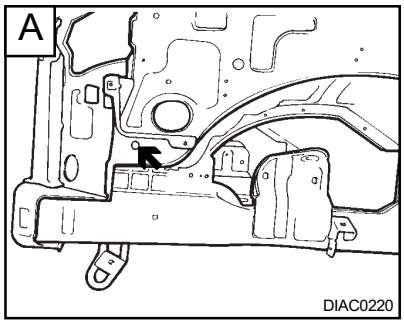
* These dimensions indicated in this figure are actual-measurement dimensions.

(SHORT BODY)

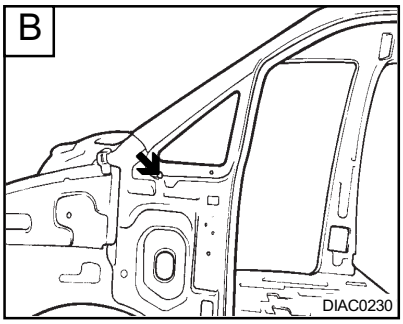
Point symbol	A-B	A-C	B-D	C-H	D-E	D-F	D-G	E-H
Length (mm)	861	833	948	1014	1289	1562	1407	1289
Point symbol	E-G	F-H	F-J	F-K	G-I	H-J	H-I	I-K
Length (mm)	862	1212	1644	2279	1376	1261	1038	1769
Point symbol	I-M	J-K	J-L	K-M				
Length (mm)	1138	1148	1022	1467				

(LONG BODY)

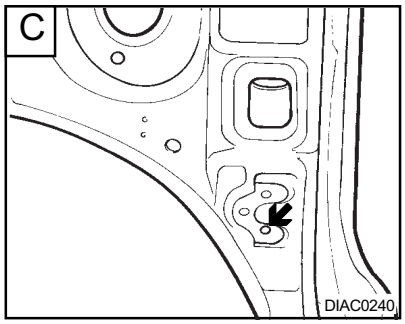
Point symbol	A-B	A-C	B-D	C-H	D-E	D-F	D-G	E-H
Length (mm)	861	833	948	1014	1289	1562	1407	1289
Point symbol	E-G	F-H	F-J	F-K	G-I	H-J	H-I	I-K
Length (mm)	862	1212	1889	2610	1576	1517	1303	1802
Point symbol	I-M	J-K	J-L	K-M				
Length (mm)	1208	1190	1089	1467				



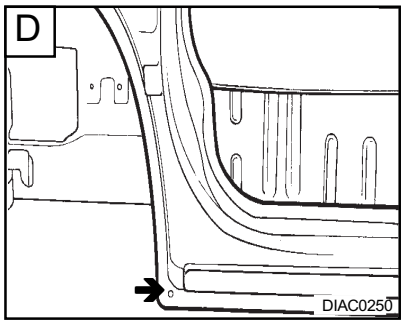
Location hole
(∅15)



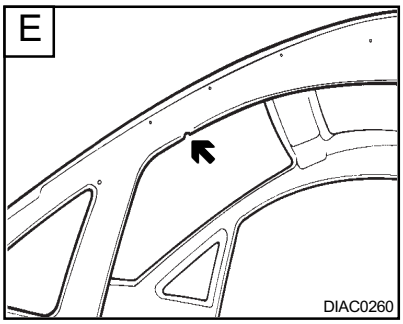
Fender mounting hole
(∅9)



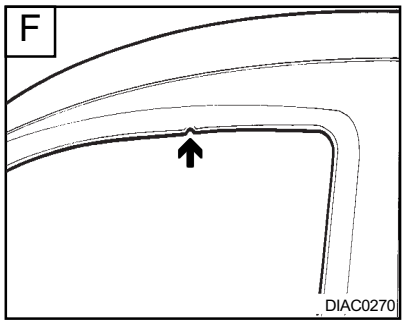
Front door hinge mounting hole
(∅11)



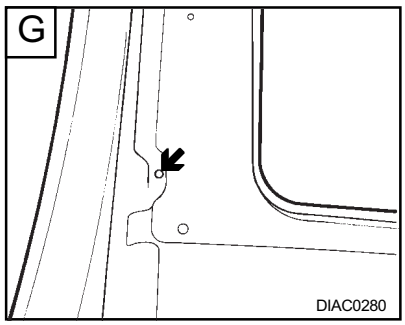
Tooling hole
(∅12)



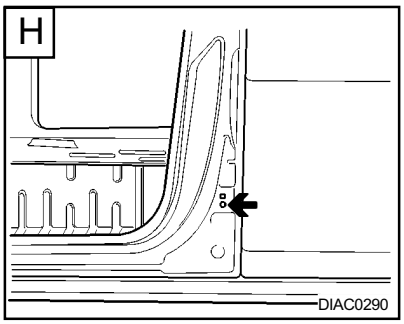
Front pillar outer position notch



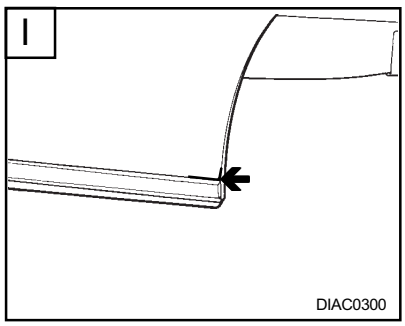
Front pillar outer position notch



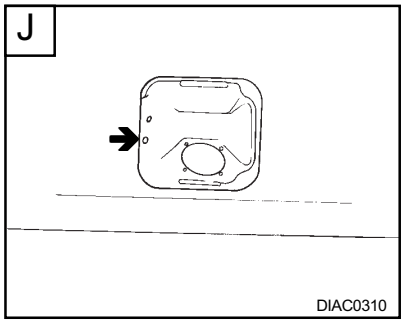
Rear glass hinge mounting hole
(∅9)



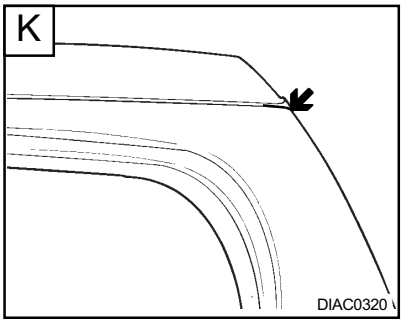
Door switch mounting hole
(∅6.6)



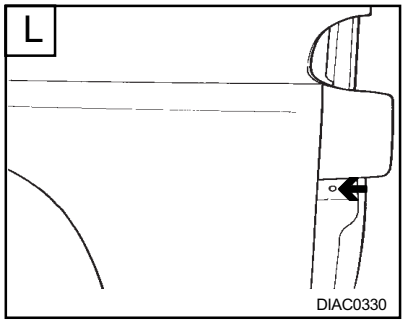
Quarter outer panel (LH)



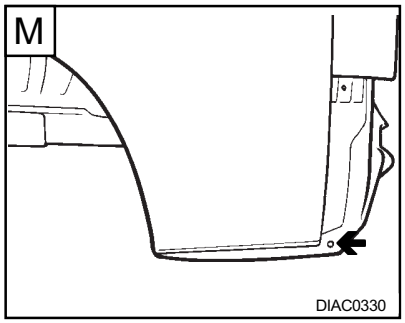
Fuel filler door hinge mounting
(∅6.6)



Quarter outer and roof side outer



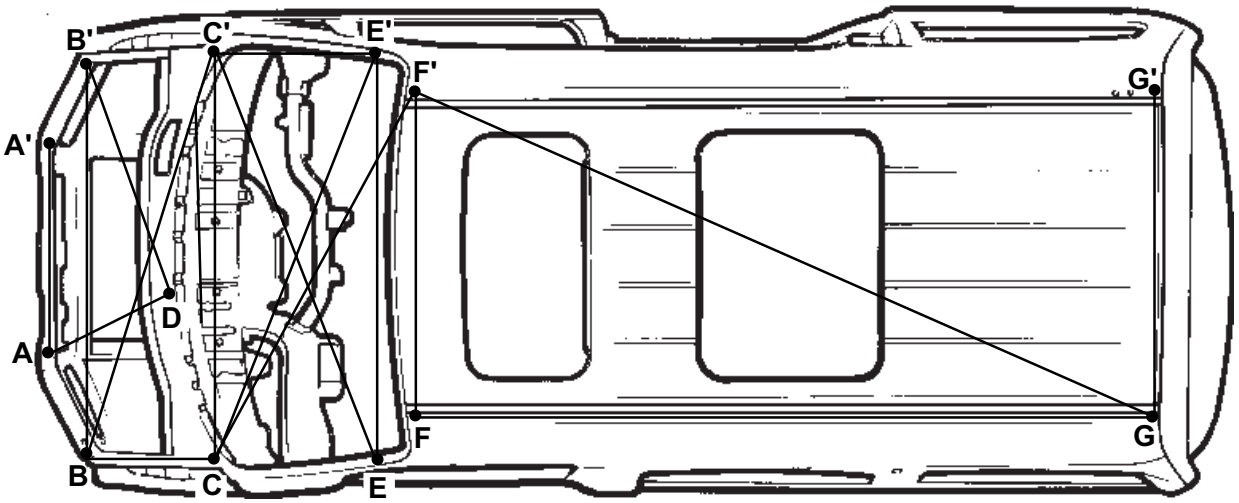
Rear bumper mounting hole
(∅8)



Rear bumper mounting hole
(∅8)

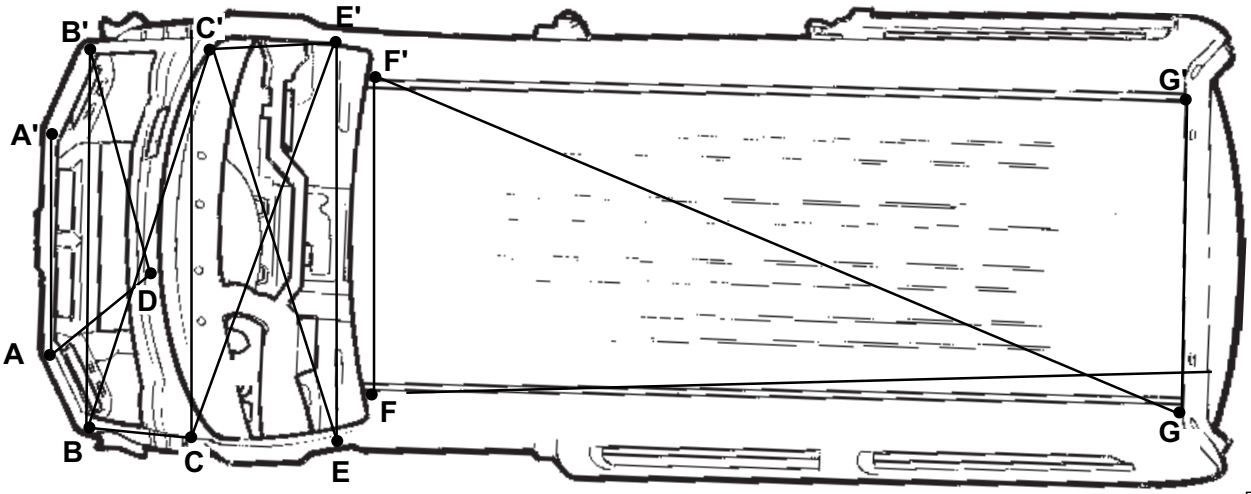
UPPER BODY

SHORT BODY



DIAD0010

LONG BODY



DIAD0020

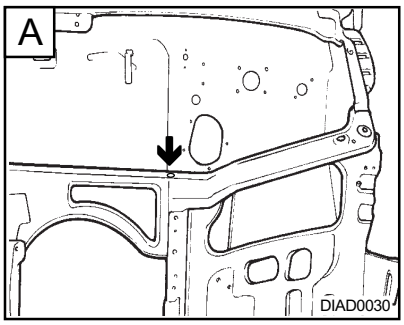
* These dimensions indicated in this figure are actual-measurement dimensions.

(SHORT BODY)

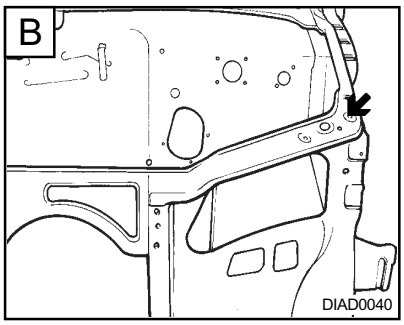
Point symbol	A-A'	A-D	B-B'	B-C	B-C'	B'-D	C-C'	C-E'
Length (mm)	672	534	1492	353	1539	910	1464	1632
Point symbol	**C'-E'**	**F-F'**	**F'-C**	**F-G**	**F'-G**	**G-G'**		
Length (mm)	677	1086	1491	2591	2809	1086		

(LONG BODY)

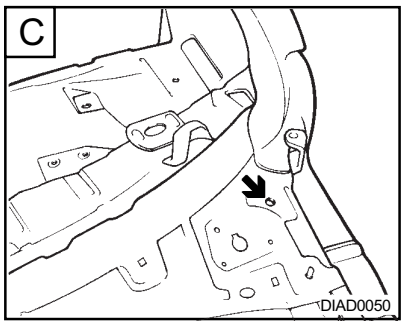
Point symbol	A-A'	A-D	B-B'	B-C	B-C'	B'-D	C-C'	C-E'
Length (mm)	672	534	1492	353	1539	910	1464	1632
Point symbol	**C'-E'**	**F-F'**	**F'-C**	**F-G**	**F'-G**	**G-G'**		
Length (mm)	677	1090	1493	2887	3082	1068		



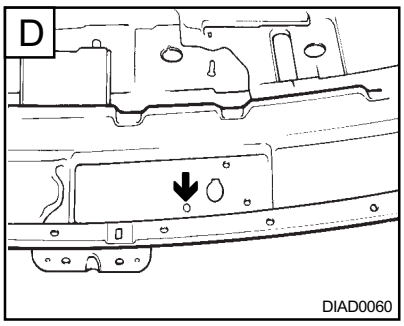
Headlamp support complete mounting (∅9)



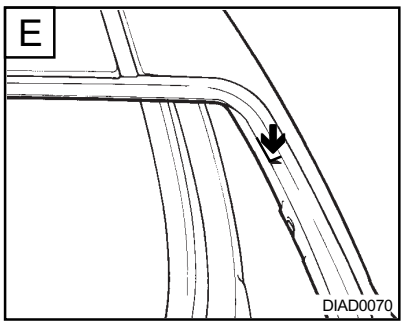
Fender mounting hole (∅6.6)



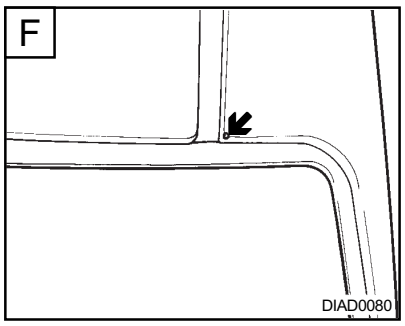
Hood hinge mounting hole (∅11)



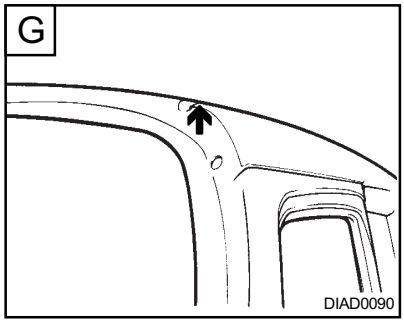
Wiper pivot mounting (∅9)



Roof side outer end line

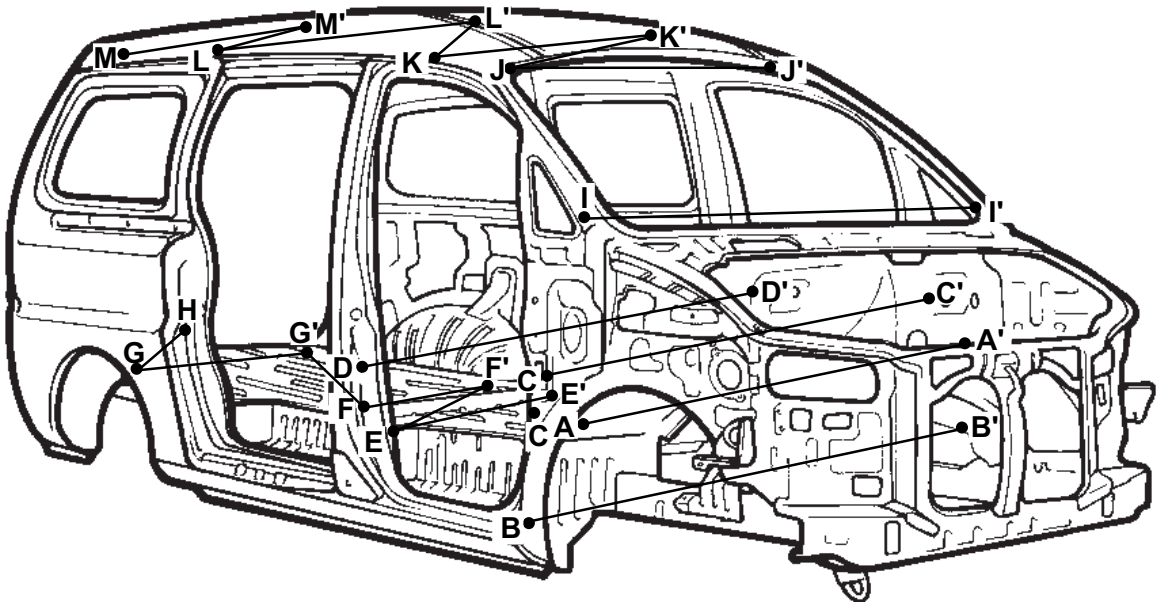


Roof side outer panel



Roof side outer panel

INTERIOR



DIBD0010

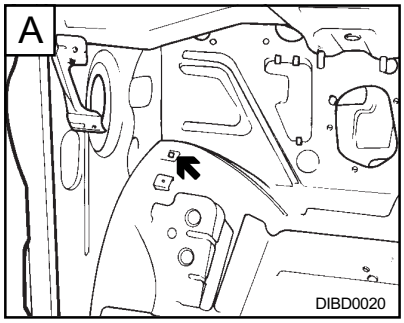
* These dimensions indicated in this figure are actual-measurement dimensions.

(SHORT BODY)

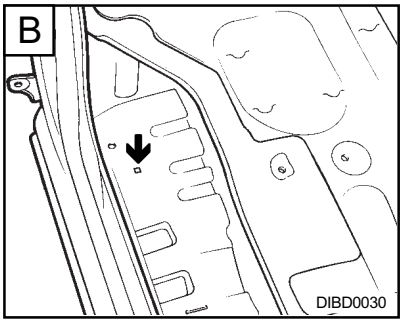
Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	E-F'	F-F'	F-G'
Length (mm)	1450	1470	1602	1648	1943	2111	1630	1786
Point symbol	G-G'	G-H	I-I'	J-J'	J-K'	K-K'	K-L'	L-L'
Length (mm)	1080	531	1569	1184	1590	1120	1239	1120
Point symbol	L-M'	M-M'						
Length (mm)	1391	892						

(LONG BODY)

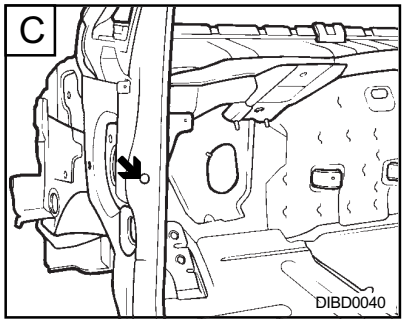
Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	E-F'	F-F'	F-G'
Length (mm)	1450	1470	1602	1648	1943	2111	1630	1832
Point symbol	G-G'	G-H	I-I'	J-J'	J-K'	K-K'	K-L'	L-L'
Length (mm)	1080	531	1569	1184	1590	1120	1590	1120
Point symbol	L-M'	M-M'						
Length (mm)	1199	892						



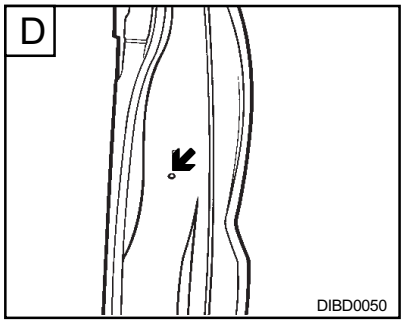
Wheel guard mounting hole
(☐9)



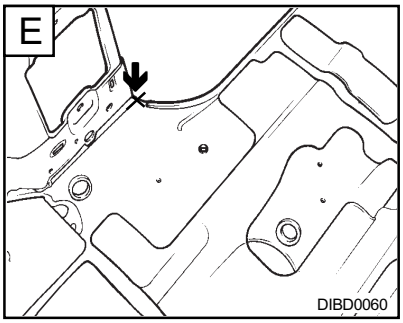
Front step fixing cover
(☐8.5)



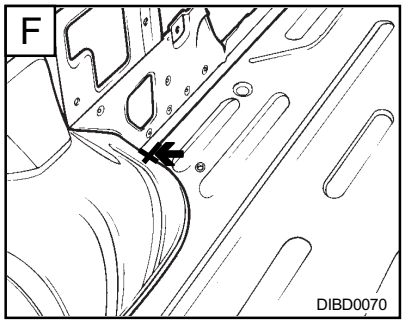
Front door checker mounting
hole (∅11)



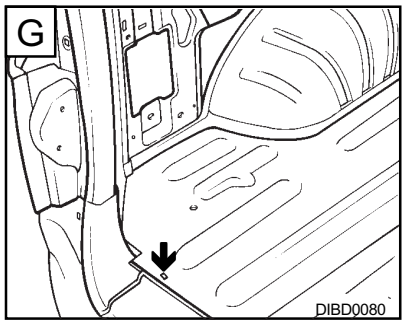
Front door striker mounting
hole (∅10)



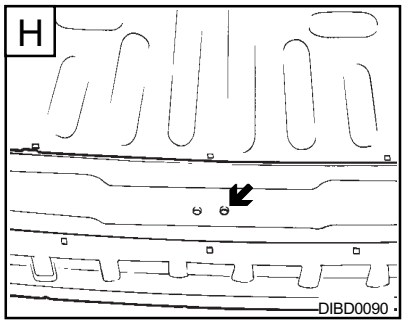
Center floor step mounting edge



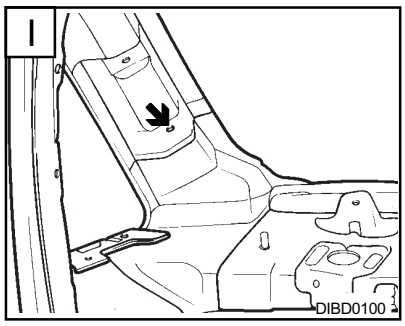
Rear floor and rear wheel house
front edge



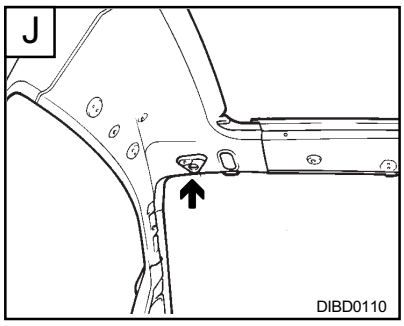
Trim cargo step mounting hole
(☐8.5)



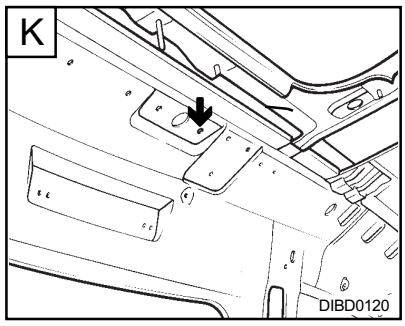
Tail gate striker mounting hole
(∅13)



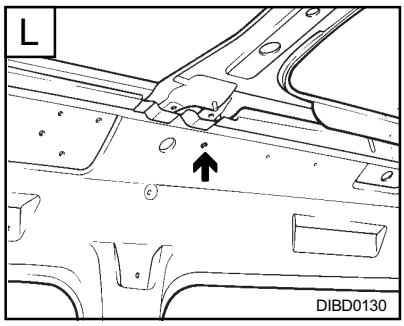
Trim fixing hole
(∅11)



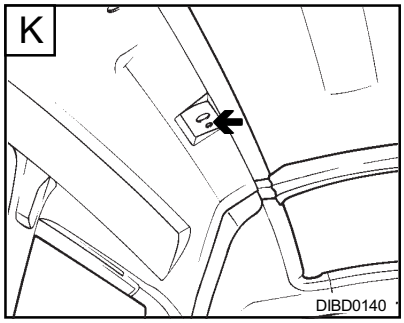
Sunvisor hole
(∅19)



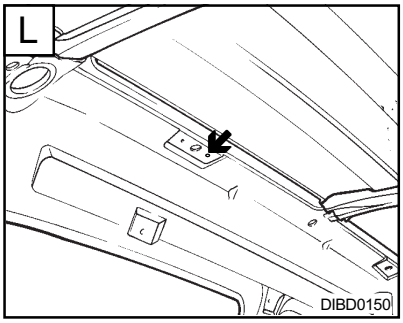
Roof bow mounting
(∅9.8) **(Short body)**



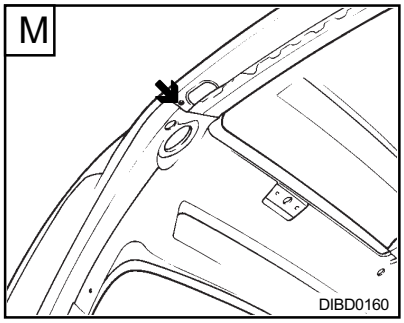
Sunroof braket
(∅9.8) **(Short body)**



Roof bow mounting
(∅9.8) **(Long body)**

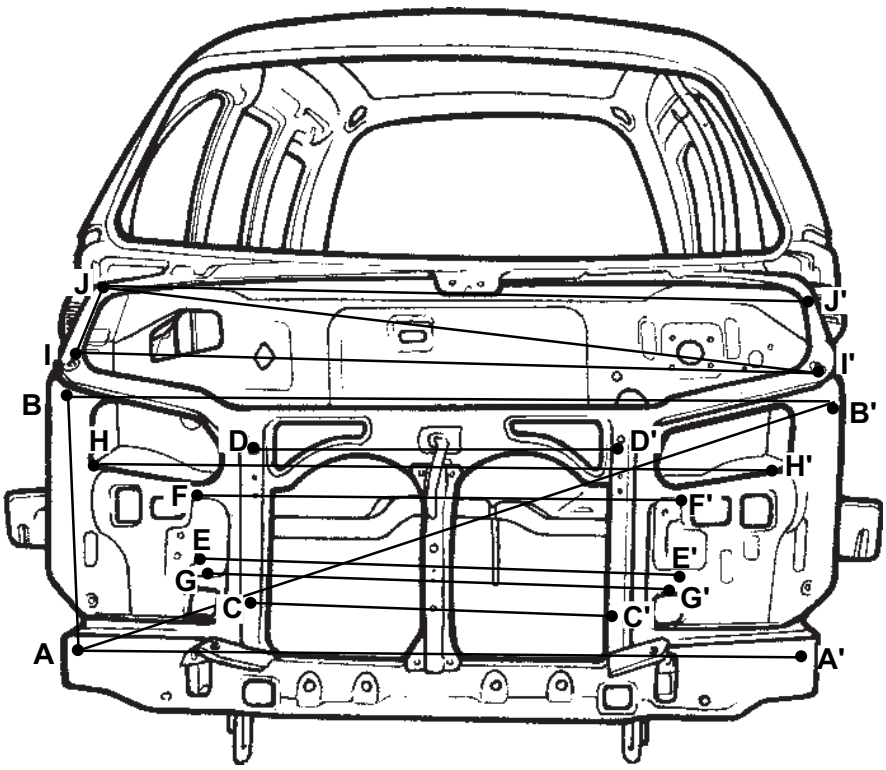


Roof bow mounting
(∅9.8) **(Long body)**



Head lining mounting hole
(∅8.5)

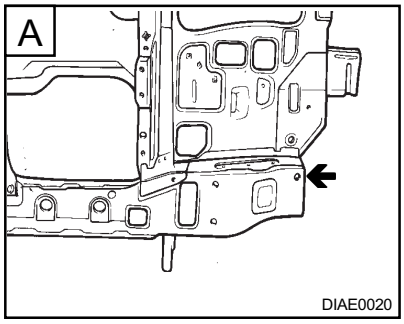
FRONT BODY



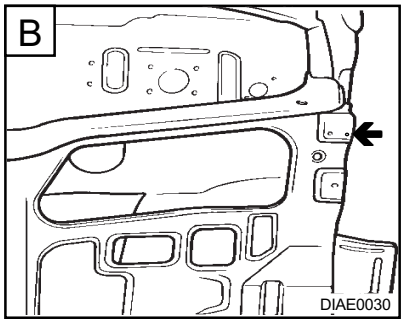
DIAE0010

* These dimensions indicated in this figure are actual-measurement dimensions.

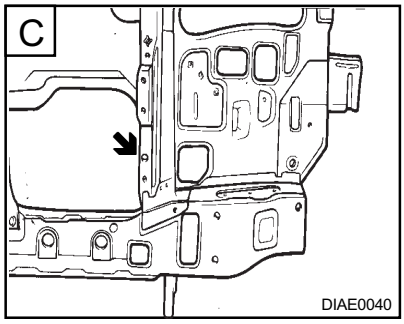
Point symbol	A-A'	A-B	A-B'	B-B'	C-C'	D-D'	E-E'	F-F'
Length (mm)	1400	366	1490	1490	676	688	872	940
Point symbol	**G-G'**	**H-H'**	**I-I'**	**I-J**	**J-I'**	**J-J'**		
Length (mm)	872	1450	1492	415	1333	1556		



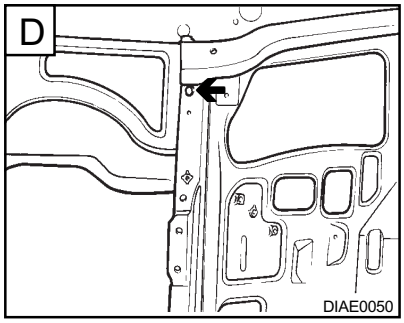
Thermo sensor mounting
(∅7)



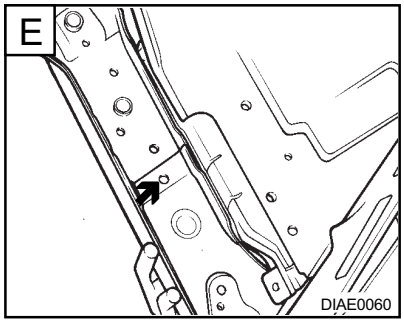
Head lamp mounting
(∅7)



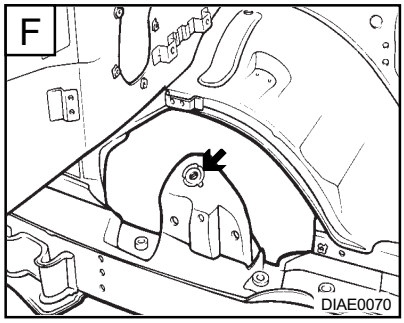
Location hole
(∅10)



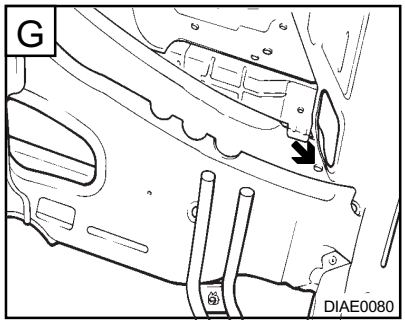
Front bumper upper rail
mounting (∅7)



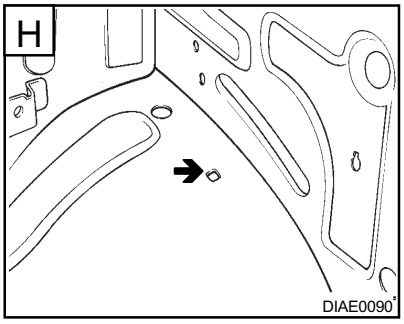
Location hole (2WD)
(∅8)



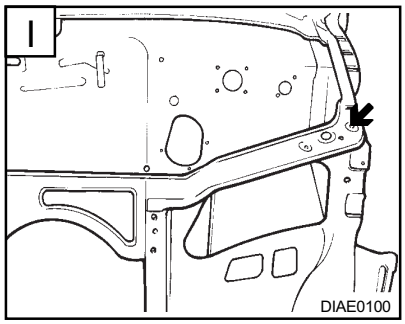
Shock absorer mounting (2WD)
(∅15)



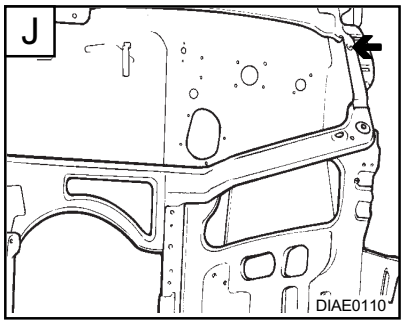
Location hole (4WD)
(∅12)



Wheel guard mounting hole
(□9)

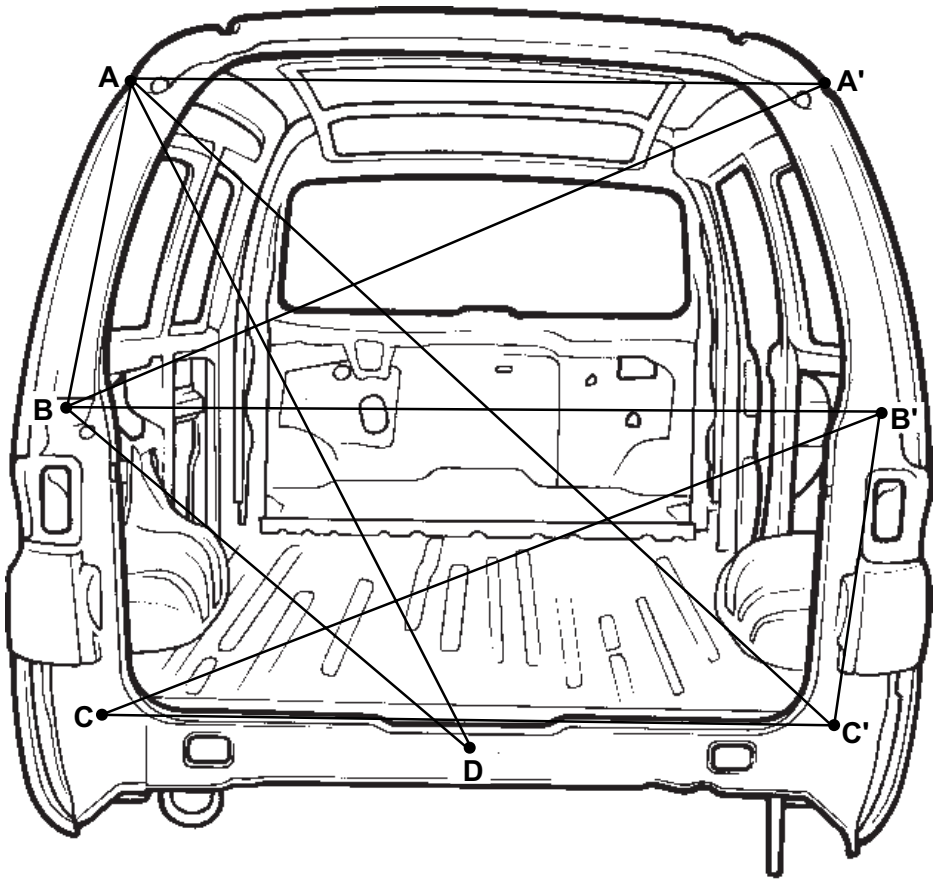


Fender mounting hole
(∅6.6)



Fender mounting hole
(∅10.5)

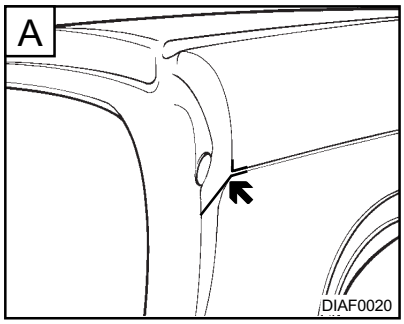
REAR BODY



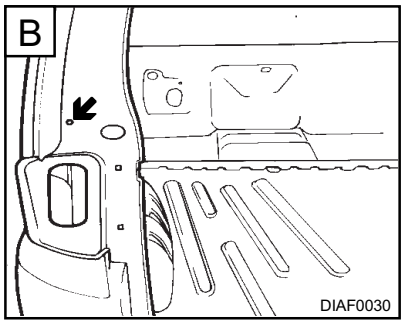
DIAF0010

* These dimensions indicated in this figure are actual-measurement dimensions.

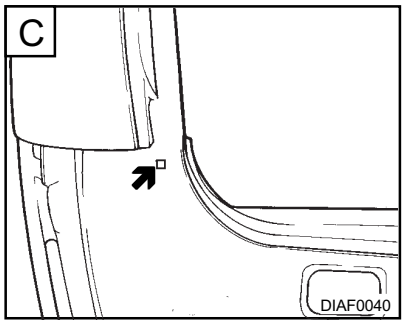
Point symbol	A-A'	A-B	A-C'	A-D	B-A'	B-B'	B-D	B'-C'
Length (mm)	1379	670	1782	1405	1628	1596	977	465
Point symbol	C-B'	C-C'						
Length (mm)	1565	1400						



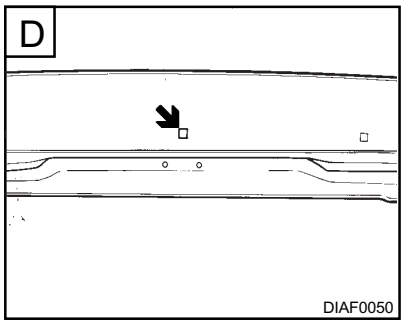
Quarter outer panel



Gas Spring mounting
(∅10)



Rear bumper mouting hole
(☐8x8.5)

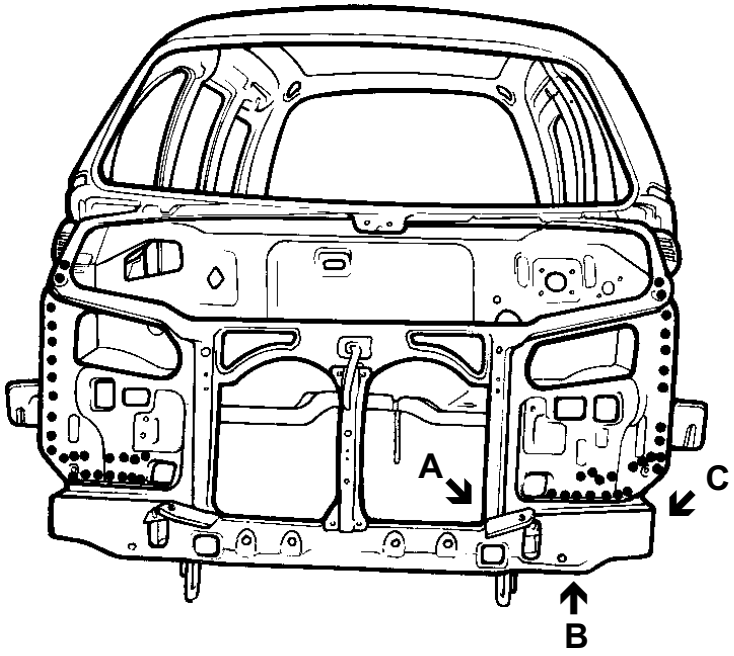


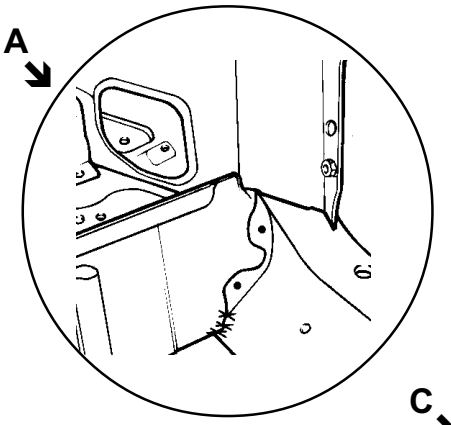
Trim cargo step mounting hole
(☐8)

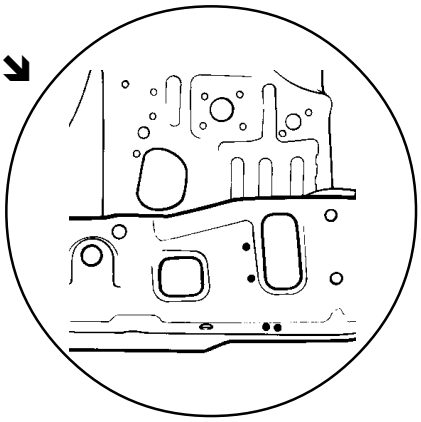
BODY PANEL REPAIR PROCEDURE

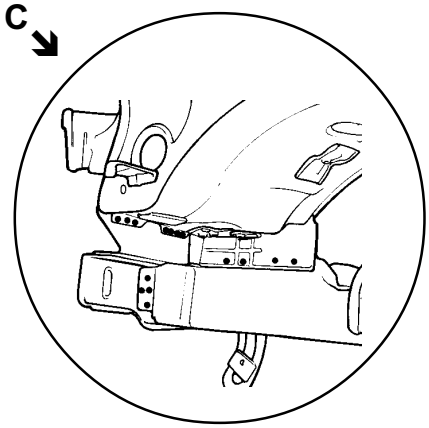
RADIATOR SUPPORT PANEL & FRONT SIDEMEMBER

WELDING POINTS









● MIG plug welding
MIG butt welding
MIG lap welding

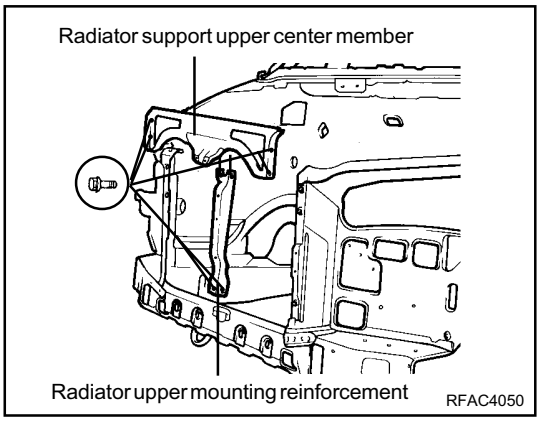
RFAC4010~4040

REMOVAL

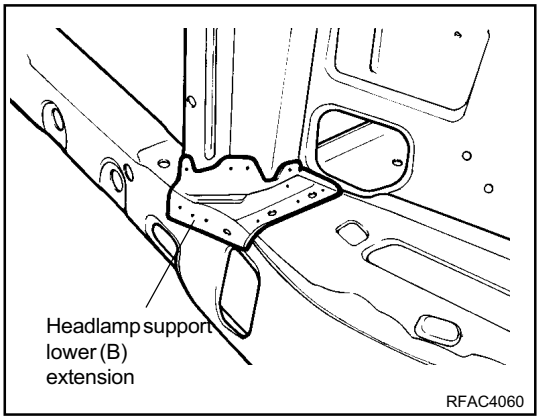
1. Remove the radiator upper mounting reinforcement.
2. Remove the radiator support upper center member.

NOTE

Radiator upper mounting reinforcement and the radiator support upper center member are mounted with 10 mm (Head side) bolts. These are used for removal and reinstallation of the engine and/or the radiator.



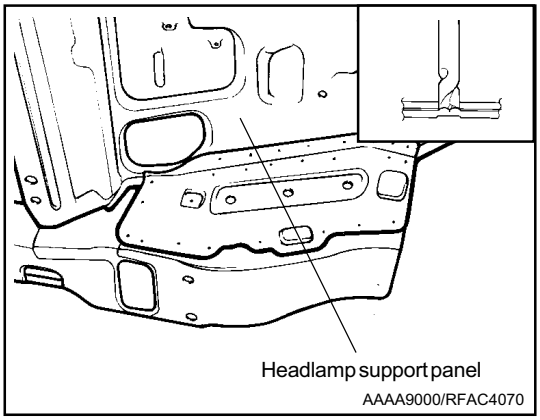
3. Drill out all the spotwelds from headlamp support lower (B) extension.
4. Remove the headlamp support lower (B) extension.



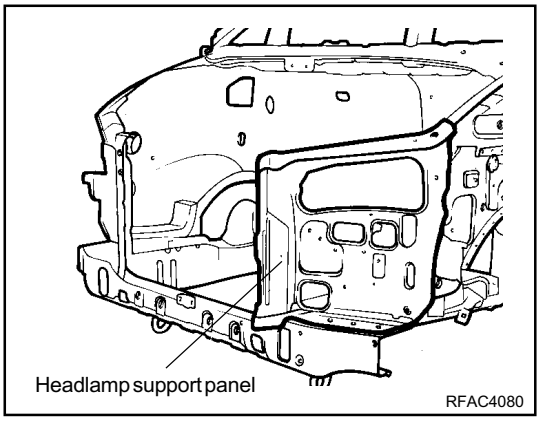
5. Drill out all the spotwelds to separate headlamp support panel from front end crossmember and fender apron panel.

NOTE

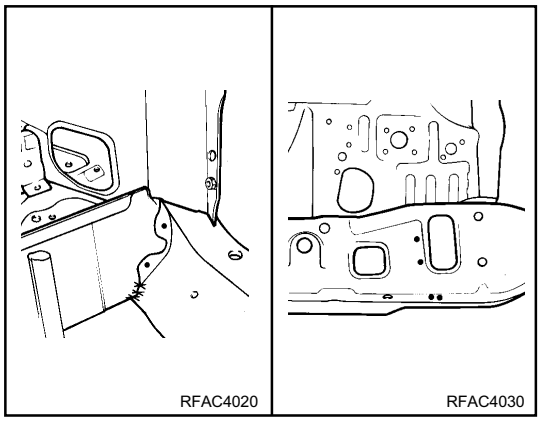
Drill the outer panel with a spot cutter so as not to damage the inner panel.



6. Remove the headlamp support panel.



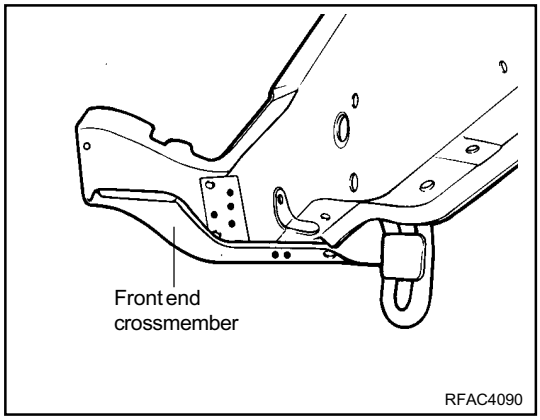
7. Drill out all spotwelds and MIG plug welds to separate front end crossmember inner and outer panel.



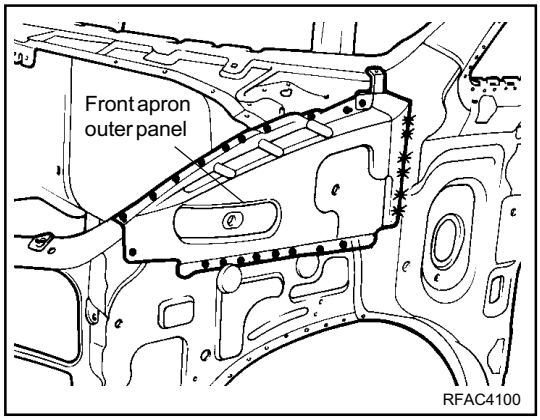
8. Remove the front end crossmember.

NOTE

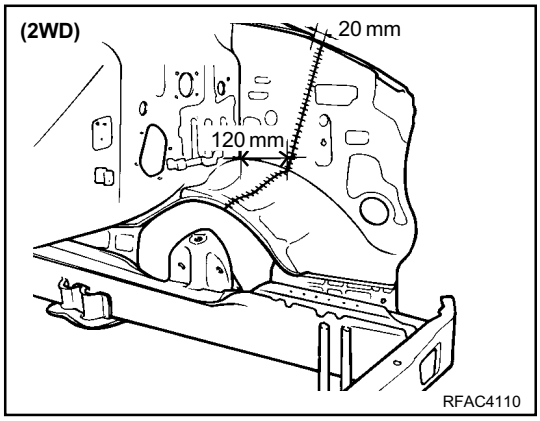
This procedure is to be used only for repair of minor damage on to the front sidemember and front end crossmember when it is impossible to straighten the damage on them. The following procedure illustrates a repair for the front left sidemember. The procedure may also be applied to the front right sidemember.

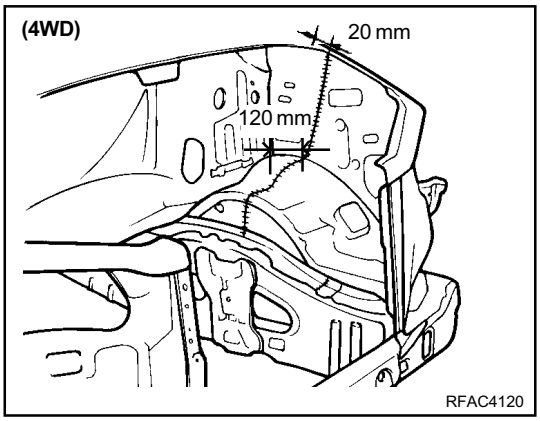


9. Drill out all spotwelds and MIG butt welds to separate front apron outer panel.
10. Remove the front apron outer panel.



11. Measure and mark the cutline on front apron panel and front sidemember as illustration.
12. Drill out all spotwelds to separate front wheelhouse extension from front sidemember.
13. Cut through the front apron panel and front wheel house at cutlines.
14. Remove the front apron panel and front wheelhouse.

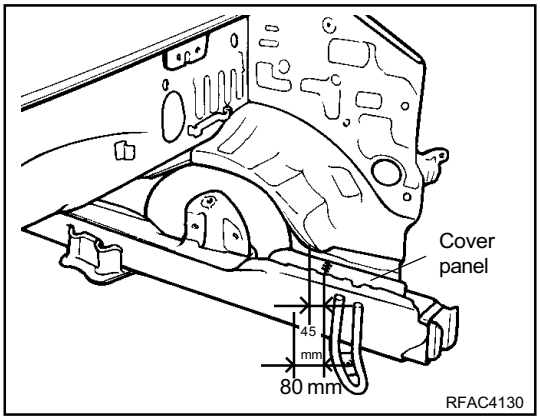




15. Remove the front sidemember partial.

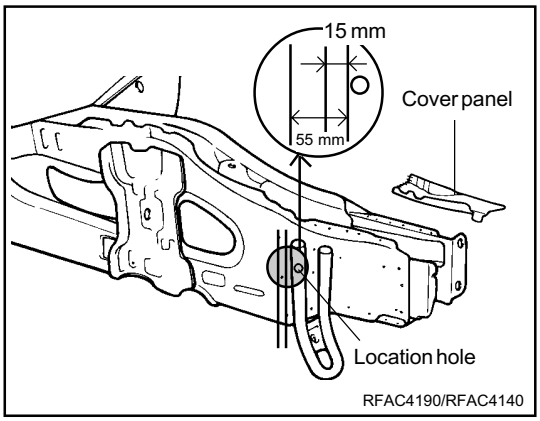
<2WD>

1) Drill out all spotweld and MIG lap welds to separate cover panel from front sidemember.
2) Cut the front sidemember at 80 mm apart from the air conditioning discharge pipe hole.
   Then, cut the front sidemember outer panel at 45 mm inside from the font sidemember cut point. Be careful not to damage the front sidemember reinforcement.

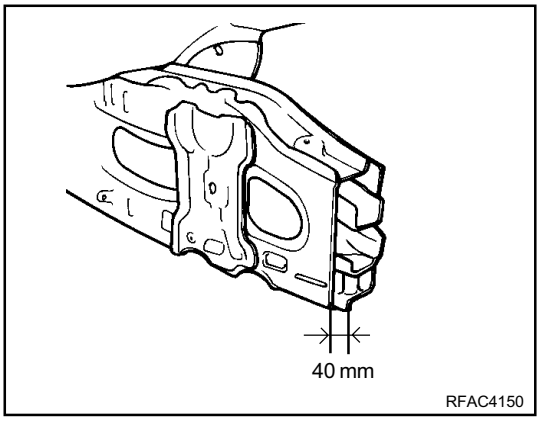


<4WD>

1) Drill out all spotwelds and cut the front sidemember cover panel.
2) Cut the cover panel from the front sidemember as shown in the illustration.



3) Cut the front side inner panel at 40 mm away from the cut. At this time, careful not to cut the reinforcement.



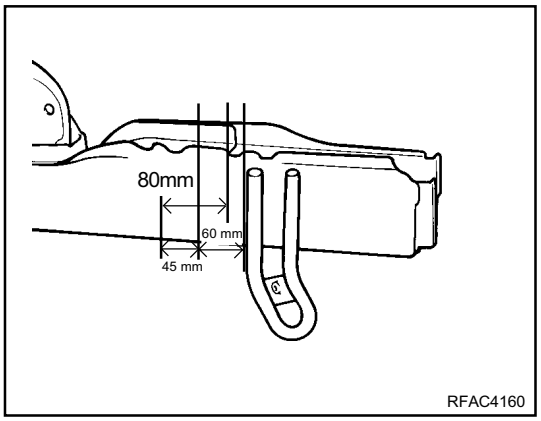
16. Grind and smooth any weld traces which might be left on the body surface by using an air grinder or similar tool, being careful not to damage any of the panels which is not to be replaced.

INSTALLATION

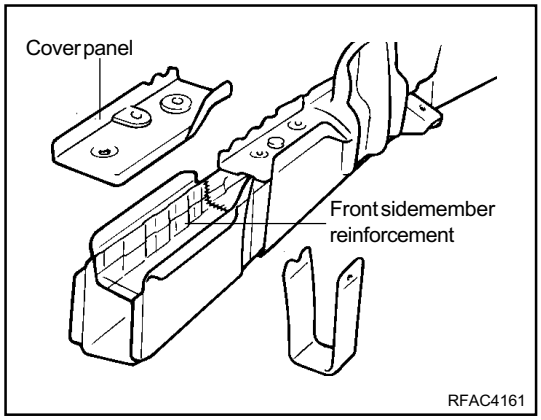
1. Transcribe the cutlines to the new front sidemember, cut to length and chamfer butt end to improve weld surfaces.

<2WD>

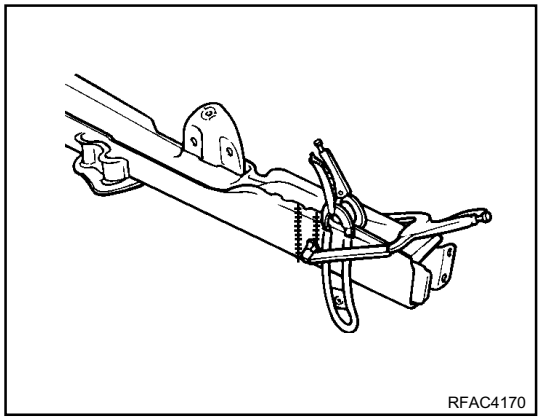
1) Cut the new front sidemenber at 45 mm from the air conditioning discharge pipe hole .



2) MIG butt welds at the front sidemember reinforcement.

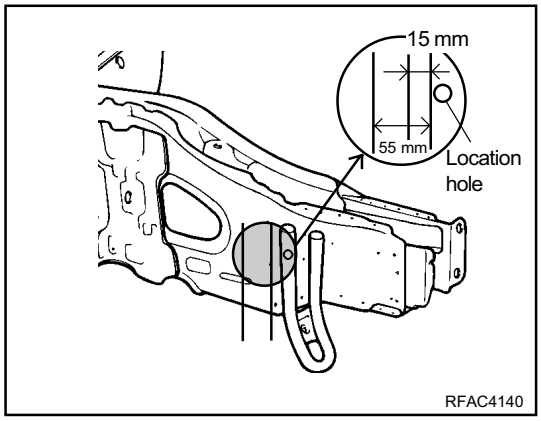


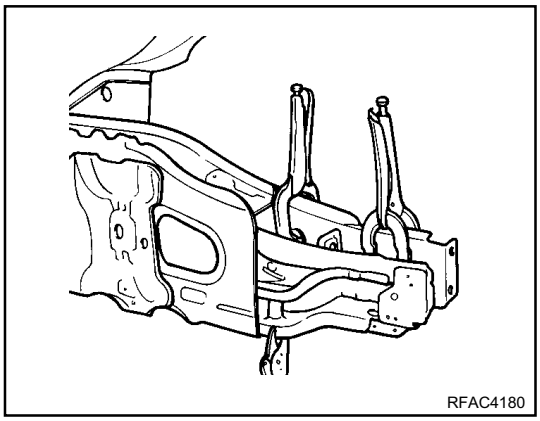
3) MIG butt weld to the remaining section of the front sidemember.



<4WD>

1) Cut the new front sidemember at 55 mm from the location hole and remove the front sidemember inner panel by detaching spotwelds.
Then prepare the sidemember outer panel and the reinforcement after cutting them at 15 mm from the location hole.

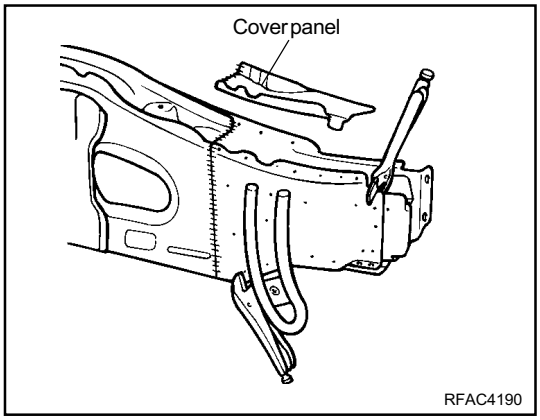



RFAC4180

2) Temporarily install front sidemember outer panel and reinforcement.

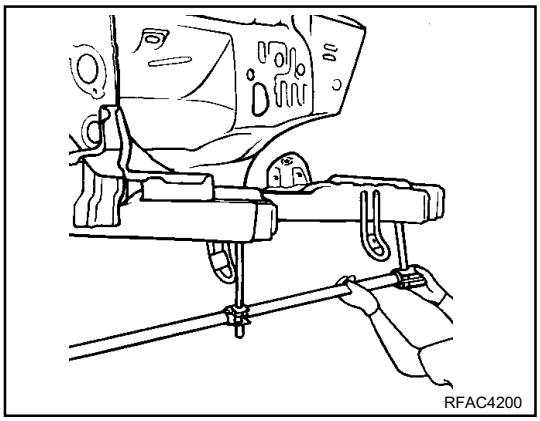
NOTE

If necessary, make temporary welds so as not to twist.

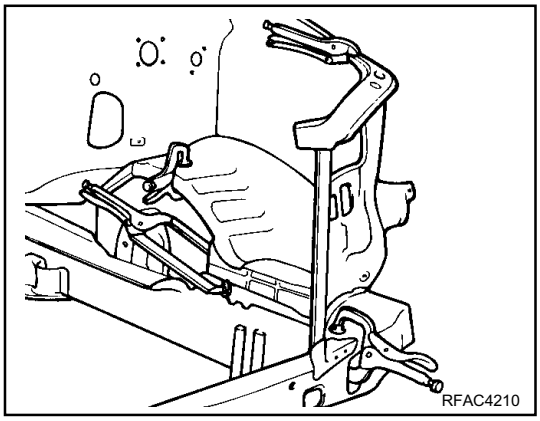


RFAC4190

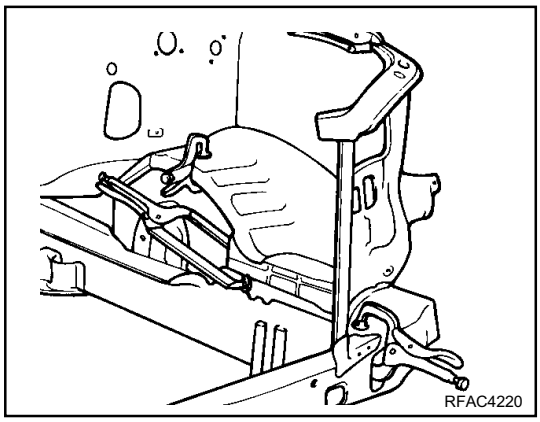
3) Temporarily install front sidemember inner panel and cover panel.
4) MIG plug weld all holes and MIG butt weld all seams.


RFAC4200

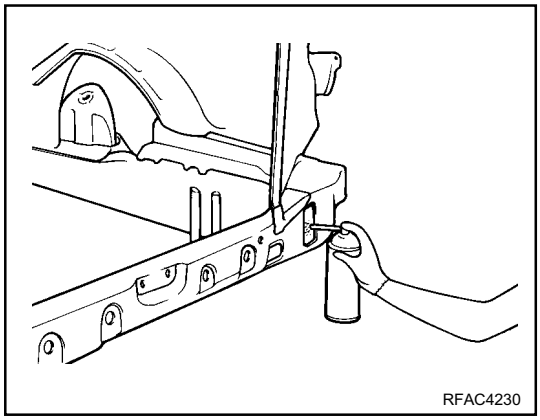
2. Measure each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.
3. Transcribe the cutline to the new front apron panel and wheelhouse.
   Cut and chamfer butt end to improve weld surface.
4. Temporarily install new front apron panel and front wheelhouse.


RFAC4210

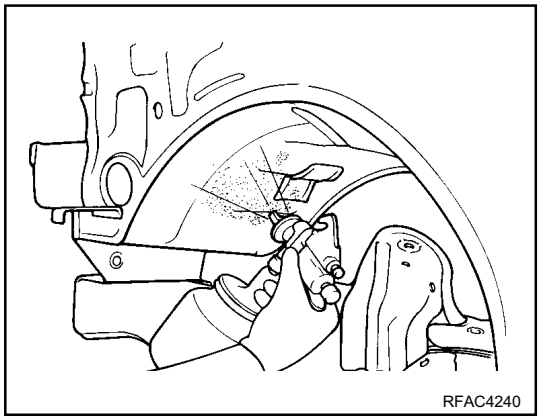
5. MIG plug weld all holes and MIG butt weld at the front apron panel and front wheelhouse.
6. Fit and clamp the front end crossmember and radiator support panels.
7. If necessary, make temporary welds so as not to twist.


RFAC4220

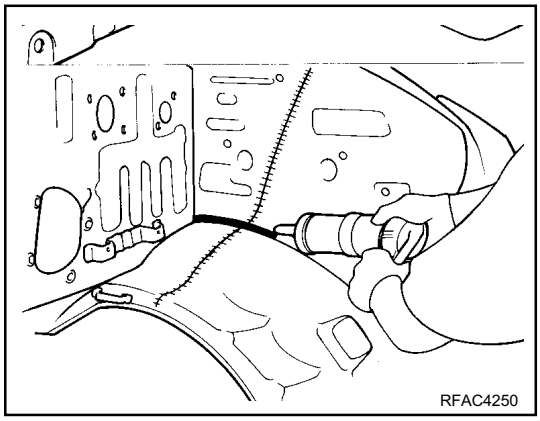
8. Measure each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.
9. MIG plug weld all holes and MIG butt weld to the front pillar outer panel.
10. Clean and prepare all welds, removing all residue.
11. Apply the two-part epoxy primer to the interior of the welded parts.


RFAC4230

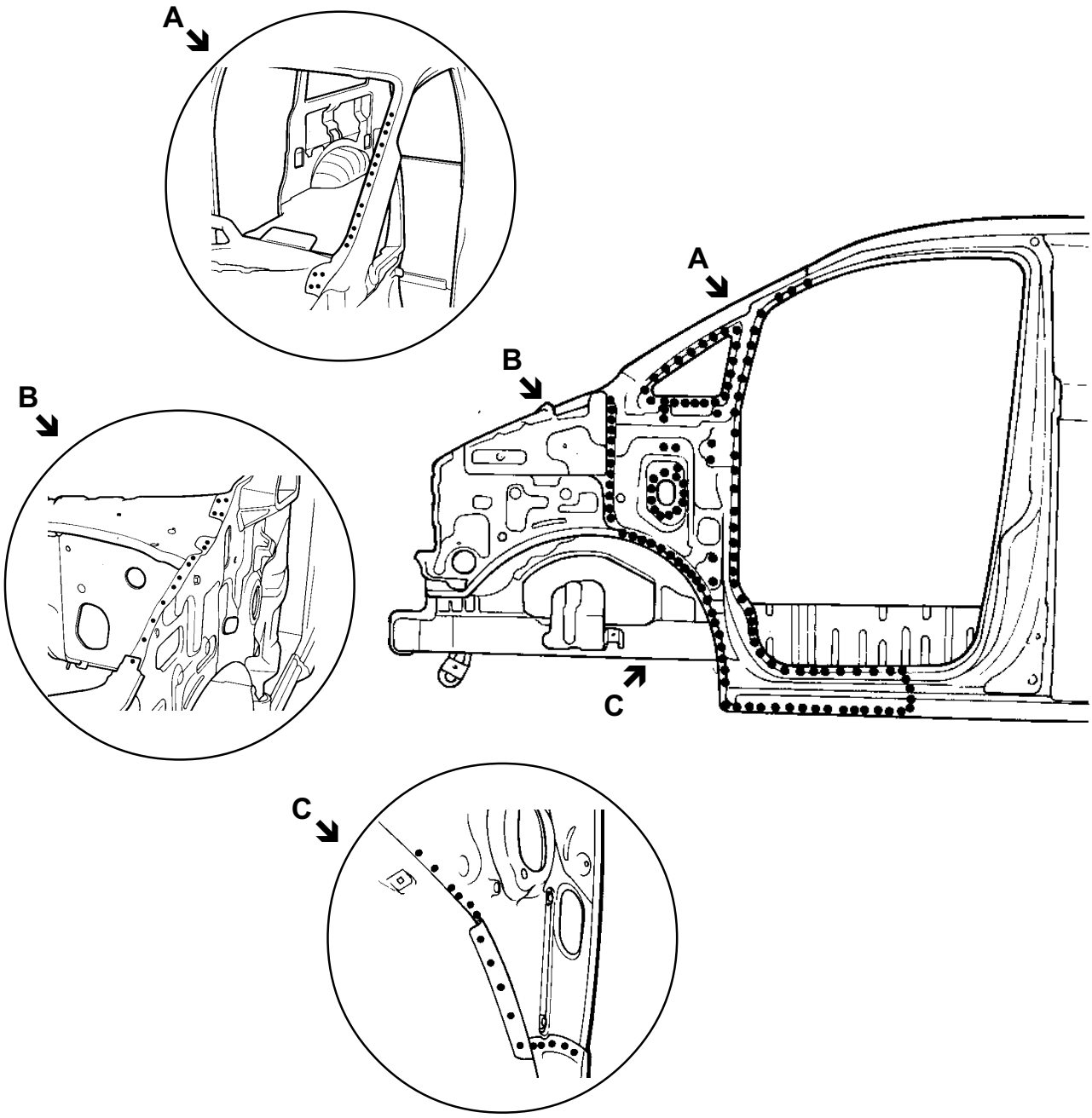
12. Apply an anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).
13. Prepare exterior surfaces for priming, using wax and grease remover.
14. Apply metal conditioner and water rinse.
15. Apply conversion coating and water rinse.
16. Apply the two-part epoxy primer.
17. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
18. Reprime over the seam sealer to complete the repair.


RFAC4240

19. After completing body repairs, carefully apply under coating to the front sidemember and wheelhouse.


RFAC4250

FRONT PILLAR AND APRON PANEL

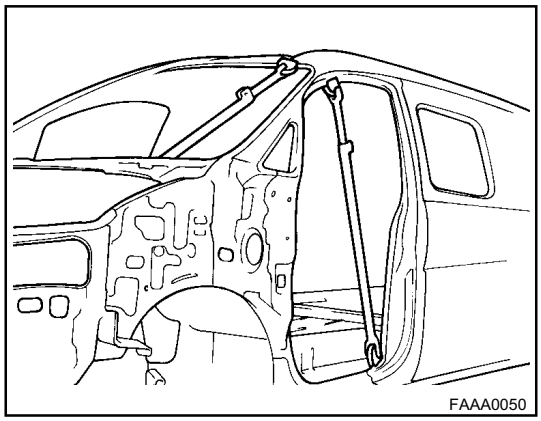


FAAA0010~0040

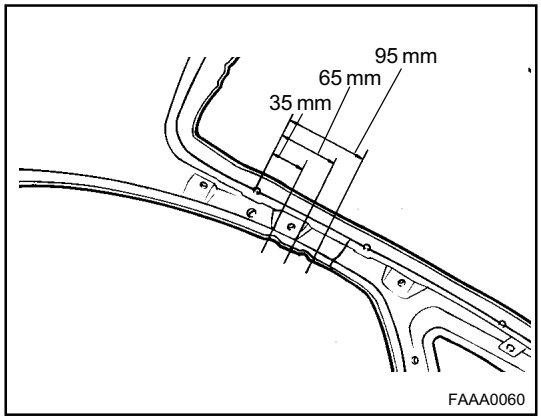
This book has been described on the basis of MIG plug weldings to the points which were spot-welded in production line. But, if necessary, either the MIG plug weldings or the spotweldings are able to be applied. Consider possible damage of old panel while detaching the welding points, the repairing time and the strength of the panel to be repaired. Then, select which type of welding is most appropriate to the repairing service.

REMOVAL

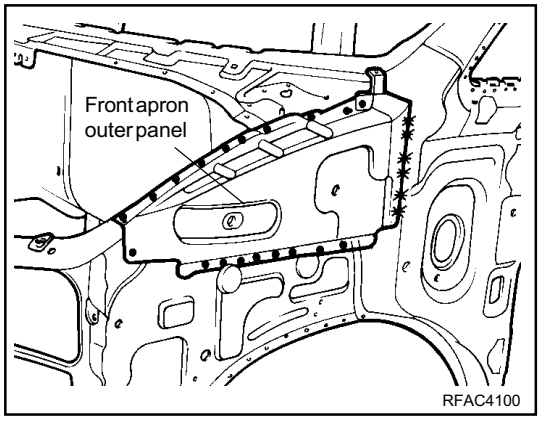
1. Before cutting front pillar, be sure to support roof panel.



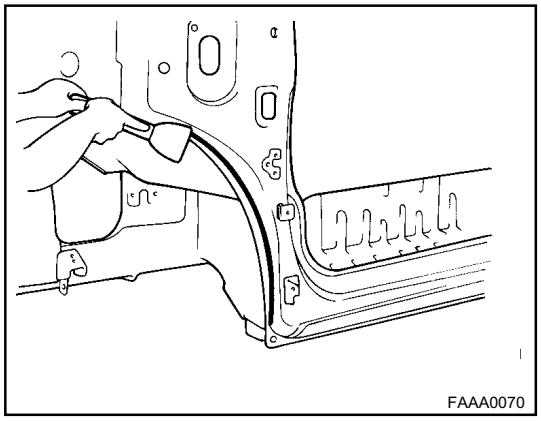
2. Measure and mark each cutline on the front pillar inner, front pillar outer and front pillar inner reinforcement from the location hole indicated in the illustration.



3. Drill out all spotwelds and grind away MIG lap welds from the front apron outer panel as shown in the illustration.



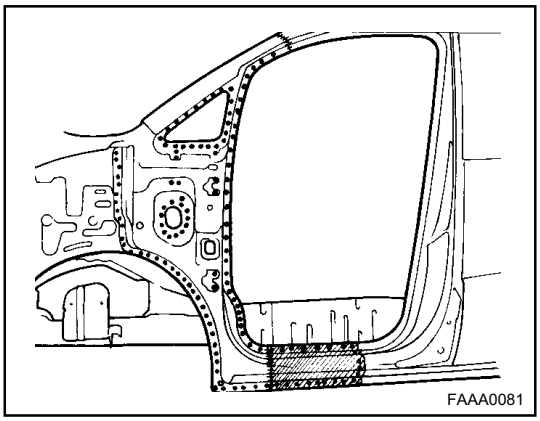
4. Before drilling out spotwelds, remove body sealant at front pillar outer panel.



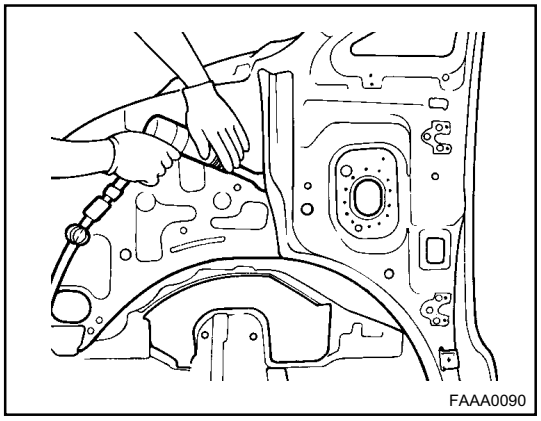
5. Drill out all spotwelds attaching the front pillar outer panel and reinforcement.

NOTE

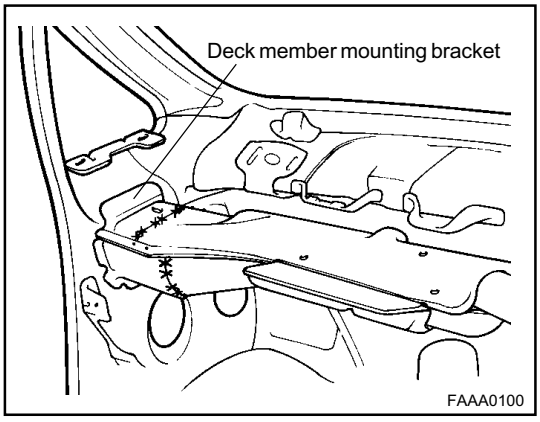
Depending on the extent of damaged area, it may be possible to determine the cutting range within indicated in the illustration.



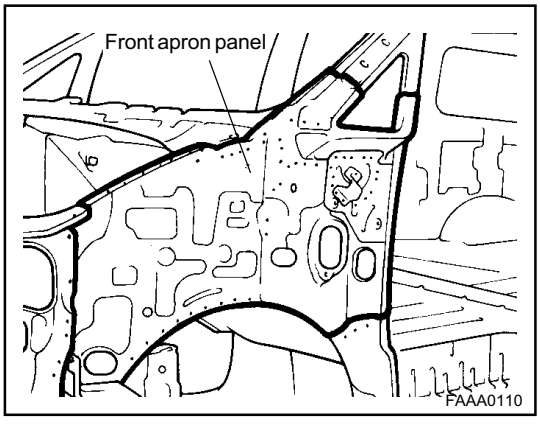
6. Remove the front pillar outer panel and front pillar reinforcement.



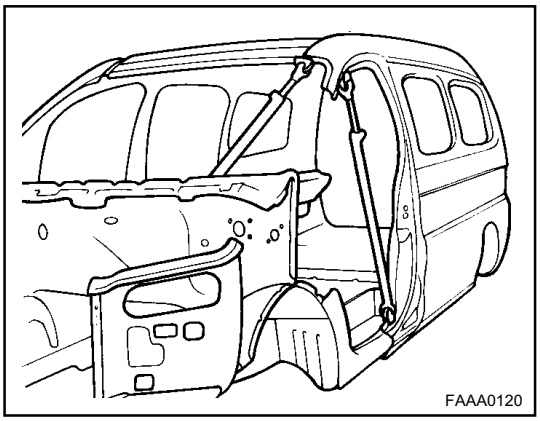
7. Drill out all the spotwelds and grind the MIG lap weld to the deck member mounting bracket.



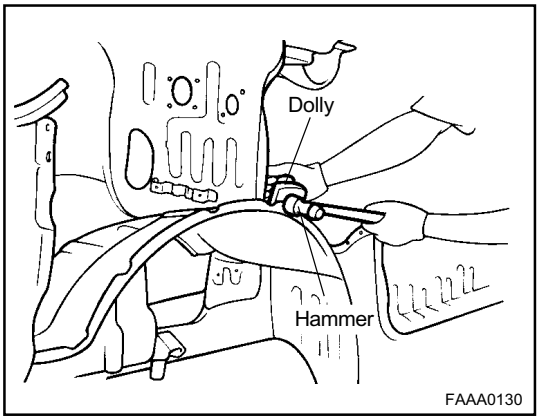
8. Drill out all spotwelds attaching the front apron panel.



9. Cut the front pillar through each cutline, taking care not to damage the other panel as illustration.


FAAA0120

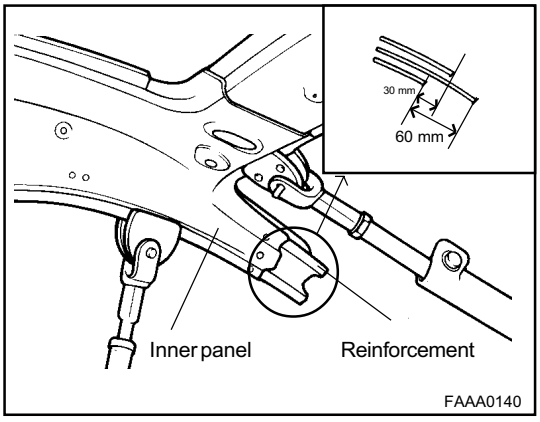
10. Using a hammer and dolly correct the flanges if they are bent or deformed when spotwelds are broken.
11. Prepare all surfaces to be welded.



FAAA0130

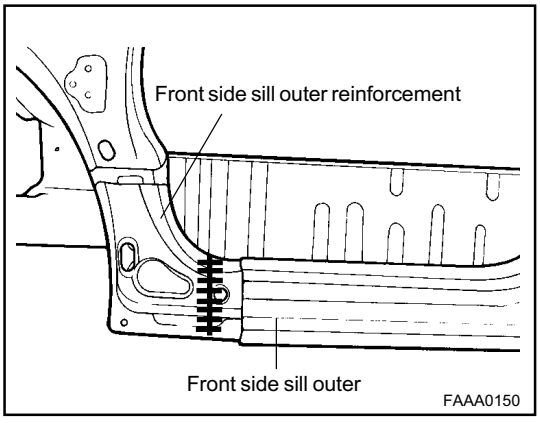
INSTALLATION

1. Cut the front pillar inner. Then cut the front pillar reinforcement at 60 mm away from the front pillar inner cutline.
   Cut the front pillar outer at 30 mm away from the front pillar reinforcement cutline as shown at the right illustration.



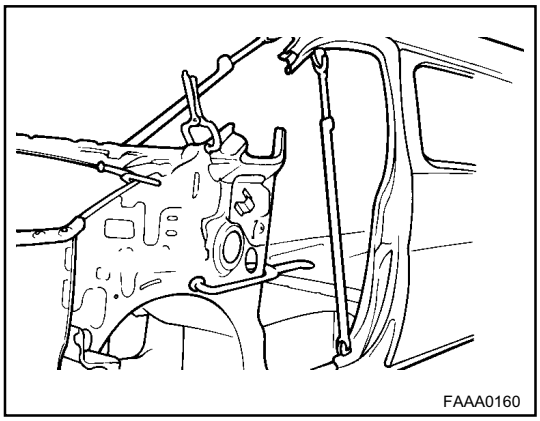
FAAA0140

2. Weld the front side sill outer reinforcement to the front side sill outer by applying MIG butt weldings at an interval of 20 mm.

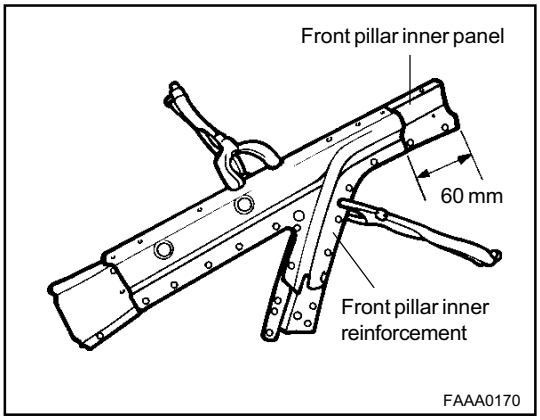


FAAA0150

3. Tamporarily install front apron panel.



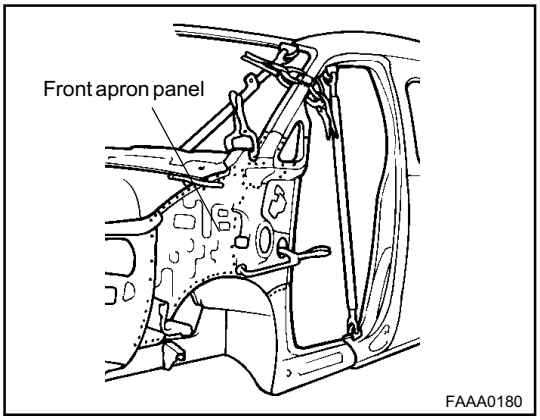
4. Tamporarily install front pillar inner panel and front pillar inner reinforcement.



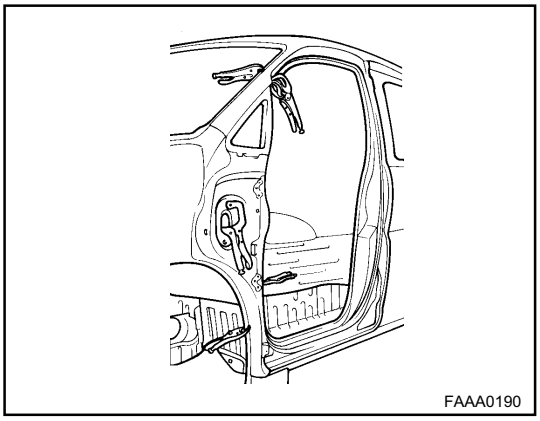
5. Perform MIG plug welding the front apron panel and MIG butt welding to the front pillar inner reinforcement.

NOTE

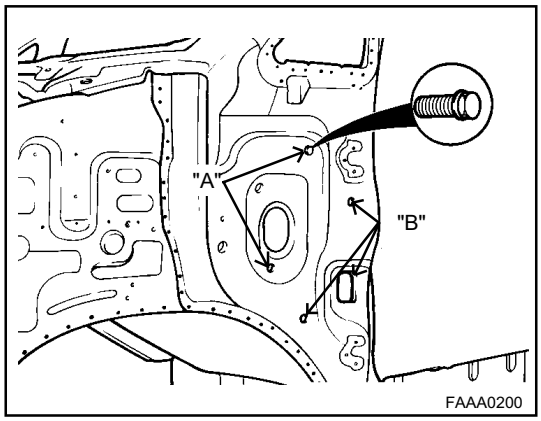
Grind the surface of MIG butt welding on the front pillar inner reinforcement.



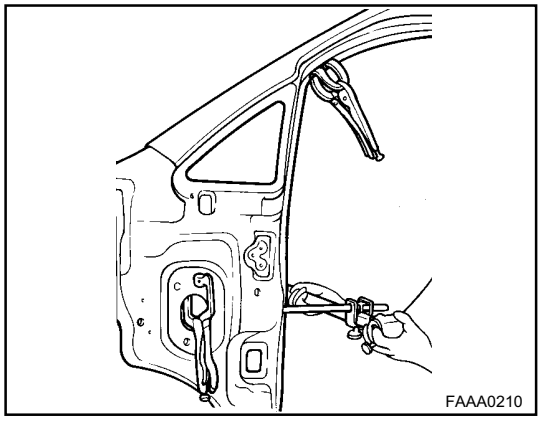
6. Temporarily install front pillar outer panel.



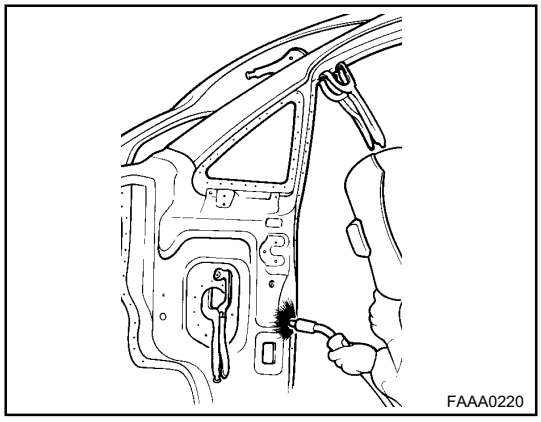
7. Cinfirm the installation status of front pillar inner panel and outer panel by checking the hole center at "A". Confirm the installation status of front pillar inner reinforcement and front pillar outer panel by checking the hole center at "B".



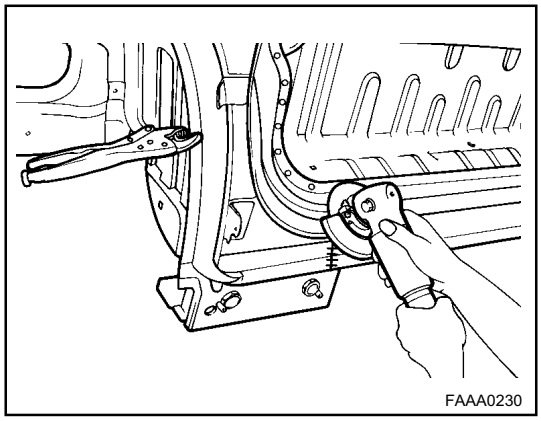
8. Measure each measuring point (Refer to the BODY DIMENSION) and correct the installation position.



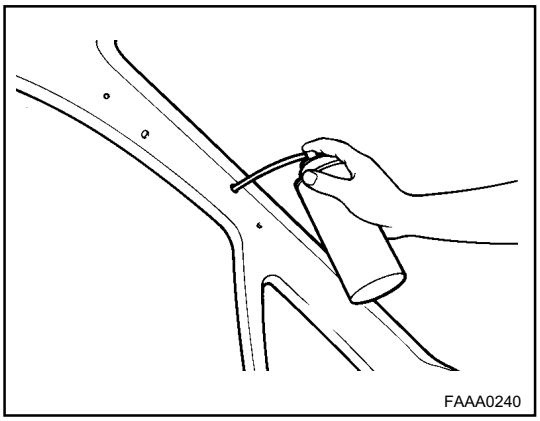
9. MIG plug weld all holes and MIG butt weld to the front pillar outer panel.



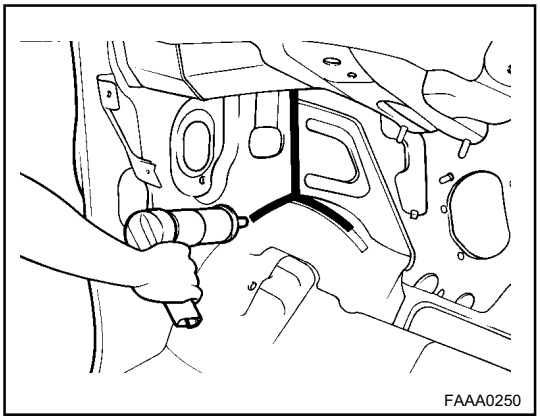
10. Clean and prepare all welds, removing all residue.



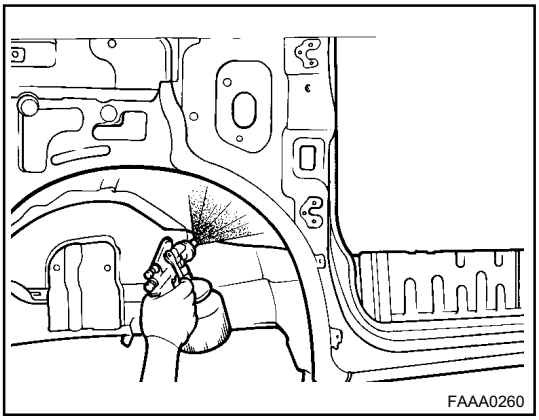
11. Apply body sealer to joints and sand as needed.
12. Apply the two-part epoxy primer to the interior of the front pillar.
13. Apply an anti-corrosion agent to the welded parts and inside of front pillar (Refer to the CORROSION PROTECTION).
14. Prepare exterior surfaces for priming, using wax and grease remover.
15. Apply metal conditioner and water rinse.
16. Apply conversion coating and water rinse.
17. Apply the two-part epoxy primer.


FAAA0240

18. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
19. Reprime over the seam sealer to complete the repair.

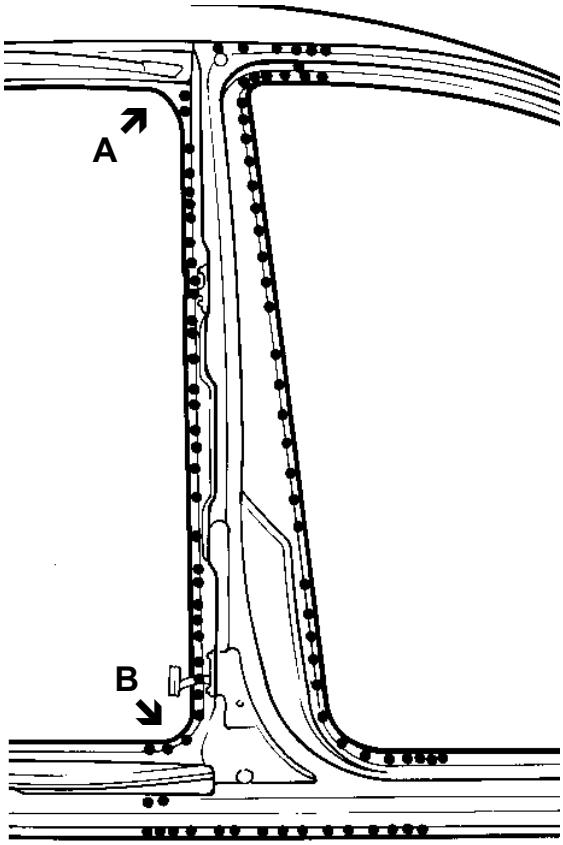

FAAA0250

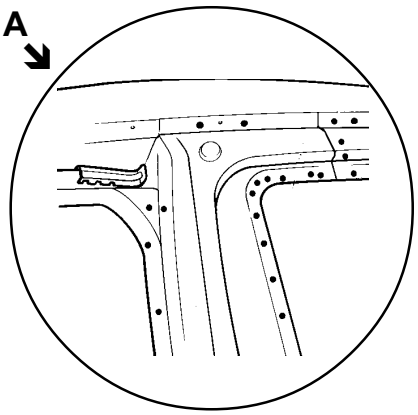
20. After completing body repairs, carefully apply under coating to the welded parts (Refer to the CORROSION PROTECTION).
21. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).

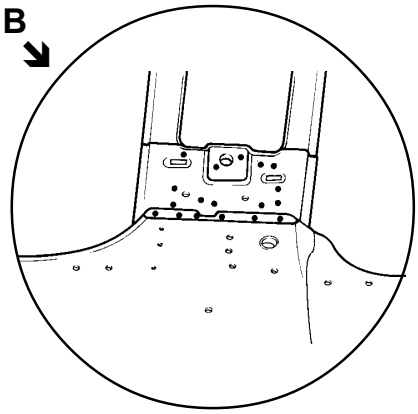

FAAA0260

CENTER PILLAR

WELDING POINTS





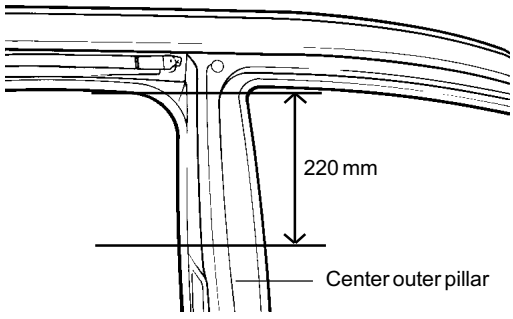


- ● **MIG plug welding or spot welding**
- **MIG butt welding**
- **MIG lap welding**

CPAC1010~1030

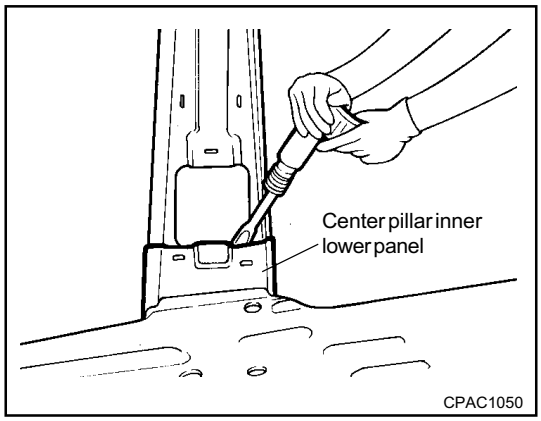
REMOVAL

1. Measure and mark the horizontal cutline on center outer pillar.



CPAC1040

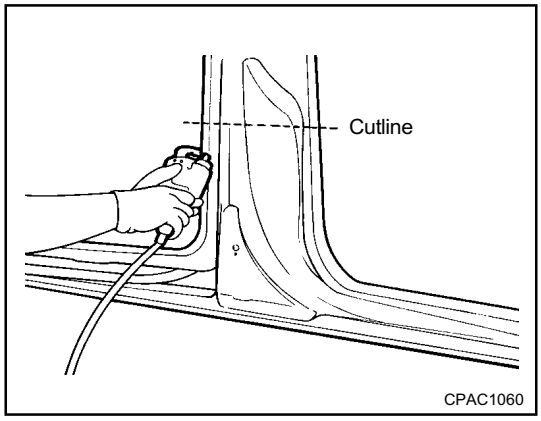
2. Drill out spotwelds attaching the center pillar inner panel from the center pillar inner lower panel.



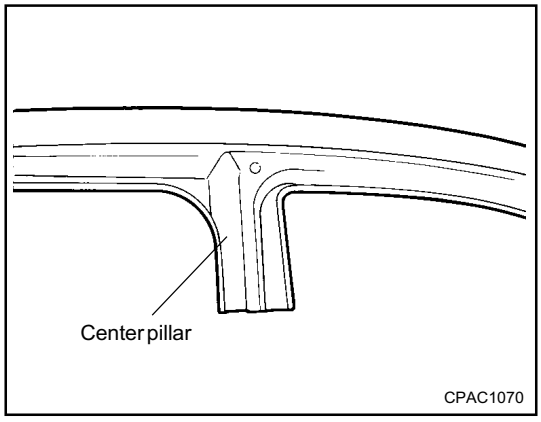
3. Drill out all spotwelds from the center pillar panel below the cutline.

NOTE

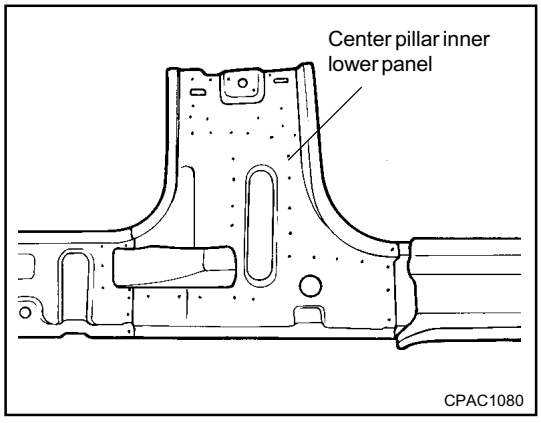
As shown in the illustration at step 6, the welding points of the center pillar lower panel are located inside the center pillar outer panel. So the welding points below the cutline should be drilled out.

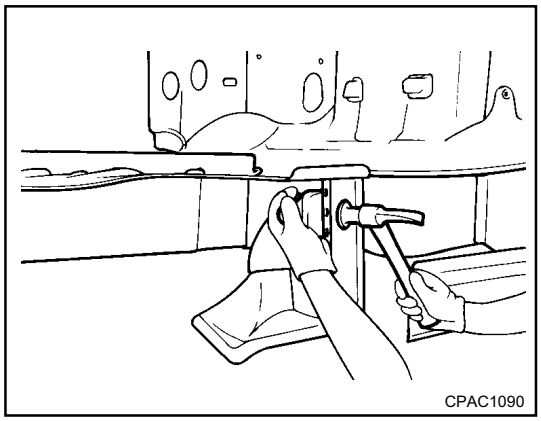


4. Cut through center pillar at cutline.
5. Remove the center pillar.



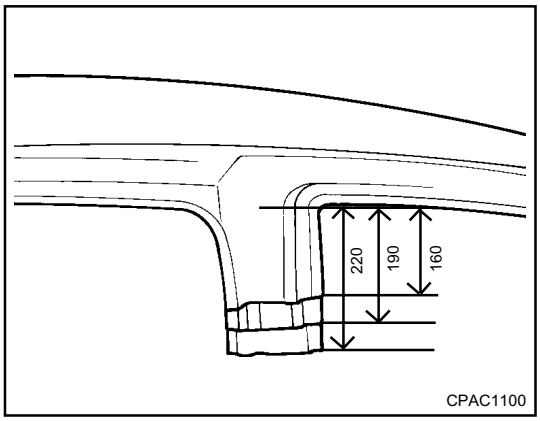
6. Remove the center pillar inner lower panel.
7. Prepare all surface to be welded.



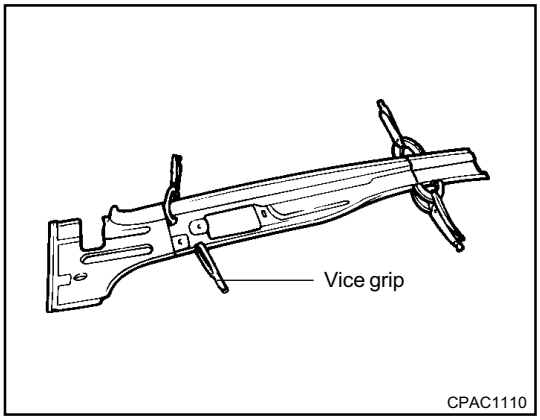


INSTALLATION

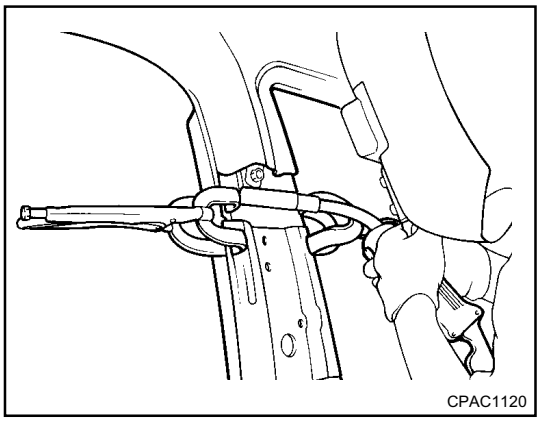
1. Cut the center pillar outer at 160 mm on the center pillar inner and reinforcement at 190 mm.

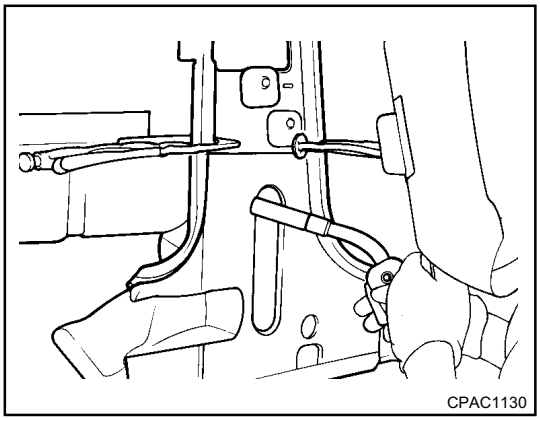


2. Attach the center pillar inner lower panel and the center pillar inner reinforcement to the center pillar inner panel with vice grips.

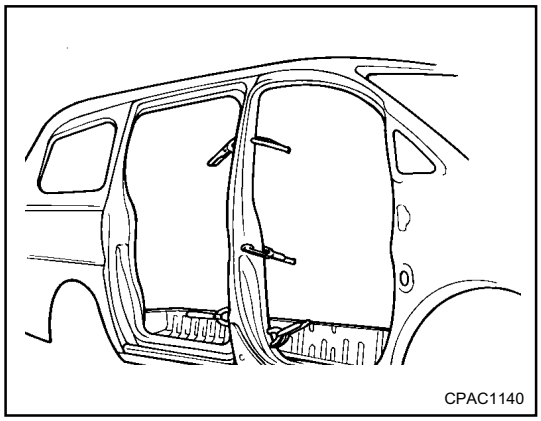


3. Perform MIG butt welding for the center pillar inner panel and reinforcement. Then perform MIG plug welding to the center pillar inner lower panel.

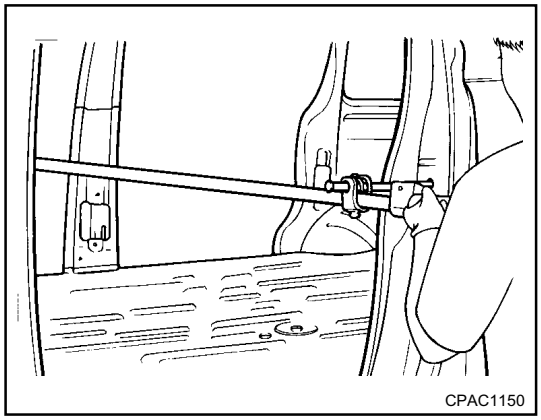




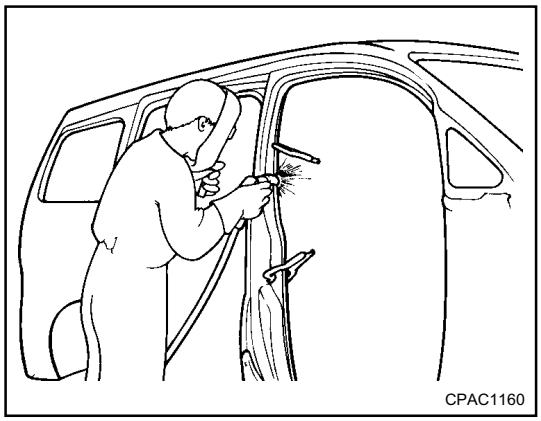
4. Temporarily install center pillar outer panel.


CPAC1140

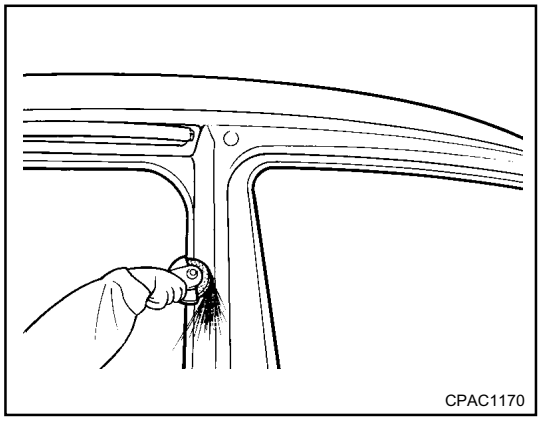
5. Measure each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.
6. If necessary, make temporary welds, and then check to confirm that the closing and fit for front door and rear door are correct.


CPAC1150

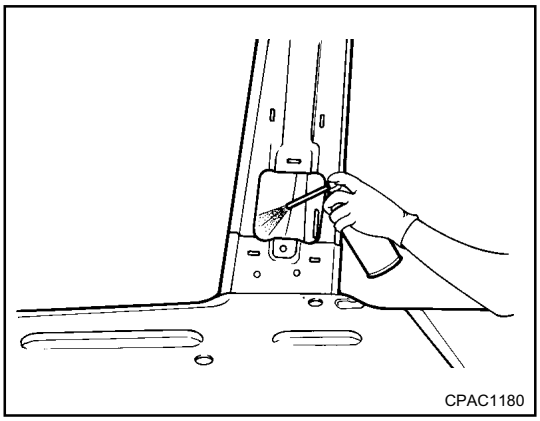
7. MIG plug weld and spotweld all holes.
8. MIG butt weld at center outer pillar.


CPAC1160

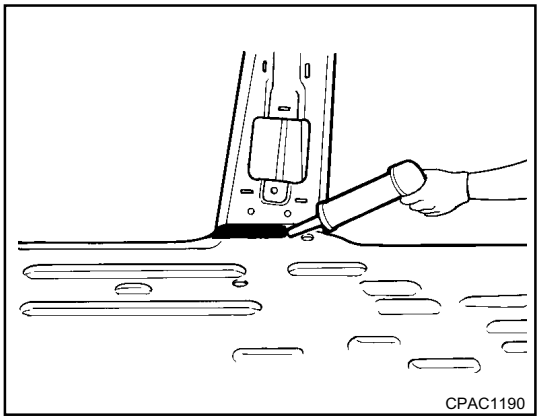
9. Clean and prepare all welds, removing all residue.
10. Apply body filler to joints and sand as needed.
11. Apply the two-part epoxy primer to the interior of the center pillar.


CPAC1170

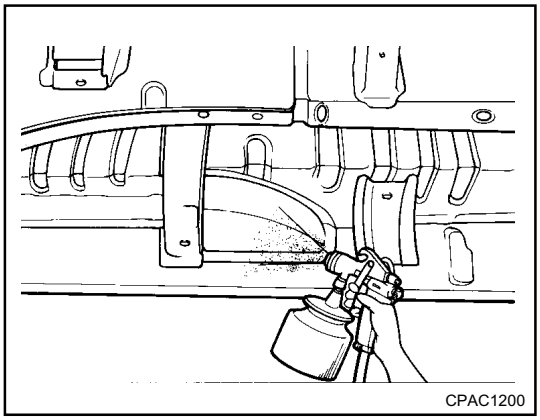
12. Apply an anti-corrosion agent to the welded parts and inside of the center pillar.
13. Prepare exterior surfaces for priming, using wax and grease remover.
14. Apply metal conditioner and water rinse.
15. Apply conversion coating and water rinse.
16. Apply the two-part epoxy primer.


CPAC1180

17. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
18. Reprime over the seam sealer to complete the repair.

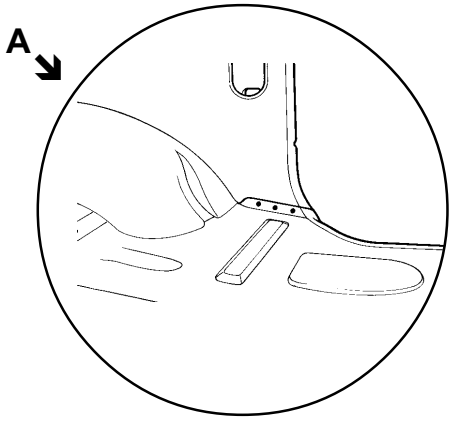

CPAC1190

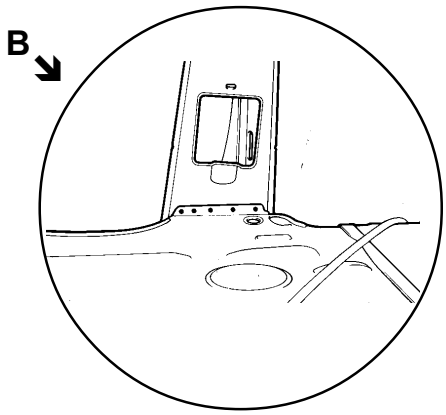
19. After completing body repairs, carefully apply under coating to the welded parts (Refer to the CORROSION PROTECTION).
20. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).

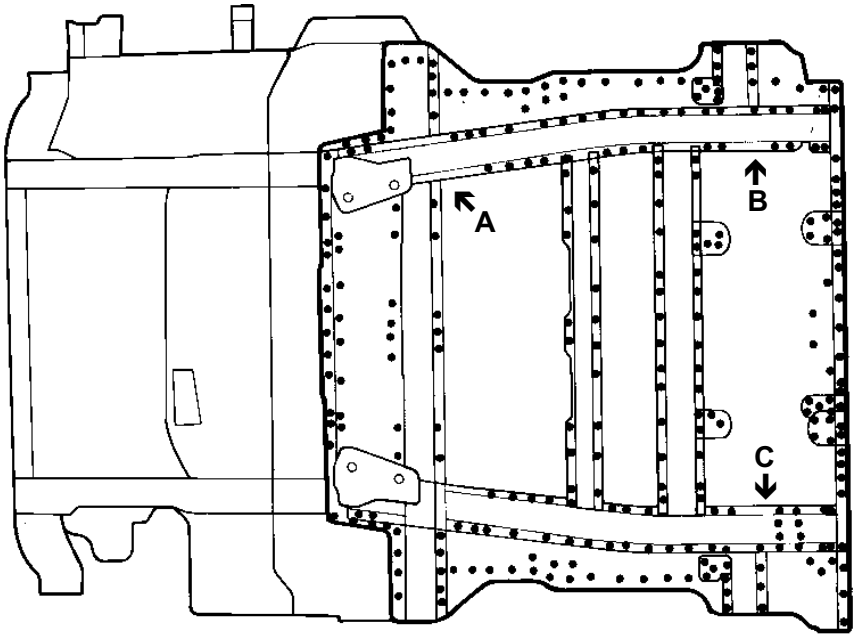

CPAC1200

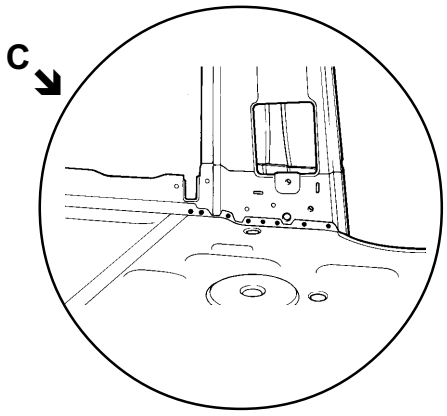
CENTER FLOOR

WELDING POINTS







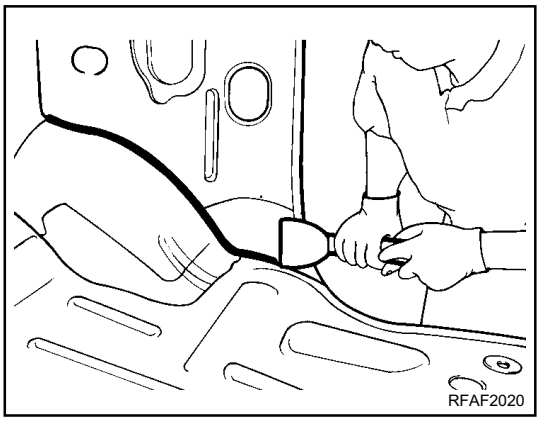


● MIG plug welding or spot welding
MIG butt welding
MIG lap welding

RFAF2010~2013

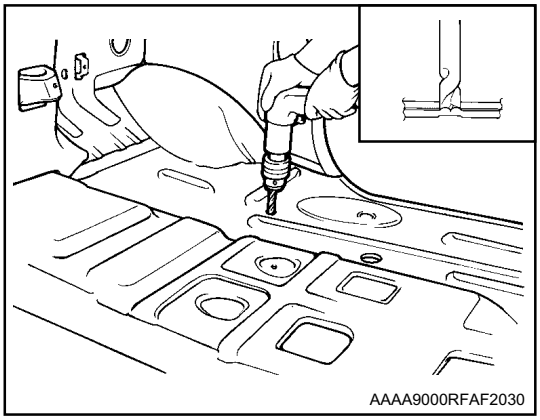
REMOVAL

1. Before drilling out spotwelds, remove body sealant and silencer pad from the center floor.

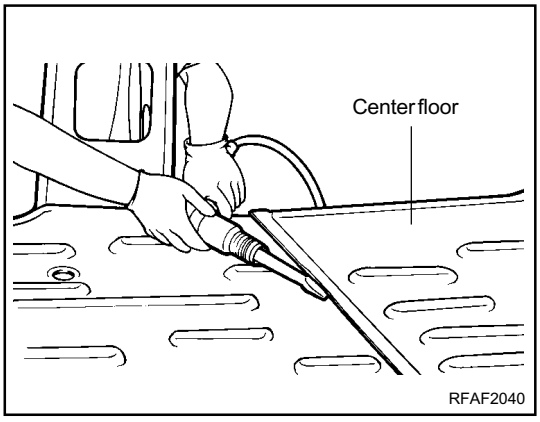


2. Drill out all spotwelds attaching the center floor to the body.

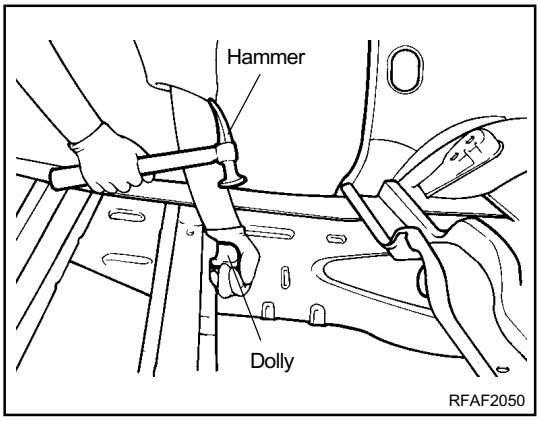
   NOTE
   Drill the outer panel with a spot cuttor so as not to damage the members.



3. Remove the center floor.

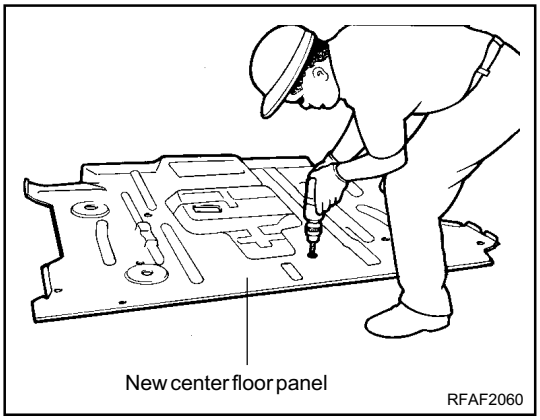


4. Using a hammer and dolly correct any flange that become bent or deformed when spotwelds are broken.

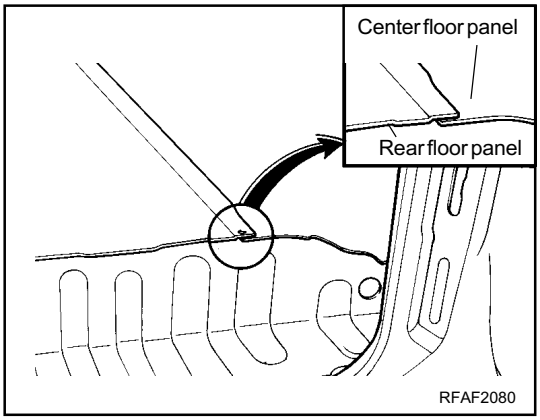


INSTALLATION

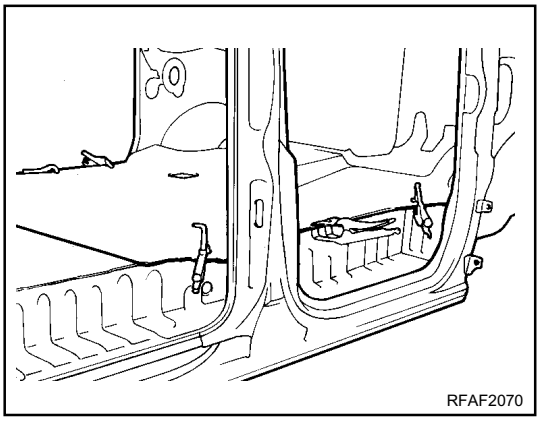
1. Drill 8 mm holes in production location of the new center floor panel for MIG plug welding.



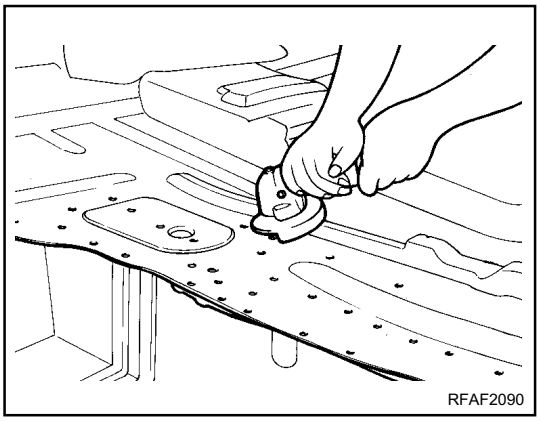
2. Overlap the center floor panel and the rear floor panel as shown in the illustration.



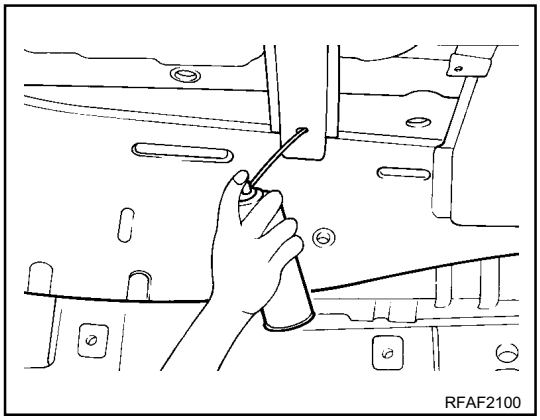
3. Fit and clamp the center pillar panel and attach the center floor panel to the front step panel and other panels.



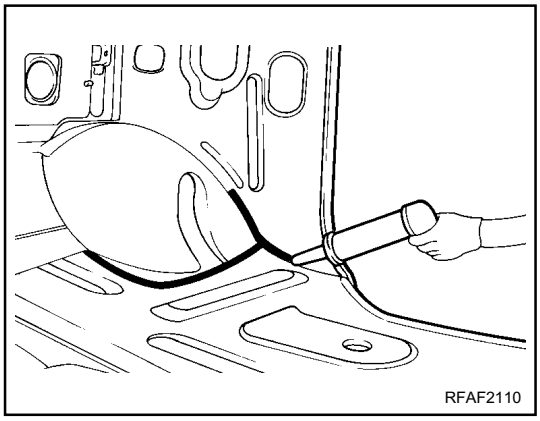
4. MIG plug weld all holes.
5. Clean and prepare all welds, removing all residue.



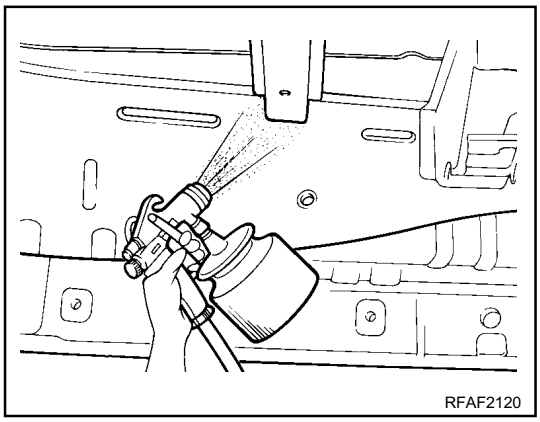
6. Apply the two-part epoxy primer to the interior of the front sidemember and other parts.
7. Apply an anti-corrosion to the interior of the welded front sidemember and other parts (Refer to the CORROSION PROTECTION).
8. Prepare exterior surfaces for priming, using wax and grease remover.
9. Apply metal conditioner and water rinse.
10. Apply the two-part epoxy primer.


RFAF2100

11. Apply the correct seam sealer to all joints (Refer to the BODY SEALING LOCATIONS).
12. Reprime over the seam sealer to complete the repair.

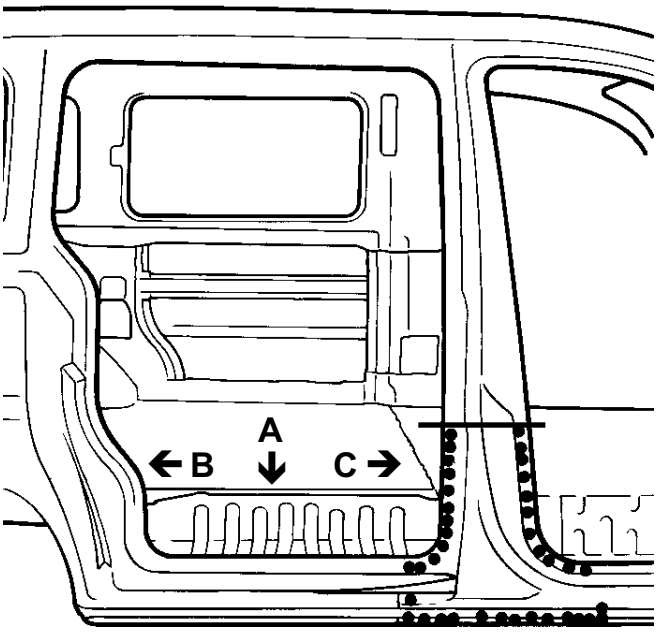

RFAF2110

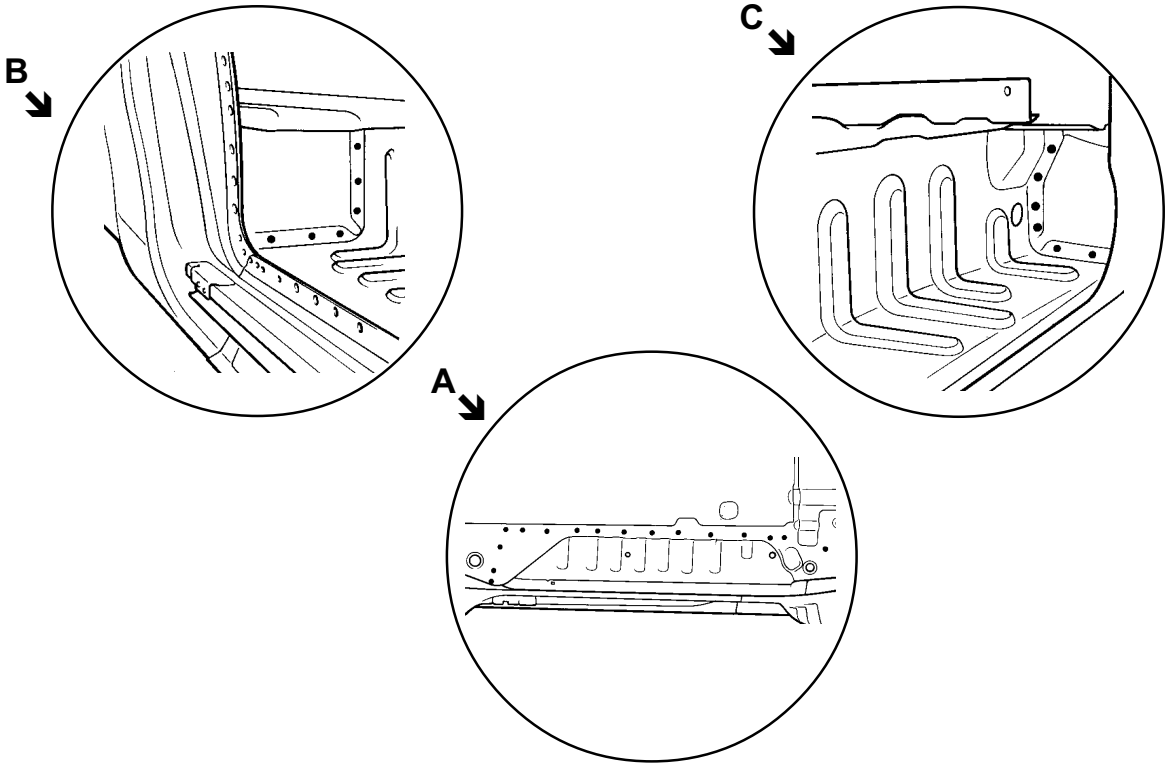
13. After completing body repairs, carefully apply under coating to the under body (Refer to the CORROSION PROTECTION).
14. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).


RFAF2120

REAR STEP PANEL

WELDING POINTS



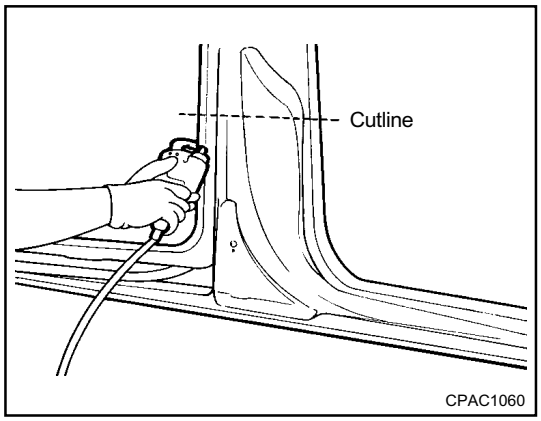


● MIG plug welding or spot welding
MIG butt welding
MIG lap welding

PSAS0010~0040

REMOVAL

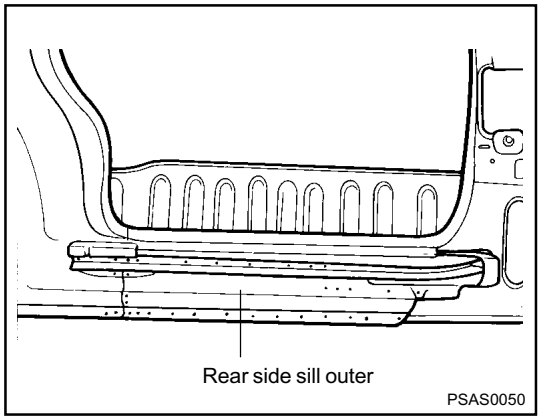
1. Drill out all spotwelds attaching the center pillar outer panel below cutline.



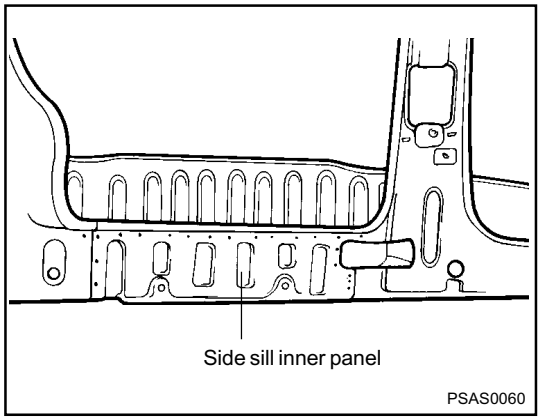
NOTE

It is convenient to install if remove welding points only from the outer panel with a spot cutter without puncturing the inner panel.

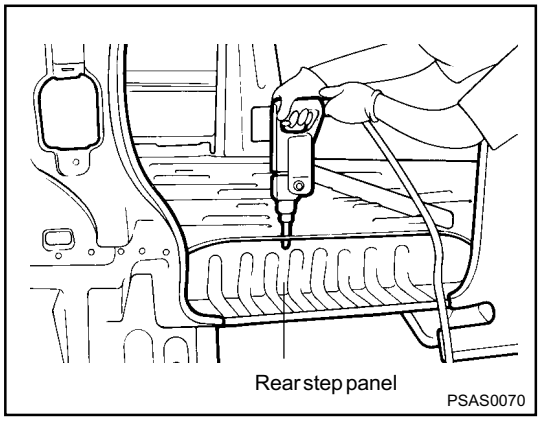
2. Drill out all spotwelds attaching the rear side sill outer panel and lower rail to the body.
3. Remove the rear side sill outer and lower rail.



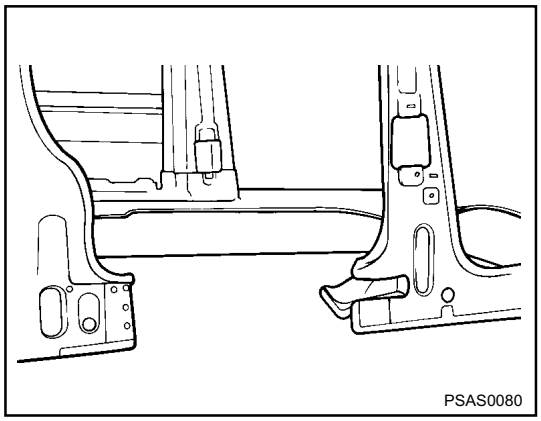
4. Drill out all spotwelds attaching the side sill inner panel to the body to remove side sill inner.



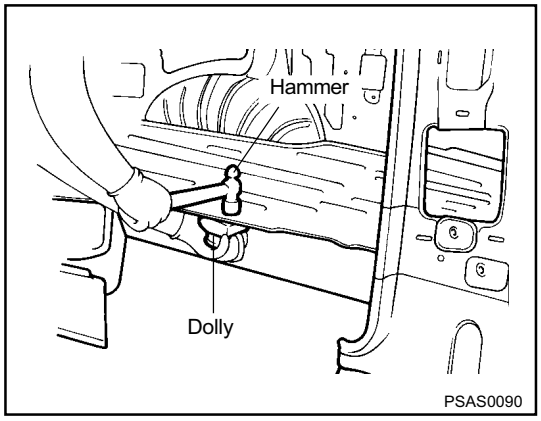
5. Drill out all spotwelds attaching the rear step panel to the body.



6. Remove the rear step panel.

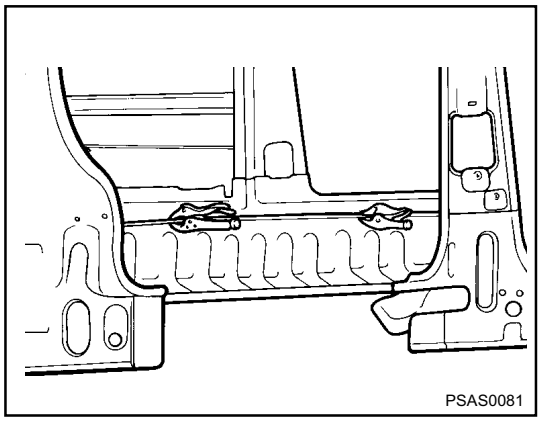


7. Grind and smooth any weld traces which might be left on the body surface by using an air grinder or similar tool, being careful not to damage any of the panels which is not to be replaced.
8. Using a hammer and a dolly, correct any flanges that become bent or deformed when spotwelds are broken.

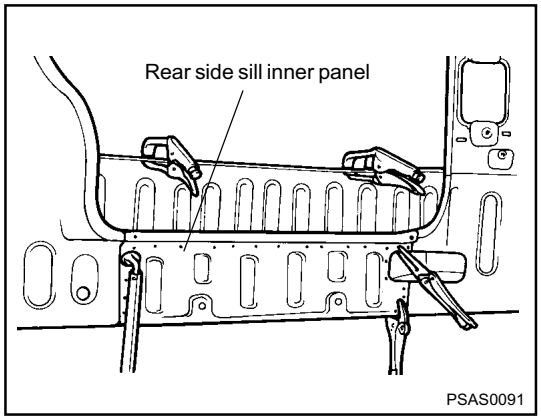


INSTALLATION

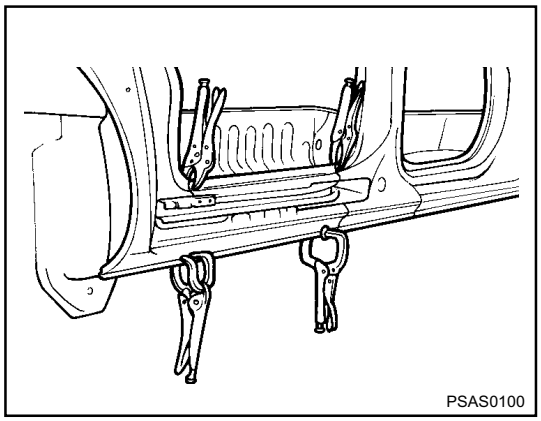
1. Fit and clamp the rear step panel in place for temporary welding.



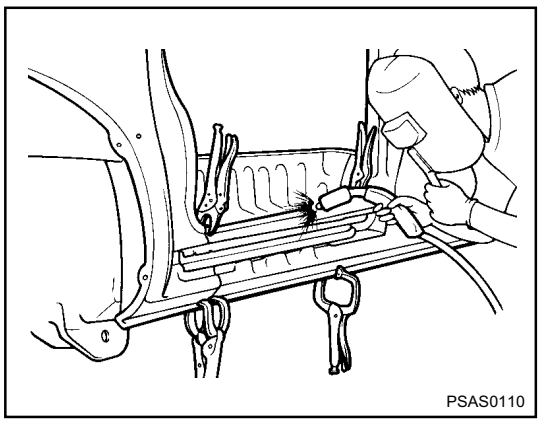
2. Fit and clamp the rear side sill inner panel in place for welding



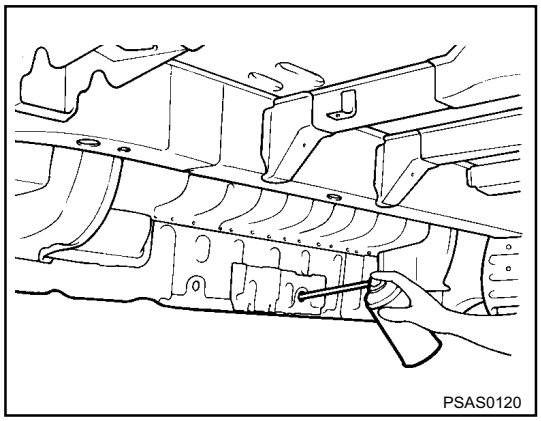
3. If necessary, make temporary welds to the rear side sill outer panel and center pillar outer panel, and then check to confirm that the closing and fit for door are correct.



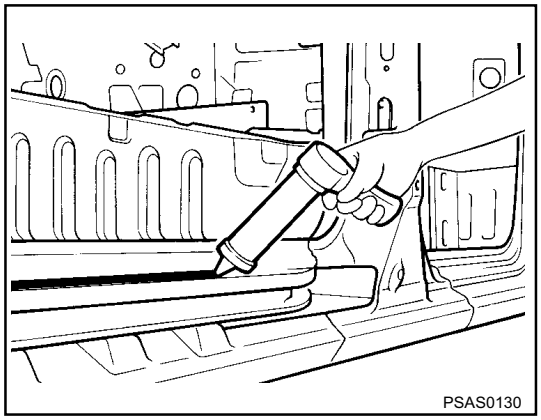
4. MIG plug weld all holes.
5. Clean and prepare all welds, removing all residue.
6. Apply the two-part epoxy primer to the interior of rear step panel.



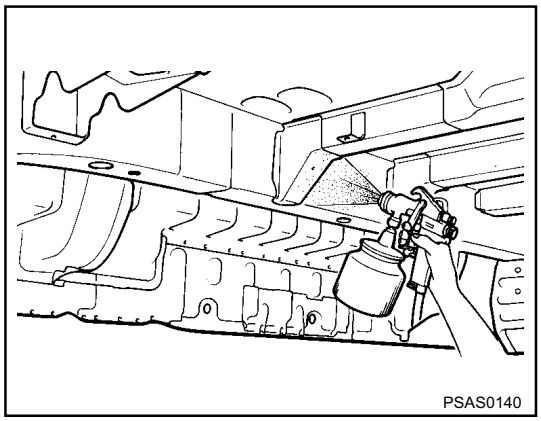
7. Apply an anti-corrosion agent as required.
8. Prepare exterior surfaces for priming, using wax and grease remover.
9. Apply metal conditioner and water rinse.
10. Apply conversion coating and water rinse.
11. Apply the two-part epoxy primer.


PSAS0120

12. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
13. Reprime over the seam sealer to complete the repair.


PSAS0130

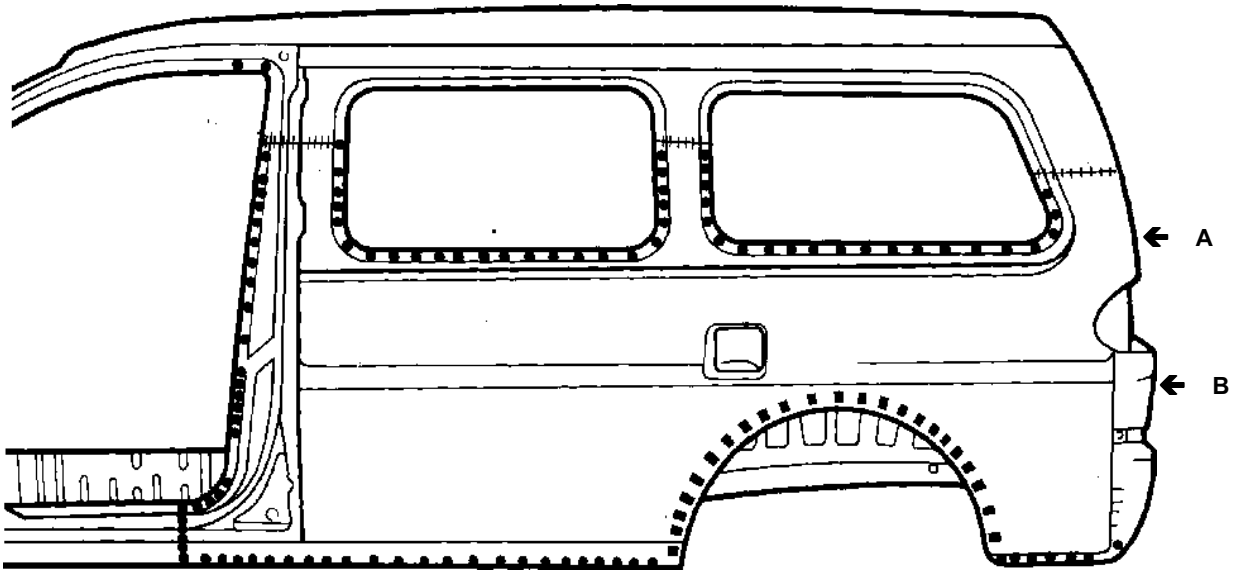
14. After completing body repairs, carefully apply under coating to the welded parts (Refer to the CORROSION PROTECTION).
15. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).


PSAS0140

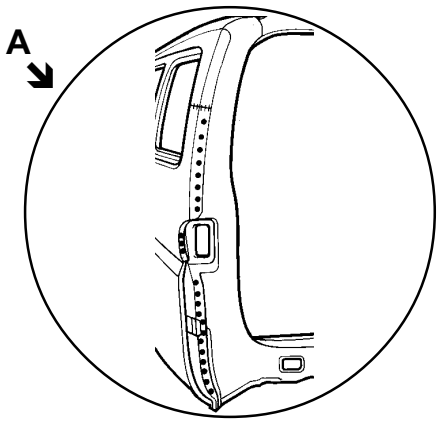
QUARTER OUTER PANEL

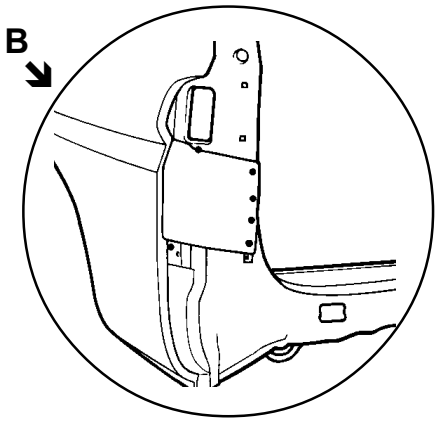
SHORT BODY (LH)

WELDING POINTS



QSAQ2010





■,● Spot welding or MIG plug welding

MIG butt weldling

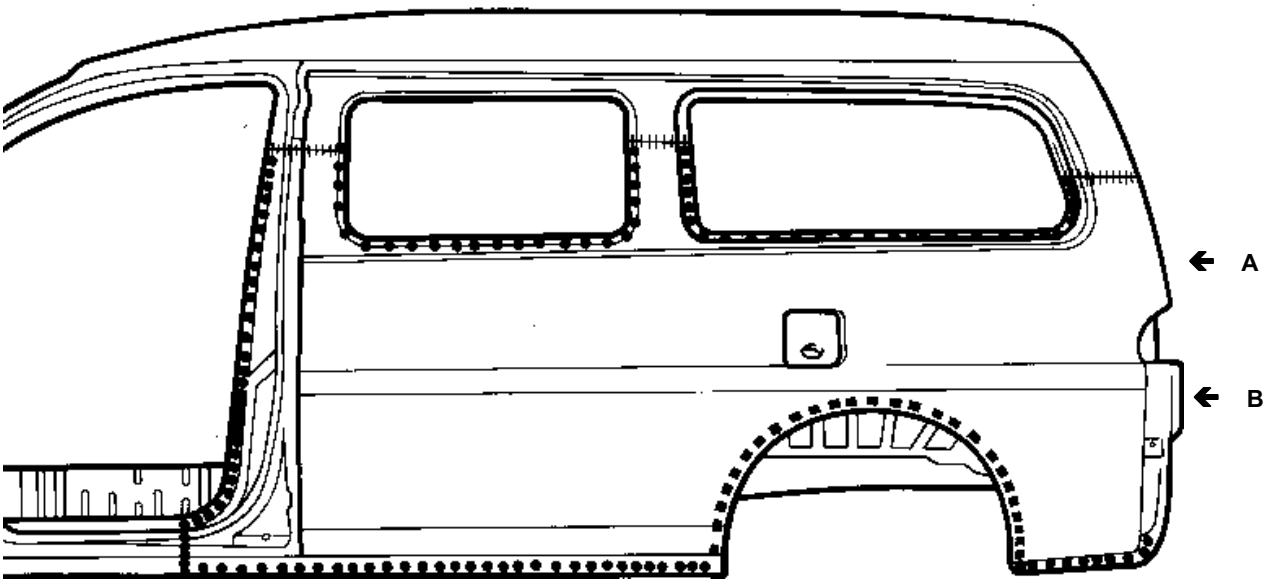
QSAQ2020

QSAQ2030

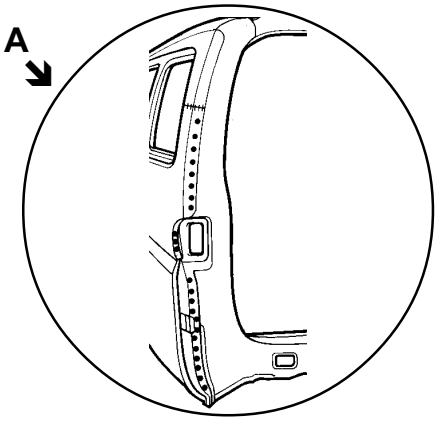
QUARTER OUTER PANEL

LONG BODY (LH)

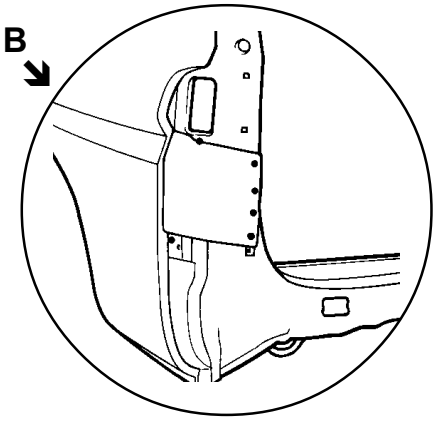
WELDING POINTS



QSAQ2040



QSAQ2020



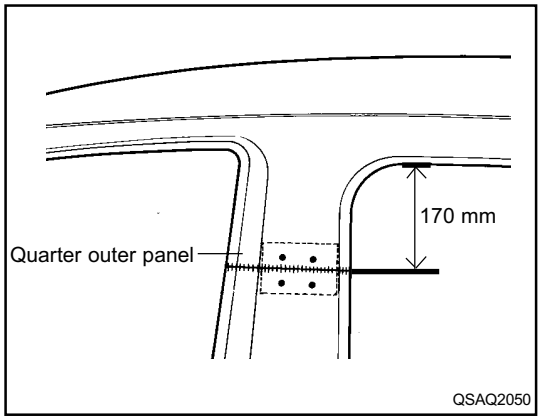
QSAQ2030

■,● Spot welding or MIG plug welding

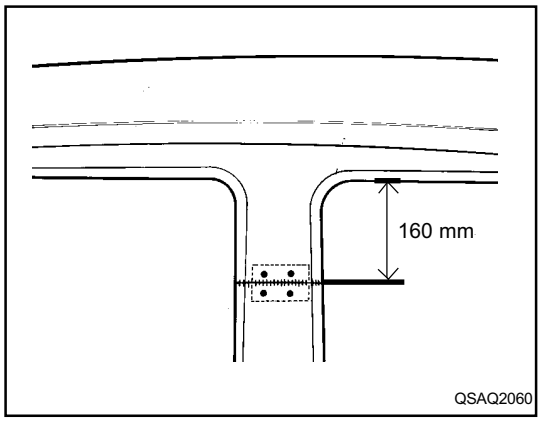
MIG butt weldling

REMOVAL

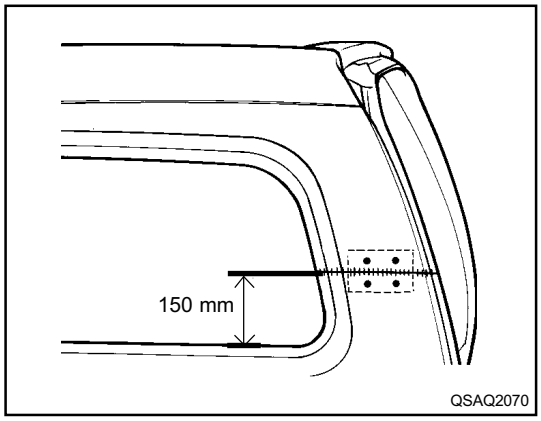
1. Depending on the extent of damage, measure and mark cutline on the quarter outer panel 170 mm downward from the rear window LH glass upper line as illustration.



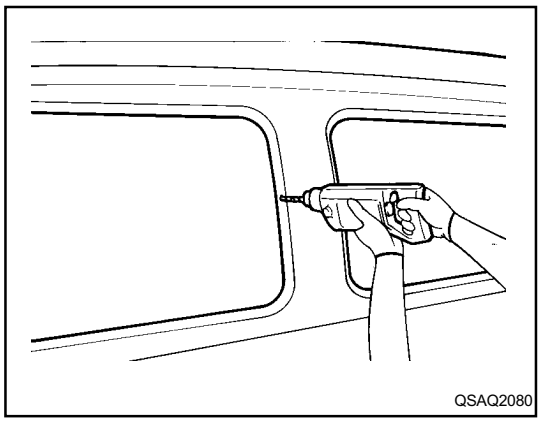
2. Measure and mark cutline on the quarter outer panel 160 mm downward from the quarter window LH glass upper line as illustration.



3. Measure and mark cutline on the quarter outer panel 150 mm upward from the quarter window LH glass lower line as illustration.

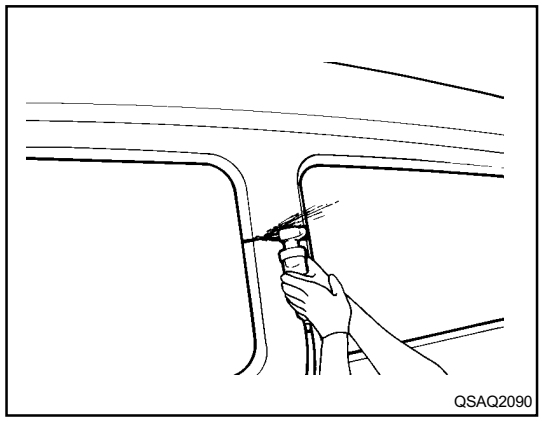


4. Drill out all spotwelds attaching the quarter outer panel to the inner panel below cutlines.

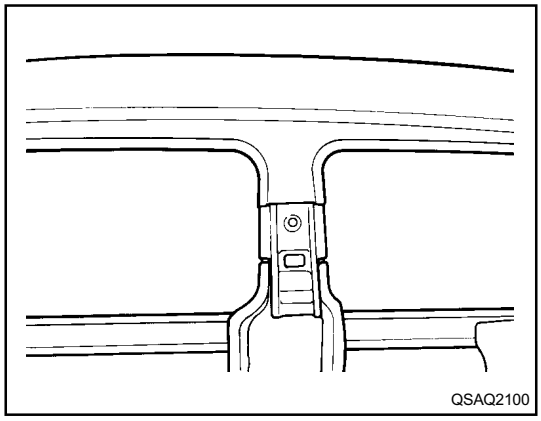


5. Cut quarter outer panel along cutlines to remove quarter outer panel.

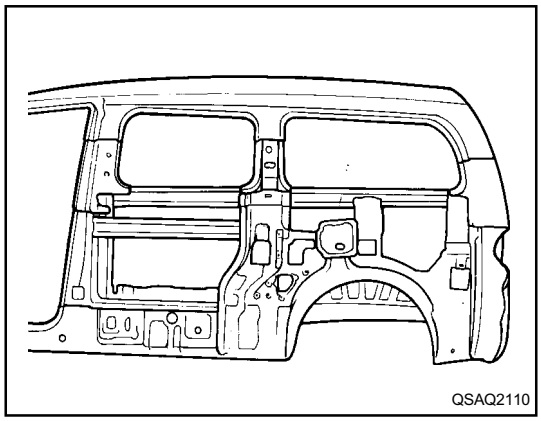
NOTE
1) Becareful not to cut quarter inner panel.


QSAQ2090

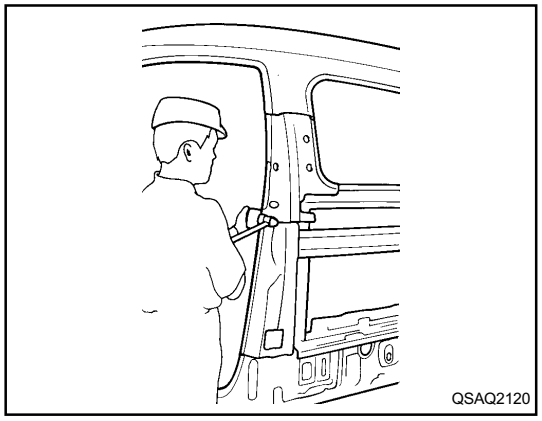
2) When cutting "C" outer pillar (Left side), be careful not to cut reinforcement panel as illustration.


QSAQ2100

6. Remove quarter outer panel.

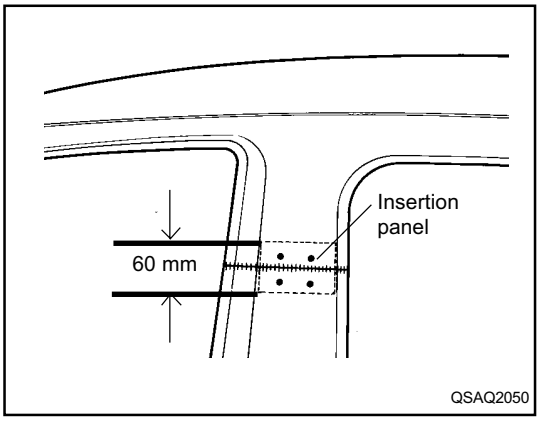

QSAQ2110

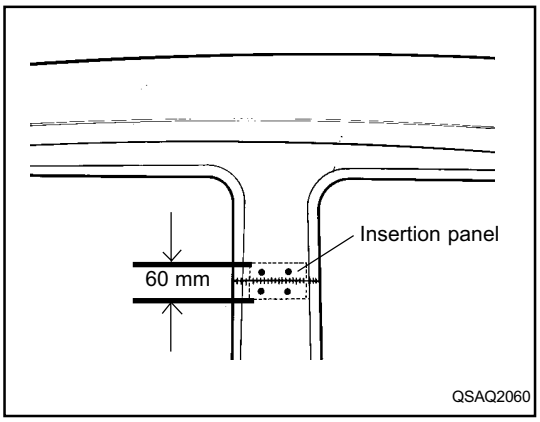
7. Prepare all surfaces to be welded.

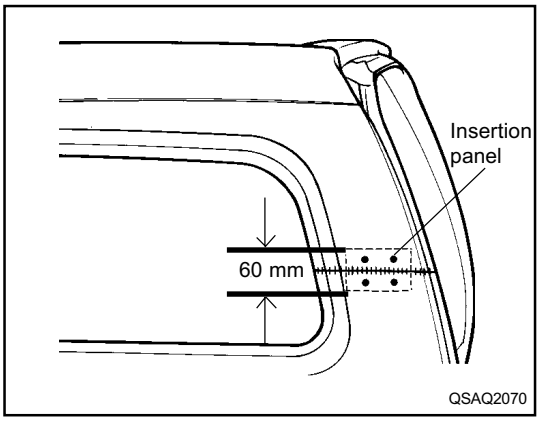

QSAQ2120

INSTALLATION

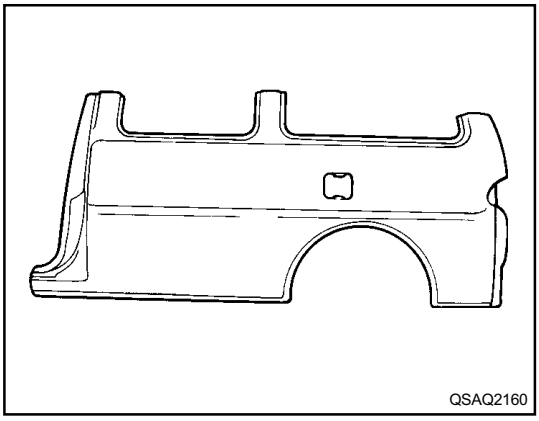
1. Measure and mark guide lines 30 mm upward and downward from "B" pillar outer panel, "C" pillar outer panel and "D" pillar outer panel cutlines.
2. Drill 8 mm holes where the insertion panel to be installed.
3. Make an insertion panel with 60 mm width from unused portion of the panel.
4. Fit and clamp the insertion panel in place for welding.
5. MIG plug weld the insertion panel.



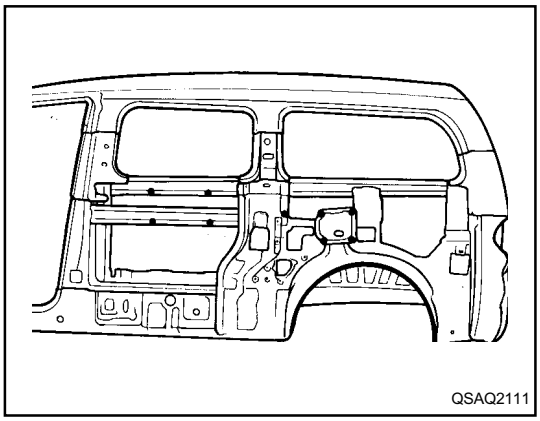




6. Transcribe the cutline to the new quarter outer panel, cut to length and chamfer butt end to improve weld surface.
7. Drill 8 mm holes in production locations along outer panel flanges and insertion panel for attachment to other panels.



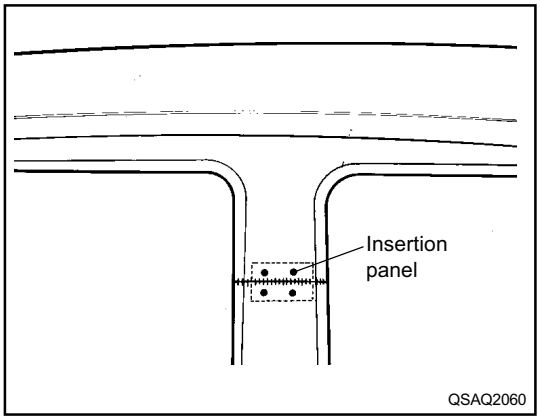
8. Apply a coating of silicon rubber sealer and body sealant at places indicated in the illustration.



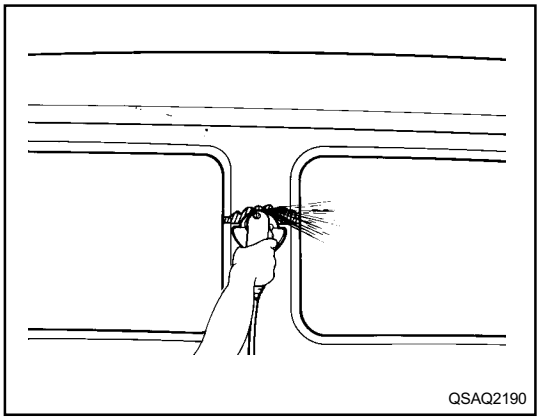
9. Fit and clamp the quarter outer panel in place.
10. MIG plug weld all holes and MIG butt weld seams. Spot weld at the wheel well.

NOTE
In order to prevent distortion caused by the welding heat, make the welds alternately at regular intervals.

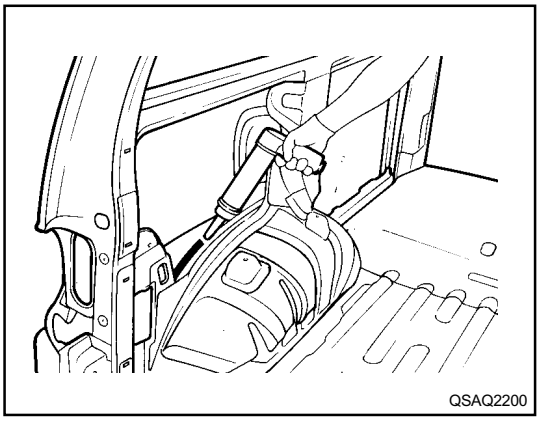
11. Clean and prepare all welds, removing all residue.
12. Apply body filler to the welded seam. Sand and finish.



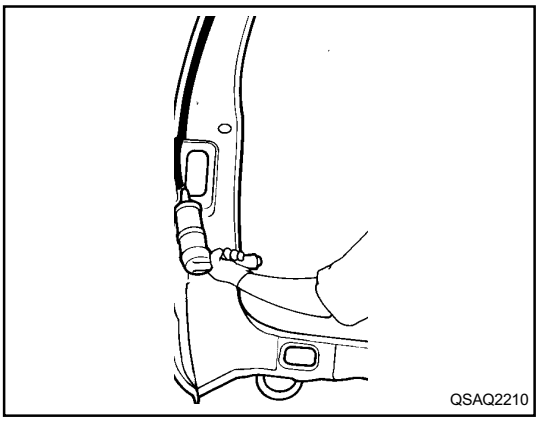
13. Apply the two-part epoxy primer to the interior of the quarter outer panel.



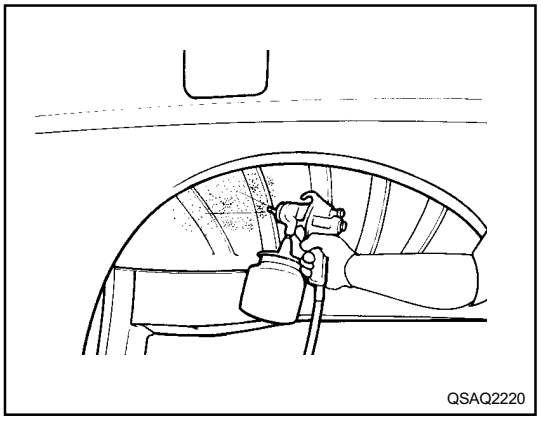
14. Apply anti-corrosion agent to the welded parts and interior of the quarter outer panel (Refer to the CORROSION PROTECTION).
15. Prepare exterior surfaces for priming, using wax and grease remover.
16. Apply metal conditioner and water rinse.
17. Apply conversion coating and water rinse.
18. Apply the two-part epoxy primer.



19. Apply the correct seam sealer to all joints.
20. Reprime over the seam sealer to complete the repair. (Refer to the BODY SEALING LOCATIONS).


QSAQ2210

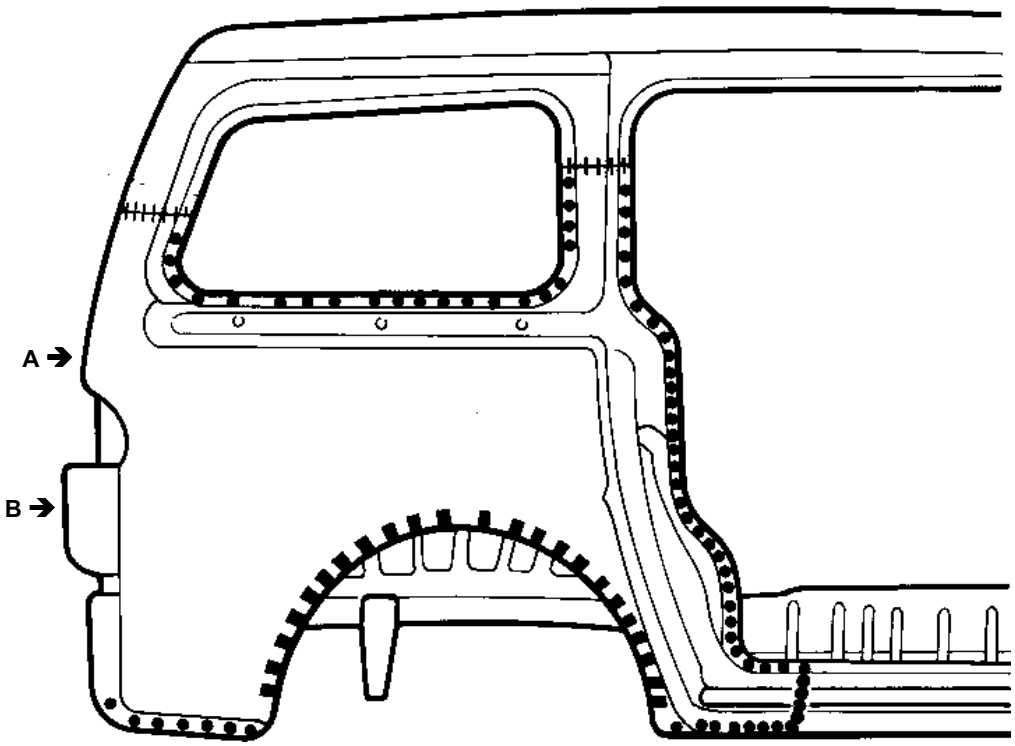
21. After completing body repairs, carefully apply under coating to the wheel well (Refer to the CORROSION PROTECTION).
22. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the wheel well (Refer to the CORROSION PROTECTION).


QSAQ2220

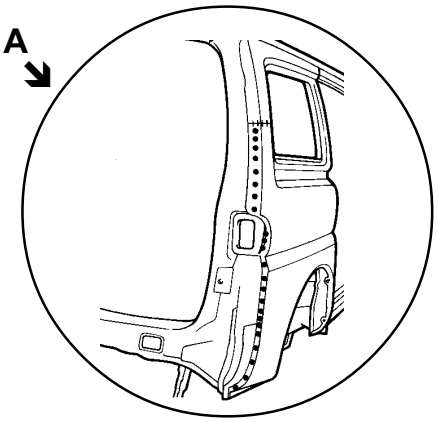
QUARTER OUTER PANEL

SHORT BODY (RH)

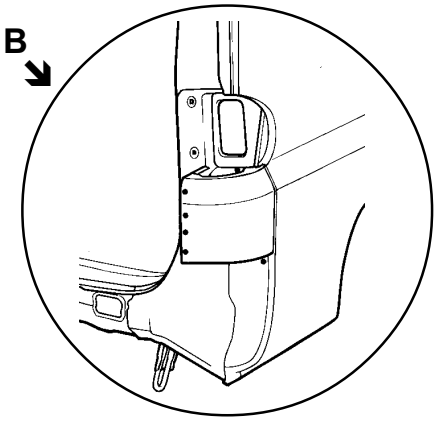
WELDING POINTS



QSAQ2230



QSAQ2240

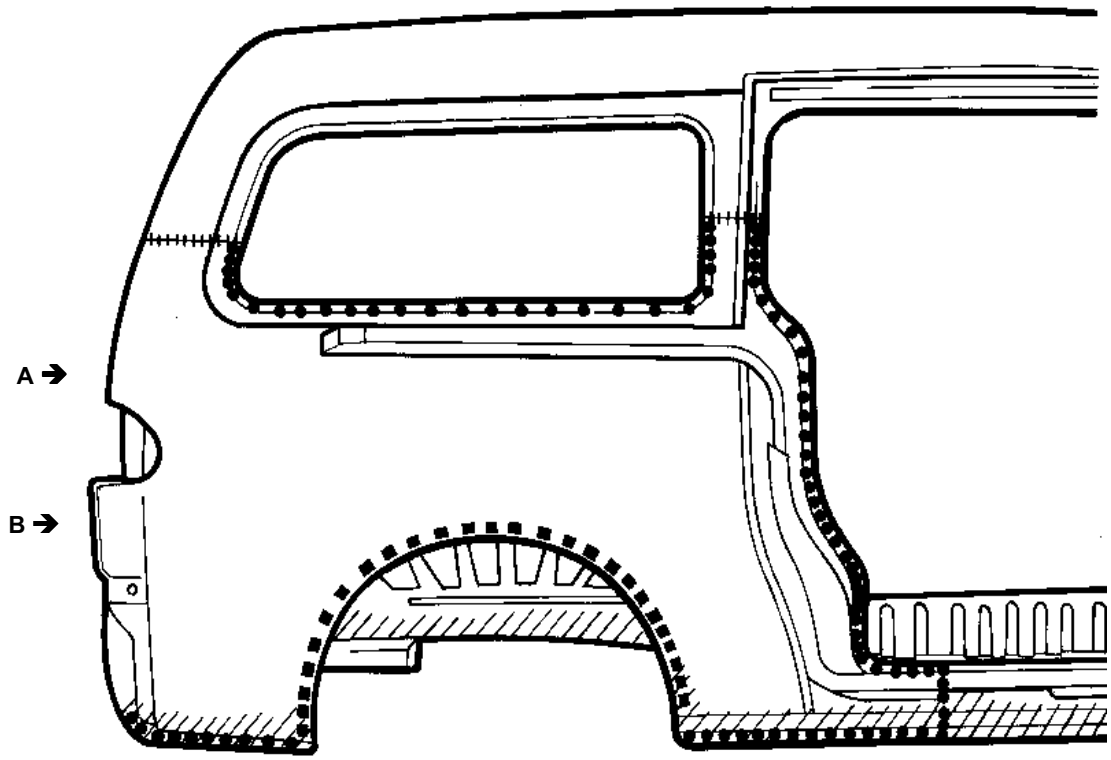


QSAQ2250

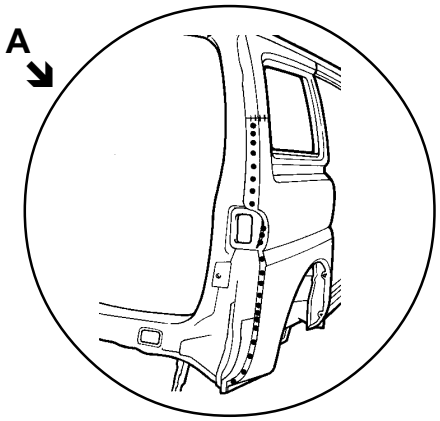
QUARTER OUTER PANEL

LONG BODY (RH)

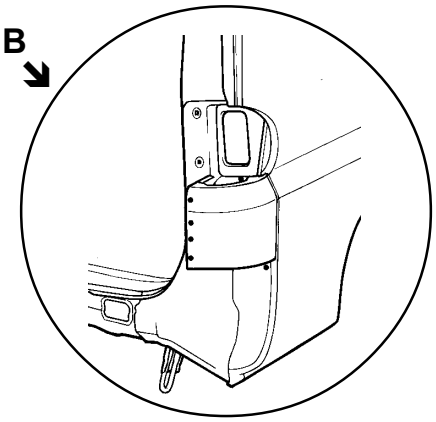
WELDING POINTS



QSAQ2260



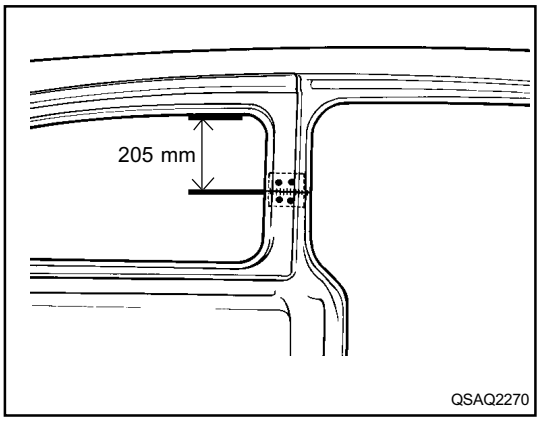
QSAQ2240



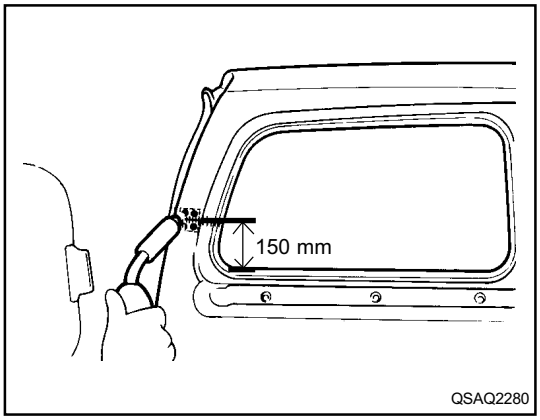
QSAQ2250

REMOVAL

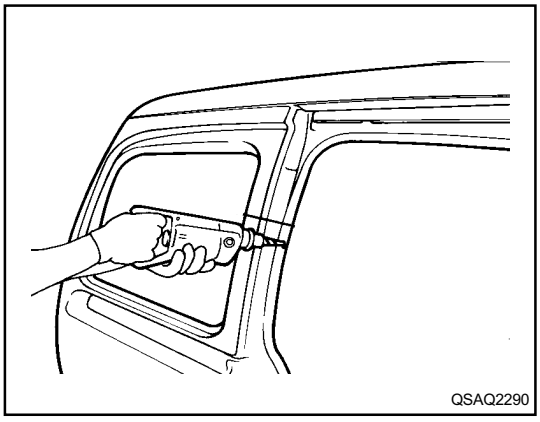
1. Depending on the extent of damage, measure and mark cutline on the quarter outer panel 205 mm downward from the quarter window RH glass upper line as illustration.



2. Measure and mark cutline on the quarter outer panel 150 mm upward from the quarter window glass RH lower line as illustration.

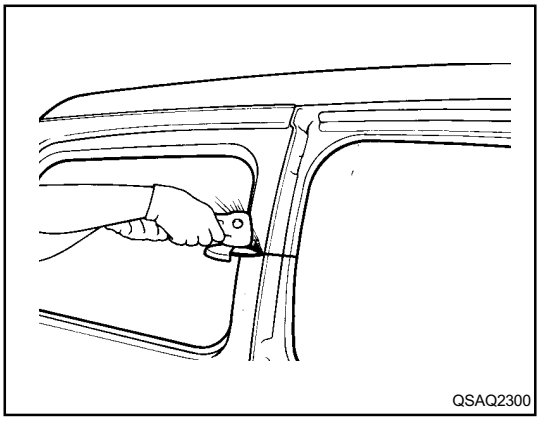


3. Drill out all spotwelds attaching the quarter outer panel to the inner panel below cutlines.

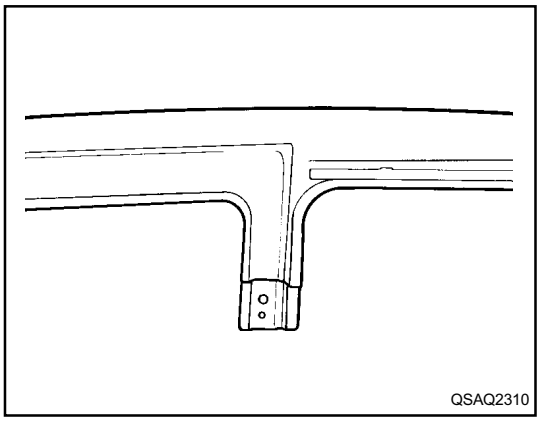


4. Cut quarter outer panel along cutlines to remove quarter outer panel.

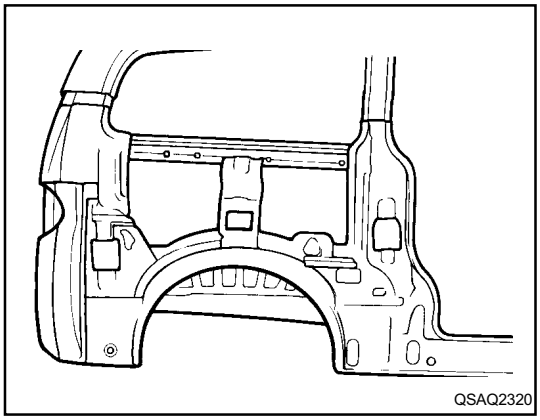
   NOTE
   1) Becareful not to cut quarter inner panel.



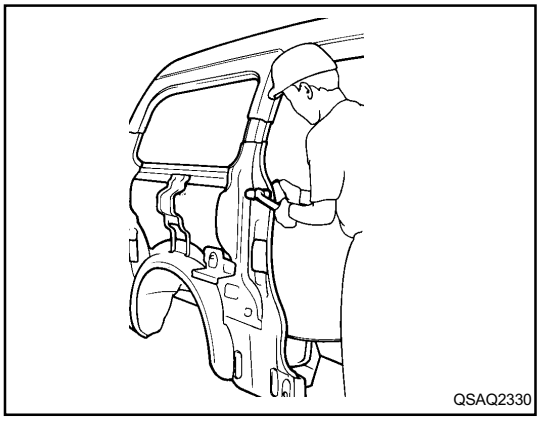
2) When cutting "C" outer pillar (Right side), be careful not to cut reinforcement panel as illustration.


QSAQ2310

5. Remove quarter outer panel.

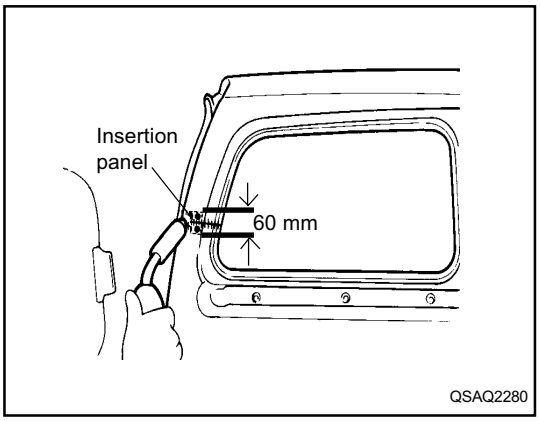

QSAQ2320

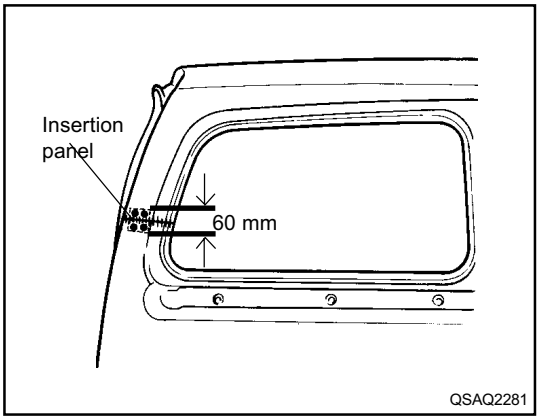
6. Prepare all surfaces to be welded.


QSAQ2330

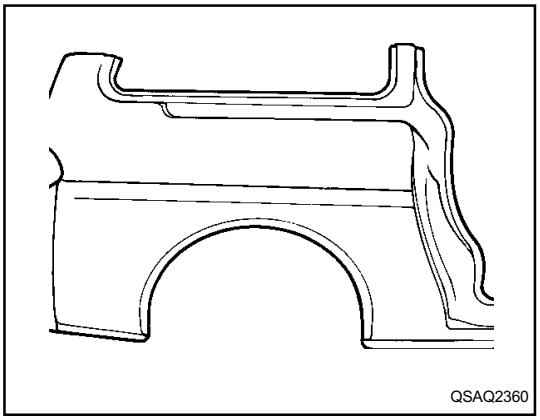
INSTALLATION

1. Measure and mark guide lines 30 mm upward and downward from "C" pillar outer panel and "D" pillar outer panel cutlines.
2. Drill 8 mm holes where the insertion panel to be installed.
3. Make an insertion panel with 60 mm width from unused portion of the panel.
4. Fit and clamp the insertion panel in place for welding.
5. Mig plug weld the insertion panel.

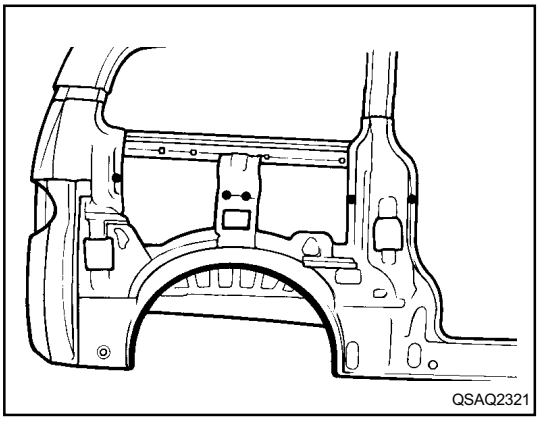




6. Transcribe the cutline to the new quarter outer panel, cut to length and chamfer butt end to improve weld surface.
7. Drill 8 mm holes in production locations along outer panel flanges and insertion panel for attachment to other panels.



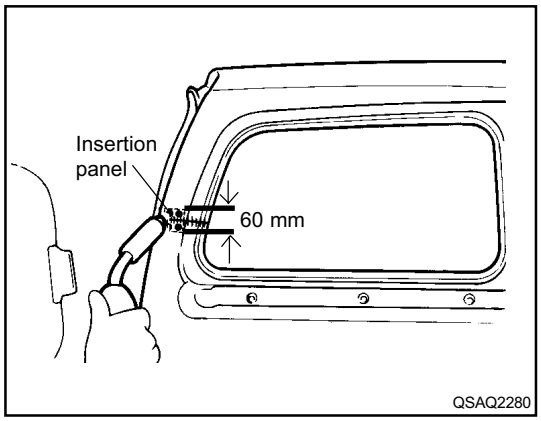
8. Apply a coating of silicon rubber sealer and body sealant at places indicated in the illustration.



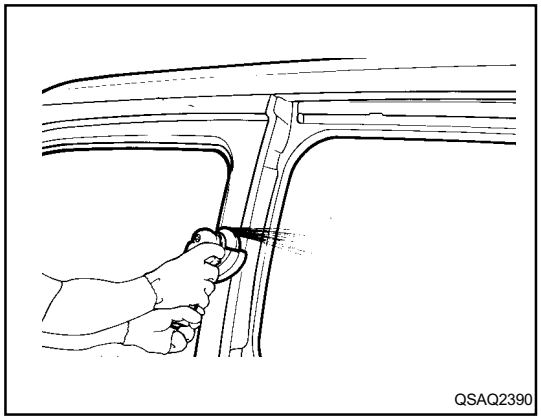
9. Fit and clamp the quarter outer panel in place.
10. MIG plug weld all holes and MIG butt weld seams. Spot weld at the wheel well.

    NOTE
    In order to prevent distortion caused by the welding heat, make the welds alternately at regular intervals.

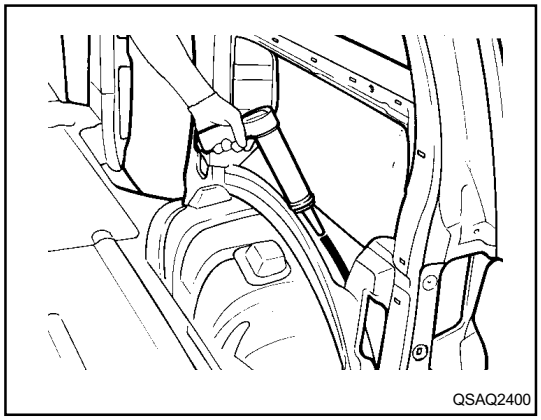
11. Clean and prepare all welds, removing all residue.



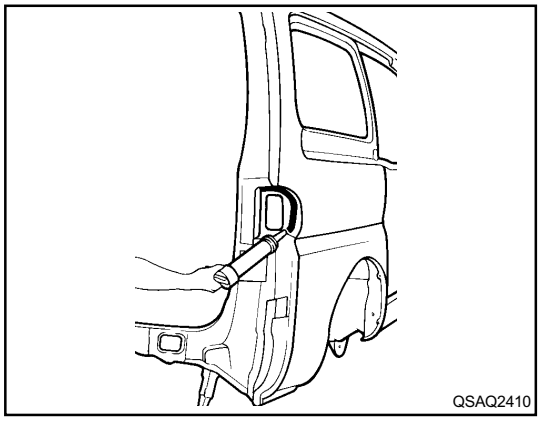
12. Apply body filler to the welded seam, sand and finish.
13. Apply the two-part epoxy primer to the interior of the quarter of the quarter outer panel.



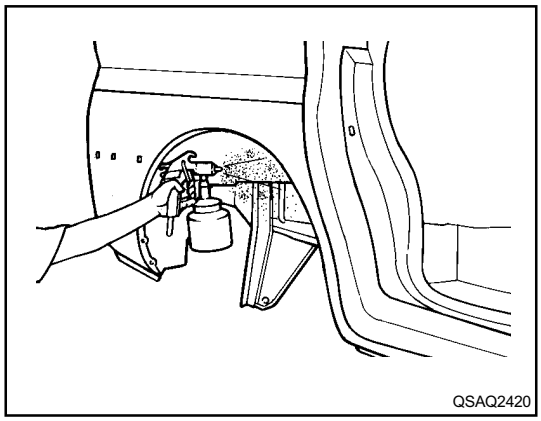
14. Apply anti-corrosion agent to the welded parts and interior of the quarter outer panel (Refer to the CORROSION PROTECTION).
15. Prepare exterior surfaces for priming, using wax and grease remover.
16. Apply metal conditioner and water rinse.
17. Apply conversion coating and water rinse.
18. Apply the two-part epoxy primer.



19. Apply the correct seam sealer to all joints.
20. Reprime over the seam sealer to complete the repair. (Refer to the BODY SEALING LOCATIONS).

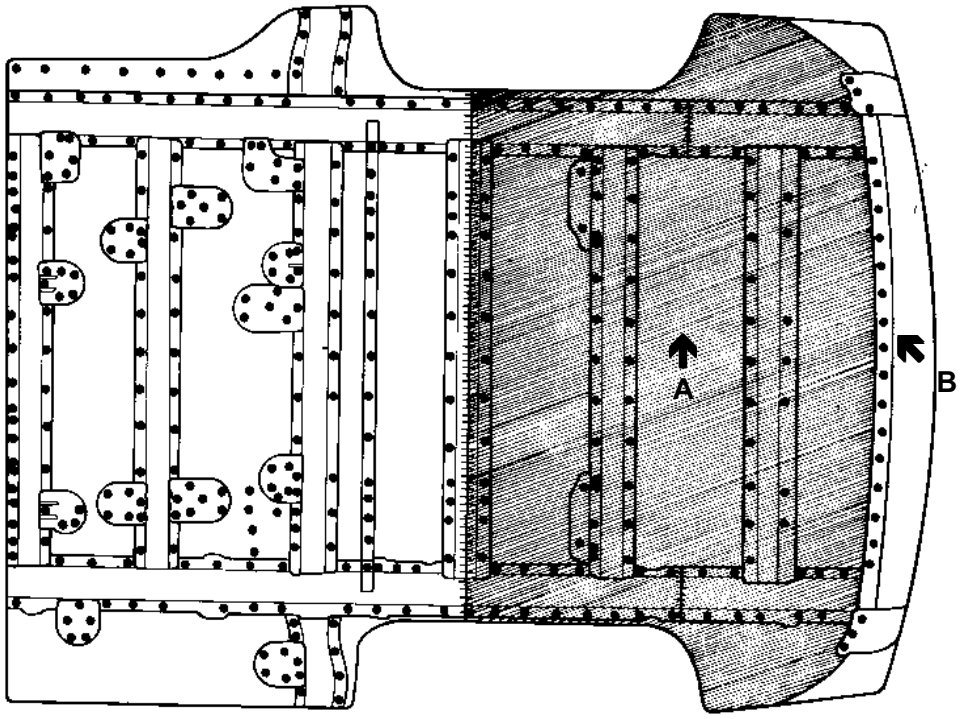


21. After completing body repairs, carefully apply under coating to the wheel well (Refer to the CORROSION PROTECTION).
22. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the wheel well (Refer to the CORROSION PROTECTION).

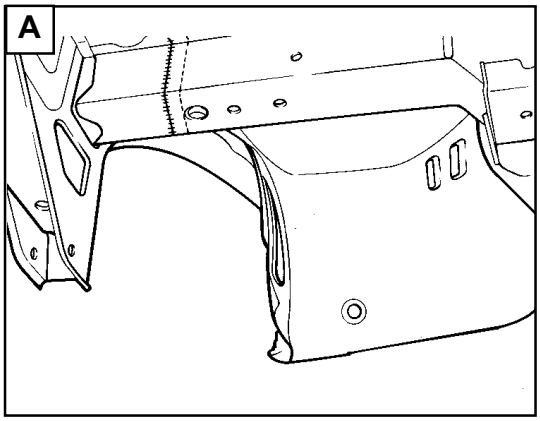


REAR FLOOR (SHORT BODY)

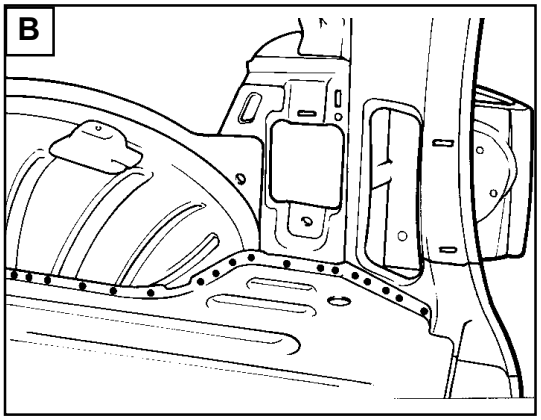
WELDING POINTS



RRAF3010



RRAF3023

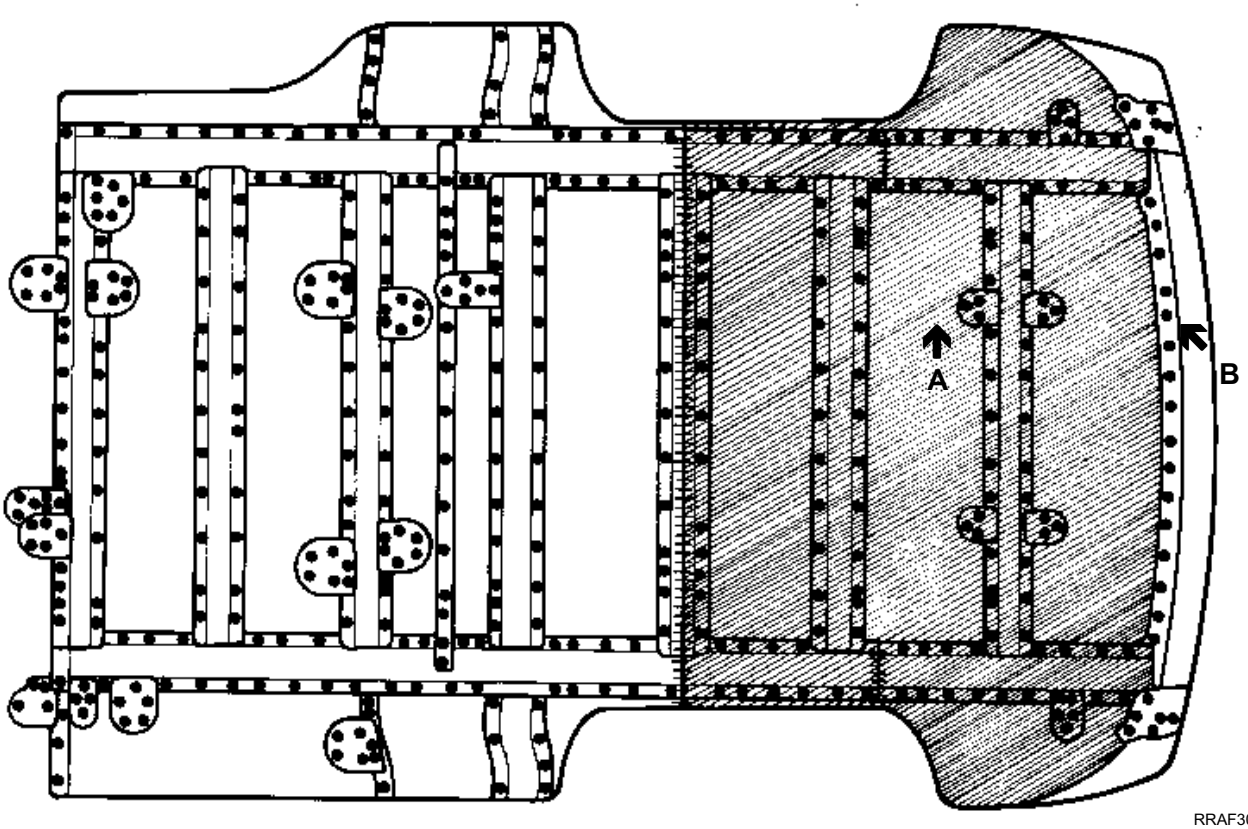


RRAF3012

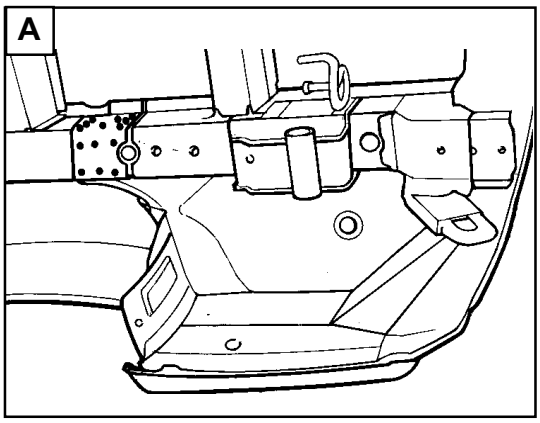
- ● MIG plug welding
- ⫼ MIG batt welding

REAR FLOOR (LONG BODY)

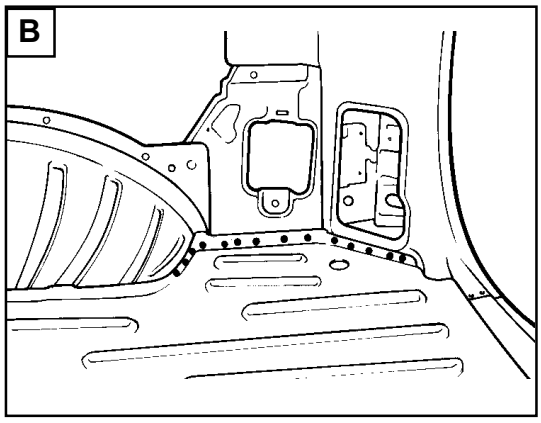
WELDING POINTS



RRAF3020



RRAF3024

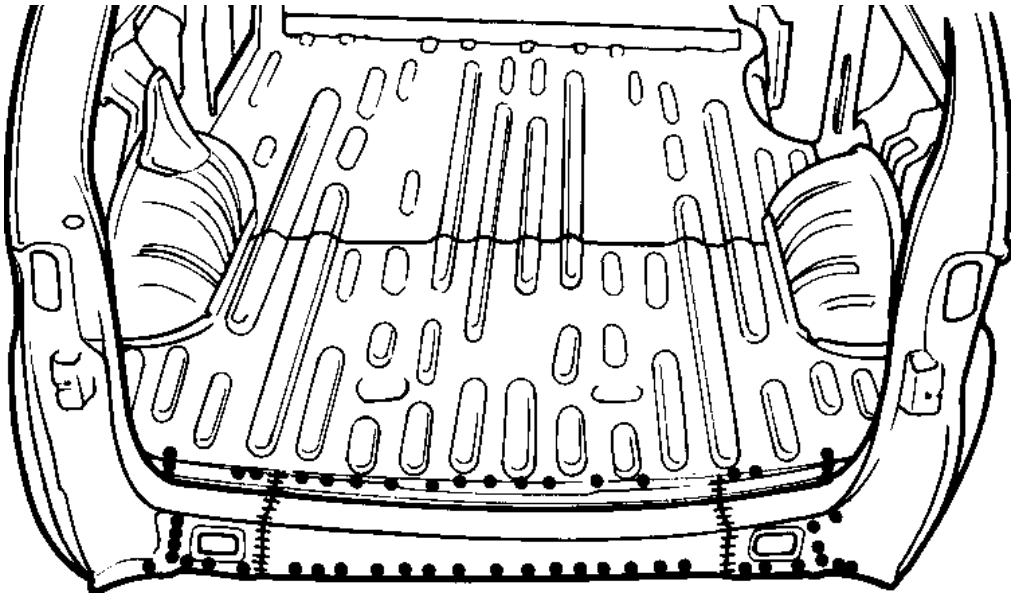


RRAF3022

- ● MIG plug welding
- ⫴ MIG batt welding

REAR END CORSSMEMBER (PARTIAL)

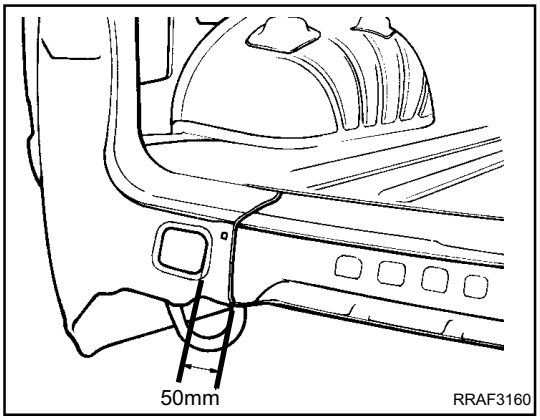
WELDING POINTS



RRAF3150

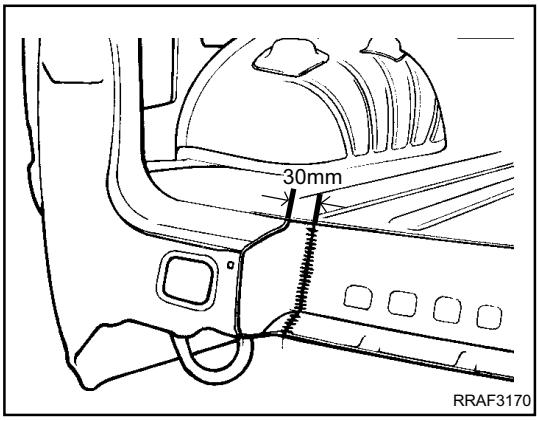
REMOVAL

1. Cut the rear end crossmember outer and lower simultaneously at 50 mm apart from the hole marked in the illustration.



RRAF3160

2. Cut the rear end crossmember inner at 30 mm apart from the rear end crossmember outer.



RRAF3170

INSTALLATION

Installation is the reverse order of removal. Refer to the service procedure of rear floor for anti-corrosion treatment and sealing.

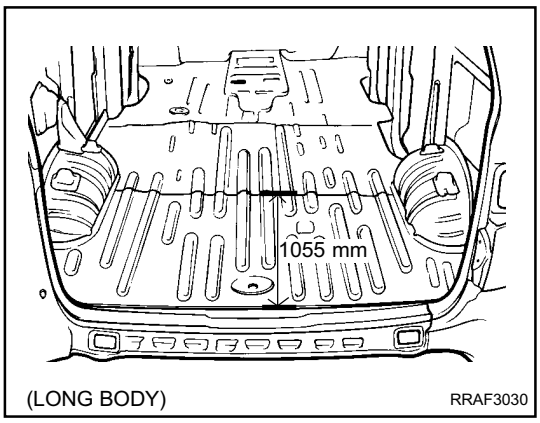
REMOVAL

Refer to the body dimension chart and measure the vehicle to determine straigthtening and alignment requirments.

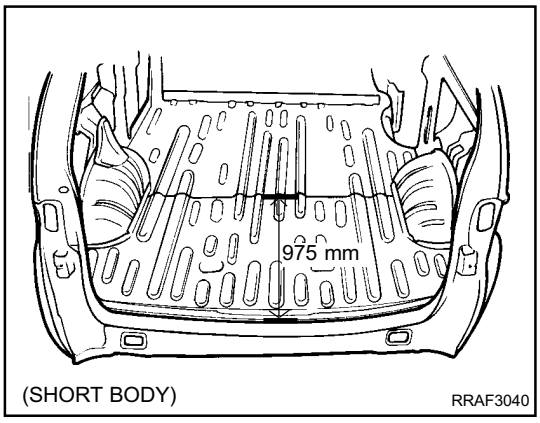
NOTE
The body must be returned to its original dimension before beginning the repair procedure.

1. Measure and mark the cutline on the rear floor from the rear edge of rear floor as shown in the figure.

   NOTE
   The cutline in the illustration is provided for rear floor panel replacement in case it has been damaged from rearside inpacts. In case it has been damaged from side impact, it may be easy to replace it if you are working on the front of the cutline.

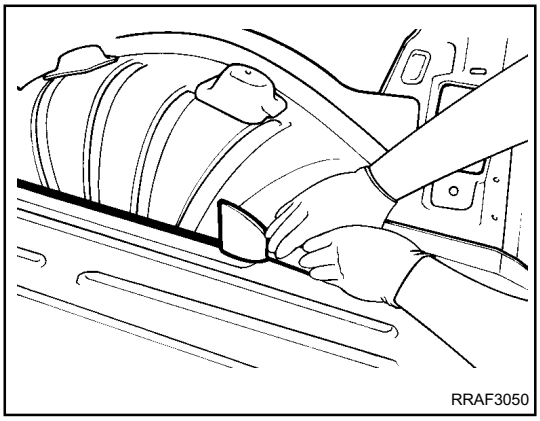


(LONG BODY) RRAF3030



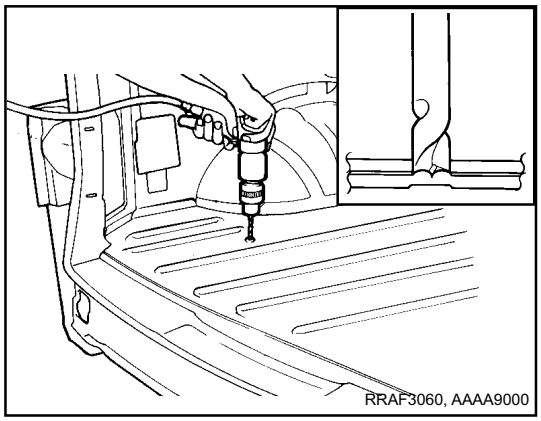
(SHORT BODY) RRAF3040

2. Before drilling out spotwelds, remove floor corner panel and body sealant.

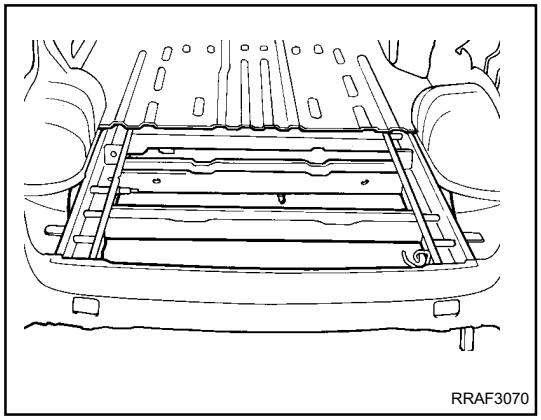

RRAF3050

3. Drill out all spotwelds attaching the rear floor panel to the body.

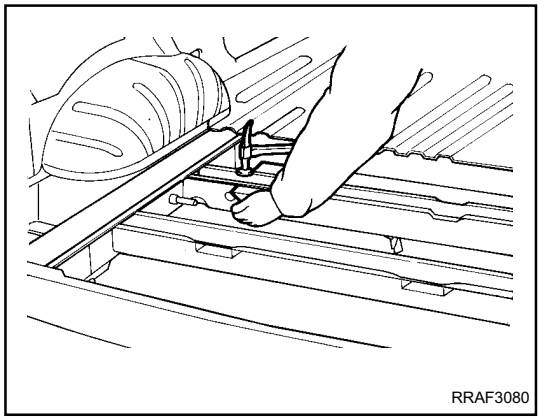
NOTE
Drill the outer panel with a spot cutter so as not to damage the members.


RRAF3060, AAAA9000

4. Cut the rear floor panel between No.7 crossmember welding points. In that case, be careful not to damage rear sidemember and mating flangers.
5. Remove the rear floor panel.

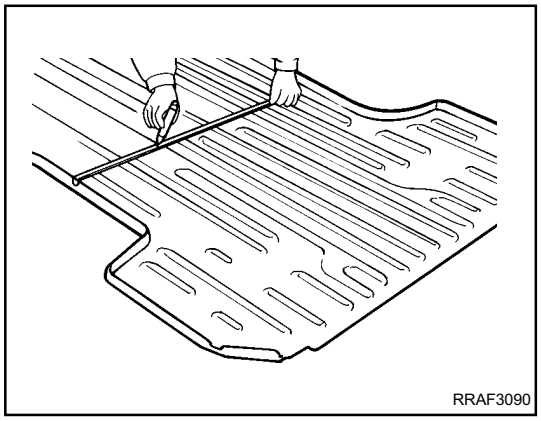

RRAF3070

6. Prepare all surfaces to be welded.

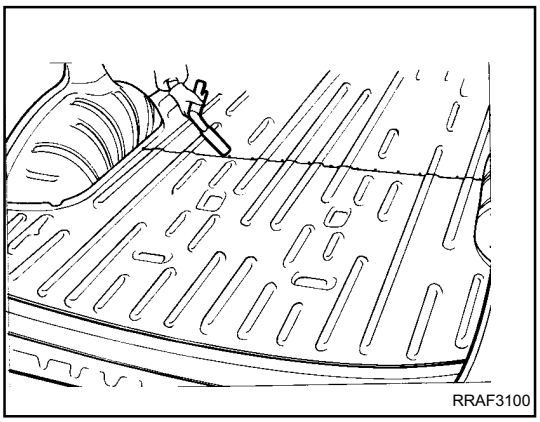

RRAF3080

INSTALLATION

1. Transfer the cutline to the new rear floor panel, adding 25 mm for overlap at the old joint.
2. Drill 8 mm holes in overlap area and production locations of the new rear floor panel for MIG plug welding.


RRAF3090

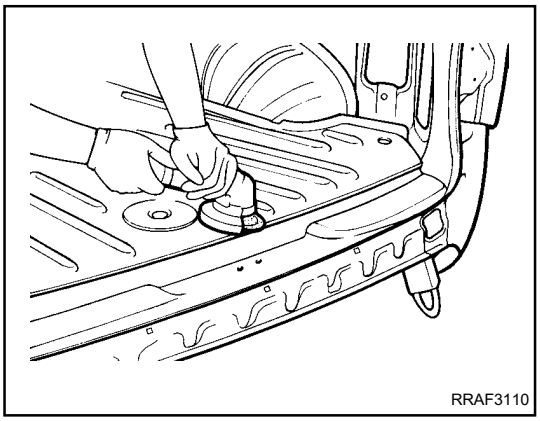
3. Fit and clamp the rear floor panel and attach the rear floor panel to the rear sidemembers and other panels.
4. MIG plug weld all holes and MIG butt weld the seam.

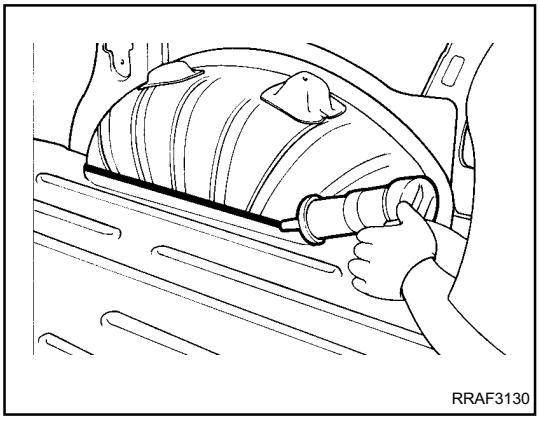

RRAF3100

5. Clean and prepare all welds, removing all residue.

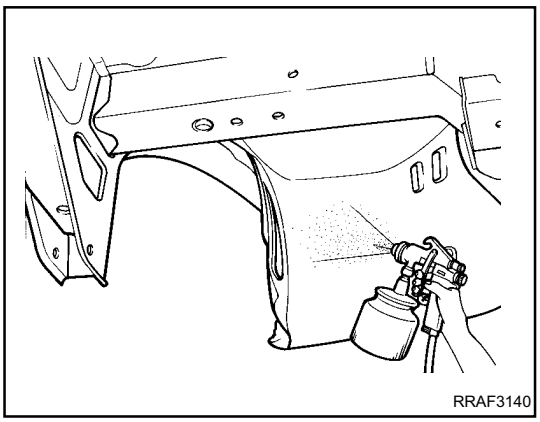
NOTE
In order to prevent distortion caused by the welding heat, make the welds alternately at regular intervals.

6. Apply the two-part epoxy primer to the interiror of the welded parts.
7. Apply an anti-corrosion to the interior of the welded parts (Refer to the CORROSION PROTECTION).
8. Prepare exterior surfaces for priming, using wax and grease remove.
9. Apply metal conditioner and water rinse.
10. Apply the two-part epoxy primer.
11. Apply the correct seam sealer to all joints (Refer to the BODY SEALING LOCATIONS).
12. Reprime over the seam sealer to complete the repair.


RRAF3110


RRAF3130

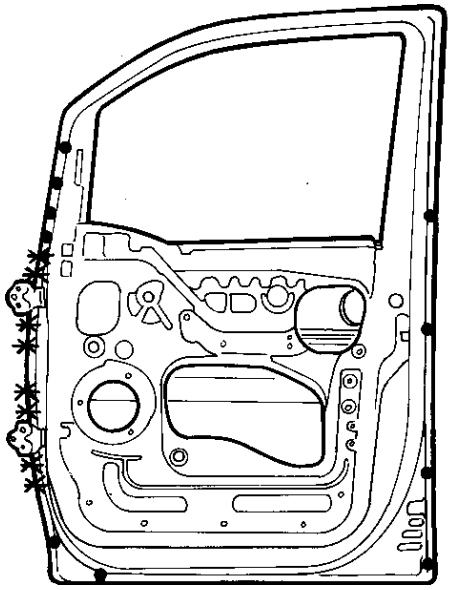
13. After completing body repairs, carefully apply under coating to the under body (Refer to the CORROSION PROTECTION).
14. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).


RRAF3140

DOOR PANEL

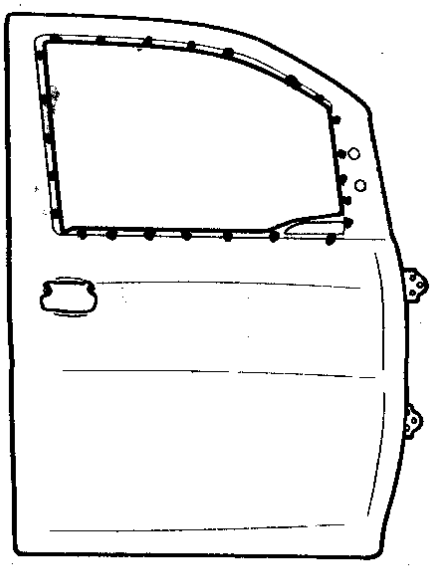
FRONT DOOR

WELDING POINTS



<Inner panel>

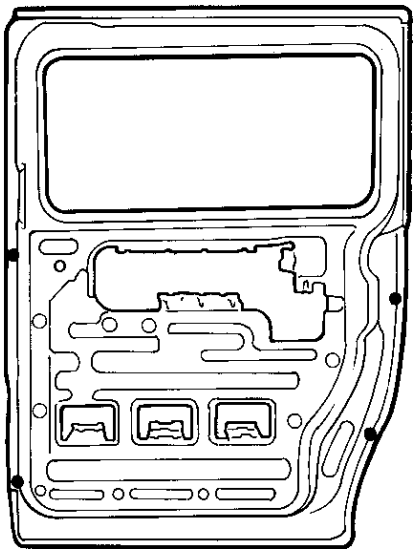
D0AF0010



<Outer panel>

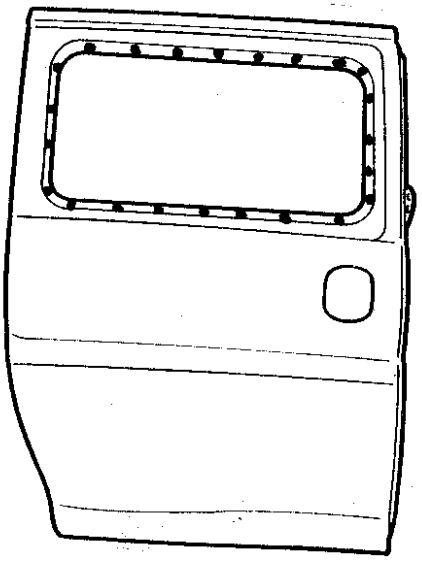
D0AF0030

REAR DOOR



<Inner panel>

D0AF0020



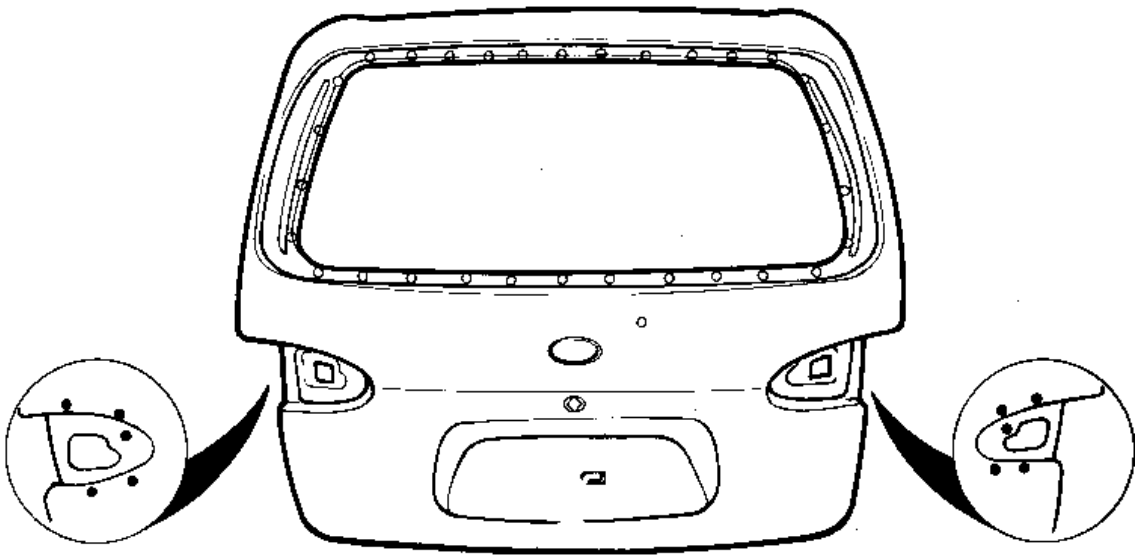
<Outer panel>

D0AF0040

- ● MIG plug welding or spot welding
- ⫲ MIG batt welding
- ✕✕ MIG lap weldling

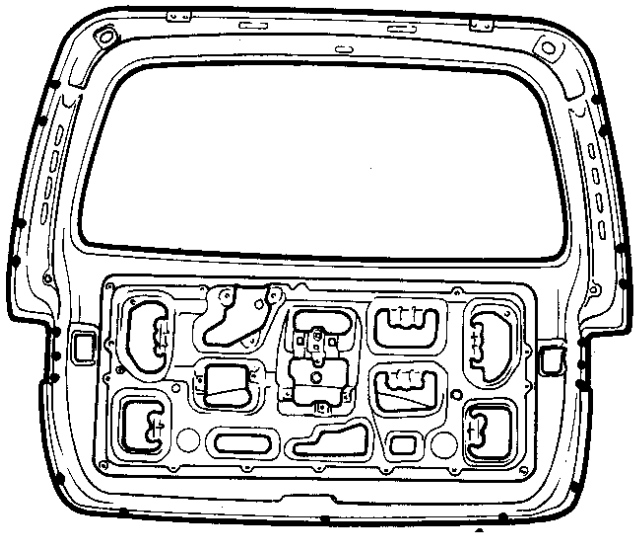
TAIL GATE PANEL

WELDING POINTS



(Outer panel)

DOAT0010



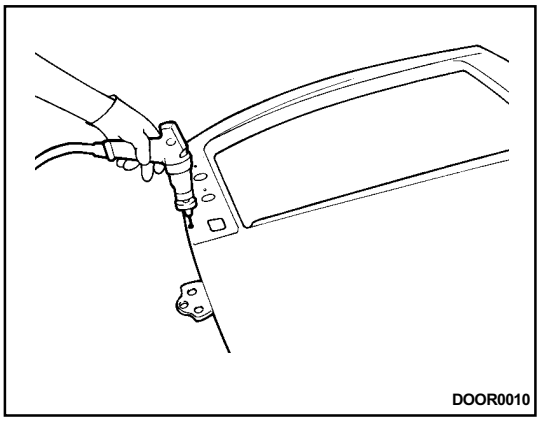
(Inner panel)

- ● MIG plug welding or spot welding
- ⫴ MIG batt welding
- ✕ MIG lap weldling

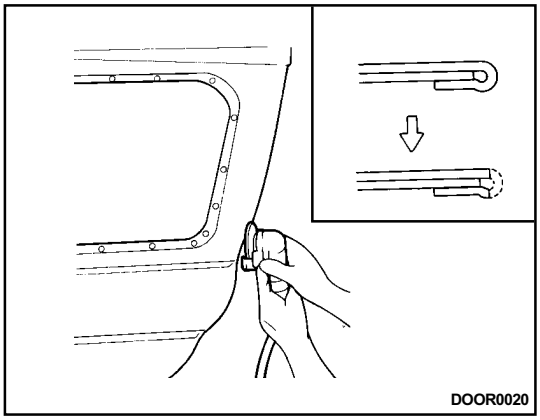
DOAT0020

REMOVAL

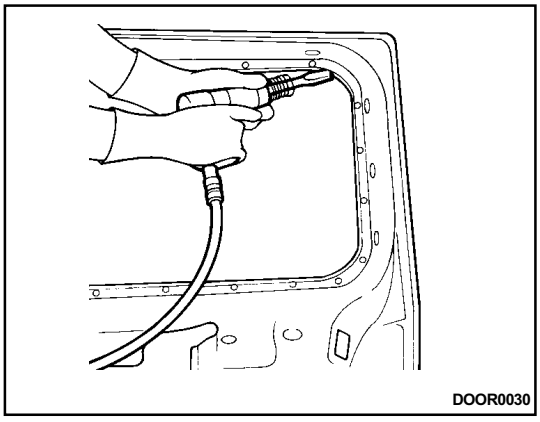
1. Drill out the spotweld to separate door outer panel from front and rear door.


DOOR0010

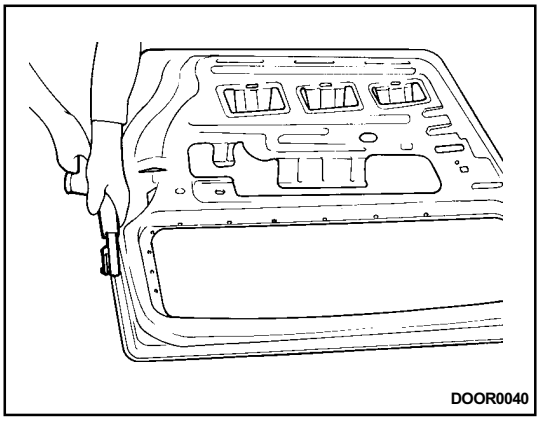
2. Cut door outer panel.


DOOR0020

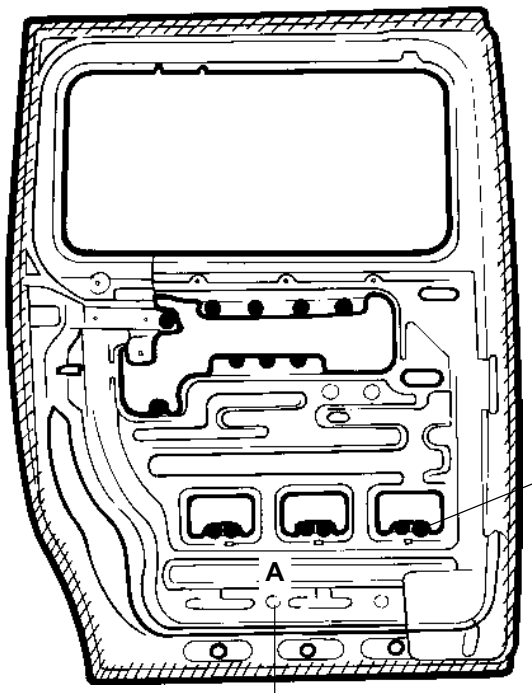
3. After grinding off the hemming location with a sander, remove the outer panel.


DOOR0030

4. Dress rusty part with a sander and prepare surface to be hemmed.


DOOR0040

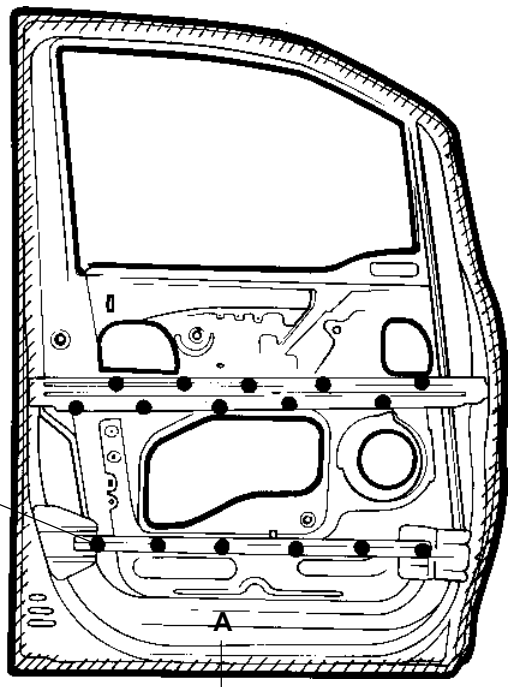
INSTALLATION



(Rear door)

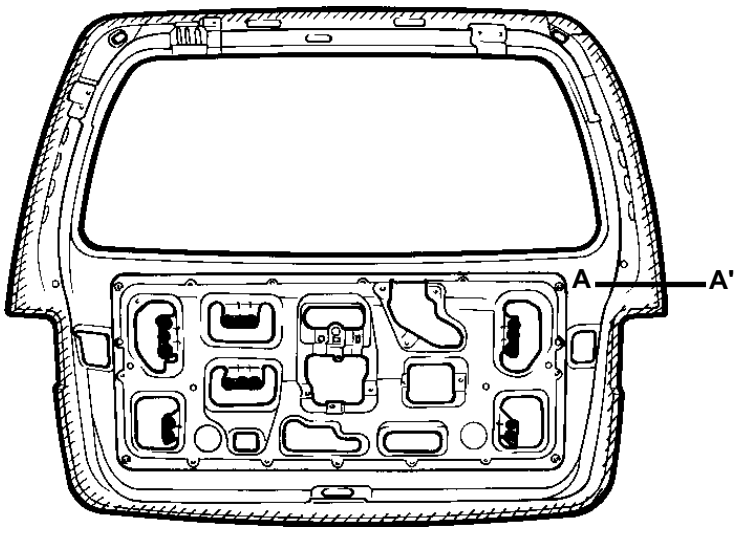
DOAI0010

Mastic sealer



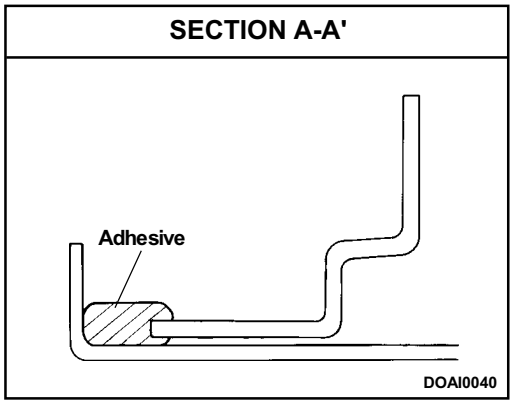
(Front door)

DOAI0020



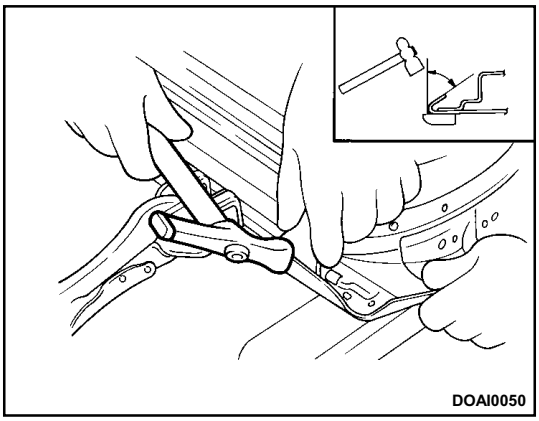
(Tail gate panel)

DOAI0030



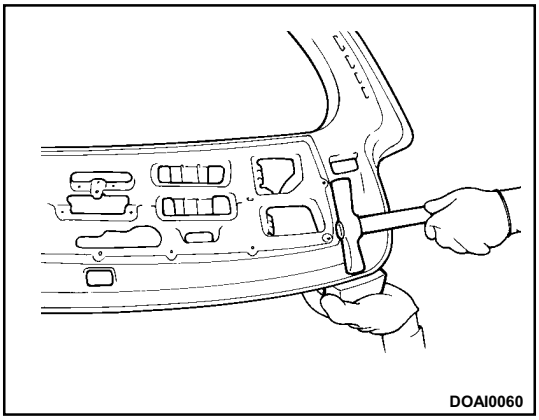
QSAQ2030

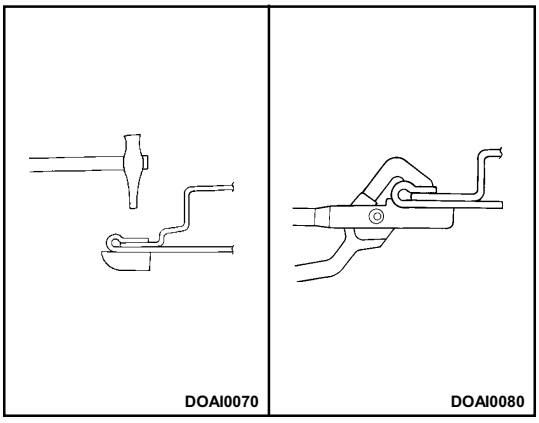
1. Apply adhesive (3M 08531) or equivalent to outer panel hem.
2. Apply mastic sealer (3M 08105) or equivalent to the door member as shown in the figure.



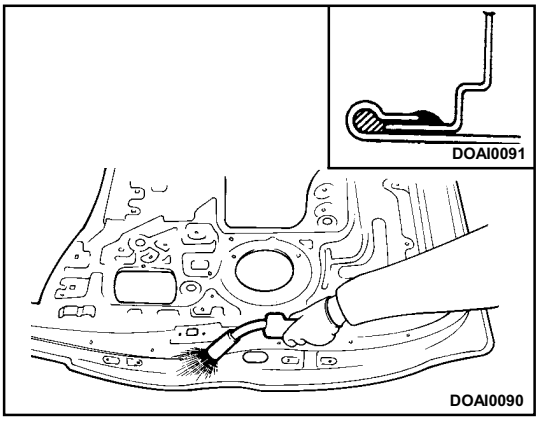
3. Bend the flange hem with a hammer and dolly, then fasten tightly with a hemming tool.

   NOTE
   1. Hemming work should be done in three steps as illustration.
   2. If a hemming tool cannot be used, hem with a hammer and dolly.

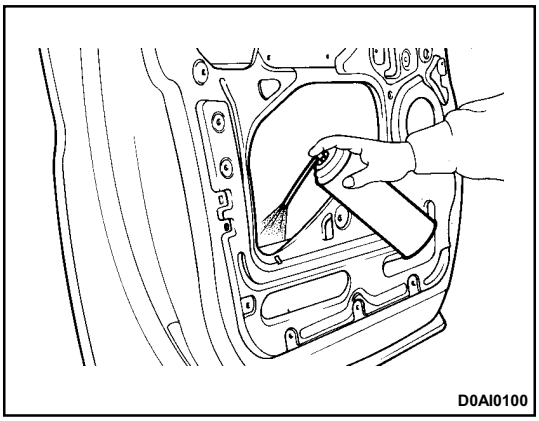




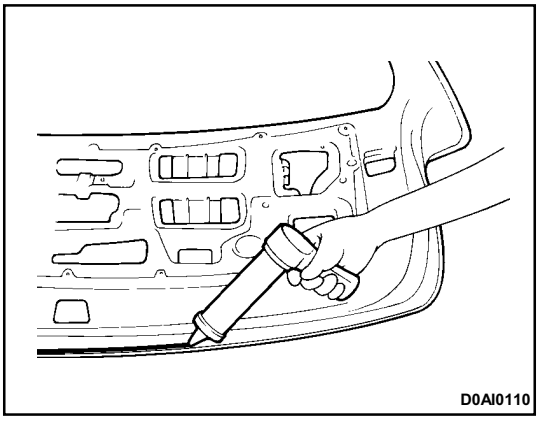
4. After completing the hemming work, make MIG spot welds at 50 mm intervals on the inside.
5. Clean and prepare all welds, removing all residue.
6. Apply the two-part epoxy primer to the interior of the door panel.



7. Apply an anti-corrosion agent to the welded parts and lower inside of the door panel, (Refer to the CORROSION PROTECTION).
8. Prepare exterior surfaces for priming, using wax and grease remover.
9. Apply metal conditioner and water rinse.
10. Apply conversion coating and water rinse.
11. Apply the two-part epoxy primer.


D0AI0100

12. Apply the correct seam sealer to whole panel edge.
13. Repair over the seam sealer to complete the repair.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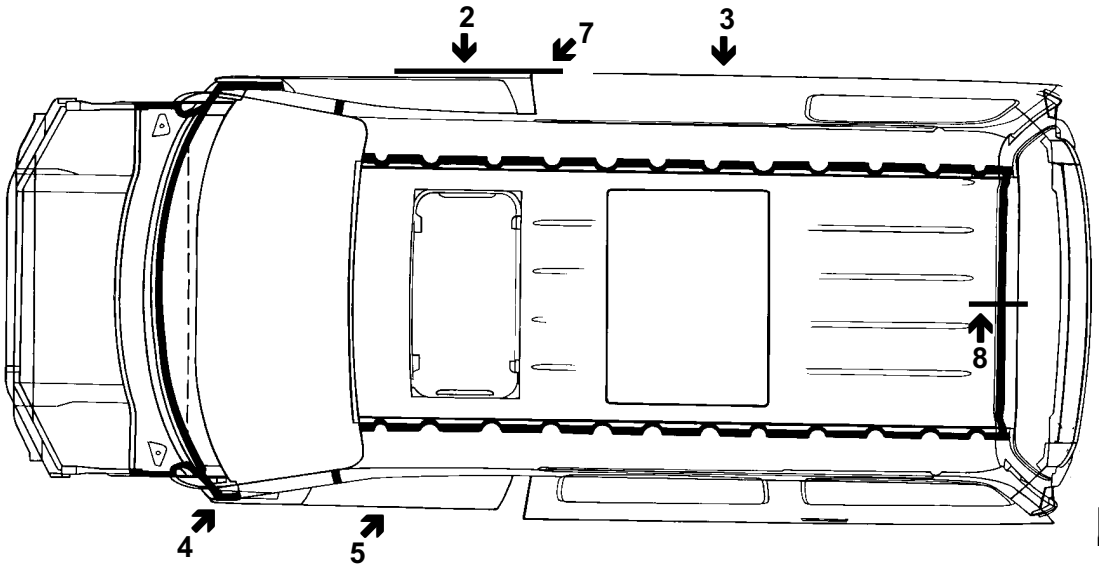
BODY SEALING LOCATION

UPPER AND SIDE BODY



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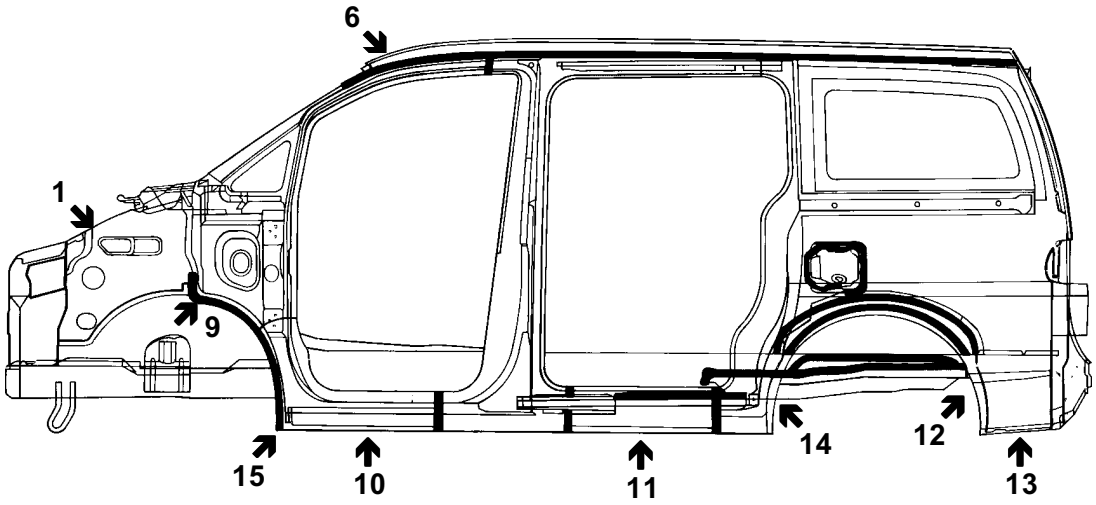

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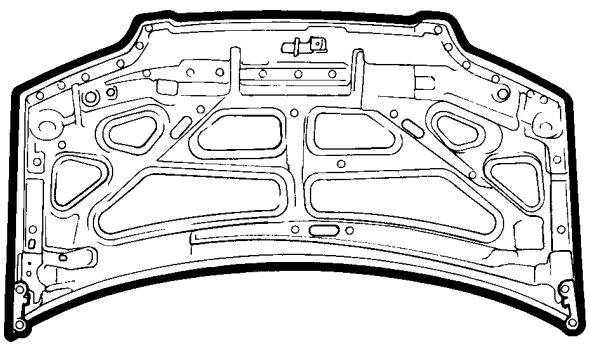

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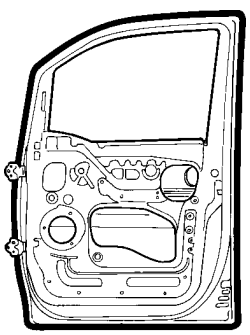

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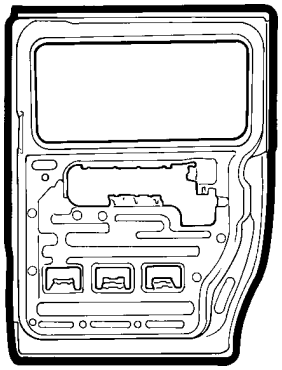

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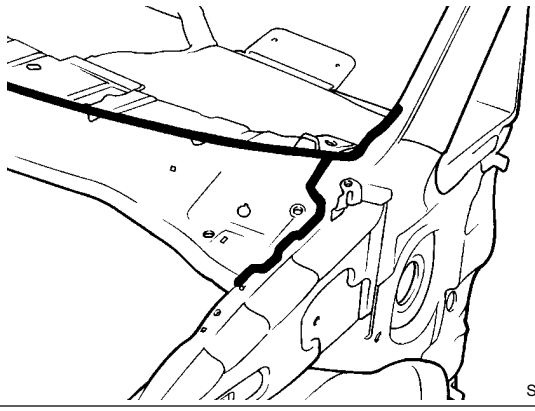

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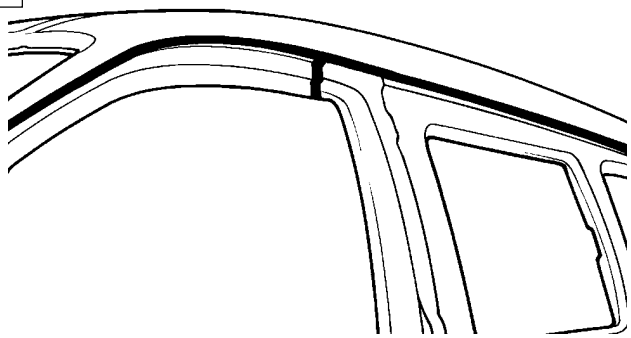

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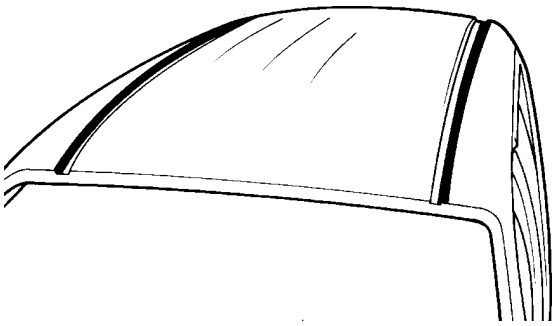

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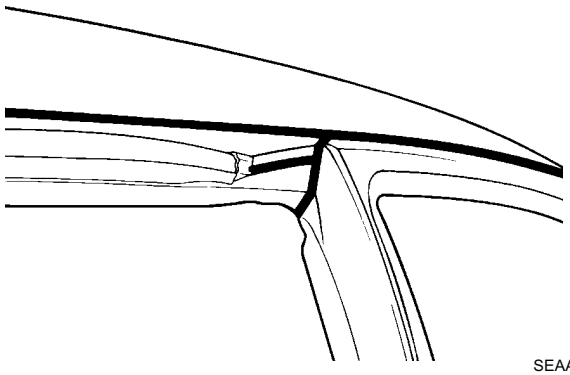

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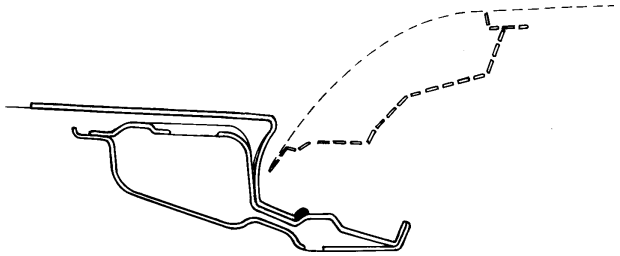

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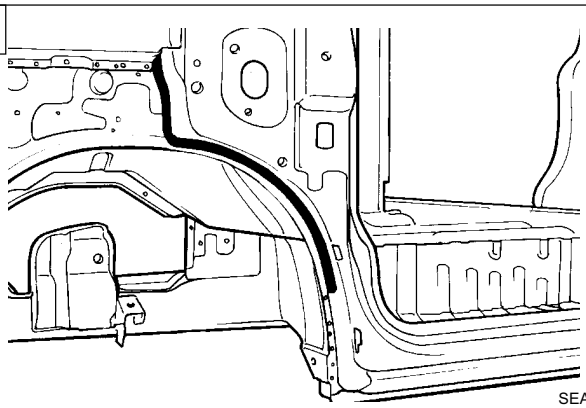

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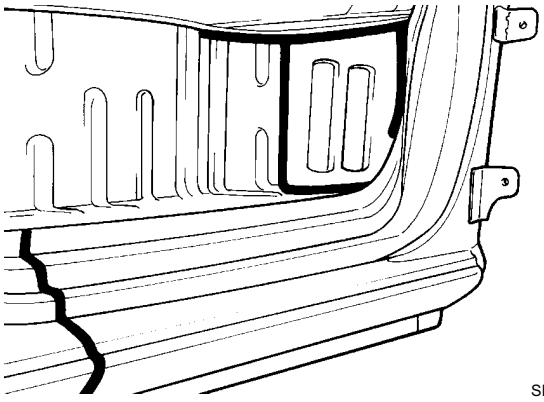

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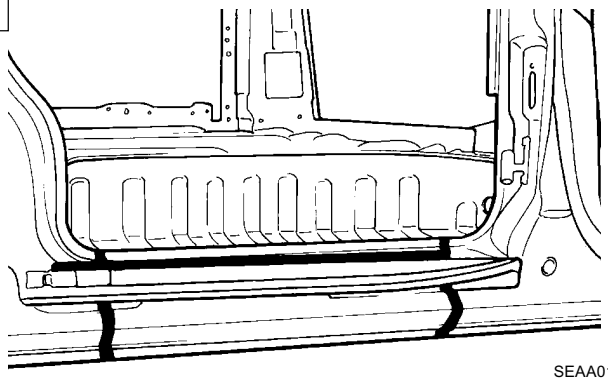

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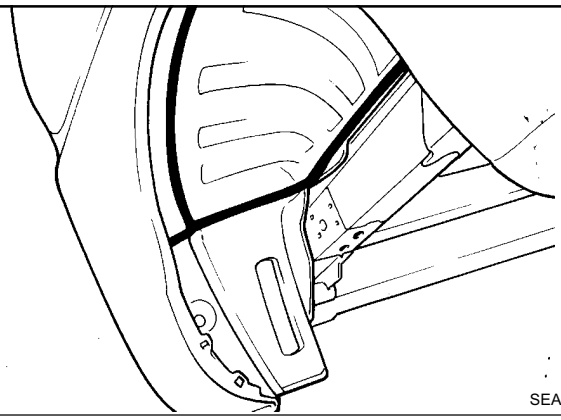

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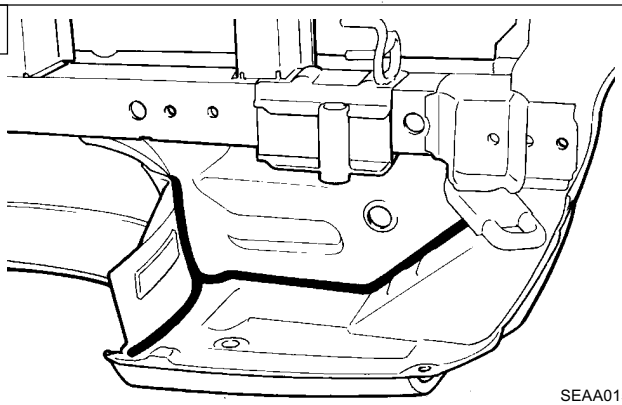

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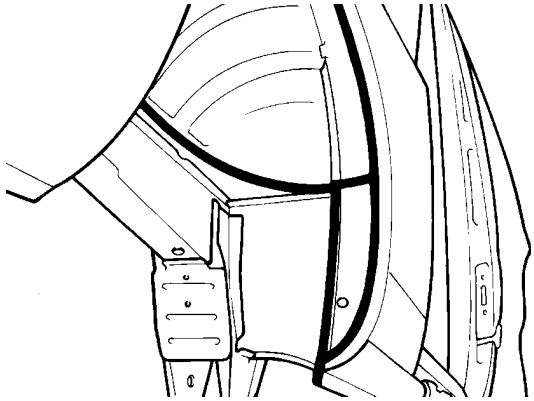

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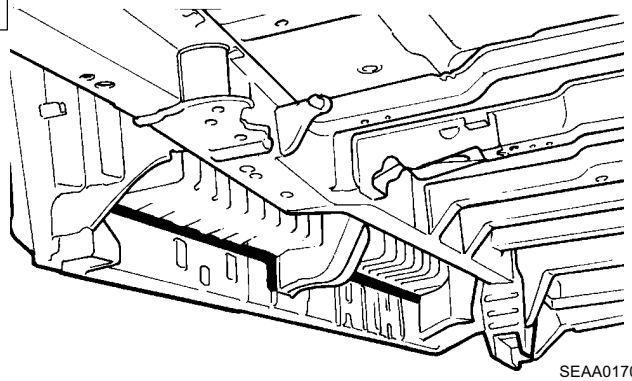

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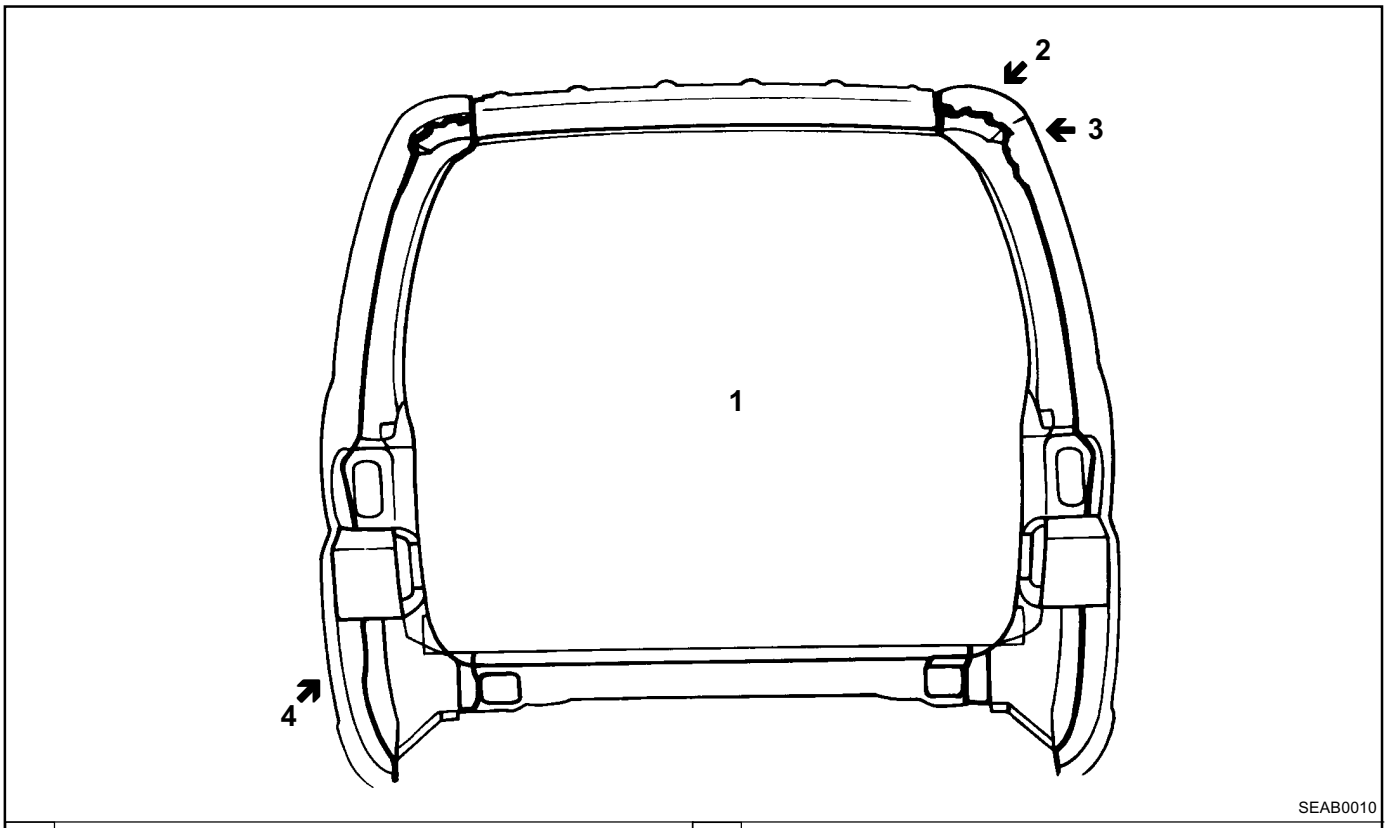
REAR BODY



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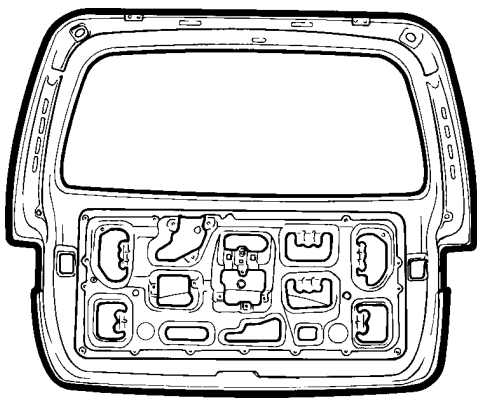

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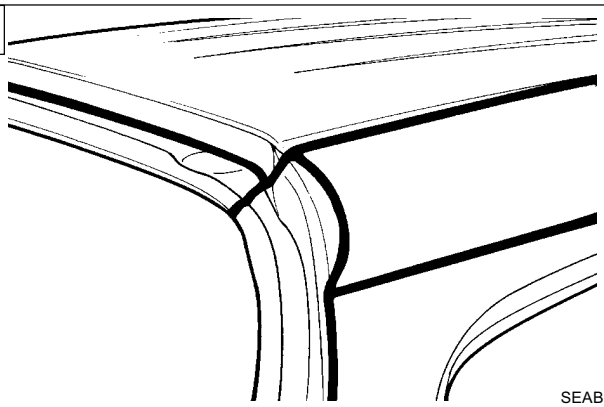

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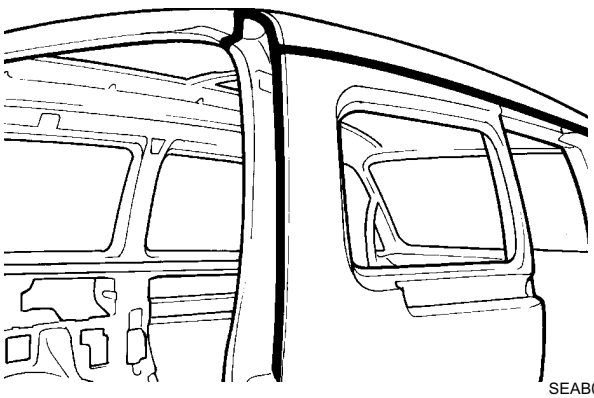

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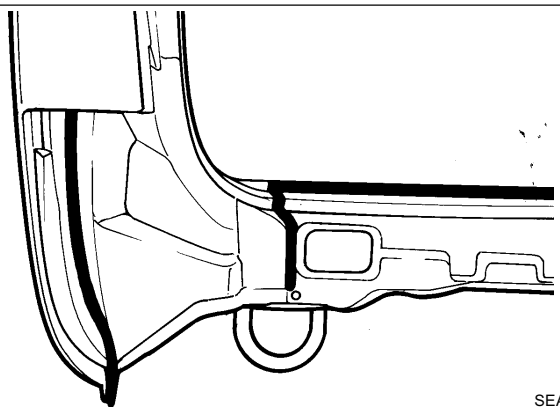

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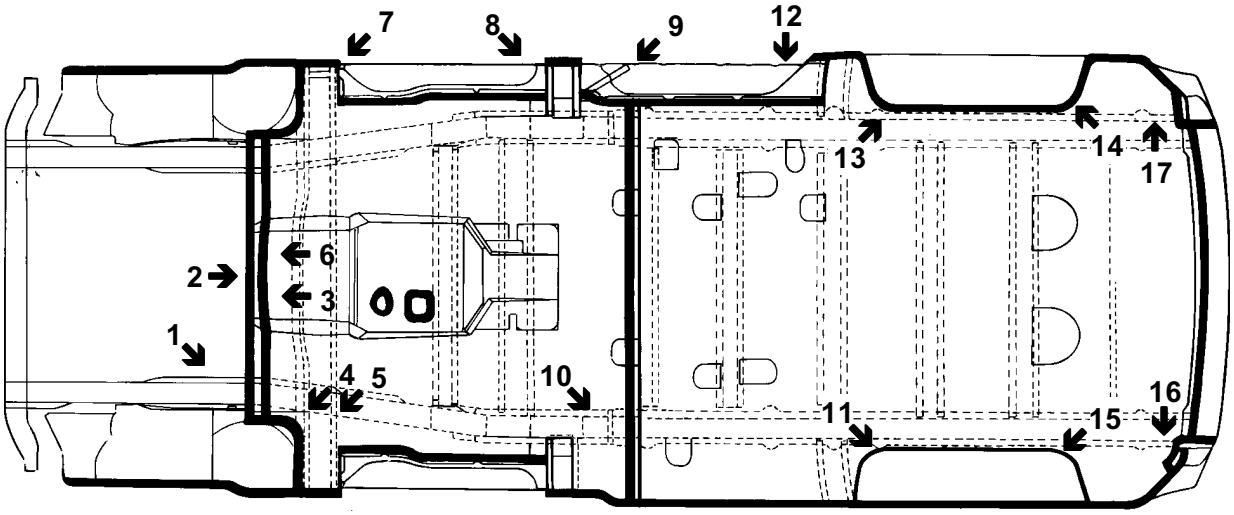
FLOOR



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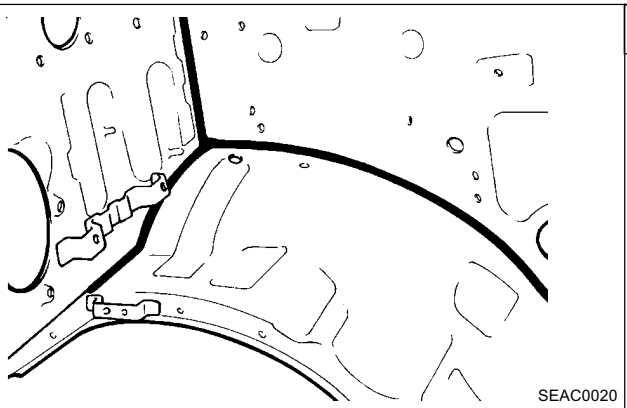

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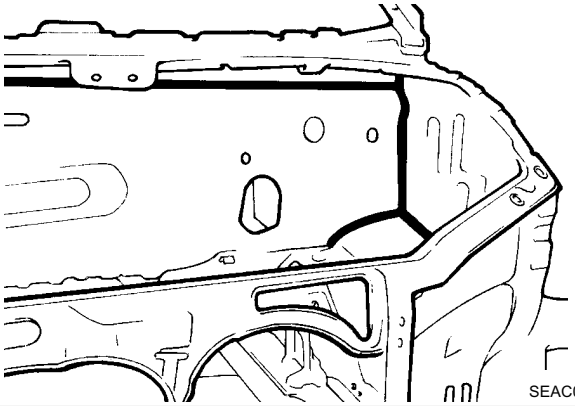

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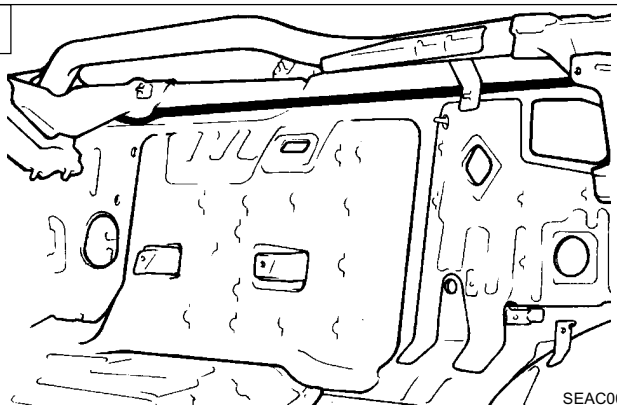

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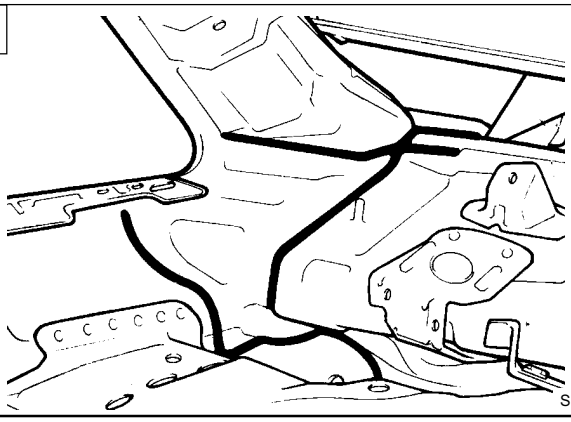

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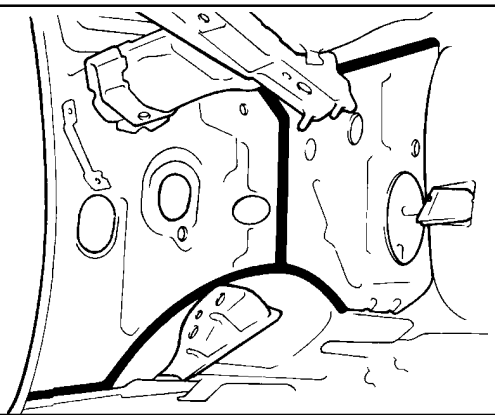

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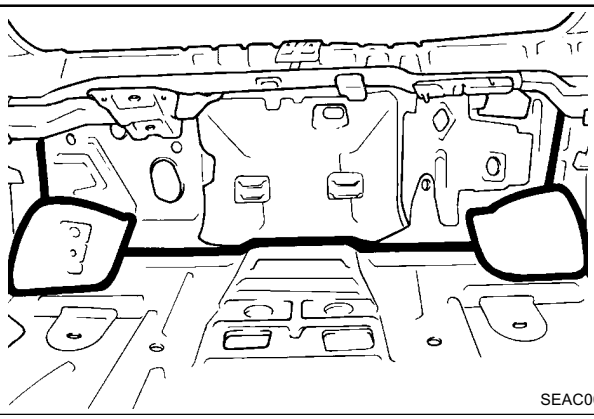

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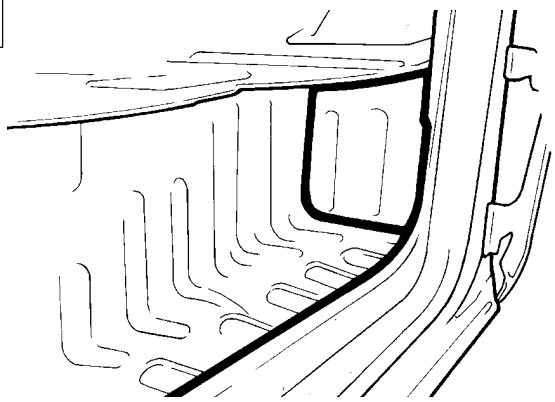

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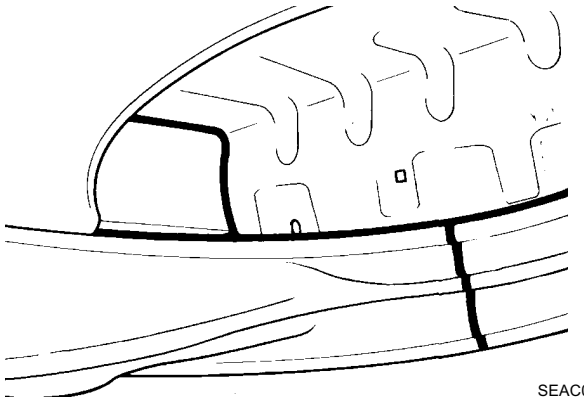

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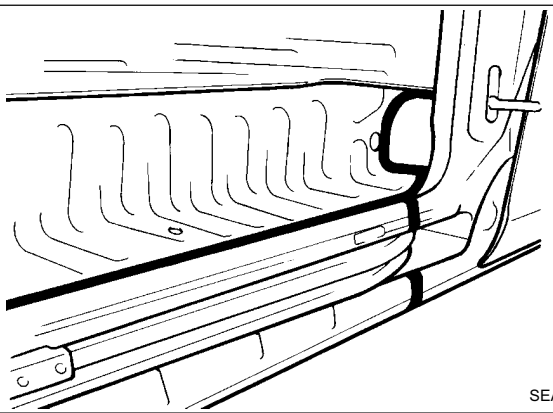

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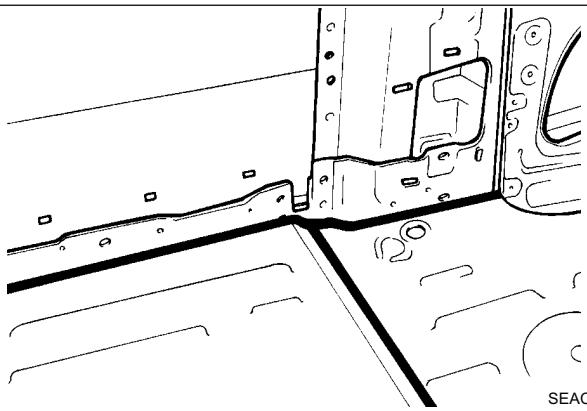

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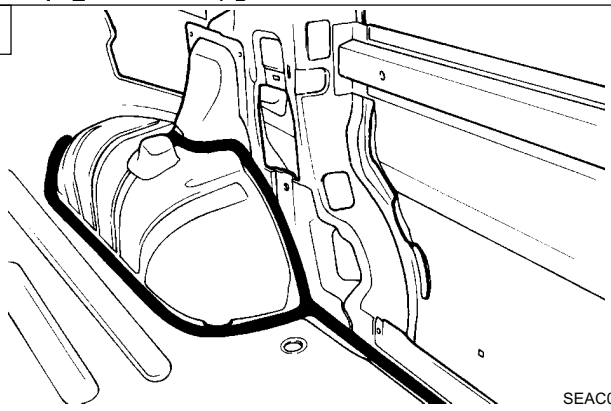

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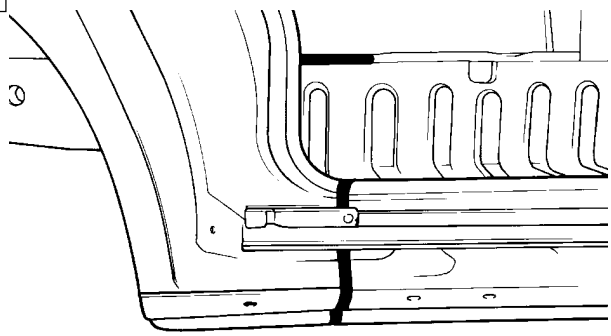

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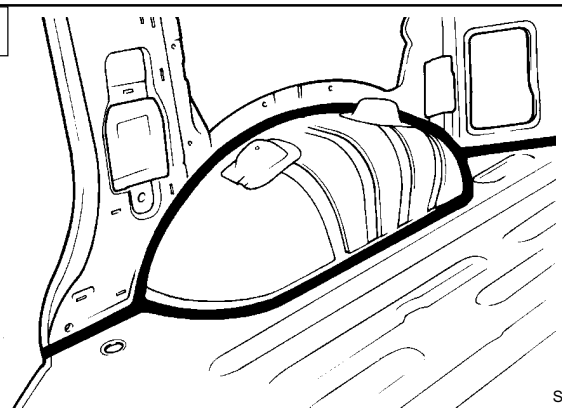

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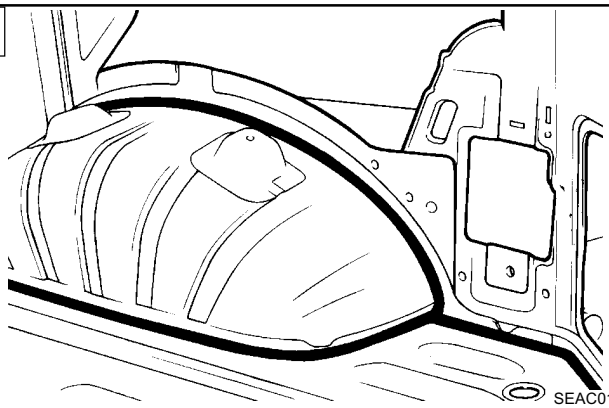

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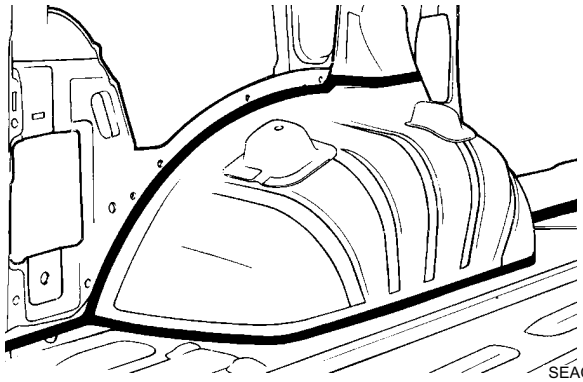

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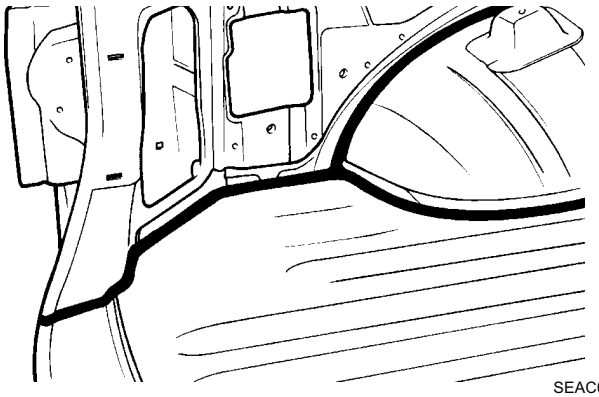

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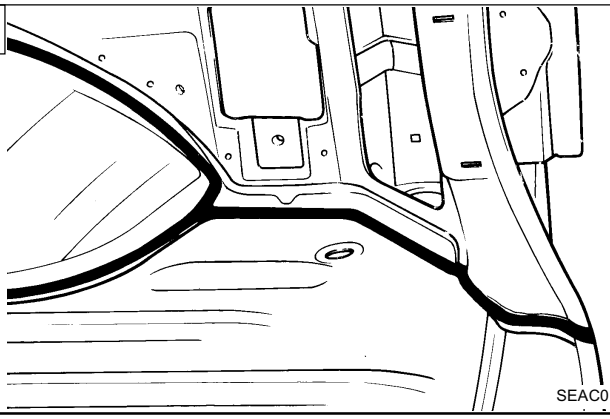
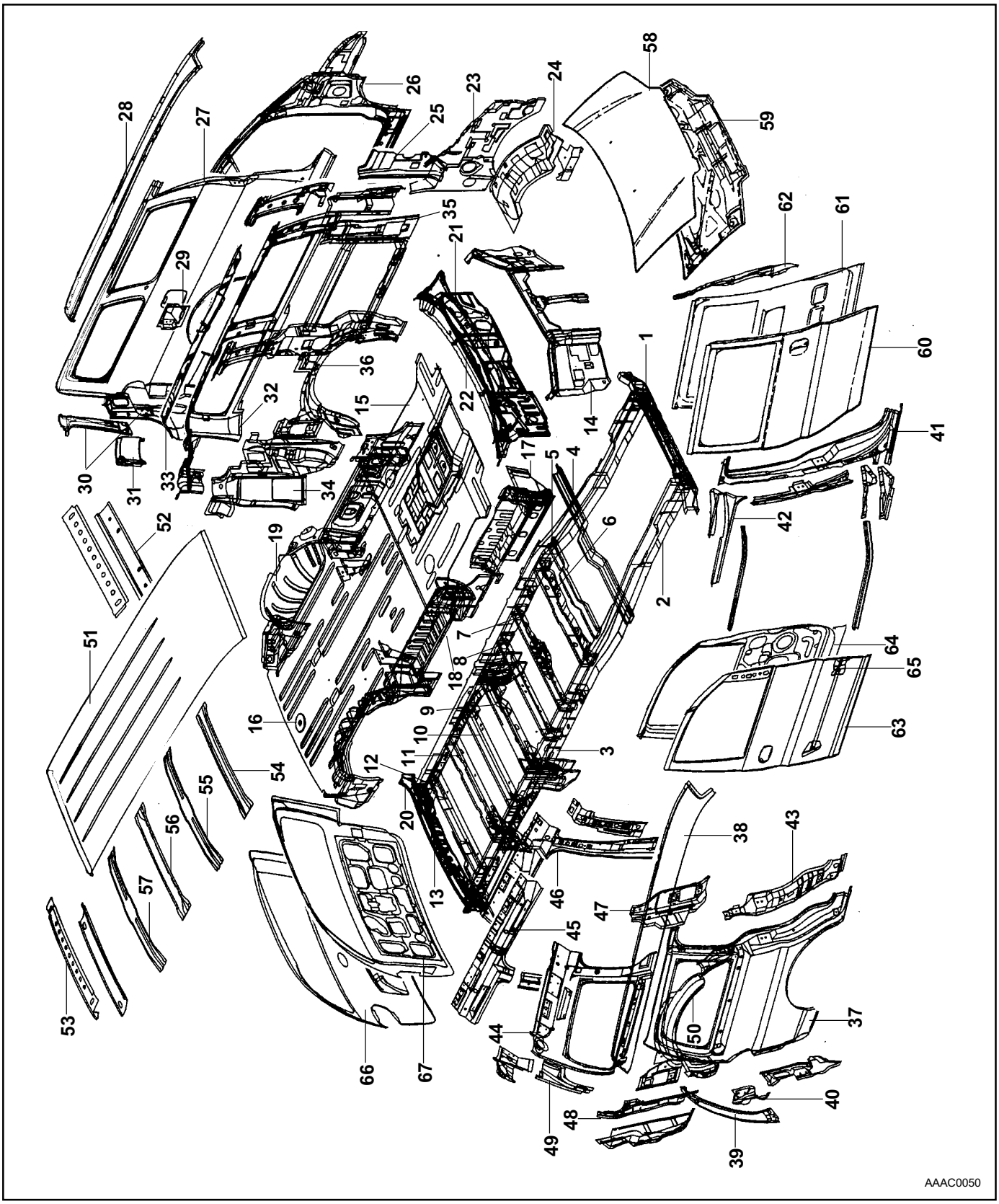


SEAC0180

CORROSION PROTECTION

ZINC - GALVANIZED STEEL PANELS

Because galvanized steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.

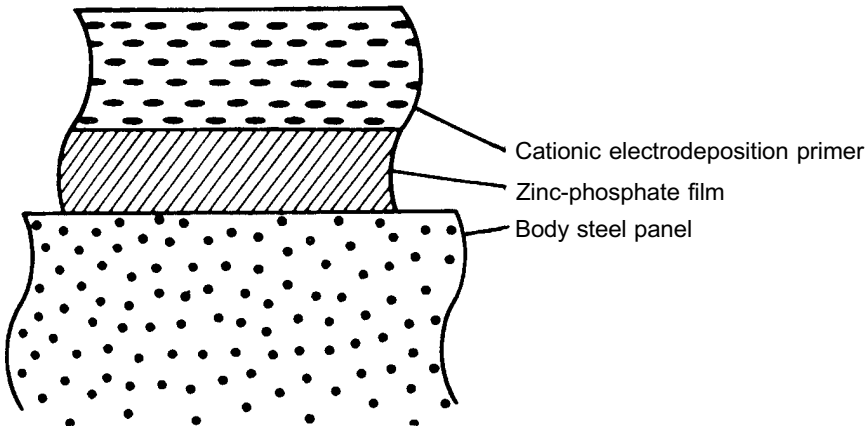


No.	PART NAME	No.	PART NAME
1	Front end crossmember. (**)	36	Wheel house outer rear panel (LH). (**)
2	Front sidemember. (**)	37	Quarter outer panel (RH). (**)
3	Rear side member.	38	Roof side outer panel (RH). (**)
4	Crossmember No.1.	39	Quarter outer rear extension (RH). (**)
5	Crossmember No.2.	40	Gusset panel (RH). (**)
6	Crossmember No.3.	41	"B" outer pillar (RH). (**)
7	Crossmember No.4.	42	Rear door side outer rail. (**)
8	Crossmember No.5.	43	"C" pillar lower reinforcement (RH).
9	Crossmember No.6.	44	Quarter inner panel (RH). (**)
10	Crossmember No.7.	45	Roof side inner reinforcement (RH).
11	Crossmember No.8.	46	"B" inner pillar (RH).
12	Crossmember No.9-1.	47	"C" inner pillar (RH).
13	Rear end crossmember. (**)	48	"D" inner pillar (RH).
14	Radiator support panel. (**)	49	"D" pillar upper reinforcement.
15	Center floor panel. (**)	50	Wheel house outer rear panel (RH). (**)
16	Rear floor panel. (**)	51	Roof panel.
17	Front step panel. (**)	52	Roof front rail.
18	Rear step panel. (**)	53	Roof rear rail.
19	Rear wheel house panel. (**)	54	Roof bow (A).
20	Quarter inner lower panel	55	Roof bow (B).
21	Dash panel. (**)	56	Roof bow (C).
22	Cowl panel. (**)	57	Roof bow (D).
23	Front apron inner panel.	58	Hood outer panel. (**)
24	Front wheel house panel. (**)	59	Hood inner panel. (**)
25	Front apron outer panel.	60	Rear door outer panel. (**)
26	Front pillar panel. (**)	61	Rear door inner panel. (**)
27	Quarter outer panel (LH). (**)	62	Front door hinge face reinforcement. (**)
28	Roof side outer panel (LH). (**)	63	Front door outer panel. (**)
29	Fuel filler neck bracket.	64	Front door inner panel. (**)
30	Quarter outer rear extension. (**)	65	Front door reinforcement beam. (**)
31	Gusset panel (LH). (**)	66	Tail gate outer panel. (**)
32	Quarter inner panel (LH). (**)	67	Tail gate inner panel. (**)
33	Quarter inner upper panel (LH).		
34	"D" inner pillar (LH).		
35	Quarter inner lower panel (LH).		

(**) ZINC - GALVANIZED STEEL PANEL

ZINC-PHOSPHATE COAT & CATIONIC ELECTRODEPOSITION PRIMER

In order to improve the adhesion of the paint coat on the steel panel, and also to improve the corrosion resistance, the entire body is coated with a film of Zinc-phosphate and a cationic electrodeposition primer.

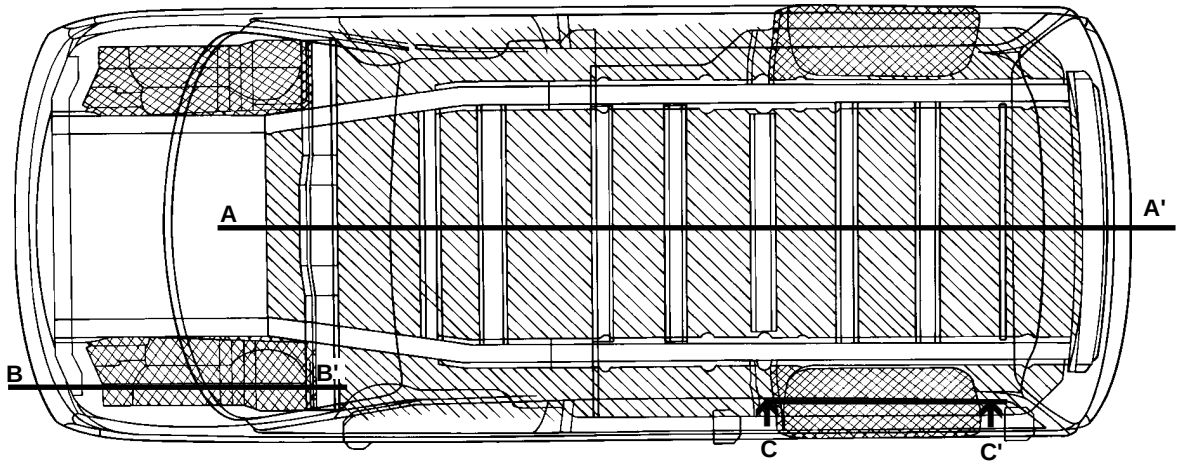


COR-0020

UNDER BODY COAT

In order to provide corrosion, resistance stone chipping and vibration resistance, under body coat is applied to the under sides of the floor and wheel house.
Therefore, when such panel is replaced or repaired, apply under body coat to that part.

FLOOR

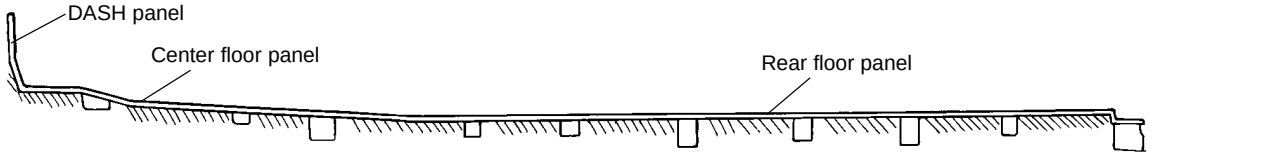


* Before applying the under body, mask the location where parts are to be mounted.

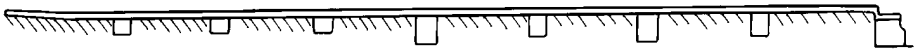
Underbody coating (more than 0.8mm thinkness)

Underbody coating (more than 1.2mm thinkness)

CPAU0010



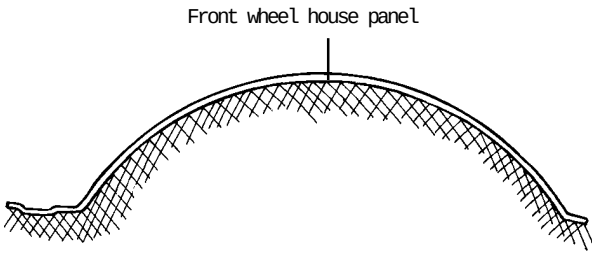
(SHORT) BODY



(LONG) BODY

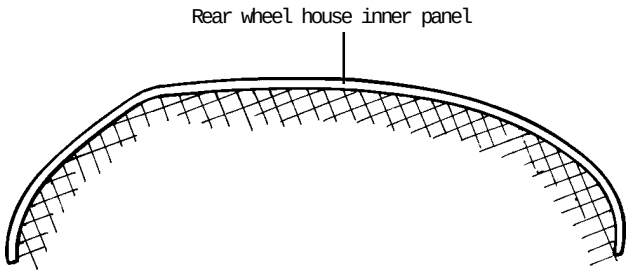
SECTION A-A'

CPAU0020



SECTION B-B'

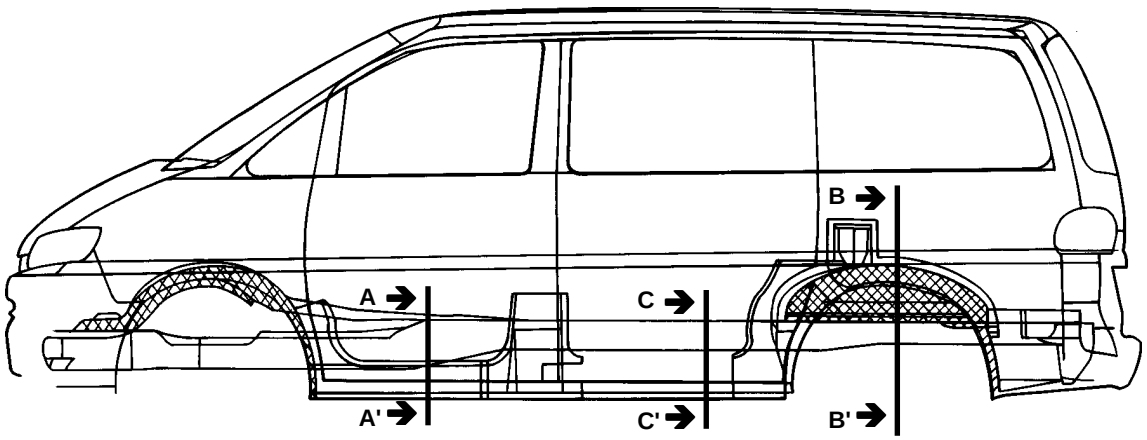
CPAU0030



SECTION C-C'

CPAU0040

SIDE BODY

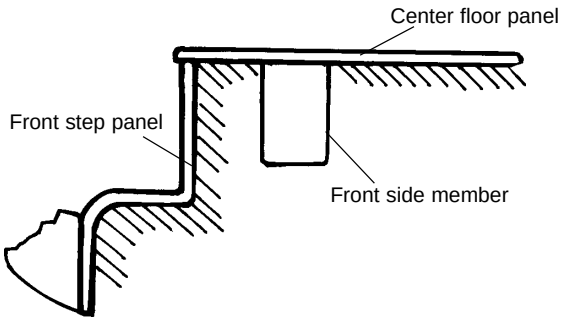


* Before applying the under body, mask the location where parts are to be mounted.

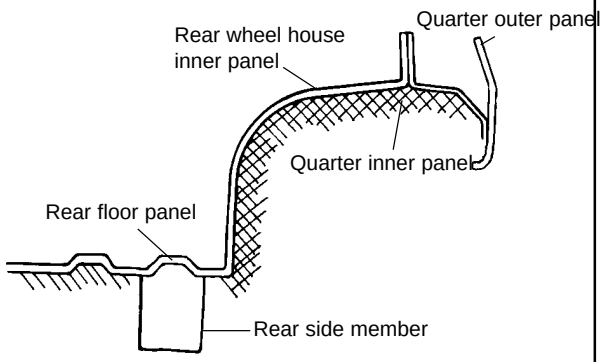
Underbody coating (more than 0.8mm thinkness)

Underbody coating (more than 1.2mm thinkness)

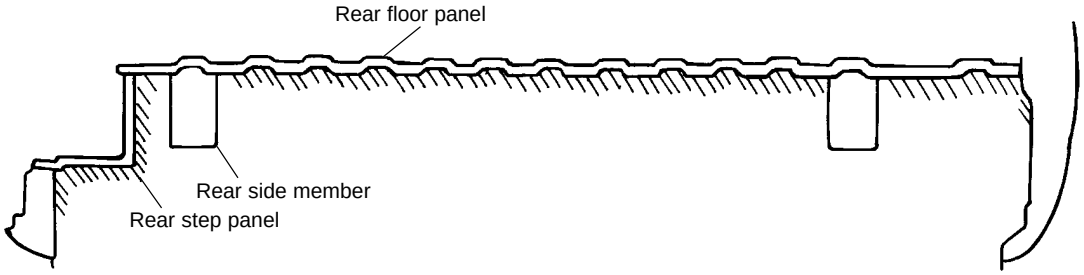
CPAS0010



SECTION A-A' CPAS0020



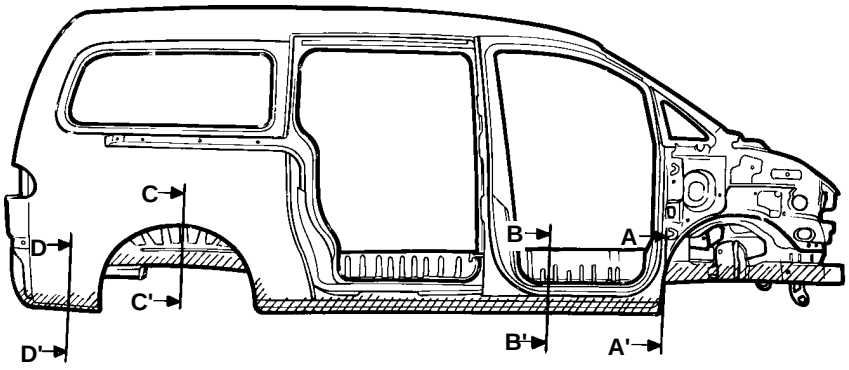
SECTION B-B' CPAS0030



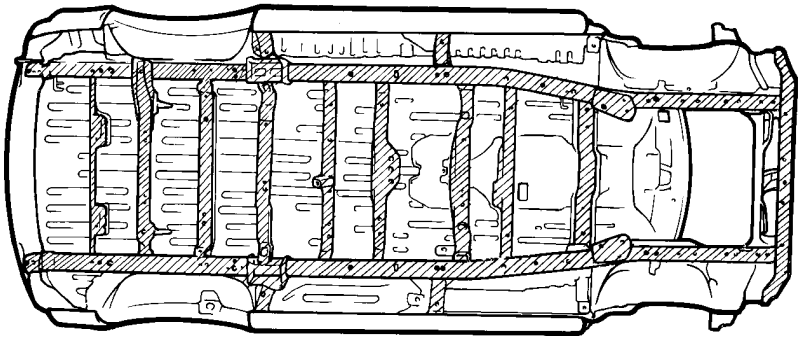
SECTION C-C' CPAS0040

CAVITY WAX INJECTION

In order to provide greater corrosion resistance, cavity wax injection has been performed for the lower areas of the vehicle, such as the sidemember, the side sill and the inside of other panels which are in an hollow construction.
When replacing these parts, be sure to apply to apply cavity wax to the appropriate areas of the new parts.

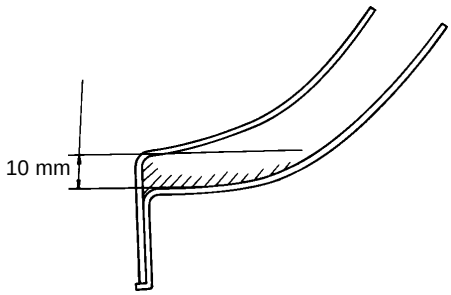


CCAS0010

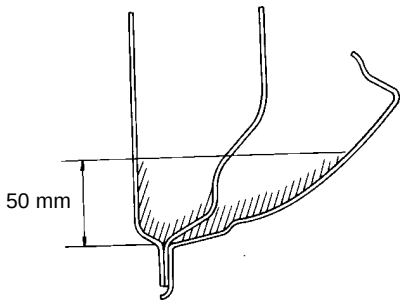


DIAA0040

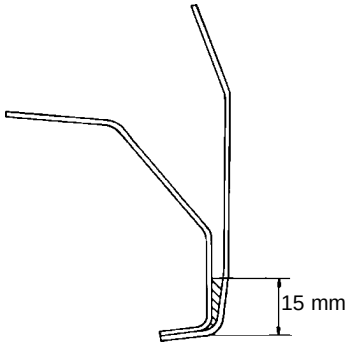
Cavity wax injection (Thickness 60 μ - 70 μ).



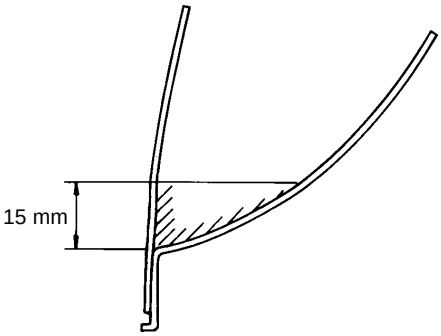
SECTION A-A' CCAS0020



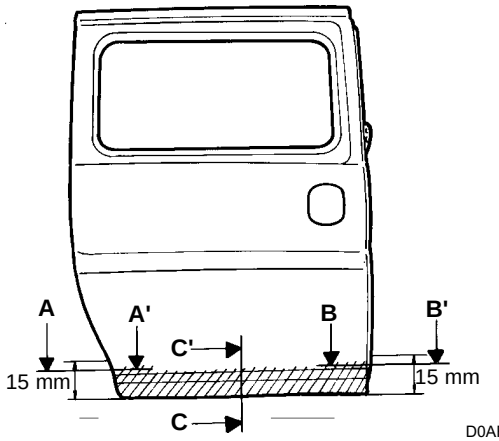
SECTION B-B' CCAS0030



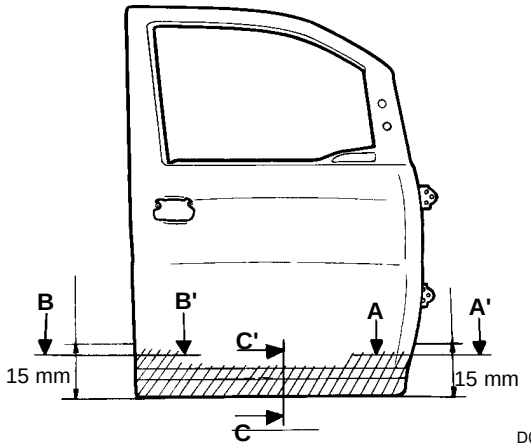
SECTION C-C' CCAS0020



SECTION D-D' CCAS0050



D0AF0040



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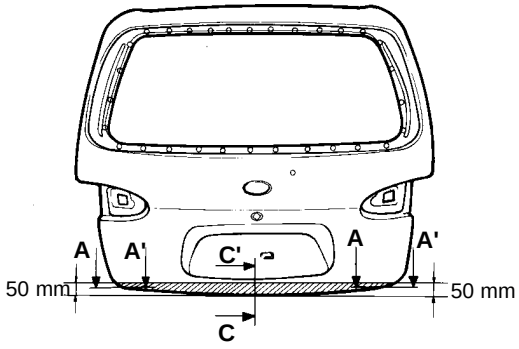
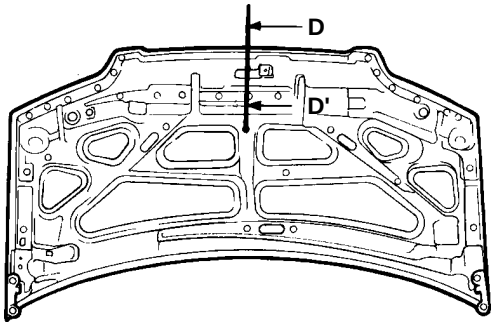
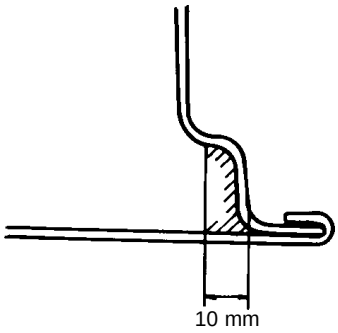


D0AT0010

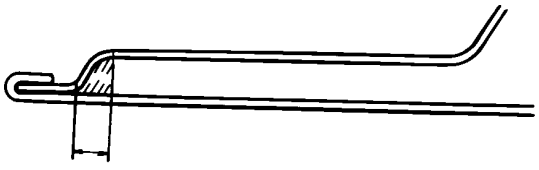


SEAA0030

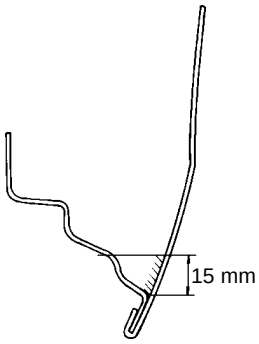
Cavity wax injection (Thickness 60 µ - 70 µ).



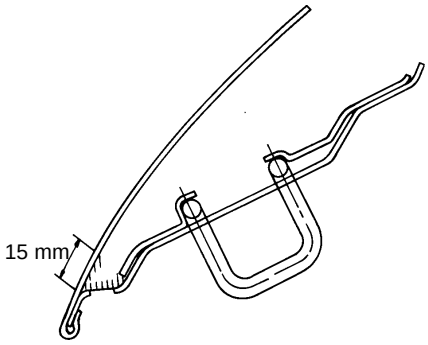
SECTION A-A' CCAS0060



SECTION B-B' CCAS0070



SECTION C-C' CCAS0080

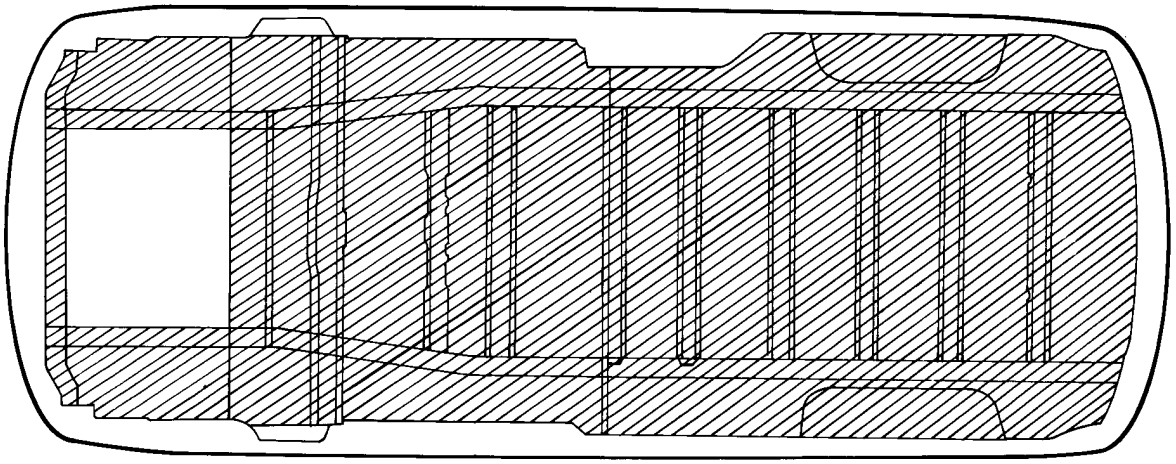


SECTION D-D' CCAS0090

UNDER BODY ANTI-CORROSION AGENT

The undersides of the floor and wheel house are undercoated to provide greater corrosion resistance. Therefore, when such panel is replaced or repaired, apply under body anti-corrosion agent to that part.

NOTE
Do not apply the under body anti-corrosion agent to come in contact with tires, muffler and exhaust pipe.



AAAC0040

Under body anti-corrosion agent (Thickness 400 μ - 500 μ)