GENERAL INFORMATION

INTRODUCTION

This Body Repair Manual provides detailed repair procedures for repair of commonly damaged structural panels on the Hyundai ATOS PRIME. To aid in the information of the damaged vehicle, body construction, replacement parts, body dimensions, body sealing locations, corrosion protection and body repair procedures 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 ATOS PRIME body shells and that is currently available in most auto body repair shops.

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 ATOS PRIME, refer to the ATOS PRIME 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.

April 2003, Printed in Korea

CONTENTS

GENERAL GUIDE LINES AND PRECAUTIONS

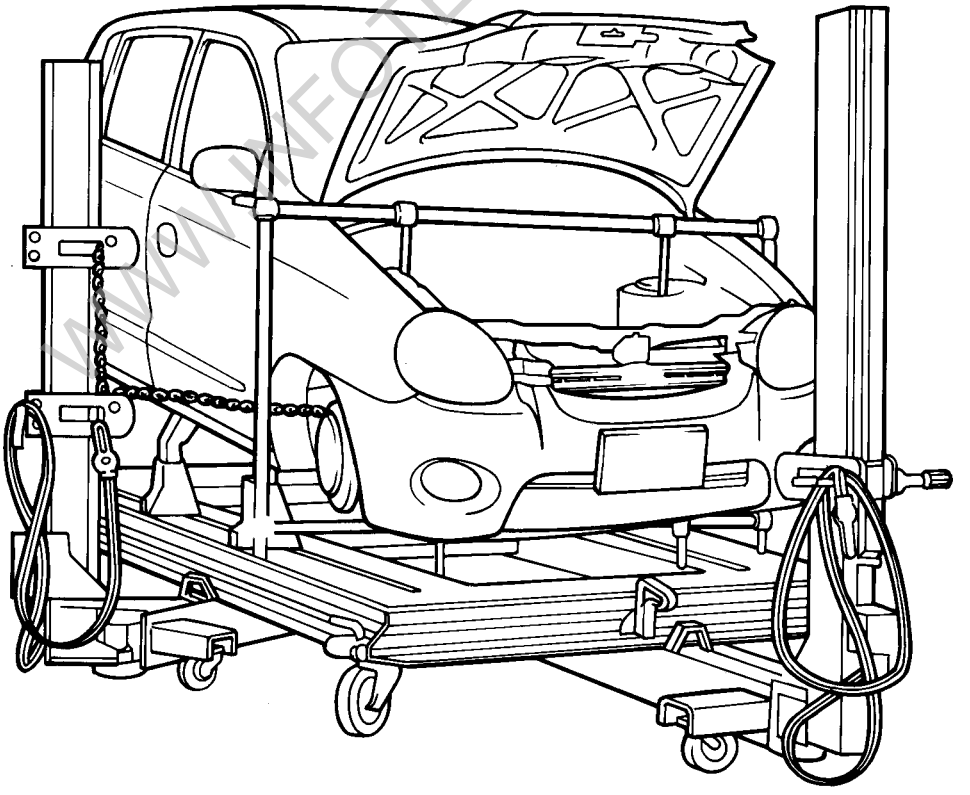
The Hyundai ATOS PRIME is a completely new vehicle design. During its development, close attention has been given to safety, stability, weight and corrosion protection. Typical of unit body design, the Hyundai ATOS PRIME is designed so that the front and rear compartments will absorb much of the collision 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 ATOS PRIME 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.

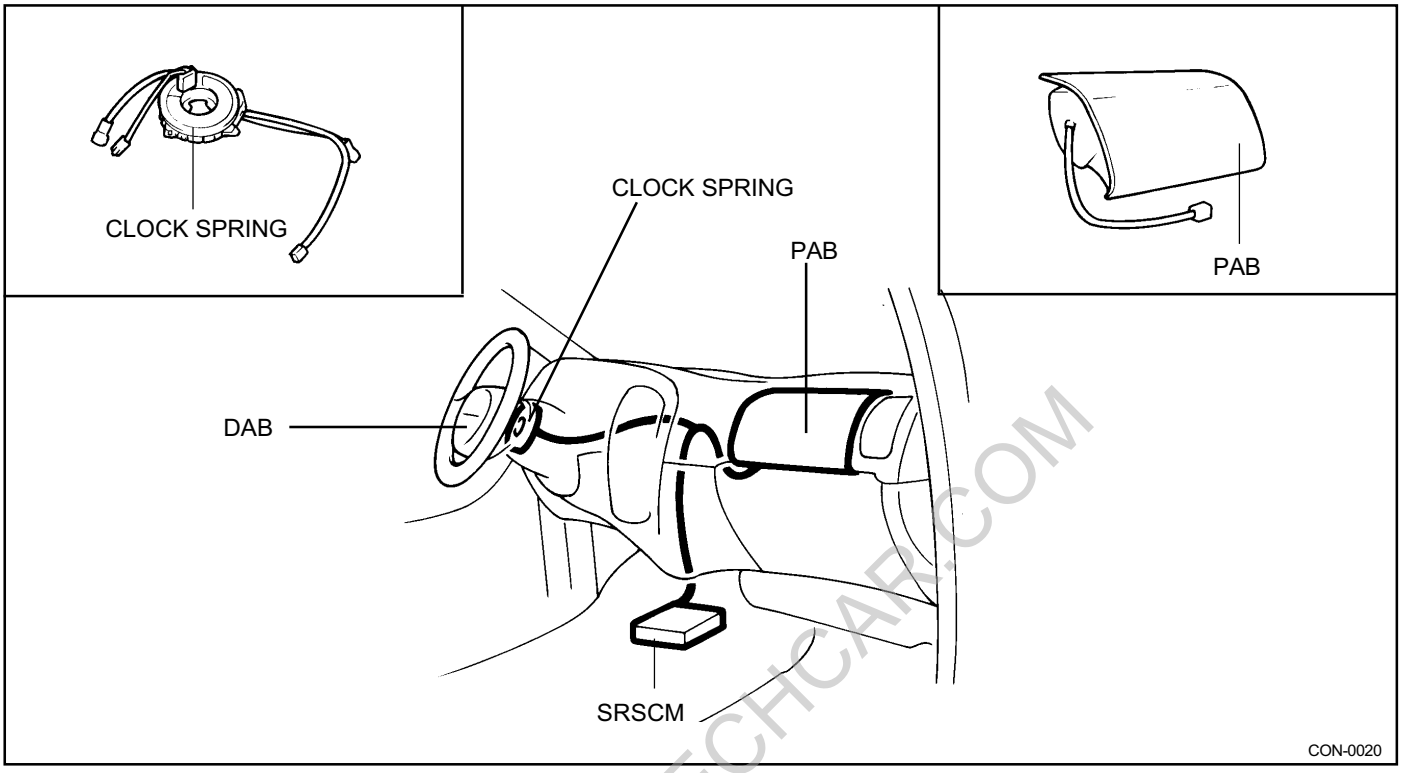
Certain guidelines and precaution are noted as follow.



CON-0010

SRS AIR-BAG

SYSTEM COMPONENT



The Hyundai ATOS PRIME is equipped with a Supplemental Restraint System AIR-BAG to provide the vehicle's driver and/or the front passenger with additional protection than that offered by the seat-belt system alone, in case of a frontal impact of sufficient severity.

When handling airbag components (removal, installation or inspection, etc.), always follow the directions given in the repair manual for the relevant model to prevent the occurrence of accidents and airbag malfunction.

Also take the following precautions when repairing the body:

1. Work must be started after approximately 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 so that if work is started within 30 seconds of disconnecting the negative (-) terminal cable of the battery, the airbag may be deployed.)
   When the negative(-) terminal cable is disconnected from the battery, memory of the clock and audio systems will be cancelled. So before starting work, make a record of the contents memorized by the audio memory system. Then when work is finished, reset the audio system as before and adjust the clock.
2. When using electric welding, first disconnect the air-bag connectors under the steering column near the MULTI-FUNCTION SWITCH and the passenger's side crash pad before starting work.
3. Store the air-bag modules where the ambient temperature remains below 93°C (200°F), without high humidity and away from electrical noise.
4. WARNING/CAUTION labels are attached to the periphery of the air-bag components.
   Refer to the ATOS PRIME 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 in followed by an application of an oil or wax based rust proofing material.

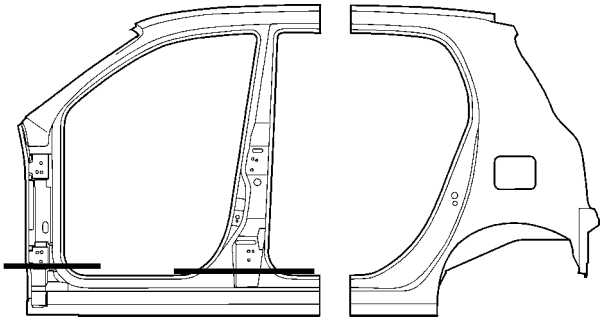
After the corrosion restoration process for the closed sections are completed, then the process can be applied to all exterior sections. For exterior surfaces, both metal conditioner and conversion coating treatments are applied to the exterior surface prior to application of the epoxy primer. The procedure 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.

SIDE BODY PANELS

The side body panel for ATOS PRIME is designed and stamped from a single piece of sheet metal in factory as shown in the figure. While the entire side panel is available for service, the partial panels sectioned by several damaged areas are also available. Therefore when repairing side body, refer to "Replacement parts section" of this manual to select and use the appropriate part.

——— : Service part line



CON-0030

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% CO_2.
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) sheet metal.

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 may take place along the circumference of the circle.

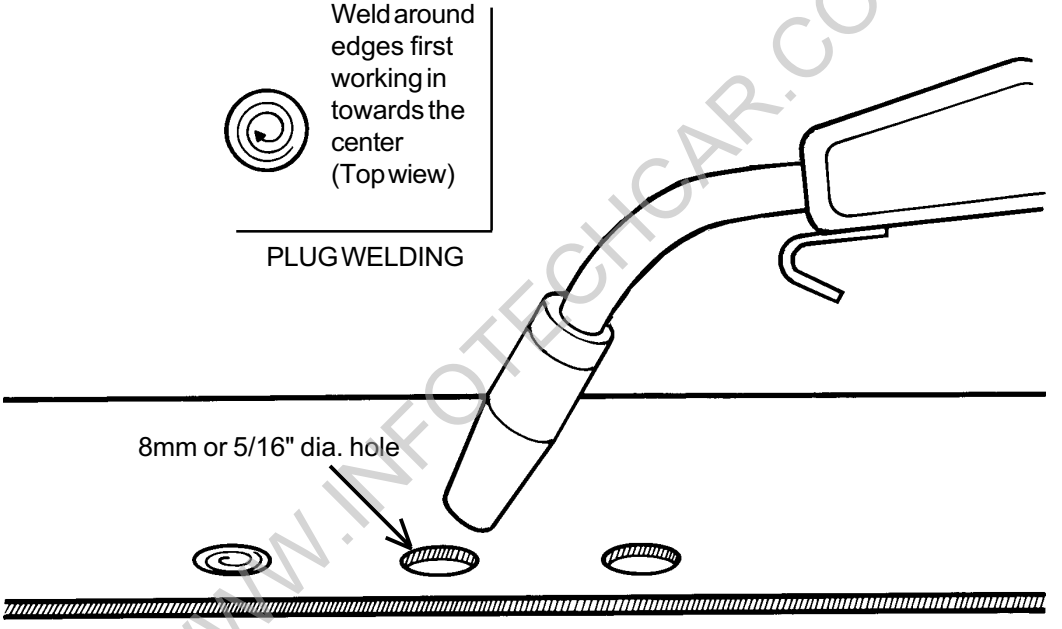


Illustration-Welding in collision Repair

HP-0040

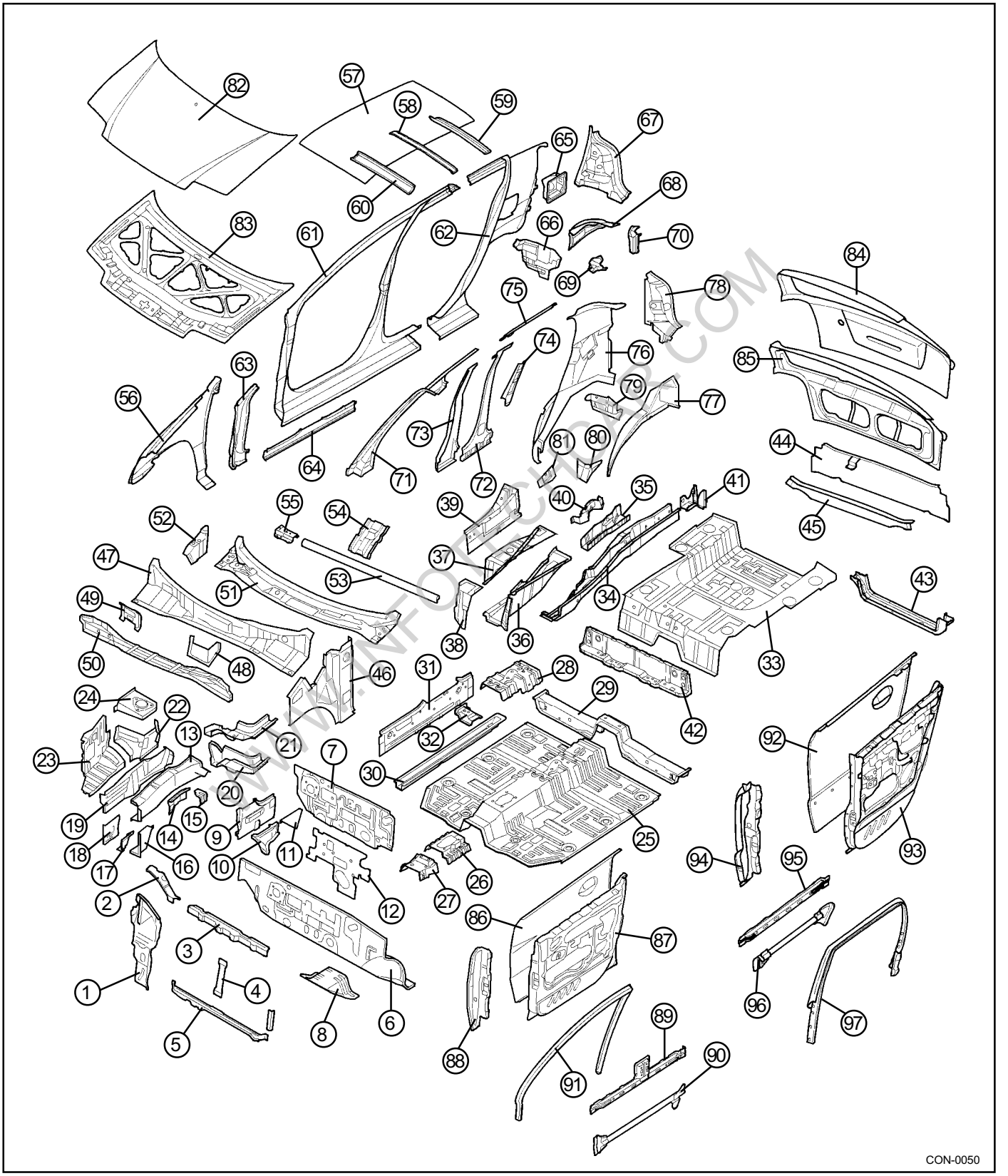
SAFETY FACTORS

Disconnect the negative(-) battery cable before performing any work on the vehicle.
Protect yourself by wearing goggles, earplugs, respirators, gloves, safety shoes, caps, etc. when working on a vehicle.
Safely support the vehicle before any work is done. Block the front or rear wheels if the vehicle is not lifted off of the ground.
Cap or remove the fuel tank when working on the rear section of the car.
Insure proper ventilation of your working area. Some paint and sealant can generate toxic gases when heated.
Use an air chisel or saw to remove damaged panels instead of a gas torch.
Observe all local and national safety regulations when performing any work.
Cover interior with heat-resistant cover to insure safety when welding.
Take care when using gas or cutting torches so as not to burn body sealer or interior. Extinguish immediately if they should catch fire.

BODY CONSTRUCTION

BODY COMPONENTS

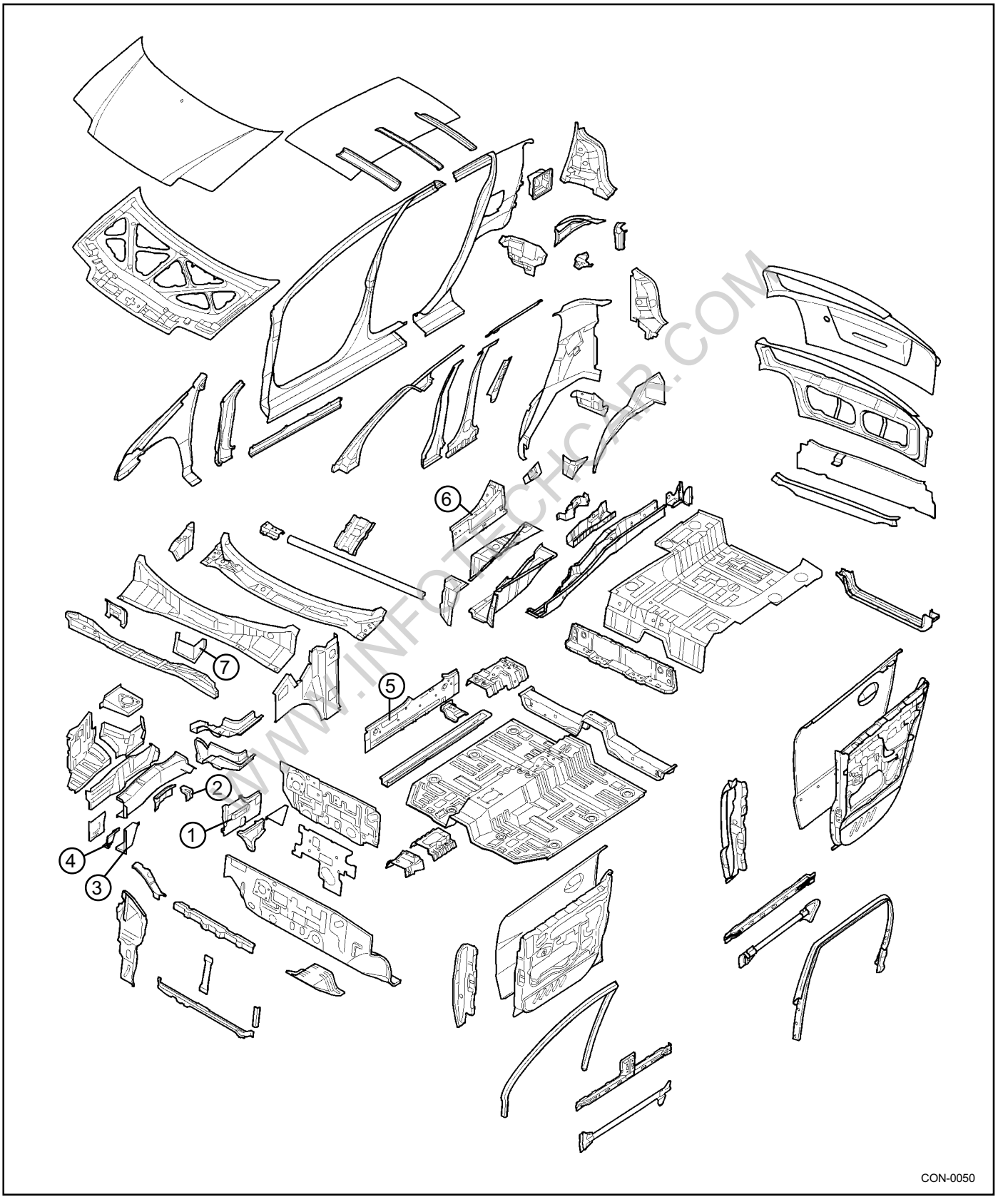
Body construction will sometimes differ depending on specifications and country of destination. Therefore, please keep in mind that the information contained herein is based on vehicles for general destination.



1. Head lamp support panel
2. Radiator support upper side member
3. Radiator support upper center member
4. Radiator support center member
5. Radiator support center cross member
6. Dash panel
7. Dash panel reinforcement
8. Dash lower center reinforcement
9. Side sill inner front extension
10. Dash lower side reinforcement
11. Dash lower side panel
12. Dash anti pad
13. Front side inner member
14. Front side member inner reinforcement
15. Battery tray mounting bracket
16. Sub frame front mounting bracket
17. Sub frame front mounting reinforcement
18. Front side outer member gusset
19. Front side outer member
20. Front side rear lower member
21. Front side rear upper member
22. Fender apron inner panel
23. Fender apron inner front panel
24. Front shock absorber cover panel
25. Center floor panel
26. TGS lever mounting reinforcement
27. ESPS mounting reinforcement
28. Center floor rear reinforcement
29. Front seat cross member
30. Center floor side member
31. Side sill inner panel
32. Front seat rear side mounting bracket
33. Rear floor panel
34. Rear front side member
35. Rear floor side reinforcement
36. Rear floor side extension
37. Rear floor side support
38. Rear floor front side support
39. Side sill inner rear extension
40. Rear shock absorber outer side mounting bracket
41. Rear bumper mounting bracket
42. Rear floor front cross member
43. Rear floor center cross member
44. Back panel
45. Rear transverse member
46. Front pillar inner lower panel
47. Cowl inner lower panel
48. Plenum chamber guide bracket
49. Cowl inner lower center reinforcement
50. Cowl front outer panel
51. Cowl top outer panel
52. Cowl side panel
53. Cowl cross bar
54. Steering column mounting plate
55. Cowl cross bar mounting bracket
56. Fender panel
57. Roof panel
58. Roof center rail
59. Roof rear rail
60. Roof front rail
61. Front side outer panel
62. Rear side outer panel
63. Front pillar outer reinforcement
64. Side sill outer reinforcement
65. Fuel filler housing
66. Quarter outer rear lower extension
67. Rear combination lamp housing panel
68. Rear seat belt upper mounting bracket
69. Quarter outer rear upper extension
70. Quarter outer rear center extension
71. Front inner upper pillar
72. Center inner pillar
73. Center pillar outer reinforcement
74. Front seat belt upper mounting bracket
75. Roof side inner rail
76. Quarter inner panel
77. Wheel house inner panel
78. Quarter inner rear panel
79. Quarter inner rear lower extension
80. Wheel house inner front extension
81. Quarter pillar reinforcement
82. Hood outer panel
83. Hood inner panel
84. Tail gate outer panel
85. Tail gate inner panel
86. Front door outer panel
87. Front door inner panel
88. Front door hinge face reinfrocement
89. Front door upper member
90. Front door beam
91. Front door frame
92. Rear door outer panel
93. Rear door inner panel
94. Rear door hinge face reinforcement
95. Rear door upper member
96. Rear door beam
97. Rear door frame

ZINC-GALVANIZED STEEL PANELS

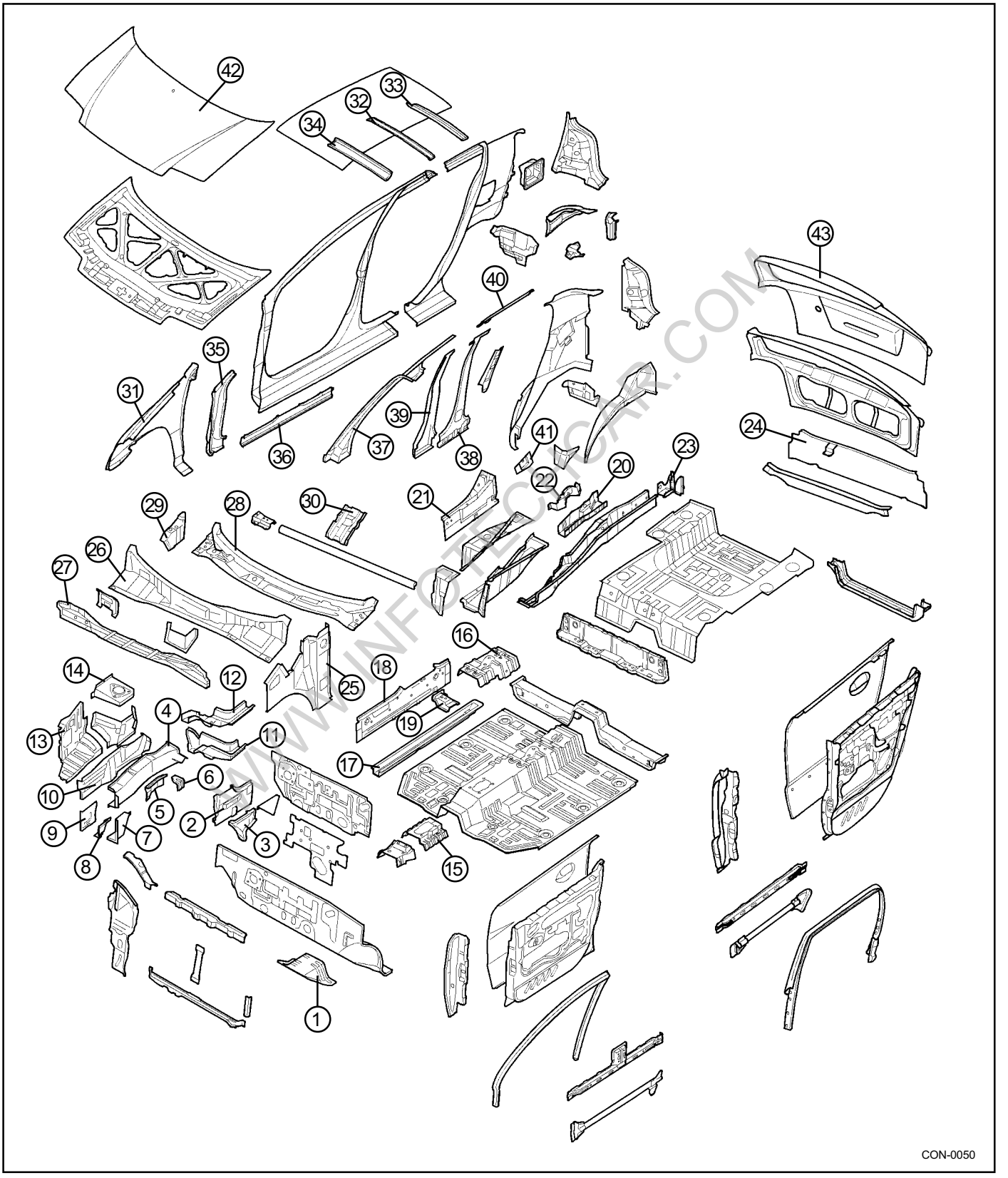
Because galvanized steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.



1. Side sill inner front extension
2. Battery tray mounting bracket
3. Sub frame front mounting bracket
4. Sub frame front mounting reinforcement
5. Side sill inner panel
6. Side sill inner rear extension
7. Plenum chamber guide bracket

HIGH STRENGTH STEEL PANELS

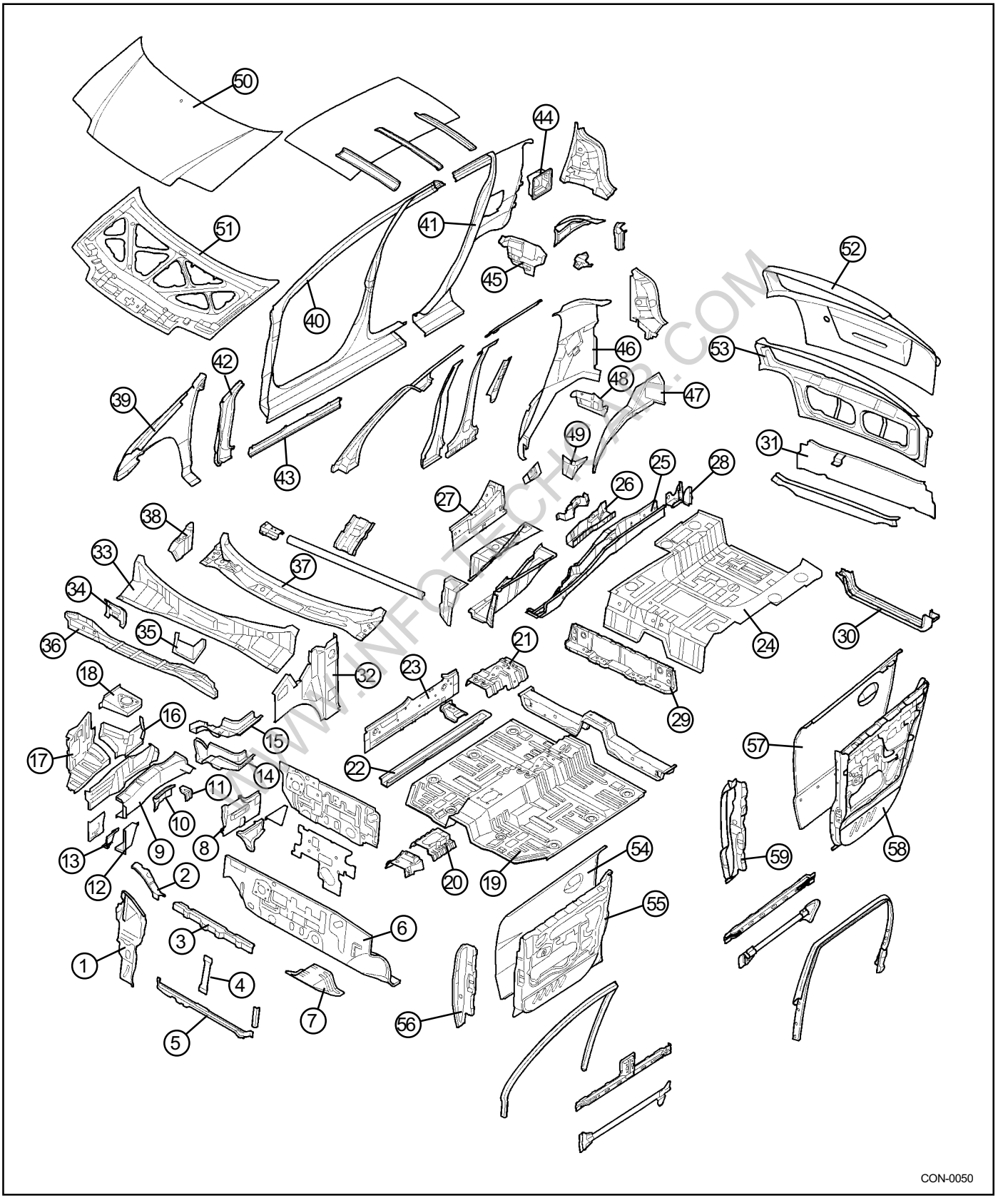
Because High strength steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.



1. Dash lower center reinforcement
2. Side sill inner front extension
3. Dash lower side reinforcement
4. Front side inner member
5. Front side member inner reinforcement
6. Battery tray mounting bracket
7. Sub frame front mounting bracket
8. Sub frame front mounting reinforcement
9. Front side outer member gusset
10. Front side outer member
11. Front side rear lower member
12. Front side rear upper member
13. Fender apron inner front panel
14. Front shock absorber cover panel
15. TGS lever mounting reinforcement
16. Center floor rear reinforcement
17. Center floor side member
18. Side sill inner panel
19. Front seat rear side mounting bracket
20. Rear floor side reinforcement
21. Side sill inner rear extension
22. Rear shock absorber outer side mounting bracket
23. Rear bumper mounting bracket
24. Back panel
25. Front pillar inner lower panel
26. Cowl inner lower panel
27. Cowl front outer panel
28. Cowl top outer panel
29. Cowl side panel
30. Steering column mounting plate
31. Fender panel
32. Roof center rail
33. Roof rear rail
34. Roof front rail
35. Front pillar outer reinforcement
36. Side sill outer reinforcement
37. Front inner upper pillar
38. Center inner pillar
39. Center pillar outer reinforcement
40. Roof side inner rail
41. Quarter pillar reinforcement
42. Hood outer panel
43. Tail gate outer panel

ZINC-GALVANIZED STEEL PANELS

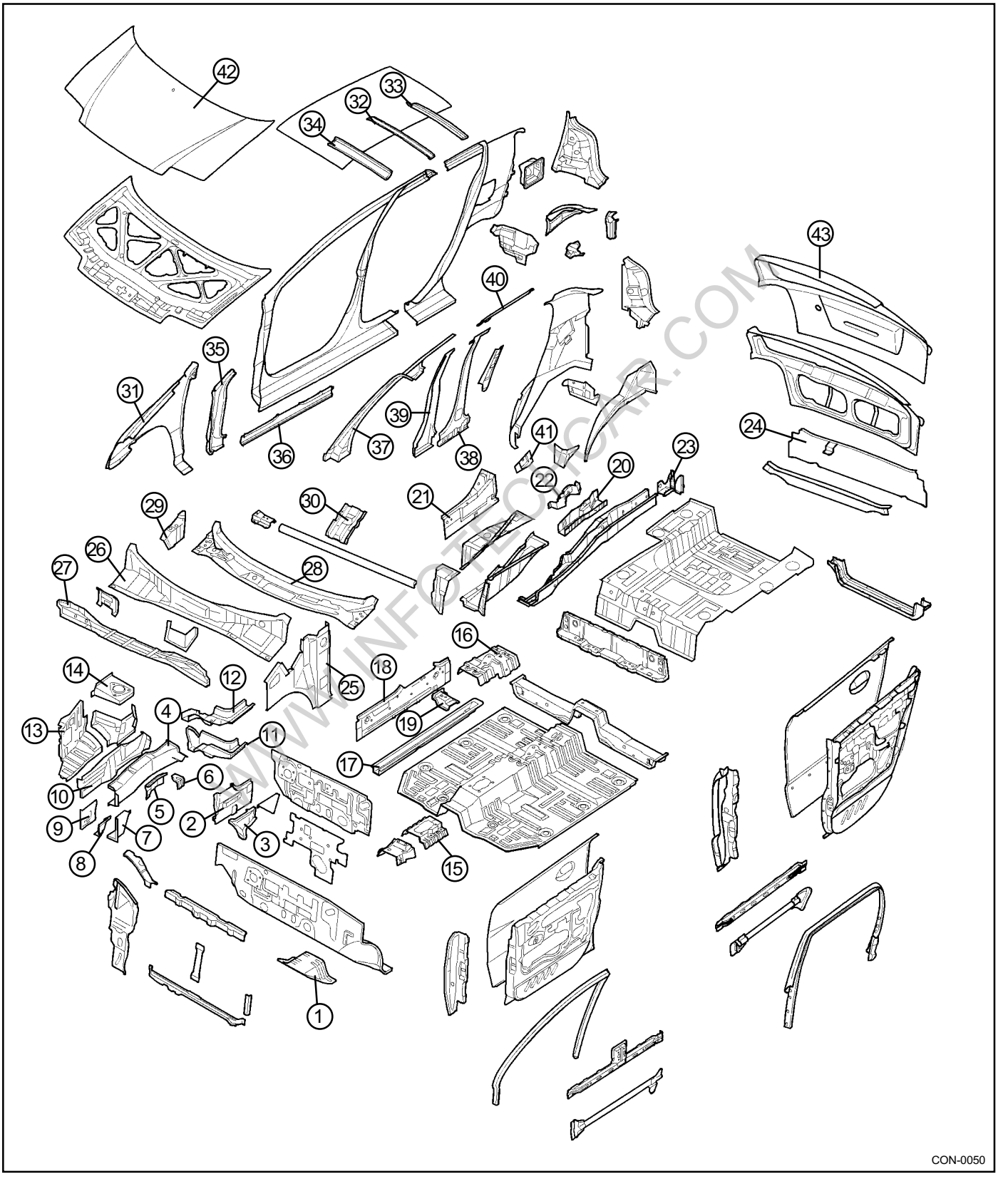
Because galvanized steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.



1. Head lamp support panel
2. Radiator support upper side member
3. Radiator support upper center member
4. Radiator support center member
5. Radiator support center cross member
6. Dash panel
7. Dash lower center reinforcement
8. Side sill inner front extension
9. Front side inner member
10. Front side member inner reinforcement
11. Battery tray mounting bracket
12. Sub frame front mounting bracket
13. Sub frame front mounting reinforcement
14. Front side rear lower member
15. Front side rear upper member
16. Fender apron inner panel
17. Fender apron inner front panel
18. Front shock absorber cover panel
19. Center floor panel
20. TGS lever mounting reinforcement
21. Center floor rear reinforcement
22. Center floor side member
23. Side sill inner panel
24. Rear floor panel
25. Rear front side member
26. Rear floor side reinforcement
27. Side sill inner rear extension
28. Rear bumper mounting bracket
29. Rear floor front cross member
30. Rear floor center cross member
31. Back panel
32. Front pillar inner lower panel
33. Cowl inner lower panel
34. Plenum chamber guide bracket
35. Cowl inner lower center reinforcement
36. Cowl front outer panel
37. Cowl top outer panel
38. Cowl side panel
39. Fender panel
40. Front side outer panel
41. Rear side outer panel
42. Front pillar outer reinforcement
43. Side sill outer reinforcement
44. Fuel filler housing
45. Quarter outer rear lower extension
46. Quarter inner panel
47. Wheel house inner panel
48. Quarter inner rear lower extension
49. Wheel house inner front extension
50. Hood outer panel
51. Hood inner panel
52. Tail gate outer panel
53. Tail gate inner panel
54. Front door outer panel
55. Front door inner panel
56. Front door hinge face reinfrocement
57. Rear door outer panel
58. Rear door inner panel
59. Rear door hinge face reinforcement

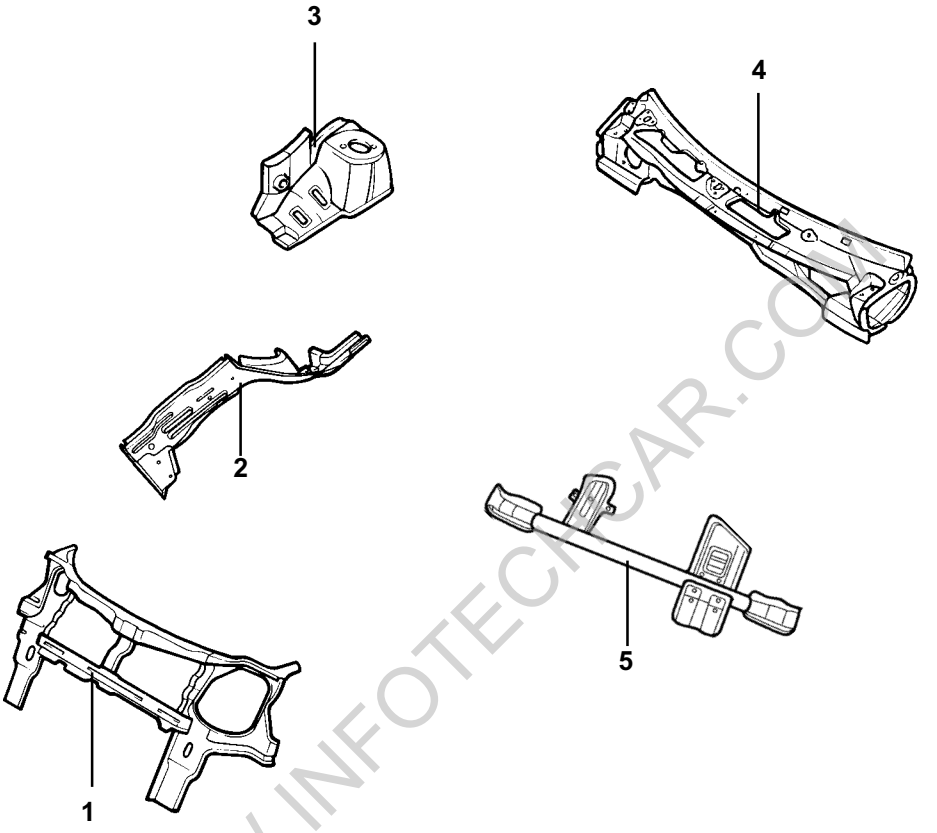
HIGH STRENGTH STEEL PANELS

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



1. Dash lower center reinforcement
2. Side sill inner front extension
3. Dash lower side reinforcement
4. Front side inner member
5. Front side member inner reinforcement
6. Battery tray mounting bracket
7. Sub frame front mounting bracket
8. Sub frame front mounting reinforcement
9. Front side outer member gusset
10. Front side outer member
11. Front side rear lower member
12. Front side rear upper member
13. Fender apron inner front panel
14. Front shock absorber cover panel
15. TGS lever mounting reinforcement
16. Center floor rear reinforcement
17. Center floor side member
18. Side sill inner panel
19. Front seat rear side mounting bracket
20. Rear floor side reinforcement
21. Side sill inner rear extension
22. Rear shock absorber outer side mounting bracket
23. Rear bumper mounting bracket
24. Back panel
25. Front pillar inner lower panel
26. Cowl inner lower panel
27. Cowl front outer panel
28. Cowl top outer panel
29. Cowl side panel
30. Steering column mounting plate
31. Fender panel
32. Roof center rail
33. Roof rear rail
34. Roof front rail
35. Front pillar outer reinforcement
36. Side sill outer reinforcement
37. Front inner upper piller
38. Center inner pillar
39. Center pillar outer reinforcement
40. Roof side inner rail
41. Quarter pillar reinforcement
42. Hood outer panel
43. Tail gate outer panel

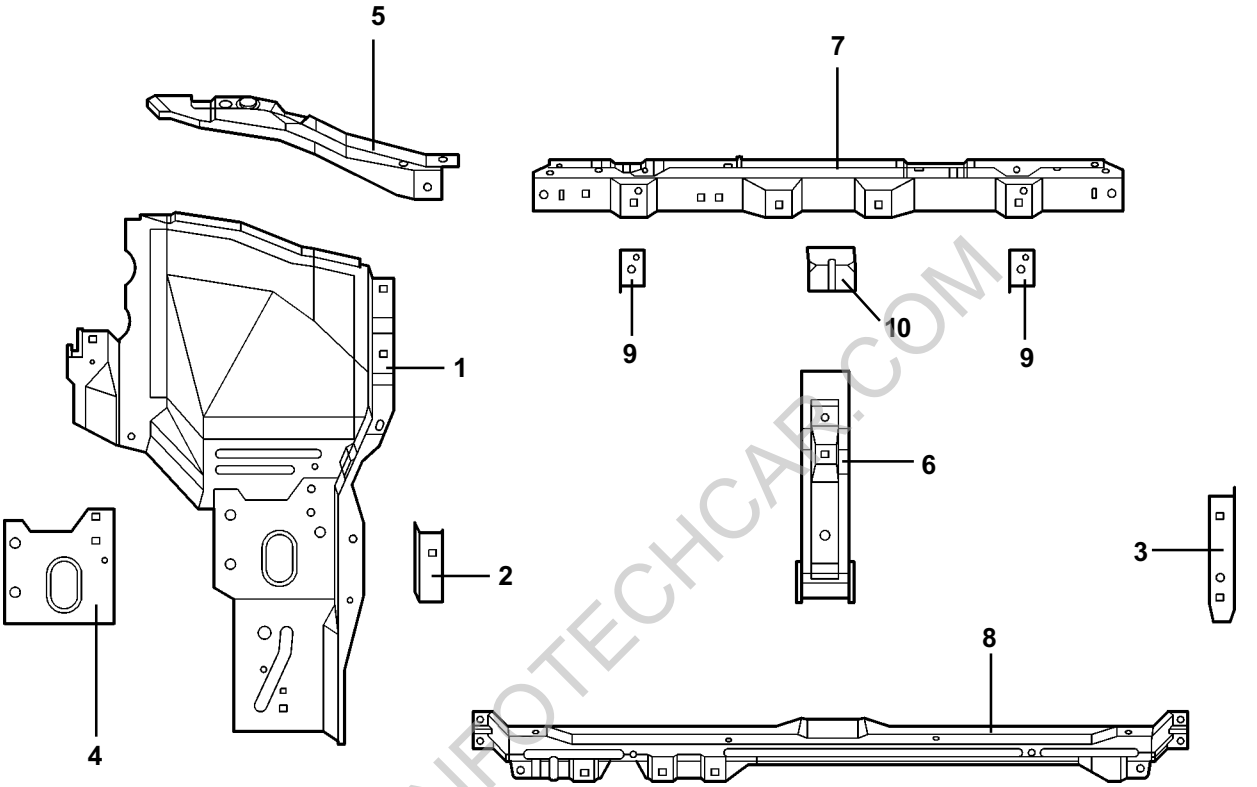
FRONT BODY



CON-0090/CON-0091

No.	PART NAME
1	Radiator support panel
2	Front side member
3	Fender apron panel
4	Cowl top outer panel
5	Cowl cross member

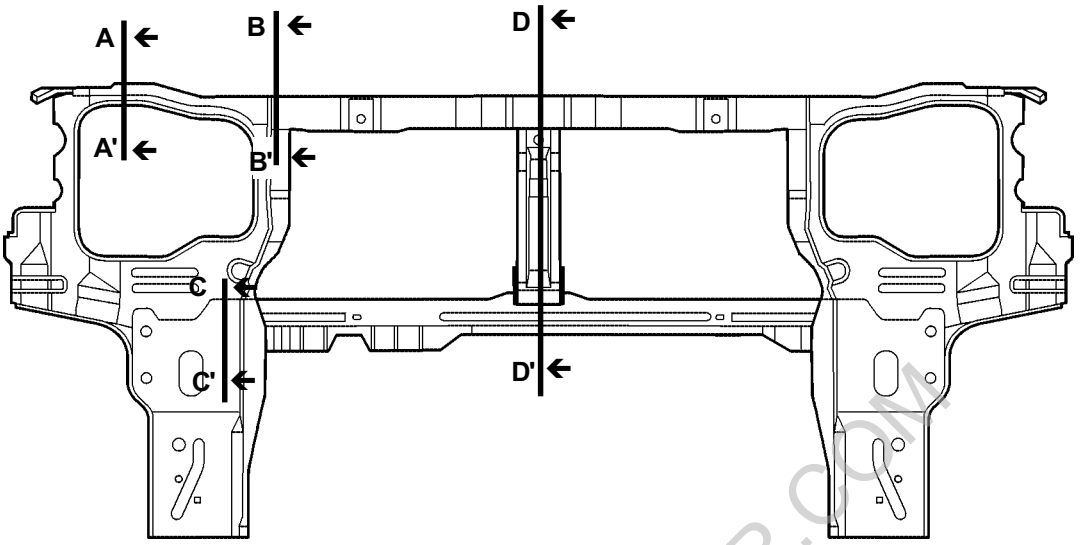
1. RADIATOR SUPPORT PANEL



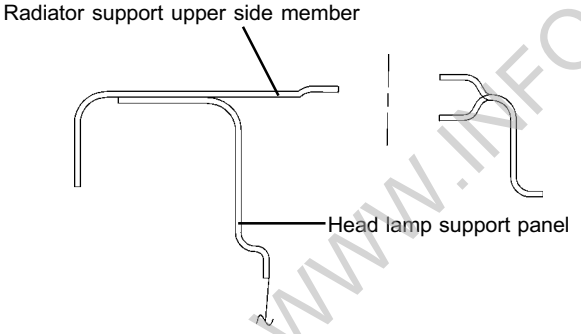
CON-0110

No.	PART NAME
1	Head lamp support panel
2	Radiator support member mounting reinforcement
3	Radiator support member mounting reinforcement
4	Front bumper mounting reinforcement
5	Radiator support upper side member
6	Radiator support center member
7	Radiator support upper center member
8	Radiator support center cross member
9	Horn mounting bracket
10	Radiator support upper center reinforcement

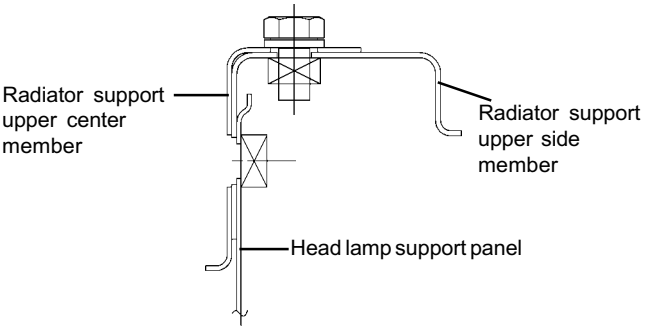
<Cross-Sectional Views>



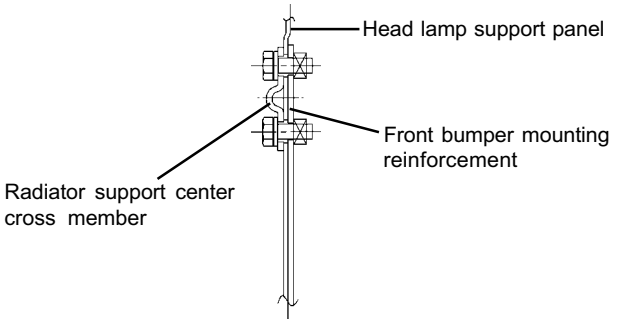
CON-0110



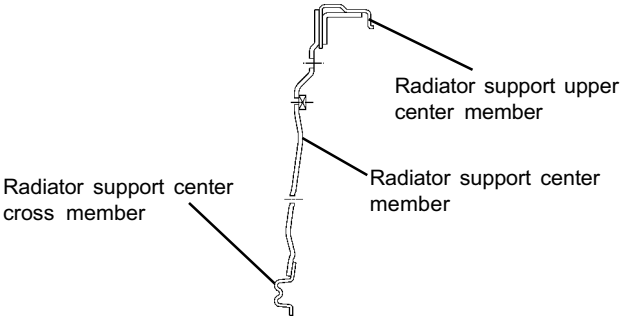
SECTION A-A' CON-0111



SECTION B-B' CON-0112

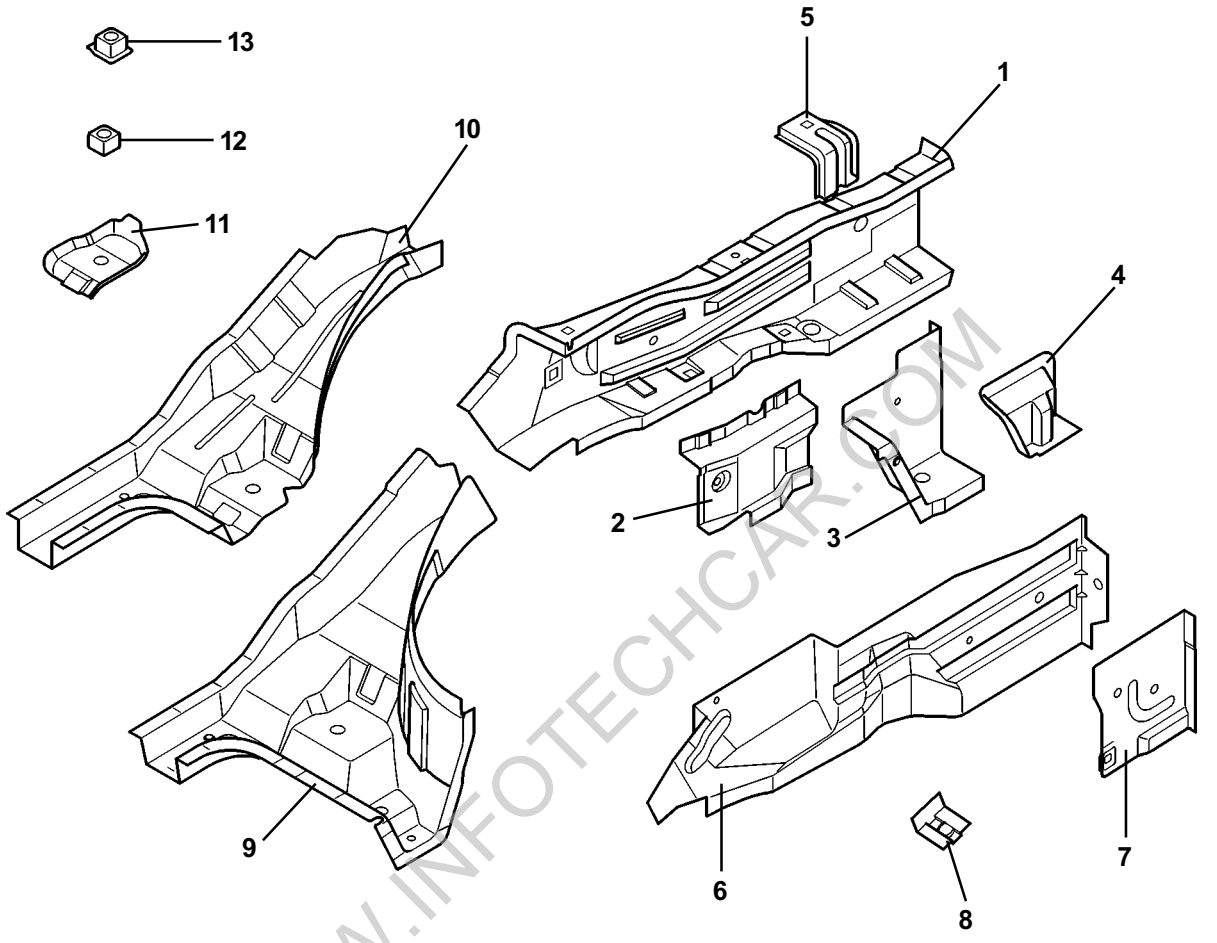


SECTION C-C' CON-0113



SECTION D-D' CON-0114

2. FRONT SIDE MEMBER

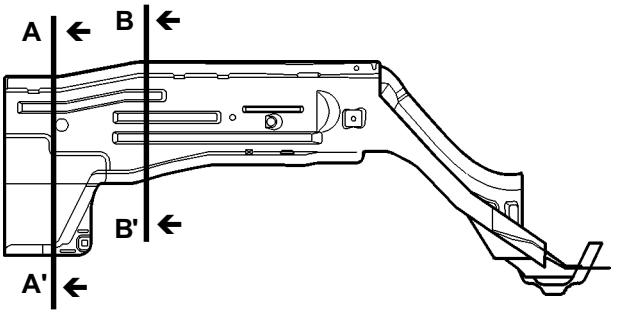


CON-0120

No.	PART NAME
1	Front side member inner
2	Front side member inner reinforcement
3	Sub frame front mounting bracket
4	Side member front mounting reinforcement
5	Battery tray mounting bracket
6	Front side outer member
7	Front side outer member gusset
8	Brake hose mounting bracket
9	Front side rear lower member
10	Front side rear upper member
11	Sub frame rear mounting reinforcement
12	Sub frame front mounting nut
13	Sub frame rear mounting retainer

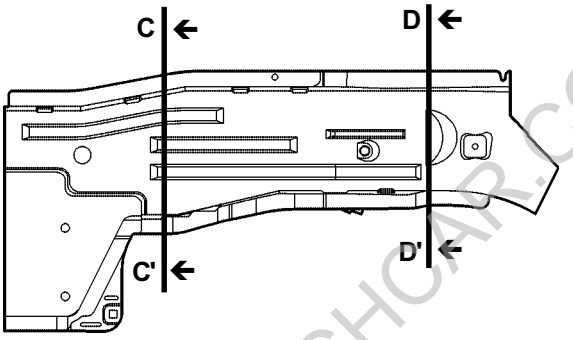
<Cross-Sectional Views>

LH

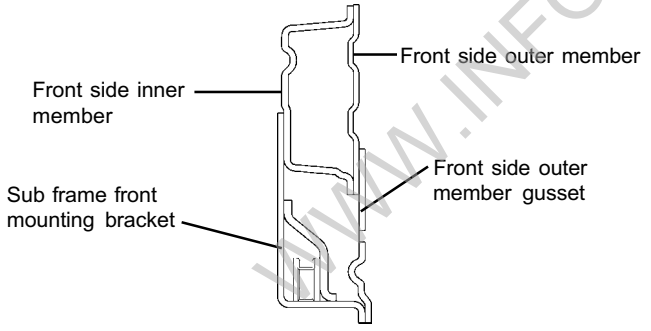


CON-0130

RH

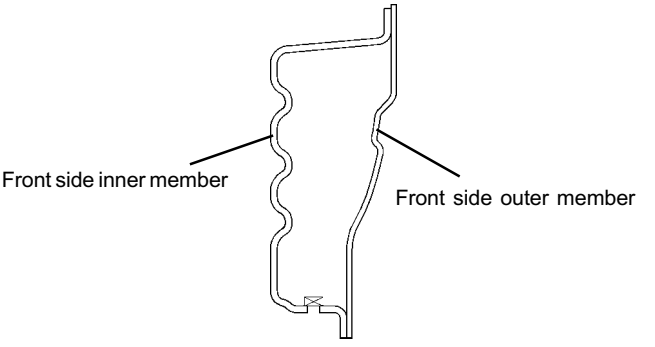


CON-0131



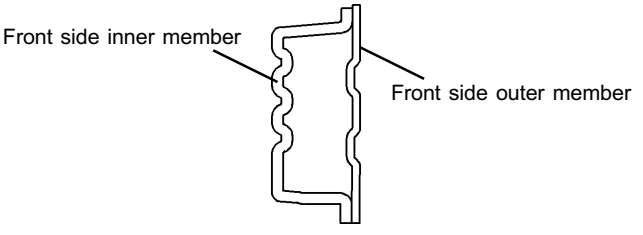
SECTION A-A'

CON-0132



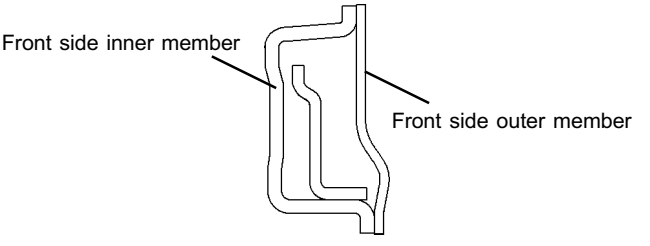
SECTION B-B'

CON-0133



SECTION C-C'

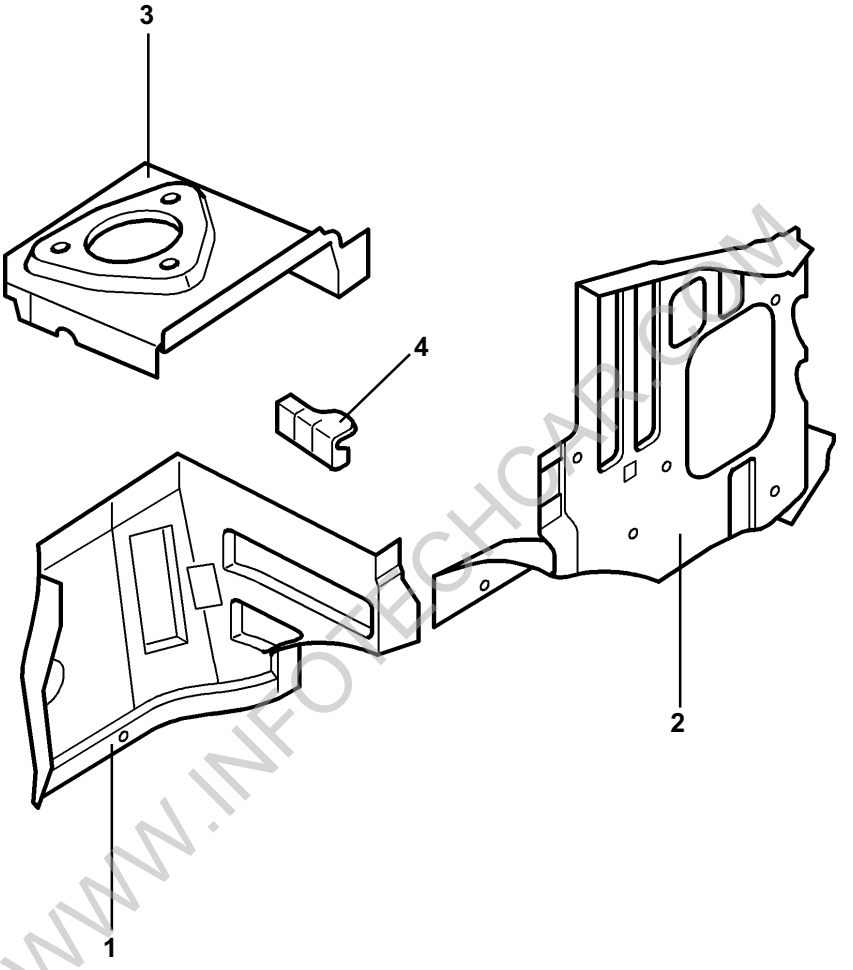
CON-0134



SECTION D-D'

CON-0135

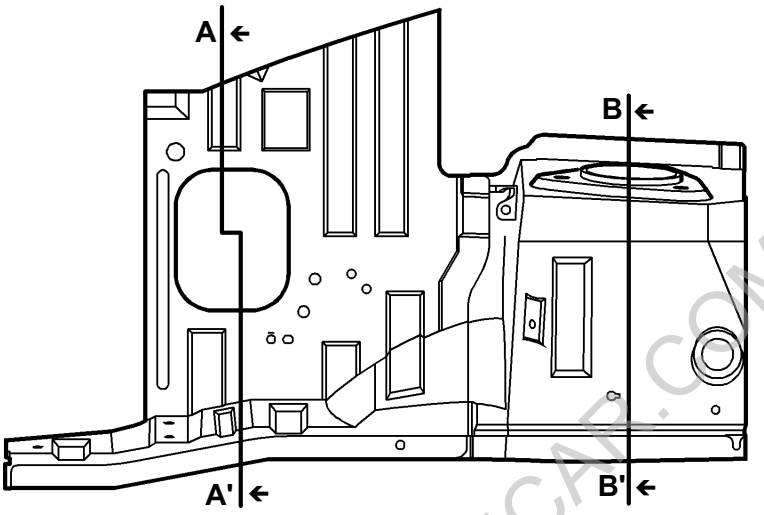
3. FENDER APRON PANEL



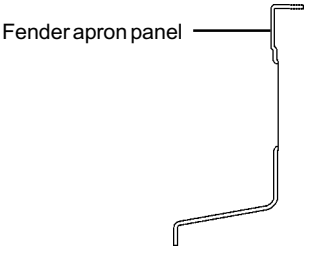
CON-0140

No.	PART NAME
1	Fender apron inner panel
2	Fender apron inner front panel
3	Front shock absorber cover panel
4	Relay box mounting bracket

<Cross-Sectional Views>

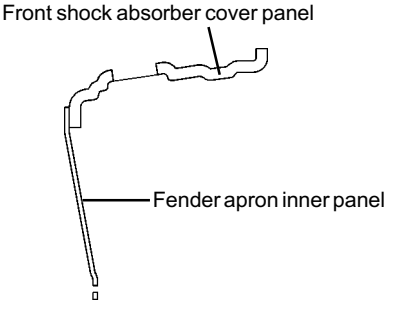


CON-0150



SECTION A-A'

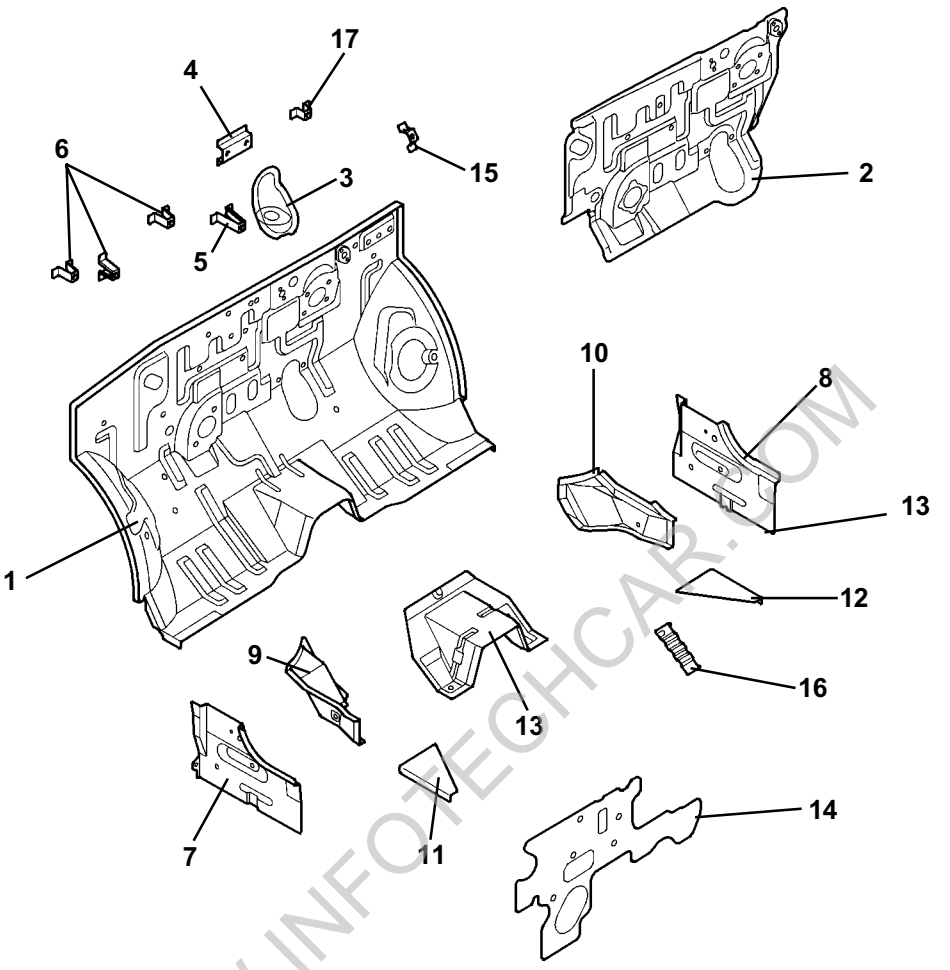
CON-0151



SECTION B-B'

CON-0152

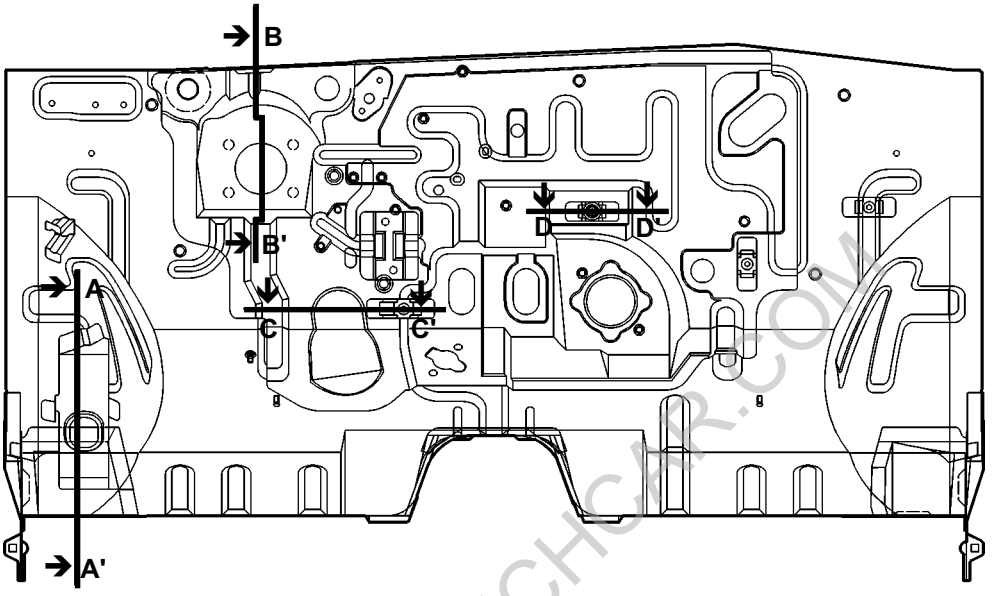
4. DASH PANEL



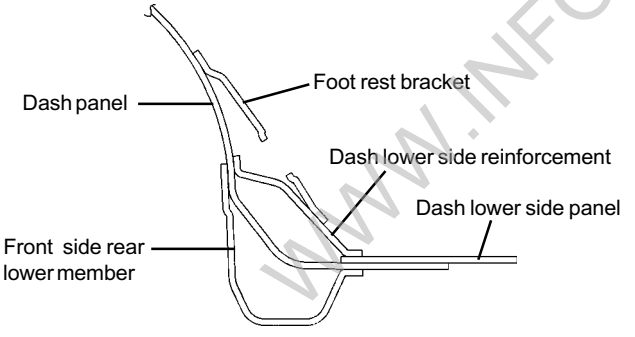
CON-0160

No.	PART NAME
1	Dash panel
2	Dash panel reinforcement
3	Dust cover panel
4	Clutch pedal mounting bracket
5	Heater lower mounting bracket
6	Evaporator & blower mounting bracket
7	Side sill inner front extension (LH)
8	Side sill inner front extension (RH)
9	Dash lower side reinforcement (LH)
10	Dash lower side reinforcement (RH)
11	Dash lower side panel (LH)
12	Dash lower side panel (RH)
13	Dash lower center reinforcement
14	Dash panel anti pad
15	Fuse box mounting bracket
16	Foot rest mounting bracket
17	Accelerator pedal mounting bracket

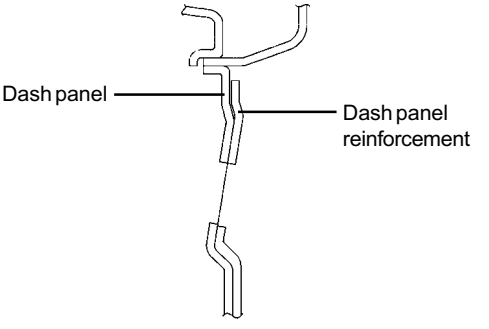
<Cross-Sectional Views>



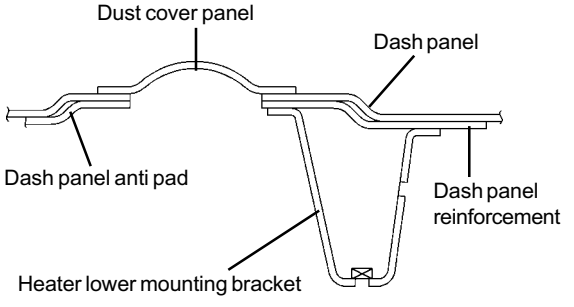
PRO-0170



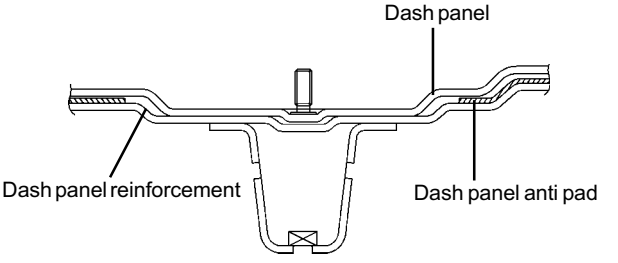
SECTION A-A' CON-0171



SECTION B-B' CON-0172

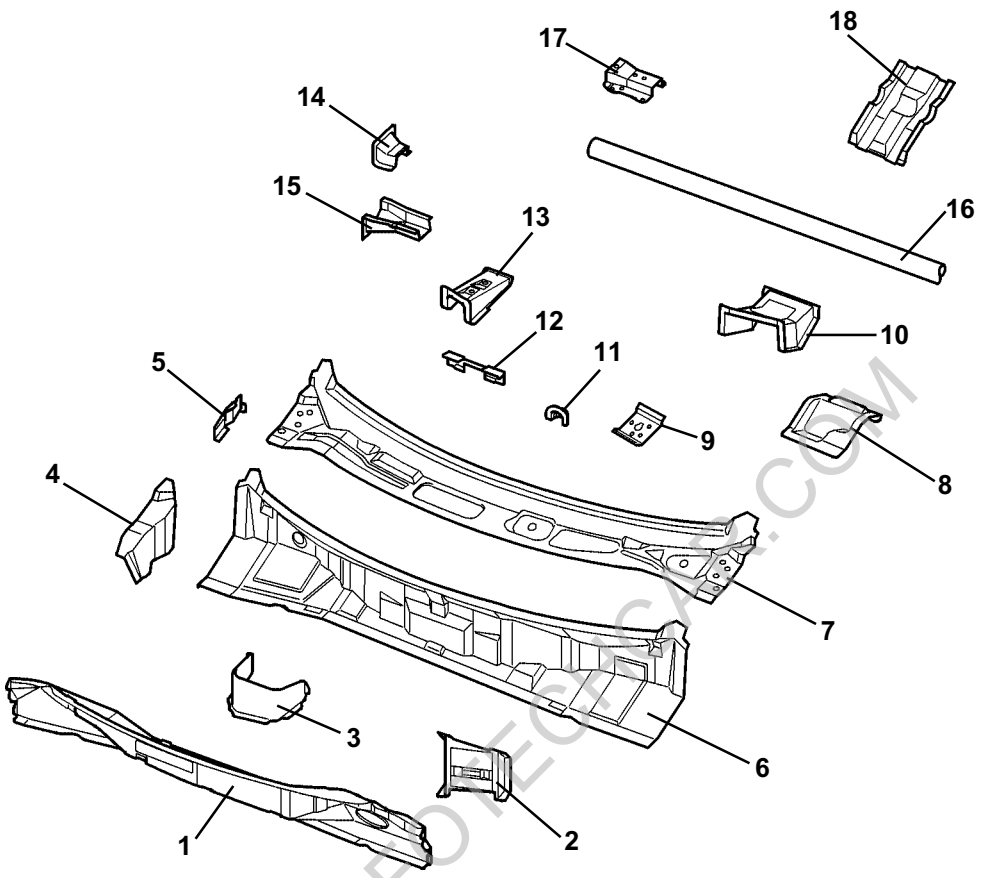


SECTION C-C' CON-0173



SECTION D-D' CON-0174

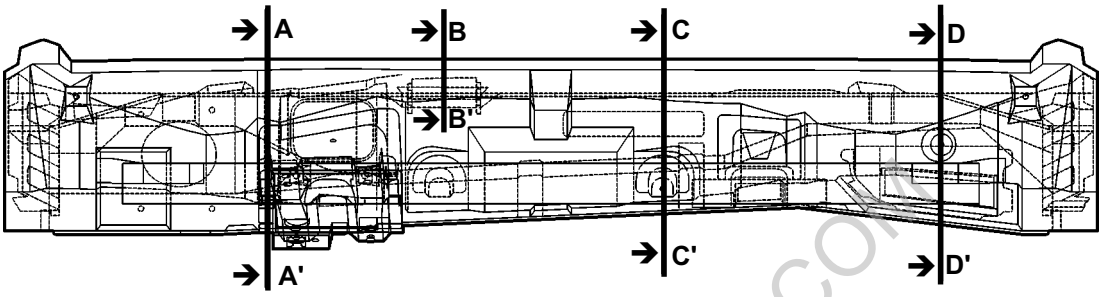
5. COWL PANEL



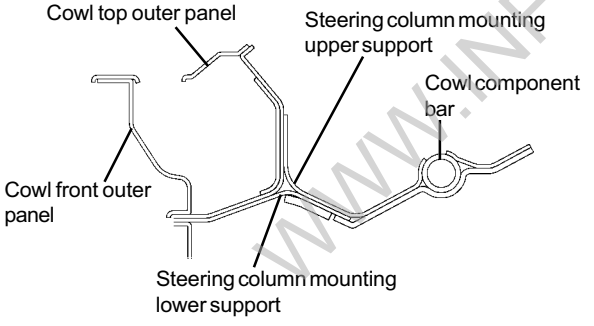
CON-0180

No.	PART NAME
1	Cowl front outer panel
2	Cowl inner lower center reinforcement
3	Plenum chamber guide bracket
4	Cowl side panel
5	Fender mounting rear bracket
6	Cowl inner lower panel
7	Cowl top outer panel
8	Steering column mounting lower support
9	Wiper pivot mounting center reinforcement
10	Steering column mounting upper support
11	Heater upper mounting bracket
12	Evaporator mounting bracket
13	Cowl cross bar support
14	Cowl cross bar lower mounting bracket
15	Cowl cross bar upper mounting bracket
16	Cowl cross bar mounting bracket
17	Steering column mounting plate
18	Cowl cross bar

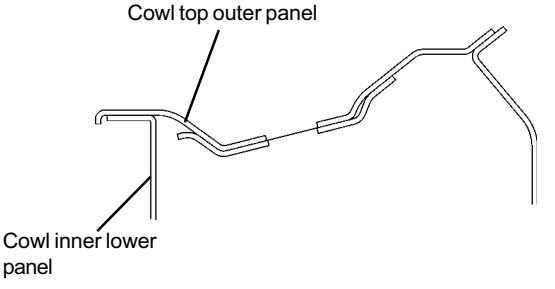
<Cross-Sectional Views>



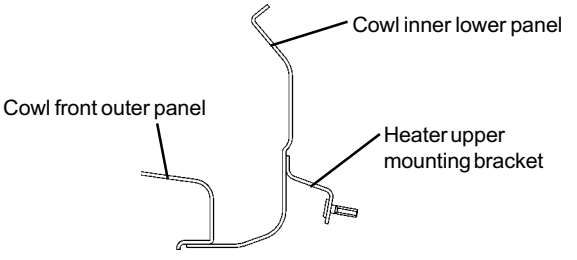
PRO-0600



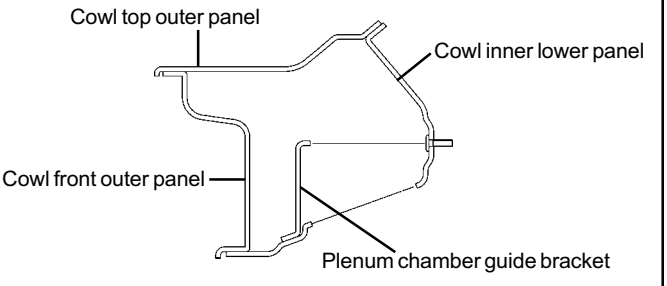
SECTION A-A' CON-0191



SECTION B-B' CON-0192

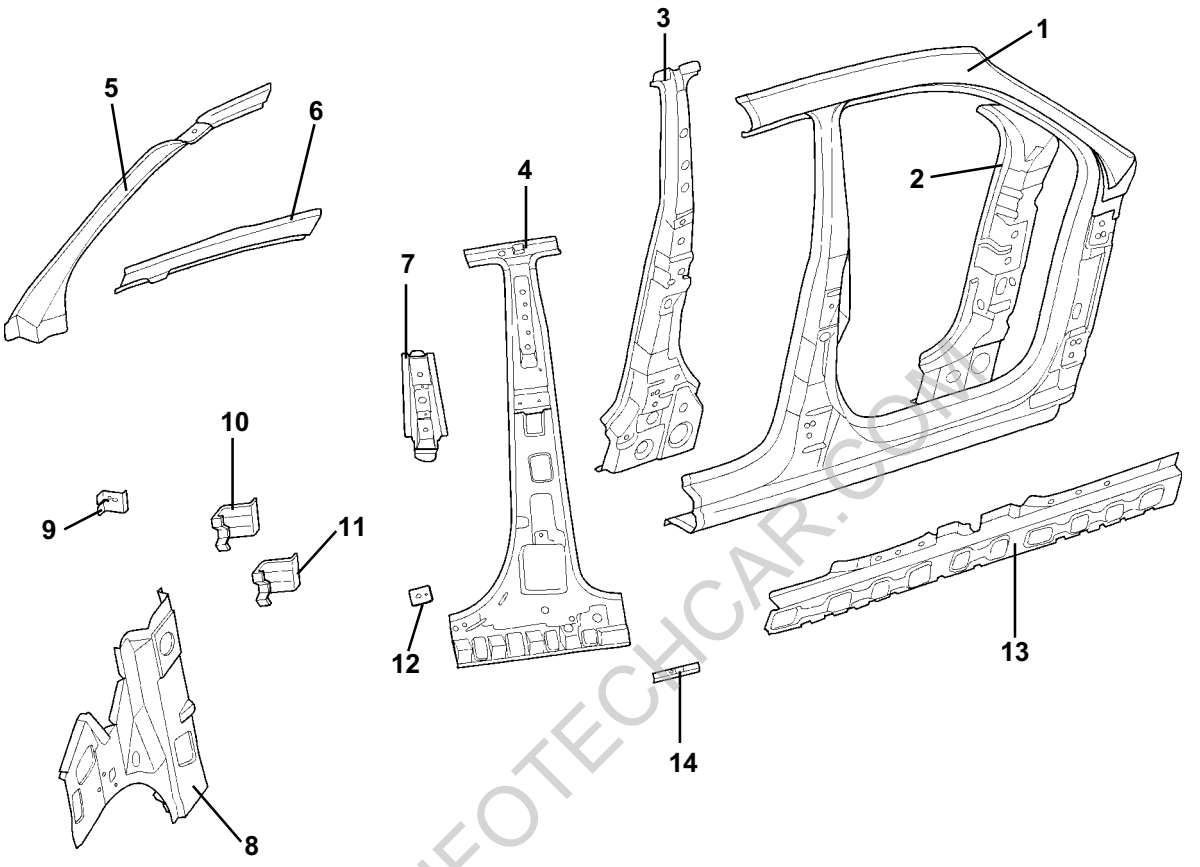


SECTION C-C' CON-0193



SECTION D-D' CON-0194

SIDE BODY

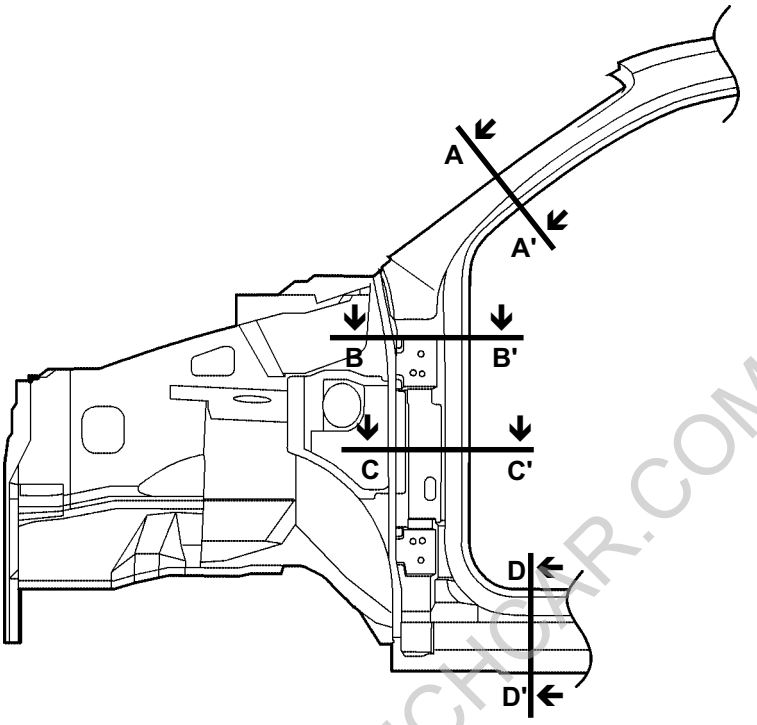


CON-0200

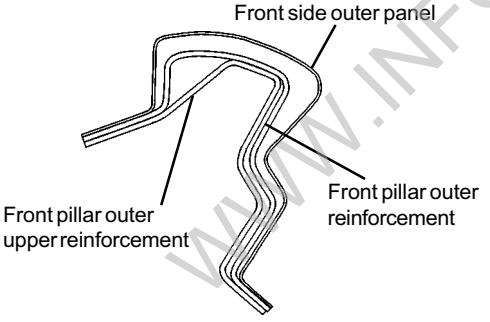
No.	PART NAME
1	Front side outer panel
2	Front pillar outer reinforcement
3	Center pillar outer reinforcement
4	Center inner pillar
5	Front inner upper pillar
6	Roof side inner rail
7	Front seat belt upper mounting bracket
8	Front inner lower pillar
9	Front door check mounting bracket
10	Front door upper mounting bracket
11	Front door lower mounting bracket
12	Front seat belt mounting bracket
13	Side sill outer reinforcement
14	Center inner pillar lower reinforcement

1. FRONT SIDE OUTER PANEL

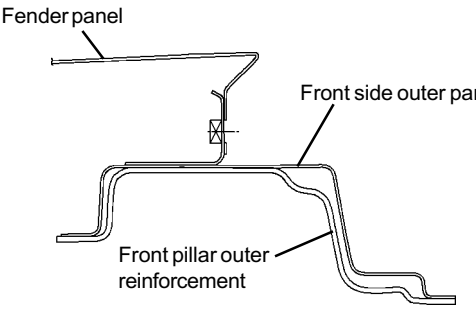
<Cross-Sectional Views>



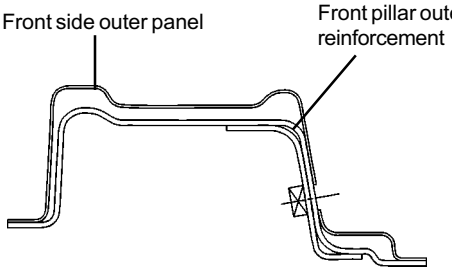
PRO-0210



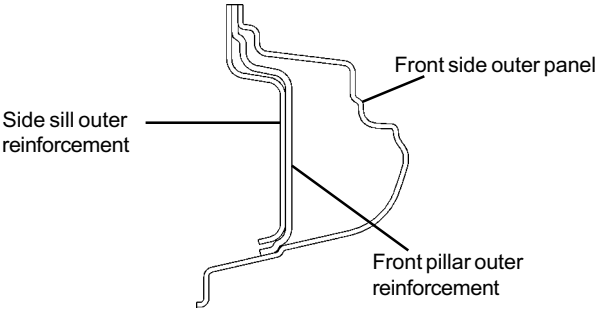
SECTION A-A' CON-0211



SECTION B-B' CON-0212



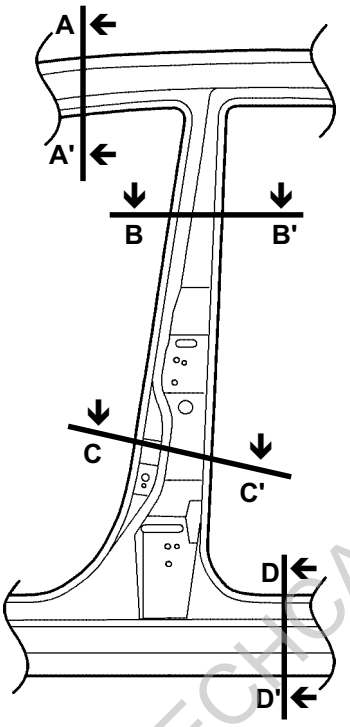
SECTION C-C' CON-0213



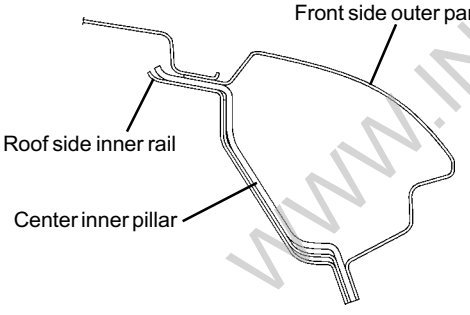
SECTION D-D' CON-0214

2. FRONT SIDE OUTER PANEL

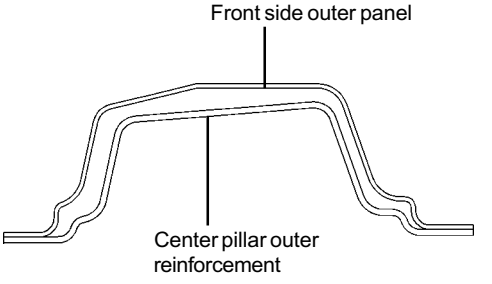
<Cross-Sectional Views>



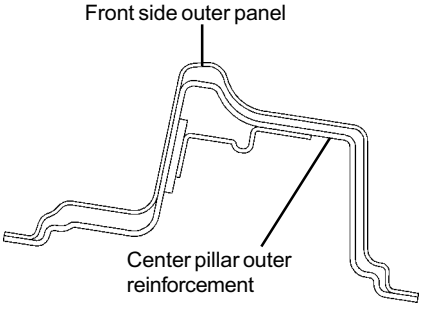
PRO-0220



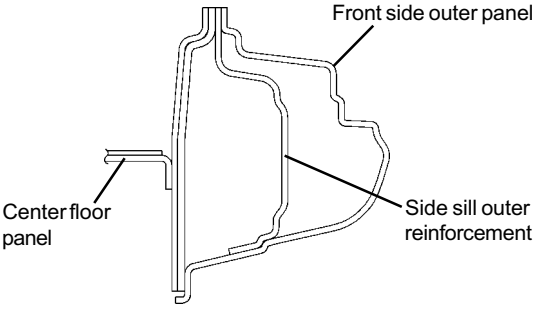
SECTION A-A' CON-0221



SECTION B-B' CON-0222



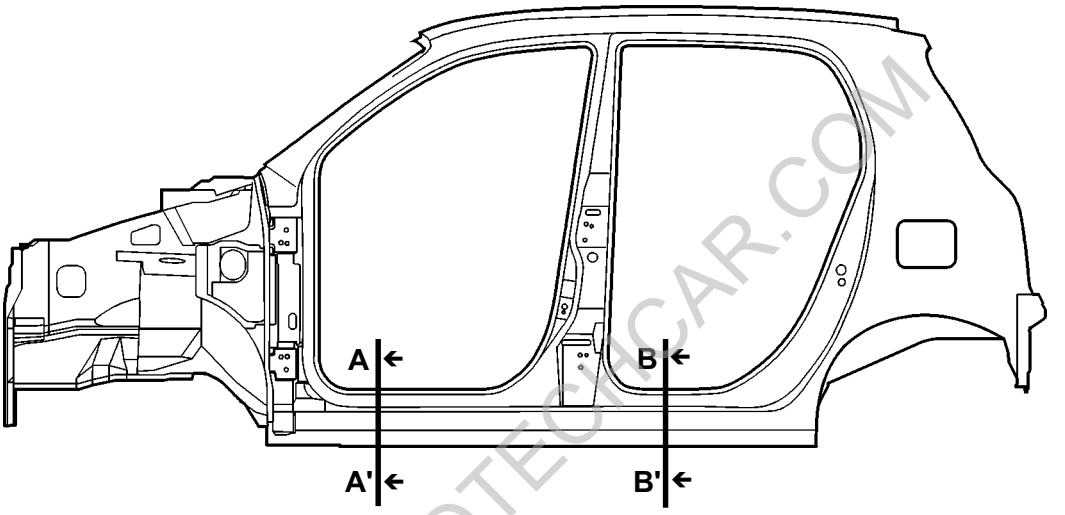
SECTION C-C' CON-0223



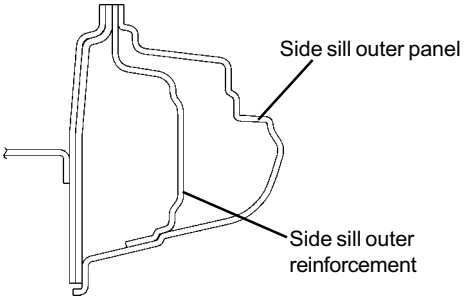
SECTION D-D' CON-0224

3. SIDE SILL OUTER PANEL

<Cross-Sectional Views>

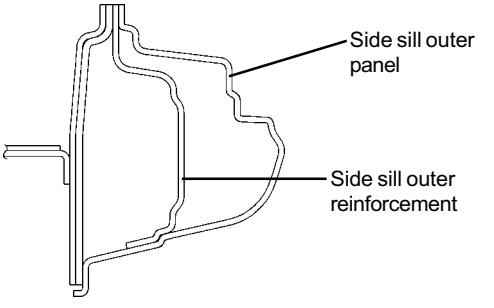


PRO-0230



SECTION A-A'

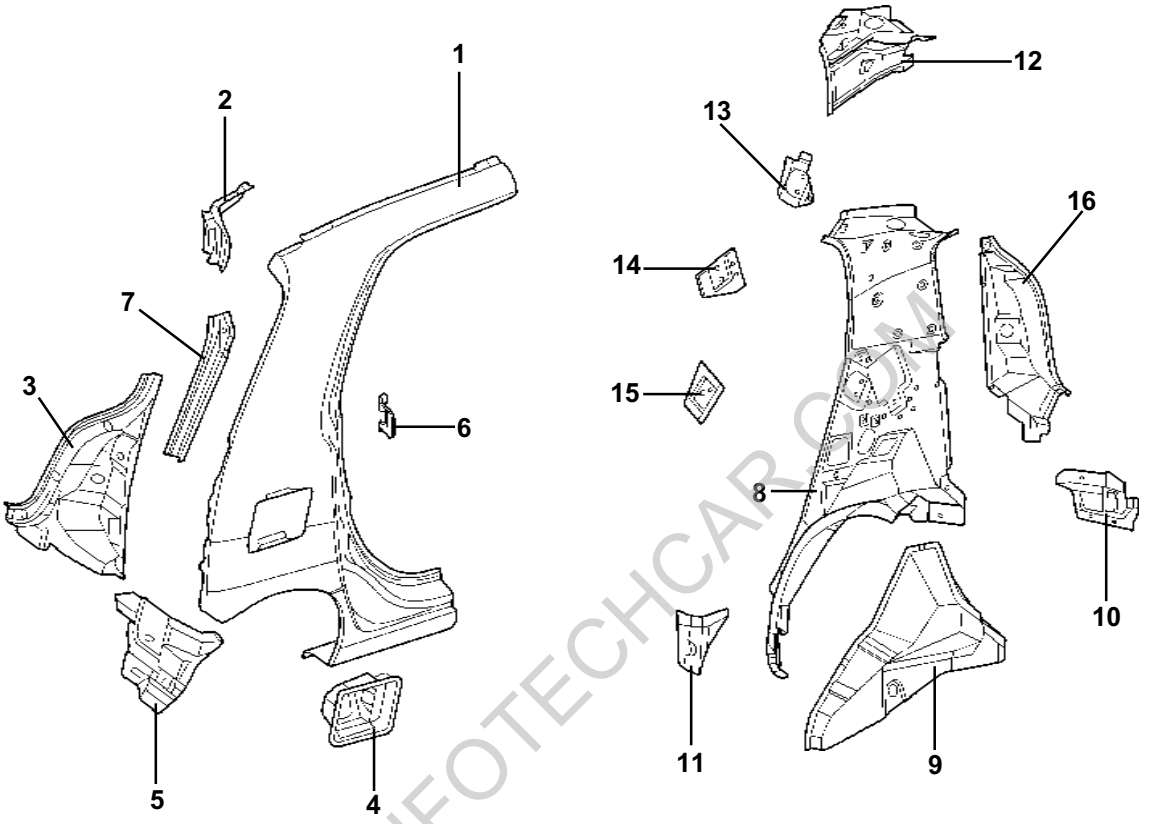
CON-0231



SECTION B-B'

CON-0232

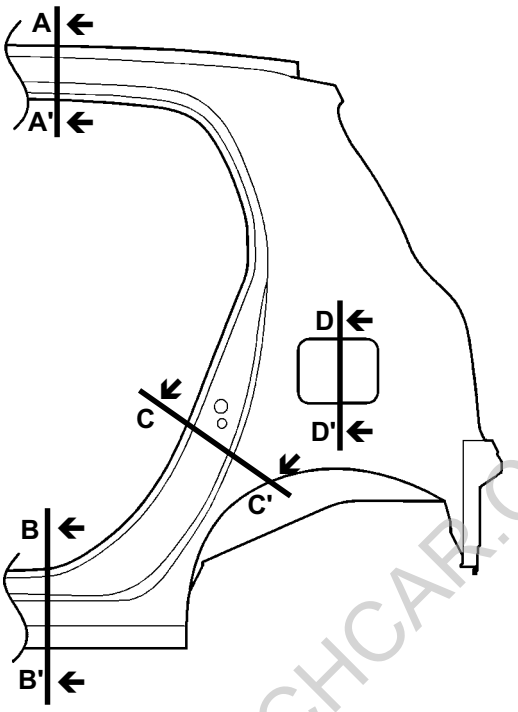
4. REAR SIDE OUTER PANEL



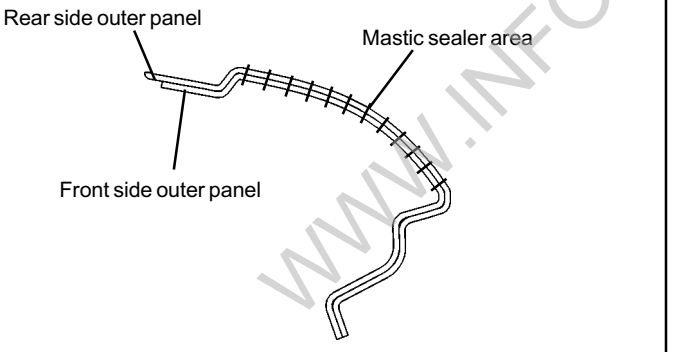
CON-0240

No	PART NAME
1	Rear side outer panel
2	Quarter outer rear upper extension
3	Rear combination lamp housing panel
4	Fuel filler housing
5	Quarter outer rear lower extension
6	Rear door striker retainer
7	Quarter outer rear center extension
8	Quarter inner panel
9	Wheel house inner panel
10	Quarter inner rear lower extension
11	Wheel house inner front extension panel
12	Rear seat belt upper mounting bracket
13	Rear seat back mounting bracket
14	Quarter pillar reinforcement
15	Rear seat belt lower mounting bracket
16	Quarter inner rear panel

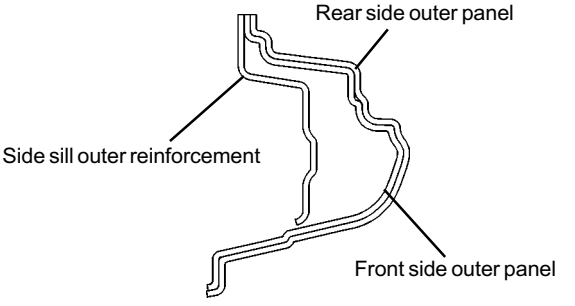
<Cross-Sectional Views>



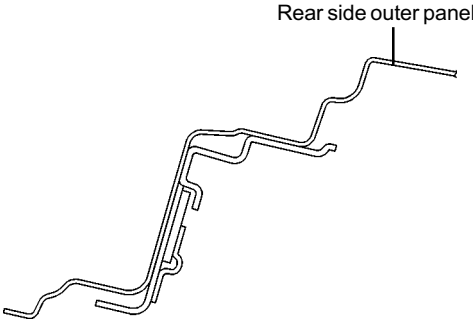
PRO-0250



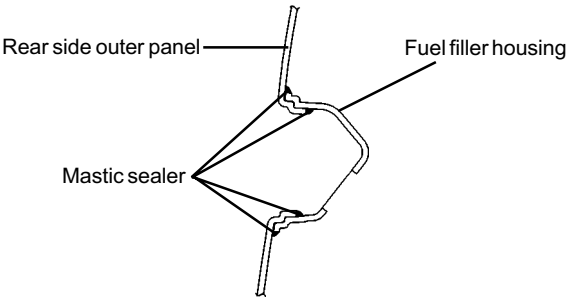
SECTION A-A' CON-0251



SECTION B-B' CON-0252

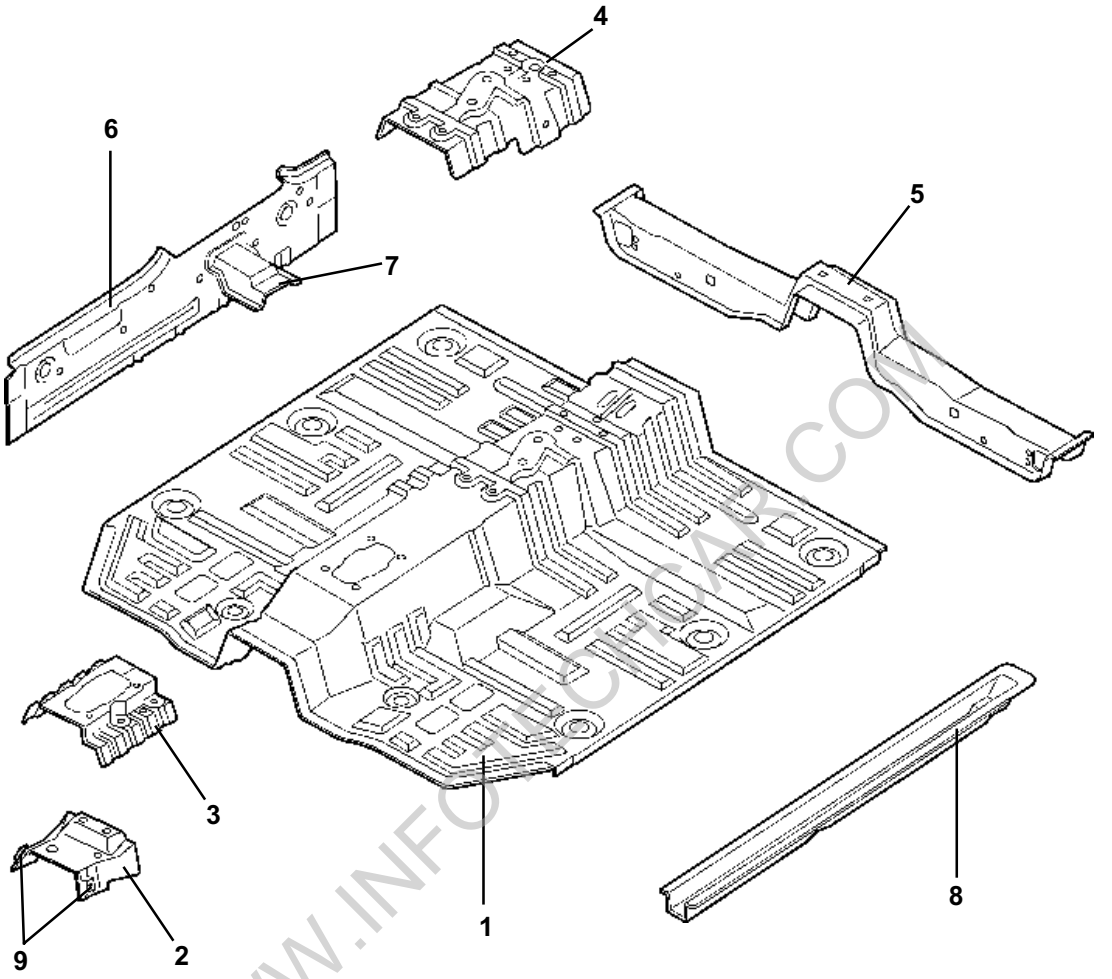


SECTION C-C' CON-0253



SECTION D-D' CON-0254

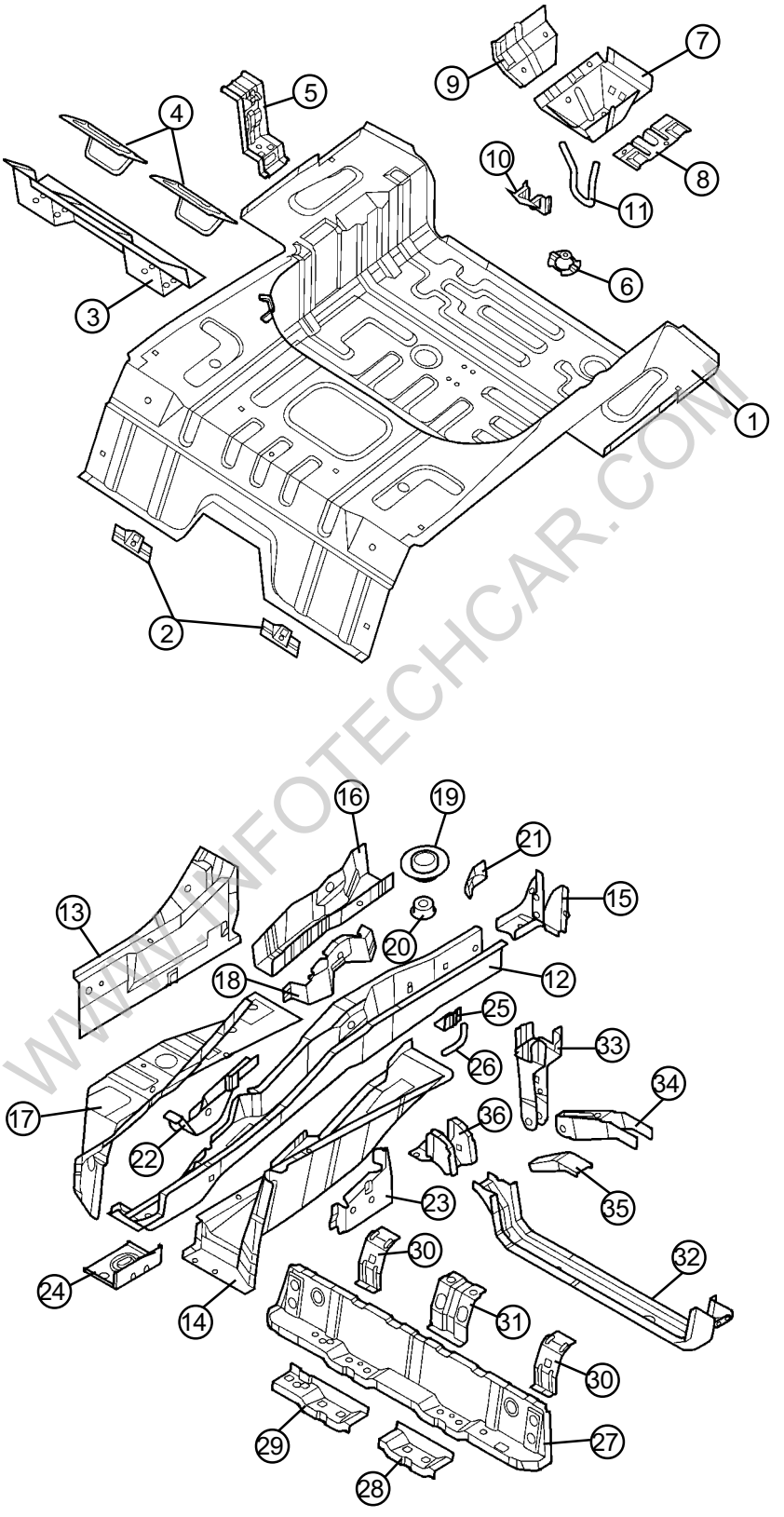
CNETER FLOOR PANEL



CON-0260

No	PART NAME
1	Center floor panel
2	ESPS mounting reinforcement
3	TGS lever mounting reinforcement
4	Center floor rear reinforcement
5	Front seat cross member
6	Side sill inner panel
7	Front seat rear side mounting bracket
8	Center floor side member
9	Front console mounting bracket

REAR FLOOR & SIDE MEMBER

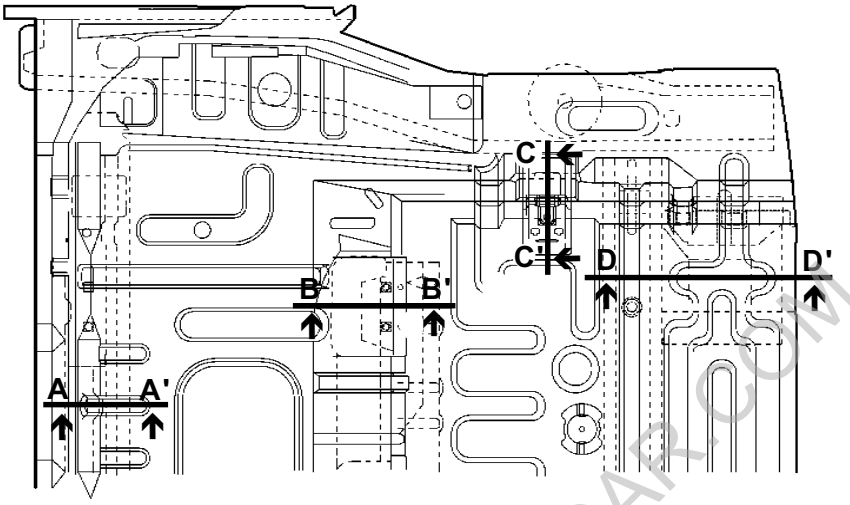


CON-0260A/CON-0260B

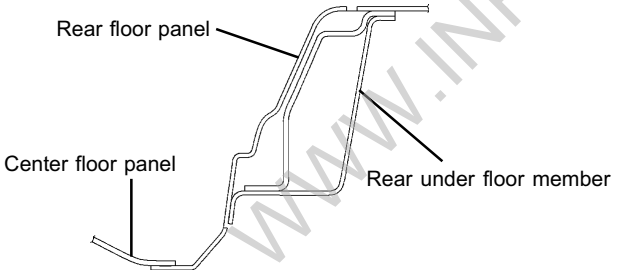
1. Rear floor panel
2. Parking cable front mounting bracket
3. Fuel tank rear mounting bracket
4. Rear seat belt center mounting bracket
5. Jack mounting bracket
6. Spare tire mounting bracket
7. Rear towing hook bracket
8. Rear towing hook inside support
9. Rear towing hook outside support
10. Rear towing hook extension
11. Rear towing hook
12. Rear floor side member
13. Side sill inner rear extension
14. Rear floor side extension
15. Rear bumper mounting bracket
16. Rear floor side reinforcement
17. Rear floor side support
18. Rear shock absorber outside mounting bracket
19. Spring seat mounting bracket
20. Spring support bracket
21. Spring seat mounting support
22. Rear trailing arm inner mounting bracket
23. Rear trailing arm outer mounting bracket
24. Rear tie down reinforcement
25. Muffler hanger No.2 bracket
26. Muffler hanger No.2 bar
27. Rear floor front cross member
28. Fuel tank front mounting reinforcement (LH)
29. Fuel tank front mounting reinforcement (RH)
30. Rear seat front mounting reinforcement
31. Rear seat center mounting reinforcement
32. Rear floor center cross member
33. Lateral rod mounting bracket
34. Lateral rod mounting support
35. Lateral rod mounting reinforcement
36. Rear floor center member extension

1. REAR FLOOR

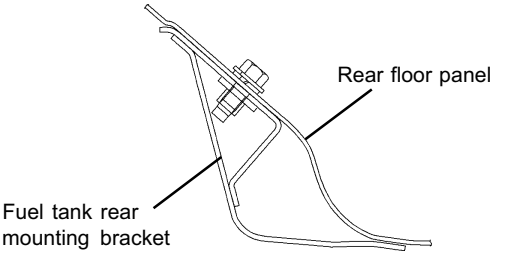
<Cross-Sectional Views>



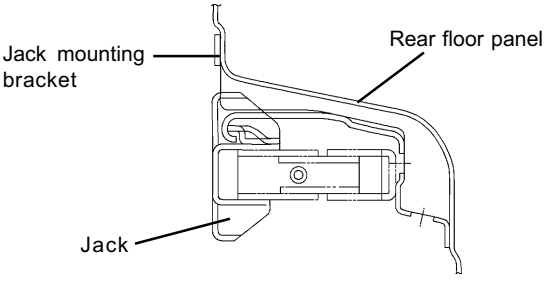
CON-0270



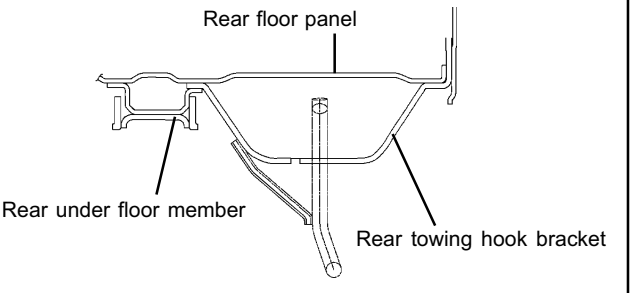
SECTION A-A' CON-0271



SECTION B-B' CON-0272

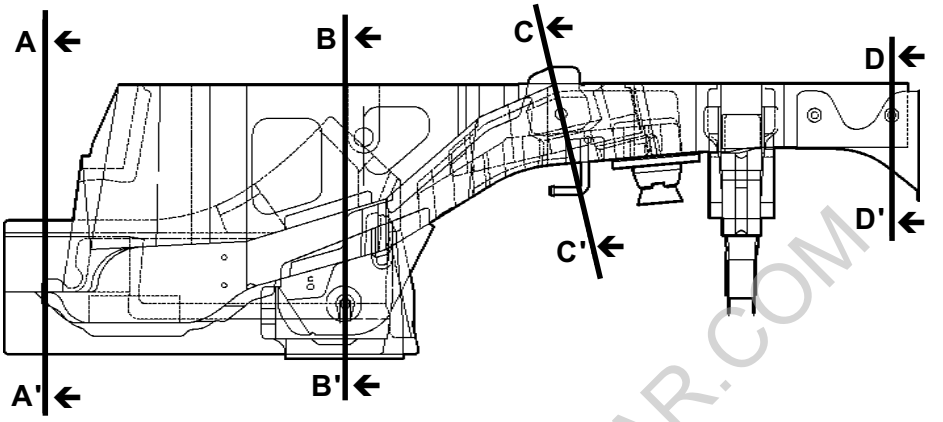


SECTION C-C' CON-0273

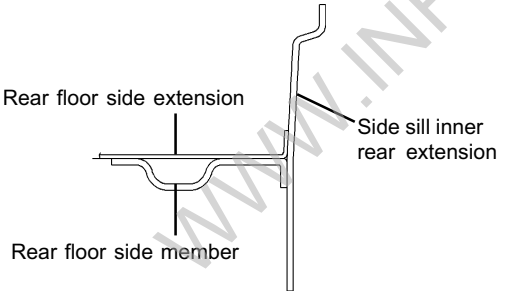


SECTION D-D' CON-0274

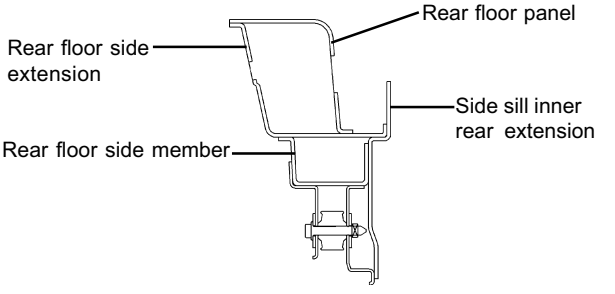
2. REAR SIDE MEMBER



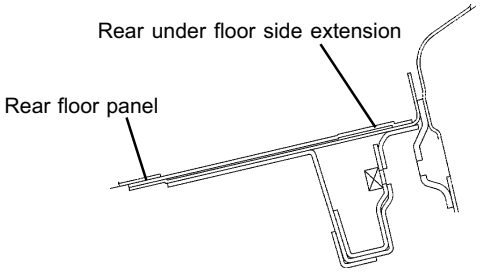
CON-0280



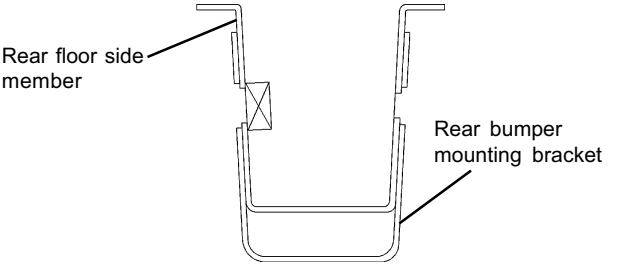
SECTION A-A' CON-0281



SECTION B-B' CON-0282



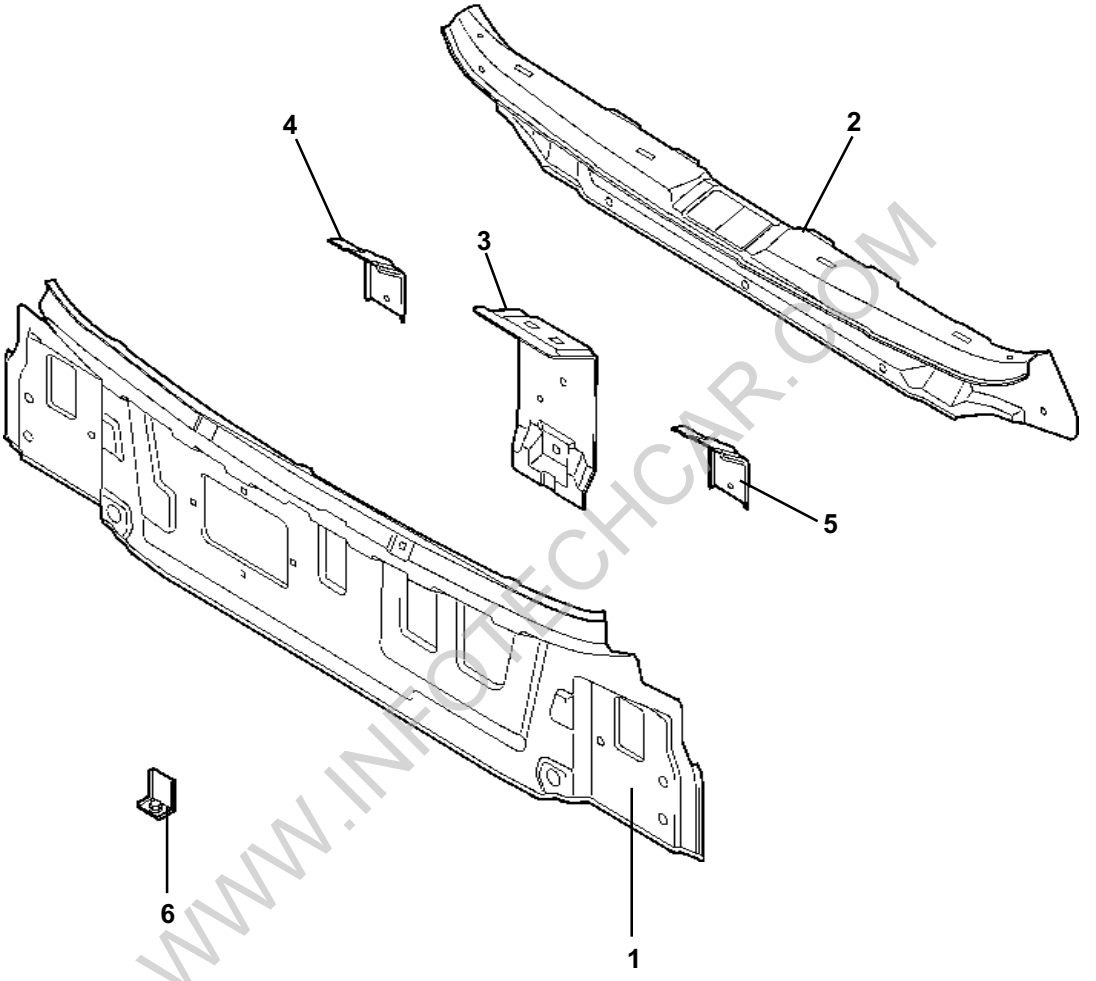
SECTION C-C' CON-0283



SECTION D-D' CON-0284

REAR BODY

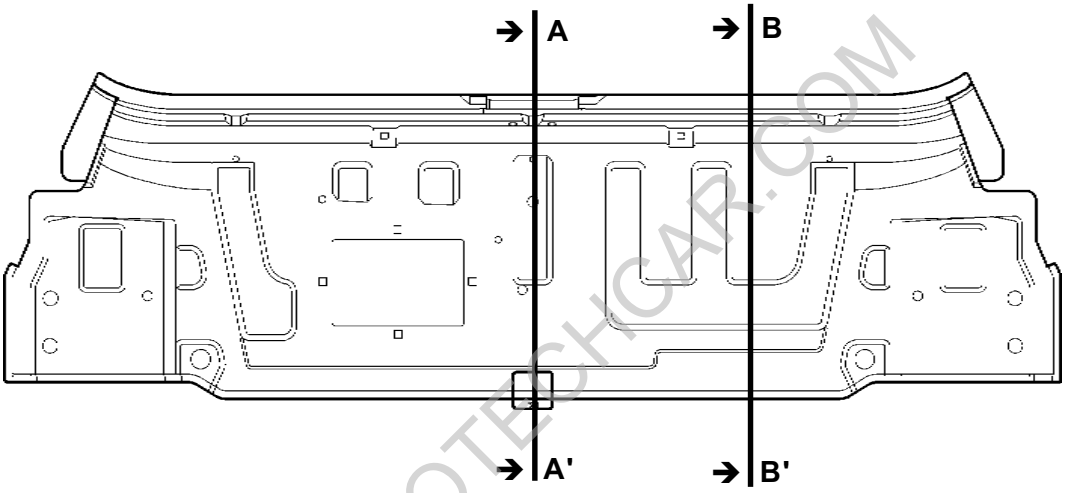
BACK PANEL



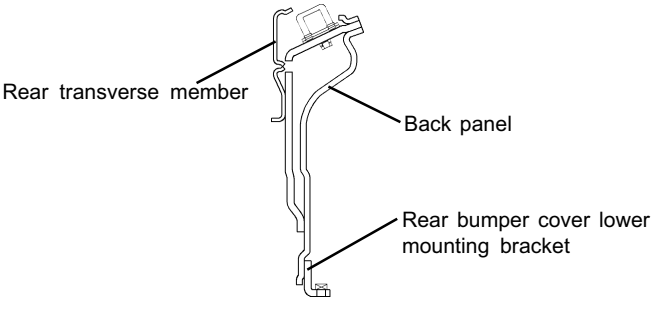
CON-0290

No	PART NAME
1	Back panel
2	Rear transverse member
3	Tail gate striker support
4	Rear transverse member support
5	Rear transverse member support
6	Rear bumper cover lower mounting bracket

<Cross-sectional Views>

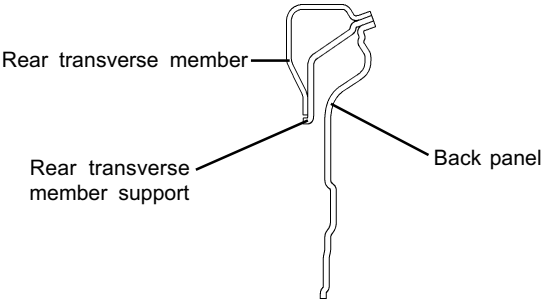


CON-0300



SECTION A-A'

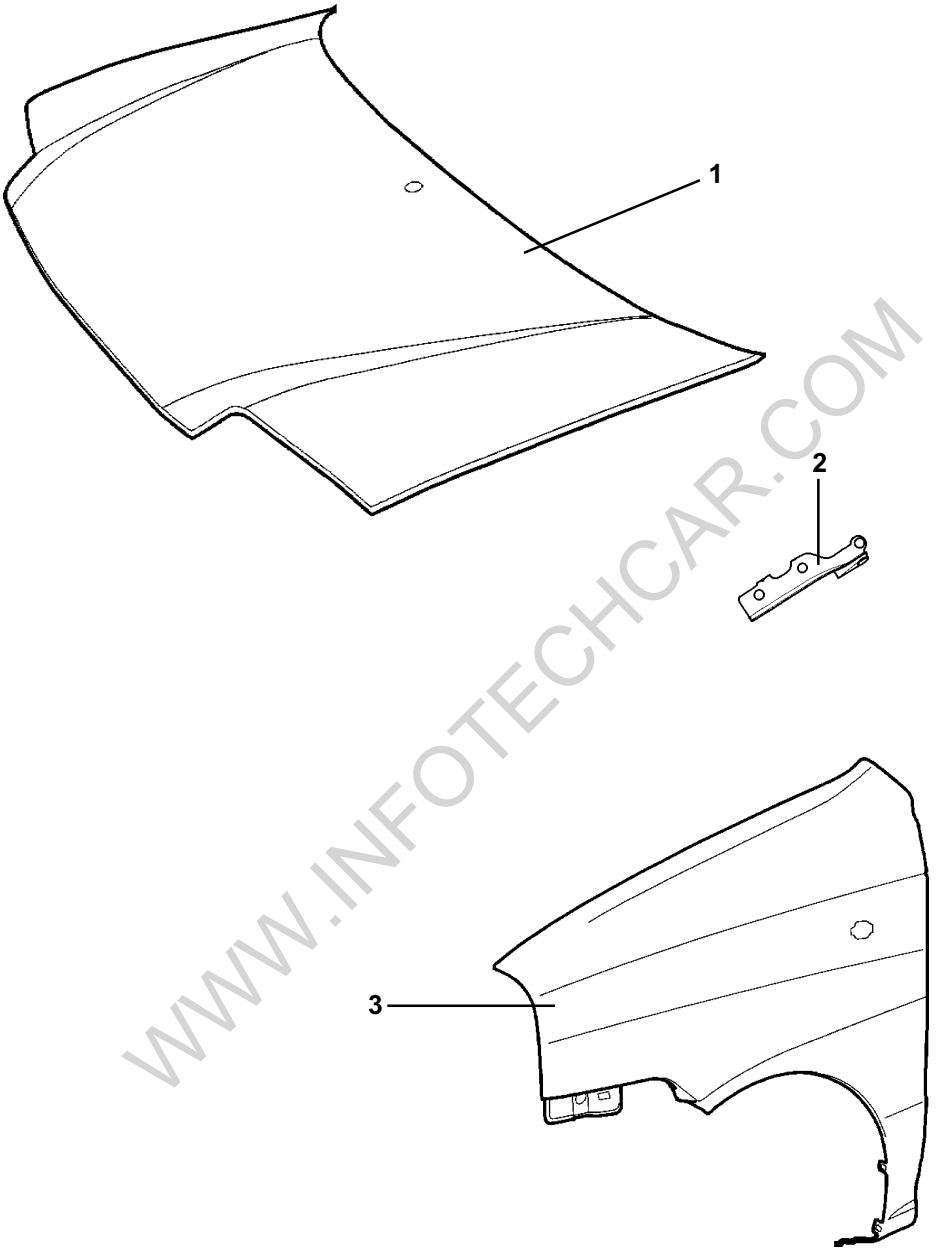
CON-0301



SECTION B-B'

CON-0302

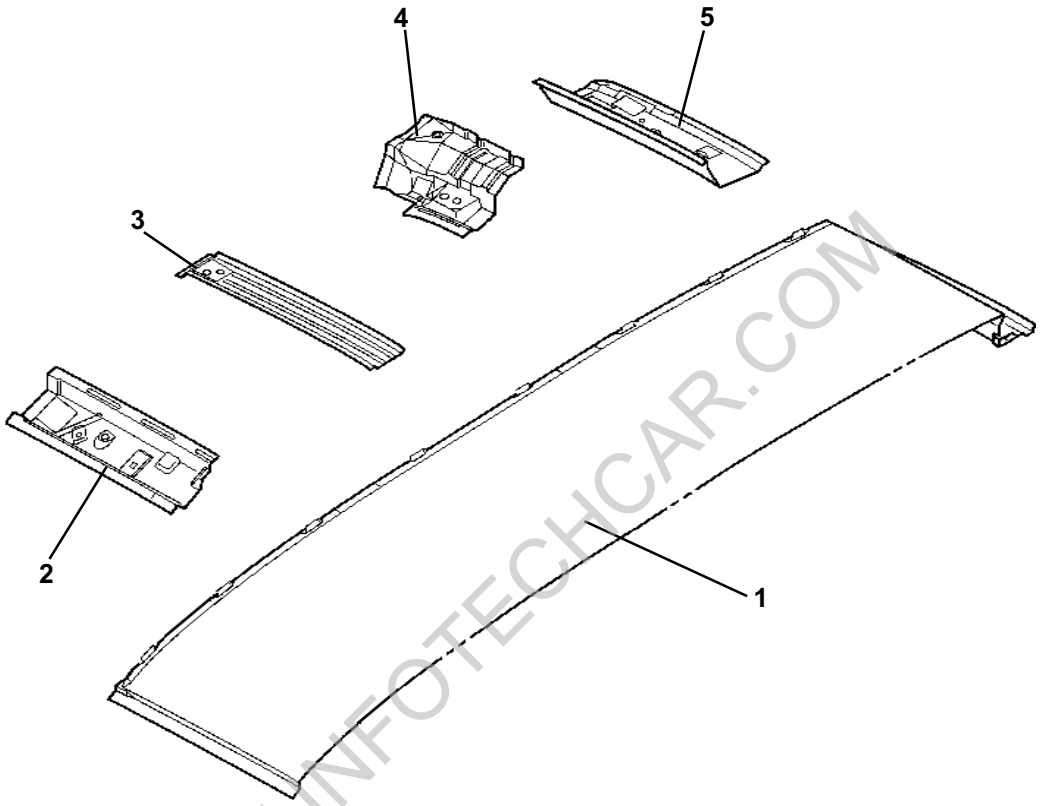
FENDER & HOOD PANEL



CON-0310/CON-0311/CON-0312

No	PART NAME
1	Hood panel assembly
2	Hood hinge assembly
3	Fender panel

ROOF PANEL



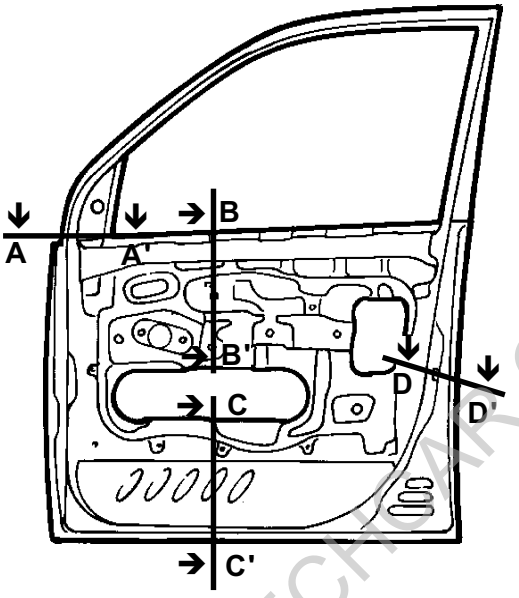
CON-0320

NO	PART NAME
1	Roof panel
2	Roof front rail
3	Roof center rail
4	Tail gate hinge mounting reinforcement
5	Roof rear rail

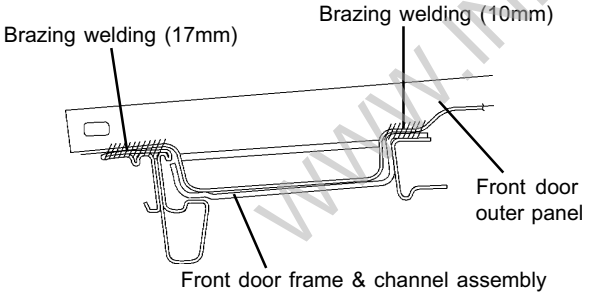
DOOR

1. FRONT DOOR

<Cross-sectional Views>

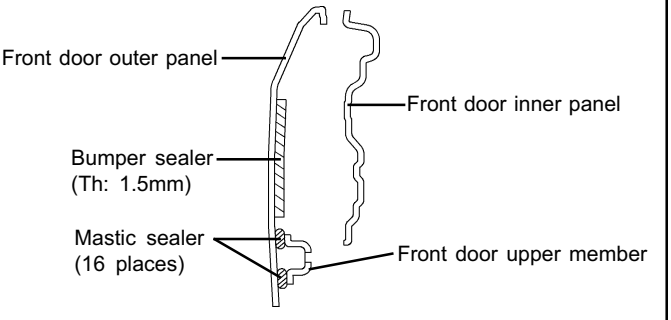


CON-0750



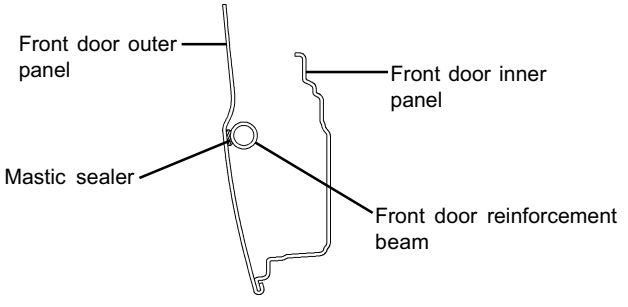
SECTION A-A'

CON-0331



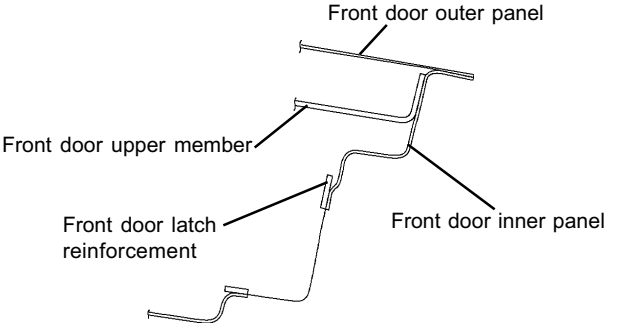
SECTION B-B'

CON-0332



SECTION C-C'

CON-0333

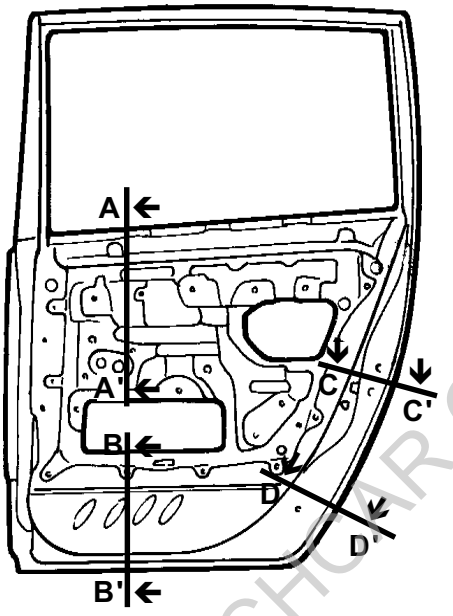


SECTION D-D'

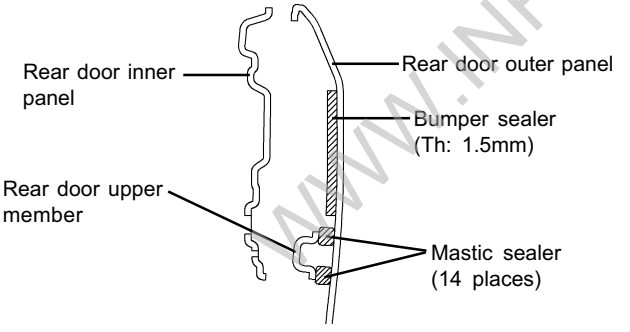
CON-0334

2. REAR DOOR

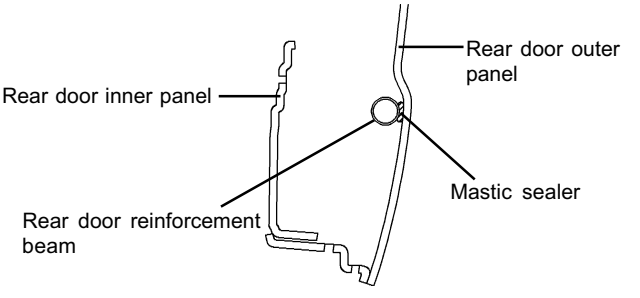
<Cross-sectional Views>



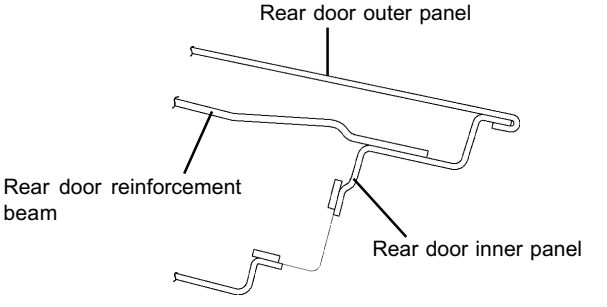
CON-0800



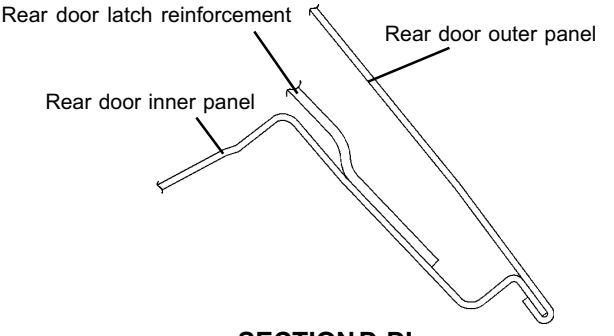
SECTION A-A' CON-0341



SECTION B-B' CON-0342

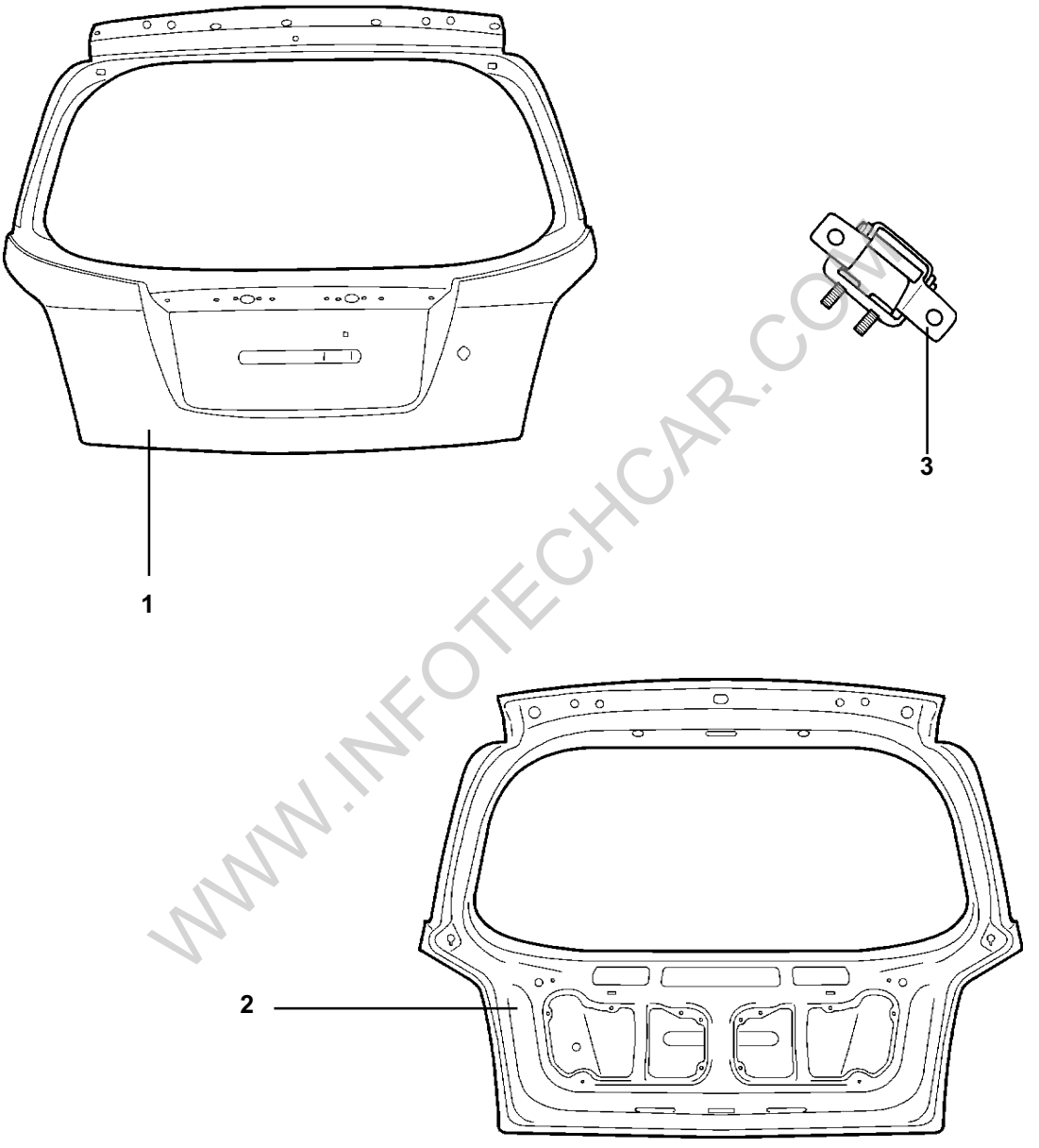


SECTION C-C' CON-0343



SECTION D-D' CON-0344

TAIL GATE



CON-0350/CON-0351/CON-0352

NO	PART TIME
1	Tail gate outer
2	Tail gate inner
3	Tail gate hinge

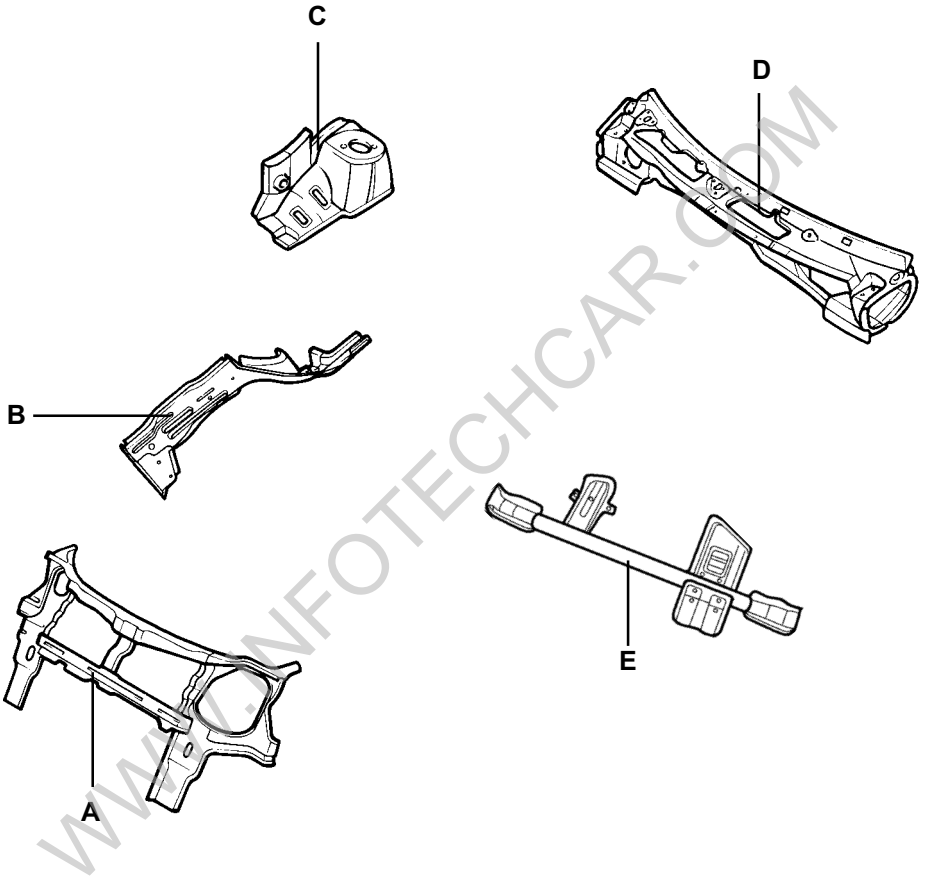
REPLACEMENT PARTS

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.

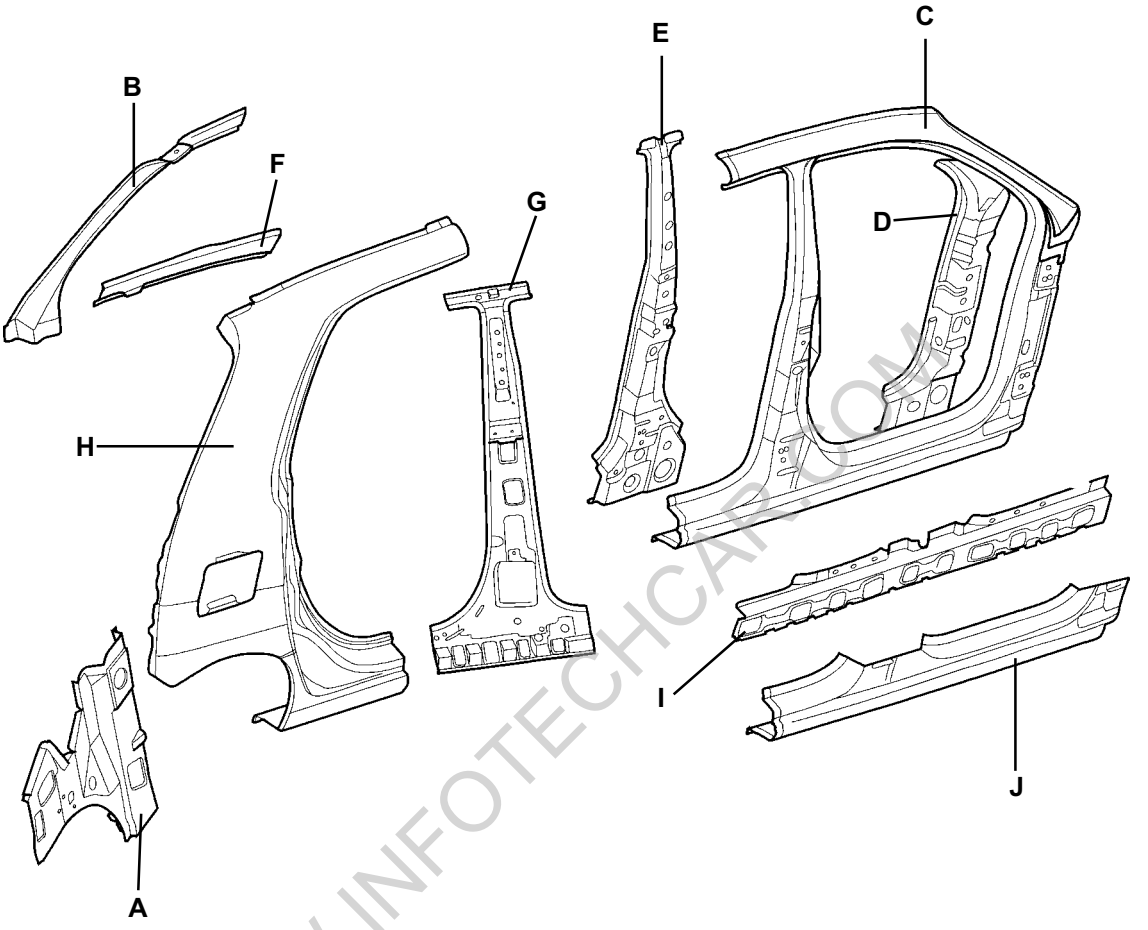
FRONT BODY



CON-0090/CON-0091

	PART NAME
A	RADIATOR SUPPORT PANEL COMPLETE
B	FRONT SIDE MEMBER ASSEMBLY, LH/RH
C	FENDER APRON PANEL ASSEMBLY, LH/RH
D	COWL COMPLETE PANEL ASSEMBLY
E	COWL CROSS BAR ASSEMBLY

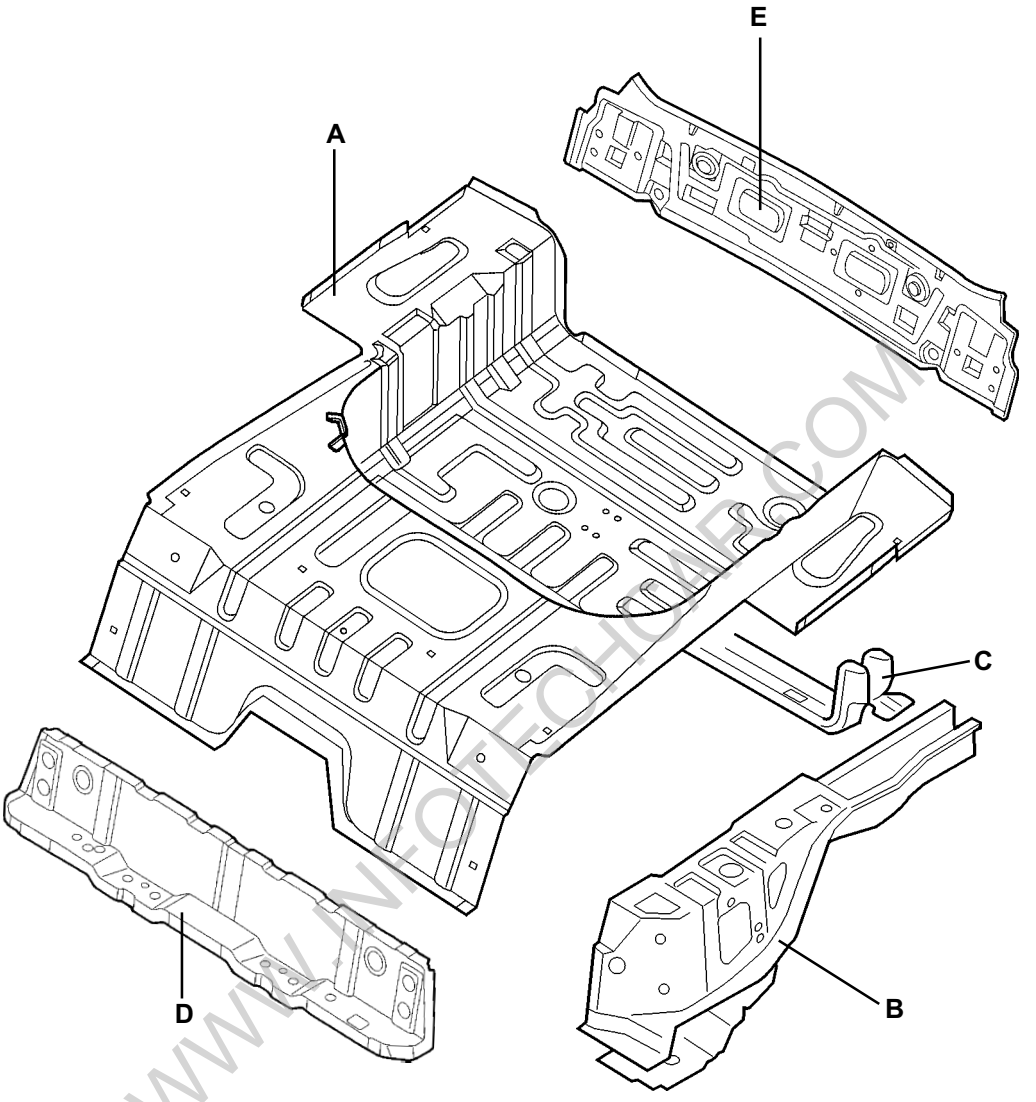
SIDE BODY



CON-0200

	PART NAME	
A	FRONT INNER LOWER PILLAR,	LH/RH
B	FRONT INNER UPPER PILLAR,	LH/RH
C	FRONT SIDE OUTER PANEL,	LH/RH
D	FRONT PILLAR OUTER REINFORCEMENT,	LH/RH
E	CENTER PILLAR OUTER REINFORCEMENT,	LH/RH
F	ROOF SIDE INNTER RAIL,	LH/RH
G	CENTER INNER PILLAR,	LH/RH
H	REAR SIDE OUTER PANEL,	LH/RH
I	SIDE SILL OUTER REINFORCEMENT,	LH/RH
J	SIDE SILL OUTER PANEL,	LH/RH

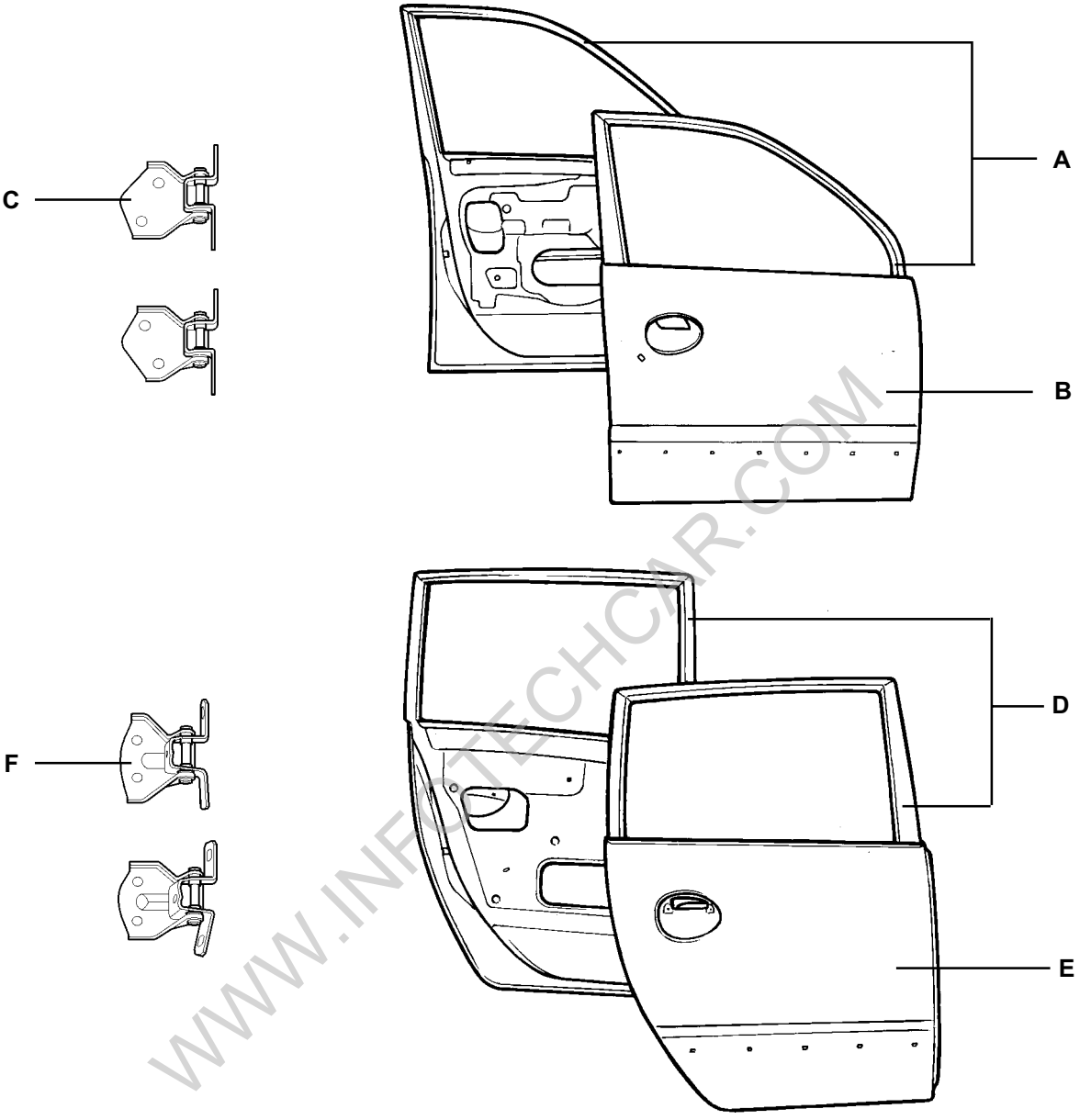
REAR BODY



CON-1/CON-2/CON-BODY/CON-0861

	PART NAME
A	REAR FLOOR PANEL
B	REAR FLOOR SIDE MEMBER ASSEMBLY, LH/RH
C	REAR FLOOR CENTER CORSS MEMBER ASSEMBLY
D	REAR FLOOR FRONT CROSS MEMBER
E	BACK PANEL ASSEMBLY

DOOR



CON-0870/CON-0872/CON-0873

	PART NAME
A	FRONT DOOR PANEL ASSEMBLY, LH/RH
B	FRONT DOOR OUTER PANEL, LH/RH
C	FRONT DOOR HINGE ASSEMBLY, LH/RH
D	REAR DOOR PANEL ASSEMBLY, LH/RH
E	REAR DOOR OUTER PANEL, LH/RH
F	REAR DOOR HINGE ASSEMBLY, LH/RH

BODY DIMENSIONS

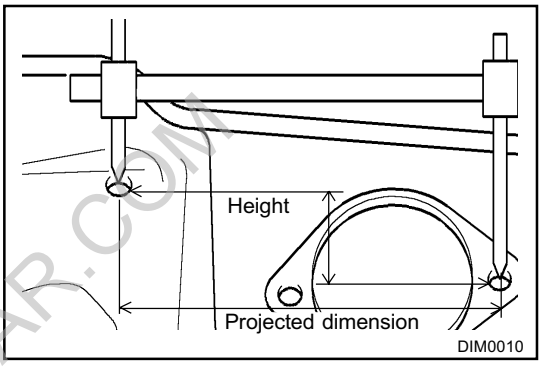
GENERAL

1. Basically, all measurements in this manual are taken with a tracking 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

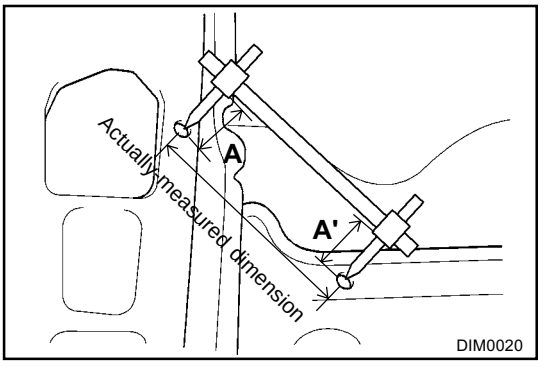
1. These are the dimensions measured when the measurement points are projected into the reference plane, and are the reference dimensions used for body alterations.
2. If the length of the tracking gauge probes are adjustable, make the measurement by lengthening one probe by the amount equivalent to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



ACTUAL-MEASUREMENT DIMENSIONS

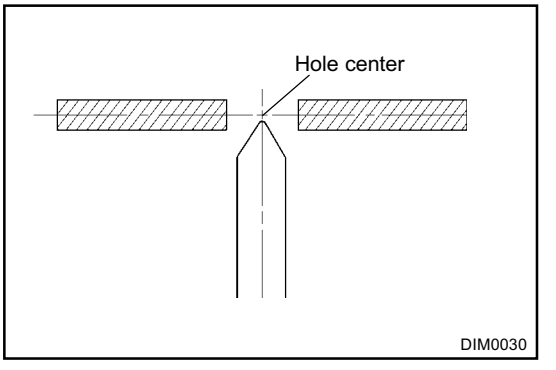
1. These dimensions indicate the actual linear distance between measurement points, and are the reference dimensions for use if a tracking gauge is used for measurement.
2. Measure by first adjusting both probes to the same length (A=A')

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

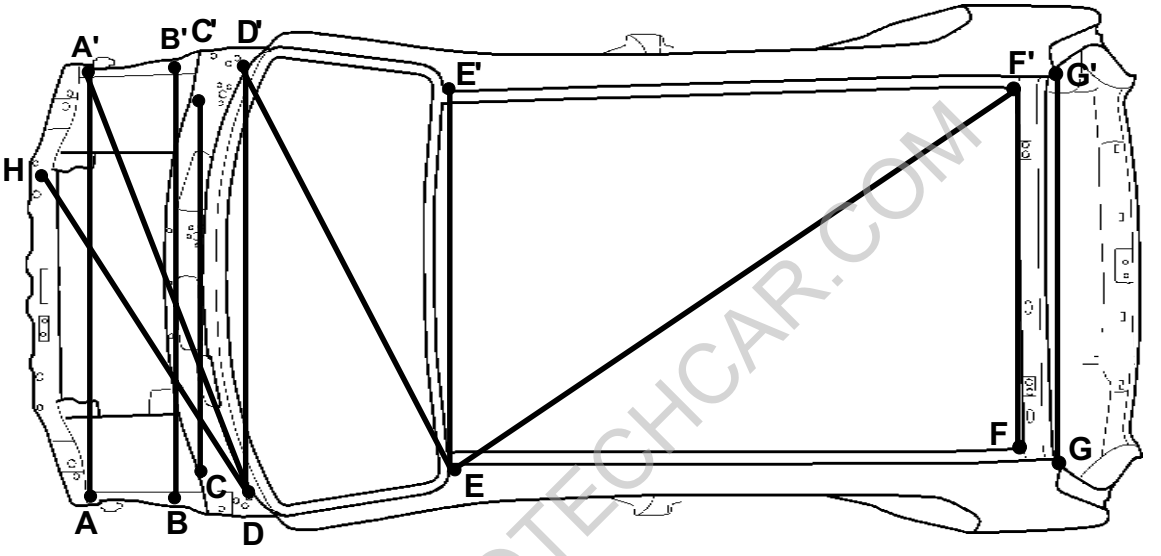


MEASUREMENT POINT

1. Measurements should be taken at the hole center.



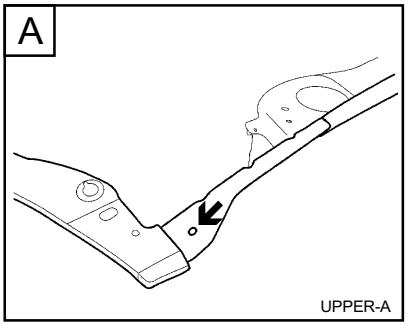
UPPER BODY



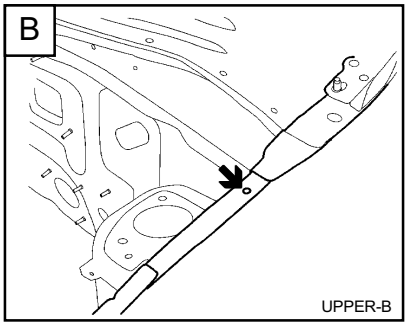
UPPER

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

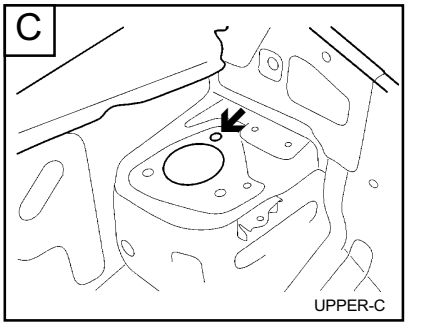
Point symbol	A-A'	B-B'	C-C'	D-D'	D-A'	E-E'	E-D'	E-F'
Length (mm)	1238	1253	1071	1218	1333	976	1360	1751
Point symbol	**F-F'**	**G-G'**	**H-D**					
Length (mm)	917	976	1136					



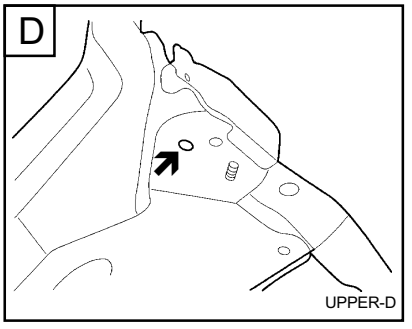
Fender mounting hole
(Ø 10)



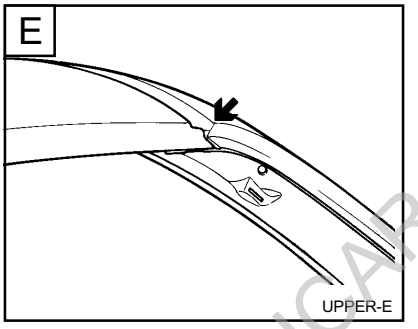
Fender mounting hole
(Ø 6.6)



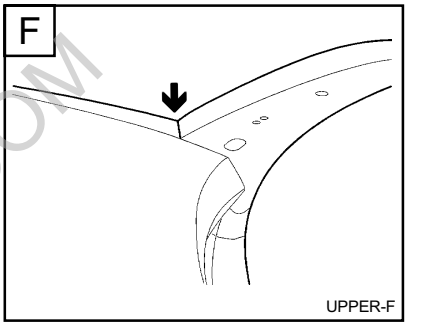
Spring seat mounting hole
(Ø 11)



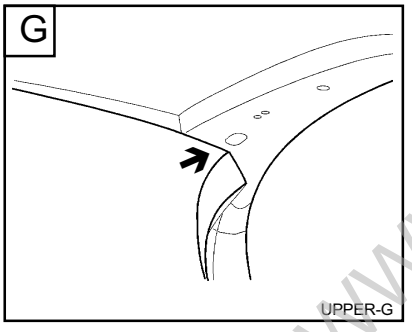
Hood hinge mounting hole
(Ø 11)



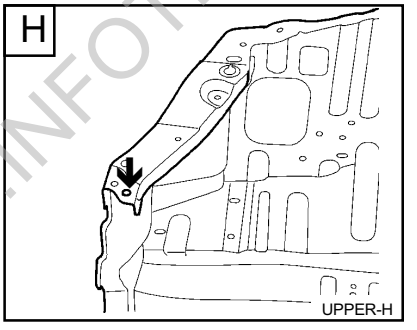
Front pillar outer



Roof outer

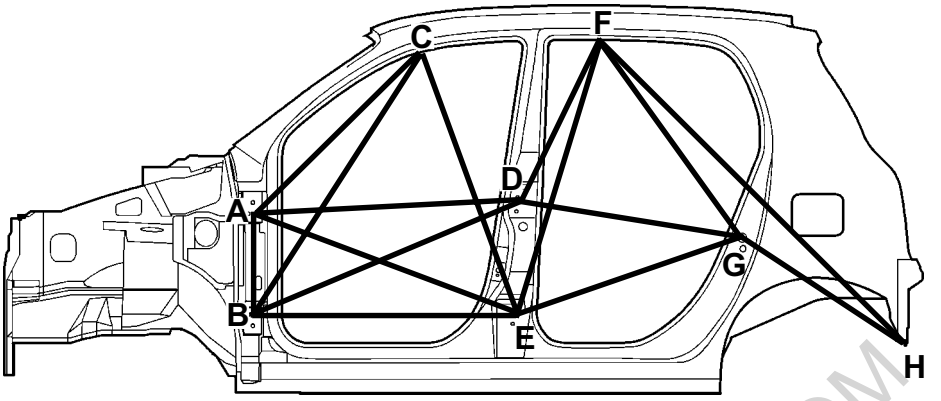


Quarter outer panel (LH)



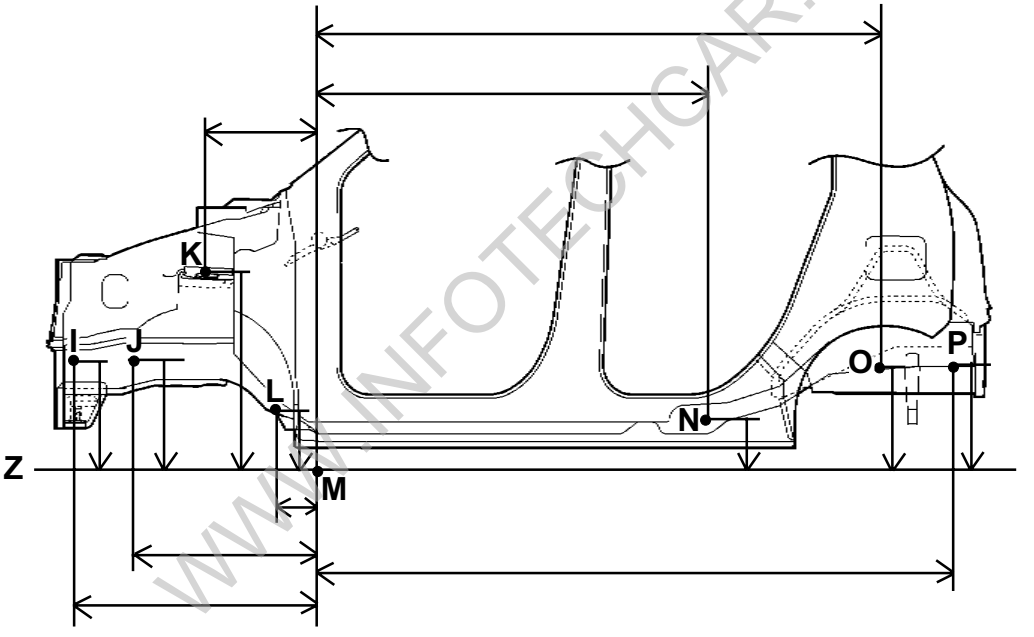
Member-radiator upper center
mounting hole (Ø 6.6)

SIDE BODY



SIDE-1

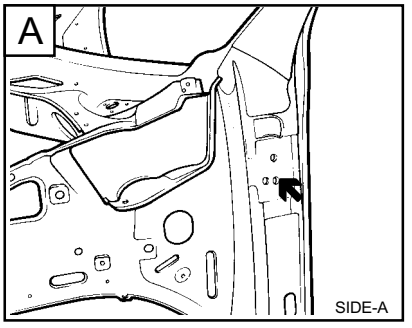
*These dimensions indicated in this figure are **actual-measurement dimensions.**



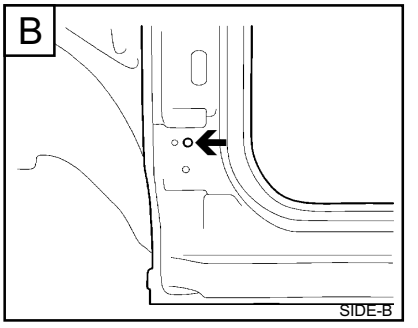
SIDE-2

*These dimensions indicated in this figure are **projected dimensions.**

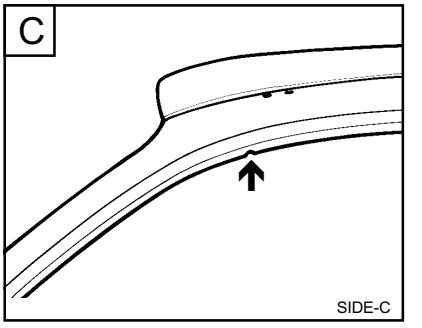
Point symbol	A-B	A-C	A -D	A-E	B-C	B-D	B-E	C-E
Length (mm)	356	799	961	1006	1082	1044	942	1006
Point symbol	**D-F**	**D-G**	**E-F**	**E-G**	**F-G**	**F-H**	**G-H**	**I-Z**
Length (mm)	746	833	1094	890	790	1387	646	253
Point symbol	**J-Z**	**K-Z**	**L-Z**	**N-Z**	**O-Z**	**P-Z**	**I-M**	**J-M**
Length (mm)	255	559	40	24	236	251	840	490
Point symbol	**K-M**	**L-M**	**M-N**	**M-O**	**M-P**	**M-Z**		
Length (mm)	412	89	1202	1865	2095	25		



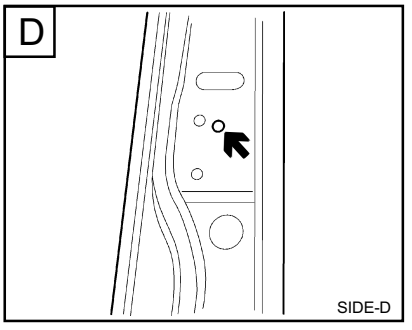
Tooling hole
(Ø10)



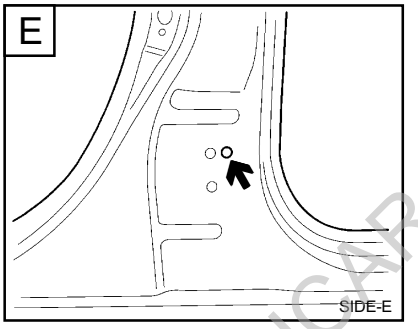
Tooling hole
(Ø13)



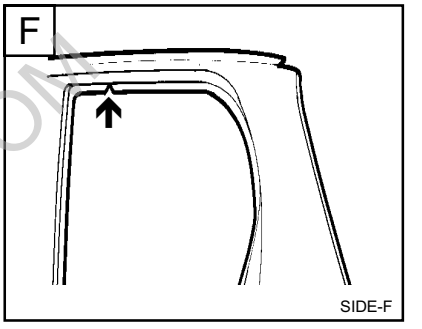
Side body outer positioning
notch (Front section)



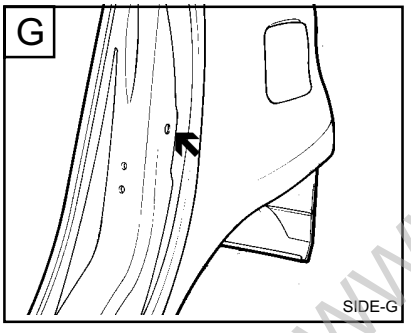
Tooling hole
(Ø10)



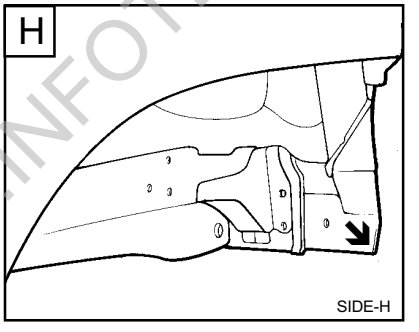
Tooling hole
(Ø10)



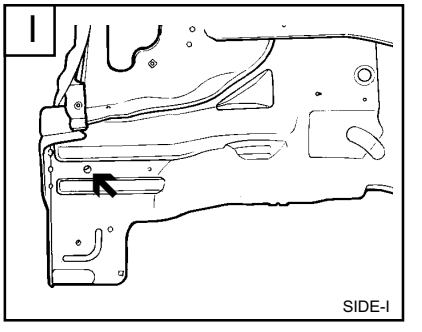
Side body outer positioning
notch (Rear section)



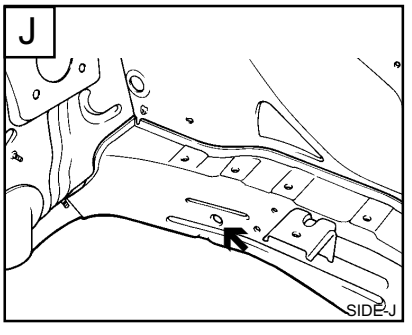
Rear door switch mounting
hole (Ø16)



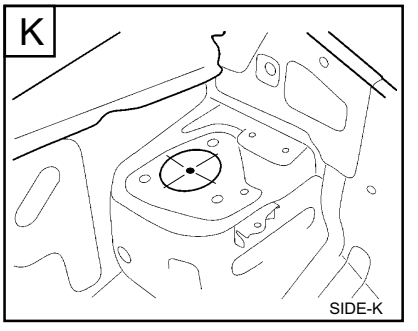
Corner of quarter outer rear lower
extension



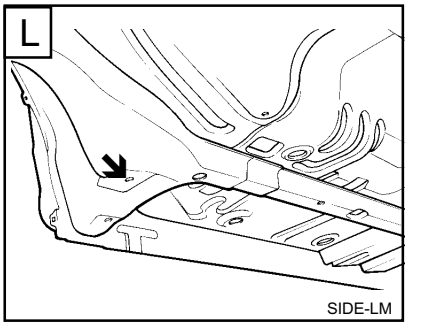
Tooling hole
(Ø20)



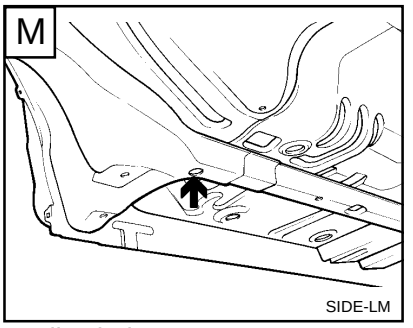
Tooling hole
(Ø12)



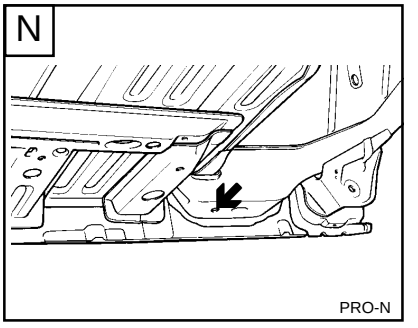
Front strut hole
(Ø72)



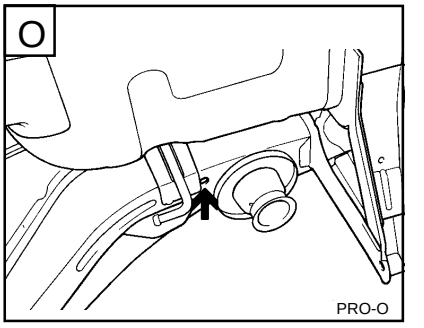
Sub frame mounting hole
(Ø16)



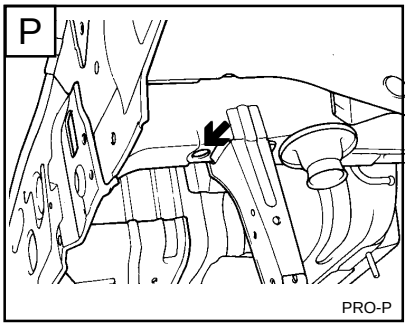
Tooling hole
(Ø 25)



Tooling hole
(Ø 15)

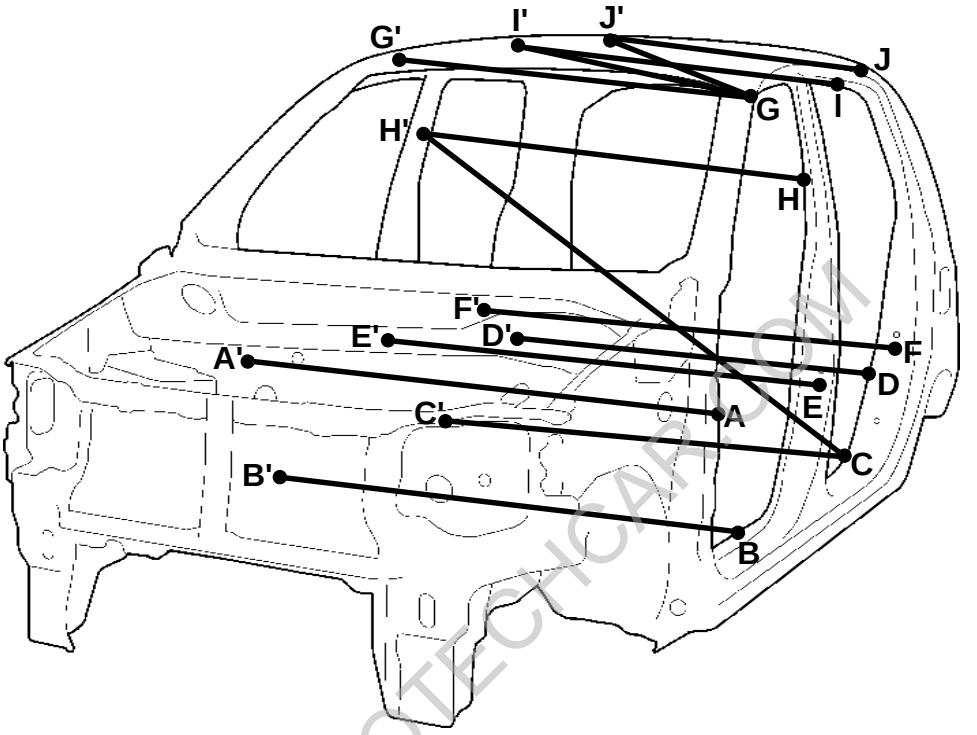


Tooling hole
(Ø 12)



Tooling hole
(Ø 25)

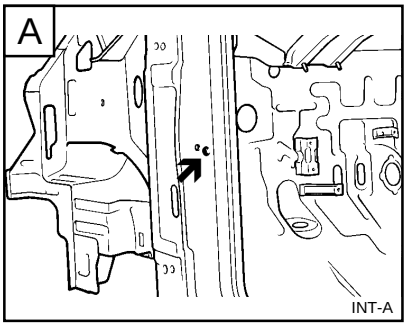
INTERIOR



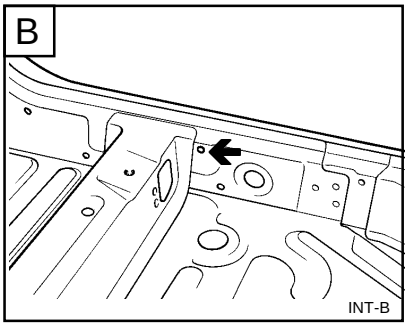
INT-A

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

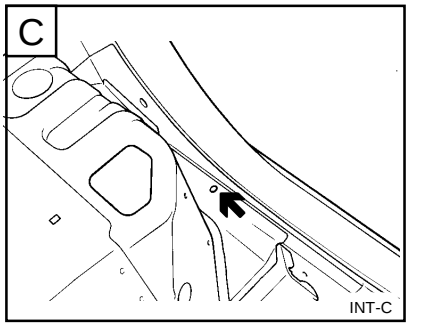
Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	H-H'
Length (mm)	1266	1166	1179	1197	1312	1316	991	1139
Point symbol	**I-I'**	**J-J'**	**G-I'**	**G-J'**	**C-H'**			
Length (mm)	974	990	1345	1516	1511			



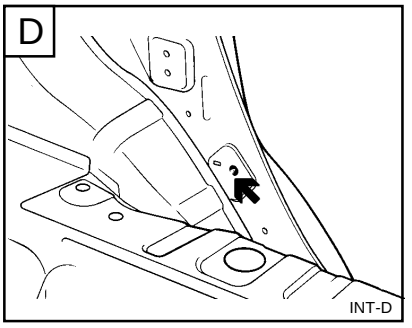
Front door checker mounting hole
(ø 11)



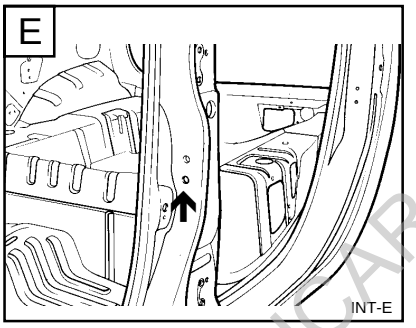
Door scuff fixing hole
(ø 5.5)



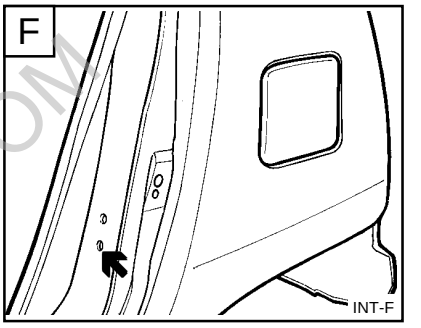
Wiring fixing hole
(ø 7)



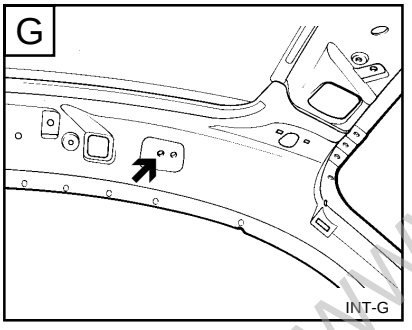
Rear seat belt lower mounting
hole (ø 15)



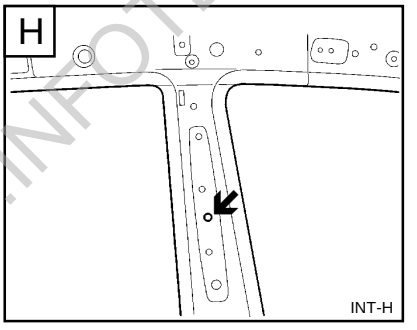
Front door striker mounting hole
(ø 13)



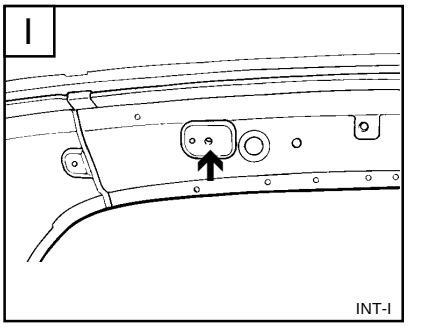
Rear door striker mounting hole
(ø 13)



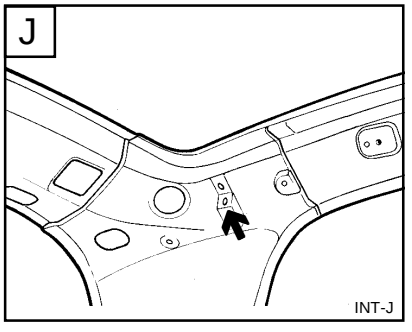
Assist handle mounting hole
(ø 6.6)



Seat belt mounting hole
(ø 12)

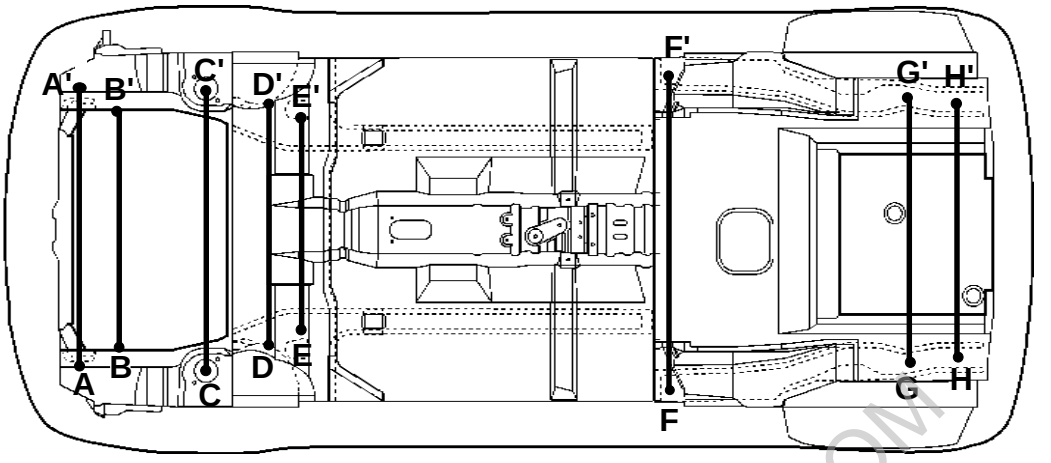


Assist handdle mounting hole
(ø 6.6)



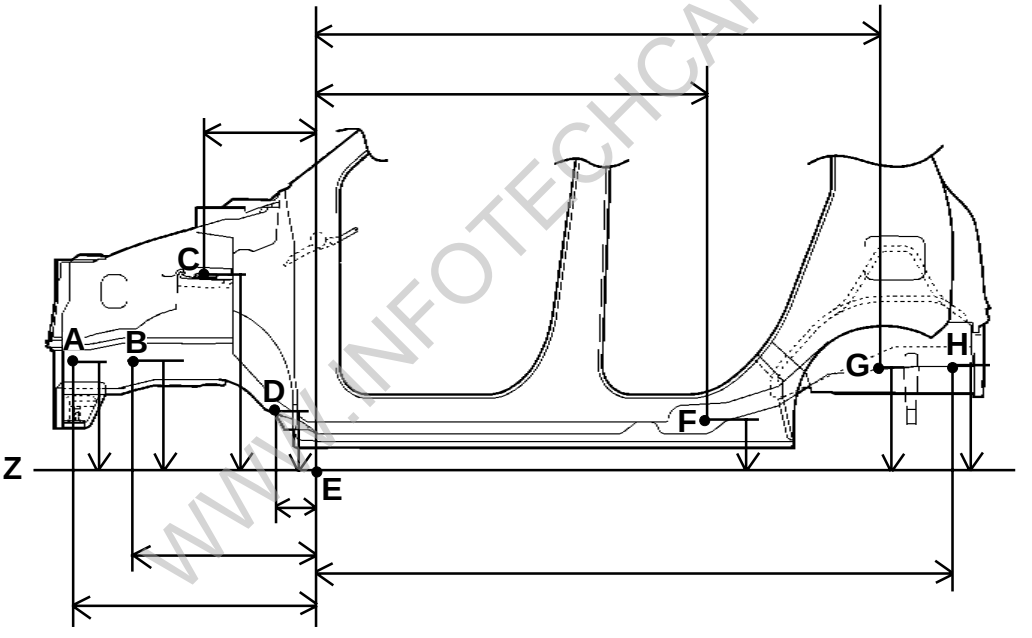
Tooling hole
(ø 8)

UNDER BODY



UND-ASSY

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

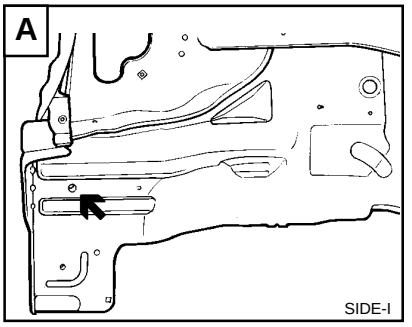


SIDE-2

*These dimensions indicated in this figure are **projected dimensions.**

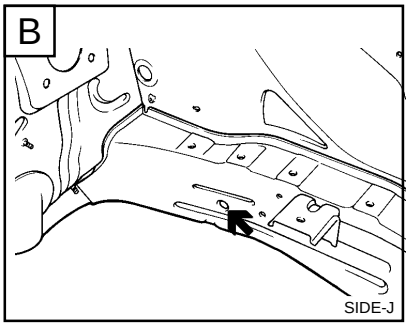
Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	H-H'
Length (mm)	939	807	962	818	646	1084	850	874
Point symbol	**A-Z**	**B-Z**	**C-Z**	**D-Z**	**F-Z**	**G-Z**	**H-Z**	**A-E**
Length (mm)	253	255	559	40	24	236	251	840
Point symbol	**B-E**	**C-E**	**D-E**	**E-F**	**E-G**	**E-H**	**E-Z**	
Length (mm)	490	412	89	1202	1865	2095	25	

A



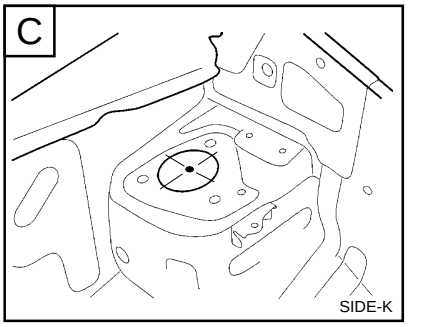
Tooling hole
(ø 15)

B



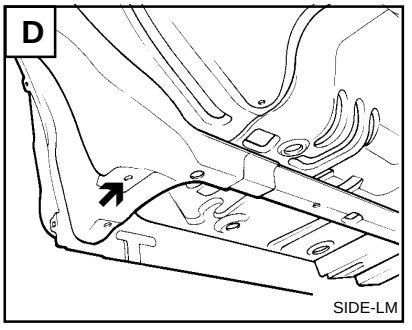
Tooling hole
(ø 12)

C



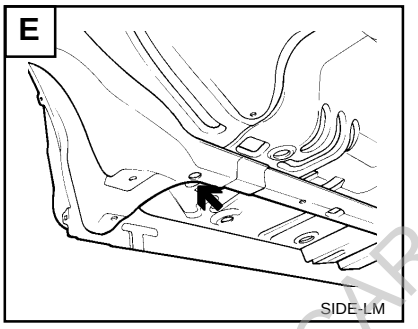
Front strut hole
(ø 72)

D



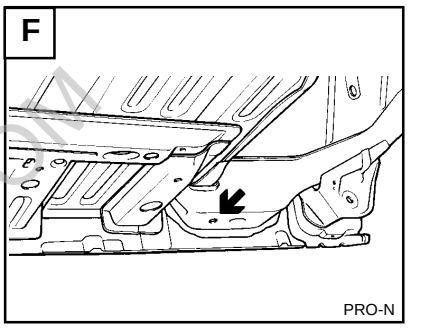
Sub frame mounting hole
(ø 16)

E



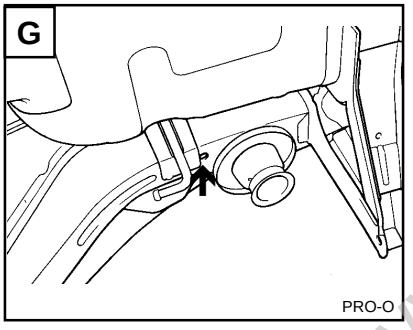
Tooling hole
(ø 25)

F



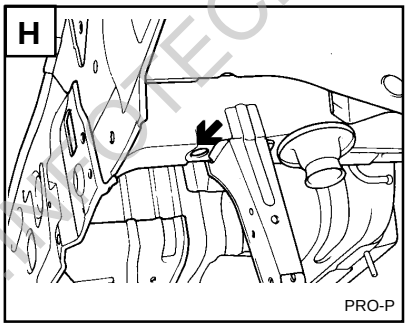
Tooling hole
(ø 15)

G



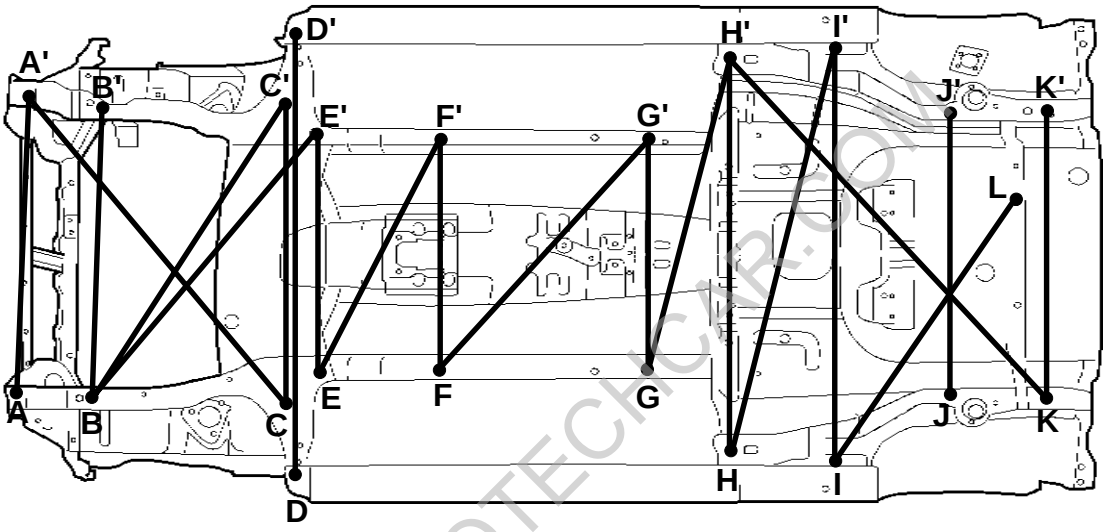
Tooling hole
(ø 12)

H



Tooling hole
(ø 25)

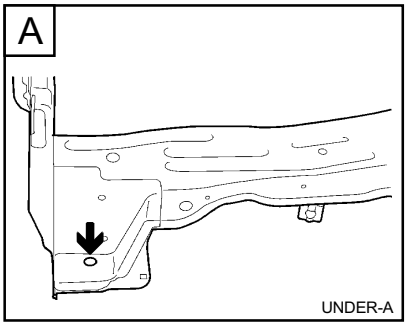
UNDER BODY



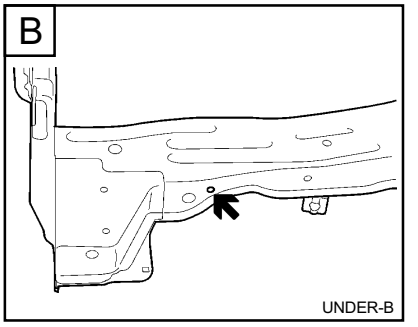
ACT-ASSY

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

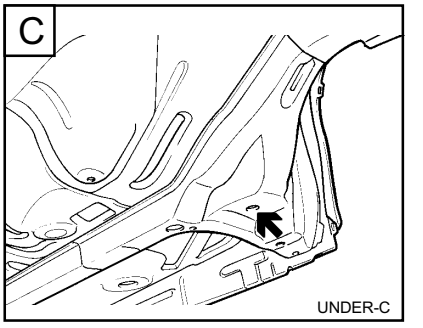
Point symbol	A-A'	B-B'	B-C'	B-E'	C-A'	C-C'	D-D'	E-E'
Length (mm)	860	858	1034	1054	1140	818	1230	646
Point symbol	**E-F'**	**F-F'**	**F-G'**	**G-G'**	**G-H'**	**H-H'**	**H-I'**	**I-I'**
Length (mm)	725	612	866	626	887	1084	1151	1136
Point symbol	**J-J'**	**K-K'**	**K-H'**	**I-L**				
Length (mm)	850	874	1344	902				



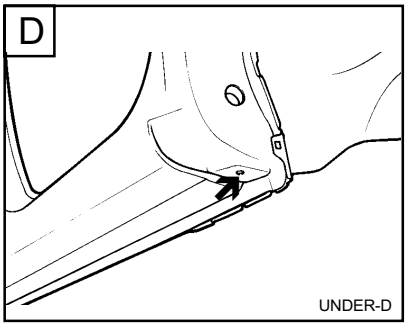
Sub frame mounting hole
(Ø 17)



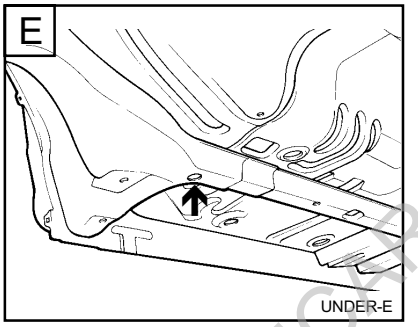
Side cover mounting hole
(Ø 6.6)



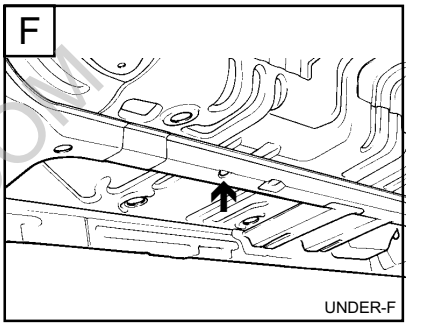
Sub frame mounting hole
(Ø 16)



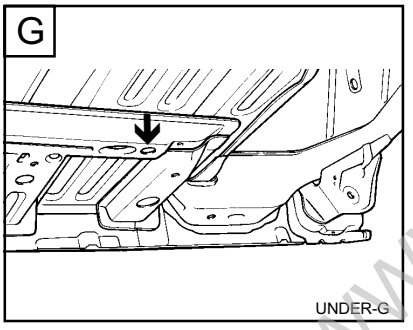
Fender mounting hole
(Ø 8)



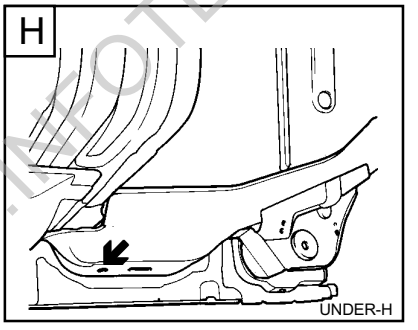
Tooling hole
(Ø 25)



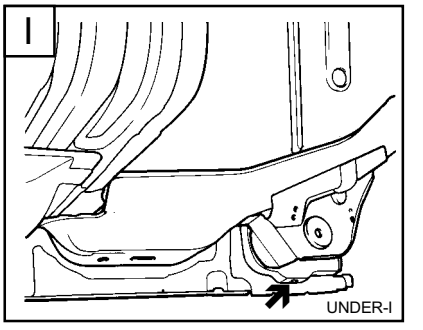
Tooling hole
(Ø 15)



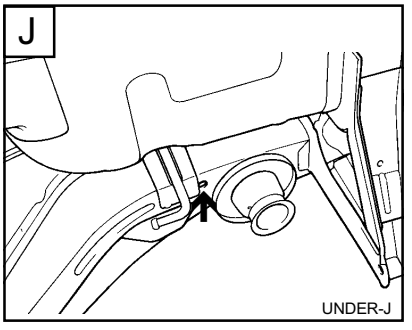
Paint drain & tooling hole
(Ø 20)



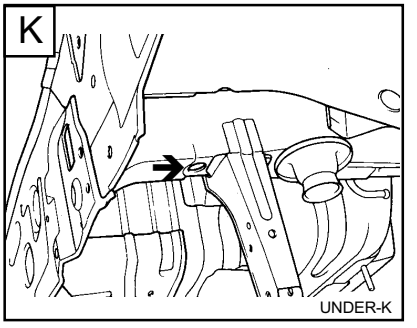
Tooling hole
(Ø 15)



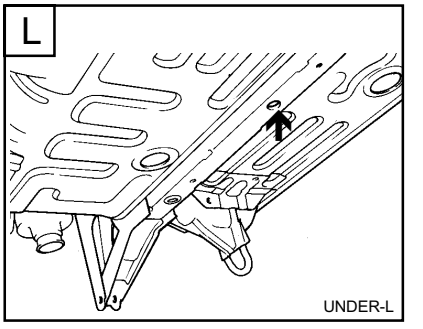
Paint drain hole
(Ø 8)



Tooling hole
(Ø 12)

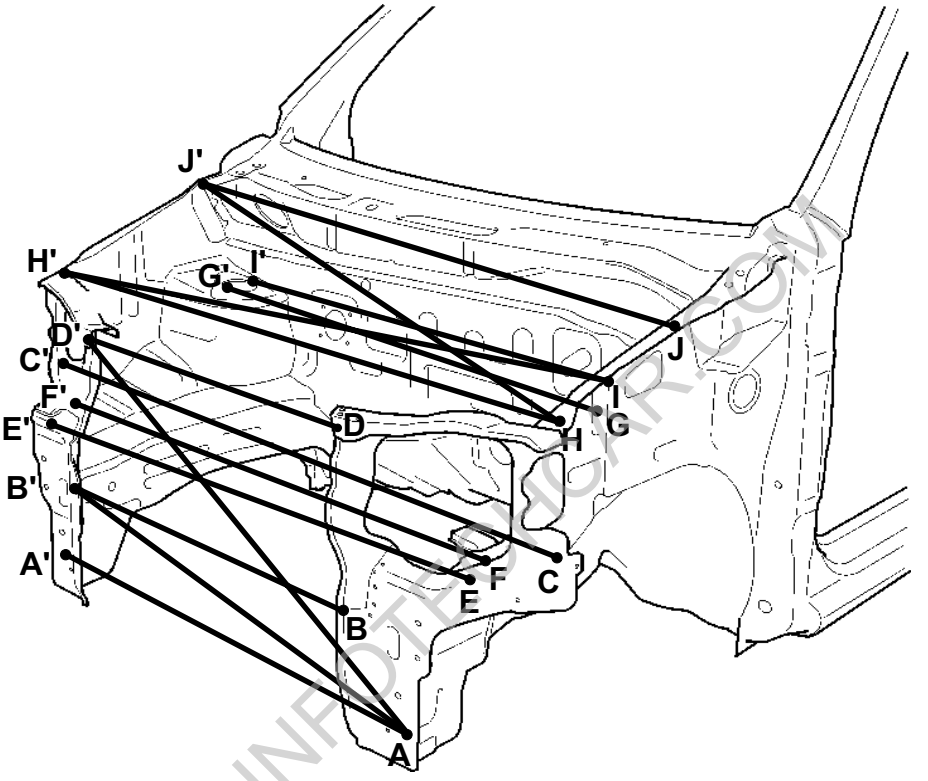


Tooling hole
(Ø 25)



Tooling hole
(Ø 15)

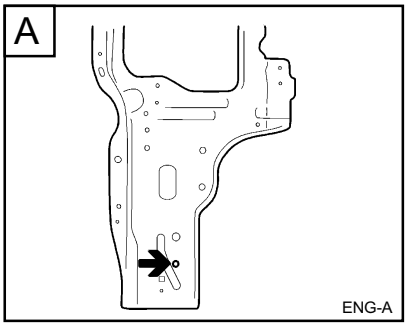
ENGINE COMPARTMENT



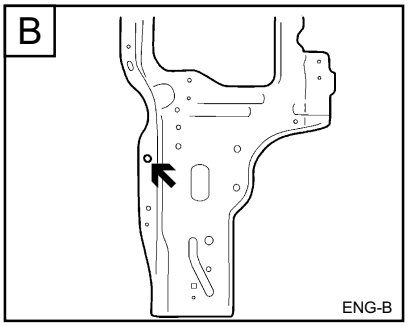
ENG-COM

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

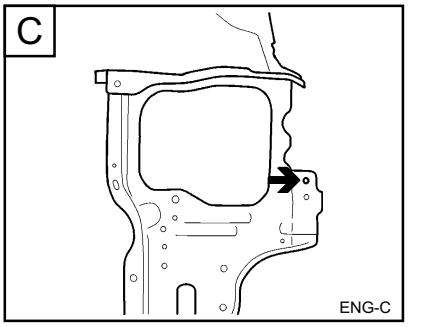
Point symbol	A-A'	A-B'	A-D'	B-B'	C-C'	D-D'	E-E'	F-F'
Length (mm)	910	832	914	715	1300	656	1000	1120
Point symbol	**G-G'**	**H-H'**	**H-J'**	**I-I'**	**I-H'**	**J-J'**		
Length (mm)	933	1238	1281	1071	1205	1253		



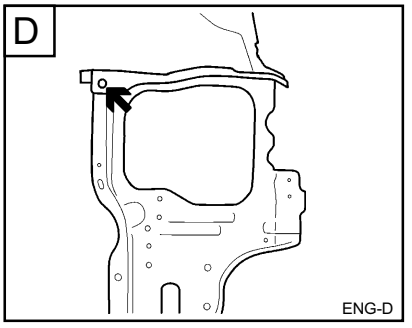
Wiring clip fixing hole
(Ø 7)



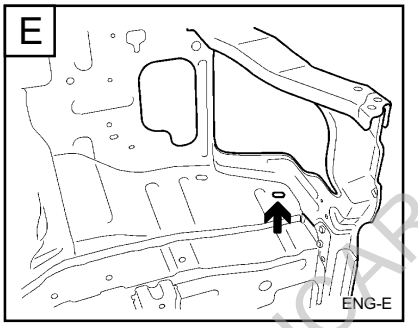
Member-radiator support center cross mounting hole
(Ø 9)



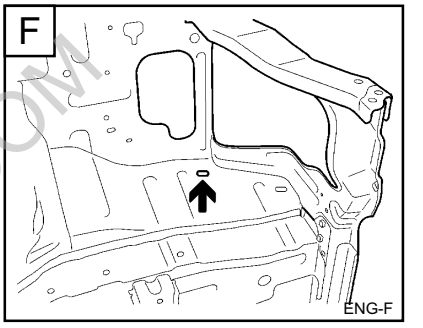
Head lamp mounting hole
(Ø 6.6)



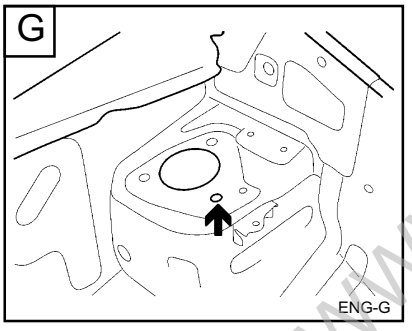
Member-radiator upper center mounting hole
(Ø 6.6)



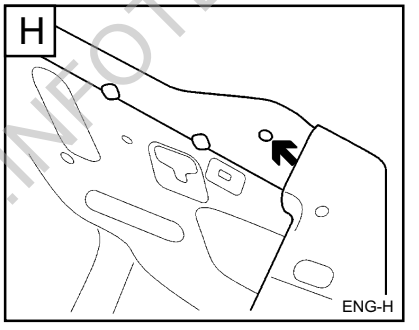
Wiring fixing hole
(Ø 7)



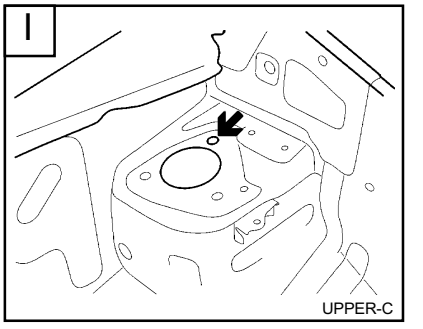
Wiring fixing hole
(Ø 7)



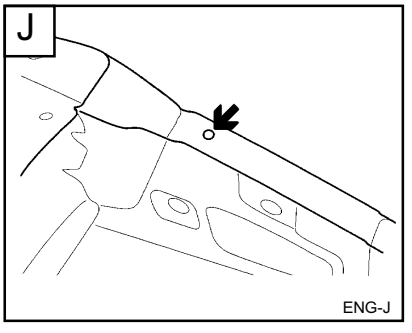
Spring seat mounting hole
(Ø 11)



Fender mounting hole
(Ø 6.6)

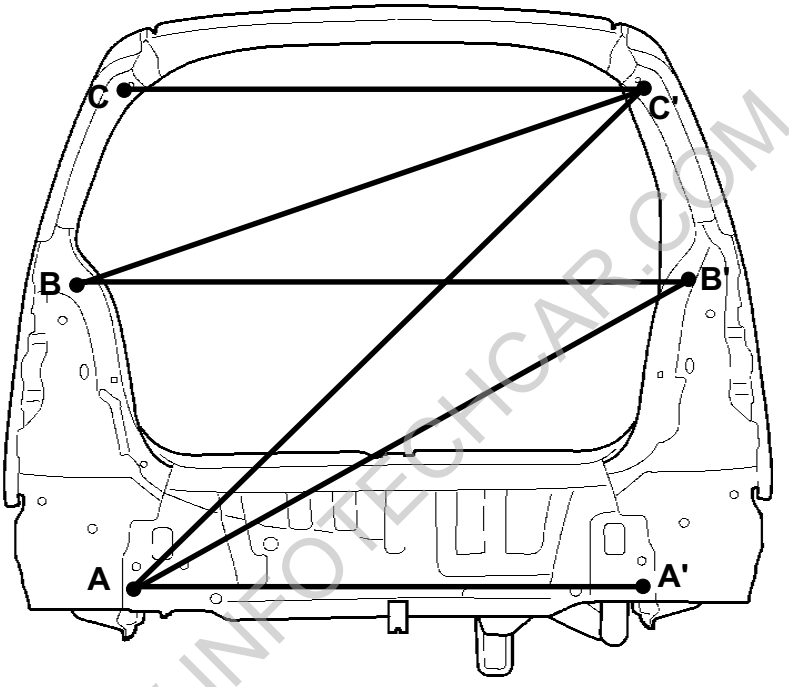


Spring seat mounting hole
(Ø 11)



Fender mounting hole
(Ø 6.6)

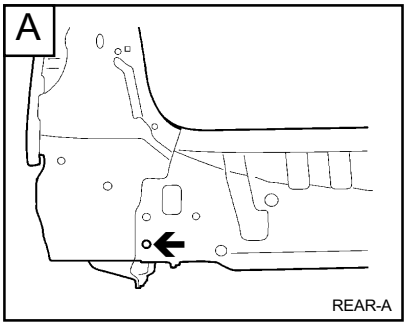
LUGGAGE COMPARTMENT



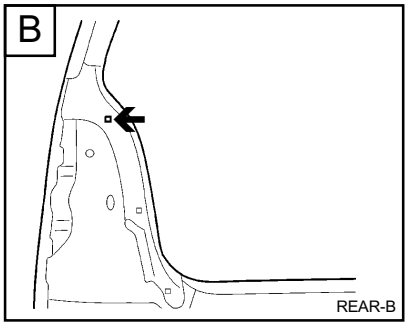
LUG-REAR

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

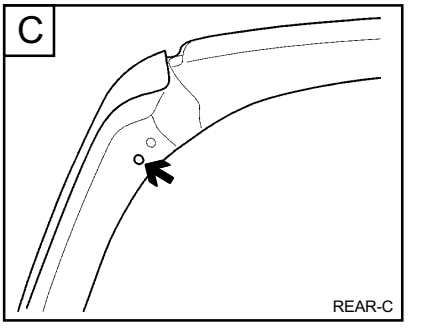
Point symbol	A-A'	A-B'	A-C'	B-B'	B-C'	C-C'
Length (mm)	975	1215	1420	1164	1188	1030



Bumper stay mounting hole
(Ø 13)



Rear combination lamp mounting and
tooling hole (□ 8.5)

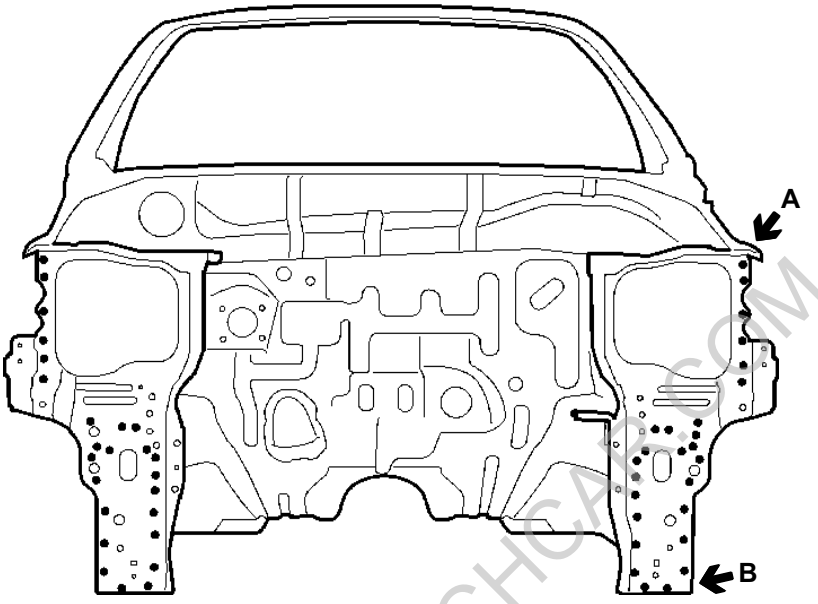


Tail gate lift mounting hole
(Ø 9)

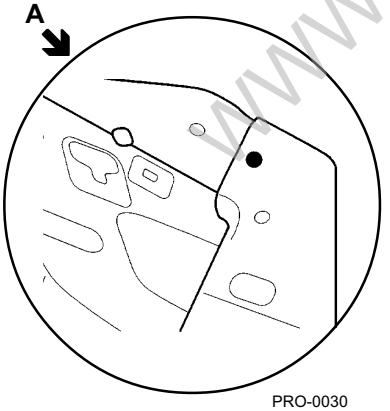
BODY PANEL REPAIR PROCEDURE

RADIATOR SUPPORT PANEL

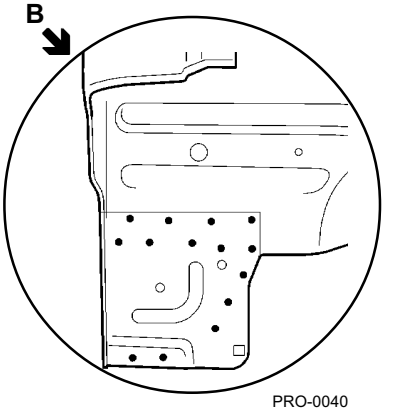
WELDLING POINTS



PRO-0020



PRO-0030

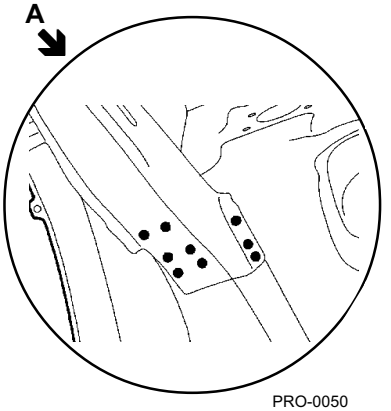


PRO-0040

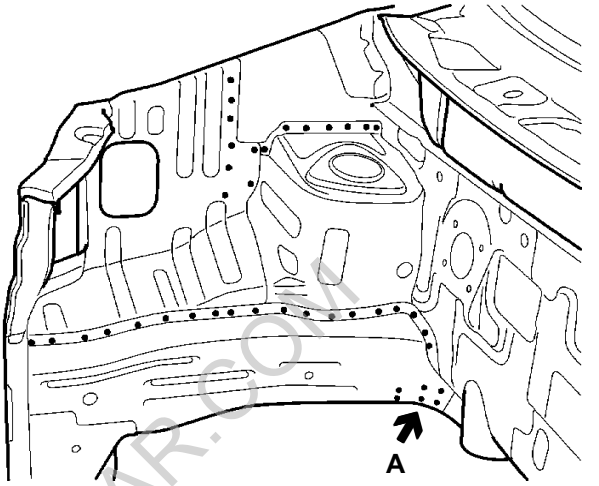
- **MIG plug welding**

FENDER APRON AND FRONT SIDE MEMBER (ASSEMBLY)

WELDLING POINTS

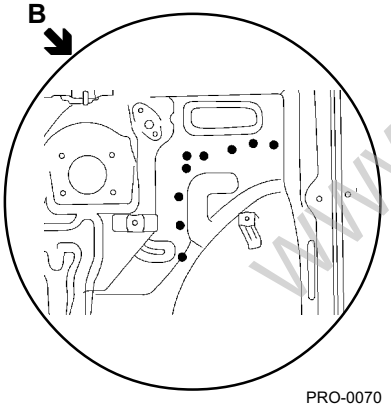


PRO-0050

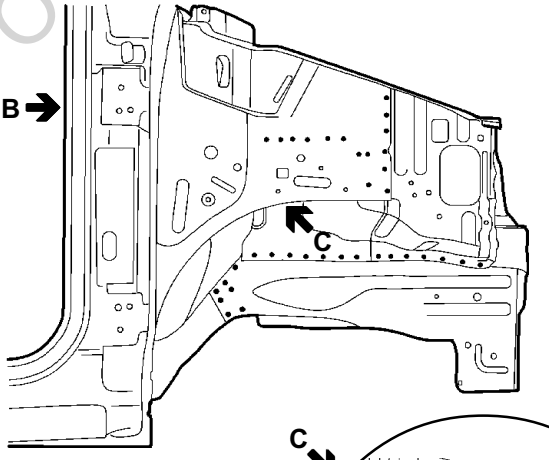


- MIG plug welding

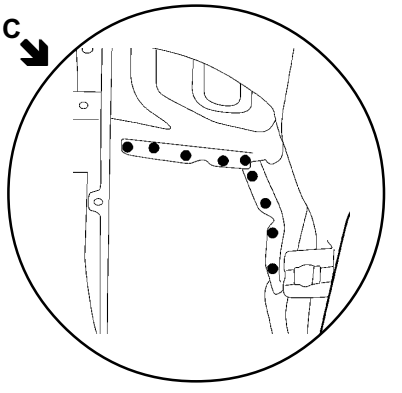
PRO-0060



PRO-0070



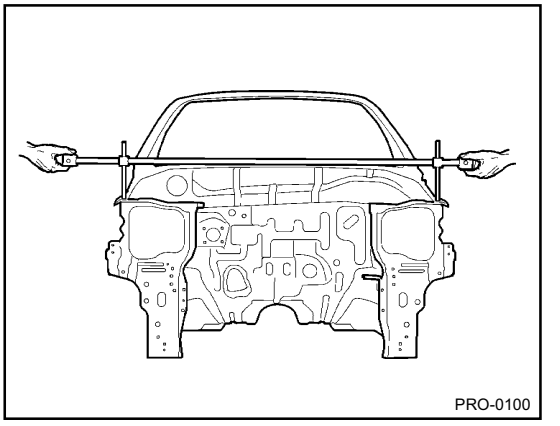
PRO-0080



- MIG plug welding
- MIG butt welding
- MIG lap welding

PRO-0071

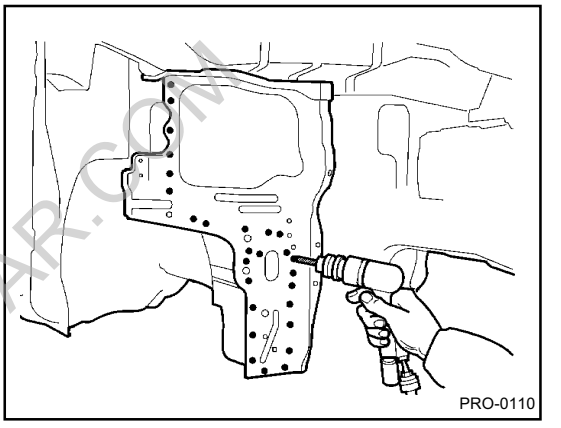
NOTE
Before repairing, remove Engine and Suspension Components. Refer to the body dimension charts and measure the vehicle to determine straightening and alignment requirements. The body must be returned to its original dimension before you begin the repair procedure.


PRO-0100

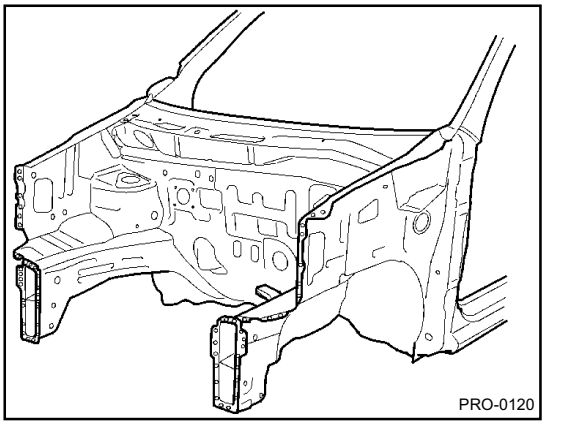
REMOVAL

1. Drill out all the spotwelds to separate radiator support panel from front side member.

   NOTE
   When spotwelded portions are not apparent, remove paint with a rotary wire brush.

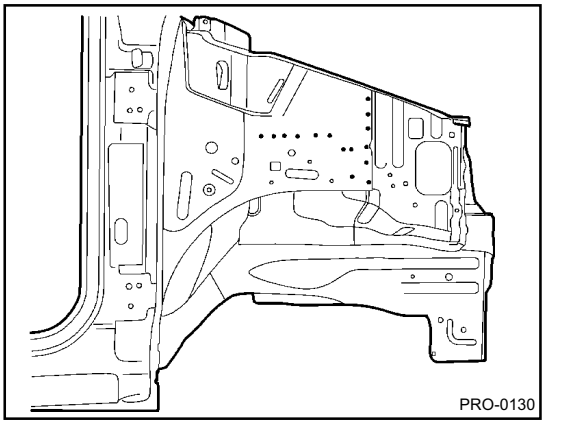

PRO-0110

2. Remove the radiator support panel.

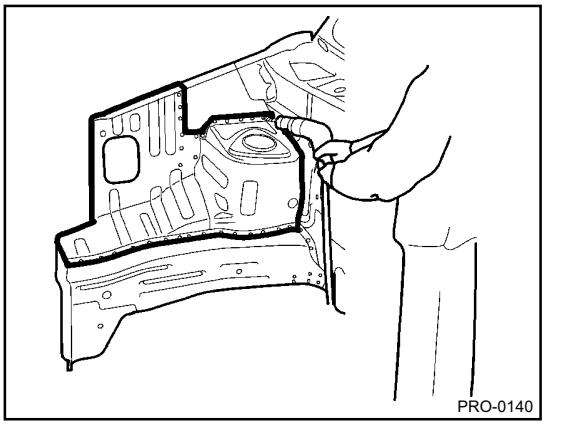

PRO-0120

3. Drill out all the spotwelds attaching the front inner lower pillar and fender apron panel.

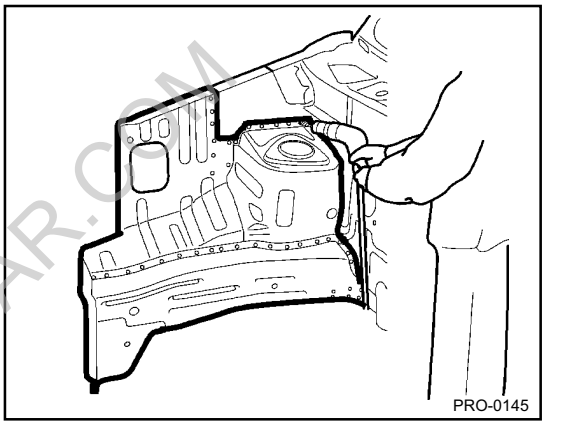
   NOTE
   If it is possible that the cowl side upper outer panel is reusable, be careful not to damage it while removing.


PRO-0130

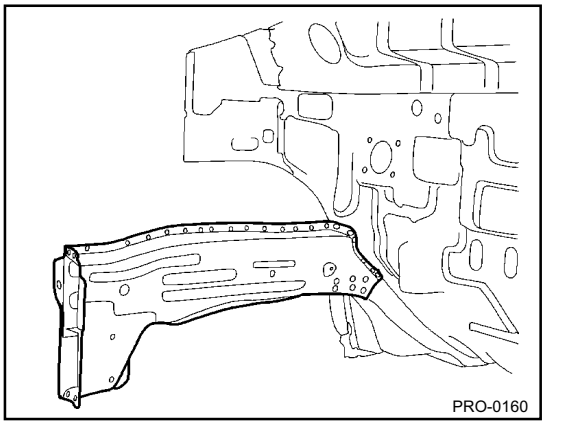
4. Using a spotweld cutter, drill out all the spotwelds attaching the fender apron to the dash panel and front side member.
5. Remove the fender apron panel.



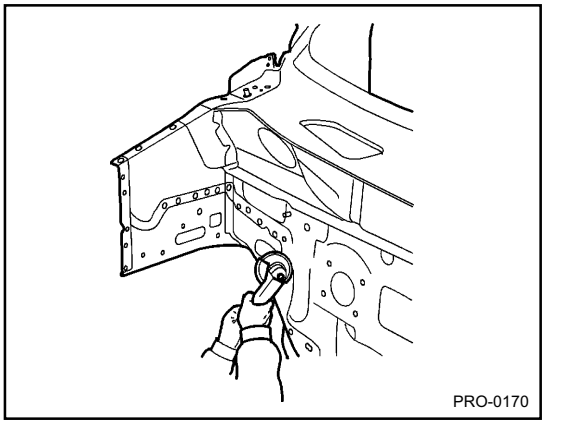
NOTE
If collision damage requires replacement of fender apron and front side member together, remove both of them at the same time.



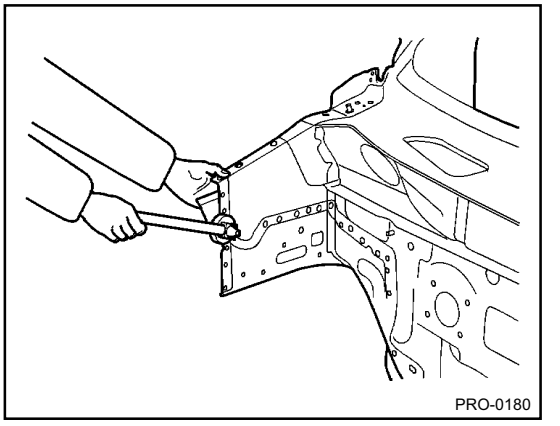
6. Using a spotweld cutter, remove the front side member by drilling out the spotwelds.



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.

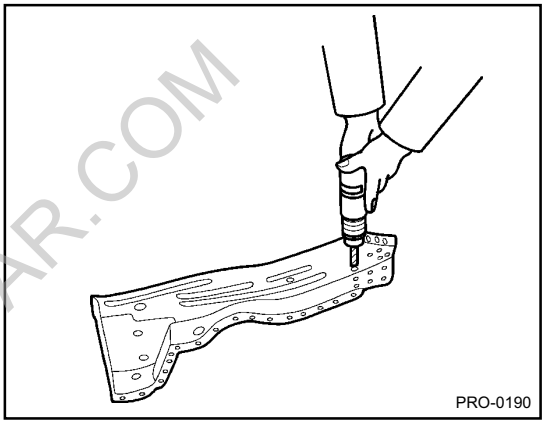


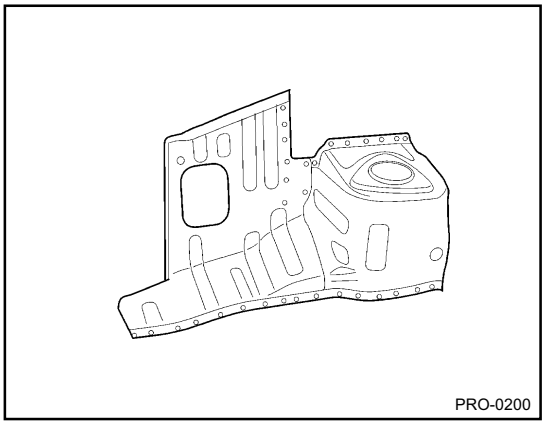
8. Using a hammer and dolly, correct any flanges that become bent or deformed when spotwelds are broken.


PRO-0180

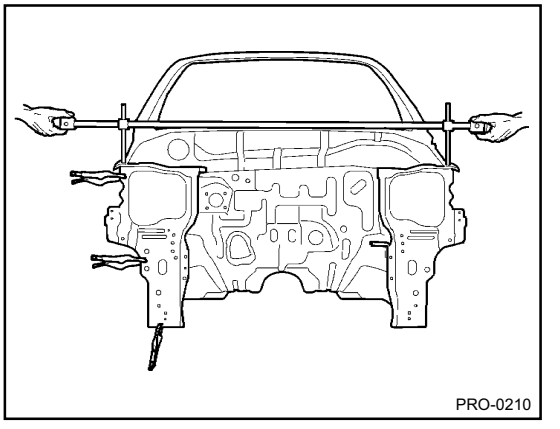
INSTALLATION

1. Drill 8 mm holes in the new fender apron and front side member for MIG plug welding.
2. Remove paint from both sides of all portions that are to be welded such as peripheries of MIG plug weld holes.

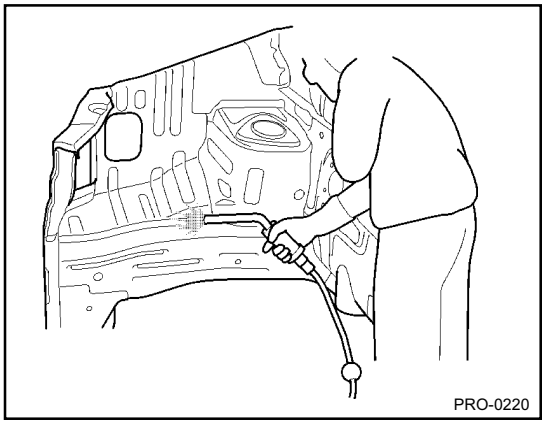

PRO-0190


PRO-0200

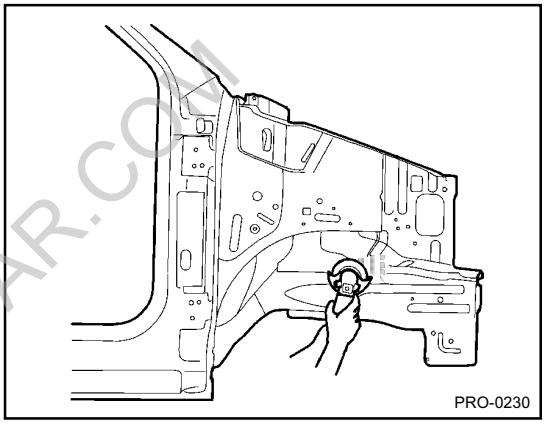
3. Temporarily install new parts in place.
4. Measure each measurement point (Refer to the BODY DIMENSIONS) and corrcet the installation position.


PRO-0210

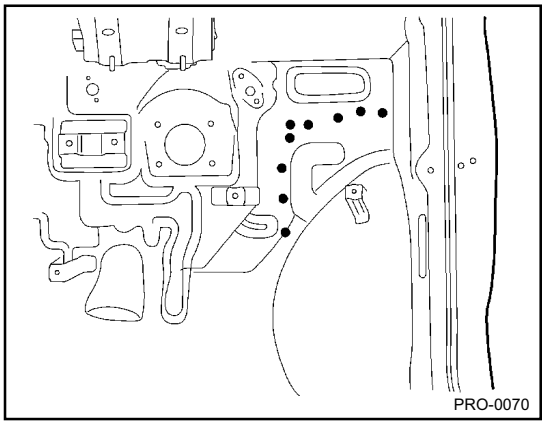
5. MIG plug weld all holes


PRO-0220

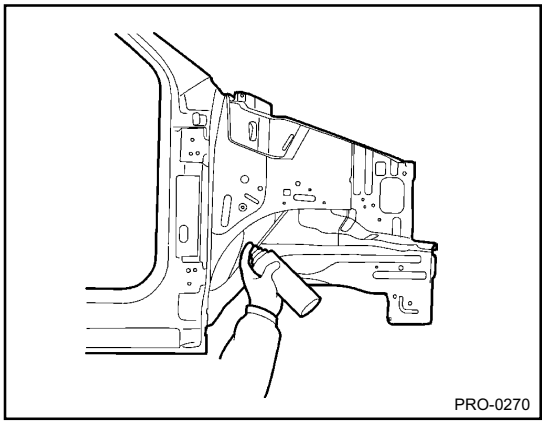
6. Clean MIG welds with a disc grinder.


PRO-0230

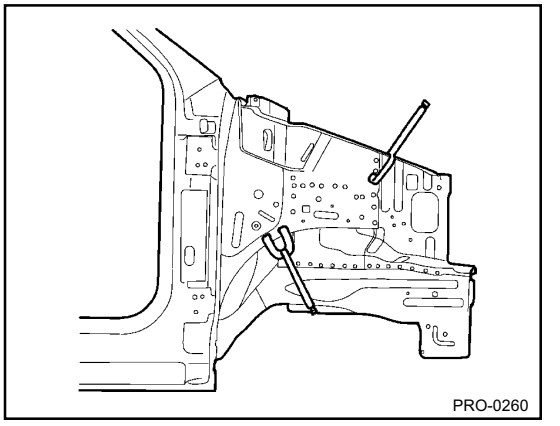
NOTE
1. **Be careful not to grind welded portions too much.**
2. **The internal parts will be stronger if the weld traces are not ground.**


PRO-0070

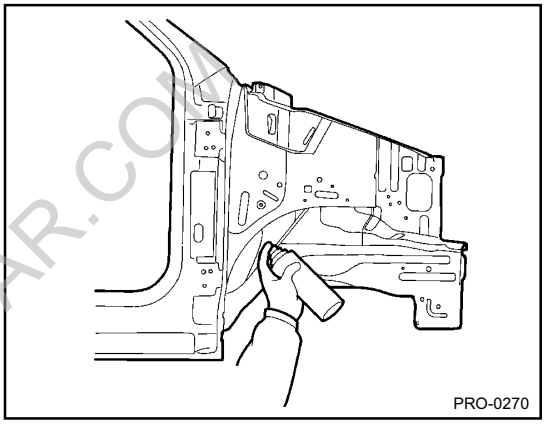
7. Before welding the cowl side upper outer panel, apply the two part epoxy primer and anti-corrosion agent to the interior of the fender apron panel.


PRO-0270

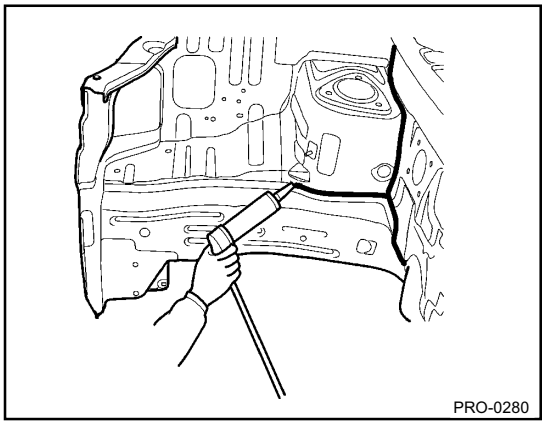
8. Install the cowl side upper outer panel in place.
9. MIG plug weld all holes.
10. Clean and prepare all welds, remove all residue.
11. Apply the two part epoxy primer to the interior of the each panel.


PRO-0260

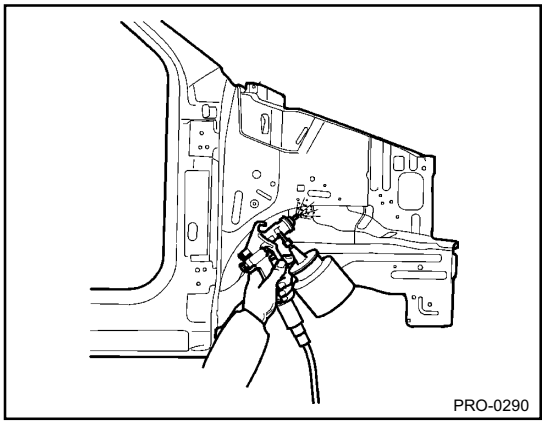
12. Apply an anti-corrosion agent as required (Refer to the CORROSION PROTECTION).
13. Prepare the exterior surfaces for priming using wax and grease remover.
14. Apply metal conditioner and water rinse.
15. Apply conversion coating and water rinse.
16. Apply the two-part epoxy primer.


PRO-0270

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


PRO-0280

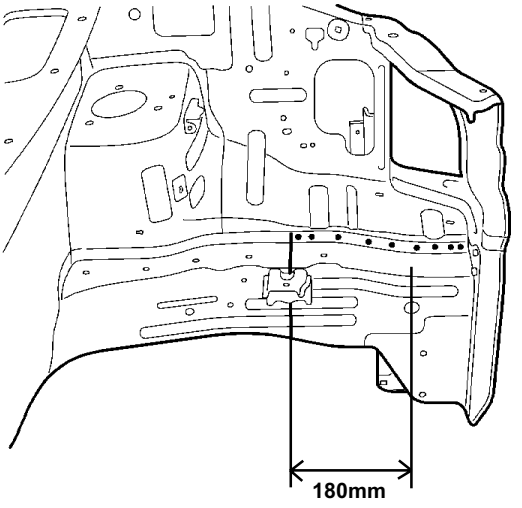
19. After completing body repairs, carefully apply under coating to the front sidemember and fender apron (Refer to the CORROSION PROTECTION).
20. In order to improve corrosion resistance, if necessary, apply an under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).


PRO-0290

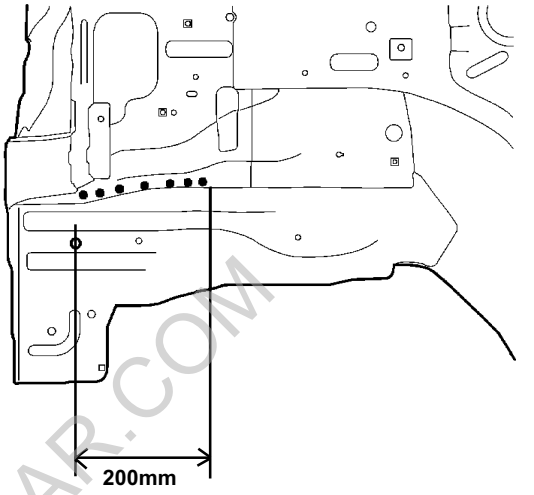
FRONT SIDE MEMBER (PARTIAL)

WELDLING POINTS

L/H



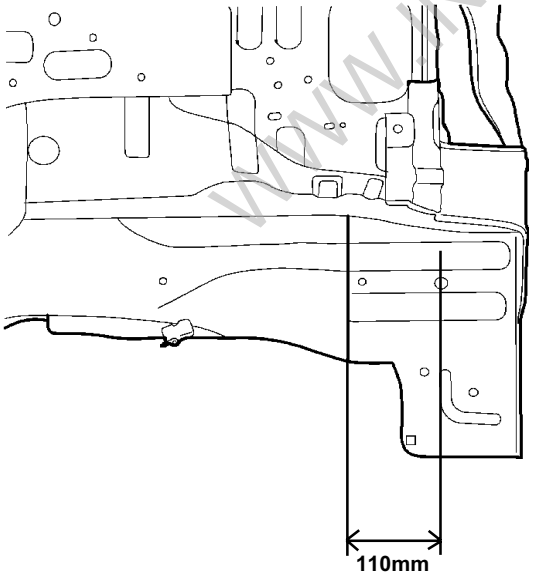
PRO-0300



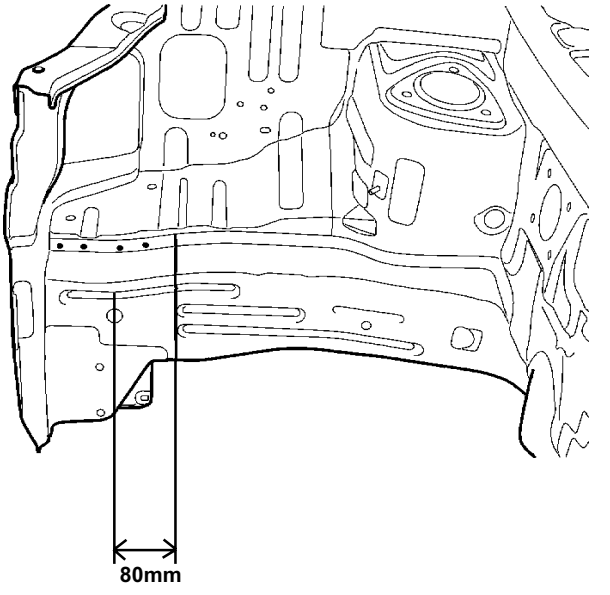
PRO-0301

● MIG plug welding
⫲ MIG butt welding

R/H



PRO-0321



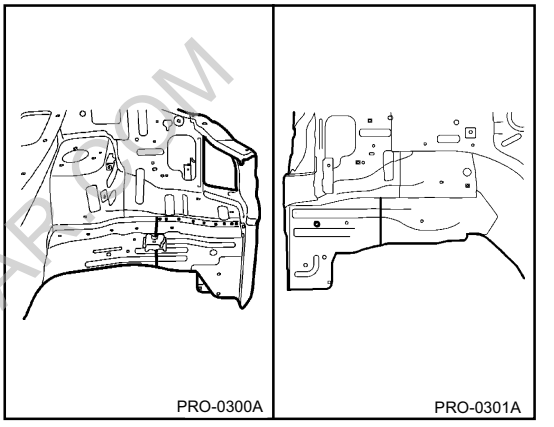
PRO-0320

● MIG plug welding
⫲ MIG butt welding

REMOVAL

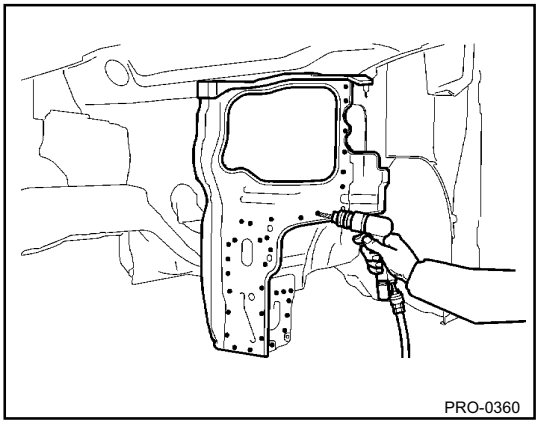
NOTE
This procedure is to be used only for repair of minor damage to the front side member and when it is impossible to straighten the damaged side member. The following procedure illustrates a repair for the front left side member.
The procedure may also be applied to the front right side-member.

1. Measure and mark the vertical cutlines on front side member inner tooling hole center.

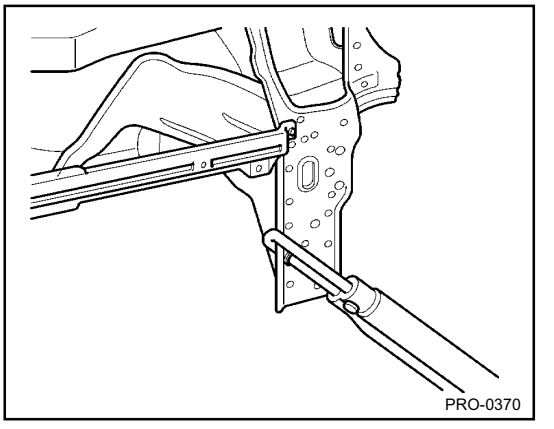


2. Drill out all the spotwelds to separate battery tray leg bracket from front side member.

NOTE
1. When spotwelded portions are not apparent, remove paint with a rotary wire brush.



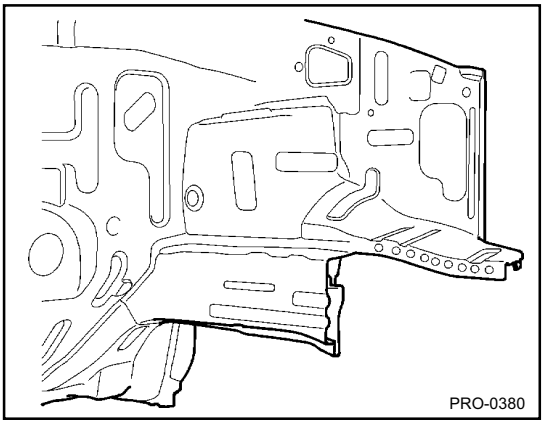
2. In order to perform cutting and separation of spotwelded points use a spot weld cutter which is larger than the size of the nugget to make a hole only in the panels to be replaced.



3. Cut through the front side member inner and outer at cutlines.

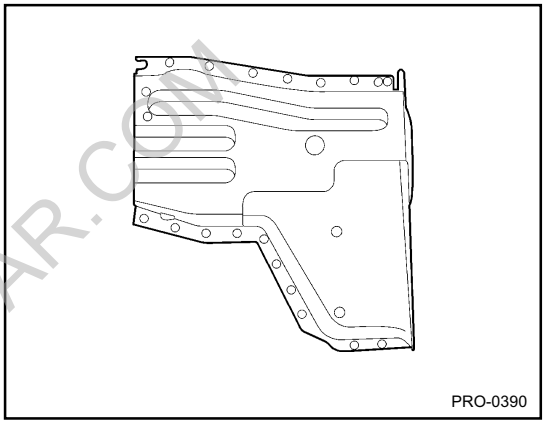
   NOTE
   Take care not to cut through front side member inner reinforcement.

4. Prepare all surfaces to be welded.

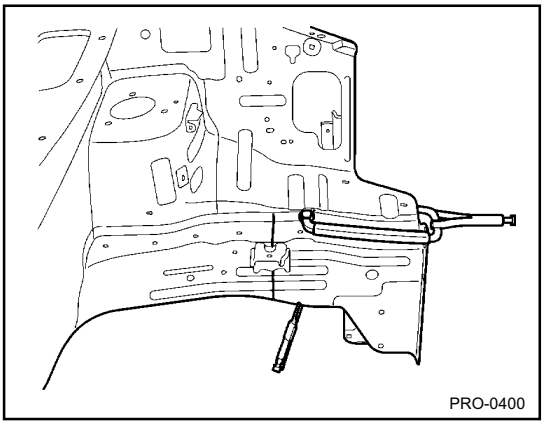

PRO-0380

INSTALLATION

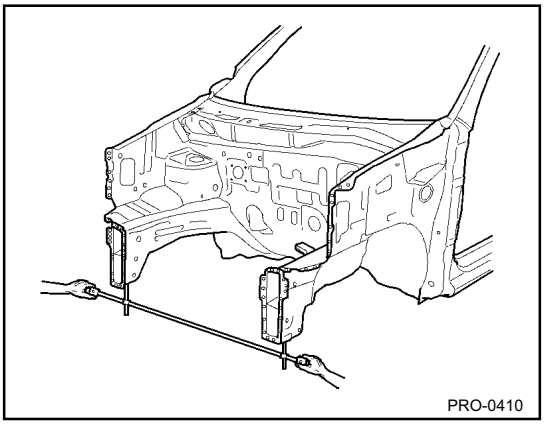
1. Transcribe the front side member inner and outer cutline to the new front side member, cut to length and chamfer butt end to improve weld surface.
2. Drill 8mm holes in new front side member for MIG plug welding.


PRO-0390

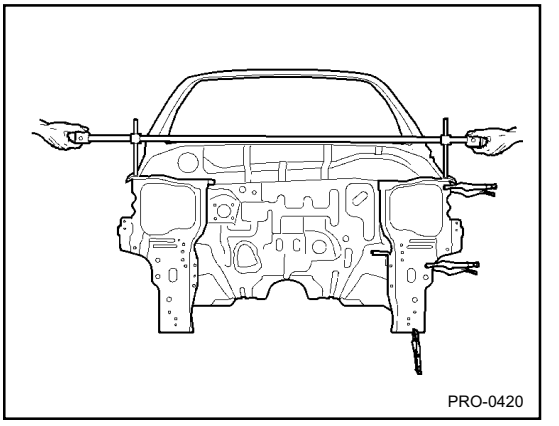
3. Fit and clamp the front side member inner and outer in place.
4. MIG plug weld all holes and MIG butt weld all seams.


PRO-0400

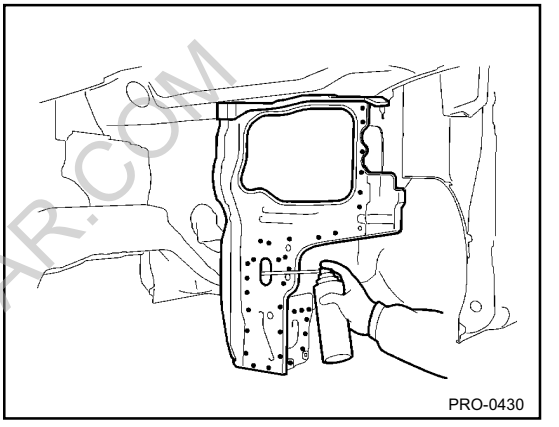
5. Measure each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.


PRO-0410

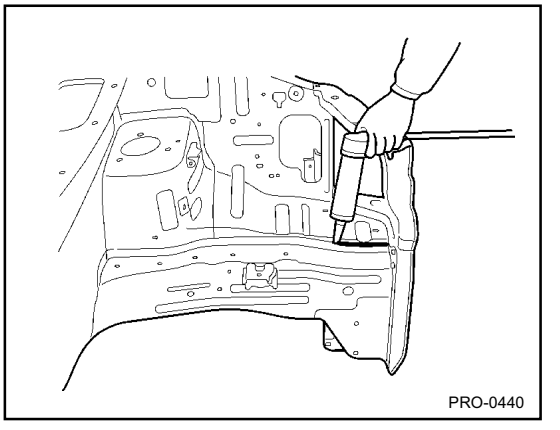
6. Fit and clamp the radiator support panel in place.
7. MIG plug weld all holes.
8. Clean and prepare all welds, removing all residue.
9. Apply the two-part epoxy primer to the interior of the front side member.


PRO-0420

10. Apply an anti-corrosion agent as required. (Refer to the CORROSION PROTECTION).
11. Prepare the exterior surfaces for priming, using wax and grease remover.
12. Apply metal conditioner and water rinse.
13. Apply conversion coating and water rinse.
14. Apply the two-part epoxy primer.

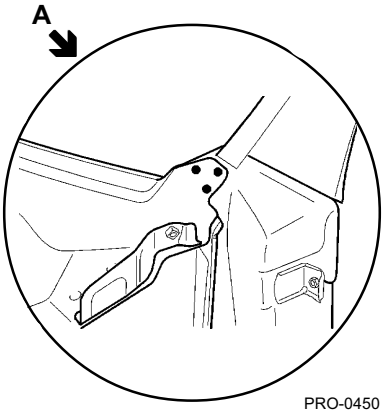

PRO-0430

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

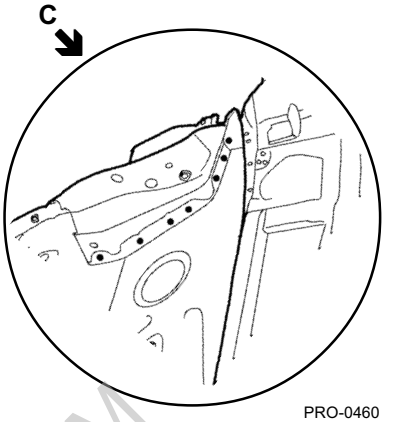

PRO-0440

FRONT SIDE OUTER PANEL

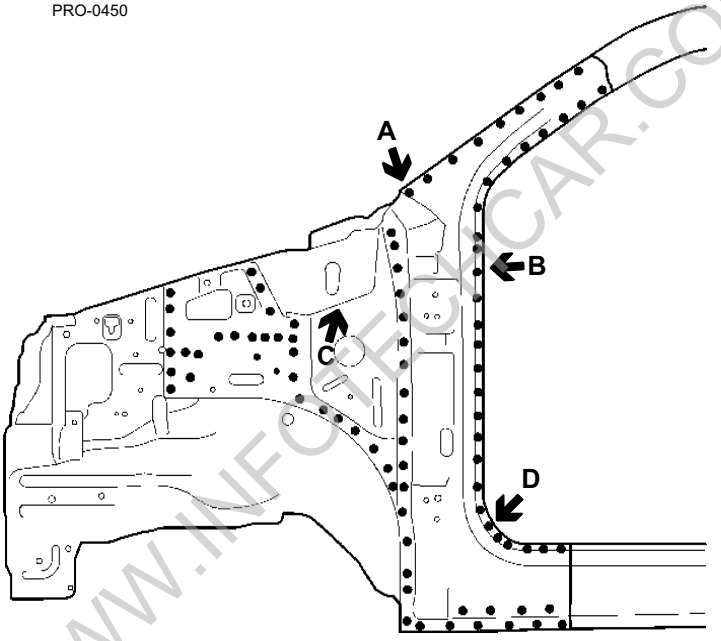
WELDLING POINTS



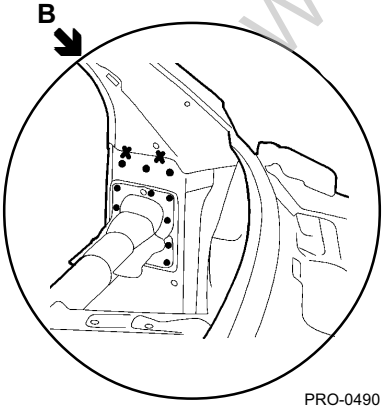
PRO-0450



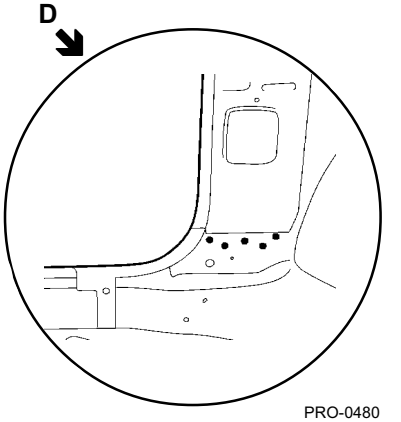
PRO-0460



PRO-0470



PRO-0490

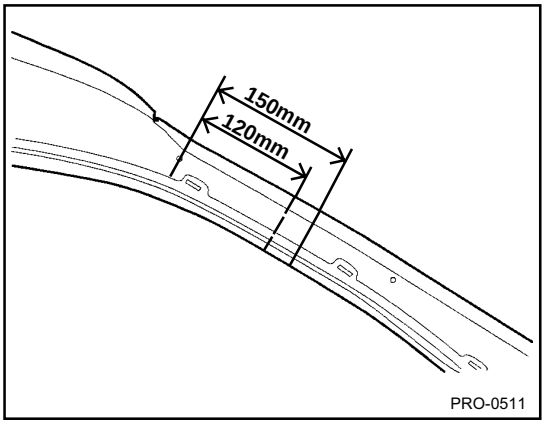


PRO-0480

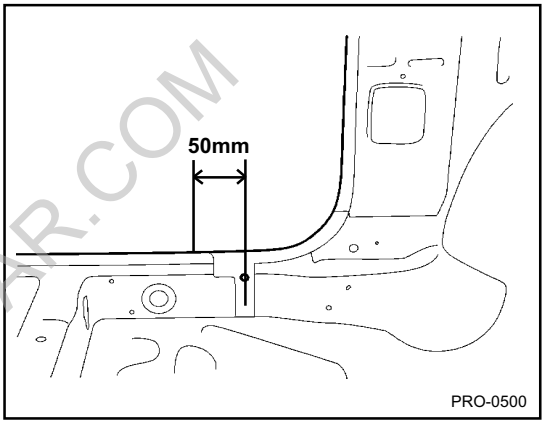
● **MIG plug welding**
MIG butt welding
MIG lap welding

REMOVAL

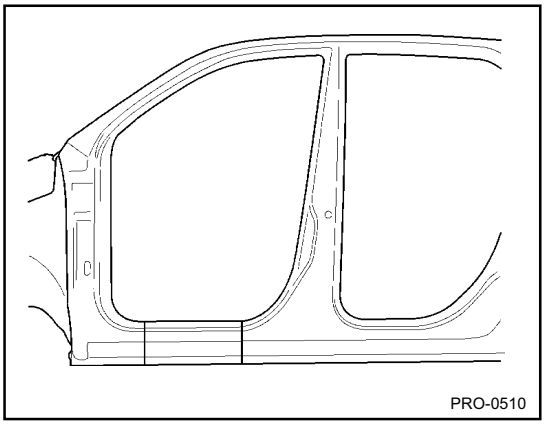
1. Measure and mark the each cutline on the front side outer panel and front inner upper pillar frame from the wiring fixing hole as indicated in the illustration.



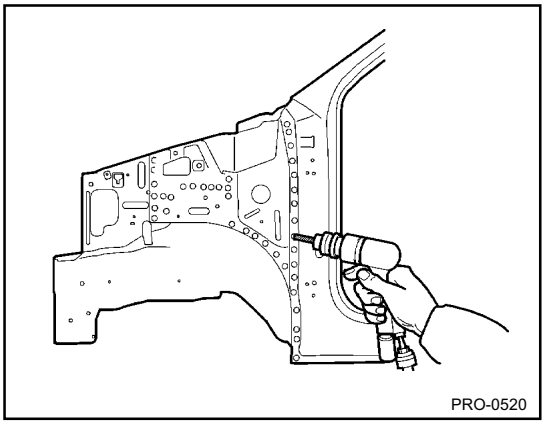
2. Measure and mark the cutline on front side sill inner panel as shown in the illustration.



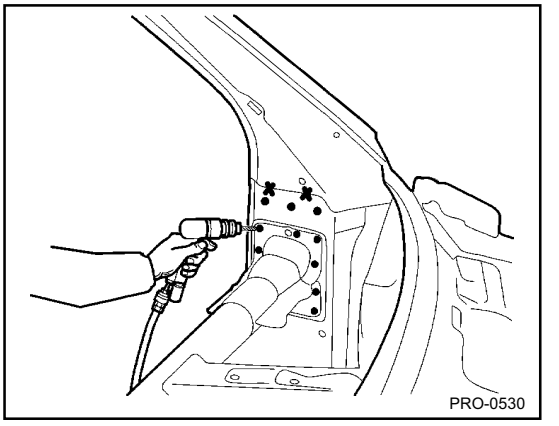
3. Depending on the extent of damaged area, it may be possible to determine the cutting range within indicated in the illustration.



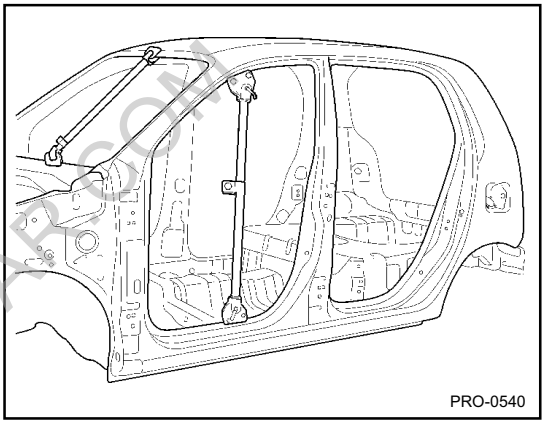
4. To remove the front side outer panel, grind away and drill out all welds on the front inner lower pillar and front side outer panel as shown in the illustration.



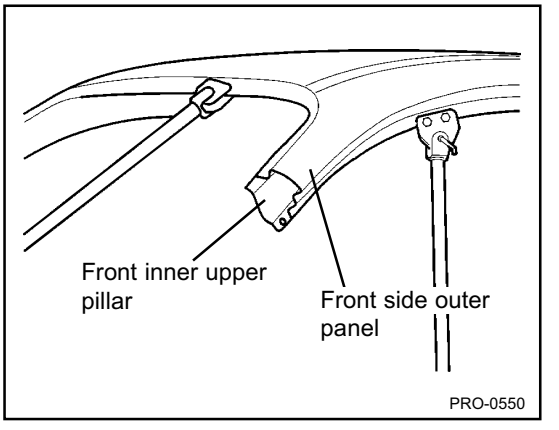
5. Drill out all welds attaching the front side outer panel to dash and cowl top outer, cowl inner lower panels.
6. Remove spotwelds and lap welds attaching cowl crossmember bar mounting upper bracket to remove front pillar.



7. Before cutting front side outer panel, be sure to support roof panel.

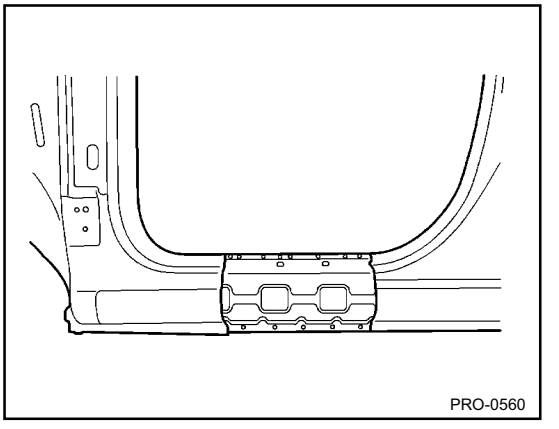


8. Cut the front side outer panel through each cutline, taking care not to damage the other panel as illustrated.

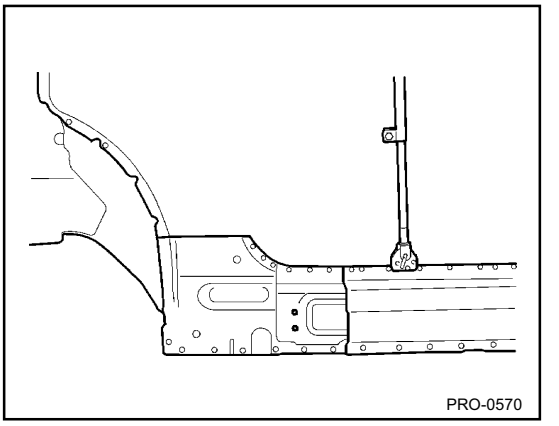


9. Before cutting the side sill outer panel, make a rough cut the side sill outer panel only.

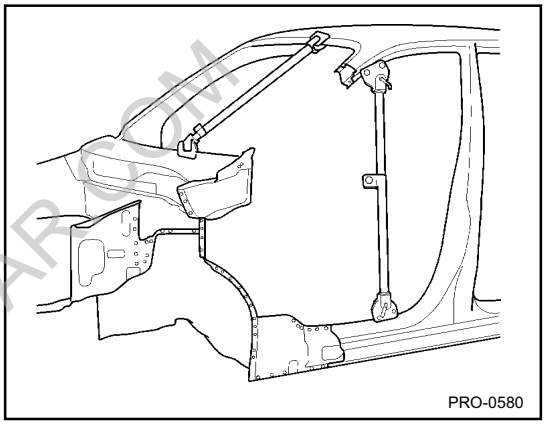
NOTE
When cutting the front side sill outer panel, be careful not to cut side sill outer reinforcement.



10. Cut the side sill outer reinforcement as shown in the illustration.
11. Cut the side sill outer reinforcement vertical cutline and remove the front side outer panel.

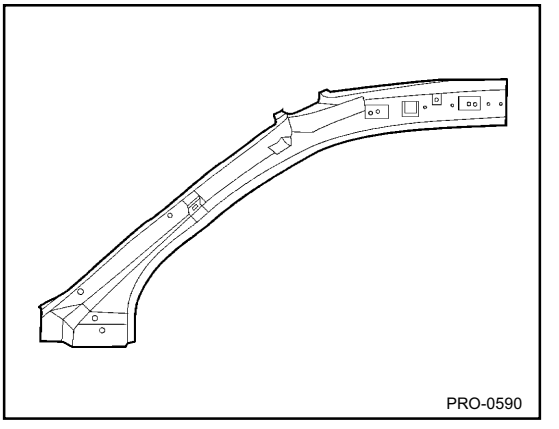

PRO-0570

12. Straighten all flanges as necessary, prepare all surfaces to be welded.

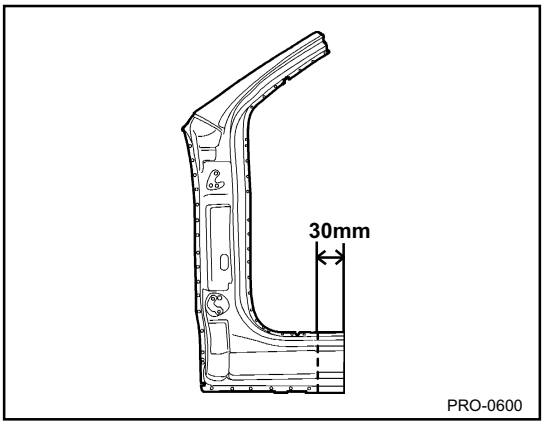

PRO-0580

INSTALLATION

1. Transcribe the cutline to the new front inner upper pillar , cut to length and chamfer butt end to improve weld surface.

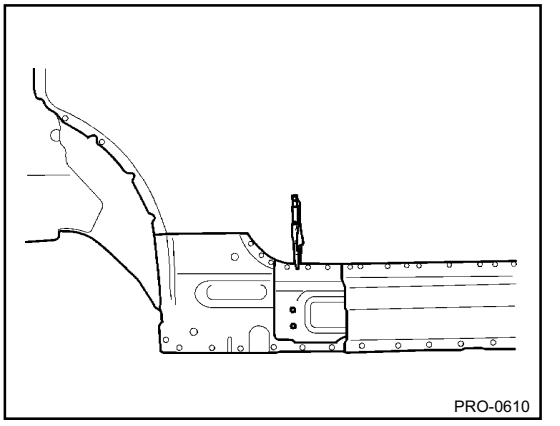

PRO-0590

2. Transcribe the cutline to the new side sill outer reinforcement and new front side outer panel, adding 30mm overlap to end and cut to length.
3. Drill 8mm holes along outer panel flanges in production location for attachment to other panels.

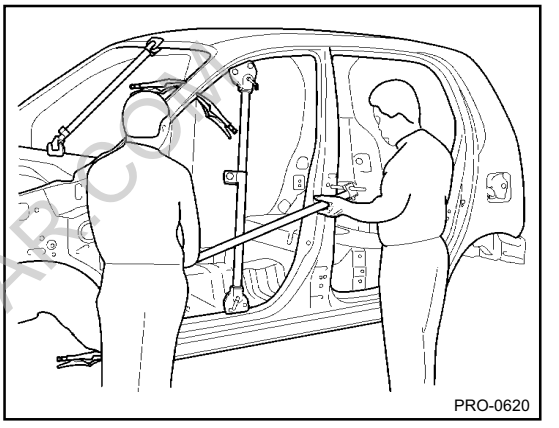


PRO-0600

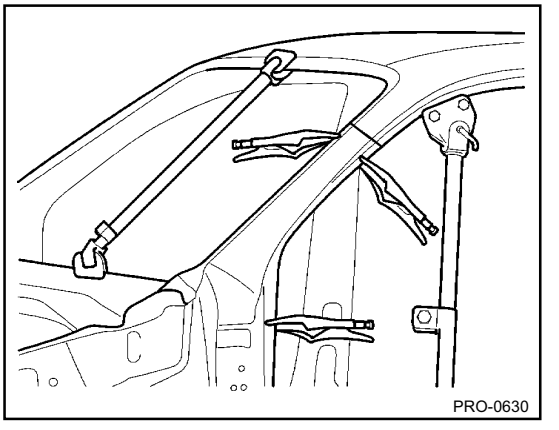
4. Transcribe the cutline to the new side sill outer reinforcement, adding 30mm overlap to end and cut to length.
5. Drill 8mm holes in the side sill outer reinforcement for MIG plug welding.
6. Fit and clamp the new side sill outer reinforcement in place for welding.
7. MIG plug weld all holes and MIG butt weld the seams.


PRO-0610

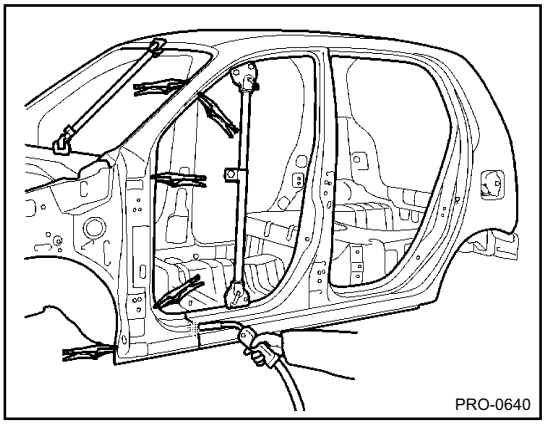
8. Temporarily install front inner upper pillar and front side outer panel in place.
9. Measure and each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.
10. If necessary, make temporary welds, and then check to confirm that the closing and fit for windshield glass, door and fender are correct.


PRO-0620

11. MIG butt weld front side outer panel and front side outer panel seams.
12. Reattach the cut away front side outer panel section, then MIG butt weld.

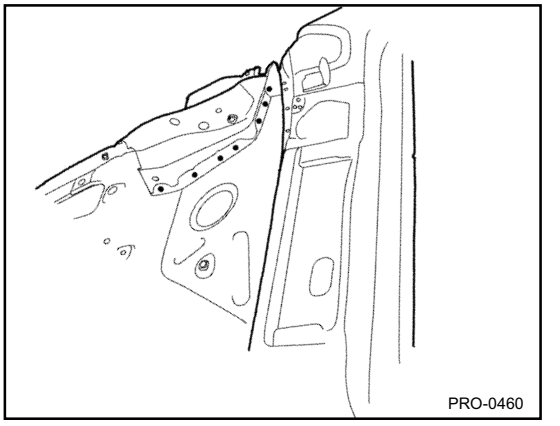

PRO-0630

13. MIG plug weld all holes and MIG butt weld all seams, in the front side outer panel.
14. Clean and prepare all welds, remove all residue.
15. Apply body filler to joints and sand as needed.
16. Apply the two-part epoxy primer to the interior of the front side outer panel.

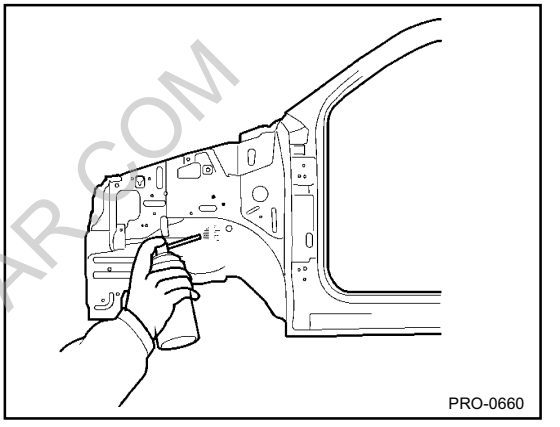

PRO-0640

17. Clean all welds with a disc grinder.

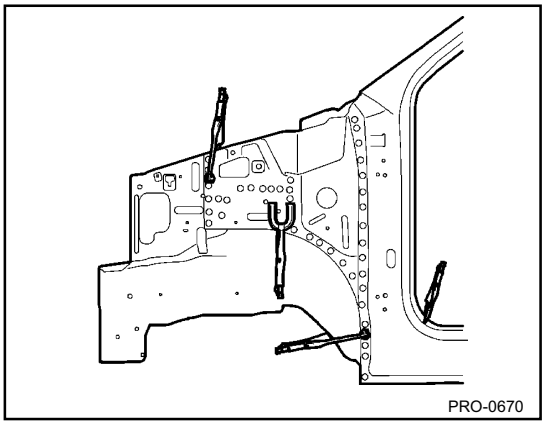
NOTE
1. **Be careful not to grind welded portions too much.**
2. **The internal parts will be stronger if the weld traces are not ground.**


PRO-0460

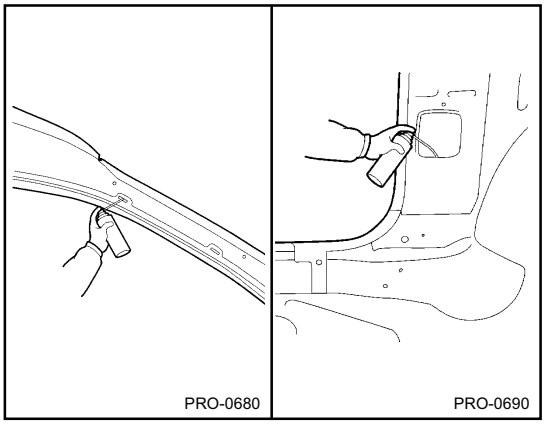
18. Before welding the front inner lower pillar panel, apply the two part epoxy primer and anti-corrosion agent to the interior of the fender apron panel.


PRO-0660

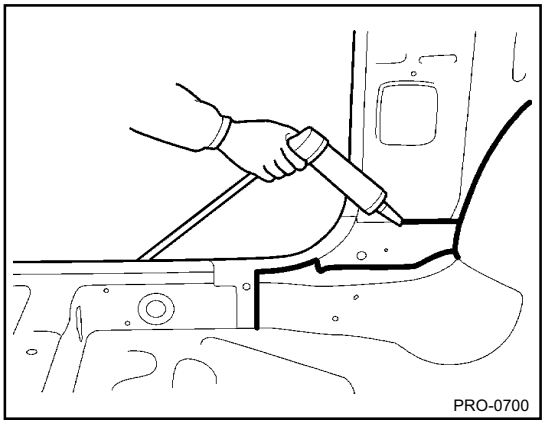
19. Install the front inner lower pillar panel in place.
20. MIG plug weld all holes.
21. Clean and prepare all welds, remove all residue.


PRO-0670

22. Apply an anti-corrosion agent to the welded parts and inside of front inner upper pillar (Refer to the CORROSION PROTECTION).
23. Prepare exterior surfaces for priming, using wax and grease remover.
24. Apply metal conditioner and water rinse.
25. Apply conversion coating and water rinse.

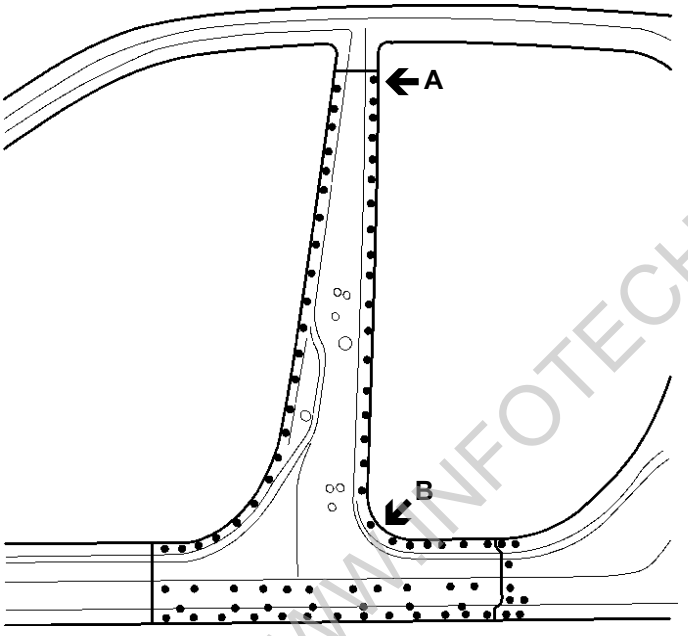

PRO-0680 PRO-0690

26. Apply the two-part epoxy primer.
27. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
28. Reprime over the seam sealer to complete the repair.

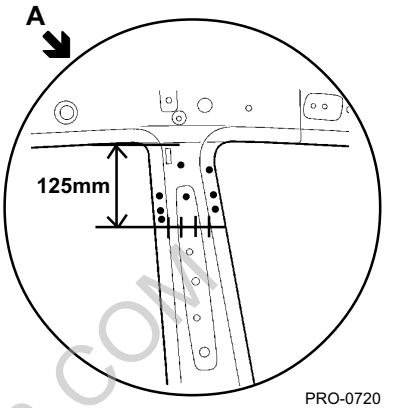


FRONT SIDE OUTER PANEL

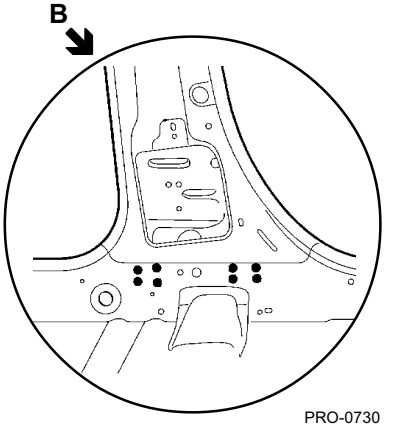
WELDLING POINTS



PRO-0710



PRO-0720

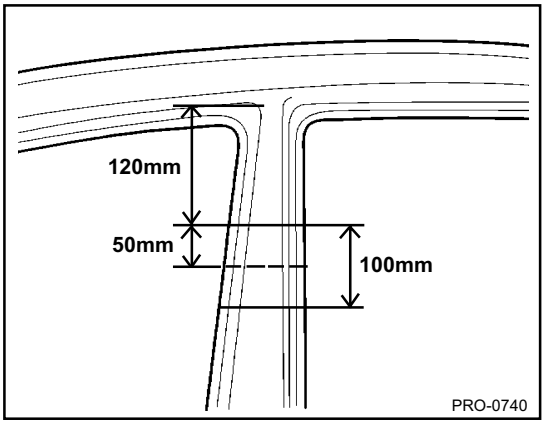


PRO-0730

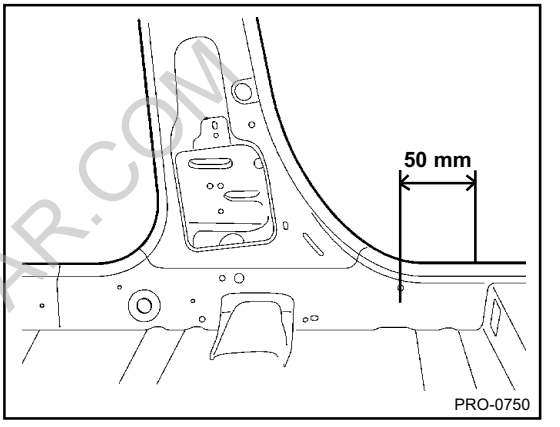
● MIG plug welding
MIG butt welding
MIG lap welding

REMOVAL

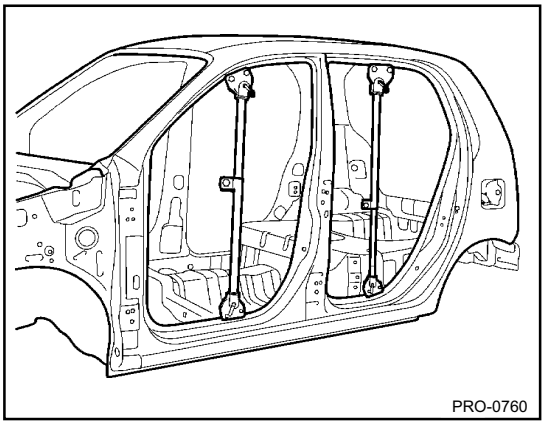
1. Measure and mark the horizontal cutline on front side outer panel as indicated in the illustration.



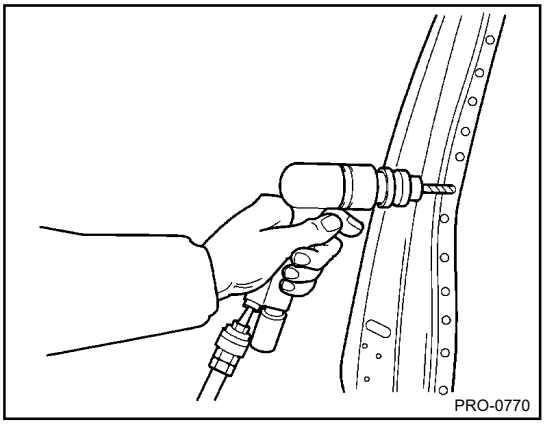
2. Measure and mark the vertical cutline on side sill inner panel 50mm from the wiring fixing hole.



3. Before cutting front side outer panel , be sure to support roof panel.

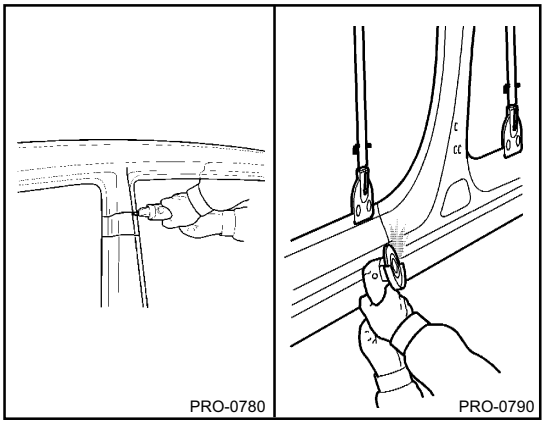


4. Drill out all spotwelds attaching the front side outer panel to the body to remove front side outer panel.

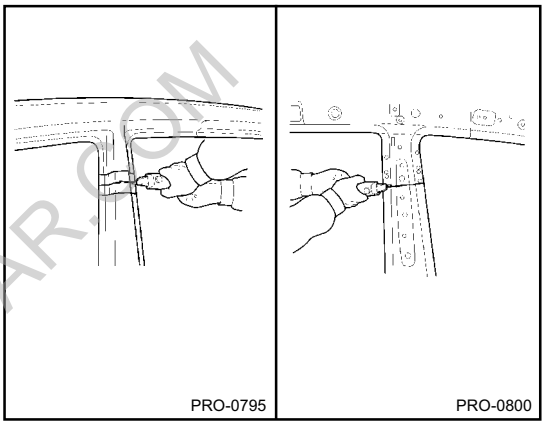


5. Cut through front side outer panel and side sill outer panel at cutlines.

NOTE
When cutting side sill outer panel take care not to cut through mating flanges or side sill outer reinforcement.

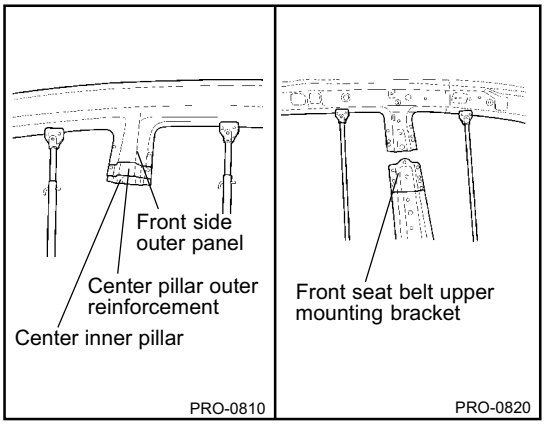


6. After cutting front side outer panel (side sill), cut the side sill outer reinforcement and center inner pillar.

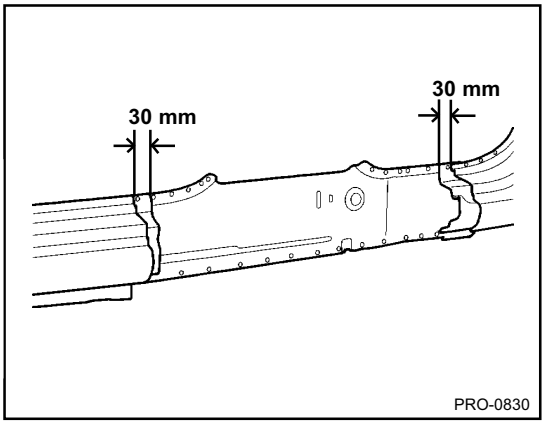


7. Remove the center pillar.

NOTE
When cutting center inner pillar, be careful not to cut front seat belt mounting upper bracket.

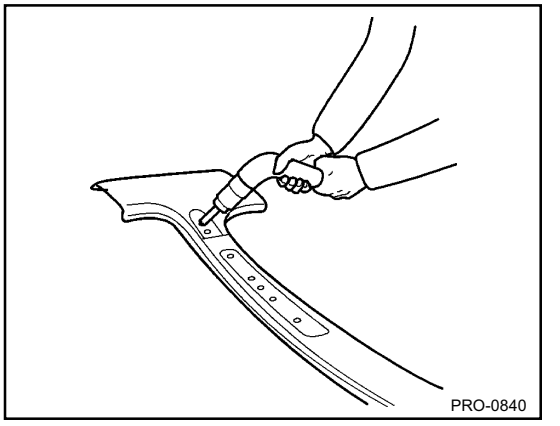


8. Determine if the side sill outer reinforcement is damaged and needs to be replaced. If replacing is necessary, mark out the damaged portion of the reinforcement. Cut at cutlines and remove damaged portion.
9. Straighten all flanges as necessary.
10. Prepare all surfaces to be welded.

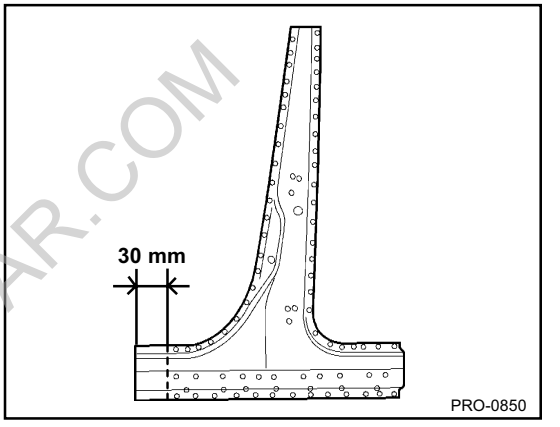


INSTALLATION

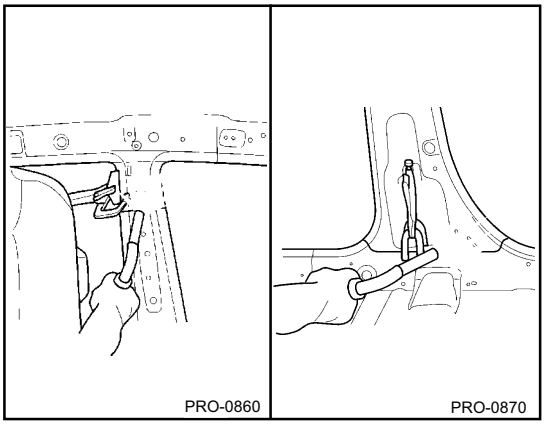
1. In order to install center inner pillar drill out all spotwelds attaching the roof side inner rail to center inner pillar to separate them.

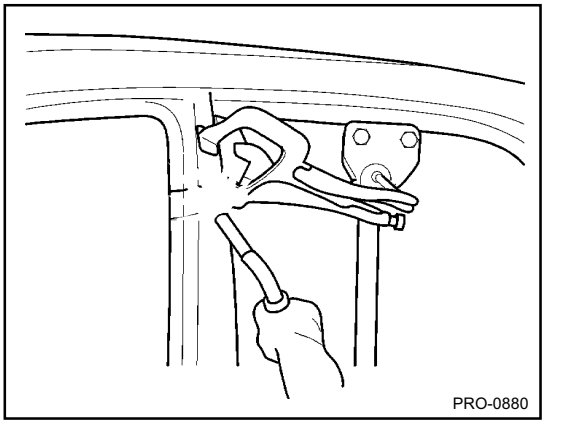


2. Transcribe the front side outer panel cutlines to the new front side outer panel, adding 30mm overlap at center inner pillar ends.
3. Cut and chamfer butt end to improve weld surface.
4. Drill 8mm holes in overlap area and along outer panel flanges.

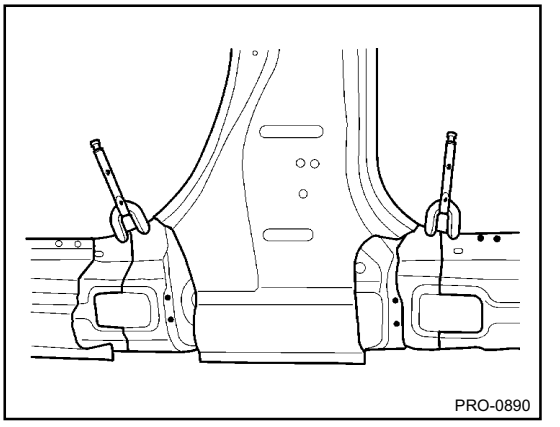


5. MIG butt weld all seams in center inner pillar and side sill outer reinforcement and front side outer panel as show in the illustration.



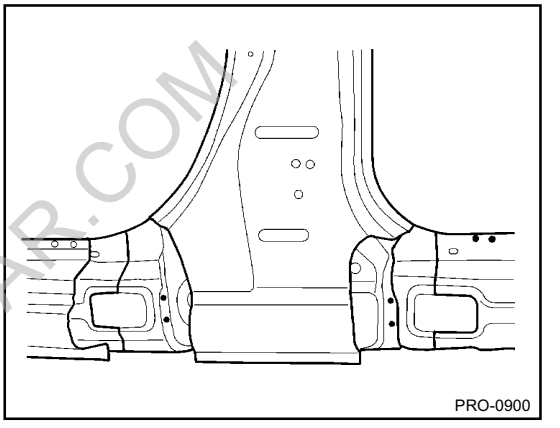


6. Transcribe the cutline dimensions to the new side sill outer reinforcement, adding 30mm overlap to each end and cut to length.
7. Drill 8mm holes in overlap areas on each end of new side sill outer reinforcement and clamp, the new side sill outer reinforcement in place.

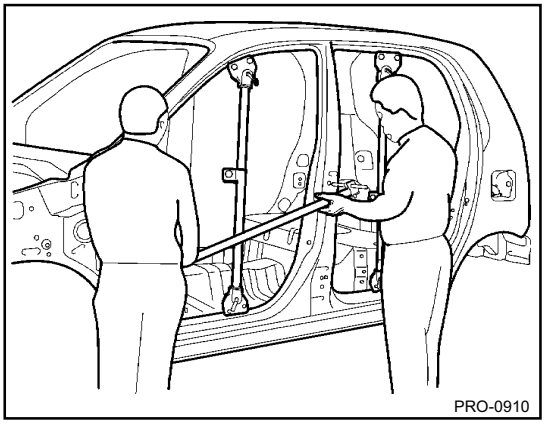

PRO-0890

8. MIG plug weld all holes and MIG butt weld seams.

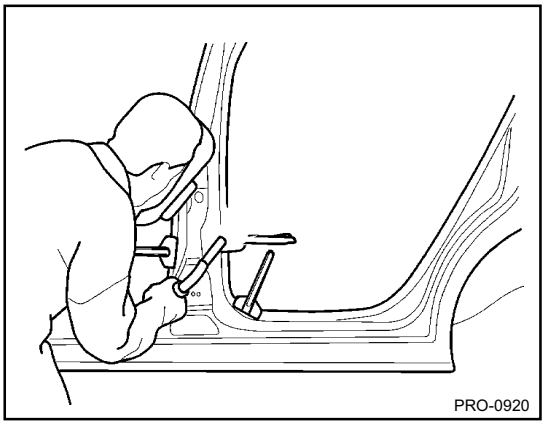
NOTE
The reinforcement will be stronger if the weld traces are not ground.


PRO-0900

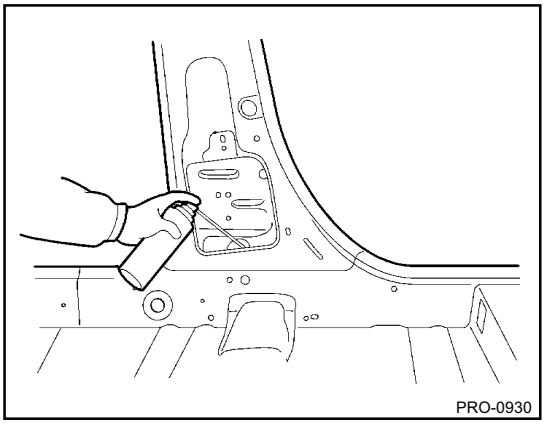
9. Temporarily install new front side outer panel in place.
10. Screw center pillar in place.
11. Measure and each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.
12. Check the fit of the front and rear doors.


PRO-0910

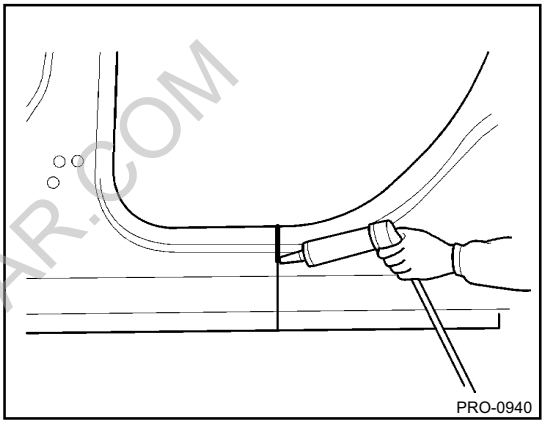
13. Reinstall front side outer panel and screw in place.
14. MIG plug weld all holes and MIG butt weld all seams.
15. Clean and prepare all welds, and remove all residue.
16. Apply body filler to the front side outer panel seam. Sand and finish.
17. Apply the two-part epoxy primer to the interior of the center inner pillar.


PRO-0920

18. Apply an anti-corrosion agent to the welded parts and interior of the center inner pillar (Refer to the CORROSION PROTECTION).
19. Prepare exterior surfaces for priming, using wax and grease remover.
20. Apply metal conditioner and water rinse.
21. Apply conversion coating and water rinse.

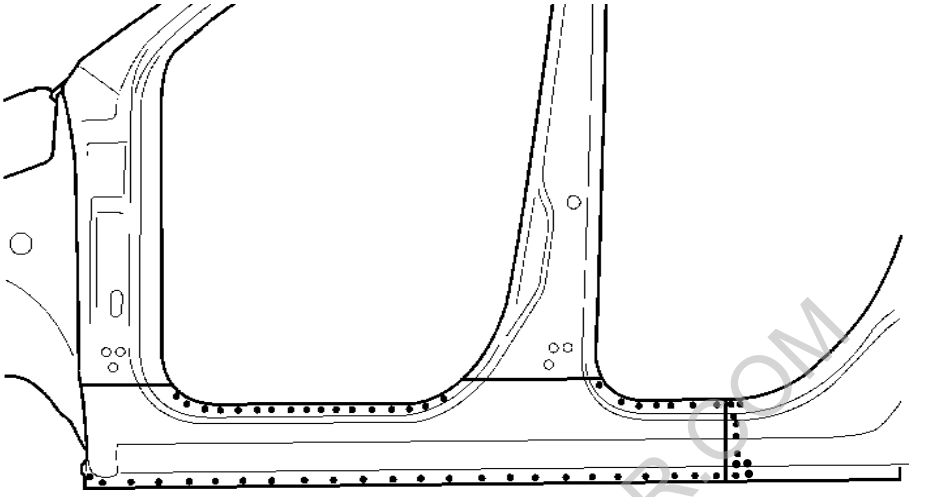

PRO-0930

22. Apply the two-part epoxy primer.
23. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
24. Reprime over the seam sealer to complete the repair.


PRO-0940

SIDE SILL OUTER PANEL (ASSEMBLY)

WELDLING POINTS

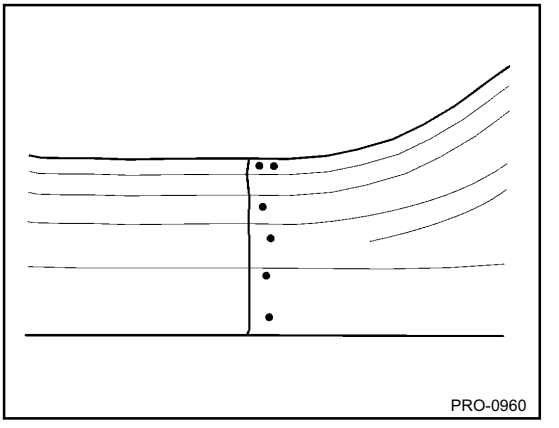


- ● **MIG plug welding**
- **MIG butt welding**
- **MIG lap welding**

PRO-0950

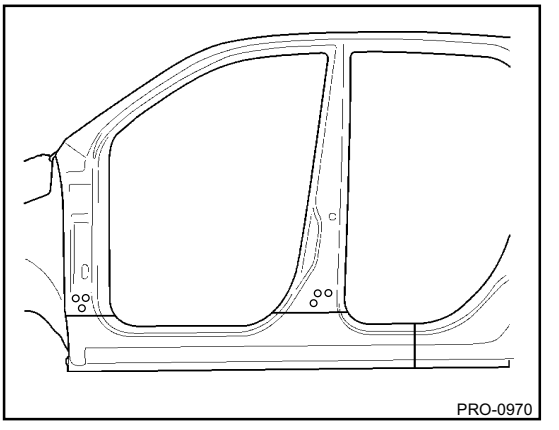
REMOVAL

1. Measure and mark vertical cutline from the front side outer panel and rear side outer panel connecting portion.



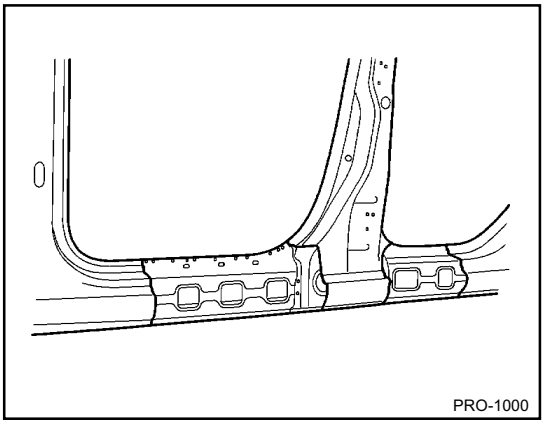
PRO-0960

2. At the front side outer panel, measure and mark horizontal cutlines from the door hinge mounting hole on the front side outer panel as shown in the illustration.

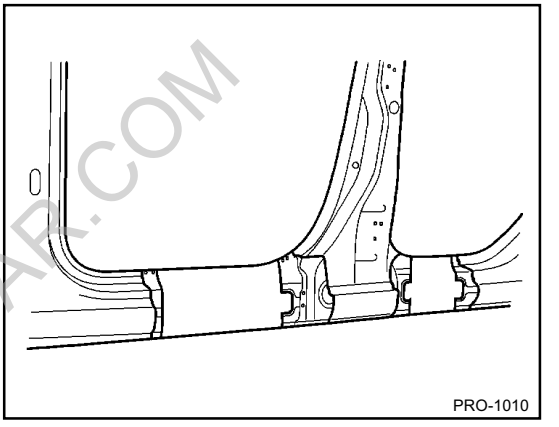


PRO-0970

3. Cut the side sill outer panel along cutlines. Be careful not to cut mating flanges.
4. Drill out all spotwelds, attaching the side sill outer panel to side outer reinforcement.
5. Remove the side sill outer panel.

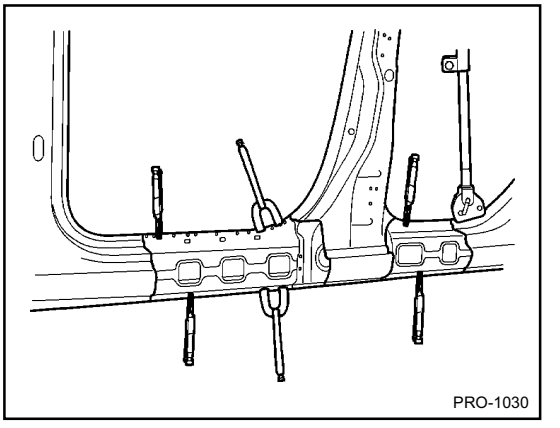

PRO-1000

6. Determine if the side sill outer reinforcement is damaged and needs to be replaced, measure cutline on reinforcement as shown in the illustration.
7. Cut side outer reinforcement along the cutline.
8. Drill out spotwelds attaching the side sill outer to the body and remove side sill outer reinforcement.
9. Prepare all surfaces to be welded.


PRO-1010

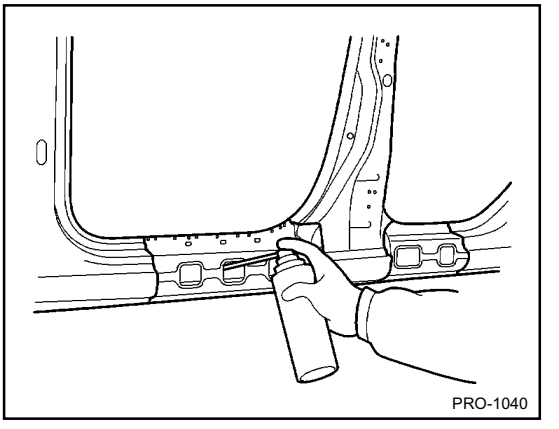
INSTALLATION

1. Transcribe cutline dimension to side sill outer panel, adding 30mm overlap to rear end and cut to length.
2. Drill 8mm holes in overlap area on rear end and along front flange.
3. Fit and clamp the side outer reinforcement in place.
4. MIG plug weld all holes and MIG butt weld seams.

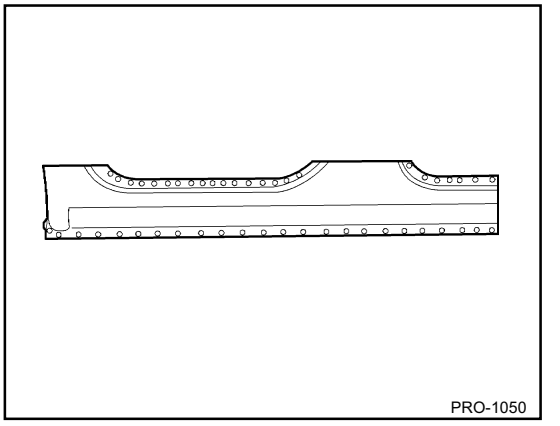

PRO-1030

5. Before welding the side sill outer panel, apply the two-part epoxy primer and anti-corrosion agent to the welded parts.

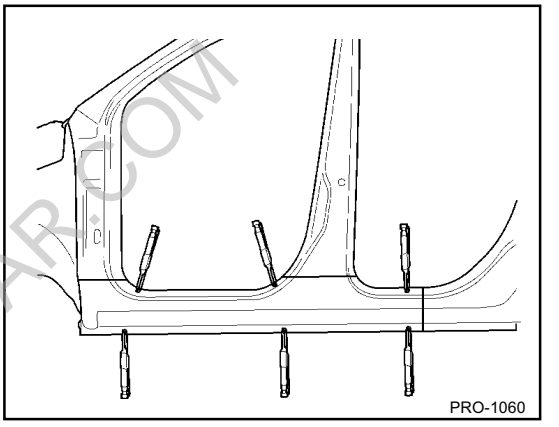
NOTE
The reinforcement will be stronger if the weld traces are not ground.


PRO-1040

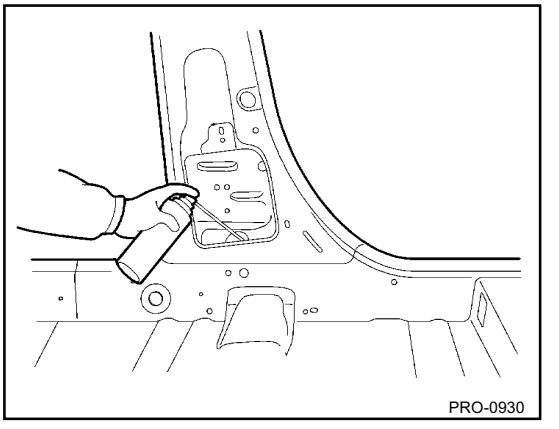
6. Using service panel for replacement of side sill outer panel, drill 8mm holes in overlap areas and along upper and lower flanges.



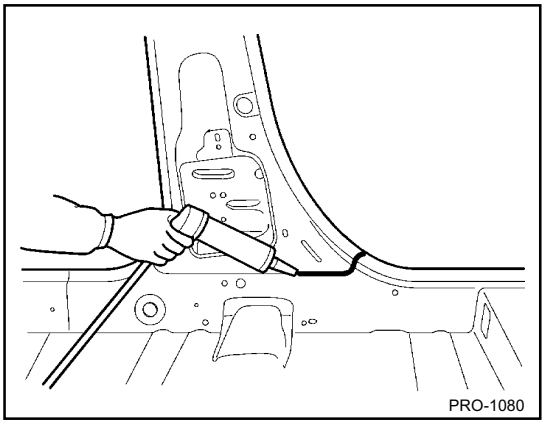
7. Crimp flanges on the remaining portion of the side sill outer panel at all joint for overlap.
8. Fit and clamp the side sill outer panel in place.
9. MIG plug weld all holes and MIG butt weld seams.
10. Clean and prepare all welds and remove all residue.
11. Apply body filler to the side sill outer seams.
12. Apply the two-part epoxy primer to the interior of the side sill.



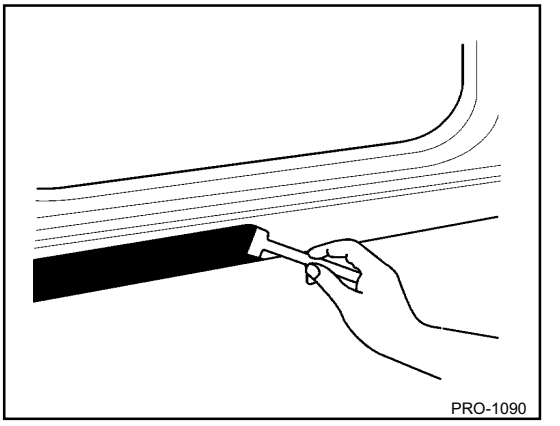
13. Apply an anti-corrosion agent to welded parts and interior of the side sill (Refer to the CORROSION PROTECTION).
14. Prepare the exterior surfaces for priming, using wax and grease remover.
15. Apply metal conditioner and water rinse.
16. Apply conversion coating and water rinse.
17. Apply the two-part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



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

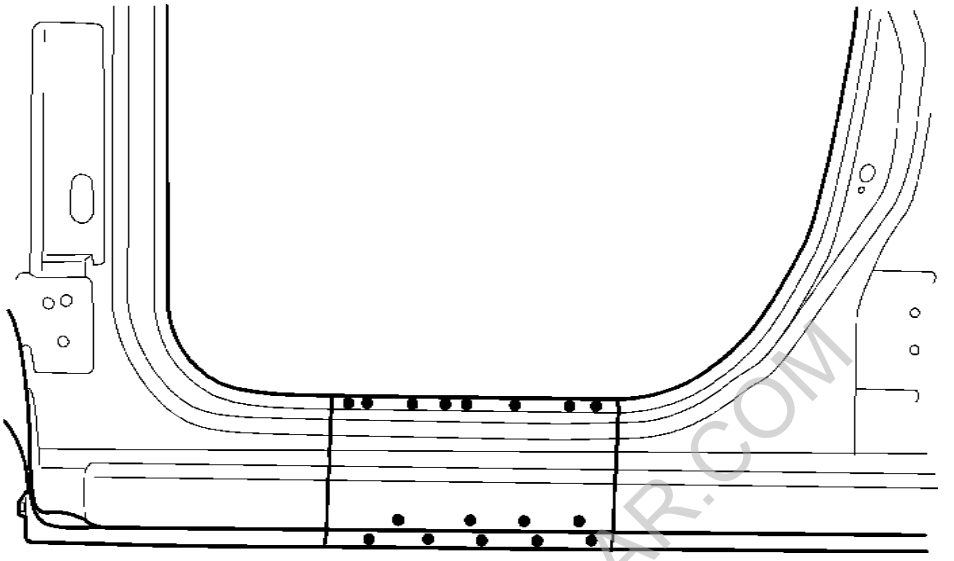


20. Apply the anti-corrosion primer to the side sill outer panel to complete the repair (Refer to the CORROSION PROTECTION).



SIDE SILL OUTER PANEL (PARTIAL)

WELDLING POINTS

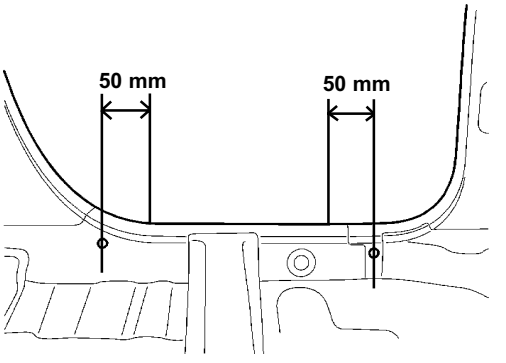


● **MIG plug welding**
MIG butt welding
MIG lap welding

PRO-1100

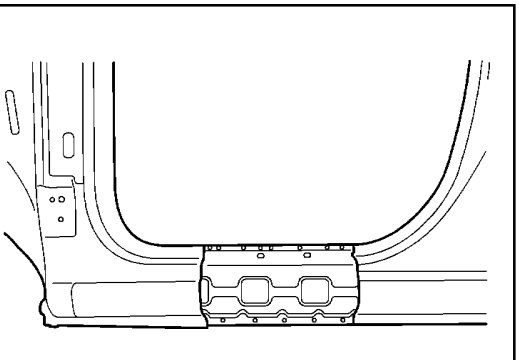
REMOVAL

1. Depending on the extent of damage, mark out the damaged portion of the side sill.



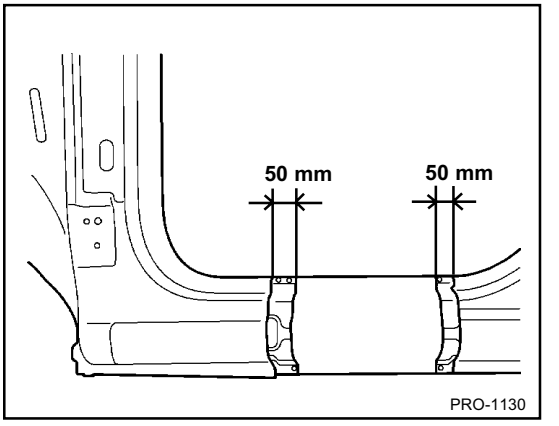
PRO-1110

2. Drill out the spotwelds in upper and lower flanges of side sill between cutlines to remove side sill outer panel and cut the damaged portion of the side sill at the cutlines.



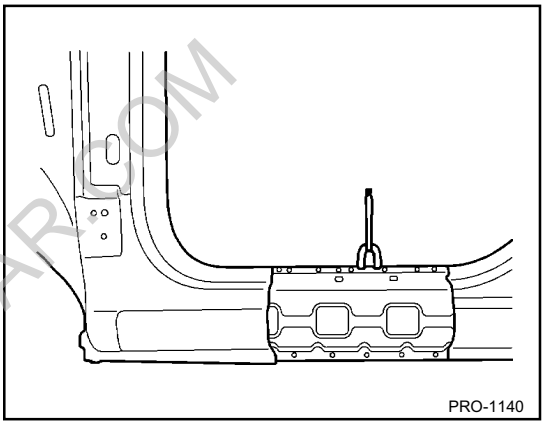
PRO-1120

3. Determine if the side sill outer reinforcement is damaged and needs to be replaced. If replacing is necessary, mark out the damaged portion of the side sill outer reinforcement.
   Cut at cutlines and remove the damaged portion.
4. Prepare all surfaces to be welded.



INSTALLATION

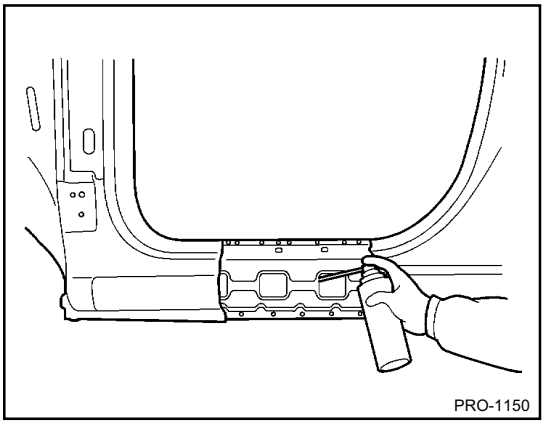
1. Transcribe the cutline to the new side sill outer reinforcement, adding 30 mm overlap to each end and cut to length.
2. Drill 8 mm holes in overlap areas on each end and upper flange of new side sill outer reinforcement and clamp.



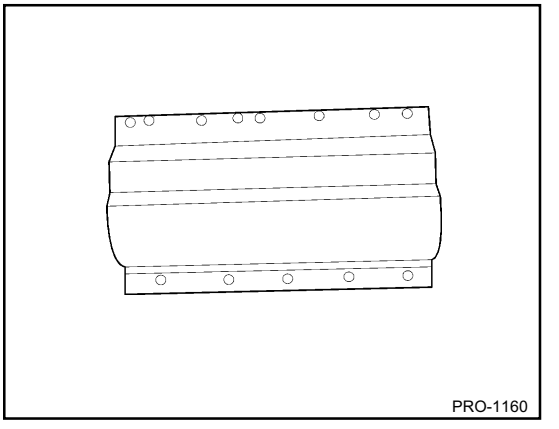
3. MIG plug weld all holes and MIG butt weld all seams.

   NOTE
   The reinforcement will be stronger if the weld traces are not ground.

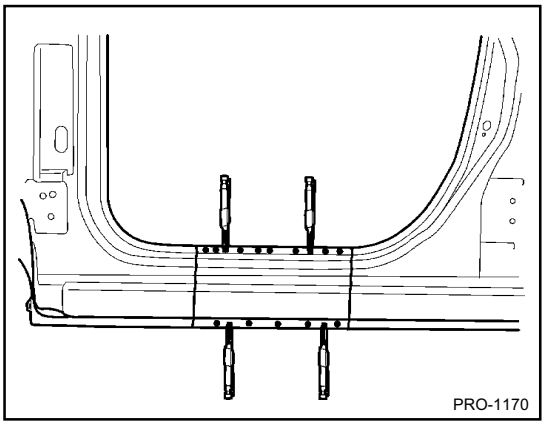
4. Before welding the side sill outer panel, apply the two part epoxy primer and anti-corrosion agent to the welded parts.



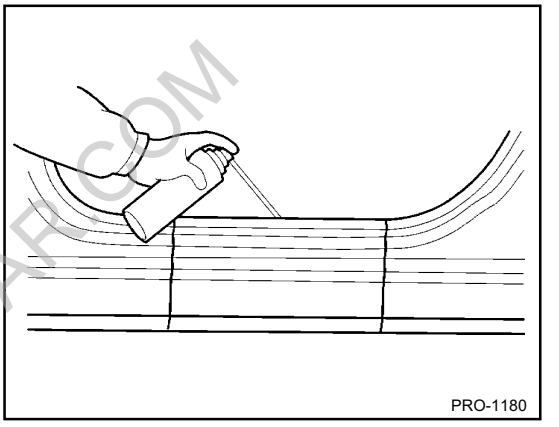
5. Transcribe the side sill outer panel cutline to the new side sill, adding 30 mm overlap to each end, cut and chamfer butt end to improve weld surface.
6. Drill 8 mm holes in overlap areas on each end and along upper and lower flanges of the new side sill outer panel for MIG plug welding.



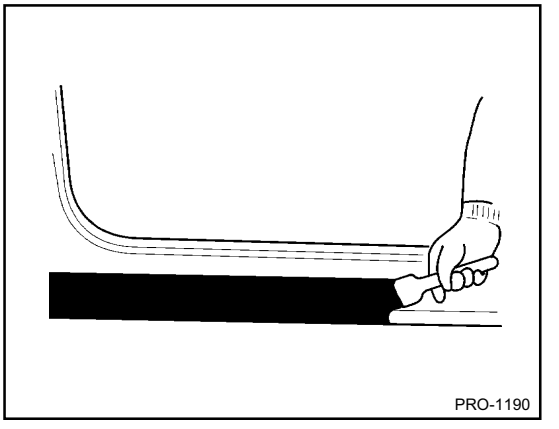
7. Fit and clamp the side sill in place.
8. MIG plug weld all holes and MIG butt weld seams.
9. Clean and prepare all welds, removing all residue.
10. Apply body filler to the side sill outer seams.
11. Apply the two-part epoxy primer to the interior of the side sill.


PRO-1170

12. Apply an anti-corrosion agent to the welded parts and interior of the side sill (Refer to the CORROSION PROTECTION).
13. Prepare the 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.

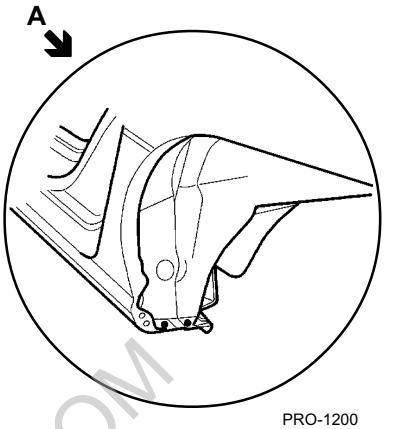

PRO-1180

17. Apply the anti-corrosion primer to the side sill outer panel to complete the repair (Refer to the CORROSION PROTECTION).

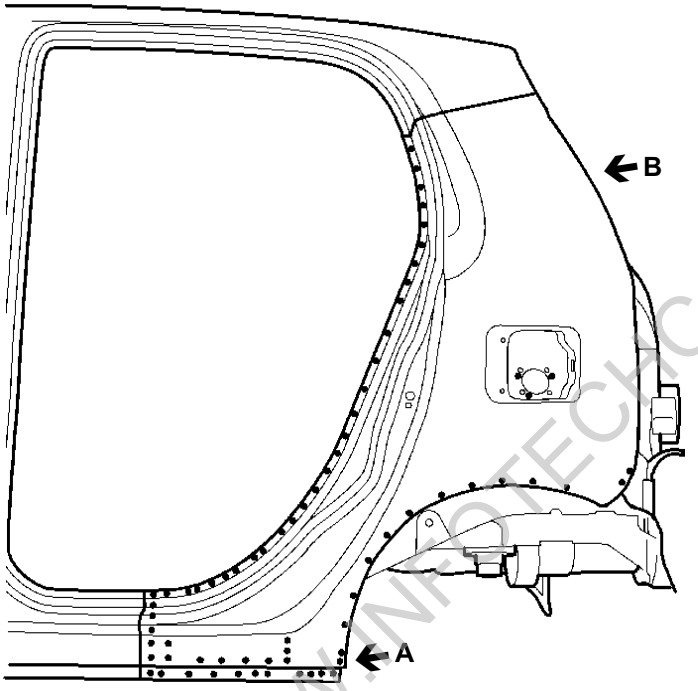

PRO-1190

REAR SIDE OUTER PANEL

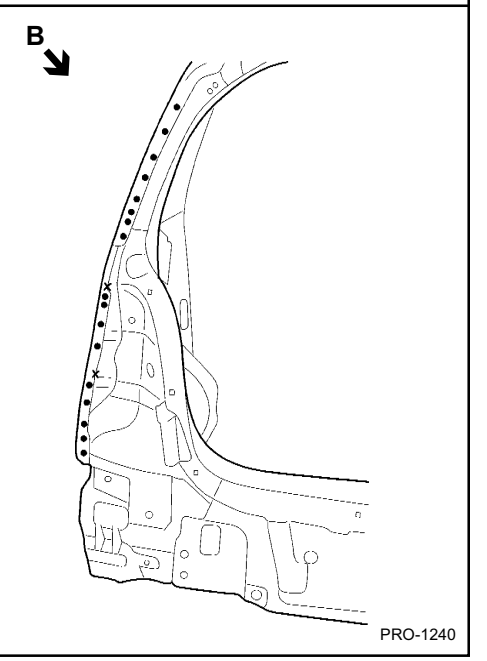
WELDLING POINTS



PRO-1200



PRO-1230

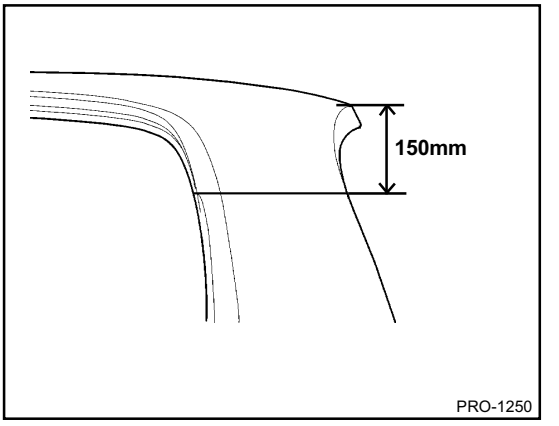


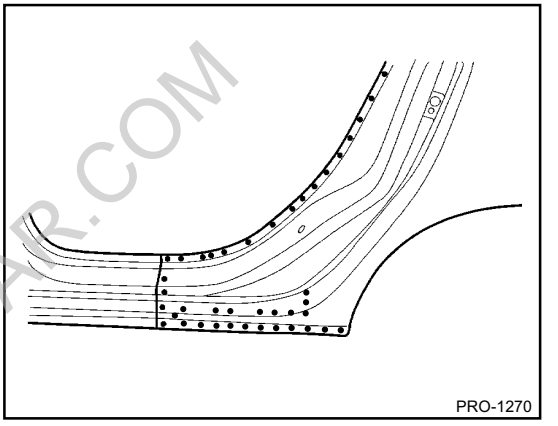
PRO-1240

● MIG plug welding
MIG butt welding
MIG lap welding

REMOVAL

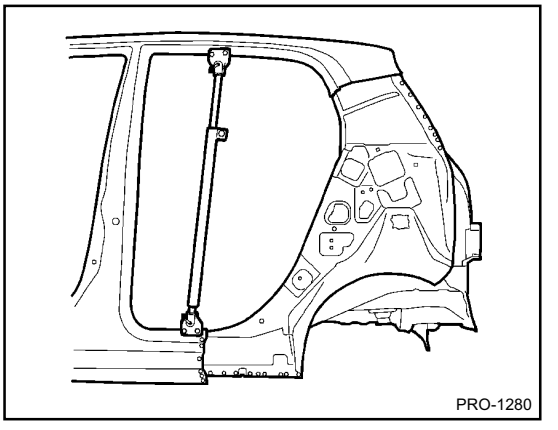
1. Depending on the extent of damage, measure and mark cutlines on the rear side outer panel as indicated in the illustration.





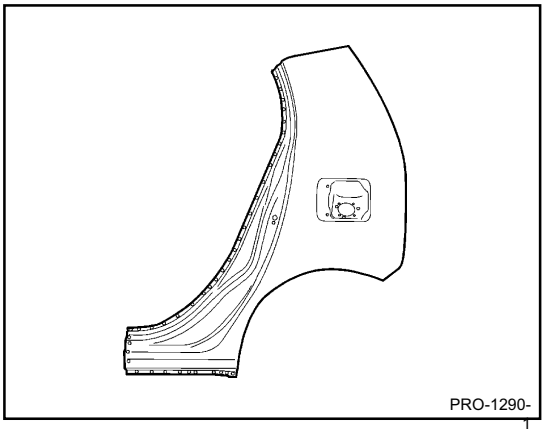
2. Drill out all attaching spotwelds on the rear side outer panel, including the seam around the door lip opening.
3. Cut the rear side outer panel at cutlines and remove the rear side outer panel as illustrated.

NOTE
When cutting the rear side outer panel, be careful not to cut quarter inner panel.

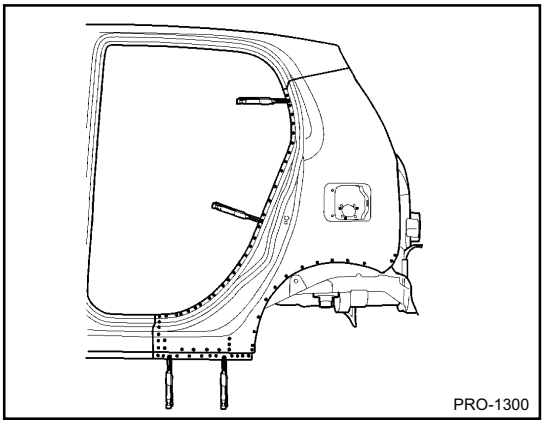


INSTALLATION

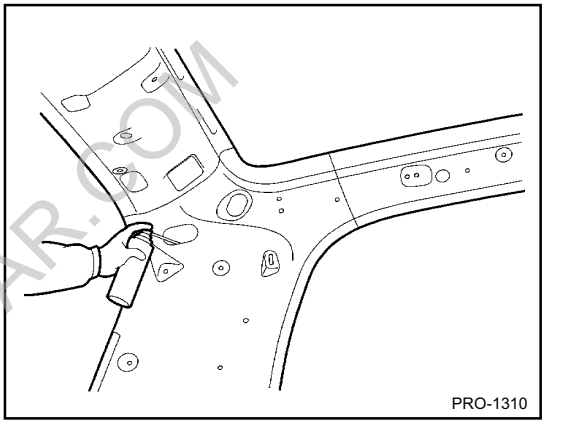
1. Transcribe the cutline to the new rear side outer panel, adding 30mm for overlap at the old joint.
2. Drill 8 mm holes in overlap areas and along upper and lower flanges of the new rear side outer panel for MIG plug welding.



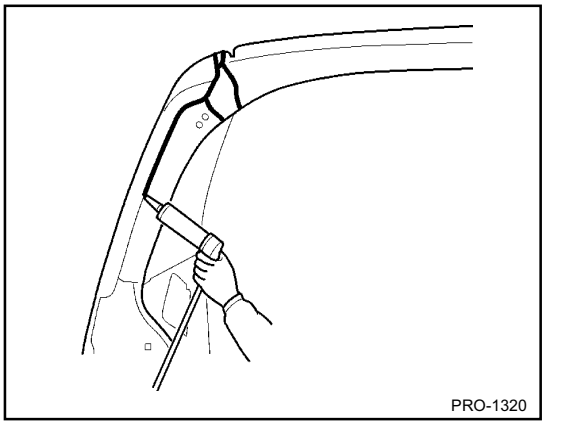
3. Fit and clamp the rear side outer panel in place.
4. MIG plug weld all holes and MIG butt weld seams. At the wheel well the edge must be crimped over the wheel housing. This joint may be welded after crimping or applying a bead of adhesive may be applied to the joint before or after crimping.
5. Clean and prepare all welds, removing all residue.
6. Apply body filler to the welded seam. Sand and finish. Apply the two-part epoxy primer to the interior of the rear side outer panel.


PRO-1300

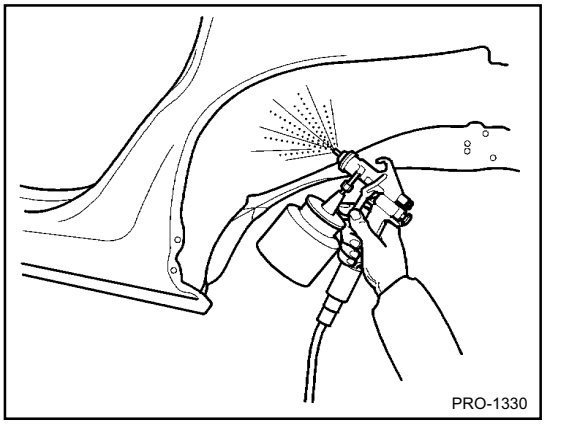
7. Apply an anti-corrosion agent to the welded parts and interior of the rear side outer panel (Refer to the CORROSION PROTECTION).
8. Prepare exterior surfaces for priming, using wax and grease remover.
9. Apply metal conditioner and water rinse.
10. Apply conversion coating and water rinse.
11. Apply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


PRO-1310

12. Apply the correct seam sealers to all joints.
13. Reprime over the seam sealer to complete the repair.

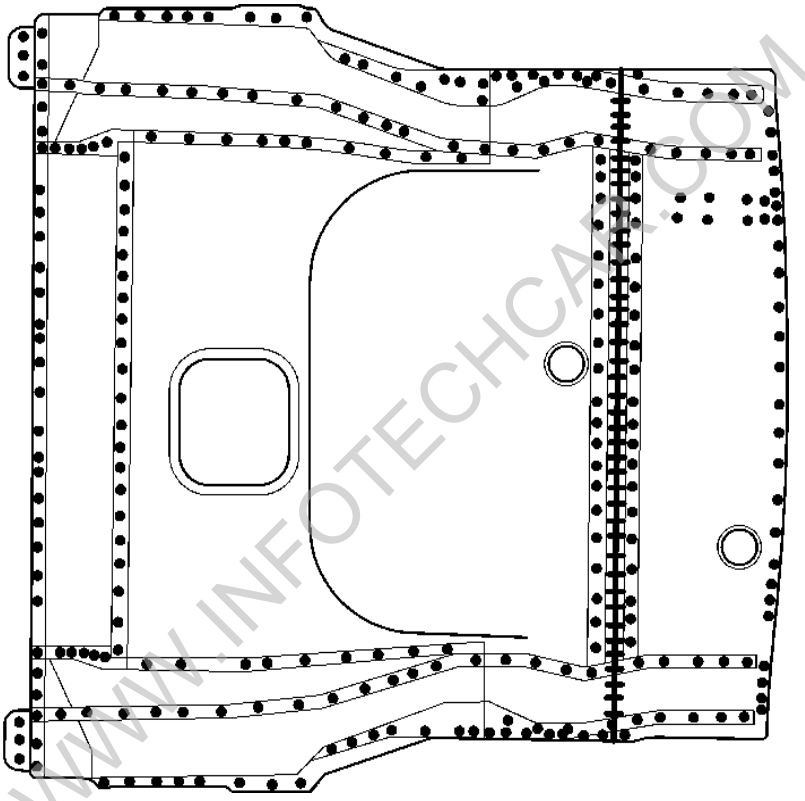

PRO-1320

14. In order to improve corrosion resistance, if necessary, apply a under body anti-corrosion agent to the wheel well (Refer to the CORROSION PROTECTION).


PRO-1330

REAR FLOOR PANEL

WELDLING POINTS

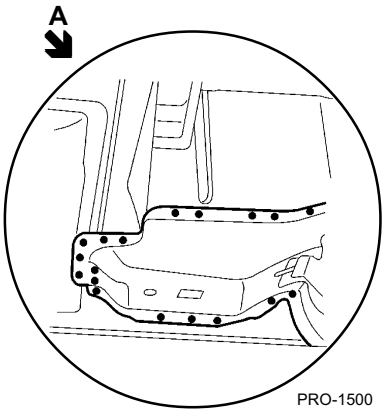


● MIG plug welding
MIG butt welding
MIG lap welding

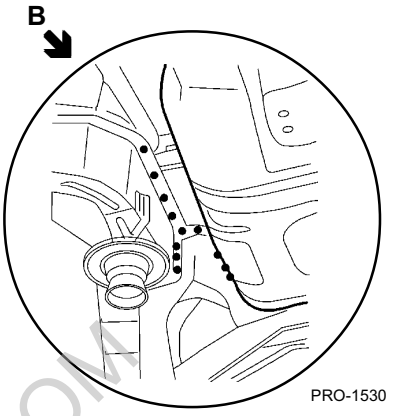
PRO-1520

REAR SIDE MEMBER (ASSEMBLY)

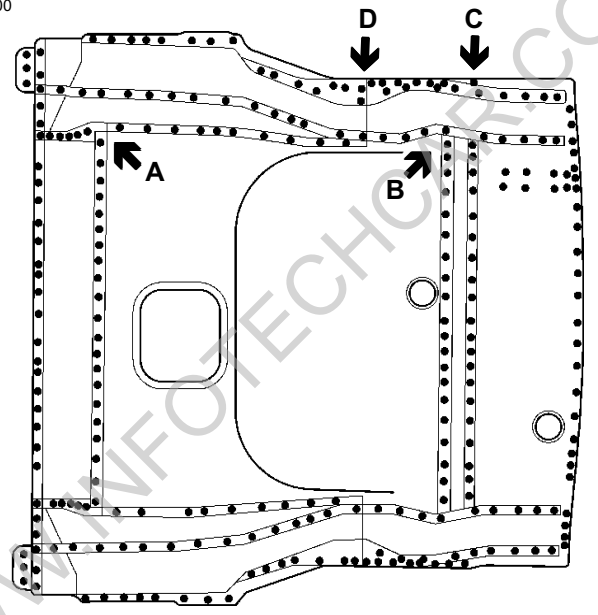
WELDLING POINTS



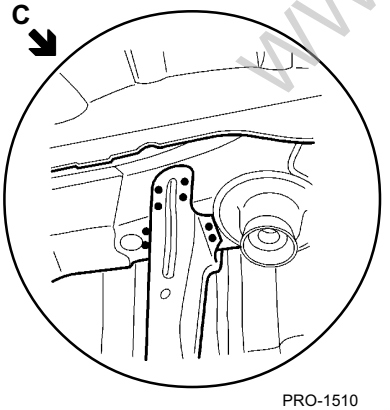
PRO-1500



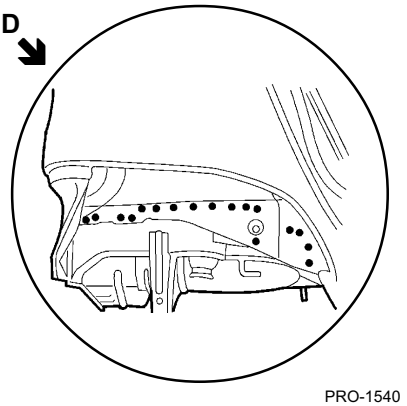
PRO-1530



PRO-1521



PRO-1510



PRO-1540

● MIG plug welding
⫼ MIG butt welding
⤫ MIG lap welding

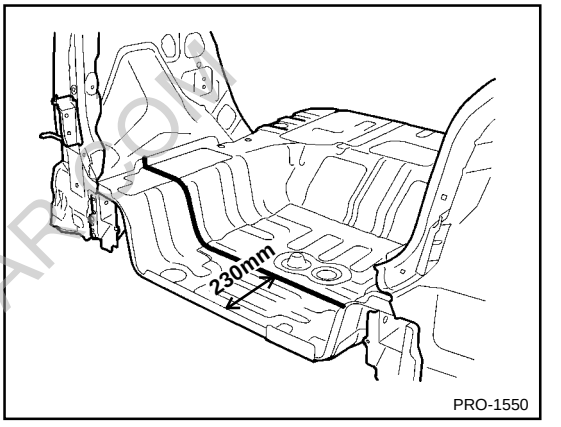
PRO-1220

NOTE
Because the rear side members are desigened to absorb energy during a rear collision, care must be taken when deciding to use this repair method. This repair is recommended only for moderate damage to vehicle, where distortions do not extend forward of the trunk region. If the damage is more severe, then the entire side member assembly should be replaced at factory seams without employing this sectioning procedure.

Refer to the body dimension chart and measure the vehicle to determine straightening and alignment requirements. **The body must be returned to its original dimension before beginning the repair procedure.**

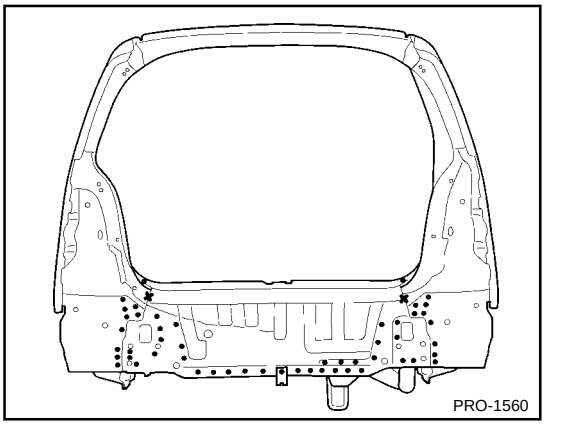
REMOVAL

1. Drill out all the spotwelds attaching the rear floor panel to the wheel housings and rear side members.
2. Make a rough cutting of the rear floor panel where shown in the figure.

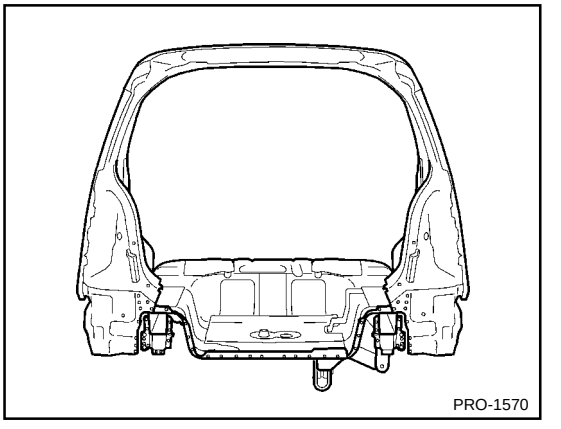


PRO-1550

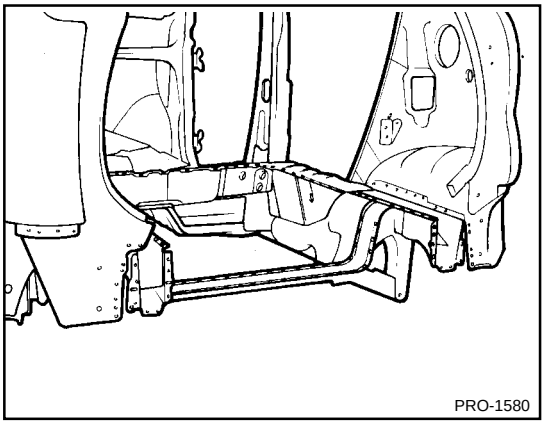
3. Remove the back panel by drilling out all attaching spotwelds.

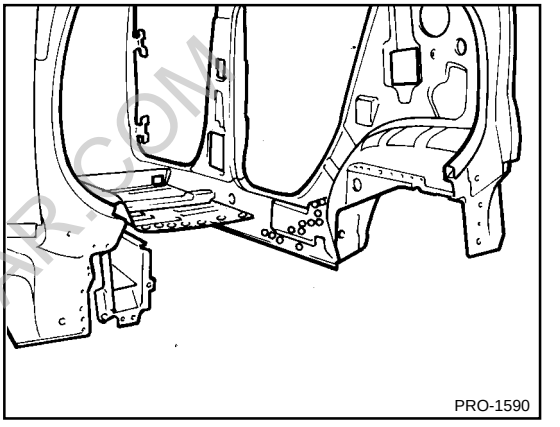

PRO-1560

4. Remove the rear floor panel.


PRO-1570

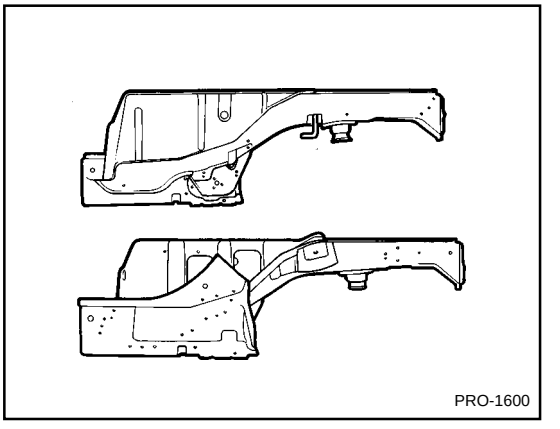
5. Remove the rear floor panel and rear side member from the rear body.


PRO-1580


PRO-1590

INSTALLATION

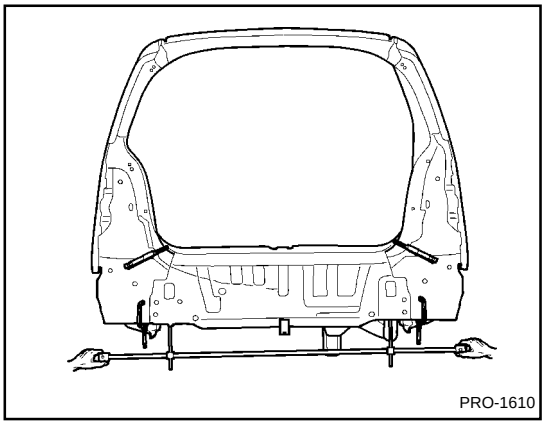
1. Transcribe the cutline to the new rear side members. Drill out the spotwelds attaching the inner reinforcements.
   Remove remaining portions of side members.


PRO-1600

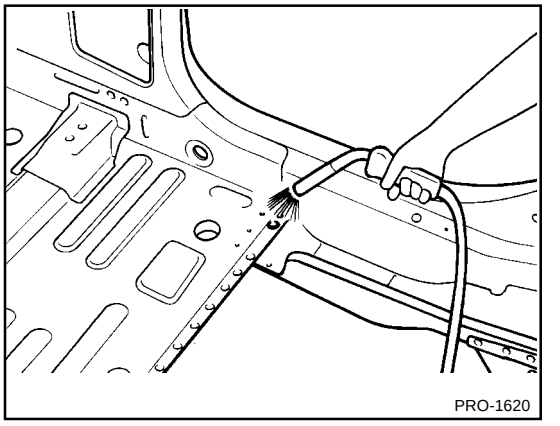
2. Temporarily fit and clamp the rear side members in place.

   NOTE
   When installing the rear floor side member, temporarily install the back panel to measure each measurement point.

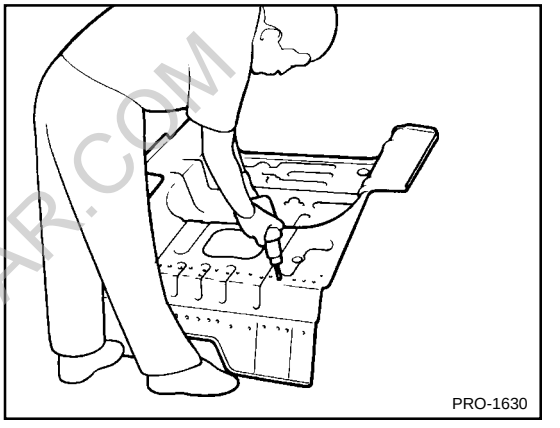
3. Measure each measurement point (Refer to BODY DIMENSIONS) and correct the installation position.
4. If necessary, make temporarily welds, and then check to confirm that the fit of rear floor panel is correct.


PRO-1610

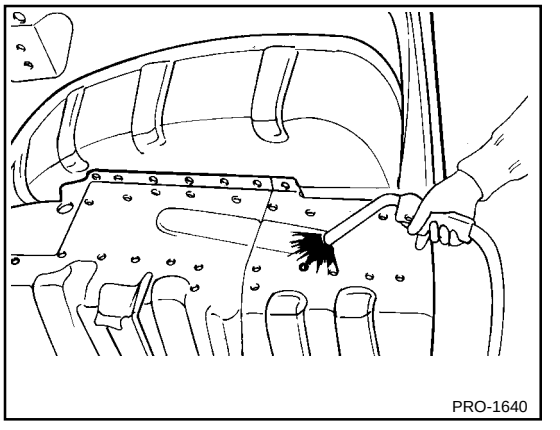
5. MIG plug weld the rear side members and MIG butt weld seams.
6. Prepare the welds and surfaces to which the rear floor will attach.


PRO-1620

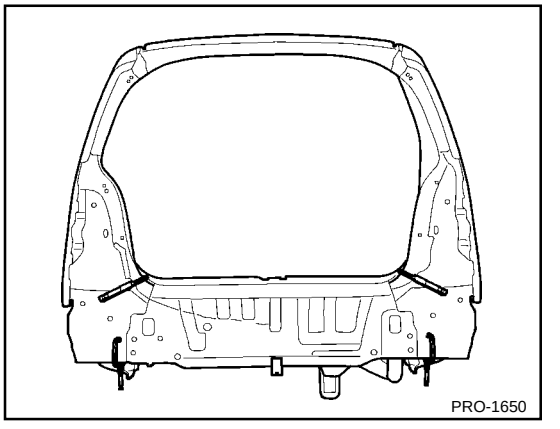
7. Transcribe the cutline to the new rear floor panel, adding 30mm for overlap at the old joint.
8. Drill 8mm holes in overlap area and production locations of the new rear floor panel for MIG plug welding.


PRO-1630

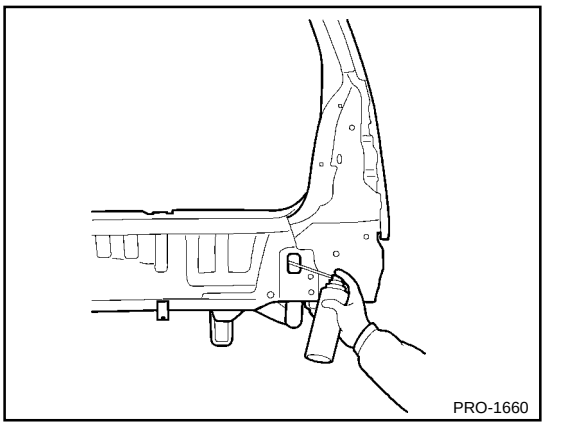
9. Fit and clamp the rear floor panel and attach the rear floor panel to the rear side members and other panels.
10. MIG plug weld all holes and MIG butt weld the seams.
11. Clean all welded surfaces.


PRO-1640

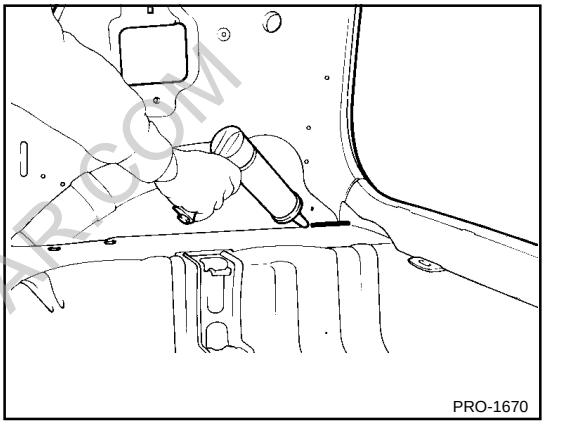
12. Drill 8 mm holes on the flange attaching the back panel to the rear floor and side member ends.
13. Fit and clamp the back panel in place.
14. MIG plug weld the back panel.
15. Clean and prepare all welds, removing all residue.
16. Apply the two-part epoxy primer to the interior of the rear side members.


PRO-1650

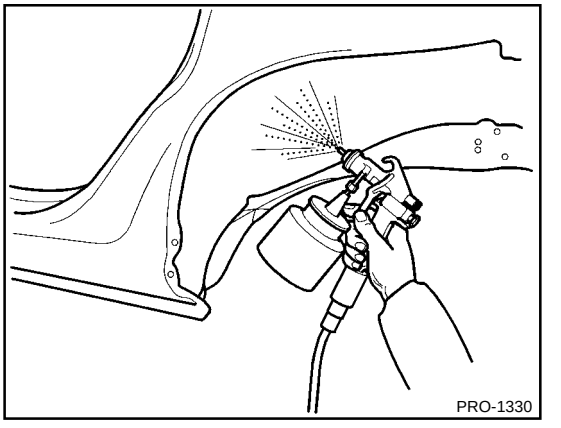
17. Apply an anti-corrosion to the interior of the rear side members (Refer to the CORROSION PROTECTION).
18. Prepare exterior surfaces for priming, using wax and grease remover.
19. Apply metal conditioner and water rinse.
20. Apply the two-part epoxy primer.


PRO-1660

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

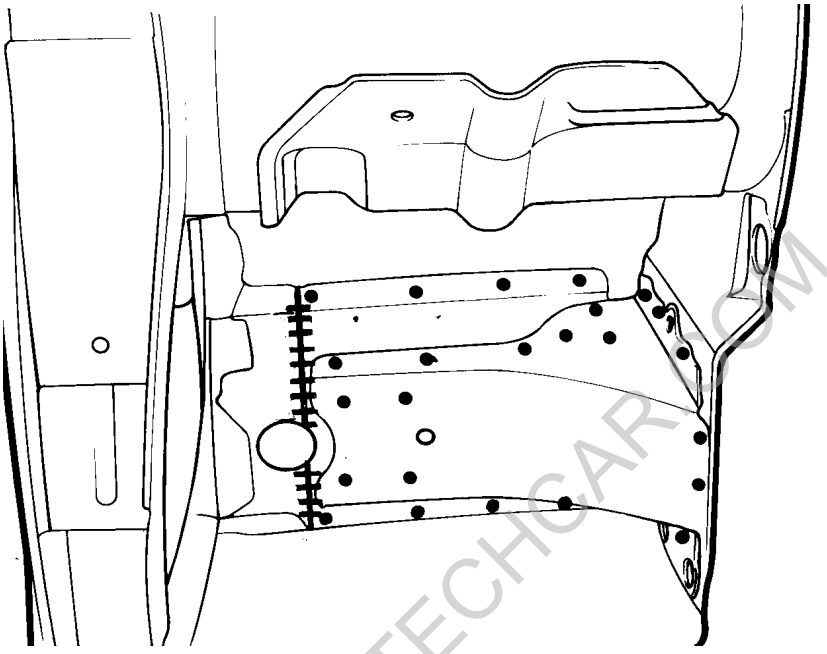

PRO-1670

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


PRO-1330

REAR SIDE MEMBER (PARTIAL)

WELDLING POINTS



● **MIG plug welding**
⫴ **MIG butt welding**

PRO-1690

REMOVAL

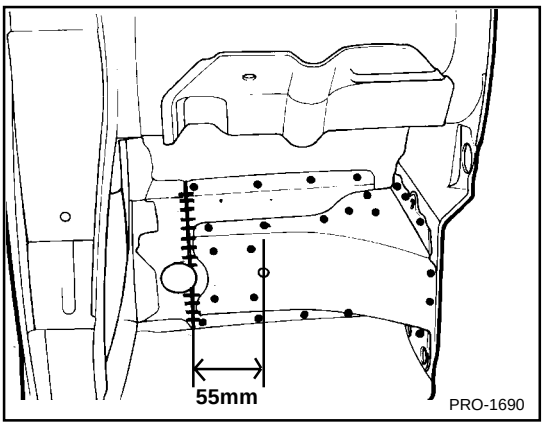
NOTE
Because the rear side members are designed to absorb energy during a rear collision, care must be used when deciding to use this repair method. This repair is recommended only for moderate damage to the vehicle, where distortions do not extend forward of the trunk region. If the damage is more severe, then the entire side member assembly should be replaced at the factory seams without employing this sectioning procedure.

The following procedure applys when only one rear side member needs to be replaced. If both side members are damaged and need to be replaced, then the procedure of Rear Side members And Rear Floor Section should be followed.

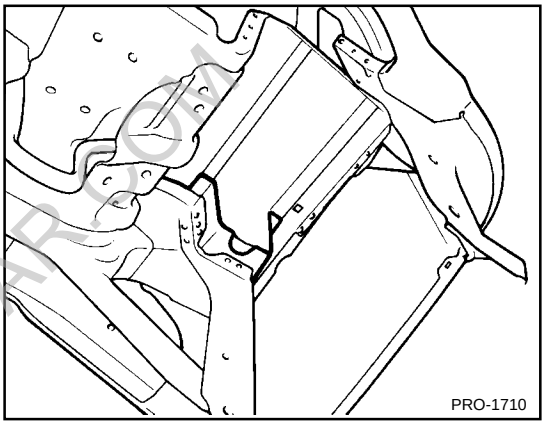
Refer to the body dimension charts and measure the vehicle to determine straightening and alignment requirements. **The body must be returned to its original dimensions before beginning the repair procedure.**

1. Depending on the extent of damage, if the right side member is to be replaced it should be measured and marked 55mm from the rear edge of the rear floor center cross member.

   NOTE
   The following procedure illustrates a repair for the right rear side member. The procedure may also be applied to the left rear side member.

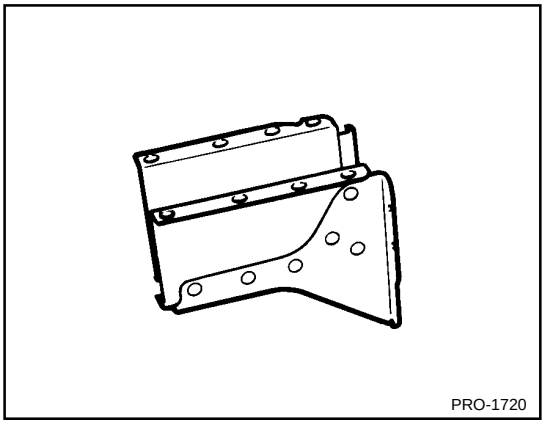


2. Cut through rear side member at cutline.
3. Remove the rear floor side member by drilling out all attaching spotwelds.
4. Prepare all surfaces to be welded.

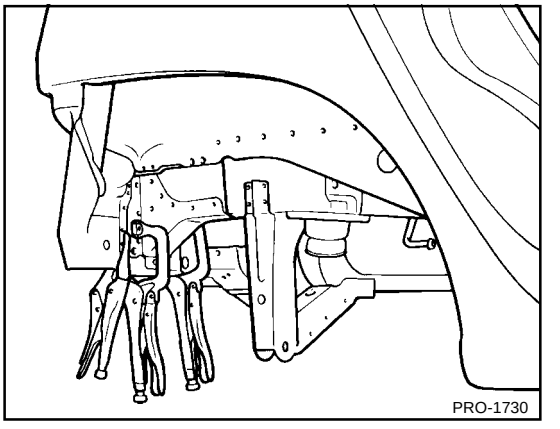


INSTALLATION

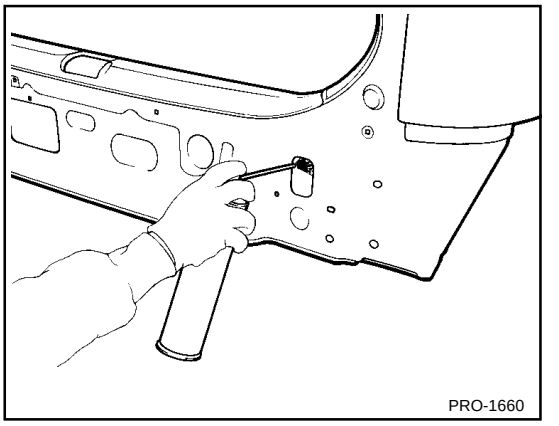
1. Transcribe the cutline to the new rear side member. Cut at line.



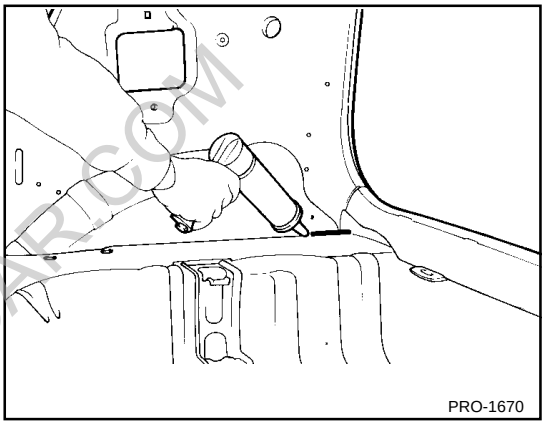
2. Fit and clamp the new rear side member in place for welding. Measure to ensure dimensions are accurate as given in the body dimension charts.
3. MIG plug weld at the holes and MIG butt weld the seam in the side member.
4. Clean and prepare all surfaces to be welded, and remove all residue.
5. Apply the two-part epoxy primer to the interior of the rear side member.



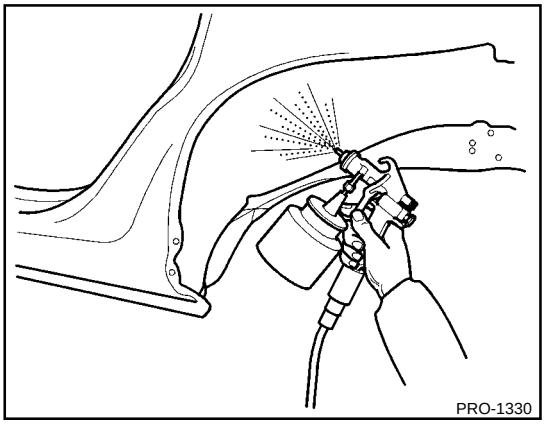
6. Apply an anti-corrosion to the interior of the rear side member (Refer to the CORROSION PROTECTION).
7. Prepare exterior surfaces for priming, using wax and grease remover.
8. Apply metal conditioner and water rinse.
9. Apply conversion coating and water rinse.
10. Apply the two-part epoxy primer.


PRO-1660

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.


PRO-1670

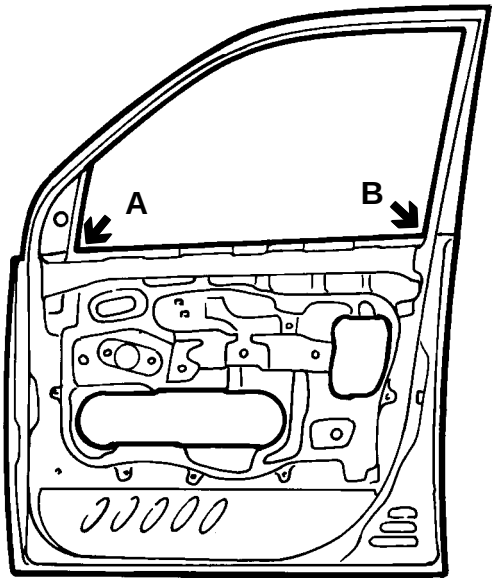
13. After completing body repairs, carefully apply under coating to the under body (Refer to the CORROSION PROTECTION).
14. In order to improve corrosion resistance, if necessary, apply an under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).


PRO-1330

FRONT AND REAR DOOR OUTER PANELS

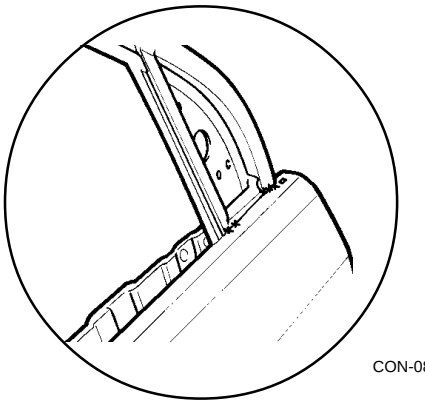
WELDLING POINTS

FRONT DOOR



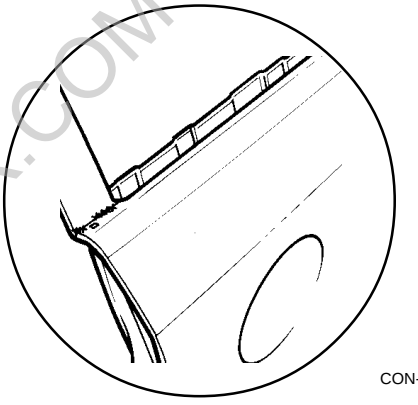
CON-0750

A ➔



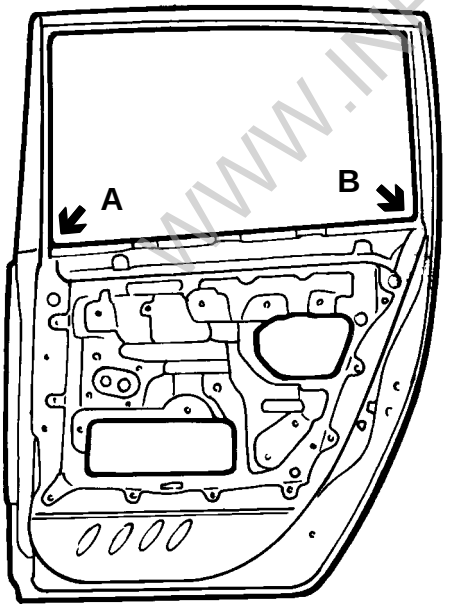
CON-0880

B ➔



CON-0 881

REAR DOOR

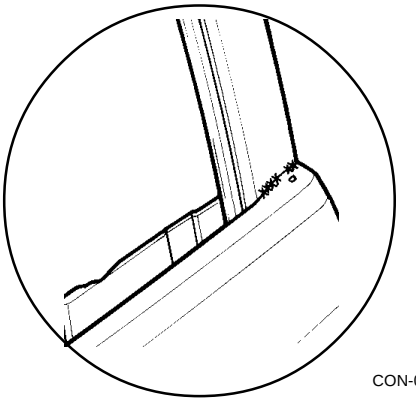


CON-0800

● MIG plug welding

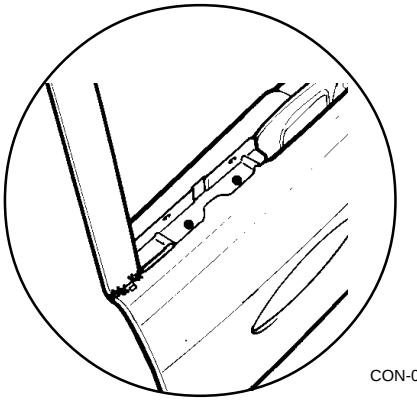
⤫⤫ MIG lap welding

A ➔



CON-0890

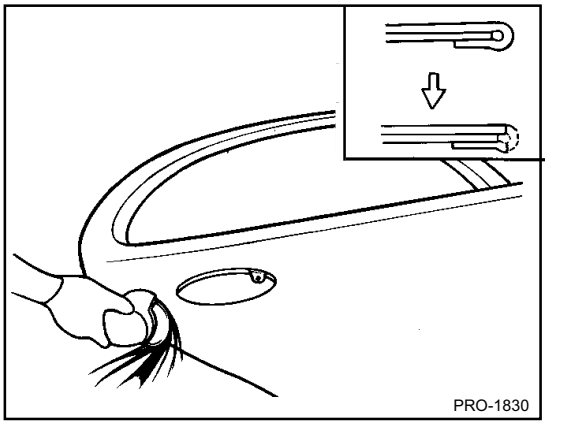
B ➔



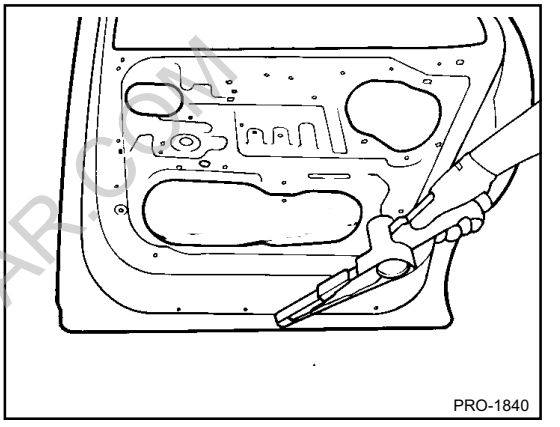
CON-0891

REMOVAL

1. Cut door outer panel hem with a sander.
2. After grinding off the hemming location, remove the outer panel.

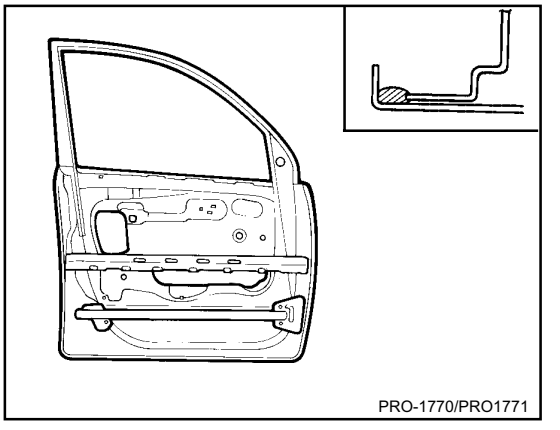

PRO-1830

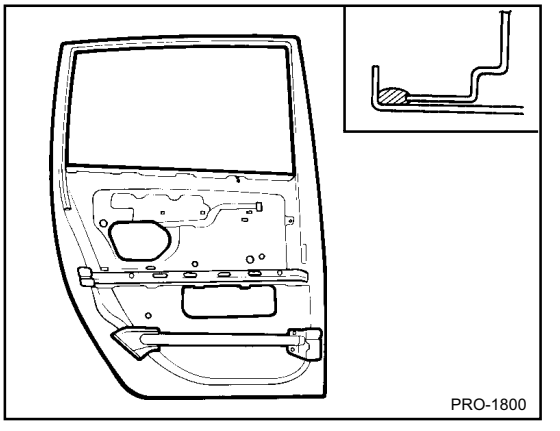
3. Dress rusty part with a sander and prepare surface to be hemmed.


PRO-1840

INSTALLATION

1. Apply adhesive or equivalent to outer panel hem.
2. Apply mastic sealer or equivalent to the door upper member and door reinforcement beam as shown in the figure.


PRO-1770/PRO1771

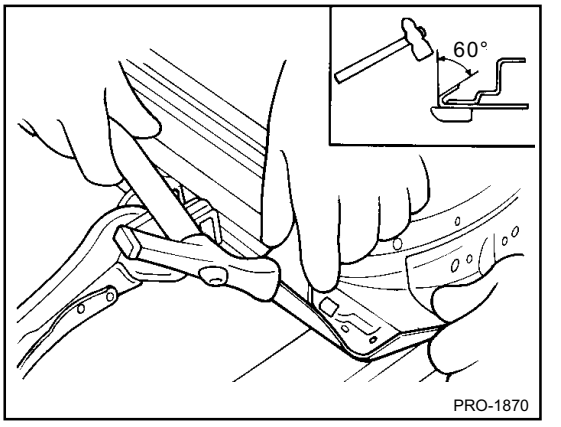

PRO-1800

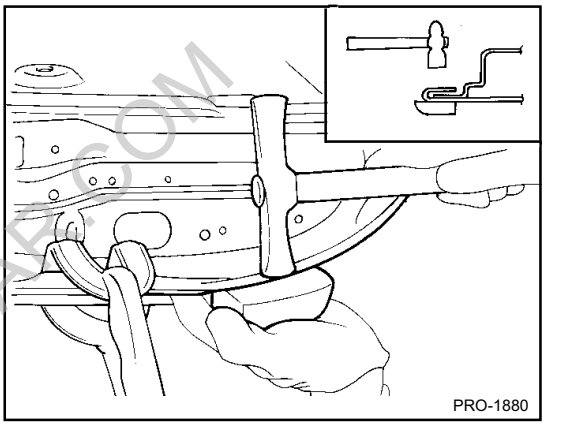
3. Bend the flange hem with a hammer and dolly, then fasten tightly with a hemming tool.

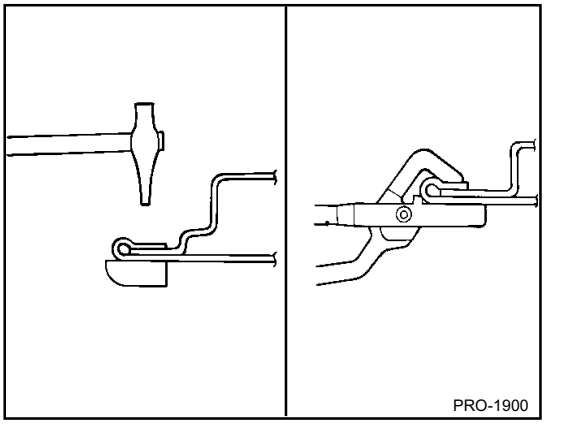
NOTE

1. Hemming work should be done in three steps as illustration.

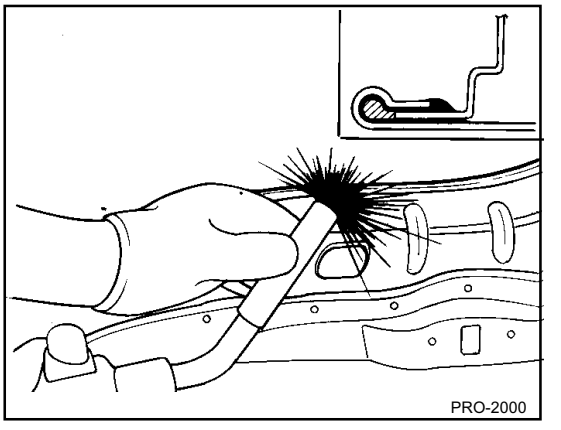
2. If a hemming tool cannot be used, hem with a hammer and dolly.



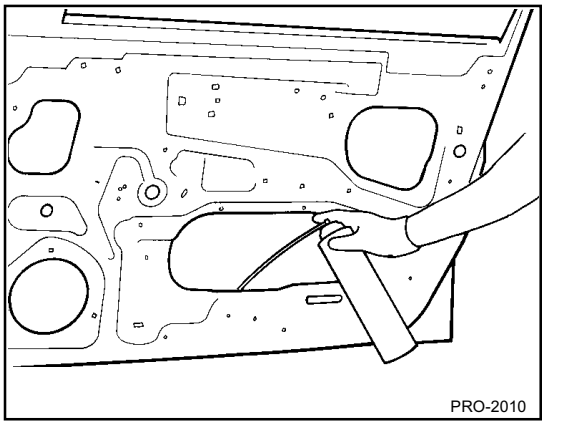




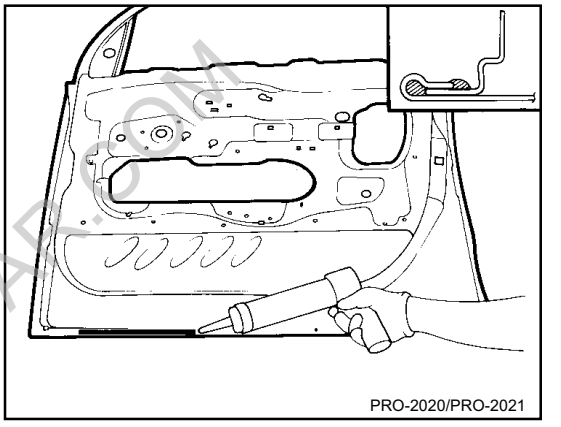
4. After completing the hemming work, make MIG spot welds at 50 mm intervals on the inside.
5. Clean and prepare all welds, removing all residue.
6. Apply the two-part epoxy primer to the interior of the door panel.



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.

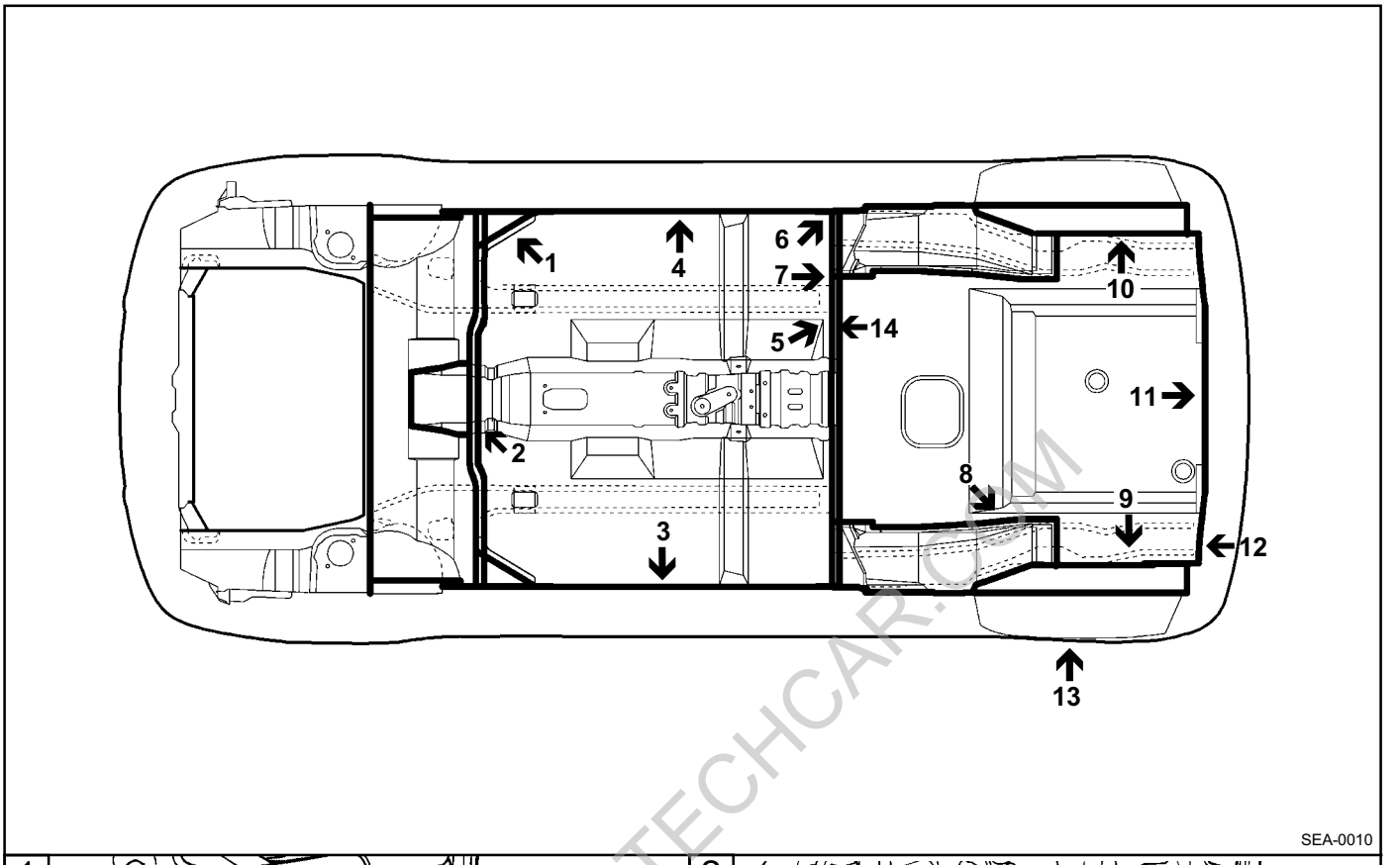

PRO-2010

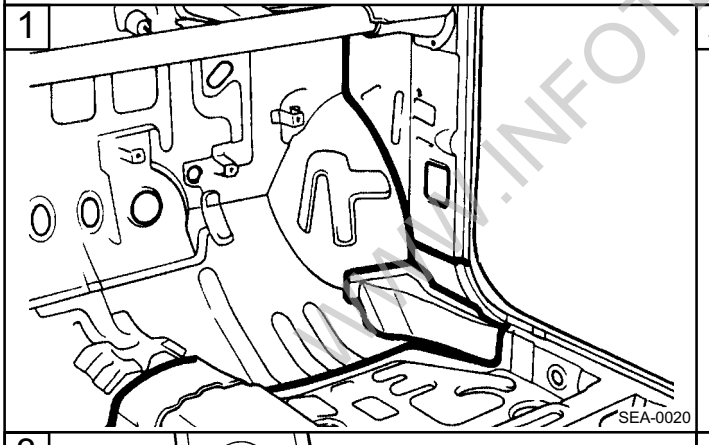
11. Apply the two-part epoxy primer.
12. Apply the correct seam sealer to whole panel edge.
13. Reprime over the seam sealer to complete the repair.

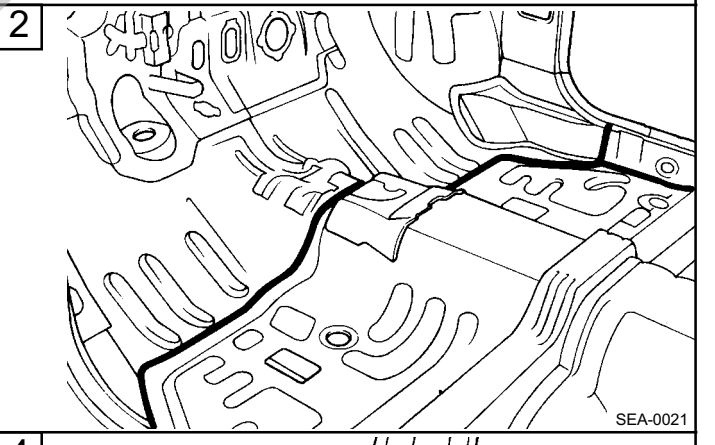

PRO-2020/PRO-2021

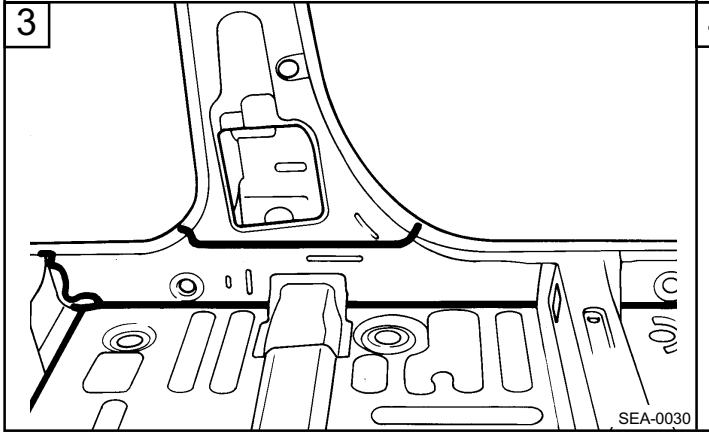
BODY SEALING LOCATIONS

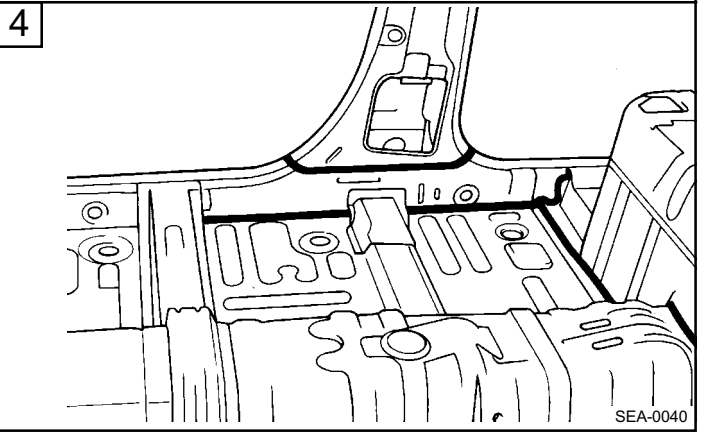
FLOOR











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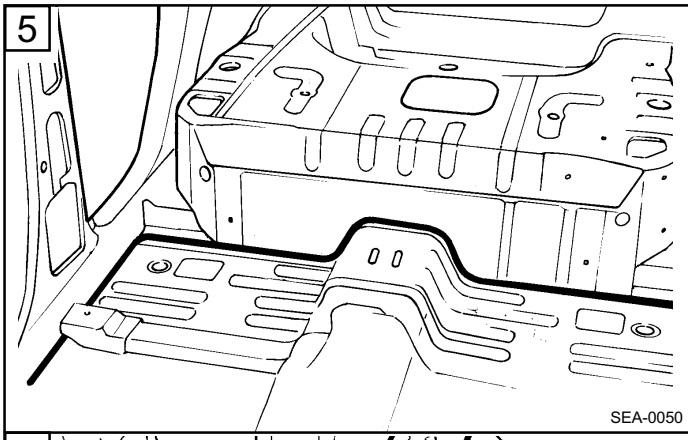
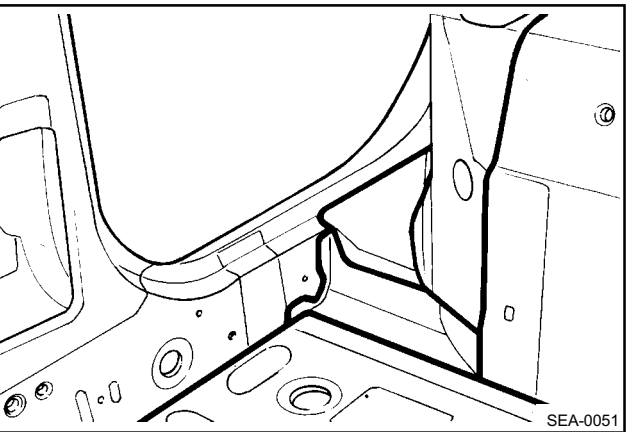


SEA-0050

6



SEA-0051

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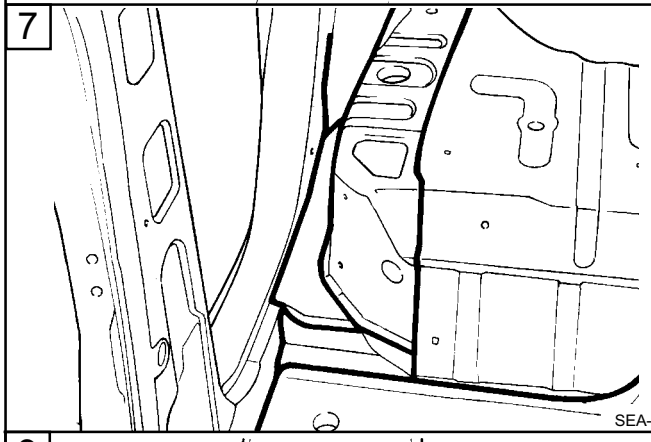
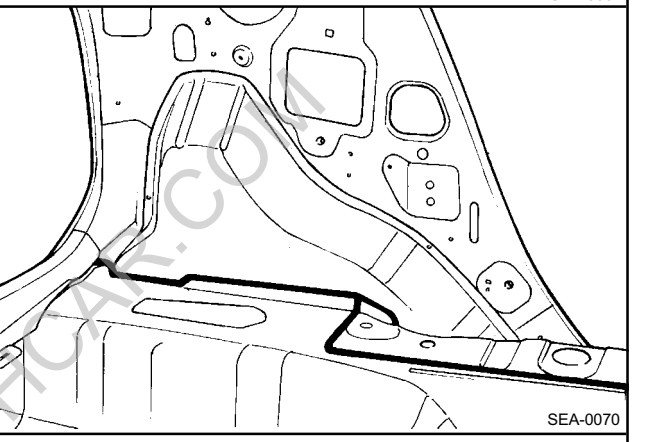


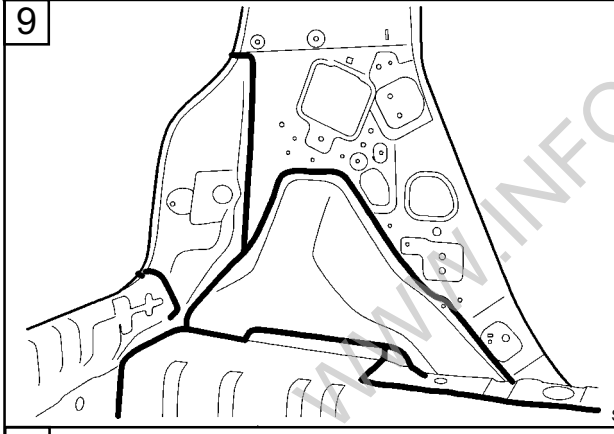
SEA-0060

8



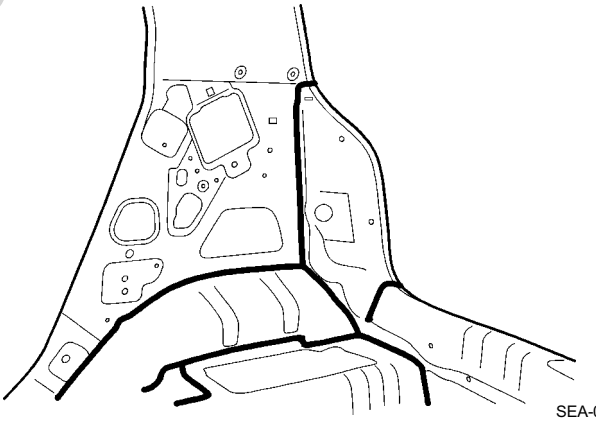
SEA-0070

9



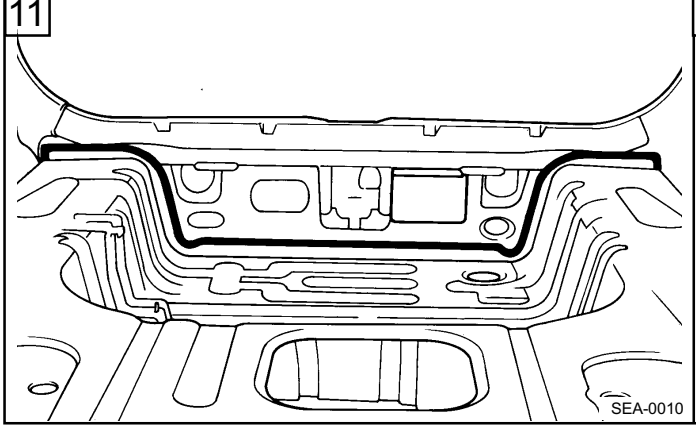
SEA-0080

10



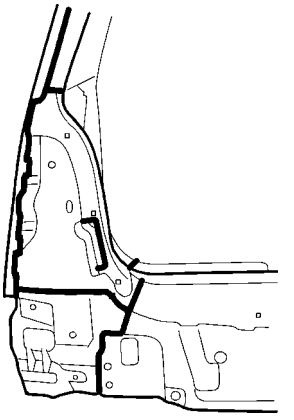
SEA-0090

11



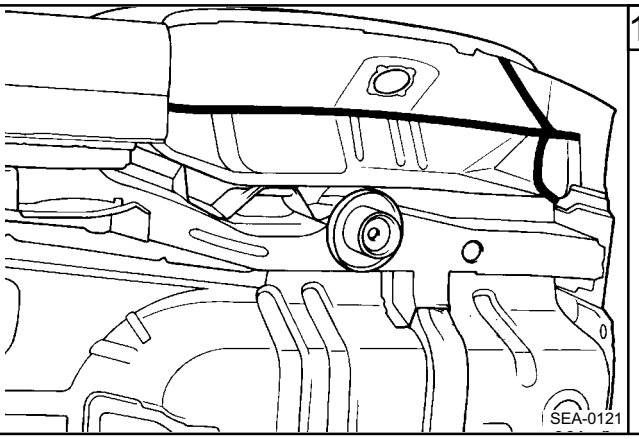
SEA-0010

12



SEA-0110

13



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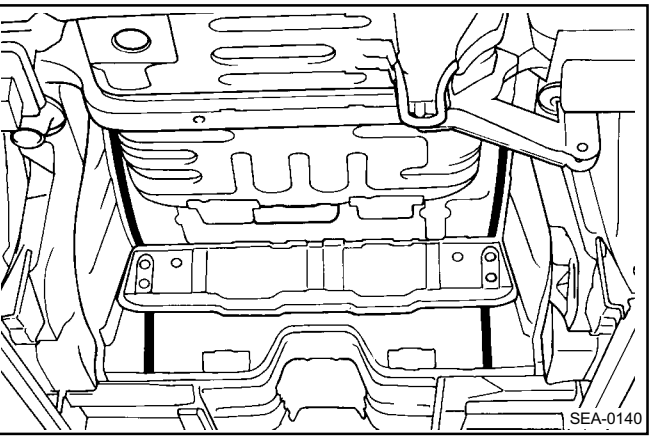
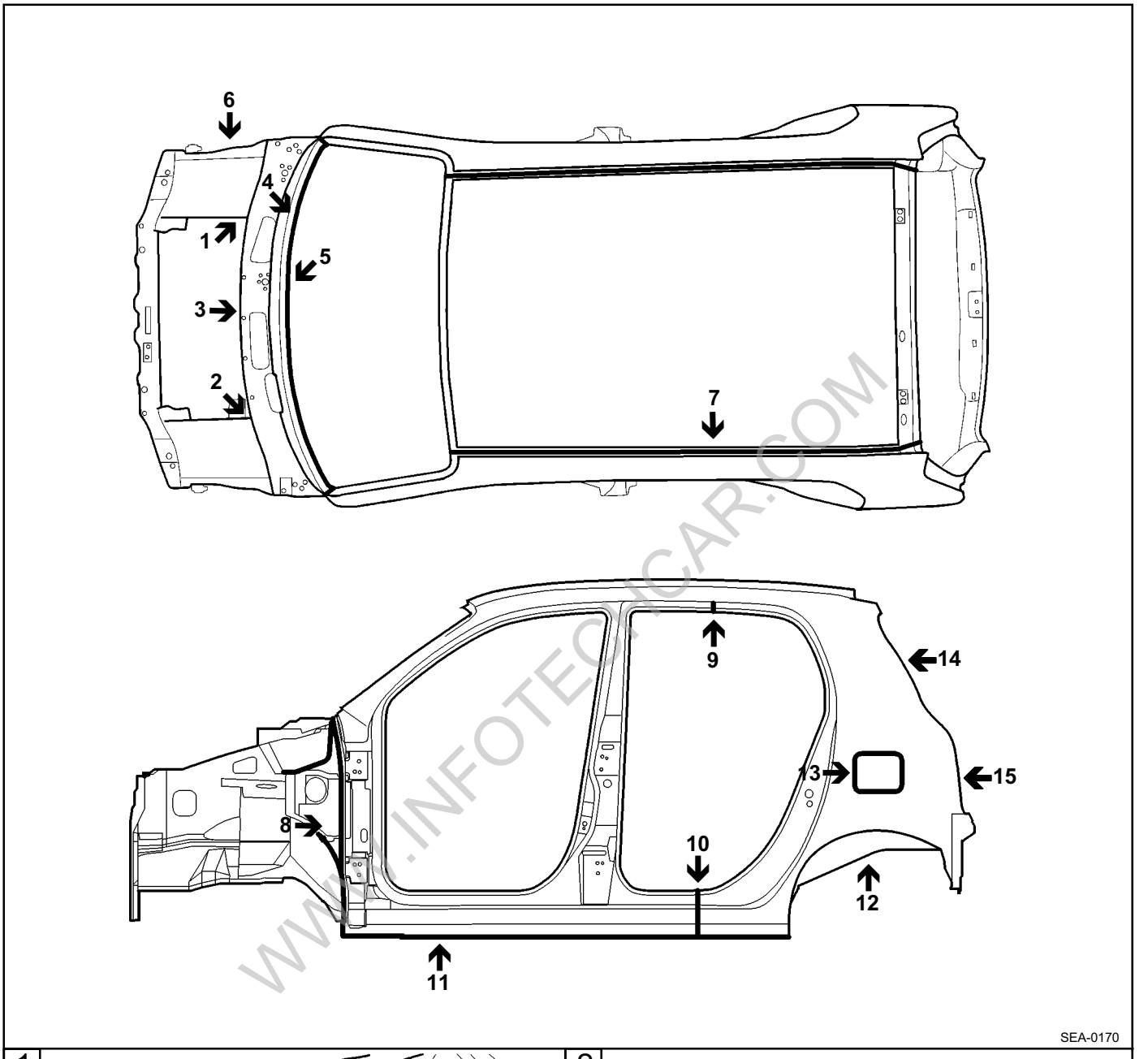


UPPER AND SIDE BODY



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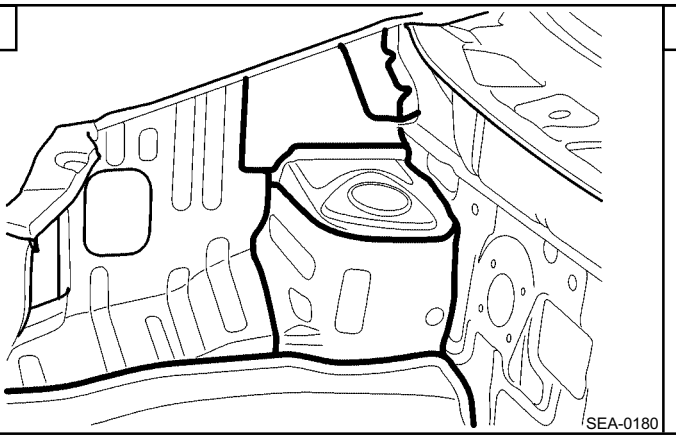

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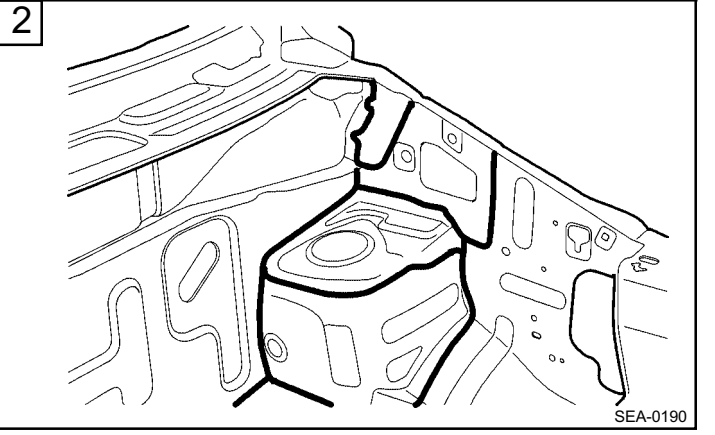

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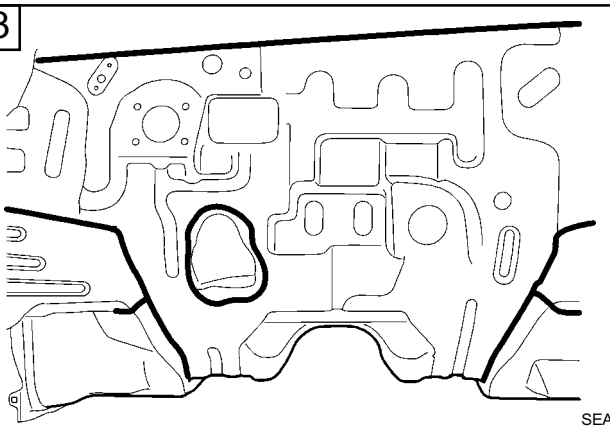

SEA-0200

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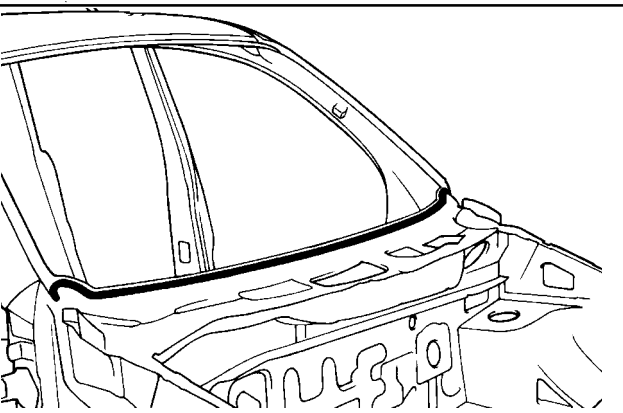

SEA-0240

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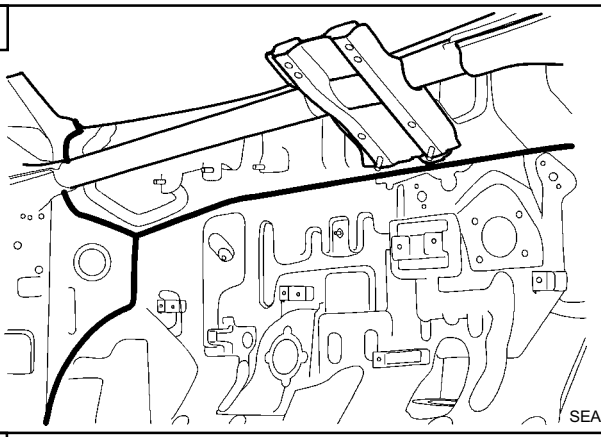
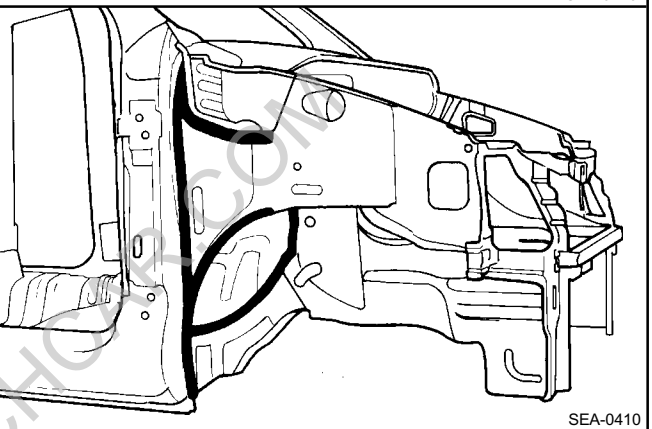


SEA-0220

6



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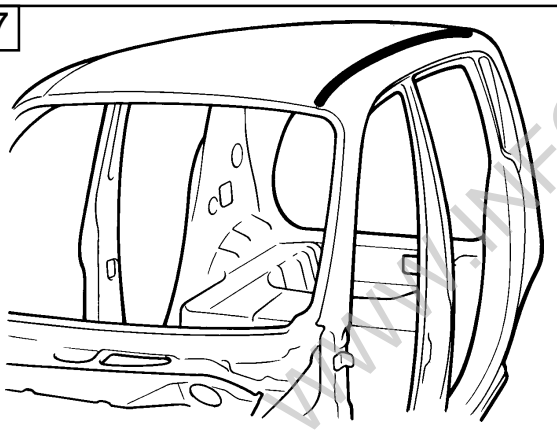
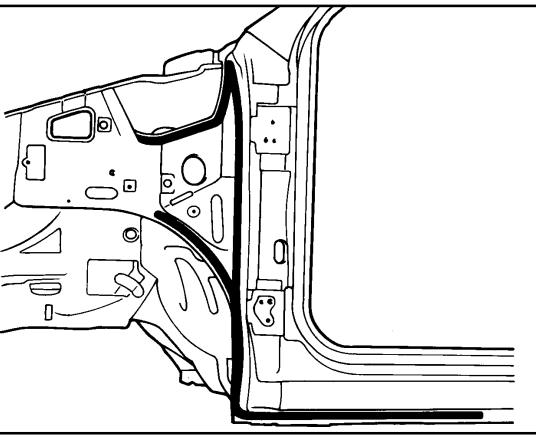


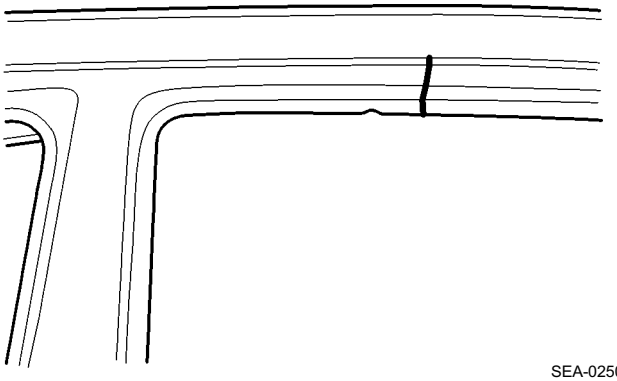
SEA-0435

8



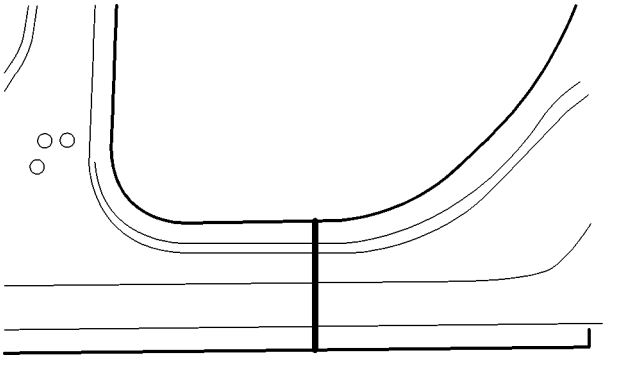
SEA-0280

9



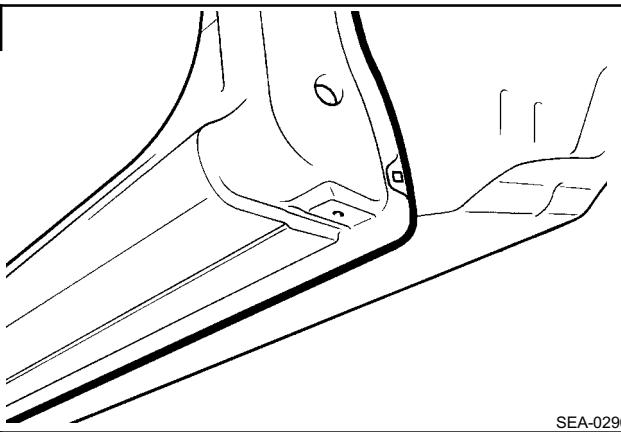
SEA-0250

10



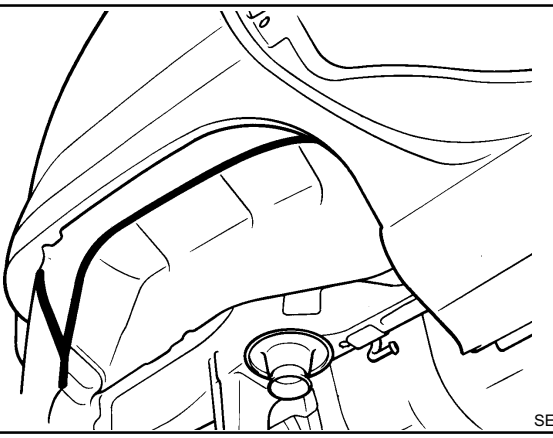
SEA-0260

11



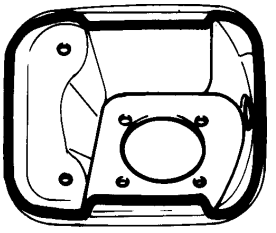
SEA-0290

12



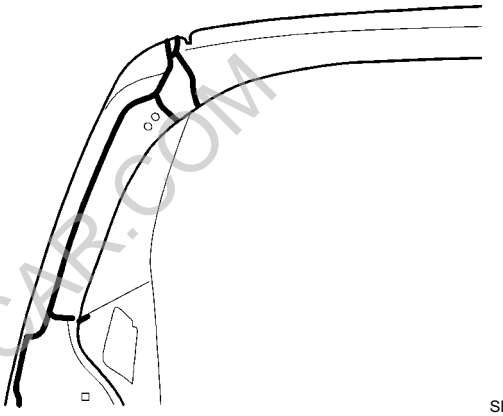
SEA-0120

13



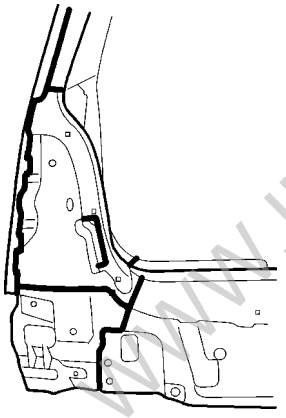
SEA-0490

14



SEA-0310

15

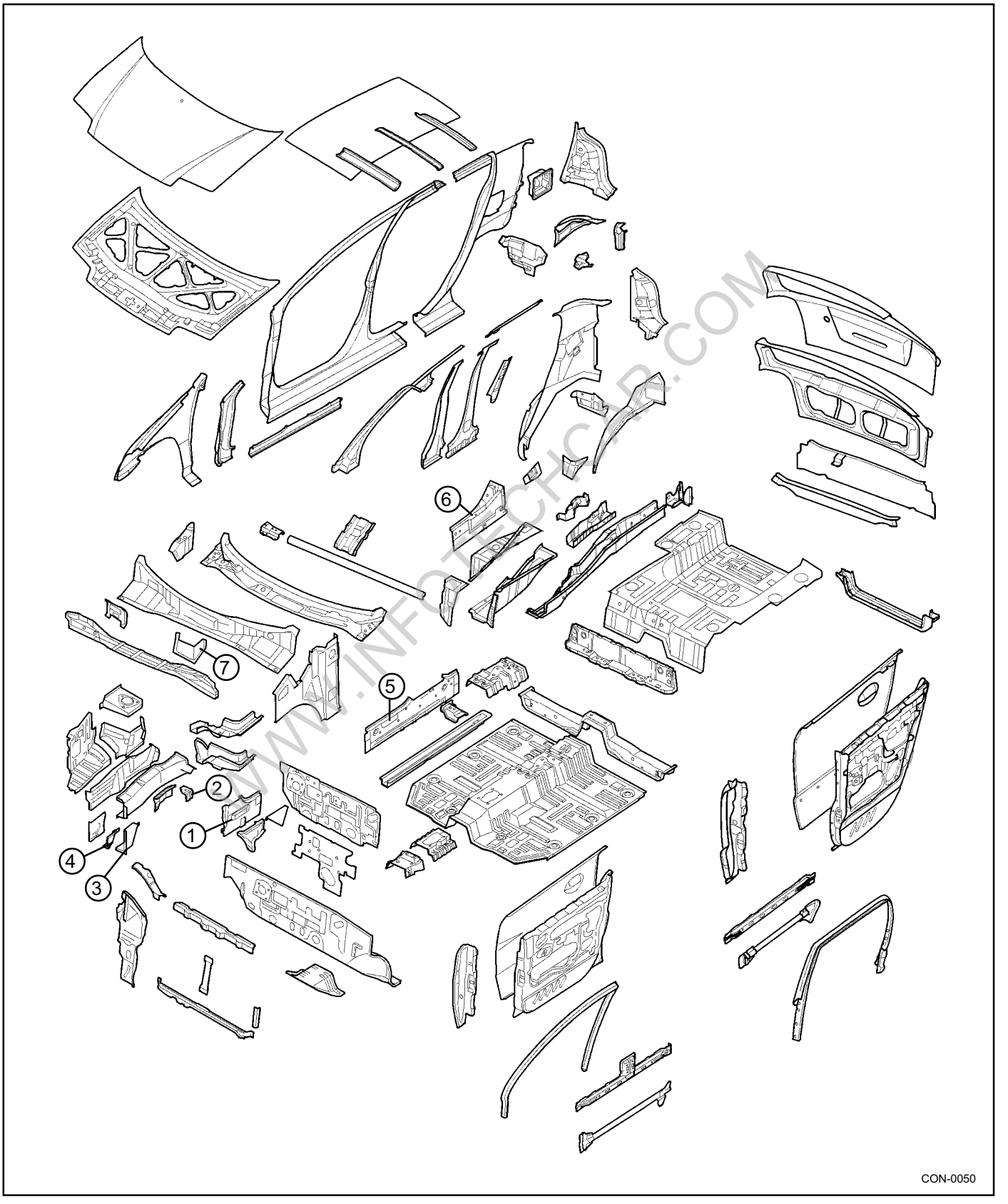


SEA-0110

CORROSION PROTECTION

ZINC-GALVANIZED STEEL PANELS

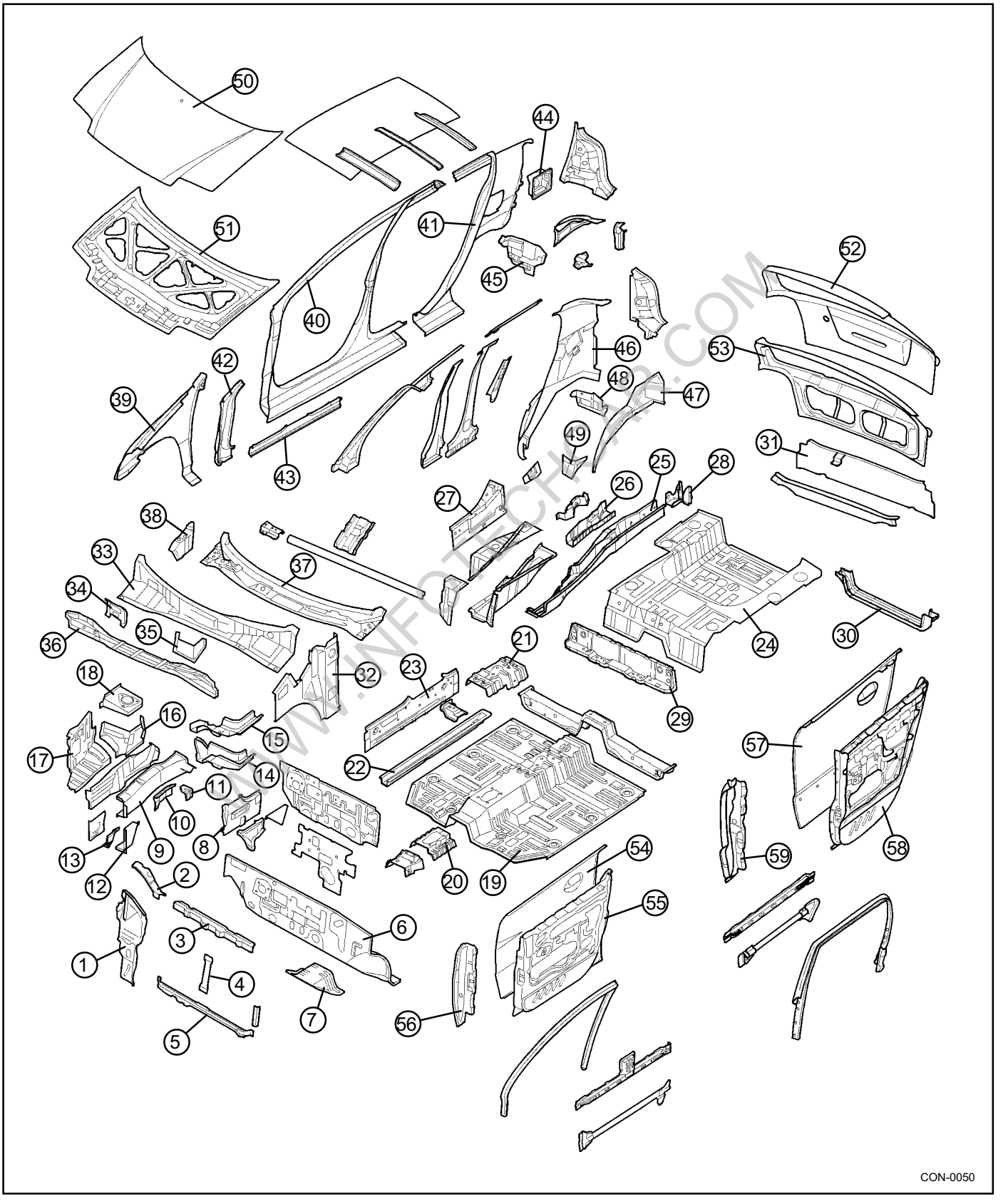
Because galvanized steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.



1. Side sill inner front extension
2. Battery tray mounting bracket
3. Sub frame front mounting bracket
4. Sub frame front mounting reinforcement
5. Side sill inner panel
6. Side sill inner rear extension
7. Plenum chamber guide bracket

ZINC-GALVANIZED STEEL PANELS

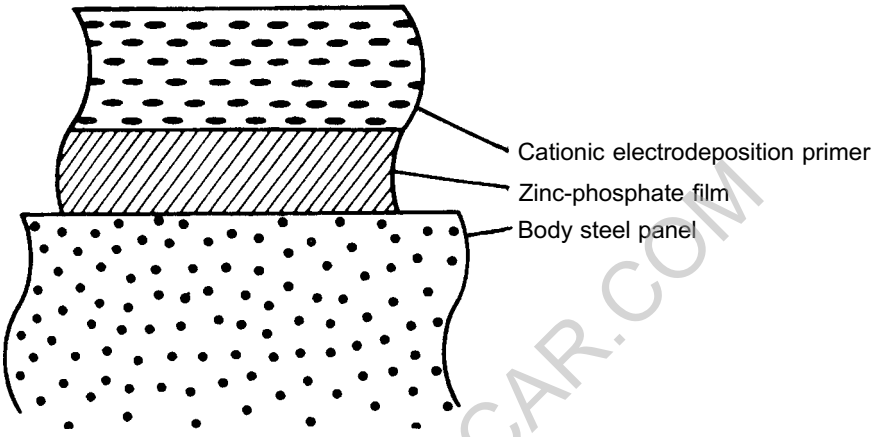
Because galvanized steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.



1. Head lamp support panel
2. Radiator support upper side member
3. Radiator support upper center member
4. Radiator support center member
5. Radiator support center cross member
6. Dash panel
7. Dash lower center reinforcement
8. Side sill inner front extension
9. Front side inner member
10. Front side member inner reinforcement
11. Battery tray mounting bracket
12. Sub frame front mounting bracket
13. Sub frame front mounting reinforcement
14. Front side rear lower member
15. Front side rear upper member
16. Fender apron inner panel
17. Fender apron inner front panel
18. Front shock absorber cover panel
19. Center floor panel
20. TGS lever mounting reinforcement
21. Center floor rear reinforcement
22. Center floor side member
23. Side sill inner panel
24. Rear floor panel
25. Rear front side member
26. Rear floor side reinforcement
27. Side sill inner rear extension
28. Rear bumper mounting bracket
29. Rear floor front cross member
30. Rear floor center cross member
31. Back panel
32. Front pillar inner lower panel
33. Cowl inner lower panel
34. Plenum chamber guide bracket
35. Cowl inner lower center reinforcement
36. Cowl front outer panel
37. Cowl top outer panel
38. Cowl side panel
39. Fender panel
40. Front side outer panel
41. Rear side outer panel
42. Front pillar outer reinforcement
43. Side sill outer reinforcement
44. Fuel filler housing
45. Quarter outer rear lower extension
46. Quarter inner panel
47. Wheel house inner panel
48. Quarter inner rear lower extension
49. Wheel house inner front extension
50. Hood outer panel
51. Hood inner panel
52. Tail gate outer panel
53. Tail gate inner panel
54. Front door outer panel
55. Front door inner panel
56. Front door hinge face reinfrocement
57. Rear door outer panel
58. Rear door inner panel
59. Rear door hinge face reinforcement

ZINC-PHOSPHATE COAT & CATIONIC ELECTRODEPOSITION PRIMER

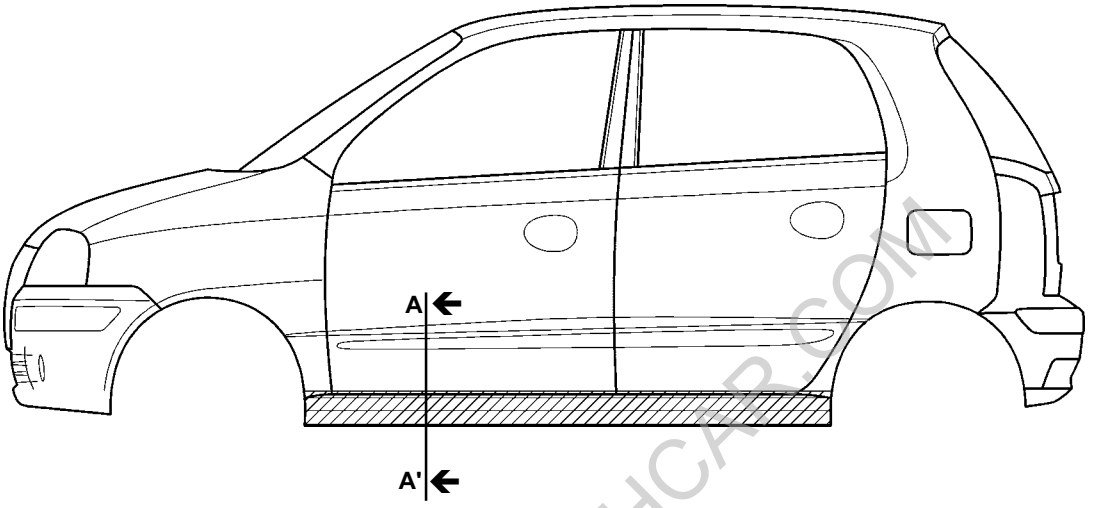
In order to improve the adhesion of the paint coat on the steel panel, and also to improve the corrosion resistance, the entire body is coated with a film of Zinc-phosphate and a cationic electrodeposition primer.



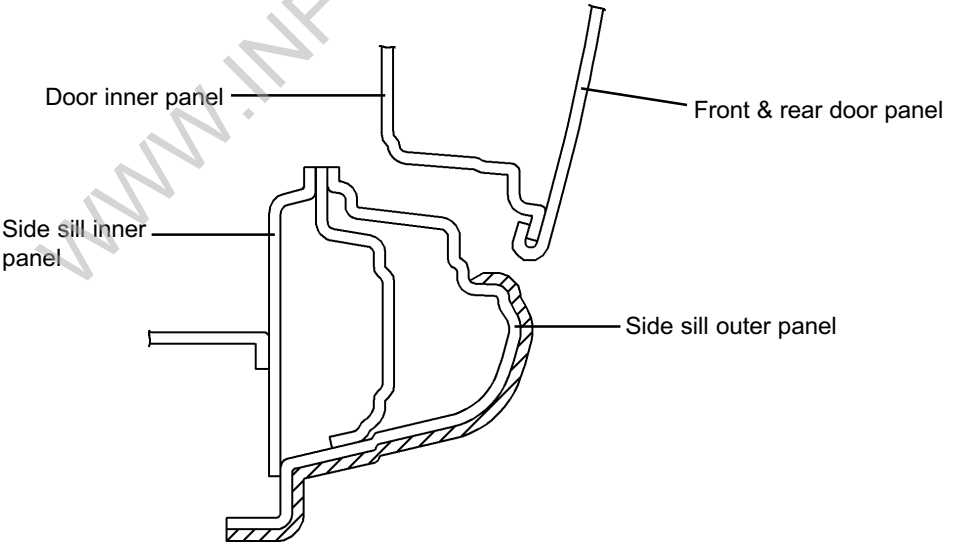
COR-0020

ANTI-CORROSION PRIMER

An anti-corrosion primer has been applied to the side sill outer panel for the purposes of corrosion prevention and abrasion protection. If this panel is replaced, apply an anti-corrosion primer between the undercoat and the intermediate coat, as shown in the following illustrations.



COR-0030

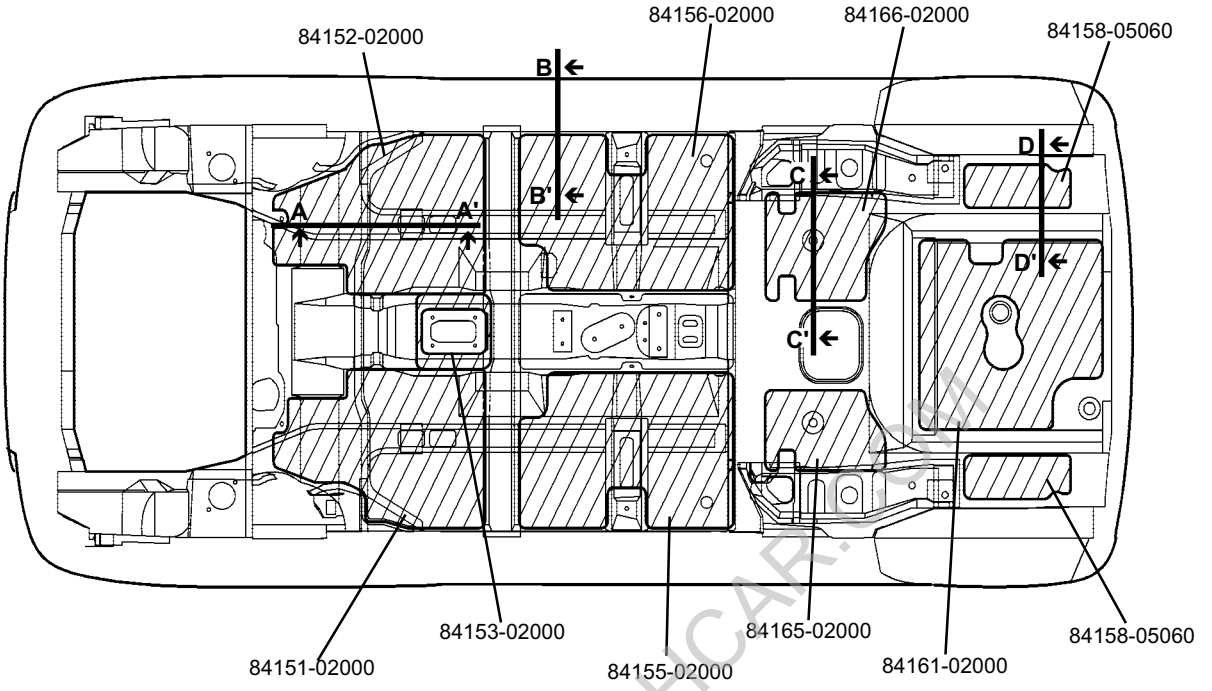


COR-0031

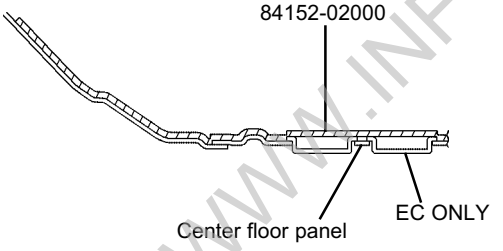
SECTION A-A'

Rock panel primer (Thickness 350μ)

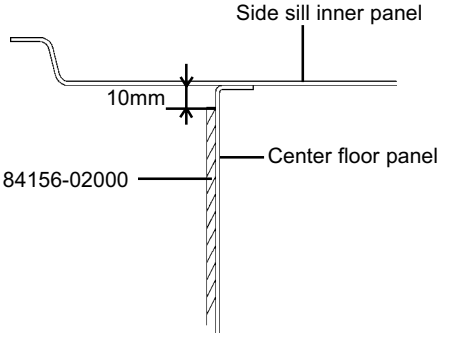
ANTIVIBRATION PADS-LOCATION & SECTION



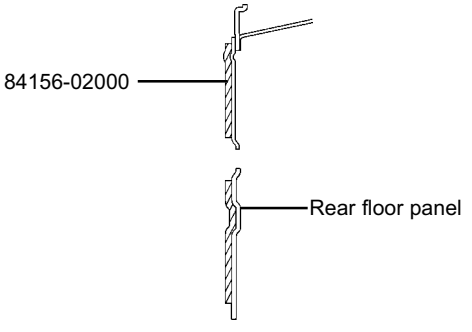
ANT-0010



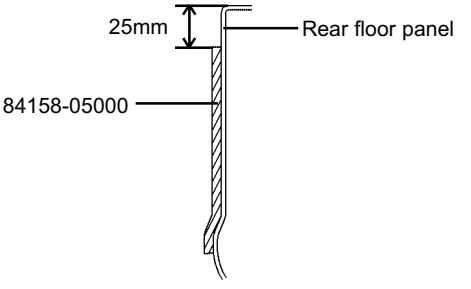
SECTION A-A' ANT-0011



SECTION B-B' ANT-0012



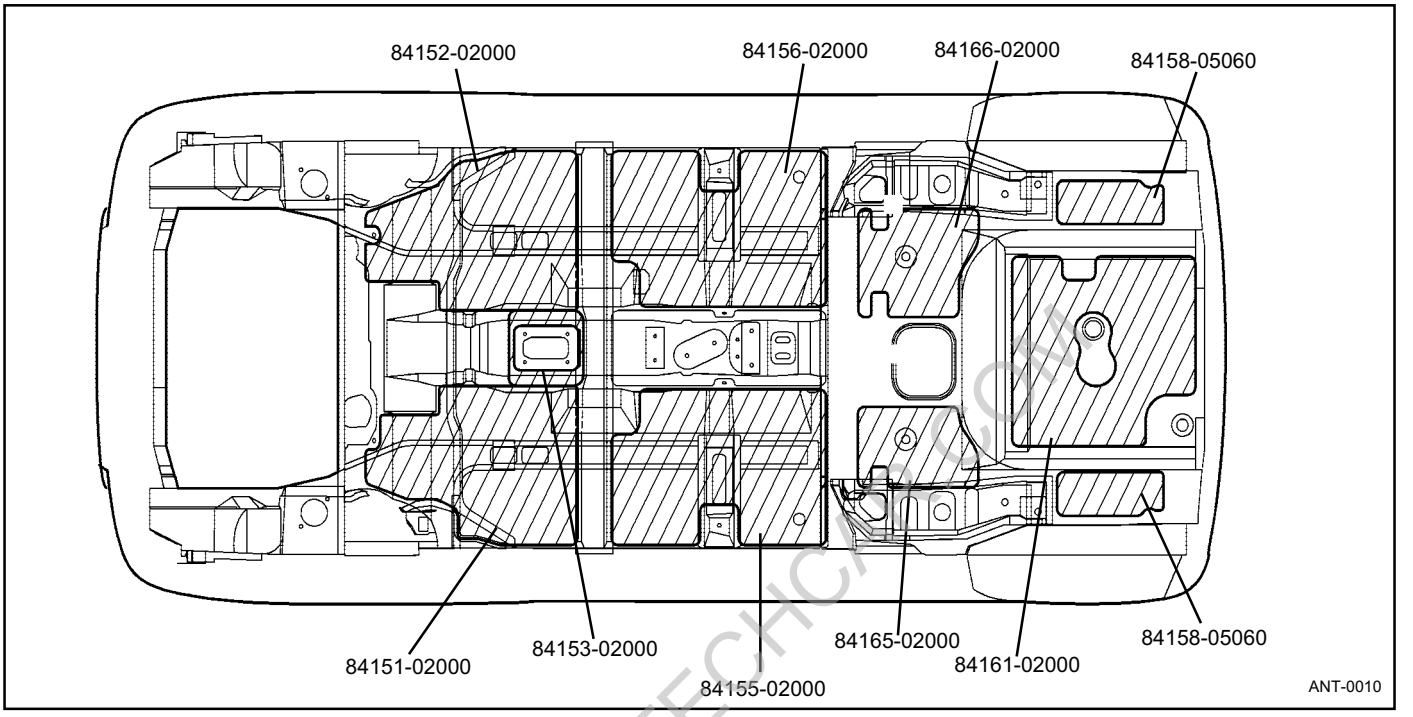
SECTION C-C' ANT-0013



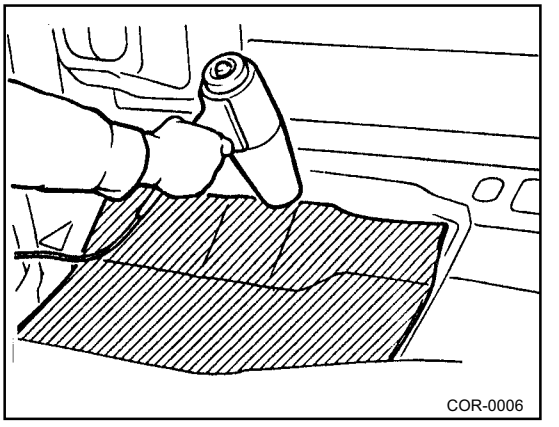
SECTION D-D' ANT-0014

ATTACHMENT OF ANTIVIBRATION PADS

Antivibration pads are attached to the upper surface of the floor and at the interior side of the dash panel in order to absorb vibrations and shut out exhaust gas heat. If these antivibration pads are peeled off in the course of replacement or repair of a welded panel, cut and attach replacement material (in the shape shown in the figure).

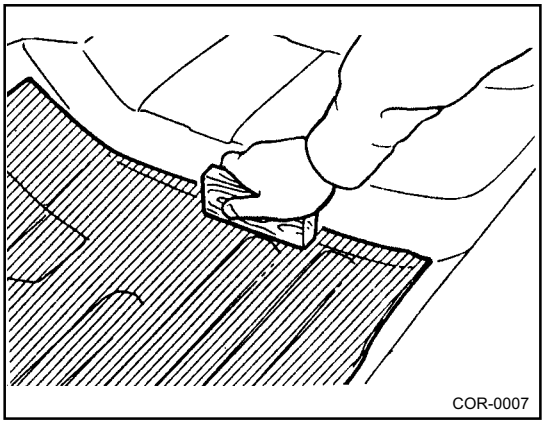


1. Heat the "antivibration pad" with a heater to soften it.



2. Align the antivibration pad layer in the position where it is to be installed, and then press it down with a roller or a block of wood so that it adheres well.

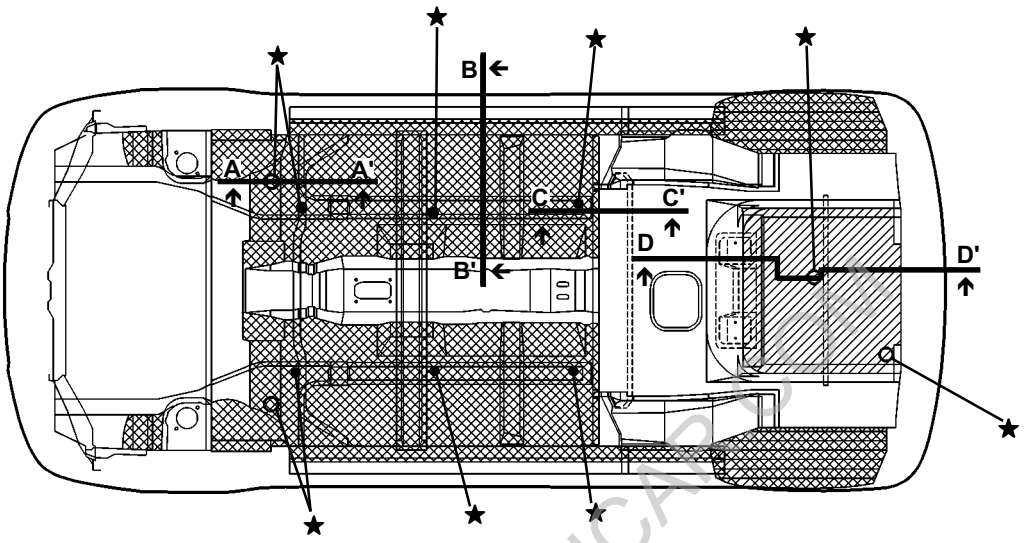
   NOTE
   An infrared lamp can also be used to heat both the antivibration pad layer and the body panels(be sure to wear gloves).



UNDER BODY COAT

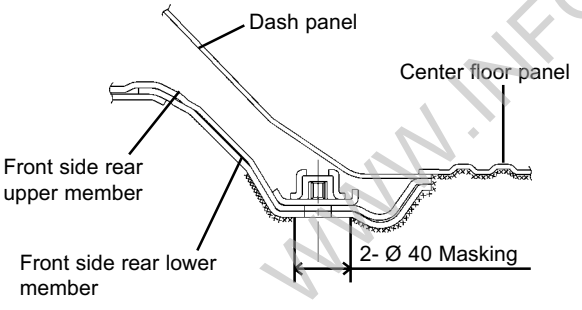
In order to provide corrosion, stone chipping and vibration resistance, under body coat is applied to the under sides of the floor and wheel house.
Therefore, when such panel is replaced or repaired, apply under body coat to that part.

FLOOR

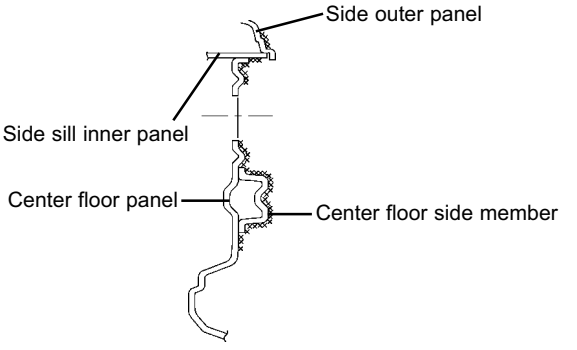


★ Because parts are to be mounted in these locations, mask the location, before applying the under body coat.
Under body coating (Thickness: ▨ : 0.8mm, ▩ : 1.0mm, ■ : 2.0mm)

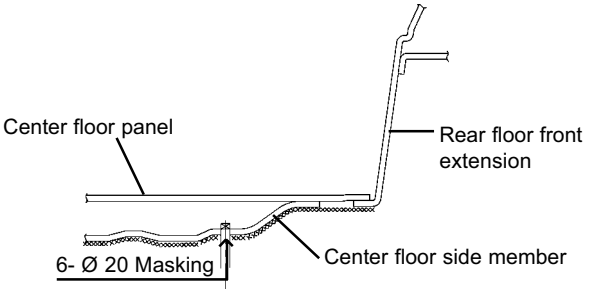
COR-0040



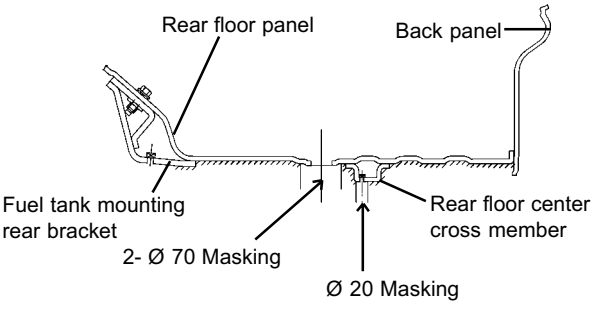
SECTION A-A' COR-0041



SECTION B-B' COR-0042

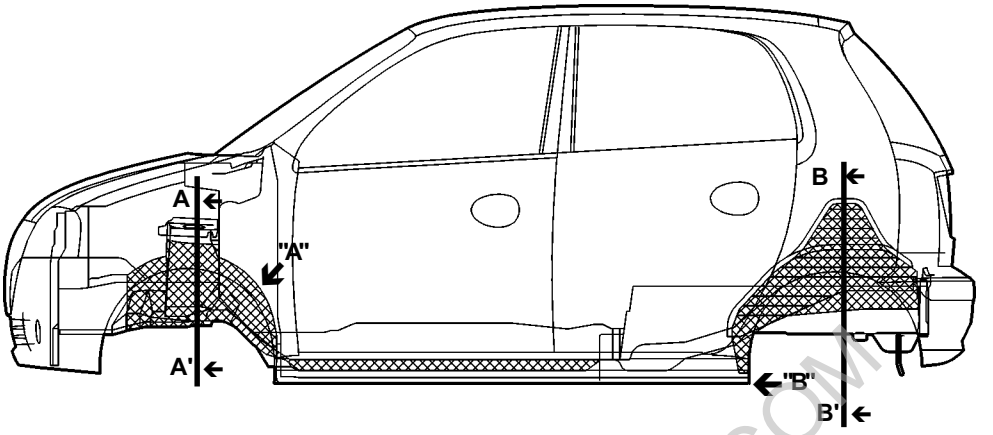


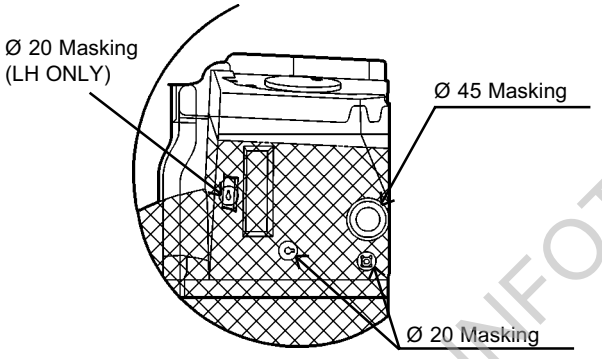
SECTION C-C' COR-0043



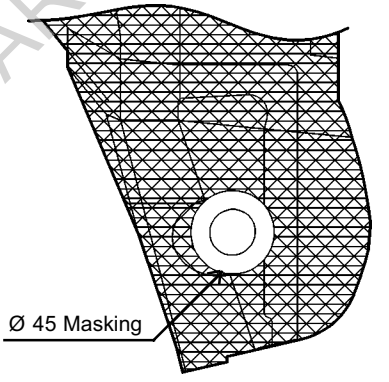
SECTION D-D' COR-0044

SIDE BODY





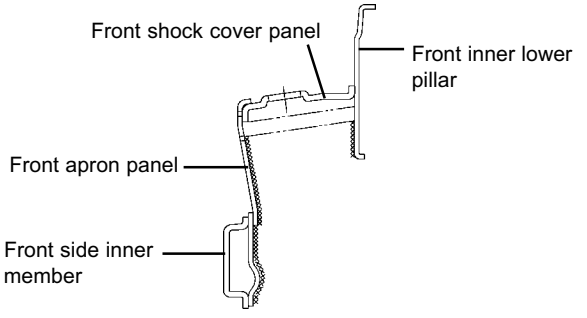
VIEW "A"



VIEW "B"

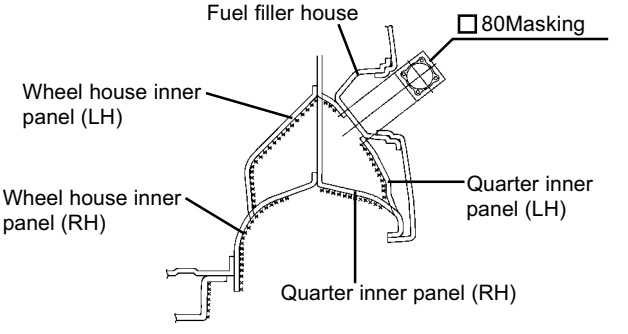
★ Because parts are to be mounted in these locations, mask the location before applying the under body coat.
Under body coating (Thickness : ▨ : 1.0mm, ▩ : 2.0mm)

COR-0050/COR-0053/ COR0054



SECTION A-A'

COR-0051

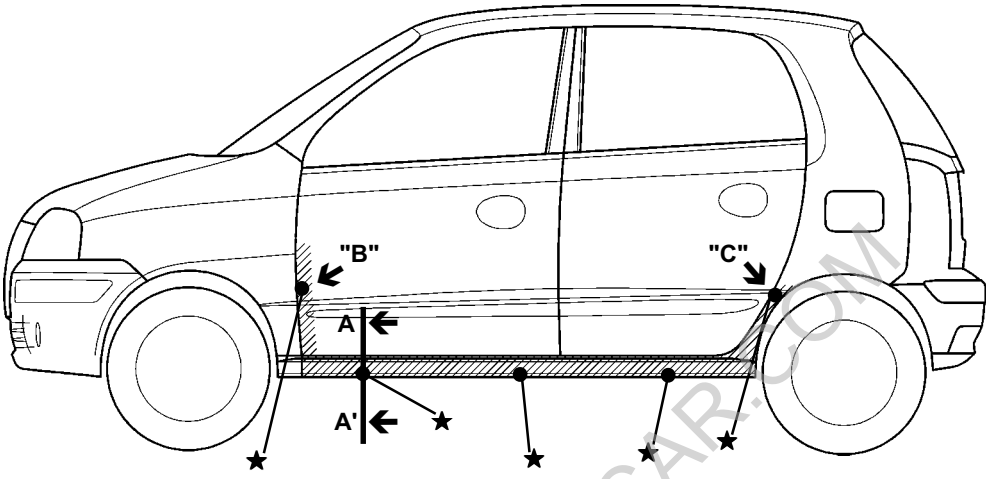


SECTION B-B'

COR-0052

CAVITY WAX INJECTION

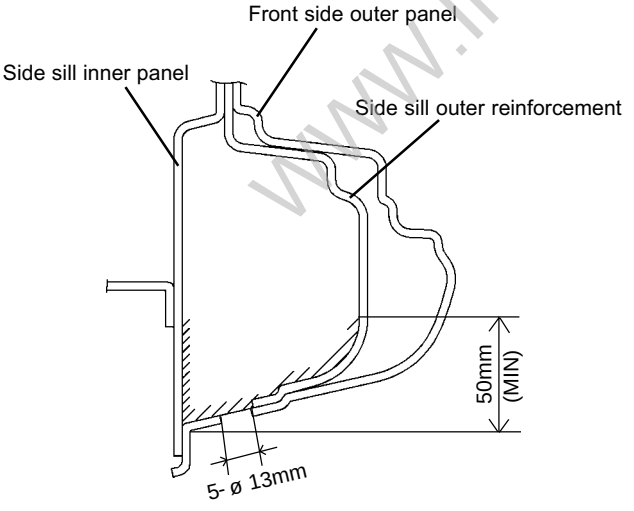
In order to provide greater corrosion resistance, cavity wax injection has been performed for the lower areas of the vehicle, such as the sidemember, the side sill and the inside of other panels which are a hollow construction. When replacing these parts, be such to apply cavity wax to the appropriate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



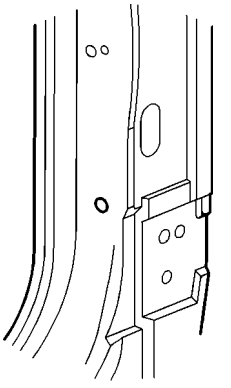
★ Wax injection must be done through access holes marked.

Cavity wax injection (Thickness 40μ - 50μ)

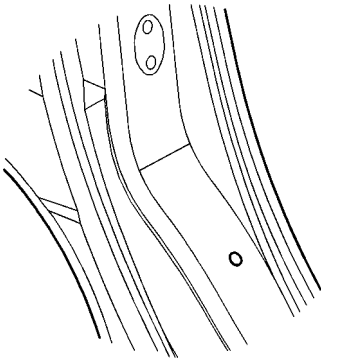
COR-0055



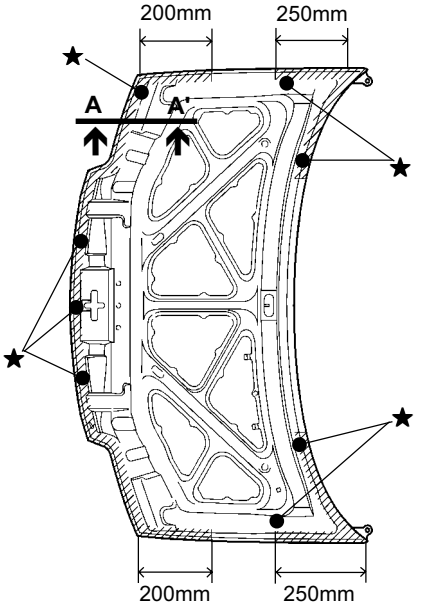
SECTION A-A' COR-0056



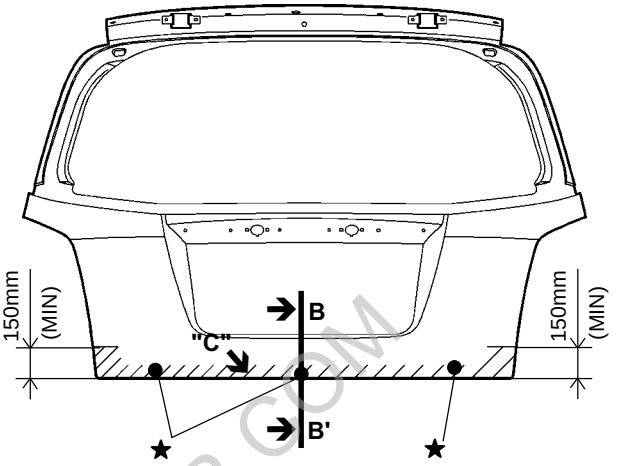
VIEW "B" COR-0057



VIEW "C" COR-0058



HOOD

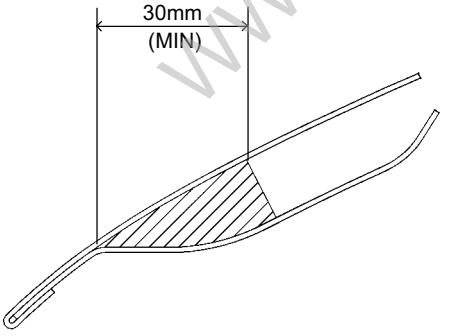


TAIL GATE

★ Wax injection must be done through access holes marked.

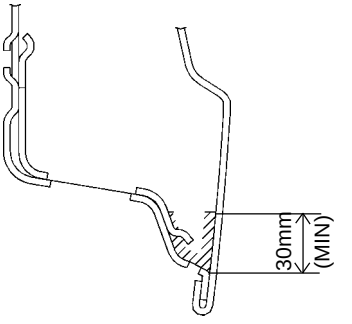
Cavity wax injection (Thickness 40μ - 50μ)

COR-0060/0070



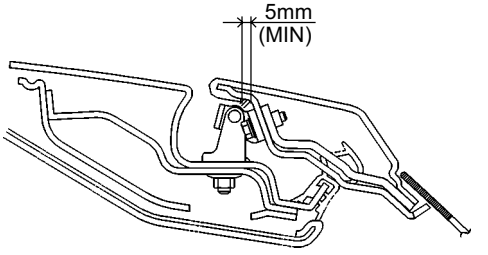
SECTION A-A'

COR-0061



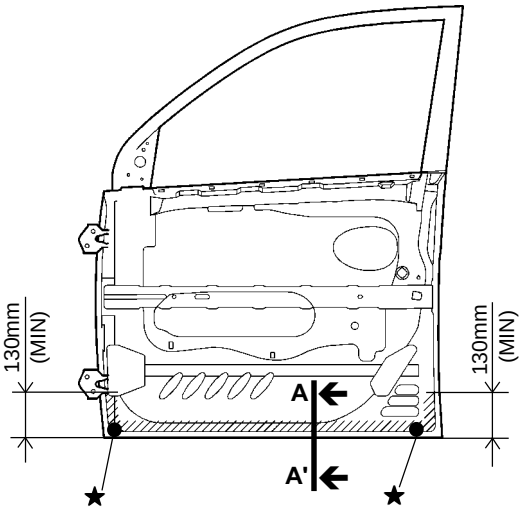
SECTION B-B'

COR-0071

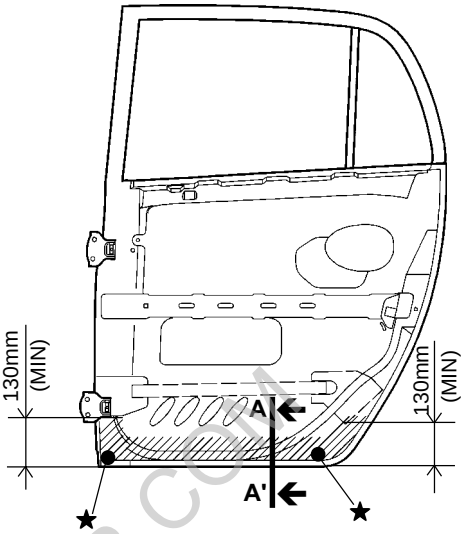


SECTION C-C'

COR-0072



FRONT DOOR

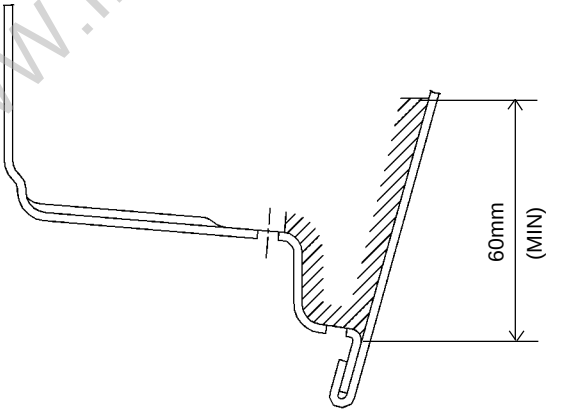


REAR DOOR

★ Wax injection must be done through access holes marked.

Cavity wax injection (Thickness 40μ - 50μ)

COR-0080/COR-0090



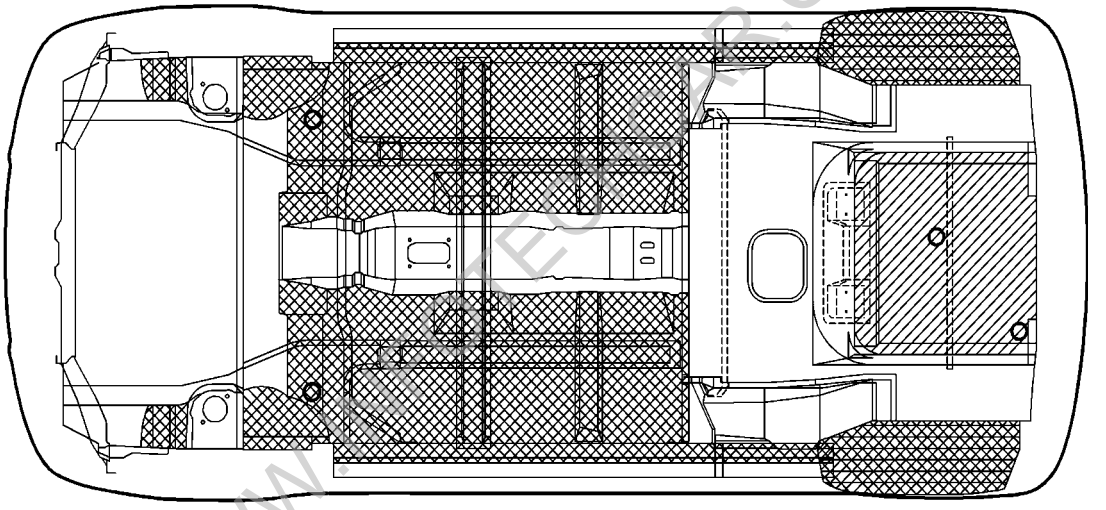
SECTION A-A'

COR-0081

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.



Under body anti-corrosion agent (Thickness : : 0.8mm, : 1.0mm, : 2.0mm)

COR-0040