GENERAL INFORMATION

INTRODUCTION

This Body Repair Manual provides detailed repair procedures for repair of commonly damaged structural panels on the Hyundai Getz. 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 Getz 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 Getz, refer to the Getz 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.

June 2002, Printed in Korea

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GENERAL GUIDE LINES AND PRECAUTIONS

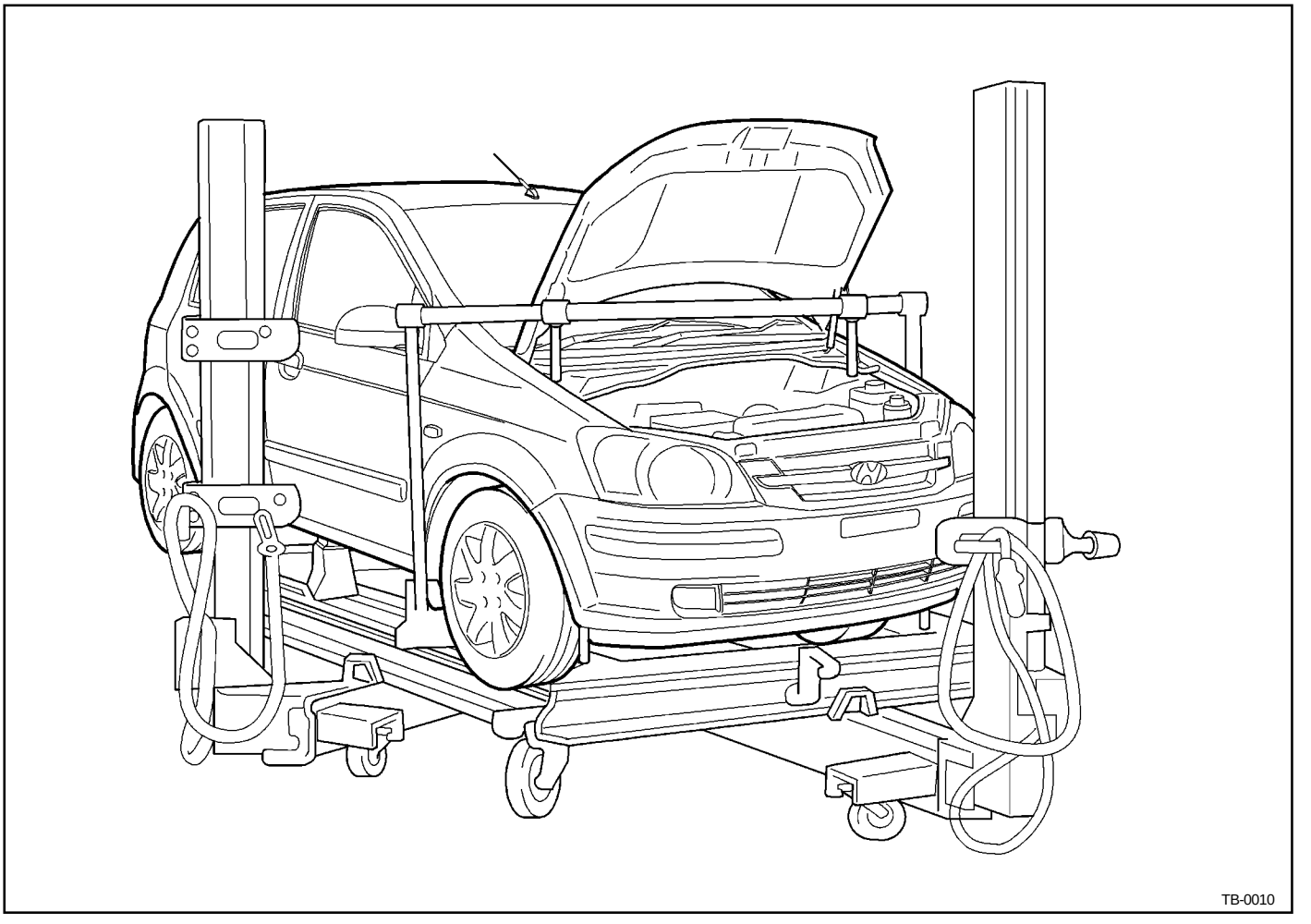
The Hyundai Getz is a completely new vehicle design. During its development, close attention has been given to safety, stability, weight and corrosion protection. Typical of unit body design, the Hyundai Getz is designed so that the front and rear compartments will absorb much of the collision energy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

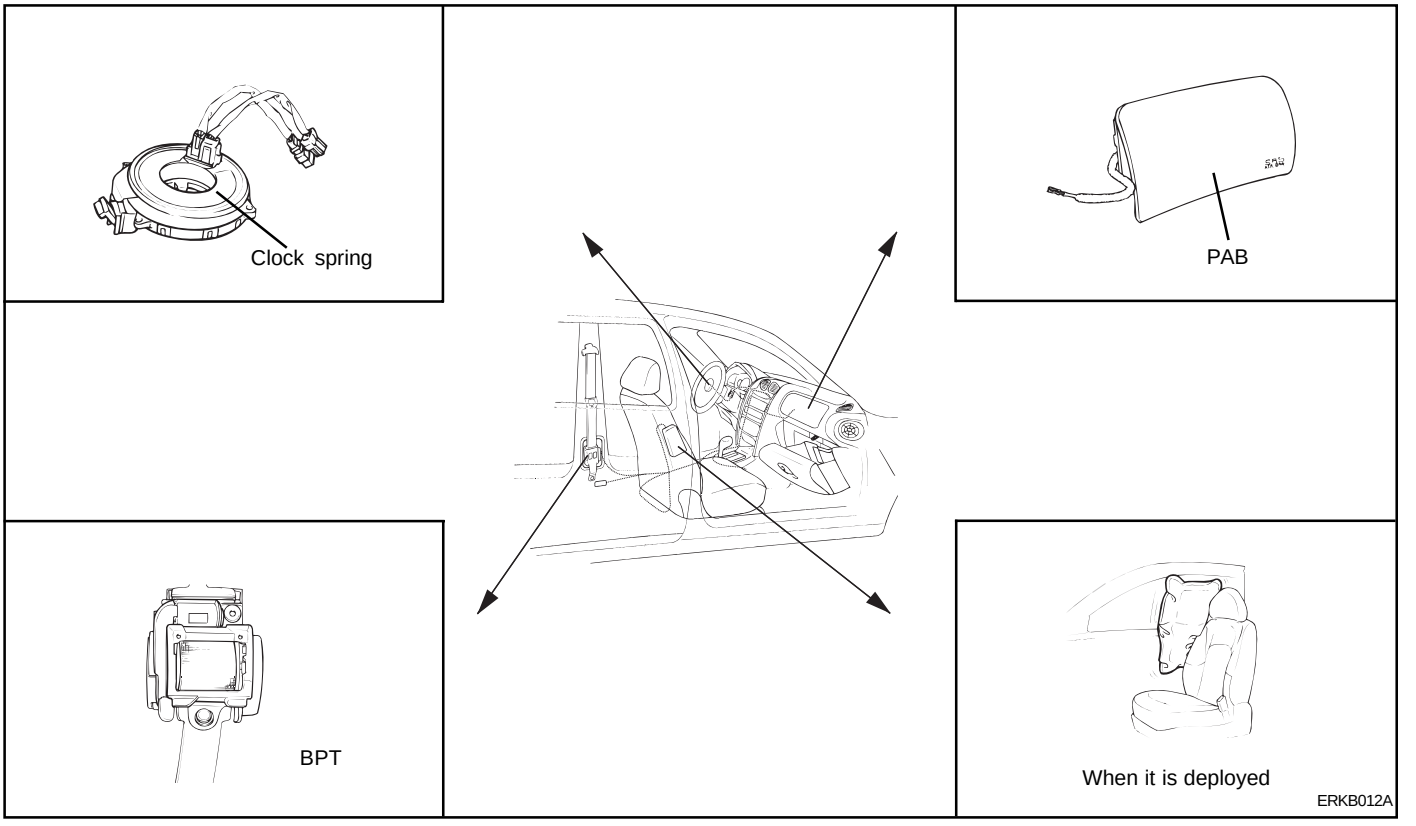
Certain guidelines and precaution are noted as follow.



TB-0010

SRS AIR-BAG

SYSTEM COMPONENT



The Hyundai Getz 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℃ (200℉), 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 Getz 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.

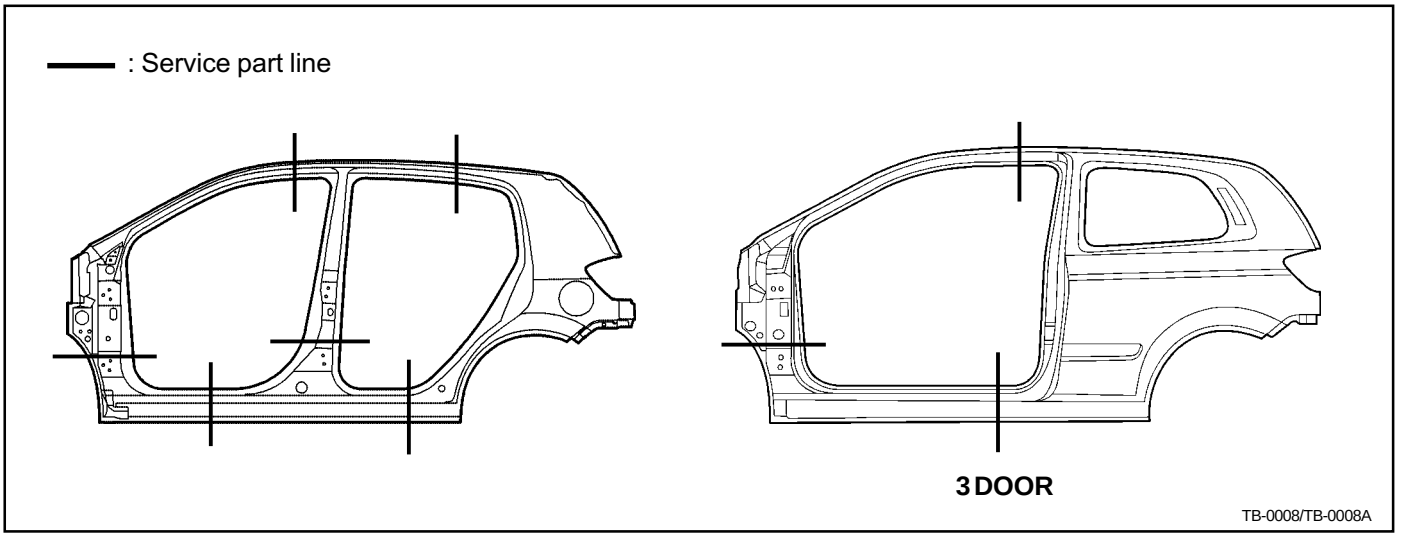
A two part epoxy primer was applied to the metal surfaces during the latter part of the repair. For closed sections, such as front and rear rails, rocker panels and pillars, the primer is applied without applying the metal conditioner and the conversion coating. These steps are omitted to insure that 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 Getz 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.

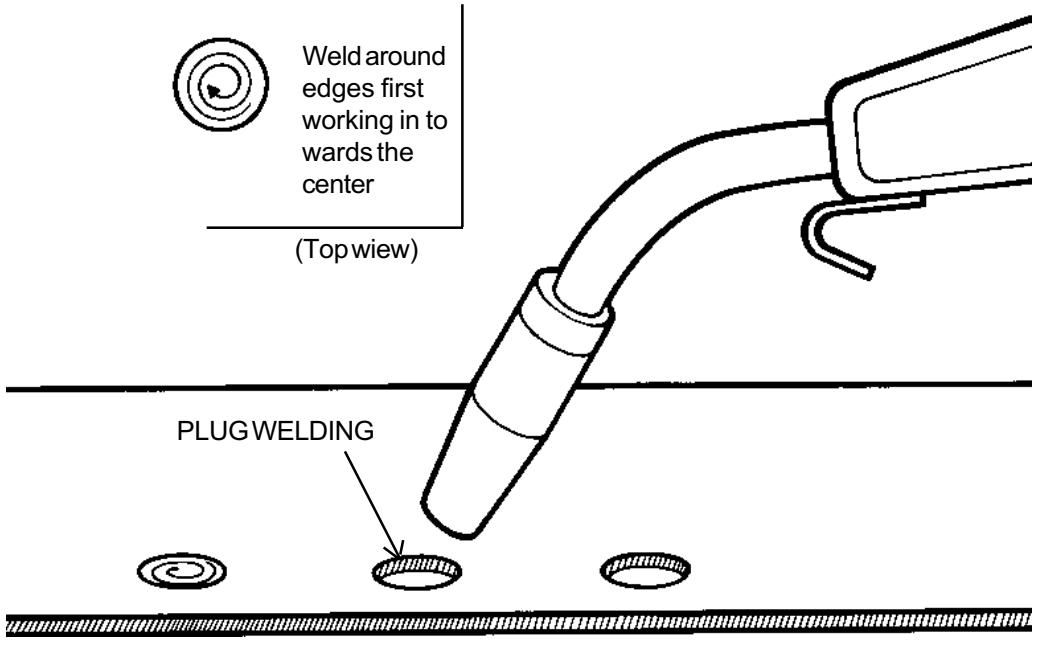


WELDING

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

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

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



8mm or 5/16" dia. hole
Illustration-Welding in collision Repair

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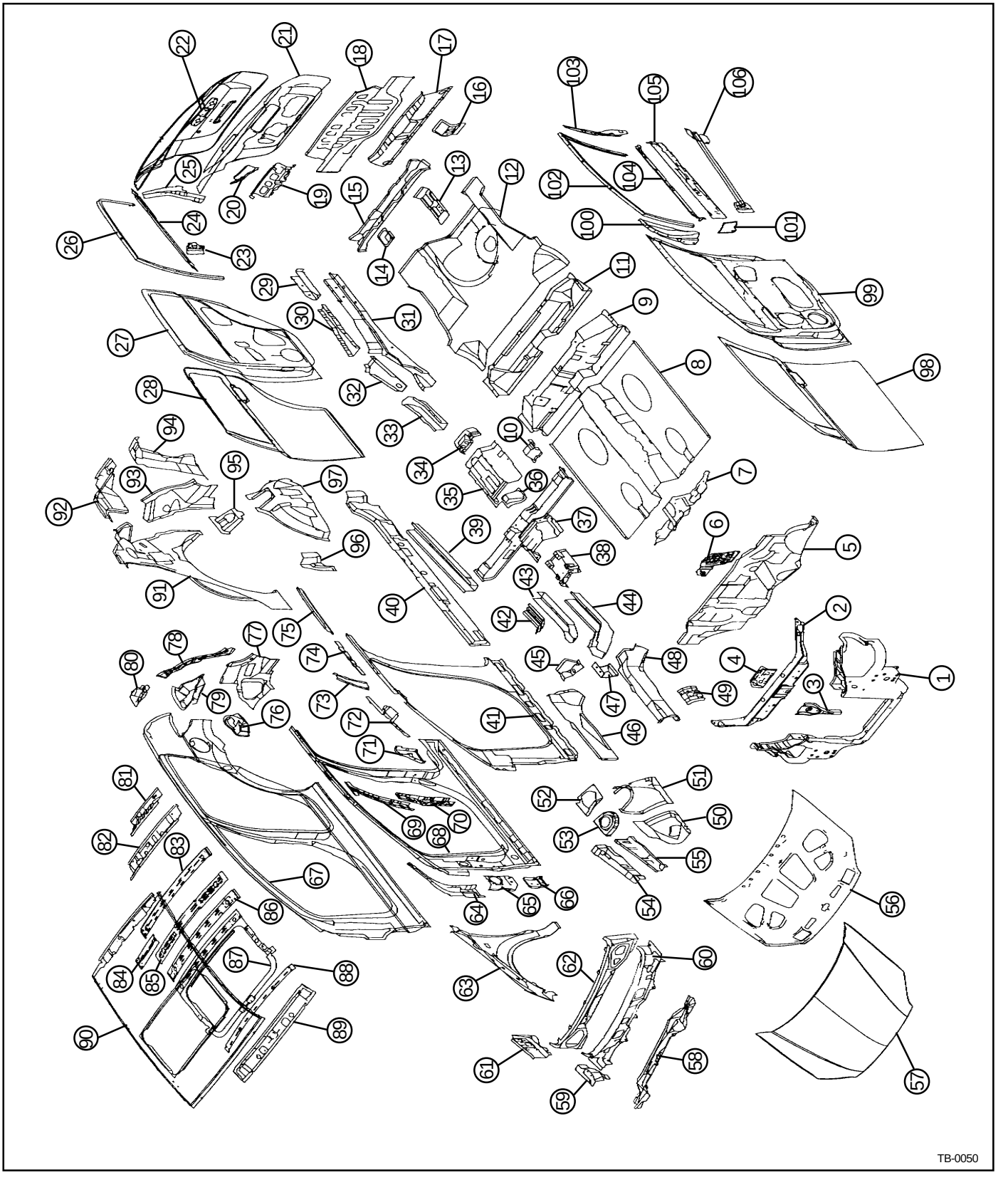
BODY CONSTRUCTION

BODY COMPONENTS

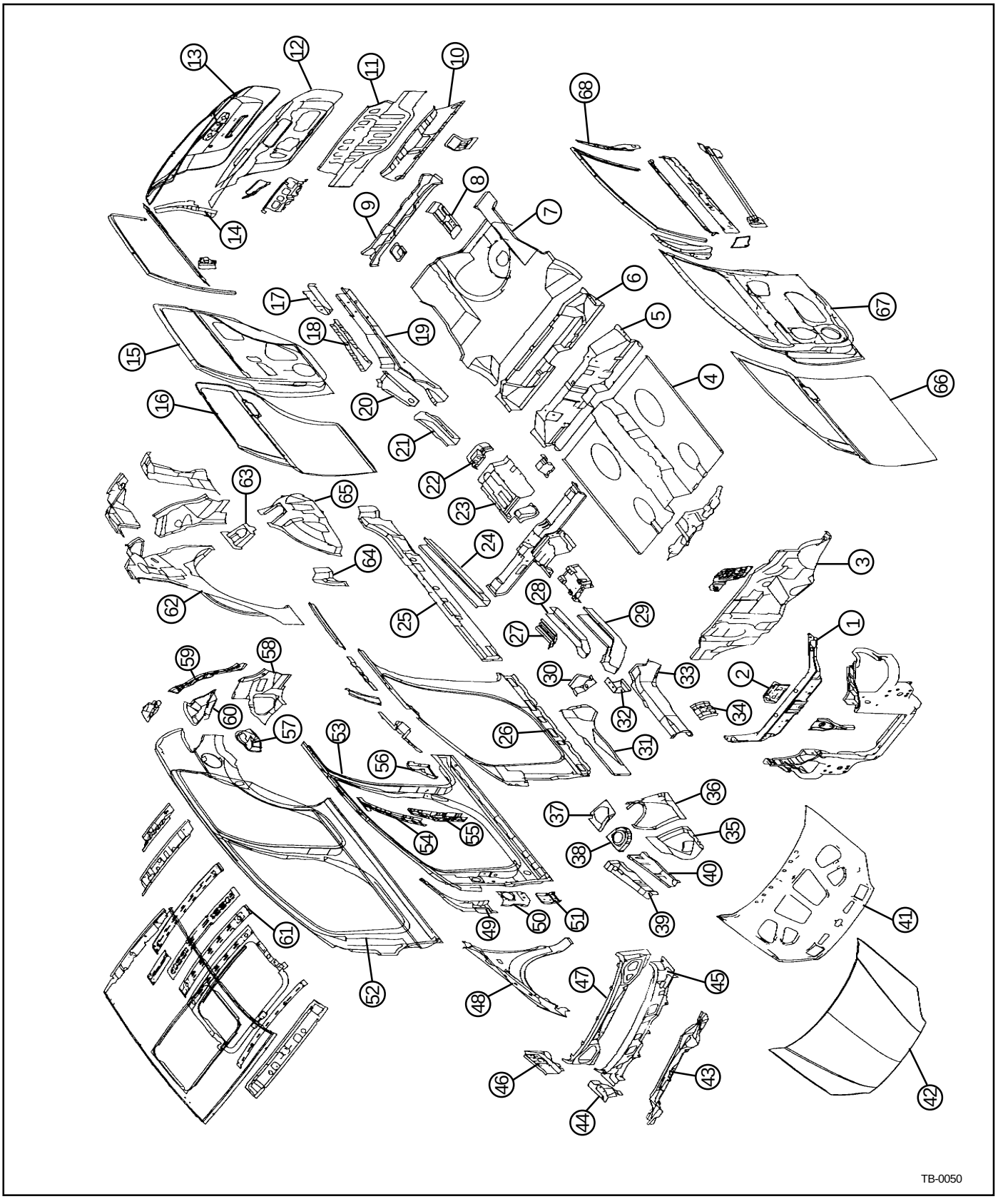
Body construction will sometimes differ depending on specifications and country of destination. Therefore, please keep in mind that the information contained herein is based on vehicles for general destination.



1. Plastic carrier
2. Radiator support upper center panel
3. Radiator support center panel
4. Radiator support center reinforcement
5. Dash panel
6. Brake booster reinforcement
7. Dash lower center reinforcement
8. Center floor panel
9. Rear floor extension
10. Front seat mounting rear side bracket
11. Rear floor front cross member
12. Rear floor panel
13. Towing hook bracket
14. Rear seat rear bracket
15. Rear floor center cross member
16. Tail gate striker reinforcement
17. Rear transverse member
18. Back panel
19. Tail gate wiper motor reinforcement
20. Lifter tail gate side reinforcement
21. Tail gate inner panel
22. Tail gate outer panel
23. Rear door reinforcement beam
24. Rear door belt outer rail
25. Rear door frame rear reinforcement
26. Rear door window channel
27. Rear door inner panel
28. Rear door outer panel
29. Rear floor side member extension
30. Rear floor side member reinforcement
31. Rear floor side member
32. Trailing arm mounting reinforcement
33. Rear floor side front member
34. Parking brake cable mounting bracket
35. Parking brake aperture panel
36. Front seat mounting rear inner bracket
37. Front seat cross member
38. Center floor front reinforcement
39. Center floor side member
40. Side sill inner panel
41. Side inner panel
42. Front side rear member
43. Front side rear lower reinforcement
44. Front side rear lower member
45. Front side member rear lower extension
46. Front side outer member
47. Transmission mounting bracket
48. Front side inner member
49. Battery tray leg reinforcement
50. Fender apron inner front panel
51. Fender apron inner panel
52. Cowl under cover extension
53. Front shock absorber cover panel
54. Fender apron upper member
55. Apron upper reinforcement
56. Hood inner panel
57. Hood outer panel
58. Cowl inner lower panel
59. Cowl side outer panel
60. Cowl top outer panel
61. Cowl side upper outer member
62. Cowl inner rear panel
63. Fender panel
64. Front door upper mounting reinforcement
65. Front pillar outer bracket
66. Front door lower mounting bracket
67. Side outer panel
68. Side outer reinforcement
69. Center pillar outer upper reinforcement
70. Center pillar outer lower reinforcement
71. Rear door lower mounting bracket
72. Front pillar inner upper reinforcement
73. Front side belt upper mounting bracket
74. Assist hold mounting bracket
75. Roof side inner rail
76. Fuel filler housing
77. Quarter outer rear lower extension
78. Quarter outer rear upper extension
79. Rear combination lamp housing panel
80. Tail gate lifter bracket
81. Roof rear upper rail
82. Roof rear lower rail
83. Roof rear center rail
84. Roof center side rail
85. Roof center rail
86. Side roof rear lower reinforcement
87. Side roof reinforcement ring
88. Roof center front rail
89. Roof front rail
90. Roof panel
91. Quarter inner panel
92. Quarter inner upper reinforcement
93. Quarter inner rear lower extension
94. Quarter pillar inner reinforcement
95. Rear spring house cover
96. Wheel house inner front extension
97. Wheel house inner panel
98. Front door outer panel
99. Front door inner panel
100. Front door quadrant reinforcement
101. Front door hinge lower bracket
102. Front door window upper channel
103. Front door frame rear reinforcement
104. Front door belt outer rail
105. Front door belt inner rail
106. Front door reinforcement beam

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.

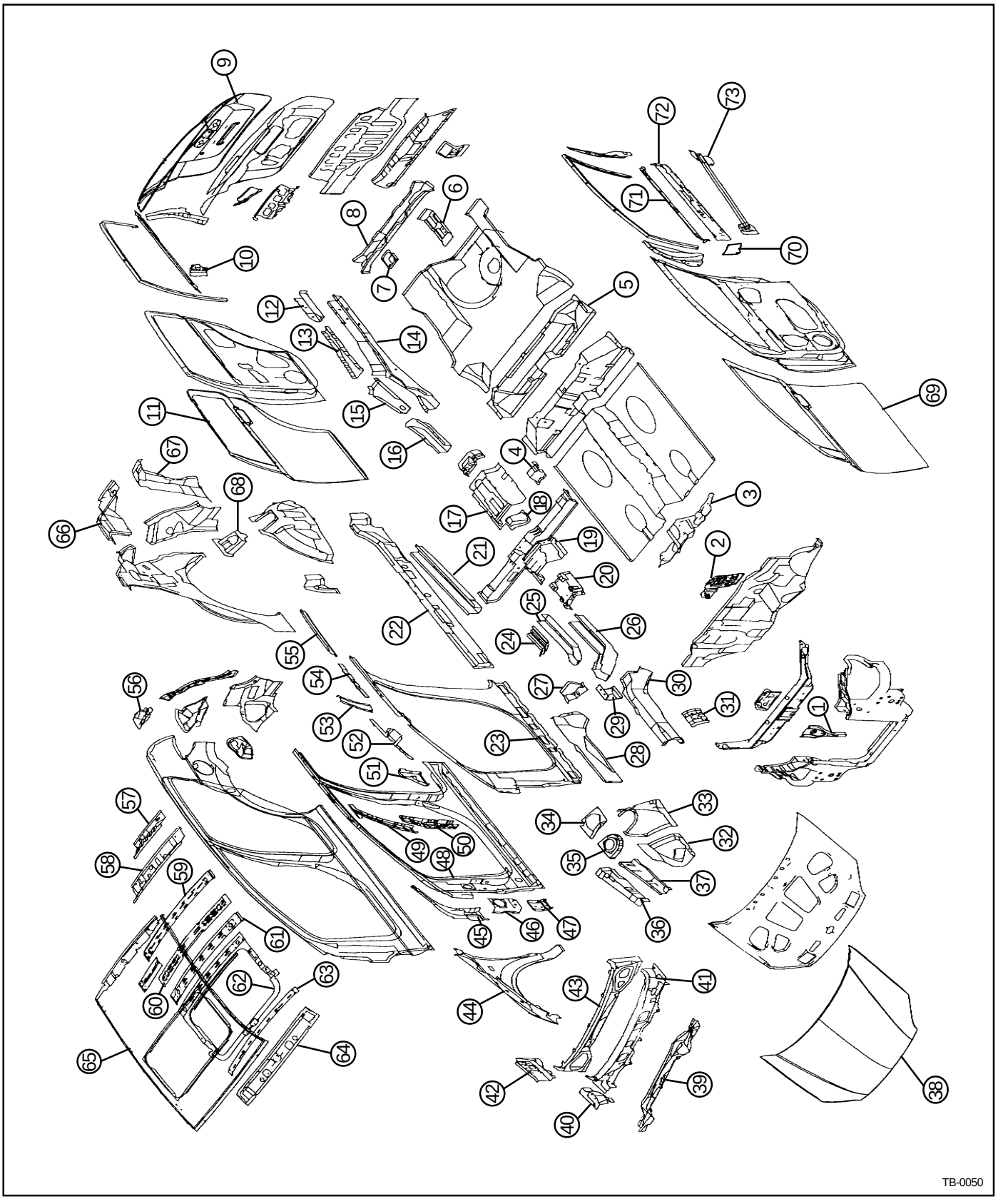


BODY CONSTRUCTION - Zinc-galvanized steel panels

1. Radiator support upper center panel
2. Radiator support center reinforcement
3. Dash panel
4. Center floor panel
5. Rear floor extension
6. Rear floor front cross member
7. Rear floor panel
8. Towing hook bracket
9. Rear floor center cross member
10. Rear transverse member
11. Back panel
12. Tail gate inner panel
13. Tail gate outer panel
14. Rear door frame rear reinforcement
15. Rear door inner panel
16. Rear door outer panel
17. Rear floor side member extension
18. Rear floor side member reinforcement
19. Rear floor side member
20. Trailing arm mounting reinforcement
21. Rear floor side front member
22. Parking brake cable mounting bracket
23. Parking brake aperture panel
24. Center floor side member
25. Side sill inner panel
26. Side inner panel
27. Front side rear member
28. Front side rear lower reinforcement
29. Front side rear lower member
30. Front side member rear lower extension
31. Front side outer member
32. Transmission mounting bracket
33. Front side inner member
34. Battery tray leg reinforcement
35. Fender apron inner front panel
36. Fender apron inner panel
37. Cowl under cover extension
38. Front shock absorber cover panel
39. Fender apron upper member
40. Apron upper reinforcement
41. Hood inner panel
42. Hood outer panel
43. Cowl inner lower panel
44. Cowl side outer panel
45. Cowl top outer panel
46. Cowl side upper outer member
47. Cowl inner rear panel
48. Fender panel
49. Front door upper mounting reinforcement
50. Front pillar outer bracket
51. Front door lower mounting bracket
52. Side outer panel
53. Side outer reinforcement
54. Center pillar outer upper reinforcement
55. Center pillar outer lower reinforcement
56. Rear door lower mounting bracket
57. Fuel filler housing
58. Quarter outer rear lower extension
59. Quarter outer rear upper extension
60. Rear combination lamp housing panel
61. Side roof rear lower reinforcement
62. Quarter inner panel
63. Rear spring house cover
64. Wheel house inner front extension
65. Wheel house inner panel
66. Front door outer panel
67. Front door inner panel
68. Front door frame rear reinforcement

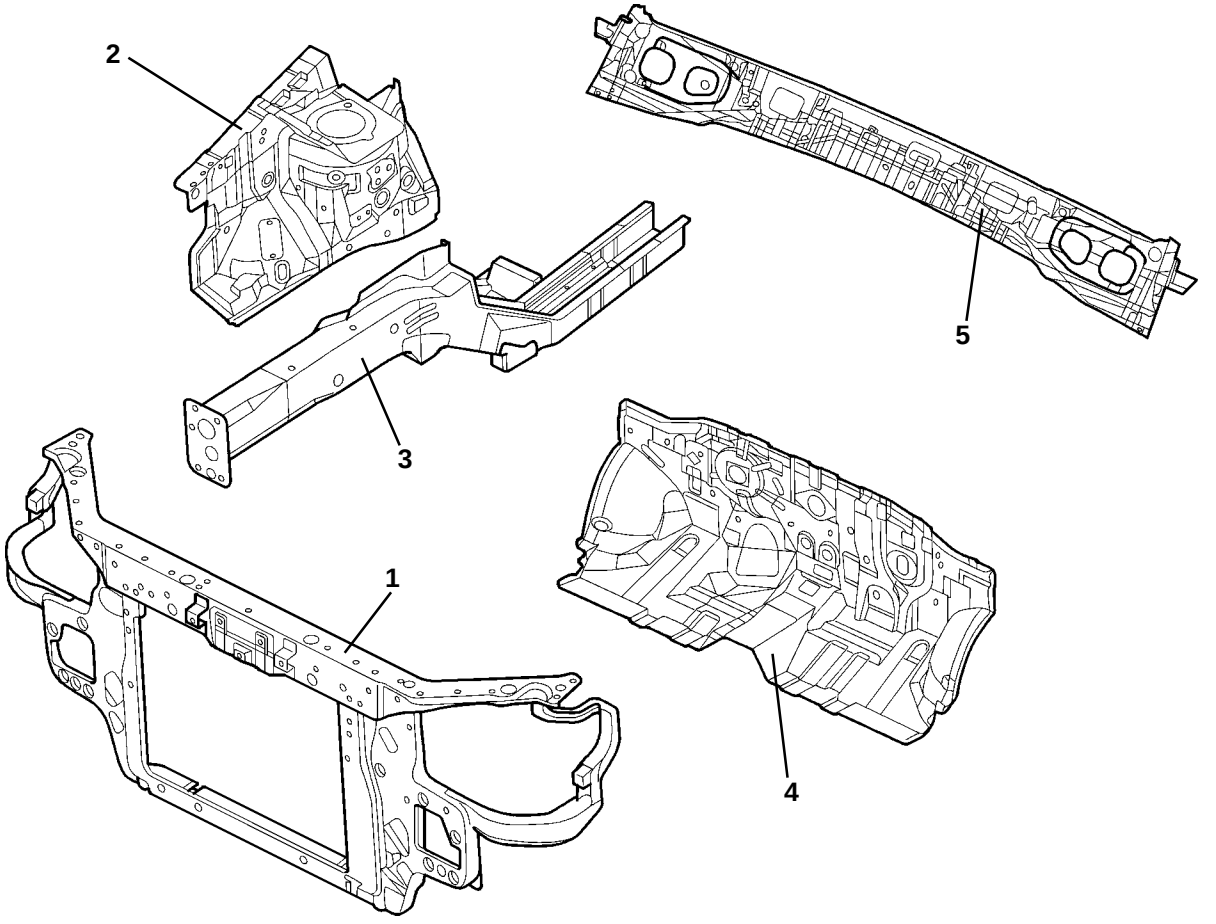
HIGH STRENGTH STEEL PANELS

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



1. Radiator support center panel
2. Brake booster reinforcement
3. Dash lower center reinforcement
4. Front seat mounting rear side bracket
5. Rear floor front cross member
6. Towing hook bracket
7. Rear seat rear bracket
8. Rear floor center cross member
9. Tail gate outer panel
10. Rear door reinforcement beam
11. Rear door outer panel
12. Rear floor side member extension
13. Rear floor side member reinforcement
14. Rear floor side member
15. Trailing arm mounting reinforcement
16. Rear floor side front member
17. Parking brake aperture panel
18. Front seat mounting rear inner bracket
19. Front seat cross member
20. Center floor front reinforcement
21. Center floor side member
22. Side sill inner panel
23. Side inner panel
24. Front side rear member
25. Front side rear lower reinforcement
26. Front side rear lower member
27. Front side member rear lower extension
28. Front side outer member
29. Transmission mounting bracket
30. Front side inner member
31. Battery tray leg reinforcement
32. Fender apron inner front panel
33. Fender apron inner panel
34. Cowl under cover extension
35. Front shock absorber cover panel
36. Fender apron upper member
37. Apron upper reinforcement
38. Hood outer panel
39. Cowl inner lower panel
40. Cowl side outer panel
41. Cowl top outer panel
42. Cowl side upper outer member
43. Cowl inner rear panel
44. Fender panel
45. Front door upper mounting reinforcement
46. Front pillar outer bracket
47. Front door lower mounting bracket
48. Side outer reinforcement
49. Center pillar outer upper reinforcement
50. Center pillar outer lower reinforcement
51. Rear door lower mounting bracket
52. Front pillar inner upper reinforcement
53. Front side belt upper mounting bracket
54. Assist hold mounting bracket
55. Roof side inner rail
56. Tail gate lifter bracket
57. Roof rear upper rail
58. Roof rear lower rail
59. Roof rear center rail
60. Roof center rail
61. Side roof rear lower reinforcement
62. Side roof reinforcement ring
63. Roof center front rail
64. Roof front rail
65. Roof panel
66. Quarter inner upper reinforcement
67. Quarter pillar inner reinforcement
68. Rear spring house cover
69. Front door outer panel
70. Front door hinge lower bracket
71. Front door belt outer rail
72. Front door belt inner rail
73. Front door reinforcement beam

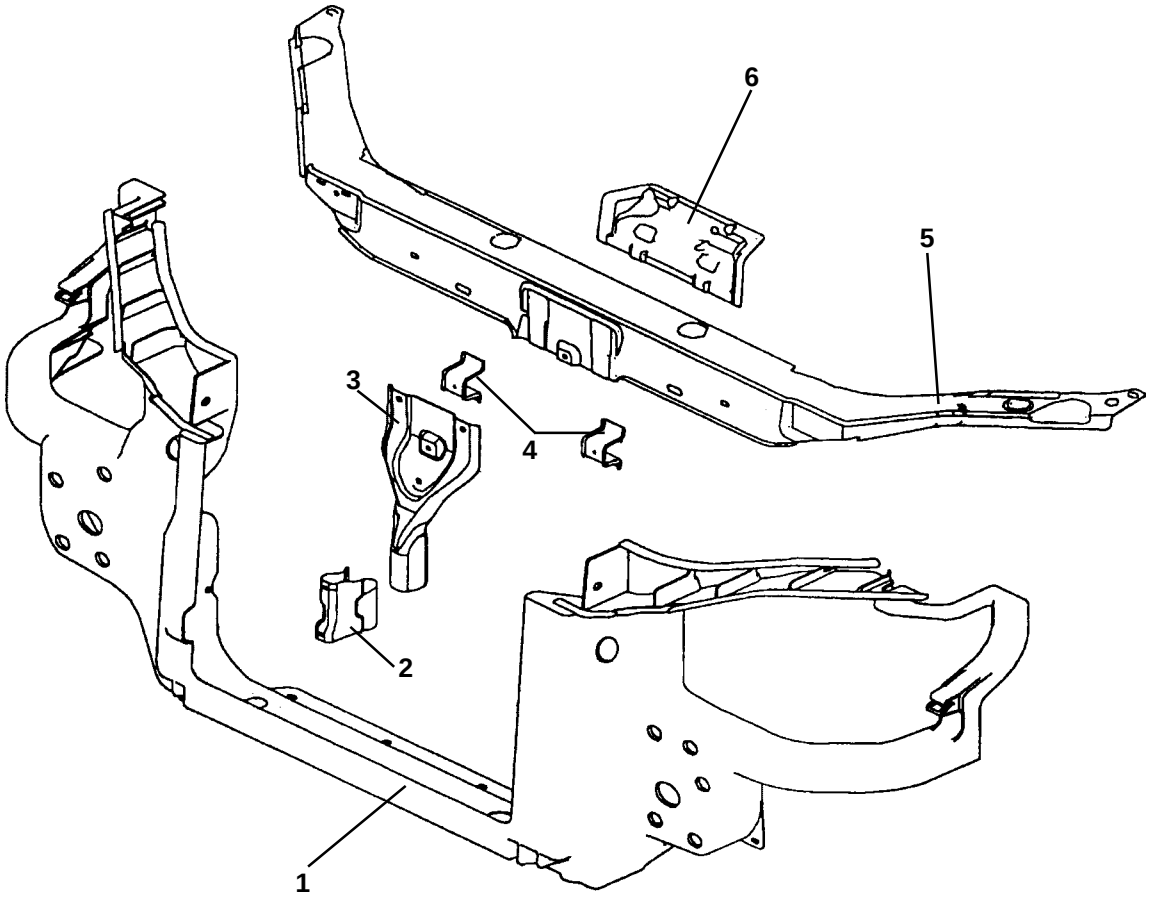
FRONT BODY



TB-60

No.	PART NAME	
1	Radiator support complete member assembly	
2	Fender apron panel assembly	LH/RH
3	Front side member assembly	LH/RH
4	Dash panel assembly	
5	Cowl panel assembly	

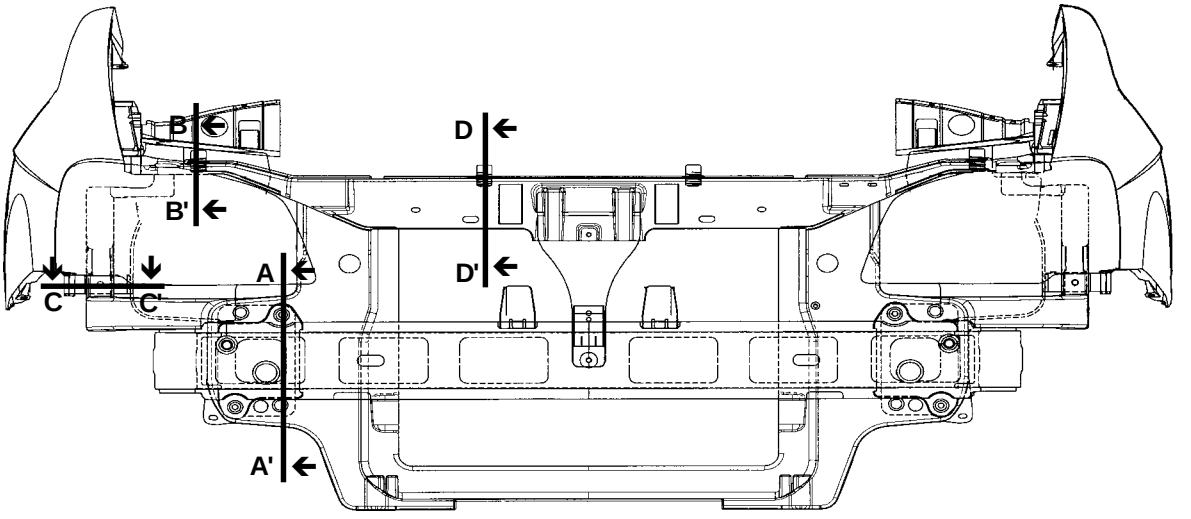
1. RADIATOR SUPPORT PANEL



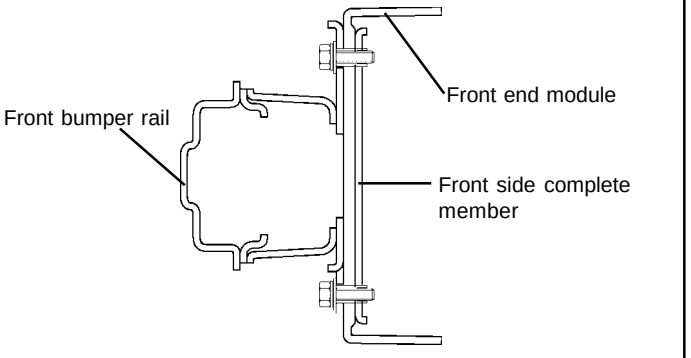
TB-70

No.	PART NAME
1	Plastic carrier
2	Radiator support center extension
3	Radiator support center panel
4	Horn mounting bracket
5	Radiator support upper center panel
6	Radiator support center reinforcement

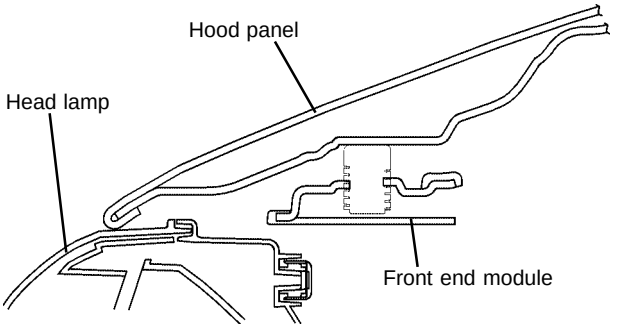
<Cross-Sectional Views>



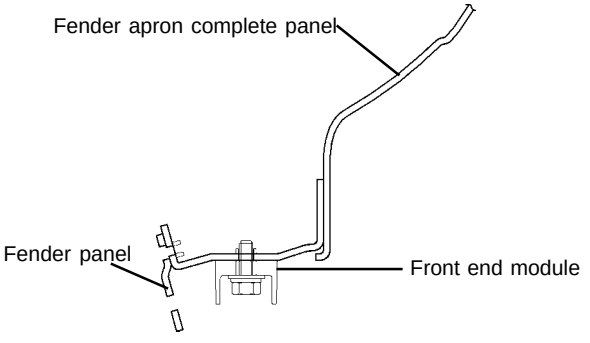
TB-80



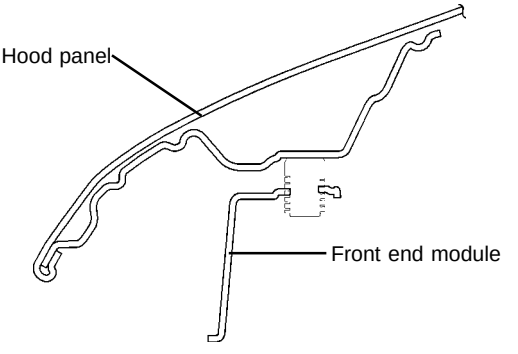
SECTION A-A' 80-1



SECTION B-B' 80-2

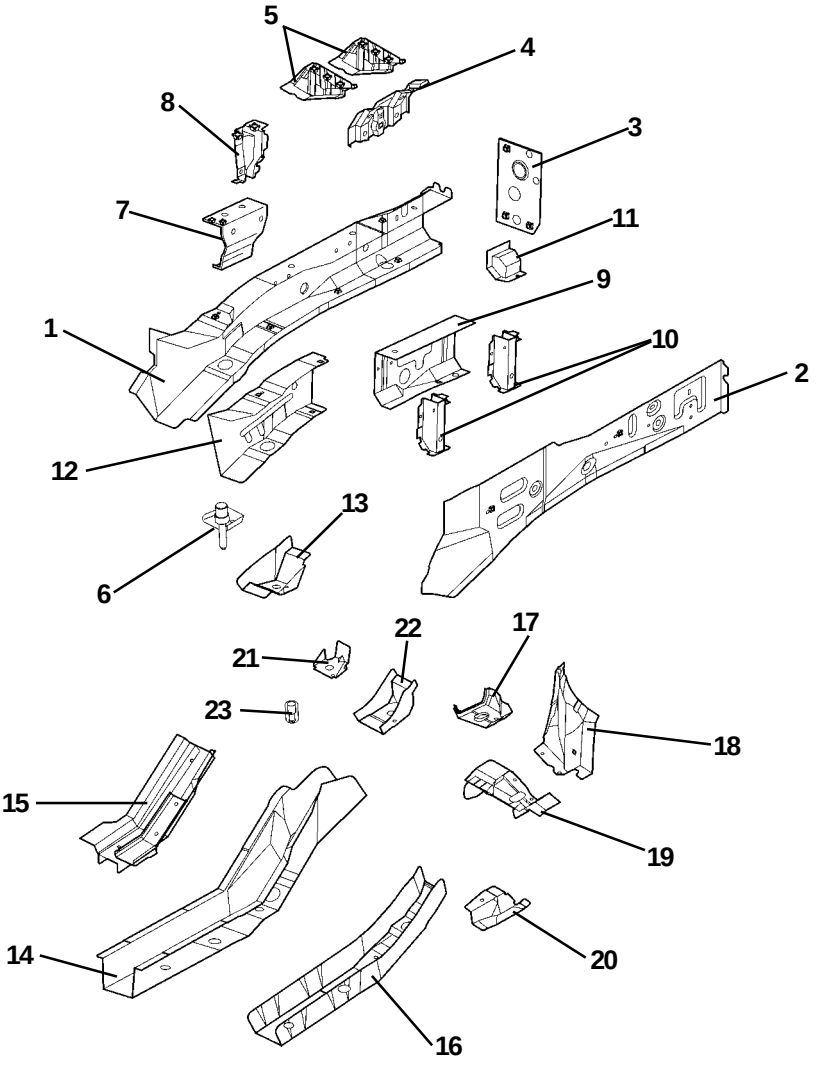


SECTION C-C' 80-3



SECTION D-D' 80-4

2. FRONT SIDE MEMBER

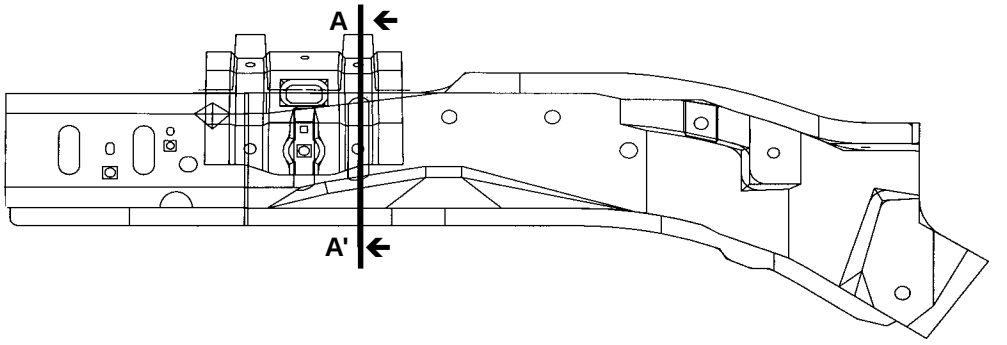


TB-130

No.	PART NAME	No.	PART NAME
1	Front side inner member	13	Cross member mounting front bracket
2	Front side outer member	14	Front side rear lower member
3	Carrier mounting bracket	15	Front side rear upper member
4	Battery try leg reinforcement	16	Front side rear lower reinforcement
5	Battery try leg bracket	17	Front tie down bracket
6	Center member mounting front reinforcement	18	Front side rear lower bracket
7	Transmission mounting bracket	19	Front side rear lower extension
8	Transmission mounting front support	20	Front side rear lower support
9	Engine mounting front support	21	Cross member mounting rear reinforcement
10	Engine mounting front bracket	22	Cross member mounting rear bracket
11	Front towing hook mounting bracket	23	Pipe nut (M14)
12	Front side inner reinforcement		

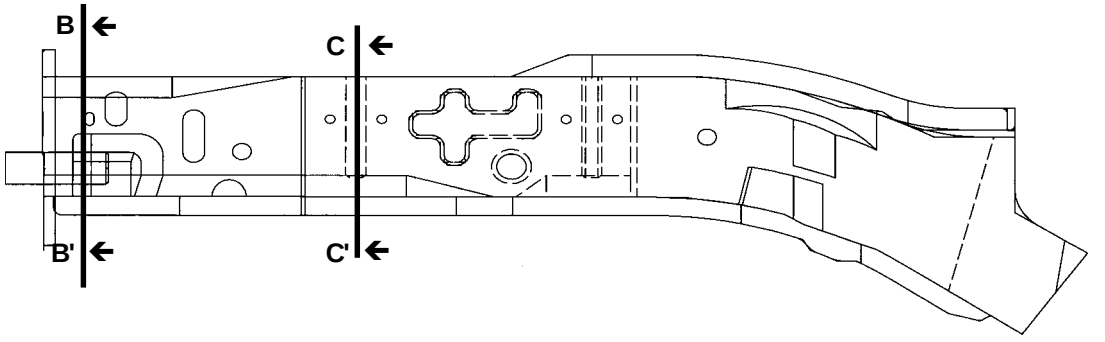
<Cross-Sectional Views>

LH

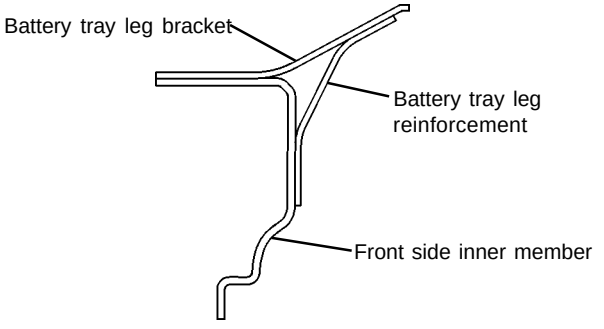


TB-140A

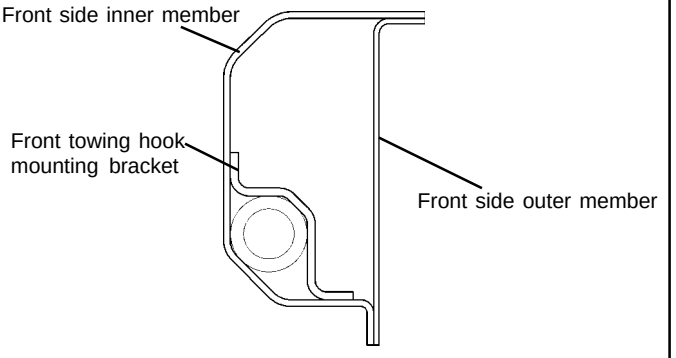
RH



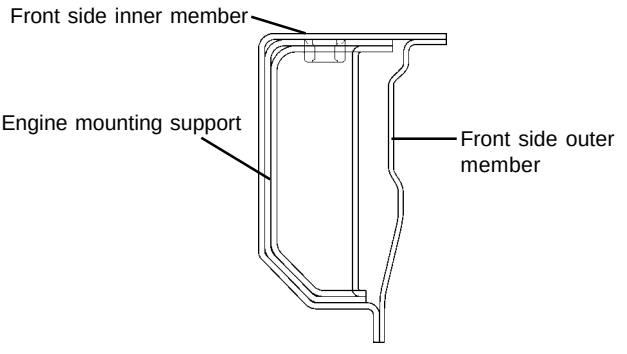
TB-140



SECTION A-A' 140-3

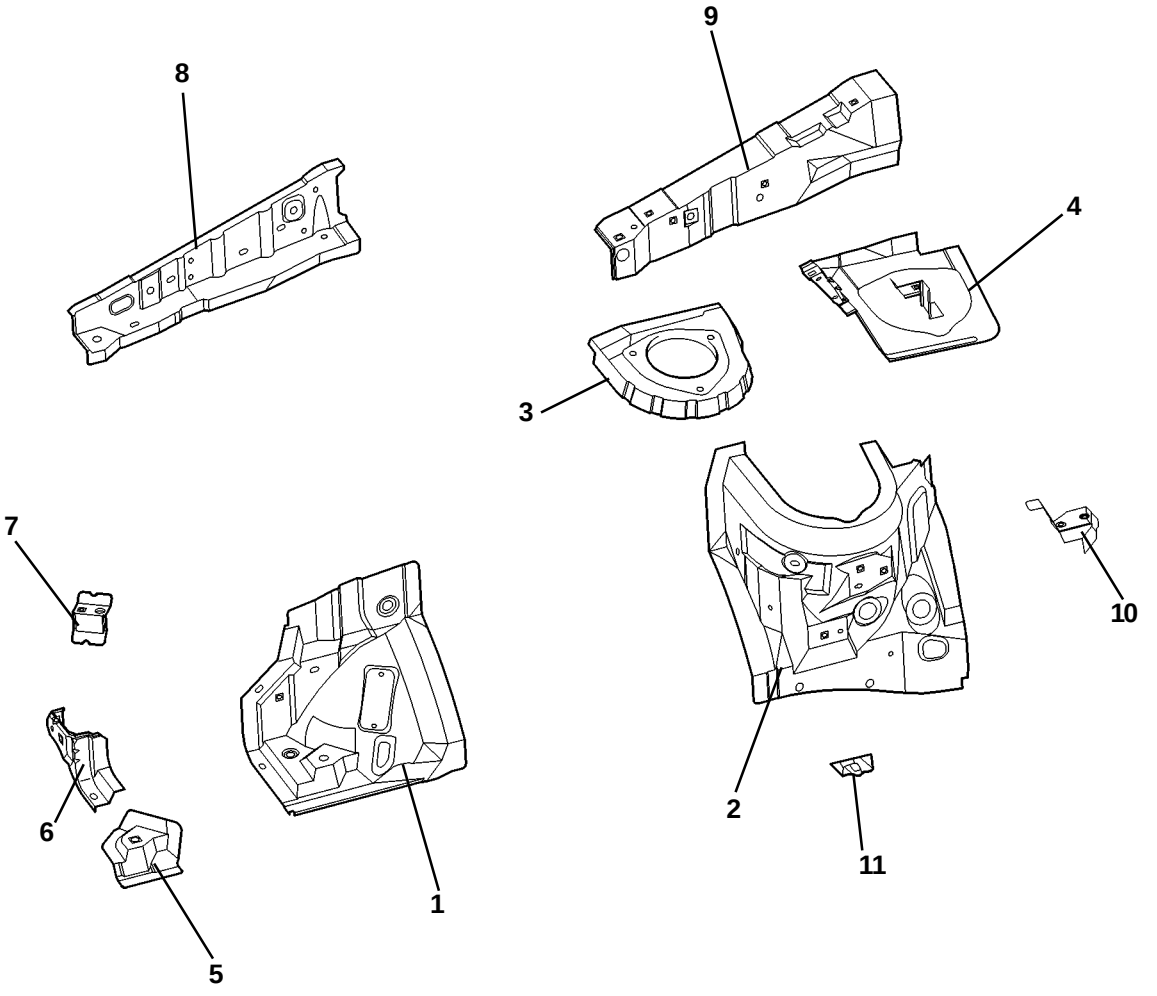


SECTION B-B' 140-1



SECTION C-C' 140-2

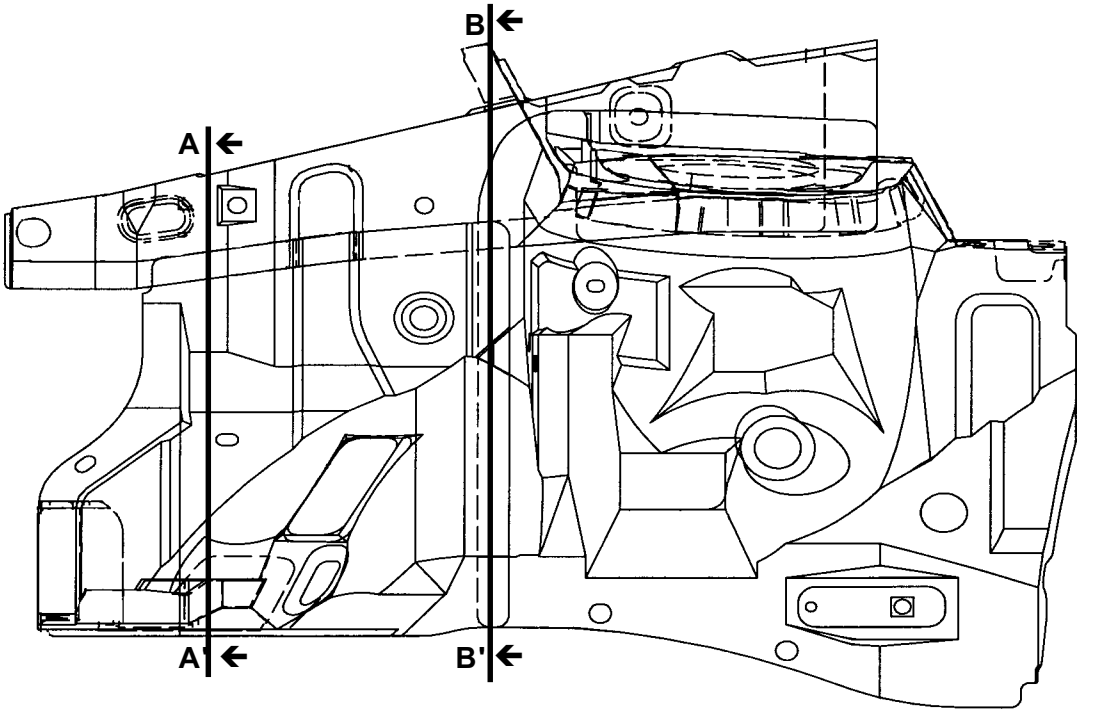
3. FENDER APRON PANEL



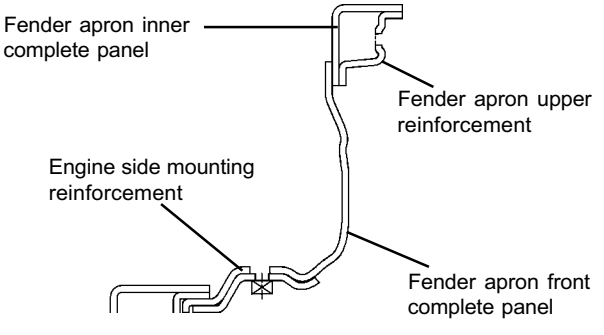
TB-180

No.	PART NAME
1	Fender apron inner front panel
2	Fender apron inner panel LH/RH
3	Front shock absorber cover panel LH/RH
4	Cowl under cover extension assembly LH/RH
5	Engine side mounting reinforcement
6	Fender mounting bracket LH/RH
7	Washer reservoir mounting bracket
8	Fender apron upper reinforcement LH/RH
9	Fender apron upper member LH/RH
10	Fender apron rear bracket LH/RH
11	Brake hose mounting bracket

<Cross-Sectional Views>

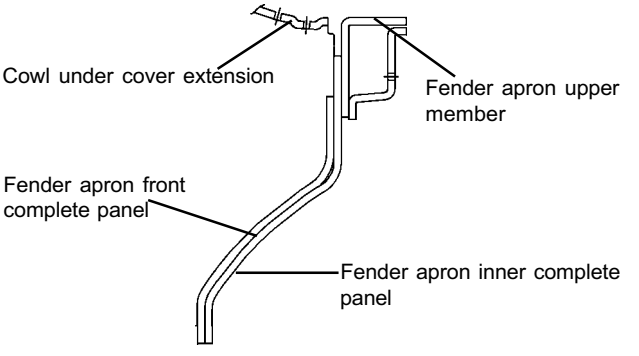


TB-190



SECTION A-A'

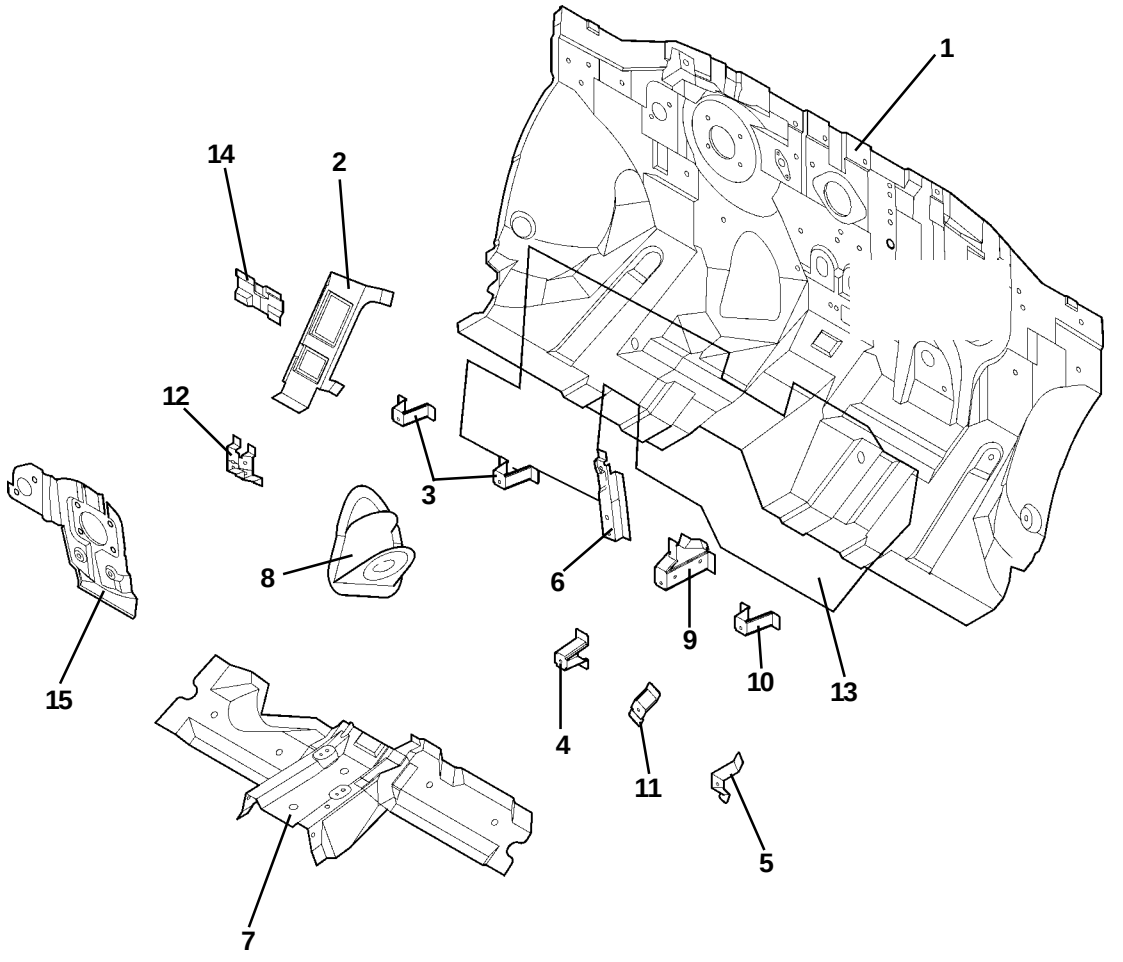
190-1



SECTION B-B'

190-2

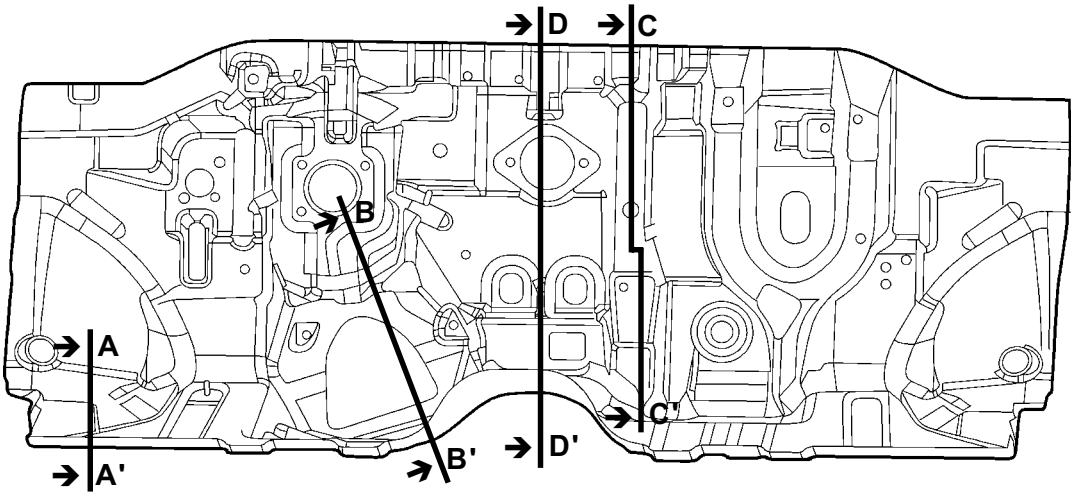
4. DASH PANEL



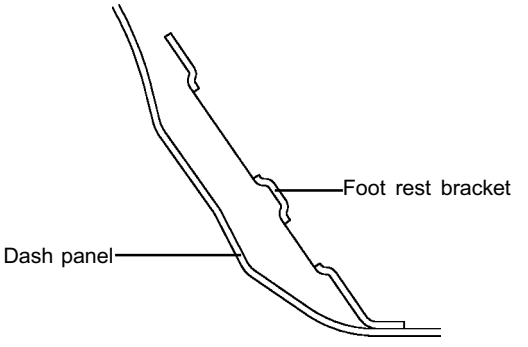
TB-220

No.	PART NAME	No.	PART NAME
1	Dash panel	9	Evaporator upper mounting bracket LH
2	Foot rest bracket	10	Evaporator upper mounting bracket RH
3	Heater upper mounting bracket	11	Evaporator lower mounting bracket
4	Heater lower mounting bracket	12	Electronic control unit mounting bracket
5	Blower mounting bracket	13	Dash panel antivibration pad
6	Accelerator pedal mounting bracket	14	Fuel filler mounting bracket
7	Dash lower center reinforcement	15	Brake booster reinforcement
8	Dust cover panel		

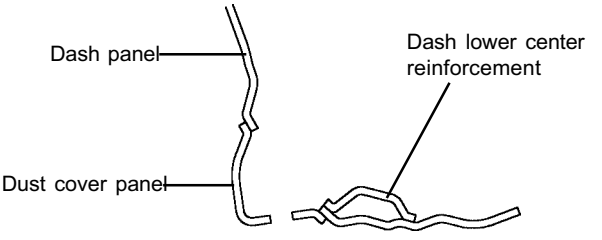
<Cross-Sectional Views>



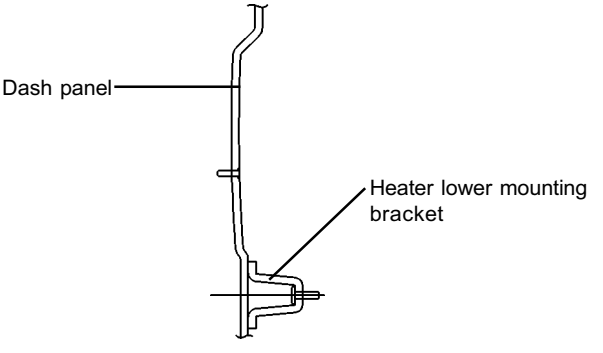
TB-230



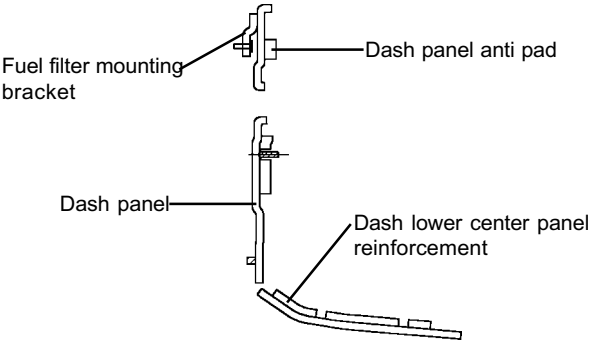
SECTION A-A' 230-1



SECTION B-B' 230-2

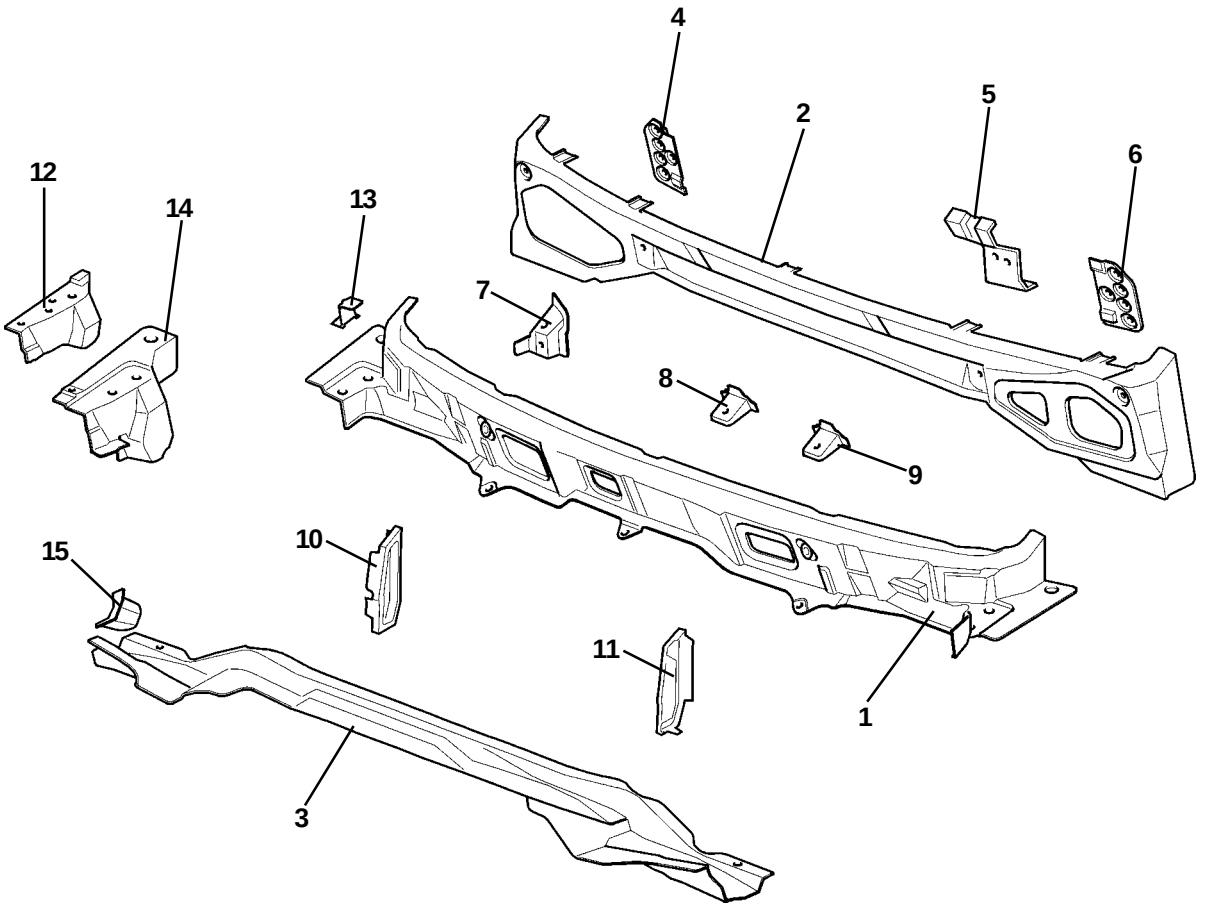


SECTION C-C' 230-3



SECTION D-D' 230-4

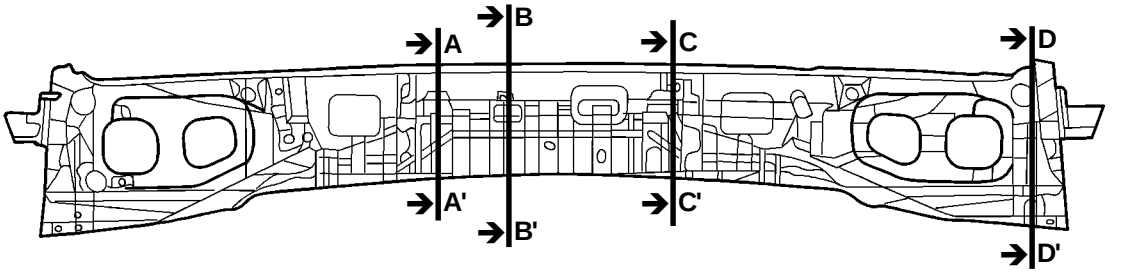
5. COWL PANEL



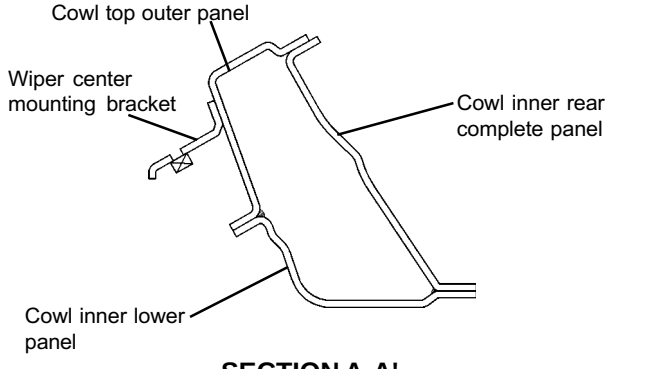
TB-280

No.	PART NAME	
1	Cowl top outer panel	
2	Cowl inner rear panel	
3	Cowl inner lower panel	
4	Cowl inner rear plate	
5	Brake bar mounting bracket	
6	Cowl inner rear plate	
7	Wiper pivot mounting side bracket	LH/RH
8	Wiper center mounting bracket	
9	Cowl under cover mounting bracket	
10	Cowl inner lower support	RH
11	Cowl inner lower support	LH
12	Cowl side outer reinforcement	LH/RH
13	Fender mounting bracket	LH/RH
14	Cowl side outer panel	LH/RH
15	Cowl inner lower side bracket	LH/RH

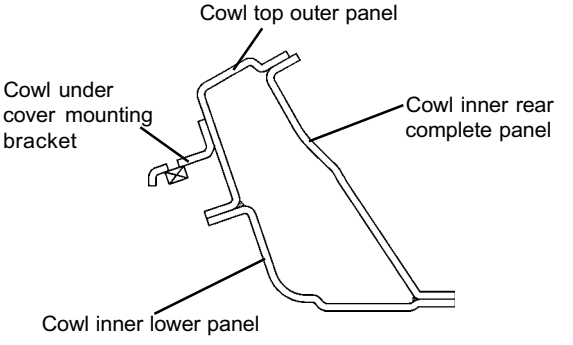
<Cross-Sectional Views>



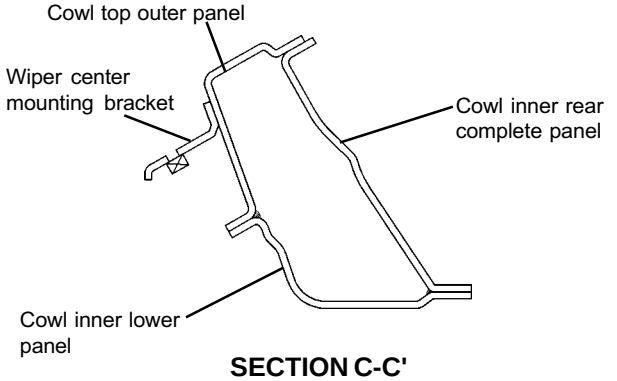
TB-290



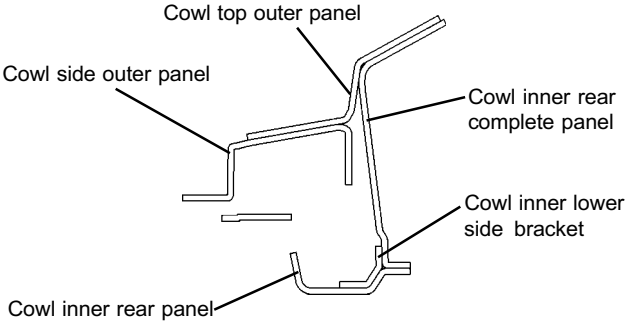
SECTION A-A' 290-1



SECTION B-B' 290-2

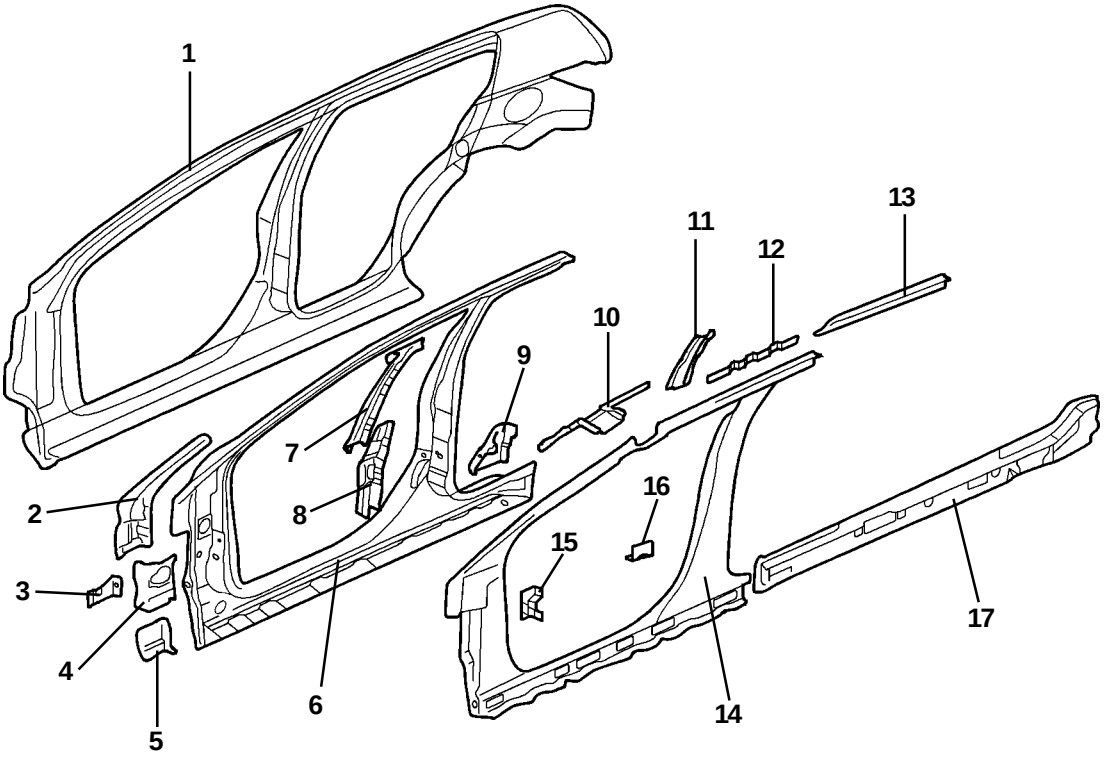


SECTION C-C' 290-1



SECTION D-D' 290-4

SIDE BODY

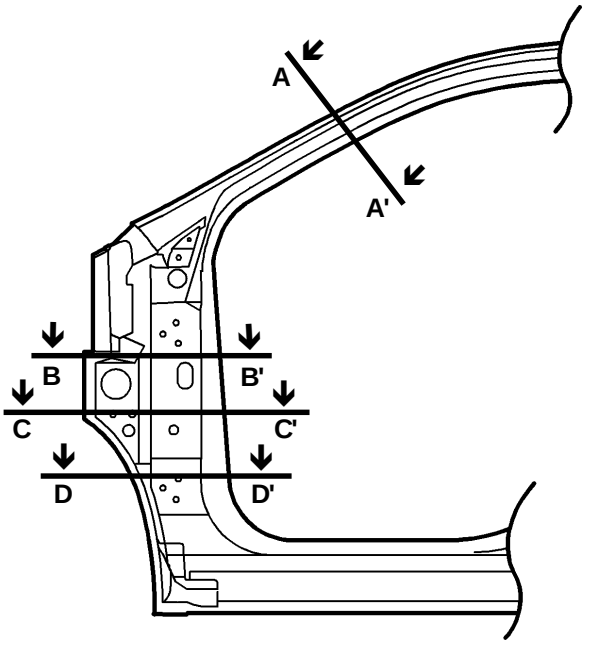


TB-340

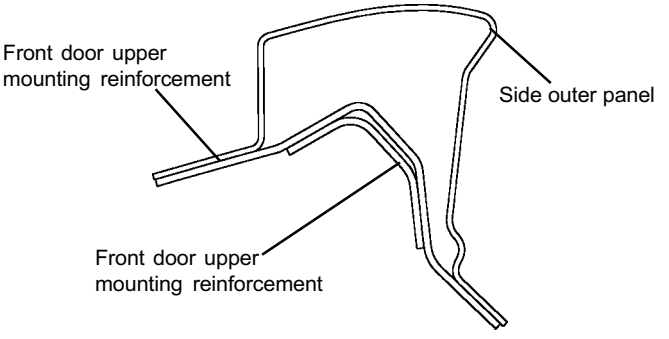
No.	PART NAME
1	Side outer panel
2	Front door upper mounting reinforcement
3	Front door checker mounting bracket
4	Front pillar outer bracket
5	Front door lower mounting bracket
6	Side outer reinforcement
7	Center pillar outer upper reinforcement
8	Center pillar outer lower reinforcement
9	Rear door lower mounting bracket
10	Front pillar inner upper reinforcement
11	Front seat belt upper mounting bracket
12	Assist handle mounting bracket
13	Roof side inner rail
14	Side inner panel
15	Cowl center bar mounting bracket
16	Front seat belt lower mounting bracket
17	Side sill inner panel

1. FRONT PILLAR

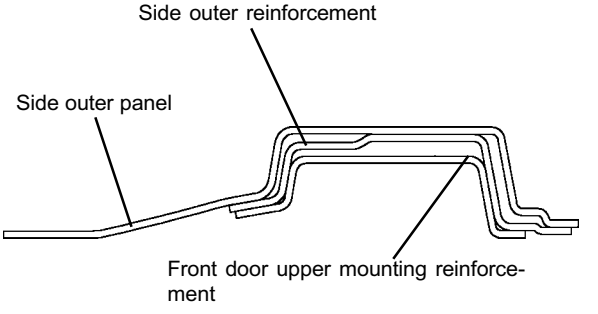
<Cross-Sectional Views>



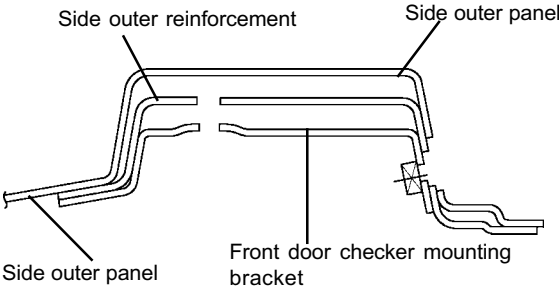
TB-350



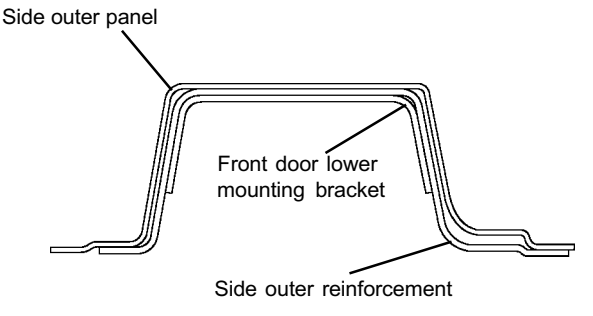
SECTION A-A' 350-1



SECTION B-B' 350-2



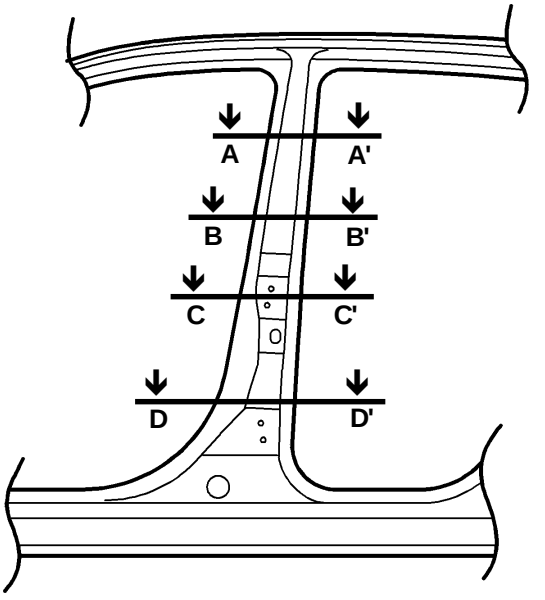
SECTION C-C' 350-3



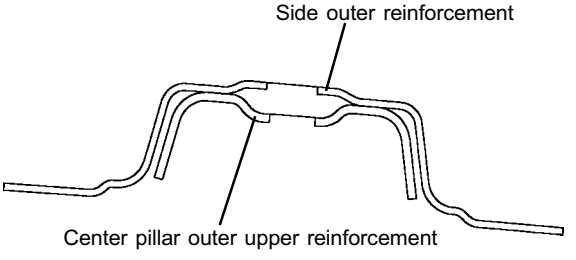
SECTION D-D' 350-4

2. CENTER PILLAR

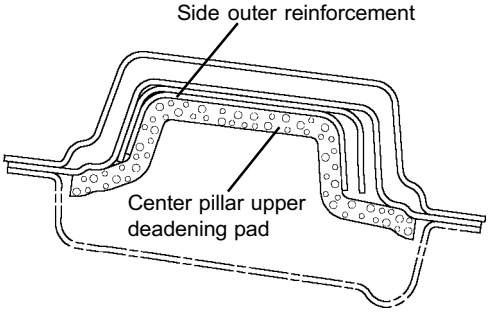
<Cross-Sectional Views>



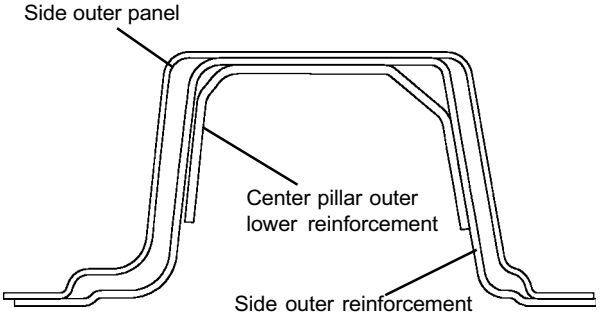
TB-400



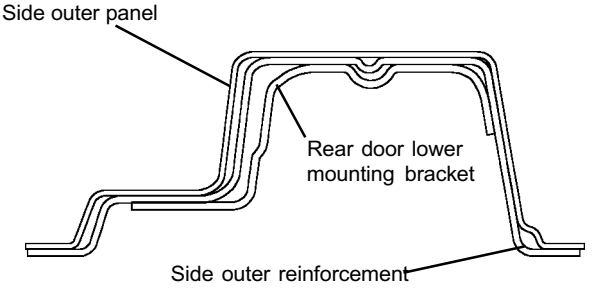
SECTION A-A' 400-1



SECTION B-B' 400-2



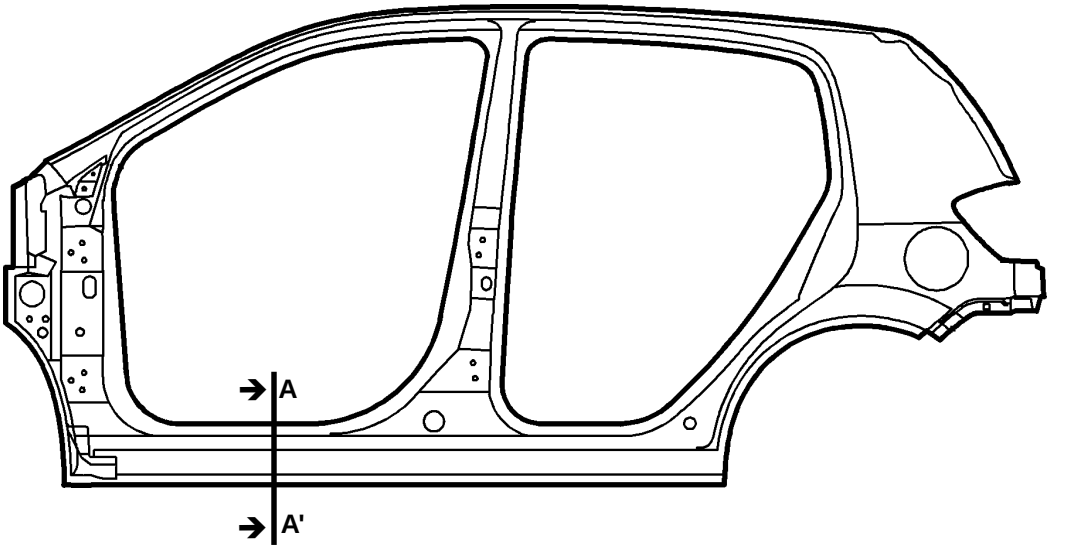
SECTION C-C' 400-3



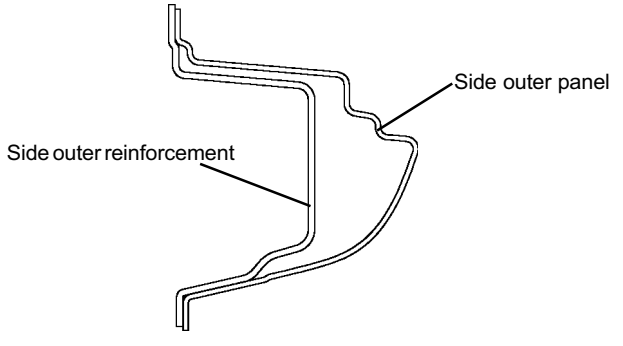
SECTION D-D' 400-4

3. SIDE SILL

<Cross-Sectional Views>



TB-0008

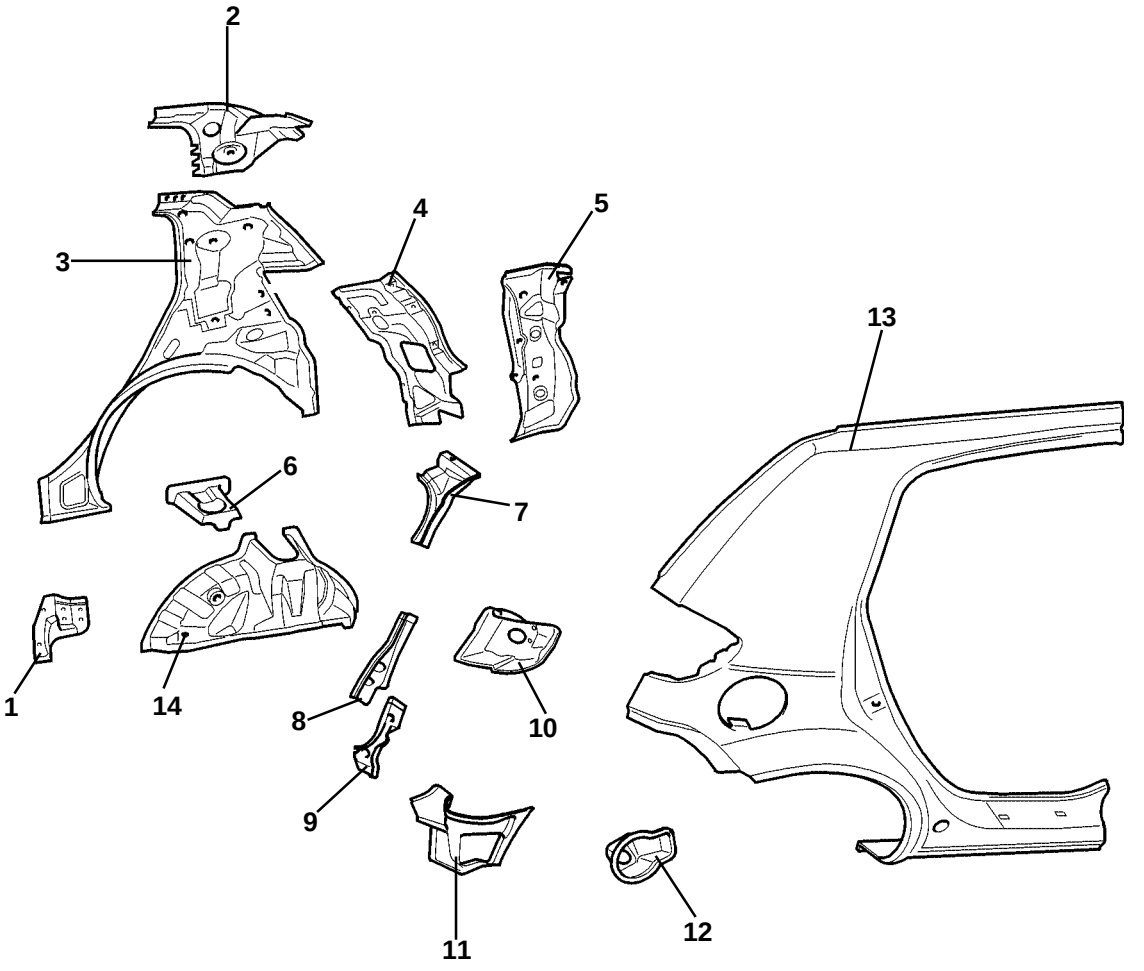


SECTION A-A'

450-1

SECTION B-B'

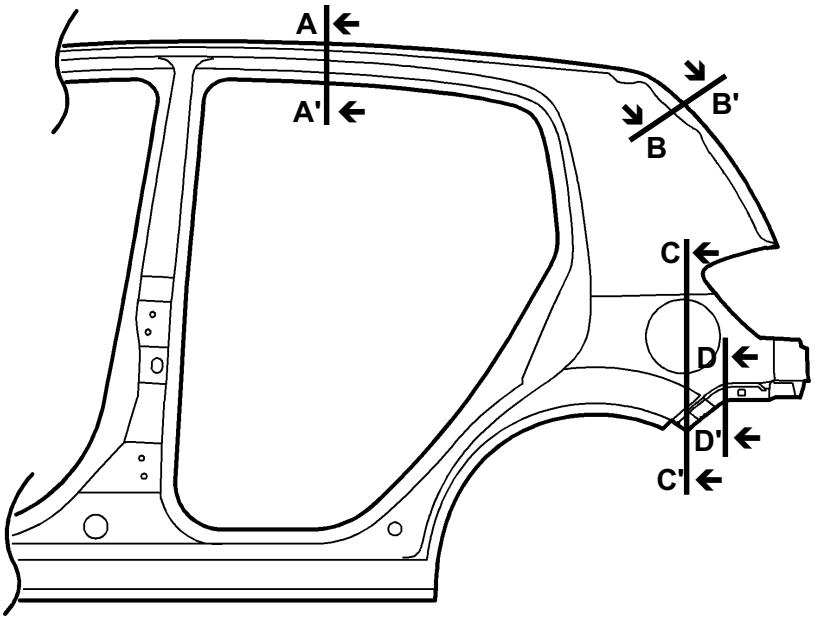
4. QUARTER PANEL



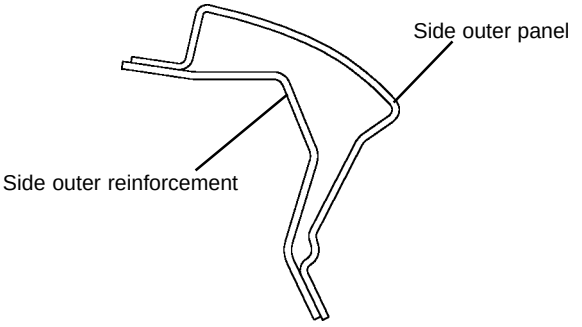
TB-480A

No	PART NAME
1	Wheel house inner front extension LH/RH
2	Quarter inner upper reinforcement assembly LH/RH
3	Quarter inner panel LH/RH
4	Quarter inner rear lower extension LH/RH
5	Quarter pillar inner reinforcement assembly LH/RH
6	Rear spring house cover LH/RH
7	Quarter outer rear upper extension LH/RH
8	Quarter outer rear center upper extension LH/RH
9	Quarter outer rear center extension LH/RH
10	Rear combination lamp housing panel LH/RH
11	Quater outer rear lower extension LH/RH
12	Fuel filler housing
13	Side outer panel LH/RH
14	Wheel house inner panel LH/RH

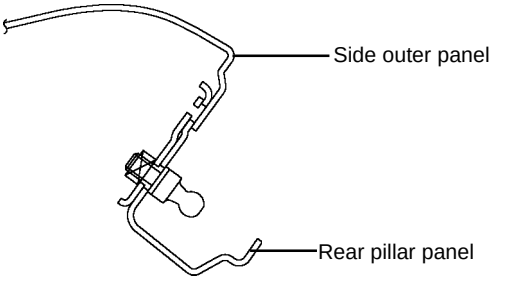
<Cross-Sectional Views>



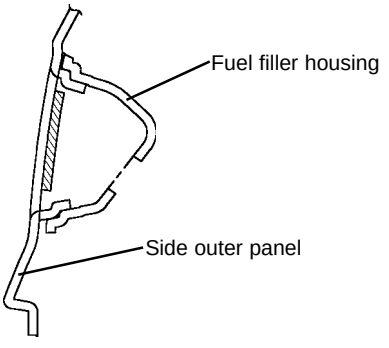
TB-08



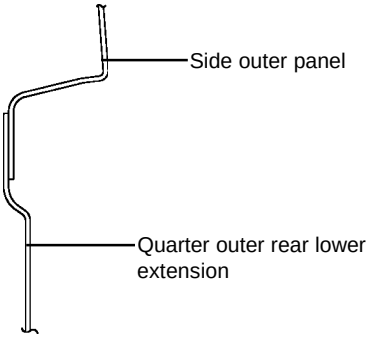
SECTION A-A' 490-1



SECTION B-B' 490-2

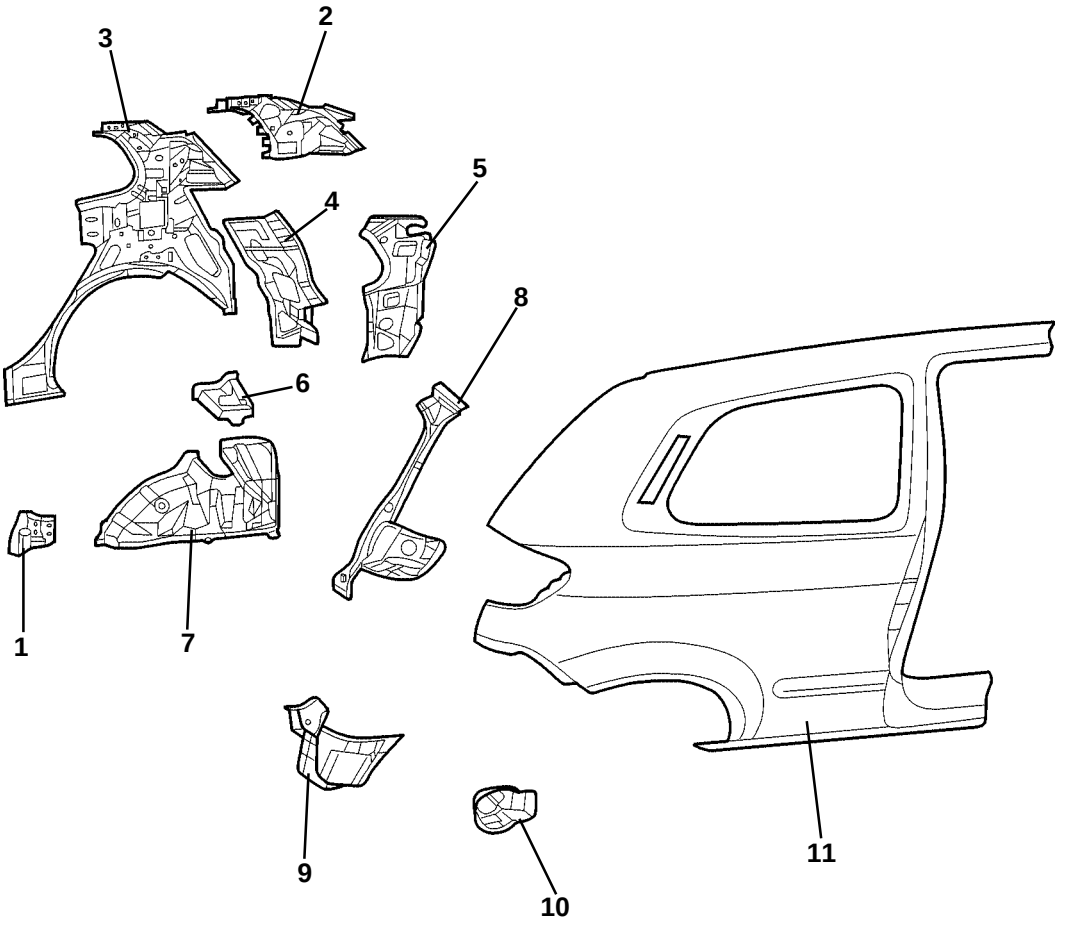


SECTION C-C' 490-3



SECTION D-D' 490-4

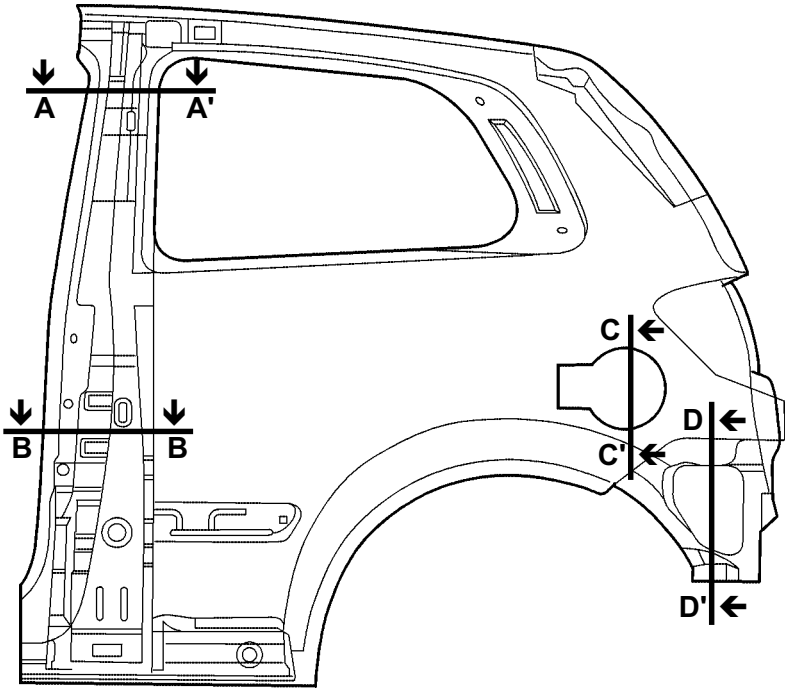
4-1. QUARTER PANEL (3DOOR)



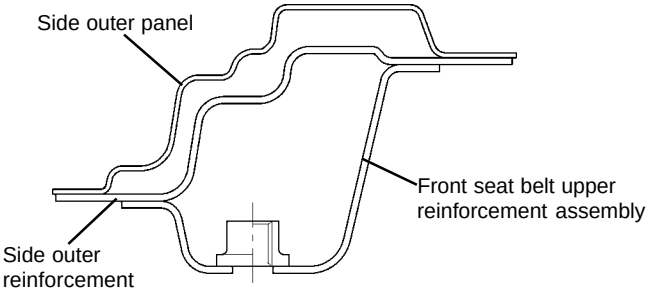
TB-0480B

No	PART NAME
1	Wheel house inner front extension LH/RH
2	Quarter inner upper reinforcement assembly LH/RH
3	Quarter inner panel LH/RH
4	Quarter inner rear lower extension LH/RH
5	Quarter pillar inner reinforcement LH/RH
6	Rear spring house cover LH/RH
7	Wheel house inner panel LH/RH
8	Rear pillar panel assembly LH/RH
9	Quarter outer rear lower extension LH/RH
10	Fuel filler housing assembly
11	Side outer panel LH/RH

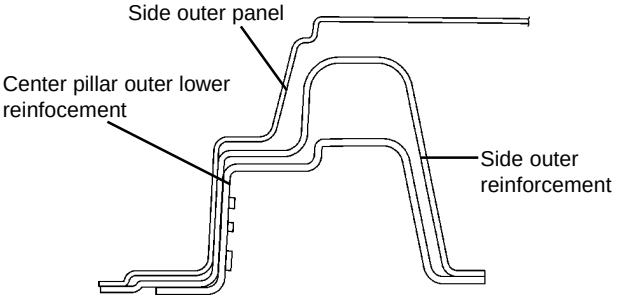
<Cross-Sectional Views>



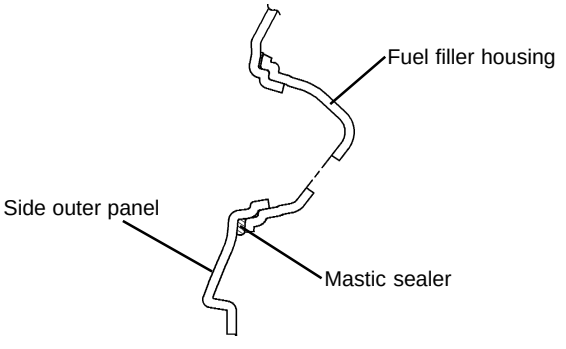
TB-809



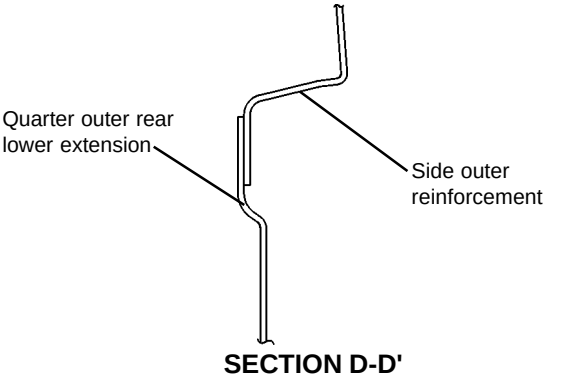
SECTION A-A' 809-3A



SECTION B-B' 809-4

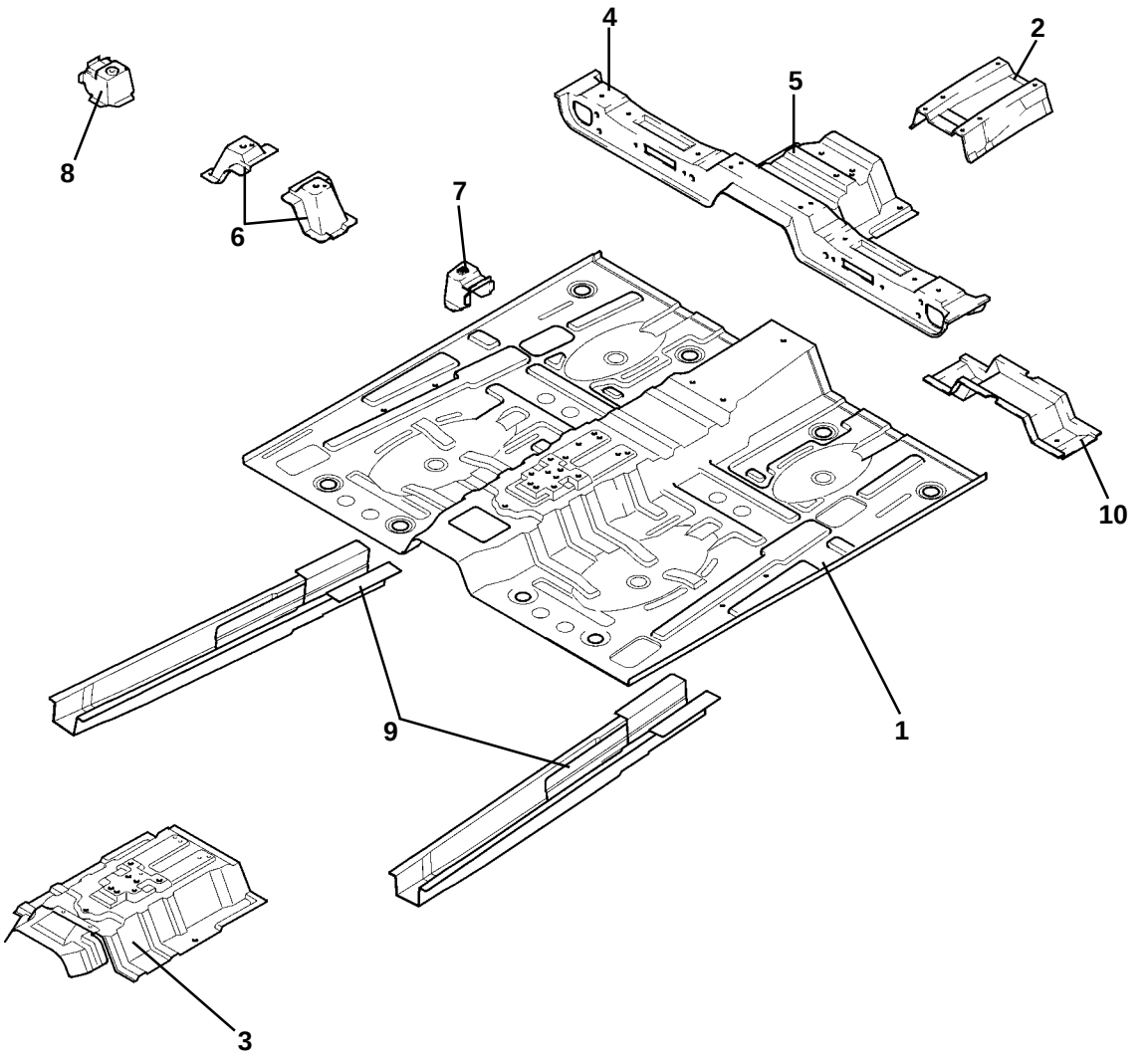


SECTION C-C' 809-3



SECTION D-D' 809-1

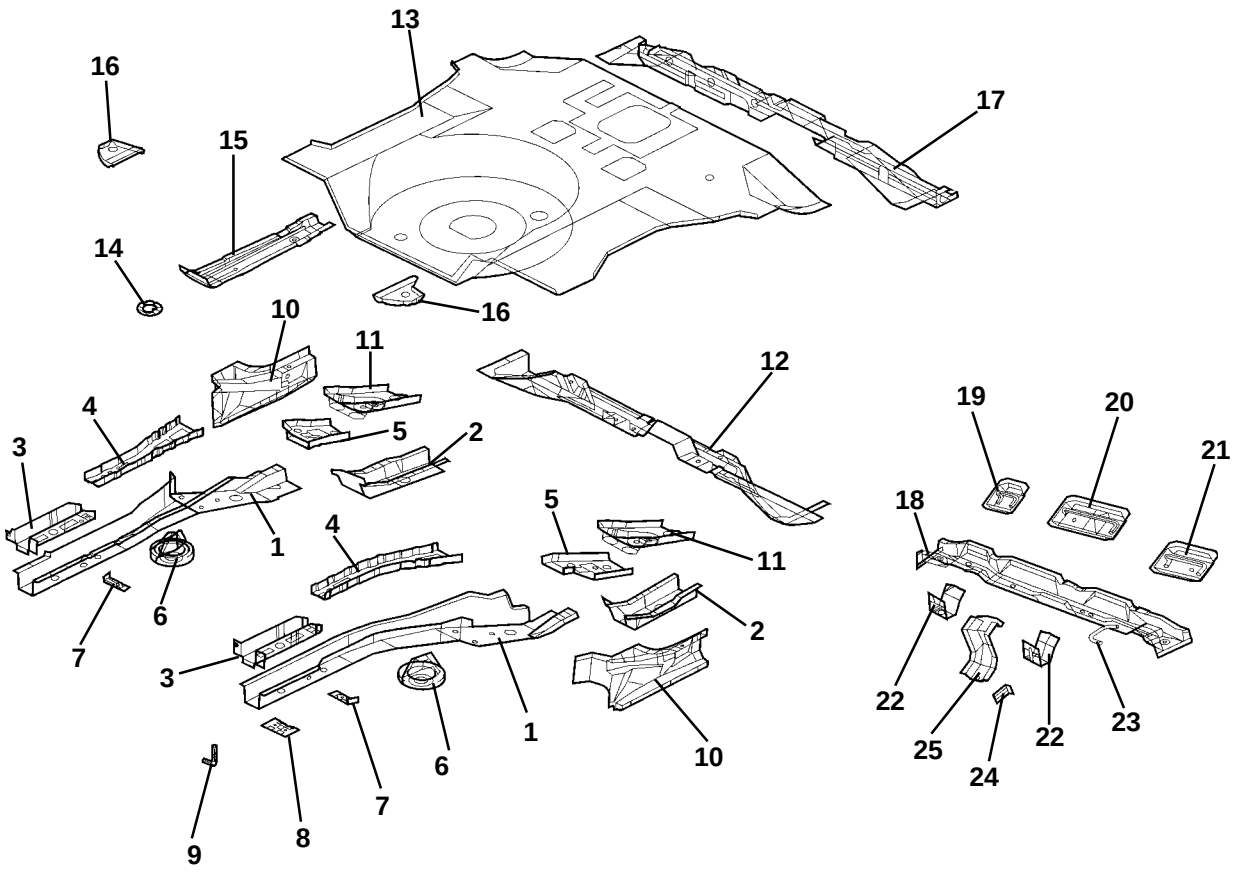
CENTER FLOOR PANEL



TB-539

No	PART NAME
1	Center floor panel
2	Center floor front reinforcement
3	Parking brake aperture panel
4	Front seat cross member
5	TGS lever mounting bracket
6	Front seat mounting rear inner bracket LH/RH
7	Front seat mounting rear side bracket LH
8	Front seat mounting rear side bracket RH
9	Center floor side member LH/RH
10	Center floor tunnel brace

REAR FLOOR & SIDE MEMBER

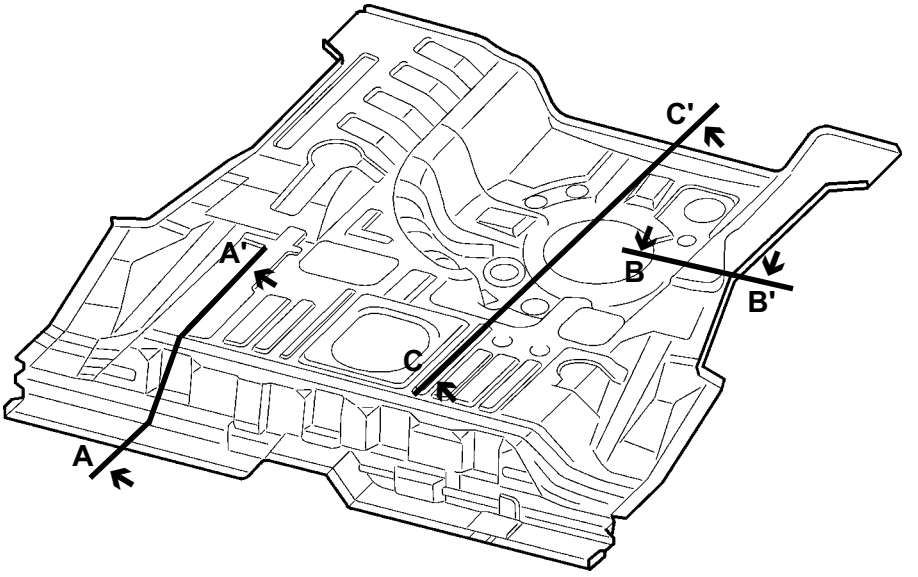


TB-540

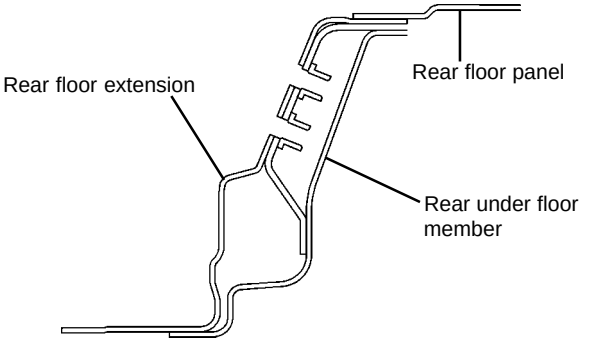
No	PART NAME		No	PART NAME	
1	Rear floor side member	LH/RH	14	Spare tire mounting bracket	
2	Rear floor side front member	LH/RH	15	Rear towing hook bracket	
3	Rear floor side member extension	LH/RH	16	Rear floor gusset	LH/RH
4	Rear floor side member reinforcement	LH/RH	17	Rear floor extension	
5	Trailing arm mounting reinforcement	LH/RH	18	Rear floor center cross member	
6	Rear suspension spring reinforcement	LH/RH	19	Rear seat rear bracket	LH
7	Trim & net mounting front bracket	LH/RH	20	Rear seat rear center bracket	
8	Trim & net mounting rear bracket		21	Rear seat rear bracket	RH
9	Muffler hanger mounting rear hook		22	Fuel tank mounting rear bracket	LH/RH
10	Side sill inner rear extension	LH/RH	23	Muffler hanger hook	
11	Trailing arm bracket	LH/RH	24	Brake hose mounting bracket	
12	Rear floor front cross member	LH/RH	25	Rear floor support bracket	
13	Rear floor panel				

1. REAR FLOOR

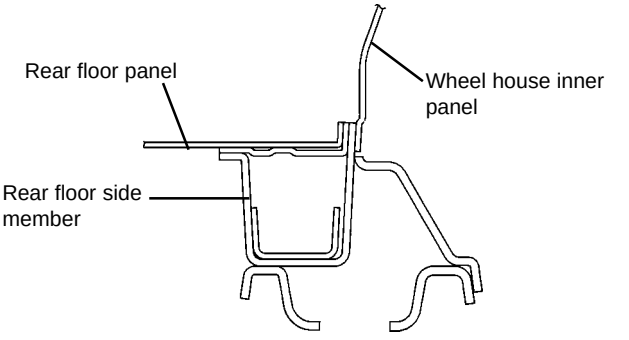
<Cross-Sectional Views>



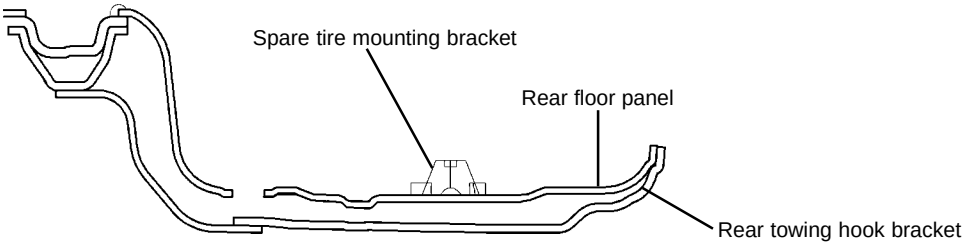
TB-550



SECTION A-A' 550-1

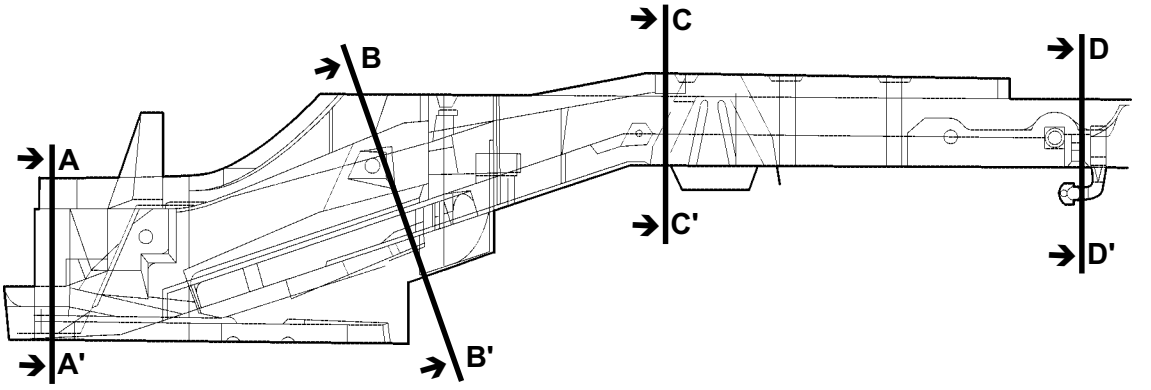


SECTION B-B' 550-2

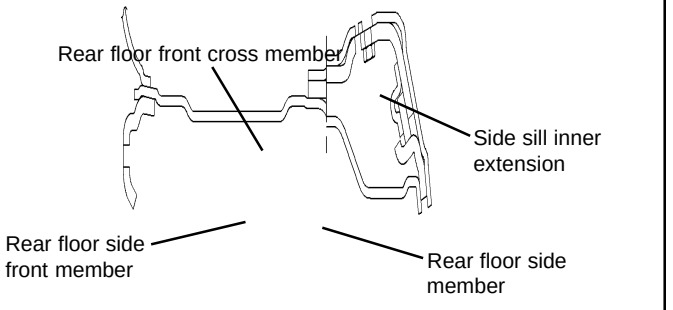


SECTION C-C' 550-3

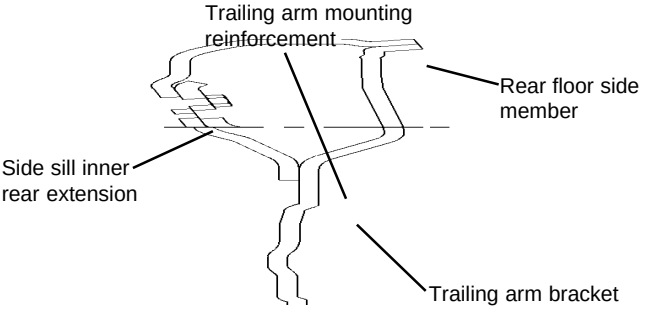
2. REAR FLOOR SIDE MEMBER



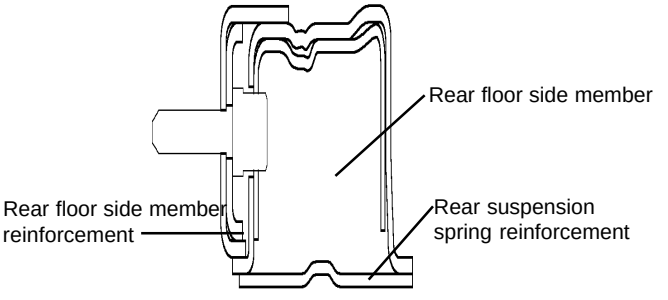
TB-600



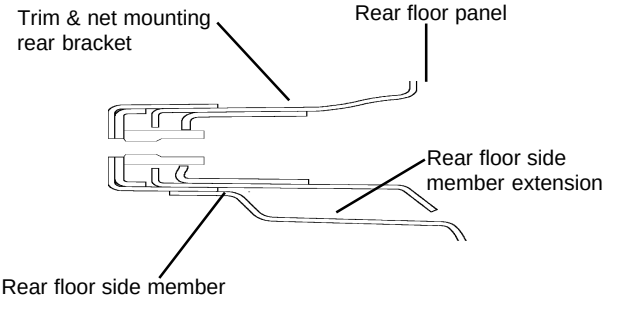
SECTION A-A' 600-1



SECTION B-B' 600-2



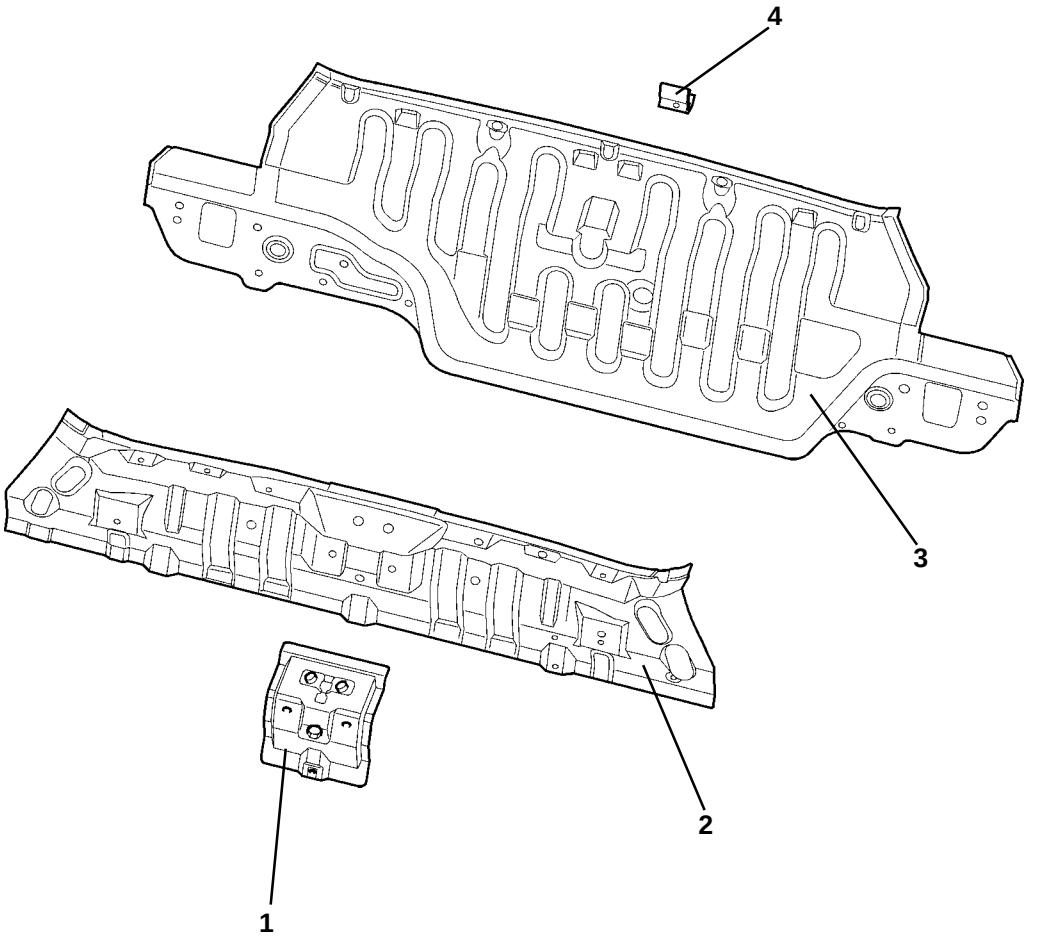
SECTION C-C' 600-3



SECTION D-D' 600-4

REAR BODY

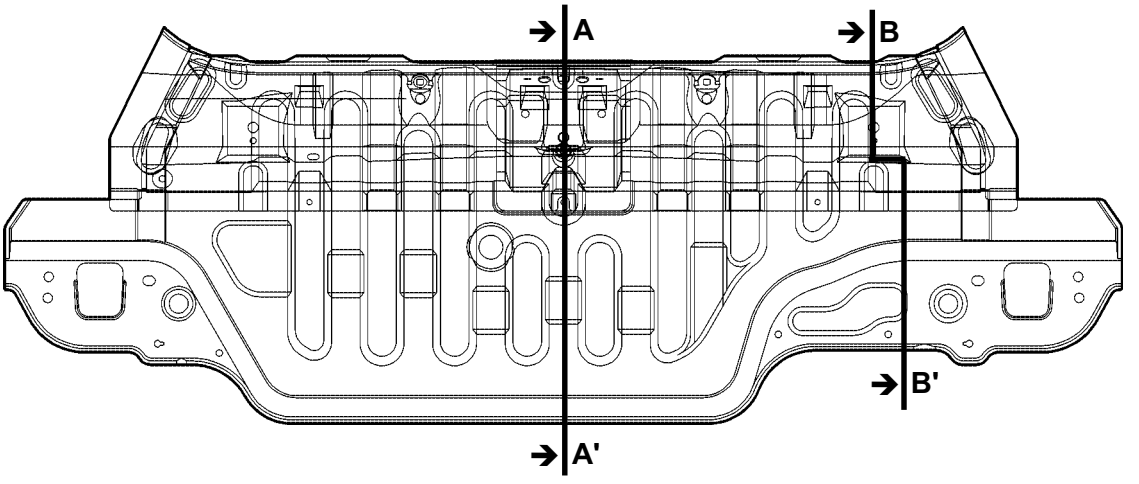
BACK PANEL



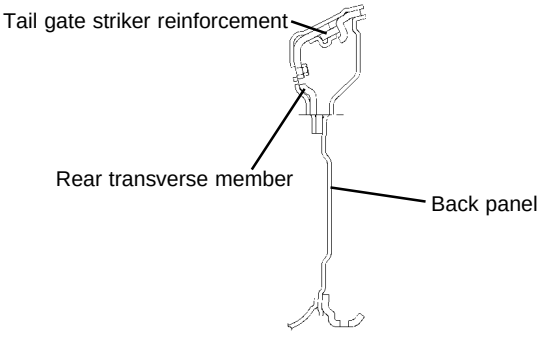
TB-650

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

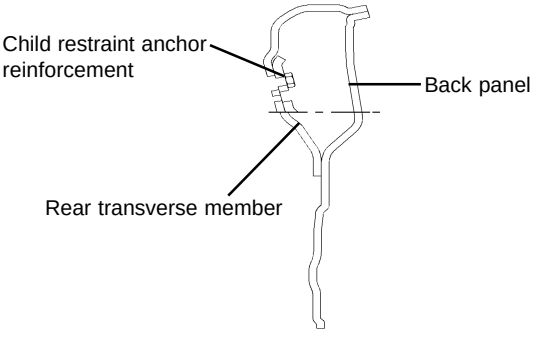
<Cross-sectional Views>



TB-0660

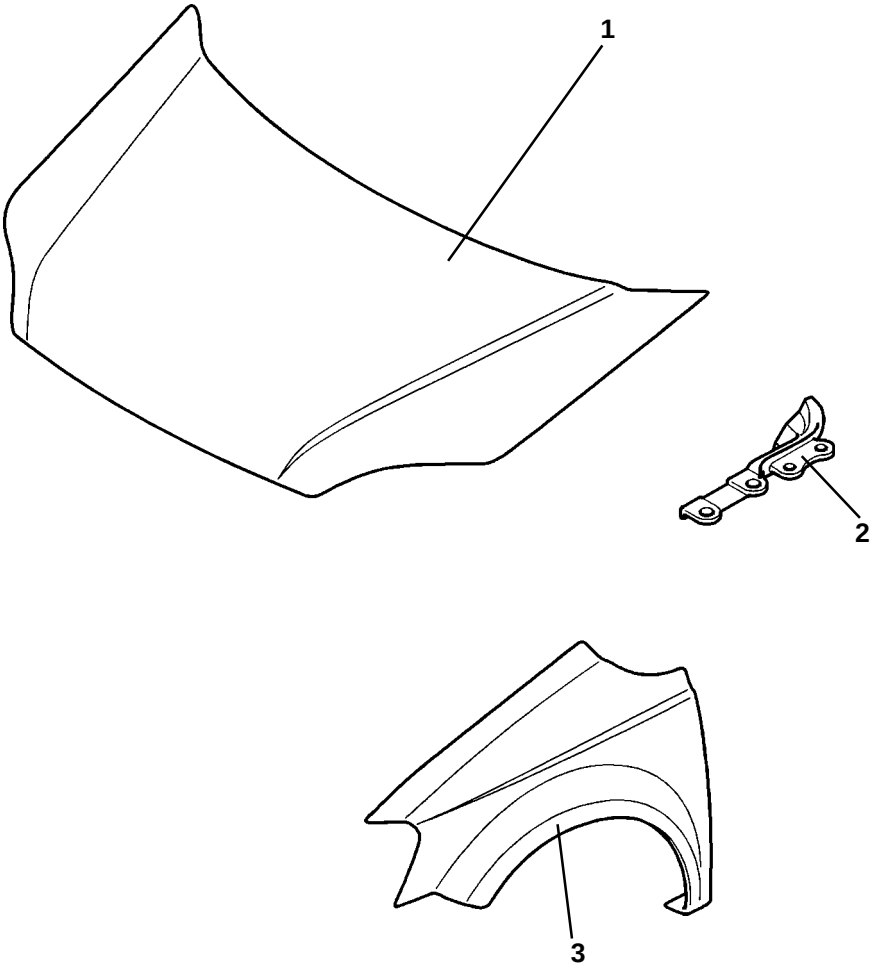


SECTION A-A' 660-1



SECTION B-B' 660-2

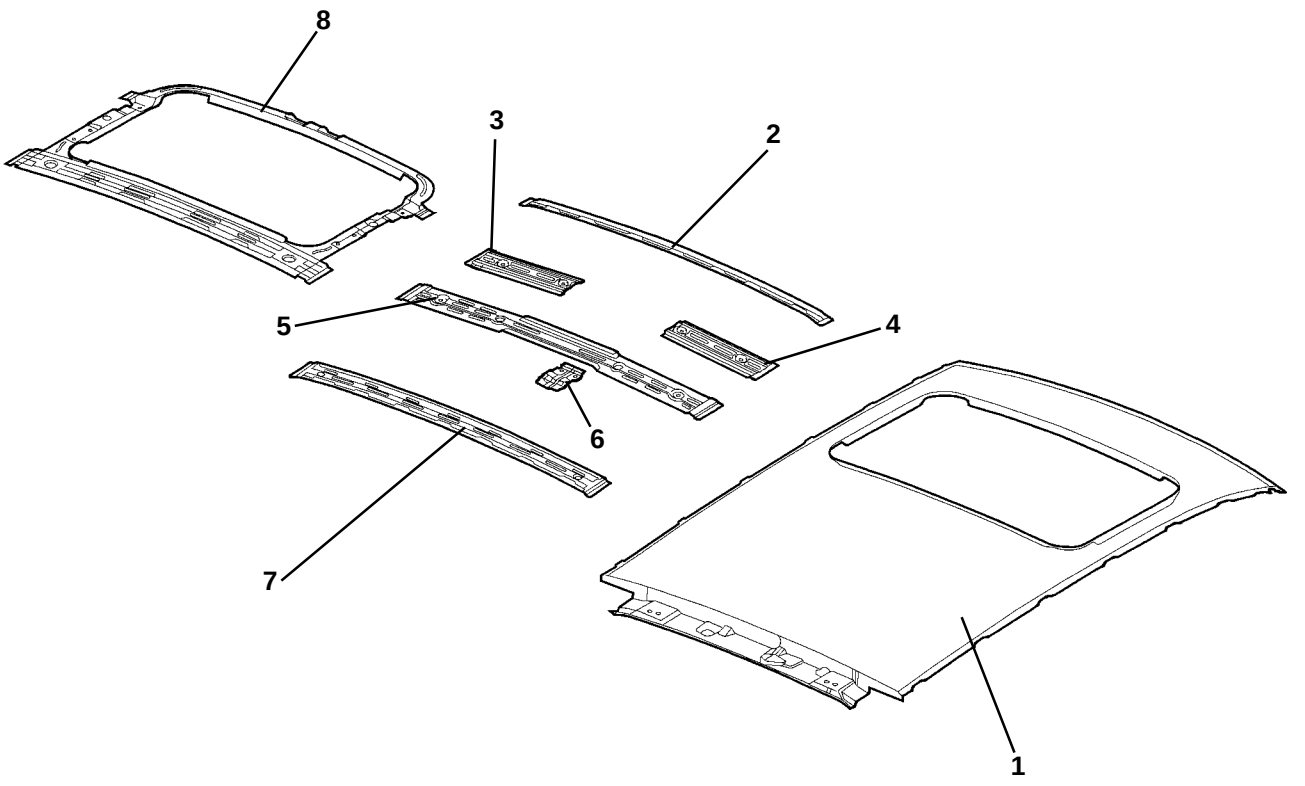
FENDER & HOOD



TB-690

No	PART NAME
1	Hood panel
2	Hinge hood side reinforcement LH/RH
3	Fender panel LH/RH

ROOF



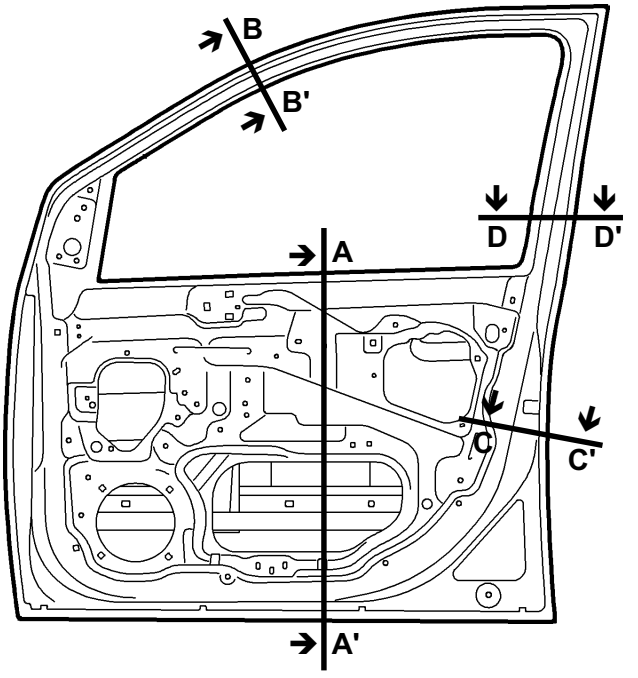
TB-700

NO	PART NAME
1	Roof panel
2	Roof center front rail
3	Roof center side rail LH
4	Roof center side rail RH
5	Roof center rail
6	Room lamp mounting bracket assembly
7	Roof center rear rail
8	Sunroof reinforcement ring assembly

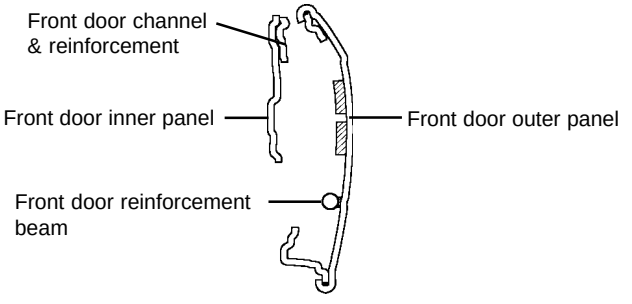
DOOR

1. FRONT DOOR

<Cross-sectional Views>

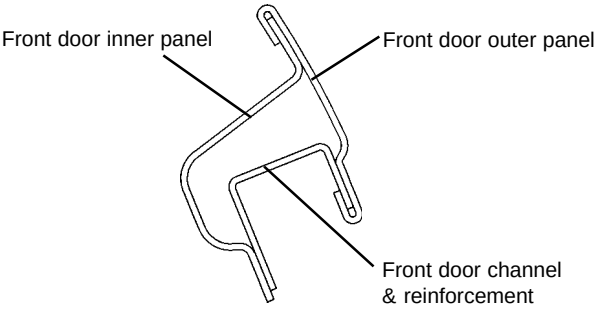


TB-710



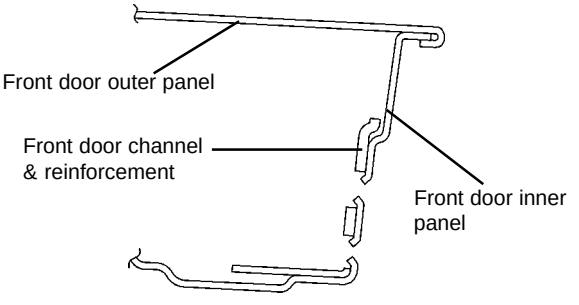
SECTION A-A'

710-1



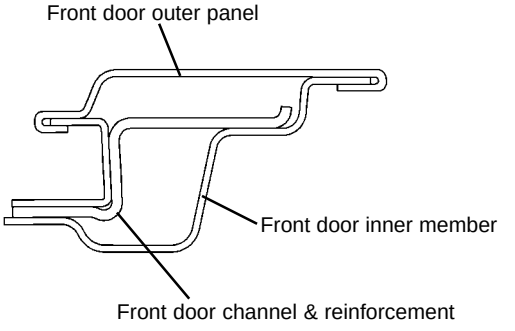
SECTION B-B'

710-2



SECTION C-C'

710-3

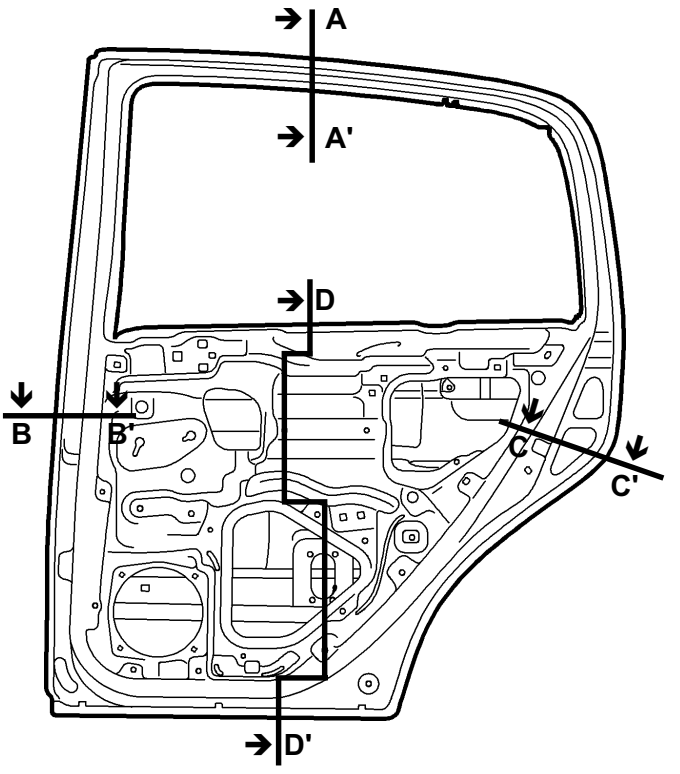


SECTION D-D'

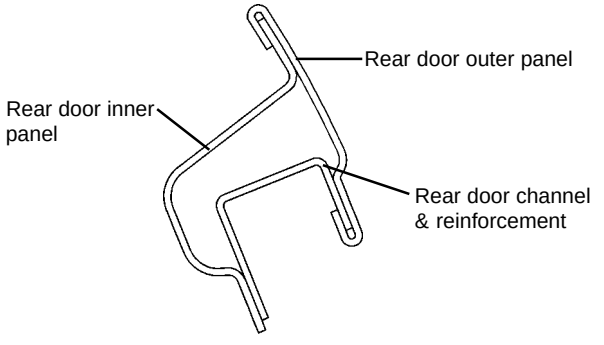
710-4

2. REAR DOOR

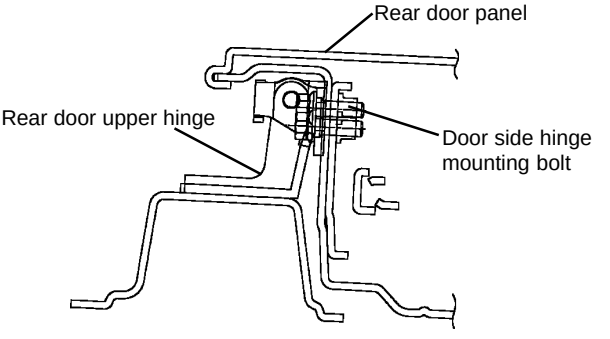
<Cross-sectional Views>



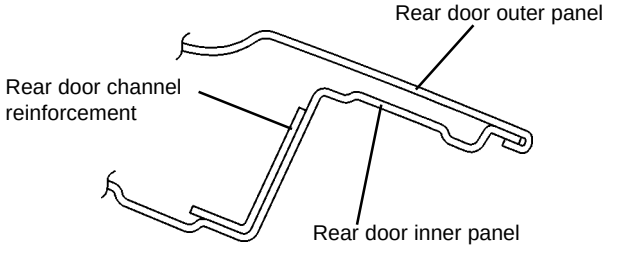
TB-760



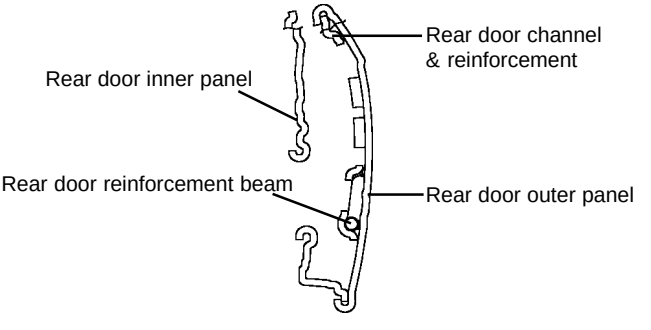
SECTION A-A' 760-1



SECTION B-B' 760-2

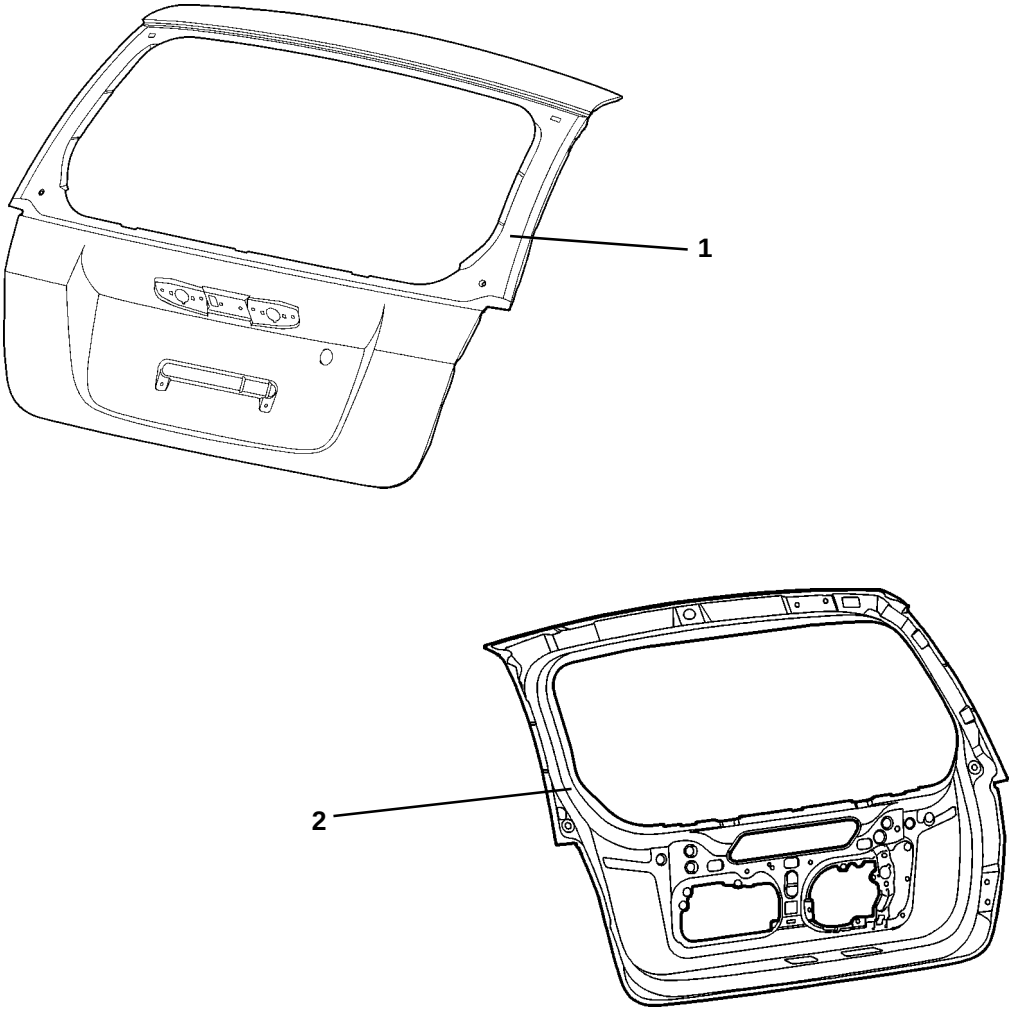


SECTION C-C' 760-3



SECTION D-D' 760-4

TAIL GATE



TB-800A/B

NO	PART TIME
1	Tail gate outer panel
2	Tail gate inner panel

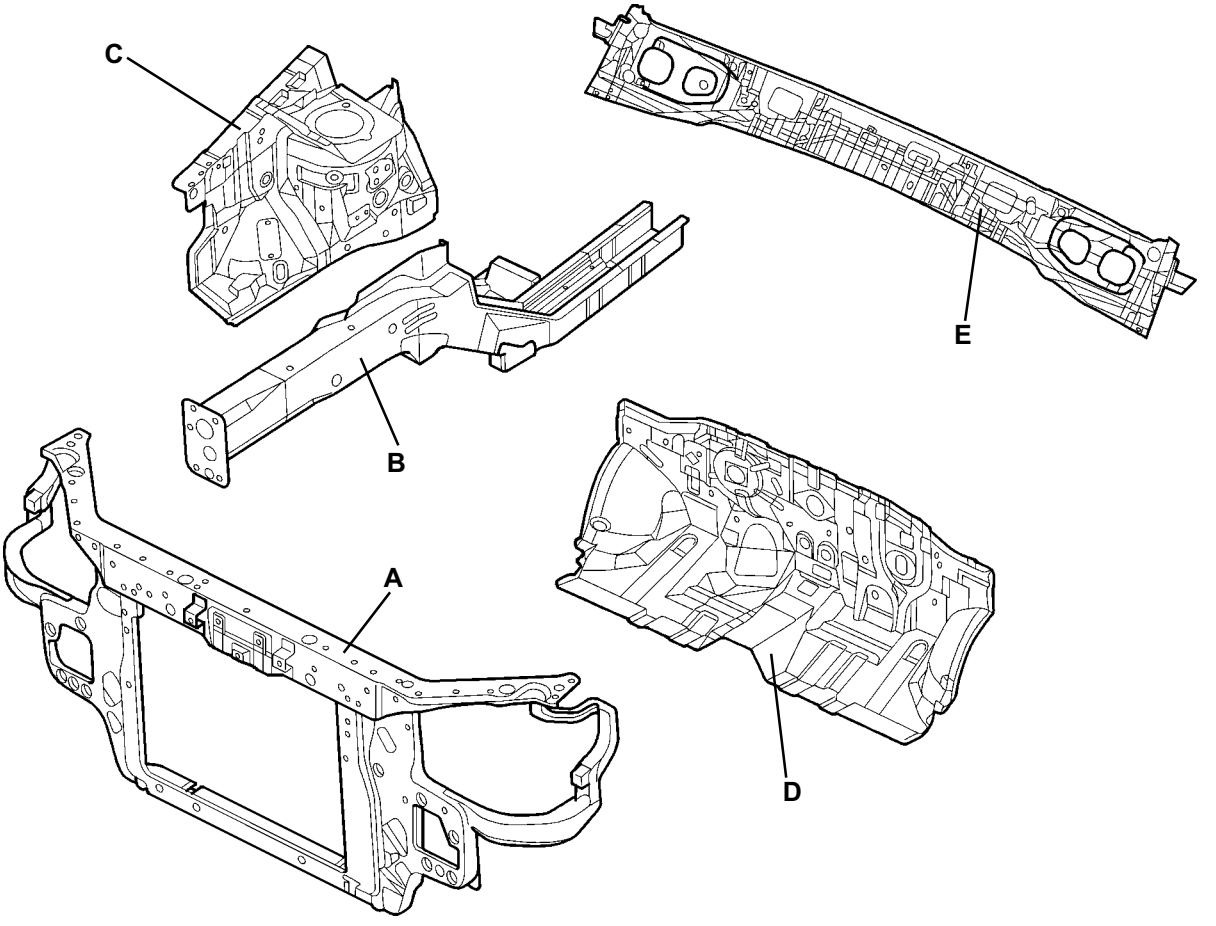
REPLACEMENT PARTS

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.

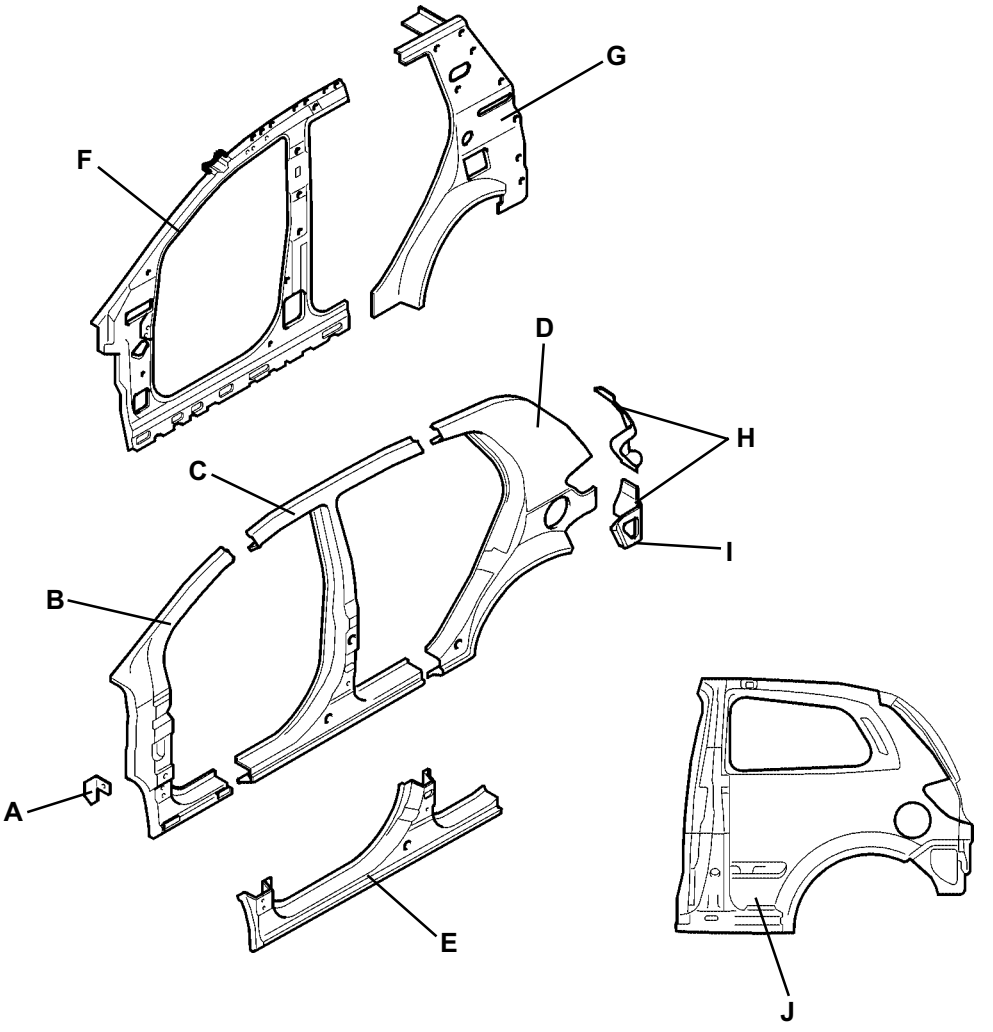
FRONT BODY



TB-60

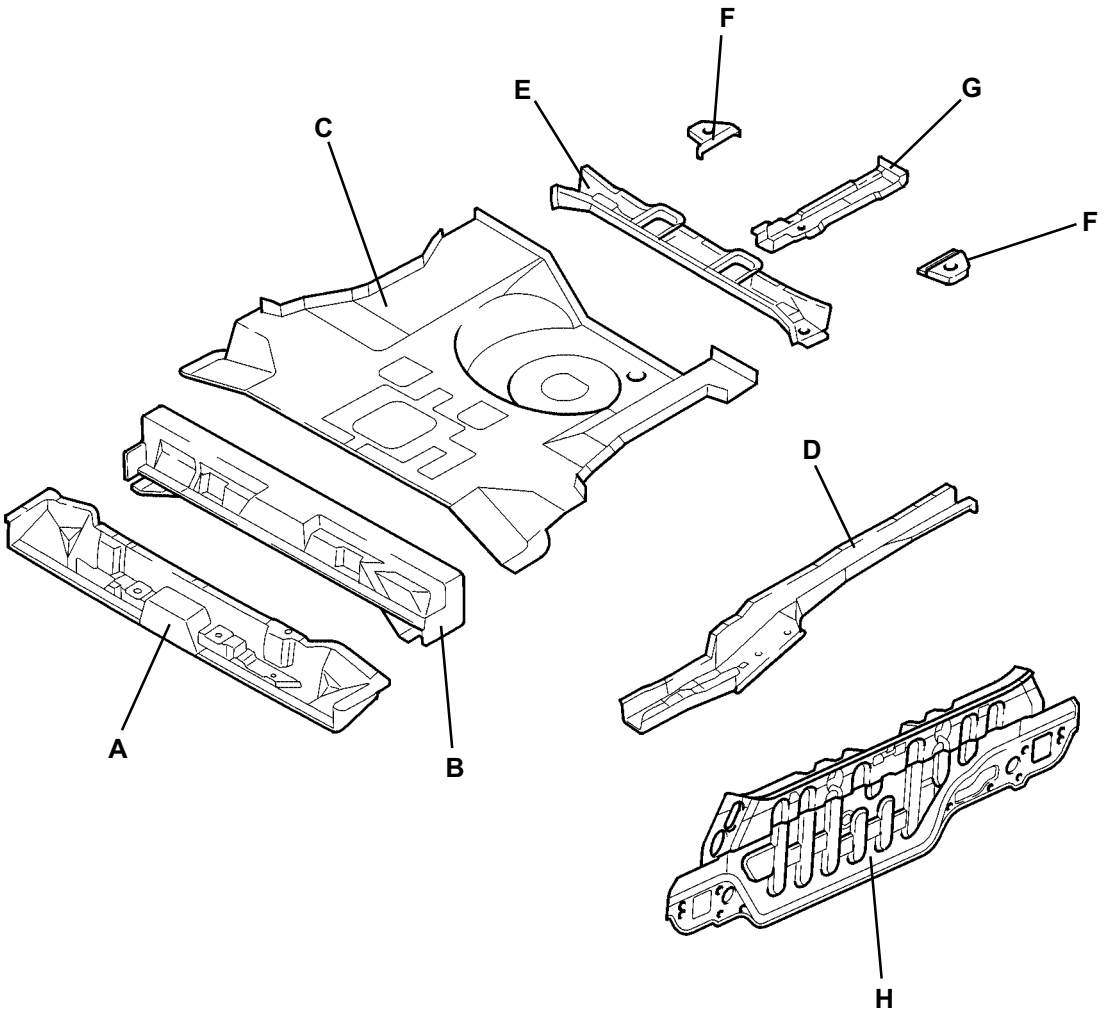
	PART NAME
A	RADIATOR SUPPORT COMPLETE MEMBER ASSEMBLY
B	FRONT SIDE MEMBER ASSEMBLY, LH/RH
C	FENDER APRON PANEL ASSEMBLY, LH/RH
D	DASH PANEL COMPLETE
E	COWL PANEL ASSEMBLY

SIDE BODY



	PART NAME		
A	FENDER MOUNTING BRACKET ASSEMBLY,	LH/RH	
B	FRONT PILLAR OUTER PANEL,	LH/RH	
C	CENTER PILLAR OUTER ASSEMBLY,	LH/RH	
D	QUARTER OUTER PANEL ASSEMBLY,	LH/RH	
E	SIDE SILL OUTER PANEL,	LH/RH	
F	SIDE INNER PANEL ASSEMBLY,	LH/RH	
G	QUARTER INNER PANEL ASSEMBLY,	LH/RH	
H	REAR PILLAR PANEL ASSEMBLY,	LH/RH	
I	QUARTER OUTER REAR LOWER EXTENSION ASSEMBLY,	LH/RH	
J	QUARTER OUTER PANEL ASSEMBLY, 3DOOR	LH/RH	(3 DOOR)

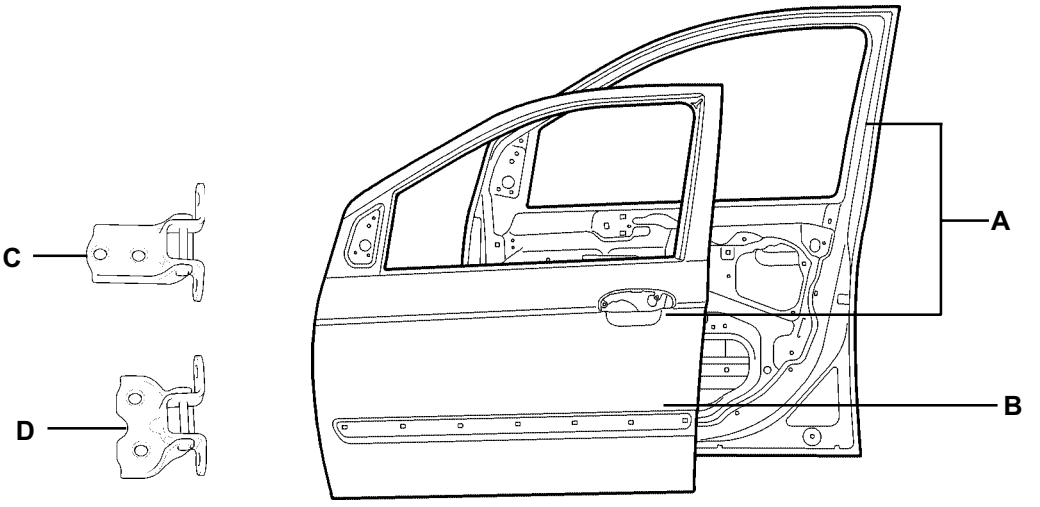
REAR BODY



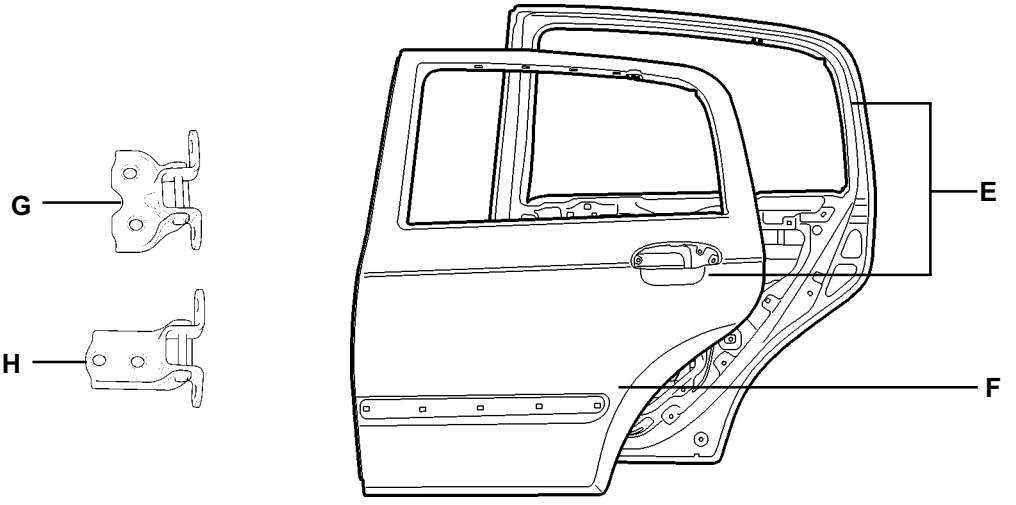
TB-830

	PART NAME	
A	REAR FLOOR FRONT MEMBER ASSEMBLY	
B	REAR FLOOR FRONT EXTENSIOR ASSEMBLY	
C	REAR FLOOR PANEL	
D	REAR FLOOR SIDE COMPLETE MEMBER ASSEMBLY,	LH/RH
E	REAR FLOOR CENTER CROSS MEMBER ASSEMBLY	
F	GUSSET,	LH/RH
G	REAR TOWING HOOK BRACKET ASSEMBLY	
H	BACK PANEL ASSEMBLY	

DOOR



TB-7112,113/TB-FRT



TB-7113,7112/TB-RR

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

BODY DIMENSIONS

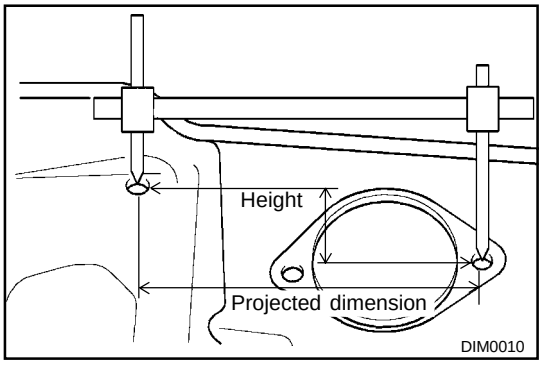
GENERAL

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

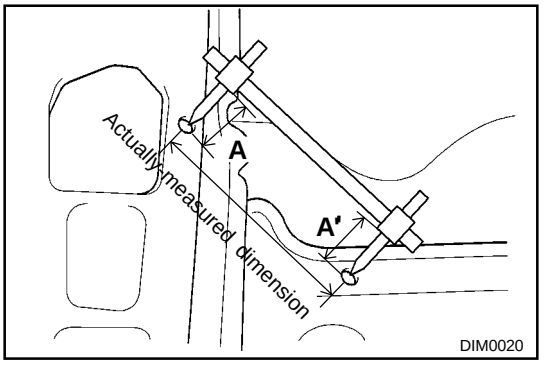
1. These are the dimensions measured when the measurement points are projected into the reference plane, and are the reference dimensions used for body alterations.
2. If the length of the tracking gauge probes are adjustable, make the measurement by lengthening one probe by the amount equivalent to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



ACTUAL-MEASUREMENT DIMENSIONS

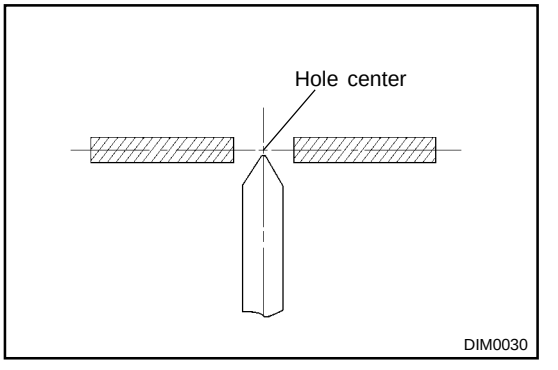
1. These dimensions indicate the actual linear distance between measurement points, and are the reference dimensions for use if a tracking gauge is used for measurement.
2. Measure by first adjusting both probes to the same length (A=A')

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

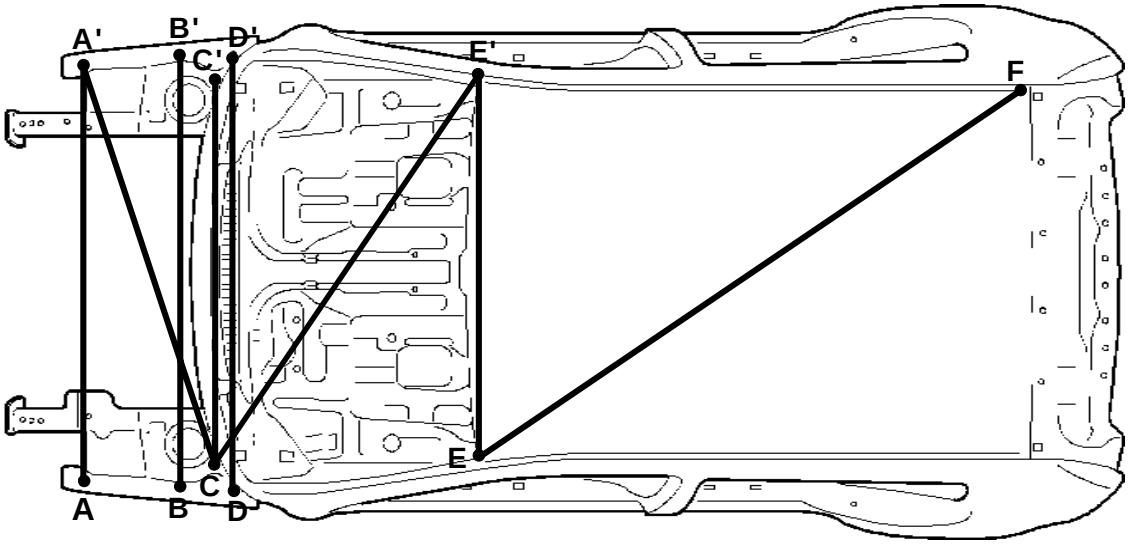


MEASUREMENT POINT

1. Measurements should be taken at the hole center.



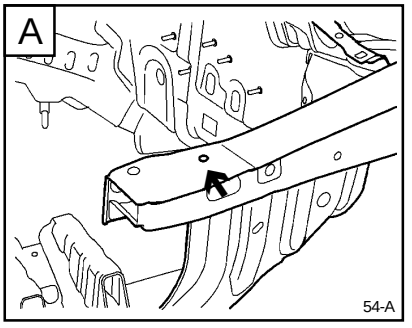
UPPER BODY



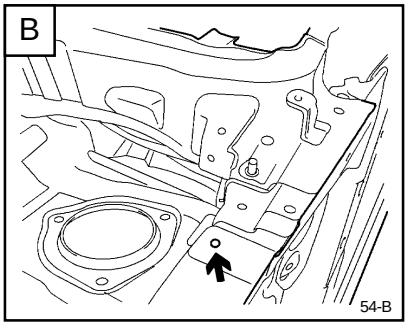
TB-53

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

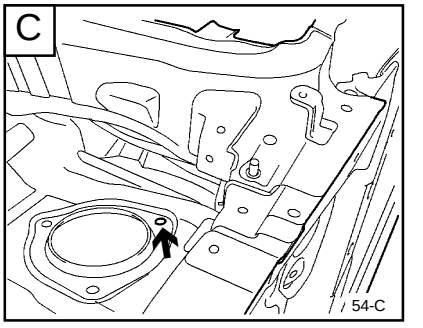
Point symbol	A-A'	A'-C	B-B'	C-C'	C-E'	D-D'	E-E'	E-F'
Length (mm)	1282	1264	1304	1134	1510	1272	1057	1839



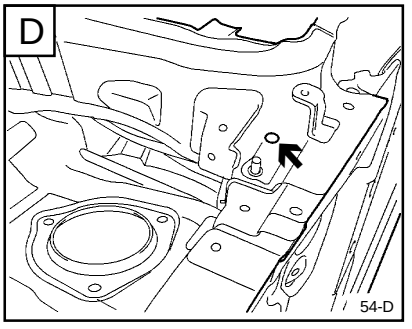
Fender front mounting hole
(Ø 6.6)



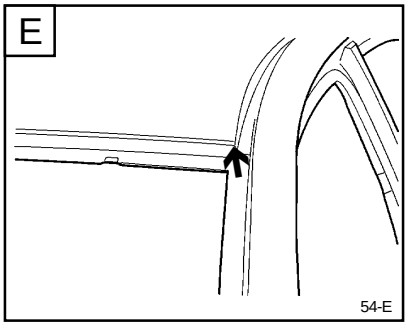
Fender center mounting hole
(Ø 6.6)



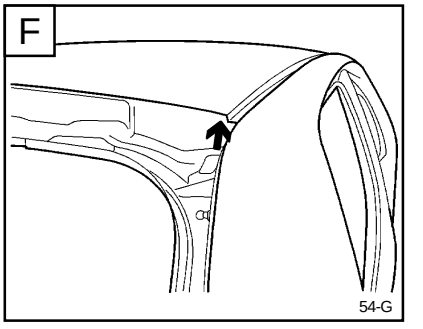
Front shock absorber mounting
hole (Ø 9)



Hood hinge mounting hole
(Ø 13)

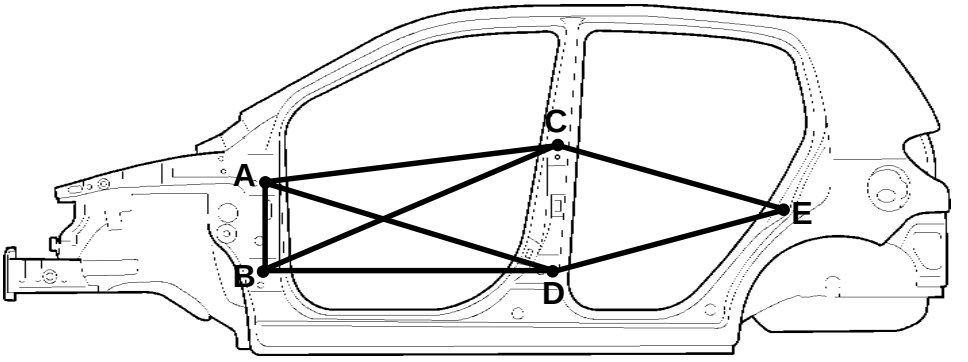


Joint of roof panel and front pillar



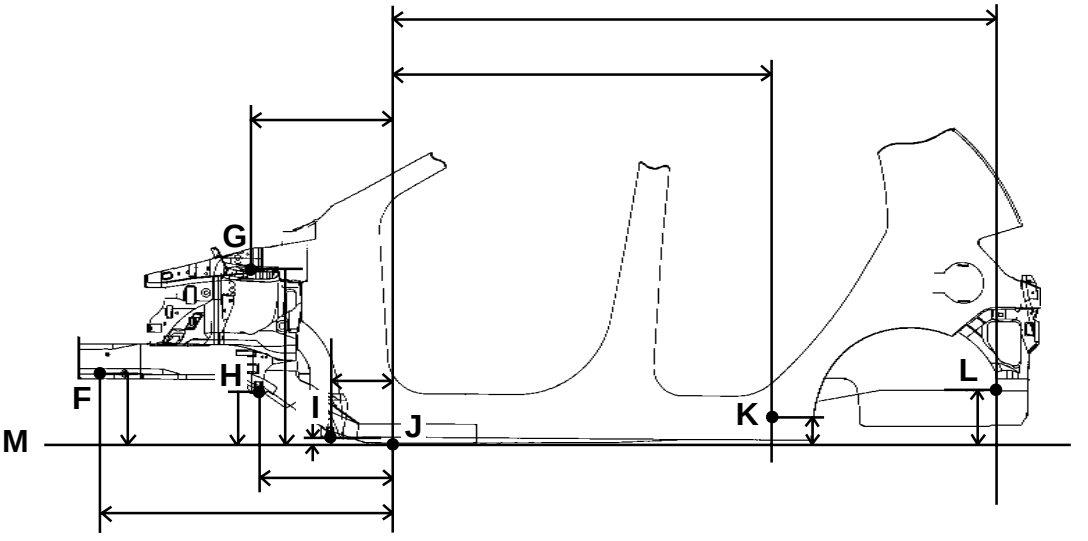
Joint of quarter and roof panel

SIDE BODY



55-A

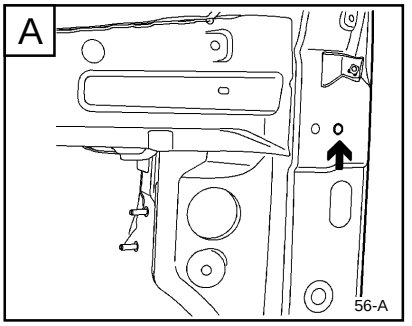
*These dimensions indicated in this figure are **actual-measurement dimensions.**



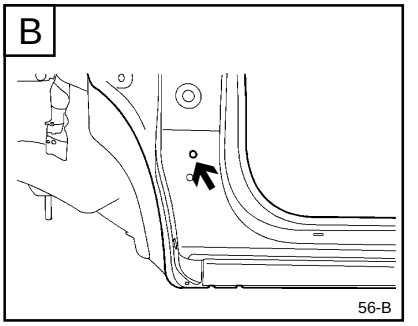
TB-55B

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

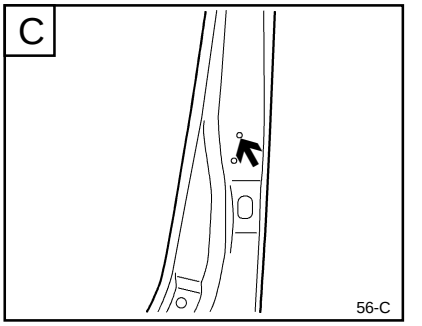
Point symbol	A-B	A-C	A -D	B-C	B-D	C-E	D-E	F-J
Length (mm)	315	1044	1071	1100	1026	865	924	950
Point symbol	**F-M**	**G-J**	**G-M**	**H-J**	**H-M**	**I-J**	**I-M**	**J-K**
Length (mm)	244	490	646	464	177	198	15	1449
Point symbol	**J-L**	**K-M**	**L-M**					
Length (mm)	2230	64	206					



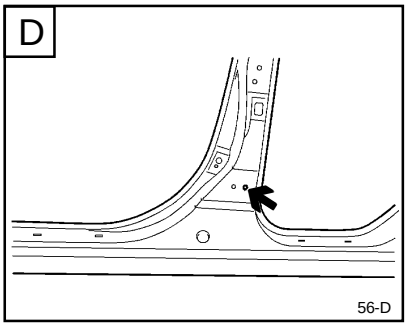
Front door hinge upper mounting hole (Ø 12)



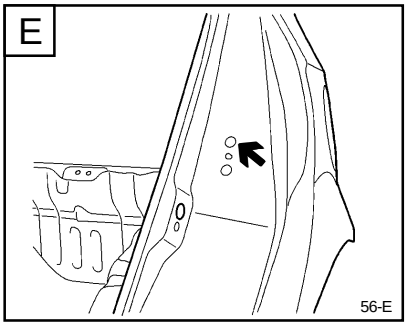
Front door hinge lower mounting hole (Ø 12)



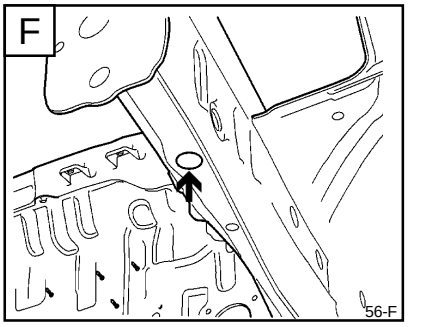
Rear door hinge upper mounting hole (Ø 12)



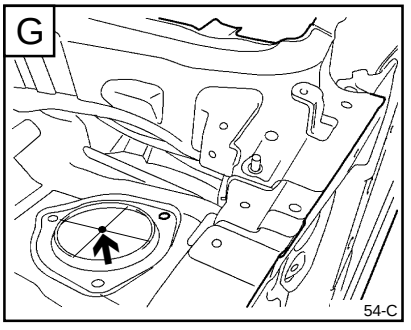
Rear door hinge lower mounting hole (Ø 12)



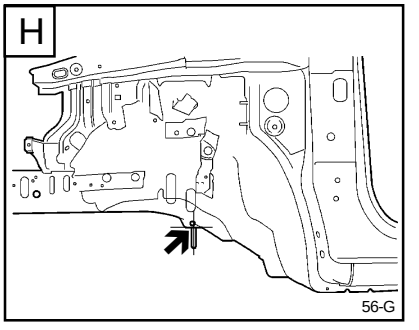
Rear door striker mounting hole (Ø 13)



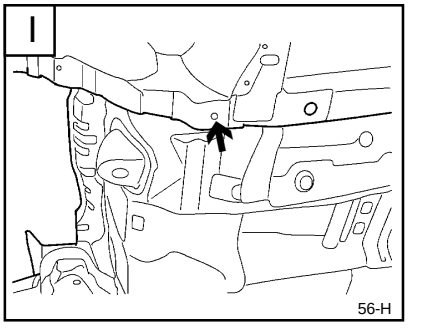
Tooling hole (Ø 25)



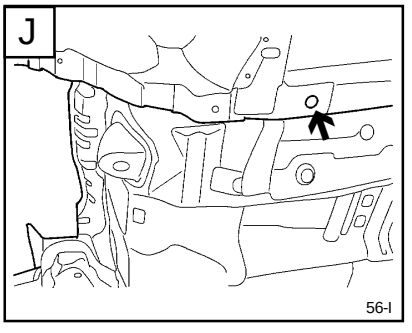
Front shock absorber mounting hole (Ø 89)



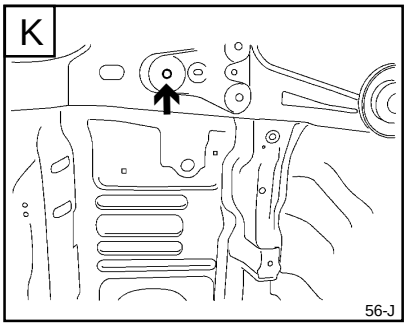
Cross member mounting front hole (Ø 14.2)



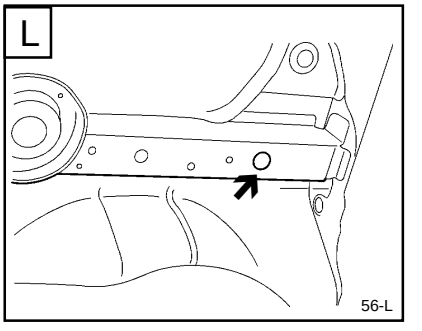
Cross member mounting rear hole (Ø 16)



Tooling hole (Ø 25)

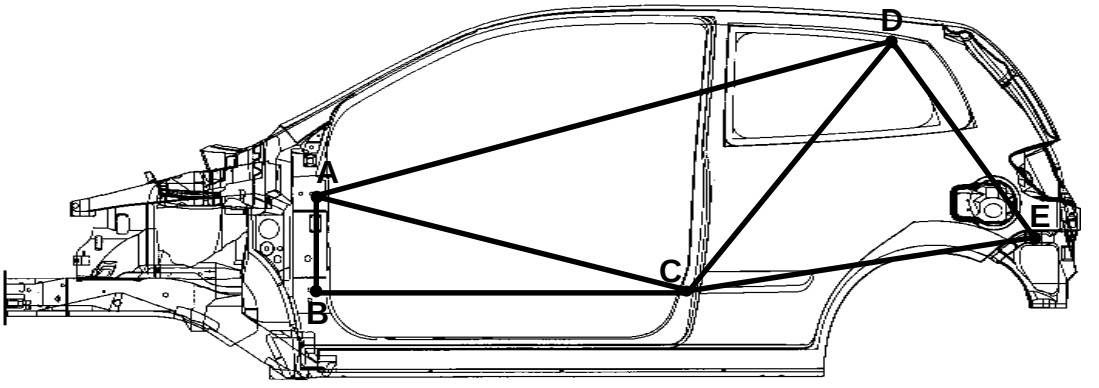


Rear trailing arm mounting hole (Ø 13)



Tooling hole (Ø 25)

SIDE BODY (3 DOOR)

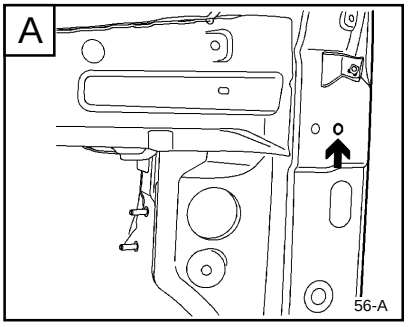


3DOOR SIDE

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

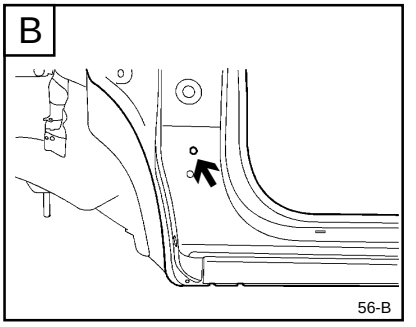
Point symbol	A-B	A-C	B -C	C-D	C-E	A-D	D-E	
Length (mm)	315	1235	1221	1003	1150	1985	792	

A



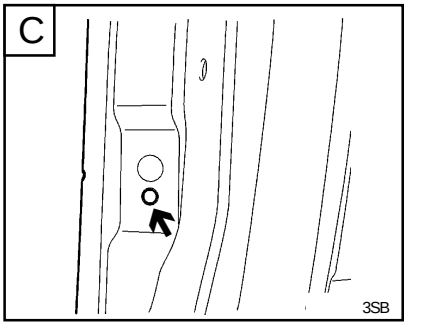
Front door hinge upper mounting hole (Ø 12)

B



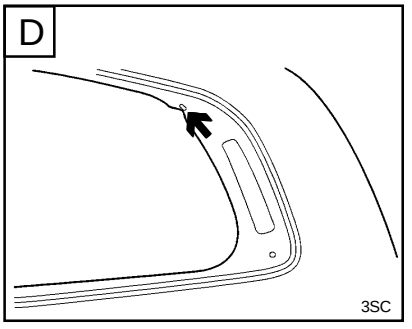
Front door hinge lower mounting hole (Ø 12)

C



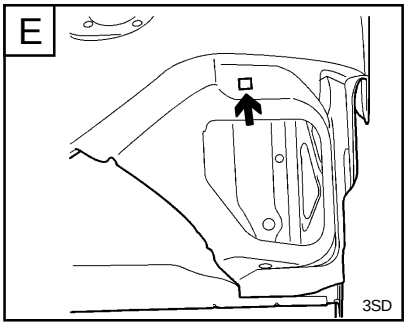
Front door switch hole (Ø 10)

D



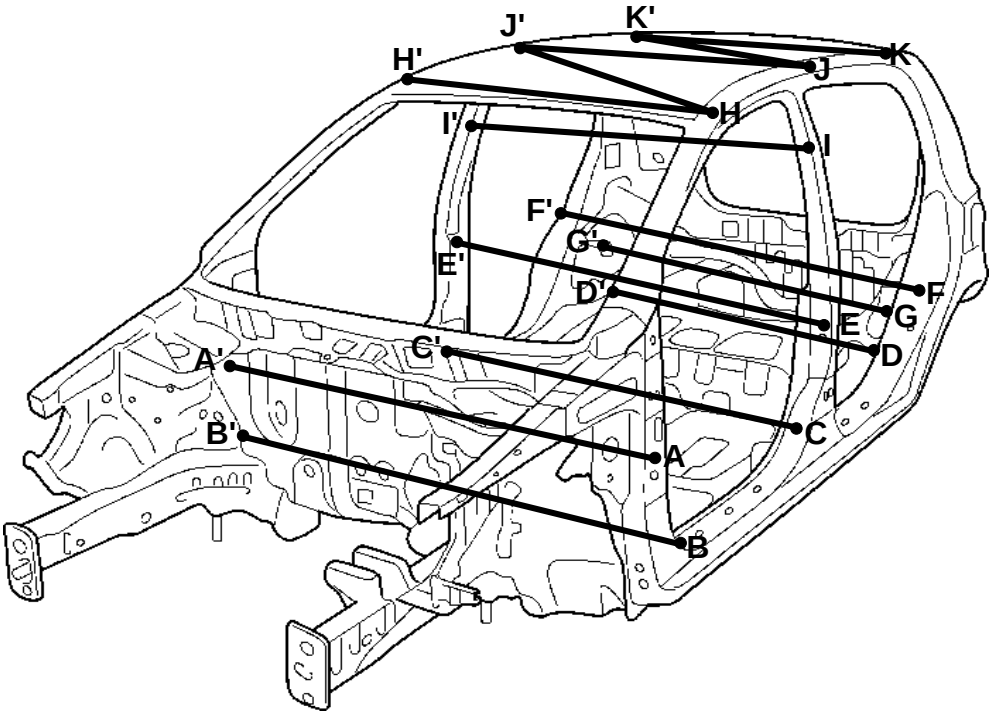
Side outer rear glass fixing hole (⬭ 8×12 slot)

E



Rear bumper cover mounting hole (10□12)×

INTERIOR



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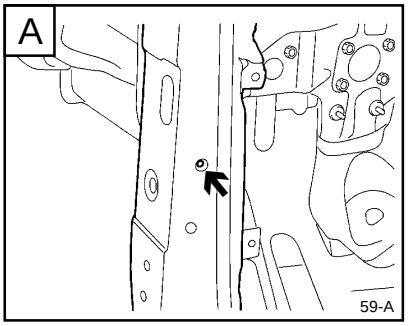
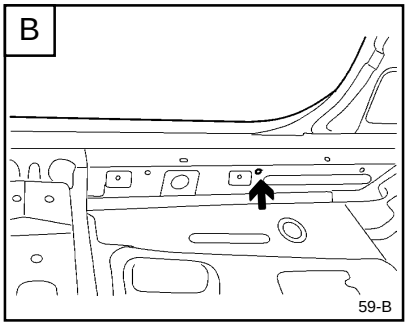
***** These dimensions indicated in this figure are **actual-measurement dimensions.**

Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	H-H'
Length (mm)	1393	1263	1255	1139	1431	1437	1117	1057

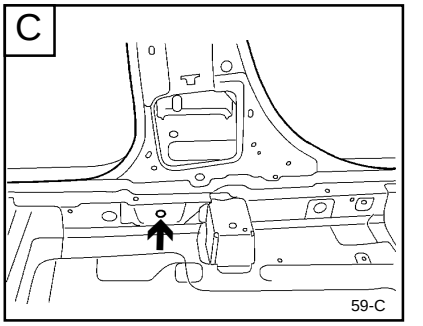
Point symbol	H-J'	I-I'	J-J'	J-K'	K-K'			
Length (mm)	1369	1131	1055	1082	1030			



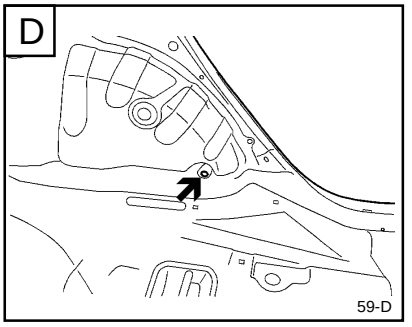
Front door checker mounting hole
(Ø 14)



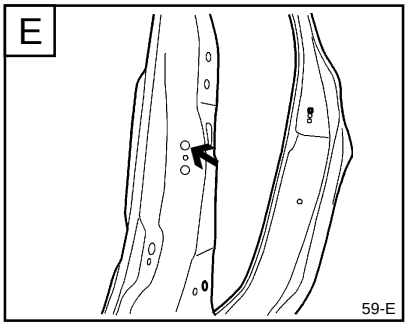
Door scuff mounting hole
(Ø 7)



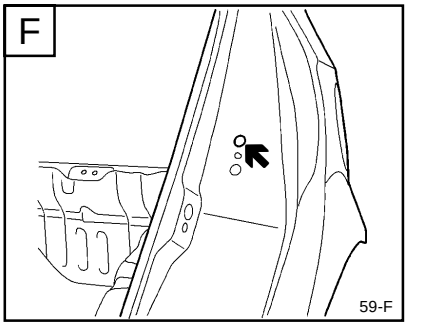
Front seat belt mounting hole
(Ø 16)



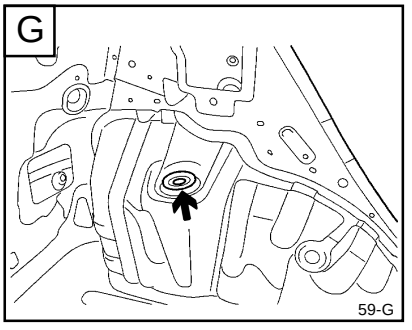
Rear seat belt lower mounting
hole (Ø 13.2)



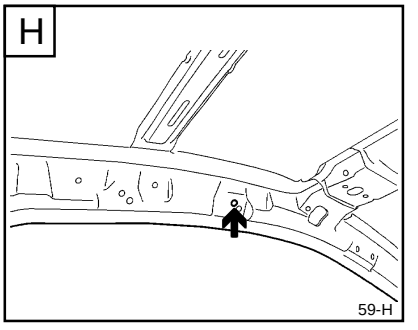
Front door striker mounting hole
(Ø 13)



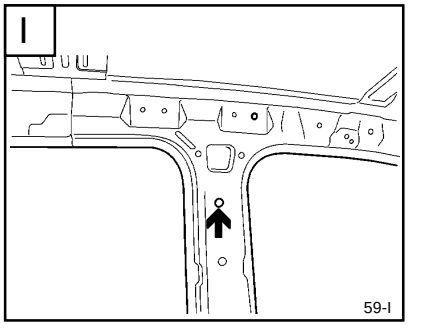
Rear door striker mounting hole
(Ø 13)



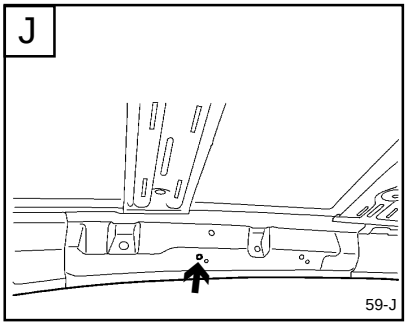
Rear suspension mounting hole
(Ø 20.5)



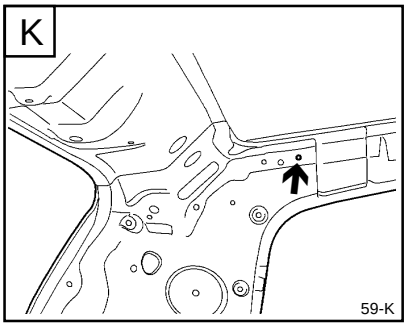
Roof rack mounting hole
(Ø 9)



Front seat belt anchor mounting
hole (Ø 15)

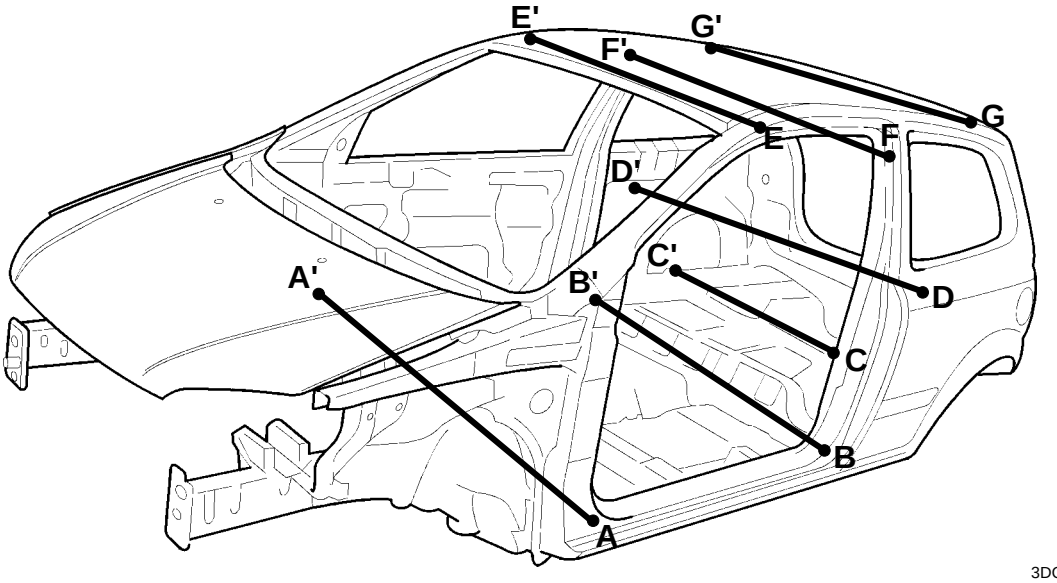


Rear assist handle mounting hole
(Ø 6.6)



Sun roof drain hose mounting
hole
(Ø 14)

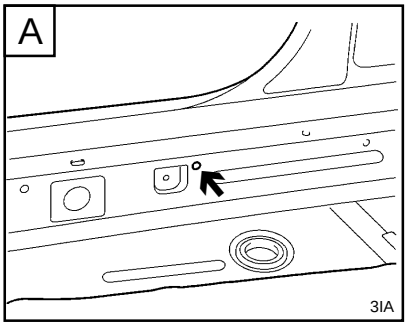
INTERIOR (3 DOOR)



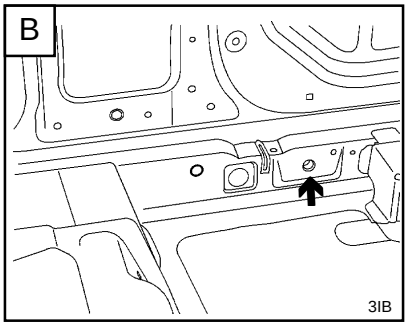
3DOOR INTERIOR

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

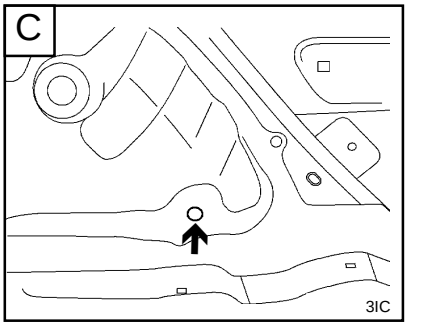
Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	
Length (mm)	1263	1255	1139	1373	1057	1125	1030	



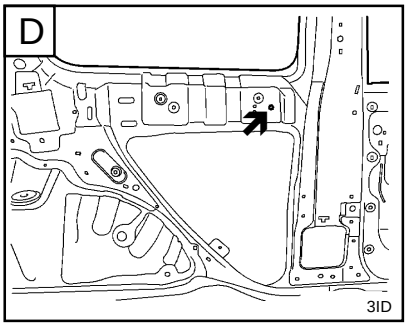
Door scuff mounting hole
(Ø 7)



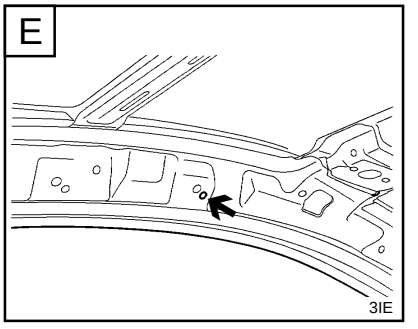
Front seat belt mounting hole
(Ø 15)



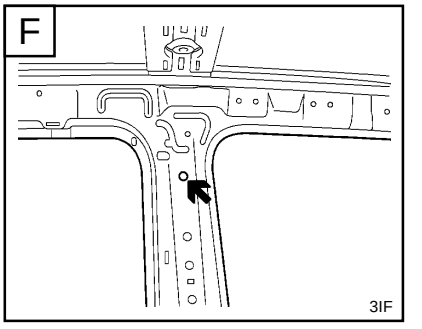
Rear seat back mounting hole
(Ø 13.2)



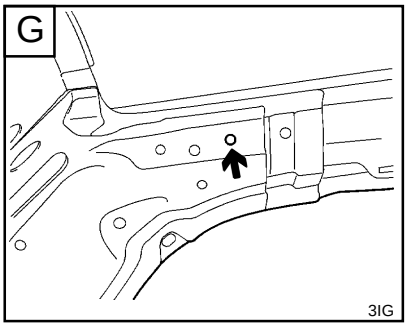
Tooling hole
(Ø 12)



Roof rack mounting hole
(Ø 9)

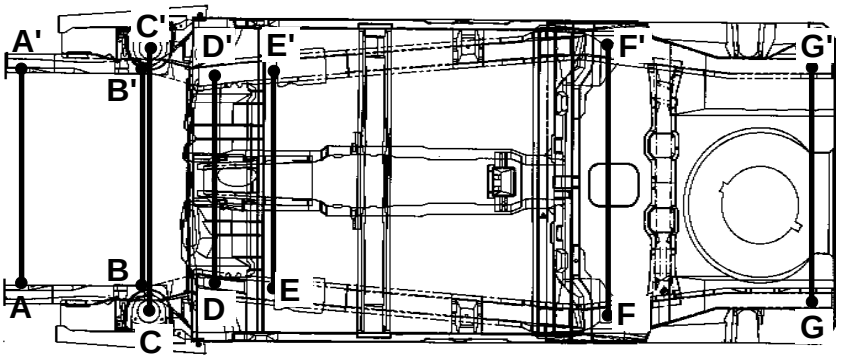


Front seat belt anchor mounting hole (Ø 15)



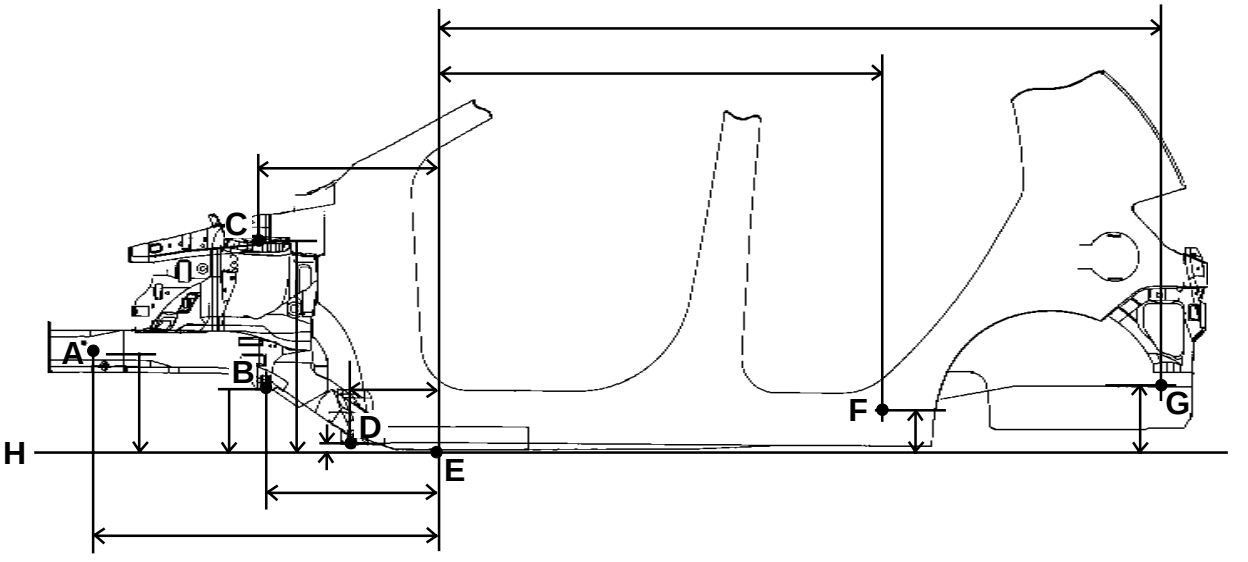
Sun roof drain hose mounting hole
(Ø 14)

UNDER BODY



TB-60A

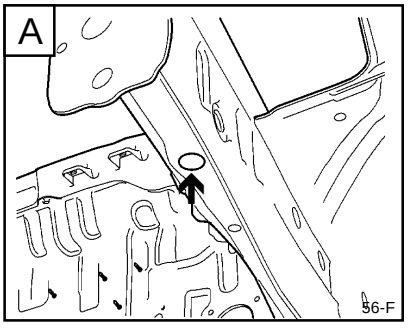
*These dimensions indicated in this figure are **actual-measurement dimensions.**



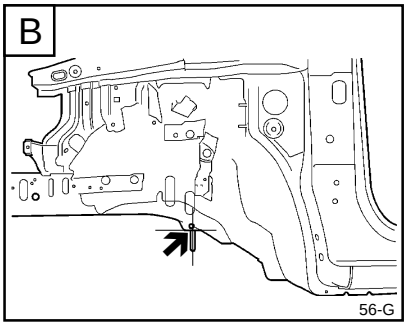
TB-55B

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

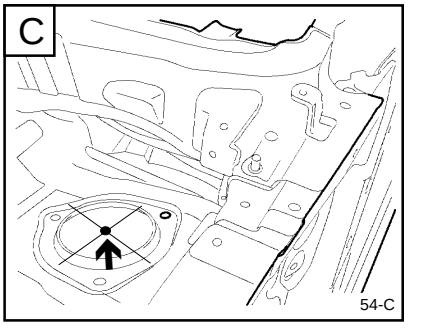
Point symbol	A-A'	B-B'	C-C'	D-D'	E-E'	F-F'	G-G'	A-H
Length (mm)	940	920	1066	880	914	1149	970	244
Point symbol	**B-H**	**C-H**	**D-H**	**F-H**	**G-H**	**A-E**	**B-E**	**C-E**
Length (mm)	177	646	15	64	206.2	950	464	490
Point symbol	**D-E**	**E-F**	**E-G**					
Length (mm)	198	1449	2230					



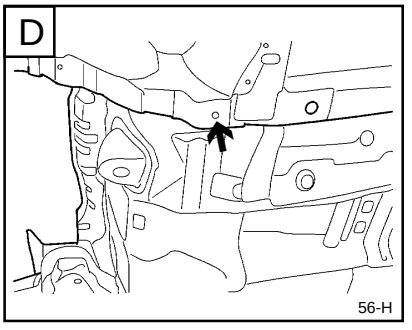
Tooling hole
(Ø 25)



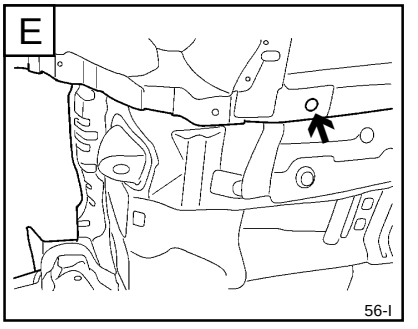
Cross member mounting front hole (Ø 14)



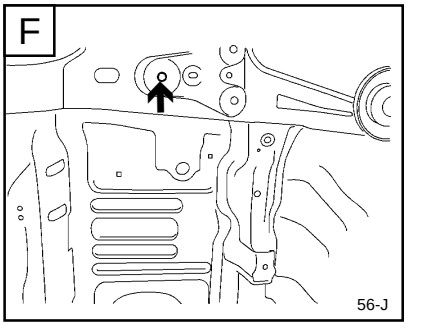
Front shock absorber mounting hole (Ø 89)



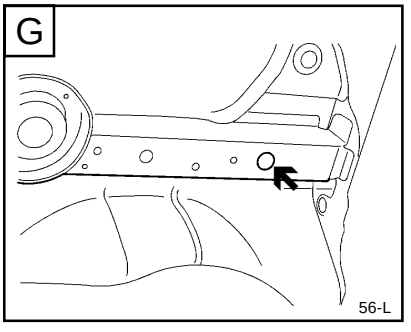
Cross member mounting rear hole
(Ø 16)



Tooling hole
(Ø 25)

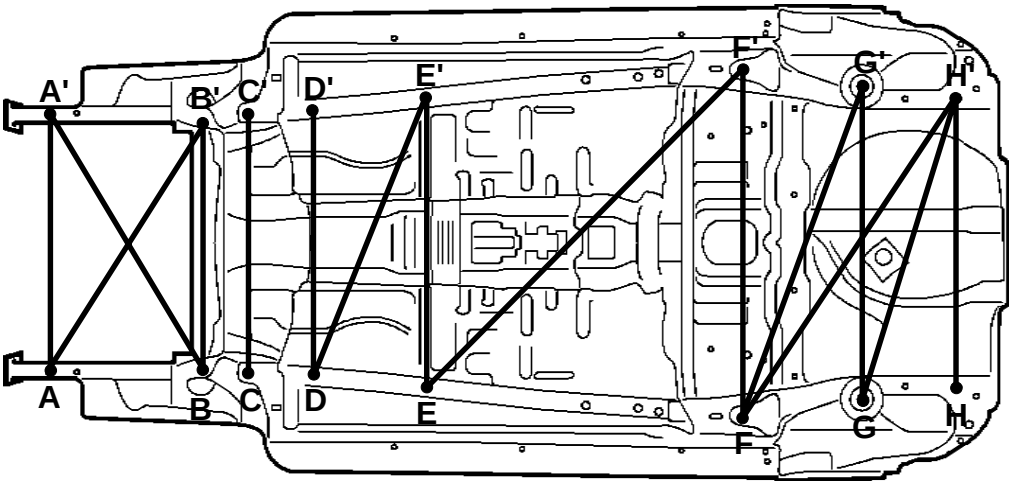


Trailing arm mounting hole
(Ø 13)



Tooling hole
(Ø 25)

UNDER BODY



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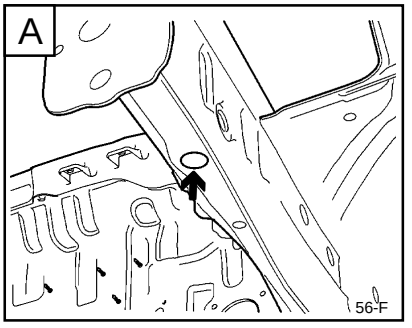
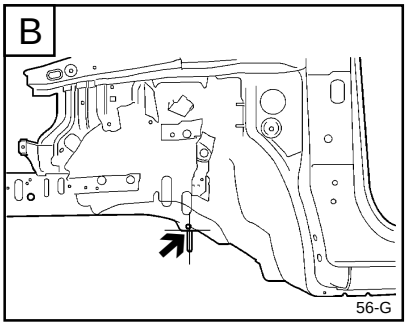
*These dimensions indicated in this figure are **actual-measurement dimensions.**

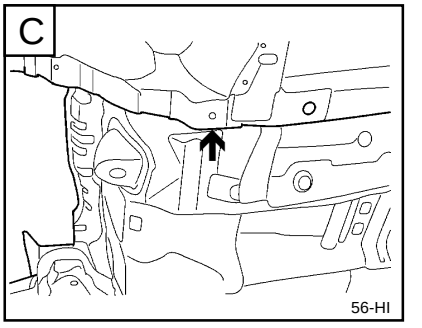
Point symbol	A-A'	A'-B	A -B'	B-B'	C-C'	D-D'	D-E'	E-E'
Length (mm)	940	1051	1051	920	880	914	1023	978
Point symbol	**E-F'**	**F-F'**	**F-G'**	**G-G'**	**G-H'**	**H-H'**	**F-H'**	
Length (mm)	1502	1149	1192	1050	1065	970	1327	



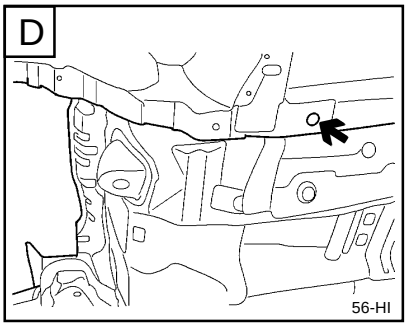
Tooling hole
(Ø 25)



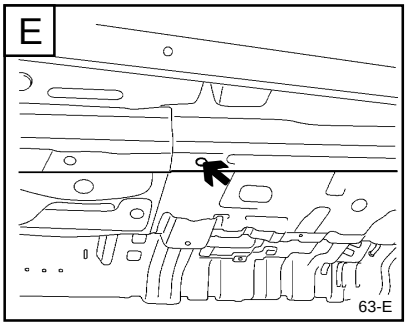
Cross member mounting front hole (Ø 14)



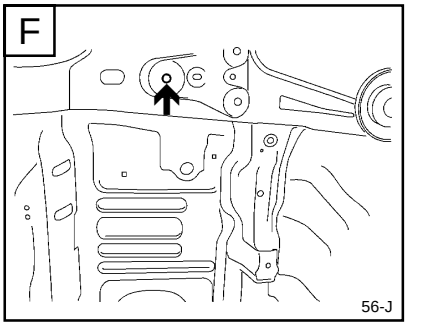
Cross member mounting rear hole
(Ø 16)



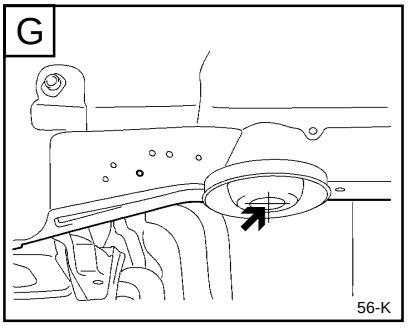
Tooling hole
(Ø 25)



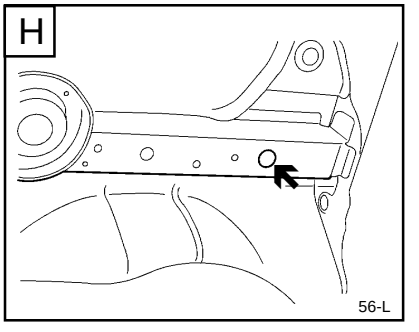
Tooling hole
(Ø 18)



Trail arm mounting hole
(Ø 13)

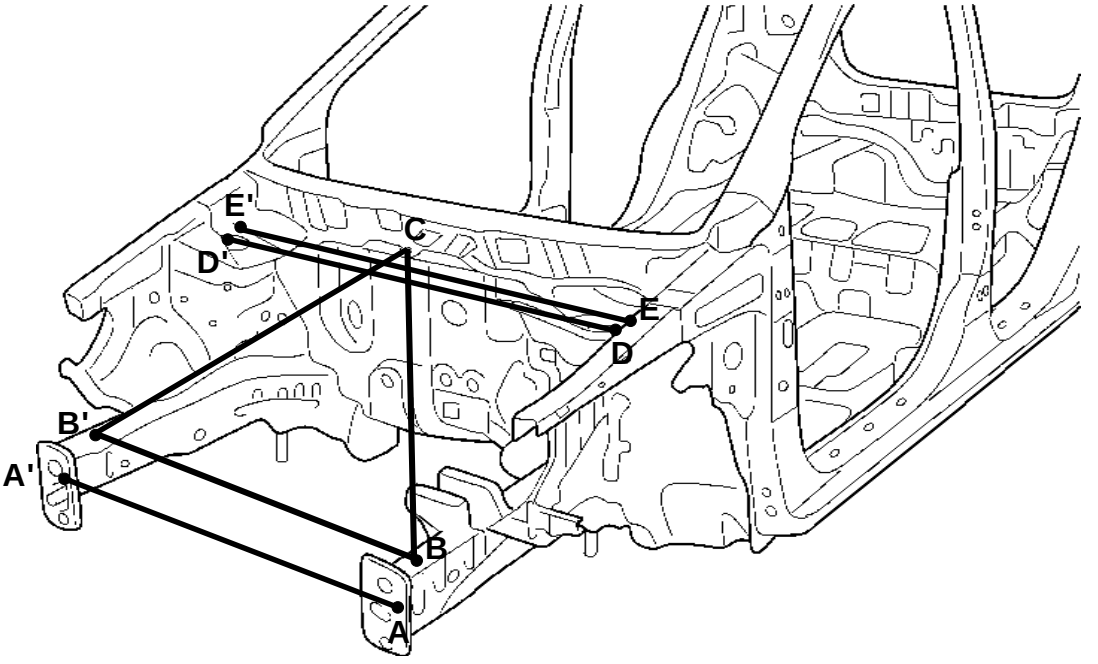


Rear suspension spring mounting hole (Ø 40)



Tooling hole
(Ø 25)

ENGINE COMPARTMENT



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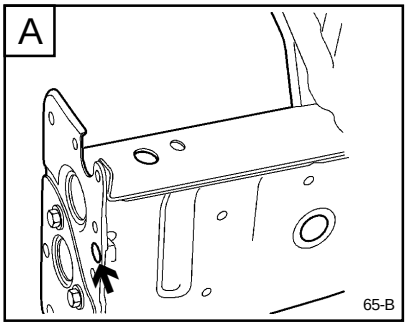
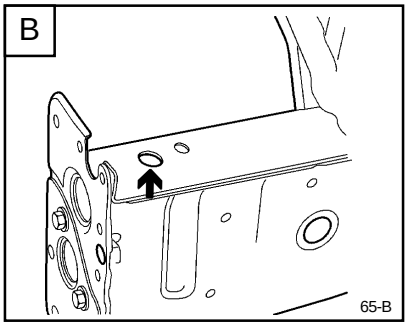
***** These dimensions indicated in this figure are **actual-measurement dimensions.**

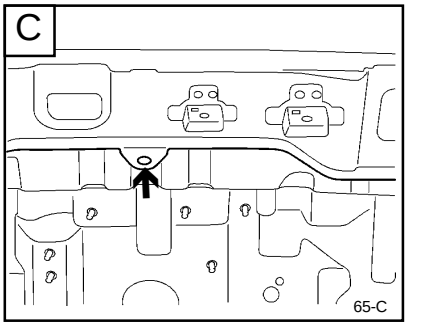
Point symbol	A-A'	B-B'	C-B	C-B'	D-D'	E-E'		
Length (mm)	1019	960	833	833	1066	1134		



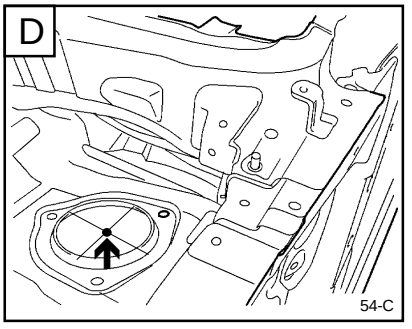
Carrier mounting hole
(Ø 12)



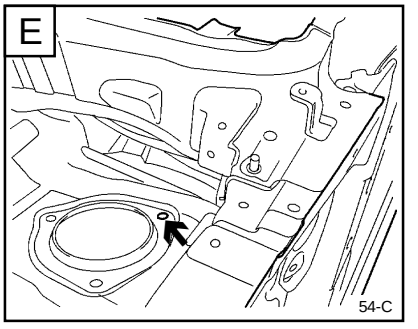
Stay rod to paint hole
(12×16 solt)



Cowl under cover mounting hole
(Ø 11)

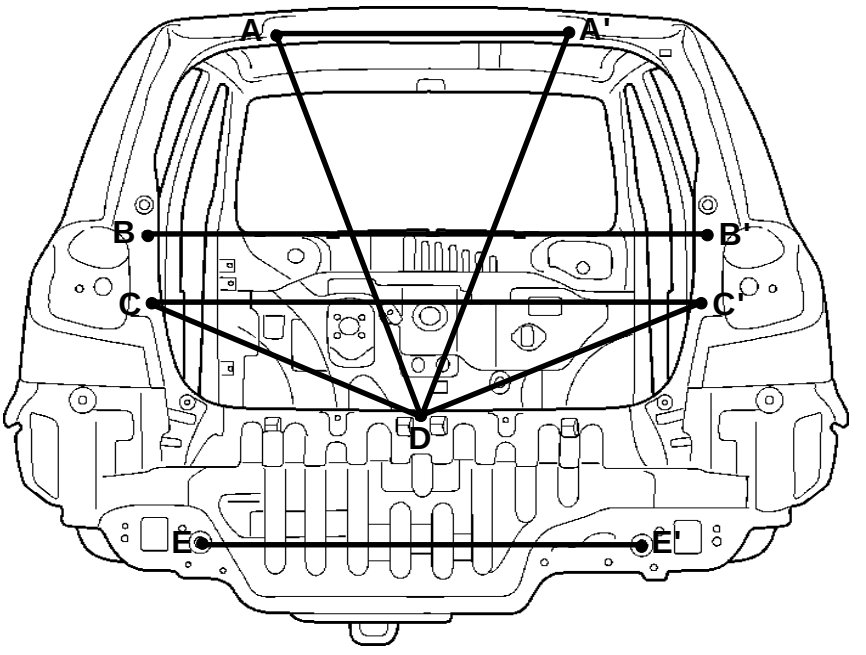


Front shock absorber mounting
hole (Ø 89)



Front shock absorber mounting
hole (Ø 9)

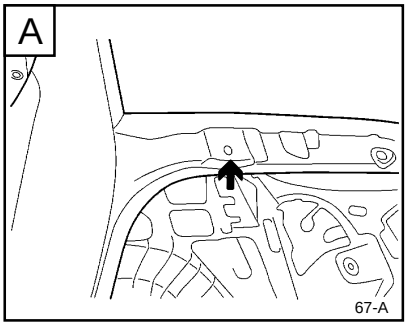
LUGGAGE COMPARTMENT



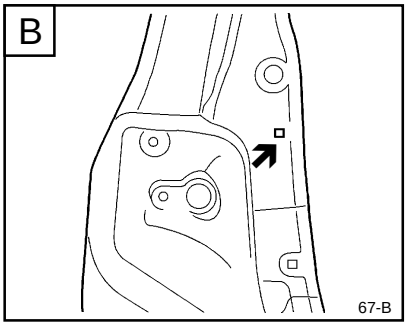
66

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

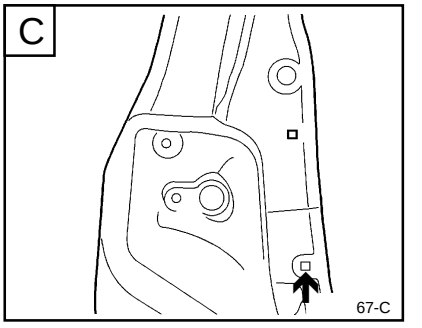
Point symbol	A-A'	B-B'	C-C'	D-C	D-C'	E-E'	D-A	D-A'
Length (mm)	600	1019	986	514	551	806	856	870



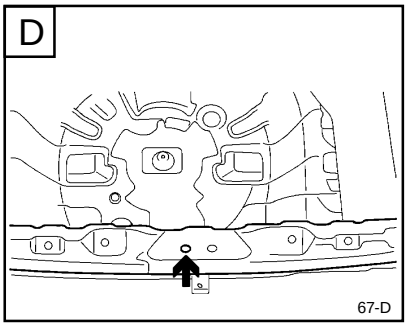
Tail gate hinge mounting hole
(Ø 14)



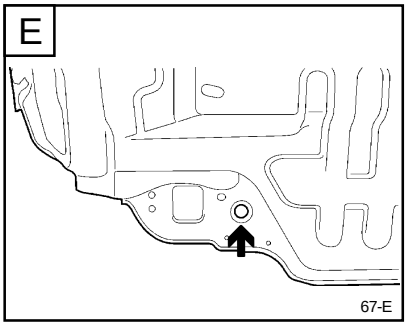
Rear combination lamp upper mounting hole (□8.5×8.5)



Rear combination lamp lower mounting hole (□8.5×8.5)



Tail gate striker mounting hole
(Ø 13)



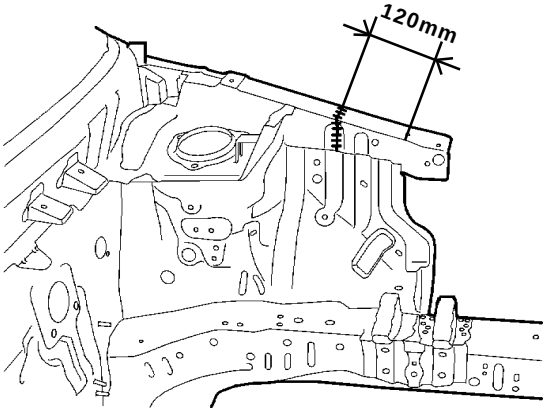
Tooling hole
(Ø 20)

BODY PANEL REPAIR PROCEDURE

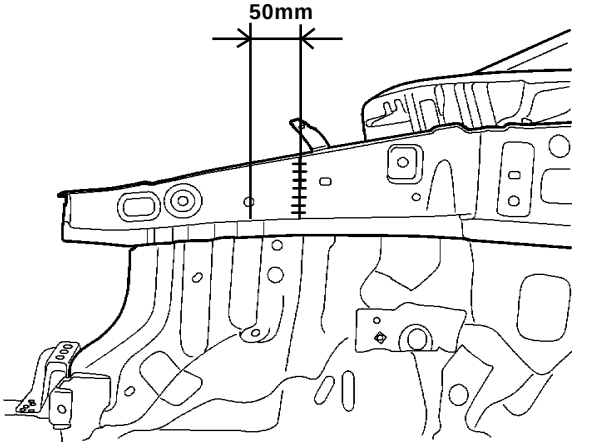
FENDER APRON PANEL (PARTIAL)

WELDLING POINTS

L/H



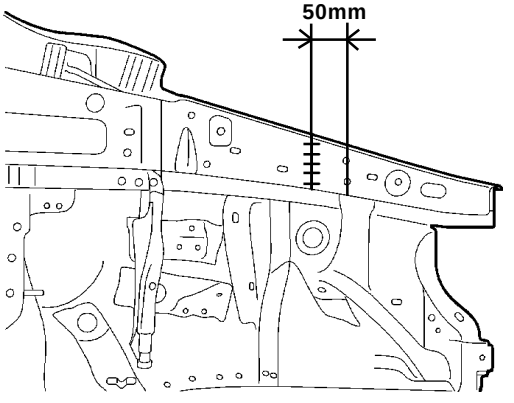
PRO-0030



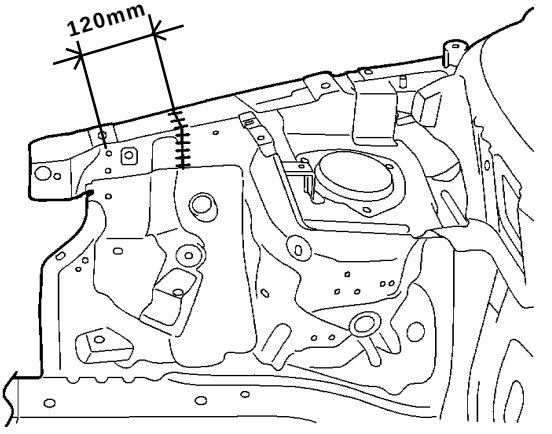
PRO-0031

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

R/H



PRO-0041

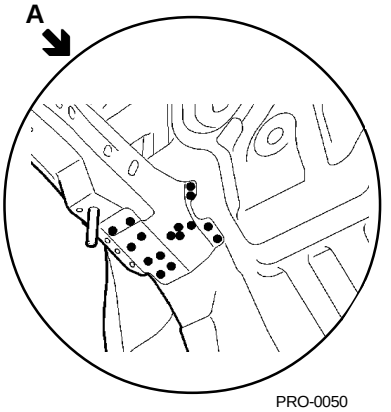


PRO-0040

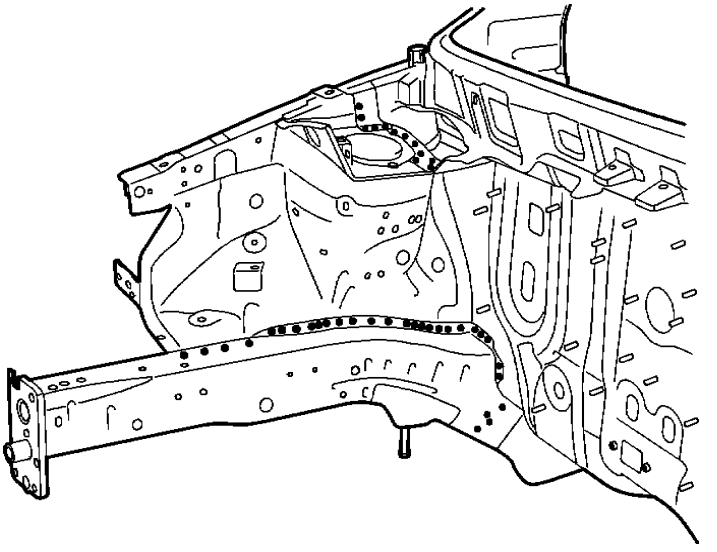
● MIG plug welding
⫼ MIG butt welding
⤫ MIG lap welding

FENDER APRON AND FRONT SIDE MEMBER (ASSEMBLY)

WELDLING POINTS

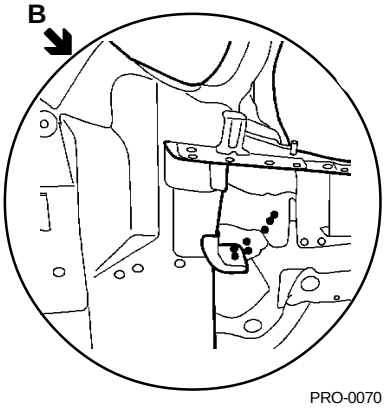


PRO-0050

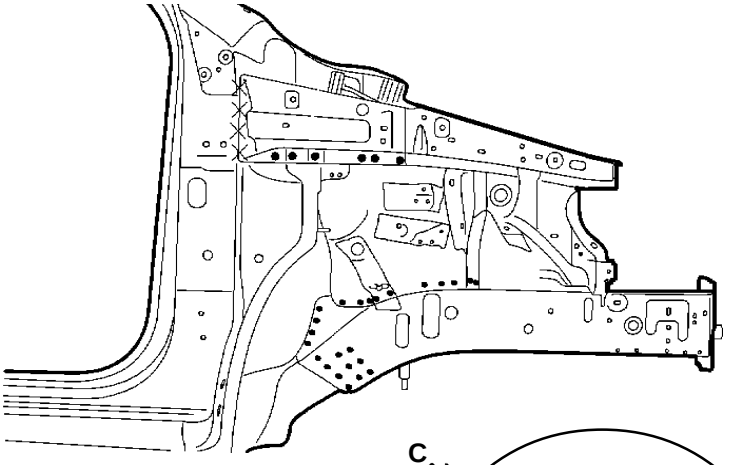


- **MIG plug welding**

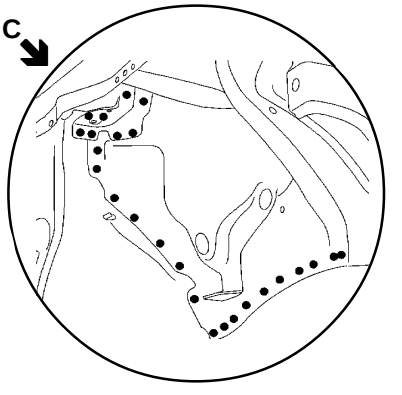
PRO-0060



PRO-0070



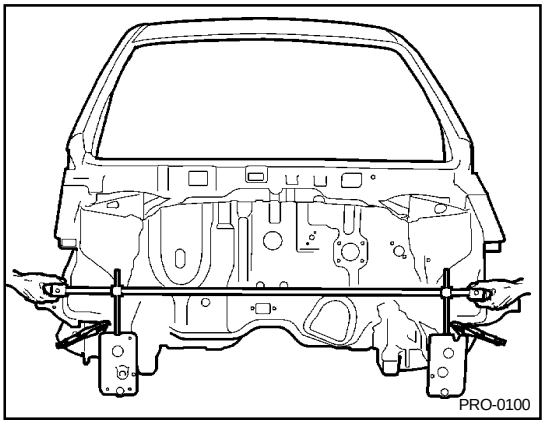
PRO-0065



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

PRO-0071

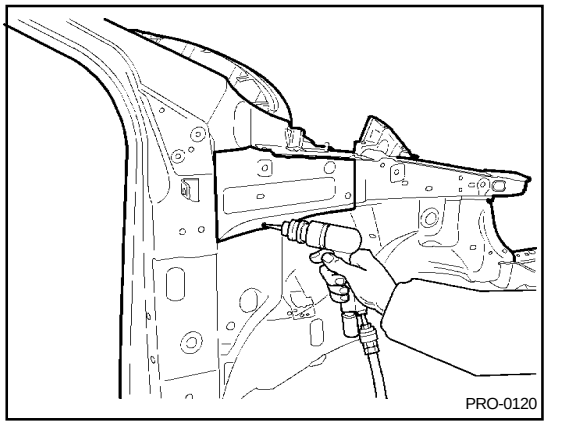
NOTE
Before repairing, remove Engine and Suspension Components. Refer to the body dimension charts and measure the vehicle to determine straightening and alignment requirements. The body must be returned to its original dimension before you begin the repair procedure.


PRO-0100

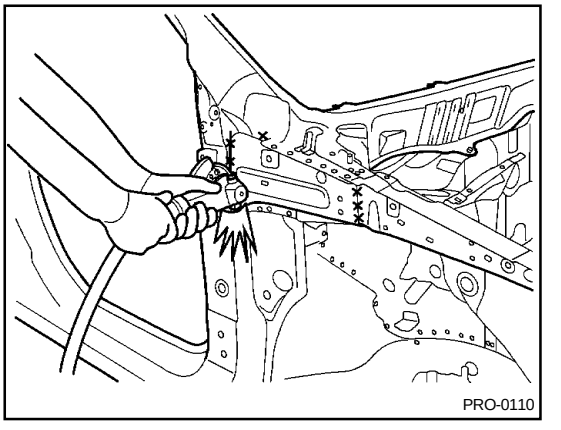
REMOVAL

1. Drill out all the spotwelds to separate cowl side upper outer panel from front side member.

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

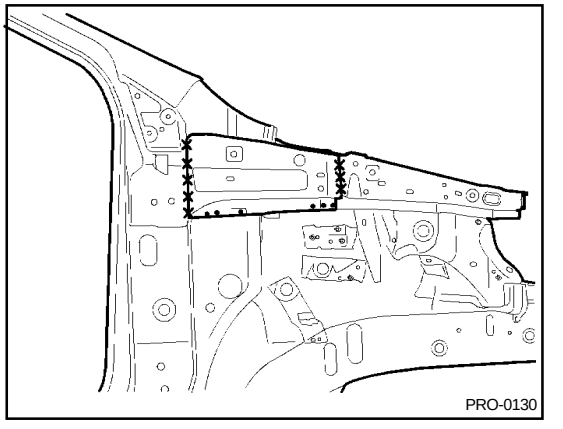

PRO-0120

2. Remove Co_2 weld points using a grinder.

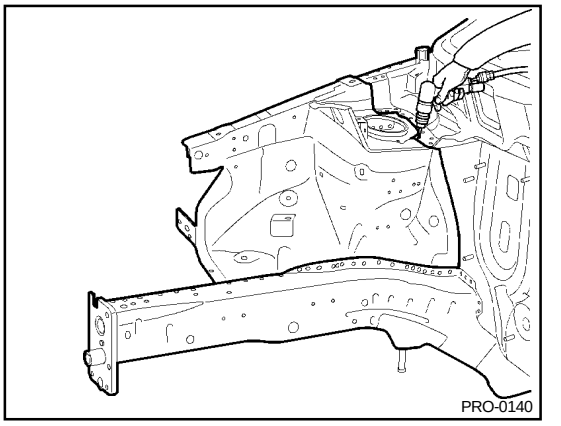

PRO-0110

3. Drill out all the spotwelds attaching the cowl side upper outer panel.

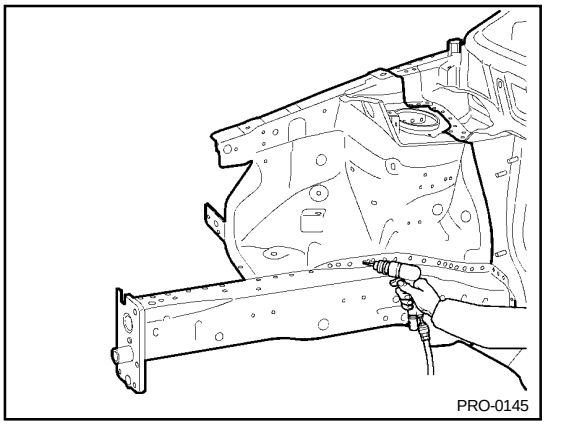
   NOTE
   If it is possible that the cowl side upper outer panel is reusable, be careful not to damage it while removing.


PRO-0130

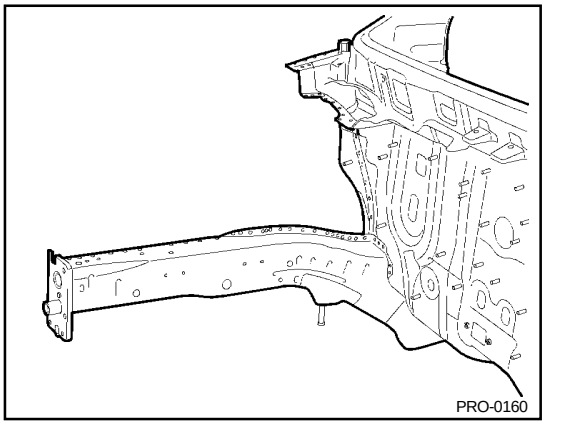
4. Using a spotweld cutter, drill out all the spotwelds attaching the fender apron to the dash panel and front side member.
5. Remove the fender apron panel.


PRO-0140

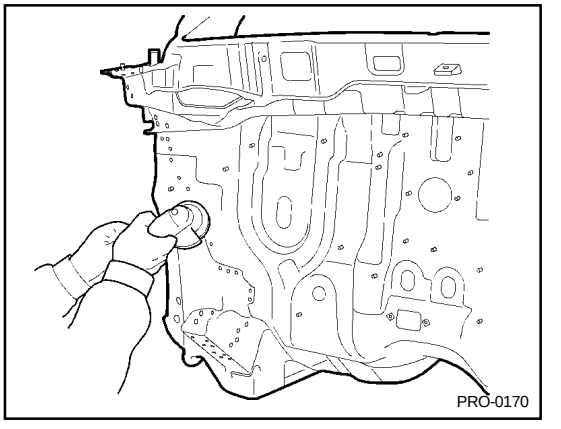
NOTE
If collision damage requires replacement of fender apron and front side member together, remove both of them at the same time.


PRO-0145

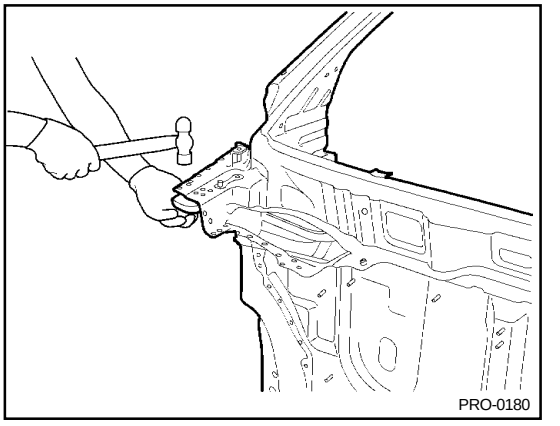
6. Using a spotweld cutter, remove the front side member by drilling out the spotwelds.


PRO-0160

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.

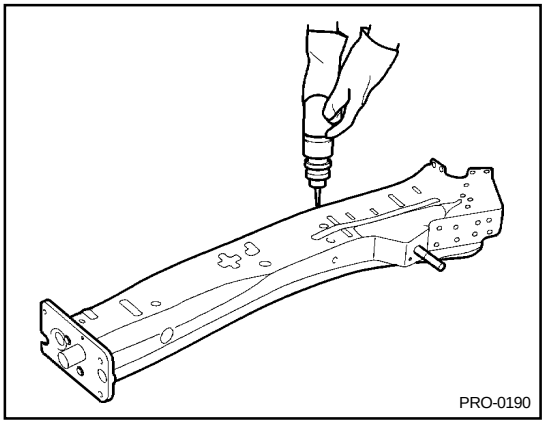

PRO-0170

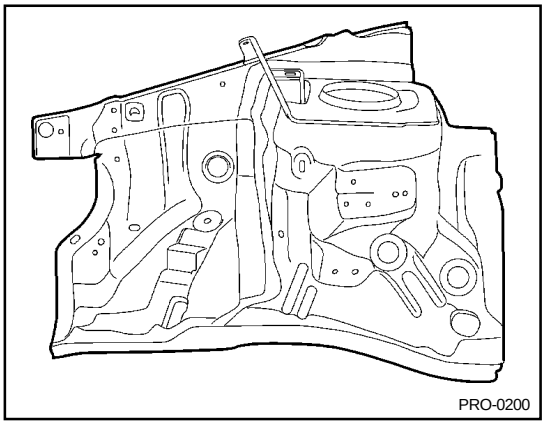
8. Using a hammer and dolly, correct any flanges that become bent or deformed when spotwelds are broken.


PRO-0180

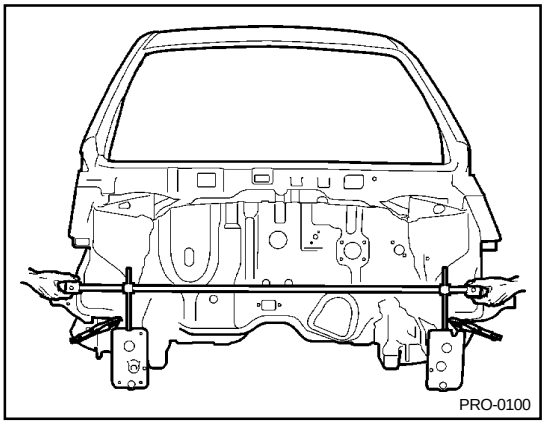
INSTALLATION

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.

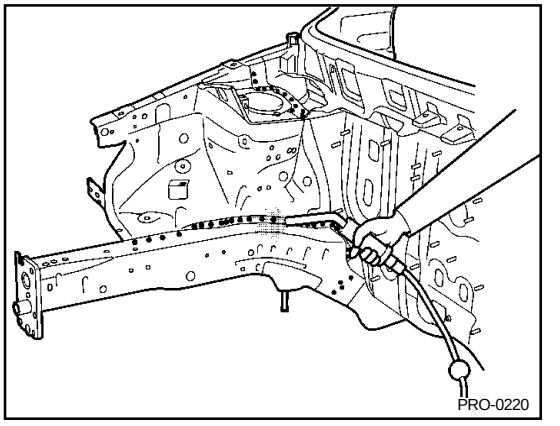

PRO-0190


PRO-0200

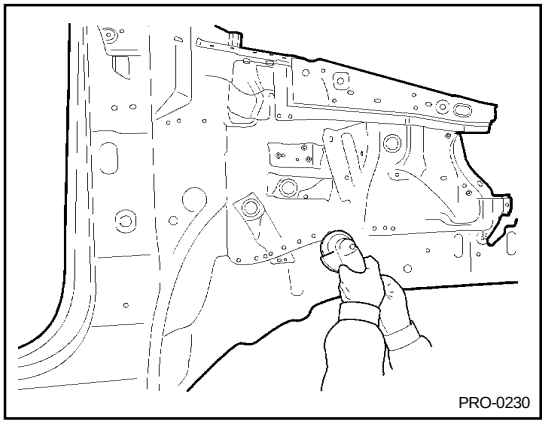
3. Temporarily install new parts in place.
4. Measure each measurement point (Refer to the BODY DIMENSIONS) and corrcet the installation position.


PRO-0100

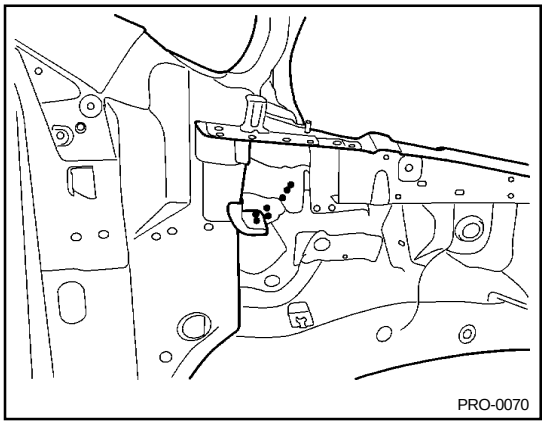
5. MIG plug weld all holes


PRO-0220

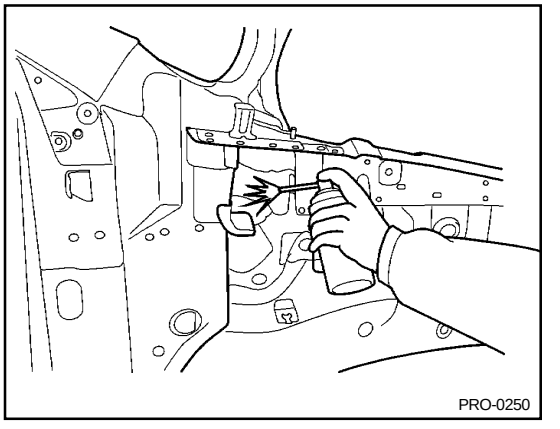
6. Clean MIG welds with a disc grinder.


PRO-0230

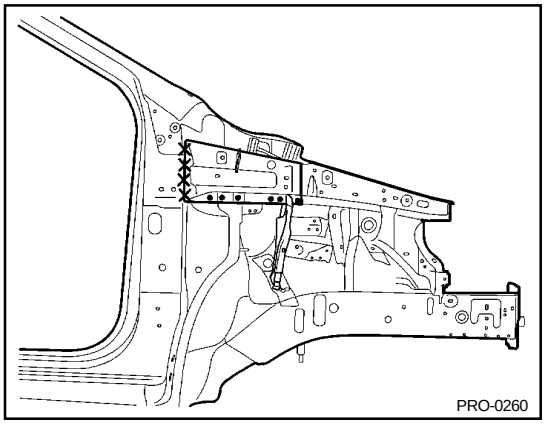
NOTE
1. **Be careful not to grind welded portions too much.**
2. **The internal parts will be stronger if the weld traces are not ground.**


PRO-0070

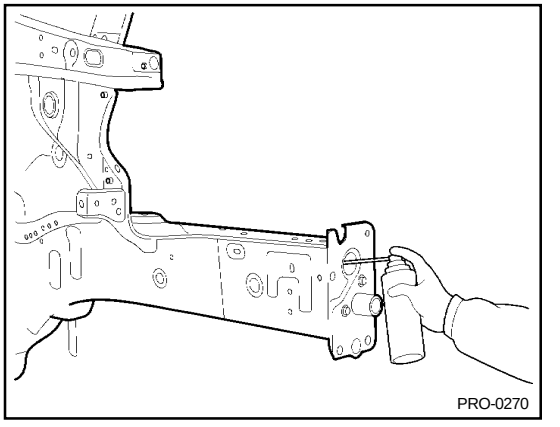
7. Before welding the cowl side upper outer panel, apply the two part epoxy primer and anti-corrosion agent to the interior of the fender apron panel.


PRO-0250

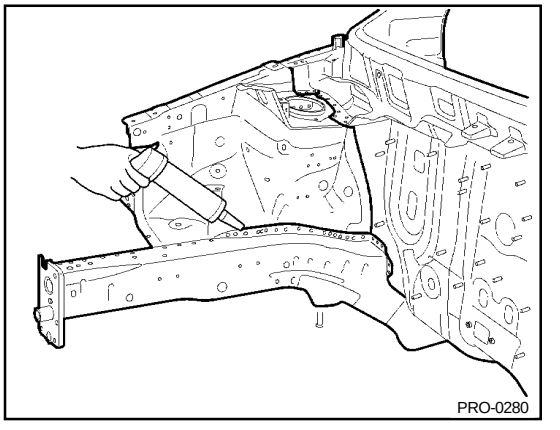
8. Install the cowl side upper outer panel in place.
9. MIG plug weld all holes.
10. Clean and prepare all welds, remove all residue.
11. Apply the two part epoxy primer to the interior of the each panel.


PRO-0260

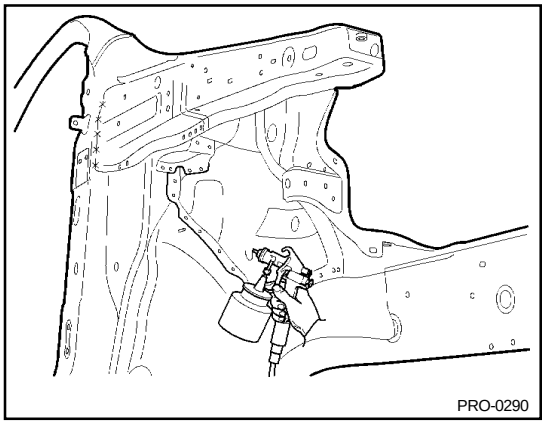
12. Apply an anti-corrosion agent as required (Refer to the CORROSION PROTECTION).
13. Prepare the exterior surfaces for priming using wax and grease remover.
14. Apply metal conditioner and water rinse.
15. Apply conversion coating and water rinse.
16. Apply the two-part epoxy primer.


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

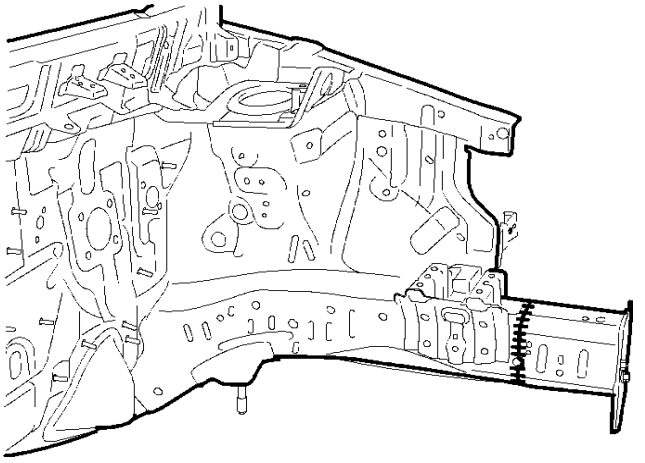
19. After completing body repairs, carefully apply under coating to the front sidemember and fender apron (Refer to the CORROSION PROTECTION).
20. In order to improve corrosion resistance, if necessary, apply an under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the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


PRO-0290

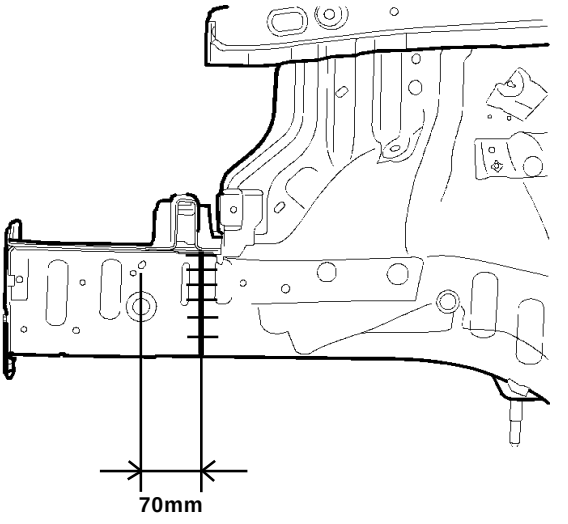
FRONT SIDE MEMBER (PARTIAL)

WELDLING POINTS

L/H



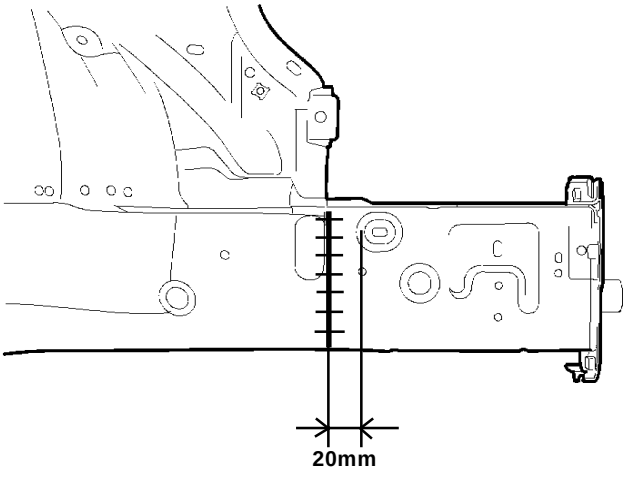
PRO-0300



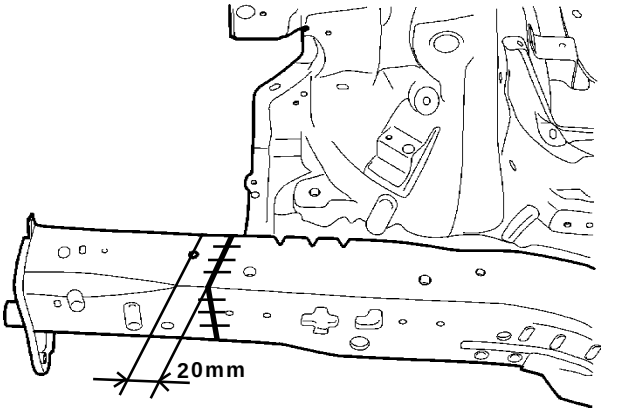
PRO-0310

● MIG plug welding
⧺ MIG butt welding

R/H



PRO-0320



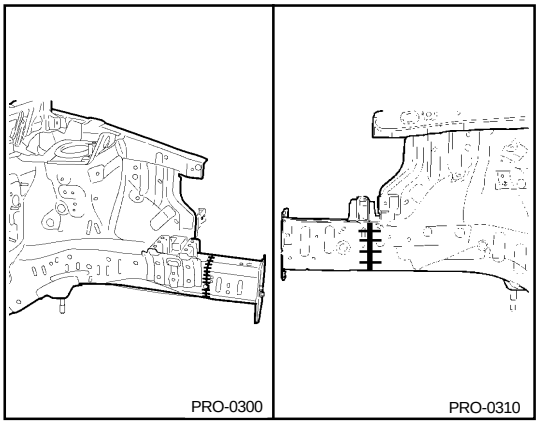
PRO-0330

● MIG plug welding
⧺ MIG butt welding

REMOVAL

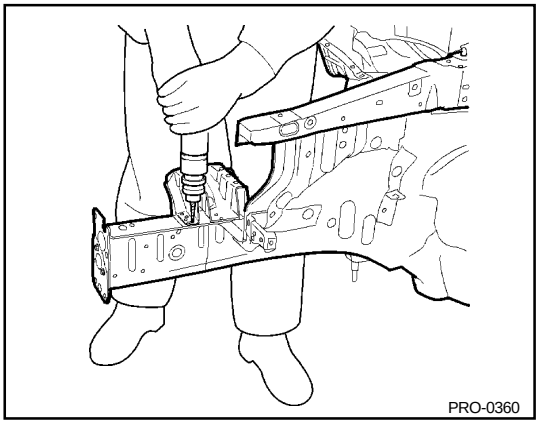
NOTE
This procedure is to be used only for repair of minor damage to the front side member and when it is impossible to straighten the damaged side member. The following procedure illustrates a repair for the front left side member.
The procedure may also be applied to the front right side-member.

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

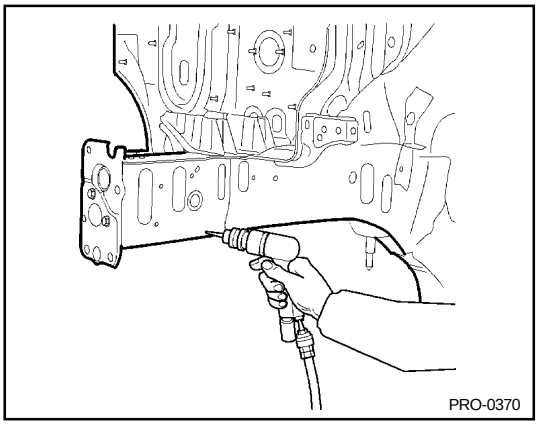


2. Drill out all the spotwelds to separate battery tray leg bracket from front side member.

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



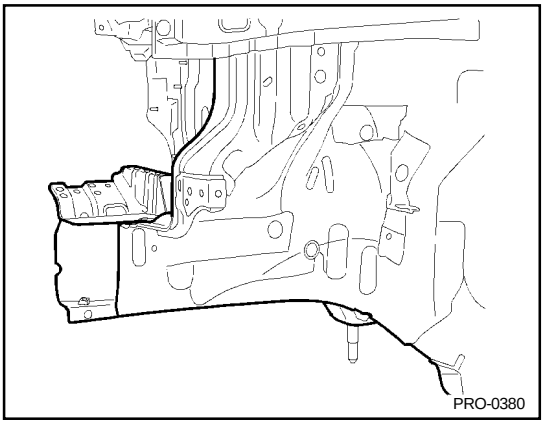
2. In order to perform cutting and separation of spotwelded points use a spot weld cutter which is larger than the size of the nugget to make a hole only in the panels to be replaced.



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

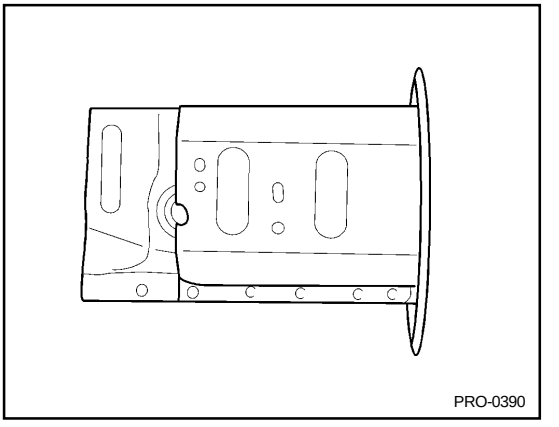
   NOTE
   Take care not to cut through front side member inner reinforcement.

4. Prepare all surfaces to be welded.

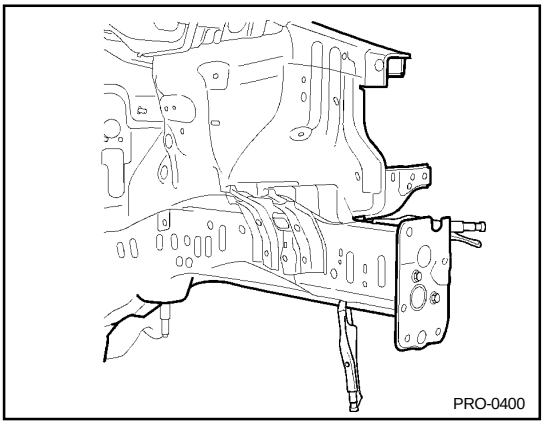

PRO-0380

INSTALLATION

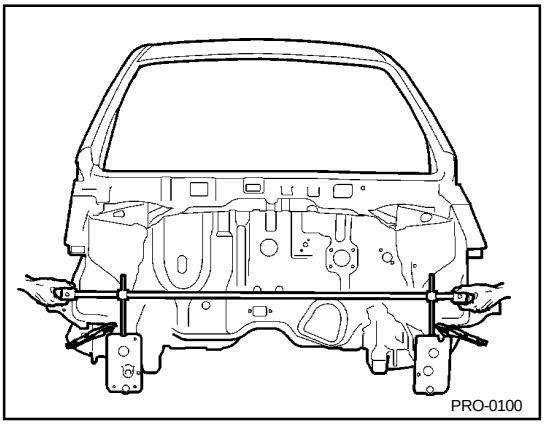
1. Transcribe the front side member inner and outer cutline to the new front side member, cut to length and chamfer butt end to improve weld surface.
2. Drill 8mm holes in new front side member for MIG plug welding.


PRO-0390

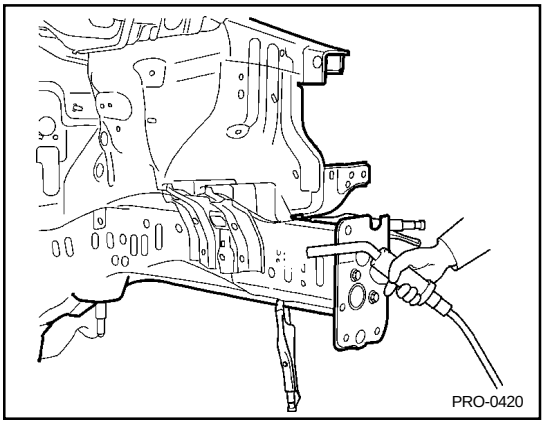
3. Fit and clamp the front side member inner and outer in place.
4. MIG plug weld all holes and MIG butt weld all seams.


PRO-0400

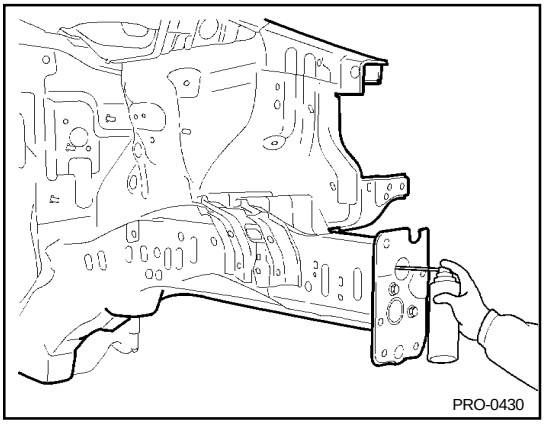
5. Measure each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.


PRO-0100

6. Clean and prepare all welds, remove all residue.
7. Apply the two-part epoxy primer to the interior of the front side member.

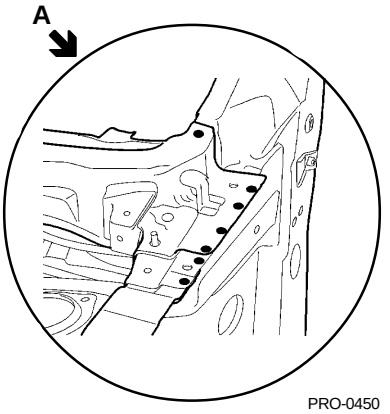


8. Apply an anti-corrosion agent as required (Refer to the CORROSION PROTECTION).
9. Prepare the exterior surfaces for priming using wax and grease remover.
10. Apply metal conditioner and water rinse.
11. Apply conversion coating and water rinse.
12. Apply the two-part epoxy primer.
13. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).
14. Reprime over the seam sealer to complete the repair.

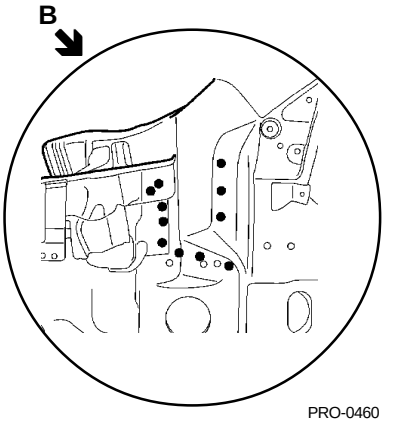


FRONT PILLAR

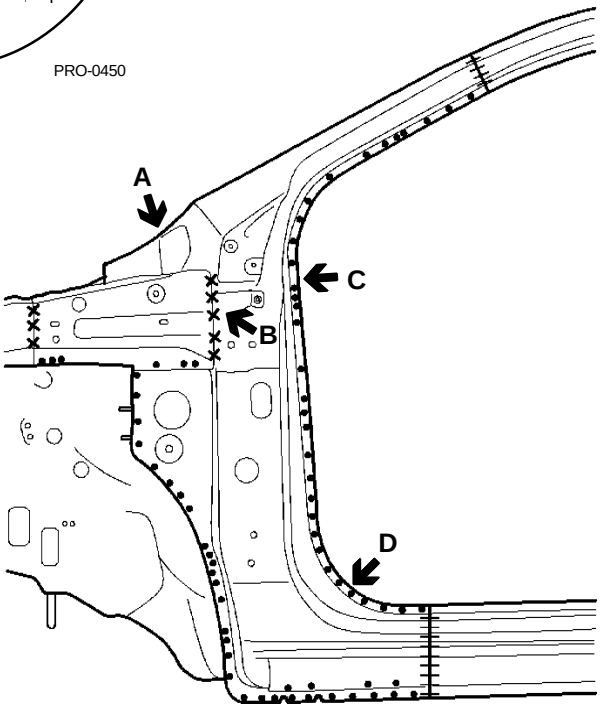
WELDLING POINTS



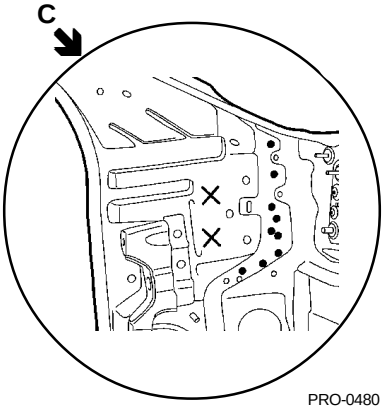
PRO-0450



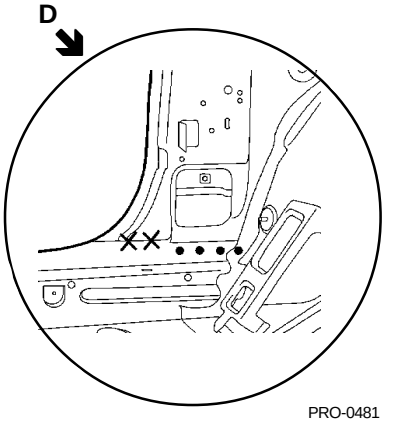
PRO-0460



PRO-0470



PRO-0480

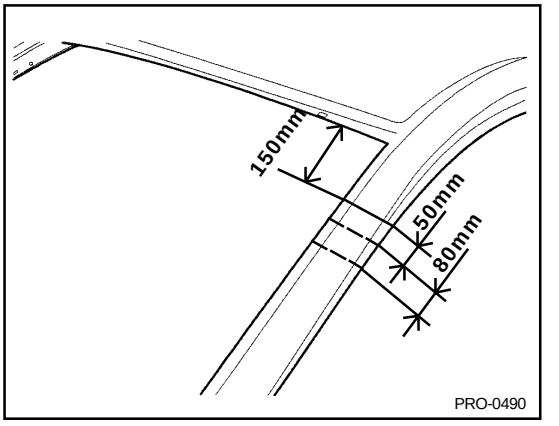


PRO-0481

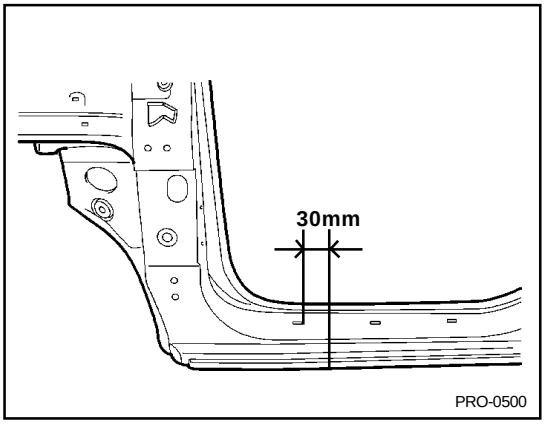
● **MIG plug welding**
MIG butt welding
MIG lap welding

REMOVAL

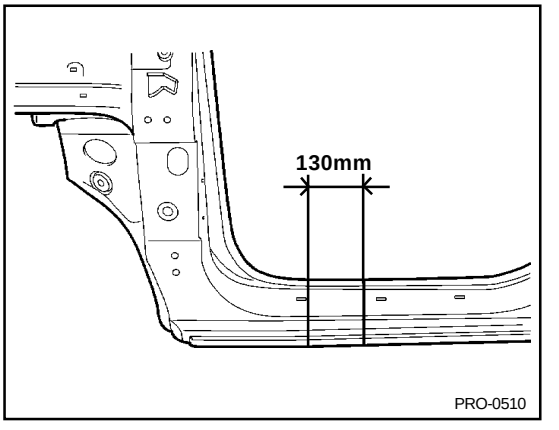
1. Measure and mark the each cutline on the front outer pillar at 150mm from the roof panel end line as indicated in the illustration.



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

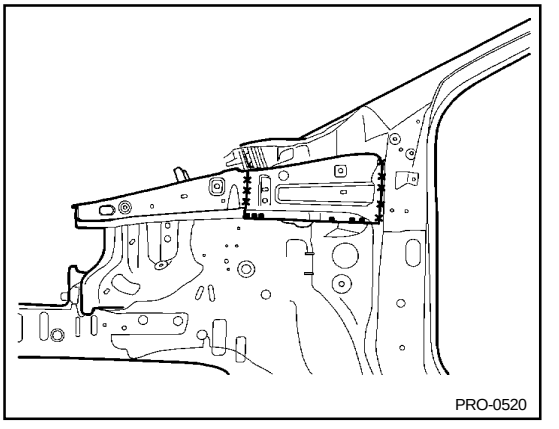


3. Depending on the extend of damaged area, it may be possible to determine the cutting range within indicated in the illustration.

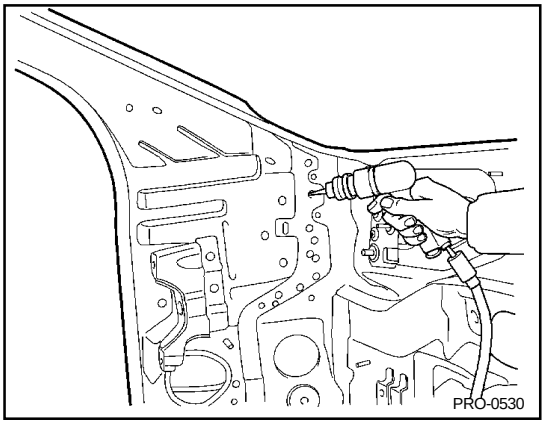


4. To remove the front pillar, grind away and drill out all welds attaching the cowl side upper outer panel as shown in the illustration.

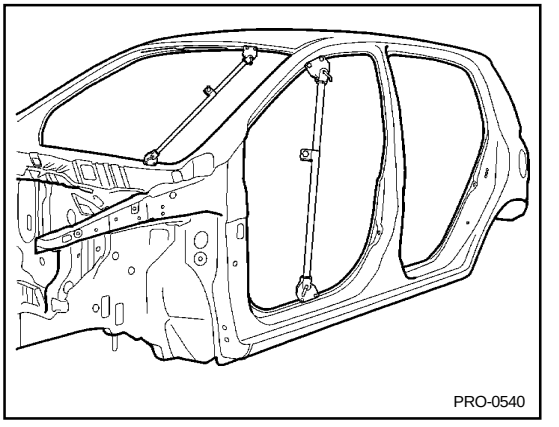
   NOTE
   If it is possible that the cowl side upper outer panel is reusable, be careful not to damage it while removing.



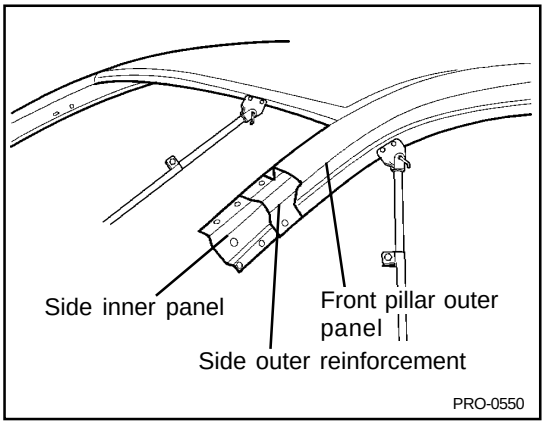
5. Drill out all welds attaching the front pillar to dash and cowl top outer, cowl inner lower panels.
6. Remove spotwelds and lap welds attaching cowl crossmember bar mounting upper bracket to remove front pillar.


PRO-0530

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


PRO-0540

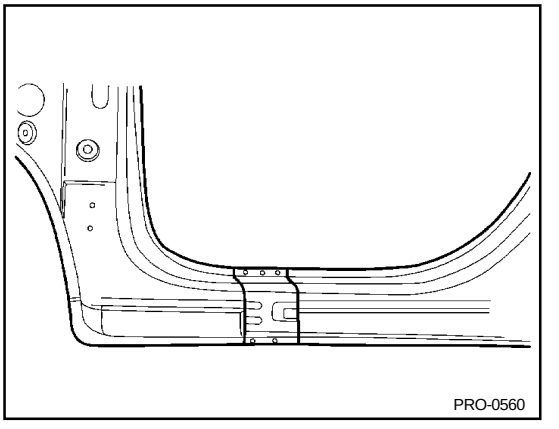
8. Cut the front pillar through each cutline, taking care not to damage the other panel as illustration.



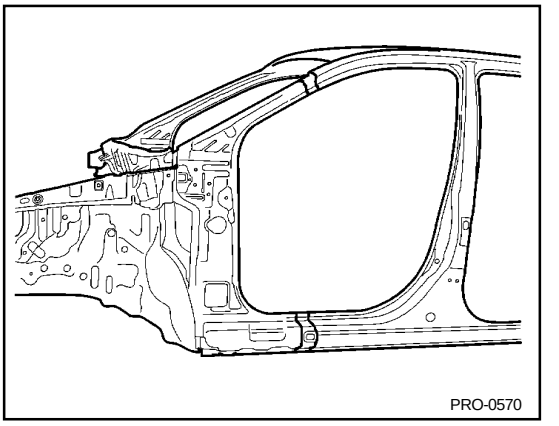
PRO-0550

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

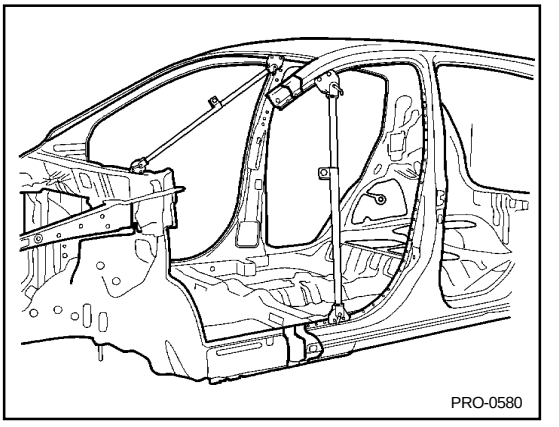
NOTE
When cutting the front side sill outer panel, be careful not to cut side outer reinforcement.


PRO-0560

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

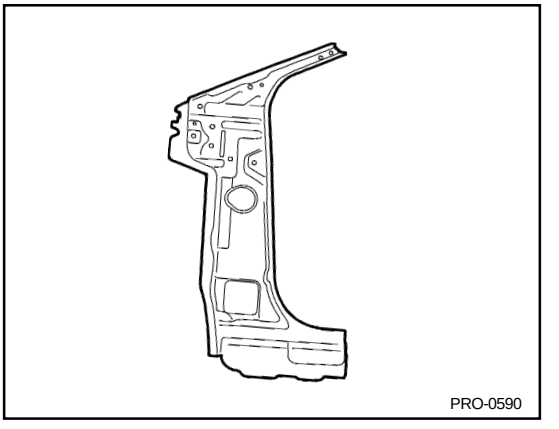

PRO-0570

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

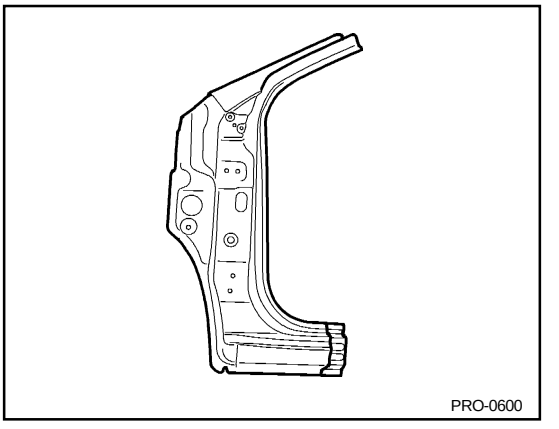

PRO-0580

INSTALLATION

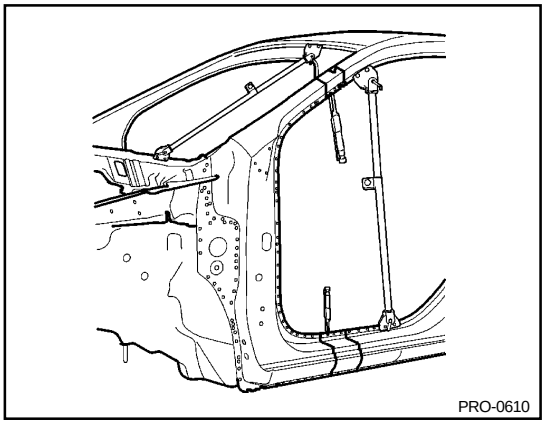
1. Transcribe the cutline to the new side inner panel, cut to length and chamfer butt end to improve weld surface.


PRO-0590

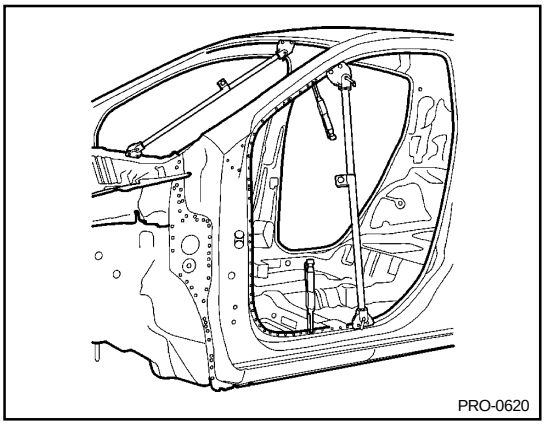
2. Transcribe the cutline to the new side outer reinforcement and new front pillar, adding 30mm overlap to end and cut to length.
3. Drill 8mm holes along outer panel flanges in production location for attachment to other panels.


PRO-0600

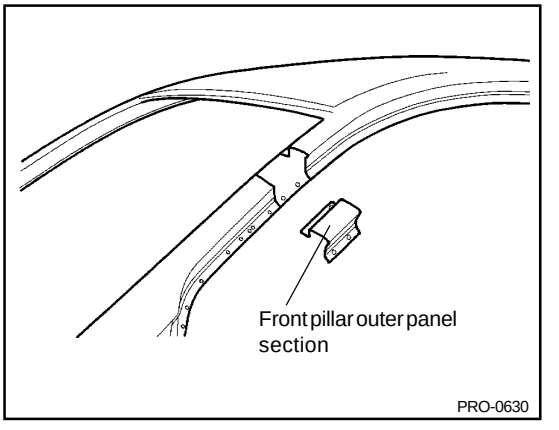
4. Transcribe the cutline to the new side inner panel, adding 30mm overlap to end and cut to length.
5. Drill 8mm holes in the side inner panel for MIG plug welding.
6. Fit and clamp the new side inner panel in place for welding.
7. MIG plug weld all holes and MIG butt weld the seams.


PRO-0610

8. Temporarily install front pillar 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.

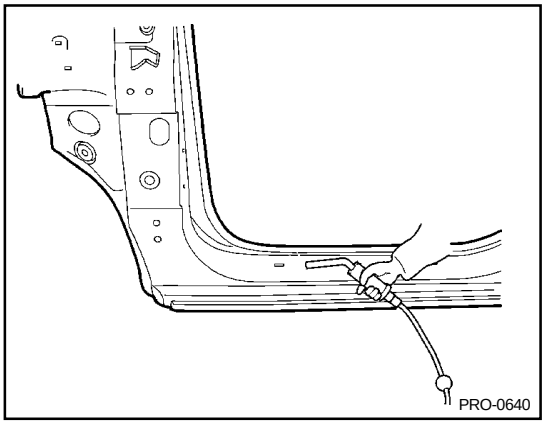

PRO-0620

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



PRO-0630

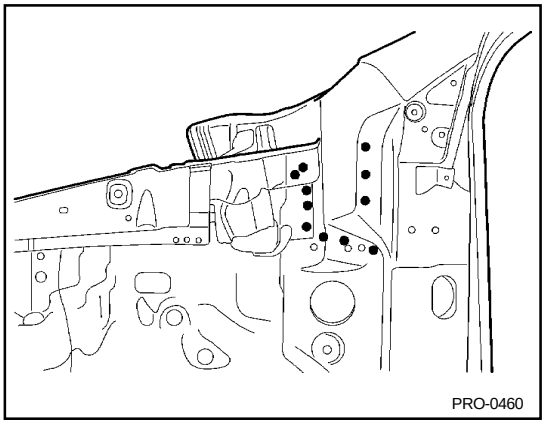
13. MIG plug weld all holes and MIG butt weld all seams in the side outer panel.
14. Clean and prepare all welds, remove all residue.
15. Apply body filler to joints and sand as needed.
16. Apply the two-part epoxy primer to the interior of the front pillar.


PRO-0640

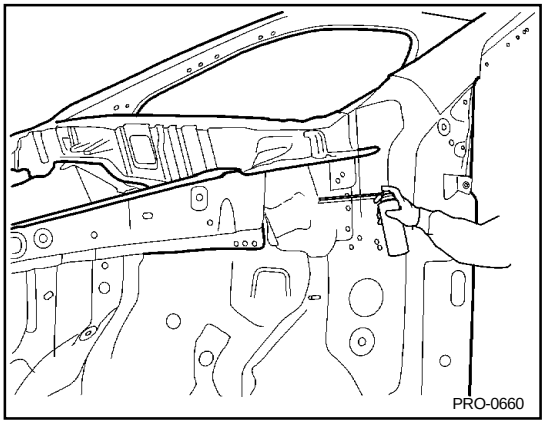
17. Clean all welds with a disc grinder.

NOTE

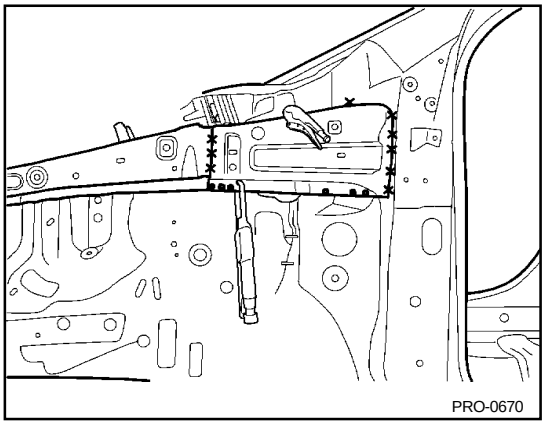
1. Be careful not to grind welded portions too much.
2. The internal parts will be stronger if the weld traces are not ground.


PRO-0460

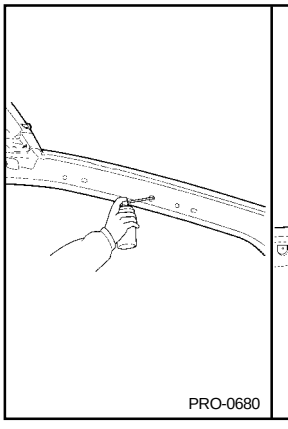
18. Before welding the cowl side upper outer panel, apply the two part epoxy primer and anti-corrosion agent to the interior of the fender apron panel.

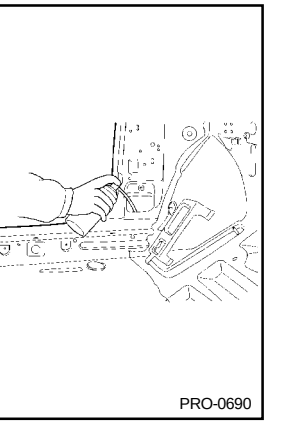

PRO-0660

19. Install the cowl side upper outer panel in place.
20. MIG plug weld all holes.
21. Clean and prepare all welds, remove all residue.

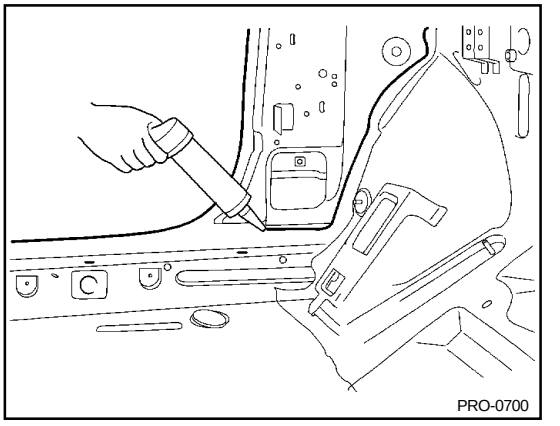

PRO-0670

22. Apply an anti-corrosion agent to the welded parts and inside of front 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.
26. Apply the two-part epoxy primer.


PRO-0680

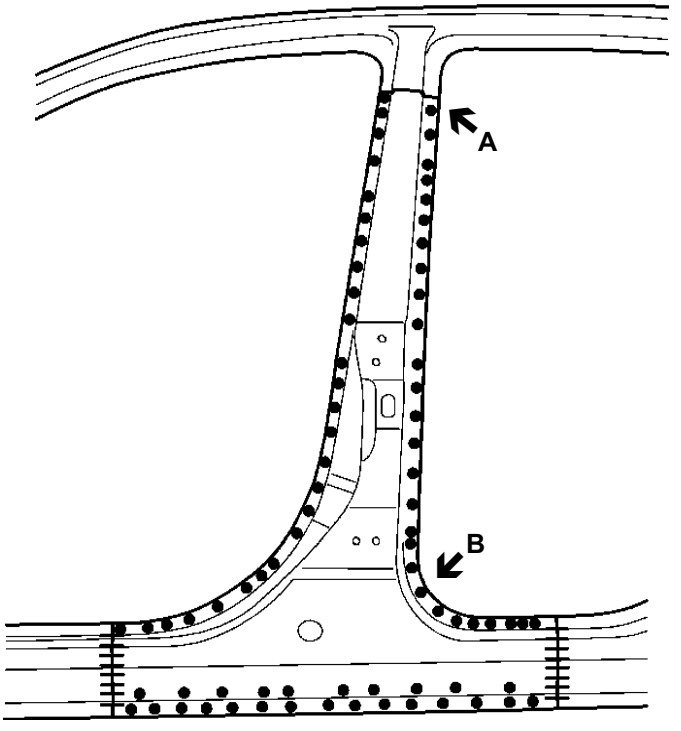

PRO-0690

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.

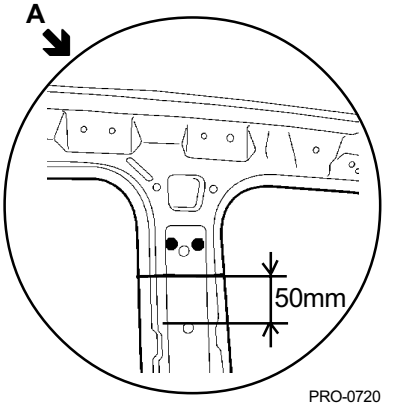


CENTER PILLAR

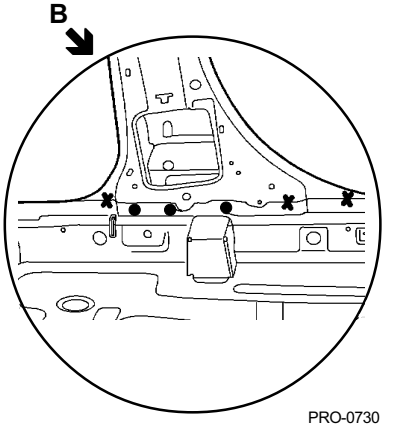
WELDLING POINTS



PRO-0710



PRO-0720

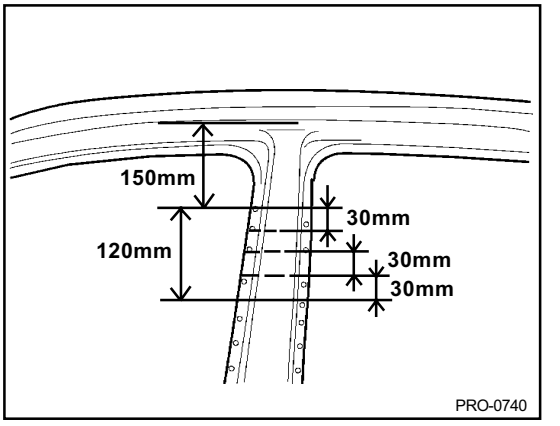


PRO-0730

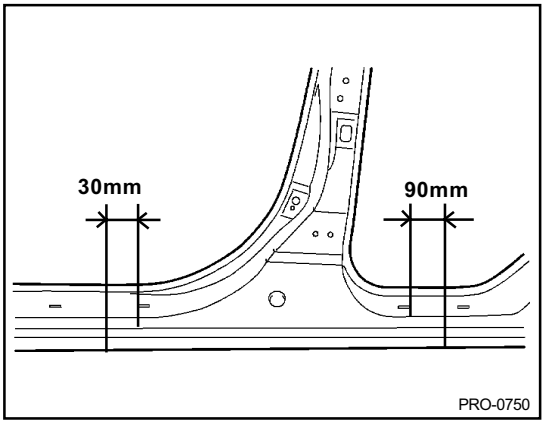
● MIG plug welding
MIG butt welding

REMOVAL

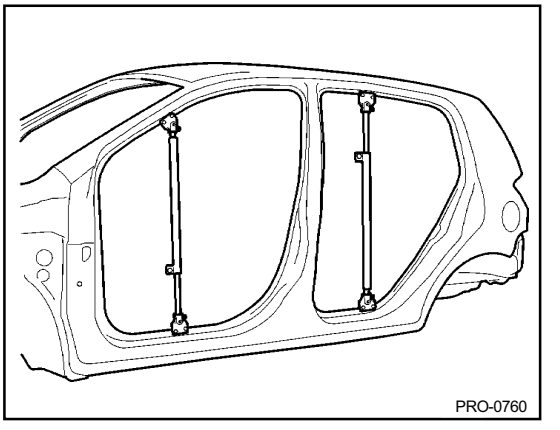
1. Measure and mark the horizontal cutline on center outer pillar as indicated in the illustration.



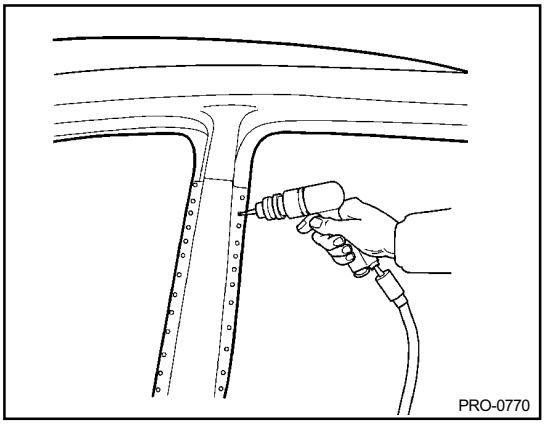
2. Measure and mark the vertical cutline on side sill outer panel 30mm from the front door step trim mounting hole.



3. Before cutting center pillar, be sure to support roof panel.



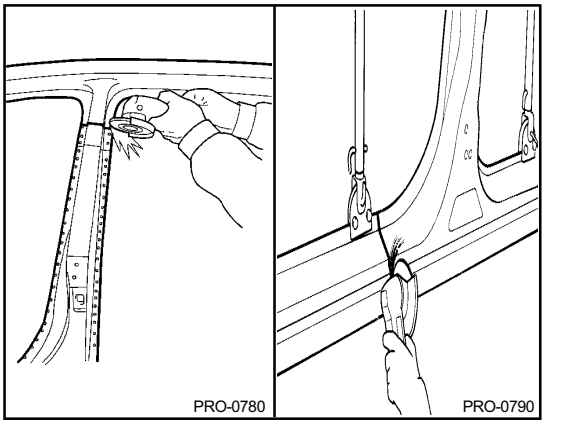
4. Drill out all spotwelds attaching the center outer pillar to the body to remove center outer pillar.

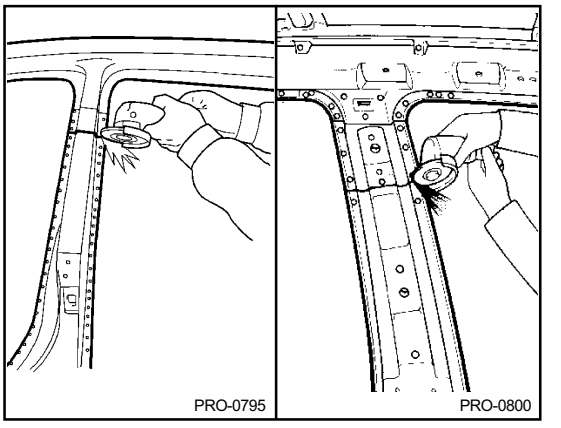


5. Cut through center outer pillar and side sill outer panel at cutlines.

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

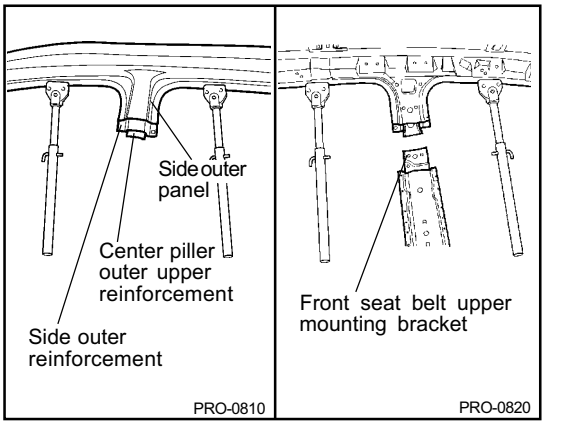
6. After cutting side outer panel (center outer pillar & side sill), cut the side outer reinforcement and center inner pillar.
7. Remove the center pillar.

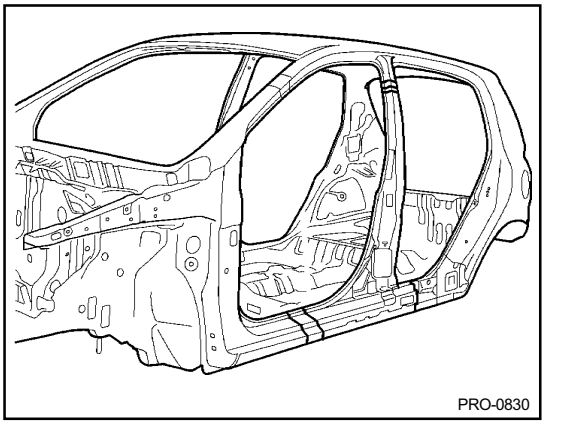




NOTE
When cutting center inner pillar, be careful not to cut front seat belt mounting upper bracket.

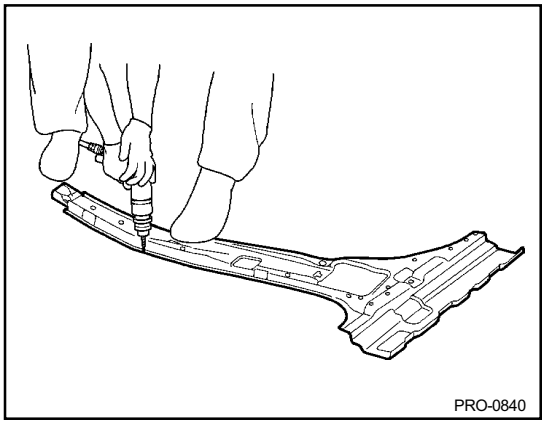
8. Determine if the side outer reinforcement is damaged and needs to be replaced. If replacing is necessary, mark out the damaged portion of the reinforcement. Cut at cutlines and remove damaged portion.
9. Straighten all flanges as necessary.
10. Prepare all surfaces to be welded.



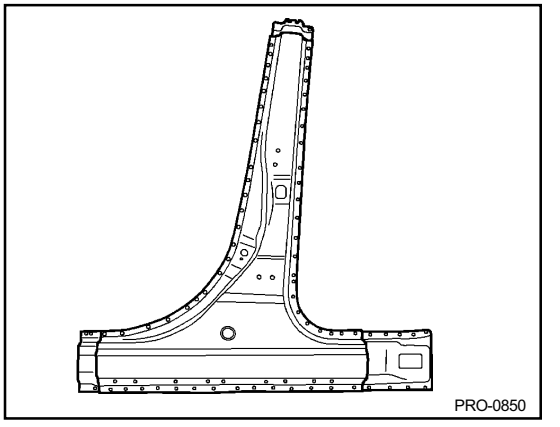


INSTALLATION

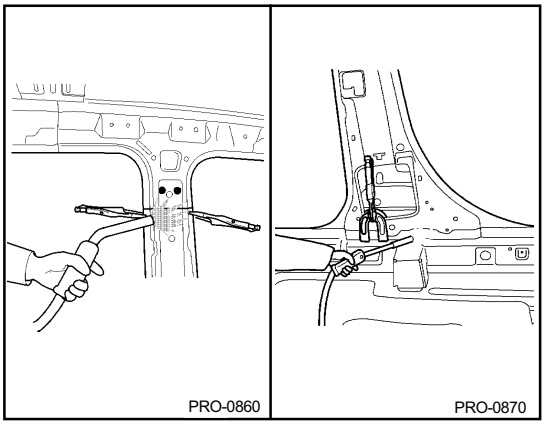
1. In order to install center inner pillar drill out all spotwelds attaching the roof side inner rail to center inner pillar to separate them.

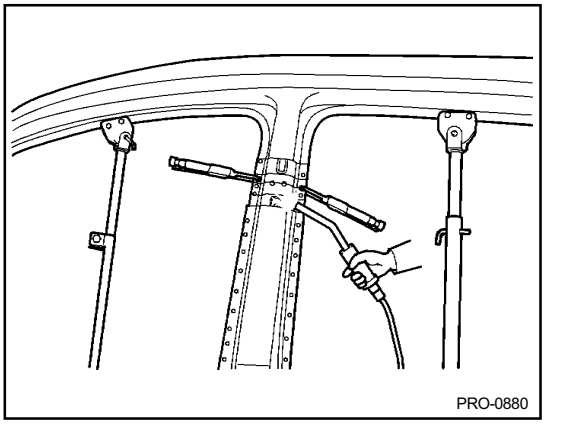


2. Transcribe the center outer pillar cutlines to the new center outer pillar, adding 30mm overlap at center lower pillar ends.
3. Cut and chamfer butt end to improve weld surface.
4. Drill 8mm holes in overlap area and along outer panel flanges.

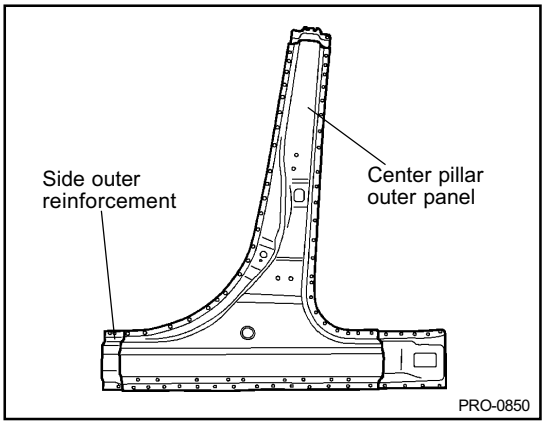


5. MIG butt weld all seams in center inner pillar and side outer reinforcement as shown in the illustration.



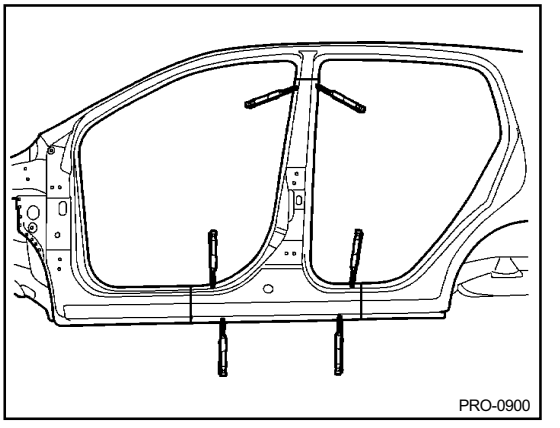


6. Transcribe the cutline dimensions to the new side outer reinforcement, adding 30mm overlap to each end and cut to length.
7. Drill 8mm holes in overlap areas on each end of new side outer reinforcement and clamp the new side outer reinforcement in place.

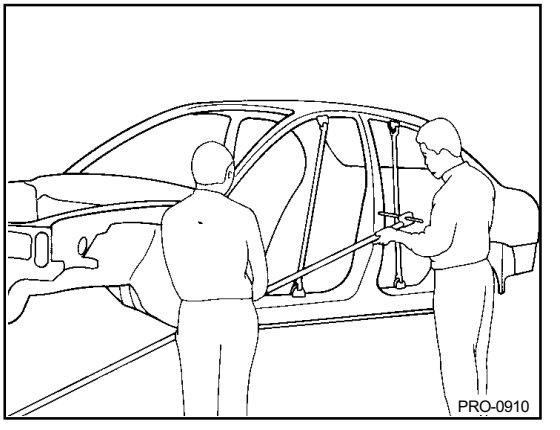


8. MIG plug weld all holes and MIG butt weld seams.

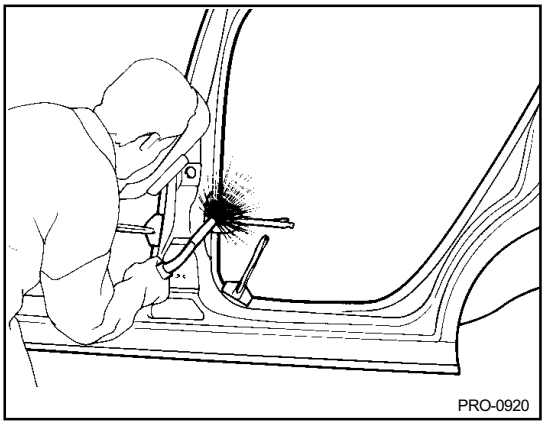
NOTE
The reinforcement will be stronger if the weld traces are not ground.



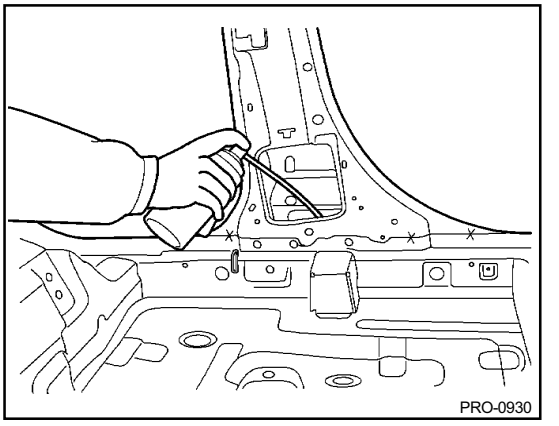
9. Temporarily install new center outer panel in place.
10. Screw center pillar in place.
11. Measure and each measurement point (Refer to the BODY DIMENSIONS) and correct the installation position.
12. Check the fit of the front and rear doors.



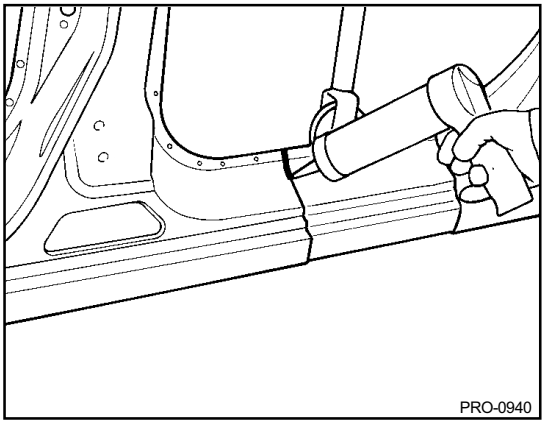
13. Reinstall center outer pillar and screw in place.
14. MIG plug weld all holes and MIG butt weld all seams.
15. Clean and prepare all welds, and remove all residue.
16. Apply body filler to the outer center pillar seam. Sand and finish.
17. Apply the two-part epoxy primer to the interior of the center pillar.
18. Apply an anti-corrosion agent to the welded parts and interior of the center 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.
22. Apply the two-part epoxy primer.
23. Apply the correct seam sealer to all joints carefully (Refer to the BODY SEALING LOCATIONS).

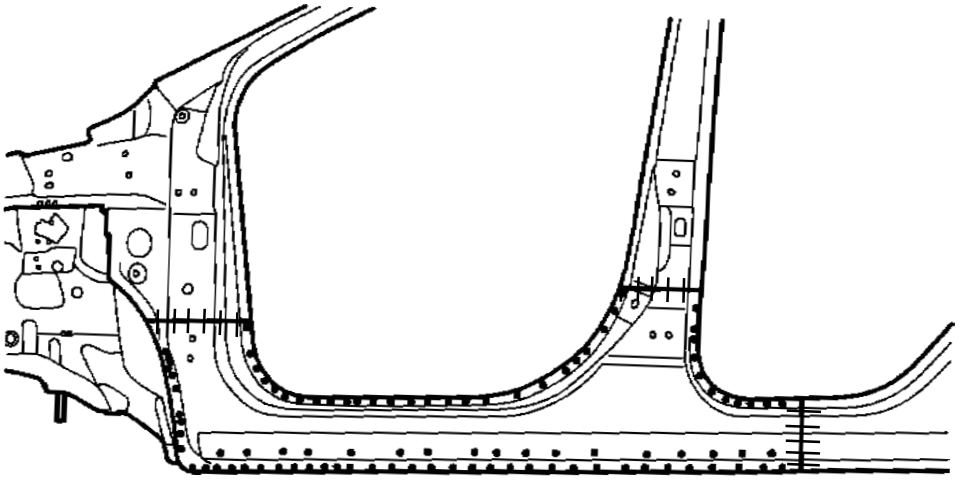

PRO-0930

24. Reprime over the seam sealer to complete the repair.


PRO-0940

SIDE SILL (ASSEMBLY)

WELDLING POINTS

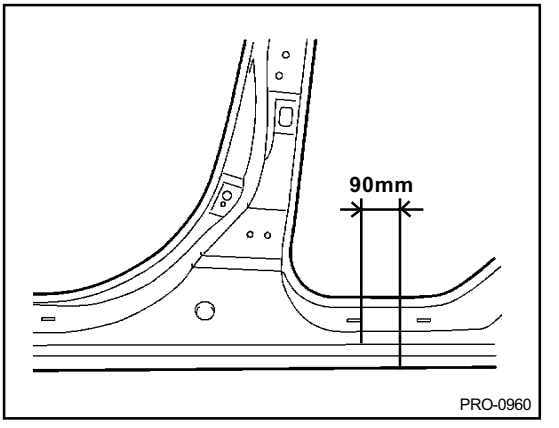


● **MIG plug welding**
⫼ **MIG butt welding**

PRO-0950

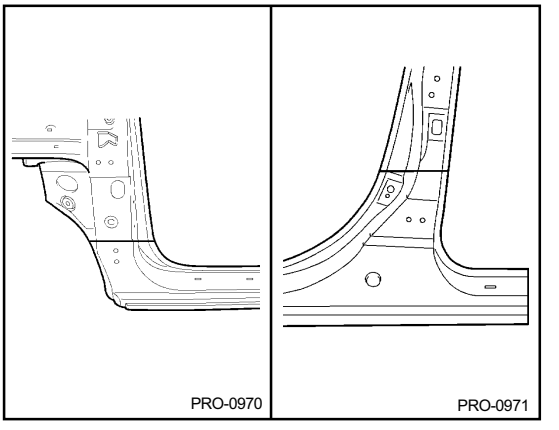
REMOVAL

1. Measure and mark vertical cutline from the rear door step trim mounting hole on the rear side sill inner panel.



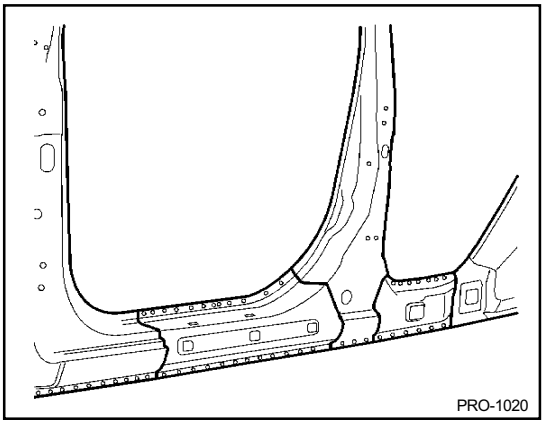
PRO-0960

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

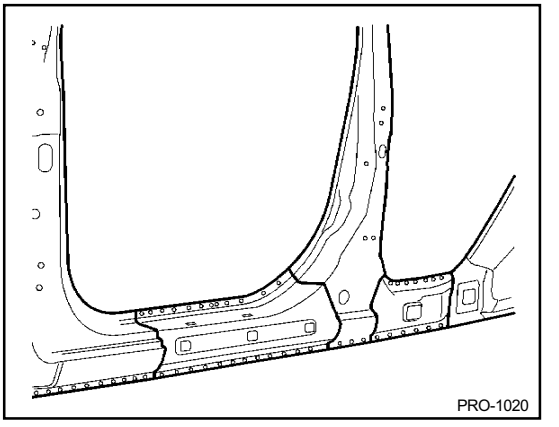


PRO-0970 PRO-0971

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.

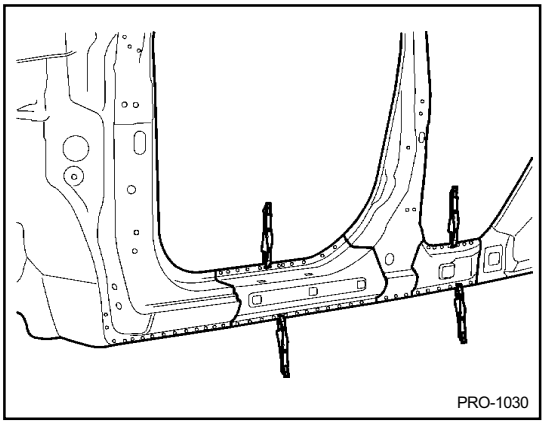

PRO-1020

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


PRO-1020

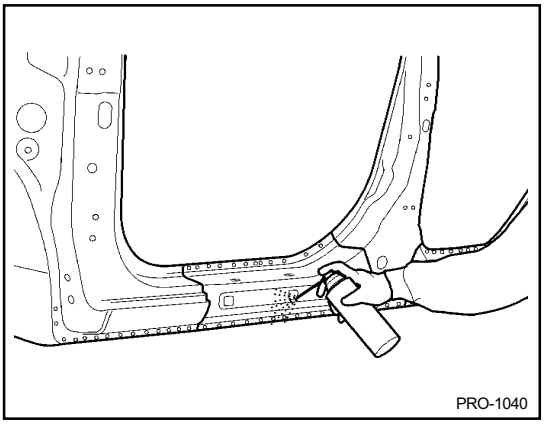
INSTALLATION

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 sill outer reinforcement in place.
4. MIG plug weld all holes and MIG butt weld seams.

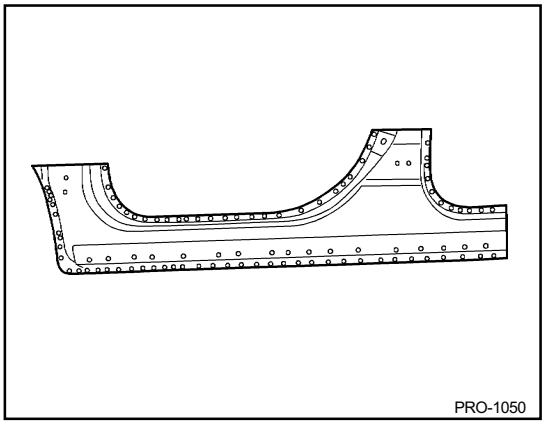

PRO-1030

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

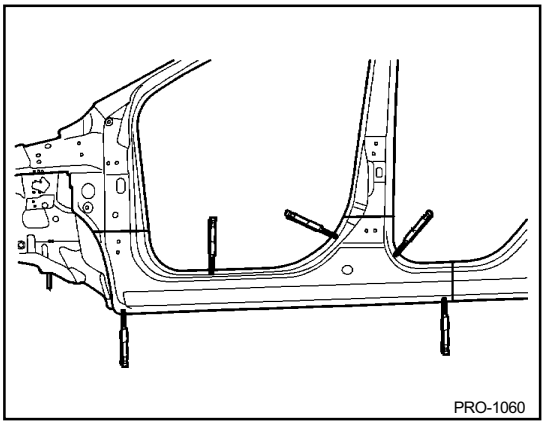
   NOTE
   The reinforcement will be stronger if the weld traces are not ground.


PRO-1040

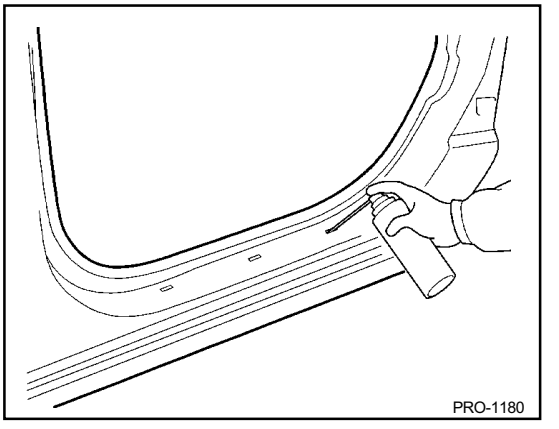
6. Using service panel for replacement of side sill outer panel, drill 8mm holes in overlap areas and along upper and lower flanges.


PRO-1050

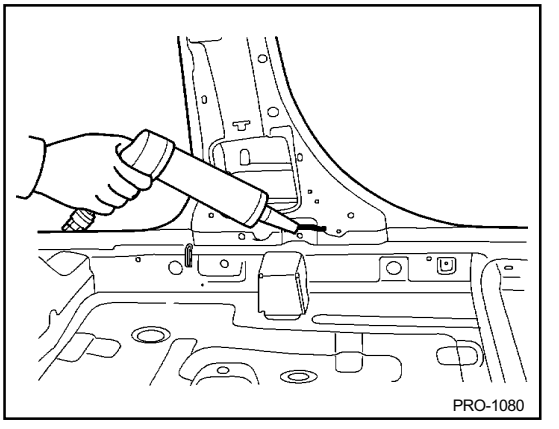
7. Crimp flanges on the remaining portion of the side sill outer panel at all joint for overlap.
8. Fit and clamp the side sill outer panel in place.
9. MIG plug weld all holes and MIG butt weld seams.
10. Clean and prepare all welds and remove all residue.
11. Apply body filler to the side sill outer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


PRO-1060

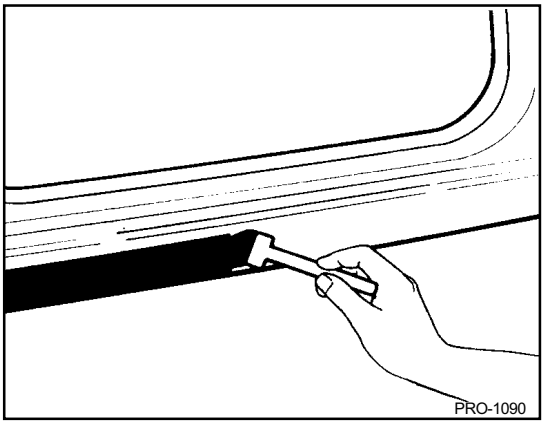
13. Apply an anti-corrosion agent to welded parts and interior of the side sill (Refer to the CORROSION PROTECTION).
14. Prepare the exterior surfaces for priming, using wax and grease remover.
15. Apply metal conditioner and water rinse.
16. Apply conversion coating and water rinse.
17. Apply the two-part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


PRO-1180

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

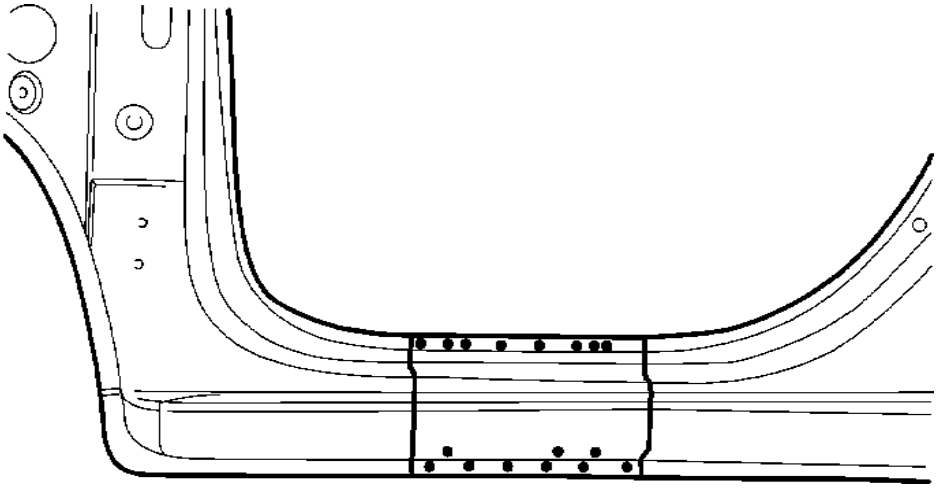

PRO-1080

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



SIDE SILL (PARTIAL)

WELDLING POINTS

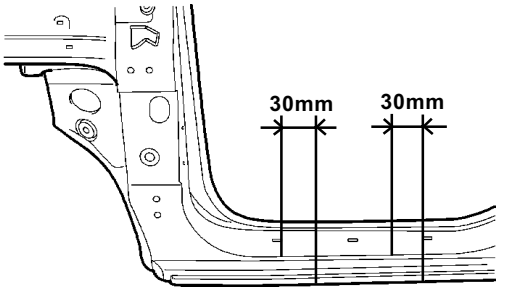


● **MIG plug welding**
MIG butt welding

PRO-1100

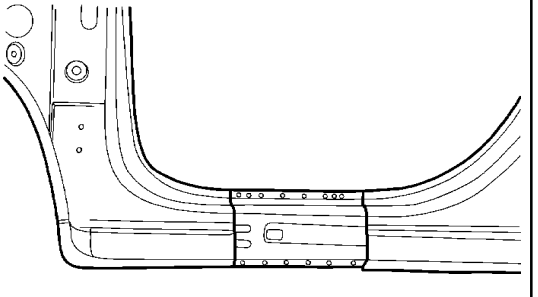
REMOVAL

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



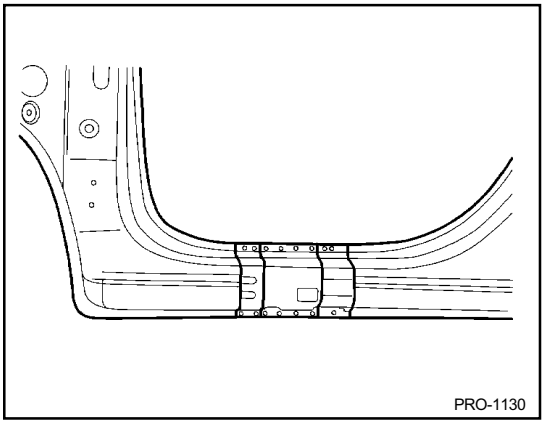
PRO-0500

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.



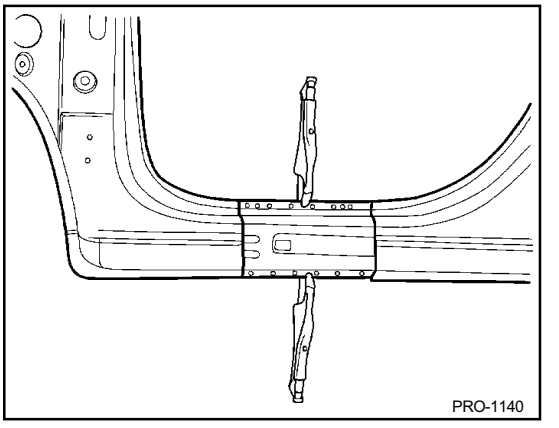
PRO-1120

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


PRO-1130

INSTALLATION

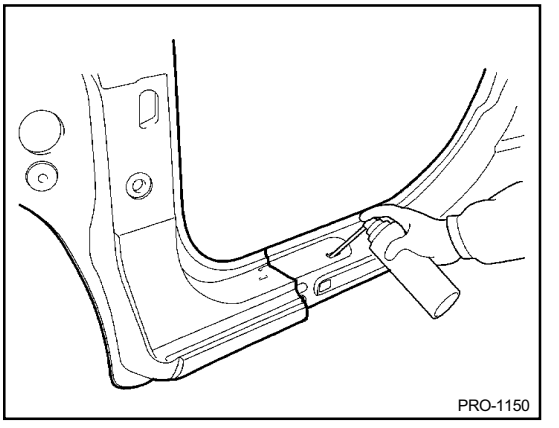
1. Transcribe the cutline to the new front side outer reinforcement, adding 30 mm overlap to each end and cut to length.
2. Drill 8 mm holes in overlap areas on each end and upper flange of new side outer reinforcement and clamp the new side outer reinforcement in place.


PRO-1140

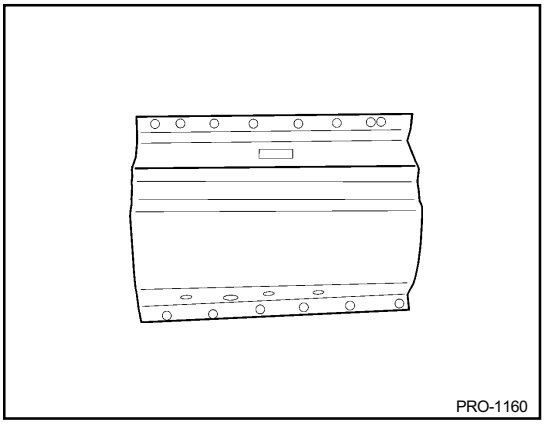
3. MIG plug weld all holes and MIG butt weld all seams.

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

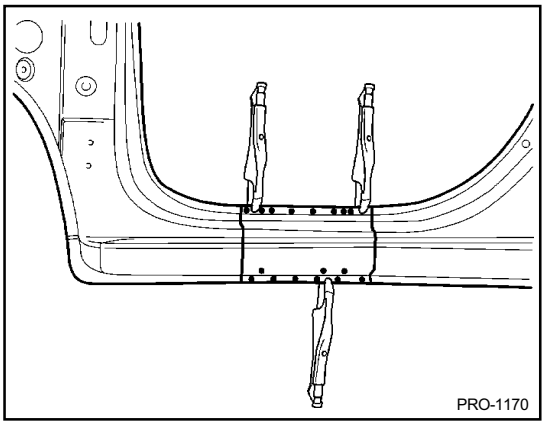
4. Before welding the side sill outer panel, apply the two part epoxy primer and anti-corrosion agent to the welded parts.


PRO-1150

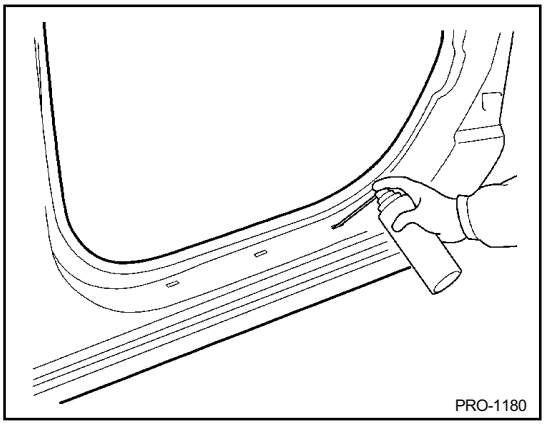
5. Transcribe the side sill outer panel cutline to the new side sill, adding 30 mm overlap to each end, cut and chamfer butt end to improve weld surface.
6. Drill 8 mm holes in overlap areas on each end and along upper and lower flanges of the new side sill outer panel for MIG plug welding.


PRO-1160

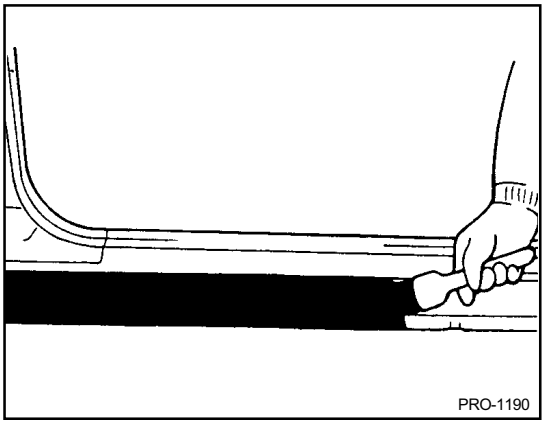
7. Fit and clamp the side sill in place.
8. MIG plug weld all holes and MIG butt weld seams.
9. Clean and prepare all welds, remove all residue.
10. Apply body filler to the side sill outer seams.
11. Apply the two-part epoxy primer to the interior of the side sill.



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.

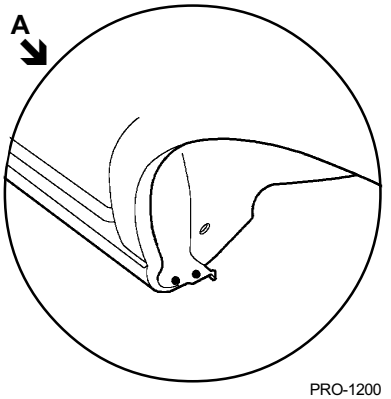


17. Apply the anti-corrosion primer to the side sill outer panel to complete the repair (Refer to the CORROSION PROTECTION).

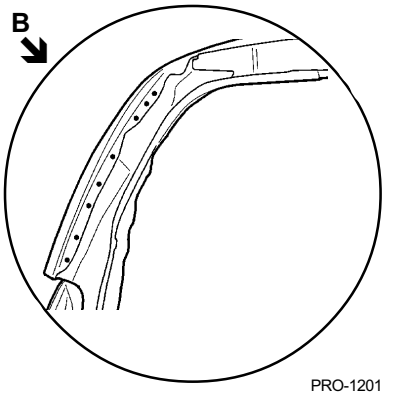


QUARTER PANEL

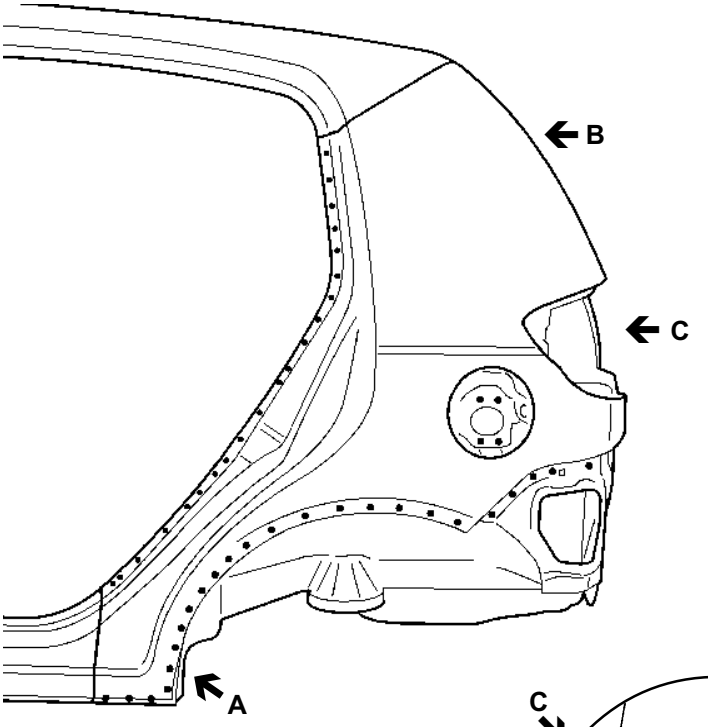
WELDLING POINTS



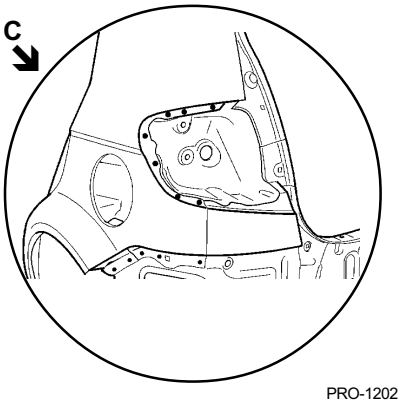
PRO-1200



PRO-1201



PRO-1220

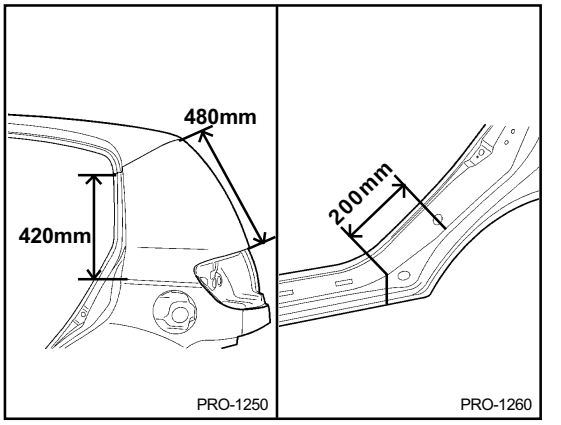


PRO-1202

● MIG plug welding
MIG butt welding

REMOVAL

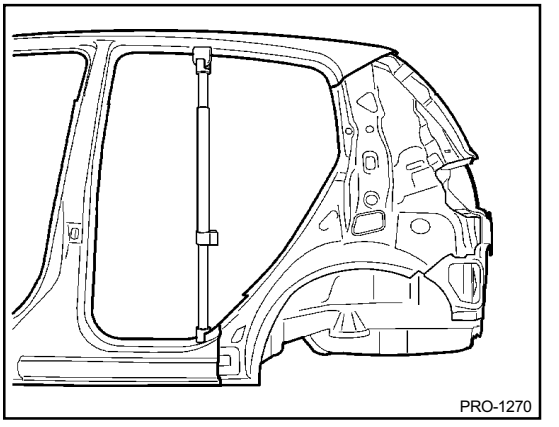
1. Depending on the extent of damage, measure and mark cutlines on the quarter outer panel as indicated in the illustration.



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

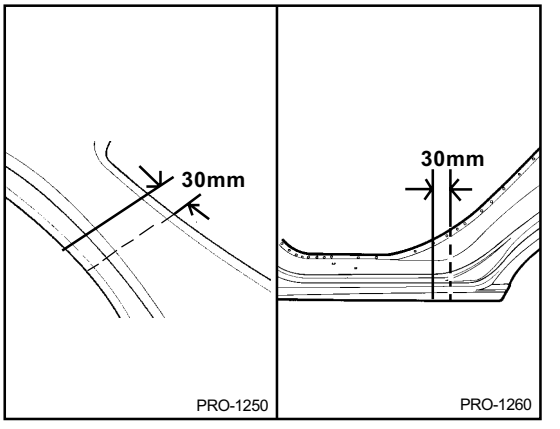
   NOTE
   When cutting the quarter outer panel, be careful not to cut quarter inner panel.

4. Prepare all surfaces to be welded.

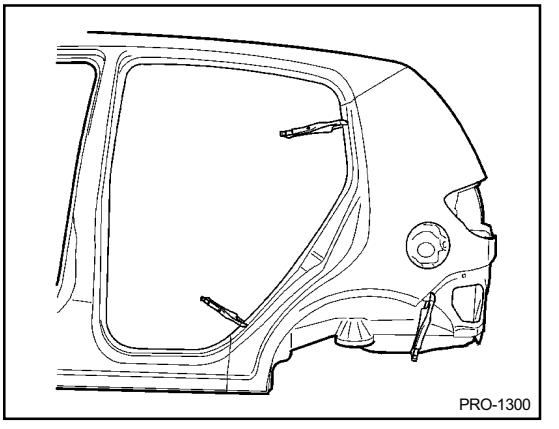


INSTALLATION

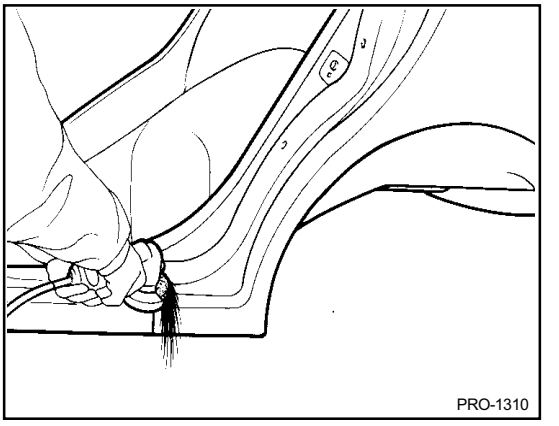
1. Transcribe the cutline to the new quarter outer panel, adding 30 mm for overlap at the old joint.
2. Drill 8 mm holes in overlap areas and along upper and lower flanges of the new quarter outer panel for MIG plug welding.



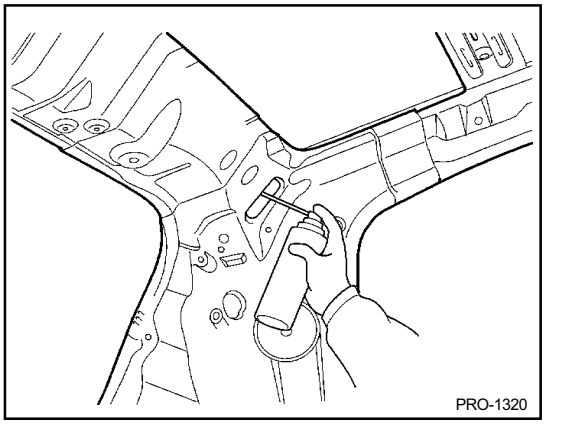
3. Fit and clamp the quarter outer panel in place.
4. MIG plug weld all holes and MIG butt weld seams. At the wheel well the edge must be crimped over the wheel housing.
   This joint may be welded after crimping or applying a bead of adhesive which may be applied to the joint before or after crimping.
5. Clean and prepare all welds, remove all residue.



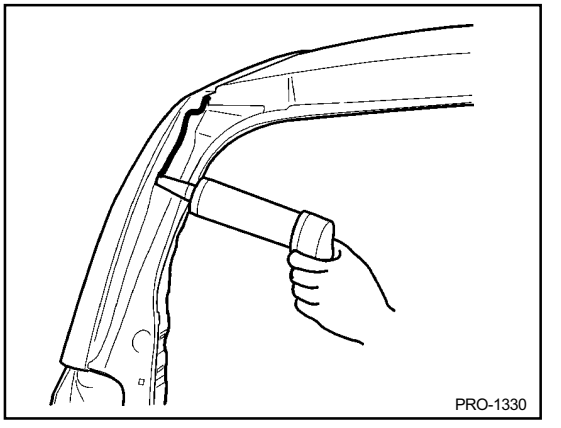
6. Apply body filler to the welded seam. Sand and finish. Apply the two-part epoxy primer to the interior of the quarter outer panel.


PRO-1310

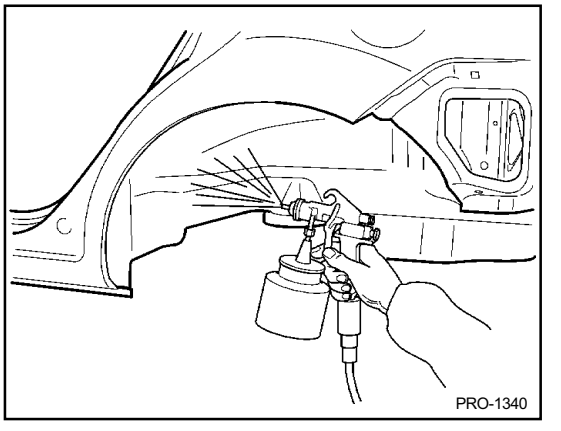
7. Apply an anti-corrosion agent to the welded parts and interior of the quarter outer panel (Refer to the CORROSION PROTECTION).
8. Prepare exterior surfaces for priming, using wax and grease remover.
9. Apply metal conditioner and water rinse.
10. Apply conversion coating and water rinse.
11. Apply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


PRO-1320

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

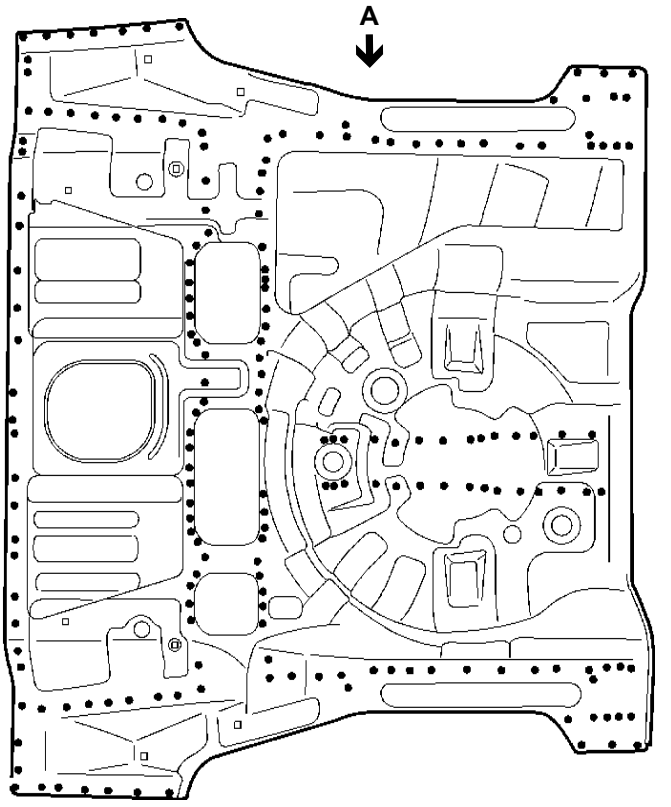

PRO-1330

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

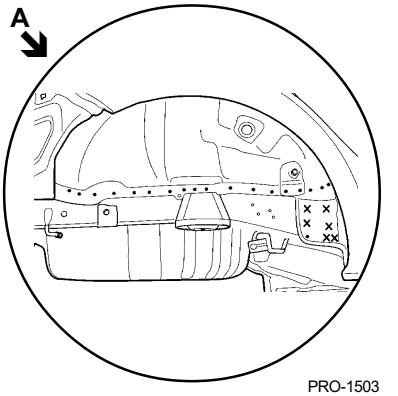

PRO-1340

REAR FLOOR

WELDLING POINTS



PRO-1520

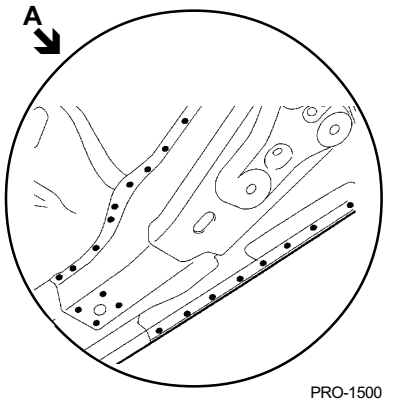


PRO-1503

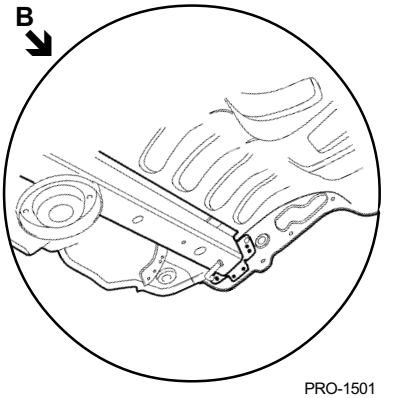
● MIG plug welding
⫲ MIG butt welding

REAR SIDE MEMBER (ASSEMBLY)

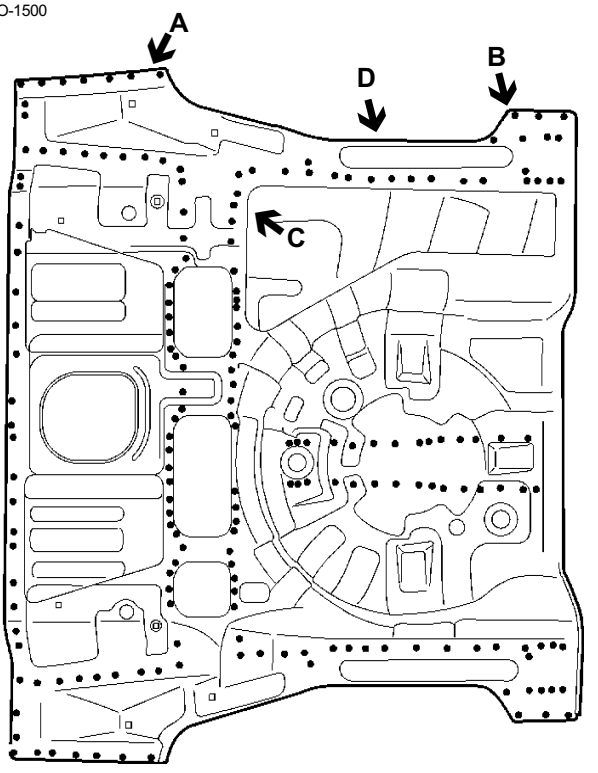
WELDLING POINTS



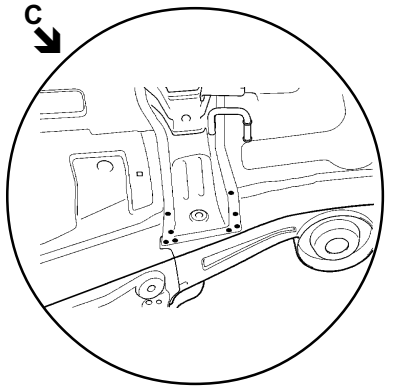
PRO-1500



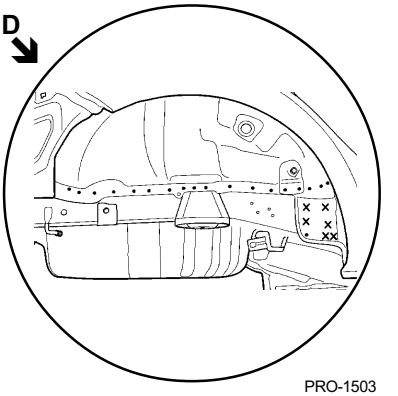
PRO-1501



PRO-1520



PRO-1502



PRO-1503

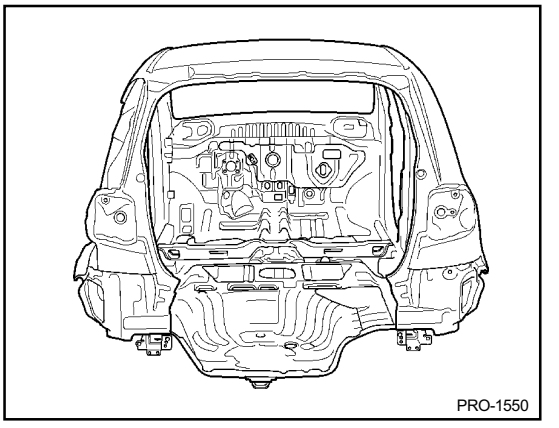
● MIG plug welding
⫲ MIG butt welding

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.

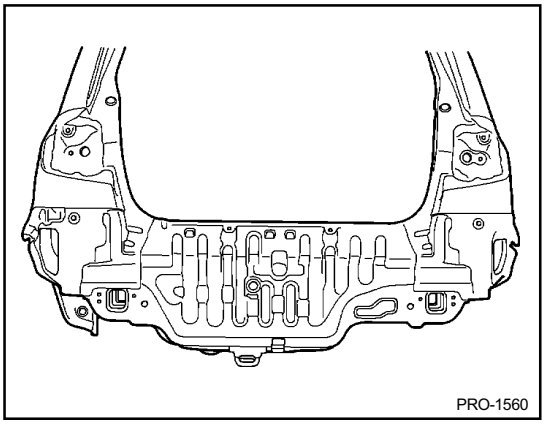
Refer to the body dimension chart and measure the vehicle to determine straigthening and alignment requirements. **The body must be returned to its original dimension before beginning the repair procedure.**

REMOVAL

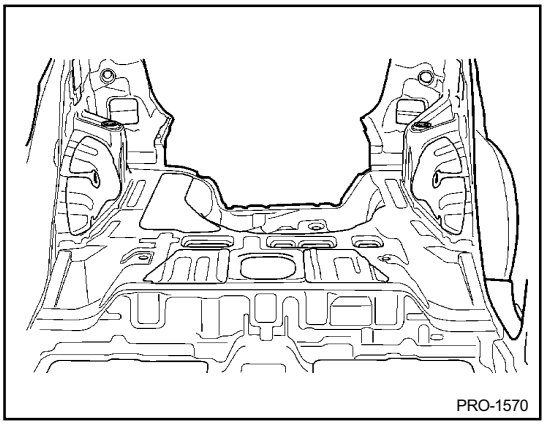
1. Drill out all the spotwelds attaching the rear floor panel to the wheel housings and rear side members.


PRO-1550

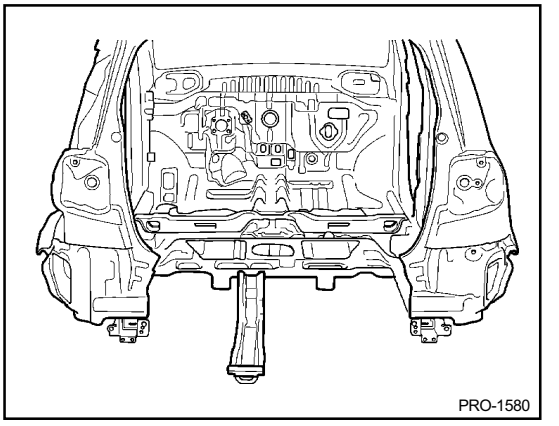
2. Remove the rear floor panel

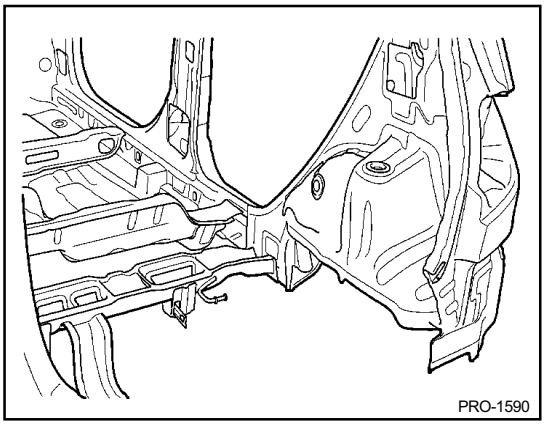

PRO-1560

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


PRO-1570

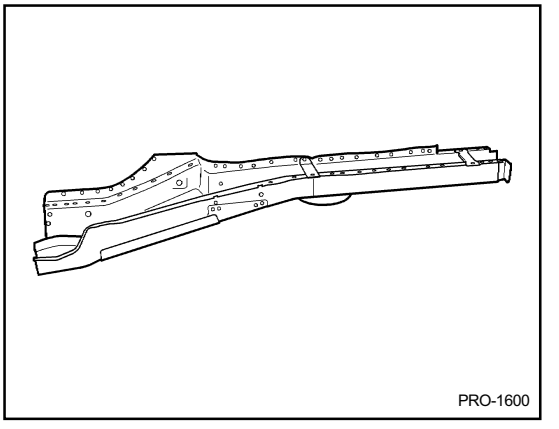
4. Remove the rear floor panel and rear side member from the rear body.


PRO-1580


PRO-1590

INSTALLATION

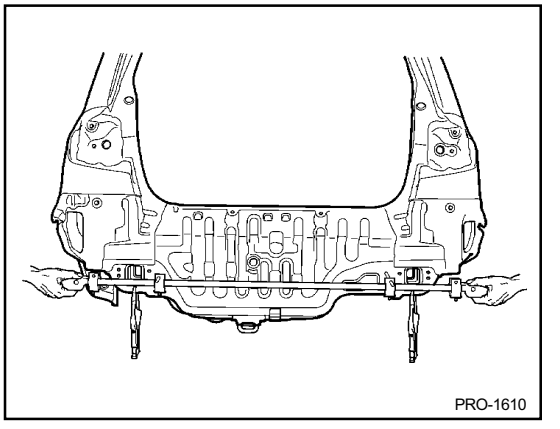
1. Transcribe the cutline to the new rear side members. Drill out the spotwelds attaching the inner reinforcements.
   Remove remaining portions of side members.


PRO-1600

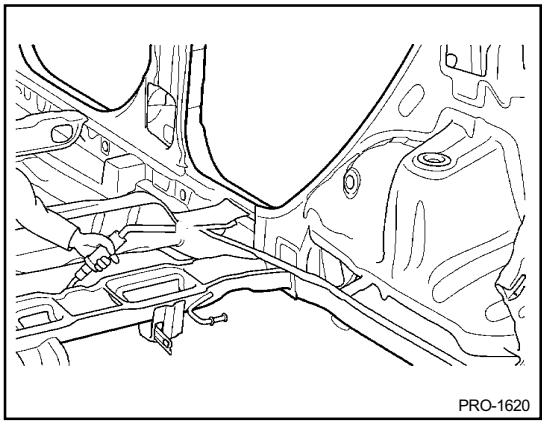
2. Temporarily fit and clamp the rear side members in place.

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

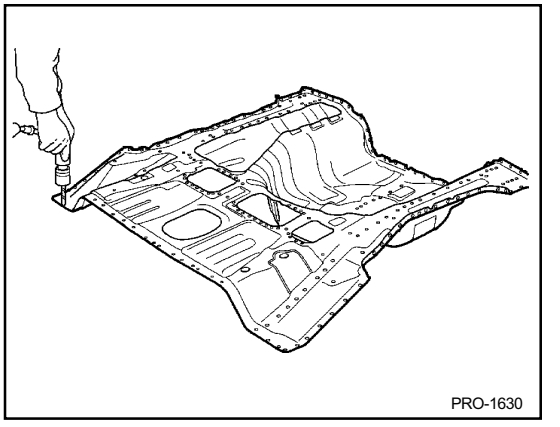
3. Measure each measurement point (Refer to BODY DIMENSIONS) and correct the installation position.
4. If necessary, make temporarily welds, and then check to confirm that the fit of rear floor panel is correct.


PRO-1610

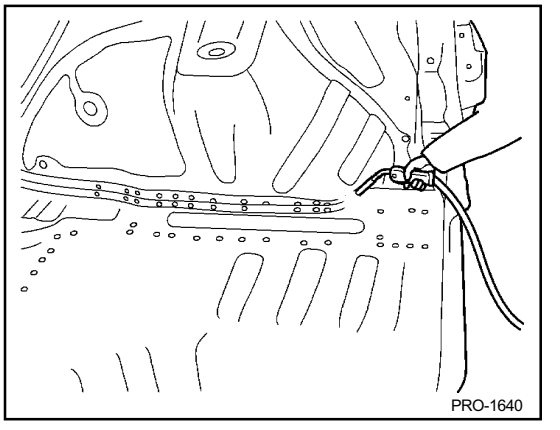
5. MIG plug weld the rear side members and MIG butt weld seams.
6. Prepare the welds and surfaces to which the rear floor will attach.
7. Transcribe the cutline to the new rear floor panel, adding 30mm for overlap at the old joint.


PRO-1620

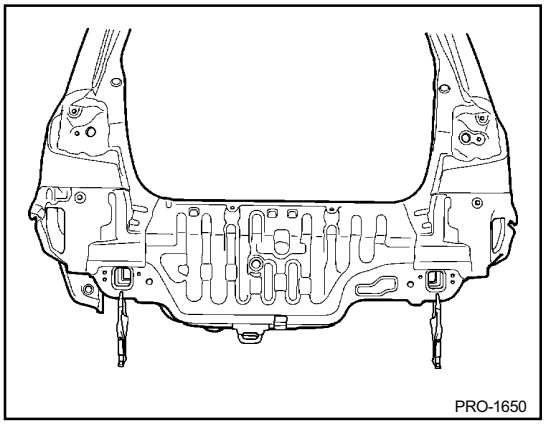
8. Drill 8mm holes in overlap area and production locations of the new rear floor panel for MIG plug welding.
9. Fit and clamp the rear floor panel and attach the rear floor panel to the rear side members and other panels.


PRO-1630

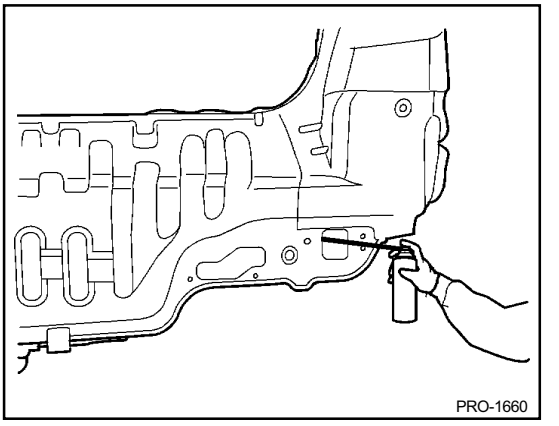
10. MIG plug weld all holes and MIG butt weld the seams.
11. Clean all welded surfaces.
12. Drill 8 mm holes on the flange attaching the back panel to the rear floor and side member ends.


PRO-1640

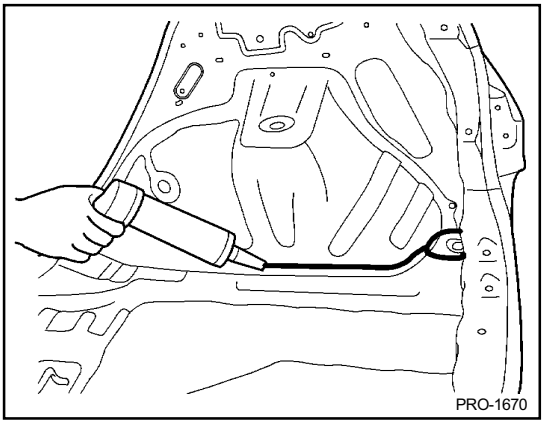
13. Fit and clamp the back panel in place.
14. MIG plug weld the back panel.
15. Clean and prepare all welds, remove all residue.
16. Apply the two-part epoxy primer to the interior of the rear side members.


PRO-1650

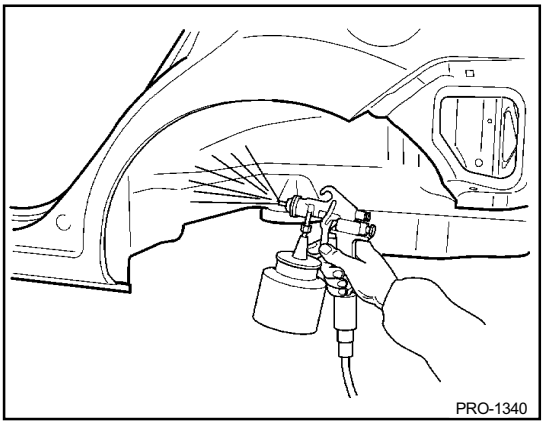
17. Apply an anti-corrosion to the interior of the rear side members (Refer to the CORROSION PROTECTION).
18. Prepare exterior surfaces for priming, using wax and grease remover.
19. Apply metal conditioner and water rinse.
20. Apply the two-part epoxy primer.



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.

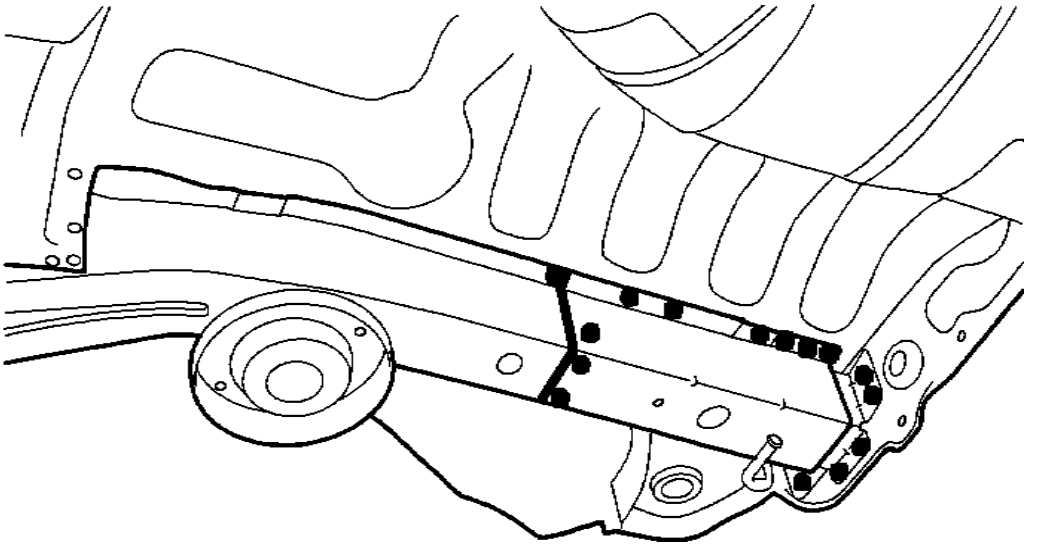


23. After completing body repairs, carefully apply under coating to the under body (Refer to the CORROSION PROTECTION).
24. In order to improve corrosion resistance, if necessary, apply an under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).



REAR SIDE MEMBER (PARTIAL)

WELDLING POINTS



● **MIG plug welding**
⫲ **MIG butt welding**

PRO-1690

REMOVAL

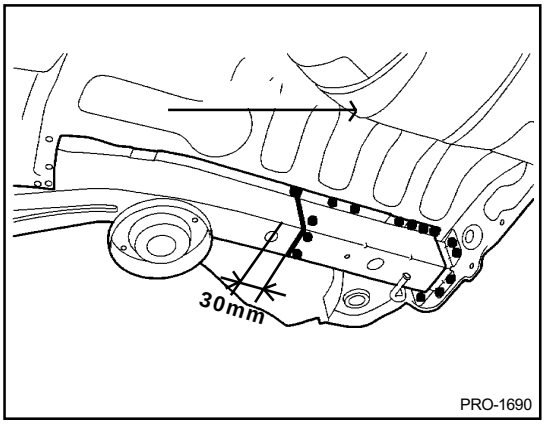
NOTE
Because the rear side members are designed to absorb energy during a rear collision, care must be used when deciding to use this repair method. This repair is recommended only for moderate damage to the vehicle, where distortions do not extend forward of the trunk region. If the damage is more severe, 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.**

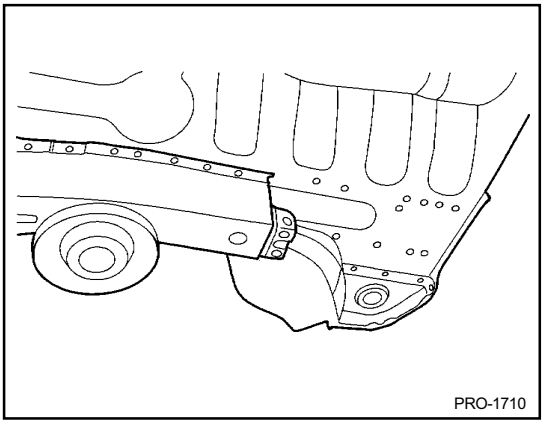
1. Depending on the extent of damage, if the right side member is to be replaced it should be measured and marked 30mm from the rear floor side member tooling hole center.

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



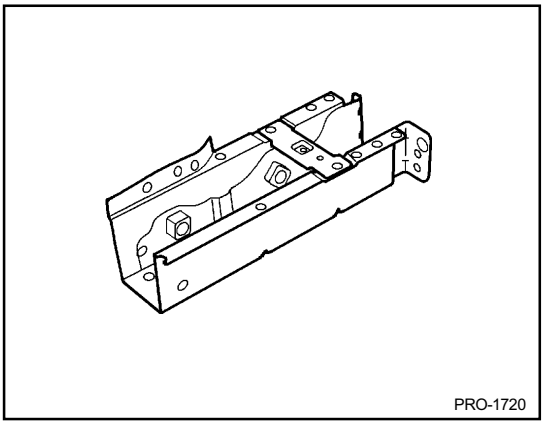
PRO-1690

2. Cut through rear side member at cutline being careful not to cut rear side member reinforcement.
3. Remove the rear floor side member by drilling out all attaching spotwelds.
4. Prepare all surfaces to be welded.

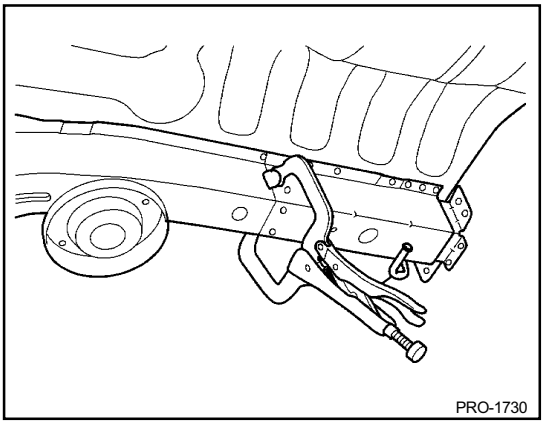

PRO-1710

INSTALLATION

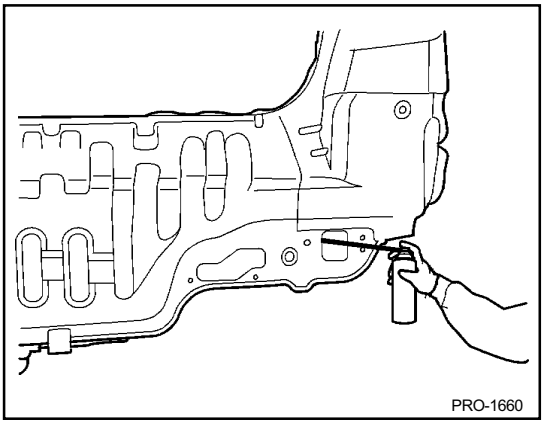
1. Transcribe the cutline to the new rear side member. Cut at line and drill out the spotwelds attaching the inner reinforcement and separate it.


PRO-1720

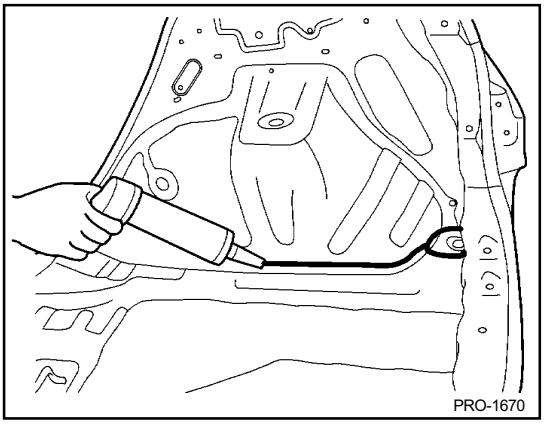
2. Fit and clamp the new rear side member in place for welding. Measure to ensure dimensions are accurate as given in the body dimension charts.
3. MIG plug weld at the holes and MIG butt weld the seam in the side member.
4. Clean and prepare all surfaces to be welded and remove all residue.
5. Apply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


PRO-1730

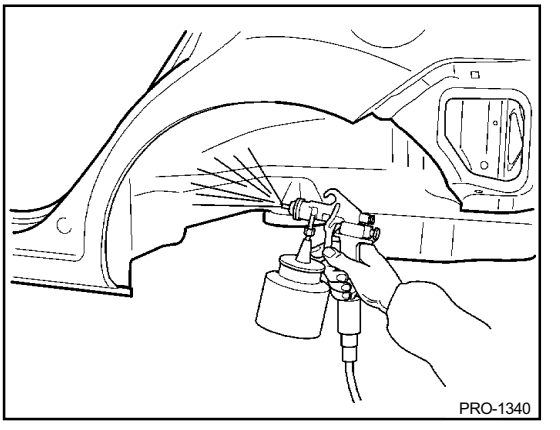
6. Apply an anti-corrosion to the interior of the rear side member (Refer to the CORROSION PROTECTION).
7. Prepare exterior surfaces for priming, using wax and grease remover.
8. Apply metal conditioner and water rinse.
9. Apply conversion coating and water rinse.
10. Apply the two-part epoxy primer.



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.



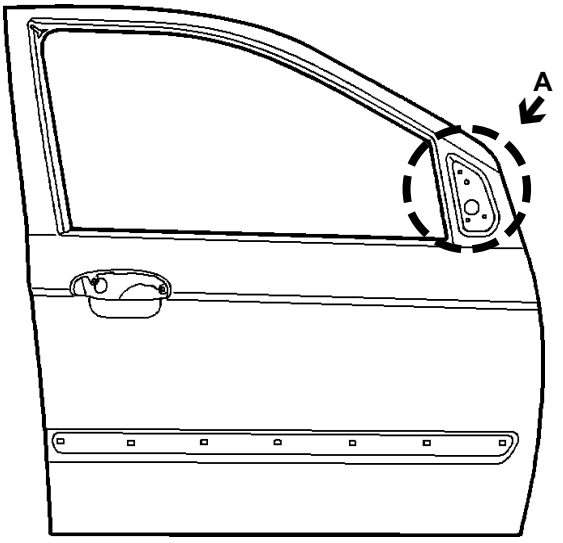
13. After completing body repairs, carefully apply under coating to the under body (Refer to the CORROSION PROTECTION).
14. In order to improve corrosion resistance, if necessary, apply an under body anti-corrosion agent to the panel which is repaired or replaced (Refer to the CORROSION PROTECTION).



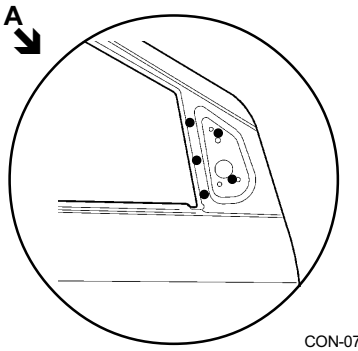
FRONT AND REAR DOOR OUTER PANELS

WELDLING POINTS

FRONT DOOR

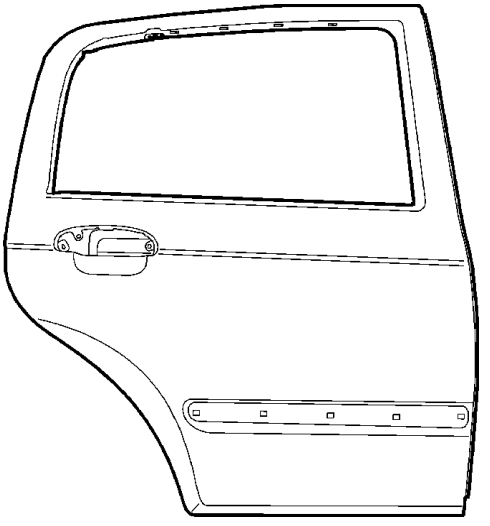


CON-0750



CON-0752

REAR DOOR

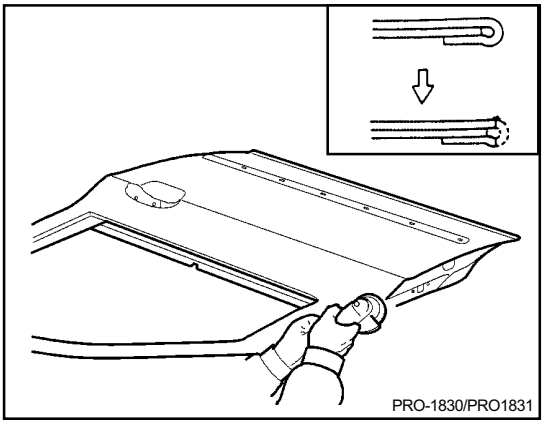


CON-0800

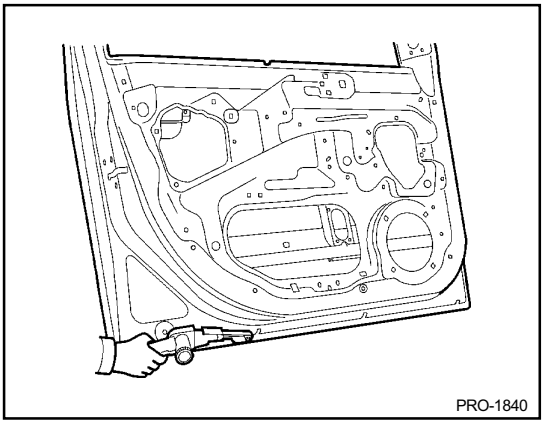
● MIG plug welding
~~xx~~ MIG lap welding

REMOVAL

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

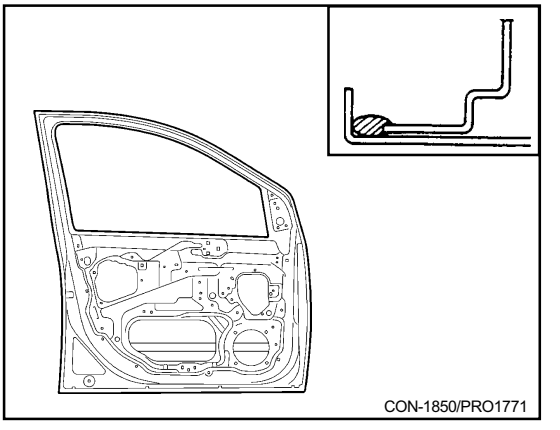


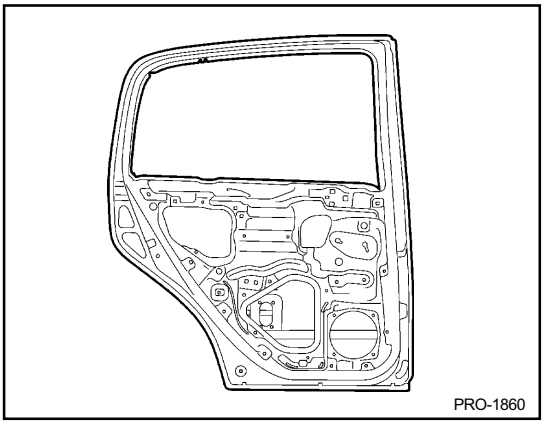
3. Dress rusty part with a sander and prepare surface to be hemmed.



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.



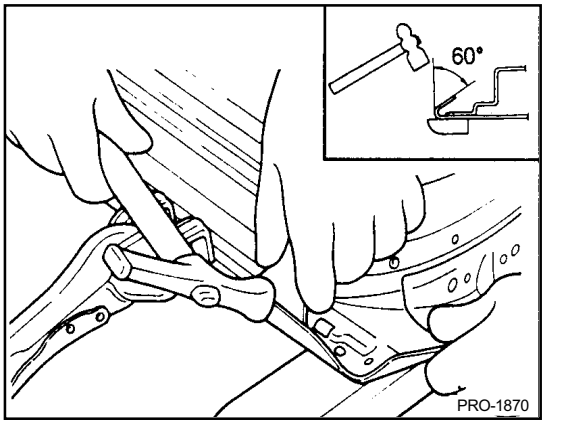


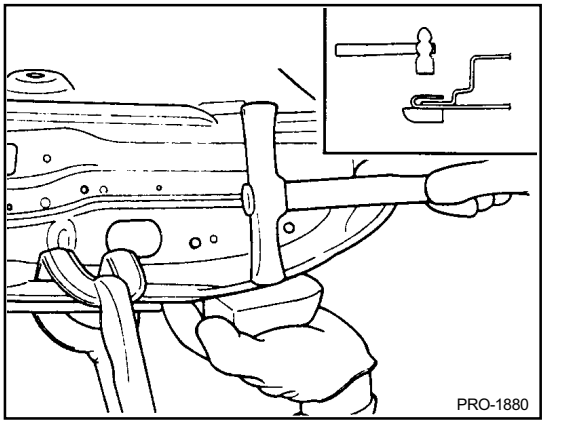
3. Bend the flange hem with a hammer and dolly, then fasten tightly with a hemming tool.

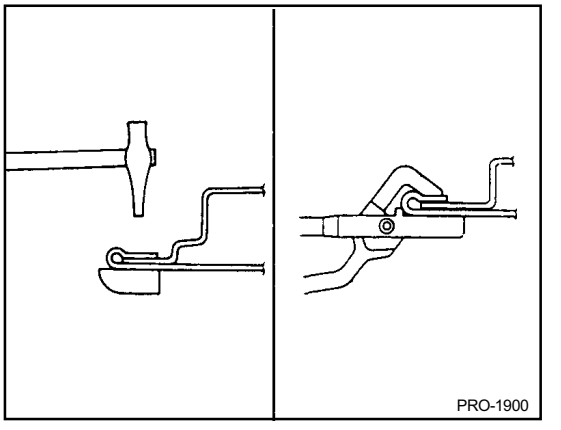
NOTE

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

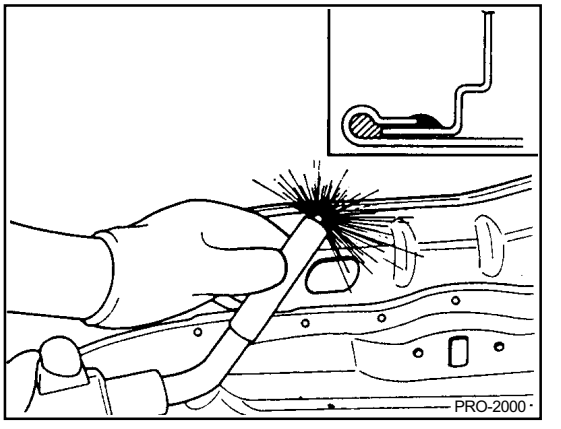
2. If a hemming tool cannot be used, hem with a hammer and dolly.



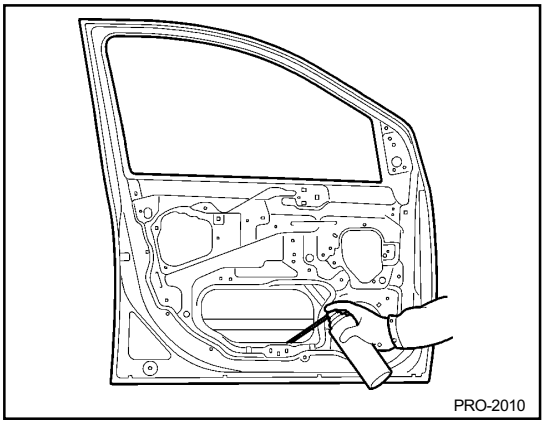




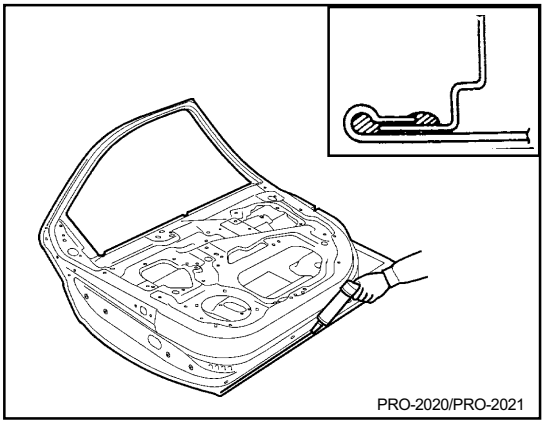
4. After completing the hemming work, make MIG spot welds at 50 mm intervals on the inside.
5. Clean and prepare all welds, remove all residue.
6. Apply the two-part epoxy primer to the interior of the door panel.



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

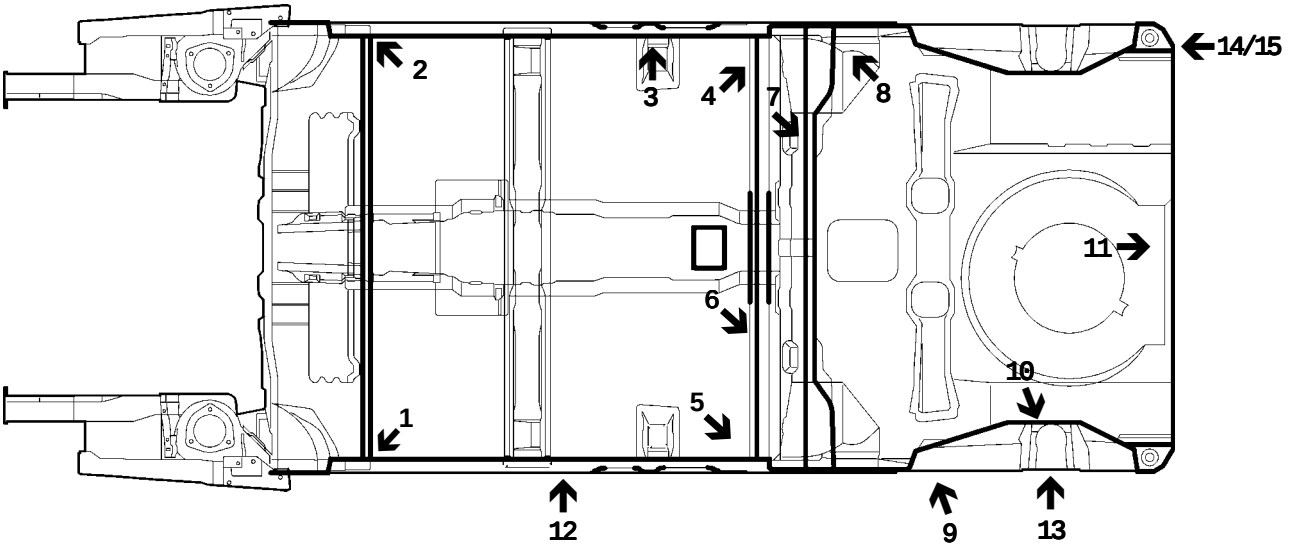

PRO-2010

13. Reprime over the seam sealer to complete the repair.


PRO-2020/PRO-2021

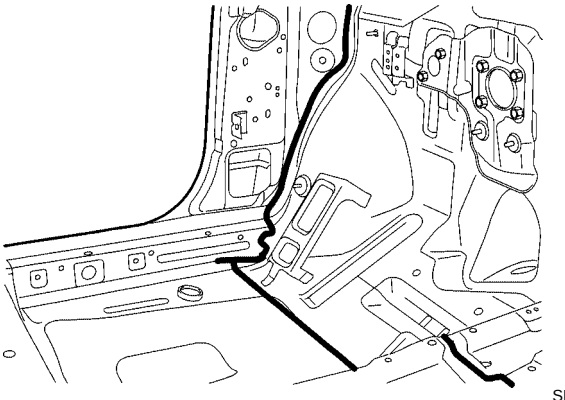
BODY SEALING LOCATIONS

FLOOR



SEA-0010

1



SEA-0020

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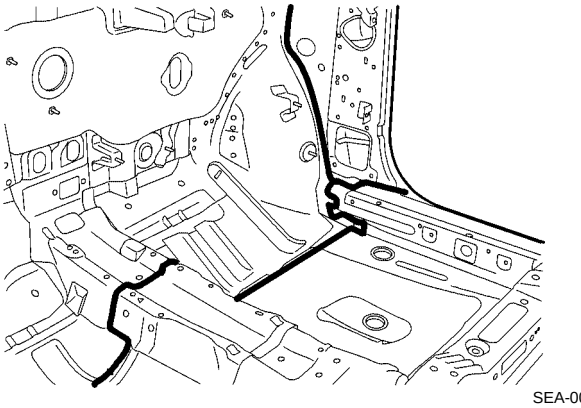

SEA-0030

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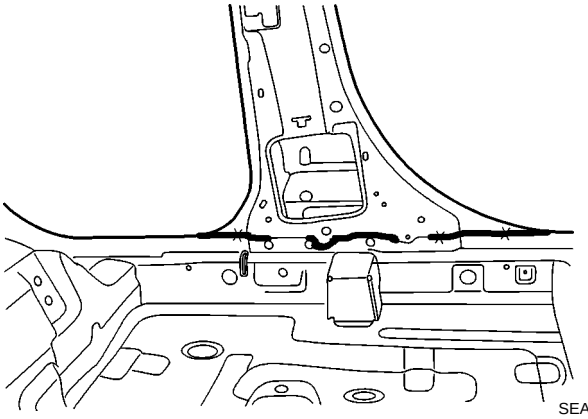

SEA-0035

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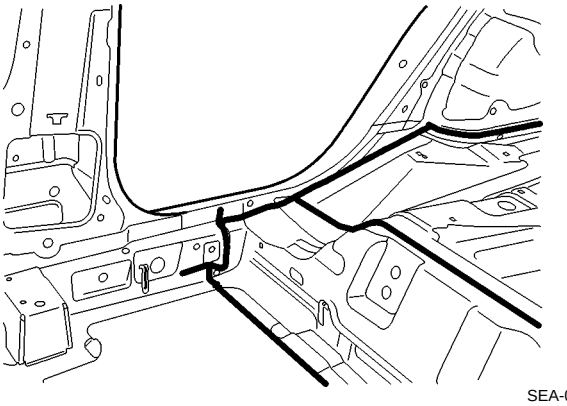
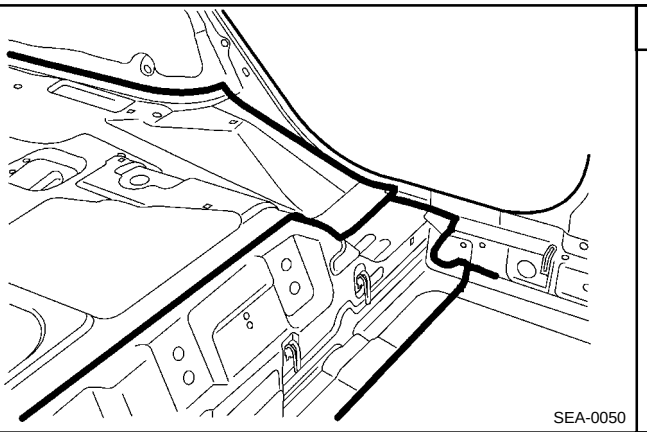


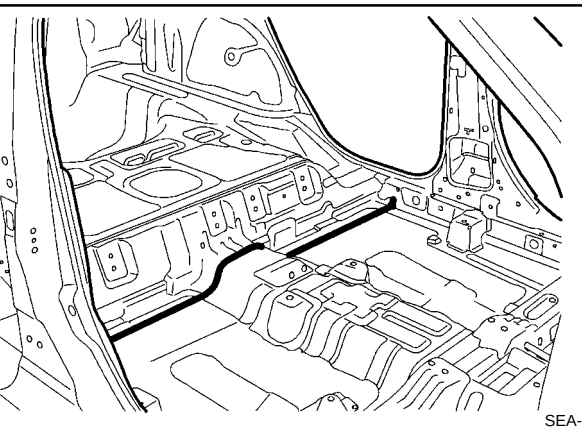
SEA-0040

5



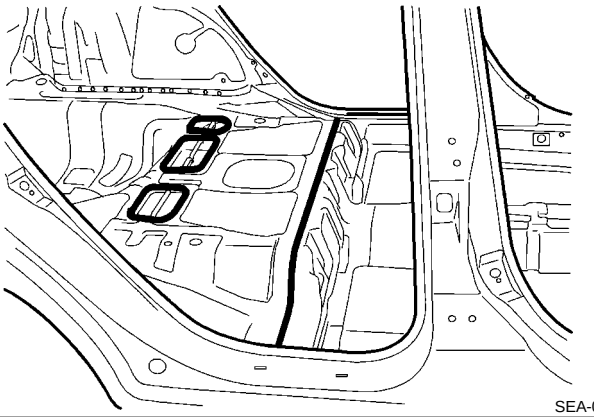
SEA-0050

6



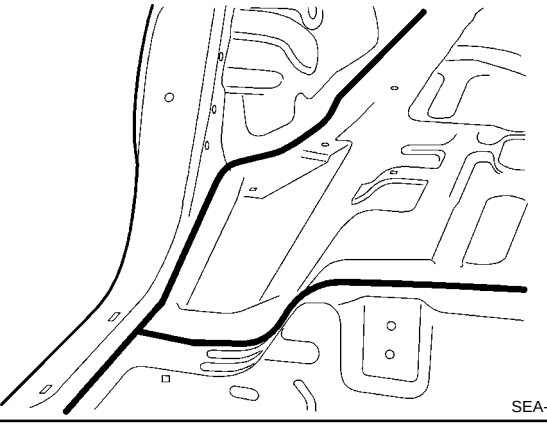
SEA-0060

7



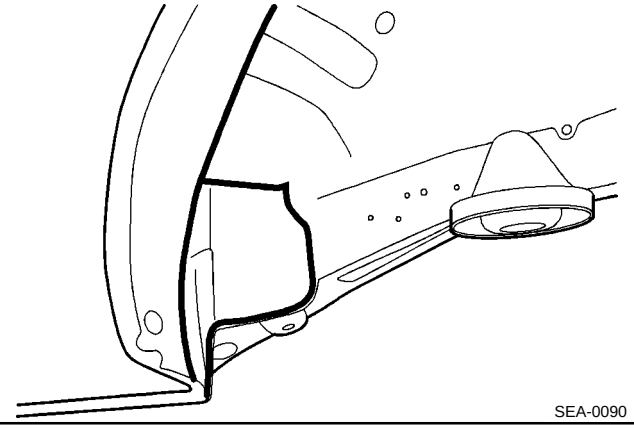
SEA-0070

8



SEA-0080

9



SEA-0090

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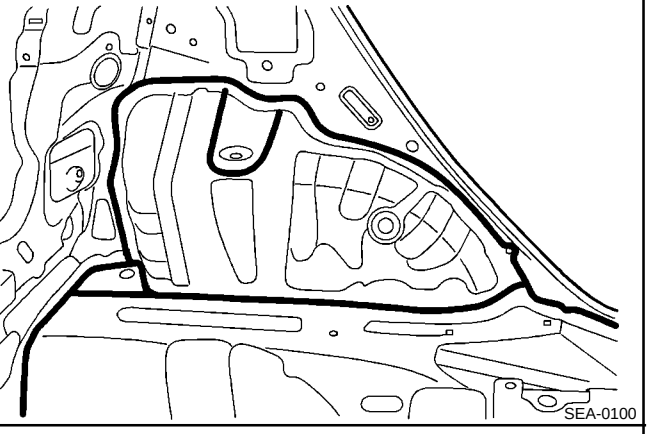
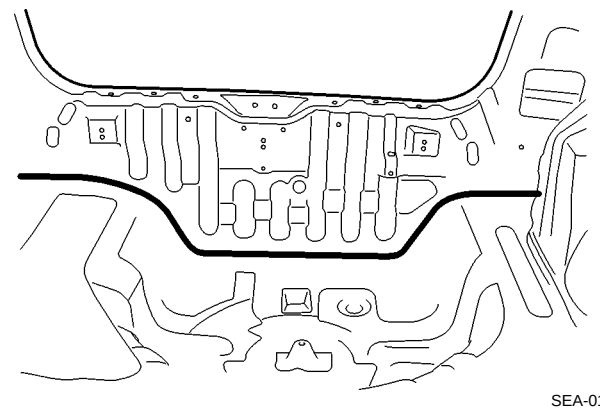


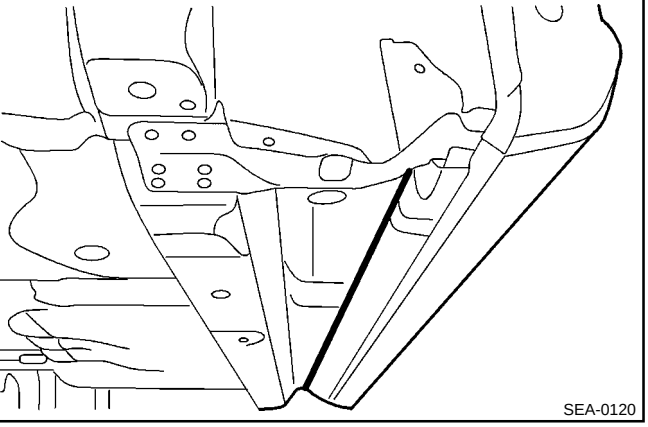
SEA-0100

11



SEA-0110

12



SEA-0120

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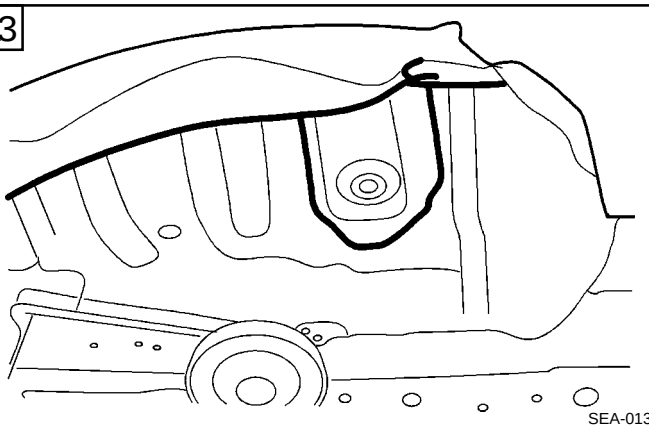
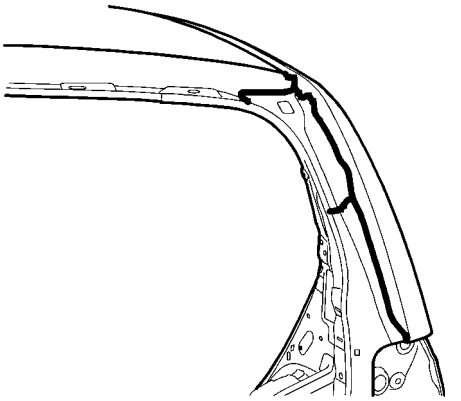


SEA-0130

14



SEA-0140

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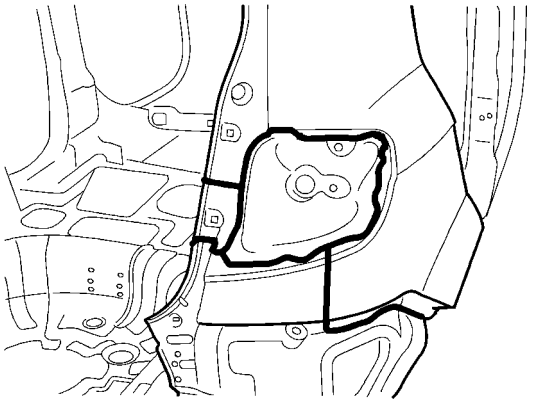
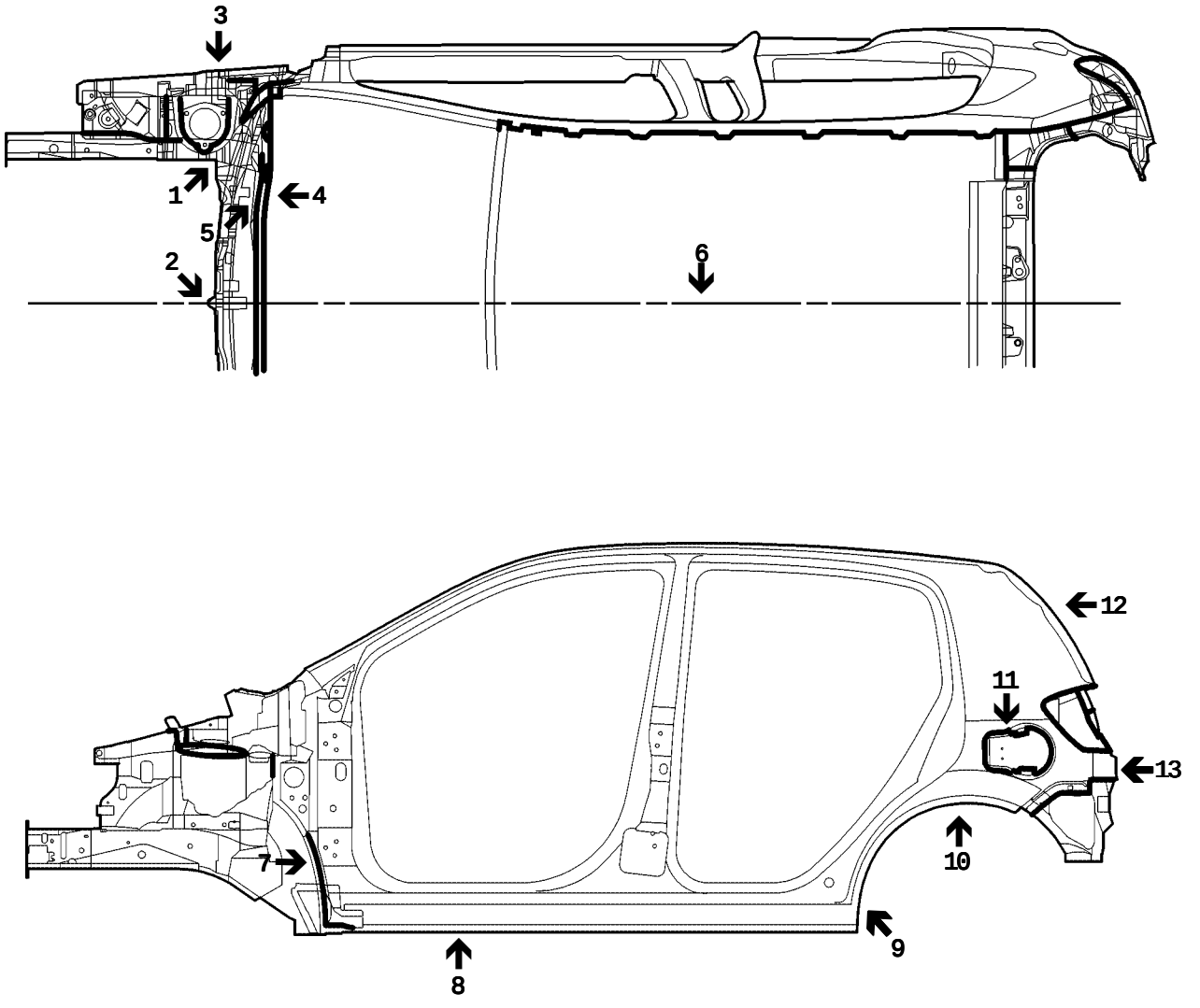


SEA-0150

UPPER AND SIDE BODY



SEA-0160, 0170

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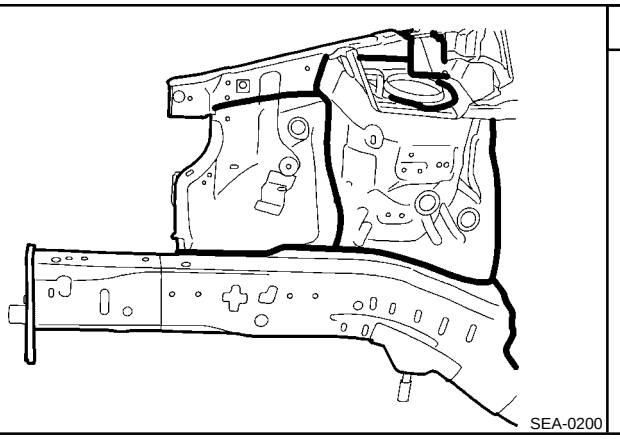
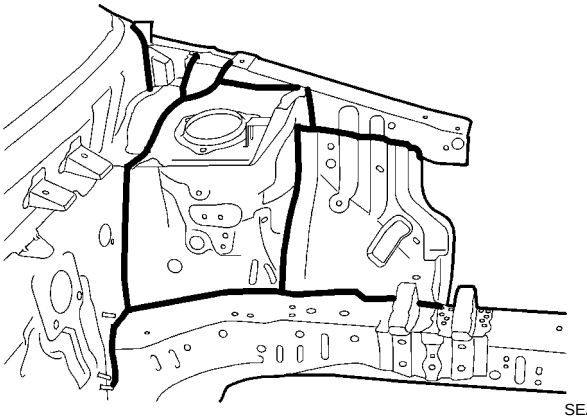


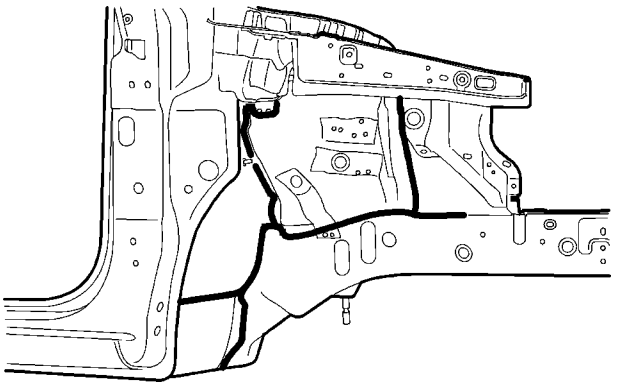
SEA-0200

2



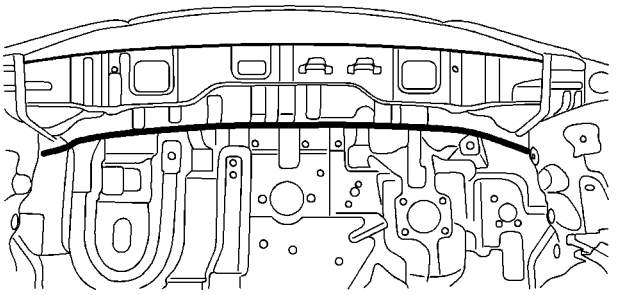
SEA-0210

3



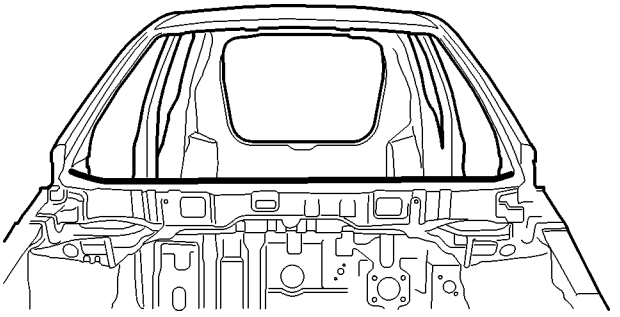
SEA-0220

4



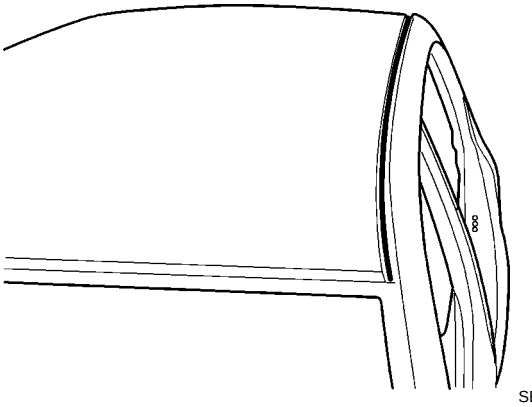
SEA-0230

5



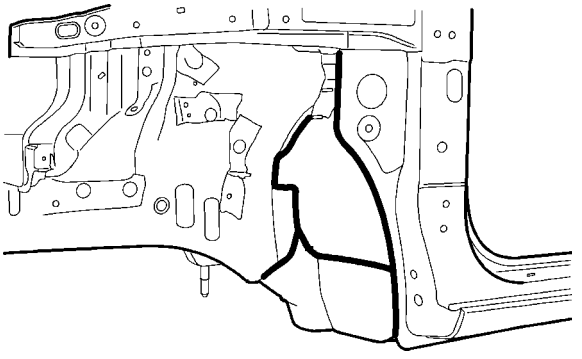
SEA-0240

6



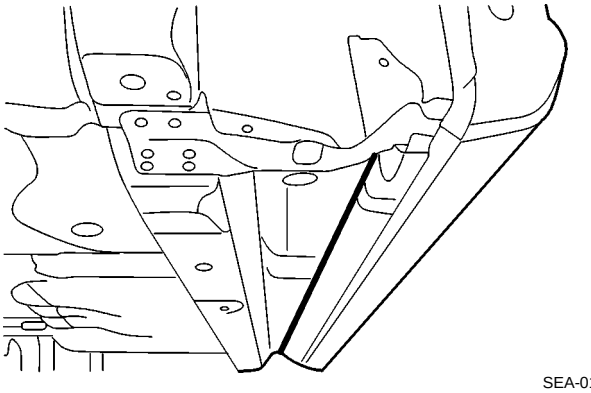
SEA-0250

7



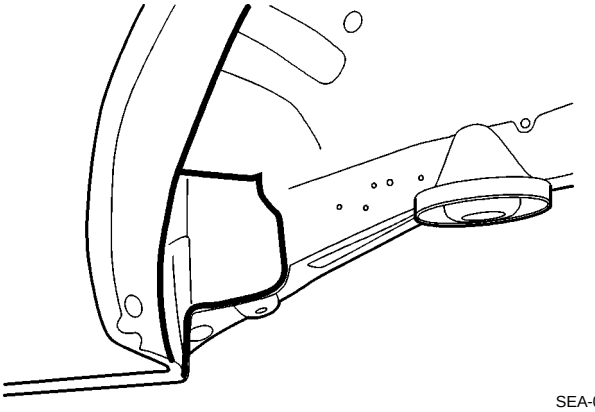
SEA-0260

8



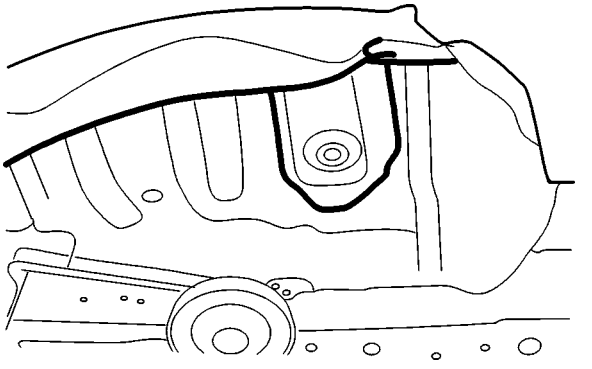
SEA-0120

9



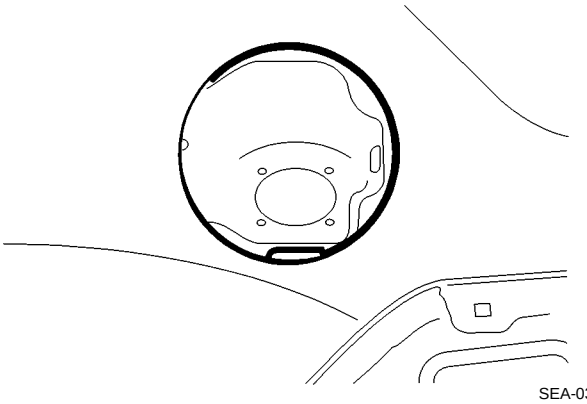
SEA-0090

10



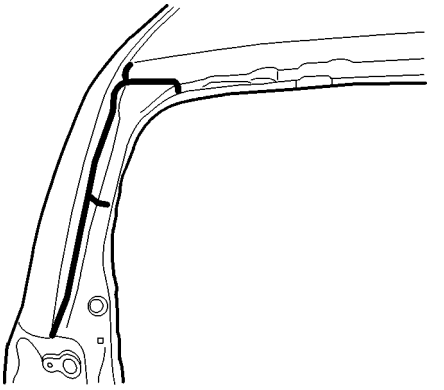
SEA-0130

11



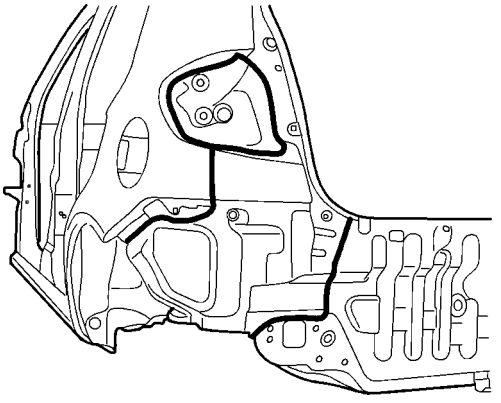
SEA-0300

12



SEA-0310

13

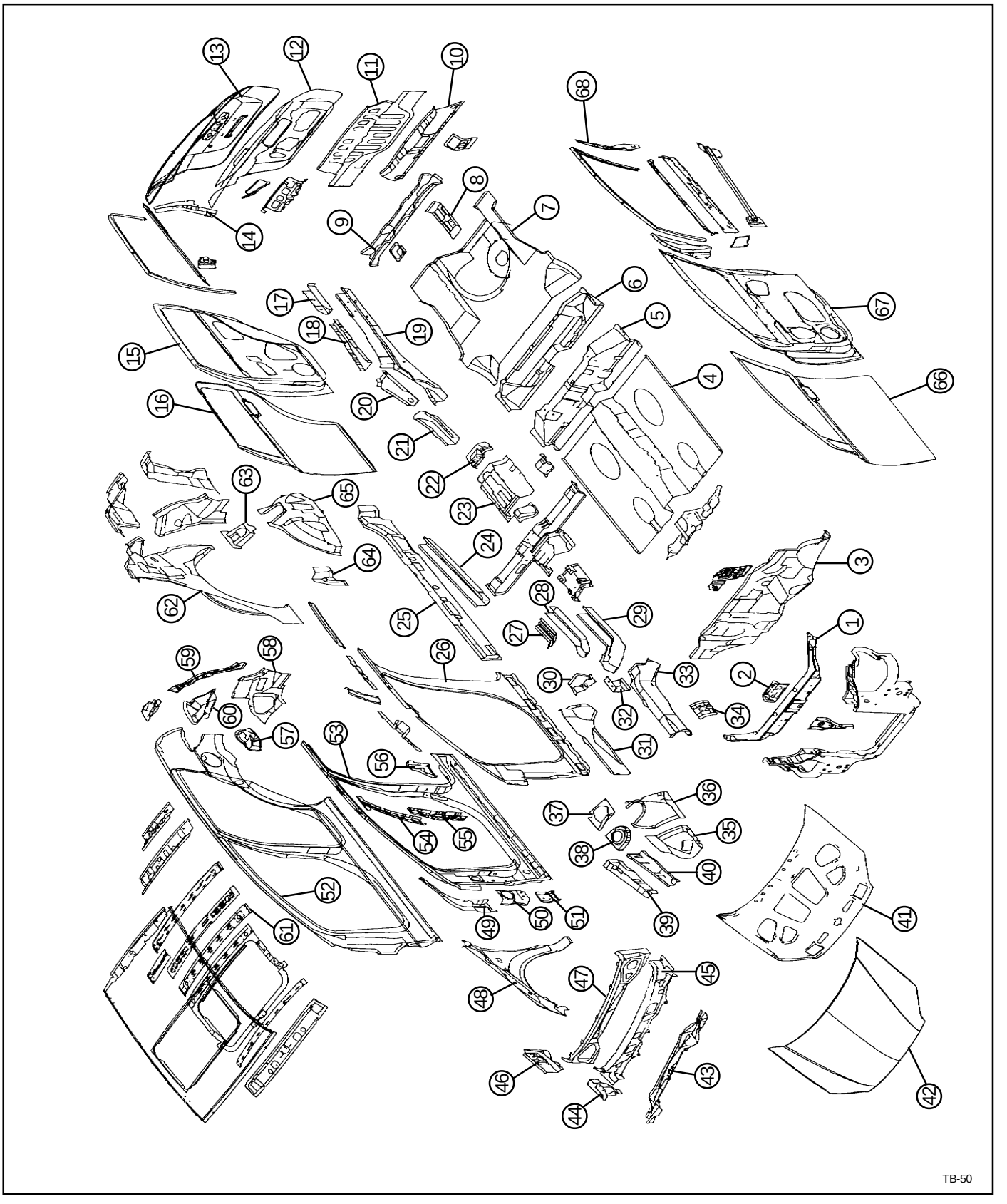


SEA-0320

CORROSION PROTECTION

ZINC-GALVANIZED STEEL PANELS

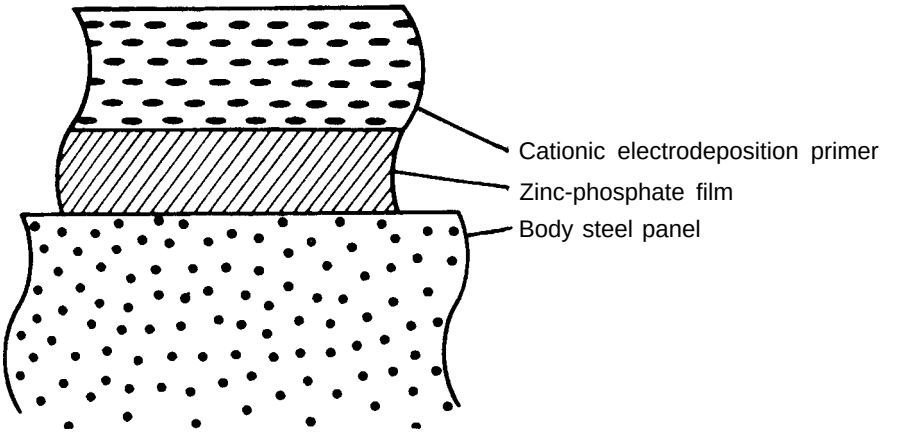
Because galvanized steel panel has excellent resistance, it is used in areas which have a high possibility of painting deficiency below.



1. Radiator support upper center panel
2. Radiator support center reinforcement
3. Dash panel
4. Center floor panel
5. Rear floor extension
6. Rear floor front cross member
7. Rear floor panel
8. Towing hook bracket
9. Rear floor center cross member
10. Rear transverse member
11. Back panel
12. Tail gate inner panel
13. Tail gate outer panel
14. Rear door frame rear reinforcement
15. Rear door inner panel
16. Rear door outer panel
17. Rear floor side member extension
18. Rear floor side member reinforcement
19. Rear floor side member
20. Trailing arm mounting reinforcement
21. Rear floor side front member
22. Parking brake cable mounting bracket
23. Parking brake aperture panel
24. Center floor side member
25. Side sill inner panel
26. Side inner panel
27. Front side rear member
28. Front side rear lower reinforcement
29. Front side rear lower member
30. Front side member rear lower extension
31. Front side outer member
32. Transmission mounting bracket
33. Front side inner member
34. Battery tray leg reinforcement
35. Fender apron inner front panel
36. Fender apron inner panel
37. Cowl under cover extension
38. Front shock absorber cover panel
39. Fender apron upper member
40. Apron upper reinforcement
41. Hood inner panel
42. Hood outer panel
43. Cowl inner lower panel
44. Cowl side outer panel
45. Cowl top outer panel
46. Cowl side upper outer member
47. Cowl inner rear panel
48. Fender panel
49. Front door upper mounting reinforcement
50. Front pillar outer bracket
51. Front door lower mounting bracket
52. Side outer panel
53. Side outer reinforcement
54. Center pillar outer upper reinforcement
55. Center pillar outer lower reinforcement
56. Rear door lower mounting bracket
57. Fuel filler housing
58. Quarter outer rear lower extension
59. Quarter outer rear upper extension
60. Rear combination lamp housing panel
61. Side roof rear lower reinforcement
62. Quarter inner panel
63. Rear spring house cover
64. Wheel house inner front extension
65. Wheel house inner panel
66. Front door outer panel
67. Front door inner panel
68. Front door frame rear reinforcement

ZINC-PHOSPHATE COAT & CATIONIC ELECTRODEPOSITION PRIMER

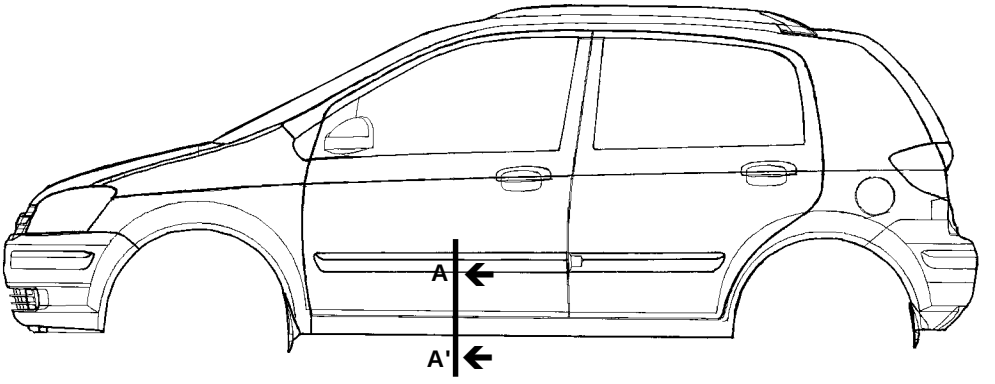
In order to improve the adhesion of the paint coat on the steel panel, and also to improve the corrosion resistance, the entire body is coated with a film of Zinc-phosphate and a cationic electrodeposition primer.



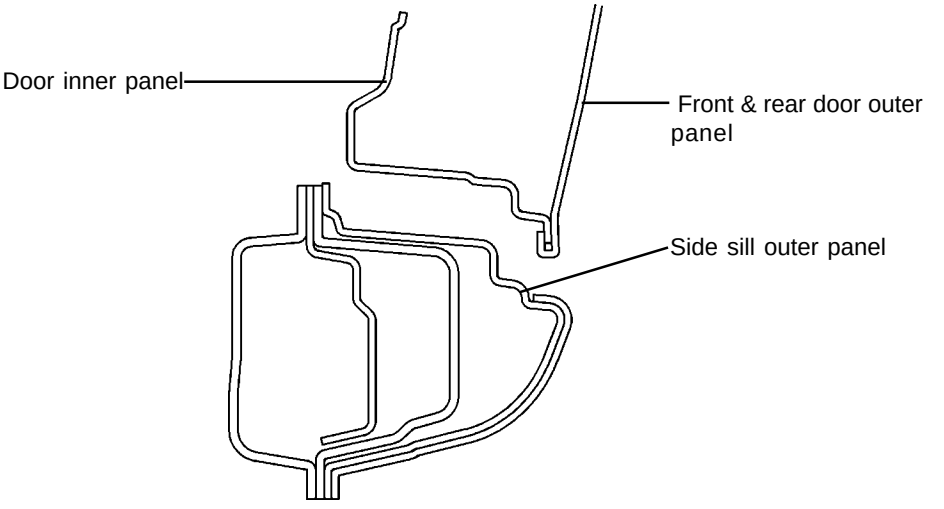
COR-0020

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.



TB-133-2

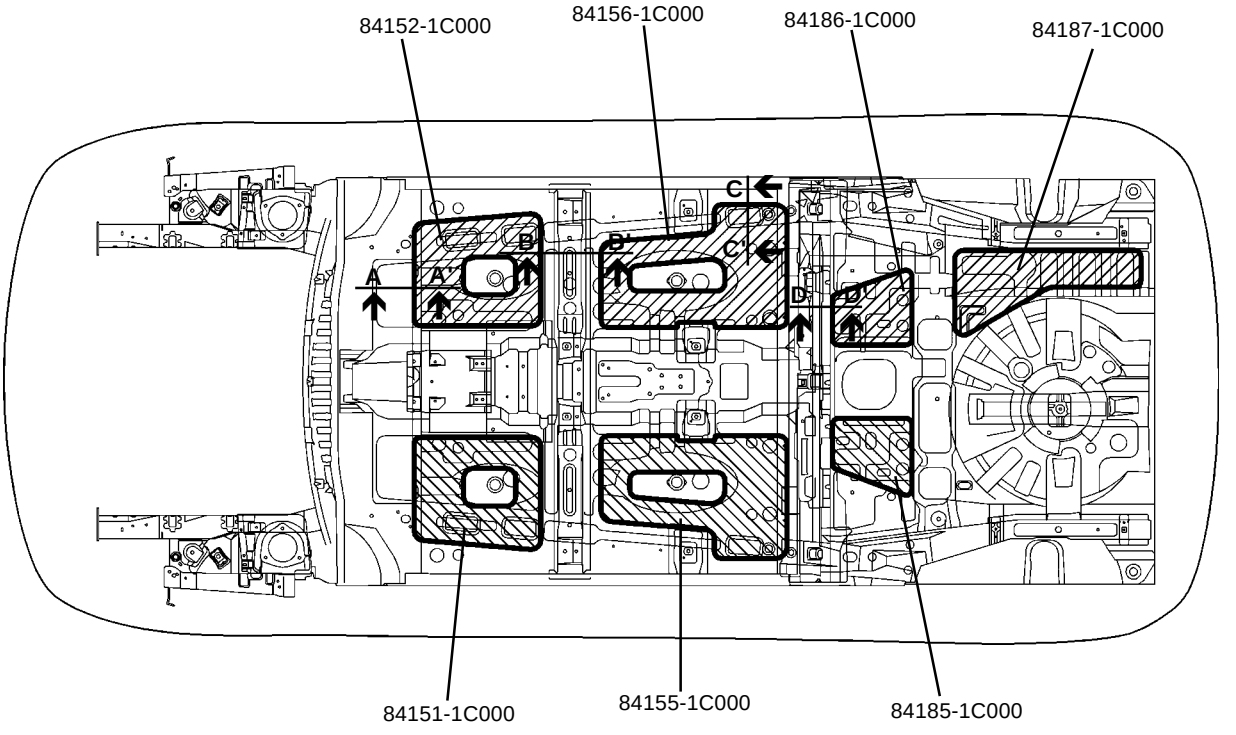


133-1

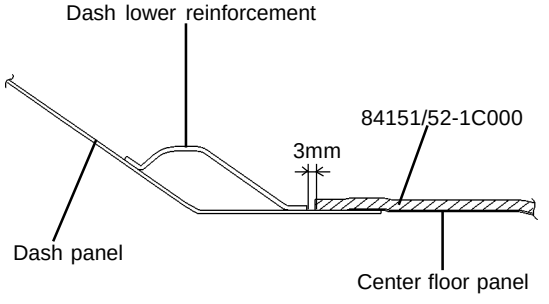
SECTION A-A'

Rock panel primer (Thickness 180 μ ~ 200 μ)

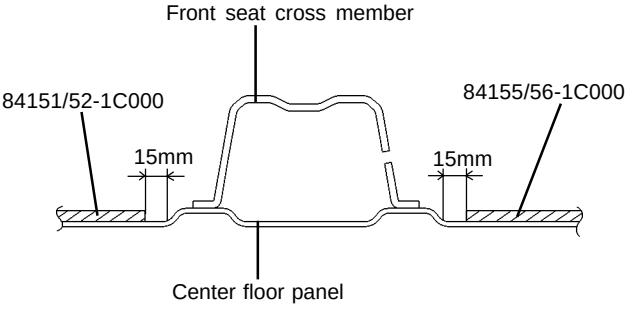
ANTIVIBRATION PADS-LOCATION & SECTION



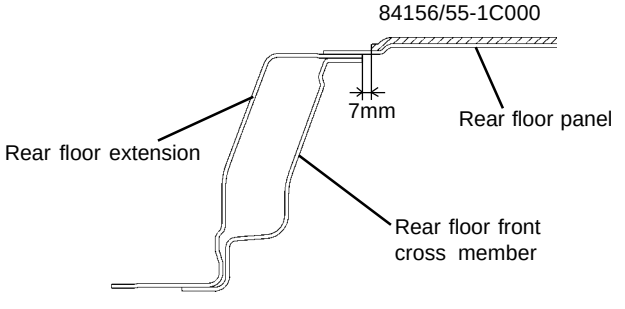
ANT-0001



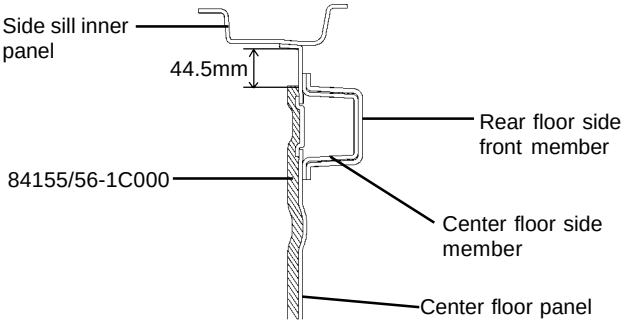
SECTION A-A' ANT-0002



SECTION B-B' ANT-0003



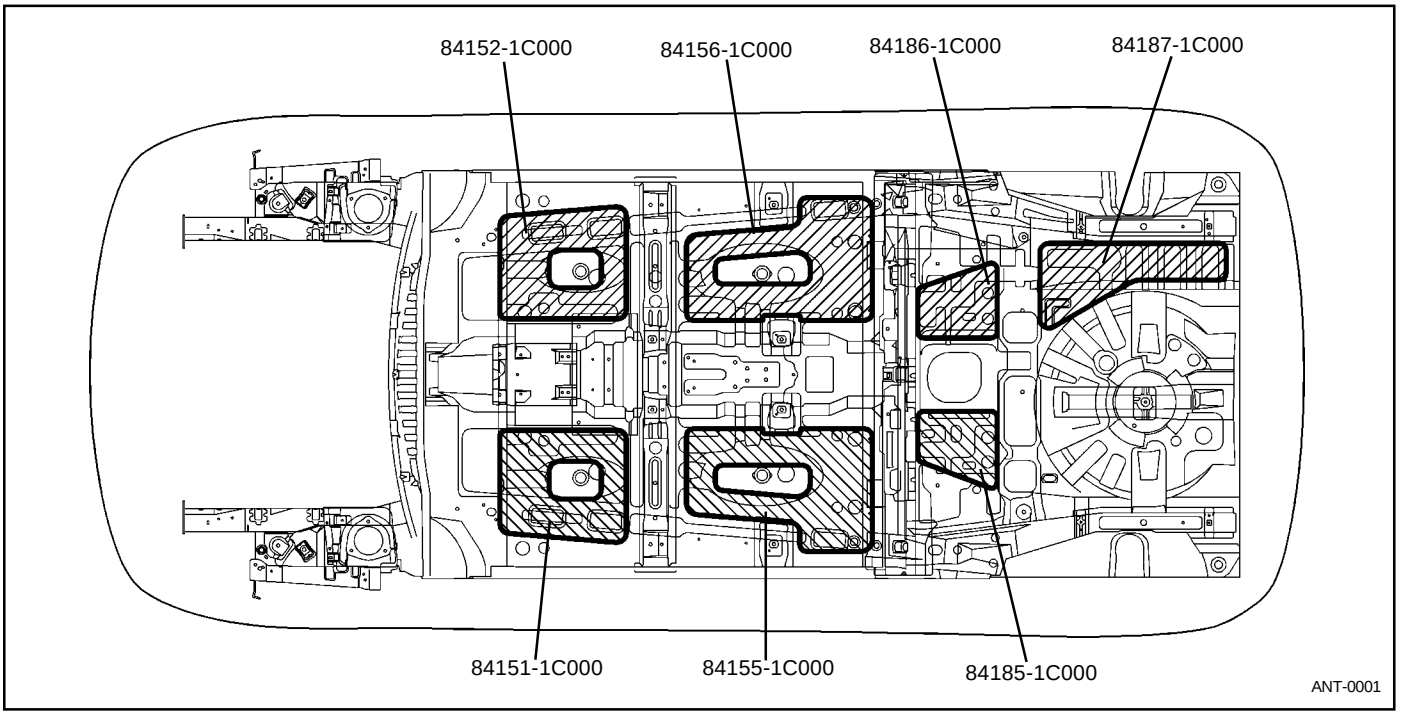
SECTION C-C' ANT-0004



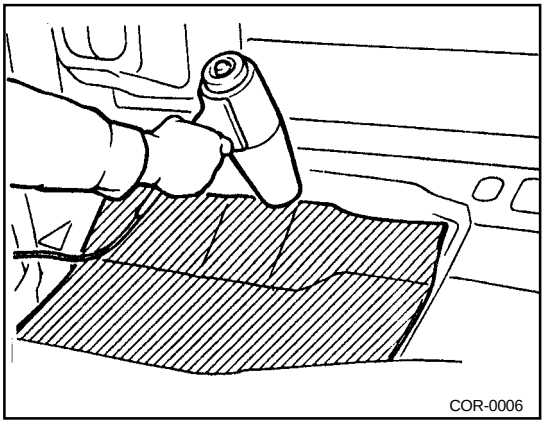
SECTION D-D' ANT-0005

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).

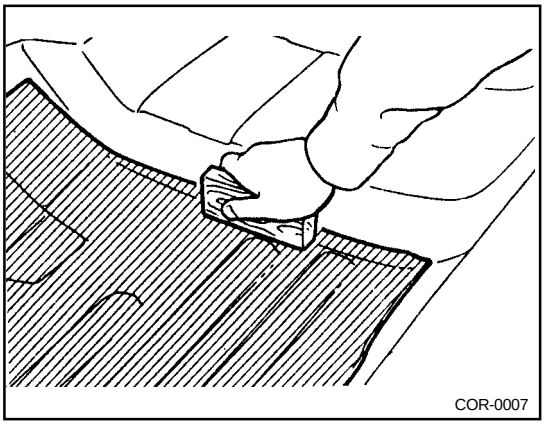


1. Heat the "antivibration pad" with a blow drier to soften it.



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.

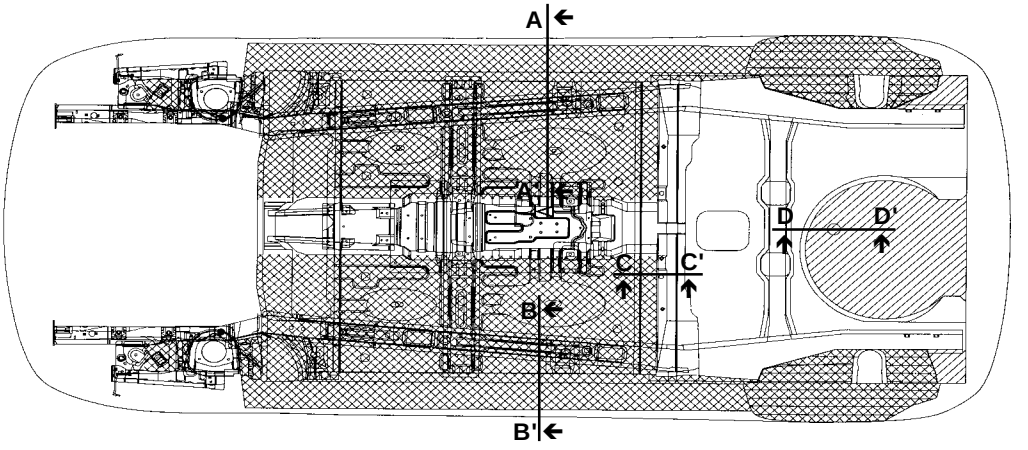
   NOTE
   An infrared lamp can also be used to heat both the antivibration pad layer and the body panels(be sure to wear gloves).



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.

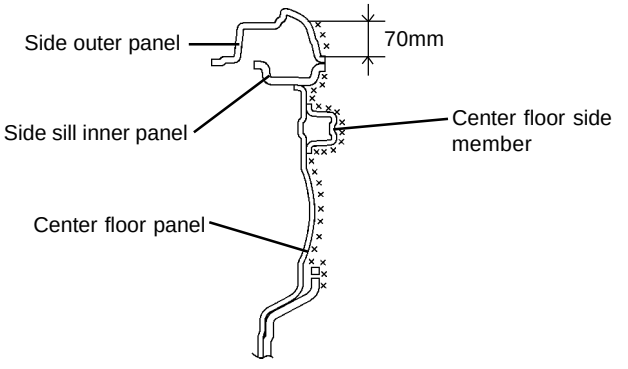
FLOOR



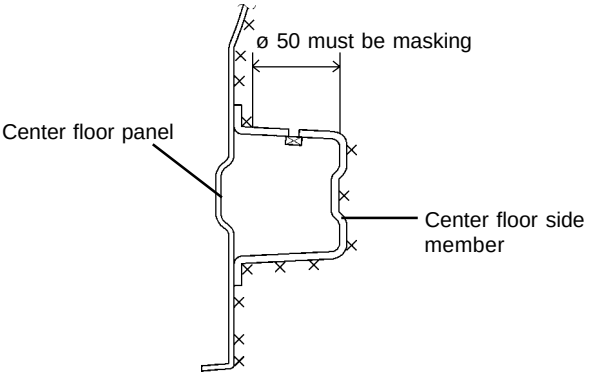
★ Because parts are to be mounted in these locations, mask the location, before applying the under body coat.

Under body coating (Thickness 0.8 mm - 2.0 mm)

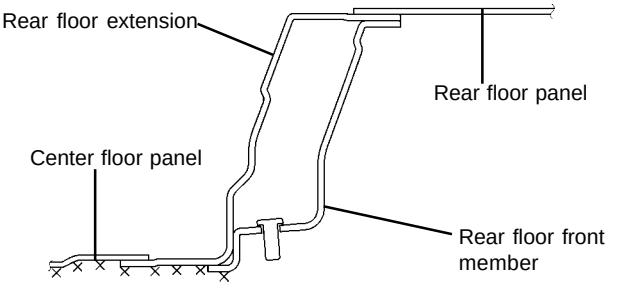
TB-134



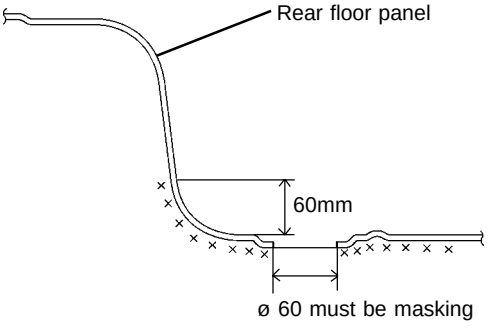
SECTION A-A' 134-1



SECTION B-B' 134-2

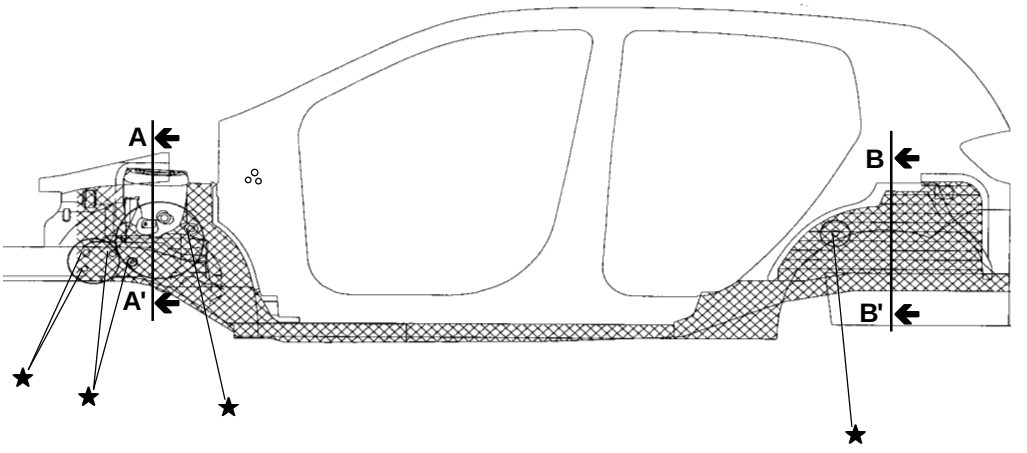


SECTION C-C' 134-3



SECTION D-D' 134-4

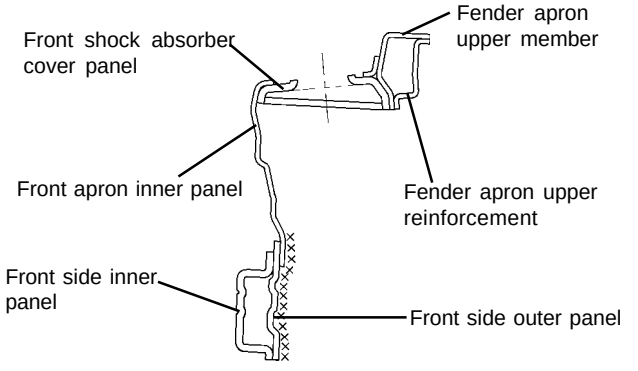
SIDE BODY



★ Because parts are to be mounted in these locations, mask the location before applying the under body coat.

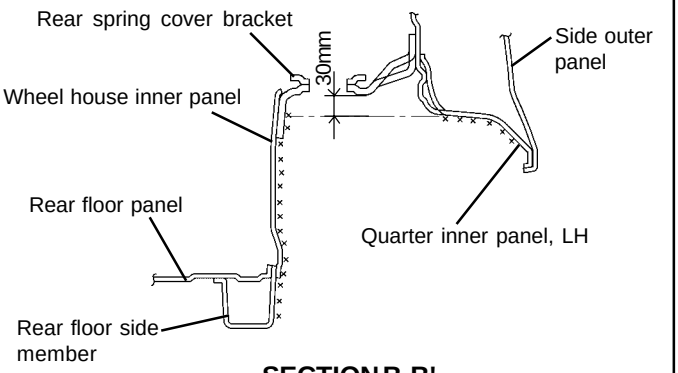
Under body coating (Thickness 1.0 mm - 2.0 mm)

TB-135



SECTION A-A'

135-1

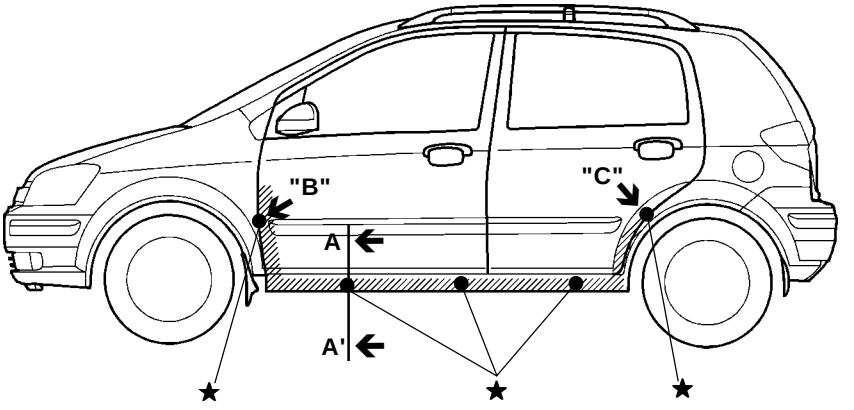


SECTION B-B'

135-2

CAVITY WAX INJECTION

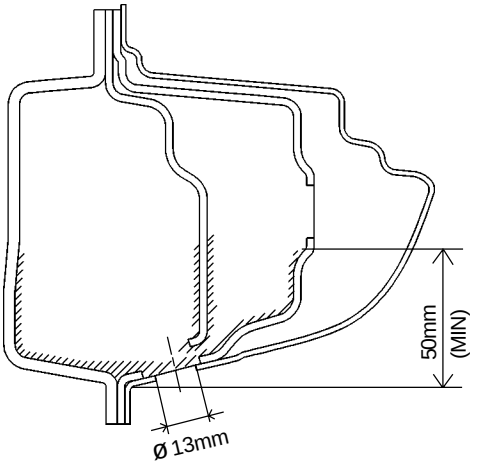
In order to provide greater corrosion resistance, cavity wax injection has been performed for the lower areas of the vehicle, such as the sidemember, the side sill and the inside of other panels which are a hollow construction. When replacing these parts, be such to apply cavity wax to the appropriate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



★ Wax injection must be done through access holess marked.

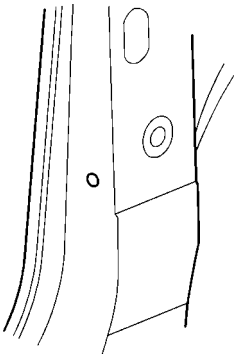
Cavity wax injection (Thickness 40 μ - 50μ)

COR-0030



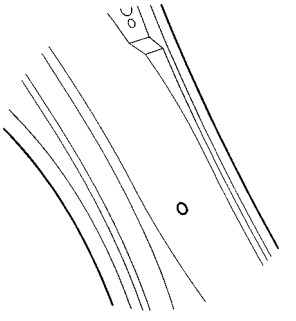
SECTION A-A'

COR-0031



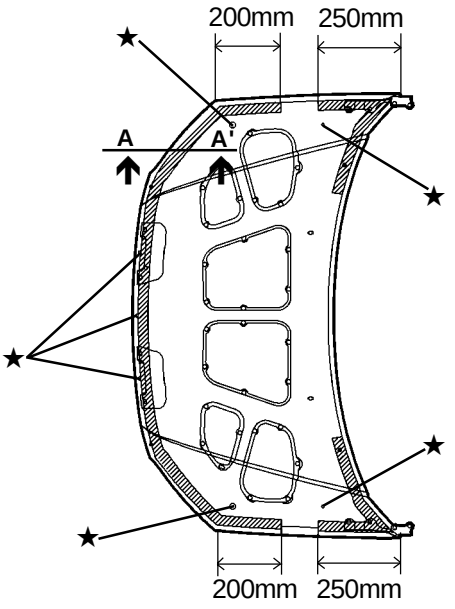
VIEW "B"

COR-0032

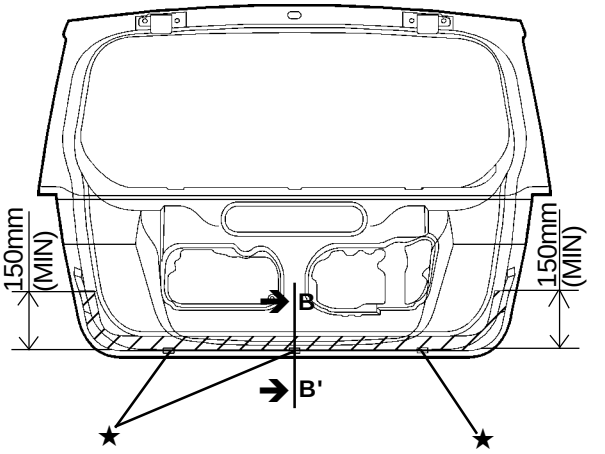


VIEW "C"

COR-0033



HOOD

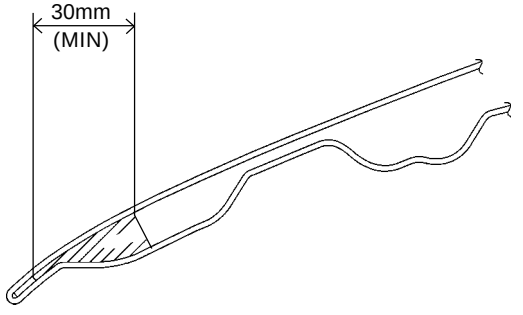


TAIL GATE

★ Wax injection must be done through access holes marked.

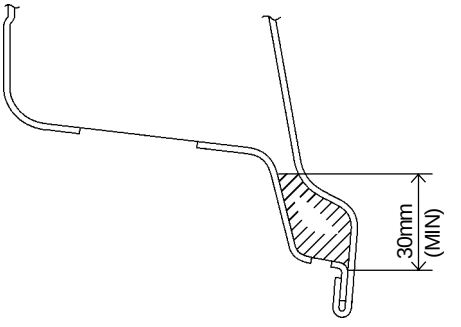
Cavity wax injection (Thickness 40μ - 50μ)

COR-0040/0050



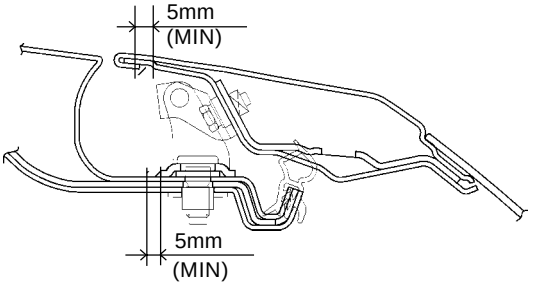
SECTION A-A'

COR-0041



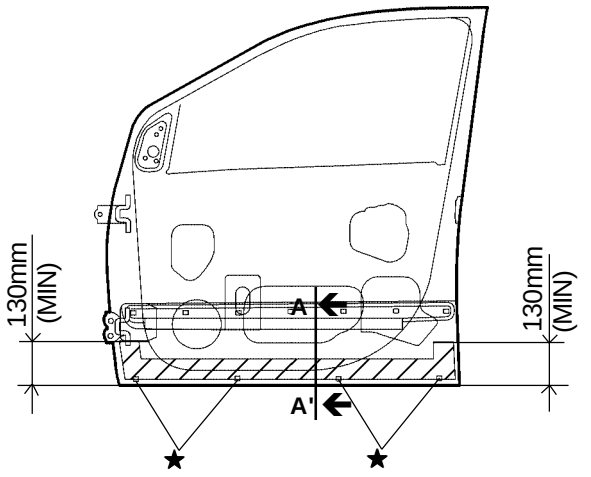
SECTION B-B'

COR-0051

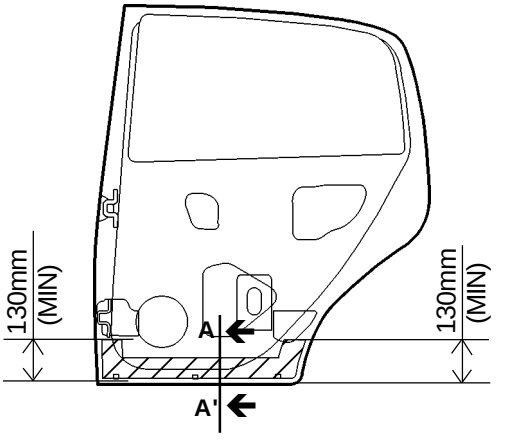


SECTION C-C'

COR-0052



FRONT DOOR

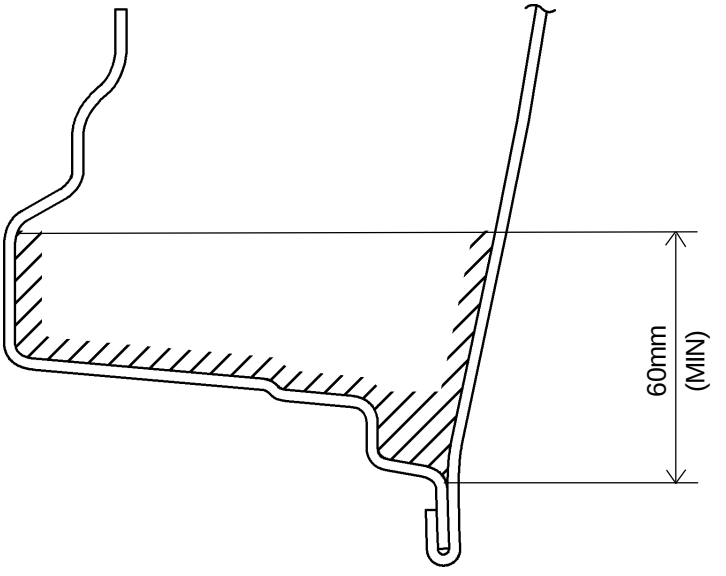


REAR DOOR

★ Wax injection must be done through access holes marked.

Cavity wax injection (Thickness 40μ - 50μ)

COR-0060/0070



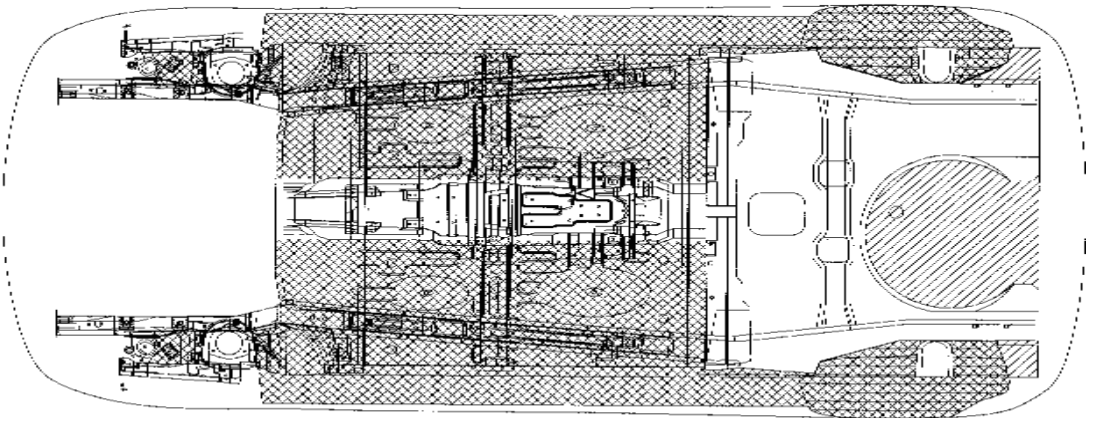
SECTION A-A'

COR-0062

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 0.8 ~ 2.0mm)

TB-134