

FOREWORD

This Body Repair Manual contains information and instructions for repairing the body structure of the Y61 model. In order to achieve reliable repair work and ensure customer satisfaction, the technician should study this manual and become familiar with appropriate sections before starting repair and rebuilding work.

This Body Repair Manual is prepared for use by technicians who have attained a high level of skill and experience in repairing collision-damaged vehicles and also use modern service tools and equipment. Persons unfamiliar with body repair techniques should not attempt to repair collision-damaged vehicles by using this manual.

Technicians are also encouraged to read the Y61 model Service Manual and Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warnings, that are not included in this manual. Technicians should refer to both manuals to ensure proper repairs.

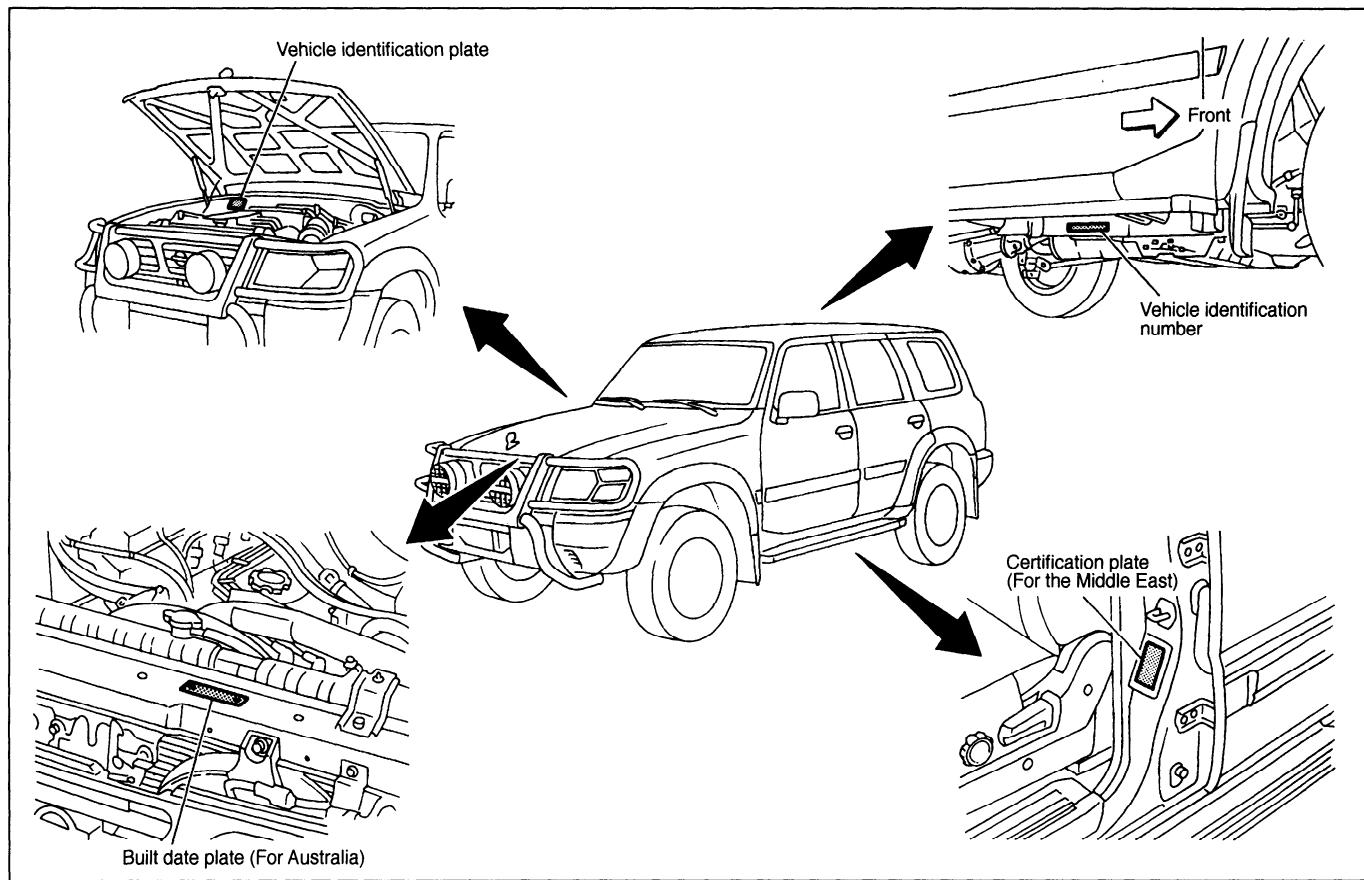
Please note that these manuals are prepared for worldwide usage, and as such, certain procedures might not apply in some regions or countries.

All information in this manual is based on the latest product information at the time of publication. The right is reserved to make changes in specifications and methods at any time without notice.

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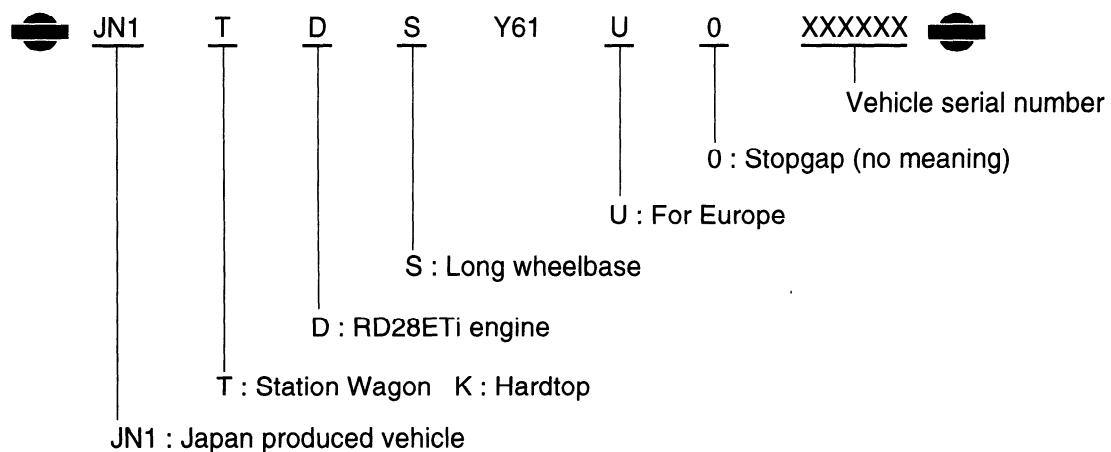
GENERAL INFORMATION
Identification Number



VEHICLE IDENTIFICATION NUMBER

Prefix and suffix designations:

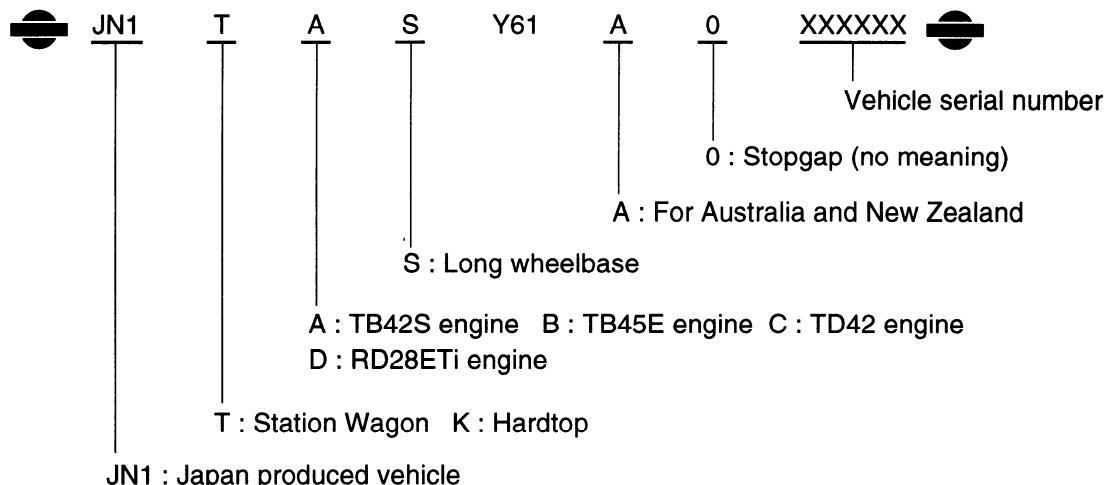
For Europe



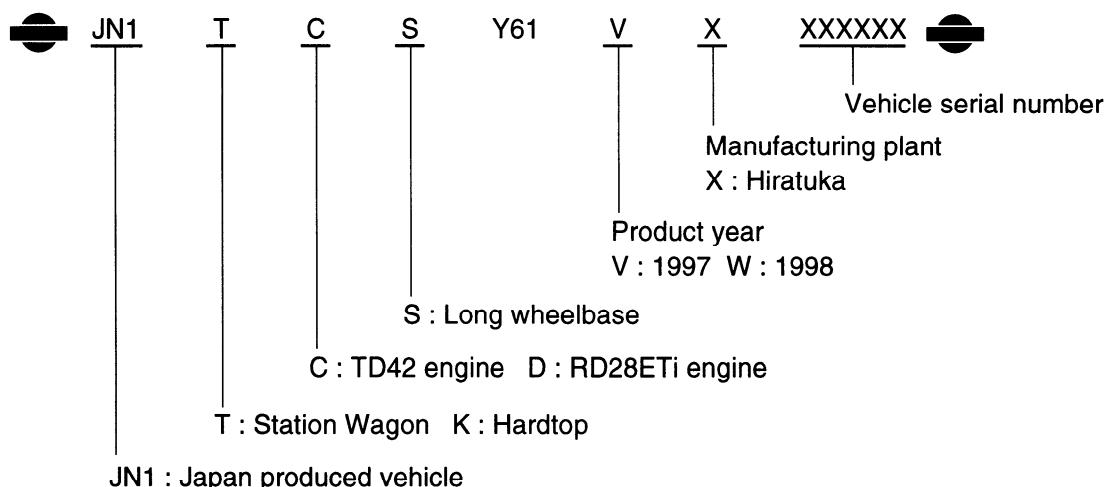
GENERAL INFORMATION

Identification Number (Cont'd)

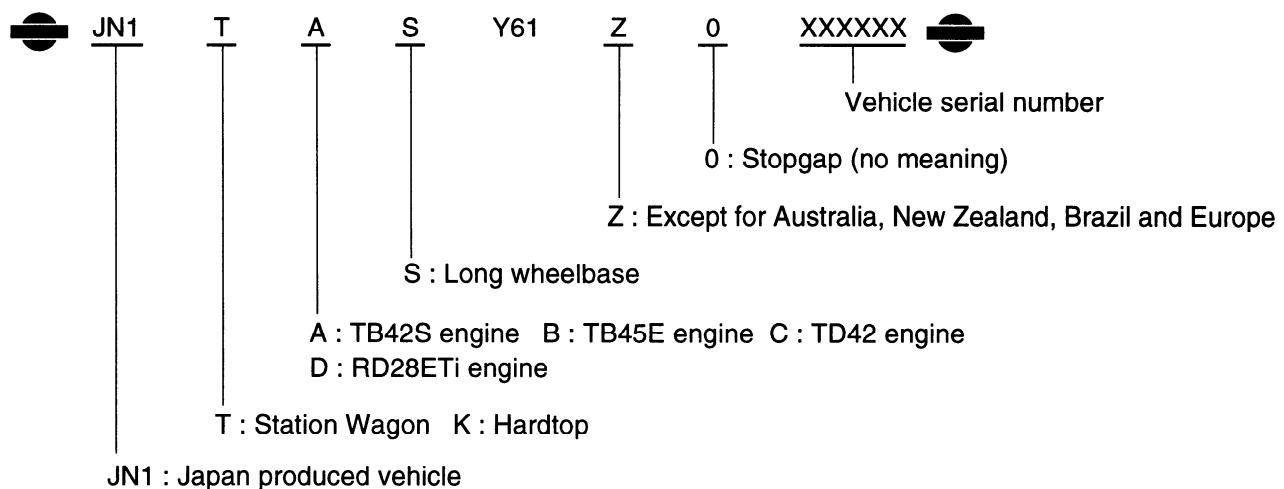
For Australia and New Zealand



For Brazil



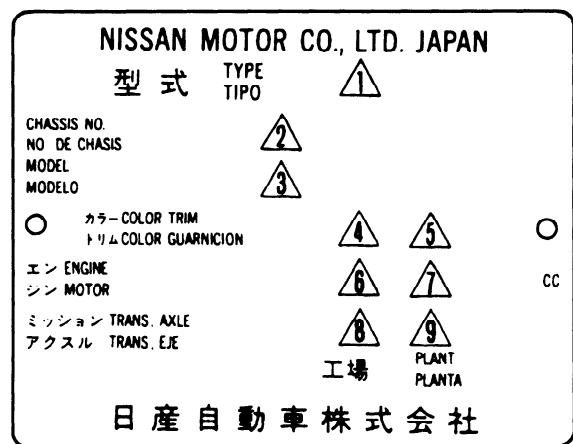
Others



GENERAL INFORMATION

Identification Number (Cont'd)

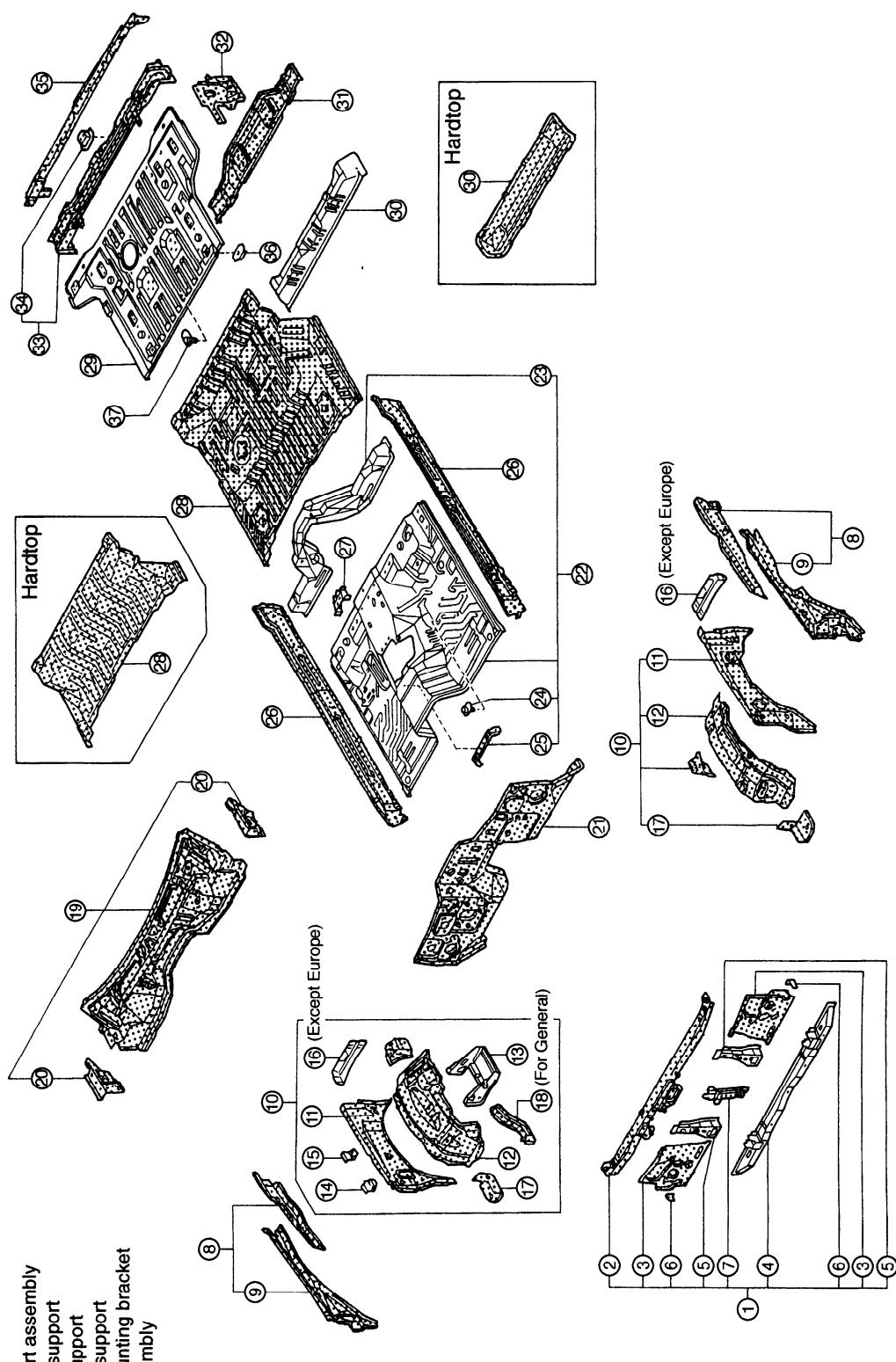
IDENTIFICATION PLATE



- 1 Type approval number
- 2 Vehicle identification number
(Chassis number)
- 3 Model
- 4 Body color code
- 5 Trim color code
- 6 Engine model
- 7 Engine displacement
- 8 Transaxle model
- 9 Axle model

Underbody Component Parts

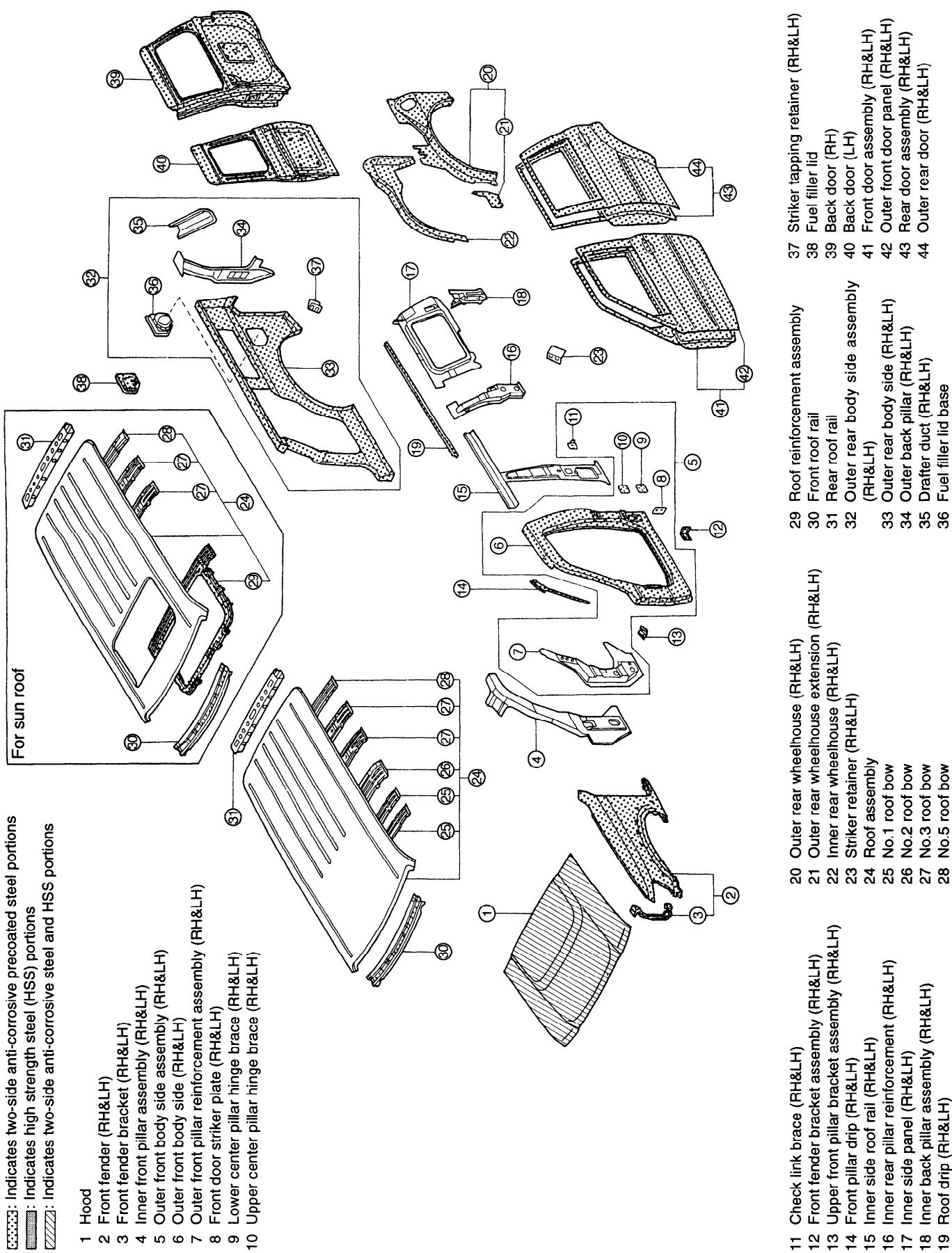
 : Indicates two-side anti-corrosive precoated steel portions
 : Indicates high strength steel (HSS) portions
 : Indicates two-side anti-corrosive steel and HSS portions



- 8 Hoodledge reinforcement assembly
 9 Front hoodledge reinforcement
 10 Hoodledge assembly
 11 Upper hoodledge
 12 Lower hoodledge
 13 Battery support bracket
 14 Front upper battery mounting reinforcement
 15 Rear upper battery mounting reinforcement
 16 Hoodledge reinforcement gusset
 17 Lower front hoodledge reinforcement
 18 Battery mounting reinforcement
 19 Air box assembly
 20 Side cowl top
 21 Lower dash assembly
 22 Front floor assembly
 23 2nd crossmember assembly
 24 Bolt plate
 25 Instrument stay reinforcement
 26 Inner sill
 27 Front seat mounting inner bracket (RH&LH)
 28 Rear floor front
 29 Rear floor rear
 30 Rear seat crossmember assembly
 31 Center rear crossmember assembly
 32 Rear floor side (RH&LH)
 33 Rear end crossmember assembly
 34 Tail gate striker reinforcement
 35 Outer rear end crossmember
 36 Rear floor plate
 37 Bolt plate

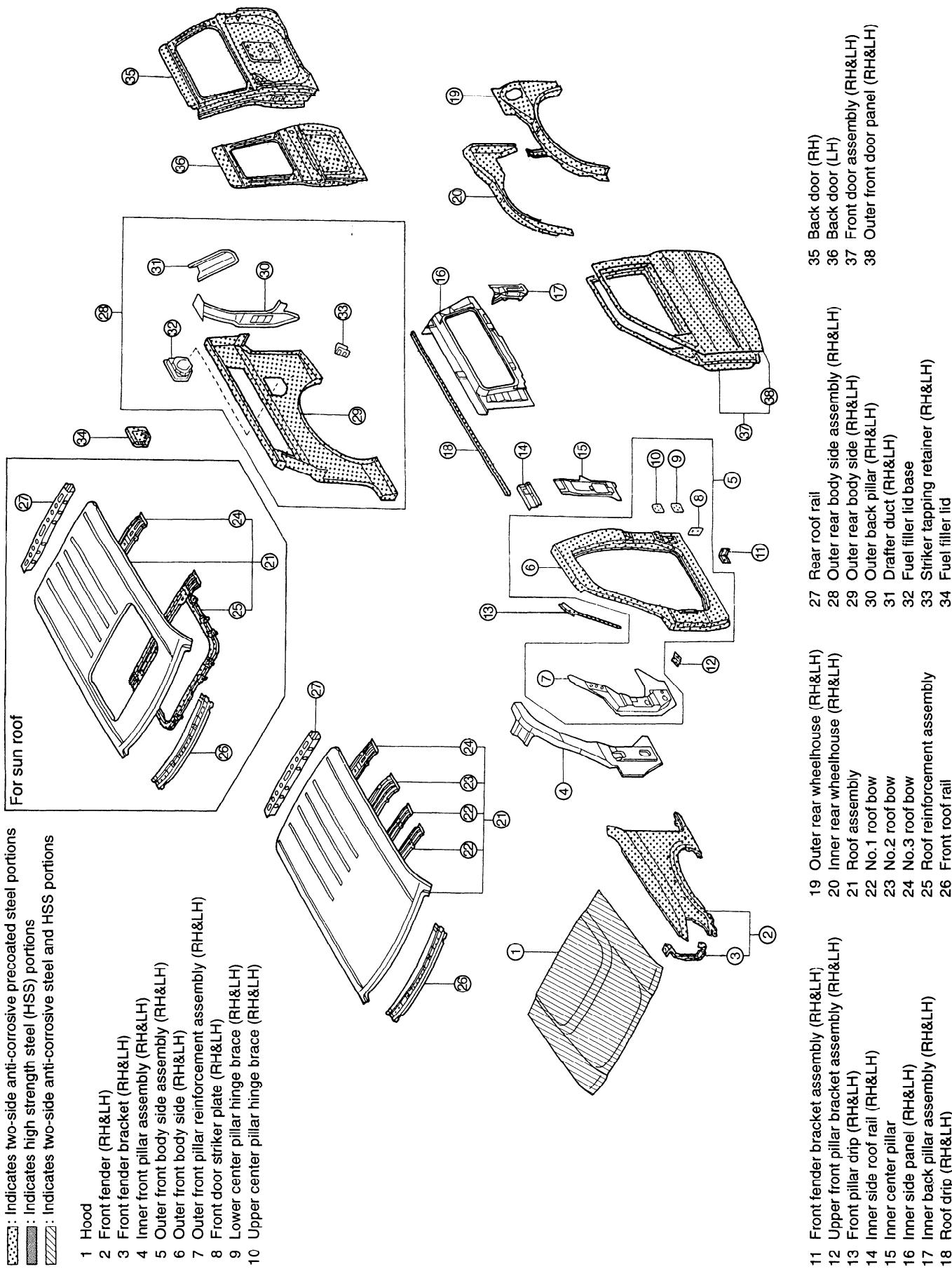
Body Component Parts

Wagon



Body Component Parts

Hardtop



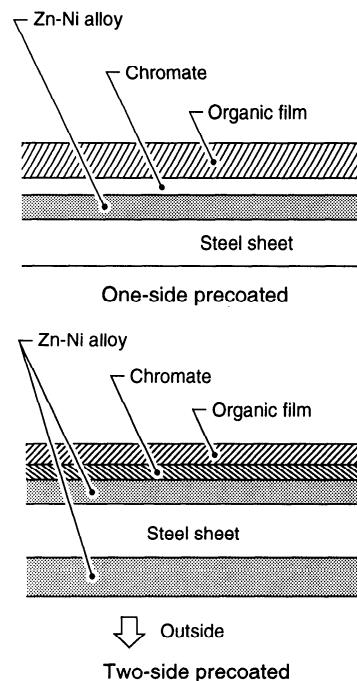
Description

To provide improved corrosion prevention, the following anti-corrosive measures have been implemented in our production plants. When repairing or replacing body panels, it is necessary to use these same anti-corrosive measures.

ANTI-CORROSIVE PRECOATED STEEL (DURASTEEL)

To improve repairability and corrosion resistance, a new type of anti-corrosive precoated steel sheet has been adopted replacing conventional zinc-coated steel sheet. Durasteel is electroplated, zinc-nickel alloy under organic film, which provides excellent corrosion resistance.

Durasteel is classified as either one-side precoated steel or two-side precoated steel. The two side precoated steel provides excellent corrosion resistance.



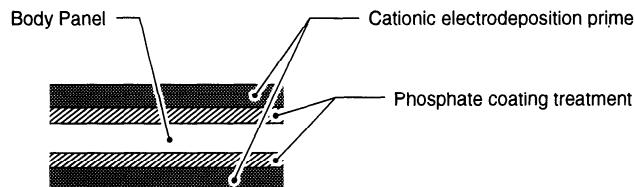
Nissan Genuine Service Parts are fabricated from durasteel sheets. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

PHOSPHATE COATING TREATMENT AND CATIONIC ELECTRODEPOSITION PRIMER

A phosphate coating treatment and a cationic electrodeposition primer, which provide an excellent corrosion protection, are employed on all body components.

Caution:

Confine paint removal during welding operations to an absolute minimum.

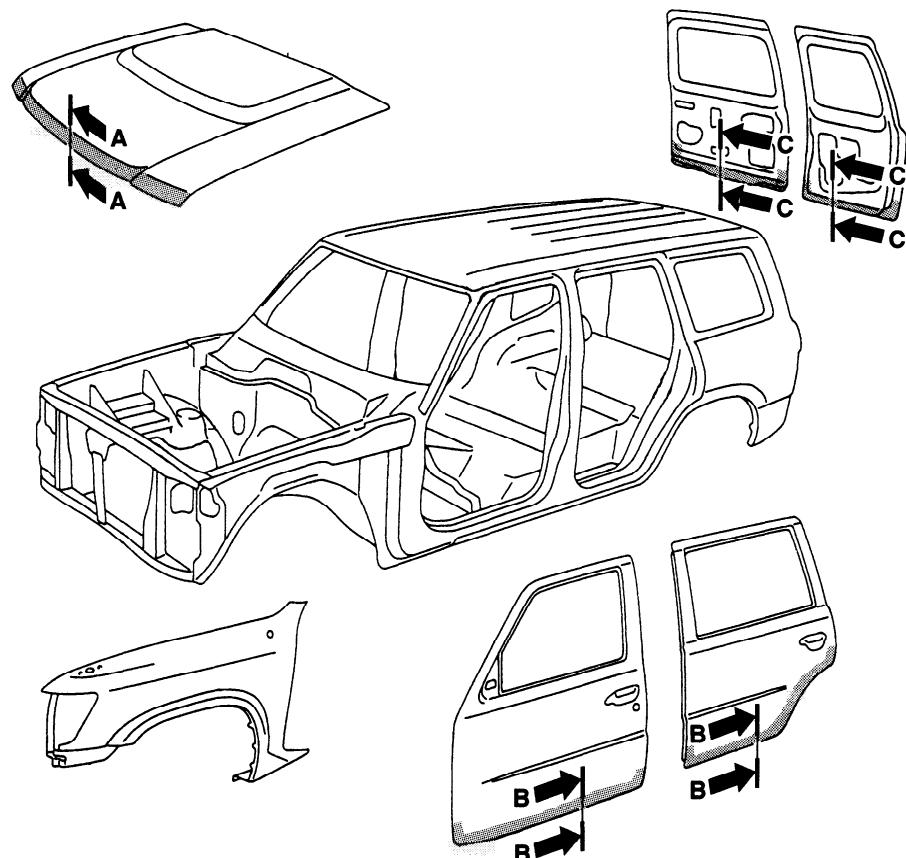


Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

CORROSION PROTECTION

Anti-Corrosive Wax

To improve corrosion resistance, anti-corrosive wax is applied inside the body sill and inside other closed sections. Accordingly, when replacing these parts, be sure to apply anti-corrosive wax to the appropriate areas of the new parts. Select an excellent anti-corrosive wax which will penetrate after application and has a long shelf life.



■ : Indicates anti-corrosive wax coated portions.

Section A-A	Section B-B	Section C-C
A cross-sectional view of a car's body sill. The sill is depicted as a thin metal plate with a flange at the bottom. A thick, shaded area represents the anti-corrosive wax coating applied to the inner edge of the sill and into the gap where it meets the adjacent panel.	A cross-sectional view of a rear wheel arch. It shows the inner fender panel and the outer wheel well. A thick, shaded area indicates the anti-corrosive wax coating applied to the inner edge of the fender and into the tight corner where the fender meets the body.	A cross-sectional view of a front wheel arch. It shows the inner fender panel and the outer wheel well. A thick, shaded area indicates the anti-corrosive wax coating applied to the inner edge of the fender and into the tight corner where the fender meets the body.

Undercoating

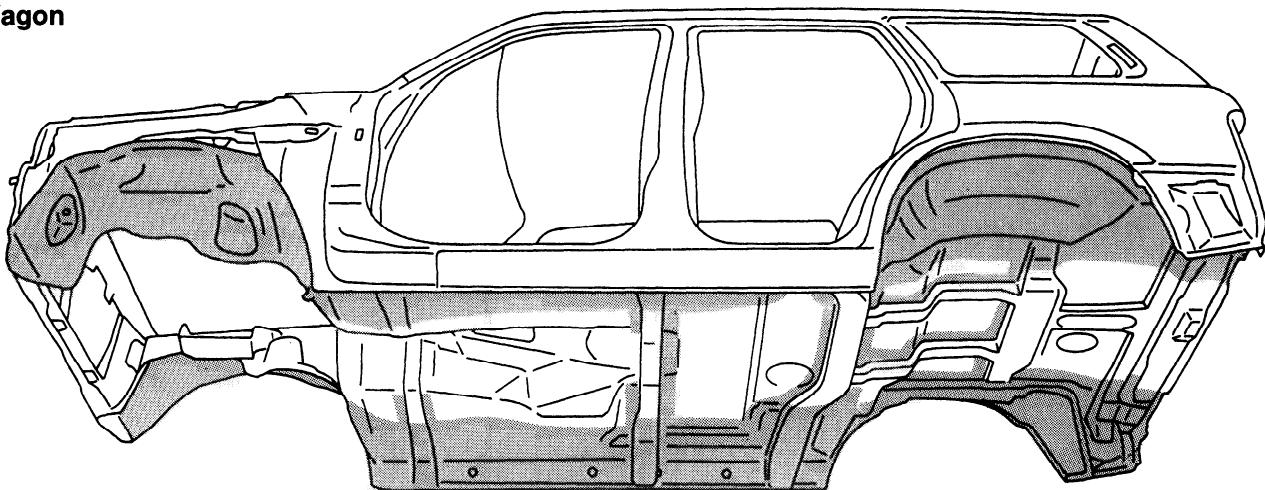
The underside of the floor and wheelhouse are undercoated to prevent rust, vibration, noise and stone chipping. Therefore, when such a panel is replaced or repaired, apply undercoating to that part. Use an undercoating with the following properties: rust prevention, soundproofing, vibration-proofing, shock-resistance, adhesion, and durability.

Precautions in undercoating

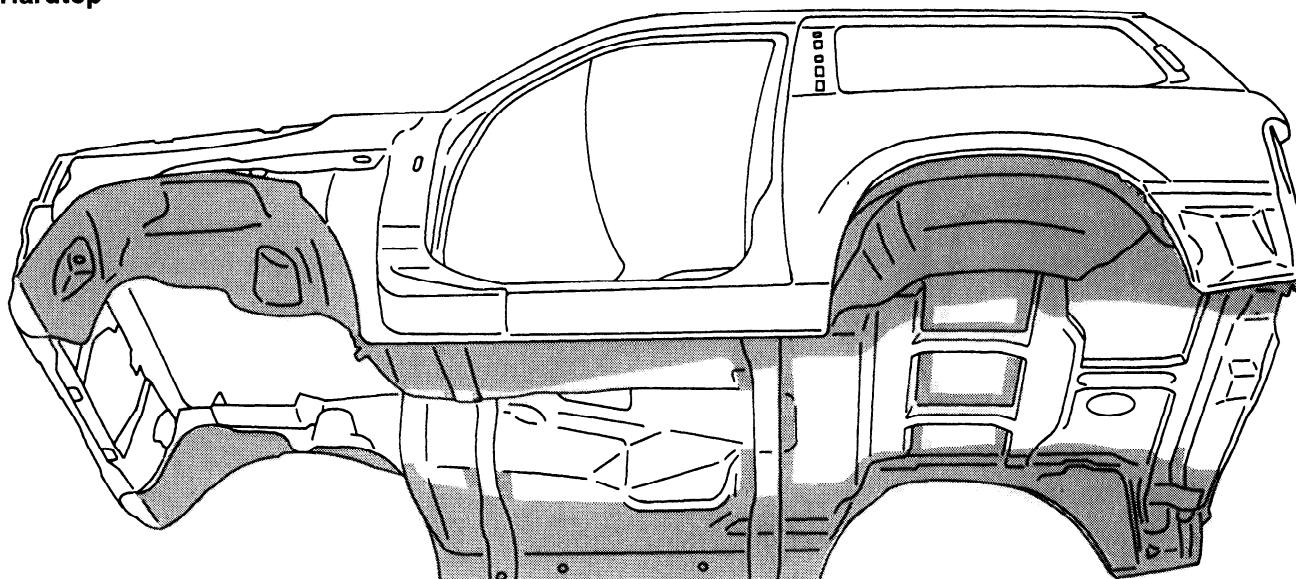
1. Do not apply undercoating to any place unless specified (such as the areas above the muffler and catalytic converter which are subjected to heat).
2. Do not undercoat the exhaust pipe or other parts which become hot .
3. Do not undercoat rotating parts.
4. Apply bitumen wax after applying undercoating.

 : Indicates undercoated portions.

Wagon



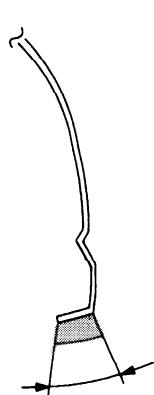
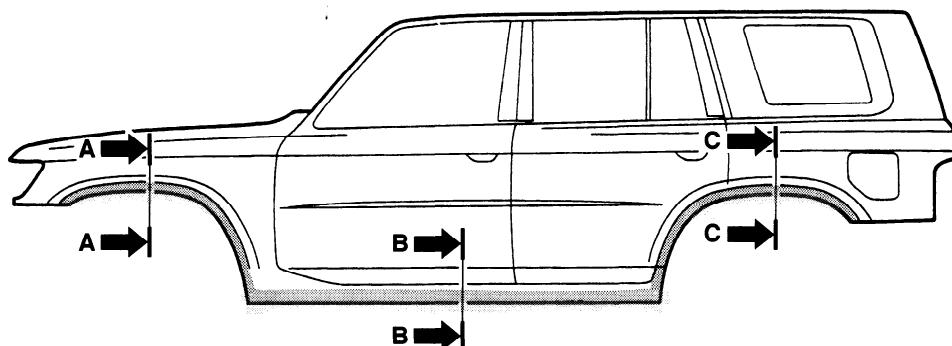
Hardtop



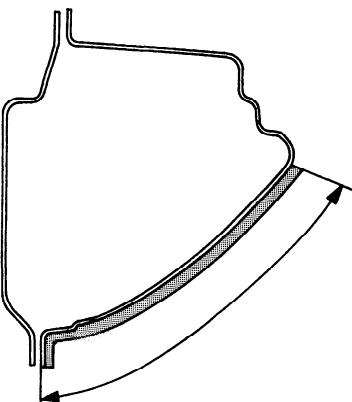
Stone Guard Coat

To prevent damage caused by stones, the lower outer body panel (fender, door, etc.) have an additional layer of Stone Guard Coating over the ED primer coating. When replacing or repairing these panels, apply undercoating to the same portions as before. Use a coating with the following properties: rust prevention, durability, shock-resistance and a long shelf life.

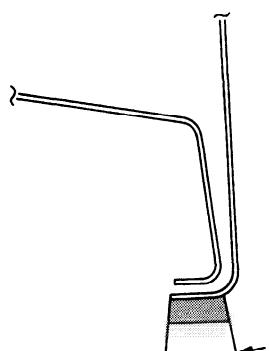
 : Indicates stone guard coated portions.



Section A-A
(Except models with over fender)

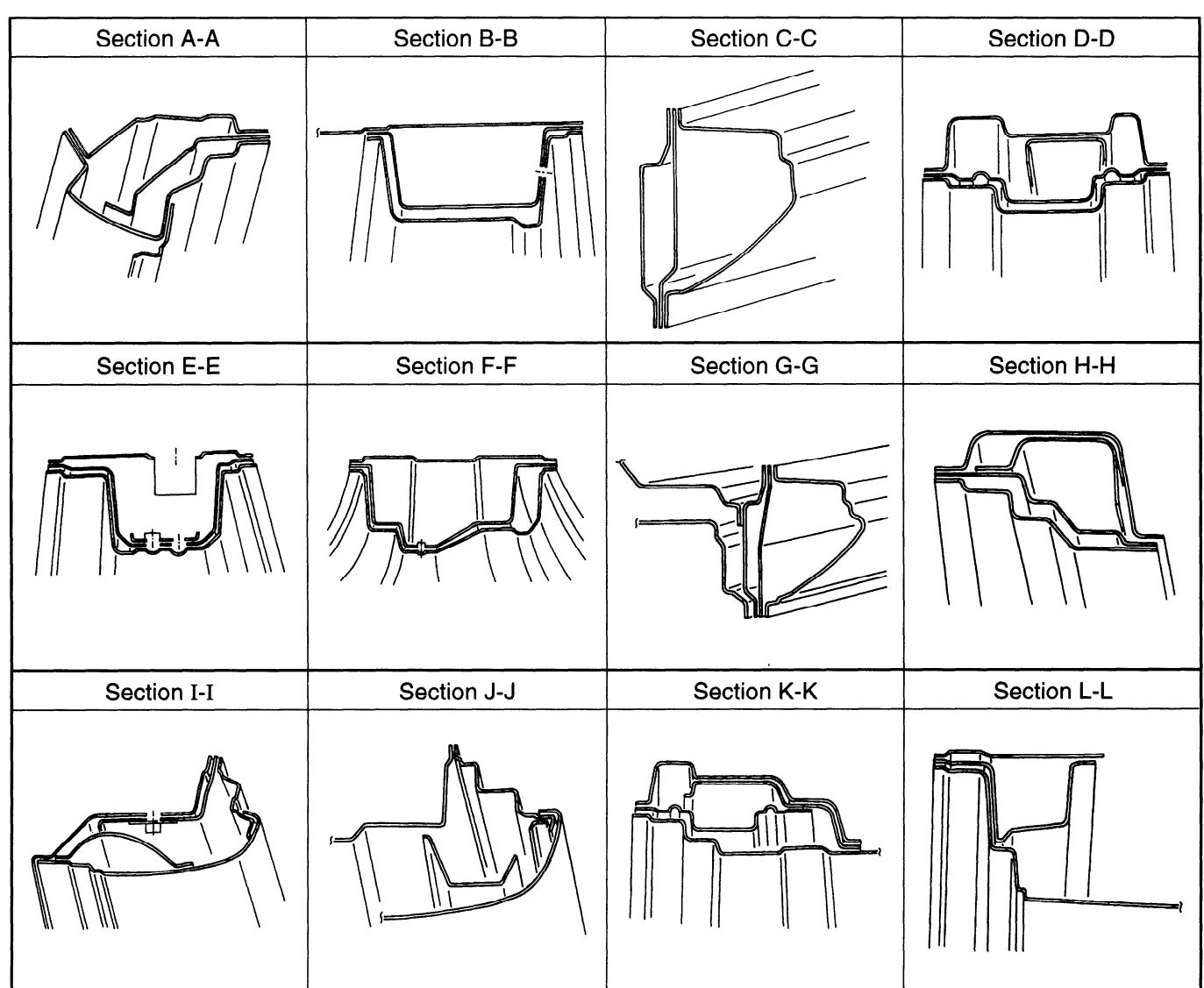
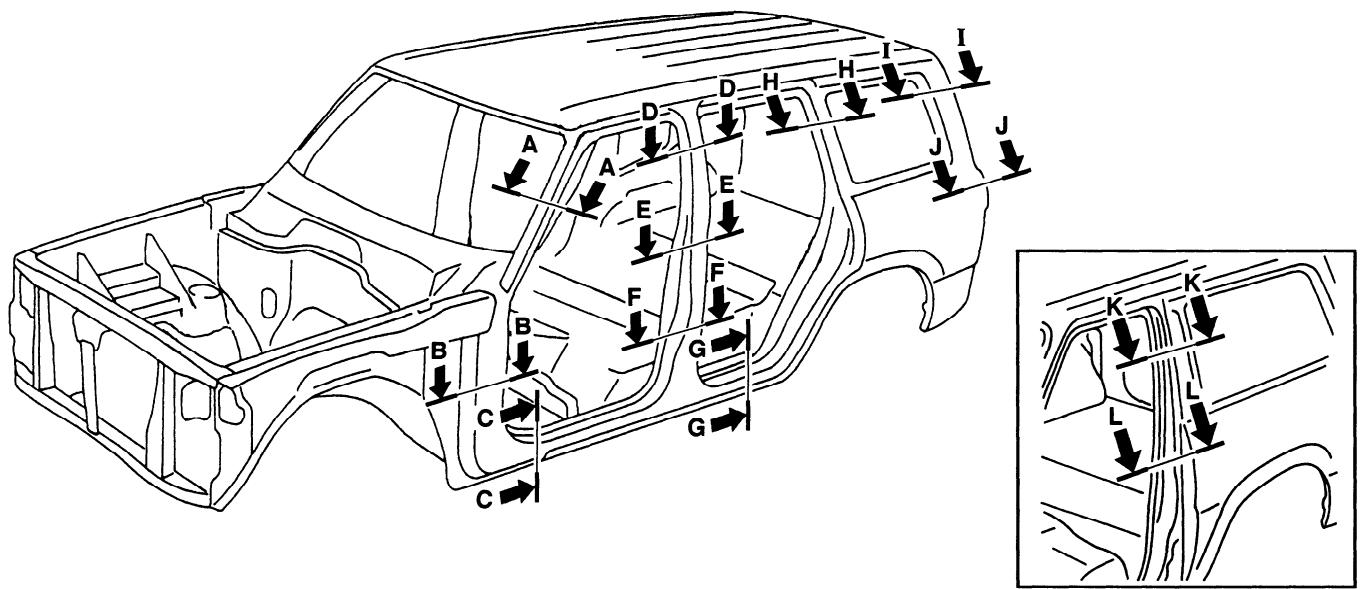


Section B-B



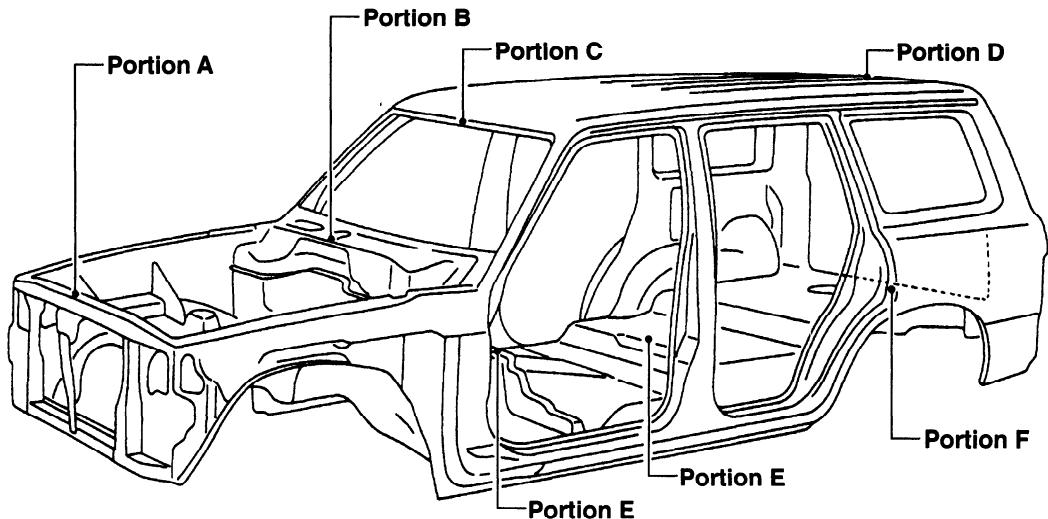
Section C-C

BODY CONSTRUCTION
Body Construction



Body Center Marks

A mark has been placed on each part of the body to indicate the vehicle center. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.

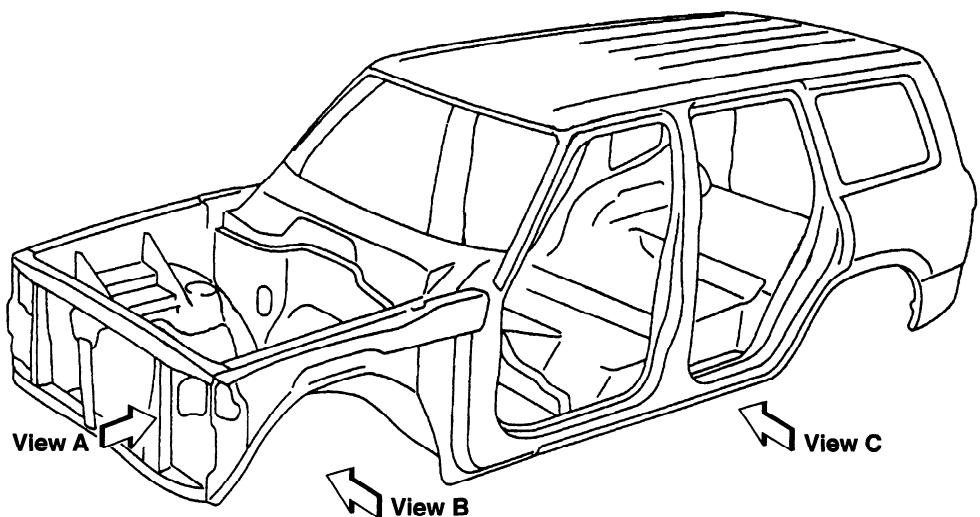


Unit: mm

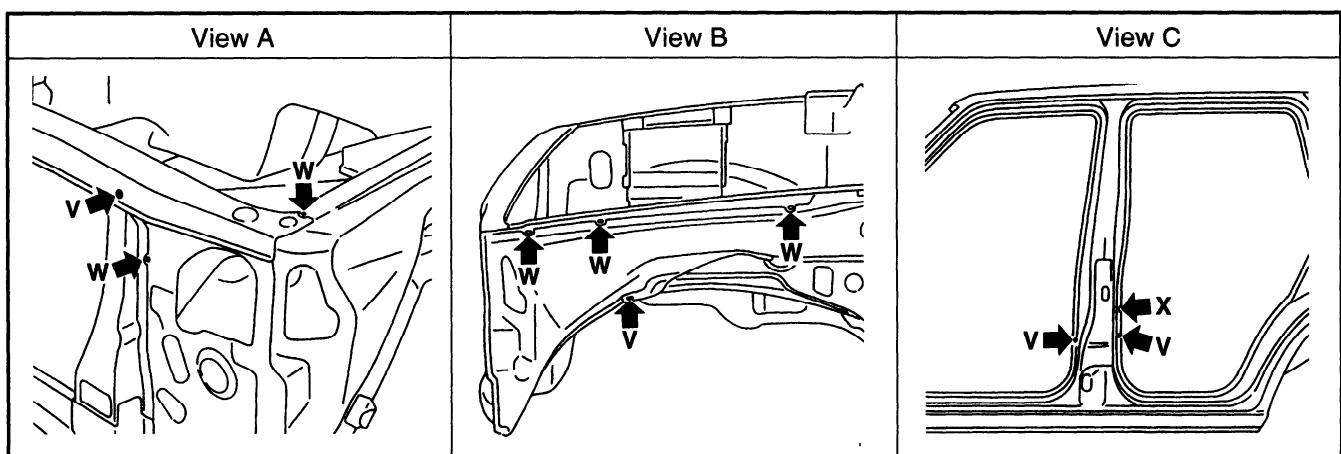
Portion A	Portion B	Portion C
 ● Upper radiator core support Hole (5 dia)	 ● Cowl top Hole (6 dia)	 ● Front roof Embossment
Portion D	Portion E	Portion F
 ● Rear roof Embossment	 ● Floor Hole (8 dia) (Wagon) Hole (8 dia)	 ● Rear panel Indentation

Panel Parts Matching Marks

A mark has been placed on each body panel to indicate the parts matching positions. When repairing parts damaged by an accident which might affect the vehicle structure (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.

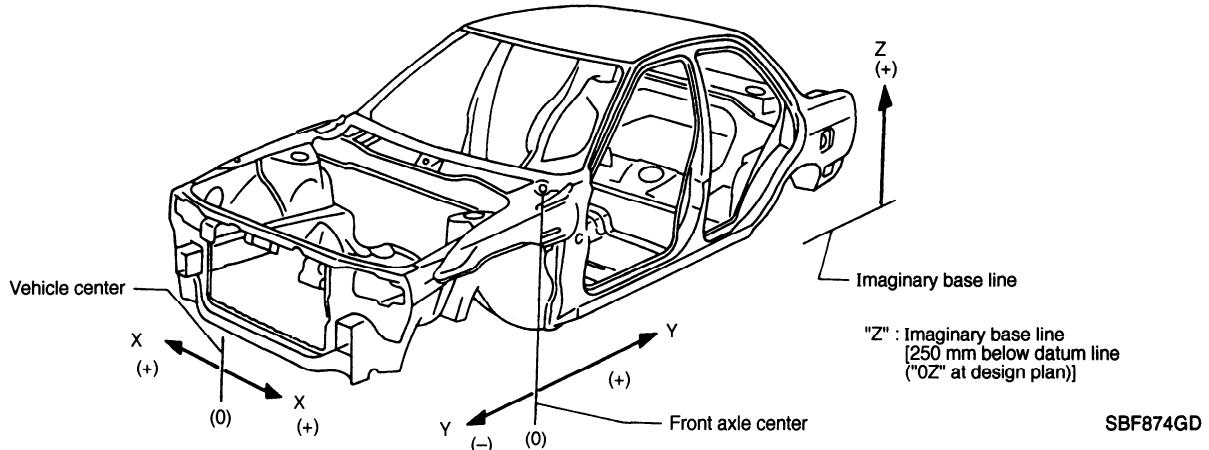


Type V :
Type X :
Type W :



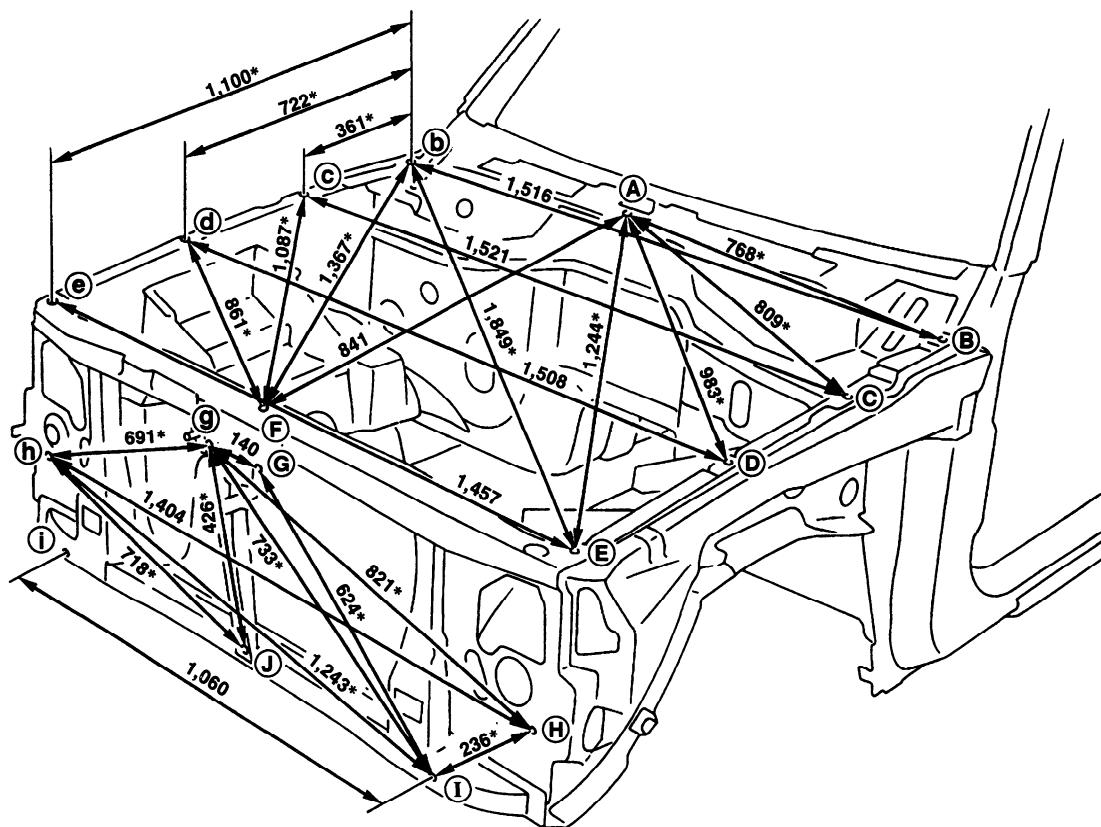
Description

- All dimensions indicated in the figures are actual ones.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge itself to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending of the tape.
- Measurements should be taken at the center of the mounting holes.
- An asterisk (*) following the value at the measuring point indicates that the measuring point on the other side is symmetrically the same value.
- The coordinates of the measurement points are the distances measured from the standard line of "X", "Y" and "Z".



Engine Compartment

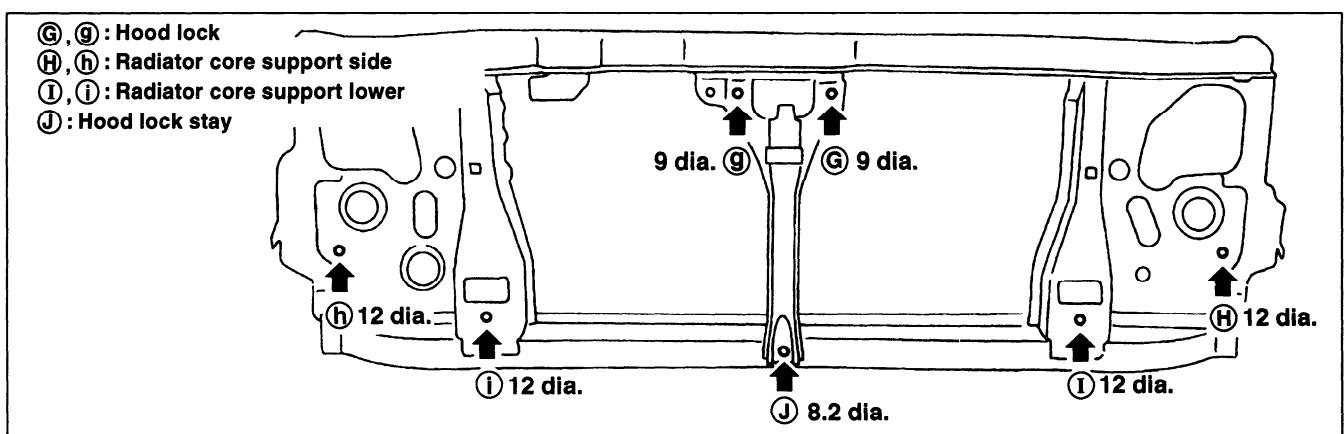
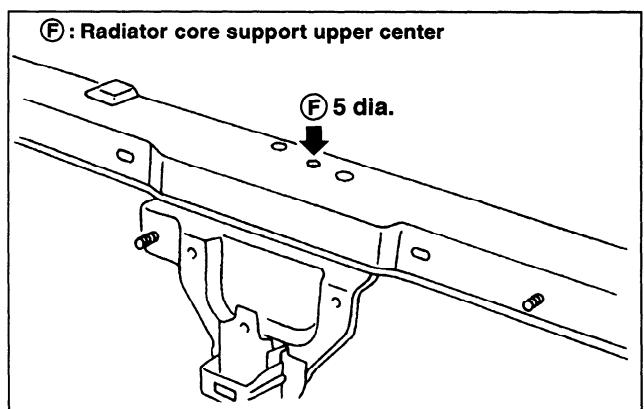
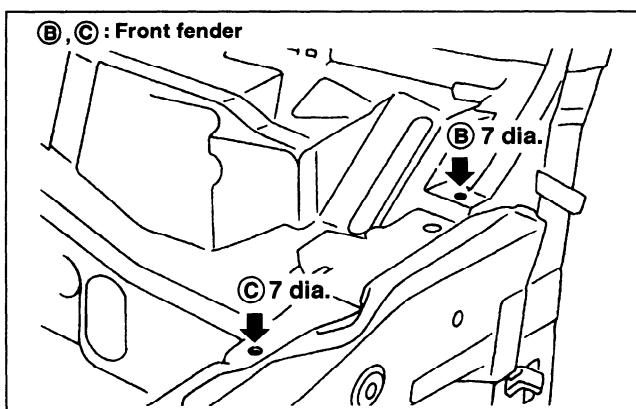
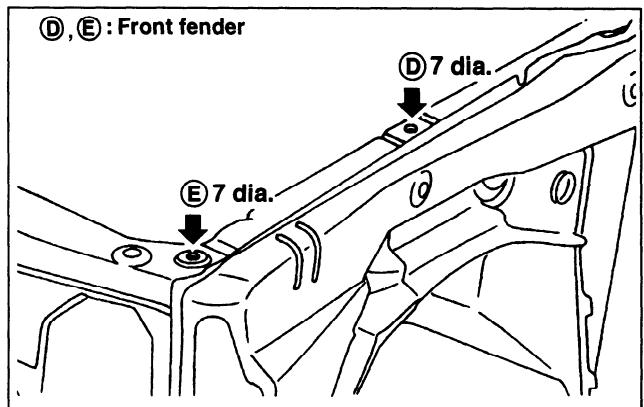
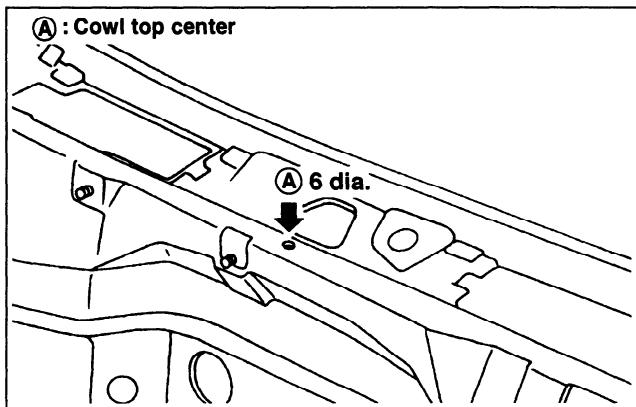
MEASUREMENT



BODY ALIGNMENT

Engine Compartment (Cont'd)**MEASUREMENT POINTS**

Unit: mm



BODY ALIGNMENT

Underbody

Wagon

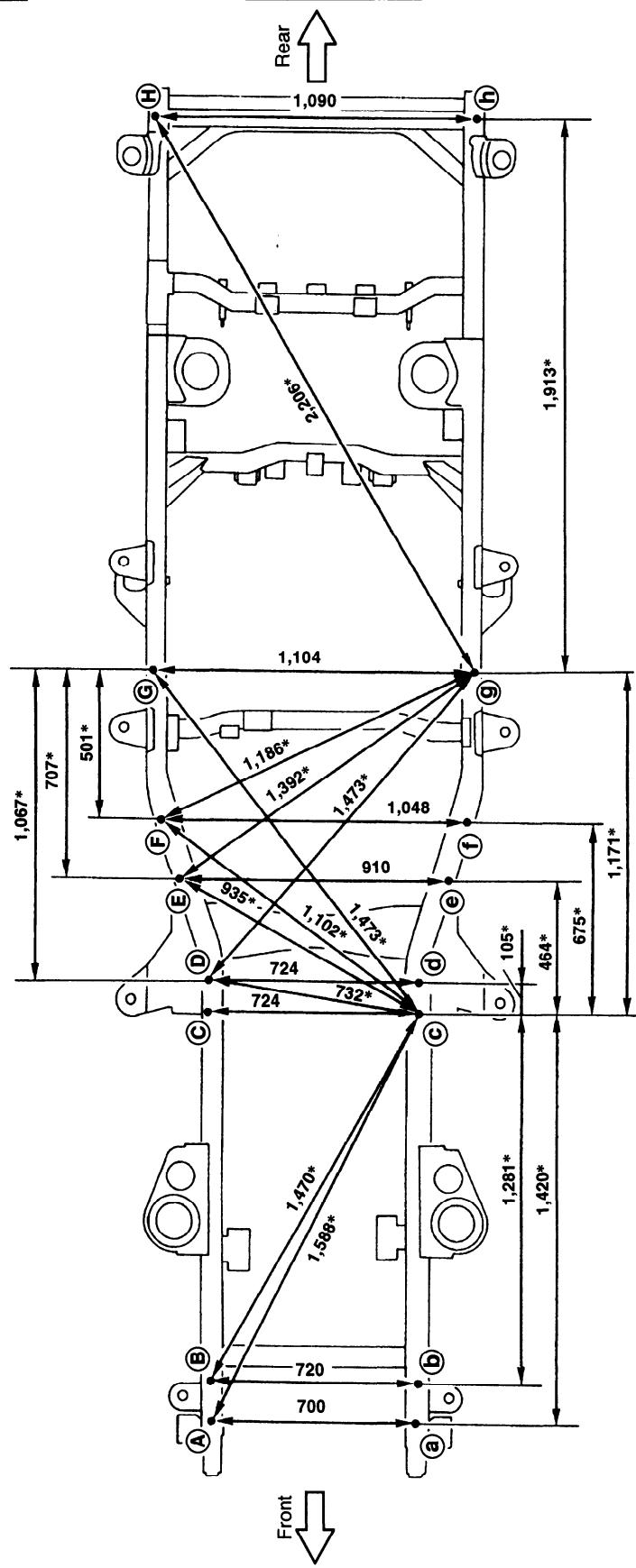
MEASUREMENT

Figures marked with a * indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

LH side

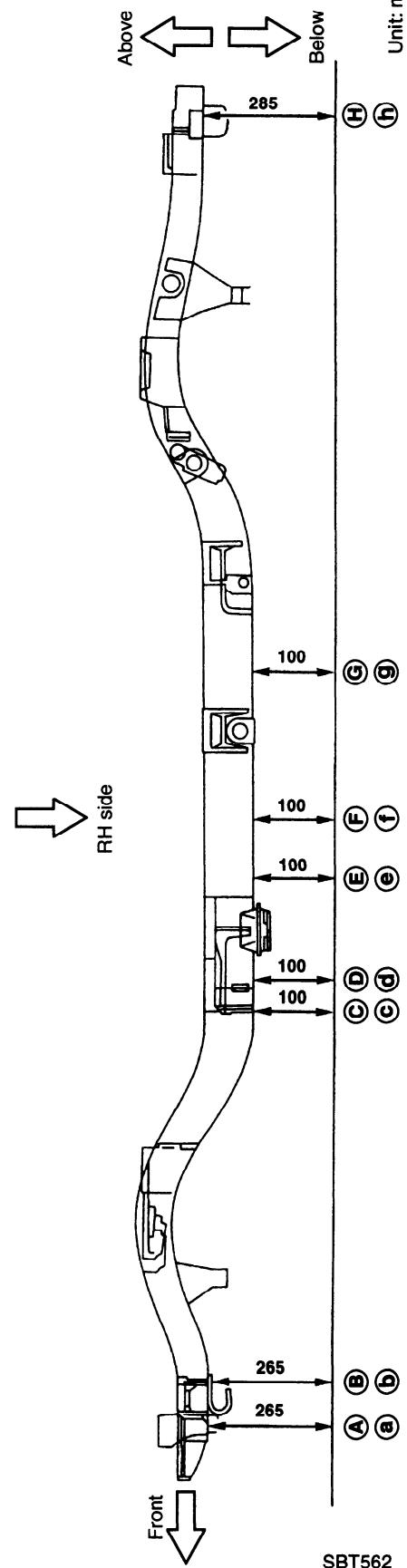
This figure is upper view.

All dimensions indicated in these figures are actual ones.



Above
Below

Unit: mm

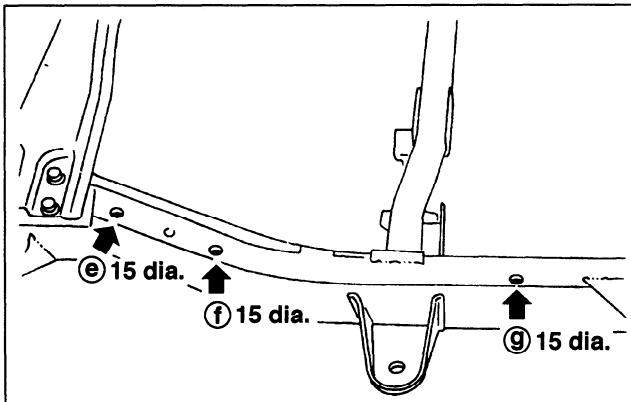
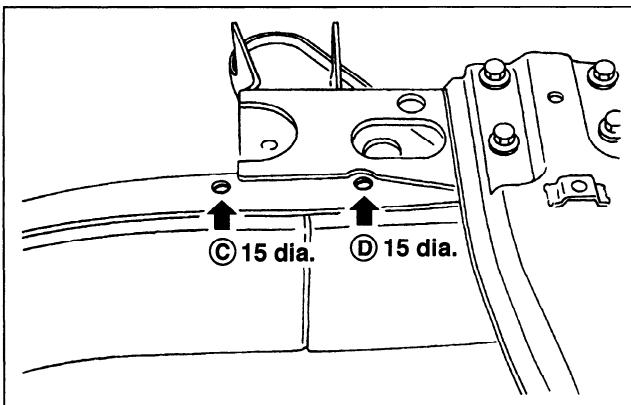
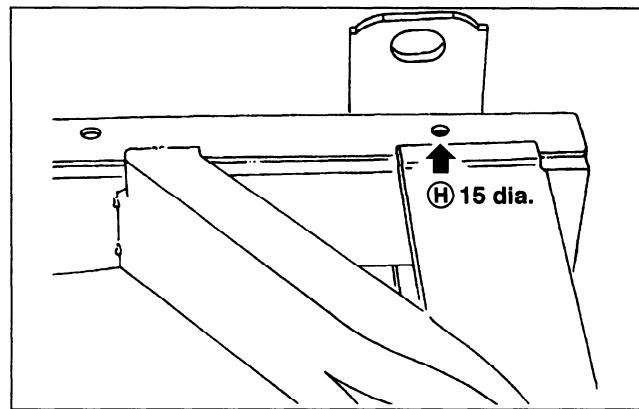
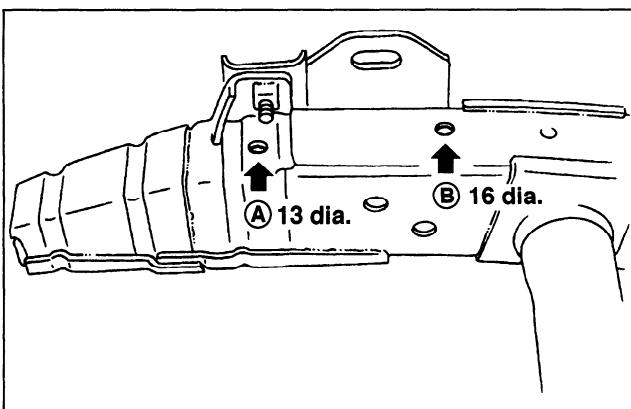


SBT562

Underbody (Cont'd)

Wagon

MEASUREMENT POINTS



coordinates :

A , a	E , e
x : 350	x : 455
y : -665	y : 1,200
z : 265	z : 100
B , b	F , f
x : 360	x : 524
y : -525	y : 1,400
z : 265	z : 100
C , c	G , g
x : 362	x : 552
y : 745	y : 1,900
z : 100	z : 100
D , d	H , h
x : 362	x : 545
y : 850	y : 3,805
z : 100	z : 285

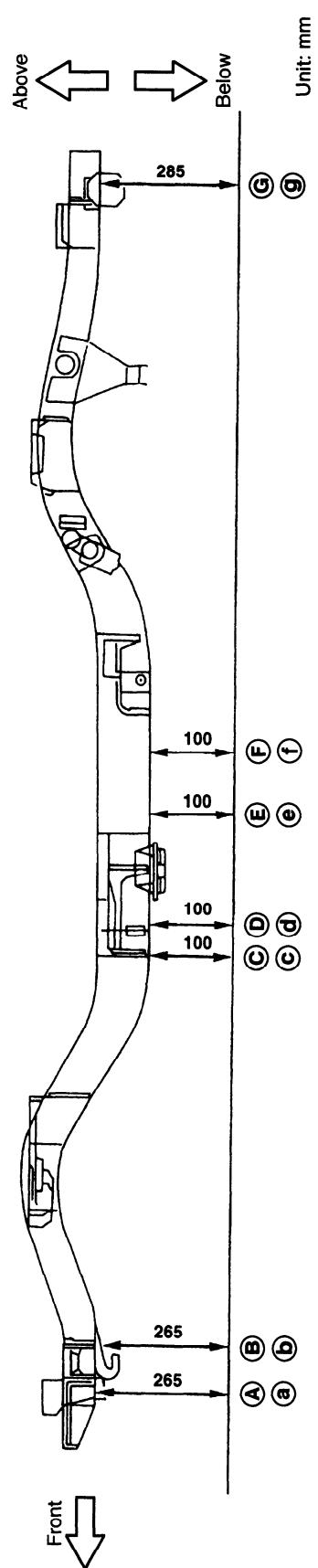
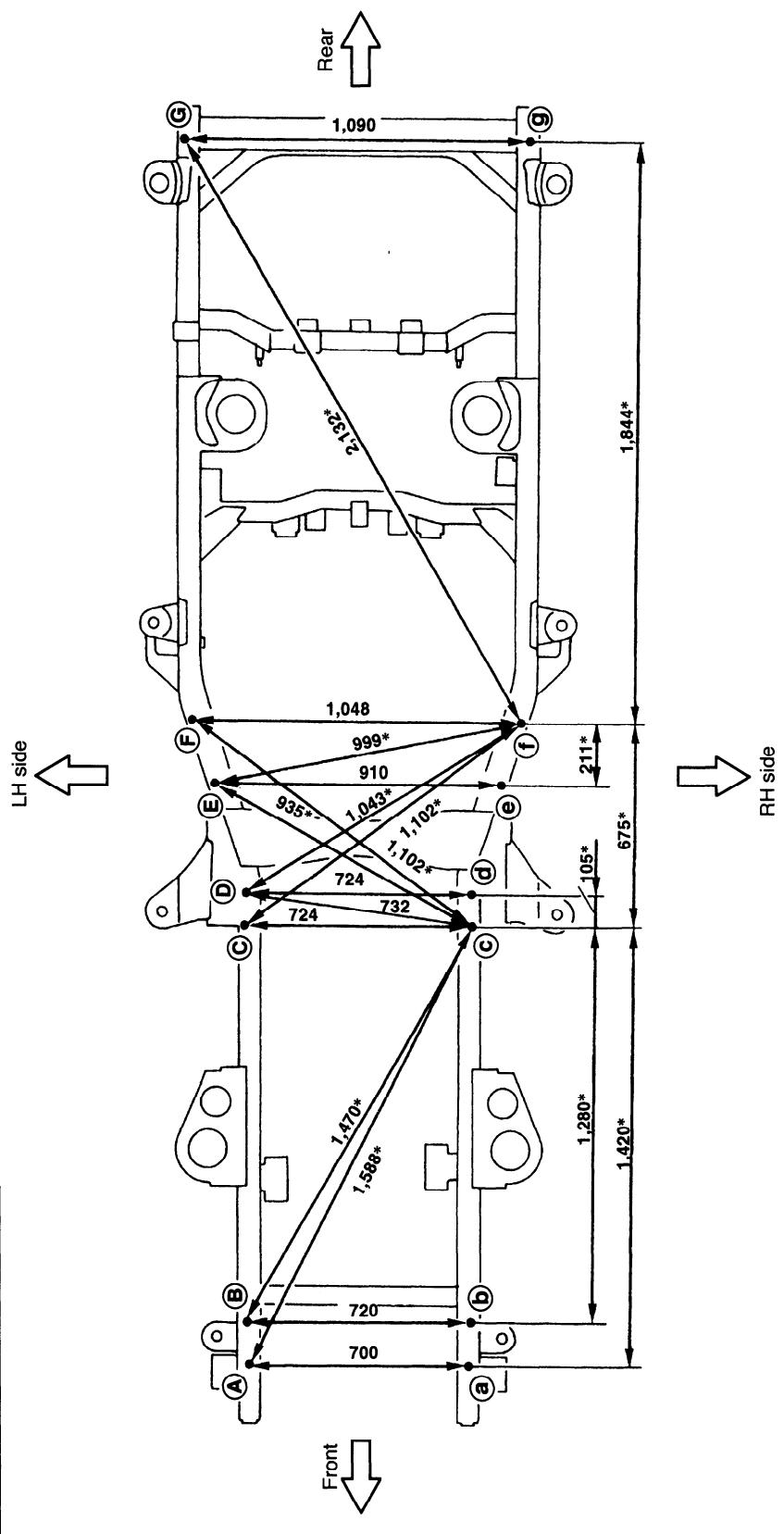
Unit: mm

SBT563

BODY ALIGNMENT

Underbody (Cont'd)**Hardtop****MEASUREMENT POINTS**

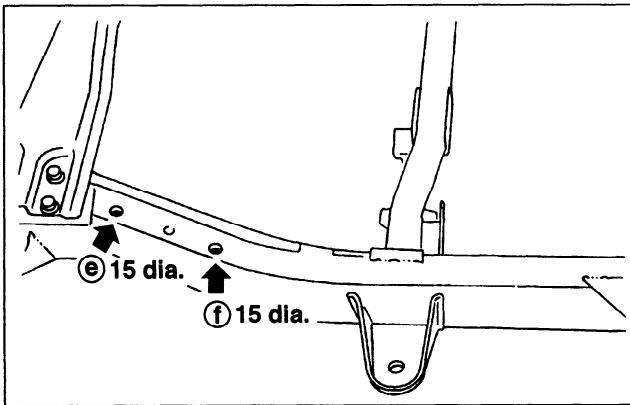
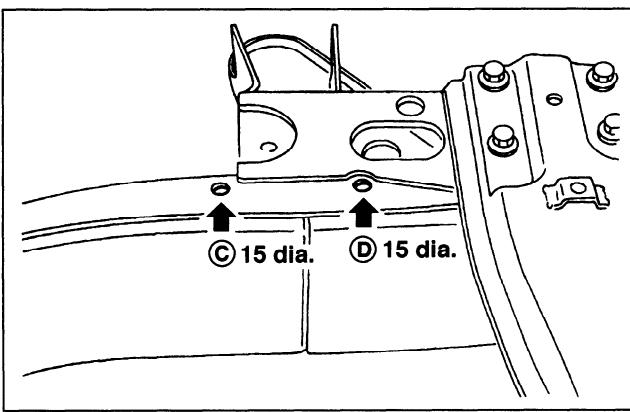
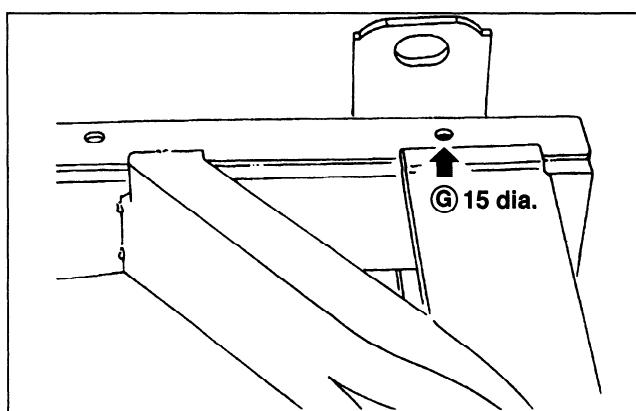
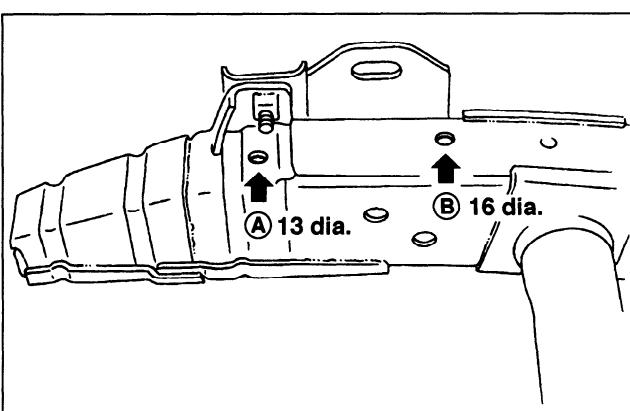
Figures marked with a * indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.



Underbody (Cont'd)

Hardtop

MEASUREMENT POINTS



coordinates :

(A), (a)	(E), (e)
x : 350	x : 455
y : -665	y : 1,200
z : 265	z : 100
(B), (b)	(F), (f)
x : 360	x : 524
y : -525	y : 1,400
z : 265	z : 100
(C), (c)	(G), (g)
x : 362	x : 545
y : 745	y : 3,235
z : 100	z : 285
(D), (d)	
x : 362	
y : 850	
z : 100	

Unit: mm

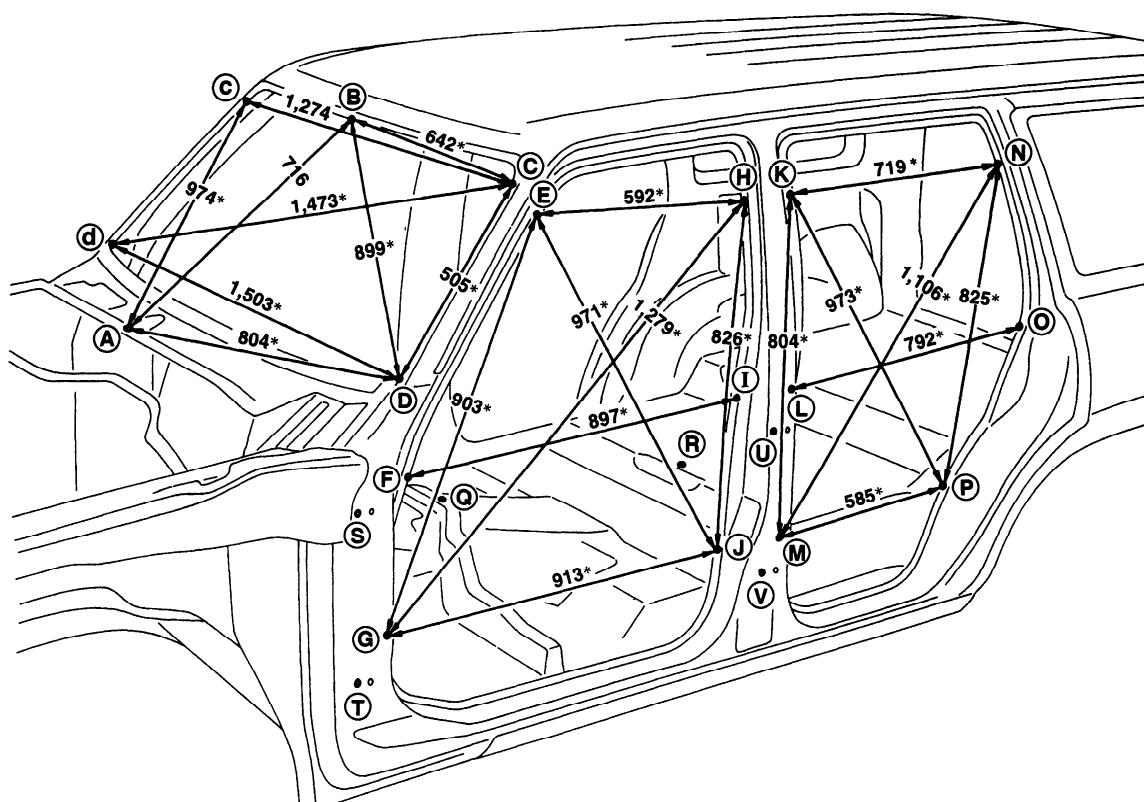
SBT565

BODY ALIGNMENT

Passenger Compartment

**Wagon
Hardtop**

MEASUREMENT



Unit: mm

[Front door opening for Wagon and Hardtop]

Point	Dimension	Point	Dimension
(E) ~ (e)	1,349	(S) ~ (U)	1,132 *
(F) ~ (f)	1,492	(S) ~ (V)	1,167 *
(G) ~ (g)	1,492	(T) ~ (U)	1,189 *
(H) ~ (h)	1,353	(T) ~ (V)	1,111 *
(I) ~ (i)	1,492		
(J) ~ (j)	1,492		
(Q) ~ (E)	1,127 *		
(Q) ~ (F)	1,015 *		
(Q) ~ (G)	963 *		
(Q) ~ (H)	1,173 *		
(Q) ~ (I)	947 *		
(Q) ~ (L)	809 *		

[Rear door opening for Wagon]

Point	Dimension
(K) ~ (K)	1,352
(L) ~ (I)	1,492
(M) ~ (m)	1,492
(N) ~ (n)	1,351
(O) ~ (o)	1,492
(P) ~ (P)	1,492
(R) ~ (K)	1,170
(R) ~ (L)	950 *
(R) ~ (M)	817 *
(R) ~ (N)	1,222 *
(R) ~ (O)	1,037 *
(R) ~ (P)	802 *

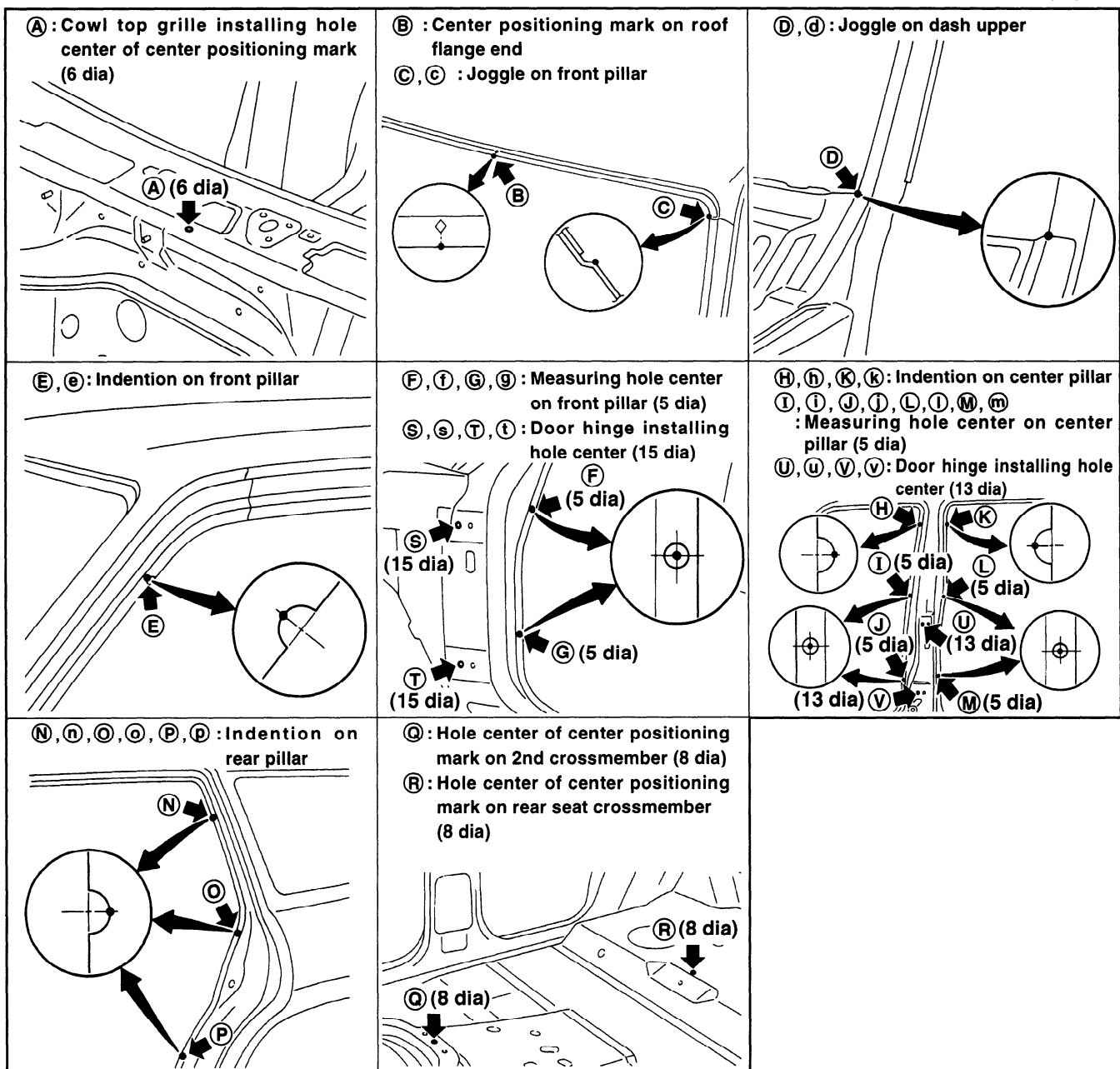
Both Wagon and Hardtop have same dimensions for windshield opening and front door openings.

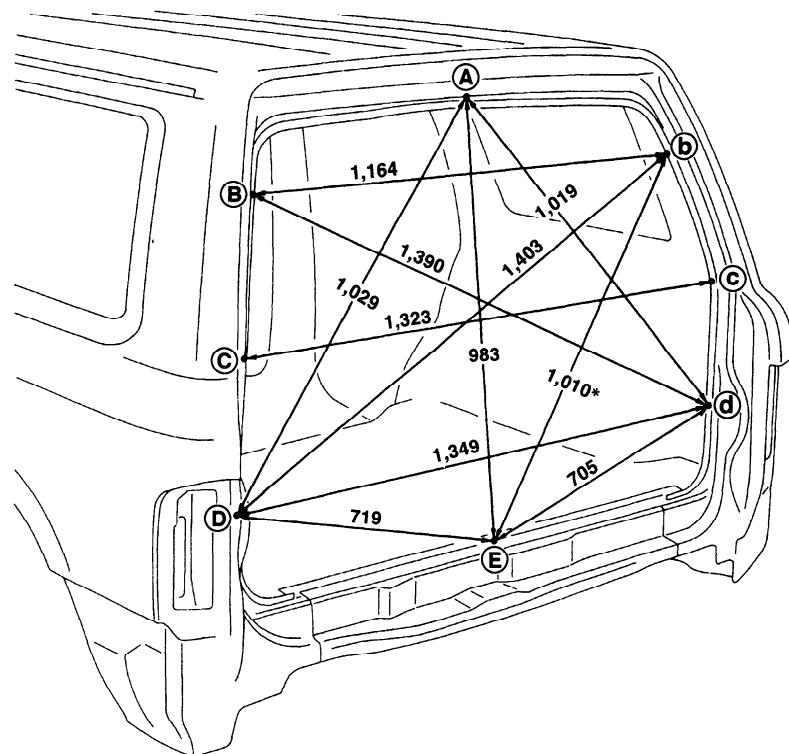
Figures marked with a * indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

Passenger Compartment (Cont'd)

MEASUREMENT

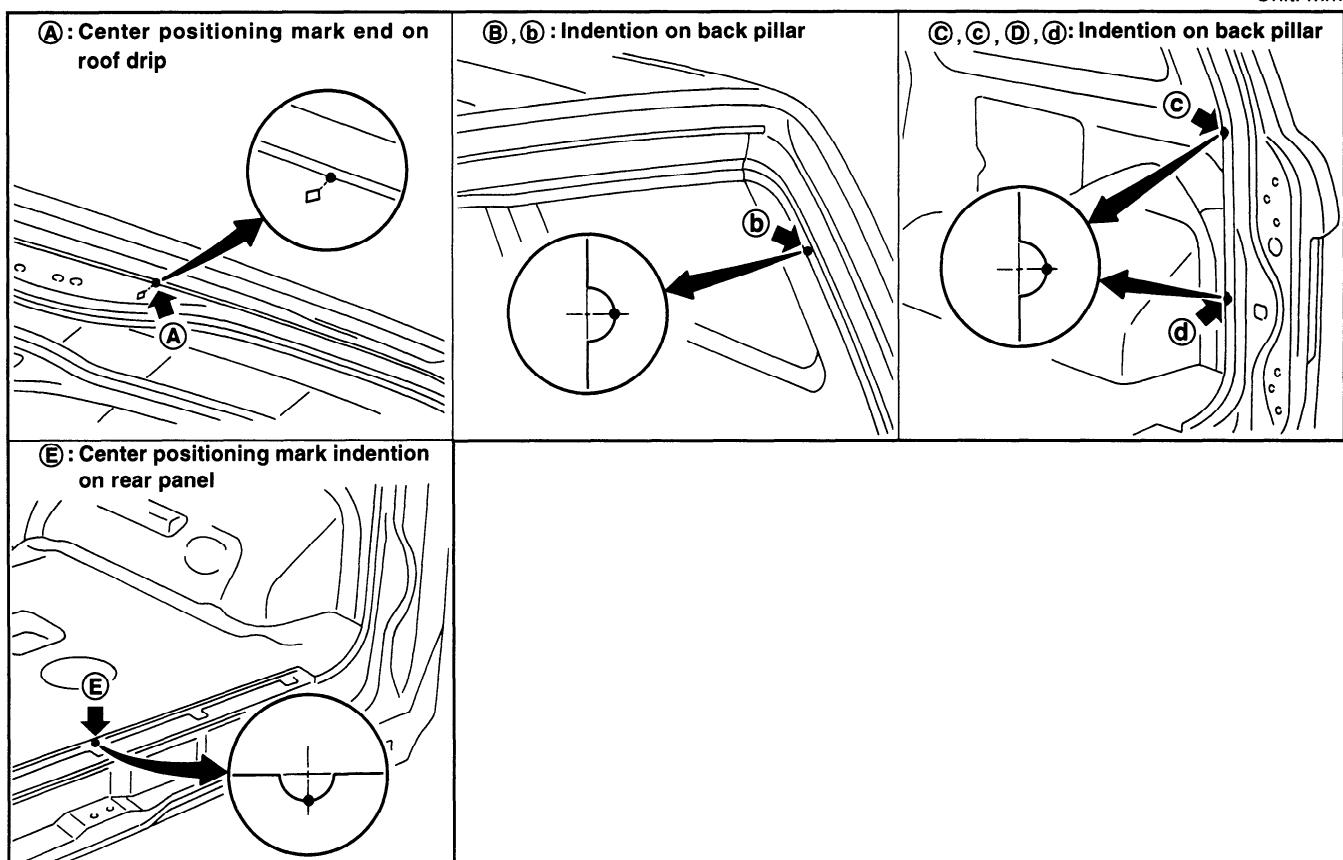
Unit: mm



Rear Body**MEASUREMENT**

Figures marked with a * indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

Unit: mm



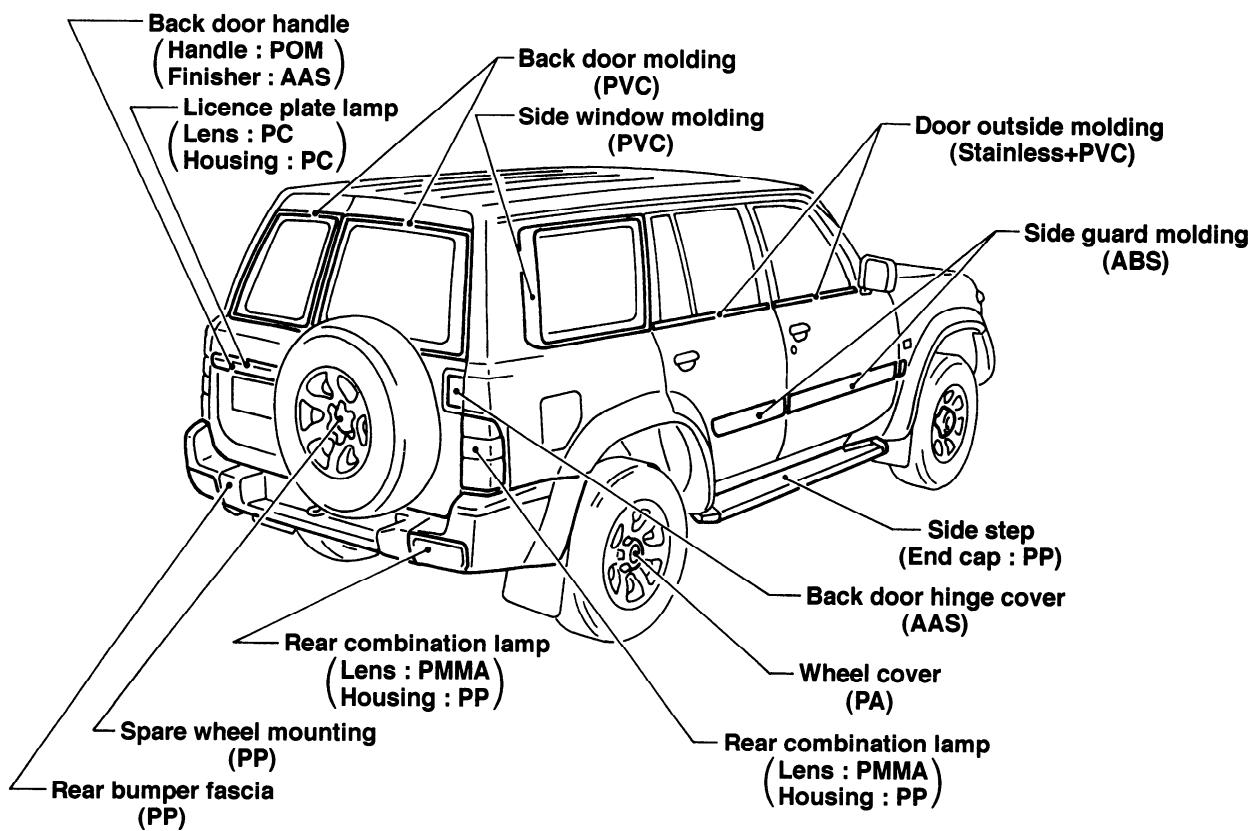
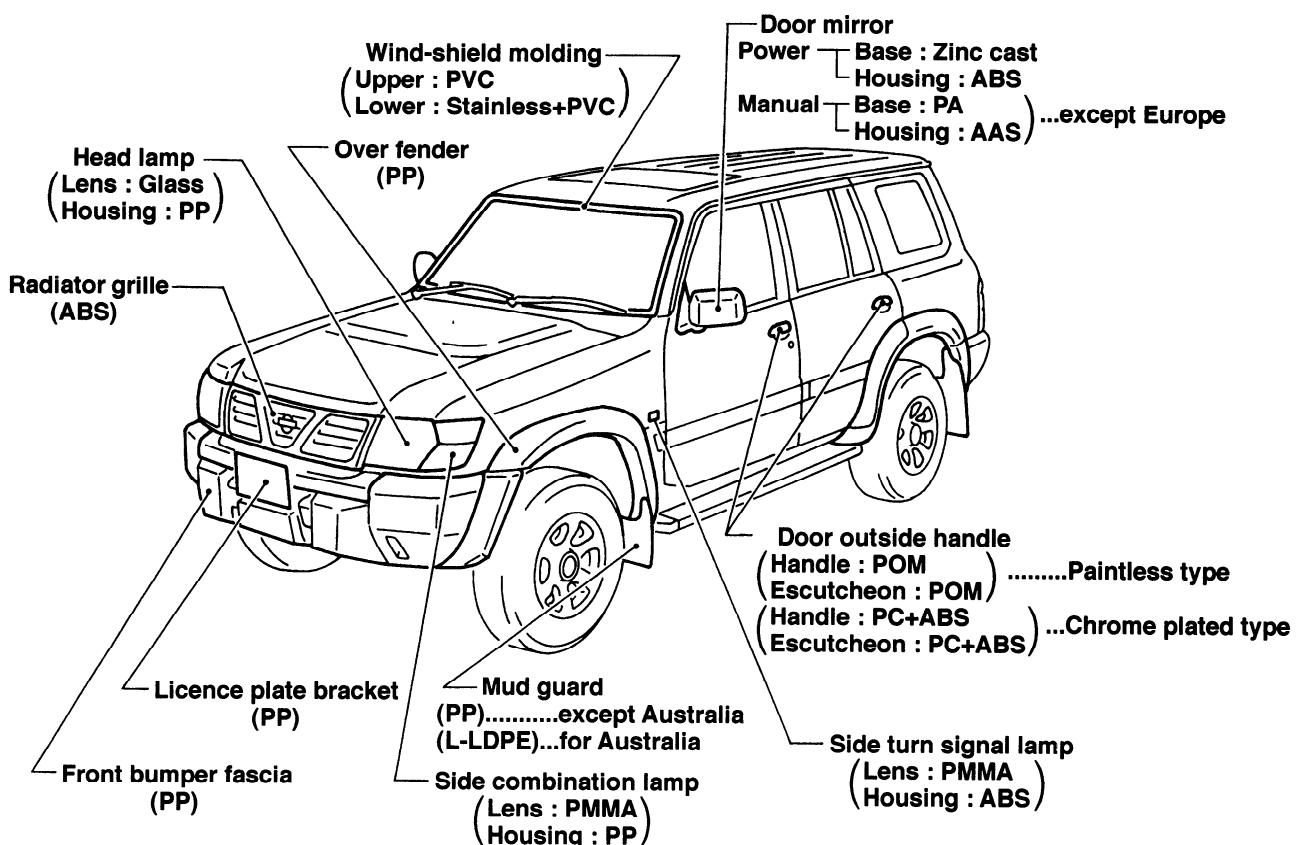
HANDLING PRECAUTIONS FOR PLASTICS

Handling Precautions for Plastics

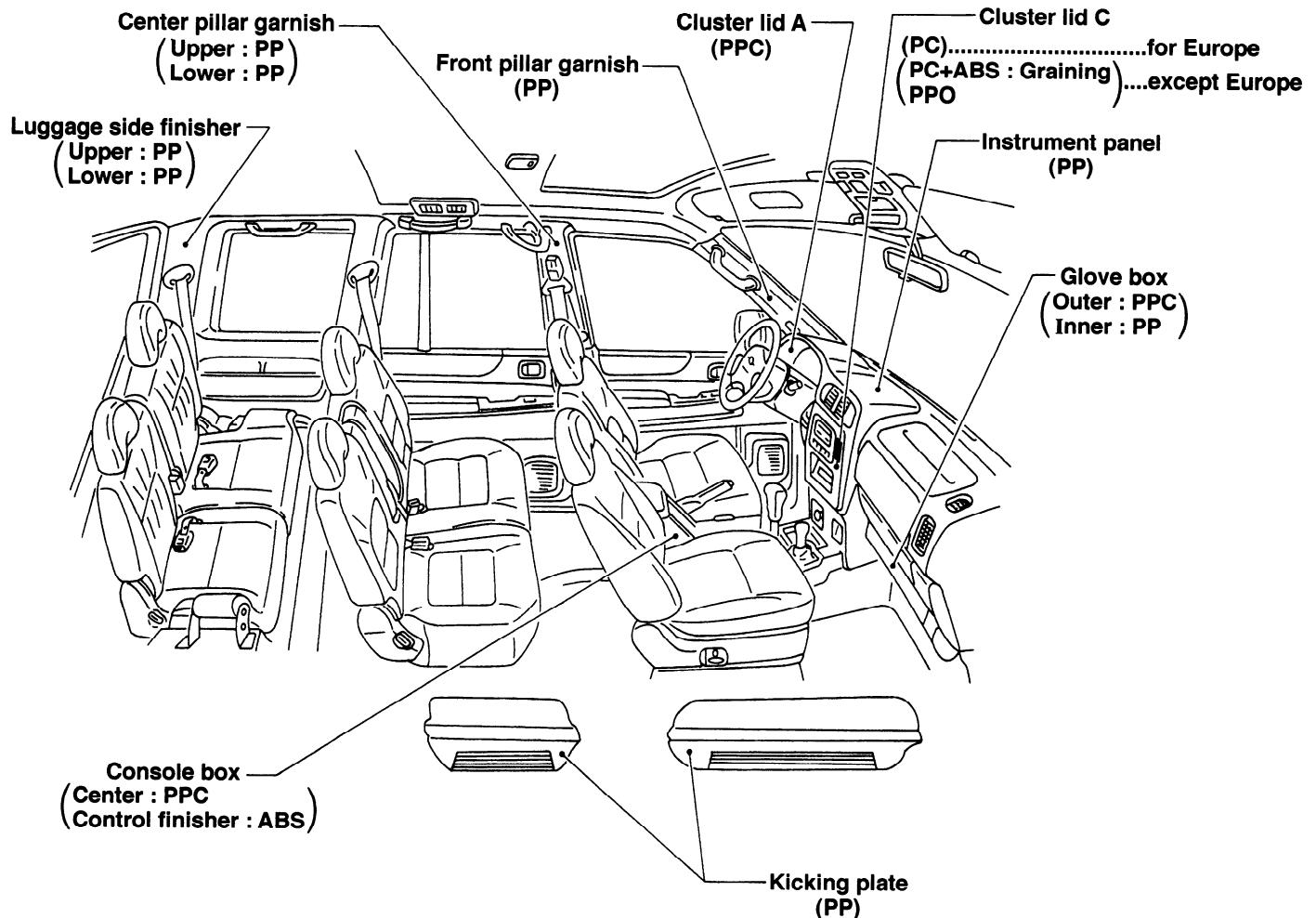
Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PVC	Polyvinyl chloride	80 (176)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Poison gas is emitted when burned.
PP	Polypropylene	90 (194)	Same as above.	Flammable, avoid battery acid.
EPM/ EPDM	Ethylene Propylene (Diene) rubber	80 (176)	Same as above.	Flammable
UP	Polyester thermoset	90 (194)	Same as above.	Flammable
ABS	Acrylonitrile butadiene styrene resin	80 (176)	Avoid gasoline and solvents.	
AES	Acrylonitrile ethylene styrene	80 (176)	Avoid gasoline and solvents.	
TPO	Thermoplastic olefine	80 (176)	Avoid gasoline and solvents.	
TPR	Thermoplastic rubber	80 (176)	Avoid gasoline and solvents.	
PMMA	Polymethyl methacrylate	85 (185)	Avoid gasoline and solvents.	
EVA	Polyvinyl ethyl acetate	90 (194)	Avoid gasoline and solvents.	
AAS	Acrylonitrile acrylic rubber styrene	85 (185)	Avoid gasoline and solvents.	
AS	Styrene-acrylonitrile	85 (185)	Avoid gasoline and solvents.	
ASA	Acrylonitrile styrene acrylonitrile	100 (222)	Avoid gasoline and solvents.	Flammable
PPO/ PPE	Polyphenylene oxide/ether	110 (230)	Avoid gasoline and solvents.	
PC	Polycarbonate	120 (248)	Avoid gasoline and solvents.	
L-LDPE	Lenear low dencity PE	45 (100)	Gasoline and most solvents are harmless.	Flammable
PUR	Polyurethane	90 (194)	Same as above.	
PPC	Polypropylene composite	115 (239)	Same as above.	Flammable
POM	Polyacetal	120 (248)	Same as above.	Avoid battery acid.
PA	Polyamide (Nylon)	140 (284)	Same as above.	Avoid immersing in water.
FRP	Fiber reinforced plastics	170 (338)	Same as above.	Avoid battery acid.
PET	Polyethylene terephthalate	180 (356)	Same as above.	
PBT	Polybutylene terephthalate	140 (284)	Same as above.	

1. When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
2. Plastic parts should be repaired and painted using methods suiting the materials characteristics.

Location of Plastic Parts



Location of Plastic Parts (Cont'd)

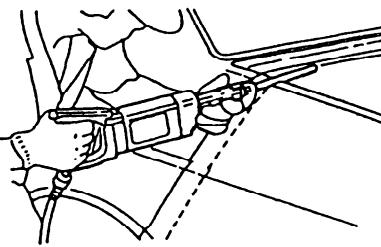
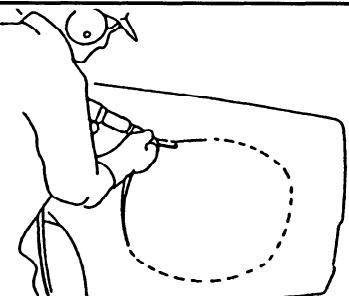
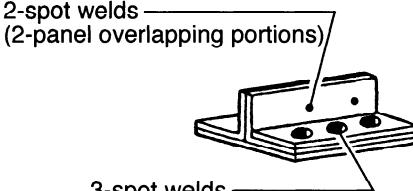
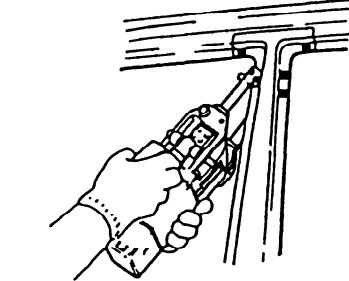
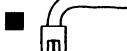
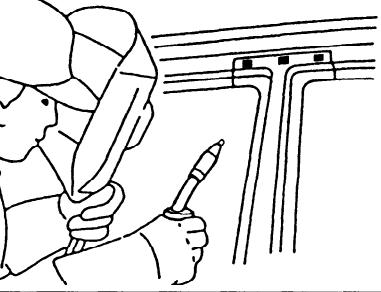
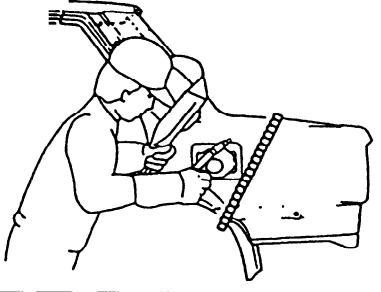
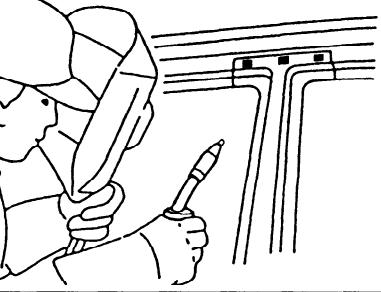
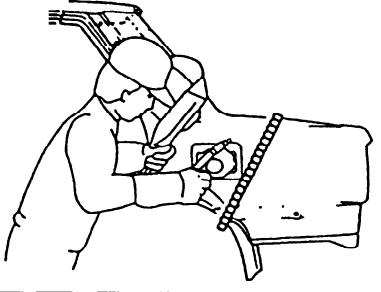
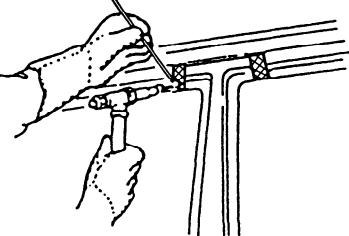
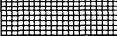
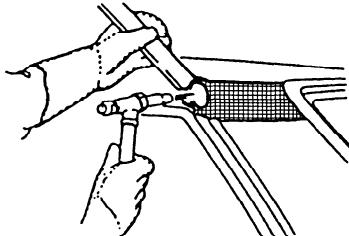
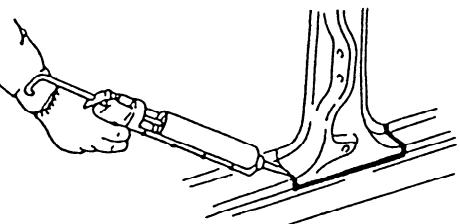


REPLACEMENT OPERATIONS

Description

SYMBOLS FOR CUTTING AND WELDING/BRAZING OPERATIONS

The identification for the cutting and the welding/brazing symbols used throughout this manual are given in the following pages

 Saw cut or air chisel cut		 
 Spot weld	 2-spot welds	
	 3-spot welds	
 MIG plug weld		 
 MIG seam weld/ Point weld		 
 Brazing		
 Soldering		
 Sealing		

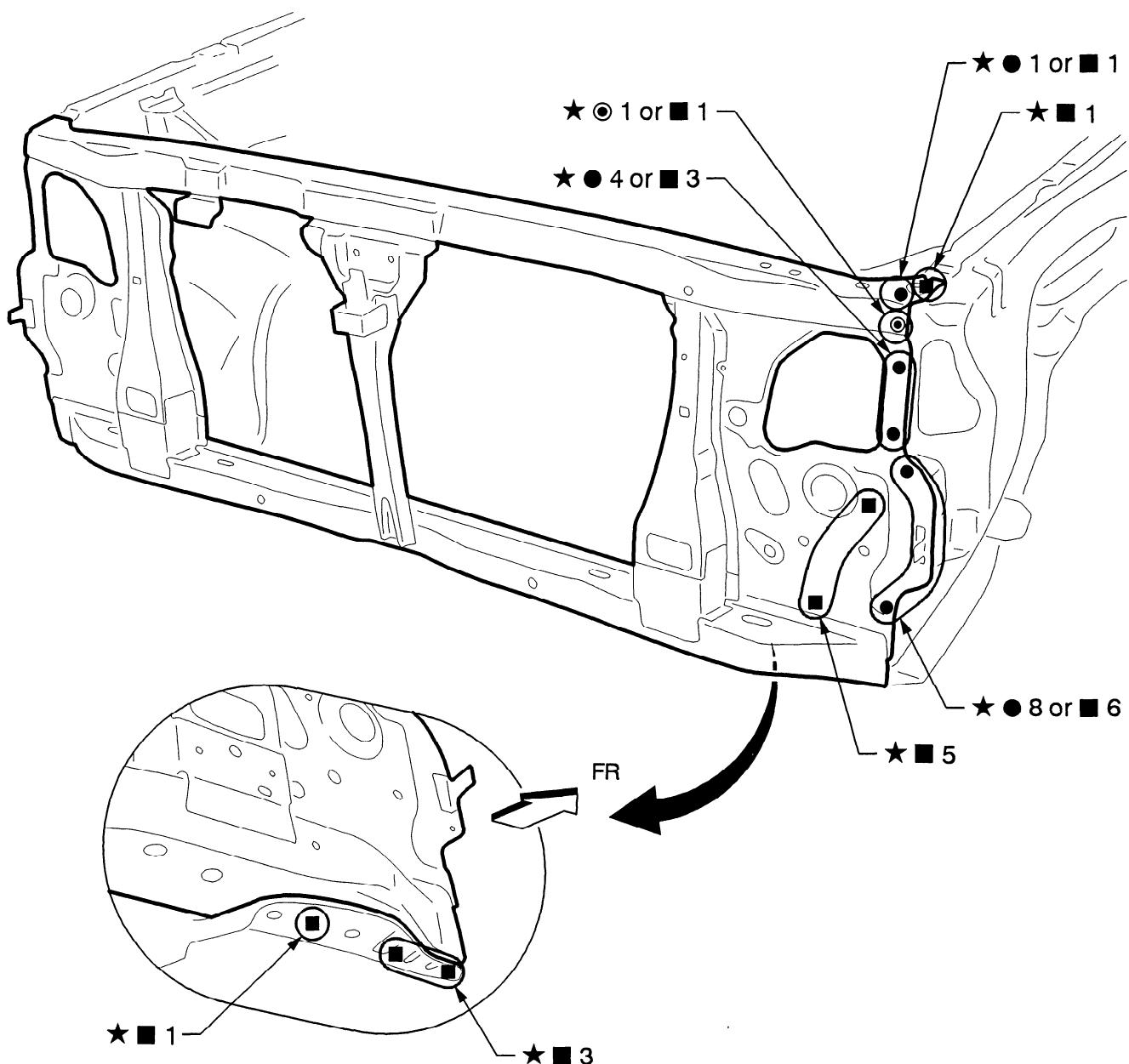
REPLACEMENT OPERATIONS

Radiator Core Support

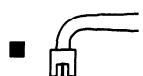
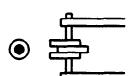
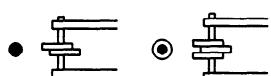
Wagon
Hardtop

Service Joint

★ indicates that there is an equivalent welding portion with the same dimensions on the opposite side.



2-spot welds 3-spot welds MIG plug weld



For 3 panels plug weld method

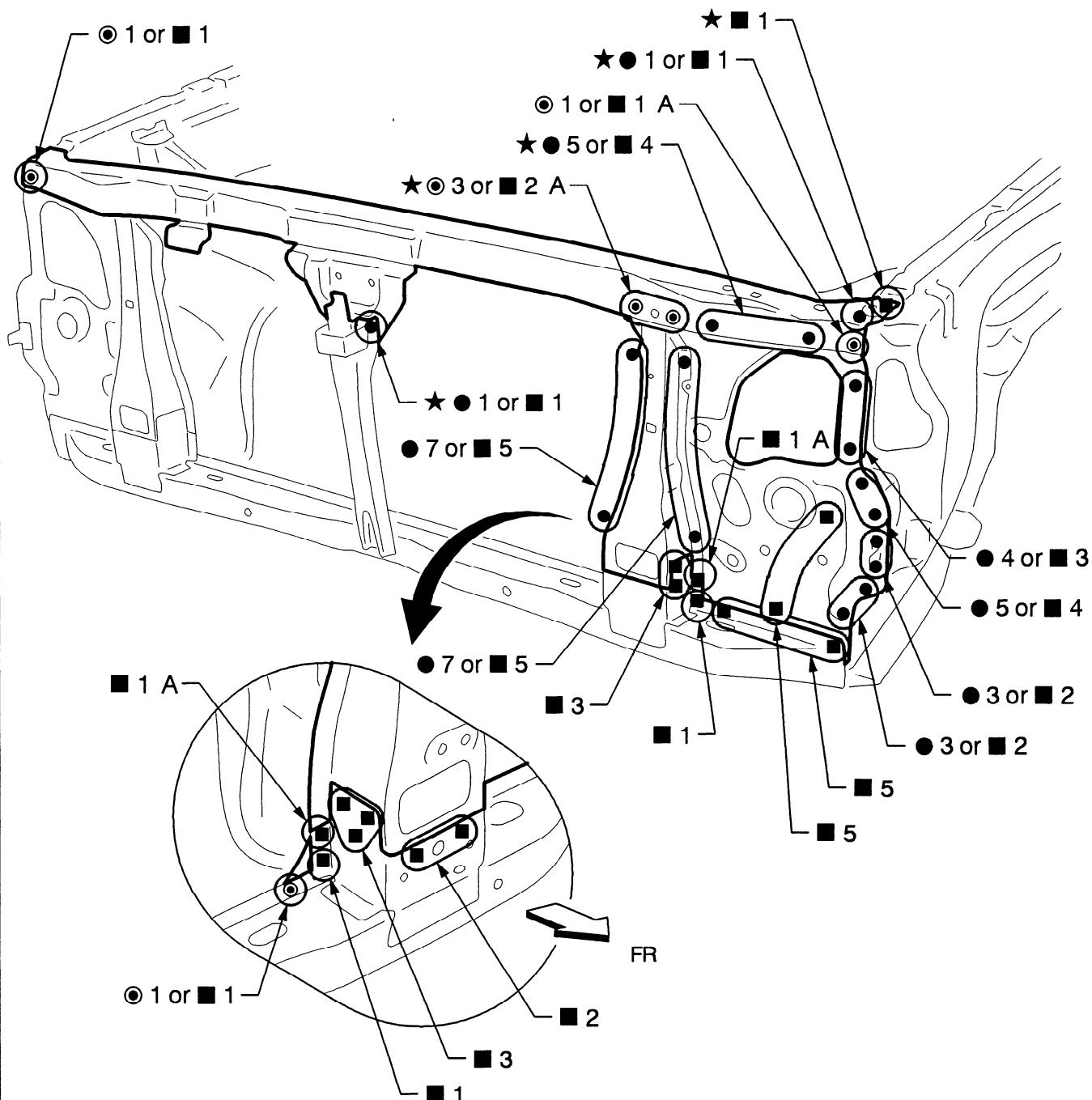
MIG seam weld/
Point weld

Radiator Core Support (Partial Replacement)

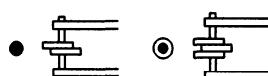
Wagon
Hardtop

Service Joint

★ indicates that there is an equivalent welding portion with the same dimensions on the opposite side.



2-spot welds 3-spot welds MIG plug weld



For 3 panels plug weld method

MIG seam weld/
Point weld

REPLACEMENT OPERATIONS

Hoodledge (Partial Replacement)

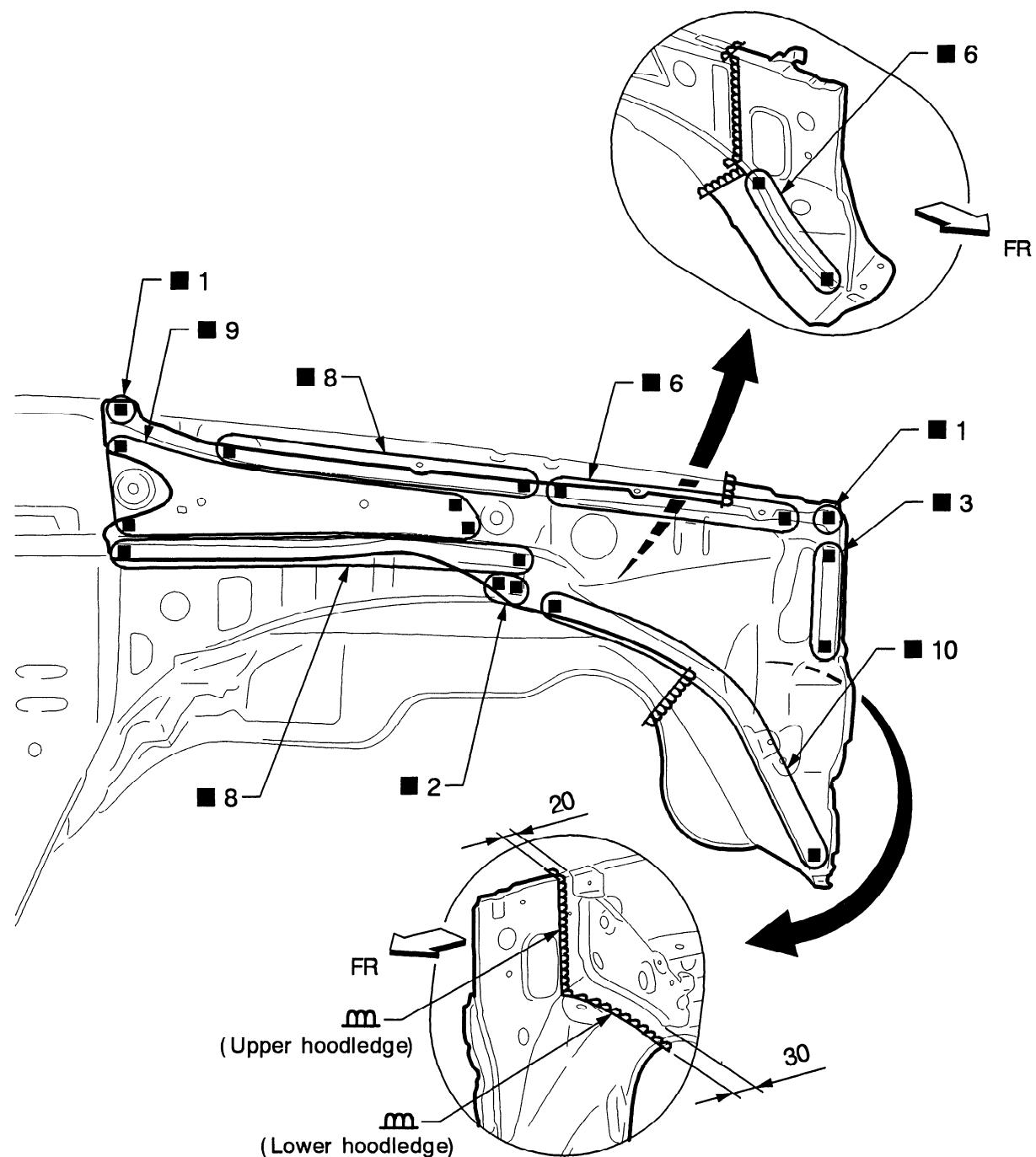
Wagon
Hardtop

● Work after radiator core support has been removed.

Service Joint

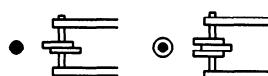
(This figure shows right side hoodledge)

Before installing
hoodledge reinforcement.



Unit:mm

2-spot welds 3-spot welds MIG plug weld



For 3 panels plug weld method



MIG seam weld/
Point weld

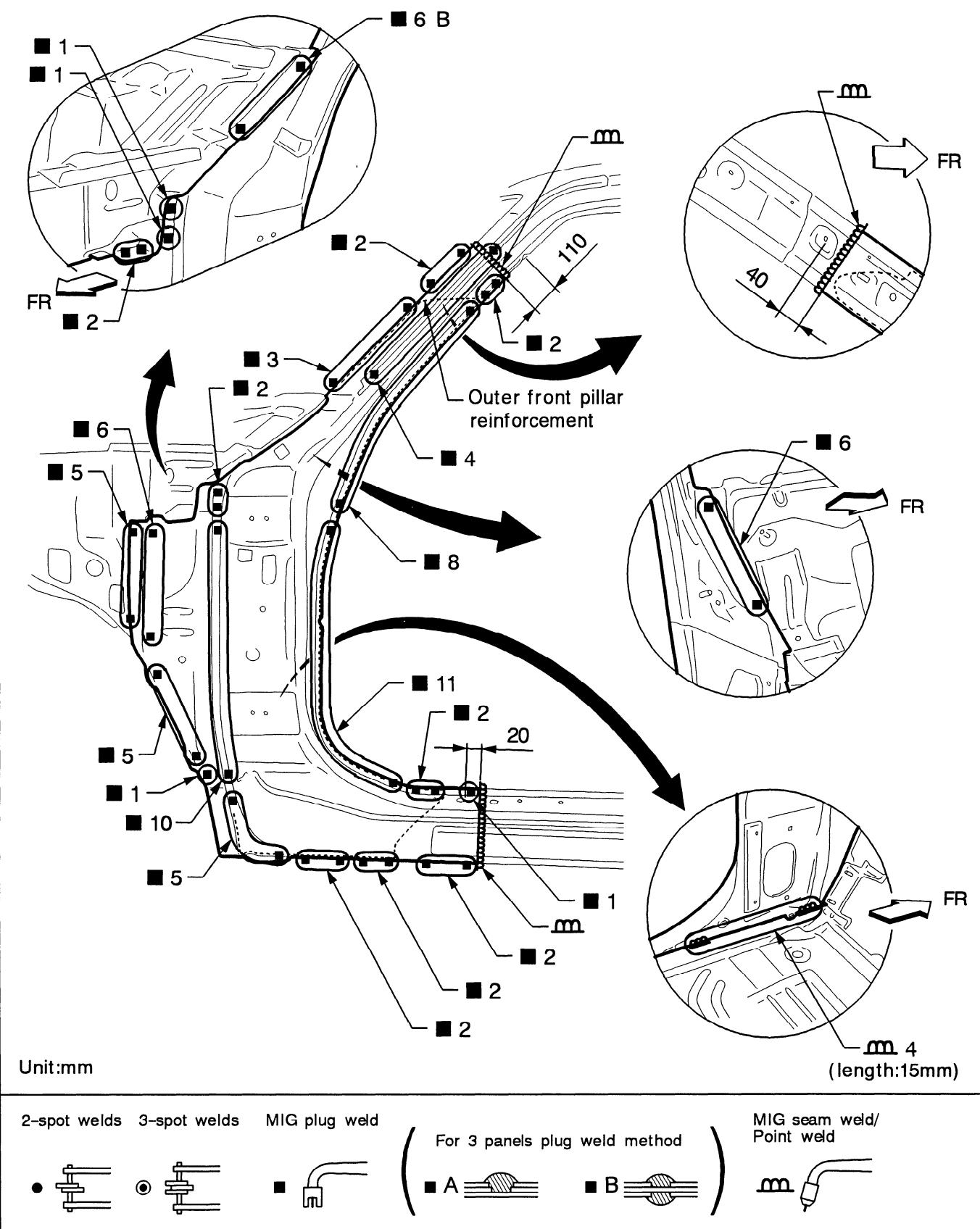


Front Pillar

Wagon
Hardtop

● Work after hoodledge reinforcement has been removed.

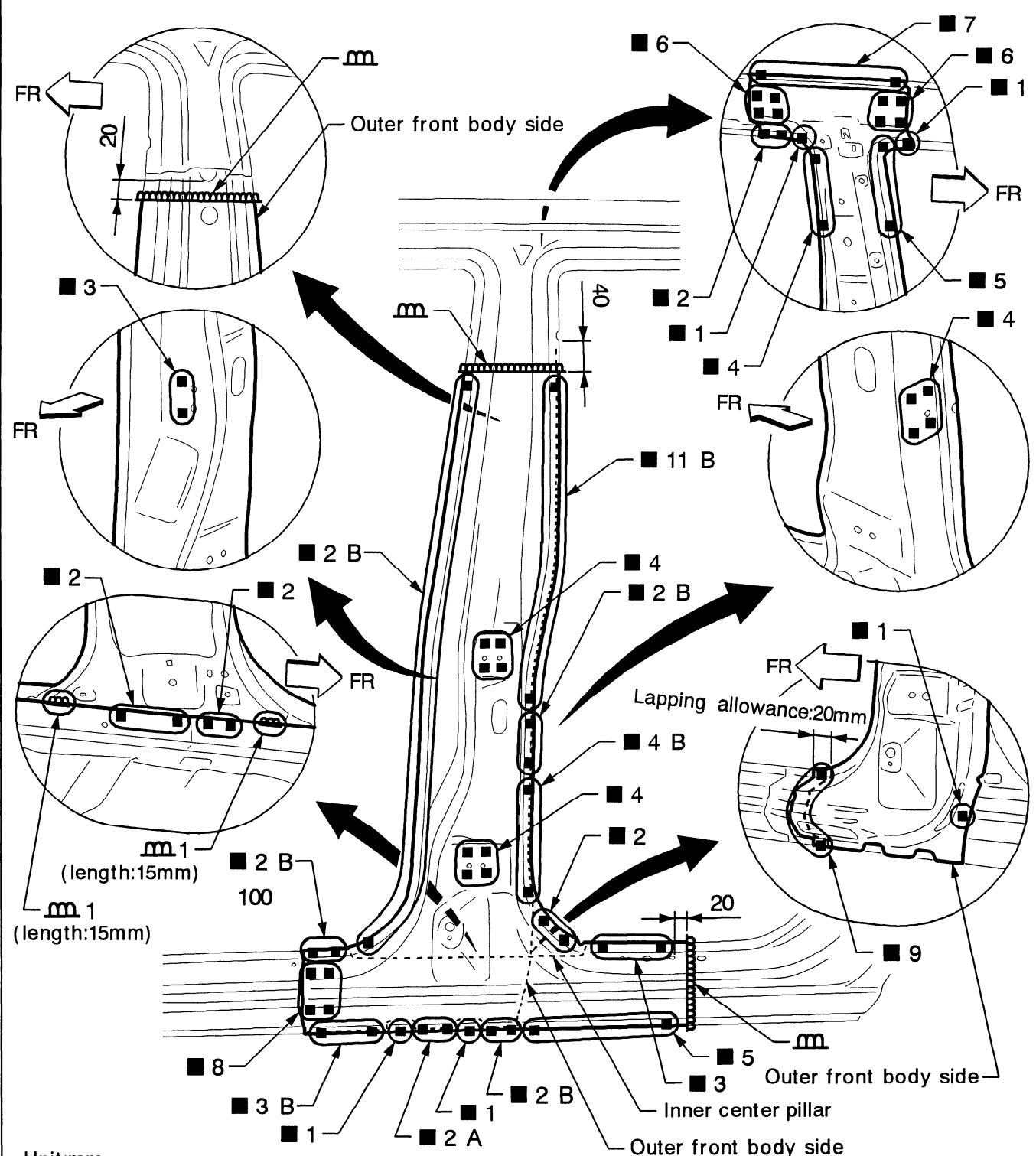
Service Joint



Center Pillar

Wagon

Service Joint



2-spot welds 3-spot welds MIG plug weld



(For 3 panels plug weld method)

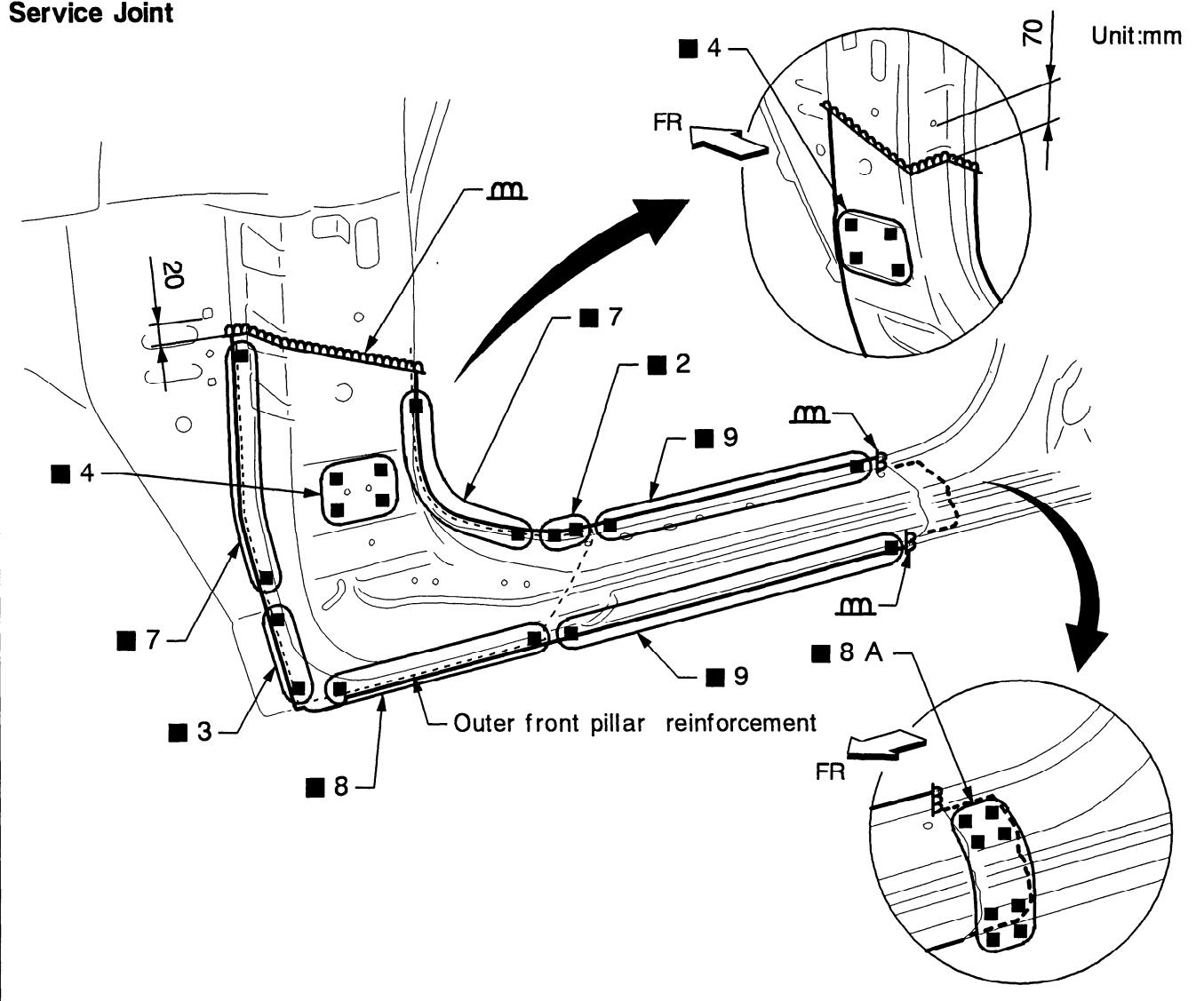
■ A ■ B

MIG seam weld/
Point weld

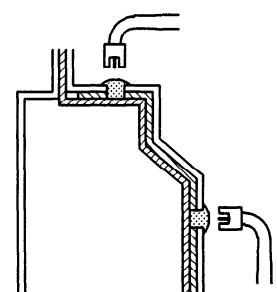
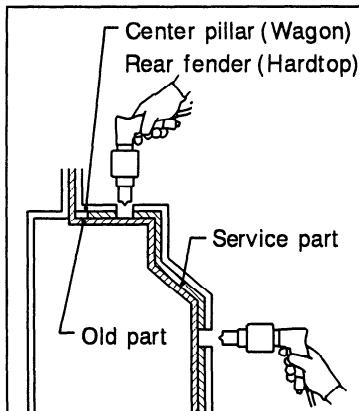
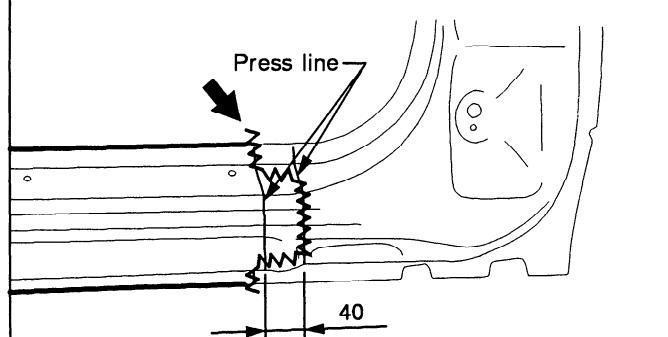
Outer Sill Front

Wagon
Hardtop

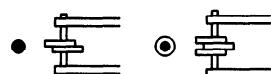
Service Joint



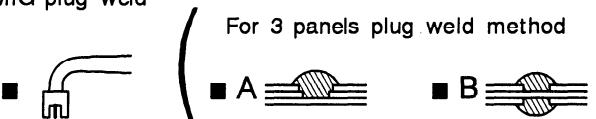
- Accurately cut off service part as shown in the figure.



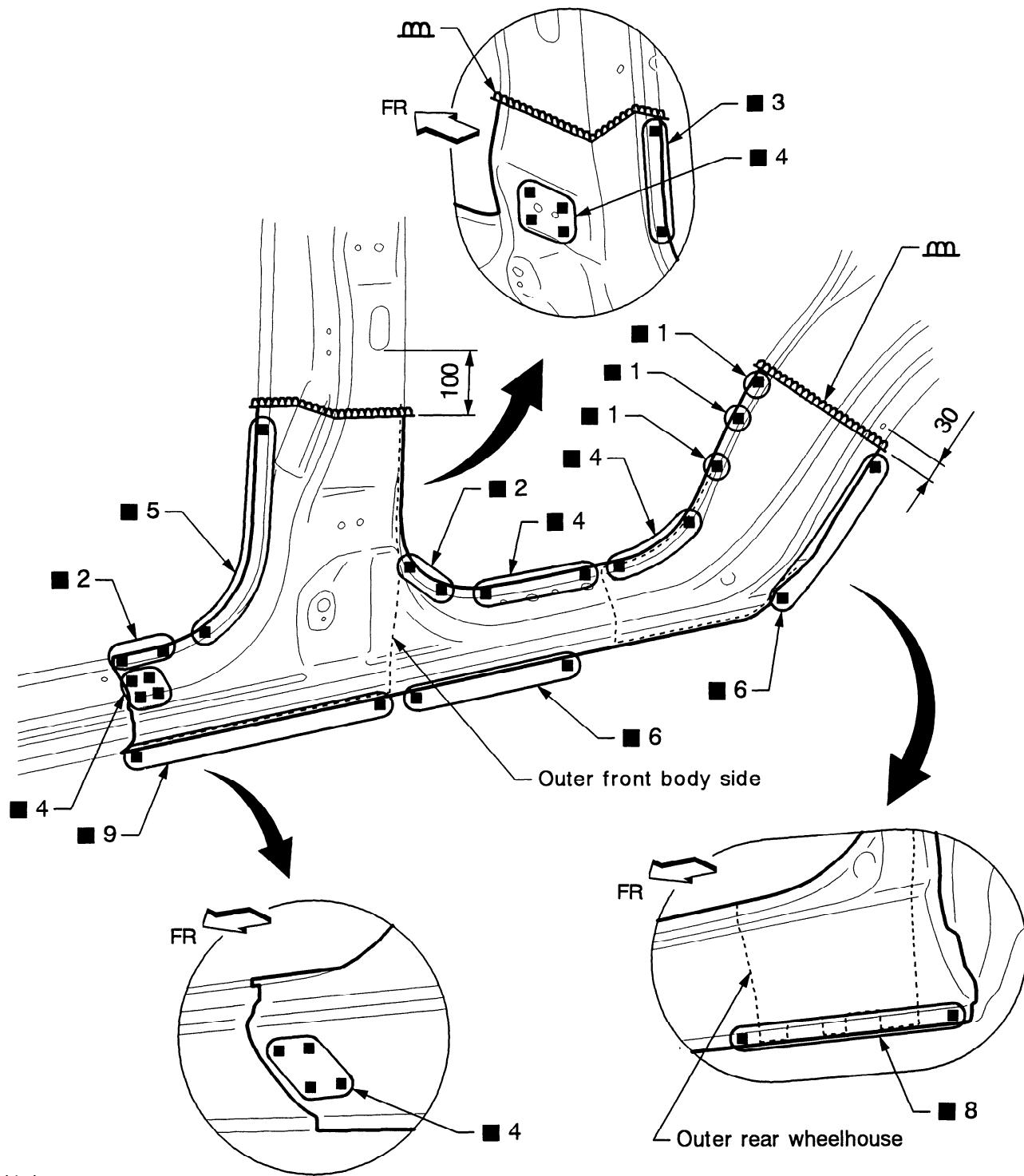
2-spot welds 3-spot welds MIG plug weld



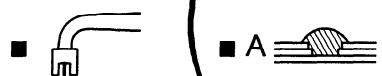
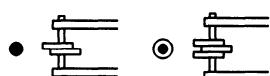
For 3 panels plug weld method

MIG seam weld/
Point weld

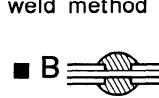
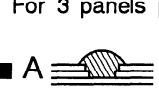
Service Joint



2-spot welds 3-spot welds MIG plug weld



For 3 panels plug weld method

MIG seam weld/
Point weld

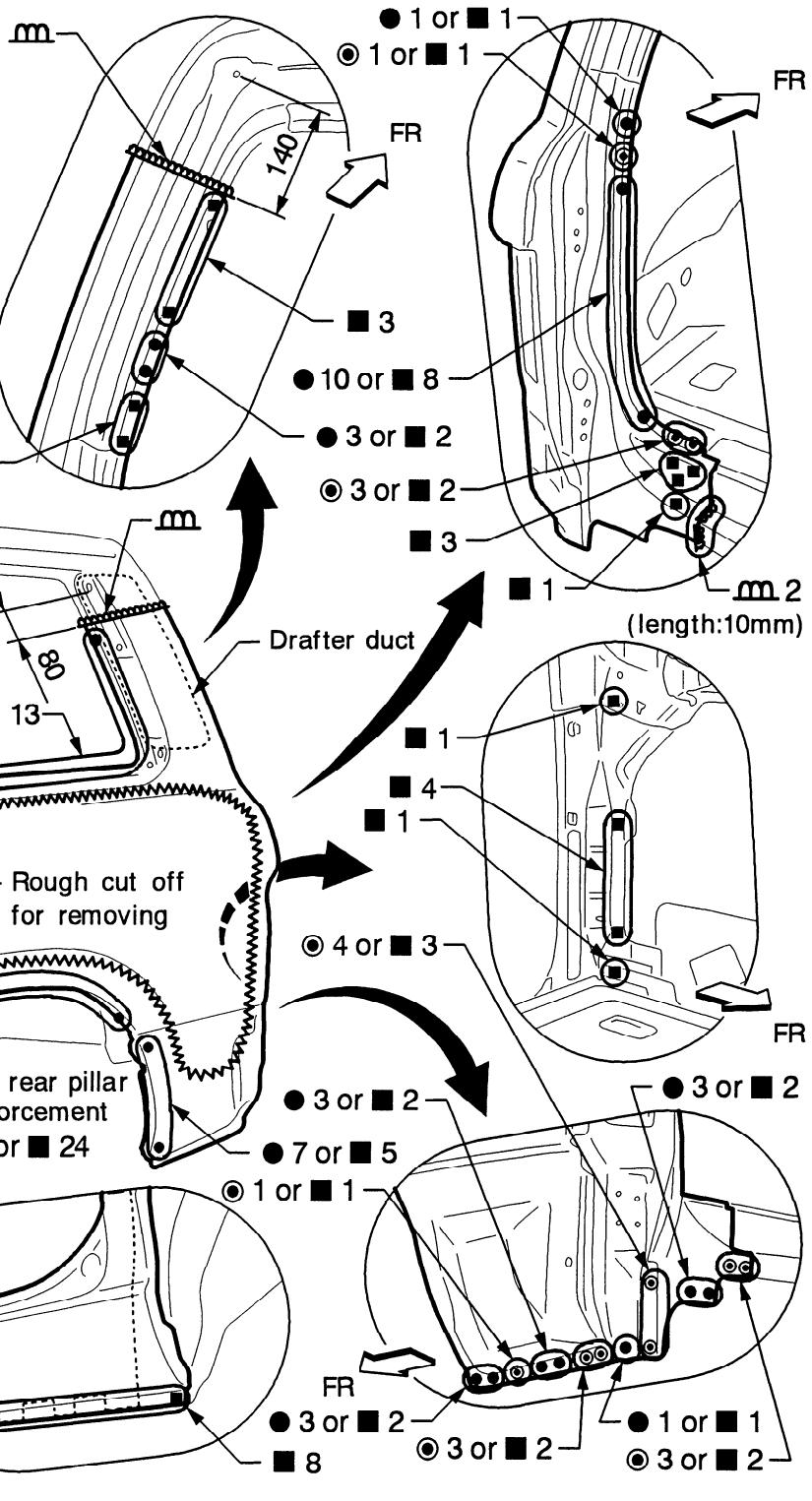
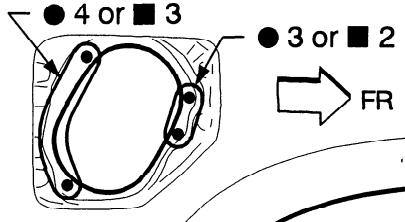
REPLACEMENT OPERATIONS

Rear Fender

Wagon

Service Joint

(This figure shows right side rear fender)



Unit:mm

2-spot welds 3-spot welds

MIG plug weld

MIG seam weld/
Point weld



For 3 panels plug weld method

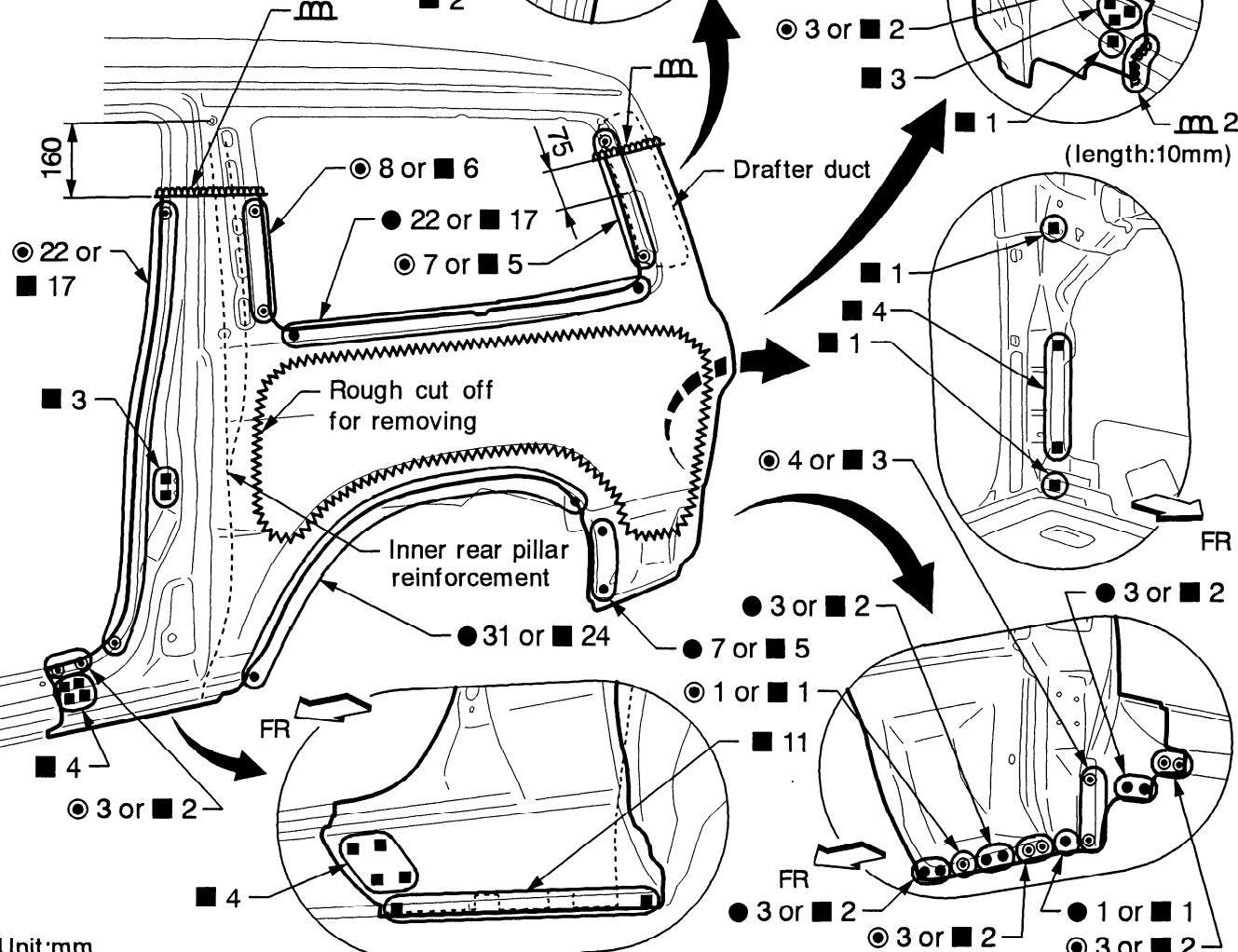
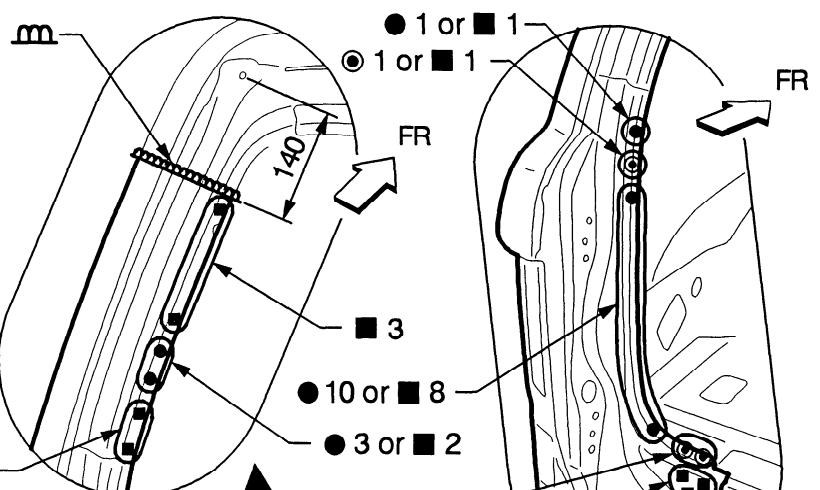
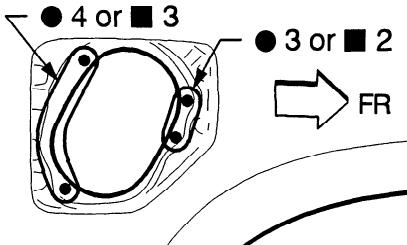


Rear Fender

Hardtop

Service Joint

(This figure shows right side rear fender)



Unit:mm

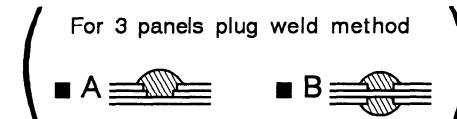
2-spot welds 3-spot welds MIG plug welds



MIG plug weld



For 3 panels plug weld method



MIG seam weld/
Point weld



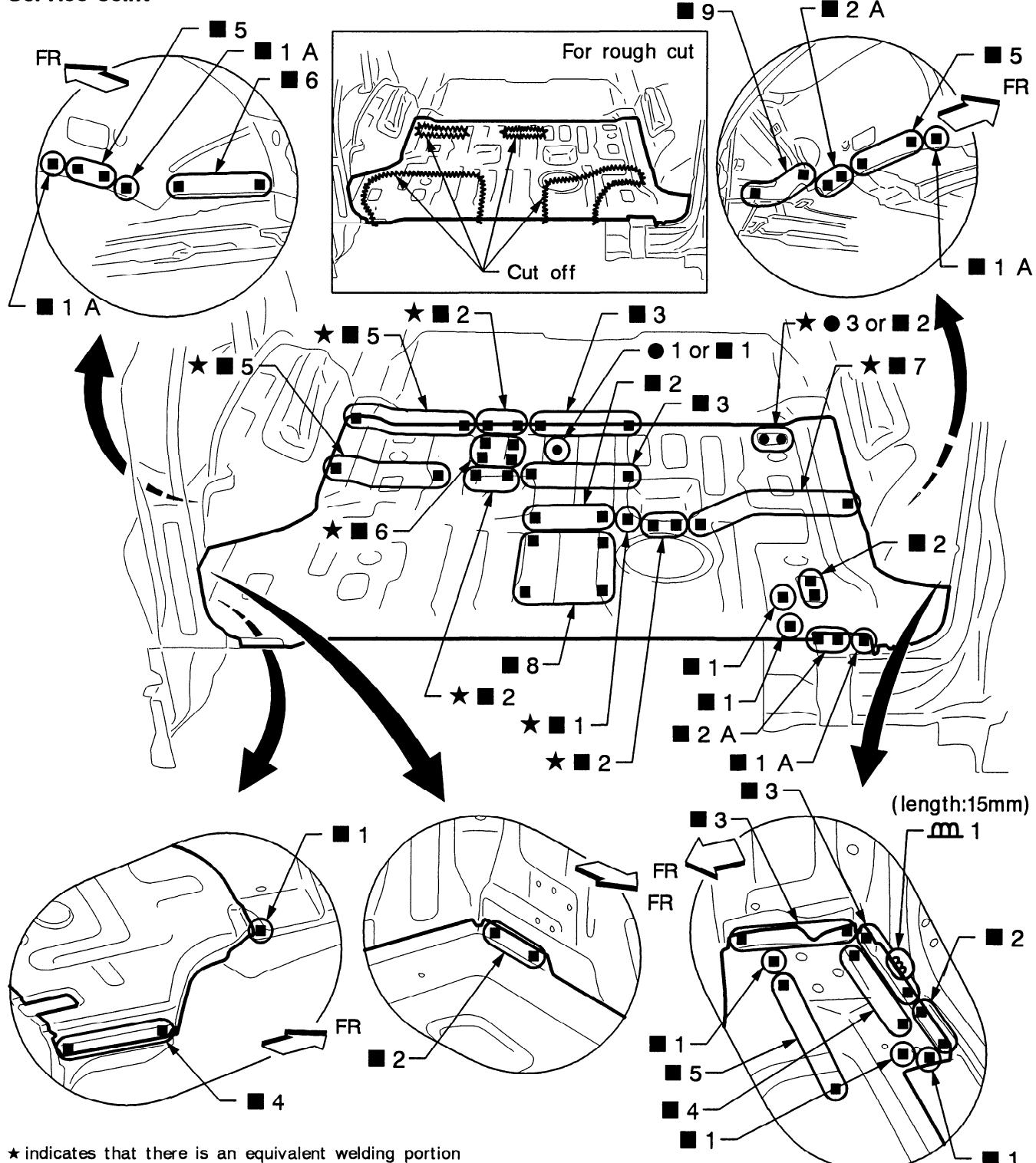
REPLACEMENT OPERATIONS

Rear Floor Rear

**Wagon
Hardtop**

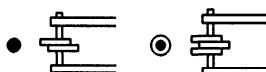
- Work after rear fender, rear panel and rear crossmember end has been removed.

Service Joint

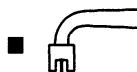


* indicates that there is an equivalent welding portion with the same dimensions on the opposite side.

2-spot welds 3-spot welds MIG plug weld



MIG plug weld



For 3 panels plug weld method



■ B

MIG seam weld/
Point weld

