

FOREWORD

This Body Repair Manual contains information and instructions for repairing the body structure of the 1997 INFINITI QX4 (JR50) 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 1997 INFINITI QX4 (JR50) 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. In the U.S.A. it is recommended that a M.I.G. welder be used by a trained technician.

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.

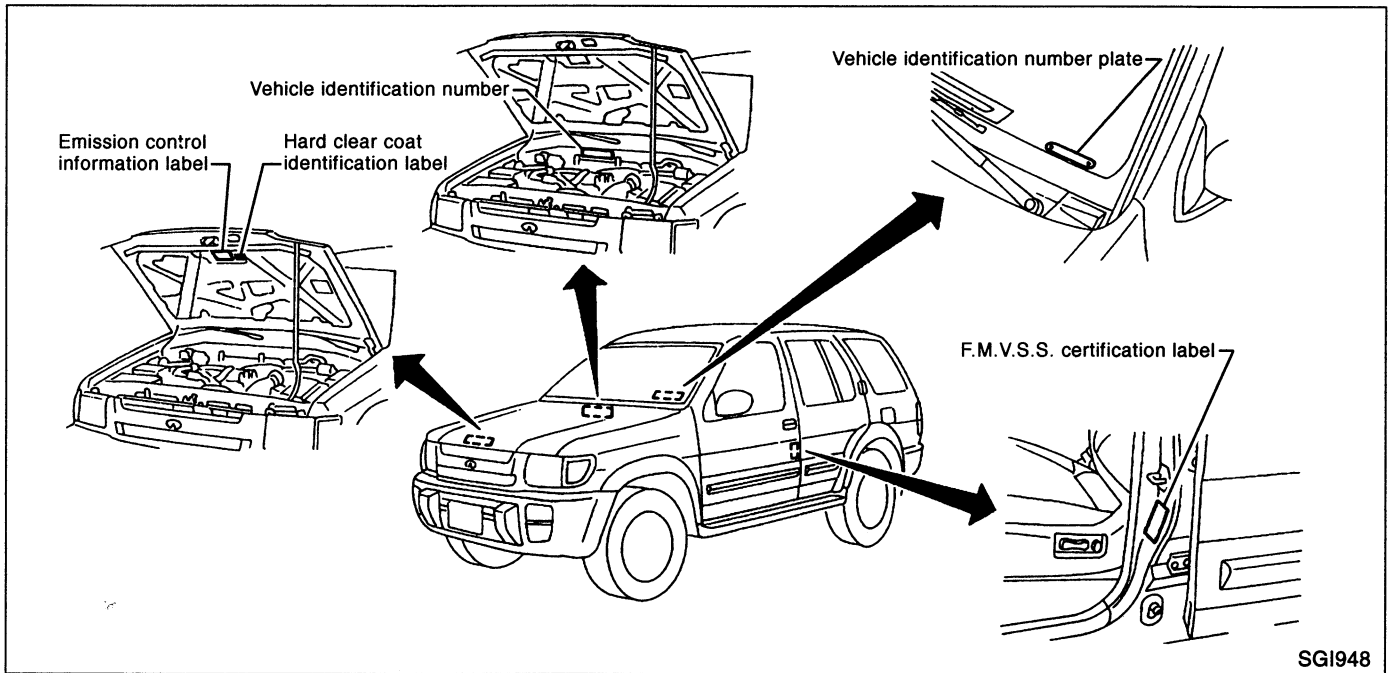
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Identification Number

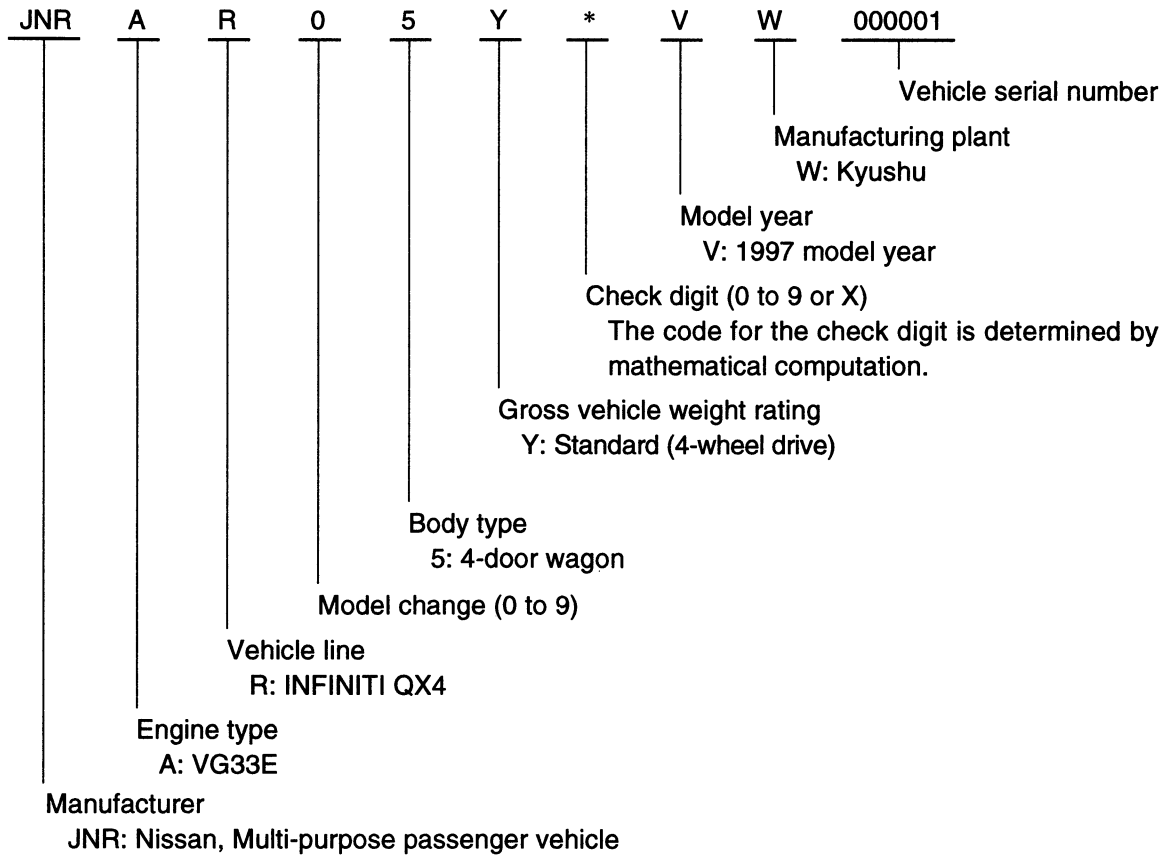


SGI948

VEHICLE IDENTIFICATION NUMBER

Prefix and suffix designations:

(For North America)



Identification Number (Cont'd)




IDENTIFICATION PLATE

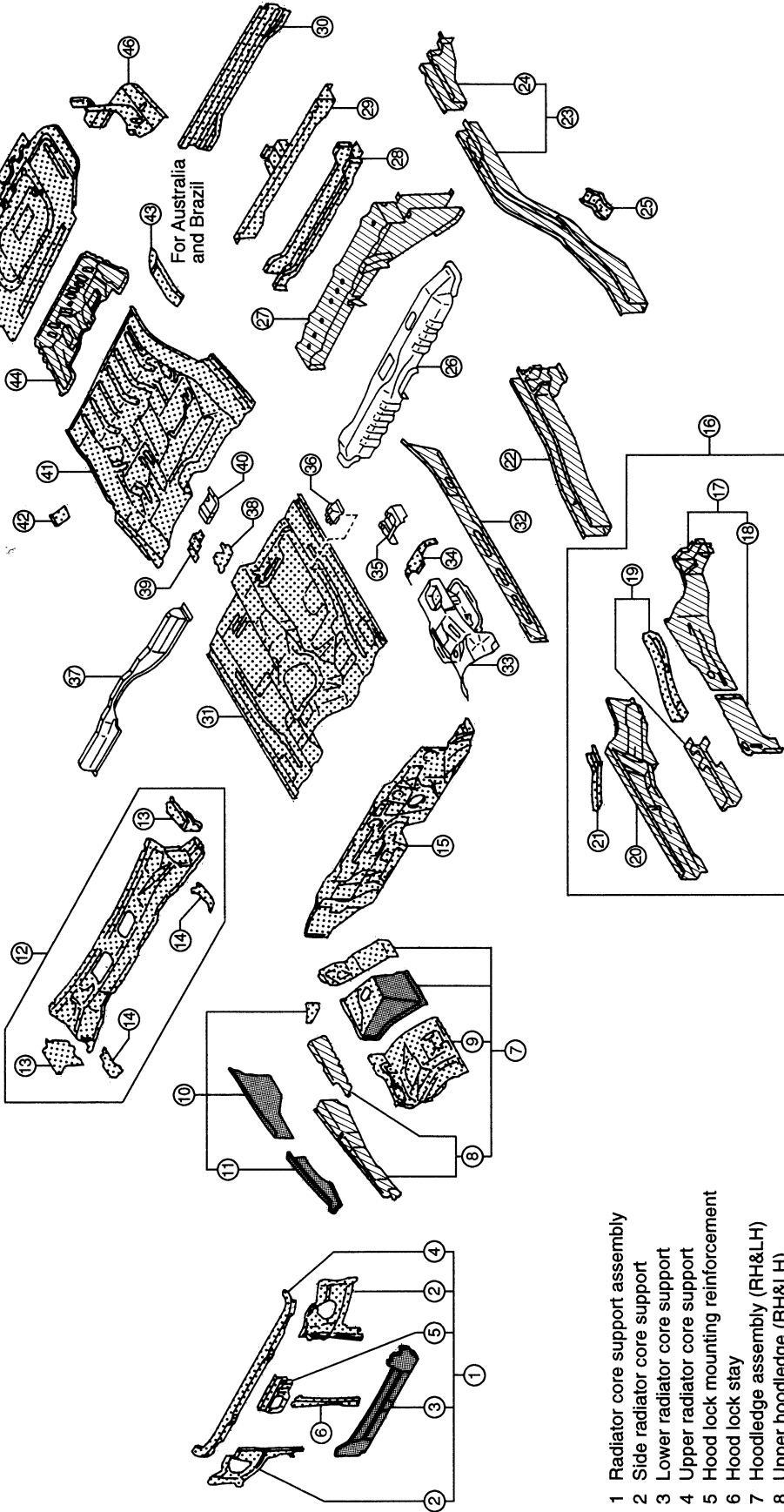
NISSAN MOTOR CO., LTD. JAPAN		
型式	TYPE TIPO	△1
CHASSIS NO. NO. DE CHASIS		△2
MODEL. MODELO		△3
○ カラー-COLOR TRIM トリム-COLOR GUARNICION	△4 △5	○
エン ENGINE ジン MOTOR	△6 △7	CC
ミッション TRANS. AXLE アクスル TRANS. EXE	△8 △9	
	工場	PLANT PLANTA
日産自動車株式会社	MADE IN JAPAN	

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

SG1756-A




Underbody Component Parts

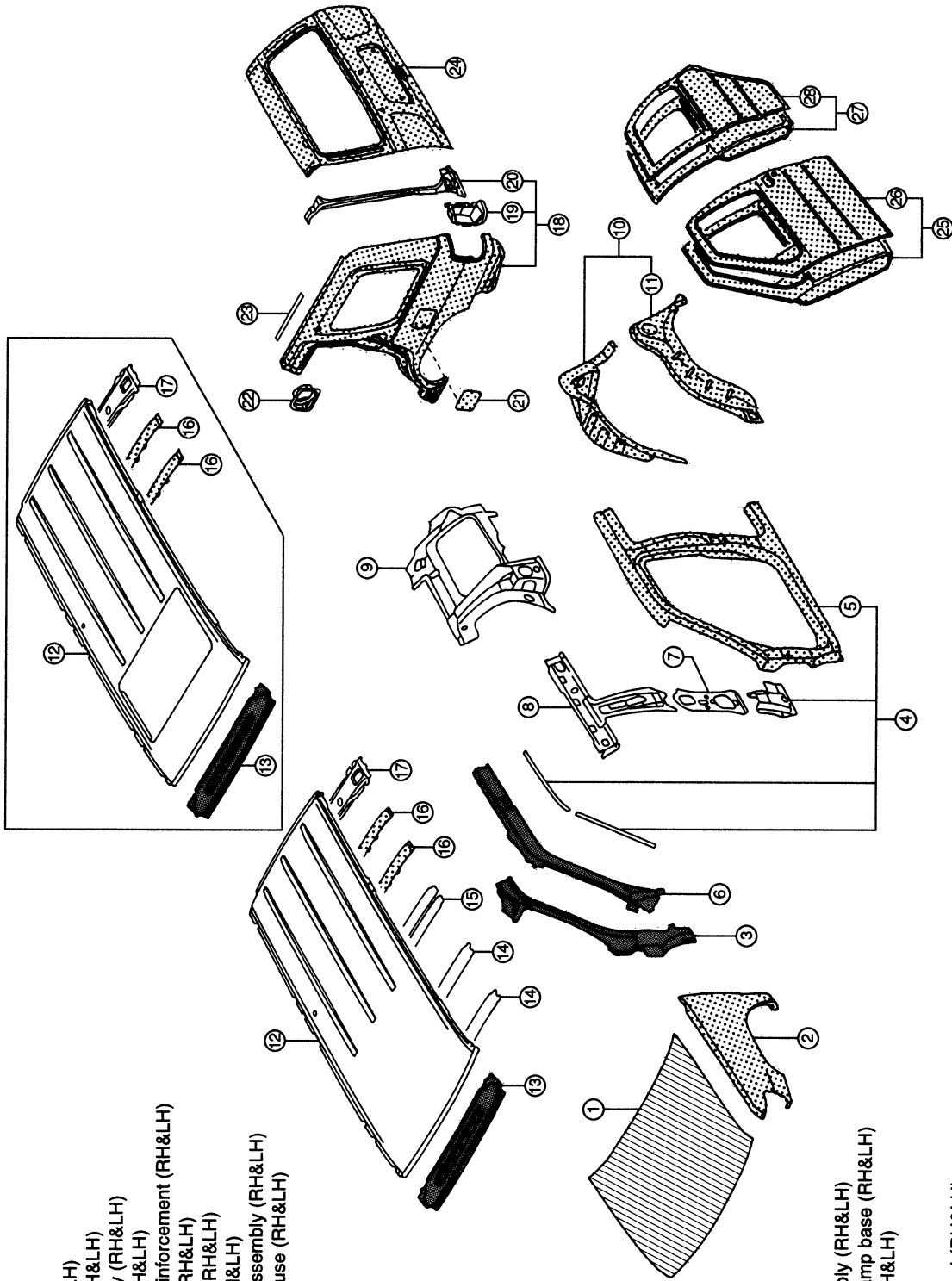
 : Indicates two-side anti-corrosive pre-coated steel portions
 : Indicates high strength steel (HSS) portions
 : Indicates two-side anti-corrosive steel and HSS portions



- 1 Radiator core support assembly
- 2 Side radiator core support
- 3 Lower radiator core support
- 4 Upper radiator core support
- 5 Hood lock mounting reinforcement
- 6 Hood lock stay
- 7 Hoodledge assembly (RH&LH)
- 8 Upper hoodledge (RH&LH)
- 9 Lower front hoodledge (RH&LH)
- 10 Hoodledge reinforcement assembly (RH&LH)
- 11 Front hoodledge reinforcement (RH&LH)
- 12 Air box assembly
- 13 Side cowl top
- 14 Side cowl top brace
- 15 Lower dash assembly
- 16 Front side member assembly (RH&LH)
- 17 Front side member closing plate assembly (RH&LH)
- 18 Front side member front closing plate (RH&LH)
- 19 Front side member reinforcement assembly (RH&LH)
- 20 Front side member (RH&LH)
- 21 Front side member brace (RH&LH)
- 22 Front side member front extension (RH&LH)
- 23 Rear side member (RH&LH)
- 24 Rear side member extension (RH&LH)
- 25 Fuel tank mounting rear outer reinforcement
- 26 Rear seat crossmember
- 27 3rd crossmember
- 28 Spare wheel crossmember
- 29 Inner rear end crossmember
- 30 Outer rear end crossmember
- 31 Front floor
- 32 Inner sill (RH&LH)
- 33 Parking brake & seat belt reinforcement
- 34 Instrument stay reinforcement
- 35 Sensor bracket assembly
- 36 Front seat mounting outer bracket (RH&LH)
- 37 2nd crossmember assembly
- 38 Fuel tank mounting bracket assembly
- 39 Jack mounting bracket
- 40 Fuel tank mounting rear reinforcement
- 41 Rear floor front
- 42 Rear seat reclining device bracket (RH&LH)
- 43 Rear floor extension (RH&LH)
- 44 Rear seat belt anchor reinforcement
- 45 Rear floor rear
- 46 Rear floor side (RH&LH)

Body Component Parts

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



- 1 Hood
- 2 Front fender (RH&LH)
- 3 Inner front pillar (RH&LH)
- 4 Body side assembly (RH&LH)
- 5 Outer body side (RH&LH)
- 6 Upper front pillar reinforcement (RH&LH)
- 7 Inner center pillar (RH&LH)
- 8 Inner side roof rail (RH&LH)
- 9 Inner rear pillar (RH&LH)
- 10 Rear wheelhouse assembly (RH&LH)
- 11 Outer rear wheelhouse (RH&LH)
- 12 Roof
- 13 Front roof rail
- 14 No.1 roof bow
- 15 No.2 roof bow
- 16 No.3 roof bow
- 17 Rear roof rail

- 18 Rear fender assembly (RH&LH)
- 19 Rear combination lamp base (RH&LH)
- 20 Outer back pillar (RH&LH)
- 21 Fuel filler lid
- 22 Fuel filler lid base
- 23 Rear roof drip channel (RH&LH)
- 24 Back door
- 25 Front door assembly (RH&LH)
- 26 Outer front door panel (RH&LH)
- 27 Rear door assembly (RH&LH)
- 28 Outer rear door panel (RH&LH)

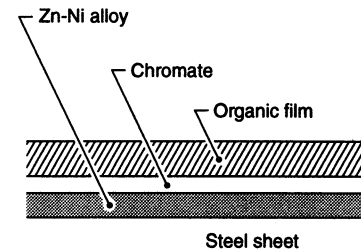
Description

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.

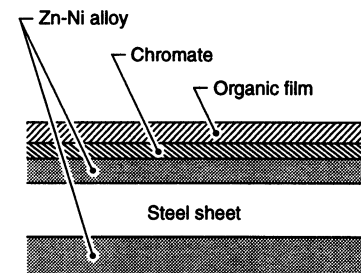
ANTI-CORROSIVE PRECOATED STEEL (DURASTEEL)

To improve reparability and corrosion resistance, a new type of anti-corrosive pre-coated 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 pre-coated steel or two-side pre-coated steel. The two side pre-coated steel provides excellent corrosion resistance.



One-side pre-coated



Two-side pre-coated

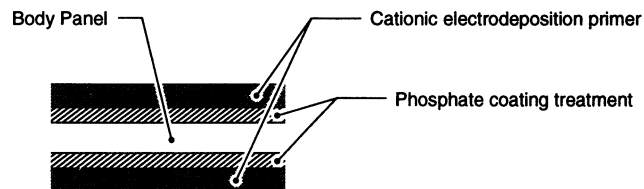
Nissan Genuine Service Parts are fabricated from durasteel sheets. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

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:

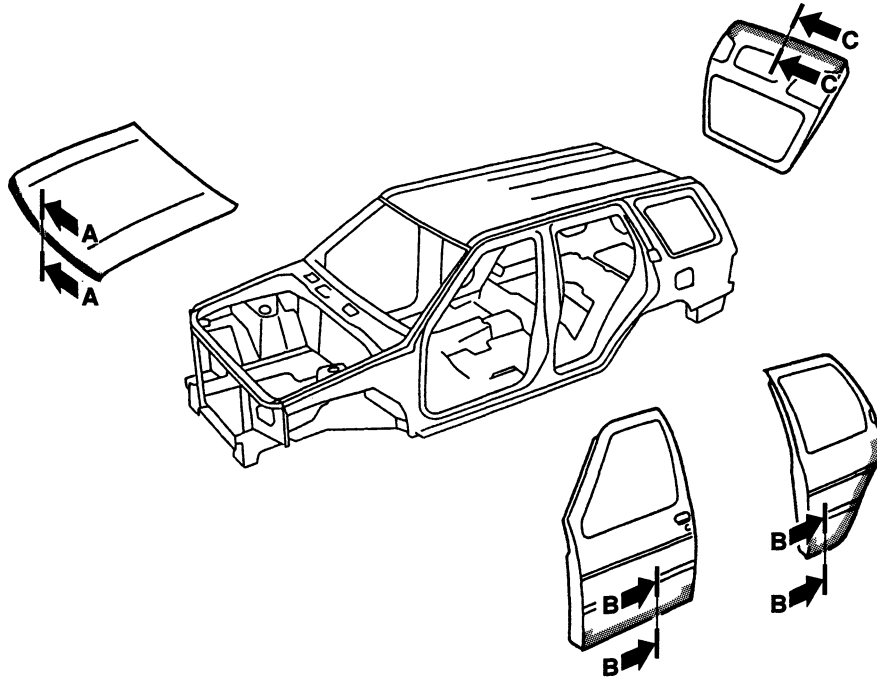
Confine paint removal during welding operations to an absolute minimum.



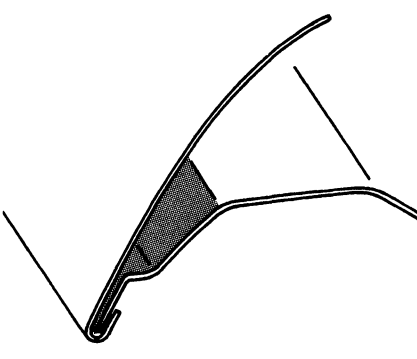
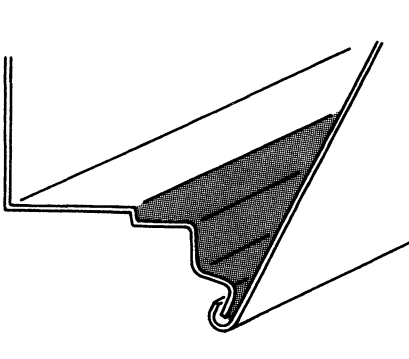
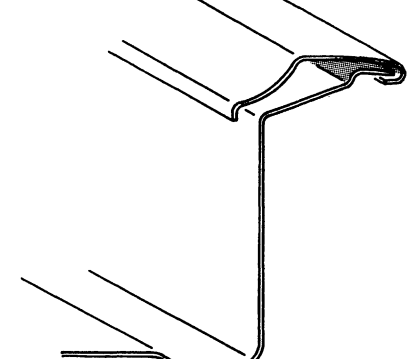
Nissan Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

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
		

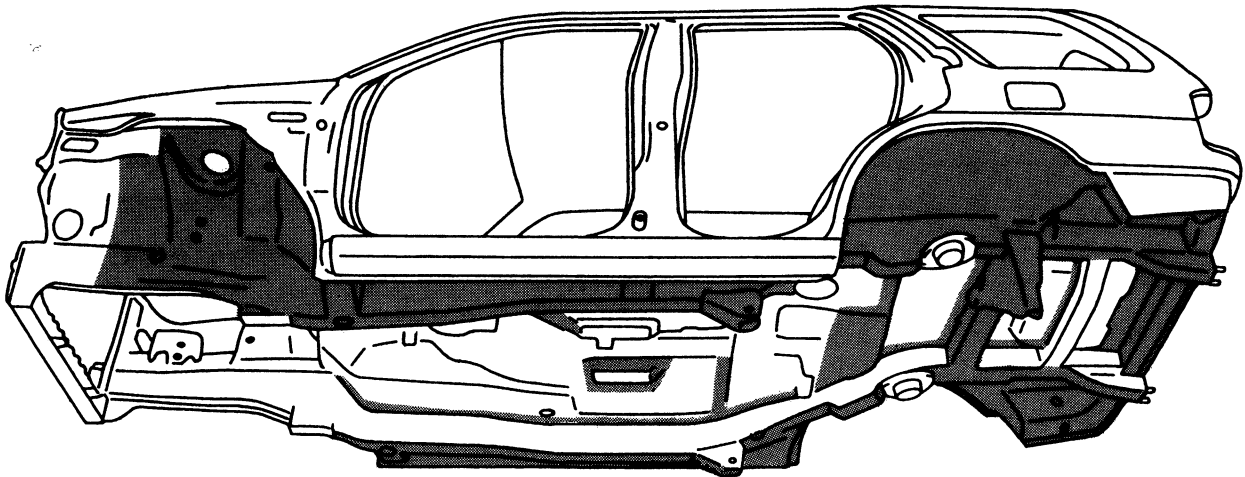
Undercoating

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.

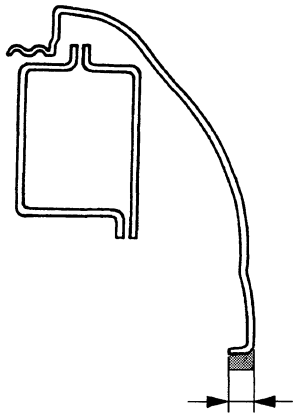
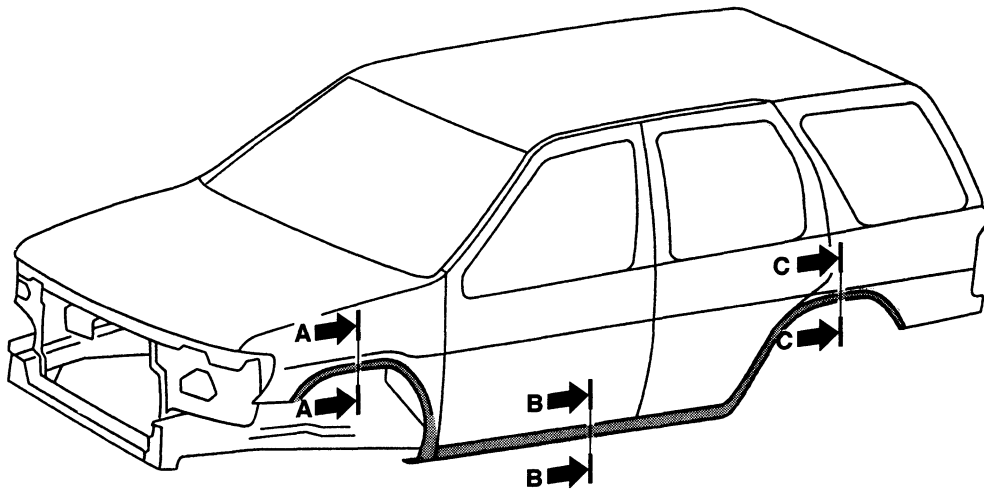
■ : Indicates undercoated portions.



Stone Guard Coat

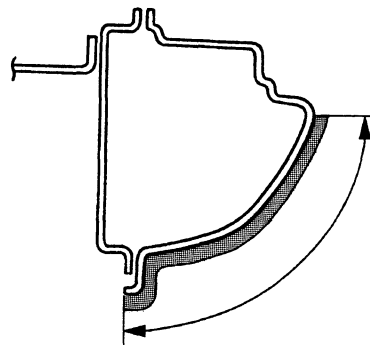
To prevent damage caused by stones, the lower outer body panel (fender, door, etc.) have an additional layer of Stone Guard Coating over the ED primer coating. When replacing or repairing these panels, apply undercoating to the same portions as before. Use a coating with the following properties: rust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

■ : Indicates stone guard coated portions.

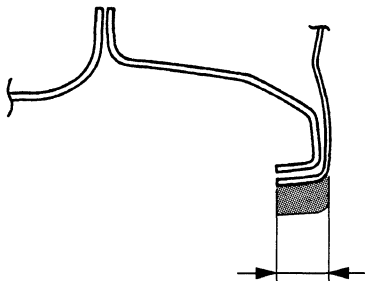


Section A-A

(Except models with over fender)



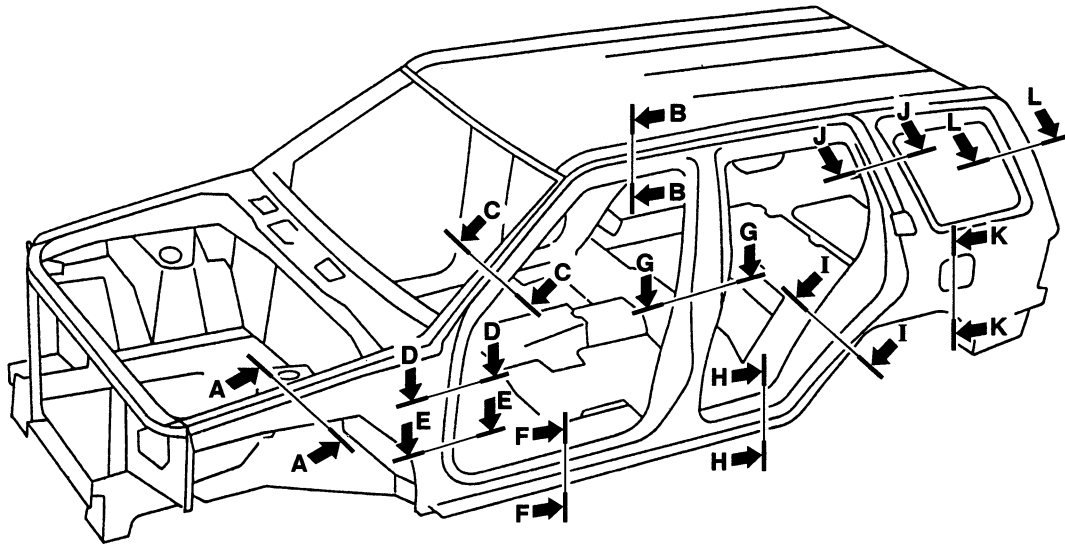
Section B-B



Section C-C

(Except models with over fender)

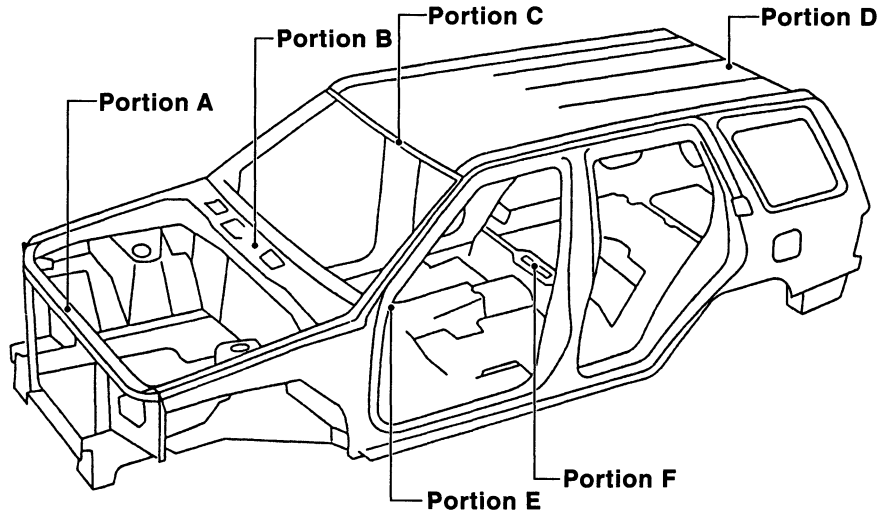
Body Construction



Section A-A	Section B-B	Section C-C	Section D-D
Section E-E	Section F-F	Section G-G	Section H-H
Section I-I	Section J-J	Section K-K	Section L-L

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.

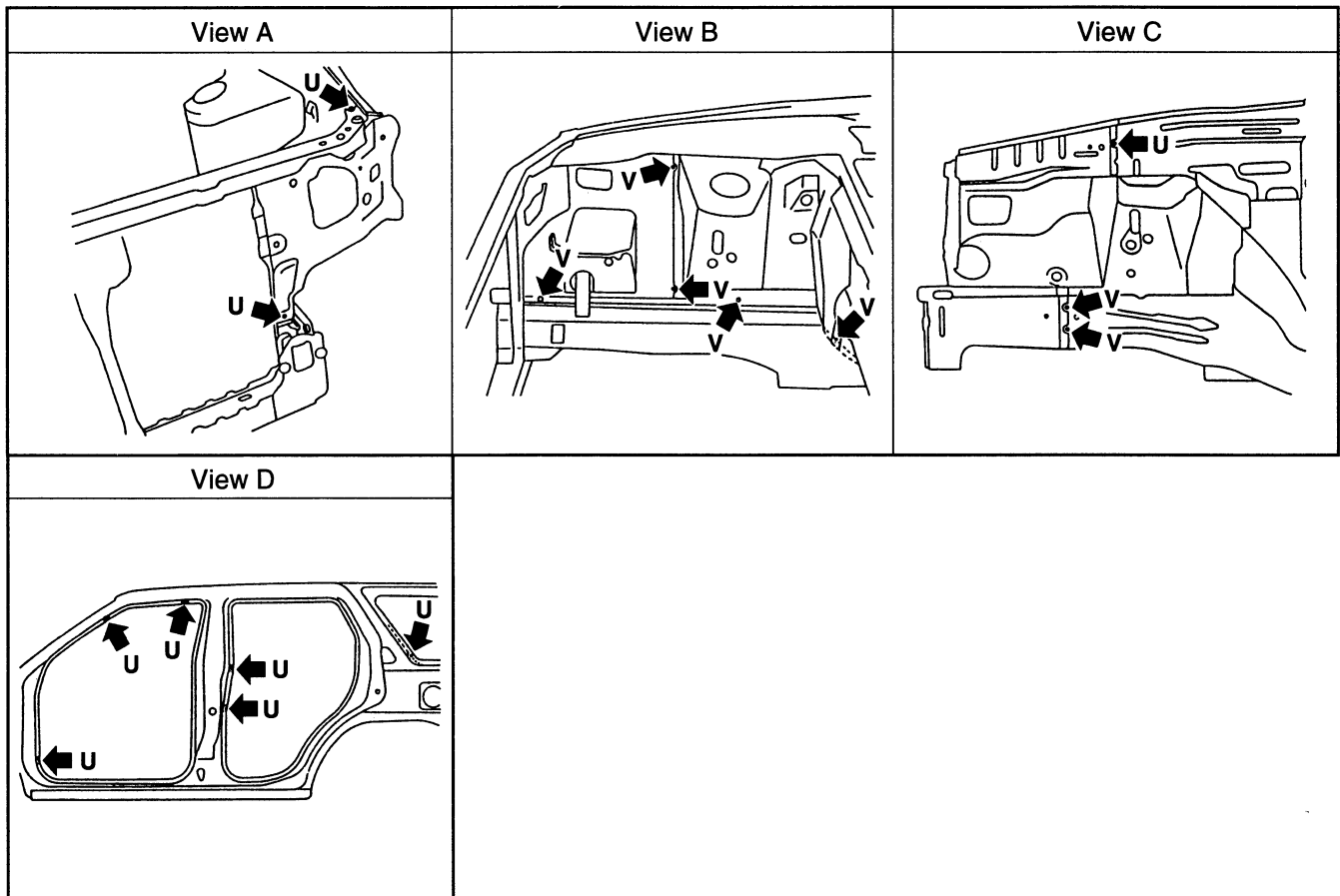
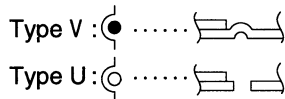
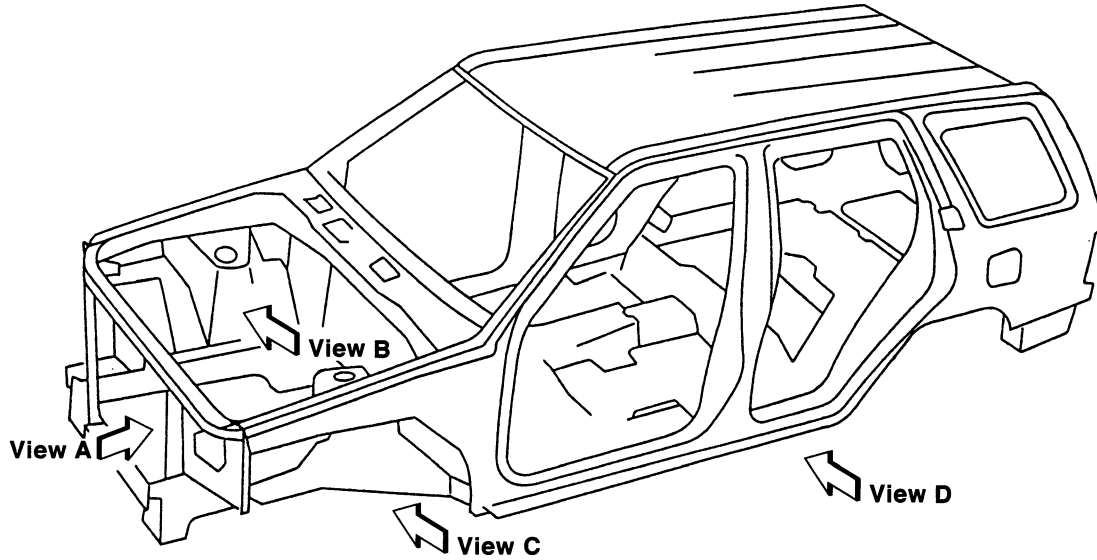


Unit: mm

Portion A	Portion B	Portion C
<p>Hole (5 dia)</p> <p>● Upper radiator core support</p>	<p>Hole (5 dia)</p> <p>● Cowl top</p>	<p>Embossment</p> <p>● Front roof</p>
Portion D	Portion E	Portion F
<p>Notch</p> <p>● Rear roof</p>	<p>Hole (5.4 dia)</p> <p>● 2nd crossmember</p>	<p>Embossment</p> <p>● Rear floor front</p>

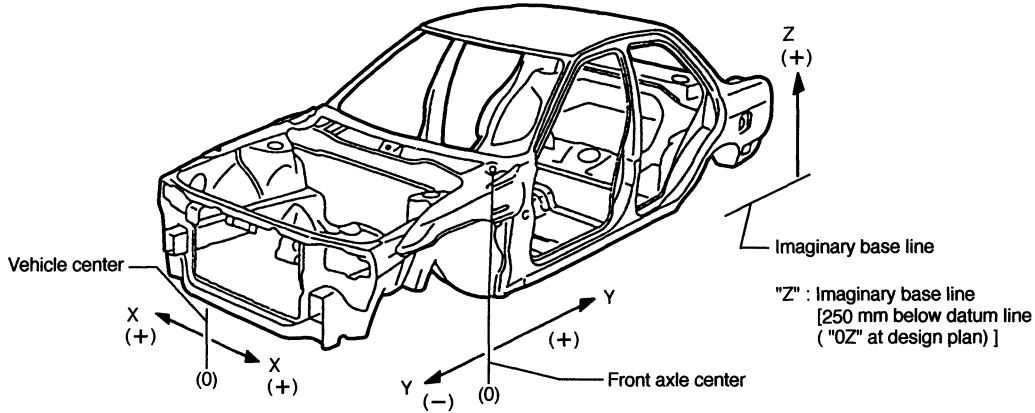
Panel Parts Matching Marks

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.



Description

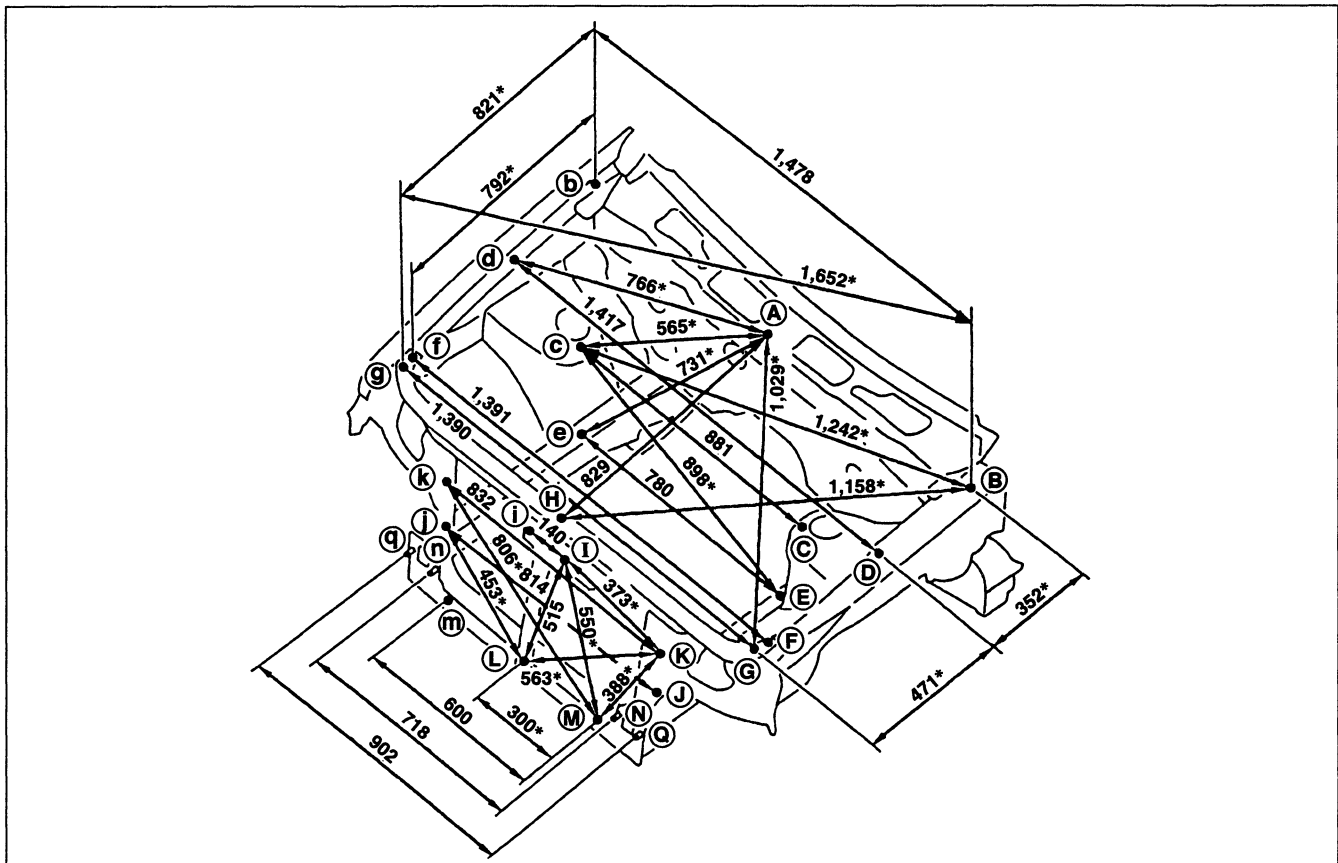
- All dimensions indicated in the figures are actual.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge themselves to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending of 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

Unit: mm

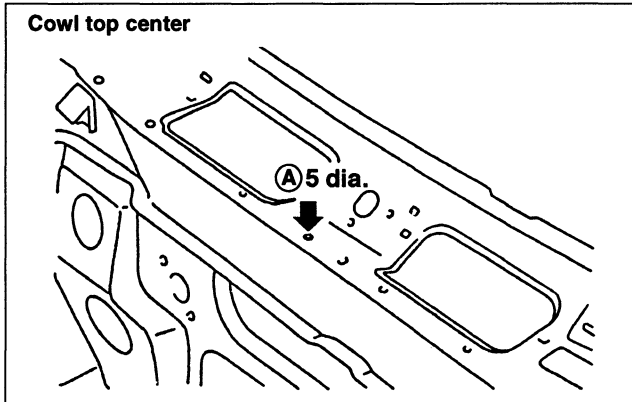


Engine Compartment (Cont'd)

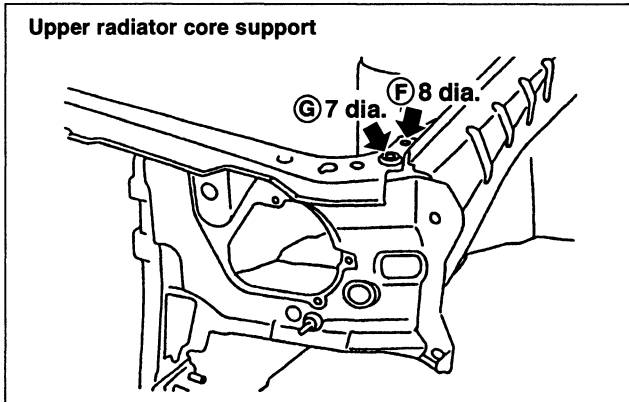
MEASUREMENT POINTS

Unit: mm

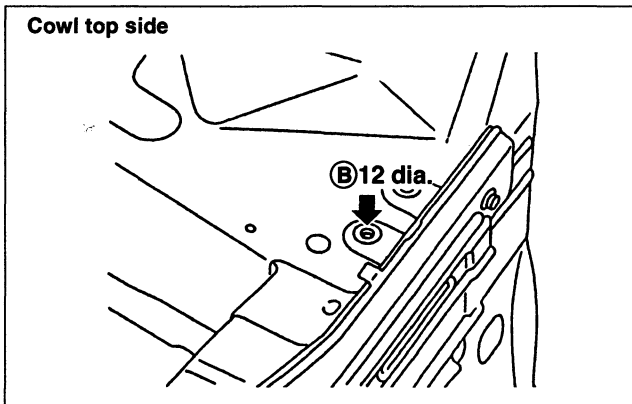
Cowl top center



Upper radiator core support

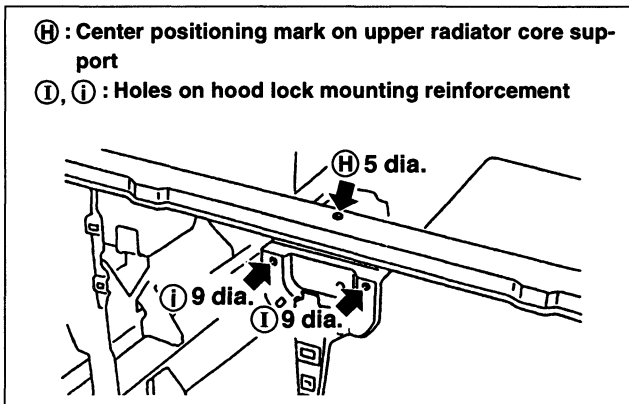


Cowl top side

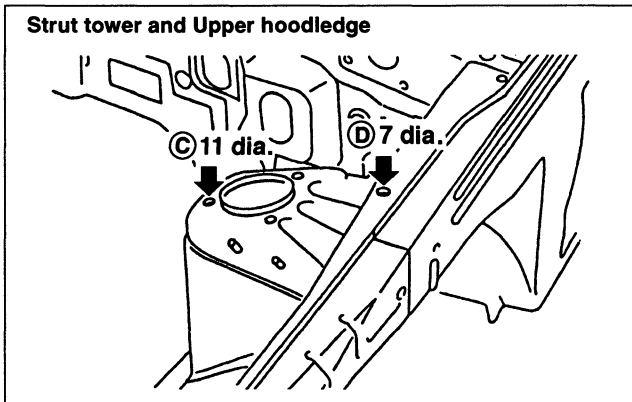


H : Center positioning mark on upper radiator core support

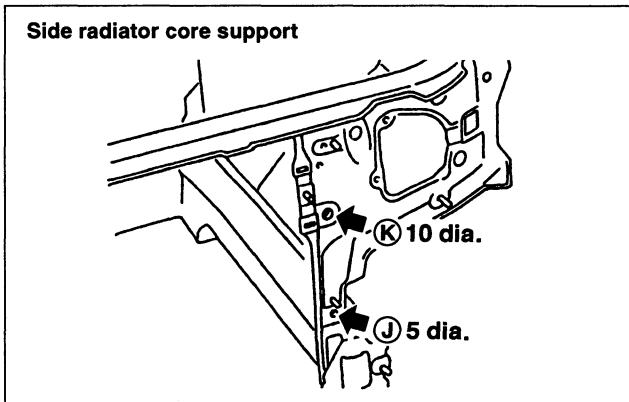
I, i : Holes on hood lock mounting reinforcement



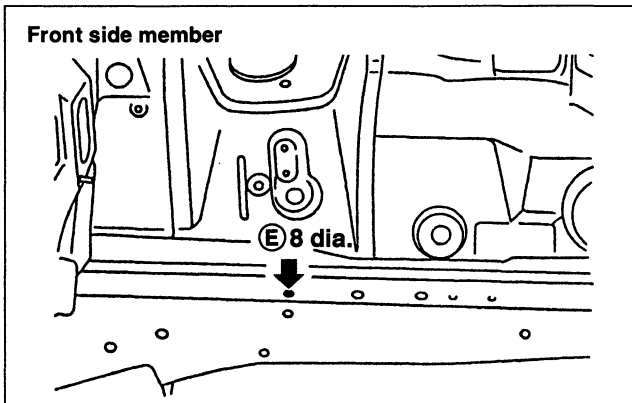
Strut tower and Upper hoodledge



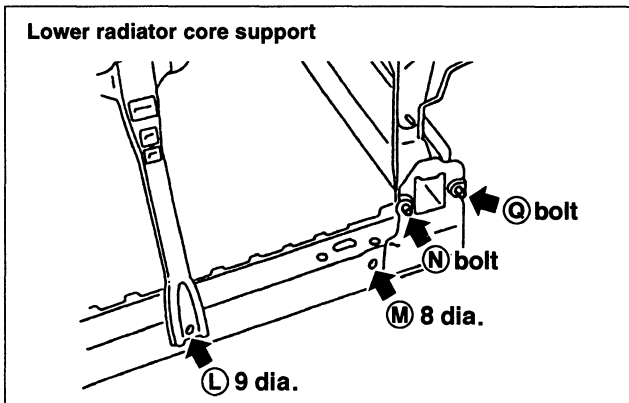
Side radiator core support



Front side member

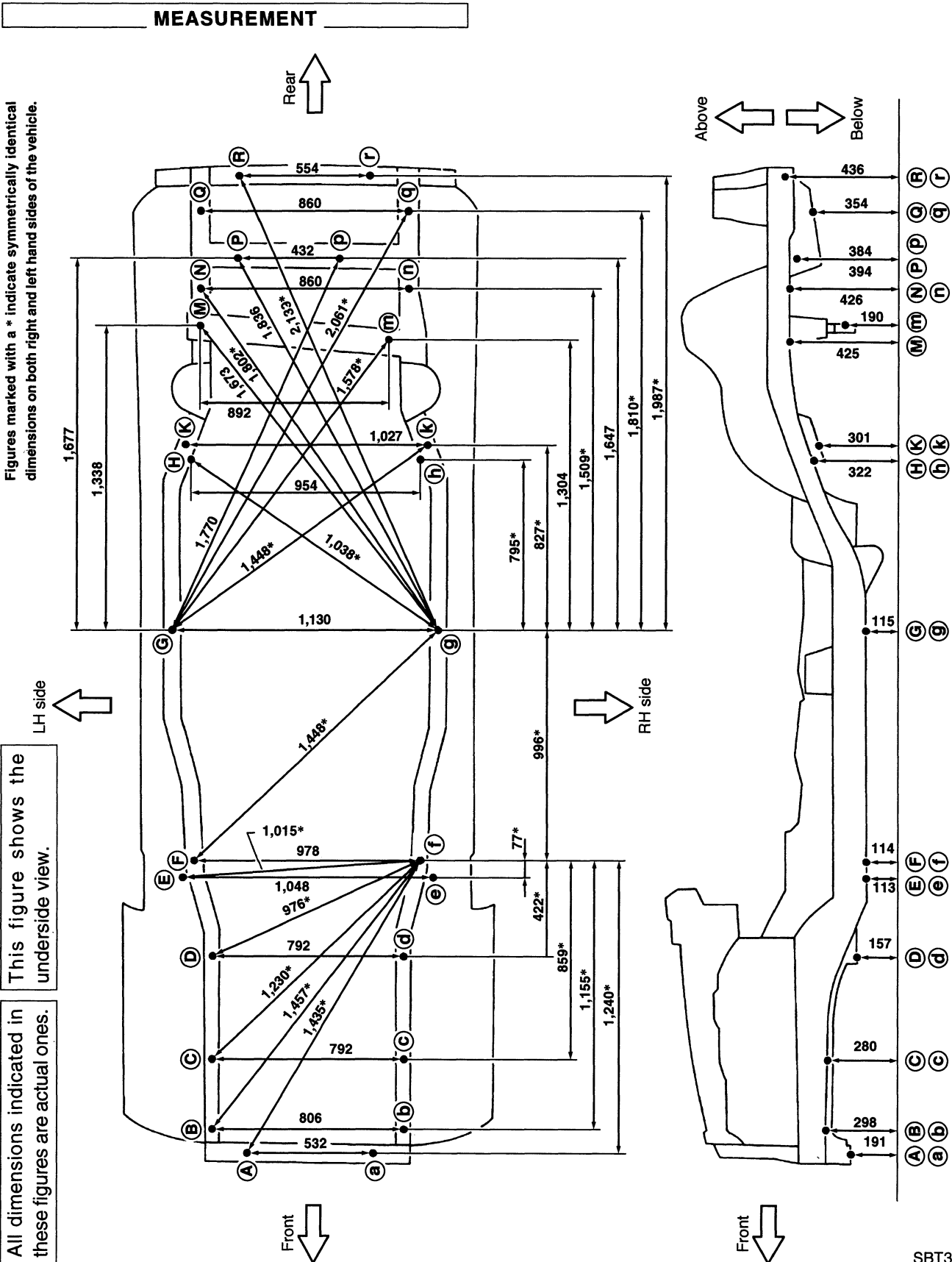


Lower radiator core support



BODY ALIGNMENT

Underbody



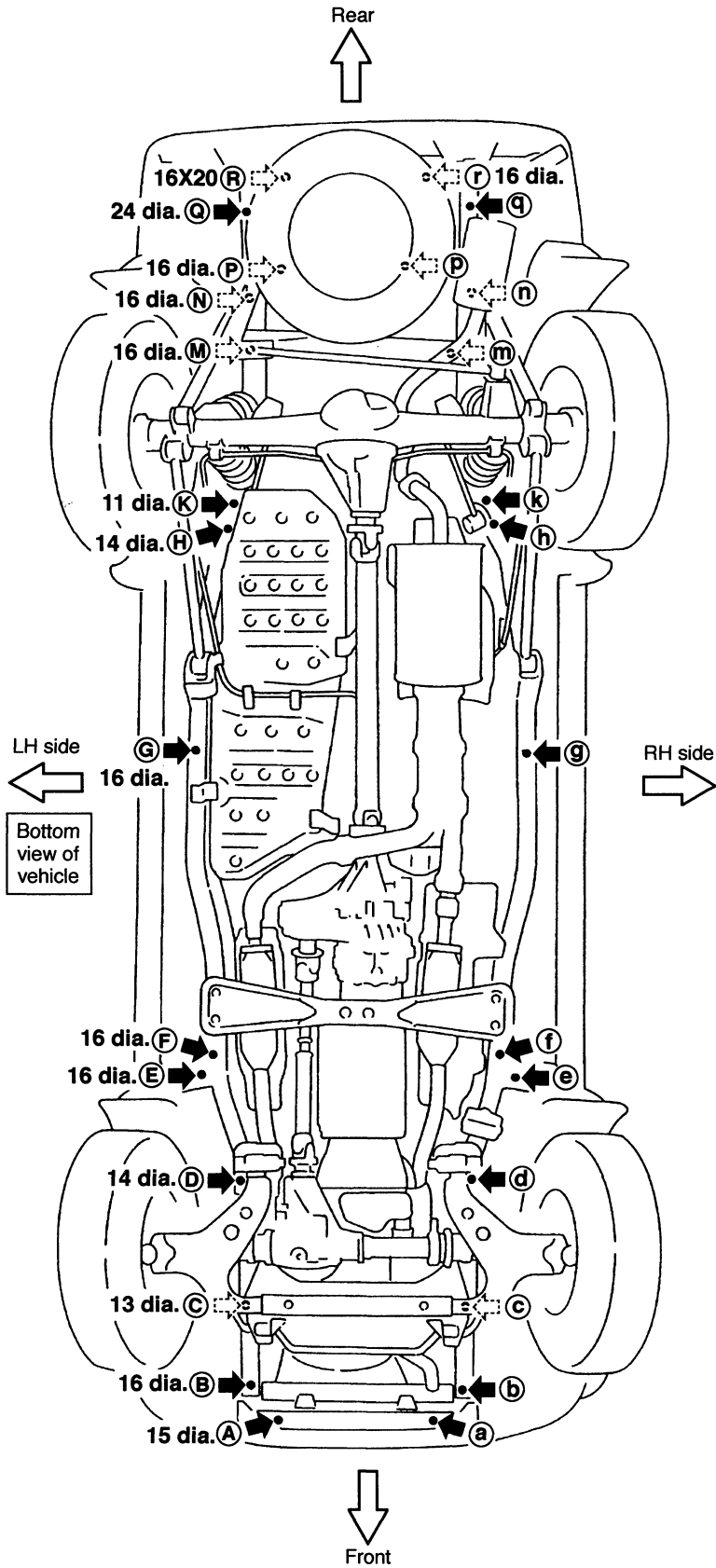
Figures marked with * indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

This figure shows the underside view.

All dimensions indicated in these figures are actual ones.

Underbody (Cont'd)

MEASUREMENT POINTS



Front coordinates

- (A), (a)**
x : 266
y : -580.4
z : 191.4
- (B), (b)**
x : 403
y : -500
z : 297.7
- (C), (c)**
x : 396
y : -201
z : 279.7
- (D), (d)**
x : 396
y : 228
z : 156.7
- (E), (e)**
x : 524
y : 568
z : 112.7
- (F), (f)**
x : 489
y : 637
z : 114.1

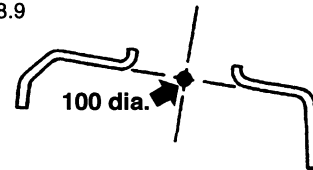
Rear coordinates

- (G), (g)**
x : 565
y : 1,630
z : 115
- (H), (h)**
x : 476.9
y : 2,392.6
z : 321.9
- (K), (k)**
x : 513.3
y : 2,434.5
z : 301.4
- (M)**
x : 446.1
y : 2,960.2
z : 190
- (m)**
x : 350
y : 2,878
z : 424.8
- (N), (n)**
x : 430
y : 3,100
z : 426.2
- (P)**
x : 290
y : 3,230
z : 394.1
- (p)**
x : 142
y : 3,230
z : 383.6
- (Q), (q)**
x : 430
y : 3,419.3
z : 353.6
- (R), (r)**
x : 277
y : 3,570
z : 435.6

Unit: mm

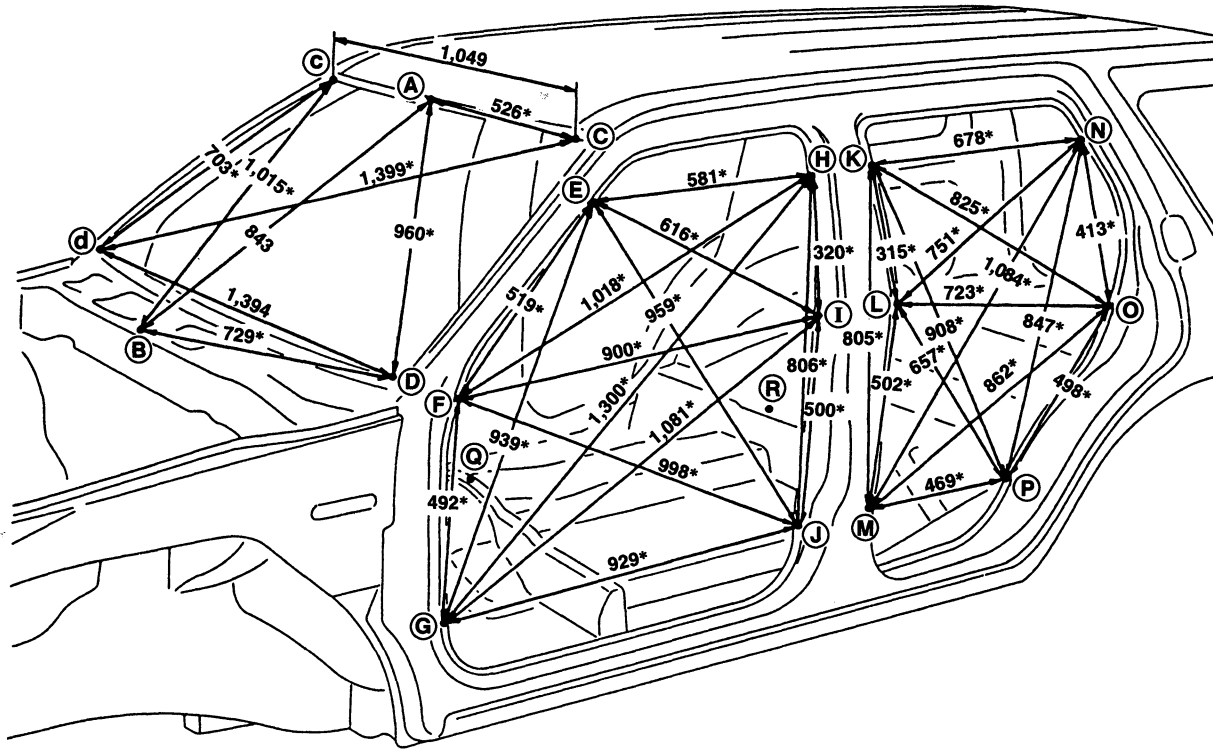
Front strut tower center coordinates:

- (S), (s)**
x : 499.9
y : 41.2
z : 748.9



Passenger Compartment

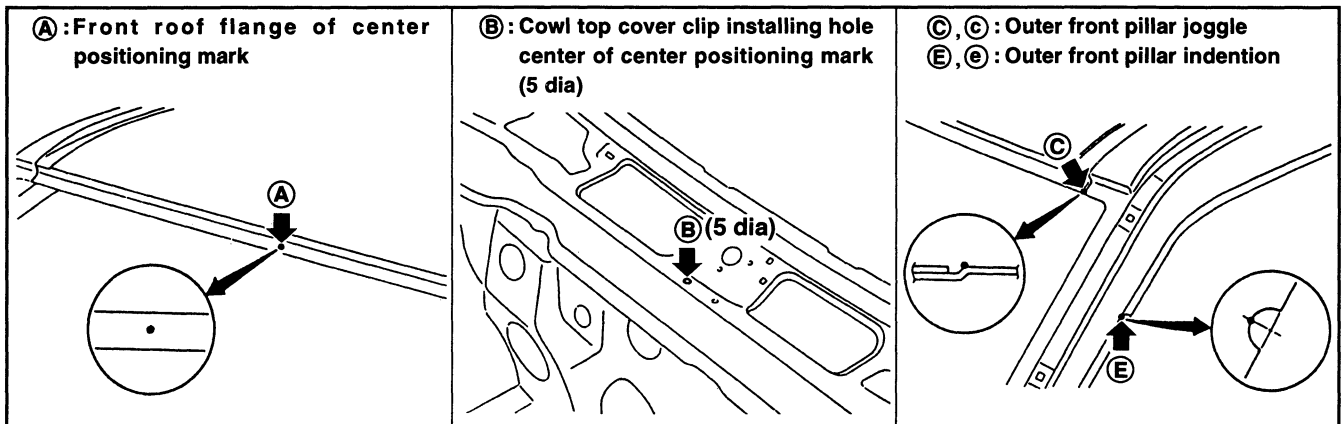
MEASUREMENT



Point	Dimension	Point	Dimension	Point	Dimension
E ~ e	1,275	N ~ n	1,279	R ~ N	1,103 *
F ~ f	1,454	O ~ o	1,449	R ~ O	945 *
G ~ g	1,420	P ~ p	1,421		
H ~ h	1,281	Q ~ E	1,122 *		
I ~ i	1,478	Q ~ F	1,034 *		
J ~ j	1,424	Q ~ H	1,217 *		
K ~ k	1,283	Q ~ I	1,054 *		
L ~ l	1,477	R ~ K	1,048 *		
M ~ m	1,424	R ~ L	922 *		

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

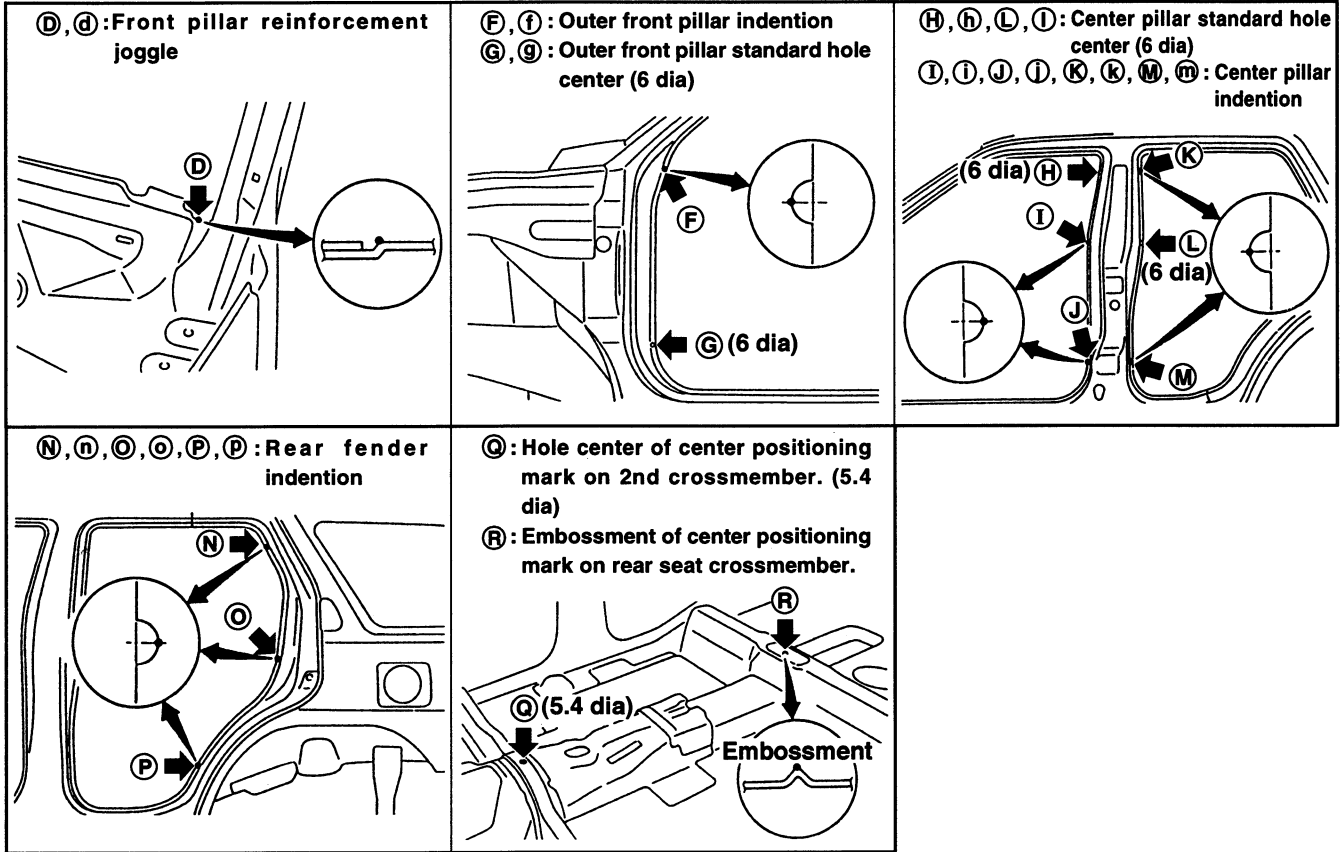
Unit: mm



Passenger Compartment (Cont'd)

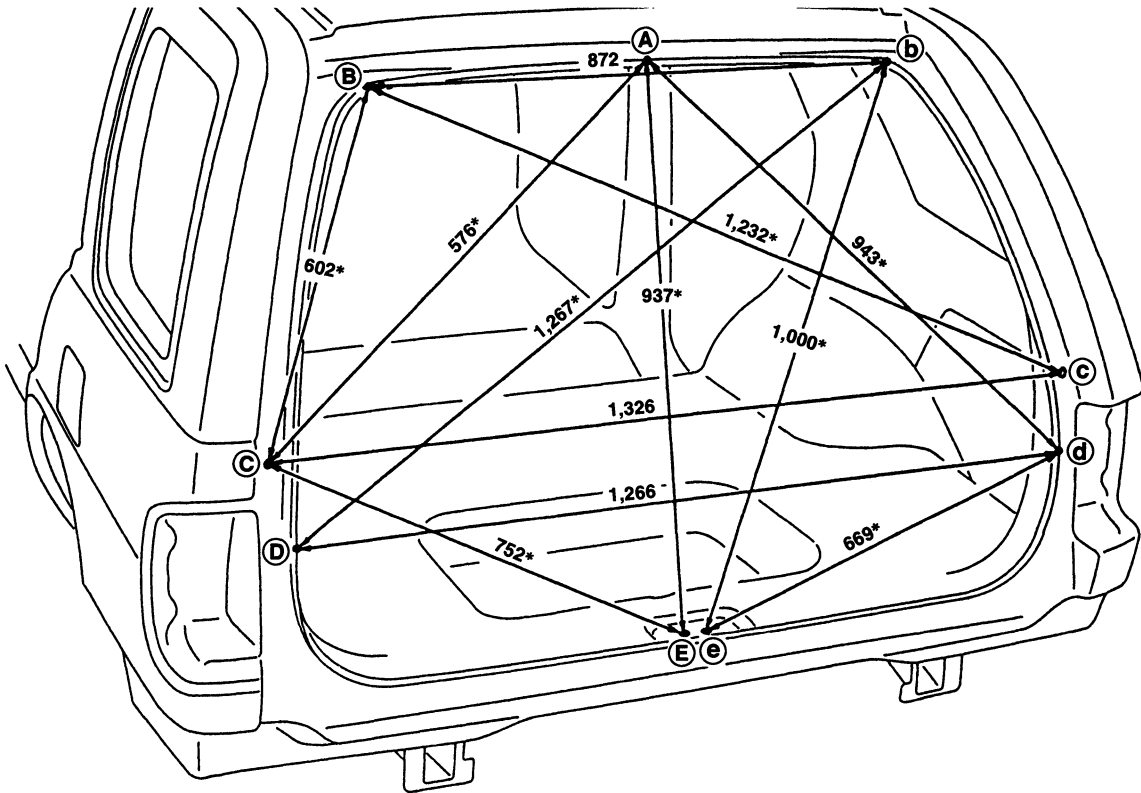
MEASUREMENT

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

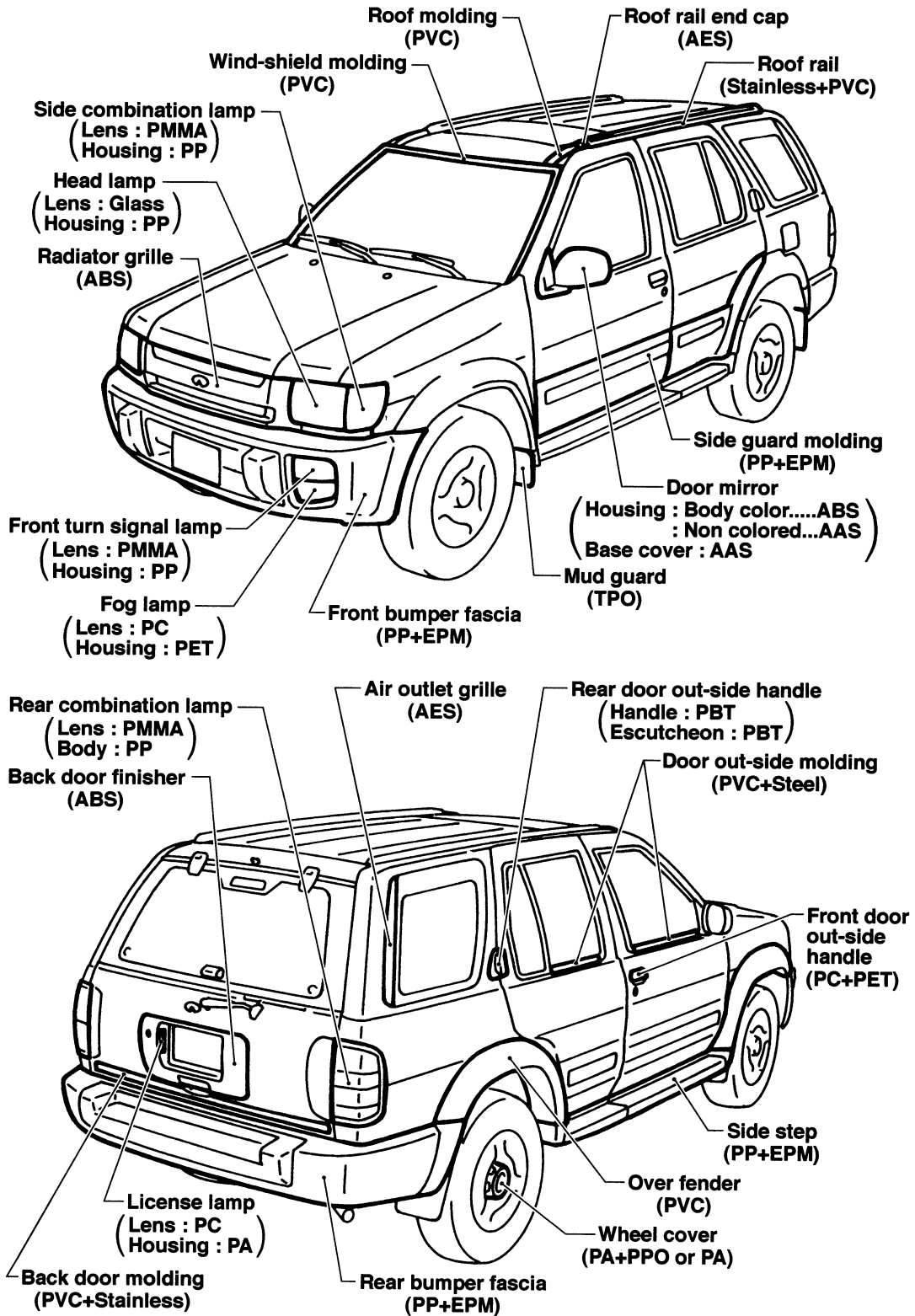
<p>A : Rear roof flange indentation of center positioning mark</p>	<p>B, b : Upper back pillar joggle</p>	<p>C, c : Back door dovetail installing hole center (10 dia-M6) D, d : Back pillar joggle</p>
<p>E, e : Rear floor striker installing hole center (14 dia)</p>		

Handling Precautions for Plastics

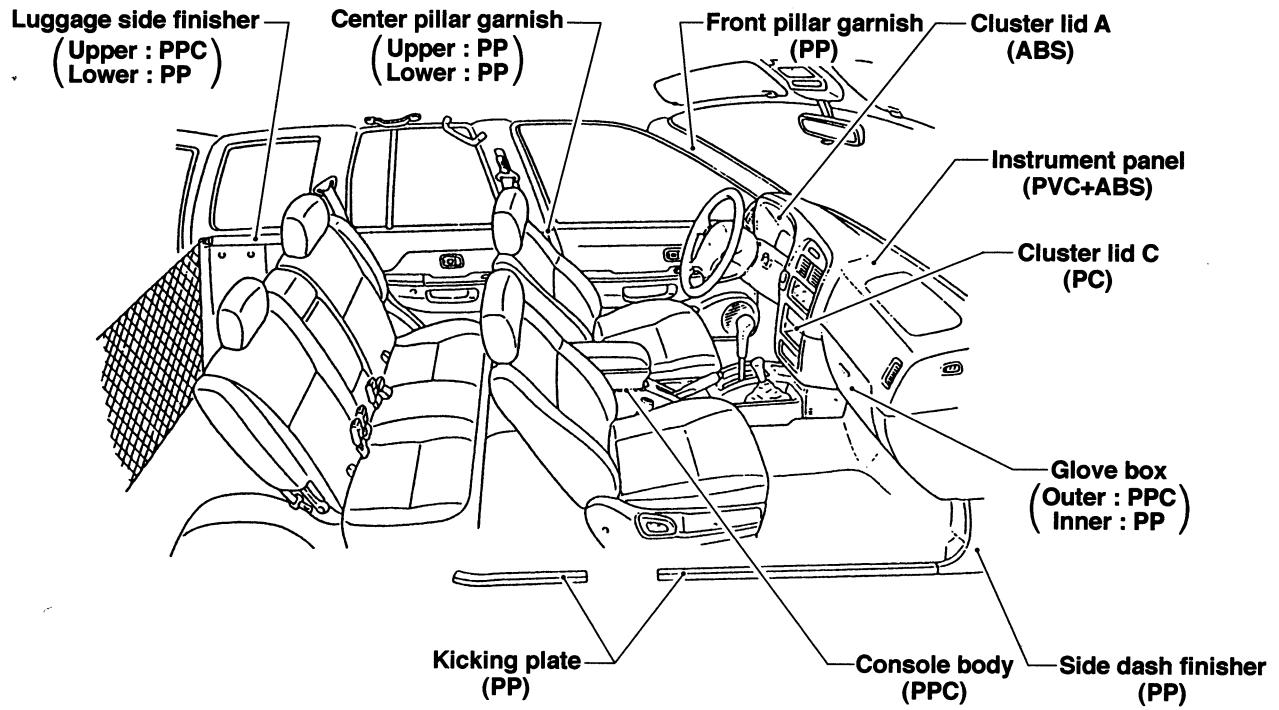
Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PVC	Polyvinyl chloride	80 (176)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Poison gas is emitted when burned.
PP	Polypropylene	90 (194)	Same 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.	
PAR	Polyarylate	180 (356)	Avoid gasoline and solvents.	
PUR	Polyurethane	90 (194)	Gasoline and most solvents are harmless.	
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




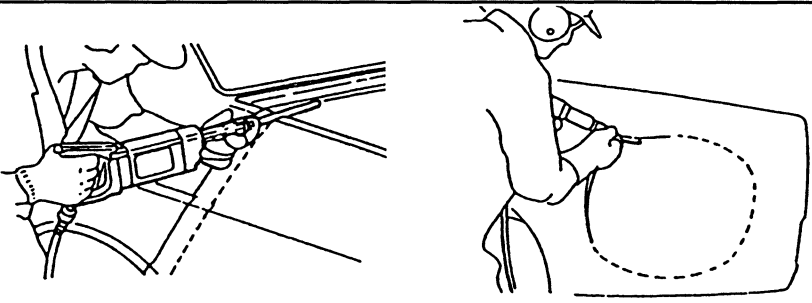



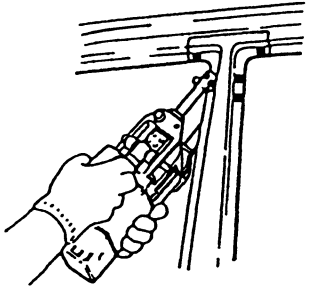

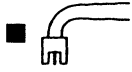
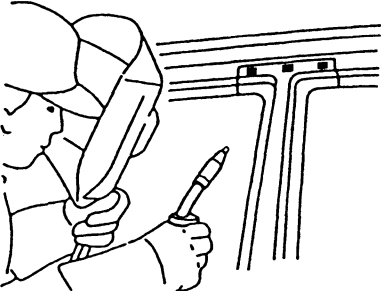





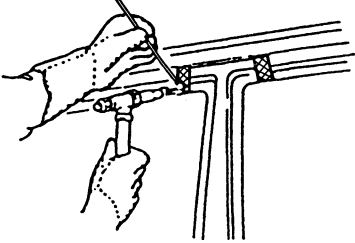
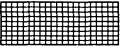

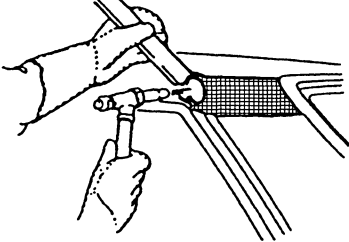

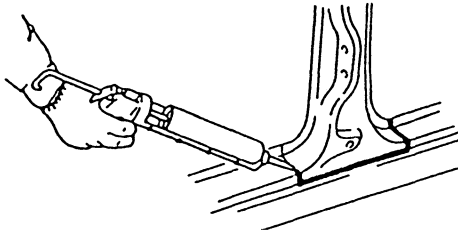
Location of Plastic Parts (Cont'd)



Description

SYMBOLS FOR CUTTING AND WELDING/BRAZING OPERATIONS

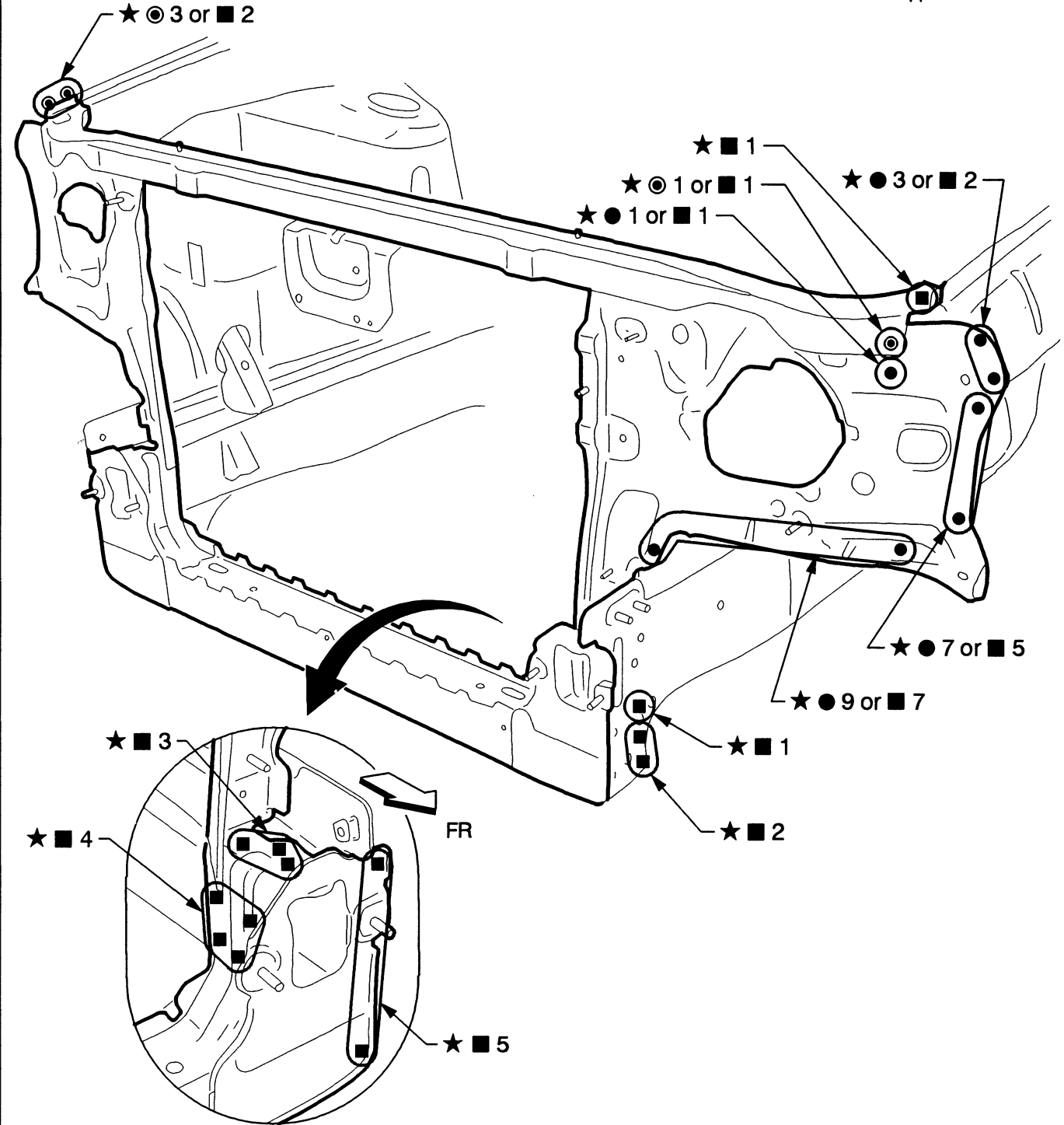
The identification for the cutting and the welding/brazing symbols used throughout this manual are given in the following pages

 <p>Saw cut or air chisel cut</p>		
<p>Spot weld</p>  <p>2-spot welds</p>  <p>3-spot welds</p>	<p>2-spot welds (2-panel overlapping portions)</p>  <p>3-spot welds (3-panel overlapping portions)</p>	
 <p>MIG plug weld</p> 		
 <p>MIG seam weld/ Point weld</p> 		
 <p>Brazing</p> 		
 <p>Soldering</p> 		
 <p>Sealing</p>		

Radiator Core Support

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

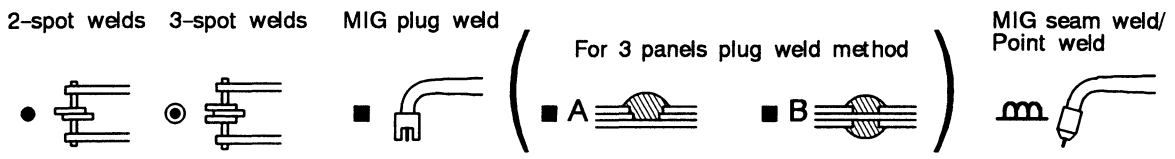
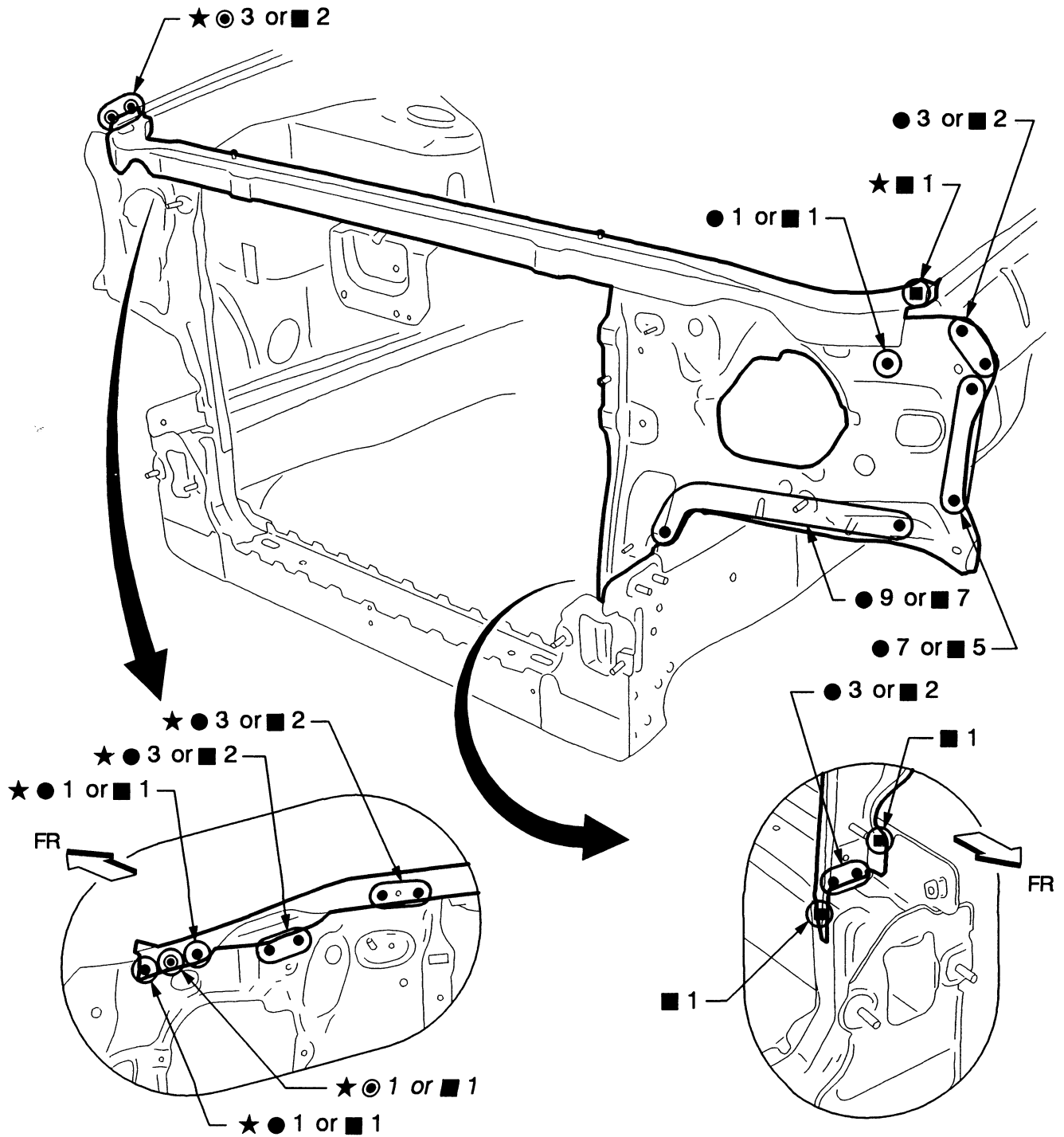
MIG seam weld/
Point weld



Radiator Core Support (Partial Replacement)

Service Joint

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

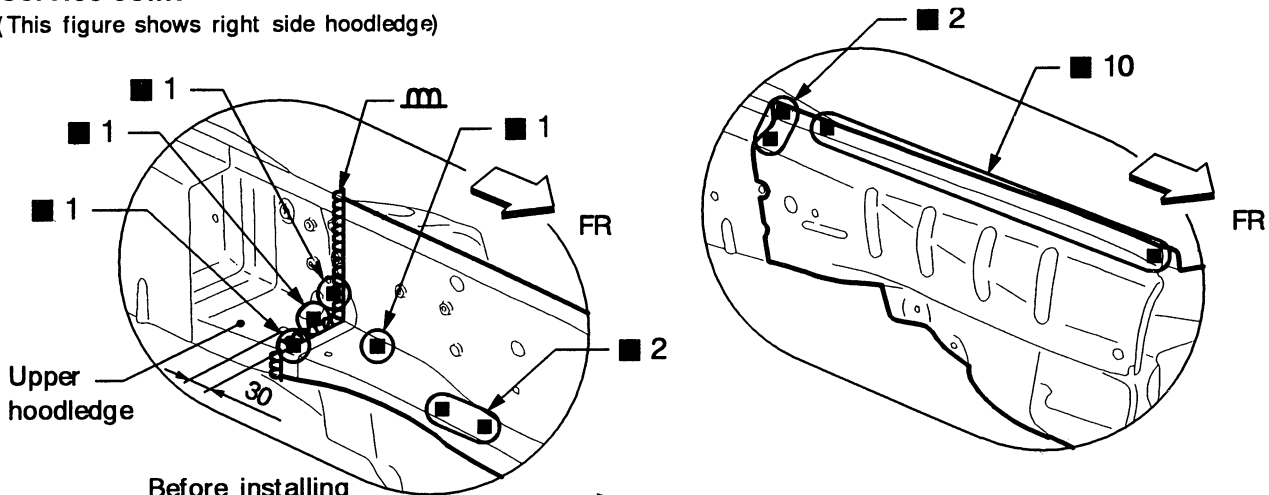


Hoodledge (Partial Replacement)

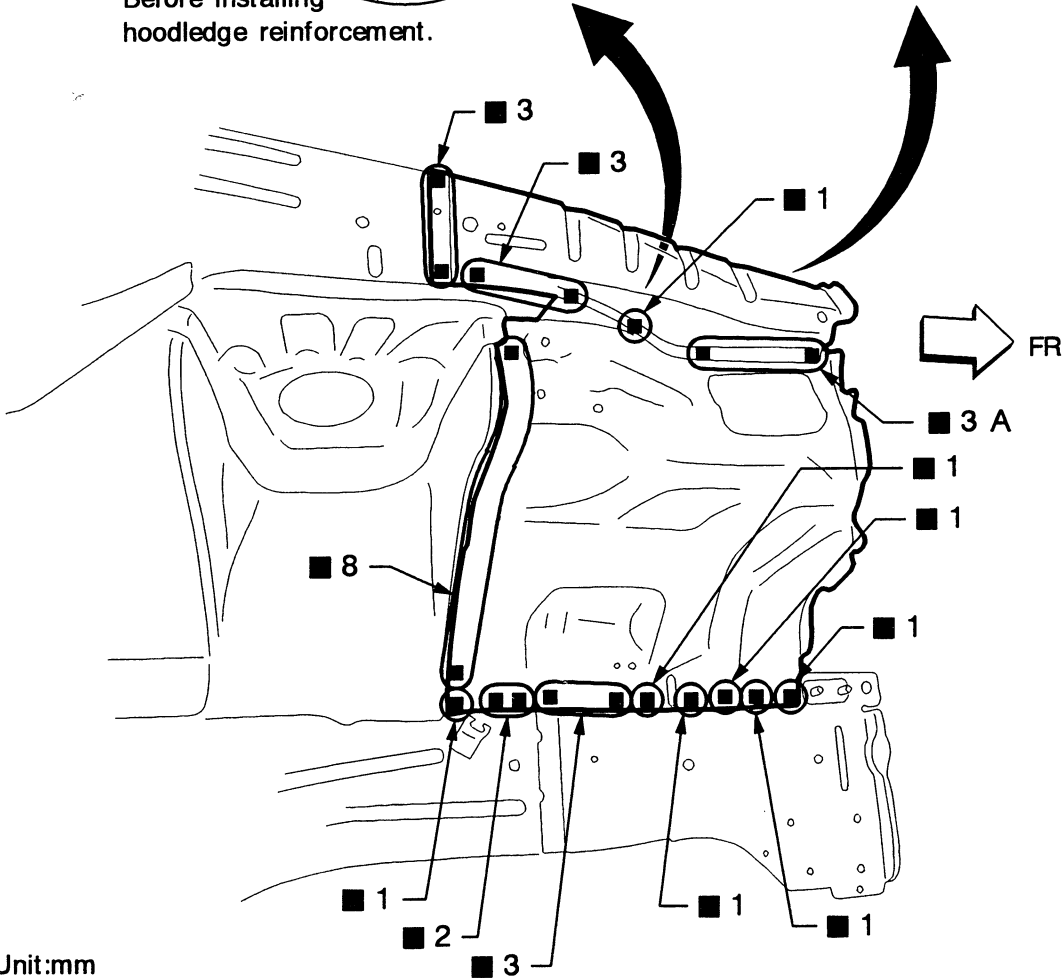
- Work after radiator core support has been removed.

Service Joint

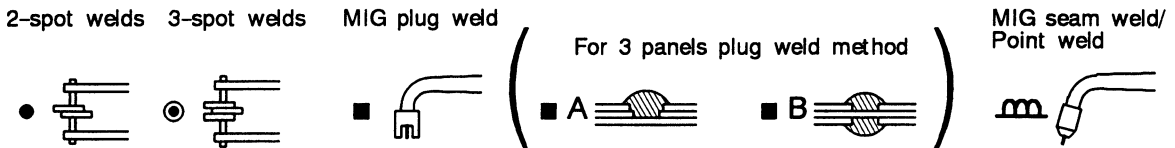
(This figure shows right side hoodledge)



Before installing hoodledge reinforcement.



Unit:mm



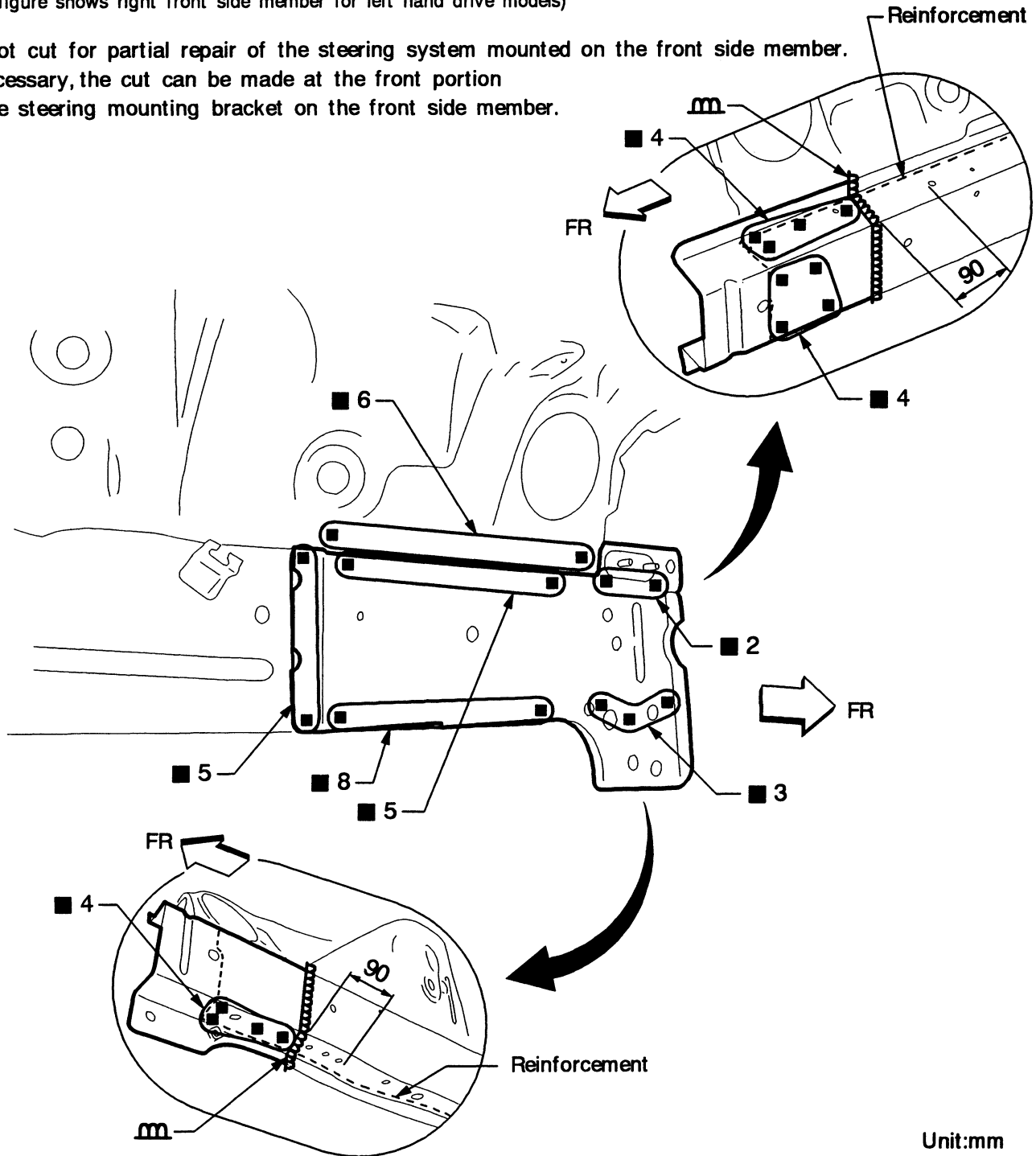
Front Side Member (Partial Replacement)

- Work after radiator core support has been removed.

Service Joint

(This figure shows right front side member for left hand drive models)

Do not cut for partial repair of the steering system mounted on the front side member.
If necessary, the cut can be made at the front portion of the steering mounting bracket on the front side member.



Unit:mm

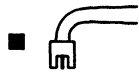
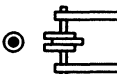
2-spot welds

3-spot welds

MIG plug weld

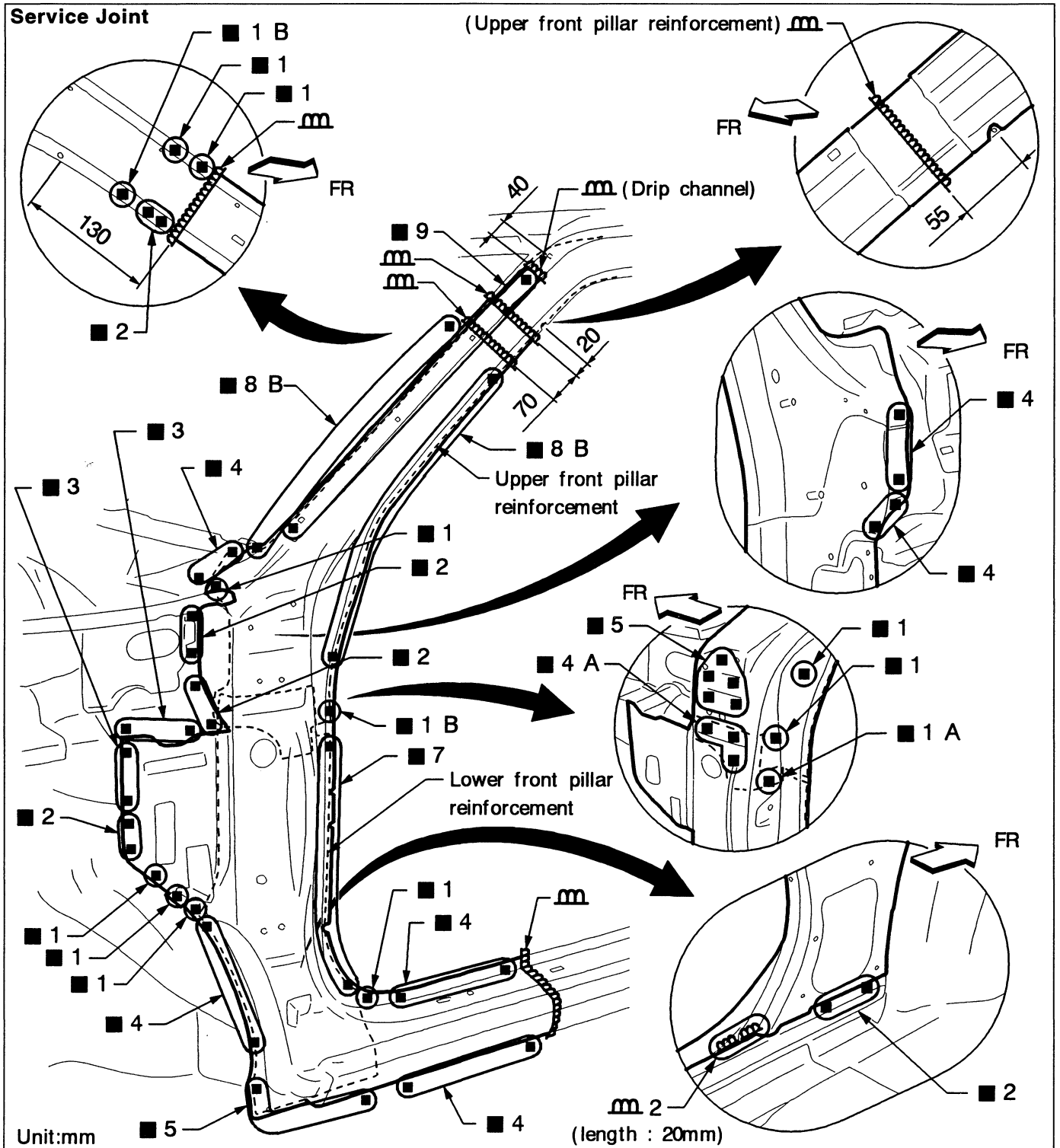
For 3 panels plug weld method

MIG seam weld/
Point weld



Front Pillar

● Work after hoodledge reinforcement has been removed.



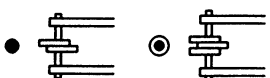
2-spot welds

3-spot welds

MIG plug weld

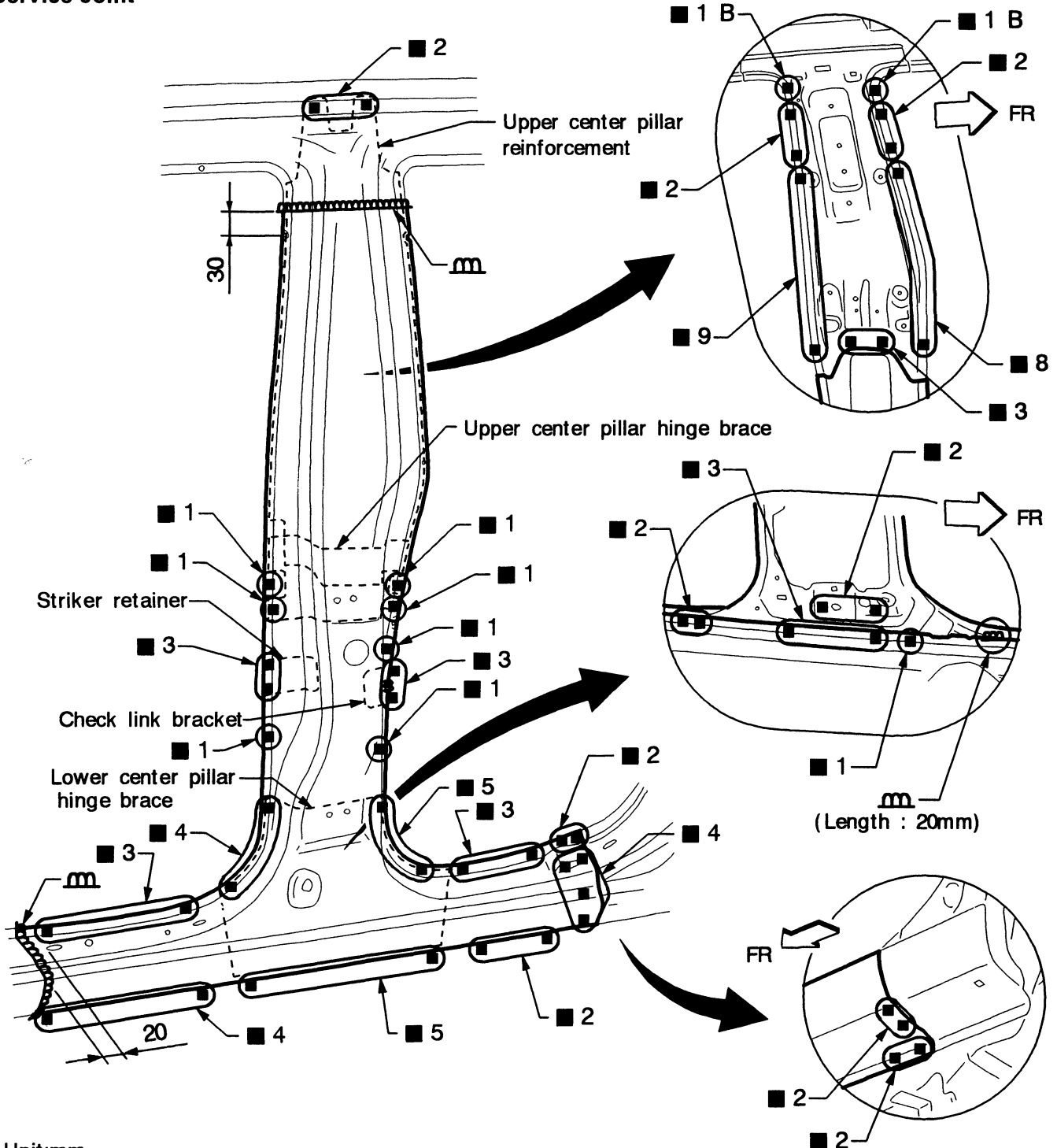
(For 3 panels plug weld method)

MIG seam weld/
Point weld

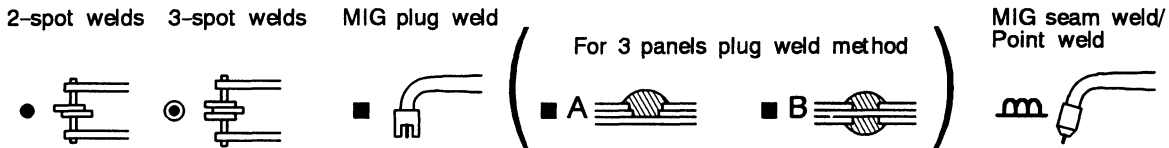


Center Pillar

Service Joint

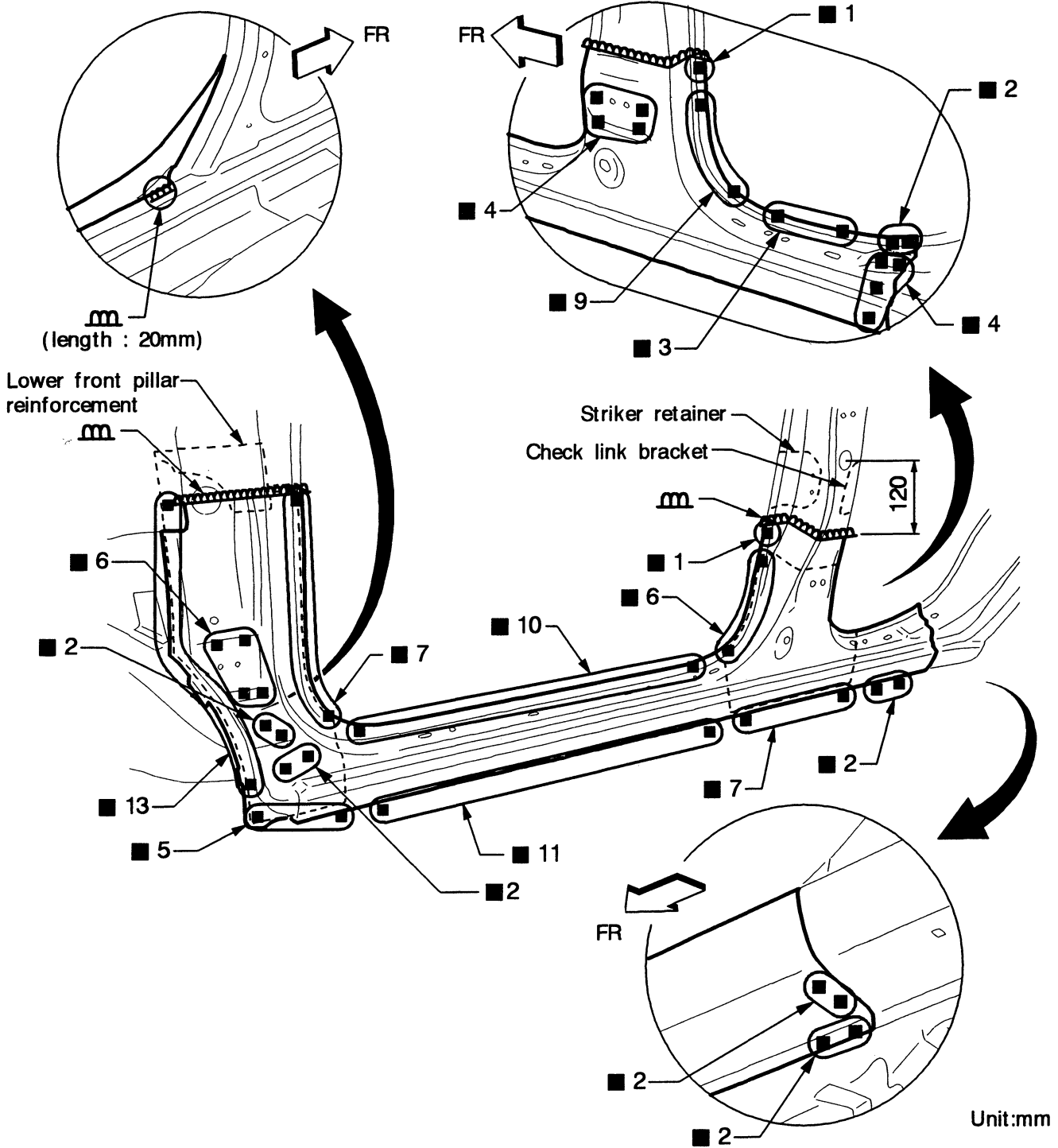


Unit:mm



Outer Sill

Service Joint



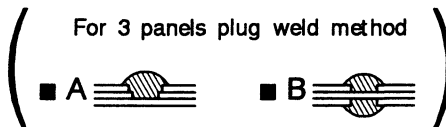
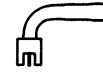
2-spot welds

3-spot welds

MIG plug weld

For 3 panels plug weld method

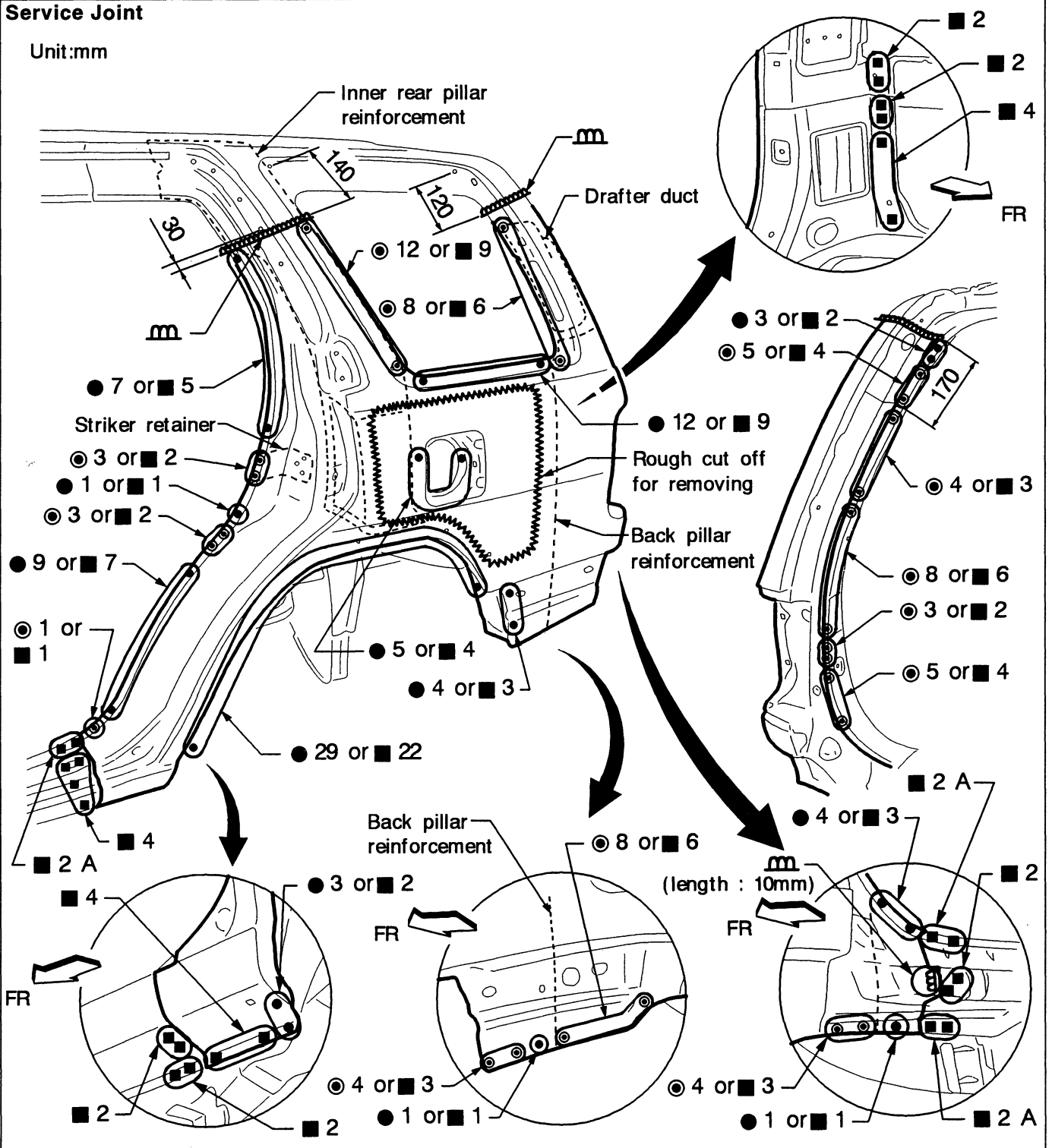
MIG seam weld/
Point weld



Rear Fender

Service Joint

Unit:mm



2-spot welds

3-spot welds

MIG plug weld

For 3 panels plug weld method

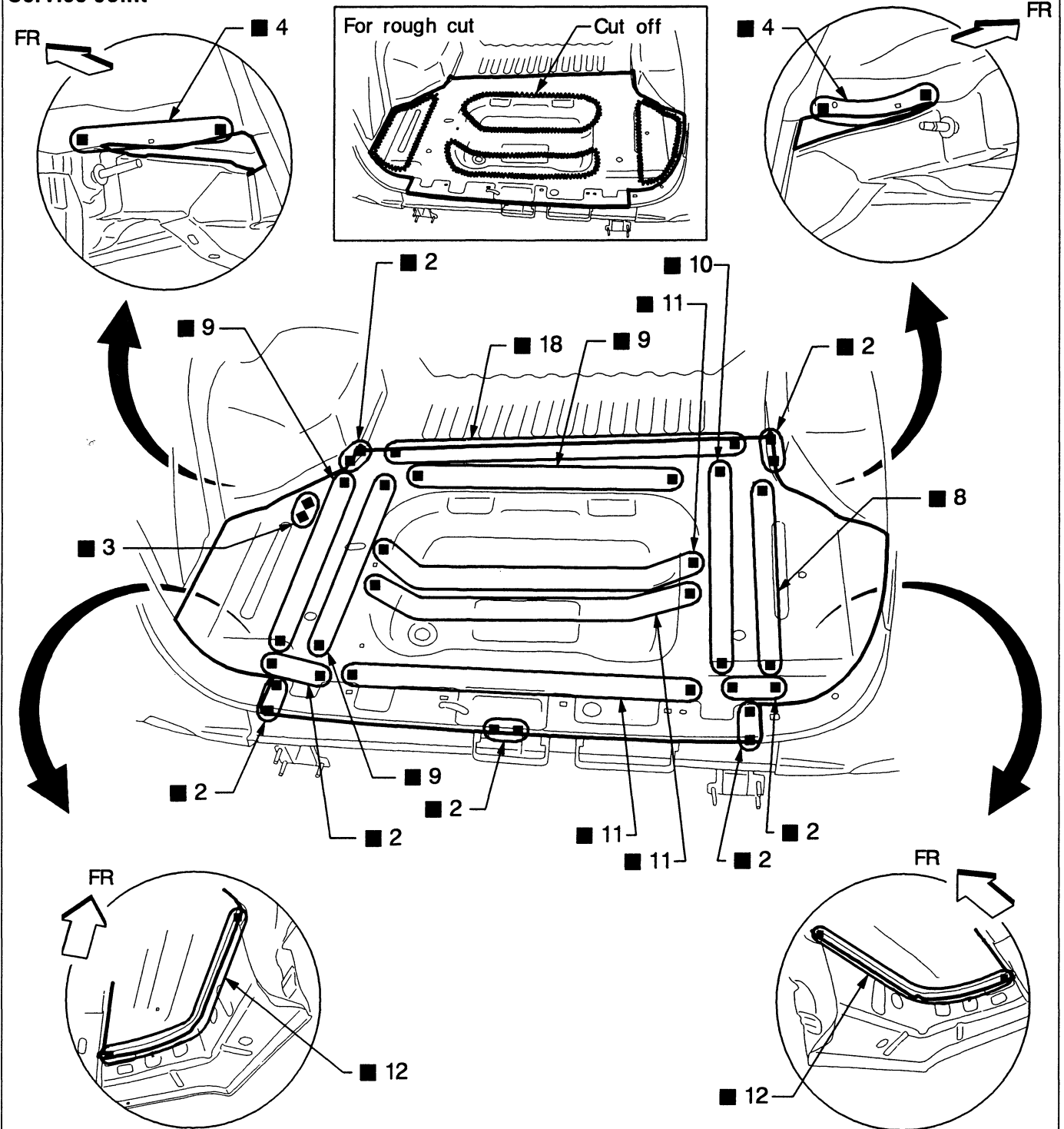
MIG seam weld/
Point weld



Rear Floor Rear

● Work after outer rear end crossmember has been removed.

Service Joint



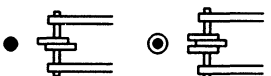
2-spot welds

3-spot welds

MIG plug weld

(For 3 panels plug weld method)

MIG seam weld/
Point weld



Rear Side Member Extension

- Work after outer and inner rear end crossmember have been removed.

Service Joint

