FOREWORD

This Body Repair Manual contains information and instructions for repairing the body structure of the 1998 NISSAN FRONTIER (D22) 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 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.

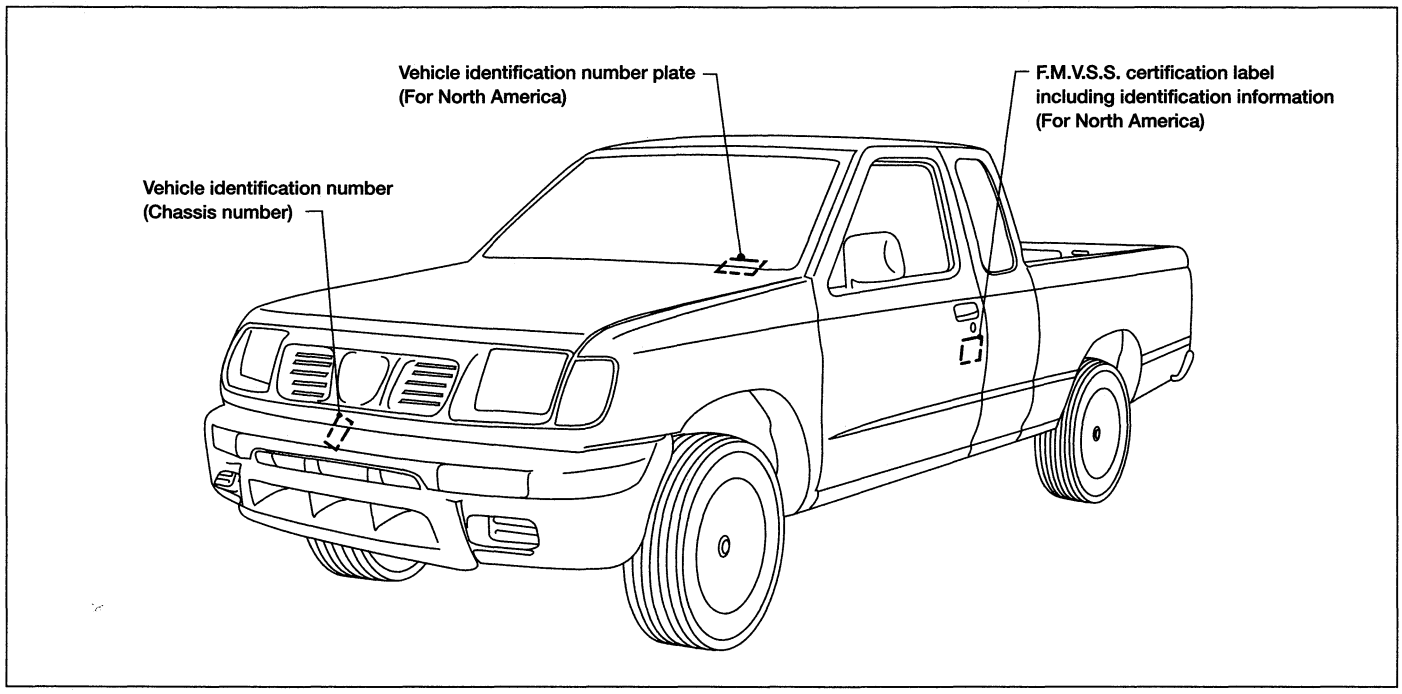
Technicians are also encouraged to read the 1998 NISSAN FRONTIER (D22) Service Manual and Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions 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.

CONTENTS

Identification Number



VEHICLE IDENTIFICATION NUMBER

Prefix and suffix designations:
(For North America)

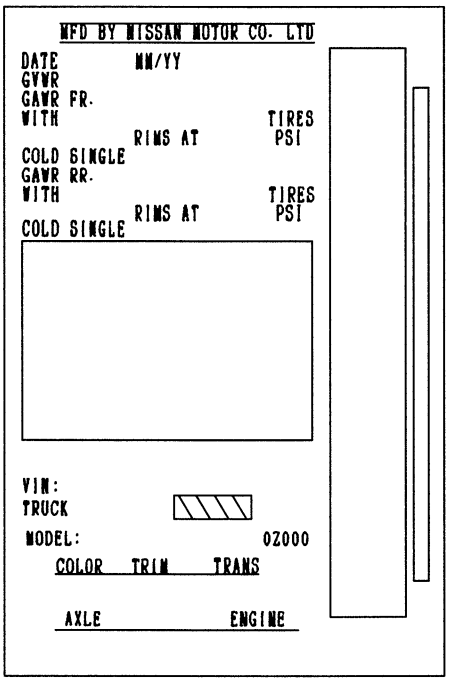
IN6 D D 2 1 S * W C 300001

- 300001: Vehicle serial number
- C: Manufacturing plant — C: Smyrna, Tennessee
- W: Model year — W: 1998 model year
- *: Check digit (0 to 9 or X) — The code for the check digit is determined by mathematical computation.
- S: Gross Vehicle Weight Rating — S: Standard / 2WD / Rear ABS; Y: Standard / 4WD
- 1: Body type — 1: Standard Body; 6: King Cab
- 2: Model change
- D: Vehicle line — D: Nissan Truck
- D: Engine type — D: KA24DE
- IN6: Manufacturer — IN6: USA produced truck

Identification Number (Cont'd)

F.M.V.S.S. CERTIFICATION LABEL

For U.S.A.



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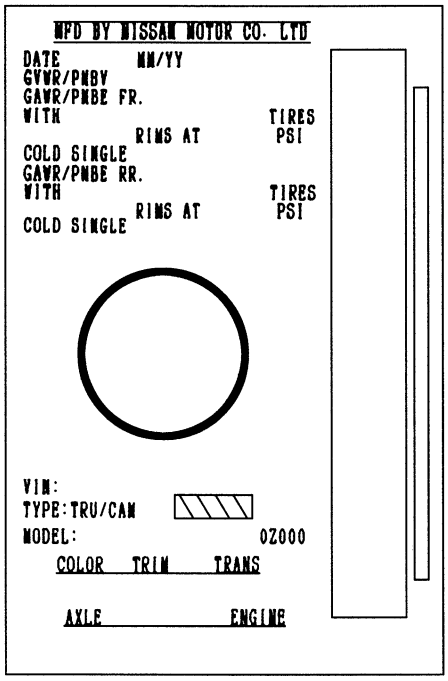
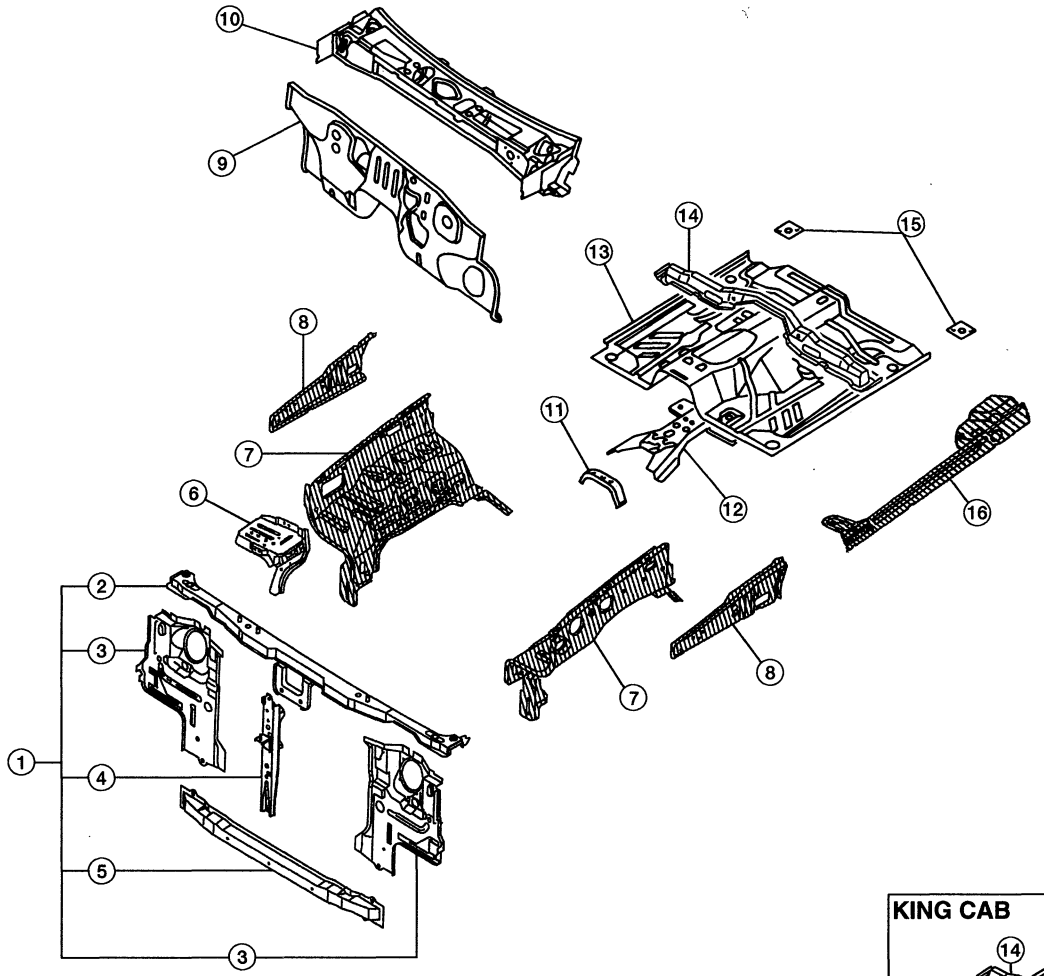
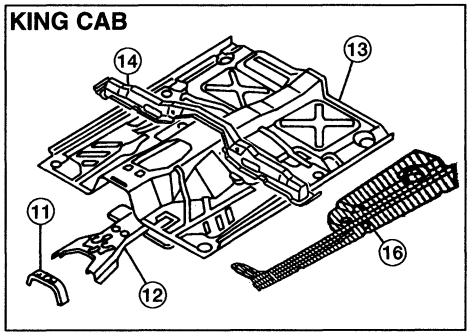


Underbody Component Parts

▨ : Indicates high strength steel (HSS) portions.
* : Anti-corrosive precoated steel



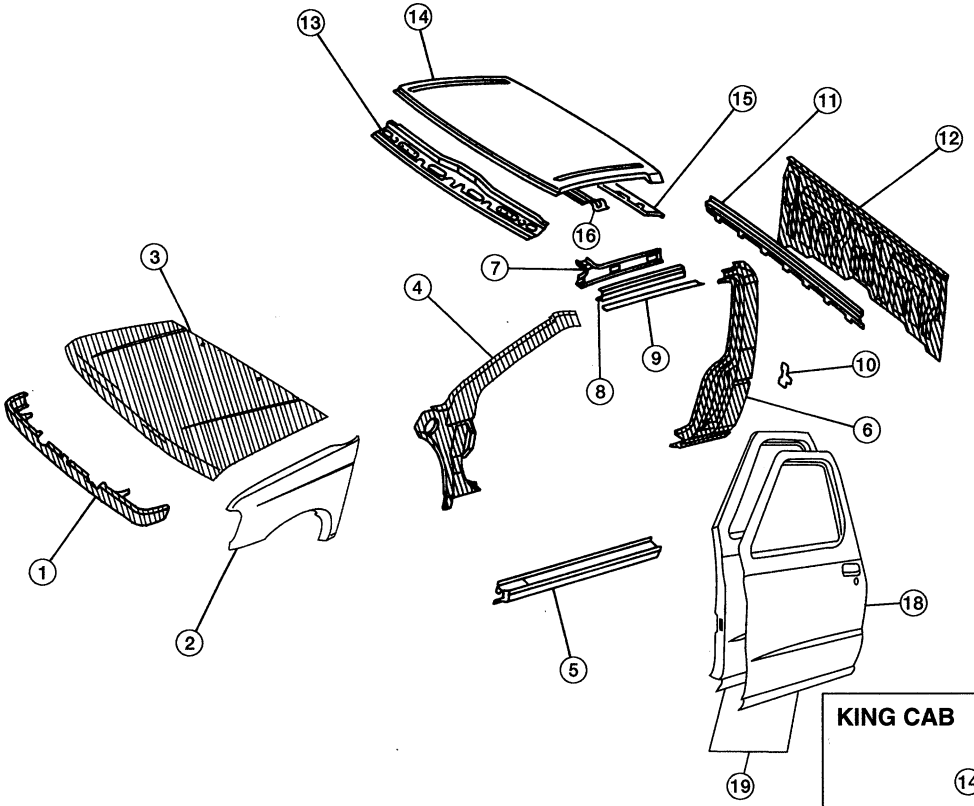


1 Radiator core support assembly
*2 Upper radiator core support
*3 Side radiator core support
4 Hoodlock stay
5 Lower radiator core support
6 Battery support bracket
*7 Hoodledge assembly
*8 Hoodledge reinforcement
*9 Lower dash
*10 Air box assembly
*11 Instrument stay reinforcement
*12 Parking brake and seat belt reinforcement assembly
*13 Front floor
14 2nd crossmember
*15 Cab mount bracket assembly
*16 Inner sill (L.H. & R.H.)

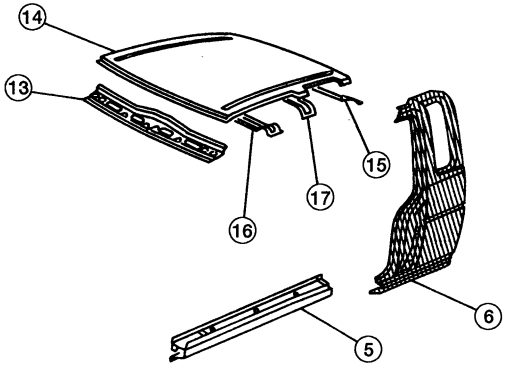
Body Component Parts

▨ : Indicates high strength steel (HSS) portions.
* : Anti-corrosive precoated steel

REGULAR CAB



KING CAB



*1	Front apron panel	10	Striker plate
*2	Front fender (R.H. & L.H.)	11	Back panel reinforcement
*3	Hood	12	Back panel
4	Front pillar (R.H. & L.H.)	13	Front roof rail
*5	Outer sill (R.H. & L.H.)	14	Roof
*6	Lock pillar (R.H. & L.H.)	15	Rear roof rail
*7	Inner side roof rail (R.H. & L.H.)	16	Roof bow No. 1
8	Outer side roof rail (R.H. & L.H.)	17	Roof bow No.2
9	Roof drip channel (R.H. & L.H.)	*18	Outer front door (R.H. & L.H.)
		*19	Front door assembly (R.H. & L.H.)

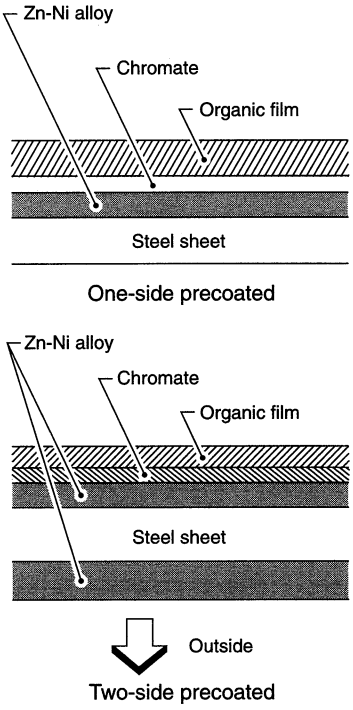
Description

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.



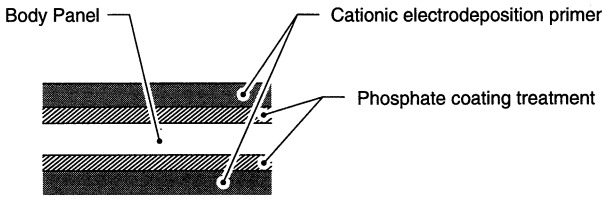
Nissan Genuine Service Parts are fabricated from durasteel sheets. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

PHOSPHATE COATING TREATMENT AND CATIONIC ELECTRODEPOSITION PRIMER

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

Caution:

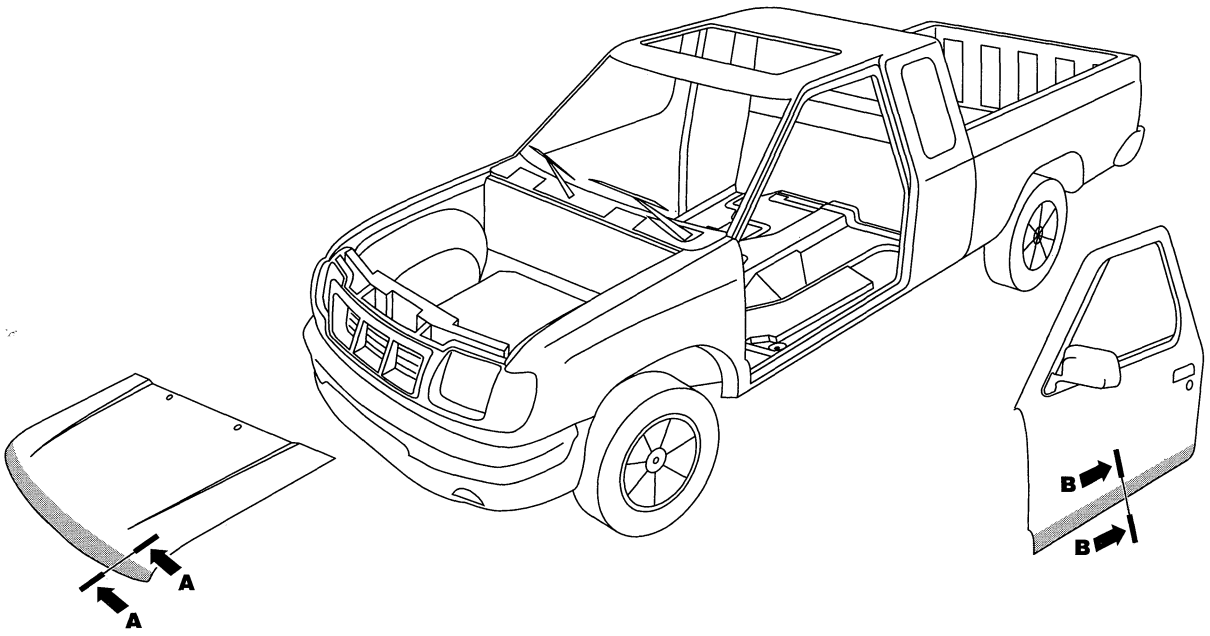
Confine paint removal during welding operations to an absolute minimum.



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.

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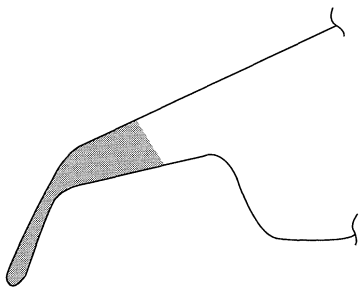
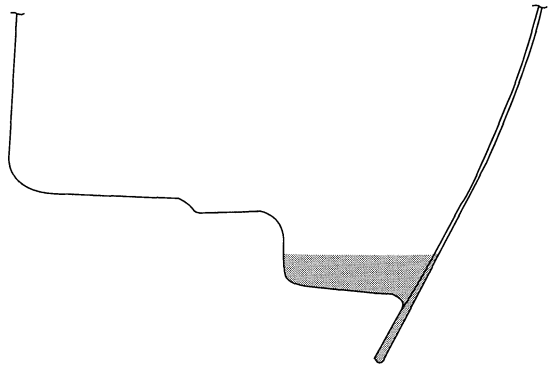
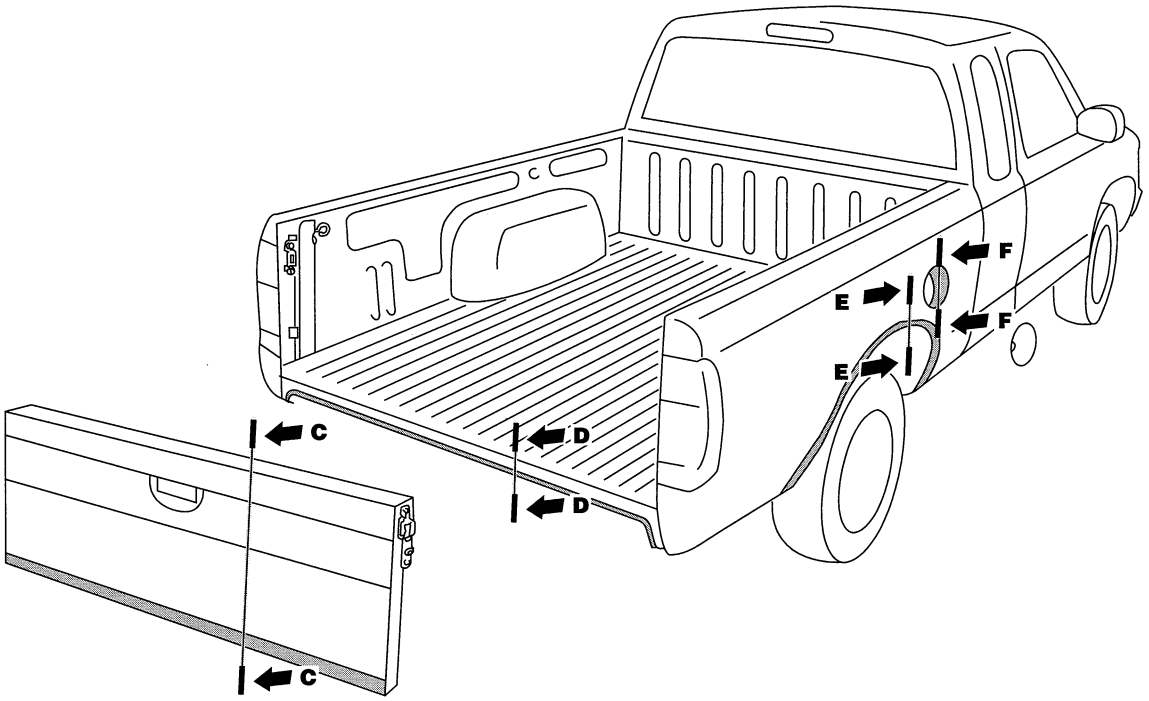
	

Anti-Corrosive Wax (Cont'd)



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	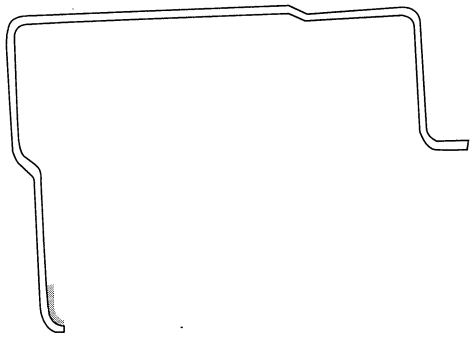
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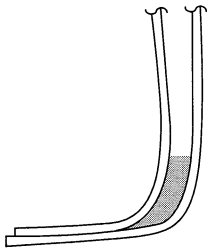
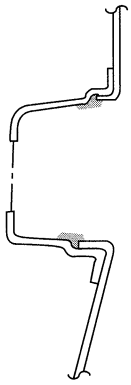
	

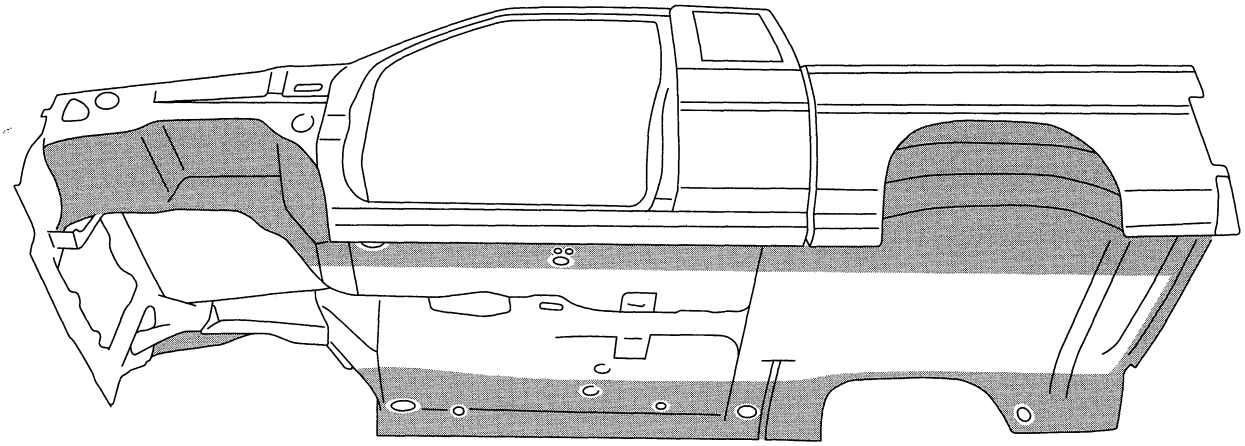
Undercoating

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 preventive, soundproofing, vibration-proofing, shock-resistant, adhesive, and durable.

Precaution in undercoating

1. Do not apply undercoating to any place unless specified (such as the areas above the muffler and three-way 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.

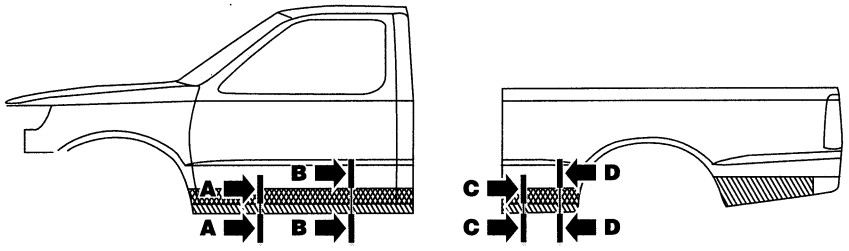
▒ : Indicates undercoated portions.

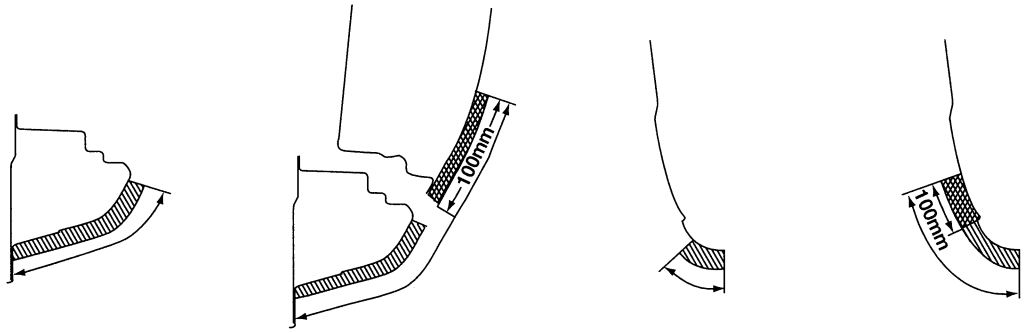


Stone Guard Coat

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 Stone Guard coating to the same portions as before. Use a coating which is rust preventive, durable, shock-resistant and has a long shelf life.

: Indicates Stone Guard coated portions. (All trucks)
: Indicates Stone Guard coated portions. (4WD only)





Section A-A

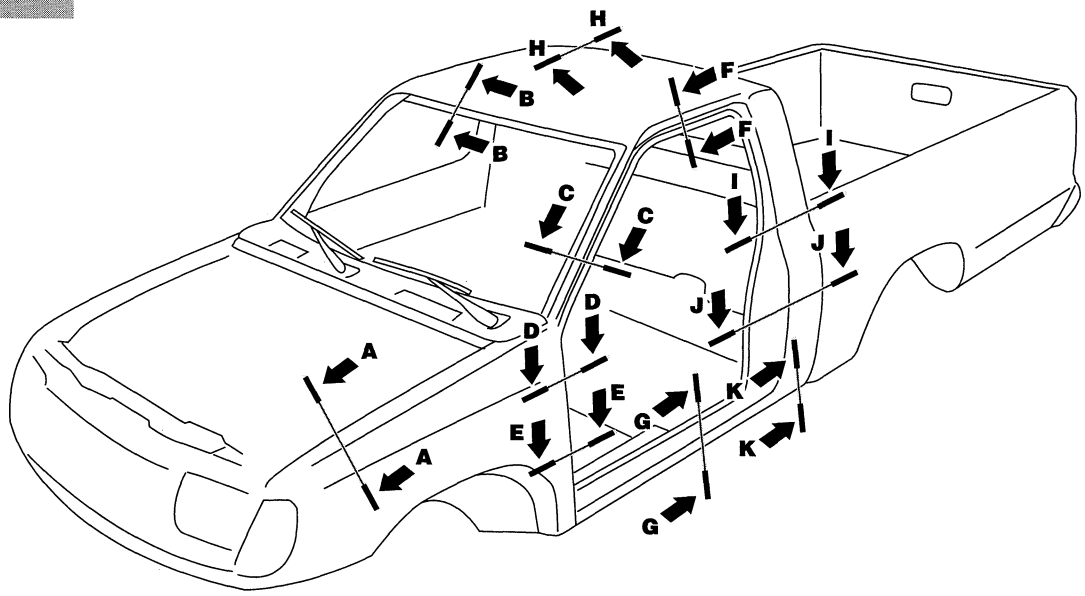
Section B-B
(4WD only)

Section C-C

Section D-D
(4WD only)

Body Construction

Standard Cab



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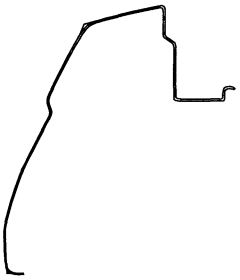	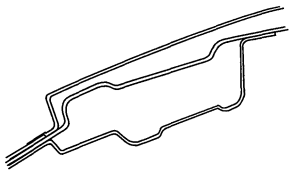	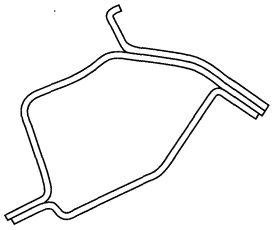	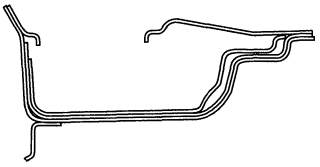
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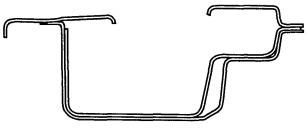	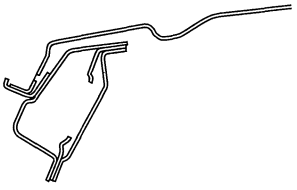	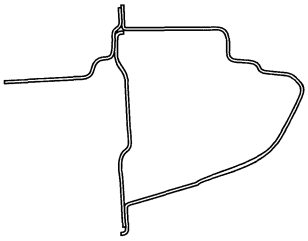	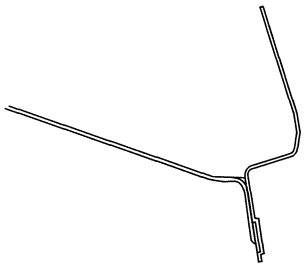
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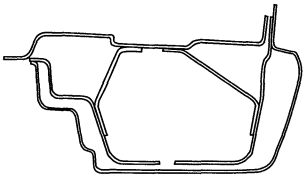
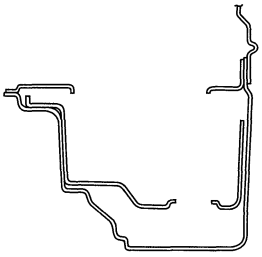
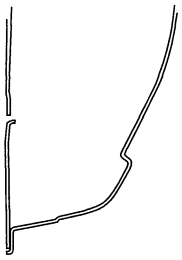
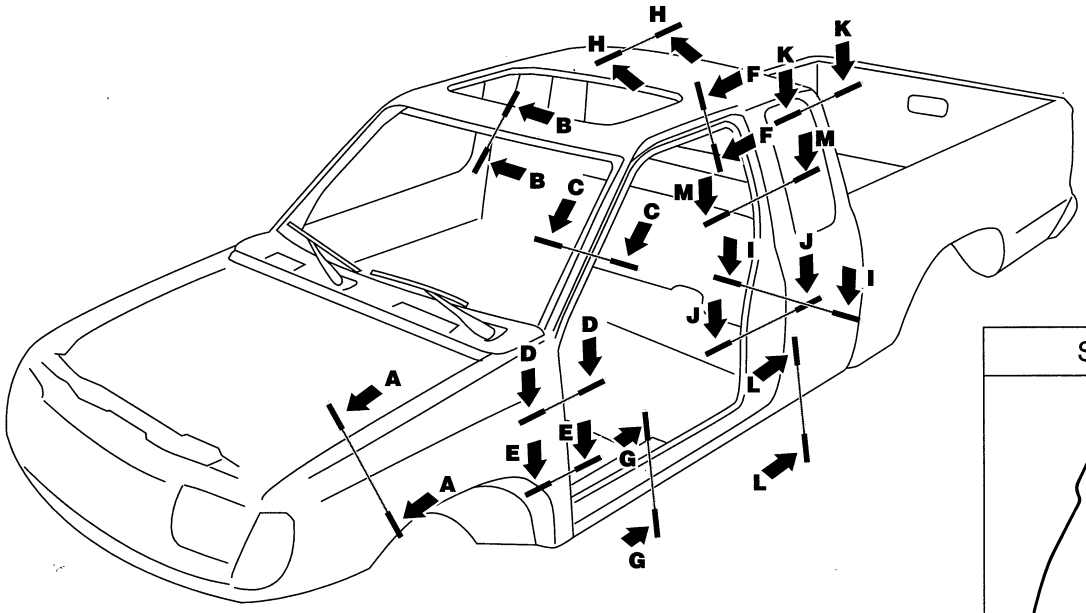
			

Body Construction (Cont'd)

King Cab



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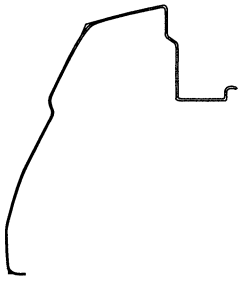

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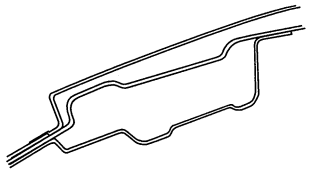	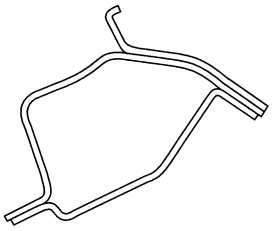	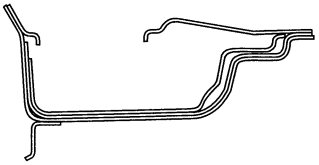	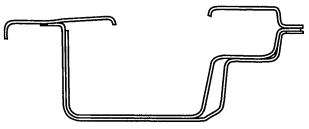
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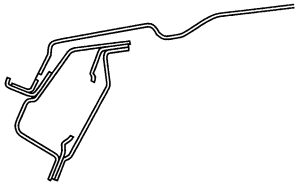	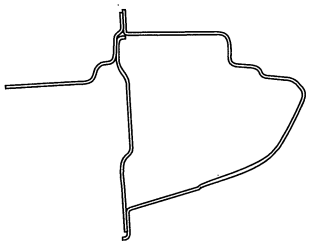	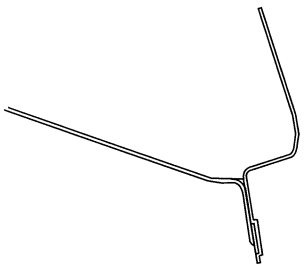	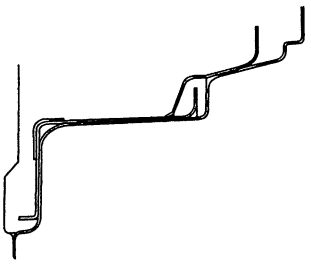
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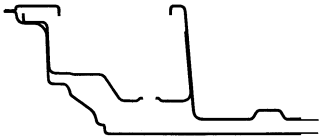
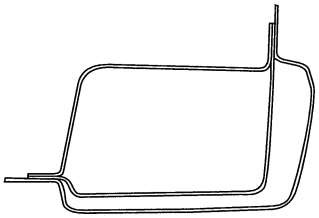
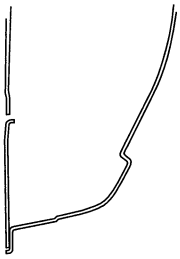
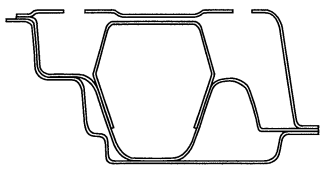
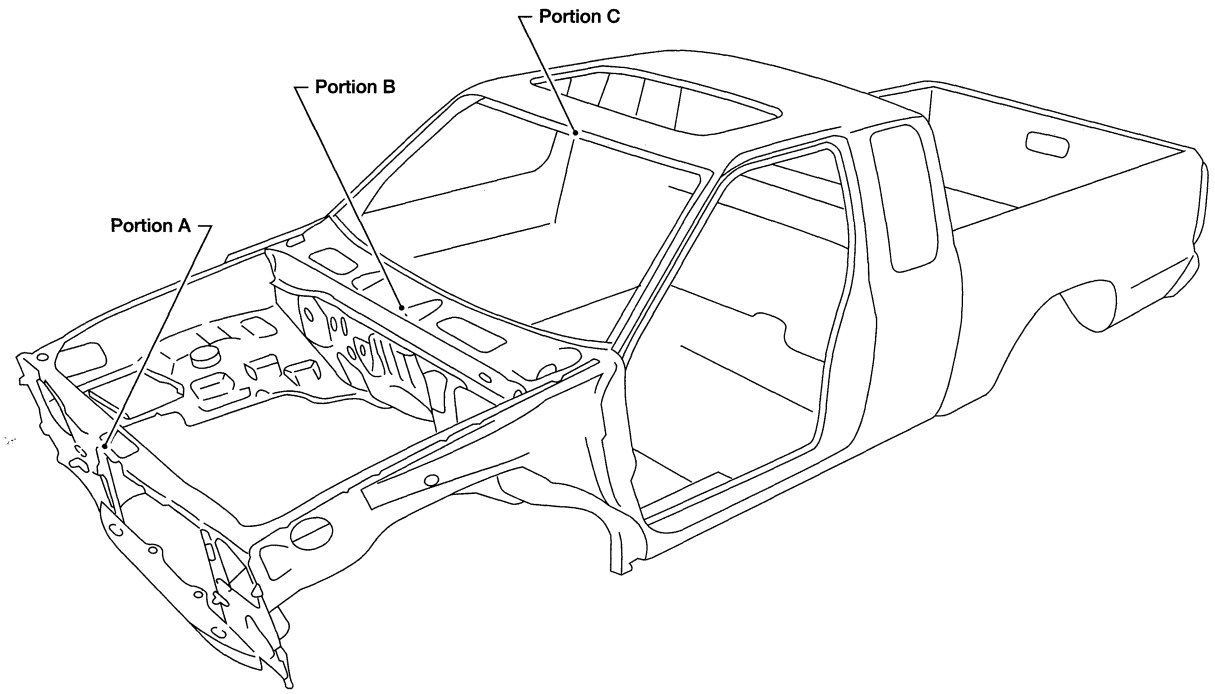
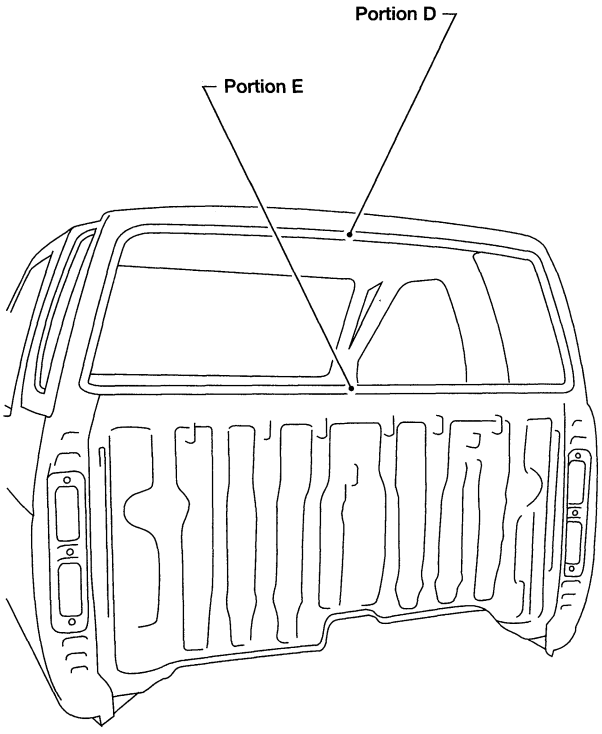
			

Body Center Marks

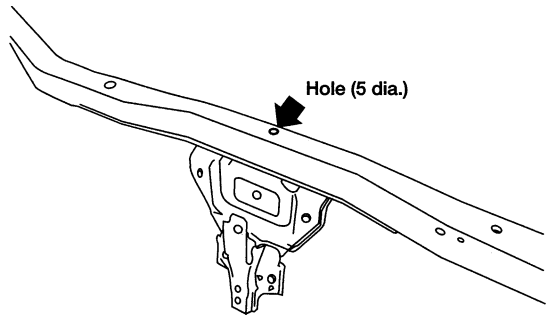
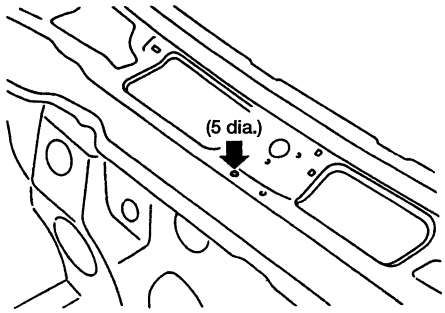
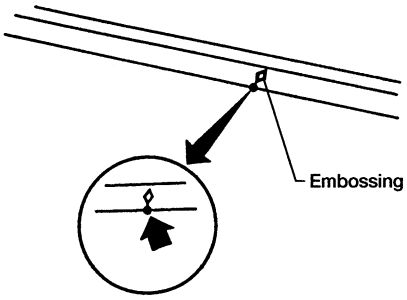
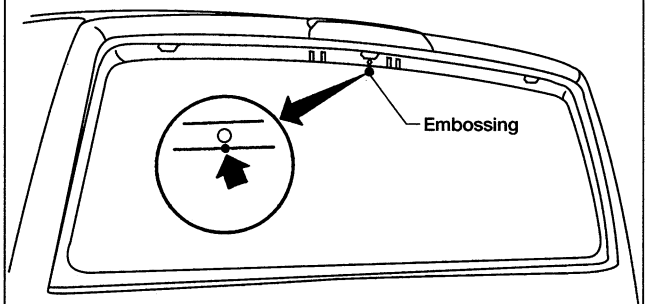
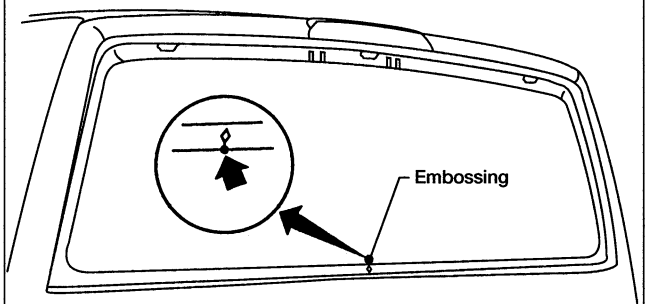
A mark has been placed on each part of the body to indicate the vehicle center. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.) more accurate, effective repair will be possible by using these marks together with body alignment data.





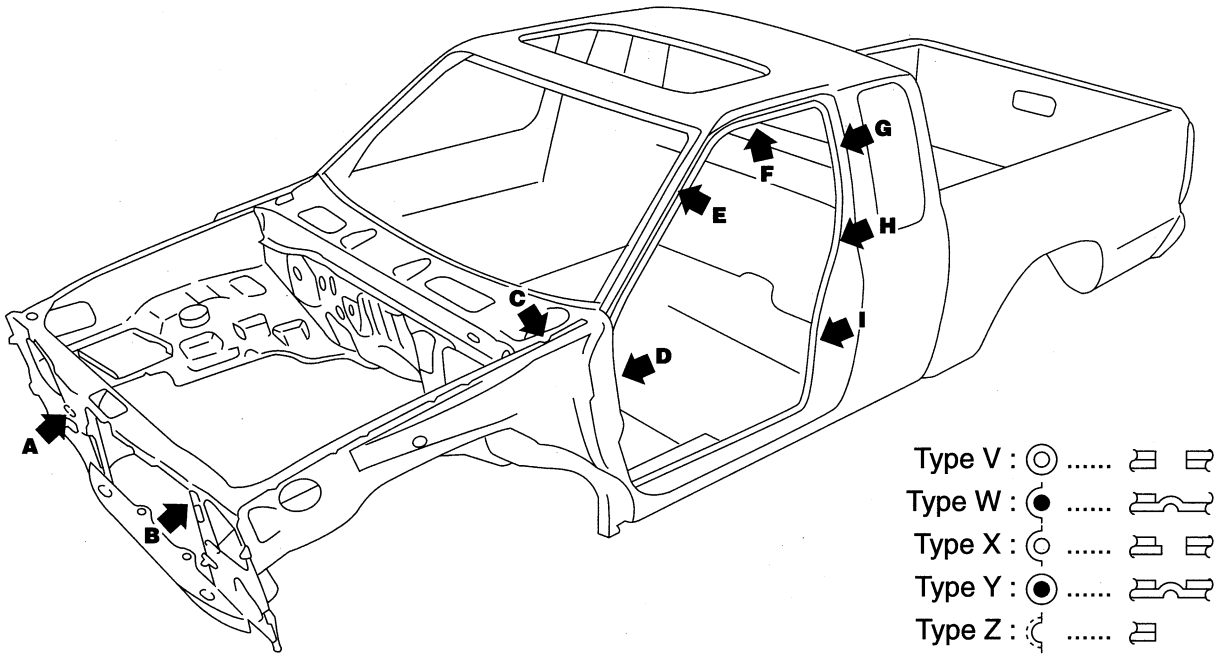
Body Center Marks (Cont'd)

Unit: mm

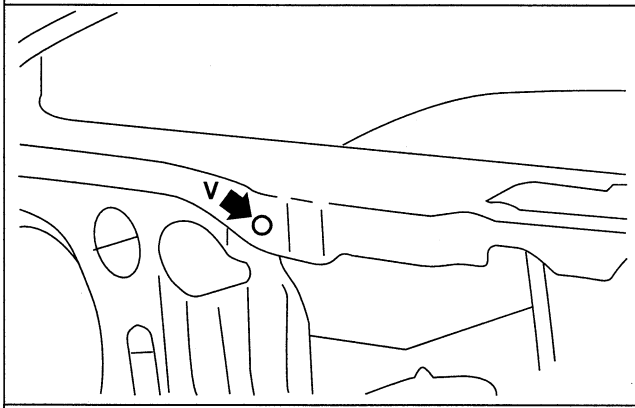
Portion A	Portion B
 ● Upper radiator core support	 ● Cowl top
Portion C	**Portion D**
 ● Front roof	● Rear roof 
Portion E	
● Rear panel 	

Panel Parts Matching Marks

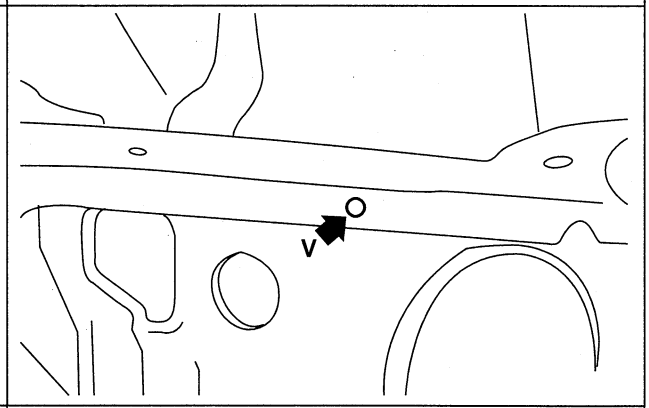
A mark has been placed on each body panel to indicate the parts' matching positions. When repairing parts damaged by an accident which might affect the vehicle structure (members, pillars, etc.) more accurate, effective repair will be possible by using these marks together with body alignment specifications.



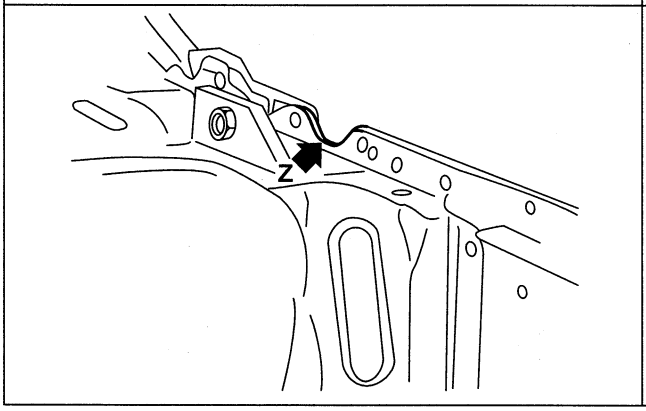
View A



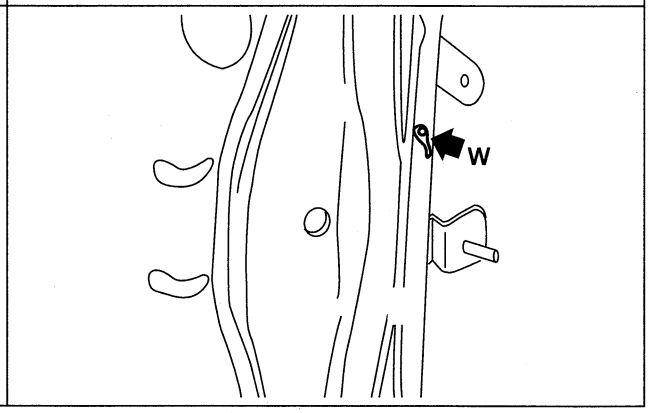
View B



View C

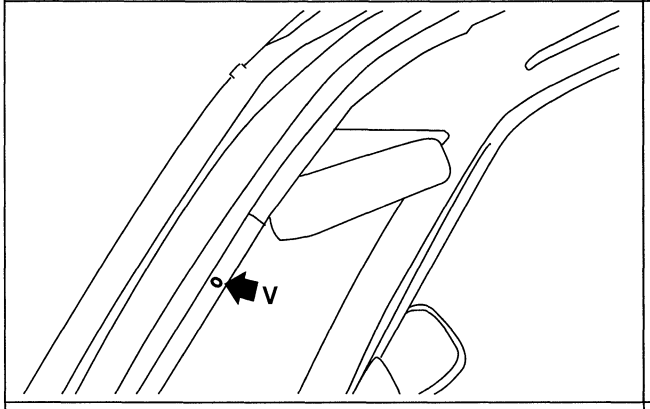


View D

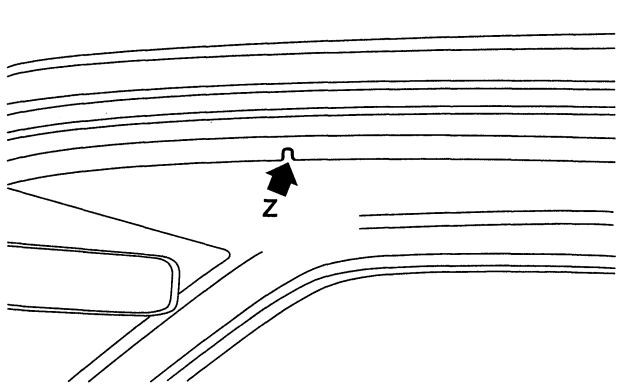


Panel Parts Matching Marks (Cont'd)

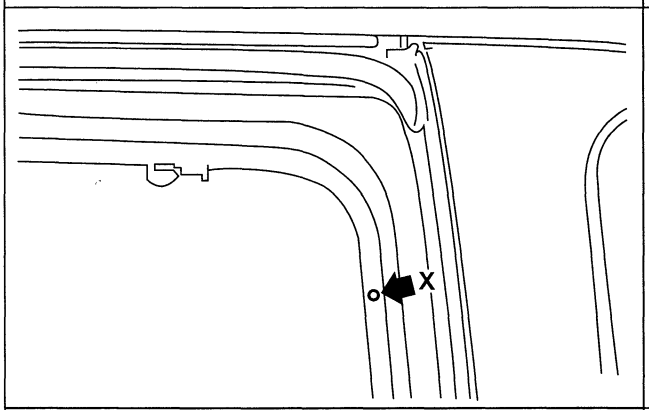
View E



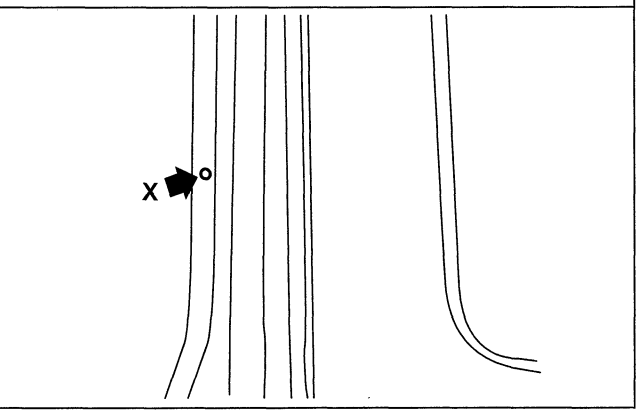
View F



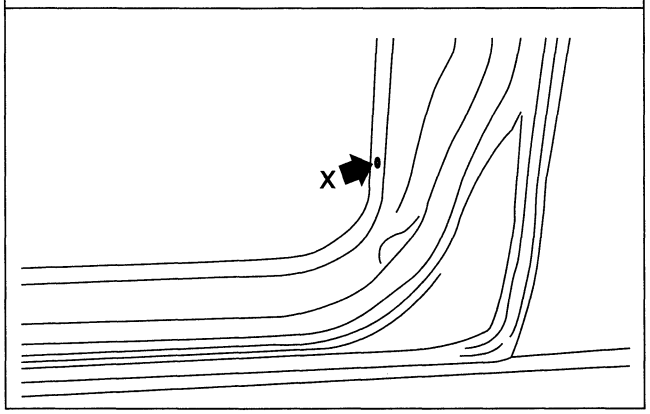
View G



View H

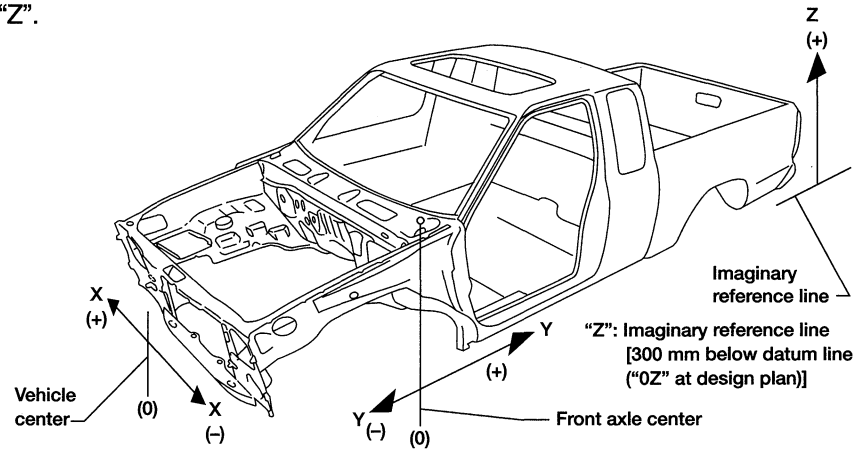


View I



Description

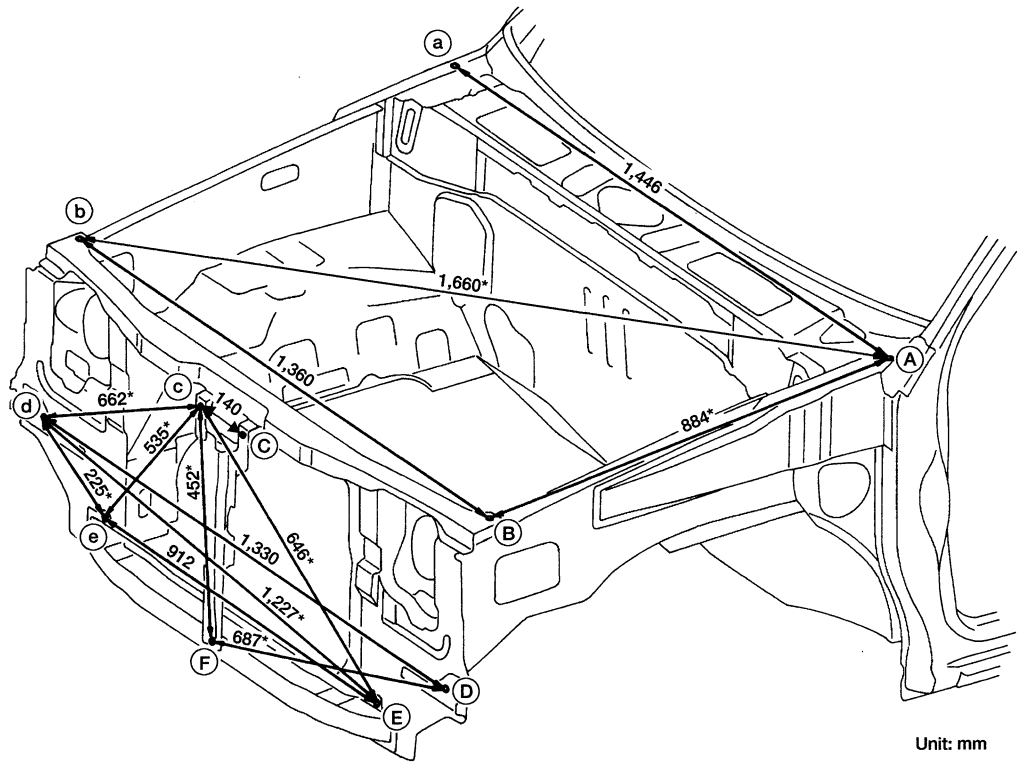
- All dimensions indicated in the figures are actual.
- When using a tracking gauge, adjust both pointers to equal length.
  Then check the pointers and the gauge to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
- Measurements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

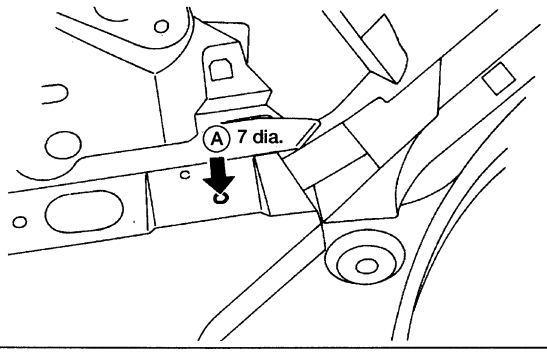


Engine Compartment

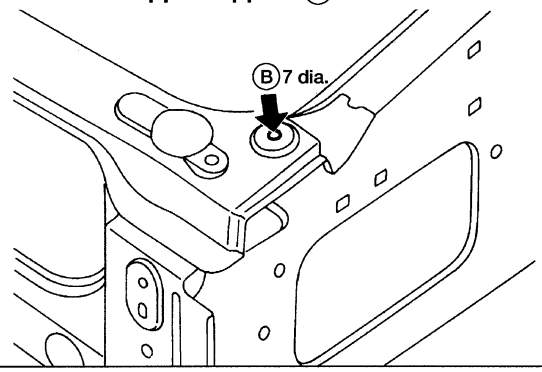
MEASUREMENT POINTS

Unit: mm

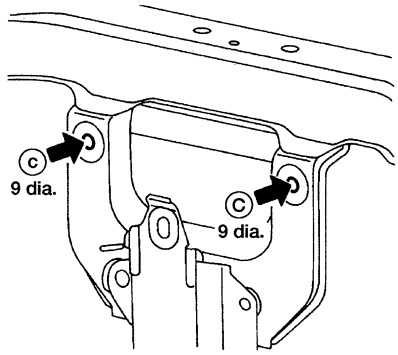
Cowl top side : Ⓐ



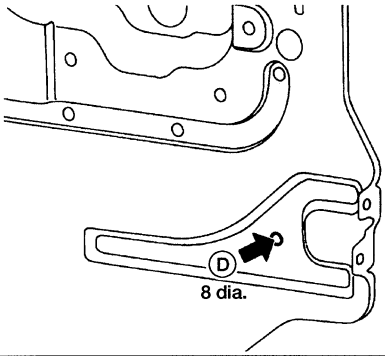
Radiator core support upper : Ⓑ



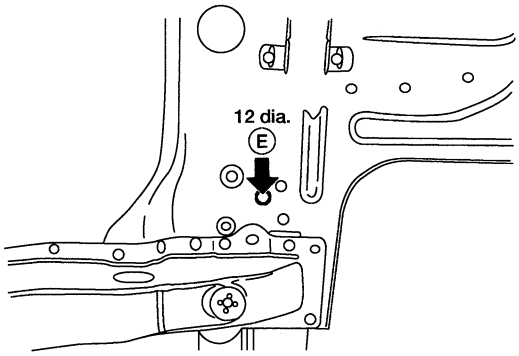
Hood lock stay : Ⓒ ⓒ



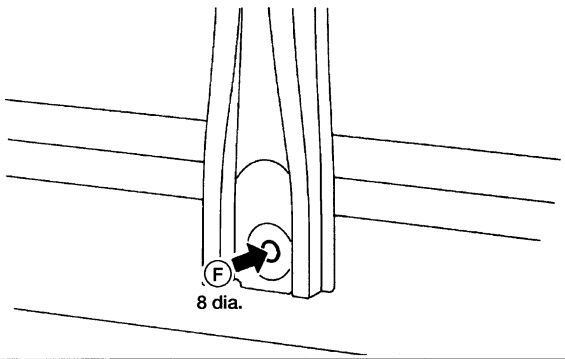
Radiator core support side : Ⓓ



Radiator core support lower : Ⓔ



Hood lock stay : Ⓕ



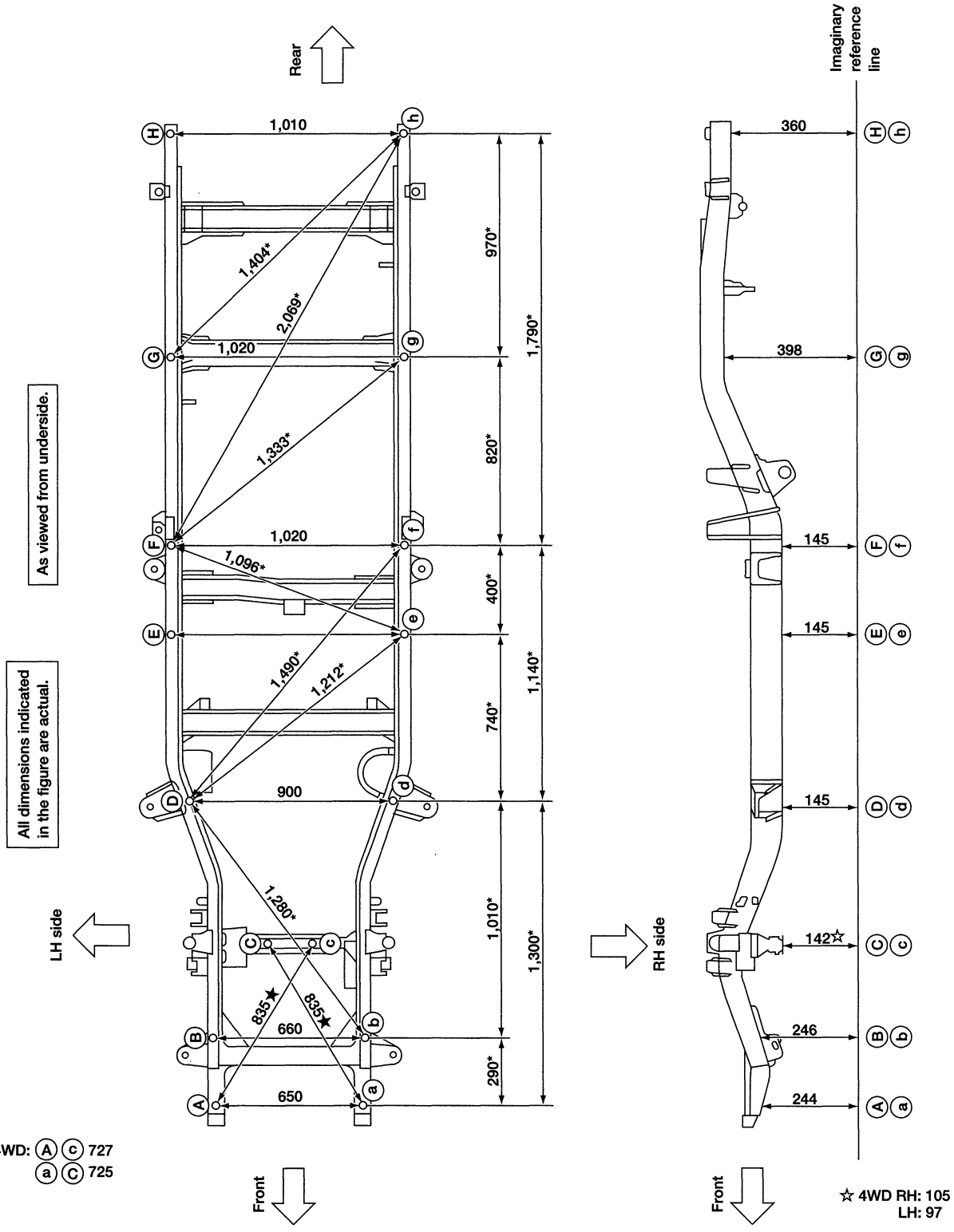
Underbody

SHORT WHEELBASE

MEASUREMENT

2WD model shown

Unit: mm



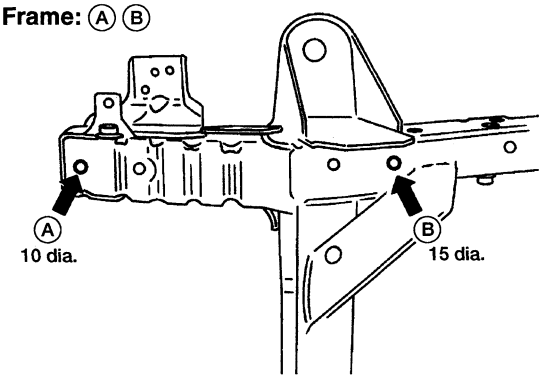
Underbody (Cont'd)

SHORT WHEELBASE

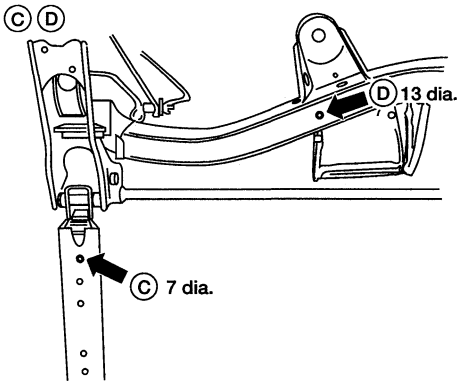
MEASUREMENT POINTS

Unit: mm

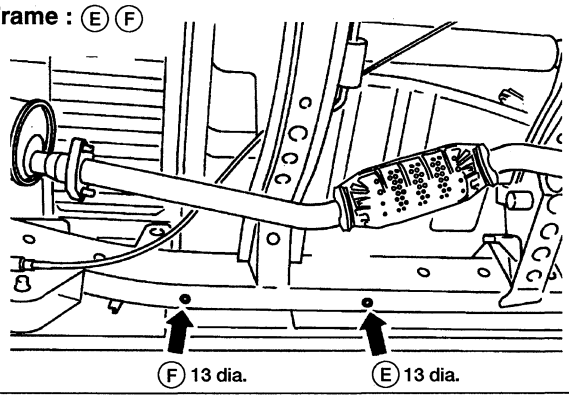
Frame: Ⓐ Ⓑ



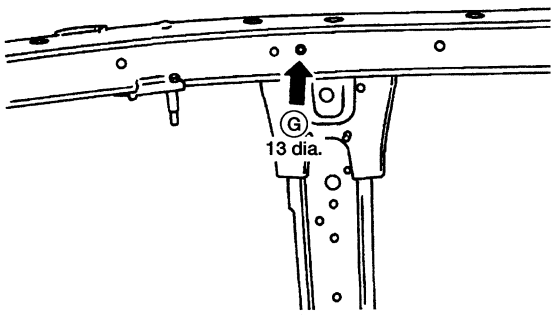
Frame : Ⓒ Ⓓ



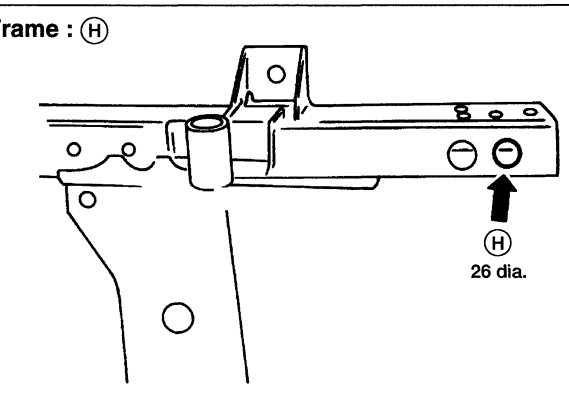
Frame : Ⓔ Ⓕ



Bump rubber mount : Ⓖ



Frame : Ⓗ



Coordinates:

Ⓐ , ⓐ
X : 325
Y : -700
Z : 244

Ⓑ , ⓑ
X : 330
Y : -409
Z : 246

Ⓒ , ⓒ
X : 123
Y : -3
Z : 4WD RH 105
4WD LH 97
2WD 142

Ⓓ , ⓓ
X : 450
Y : 600
Z : 145

Ⓔ , ⓔ
X : 510
Y : 1,340
Z : 145

Ⓕ , ⓕ
X : 510
Y : 1,740
Z : 145

Ⓖ , ⓖ
X : 510
Y : 2,560
Z : 398

Ⓗ , ⓗ
X : 505
Y : 3,530
Z : 360

Unit: mm

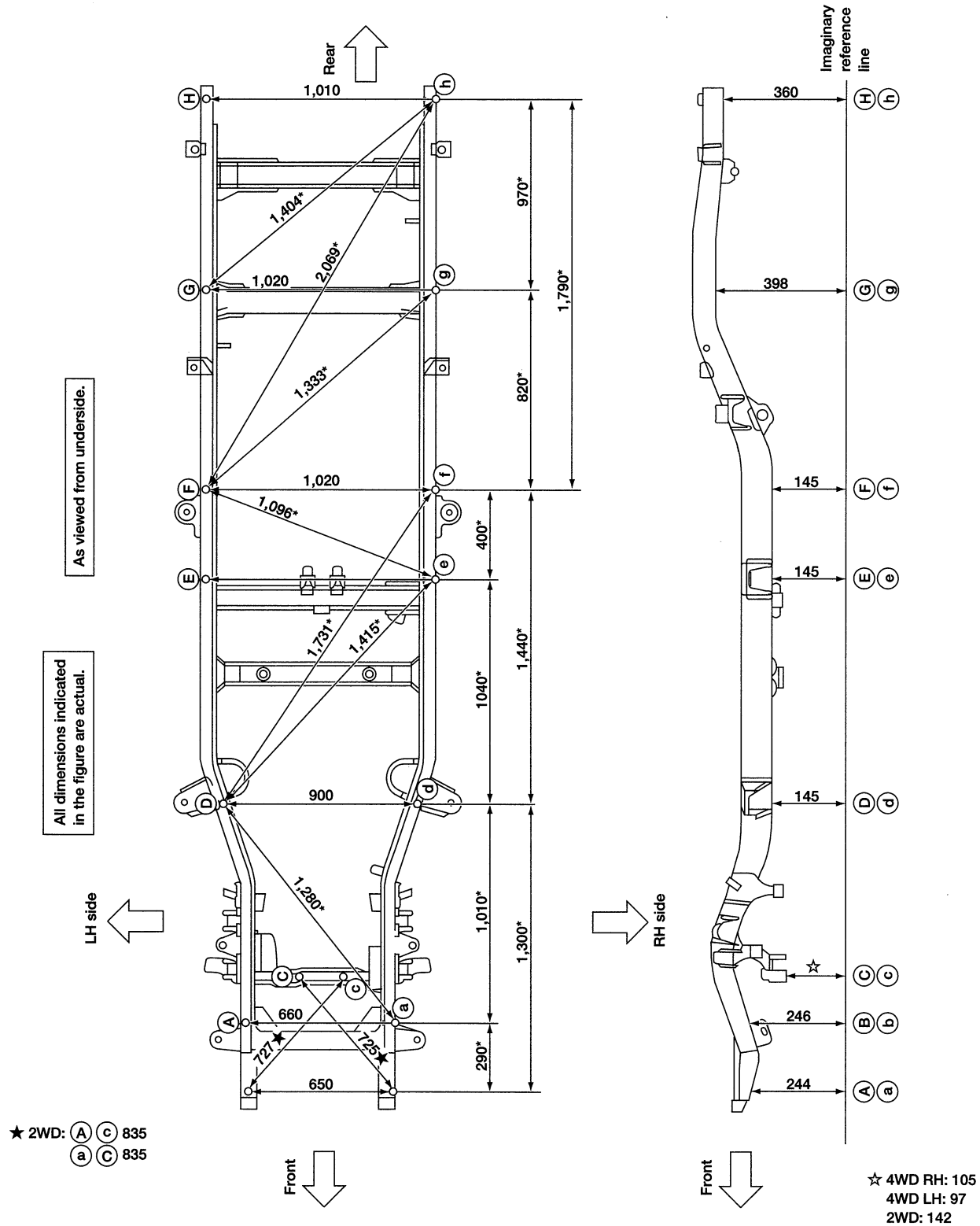
Underbody (Cont'd)

LONG WHEELBASE

MEASUREMENT

Unit: mm

4WD model shown



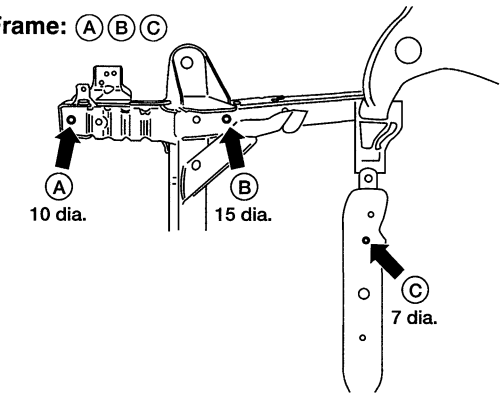
Underbody (Cont'd)

LONG WHEELBASE

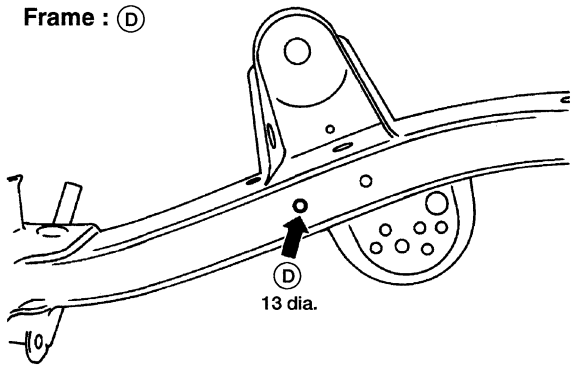
MEASUREMENT POINTS

Unit: mm

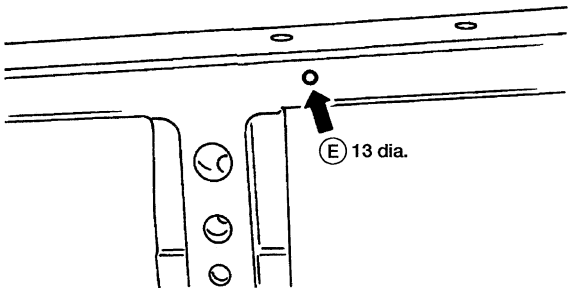
Frame: Ⓐ Ⓑ Ⓒ



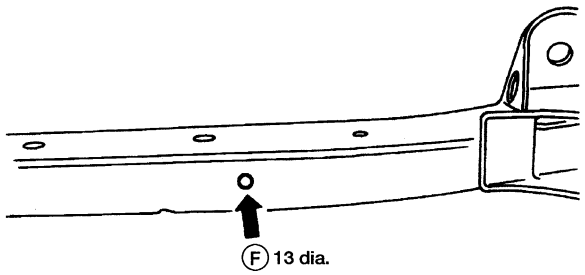
Frame : Ⓓ



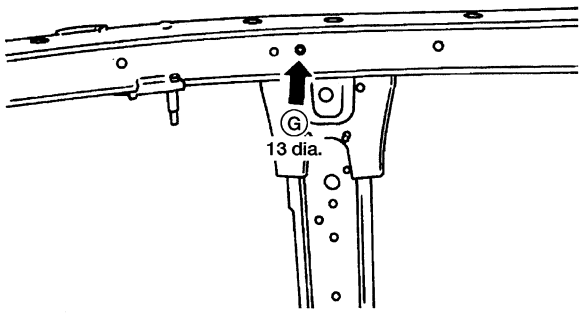
Frame : Ⓔ



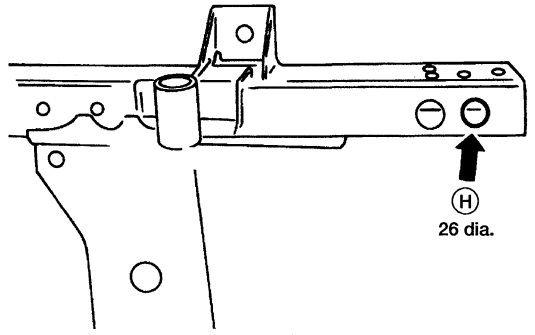
Frame : Ⓕ



Bump rubber mount : Ⓖ



Frame : Ⓗ



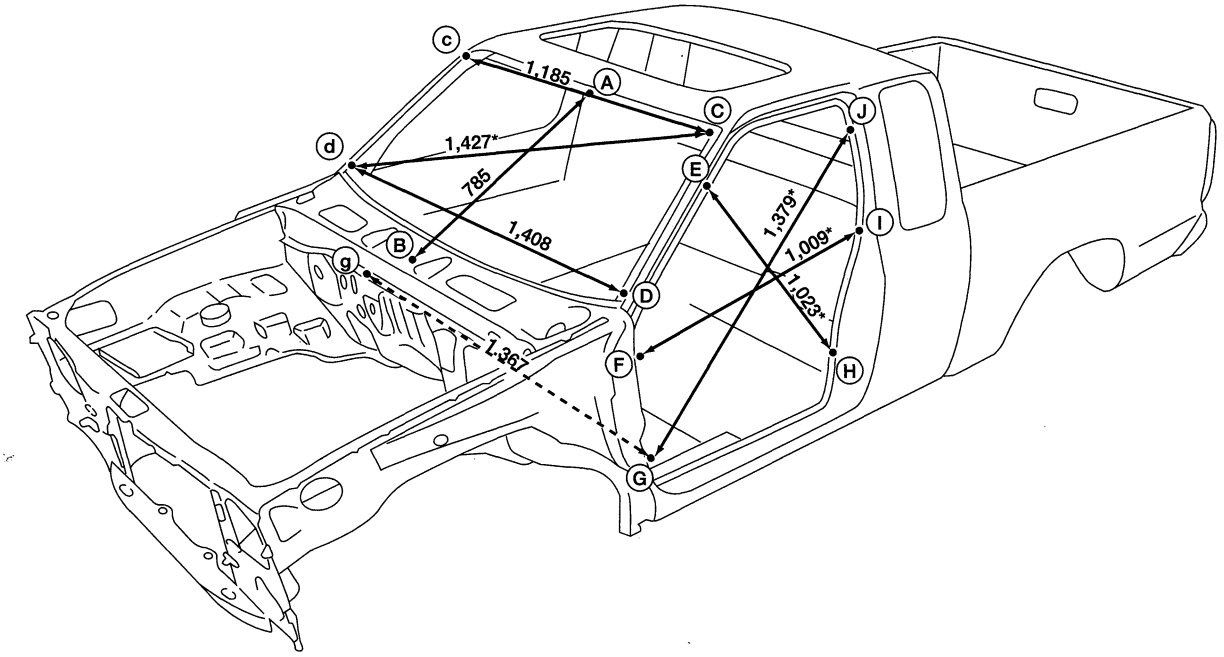
Unit: mm

Coordinates:	Ⓐ, ⓐ	Ⓑ, ⓑ	Ⓒ, ⓒ	Ⓓ, ⓓ	Ⓔ, ⓔ	Ⓕ, ⓕ	Ⓖ, ⓖ	Ⓗ, ⓗ
	X : 325 Y : -700 Z : 244	X : 330 Y : -400 Z : 246	X : 100 Y : -129 Z : 4WD: RH 105 4WD: LH 97 2WD: 142	X : 450 Y : 600 Z : 145	X : 510 Y : 1,040 Z : 145	X : 510 Y : 1,640 Z : 145	X : 510 Y : 2,860 Z : 398	X : 505 Y : 3,830 Z : 360

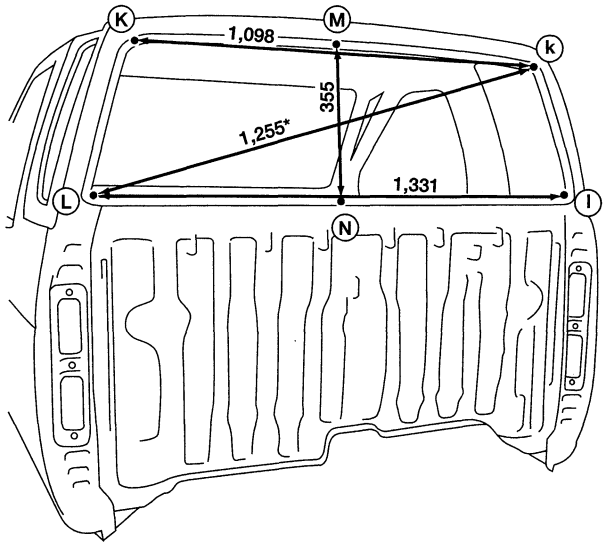
Passenger Compartment

MEASUREMENT

Unit: mm



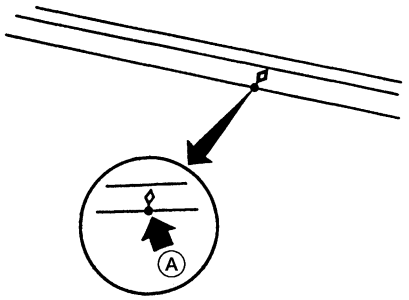
Point	Dimension	Point	Dimension	Point	Dimension	Point	Dimension	Point	Dimension
E - e	1,275	F - f	1,372	H - h	1,362	I - i	1,381	J - j	1,248



Passenger Compartment (Cont'd)

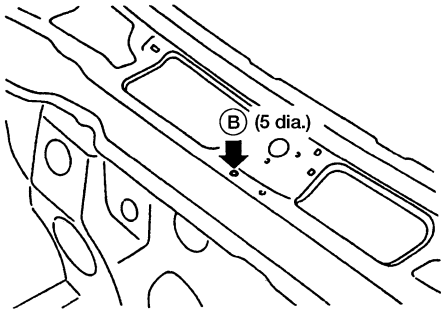
MEASUREMENT POINTS

Unit: mm

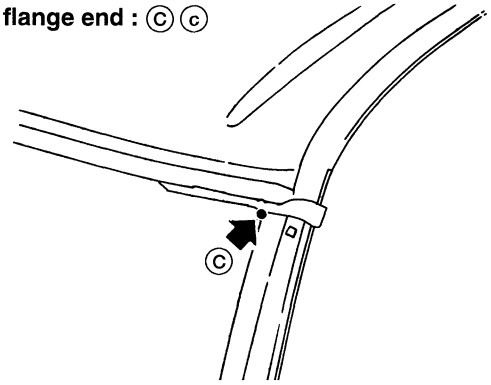


Front roof flange end at center positioning mark : Ⓐ

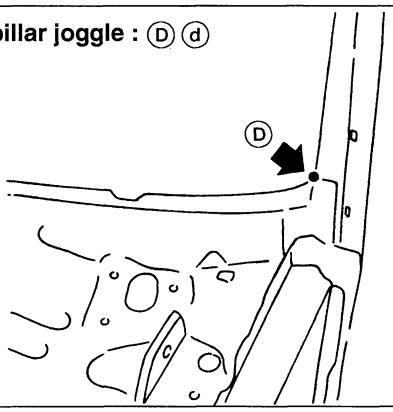
Cowl top cover clip installing hole center (5 dia.) : Ⓑ

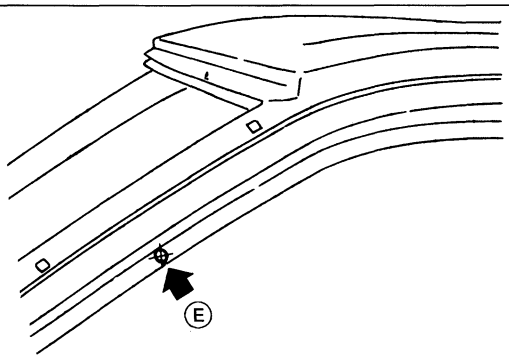


Front flange end : Ⓒ ⓒ



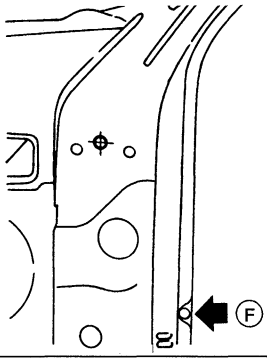
Outer front pillar joggle : Ⓓ ⓓ





Outer front pillar standard hole center (6 dia.) : Ⓔ ⓔ

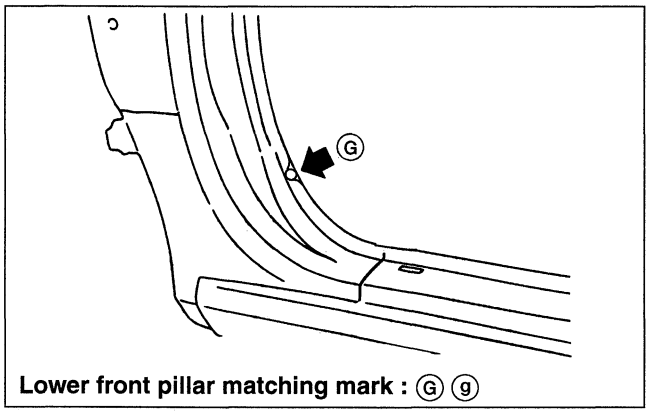
Lower front pillar matching mark : Ⓕ ⓕ



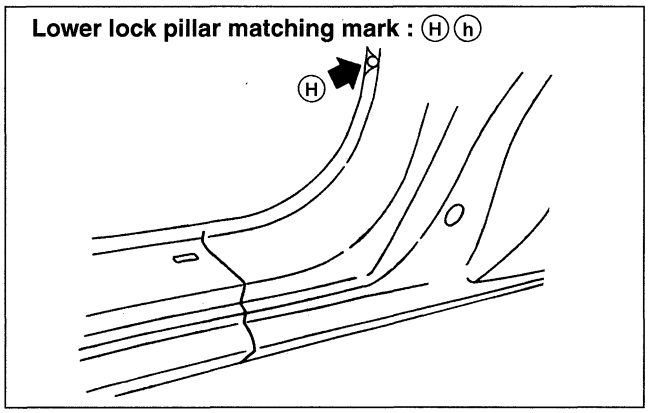
Passenger Compartment (Cont'd)

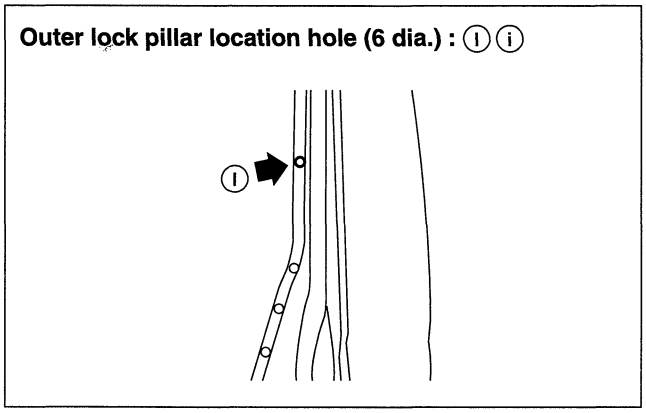
MEASUREMENT POINTS

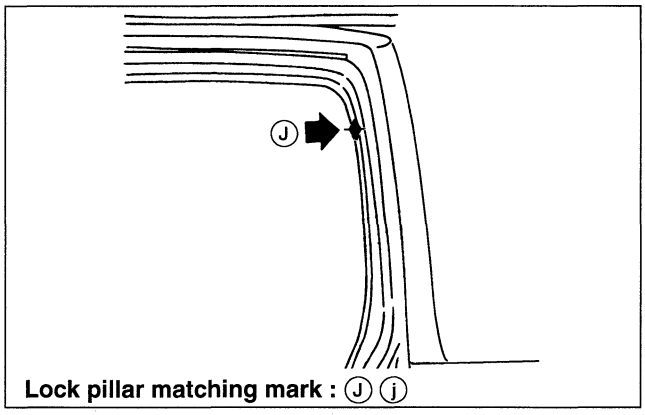
Unit: mm



Lower front pillar matching mark : Ⓖ ⓖ





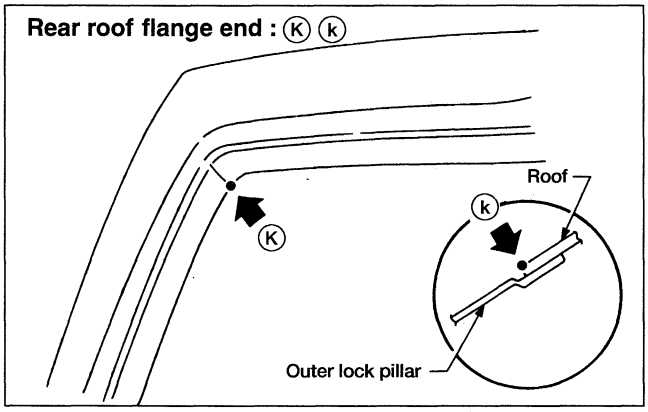


Passenger Compartment (Cont'd)

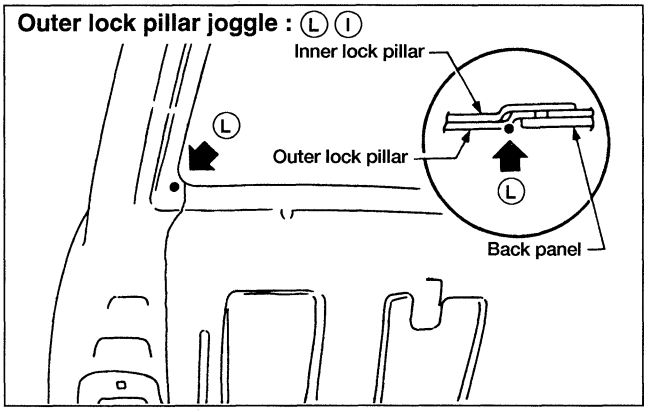
MEASUREMENT POINTS

Unit: mm

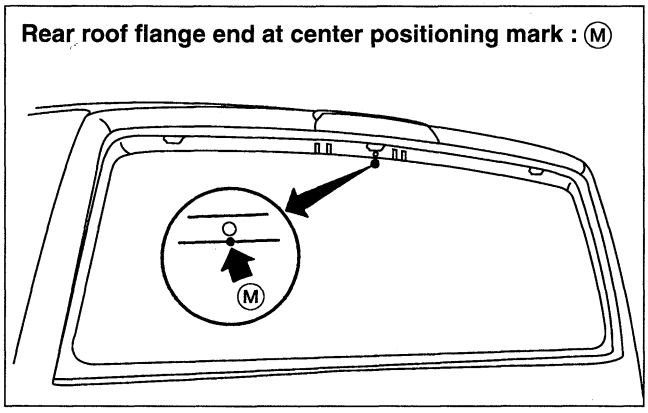
Rear roof flange end : Ⓚ ⓚ



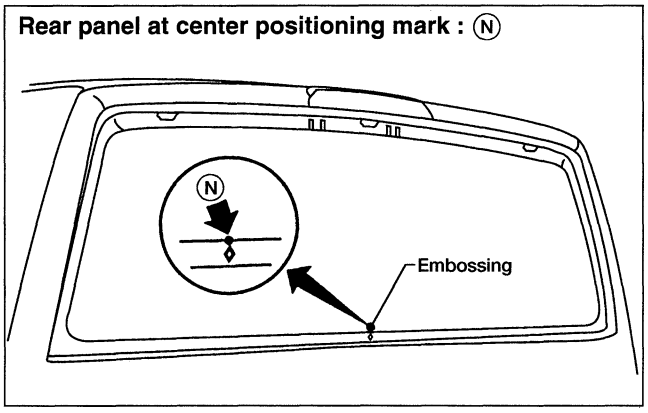
Outer lock pillar joggle : Ⓛ Ⓘ



Rear roof flange end at center positioning mark : Ⓜ



Rear panel at center positioning mark : Ⓝ

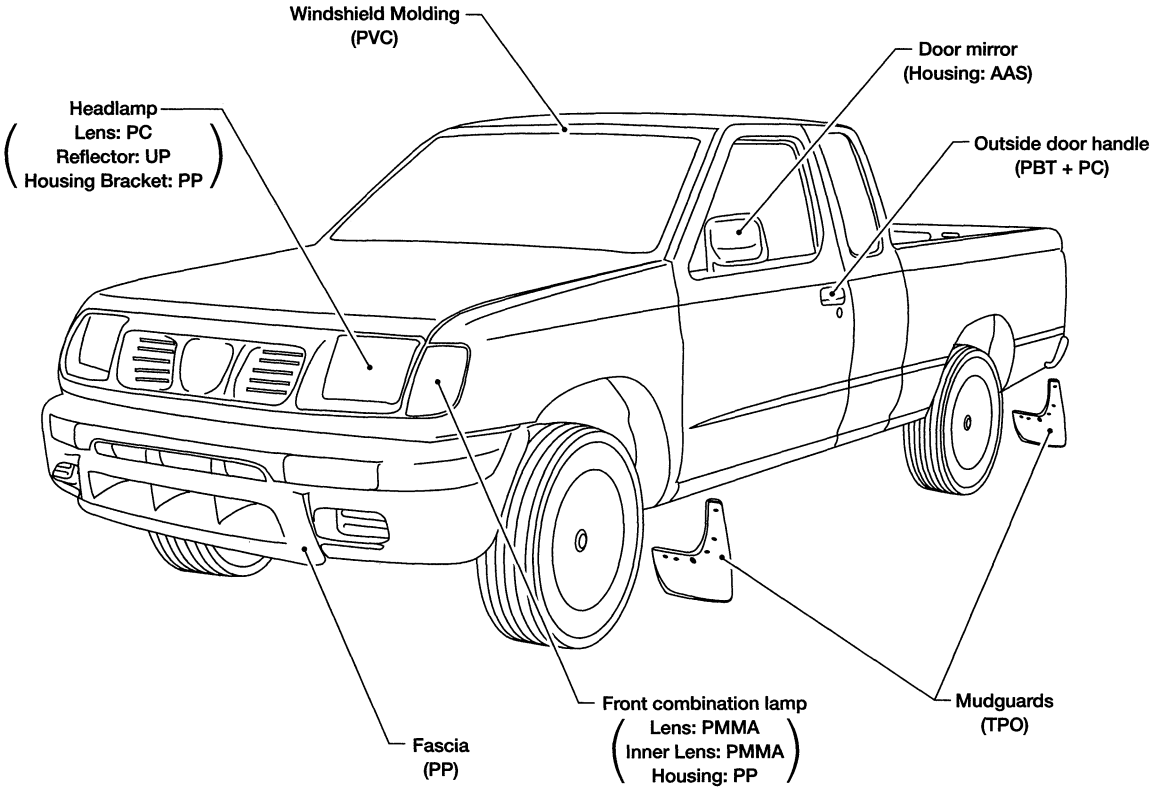


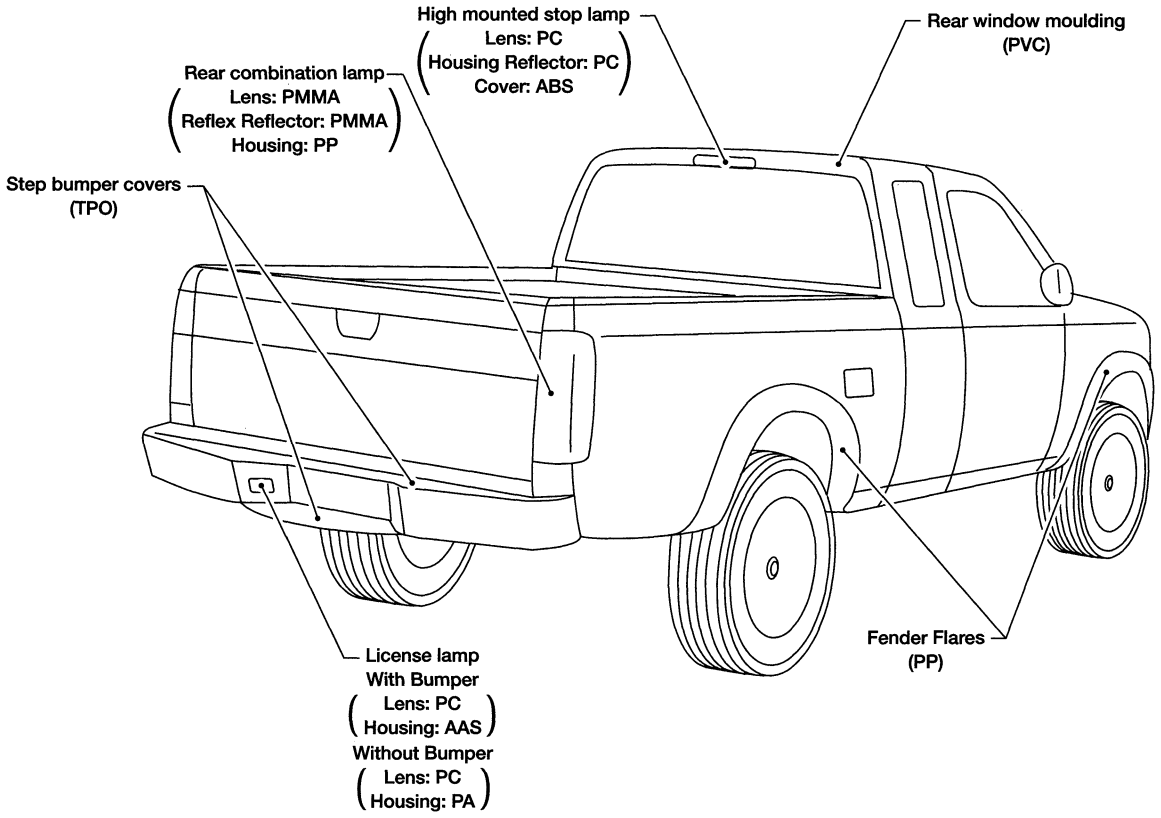
Handling Precautions for Plastics

Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PET	Polyethylene terephthalate	180 (356)	Gasoline and most solvents are harmless.	
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 PVC. Also avoid battery acid.	Flammable
UP	Polyester thermoset	90 (194)	Same as PP.	Flammable
ABS	Acrylonitrile butadiene styrene resin	80 (176)	Avoid gasoline and solvents.	
PMMA	Polymethyl methacrylate	85 (185)	Avoid gasoline and solvents.	
AAS	Acrylonitrile acrylic rubber styrene	85 (185)	Avoid gasoline and solvents.	
PC	Polycarbonate	120 (248)	Avoid gasoline and solvents.	
PPC	Polypropylene composite	115 (239)	Gasoline and most solvents are harmless.	Flammable
PBT	Polybutylene terephthalate	140 (284)	Gasoline and most solvents are harmless.	
TPO	Polyolefinic	80 (176)	Avoid gasoline and solvents.	
PPE	Polyphenylene ether	85 (185)	Avoid gasoline and solvents.	
PS	Polystyrene	80 (176)	Avoid solvents.	Flammable
EPM	Ethylene propylene rubber	80 (176)	Same as PVC.	Flammable
PEI	Polyetherimide	200 (392)	Gasoline and most solvents are harmless.	
PA	Polyamide (Nylon)	140 (284)	Gasoline and most solvents are harmless.	Avoid immersing in water.
PBT + PC	Polybutylene terephthalate + Polycarbonate	120 (248)	Gasoline and most solvents are harmless.	Flammable

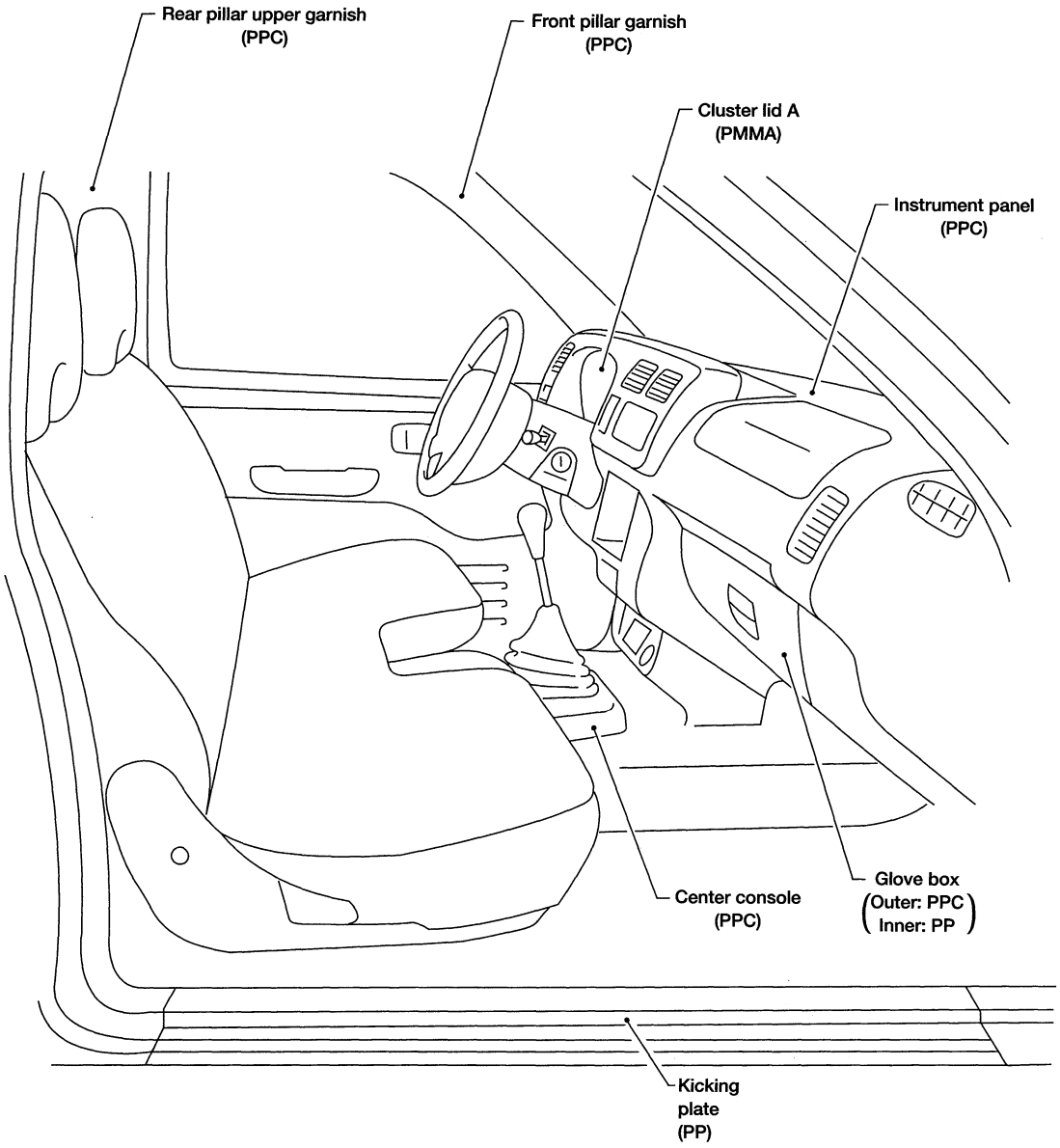
1. When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
2. Plastic parts should be repaired and painted using methods suiting the materials' characteristics.

Location of Plastic Parts





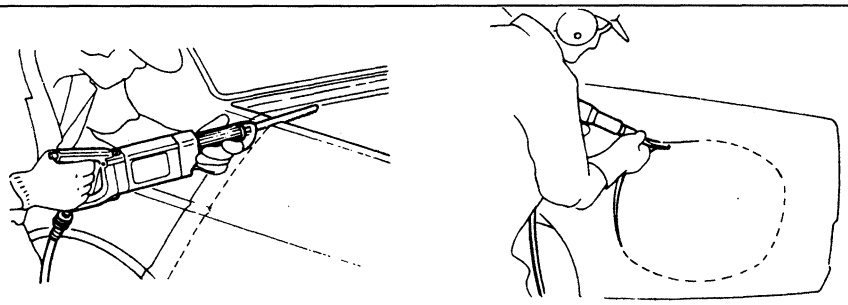
Location of Plastic Parts (Cont'd)



Description

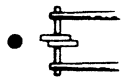
The identification for the cutting and the welding/brazing symbols used throughout this guide are given in the following pages.

Saw cut or air chisel cut

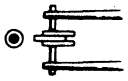


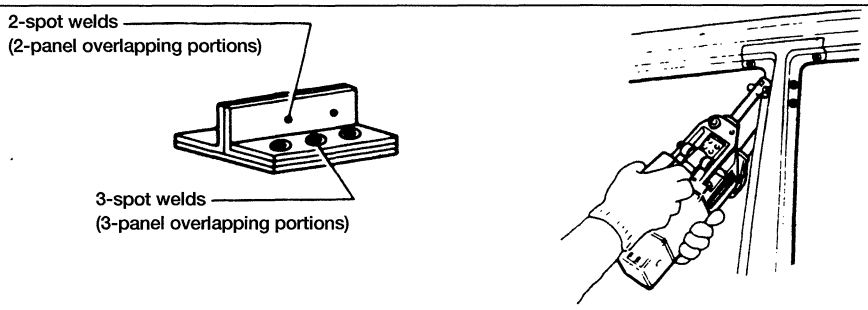
Spot weld

2-spot welds



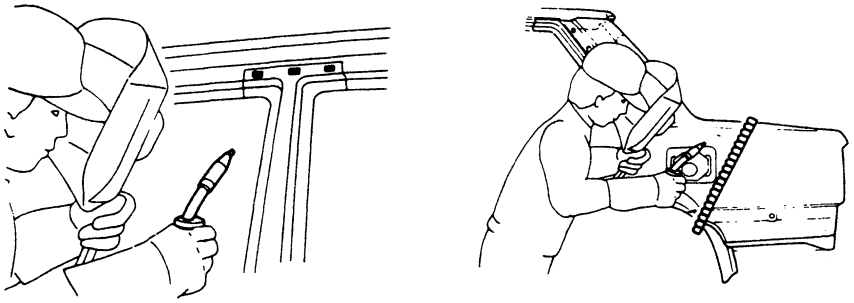
3-spot welds



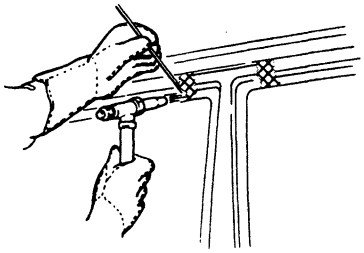


M.I.G. plug weld

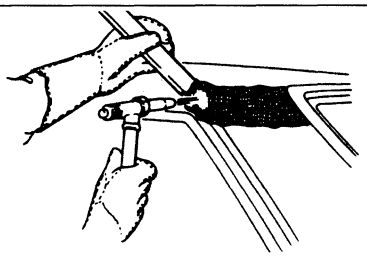
M.I.G. seam weld/ Point weld



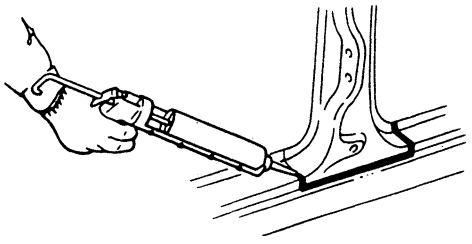
Brazing



Soldering



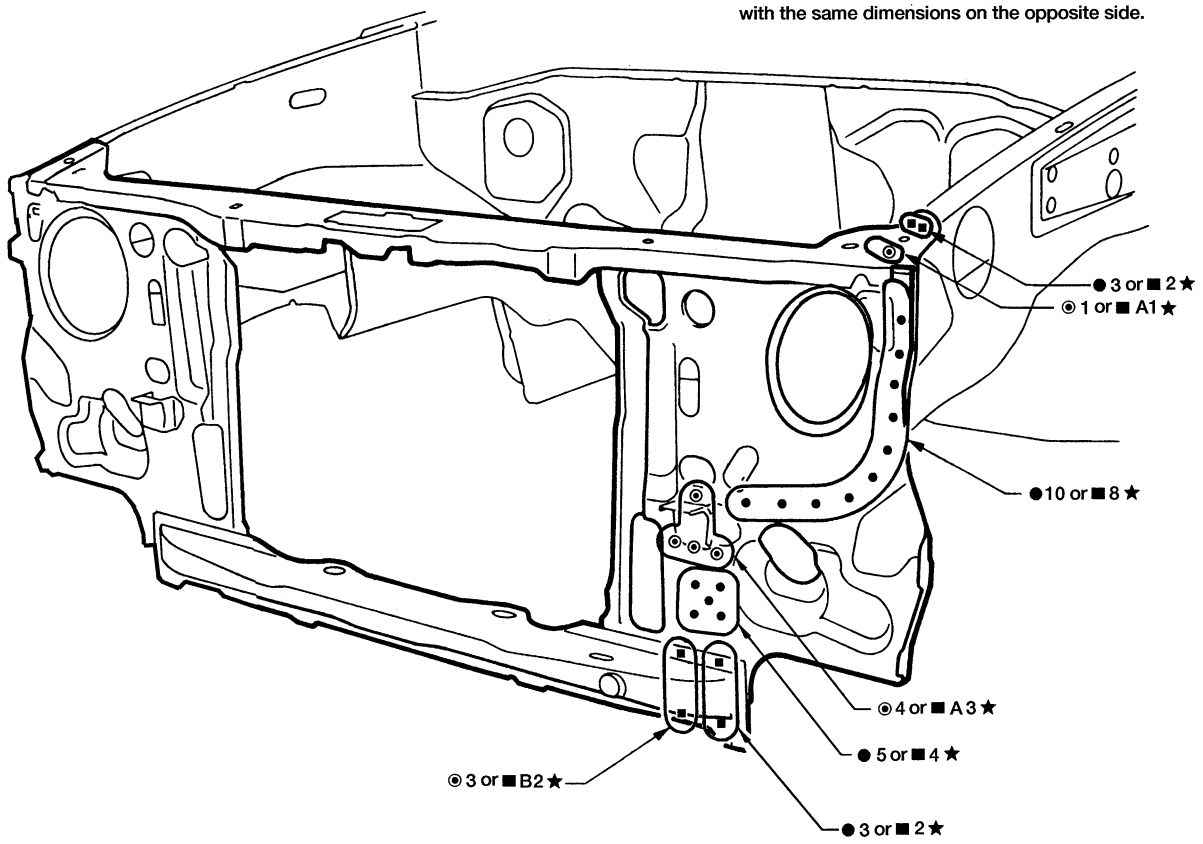
Sealing

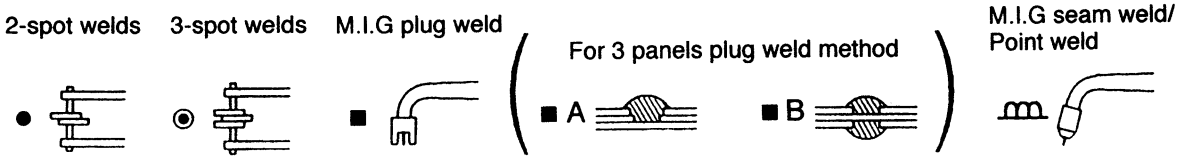


Radiator Core Support

Service Joint

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

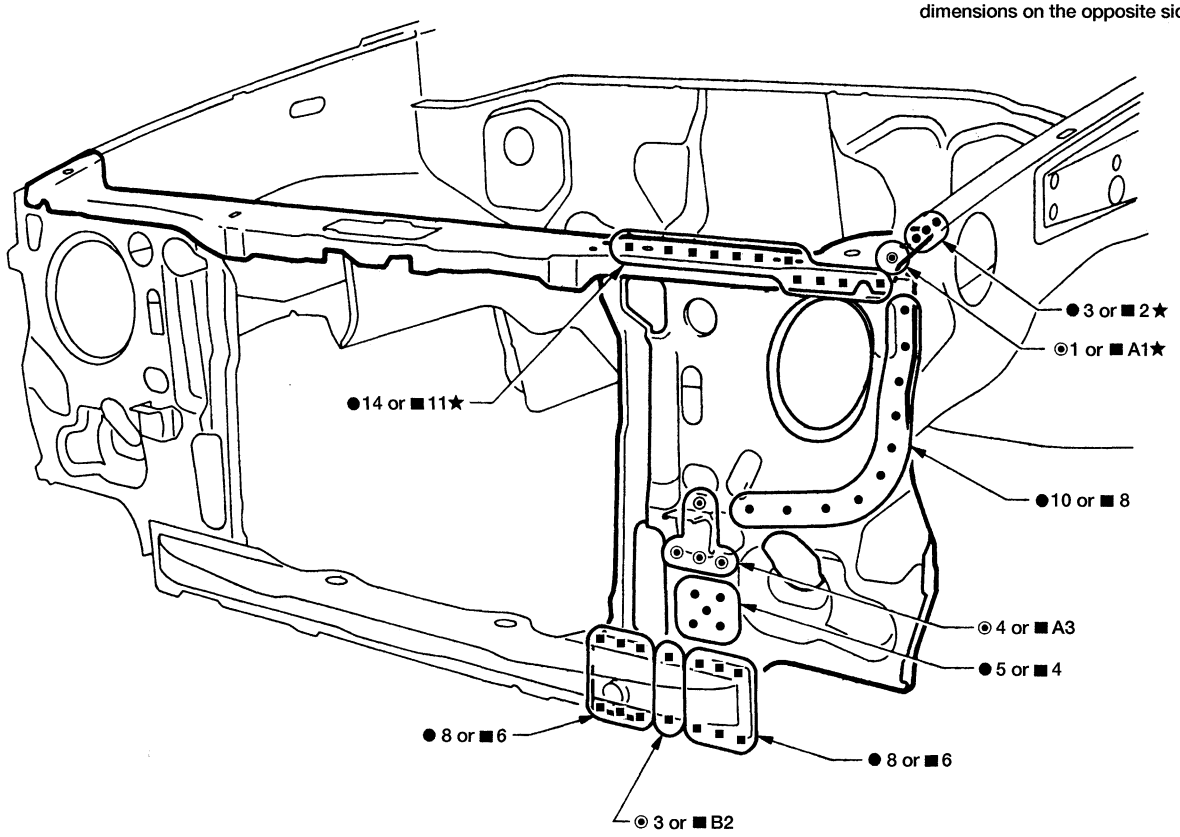




Radiator Core Support (Partial Replacement)

Service Joint

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

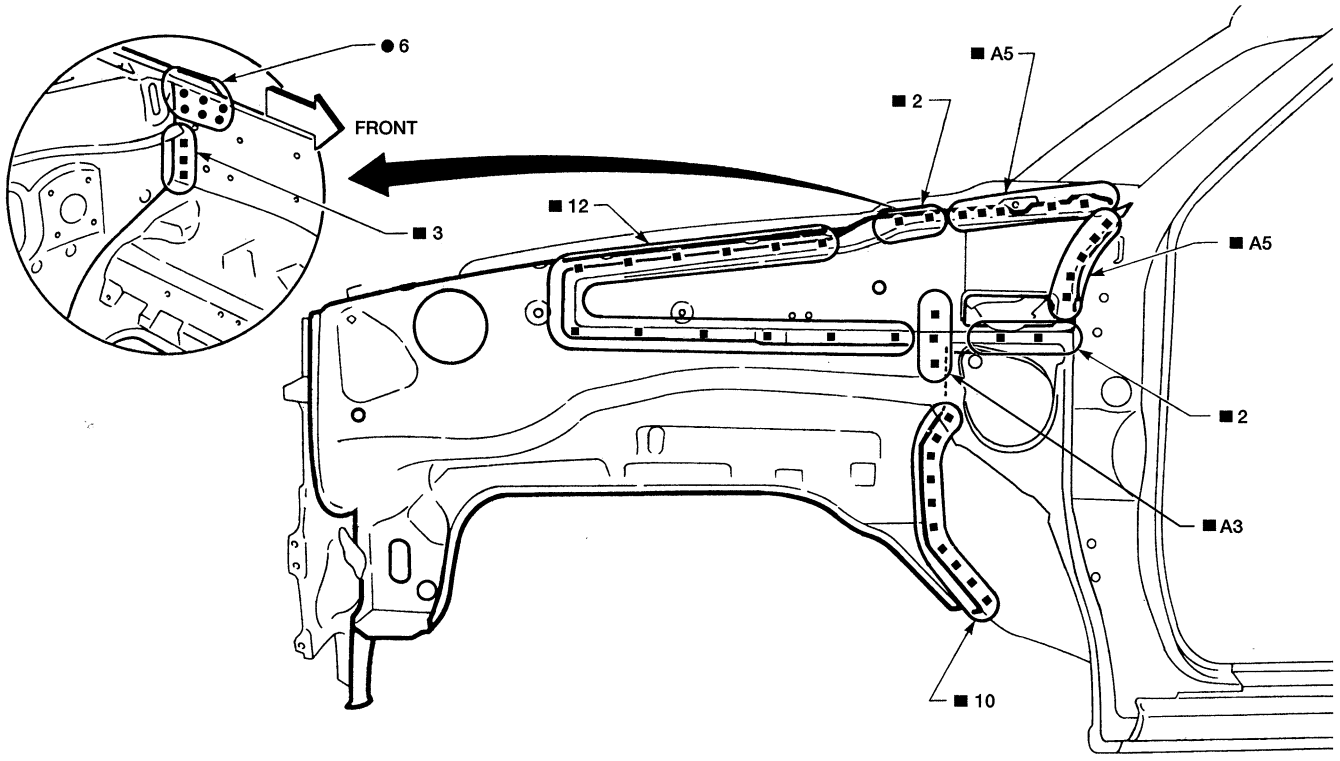


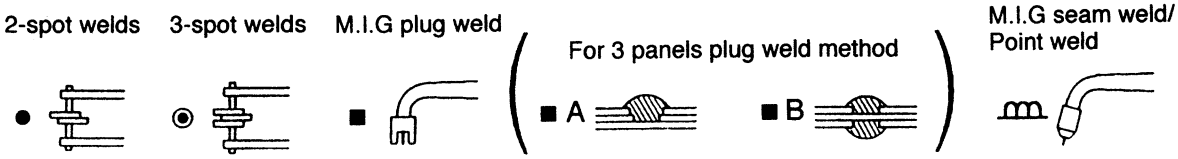
2-spot welds 3-spot welds M.I.G plug weld For 3 panels plug weld method M.I.G seam weld/ Point weld

Hoodledge (Partial Replacement)

● Work after radiator core support has been removed.

Service Joint

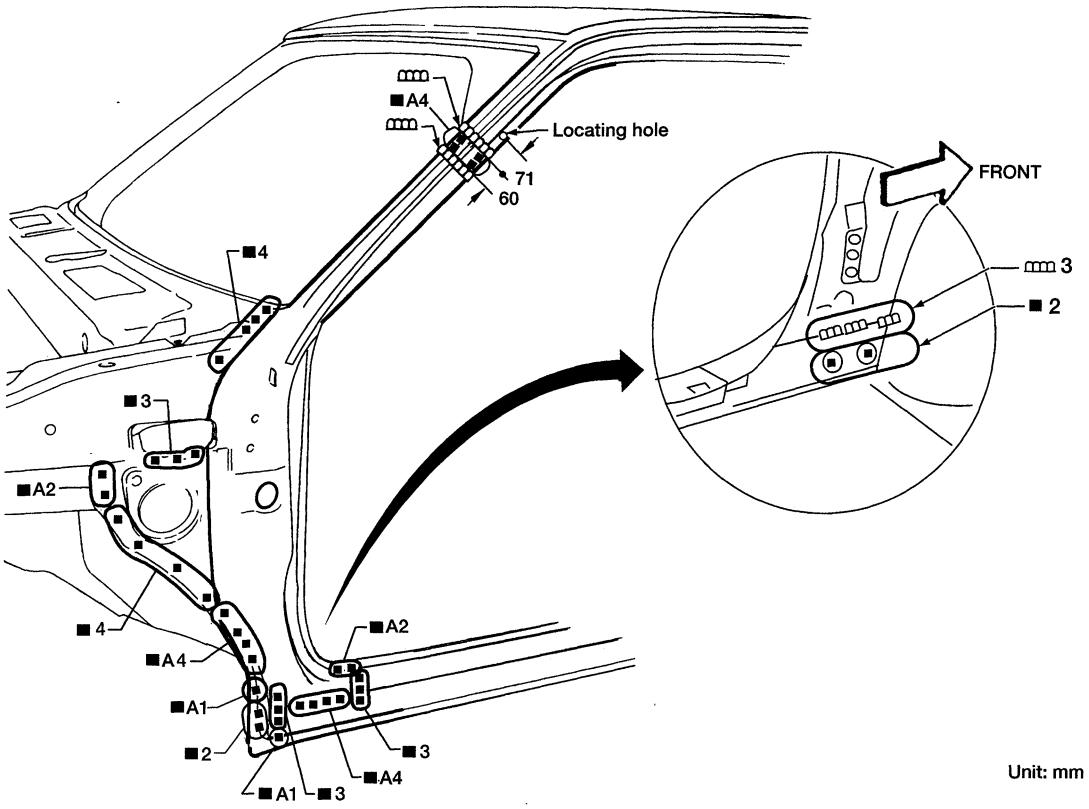




Front Pillar

● Work after hoodledge reinforcement has been removed.

Service Joint



2-spot welds ● 3-spot welds ◉ M.I.G plug weld ■

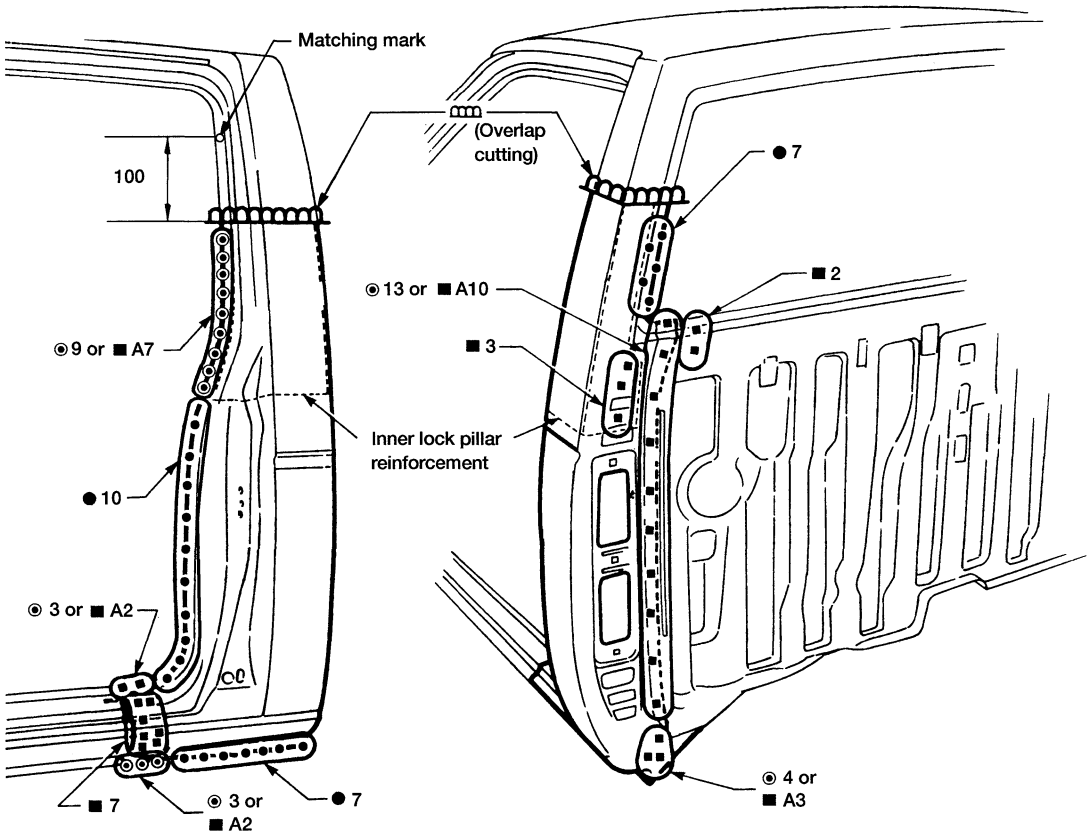
For 3 panels plug weld method ■ A ■ B

M.I.G seam weld/ Point weld

Lock Pillar

Standard Cab

Service Joint



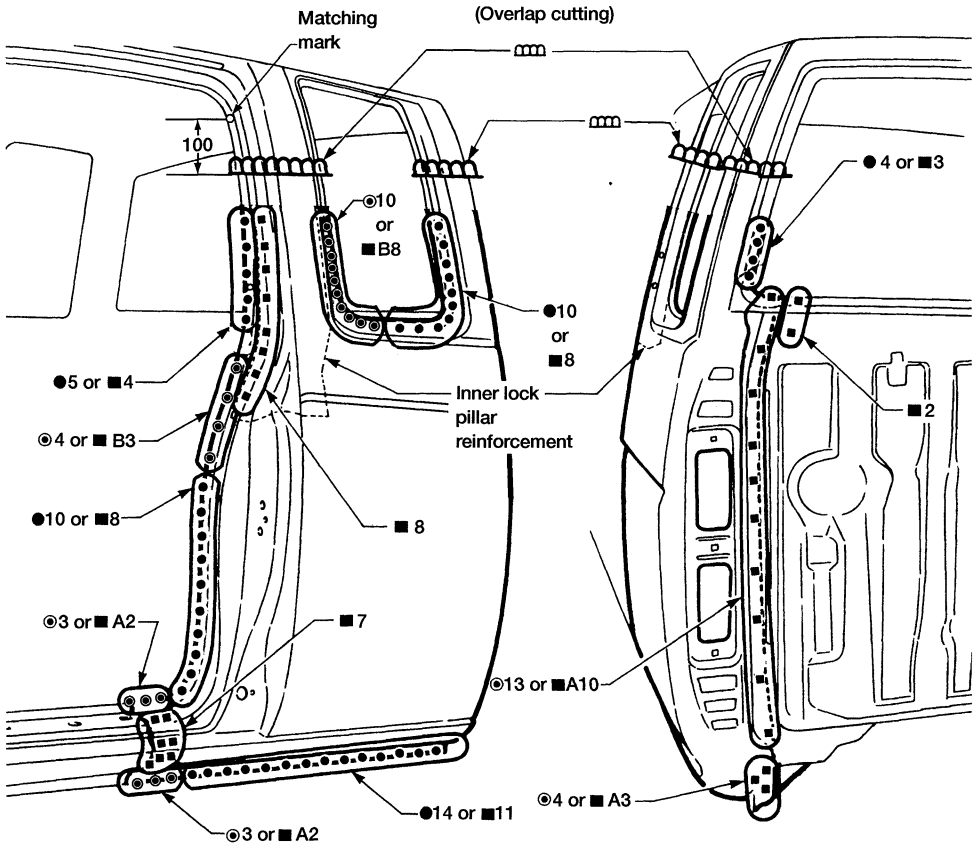
Unit: mm

2-spot welds ● 3-spot welds ◉ M.I.G plug weld ■ For 3 panels plug weld method ■ A ■ B M.I.G seam weld/ Point weld

Lock Pillar

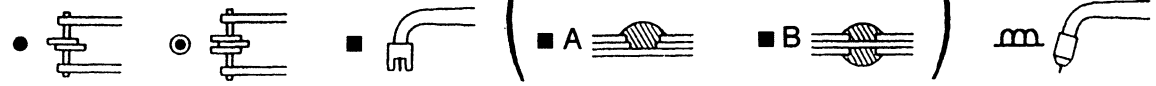
King Cab

Service Joint



Unit: mm

2-spot welds 3-spot welds M.I.G plug weld

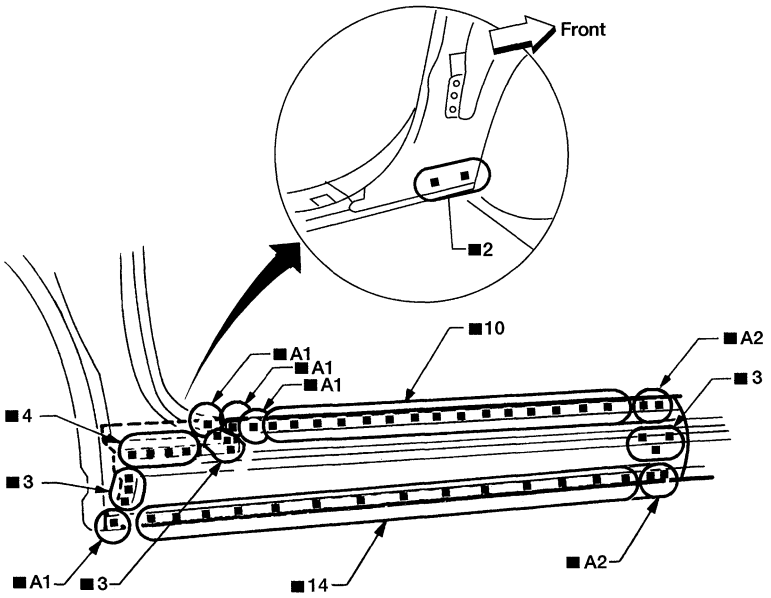


M.I.G seam weld/ Point weld

Outer Sill

- Work after outer lock pillar has been removed.

Service Joint



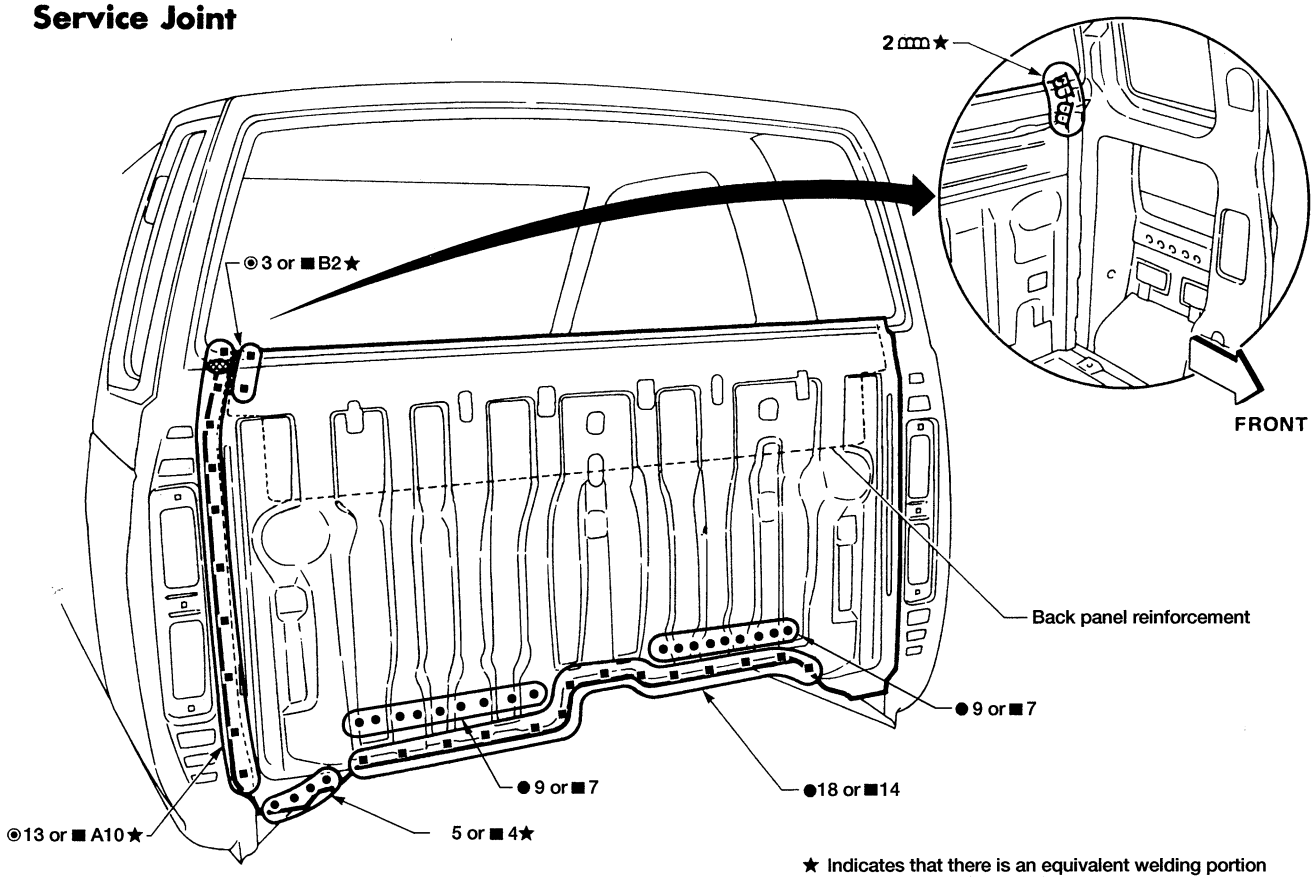
2-spot welds ● 3-spot welds ◉ M.I.G plug weld ■

For 3 panels plug weld method ■ A ■ B

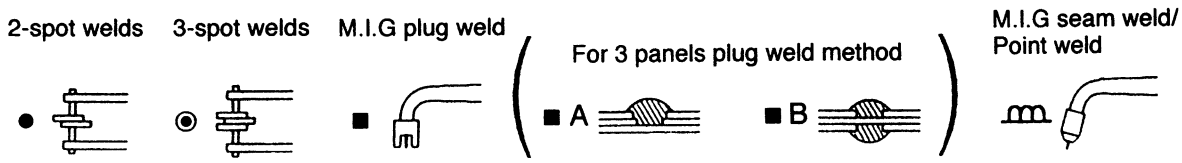
M.I.G seam weld/ Point weld

Back Panel

Service Joint



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



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