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### FOREWORD

This Body Repair Information brochure contains information, instructions and procedures for repairing the body structure for the 1995 240SX model. In order to achieve reliable repair work and ensure customer satisfaction, the technician should study this brochure and familiarize himself with appropriate sections before starting repair and rebuilding work.




This Body Repair brochure is prepared for use by technicians who are assumed to have a high level of skill and experience in repairing collision-damaged vehicles and also use modern servicing tools and equipment. It is not recommended that persons unfamiliar with body repair techniques attempt to repair collision-damaged vehicles by using this brochure.

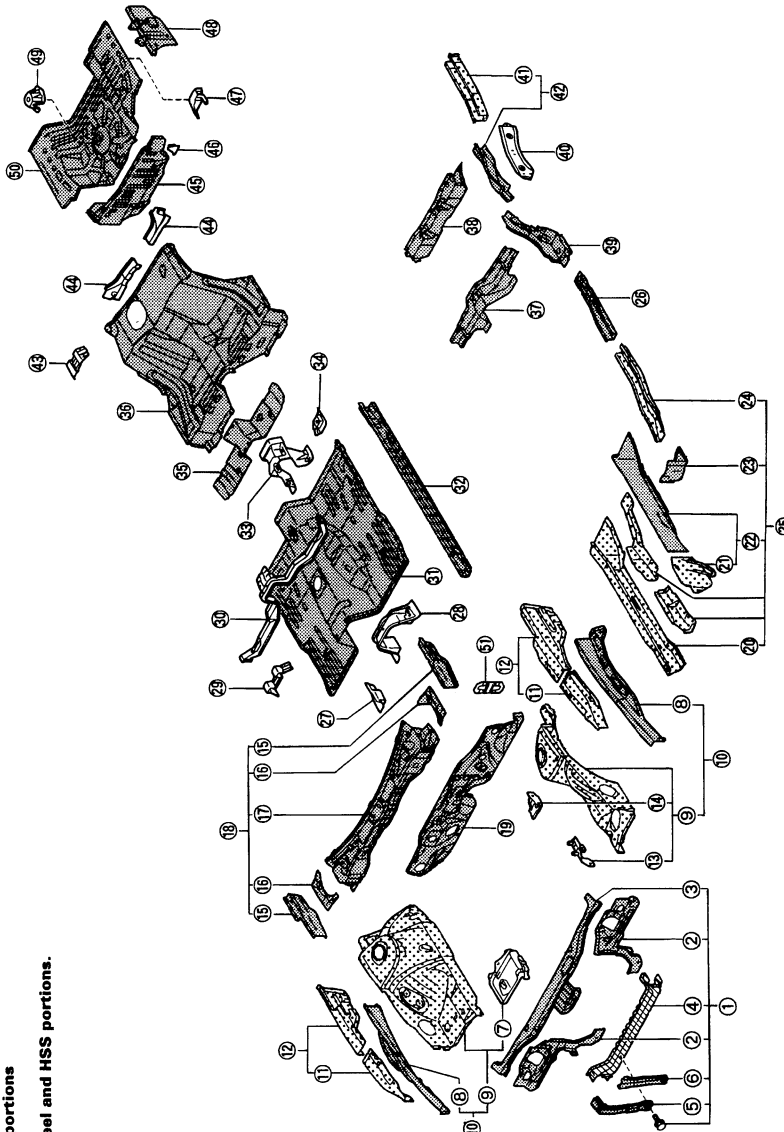
**Technicians are also required to read the 1995 240SX Service Manual and Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warnings, that are not included in this brochure. 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 USA, it is recommended that a M.I.G. welder be used by a trained technician to weld structural body parts.

All information in this brochure 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.

## UNDERBODY COMPONENT PARTS

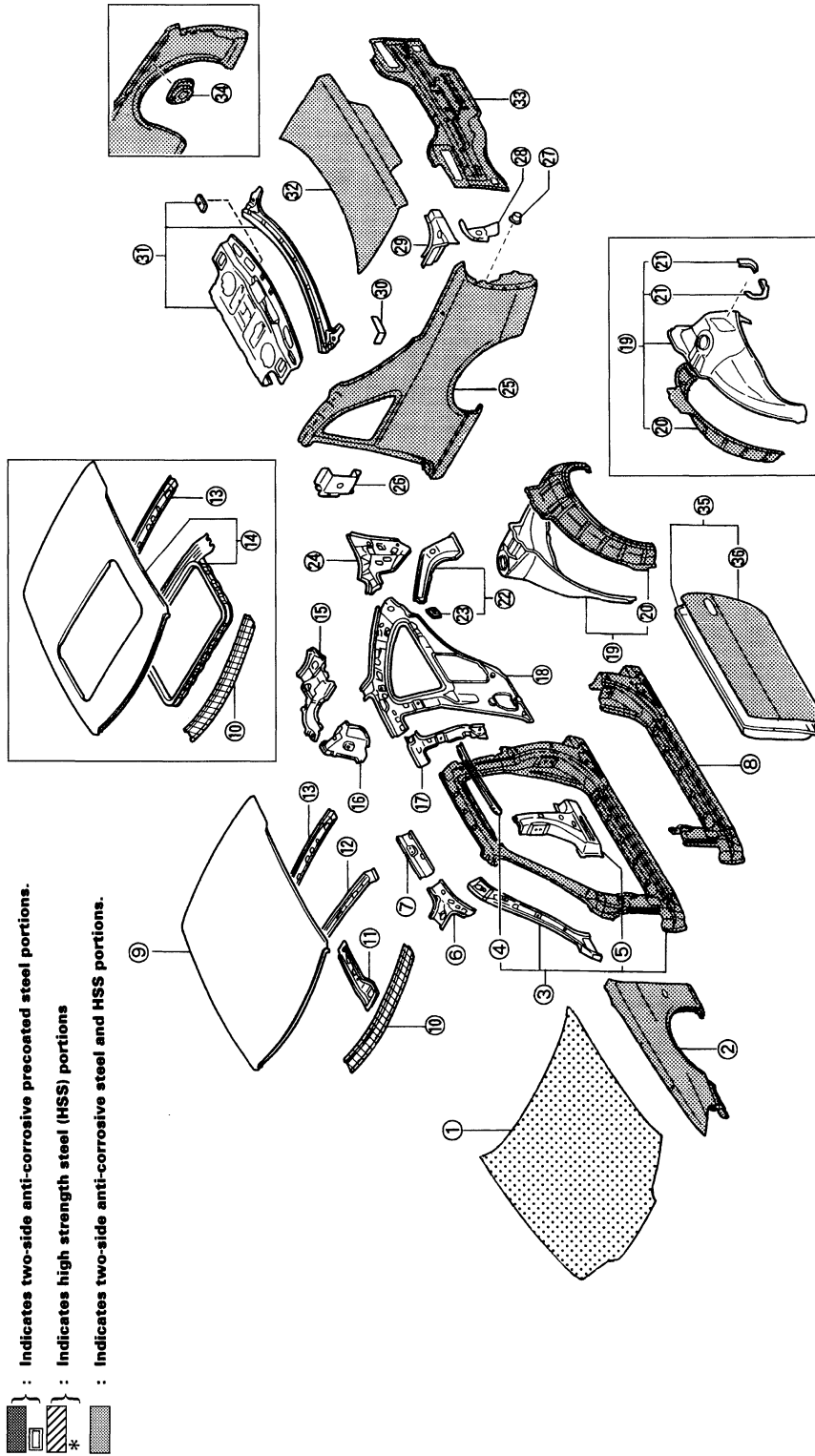
-  : Indicates two-side anti-corrosive pre-coated steel portions.
-  : Indicates high strength steel (HSS) portions
-  : Indicates two-side anti-corrosive steel and HSS portions.






- 1 Radiator core support assembly
- 2 Side radiator core support
- 3 Upper radiator core support
- 4 \* Lower radiator core support
- 5 Head lamp bracket assembly
- 6 Hood lock stay
- 7 Battery support bracket
- 8 Upper hoodledge
- 9 \* Lower front hoodledge
- 10 Hoodledge assembly
- 11 \* Front hoodledge reinforcement
- 12 \* Hoodledge reinforcement
- 13 Air cleaner bracket (B)
- 14 \* Air cleaner bracket (A)
- 15 Side cowl top
- 16 Side cowl top brace
- 17 Cowl top
- 18 Air box assembly
- 19 Lower dash
- 20 \* Front side member (R.H. & L.H.)
- 21 \* Front side member front closing plate (R.H. & L.H.)
- 22 Front side member closing plate (R.H. & L.H.)
- 23 Front side member outrigger assembly (R.H. & L.H.)
- 24 \* Front side member front extension (R.H. & L.H.)
- 25 Front side member (R.H. & L.H.)
- 26 Center side member (R.H. & L.H.)
- 27 Bulkhead reinforce assembly
- 28 Rear engine mounting bracket
- 29 Instrument stay bracket
- 30 2nd cross member assembly
- 31 Front floor
- 32 Inner sill (R.H. & L.H.)
- 33 Bearing mounting center bracket
- 34 Outer front seat mounting bracket (R.H. & L.H.)
- 35 Rear floor anchor belt reinforce
- 36 Rear floor front
- 37 Rear seat cross member
- 38 Center rear cross member
- 39 Rear side member (R.H. & L.H.)
- 40 Inner side panel (R.H. & L.H.)
- 41 \* Rear side member extension (R.H. & L.H.)
- 42 Rear side member rear (R.H. & L.H.)
- 43 Sensor bracket
- 44 Rear seat back support assembly
- 45 Rear floor extension front
- 46 Rear floor step panel rear
- 47 Muffler mounting bracket
- 48 Rear floor side (R.H. & L.H.)
- 49 Spare wheel clamp bracket
- 50 Rear floor rear
- 51 Lower dash plate

# Body Component Parts

## BODY COMPONENT PARTS



 : Indicates two-side anti-corrosive precasted steel portions.  
 : Indicates high strength steel (HSS) portions  
 \* : Indicates two-side anti-corrosive steel and HSS portions.

- |      |  |    |  |
|------|--|----|--|
| 1 *  | Hood   | 25 | Rear fender (R.H. & L.H.)                |
| 2    | Front fender (R.H. & L.H.)                     | 26 | Rear pillar belt anchor (R.H. & L.H.)    |
| 3    | Side body assembly (R.H. & L.H.)               | 27 | Nut (R.H. & L.H.)                        |
| 4    | Roof drip (R.H. & L.H.)                        | 28 | Rear combination lamp base (R.H. & L.H.) |
| 5    | Lower lock pillar brace assembly (R.H. & L.H.) | 29 | Rear fender corner (R.H. & L.H.)         |
| 6    | Front roof rail brace (R.H. & L.H.)            | 30 | Clip                                     |
| 7    | Inner side roof rail (R.H. & L.H.)             | 31 | Parcel shelf with rear waist             |
| 8    | Outer sill (R.H. & L.H.)                       | 32 | Trunk lid                                |
| 9    | Roof   | 33 | Rear panel                               |
| 10 * | Front roof rail                                | 34 | Fuel filler lid                          |
| 11   | No.1 roof bow                                  | 35 | Front door assembly (R.H. & L.H.)        |
| 12   | No.2 roof bow                                  | 36 | Outer front door panel (R.H. & L.H.)     |
| 13   | Rear roof rail                                 |    |  |
| 14   | Roof assembly                                  |    |  |
| 15   | Side parcel shelf (R.H. & L.H.)                |    |  |
| 16   | Seat back support (R.H. & L.H.)                |    |  |
| 17   | Outer lock pillar reinforce (R.H. & L.H.)      |    |  |
| 18   | Inner rear pillar                              |    |  |
| 19   | Rear wheel house                               |    |  |
| 20   | Outer rear wheel house                         |    |  |
| 21   | Side body reinforce                            |    |  |
| 22   | Rear pillar reinforce (R.H. & L.H.)            |    |  |
| 23   | Tapping plate (R.H. & L.H.)                    |    |  |
| 24   | Inner rear pillar lower (R.H. & L.H.)          |    |  |

## DESCRIPTION

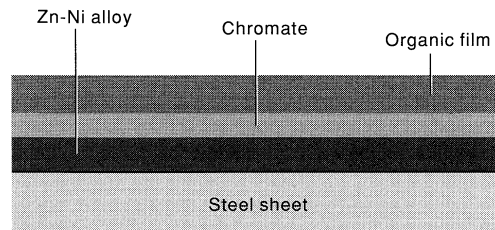
In order to provide improved corrosion prevention, the following anti-corrosive measures have been implemented in our production plants. When repairing or replacing body panels, it is necessary to use these same anti-corrosive measures.

### **ANTI-CORROSIVE PRECOATED STEEL (DURASTEEL)**

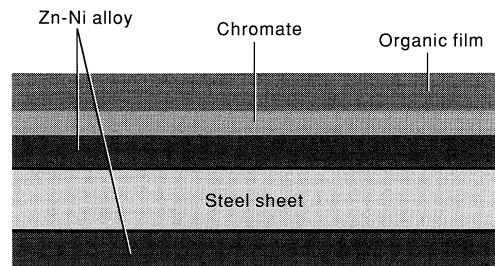
In order to improve reparability and corrosion resistance, a new type of anti-corrosive pre-coated steel sheets have been adopted taking the place of conventional zinc-coated steel sheets.

This 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



OUTSIDE



Two-side pre-coated

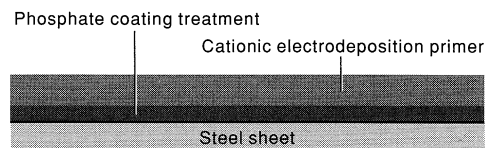
Nissan Genuine Service Parts are fabricated from durasteel sheets. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

### **PHOSPHATE COATING TREATMENT AND CATIONIC ELECTRODEPOSITION PRIMER**

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

**Caution:**

**Confine paint removal in the welding operation to the absolute minimum.**

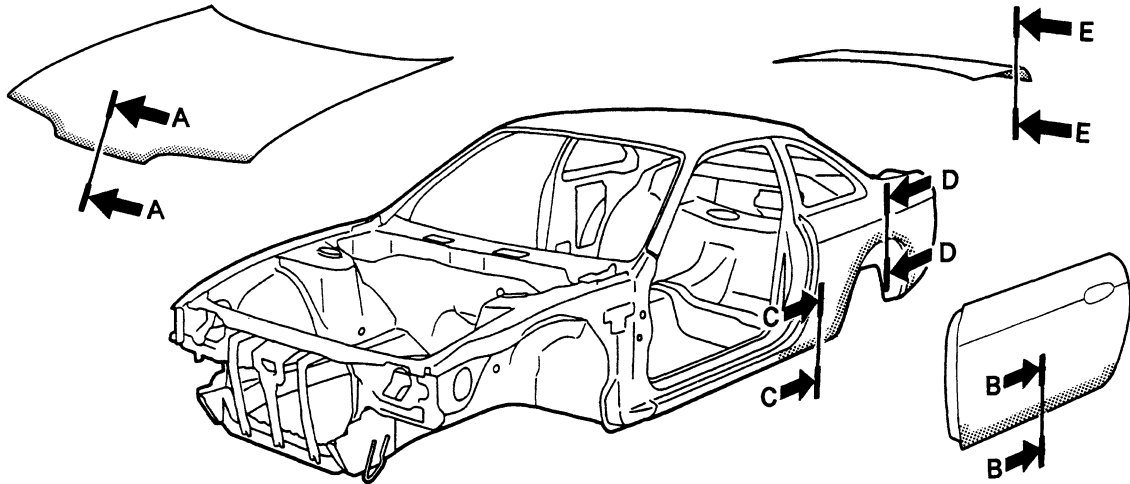


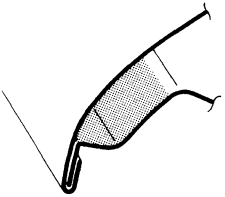
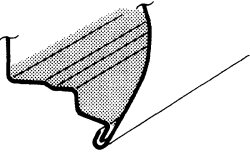
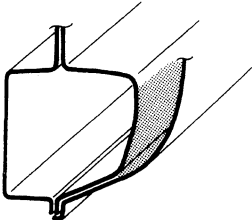
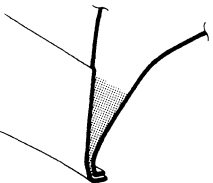
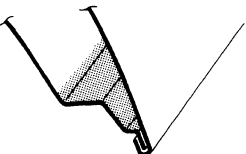
Nissan Genuine Service Parts also are treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

## ANTI-CORROSIVE WAX

In order to improve corrosion resistance, anti-corrosive wax is applied inside the body still 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

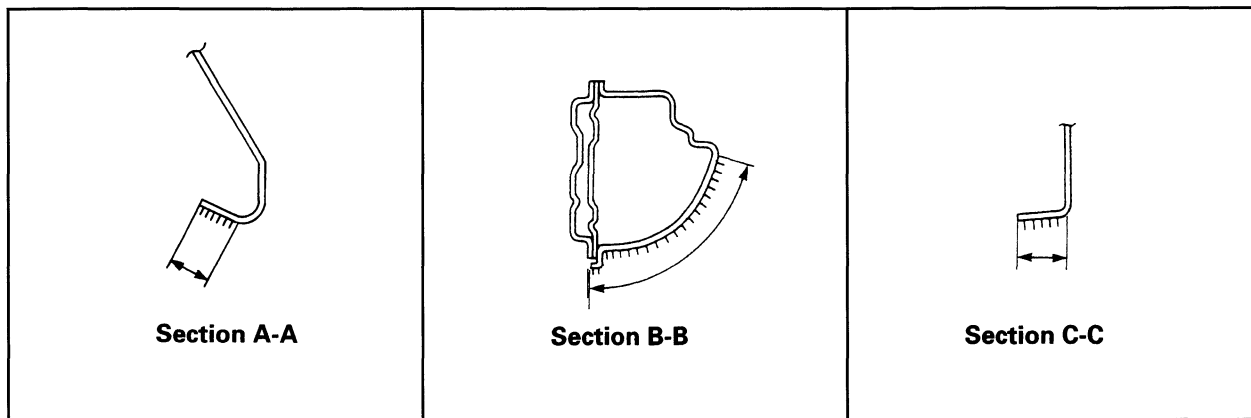
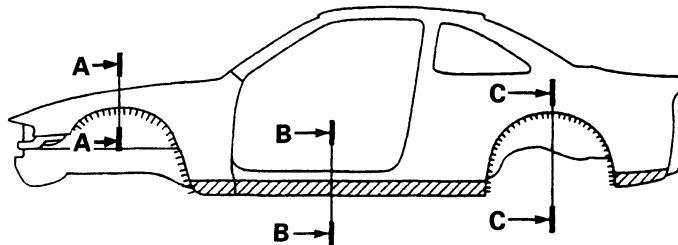


Section A-A	Section B-B	Section C-C
		
		

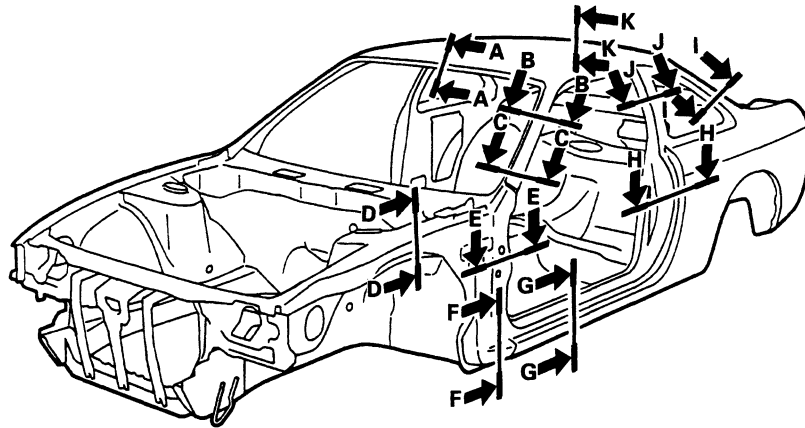
## STONE GUARD COAT

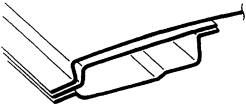
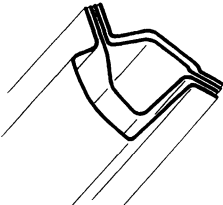
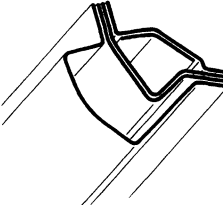
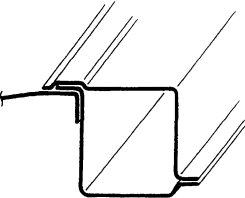
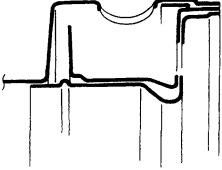
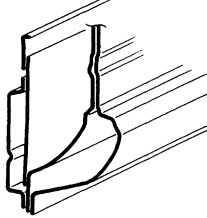
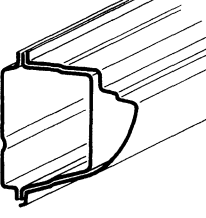
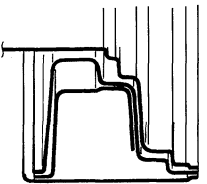
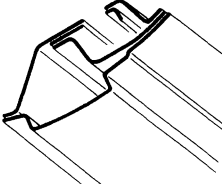
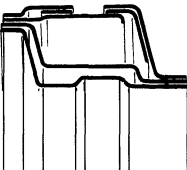
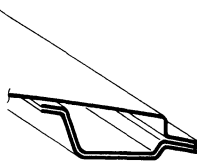
In order to prevent damage caused by stones, the lower outer body panels (fender, door, etc.) have an additional layer of Stone Guard Coat over the ED primer coating. Thus, when replacing or repairing these panels, apply undercoat to the same portions as before. Use a coat which is rust preventive, durable, shock-resistant and has a long shelf life.

 Indicates stone guard coated portions.



BODY CONSTRUCTION

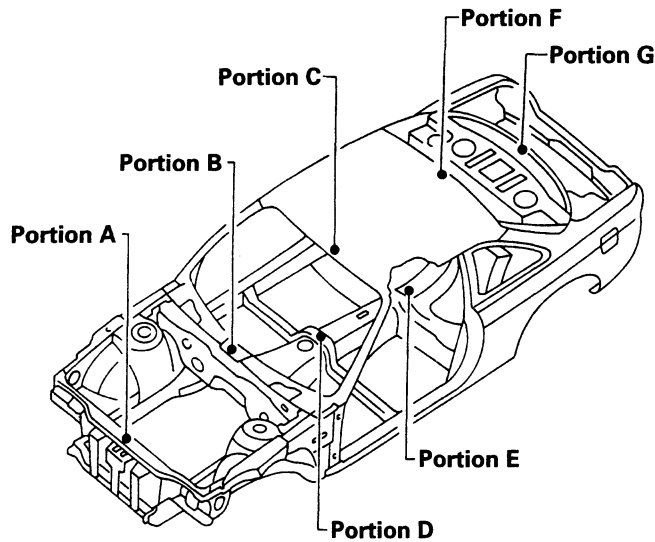


Section A-A	Section B-B	Section C-C	Section D-D
			
Section E-E	Section F-F	Section G-G	Section H-H
			
Section I-I	Section J-J	Section K-K	
			



## 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.



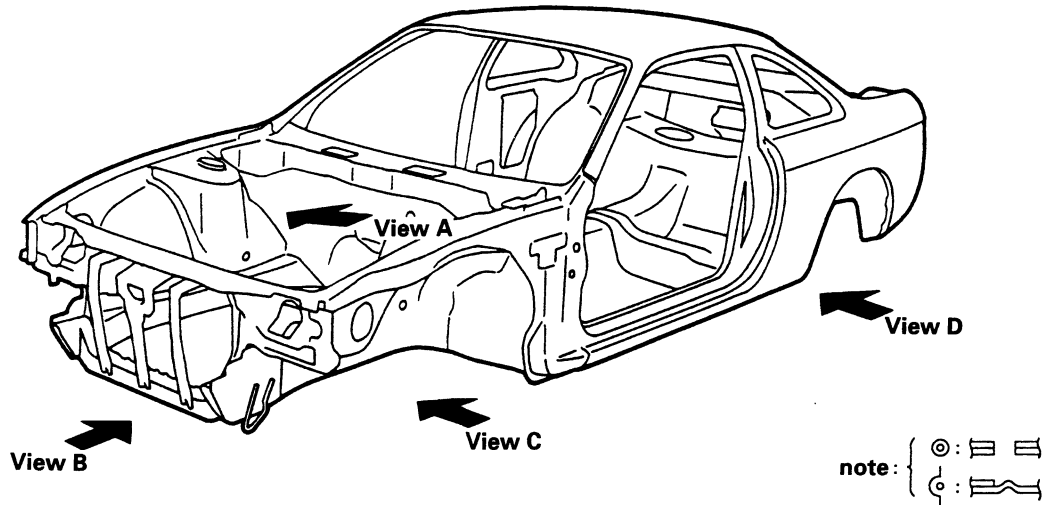
Portion A	Portion B	Portion C
<p>Hole 5 (0.20) dia.</p> <p>FRONT</p> <ul style="list-style-type: none"> <li>• Upper radiator core support</li> </ul>	<p>Hole 5 (0.20) dia.</p> <p>FRONT</p> <ul style="list-style-type: none"> <li>• Cowl top</li> </ul>	<p>Mark</p> <p>FRONT</p> <ul style="list-style-type: none"> <li>• Front roof</li> </ul>
Portion D, Portion E	Portion F	Portion G
<p>D hole 8 (0.31) dia.</p> <p>E hole 5.4 (0.213) dia.</p> <p>rear floor</p> <p>FRONT</p> <p>2nd crossmember</p>	<p>FRONT</p> <p>Mark</p> <ul style="list-style-type: none"> <li>• Rear roof</li> </ul>	<p>Hole center</p> <p>FRONT</p> <p>Hole</p> <ul style="list-style-type: none"> <li>• Rear waist panel</li> </ul>

Unit: mm (in)

# Body Alignment

## PANEL PARTS MATCHING MARKS

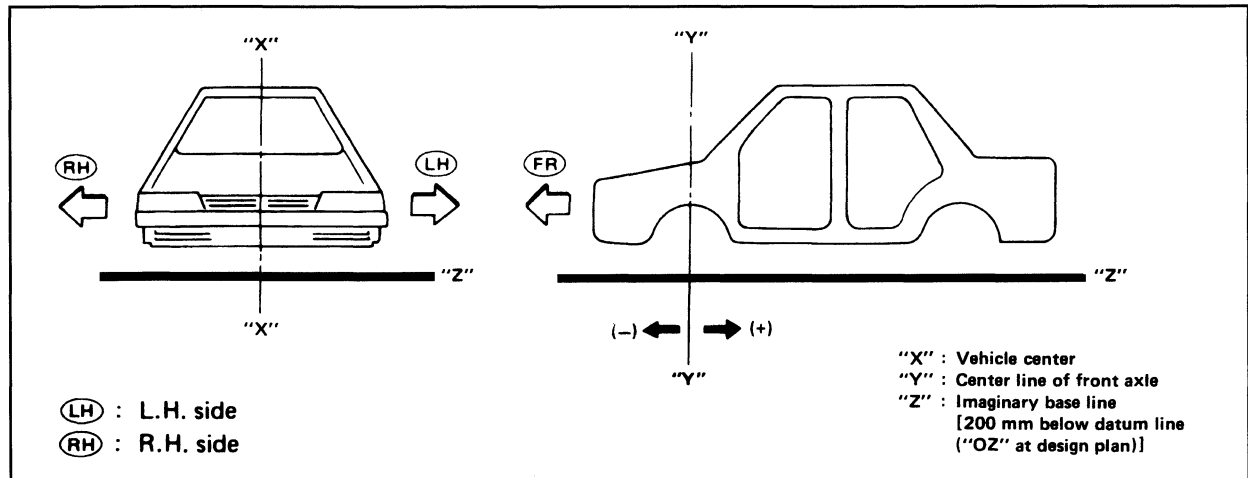
A mark has been placed on each part of the body to indicate the panel parts matching positions. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.) more accurate, effective repair will be possible by using these marks together with body alignment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



<p><b>View A</b></p> <p><b>Portion E</b>  </p> <p><b>Portion F</b>  </p> <p><b>Portion D</b>  </p>	<p><b>View B</b></p> <p><b>Portion C</b>  </p>
<p><b>View C</b></p> <p><b>Portion H</b>  </p>	<p><b>View D</b></p> <p><b>Portion J</b>  </p>

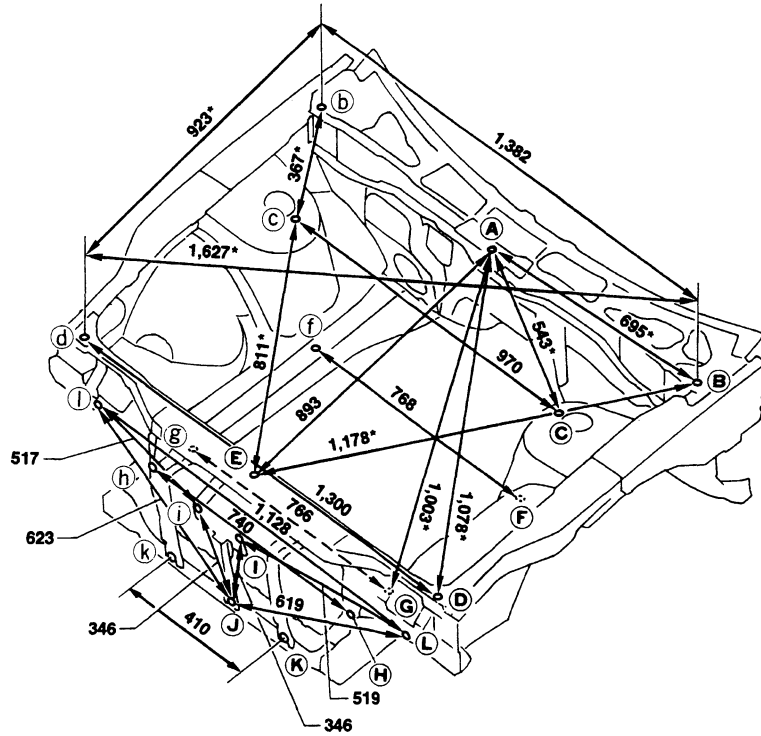
## DESCRIPTION

- All dimensions indicated in figures are actual ones.
- When a tram tracking gauge is used, adjust both pointers to equal length and 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.
- 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 the same value.
- The coordinates of the measurement points are the distances measure from the standard line of "X", "Y" and "Z".



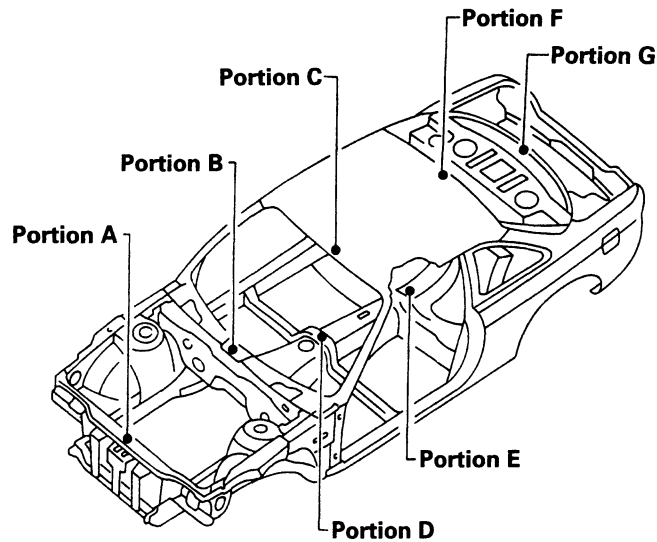
ENGINE COMPARTMENT

**MEASUREMENT**



## BODY CENTER MARKS

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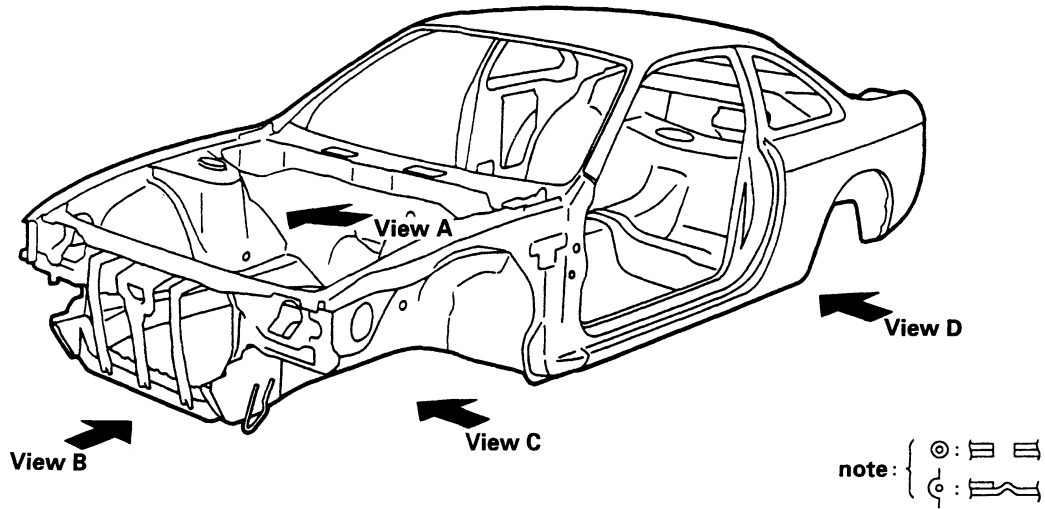
<p><b>Portion A</b></p> <p>Hole 5 (0.20) dia.</p> <p>FRONT</p> <ul style="list-style-type: none"> <li>• Upper radiator core support</li> </ul>	<p><b>Portion B</b></p> <p>Hole 5 (0.20) dia.</p> <p>FRONT</p> <ul style="list-style-type: none"> <li>• Cowl top</li> </ul>	<p><b>Portion C</b></p> <p>Mark</p> <ul style="list-style-type: none"> <li>• Front roof</li> </ul> <p>FRONT</p>
<p><b>Portion D, Portion E</b></p> <p>D hole 8 (0.31) dia.</p> <p>E hole 5.4 (0.213) dia.</p> <p>rear floor</p> <p>2nd crossmember</p> <p>FRONT</p>	<p><b>Portion F</b></p> <p>FRONT</p> <p>Mark</p> <ul style="list-style-type: none"> <li>• Rear roof</li> </ul>	<p><b>Portion G</b></p> <p>Hole center</p> <p>Hole</p> <p>FRONT</p> <ul style="list-style-type: none"> <li>• Rear waist panel</li> </ul>

Unit: mm (in)

# Body Alignment

## PANEL PARTS MATCHING MARKS

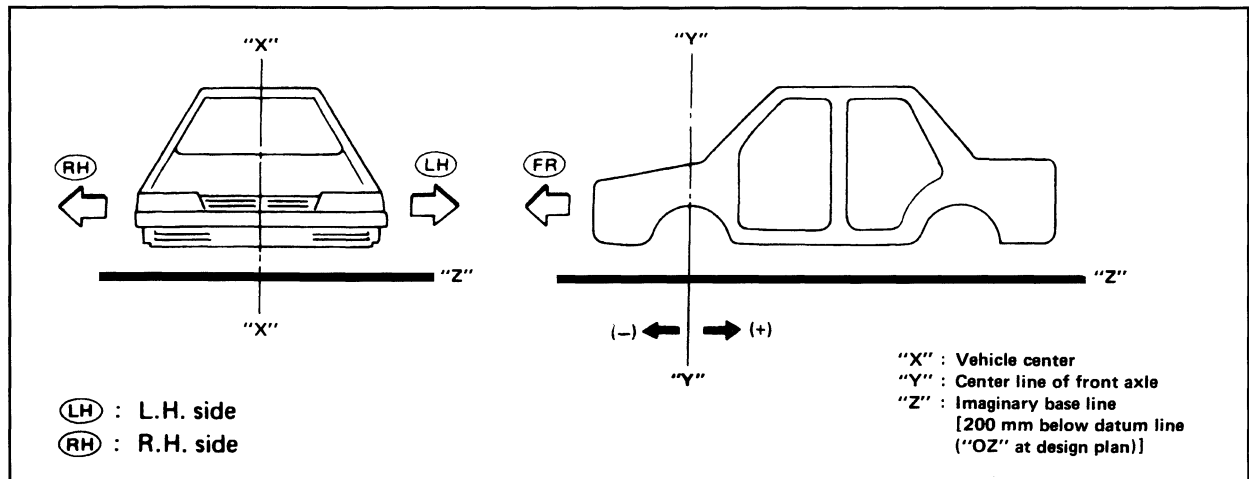
A mark has been placed on each part of the body to indicate the panel parts matching positions. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.) more accurate, effective repair will be possible by using these marks together with body alignment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



View A	View B
<p>Portion E</p> <p>Portion F</p> <p>Portion D</p>	<p>Portion C</p>
View C	View D
<p>Portion H</p>	<p>Portion J</p>

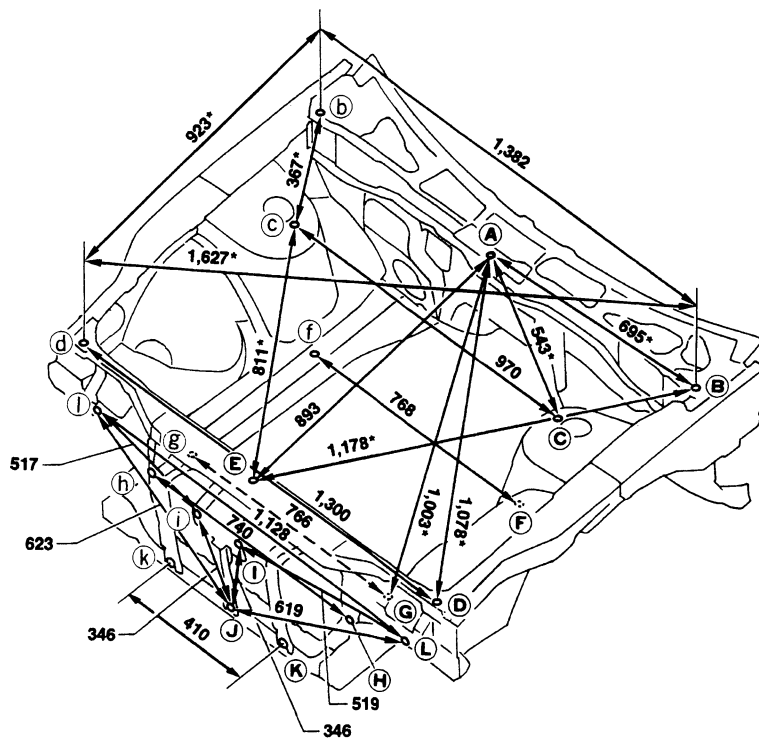
## DESCRIPTION

- All dimensions indicated in figures are actual ones.
- When a tram tracking gauge is used, adjust both pointers to equal length and 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.
- 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 the same value.
- The coordinates of the measurement points are the distances measure from the standard line of "X", "Y" and "Z".



ENGINE COMPARTMENT

**MEASUREMENT**

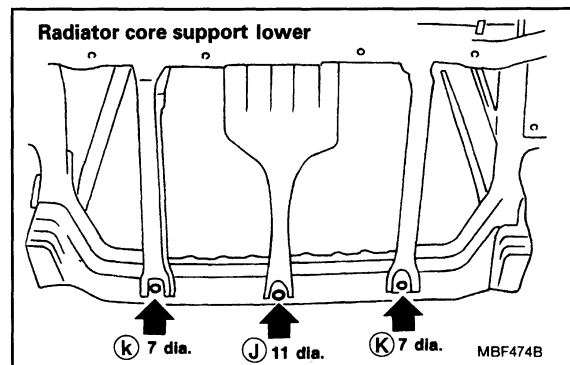
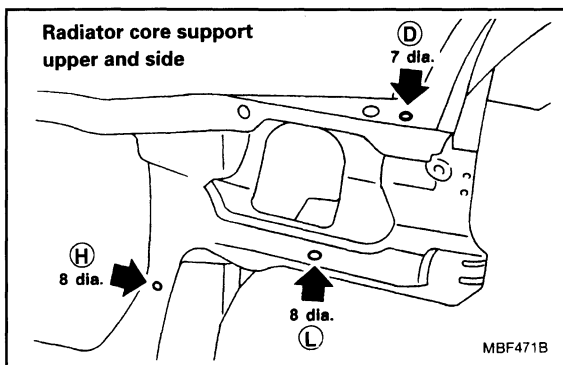
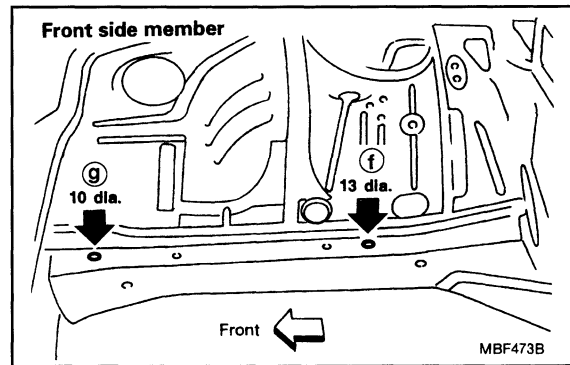
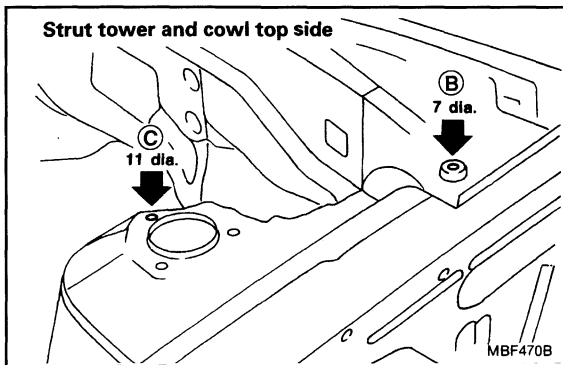
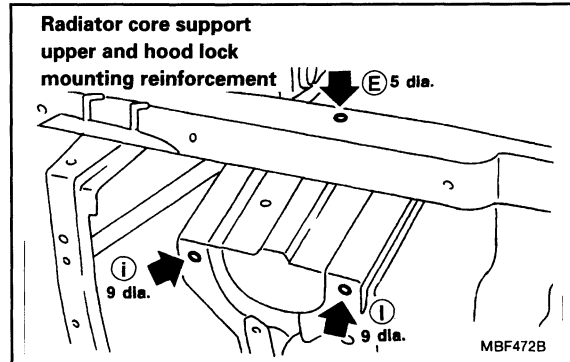
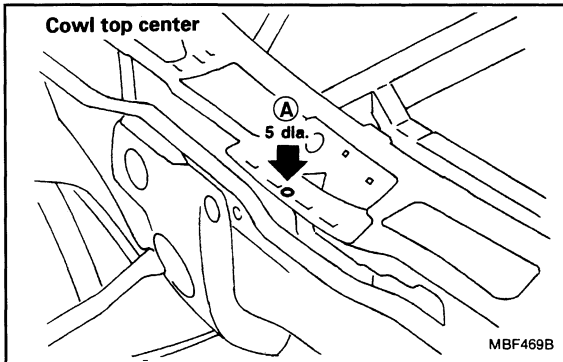




## ENGINE COMPARTMENT

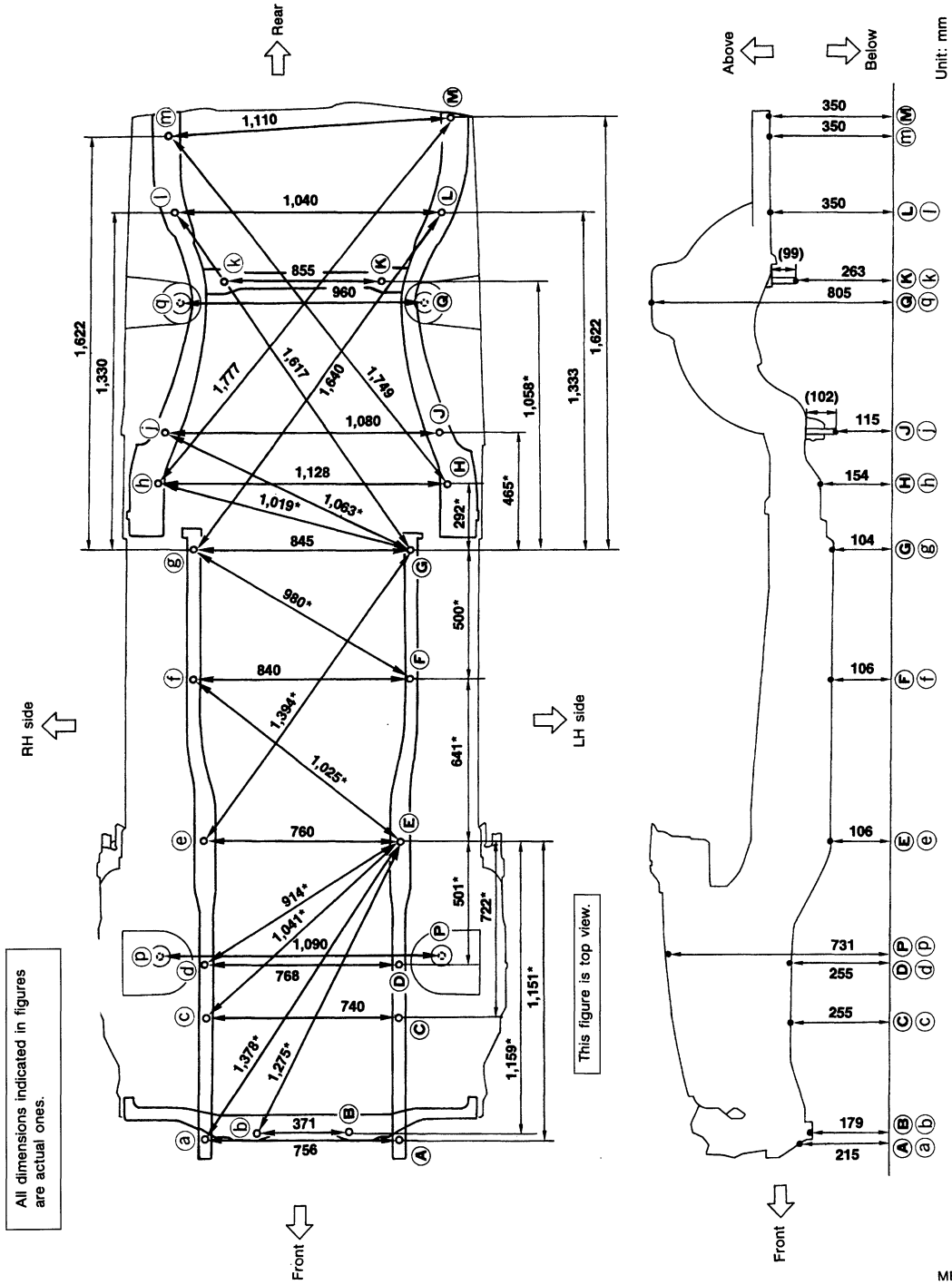
### MEASUREMENT POINTS

Unit: mm



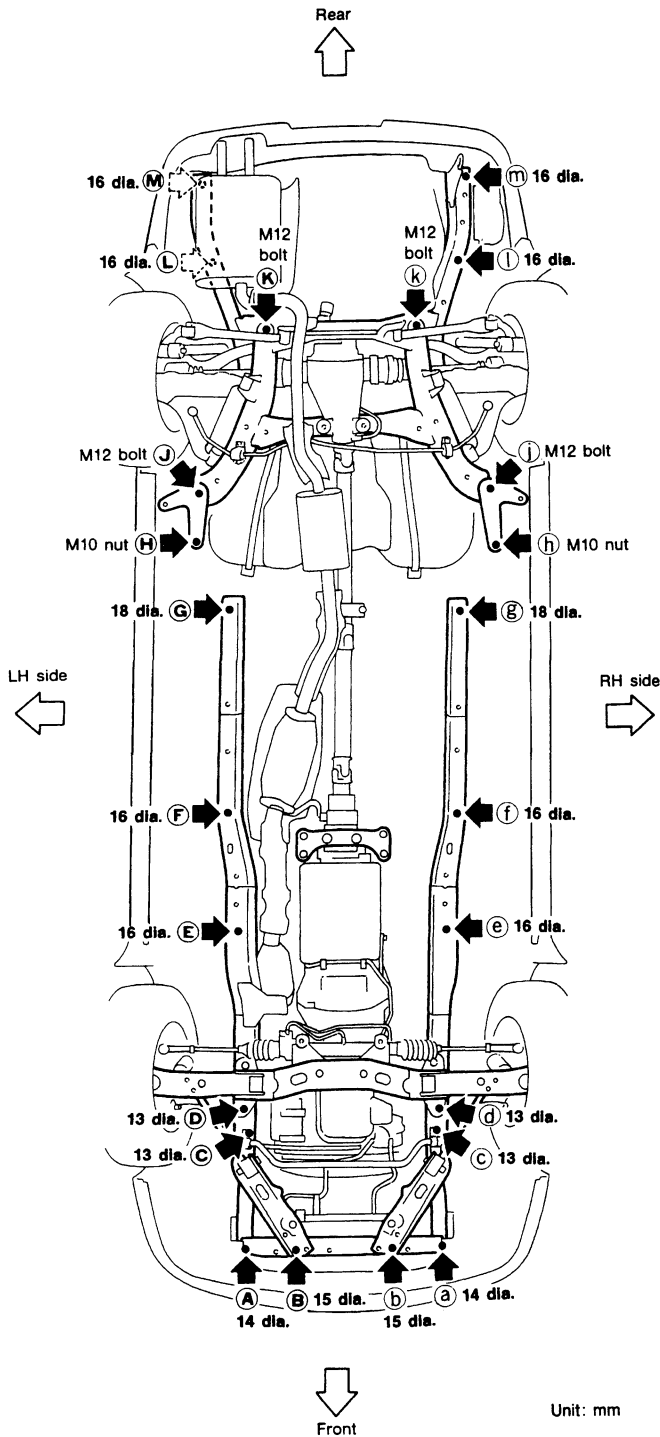
## UNDERBODY

### MEASUREMENT



UNDERBODY

MEASUREMENT POINTS



Front coordinates:

Ⓐ, Ⓐ  
X : 378  
Y : -635.5  
Z : 214.5

Ⓑ, Ⓑ  
X : 185.3  
Y : -630  
Z : 179

Ⓒ, Ⓒ  
X : 370  
Y : -196.5  
Z : 254.9

Ⓓ, Ⓓ  
X : 384.2  
Y : 32  
Z : 254.9

Ⓔ, Ⓔ  
X : 380  
Y : 510  
Z : 106.2

Ⓕ, Ⓕ  
X : 420  
Y : 1,150  
Z : 106.2

Rear coordinates:

Ⓖ, Ⓖ  
X : 422.5  
Y : 1,650  
Z : 103.9

Ⓗ, Ⓗ  
X : 564  
Y : 1,900  
Z : 154

Ⓙ, Ⓙ  
X : 540  
Y : 2,100  
Z : 115.2

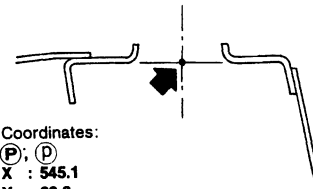
Ⓚ, Ⓚ  
X : 308  
Y : 2,690  
Z : 262.8

Ⓛ, Ⓛ  
X : 540  
Y : 2,955  
Z : 350

Ⓜ, Ⓜ  
X : 580  
Y : 3,245  
Z : 350

Ⓝ, Ⓝ  
X : 530  
Y : 3,250  
Z : 350

Front and rear strut tower centers



Coordinates:

Ⓟ, Ⓟ  
X : 545.1  
Y : 63.6  
Z : 730.9

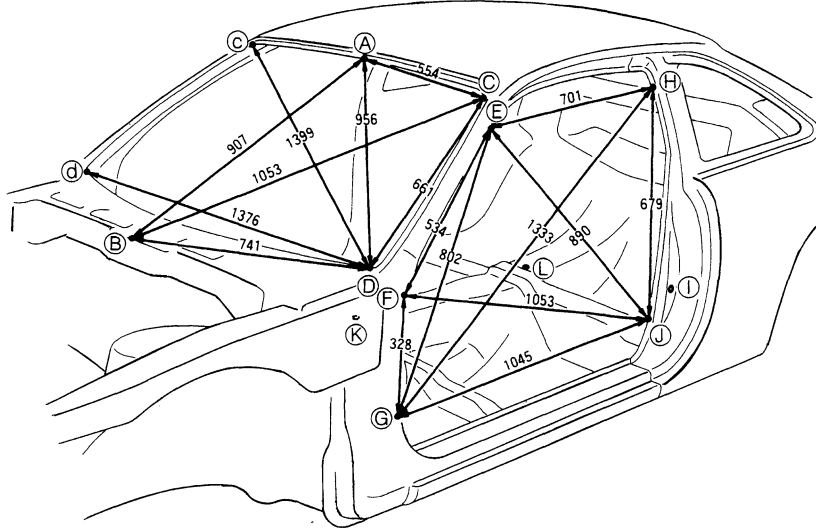
Ⓠ, Ⓠ  
X : 479.8  
Y : 2,608  
Z : 804.6

Front: Ⓟ, Ⓟ 82.2 dia.  
Rear: Ⓠ, Ⓠ 66 dia.

Unit: mm

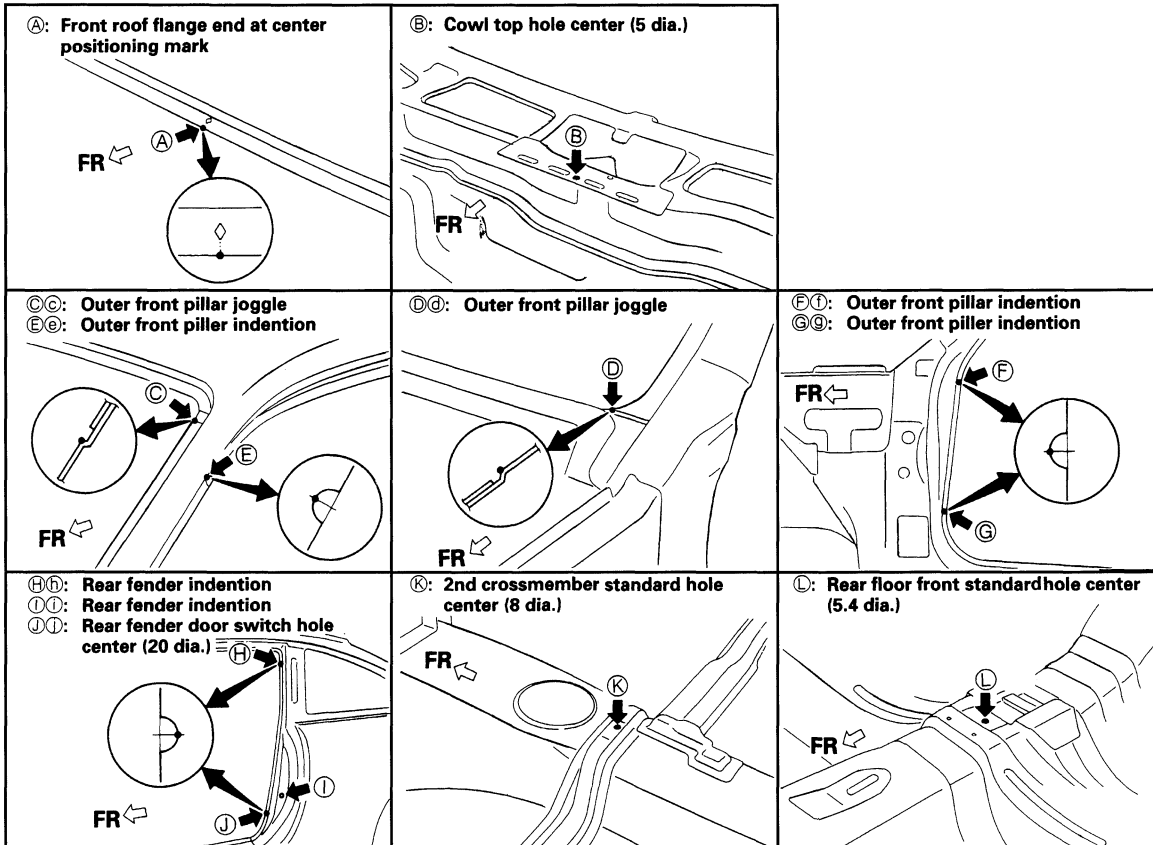
## PASSENGER COMPARTMENT

### MEASUREMENT



Point	Dimension
Ⓒ~Ⓒ	1104
Ⓔ~Ⓔ	1233
Ⓕ~Ⓕ	1414
Ⓖ~Ⓖ	1413
Ⓗ~Ⓗ	1229
Ⓙ~Ⓙ	1479
⓵~⓵	1412
Ⓚ~Ⓔ	913
Ⓚ~Ⓕ	917
Ⓚ~Ⓗ	1111
Ⓚ~Ⓙ	950
Ⓛ~Ⓔ	1215
Ⓛ~Ⓕ	1427
Ⓛ~Ⓗ	944
Ⓛ~Ⓙ	761

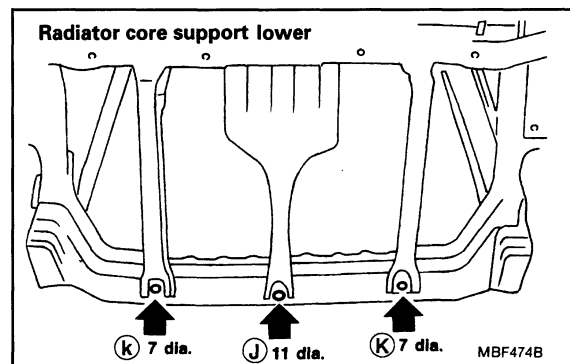
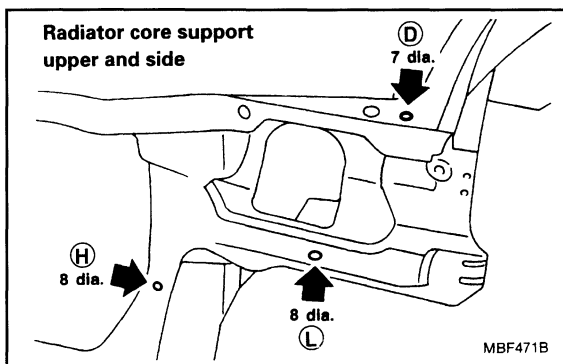
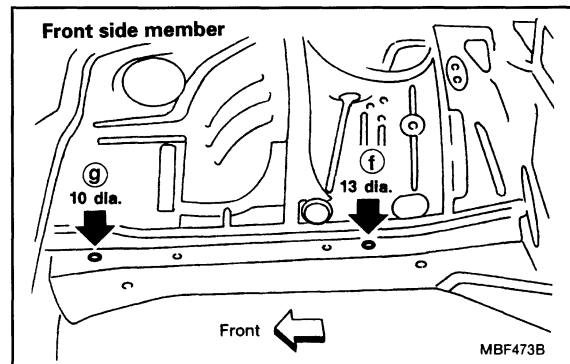
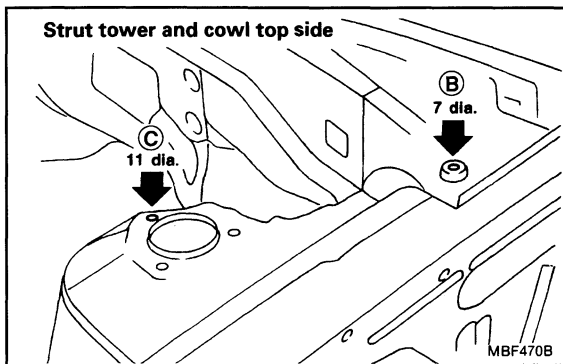
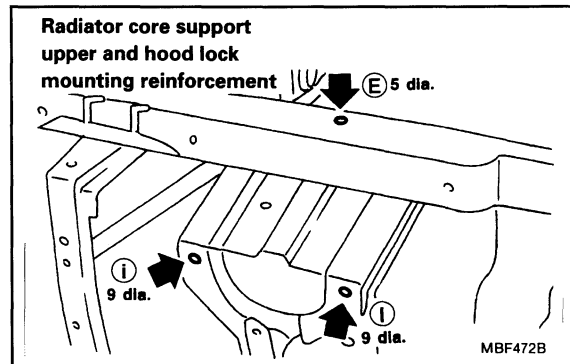
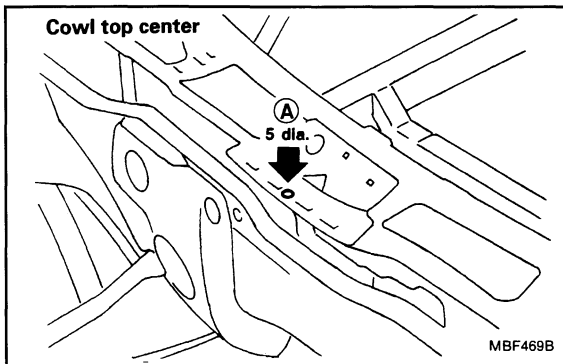
### MEASUREMENT POINTS



## ENGINE COMPARTMENT

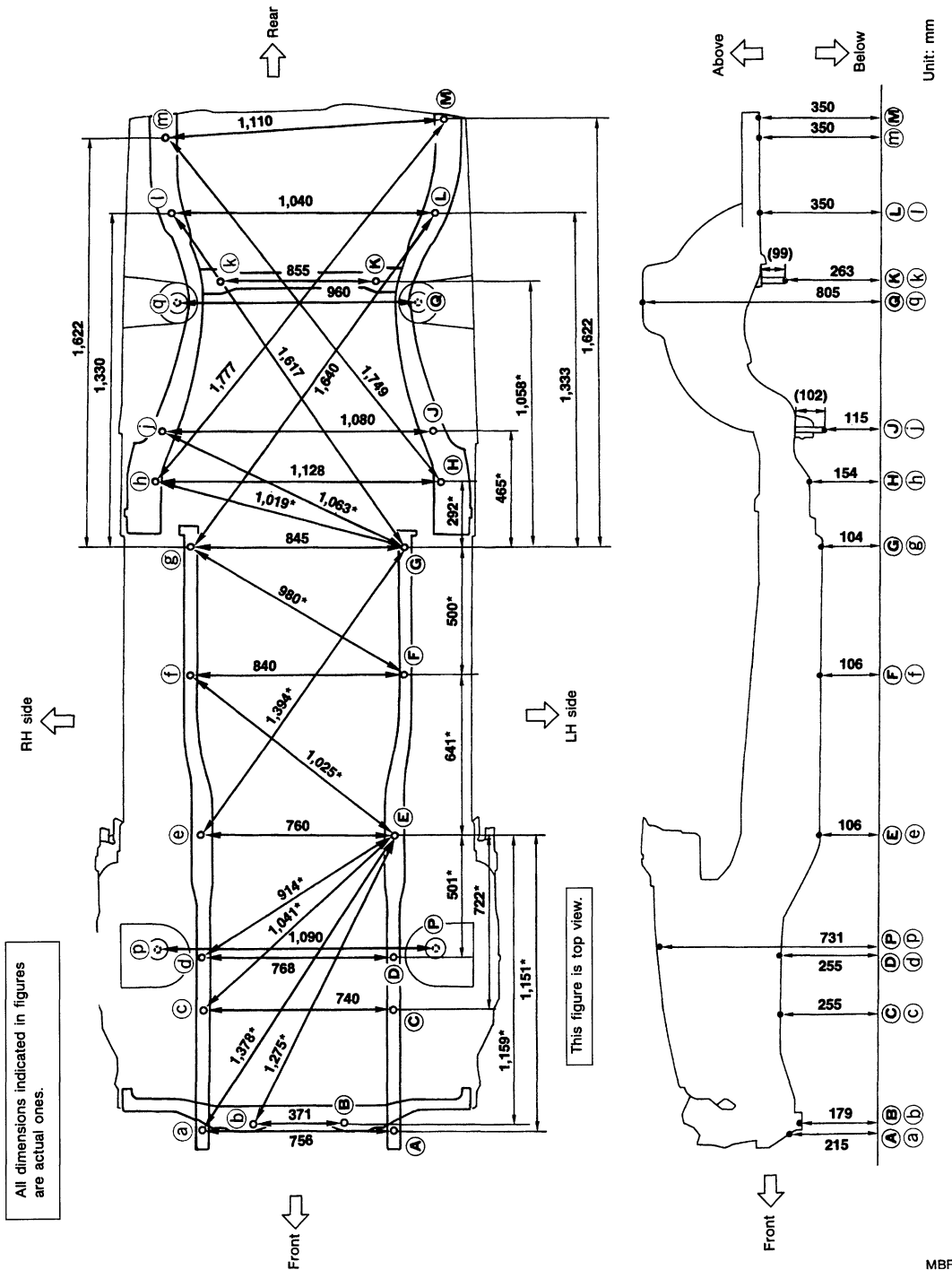
### MEASUREMENT POINTS

Unit: mm



## UNDERBODY

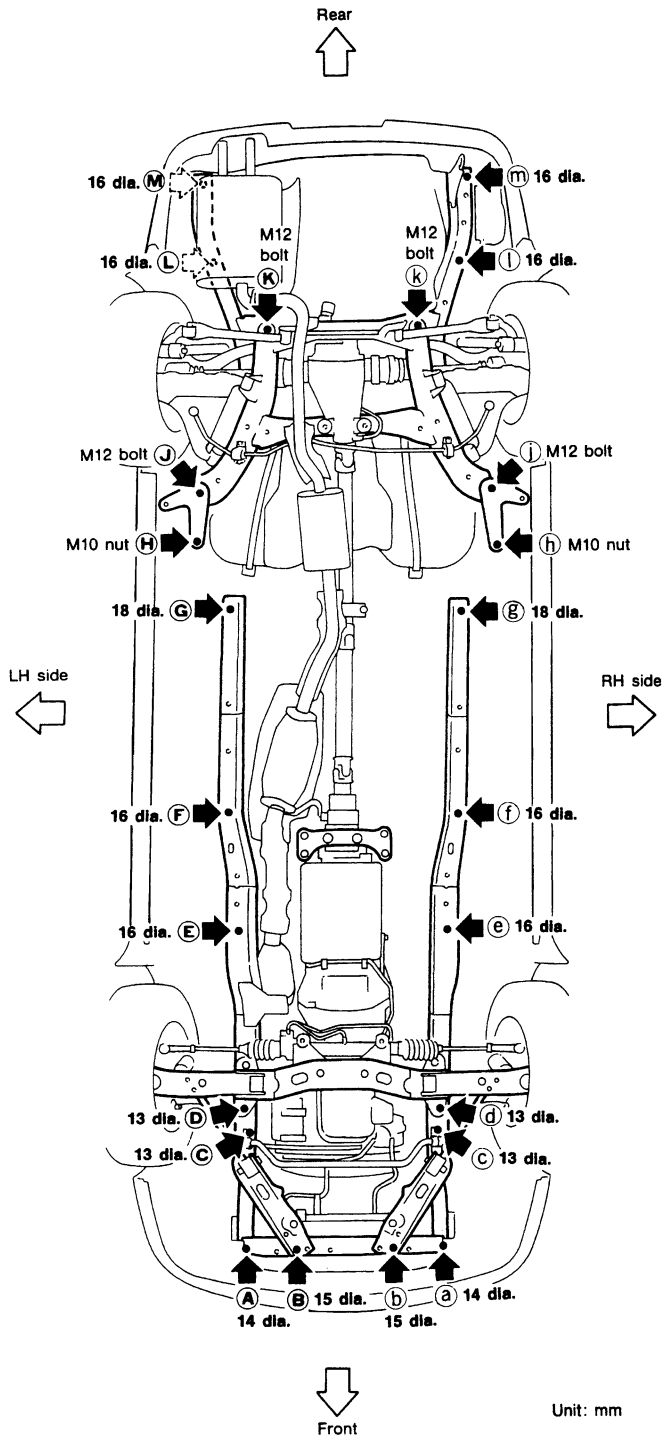
### MEASUREMENT



MBF375B

## UNDERBODY

### MEASUREMENT POINTS



Front coordinates:

(A), (a)  
X : 378  
Y : -635.5  
Z : 214.5

(B), (b)  
X : 185.3  
Y : -630  
Z : 179

(C), (c)  
X : 370  
Y : -196.5  
Z : 254.9

(D), (d)  
X : 384.2  
Y : 32  
Z : 254.9

(E), (e)  
X : 380  
Y : 510  
Z : 106.2

(F), (f)  
X : 420  
Y : 1,150  
Z : 106.2

Rear coordinates:

(G), (g)  
X : 422.5  
Y : 1,650  
Z : 103.9

(H), (h)  
X : 564  
Y : 1,900  
Z : 154

(J), (j)  
X : 540  
Y : 2,100  
Z : 115.2

(K), (k)  
X : 308  
Y : 2,690  
Z : 262.8

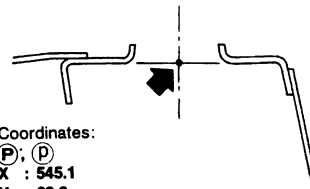
(L)  
X : 540  
Y : 2,955  
Z : 350

(I)  
X : 500  
Y : 2,955  
Z : 350

(M)  
X : 580  
Y : 3,245  
Z : 350

(N)  
X : 530  
Y : 3,250  
Z : 350

### Front and rear strut tower centers



Coordinates:

(P), (P)  
X : 545.1  
Y : 63.6  
Z : 730.9

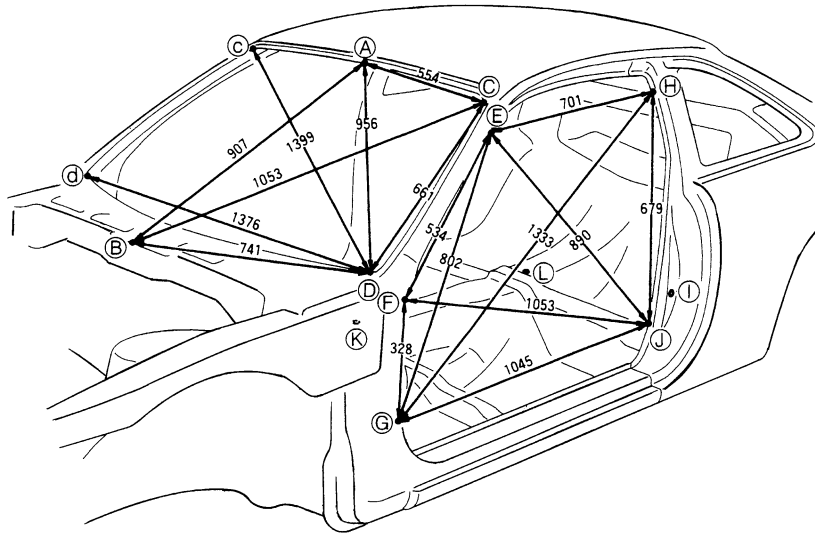
(Q), (Q)  
X : 479.8  
Y : 2,608  
Z : 804.6

Front: (P), (P) 82.2 dia.  
Rear: (Q), (Q) 66 dia.

Unit: mm

## PASSENGER COMPARTMENT

### MEASUREMENT



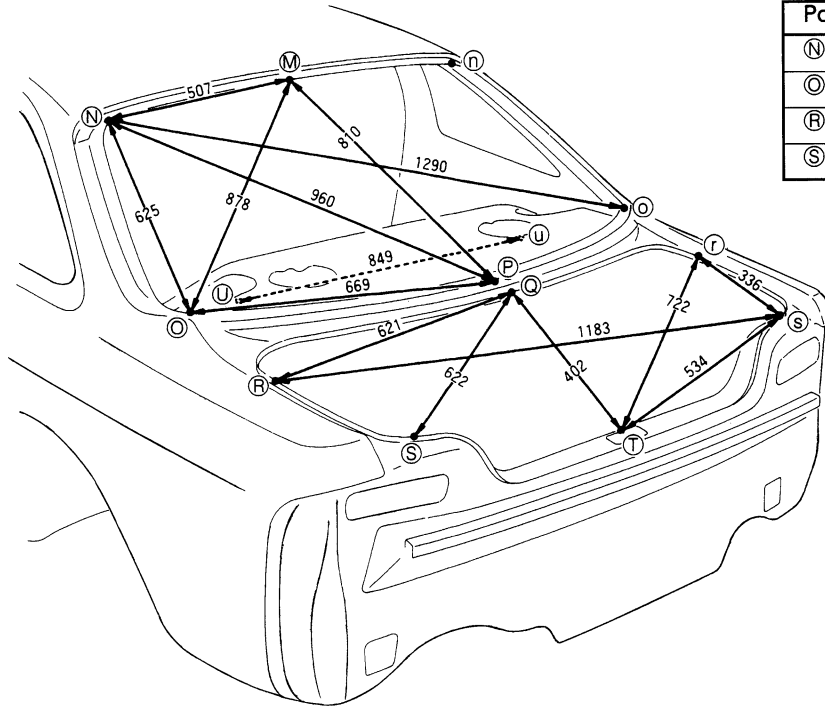
Point	Dimension
③~③	1104
⑤~⑤	1233
⑥~⑥	1414
⑦~⑦	1413
⑧~⑧	1229
⑩~⑩	1479
⑪~⑪	1412
⑫~⑤	913
⑫~⑥	917
⑫~⑧	1111
⑫~⑩	950
⑬~⑤	1215
⑬~⑥	1427
⑬~⑧	944
⑬~⑩	761

### MEASUREMENT POINTS

<p>Ⓐ: Front roof flange end at center positioning mark</p>	<p>Ⓑ: Cowl top hole center (5 dia.)</p>	
<p>③③: Outer front pillar joggle ⑤⑤: Outer front pillar indentation</p>	<p>⑩⑩: Outer front pillar joggle</p>	<p>⑥⑥: Outer front pillar indentation ⑦⑦: Outer front pillar indentation</p>
<p>⑧⑧: Rear fender indentation ⑪⑪: Rear fender indentation ⑬⑬: Rear fender door switch hole center (20 dia.)</p>	<p>Ⓚ: 2nd crossmember standard hole center (8 dia.)</p>	<p>⑬: Rear floor front standardhole center (5.4 dia.)</p>



## REAR BODY



Point	Dimension
㊦~㊧	1010
㊨~㊩	1262
㊪~㊫	1239
㊬~㊭	1038

### MEASUREMENT POINTS

<p>㊦: Rear roof flange end at center positioning mark                      ㊦㊧: Rear fender joggle</p> <p>FR</p>	<p>㊨㊩: Rear fender joggle                      ㊪㊫: Shock absorber mounting upper bracket hole center (9 dia.)</p> <p>FR</p>	<p>㊰: Rear waist molding installing hole upper side (7 x 11)                      ㊱: Rear waist panel flange end</p> <p>FR</p>
<p>㊪㊫: Rear fender joggle</p> <p>FR</p>	<p>㊬㊭: Rear fender corner joggle</p> <p>FR</p>	<p>㊮: Rear panel trunk lid lock installing hole flange end</p> <p>FR</p>

## Handling Precautions for Plastics

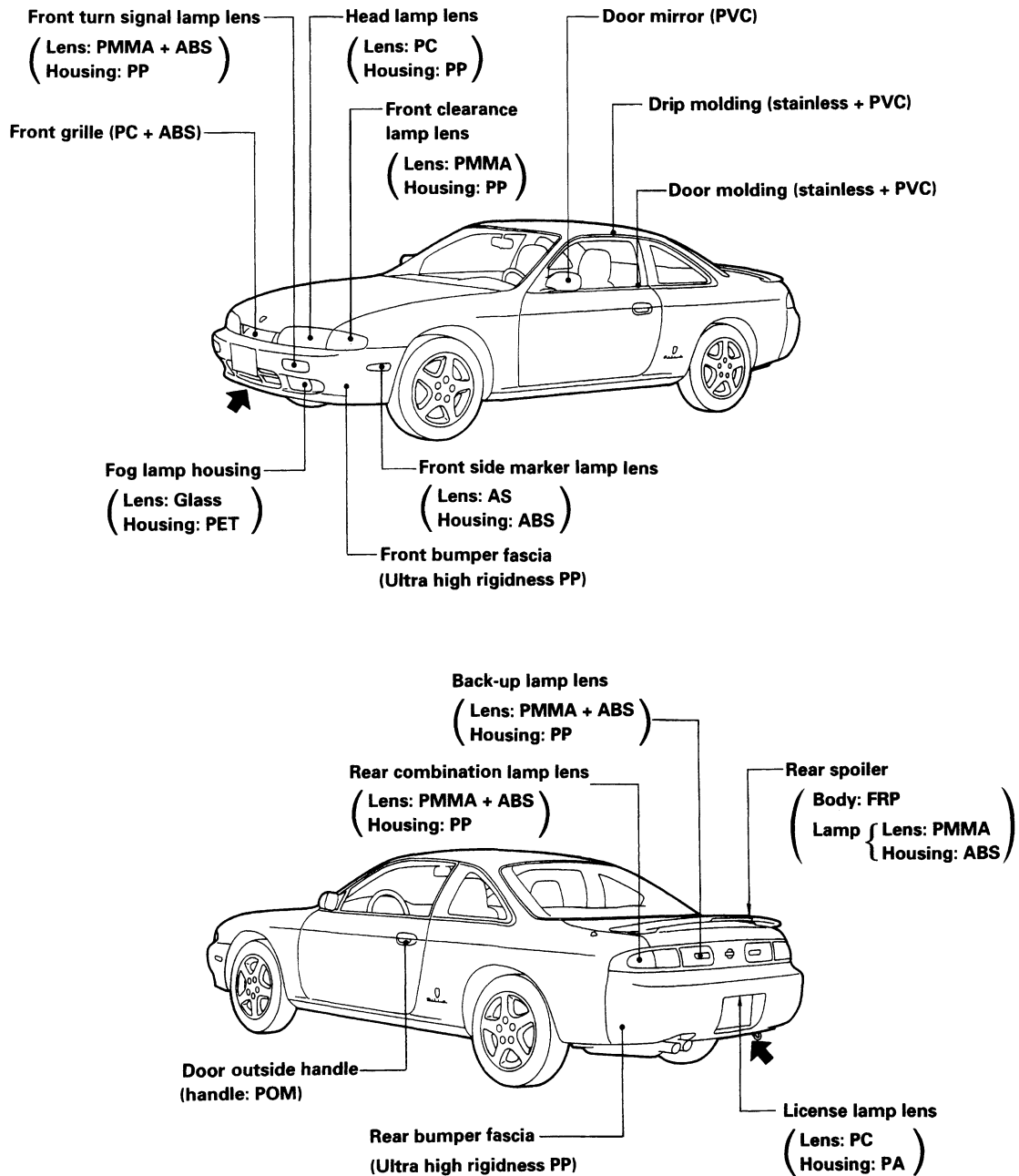
### HANDLING PRECAUTIONS FOR PLASTICS

Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	80 (176)	Gasoline and most solvents are harmless.	Flammable
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. Also avoid battery acid.	Flammable
ABS	Acrylonitrile butadiene styrene resin	80 (176)	Avoid gasoline and solvents.	
AES	Acrylonitrile ethylene styrene	80 (176)	Avoid gasoline and solvents.	
PMMA	Polymethyl methacrylate	85 (185)	Avoid gasoline and solvents.	
PUR	Polyurethane	90 (194)	Gasoline and most solvents are harmless.	Avoid battery acid.
AAS	Acrylonitrile acrylic rubber styrene	85 (185)	Avoid gasoline and solvents.	
AS	Styrene-acrylonitrile	85 (185)	Avoid gasoline and solvents.	
PPO	Polyphenylene oxide	110 (230)	Avoid gasoline and solvents.	
POM	Polyacetal	120 (248)	Gasoline and solvents are harmless.	Avoid battery acid.
PC	Polycarbonate	120 (248)	Avoid gasoline and solvents.	
PA	Polyamide (Nylon)	140 (284)	Gasoline and most solvents are harmless.	Avoid immersing in water.
FRP	Fiber reinforced plastics	170 (338)	Gasoline and most solvents are harmless.	Avoid battery acid.
PPC	Polypropylene composite	115 (239)	Gasoline and most solvents are harmless.	Flammable
PBT	Polybutylene terephthalate	140 (284)	Gasoline and most solvents are harmless.	
TPR	Thermoplastic rubber	80 (176)	Avoid gasoline and solvents.	
TPE	Thermoplastic elastomer	80 (176)	Avoid gasoline and solvents.	
TPUR	Thermoplastic polyurethane	80 (176)	Avoid gasoline and solvents.	

**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. Plastic parts should be repaired and painted using methods suiting the materials.**

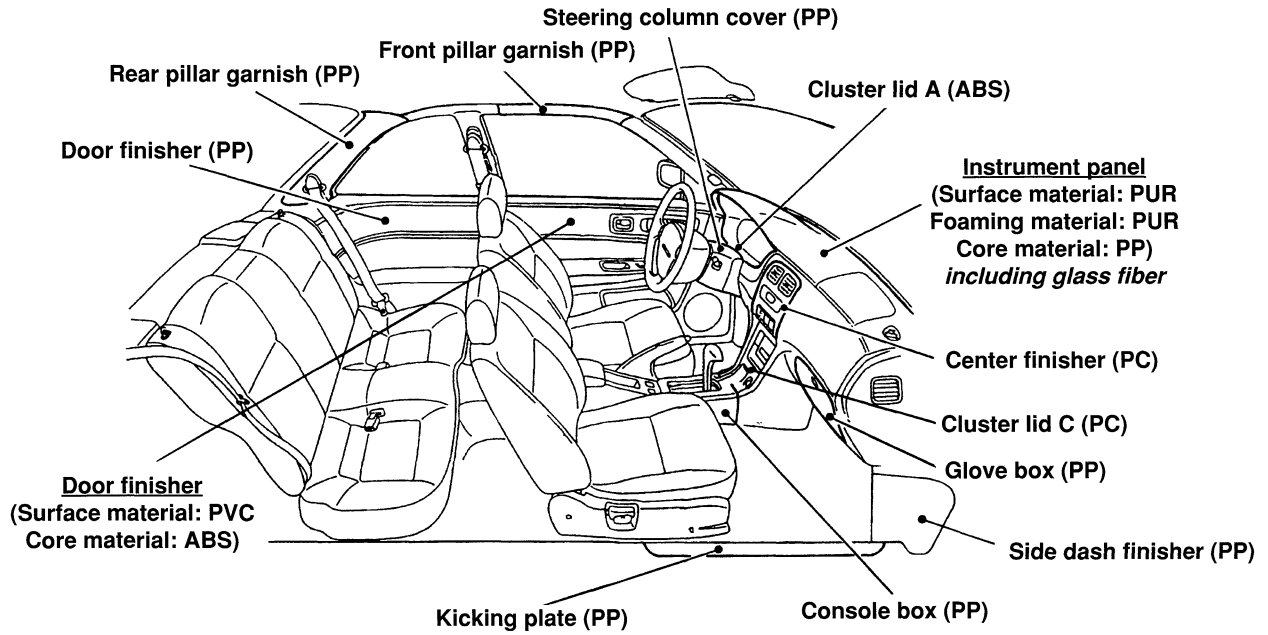
# Handling Precautions for Plastics

## LOCATION OF PLASTIC PARTS



NOTE: The arrows "↑" show the location of the stamps which indicate plastic material used at the back of Bumper fascia.

## LOCATION OF PLASTIC PARTS



## Precautions

### PRECAUTIONS FOR HANDLING HIGH STRENGTH STEEL (HSS)

High strength steel has been used as body panels in order to reduce vehicle weight. Accordingly, precautions in repairing automotive bodies made of high strength steel plates are described below:

#### HIGH STRENGTH STEEL (HSS) USED IN NISSAN VEHICLES

Tensile strength	Nissan designation	Major applicable parts
373 N/mm <sup>2</sup> (38 kg/mm <sup>2</sup> , 54 klb/sq in)	NP130	<ul style="list-style-type: none"><li>● Side member</li><li>● Hoodledge</li><li>● Pillar</li><li>● Hood</li><li>● Trunk lid outer</li></ul>
785 – 981 N/mm <sup>2</sup> (80 – 100 kg/mm <sup>2</sup> , 114 – 142 klb/sq in)	NP150	<ul style="list-style-type: none"><li>● Bumper reinforcement</li><li>● Door guard bar</li></ul>

In Nissan vehicles, HSS plates of 373 N/mm<sup>2</sup> (38 kg/mm<sup>2</sup>, 54 klb/sq in) (NP130) are most commonly utilized, and those with a tensile strength of 785 to 981 N/mm<sup>2</sup> (80 to 100 kg/mm<sup>2</sup>, 114 to 142 klb/sq in) (NP150) are used only on parts requiring much more strength.

## Precautions

# PRECAUTIONS FOR HANDLING HIGH STRENGTH STEEL (HSS)

Special consideration for HSS must be given to the following points:

### 1. Additional points to consider

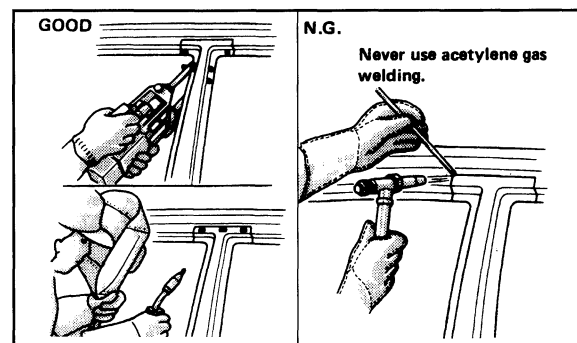
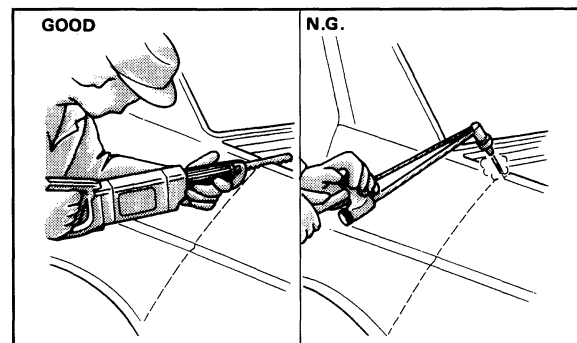
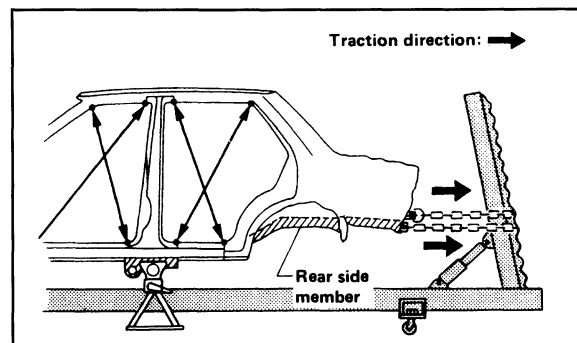
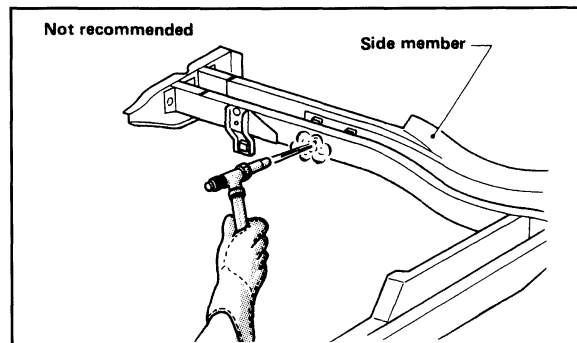
- The repair of reinforcements (such as side members) by heating is not recommended since it involves the risk of lowering strength. When heating is unavoidable, do not heat such parts at temperatures above 550°C (1,022°F).

Heating temperature should be verified with a thermometer. (A crayon-type and other thermometer are available.)

- When straightening body panels, use caution in pulling any HSS panel. Because it is very strong, this may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.

- In cutting HSS panel, avoid gas cutting if possible. Instead, use an air saw or a hand cutter to avoid decreasing the strength of surrounding portions due to the influence of heat. In case gas cutting is inevitable, a minimum allowance of 50 mm (1.97 in) must be given.

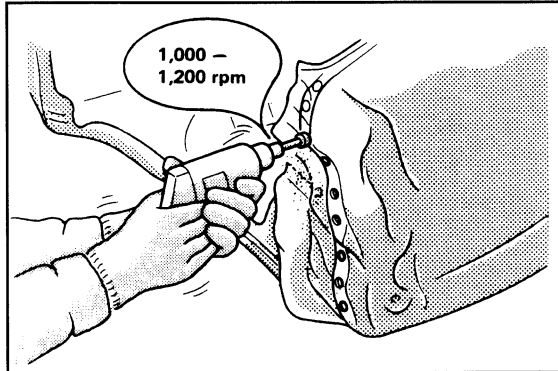
- In welding HSS panel, use spot welding whenever possible in order to minimize any decrease in strength of surrounding portions due to the influence of heat. If spot welding is impossible, use M.I.G. welding. Do not use acetylene gas welding because it is inferior in welding strength.



## Precautions

### PRECAUTIONS FOR HANDLING HIGH STRENGTH STEEL (HSS)

- The spot nugget on HSS panel is harder than that of an ordinary steel panel. Therefore, for spot cutting HSS panel, a high torque drill of a low speed (1,000 to 1,200 rpm) may be used to maintain its durability and facilitate the operation.

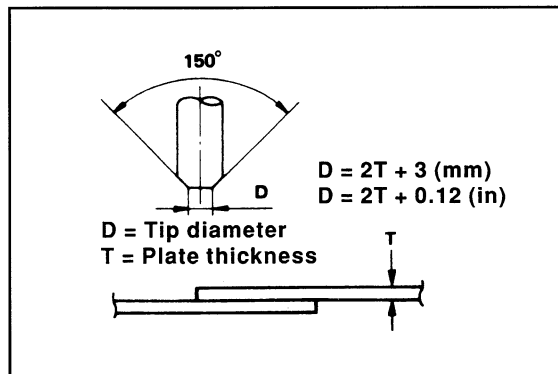


- HSS plate with a tensile strength of 785 to 981 N/mm<sup>2</sup> (80 to 100 kg/mm<sup>2</sup>, 114 to 142 klb/sq in), used as reinforcement in the door guard bar and in the bumper, is too high in tensile strength to use for general repairs. When these parts are damaged, the outer panels also sustain consequential damage; therefore, these parts are never remedied without replacing the door assembly or bumper assembly.

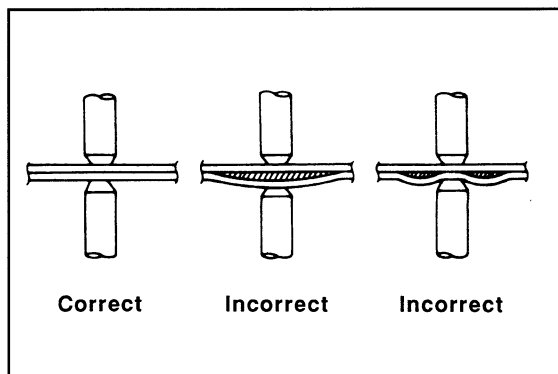
#### 2. Precautions in spot welding

This work should be performed under standard work conditions. However, work control must be exercised as follows:

- The electrode tip diameter must be reformed properly according to the plate thickness.



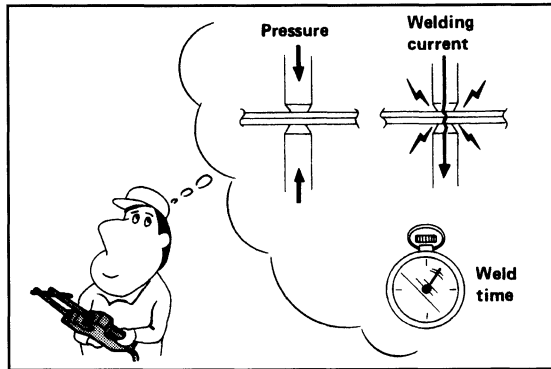
- The panel surfaces must be fitted to each other, leaving no gaps.



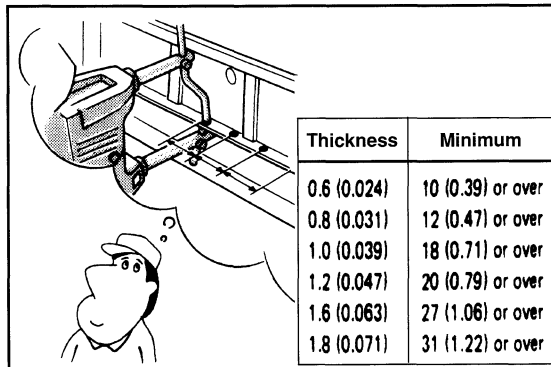
## Precautions

# PRECAUTIONS FOR HANDLING HIGH STRENGTH STEEL (HSS)

- Follow established specifications for the appropriate pressure level, current level and weld time.



- Follow the specifications for the proper welding pitch.



- After welding, welding strength must be tested.

