FOREWORD

This repair manual has been prepared to provide information on the repair methods (including cutting and welding operations, but excluding painting) recommended by TOYOTA for collision–damaged body components of the TOYOTA SUPRA.

Applicable models: MA70 series

This manual consists of body repair methods, exploded diagrams and illustrations of the body components and other information relating to body panel replacement such as handling precautions, tools, equipment, etc. However, it should be noted that the front fenders of all TOYOTA models are bolted on and require no welding.

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

For the service of specifications and repair procedures other than collision–damaged body components of the TOYOTA SUPRA, refer to the following repair manuals.

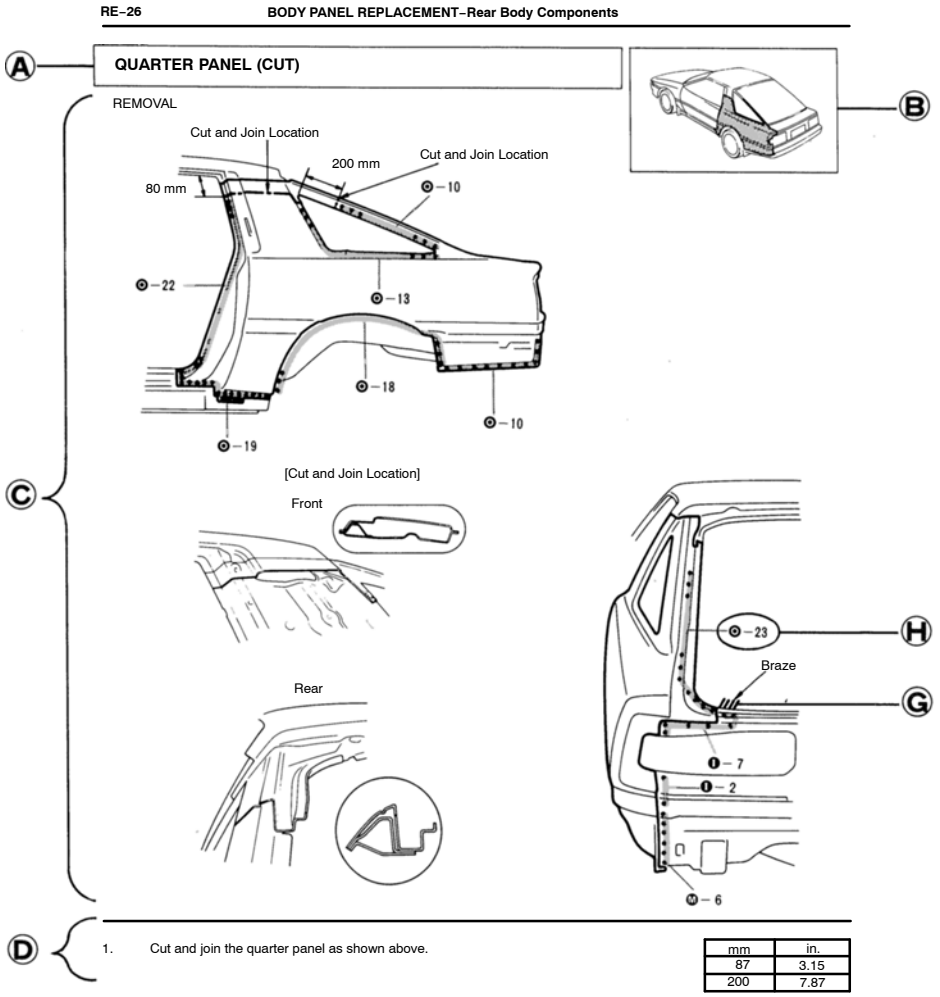
Manual Name	Pub. No.
7M–GE Engine Repair Manual	RM029E
TOYOTA SUPRA Chassis and Body Repair Manual	RM027E
TOYOTA SUPRA Chassis and Body Repair Manual Supplement	RM036E
TOYOTA SUPRA Electrical Wiring Diagram Manual	EWD013E
TOYOTA SUPRA Repair Manual (USA and Canada)	M/Y Version
TOYOTA SUPRA Electrical Wiring Diagram Manual (USA and Canada)	M/Y Version
Fundamental Body Repair Procedures	BRM002E
Fundamental Painting Procedures	36438E

All information contained in this manual is the most up–to–date at the time of publication. However, specifications and procedures are subject to change without prior notice.

TOYOTA MOTOR CORPORATION

HOW TO USE THIS MANUAL

Each repair method description provided in Section RE of this manual comprises two pages, divided into 2 blocks (REMOVAL AND INSTALLATION) and includes illustrations to facilitate body repair.



Ⓐ : REPLACEMENT PART AND METHOD

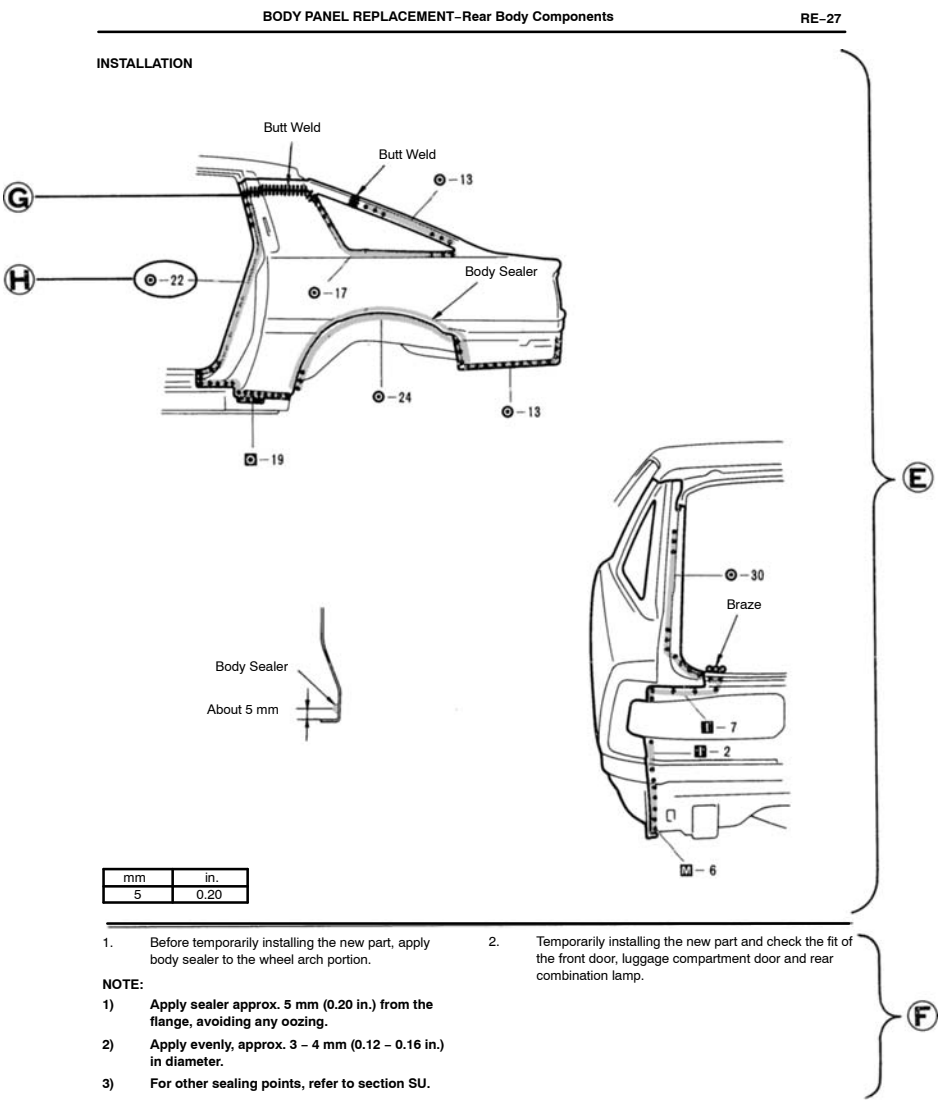
QUARTER PANEL (CUT)

- Replacement method
  - (ASSY) . . . . . Assembly replacement
  - (CUT) . . . . . Major cutting (less than 1/2 of part used)
  - (CUT–H) . . . . Half cutting (about 1/2 of part used)
  - (CUT–P) . . . . Partial cutting (most of part used)
- Replacement part

Ⓑ : BODY VARIATIONS AND PART LOCATION
Body variations: Non . . . . All models

Ⓒ : REMOVAL DIAGRAM
Describes in detail removal of the damaged part involving repair by cutting.

Ⓓ : REMOVAL GUIDE
Provides additional information to more efficiently help you perform the removal.



Ⓔ : INSTALLATION DIAGRAM
Describes in detail installation of the new part involving repair by welding and/or cutting, but excluding painting.

Ⓕ : INSTALLATION GUIDE
Provides additional information to more efficiently help you perform the installation.

Ⓖ : SYMBOLS
See page IN–4.

Ⓗ : ILLUSTRATION OF WELD POINT
Weld method and panel position symbols.
See page IN–5.

SYMBOLS

The following symbols are used in the welding Diagrams in Section RE of this manual to indicate cutting areas and the types of weld required.

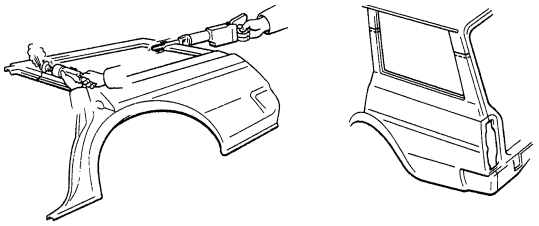
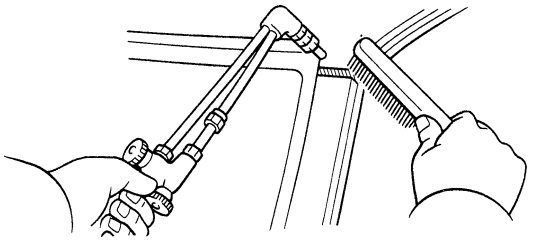
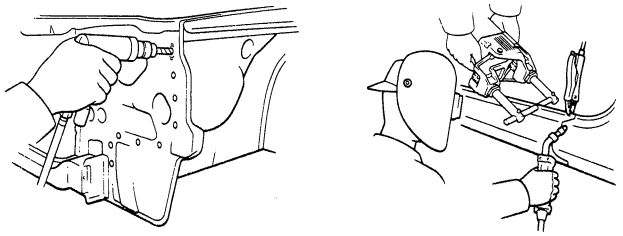
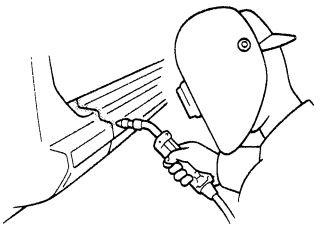
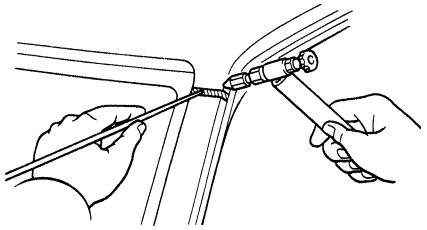
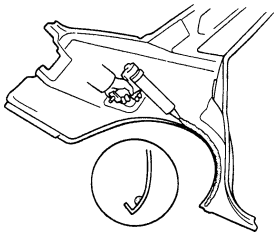
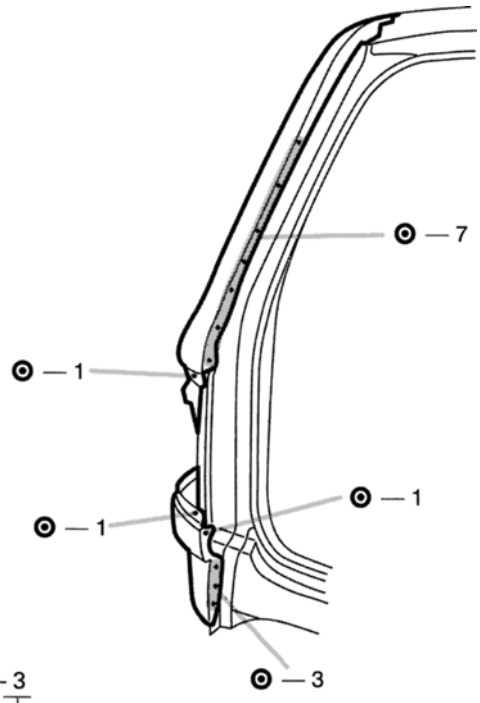
SYMBOLS	MEANING	ILLUSTRATION
	SAW CUT OR ROUGH CUT	
	REMOVE BRAZE	
	WELD POINTS	
	SPOT WELD OR MIG PLUG WELD (See page IN–5)	
	CONTINUOUS MIG WELD (BUTT WELD OR TACK WELD)	
	BRAZE	
	BODY SEALER	

Illustration of Weld Point Symbols

EXAMPLE:

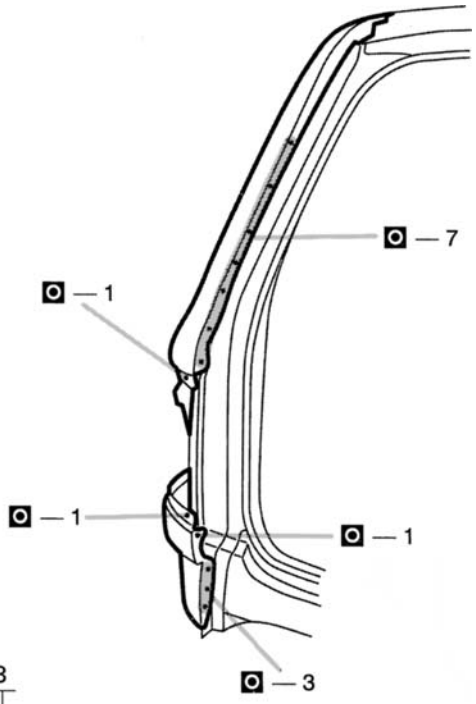
REMOVAL



Weld points

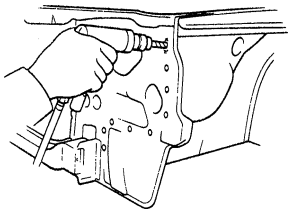
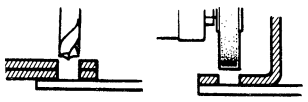
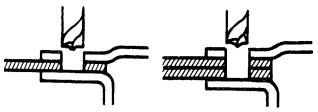
Remove weld point and panel position

INSTALLATION

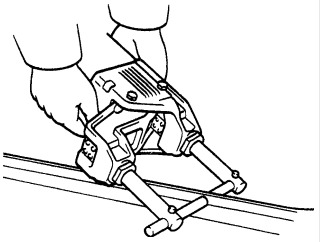
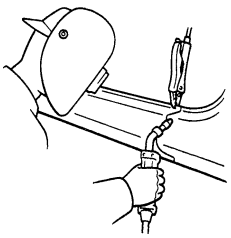
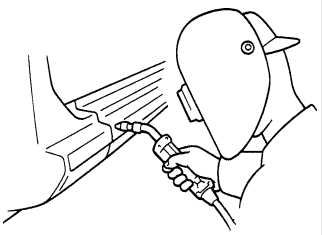


Weld points

Weld method and panel position

SYMBOL	MEANING	ILLUSTRATION
O M I	Remove Weld Points	
O	(Outside)	
M	(Middle)	
I	(Inside)	

HINT: Panel position syrnbols are as seen from the working posture.

SYMBOL	MEANING	ILLUSTRATION
O M I	Spot Weld	
O M I	Mig Plug Weld	
+	Spot MIG Weld	

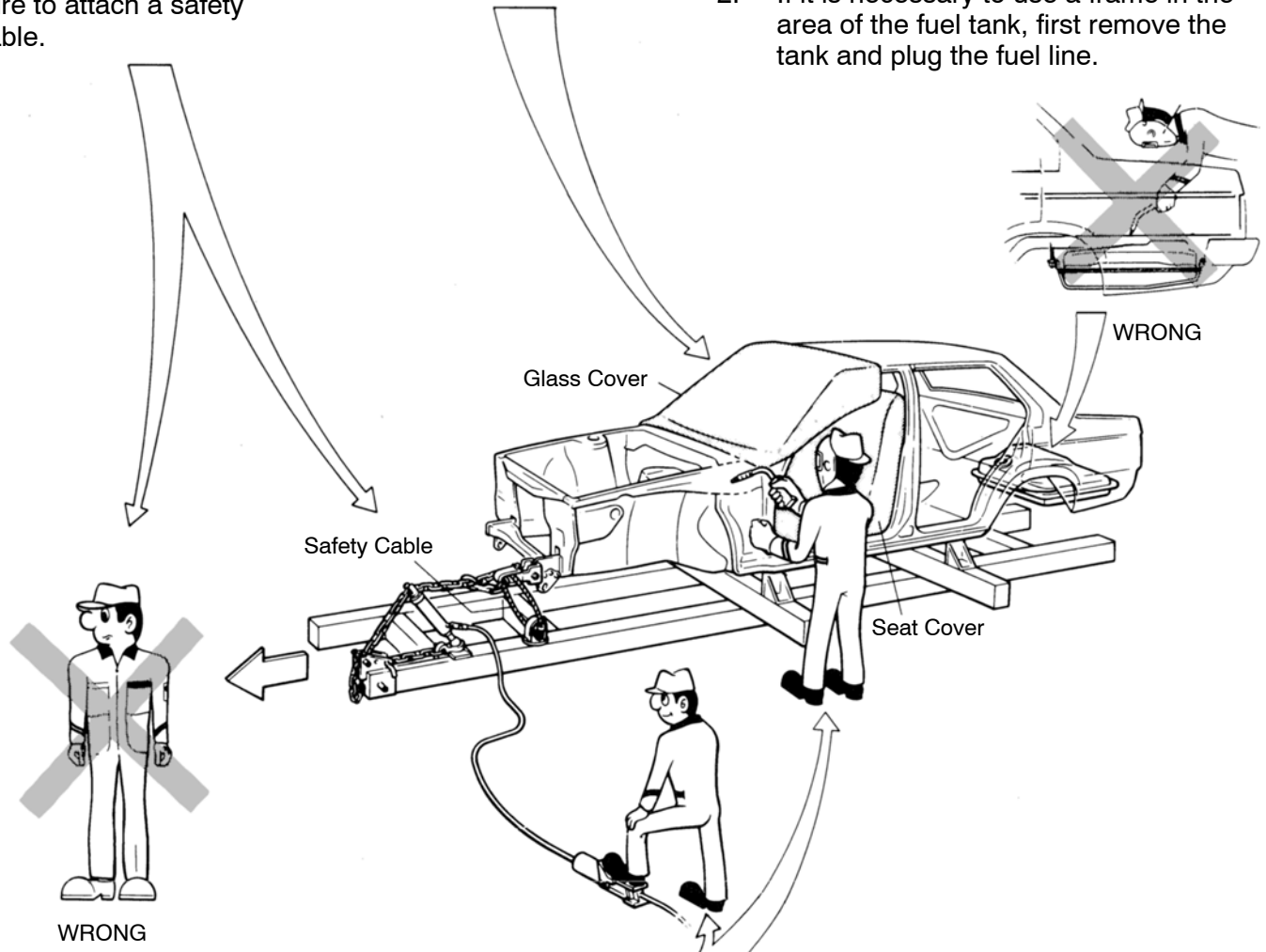
GENERAL REPAIR INSTRUCTIONS

Work Precautions

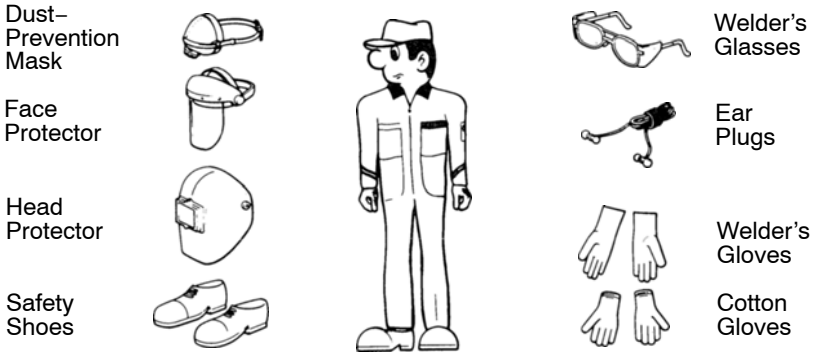
SAFETY
Never stand in direct line with the chain when using a puller an the body or frame, and be sure to attach a safety cable.

VEHICLE PROTECTION
When welding, protect the painted surfaces, windows, seats and carpet with heat–resistant, fire–proof covers.

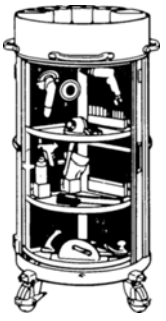
SAFETY
1. Before performing repair work, check for fuel leaks. If a leak is found, be sure to close the opening totally.
2. If it is necessary to use a frame in the area of the fuel tank, first remove the tank and plug the fuel line.



SAFETY WORK CLOTHES
In addition to the usual mechanic wear, cap and Safety shoes, the necessary gloves, head protector, glasses, ear plugs, face protector, dust–prevention mask, etc. should be worn as the situation demands.



SAFETY
Before performing repair work, disconnect the battery cables.



Body Mechanic Stand

HAND TOOLS
Keeping your hand tools in neat order will have an effect on your work efficiency.

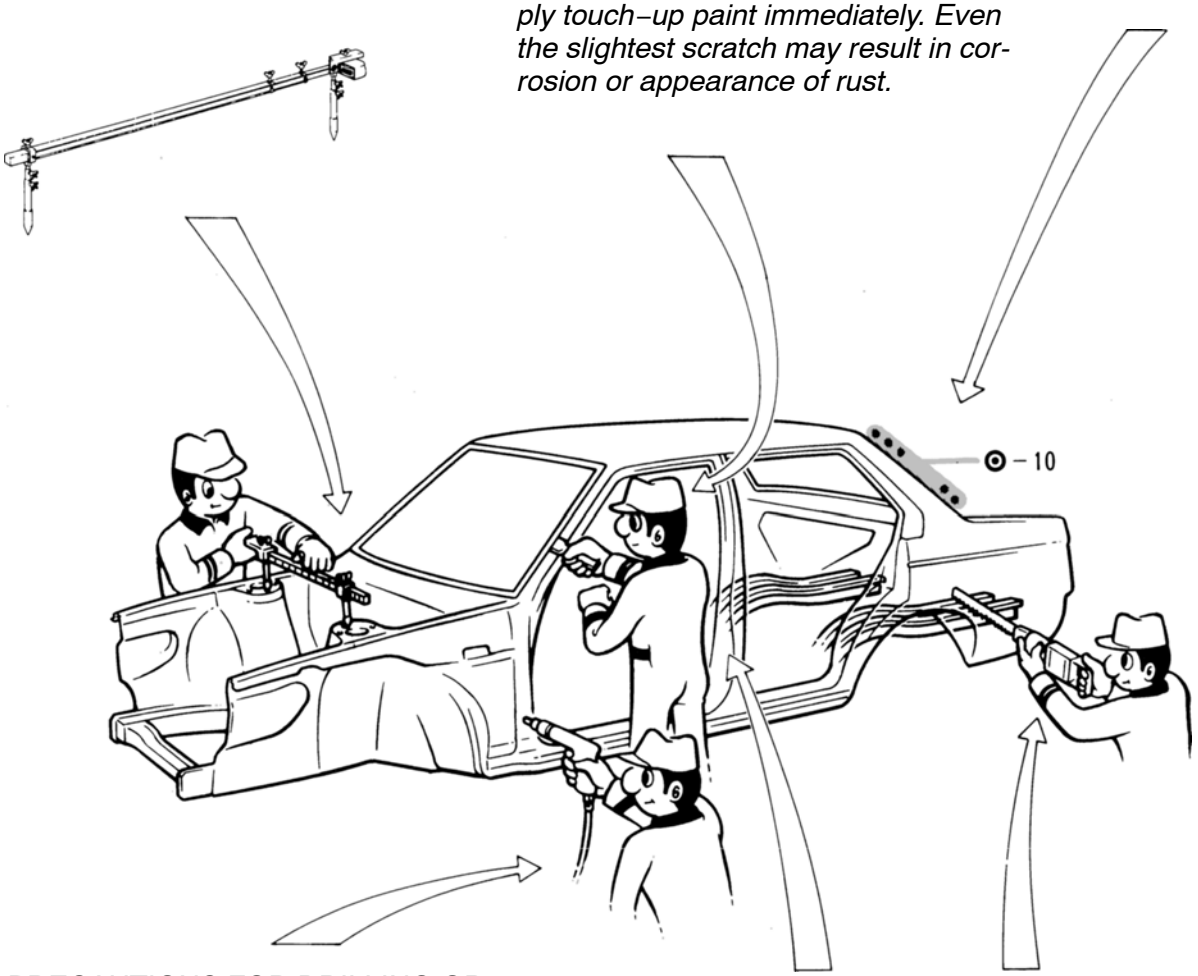
Proper and Efficient Work Procedures

REMOVAL

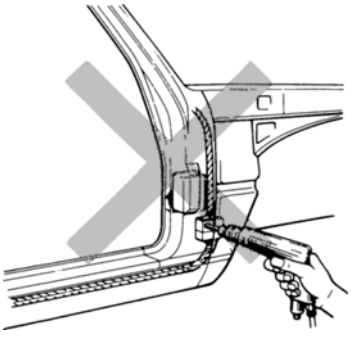
PRE−REMOVAL MEASURING
Before removal or cutting operations, take measurements in accordance with the dimension diagram. Always use a puller to straighten a damaged body or frame.

REMOVAL. OF ADJACENT COMPONENTS
When removing adjacent components, apply protective tape to the surrounding body and your tools to prevent damage.
CAUTION:
1. *Be especially careful not to damage screw or clip holes.*
2. *If the paint is accidently scratched, apply touch−up paint immediately. Even the slightest scratch may result in corrosion or appearance of rust.*

NO. OF SPOT WELDS
Make a note of the number of spot welds for later reference.
NOTE: The number of spot welds may vary depending on the vehicle.



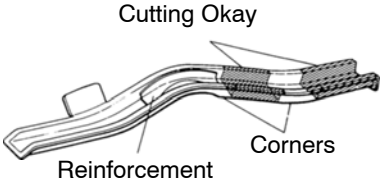
PRECAUTIONS FOR DRILLING OR CUTTING
Check behind any area to be drilled or cut to insure that there are no hoses, wires, etc., that may be damaged.



WRONG

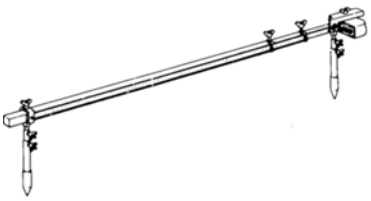
REMOVAL OF ADJACENT PARTS
When removing adjacent parts by avoid accidental marring, etc., wrapping the tools used and surrounding body parts in protective tape.
NOTE:
1) **Take particular care not to damage any screw or clip holes.**
2) **If you do scratch a painted surface, retouch immediatly after. Even a small scratch will result in rust and corrosion.**

CUTTING AREA
Always cut in a straight line and avoid reinforced areas.



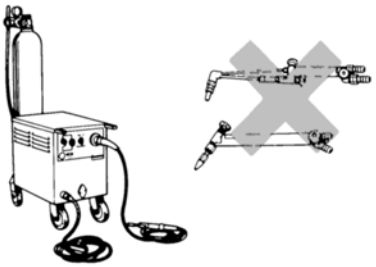
INSTALLATION

PRE–WELDING MEASUREMENTS
Always take measurements before installing underbody or engine components to insure correct assembly. After installation, confirm proper fit.



WELDING PRECAUTIONS

1. The number of welding spots should be as follows.
   Spot weld: 1.3 x No. of manufacturer's spots.
   Plug weld: More than No. of manufacturer's plugs.

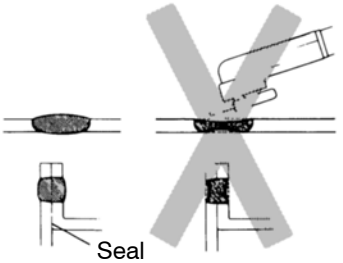


OKAY WRONG

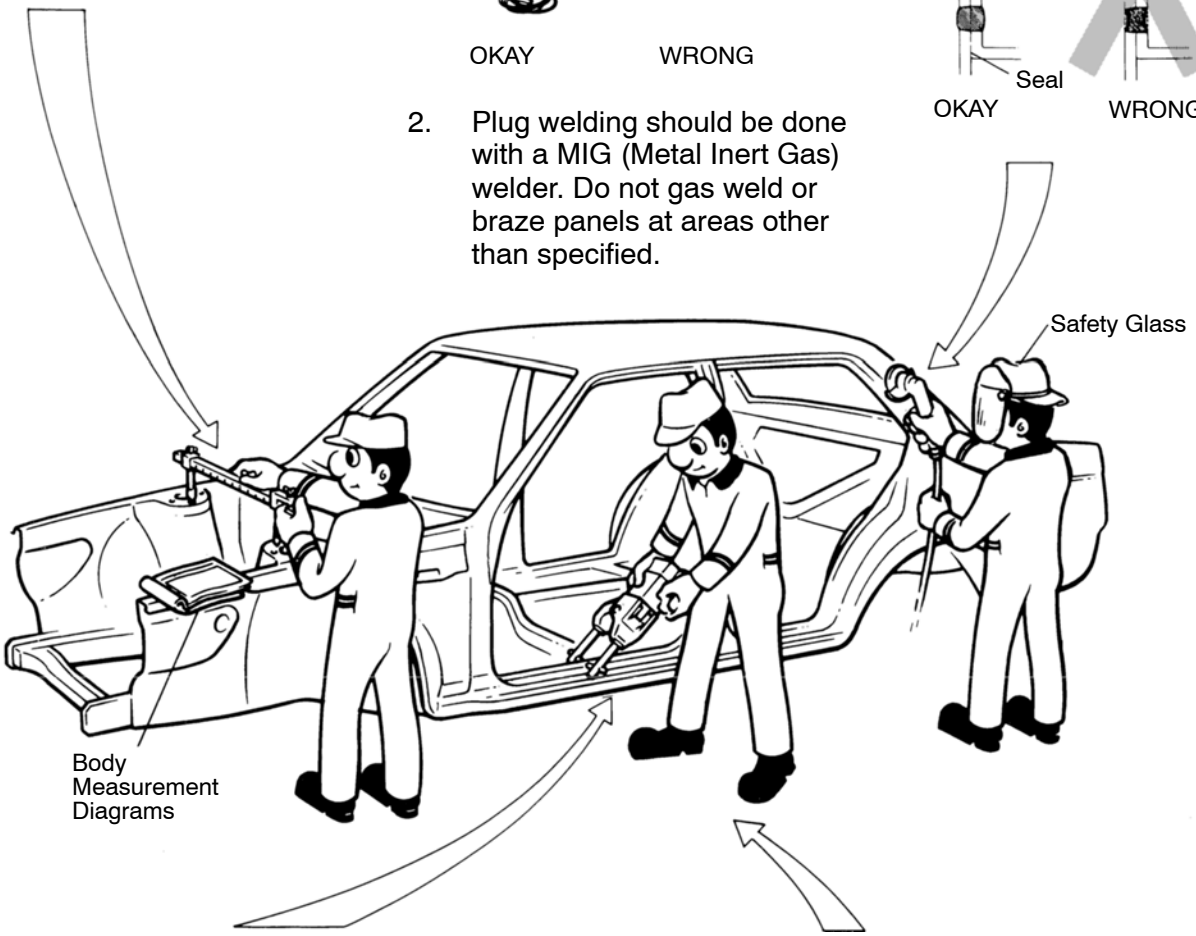
2. Plug welding should be done with a MIG (Metal Inert Gas) welder. Do not gas weld or braze panels at areas other than specified.

POST–WELDING REFINISHING

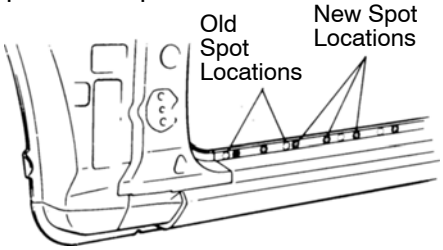
1. Always check the welded spots to insure they are secure.
2. When smoothing out the weld spots with a disc grinder, be careful not to grind off too much as this would weaken the weld.



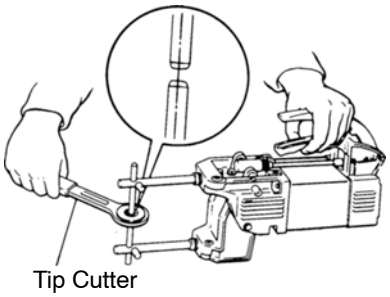
OKAY WRONG



SPOT WELD LOCATIONS
Try to avoid welding over previous spots.



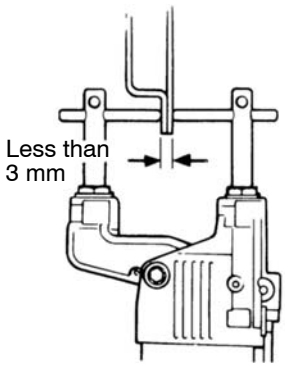
SPOT WELDING PRECAUTIONS



1. The shape of the welding tip point has an effect on the strength of the weld.
2. Always insure that the seams and welding tip are free of paint.

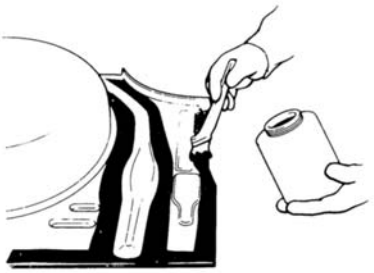
PREPARATION FOR INSTALLATION

SPOT WELD POINTS

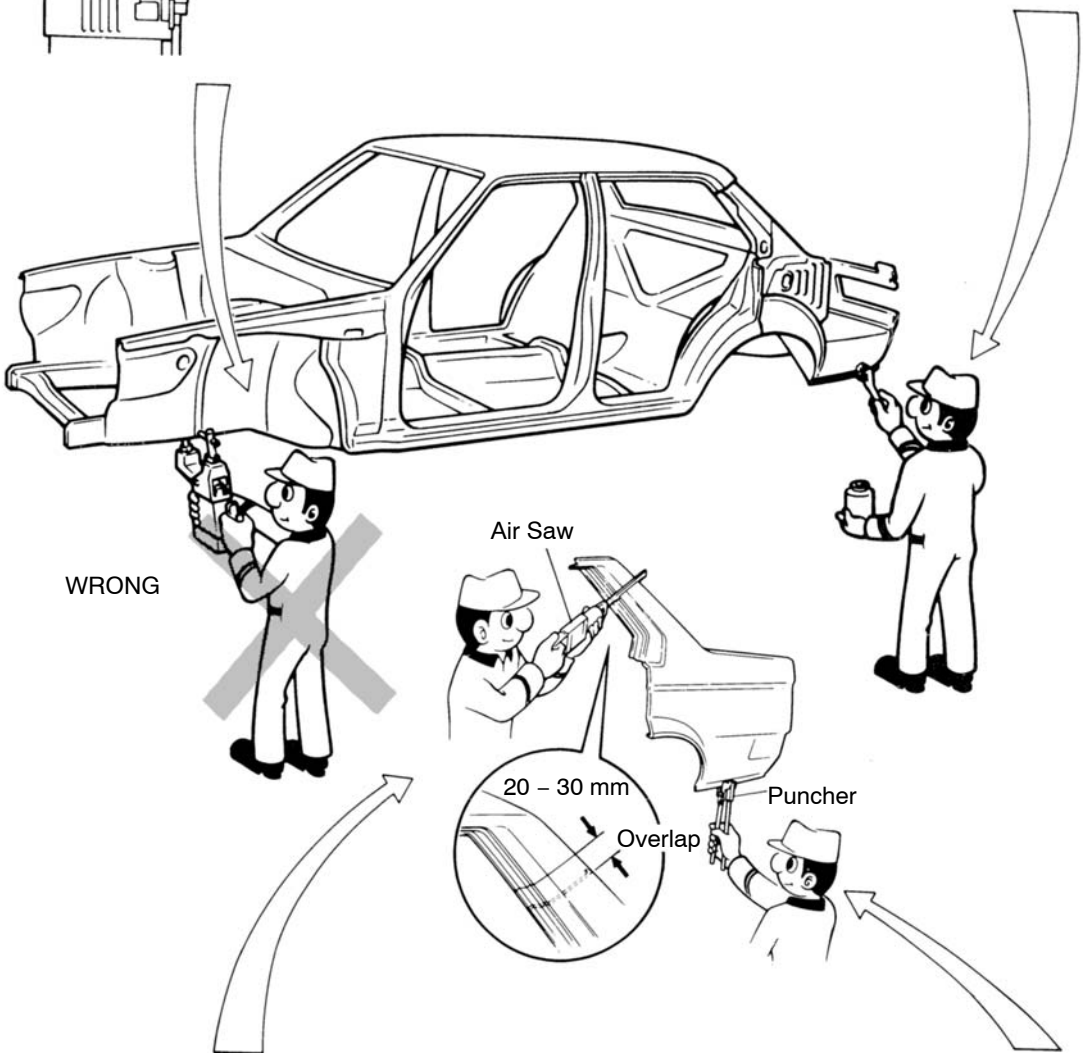


When welding panels with a combined thickness of over 3 mm (0.12 in.), use a MIG (Metal Inert Gas) welder for plug welding.
NOTE: Spot welding will not provide sufficient durability for panels over 3 mm (0.12 in.) thick.

APPLICATION OF WELD–THROUGH PRIMER



For treatment against corrosion, remove the paint from the portion of the new part and body to be welded, and apply weld–through primer.



ROUGH CUTTING OF JOINTS
For joint areas, rough cut the new part, leaving 20 – 30 mm (0.79 – 1.18 in.) overlap.

MAKING HOLES FOR PLUG WELDING
For areas where a spot welder cannot he used, use a puncher or drill to make holes for plug welding.

REFERENCE:

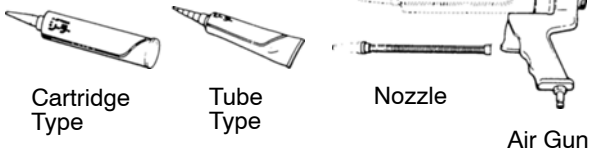
mm (in.)

Thickness of welded portion	Size of plug hole
1.0 (0.04) under	5 (0.20) ϕ over
1.0 (0.04) over	6.5 (0.26) ϕ over

ANTI−CORROSIVE TREATMENT

When replacing body panels, always apply body sealer, anti−rust treatment or undercoating according to the requirements of your country.

BODY SEALER
Apply body sealer to the required areas.



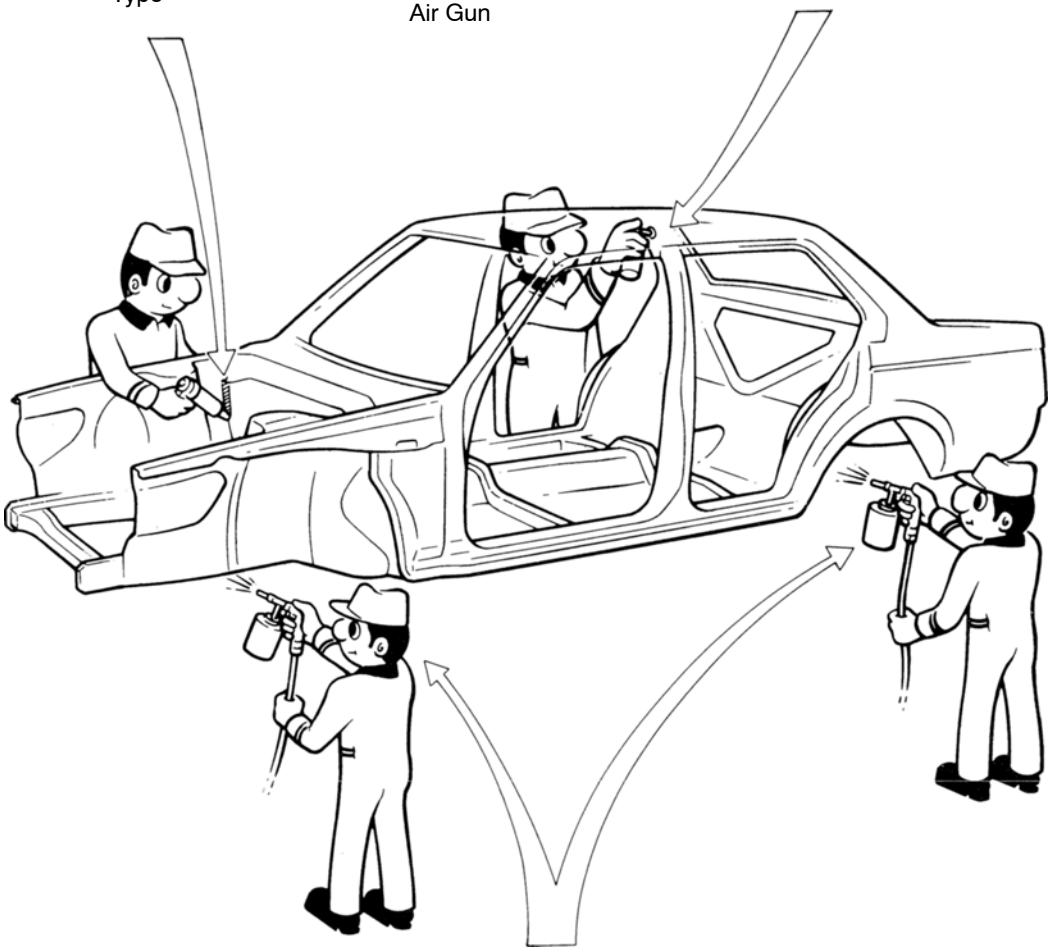
Cartridge Type

Tube Type

Nozzle

Air Gun

CHASSIS RUST−PROOFING
Anti−rust treatment for welding spots or inside brazed areas (torque box).



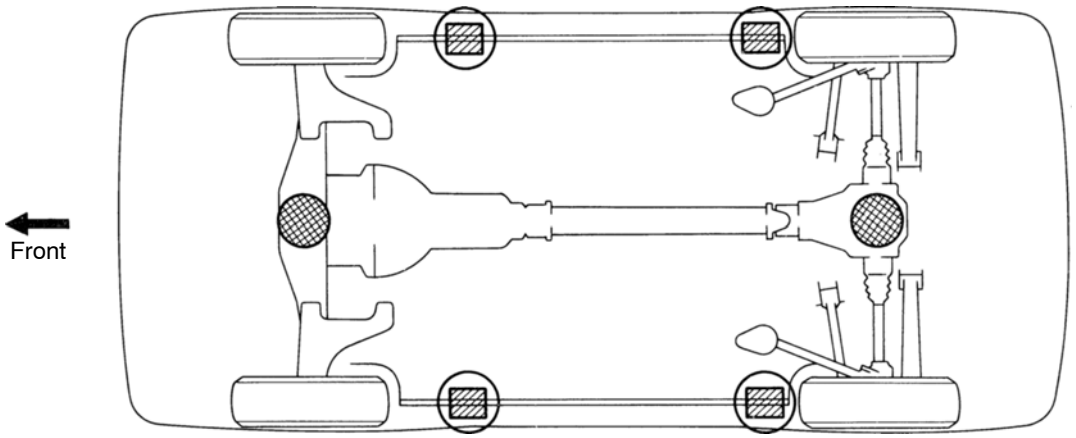
UNDERCOATING
Anti−rust treatment for underbody welding spots and wheel housings.

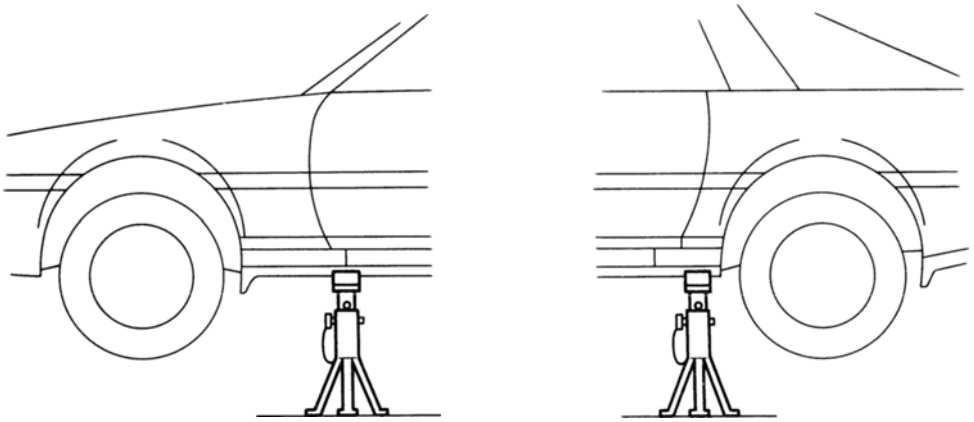
Undercoating (Oil base)

Undercoating (Water base)

Spray Gun

VEHICLE LIFT AND SUPPORT LOCATIONS





JACK POSITION

Front . . . . . Center of front suspension crossmember
Rear . . . . . Center of differential carrier

PANTOGRAPH JACK POSITION

SUPPORT POSITION

Safety stand . . . . . .

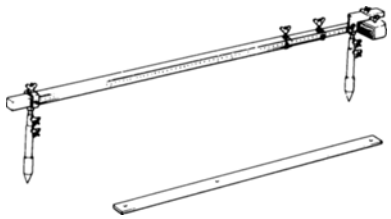
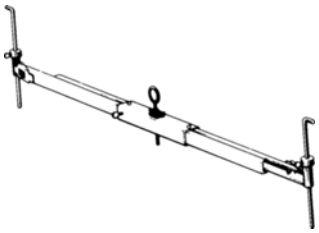
IN0088
IN0089

ABBREVIATIONS USED IN THIS MANUAL

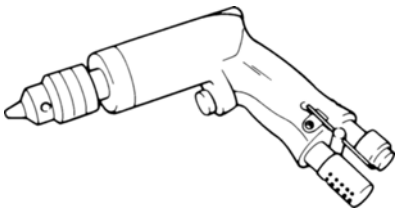
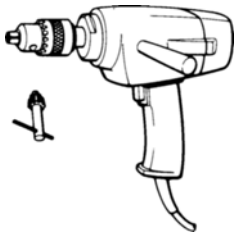
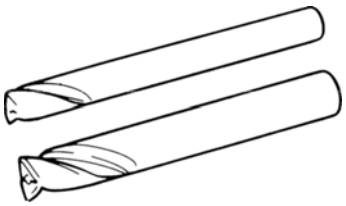
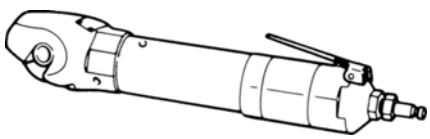
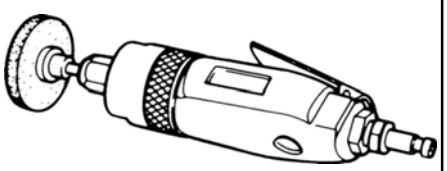
For convenience, the following abbreviations are used in this manual.

Assy, assy	Assembly, assembly
Sub−assy	Sub−assembly
Ex.	Except
in.	Inch
IRS	Independent Rear Suspension
4−link	4−link Rear Suspension
MIG	Metal Inert Gas
M/Y	Model Year
OPN	Operation
SP	Spot Weld (Resistance Spot Weld)
w/	With
w/o	Without
FR	Front
RR	Rear
RH	Right−hand
RHD	Right−hand Drive
LH	Left−hand
LHD	Left−hand Drive

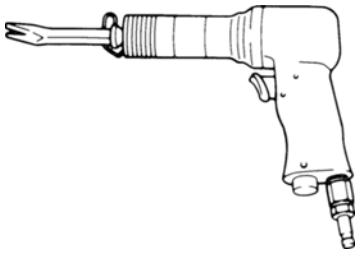
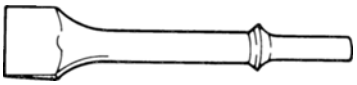
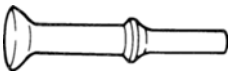
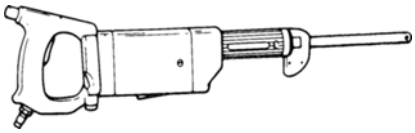
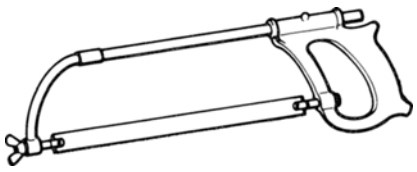
MEASURING INSTRUMENTS

	Tracking Gauge	For measuring body dimensions
	Frame Centering Gauge	When 3 or 4 are used together, measurements of twists, bends or warps in the body and frame are possible.

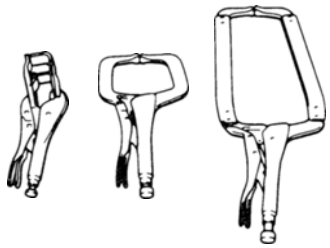
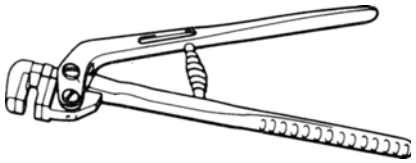
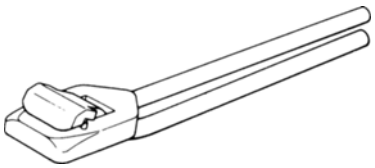
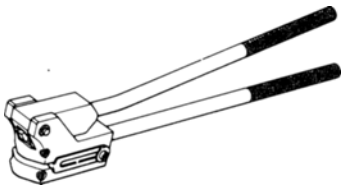
SEPARATING TOOLS

	Air−powered Drill	For separating spot welds and making holes in the body.
	Electric−powered Drill	For separating spot welds and making holes in the body.
	Spot Cutter	For separating spot welds.
	Air−powered Cutter	For cutting panels.
	Air−powered Chuck Grinder	For separating spot and plug welds and grinding off traces of plug welds.

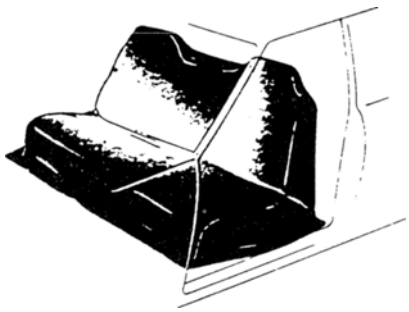
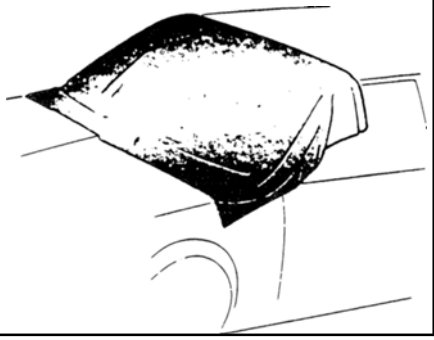
SEPARATING TOOLS (Cont'd)

	Air–powered Chisel	For rough cutting and rough flattening of panels.
	Panel Cutter	For rough cutting of panels.
	Flat Chisel	For separating spot welds.
	Hammer Tool	For rough flattening in hard–to–reach areas.
	Air–powered Saw	For rough cutting of pillars, rocker panels, etc.
	Air–powered Saw	For rough cutting of pillars, rocker panels, etc.
	Hacksaw	For rough cutting of pillars, rocker panels, etc.

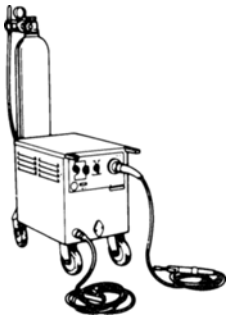
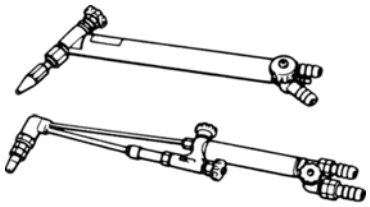
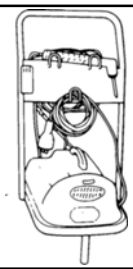
INSTALLATION ASSISTANCE TOOLS

	Vise Grip Wrench	For temporary installation of panels and holding of portions to be welded.
	Flanging Tool	For making flanges in overlapping panels.
	Hemming Tool	For hemming door outer panels, etc.
	Hole Punch	For making holes for MIG plug welding.

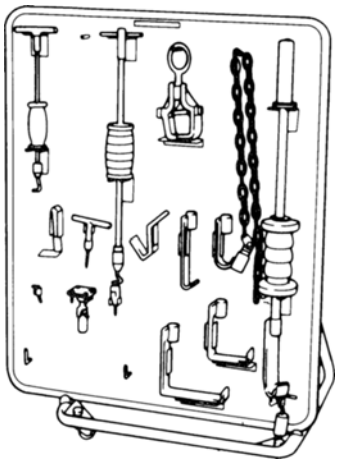
BODY PROTECTORS

	Seat Cover	For protecting the seats from welding sparks, etc.
	Glass Cover	For protecting the glass from welding sparks, etc.

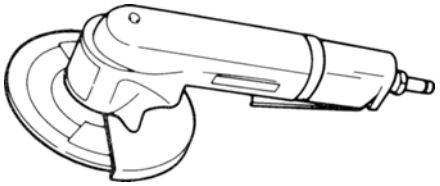
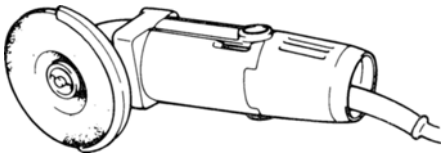
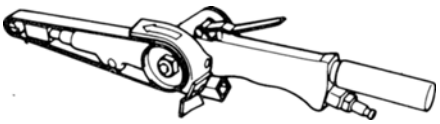
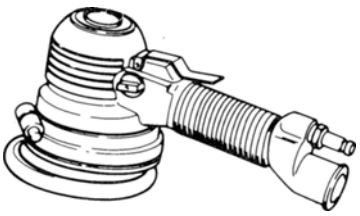
WELDING INSTRUMENTS

	MIG Welder (Metal Inert Gas)	For panel welding.
	Spot Welder	For panel welding.
	Gas Welder Torch Gas Cutter Torch	For rough cutting of panels, members, etc.
	Acetylene Gas Torch	For soldering and peeling of paint.
	Straightening Machine	For straightening distorted panels.
	Panel Extractor	For extraction of closed−in panels.

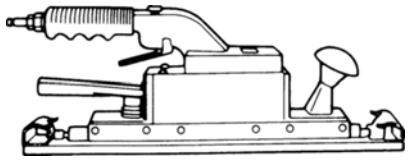
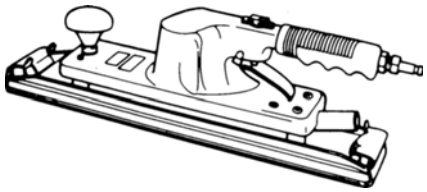
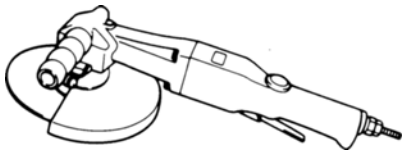
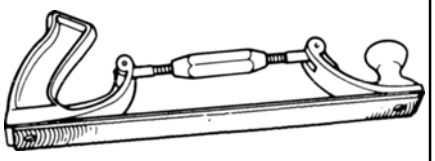
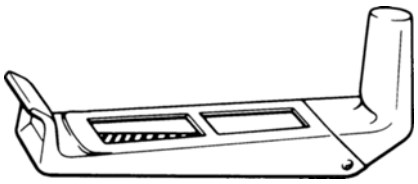
LIGHT BODY REPAIR TOOLS

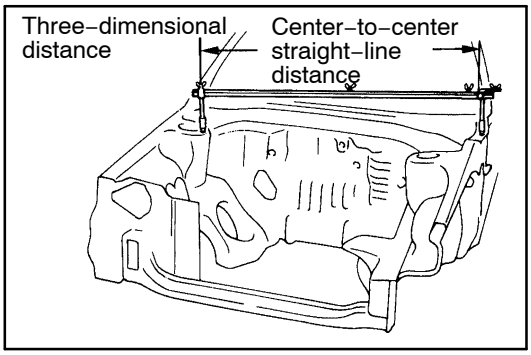
	Body Pullers	For straightening lightly damaged panels.

GRINDING AND POLISHING TOOLS

	Air–powered Disc Grinder	For grinding plug welds, butt welds and door hems.
	Electric–powered Disc Sander	For grinding plug welds, butt welds and door hems.
	Belt Sander	For removing paint around weld areas.
	Double–action Sander	For rough grinding and polishing, and feather edging.

GRINDING AND POLISHING TOOLS (Cont'd)

	Straight−line Sander	For rough polishing of panel putty.
	Air−powered Orbital Sander	For removing putty over a wide area, re-surfacing and refinishing.
	Air−powered Disc Sander	For peeling paint.
	File Holder	For paint removal.
	Flexible File Holder	For correction of soldering spots and resurfacing of panels.
	Surforrn Tool	For rough finishing of panels.

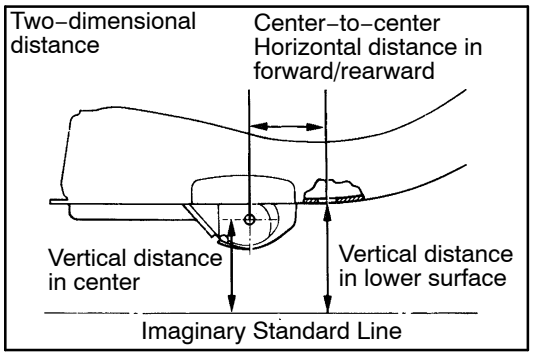


GENERAL INFORMATION

1. BASIC DIMENSIONS

(a) There are two types of dimensions in the diagram. (Three–dimensional distance)

- Straight–line distance between the centers of two measuring points.



(Two–dimensional distance)

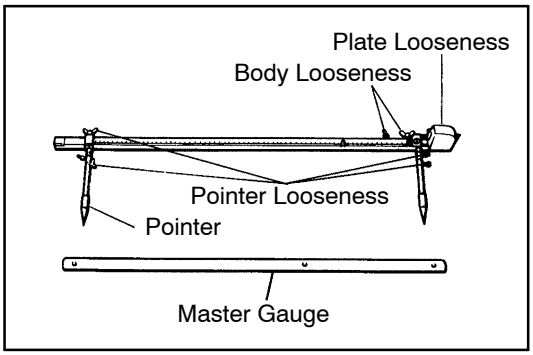
- Horizontal distance in forward/rearward between the centers of two measuring points.
- The height from an imaginary standard line.

(b) In cases in which only one dimension is given, left and right are symmetrical.

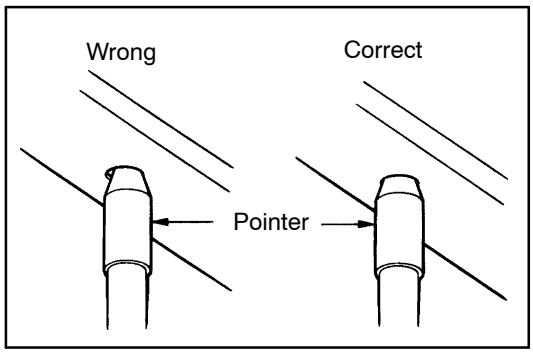
(c) The dimensions in the following drawing indicate actual distance. Therefore, please use the dimensions as a reference.

2. MEASURING

(a) Basically, all measurements are to be done with a tracking gauge. For portions where it is not possible to use a tracking gauge, a tape measure should be used.

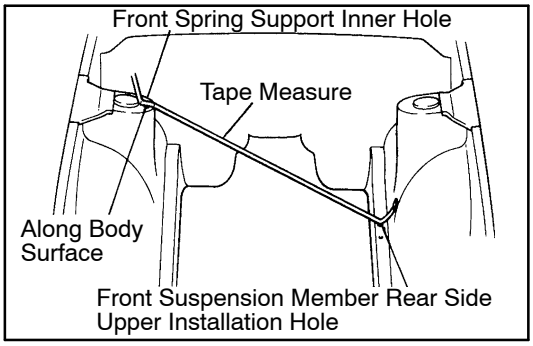


(b) Use only a tracking gauge that has no looseness in the body, measuring plate, or pointers.



HINT:

1. *The height of the left and right pointers must be equal.*
2. *Always calibrate the tracking gauge before measuring or after adjusting the pointer height.*
3. *Take care not to drop the tracking gauge or otherwise shock it.*
4. *Confirm that the pointers are securely in the holes.*

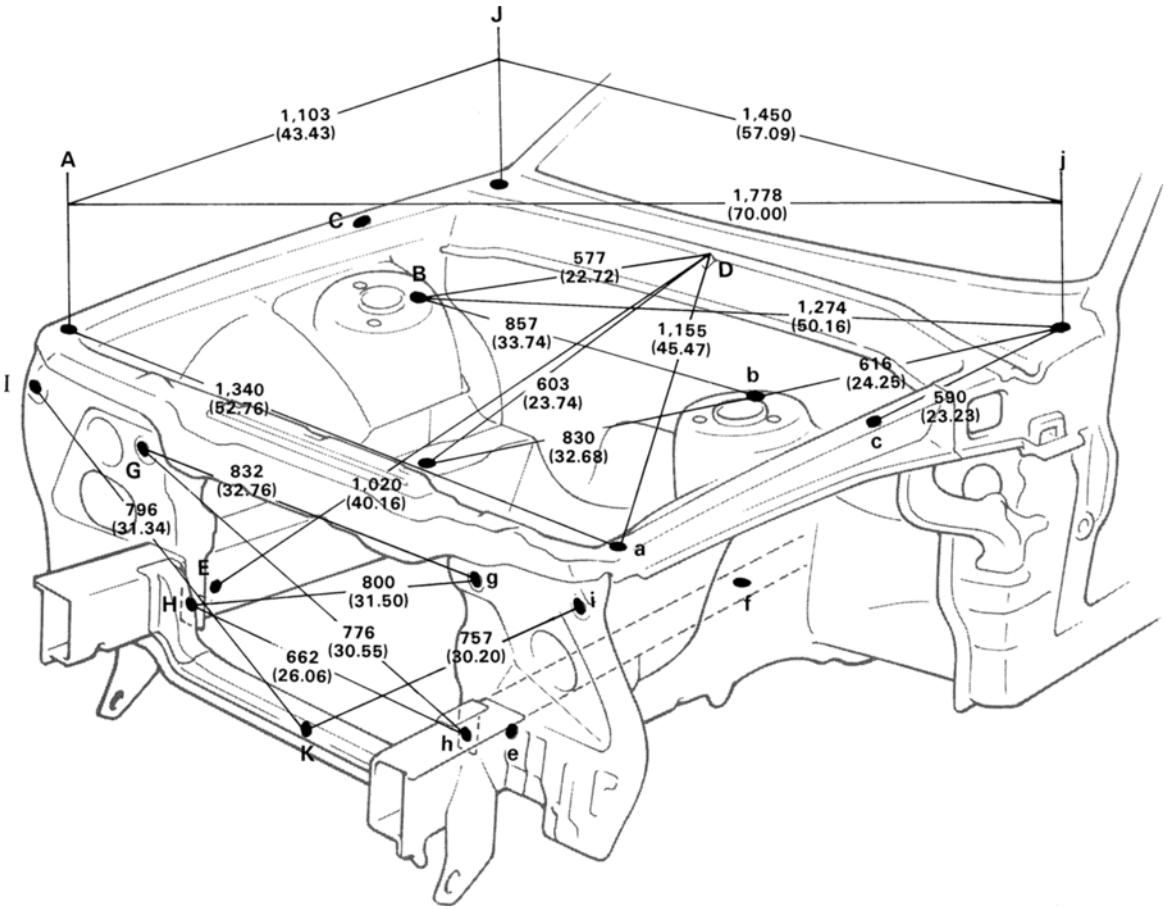


(c) When using a tape measure, avoid twists and bends in the tape.

(d) When tracking a diagonal measurement from the front spring support inner hole to the suspension member upper rear installation hole, measure along the front spring support panel surface.

BODY DIMENSION DRAWINGS

ENGINE COMPARTMENT

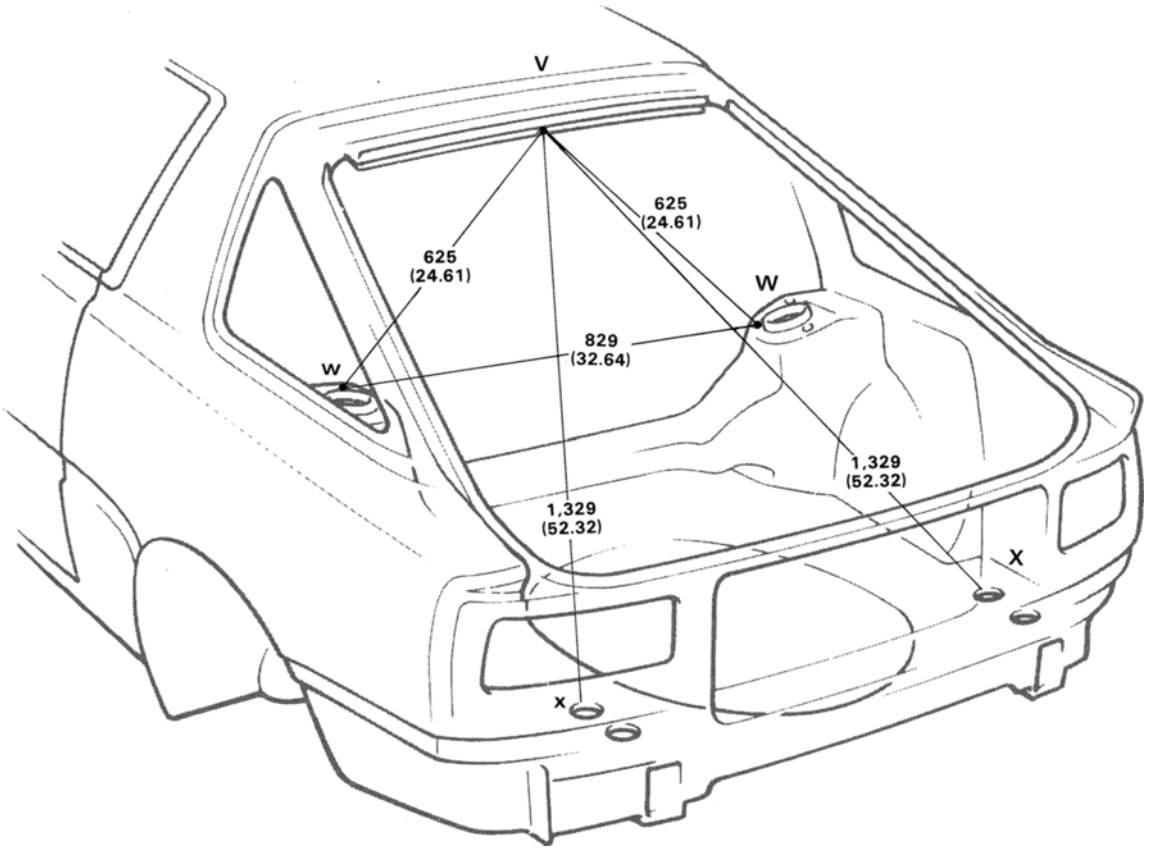


mm (in.)

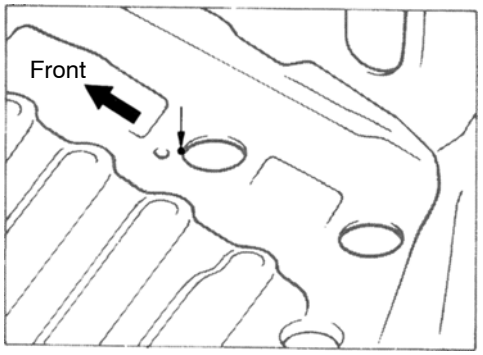
Symbol	Nomenclature	Hole dia.
A, a	Front fender installation nut−front	8 (0.31)
B, b	Front spring support hole−rear	11 (0.43)
C, c	Front fender installation nut−rear	8 (0.31)
D	Cowl top panel center mark	—
E, e	Front side member standard hole	15 (0.59)
F, f	Suspension member rear installation hole−upper	17 (0.67)
G, g	Retractable light bracket installation nut−upper	11 (0.43)
H, h	Radiator seal installation hole−lower	7 (0.28)
I, i	Front fonder aide installation hole	8 (0.31)
J, j	Cowl top panel standard hole	10 (0.39)
K	Hood lock support brace installation nut	7 (0.28)

BO1788

LUGGAGE COMPARTMENT



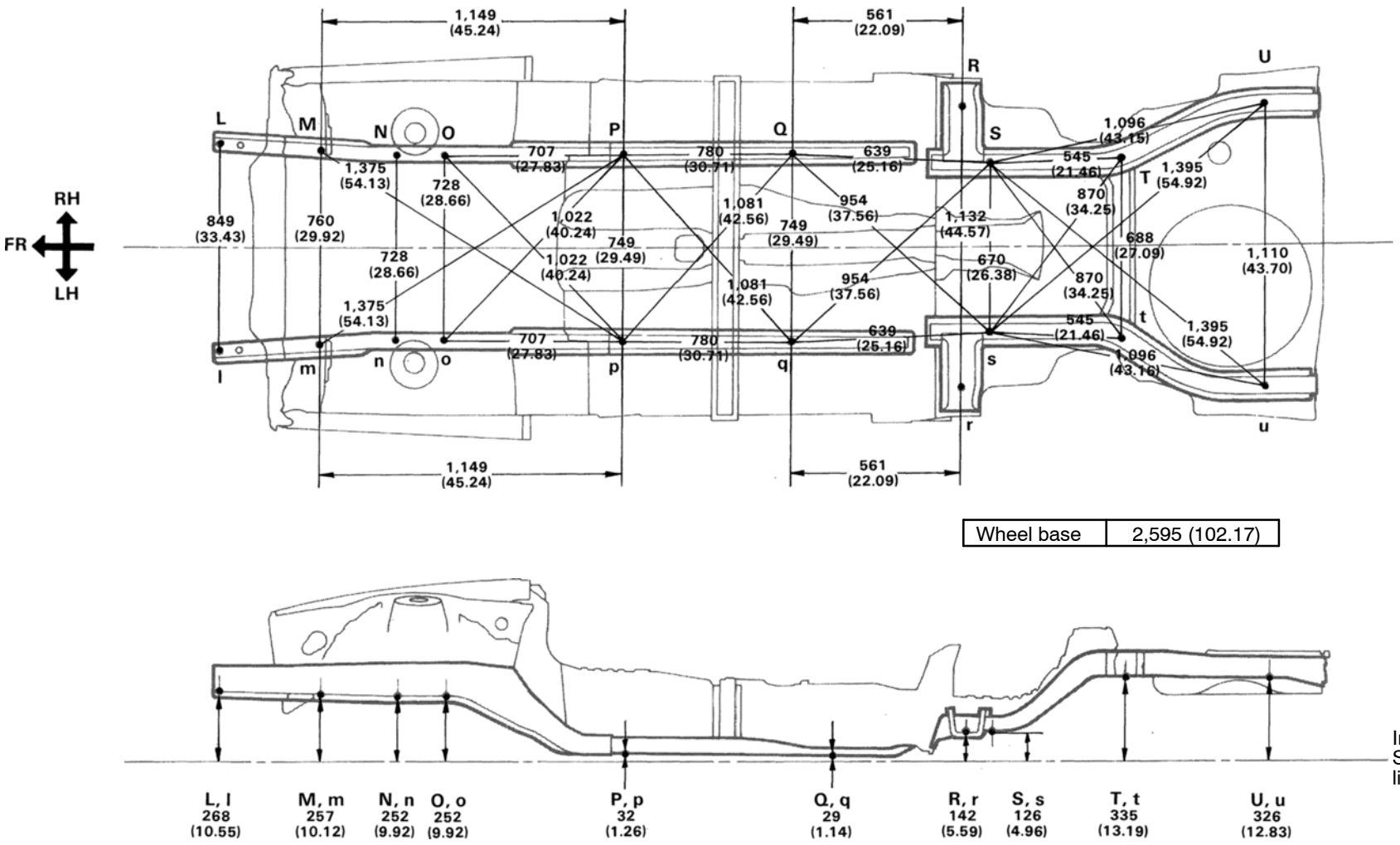
X, x Point



mm (in.)

Symbol	Nomenclature	Hole dia.
V	Back door opening frame center mark	2 (0.08)
W, w	Rear suspension spring support hole−inner	9 (0.35)
X, x	Rear floor pan bumper installation hole−front	40 (1.57)

BO1790



Wheel base	2,595 (102.17)

BO1789

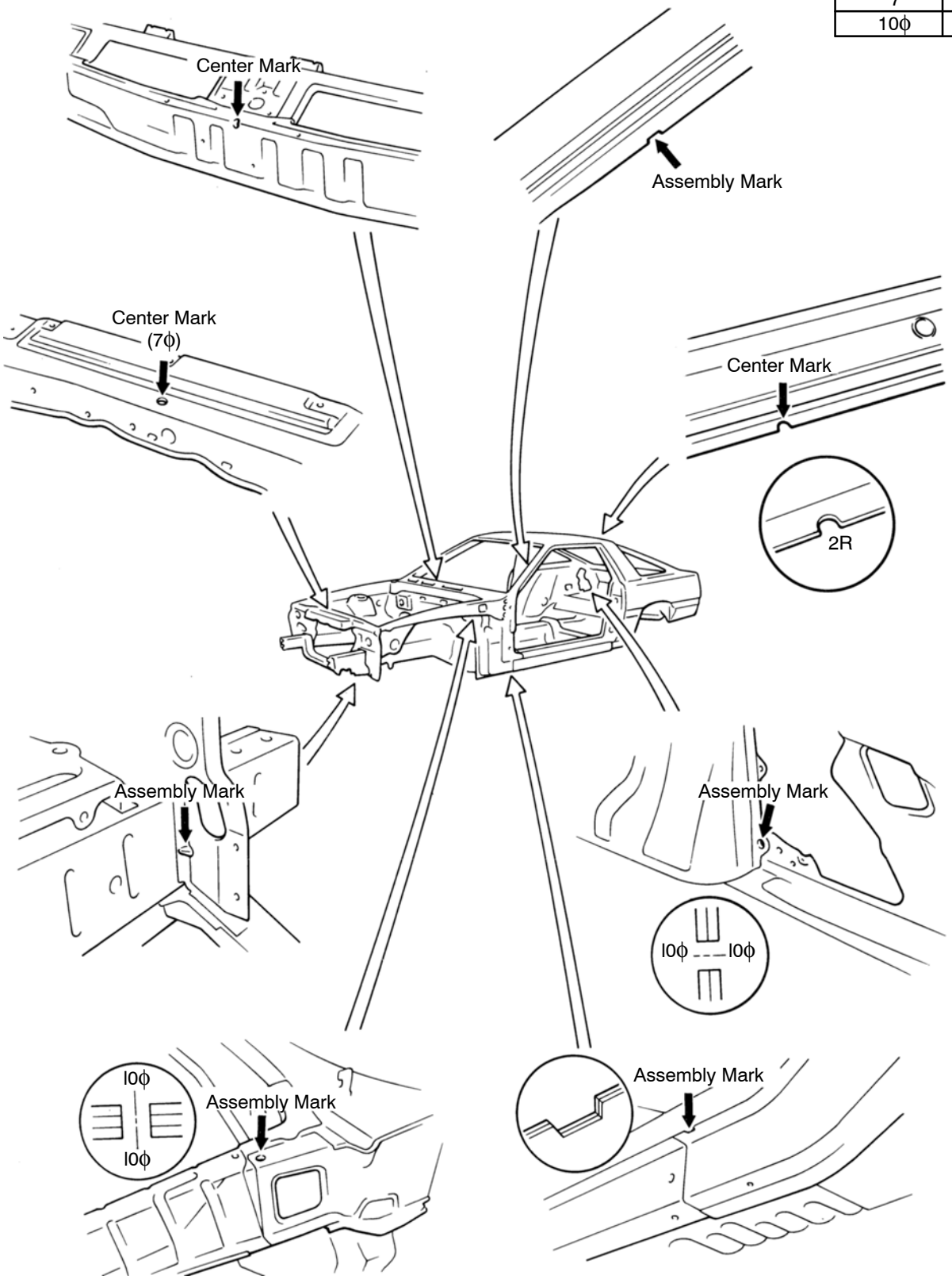
mm (in)

Symbol	Nomenclature	Hole dia	Symbol	Nomenclature	Hole dia.
L	Front side member bumper front installation hole–Lower	15 (0.59)	Q,q	Front floor No. 2 reinforcement standard hole	10 (0.39)
l	Front side member bumper front installation hole–Lower	17×15 (0.67×0.59)	R, r	Suspension member front installation hole–outer	19 (0.75)
M, m	Stabilizer front installation nut	11 (0.43)	S, s	Center floor side member standard hole	18 (0.71)
N, n	Suspension member front installation hole–lower	17 (0.67)	T, t	Suspension member rear installation hole	25×18(0.98×0.71)
O,o	Suspension member rear installation hole–lower	17 (0.67)	U, u	Rear floor side member standard hole	18 (0.71)
P, p	Front floor under reinforcement standard hole	10 (0.39)	—	—	—

STANDARD BODY MARKS

LIFTBACK

mm	in.
2	0.08
7	0.28
10ϕ	0.39

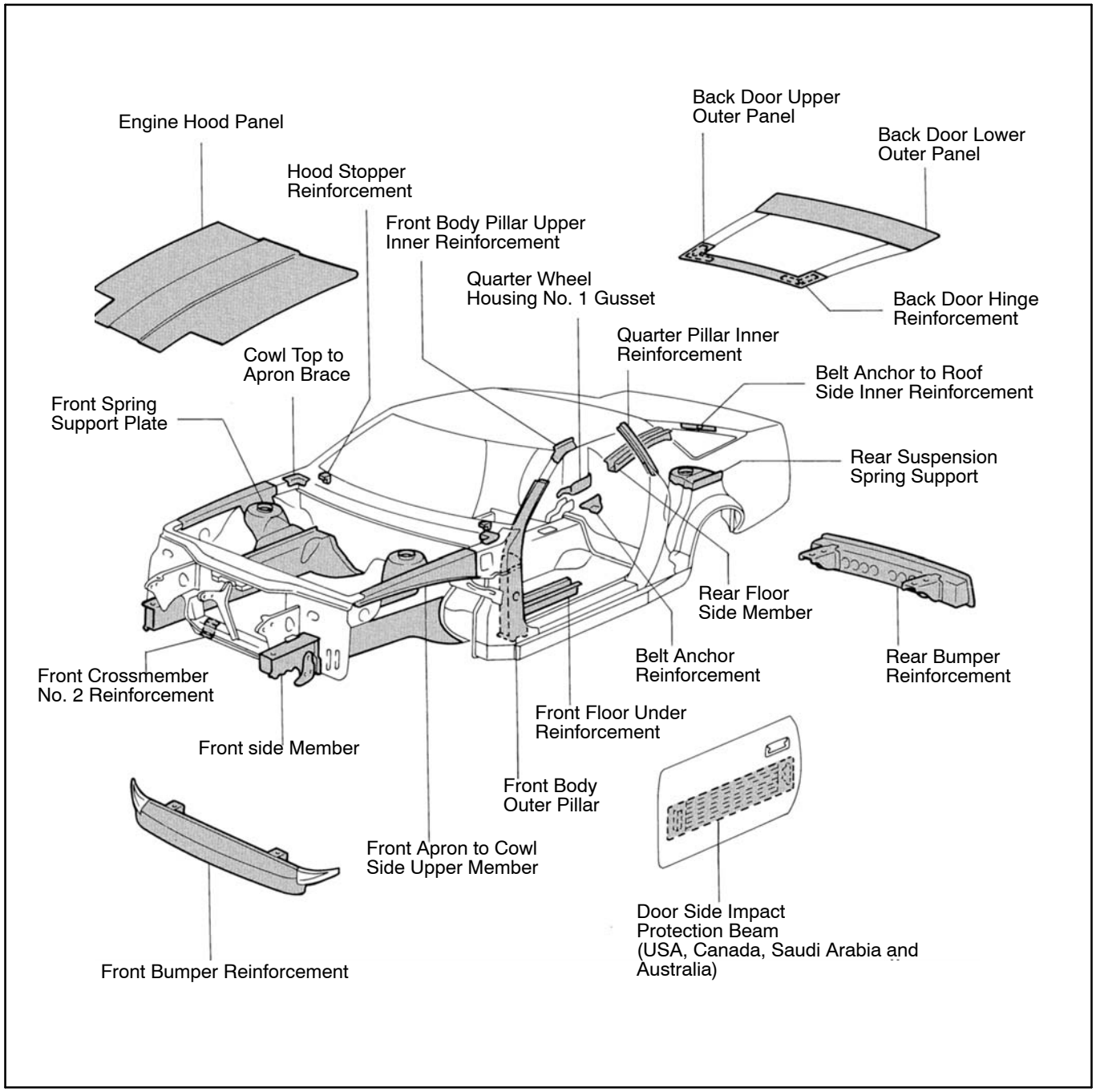


HIGH−STRENGTH STEEL (HSS) PARTS

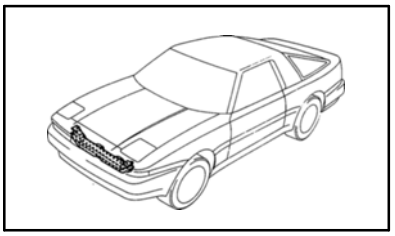
Generally, High−Strength Steel (HSS) is that which has an intensity value of at least 35 kg f/mm^2, and distinguished from mild steel.

The handling of HSS is the same as for mild steel, but the following should be observed.

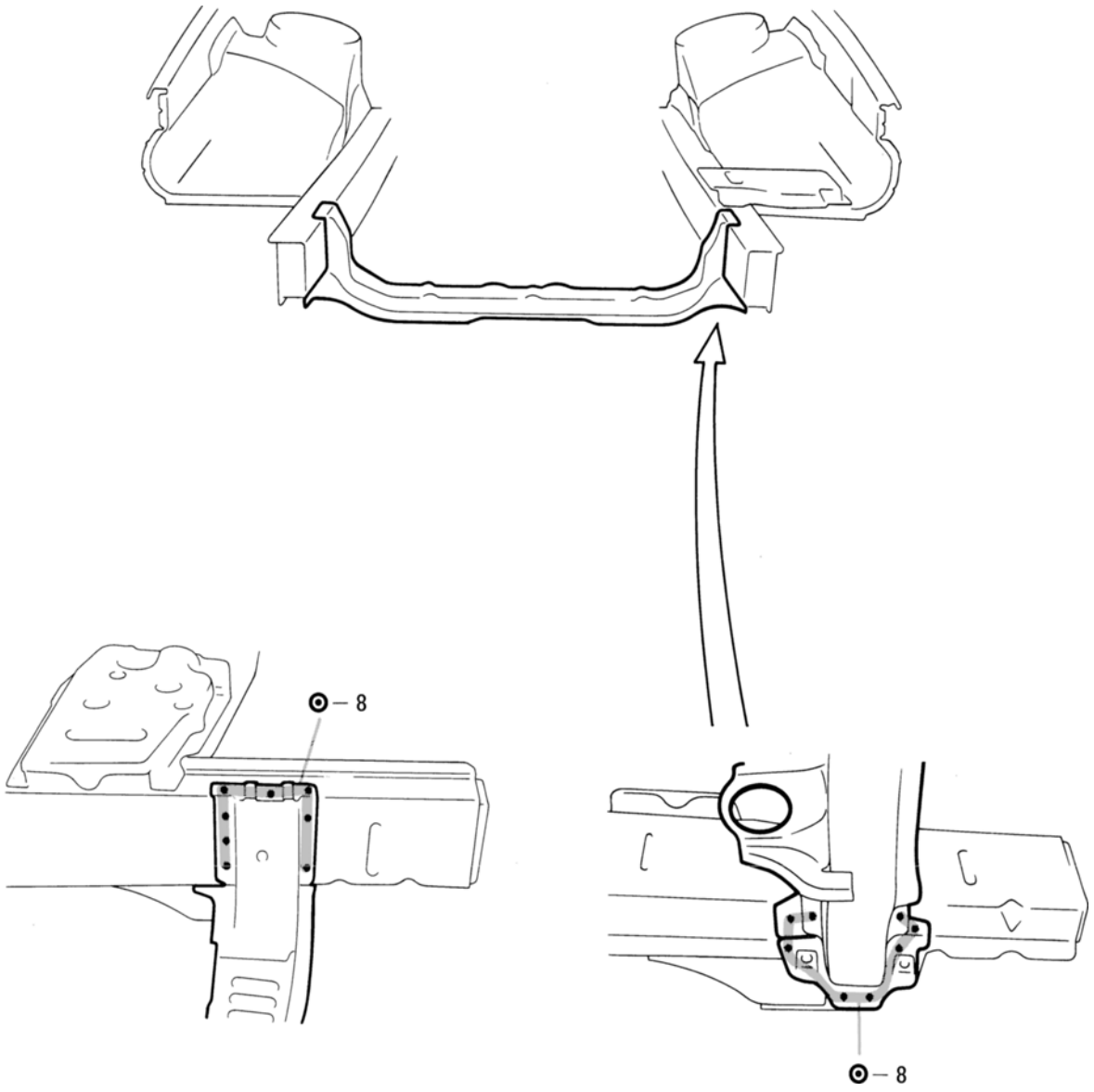
1. Panel Hammering; Because HSS is thinner than mild steel, care should be taken to avoid warping during hammering operations.
2. Removing Stop Welds: Because HSS is tougher than mild steel, damage will occur more easily to a regular drill. Therefore, an HSS Spot Cutter is recommended.
   Also, use a high−torque drill at low speed, and supply grinding oil to the drill during use.
3. Panel Welding: Panel welding procedures for HSS are exactly the same as for mild steel. Plug welding should be done with a MIG (Metal Inert Gas) welder. Do not gas weld or braze panels at areas other than specified.



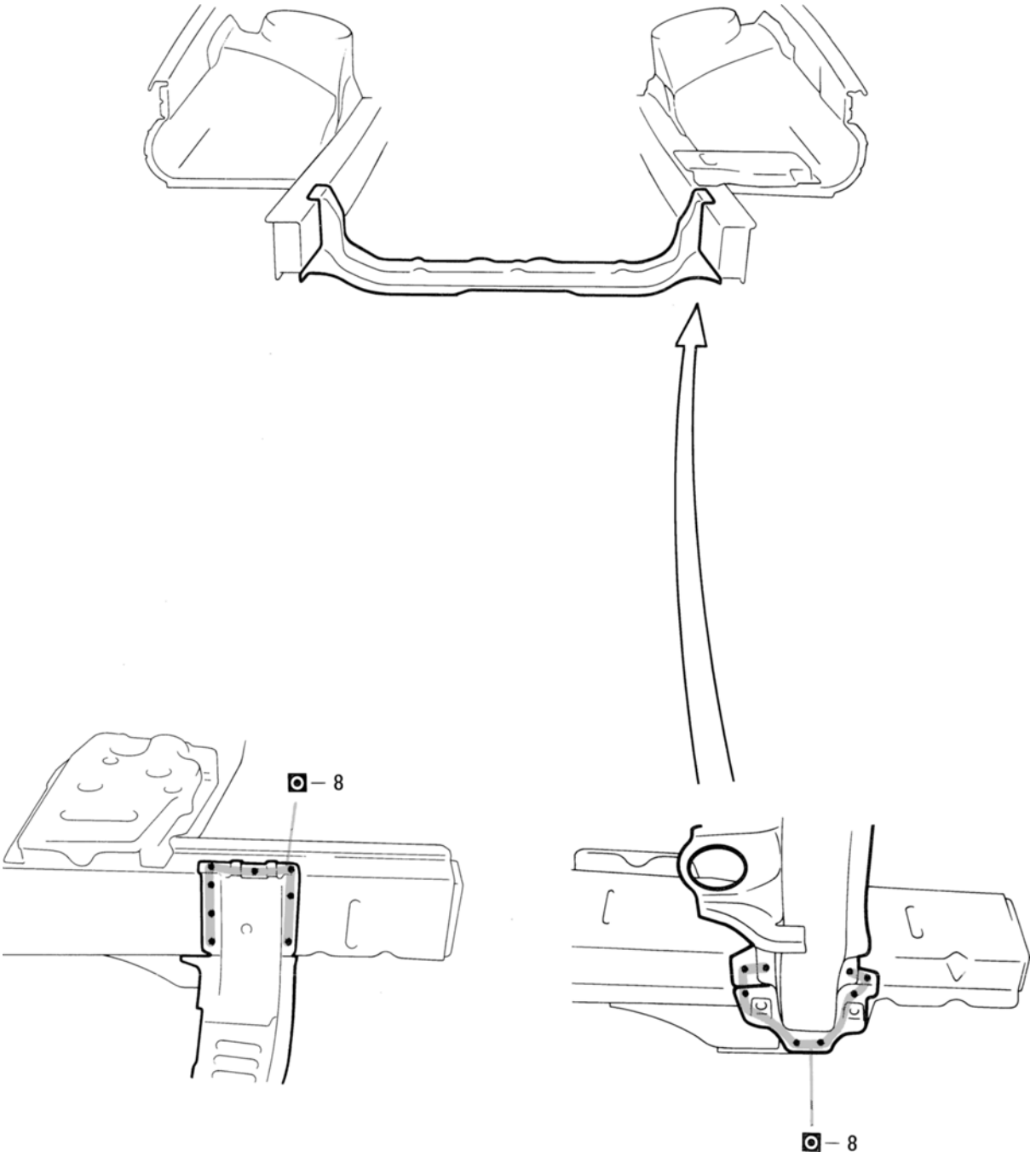
FRONT CROSSMEMBER (ASSY)



REMOVAL

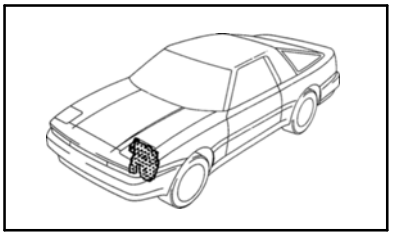


INSTALLATION

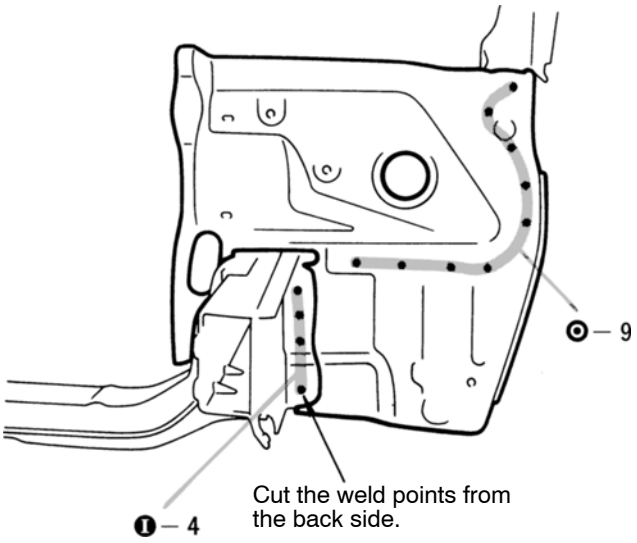


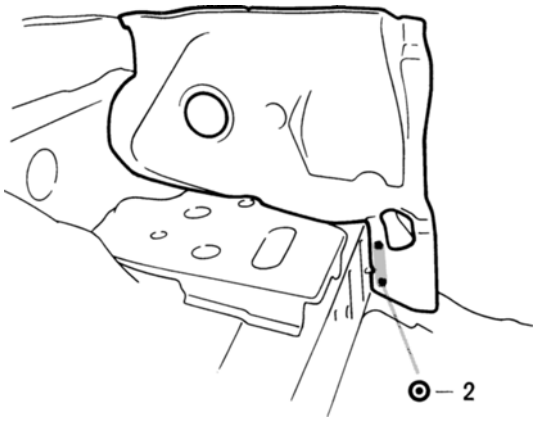
1. Temporarily installing the new part and measure each part in accordance with the body dimension diagram.

RADIATOR SUPPORT (ASSY)

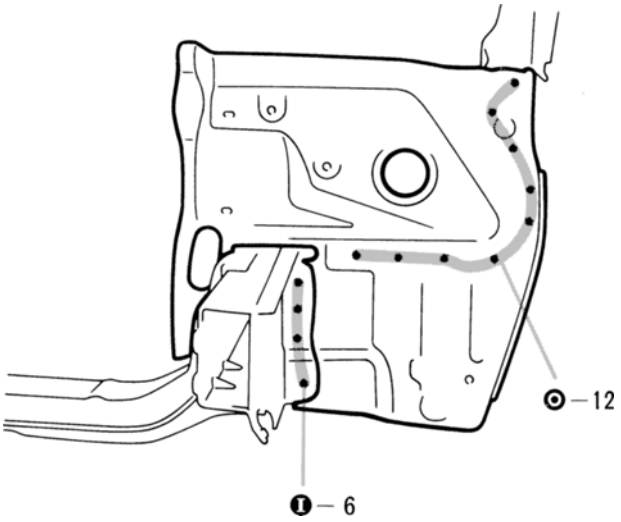


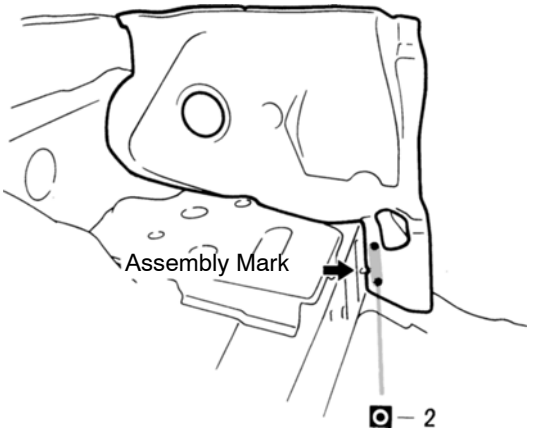
REMOVAL





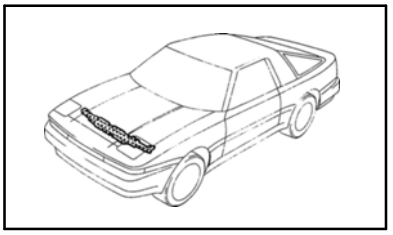
INSTALLATION



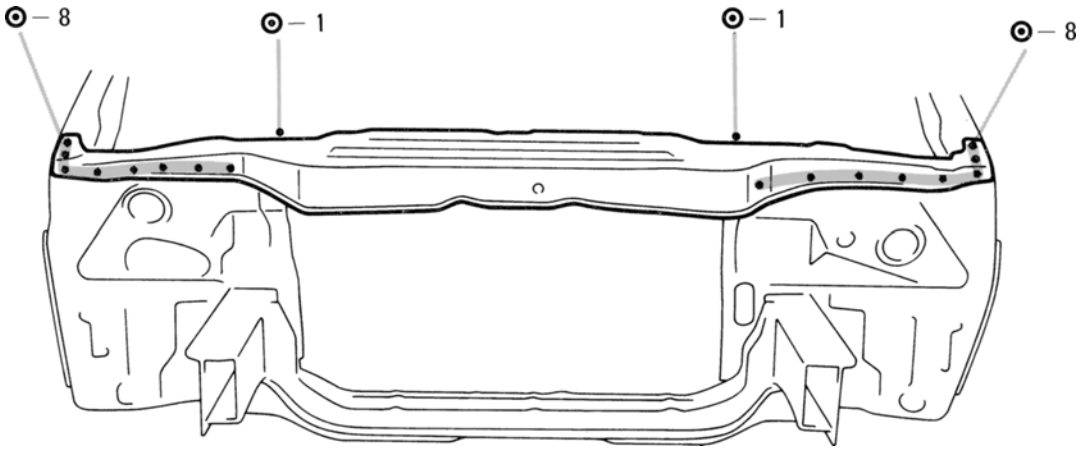


1. Temporarily install the new part with the assembly mark and measure each part in accordance with the body dimension diagram.

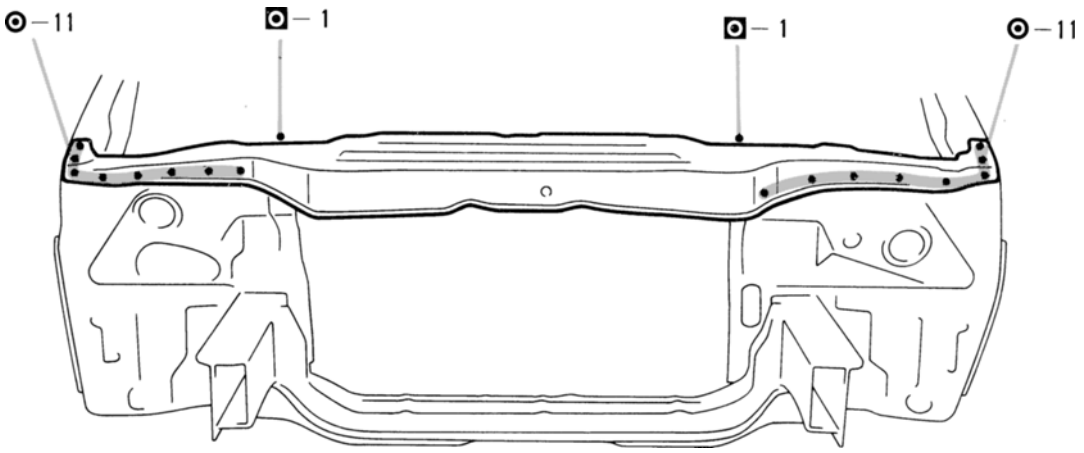
RADIATOR UPPER SUPPORT (ASSY)



REMOVAL



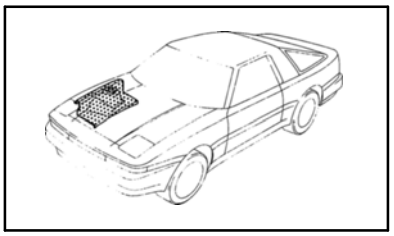
INSTALLATION



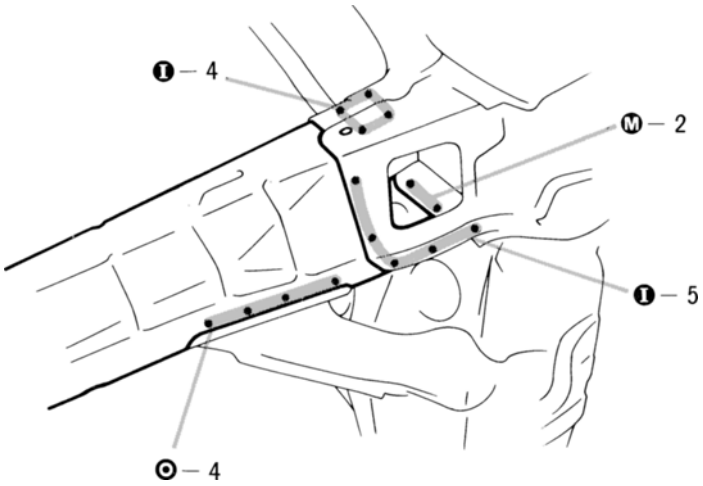
1. Temporarily install the new part and measure each part in accordance with the body dimension diagram.

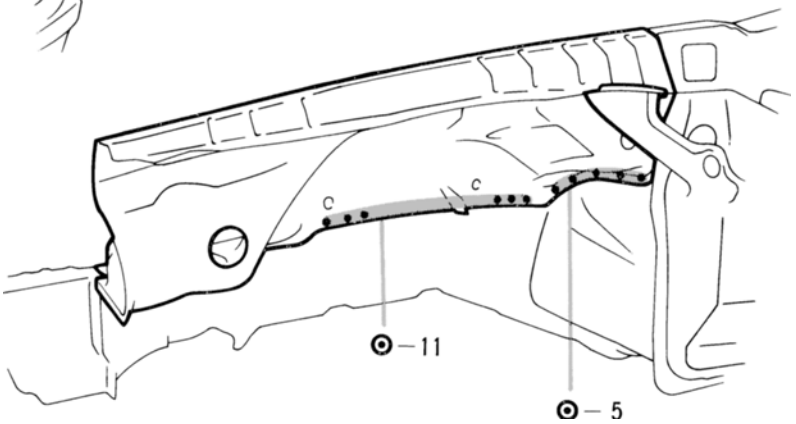
NOTE: Install the new panel with the hood lock support.

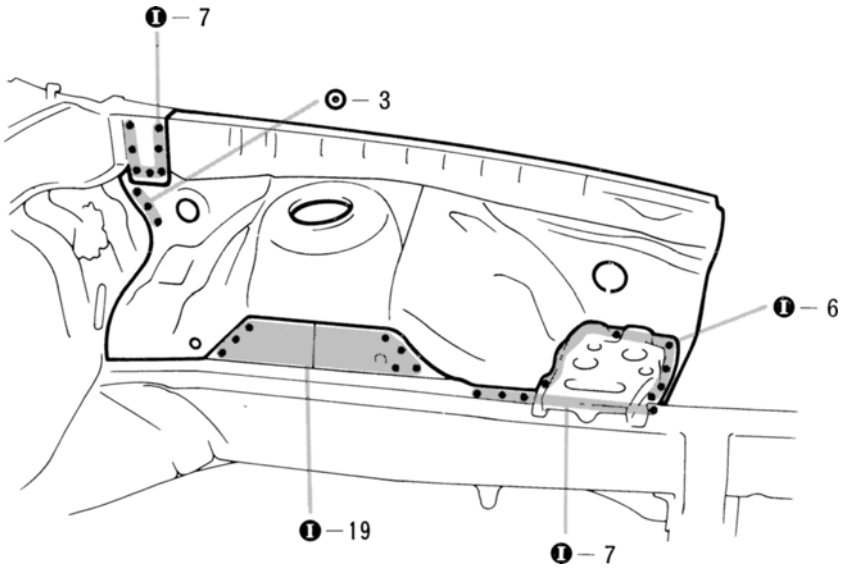
FRONT FENDER APRON (ASSY)



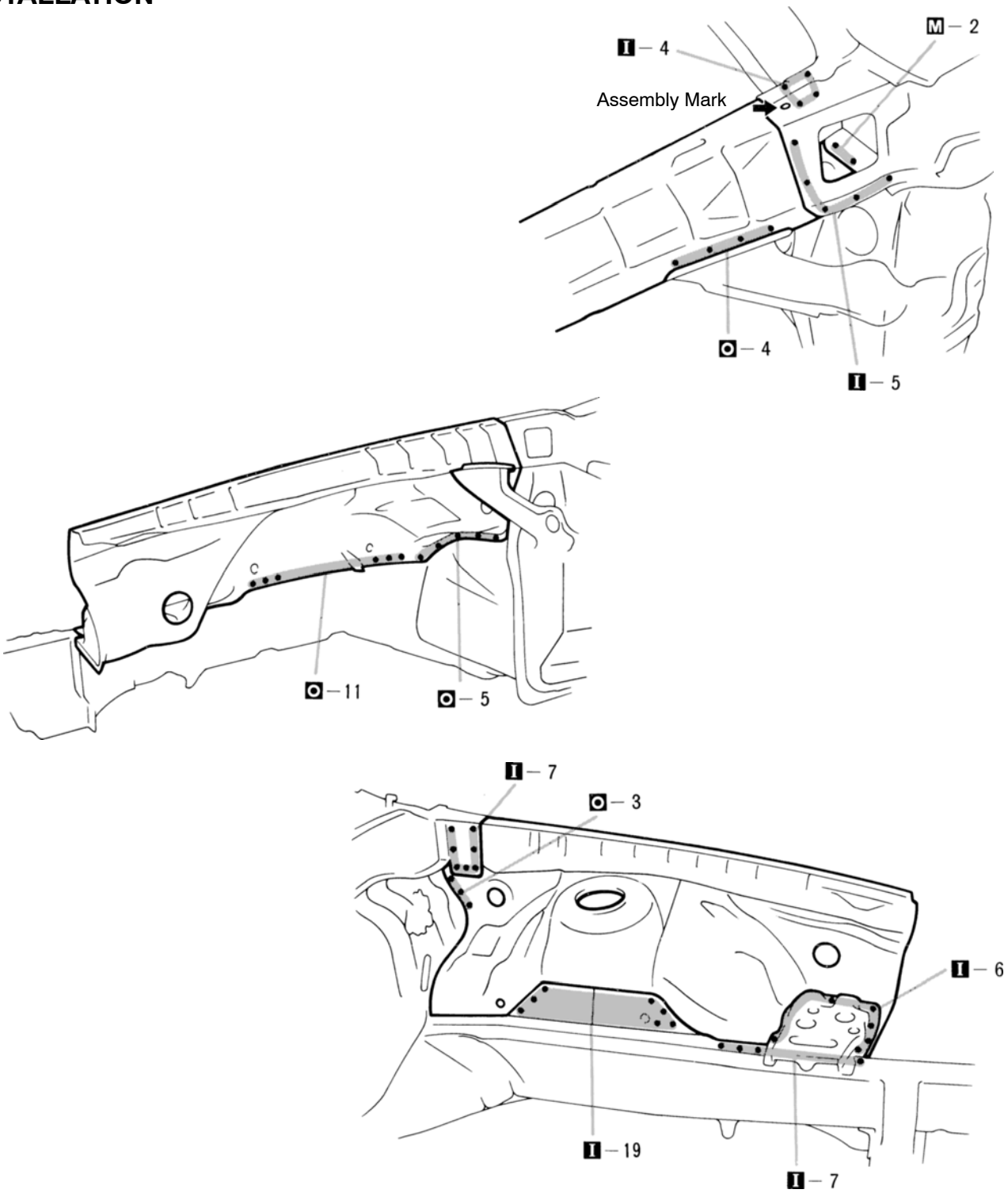
REMOVAL







INSTALLATION

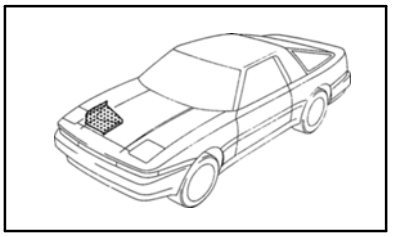


1. Determine the installation position of the new part by the assembly mark.
2. Measurements must be accurate with the body dimension diagram, as this effects the front wheel alignment.

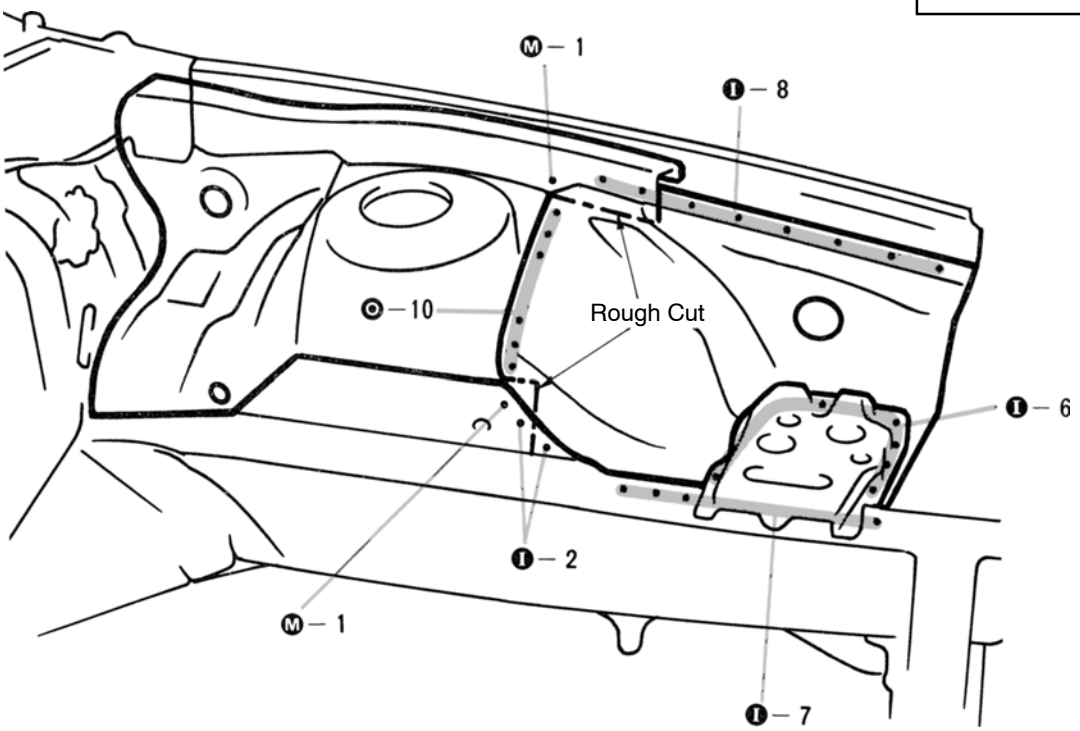
NOTE: The position of the front spring support hole is very important

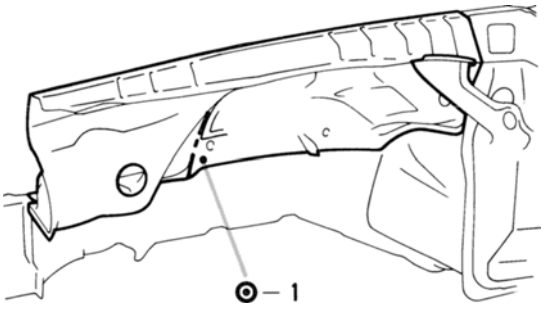
3. Check the fit of the front fender and hood.

FRONT FENDER APRON (CUT–H)



REMOVAL

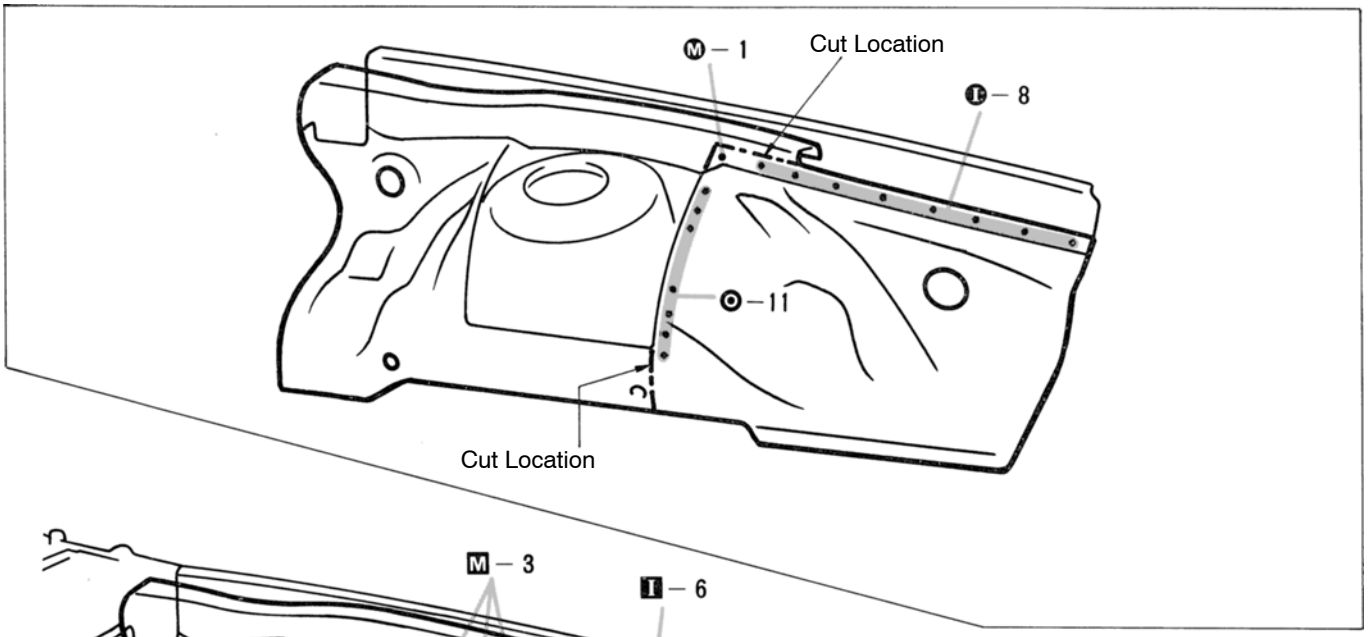


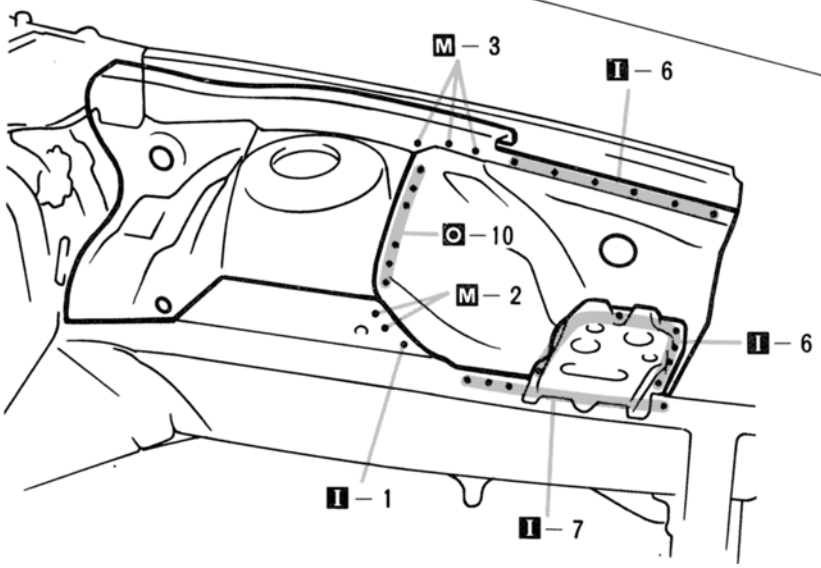


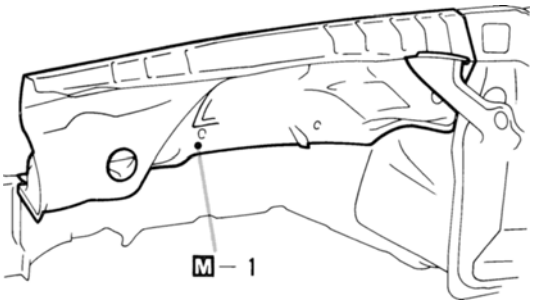
1. After removing the spot welds, rough cut the front fender apron shown above.

INSTALLATION

Cut for supply part

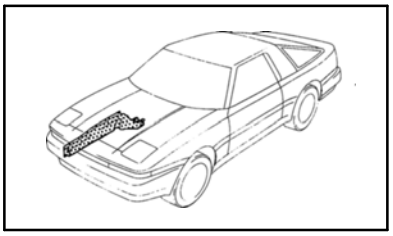




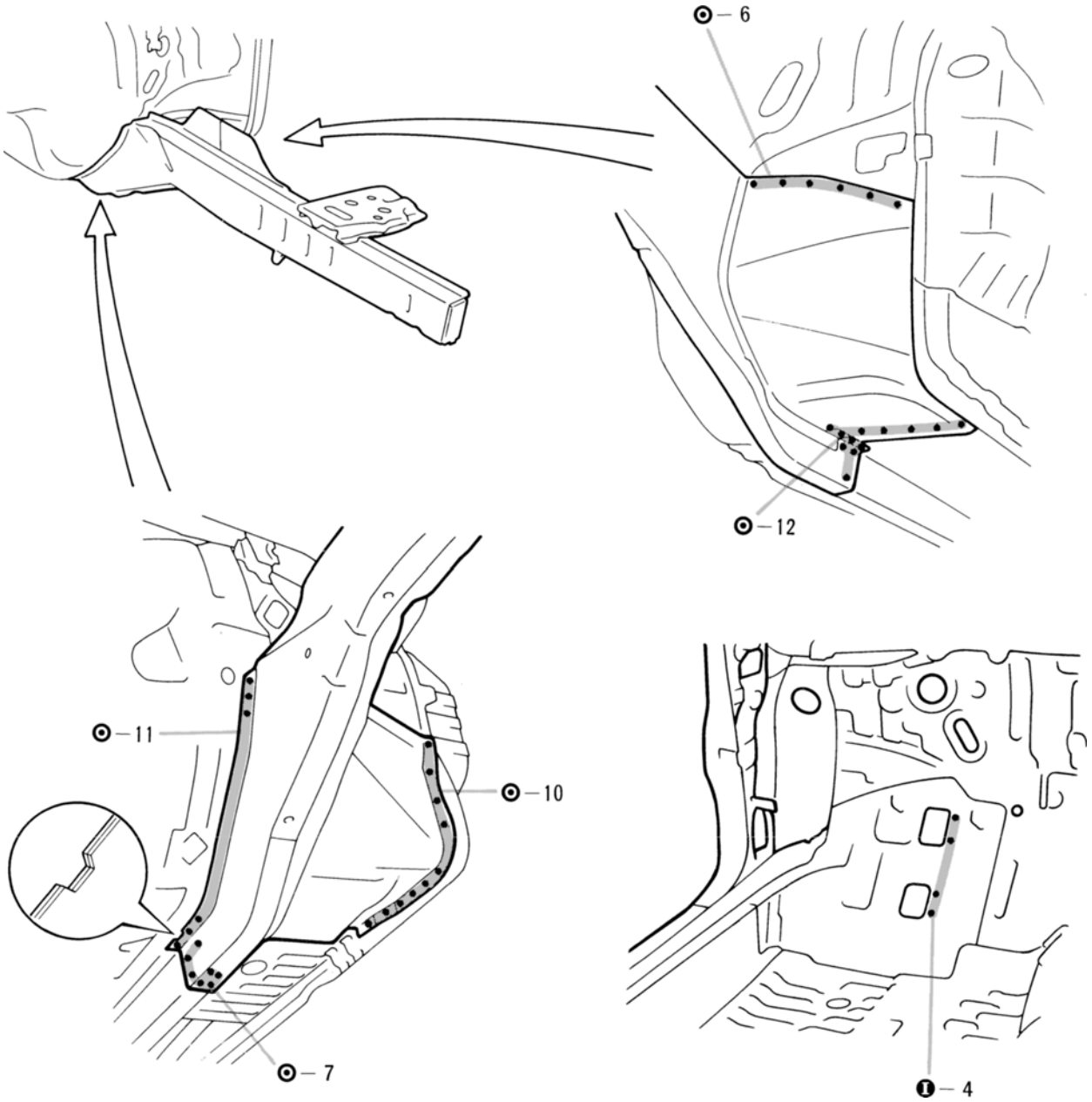


1. Cut the supply part shown above.

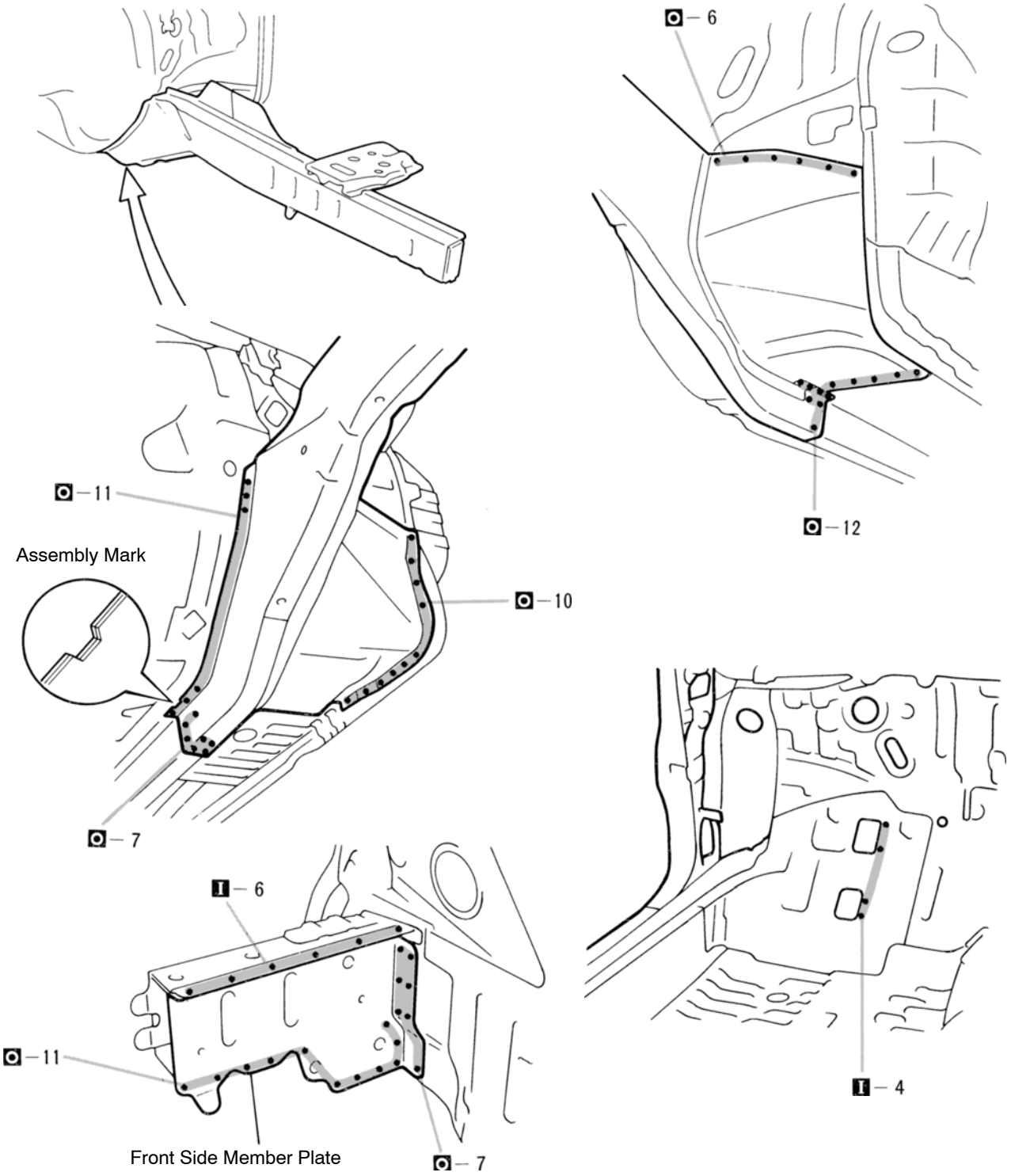
FRONT SIDE MEMBER (ASSY)



REMOVAL



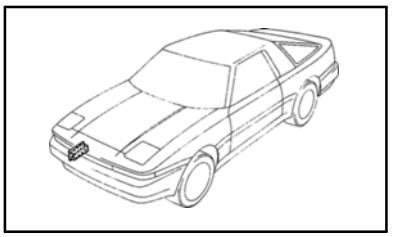
INSTALLATION



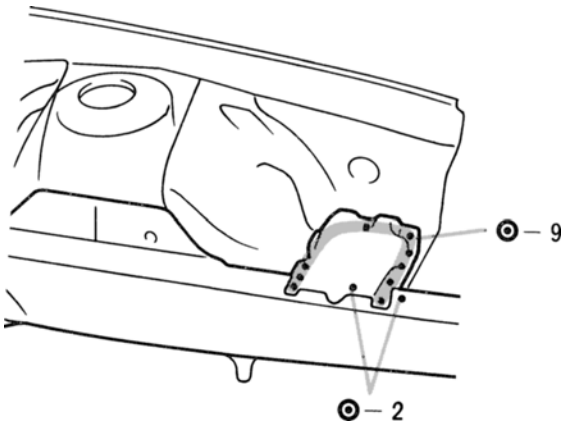
1. Temporarily install the new part and measure each part in accordance with the body dimension diagram.

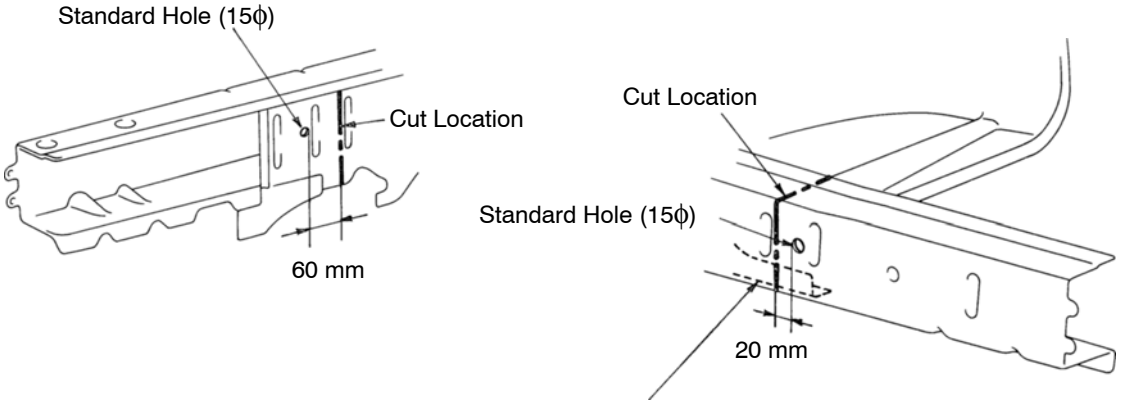
NOTE: Make sure each measurement is correct, as this part effects the front wheel alignment.

FRONT SIDE MEMBER (CUT–P)

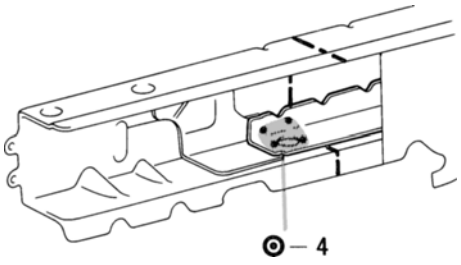


REMOVAL

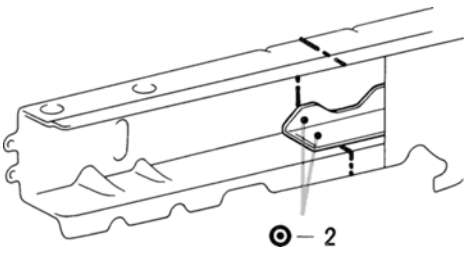




NOTE: Be careful not to damage the reinforcement when cutting the side member.



[USA and Canada]



[Ex. USA and Canada]

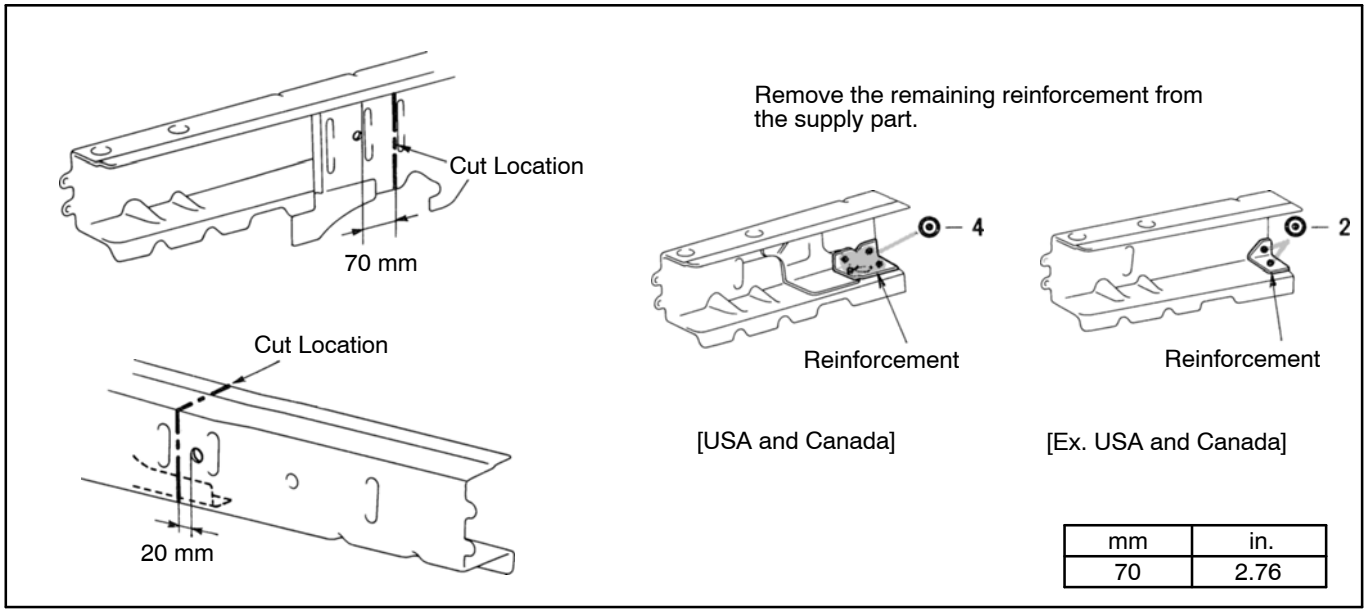
1. Before cutting the side member, remove the battery carrier support. (LH only)
2. Cut the front side member as shown above.

NOTE: Be careful not to damage the reinforcement when cutting the side member.

mm	in.
15	0.59
20	0.79
60	2.36

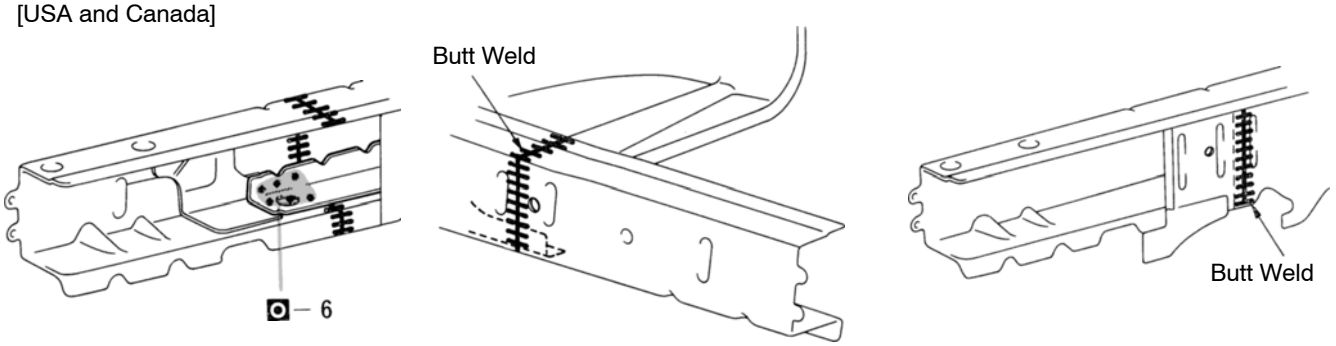
INSTALLATION

Cut for supply part

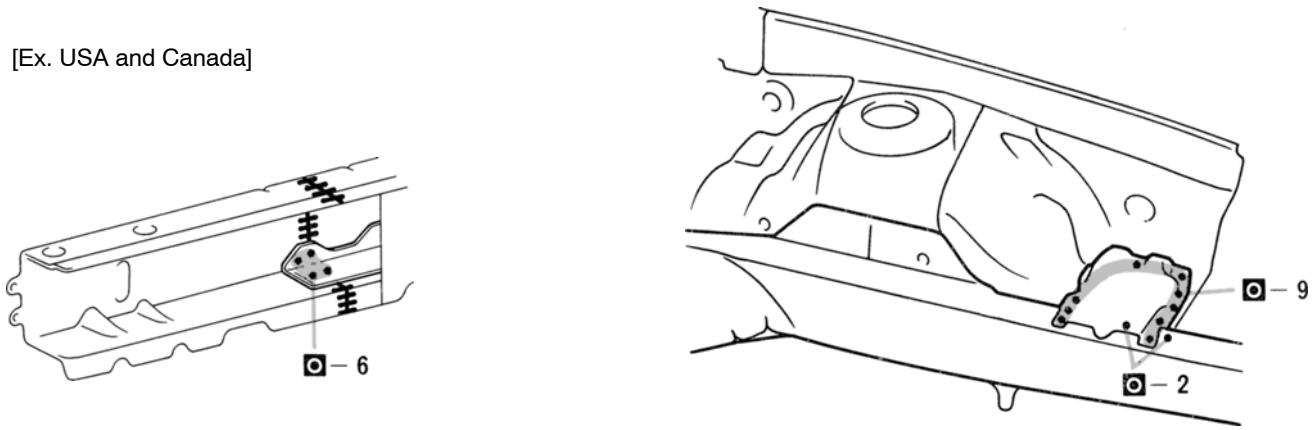


mm	in.
70	2.76

[USA and Canada]



[Ex. USA and Canada]

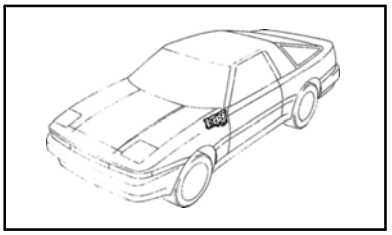


1. Cut the supply part shown above.

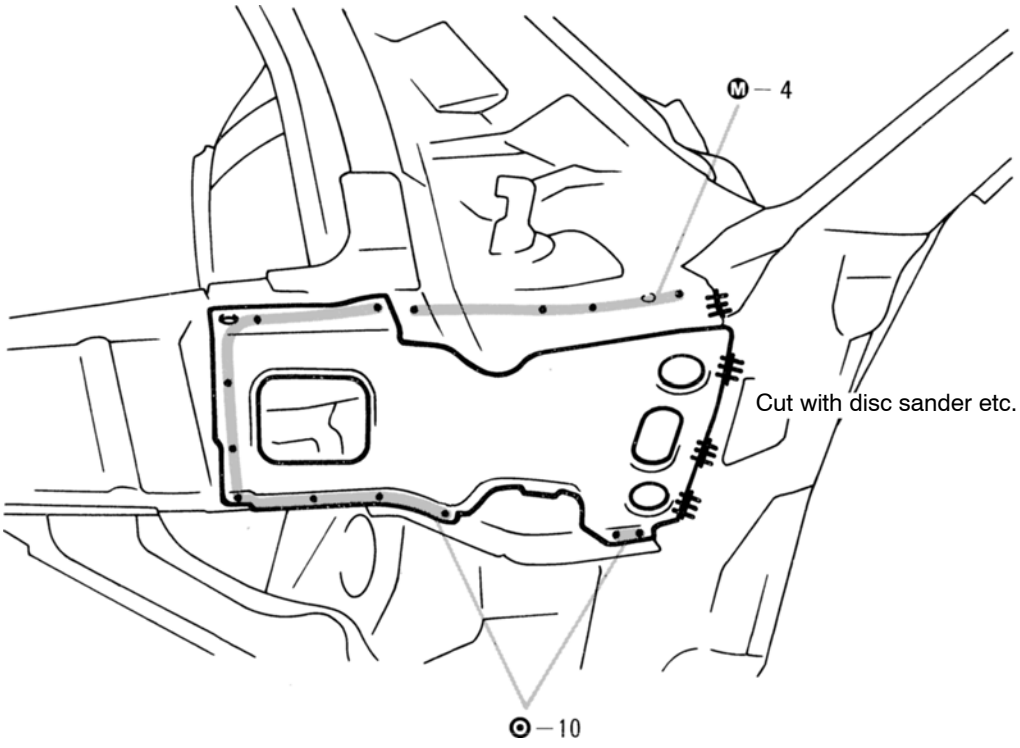
NOTE: Cut the front side member and the reinforcement at the same place.

2. Remove the remaining reinforcement from the supply part.
3. Temporarily install the new member, measure each part in accordance with the body dimension diagram.
4. After installing the new member, install the front side member plate.
(See page RE–13)
5. After installing the new member, install the battery carrier support. (LH only)

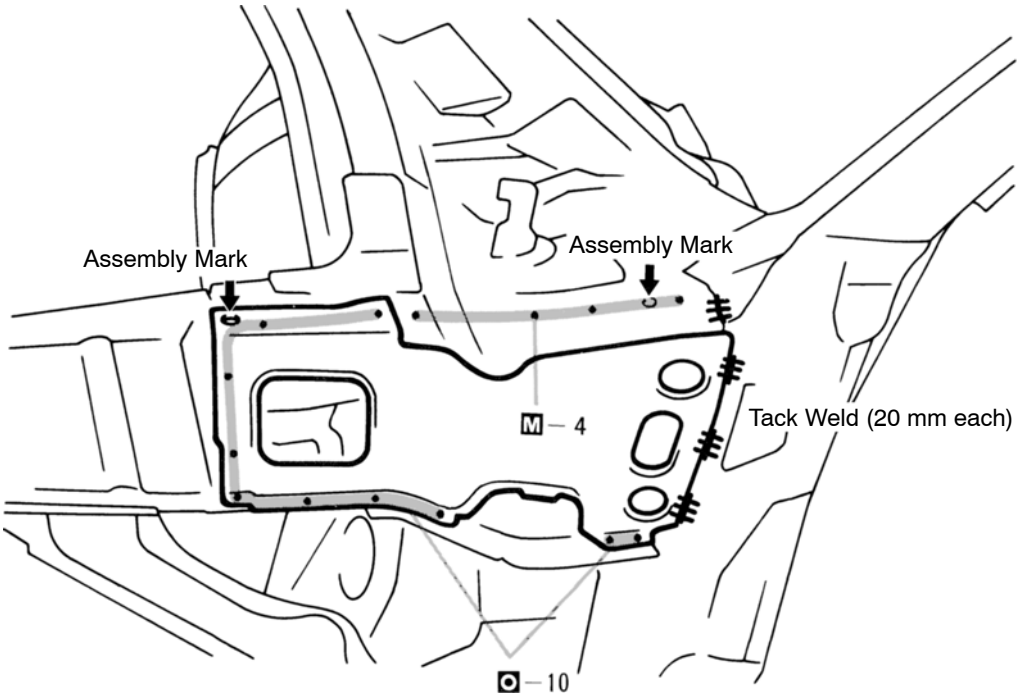
COWL TOP SIDE PANEL (ASSY)



REMOVAL



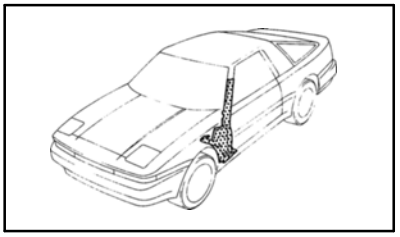
INSTALLATION



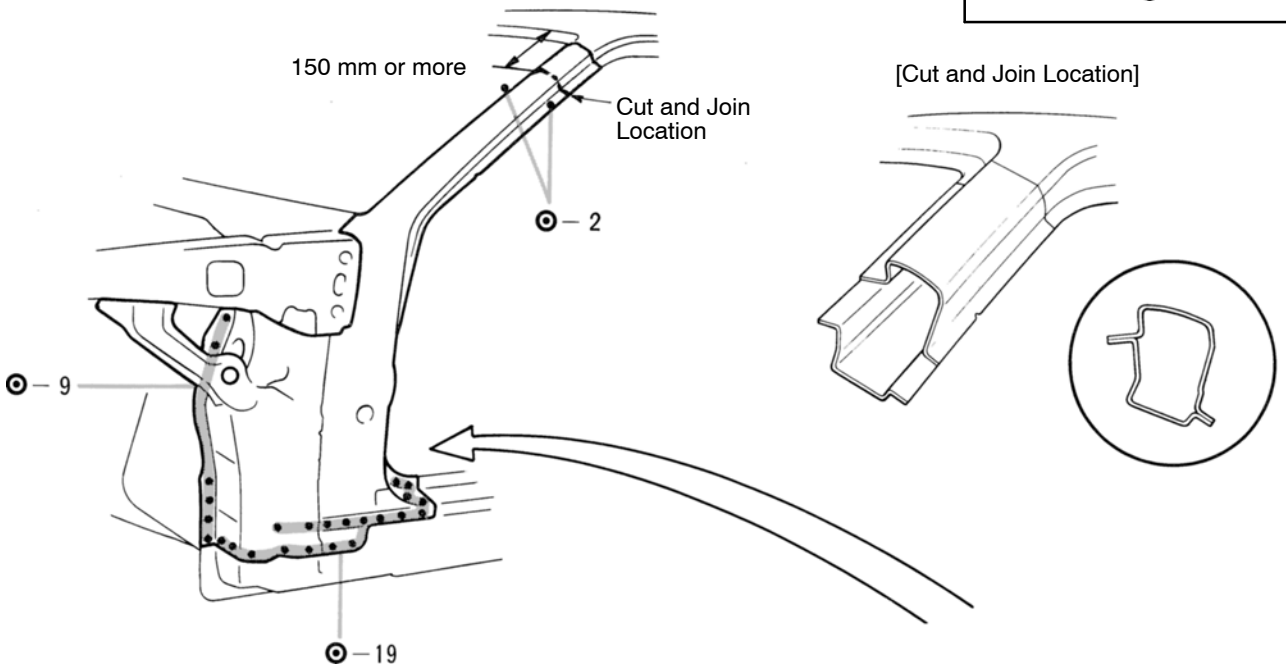
mm	in.
20	0.79

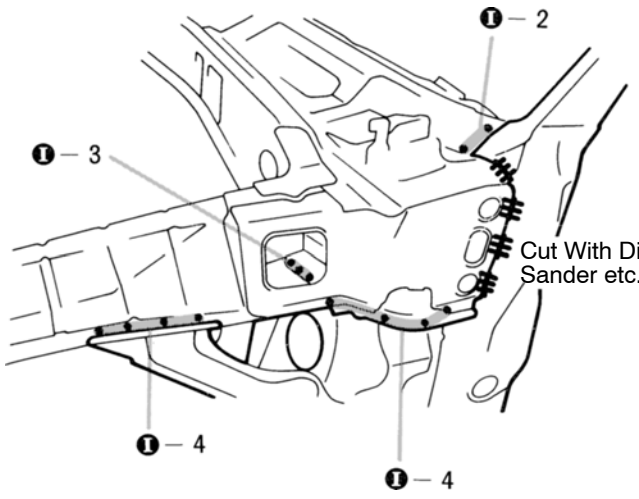
1. Determine the installation position of the new part by the assembly mark.
2. Temporarily installing the new part and measure each part in accordance with the body dimension diagram.

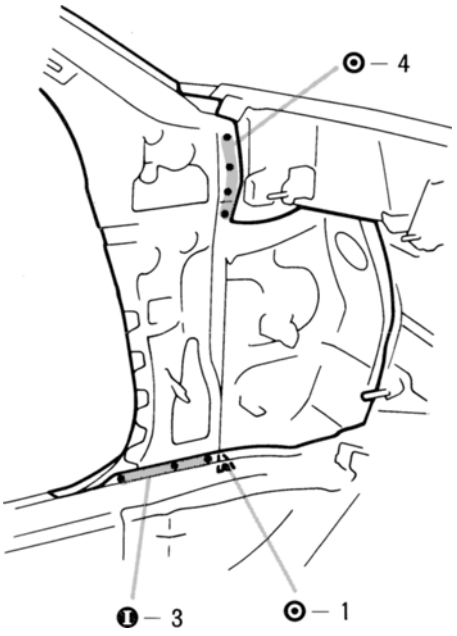
FRONT BODY PILLAR (CUT)



REMOVAL







1. Cut and join the front body pillar at the location shown above.

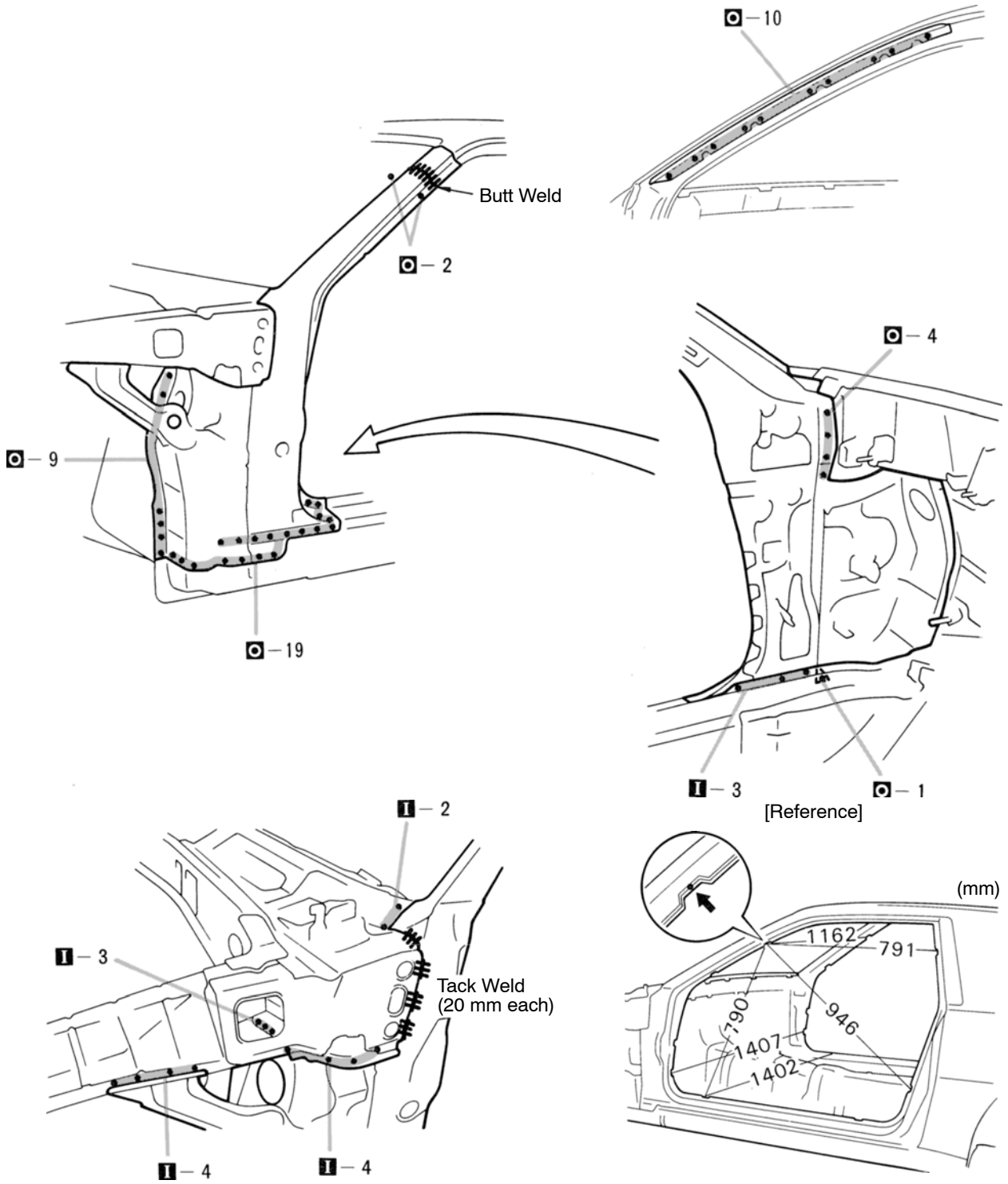
mm	in.
150	5.91

NOTE:

1) As shown above, cut and join the front body pillar outer and inner panels at a position shifted about 50 mm (1.97 in.).

2. Remove the remaining roof drip channel from body side.

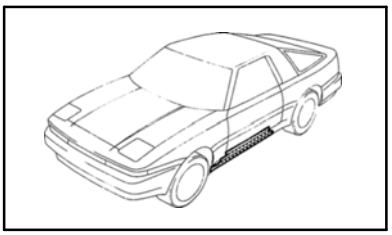
INSTALLATION



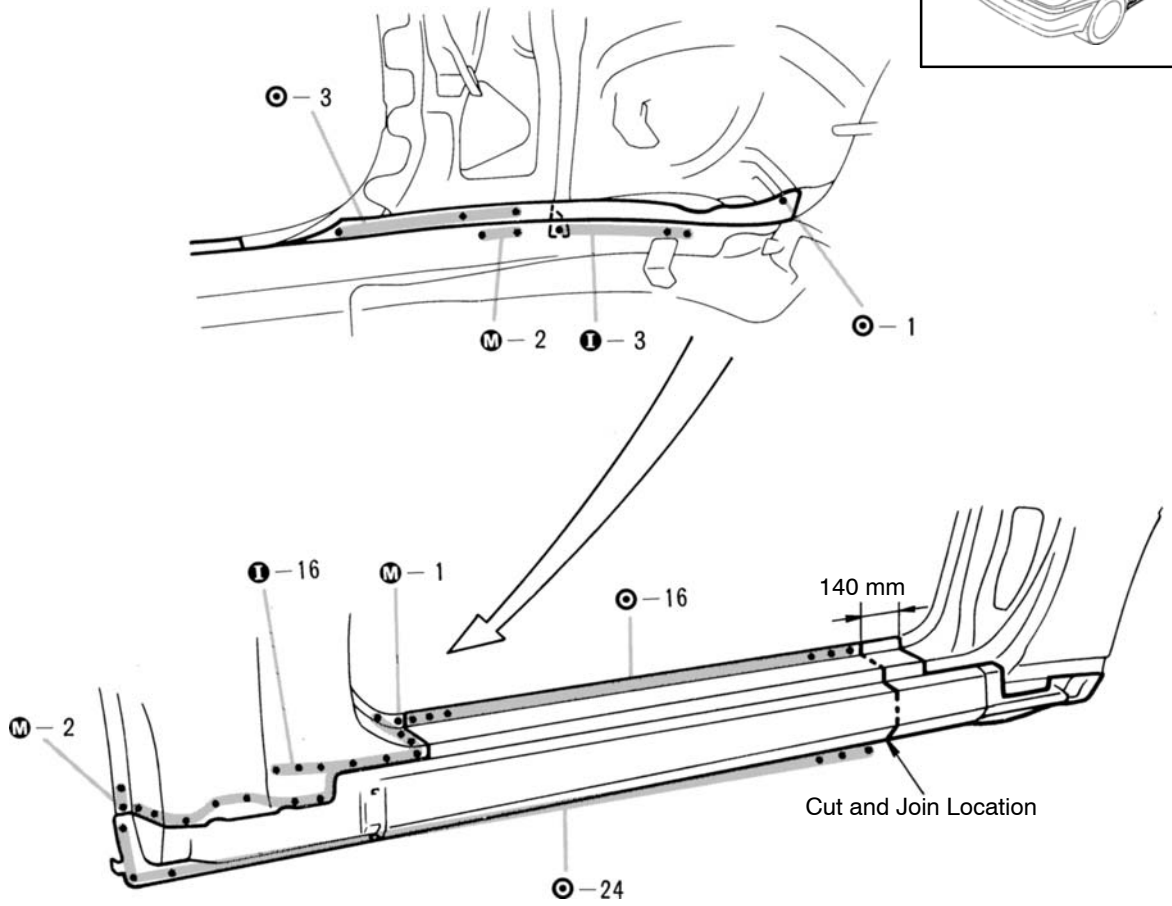
1. Temporarily install the new part and check the fit of the front door, front fender, hood and windshield glass.

mm	in.
20	0.79
790	31.10
791	31.14
946	37.24
1,162	45.75
1,402	55.20
1,407	55.39

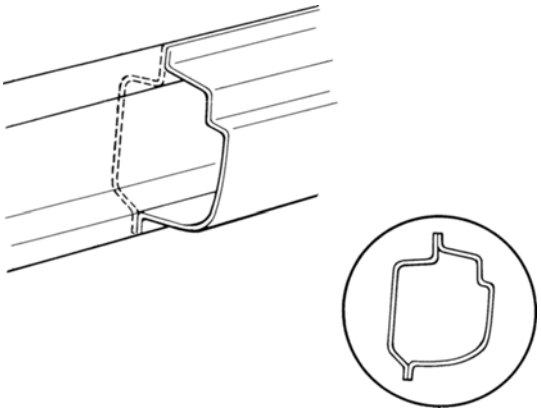
OUTER ROCKER PANEL (CUT)



REMOVAL



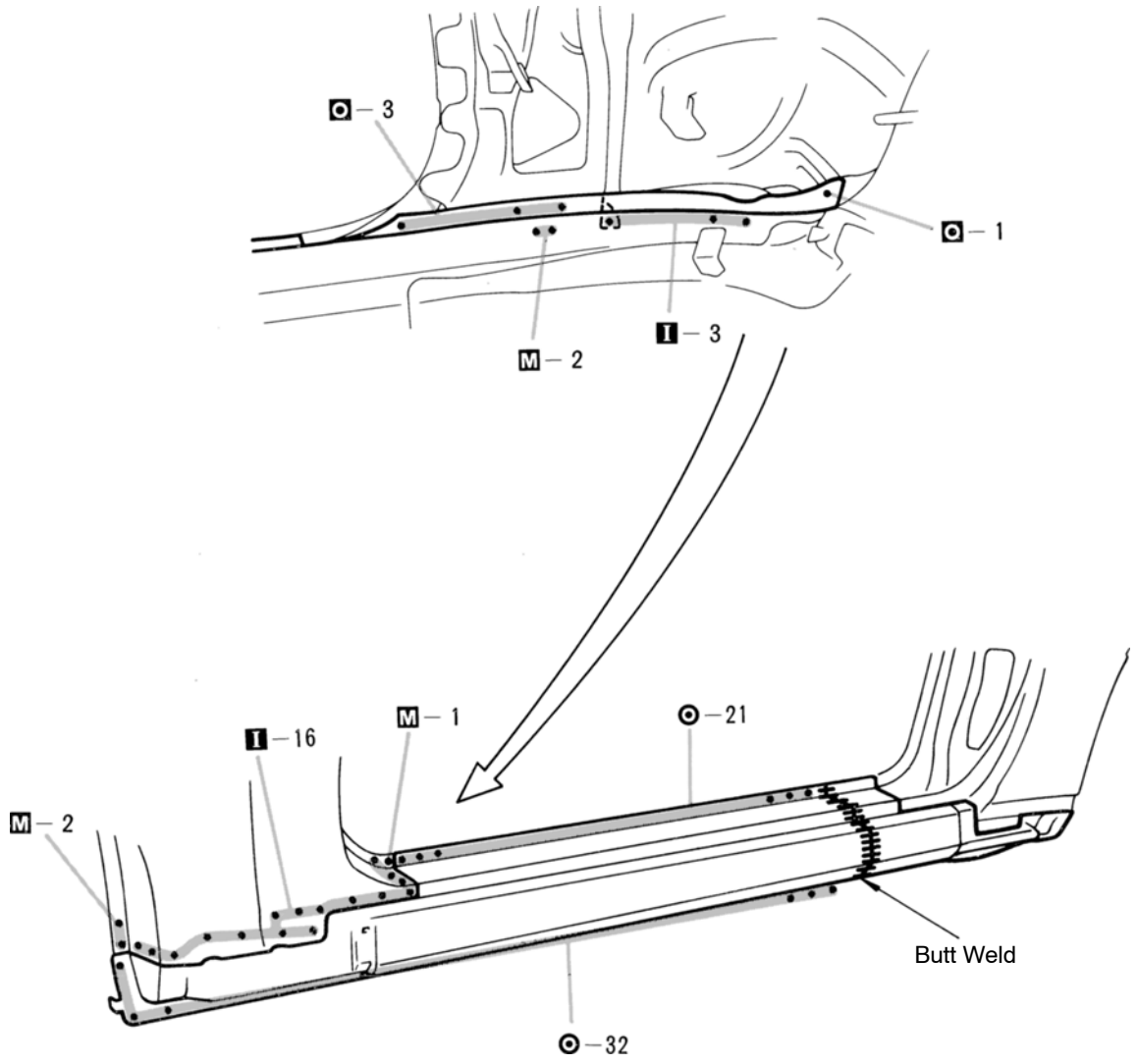
[Cut and Join Location]



mm	in.
140	5.51

1. Cut and join the outer panel at the area as show above.

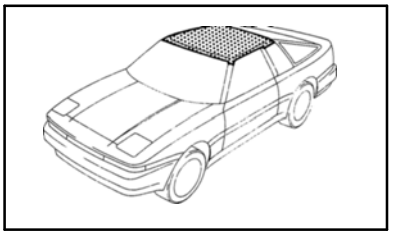
INSTALLATION



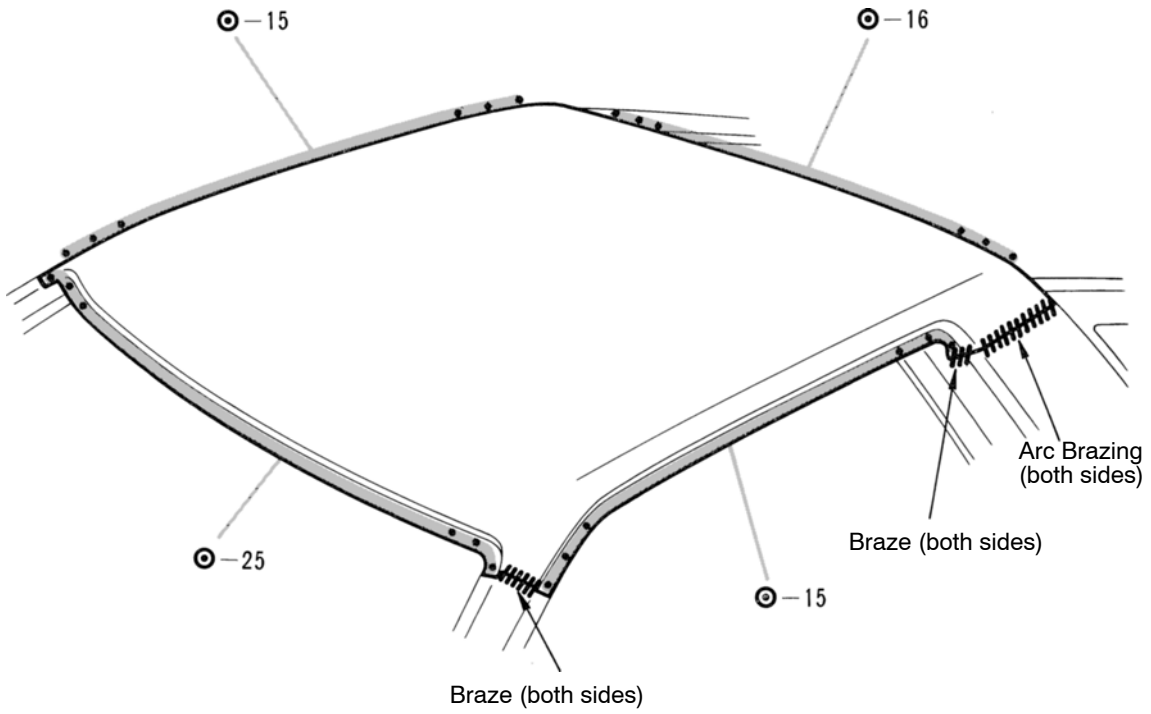
1. Temporarily install the new panel and check the fit for the front door and front fender.
2. There will be less warp if the cut edge (30 – 40 mm or 1.18 – 1.57 in.) is adhered to the matching part before welding.

NOTE: Scrape off the film on the cut edge and apply weld–through primer to adhere the matching part.

ROOF PANEL (ASSY)



REMOVAL

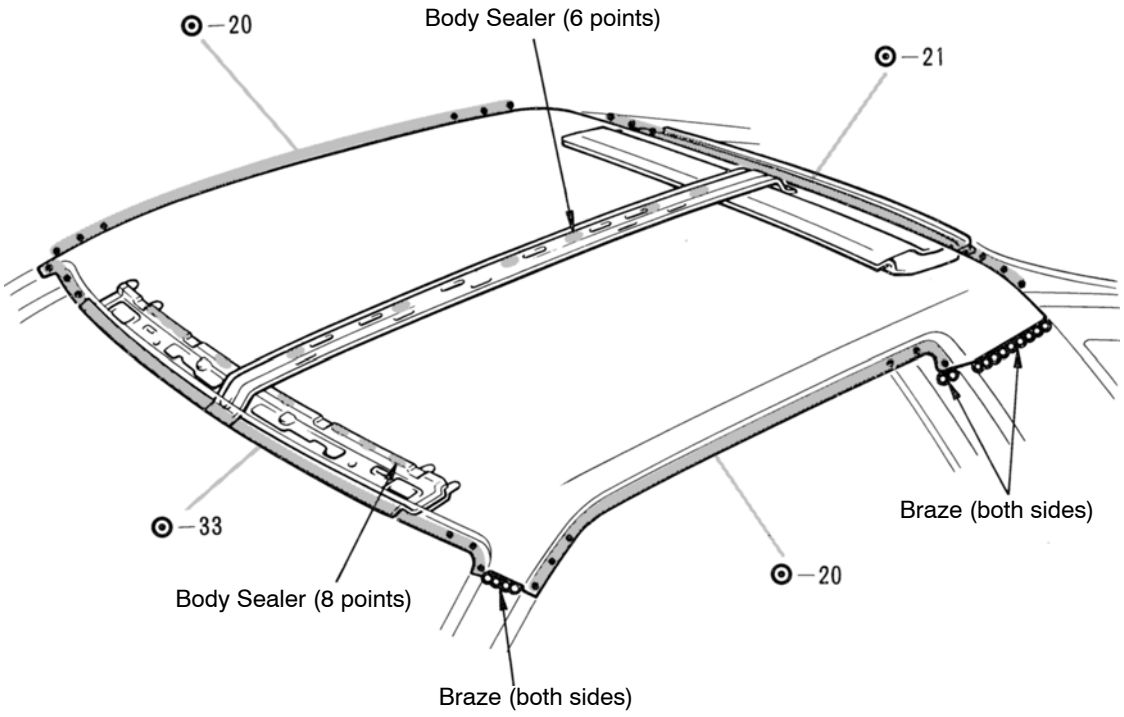


1. Heat the brazed area of the front pillar and scrape off the brazing with a wire brush.

NOTE: Be careful not to overheat the pillar.

2. Cut off the roof panel tip at the quarter panel are brazing connection with a cut grinder.

INSTALLATION



1. Before temporarily installing the new part, apply body sealer to the windshield header panel, roof panel center reinforcement and back window opening frame.

NOTE:

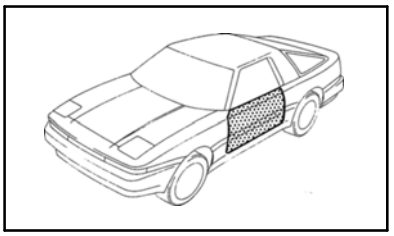
1) Apply just enough sealer for the new part to make contact.

2) For other sealing points, refer to section SU.

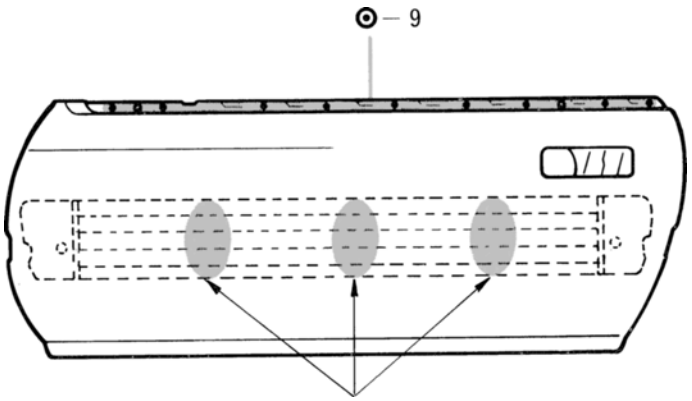
2. Braze the front body pillar connection.

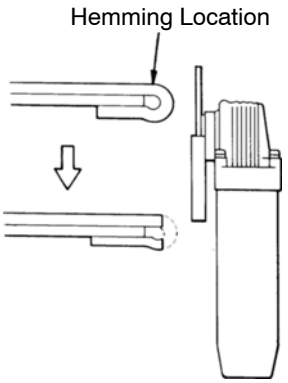
NOTE: Before performing these operations, place a wet rag on the roof panel to protect it from damage.

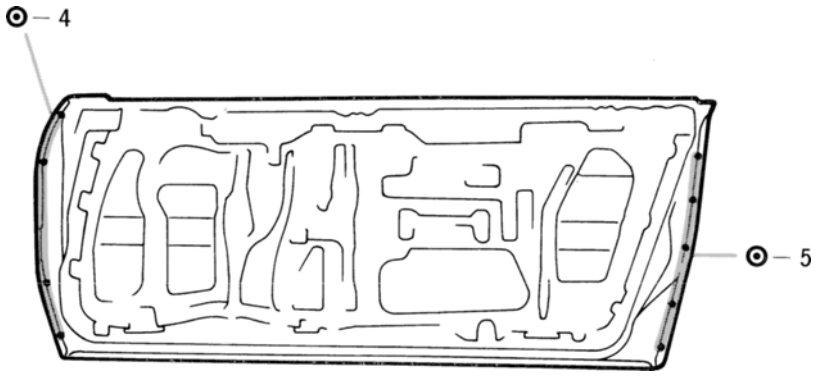
FRONT DOOR OUTER PANEL (ASSY)



REMOVAL

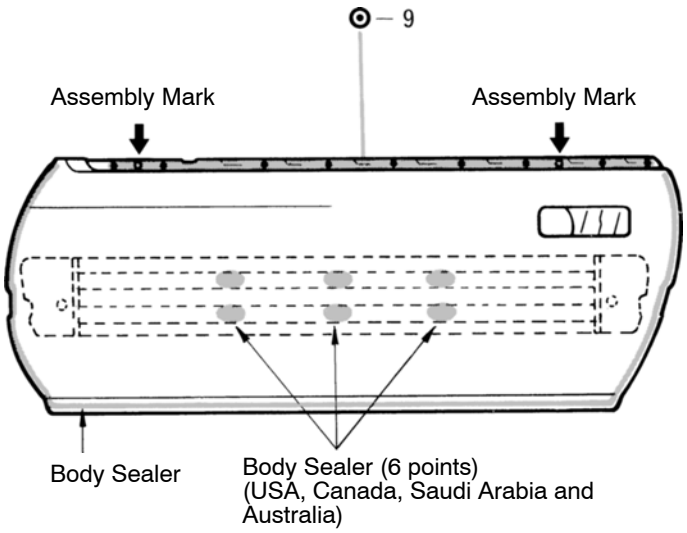


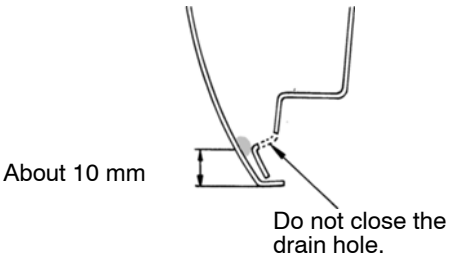


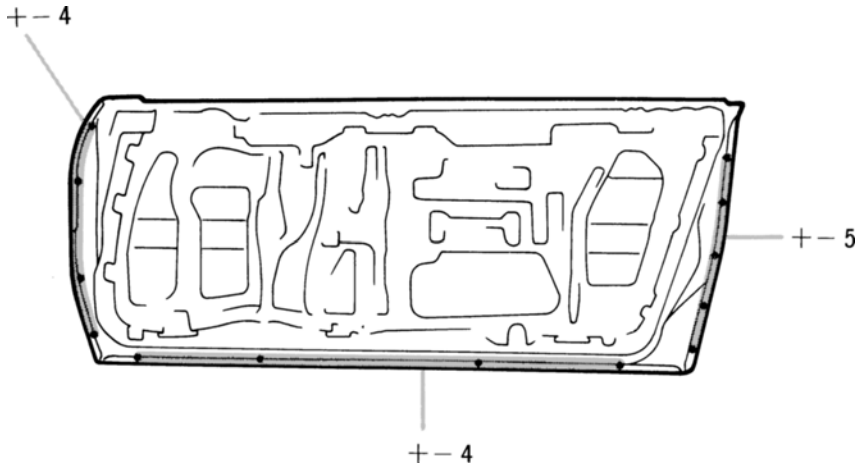


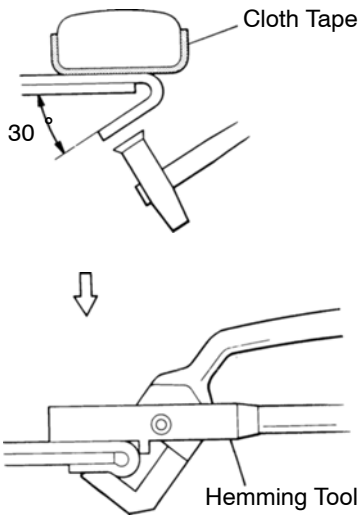
1. Grind out the hemming location, and remove the outer panel.
2. Slightly heating the outer panel will soften the sealer and make removal easier. (USA, Canada, Saudi Arabia and Australia).

INSTALLATION









mm	in.
10	0.39

1. Before temporarily installing the new part, coat the back side of the new panel with body sealer.

NOTE:

1) Coat evenly about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter

2) For other sealing points, refer to section SU.

3) Determine the position for the new panel by the assembly marks.

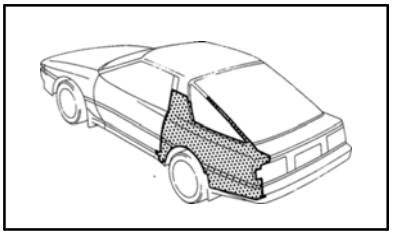
3. Bend the flange hem approx. 30˚ with a hammer and dolly. Then use a hemming tool.

NOTE:

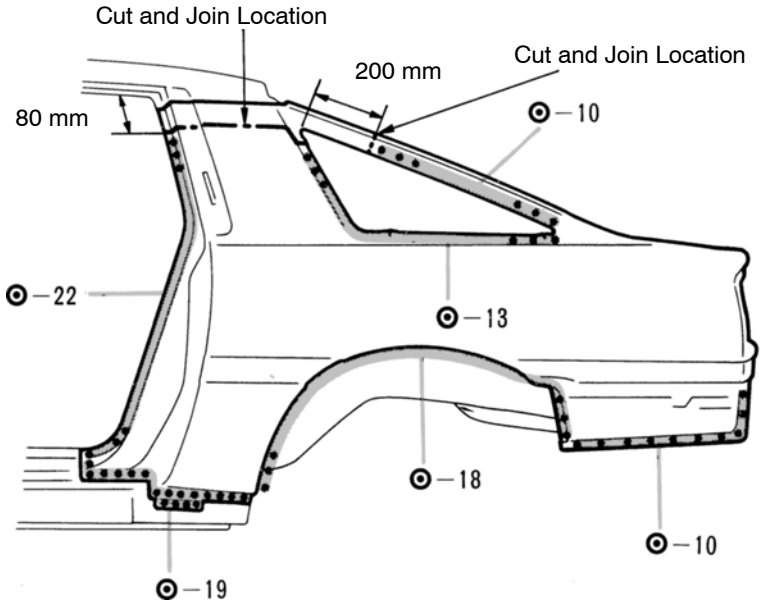
1) Perform hemming in three steps, being careful not to warp the panel.

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

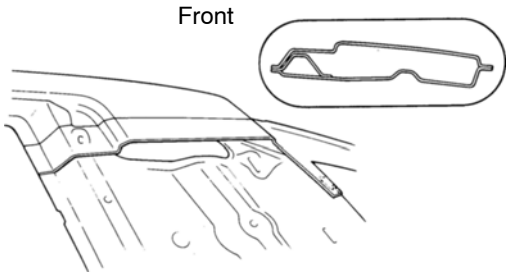
QUARTER PANEL (CUT)

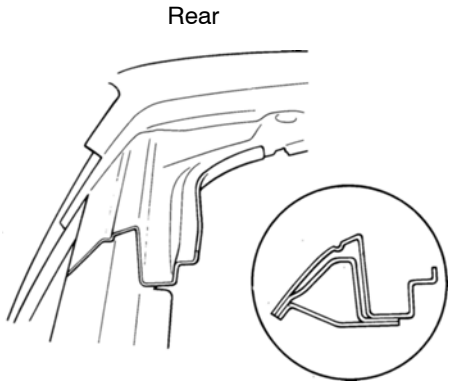


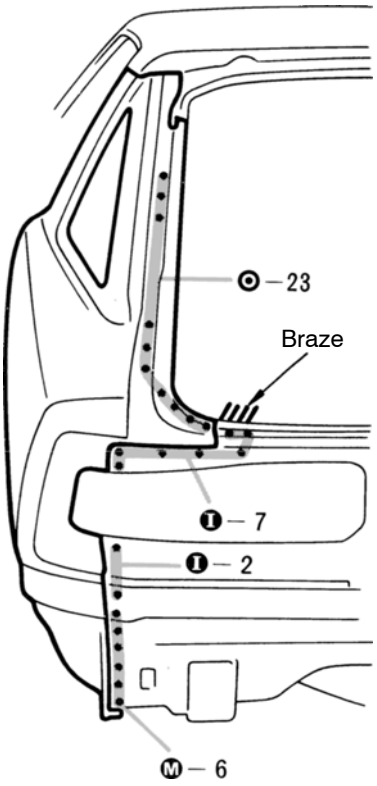
REMOVAL



[Cut and Join Location]



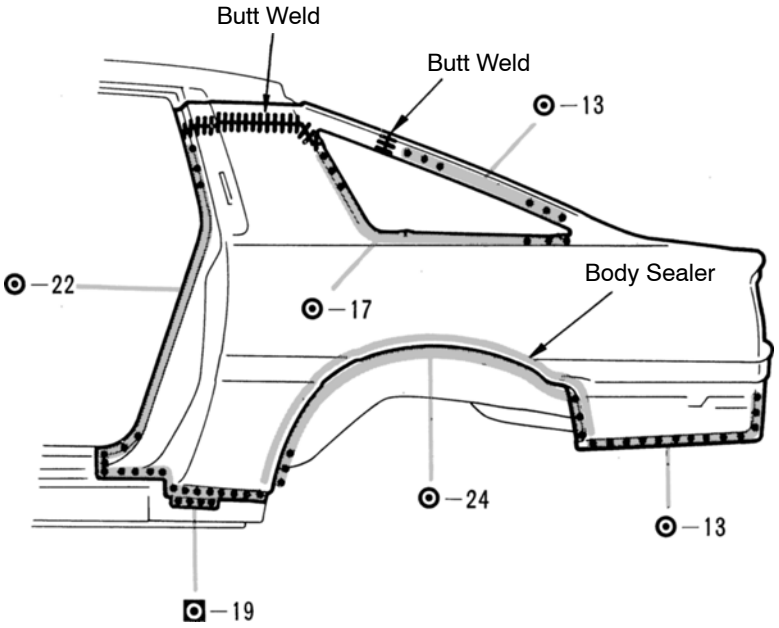


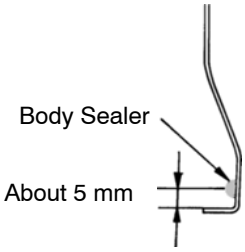


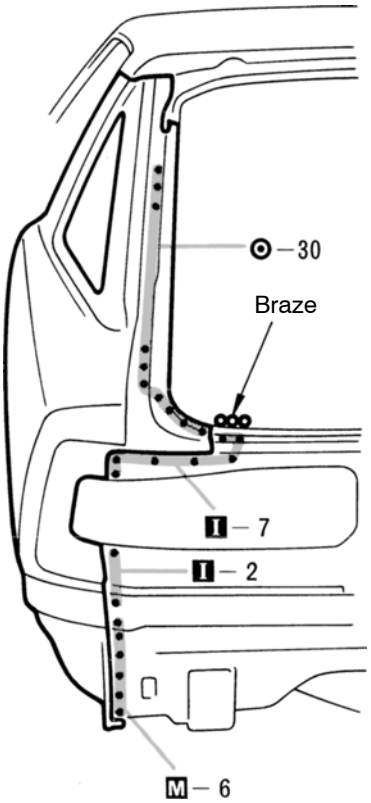
1. Cut and join the quarter panel as shown above.

mm	in.
87	3.43
200	7.87

INSTALLATION







mm	in.
5	0.20

1. Before temporarily installing the new part, apply body sealer to the wheel arch portion.

NOTE:

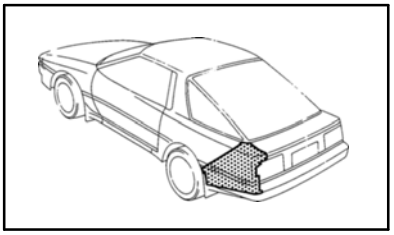
1) Apply sealer approx. 5 mm (0.20 in.) from the flange, avoiding any oozing.

2) Apply evenly, approx. 3 – 4 mm (0.12–0.16 in.) in diameter.

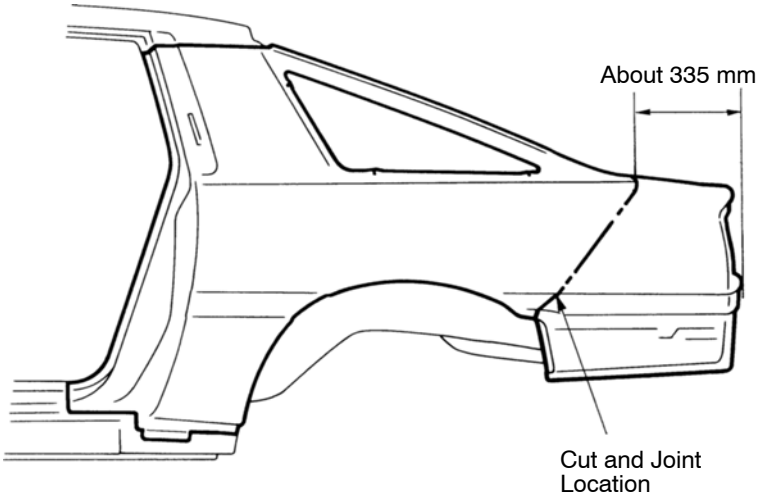
3) For other sealing points, refer to section SU.

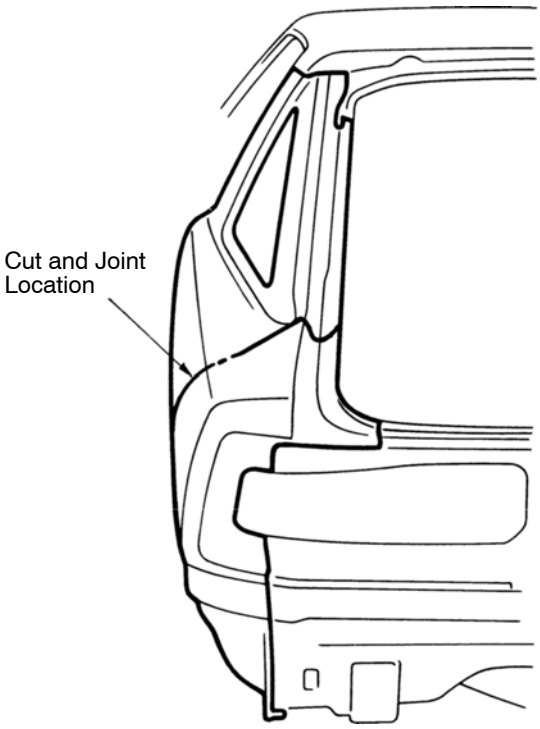
2. Temporarily install the new part and check the fit of the front door, luggage compartment door and rear combination lamp.

QUARTER PANEL (CUT–P)



REMOVAL

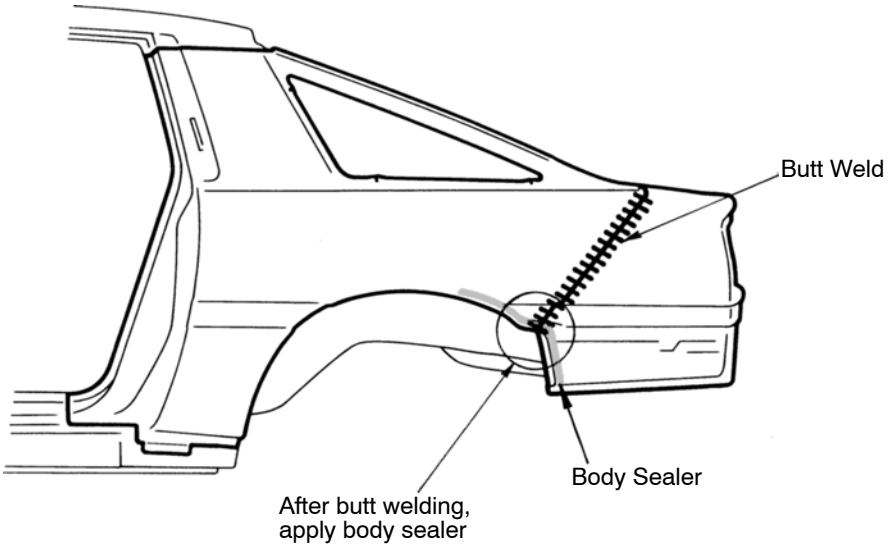


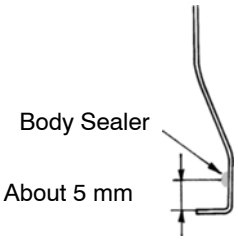


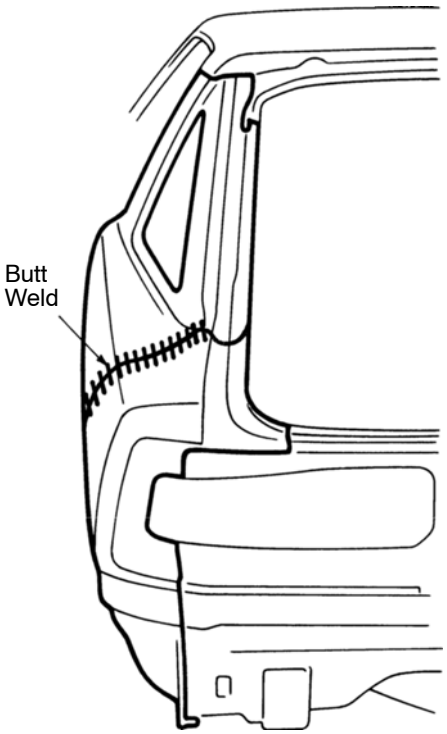
* This section is a cut and join location only. Refer to RE–26 for weld points.

1. Cut on the line shown above.

INSTALLATION







* This section is a cut and join location only. Refer to RE–27 for weld points.

1. Before cutting the overlap areas, check the fit for the luggage compartment door and rear combination lamp.
2. Before welding, apply body sealer from inside of the vehicle.

NOTE:

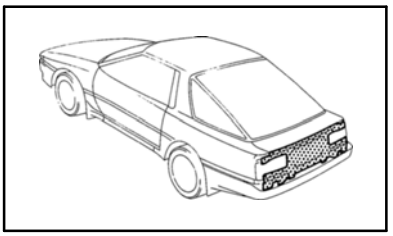
1) Do not apply body sealer to the weld seams before welding as the sealer will melt, resulting in a bad seal and a bad weld.

2) For other sealing points, refer to section SU.

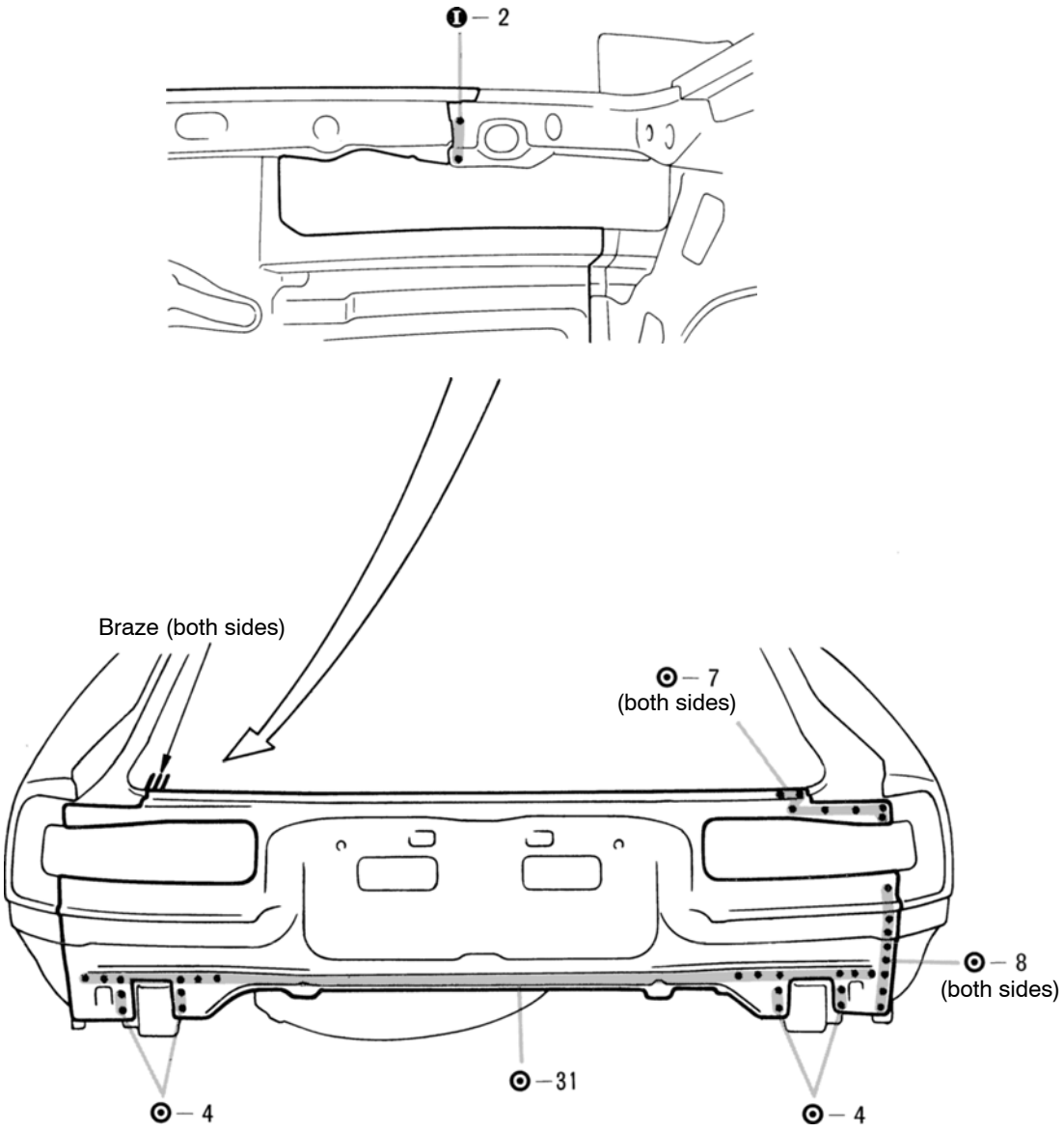
3. Surface finish the weld seam from the inside also.

NOTE: Be careful not to grind off to much weld as it will result in loss of durability.

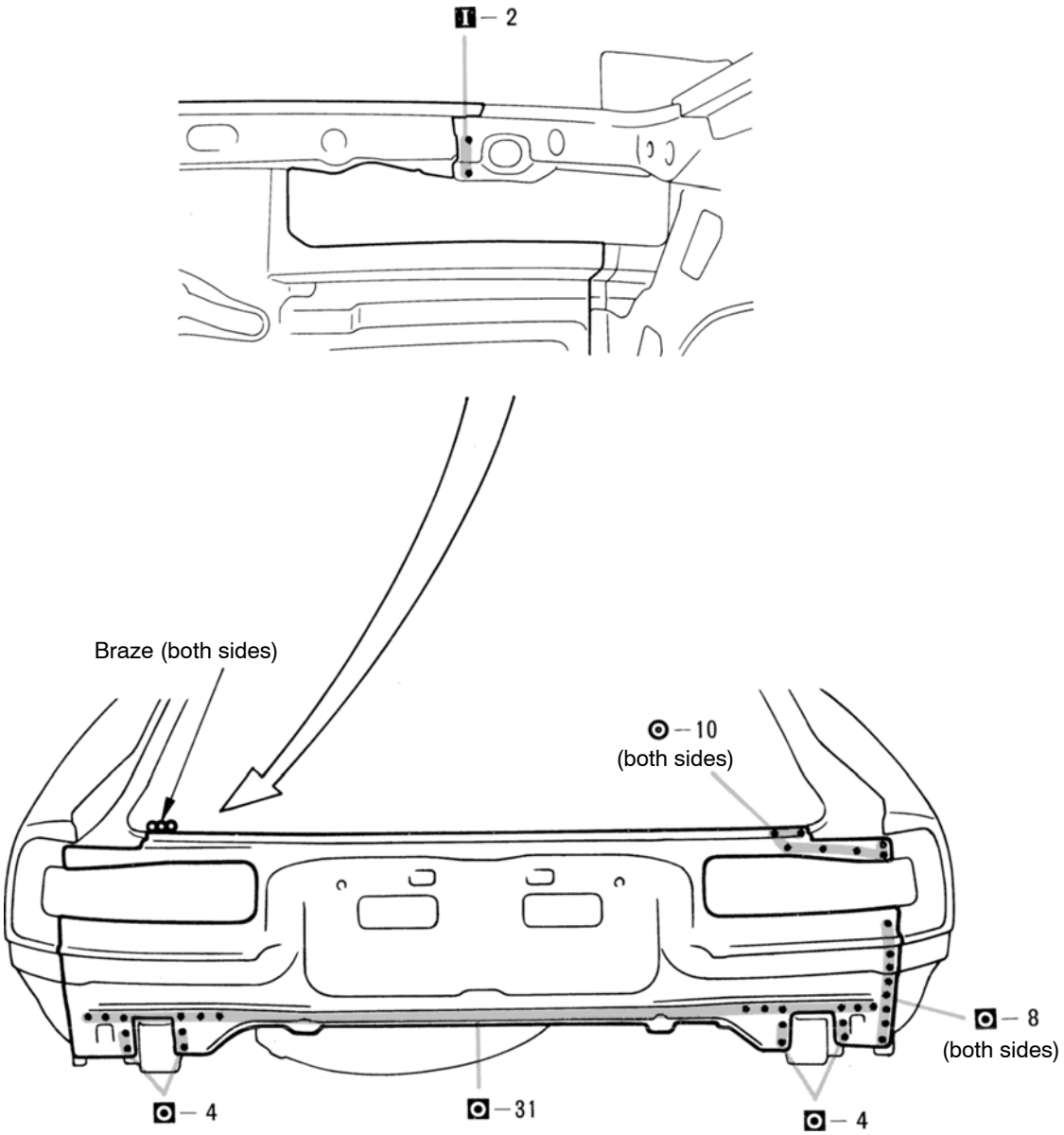
BODY LOWER BACK PANEL (ASSY)



REMOVAL

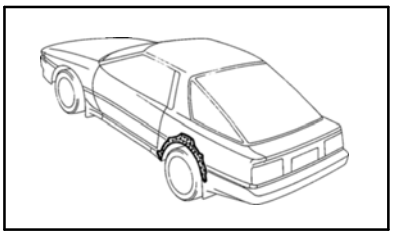


INSTALLATION

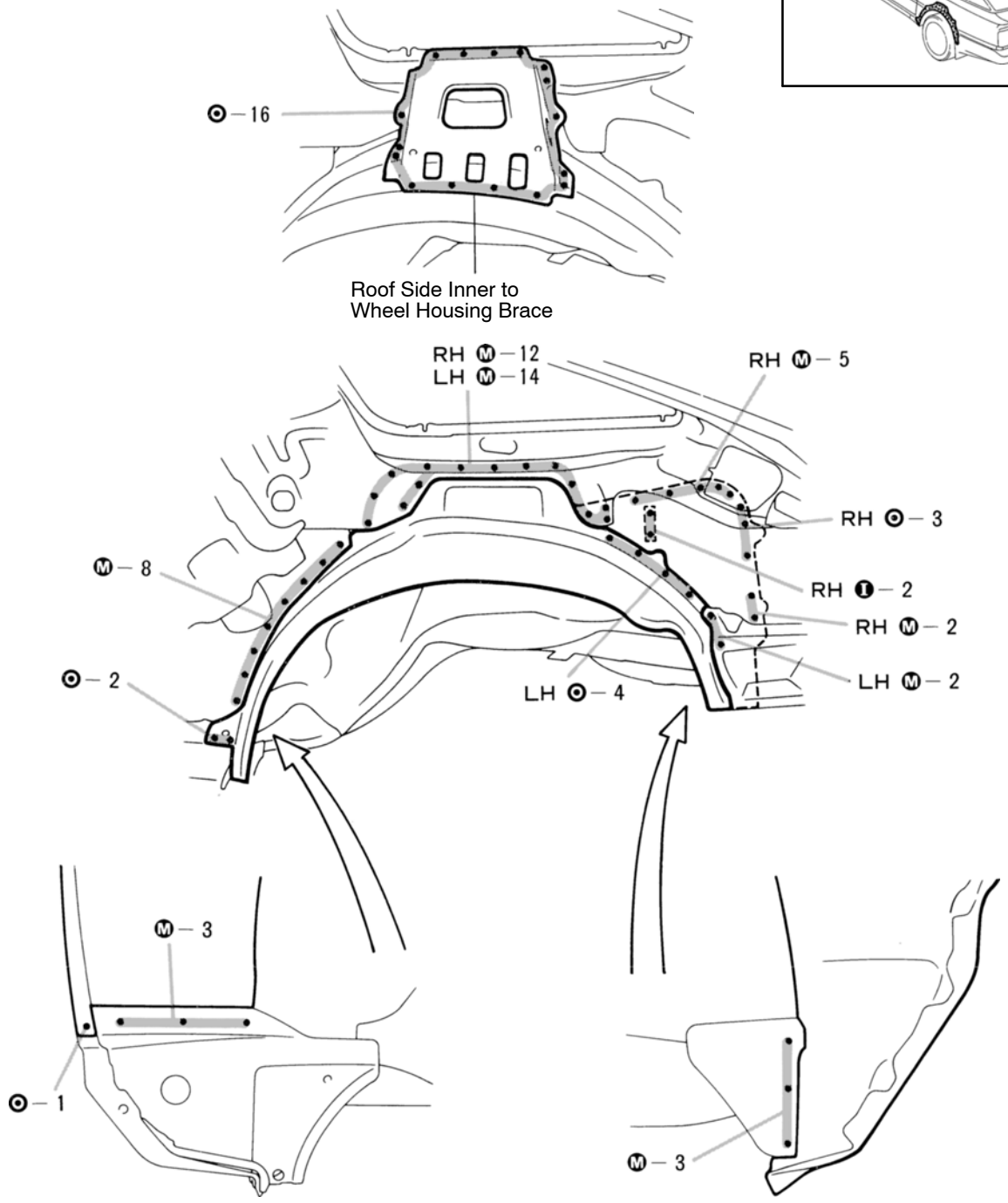


1. Temporarily install the new part and check the fit of the back door and rear combination lamp.

QUARTER WHEEL HOUSING OUTER PANEL (ASSY)

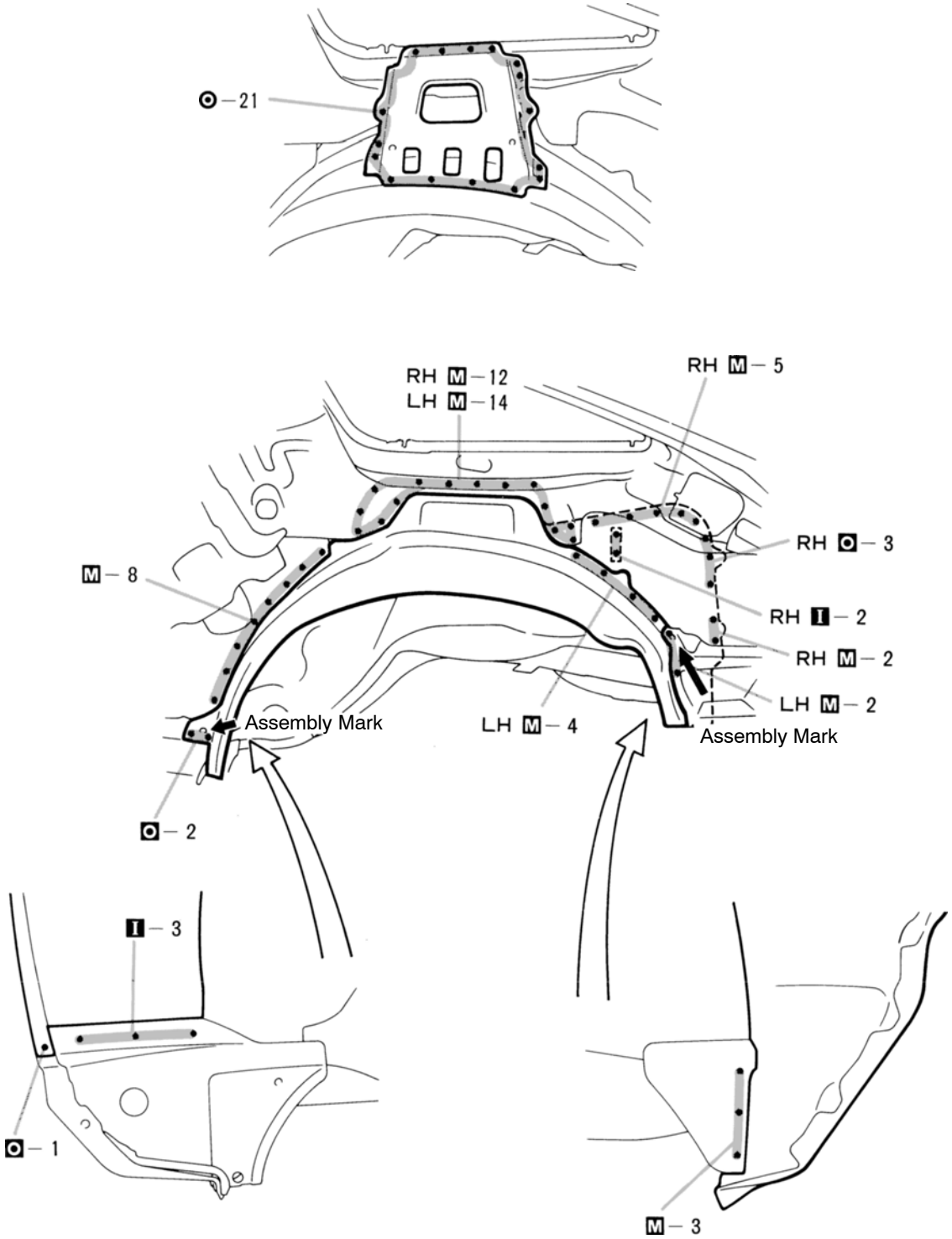


REMOVAL



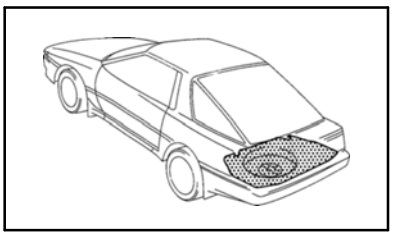
1. Before removing the quarter wheel housing outer panel, remove the roof side inner to wheel housing brace.

INSTALLATION

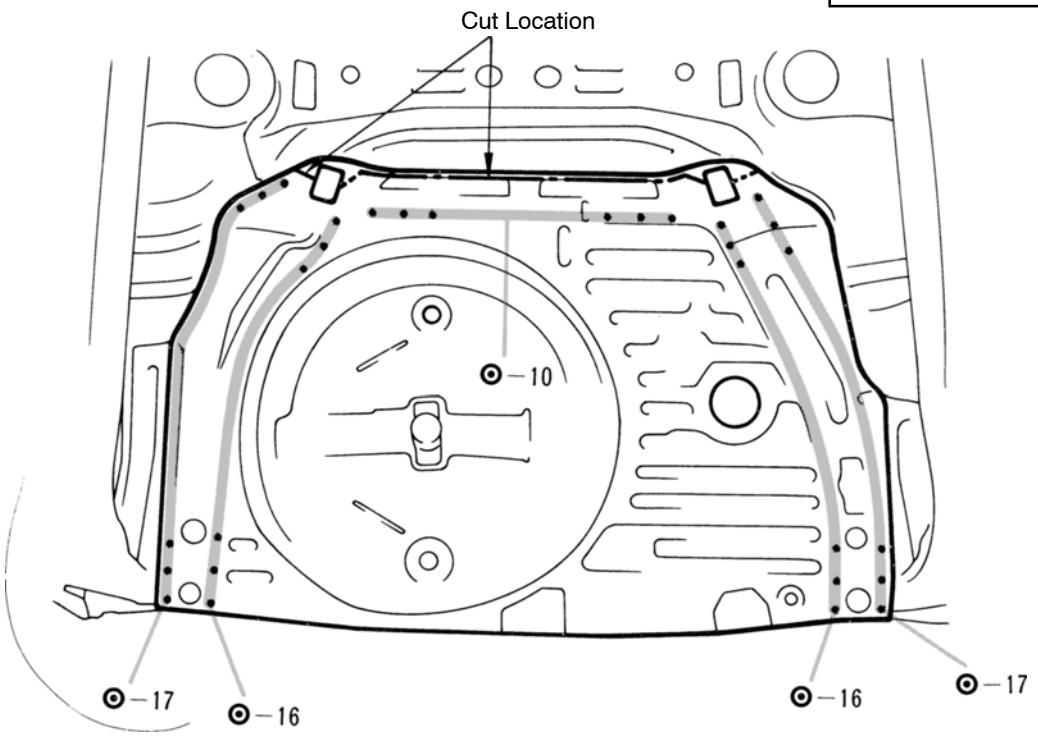


1. Determine the position of the new part by the assembly marks of the inner and outer panels.
2. Before welding the new part, temporarily install the quarter panel and check the fit.

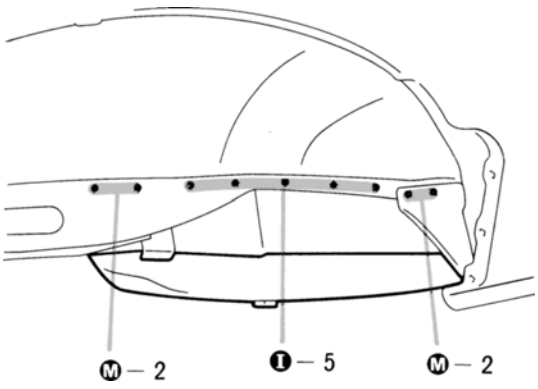
REAR FLOOR PAN (CUT)



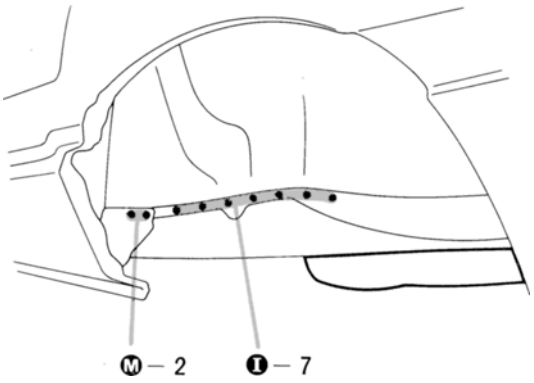
REMOVAL



(LH)

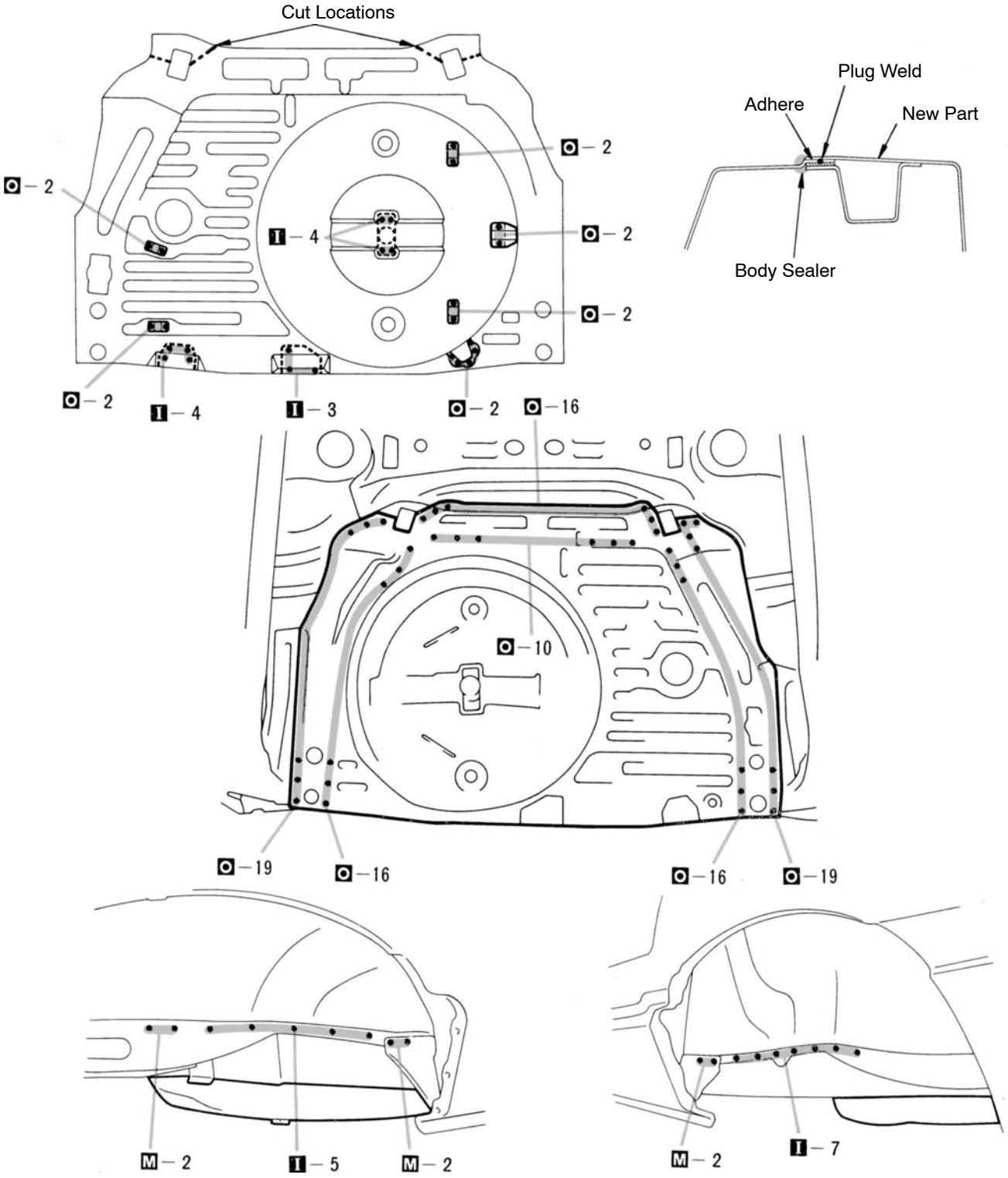


(RH)



1. Cut and join the rear floor pan shown above.
2. Avoid the rear floor side member.
3. Since each bracket is supplied separated, remove the brackets if reusing.

INSTALLATION

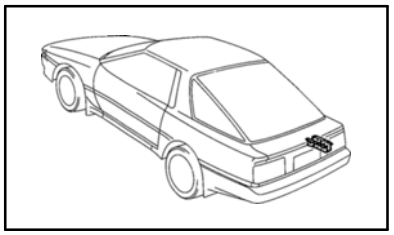


1. Cut the new panel shown above.
2. Match the bracket to the new part location (dent marks) and install.
3. After temporarily installing the new part, measure each part in accordance with the body dimension diagram.
4. Plug weld the overlapping portion of the new part.

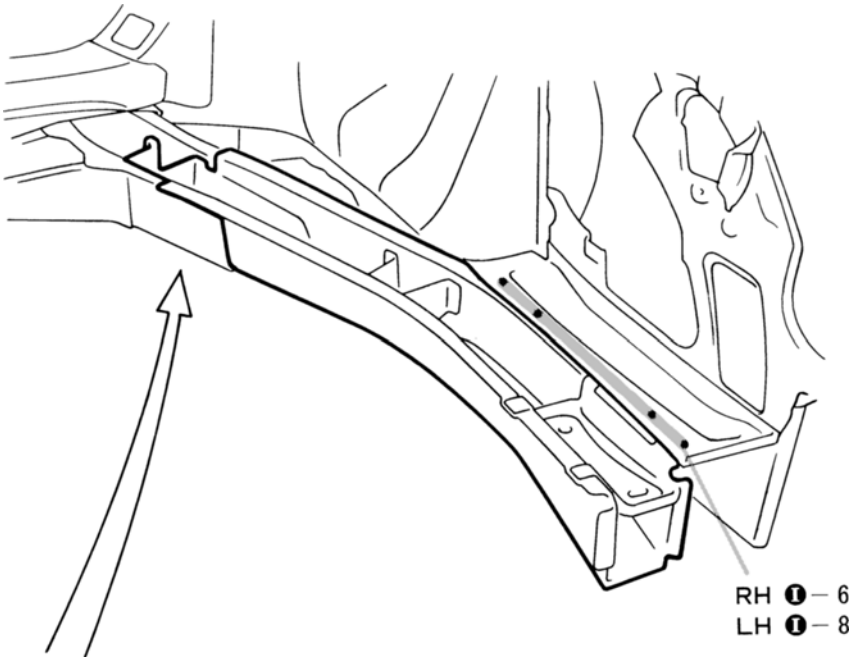
NOTE: Be sure the portion to be welded are align and not loose.

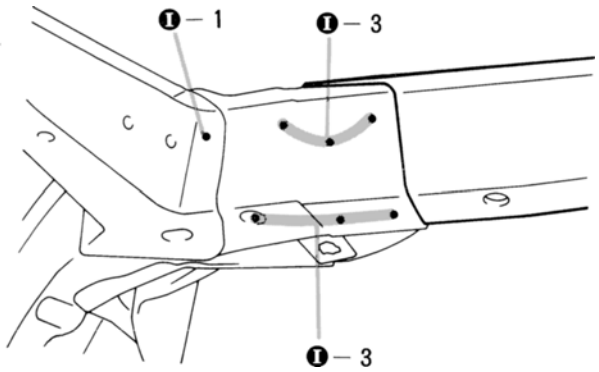
5. Coat the overlapping opening portion from the both sides with body sealer.

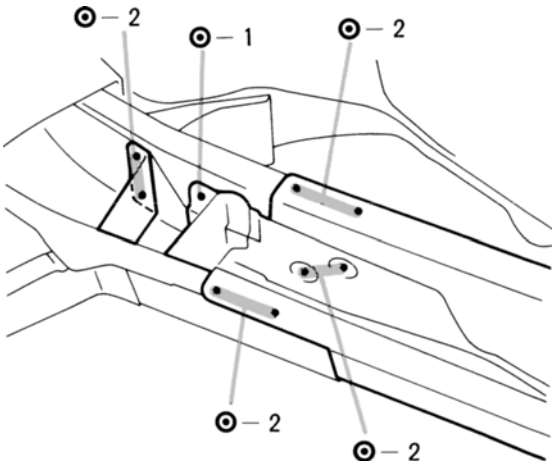
REAR FLOOR SIDE MEMBER (ASSY)



REMOVAL

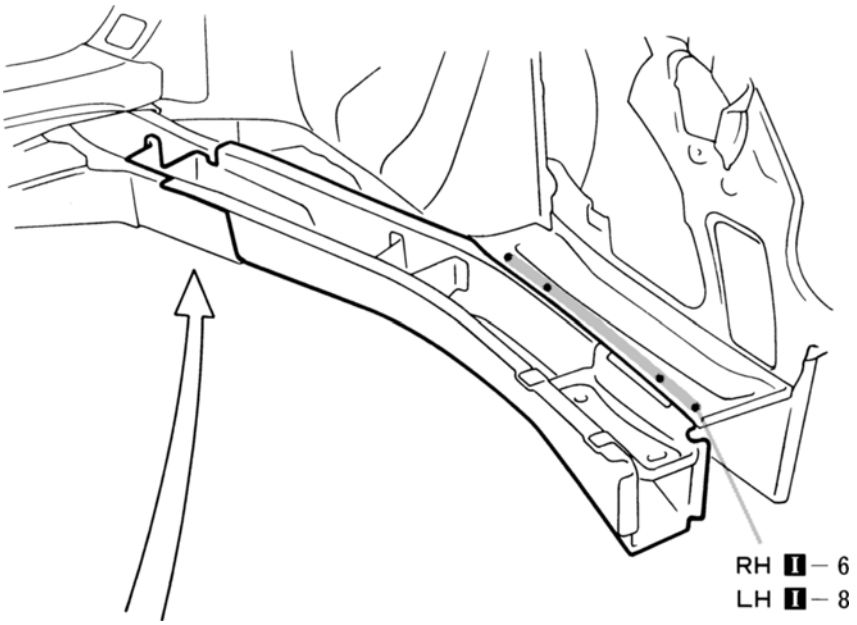


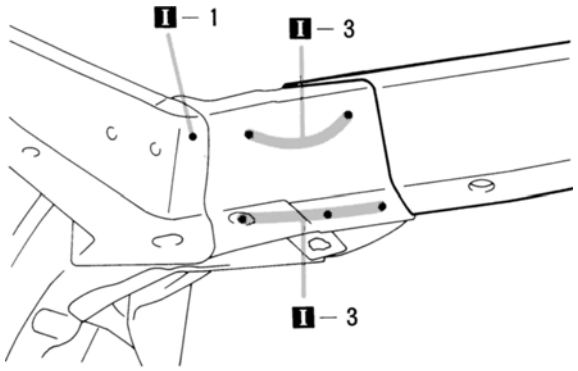


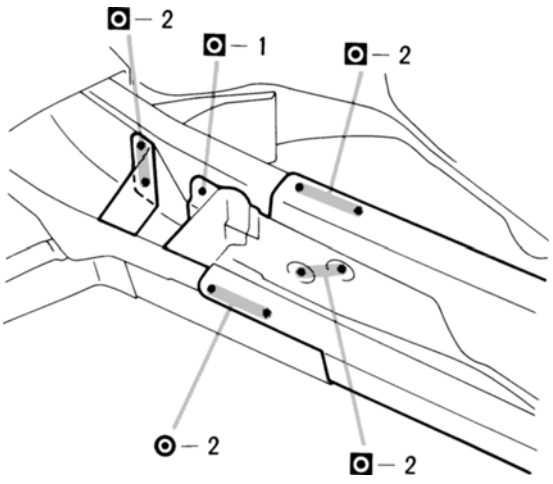


1. Before removing the rear floor side member, remove the rear floor pan.

INSTALLATION

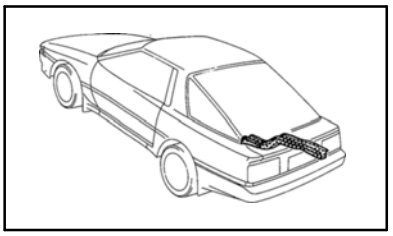






1. Temporarily install the new part and measure each part in accordance with the body dimension diagram.

CENTER FLOOR SIDE MEMBER (ASSY)



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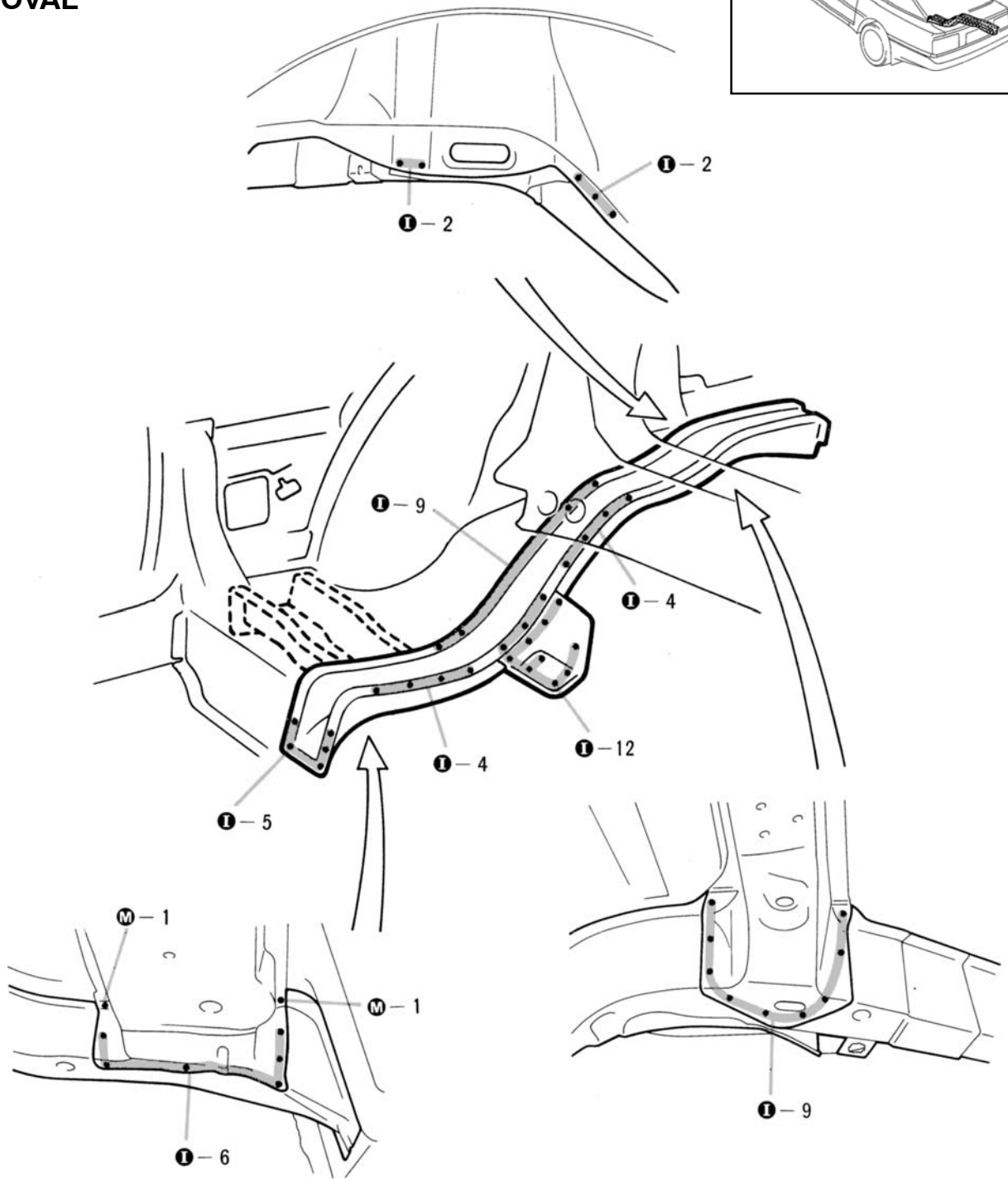

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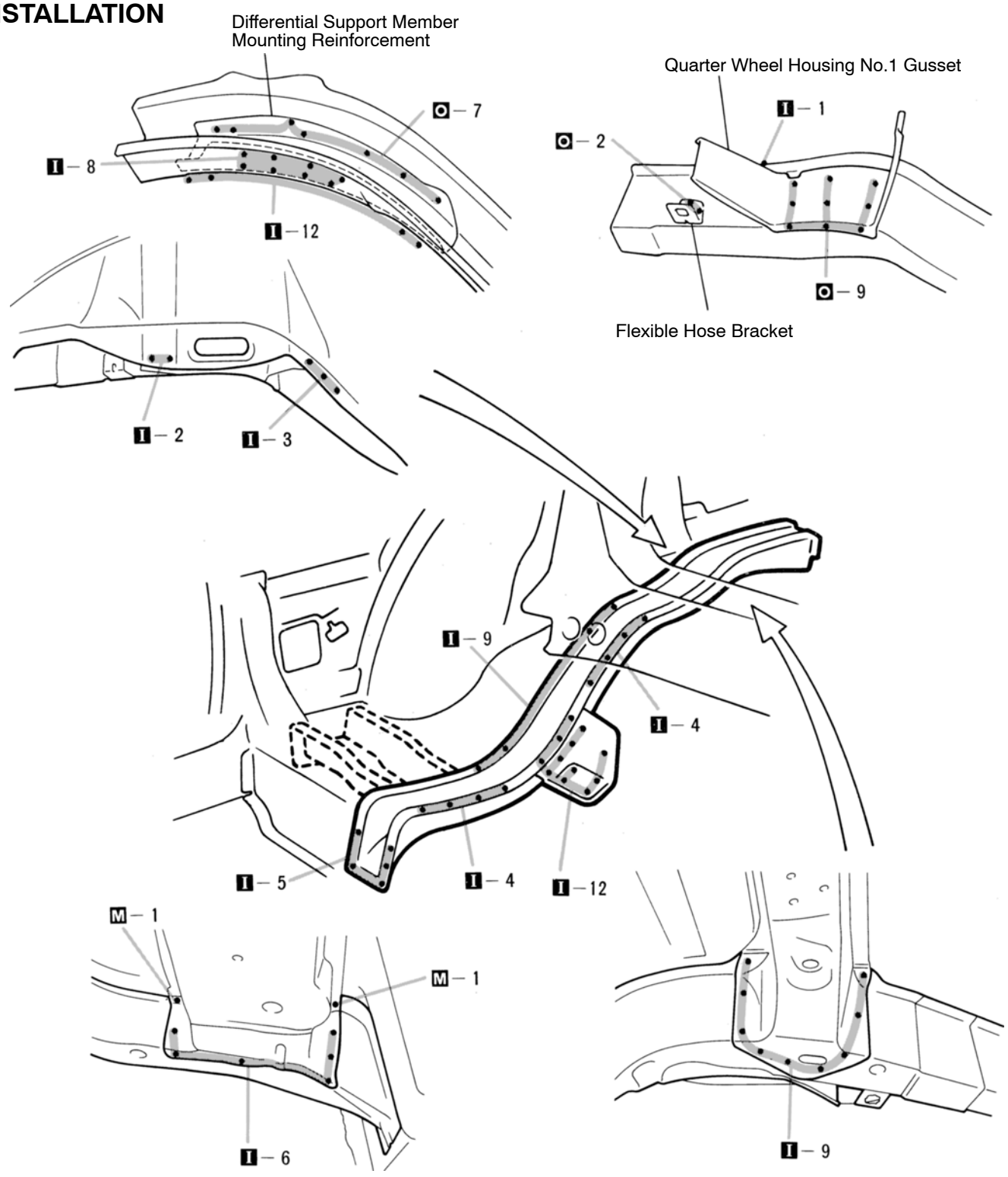
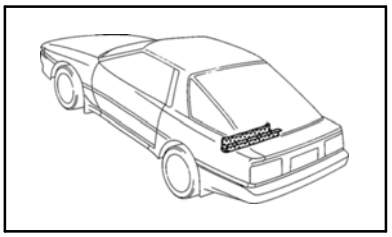
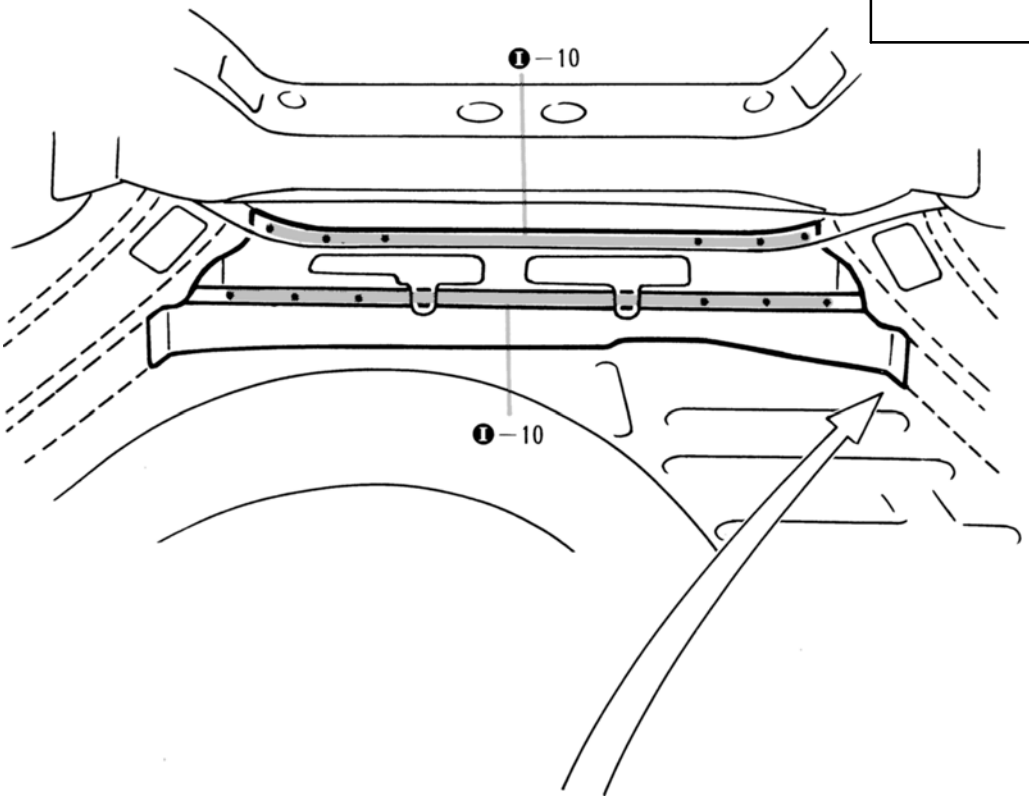


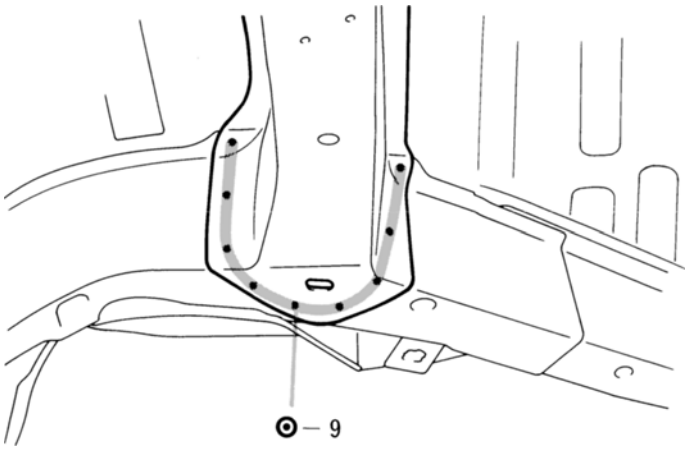
1. Temporarily install the new part and measure each part in accordance with the body dimension diagram.

CENTER FLOOR NO. 2 CROSSMEMBER (ASSY)

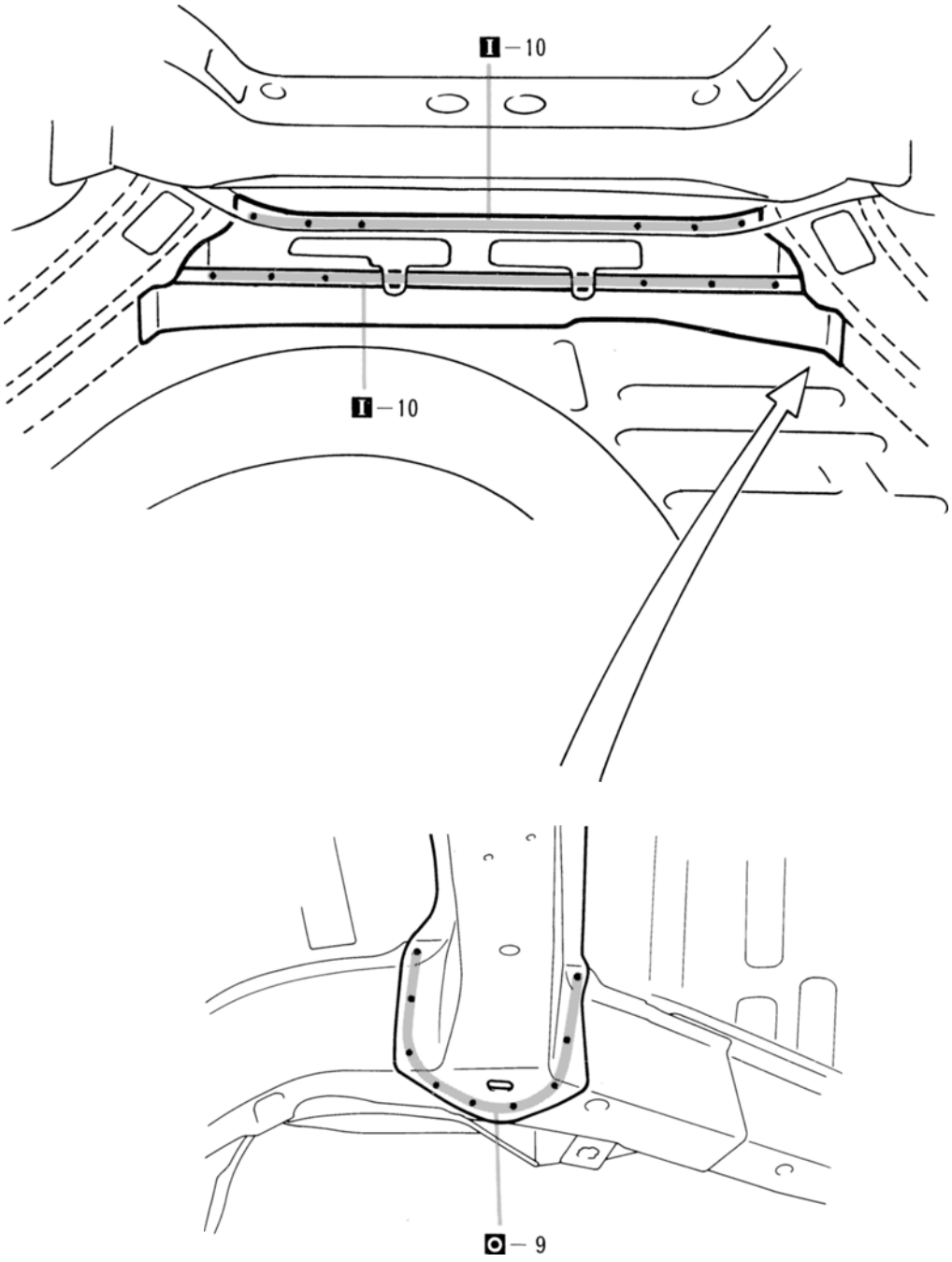


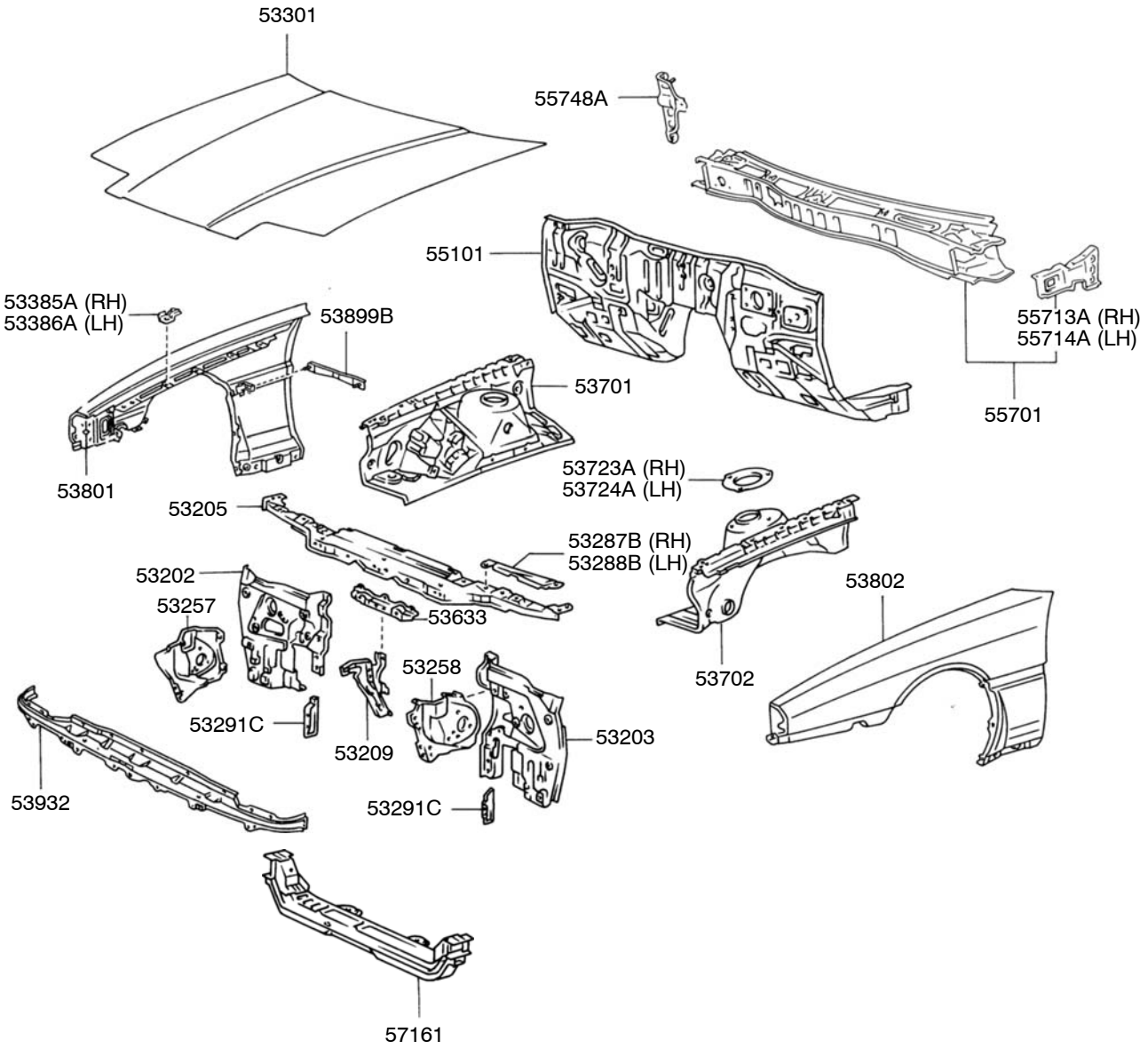
REMOVAL



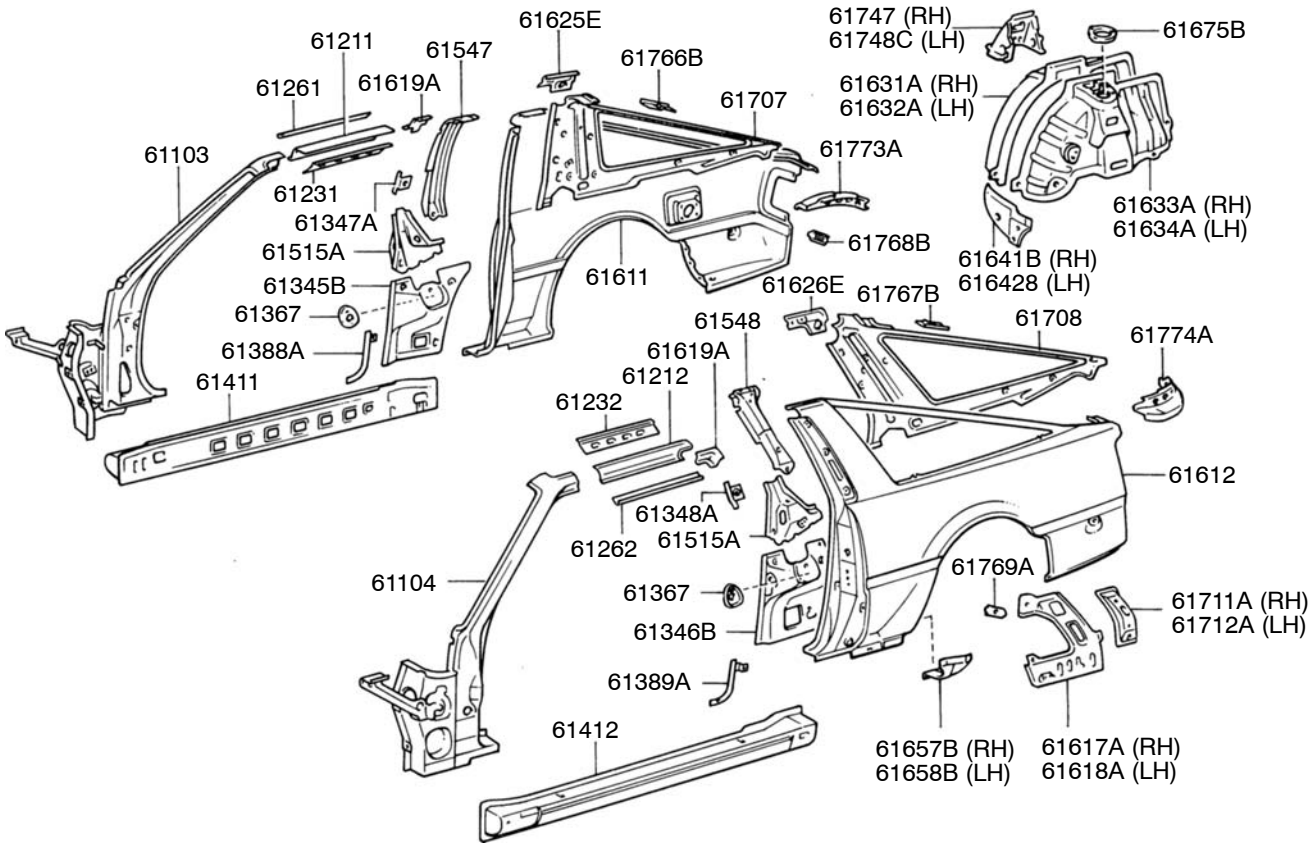


INSTALLATION



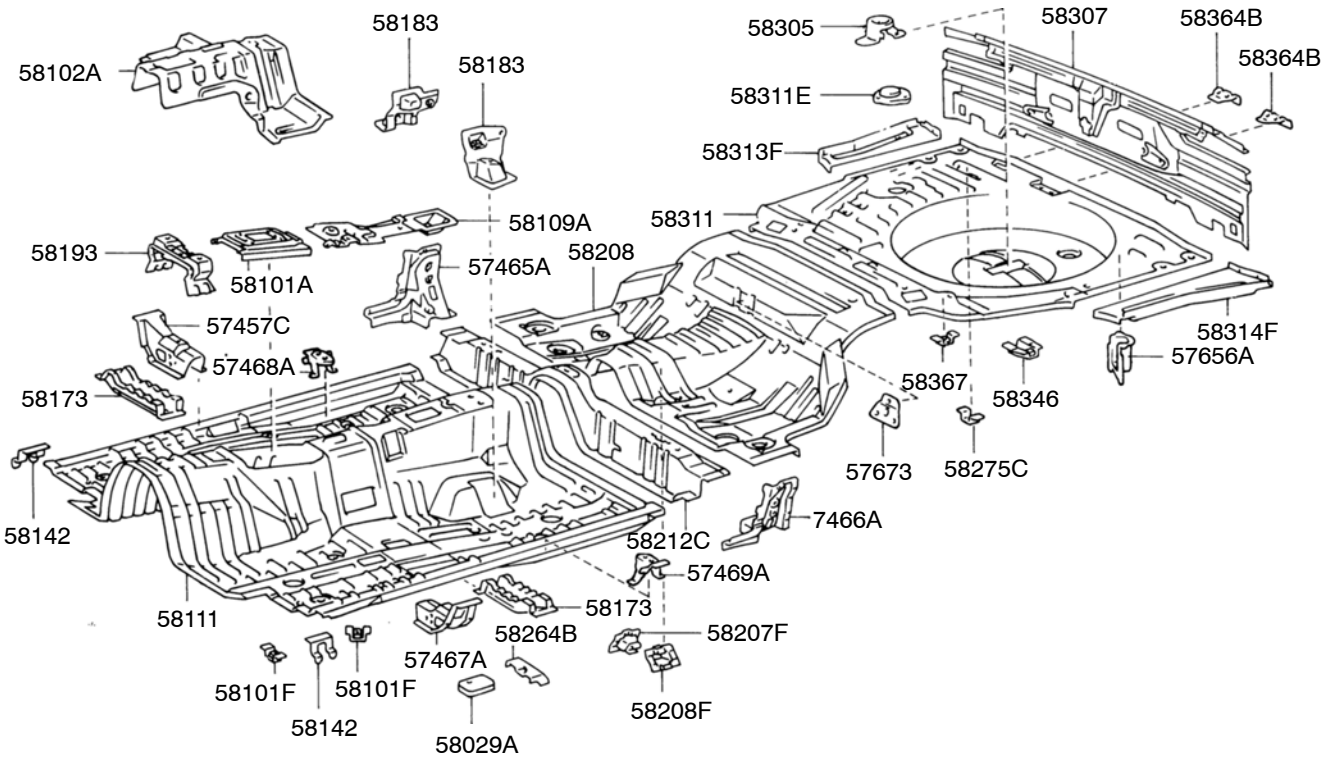


Code	Part Name	Code	Part Name
53202 53203	Radiator Support Sub–Assy	53723A 53724A	Front Spring Support Reinforcement
53205	Radiator Upper Support Sub–Assy	53801 53802	Front Fender Sub–Assy
53209	Hood Lock Brace Sub–Assy		
53257 53258	Front End Panel Mounting Bracket	53899B	Front Fender Panel Support
		53932	Front End Panel Sub–Assy
53287B 53288B	Radiator Support Extension	55101	Dash Panel Sub–Assy
		55701	Cowl Panel Sub–Assy
53291C	Radiator Support to Frame Seal	55713A 55714A	Cowl Top Side Panel
53301	Hood Sub–Assy		
53385A 53386A	Hood Bumper Retainer	55748A	Cowl Top Inner to Pillar Brace
		55748A	Cowl Top Inner to Pillar Brace
53633	Hood Lock Control Cable Shield	57161	Front Crossmember
53701 53702	Front Fender Apron Sub–Assy	—	—



Code	Part Name
61103 61104	Front Body Pillar Sub–Assy
61107 61108	Front Body Outer Pillar Sub–Assy
61211 61212	Roof Side Outer Rail
61231 61232	Roof Side Inner Rail
61261 61262	Roof Drip Channel
61345B 61346B	Center Body Inner Lower Pillar
61347A 61348A	Belt Anchor to Center Pillar Reinforcement
61367	Belt Anchor to Center Pillar Lower Reinforcement
61388A 61389A	Center Body Pillar End Plate
61411 61412	Rocker Outer Panel
61515A	Quarter Lock Pillar Extension
61547 61548	Quarter Pillar Inner Reinforcement
61611 61612	Quarter Panel
61617A 61618A	Quarter Inner Rear Panel

Code	Part Name
61619A	Quarter Panel Reinforcement
61625E 61626E	Quarter Panel Inner Rear Extension
61631A 61632A	Quarter Wheel Housing Outer Panel
61633A 61634A	Quarter Wheel Housing Inner Panel
61641B 61642B	Quarter Wheel Housing Gusset
61657B 61658B	Quarter Panel End Lower Housing
61675B	Rear Suspension Spring Support Reinforcement
61707 61708	Quarter Inner Panel Sub–Assy
61711A 61712A	Roof Side Outer Reinforcement
61747 61748C	Roof Side Inner to Wheel Housing Brace
61766B 61767B	Roof Side Inner to Wheel Housing Brace Reinforcement
61768B	Belt Anchor to Roof Side Inner Rear Reinforcement
61769A	Seat Belt Anchor No. 2 Reinforcement
61773A 61774A	Back Door Opening Lower Patch
—	—


58183
58102A
58183
58305
58307
58364B
58364B
58311E
58313F
58109A
58311
58193
58101A
57465A
58208
57457C
57468A
58173
58314F
57656A
58367
58346
57673
58275C
58142
7466A
58212C
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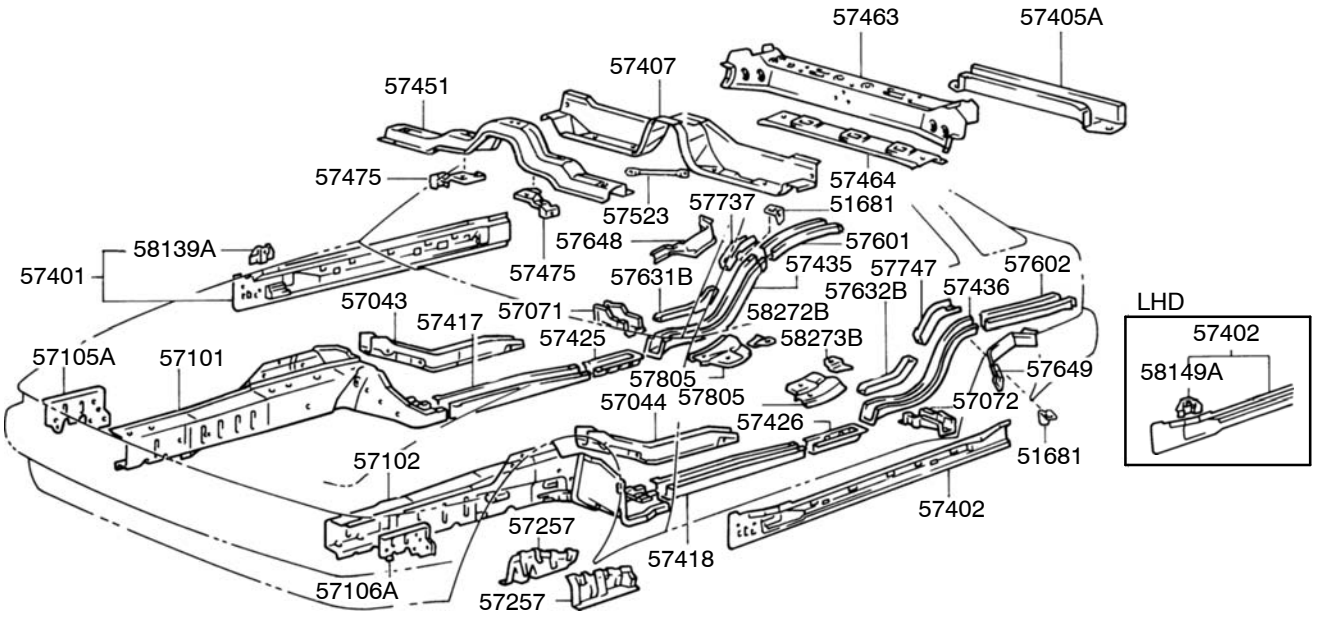
58029A


57463
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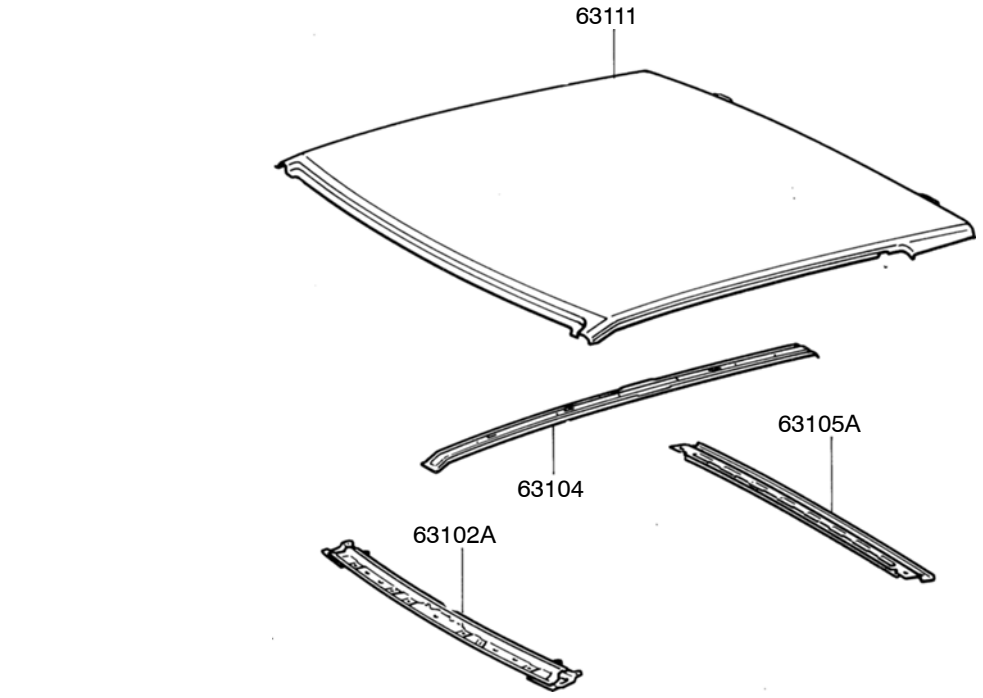
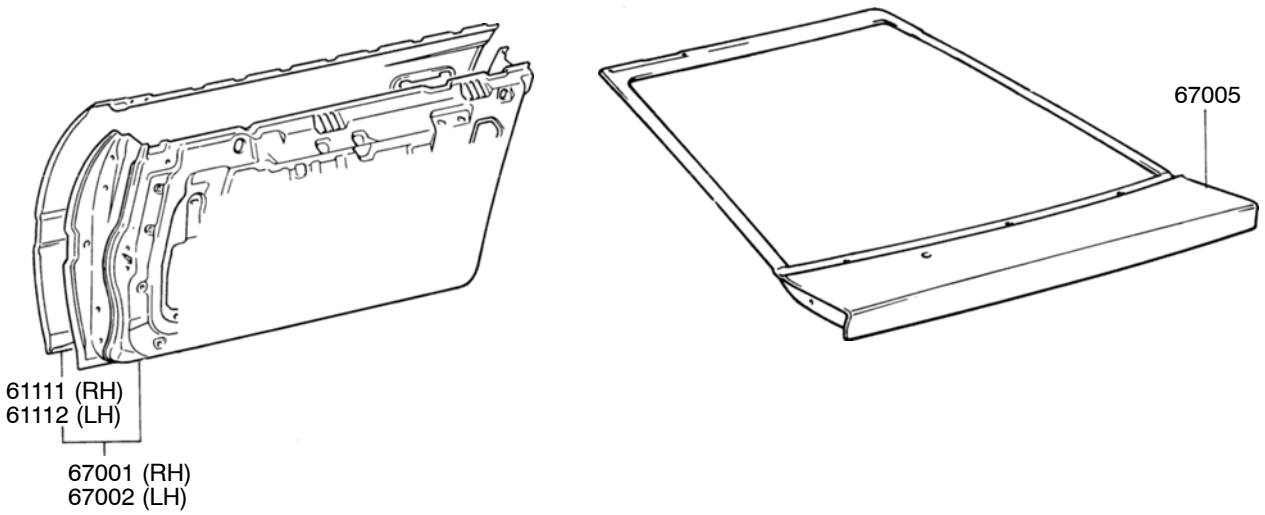
57407
57451
57475
57464
57523
57737
51681
57648
57601
58139A
57401
57475
57631B
57435
57747
57602
57632B
57436
57043
57071
58272B
57417
57425
58273B
57105A
57101
57805
57649
57044
57805
57072
57426
57102
51681
57402
57257
57418
57106A
57257
LHD
57402
58149A

Code	Part Name	Code	Part Name
51681	Flexible Hose Bracket	57656A	Exhaust Pipe Mounting No. 1 Bracket
57043 57044	Front Side Member Rear Reinforcement	57673	Rear Seat Back Hinge Mounting Bracket
57071 57072	Torque Rod Rear Box Sub−Assy	57737 57747	Differential Support Member Mounting Reinforcement
		57805	Belt Anchor Reinforcement Sub−Assy
57101 57102	Front Side Member Sub−Assy	58029A	Parking Brake Cable No. 1 Clamp
		58101A	Transmission Auxiliary Cover
57105A 57106A	Front Side Member Plate Sub−Assy.	58101F	Mounting Floor No. 1 Bracket
		58102A	Front Floor Reinforcement Sub−Assy
57257	Engine Rear Support Member Bracket	58109A	Parking Brake Retainer Sub−Assy
57401 57402	Main Floor Side Member Sub−Assy	58111	Front Floor Pan
57405A	Center Floor No. 2 Crossmember Sub−Assy	58139A 58149A	Front Floor Side Rear Plate
57407	Center Floor No. 1 Crossmember Sub−Assy	58142	Floor Side Member to Floor Pan Reinforcement
57417 57418	Front Floor Under Reinforcement	58173	Front Floor Stone Deflector
57425 57426	Front Floor No. 2 Reinforcement	58183	Front Seat Mounting Inside Bracket
		58193	Instrument Panel Brace Mounting Bracket
57435 57436	Center Floor Side Member	58207F 58208F	Parking Brake Cable Clamp Sub−Assy
57451	Front Floor Crossmember	58208	Center Floor Pan
57457C	Front Outside Mounting Front Bracket	58212C	Center Floor Front Pan
57463	Center Floor No. 3 Crossmember	58264B	Parking Bake Cable Guide No. 1 Bracket
57464	Center Floor Crossmember Strength	58272B	Belt Anchor to Floor Pan No. 4 Reinforcement
57465A 57466A	Center Floor Crossmember Rear Gusset	58273B	Belt Anchor to Floor Pan No. 5 Reinforcement
		58275C	Wire Harness Protector Bracket
57467A	Front Seat Outside Mounting Front Bracket	58305	Spare Wheel Clam Bracket Sub−Assy
57468A 57469A	Front Seat Outside Rear Bracket	58307	Body Lower Back Panel Sub−Assy
		58311E	Rear Floor Service Hole Cover
57475	Front Floor Crossmember Plate	58311	Rear Floor Pan
57523	Center Floor Crossmember Brace	58313F 58314F	Rear Floor Pan to Quarter Panel Extension
57601 57602	Rear Floor Side Member Sub−Assy	58364	Rear Floor Heat Insulator Bracket
57631B 57632B	Rear Floor Side Member Front Reinforcement	58364B	Fuel Tank Support Bracket
		58367	Fuel Tube Clamp Bracket
57648 57649	Quarter Wheel Housing No. 1 Gusset	—	—





Code	Part Name	Code	Part Name
63102A	Windshield Header Panel Sub–Assy	67001 67002	Front Door Panel Sub–Assy
63104	Roof Panel Center Reinforcement Sub–Assy		
63105A	Back Door Opening Frame Sub–Assy	67005	Back Door Panel Sub–Assy
63111	Roof Panel	67111 67112	Front Door Outer Panel
—	—		

HANDLING PRECAUTIONS

1. The repair procedure for plastic body parts must conform with the type of plastic material.
2. Plastic body parts are identified by the codes in the following chart.
3. When repairing metal body parts adjoining plastic body parts (by brazing, frame cutting, welding, painting, etc.), consideration must given to the property of the plastic.

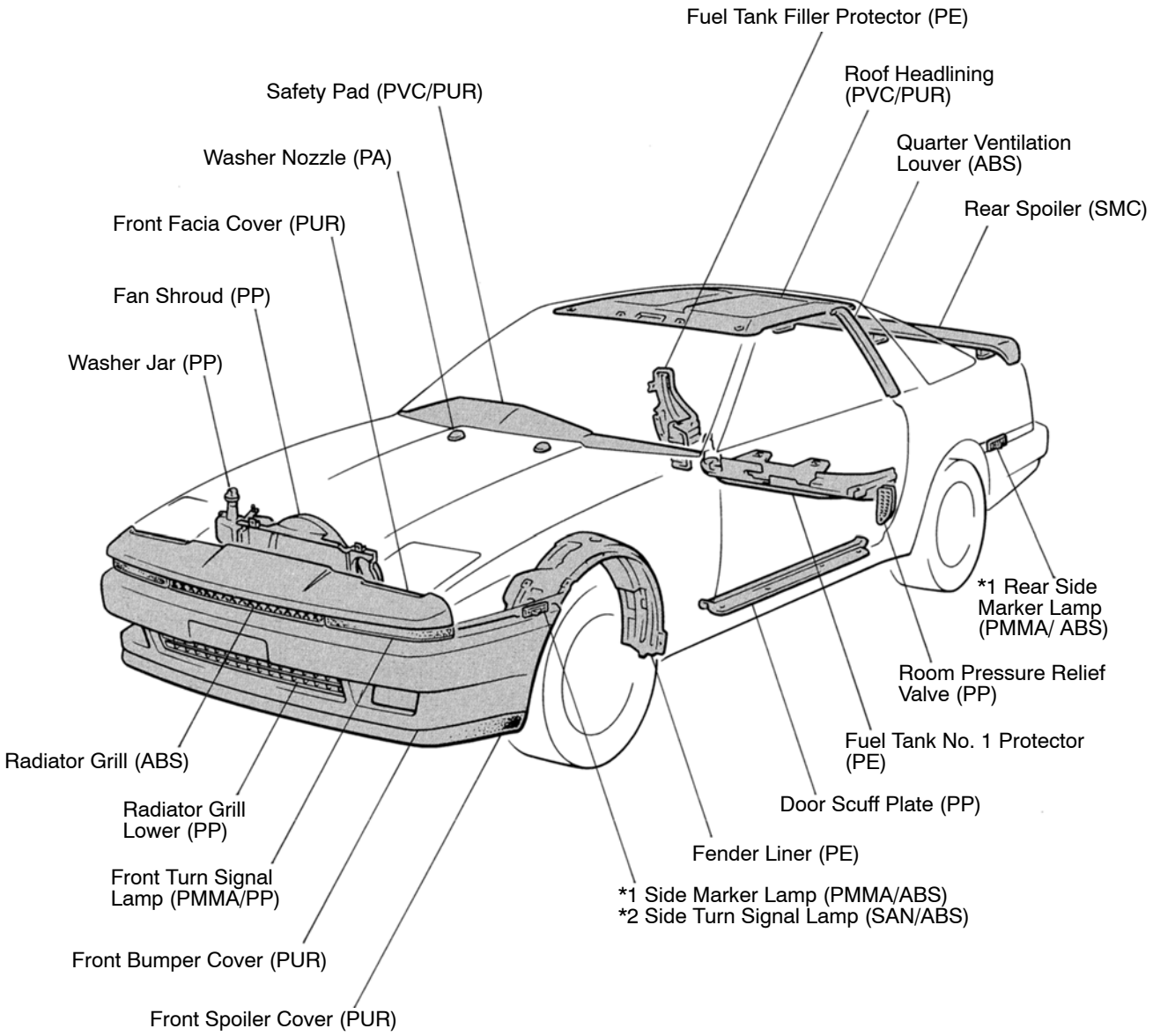
Code	Material Name	Heat * Resisting Temperature °C (°F)	Resistance To Alcohol or Gasoline	Notes
AAS	Acrylonitrile Acrylic Rubber Styrene Resin	80 (176)	Alcohol is harmless if applied only for short time in small amounts (ex., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
ABS	Acrylonitrile Butadiene Styrene Resin	80 (176)	Alcohol is harmless if applied only for short time in small amounts (ex., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
AES	Acrylonitrile Ethylene Rubber Styrene Resin	80 (176)	Alcohol is harmless if applied only for short time in small amounts (ex., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
EPDM	Ethylene Propylene Rubber	100 (212)	Alcohol is harmless. Gasoline is harmless if applied only for short time in small amounts.	Most solvents are harmless but avoid dipping in gasoline, solvents, etc.
PA	Polyamide (Nylon)	80 (176)	Alcohol and gasoline are harmless.	Avoid battery acid.
PC	Poiycarbonate	120 (248)	Alcohol is harmless.	Avoid gasoline, brake fluid, wax, wax removers and organic solvents.
PE	Polyethylene	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
POM	Polyoxymethylene (Polyacetal)	100 (212)	Alcohol and gasoline are harmless.	Most solvents are harmless.

* Temperature higher than those listed here may result in material deformation during repair.

Code	Material Name	Heat * Resisting Temperature °C (°F)	Resistance To Alcohol or Gasoline	Notes
PP	Polypropylene	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PPO	Modified Polyphenylene Oxide	100 (212)	Alcohol is harmless.	Gasoline is harmless if applied only for quick wiping to remove grease.
PS	Polystyrene	60 (140)	Alcohol and gasoline are harmless if applied only for short time in small amounts.	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
PUR	Thermosetting Polyurethane	80 (176)	Alcohol is harmless if applied only for very short time in small amounts (ex., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
PVC	Polyvinylchloride (Vinyl)	80 (176)	Alcohol and gasoline are harmless if applied only for short time in small amounts (ex., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
PMMA	Polymethyl Methacrylate	80 (176)	Alcohol is harmless if applied only for short time in small amounts.	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
SAN	Styrene Acrylonitrile Resin	80 (176)	Alcohol is harmless if applied only for short time in small amounts (ex., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
SMC	Sheet Molding Compound	180 (356)	Alcohol and gasoline are harmless.	Avoid alkali
TPO	Thermoplastic Olefine	80 (176)	Alcohol is harmless. Gasoline is harmless if applied only for short time in small amounts.	Most solvents are harmless but avoid dipping in gasoline, solvents, etc.
TPU	Thermoplastic Polyurethane	80 (176)	Alcohol is harmless if applied only for very short time in small amounts (ex., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.

* Temperature higher than those listed here may result in material deformation during repair.

LOCATION OF PLASTIC BODY PARTS

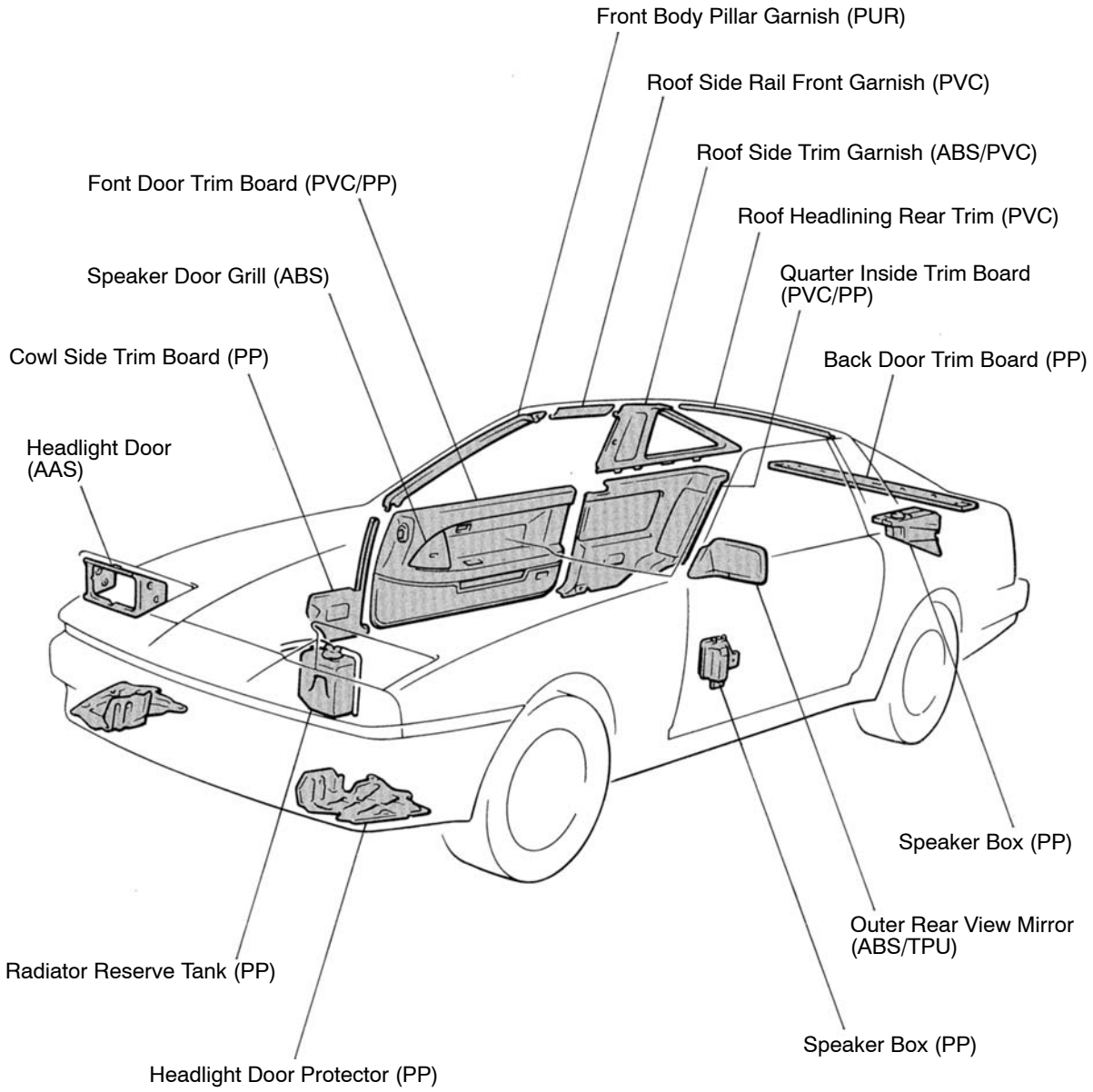


NOTE:
- **Resin material differs with model.**

/ **Made up of 2 or more kinds of materials.**

***1 USA and Canada**

***2 Except USA and Canada**

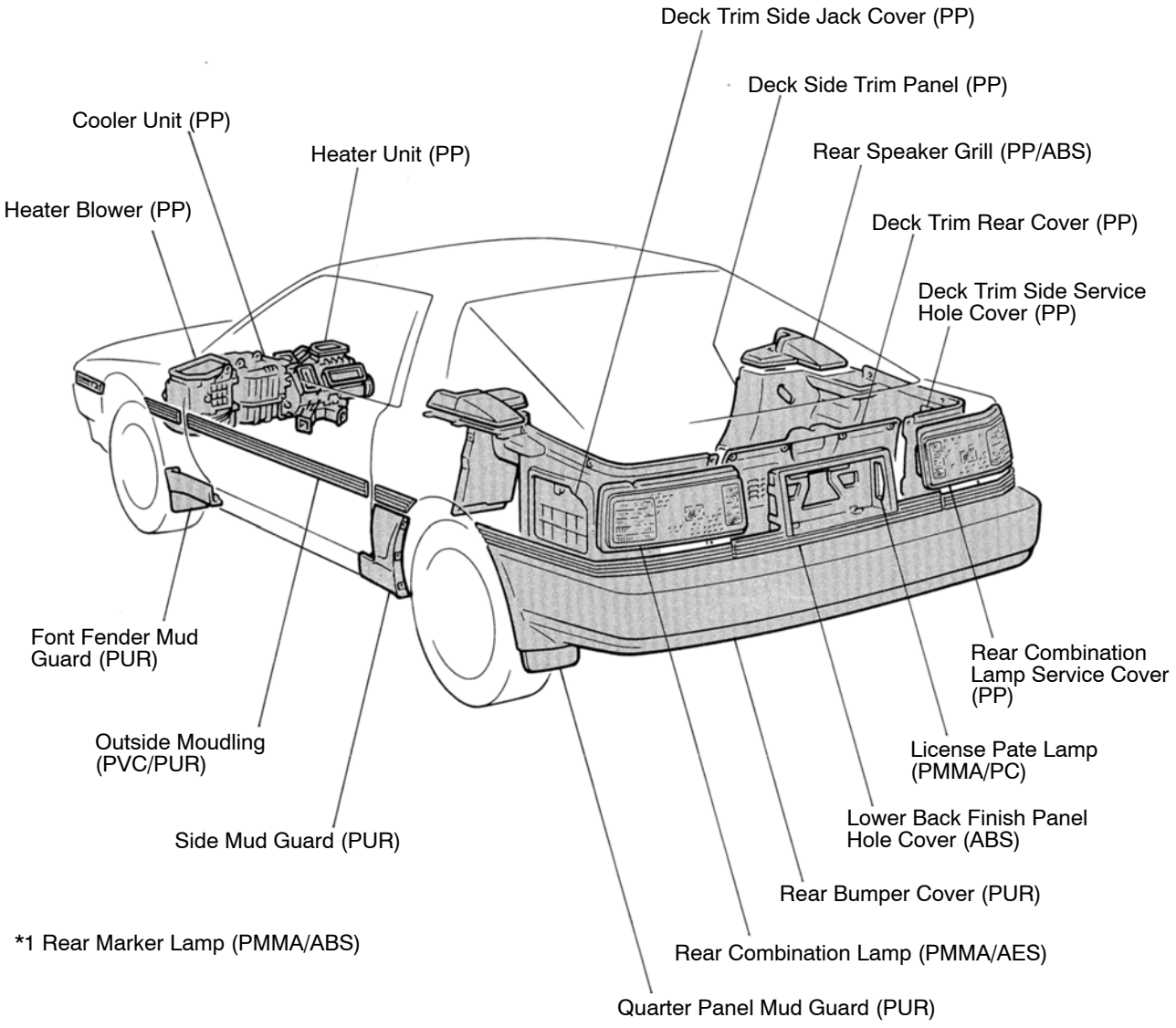


NOTE:
- **Resin material differs with model.**

/ **Made up of 2 or more kinds of materials.**

***1 USA and Canada**

***2 Except USA and Canada**



NOTE:

- **Resin material differs with model.**

/ **Made up of 2 or more kinds of materials.**

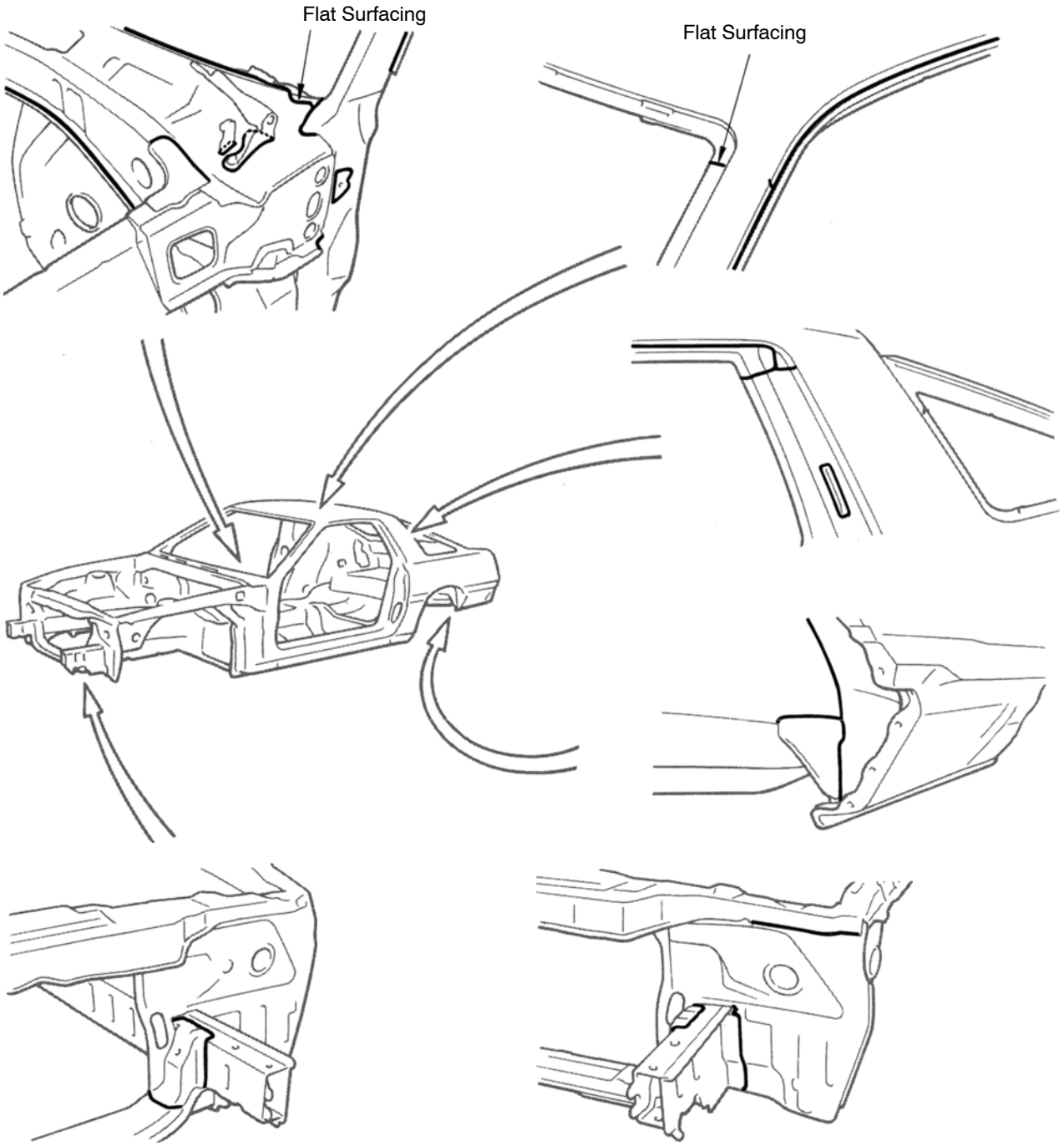
***1 USA and Canada**

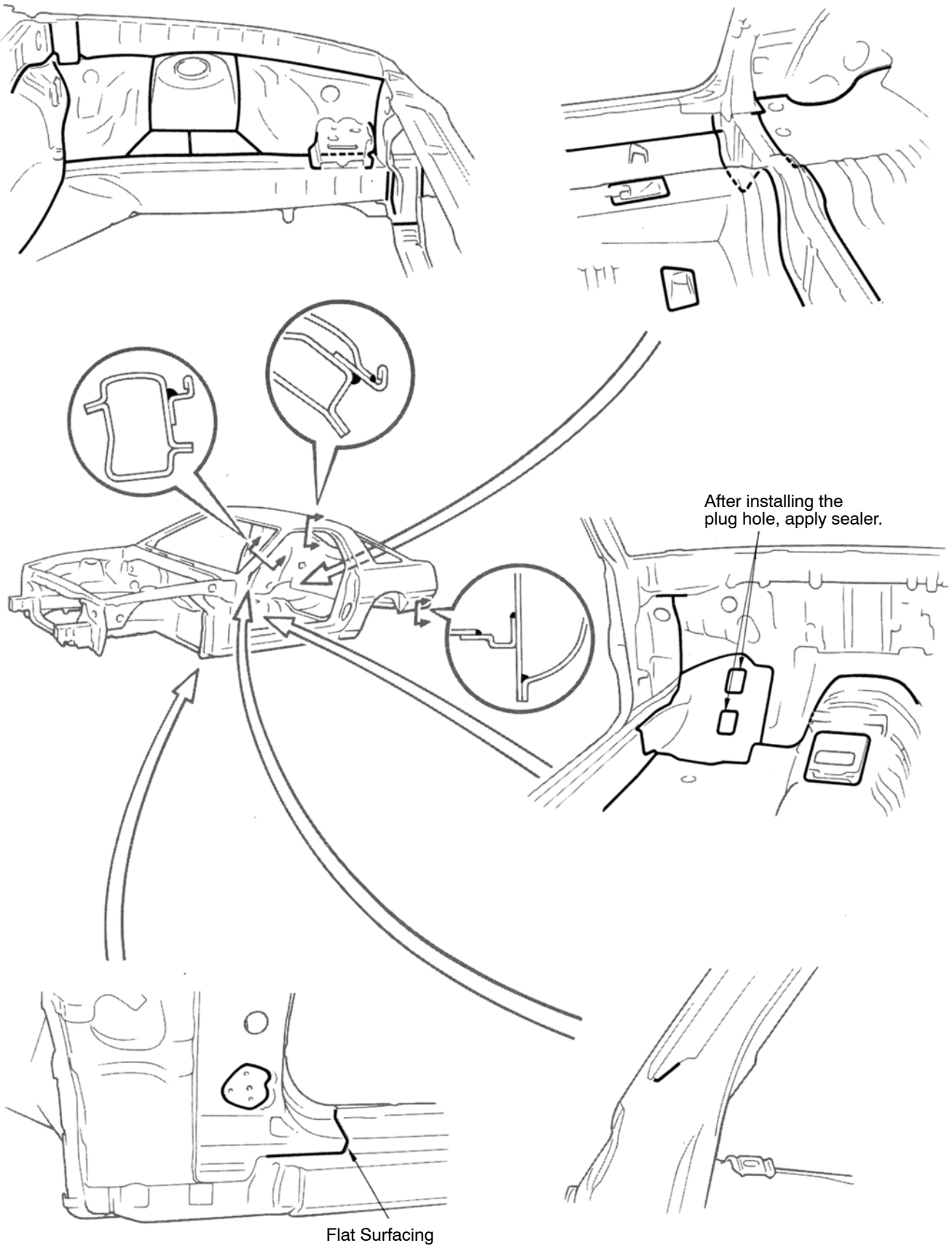
BODY PANEL SEALING AREAS

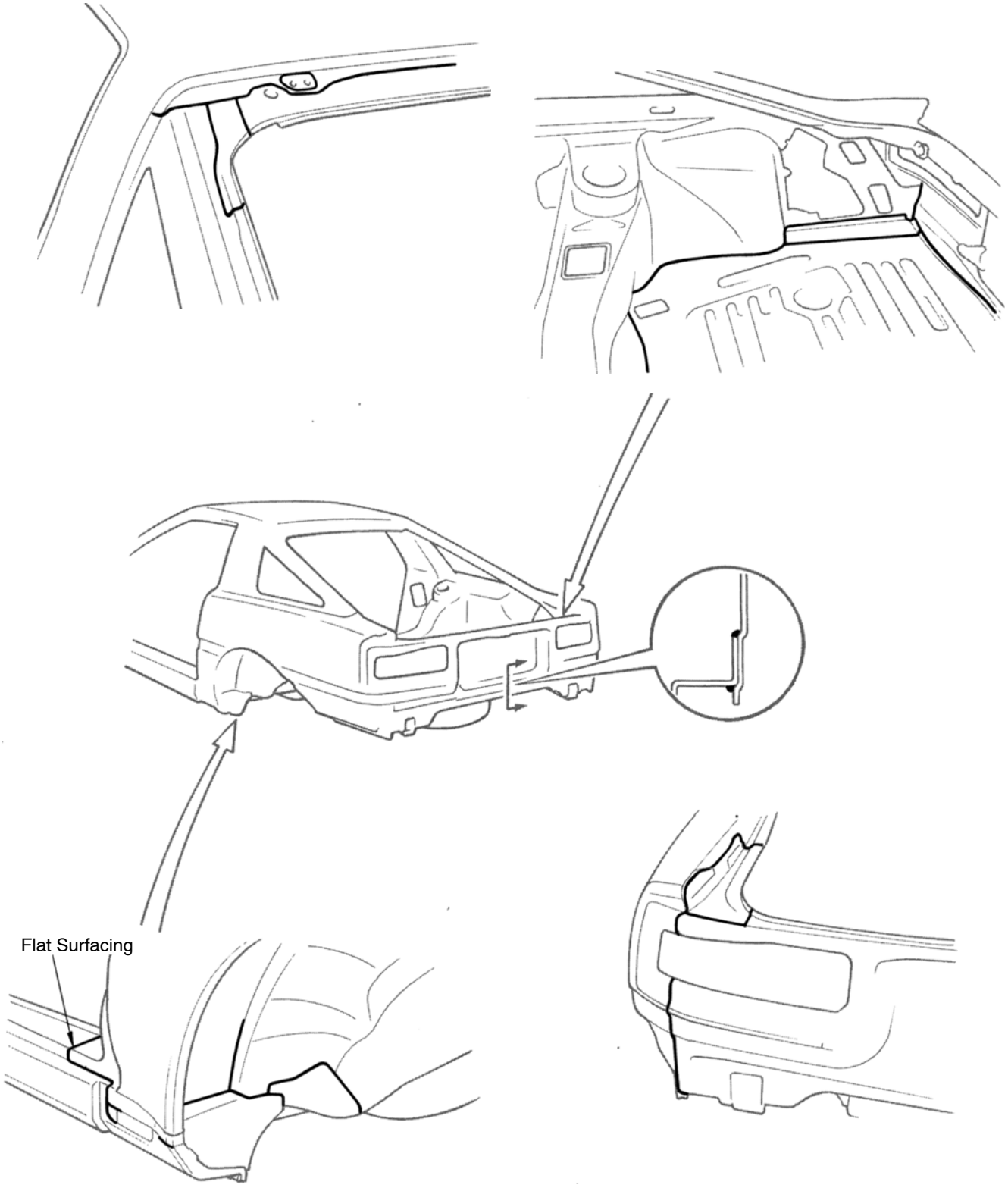
For water−proofing and anti−corrosion measures, always apply body sealer to the body panel seams and hems of the doors, hood, etc.

NOTE:

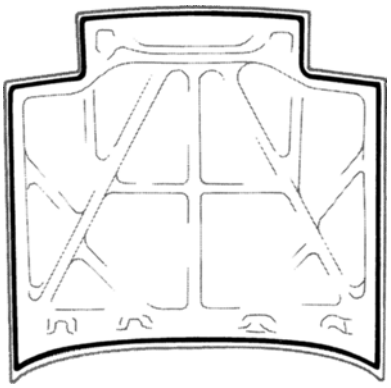
1. **Prior to applying body sealer, clean the area with a rag soaked in white gasoline.**
2. **If weld−through primer was used, first wipe off any excess with thinner, and coat with anti−corrosion primer before applying body sealer.**
3. **Wipe off any excess body sealer with a rag soaked in white gasoline.**



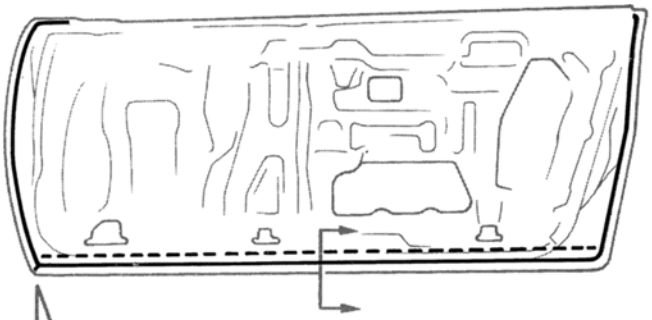

After installing the plug hole, apply sealer.
Flat Surfacing


Flat Surfacing

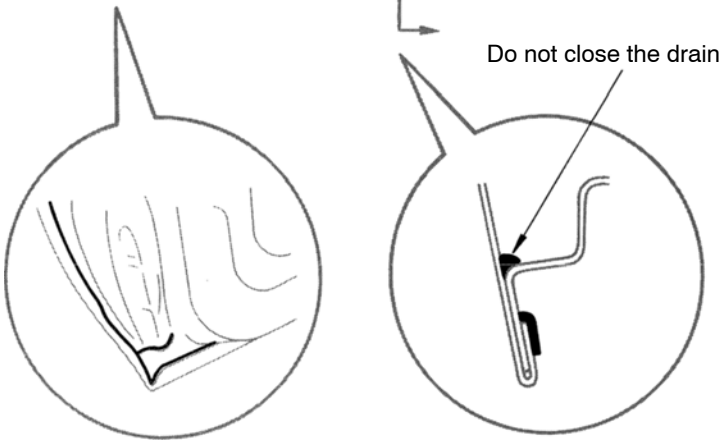
Hood



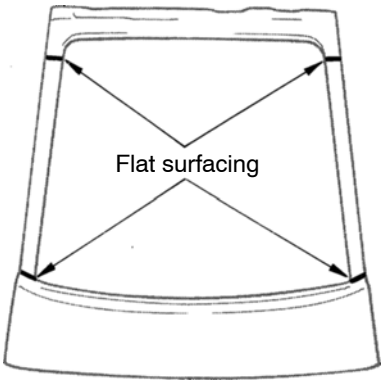
Front Door Panel



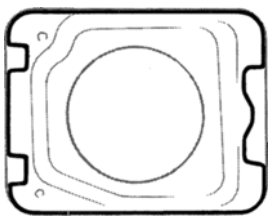
Do not close the drain hole.



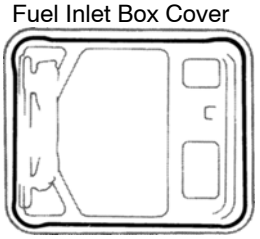
Back Door Panel



Fuel Inlet Box



Fuel Inlet Box Cover

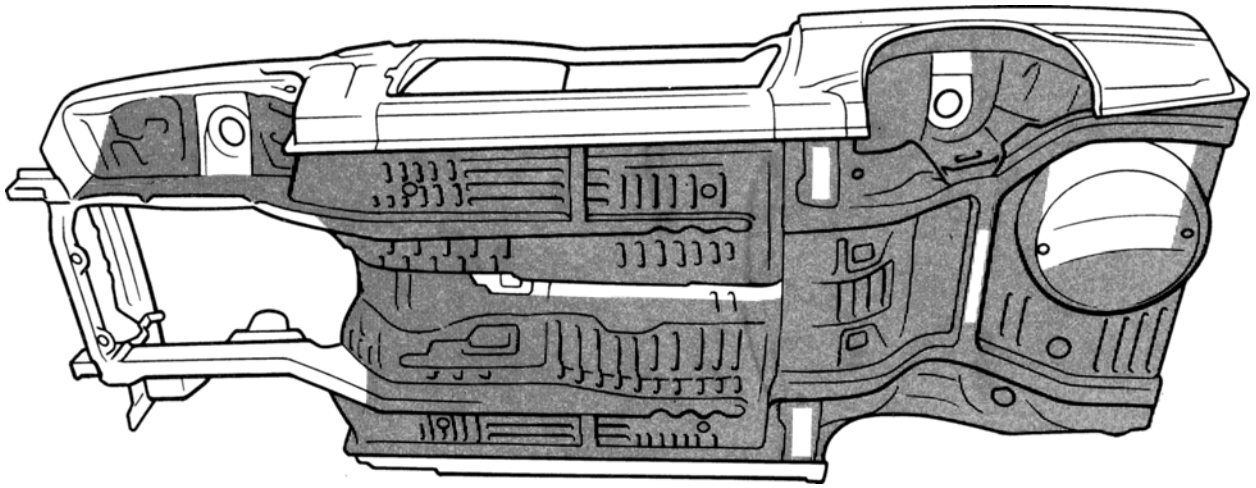


BODY PANEL UNDERCOATING AREAS

To prevent corrosion and protect the body from damage by flying stones, always apply undercoating to the welded seams and wheel housings after chassis, under body or panel repair.

NOTE:

1. **First wipe off any dirt, grease or oil with white gasoline.**
2. **Cover the surrounding areas with masking paper to avoid coating unnecessary areas. If other areas are accidently coated, wipe off the coating immediately.**
3. **Do not coat parts which become hot, such as the tail pipe, or moving parts, such as the propeller shaft.**
4. **Besides the locations described below, apply undercoating to all weld points under the body to insure corrosion prevention.**
5. **Be sure to seal the edge of the flange of the member and bracket with undercoating.**



REFERENCE: Referring to the notes above, undercoating should be applied according to the specifications for your country.