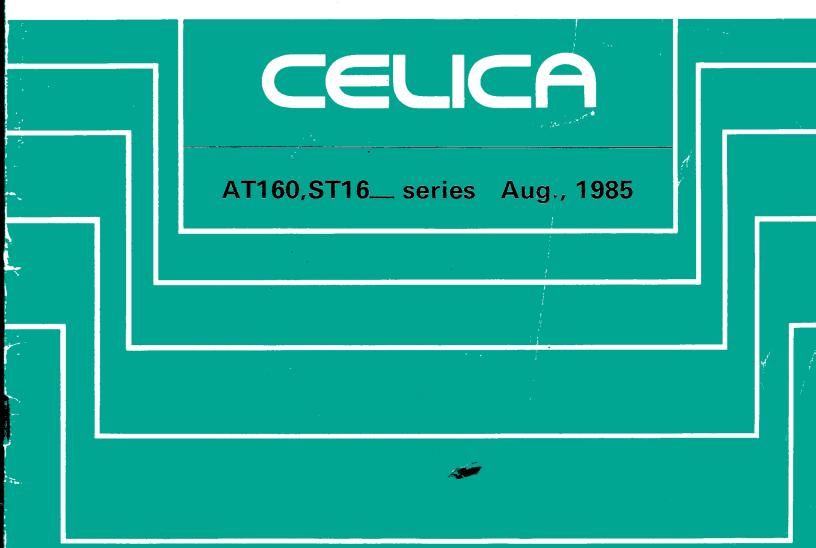
TOYOTA

REPAIR MANUAL FOR COLLISION DAMAGE



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 CELICA.

Applicable models: AT160 series ST161, 162 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 other than collision-damaged body components of the TOYOTA CELICA, refer to the following repair manuals.

2A, 3A, 3A-C, 4A, 4A-C, 4A-GE Engine Repair Manual (Pub. No. 36230E)
1S, 1S-E, 2S-C, 2S-E, 3S-GE Engine Repair Manual (Pub. No. RM016E)
A130L, A131, A131L, A132, A132L, A140L, A140E, A240L, A241L Automatic Transmission Repair Manual (Pub. No. RM018E)
CELICA Chassis and Body Repair Manual (Pub. No. RM013E)
CELICA 1986 Repair Manual (USA & CANADA) (Pub. No. RM005U)

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

TOYOTA CELICA REPAIR MANUAL FOR COLLISION DAMAGE

INTRODUCTION

BODY PANEL REPLACEMENT

BODY PANEL CONSTRUCTION

PLASTIC BODY PARTS

PLASTIC BODY PARTS

BODY PANEL SEALING AND UNDERCOATING

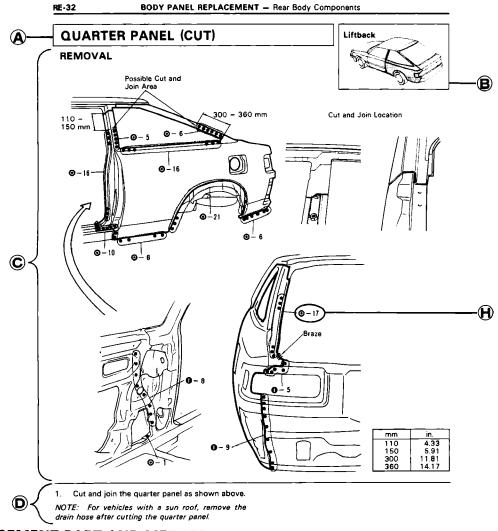
BODY DIMENSIONS

PART LISTS

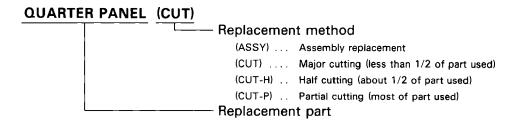
TOOLS AND EQUIPMENT

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.



(A): REPLACEMENT PART AND METHOD



B: BODY VARIATIONS AND PART LOCATION

Body variations: Non .. All models

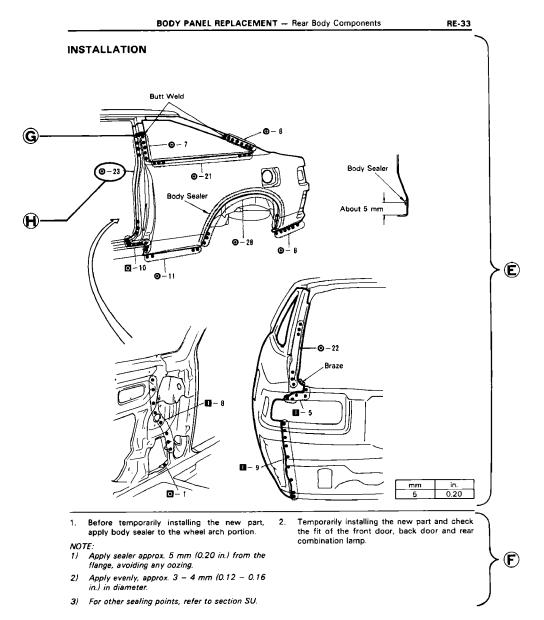
Liftback Coupe

©: REMOVAL DIAGRAM

Describes in detail removal of the damaged part involving repair by cutting.

(D): REMOVAL GUIDE

Provides additional information to more efficiently help you perform the removal.



(E): INSTALLATION DIAGRAM

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

(F): INSTALLATION GUIDE

Provides additional information to more efficiently help you perform the installation.

G: SYMBOLS

See page IN-4.

(H): ILLUSTRATION OF WELD POINT

Weld method and panel position symbols. See page IN-5.

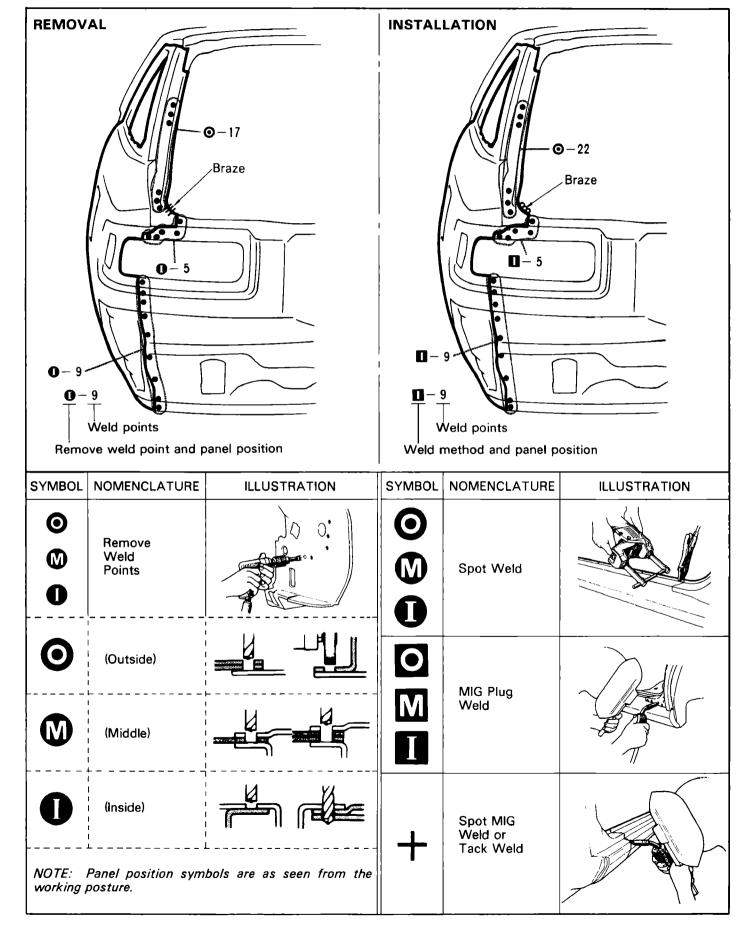
SYMBOLS

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

SYMBOLS	NOMENCLATURE	ILLUSTRATION
	SAW CUT OR ROUGH CUT	
///////////////////////////////////////	REMOVE BRAZE OR SPOT WELD	00000
	WELD POINT SPOT WELD OR MIG PLUG WELD (See page IN-5)	
- 111111111111111111111111111111111111	CONTINUOUS MIG WELD (BUTT WELD)	
~~~~~	BRAZE	

Illustration of Weld Point Symbols

EXAMPLE:



GENERAL REPAIR INSTRUCTIONS

Work Precautions

SAFETY

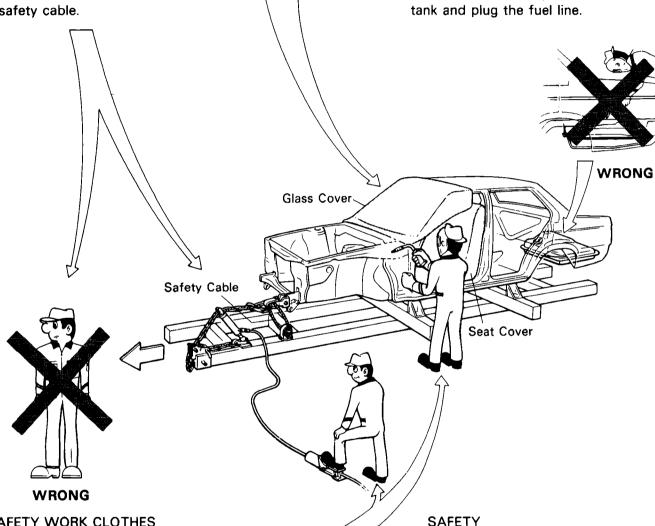
Never stand in direct line with the chain when using a puller on the body or frame. and be sure to attach a safety cable.

VEHICLE PROTECTION

When welding, protect the painted surfaces, windows, seats and carpet with heatresistant, 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 flame in the area of the fuel tank, first remove the



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.

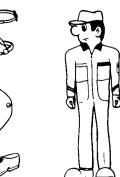
Before performing repair work, disconnect the battery cables.

Dust-Prevention Mask

Face Protector

Head Protector

Safety Shoes













Welder's Gloves





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

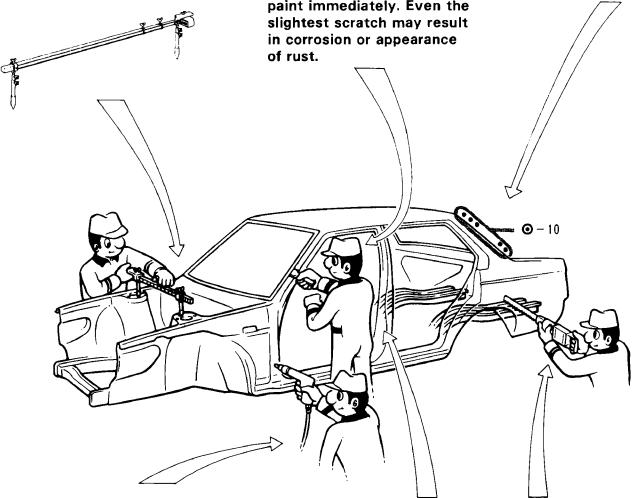
PRE-REMOVAL MEASURING Before removal or cutting operations, take measurements in accordance with the dimension diagram. Always use a puller to straighten a damaged body or frame.

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.

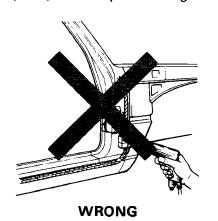
2. If the paint is accidently scratched, apply touch-up paint immediately. Even the in corrosion or appearance

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.



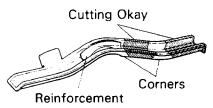
REMOVAL OF ADJACENT **PARTS**

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
- 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.



Less than 3 mm

PREPARATION FOR INSTALLATION

SPOT WELD POINTS

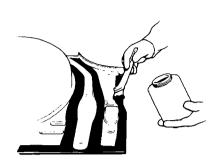
When welding panels with a combined thickness of over 3 mm (0.12 in.), use a MIG (Metal Inert Gas) welder for plug welding.

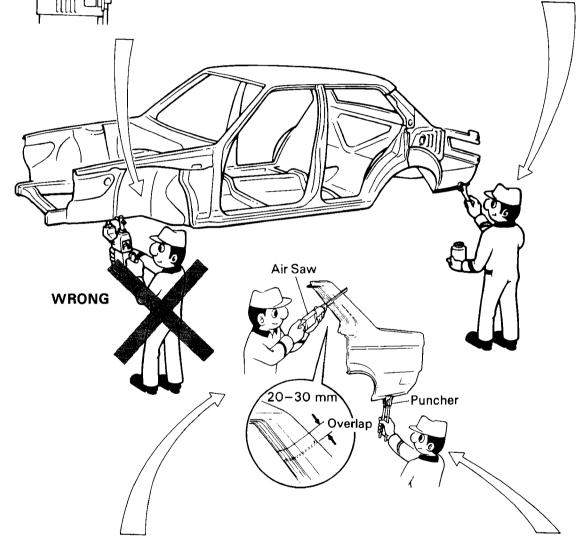
NOTE: Spot welding will

not provide sufficient durability for panels over 3 mm (0.12 in.) thick.



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 be 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

WELDING PRECAUTIONS

should be as follows.

manufacturer's spots.

Spot weld: 1.3 x No. of

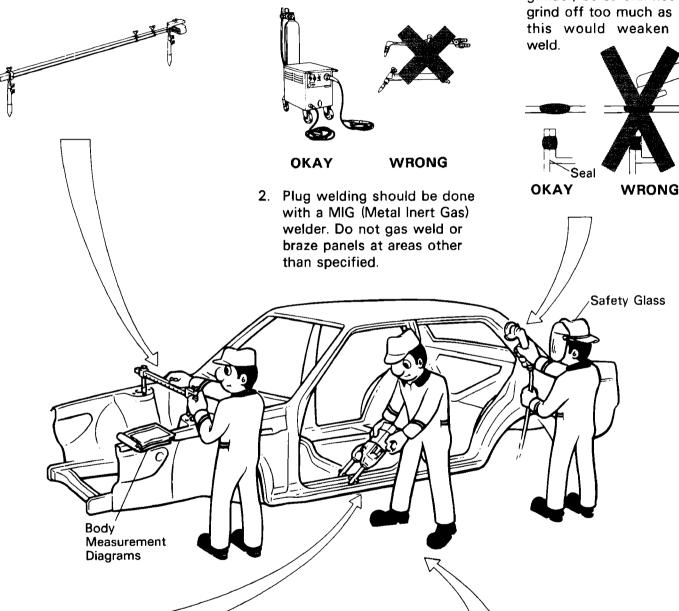
Plug weld: More than No.

of manufacturer's plugs.

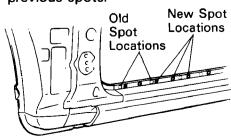
1. The number of welding spots

INSTALLATION

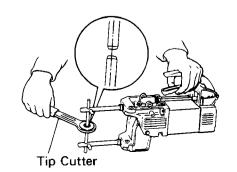
PRE-WELDING MEASUREMENTS Always take measurements before installing underbody or engine components to insure correct assembly. After installation, confirm proper fit.



SPOT WELD LOCATIONS Try to avoid welding over previous spots.



SPOT WELDING PRECAUTIONS



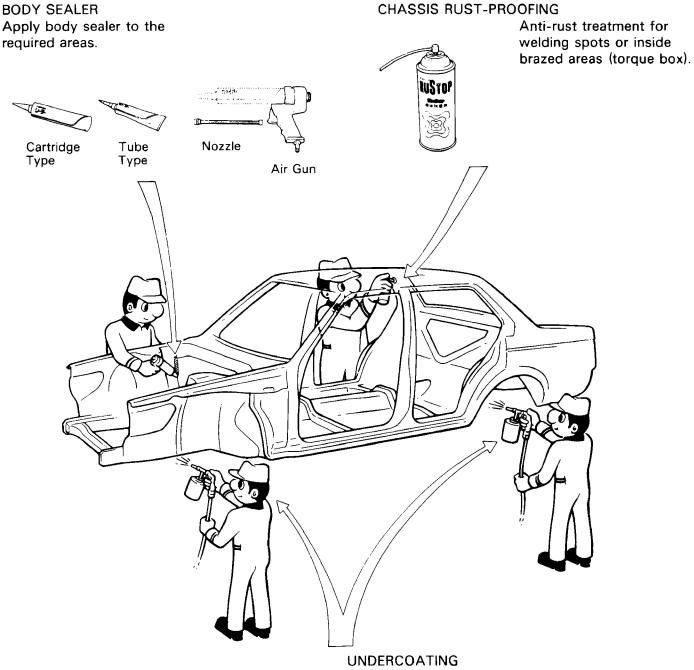
- The shape of the welding tip point has an effect on the strength of the weld.
- Always insure that the seams and welding tip are free of paint.

POST-WELDING REFINISH-ING

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

ANTI-CORROSIVE TREATMENT

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





Undercoating (Oil base)



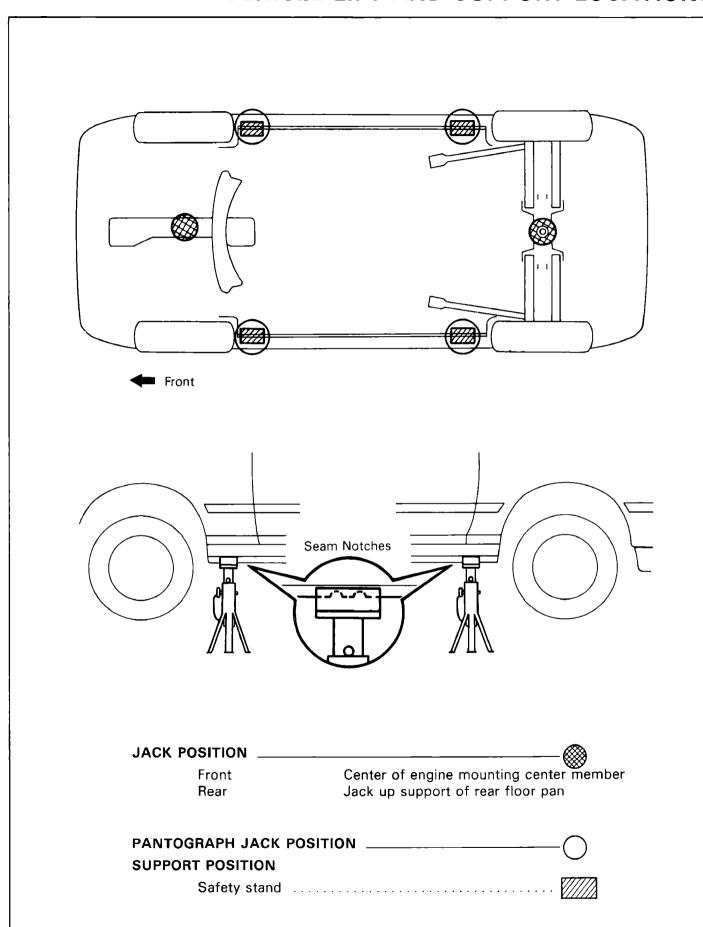
Undercoating (Water base)



Spray Gun

Anti-rust treatment for underbody welding spots and wheel housings.

VEHICLE LIFT AND SUPPORT LOCATIONS



ABBREVIATIONS USED IN THIS MANUAL

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

Assy, assy Assembly, assembly

Except

Sub-assy Sub-assembly

Ex.

in. Inch

IRS Independent Rear Suspension

4-link Rear Suspension

MIG Metal Inert Gas

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

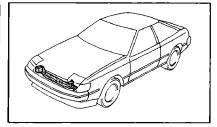
LHD Left-hand Drive

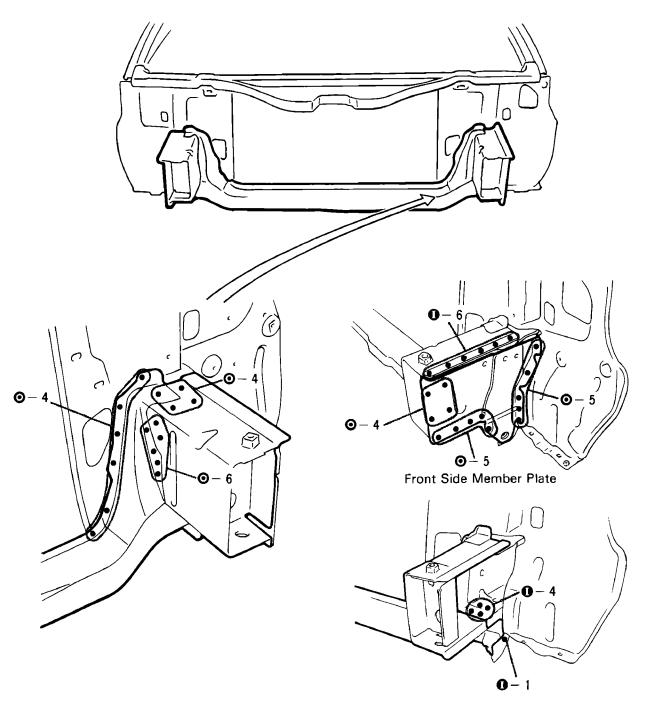
BODY PANEL REPLACEMENT

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FRONT BODY COMPONENTS	
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RADIATOR UPPER SUPPORT (ASSY)	RE-6
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CENTER BODY COMPONENTS	
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LIFTBACK	
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QUARTER WHEEL HOUSING OUTER PANEL (ASSY)	RE-42
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REAR FLOOR REAR SIDE MEMBER (ASSY)	RE-52
REAR FLOOR SIDE MEMBER (ASSY)	RE-54
REAR FLOOR NO. 2 CROSSMEMBER (ASSY)	BF-56

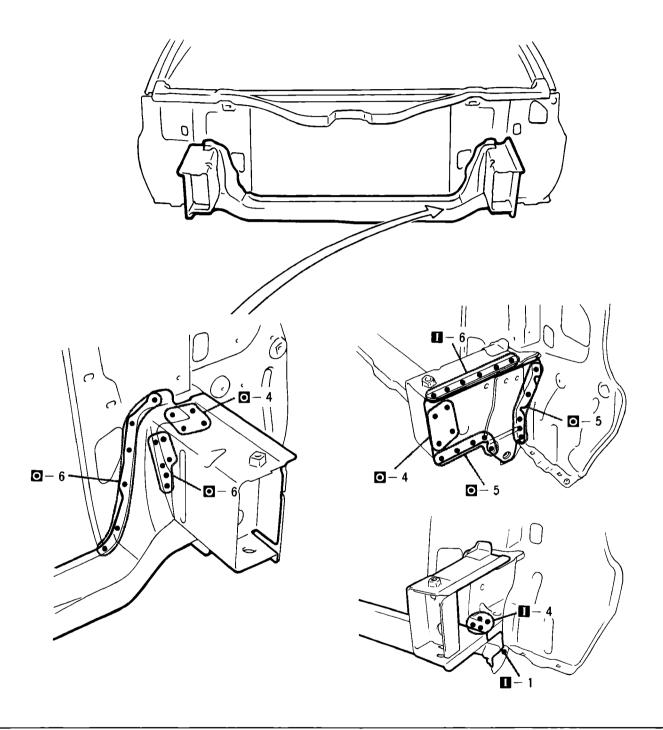
FRONT CROSSMEMBER (ASSY)

REMOVAL





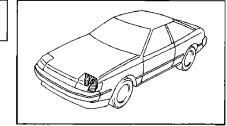
- 1. Remove the front side member plate.
- 2. After rough cutting the crossmember, cut the front side member weld points from the lower side.

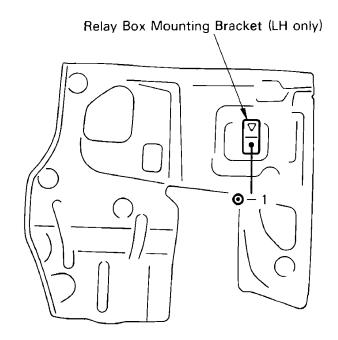


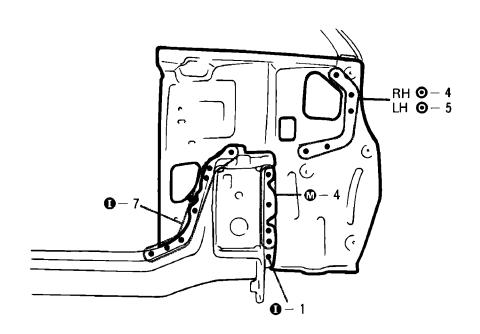
1. Temporarily install the new part and measure each part in accordance with the body dimension diagram.

RADIATOR SUPPORT (ASSY)

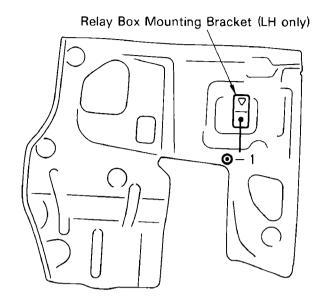
REMOVAL

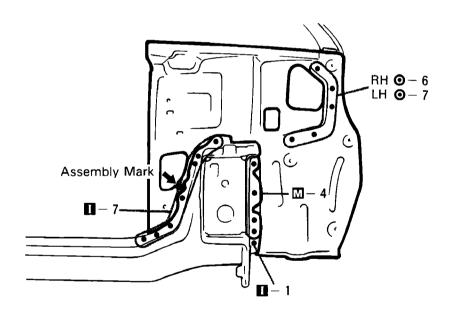






1. If reusing the relay box mounting bracket, remove it from the radiator support. (LH)

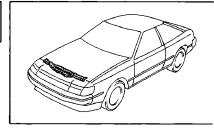


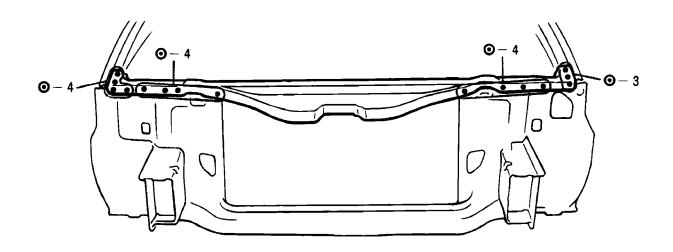


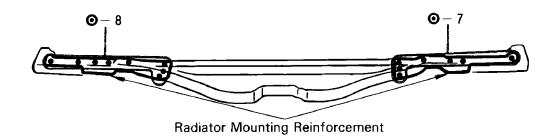
1. Temporarily install the new part with the assembly mark and measure each part in accordance with the body dimension diagram.

RADIATOR UPPER SUPPORT (ASSY)

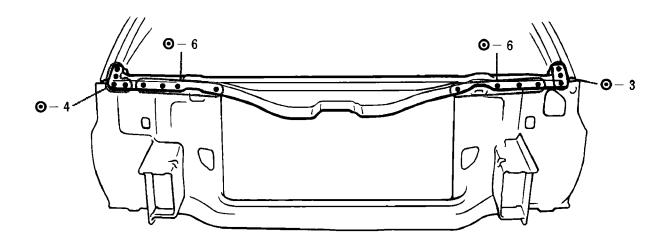
REMOVAL

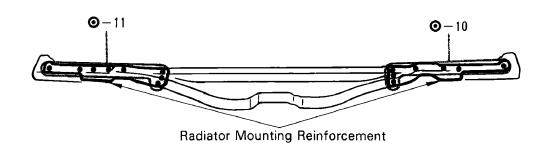






If reusing the radiator mounting reinforcements, remove there from the radiator upper support.





1. Before temporarily installing the new part, install the radiator mounting reinforcements to the part.

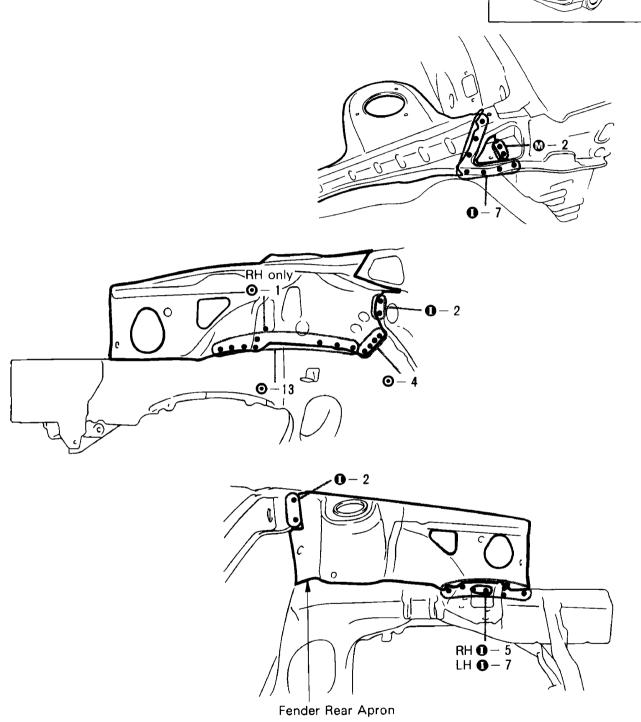
NOTE: Install the new panel with the hood lock support.

^{2.} Temporarily install the new part and measure each part in accordance with the body dimension diagram.

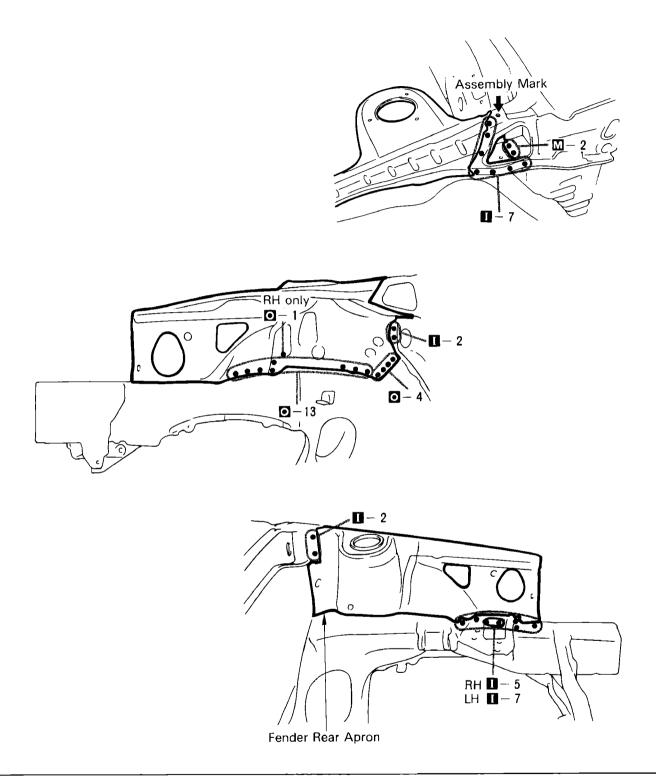
FRONT FENDER APRON (ASSY)

REMOVAL





^{1.} Repair can be done with the fender rear apron left on the vehicle.



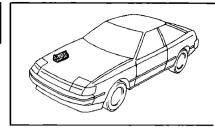
- 1. Determine the installation position of the new part by the assembly mark.
- Measurements must be accurate with the body dimension diagram, as this effects the front wheel alignment.

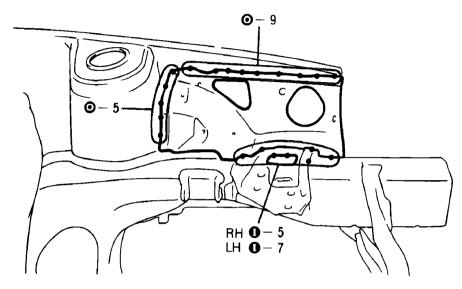
NOTE: The position of the front spring support hole is very important.

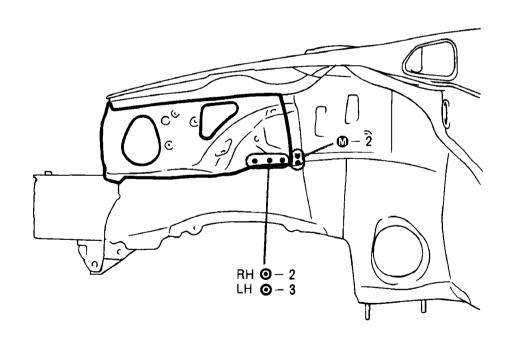
3. Check the fit of the front fender and hood.

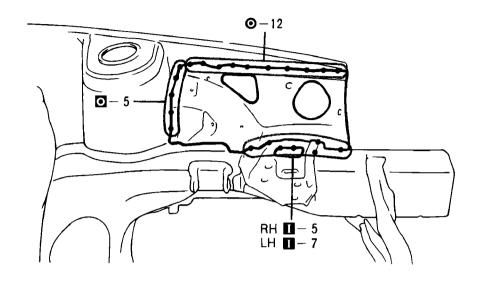
FRONT FENDER FRONT APRON (ASSY)

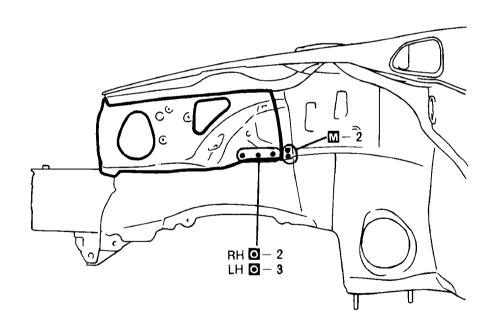
REMOVAL





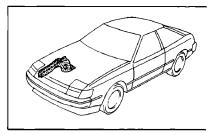


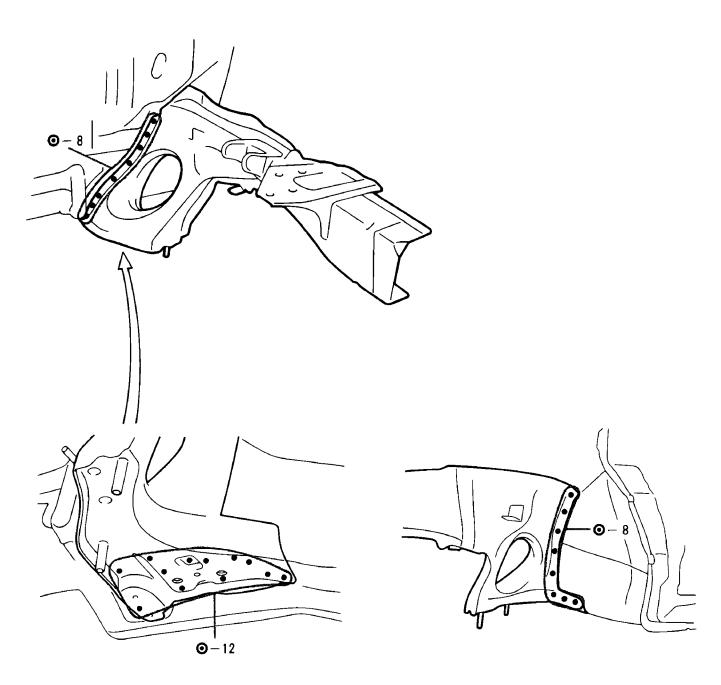


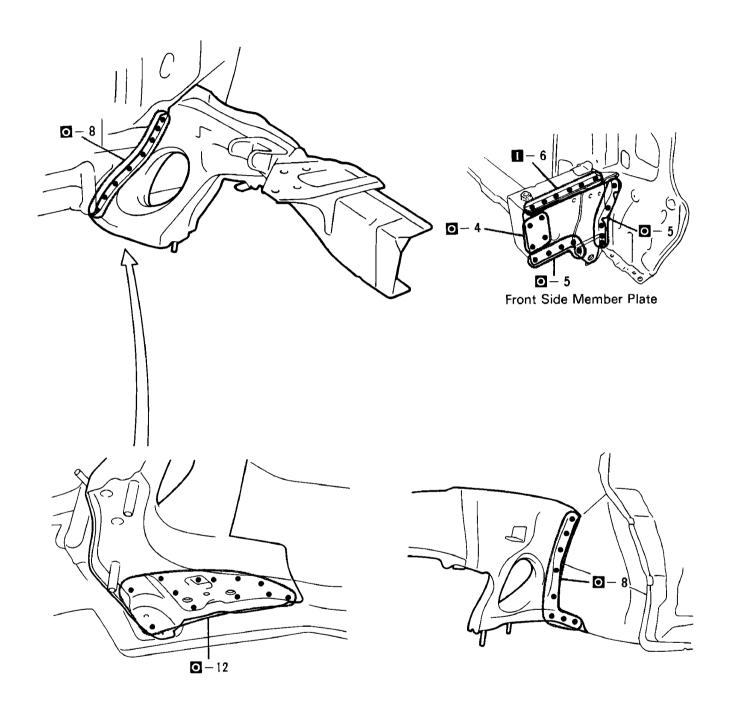


FRONT SIDE MEMBER (ASSY)

REMOVAL





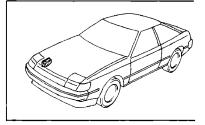


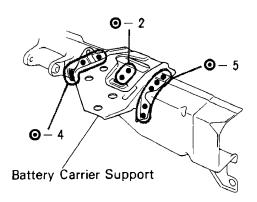
^{1.} Temporarily install the new part and measure each part in accordance with the body dimension diagram.

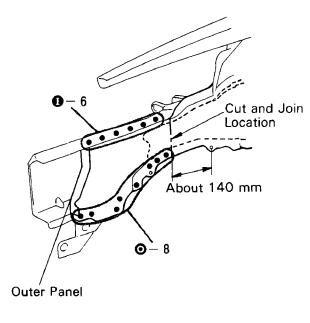
NOTE: Make sure each measurement is correct, as this part effects the front wheel alignment.

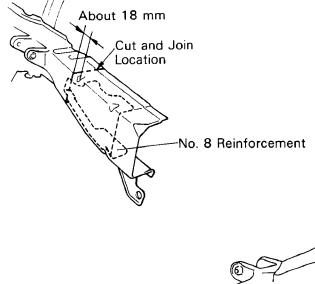
FRONT SIDE MEMBER (CUT-P)

REMOVAL









mm	in.
18	0.71
140	5.51

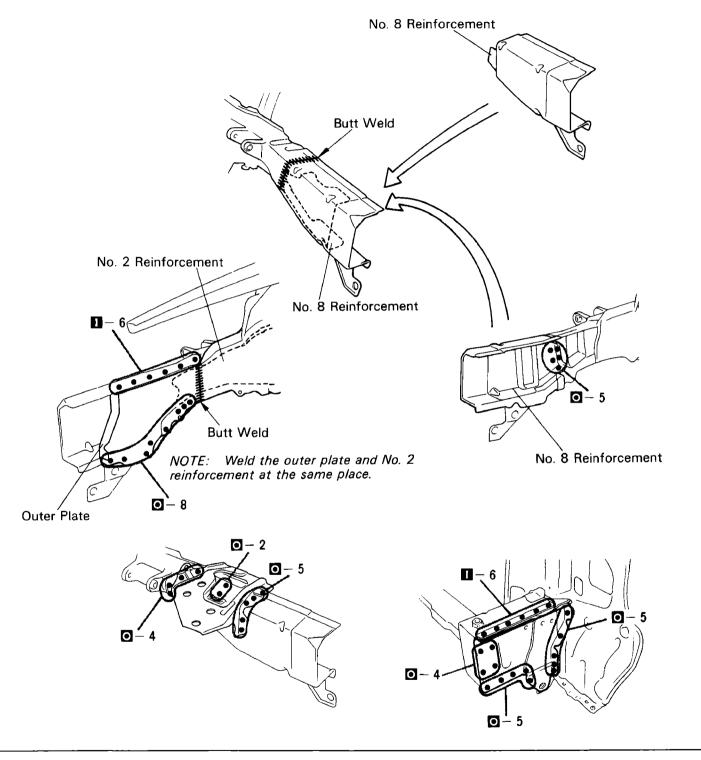
- 1. Before cutting the side member, remove the battery carrier support. (LH only)
- 2. Cut and join the front side member as shown above.

NOTE:

Remaining No. 8 Reinforcement

- Cut and join the front side member outer pla and the No. 2 reinforcement at the same plac (With No. 2 reinforcement)
- 2) Cut the front side member and the No. 8 rei forcement at the same place.
 (With No. 8 reinforcement)
- 3. Remove the remaining No. 8 reinforcement. (With No. 8 reinforcement)

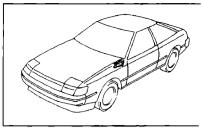
NOTE: Be careful not to damage the No. 8 reinforcement when cutting the new side member.
(With No. 8 reinforcement)

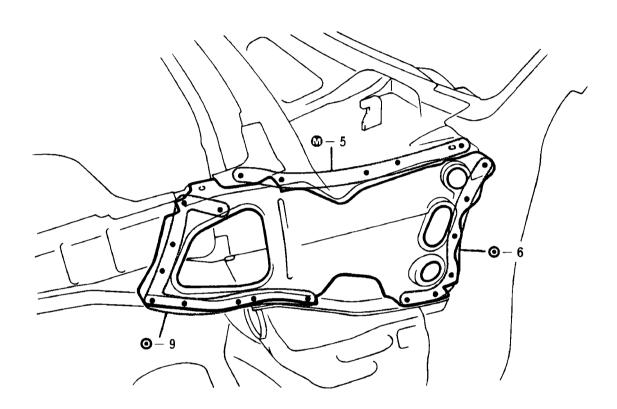


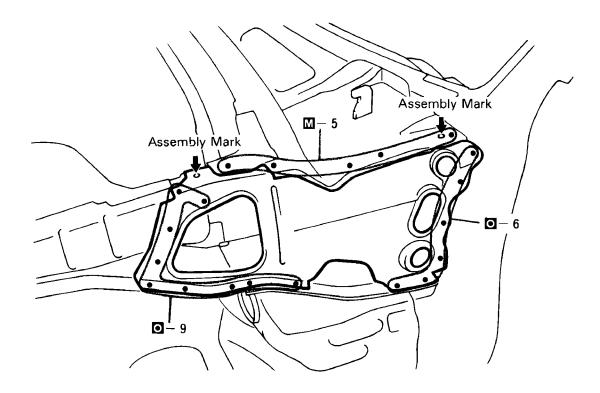
- Be careful not to damage the No. 8 reinforcement when cutting the new side member.
 (With No. 8 reinforcement)
- 2. Temporarily install the new member, measure each part in accordance with the body dimension diagram.
- 3. After installing the new member, install the battery carrier support. (LH only)

COWL TOP SIDE PANEL (ASSY)

REMOVAL





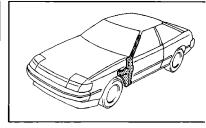


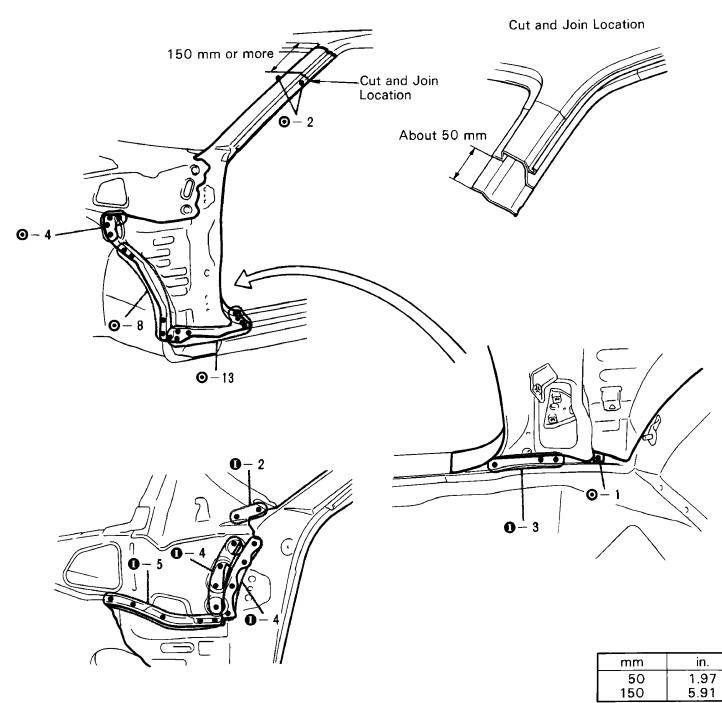
^{1.} Determine the installation position of the new part by the assembly mark.

^{2.} Temporarily installing the new part and measure each part in accordance with the body dimension diagram.

FRONT BODY PILLAR (CUT)

REMOVAL

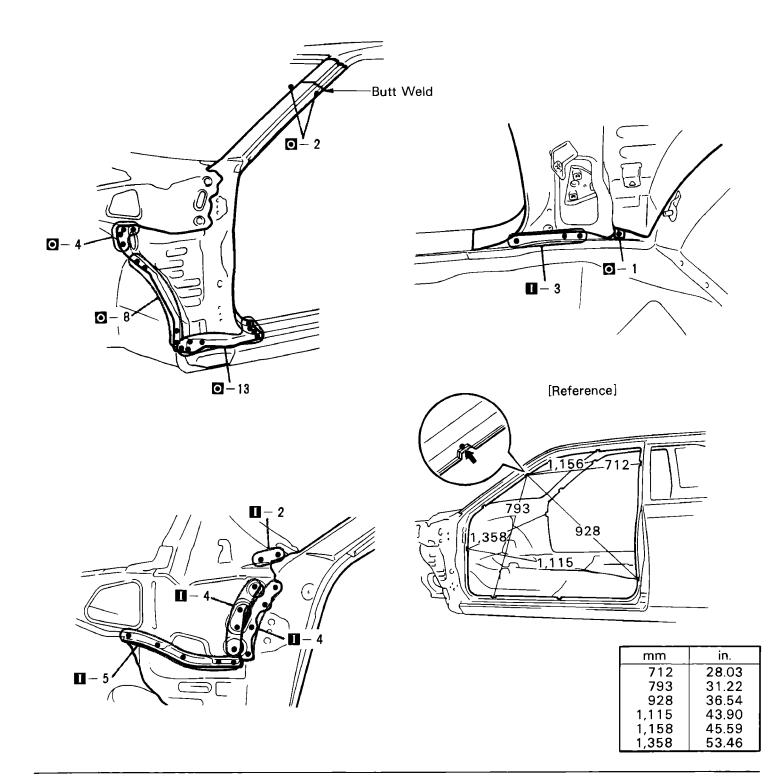




1. Cut and join the front body pillar at the location shown above.

NOTE:

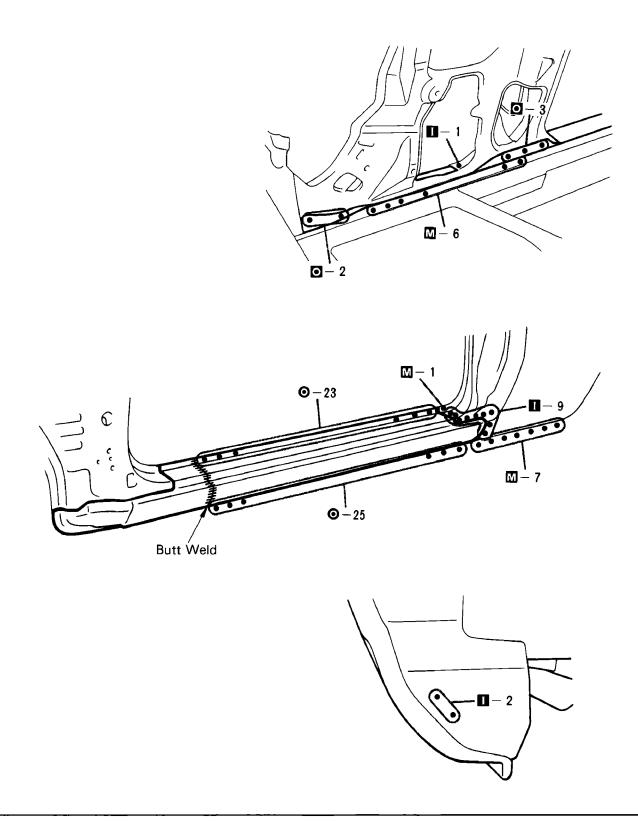
- 1) As shown above, cut and join the front body pillar outer and inner panels at a position shifted about 50 mm (1.97 in.).
- 2) Before cutting, remove the antenna cord and drain hose of the sun roof.



^{1.} Temporarily installing the new part and check the fit of the front door, front fender, hood and windshield glass.

OUTER ROCKER PANEL (CUT) REMOVAL ⊙−17 80 mm **⊙** 19 Cut and Join Location Cut and Join Location mm in. 3.15 80

^{1.} Cut and join the outer panel at the area as shown above.

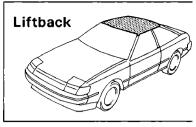


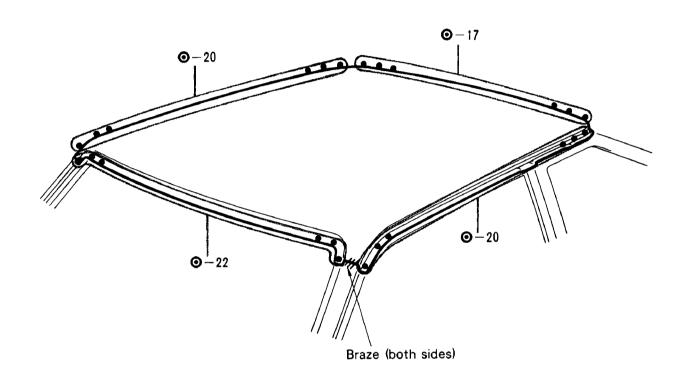
- 1. Temporarily installing the new panel and check the fit for the front door and front fender.
- 2. There will be less warp if the cut edge (30 40 mm or 1.18 1.57 in.) is adhered to the matching part before welding.

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

ROOF PANEL (ASSY)

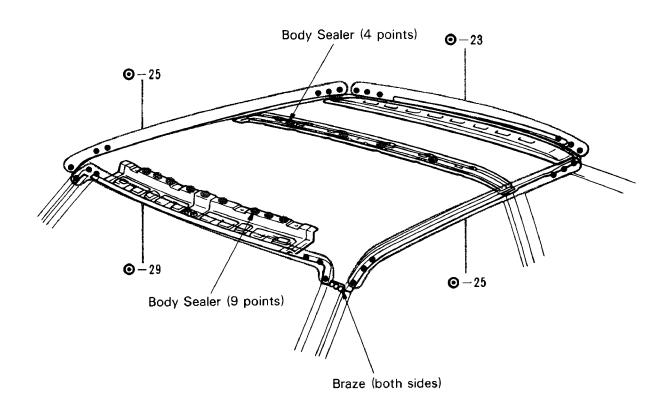
REMOVAL





NOTE: Be careful not to overheat the pillar.

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



NOTE:

- 1) Apply just enough sealer for the new part to make contact.
- 2) For other sealing points, refer to section SU.

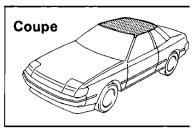
2. Braze the front body pillar connection.

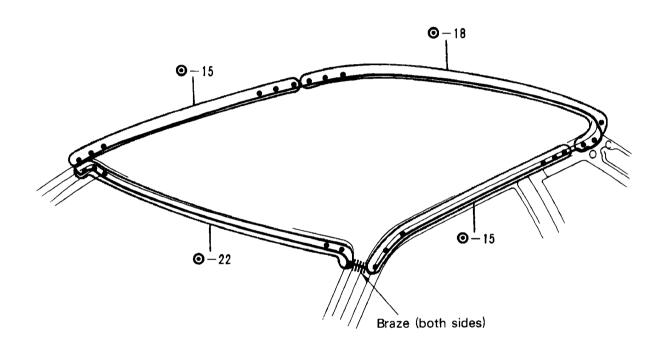
NOTE: Before performing these operations, place a wet rag on the roof panel to protect it from damage.

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

ROOF PANEL (ASSY)

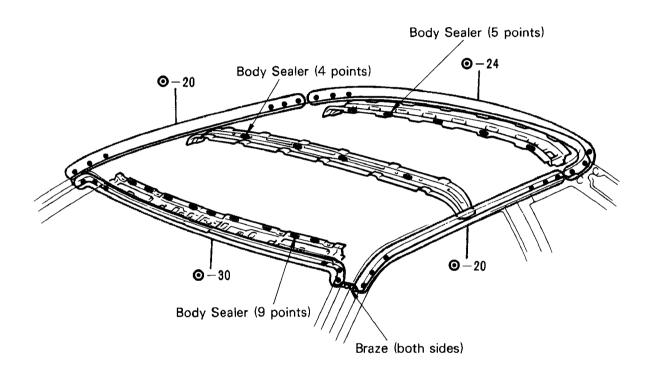
REMOVAL





NOTE: Be careful not to overheat the pillar.

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



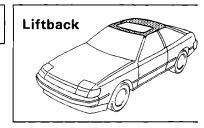
- Before temporarily installing the new part, apply body sealer to the windshield header panel, roof panel center reinforcement and back window opening frame.
- NOTE:
- 1) Apply just enough sealer for the new part to make contact.
- 2) For other sealing points, refer to section SU.

2. Braze the front body pillar connection.

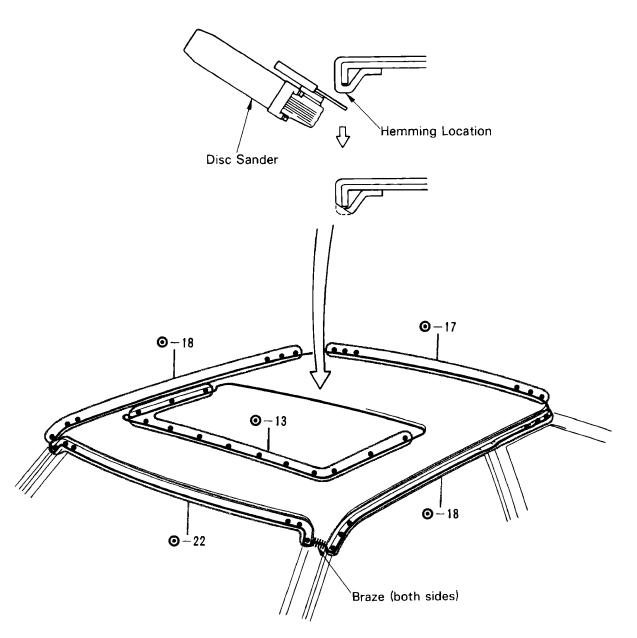
NOTE: Before performing these operations, place a wet rag on the roof panel to protect it from damage.

ROOF PANEL w/ SUN ROOF (ASSY)

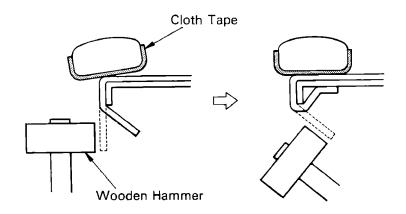
REMOVAL

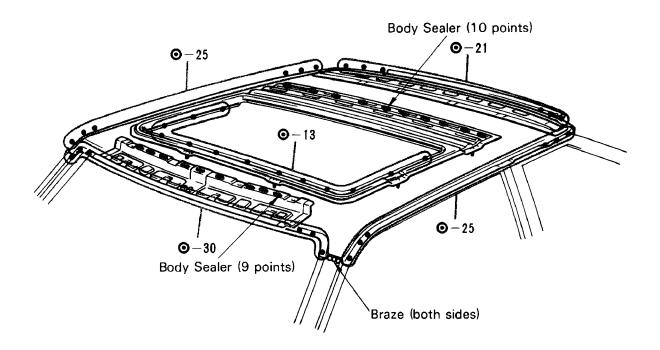


[If reusing the roof panel reinforcement No. 2]



If reusing the roof panel reinforcement No. 2 slightly heating the roof panel first will soften the sealer and make removal easier.





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

NOTE:

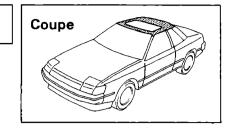
- 1) Apply just enough sealer for the new part to make contact.
- 2) For other sealing points, refer to section SU.

2. Hem the area rear tip of the sliding roof opening with a wooden hammer and dolly.

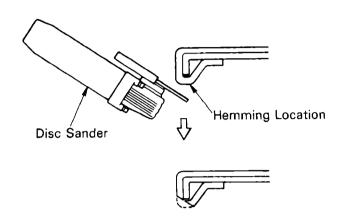
NOTE: Perform hemming in three steps, being careful not to warp the panel.

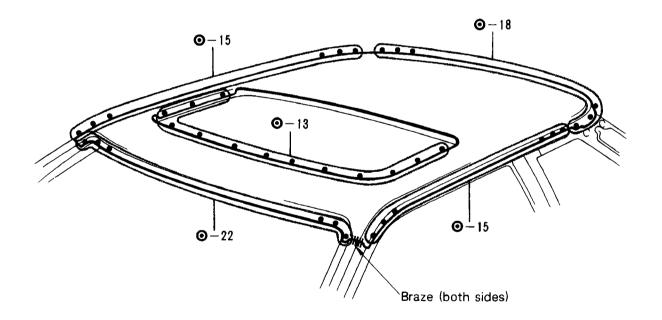
ROOF PANEL w/ SUN ROOF (ASSY)

REMOVAL

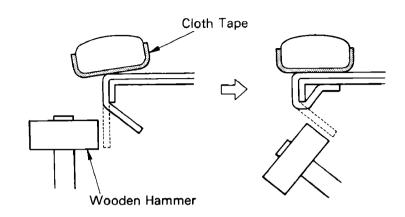


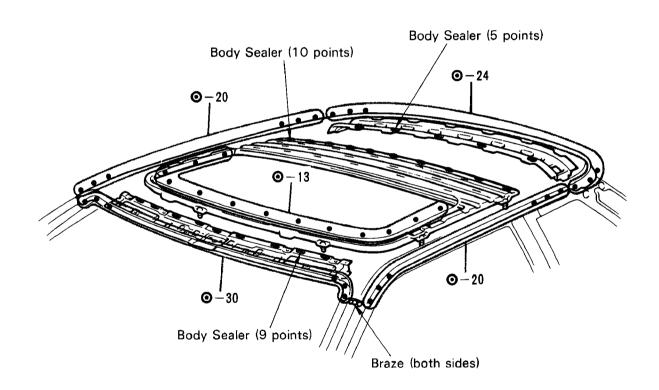
[If reusing the roof panel reinforcement No. 2]





If reusing the roof panel reinforcement No. 2 slightly heating the roof panel first will soften the sealer and make removal easier.





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

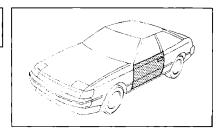
NOTE:

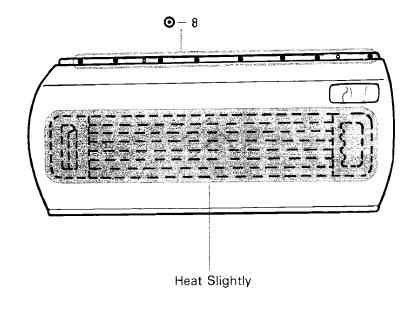
- 1) Apply just enough sealer for the new part to make contact.
- For other sealing points, refer to section SU.

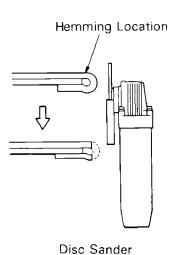
2. Hem the area rear tip of the sliding roof opening with a wooden hammer and dolly.

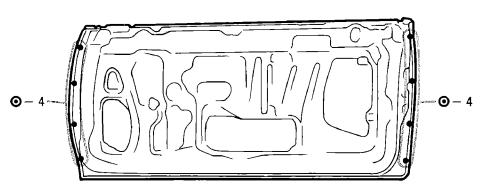
NOTE: Perform hemming in three steps, being careful not to warp the panel.

FRONT DOOR OUTER PANEL (ASSY)

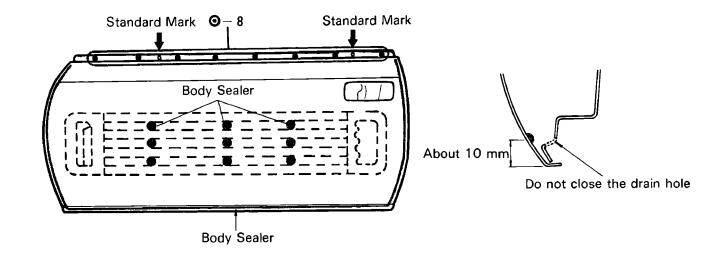


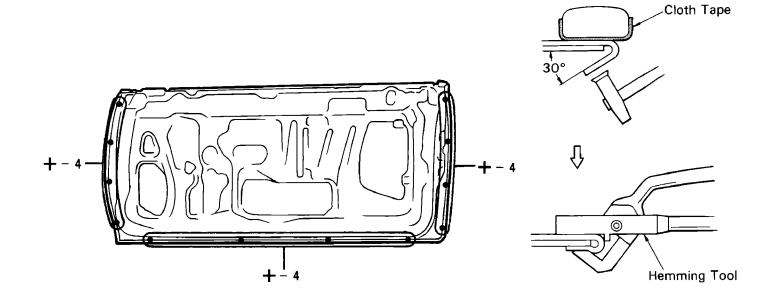






- 1. Grind out the hemming location, and remove the outer panel.
- 2. Slightly heating the outer panel will soften the sealer and make removal easier. (USA, Canada and Saudi Arabia)





mm	in.
10	0.39

 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.
- 2. Determine the position for the new panel by the assembly marks.

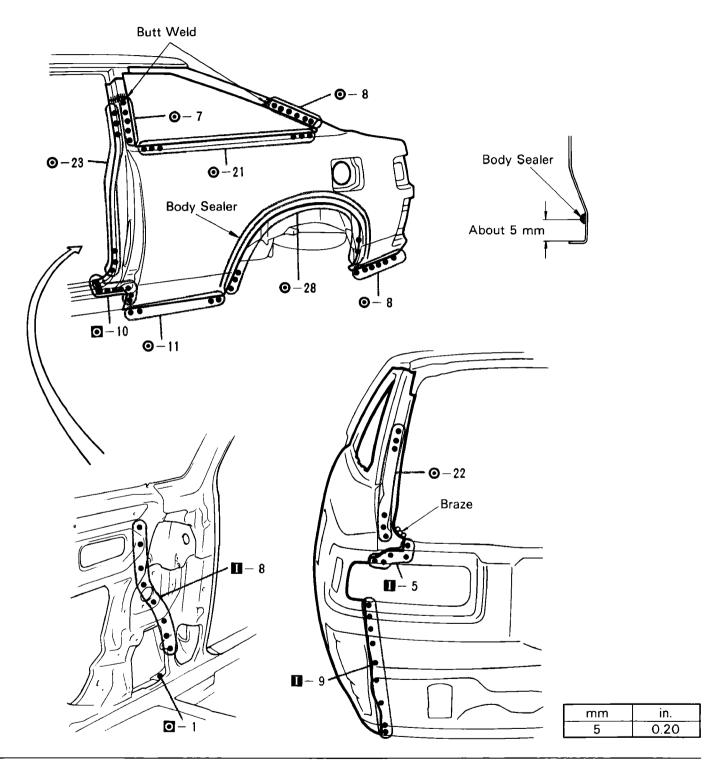
3. Bend the flange hem approx. 30° with a hammer and dolly. Then use a hemming tool.

- 1) Perform hemming in three steps, being careful not to warp the panel.
- 2) If a hemming too cannot be used, hem with a hammer and dolly.

QUARTER PANEL (CUT) Liftback **REMOVAL** Possible Cut and Join Area 300 - 360 mm Cut and Join Location 110 -150 mm **⊙** - 16 **⊙**−16 **⊙** - 10 •**⊙** – 17 Braze mm in. 110 4.33 150 5.91 300 11.81 360 14.17

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

NOTE: For vehicles with a sun roof, remove the drain hose after cutting the quarter panel.



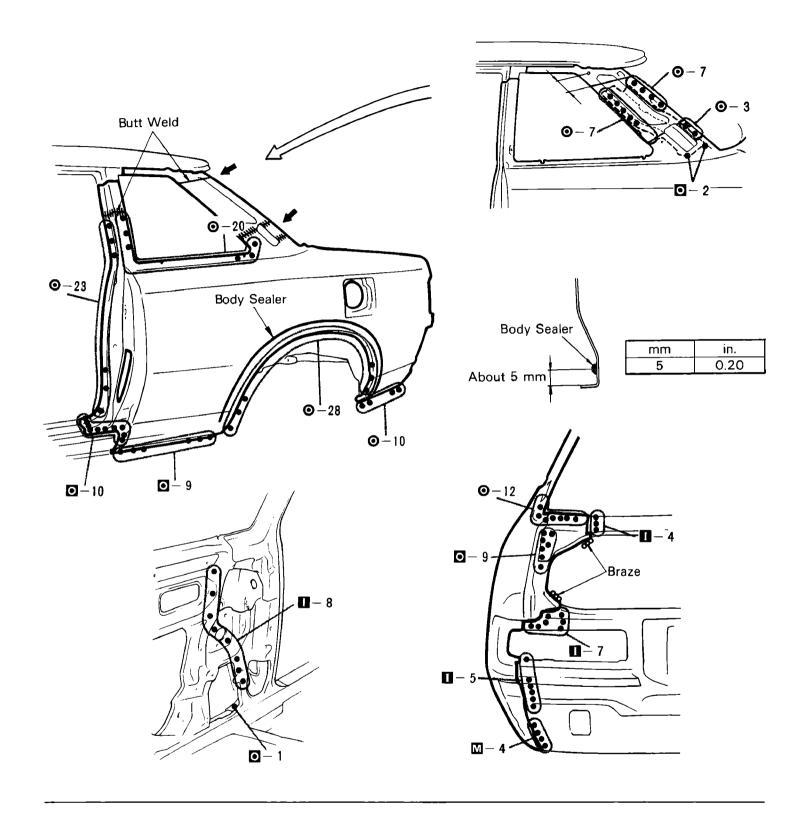
1. Before temporarily installing the new part, apply body sealer to the wheel arch portion.

- 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.
- Temporarily installing the new part and check the fit of the front door, back door and rear combination lamp.

QUARTER PANEL (CUT) Coupe **REMOVAL** Cut and Join Location **⊙**− 5 60 – 3 80 mm 110 -0 - 15 150 mm Ventilation Duct **⊙**−16 **⊙**−21 **⊙**-10 **©** - 8 Braze mm in. 2.36 3.15 60 80 0 4.33 110 5.91 150 **6** - 4

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

- 1) When cutting the quarter pillar at portion B, do not cut away the ventilation duct.
- 2) For vehicles with a sun roof, remove the drain hose after cutting the quarter panel.

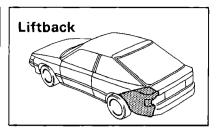


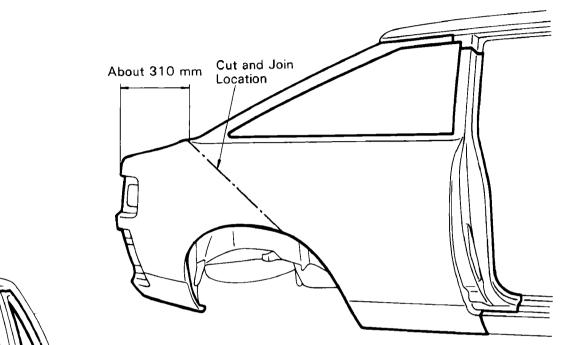
1. Before temporarily installing the new part, apply body sealer to the wheel arch portion.

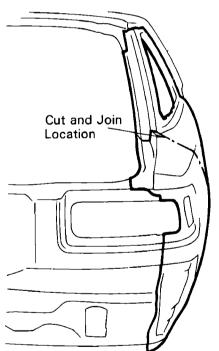
- 1) Apply sealer approx. 5 mm (0.20 in.) from the flange, avoiding any oozing.
- 2) Apply evenly, approx. 3 4 mm (0.12 0.16 in.) in diameter.
- 3) For other sealing points, refer to section SU.
- 2. Temporarily installing the new part and check the fit of the front door, luggage compartment door and rear combination lamp.

QUARTER PANEL (CUT-P)

REMOVAL



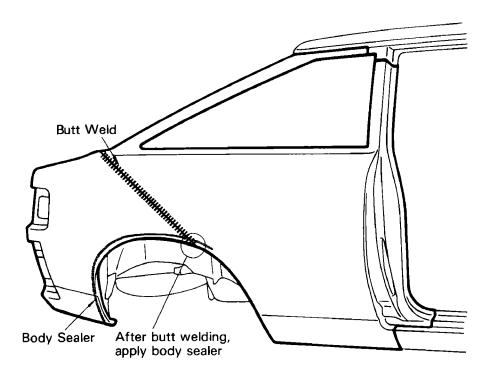


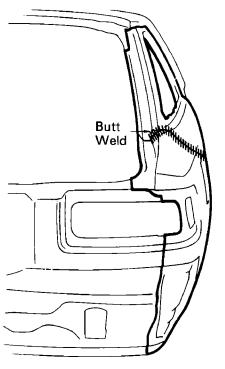


* This section is a cut and join location only. Refer to RE-32 for weld points.

mm	in.
310	12.20

1. Cut on the line shown above.





* This section is a cut and join location only. Refer to RE-33 for weld points.

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

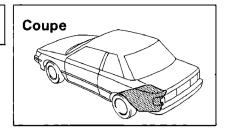
NOTE:

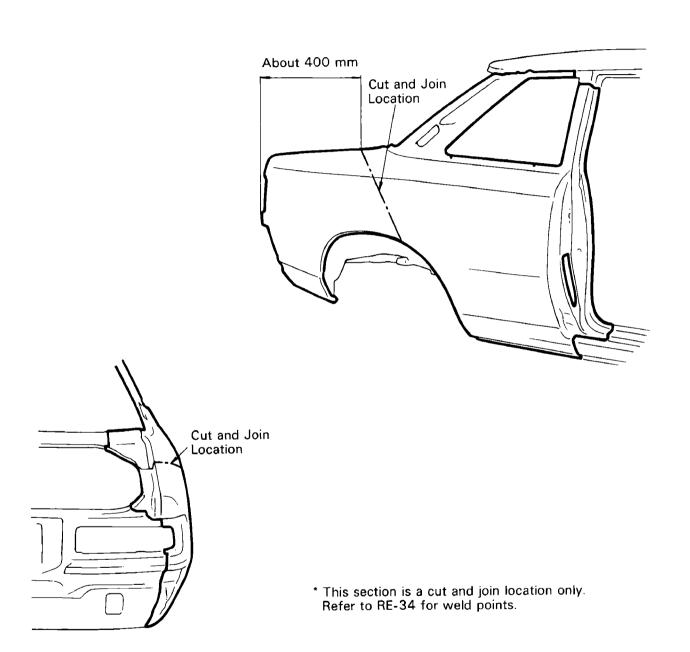
- Do not apply body sealer to the weld seams before welding as the sealer will melt, resulting in a bad seal and a bad weld.
- 2) For other sealing points, refer to section SU.
- 3. Surface finish the weld seams from the inside also.

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

QUARTER PANEL (CUT-P)

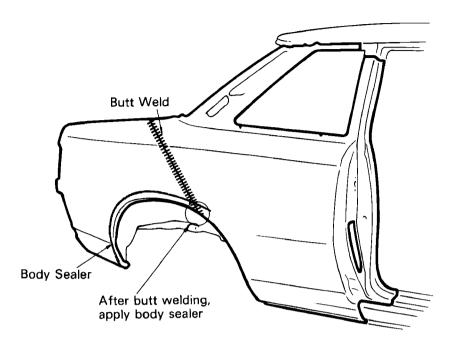
REMOVAL

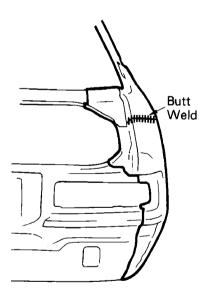




mm	in.
400	15.75

1. Cut on the line shown above.





- * This section is a cut and join location only. Refer to RE-35 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.

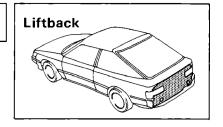
NOTE:

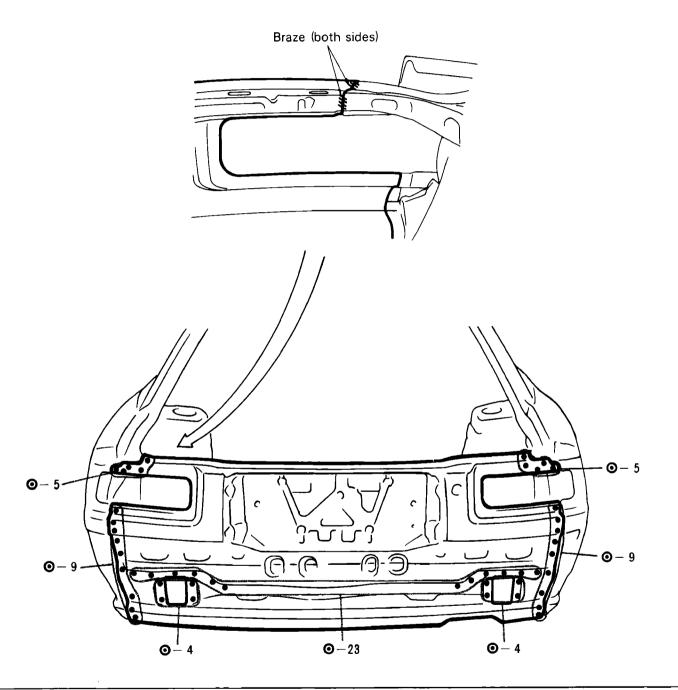
 Do not apply body sealer to the weld seams before welding as the sealer will melt, resulting in a bad seal and a bad weld.

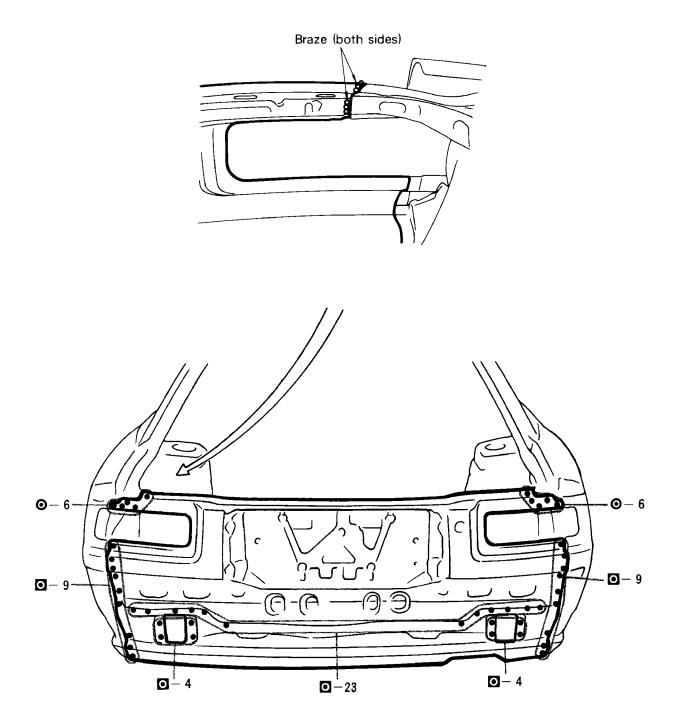
- 2) For other sealing points, refer to section SU.
- 3. Surface finish the weld seams from the inside also.

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

BODY LOWER BACK PANEL (ASSY)

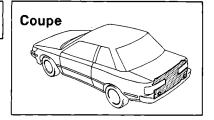


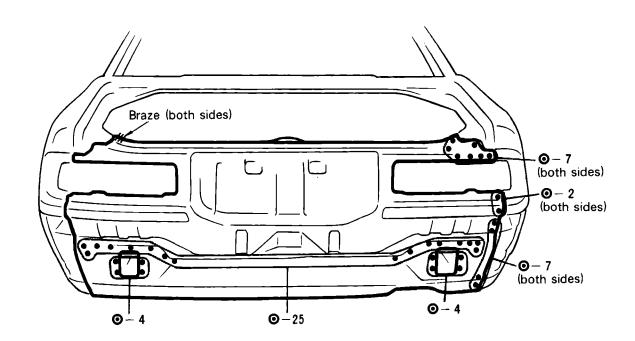


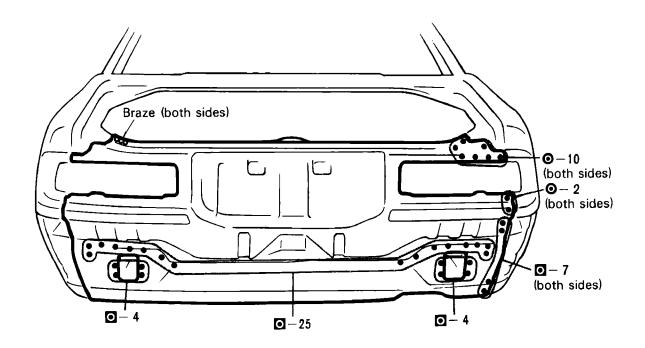


^{1.} Temporarily install the new part and check the fit of the back door and rear combination lamp.

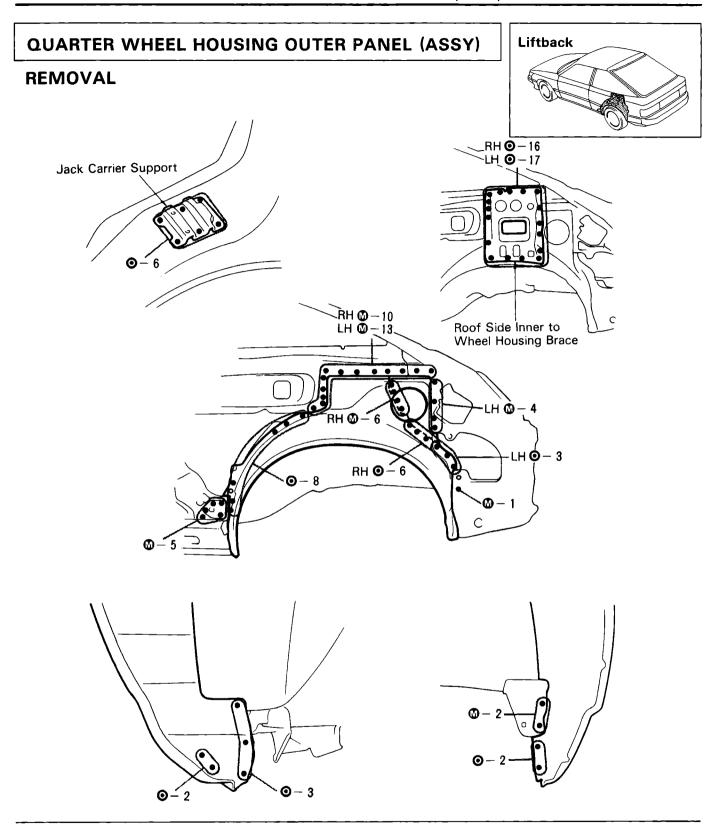
BODY LOWER BACK PANEL (ASSY)

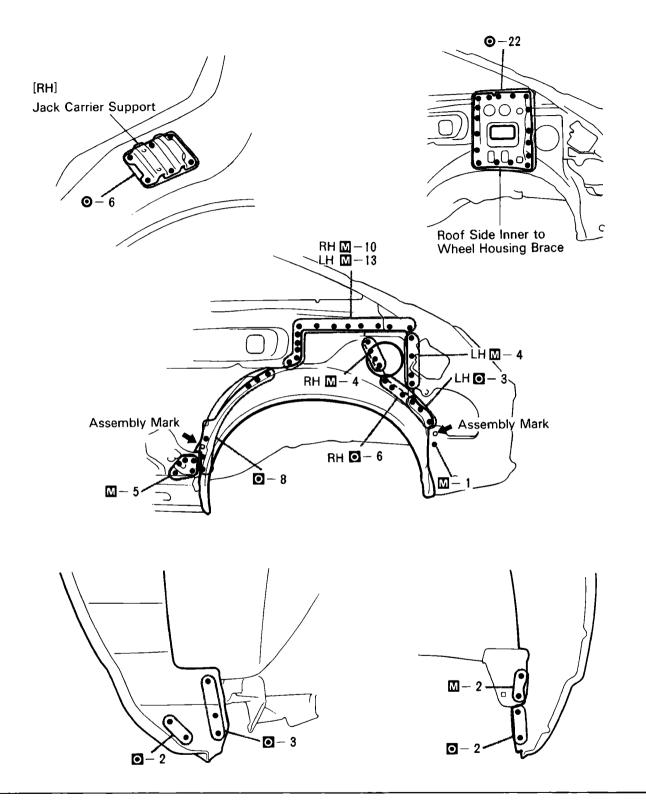




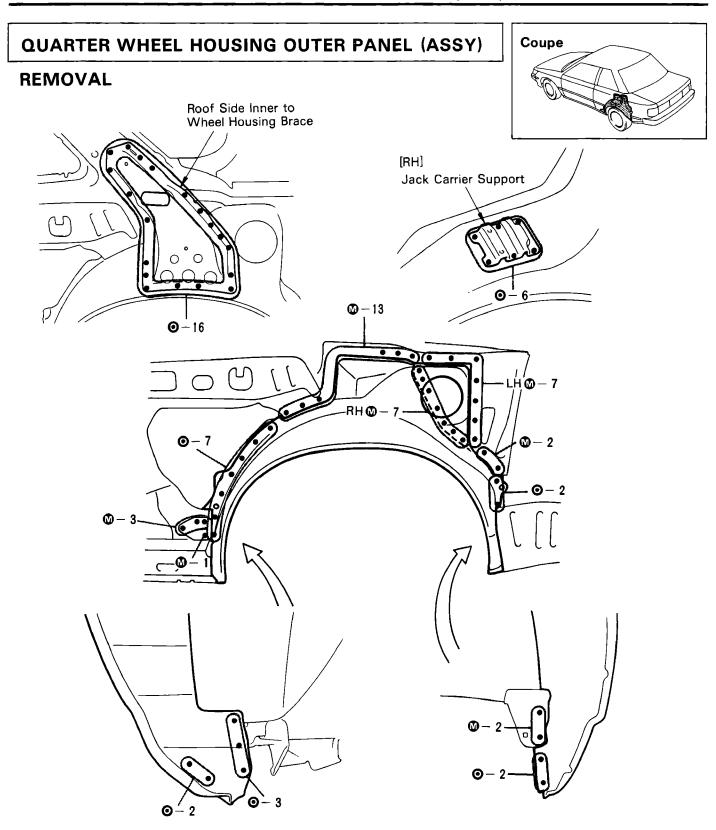


Temporarily install the new part and check the fit of the luggage compartment door and rear combination lamp.

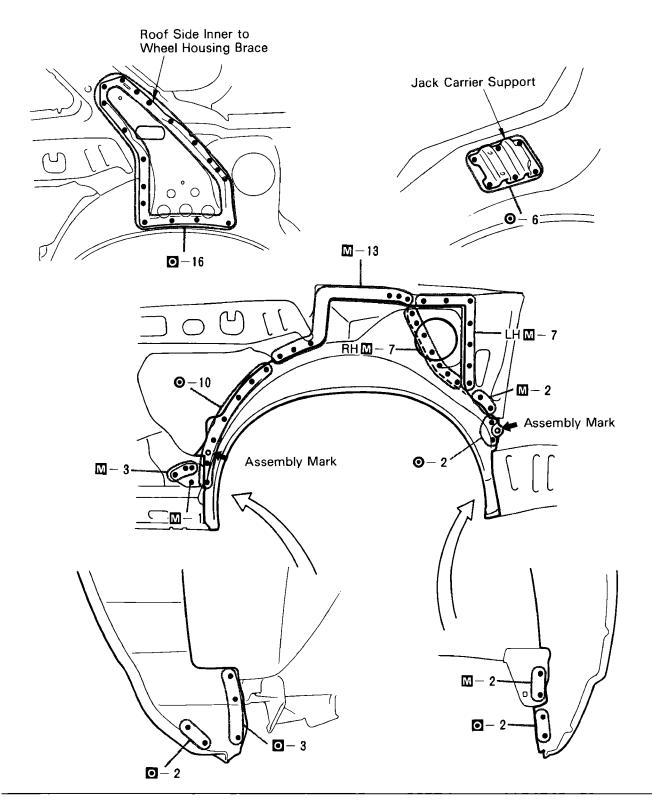




- 1. Determine the position of the new part by the assembly marks of the inner and outer panels.
- 2. Before welding the new part, temporarily install the quarter panel and check the fit.

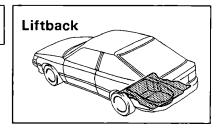


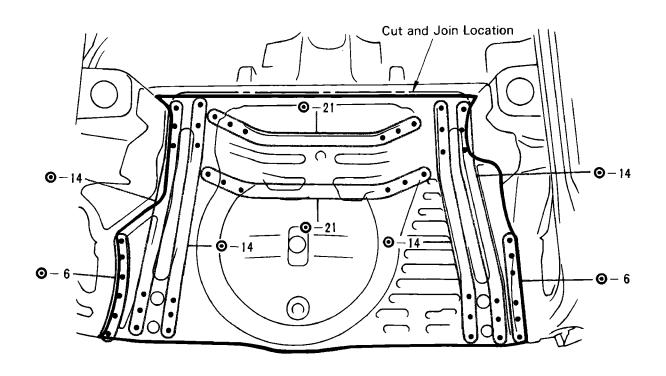
1. Before removing the quarter wheel housing outer panel, remove the roof side inner to wheel housing brace.

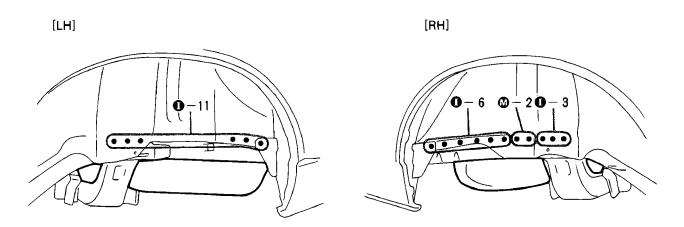


- 1. Determine the position of the new part by the assembly marks of the inner and outer panels.
- 2. Before welding the new part, temporarily install the quarter panel and check the fit.

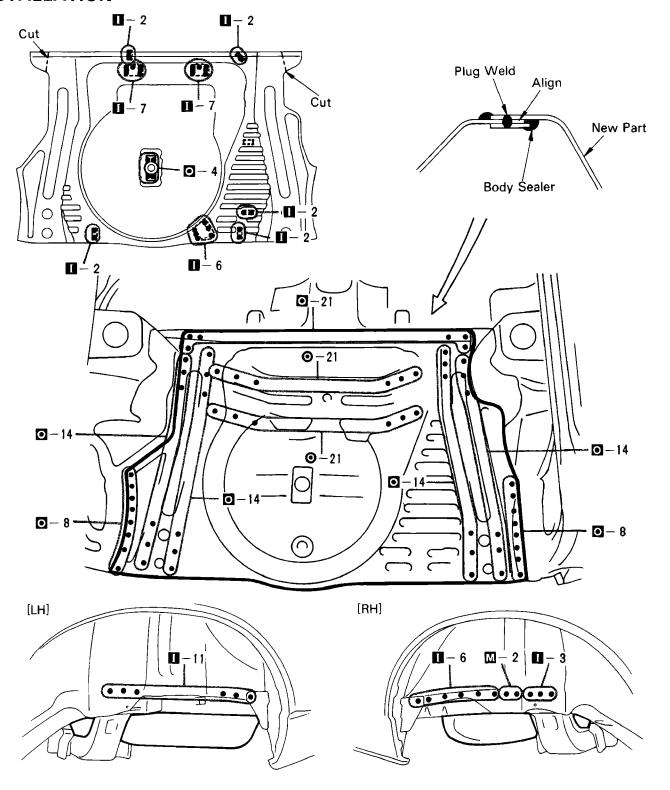
REAR FLOOR PAN (CUT)







- 1. Cut and join the rear floor pan shown above.
- Avoid the rear floor side member and rear floor No. 2 crossmember when rough cutting the rear floor pan.

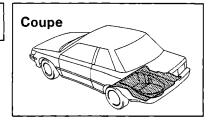


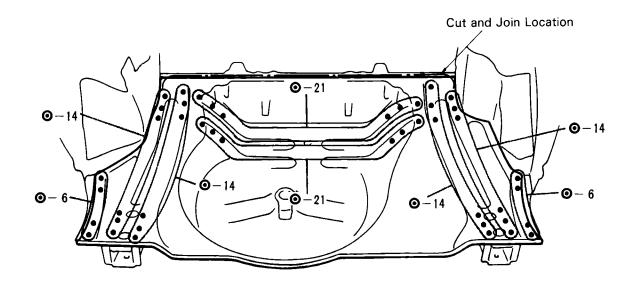
- 1. Cut the new panel shown above.
- 2. After temporarily installing the new part, measure each part in accordance with the body dimension diagram.
- 3. Plug weld the overlapping portion of the new part.

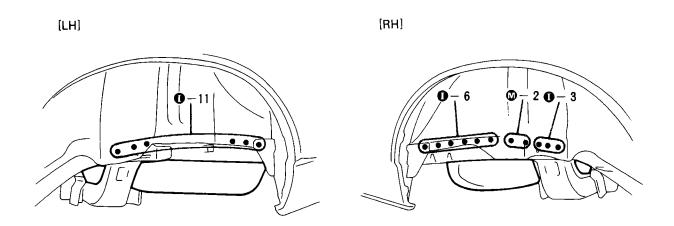
NOTE: Be sure the portion to be welded are align and not loose.

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

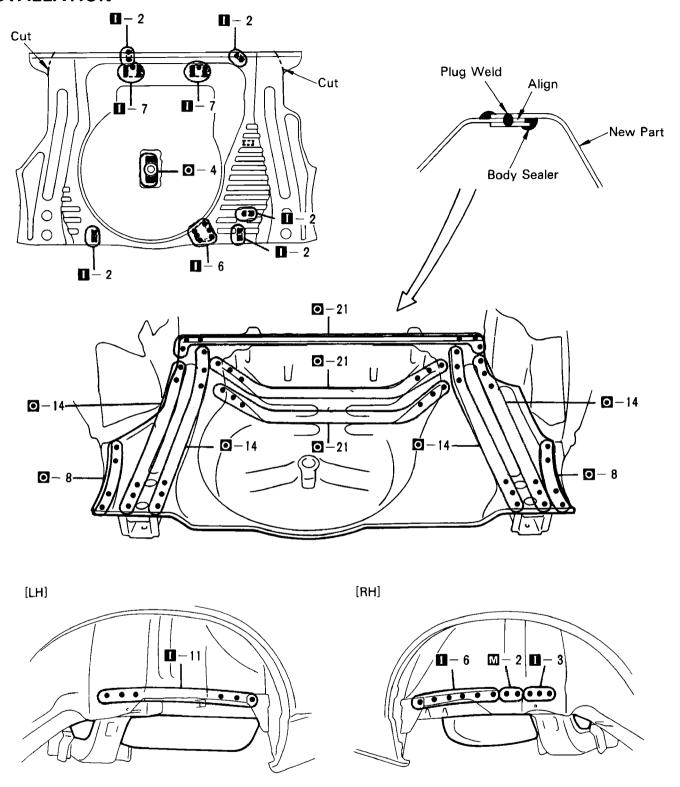
REAR FLOOR PAN (CUT)







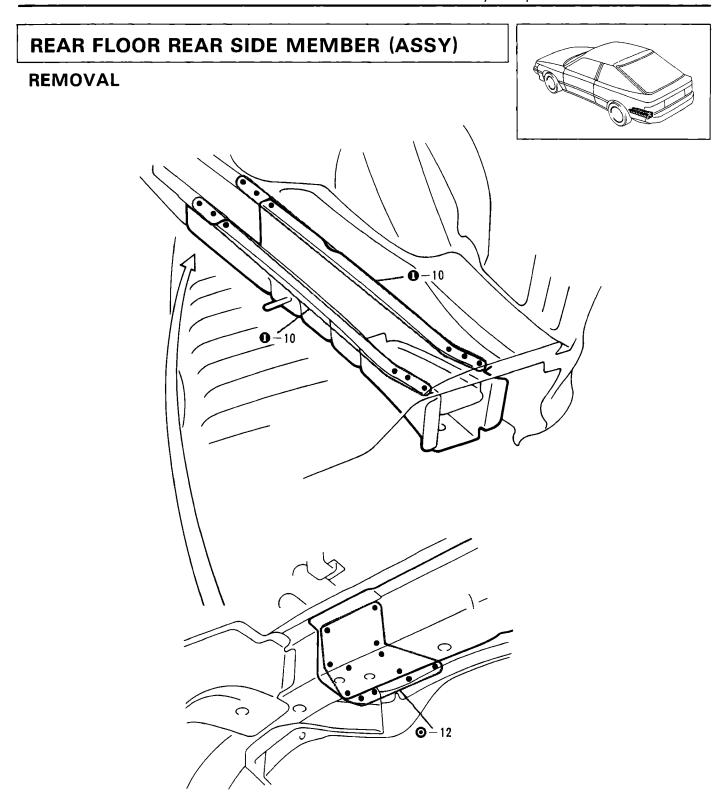
- 1. Cut and join the rear floor pan shown above.
- 2. Avoid the rear floor side member and rear floor No. 2 crossmember when rough cutting the rear floor pan.

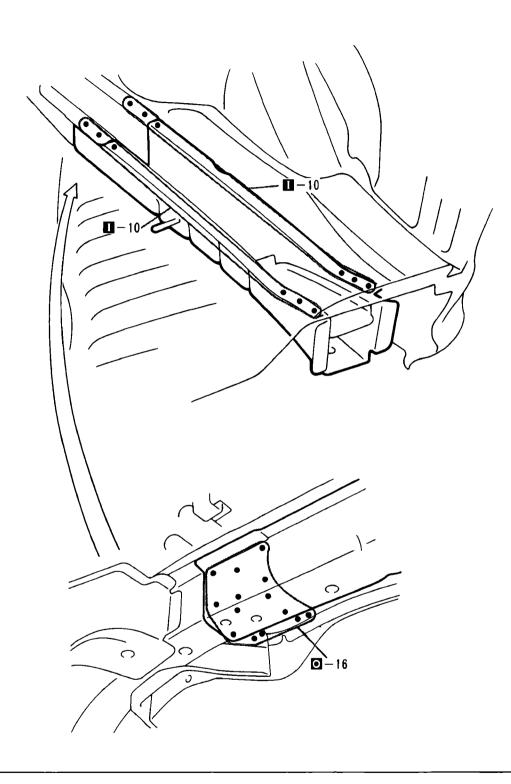


- 1. Cut the new panel shown above.
- 2. After temporarily installing the new part, measure each part in accordance with the body dimension diagram.
- 3. Plug weld the overlapping portion of the new part.

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

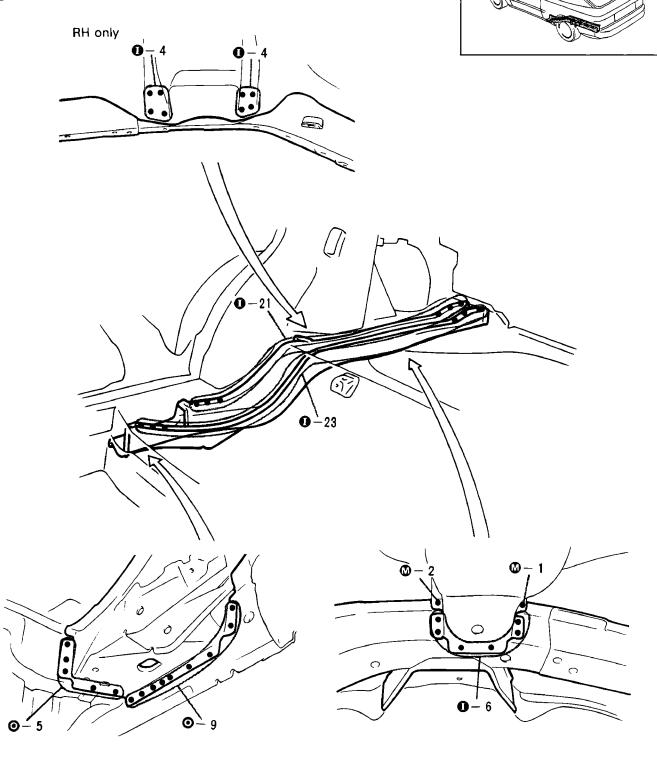
4. Coat the overlapping opening portion from the both sides with body sealer.

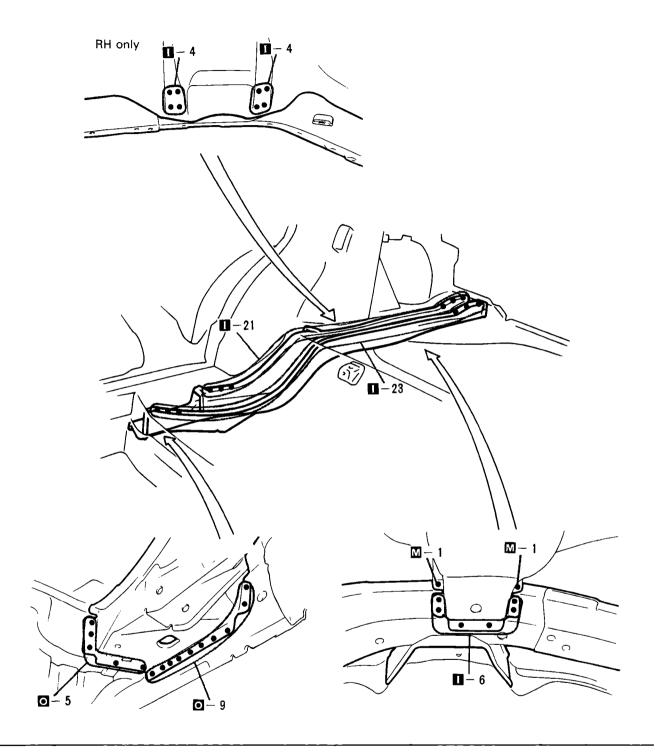




^{1.} Temporarily install the new part and measure each part in accordance with the body dimension diagram.

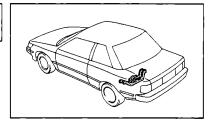
REAR FLOOR SIDE MEMBER (ASSY)

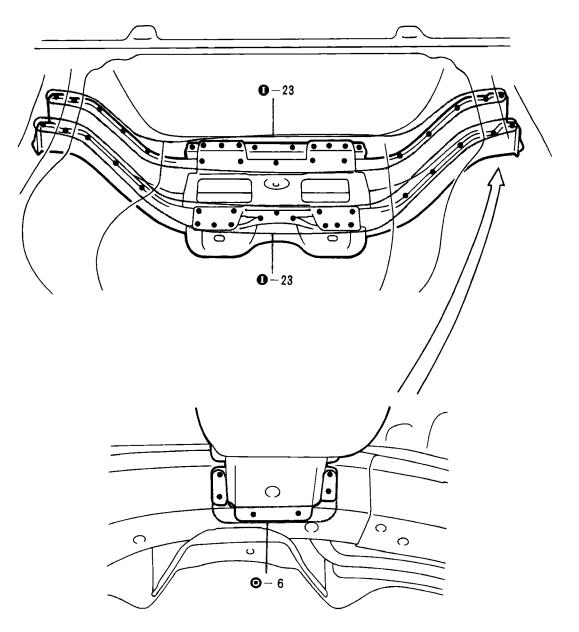


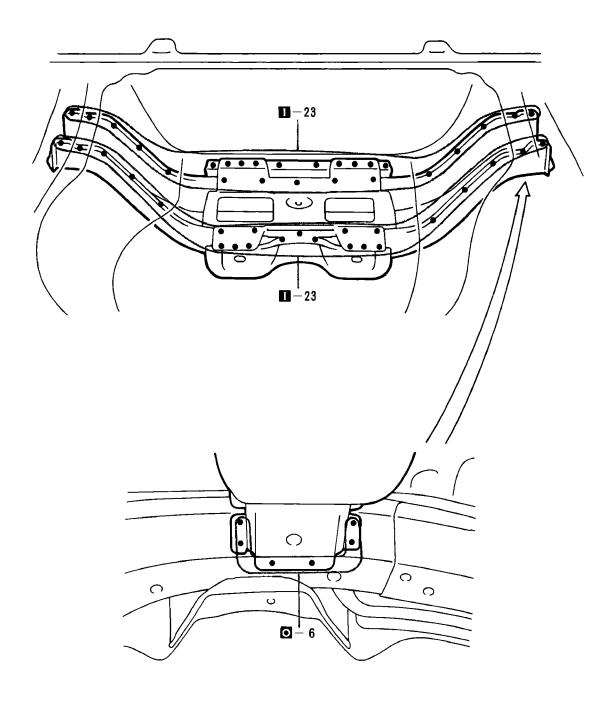


 Temporarily install the new part and measure each part in accordance with the body dimension diagram.

REAR FLOOR NO. 2 CROSSMEMBER (ASSY)







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 rear wheel alignment.

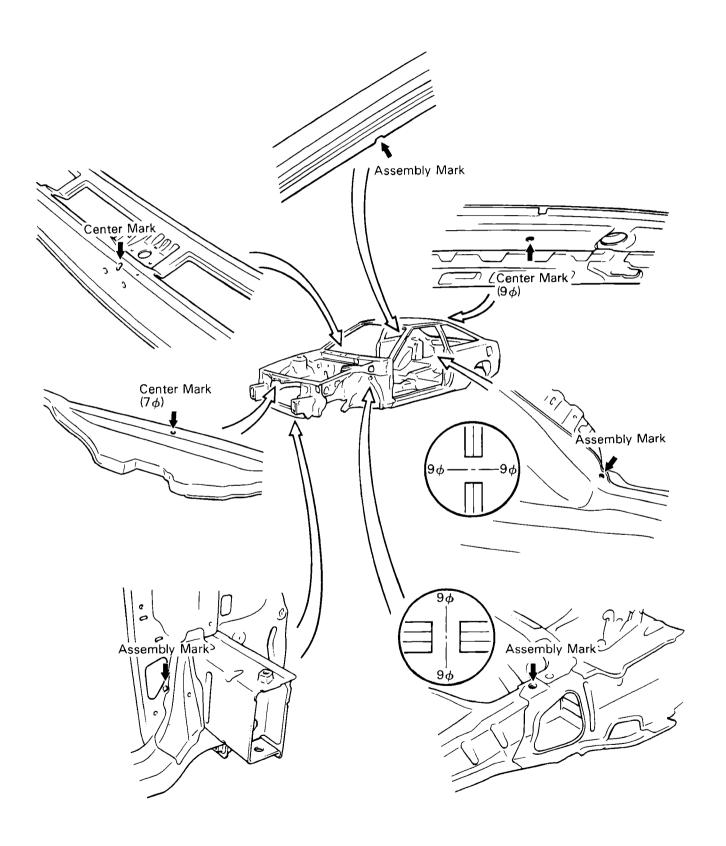
BODY PANEL CONSTRUCTION

	Page
STANDARD BODY MARKS	CN-2
HIGH STRENGTH STEEL PARTS	CN-4



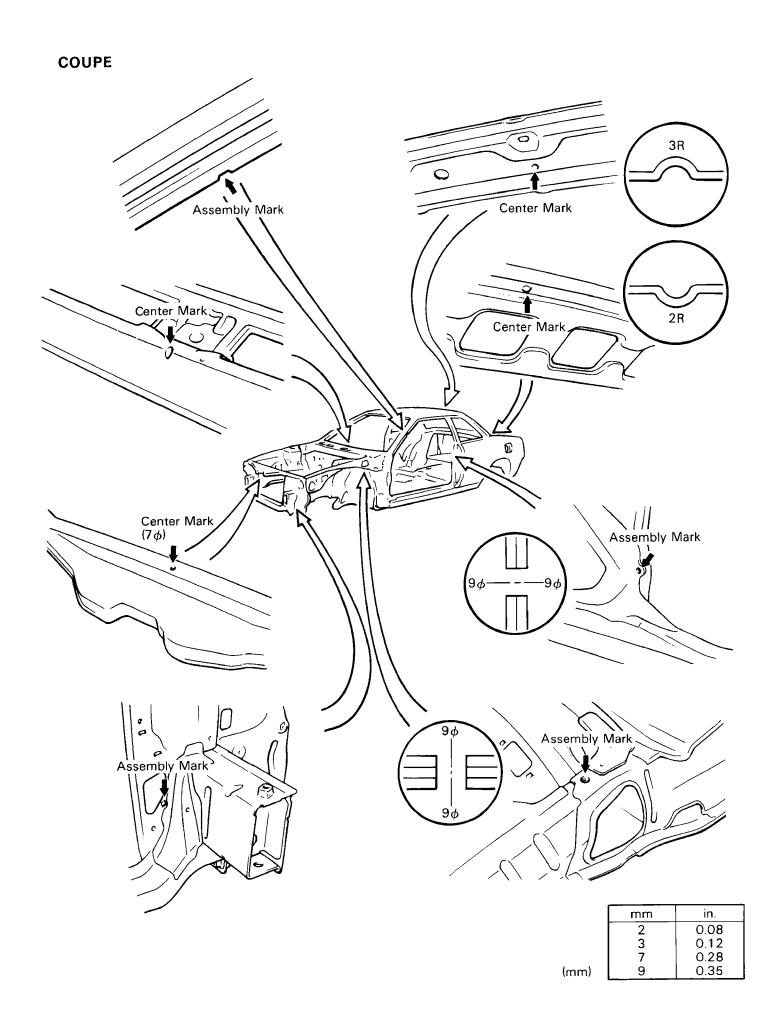
STANDARD BODY MARKS

LIFTBACK



mm	in.
7	0.28
9	0.35

(mm)



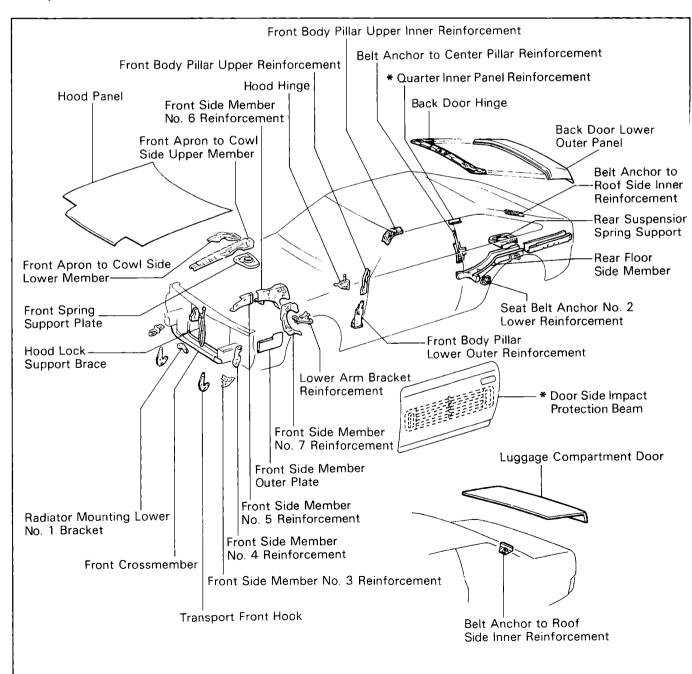
HIGH STRENGTH STEEL (HSS) PARTS

USA, Canada and Saudi Arabia Only

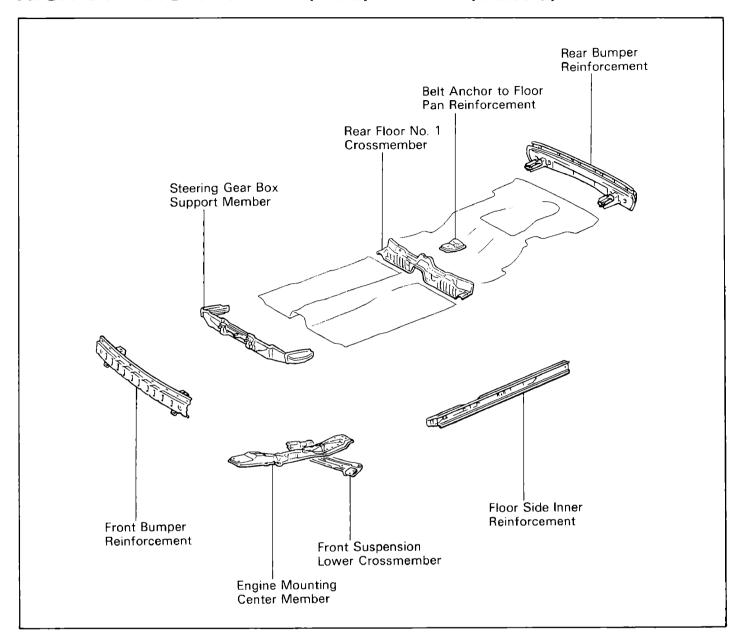
Generally, High Strength Steel (HSS) is that which has an intensity value of at least 35 kgf/mm², and distinguished from mild steel.

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

- Panel Hammering: Because HSS is thinner than mild steel, care should be taken to avoid warping during hammering operations.
- Removing Spot 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.
- 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.



HIGH STRENGTH STEEL (HSS) PARTS (Cont'd)



PLASTIC BODY PARTS

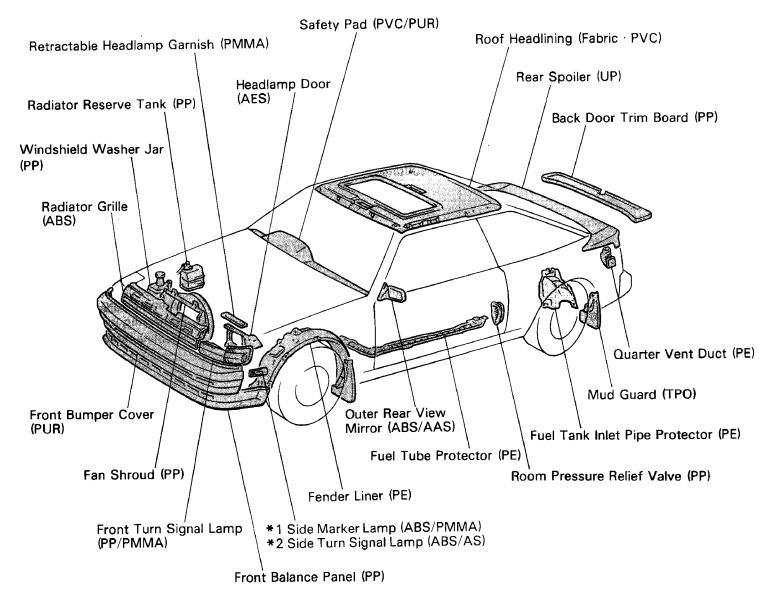
	Page
HANDLING PRECAUTIONS	PP-2
LOCATION OF PLASTIC BODY PARTS	PP-4

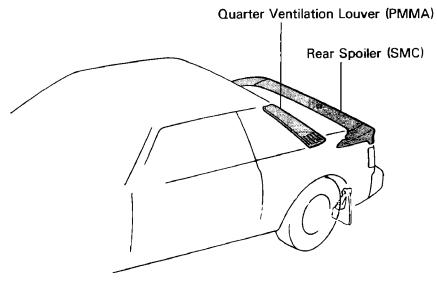


Code	Material Name	Heat * Resisting Temperature °C (°F)	Resistance To Alcohol or Gasoline	Notes	
PP	Polypropylene	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.	
PPO	Modified Polyphenylene Oxide	100 (212)	Alcohol is harmless.	Gasoline is harmless if applied only for quick wiping 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 harm- less if applied only for short time in small amounts (ex., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.	
РММА	Polymethyl Methacrylate	80 (176)	Alcohol is harmless if applied only for short time in small amounts. Avoid dipping immersing in al gasoline, solve		
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 Moulding Compound	180 (356)	Alcohol and gasoline are Avoid alkali harmless.		
TPO	Thermoplastic Olefine	80 (176)	Alcohol is harmless. Gasoline is harmless if applied only for short time in small amounts. Most solvents are less but avoid dip gasoline, solvents		
TPUR	Thermoplastic Polyurethane	60 (140)	Alcohol is harmless if applied only for very short time in small amounts (ex., quick wiping to remove grease). Avoid dipping o immersing in alcohological gasoline, solvential g		

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

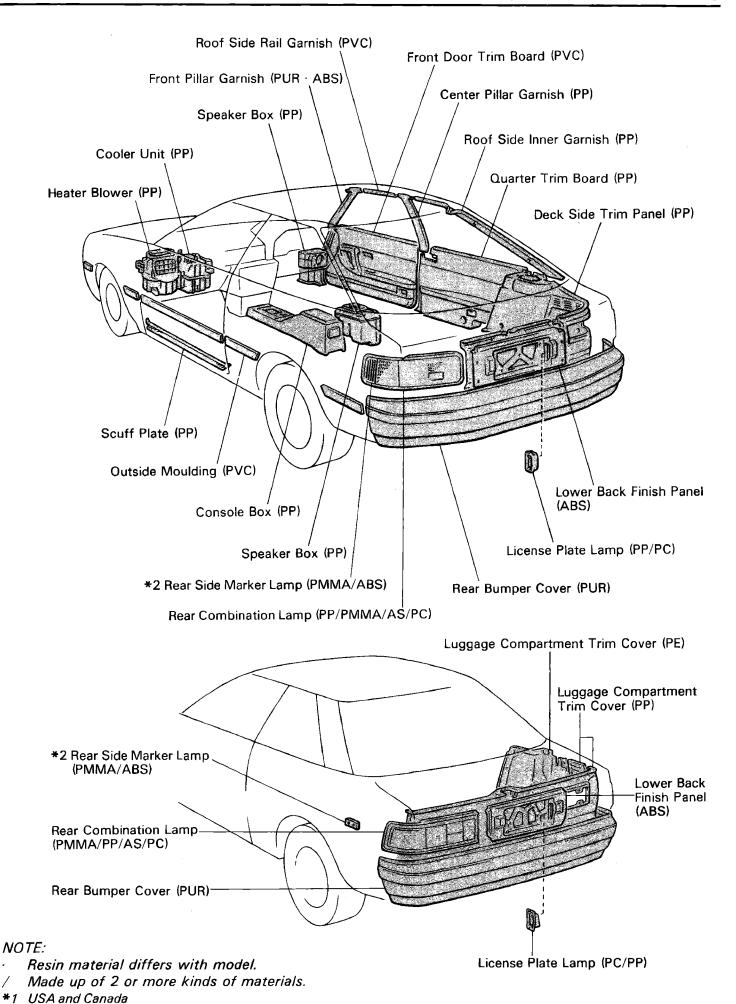
LOCATION OF PLASTIC BODY PARTS





NOTE:

- Resin material differs with model.
- / Made up of 2 or more kinds of materials.
- *1 USA and Canada
- *2 Except USA and Canada



*2 Except USA and Canada

C

BODY PANEL SEALING AND UNDERCOATING

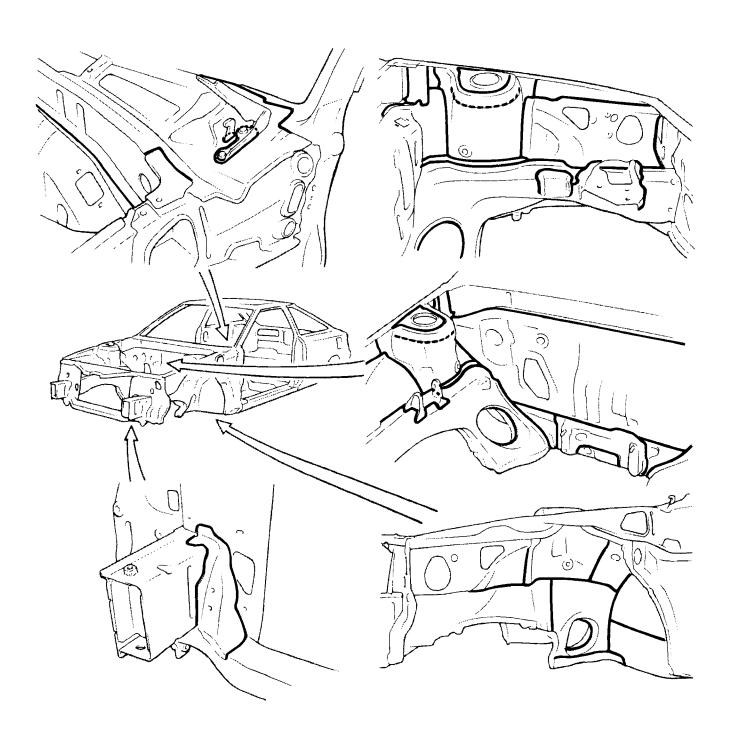
	Page
BODY PANEL SEALING AREAS	SU-2
BODY PANEL UNDERCOATING AREAS	SU-6

BODY PANEL SEALING AREAS

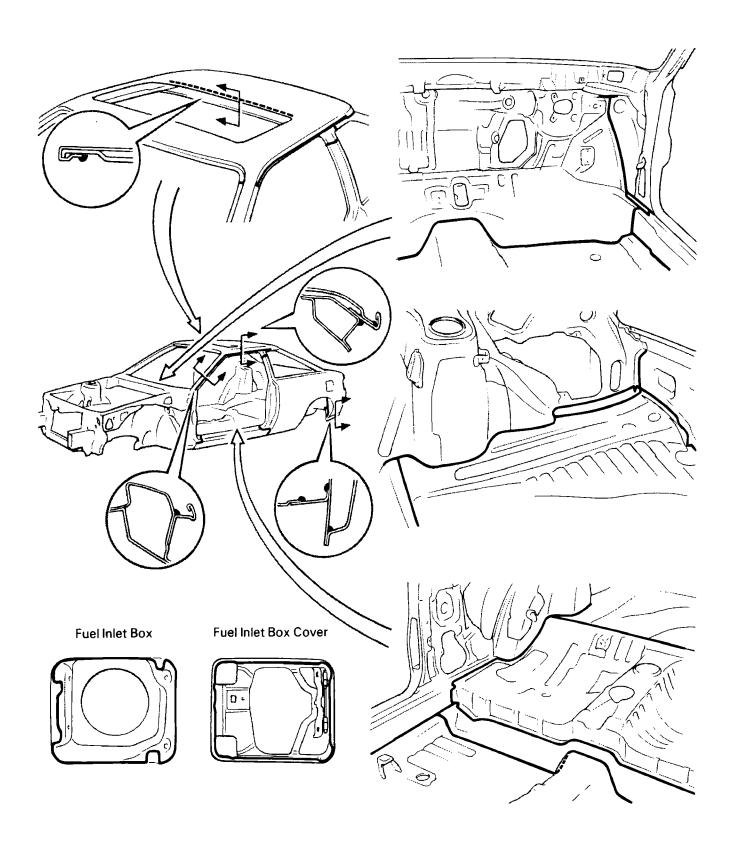
For water-proofing and anti-corrosion measures, always apply body sealer to the body panel seams and hems of the doors, hood, etc.

NOTE:

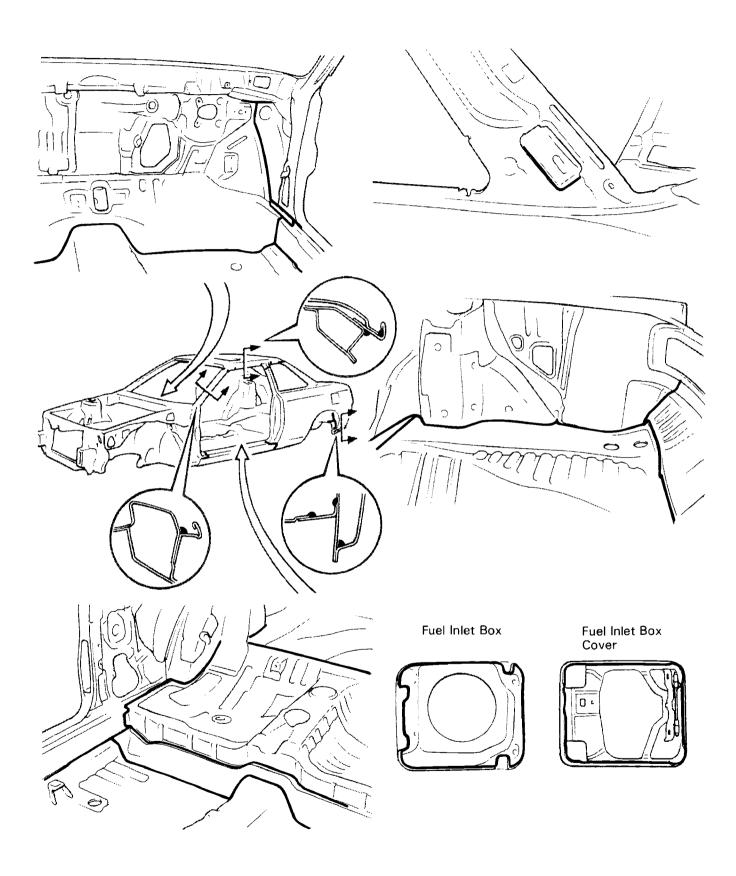
- 1. Prior to applying body sealer, clean the area with a rag soaked in white gasoline.
- 2. If weld-through primer was used, first wipe off any excess with thinner, and coat with anti-corrosion primer before applying body sealer.
- 3. Wipe off any excess body sealer with a rag soaked in white gasoline.



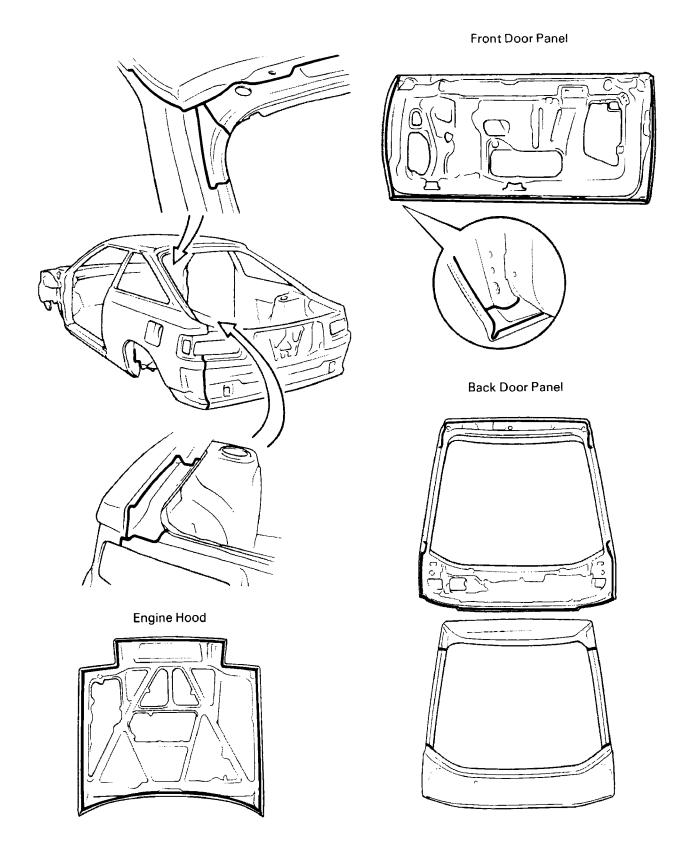
LIFTBACK



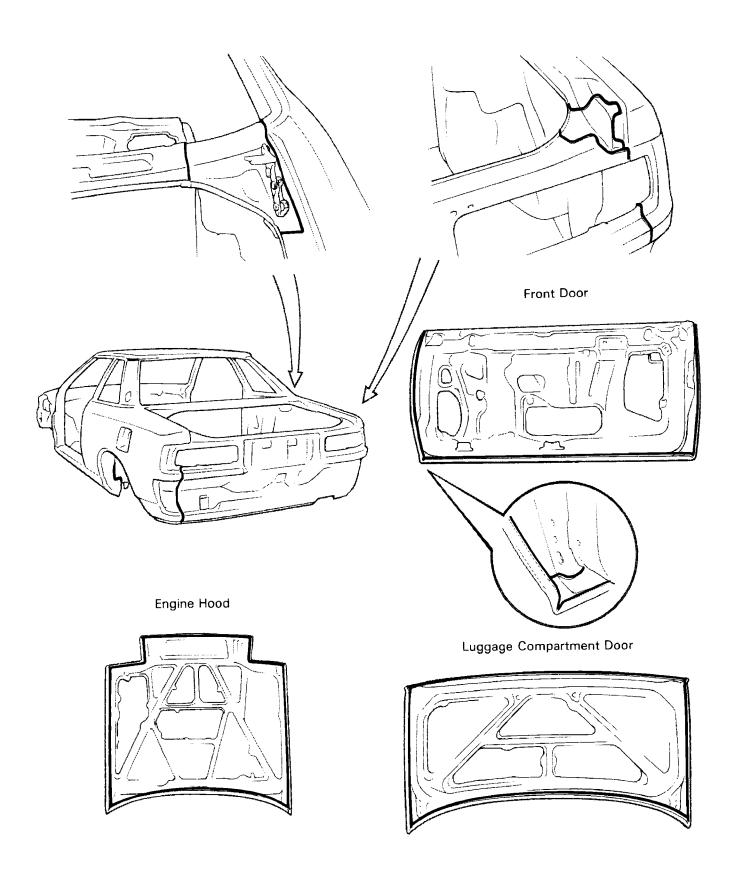
COUPE



LIFTBACK



COUPE

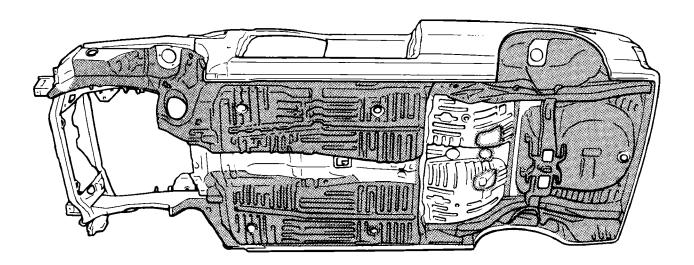


BODY PANEL UNDERCOATING AREAS

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 or such.
- 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 tailpipe, 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.

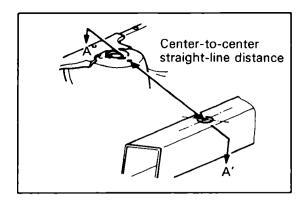


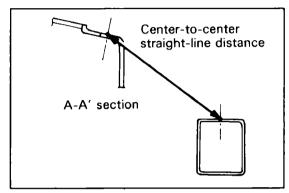
REFERENCE: Referring to the notes above, undercoating should be applied according to the specifications for your country.

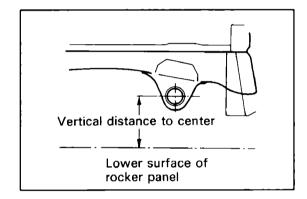
BODY DIMENSIONS

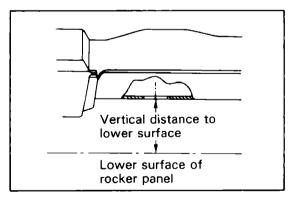
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BODY MEASUREMENTS	DI-2
MEASURING PROCEDURES	DI-3
BODY DIMENSION DRAWINGS	DI-4

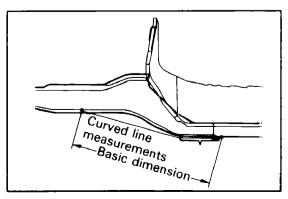












BODY MEASUREMENTS

1. BASIC DIMENSIONS

All dimensions shown in the drawing on page DI-4 through page DI-8 are basic dimensions which define either of the following distances:

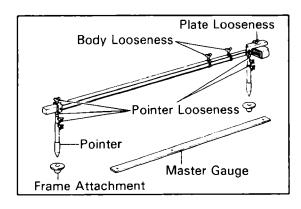
(a) Straight-line distance between the respective centers of two measuring points.

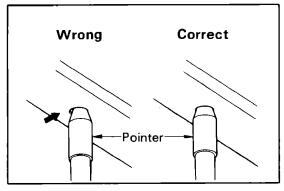
(b) Vertical distance from an imaginary line at the lower surface of the rocker panel to the lower surface or center of a measuring point.

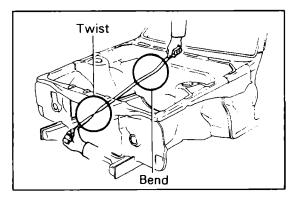
2. REFERENCE DIMENSIONS

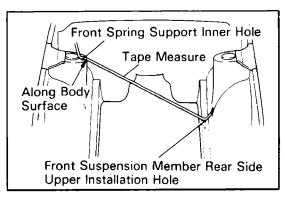
Curved line measurements, if applicable, are shown in brackets together with basic dimensions in the body dimension table on page DI-4.

NOTE: The curved line measurements are for reference only. Final confirmation of body mounting dimensions must be made in accordance with the basic dimension, utilizing a tram tracking gauge.









MEASURING PROCEDURES

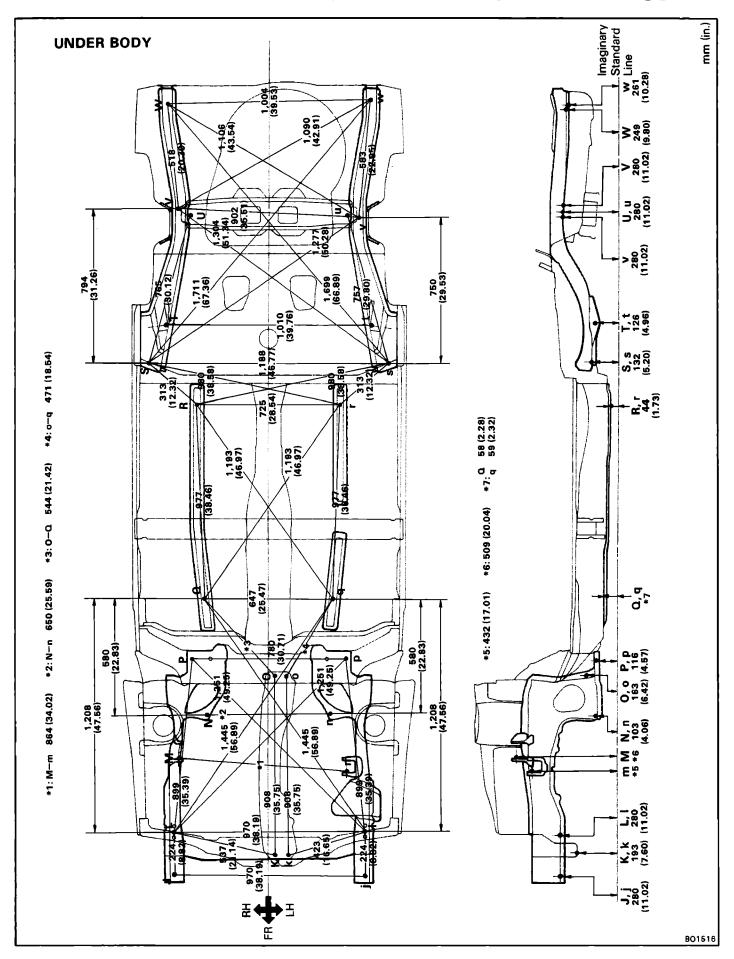
- (a) Basically, all measurements are taken with a tracking gauge. However, dimensions which can be measured with a tape measure only are indicated by a CHAIN LINE.
- (b) Use only a tracking gauge that has no looseness in the body, pointers or gauge plate.

NOTE:

- 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 taking 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



Symbol	Nomenclature	Hole dia.	Symbol	Nomenclature	Hole dia.
J, J	Front side member bumper installation nut	RH 15 (0.59) LH 16 (0.63)	٥	Front floor under reinforcement standard hole (RH)	15 (0.59)
¥	Engine mounting member installation nut - front (RH)	10 (0.39)	ь	Front floor under reinforcement standard hole (LH)	15 (0.59)
¥	Engine mounting member installation nut – front (LH)	10 (0.39)	В, г	Front floor under reinforcement standard hole	15 (0.59)
١, ١	Front side member standard hole	15 (0.59)	S, S	Rear floor side member standard	15 (0.59)
M	Engine mounting bracket hole – front (RH)	13 (0.51)	T, t	Strut bar installation hole – inner	12 (0.47)
Ε	Engine mounting bracket hole - front (LH)	13 (0.51)	n'n	Rear floor crossmember standard hole	15 (0.59)
N, n	Lower arm installation nut	12 (0.47)	^	Rear floor side member standard hole (RH)	15 (0.59)
0	Engine mounting member installation nut (RH)	10 (0.39)	۸	Rear floor side member standard hole (LH)	15 (0.59)
0	Engine mounting member installation nut (LH)	10 (0.39)	W	Rear floor side member standard hole (LH)	15 (0.59)
Р, р	Lower arm installation nut	12 (0.47)	w	Rear floor side member standard hole (RH)	15 (0.59)

ENGINE COMPARTMENT

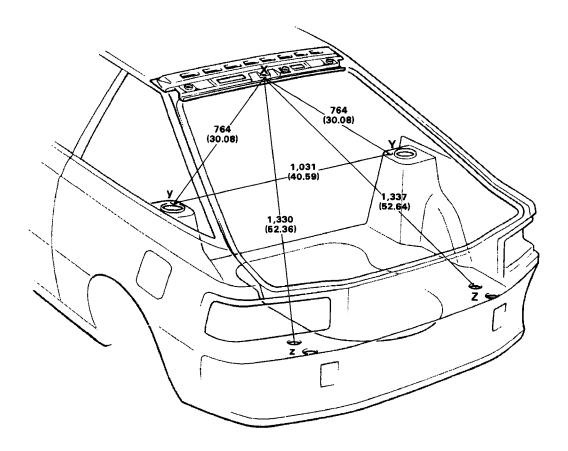
766 (30.16) 1,494 (58.82) 1,153 (21.22) 1,153 (24.45.39) 1,024 (40.28) (37.96) 1,024 (40.28) (30.47) 774 (29.68) (28.74)

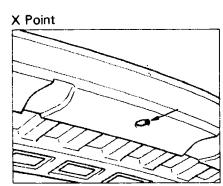
*1: 655 (25.79) mm (in.)

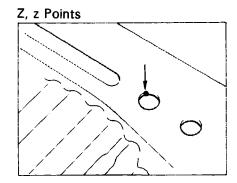
Symbol	Nomenclature Nomenclature	Hole dia.
A, a	Front fender installation nut - front	6 (0.24)
B, b	Front spring support hole - inner	11 (0.43)
C, c	Front fender installation nut - rear	6 (0.24)
D	Cowl top panel center mark	-
E	Front side member standard hole (RH)	15 (0.59)
е	Front side member standard hole (LH)	15 (0.59)
F, f	Front side member working hole	15 (0.59)
G	Cooler pipe installation nut	6 (0.24)
g	Radiator support standard hole	9 (0.35)
H, h	Cooler condenser installation hole	10 (0.39)
I, i	Cowl top side panel standard hole	10 (0.39)

BO1515

LUGGAGE COMPARTMENT (Liftback)







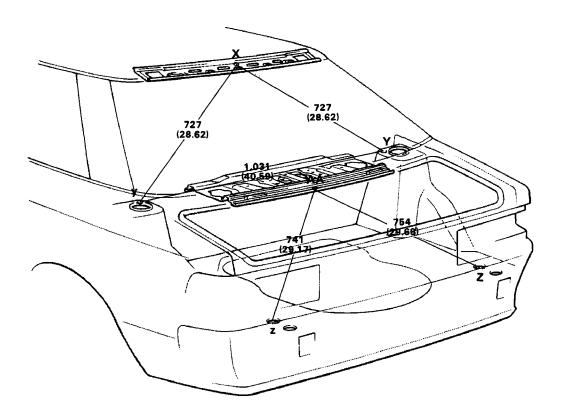
NOTE: The luggage compartment measurement is performed between the two dot marked points as shown in the above figure.

mm (in.)

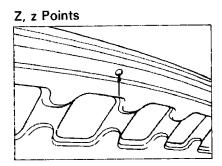
Symbol	Nomenclature Nomenclature	Hole dia.
х	X Back door opening frame standard hole	
Y, y	Rear spring support hole - front	9.5 (0.374)
Z	Rear floor pan bumper installation hole - front (RH)	40 (1.57)
z	Rear floor pan bumper installation hole - front (LH)	40 (1.57)

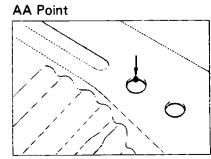
801517

LUGGAGE COMPARTMENT (Coupe)



X Point





mm (in.)

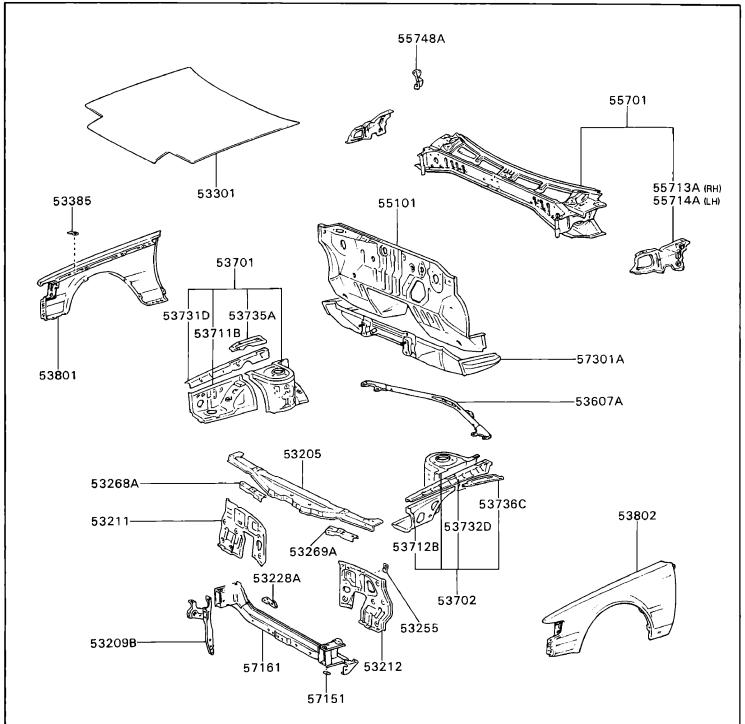
Symbol	Nomenclature Hole dia.	
Х	Back window upper frame center mark —	
Υ, γ	Rear spring support hole – front 9.5 (0.374)	
AA	Upper back reinforcement center mark —	
Z	Rear floor pan bumper installation hole - front (RH)	40 (1.57)
z	Rear floor pan bumper installation hole - front (RH) 40 (1.57)	

BO1518

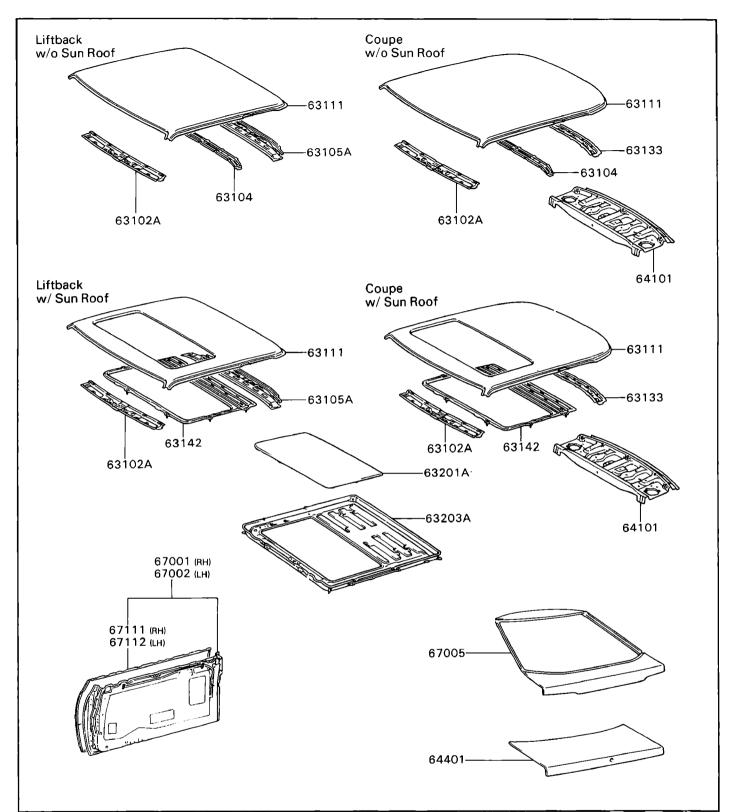
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PART LISTS

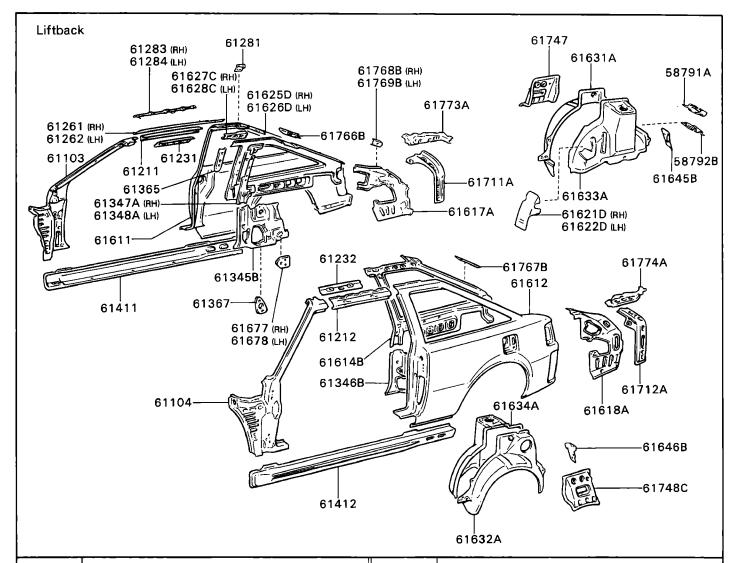
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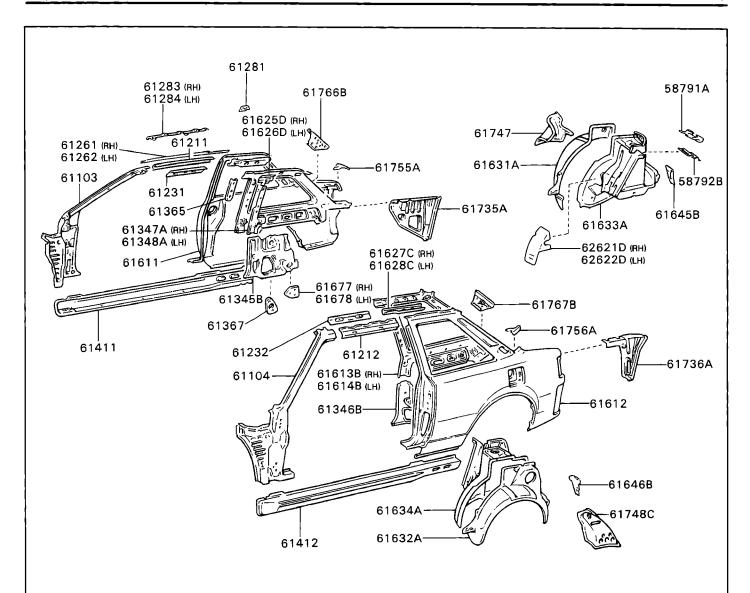
Code	Part Name	Code	Part Name
53205	Radiator Upper Support Sub-Assy	53711B	Front Fonder Anna
53209B	Hood Lock Support Brace Sub-Assy	53712B	Front Fender Apron
53211 53212	Radiator Support	53731D 53732D	Front Apron to Cowl Side Upper Member
53228A	Radiator Mounting Lower No. 1 Bracket	53735A	Front Asses to Coul Cide Lawre Marsh
53255	Relay Box Mounting Bracket	53736C	Front Apron to Cowl Side Lower Member
53268A 53269A	Radiator Mounting Reinforcement	53801 53802	Front Fender Sub-Assy
53301	Hood Sub-Assy	55101	Dash Panel Sub-Assy
53385	Hood Bumper Retainer	55701	Cowl Panel Sub-Assy
53607A	Front Suspension Upper Center Brace Sub-Assy	55713A 55714A	Cowl Top Side Panel
53701	Front Fonder Anna Cub Anna	55748A	Cowl Top Inner to Pillar Brace
53702	Front Fender Apron Sub-Assy	57151	Front Side Member No. 1 Reinforcement
		57161	Front Crossmember
_	_	57301A	Steering Gear Box Support Member Sub-Assy



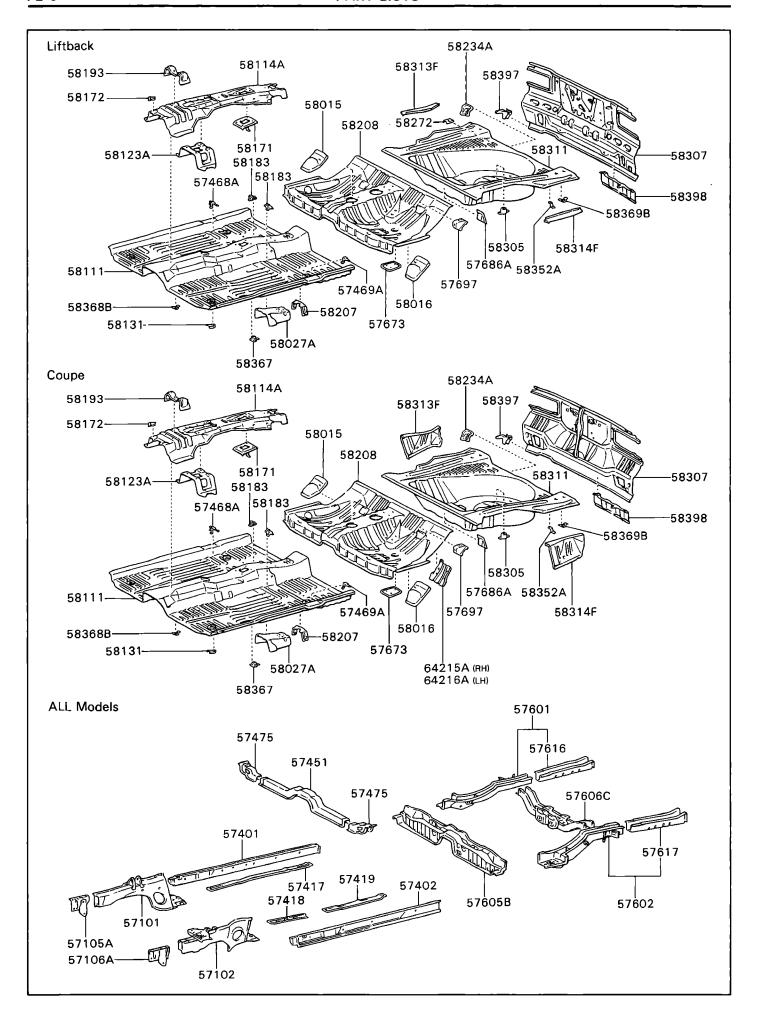
Code	Part Name	Code	Part Name
63102A	Windshield Header Panel Sub-Assy	64101	Upper Back Panel Sub-Assy
63104	Roof Panel Center Reinforcement Sub-Assy	64401	Luggage Compartment Door Panel Sub-Assy
63105A	Back Door Opening Frame Sub-Assy	67001	F . D . D . LC . A
63111	Roof Panel	67002	Front Door Panel Sub-Assy
63133	Back Window Opening Upper Frame	67005	Back Door Panel Sub-Assy
63142	Roof Panel No. 2 Reinforcement	67111	Frank Dan Daniel C. In Asses
63201A	Sliding Roof or Removable Roof Panel Sub-Assy	67112	Front Door Panel Sub-Assy
63203A	Sliding Roof or Removable Roof Housing Sub-Assy	_	_



Code	Part Name	Code	Part Name
58791A	Jack Carrier	61617A	Overter laner Book Bond
58792B	Jack Carrier Support	61618A	Quarter Inner Rear Panel
61103 61104	Front Body Pillar Sub-Assy	61621D 61622D	Back Door Opening Trough
61211 61212	Roof Side Outer Rail	61625D 61626D	Quarter Panel Upper Front Extension
61231 61232	Roof Side Inner Rail	61627C 61628C	Quarter Inner Panel Reinforcement
61261 61262	Roof Drip Channel	61631A 61632A	Quarter Wheel House Outer Panel
61281	Sliding Roof Housing Mounting No. 1 Bracket	61633A	Quarter Wheel House Inner Panel
61283	Sliding Roof Housing Mounting No. 3 Bracket	61634A	Quarter wheel House inner Panel
61284	Sliding Roof Flousing Woulding No. 3 Bracket	61645B	Quarter Wheel House Rear Gusset
61345B	Center Body Inner Lower Pillar	61646B	addition viriled media desset
61346B	Contain Body Innot Lewis Finds	61677	Seat Belt Anchor No. 2 Lower Reinforcement
61347A	Belt Anchor to Center Pillar Reinforcement	61678	
61348A		61711A	Roof Side Outer Reinforcement
61365	Belt Anchor to Center Pillar Reinforcement	61712A	
61367	Belt Anchor to Center Pillar Lower Reinforcement	61747 61748C	Roof Side Inner to Wheel House Brace
61411 61412	Rocker Outer Panel	61766B 61767B	Belt Anchor to Roof Side Inner Reinforcement
61611 61612	Quarter Panel	61768B 61769B	Belt Anchor to Roof Side Inner Rear Reinforcement
61613B 61614B	Quarter Inner Front Panel	61773A 61774A	Back Door Opening Lower Patch



Code	Part Name	Code	Part Name
58791A	Jack Carrier	61613B	Overtee In the French Board
58792B	Jack Carrier Support	61614B	Quarter Inner Front Panel
61103 61104	Front Body Pillar Sub-Assy	61621D 61622D	Back Door Opening Trough
61211 61212	Roof Side Outer Rail	61625D 61626D	Quarter Panel Upper Front Extension
61231 61232	Roof Side Inner Rail	61627C 61628C	Quarter Inner Panel Reinforcement
61261 61262	Roof Drip Channel	61631A 61632A	Quarter Wheel House Outer Panel
61281	Sliding Roof Housing Mounting No. 1 Bracket	61633A	Quarter Wheel House Inner Panel
61283	Sliding Roof Housing Mounting No. 3 Bracket	61634A	Quarter vvneei House inner Panei
61284		61645B	Quarter Wheel House Rear Gusset
61345B 61346B	Center Body Inner Lower Pillar	61646B 61677	
61347A		61678	Seat Belt Anchor No. 2 Lower Reinforcement
61348A	Belt Anchor to Center Pillar Reinforcement	61735A	
61365	Belt Anchor to Center Pillar Reinforcement	61736A	Roof Side Inner Rear Panel
61367	Belt Anchor to Center Pillar Lower Reinforcement	61747 61748C	Roof Side Inner to Wheel House Brace
61411 61412	Rocker Outer Panel	61755A 61756A	Deck Side Trim Upper Retainer
61611 61612	Quarter Panel	61766B 61767B	Belt Anchor to Roof Side Inner Reinforcement



Code	Part Name	Code	Part Name
57101	Front Side Mamber Sub Assu	58114A	Front Floor Panel Reinforcement
57102	Front Side Member Sub-Assy	58123A	Shift and Select Lever Support
57105A	Front Side Mamber Blate Sub Assu	58131	Front Floor Heat Insulator No. 1 Bracket
57106A	Front Side Member Plate Sub-Assy	58171	Parking Brake Base Reinforcement
57401	Main Floor Side Member Sub-Assy	58172	Computer Mounting No. 3 Bracket
57402	I wain Floor Side Wernber Sub-Assy	58183	Front Seat Mounting Inside Bracket
57417	Front Floor Under Reinforcement	58193	Instrument Panel Brace Mounting Bracket
57418	Front floor olider Reinforcement	58207	Parking Brake Cable No. 1 Bracket Sub-Assy
57419	Front Floor Under No. 2 Reinforcement	58208	Center Floor Pan
57451	Front Floor Crossmember Member	58234A	Exhaust Pipe Mounting Inside Bracket
57468A	Front Seat Outside Rear Bracket	58272	Belt Anchor Front Plate
57469A	Florit Seat Outside Real Blacket	58305	Spare Wheel Clamp Bracket Sub-Assy
57475	Front Floor Crossmember Plate	58307	Body Lower Back Panel Sub-Assy
57601	Rear Floor Side Member Sub-Assy	58311	Rear Floor Pan
57602	Real Floor Side Welliber Sub-Assy	58313F	Rear Floor Pan to Quarter Panel Extension
57605B	Rear Floor No. 1 Crossmember Sub-Assy	58314F	Theat 11001 Fall to Qualter Faller Extension
57606C	hear Floor No. 1 Crossifierfiber Sub-Assy	58352A	Rear Floor Stay Bracket
57616	Rear Floor Rear Side Member	58367	Fuel Tube Clamp Bracket
57617	near Floor near Side Wernber	58368B	Fuel Tube No. 2 Bracket
57673	Rear Seat Back Hinge Mounting Bracket	5 8 369B	Fuel Tube No. 3 Bracket
57686A	Fuel Tank Mounting Rear Bracket	58397	Lower Back Outer Cover
57697	Rear Seat Cushion Retainer	58398	Lower back outer cover
58015	Belt Anchor to Floor Pan Reinforcement	64215A	Rear Floor to Package Tray Extension
58016	beit Alichor to Floor Fall Reilhorcement	64216A	Theat Floor to Fackage Tray Extension
58027A	Seat Belt Anchor Reinforce Sub-Assy		_
58111	Front Floor Pan	<u> </u>	_

TOOLS AND EQUIPMENT

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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.
Tal Division of the Control of the C	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.		
200	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 over- lapping panels.
Hemming Tool	For hemming door outer panels, etc.
Hole Punch	For making holes for MIG plug welding.

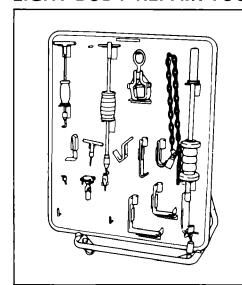
BODY PROTECTORS

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

WELDING INSTRUMENTS

TALEBUIG INSTITUTE 13	· · · · · · · · · · · · · · · · · · ·	
	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, resurfacing 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.
Surform Tool	For rough finishing of panels.

