

## FOREWORD

This repair manual has been prepared to provide essential information on body panel repair methods (including cutting and welding operations, but excluding painting) for the TOYOTA AVALON.

Applicable models: GSX30 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, etc. However, it should be noted that the front fenders of the TOYOTA model is bolted on and require no welding.

When repairing, don't cut and join areas that are not shown in this manual. Only work on the specified contents to maintain body strength.

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 repair procedures and specifications other than collision-damaged body components of the TOYOTA AVALON refer to the repair manuals.

If you require the above manuals, please contact your TOYOTA Dealer.

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**

## VIEWS OF THIS TEXT

### Scope of the repair work explanation

- This text explains the welding panel replacement instructions from the vehicle's white body condition. We have abbreviated the explanations of the removal and reinstallation of the equipment parts up to the white body condition and of the installation, inspection, adjustment and final inspection of equipment parts after replacing the weld panel.

### Section categories

- Each section has been divided as shown below.

Section Title	Contents	Examples
INTRODUCTION	Explanation of general body repair. Views of weld panel replacement instructions.	Cautionary items. Views of weld panel replacement instructions.
BODY PANEL REPLACEMENT	Instructions for replacing the weld panels from the white body condition, from which bolted parts have been removed, with individual supply parts.	Front side member replacement. Quarter panel replacement.
BODY DIMENSIONS	Body aligning measurements.	Dimension diagrams.
PAINT • COATING	Scope and type of anti-rust treatment, etc. together with weld panel replacement.	Under coat. Body sealer.

### Abbreviation of contents in this text.

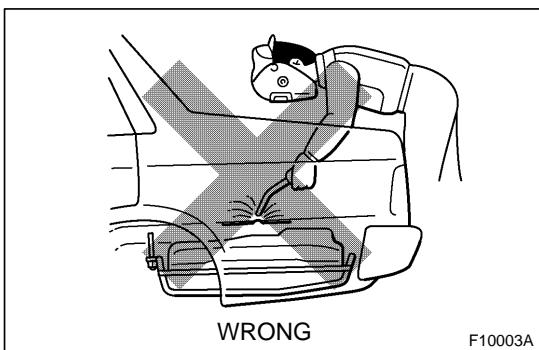
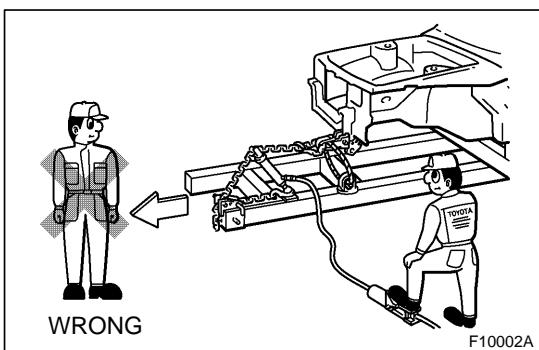
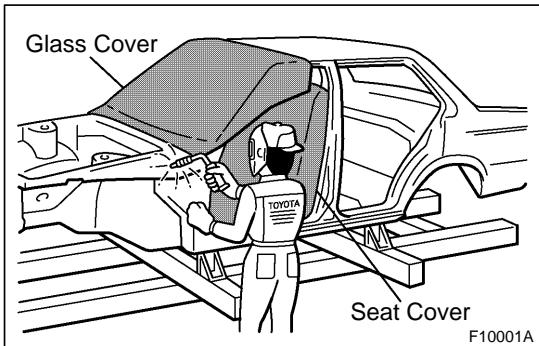
- The following essential procedures have been abbreviated. When actually working, conduct this work properly.
  - (1) Jack and lift operations.
  - (2) Clean and wash removed parts, if necessary.
  - (3) Visual inspection.

## GENERAL REPAIR INSTRUCTIONS

### 1. WORK PRECAUTIONS

#### (a) VEHICLE PROTECTION

- (1) When welding, protect the painted surfaces, windows, seats and carpet with heat resistant, fire-proof covers.



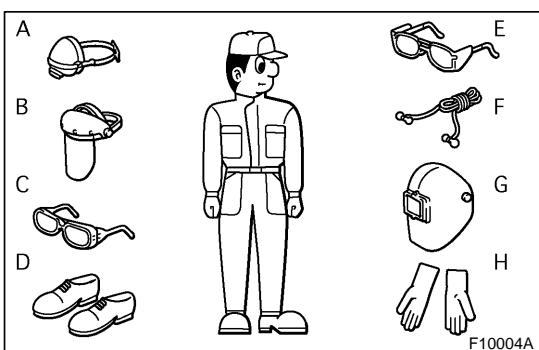
#### (b) SAFETY

- (1) 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.

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

#### (c) SAFETY WORK CLOTHES

- (1) In addition to the usual mechanic's wear, cap and safety shoes, the appropriate gloves, head protector, glasses, ear plugs, face protector, dust-prevention mask, etc. should be worn as the situation demands.



Code	Name
A	Dust-Prevention Mask
B	Face Protector
C	Eye Protector
D	Safety Shoes
E	Welder's Glasses
F	Ear Plugs
G	Head Protector
H	Welder's Gloves

## 2. HANDLING PRECAUTIONS OF PLASTIC BODY PARTS

- (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 table.
- (3) When repairing metal body parts adjoining plastic body parts (by brazing, frame cutting, welding, painting etc.), consideration must be given to the property of the plastic.

Code	Material name	Heat* resistant temperature limit °C (°F)	Resistance to alcohol or gasoline	Notes
AAS	Acrylonitrile Acrylic Styrene	80 (176)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
ABS	Acrylonitrile Butadiene Styrene	80 (176)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
AES	Acrylonitrile Ethylene Styrene	80 (176)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
ASA	Acrylonitrile Styrene Acrylate	80 (176)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
CAB	Cellulose Acetate	80 (176)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
EPDM	Ethylene Propylene	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.
FRP	Fiber Reinforced Plastics	180 (356)	Alcohol and gasoline are harmless.	Avoid alkali.
EVA	Ethylene Acetate	70 (158)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
E/VAC	Ethylene/ Vinyl Acetate Copolymer Resin	70 (158)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid gasoline and organic or aromatic solvents.
PA	Polyamide (Nylon)	80 (176)	Alcohol and gasoline are harmless.	Avoid battery acid.
PBT	Polybutylene Terephthalate	160 (320)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PC	Polycarbonate	120 (248)	Alcohol is harmless.	Avoid gasoline brake fluid, wax, wax removers and organic solvents. Avoid alkali.

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

Code	Material name	Heat* resistant temperature limit °C (°F)	Resistance to alcohol or gasoline	Notes
PE	Polyethylene	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PET	Polyethylene Terephthalate	75 (167)	Alcohol and gasoline are harmless.	Avoid dipping in water.
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.
POM	Polyoxymethylene (Polyacetal)	100 (212)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PP	Polypropylene	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PPF	Composite Reinforced 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	Polyurethane	80 (176)	Alcohol is harmless if applied only for very short time in small amounts (e.g., 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 (e.g., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
SAN	Styrene Acrylonitrile	80 (176)	Alcohol is harmless if applied only for short time in small amounts (e.g., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents etc.
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 short time in small amounts (e.g., quick wiping to remove grease).	Avoid dipping or immersing in alcohol, gasoline, solvents, etc.
TSOP	TOYOTA Super Olefine Polymer	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
UP	Unsaturated Polyester	110 (233)	Alcohol and gasoline are harmless.	Avoid alkali.

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

### 3. LOCATION OF PLASTIC BODY PARTS

Parts Name	Code
Radiator Grille	ABS
Front Bumper Cover	TSOP
Front Bumper Hole Cover	PC/ABS
Headlight	PP/PC
Foglight	PC/PE
Cowl Top Ventilator Louver	TSOP
Door Window Frame Moulding	ASA
Door Outside Handle	PA
Outer Rear View Mirror	ABS • PPO
Door Outside Moulding	TPO
Body Rocker Panel Moulding	TPO
Rocker Panel Moulding Protector	PP
License Plate Light	PC
Rear Combination Light	PMMA/ASA
Rear Light	PMMA/ASA
Rear Bumper Cover	TSOP

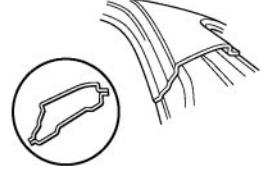
HINT:

- Resin material differs with model.
- / Made up of 2 or more kind of materials.

# HOW TO USE THIS MANUAL

## 1. BODY PANEL REPLACEMENT THIS MANUAL

BP-34 BODY PANEL REPLACEMENT

<b>(A)</b> QUARTER PANEL (CUT) REPLACEMENT			<b>(C)</b>
<b>(B)</b> REMOVAL			
<b>(D)</b>			<b>(I)</b>
			<b>(J)</b>
<b>(E)</b> POINT 1. Remove the [A] at the same time. PART NAME [A] Fuel filler opening lid 200 mm (7.87 in.)			

**(A) : 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

**(B) : REMOVAL CONDITIONS**

**(C) : PART LOCATION**

**(D) : REMOVAL DIAGRAM**  
 Describes in detail removal of the damaged part involving repair by cutting.

**(E) : REMOVAL GUIDE**  
 Provides additional information to more efficiently help you perform the removal.

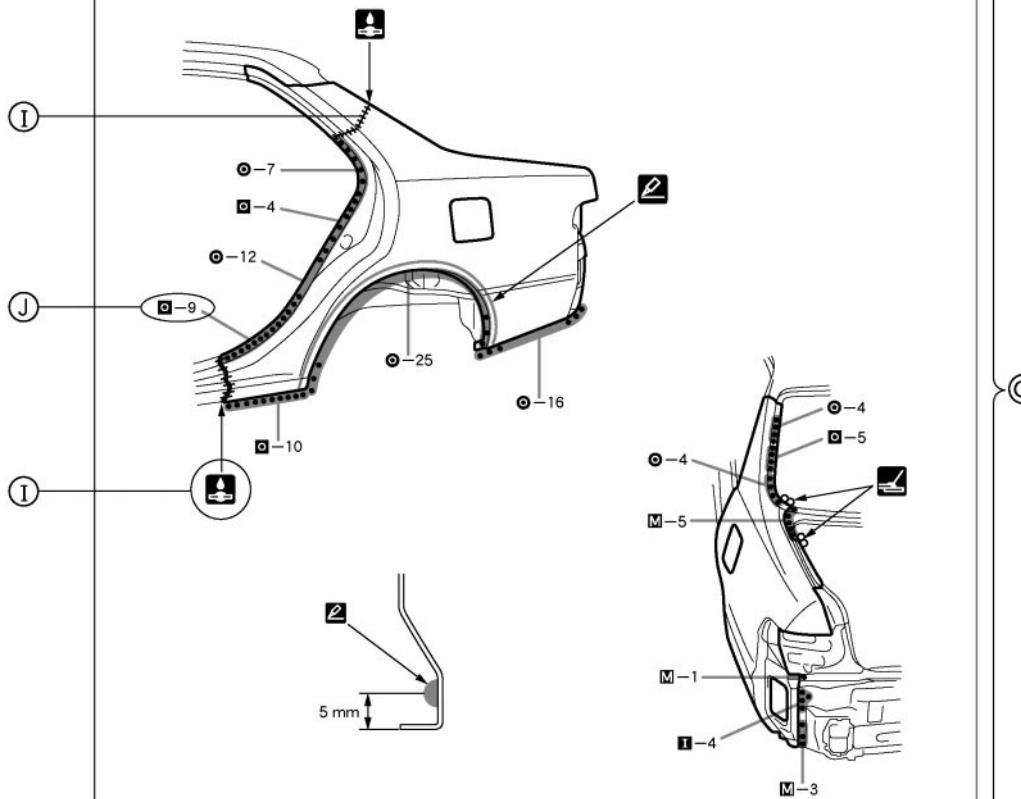
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## BODY PANEL REPLACEMENT

BP-35

## INSTALLATION

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam with corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



## POINT

- 1) Before temporarily installing the new parts, apply body sealer to the wheel arch.

## HINT

- 1) Apply body sealer about 5 mm(0.20 in.) front the flange, avoiding any oozing.
- 2) Apply sealer evenly, about 3-4 mm(0.12-0.16 in.) in diameter
- 3) For other sealing points, refer to section PC.

**(F)** : INSTALLATION CONDITIONS

**(G)** : INSTALLATION DIAGRAM

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

**(H)** : INSTALLATION GUIDE

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

**(I)** : SYMBOLS

(See page IN-7)

**(J)** : INSTALLATION OF WELD POINTS

Weld method and panel position symbols(See page IN-9)

**(K)** : PART NAME

## 2. SYMBOLS

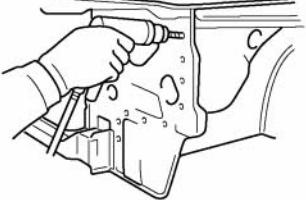
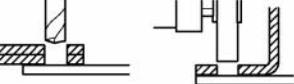
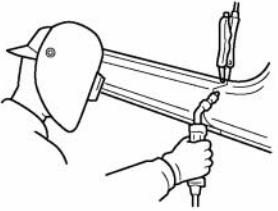
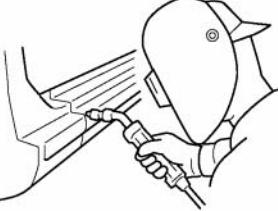
The following symbols are used in the welding diagrams in section BP of this manual to indicate cutting areas and the types of weld required.

SYMBOLS		MEANING	ILLUSTRATION
-----		CUT AND JOIN LOCATION (SAW CUT)	
		CUT AND JOIN LOCATION (Cut Location for Supply Parts)	
		CUT LOCATION	
		CUT WITH DISC SANDER, ETC.	
		BRAZE (Removal)	
oooo		BRAZE (Installation)	
.....	-	WELD POINTS	
△ M I ○ M I ○ M I	-	SPOT WELD OR MIG PLUG WELD (See Page IN-9)	
		CONTINUOUS MIG WELD (BUTT WELD)	
		CONTINUOUS MIG WELD (TACK WELD)	
		BODY SEALER	

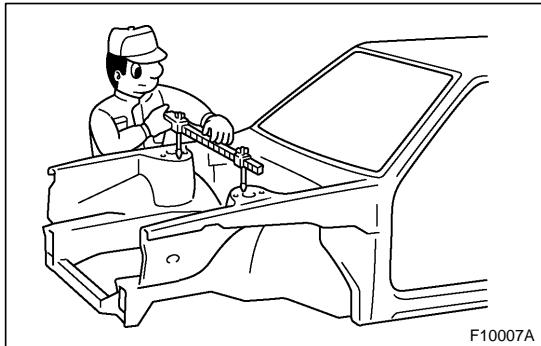
SYMBOLS		MEANING	ILLUSTRATION
—		Assembly Mark	—
*****	—	BODY SEALER (Flat Finishing)	
—	—	BODY SEALER (No flat Finishing)	

### 3. ILLUSTRATION OF WELD POINT SYMBOLS

#### EXAMPLE:

REMOVAL			INSTALLATION		
SYMBOLS	MEANING	ILLUSTRATION	SYMBOLS	MEANING	ILLUSTRATION
▲	Remove Weld Points		○	Spot Weld	
▲	(Outside)		○	MIG Plug Weld	
▲	(Middle)		+	Spot MIG Weld	
▲	(Inside)				
<i>HINT: Panel position symbols are as seen from the working posture.</i>					

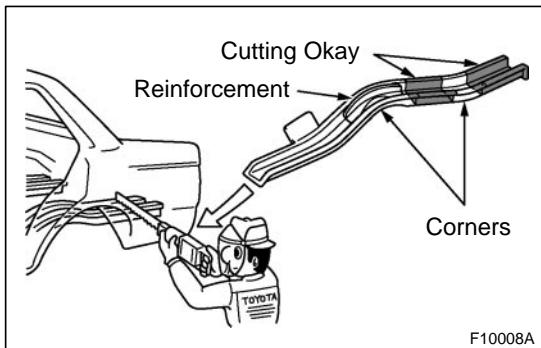
## PROPER AND EFFICIENT WORK PROCEDURES



### 1. REMOVAL

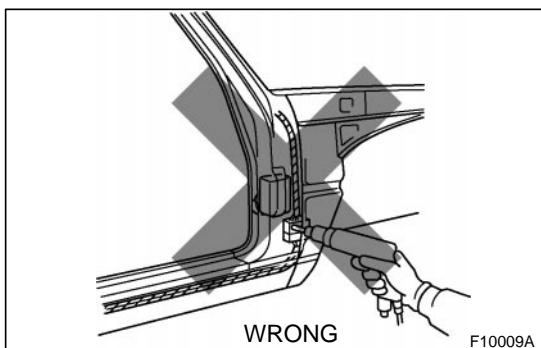
#### (a) PRE-REMOVAL MEASURING

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



#### (b) CUTTING AREA

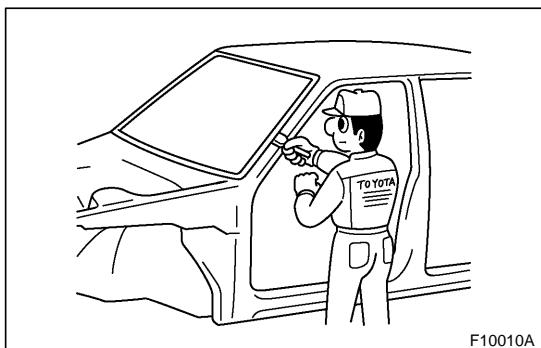
- (1) Always cut in a straight line and avoid reinforced area.



#### (c) PRECAUTIONS FOR DRILLING OR CUTTING

- (1) Check behind any area to be drilled or cut to insure that there are no hoses, wires, etc., that may be damaged.

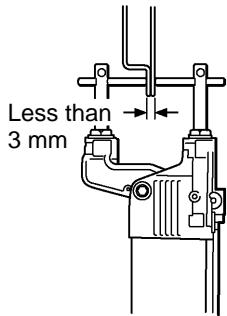
*HINT: See "Handling Precautions on Related Components" on page IN-15.*



#### (d) REMOVAL OF ADJACENT COMPONENTS

- (1) When removing adjacent components, apply protective tape to the surrounding body and your tools to prevent damage.

*HINT: See "Handling Precautions on Related Components" on page IN-15.*



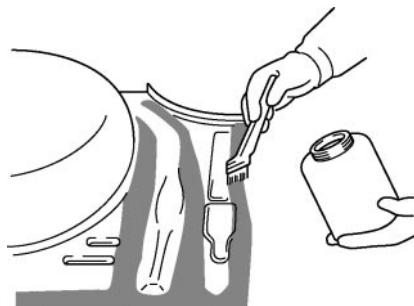
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## 2. PREPARATION FOR INSTALLATION

### (a) 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.

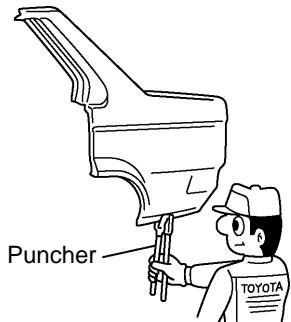
*HINT: Spot welding will not provide sufficient durability for panels over 3 mm (0.12 in.) thick.*



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### (b) APPLICATION OF WELD-THROUGH PRIMER (SPOT SEALER)

- Remove the paint from the portion of the new parts and body to be welded, and apply weld-through primer.



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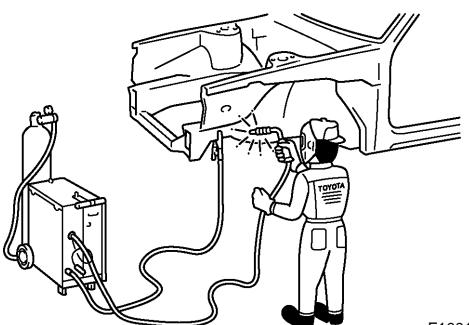
### (c) MAKING HOLES FOR PLUG WELDING

- 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) Ø over
1.0 (0.04) – 1.6 (0.06)	6.5 (0.26) Ø over
1.7 (0.07) – 2.3 (0.09)	8 (0.31) Ø over
2.4 (0.09) over	10 (0.39) Ø over



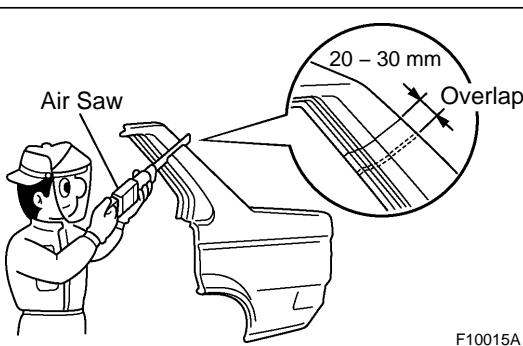
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### (d) SAFETY PRECAUTIONS FOR ELECTRICAL COMPONENTS

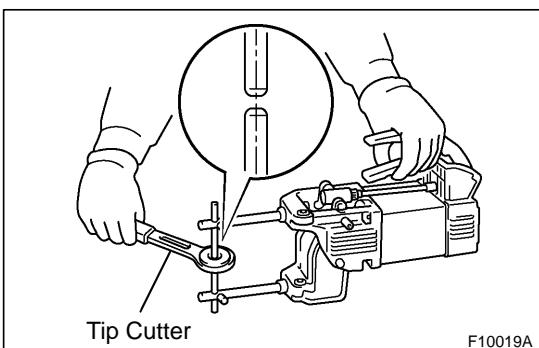
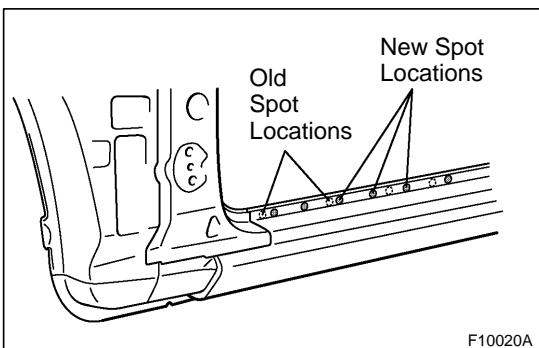
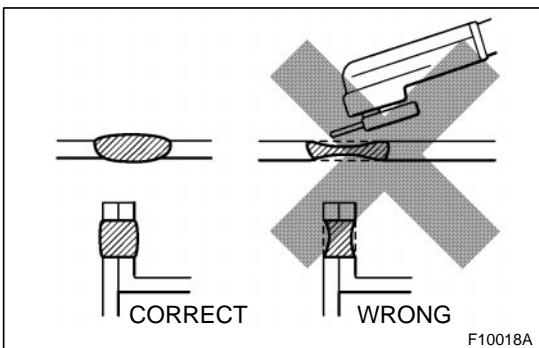
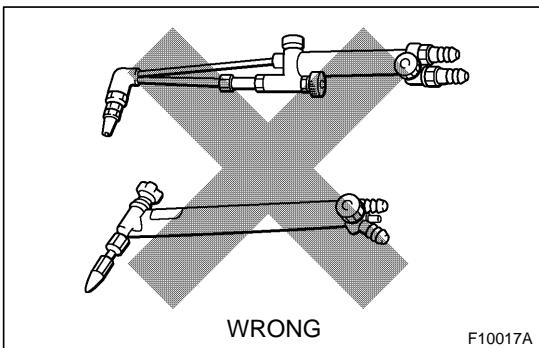
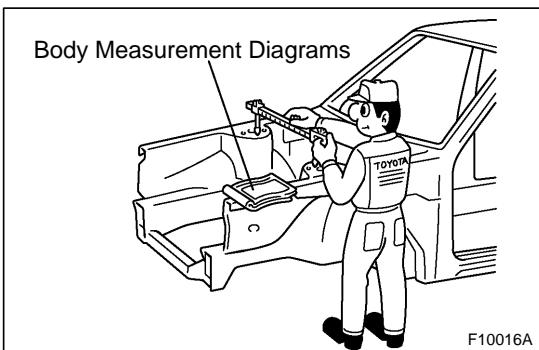
- When welding, there is a danger that electrical components will be damaged by the electrical current flowing through the body.
- Before starting work, disconnect the negative terminal of the battery and ground the welder near the welding location of the body.

### (e) ROUGH CUTTING OF JOINTS

- For joint areas, rough cut the new parts, leaving 20 – 30 mm (0.79 – 1.18 in.) overlap.



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### 3. INSTALLATION

#### (a) PRE-WELDING MEASUREMENTS

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

#### (b) WELDING PRECAUTIONS

- The number of welding spots should be as follows.  
Spot weld:  $1.3 \times$  No. of manufacturer's spots.  
Plug weld: More than No. of manufacturer's plugs.
- Plug welding should be done with a MIG (Metal Inert Gas) welder. Do not gas weld or braze panels at areas other than specified.

#### (c) POST-WELDING REFINISHING

- 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 weld.

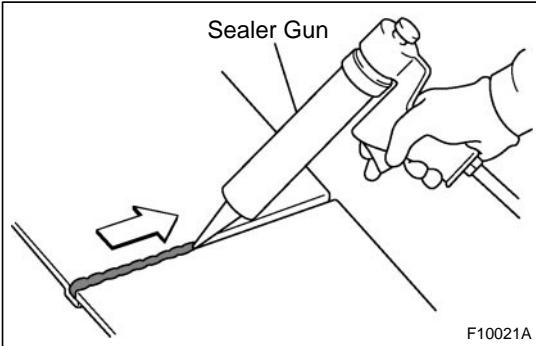
#### (d) SPOT WELD LOCATIONS

- Try to avoid welding over previous spots.

#### (e) 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.

Sealer Gun

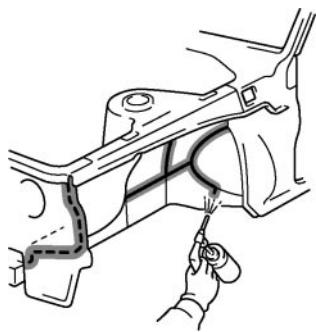


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#### 4. ANTI-RUST TREATMENT

##### (a) BODY SEALER APPLICATION

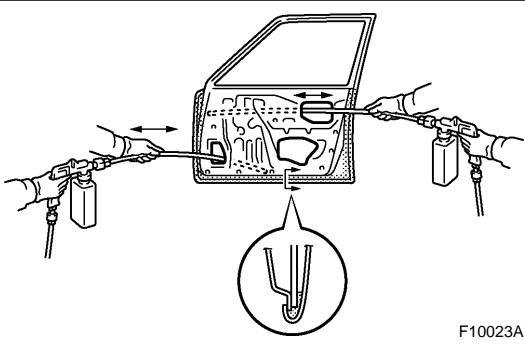
- (1) For water-proofing and anti-corrosion measures, always apply the body sealer to the body panel seams and hems of the doors, hoods, etc.



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##### (b) UNDERCOAT APPLICATION

- (1) To prevent corrosion and protect the body from damage by flying stones, always apply sufficient undercoat to the bottom surface of the under body and inside of the wheel housings.



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#### 5. ANTI-RUST TREATMENT AFTER PAINTING PROCESS

##### (a) ANTI-RUST AGENT (WAX) APPLICATION

- (1) To preserve impossible to paint areas from corrosion, always apply sufficient anti-rust agent (wax) to the inside of the hemming areas of the doors and hoods, and around the hinges, or the welded surfaces inside the boxed cross-section structure of the side member, body pillar, etc.

## 6. ANTI-RUST TREATMENT BY PAINTING

### REFERENCE:

Painting prevents corrosion and protect the sheet metal from damage. In this section, anti-chipping paint only for anti-corrosion purpose is described.

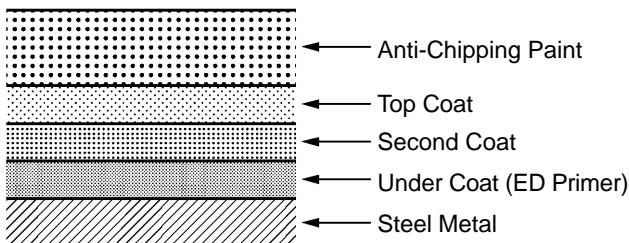
#### (a) ANTI-CHIPPING PAINT

- (1) To prevent corrosion and protect the body from damage by flying stones, etc., apply anti-chipping paint to the rocker panel, wheel arch areas, balance panel, etc.

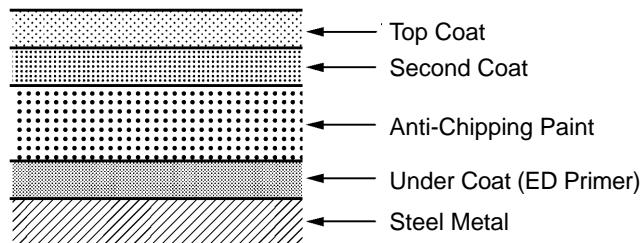
#### HINT:

*Depending on the model or the application area, there are cases where the application of anti-chipping paint is necessary before the second coat or after the top coat.*

- Apply the anti-chipping paint after the top coat.



- Apply the anti-chipping paint before the second coat.



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## HANDLING PRECAUTIONS ON RELATED COMPONENTS

### 1. BRAKE SYSTEM

The brake system is one of the most important safety components. Always follow the directions and notes given in brake (32) section of the repair manual for the relevant model when handling brake system parts.

*NOTICE: When repairing the brake master cylinder or TRAC system, bleed the air out of the TRAC system.*

### 2. DRIVE TRAIN AND CHASSIS

The drive train and chassis are components that can have great effects on the running performance and vibration resistance of the vehicle. After installing components in the sections listed in the table below, perform alignments to ensure correct mounting angles and dimensions. Particularly accurate repair of the body must also be done to ensure correct alignment.

*HINT: Correct procedures and special tools are required for alignment. Always follow the directions given in the repair manual for the relevant model during alignment and section DI of this section.*

Component to be aligned	Section of repair manual for relevant model
Front Wheels	Front Suspension (26) section
Rear Wheels	Rear Suspension (27) section

### 3. COMPONENTS ADJACENT TO THE BODY PANELS

Various types of component parts are mounted directly on or adjacently to the body panels. Strictly observe the following precautions to prevent damaging these components and the body panels during handling.

- Before repairing the body panels, remove their components or apply protective covers over the components.
- Before prying components off using a screwdriver or a scraper, etc., attach protective tape to the tool tip or blade to prevent damaging the components and the body paint.
- Before removing components from the outer surface of the body, attach protective tape to the body to ensure no damage to painted areas.

*HINT: Apply touch-up paint to any damaged paint surfaces.*

- Before drilling or cutting sections, make sure that there are no wires, etc. on the reverse side.

### 4. ECU (ELECTRONIC CONTROL UNIT)

Many ECUs are mounted in this vehicle.

Take the following precautions during body repair to prevent damage to the ECUs.

- Before starting electric welding operations, disconnect the negative (-) terminal cable from the battery.

When the negative (-) terminal cable is disconnected from the battery, memory of the clock and audio systems will be cancelled. So before starting work, make a record of the contents memorized by each memory system. Then when work is finished, reset the clock and audio systems as before.

When the vehicle has tilt and telescopic steering, power seat and outside rear view mirror, which are all equipped with memory function, it is not possible to make a record of the memory contents.

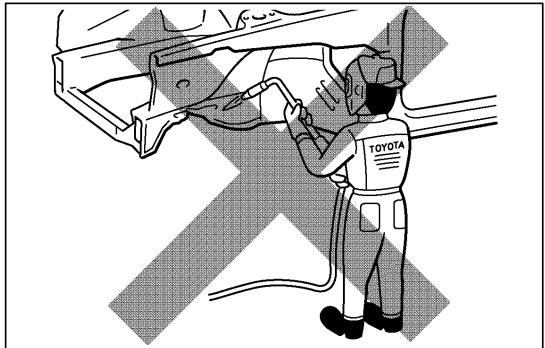
So when the operation is finished, it will be necessary to explain this fact to the customer, and request the customer to adjust the features and reset the memory.

- Do not expose the ECUs to ambient temperatures above 80°C (176°F).

*NOTICE: If it is possible the ambient temperature may reach 80°C (176°F) or more, remove the ECUs from the vehicle before starting work.*

- Be careful not to drop the ECUs and not to apply physical shocks to them.

## PRECAUTIONS FOR REPAIRING BODY STRUCTURE PANELS



### 1. HEAT REPAIR FOR BODY STRUCTURE PANELS

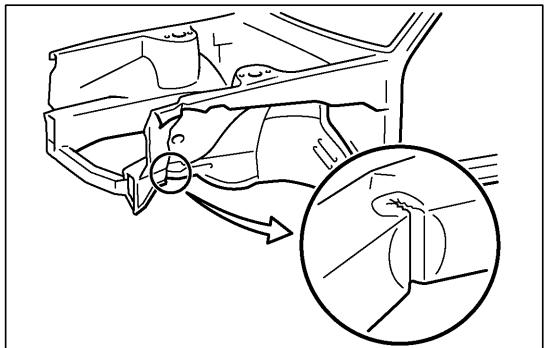
Toyota prohibits the use of the heat repair method on body structure panels when repairing a vehicle damaged in a collision.

Panels that have high strength and rigidity, as well as a long life span for the automobile body are being sought after. At Toyota, in order to fulfill these requirement, we use high tensile strength steel sheets and rust preventive steel sheets on the body.

High tensile steel sheets are made with alloy additives and a special heat treatment in order to improve the strength. To prevent the occurrence of rust for a long period of time, the surface of the steel is coated with a zinc alloy.

If a body structure parts are heat repaired with an acetylene torch or other heating source, the crystalline organization of the steel sheet will change and the strength of the steel sheet will be reduced.

The ability of the body to resist rust is significantly lowered as well since the rust resistant zinc coating is destroyed by heat and the steel sheet surface is oxidized.

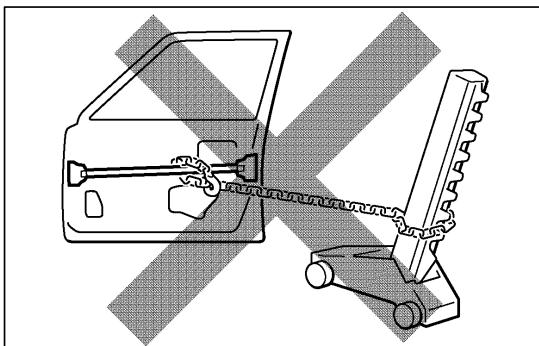
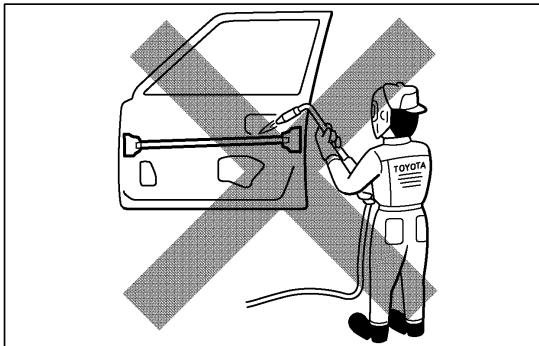


### 2. STRUCTURE PANEL KINKS

A sharp deformation angle on the panel that cannot be returned to its original shape by pulling or hammering is called kink.

Since structure parts are designed to exhibit its performance in their original shape, if parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may become unable to exhibit the same performance as intended in the design.

It is necessary to replace the part where the kink has occurred.



### 3. IMPACT BEAM REPAIR

The impact beam and bracket are necessary and important parts that help reduce the probability of injury to passengers in side collisions.

For impact beam, we use special high tensile strength steel.

The high tensile strength steel maintains its special crystaline organization by heat treatment or alloy additives.

Since these parts are designed to exhibit its performance in their original shape, if parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may become unable to exhibit the same performance as intended in the design.

If the impact beam or bracket is damaged, replace the door assembly which has the damaged beam.

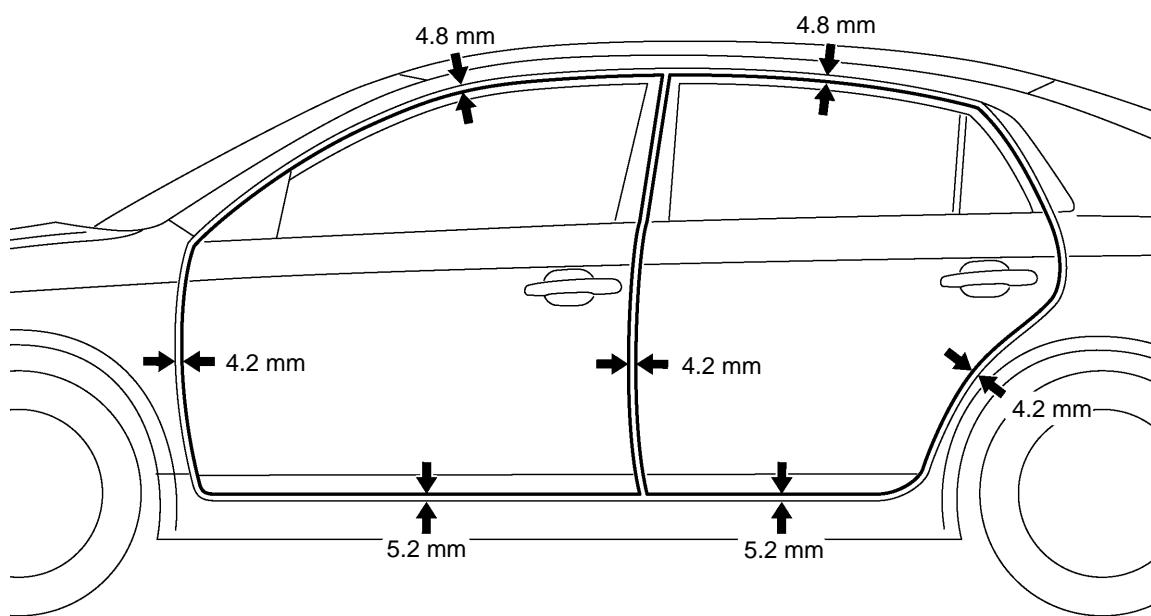
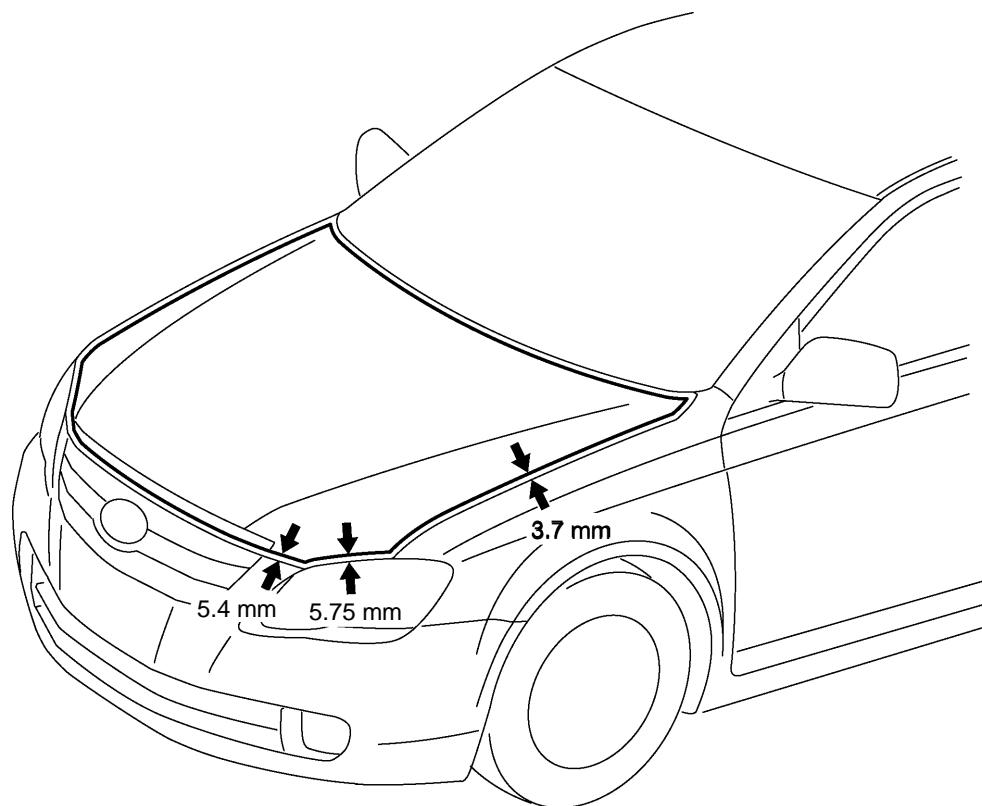
Also, the bumper reinforcement is a necessary and important part that helps reduce the probability of injury to passengers in front collisions, and for the same reasons explained above, should be replaced if damaged.

## ABBREVIATIONS USED IN THIS MANUAL

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

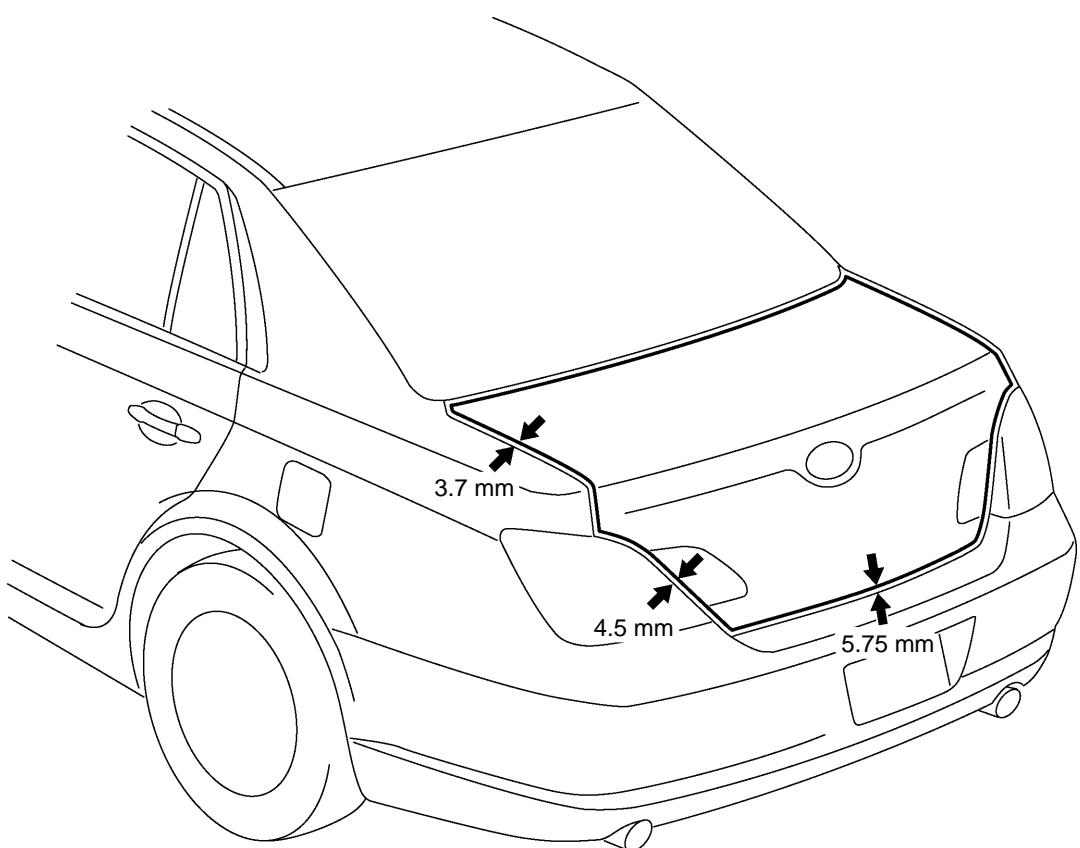
ABS	Antilock Brake System
A/C	Air Conditioner
assy	assembly
ECT	Electronic Controlled Transmission
ECU	Electronic Control Unit
e.g.	Exempli Gratia (for Example)
Ex.	Except
FWD	Front Wheel Drive Vehicles
2WD	Two Wheel Drive Vehicles
4WD	Four Wheel Drive Vehicles
in.	inch
LH	Left-hand
LHD	Left-hand Drive
MIG	Metal Inert Gas
M/Y	Model Year
PPS	Progressive Power Steering
RH	Right-hand
RHD	Right-hand Drive
SRS	Supplemental Restraint System
SSM	Special Service Materials
w/	with
w/o	without

## FIT STANDARDS



F22065

3.7 mm (0.146 in.)	4.2 mm (0.165 in.)	4.8 mm (0.189 in.)
5.2 mm (0.205 in.)	5.4 mm (0.213 in.)	5.75 mm (0.226 in.)

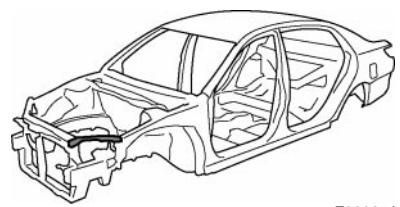


F22066

3.7 mm (0.146 in.)	4.5 mm (0.177 in.)	5.75 mm (0.226 in.)
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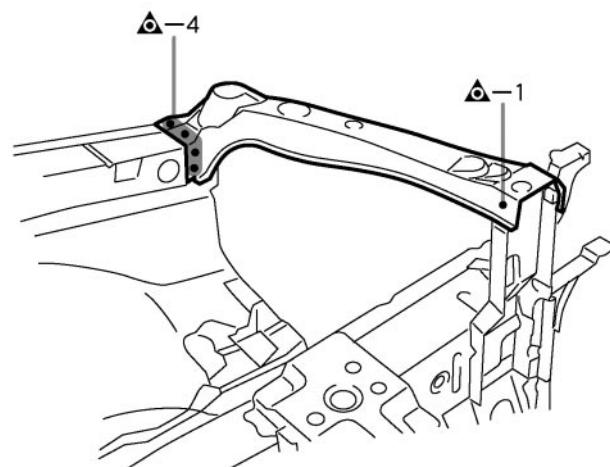
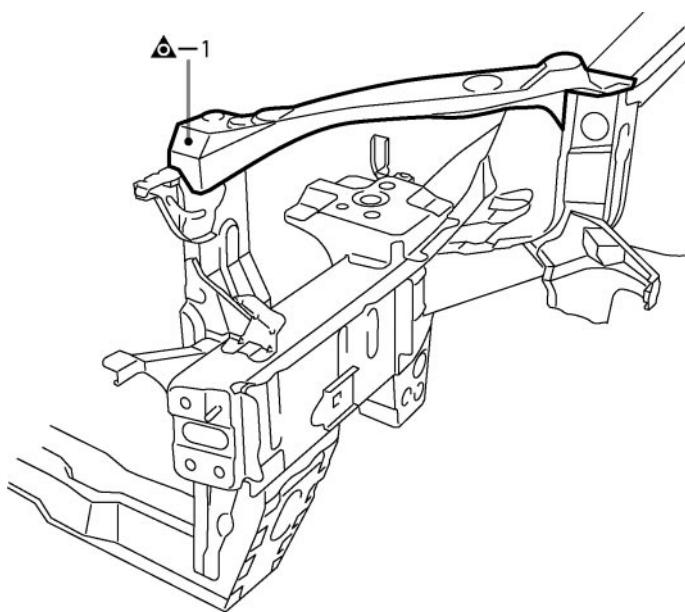
## RADIATOR UPPER SUPPORT (ASSY)

### REPLACEMENT



F22067A

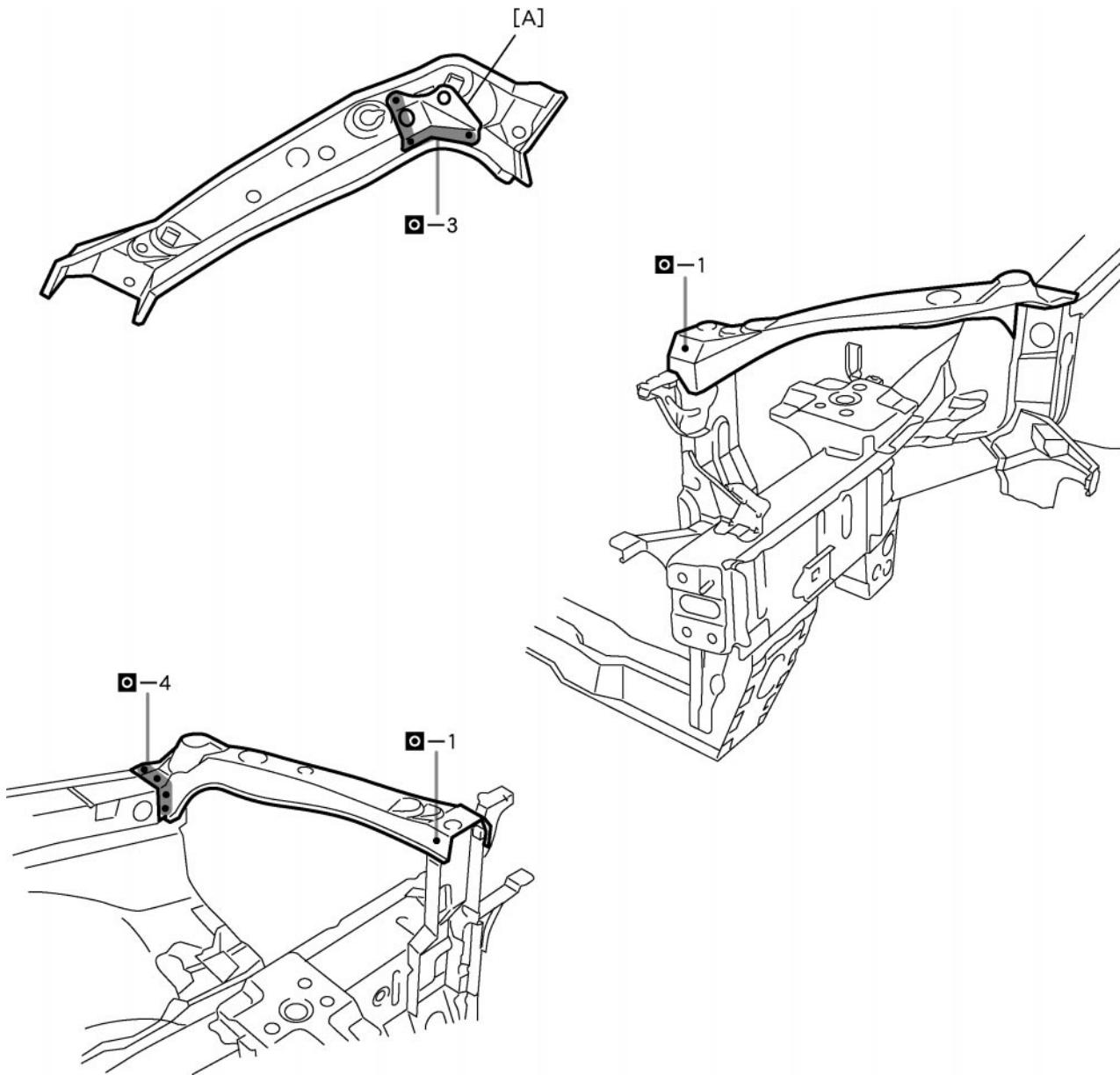
### REMOVAL



F22067

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



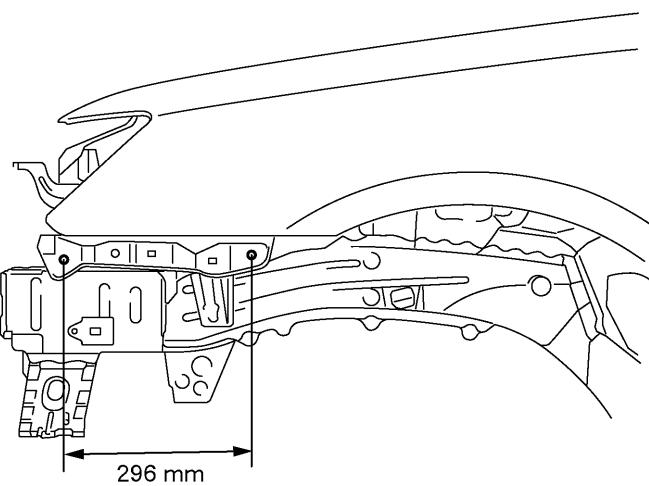
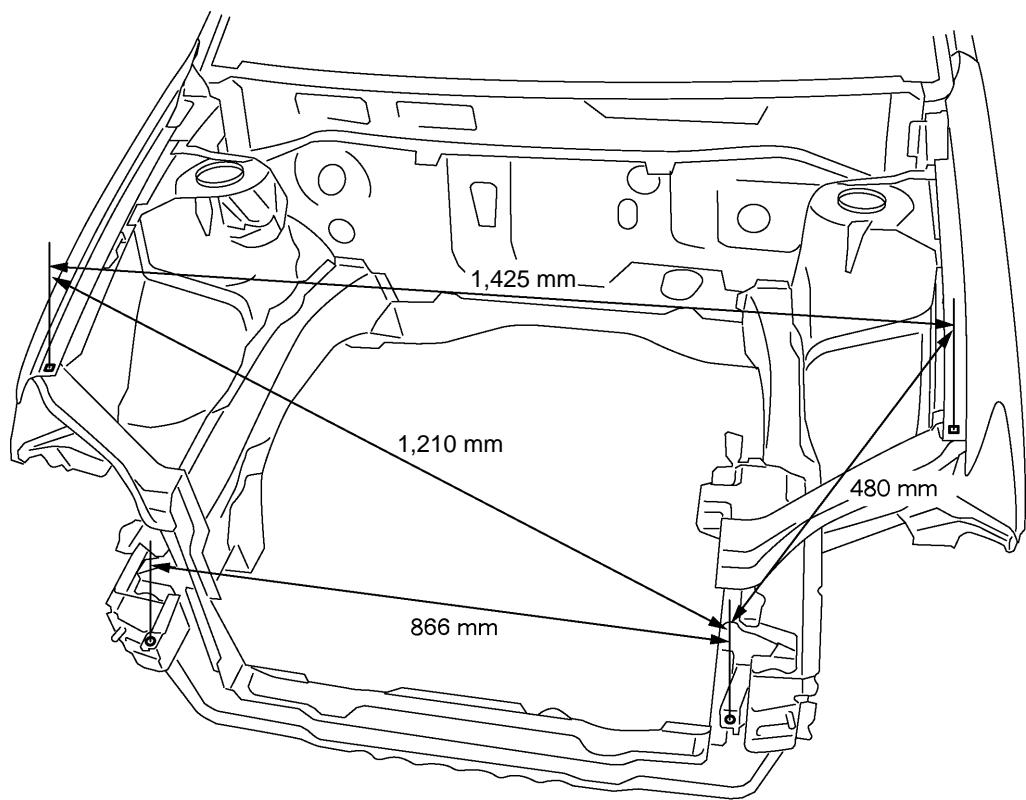
F22068

**POINT**

- 1 Inspect the fitting of the headlight, front fender and hood, etc., before welding, since this affects the appearance of the finish.

**PART NAME**

[A] Radiator Support Apron Brace



F22069

**POINT**

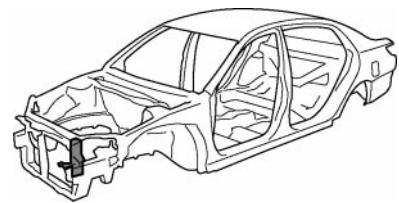
- 1 Measure the dimensions before installing the headlight.
- 2 These values are reference values.

296 mm (11.65 in.)    480 mm (18.90 in.)    866 mm (34.09 in.)    1,210 mm (47.64 in.)    1,425 mm (56.10 in.)

## RADIATOR SIDE SUPPORT (ASSY)

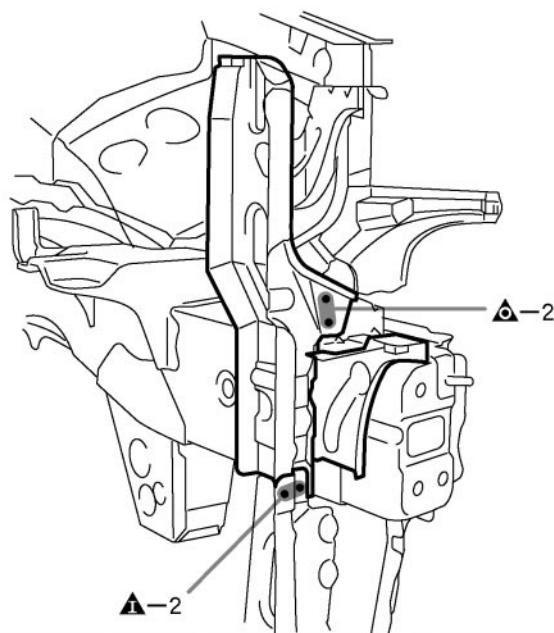
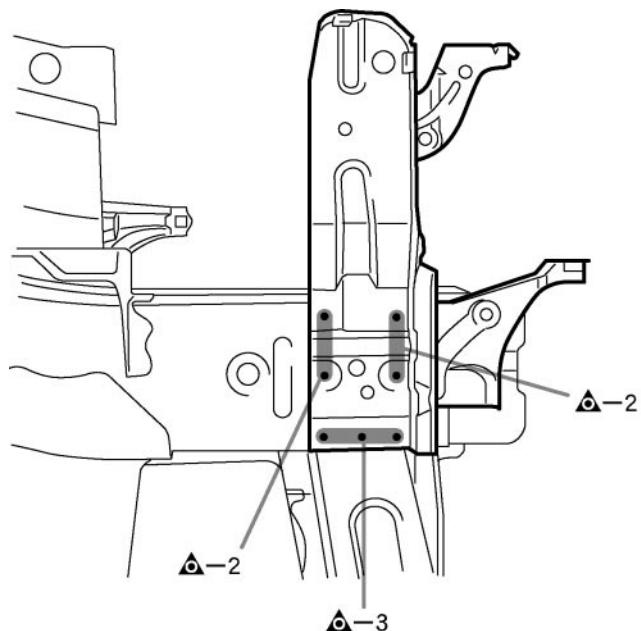
### REPLACEMENT

With the radiator upper support removed.



F22070A

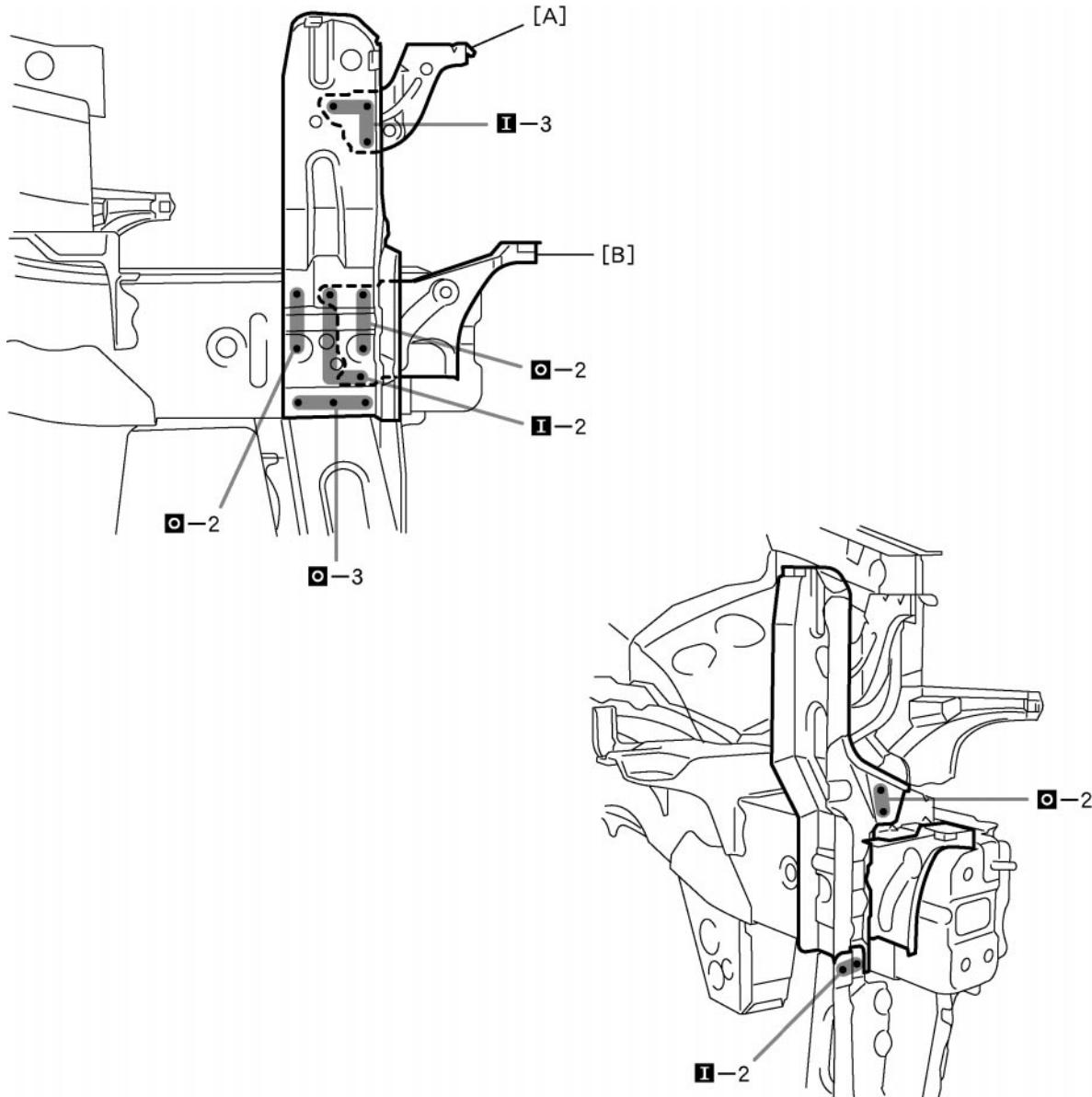
### REMOVAL



F22070

**INSTALLATION**

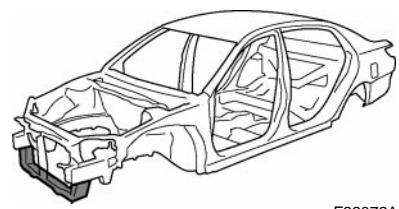
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



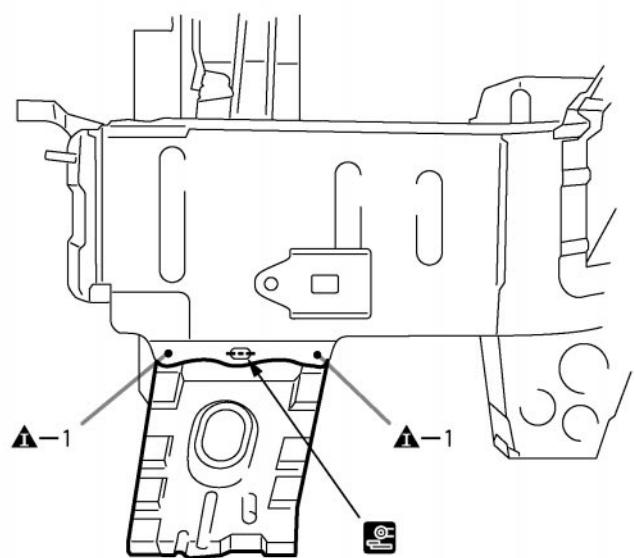
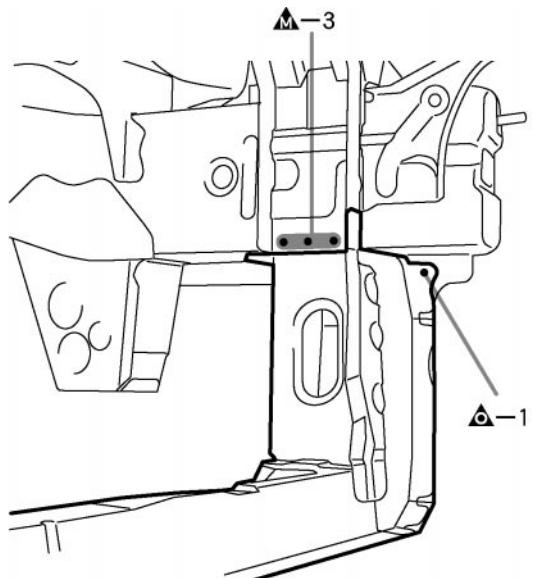
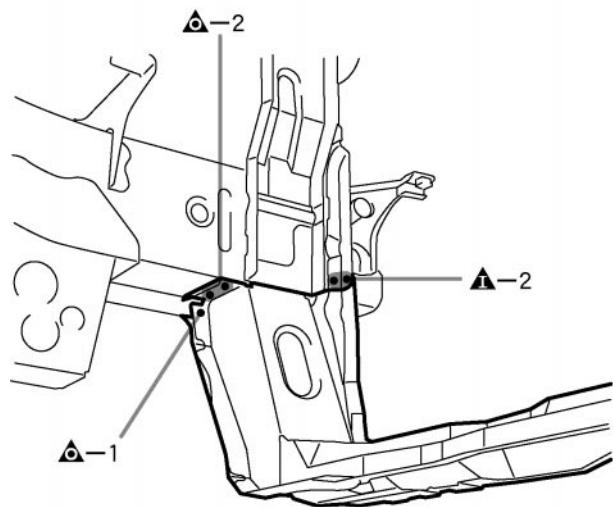
F22071

**PART NAME**

[A] Front Bumper Upper Arm    [B] Front Bumper Side Support

**FRONT CROSSMEMBER (ASSY)****REPLACEMENT**

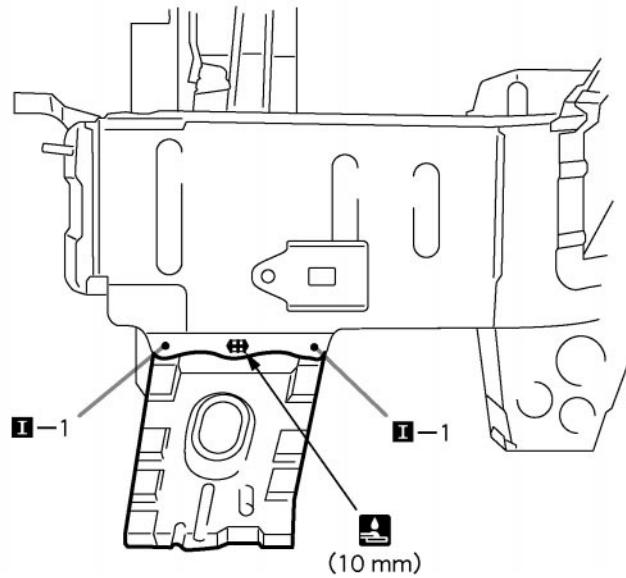
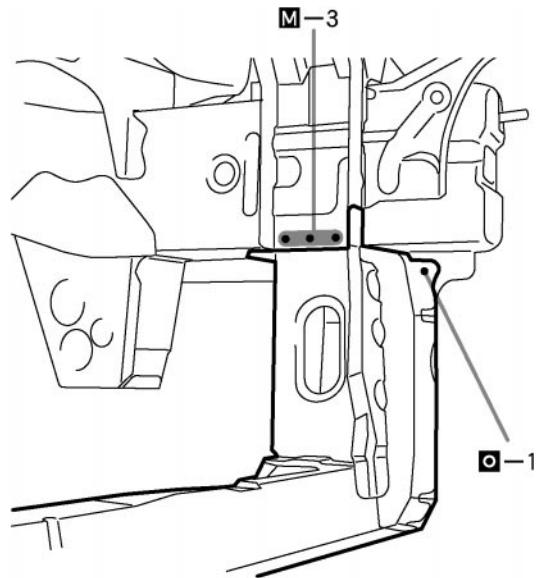
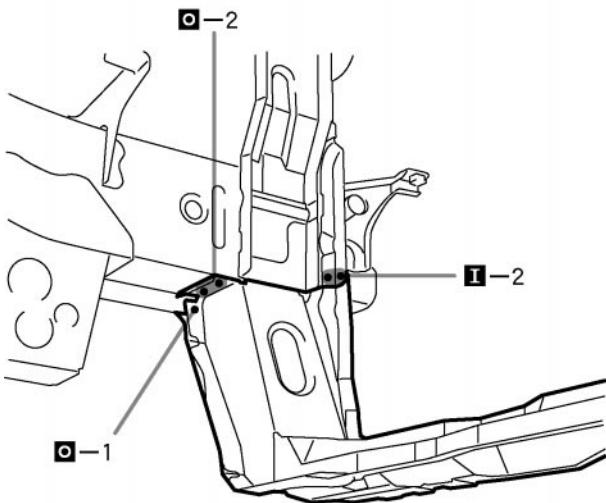
F22072A

**REMOVAL**

F22072

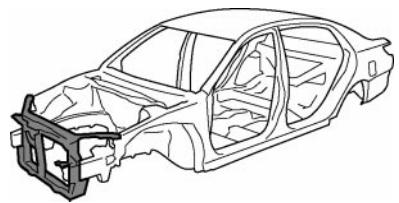
**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.

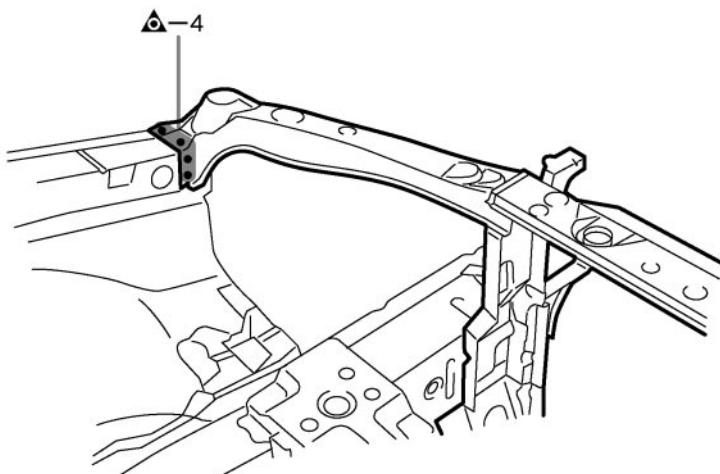
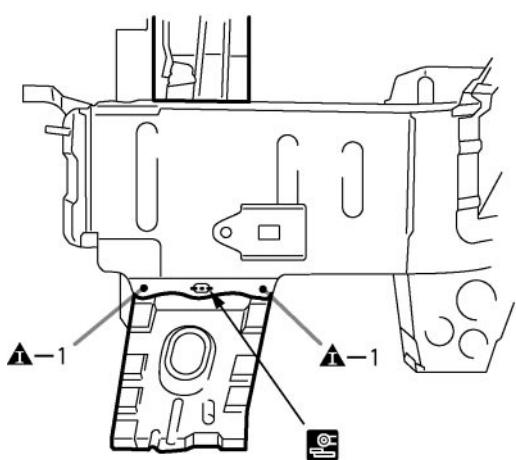
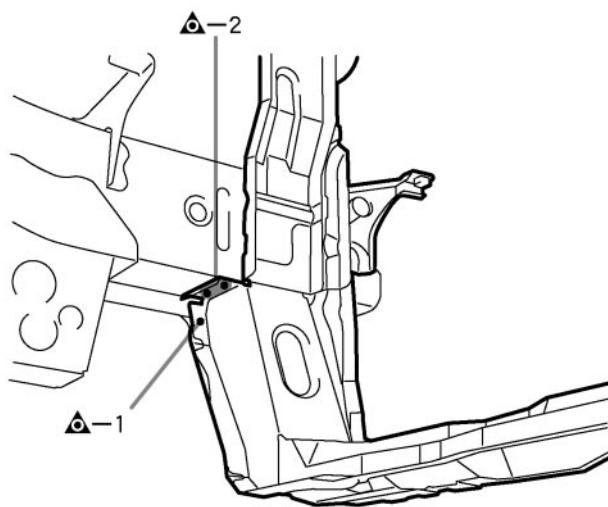
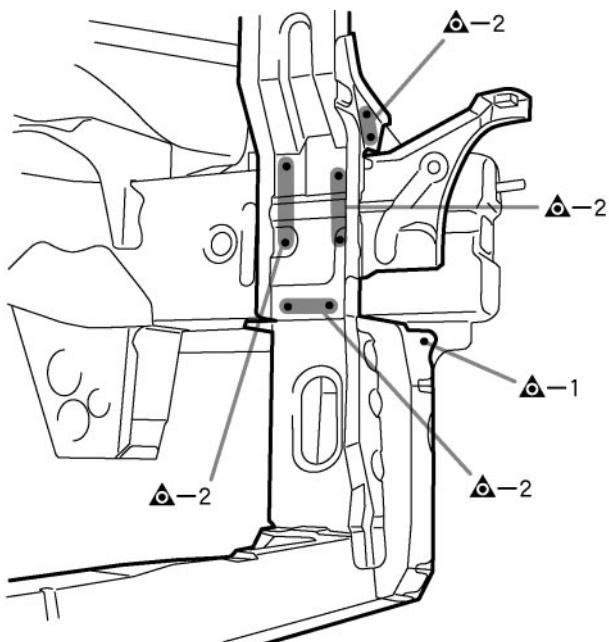


F22073

10 mm (0.39 in.)

**RADIATOR SUPPORT (ASSY)****REPLACEMENT**

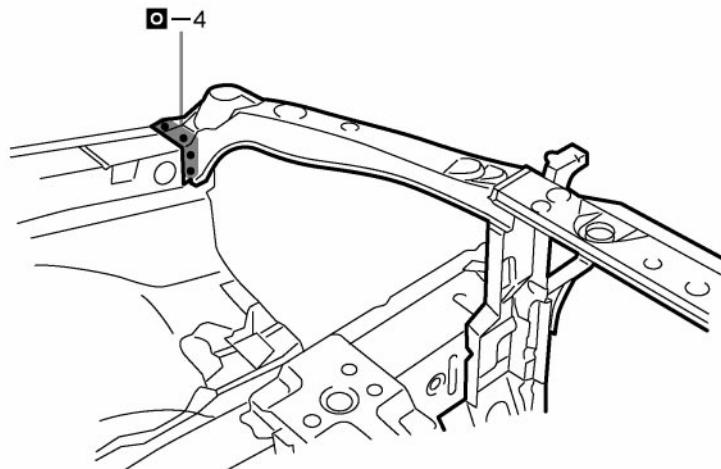
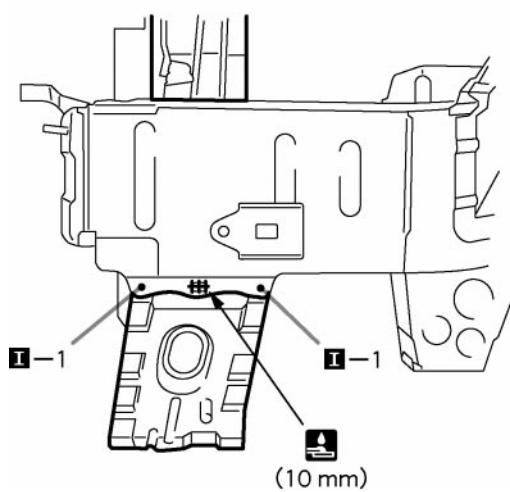
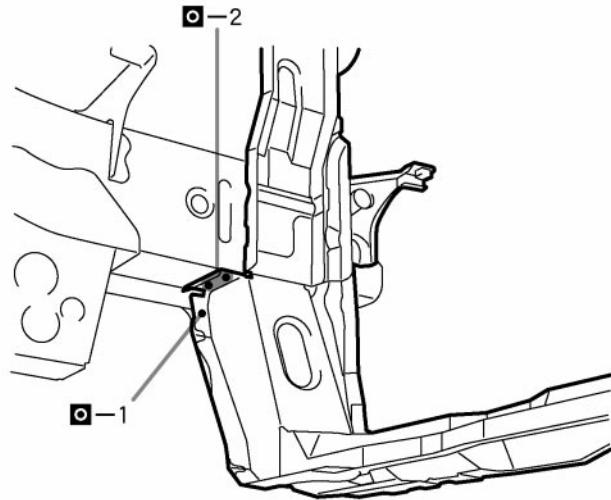
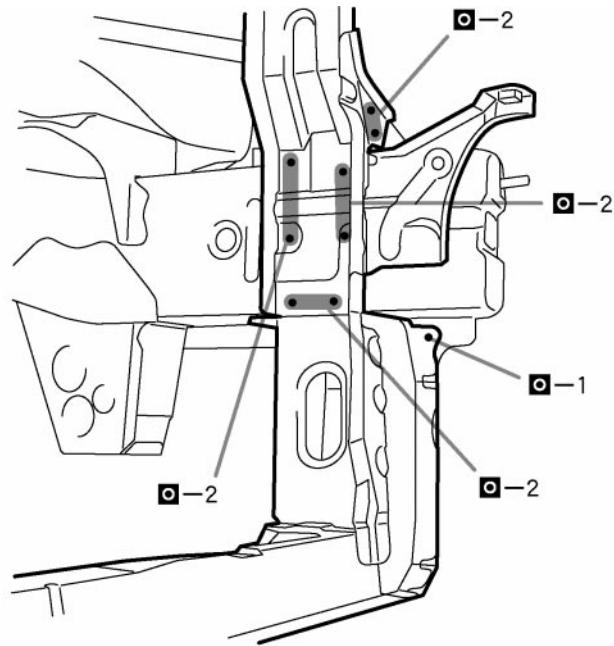
F22074A

**REMOVAL**

F22074

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22075

**POINT**

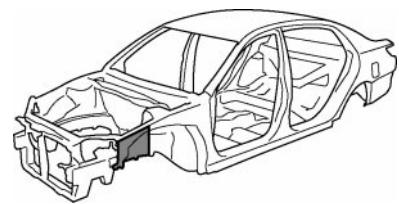
- 1 Inspect the fitting of the headlight, front fender and hood, etc., before welding, since this affects the appearance of the finish.

10 mm (0.39 in.)

## FRONT FENDER FRONT APRON (ASSY)

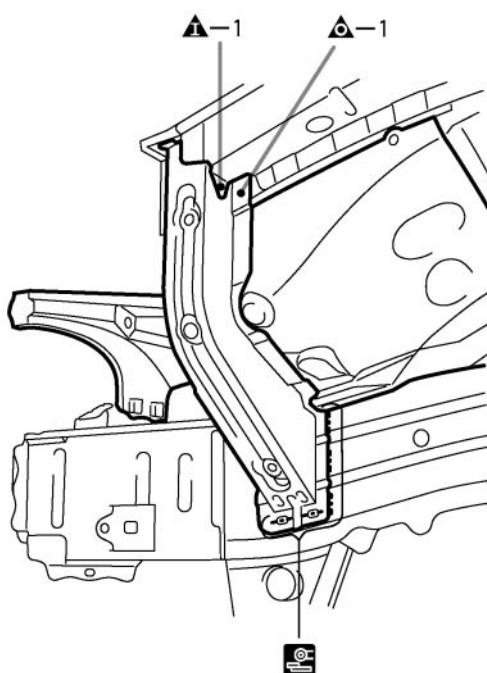
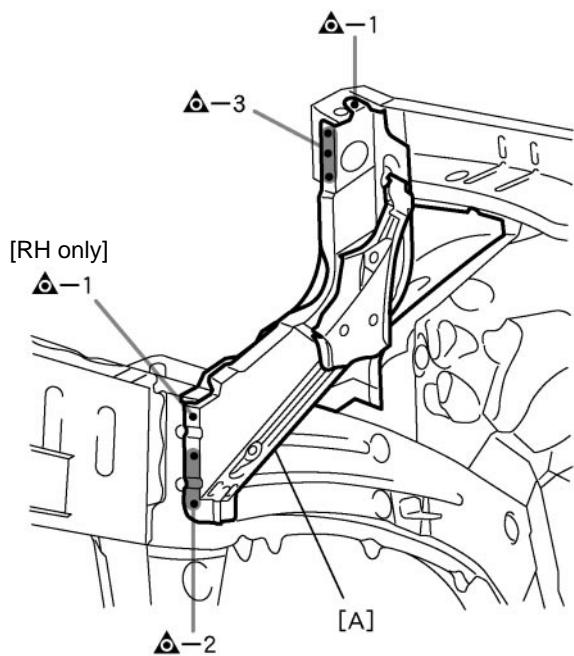
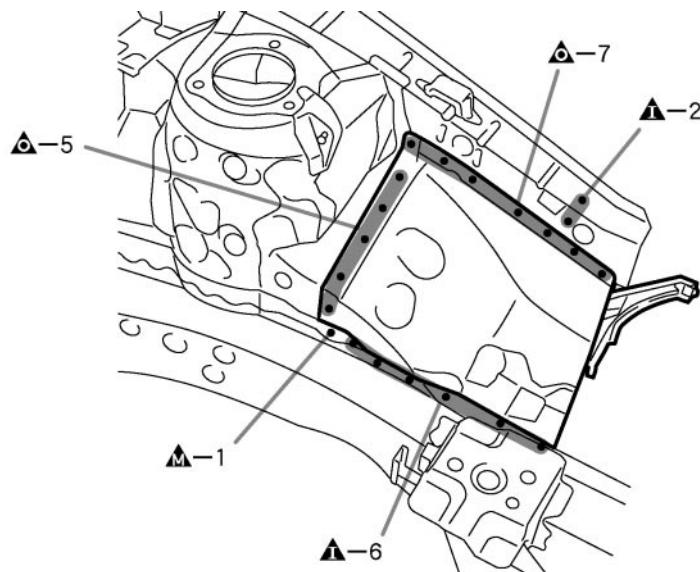
### REPLACEMENT

With the radiator upper support removed.



F22076A

### REMOVAL



F22076

### POINT

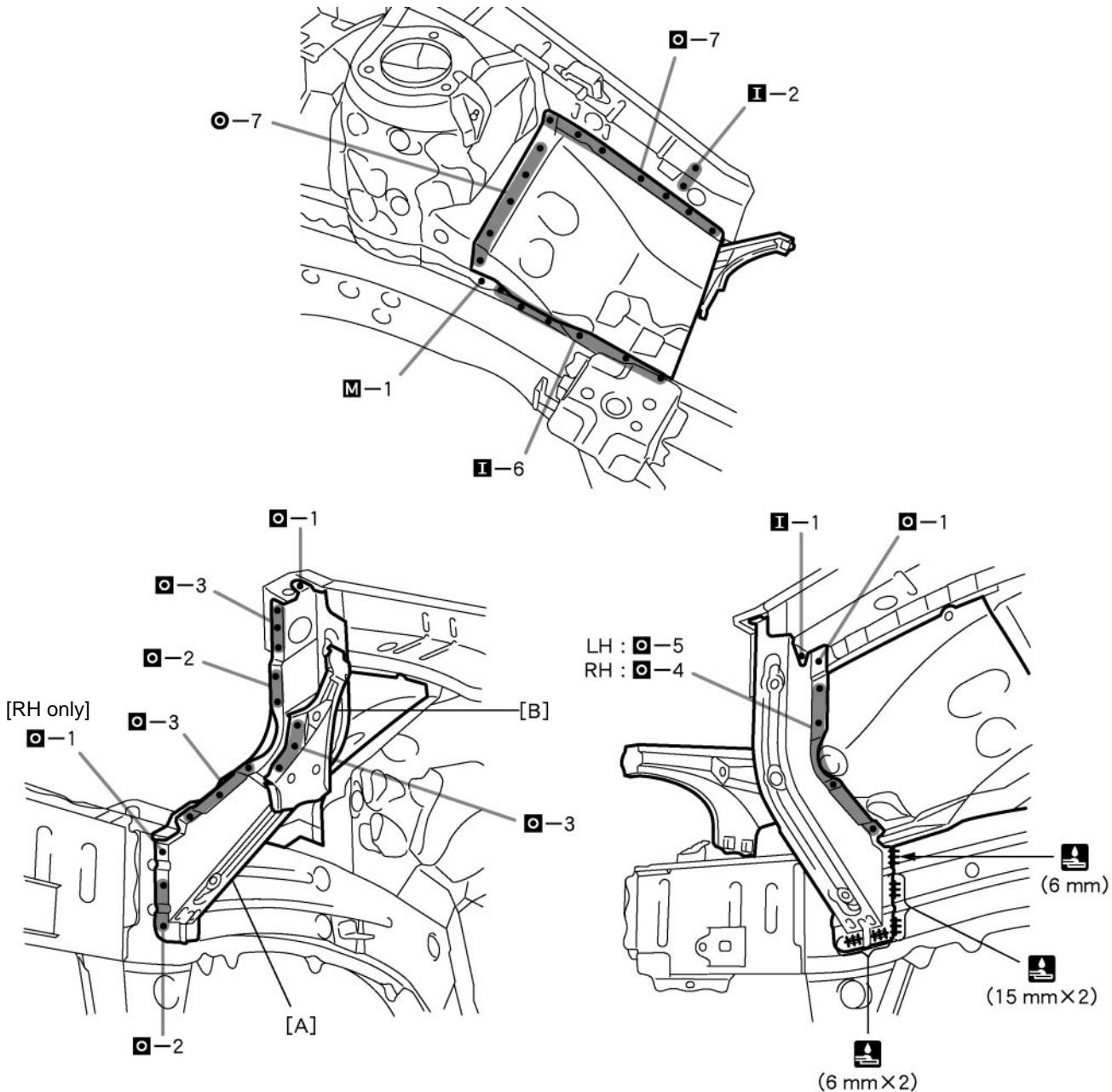
- 1 Remove the [A] at the same time.

### PART NAME

[A] Front Fender Apron Front Extension

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22077

**PART NAME**

[A] Front Fender Apron Front Extension      [B] Fender Apron Plate

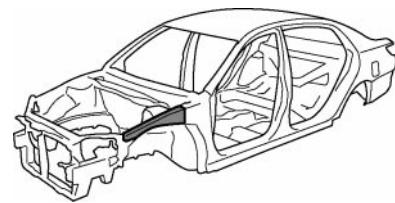
6 mm (0.24 in.)

15 mm (0.59 in.)

## FRONT APRON TO COWL SIDE UPPER MEMBER (ASSY)

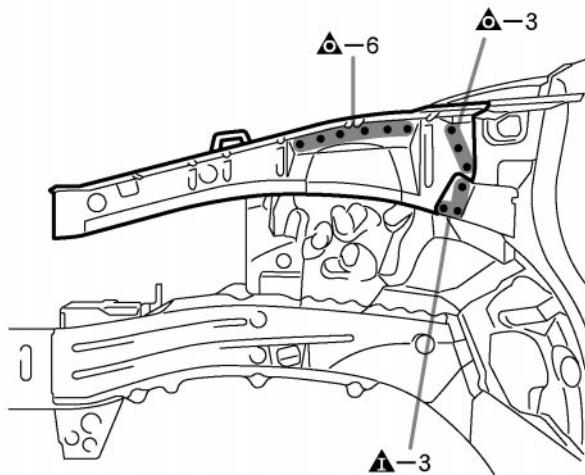
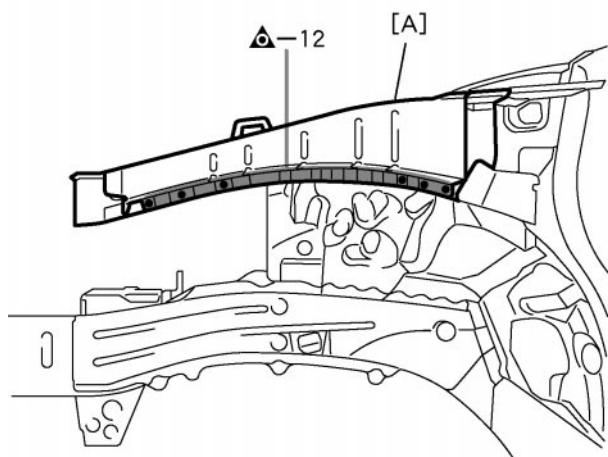
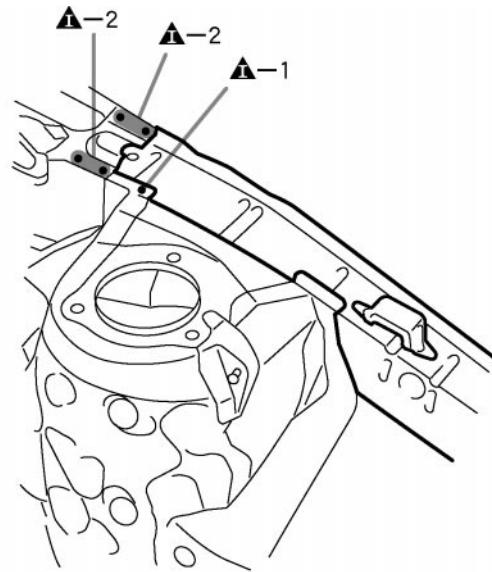
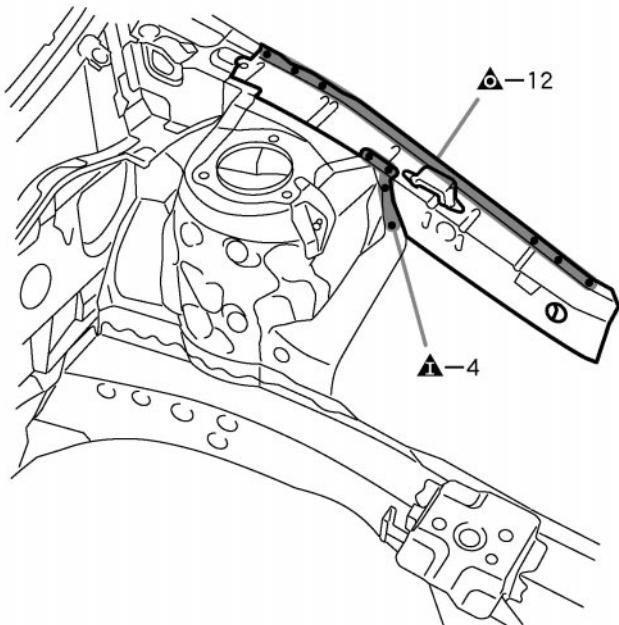
### REPLACEMENT

With the front fender front apron and front body pillar lower gusset removed.



F22078A

### REMOVAL



F22078

### POINT

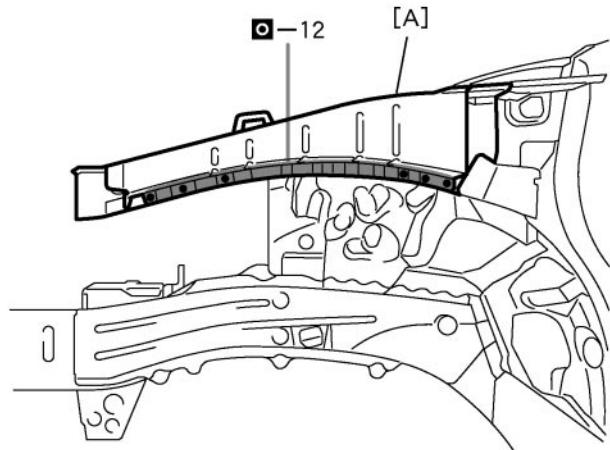
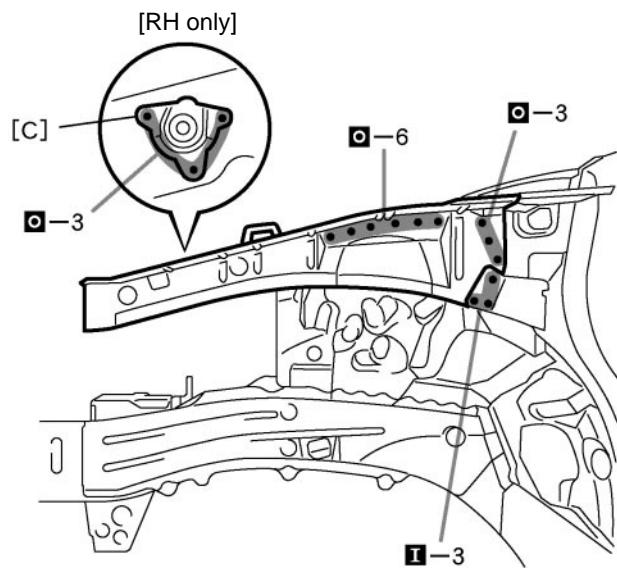
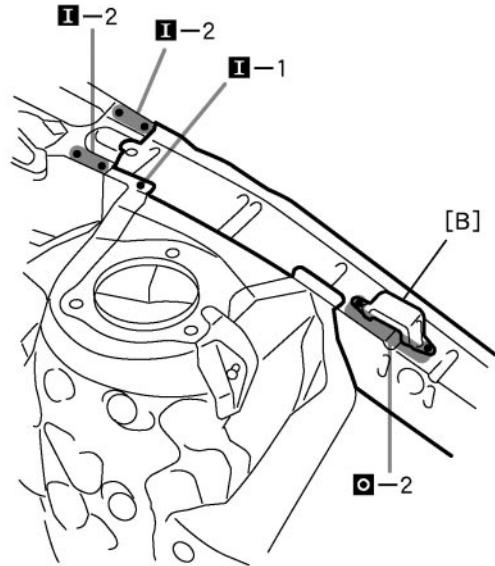
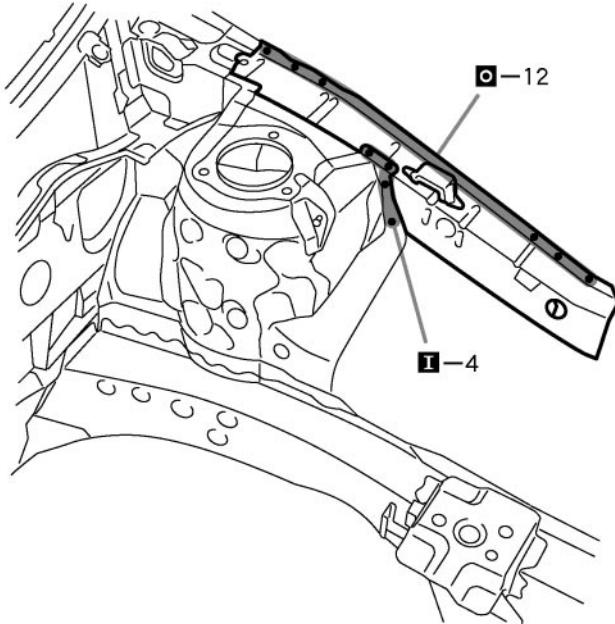
- 1 After remove the [A], remove the front apron to cowl side upper member.

### PART NAME

[A] Front Apron To Cowl Side Lower Front Member

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22079

**POINT**

- 1 Inspect the fitting of the front fender and hood, etc., before welding, since this affects the appearance of the finish.

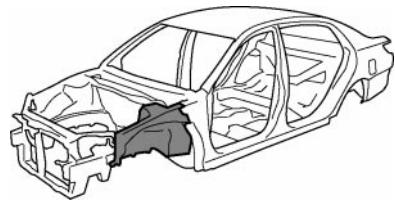
**PART NAME**

- [A] Front Apron To Cowl Side Lower Front Member      [B] Front Fender Rear Bracket  
 [C] Fender Apron Bracket

## FRONT FENDER APRON (ASSY)

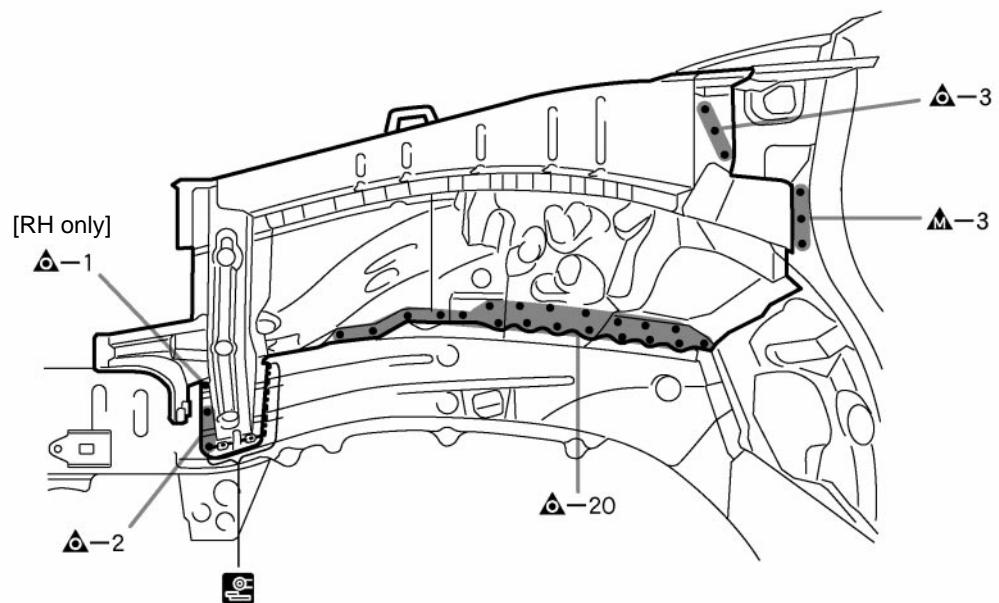
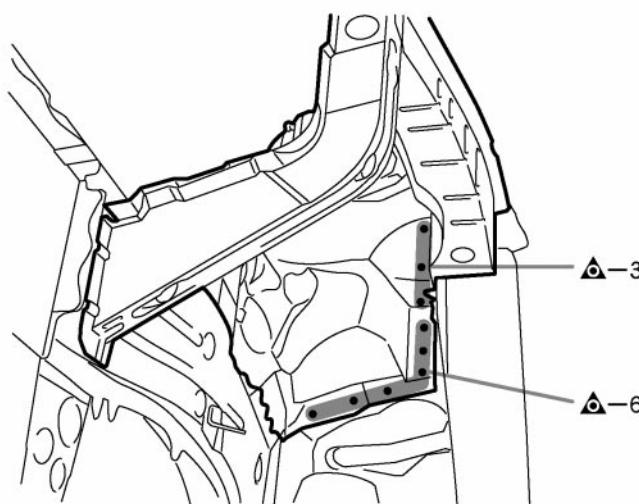
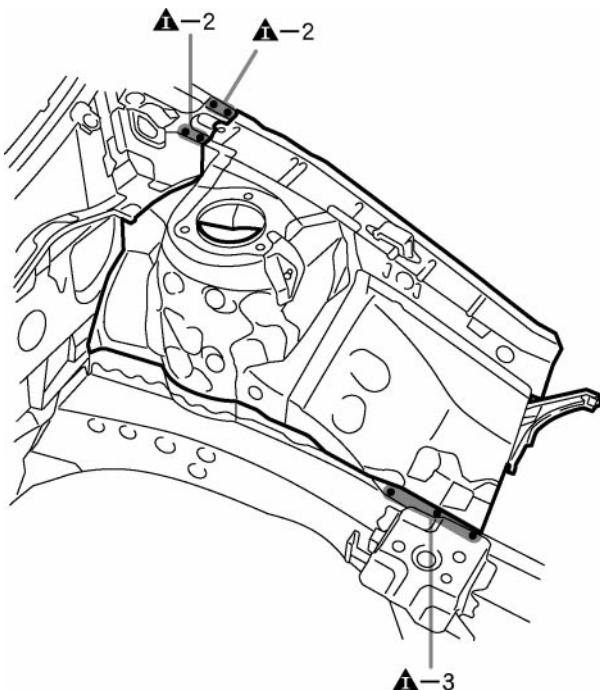
### REPLACEMENT

With the radiator upper support and front body pillar lower gusset removed.



F22080A

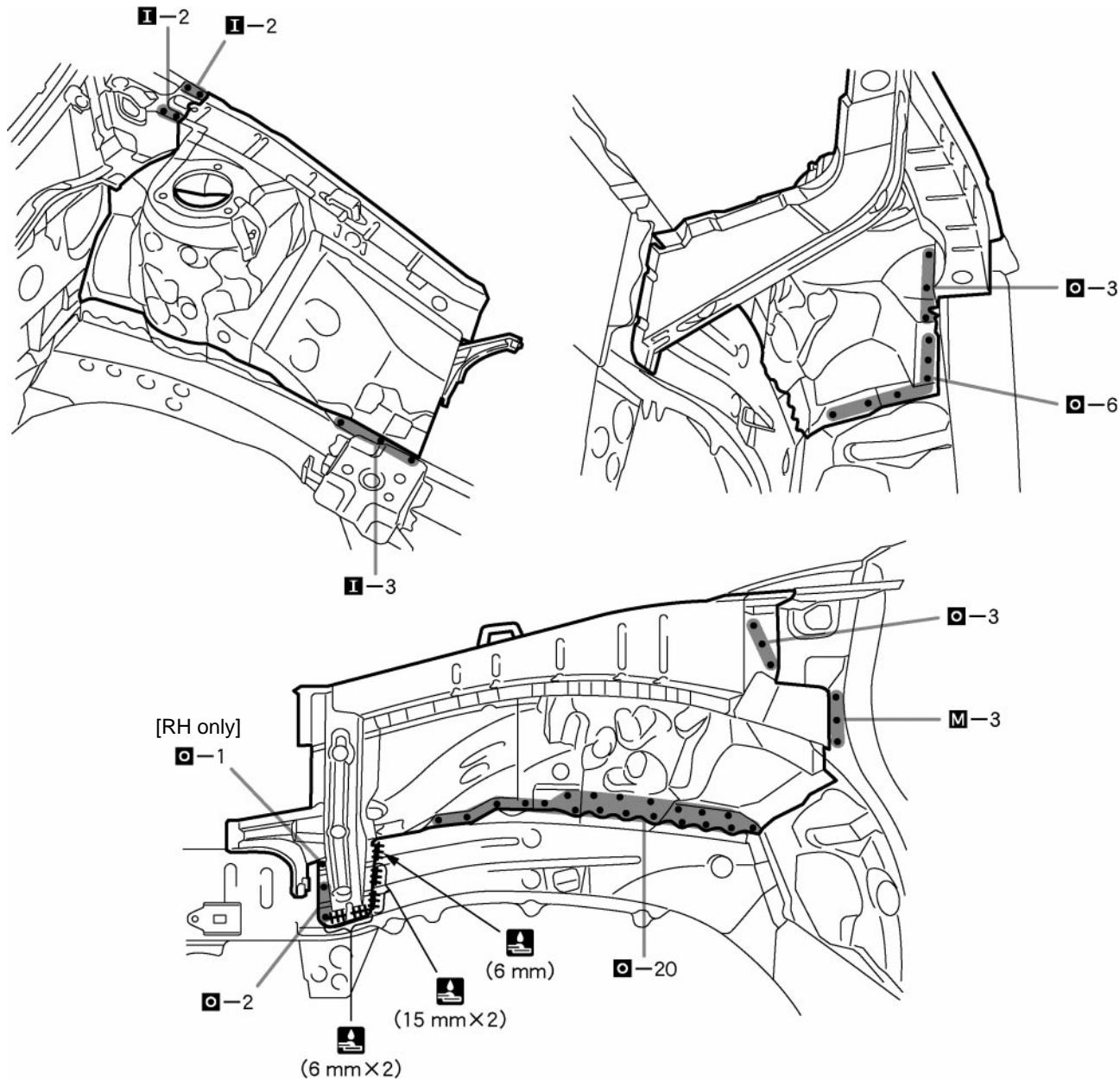
### REMOVAL



F22080

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22081

**POINT**

- 1 Inspect the fitting of the front fender and hood, etc., before welding, since this affects the appearance of the finish.
- 2 Make sure each measurement is correct, as this part affects the front wheel alignment.

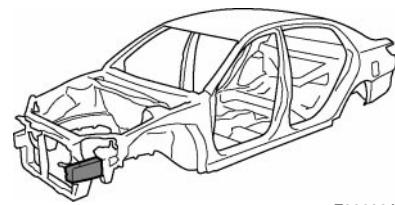
6 mm (0.24 in.)

15 mm (0.59 in.)

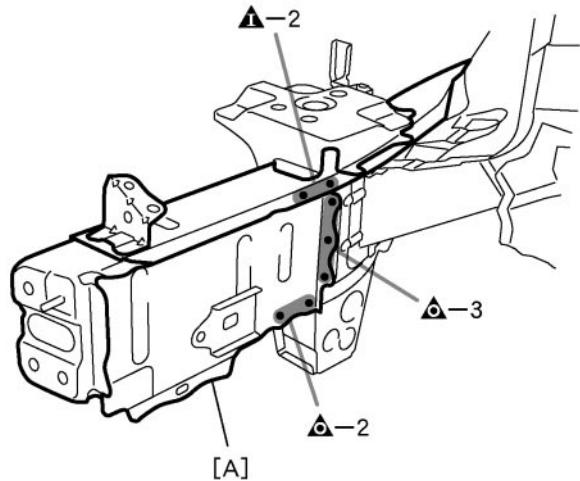
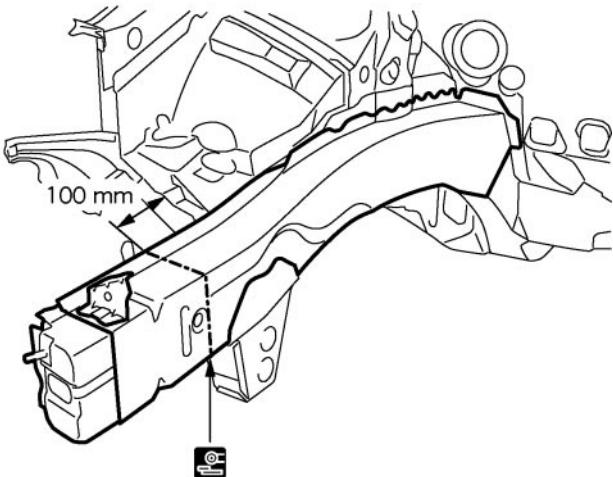
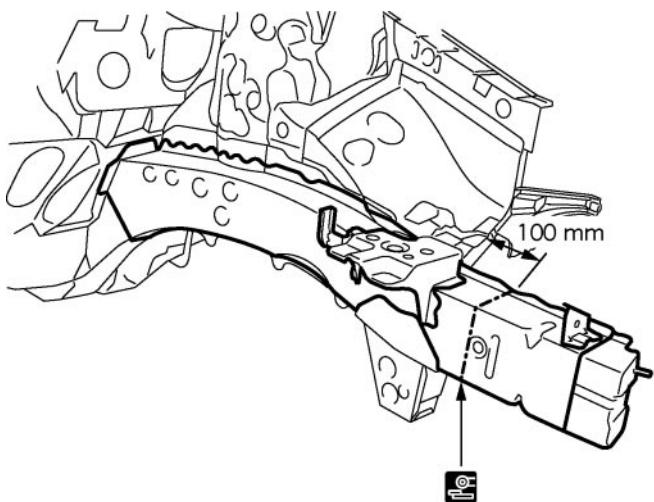
## FRONT SIDEMEMBER (CUT-P)

### REPLACEMENT

With the radiator side support and front crossmember removed.



### REMOVAL



F22082

### POINT

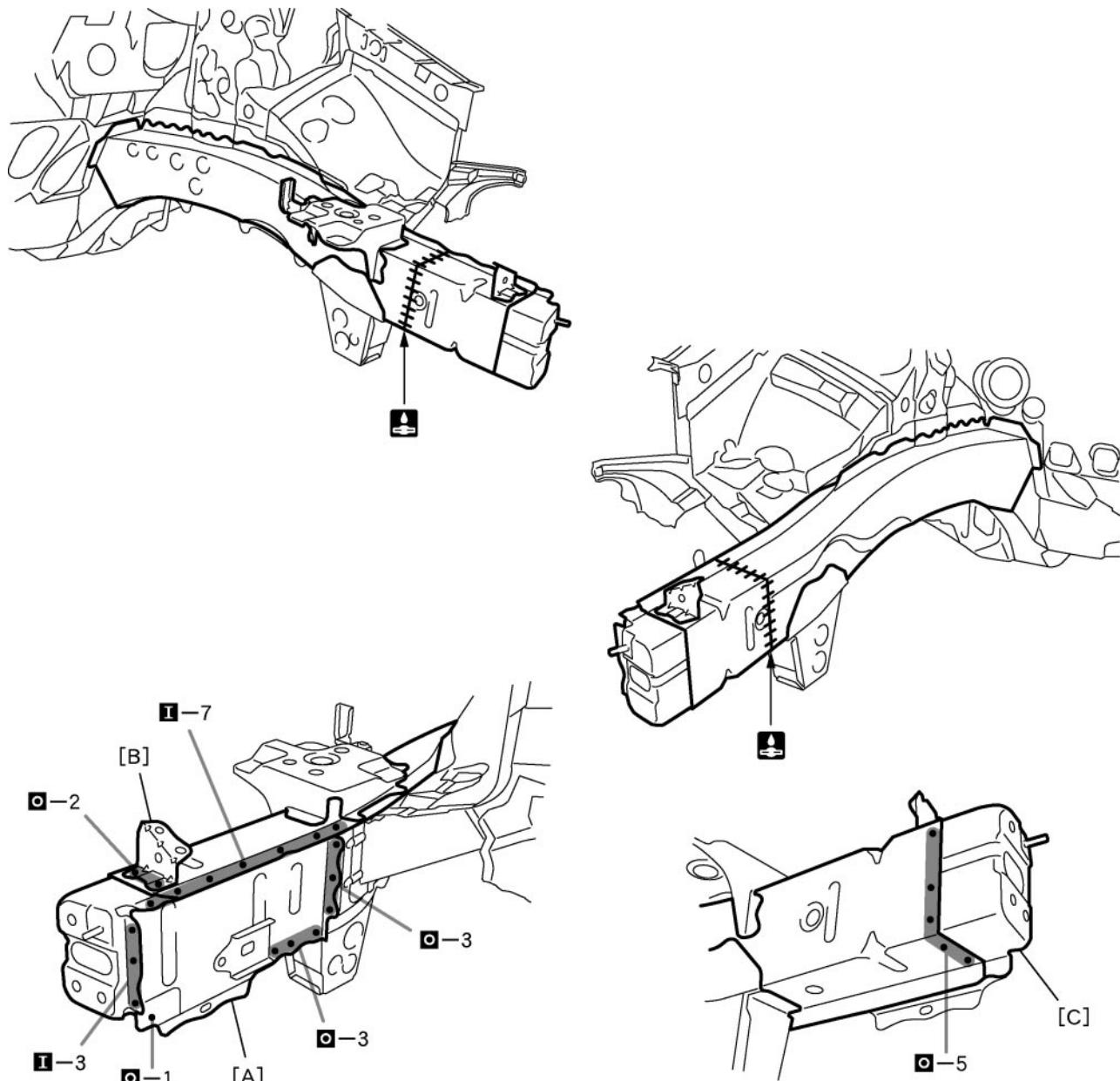
- 1 Remove the [A] at the same time.

### PART NAME

[A] Front Sidemember No.2 Plate  
100 mm (3.94 in.)

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22083

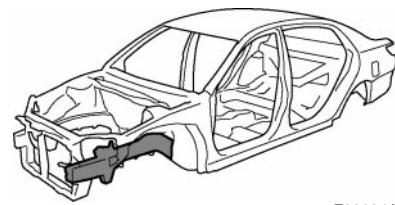
**PART NAME**

- [A] Front Sidemember No.2 Plate    [B] Front Crossmember Side Gusset  
 [C] Front Bumper Mounting Reinforcement

## FRONT SIDEMEMBER (CUT-H)

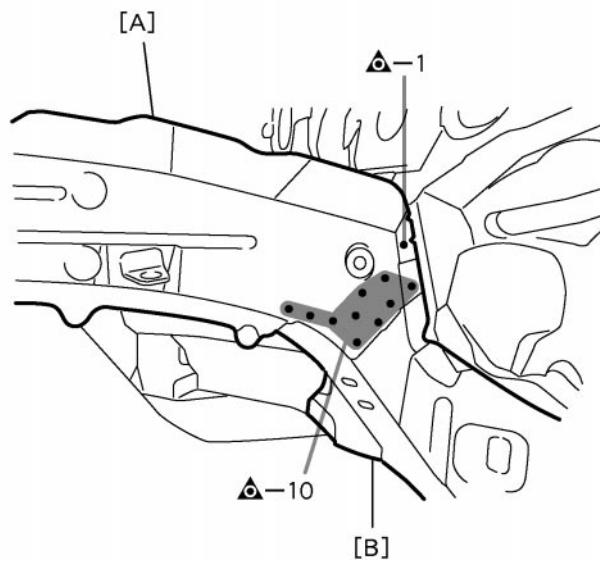
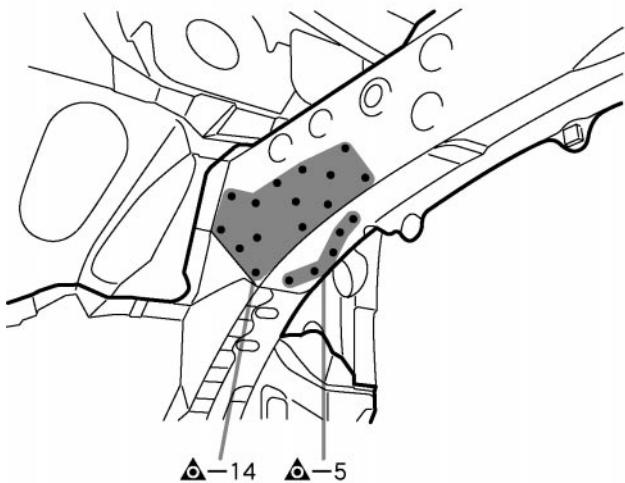
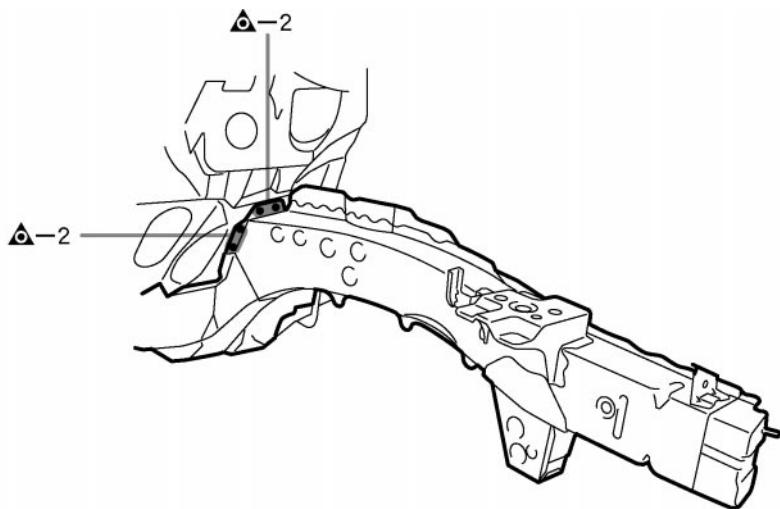
### REPLACEMENT

With the radiator side support, front crossmember and front fender apron removed.



F22084A

### REMOVAL



F22084

### POINT

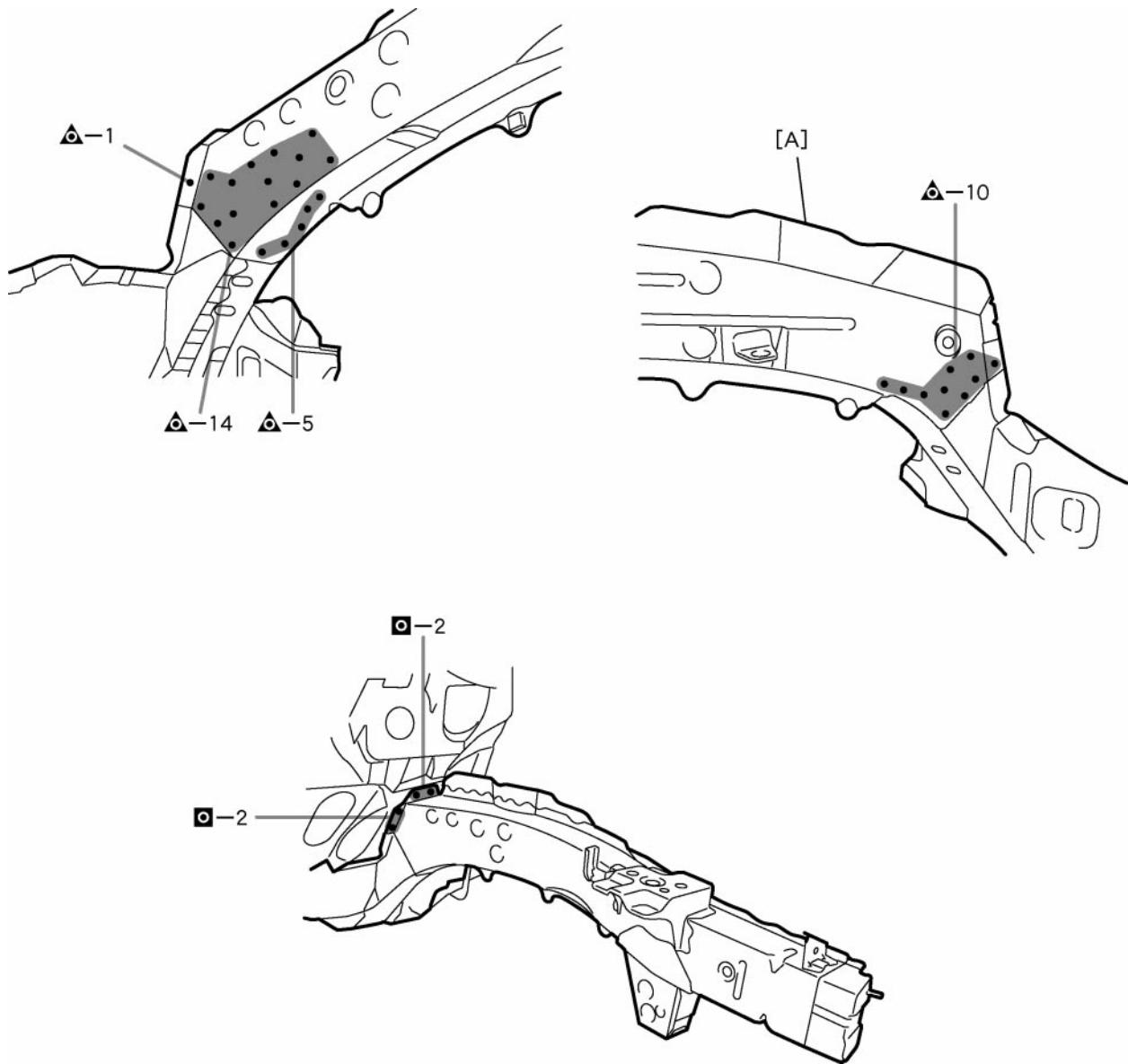
- 1 Separate the front sidemember, [A] and [B] at the welded part, and remove the front sidemember.

### PART NAME

[A] Front Sidemember Outer Plate      [B] Front Side Inner Rear Member

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



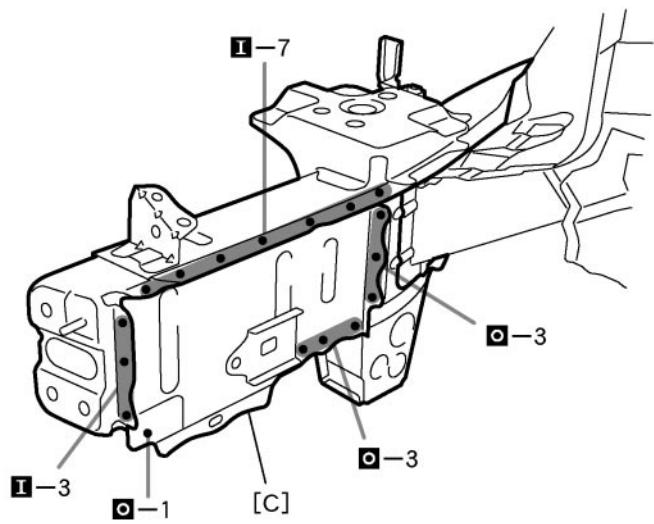
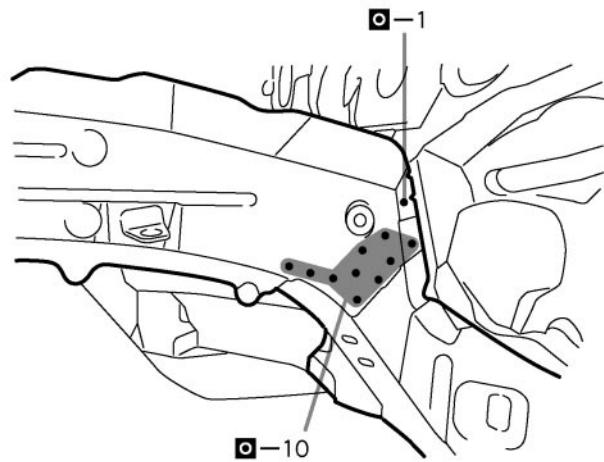
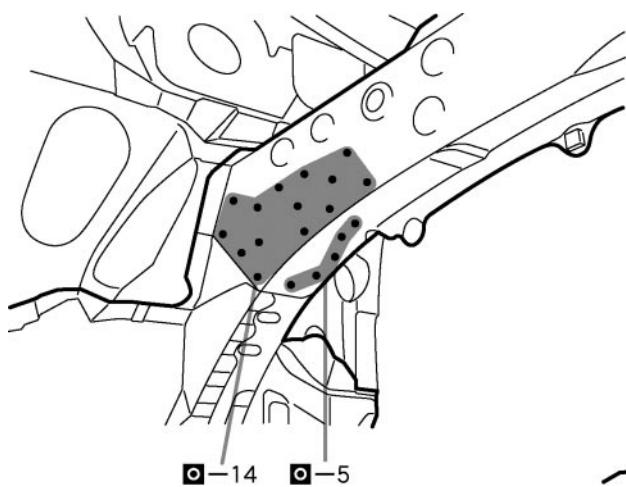
F22085

**POINT**

- 1 Remove the front sidemember and **[A]** from the new parts of front sidemember assembly.

**PART NAME**

**[A]** Front Sidemember Outer Plate



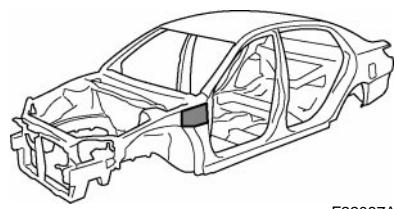
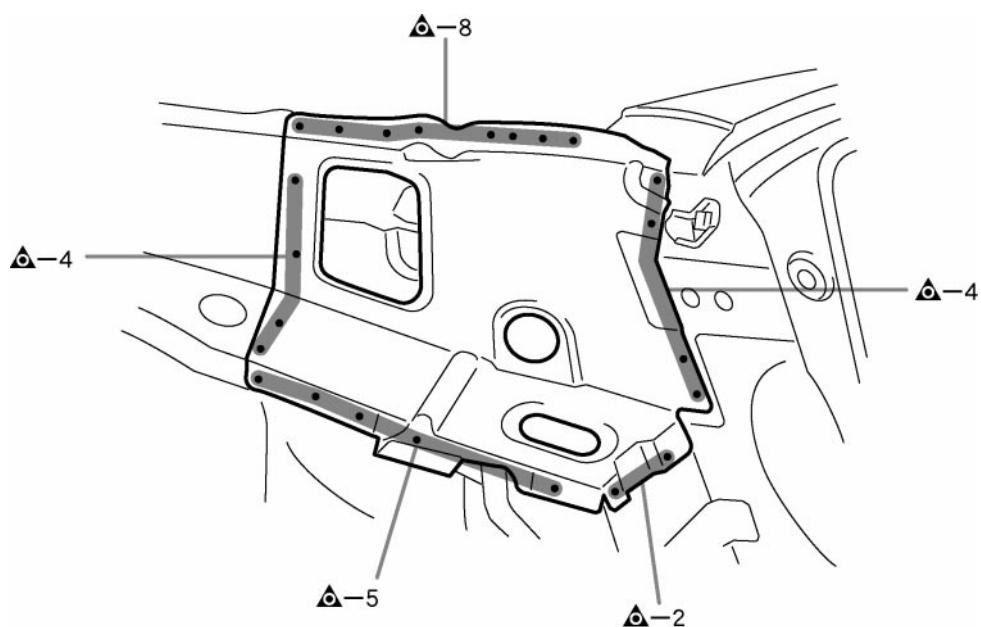
F22086

**POINT**

1 Make sure each measurement is correct as this parts affects the front wheel alignment.

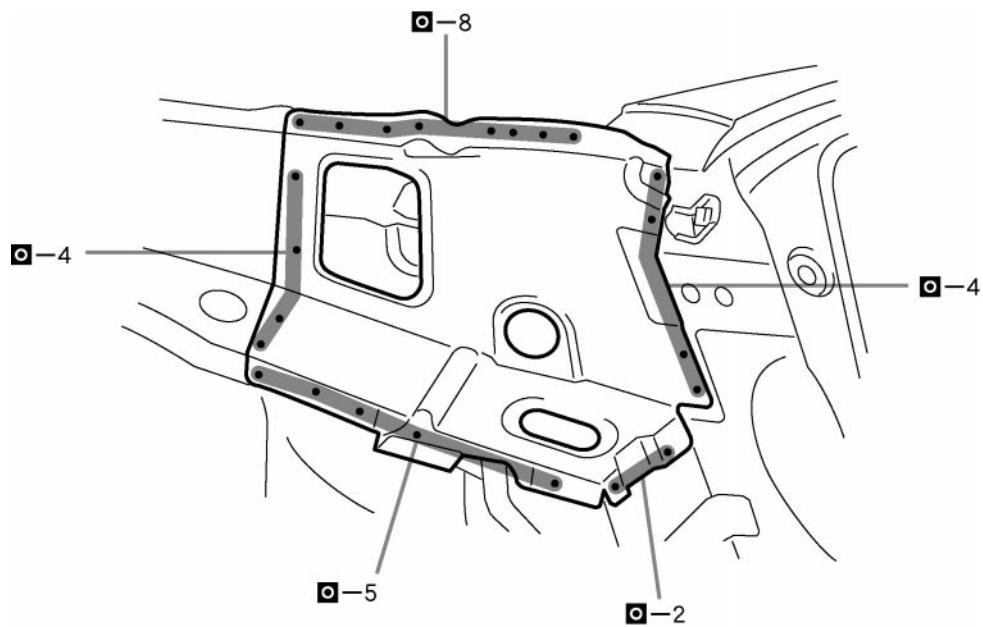
**PART NAME**

[C] Front Sidemember No.2 Plate

**FRONT BODY PILLAR LOWER GUSSET  
(ASSY)****REPLACEMENT****REMOVAL**

**INSTALLATION**

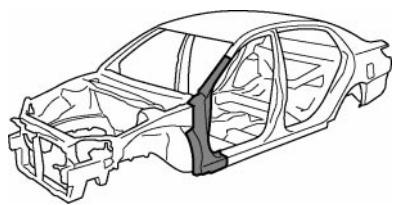
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



## FRONT BODY PILLAR (CUT)

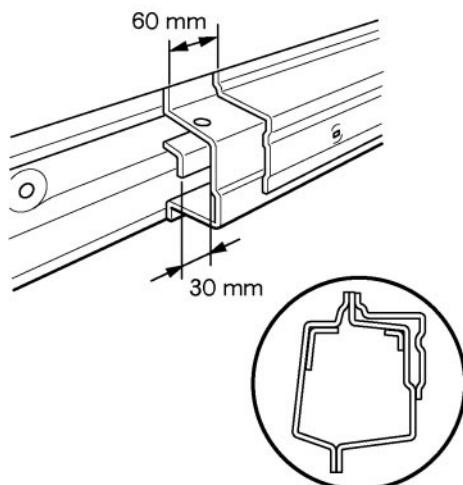
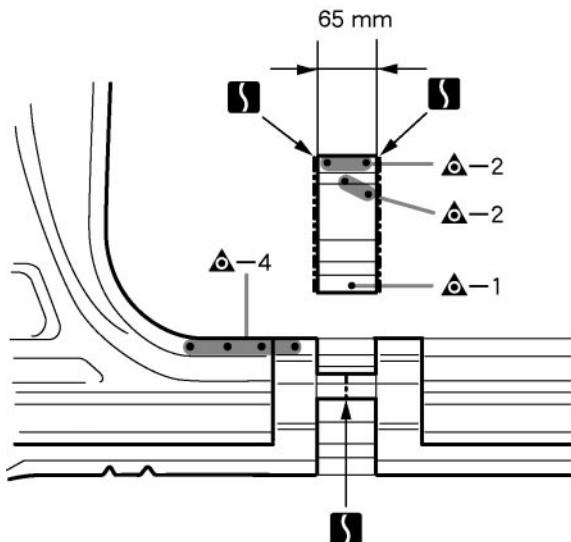
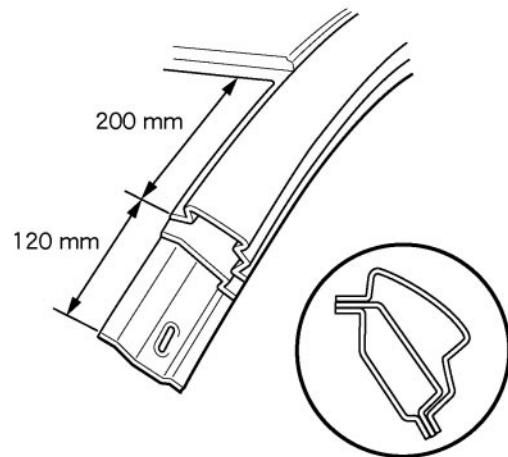
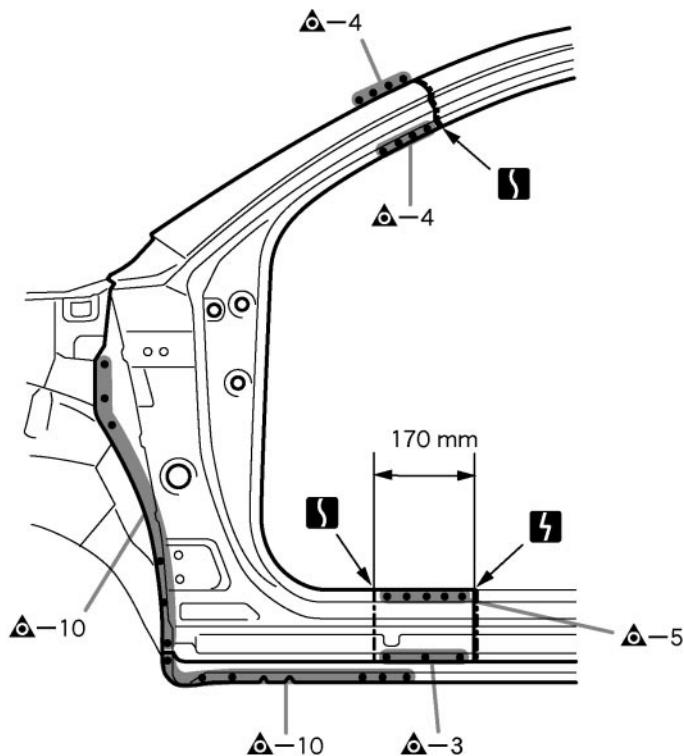
### REPLACEMENT

With the front body pillar lower gusset removed.



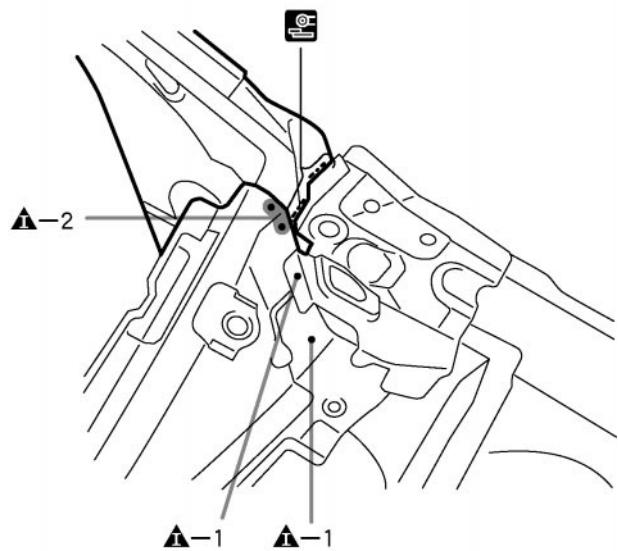
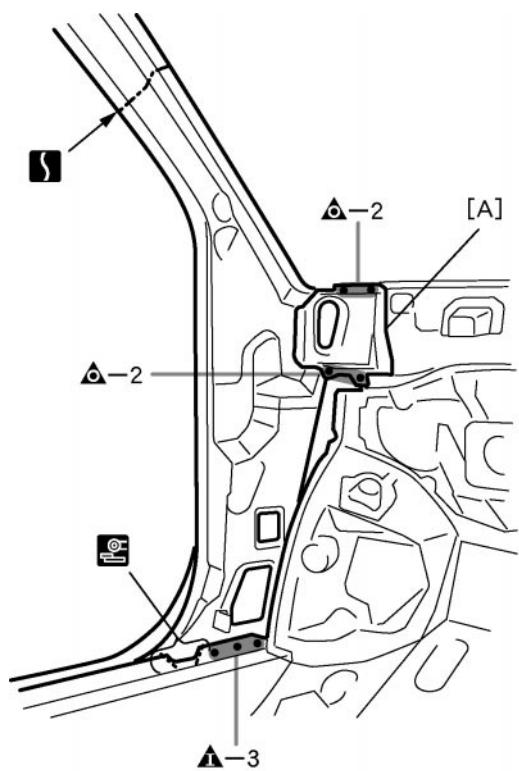
F22089A

### REMOVAL



F22089

30 mm (1.18 in.) 60 mm (2.36 in.) 65 mm (2.56 in.) 120 mm (4.72 in.) 170 mm (6.69 in.) 200 mm (7.87 in.)



F22090

**POINT**

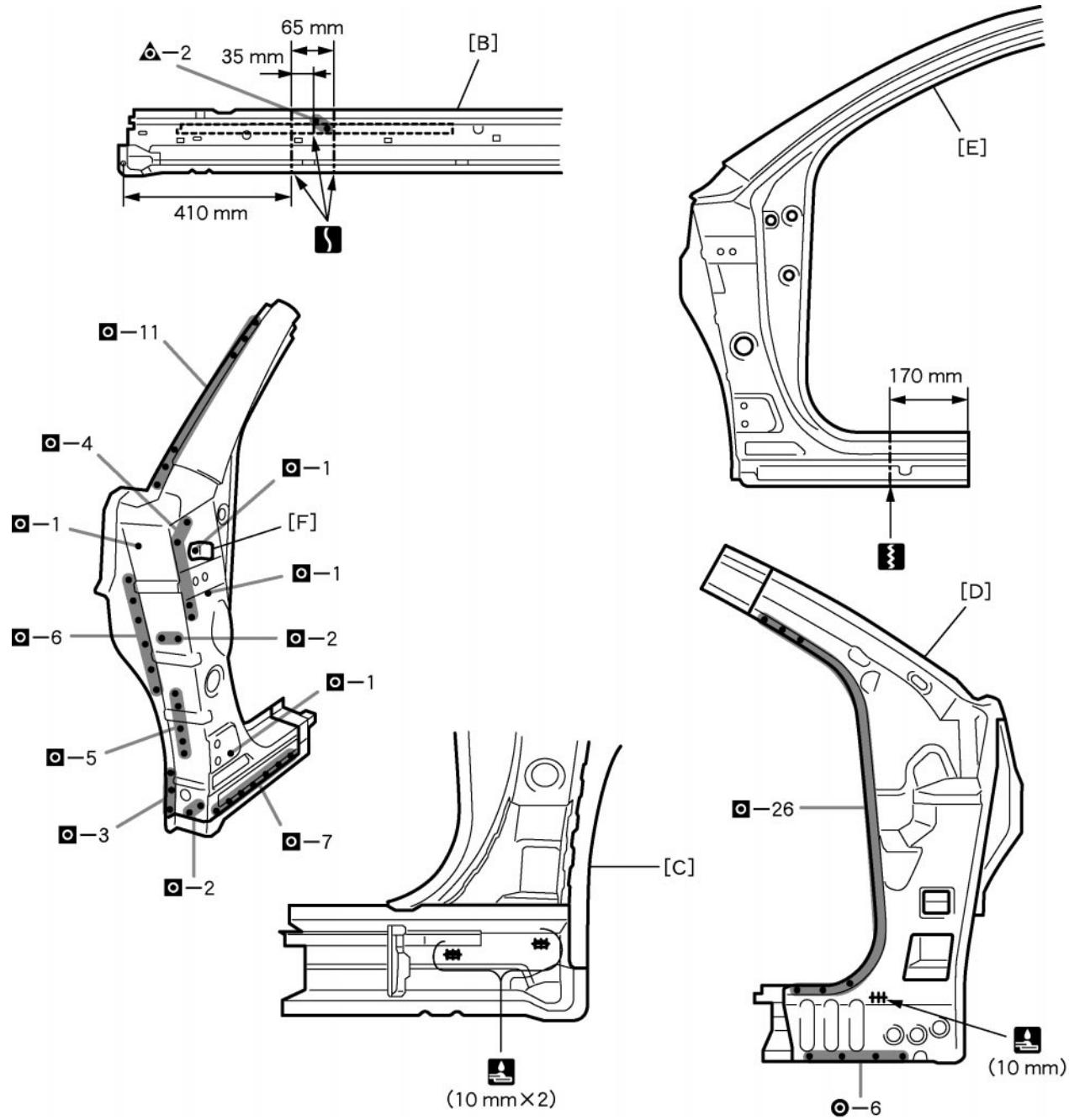
1 Remove the [A] at the same time.

**PART NAME**

[A] Front Piller Upper Corner Gusset

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22091

**POINT**

- 1 Before temporarily installing the new parts, weld the [B], [C], [D] and [E] with standard points.

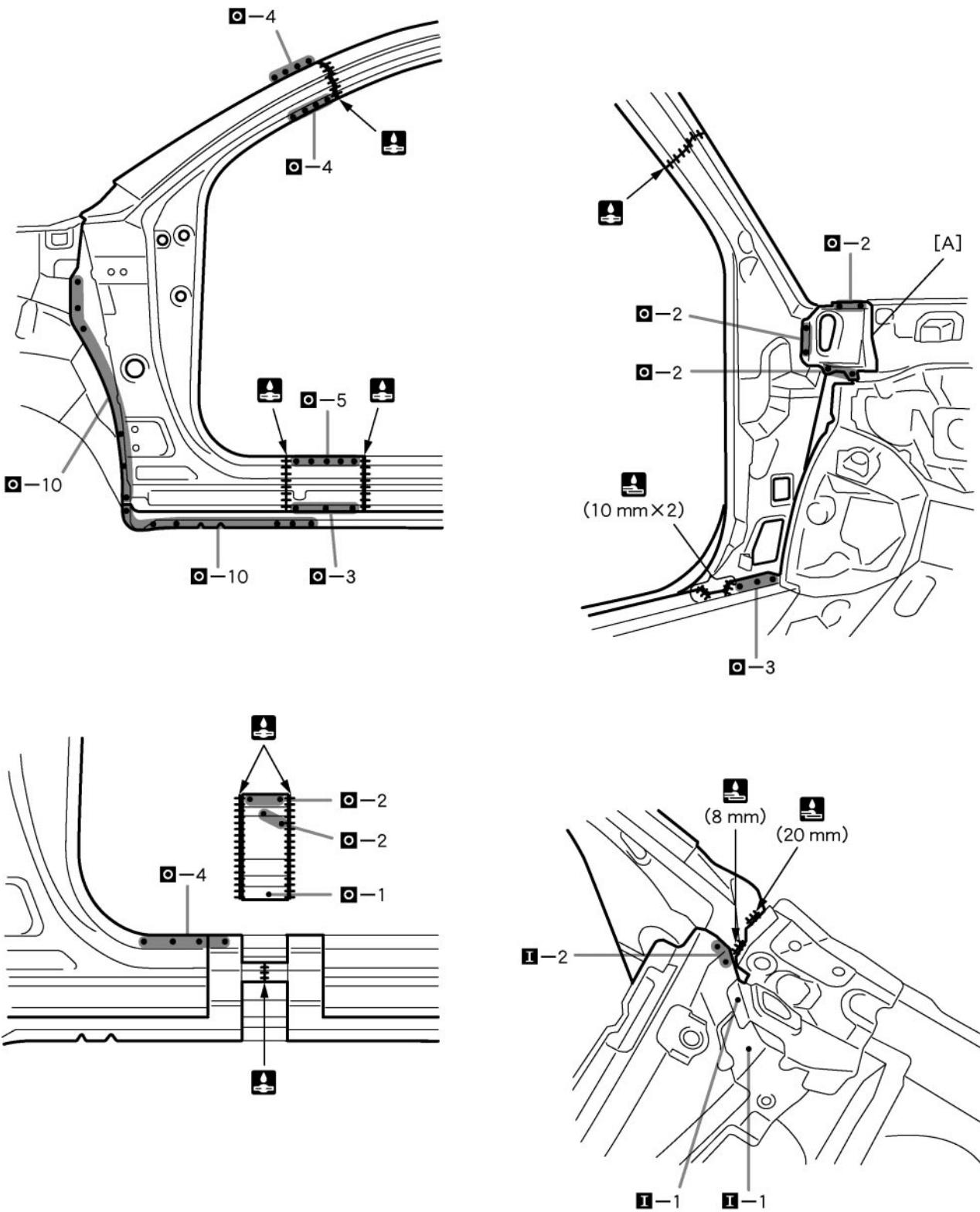
**PART NAME**

[B] Center Body Pillar Lower Reinforce	[C] Front Body Pillar Lower Reinforce
[D] Cowl Side Panel	[E] Front Body Outer Pillar
10 mm (0.39 in.)	35 mm (1.38 in.)

65 mm (2.56 in.)

170 mm (6.69 in.)

410 mm (16.14 in.)



F22092

**POINT**

- 1 Inspect the fitting of the front door, front fender and windshield glass etc., before welding, since this affects the appearance of the finish.

**PART NAME**

[A] Front Piller Upper Corner Gusset

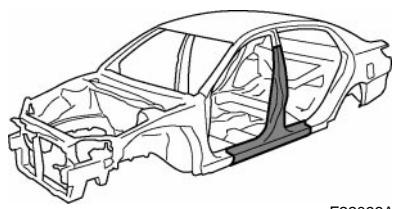
8 mm (0.31 in.)

10 mm (0.39 in.)

20 mm (0.79 in.)

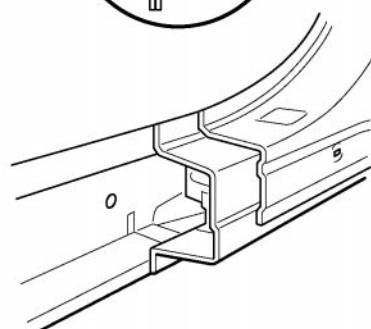
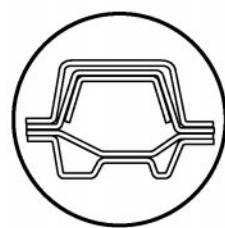
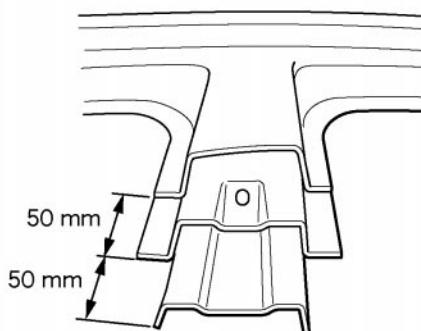
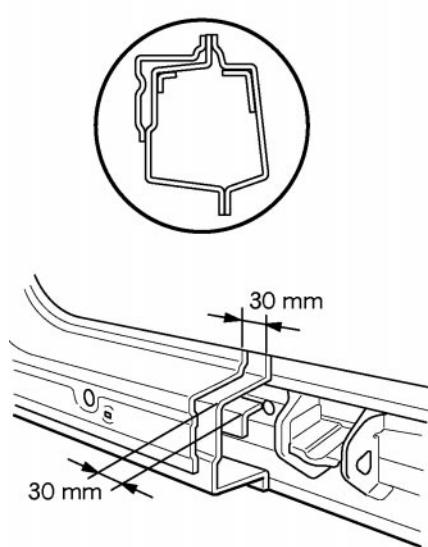
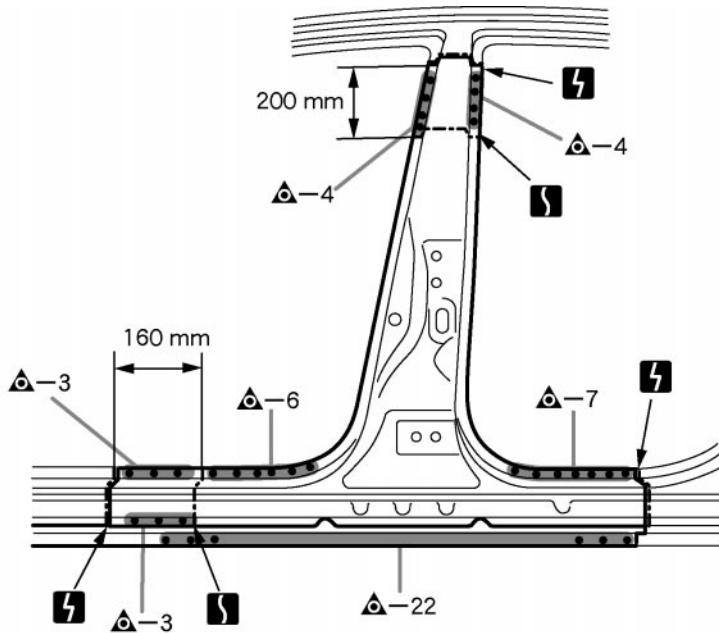
## CENTER BODY PILLAR (CUT)

### REPLACEMENT



F22093A

### REMOVAL



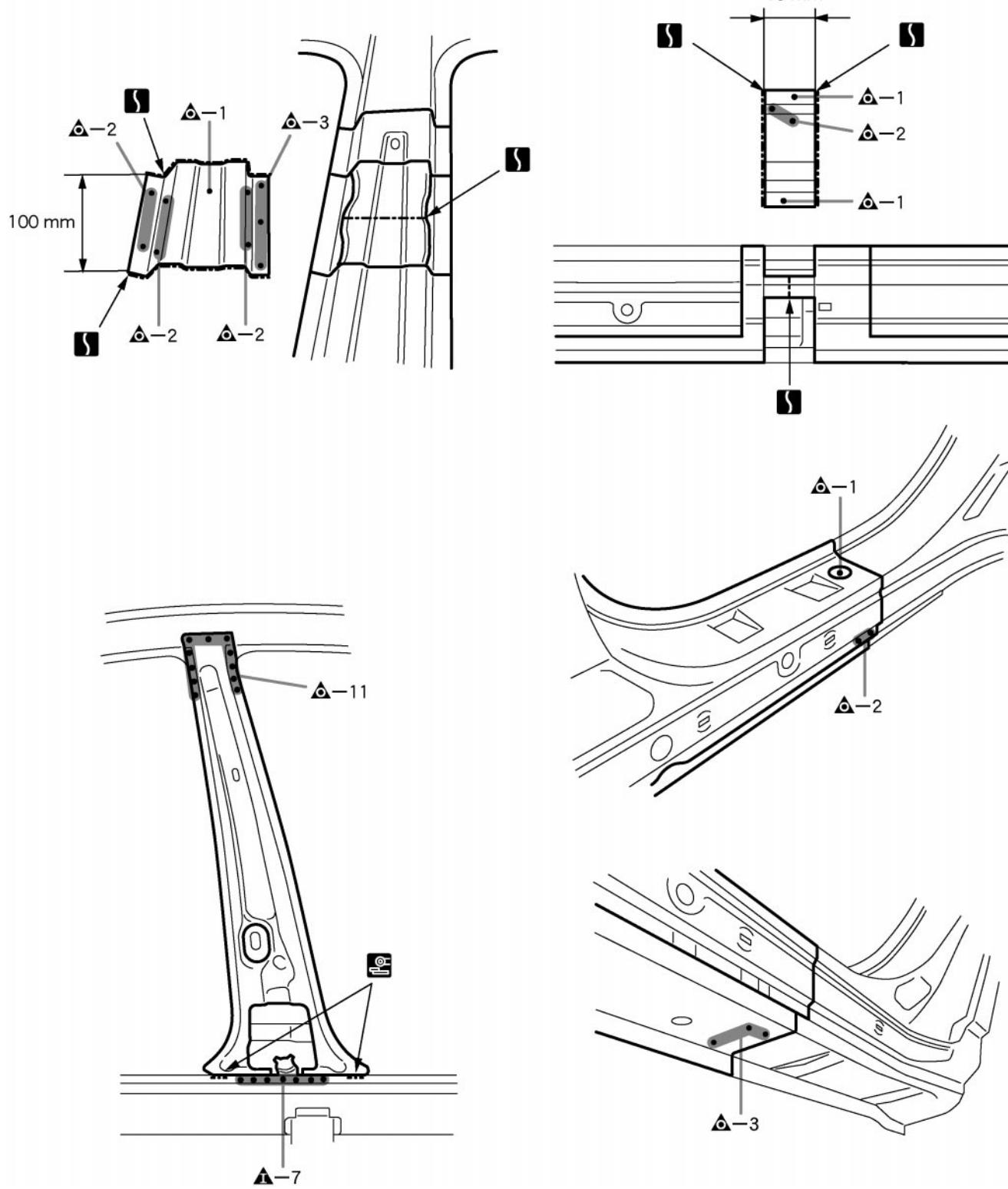
F22093

30 mm (1.18 in.)

50 mm (1.97 in.)

160 mm (6.30 in.)

200 mm (7.87 in.)



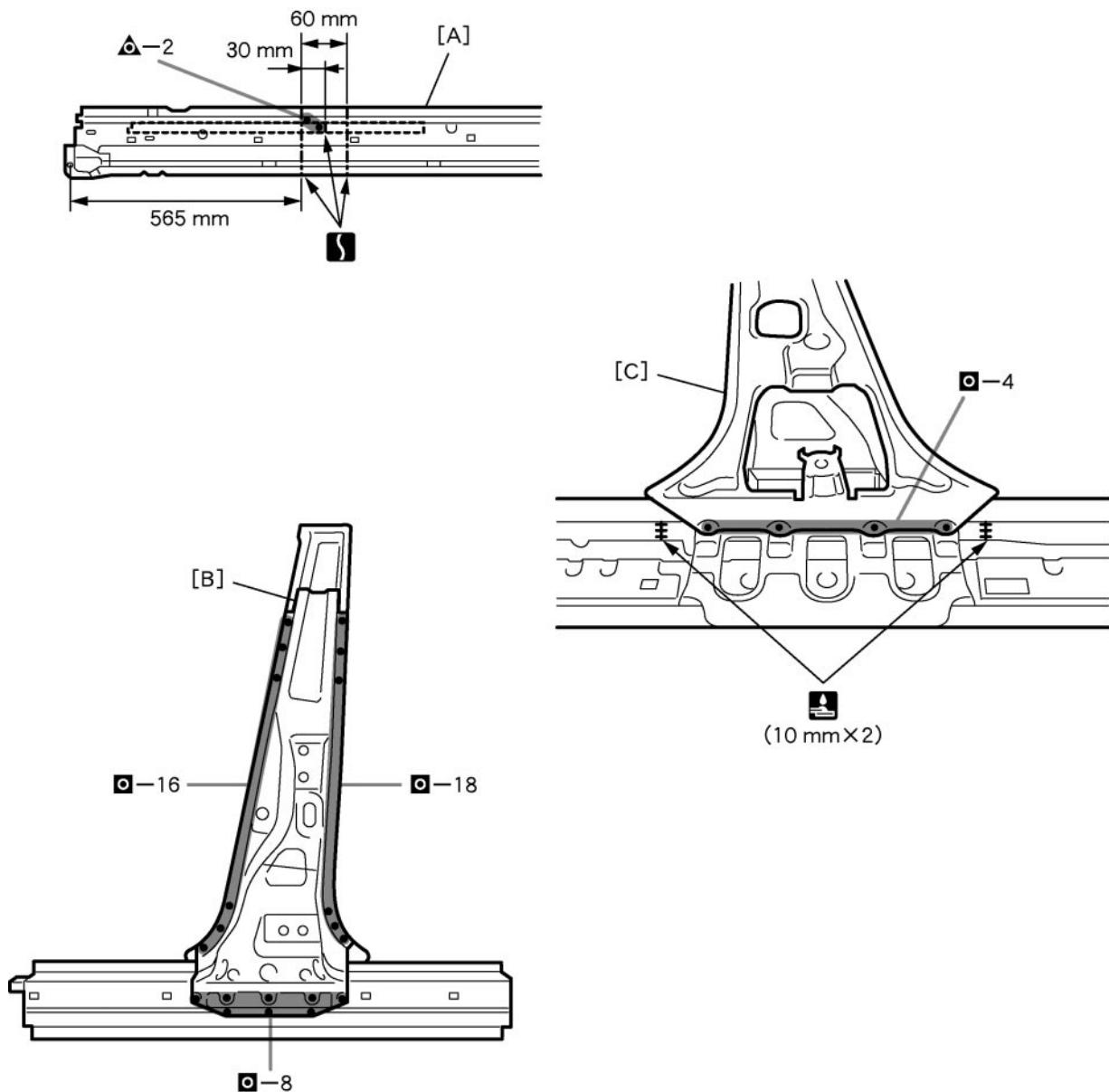
F22094

60 mm (2.36 in.)

100 mm (3.94 in.)

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22095

**POINT**

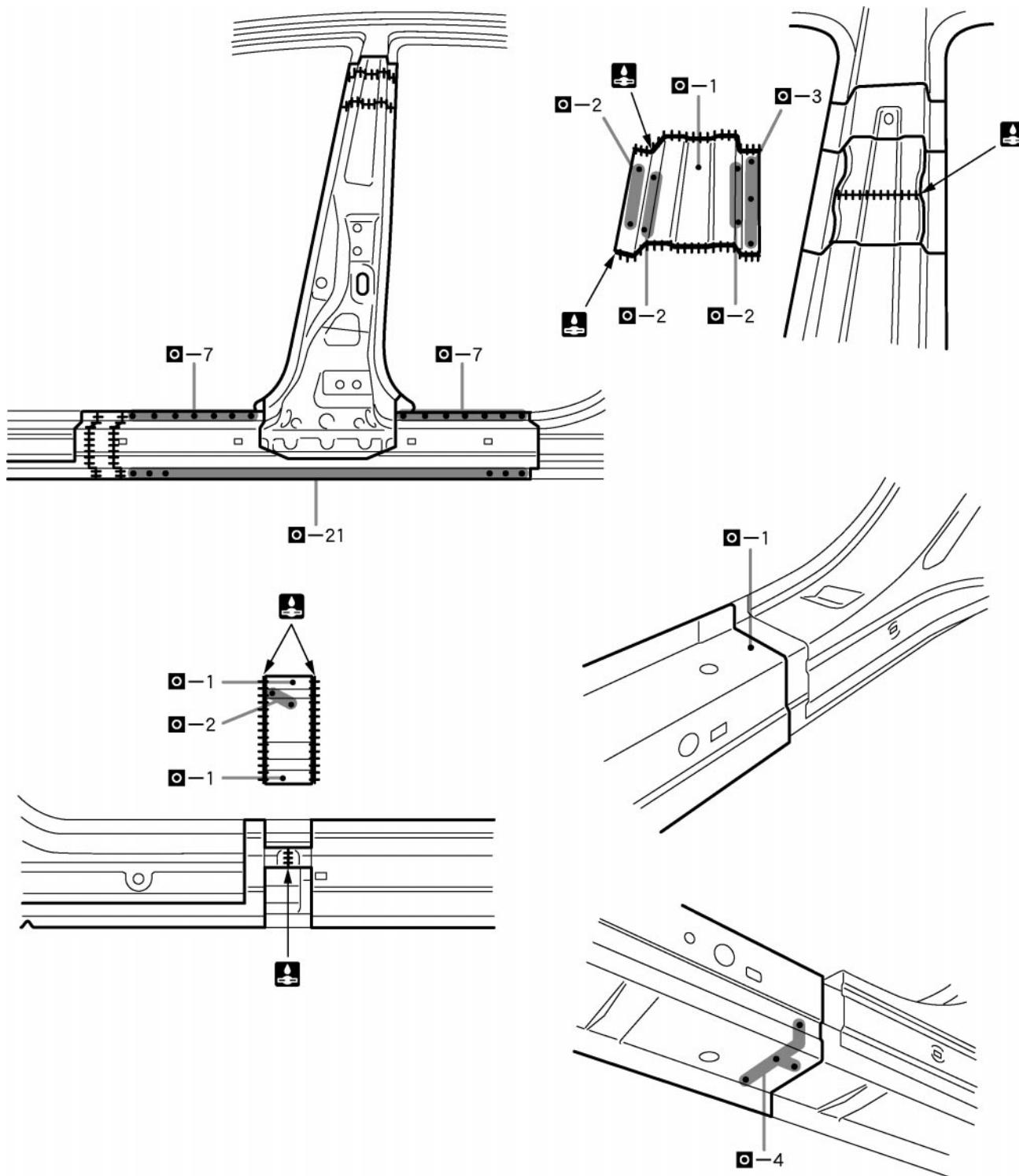
- 1 Before temporarily installing the new parts, weld the [A], [B] and [C] with standard points.

**PART NAME**

[A] Center Body Pillar Lower Reinforce  
 [C] Center Body Inner Pillar

[B] Center Body Pillar Upper Reinforce

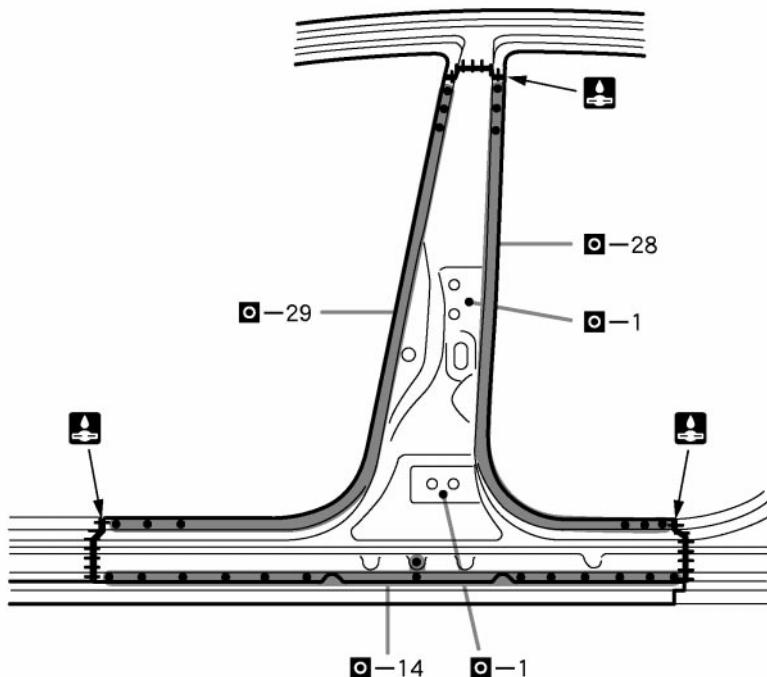
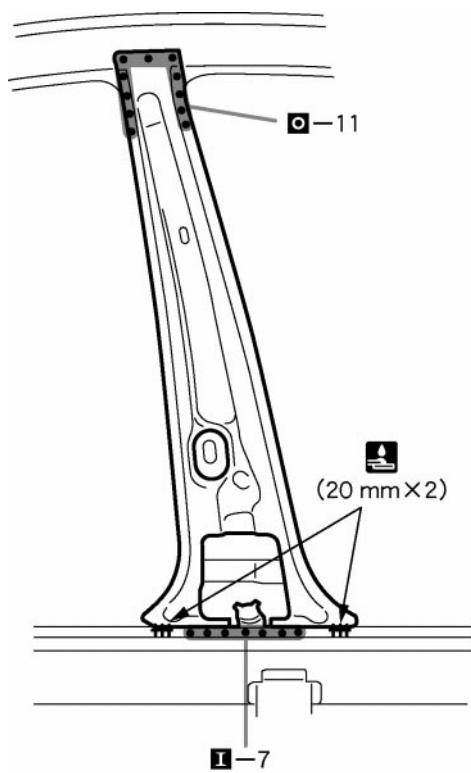
10 mm (0.39 in.)      30 mm (1.18 in.)      60 mm (2.36 in.)      565 mm (22.24 in.)



F22096

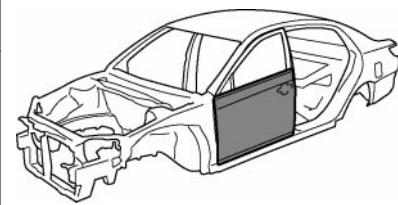
**POINT**

- 1 Inspect the fitting of the front door and rear door, etc., before welding, since this affects the appearance of the finish.
- 2 After welding the reinforcement to the vehicle side, install the outer panel.

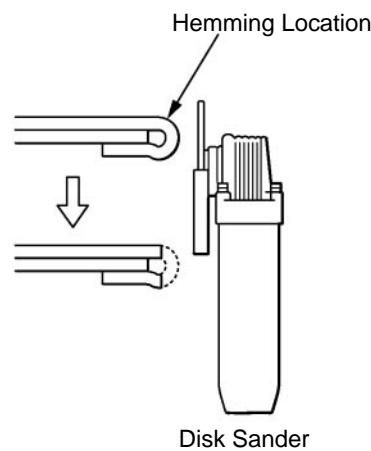
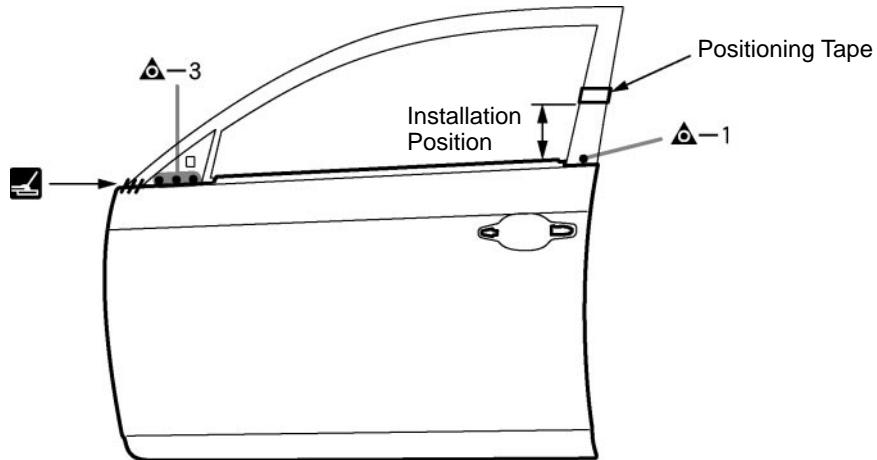


F22097

20 mm (0.79 in.)

**FRONT DOOR OUTER PANEL (ASSY)****REPLACEMENT**

F22098A

**REMOVAL**

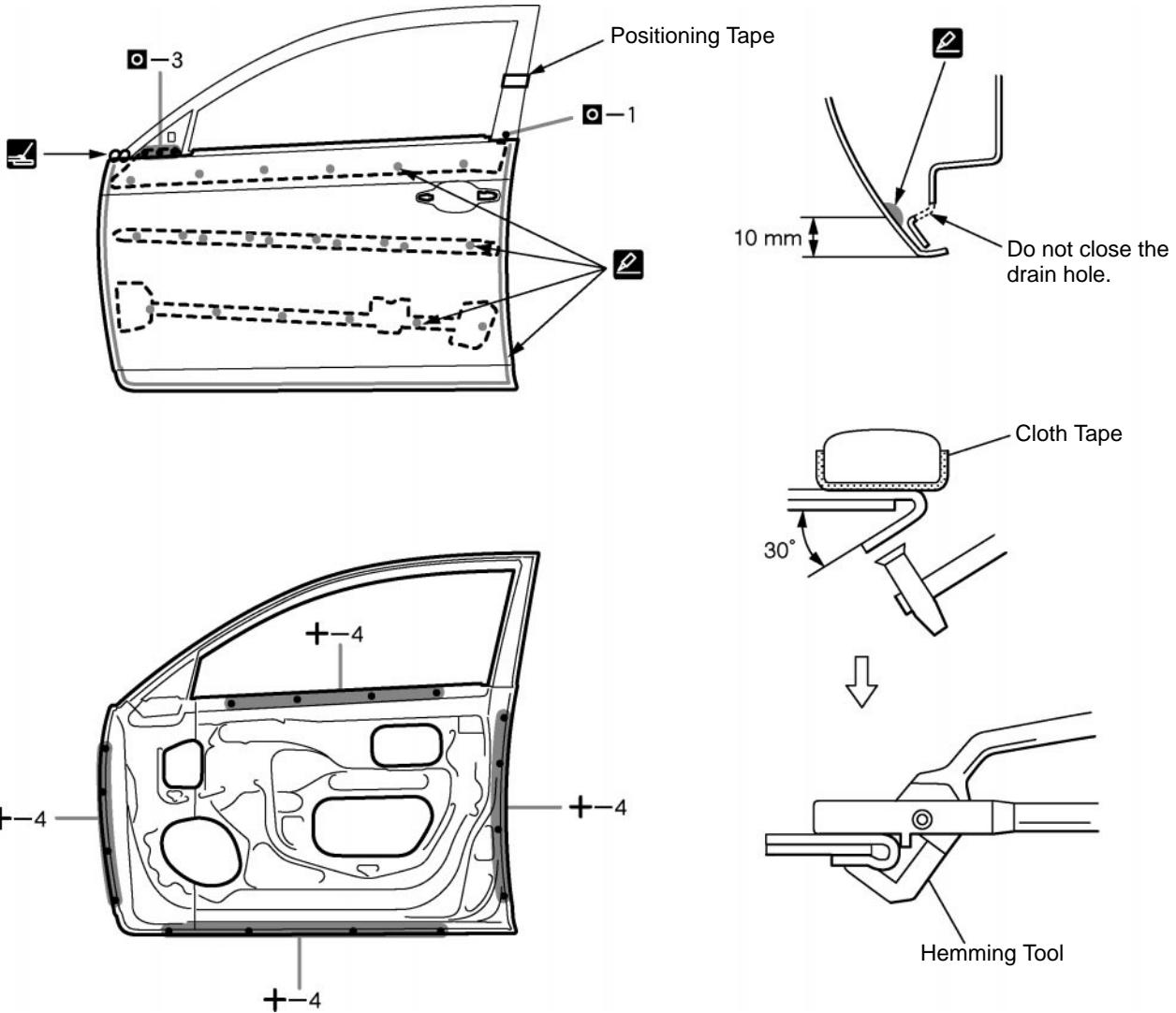
F22098

**POINT**

- 1 Before removing the outer panel, mark the installation position with a tape.
- 2 Before removing the outer panel, establish its exact position in relation to the window frame using a reference maker, etc.
- 3 After grinding off the hemming location, remove the outer panel.

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22099

**POINT**

- 1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and back side of the new parts.

*HINT:*

- 1) Apply sealer evenly about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter to the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

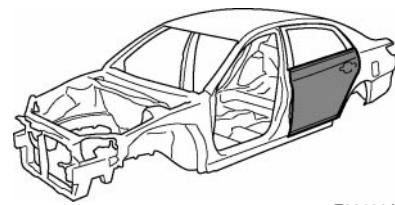
- 2 Bend the flange hem about 30° with a hammer and dolly, then fasten tightly with a hemming tool.

*HINT:*

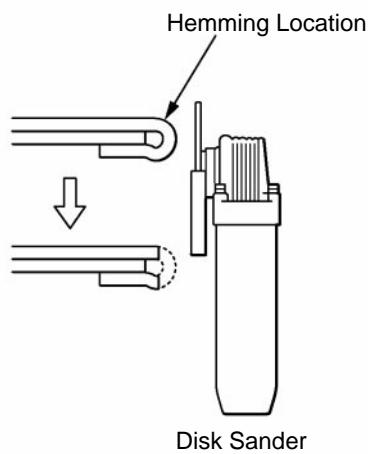
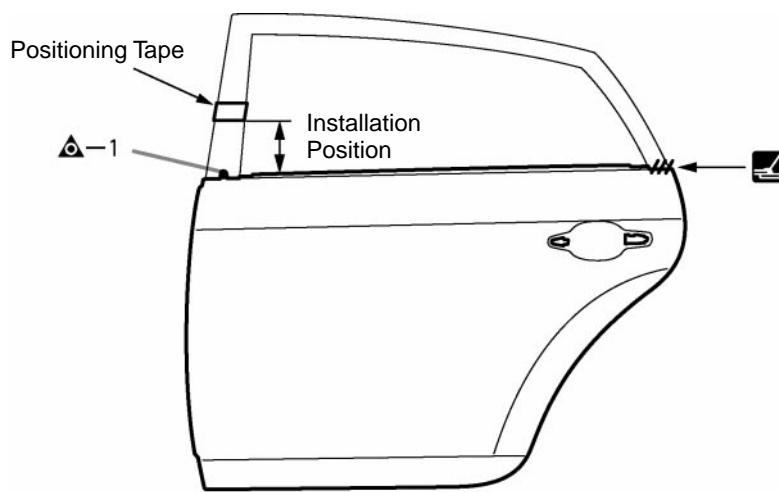
- 1) Perform hemming in three steps, being careful not to warp the panel.
- 2) If a hemming tool cannot be used, hem with a hammer and dolly.

## REAR DOOR OUTER PANEL (ASSY)

### REPLACEMENT



### REMOVAL

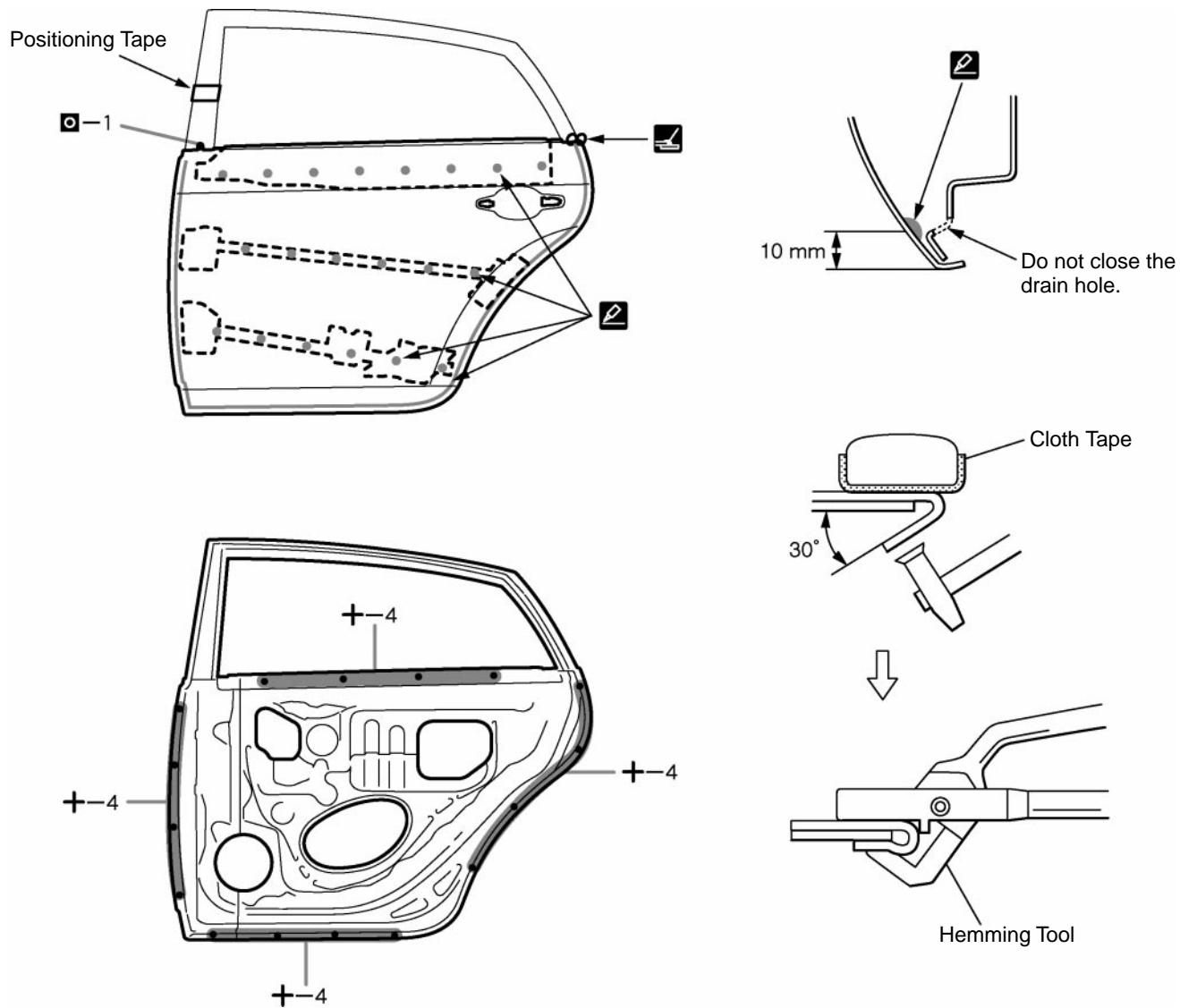


#### POINT

- 1 Before removing the outer panel, mark the installation position with a tape.
- 2 Before removing the outer panel, establish its exact position in relation to the window frame using a reference marker, etc.
- 3 After grinding off the hemming location, remove the outer panel.

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22101

**POINT**

- 1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and back side of the new parts.

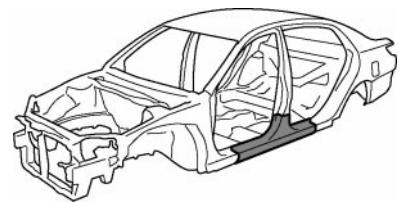
*HINT:*

- 1) Apply sealer evenly about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter to the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

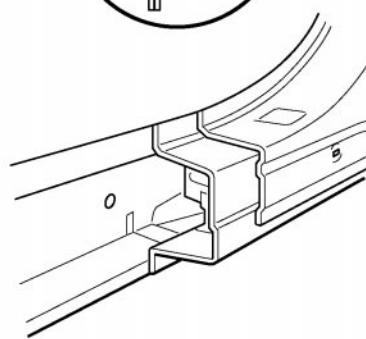
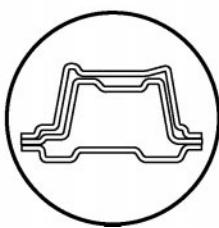
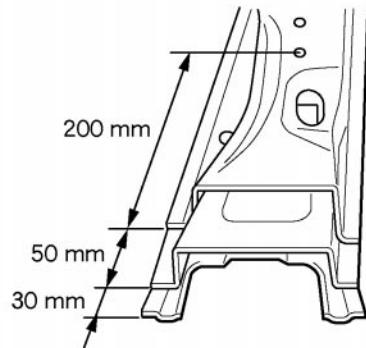
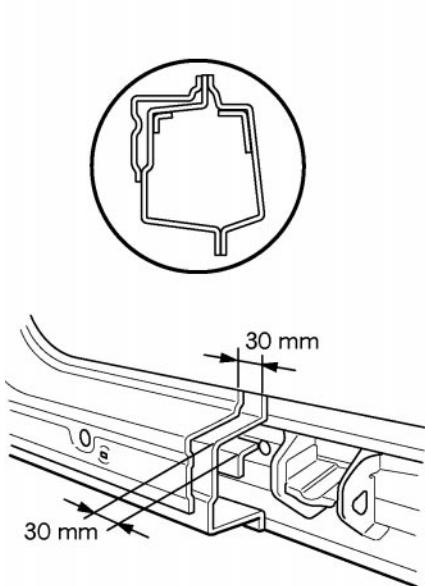
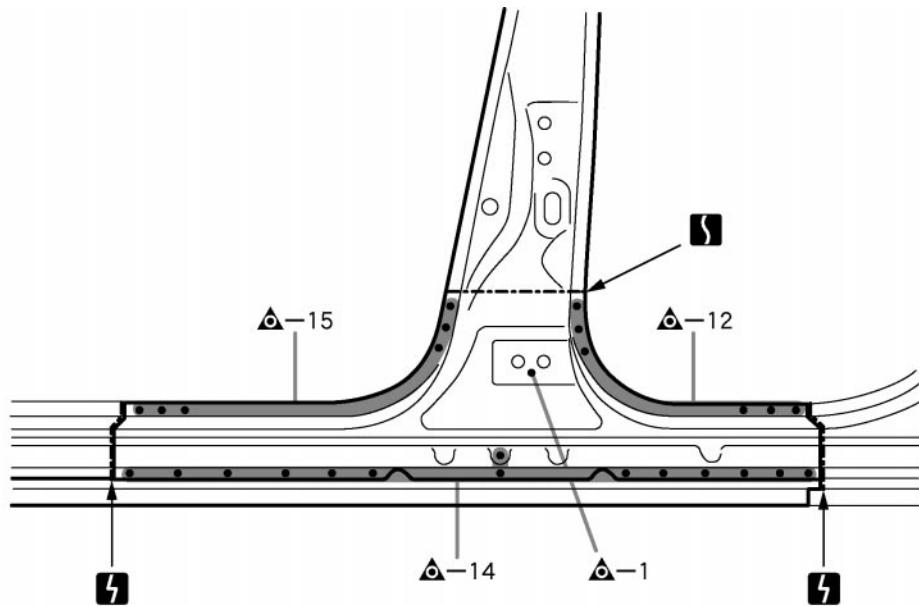
- 2 Bend the flange hem about 30° with a hammer and dolly, then fasten tightly with a hemming tool.

*HINT:*

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

**ROCKER OUTER PANEL (CUT)****REPLACEMENT**

F22102A

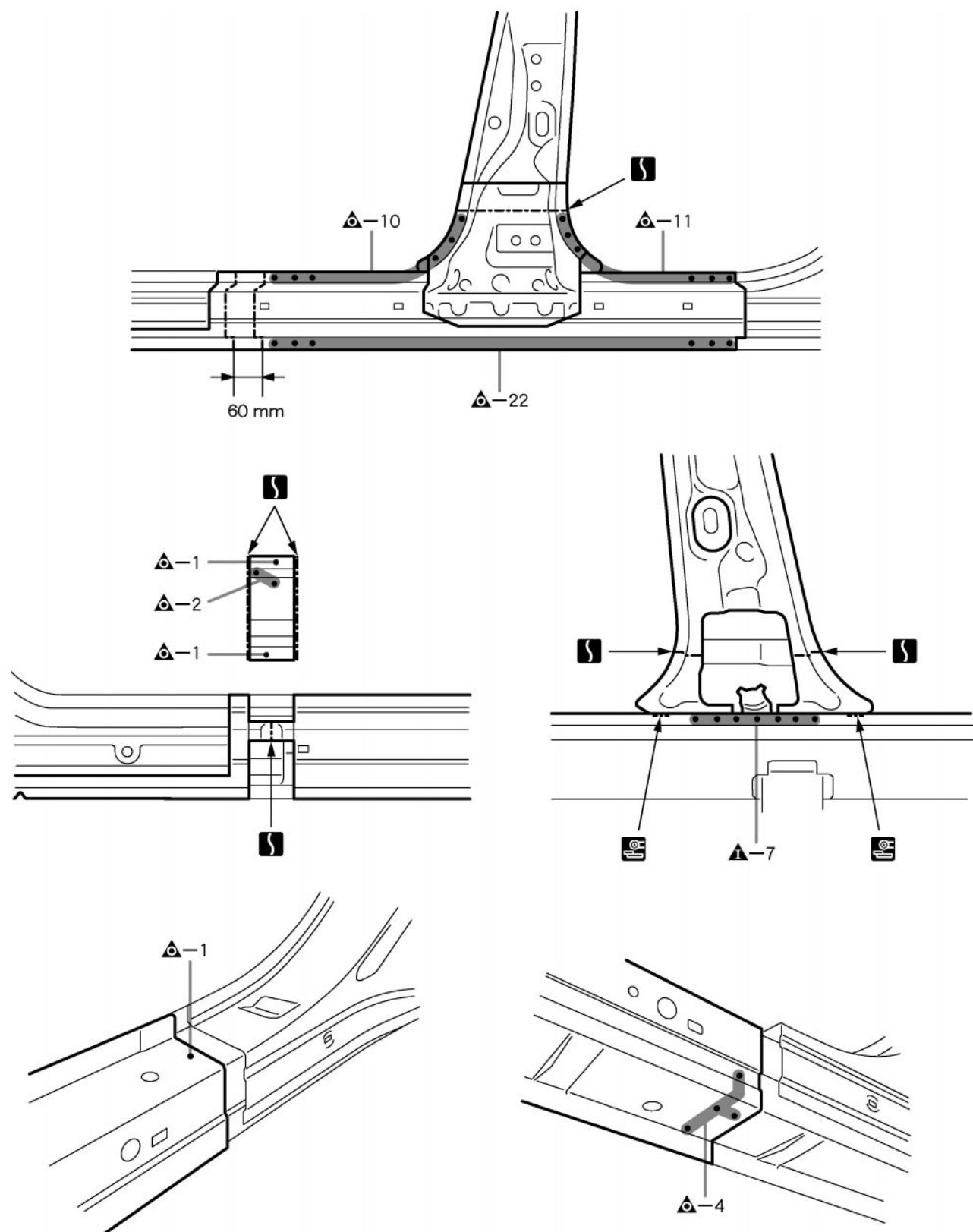
**REMOVAL**

F22102

30 mm (1.18 in.)

50 mm (1.97 in.)

200 mm (7.87 in.)

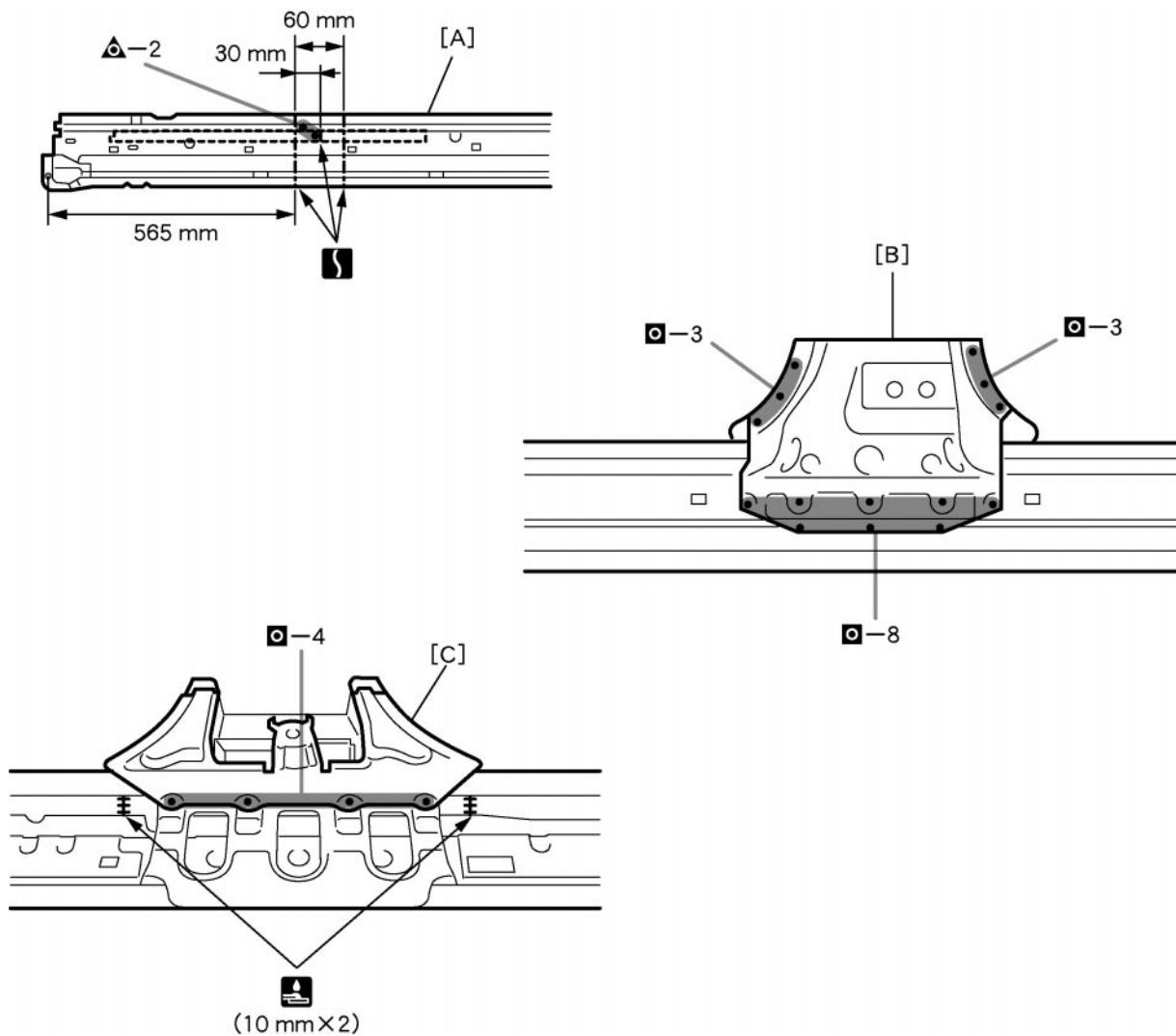


F22103

60 mm (2.36 in.)

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22104

**POINT**

- Before temporarily installing the new parts, weld the [A], [B] and [C] with standard points.
- Inspect the fitting of the front door and rear door, etc., before welding, since this affects the appearance of the finish.

**PART NAME**

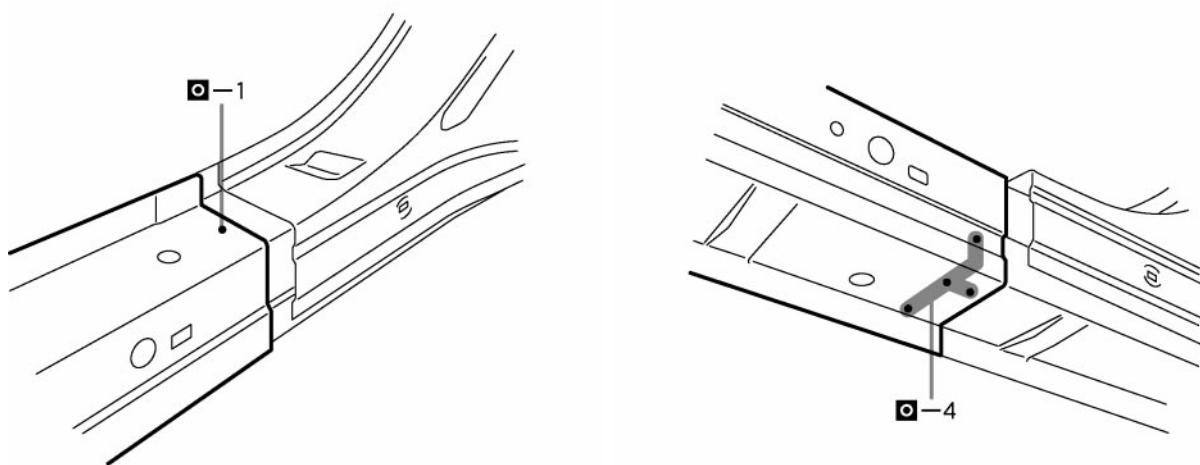
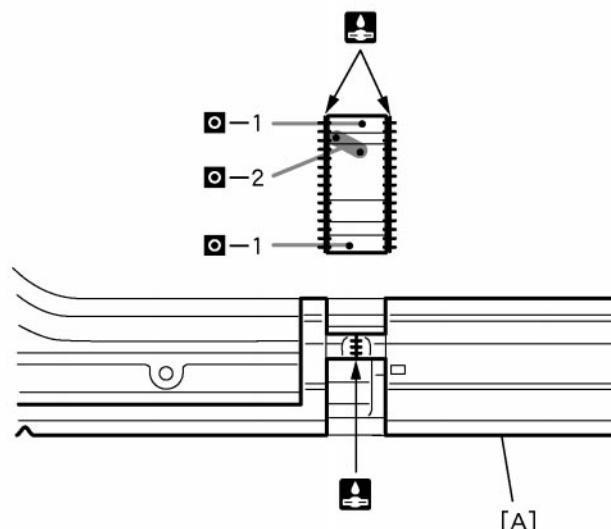
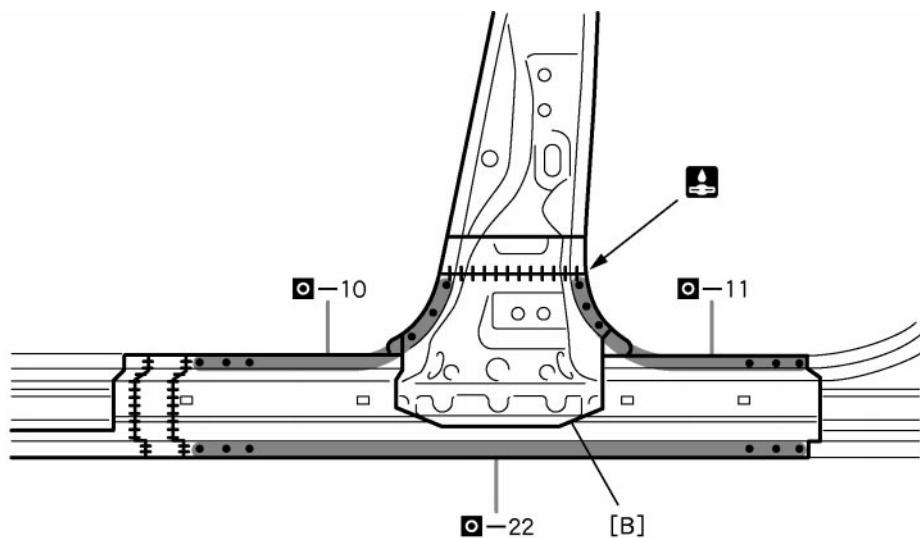
- [A] Center Body Pillar Lower Reinforce      [B] Center Body Pillar Upper Reinforce  
 [C] Center Body Inner Pillar

10 mm (0.39 in.)

30 mm (1.18 in.)

60 mm (2.36 in.)

565 mm (22.24 in.)



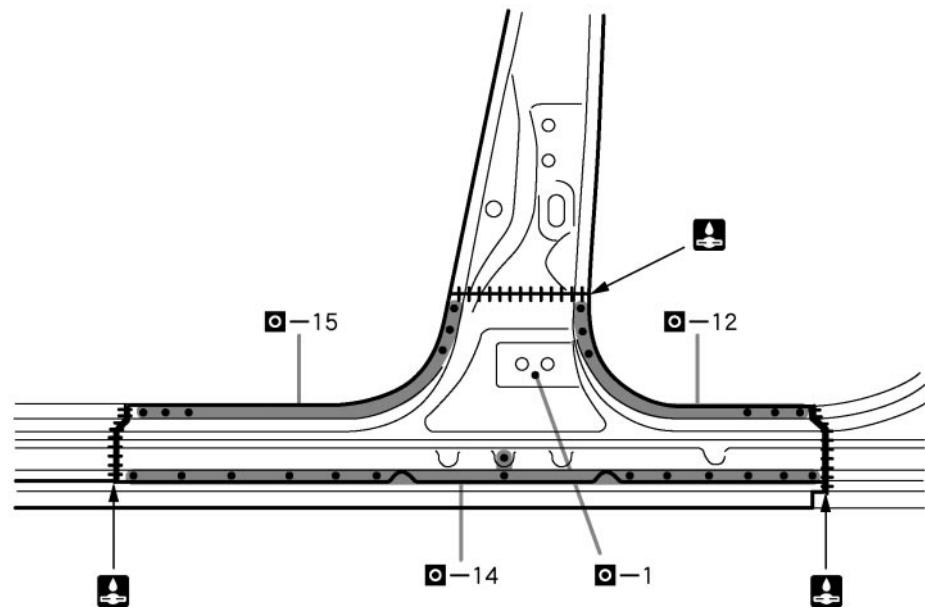
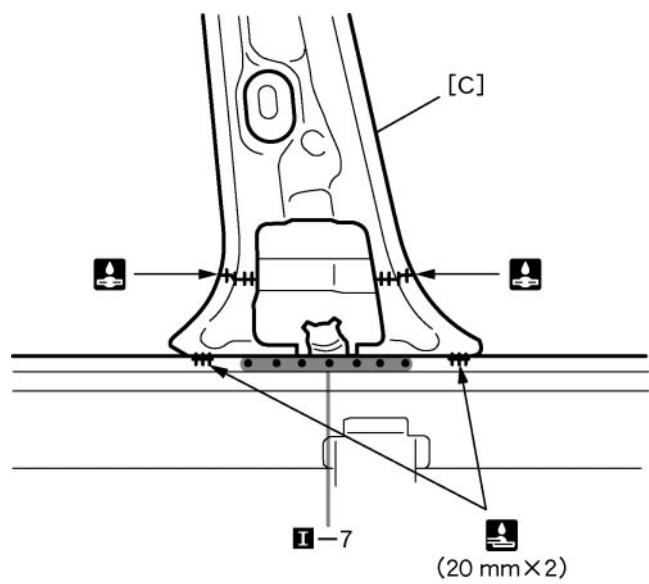
F22105

**POINT**

- 1 After welding the reinforcement to the vehicle side, install the outer panel.

**PART NAME**

- [A] Center Body Pillar Lower Reinforce      [B] Center Body Pillar Upper Reinforce

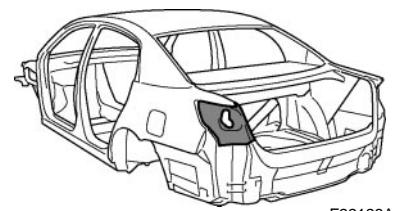
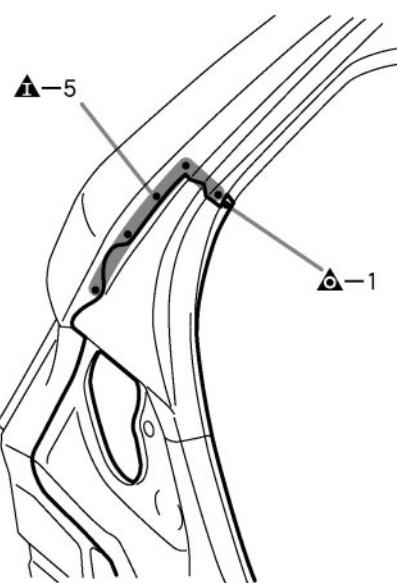
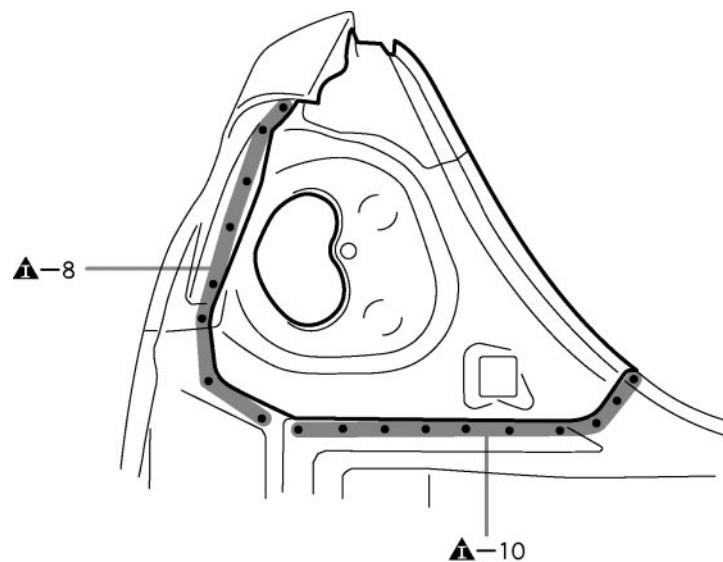


F22106

**PART NAME**

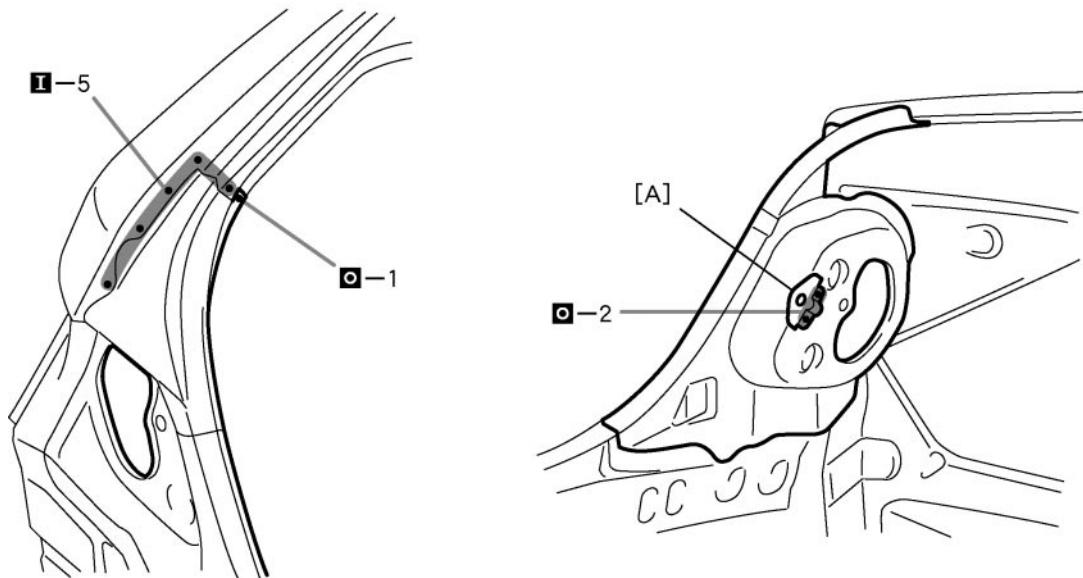
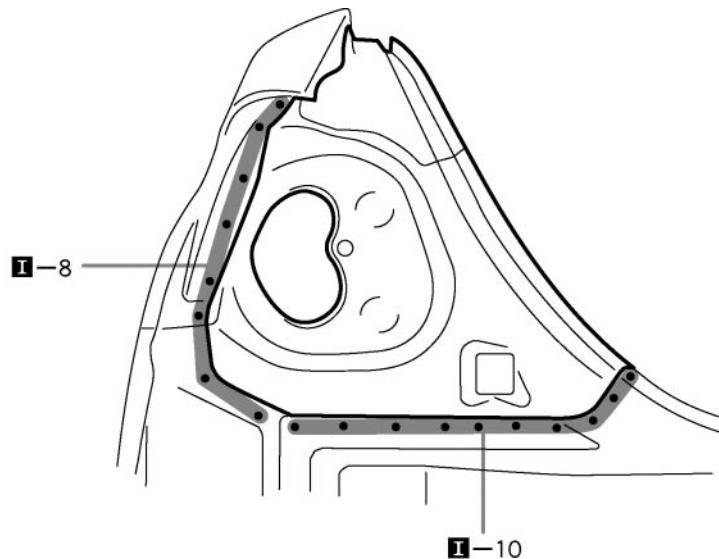
[C] Center Body Inner Pillar

20 mm (0.79 in.)

**QUARTER PANEL END HOUSING (ASSY)****REPLACEMENT****REMOVAL**

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22124

**POINT**

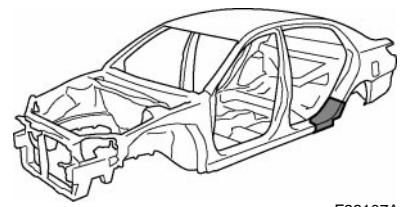
- 1 Inspect the fitting of the luggage compartment door and rear combination light, etc., before welding, since this affects the appearance of the finish.

**PART NAME**

[A] Luggage Compartment Trim No.1 Bracket

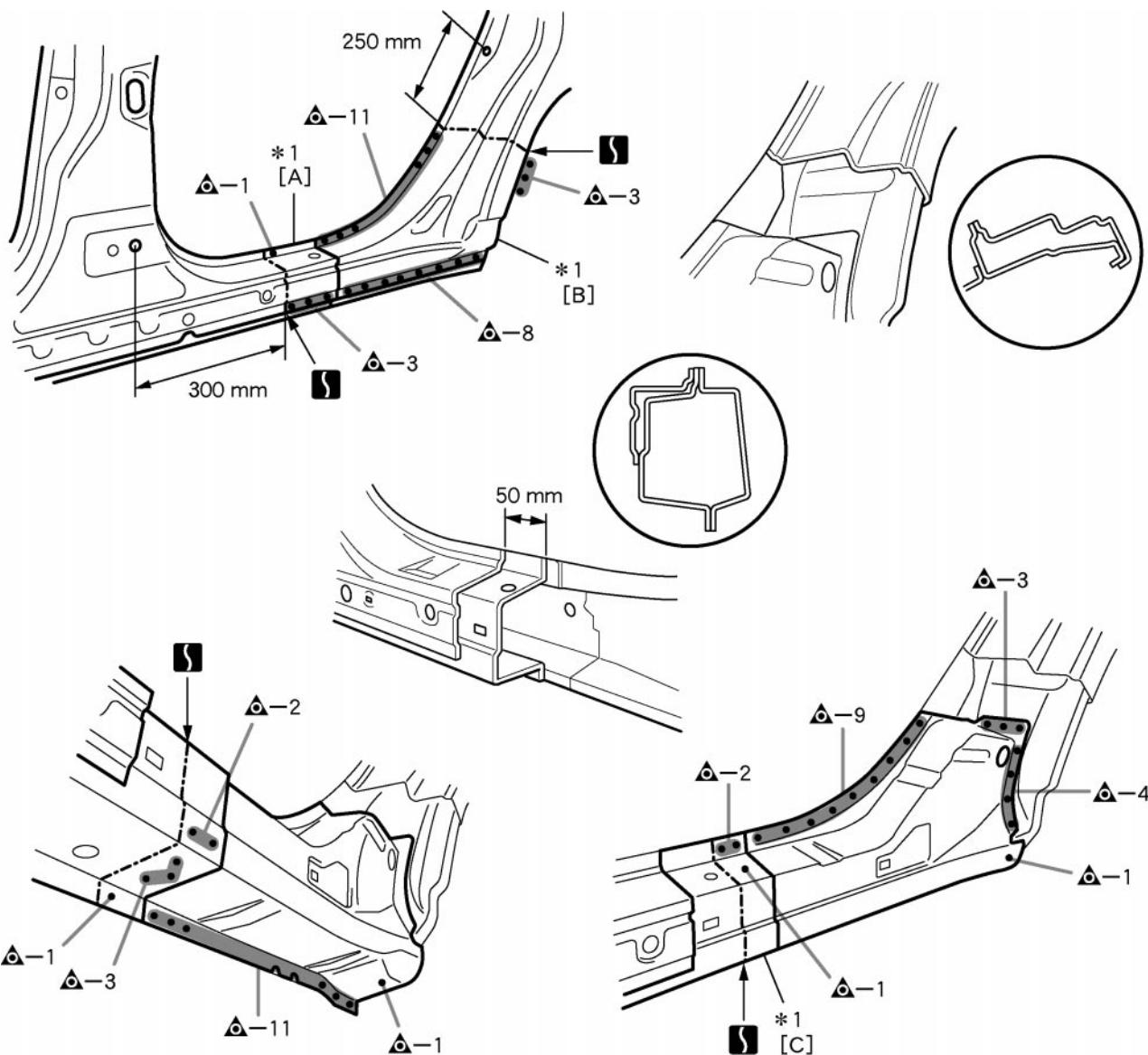
## ROCKER OUTER EXTENSION (ASSY)

### REPLACEMENT



F22107A

### REMOVAL



F22107

#### POINT

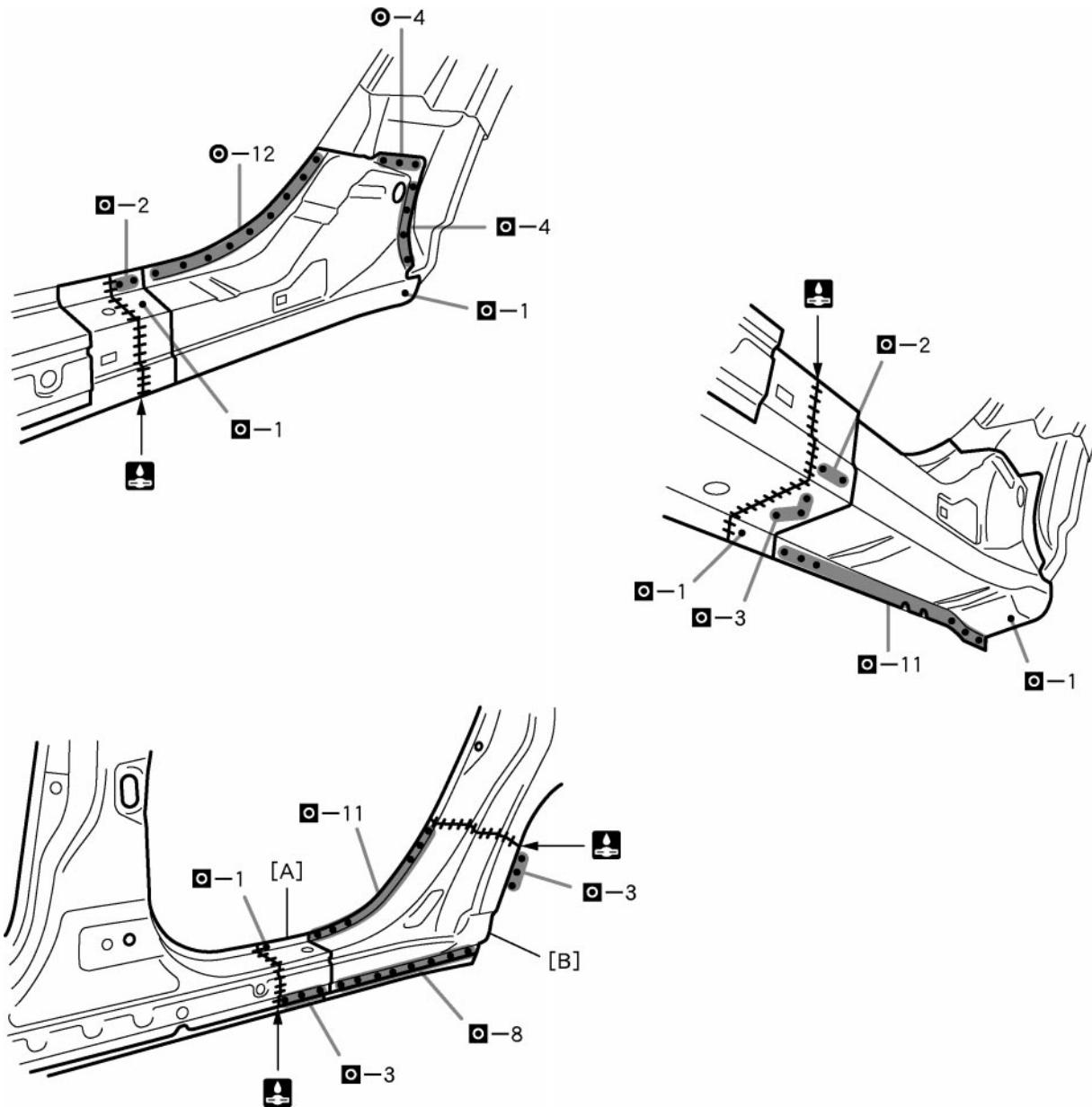
- 1 \*1: Reuse
- 2 Remove the [C] at the same time.

#### PART NAME

[A] Center Body Outer Pillar	[B] Quarter Panel	[C] Center Body Pillar Lower Reinforce
50 mm (1.97 in.)	250 mm (9.84 in.)	300 mm (11.81 in.)

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22108

**POINT**

- 1 Inspect the fitting of the rear door, etc., before welding, since this affects the appearance of the finish.

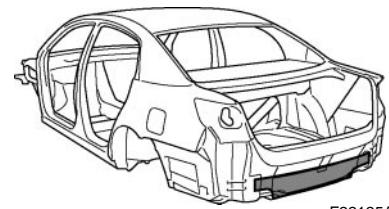
**PART NAME**

[A] Center Body Outer Pillar      [B] Quarter Panel

## REAR FLOOR NO.3 CROSMEMBER (ASSY)

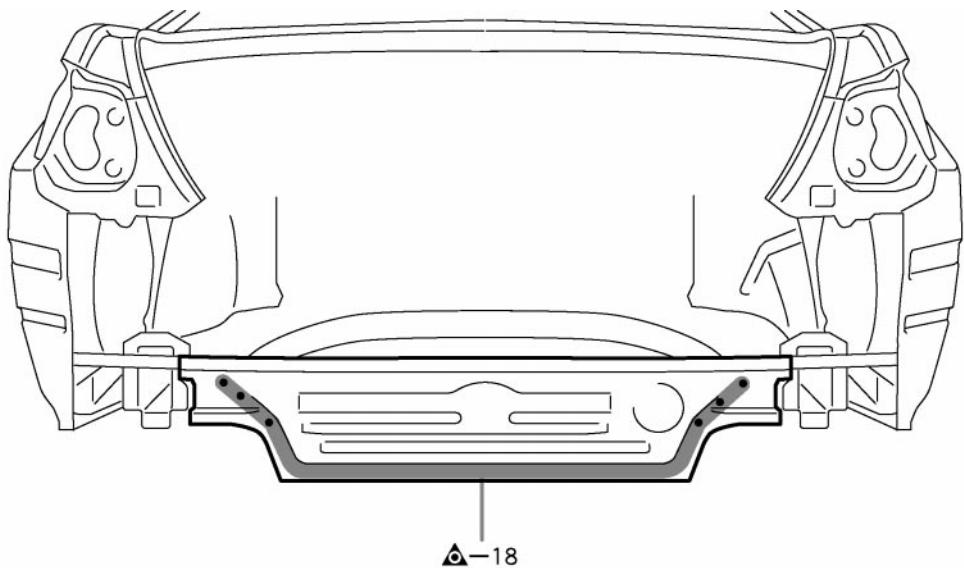
### REPLACEMENT

With the body lower back panel removed.

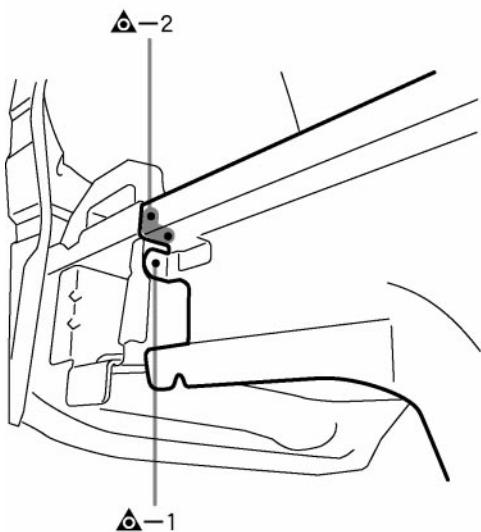


F22125A

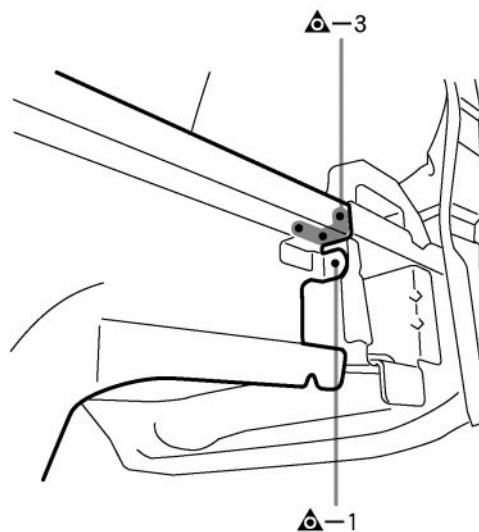
### REMOVAL



[LH]



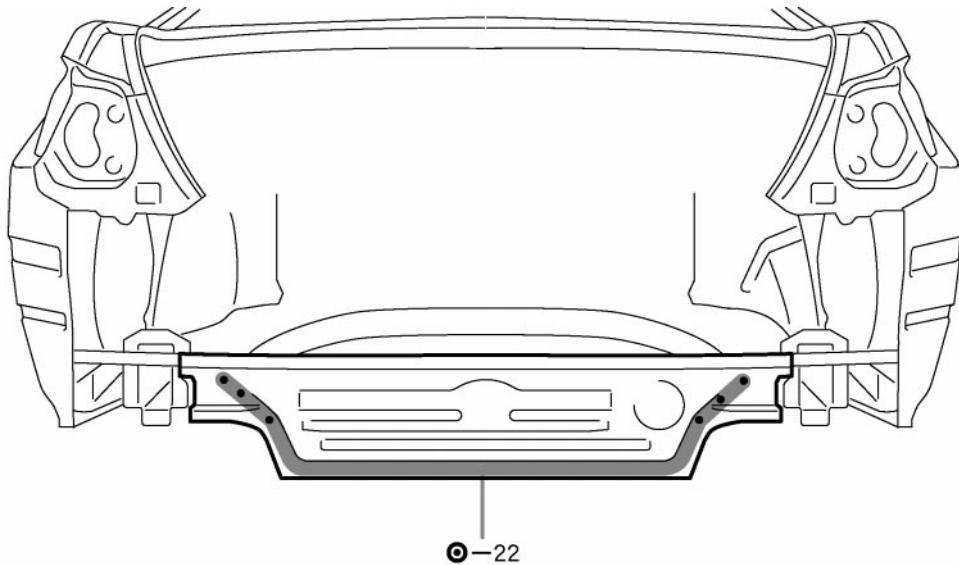
[RH]



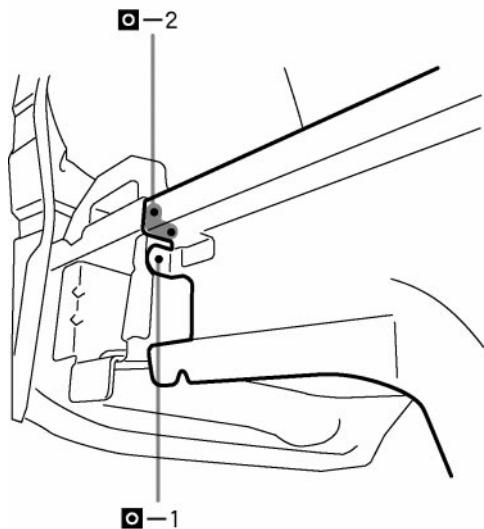
F22125

**INSTALLATION**

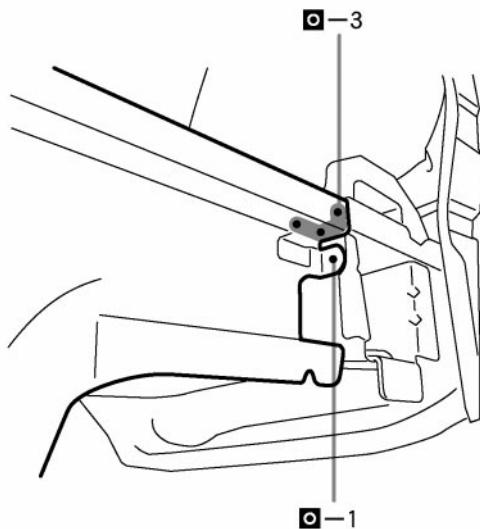
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



[LH]

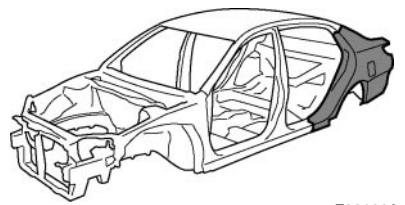


[RH]

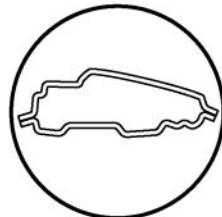
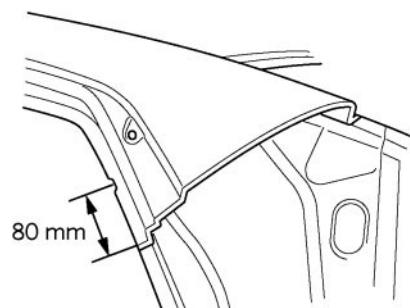
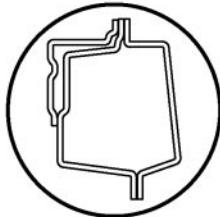
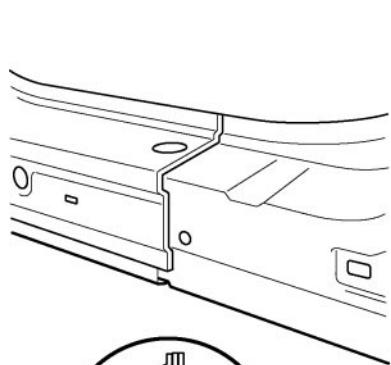
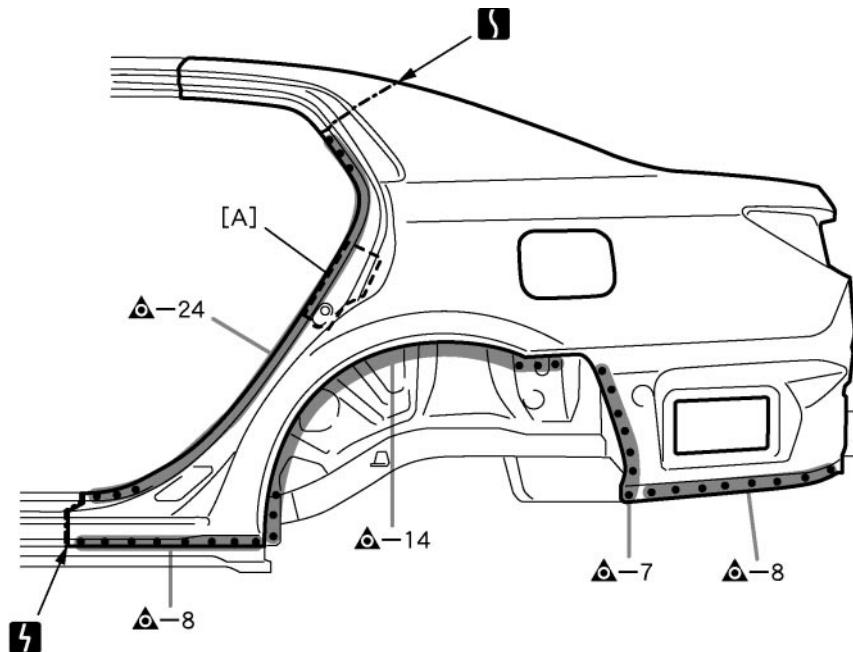


## QUARTER PANEL (CUT)

### REPLACEMENT



### REMOVAL



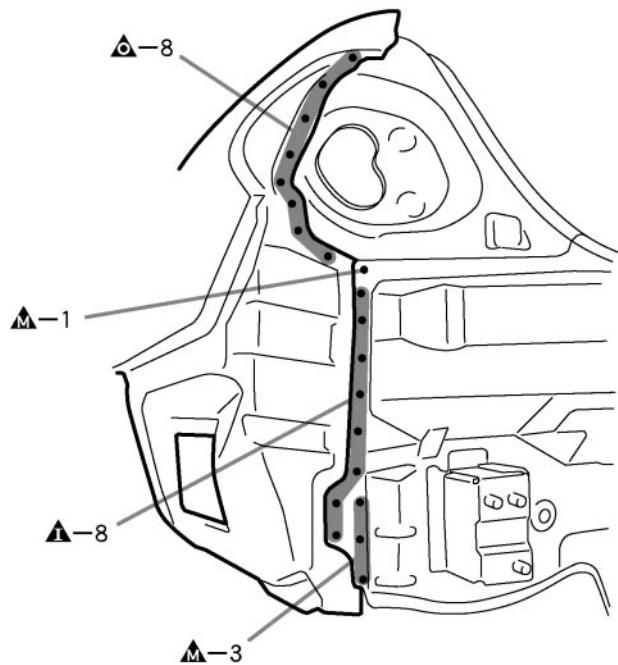
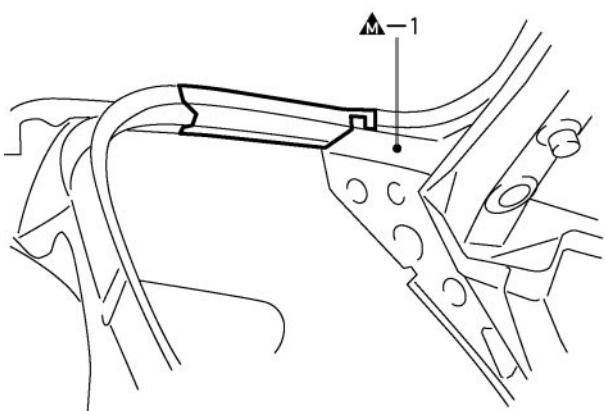
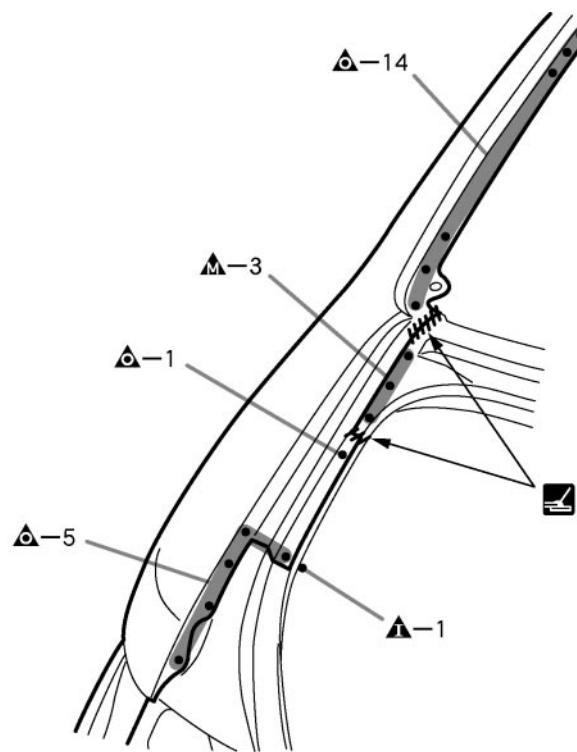
F22109

#### POINT

- 1 Remove the [A] at the same time.

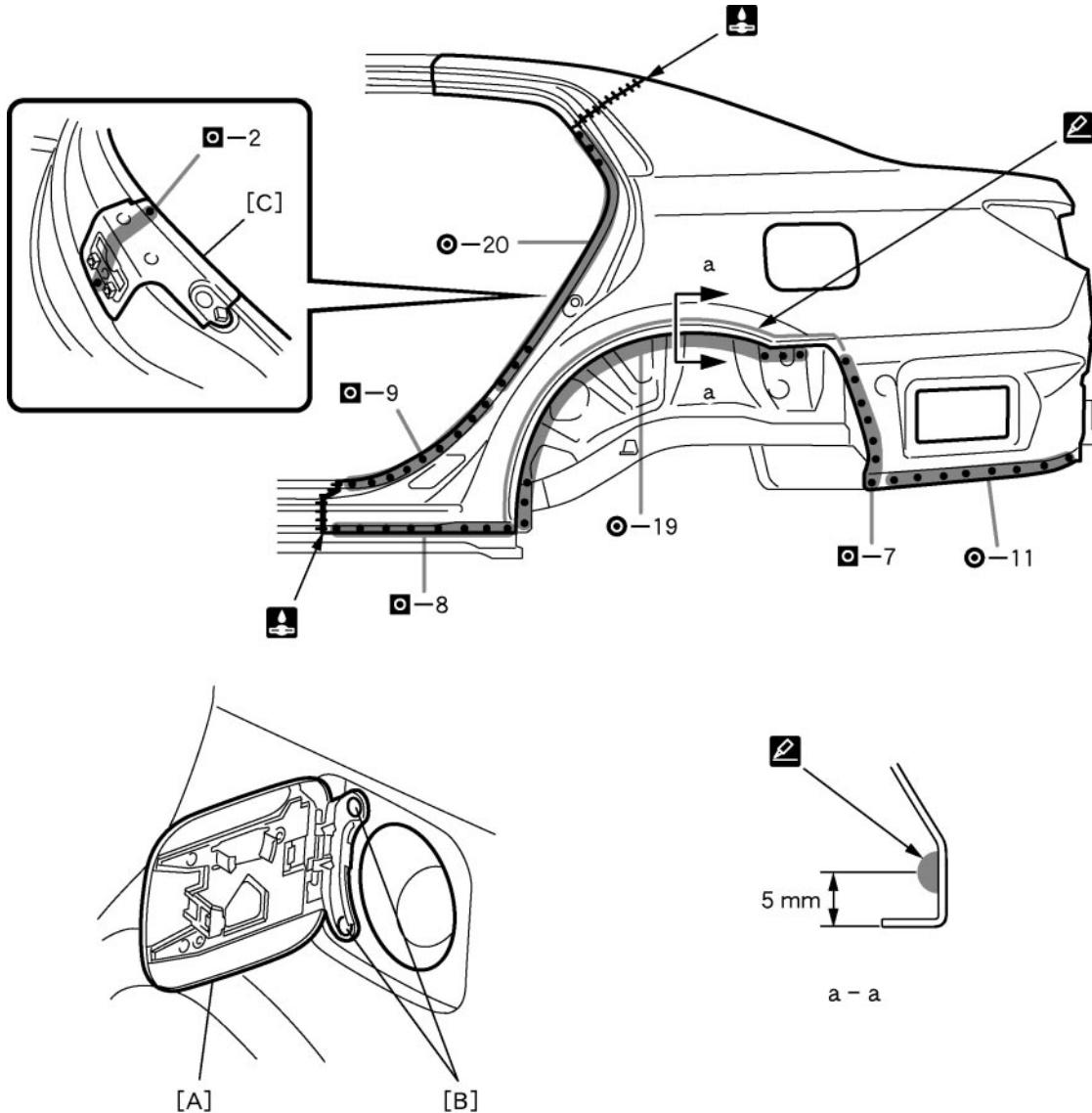
#### PART NAME

[A] Quarter Lock Pillar Reinforcement  
80 mm (3.15 in.)



**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22111

**POINT**

- 1 Before temporarily installing the new parts, apply body sealer to the wheel arch.

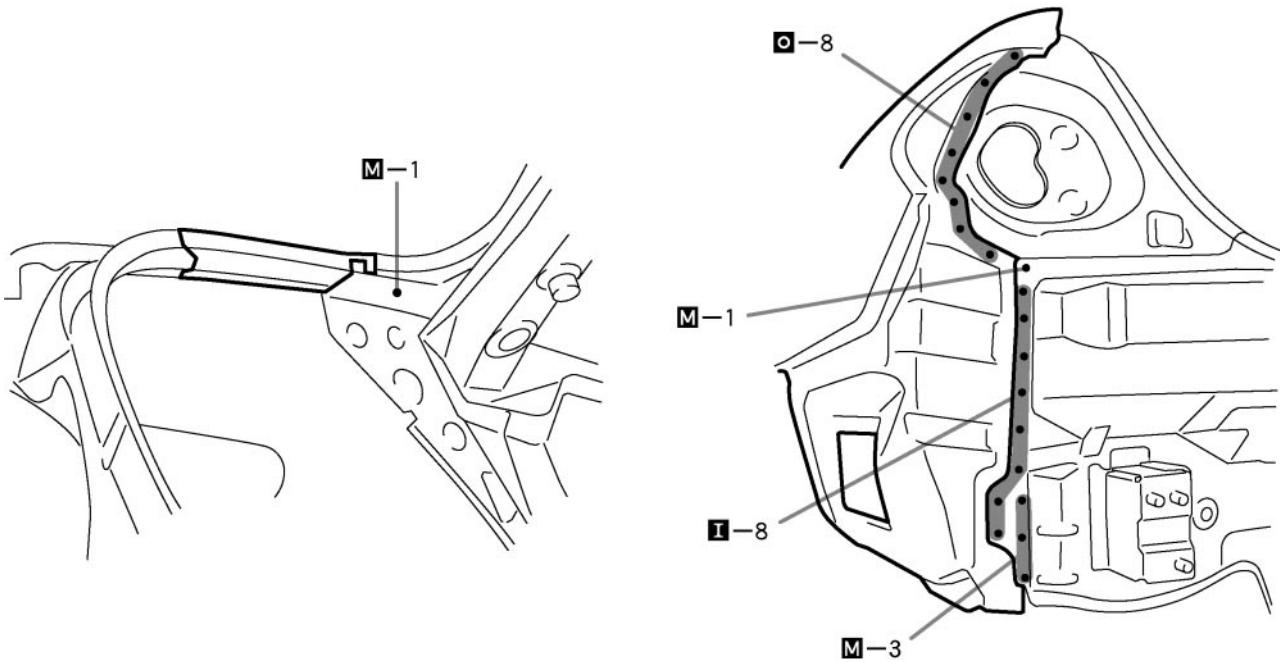
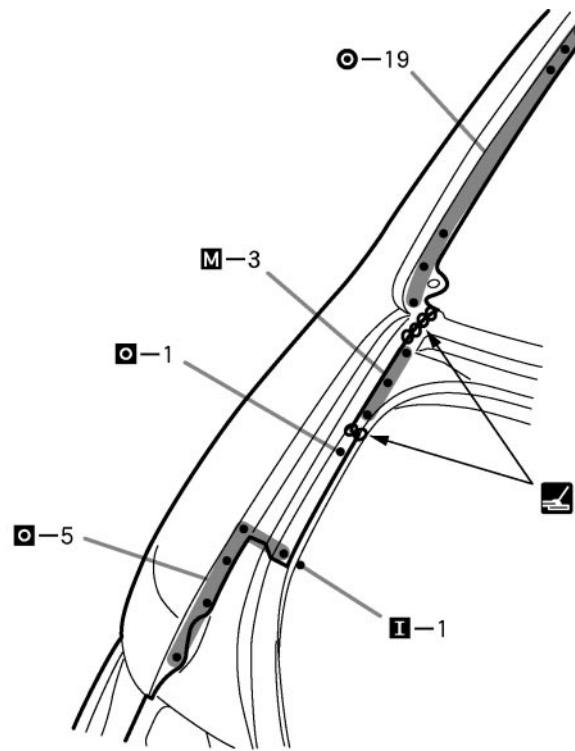
*HINT:*

- 1) Apply body sealer evenly about 5mm (0.20 in.) from the flange, avoiding any oozing.
- 2) Apply sealer evenly, about 3 – 4 mm (0.12 – 0.16 in.) in diameter.

- 2 Inspect the fitting of the rear door, luggage compartment door and rear combination light, etc., before welding, since this affects the appearance of the finish.

**PART NAME**

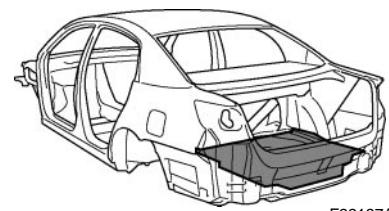
[A] Fuel Filler Opening Lid    [B] Rivets    [C] Quarter Lock Pillar Reinforcement



## REAR FLOOR PAN (ASSY)

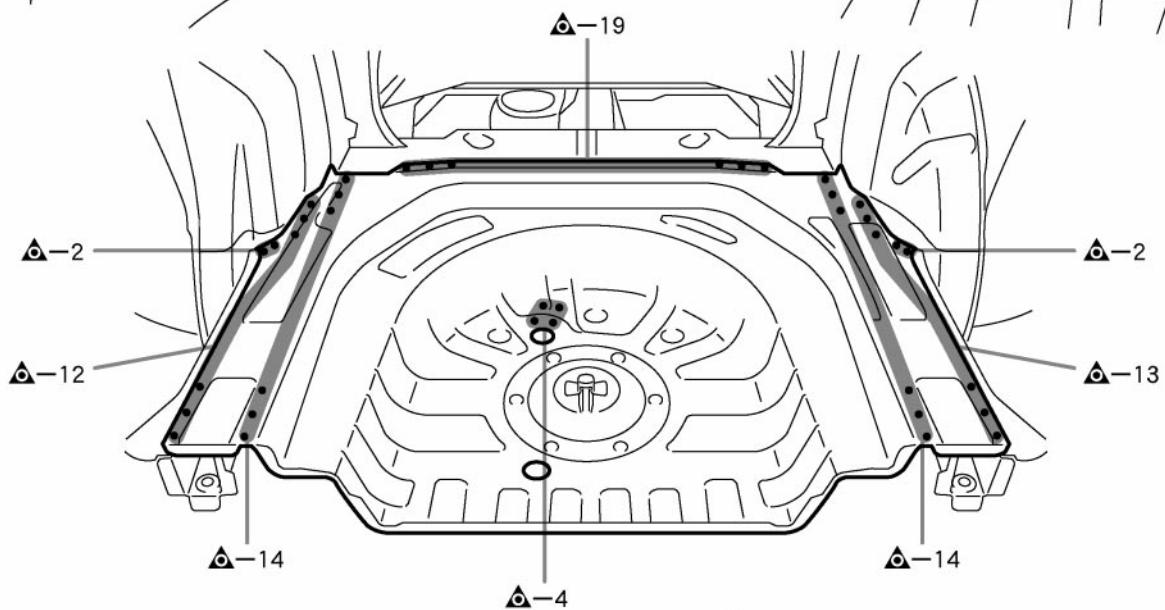
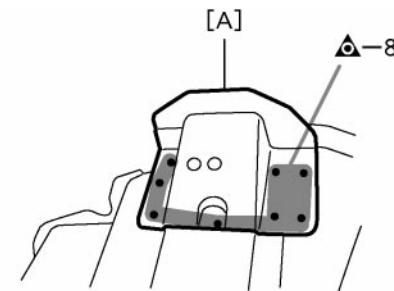
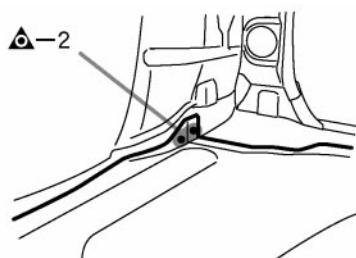
### REPLACEMENT

With the rear floor No.3 crossmember removed.

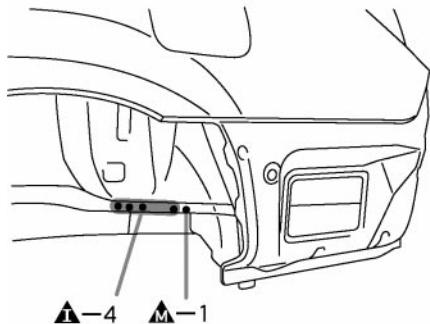


F22127A

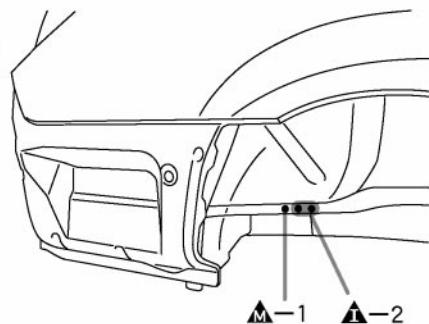
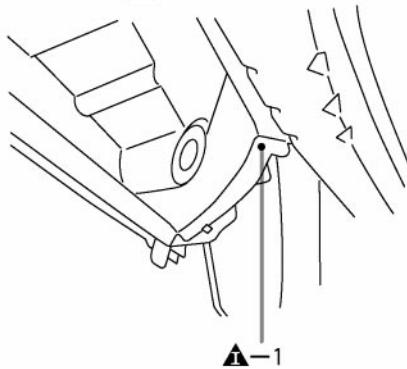
### REMOVAL



(LH)



(RH)



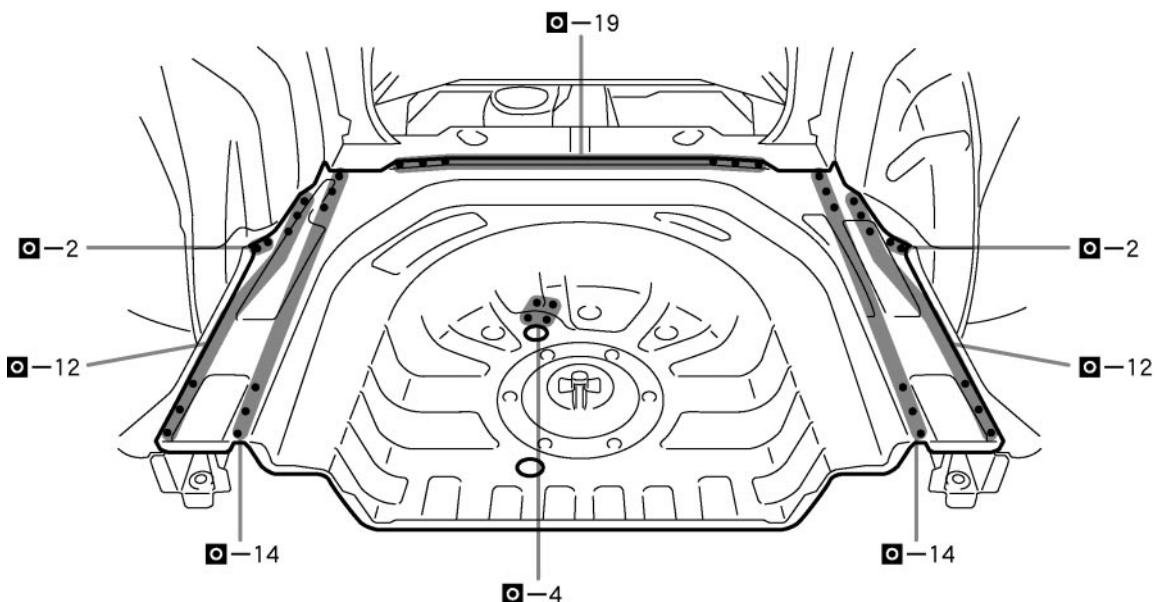
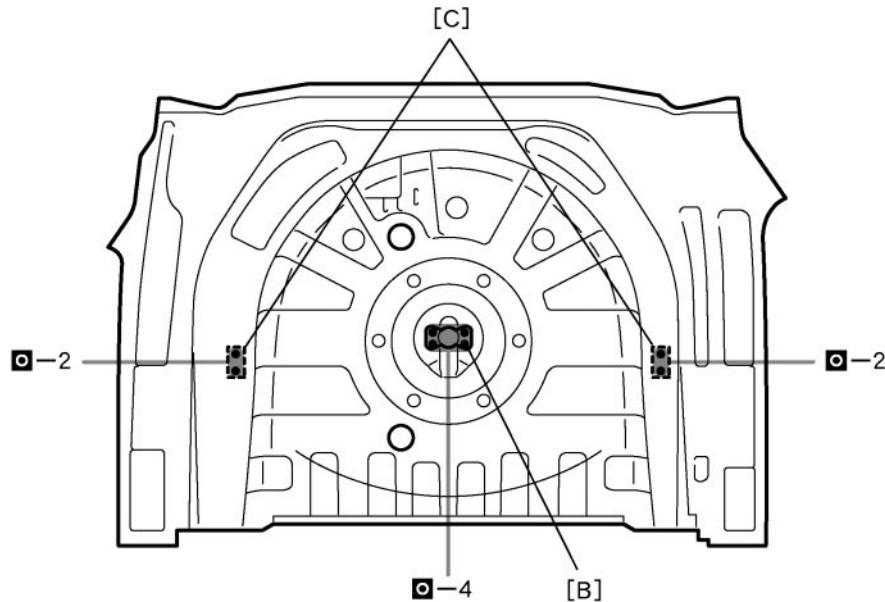
F22127

### PART MANE

[A] Rear Floor Pan Reinforcement

**INSTALLATION**

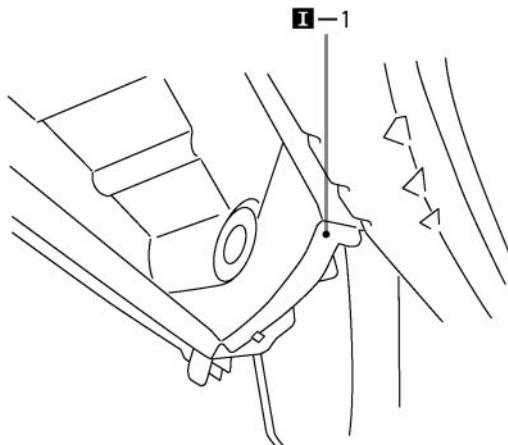
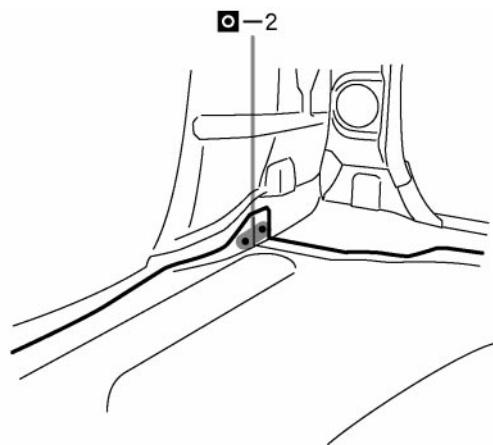
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



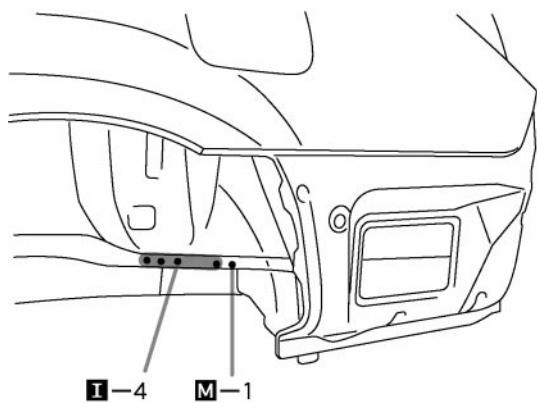
F22128

**PART NAME**

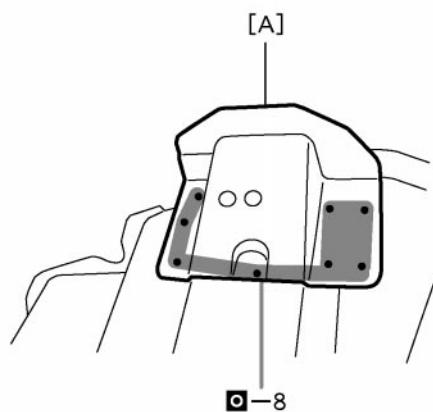
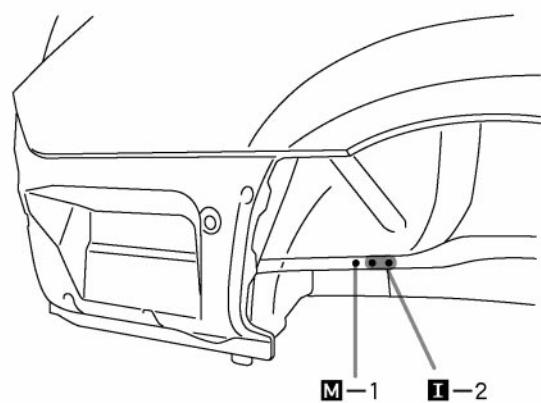
[B] Spare Wheel Carrier Bracket [C] Fuel Tube No.3 Bracket



(LH)



(RH)



F22129

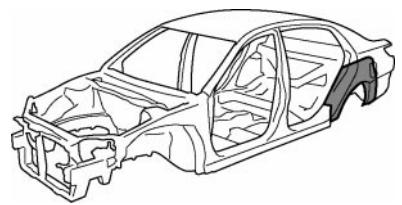
**PART NAME**

[A] Rear Floor Pan Reinforcement

## QUARTER WHEEL HOUSING OUTER PANEL (ASSY)

### REPLACEMENT

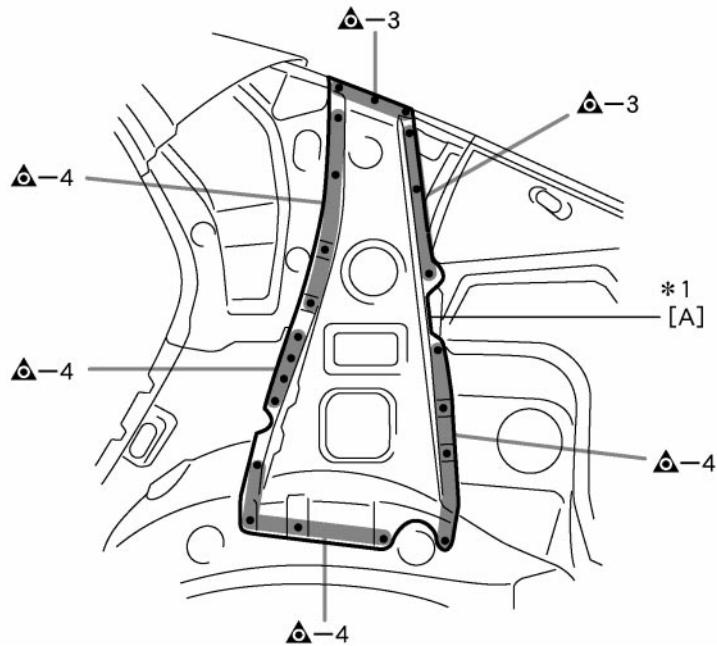
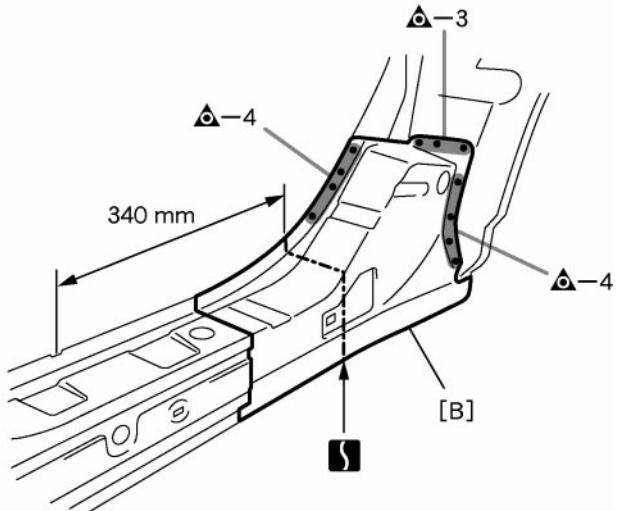
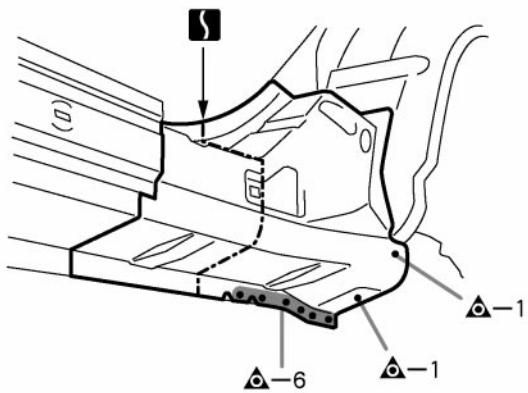
With the quarter panel removed



F22113A

### REMOVAL

(LH)



F22113

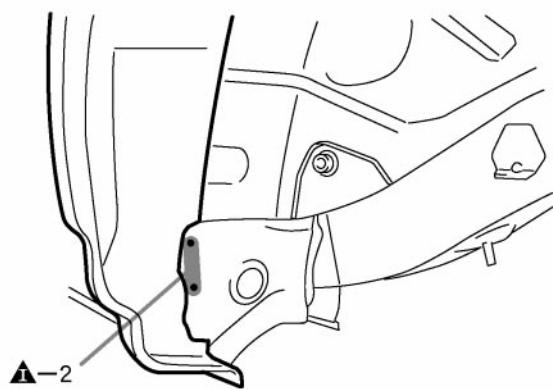
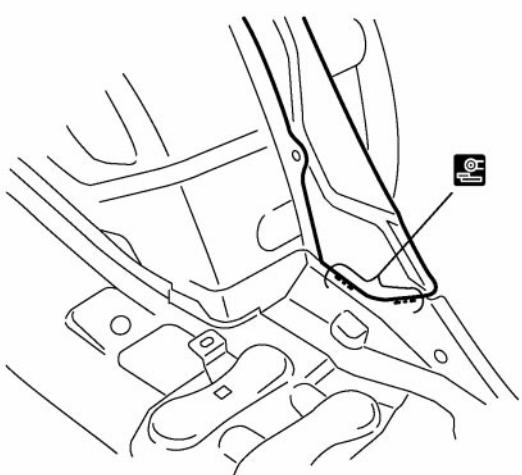
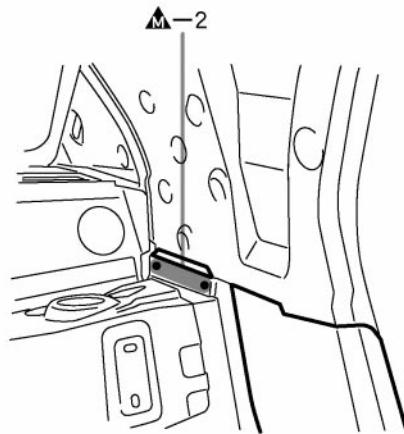
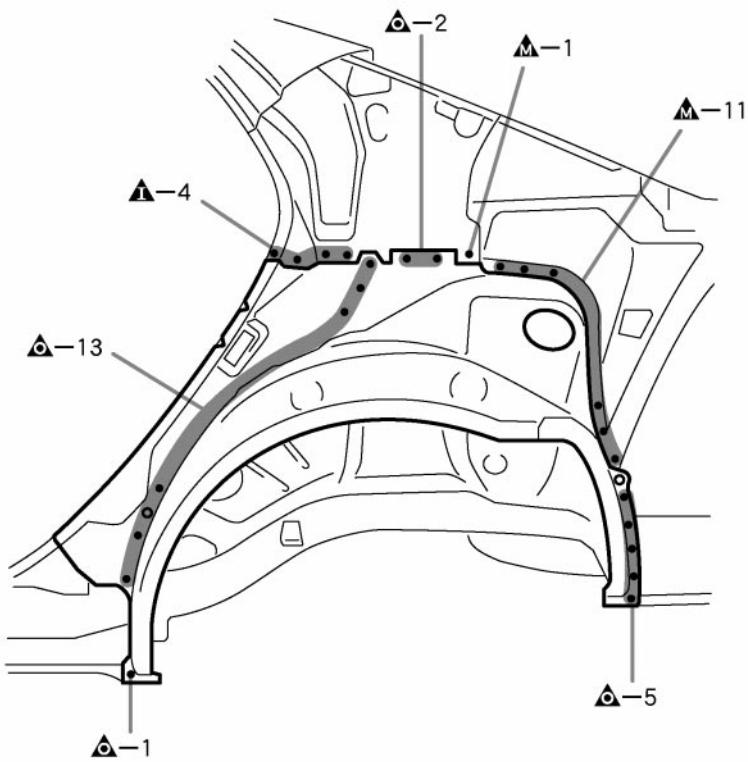
### POINT

- 1 After removing the [A] and [B], remove the quarter wheel housing outer panel.
- 2 \*1: Reuse

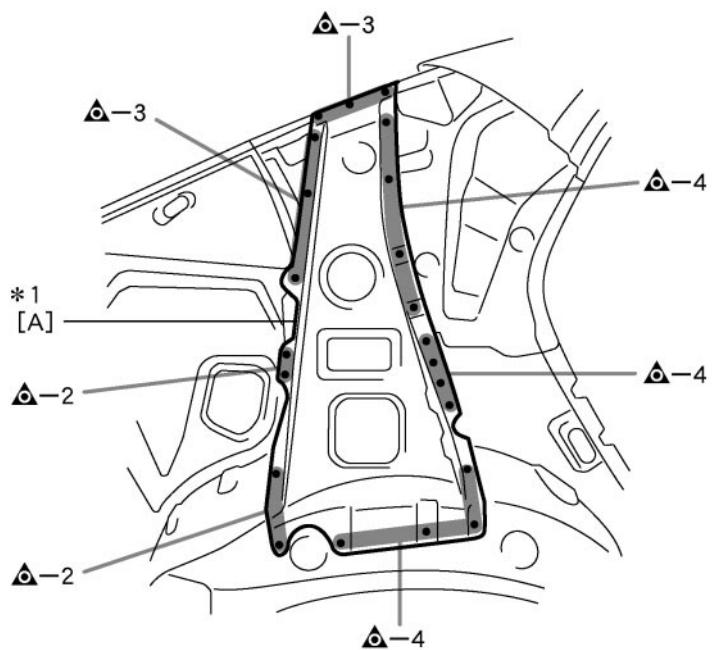
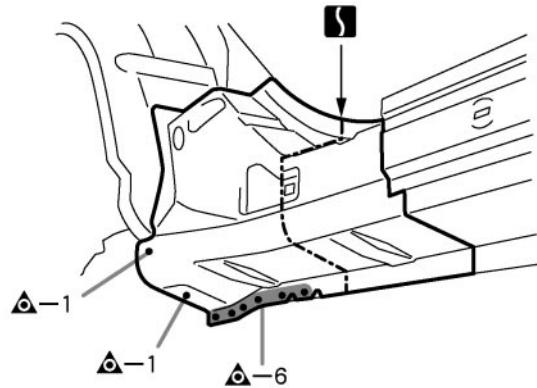
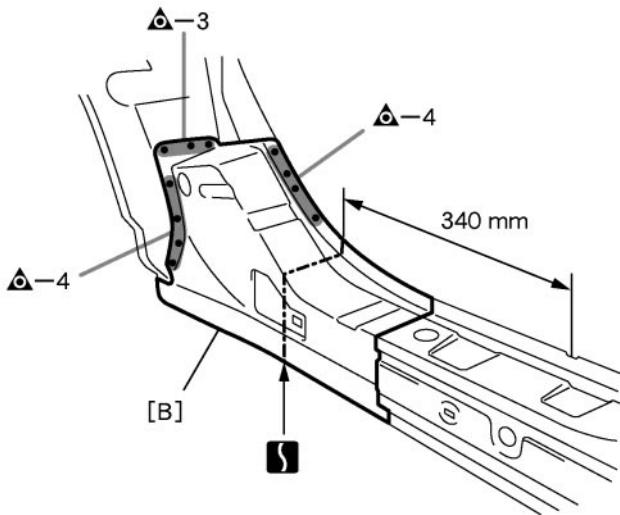
### PART NAME

[A] Roof Side Outer Panel    [B] Rocker Outer Extension  
340 mm (13.39 in.)

(LH)



[RH]



F22115

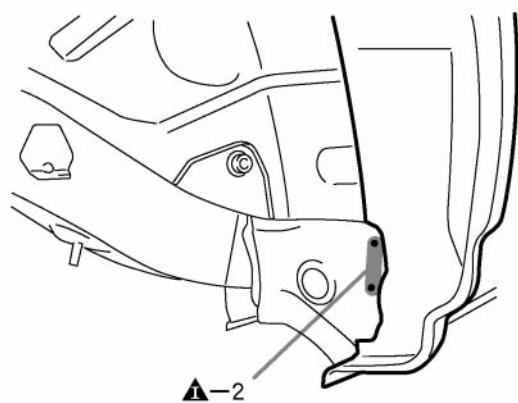
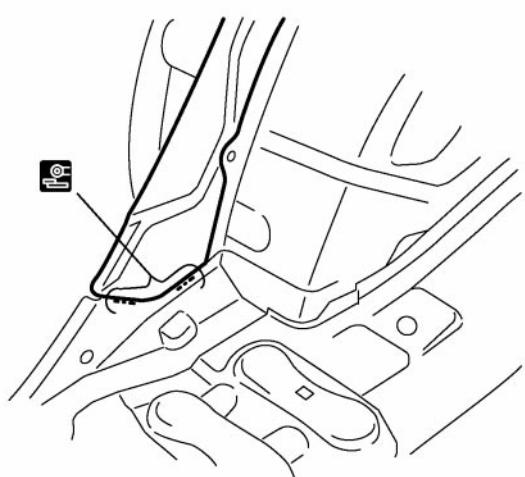
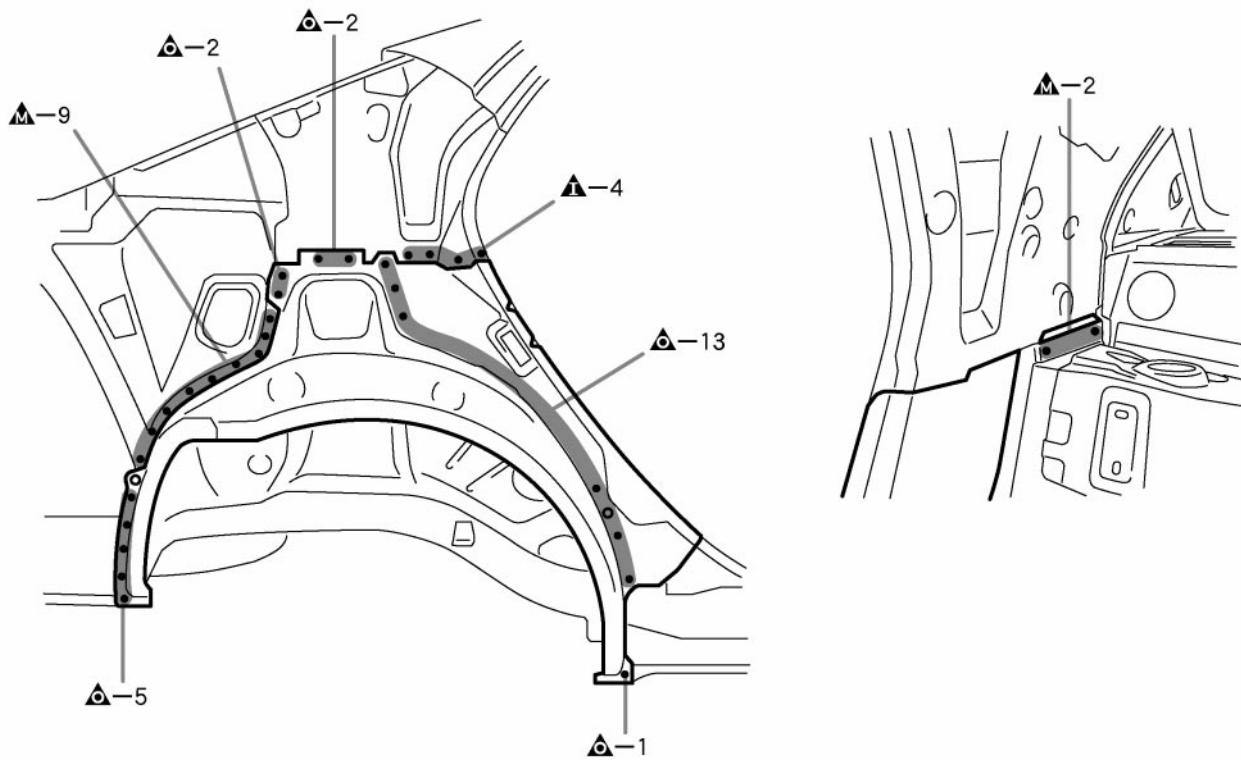
**POINT**

- 1 After removing the [A] and [B], remove the quarter wheel housing outer panel.
- 2 \*<sup>1</sup>: Reuse

**PART NAME**

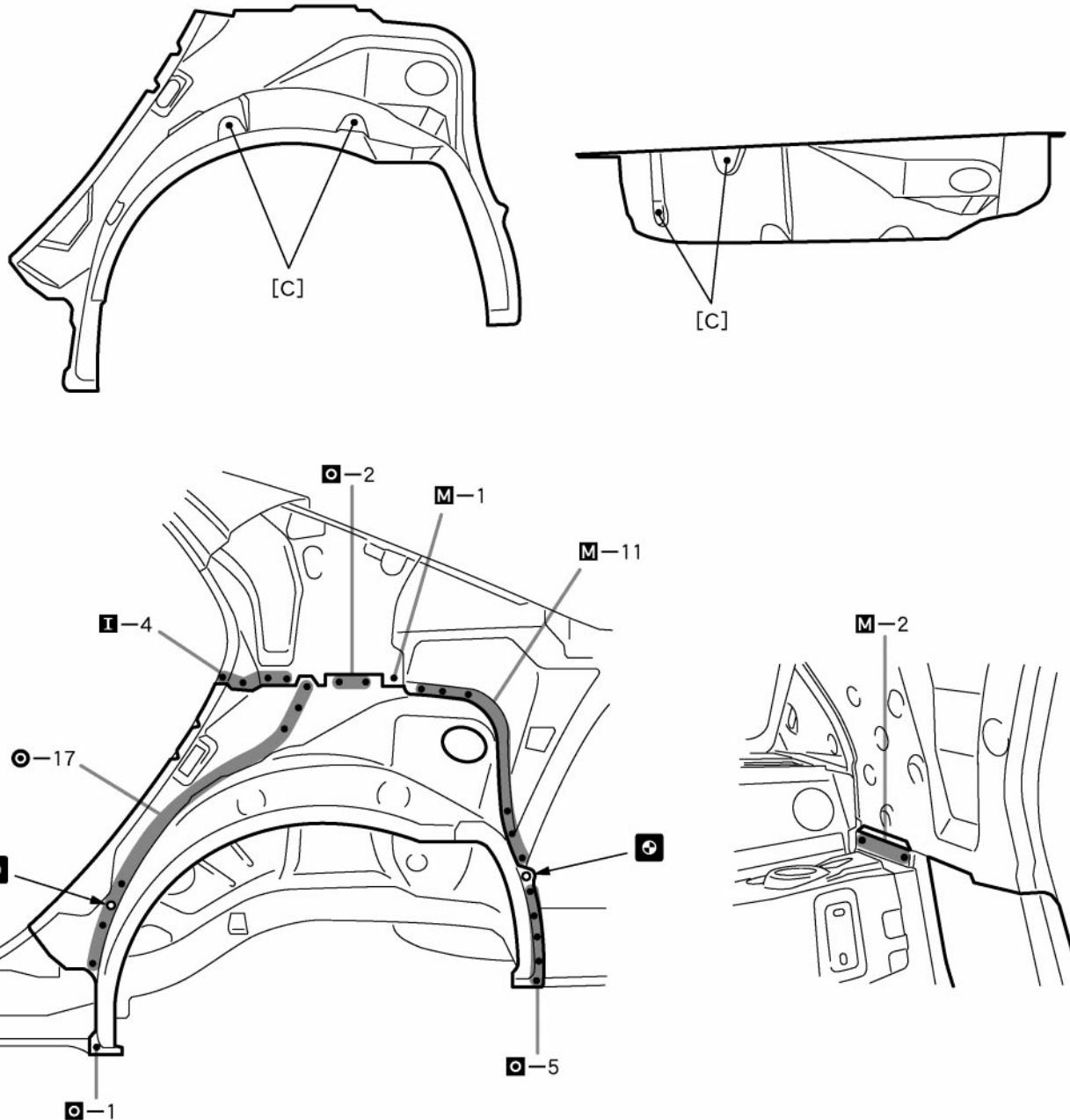
[A] Roof Side Outer Panel    [B] Rocker Outer Extension  
 340 mm (13.39 in.)

[RH]



**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.

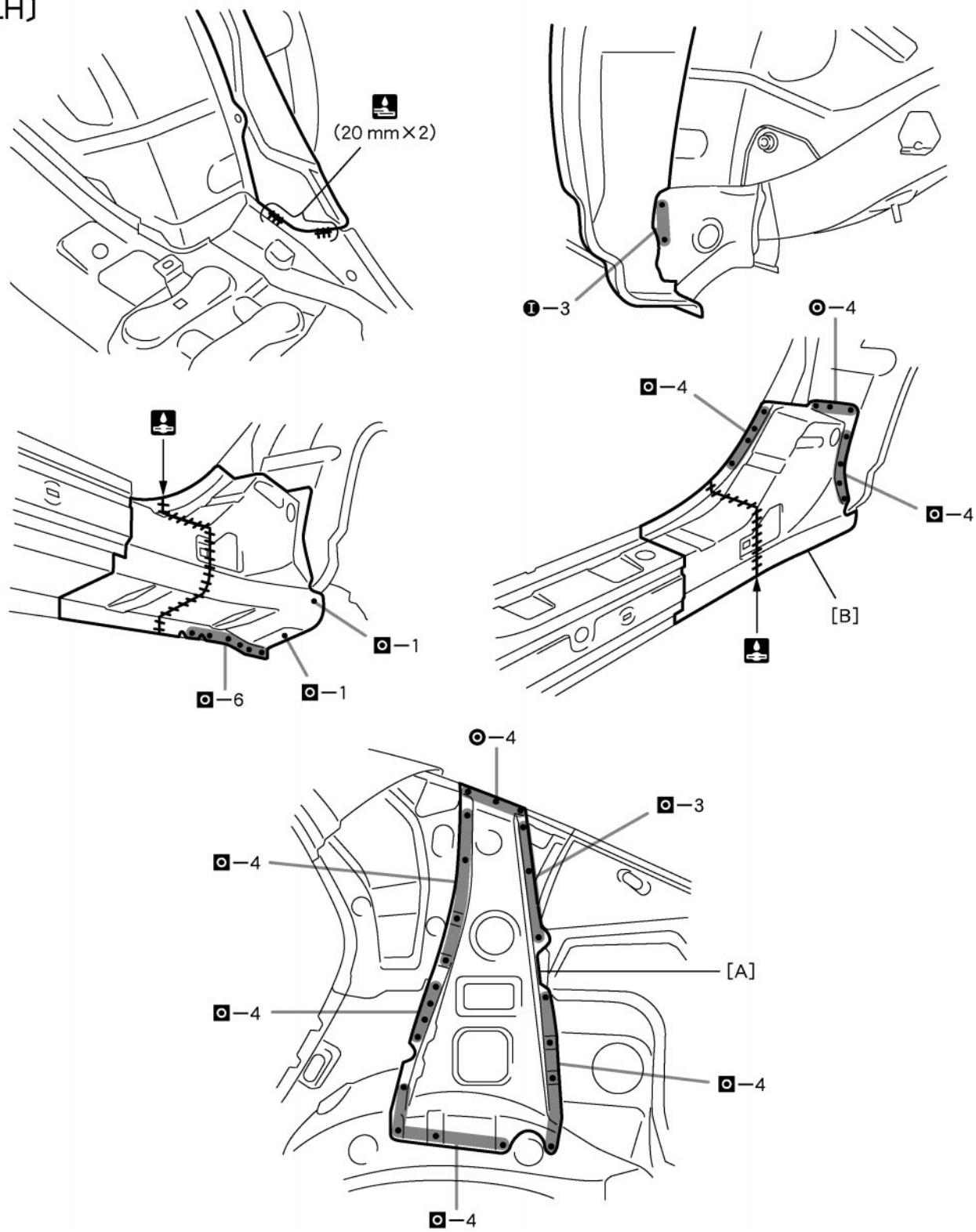
**(LH)**

F22117

**PART NAME**

[C] Weld Bolt

[LH]



F22118

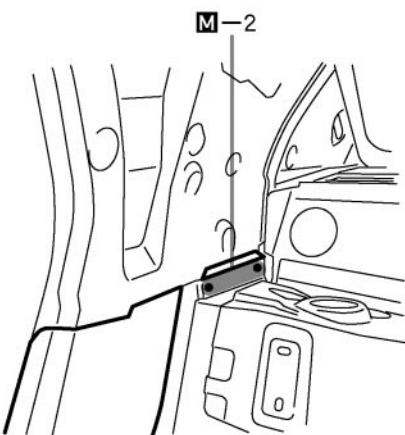
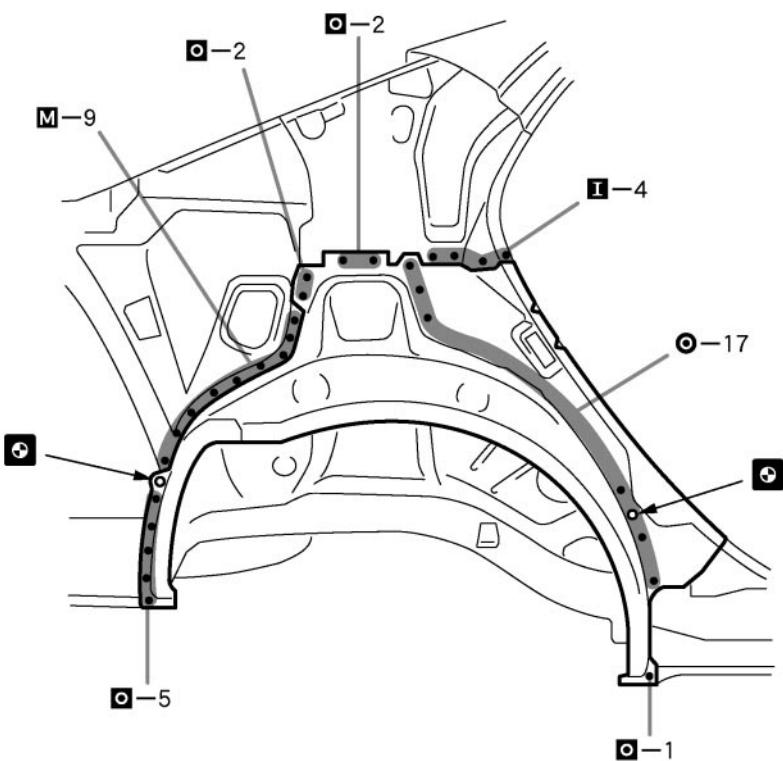
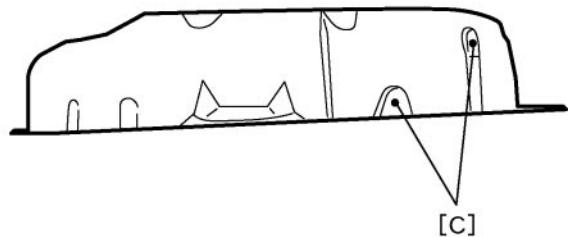
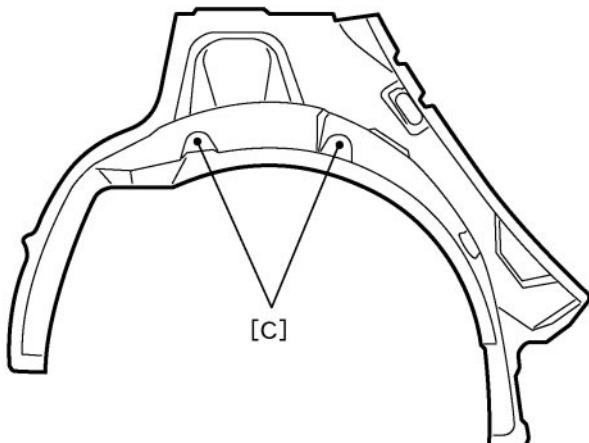
**POINT**

- 1 After welding the quarter wheel housing outer panel to the vehicle side, install the [A] and [B].

**PART NAME**

- [A] Roof Side Outer Panel    [B] Rocker Outer Extension  
20 mm (0.79 in.)

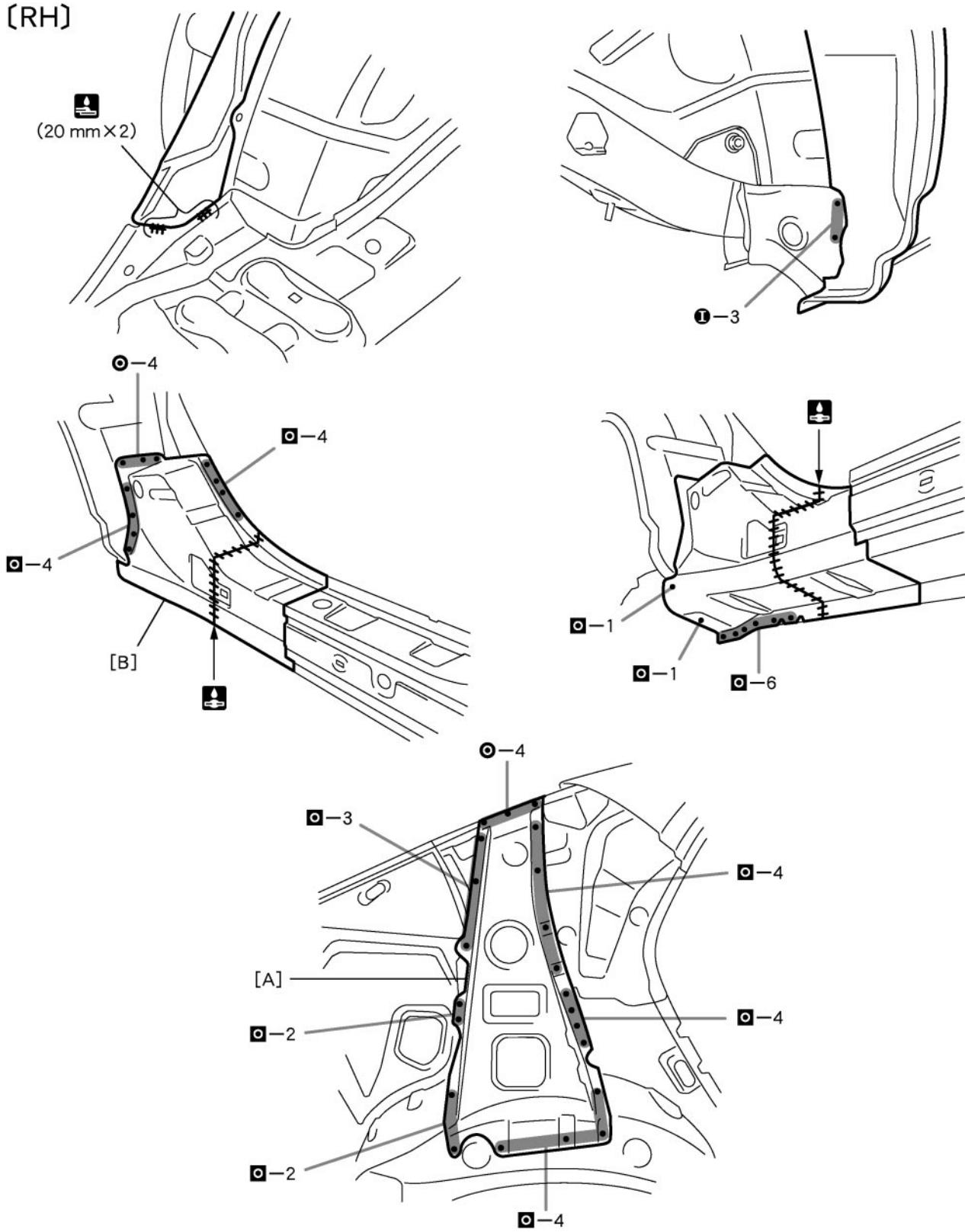
[RH]



**PART NAME**  
[C] Weld Bolt

F22119

[RH]



F22120

**POINT**

1 After welding the quarter wheel housing outer panel to the vehicle side, install the [A] and [B].

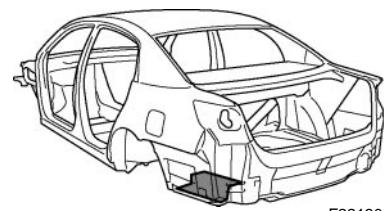
**PART NAME**

[A] Roof Side Outer Panel    [B] Rocker Outer Extension  
20 mm (0.79 in.)

## REAR FLOOR SIDE PANEL (ASSY)

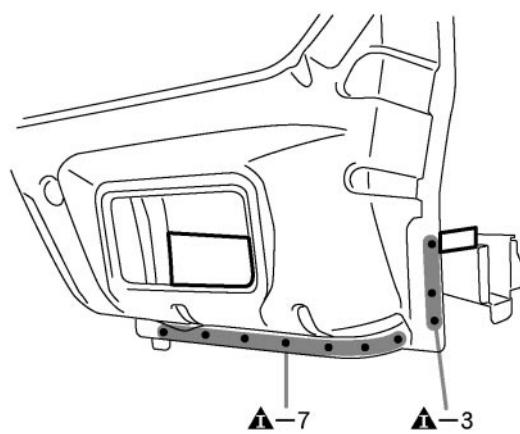
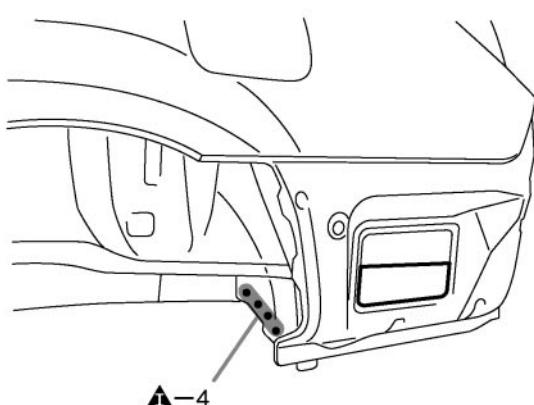
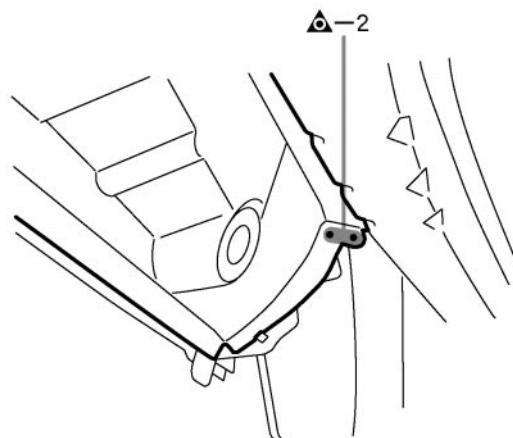
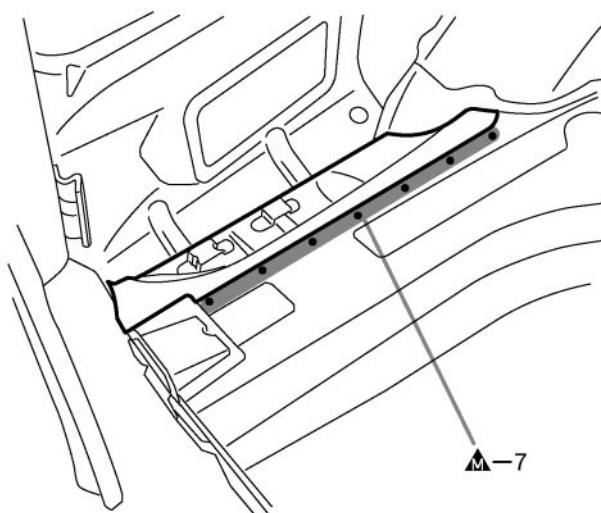
### REPLACEMENT

With the body lower back panel removed.

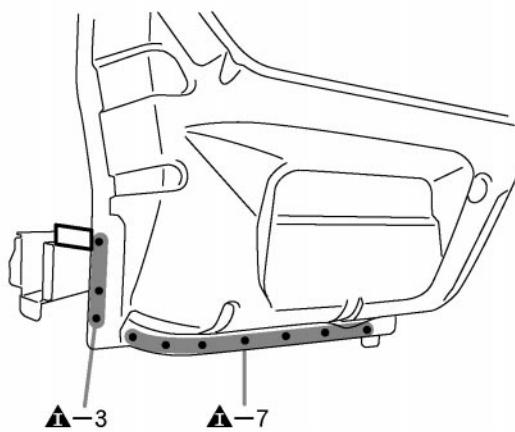
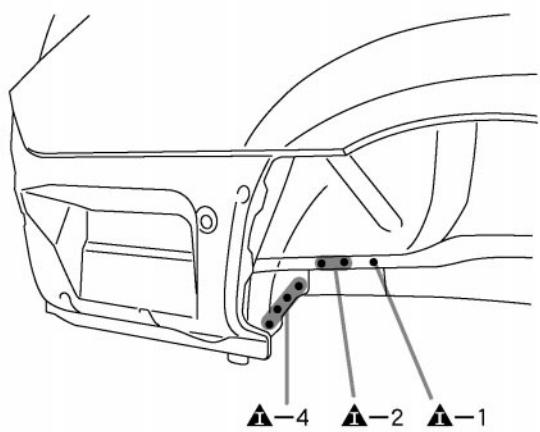
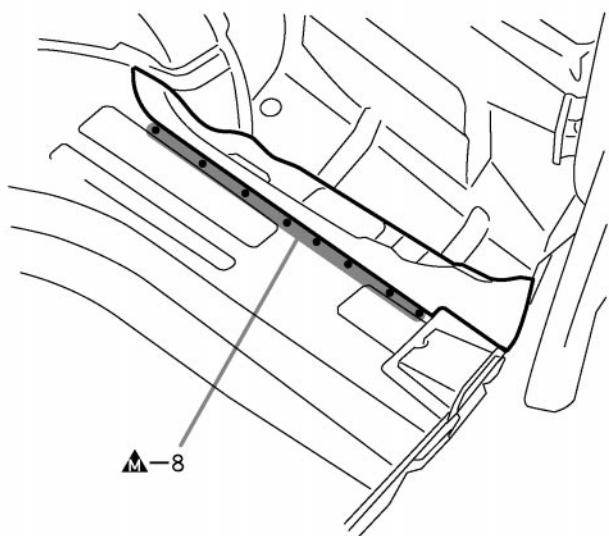


### REMOVAL

(LH)



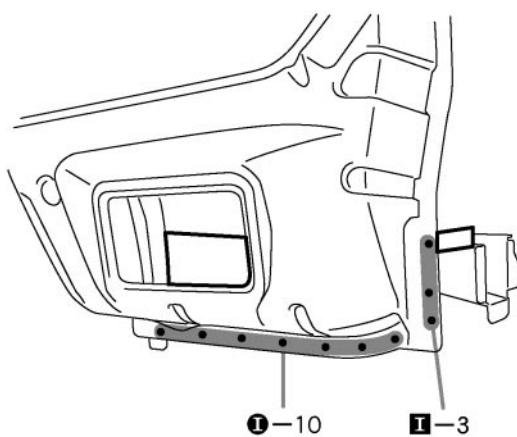
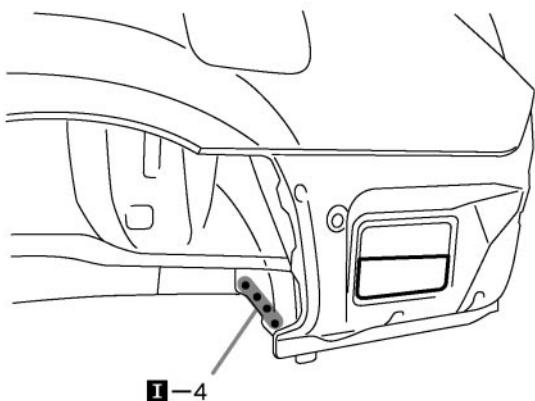
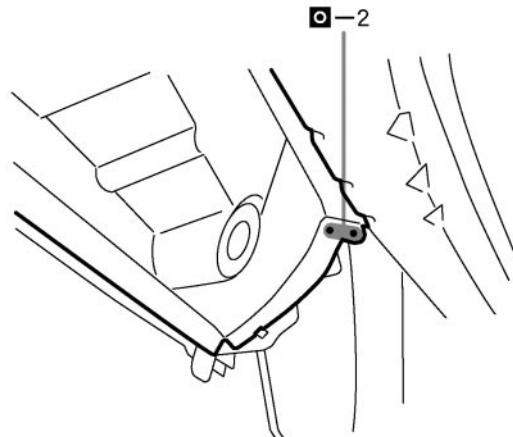
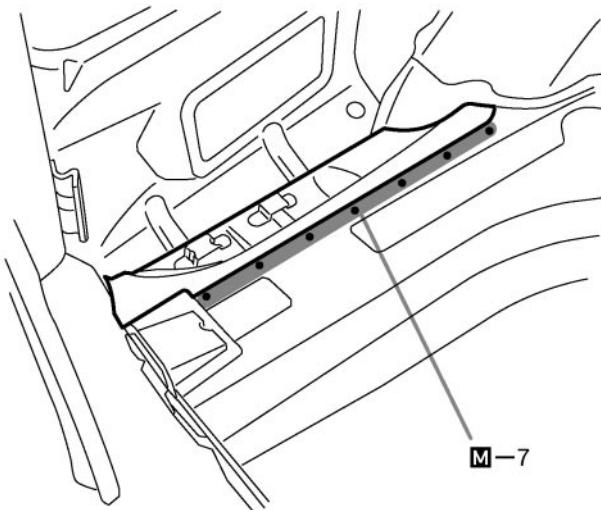
(RH)



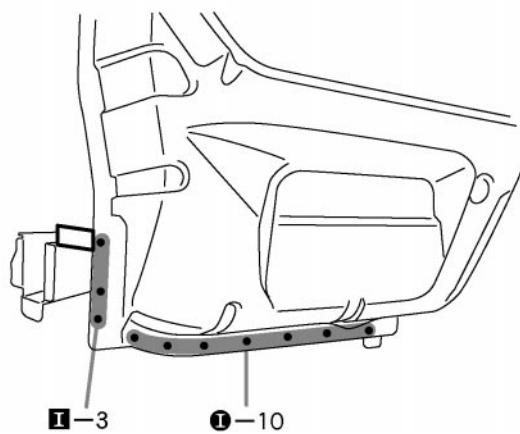
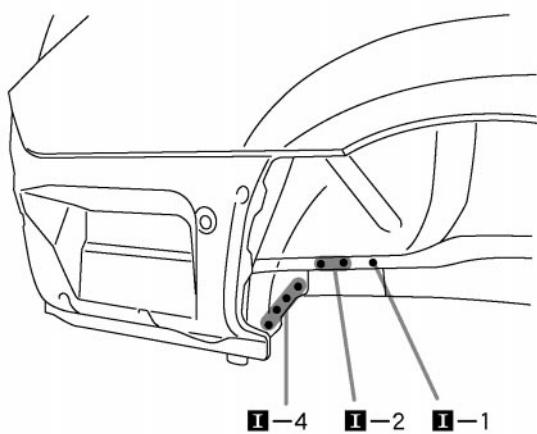
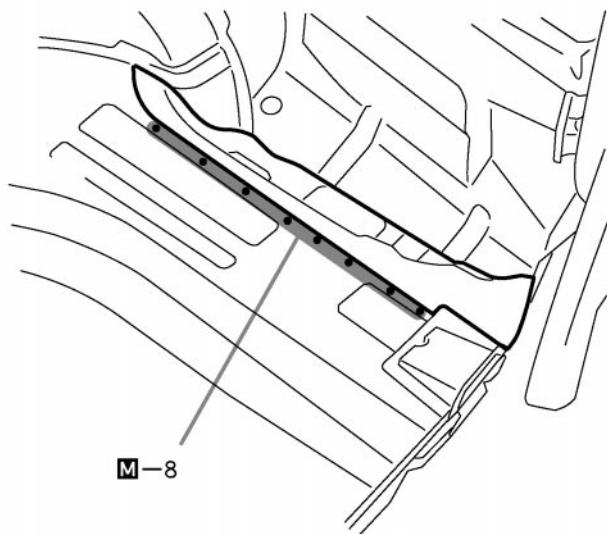
**INSTALLATION**

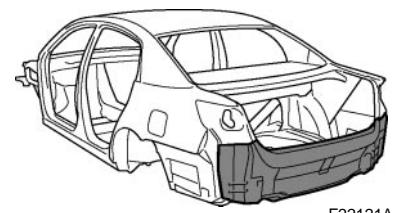
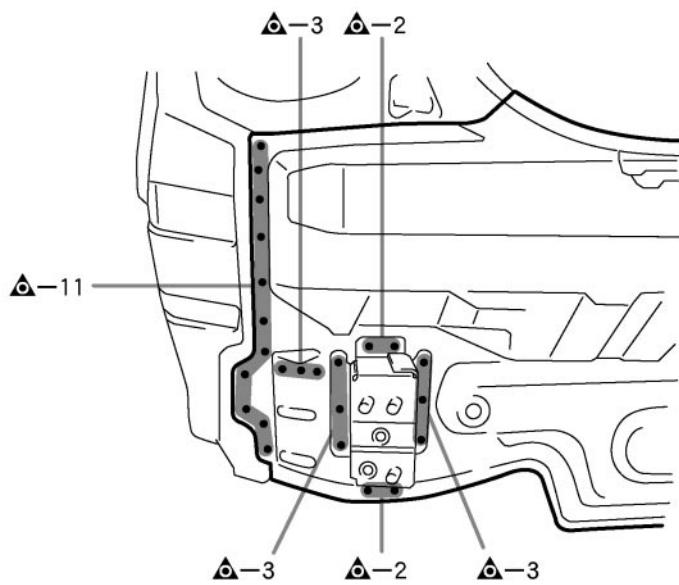
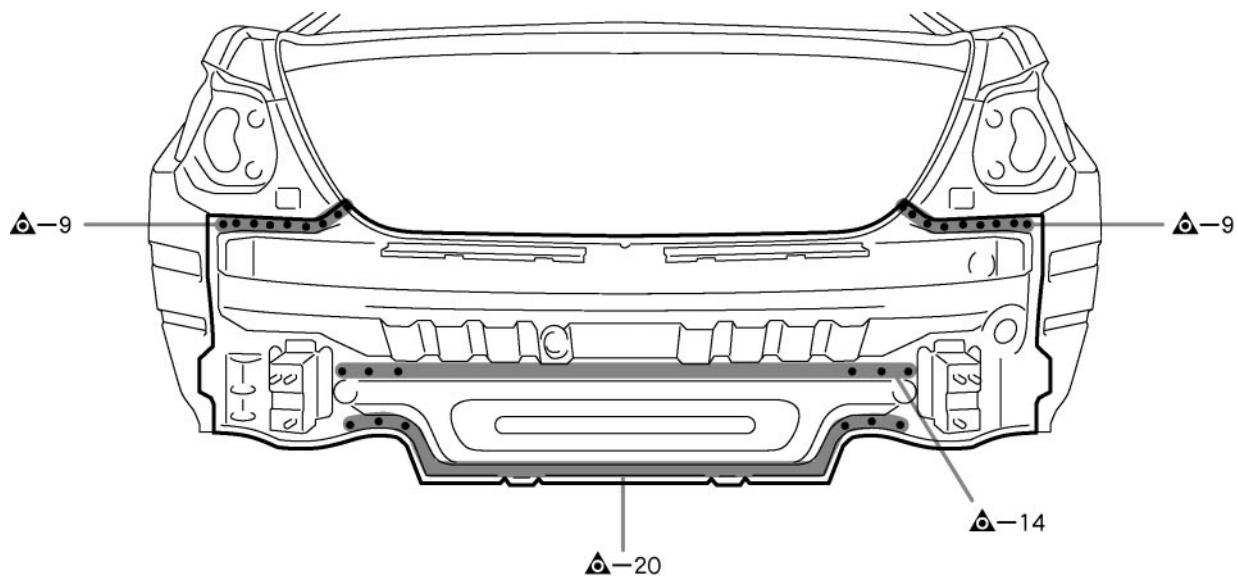
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.

(LH)



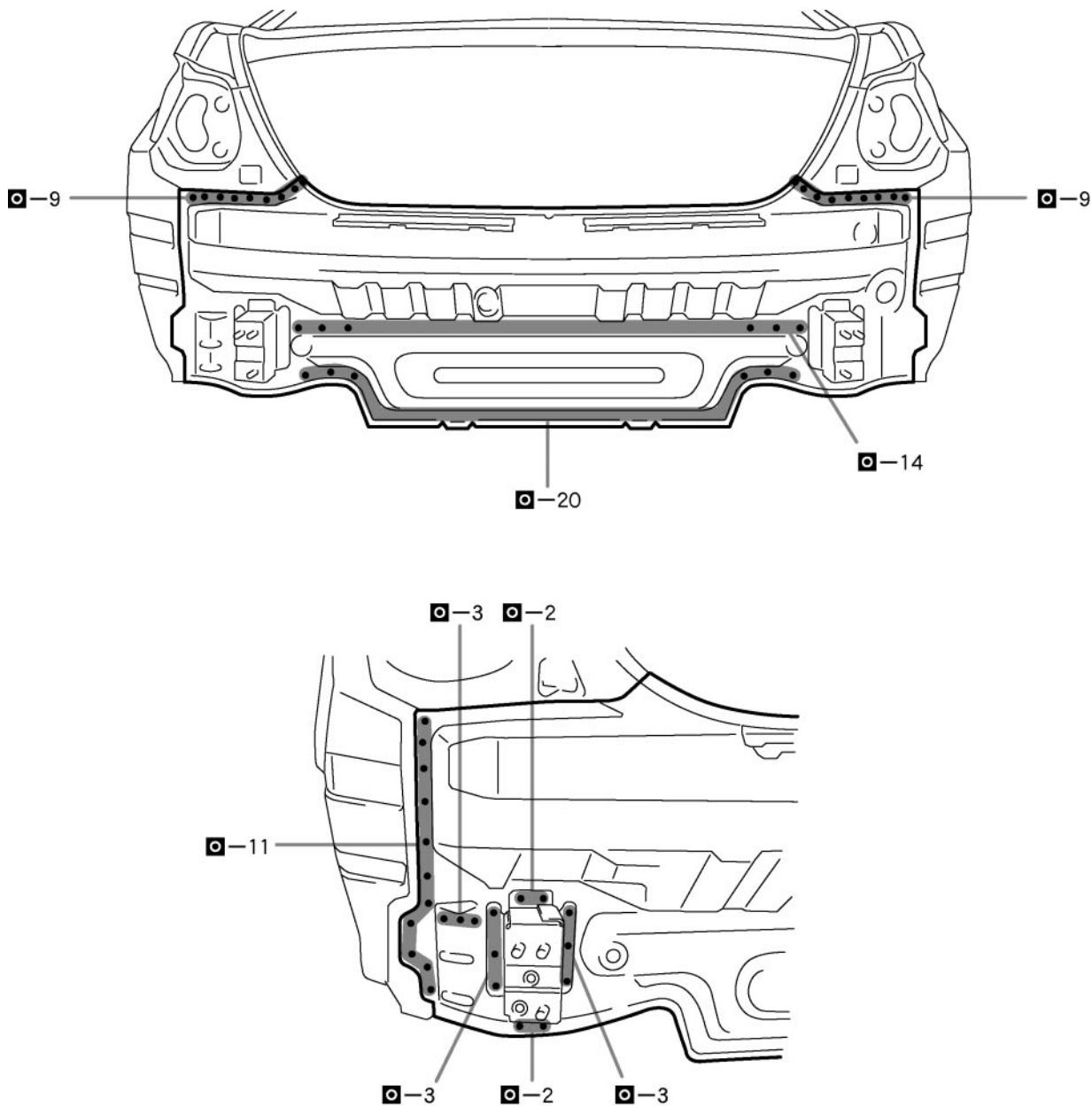
(RH)



**BODY LOWER BACK PANEL (ASSY)****REPLACEMENT****REMOVAL**

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22122

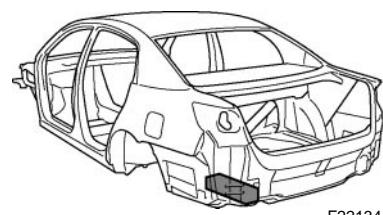
**POINT**

- 1 Inspect the fitting of the luggage compartment door and rear combination light, etc., before welding, since this affects the appearance of the finish.

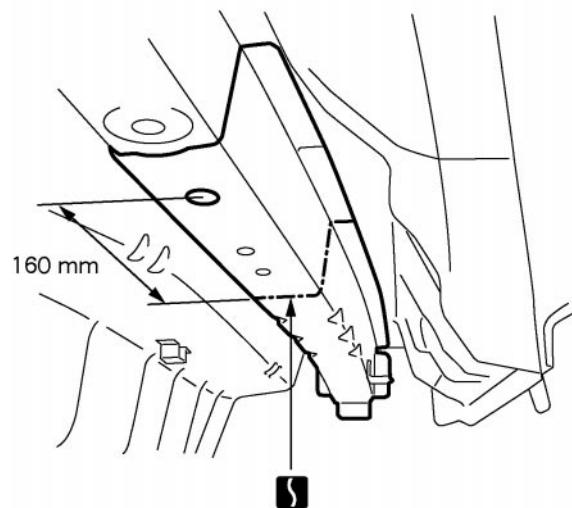
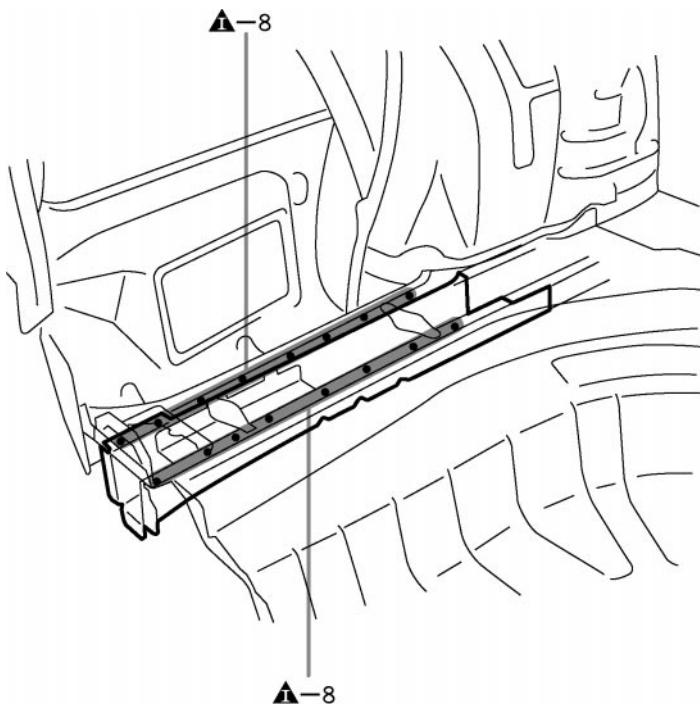
## REAR FLOOR SIDE REAR MEMBER (CUT-H)

### REPLACEMENT

With the rear floor No.3 crossmember removed.



### REMOVAL

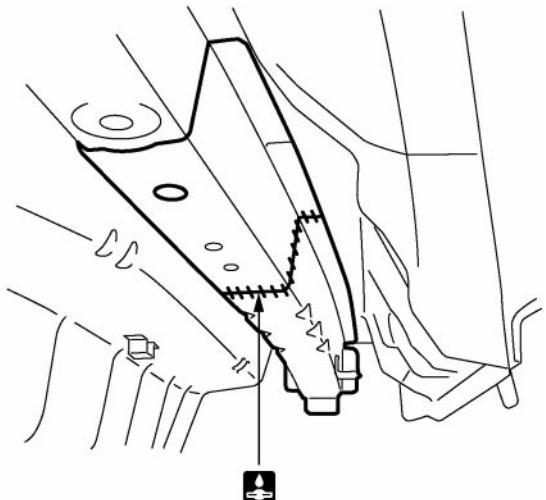
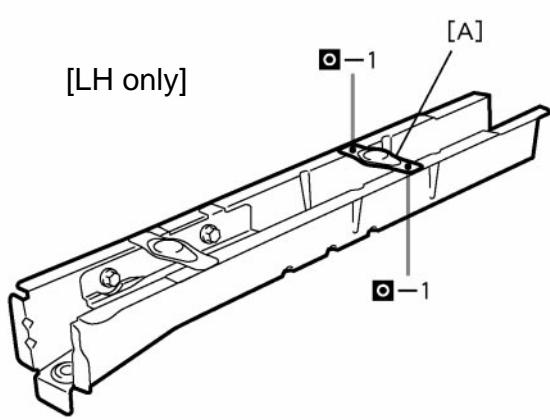
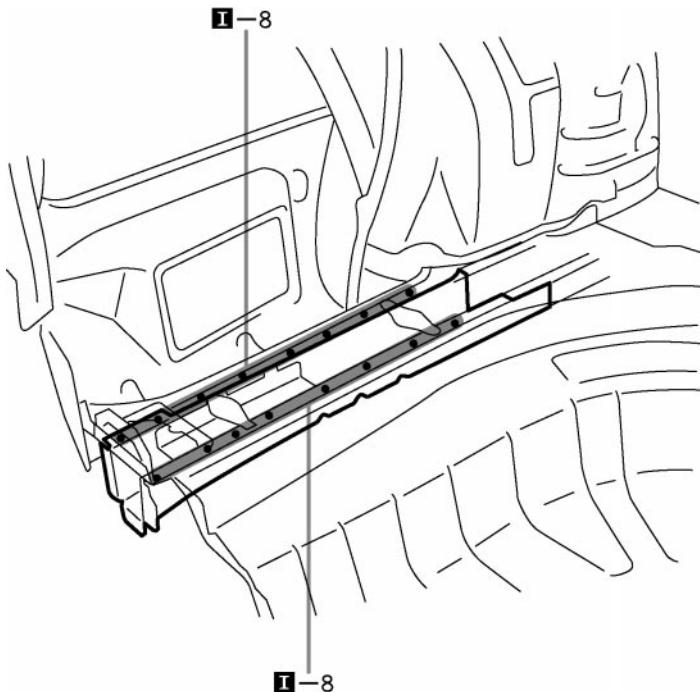


F22134

160 mm (6.30 in.)

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.

**PART NAME**

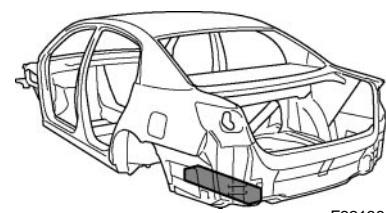
[A] Rear Floor Pan No.2 Reinforcement

F22135

## REAR FLOOR SIDE REAR MEMBER (ASSY)

### REPLACEMENT

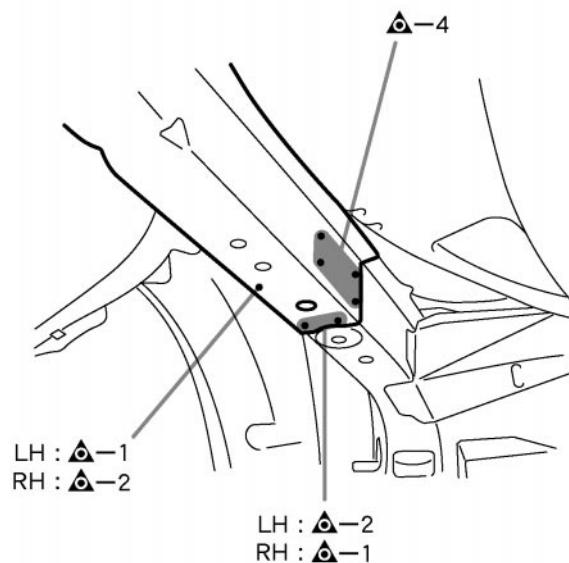
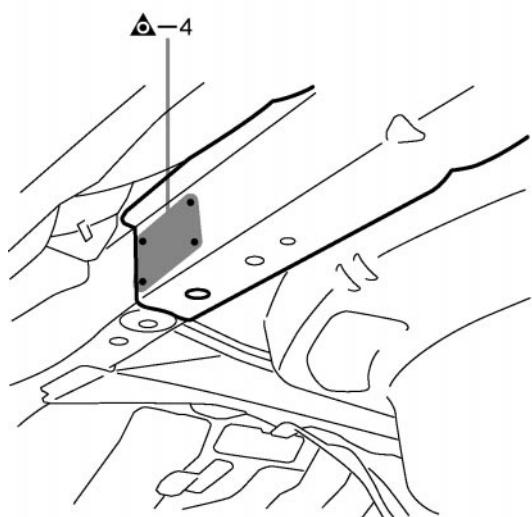
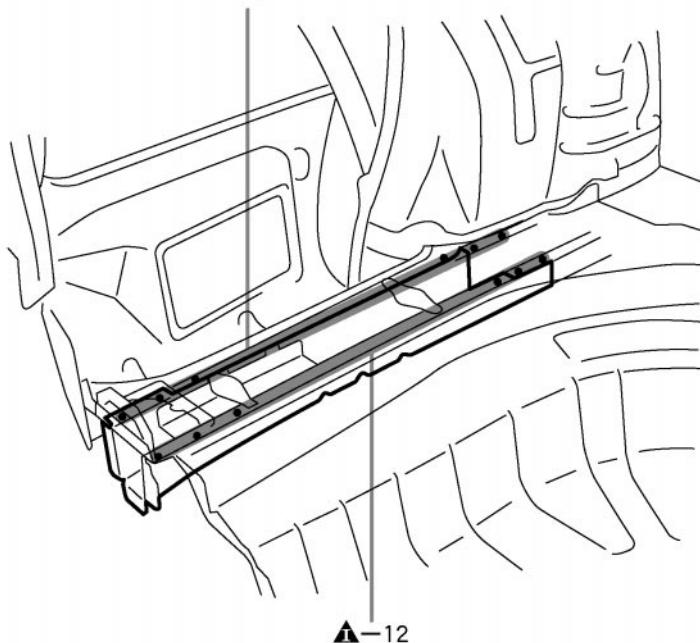
With the rear floor No.3 crossmember removed.



F22136A

### REMOVAL

LH : ▲-11  
RH : ▲-12

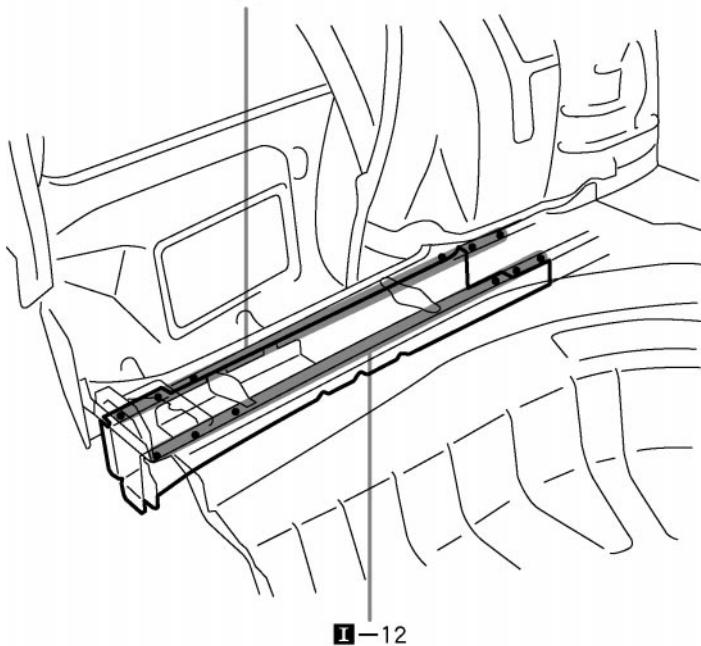


F22136

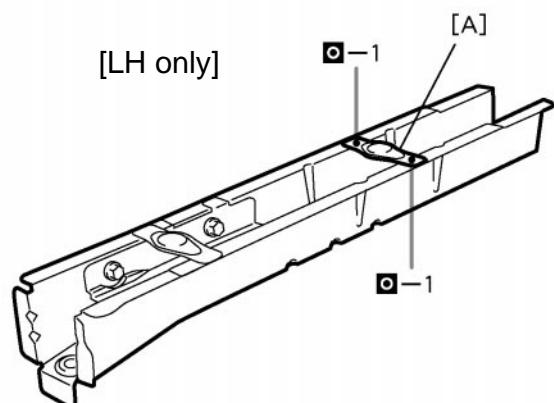
**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.

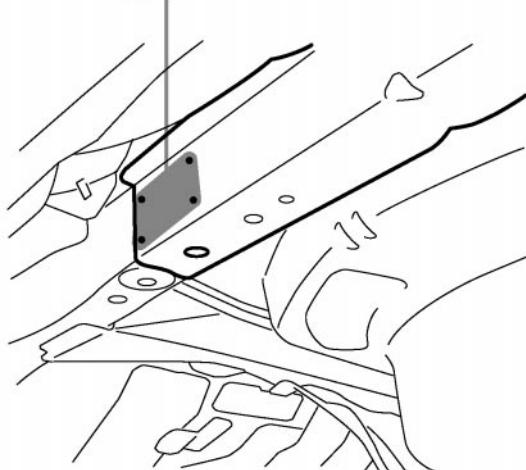
LH : I-11  
RH : I-12



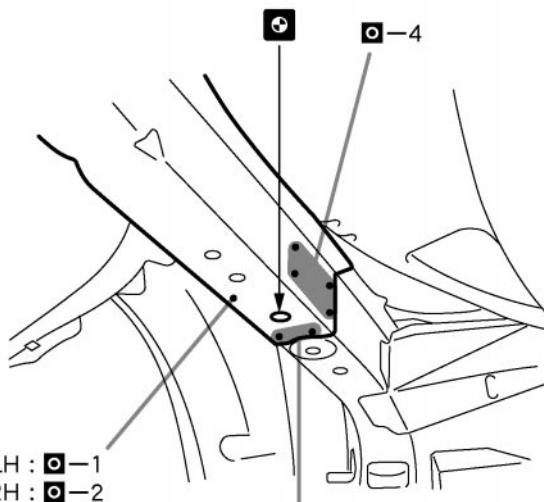
[LH only]



o-4



LH : o-1  
RH : o-2

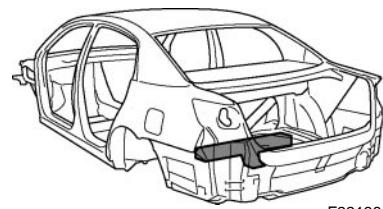


LH : o-2  
RH : o-1

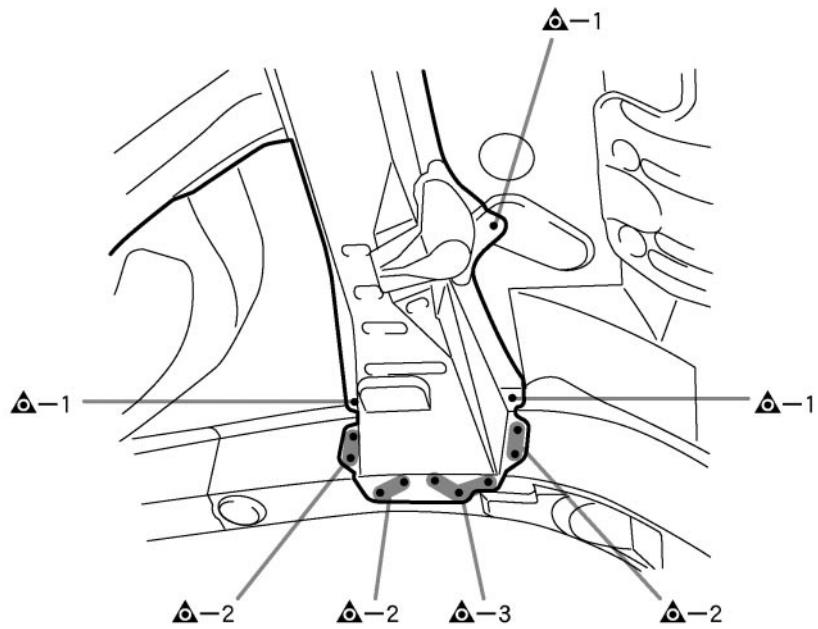
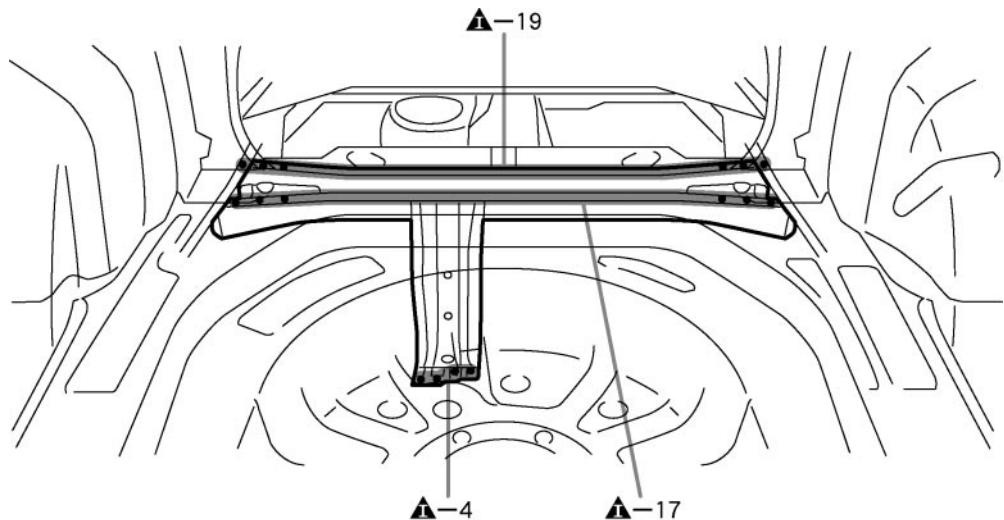
F22137

**PART NAME**

[A] Rear Floor Pan No.2 Reinforcement

**REAR FLOOR NO.2 CROSMEMBER (ASSY)****REPLACEMENT**

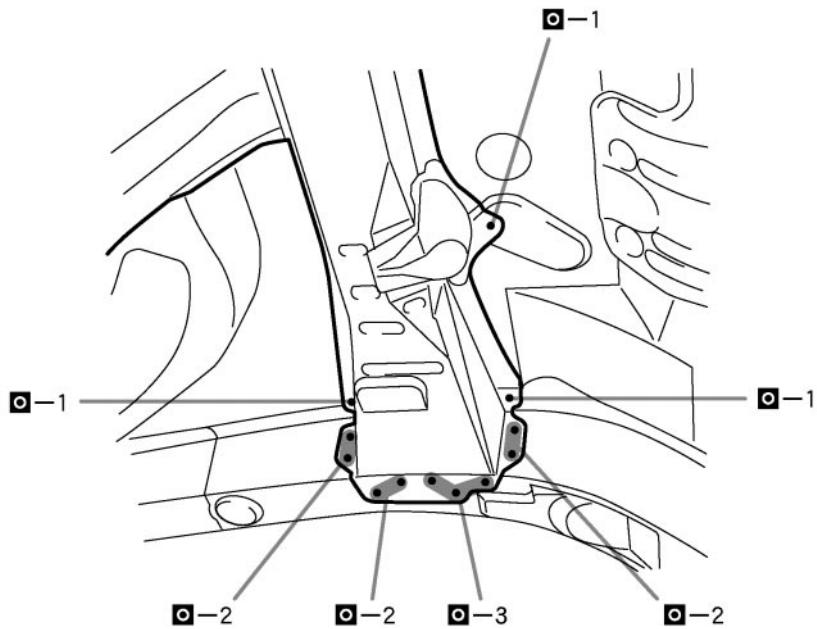
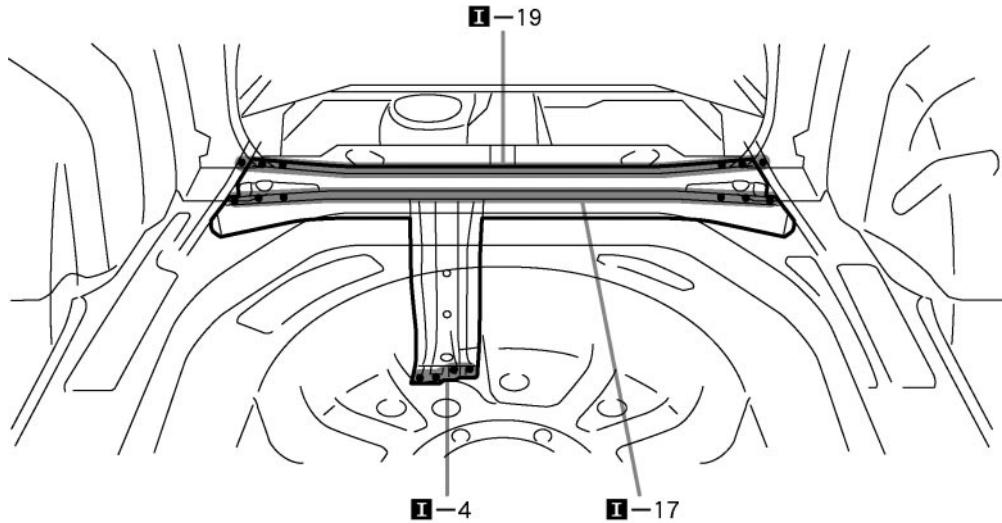
F22138A

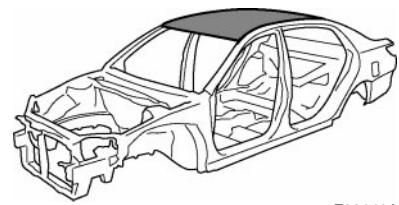
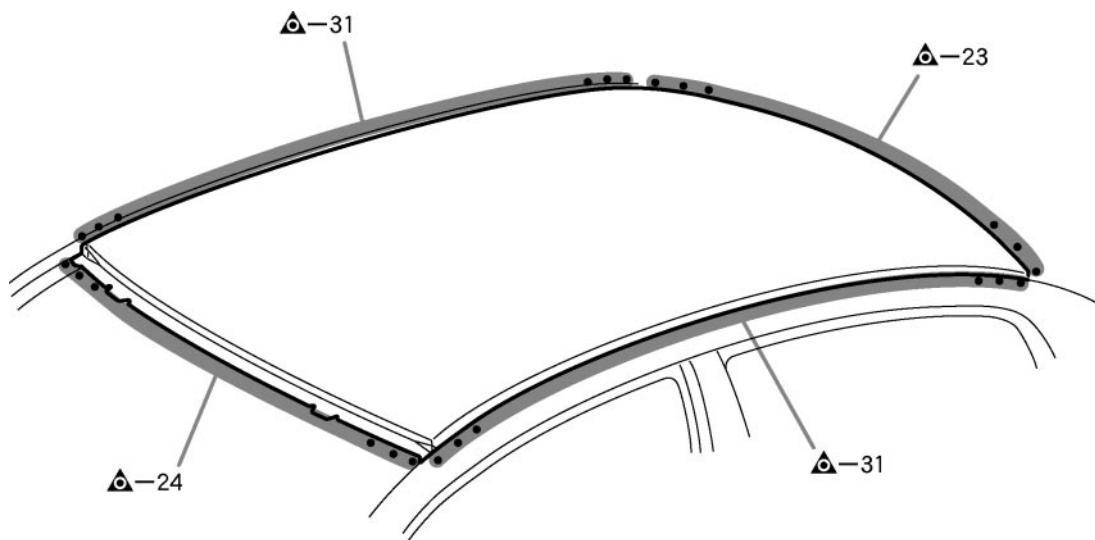
**REMOVAL**

F22138

**INSTALLATION**

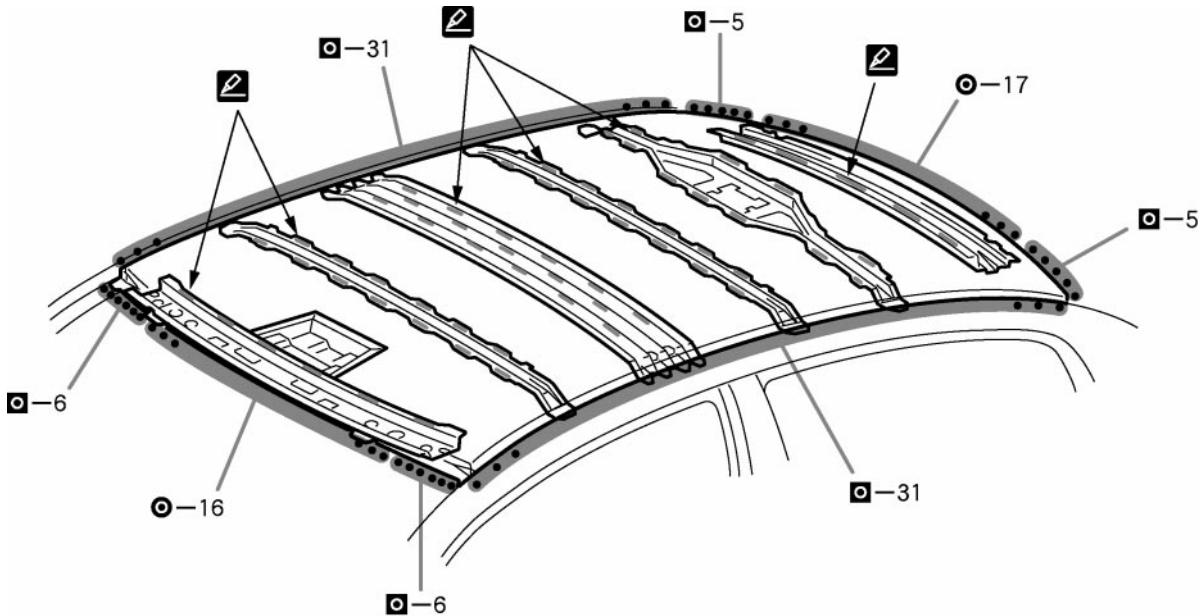
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



**ROOF PANEL (ASSY): w/o Moon Roof****REPLACEMENT****REMOVAL**

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



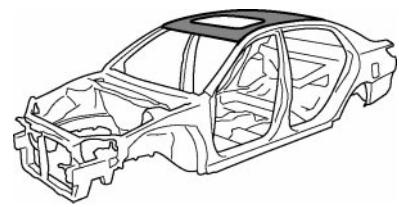
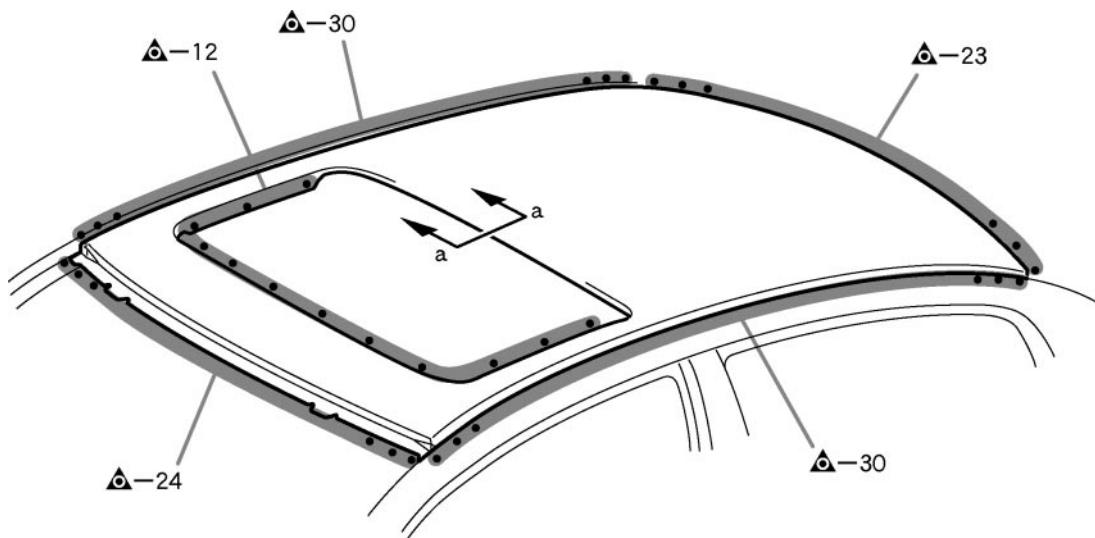
F22141

**POINT**

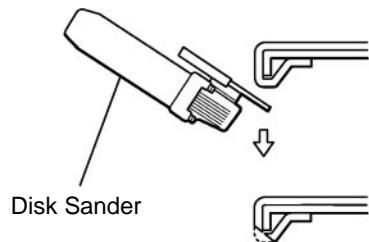
- 1 Before temporarily installing the new parts, apply body sealer to the windshield header panel, roof panel reinforcement and back window upper frame.

*HINT:*

- 1) *Apply just enough sealer for the new parts to make contact.*

**ROOF PANEL (ASSY): w/ Moon Roof****REPLACEMENT****REMOVAL**

a - a



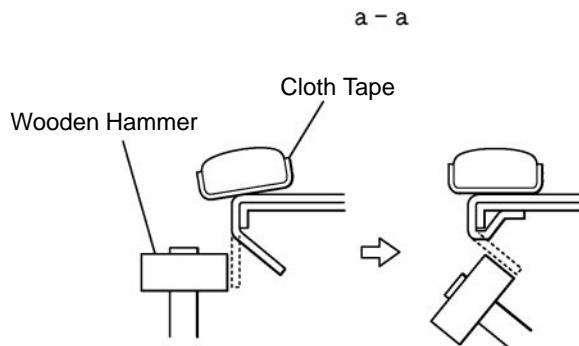
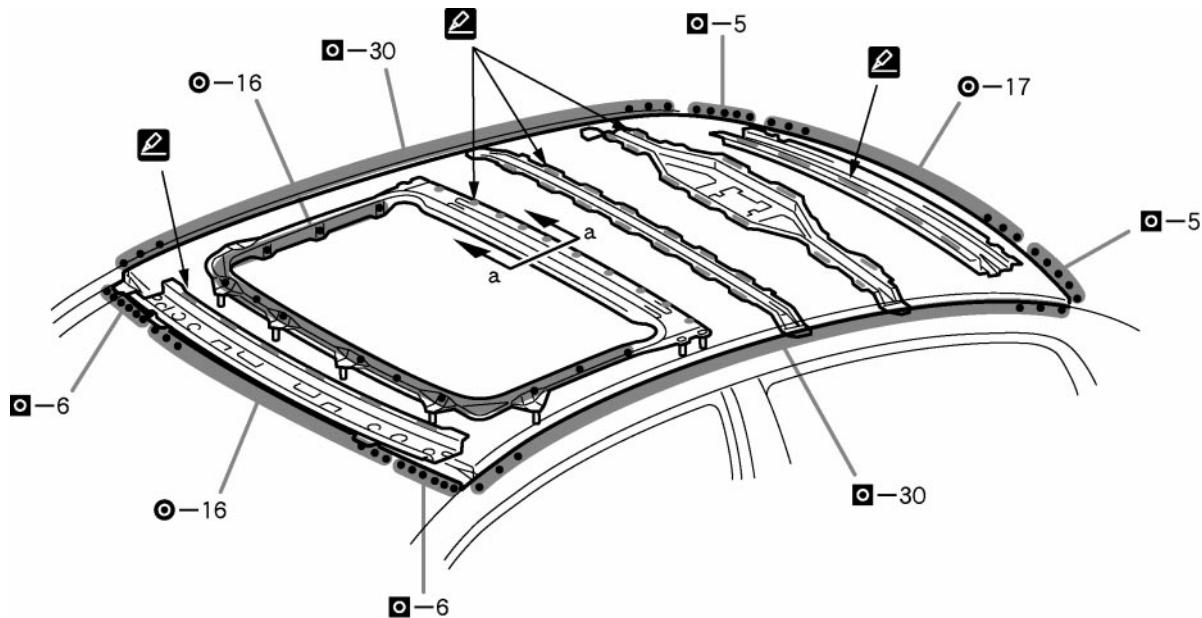
F22142

**POINT**

- 1 If reusing the roof panel reinforcement, trim the hemming location using a disc sander, etc.

**INSTALLATION**

- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply the polyurethane foam to the corresponding parts.
- After welding, apply body sealer and under-coating to the corresponding parts.
- After applying the top coat layer, apply anti-rust agent to the inside of the necked section structural weld spots.



F22143

**POINT**

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

*HINT:*

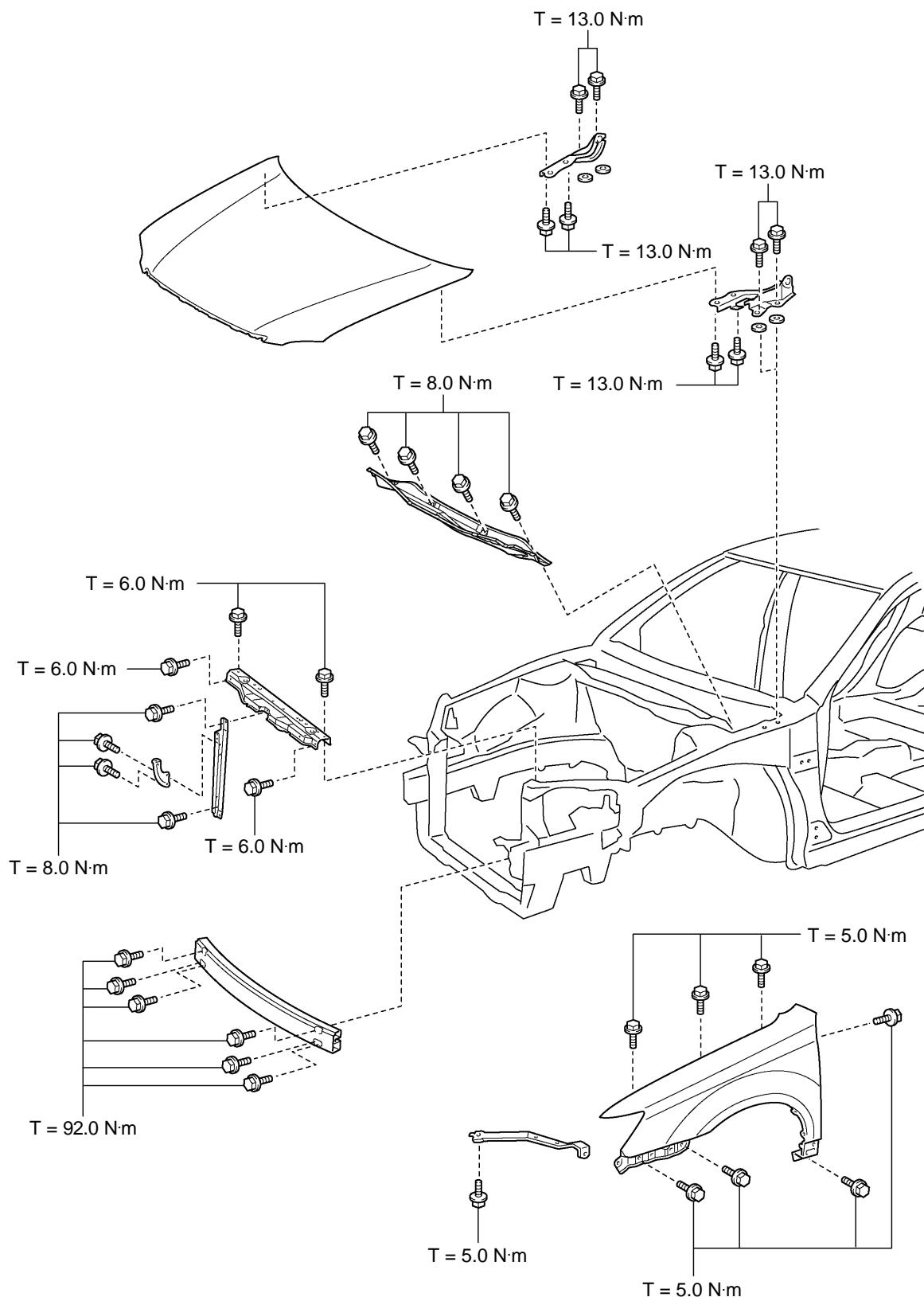
- 1) Apply just enough sealer for the new parts to make contact.

- 2 Bend the flange hem with a wooden hammer and dolly.

*HINT:*

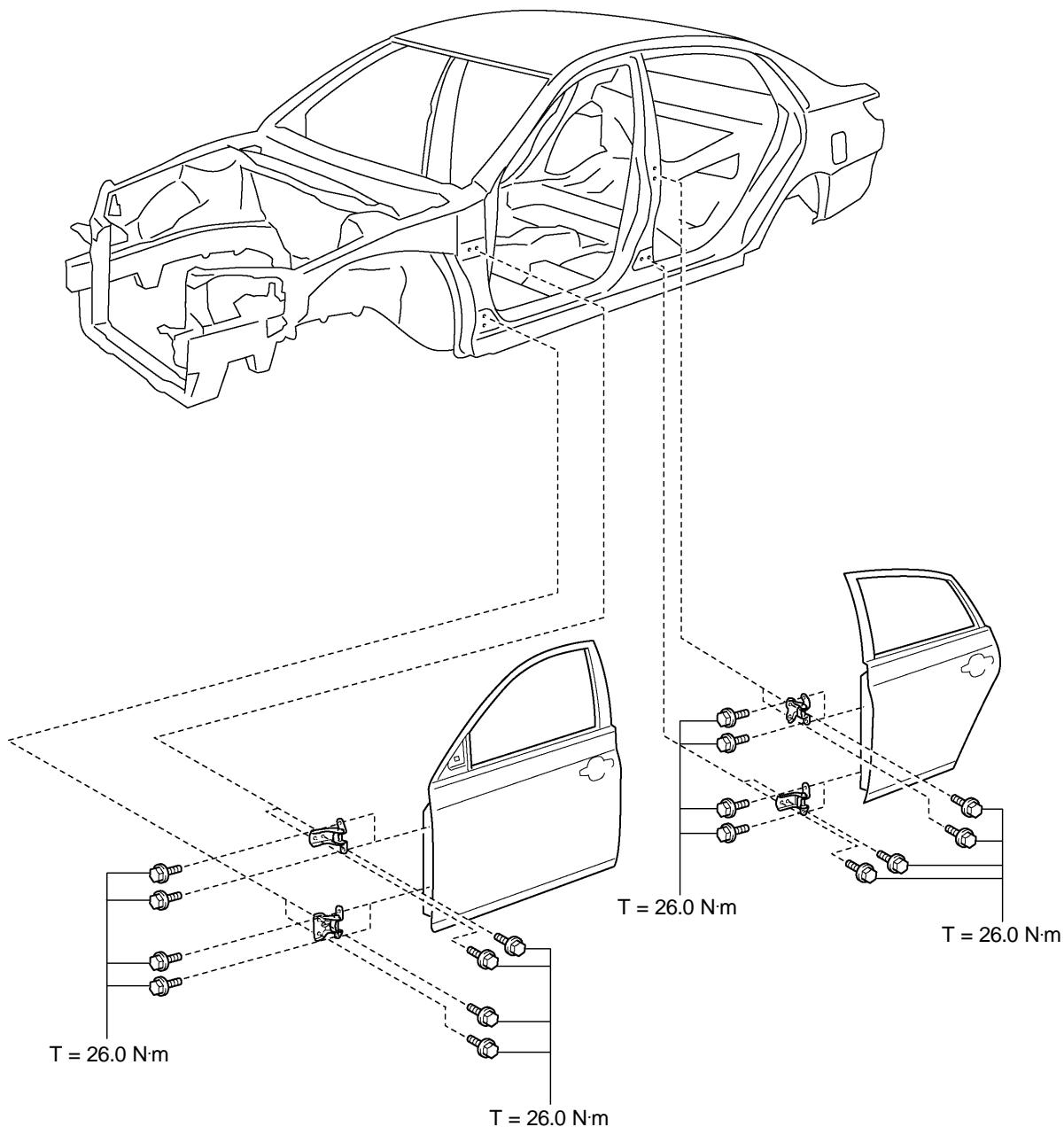
- 1) Perform hemming three steps, being careful not to warp the panel.

## OUTER PANEL INSTALLATION TORQUE



F22062

5.0 N·m (51 kgf·cm, 44 in·lbf)	6.0 N·m (61 kgf·cm, 53 in·lbf)	8.0 N·m (82 kgf·cm, 71 in·lbf)
13.0 N·m (133 kgf·cm, 10 ft·lbf)	92.0 N·m (938 kgf·cm, 68 ft·lbf)	—

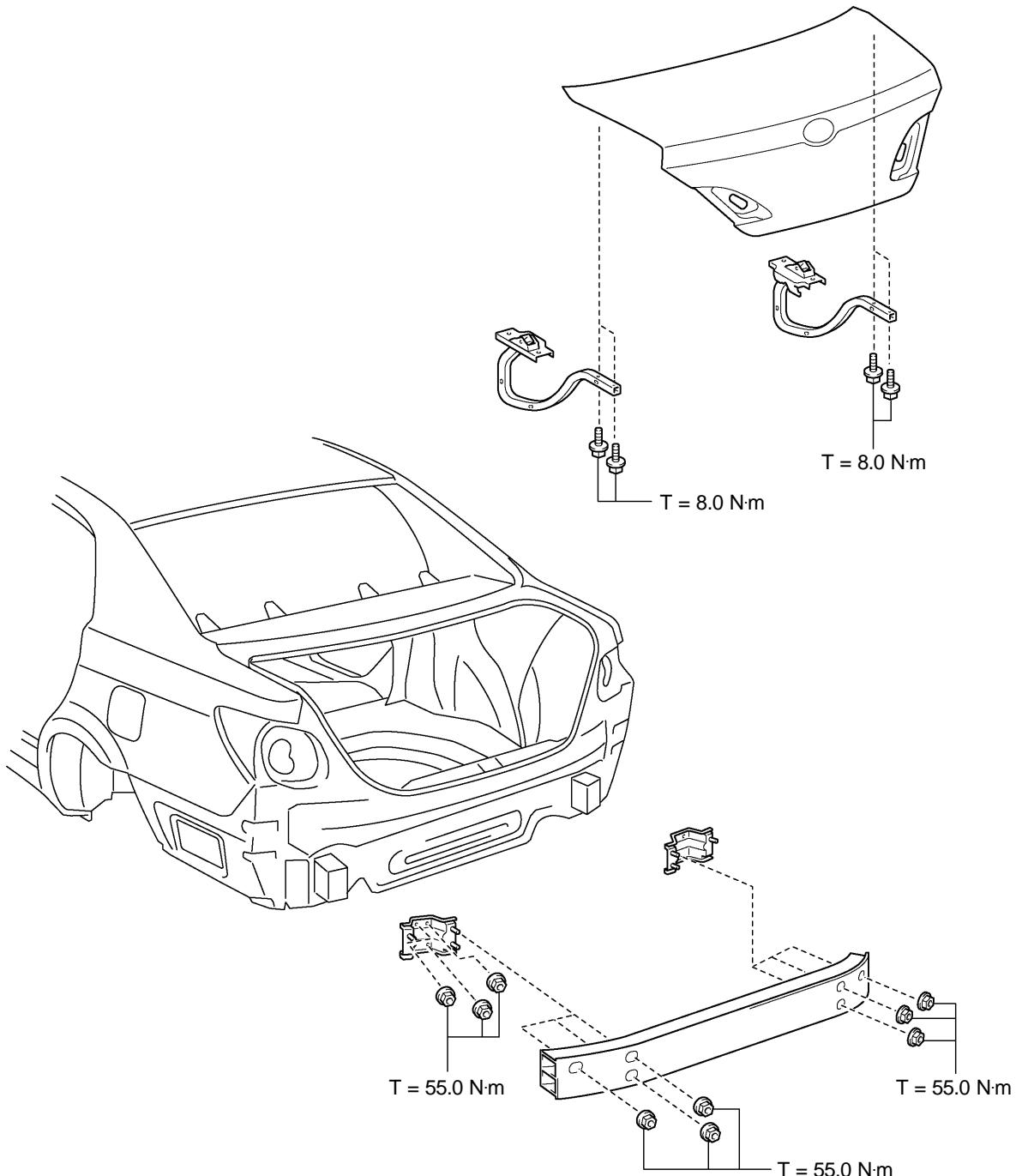


F22063

26.0 N·m (265 kgf·cm, 19 ft·lbf)

—

—



F22064

8.0 N·m (82 kgf·cm, 71 in·lbf)

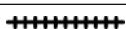
55.0 N·m (561 kgf·cm, 41 ft·lbf)

—

## BODY PANEL SEALING AREAS

**HINT:**

- 1) Prior to applying body sealer, clean the area with a rag soaked in silicone remover.
- 2) If weld-through primer was used, first wipe off any excess and coat with anti-corrosion primer before applying body sealer.
- 3) Wipe off excess body sealer with a rag soaked in silicone remover.
- 4) If body sealer is damaged by peeling, cracks, etc., be sure to repair as necessary.

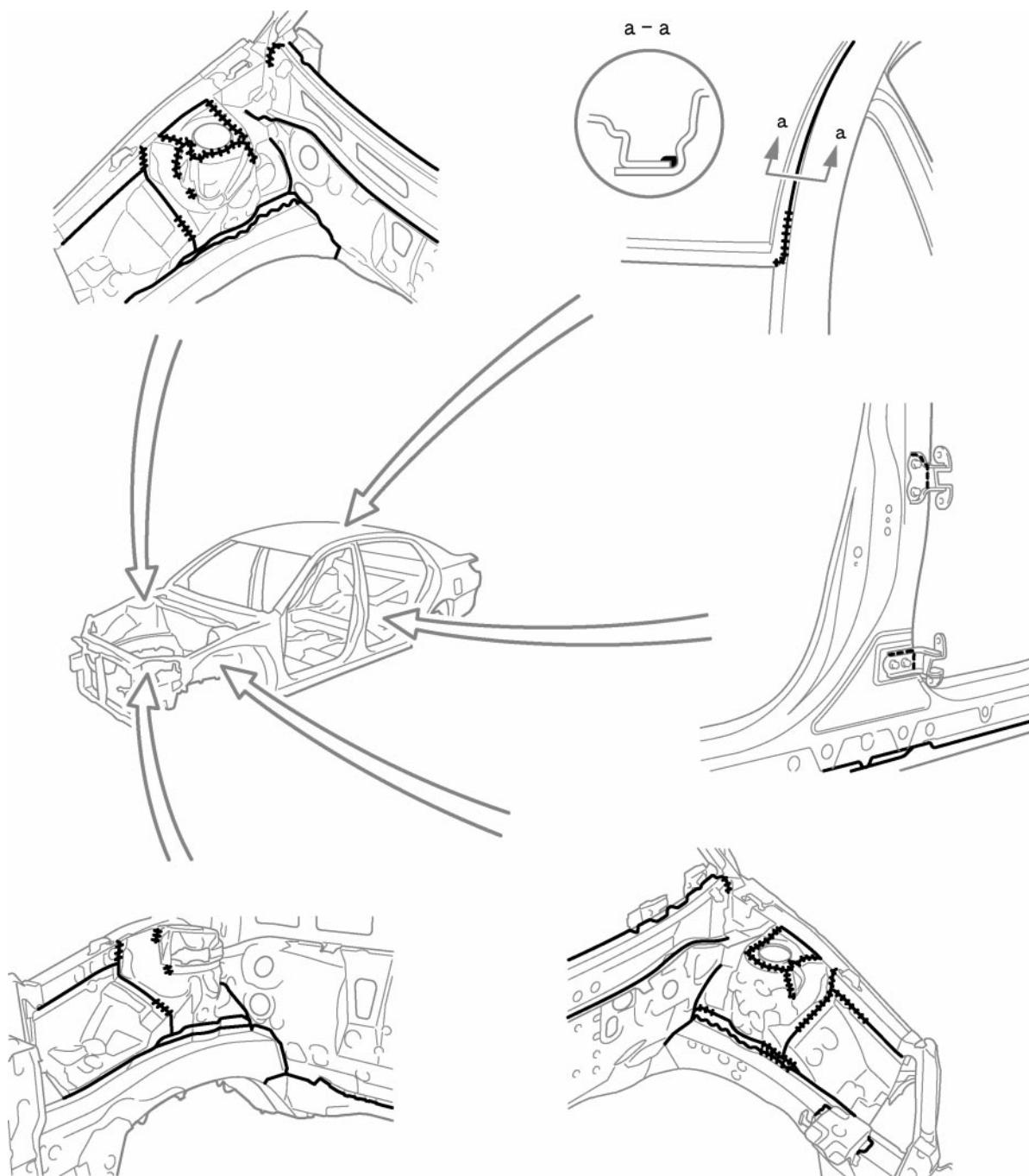


Flat Finishing

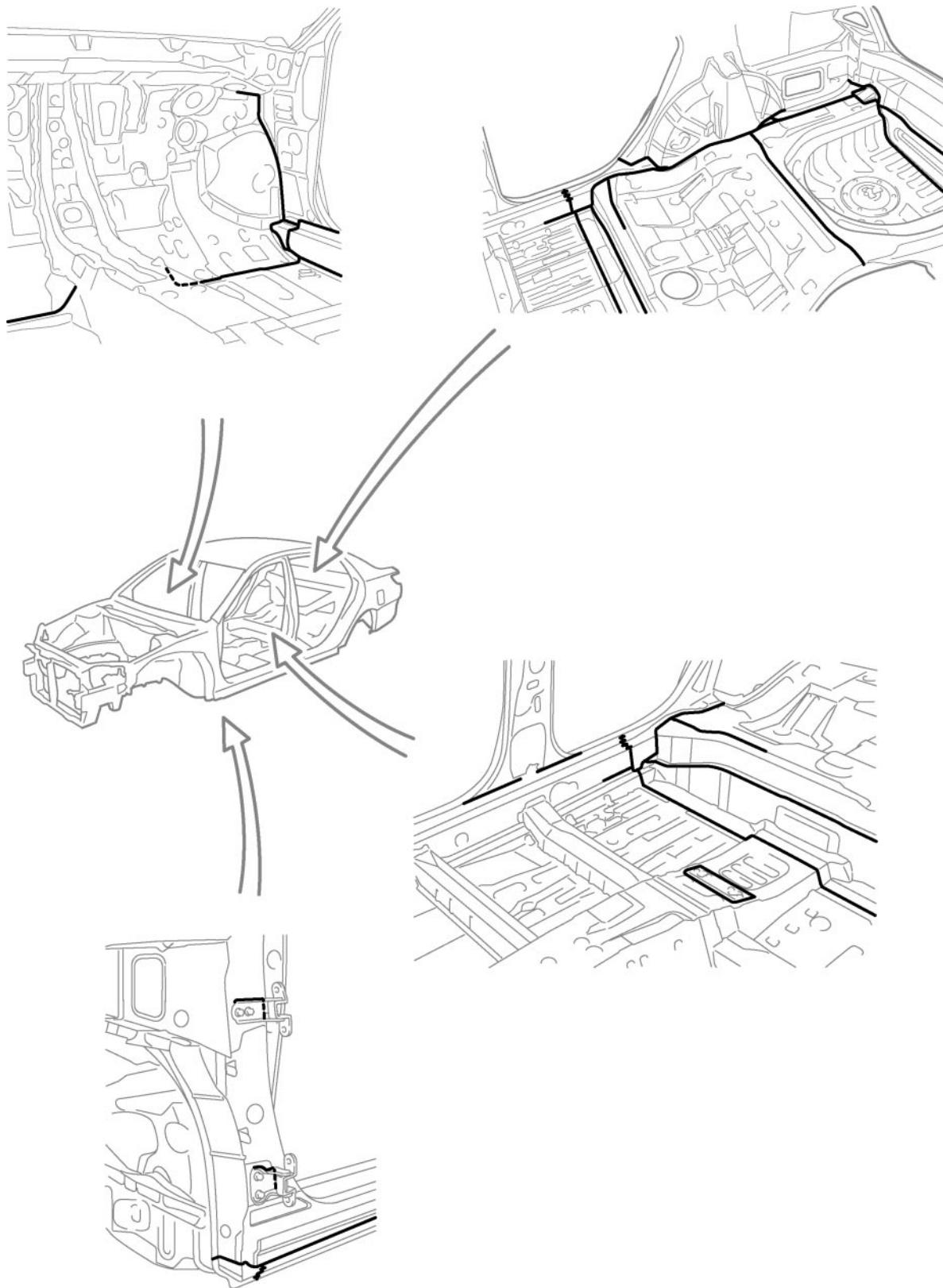


No Flat Finishing

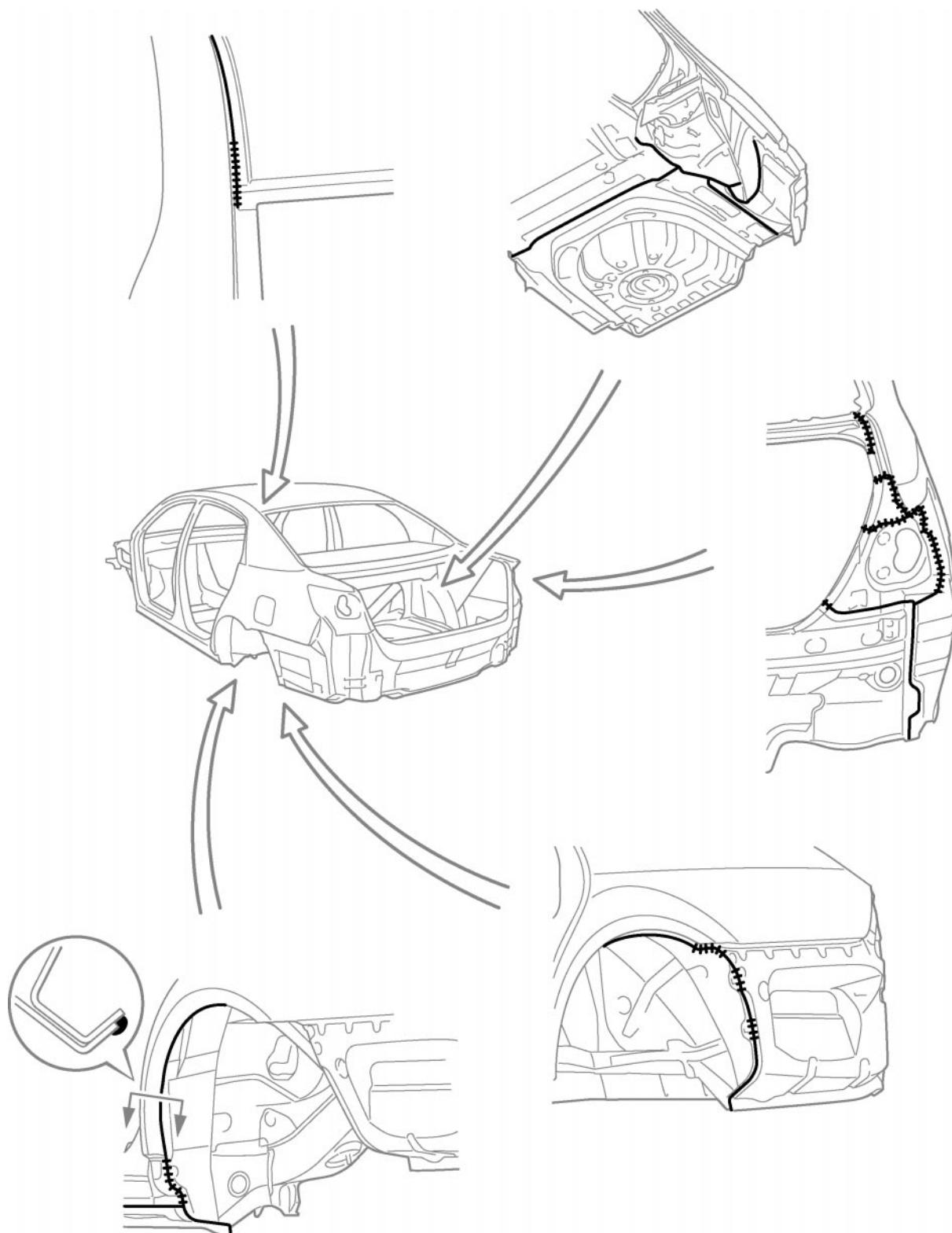
### 1. ENGINE COMPARTMENT



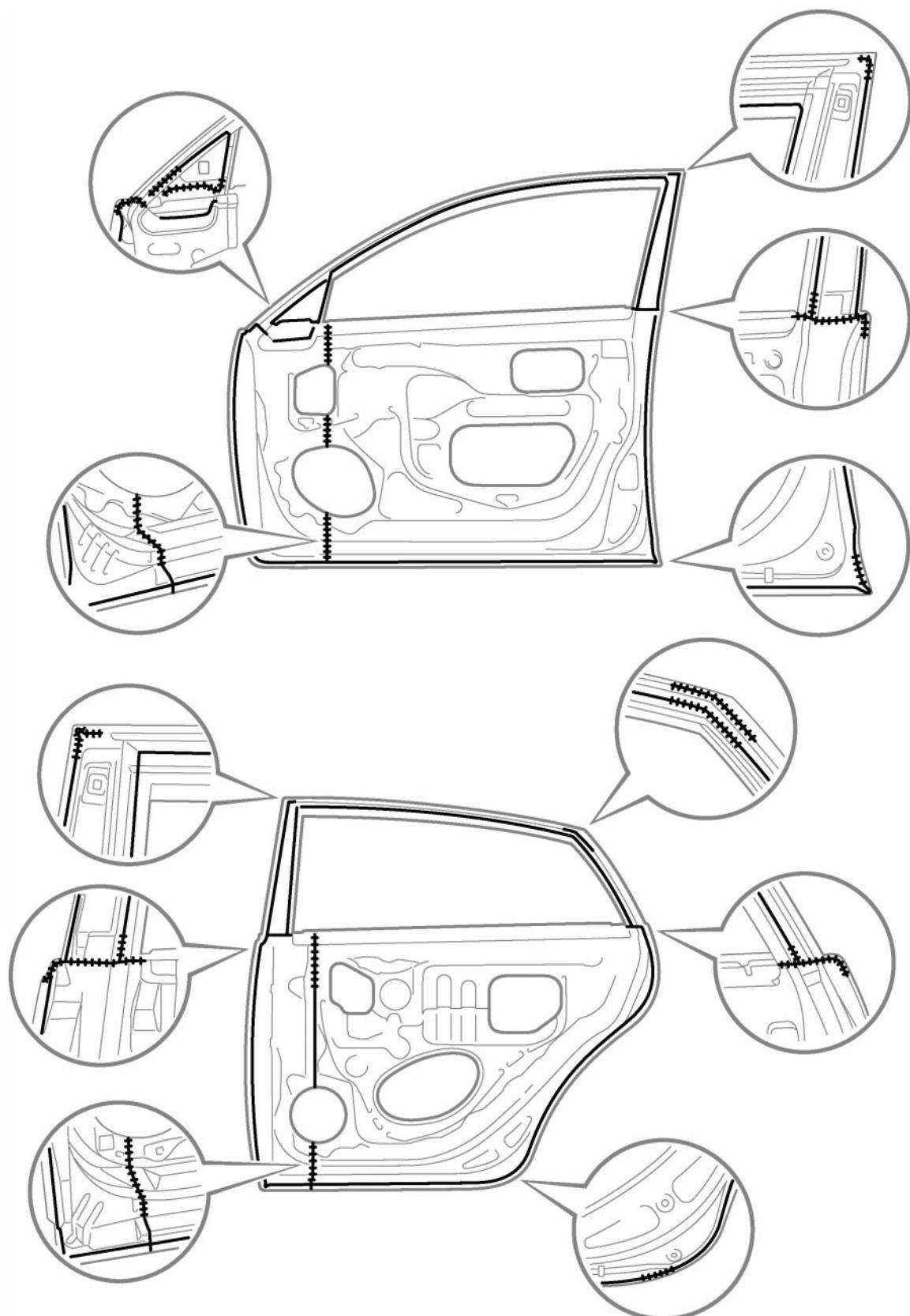
## 2. INSIDE

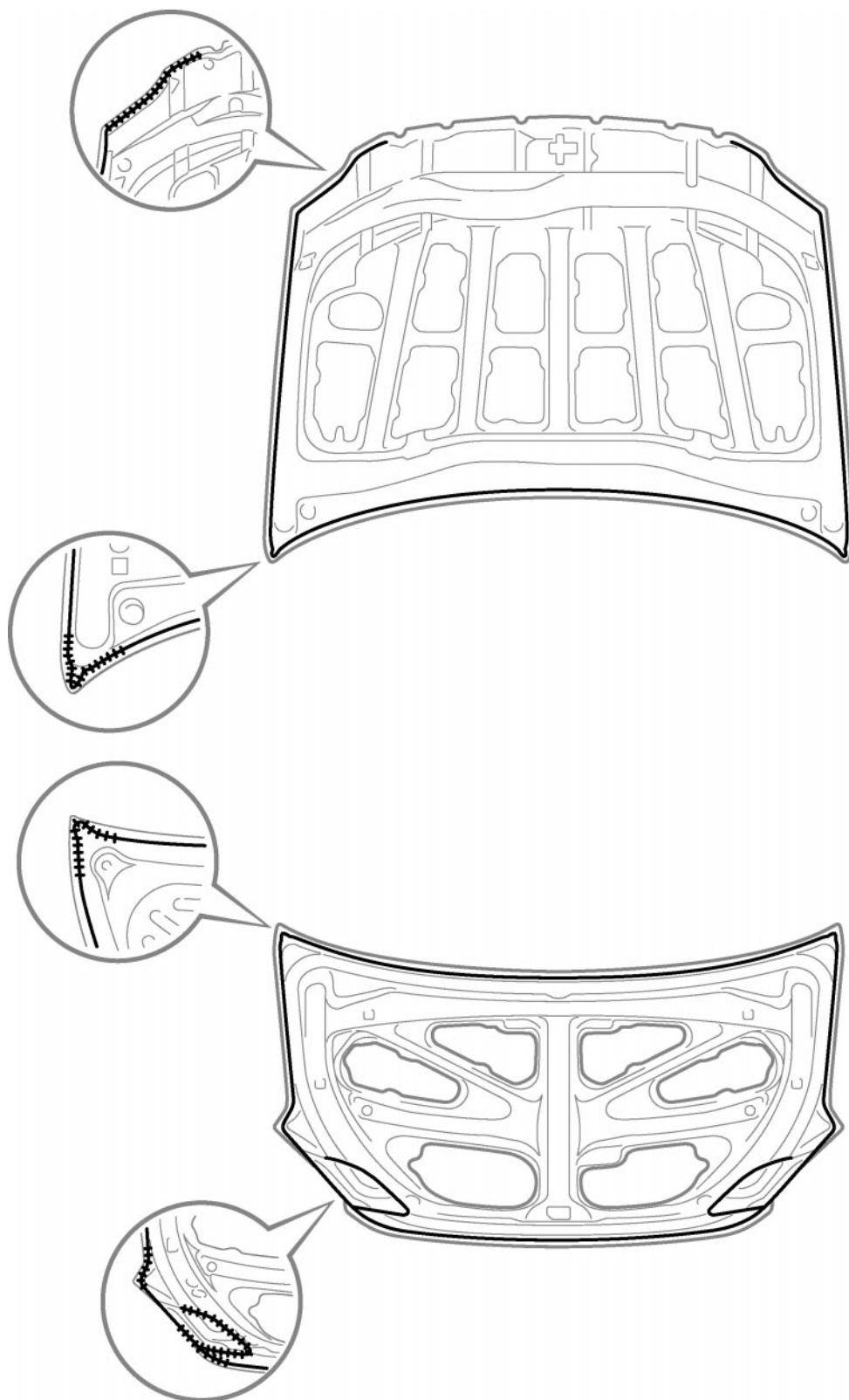


## 3. OUTSIDE



## 4. DOOR PARTS

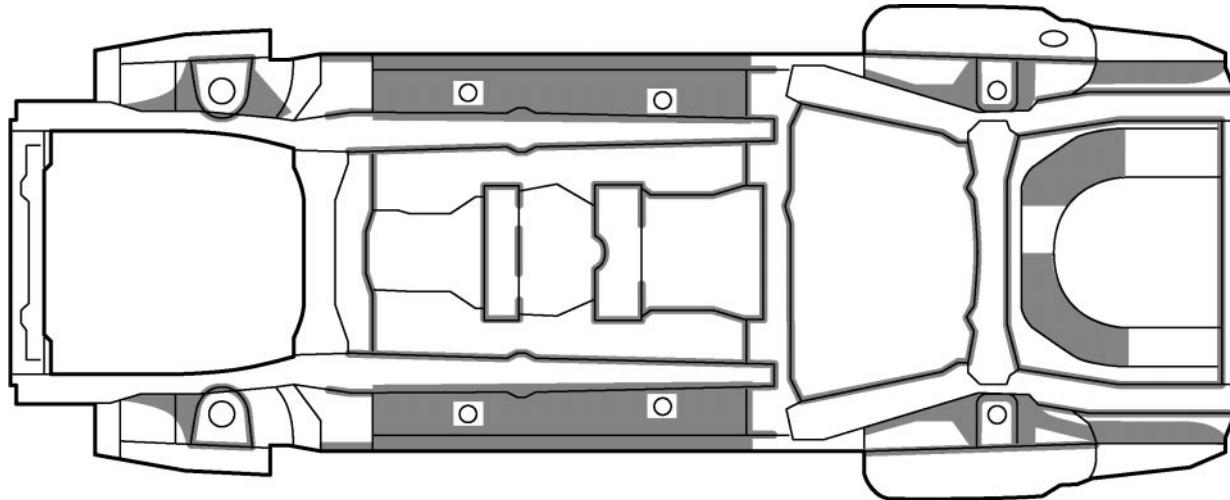
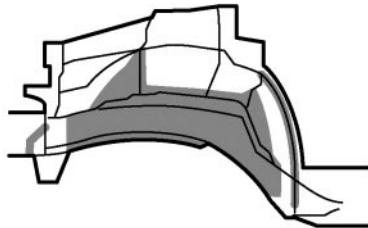
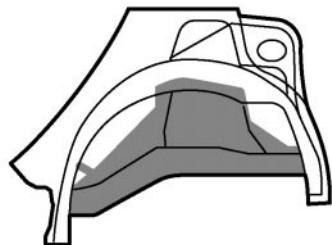
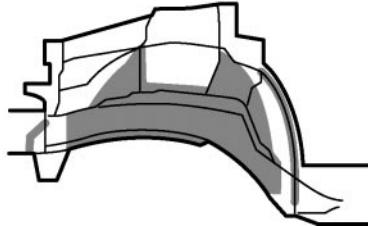




## BODY PANEL UNDERCOATING AREAS

**HINT:**

- 1) First wipe off any dirt, grease or oil with a rag soaked in silicone remover.
- 2) Cover the surrounding areas with masking paper to avoid coating unnecessary areas. If other areas are accidentally coated, wipe off the coating immediately.
- 3) Apply the first coating of undercoat to all welded areas and panel joints, then apply a second coat over the entire area.
- 4) Do not coat parts which become hot, such as the tailpipe, or moving parts, such as the propeller shaft.
- 5) Besides the locations described below, apply undercoating to all weld points under the body to insure corrosion prevention.
- 6) Be sure to seal the edge of the flange of the member and bracket with undercoating.
- 7) If undercoat is damaged by peeling, cracks, etc., be sure to repair as necessary.
- 8) Before the undercoat apply sealer allowing rust prevention to be attained.

**(RH)****(LH)**

F22056

**REFERENCE**

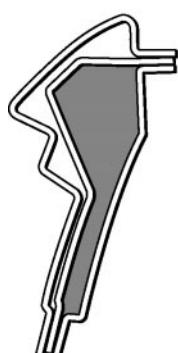
Referring to the notes above, undercoating should be applied according to the specifications for your country.

## FOAMED MATERIAL APPLICATION AREAS

The sections shown in the figure below are filled with foamed material to provide noise insulation. After repairing these sections or their peripheries, refill with foamed materials.

**HINT:**

- 1) Use the service holes located on the reverse side of the body panel to refill with foamed materials.
- 2) When handling foamed material, follow the directions of the material's manufacturer.



a - a



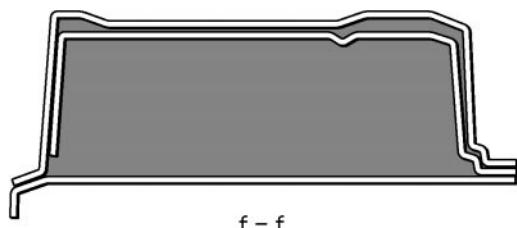
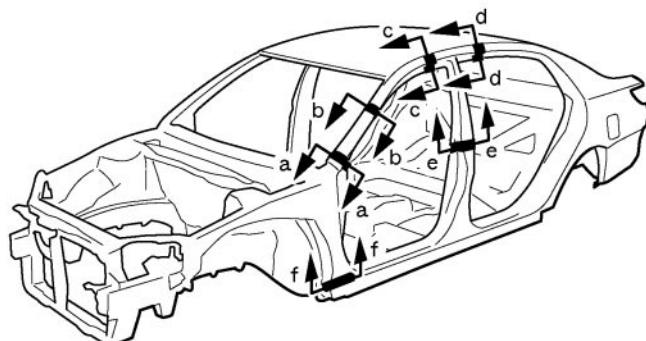
b - b



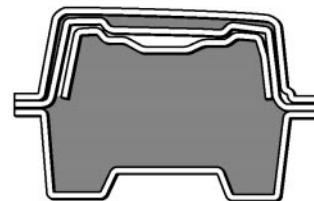
c - c



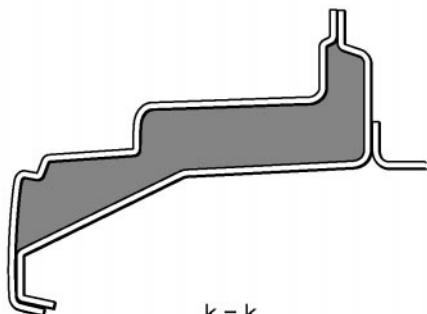
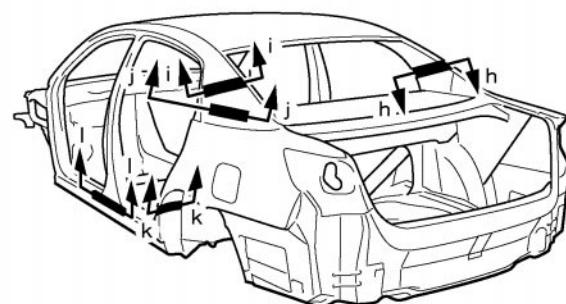
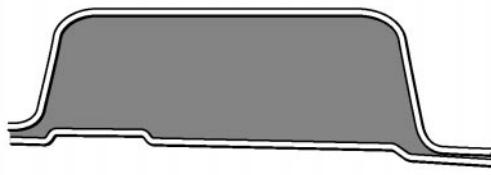
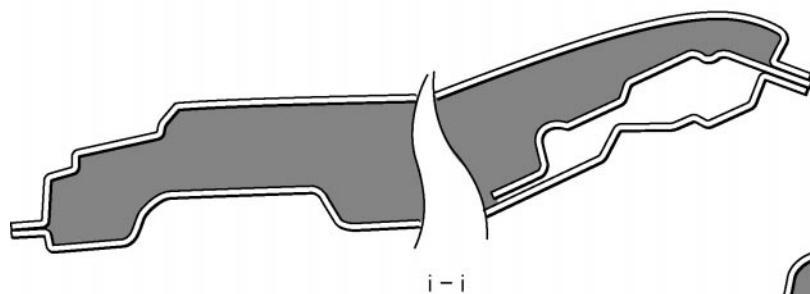
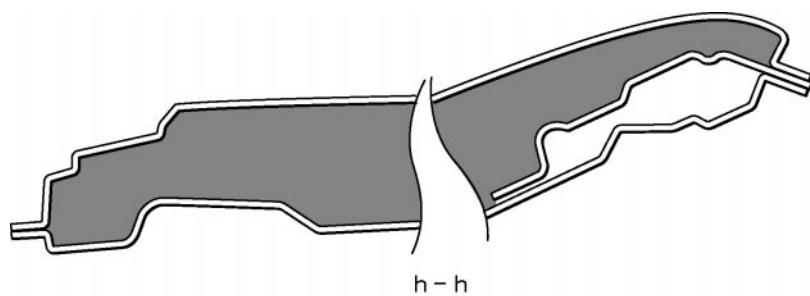
d - d



f - f



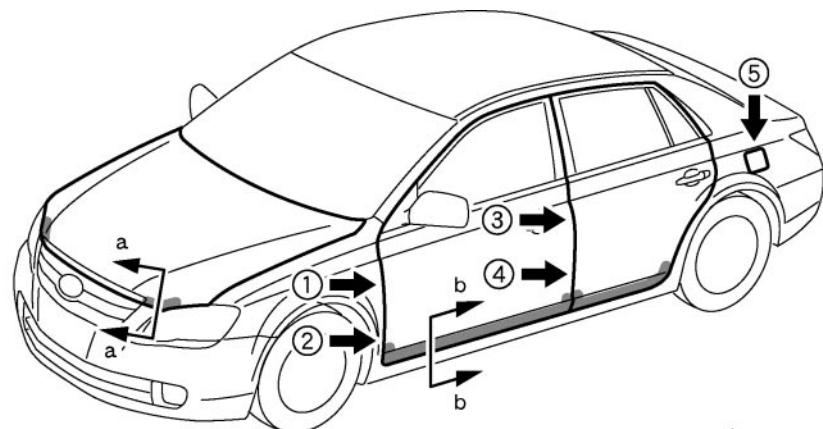
e - e



## BODY PANEL ANTI-RUST AGENT (WAX) APPLICATION AREAS

**HINT:**

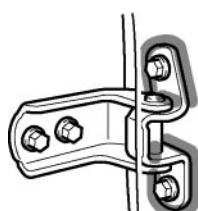
- 1) Whenever adjusting the doors and hoods, apply anti-rust agent (wax) around the hinges.
- 2) Even if partially repairing a part, apply anti-rust agent (wax) over the entire application area of the part.
- 3) Wipe off the anti-rust agent immediately with a rag soaked in silicone remover, if accidentally applied to other areas.



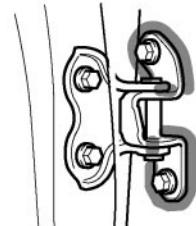
a - a



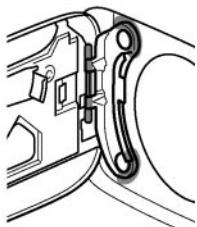
b - b



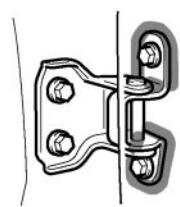
①



③



⑤



②

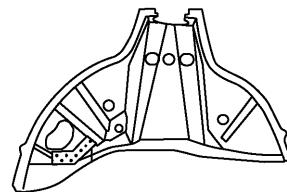
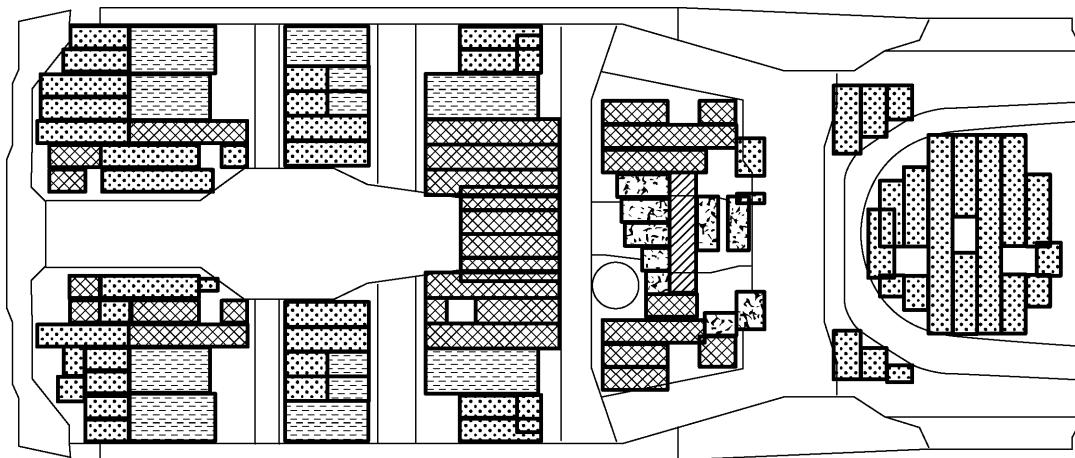


④

## SILENCER SHEET INSTALLATION AREAS

**HINT:**

- 1) Use a silencer seat as a replacement of damping coat in the area where damping coat is applied.



F22060

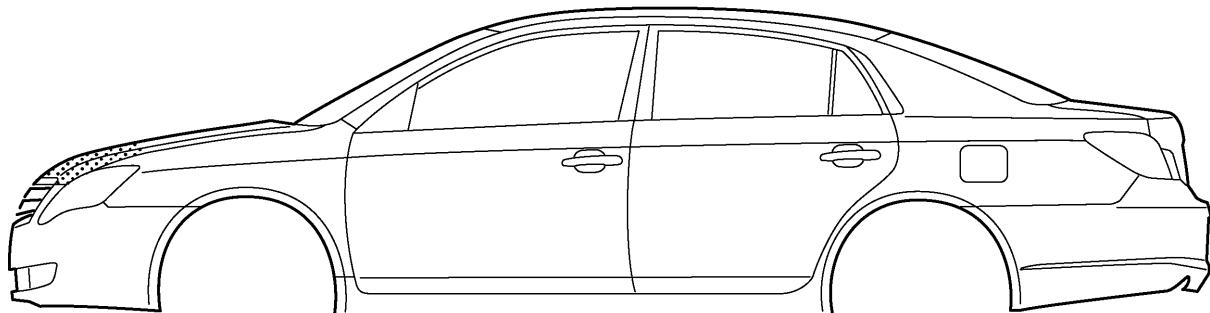
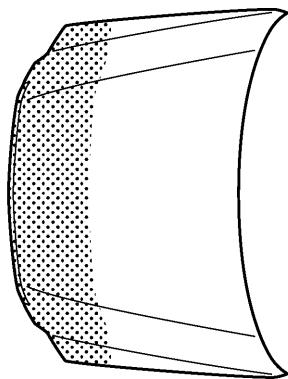
**Thickness of Silencer Sheet**

	1.3 mm (0.051 in.)		1.8 mm (0.071 in.)		2.3 mm (0.091 in.)
	3.3 mm (0.130 in.)		4.7 mm (0.185 in.)	—	—

## BODY PANEL ANTI-CHIPPING PAINT APPLICATION AREAS

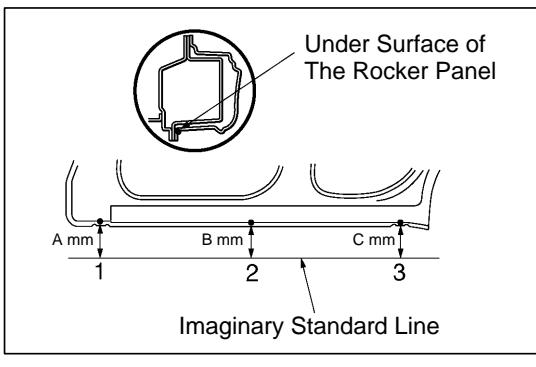
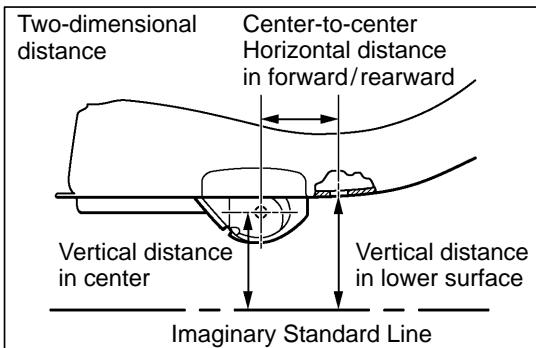
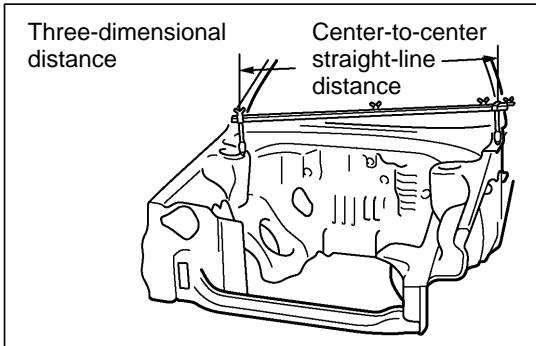
**HINT:**

- 1) Anti-chipping paint should be applied to some areas before the second coat and to other after the top coat.
- 2) If other areas are accidentally coated, wipe off the paint immediately with a rag soaked in silicone remover.



F22061

	SOFT-CHIP PRIMER	—	—	—	—
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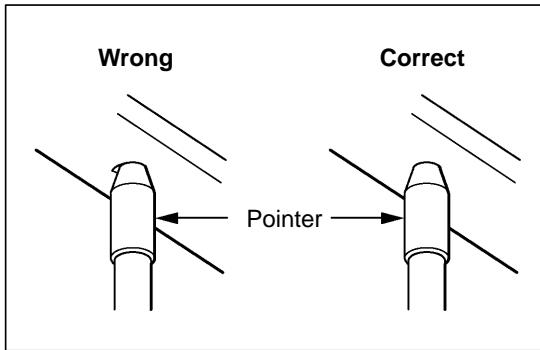
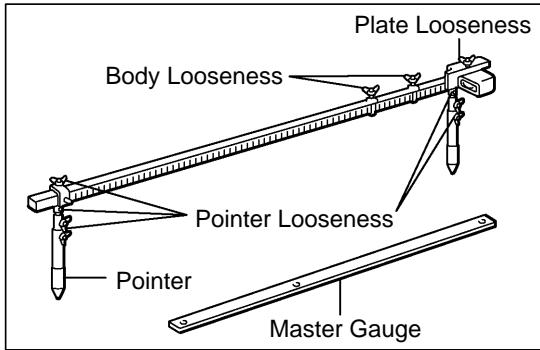


## GENERAL INFORMATION

### 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.
- (d) The line that connects the places listed below is the imaginary standard line when measuring the height. (The dimensions are printed in the text.)

SYMBOL	Name
1	The place that was lowered A mm from the under surface of the rocker panel centered on the front jack up point.
2	The place that was lowered B mm from the under surface of the rocker panel centered between 1 and 3.
3	The place that was lowered C mm from the under surface of the rocker panel centered on the rear jack up point.



## 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.

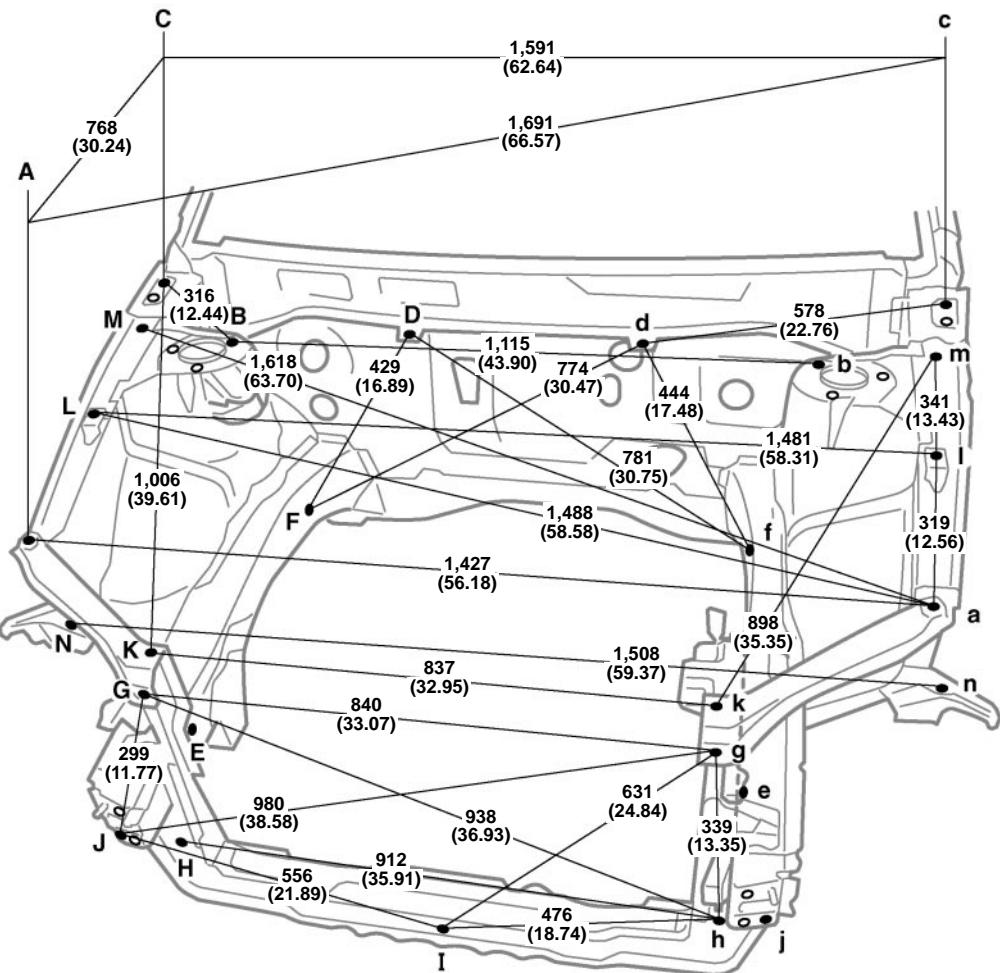
### HINT:

- 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.

# **BODY DIMENSION DRAWINGS**

## **ENGINE COMPARTMENT**

### **(Three-Dimensional Distance)**



### Vehicle Dimensions Left × Right

A-m or a-M	B-c or b-C	B-f	b-F	C-k or c-K	D-E	d-e
660 (25.98)	1,369 (53.90)	1,078 (42.44)	1,075 (42.32)	1,531 (60.28)	861 (33.90)	859 (33.82)

### Height from Imaginary Standard Line

D-e	d-E	J-j	K-m or k-M	L-m or l-M	M-m
1.079 (42.48)	1.083 (42.64)	1.037 (40.83)	1.444 (56.85)	1.542 (60.71)	1.528 (60.16)

A, a	C, c	K, k
687 (27.05)	777 (30.59)	622 (24.49)

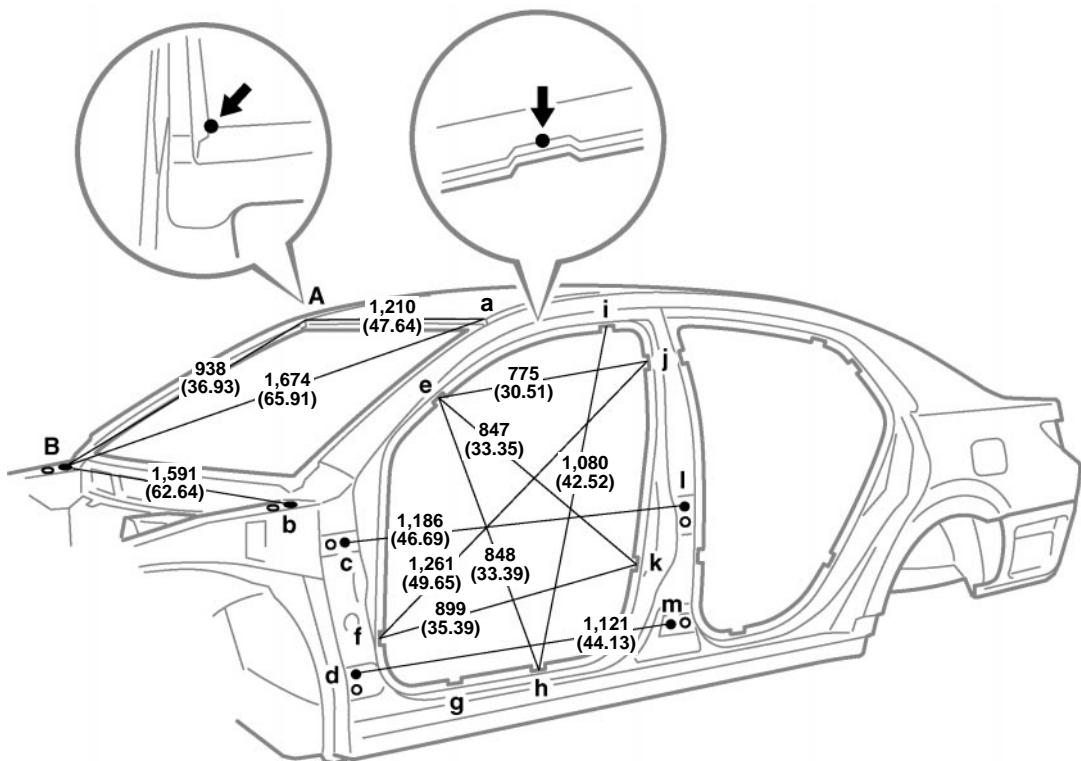
**HINT:** For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (Seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front fender installation nut	M6 (0.24)	H, h	Radiator support standard hole	$\varnothing$ 10 (0.39)
B, b	Front spring support hole inner	$\varnothing$ 12.5 (0.49)	I	Hood lock support installation nut	M6 (0.24)
C, c	Hood hinge installation nut-rear	M8 (0.31)	J, j	Front bumper reinforcement installation nut	M10 (0.39)
D, d	Cowl panel installation nut	M6 (0.24)	K, k	Radiator upper support installation nut	M6 (0.24)
E, e	Front side member standard hole	$\varnothing$ 18 (0.71)	L, l	Front fender installation nut	M6 (0.24)
F, f	Front side member standard hole	$\varnothing$ 18 (0.71)	M, m	Front fender installation nut	M6 (0.24)
G, g	Radiator upper support installation nut	M6 (0.24)	N, n	Hood hinge installation nut-rear	M8 (0.31)

## BODY OPENING AREAS (Side View-Front)

(Three-Dimensional Distance)

Vehicle Dimensions Left  $\times$  Right

E-e	F-f	G-g	H-h	I-i	J-j	K-k
1,403 (55.24)	1,501 (59.09)	1,491 (58.70)	1,491 (58.70)	1,242 (48.90)	1,354 (53.31)	1,526 (60.08)

E-f or e-F	E-h or e-H	E-j or e-J	F-j or f-J	F-k or f-K	H-i or h-I	J-k or j-K
1,607 (63.27)	1,676 (65.98)	1,581 (62.24)	1,904 (74.96)	1,760 (69.29)	1,737 (68.39)	1,580 (62.20)

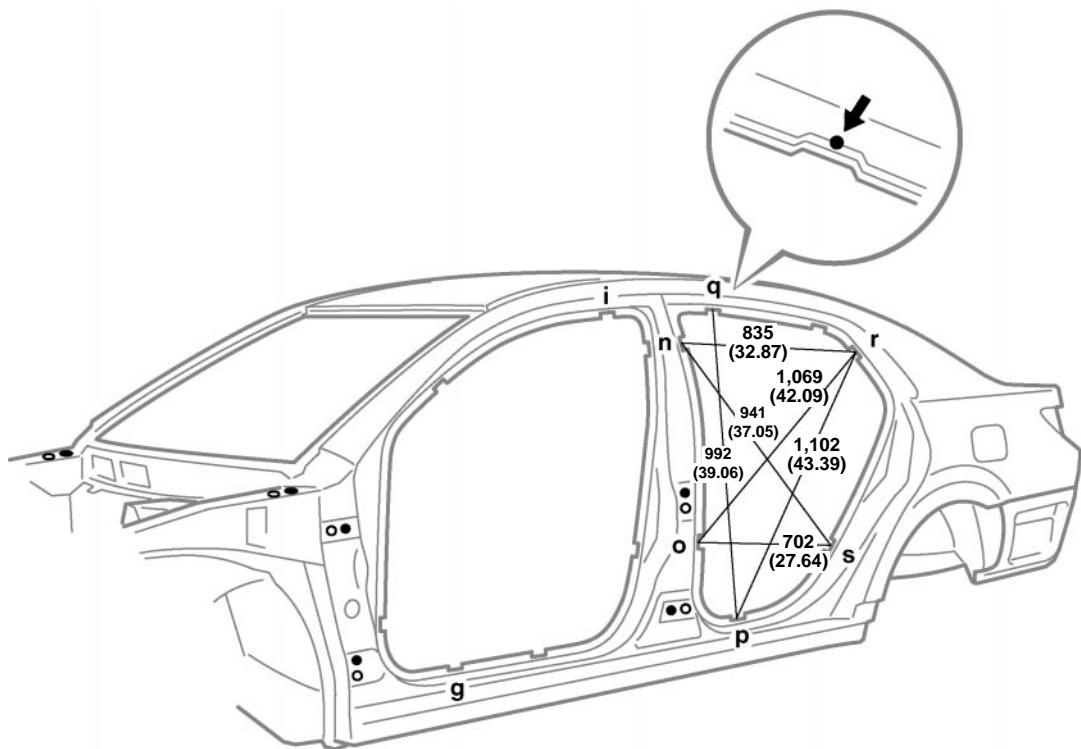
HINT: For symbols, capital letters indicate right side of vehicle,  
small letters indicate left side of vehicle (Seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Roof panel corner	—	H, h	Rocker panel assembly mark	—
B, b	Hood hinge installation nut-rear	M8 (0.31)	I, i	Roof side rail assembly mark	—
C, c	Front door hinge installation nut	M10 (0.39)	J, j	Center body pillar assembly mark	—
D, d	Front door hinge installation nut	M10 (0.39)	K, k	Center body pillar assembly mark	—
E, e	Front body pillar assembly mark	—	L, l	Rear door hinge installation nut	M8 (0.31)
F, f	Front body pillar assembly mark	—	M, m	Rear door hinge installation nut	M8 (0.31)
G, g	Rocker panel assembly mark	—	—	—	—

## BODY OPENING AREAS (Side View-Rear)

(Three-Dimensional Distance)

Vehicle Dimensions Left  $\times$  Right

N-n	O-o	P-p	Q-q	R-r	S-s
1,365 (53.74)	1,526 (60.08)	1,491 (58.70)	1,236 (48.66)	1,348 (53.07)	1,496 (58.90)

G-p or g-P	I-q or i-Q	N-r or n-R	N-s or n-S	O-s or o-S	P-q or p-Q	R-s or r-S
1,808 (71.18)	1,272 (50.08)	1,593 (62.72)	1,711 (67.36)	1,666 (65.59)	1,682 (66.22)	1,573 (61.93)

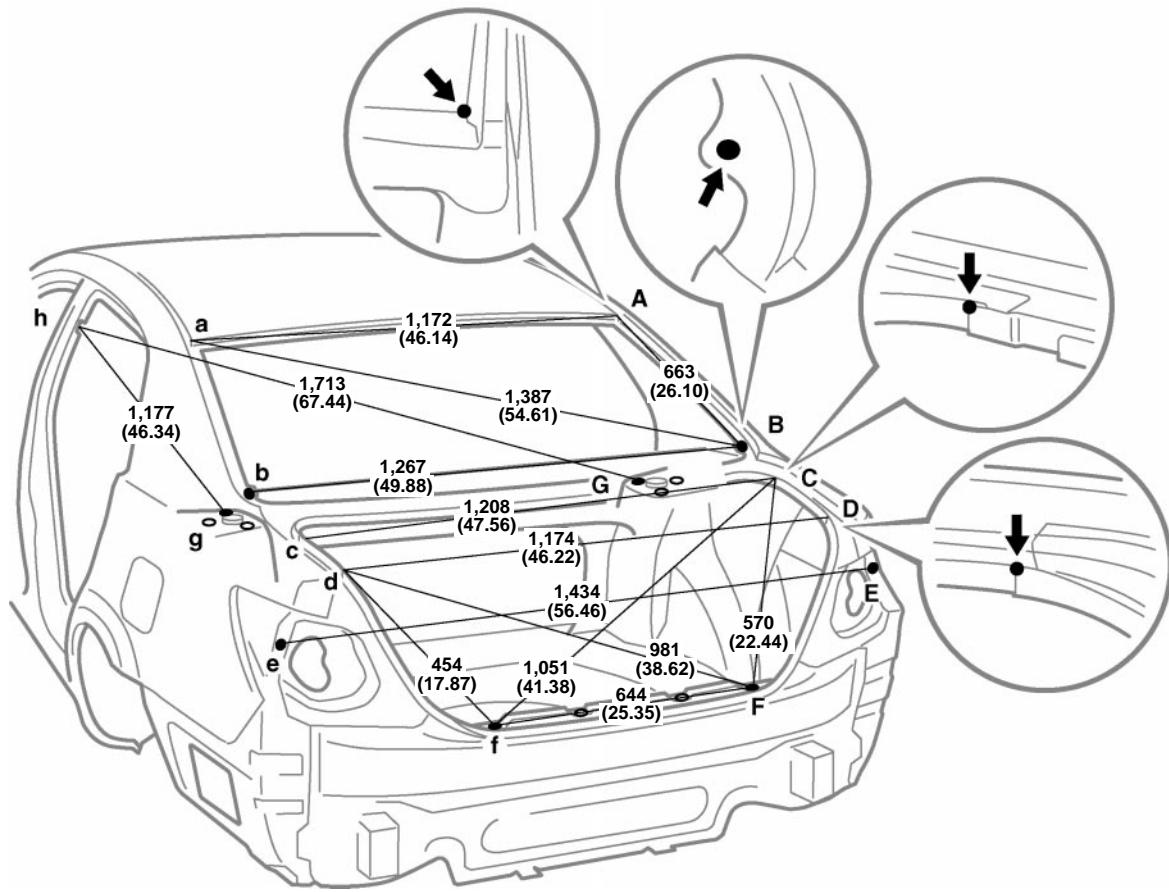
HINT: For symbols, capital letters indicate right side of vehicle,  
small letters indicate left side of vehicle (Seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
G, g	Rocker panel assembly mark	—	P, p	Quarter panel assembly mark	—
I, i	Roof side rail assembly mark	—	Q, q	Roof side rail assembly mark	—
N, n	Center body pillar assembly mark	—	R, r	Quarter panel assembly mark	—
O, o	Center body pillar assembly mark	—	S, s	Quarter panel assembly mark	—

## BODY OPENING AREAS (Rear View)

(Three-Dimensional Distance)



Vehicle Dimensions

G-g
1,137 (44.76)

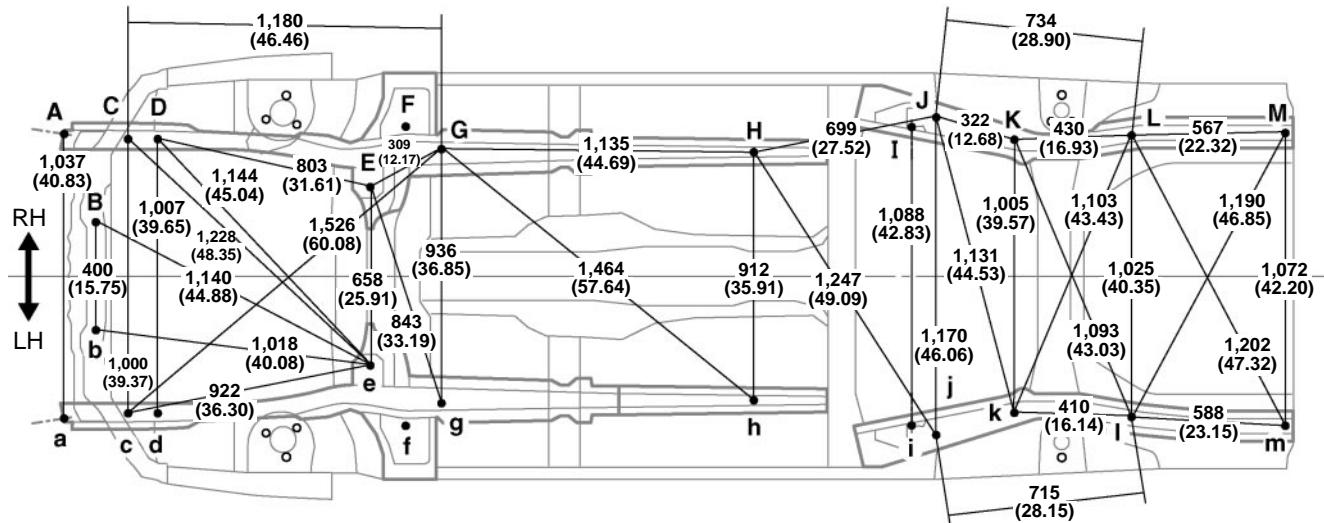
HINT: For symbols, capital letters indicate right side of vehicle,  
small letters indicate left side of vehicle (Seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Roof panel corner	—	E, e	Quarter panel standard hole	ø10 (0.39)
B, b	Quarter panel standard hole	ø10 (0.39)	F, f	Luggage trim installation hole	ø10 (0.39)
C, c	Upper back reinforcement/Quarter panel adjoining point	—	G, g	Rear spring support hole inner-front	ø9.5 (0.374)
D, d	Luggage opening trough/Quarter panel adjoining point	ø11 (0.43)	H, h	Center body pillar assembly mark	—

## UNDER BODY

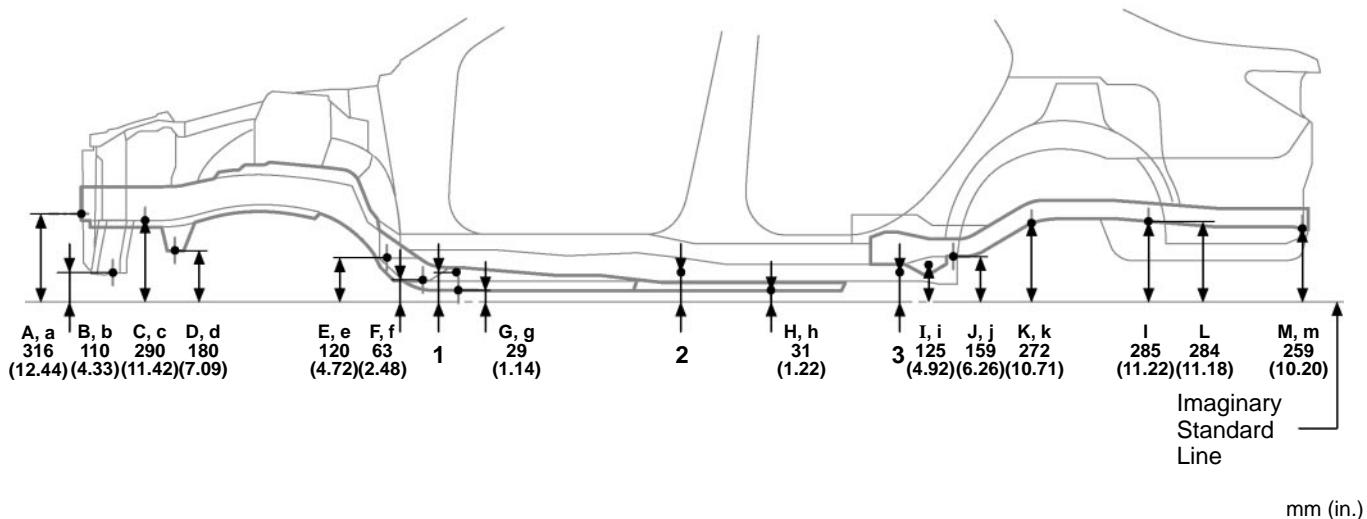
(Three-Dimensional Distance)



Front ←

F-f	F-G or f-g	F-g or f-G
1,100 (43.31)	158 (6.22)	1,027 (40.43)

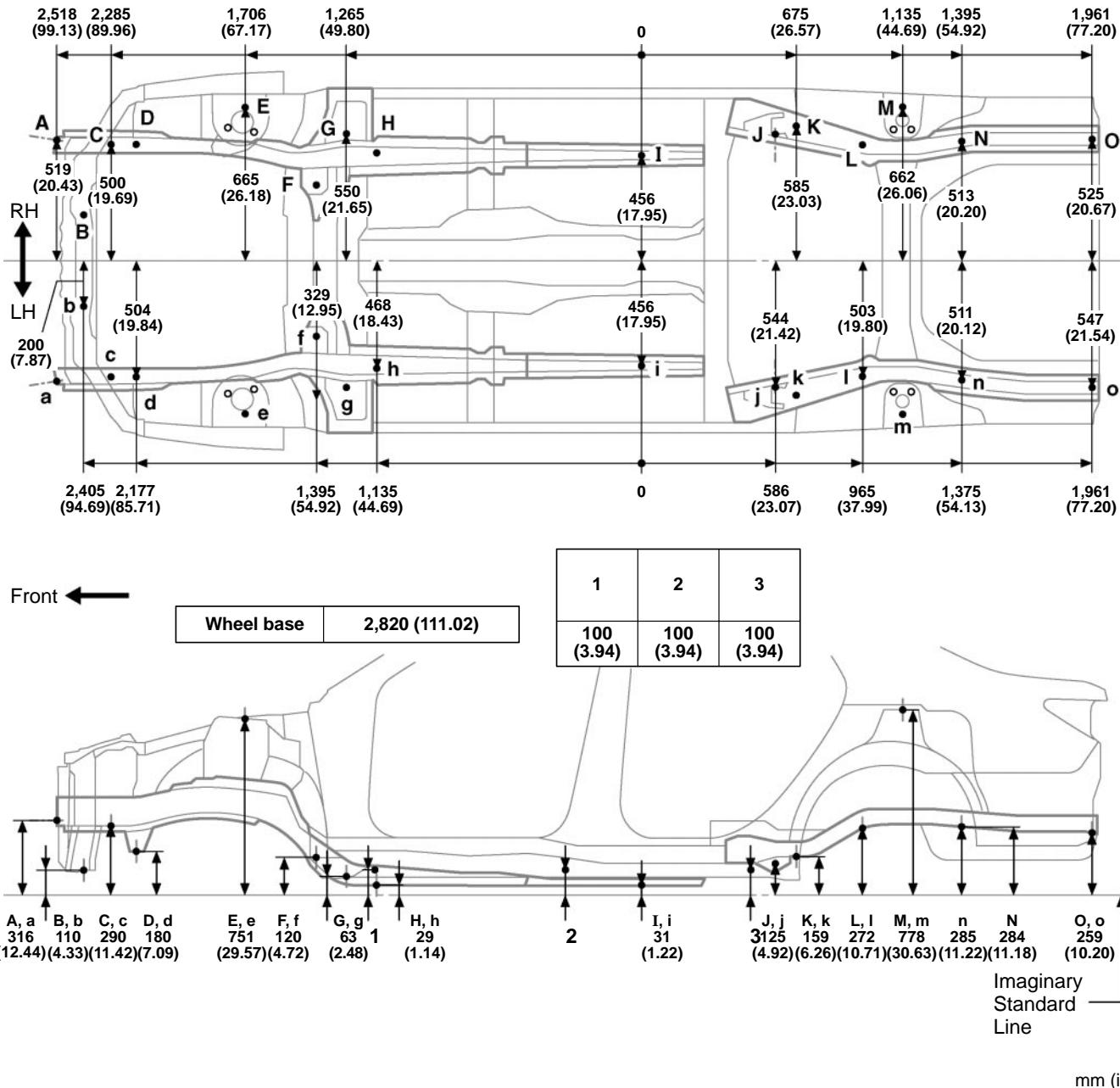
1	2	3
100 (3.94)	100 (3.94)	100 (3.94)



Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper reinforcement installation nut	M10 (0.39)	H, h	Front floor under reinforcement standard hole	ø15 (0.59)
B, b	Front crossmember No. 2 reinforcement standard hole	ø15 (0.59)	I, i	Strut bar installation hole-inner	ø12 (0.47)
C, c	Front side member standard hole	ø18 (0.71)	J, j	Rear floor side member standard hole	ø18 (0.71)
D, d	Front suspension member installation nut-front	M16 (0.63)	K, k	Rear suspension member installation nut	M12 (0.47)
E, e	Front suspension member installation nut-rear	M16 (0.63)	L, l	Rear floor side member standard hole	ø18 (0.71)
F, f	Torque box front standard hole	ø25 (0.98)	M, m	Rear floor side member standard hole	ø18 (0.71)
G, g	Front side member standard hole	ø13 (0.51)	—	—	—

## UNDER BODY

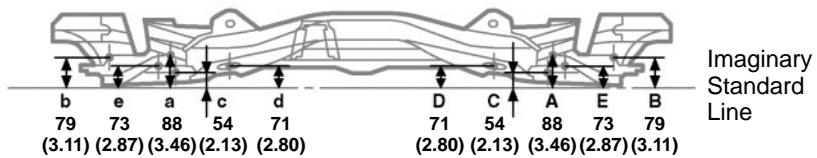
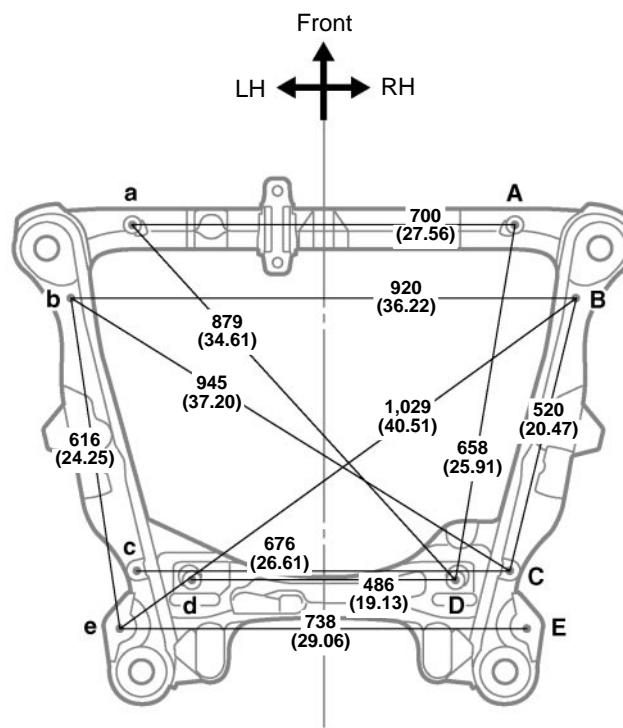
## (Two-Dimensional Distance)



Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper reinforcement installation nut	M10 (0.39)	I, i	Front floor under reinforcement standard hole	$\varnothing 15$ (0.59)
B, b	Front crossmember No. 2 reinforcement standard hole	$\varnothing 15$ (0.59)	J, j	Strut bar installation hole-inner	$\varnothing 12$ (0.47)
C, c	Front side member standard hole	$\varnothing 18$ (0.71)	K, k	Rear floor side member standard hole	$\varnothing 18$ (0.71)
D, d	Front suspension member installation nut-front	M16 (0.63)	L, l	Rear suspension member installation nut	M12 (0.47)
E, e	Front spring support hole-outer	$\varnothing 12.5$ (0.492)	M, m	Rear spring support hole-outer	$\varnothing 9.5$ (0.374)
F, f	Front suspension member installation nut-rear	M16 (0.63)	N, n	Rear floor side member standard hole	$\varnothing 18$ (0.71)
G, g	Torque box front standard hole	$\varnothing 25$ (0.98)	O, o	Rear floor side member standard hole	$\varnothing 18$ (0.71)
H, h	Front side member standard hole	$\varnothing 13$ (0.51)	—	—	—

## SUSPENSION CROSMEMBER

(Three-Dimensional Distance)



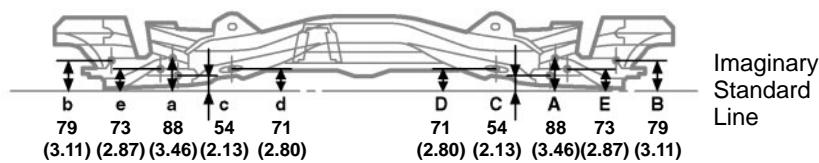
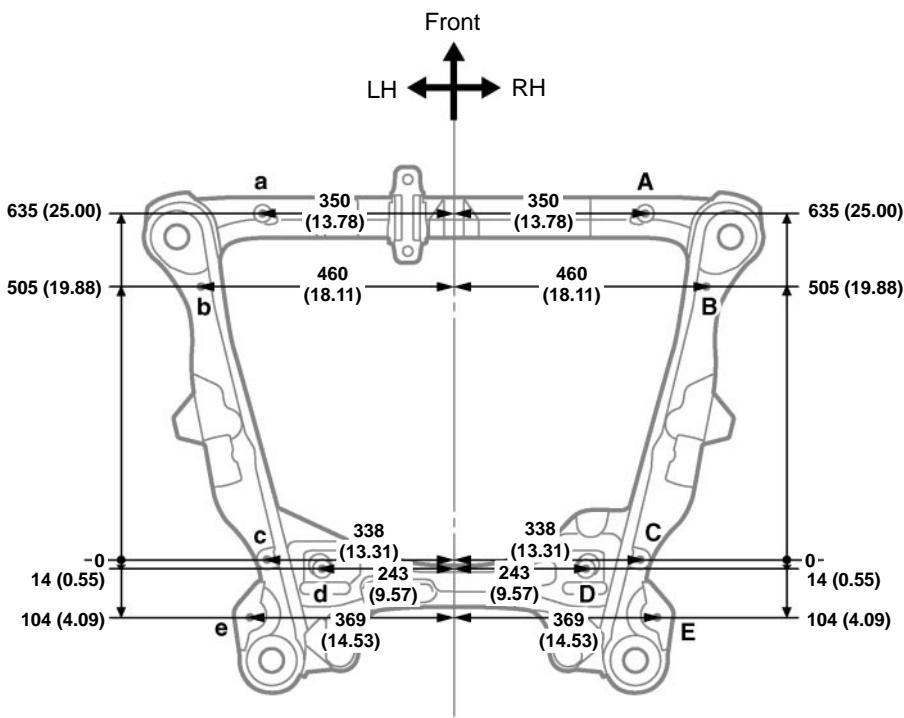
HINT: For symbols, capital letters indicate right side of vehicle,  
small letters indicate left side of vehicle (Seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front frame standard hole	ø13 (0.51)	D, d	Front frame standard hole	ø13 (0.51)
B, b	Front frame standard hole	ø13 (0.51)	E, e	Lower arm installation hole-lower	ø15 (0.59)
C, c	Front frame standard hole	ø13 (0.51)	—	—	—

## SUSPENSION CROSMEMBER

(Two-Dimensional Distance)



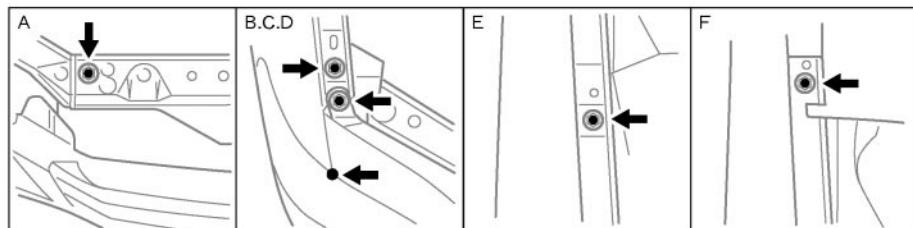
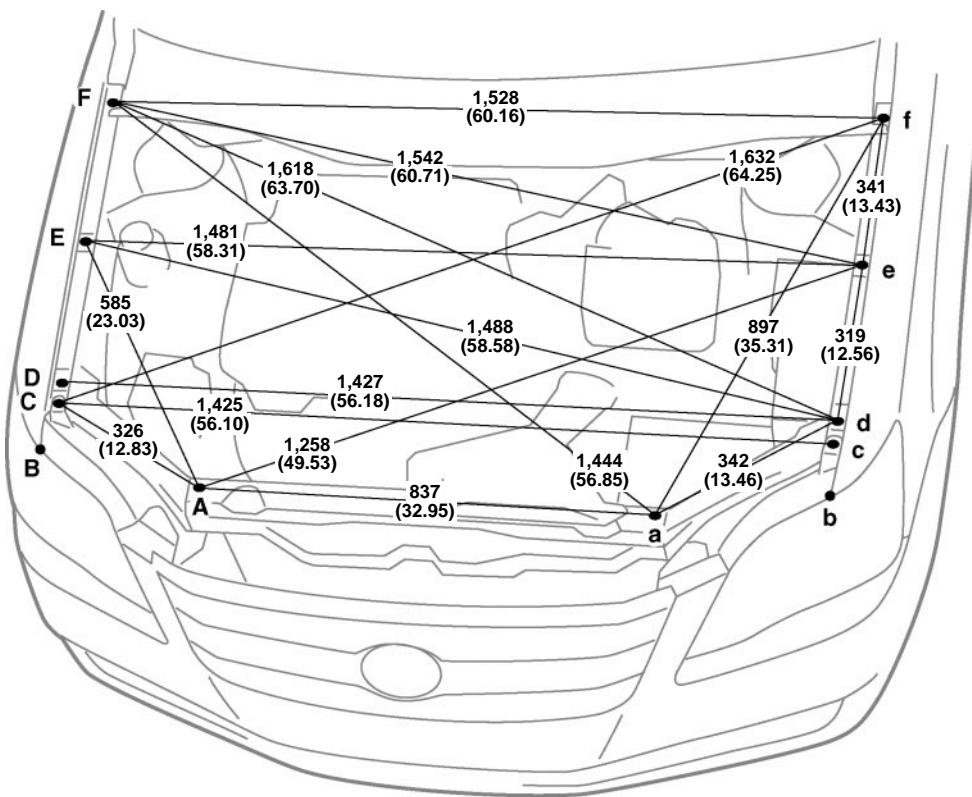
HINT: For symbols, capital letters indicate right side of vehicle,  
small letters indicate left side of vehicle (Seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front frame standard hole	ø13 (0.51)	D, d	Front frame standard hole	ø13 (0.51)
B, b	Front frame standard hole	ø13 (0.51)	E, e	Lower arm installation hole-lower	ø15 (0.59)
C, c	Front frame standard hole	ø13 (0.51)	—	—	—

## REFERENCE VALUE ENGINE COMPARTMENT

(Three-Dimensional Distance)



A-d or a-D	B-b	C-F or c-f	D-F or d-f
1,145 (45.08)	1,441 (56.73)	696 (27.40)	661 (26.02)

HINT:

- 1) These values are actual measurements made on this model.  
Use these reference values.
- 2) Measure point "A, a" with the cool air intake duct seal removed.
- 3) Measure point "D, d E, e F, f" with the front fender upper protector removed.

mm (in.)

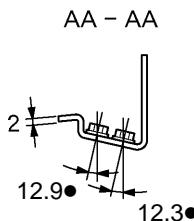
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator upper support installation bolt	—	D, d	Front fender installation bolt	—
B, b	Front end of front fender	—	E, e	Front fender installation bolt	—
C, c	Headlight installation bolt	—	F, f	Front fender installation bolt	—

## UNDER BODY

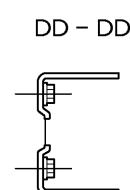
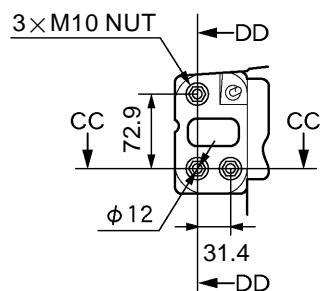
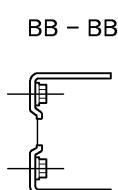
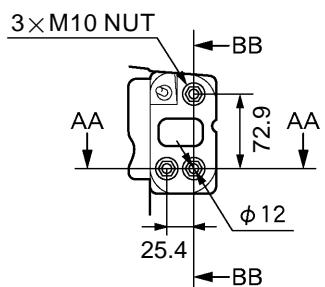
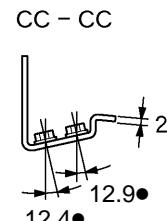
(Two-Dimensional Distance)

## Front bumper reinforcement

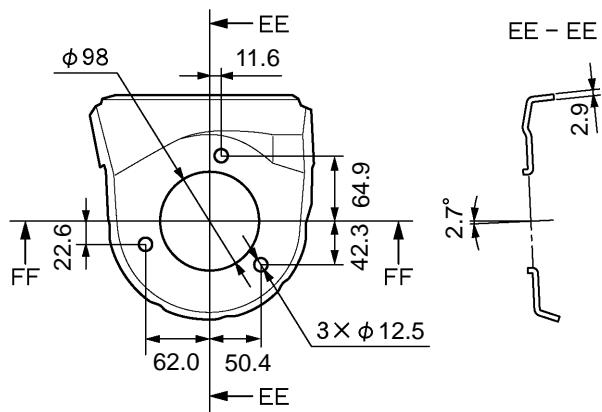
(RH)



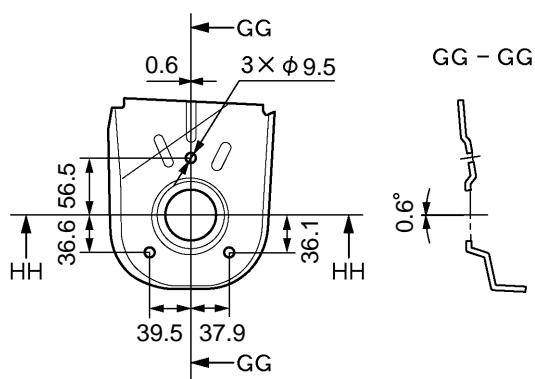
(LH)



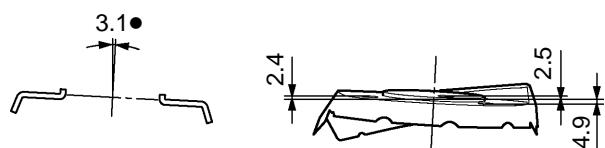
## Front spring support



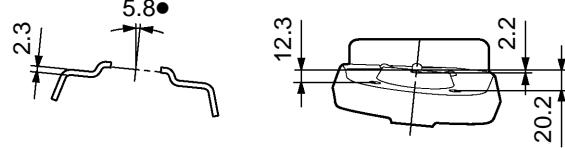
## Rear spring support



FF - FF



HH - HH



mm