

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
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

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 SCION xA.

Applicable models: NCP61 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 SCION 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 SCION xA refer to the repair manuals.

If you require the above manuals, please contact your SCION 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.

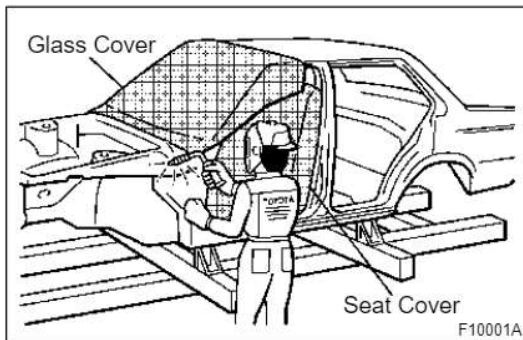
TOYOTA MOTOR CORPORATION

INTRODUCTION

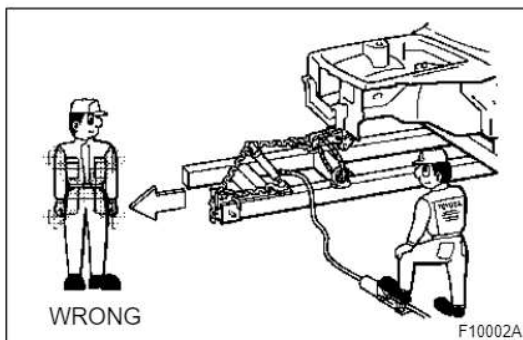
IN-1

GENERAL REPAIR INSTRUCTIONS**1. WORK PRECAUTIONS****(a) VEHICLE PROTECTION**

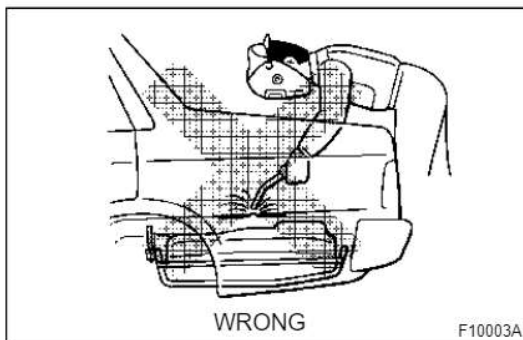
- (1) When welding, protect the painted surfaces, windows, seats and carpet with heat resistant, fire-proof covers.

**(b) SAFETY**

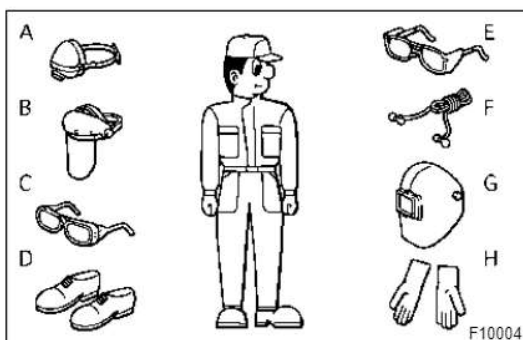
- (1) Never stand in direct line with the chain when using a puller on the body or frame, and be sure to attach a safety cable.



- (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

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INTRODUCTION

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.
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.

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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.
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.

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3. LOCATION OF PLASTIC BODY PARTS

Parts Name	Code
Radiator Grille	TSOP
Front Bumper Cover	TSOP
Front Bumper Hole Cover	TSOP
Headlight	PP/PC
Fog light	TSOP
Side Turn Signal Light	PMMA/ABS
Fender Panel Mudguard	TSOP
Front Fender Mudguard	PP/EPDM
Cowl Top Ventilator Louver	TSOP
Outer Rear View Mirror	ABS/PA
Front Pillar Upper Cover	AES
Side Mudguard	TSOP
Front Door Outside Handle	PC/PA
Rear Door Outside Handle	PC/PA
Quarter Panel Rear Mudguard	TSOP
Rear Wheel House Plate	PP/EPDM
Back Door Outside Garnish	ABS
Back Door Outside Handle	PA
High Mount Stop Light	PMMA/ABS
Rear Bumper Cover	TSOP
Rear Combination Light	PMMA/AAS
License Plate Light	PMMA/ABS
Rear Fog Light	PC/ABS
Rear Spoiler	ABS

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

INTRODUCTION

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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.

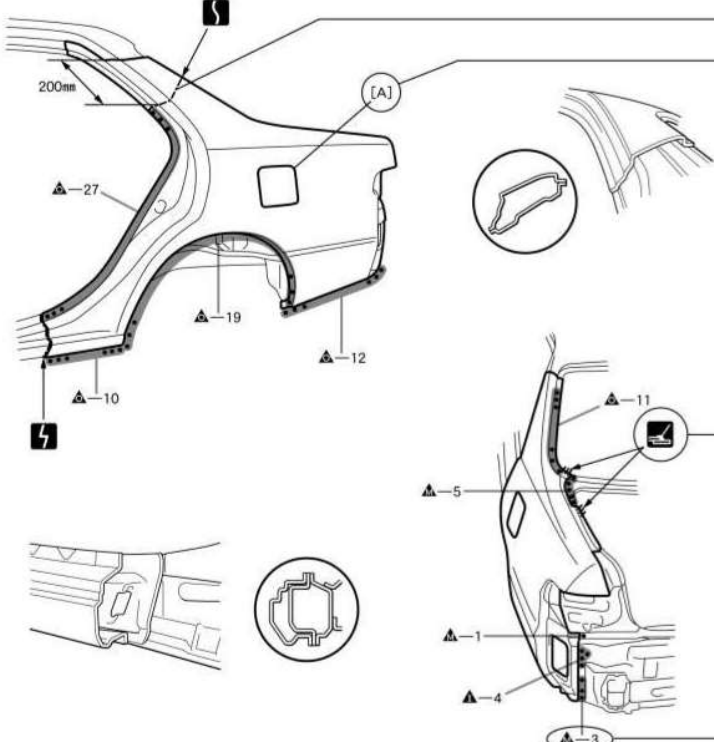
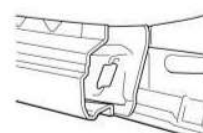
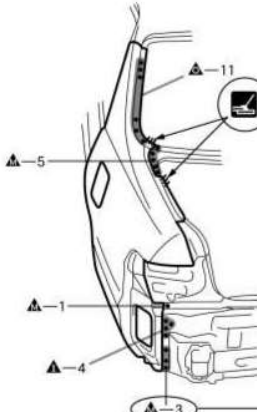
- Do not expose the ECUs to ambient temperatures above 80°C (176°F).

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.

HOW TO USE THIS MANUAL

1. BODY PANEL REPLACEMENT THIS MANUAL

BP-34		BODY PANEL REPLACEMENT		
(A)	QUARTER PANEL (CUT)		(C)	
	REPLACEMENT			
(B)	REMOVAL			
(D)				(I)
				(J)
(E)	POINT 1 Remove the [A] at the same time. PART NAME [A] Fuel Filler Opening Lid			

(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 CONDCTIONS

(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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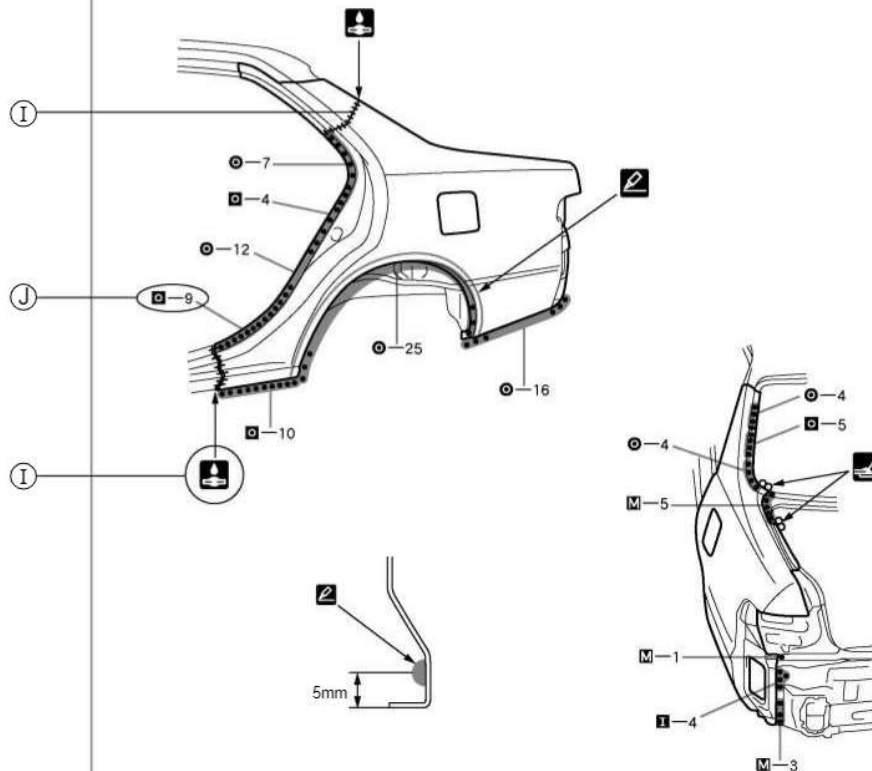
INTRODUCTION

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 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.



POINT

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

HINT:

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

PART NAME

[A] Fuel Filler Opening Lid

[B] Waterproof Rivet

- (F) : INSTALLATION CONDITIONS

- (G) : INSTALLATION DIAGRAM

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

- Ⓜ : INSTALLATION GUIDE

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

- ① : SYMBOLS

(See page IN-7)

- (J) : ILLUSTRATION OF WELD POINTS

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

- Ⓚ : PART NAME

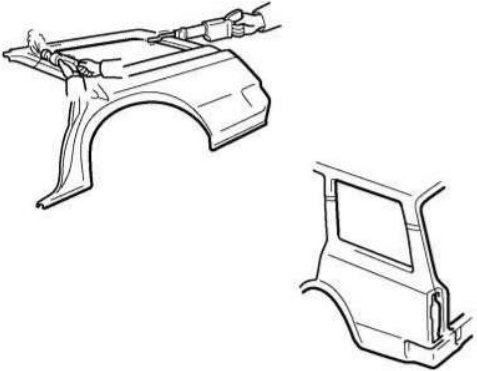
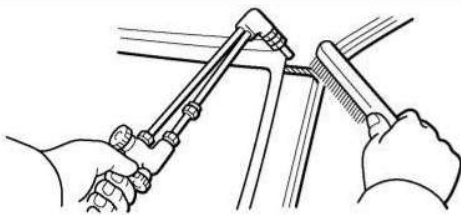
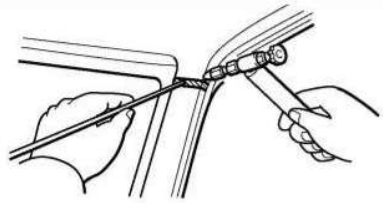
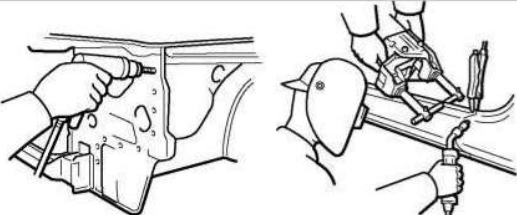
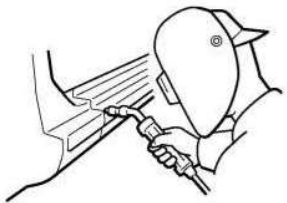
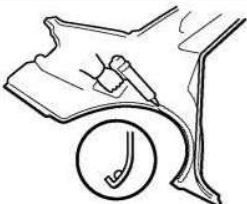
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INTRODUCTION

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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	
        	—	SPOT WELD OR MIG PLUG WELD (See Page IN-9)	
++++		CONTINUOUS MIG WELD (BUTT WELD)	
		CONTINUOUS MIG WELD (TACK WELD)	
		BODY SEALER	

F13893A

IN-8

INTRODUCTION

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

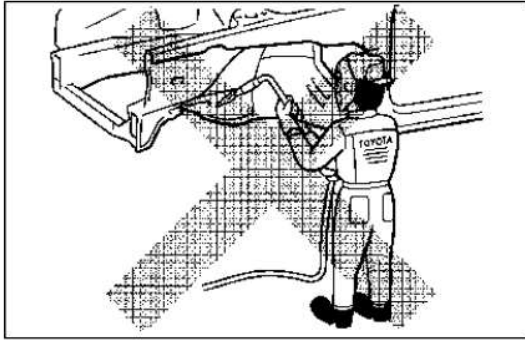
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INTRODUCTION

3. ILLUSTRATION OF WELD POINT SYMBOLS
EXAMPLE:

REMOVAL			INSTALLATION		
Weld points Remove weld point and panel position			Weld points Weld method and panel position		
SYMBOLS	MEANING	ILLUSTRATION	SYMBOLS	MEANING	ILLUSTRATION
 	Remove Weld Points		 	Spot Weld	
	(Outside)		 	MIG Plug Weld	
	(Middle)				
	(Inside)				
HINT: Panel position symbols are as seen from the working posture.				Spot MIG Weld	
			F13892A		

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.

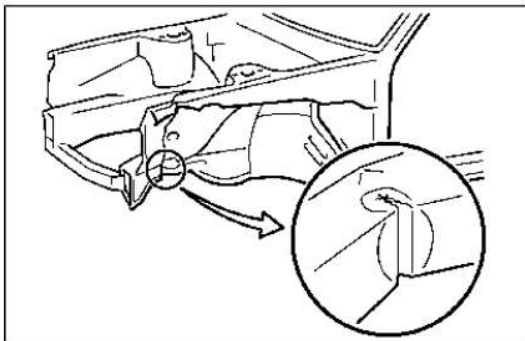
At Toyota, in order to fulfill these requirement, we use high tensile strength steel sheets and rust preventive steel sheets on the body.

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

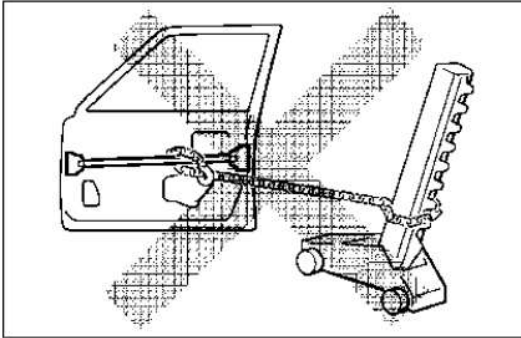
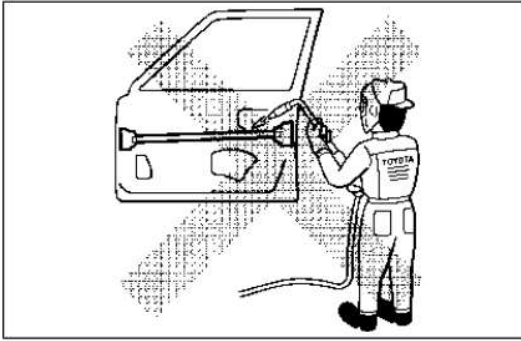
A sharp deformation angle on the panel that cannot be returned to its original shape by pulling or hammering is called a kink.

Since structure parts were designed to exhibit a 100% performance when they were in their original shape, if they are deformed in an accident, or if the deformed parts are repaired and reused, they become unable to exhibit the same performance as intended in the design.

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

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**3. IMPACT BEAM REPAIR**

The impact beam and bracket are necessary and important parts in maintaining a survival space for passengers in a side collision.

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

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

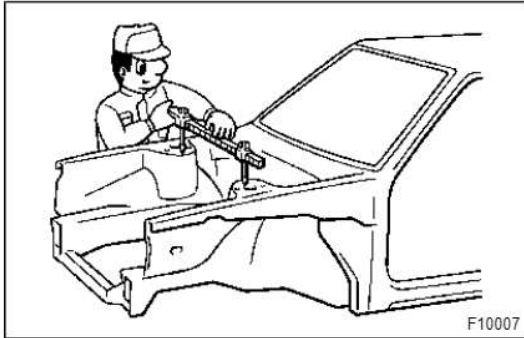
Since these parts were designed to exhibit a 100% performance when they were in their original shape, if they are deformed in an accident, or if the deformed parts are repaired and reused, they become unable to exhibit the same performance as intended in the design.

It is necessary to replace the door assembly when impact beam or bracket is damaged.

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INTRODUCTION

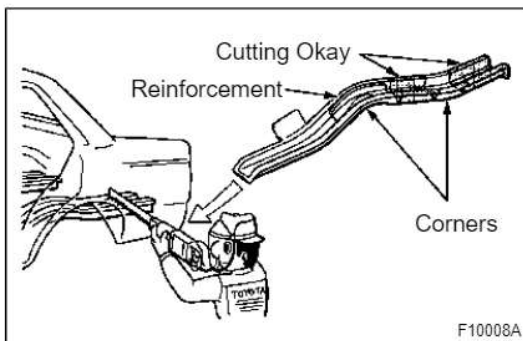
PROPER AND EFFICIENT WORK PROCEDURES



1. REMOVAL

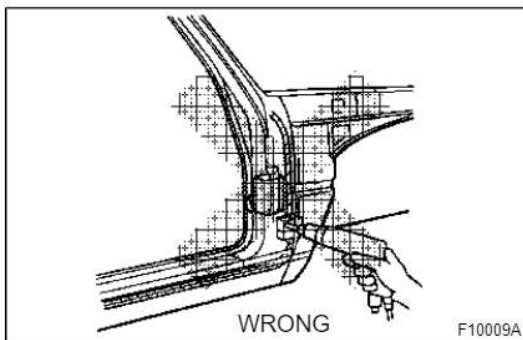
(a) PRE-REMOVAL MEASURING

- (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

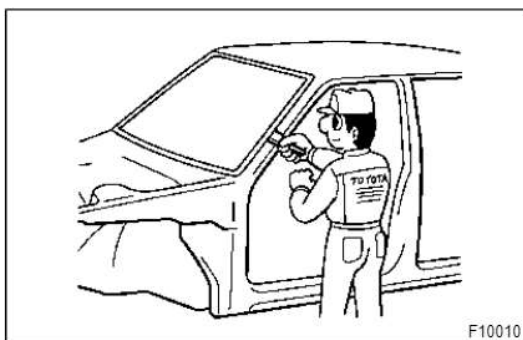
- (1) Always cut in a straight line and avoid reinforced area.



(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.



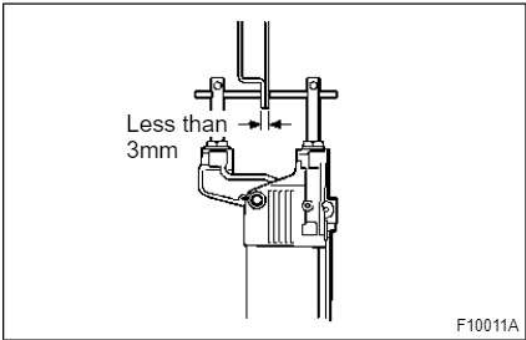
(d) REMOVAL OF ADJACENT COMPONENTS

- (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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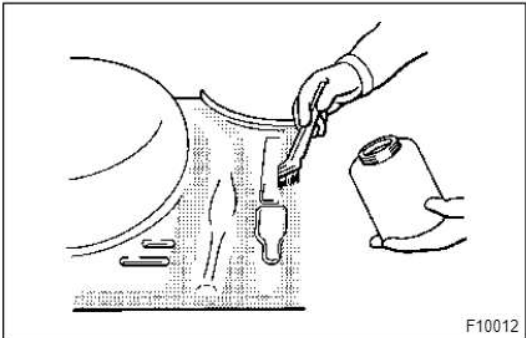


2. PREPARATION FOR INSTALLATION

(a) SPOT WELD POINTS

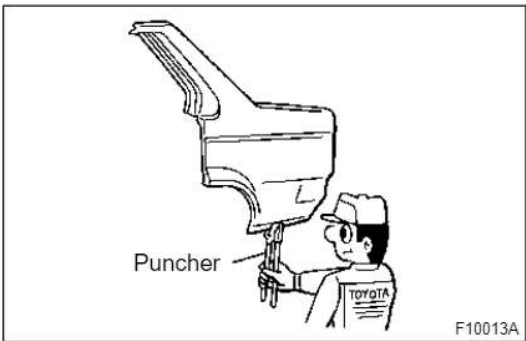
- (1) When welding panels with a combined thickness of over 3mm (0.12in.), use a MIG (Metal Inert Gas) welder for plug welding.

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



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

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



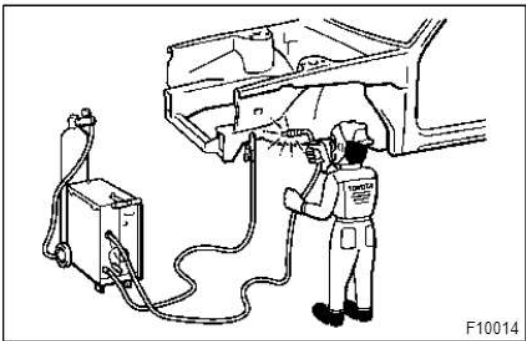
(c) MAKING HOLES FOR PLUG WELDING

- (1) For areas where a spot welder cannot be used, use a puncher or drill to make holes for plug welding.

REFERENCE:

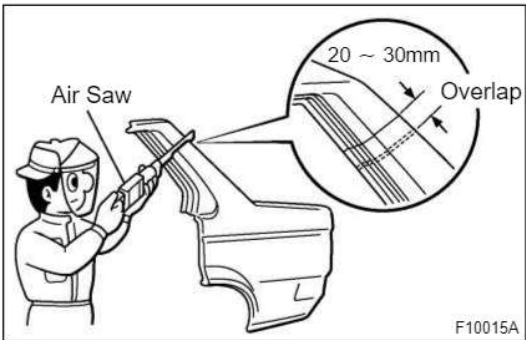
mm (in.)

Thickness of welded portion	Size of plug hole
1.0 (0.04) under	5 (0.20) ø over
1.0 (0.04) - 1.5 (0.06)	6.4 (0.26) ø over
1.5 (0.06) over	8 (0.31) ø over



(d) SAFETY PRECAUTIONS FOR ELECTRICAL COMPONENTS

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

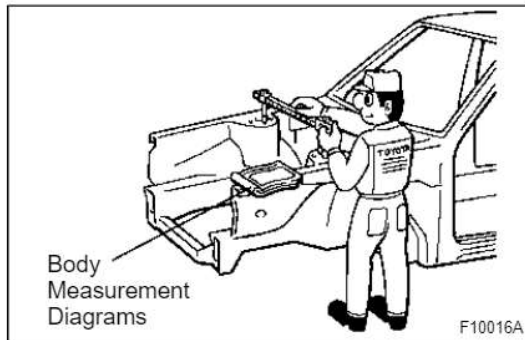


(e) ROUGH CUTTING OF JOINTS

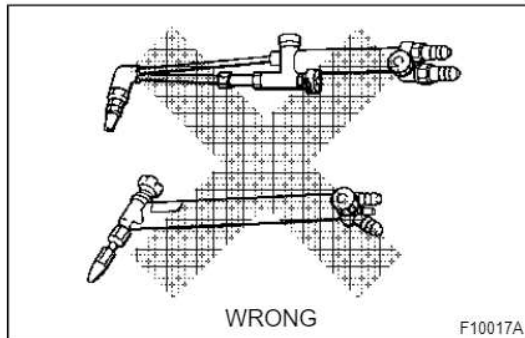
- (1) For joint areas, rough cut the new parts, leaving 20 - 30mm (0.79 - 1.18in.) overlap.

IN-12

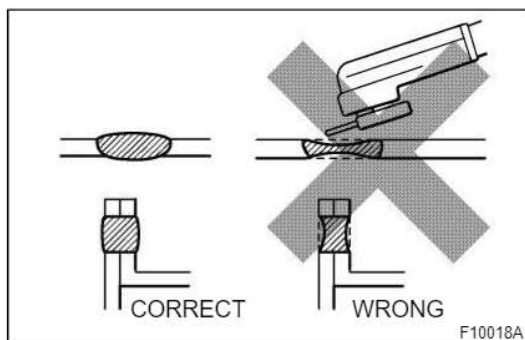
INTRODUCTION

**3. INSTALLATION****(a) PRE-WELDING MEASUREMENTS**

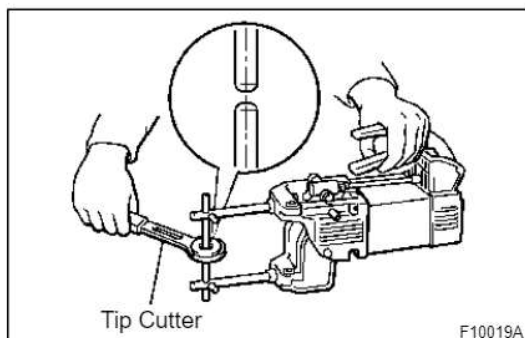
- (1) Always take measurements before installing underbody or engine components to insure correct assembly. After installation, confirm proper fit.

**(b) WELDING PRECAUTIONS**

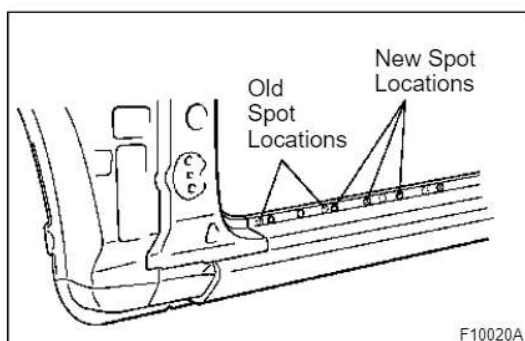
- (1) The number of welding spots should be as follows.
Spot weld: 1.3 X No. of manufacturer's spots.
Plug weld: More than No. of manufacturer's plugs.
- (2) Plug welding should be done with a MIG (Metal Inert Gas) welder. Do not gas weld or braze panels at areas other than specified.

**(c) POST-WELDING REFINISHING**

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

**(d) SPOT WELD LOCATIONS**

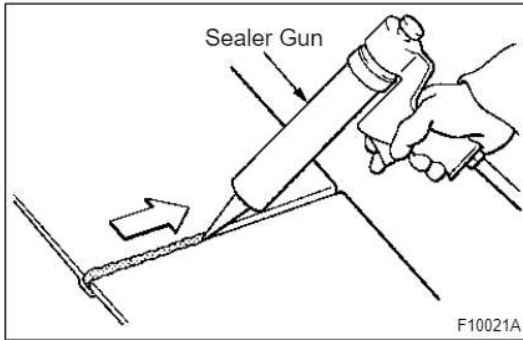
- (1) Try to avoid welding over previous spots.

**(e) SPOT WELDING PRECAUTIONS**

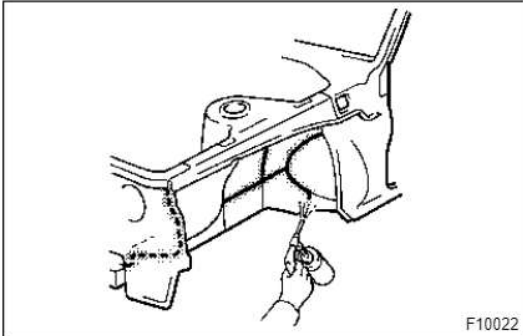
- (1) The shape of the welding tip point has an effect on the strength of the weld.
- (2) Always insure that the seams and welding tip are free of paint.

INTRODUCTION

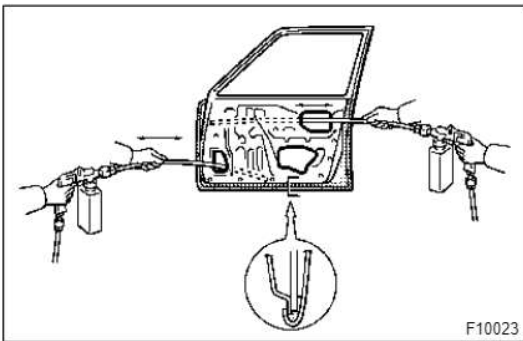
IN-13

**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.

**(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.

**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:

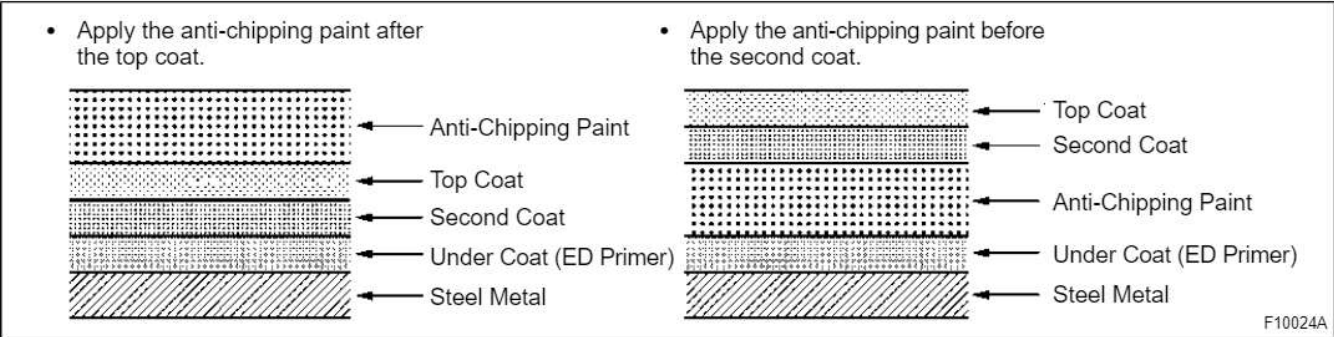
Painting prevents corrosion and protect the sheet metal from damage. In this section, anti-chipping paint only for anti-corrosion purpose is described.

(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.



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.

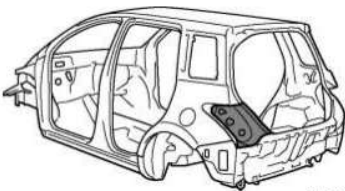
Section categories

- 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.

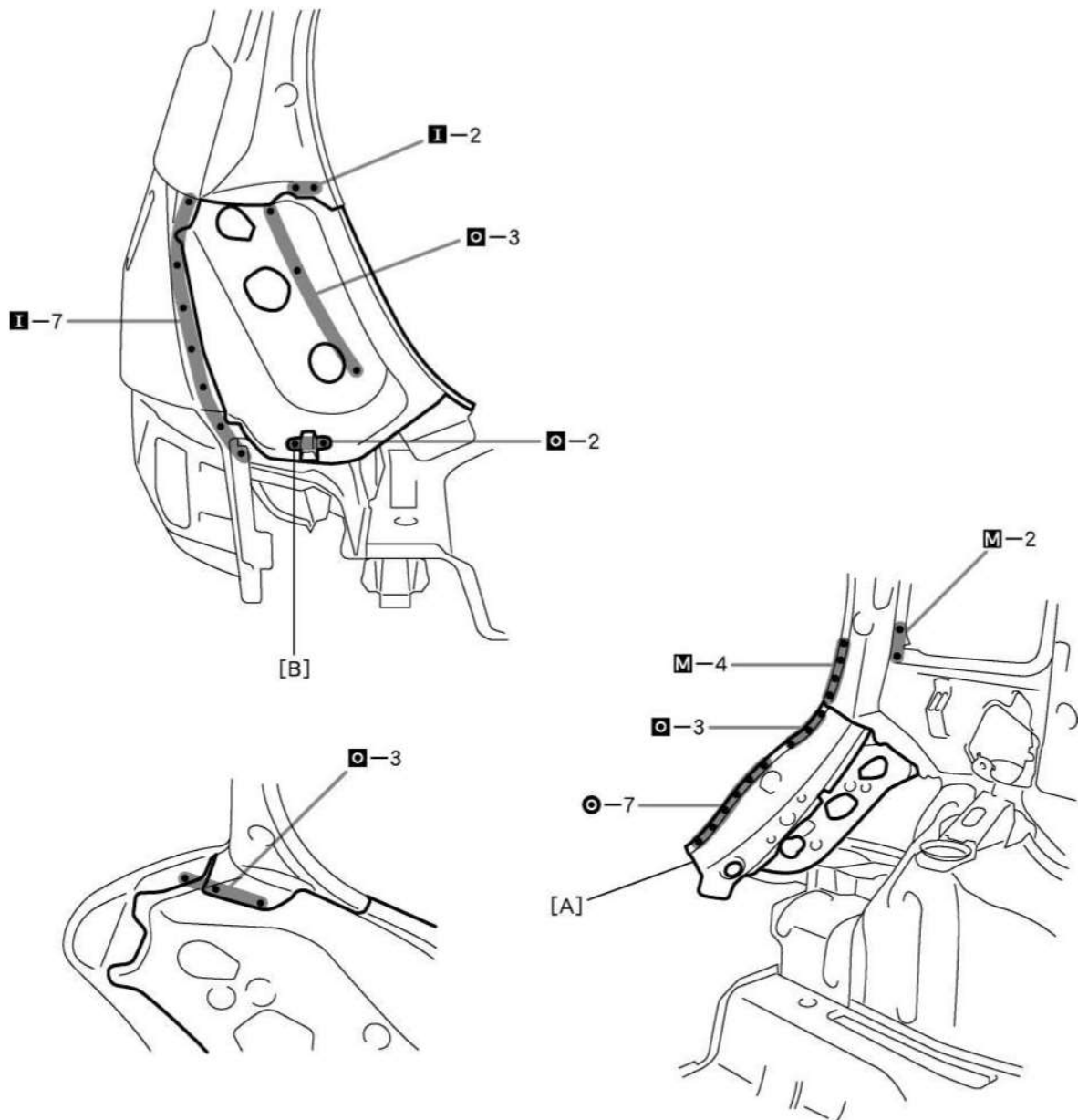
BACK DOOR OPENING TROUGH (ASSY) REPLACEMENT With the body lower back panel removed.	 F15540A
REMOVAL The left diagram shows a side view of the back door opening with callouts A-1, A-2, and A-7. The right diagram shows a rear view of the car with callouts A-2, A-3, A-4, and [A]. F15540	
POINT 1 Remove the [A] at the same time. PART NAME [A] Back door Opening Lower Reinforcement	

BODY PANEL REPLACEMENT

BP-41

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.



F15541

POINT

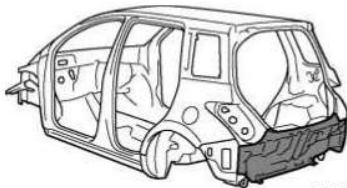
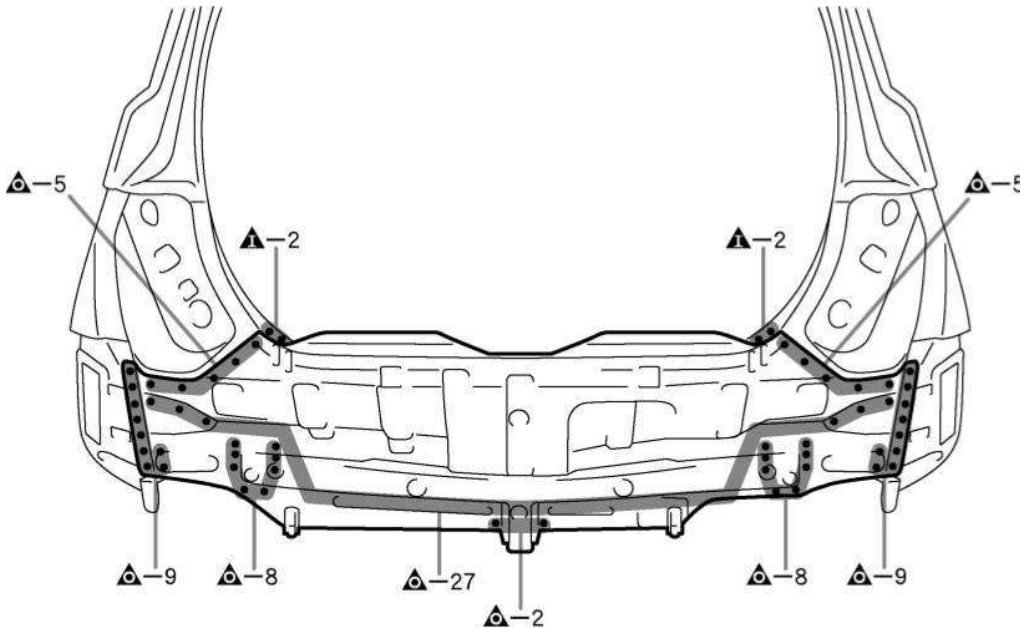
- 1 Inspect the fitting of the back door and rear combination light, etc., before welding, since this affects the appearance of the finish.

PART NAME

[A] Back Door Opening Lower Reinforcement [B] Rear Bumper Upper Side Retainer

BP-38

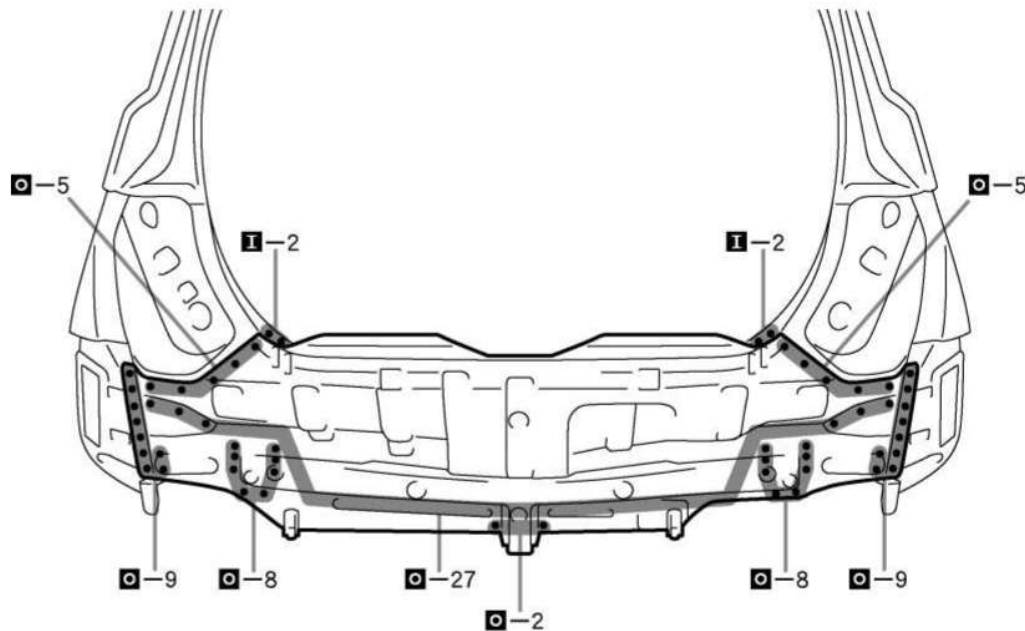
BODY PANEL REPLACEMENT

BODY LOWER BACK PANEL (ASSY)		 F15538A
REPLACEMENT		
REMOVAL		
		

F15538

BODY PANEL REPLACEMENT**BP-39****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.



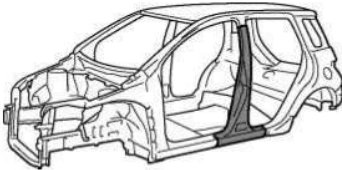
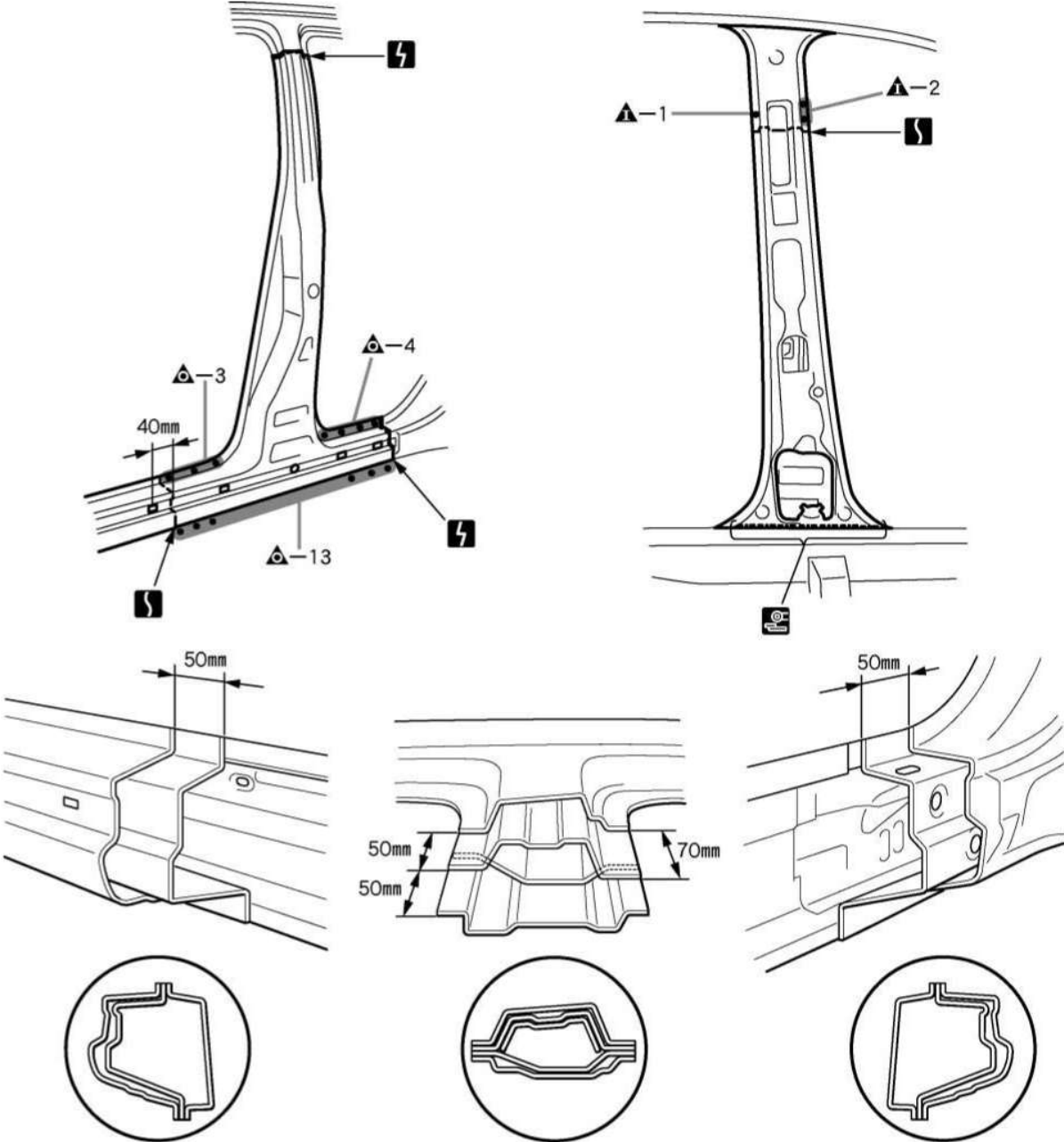
F15539

POINT

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

BODY PANEL REPLACEMENT

BP-27

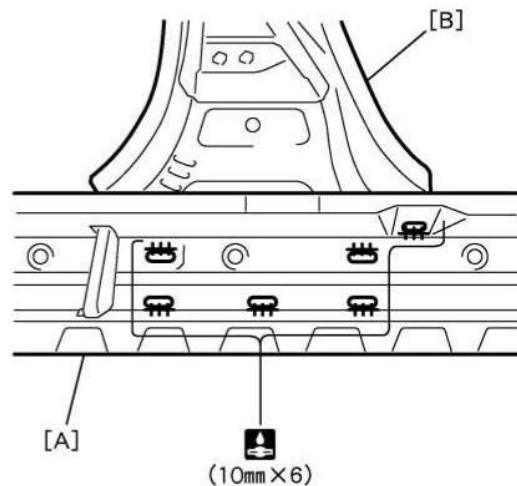
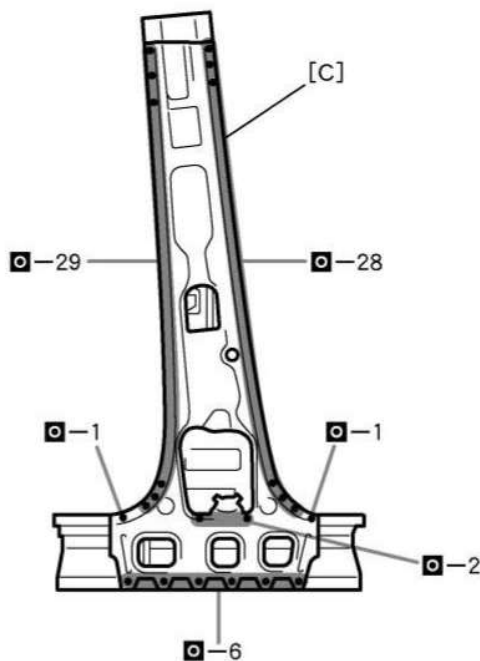
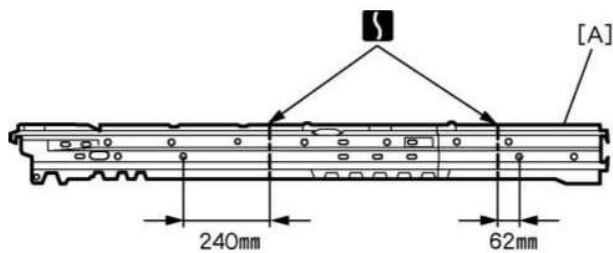
CENTER BODY PILLAR (CUT)	
REPLACEMENT	 F15527A
REMOVAL	
 F15527	
40mm (1.57in.) 50mm (1.97in.) 70mm (2.76in.)	

BP-28

BODY PANEL REPLACEMENT

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.



F15528

POINT

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

PART NAME

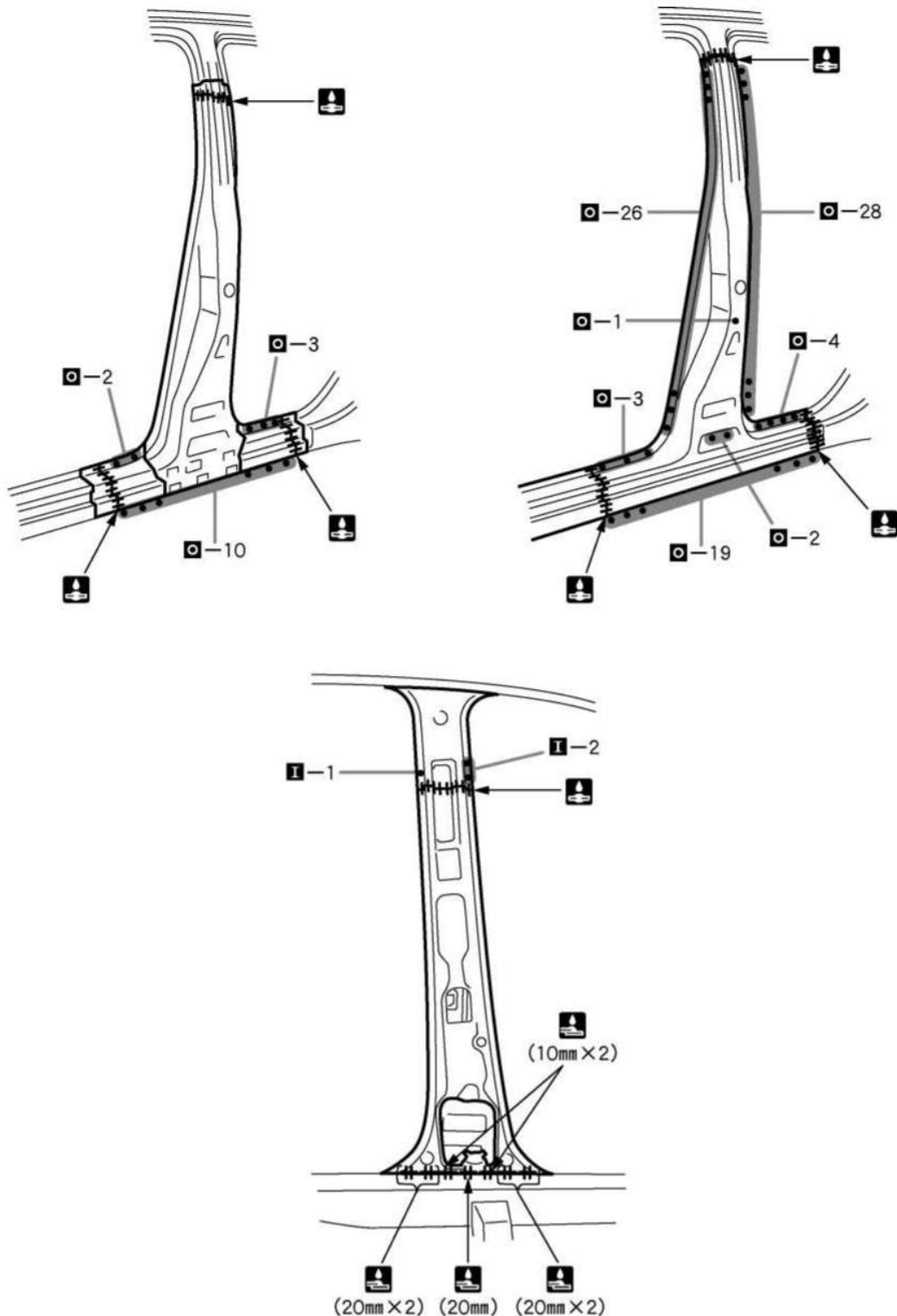
[A] Rocker Outer Reinforcement [B] Center Body Pillar Lower Reinforcement

[C] Center Body Inner Pillar

10mm (0.39in.) 62mm (2.44in.) 240mm (9.45in.)

BODY PANEL REPLACEMENT

BP-29



F15529

POINT

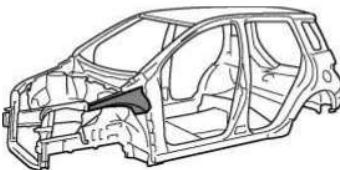
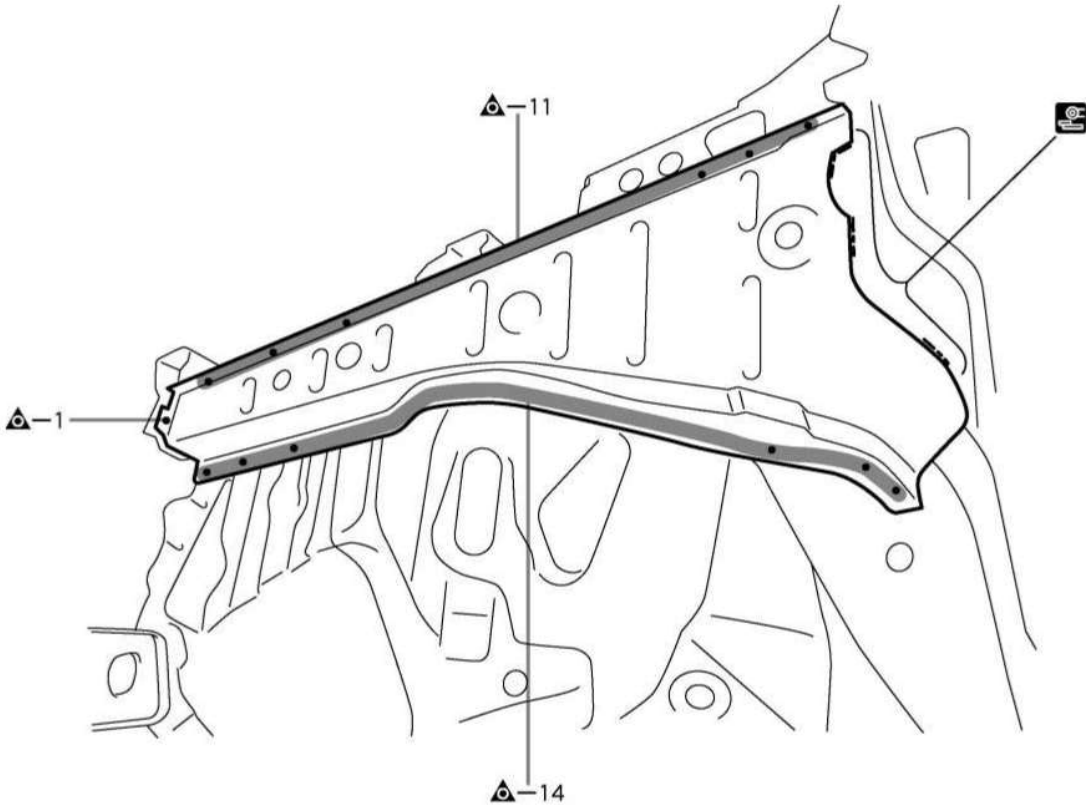
- 1 Inspect the fitting of the front door and rear door, etc., before welding, since this affects the appearance of the finish.
- 2 After welding the reinforcement to the vehicle side, install the outer panel.

10mm (0.39in.)

20mm (0.79in.)

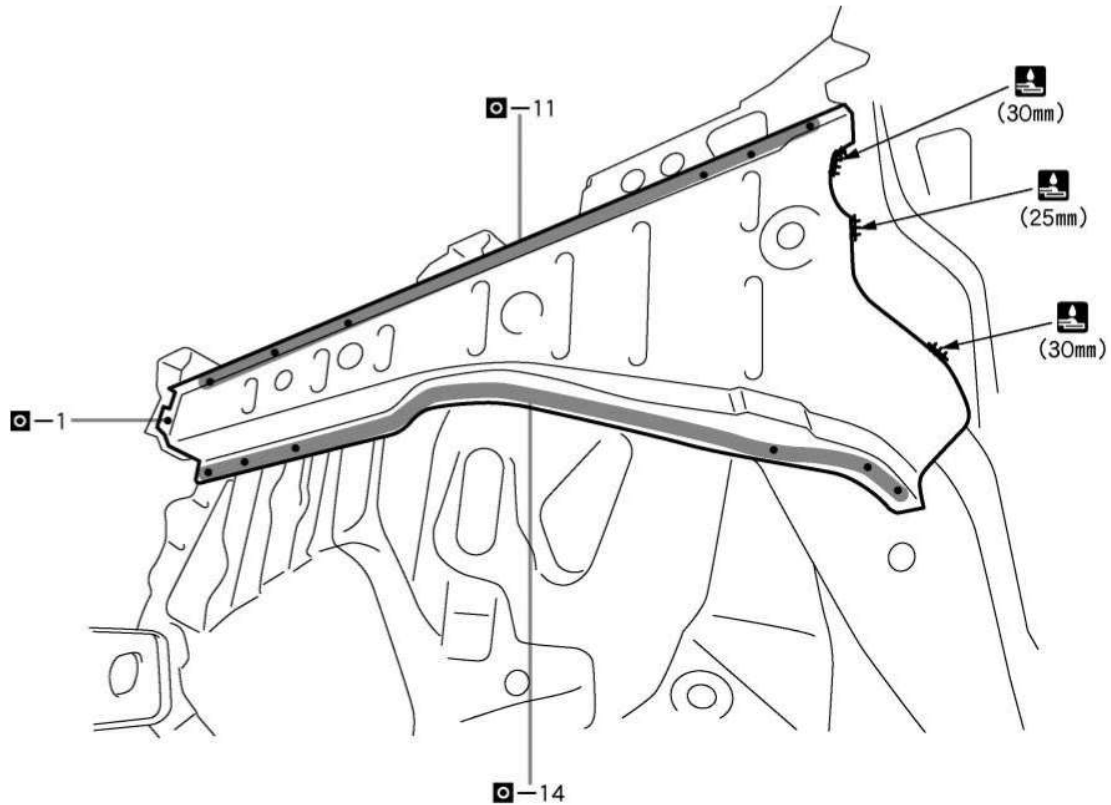
BODY PANEL REPLACEMENT

BP-21

COWL TOP SIDE PANEL (ASSY)		 F15521A
REPLACEMENT		
REMOVAL		
 F15521		

BP-22**BODY PANEL REPLACEMENT****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.



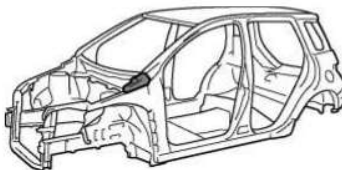
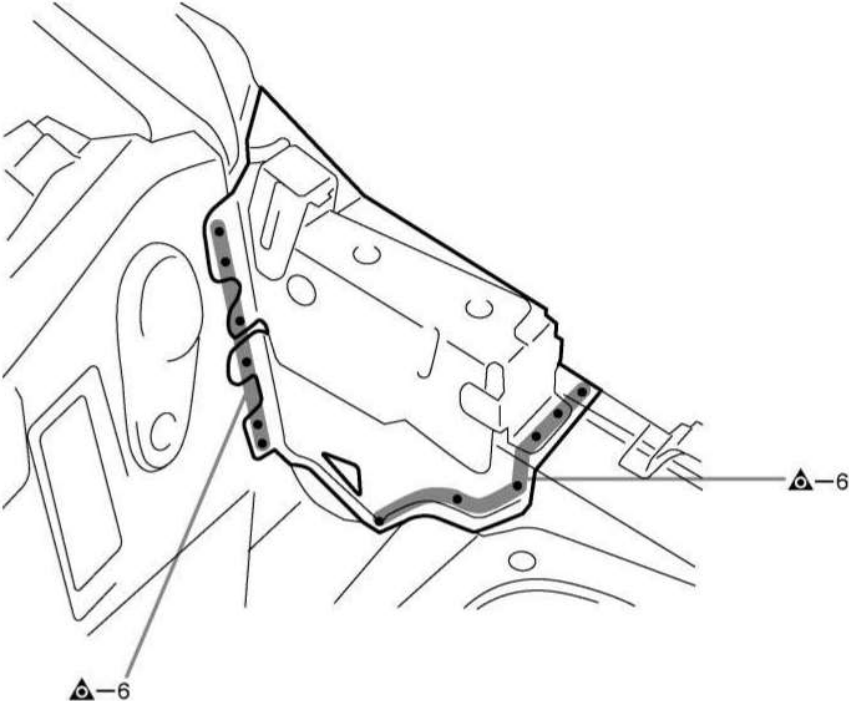
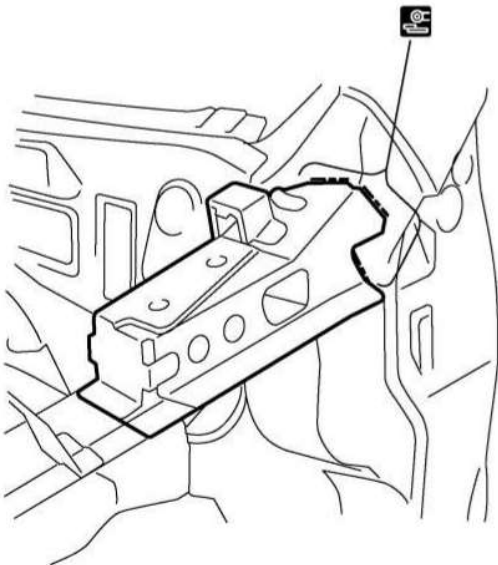
F15522

25mm (0.98 in.)

30mm (1.18 in.)

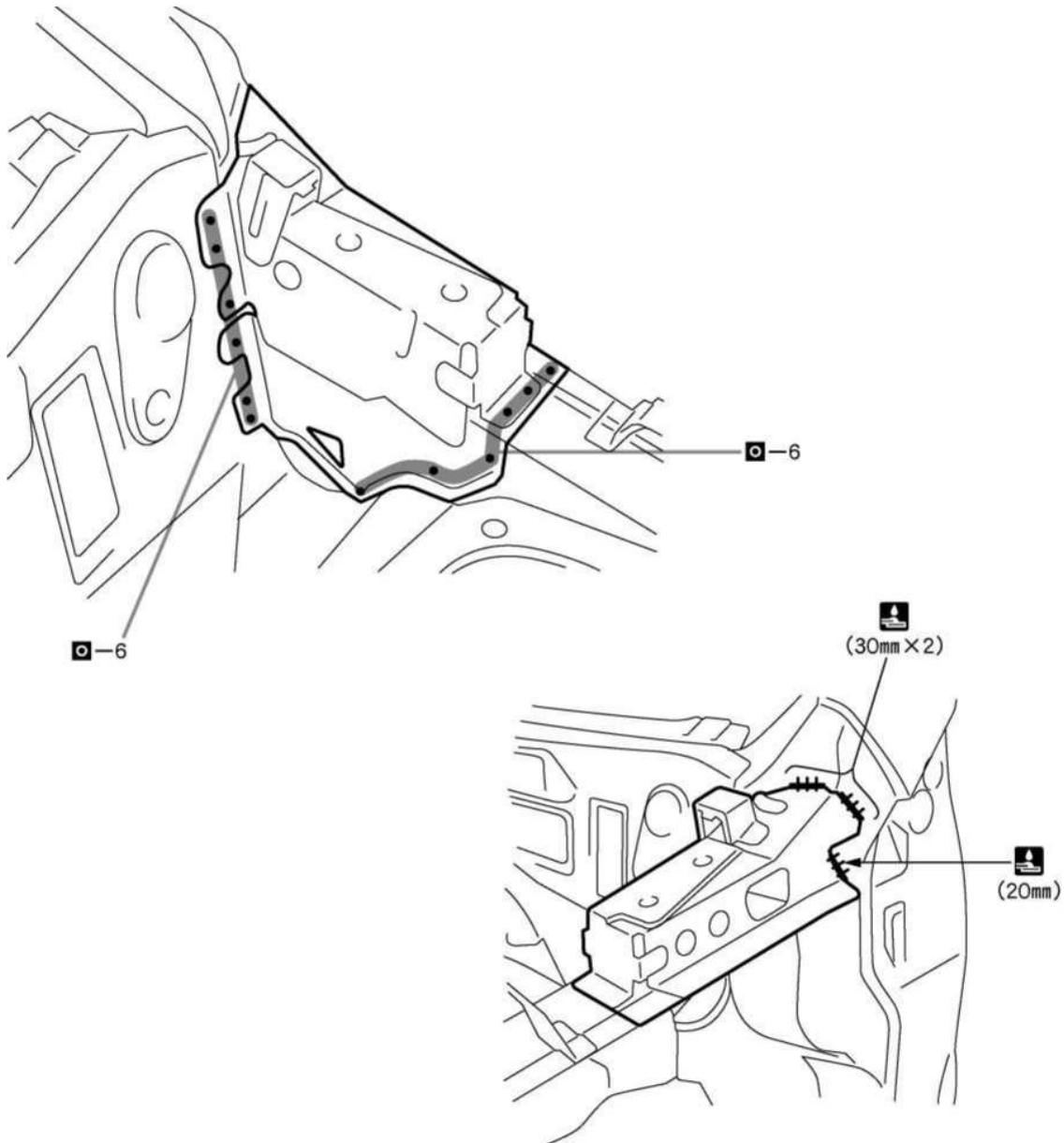
BODY PANEL REPLACEMENT

BP-11

COWL TOP SIDE UPPER PANEL (ASSY)	 F15511A
REPLACEMENT With the cowl top side panel removed.	
REMOVAL	
 	

BP-12**BODY PANEL REPLACEMENT****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.



F15512

POINT

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

20mm (0.79in.)

30mm (1.18in.)

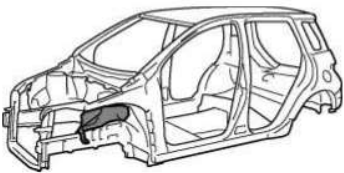
BODY PANEL REPLACEMENT

BP-15

FRONT FENDER APRON (ASSY)

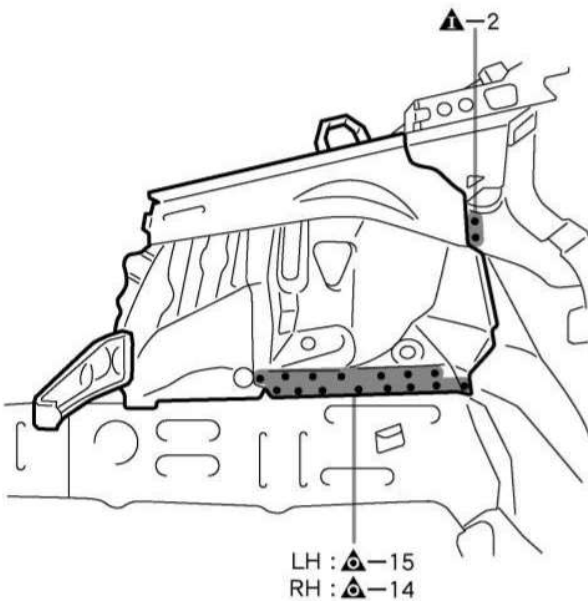
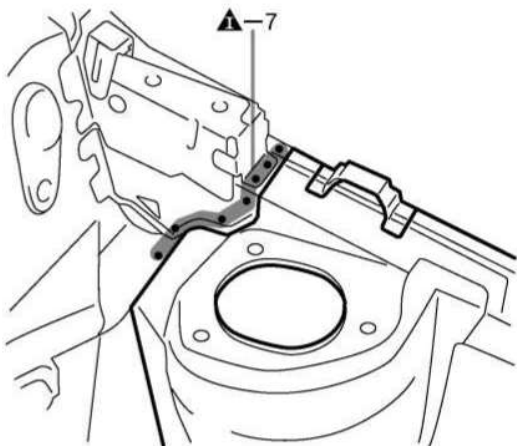
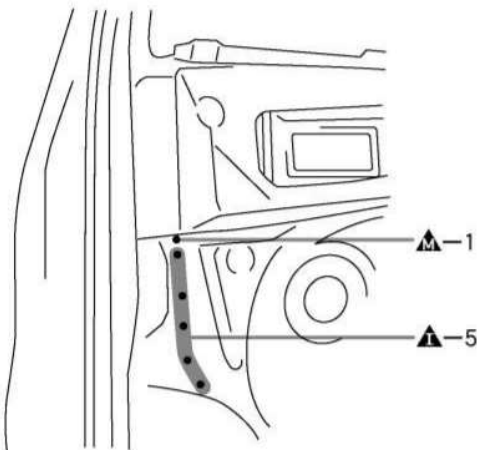
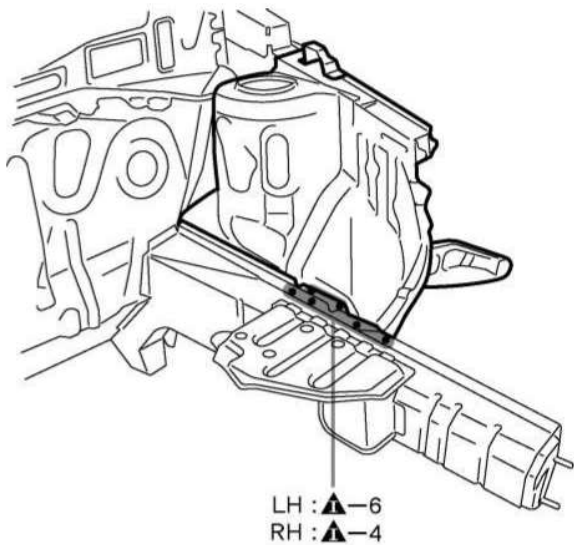
REPLACEMENT

With the radiator upper support and cowl top side panel removed.



F15515A

REMOVAL



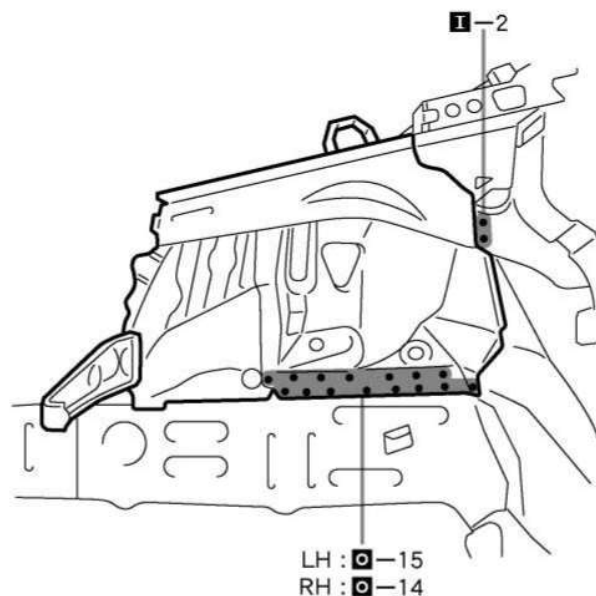
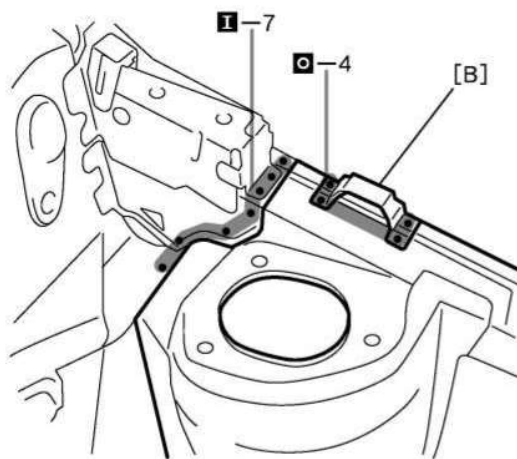
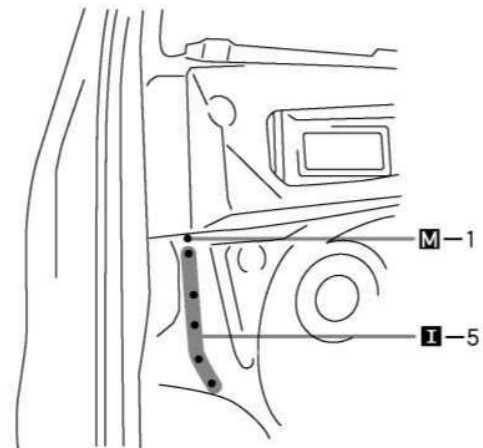
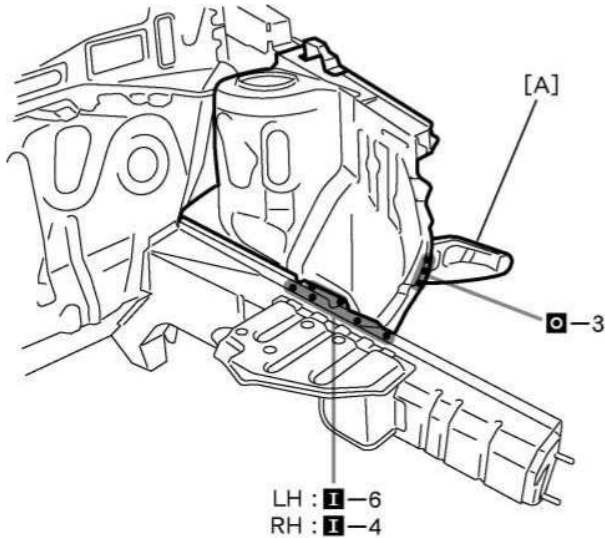
F15515

BP-16

BODY PANEL REPLACEMENT

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.



F15516

POINT

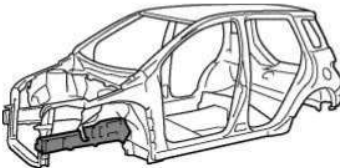
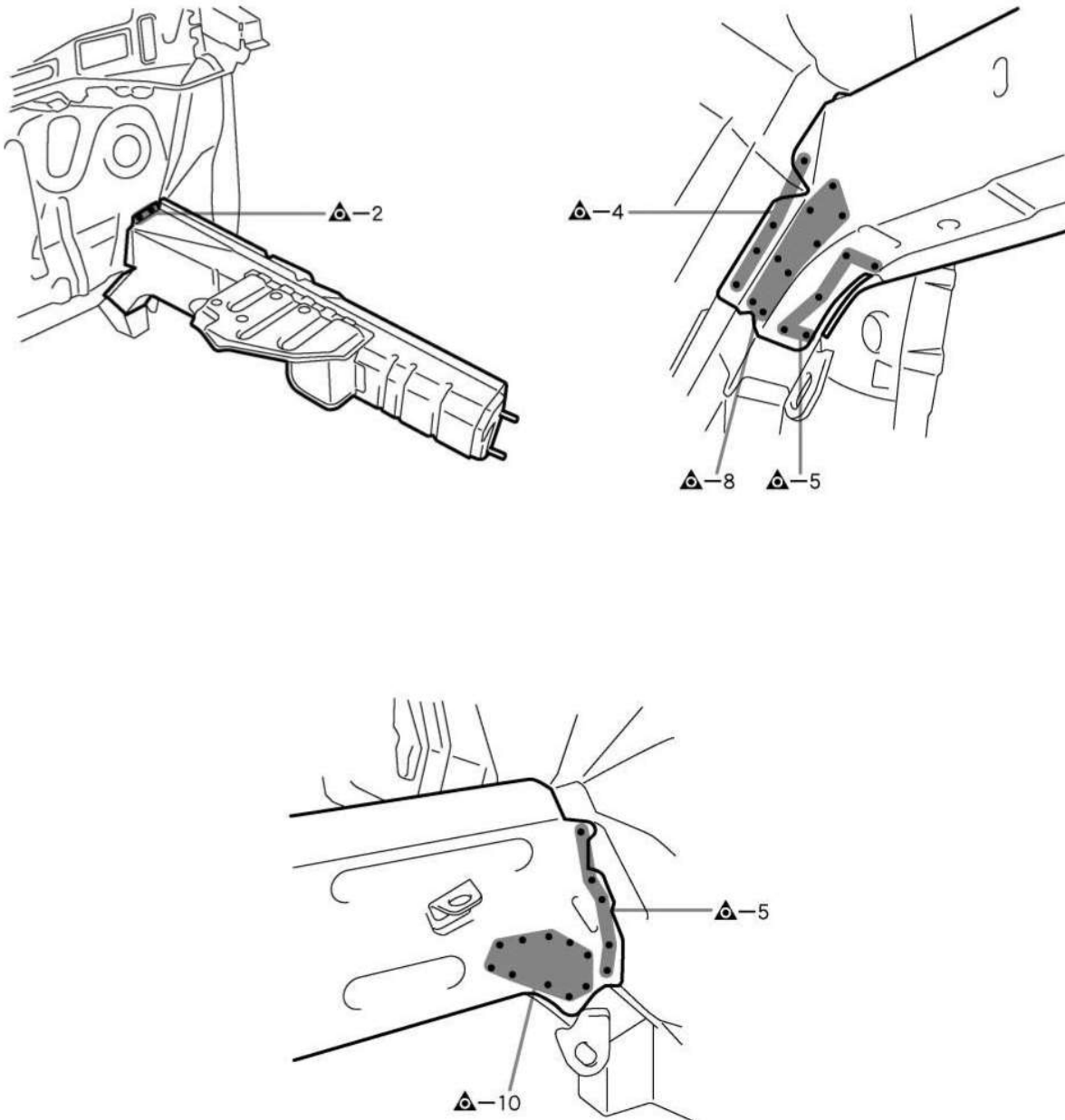
- 1 Inspect the fitting of the front fender and hood, etc. before welding, since this affects the appearance of the finish.
- 2 Make sure each measurement is correct, as this parts affects the front wheel alignment.

PART NAME

[A] Front Fender Mounting Bracket [B] Fender Apron Gusset

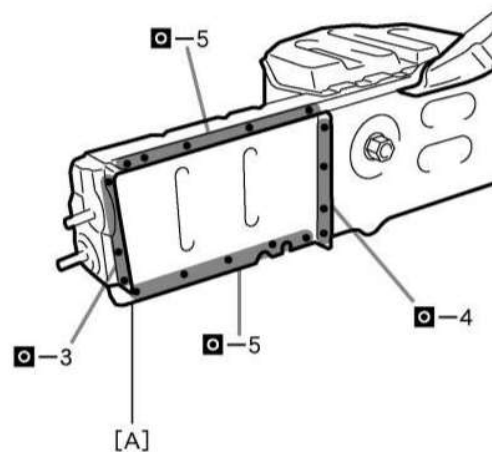
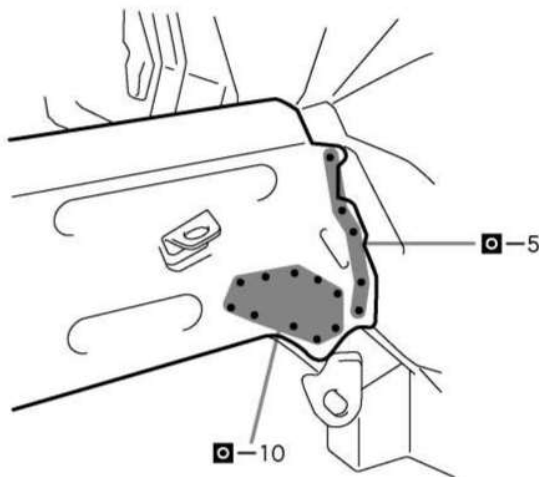
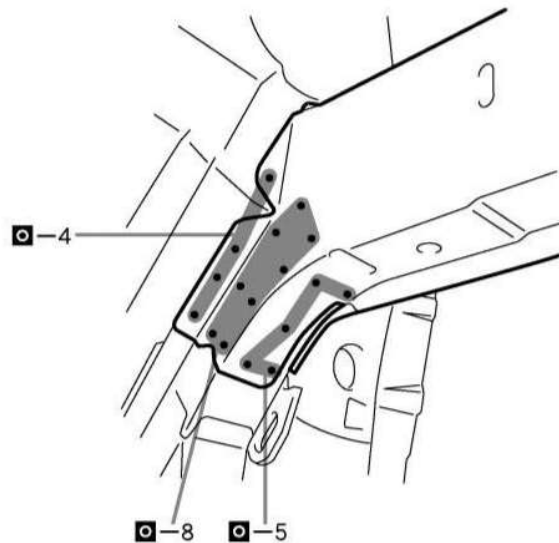
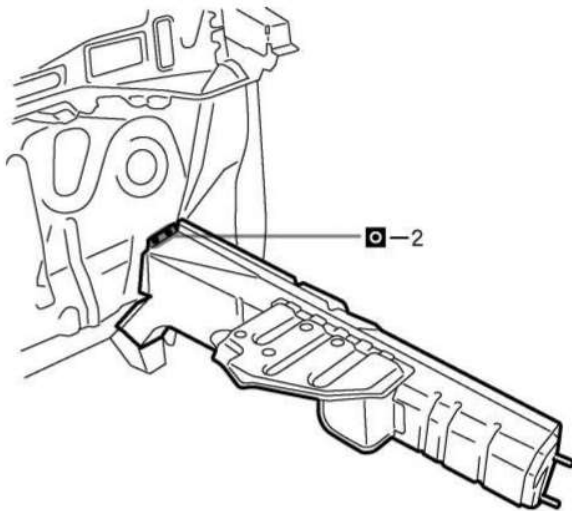
BODY PANEL REPLACEMENT

BP-19

FRONT SIDE MEMBER (ASSY)		 F15519A
REPLACEMENT With the radiator side support and front fender apron removed.		
REMOVAL		
		

BP-20**BODY PANEL REPLACEMENT****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.



F15520

POINT

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

PART NAME

[A] Front Bumper Mounting Reinforcement (RH: Front Side Member Front Plate)

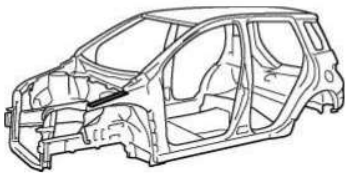
BODY PANEL REPLACEMENT

BP-13

FRONT APRON TO COWL SIDE UPPER MEMBER (ASSY)

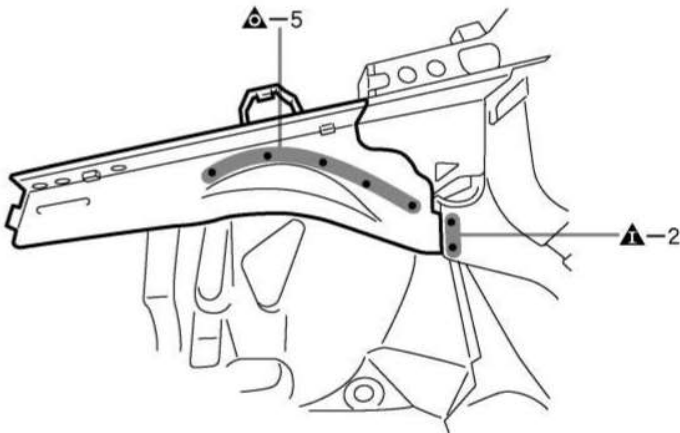
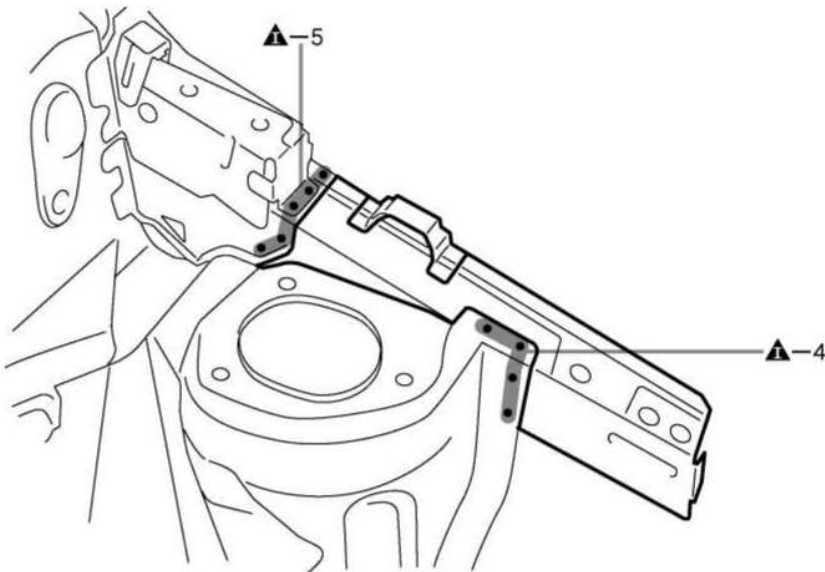
REPLACEMENT

With the front fender front apron and cowl top side panel removed.



F15513A

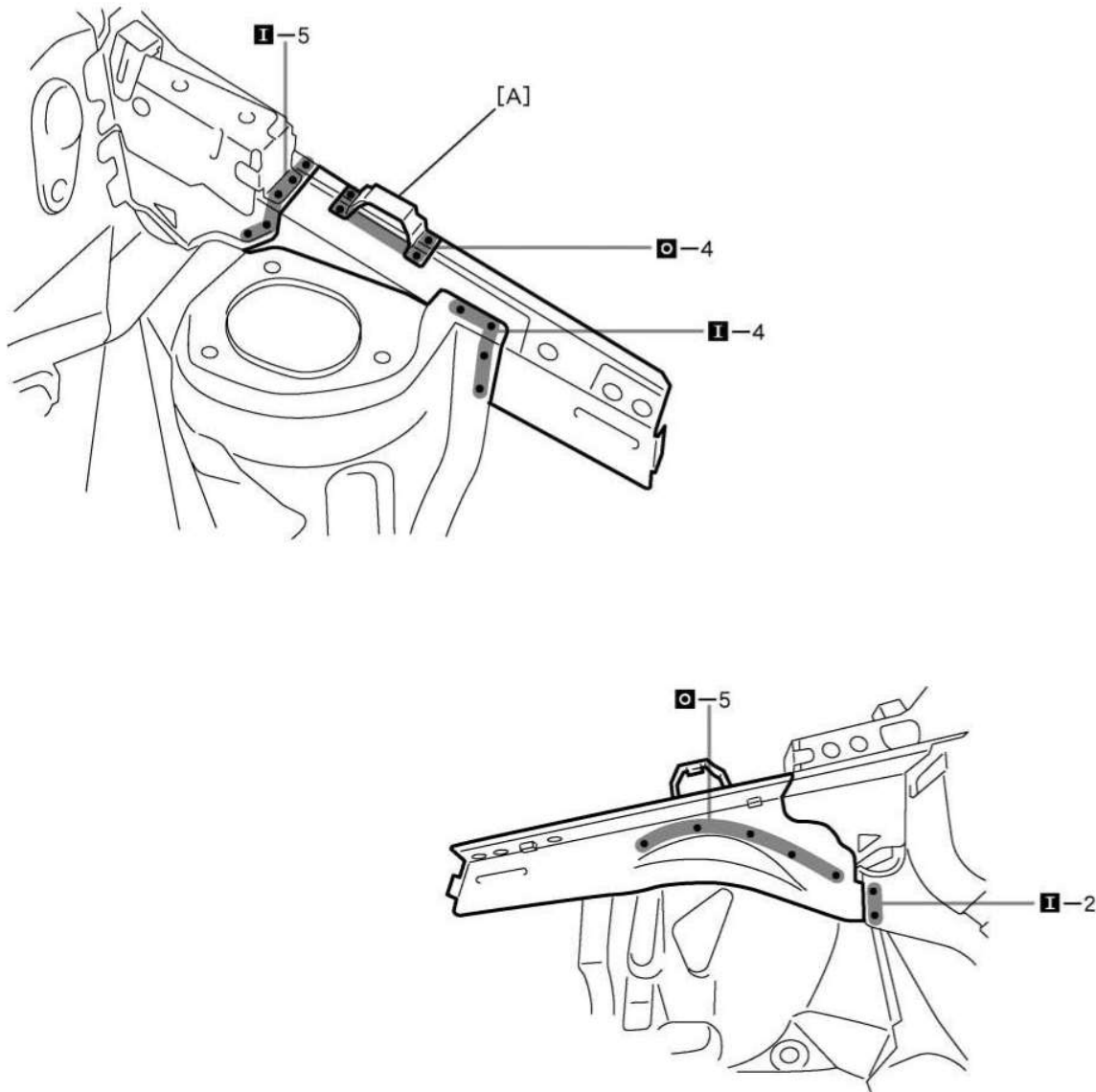
REMOVAL



F15513

BP-14**BODY PANEL REPLACEMENT****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.



F15514

POINT

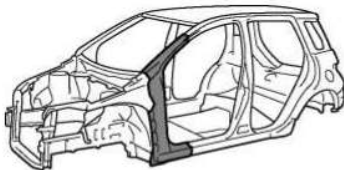
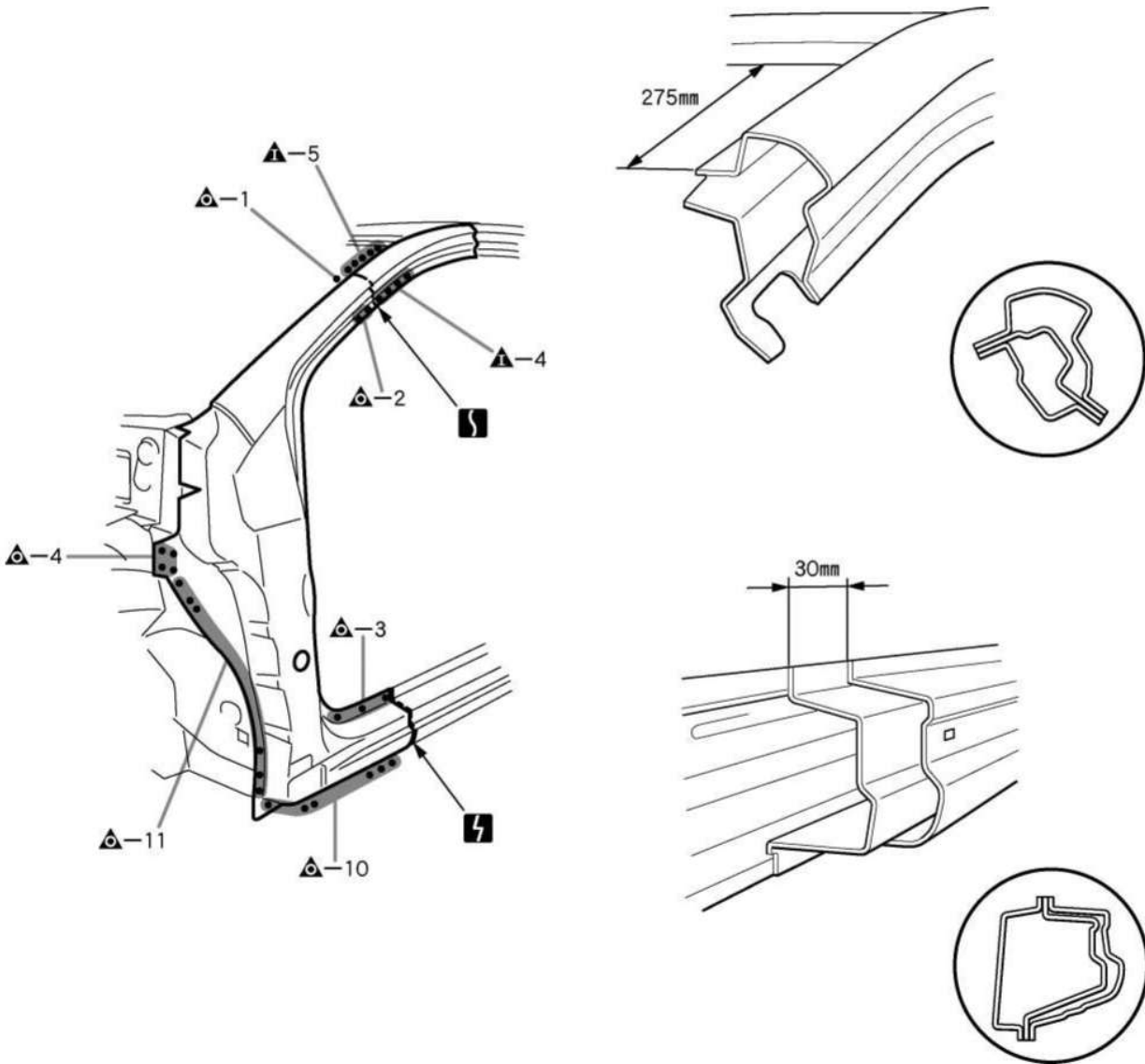
- 1 Inspect the fitting of the front fender and hood, etc. before welding, since this affects the appearance of the finish.

PART NAME

[A] Fender Apron Gusset

BODY PANEL REPLACEMENT

BP-23

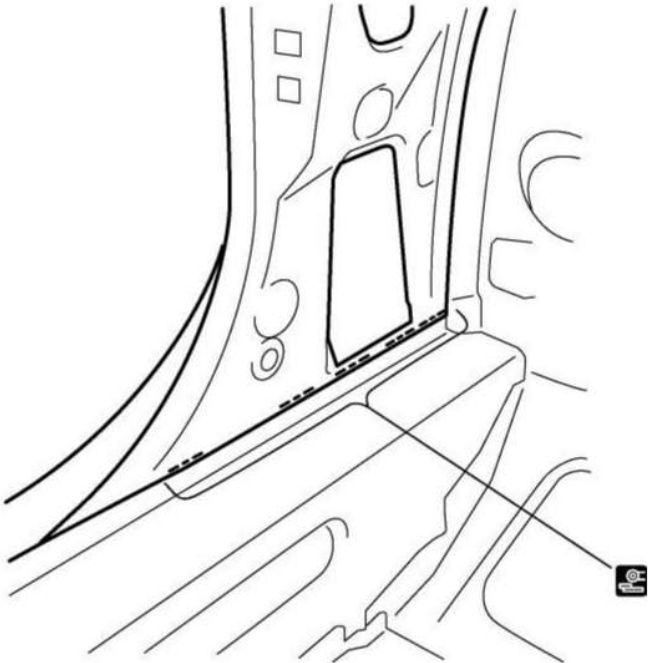
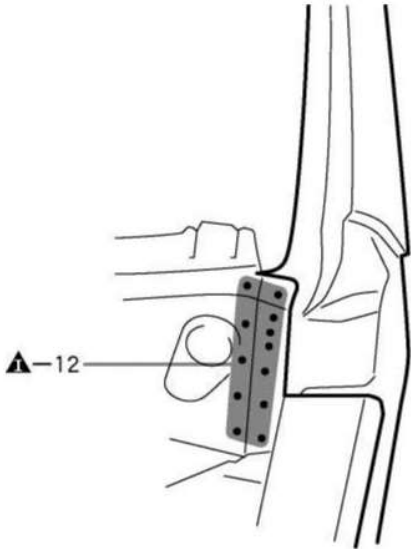
FRONT BODY PILLAR (CUT)		 F15523A
REPLACEMENT With the cowl top side upper panel removed.		
REMOVAL		
 The diagram illustrates the removal of the front body pillar. The main view shows the pillar being cut, with callouts 1 through 11 indicating specific points of interest or fasteners. Two warning symbols are present: a square with a diagonal line and a lightning bolt. Two detail views are provided: the top flange, which is 275mm wide, and the bottom flange, which is 30mm wide. Each detail view includes a circular inset showing the cross-section of the flange.		
F15523		

30mm (1.18in.)

275mm (10.83in.)

BP-24

BODY PANEL REPLACEMENT

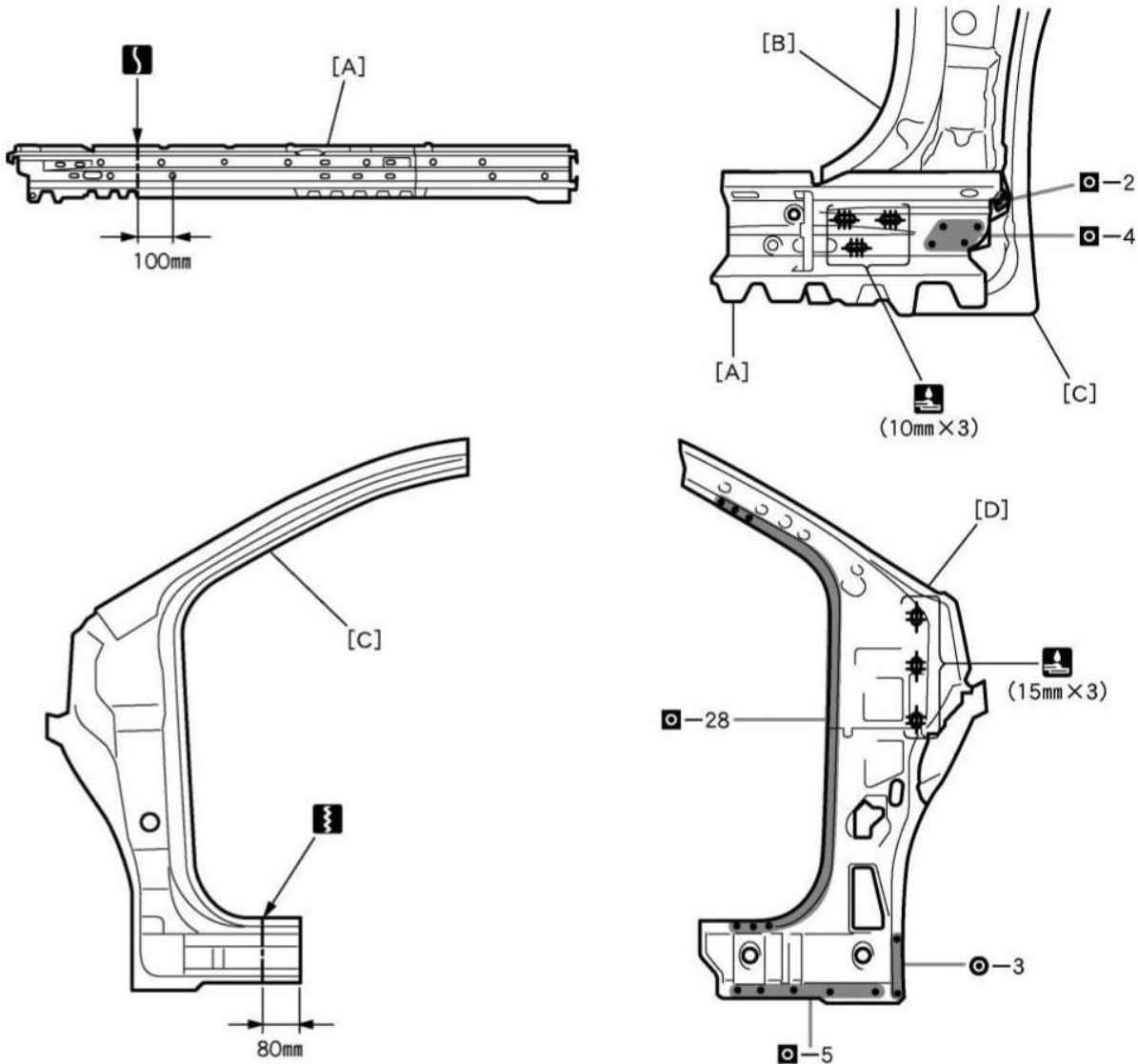


BODY PANEL REPLACEMENT

BP-25

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.



F15525

POINT

- 1 Before temporarily installing the new parts, weld the [A], [B], [C] and [d] with standard points.
- 2 Cut the outer pillar on the rocker section and but-weld the rocker outer reinforcement before installing the outer pillar.

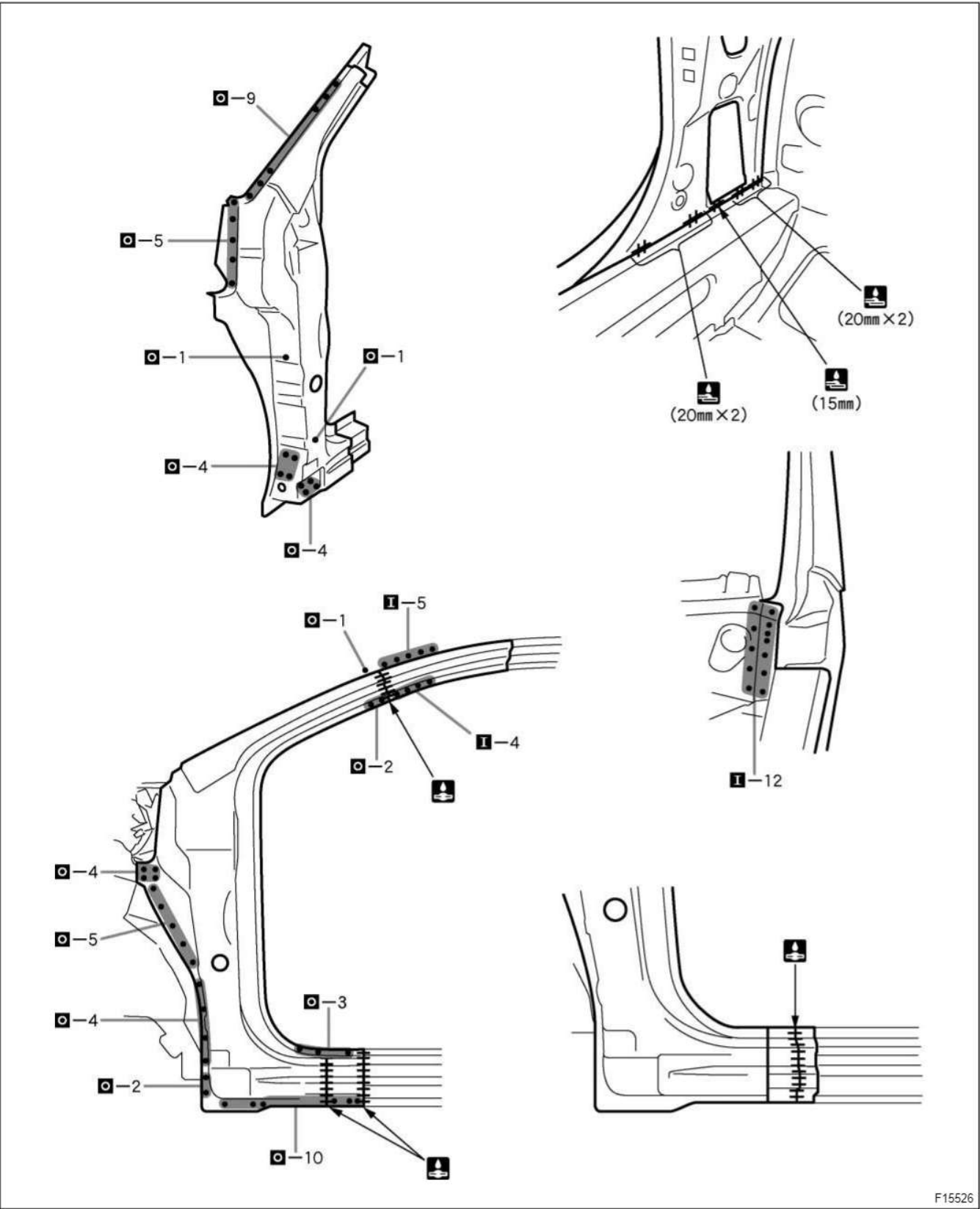
PART NAME

- | | |
|-----------------------------------|---|
| [A] Rocker Outer Reinforcement | [B] Front Body Pillar Lower Reinforcement |
| [C] Front Body Upper Outer Pillar | [D] Front Body Inner Pillar |

10mm (0.39in.)	15mm (0.59in.)	80mm (3.15in.)	100mm (3.94in.)
----------------	----------------	----------------	-----------------

BP-26

BODY PANEL REPLACEMENT



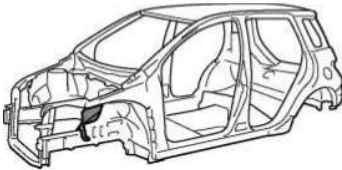
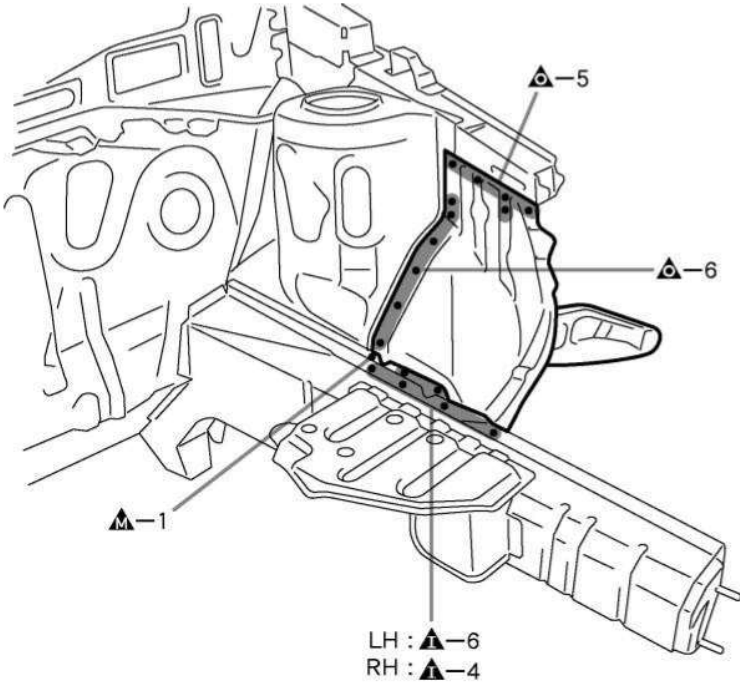
POINT

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

15mm (0.59in.) 20mm (0.79in.)

BODY PANEL REPLACEMENT

BP-9

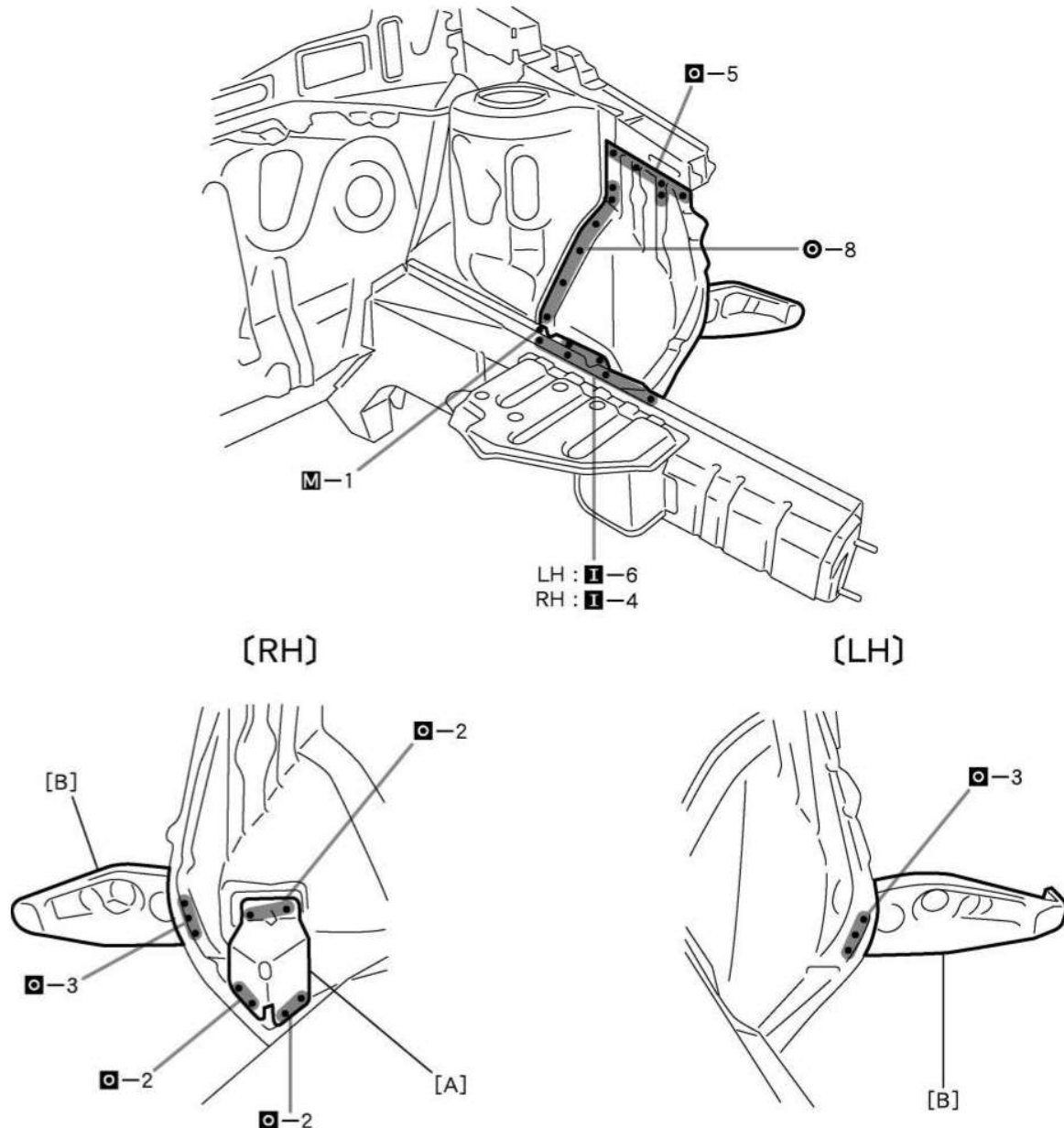
FRONT FENDER FRONT APRON (ASSY)	 F15509A
REPLACEMENT With the radiator upper support removed.	
REMOVAL	
 LH : 6 RH : 4 F15509	

BP-10

BODY PANEL REPLACEMENT

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.



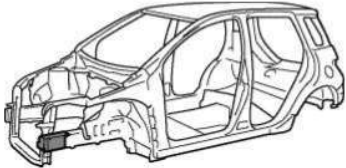
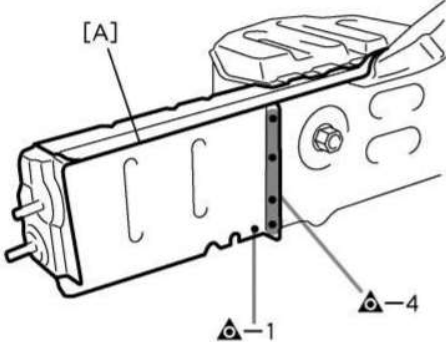
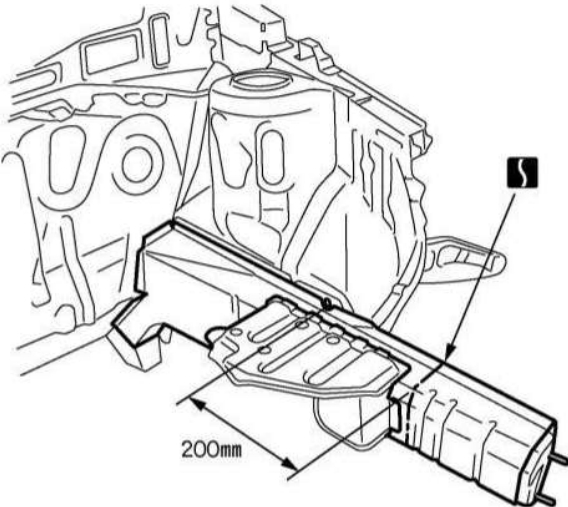
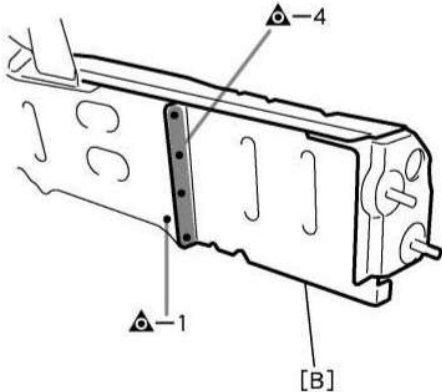
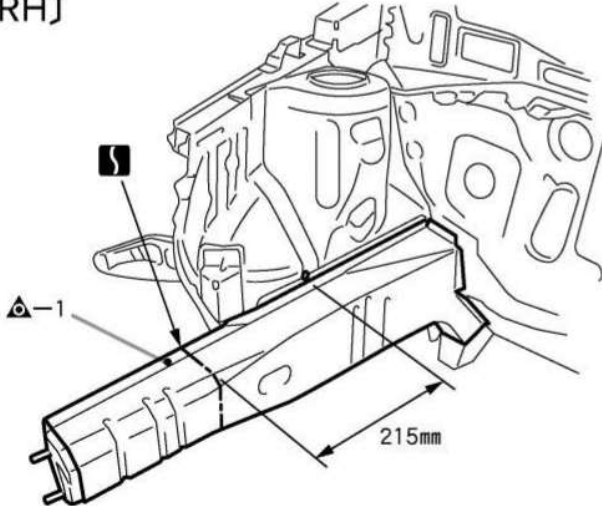
F15510

POINT

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

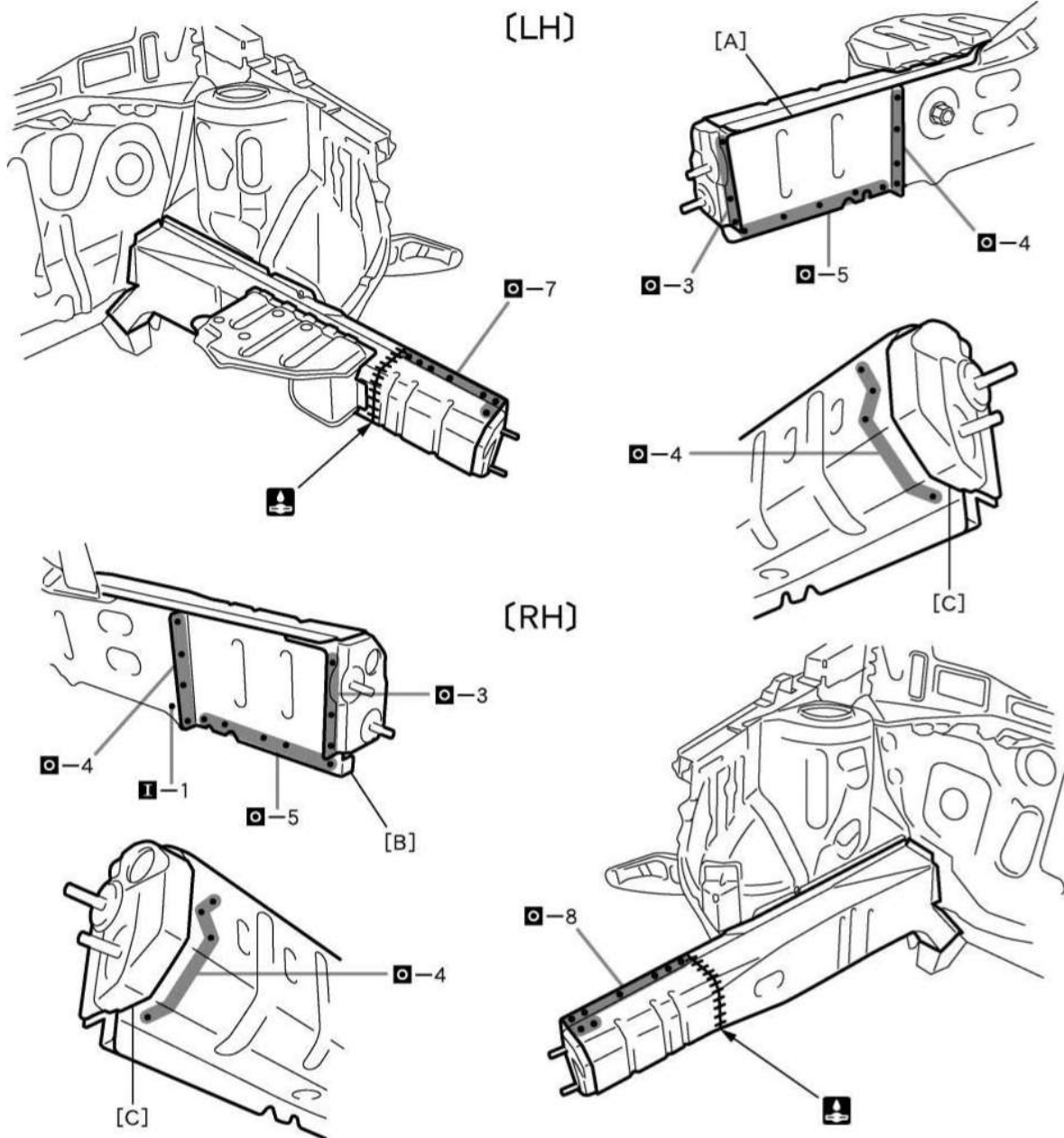
PART NAME

- [A] Engine Front Support Retainer (RH Only) [B] Front Fender Mounting Bracket

BODY PANEL REPLACEMENT		BP-17
FRONT SIDE MEMBER (CUT-P) REPLACEMENT With the radiator side support removed.		 F15517A
REMOVAL (LH)  (RH)  PART NAME [A] Front Bumper Mounting Reinforcement [B] Front Side Member Front Plate 200mm (7.87in.) 215mm (8.46in.)		F15517

BP-18**BODY PANEL REPLACEMENT****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.



F15518

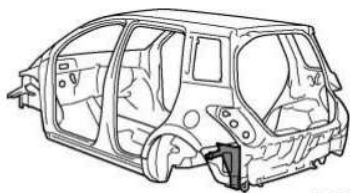
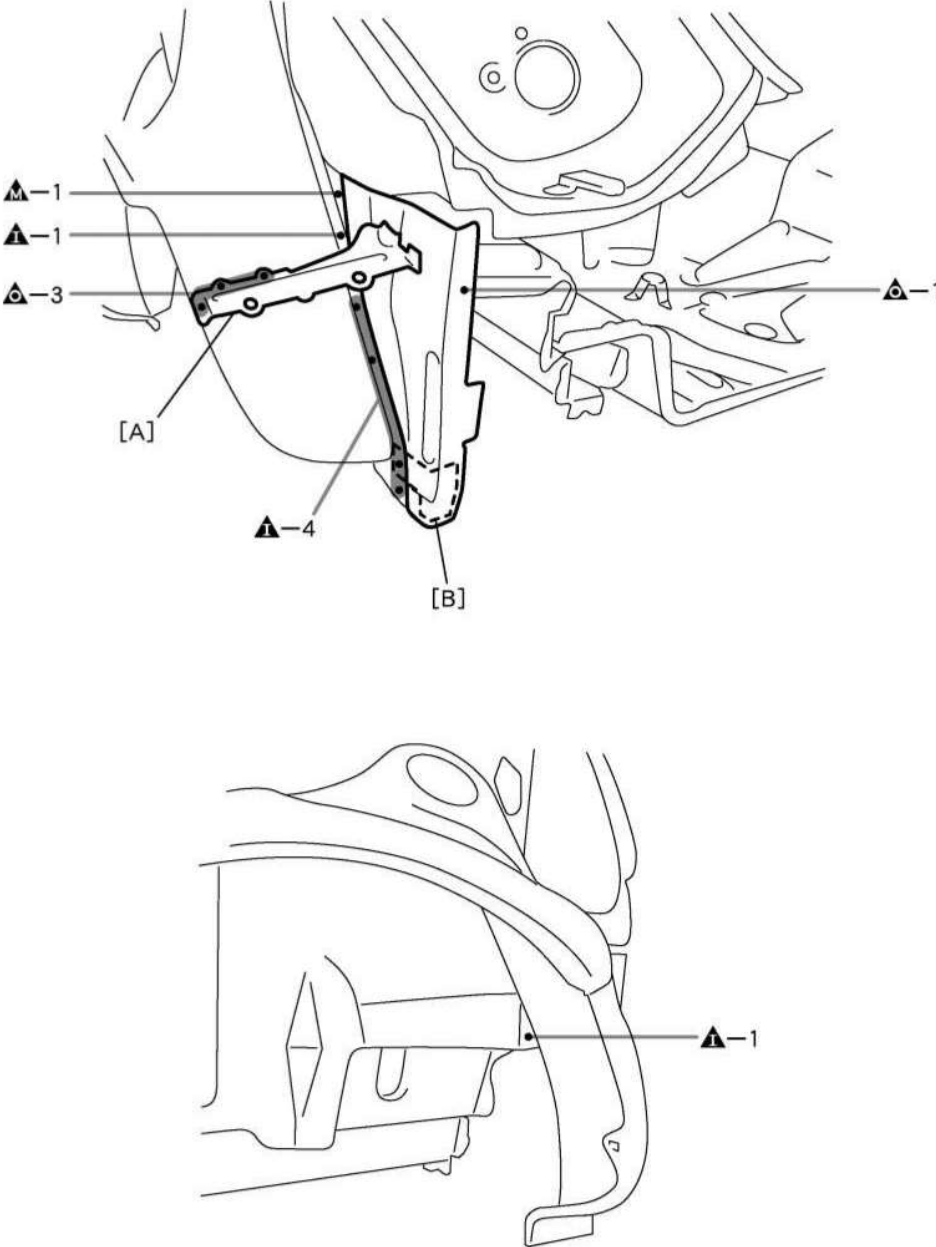
PART NAME

[A] Front Bumper Mounting Reinforcement
[C] Front Bumper Arm

[B] Front Side Member Front Plate

BP-42

BODY PANEL REPLACEMENT

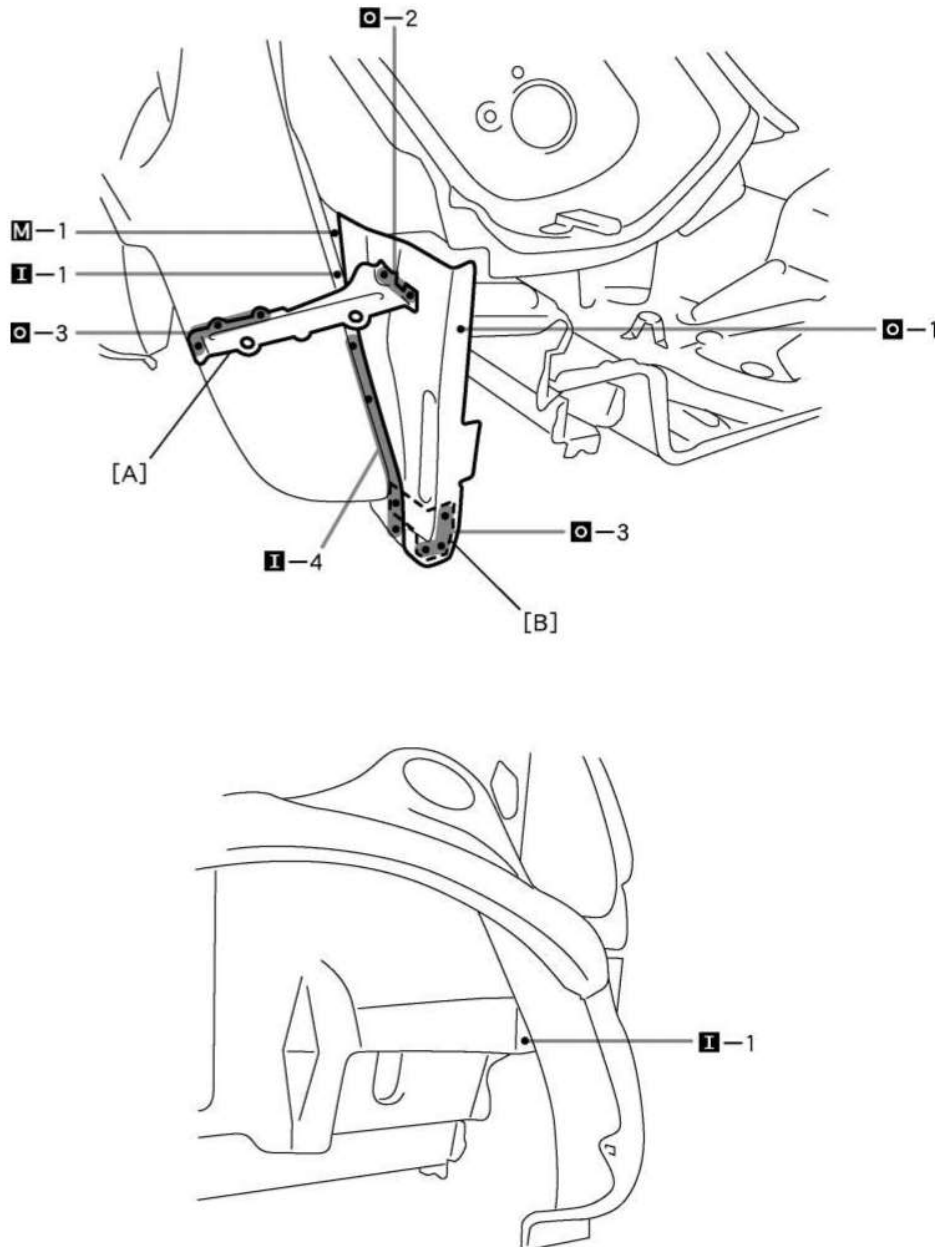
QUARTER WHEEL HOUSING EXTENSION (ASSY)	 F15542A
REPLACEMENT With the body lower back panel, quarter panel removed.	
REMOVAL	
	
POINT 1 Remove the [A] and [B] at the same time.	
PART NAME [A] Quarter Wheel Housing Center Gusset [B] Quarter Wheel Housing No.2 Brace	

BODY PANEL REPLACEMENT

BP-43

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.



F15543

PART NAME

[A] Quarter Wheel Housing Center Gusset [B] Quarter Wheel Housing No.2 Brace

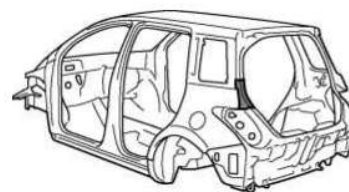
BP-44

BODY PANEL REPLACEMENT

QUARTER PANEL UPPER EXTENSION (CUT)

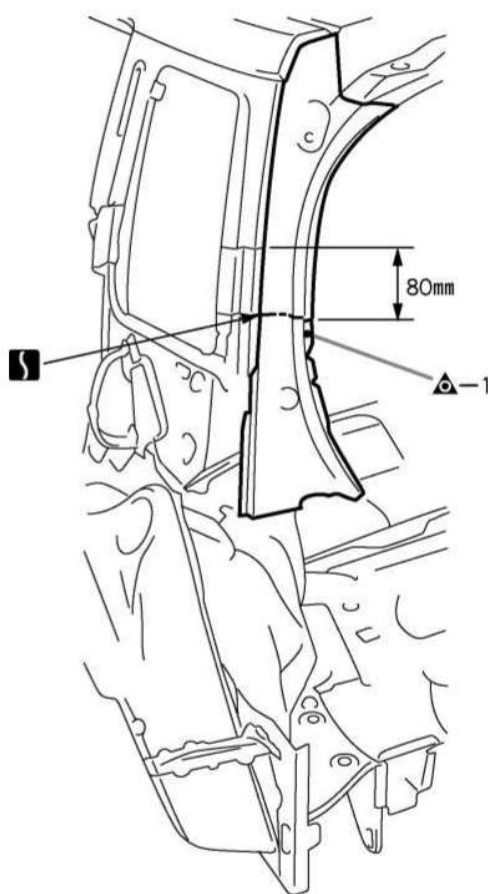
REPLACEMENT

With the quarter panel, back door opening trough removed.



F15544A

REMOVAL

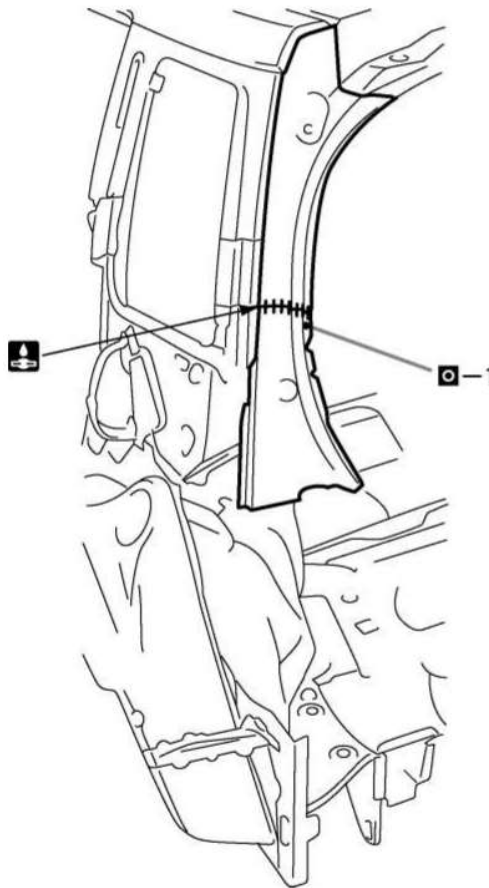


F15544

80mm (3.15in.)

BODY PANEL REPLACEMENT**BP-45****INSTALLATION**

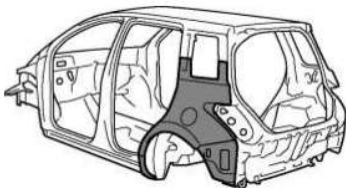
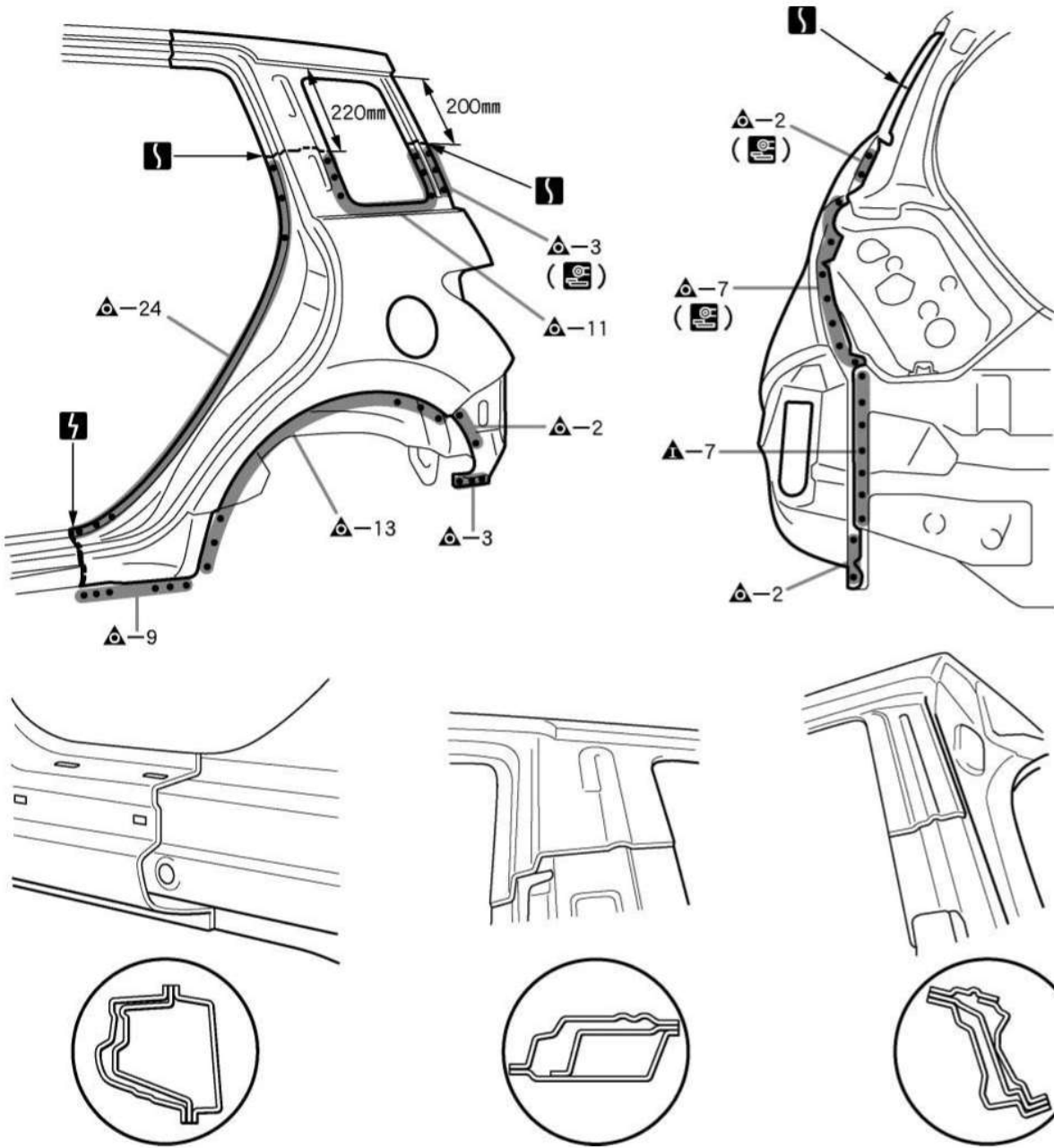
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply 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.



F15545

BP-34

BODY PANEL REPLACEMENT

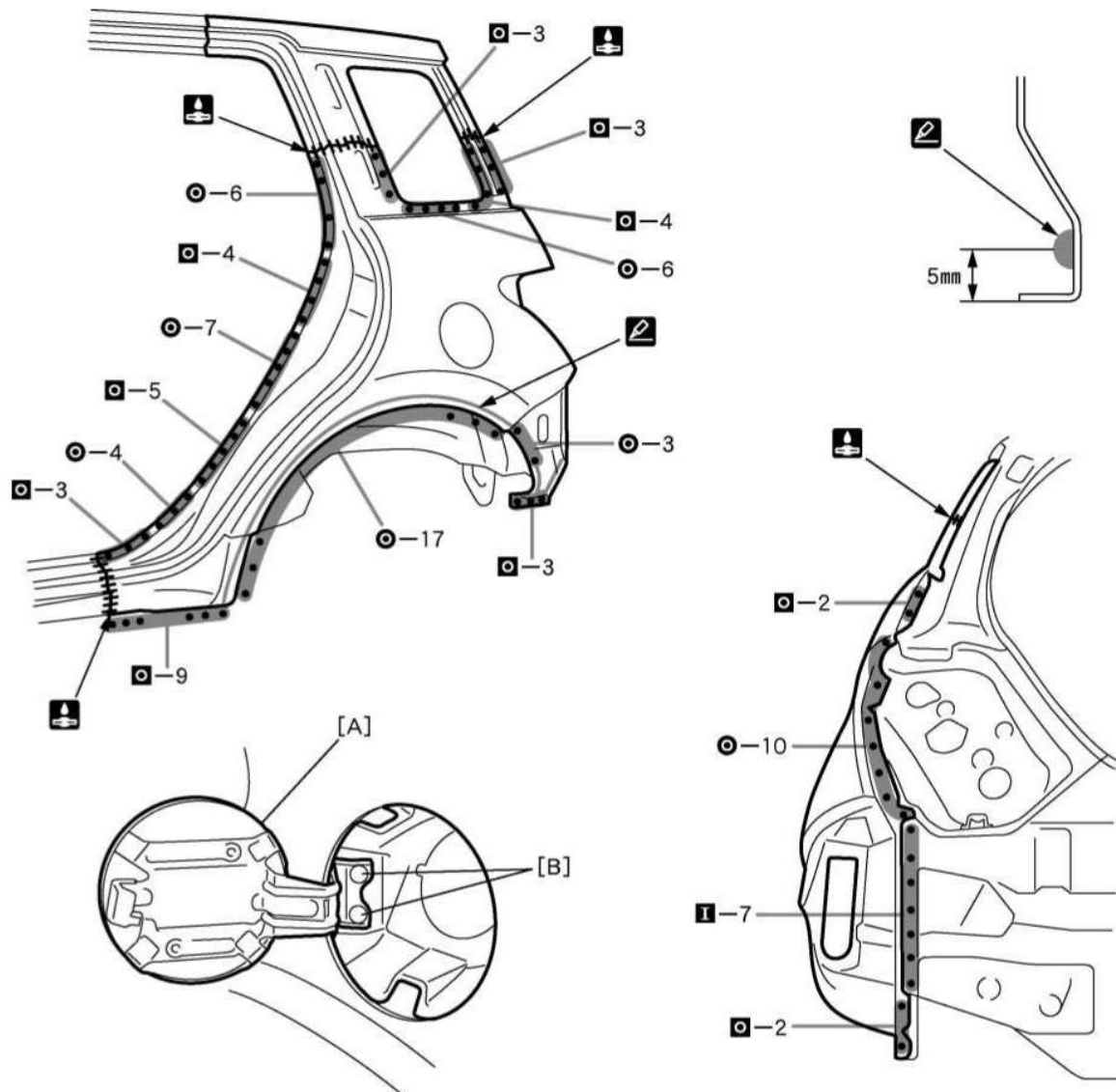
QUARTER PANEL (CUT)		 F15534A
REPLACEMENT		
REMOVAL		
		
F15534		
200mm (7.87in.) 220mm (8.66in.)		

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 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.



F15535

POINT

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

HINT:

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

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

PART NAME

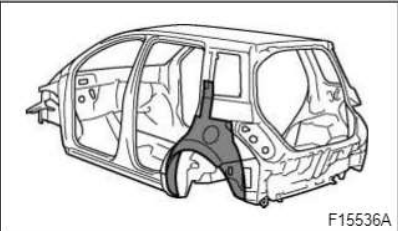
- [A] Fuel Filler Opening Lid [B] Waterproof Rivets

BP-36

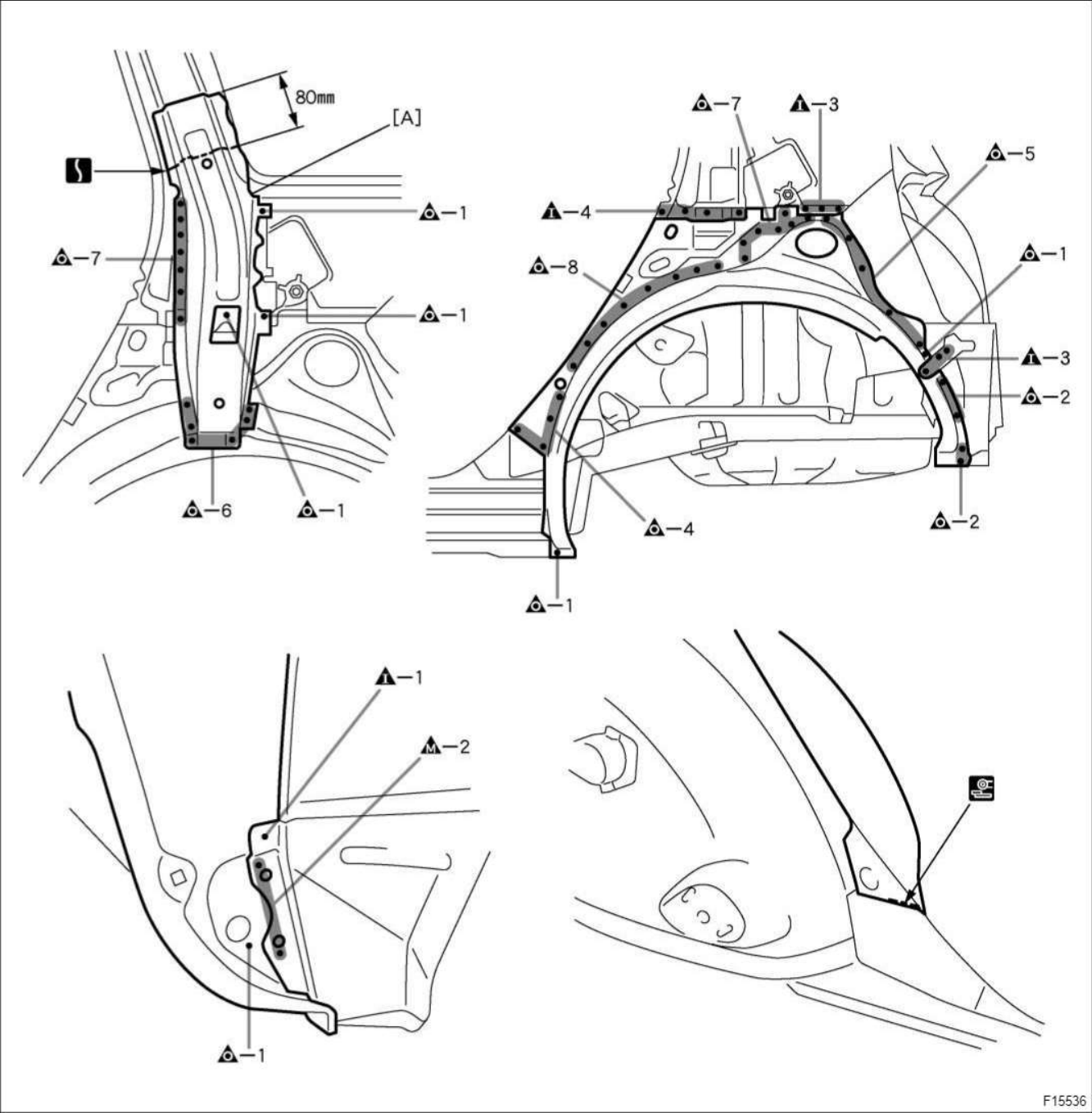
BODY PANEL REPLACEMENT

QUARTER WHEEL HOUSING OUTER PANEL (ASSY)

REPLACEMENT
With the quarter panel removed.



REMOVAL



F15536

POINT
1 After removing [A], remove the quarter wheel housing outer panel.

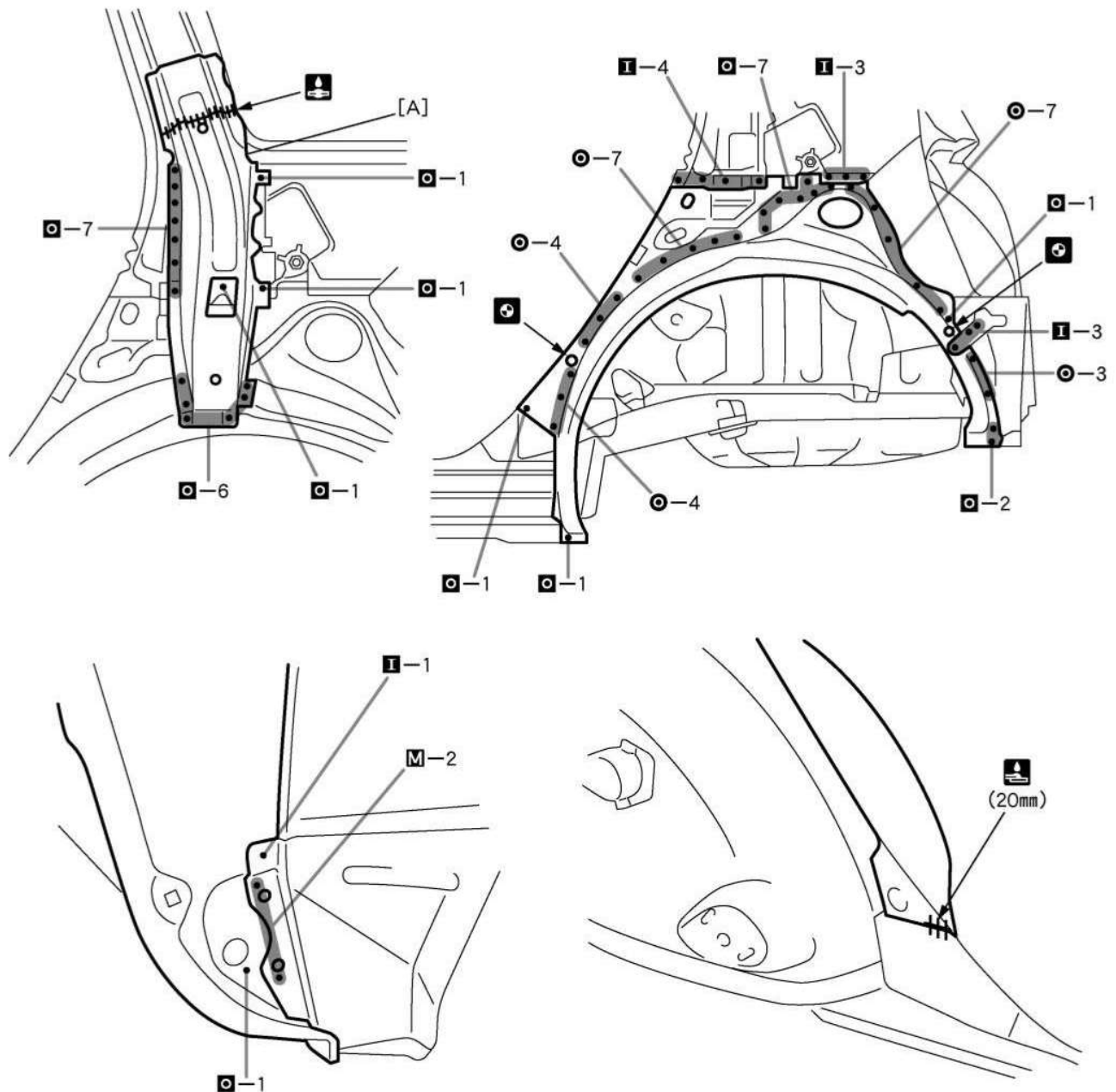
PART NAME
[A] Roof Side Outer Panel
80mm (3.15 in.)

BODY PANEL REPLACEMENT

BP-37

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.



F15537

POINT

- 1 Determine the position of the new parts by assembly marks of the inner and outer panels.

PART NAME

[A] Roof side Outer Panel

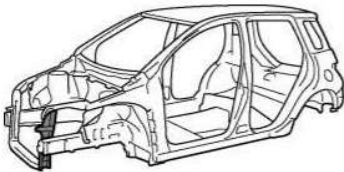
BODY PANEL REPLACEMENT

BP-3

RADIATOR SIDE SUPPORT (ASSY)

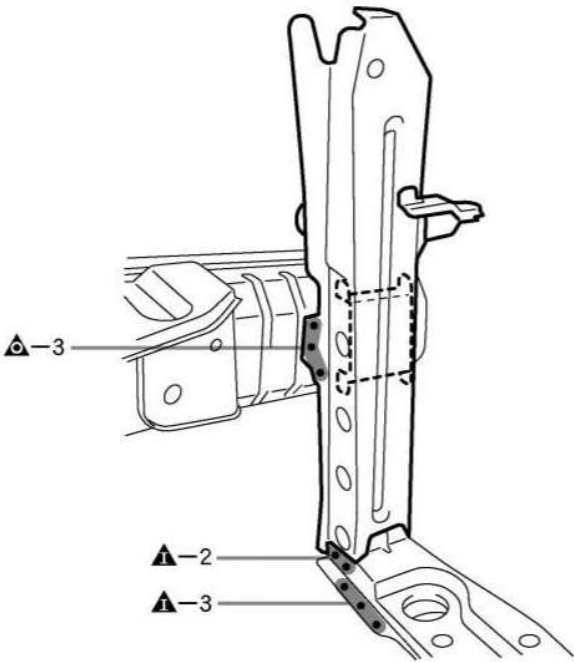
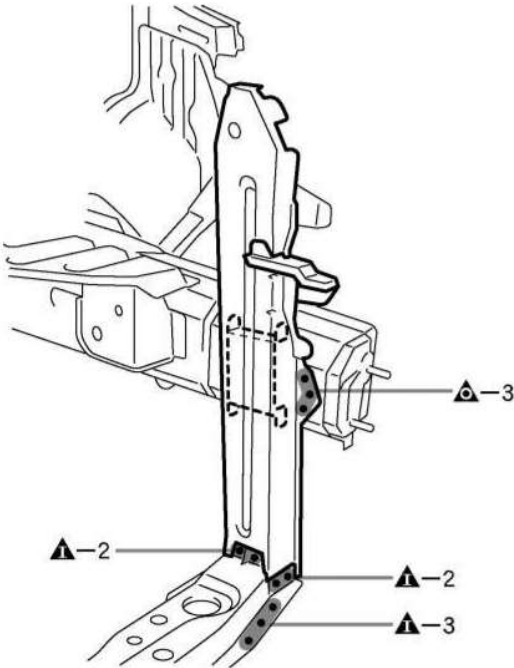
REPLACEMENT

With the radiator upper support removed.



F15503A

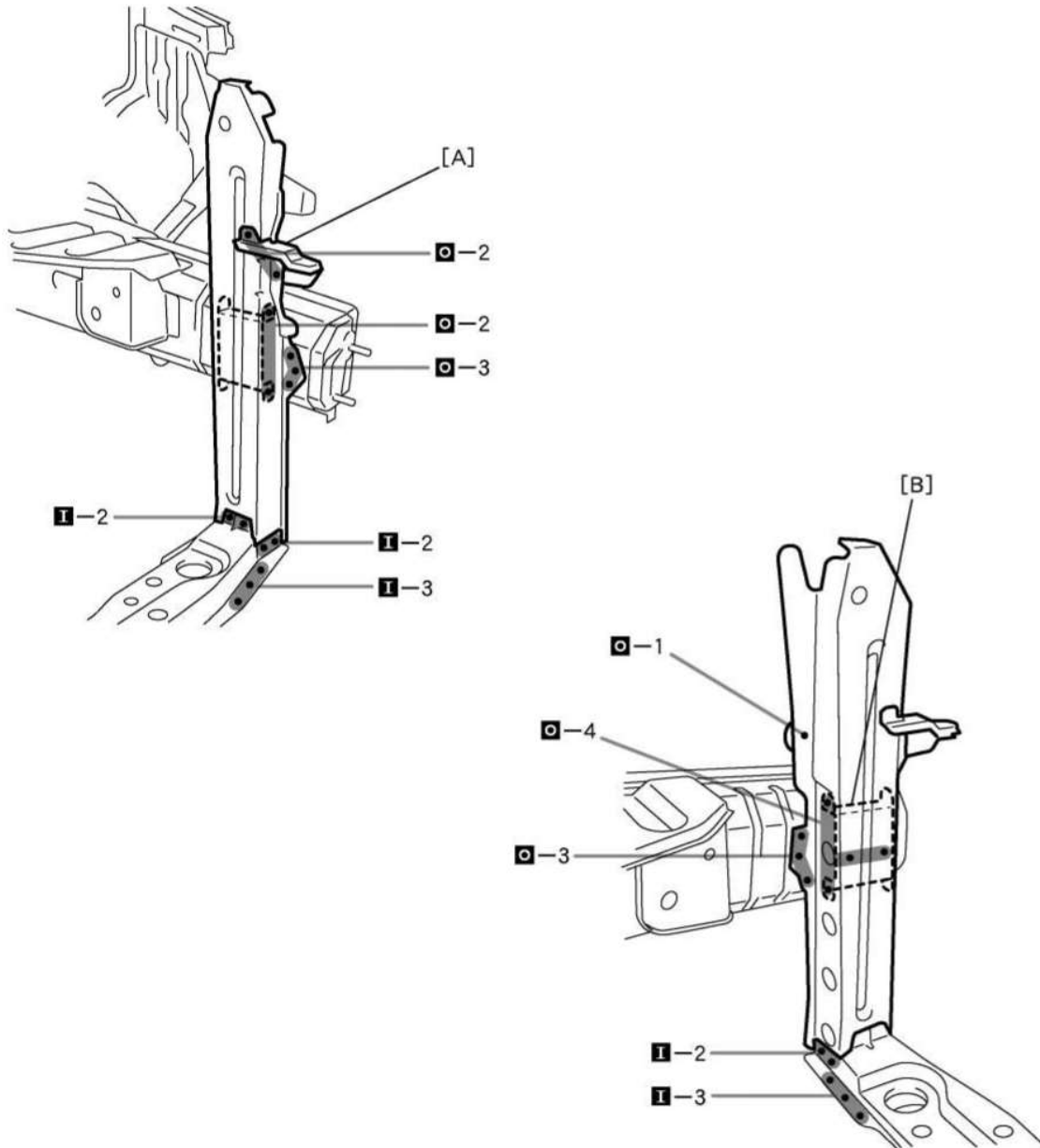
REMOVAL



F15503

BP-4**BODY PANEL REPLACEMENT****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.



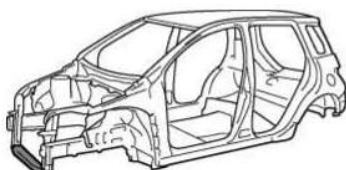
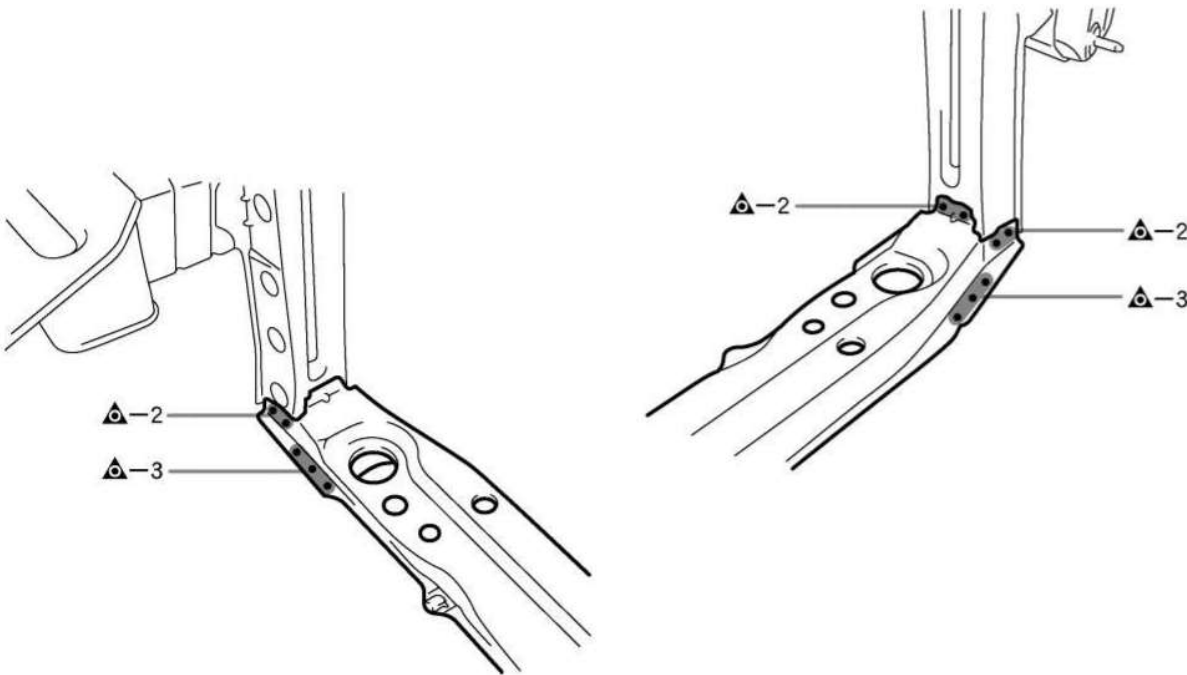
F15504

PART NAME

[A] Front Bumper Side Mounting Bracket [B] Radiator Support Reinforcement

BODY PANEL REPLACEMENT

BP-5

RADIATOR LOWER SUPPORT (ASSY)		 F15505A
REPLACEMENT		
REMOVAL		
 		

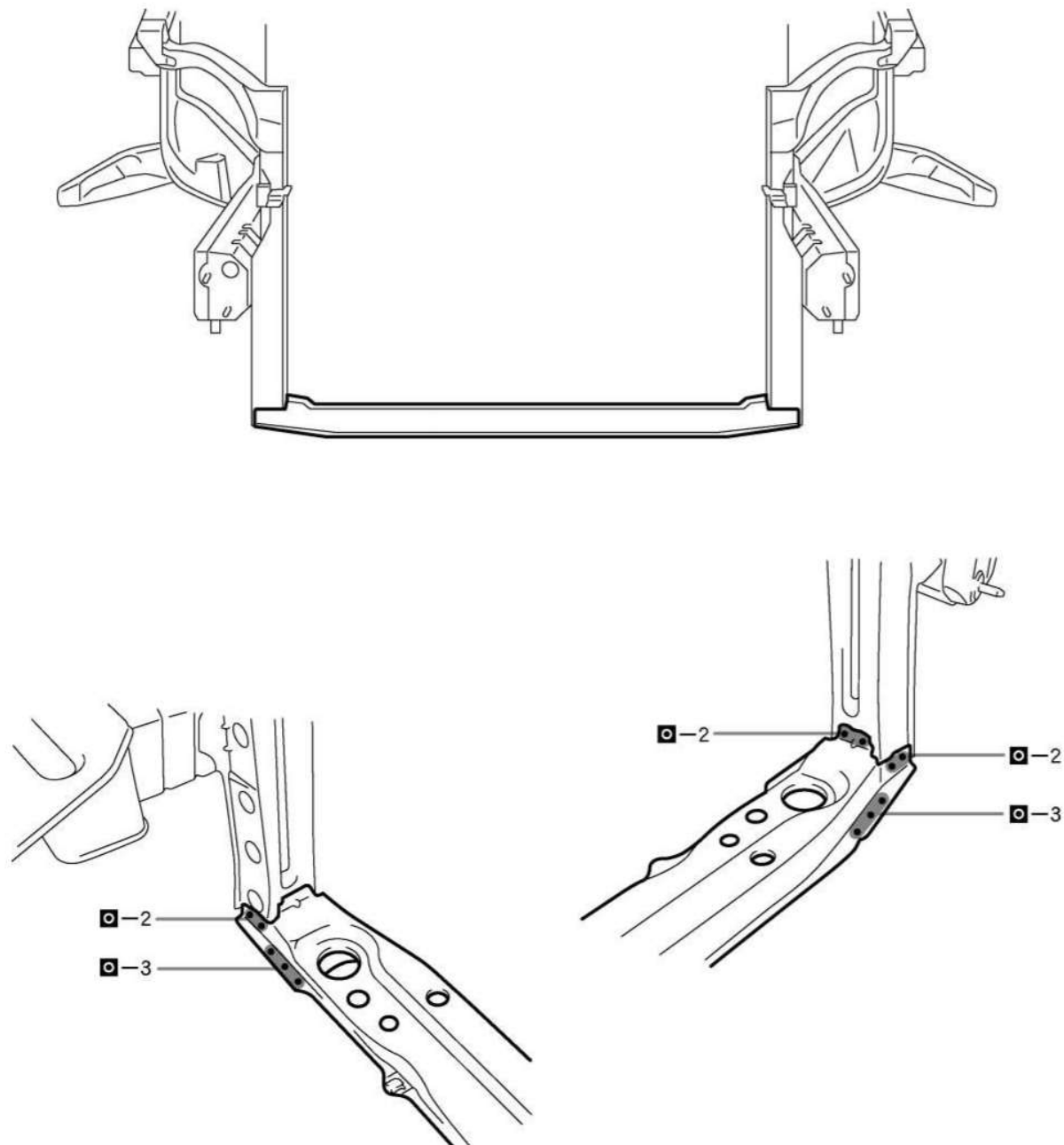
F15505

BP-6

BODY PANEL REPLACEMENT

INSTALLATION

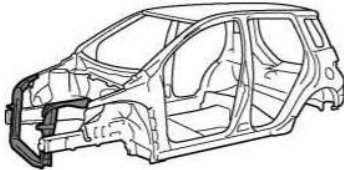
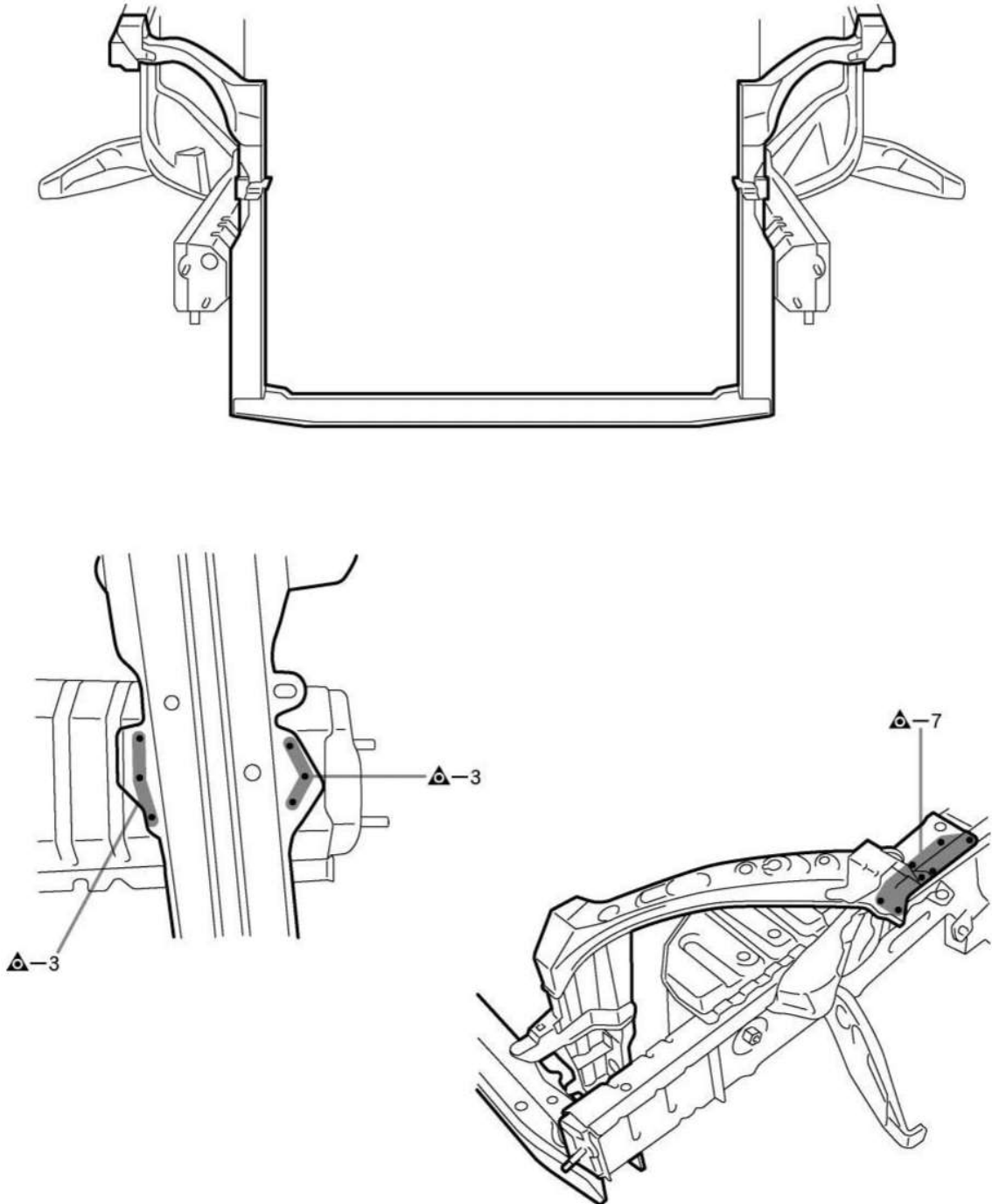
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply 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.



F15506

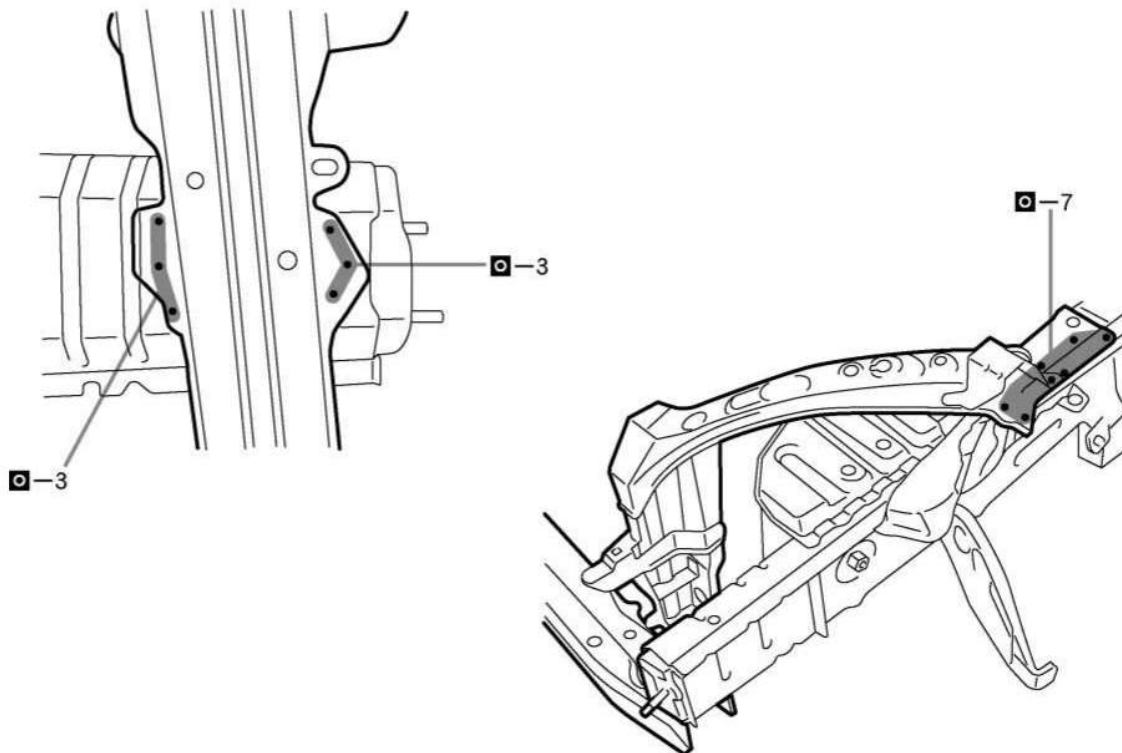
BODY PANEL REPLACEMENT

BP-7

RADIATOR SUPPORT (ASSY)		 F15507A
REPLACEMENT		
REMOVAL		
		

BP-8**BODY PANEL REPLACEMENT****INSTALLATION**

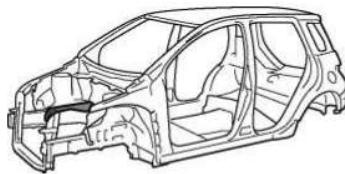
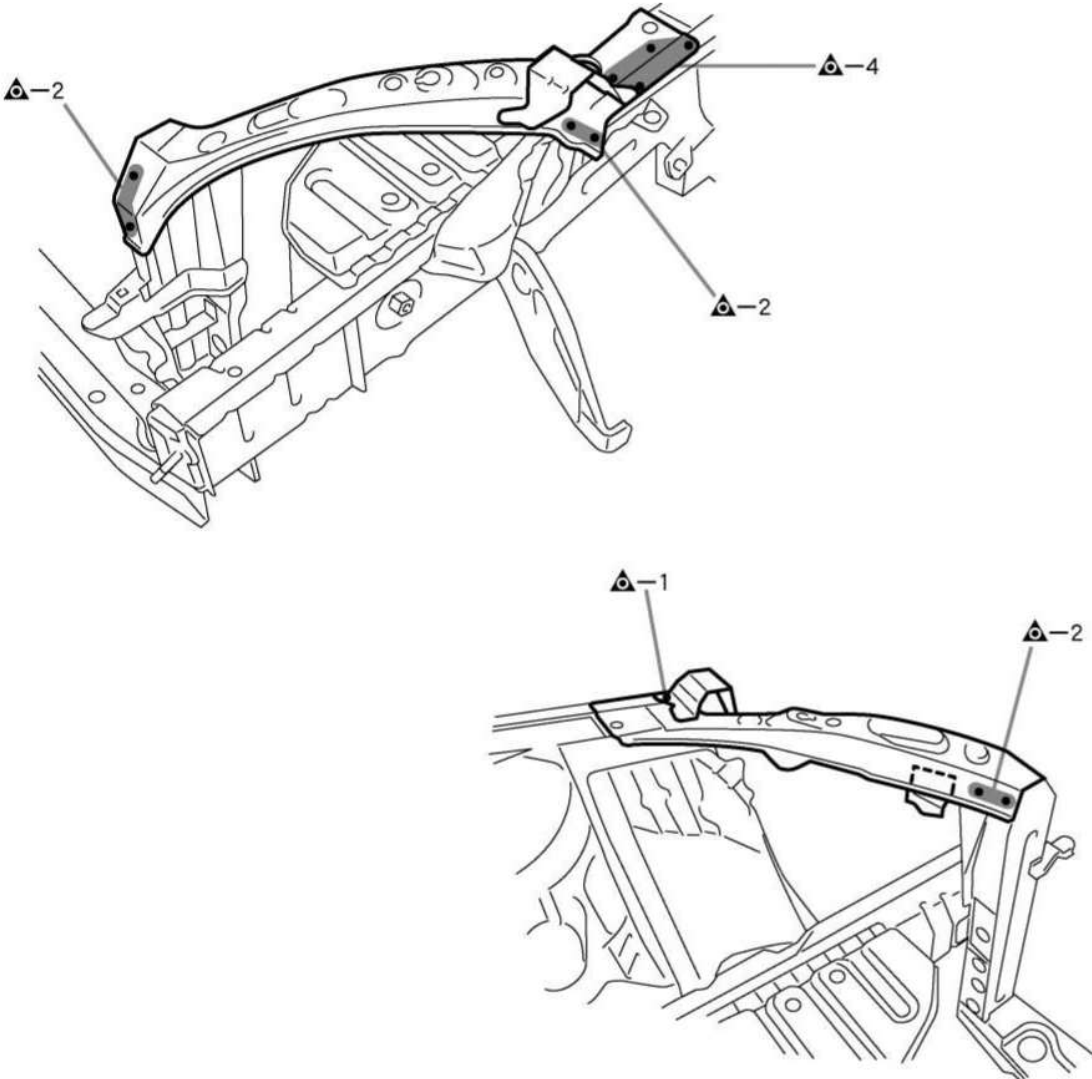
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply 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.



F15508

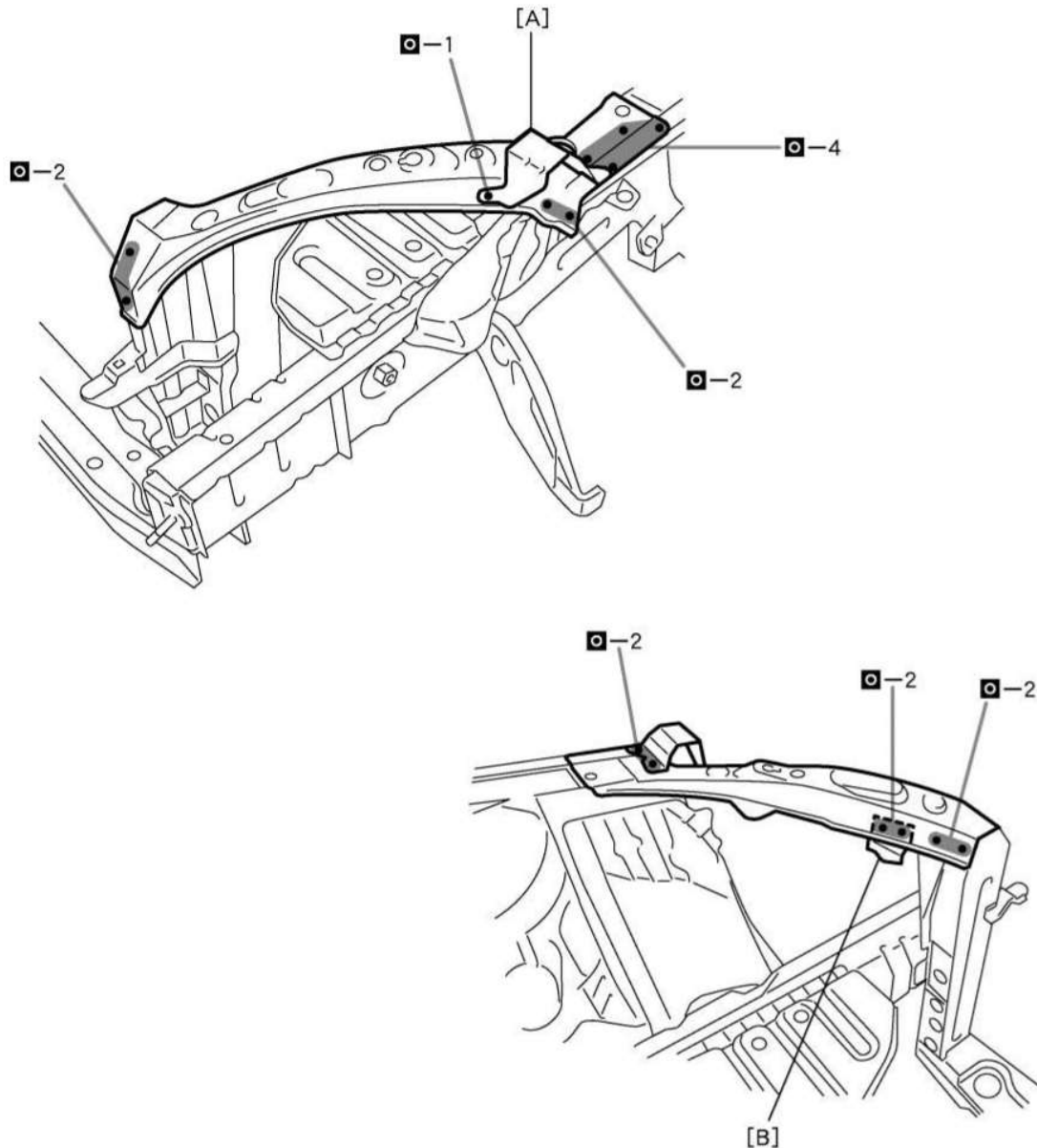
BODY PANEL REPLACEMENT

BP-1

RADIATOR UPPER SUPPORT (ASSY)		 F15501A
REPLACEMENT		
REMOVAL		
		
F15501		

BP-2**BODY PANEL REPLACEMENT****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.

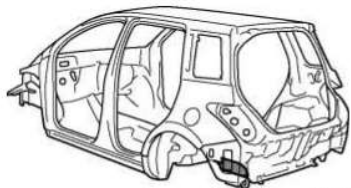
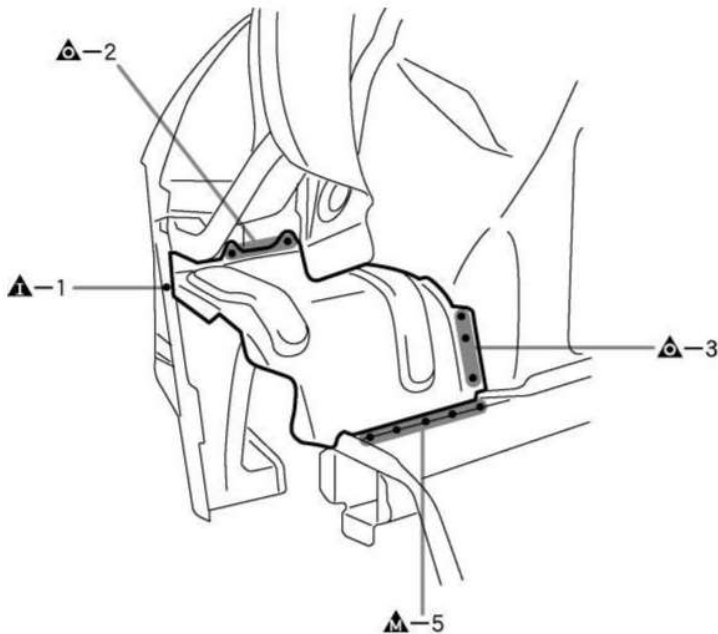
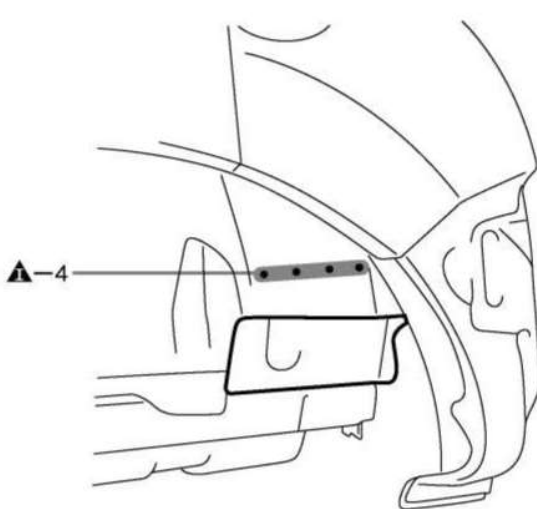


F15502

PART NAME

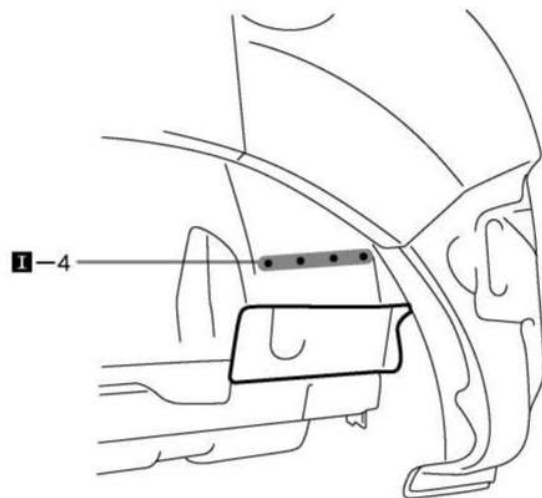
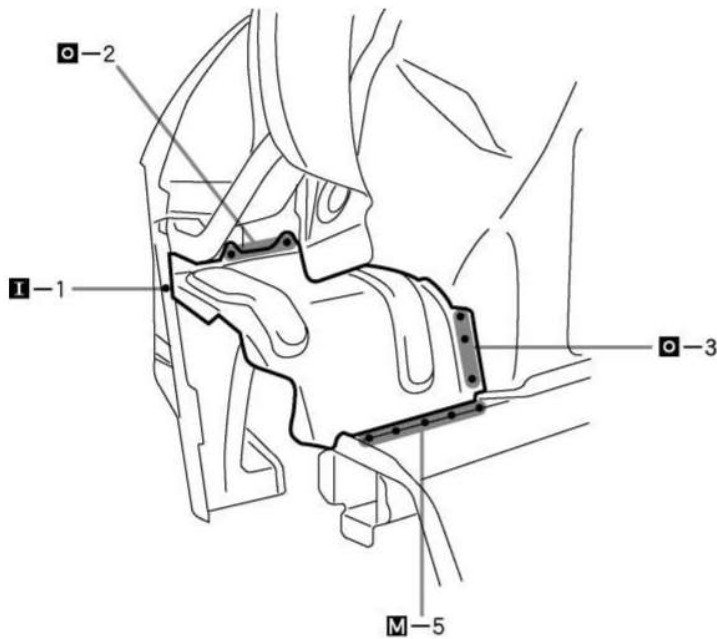
[A] Apron Fender Side Extension

[B] Cool Air Intake Duct Mounting Bracket (LH Only)

REAR FLOOR PAN EXTENSION (ASSY)		 F15548A
REPLACEMENT With the body lower back panel removed.		
REMOVAL		
 		

BODY PANEL REPLACEMENT**BP-49****INSTALLATION**

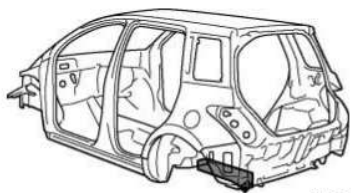
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply 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.

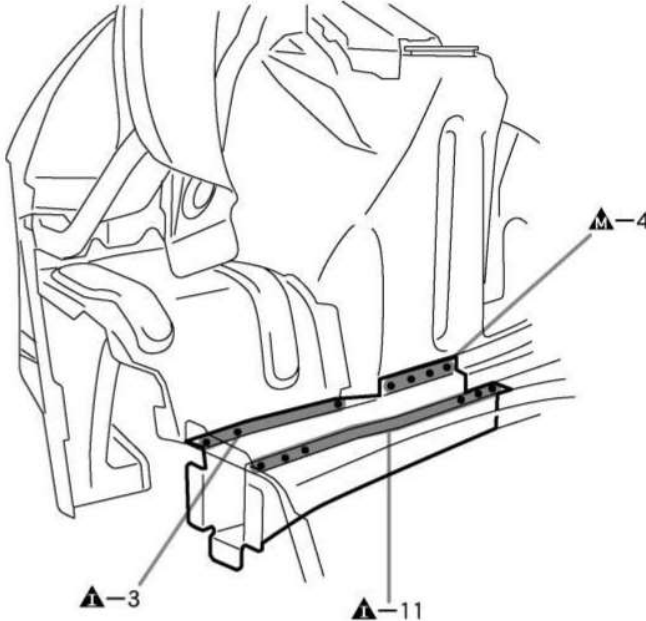


F15549

BP-50

BODY PANEL REPLACEMENT

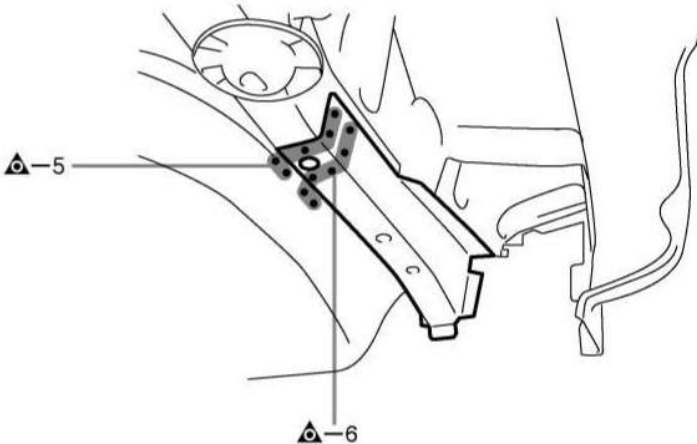
REAR FLOOR SIDE REAR MEMBER (ASSY)		 F15550A
REPLACEMENT With the body lower back panel removed.		
REMOVAL		



A-3

A-4

A-11



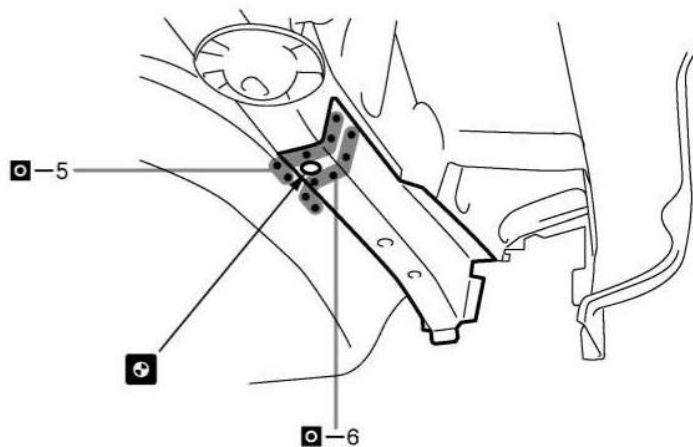
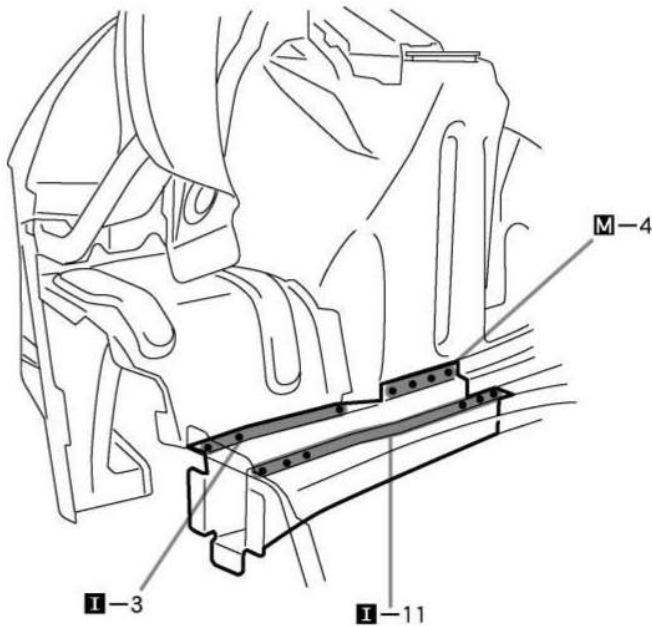
A-5

A-6

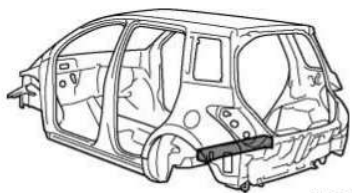
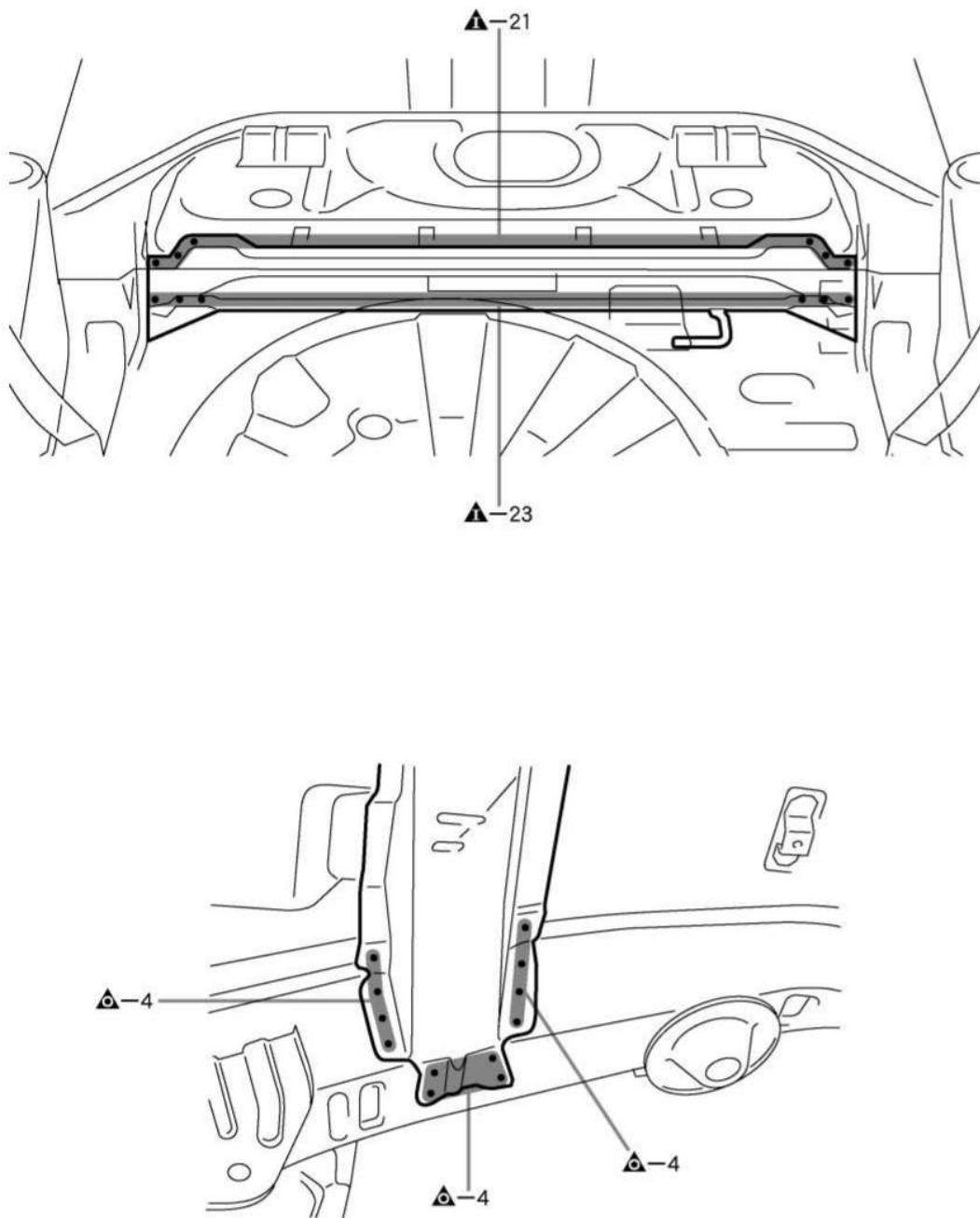
F15550

BODY PANEL REPLACEMENT**BP-51****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.

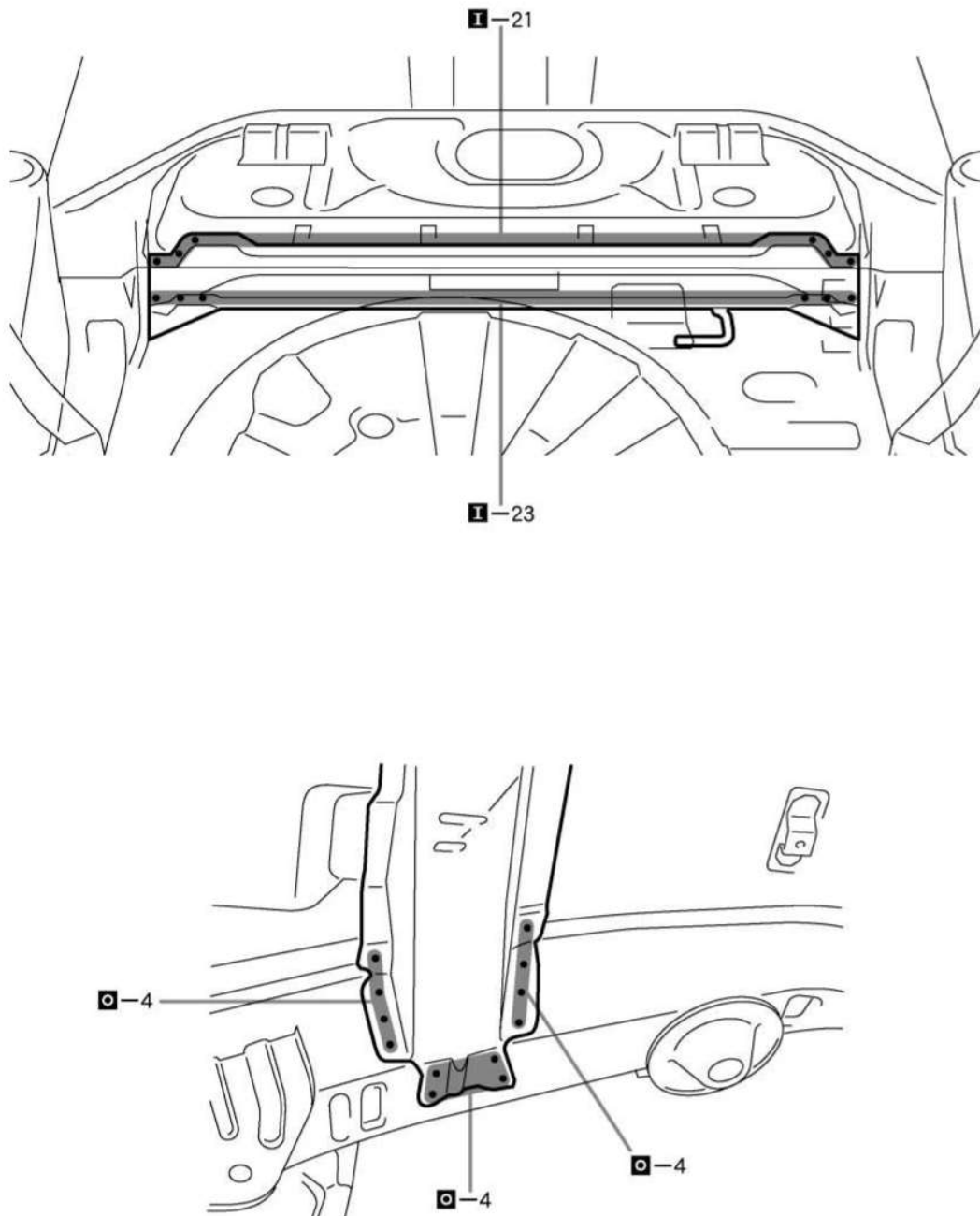


F15551

REAR FLOOR NO.2 CROSSMEMBER (ASSY)		 F15553A
REPLACEMENT		
REMOVAL		
		

BODY PANEL REPLACEMENT**BP-53****INSTALLATION**

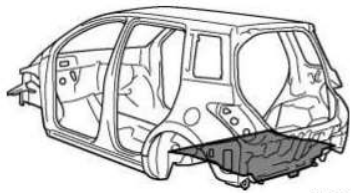
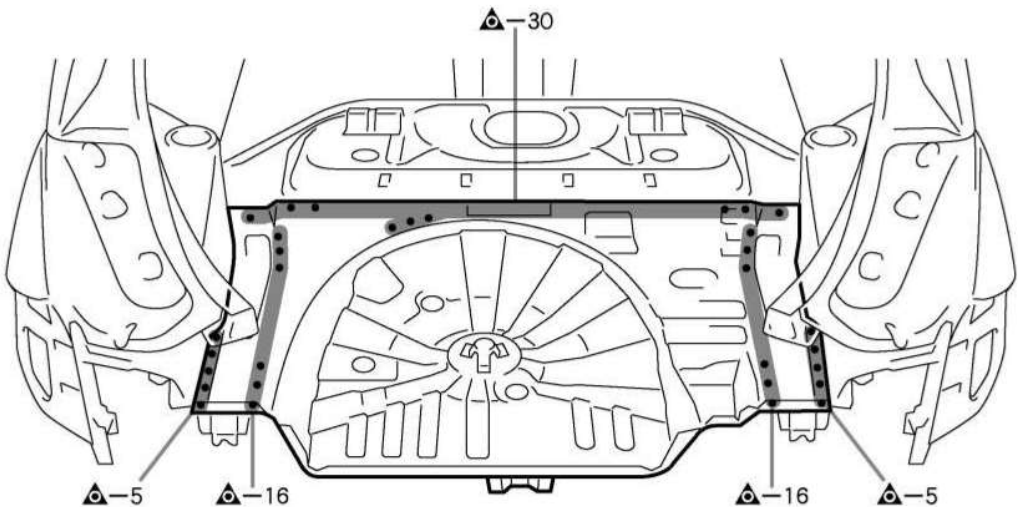
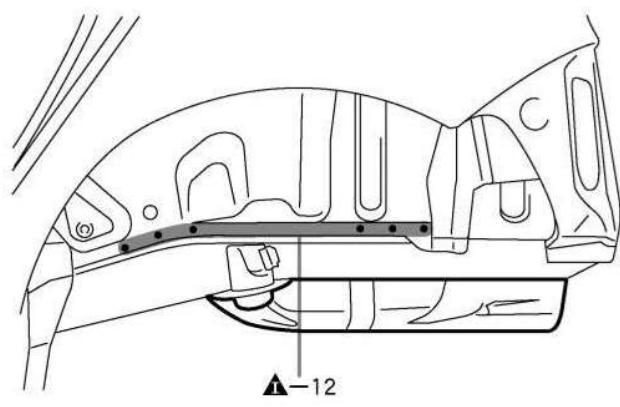
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply 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.



F15554

BP-46

BODY PANEL REPLACEMENT

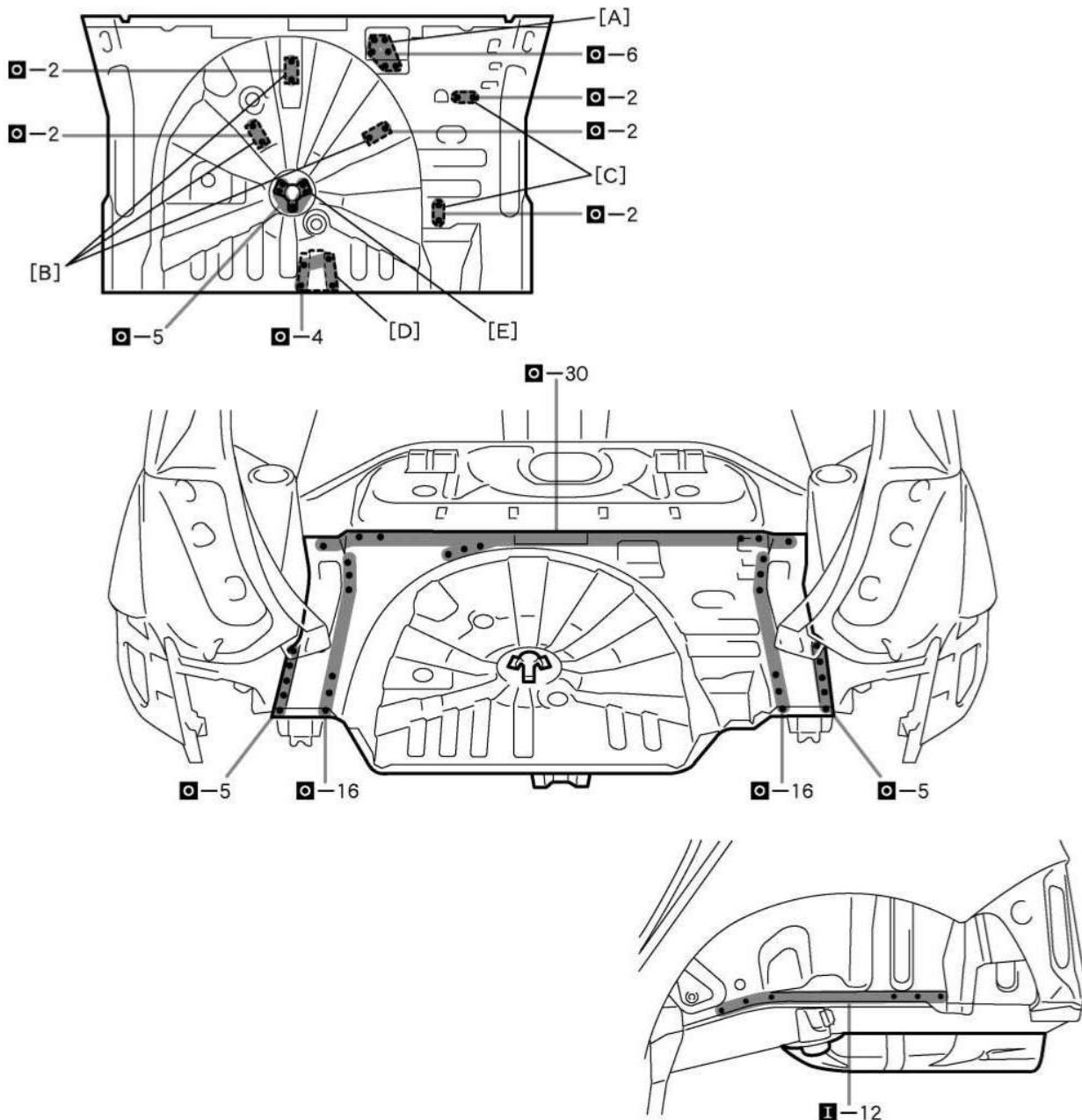
REAR FLOOR PAN (ASSY)		 F15546A
REPLACEMENT With the body lower back panel removed.		
REMOVAL		
 		

BODY PANEL REPLACEMENT

BP-47

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.



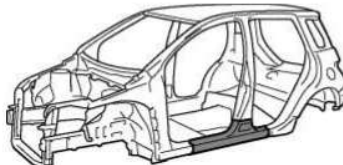
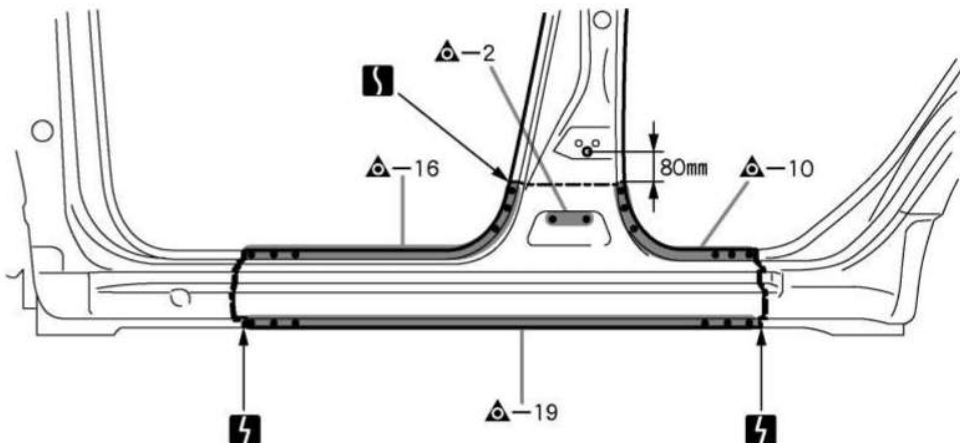
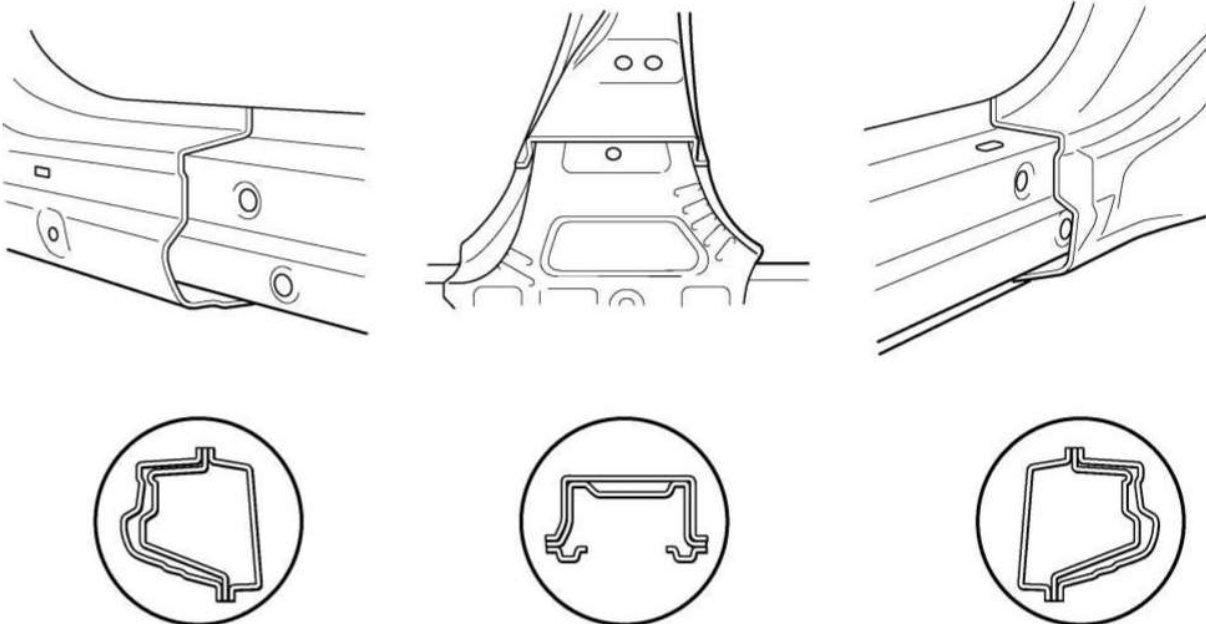
F15547

PART NAME

- | | | |
|-------------------------|-------------------------------|--|
| [A] Floor Clamp Bracket | [B] Fuel Tube Bracket | [C] Rear Floor Heat Insulator No.3 Bracket |
| [D] Jack Up Bracket | [E] Spare Wheel Clamp Bracket | |

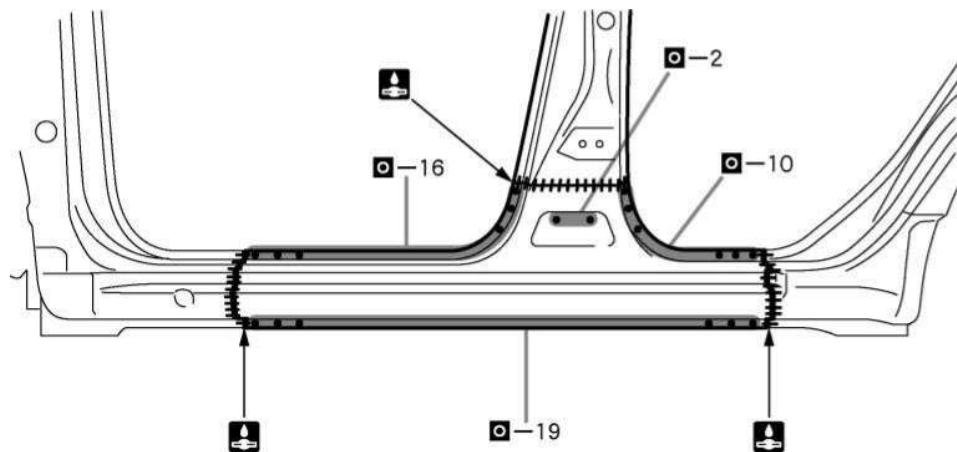
BP-32

BODY PANEL REPLACEMENT

ROCKER OUTER PANEL (CUT)		 F15532A
REPLACEMENT		
REMOVAL		
		
		
F15532		
80mm (31.5in.)		

BODY PANEL REPLACEMENT**BP-33****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.



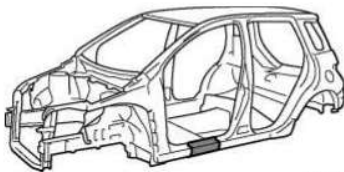
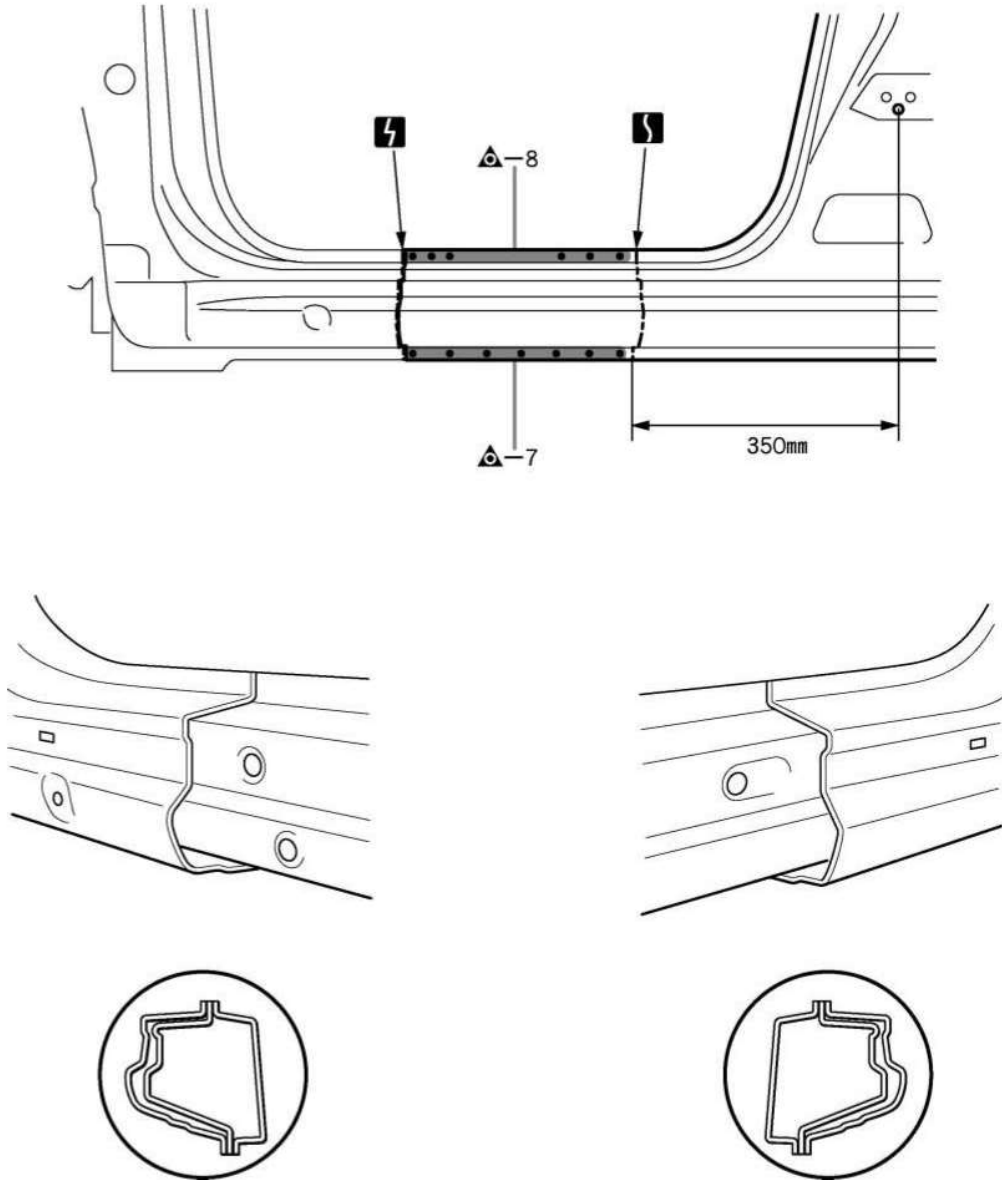
F15533

POINT

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

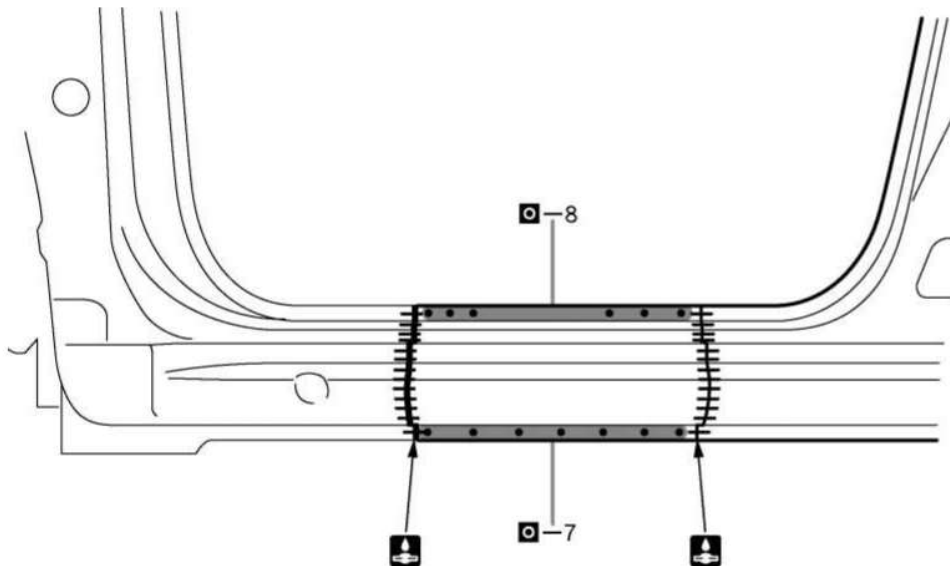
BP-30

BODY PANEL REPLACEMENT

ROCKER OUTER PANEL (CUT-P)		 F15530A
REPLACEMENT		
REMOVAL		
		
350mm (13.78in.)		

BODY PANEL REPLACEMENT**BP-31****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.



F15531

POINT

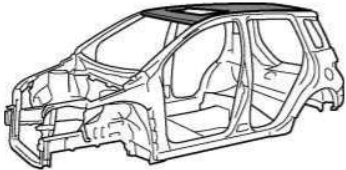
- 1 Inspect the fitting of the front door, etc., before welding, since this affects the appearance of the finish.

BP-56

BODY PANEL REPLACEMENT

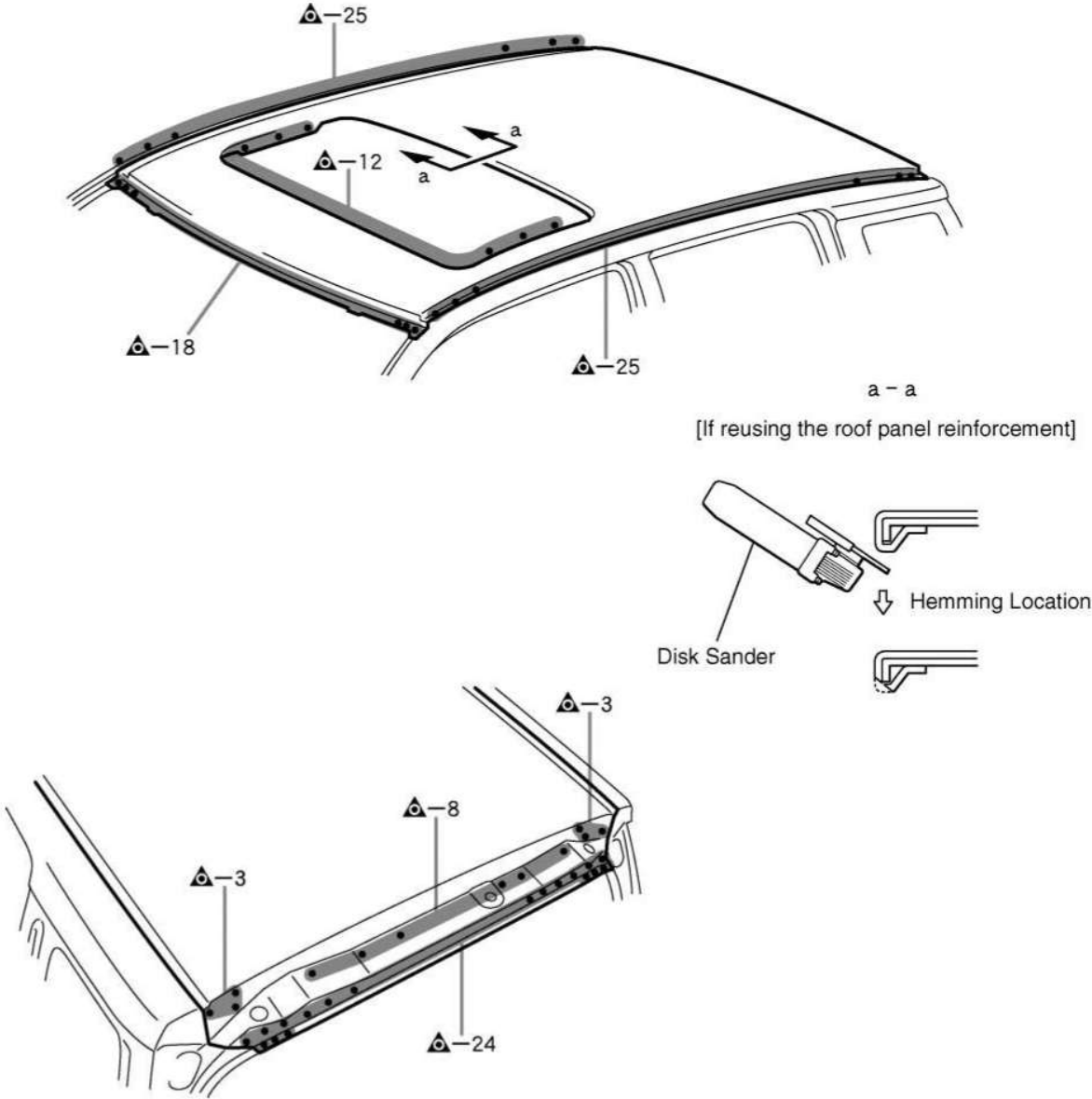
ROOF PANEL (ASSY): w/ sun roof

REPLACEMENT



F15557A

REMOVAL



a - a

[If reusing the roof panel reinforcement]

Disk Sander

Hemming Location

F15557

POINT

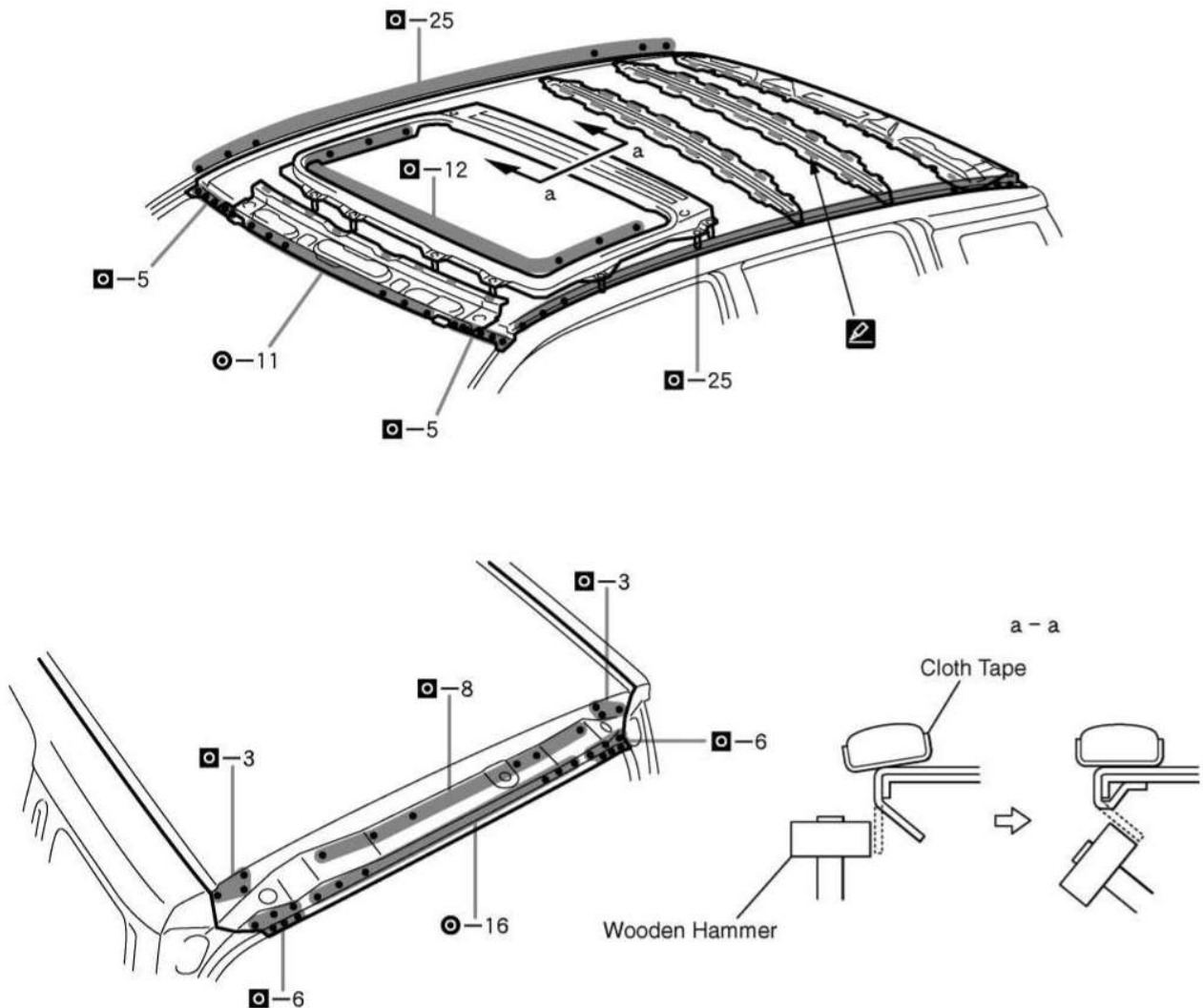
1 If reusing the roof panel reinforcement, trim the hemming location using a disc sander, etc.

BODY PANEL REPLACEMENT

BP-57

INSTALLATION

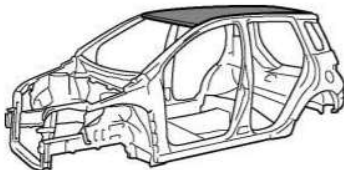
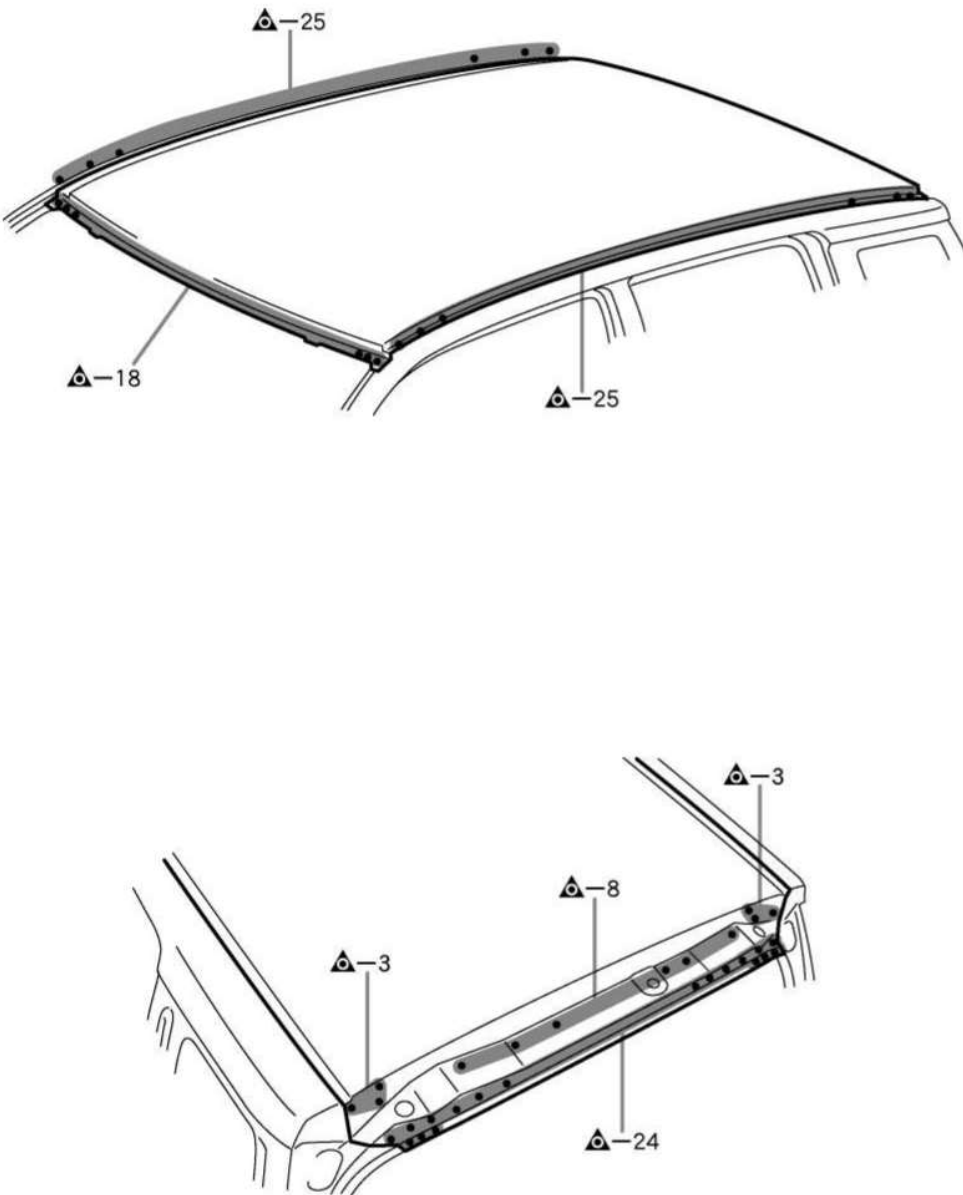
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding, apply 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.



F15558

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.

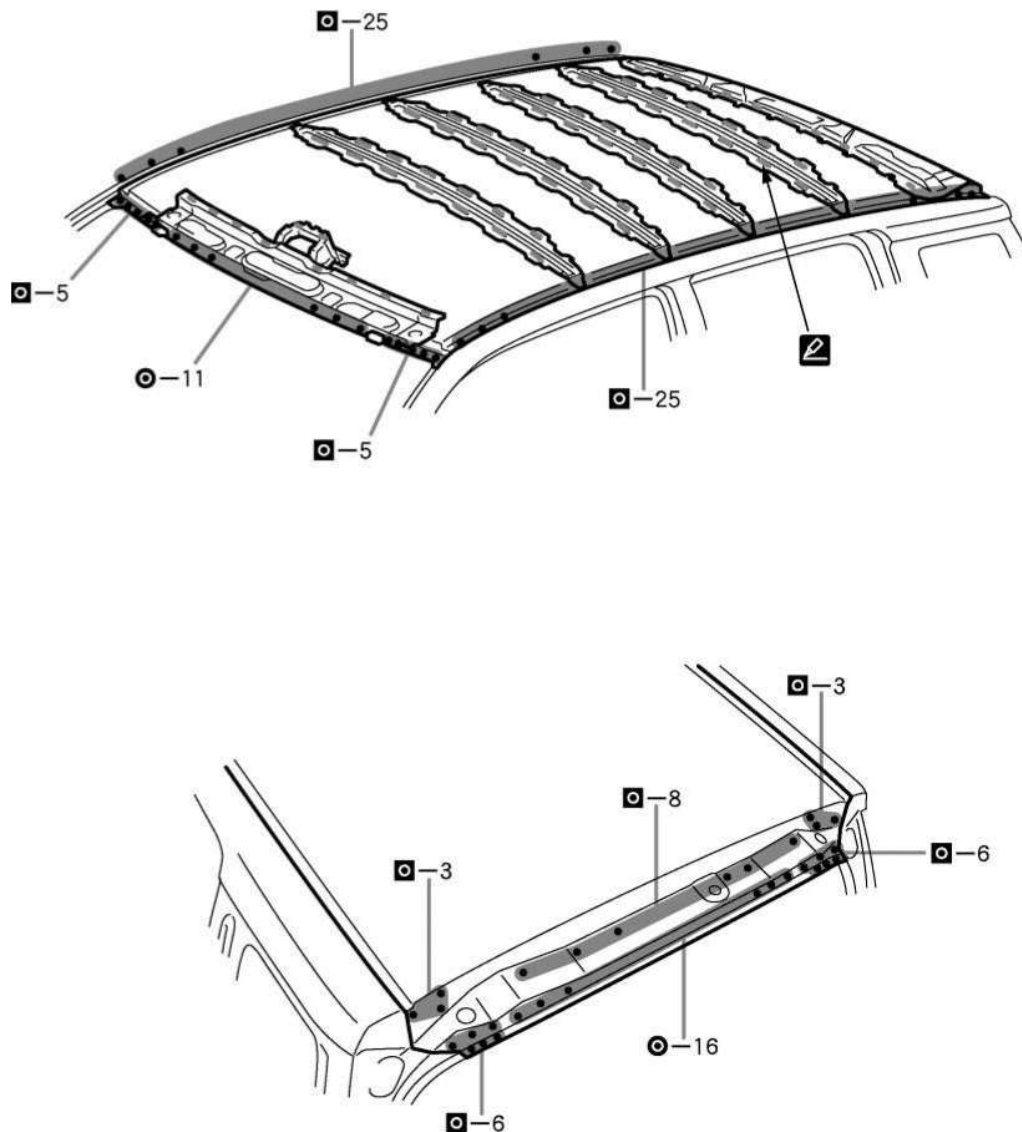
ROOF PANEL (ASSY): w/o sun roof	 F15555A
REPLACEMENT	
REMOVAL  F15555	

BODY PANEL REPLACEMENT

BP-55

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.



F15556

POINT

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

HINT:

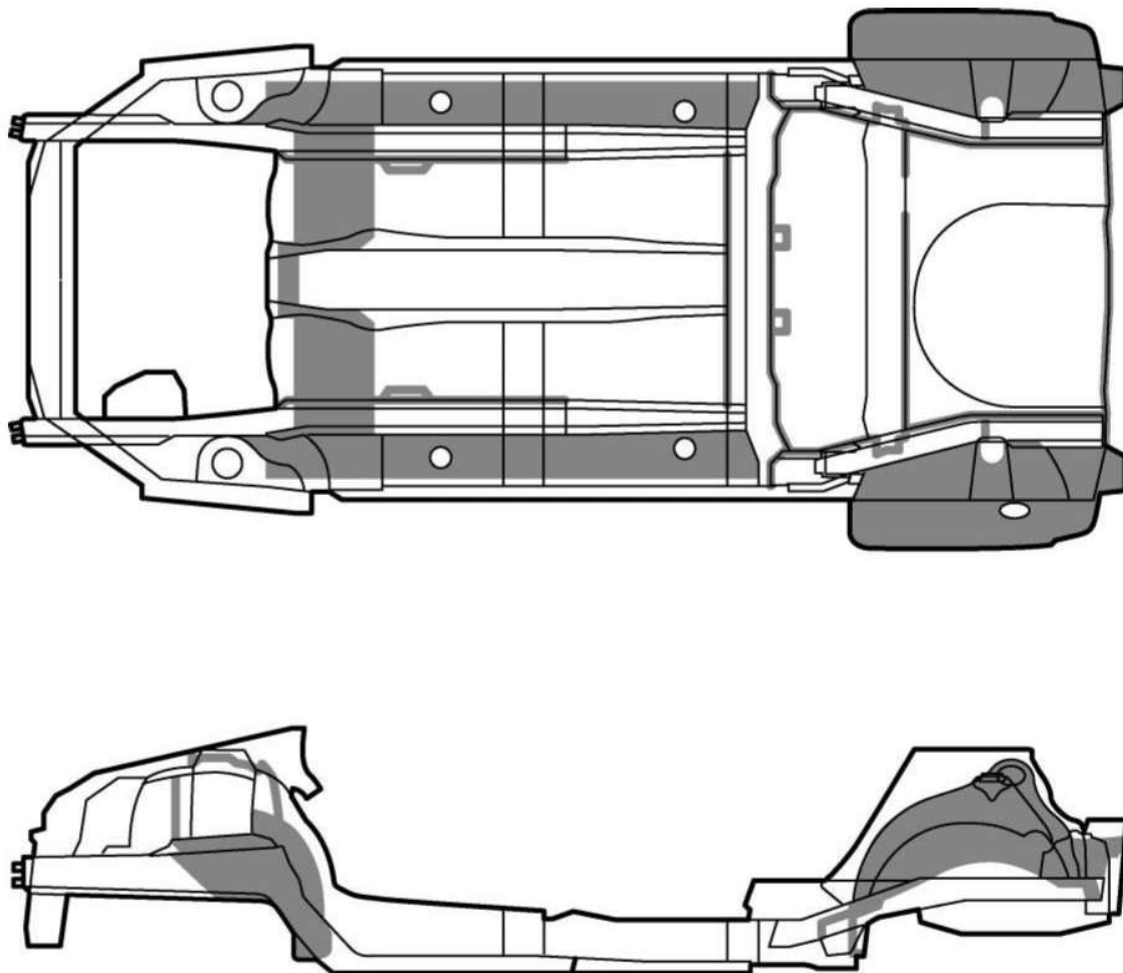
- 1) Apply just enough sealer for the new parts to make contact.

PC-6

PAINT · COATING

BODY PANEL UNDERCOATING AREAS**HINT:**

- 1) First wipe off any dirt, grease or oil with a rag soaked in a grease, wax and 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.



F15564

REFERENCE

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

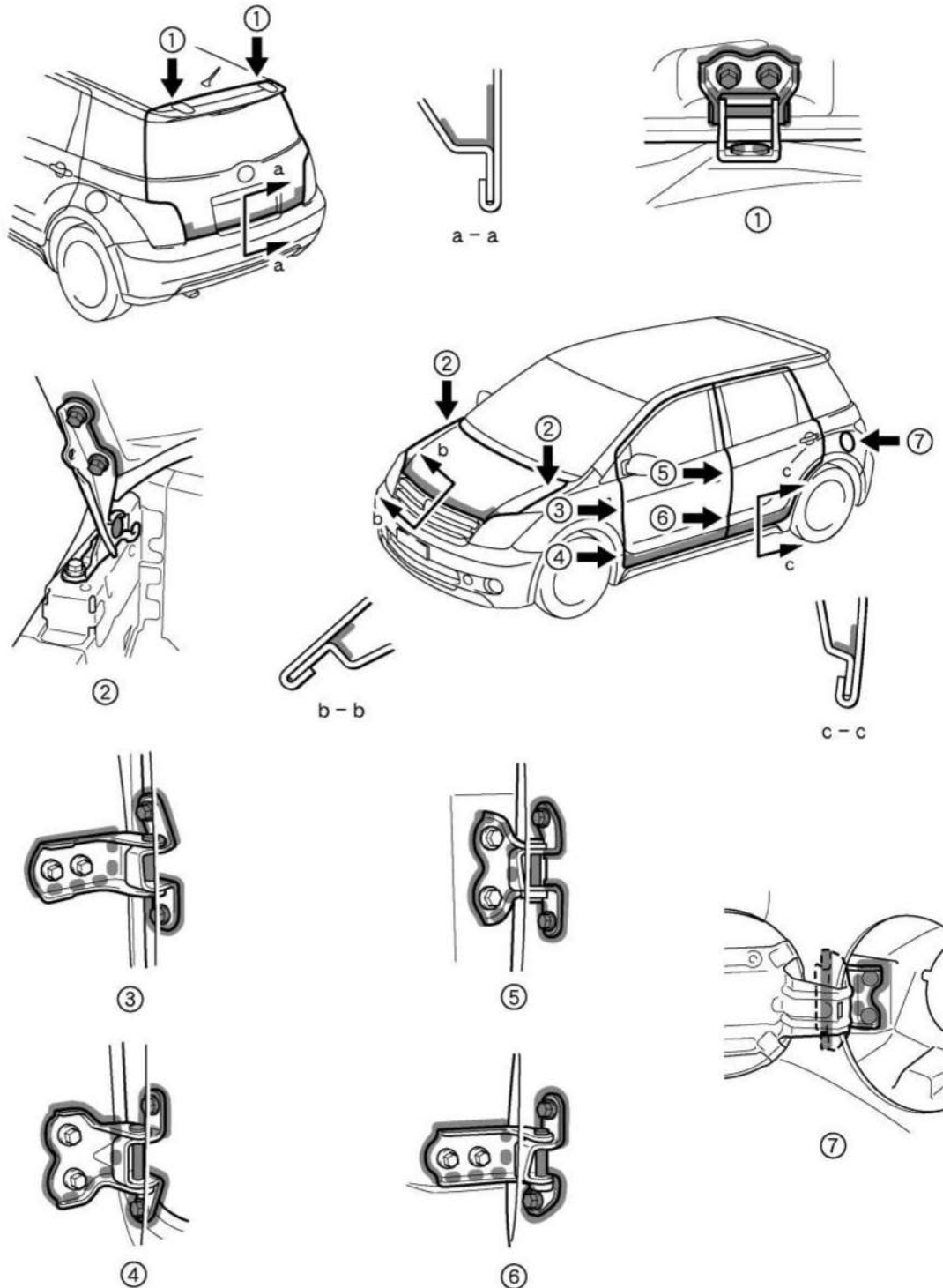
PC-8

PAINT · COATING

BODY PANEL ANTI-RUST AGENT (WAX) APPLICATION AREAS

HINT:

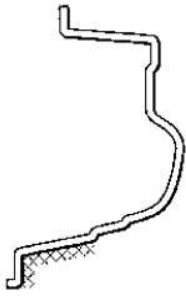
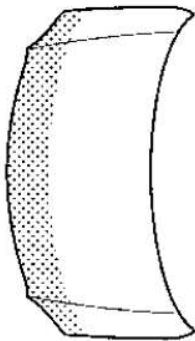
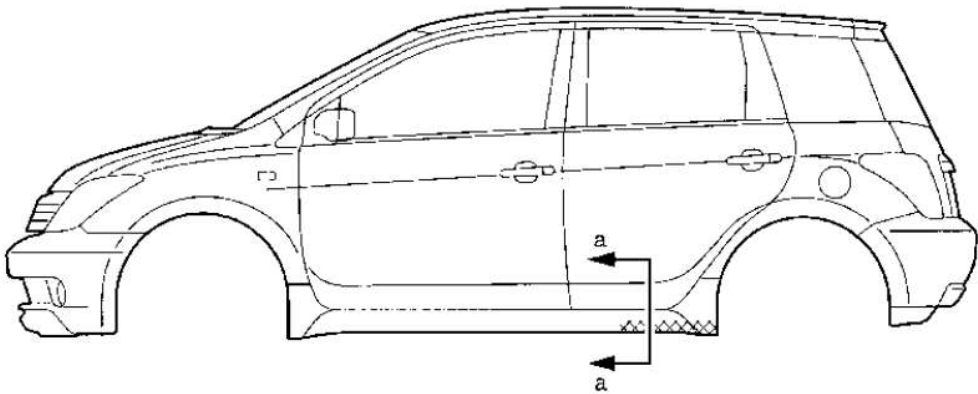
- 1) Whenever adjusting the doors and hoods, apply anti-rust agent (wax) around the hinges.
- 2) Even if partially repairing a part, apply anti-rust agent (wax) over the entire application area of the part.
- 3) Wipe off the anti-rust agent immediately with a rag soaked in a grease, wax and silicone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



F15565

BODY PANEL ANTI-CHIPPING PAINT APPLICATION AREAS

- HINT:**
- 1) Anti-chipping paint should be applide to some areas before the second coat and to others after the top coat.
 - 2) If other areas are accidentally coated, wipe of the paint immediately with a rag soaked in grease, wax and silicone remover.



a - a

F15568



PVC



Urethane

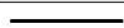
BODY PANEL SEALING AREAS

HINT:

- 1) Prior to applying body sealer, clean the area with a rag soaked in grease, wax and 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 a grease, wax and silicone remover.
- 4) If body sealer is damaged by peeling, cracks, etc., be sure to repair as necessary.

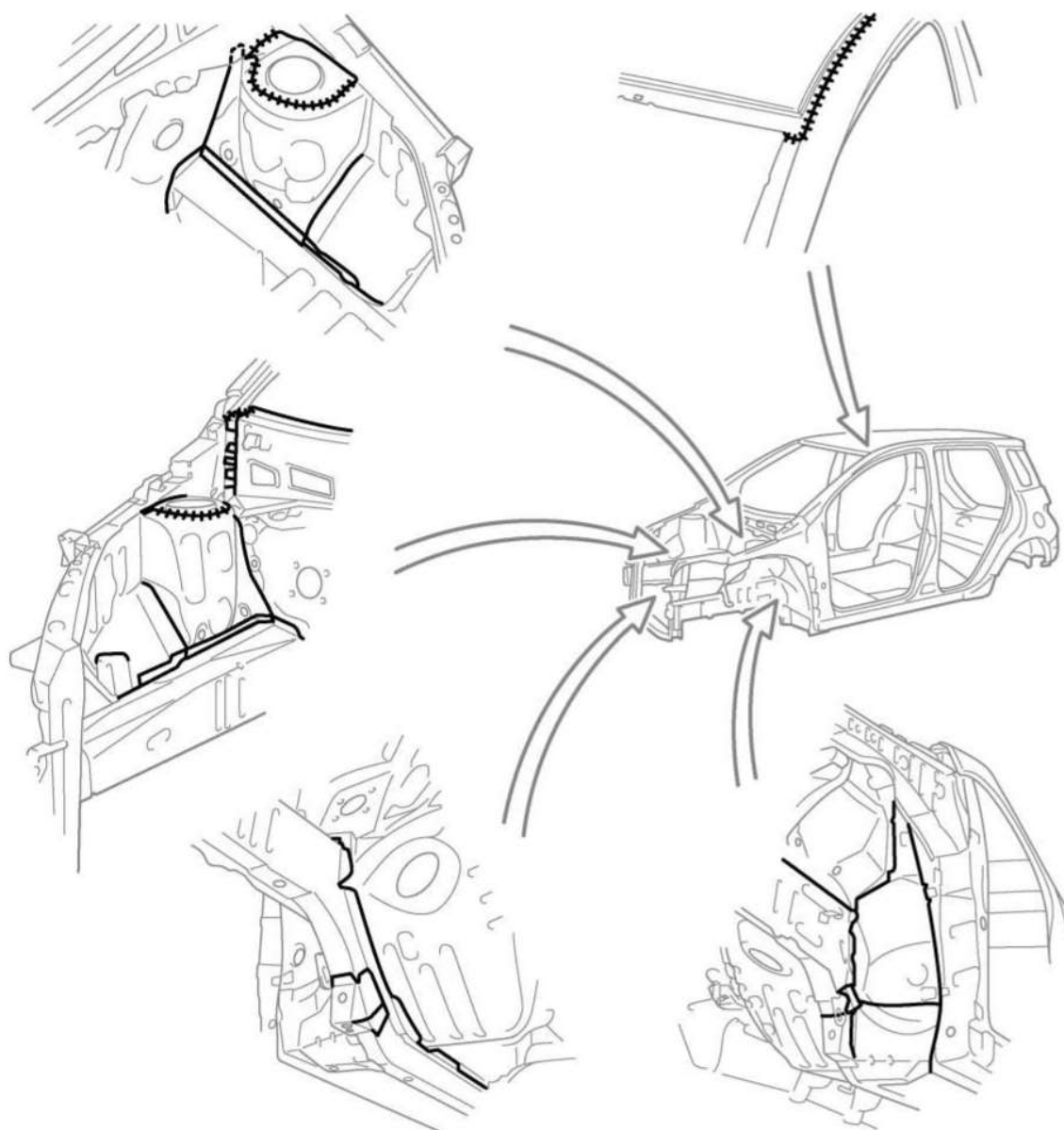


Flat Finishing



No Flat Finishing

1. ENGINE COMPARTMENT

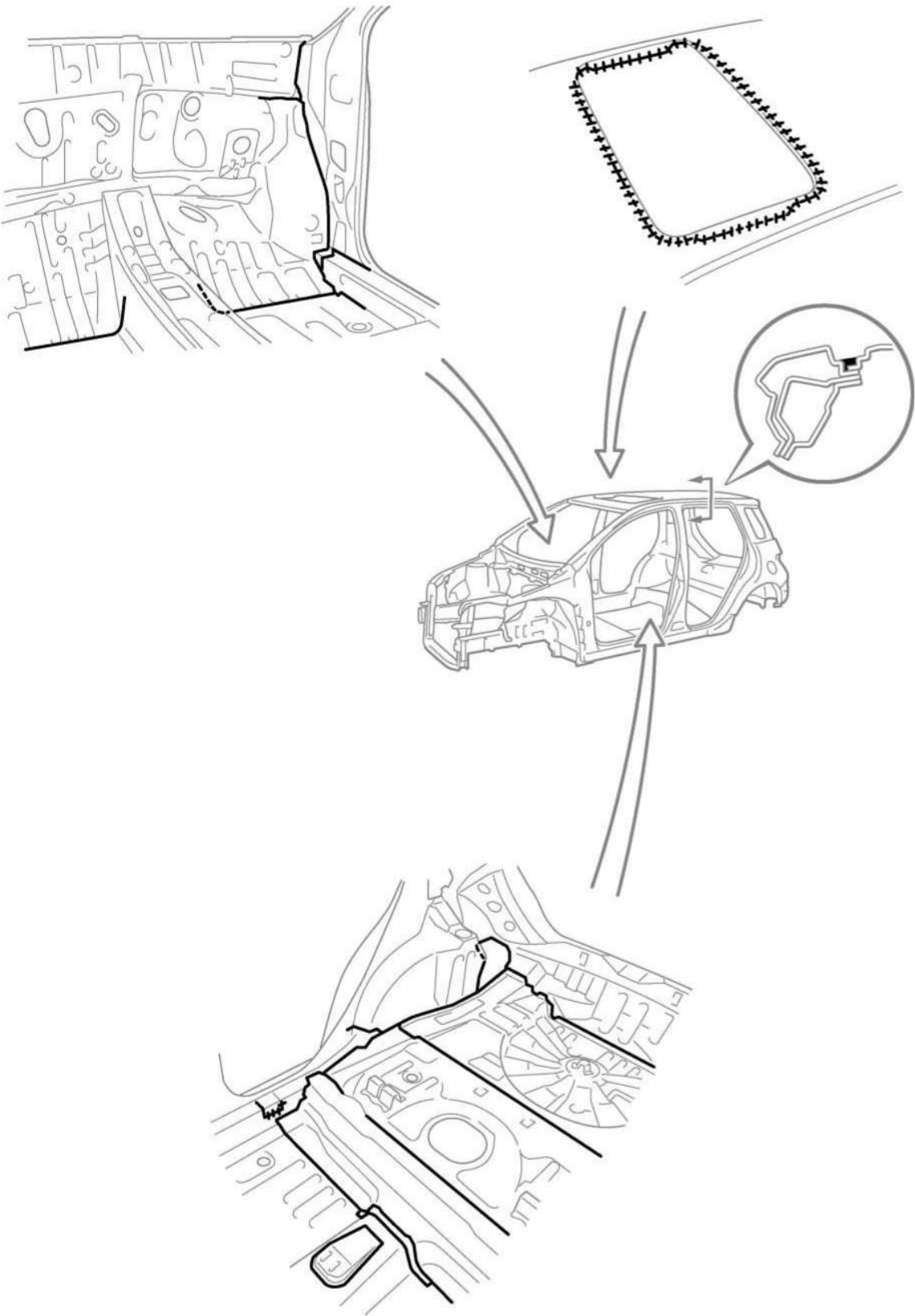


F15559

PC-2

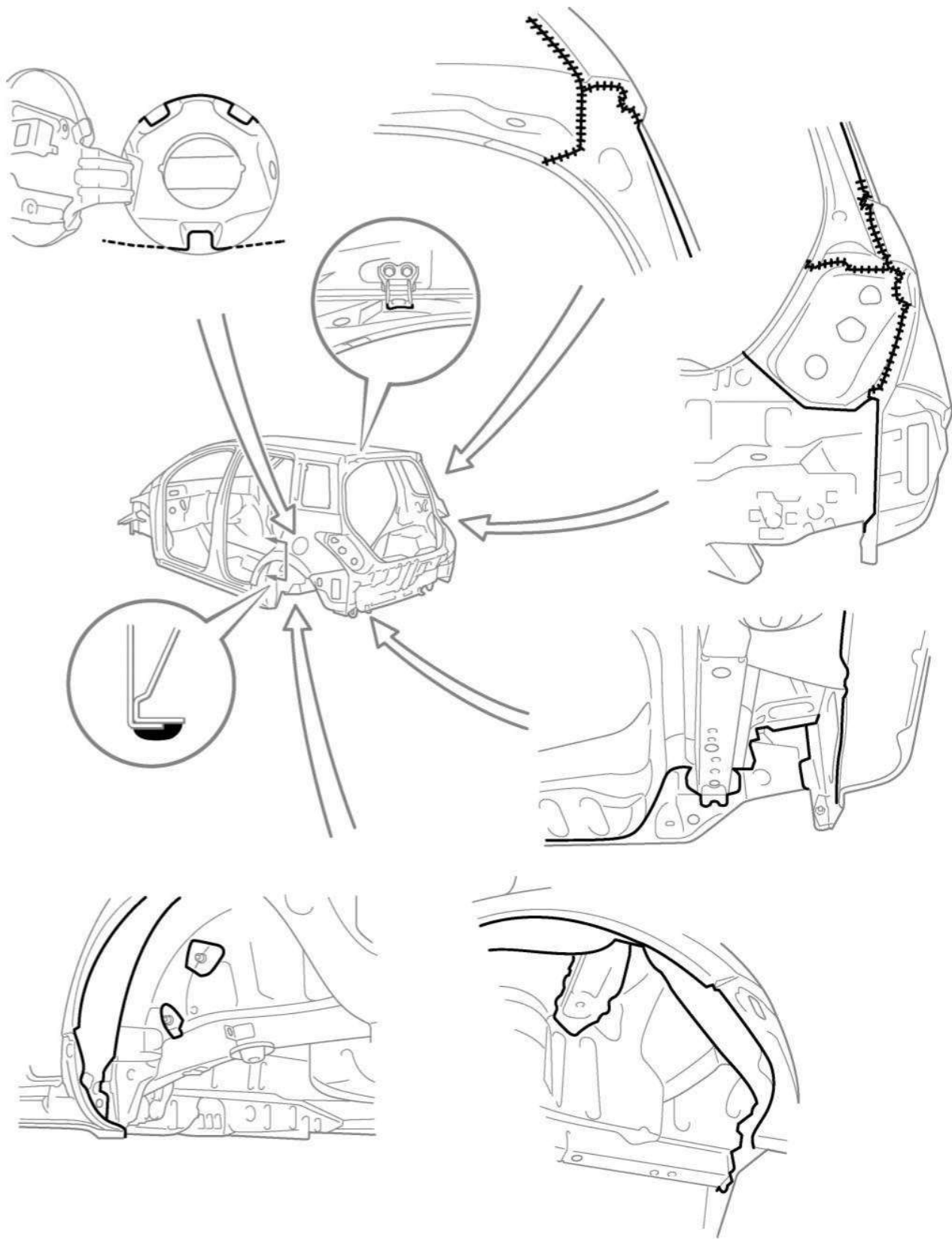
PAINT · COATING

2. INSIDE



F15560

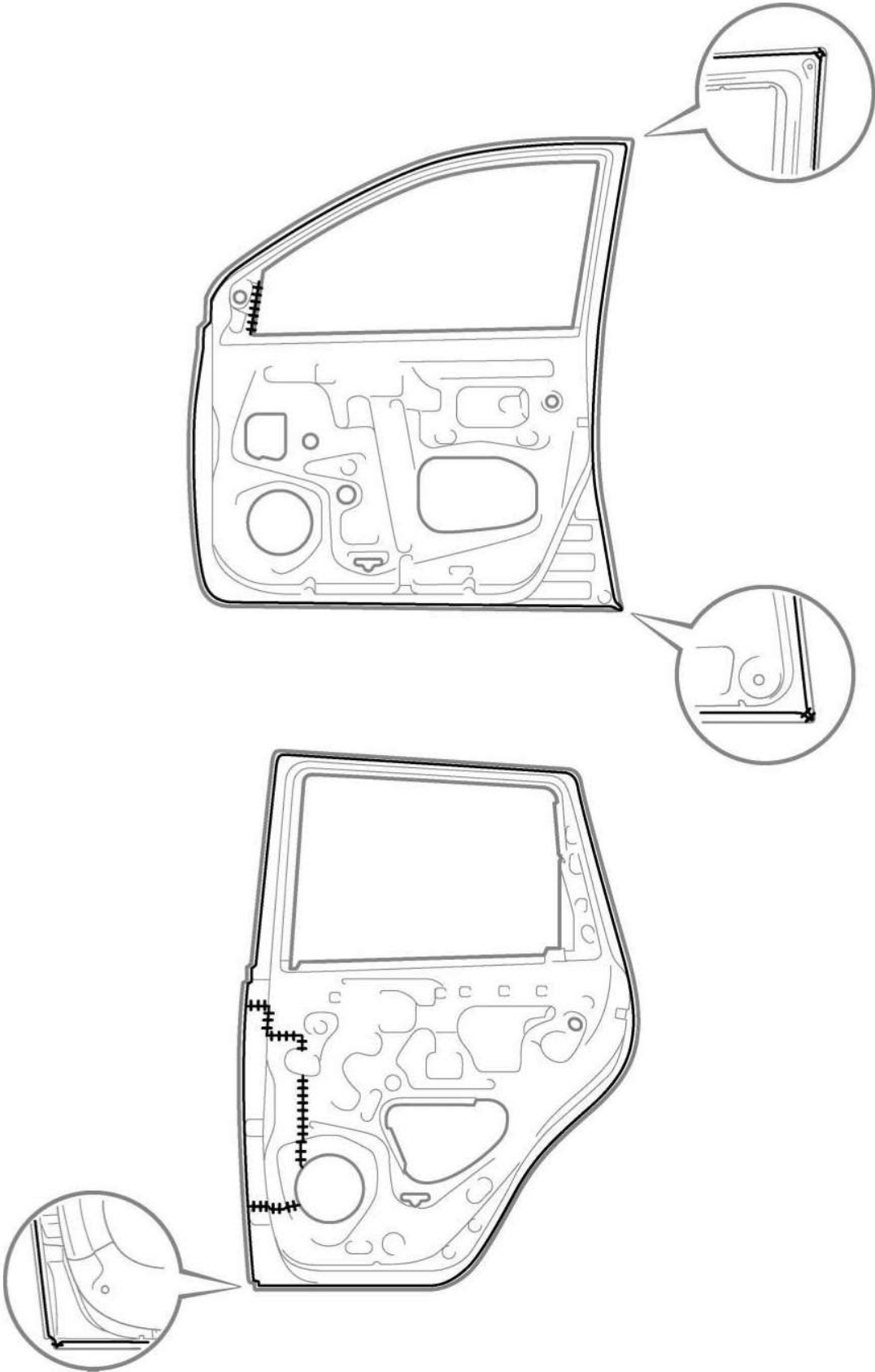
3. REAR LUGGAGE COMPARTMENT



PC-4

PAINT · COATING

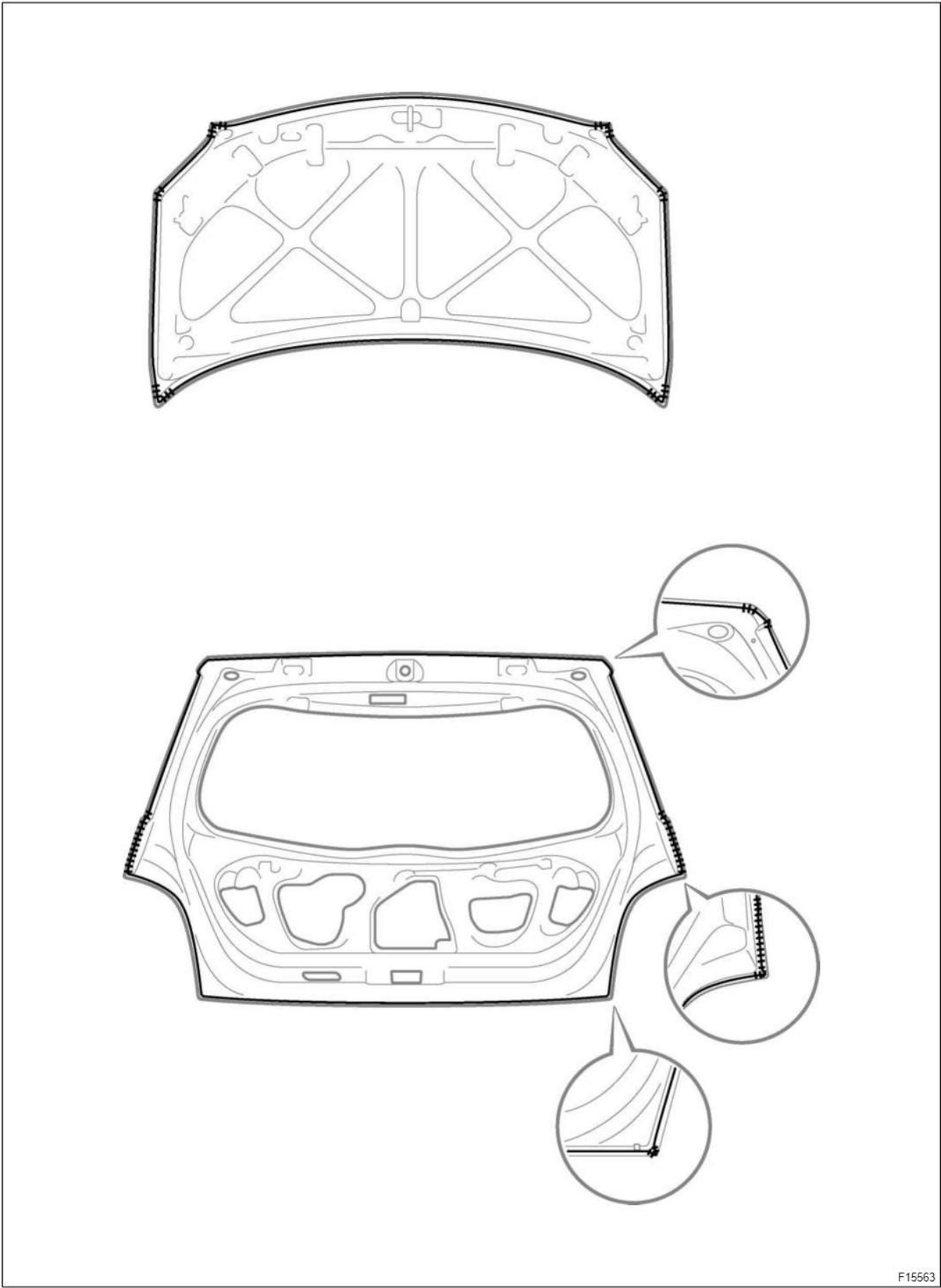
4. DOOR PARTS



F15562

PAINT · COATING

PC-5



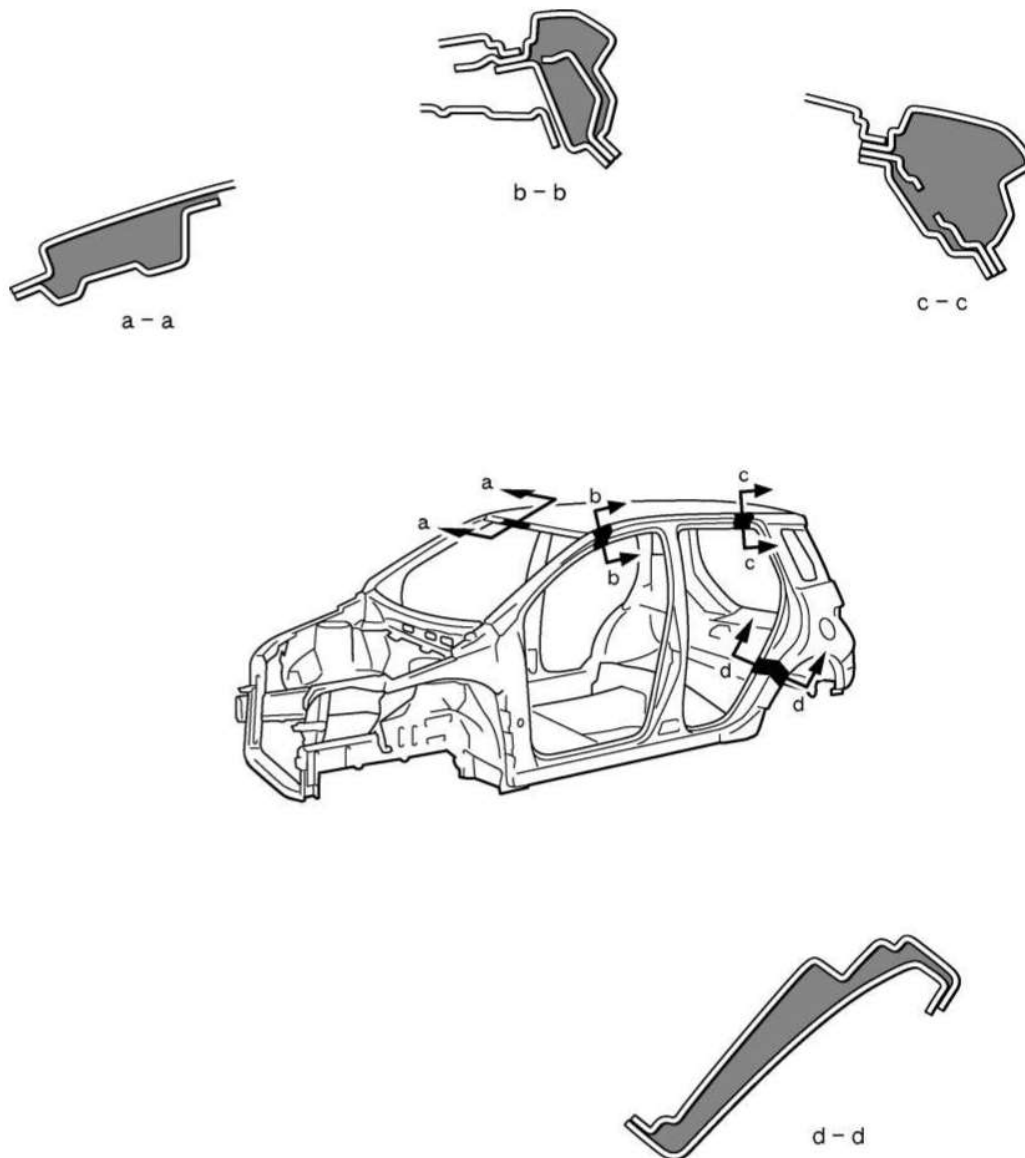
F15563

FOAMED MATERIAL APPLICATION AREAS

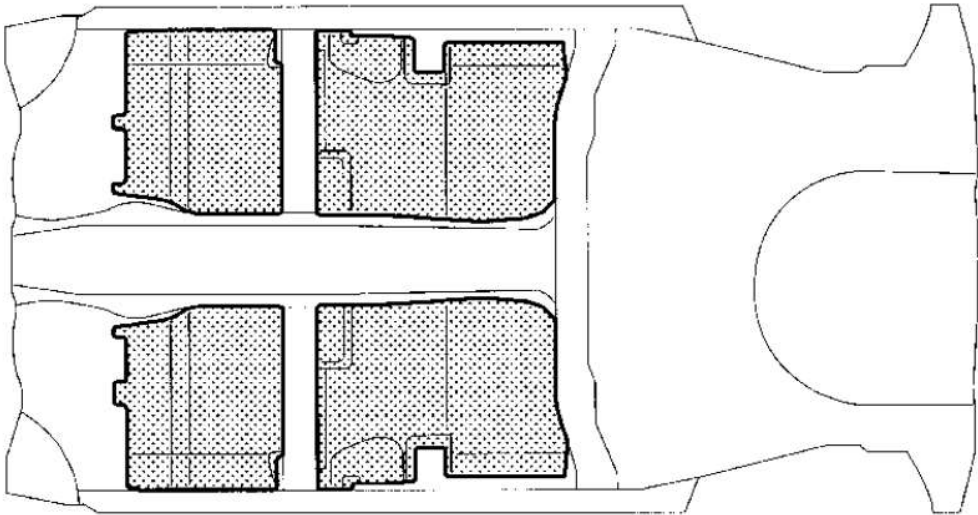
The sections shown in the figure below are filled with foamed material to provide noise insulation. After repairing these sections or their peripheries, refill with foamed materials

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.



SILENCER SHEET INSTALLATION AREAS



non-adhesive sheet

F15567

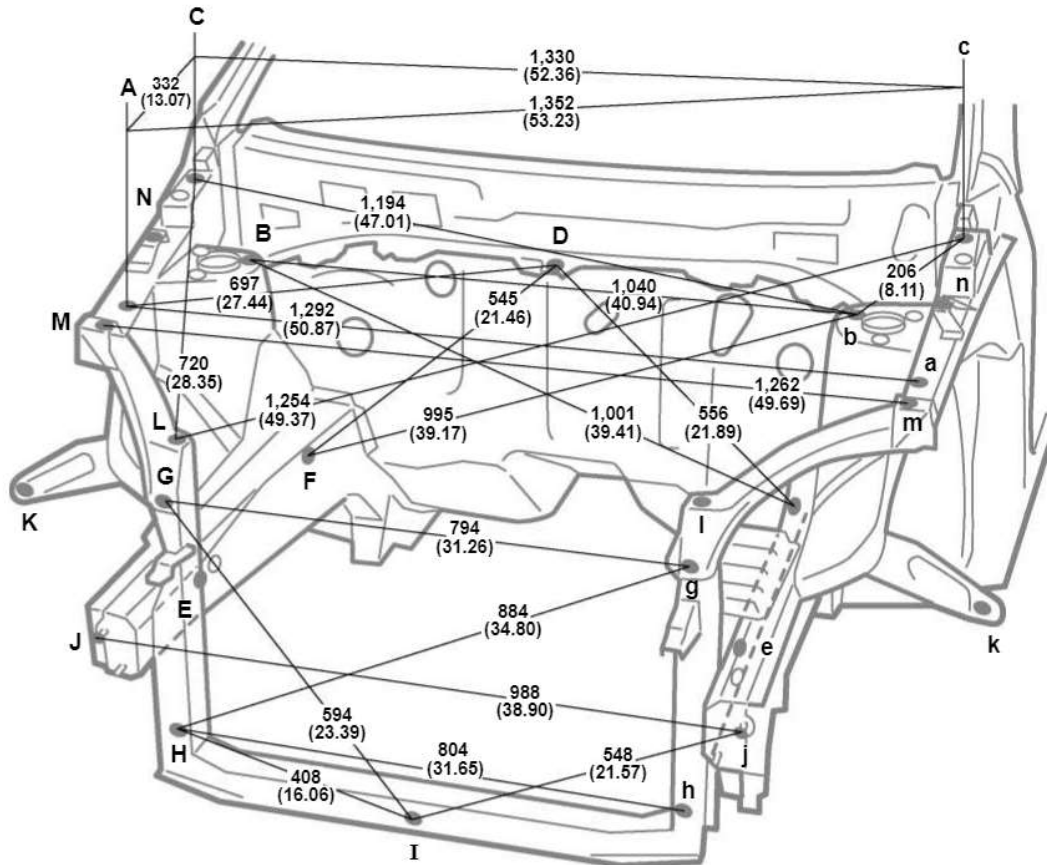
BODY DIMENSIONS

DI-3

BODY DIMENSION DRAWINGS

ENGINE COMPARTMENT

(Three-Dimensional Distance)



Vehicle Dimensions Left ↔ Right

B-D or b-D	D-E	D-e	K-k	L-l	N-n
523 (20.59)	765 (30.12)	768 (30.24)	1,544 (60.79)	792 (31.18)	1,305 (51.38)

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

mm (in.)

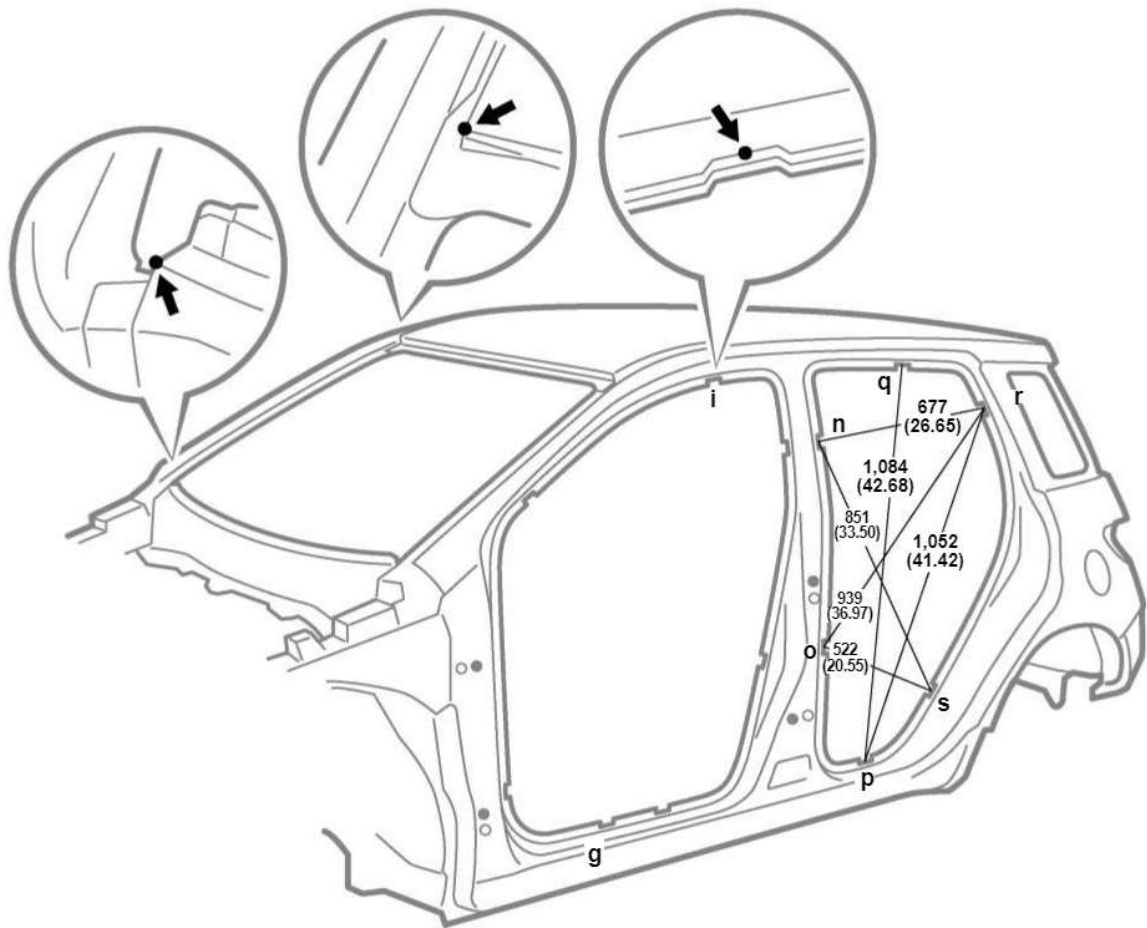
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator upper support standard hole	12 (0.47)	H, h	Radiator support standard hole	10x8(0.39x0.31)
B, b	Front spring support hole-inner	11 (0.43)	I	Hood lock support installation nut	6 (0.24) nut
C, c	Hood hinge installation nut	8 (0.31) nut	J, j	Front bumper reinforcement installation bolt	8 (0.31) bolt
D	Cowl top outer panel installation nut	6 (0.24) nut	K, k	Front fender mounting bracket standard hole	10 (0.39)
E, e	Air bag sensor installation nut	8 (0.31) nut	L, l	Radiator upper center support installation nut	6 (0.24) nut
F	Brake tube installation nut	6 (0.24) nut	M, m	Front fender installation nut	6 (0.24) nut
f	ABS actuator installation nut	8 (0.31) nut	N, n	Front fender installation nut	6 (0.24) nut
G, g	Radiator upper center support installation nut	6 (0.24) nut	—	—	—

BODY DIMENSIONS

DI-5

BODY OPENING AREAS (Side View: Rear)

(Three-Dimensional Distance)



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

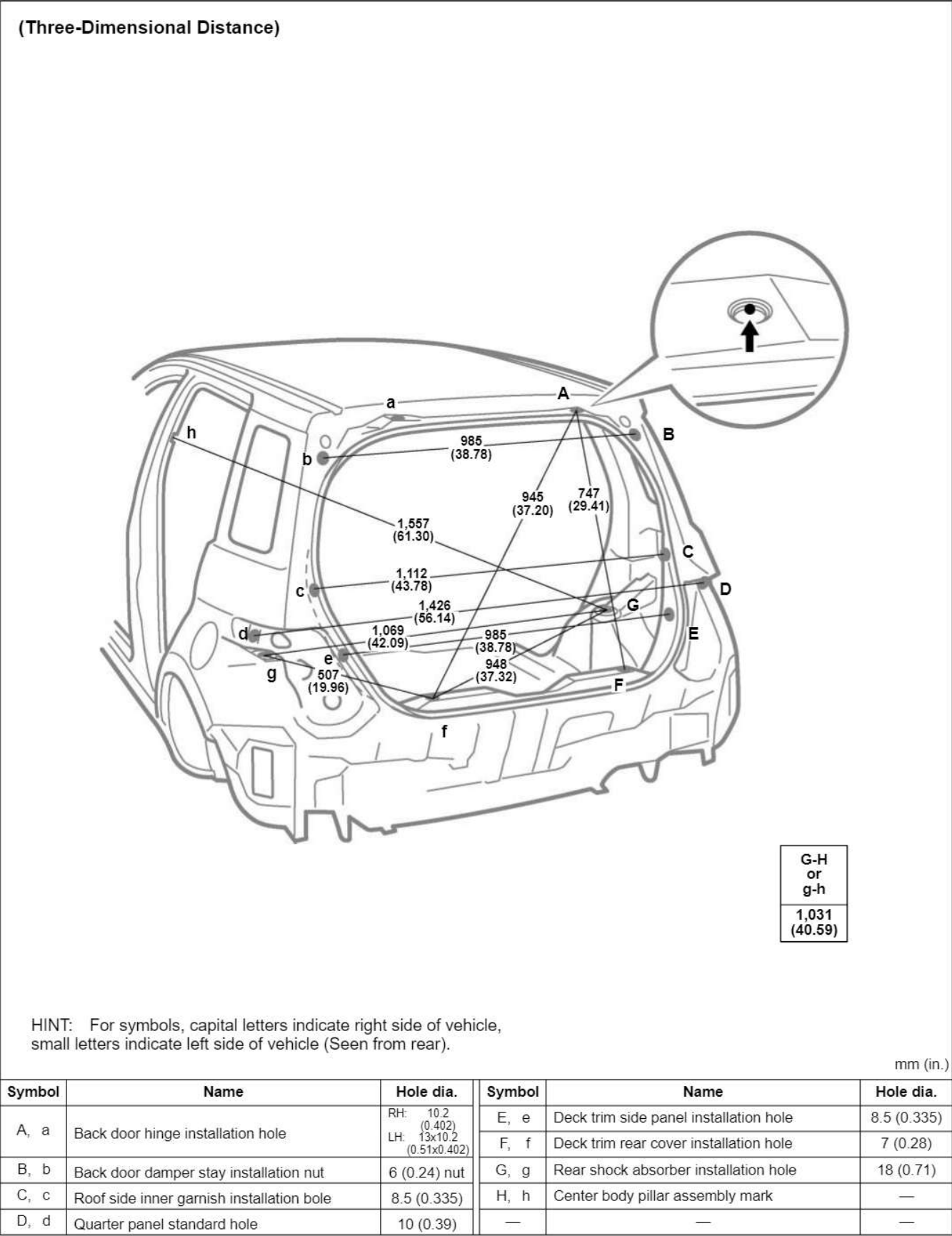
Vehicle Dimensions Left ↔ Right

N-n	O-o	P-p	Q-q	R-r	S-s	
1,273 (50.12)	1,362 (53.62)	1,365 (53.74)	1,069 (42.09)	1,189 (46.81)	1,363 (53.66)	
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
1,632 (64.25)	1,284 (50.55)	1,404 (55.28)	1,568 (61.73)	1,459 (57.44)	1,623 (63.90)	1,506 (59.29)

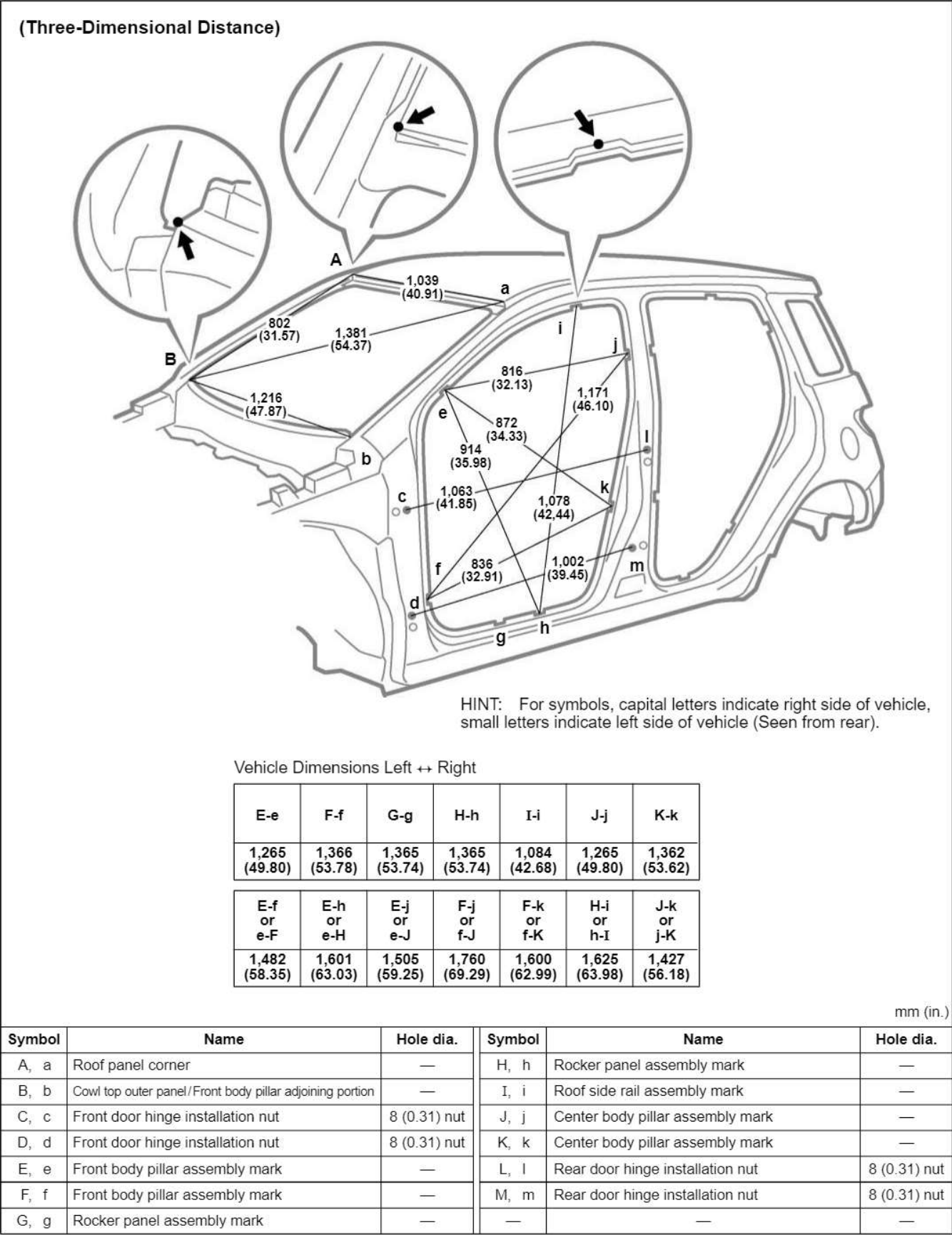
mm (in.)

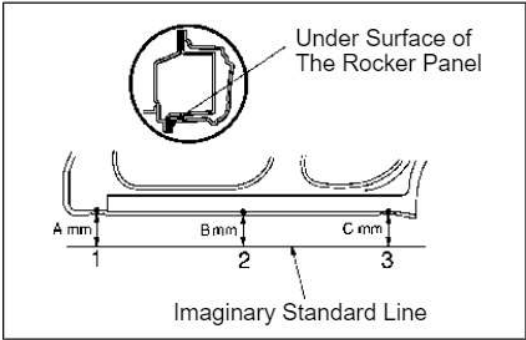
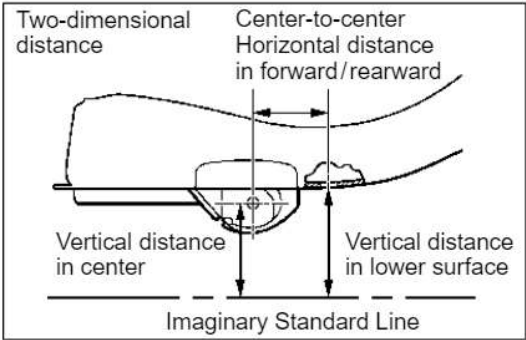
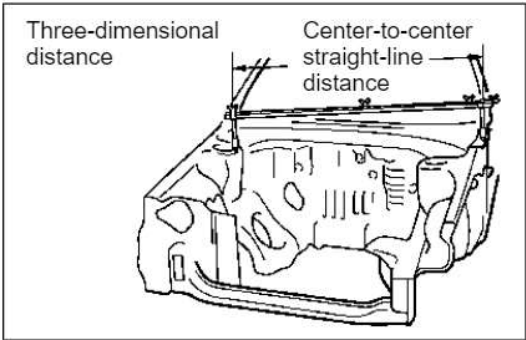
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
G, g	Rocker panel assembly mark	—	P, p	Rocker panel assembly mark	—
I, i	Roof side rail assembly mark	—	Q, q	Roof side rail assembly mark	—
N, n	Center body pillar assembly mark	—	R, r	Quarter panel assembly mark	—
O, o	Center body pillar assembly mark	—	S,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

BODY OPENING AREAS (Rear View)



BODY OPENING AREAS (Side View: Front)





GENERAL INFORMATION

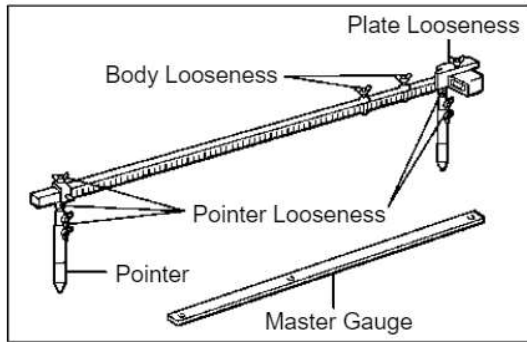
1. BASIC DIMENSIONS

- (a) There are two types of dimensions in the diagram.
- (1) (Three-dimensional distance)
- Straight-line distance between the centers of two measuring points.
- (2) (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.

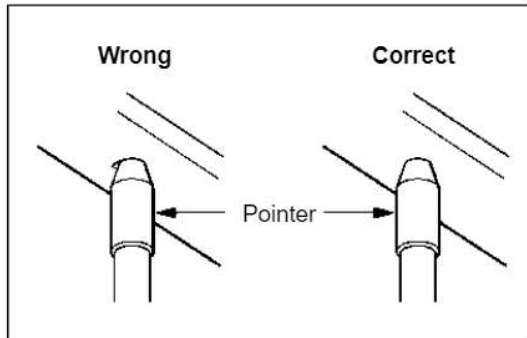
DI-2

BODY DIMENSIONS



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:**

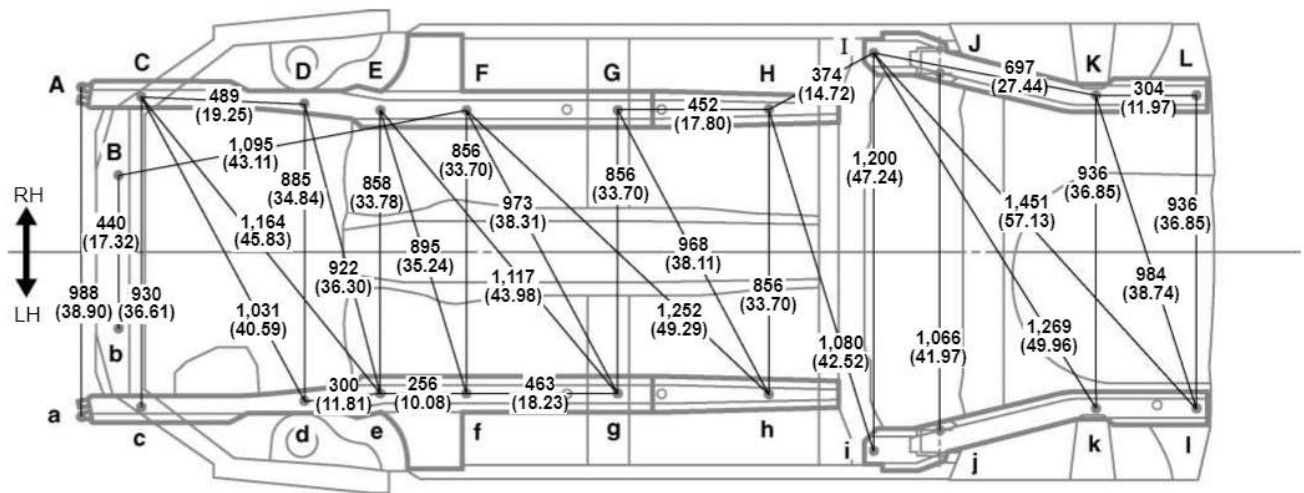
- 1) The height of the left and right pointers must be equal.
 - 2) Always calibrate the tracking gauge before measuring or after adjusting the pointer height.
 - 3) Take care not to drop the tracking gauge or otherwise shock it.
 - 4) Confirm that the pointers are securely in the holes.
- (c) When using a tape measure, avoid twists and bends in the tape.

BODY DIMENSIONS

DI-7

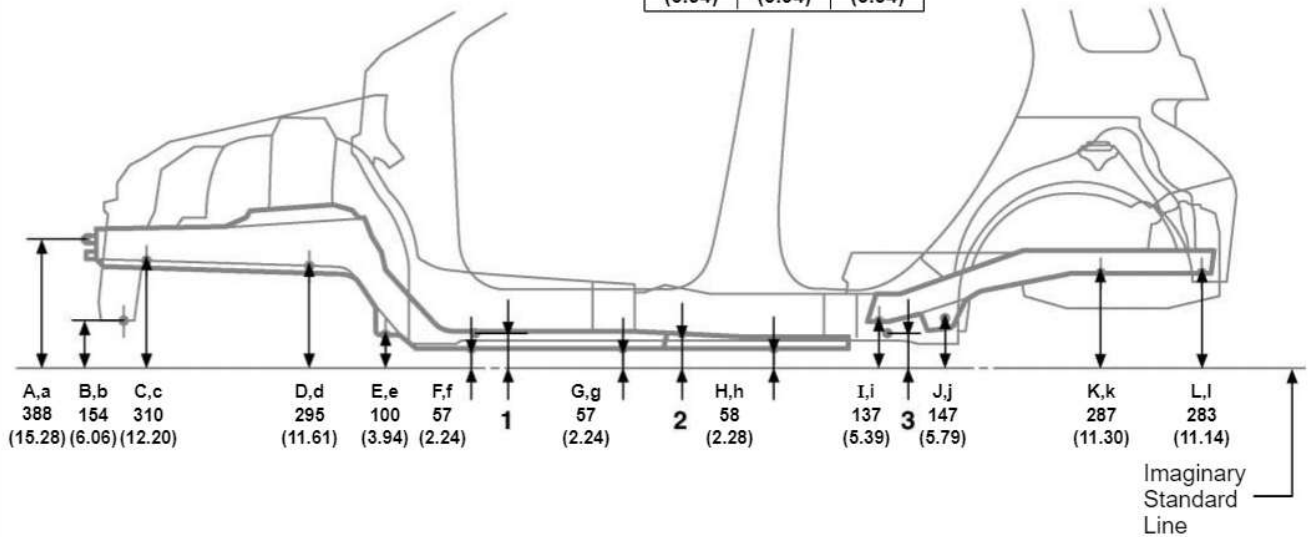
UNDER BODY

(Three-Dimensional Distance)



Front ←

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



mm (in.)

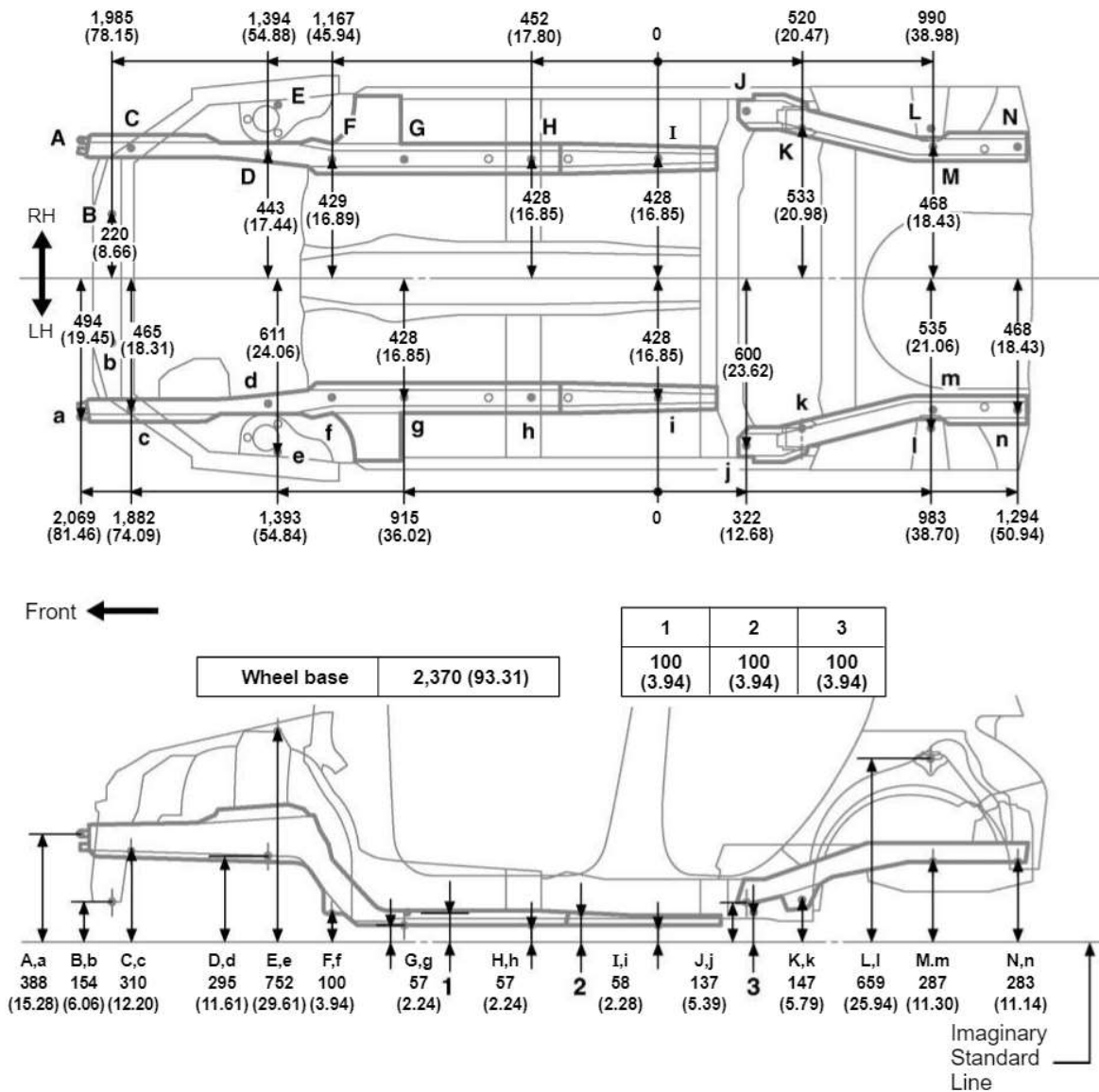
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper reinforcement installation bolt	8 (0.31) bolt	G, g	Front side member standard hole	18 (0.71)
B, b	Radiator lower support standard hole	15 (0.59)	H, h	Front floor under reinforcement standard hole	18 (0.71)
C, c	Front side member standard hole	18 (0.71)	I, i	Rear floor side member standard hole	18 (0.71)
D, d	Front suspension member installation nut	12 (0.47) nut	J, j	Trailing arm installation hole-inner	13 (0.51)
E, e	Front suspension member installation nut	14 (0.55) nut	K, k	Rear floor side member standard hole	18 (0.71)
F, f	Front side member standard hole	18 (0.71)	L, l	Transport hook installation nut	10 (0.39) nut

DI-8

BODY DIMENSIONS

UNDER BODY (Cont'd)

(Two-Dimensional Distance)



mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper reinforcement installation bolt	8 (0.31) bolt	H, h	Front side member standard hole	18 (0.71)
B, b	Radiator lower support standard hole	15 (0.59)	I, i	Front floor under reinforcement standard hole	18 (0.71)
C, c	Front side member standard hole	18 (0.71)	J, j	Rear floor side member standard hole	18 (0.71)
D, d	Front suspension member installation nut	12 (0.47) nut	K, k	Trailing arm installation hole-inner	13 (0.51)
E, e	Front spring support hole-outer	11 (0.43)	L, l	Rear shock absorber installation hole	18 (0.71)
F, f	Front suspension member installation nut	14 (0.55) nut	M, m	Rear floor side member standard hole	18 (0.71)
G, g	Front side member standard hole	18 (0.71)	N, n	Transport hook installation nut	10 (0.39) nut