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 YARIS.

Applicable models: KSP90 series
NCP90, 91 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, this TOYOTA model are 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 YARIS 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

⁎ This manual 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 coating. Body sealer.

Contents omitted in this manual.

⁎ Make sure to perform the following essential procedures, although they are omitted in this manual.

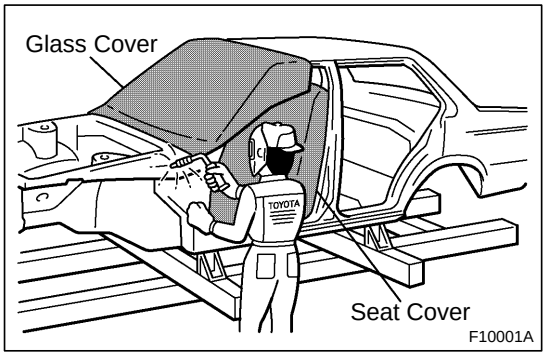
(1) Jack and lift operations.

(2) Clean and wash removed parts, if necessary.

(3) Visual inspection.

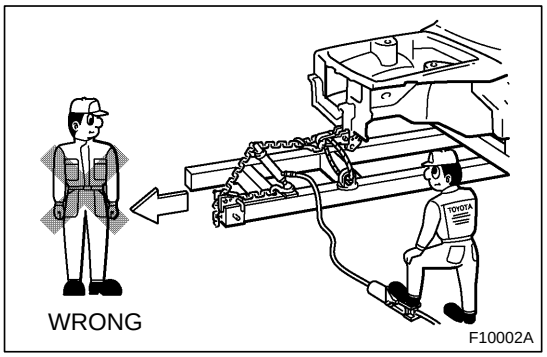
GENERAL REPAIR INSTRUCTIONS

1. WORK PRECAUTIONS



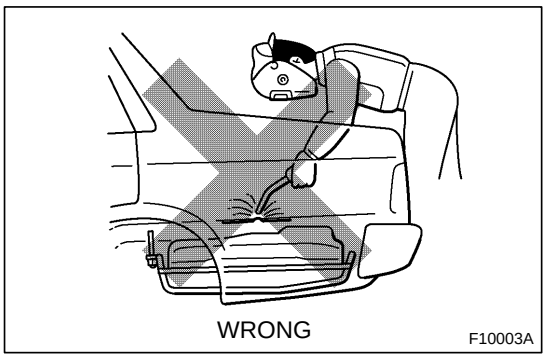
(a) VEHICLE PROTECTION

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



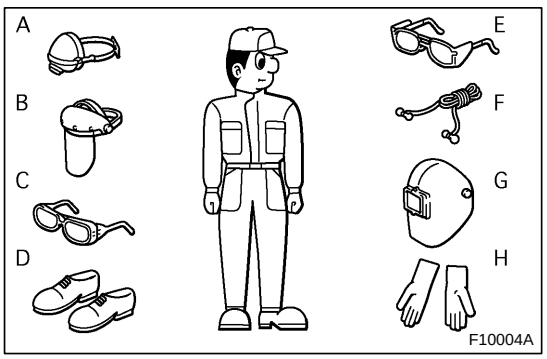
(b) SAFETY

(1) Never stand in a 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 completely.

(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 properties 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.

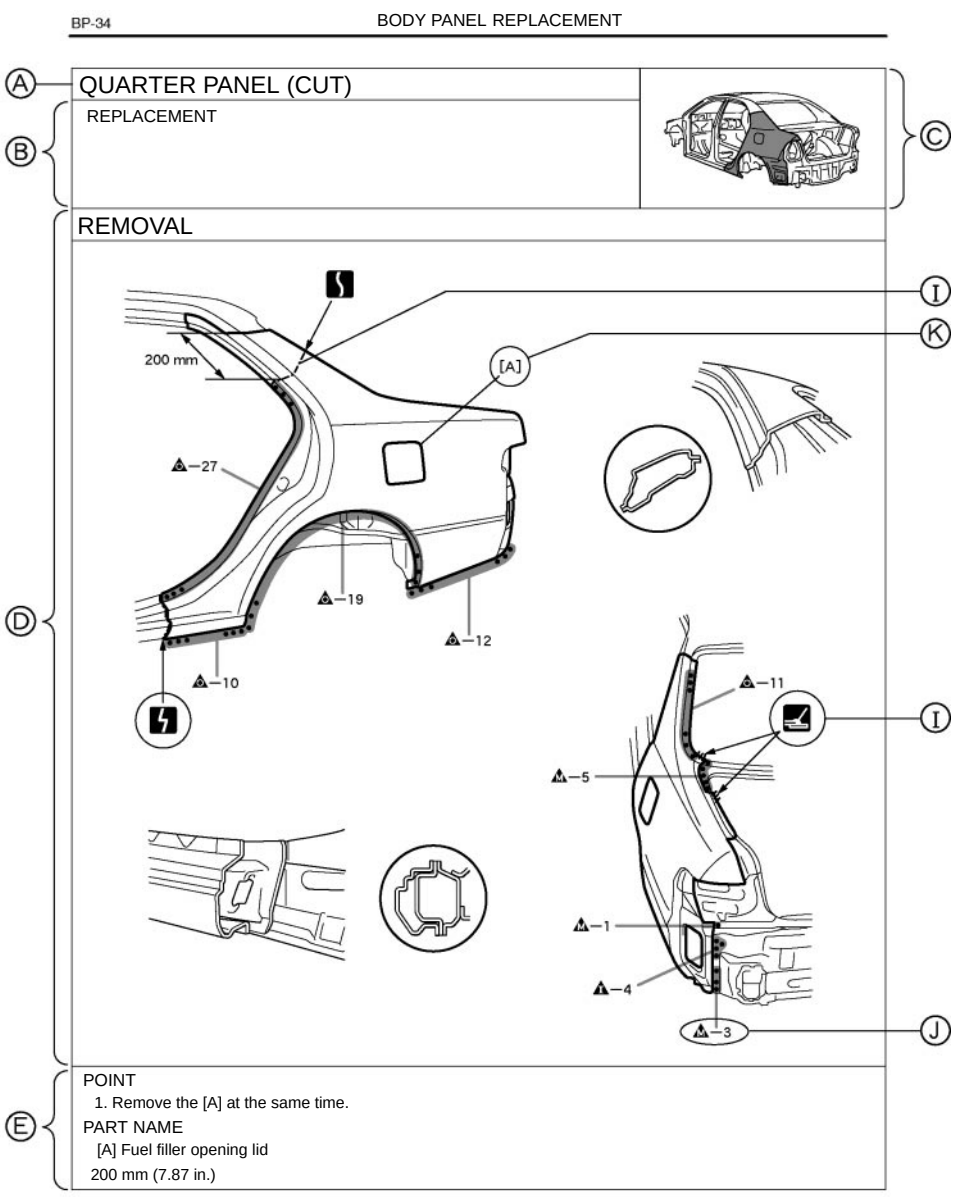
3. LOCATION OF PLASTIC BODY PARTS

Parts Name	Code
Front Bumper Cover	TSOP
Radiator Grille	TSOP
Headlight	PC/PP
Fog Light	TSOP
Front Pillar Upper Cover	AES
Side Turn Signal Light	PMMA/PC/ABS
Cowl Top Ventilator Louver	TSOP/PP/PE
Rear Body Mudguard	PP
Door Outside Handle	PA/PC/PBT
Outer Rear View Mirror	PP/PA/ABS ∗ASA
Front Door Window Frame Front Moulding	ASA
Front Spoiler Cover	TSOP
Front Fender Mudguard	PP
Back Door Outside Handle	PA
License Plate Light	PC
Rear Combination Light	PMMA/ASA
Rear Bumper Cover	TSOP

HINT:
∗ Resin material differs depending on model.
/ Made up of 2 or more kinds of materials.

HOW TO USE THIS MANUAL

1. BODY PANEL REPLACEMENT IN THIS MANUAL



Ⓐ : 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

Ⓑ : REMOVAL CONDITIONS

Ⓒ : PART LOCATION

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

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

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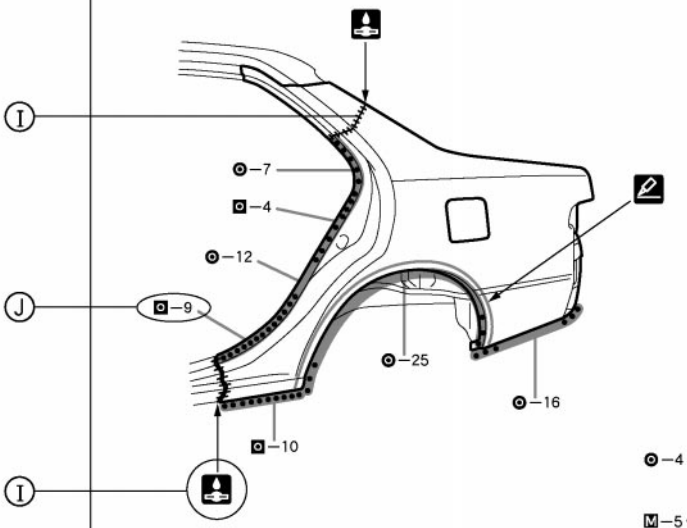
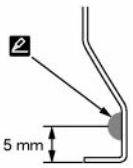
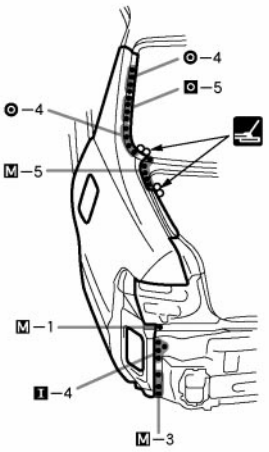
INSTALLATION
- Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- After welding,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

Ⓗ

Ⓕ : INSTALLATION CONDITIONS

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

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

Ⓘ : SYMBOLS
(See page IN-7)

Ⓙ : INSTALLATION OF WELD POINTS
Weld method and panel position symbols (See page IN-9)

Ⓚ : PART NAME

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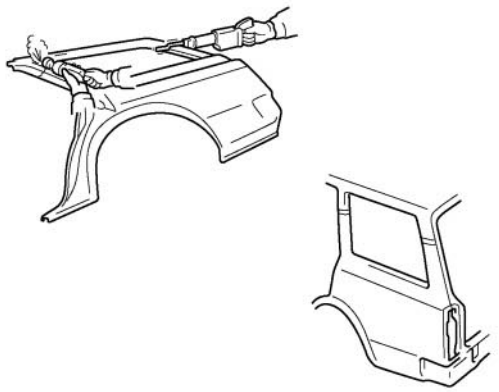
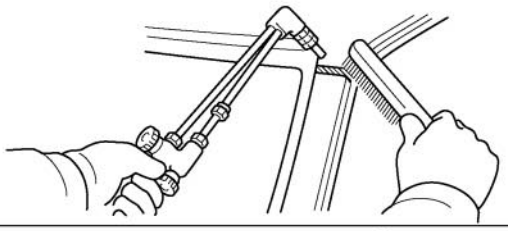
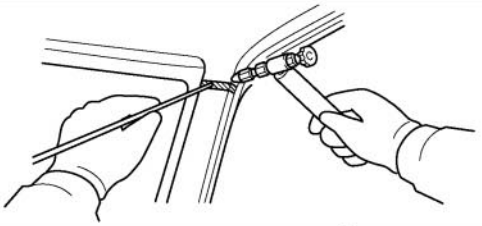
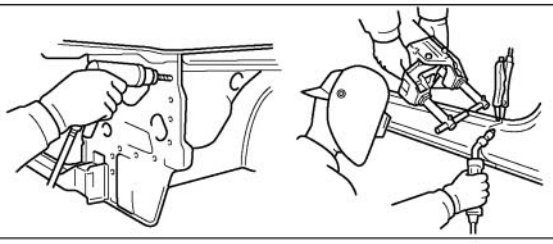
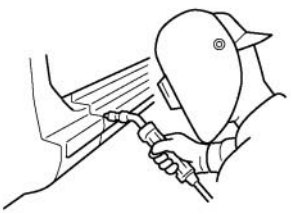
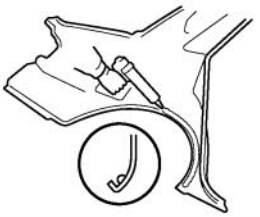
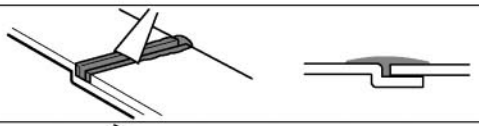
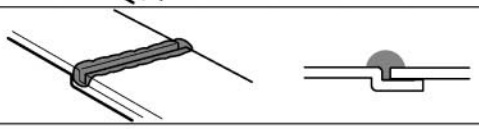
2. SYMBOLS

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)	
		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

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

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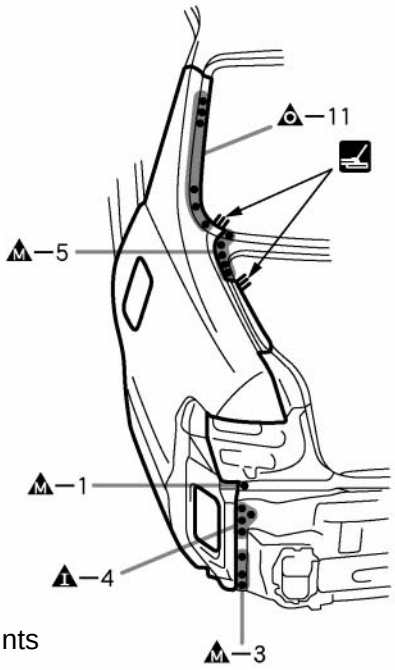
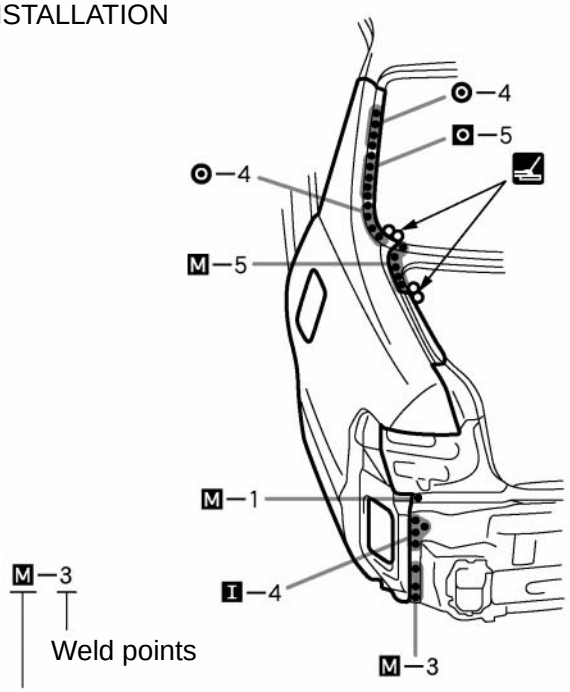
3. ILLUSTRATION OF WELD POINT SYMBOLS

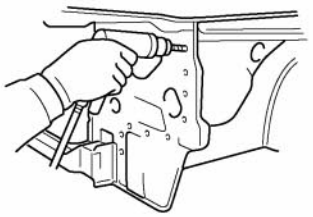
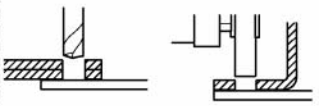
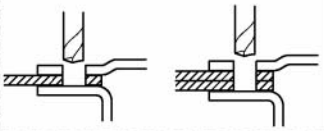
EXAMPLE:

REMOVAL

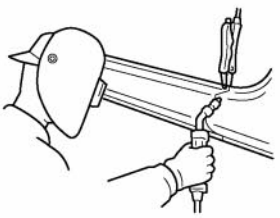
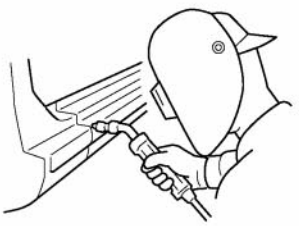


INSTALLATION



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

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

SYMBOLS	MEANING	ILLUSTRATION
O M I	Spot Weld	
O M I	MIG Plug Weld	
+	Spot MIG Weld	

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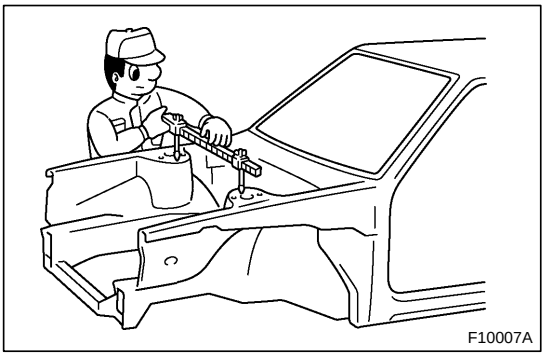
PROPER AND EFFICIENT WORK PROCEDURES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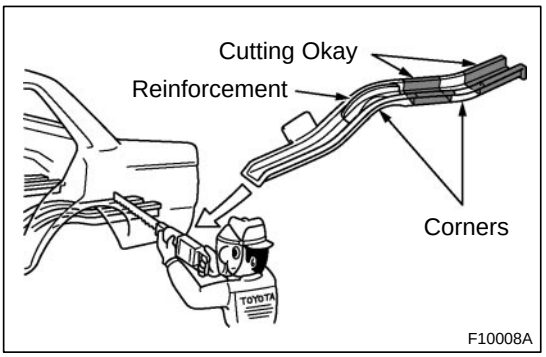
1. REMOVAL

(a) PRE-REMOVAL MEASURING

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



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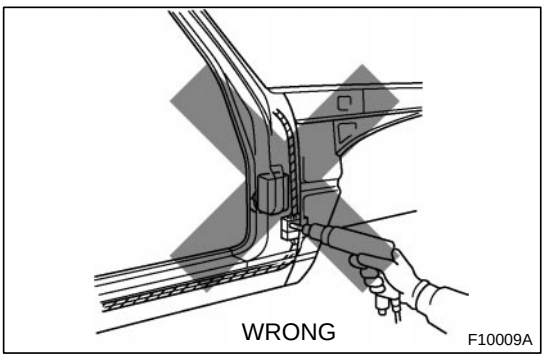
(b) CUTTING AREA

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



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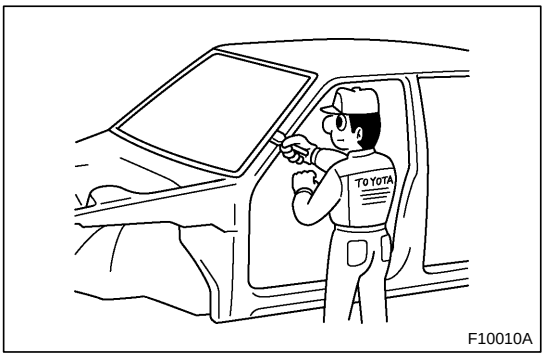
(c) PRECAUTIONS FOR DRILLING OR CUTTING

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

HINT: See “Handling Precautions on Related Components” on page IN-15.



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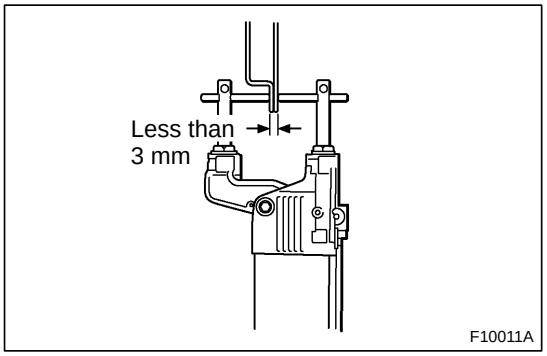
(d) REMOVAL OF ADJACENT COMPONENTS

(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.

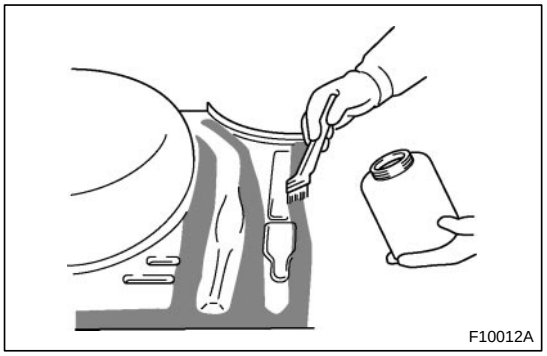


2. PREPARATION FOR INSTALLATION

(a) SPOT WELD POINTS

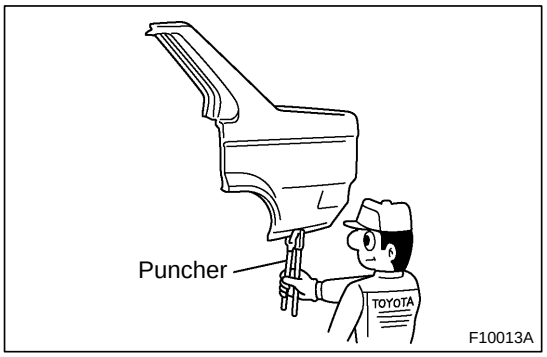
(1) When welding panels with a combined thickness of over 3 mm (0.12 in.), use a MIG (Metal Inert Gas) welder for plug welding.

HINT: Spot welding does not provide sufficient durability for panels with a combined thickness of over 3 mm (0.12 in.).



(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.

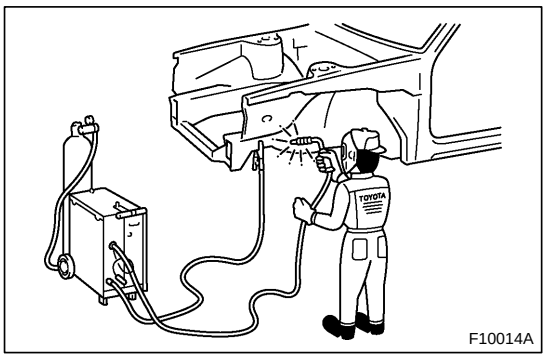


(c) MAKING HOLES FOR PLUG WELDING

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

REFERENCE: mm (in.)

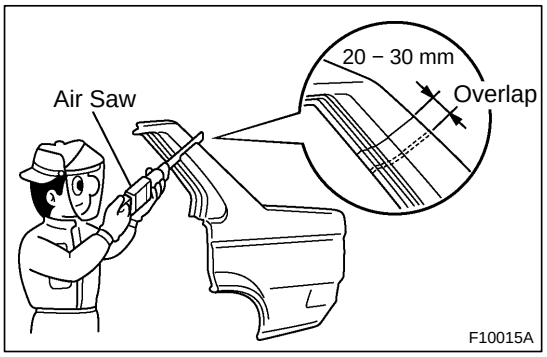
Thickness of welded portion	Size of plug hole
1.0 (0.04) under	5 (0.20) ø over
1.0 (0.04) − 1.6 (0.06)	6.5 (0.26) ø over
1.7 (0.07) − 2.3 (0.09)	8 (0.31) ø over
2.4 (0.09) over	10 (0.39) ø over



(d) SAFETY PRECAUTIONS FOR ELECTRICAL COMPONENTS

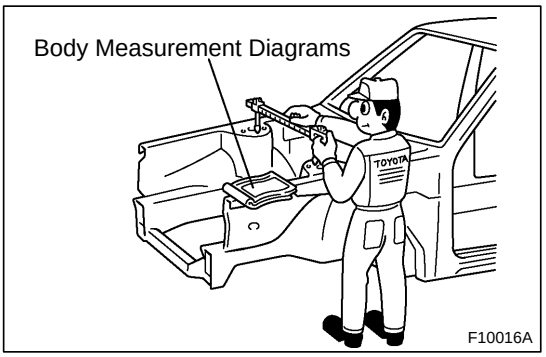
(1) When welding, there is a danger that electrical components will be damaged by the electrical current flowing through the body.

(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

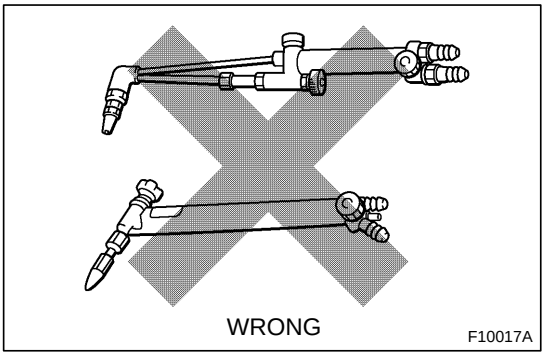
(1) For joint areas, rough cut the new parts, leaving 20 − 30 mm (0.79 − 1.18 in.) of overlap.



3. INSTALLATION

(a) PRE-WELDING MEASUREMENTS

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

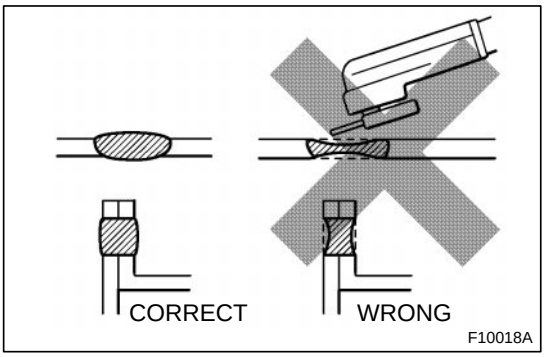


(b) WELDING PRECAUTIONS

(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.

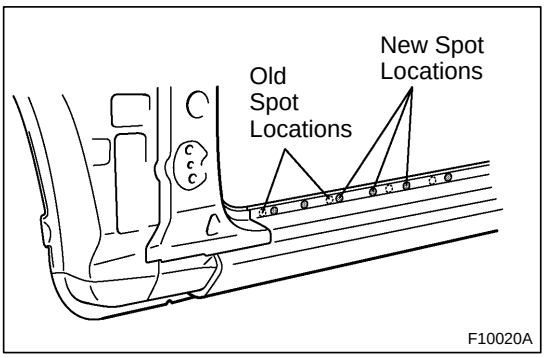
(2) Plug welding should be done with a MIG (Metal Inert Gas) welder. Do not gas weld or braze panels at areas other than specified.



(c) POST-WELDING REFINISHING

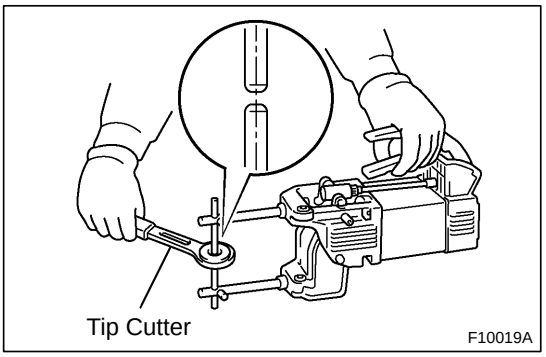
(1) Always check the welded spots to ensure they are secure.

(2) When smoothing out the weld spots with a disc grinder, be careful not to grind off too much as this will weaken the weld.



(d) SPOT WELD LOCATIONS

(1) Avoid welding over previously welded areas.

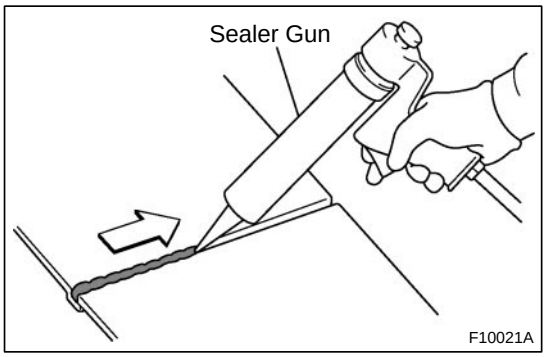


(e) SPOT WELDING PRECAUTIONS

(1) The shape of the tip point of the spot welder significantly affects the strength of the weld. Therefore, maintain the tip point in the proper shape, and allow it to cool after every five or six spots.

(2) Completely remove the paint from the areas to be spot welded, including the seams and the surfaces that come in contact with the welding tip.

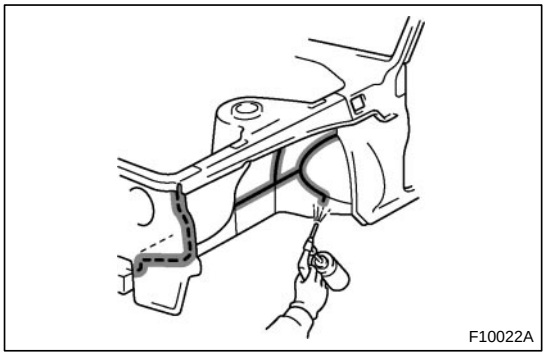
(3) Use a sander to remove any burrs that are created during spot welding.



4. ANTI-RUST TREATMENT AFTER INSTALLATION (BEFORE PAINTING PROCESS)

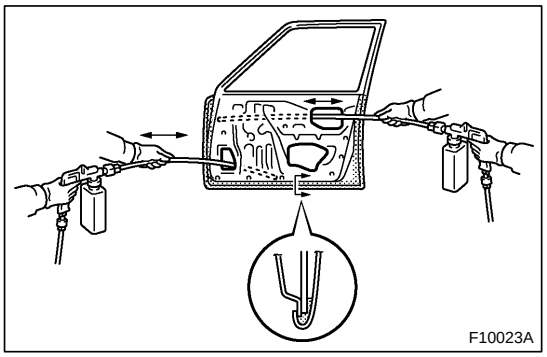
(a) BODY SEALER APPLICATION

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



(b) UNDERCOAT APPLICATION

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



5. ANTI-RUST TREATMENT AFTER INSTALLATION (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 hood, and around the hinges, or the welded surfaces inside the box-shaped cross sections of the side members, body pillar, etc.

6. ANTI-RUST TREATMENT BY PAINTING

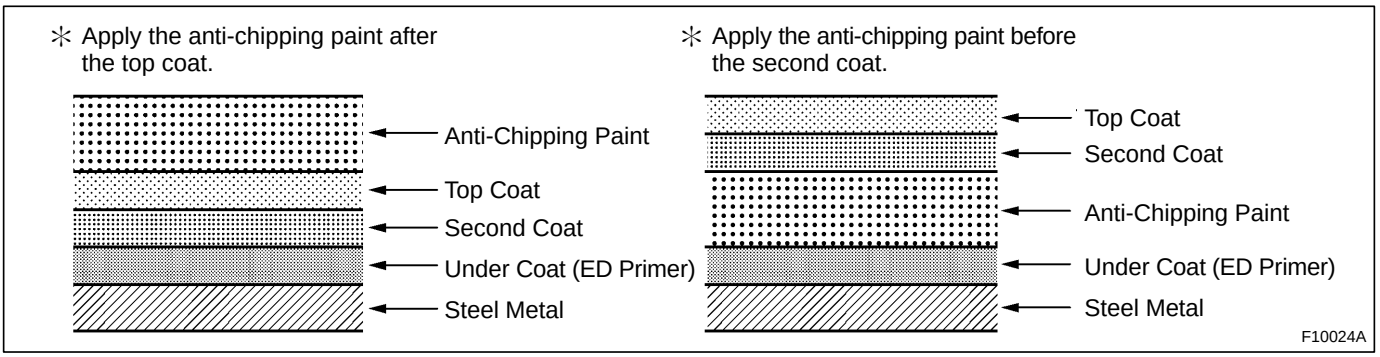
REFERENCE:

Painting prevents corrosion and protects 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.



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 the 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. Body repair must be particularly accurate 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.

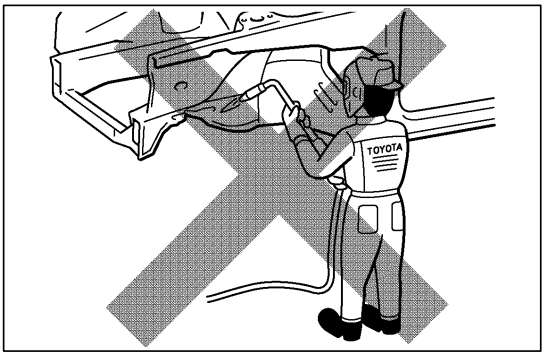
4. ECU (ELECTRONIC CONTROL UNIT)

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 canceled. 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 seats and outside rear view mirrors, which are all equipped with a 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

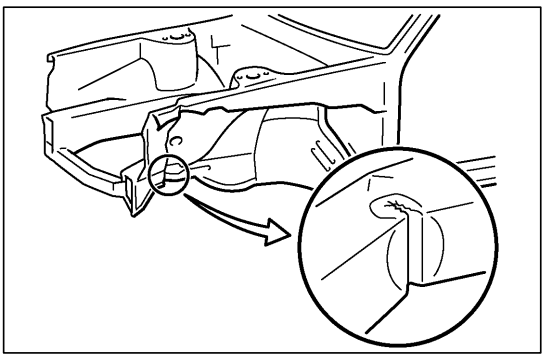
Toyota prohibits the use of the heat repair method on body structure panels when repairing a vehicle damaged in a collision.

Panels that have high strength and rigidity, as well as a long life span for the automobile body are in high demand.

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 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.

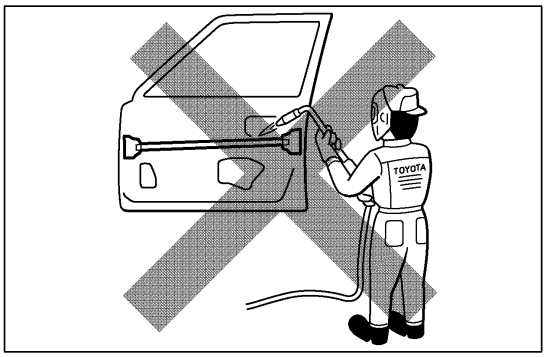


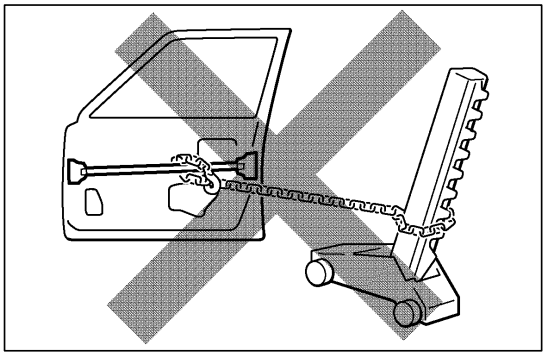
2. STRUCTURE PANEL KINKS

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

Structural parts are designed to perform in their original shape. If parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may be unable to perform as intended.

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 beams, we use special high tensile strength steel.

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

Structural parts are designed to perform in their original shape. If parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may be unable to perform as intended.

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

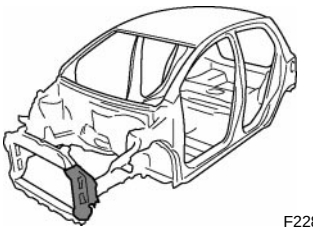
Also, the bumper reinforcement is a necessary and important part that helps reduce the probability of injury to passengers in front collisions, and for the same reasons explained above, should be replaced if damaged.

ABBREVIATIONS USED IN THIS MANUAL

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

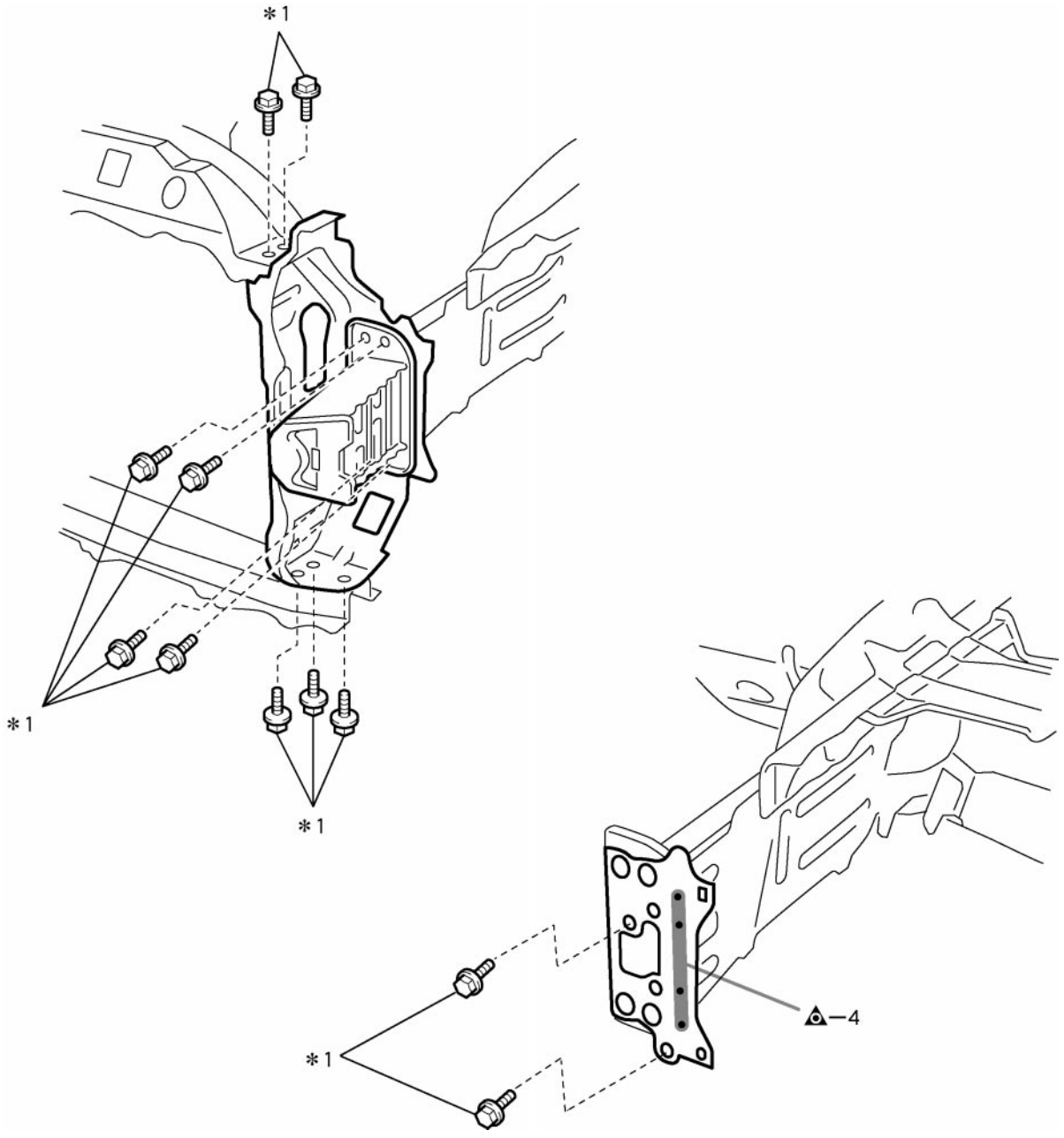
ABS	Antilock Brake System
A/C	Air Conditioner
assy	assembly
ECT	Electronic Controlled Transmission
ECU	Electronic Control Unit
e.g.	Exempli Gratia (for Example)
Ex.	Except
FWD	Front Wheel Drive Vehicles
2WD	Two Wheel Drive Vehicles
4WD	Four Wheel Drive Vehicles
in.	inch
LH	Left-hand
LHD	Left-hand Drive
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

RADIATOR SUPPORT (ASSY)


F22816A

REPLACEMENT

REMOVAL



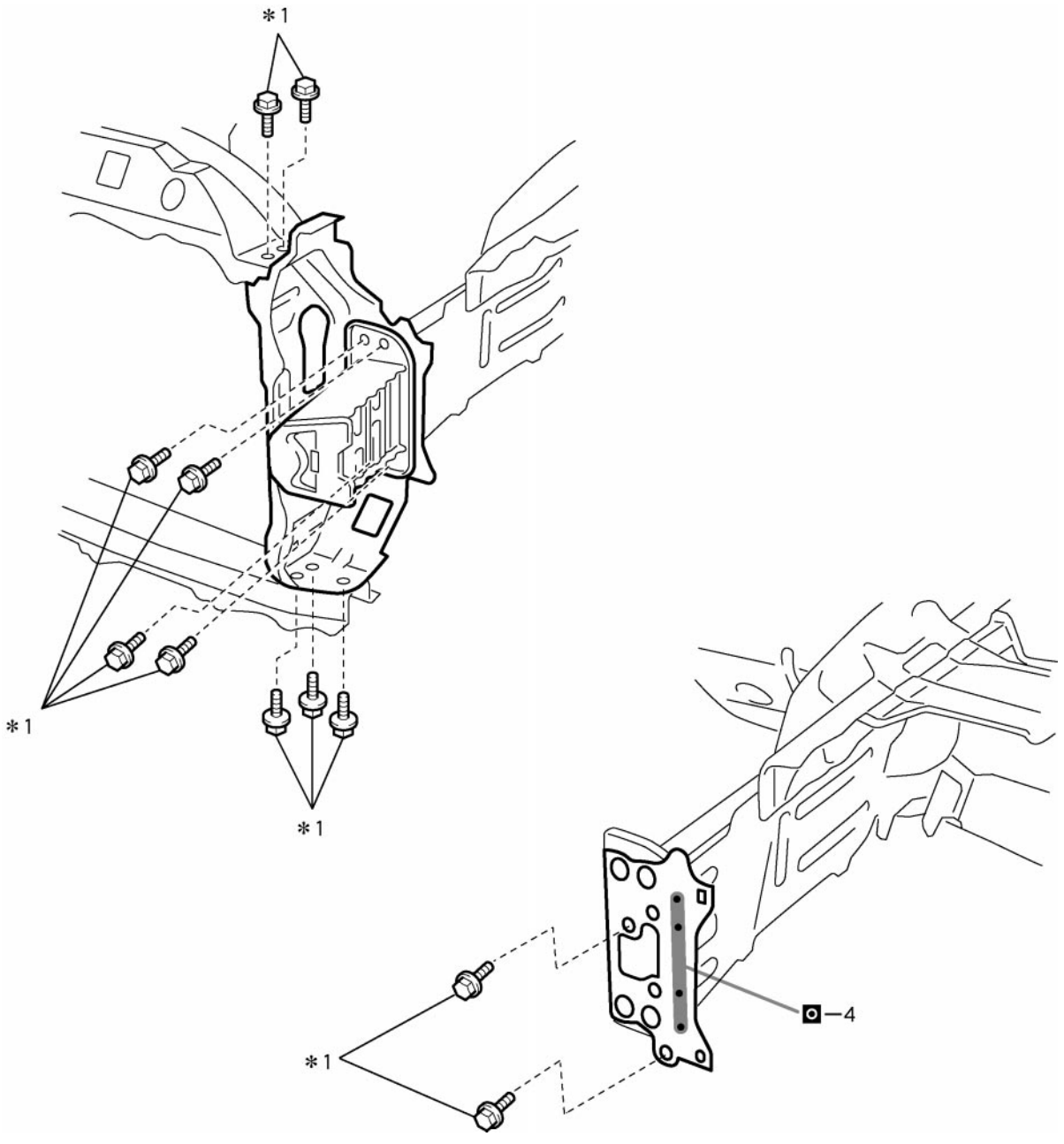
F22816

POINT

1 *1: Bolt

INSTALLATION

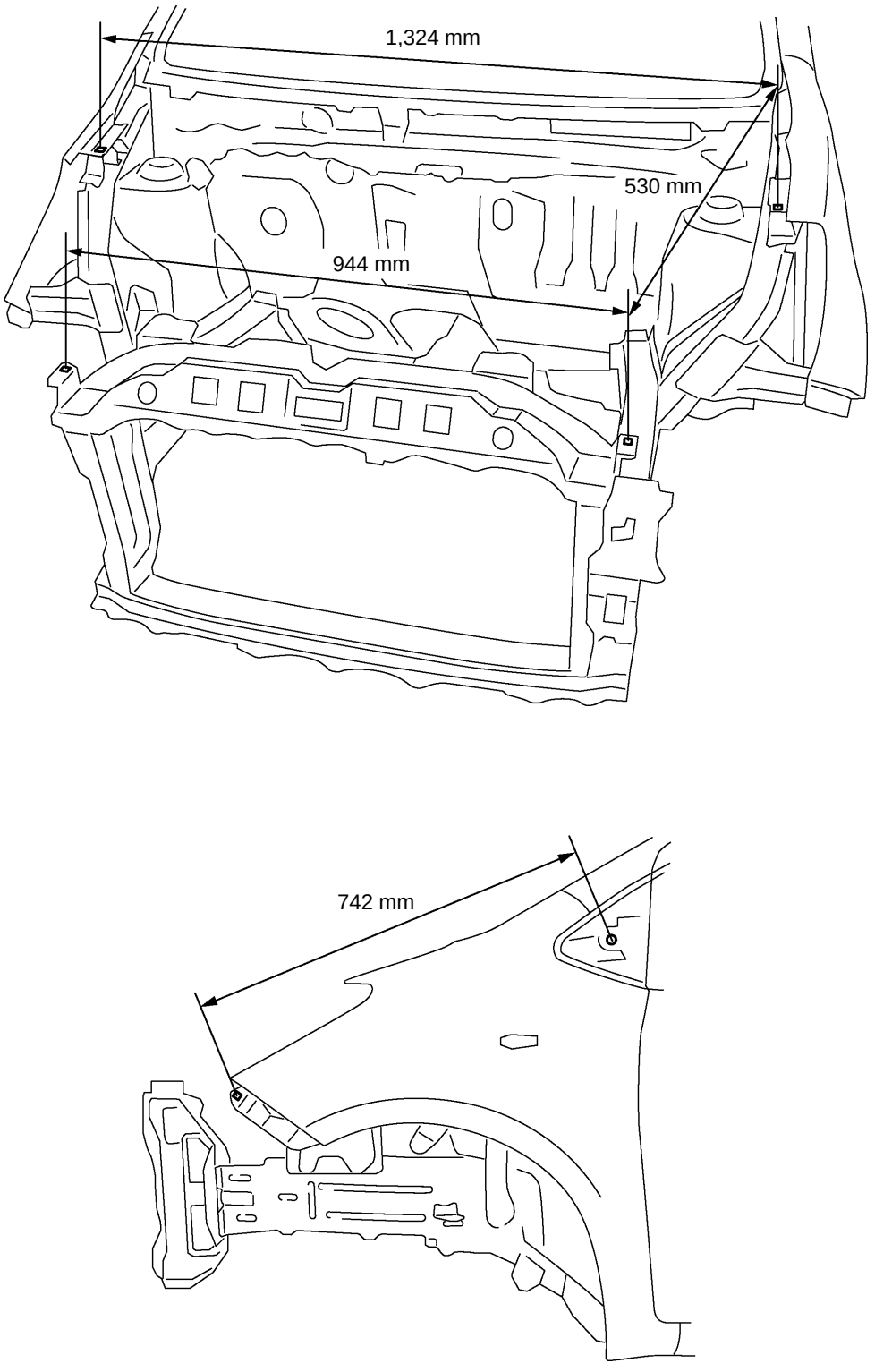
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F22817

POINT

1 Inspect the fitting of the headlight, front fender, hood and other related parts, before welding as this affects the appearance of the finish.
2 *1: Bolt

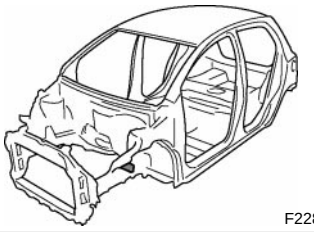


POINT

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

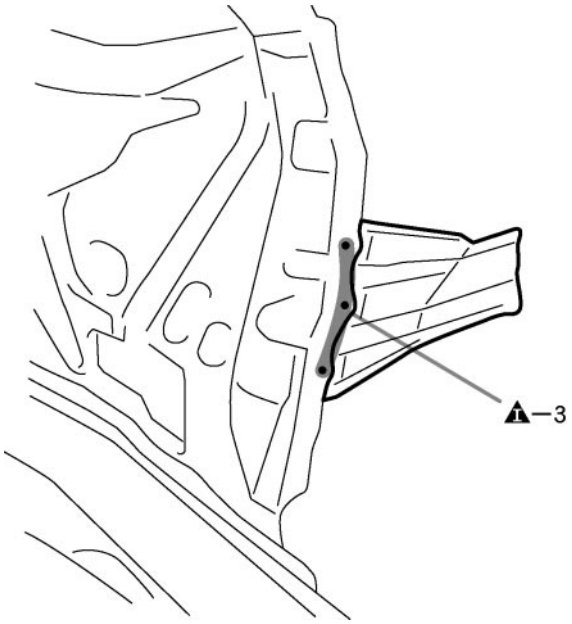
530 mm (20.87 in.) 742 mm (29.21 in.) 944 mm (37.17 in.) 1,324 mm (52.13 in.)

FRONT FENDER MOUNTING BRACKET (ASSY)


F22819A

REPLACEMENT

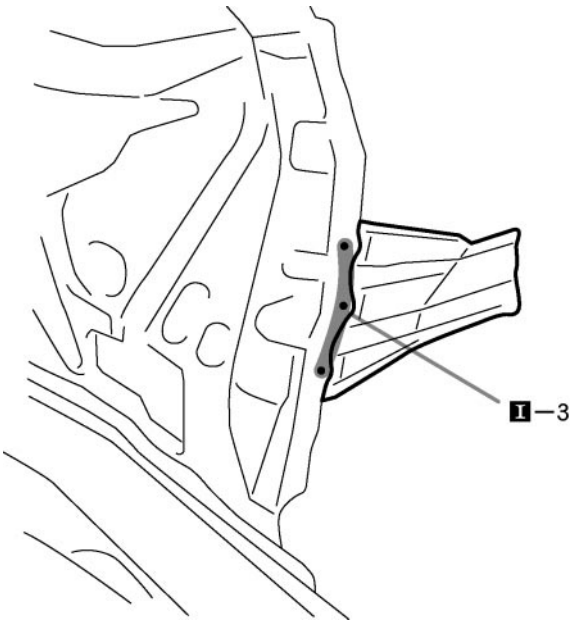
REMOVAL



F22819

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

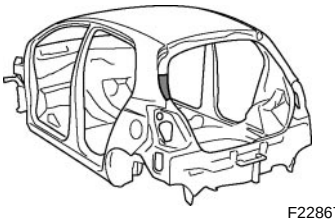


F22820

POINT

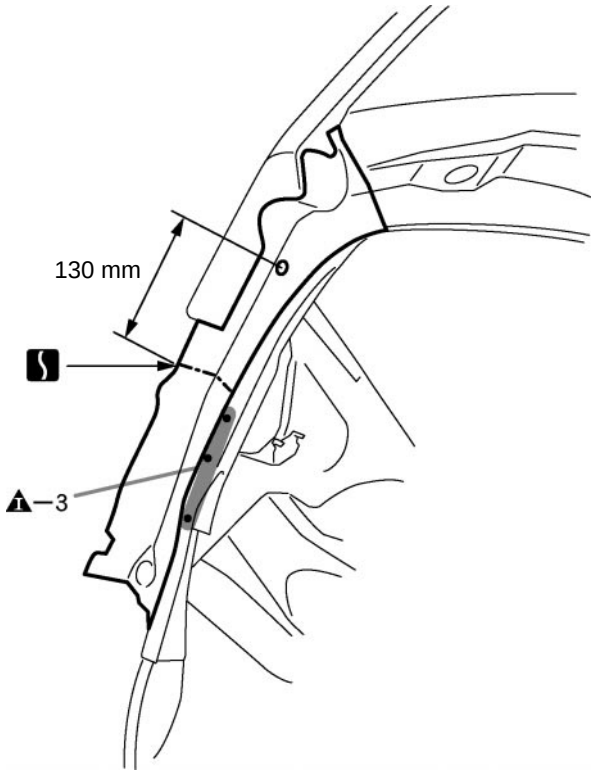
1 Inspect the fitting of the front fender and other related parts before welding as this affects the appearance of the finish.

QUARTER PANEL UPPER EXTENSION (CUT): Hatchback


F22867A

REPLACEMENT
With the back door opening trough removed.

REMOVAL

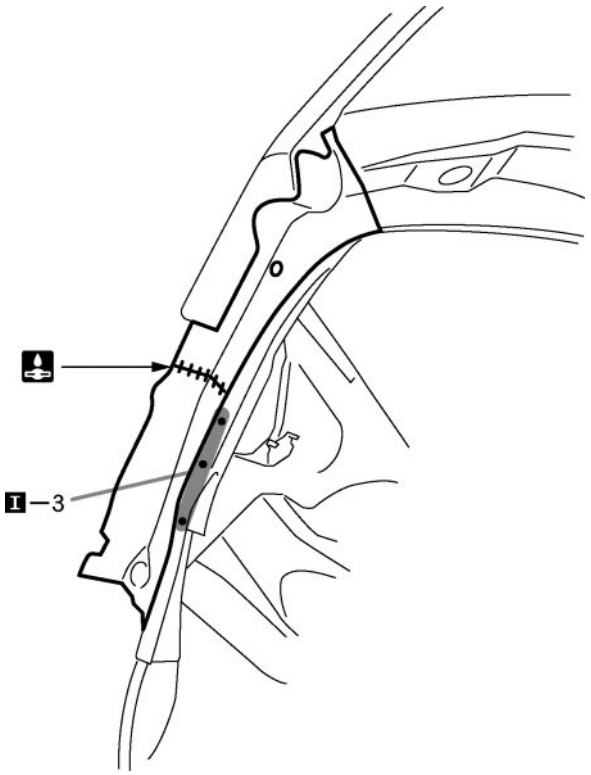


F22867

130 mm (5.12 in.)

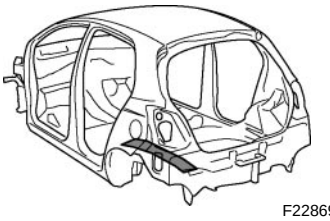
INSTALLATION

⁎ 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.



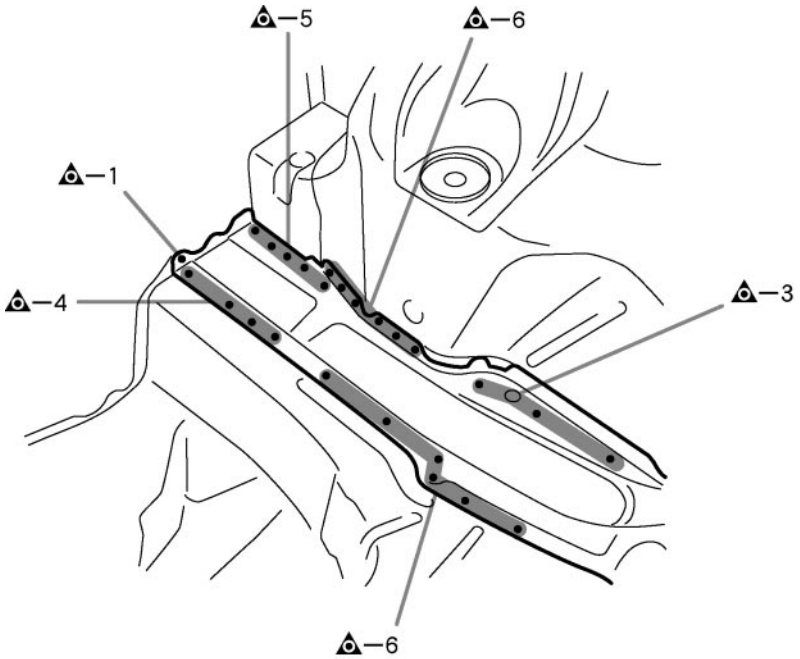
F22868

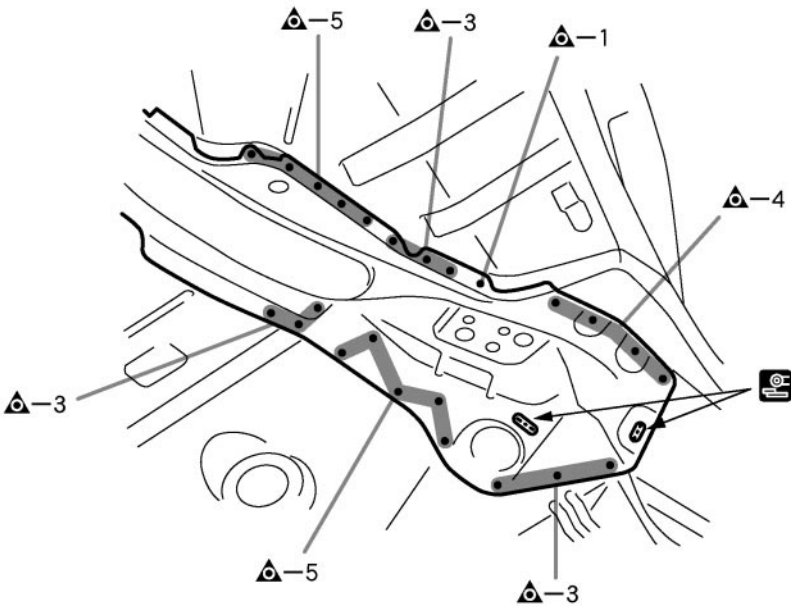
FLOOR SIDE RAIL FRONT PANEL (ASSY): Hatchback


F22869A

REPLACEMENT
With the body lower back panel removed.

REMOVAL

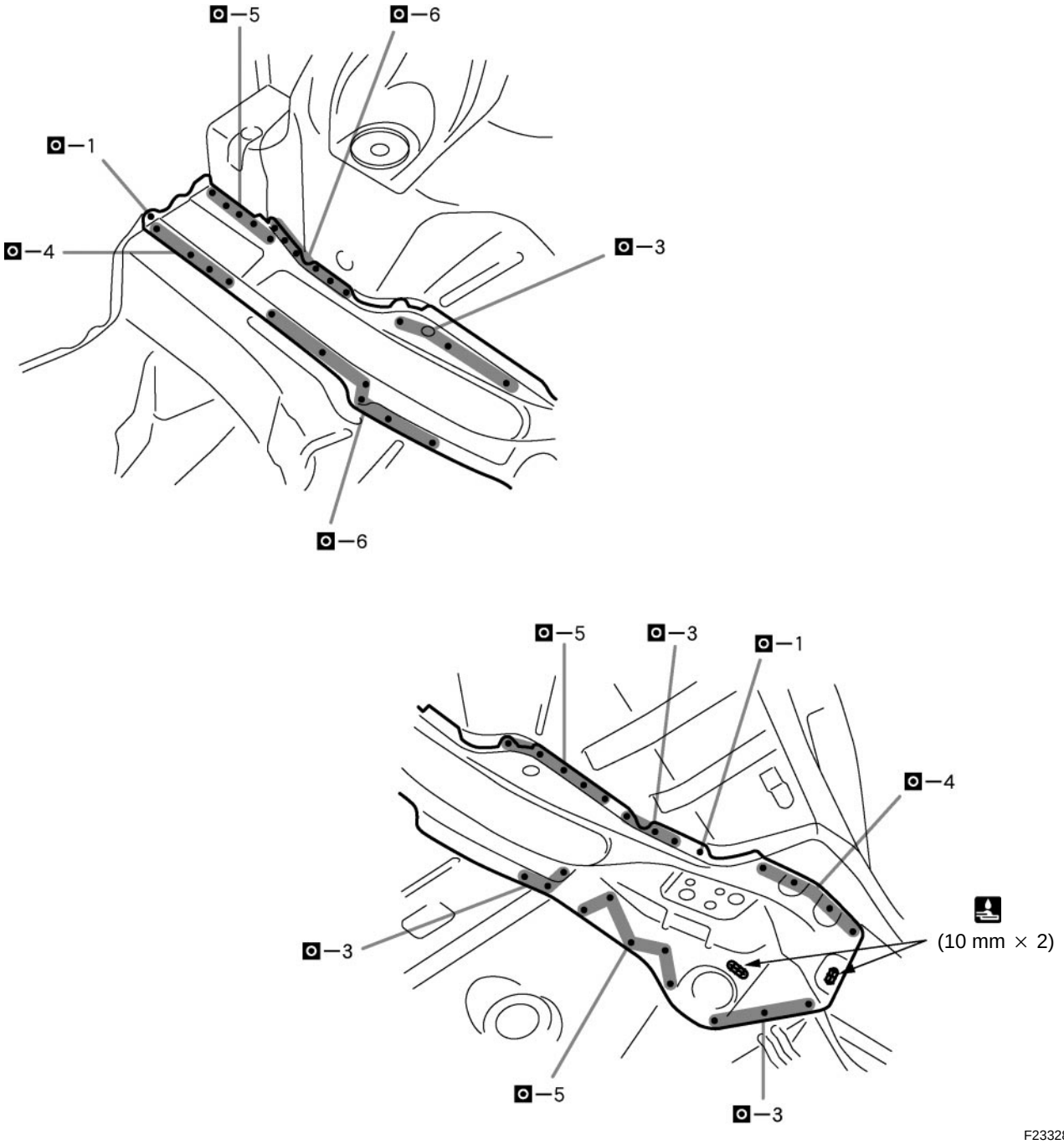




F23327

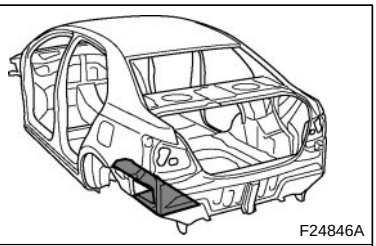
INSTALLATION

⁎ 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.



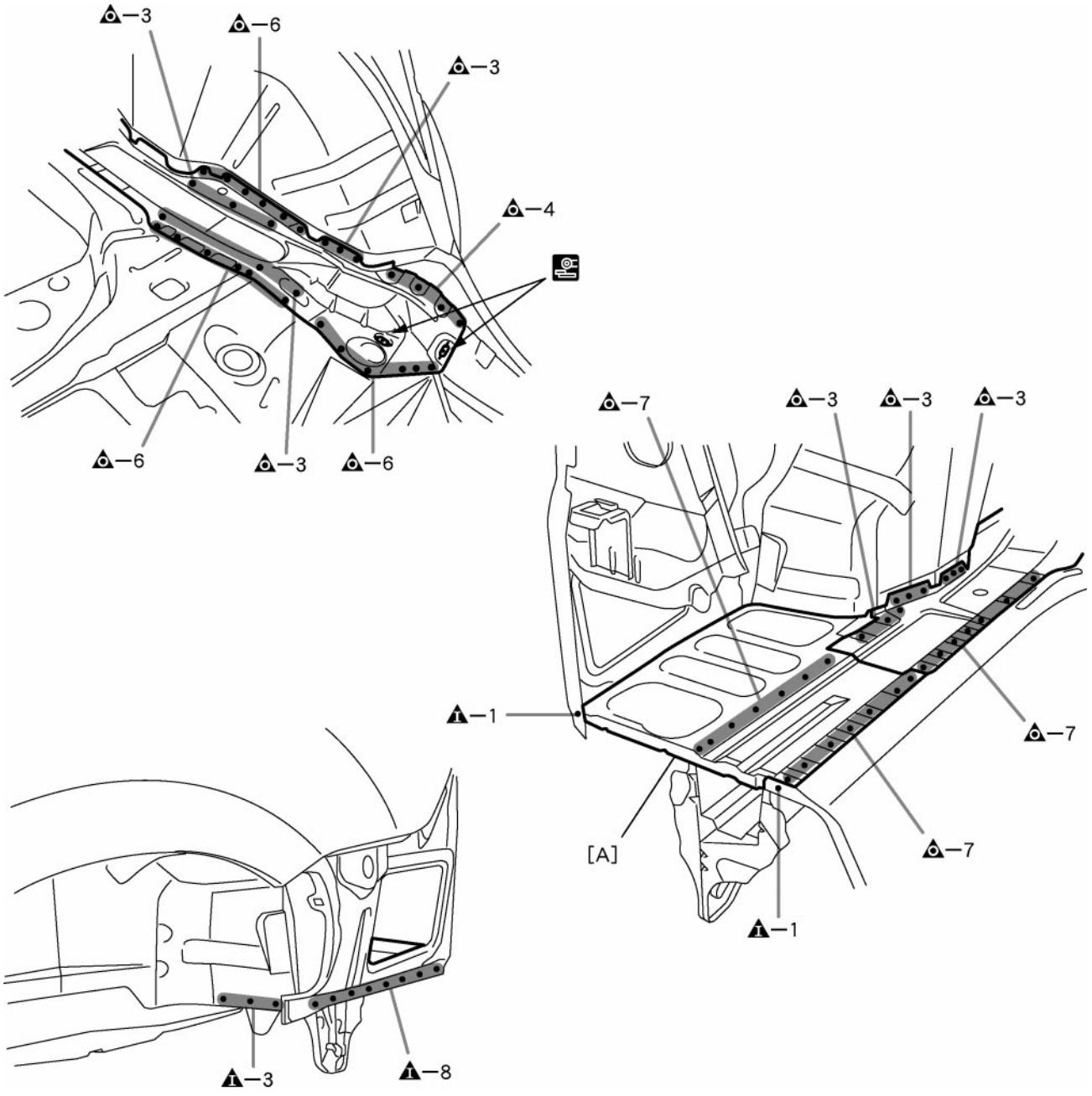
10 mm (0.39 in.)

FLOOR SIDE RAIL FRONT PANEL (ASSY): Sedan


F24846A

REPLACEMENT
With the body lower back panel removed.

REMOVAL



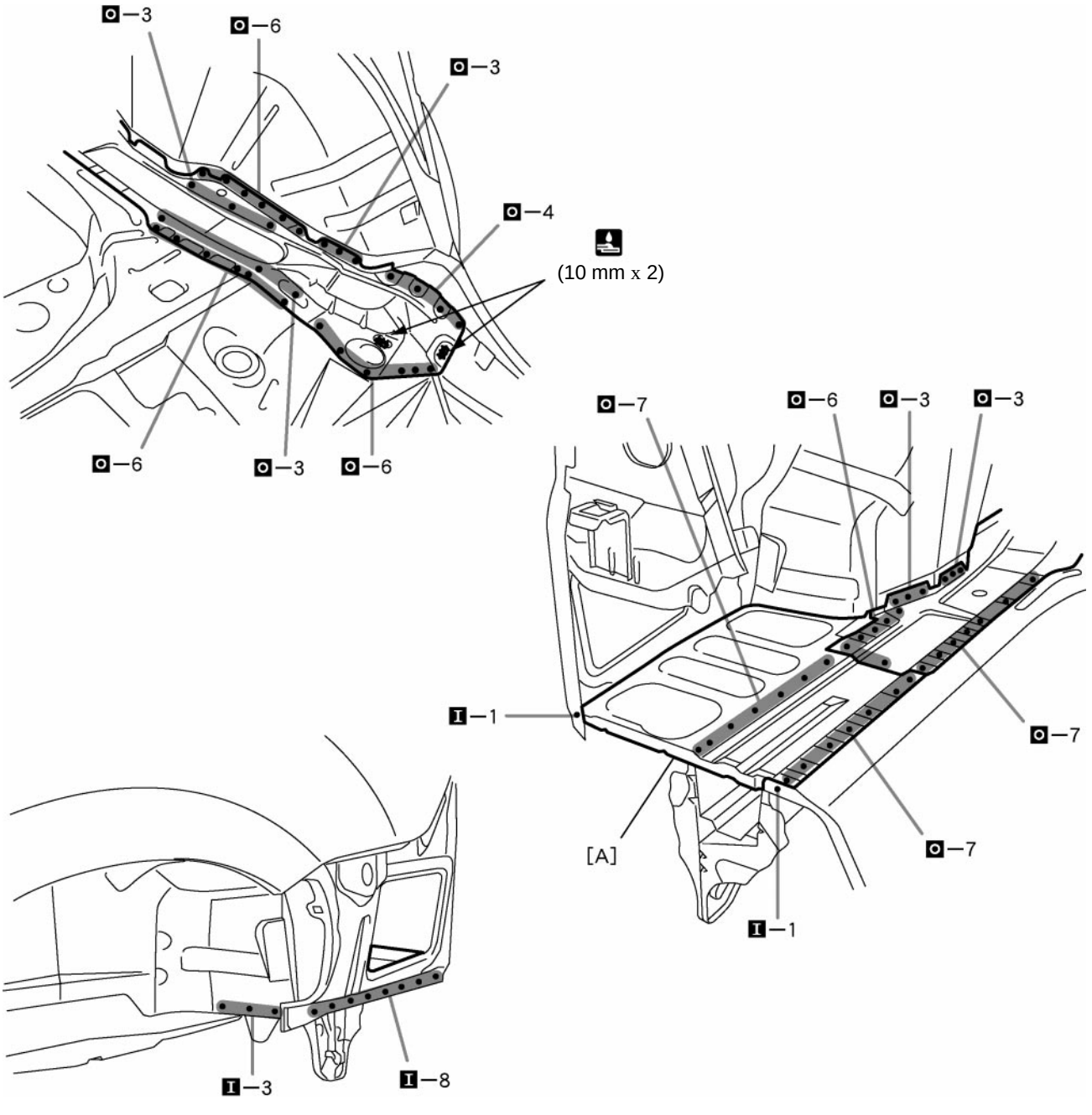
F24846-1

POINT
1 Remove [A] at the same time.

PART NAME
[A] Rear Floor Pan Extension

INSTALLATION

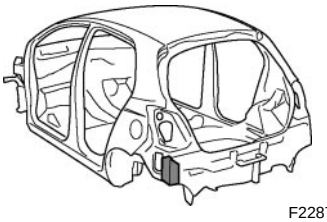
- ⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
- ⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
- ⁎ After welding, apply polyurethane foam to the corresponding parts.
- ⁎ After welding, apply body sealer and undercoating to the corresponding parts.
- ⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F24846-2

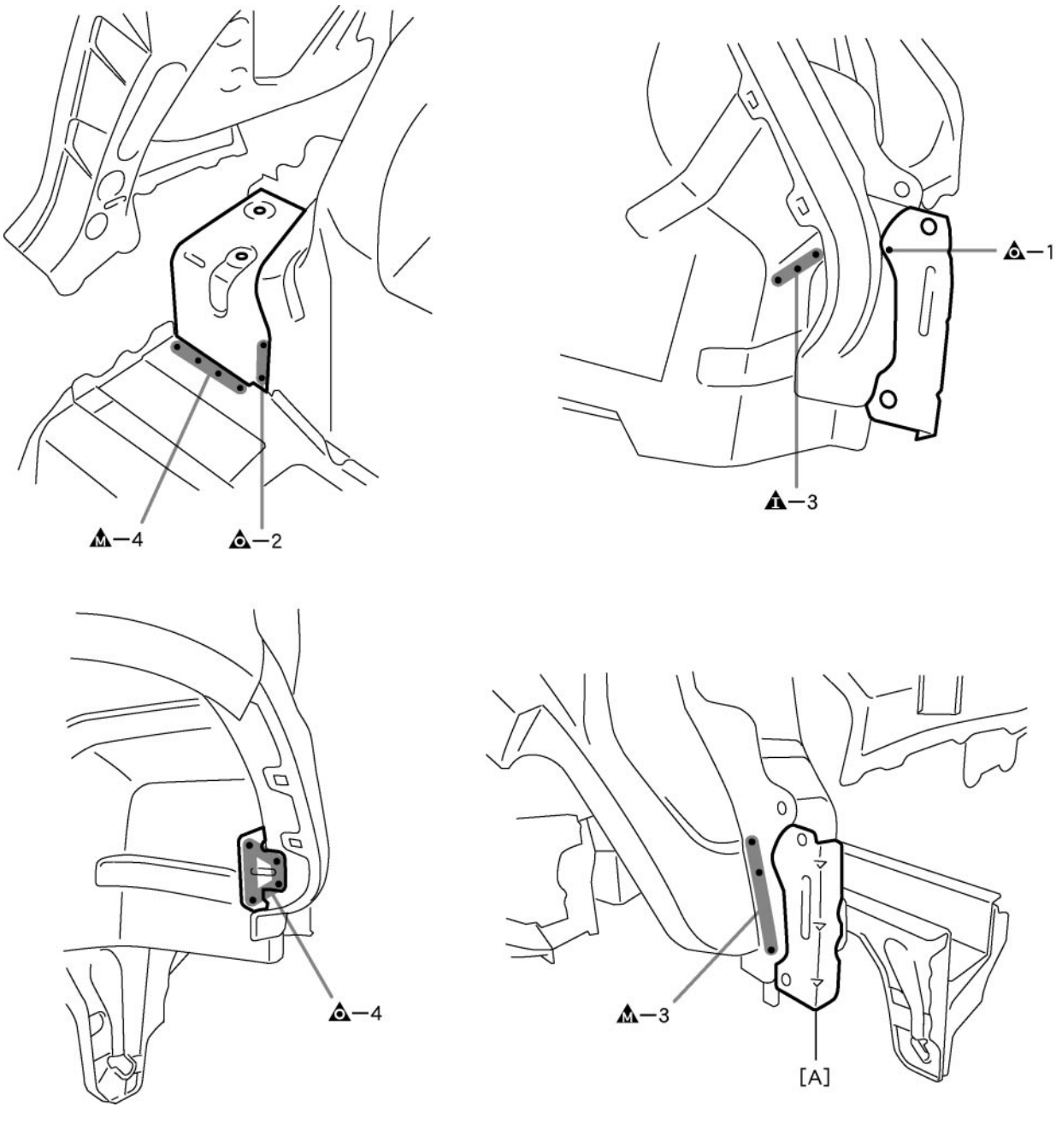
10 mm (0.39 in.)

REAR FLOOR SIDE PANEL EXTENSION (ASSY): Hatchback


F22875A

REPLACEMENT
With the quarter panel and body lower back panel removed.

REMOVAL



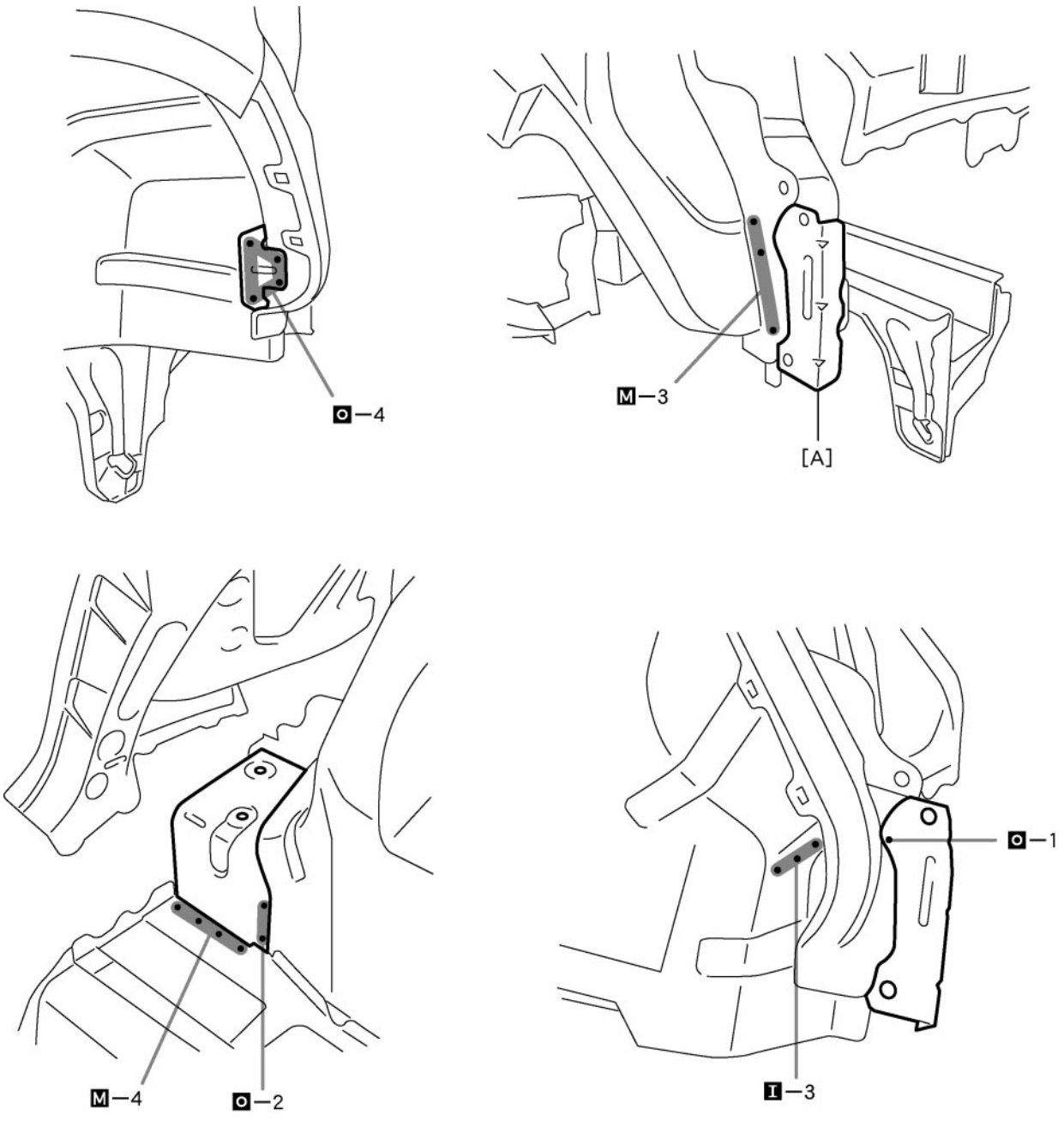
F22875

POINT
1 After removing the rear floor side panel extension, remove [A].

PART NAME
[A] Quarter Wheel Housing 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.



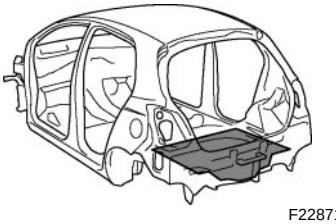
POINT

1 After installing [A], install the new parts.

PART NAME

[A] Quarter Wheel Housing Extension

REAR FLOOR PAN (ASSY): Hatchback

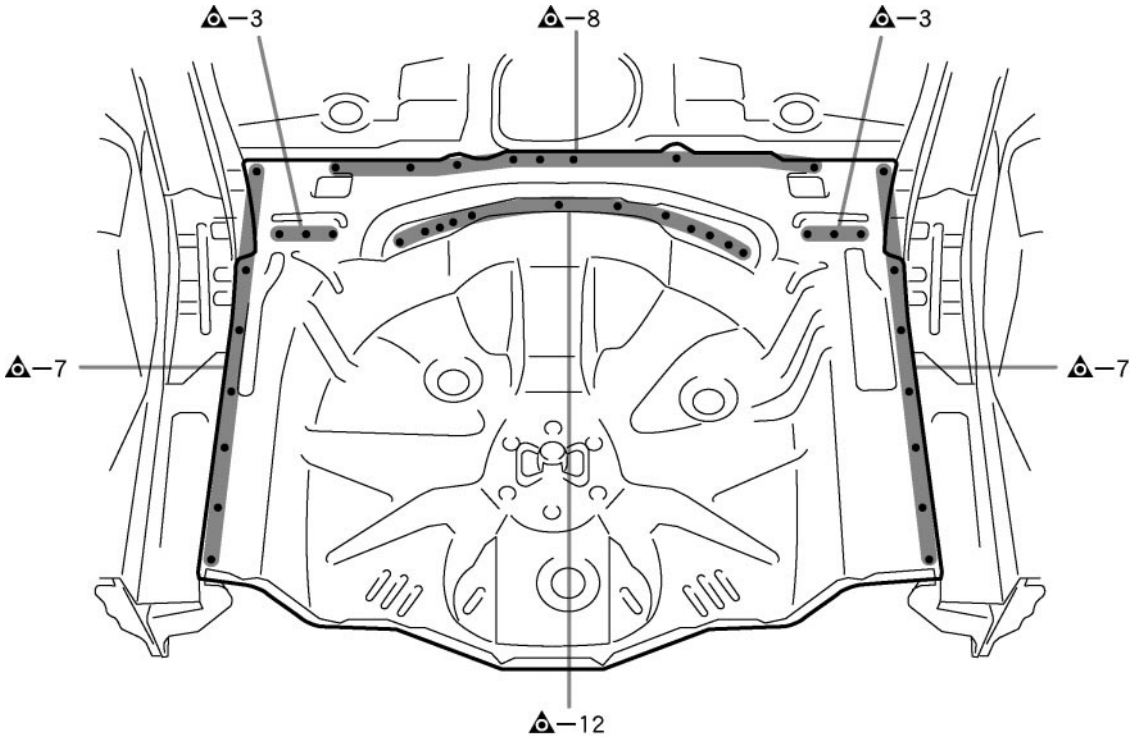

F22871A

REPLACEMENT

With the body lower back panel and floor side rail front panel removed.

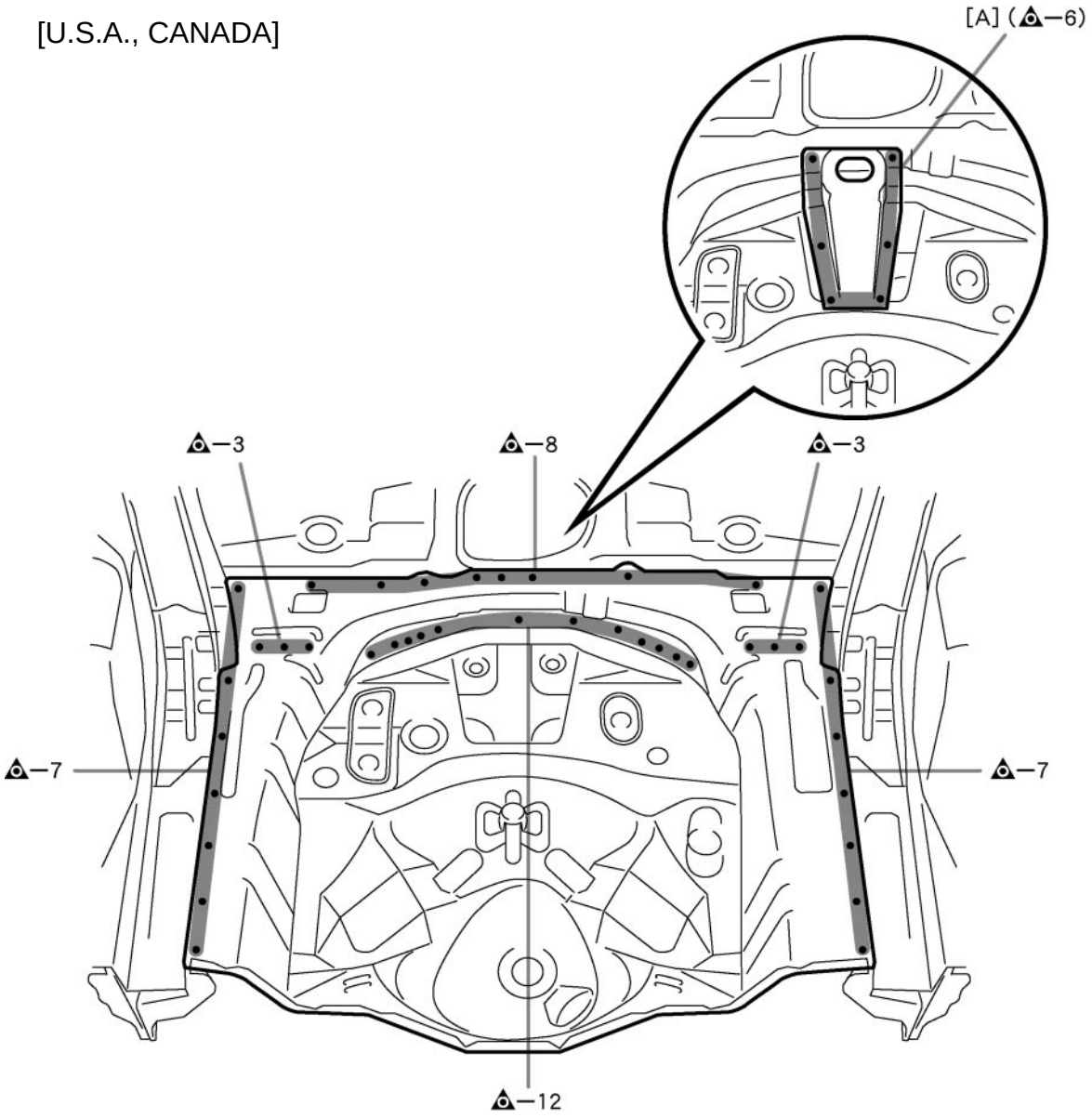
REMOVAL

[EX. U.S.A., CANADA]



F23347

[U.S.A., CANADA]



F23345

POINT

1 After removing [A], remove the rear floor pan.

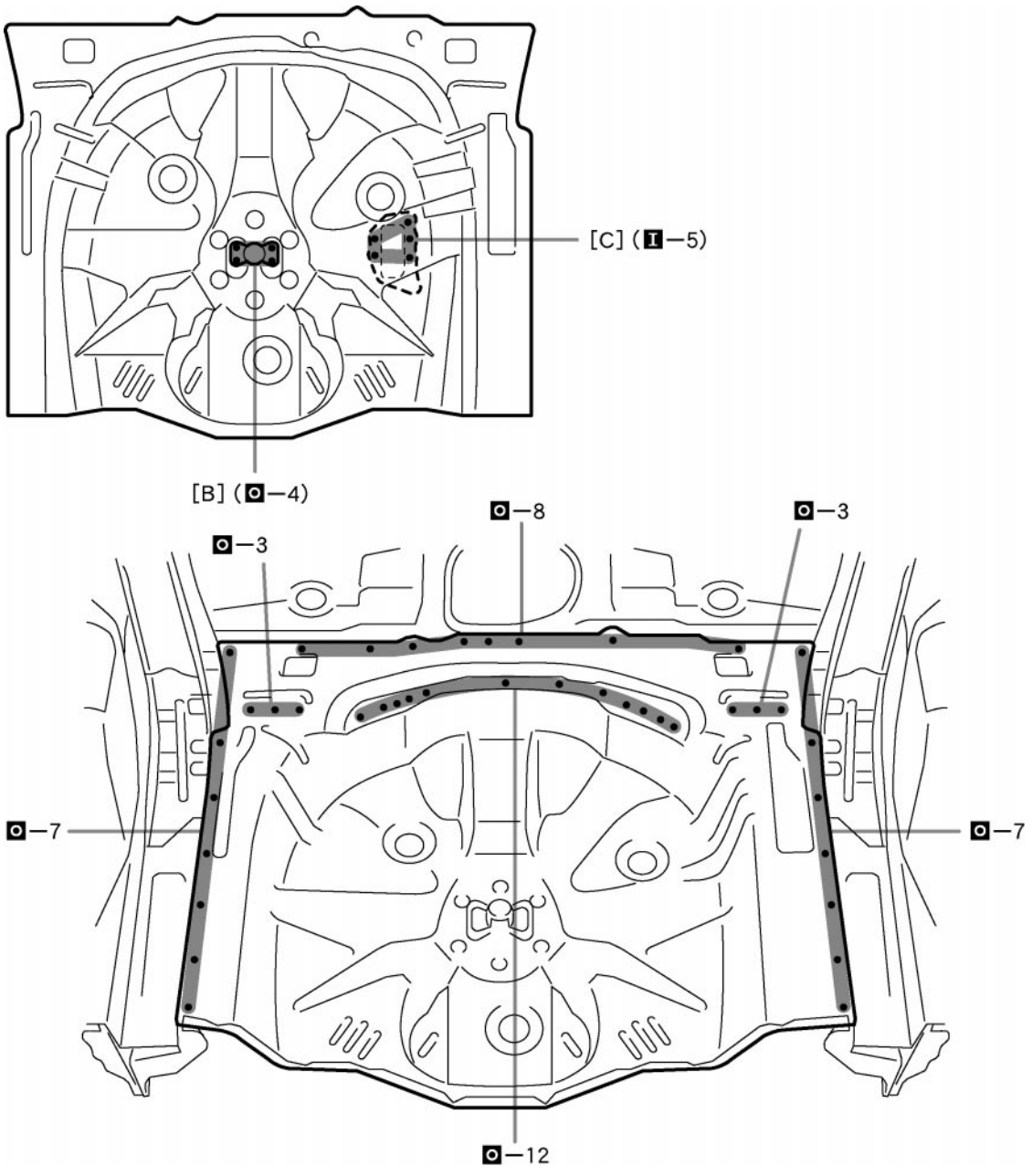
PART NAME

[A] Rear Floor Brace Braket

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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

[EX. U.S.A., CANADA]

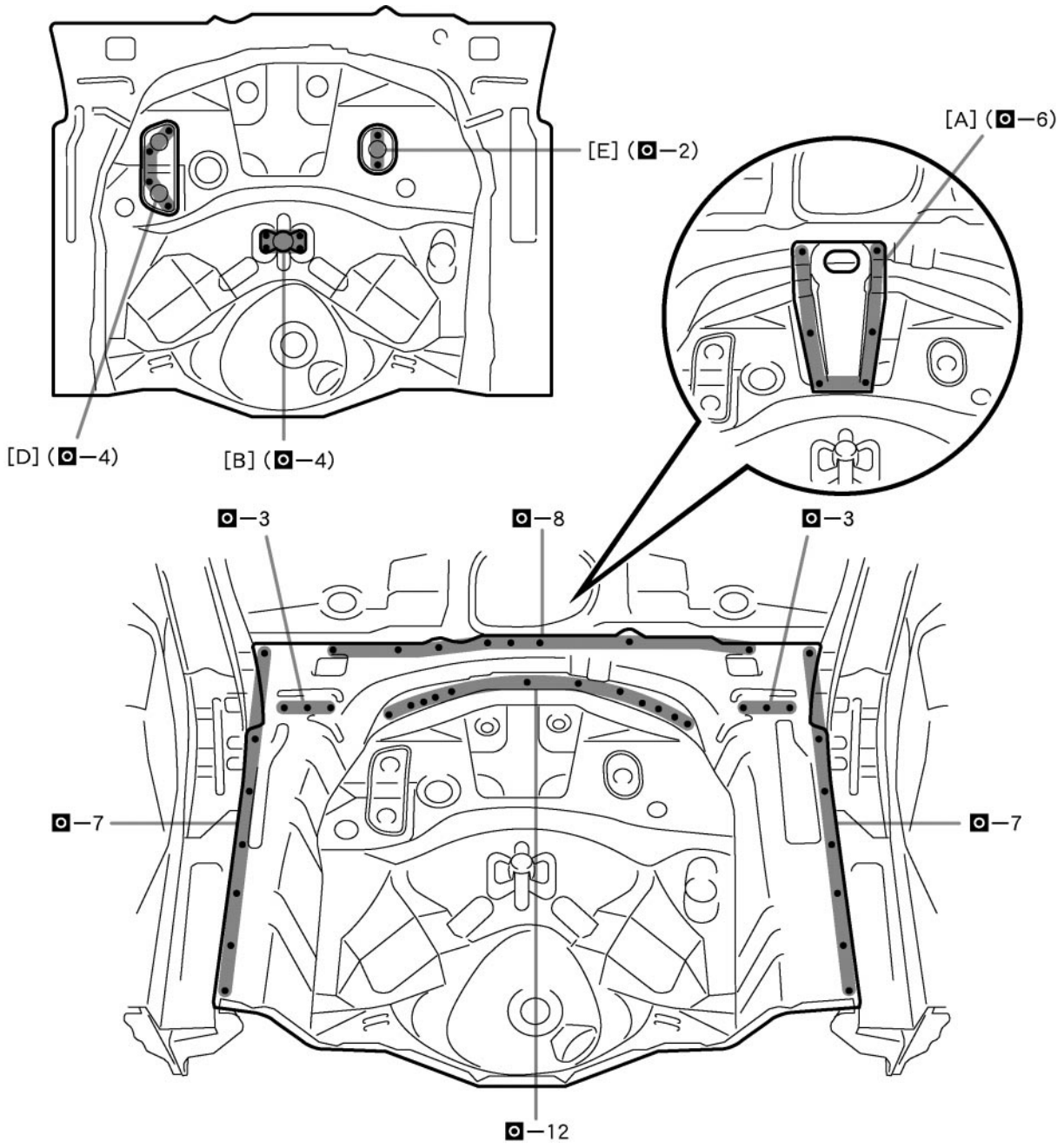


F23348

PART NAME

[B] Spare Wheel Clamp Bracket [C] Actuator Cover No.3 Bracket

[U.S.A., CANADA]



F23346

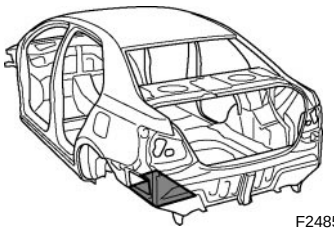
POINT

1 After installing the new parts, install [A].

PART NAME

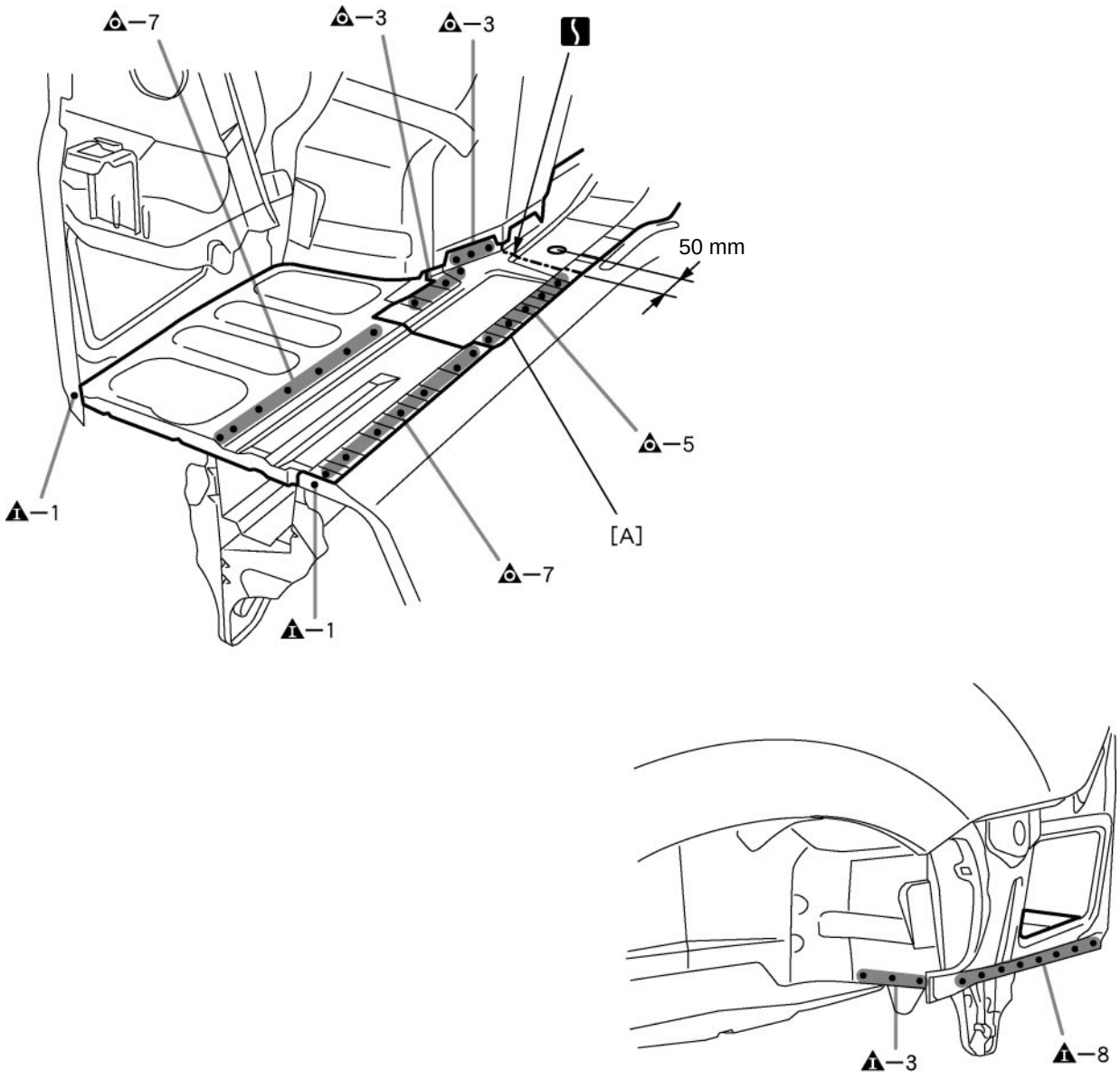
[A] Rear Floor Brace Bracket [B] Spare Wheel Clamp Bracket
[D] Fuel Tube No.2 Bracket [E] Fuel Tube Bracket

REAR FLOOR PAN EXTENSION (ASSY): Sedan


F24852A

REPLACEMENT
With the body lower back panel removed.

REMOVAL



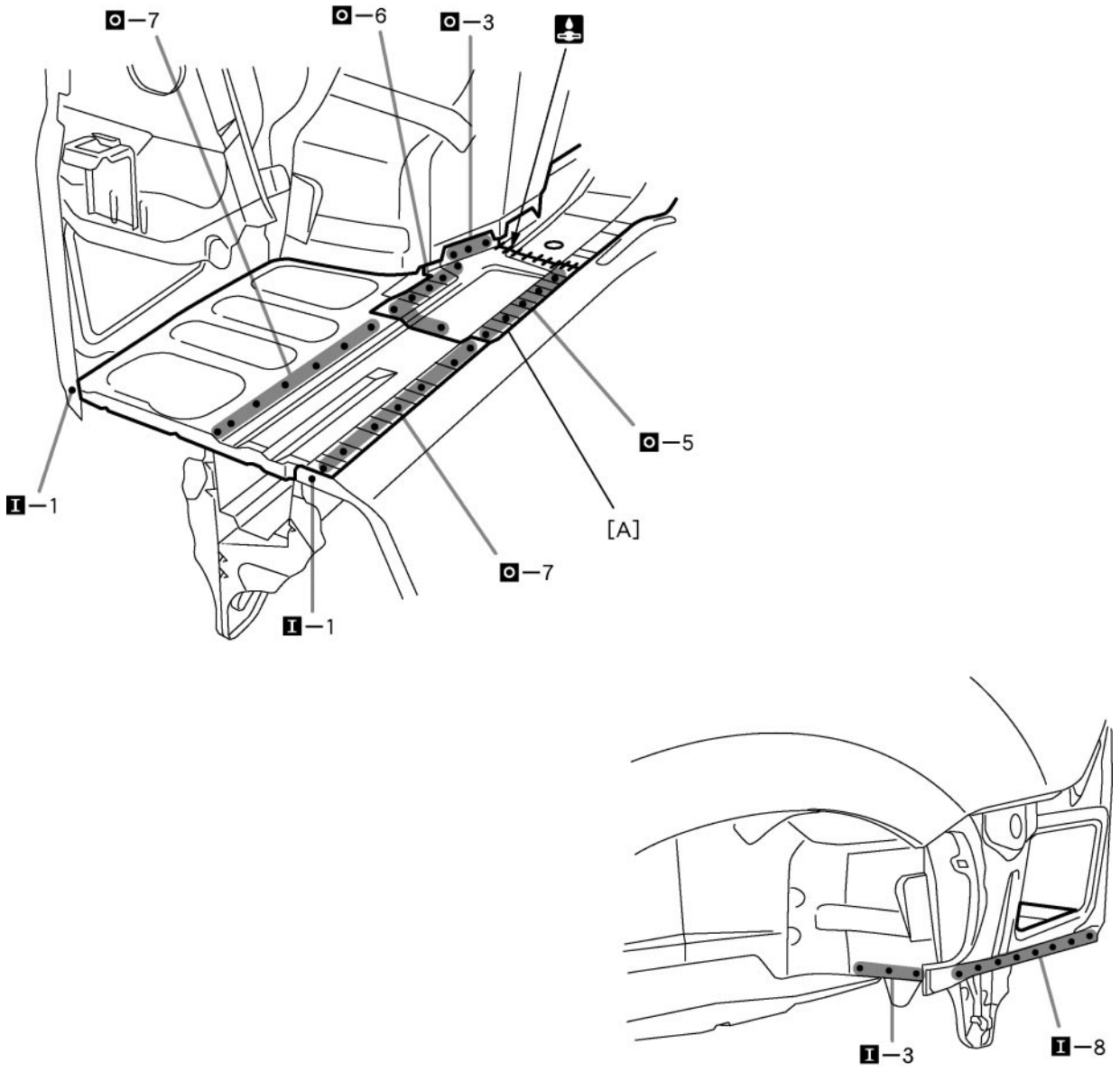
F24852-1

POINT
1 Remove [A] at the same time.

PART NAME
[A] Floor Side Rail Front Panel
50 mm (1.97 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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

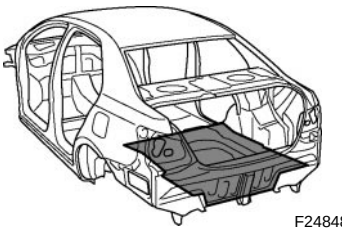


F24852-2

PART NAME

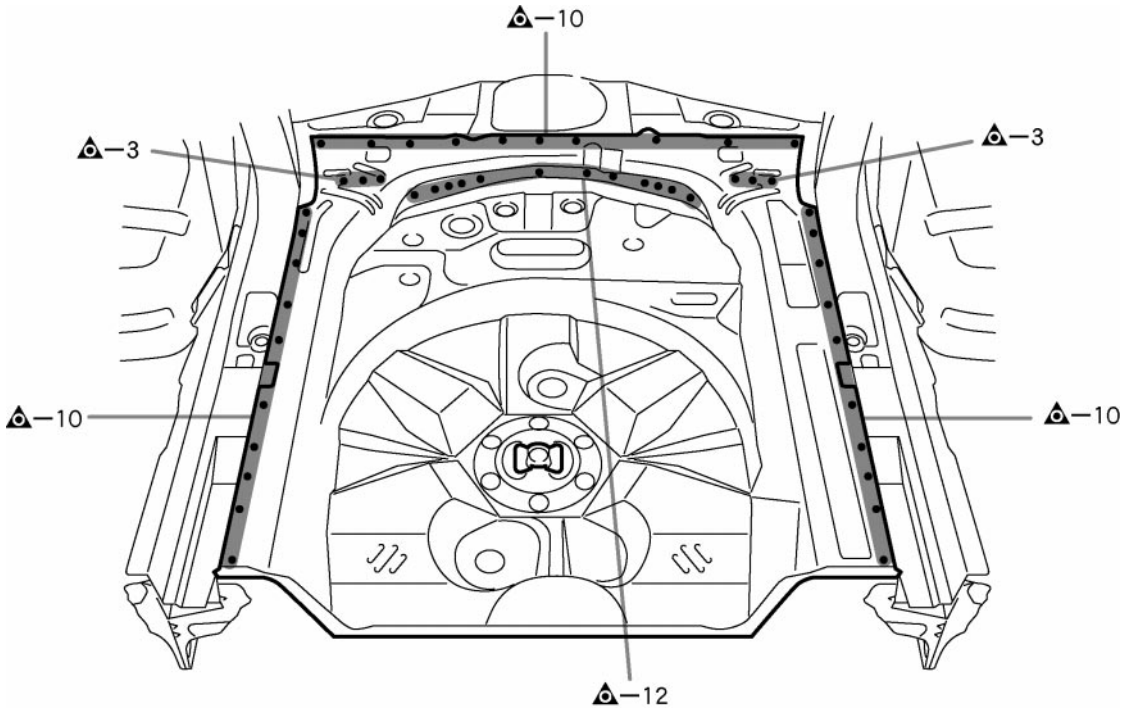
[A] Floor Side Rail Front Panel

REAR FLOOR PAN (ASSY): Sedan


F24848A

REPLACEMENT
With the floor side rail front panel removed.

REMOVAL

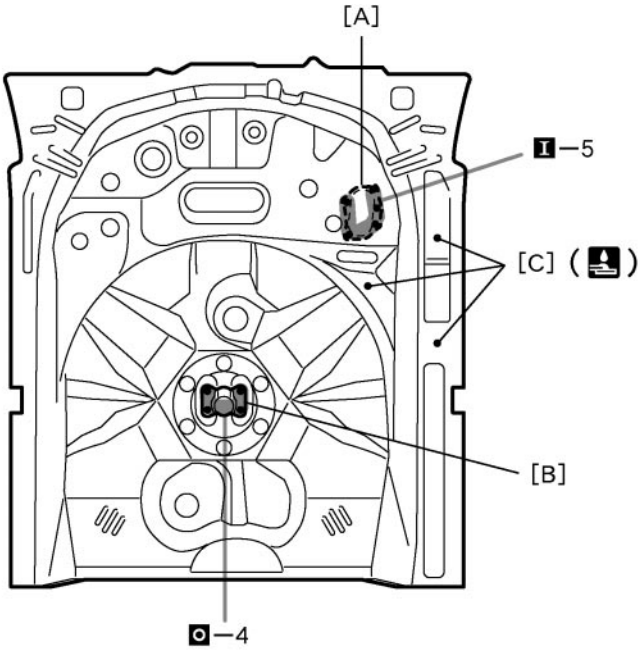


F24848

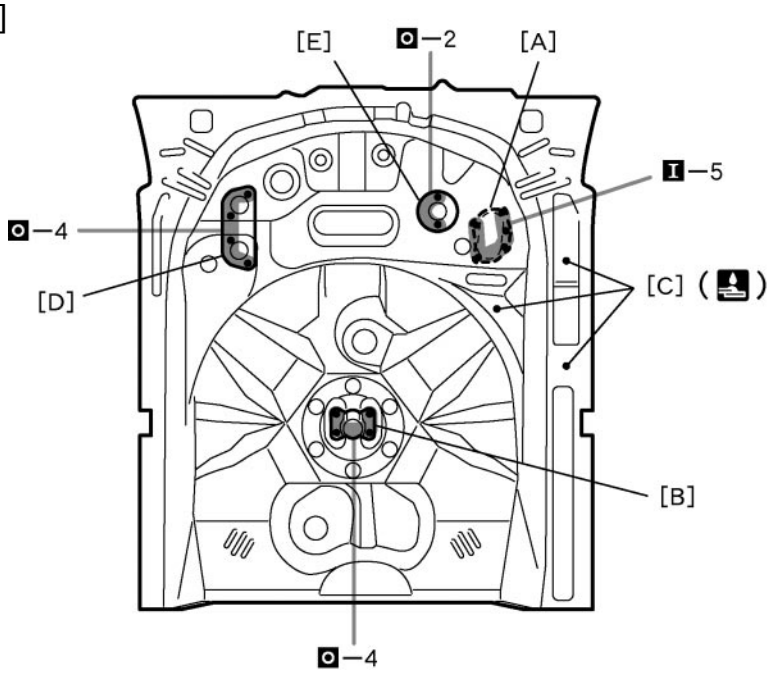
INSTALLATION

⁎ 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

[EX. U.S.A., CANADA]



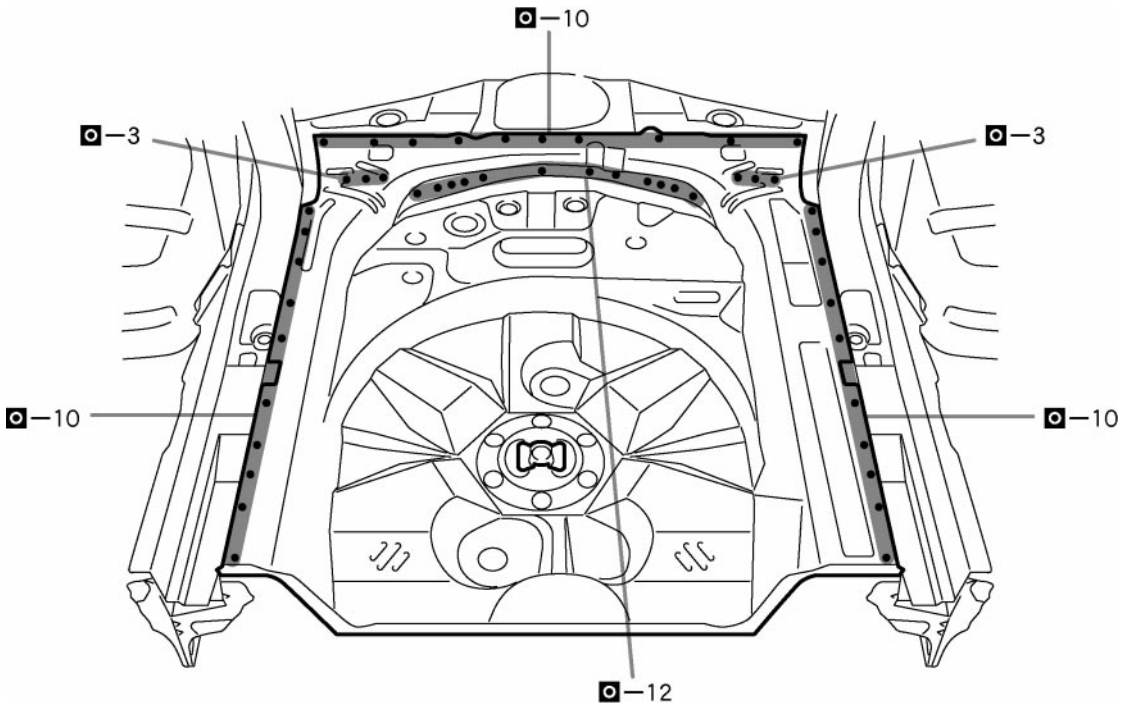
[U.S.A., CANADA]



F24849-1

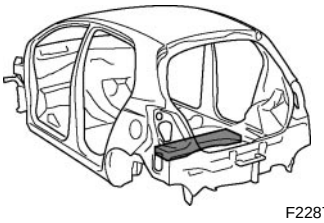
PART NAME

[A] Actuator Cover No.3 Bracket
[B] Spare Wheel Clamp Bracket
[C] Weld Bolt
[D] Fuel Tube Bracket
[E] Fuel Tube No.2 Bracket



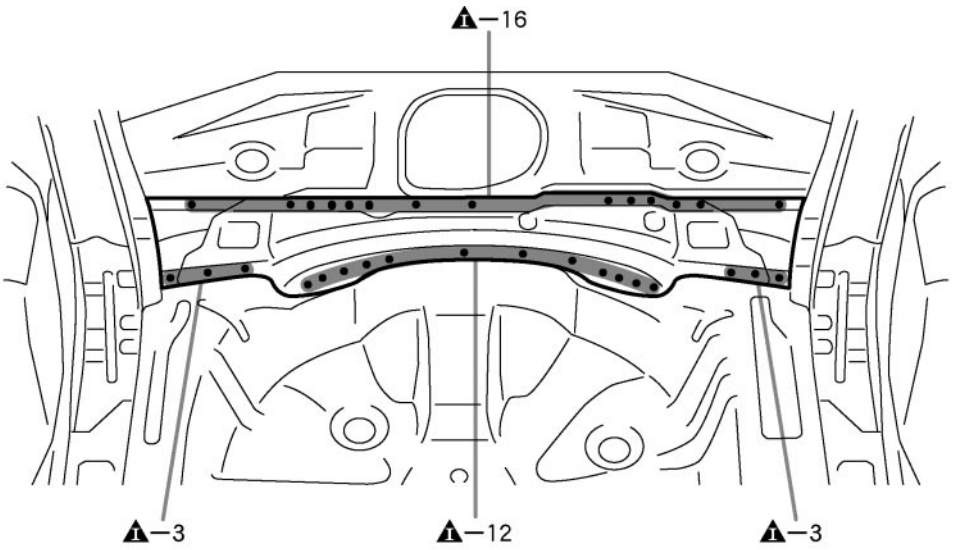
F24849-2

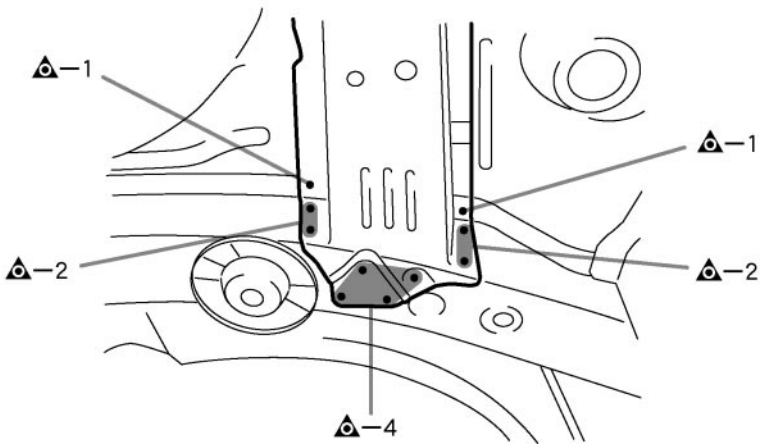
REAR FLOOR CROSSMEMBER NO.2 (ASSY): Hatchback


F22877A

REPLACEMENT

REMOVAL

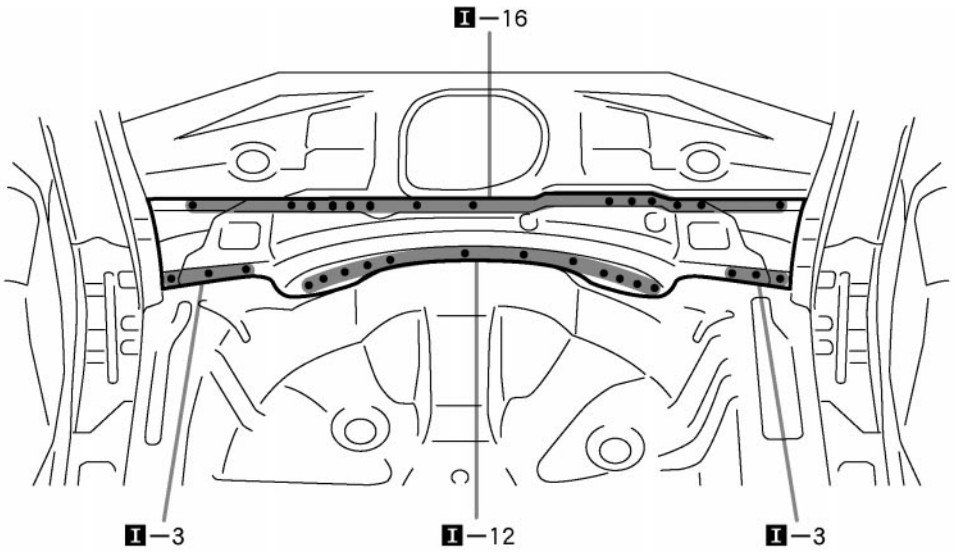


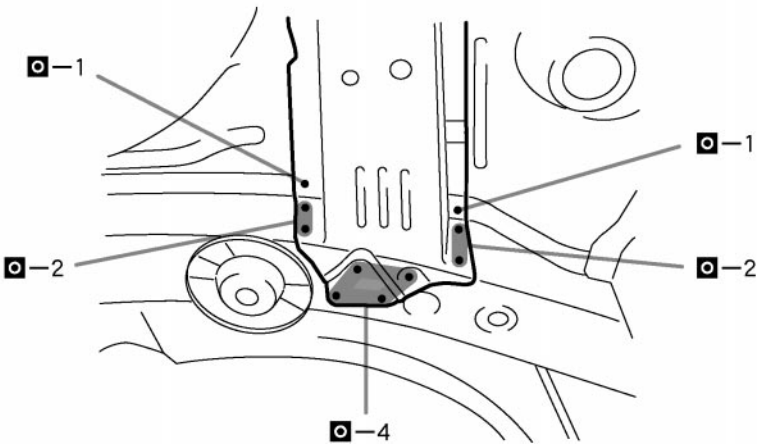


F22877

INSTALLATION

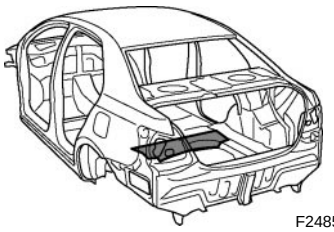
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply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





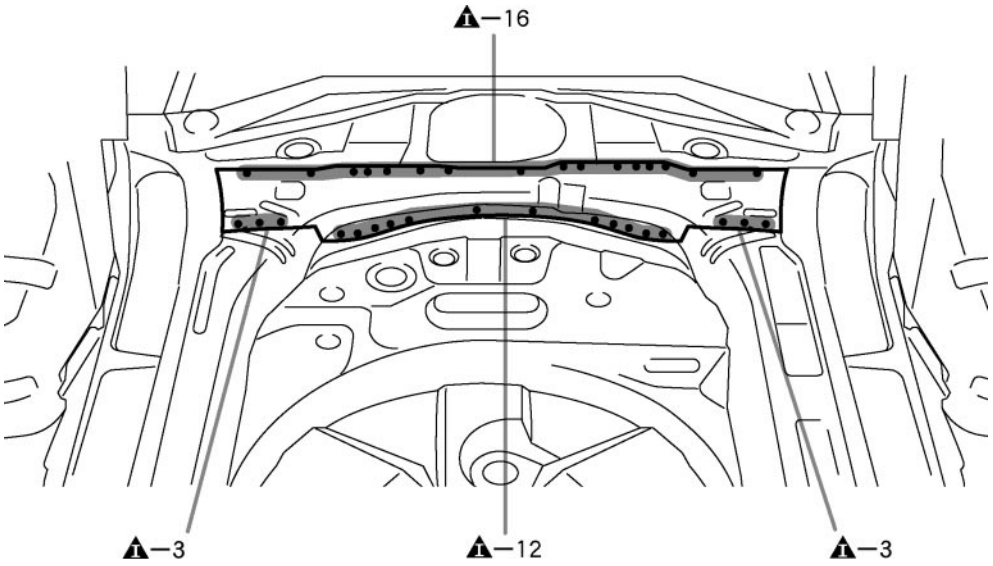
F22878

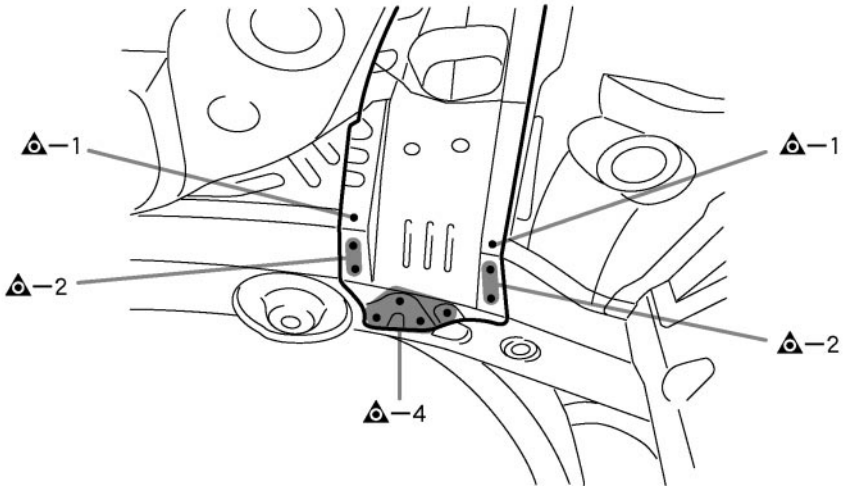
REAR FLOOR CROSSMEMBER NO.2 (ASSY): Sedan


F24853A

REPLACEMENT

REMOVAL

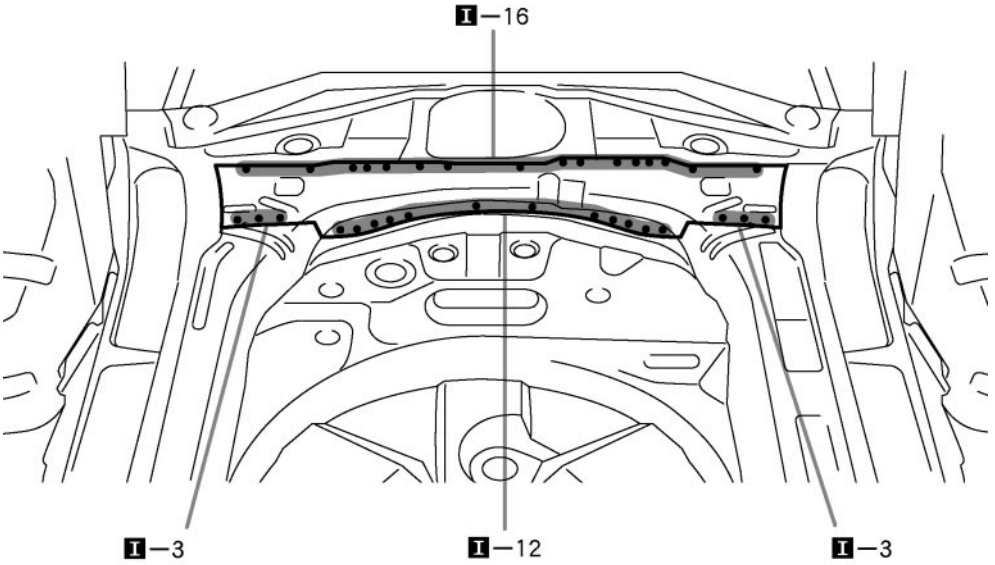


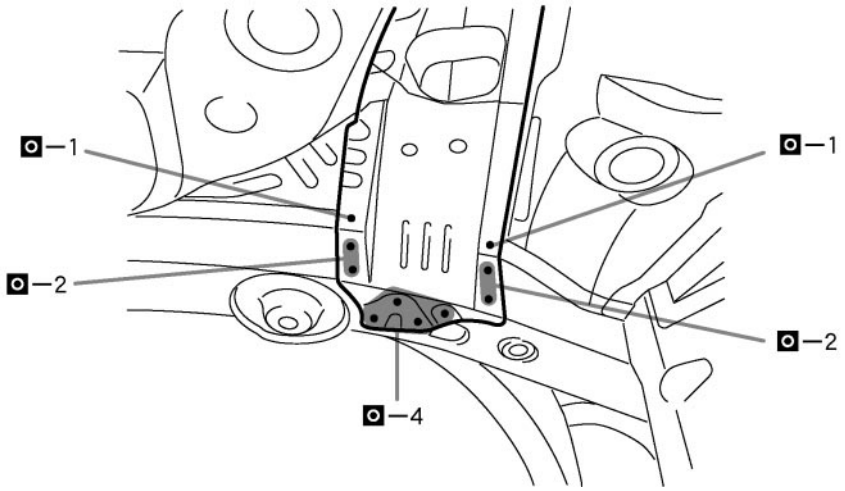


F24853-1

INSTALLATION

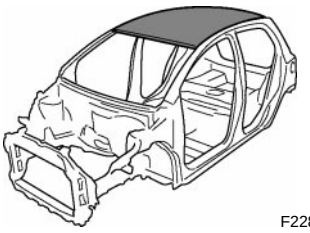
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.





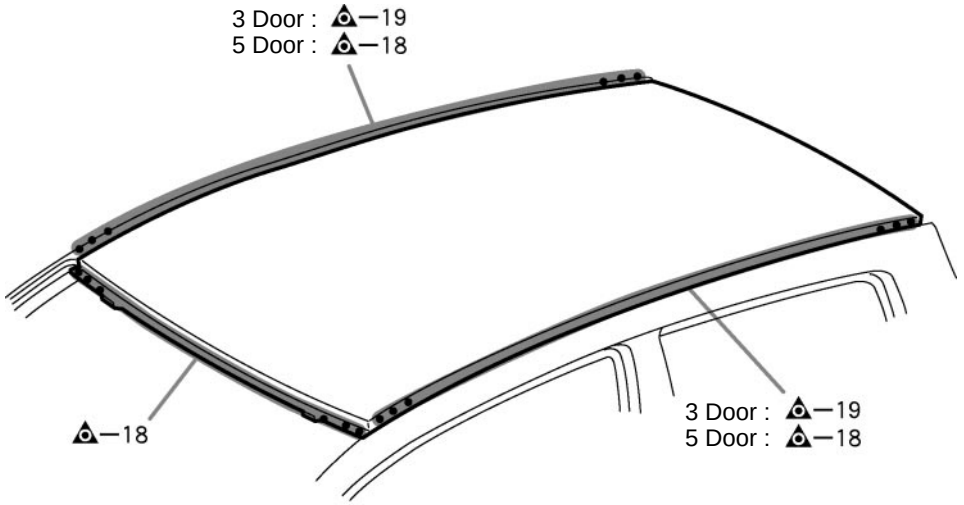
F24853-2

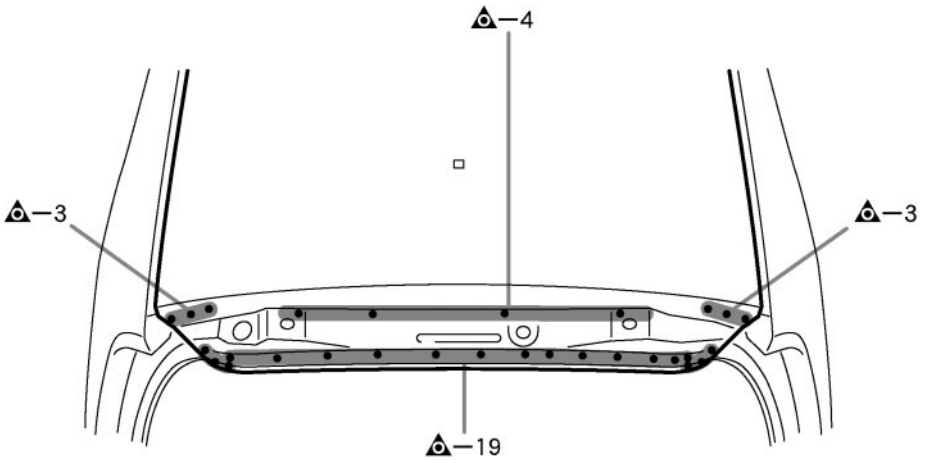
ROOF PANEL (ASSY): Hatchback


F22885A

REPLACEMENT

REMOVAL

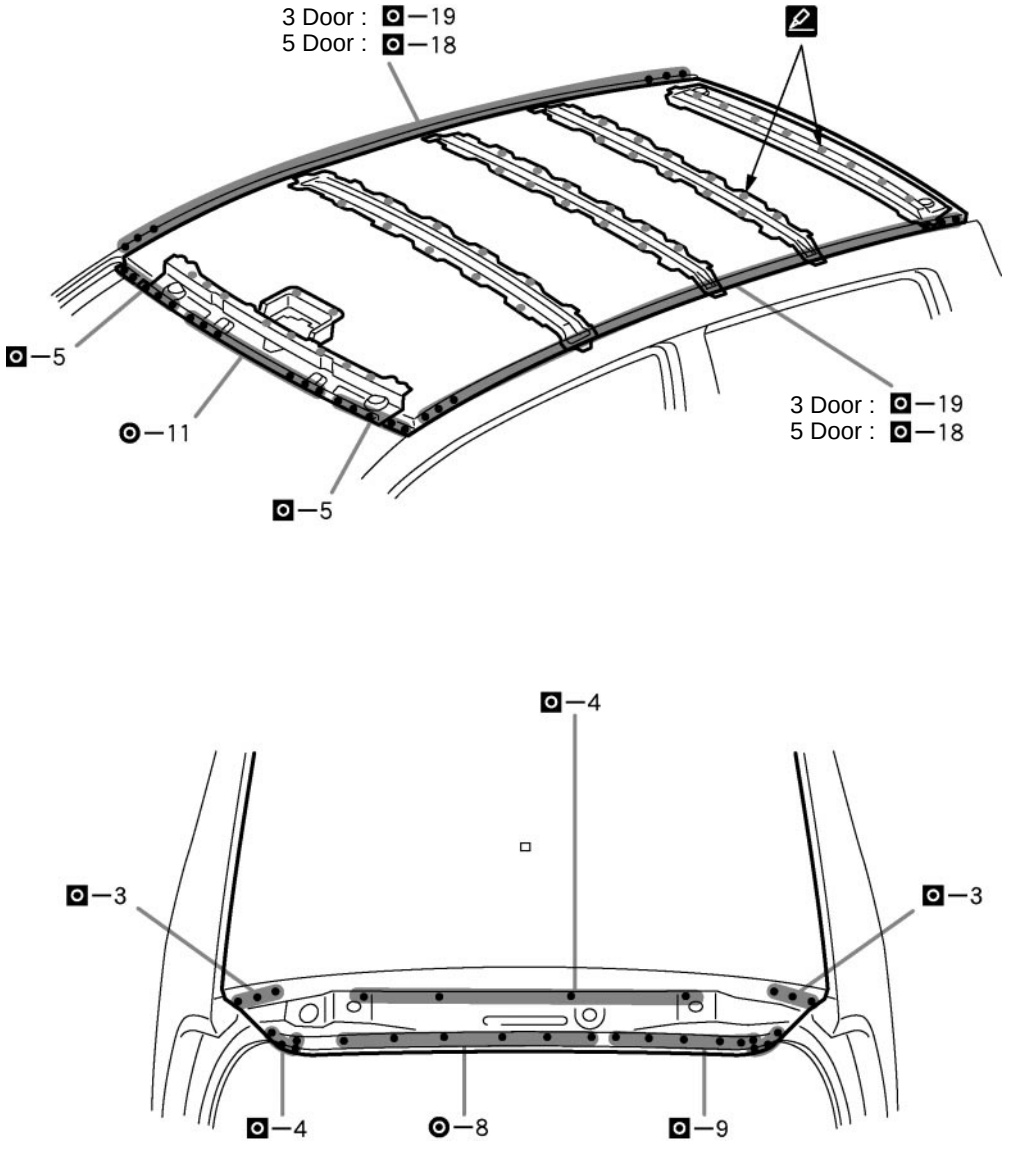




F23331

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

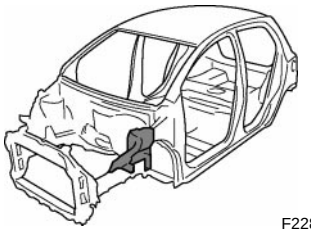


F23332

POINT

1 Before temporarily installing the new parts, apply body sealer to the window shield header panel, roof panel reinforcement and back window upper frame.
HINT:
1) Apply just enough sealer for the new parts to make contact.

FRONT FENDER APRON (ASSY)

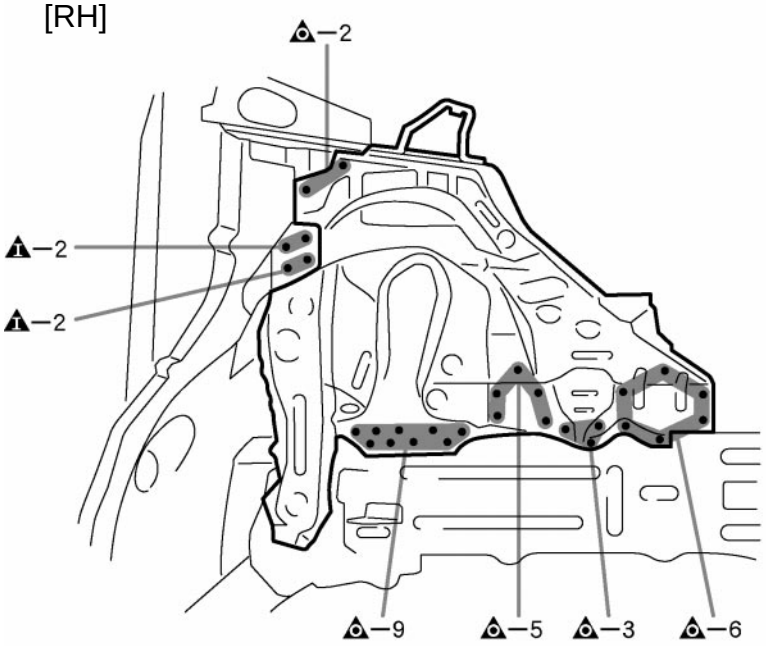

F22821A

REPLACEMENT

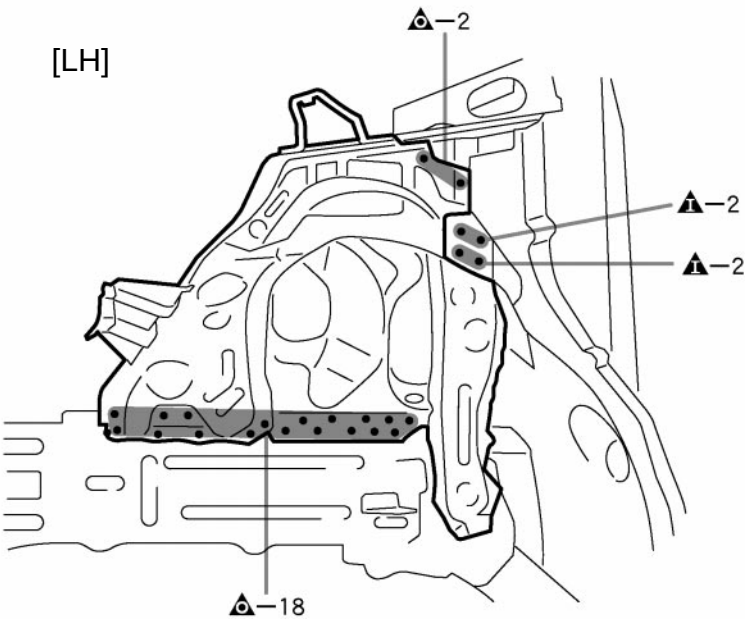
With the cowl top side panel removed.

REMOVAL

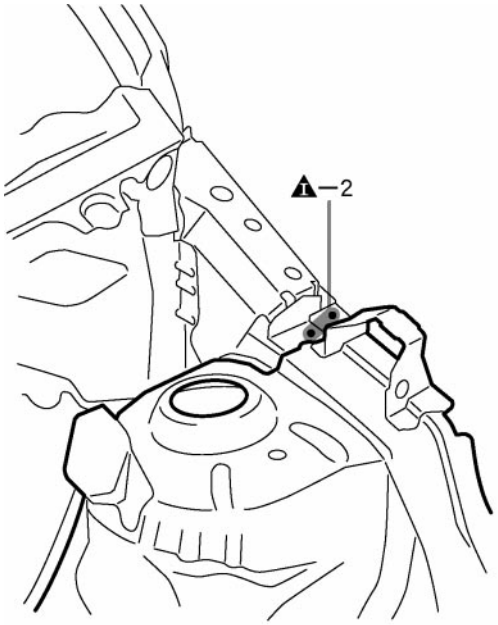
[RH]

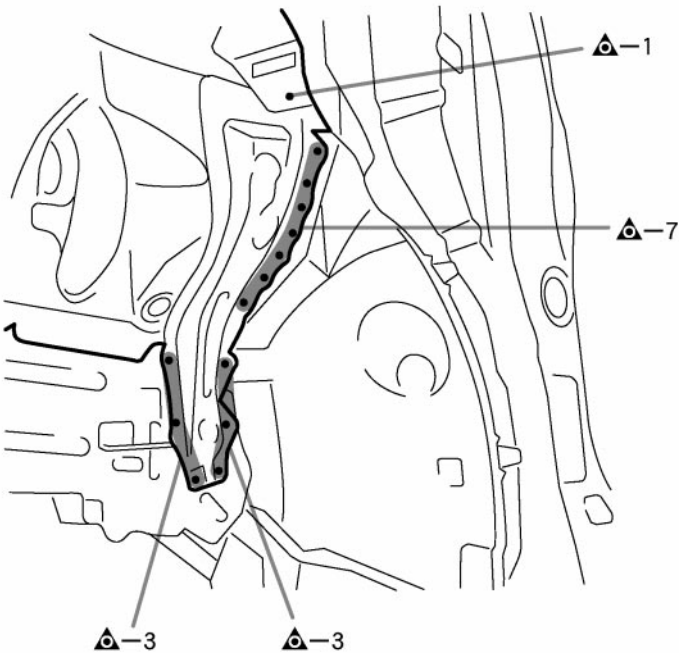


[LH]



F22821

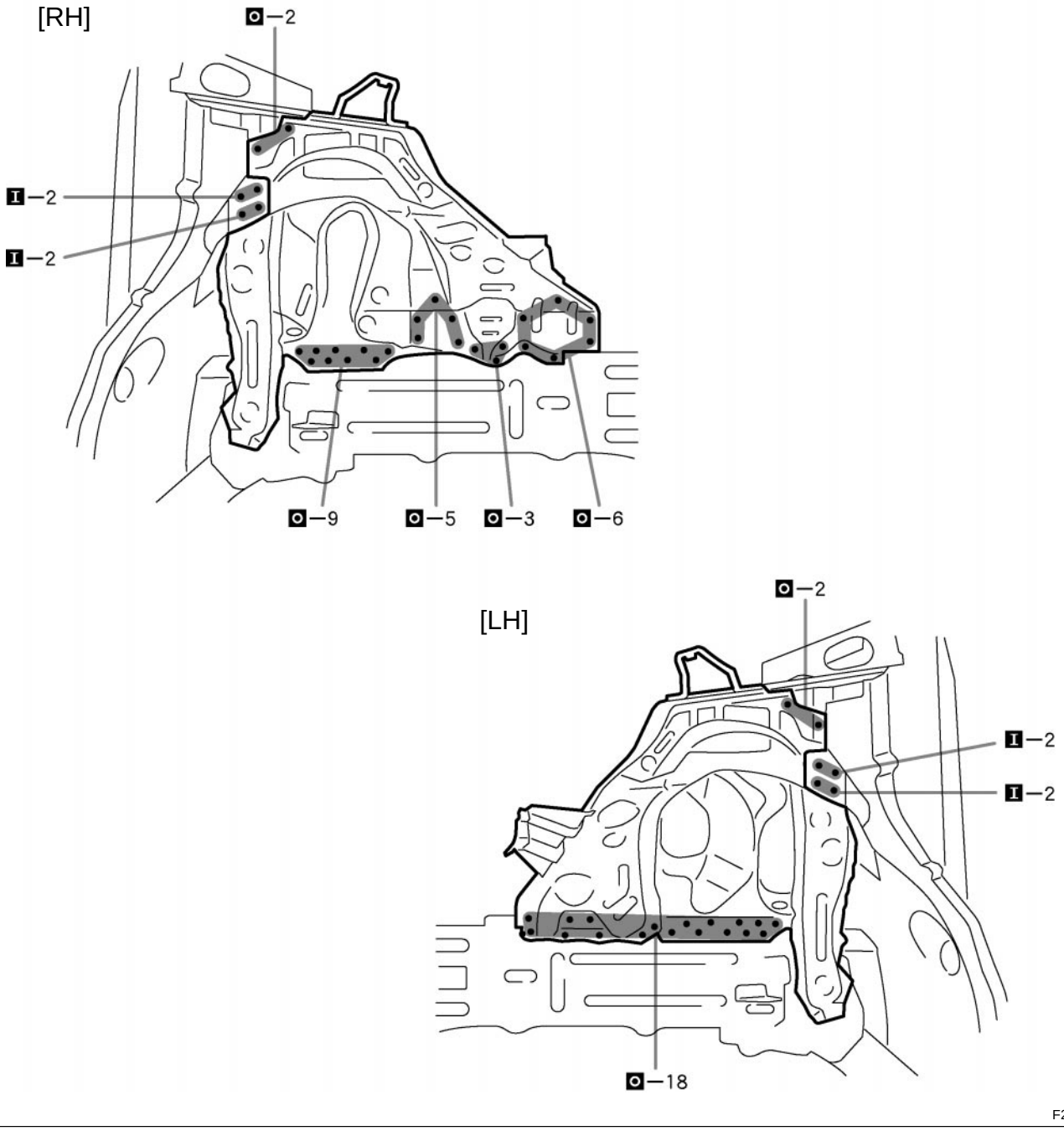




F22822

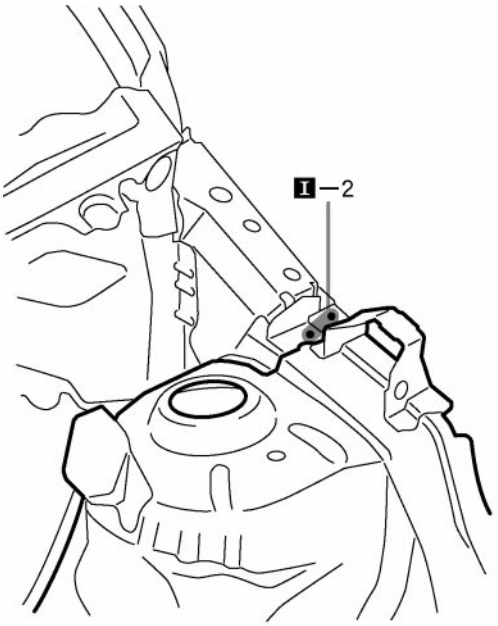
INSTALLATION

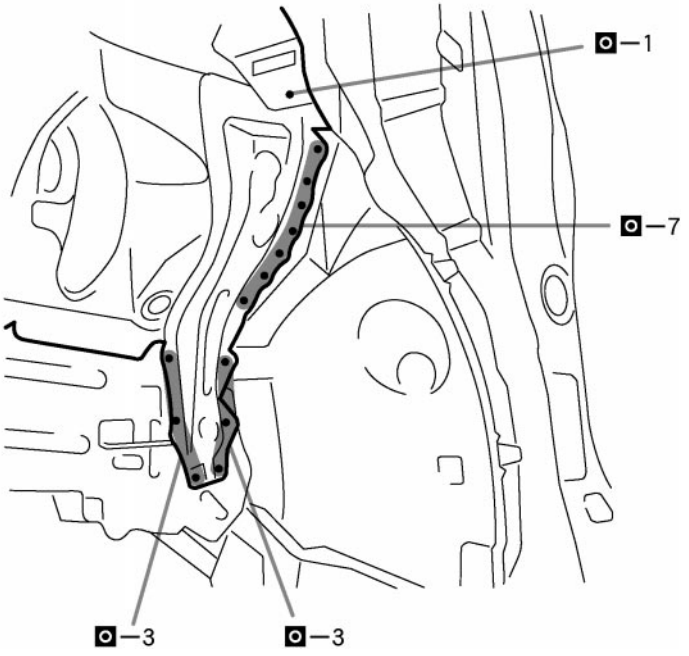
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply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

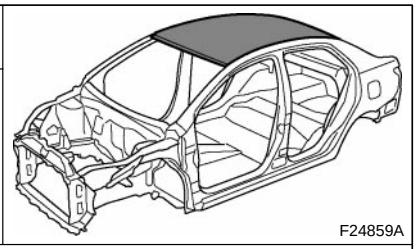
1 Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.
2 Inspect the fitting of the front fender, hood and other related parts before welding as this affects the appearance of the finish.





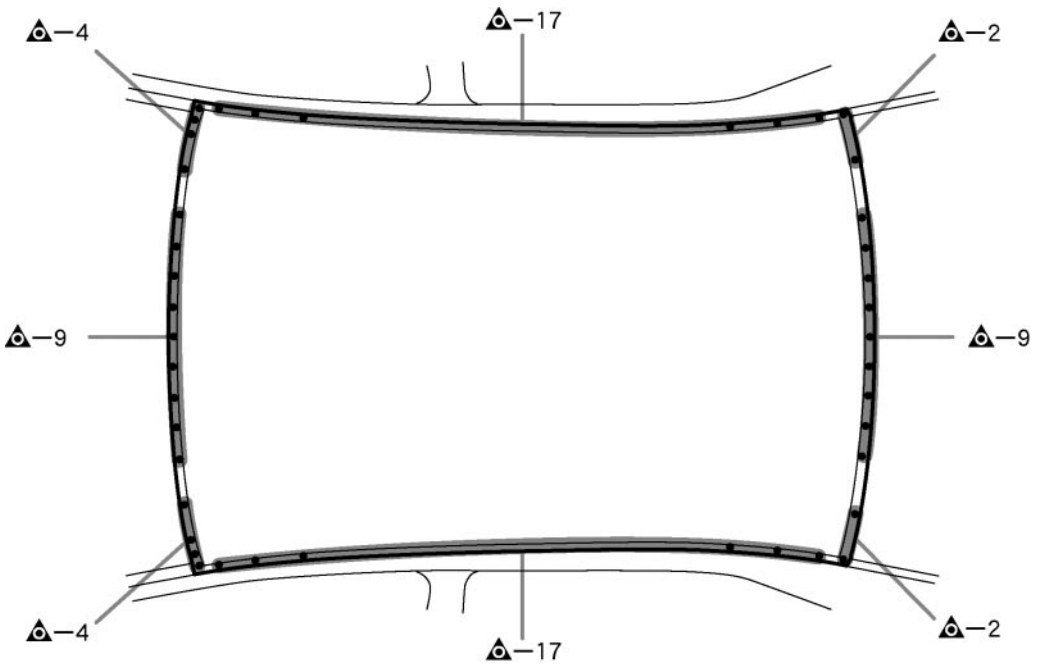
F22824

ROOF PANEL (ASSY): Sedan


F24859A

REPLACEMENT

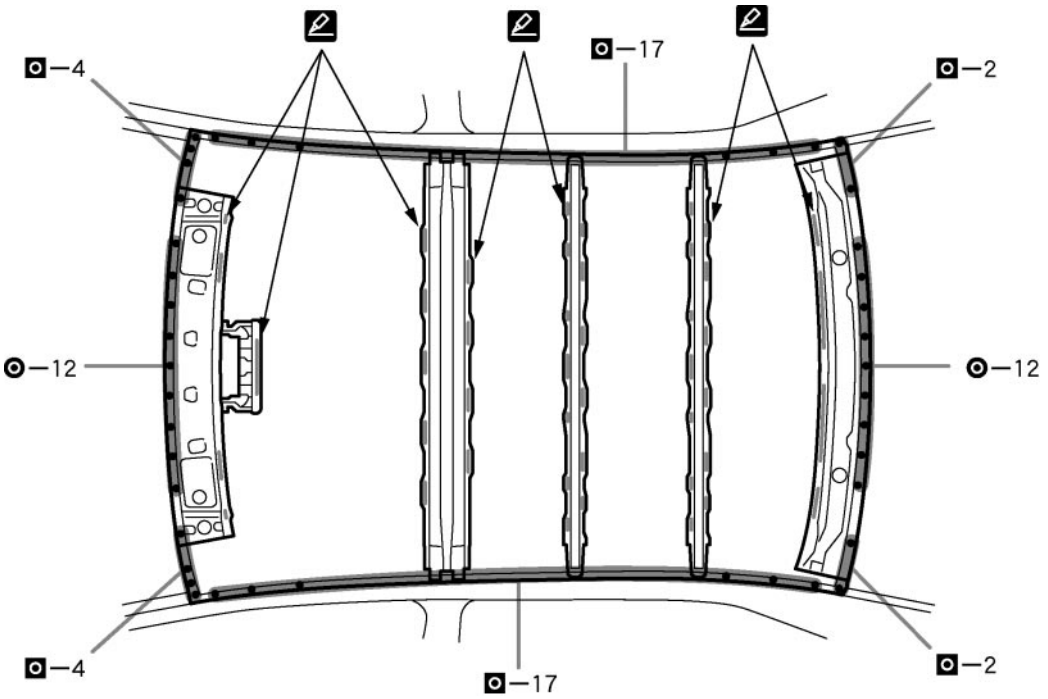
REMOVAL



F24859-1

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 polyurethane foam to the corresponding parts.
- ⁎ After welding, apply body sealer and undercoating to the corresponding parts.
- ⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

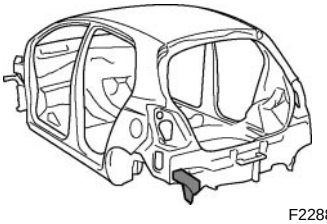


F248860-1

POINT

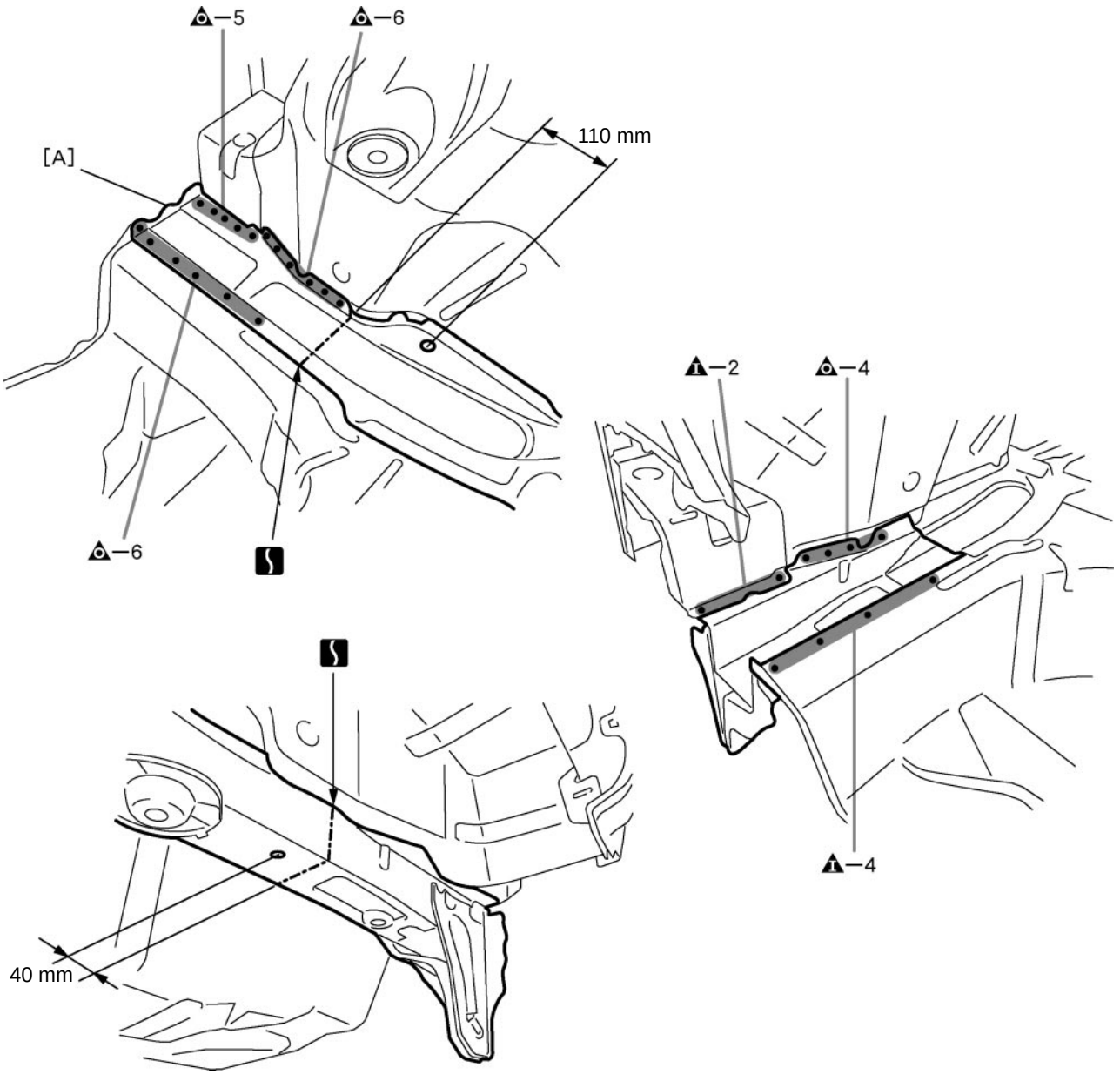
1 Before temporarily installing the new parts, apply body sealer to the window shield header panel, roof panel reinforcement and back window upper frame.
HINT:
1) Apply just enough sealer for the new parts to make contact.

REAR FLOOR SIDEMEMBER (CUT): Hatchback


F22881A

REPLACEMENT
With the body lower back panel removed.

REMOVAL



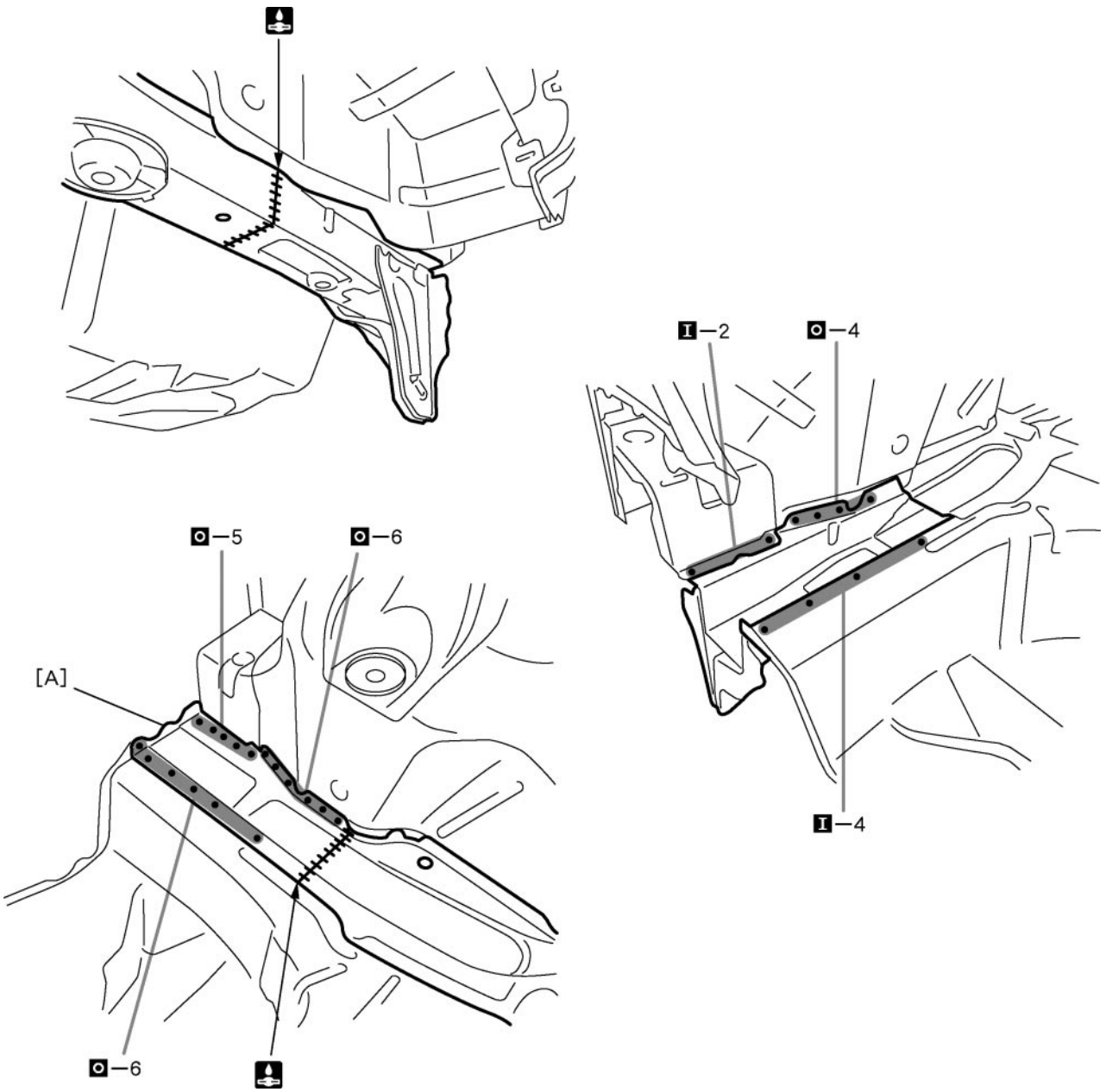
F23329

POINT
1 After removing [A], remove the rear floor sidemember.

PART NAME
[A] Floor Side Rail Front Panel
40 mm (1.57 in.) 110 mm (4.33 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.



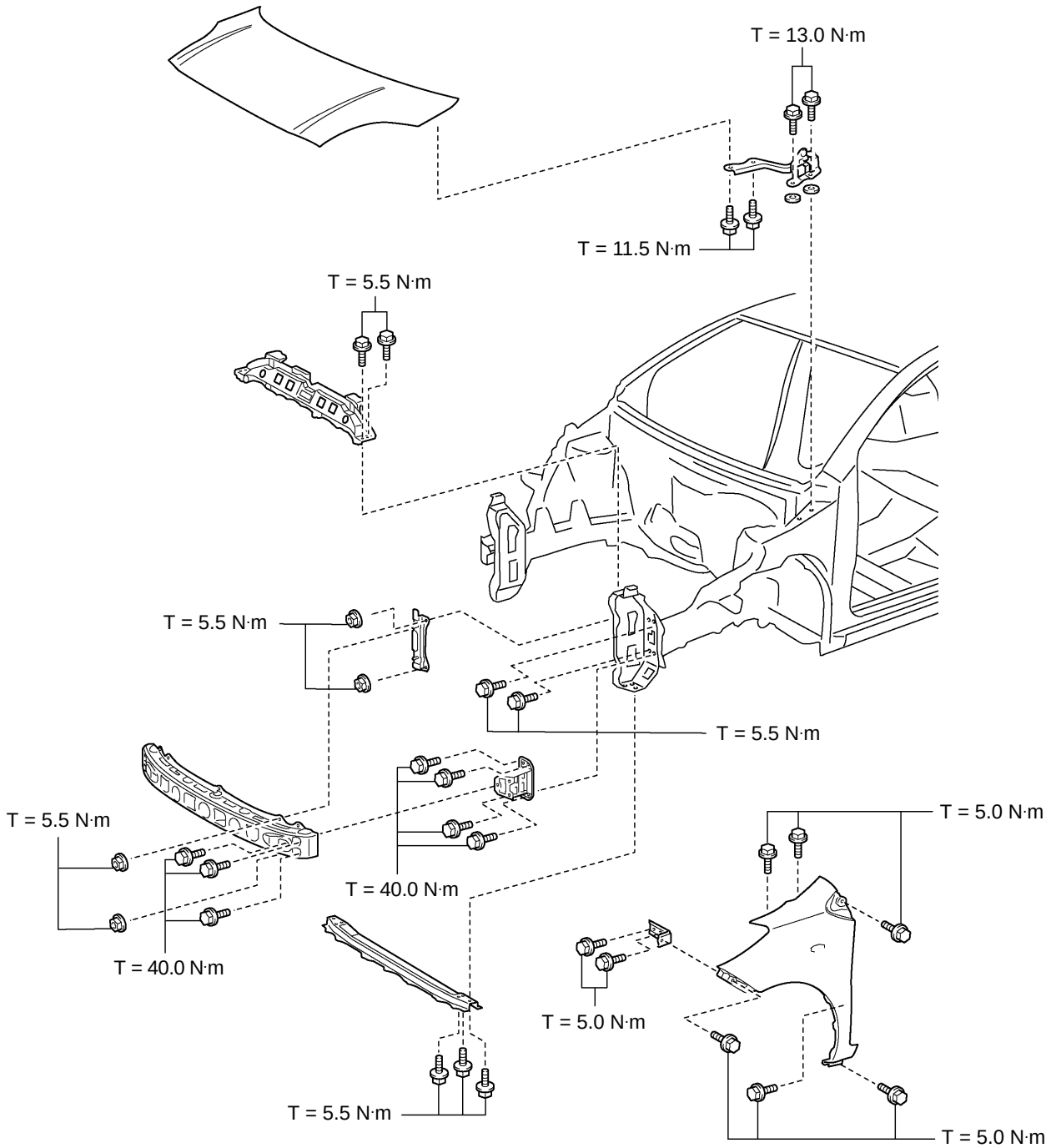
F23330

PART NAME

[A] Floor Side Rail Front Panel

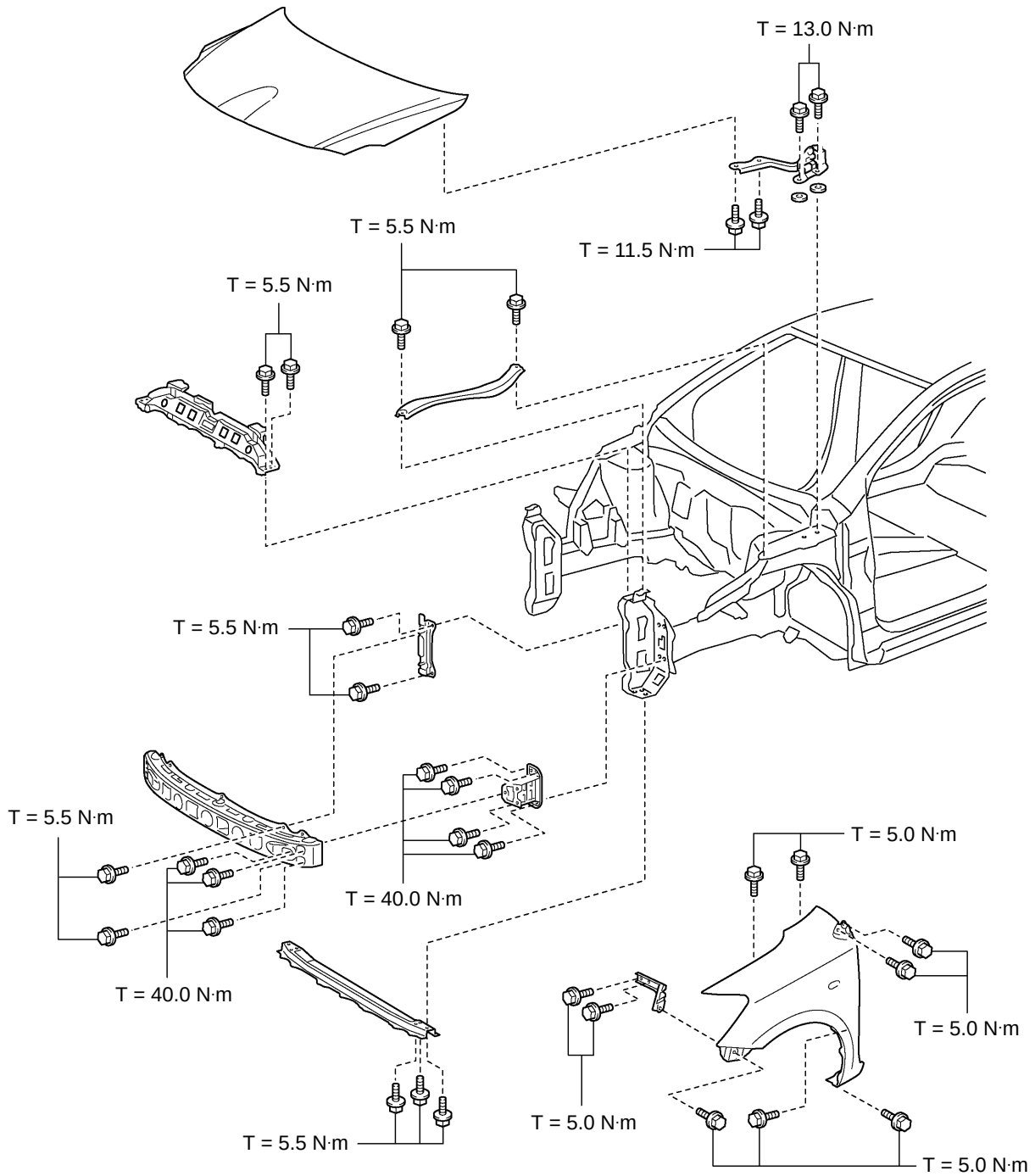
OUTER PANEL INSTALLATION TORQUE

[Hatchback]



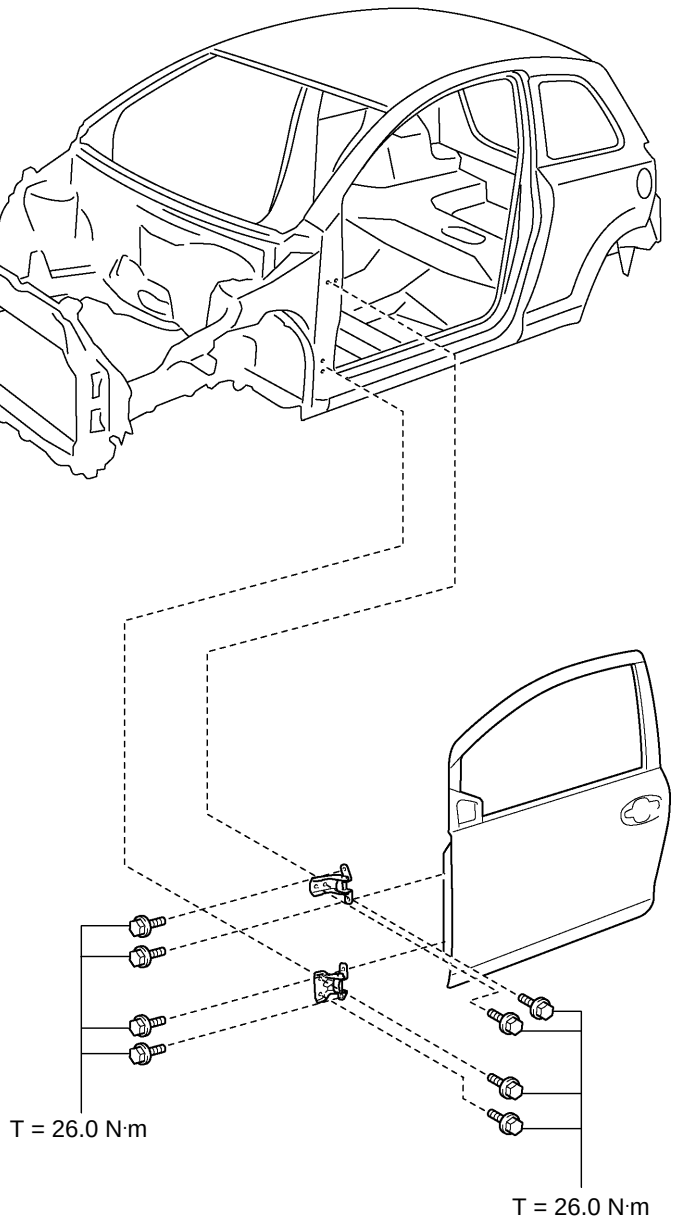
5.0 N·m (51 kgf·cm, 44 in.·lbf)	5.5 N·m (56 kgf·cm, 49 in.·lbf)	11.5 N·m (117 kgf·cm, 8 ft.·lbf)
13.0 N·m (133 kgf·cm, 10 ft.·lbf)	40.0 N·m (408 kgf·cm, 30 ft.·lbf)	—

[Sedan]



5.0 N·m (51 kgf·cm, 44 in.·lbf)	5.5 N·m (56 kgf·cm, 49 in.·lbf)	11.5 N·m (117 kgf·cm, 8 ft.·lbf)
13.0 N·m (133 kgf·cm, 10 ft.·lbf)	40.0 N·m (408 kgf·cm, 30 ft.·lbf)	—

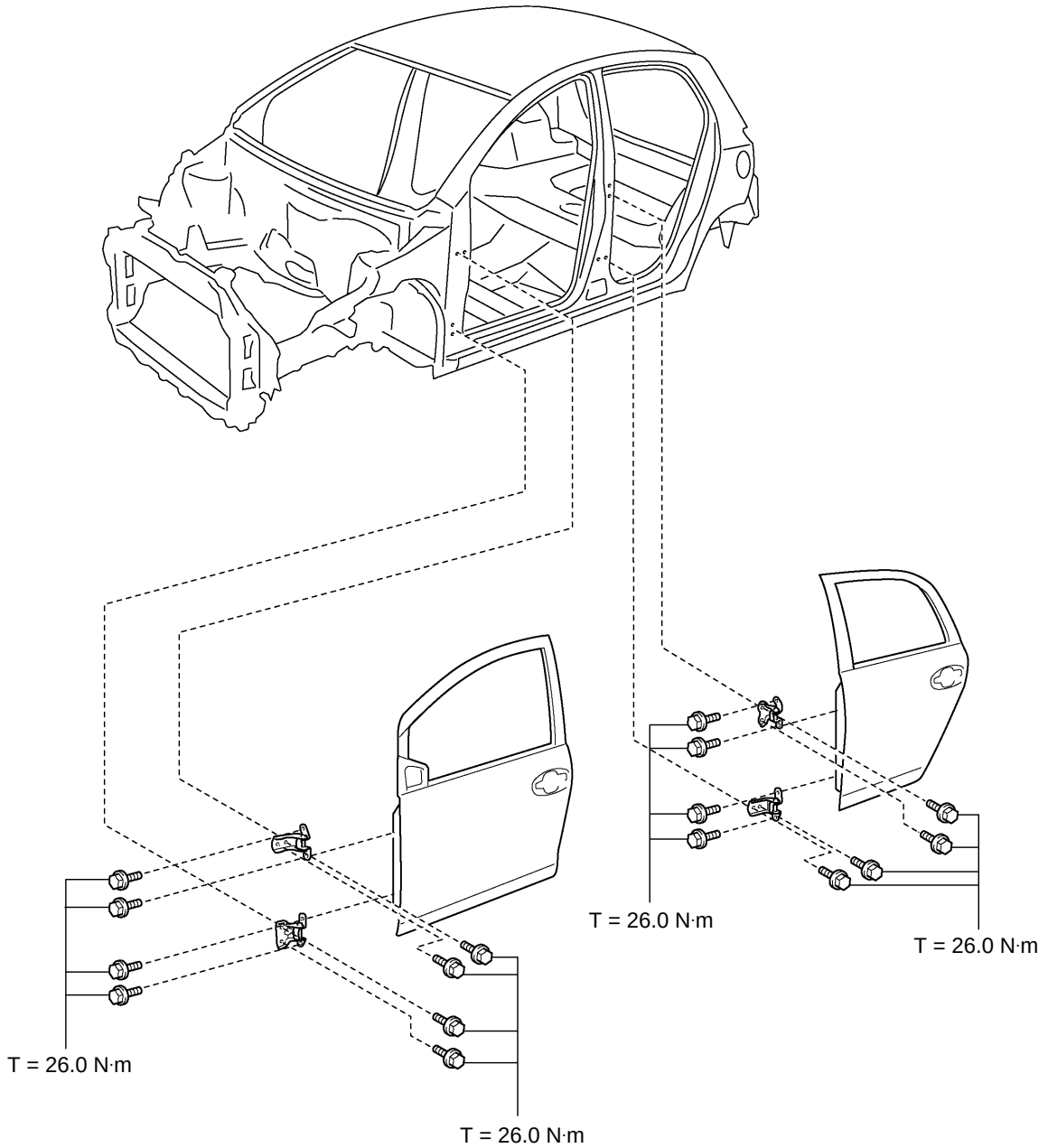
[Hatchback 3 Door]



F23333

26.0 N·m (265 kgf·cm, 19 ft.·lbf)	—	—

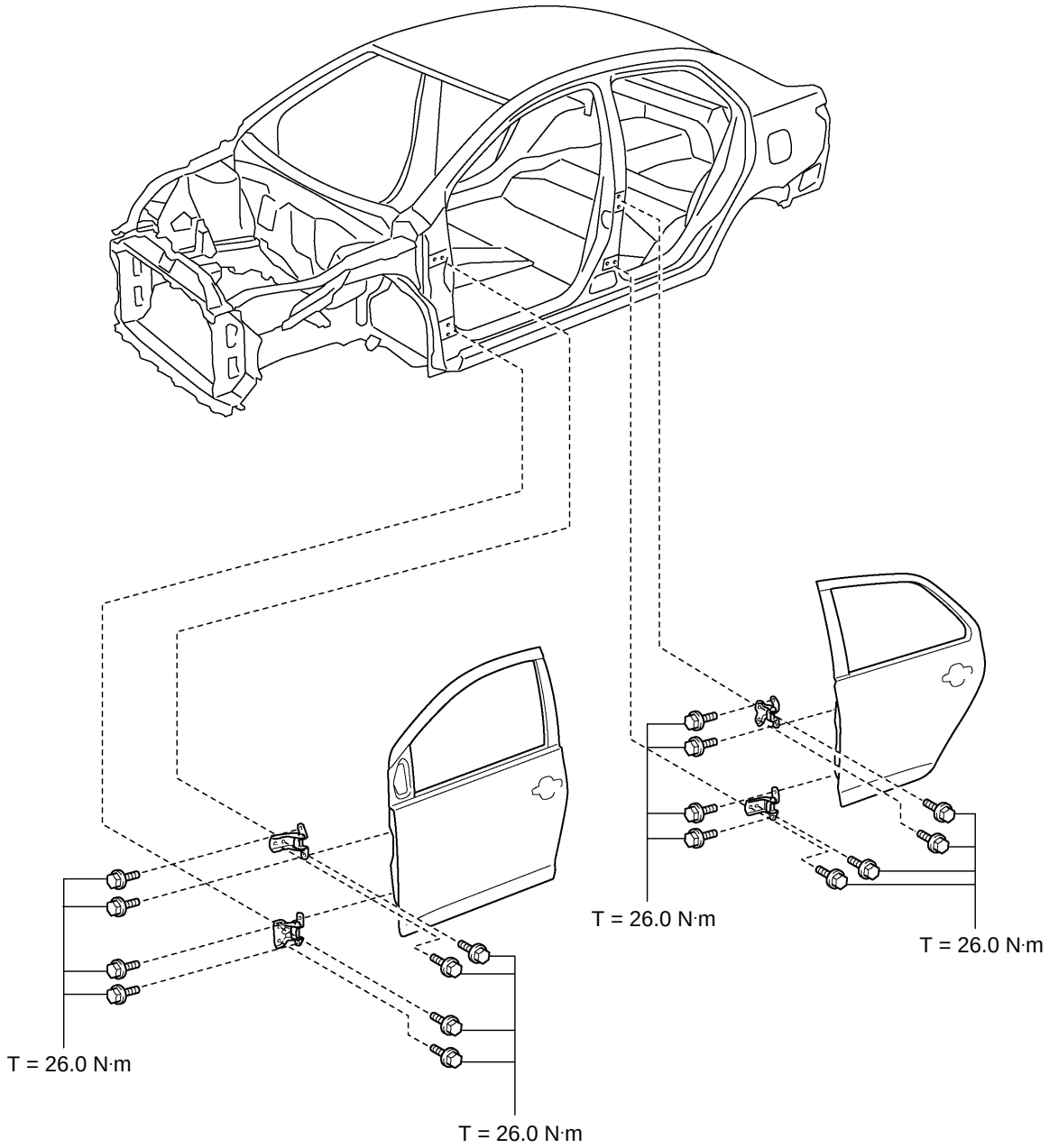
[Hatchback 5 Door]



F23334

26.0 N·m (265 kgf·cm, 19 ft.·lbf)	—	—

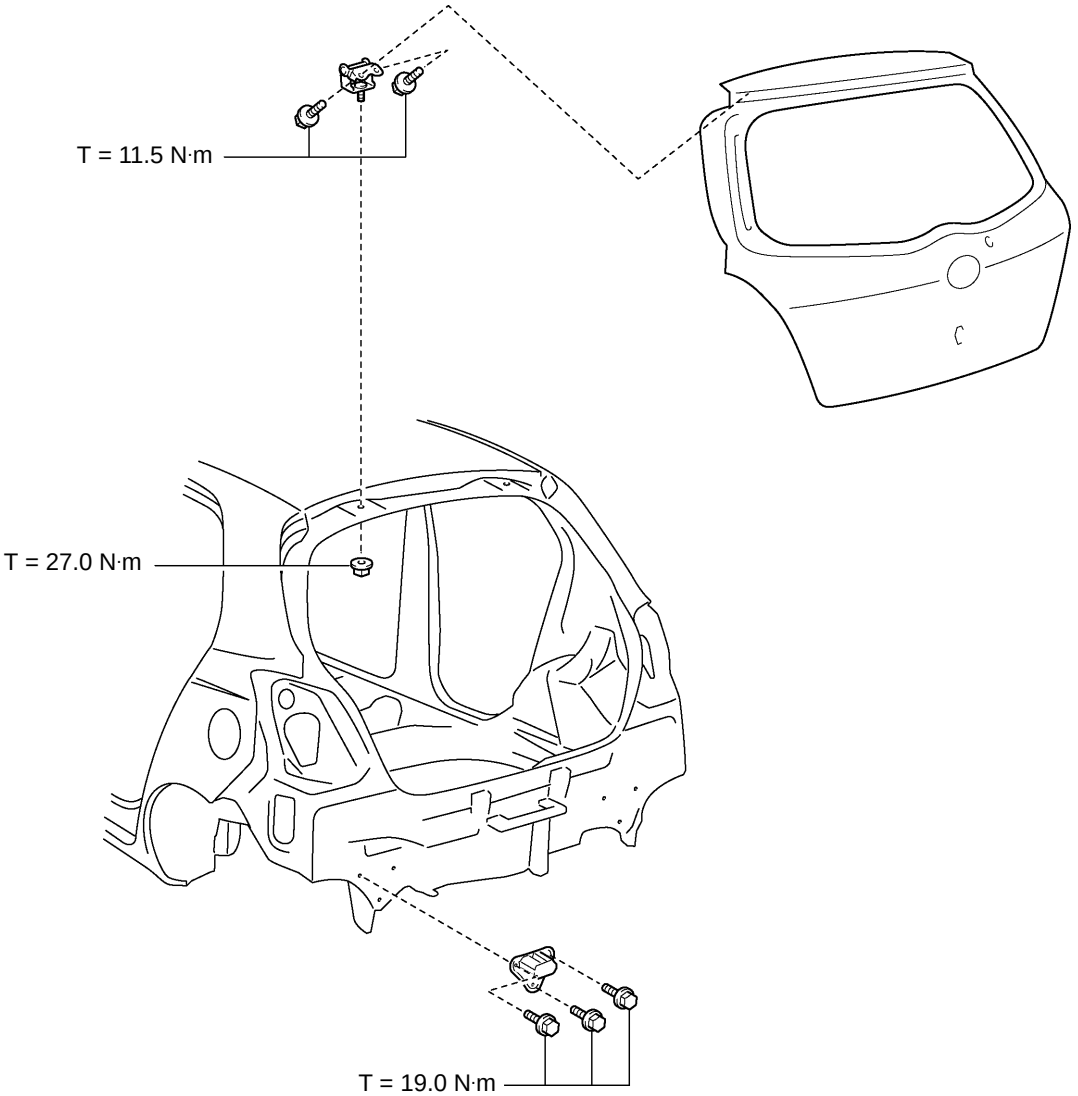
[Sedan]



F24862-1

26.0 N·m (265 kgf·cm, 19 ft.·lbf)	—	—

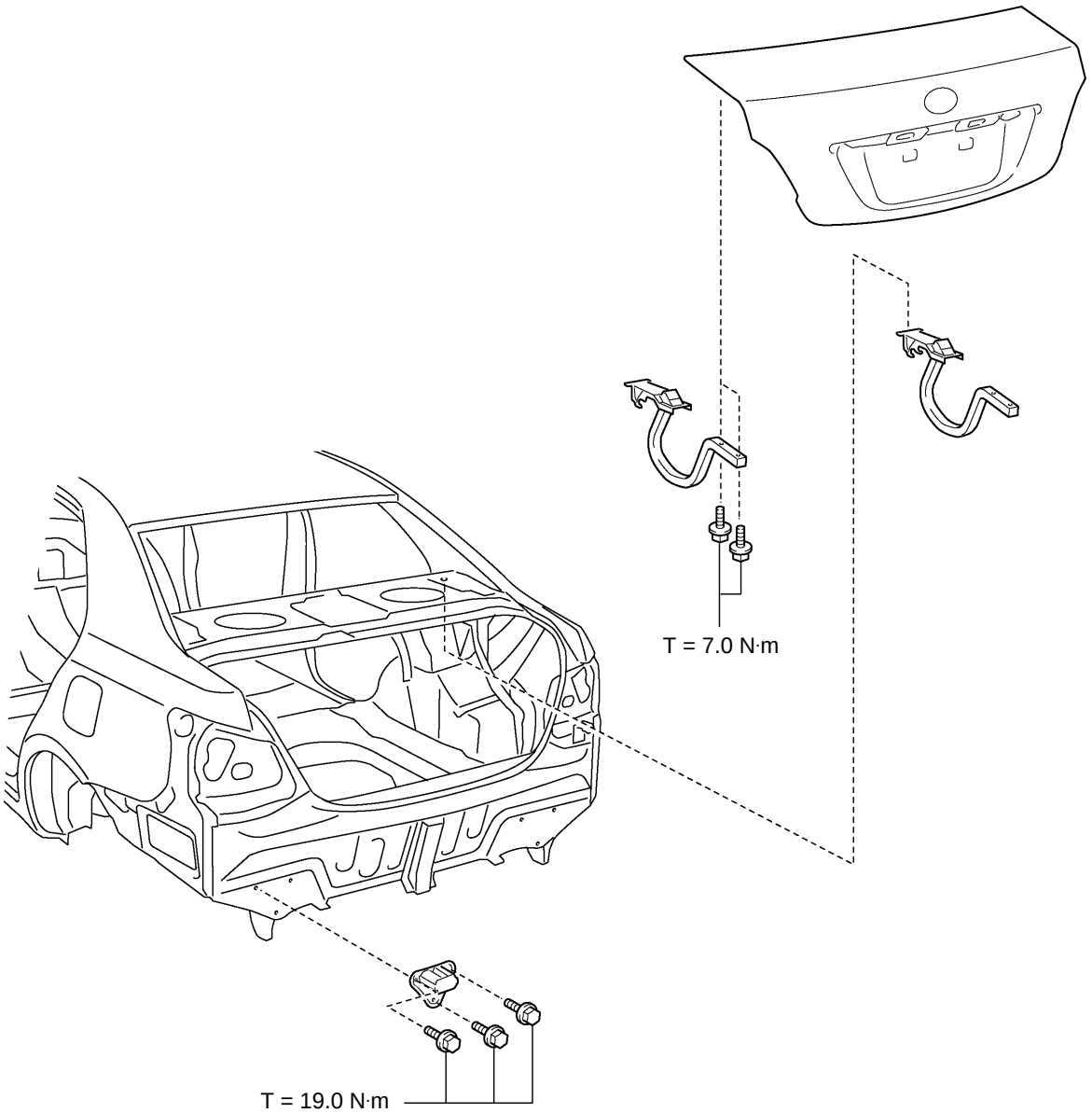
[Hatchback]



F22803

11.5 N·m (117 kgf·cm, 8 ft.·lbf)	19.0 N·m (194 kgf·cm, 14 ft.·lbf)	27.0 N·m (275 kgf·cm, 20 ft.·lbf)

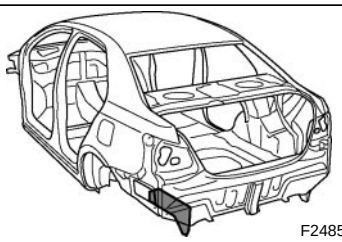
[Sedan]



F24863-1

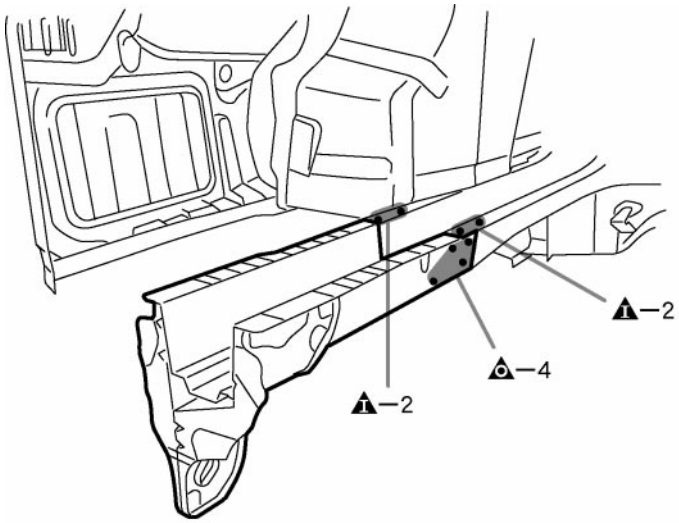
7.0 N·m (71 kgf·cm, 62 in.·lbf)	19.0 N·m (194 kgf·cm, 14 ft.·lbf)	—

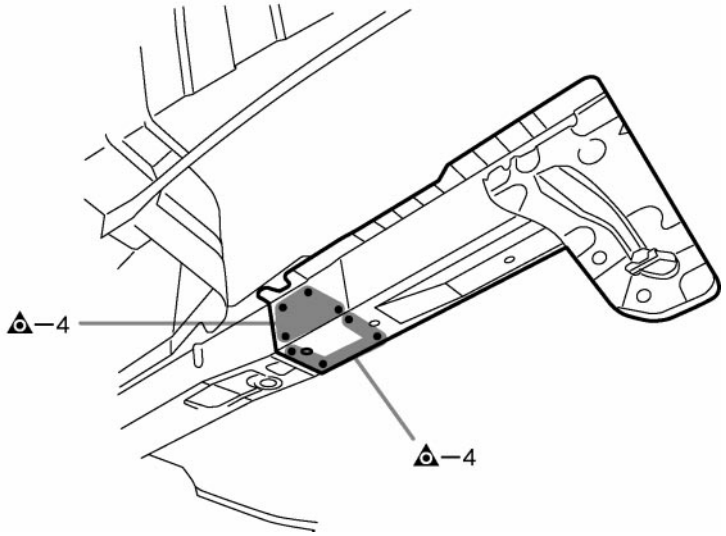
REAR FLOOR SIDEMEMBER (ASSY): Sedan


F24855A

REPLACEMENT
With the rear floor pan removed.

REMOVAL

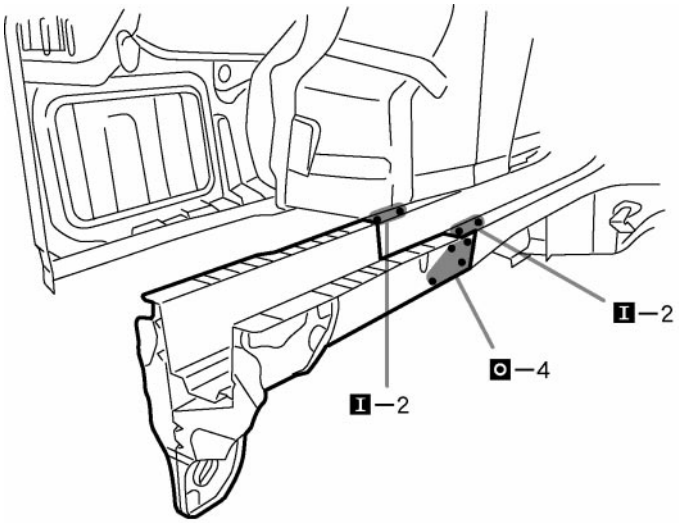


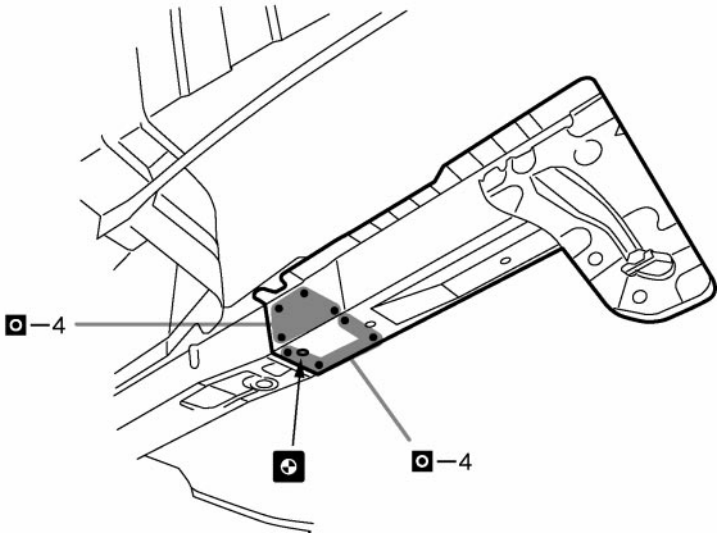


F24855-1

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

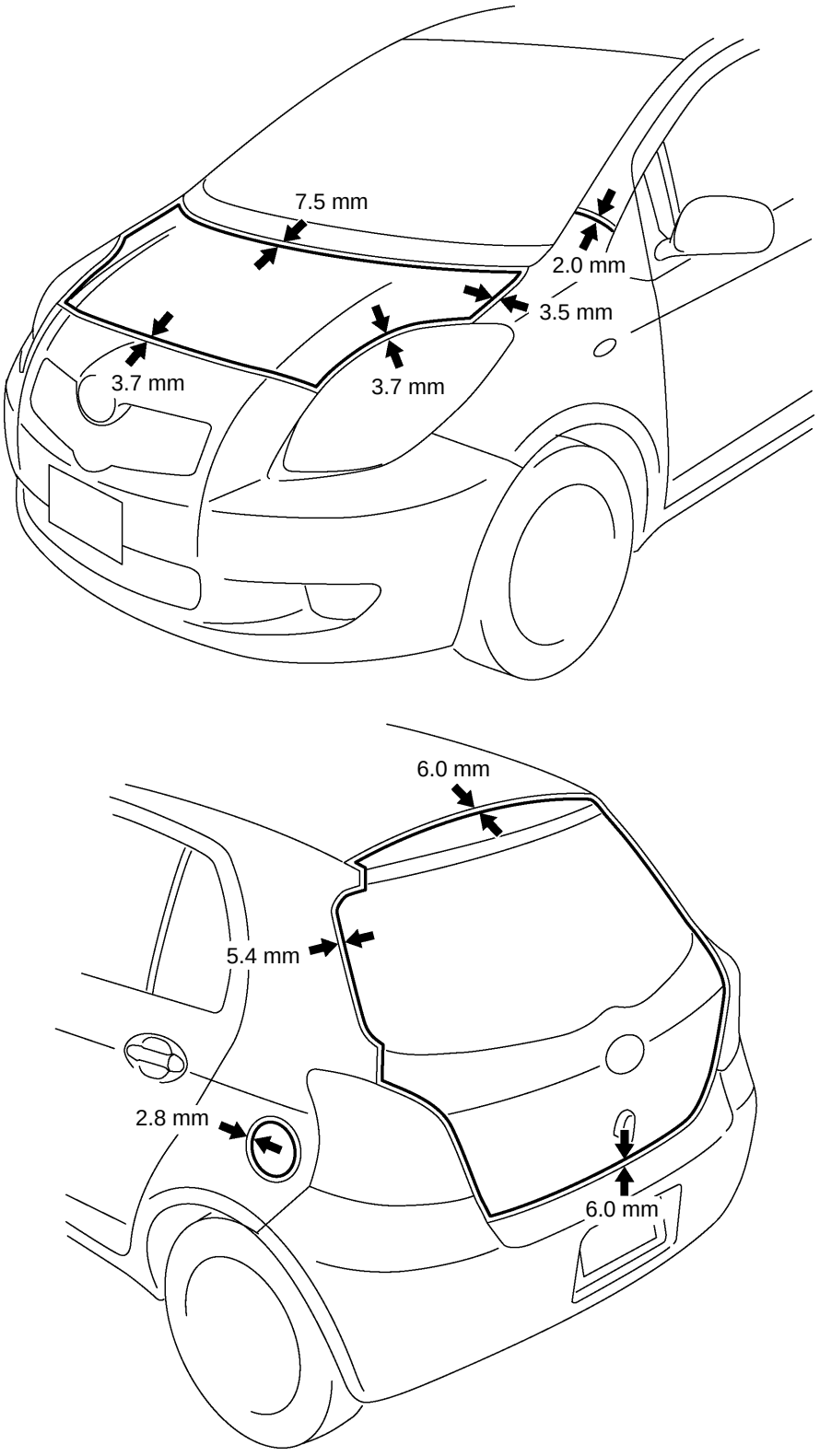




F24855-2

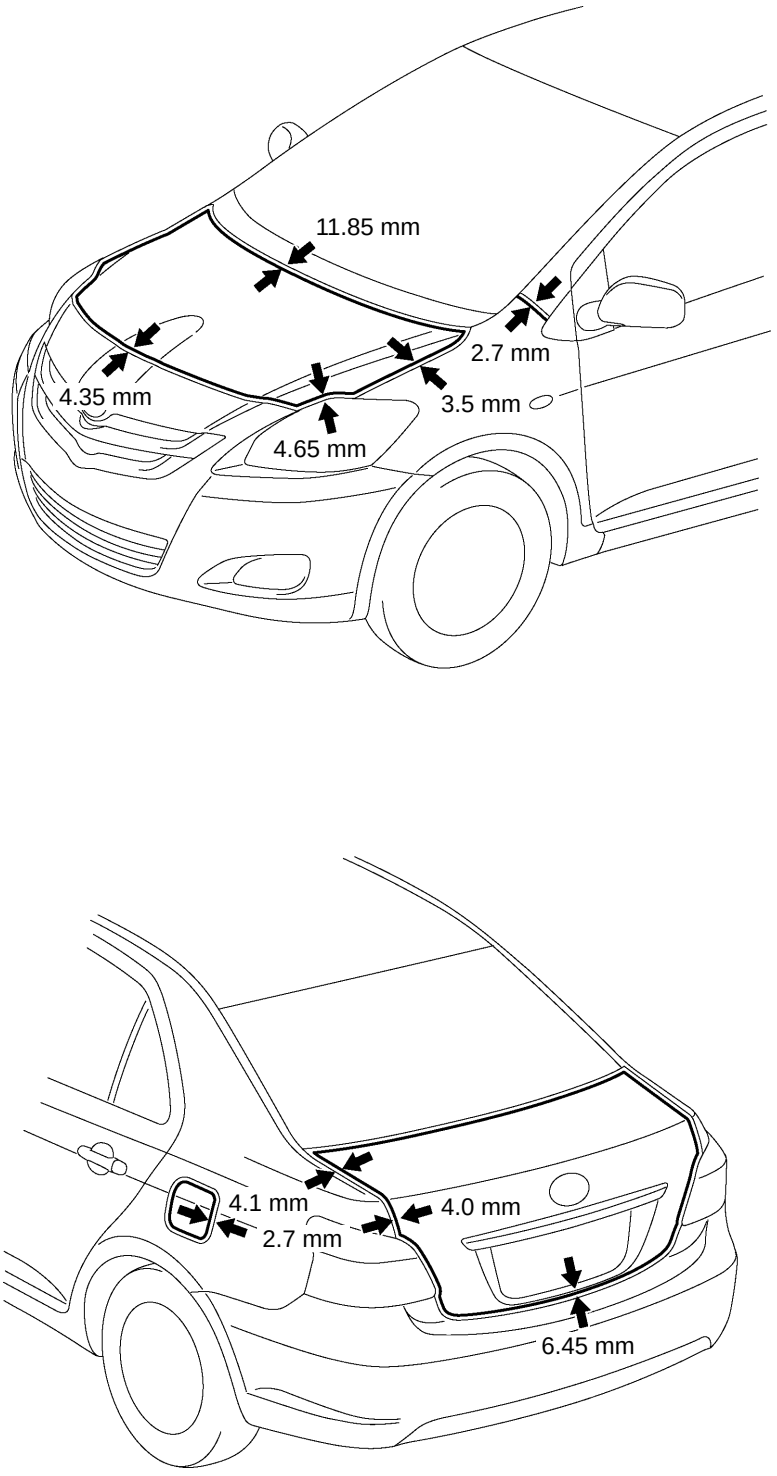
FIT STANDARDS

[Hatchback]



2.0 mm (0.079 in.)	2.8 mm (0.110 in.)	3.5 mm (0.138 in.)
3.7 mm (0.146 in.)	5.4 mm (0.213 in.)	6.0 mm (0.236 in.)
7.5 mm (0.295 in.)	—	—

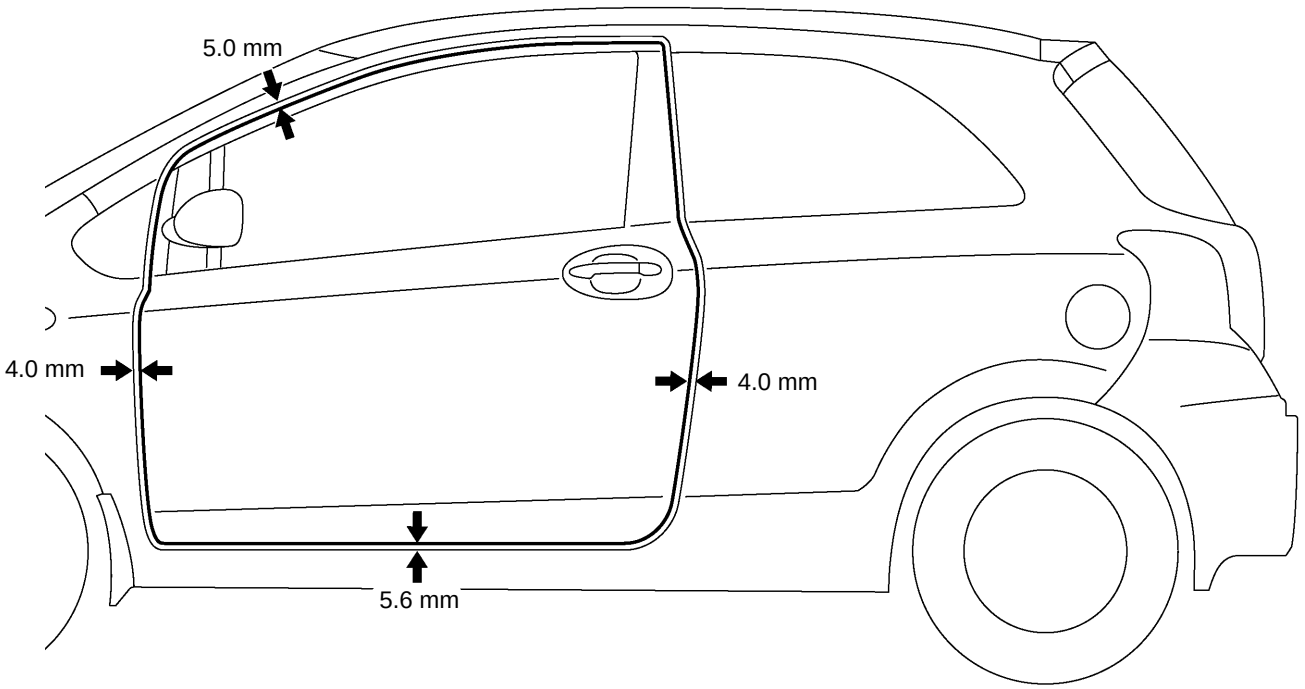
[Sedan]



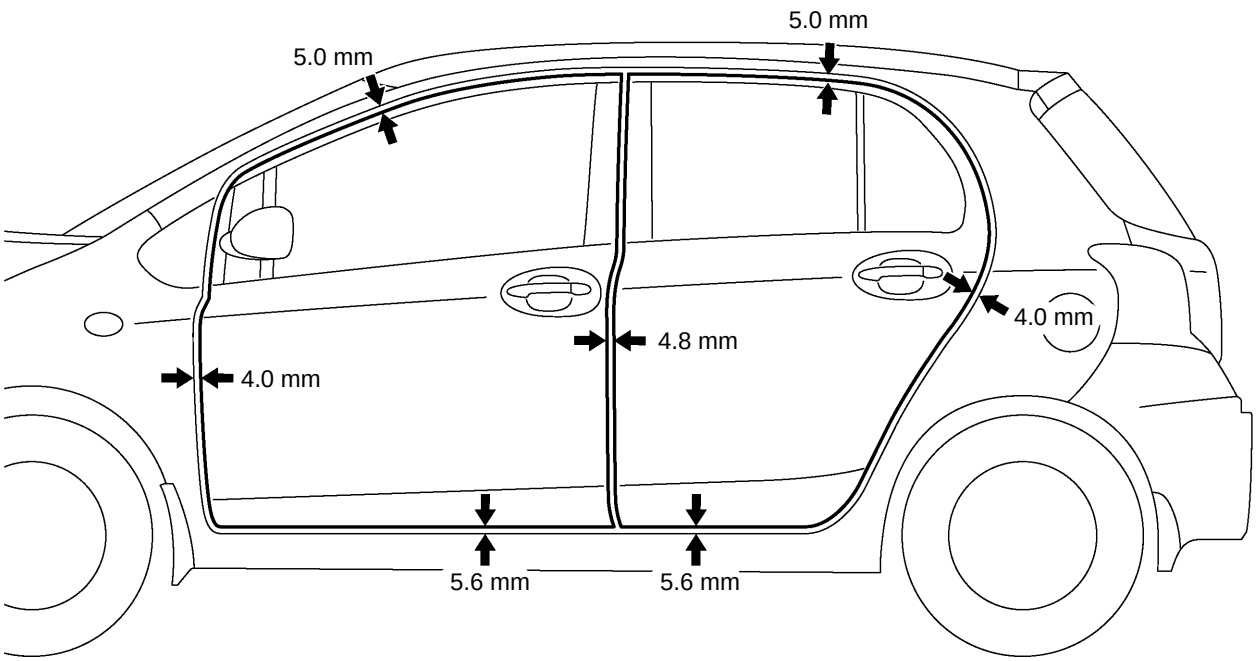
F24864-1

2.7 mm (0.106 in.)	3.5 mm (0.138 in.)	4.0 mm (0.157 in.)
4.1 mm (0.161 in.)	4.35 mm (0.171 in.)	4.65 mm (0.183 in.)
6.45 mm (0.254 in.)	11.85 mm (0.467 in.)	—

[Hatchback 3 Door]



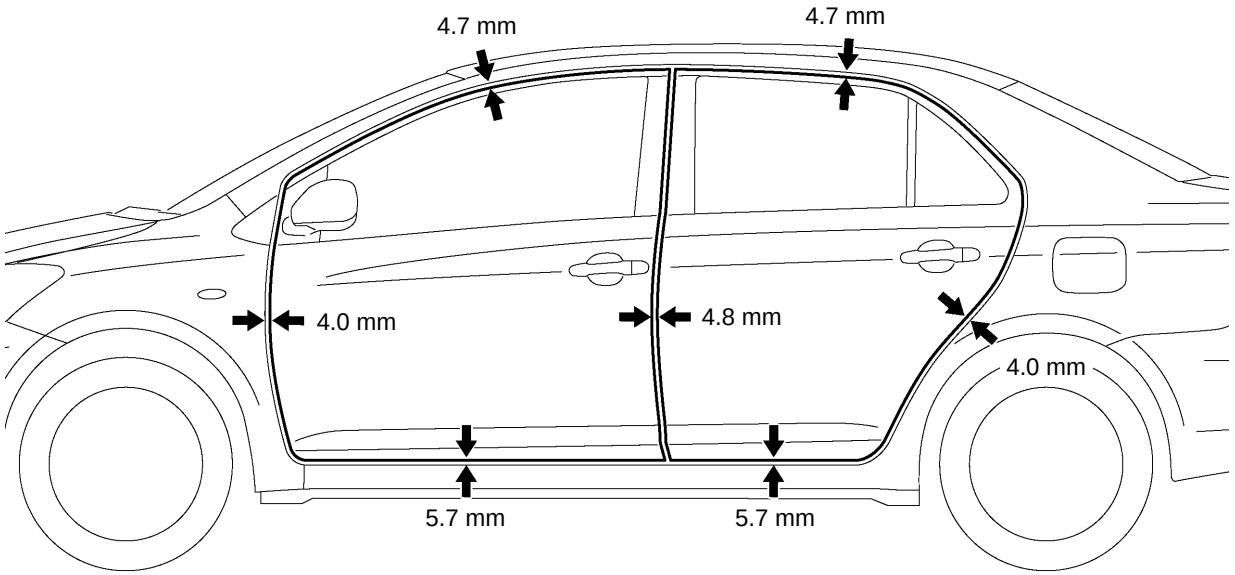
[Hatchback 5 Door]



F23335

4.0 mm (0.157 in.)	4.8 mm (0.189 in.)	5.0 mm (0.197 in.)
5.6 mm (0.220 in.)	—	—

[Sedan]



F24865-1

4.0 mm (0.157 in.)	4.7 mm (0.185 in.)	4.8 mm (0.189 in.)
5.7 mm (0.224 in.)	—	—

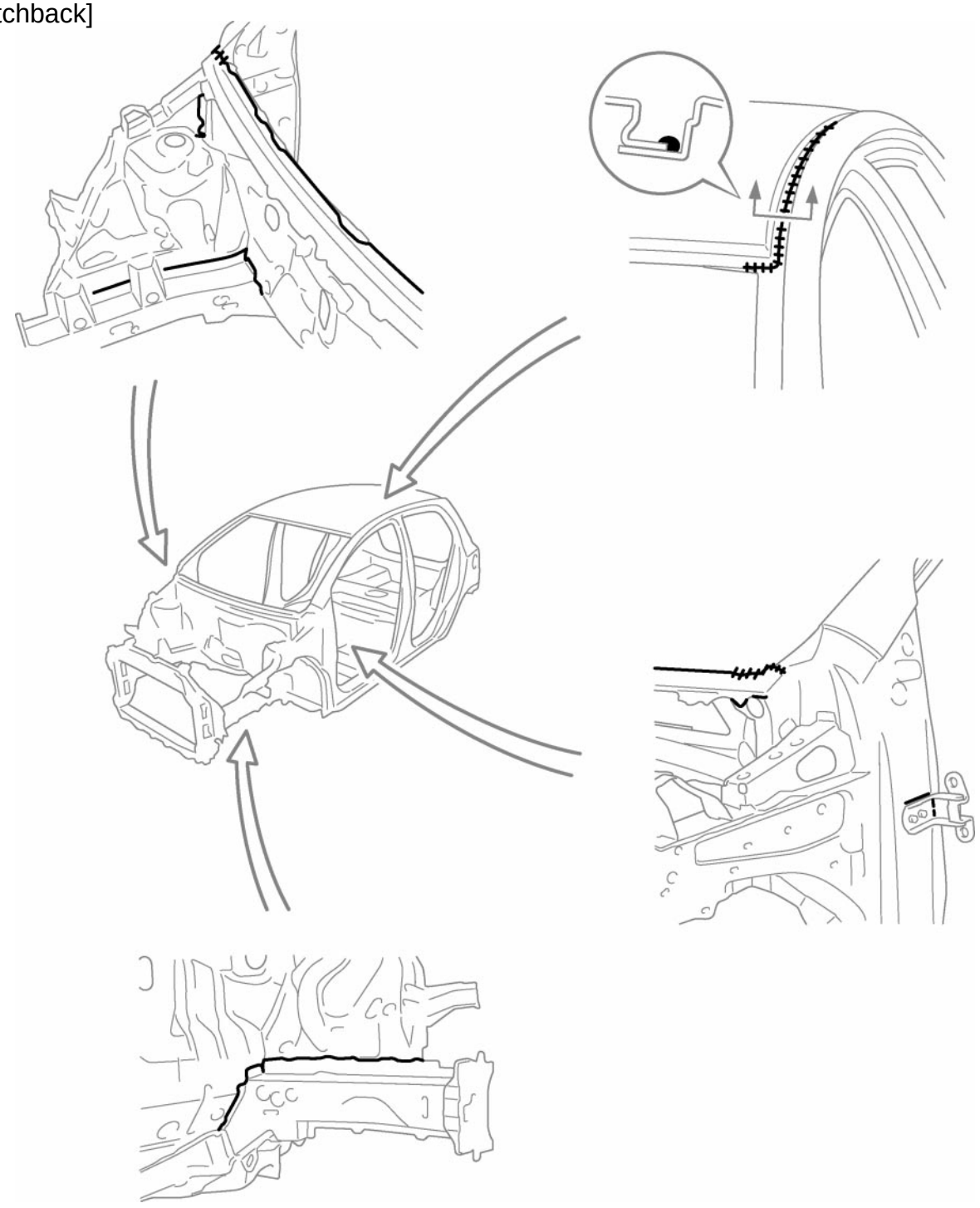
BODY PANEL SEALING AREAS

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 than coat with anti-corrosion primer before applying body sealer.
3) Wipe off excess body sealer with a rag soaked in silicone remover.
4) Besure to repair as necessary if the body sealer shows signs of damage such as peeling or cracking.

++++++++++	Flat Finishing	————	No Flat Finishing

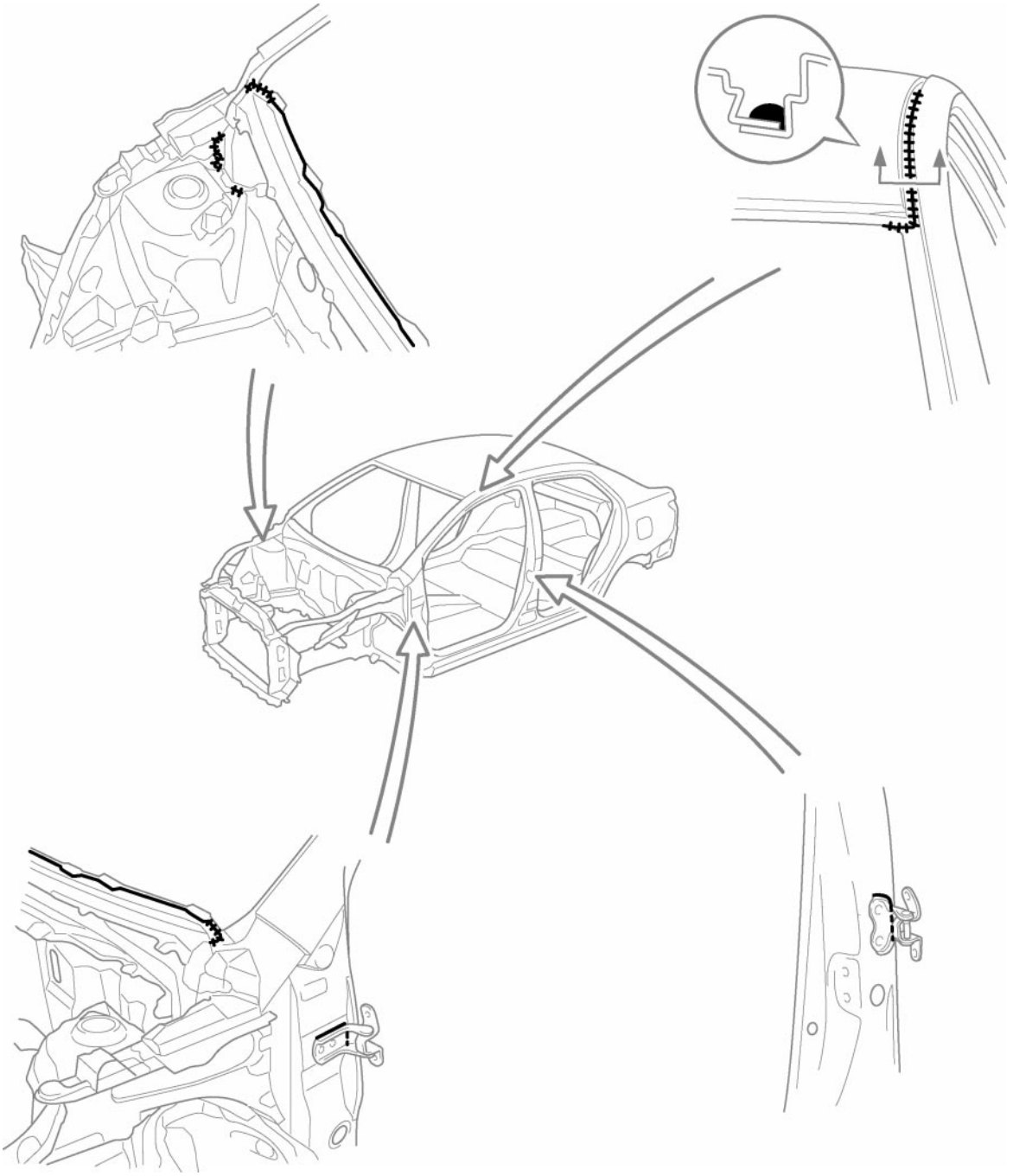
1. ENGINE COMPARTMENT

[Hatchback]



F22806

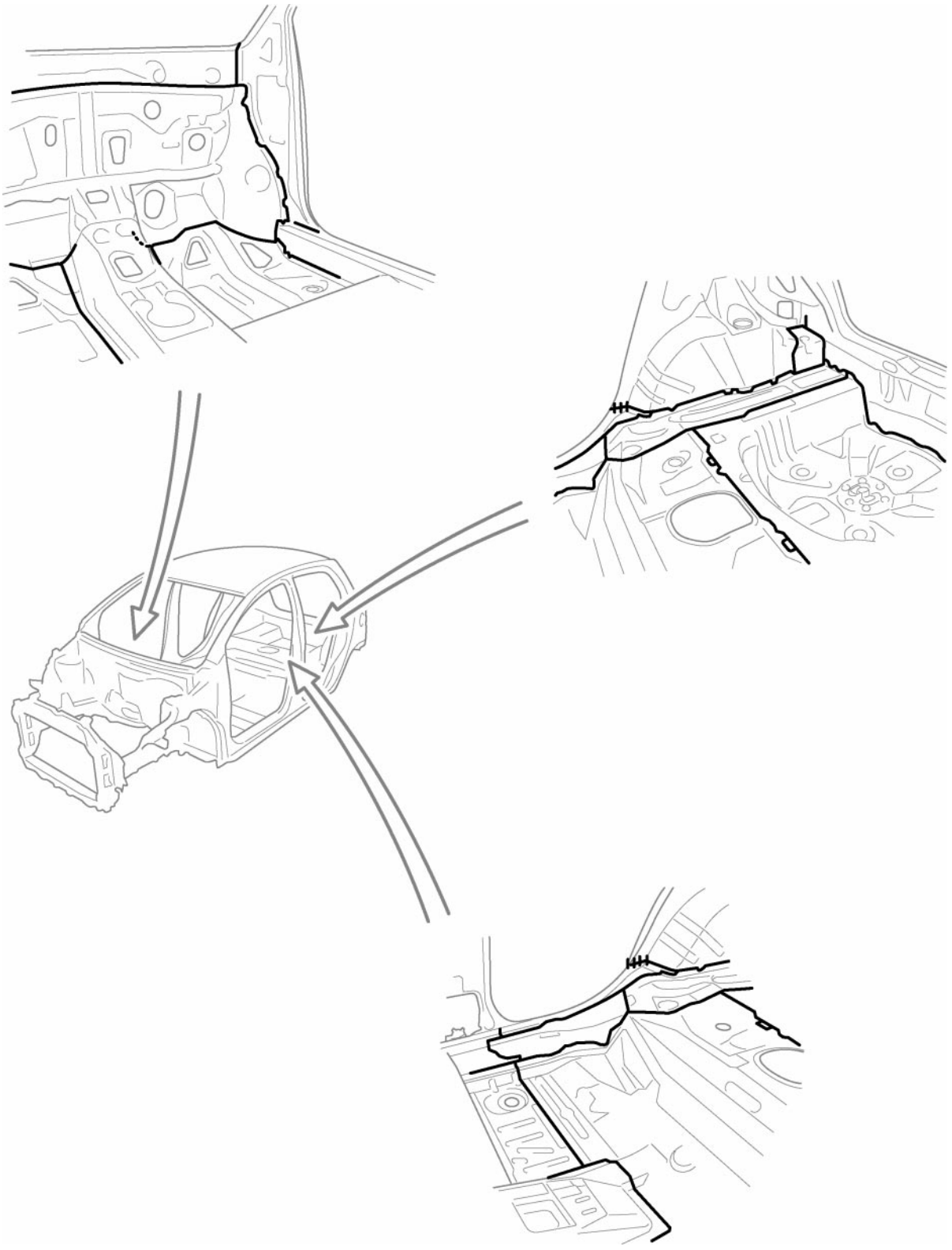
[Sedan]



F24801-1

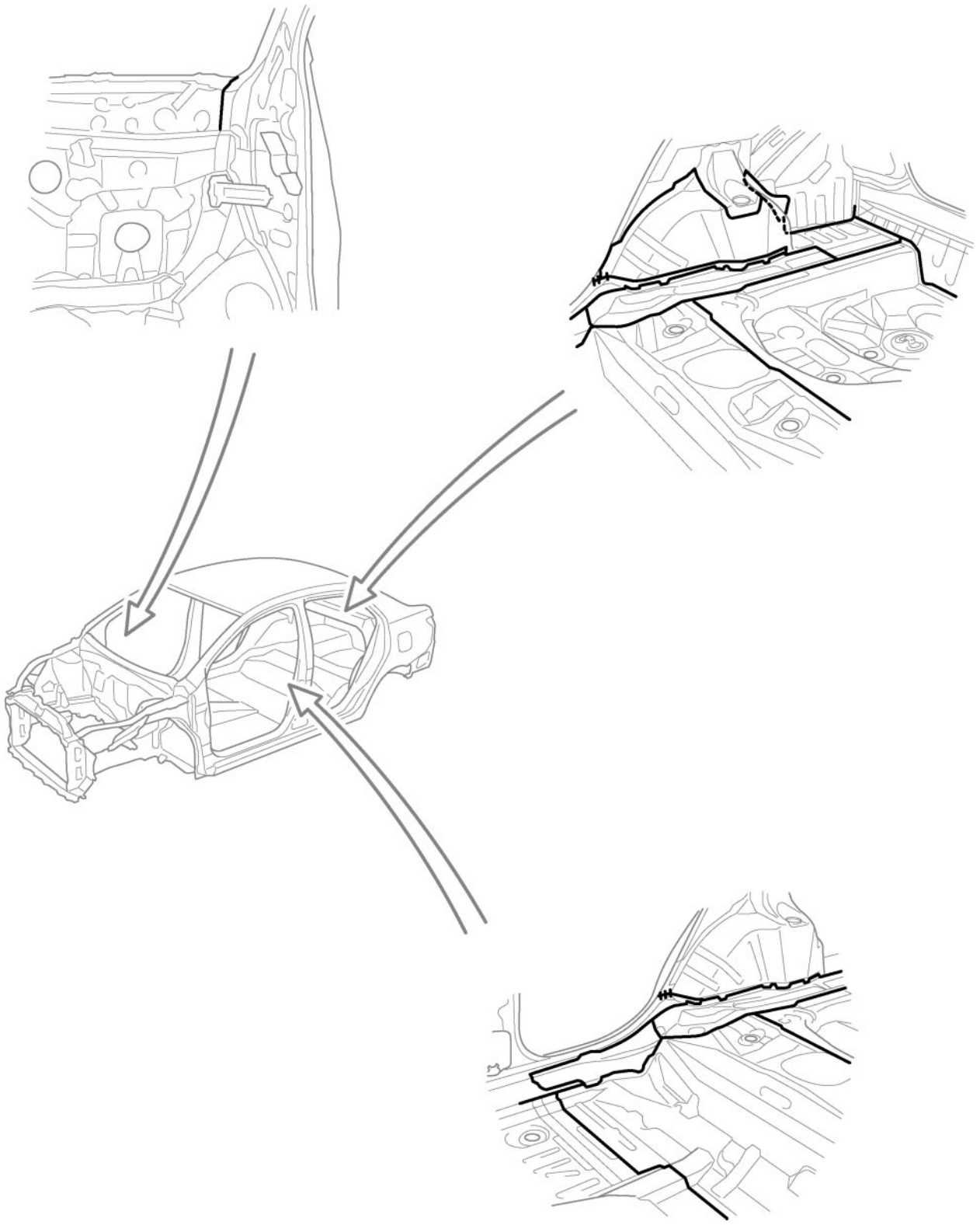
2. INSIDE

[Hatchback]



F22336

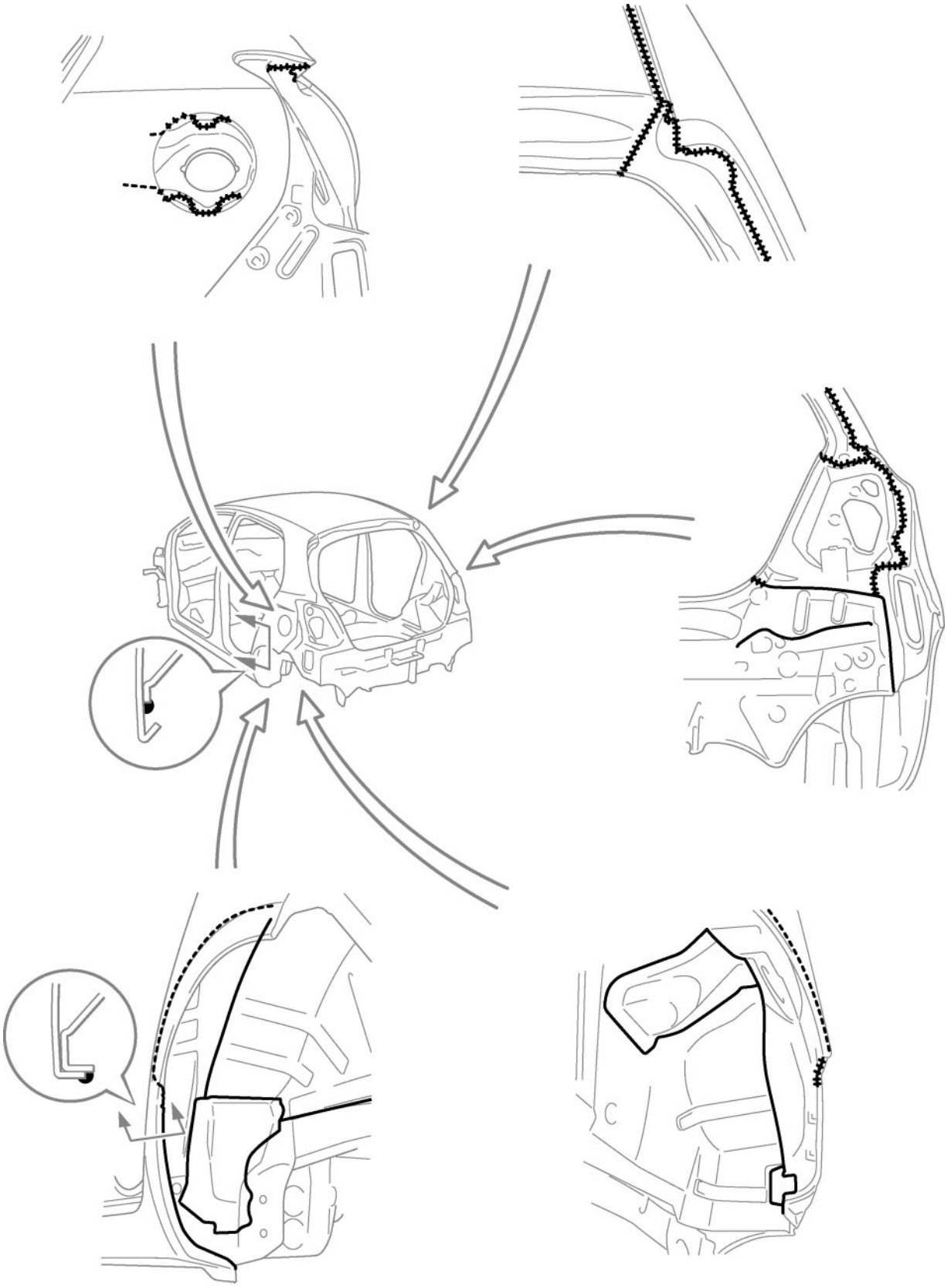
[Sedan]



F24802-1

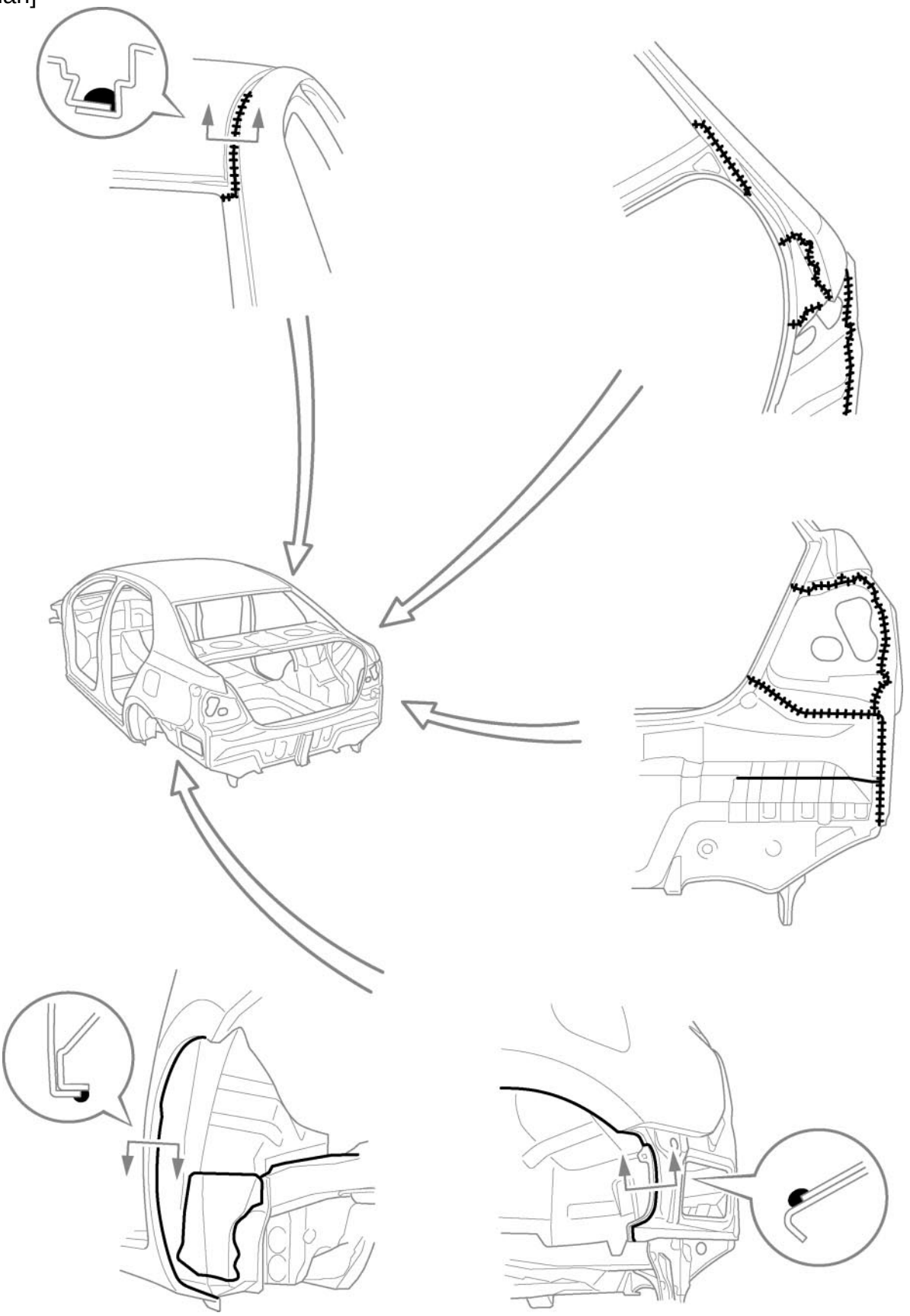
3. OUTSIDE

[Hatchback]



F22337

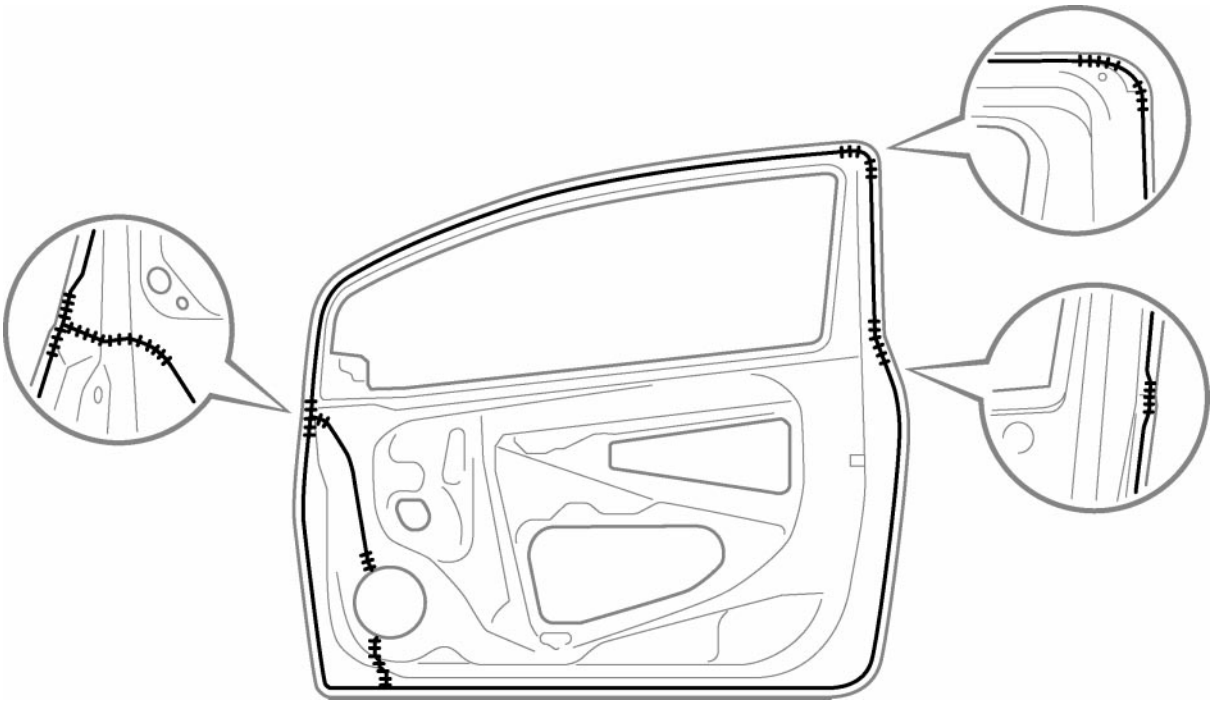
[Sedan]



F24803-1

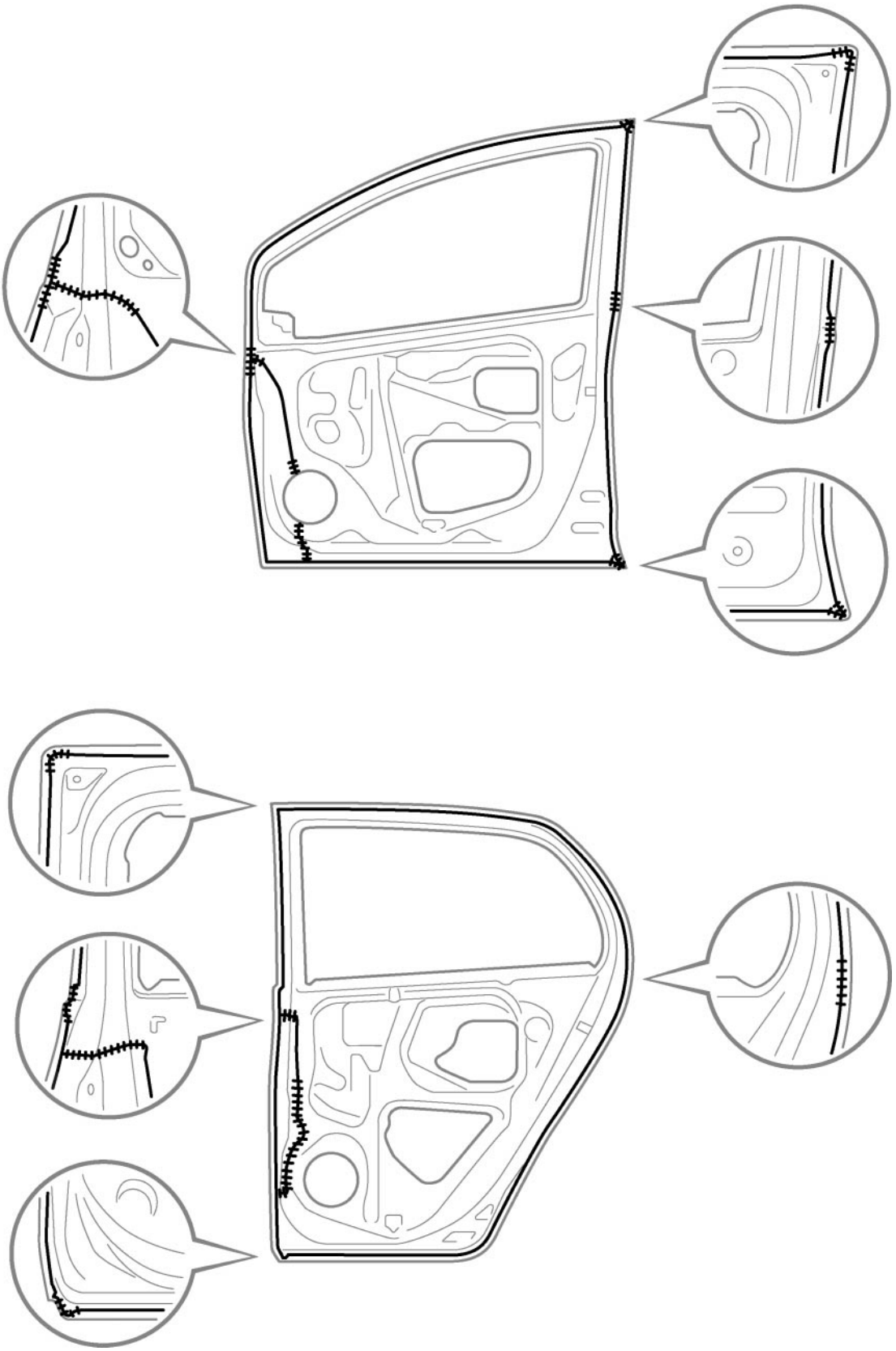
4. DOOR PARTS

[Hatchback 3 Door]



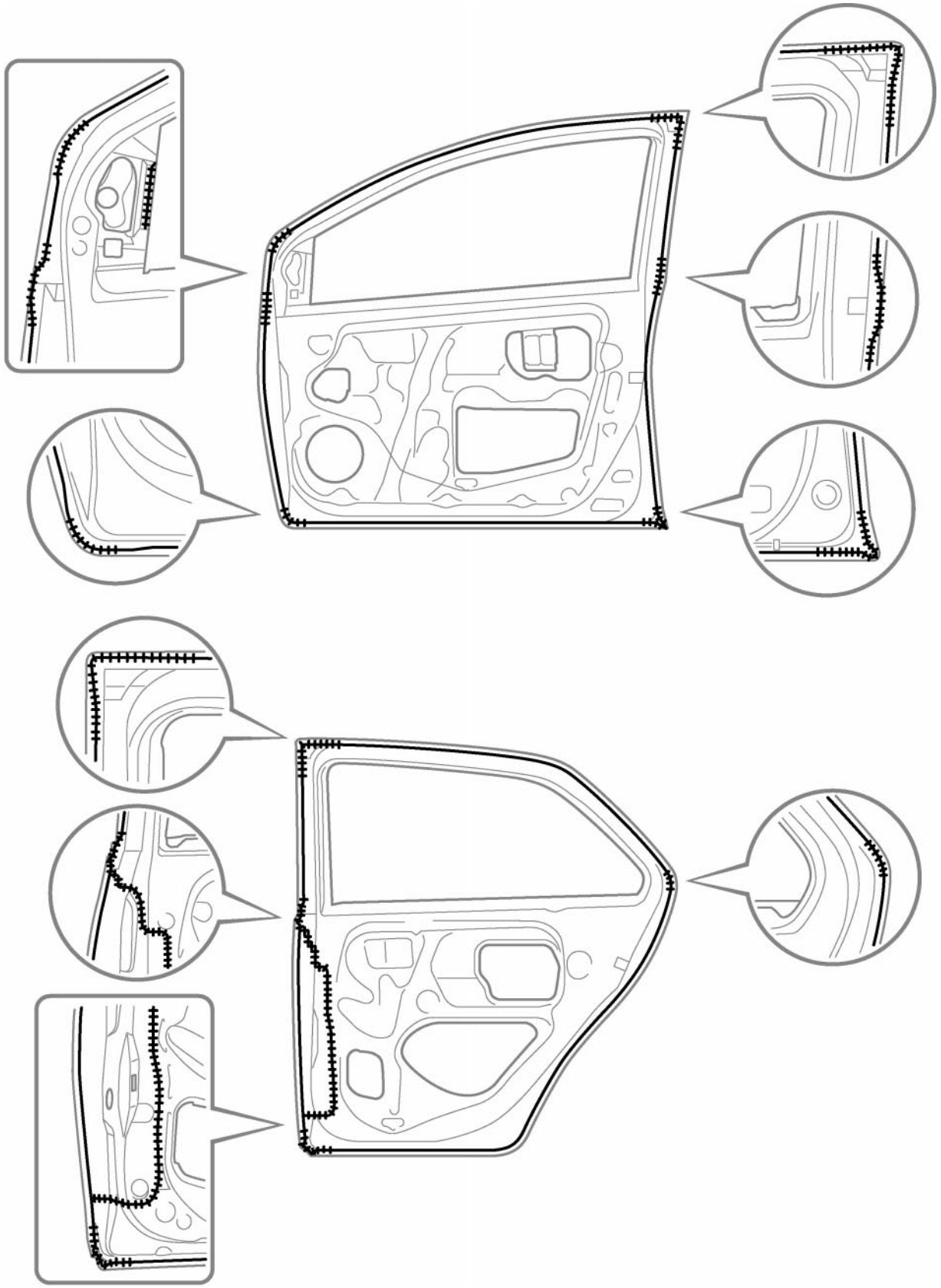
F22338

[Hatchback 5 Door]



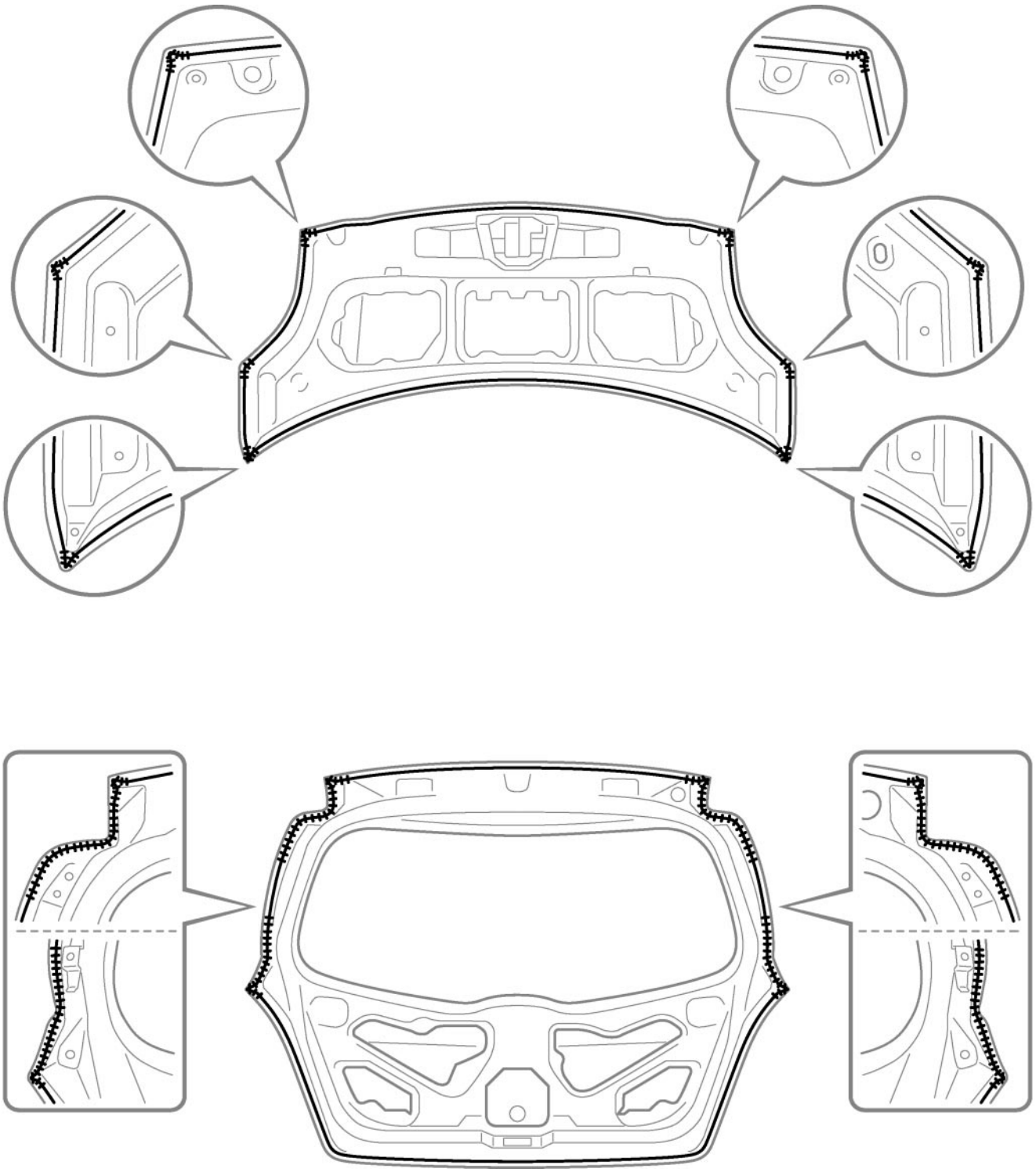
F23339

[Sedan]



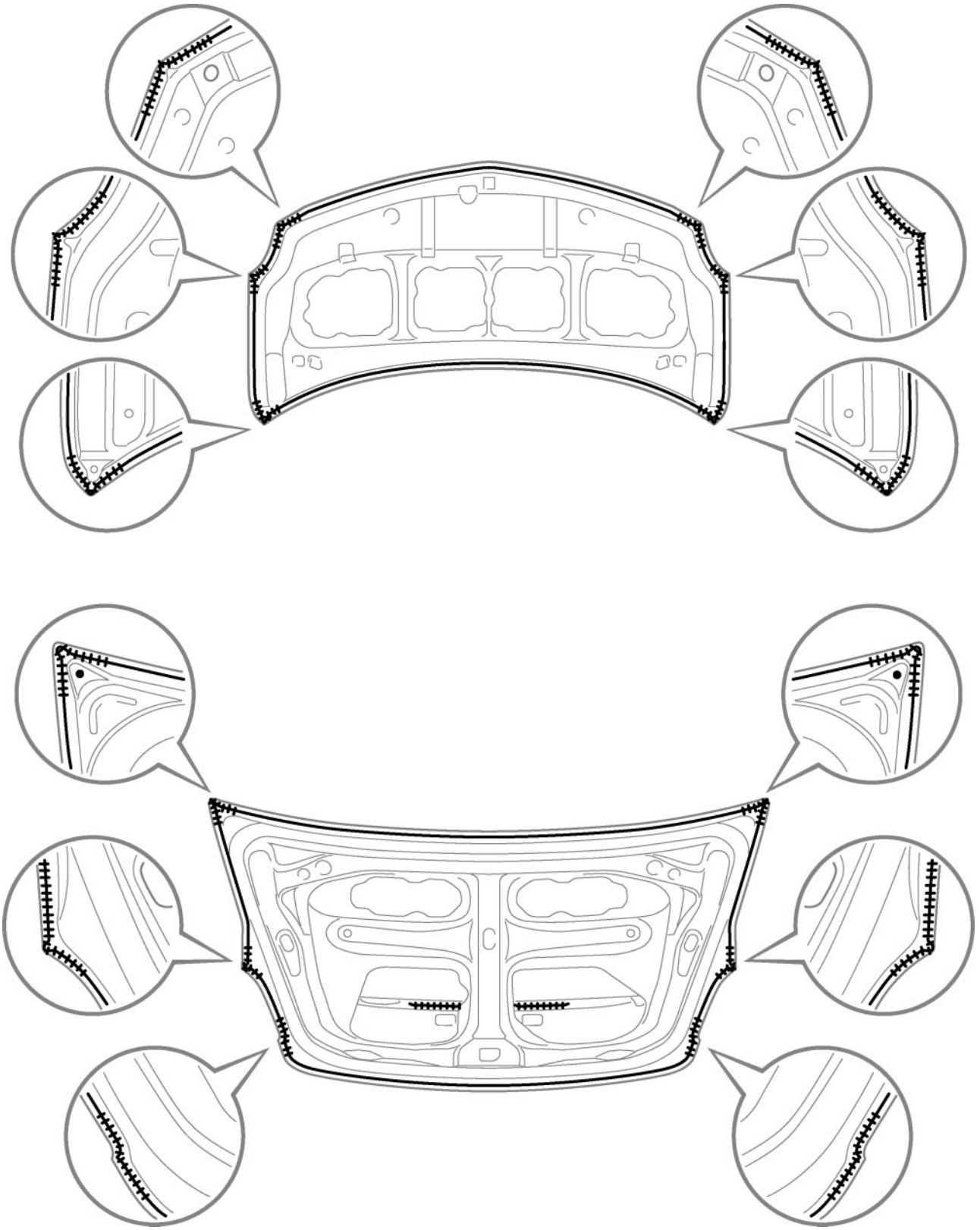
F24804-1

[Hatchback]



F22810

[Sedan]

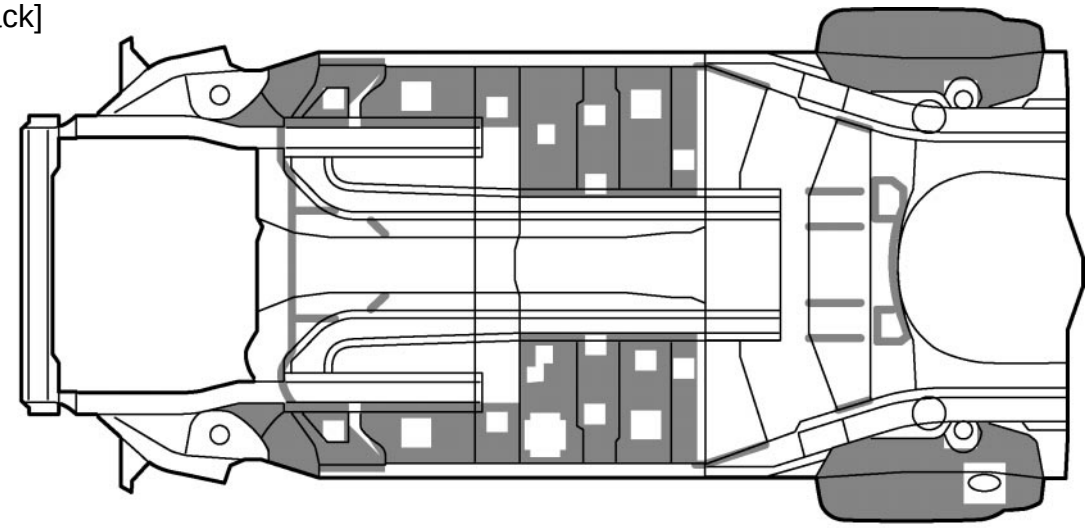


F24805-1

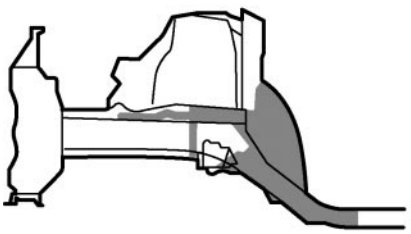
BODY PANEL UNDER COATING AREAS

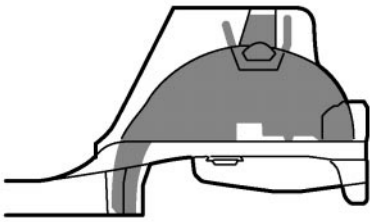
HINT:
1) First wipe off any dirt, grease or oil with a rag soaked in silicone remover.
2) Cover the surrounding areas with masking paper to avoid coating unnecessary areas. If other areas are accidently coated, wipe off the coating immediately.
3) Apply the first coating of undercoat to all welded areas and panel joints, then apply a second coat over the entire area.
4) Do not coat parts which become hot such as the tailpipe, and moving parts such as the propeller shaft.
5) Apply under coating to all weld points under the body to ensure corrosion prevention at every location except the areas below.
6) Be sure to seal the edge of the flange of the member and bracket with undercoating.
7) Be sure to repair the under coating as necessary if there are signs of damage such as cracking or peeling.
8) Apply sealer before applying the under coat for rust prevention.

[Hatchback]

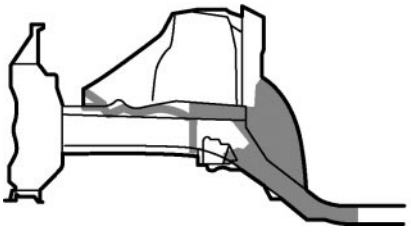


[LH]





[RH]



F23340

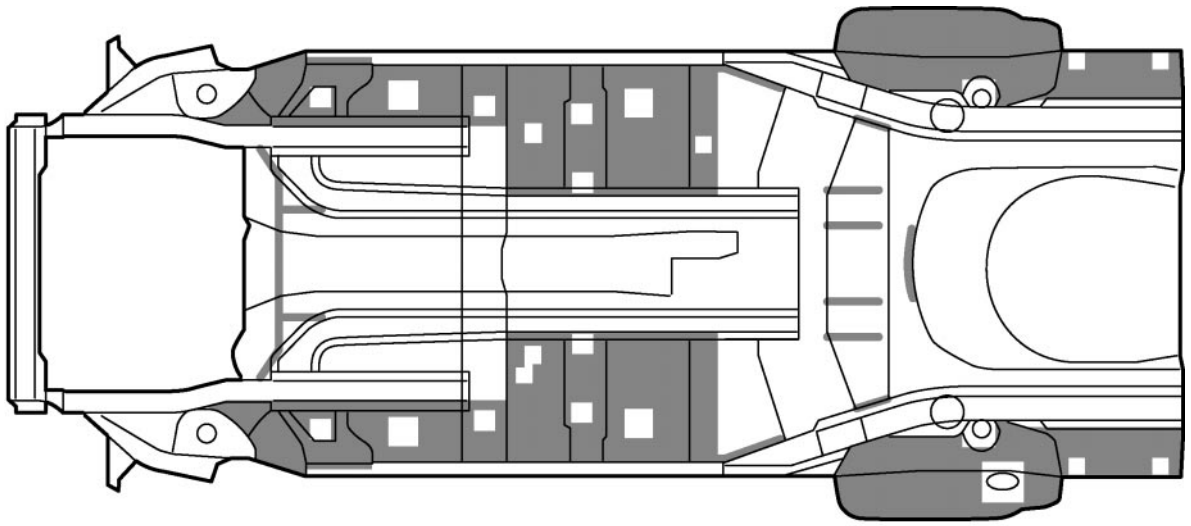
POINT

1 The film thickness of the interior portion of the rear wheel housing should be 1.0 mm (0.04 in.) or more for the front half and 2.0 mm (0.08 in.) of more for the rear half.

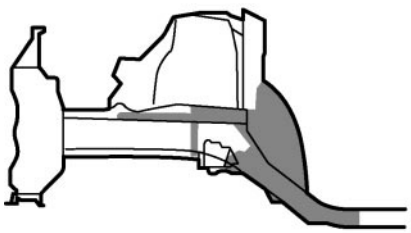
REFERENCE

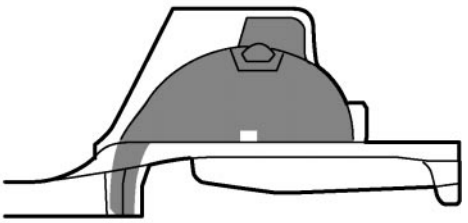
The under coating should be applied according to the specifications for your country while referring to the notes above.

[Sedan]

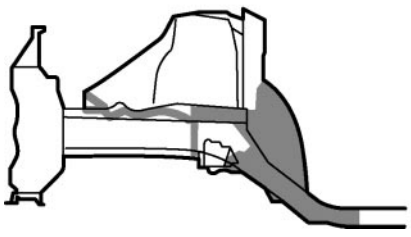


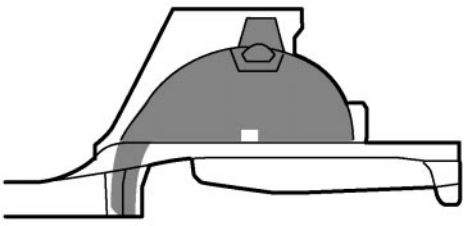
[LH]





[RH]





F24806-1

POINT

1 The film thickness of the interior portion of the rear wheel housing should be 1.0 mm (0.04 in.) or more for the front half and 1.3 mm (0.05 in.) of more for the rear half.

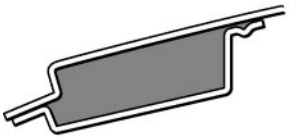
REFERENCE

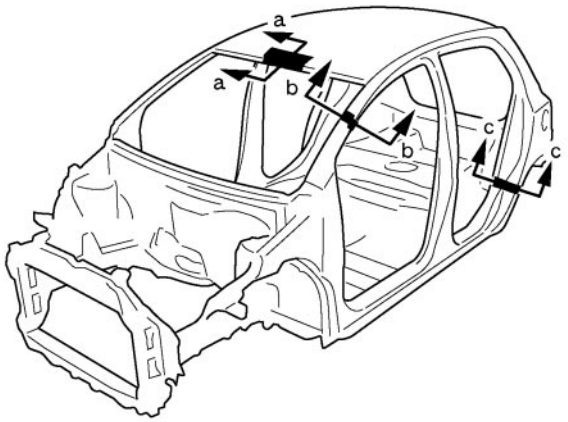
The under coating should be applied according to the specifications for your country while referring to the notes above.

FOAMED MATERIAL APPLICATION AREAS

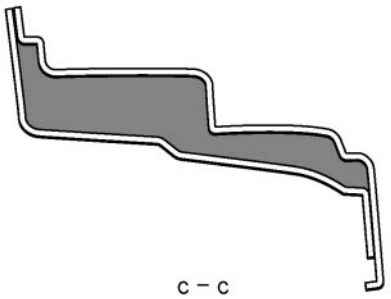
The sections shown in the figure below are filled with foamed material to provide noise insulation.
Refill with foamed materials after repairing these sections and their surrounding sections.
HINT:
1) Use the service holes located on the reverse side of the body panel to refill foamed materials.
2) Follow manufacturer directions when handling the foamed material.

[Hatchback]



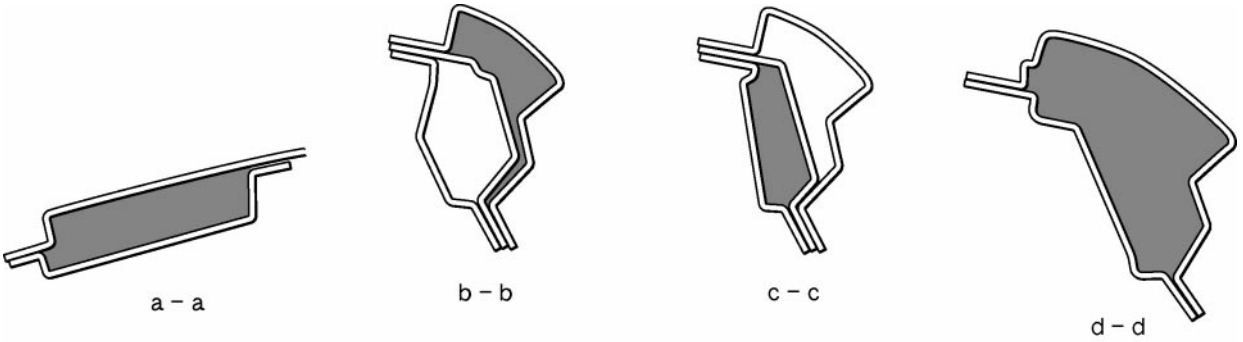


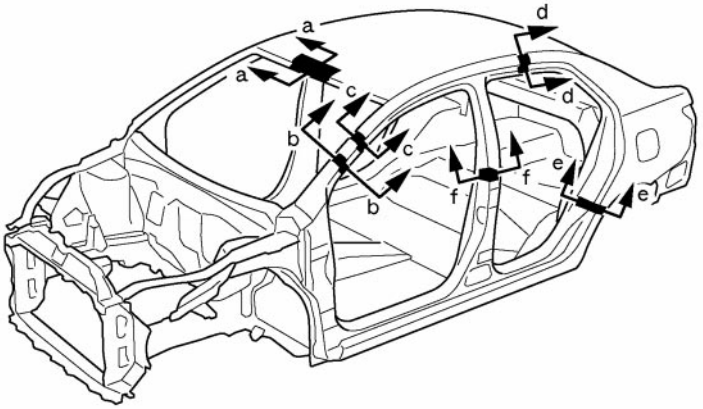
[5 Door Only]

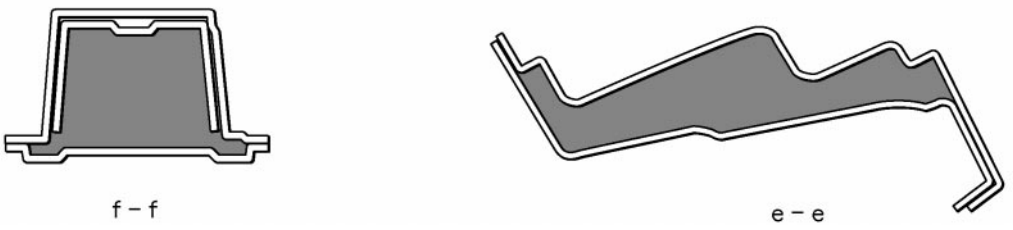


F23341

[Sedan]





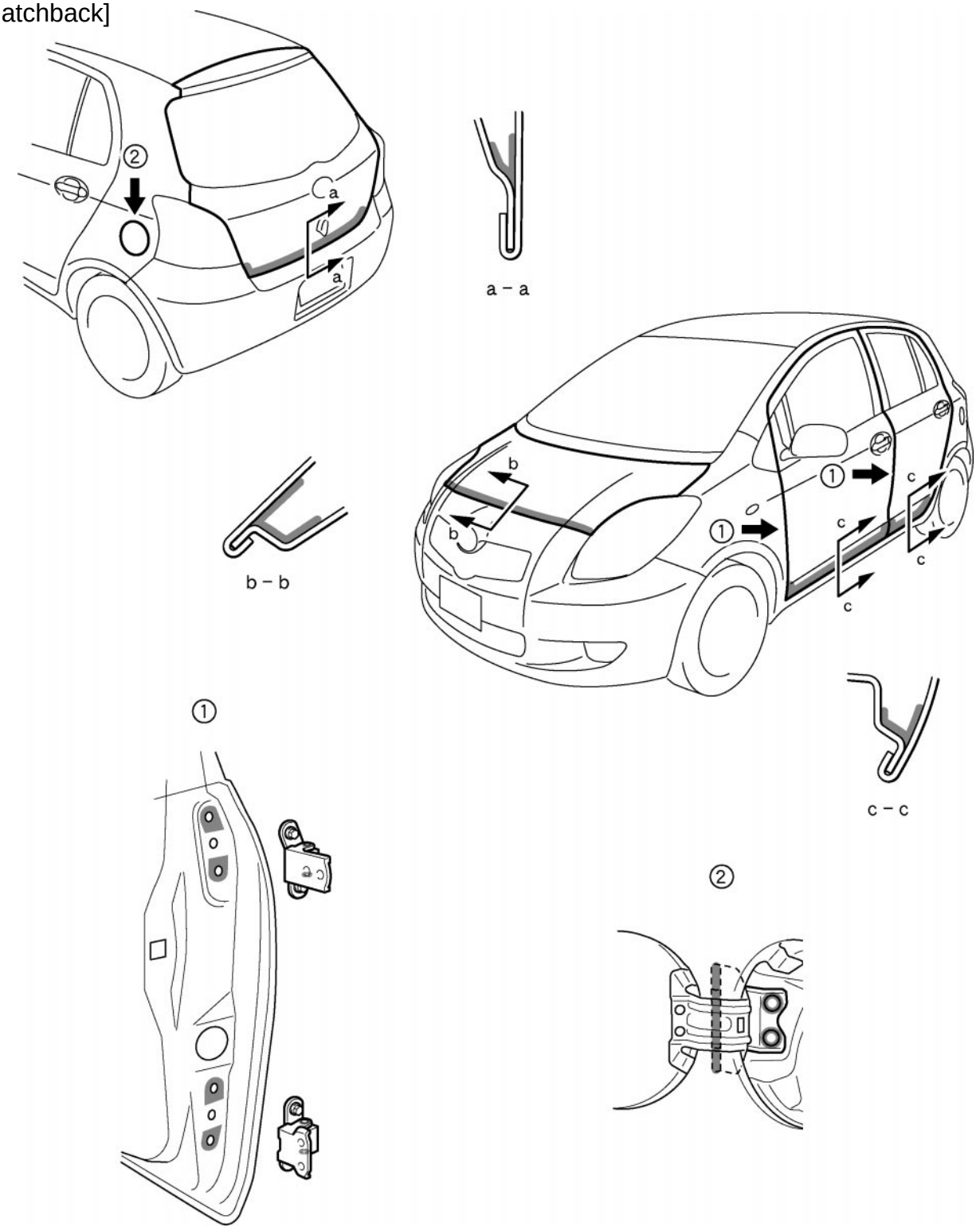


F24808-1

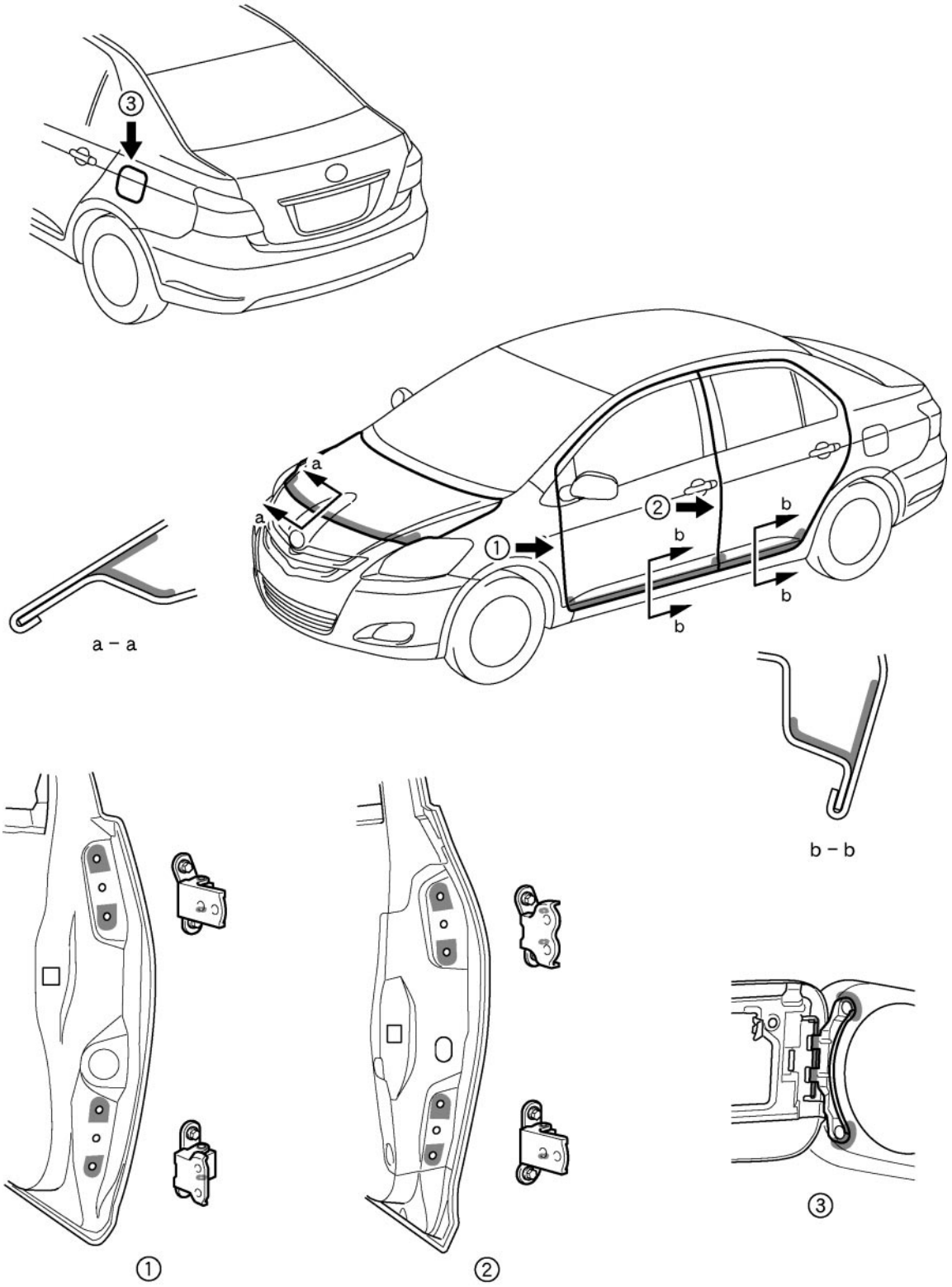
BODY PANEL ANTI-RUST AGENT (WAX) APPLICATION AREAS

HINT:
1) Apply anti-rust agent (wax) around the hinges whenever adjusting the doors and hoods.
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 it is accidentally applied to other areas.

[Hatchback]



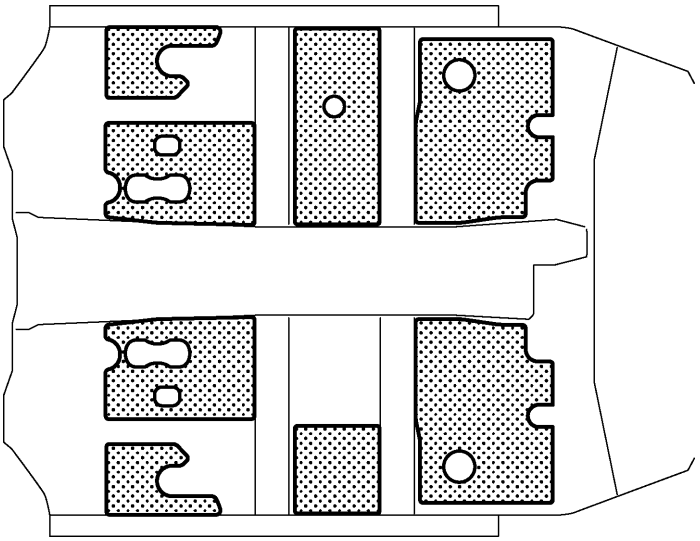
[Sedan]



F24809-1

SILENCER SHEET INSTALLATION AREAS

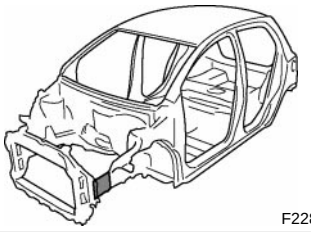
[Sedan]



F24810-1

	0.8 mm (0.031 in.)				

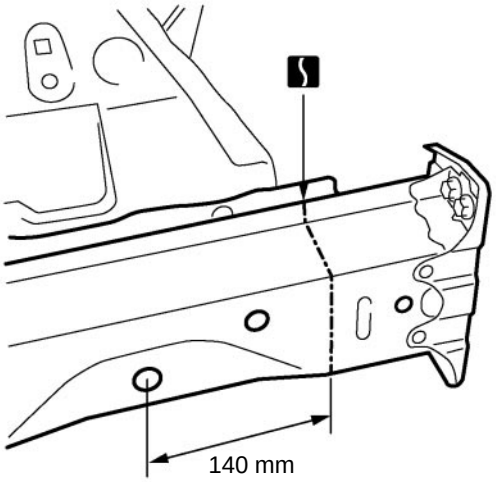
FRONT SIDEMEMBER REINFORCEMENT (CUT-P)

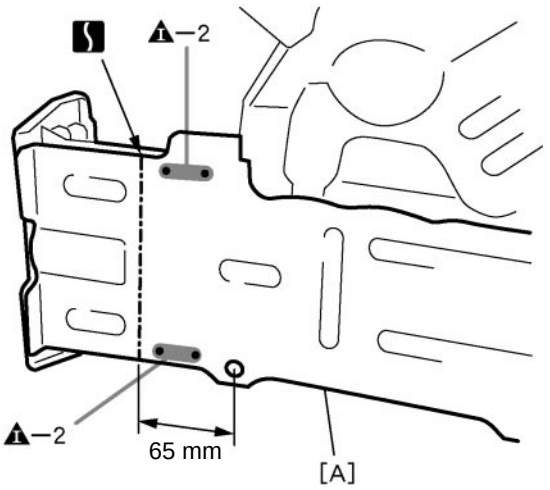

F22825A

REPLACEMENT
With the radiator support removed.

REMOVAL

[LH]



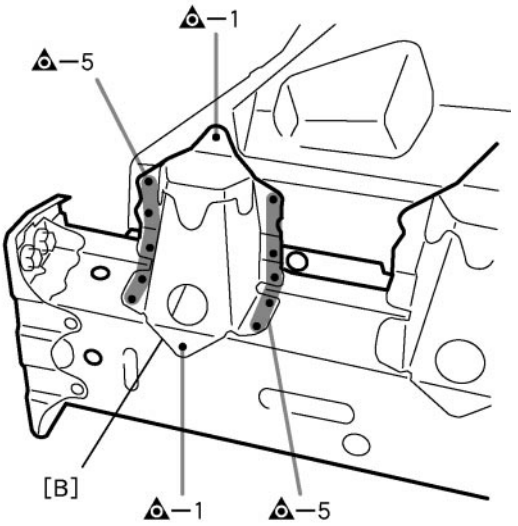


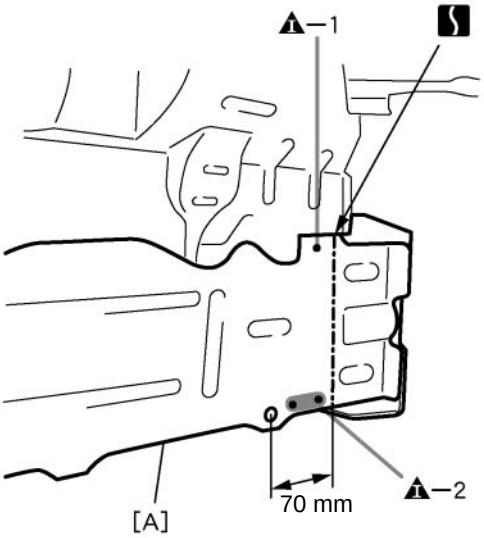
F23301

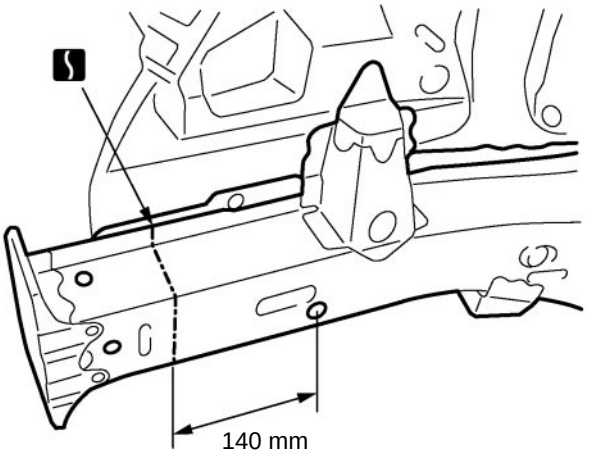
POINT
1 Remove [A] at the same time.

PART NAME
[A] Front Sidemember Outer Plate
65 mm (2.56 in.) 140 mm (5.51 in.)

[RH]







F23302

POINT

1 Remove [B] before conducting this work.
2 Remove [A] at the same time.

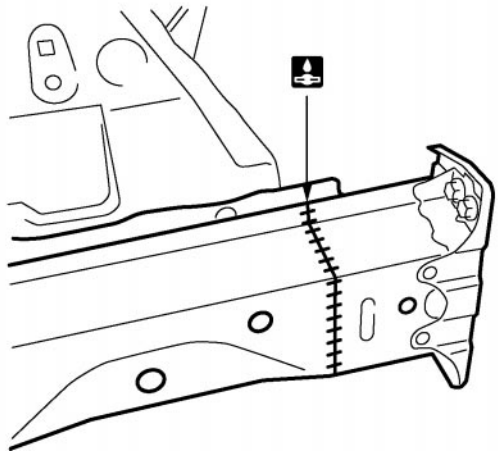
PART NAME

[A] Front Sidemember Outer Plate [B] Engine Front Mounting Bracket
70 mm (2.76 in.) 140 mm (5.51 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.

[LH]

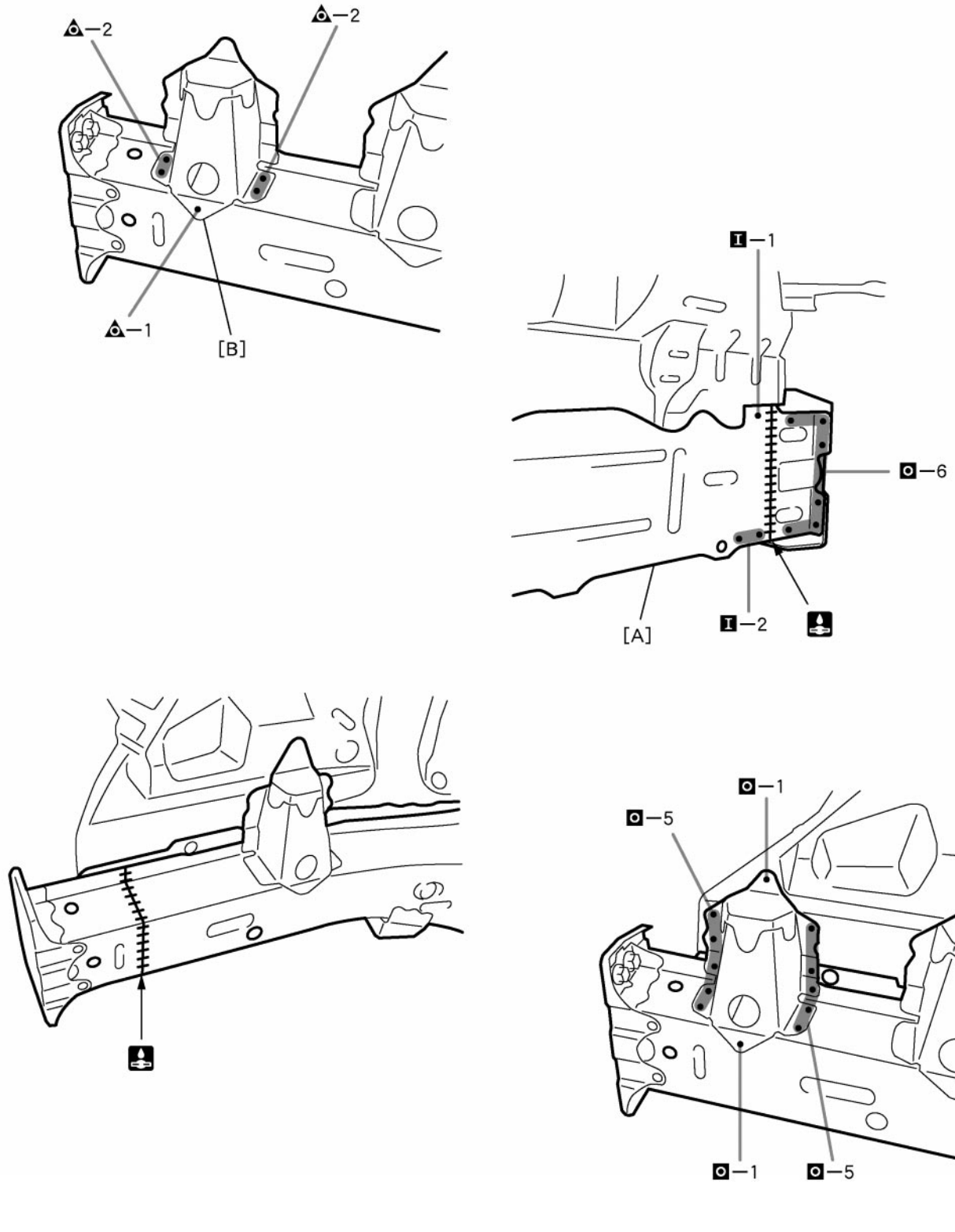


F23303

PART NAME

[A] Front Sidemember Outer Plate

[RH]



F23304

POINT

1 Remove the [B] from the new parts of the front sidemember reinforcement.
2 After installing the new parts, install [B].

PART NAME

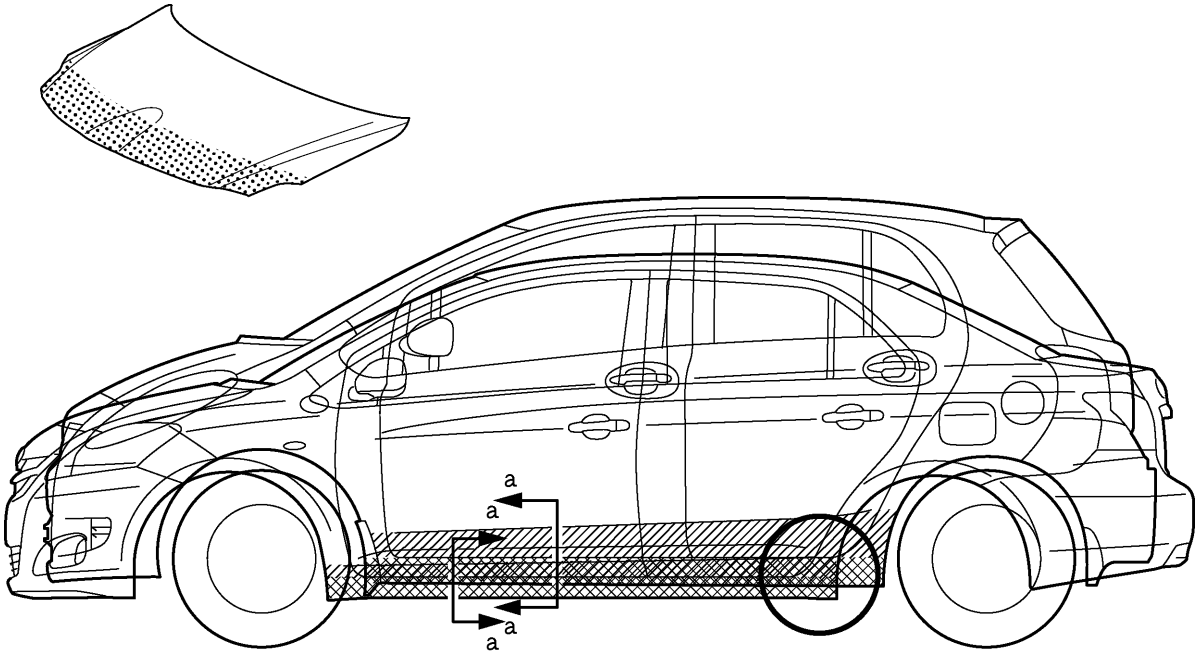
[A] Front Sidemember Outer Plate [B] Engine Front Mounting Bracket

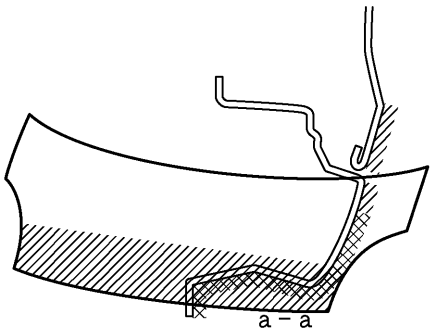
BODY PANEL ANTI-CHIPPING PAINT APPLICATION AREAS

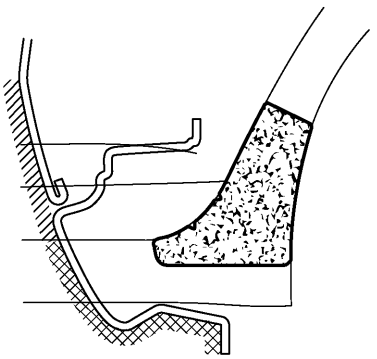
HINT:
1) Anti-chipping paint should be applied to some areas before the second coat and to other areas after the top coat.
2) Wipe off the paint immediately with a rag soaked in silicone remover if unrelated areas are accidentally coated.

[Sedan]

[Hatchback]







F24811-1

	PVC		Urethane		Adheshion Primer
	Protection Tape		Soft−Chip (Poly Olefine)	—	—

F23342

MEMO

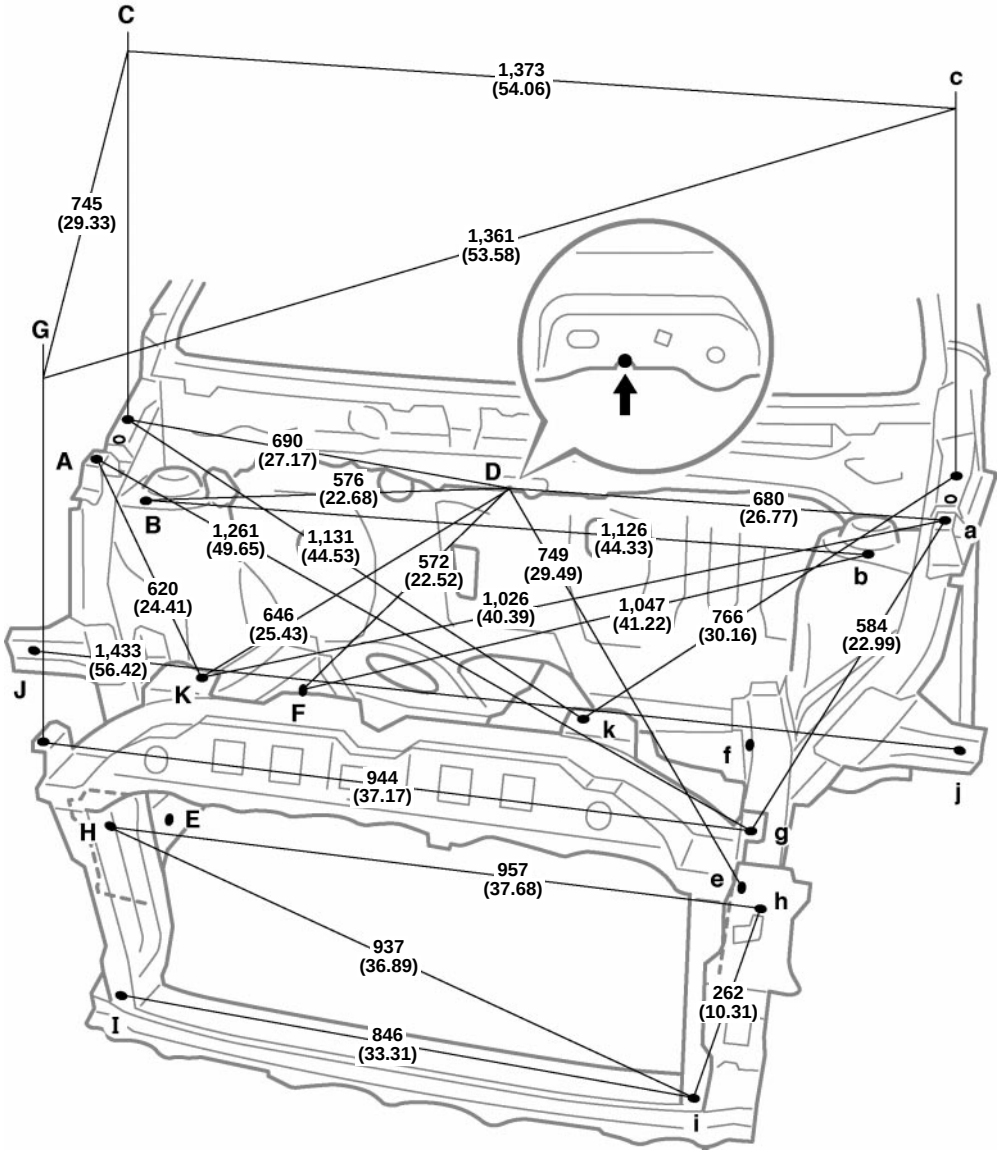
MEMO

BODY DIMENSION DRAWINGS

ENGINE COMPARTMENT

Hatchback

(Three-Dimensional Distance)



Vehicle Dimensions

A-a	A-C or a-c	B-C or b-c	B-c or b-C	B-K or b-k	B-k or b-K	K-k
1,324 (52.13)	170 (6.69)	209 (8.23)	1,261 (49.65)	564 (22.20)	942 (37.09)	505 (19.88)

Height from Imaginary Standard Line

A, a	C, c	G, g
810 (31.89)	815 (32.09)	614 (24.17)

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

mm (in.)

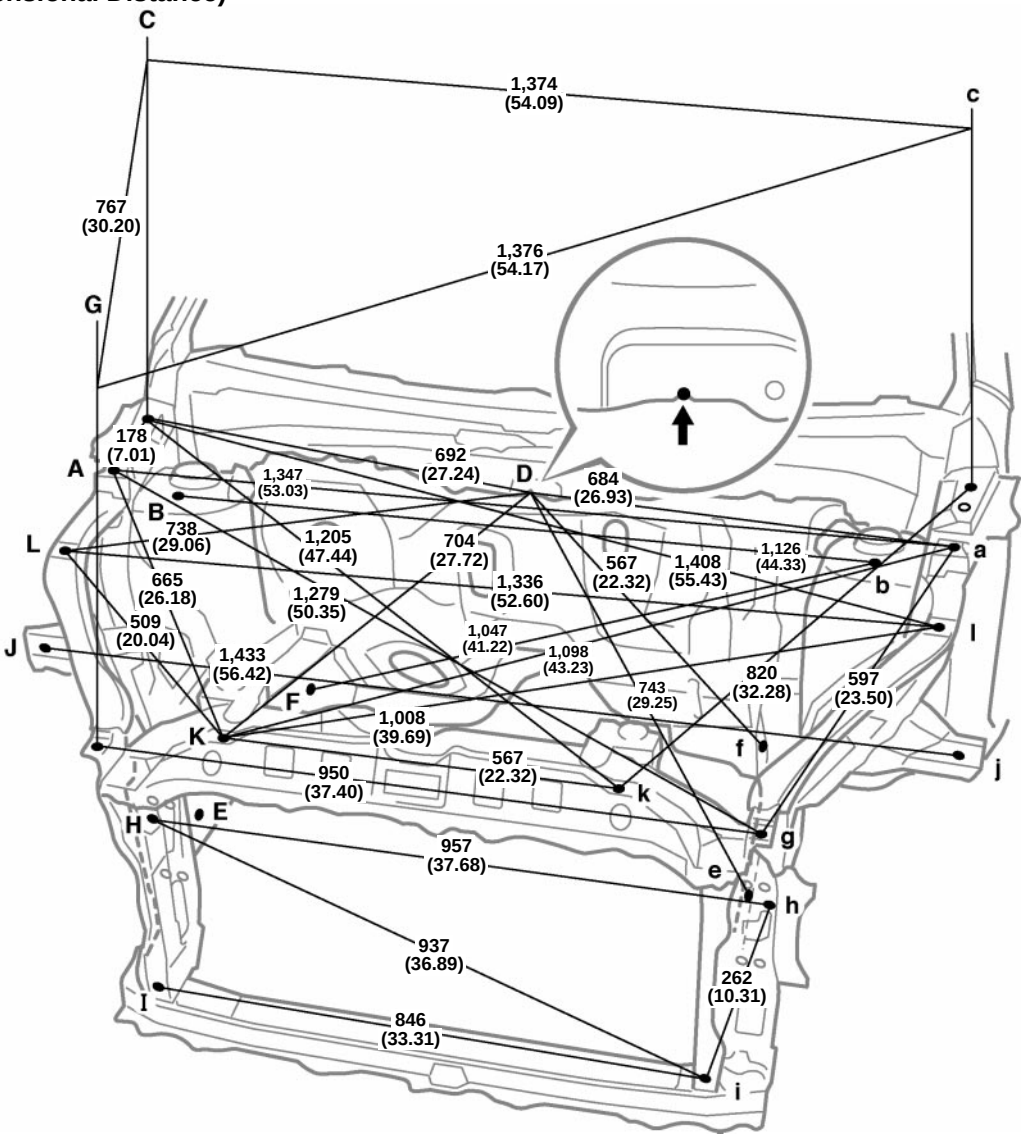
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front fender installation nut	M6 (0.24)	G, g	Headlight bracket standard hole	ø 10 (0.39)
B, b	Front spring support hole−inner	ø 11 (0.43)	H, h	Radiator side support installation hole	ø 6.3 (0.248)
C, c	Hood hinge installation nut-rear	M8 (0.31)	I, i	Radiator seal installation hole	ø 9 (0.35)
D	Cowl panel center mark	—	J, j	Front fender mounting bracket standard hole	ø 10 (0.39)
E, e	Front side member standard hole	ø 15 (0.59)	K, k	Front bumper installation hole	ø 7 (0.28)
F, f	Front side member standard hole	ø 10 (0.39)	—	—	—

BODY DIMENSION DRAWINGS

ENGINE COMPARTMENT

Sedan

(Three-Dimensional Distance)



Vehicle Dimensions

B-C or b-c	B-c or b-C	B-D or b-D	B-K or b-k	B-k or b-K	C-L or c-l
223 (8.78)	1,264 (49.76)	575 (22.64)	998 (39.29)	597 (23.50)	381 (15.00)

Height from imaginary standard line

A, a	C, c	G, g
778 (30.63)	792 (31.18)	615 (24.21)

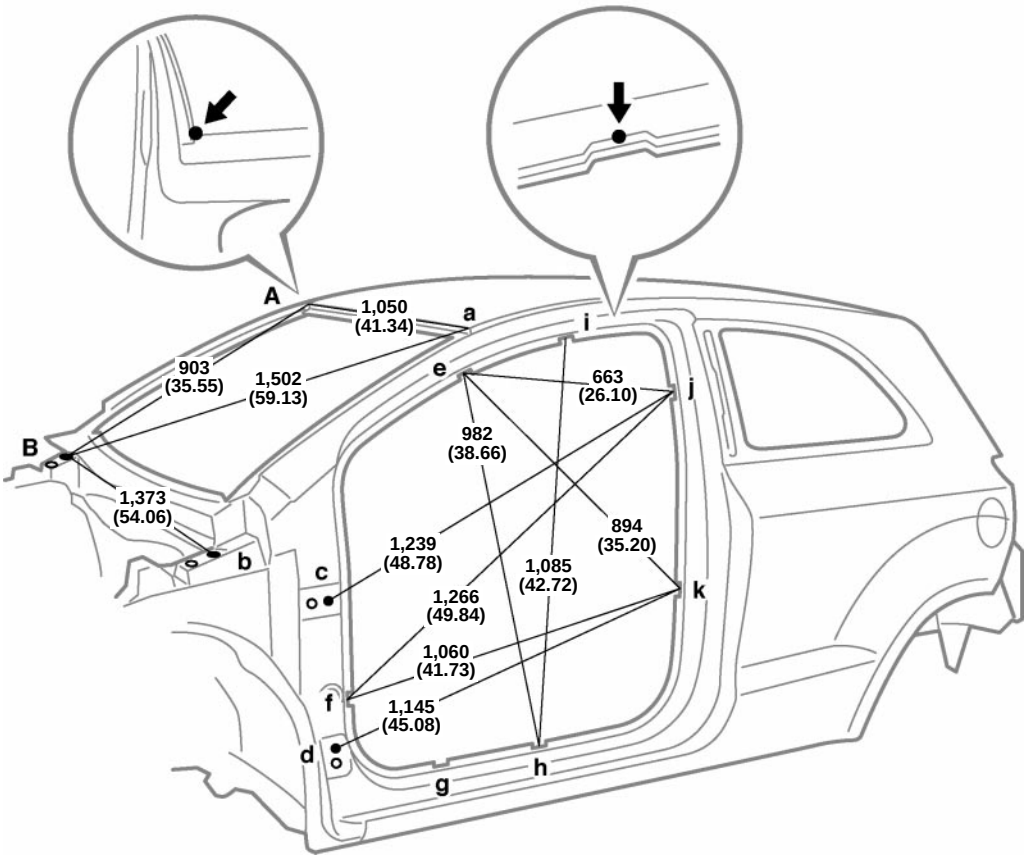
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front fender installation nut	M6 (0.24)	G, g	Headlight bracket installation hole	⁜9 (0.35)
B, b	Front spring support hole-inner	ø11 (0.43)	H, h	Radiator side support inatallation hole	ø6.3 (0.248)
C, c	Hood hinge installation nut-rear	M8 (0.31)	I, i	Radiator seal installation hole	ø9 (0.35)
D	Cowl panel center mark	—	J, j	Front fender mounting bracket standard hole	ø10 (0.39)
E, e	Front side member standard hole	ø15 (0.59)	K, k	Radiator upper support standard hole	ø13 (0.51)
F, f	Front side member standard hole	ø10 (0.39)	L, l	Front fender installation nut	M6 (0.24)

BODY OPENING AREAS (Side View)
Hatchback 3 Door

(Three-Dimensional Distance)



Vehicle Dimensions

E-e	F-f	G-g	H-h	I-i	J-j	K-k
1,147 (45.16)	1,379 (54.29)	1,417 (55.79)	1,417 (55.79)	1,090 (42.91)	1,258 (49.53)	1,395 (54.92)

E-f or e-F	E-h or e-H	E-j or e-J	E-k or e-K	F-j or f-J	F-k or f-K	G-h or g-H	H-i or h-I	J-k or j-K
1,532 (60.31)	1,609 (63.35)	1,372 (54.02)	1,549 (60.98)	1,826 (71.89)	1,745 (68.70)	1,440 (56.69)	1,650 (64.96)	1,429 (56.26)

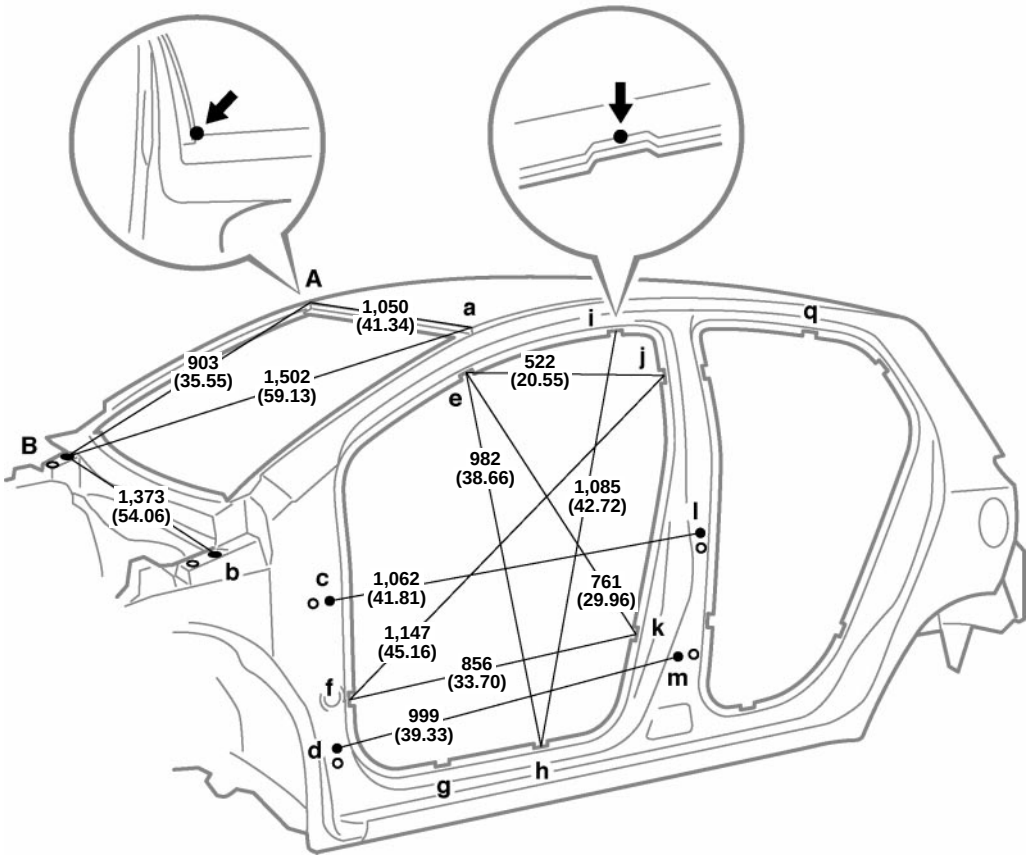
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

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

BODY OPENING AREAS (Side View: Front)
Hatchback 5 Door

(Three-Dimensional Distance)



Vehicle Dimensions

E-e	F-f	G-g	H-h	I-i	J-j	K-k
1,147 (45.16)	1,379 (54.29)	1,417 (55.79)	1,417 (55.79)	1,090 (42.91)	1,263 (49.72)	1,391 (54.76)

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	I-q or i-Q	J-k or j-K
1,532 (60.31)	1,609 (63.35)	1,312 (51.65)	1,748 (68.82)	1,628 (64.09)	1,650 (64.96)	1,260 (49.61)	1,431 (56.34)

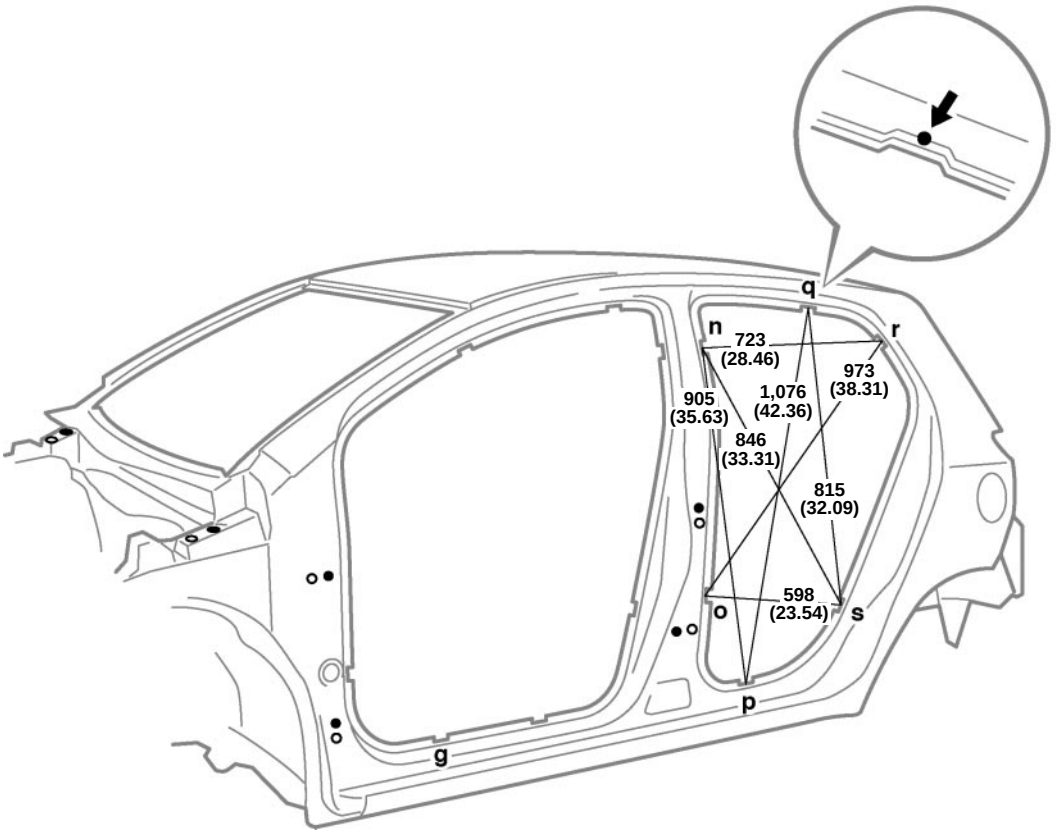
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

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	M8 (0.31)	I, i	Roof side rail assembly mark	—
C, c	Front door hinge installation nut	M8 (0.31)	J, j	Center body pillar assembly mark	—
D, d	Front door hinge installation nut	M8 (0.31)	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	—	Q, q	Roof side rail assembly mark	—

BODY OPENING AREAS (Side View: Rear)
Hatchback 5 Door

(Three-Dimensional Distance)



Vehicle Dimensions

N-n	O-o	P-p	Q-q	R-r	S-s
1,263 (49.72)	1,381 (54.37)	1,417 (55.79)	1,068 (42.05)	1,130 (44.49)	1,405 (55.31)

G-p or g-P	N-r or n-R	N-s or n-S	O-r or o-R	O-s or o-S	P-q or p-Q	R-s or r-S
1,717 (67.60)	1,397 (55.00)	1,578 (62.13)	1,584 (62.36)	1,516 (59.69)	1,634 (64.33)	1,451 (57.13)

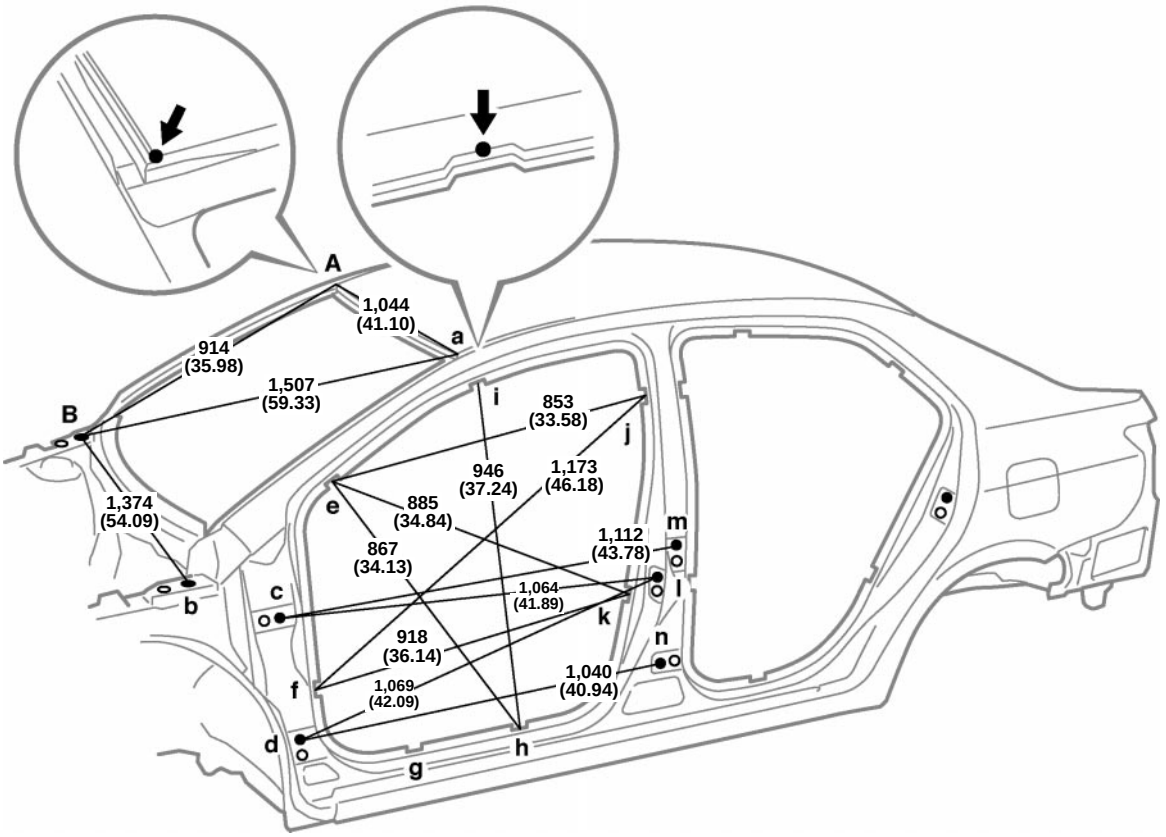
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
G, g	Rocker panel assembly mark	—	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	—
P, p	Quarter panel assembly mark	—	—	—	—

BODY OPENING AREAS (Side View: Front)
Sedan

(Three-Dimensional Distance)



Vehicle Dimensions

E-e	F-f	G-g	H-h	I-i	J-j	K-k	L-l
1,266 (49.84)	1,378 (54.25)	1,418 (55.83)	1,418 (55.83)	1,128 (44.41)	1,240 (48.82)	1,378 (54.25)	1,480 (58.27)

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
1,443 (56.81)	1,596 (62.83)	1,515 (59.65)	1,756 (69.13)	1,656 (65.20)	1,579 (62.17)	1,403 (55.24)

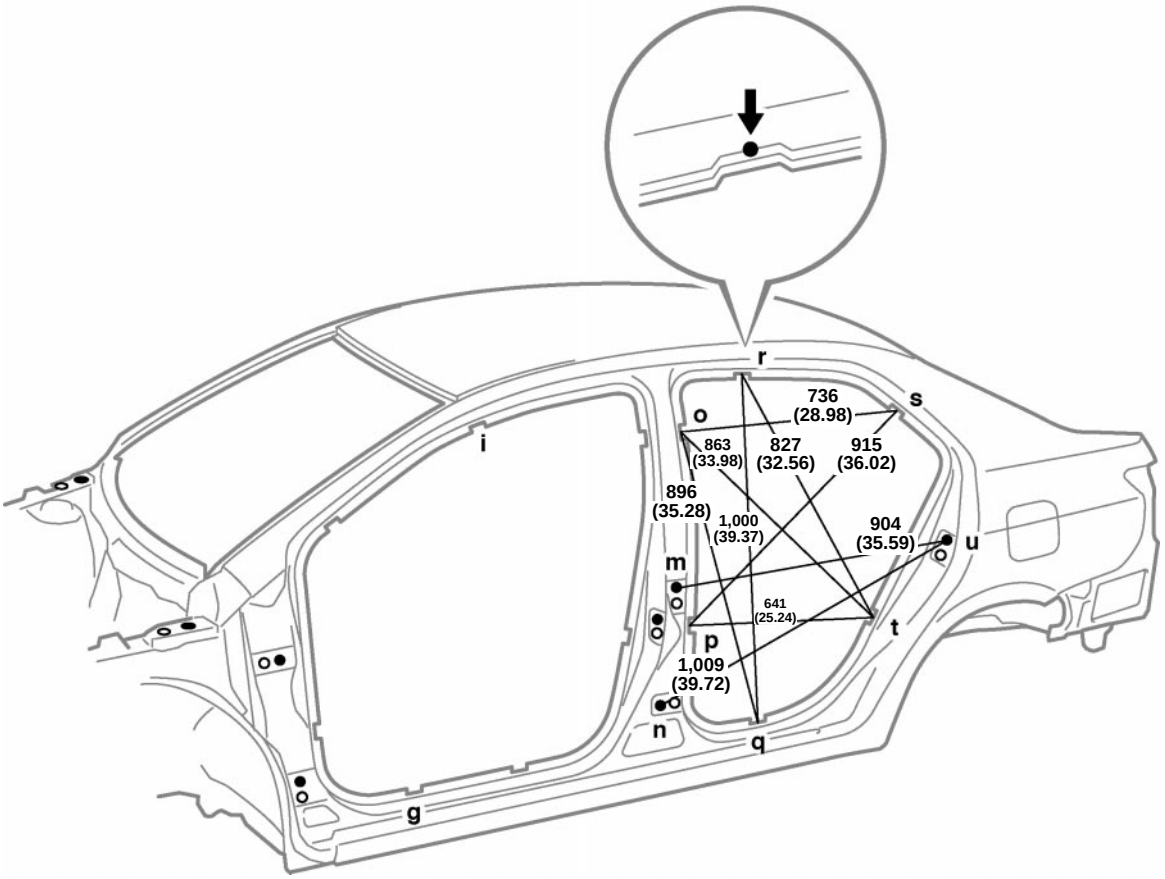
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

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	M8 (0.31)	I, i	Roof side rail assembly mark	—
C, c	Front door hinge installation nut	M8 (0.31)	J, j	Center body pillar assembly mark	—
D, d	Front door hinge installation nut	M8 (0.31)	K, k	Center body pillar assembly mark	—
E, e	Front body pillar assembly mark	—	L, l	Front door lock striker 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	—	N, n	Rear door hinge installation nut	M8 (0.31)

BODY OPENING AREAS (Side View: Rear)
Sedan

(Three-Dimensional Distance)



Vehicle Dimensions

O-o	P-p	Q-q	R-r	S-s	T-t	U-u
1,240 (48.82)	1,373 (54.06)	1,418 (55.83)	1,084 (42.68)	1,197 (47.13)	1,405 (55.31)	1,489 (58.62)

G-q or g-Q	I-r or i-R	O-s or o-S	O-t or o-T	P-t or p-T	Q-r or q-R	S-t or s-T
1,770 (69.69)	1,375 (54.13)	1,424 (56.06)	1,577 (62.09)	1,529 (60.20)	1,593 (62.72)	1,430 (56.30)

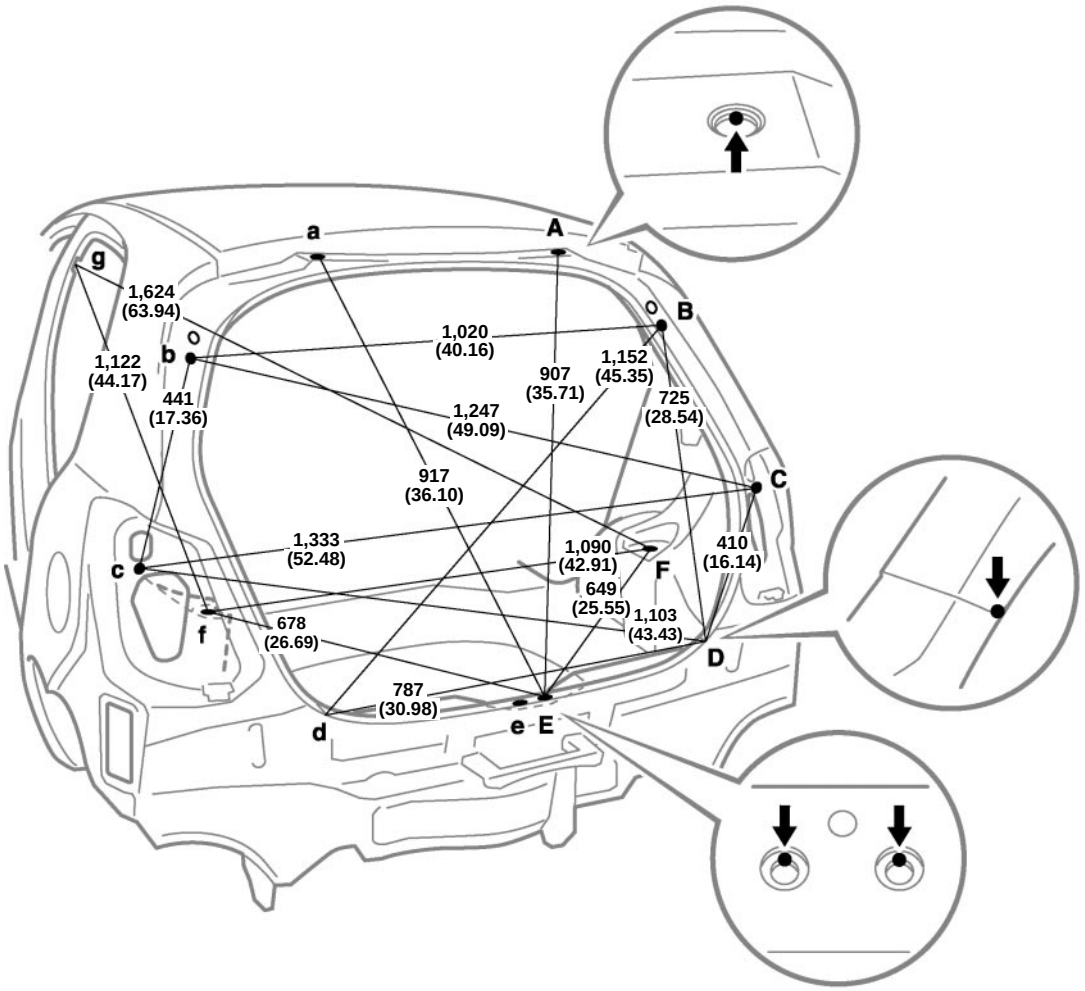
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
G, g	Rocker panel assembly mark	—	Q, q	Rocker panel assembly mark	—
I, i	Roof side rail assembly mark	—	R, r	Roof side rail assembly mark	—
M, m	Rear door hinge installation nut	M8 (0.31)	S, s	Quarter panel assembly mrak	—
N, n	Rear door hinge installation nut	M8 (0.31)	T, t	Quarter panel assembly mark	—
O, o	Center body pillar assembly mark	—	U, u	Rear door lock striker installation nut	M8 (0.31)
P, p	Center body pillar assembly mark	—	—	—	—

BODY OPENING AREAS (Rear View)
Hatchback 5 Door

(Three-Dimensional Distance)



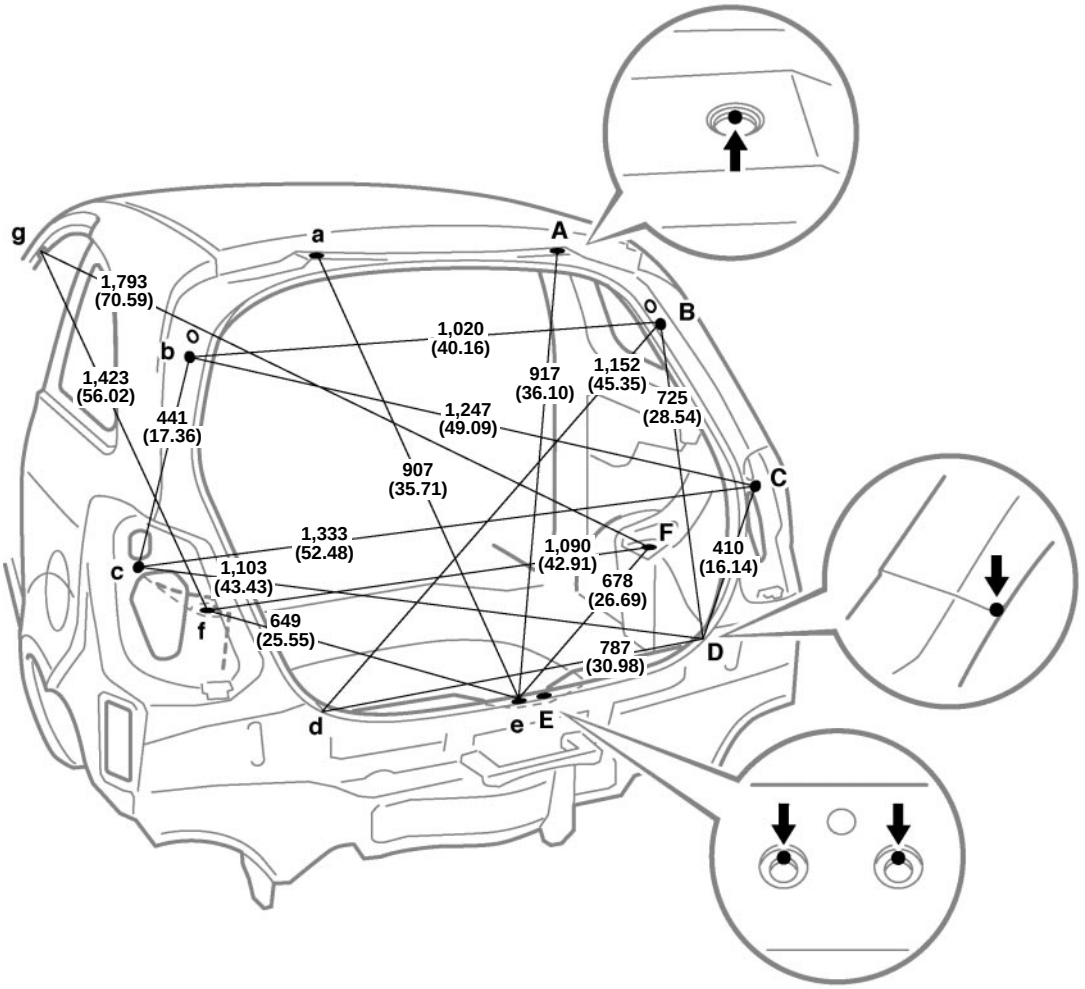
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Back door hinge installation hole	ø 10.2 (0.402): RH ø 10.2 (0.402) × 12 (0.47): LH	E, e	Back door lock striker installation nut	—
B, b	Back door stay installation nut	M6 (0.24)	F, f	Rear shock absorber installation hole−inner	M8 (0.31)
C, c	Back door opening trough standard hole	ø 10 (0.39)	G, g	Center body pillar assembly mark	ø 18 (0.71)
D, d	Back door opening trough/Body lower back panel adjoining point	—	—	—	—

BODY OPENING AREAS (Rear View)
Hatchback 3 Door

(Three-Dimensional Distance)

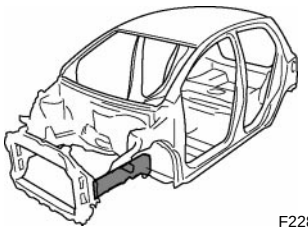


HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

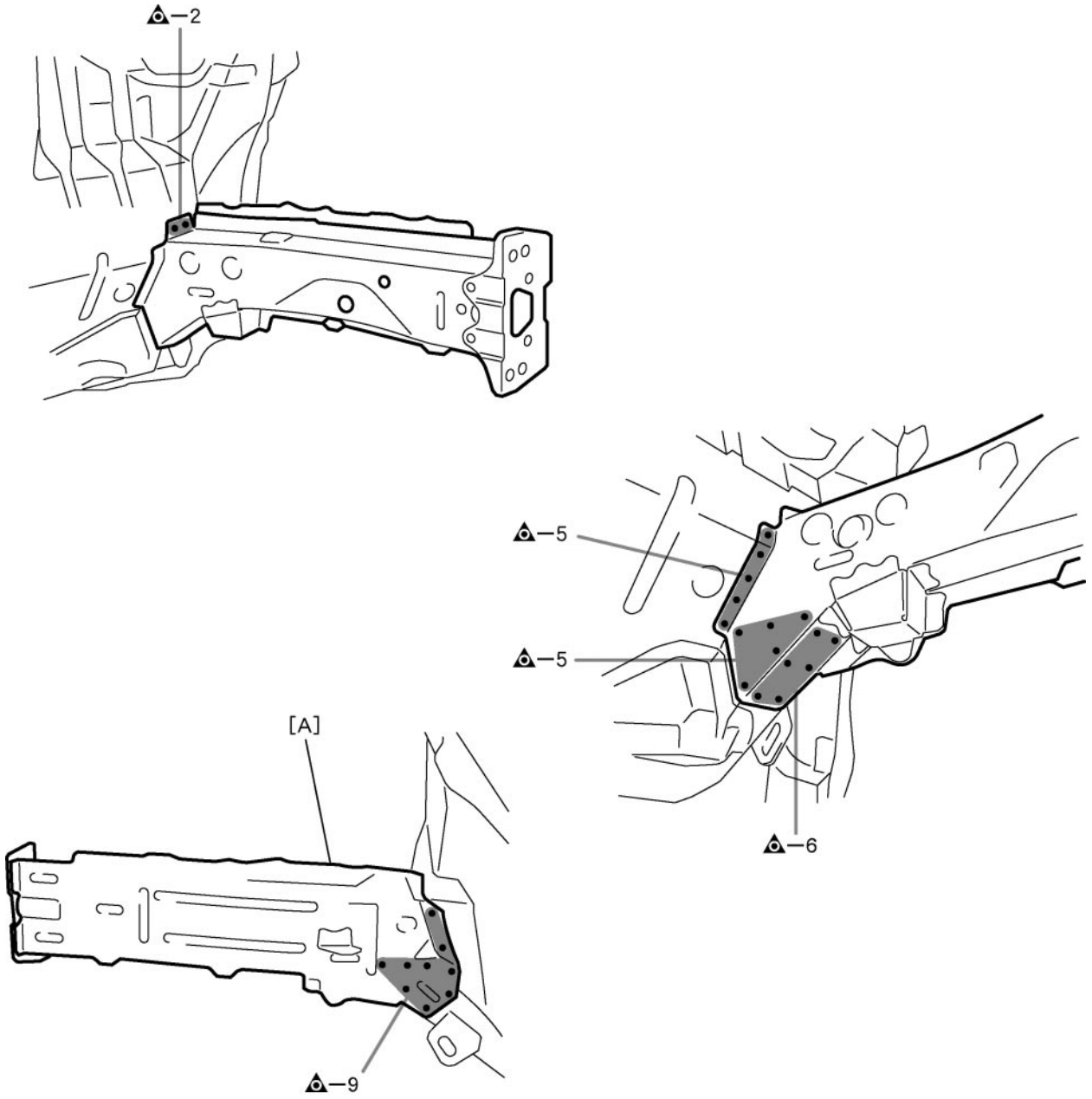
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Back door hinge installation hole	ø 10.2 (0.402): RH ø 10.2 (0.402) × 12 (0.47): LH	E, e	Back door lock striker installation nut	M8 (0.31)
B, b	Back door stay installation nut	M6 (0.24)	F, f	Rear shock absorber installation hole−inner	ø 18 (0.71)
C, c	Back door opening trough standard hole	ø 10 (0.39)	G, g	Roof side rail assembly mark	—
D, d	Back door opening trough/Body lower back panel adjoining point	—	—	—	—

FRONT SIDEMEMBER REINFORCEMENT (ASSY)


F22829A

REPLACEMENT
With the radiator support and front fender apron removed.

REMOVAL



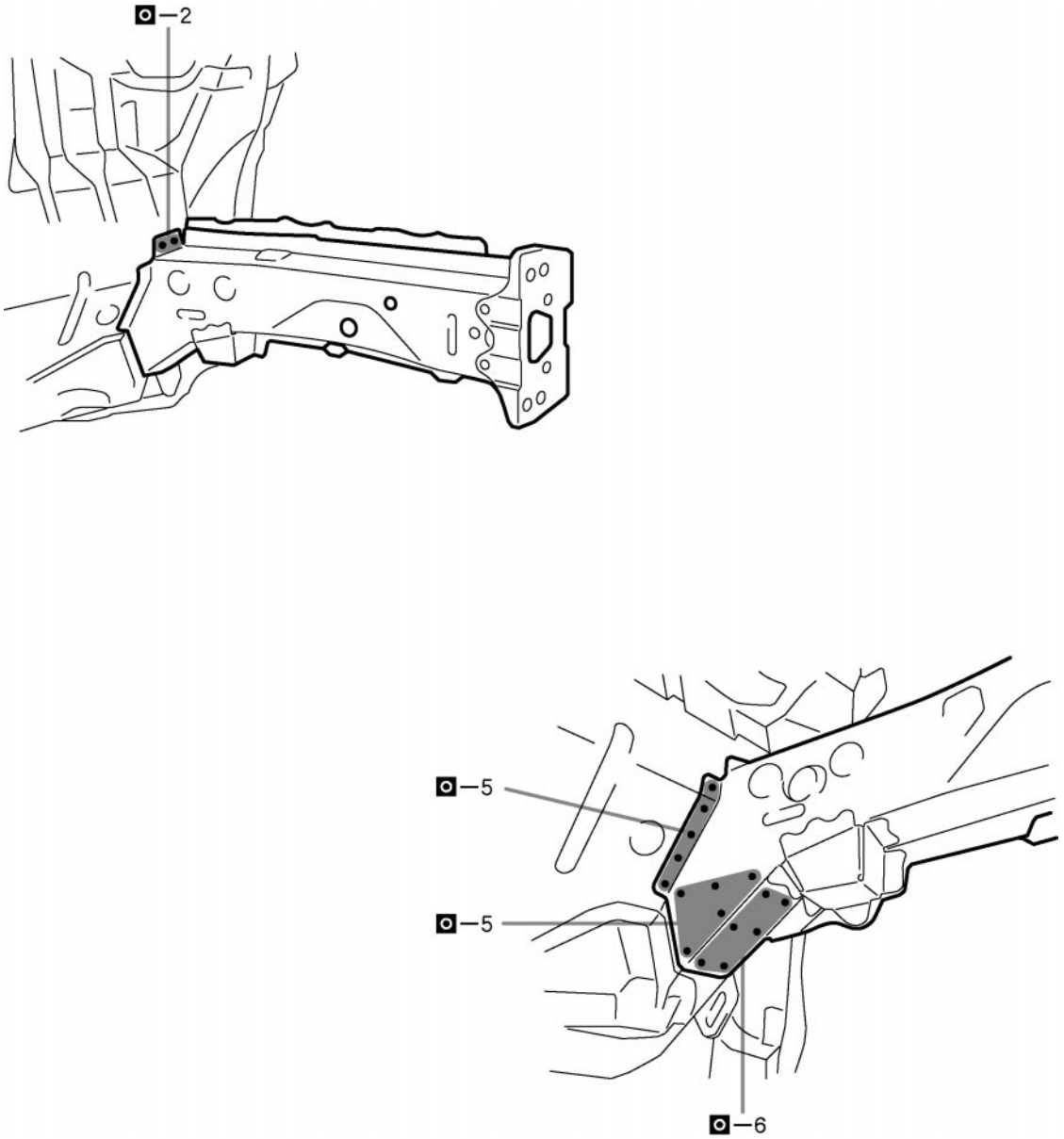
F22829

POINT
1 Remove [A] at the same time.

PART NAME
[A] Front Sidemember Outer Plate

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.

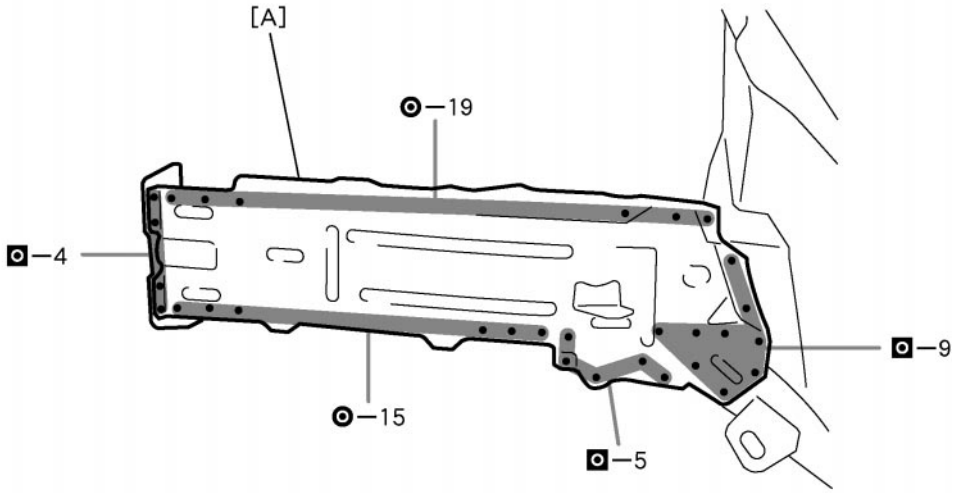


F22830

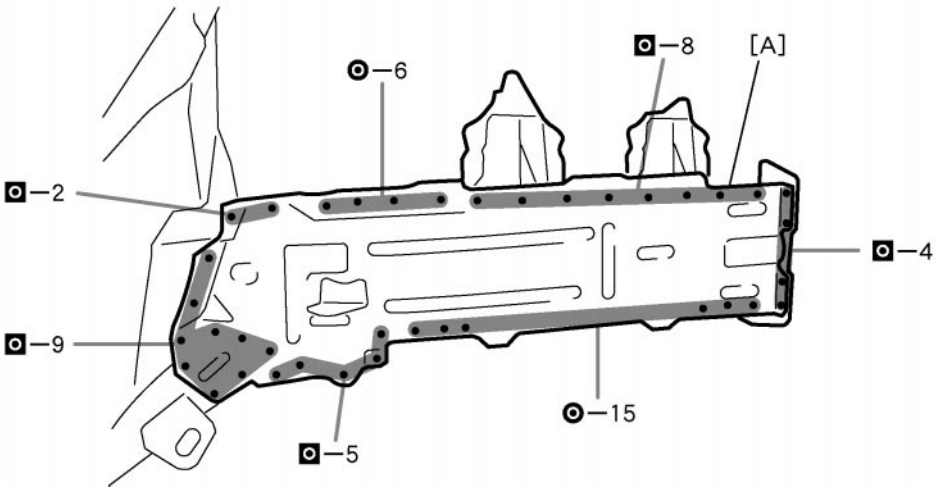
POINT

1 Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.

[LH]



[RH]



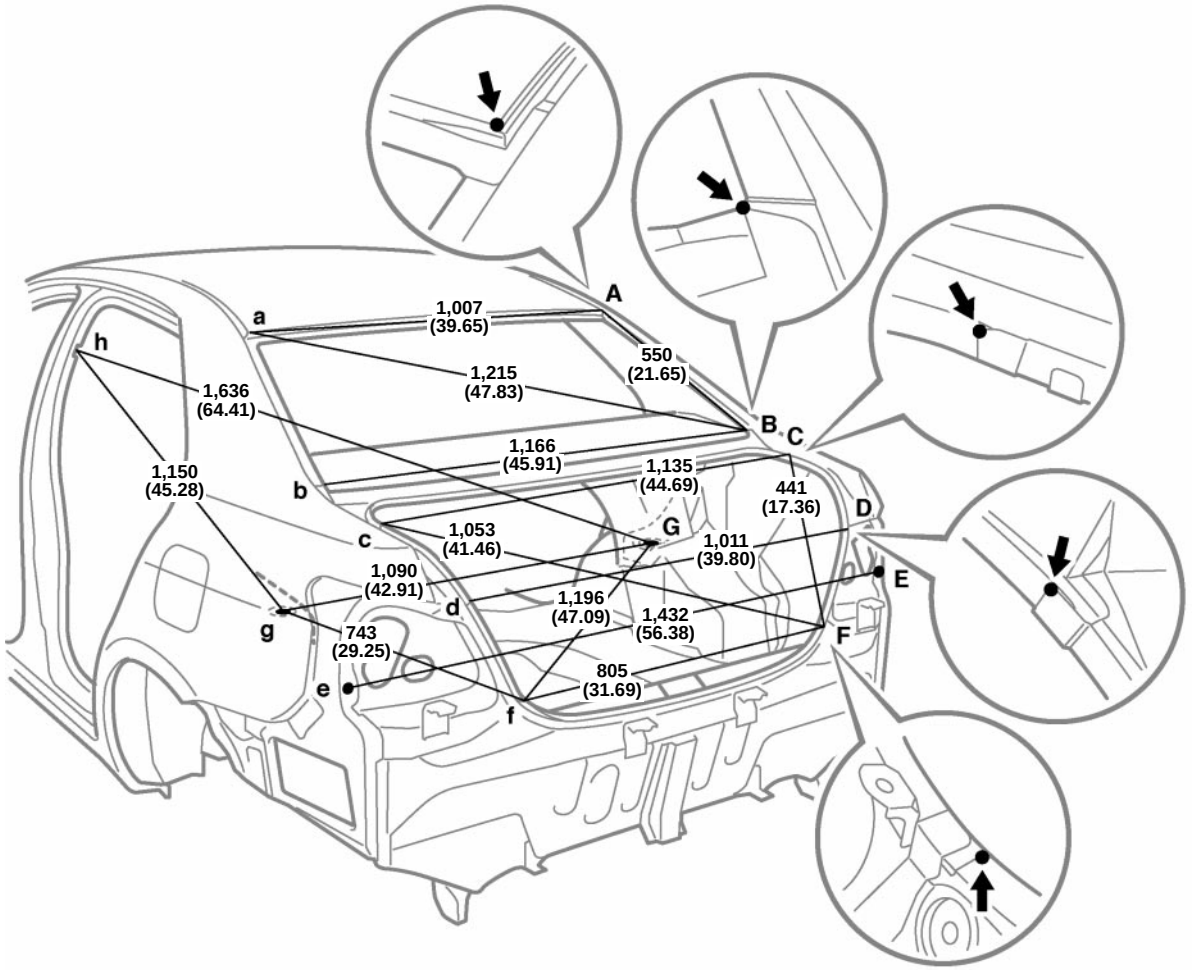
F22831

PART NAME

[A] Front Sidemember Outer Plate

BODY OPENING AREAS (Rear View)
Sedan

(Three-Dimensional Distance)



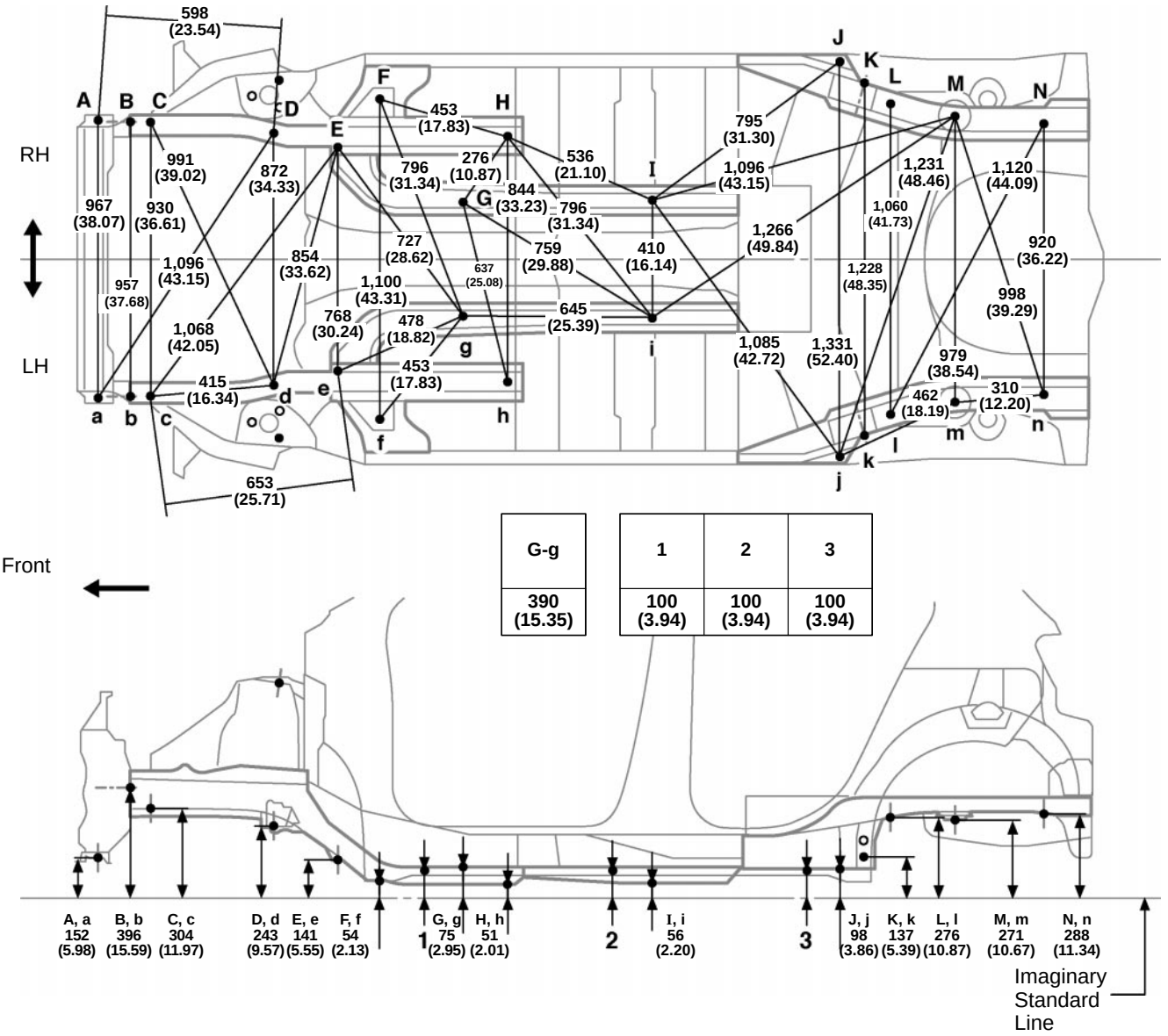
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Roof panel corner	—	E, e	Quarter panel standard hole	ø13 (0.51)
B, b	Upper back panel corner	—	F, f	Body lower back reinforcement corner	—
C, c	Back door opening trough corner	—	G, g	Rear shock absorber installation hole	ø18 (0.71)
D, d	Luggage door opening front trough corner	—	H, h	Center body pillar assembly mark	—

UNDER BODY
Hatchback

(Three-Dimensional Distance)



G-g
390 (15.35)

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

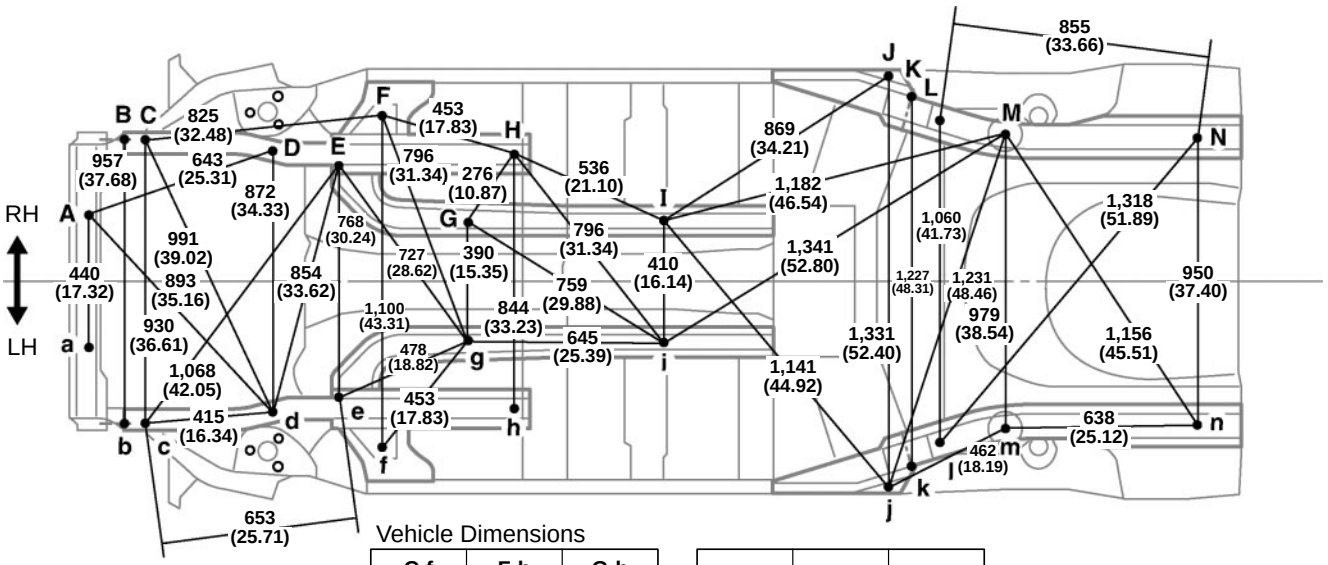
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator side support installation nut	M6 (0.24)	H, h	Front side member standard hole	ø 18 (0.71)
B, b	Radiator side support installation hole	ø 6.3 (0.248)	I, i	Front floor pan standard hole	ø 18 (0.71)
C, c	Front side member standard hole	ø 18 (0.71)	J, j	Floor side inner rear member standard hole	ø 18 (0.71)
D, d	Front suspension installation nut	M12 (0.47)	K, k	Rear axle beam installation outer hole-inner	ø 15 (0.59)
E, e	Front suspension installation nut	M14 (0.55)	L, l	Rear floor side member standard hole	ø 18 (0.71)
F, f	Torque box front standard hole	ø 25 (0.98)	M, m	Rear spring plate standard hole	ø 18 (0.71)
G, g	Front floor pan standard hole	ø 18 (0.71)	N, n	Rear floor side member standard hole	ø 18 (0.71)

UNDER BODY
Sedan

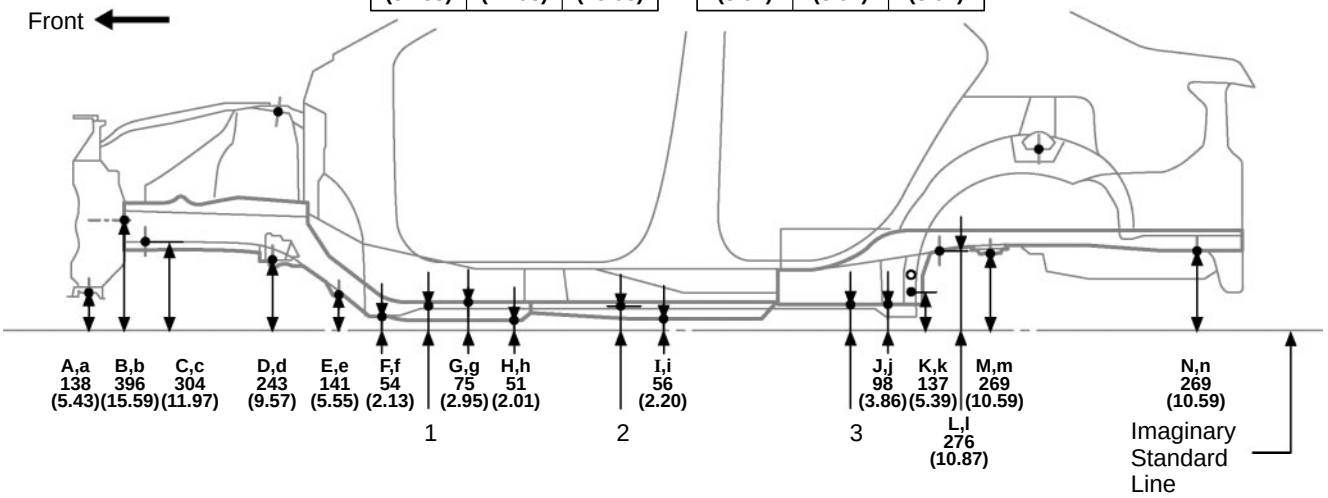
(Three-Dimensional Distance)



Vehicle Dimensions

C-f or c-F	F-h or f-H	G-h or g-H
1,305 (51.38)	1,065 (41.93)	637 (25.08)

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



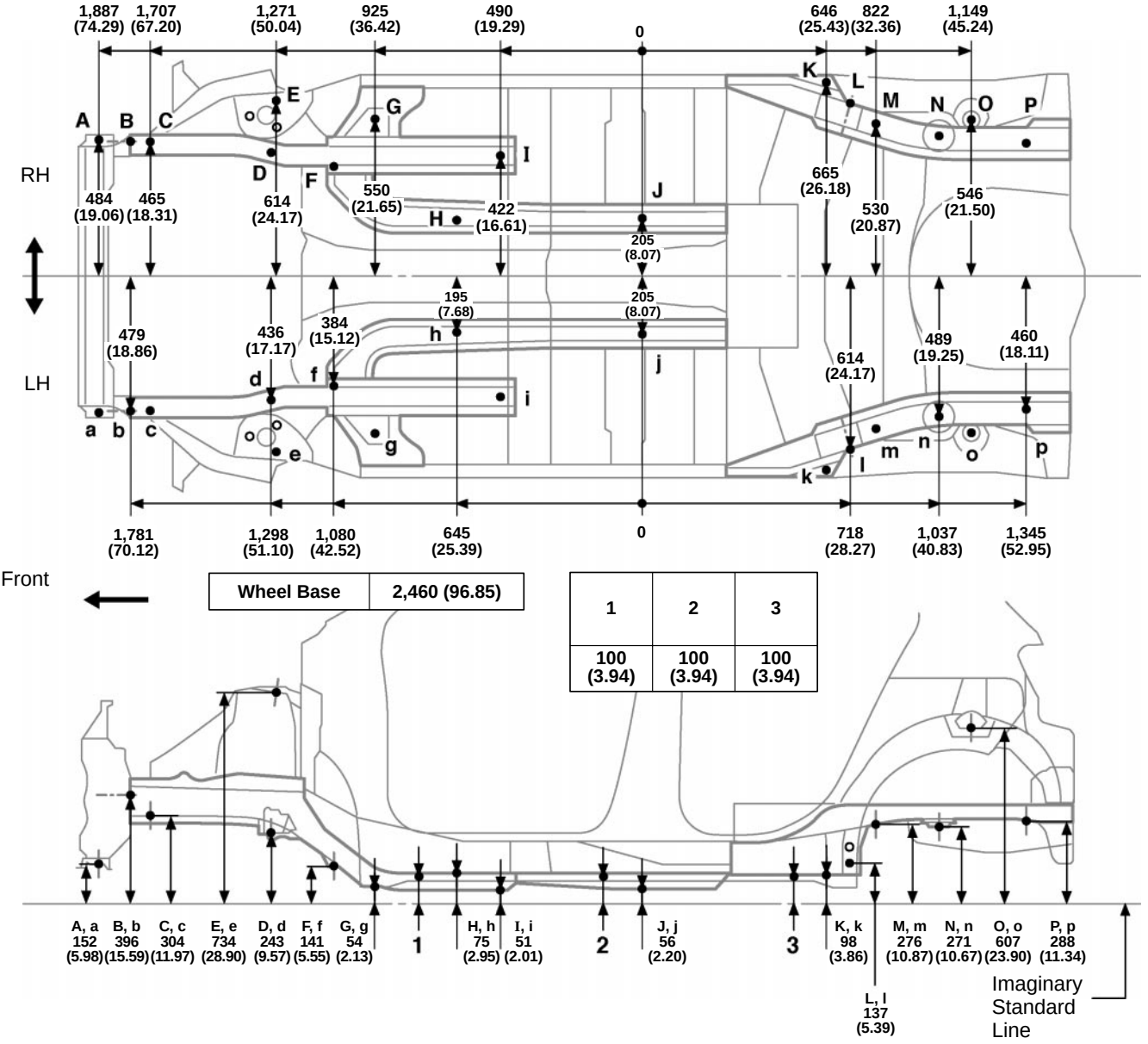
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator lower support standard hole	ø18 (0.71)	H, h	Front side member standard hole	ø18 (0.71)
B, b	Radiator side support inatallation hole	ø6.3 (0.248)	I, i	Front floor pan standard hole	ø18 (0.71)
C, c	Front side member standard hole	ø18 (0.71)	J, j	Floor side inner rear member standard hole	ø18 (0.71)
D, d	Front suspension member installation nut	M12 (0.47)	K, k	Rear axle beam installation outer hole-inner	ø15 (0.59)
E, e	Front suspension member installation nut	M14 (0.55)	L, l	Rear floor side member standard hole	ø18 (0.71)
F, f	Torque box front standard hole	ø25 (0.98)	M, m	Rear spring plate standard hole	ø18 (0.71)
G, g	Front floor pan standard hole	ø18 (0.71)	N, n	Rear floor side member standard hole	ø18 (0.71)

UNDER BODY
Hatchback

(Two-Dimensional Distance)



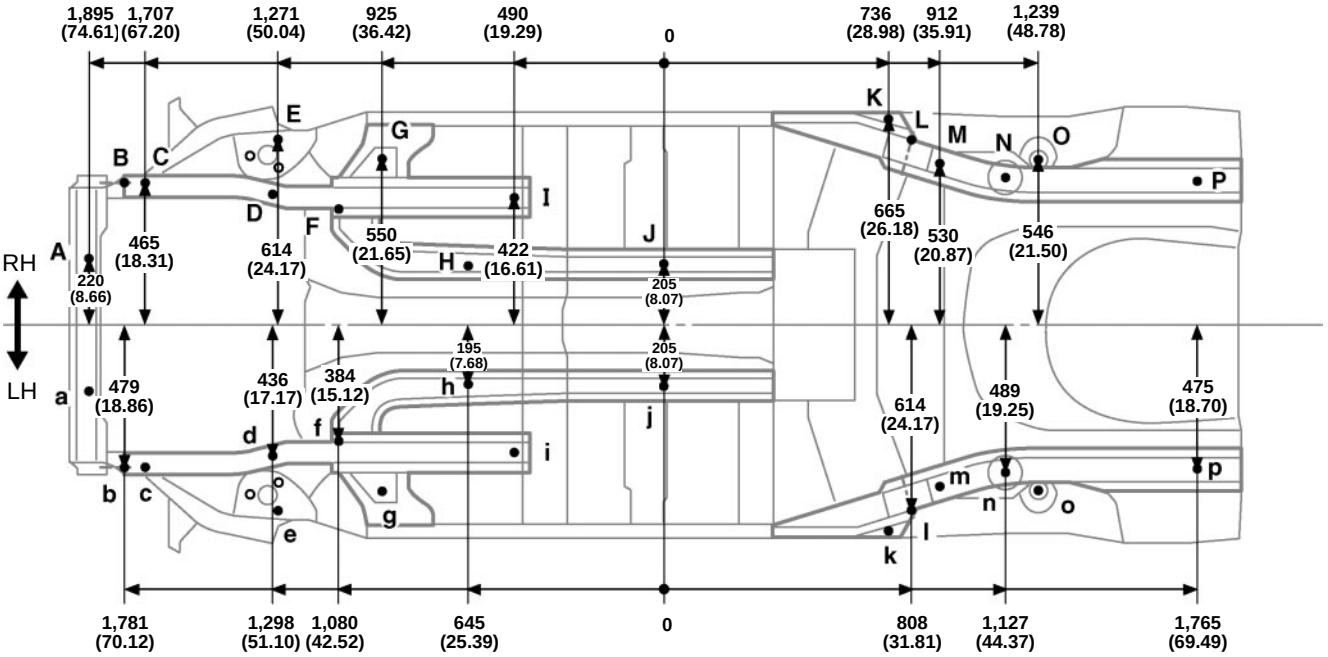
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator side support installation nut	M6 (0.24)	I, i	Front side member standard hole	ø 18 (0.71)
B, b	Radiator side support installation hole	ø 6.3 (0.248)	J, j	Front floor pan standard hole	ø 18 (0.71)
C, c	Front side member standard hole	ø 18 (0.71)	K, k	Floor side inner rear member standard hole	ø 18 (0.71)
D, d	Front suspension member installation nut	M12 (0.47)	L, l	Rear axle beam installation outer hole-inner	ø 15 (0.59)
E, e	Front spring support plate standard hole−outer	ø 11 (0.43)	M, m	Rear floor side member standard hole	ø 18 (0.71)
F, f	Front suspension member installation nut	M14 (0.55)	N, n	Rear spring plate standard hole	ø 18 (0.71)
G, g	Torque box front standard hole	ø 25 (0.98)	O, o	Rear shock absorber installation hole	ø 18 (0.71)
H, h	Front floor pan standard hole	ø 18 (0.71)	P, p	Rear floor side member standard hole	ø 18 (0.71)

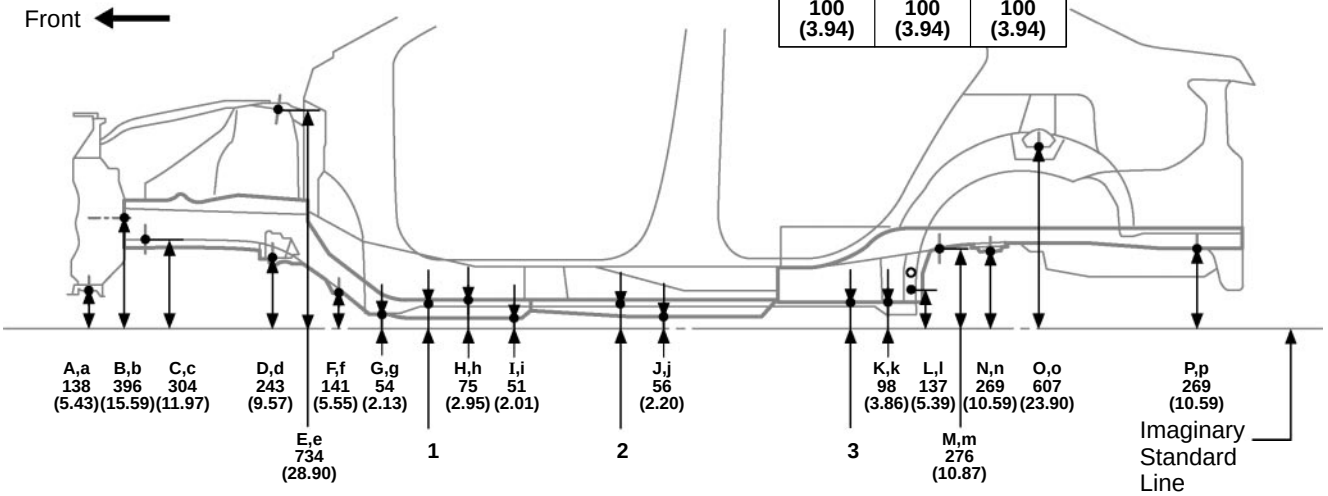
UNDER BODY
Sedan

(Two-Dimensional Distance)



Wheel Base	2,460 (96.85)

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



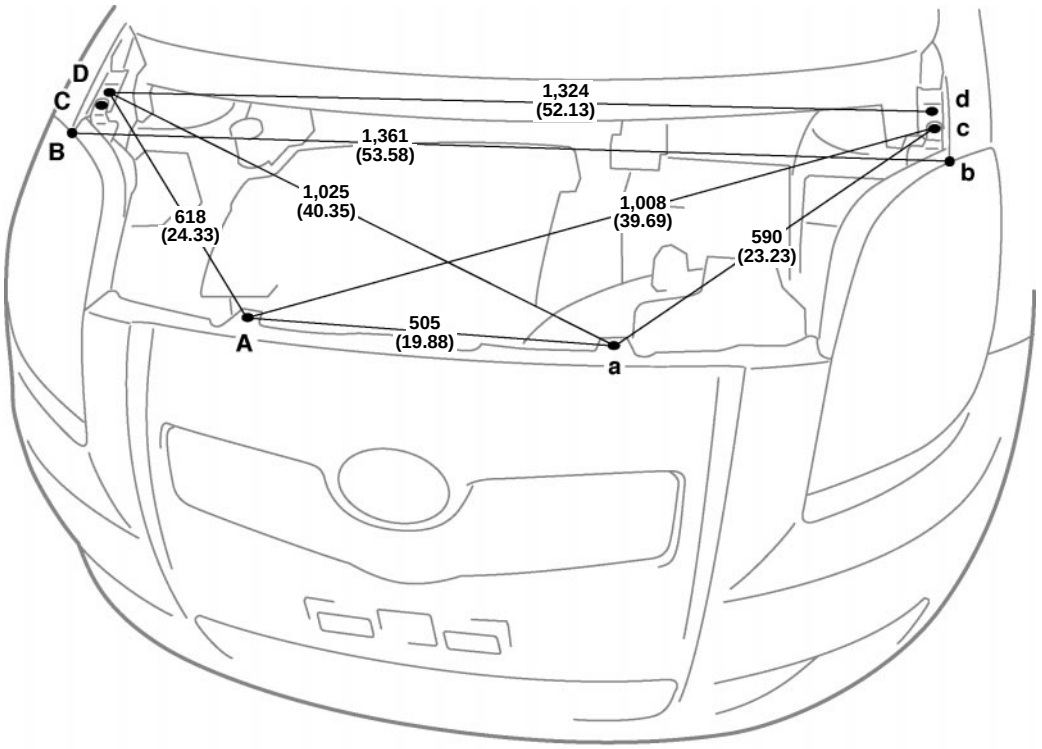
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

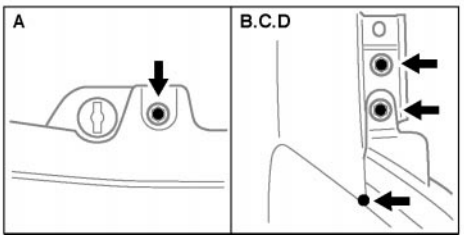
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator lower support standard hole	ø18 (0.71)	I, i	Front side member standard hole	ø18 (0.71)
B, b	Radiator side support inatallation hole	ø6.3 (0.248)	J, j	Front floor pan standard hole	ø18 (0.71)
C, c	Front side member standard hole	ø18 (0.71)	K, k	Floor side inner rear member standard hole	ø18 (0.71)
D, d	Front suspension member installation nut	M12 (0.47)	L, l	Rear axle beam installation outer hole-inner	ø15 (0.59)
E, e	Front spring support plate standard hole	ø11 (0.43)	M, m	Rear floor side member standard hole	ø18 (0.71)
F, f	Front suspension member installation nut	M14 (0.55)	N, n	Rear spring plate standard hole	ø18 (0.71)
G, g	Torque box front standard hole	ø25 (0.98)	O, o	Rear shock absorber installation hole	ø18 (0.71)
H, h	Front floor pan standard hole	ø18 (0.71)	P, p	Rear floor side member standard hole	ø18 (0.71)

REFERENCE VALUE
ENGINE COMPARTMENT
Hatchboack

(Three-Dimensional Distance)



C-c	C-D or c-d
1,324 (52.13)	38 (1.50)



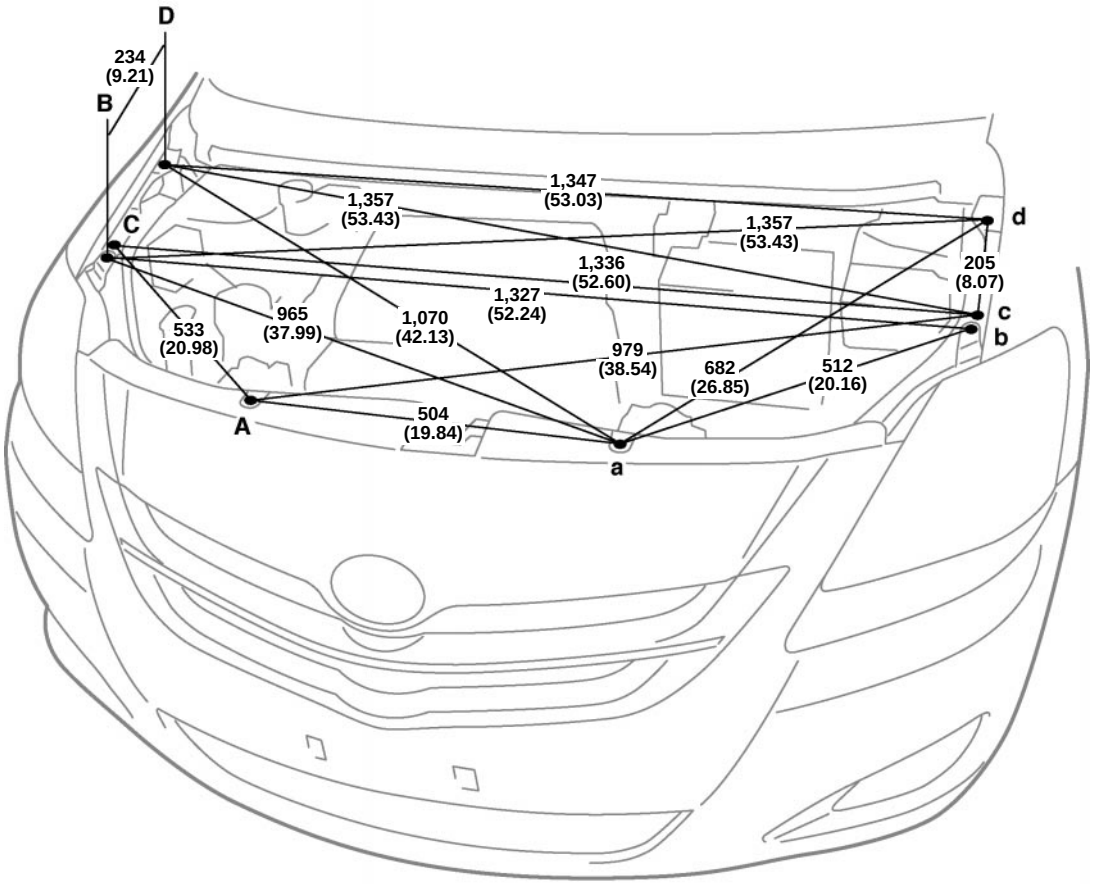
HINT: These values are actual measurements made on a vehicle.
Use these reference values.

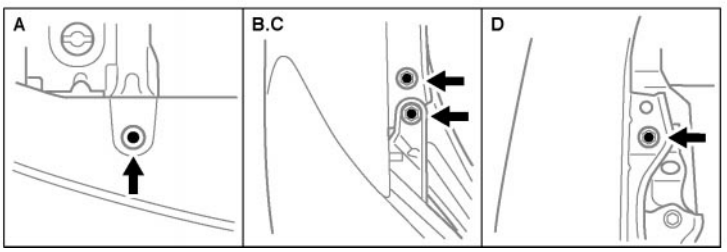
mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper cover installation bolt	—	C, c	Headlight installation bolt	—
B, b	Front end of fender	—	D, d	Front fender installation bolt	—

REFERENCE VALUE
ENGINE COMPARTMENT
Sedan

(Three-Dimensional Distance)





HINT: These values are actual measurements made on a vehicle.
Use these reference values.

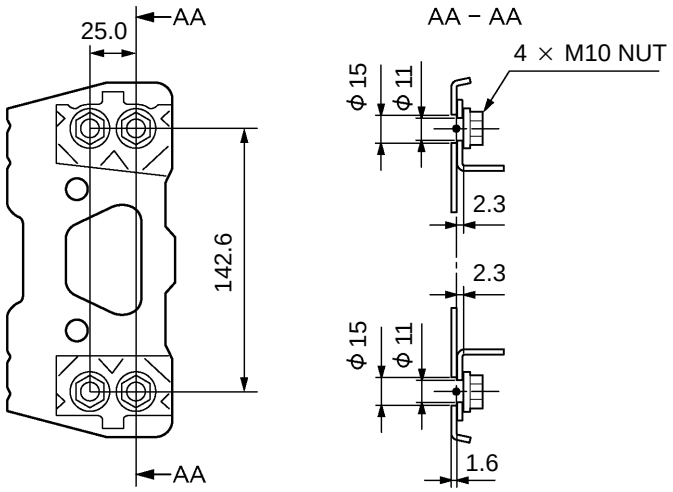
mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper cover installation clip	—	C, c	Front fender installation bolt	—
B, b	Headlight installation bolt	—	D, d	Front fender installation bolt	—

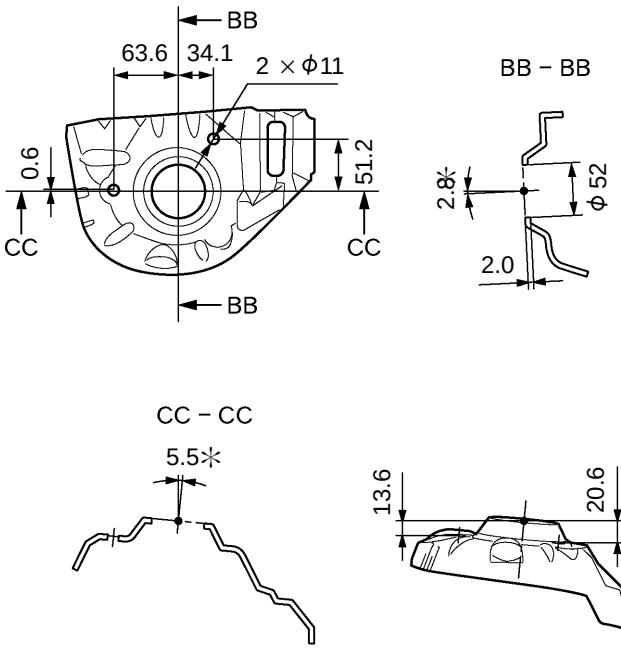
UNDER BODY

(Two-Dimensional Distance)

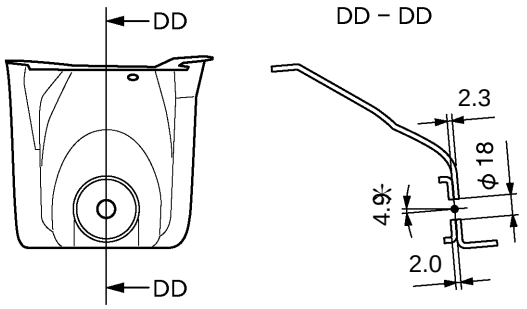
Radiator support installation



Front spring support

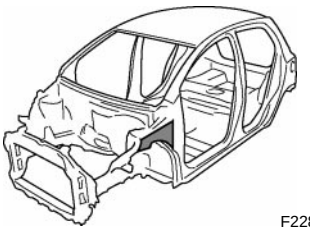


Rear shock absorber installation



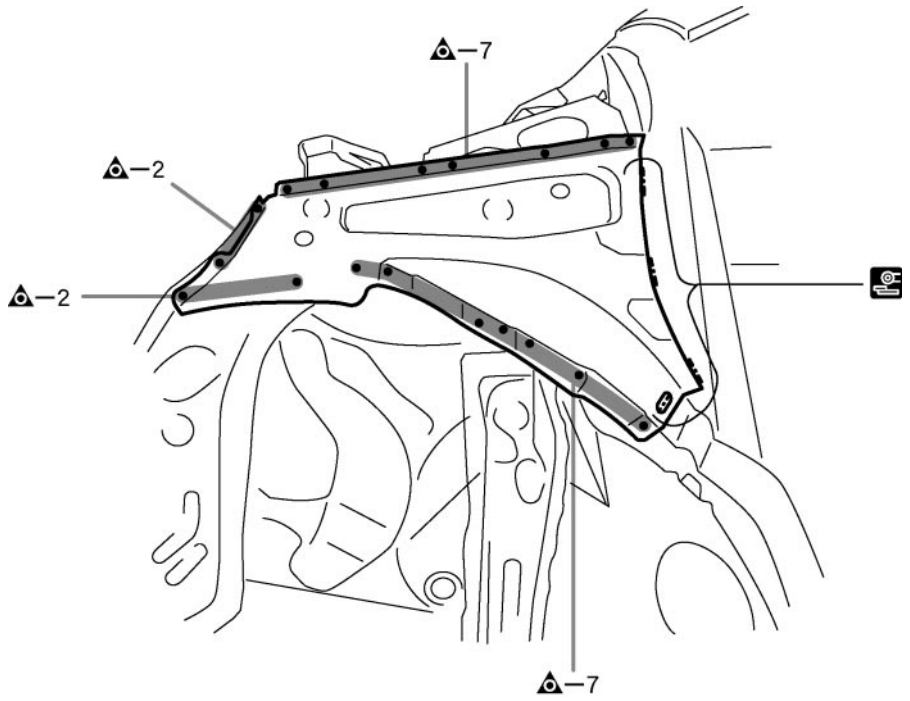
mm

COWL TOP SIDE PANEL (ASSY)


F22832A

REPLACEMENT

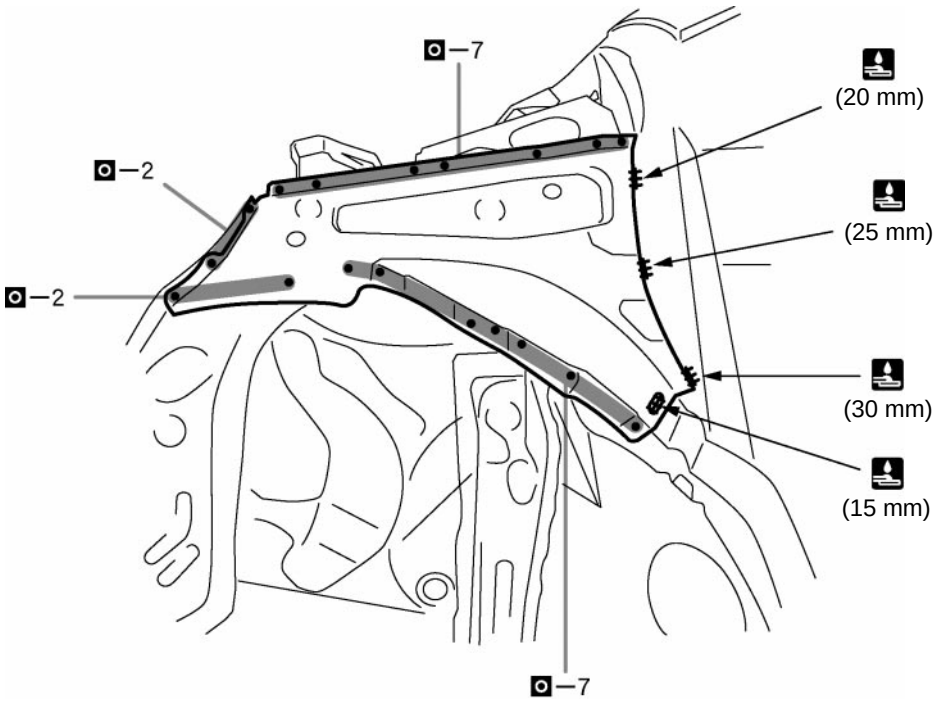
REMOVAL



F22832

INSTALLATION

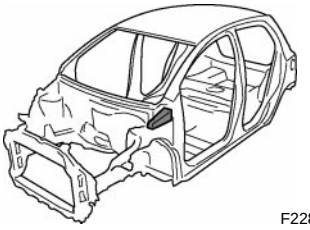
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply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



F22833

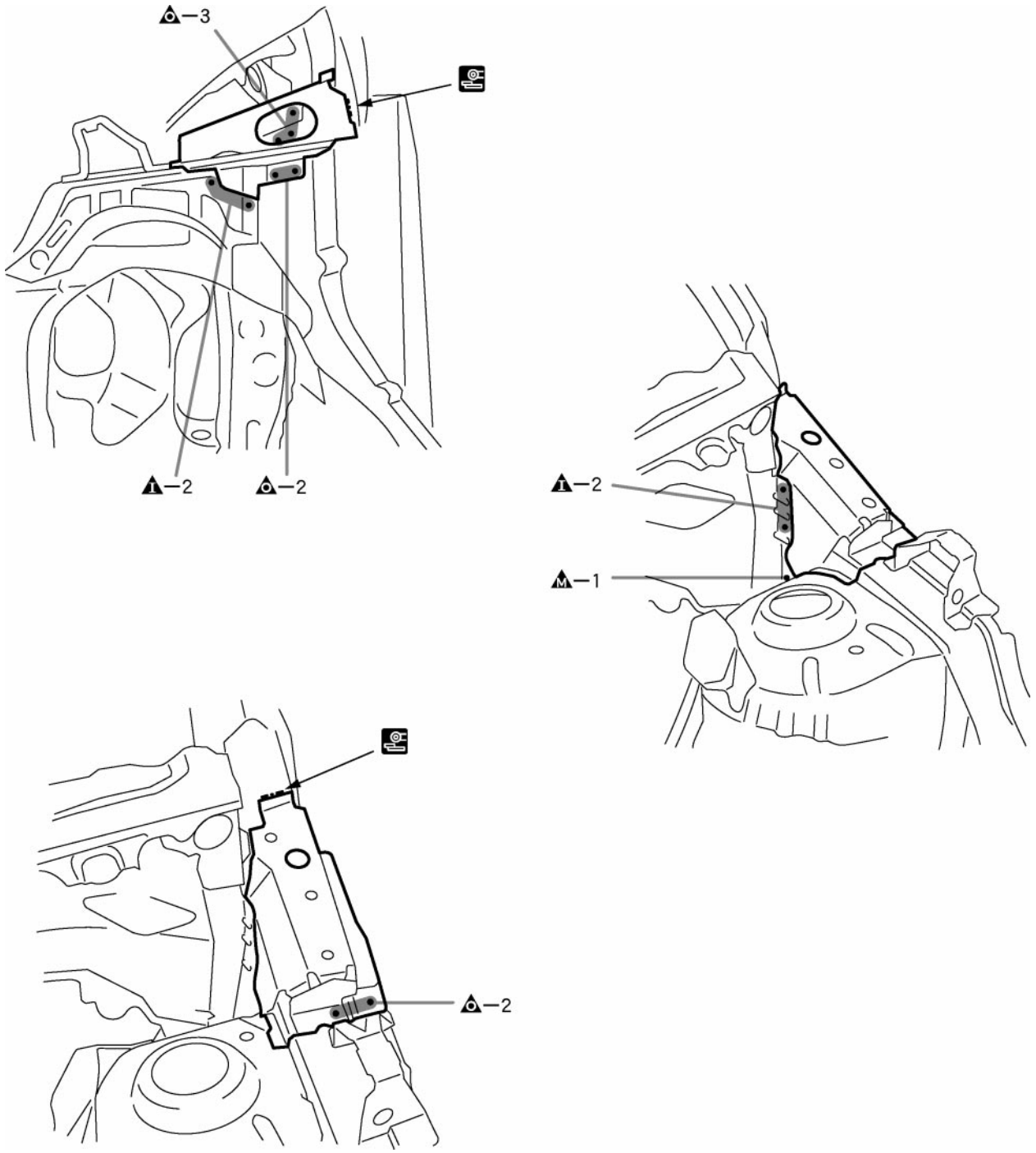
15 mm (0.59 in.) 20 mm (0.79 in.) 25 mm (0.98 in.) 30 mm (1.18 in.)

COWL TOP SIDE UPPER PANEL (ASSY)


F22834A

REPLACEMENT
With the cowl top side panel removed.

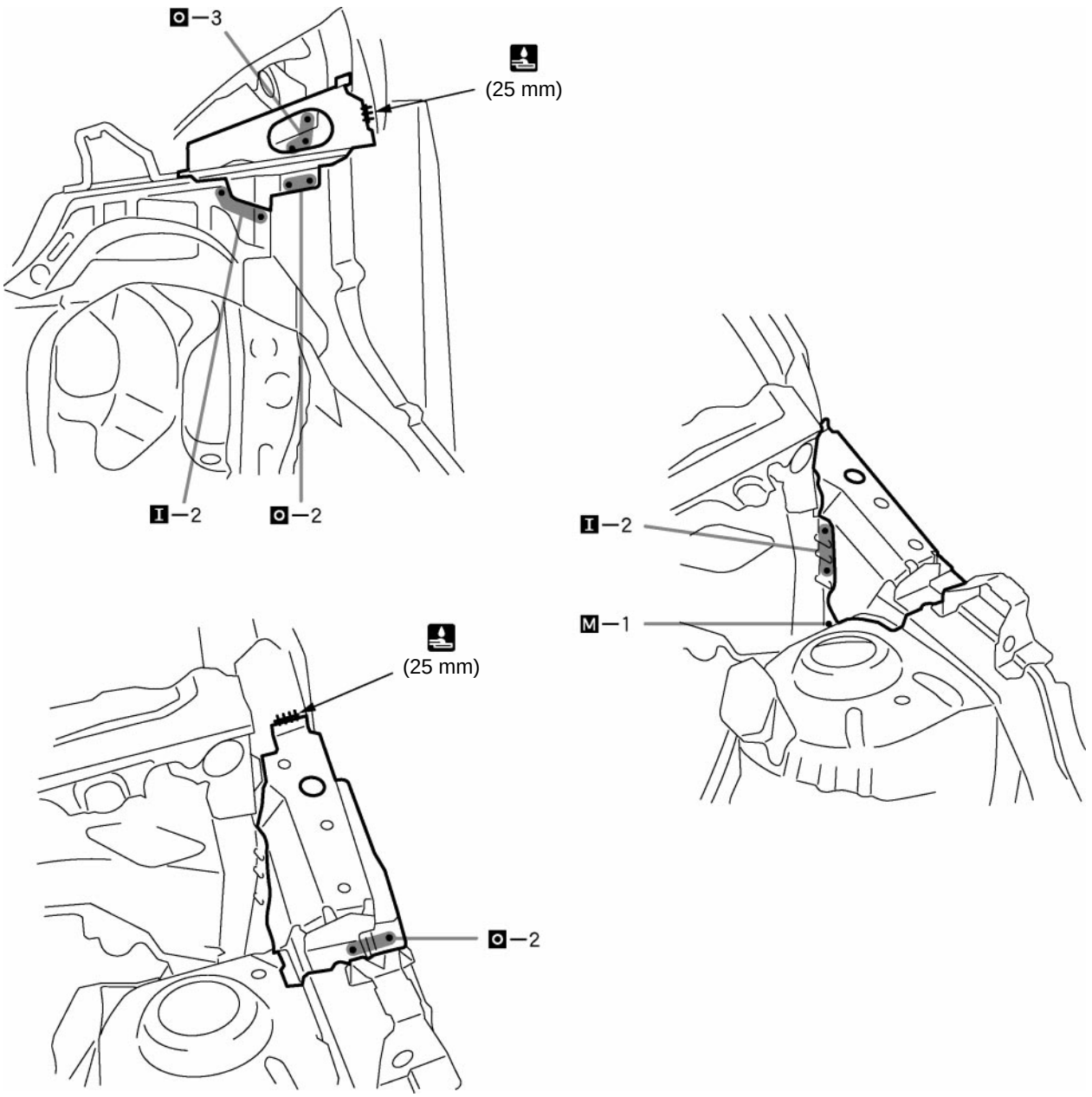
REMOVAL



F22834

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.



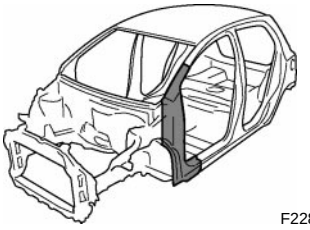
F22835

POINT

1 Inspect the fitting of the hood and related parts before welding as this affects the appearance of the finish.

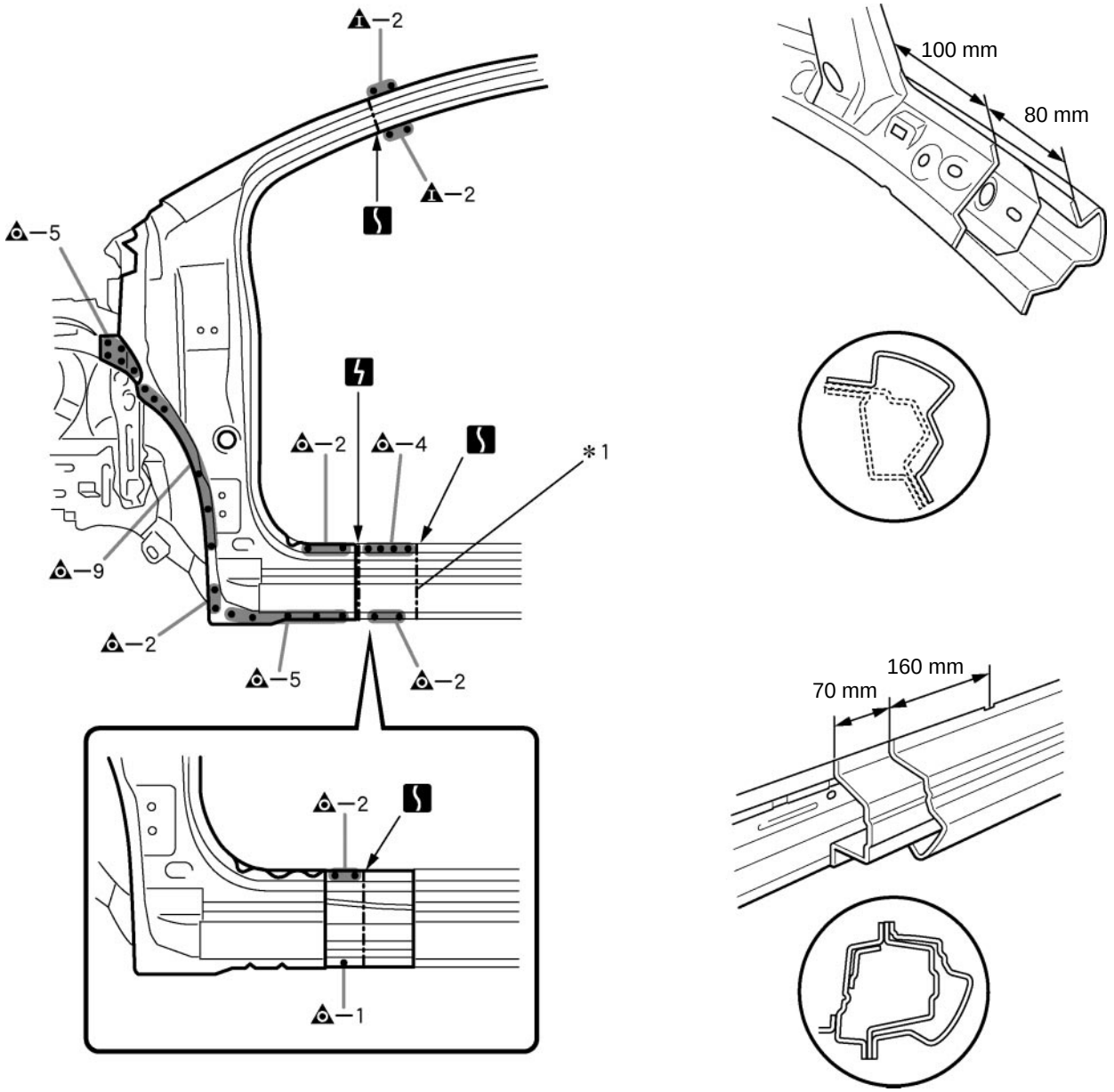
25 mm (0.98 in.)

FRONT BODY PILLAR (CUT)


F22836A

REPLACEMENT
With the cowl top side upper panel removed.

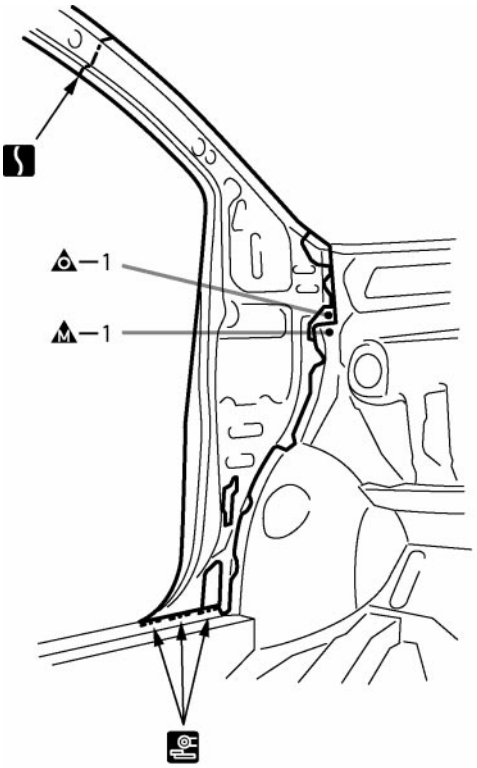
REMOVAL

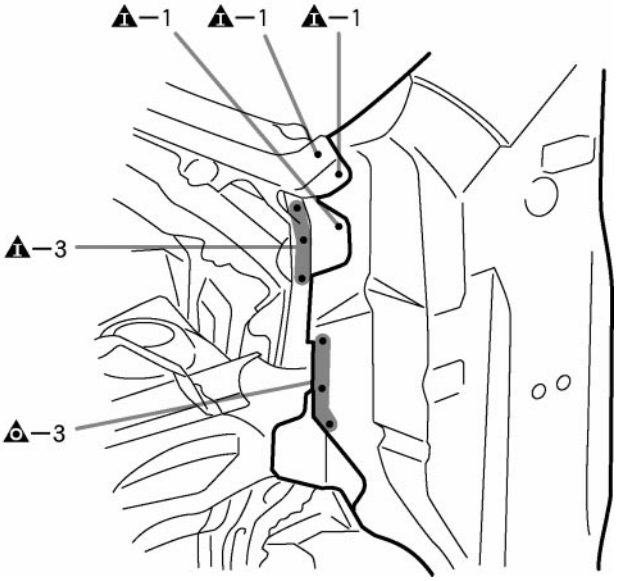


F22836

POINT
1 *1: This part of the outer panel is reused because the rocker panel section is cut off at a position behind the service part cut position of the outer panel.

70 mm (2.76 in.) 80 mm (3.15 in.) 100 mm (3.94 in.) 160 mm (6.30 in.)

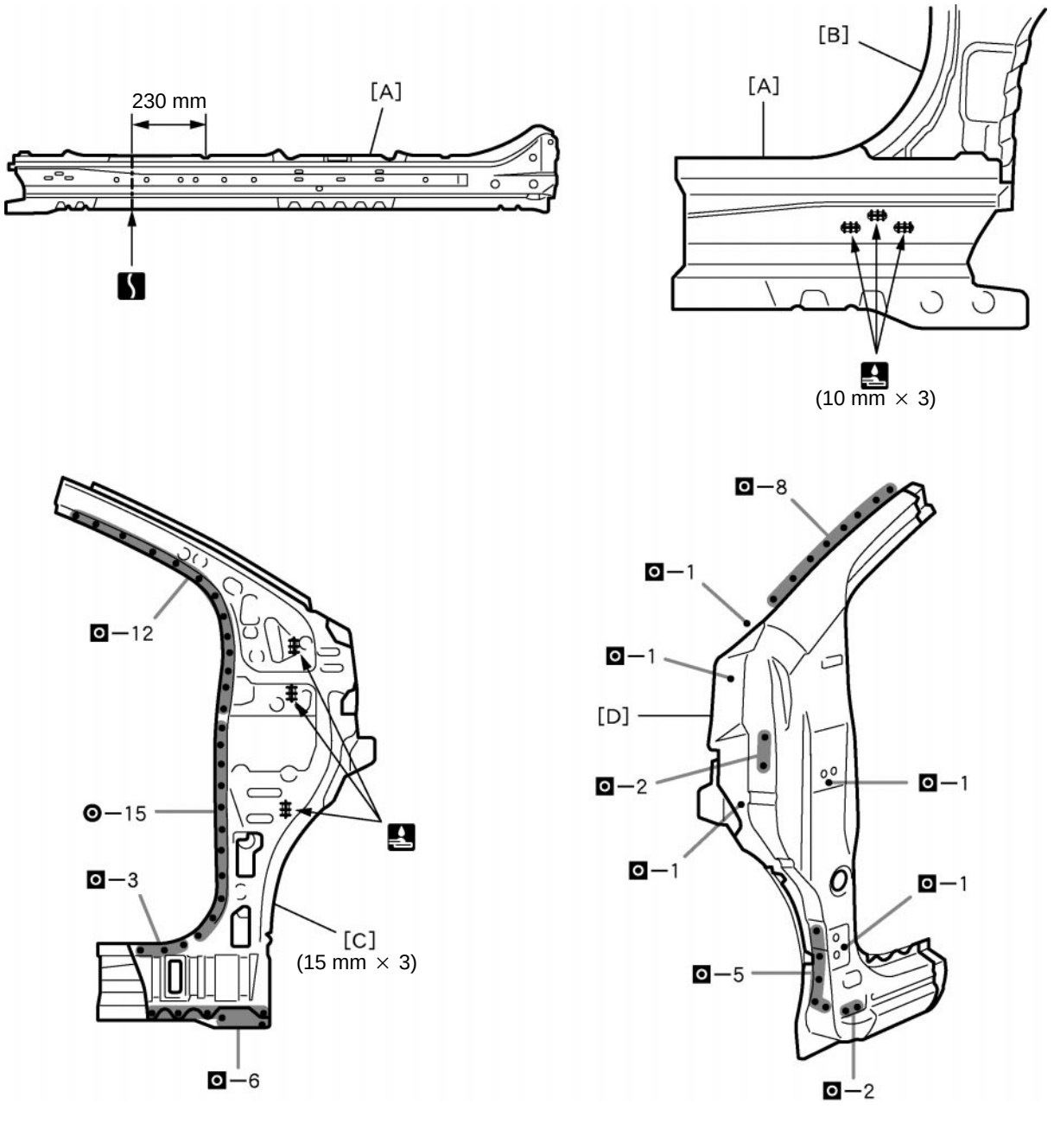




F22837

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 undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld spots.



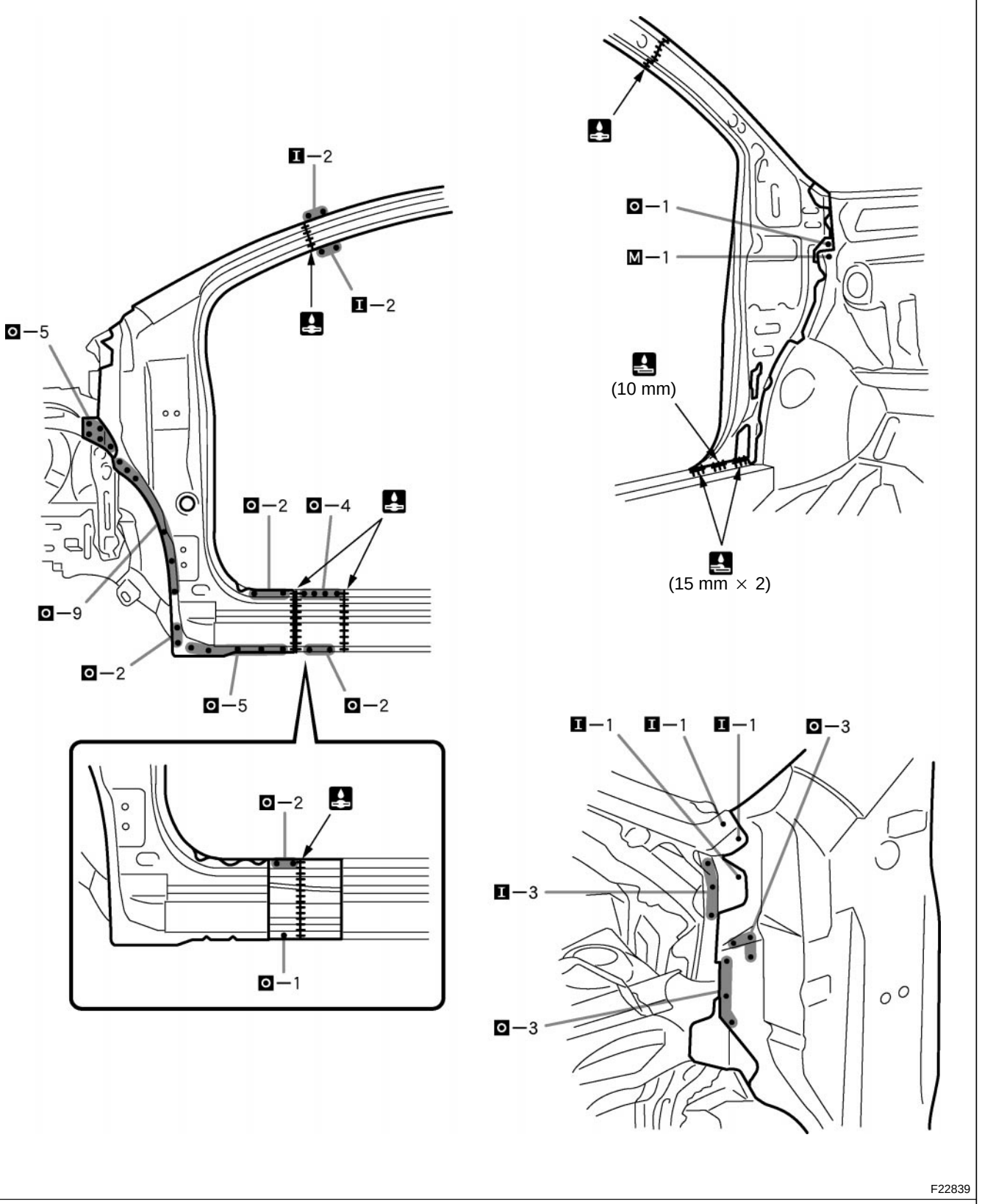
F22838

POINT

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

PART NAME

[A] Rocker Outer Reinforce [B] Front Body Pillar Lower Reinforce
[C] Front Body Inner Pillar [D] Front Body Outer Pillar
10 mm (0.39 in.) 15 mm (0.59 in.) 230 mm (9.06 in.)

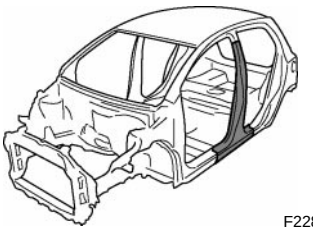


POINT

1 Inspect the fitting of the front fender, front door, windshield glass and other related parts before welding as this affects the appearance of the finish.

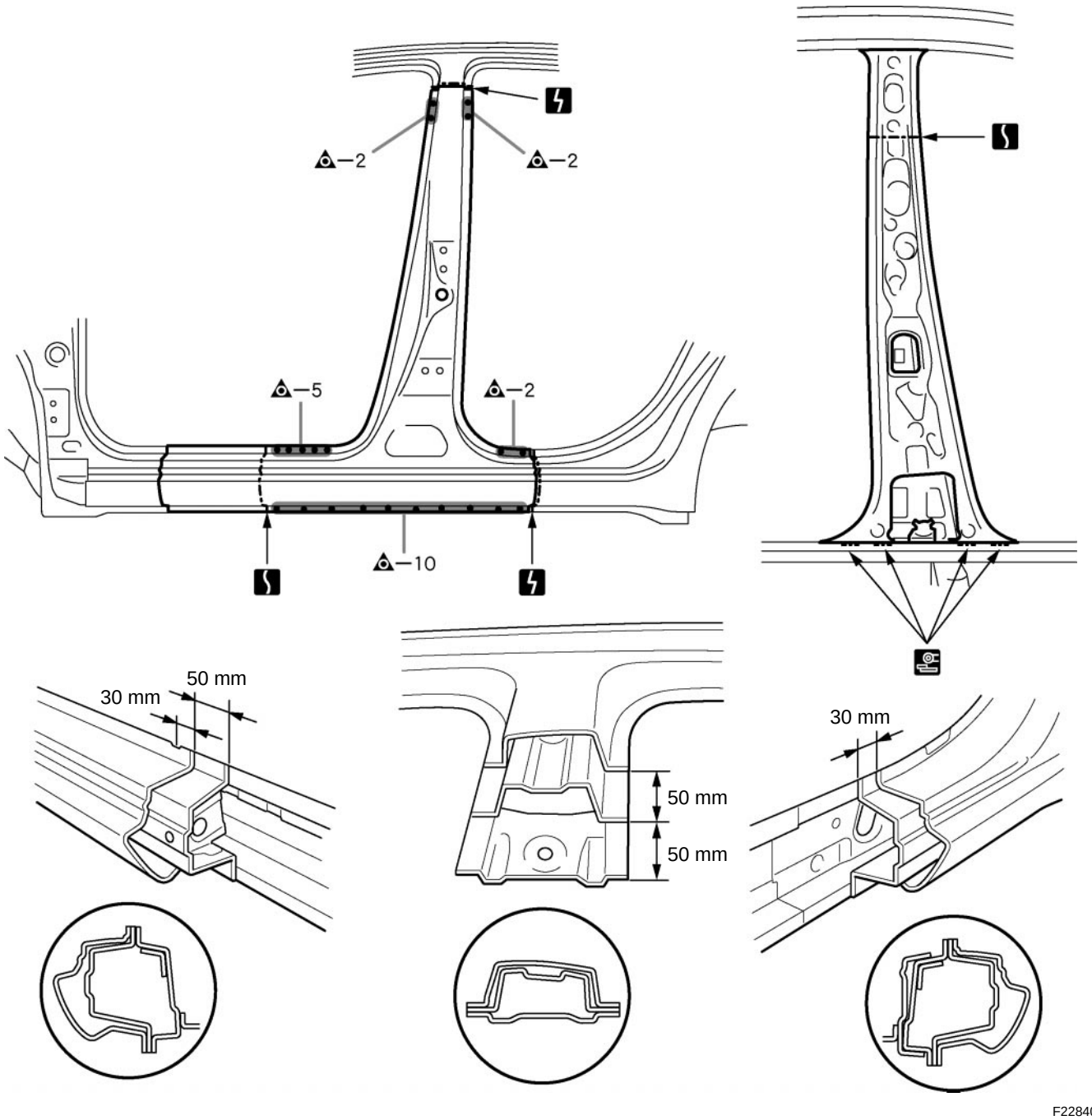
10 mm (0.39 in.) 15 mm (0.59 in.)

CENTER BODY PILLAR (CUT): 5-Door


F22840A

REPLACEMENT

REMOVAL

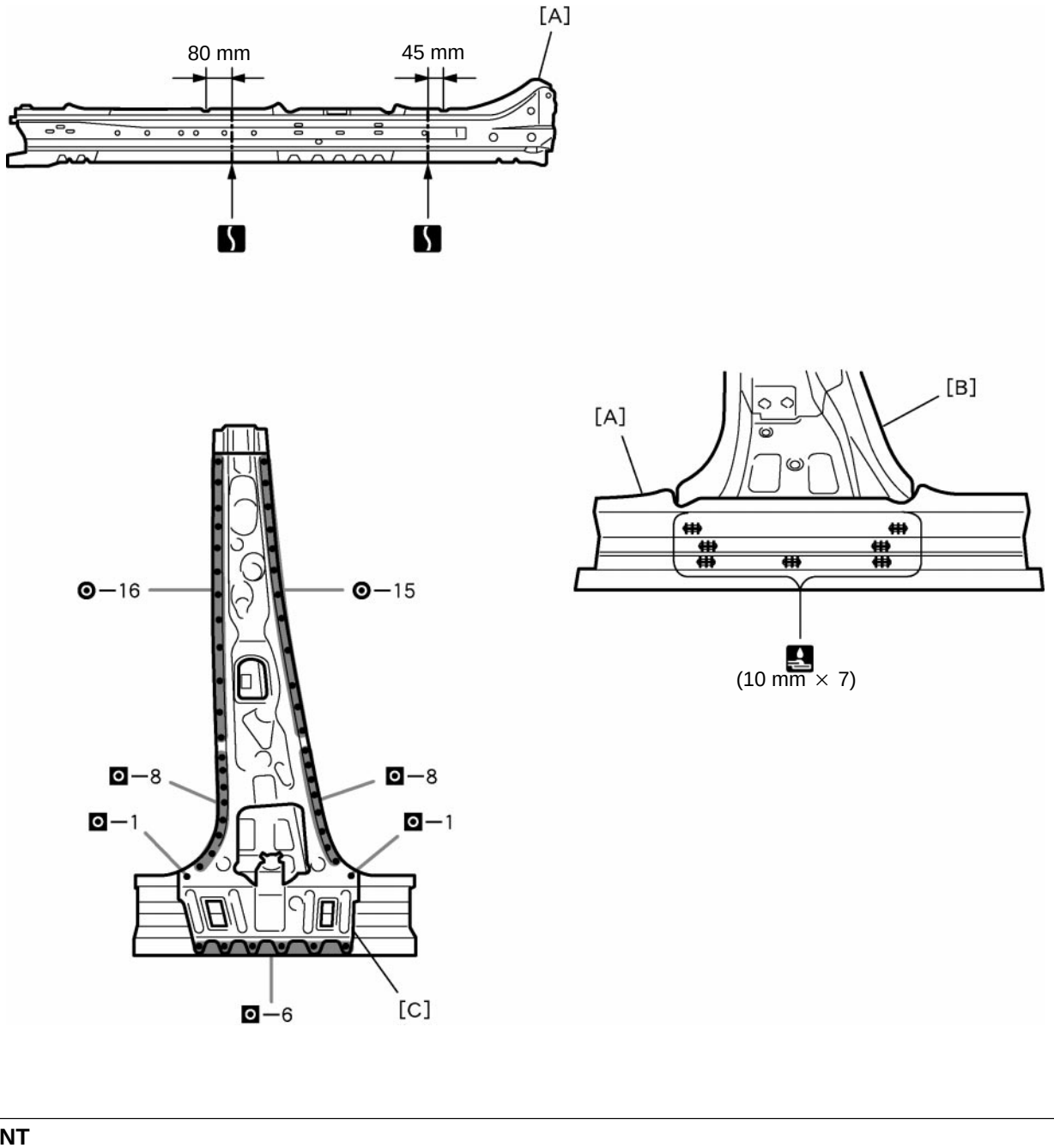


F22840

30 mm (1.18 in.) 50 mm (1.97 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.



F22841

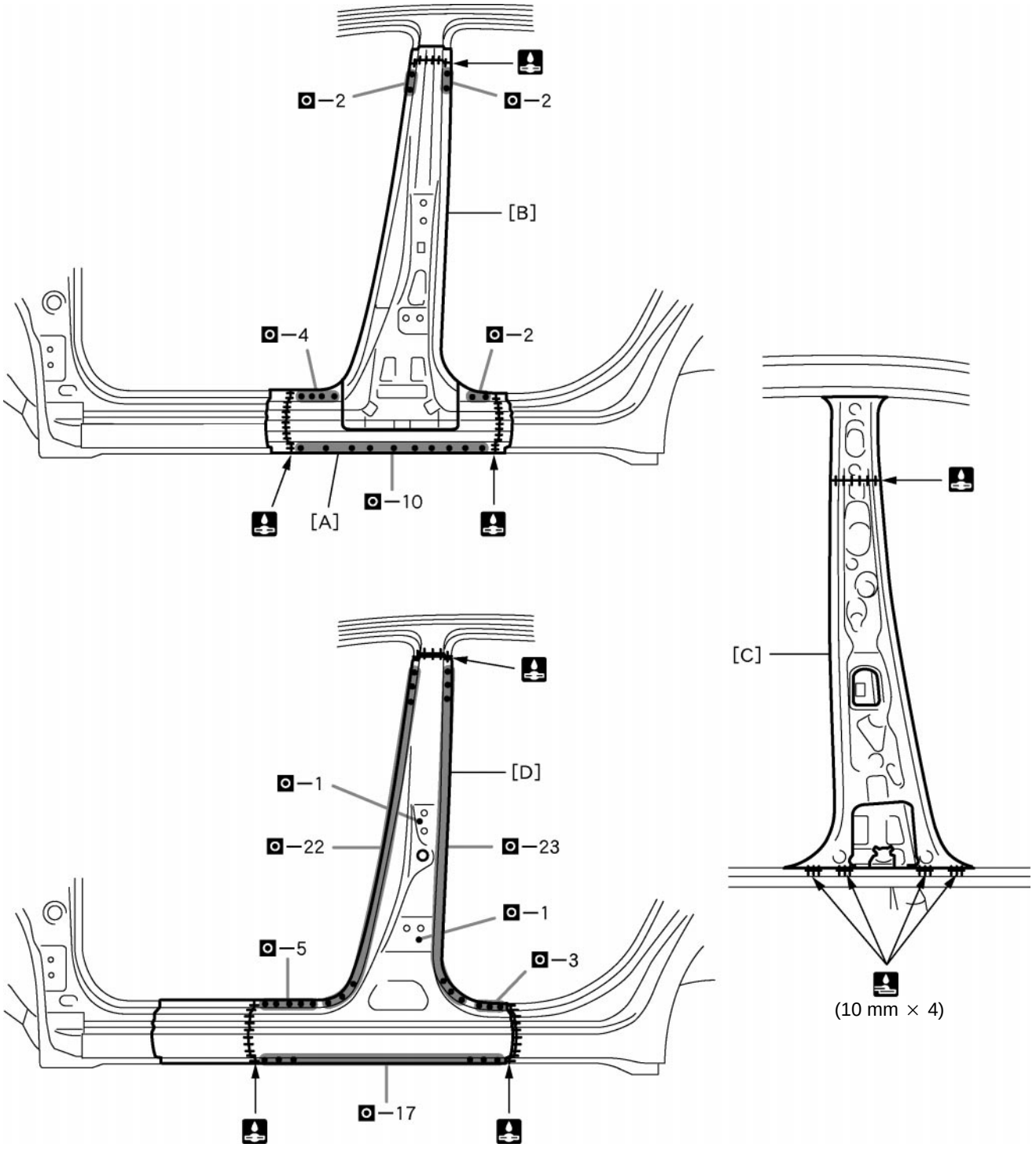
POINT

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

PART NAME

[A] Rocker Outer Reinforce [B] Center Body Pillar Reinforcement [C] Center Body Inner Pillar

10 mm (0.39 in.) 45 mm (1.77 in.) 80 mm (3.15 in.)



POINT

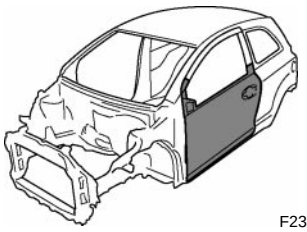
1 Inspect the fitting of the front door, rear door and other related parts before welding as this affects the appearance of the finish.
2 After welding [A], [B] and [C] to the vehicle, install [D].

PART NAME

[A] Rocker Outer Reinforce
[B] Center Body Pillar Reinforcement
[C] Center Body Inner Pillar
[D] Center Body Outer Pillar

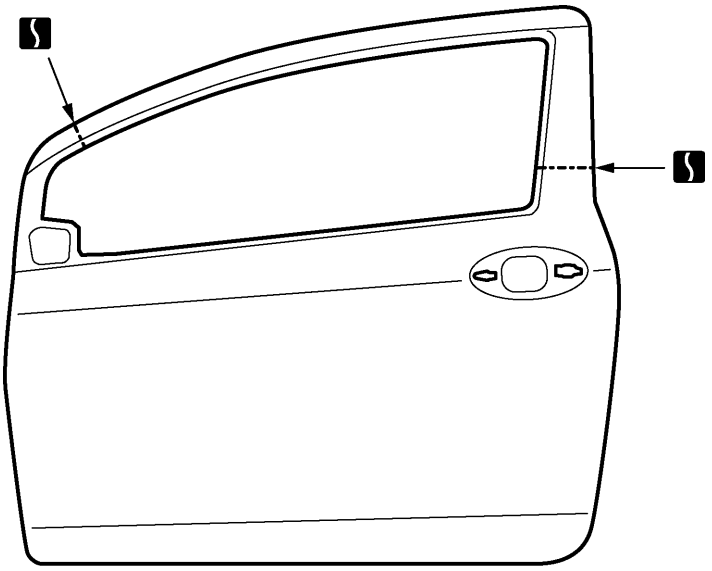
10 mm (0.39 in.)

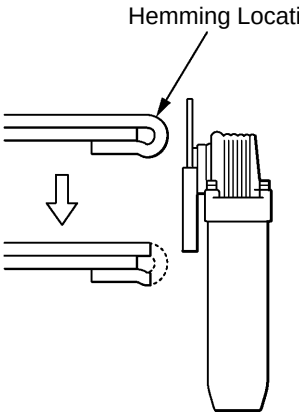
FRONT DOOR OUTER PANEL (CUT): 3-Door


F23305A

REPLACEMENT

REMOVAL





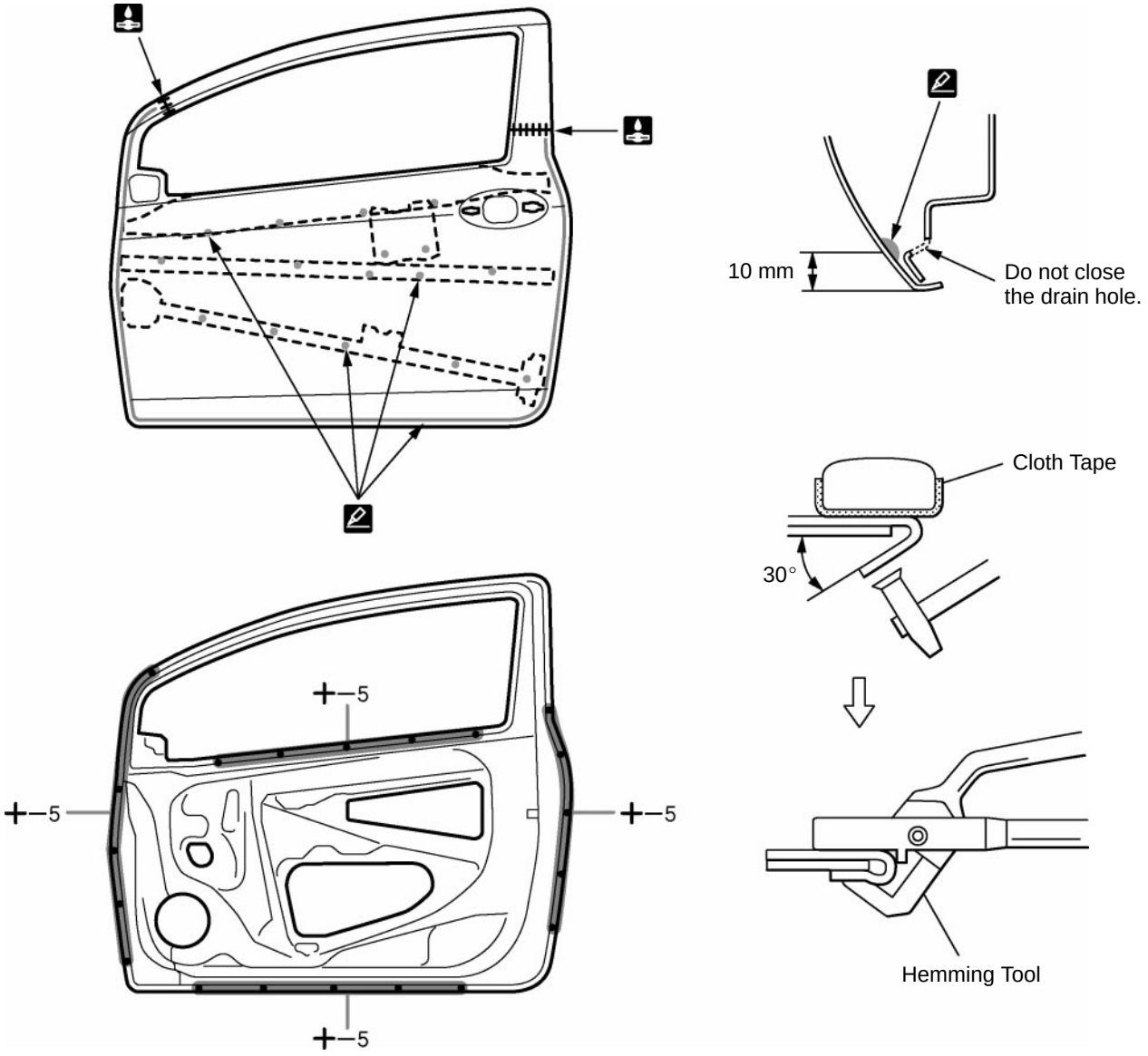
F23305

POINT

1 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.



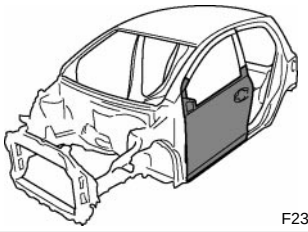
F23306

POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

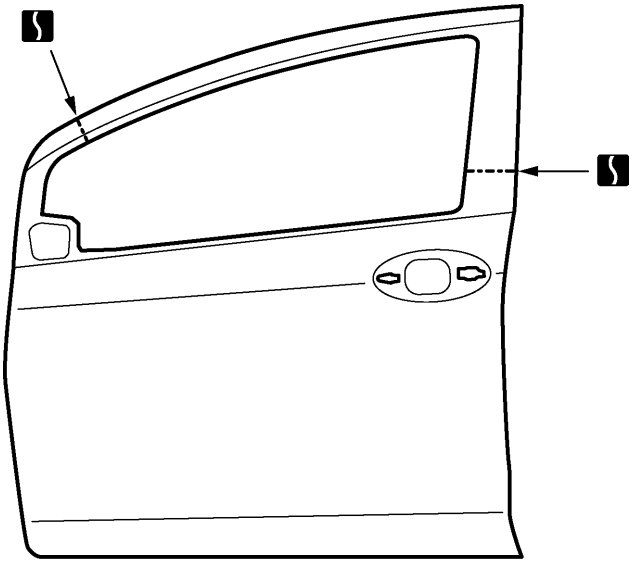
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

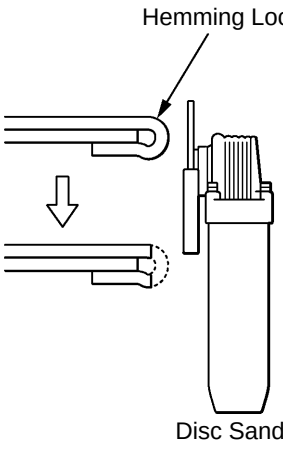
FRONT DOOR OUTER PANEL (CUT): 5-Door


F23307A

REPLACEMENT

REMOVAL





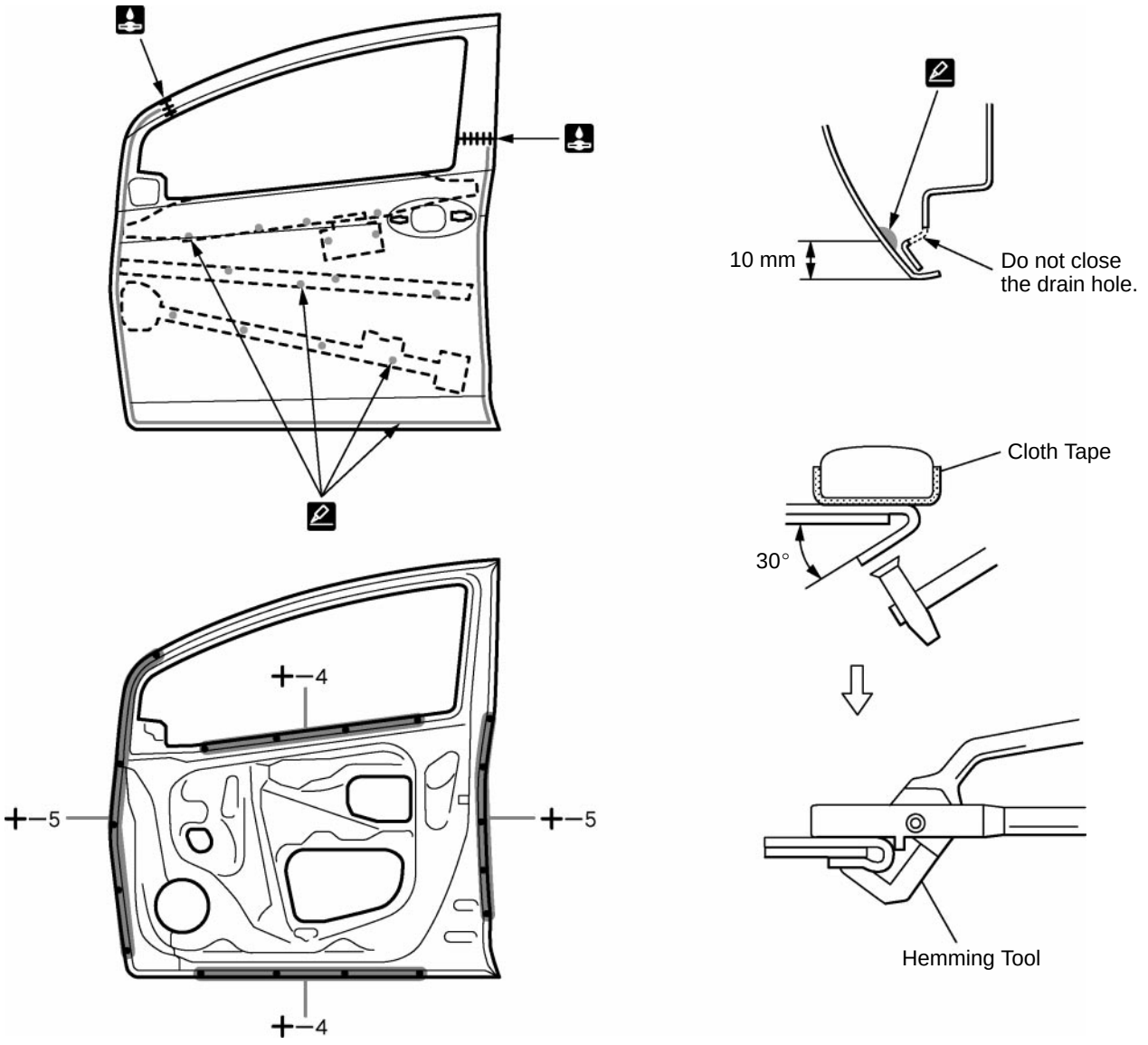
F23307

POINT

1 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.

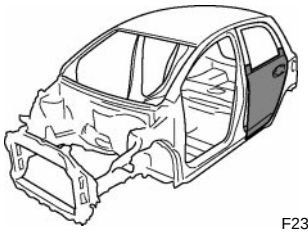


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

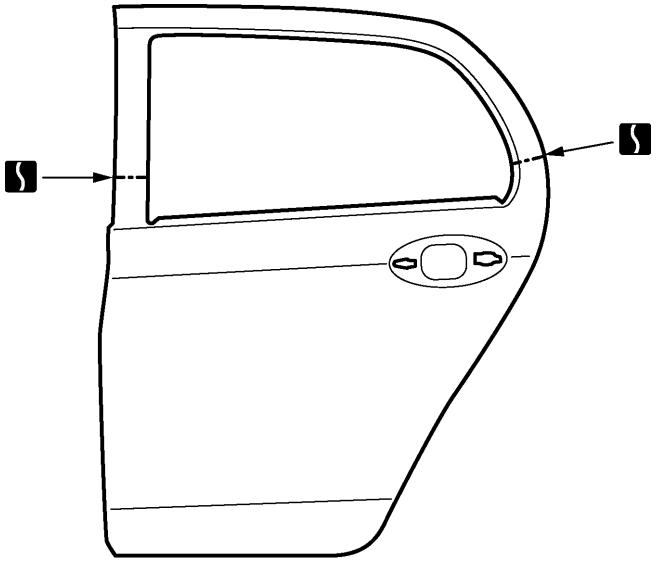
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

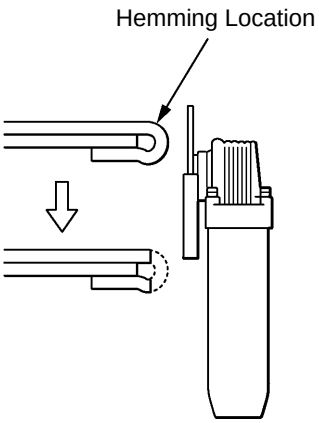
REAR DOOR OUTER PANEL (CUT): 5-Door


F23309A

REPLACEMENT

REMOVAL





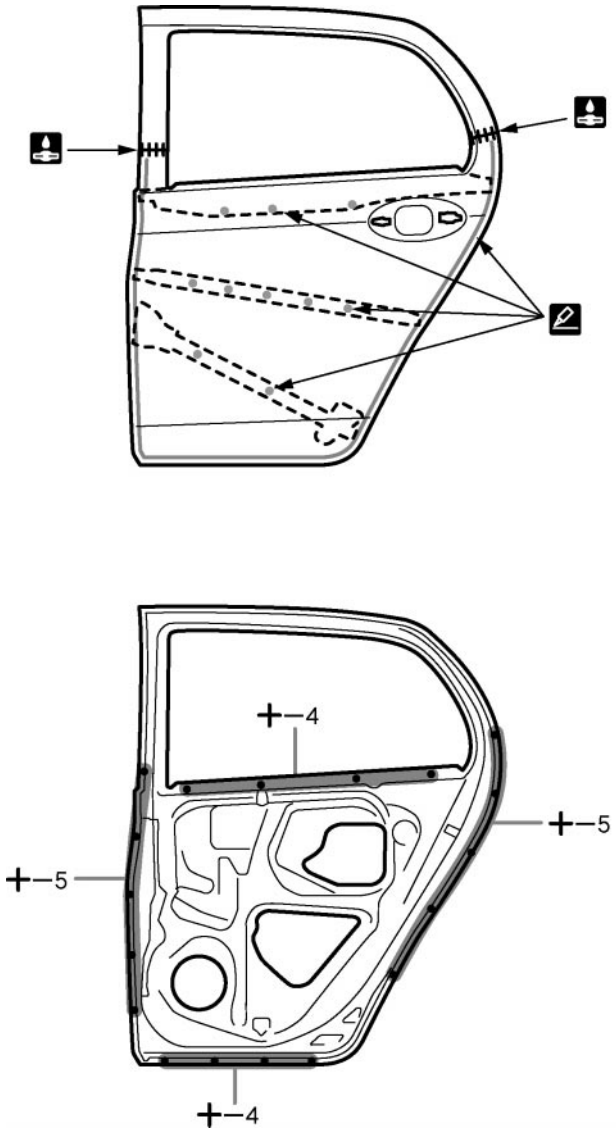
F23309

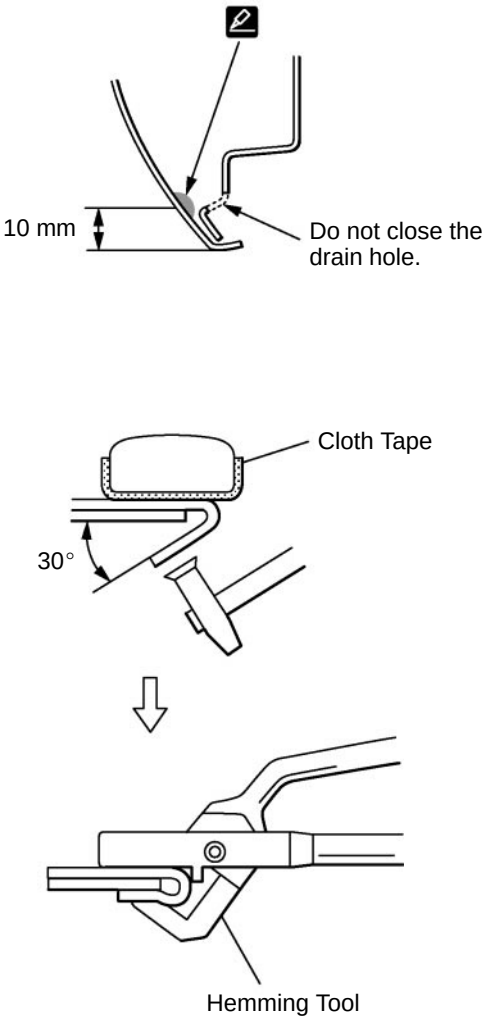
POINT

1 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.





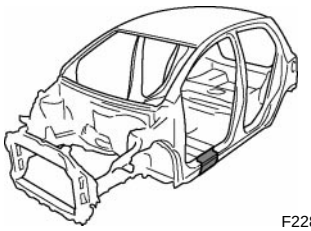
F23310

POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

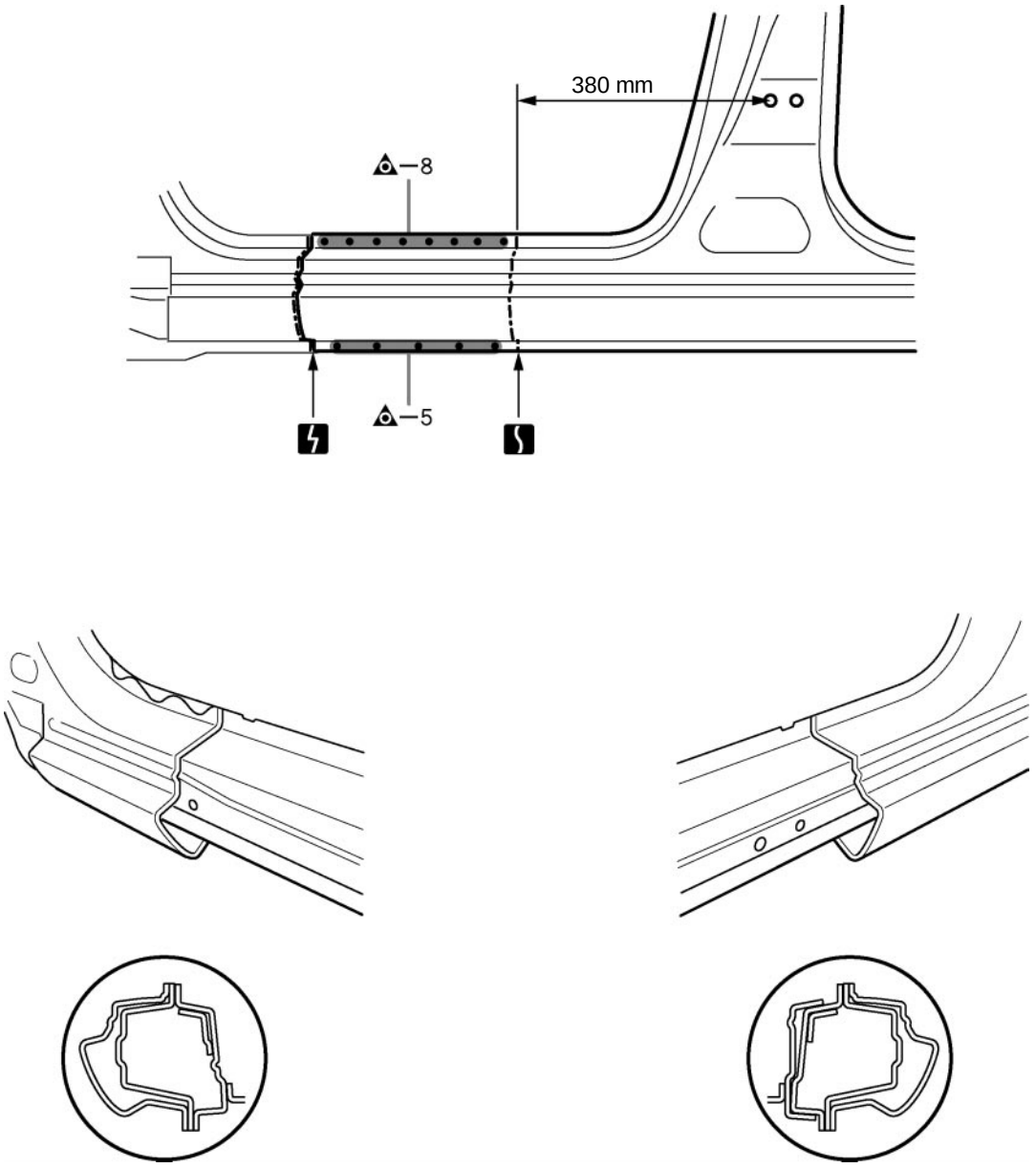
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

ROCKER OUTER PANEL (CUT-H): 5-Door


F22843A

REPLACEMENT

REMOVAL

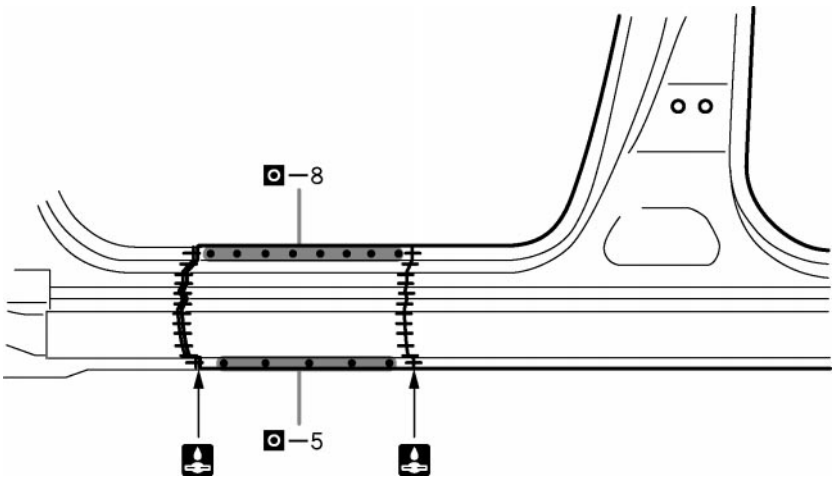


F22843

380 mm (14.96 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.

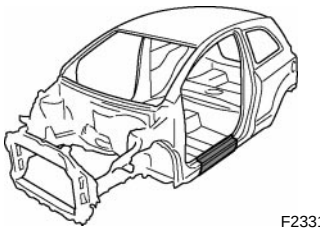


F22844

POINT

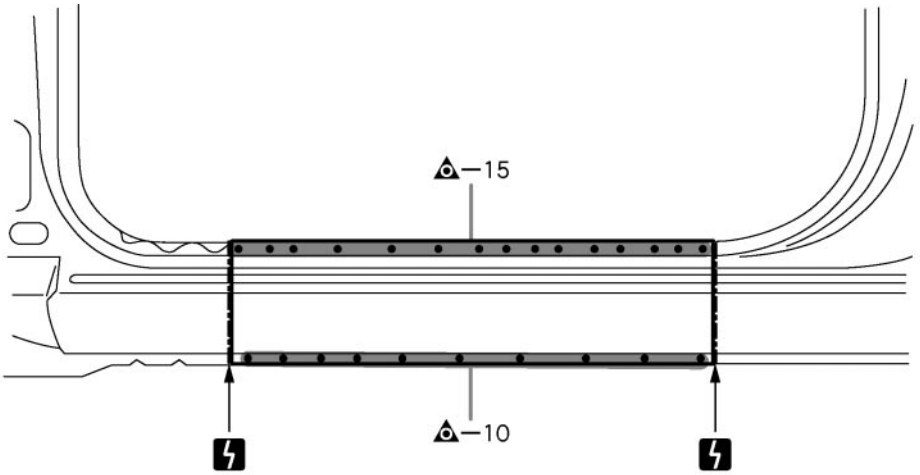
1 Inspect the fitting of the front door and other related parts before welding as this affects the appearance of the finish.

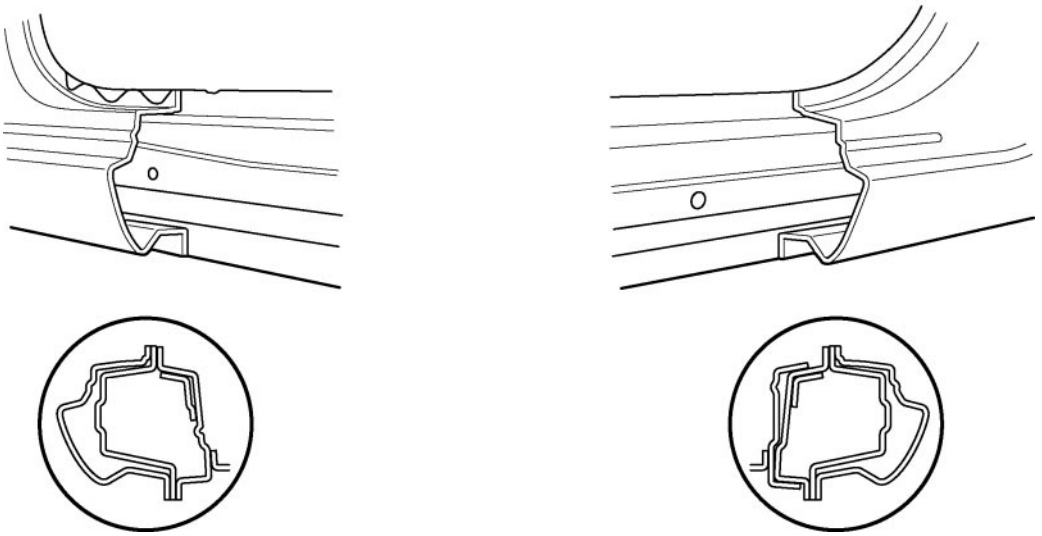
ROCKER OUTER PANEL (CUT): 3-Door


F23311A

REPLACEMENT

REMOVAL

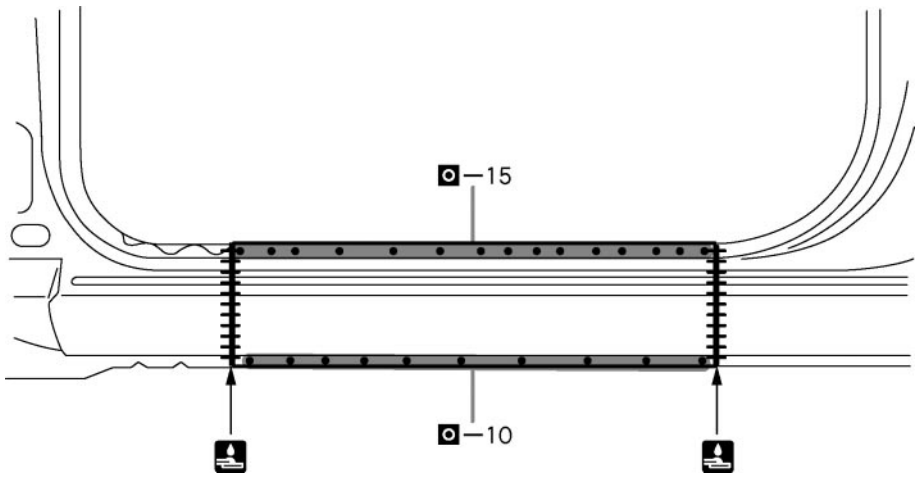




F23311

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

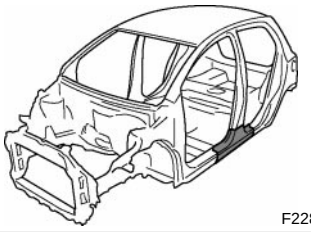


F23312

POINT

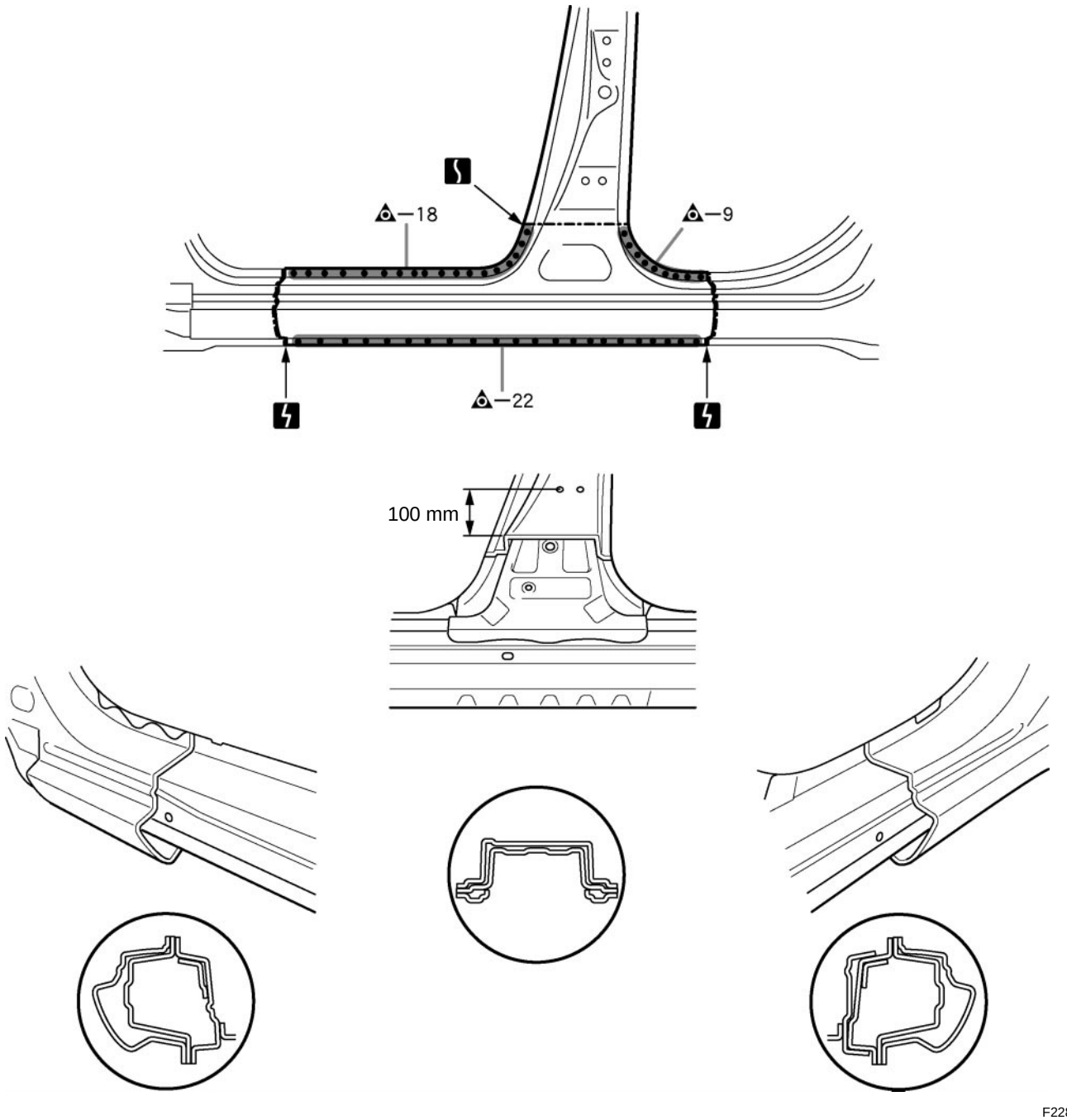
1 Inspect the fitting of the front door and other related parts before welding as this affects the appearance of the finish.

ROCKER OUTER PANEL (CUT): 5-Door


F22845A

REPLACEMENT

REMOVAL

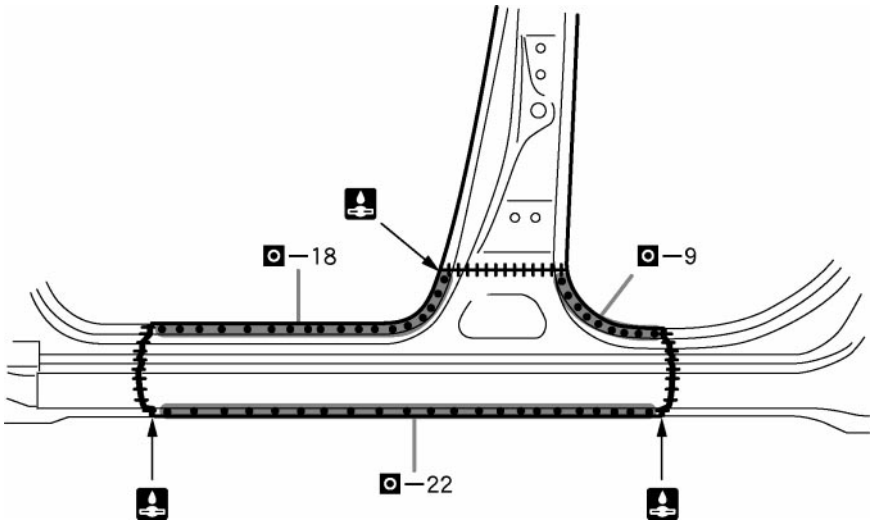


F22845

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F22846

POINT

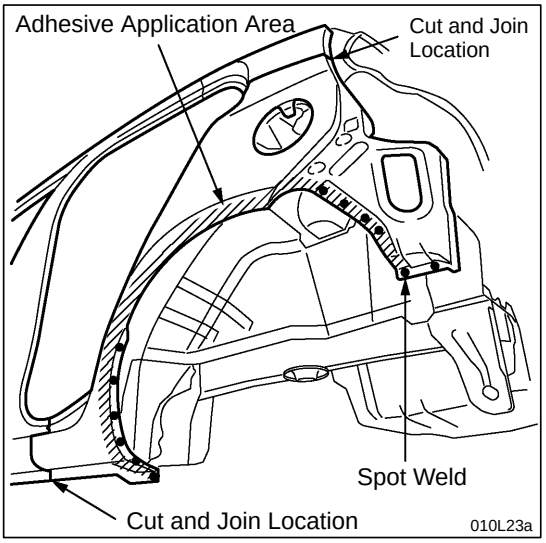
1 Inspect the fitting of the front door, rear door and other related parts before welding as this affects the appearance of the finish.

Adhesive Application Area Work Procedure

※NOTE※

This vehicle has areas on the Quarter Panel and Quarter Wheel Housing Outer Panel that are joined together only with adhesive. It is necessary to conduct the correct repair procedures for high durability so make sure to follow the instructions below for the adhesive application areas.
Type of adhesive used: 3M8115 Auto Mix Panel Bond

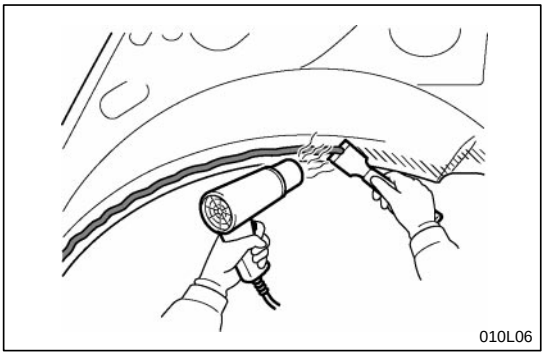
1. Removal of the Quarter Panel



(A) Remove the body sealer from the Quarter Panel and cut at the cut and join location. Remove the spot welded portions.

(B) After rough cutting the Wheel Arch portion, heat the adhesive applied area and remove the panel. {Heat the Wheel Arch portion of the Quarter Panel at 110 to 140 C (230 to 284 F) with a dryer or gas burner and remove the Quarter Panel.}

2. Removal of the previous adhesive coating



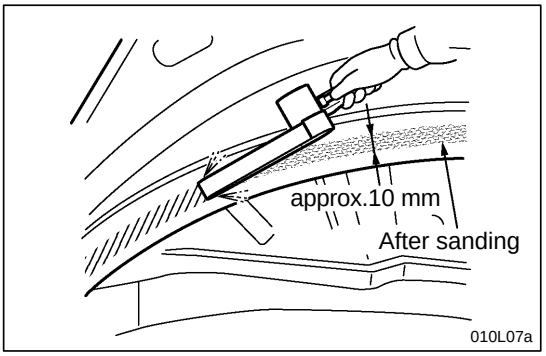
(A) Heat at 110 to 140 C (230 to 284 F) with a dryer or gas burner.

(B) Scrape away the adhesive with a scraper, and scuff while sanding with a disc grinder or a belt sander.

※NOTE※

- Make sure to use either a disc grinder or belt sander to sand coarsely and deeply to improve adhesiveness.
- Scuff at a width of approximately 10 mm (0.39 in.) over the previous adhesive coating.

3. Treatment of the spot welded portions on the body



(A) After the adhesive has been removed from the body, remove the paint from the underside of the spot welded points blow air and degrease.

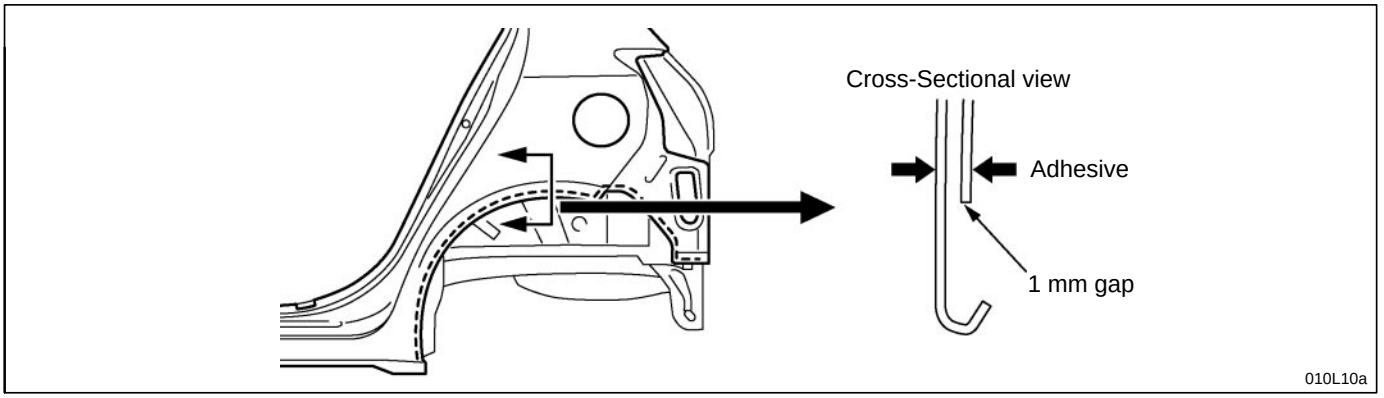
(B) Apply spot sealer at the joined portion between panels.

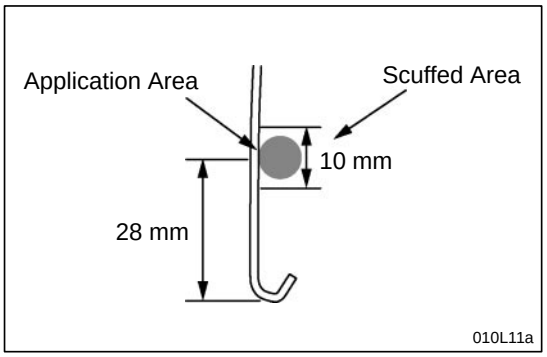
4. Attachment of the New Quarter Panel

(A) Temporarily attach the new panel and check the fitting condition, the cut and join locations, the welded areas, and the adhesive applied area.

※NOTE※

- Check the adhesive applied condition to ensure adhesive strength.
- Conduct hammering to fix the non-adhered portions.





5. Adhesive Application to New Quarter Panel

(A) Scuff with #60-120 grit sandpaper at the adhesive application area.

※POINT※

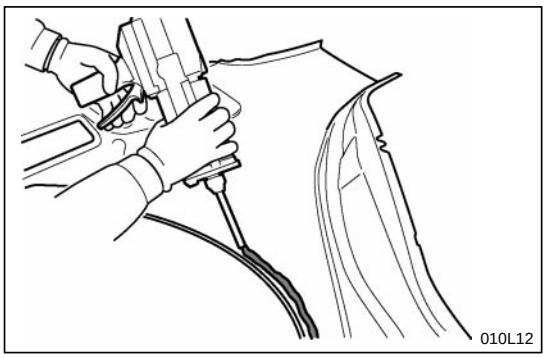
Sand deeply into the ED coat.

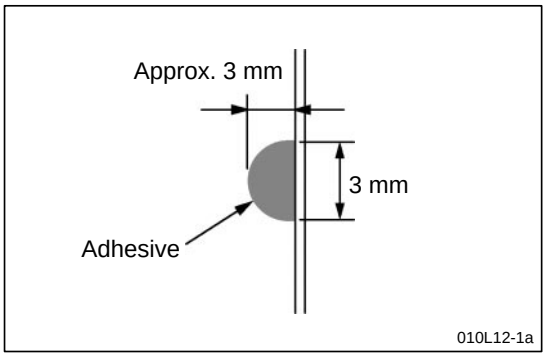
(B) Blow air around the scuffed portion and then degrease.

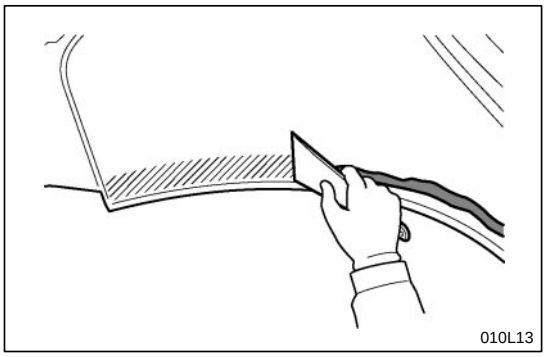
(C) Apply adhesive.

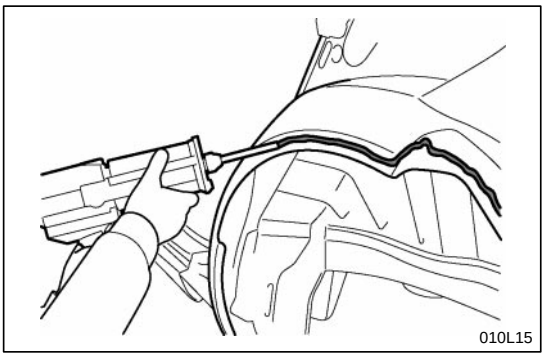
※POINT※

Apply adhesive at a width of approximately 10 mm (0.39 in.) at a location 28 mm (1.10 in.) from the panel flange edge. Spread the adhesive flatly within the scuffed area {approximately 10 mm (0.39 in.) in width} to remove trapped air.









6. Application of Adhesive to the Body

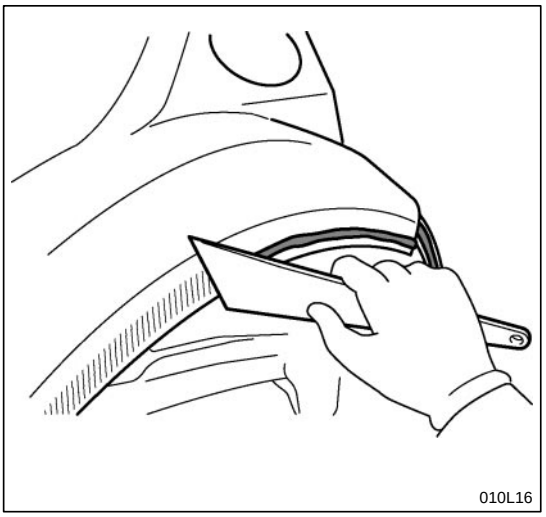
(A) Degrease the adhesive aplication area.

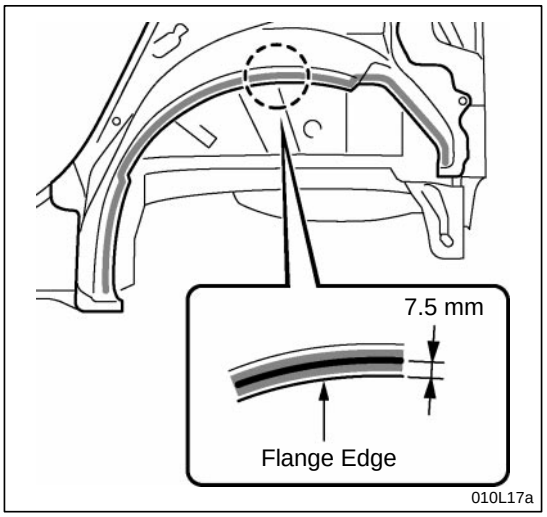
(B) Apply adhesive.

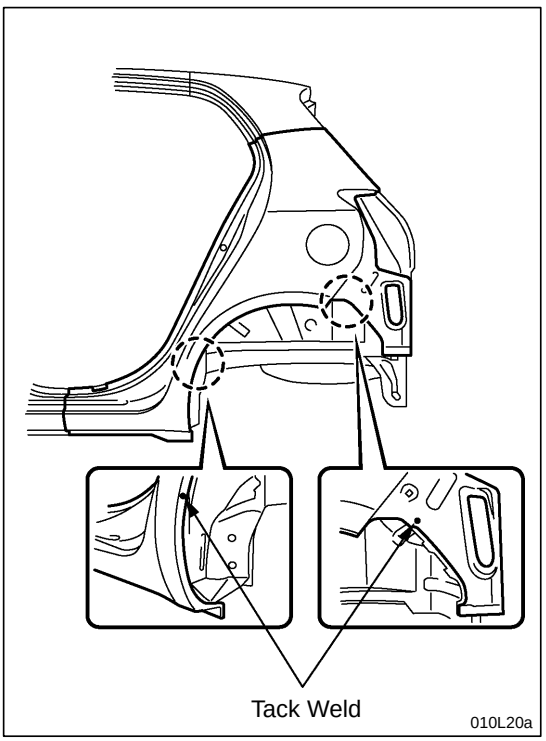
- Refer to the diagram of step 5 for the application amount.
- The application location is 7.5 mm (0.295 in.) from the flange edge.

(C) Flatten out the applied adhesive with a spatula until it is at an even level.

- Apply adhesive at exposed metal plate portions to prevent corrosion.
- It is not necessary to flatten out adhesive after it has been reapplied.







7. Attachment of the new Quarter Panel

(A) Set the new panel in the position for temporary attachment. (Be careful of where you hold the panel so as not to touch the adhesive applied surfaces.)

(B) Secure in a vice grip or equivalent and check the fitting condition.

(C) Press on the entire surface so that the adhesive between the Quarter Panel and Quarter Wheel Housing Outer panel becomes an even thickness.

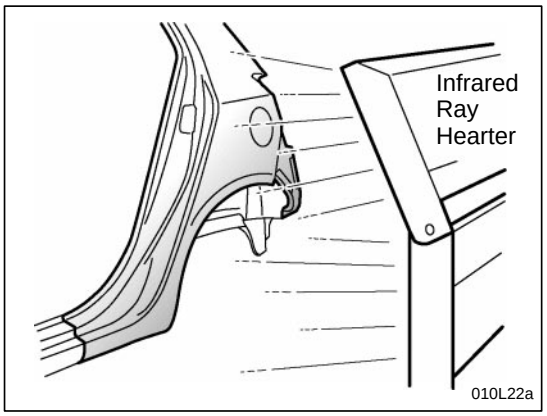
※ NOTE ※

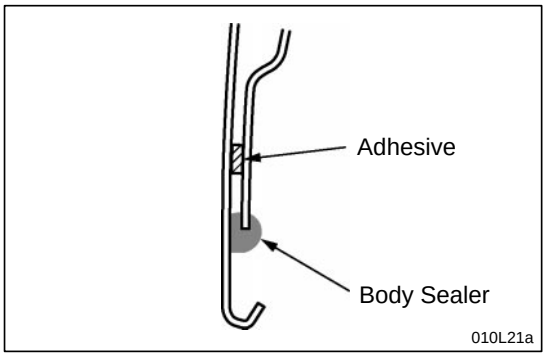
Be careful that adhesive that spills over does not contact the Brake Drum.

(D) Tack weld at the cut and join welded portion.

(E) Tack weld by spot welding at one point on both ends of the adhesive applied portions.

(F) Conduct actual welding using procedures in the BP section of this manual.





8. Drying

(A) Clean away adhesive that has spilled over with a degreaser or equivalent.

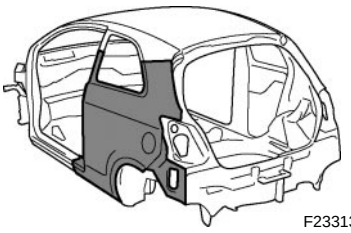
(B) After all welding works have been completed, dry the adhesive with a heater.

- Hardening Time
  - Forced drying
    60 C (140 F) at 90 minutes.
  - Natural drying
    24 C (75 F) (room temperature) for 24 hours.

9. Other work

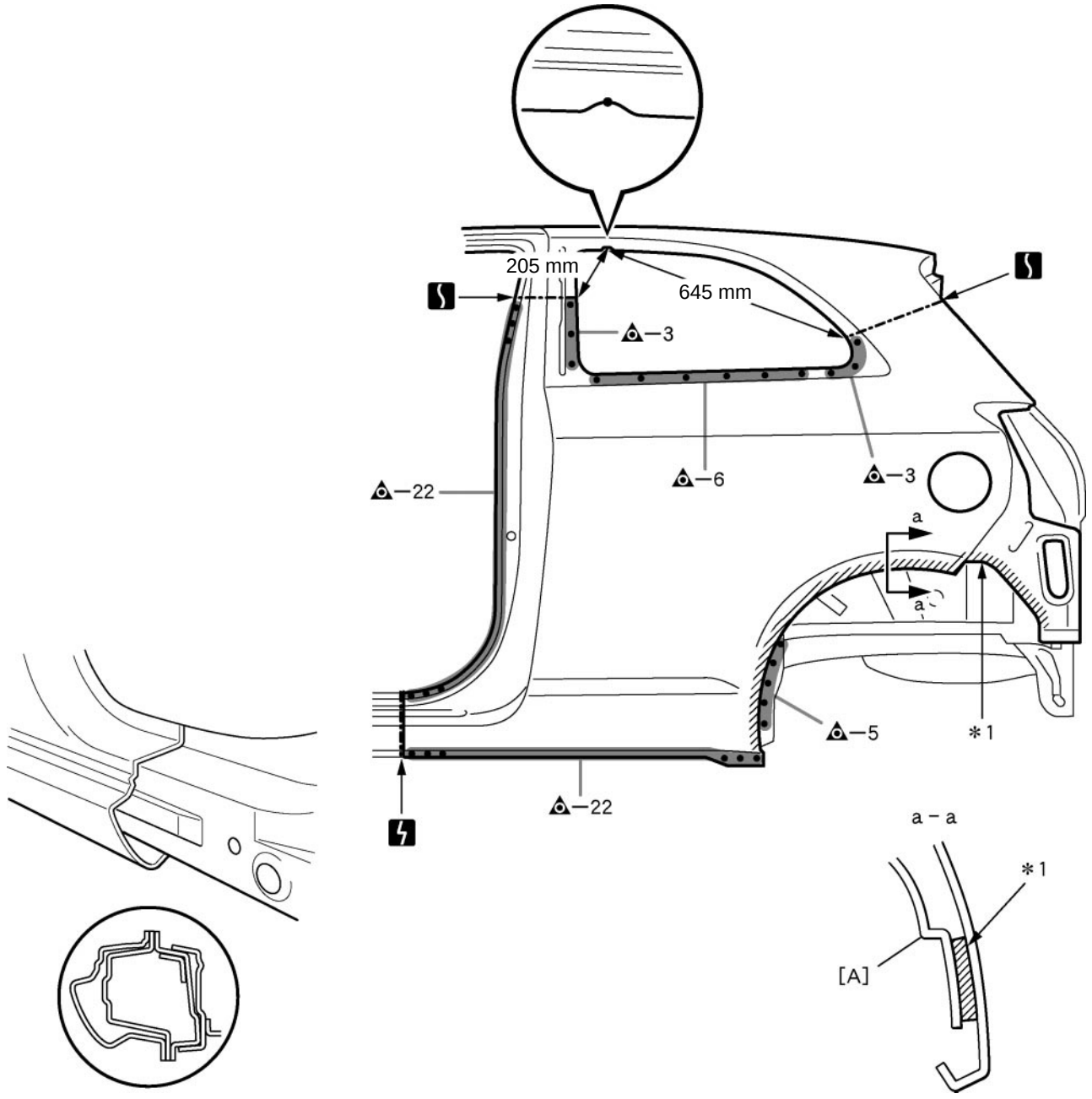
(A) After applying Primer Surfacer to the underside of the Wheel Arch of the Quarter Panel, apply body sealer to the locations indicated in the body repair manual.

QUARTER PANEL (CUT): 3-Door


F23313A

REPLACEMENT

REMOVAL



F23313

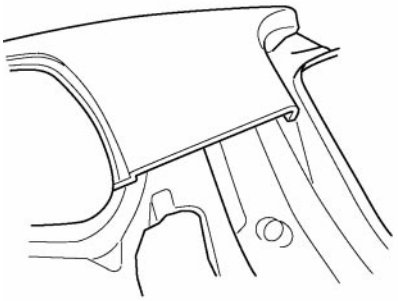
POINT

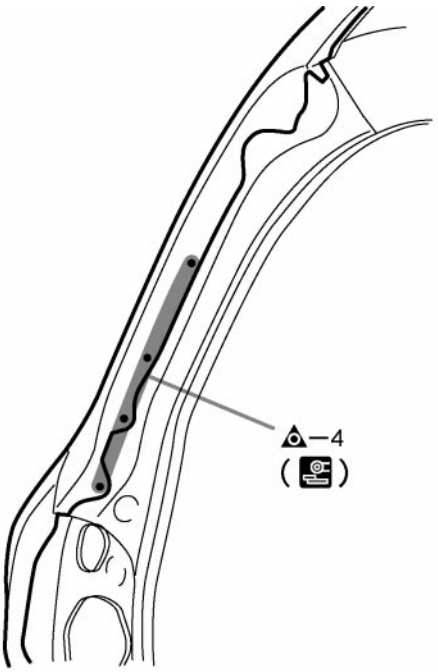
1 *1: The hatched area indicates the adhesive application area.

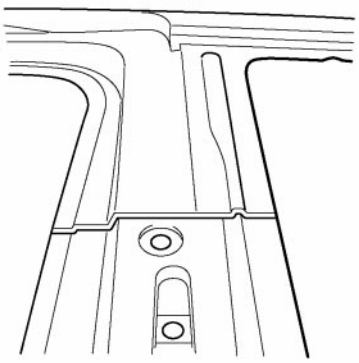
PART NAME

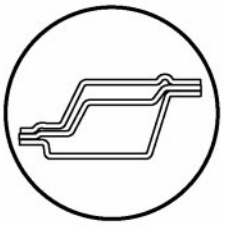
[A] Quarter Wheel Housing Outer Panel

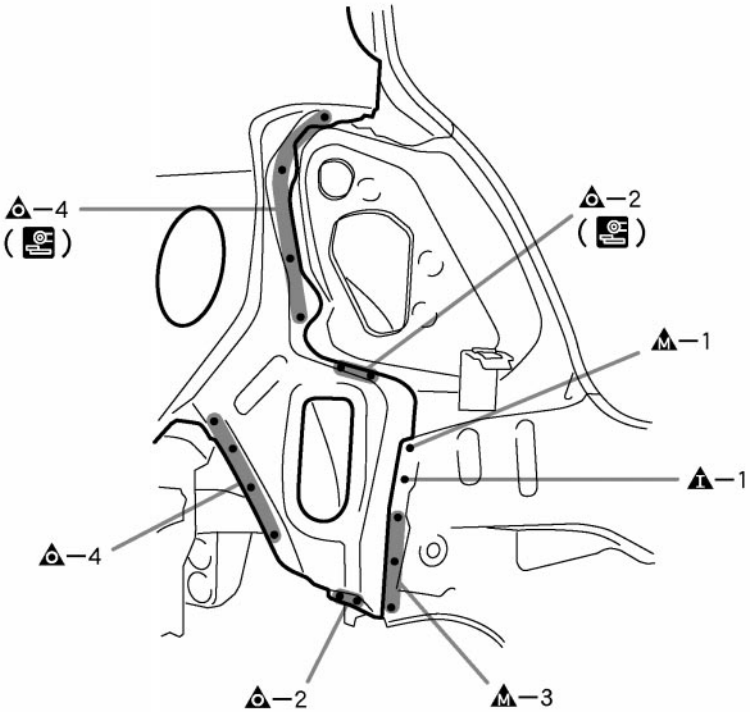
205 mm (8.07 in.) 645 mm (25.39 in.)







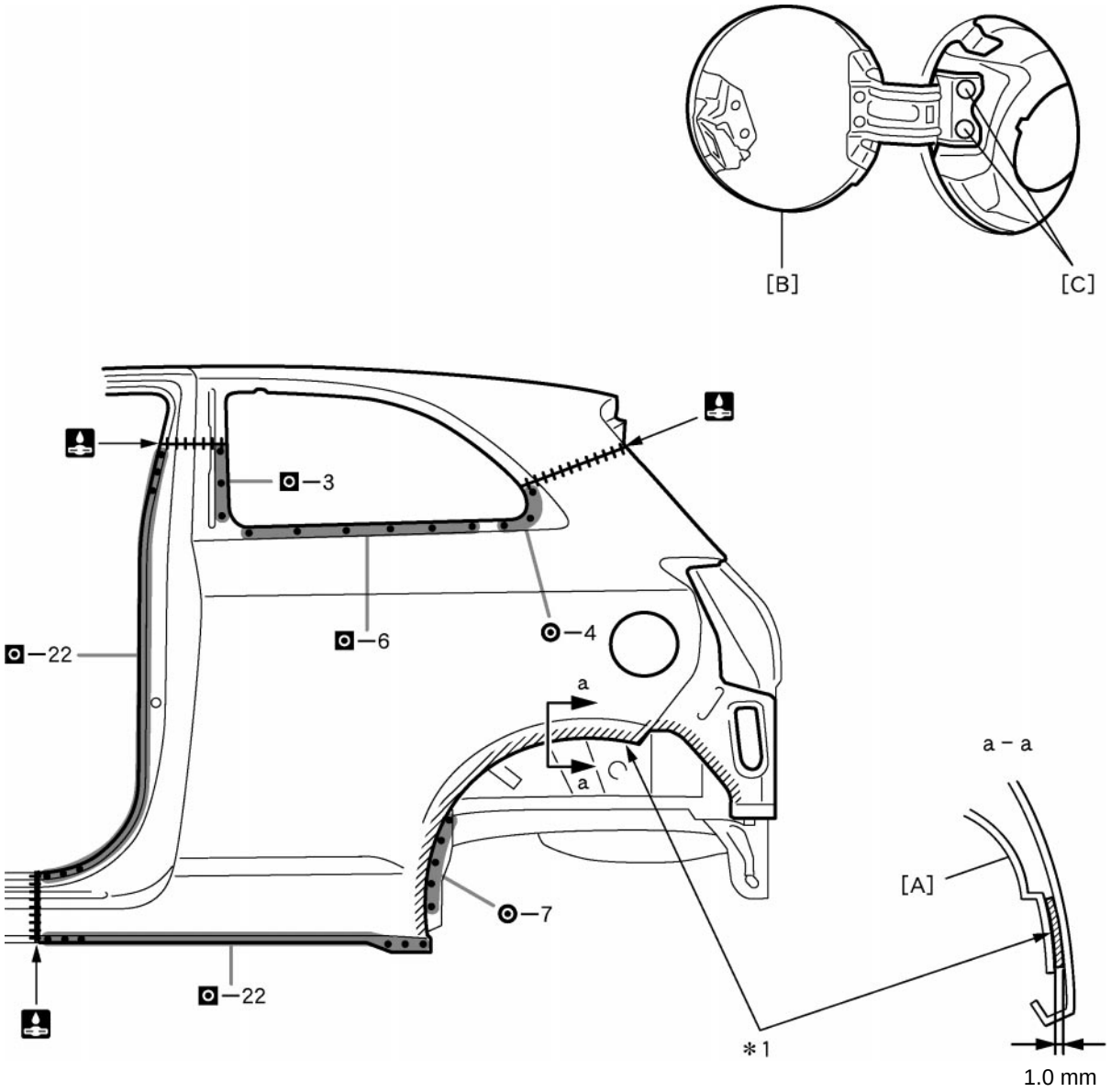




F23314

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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F23315

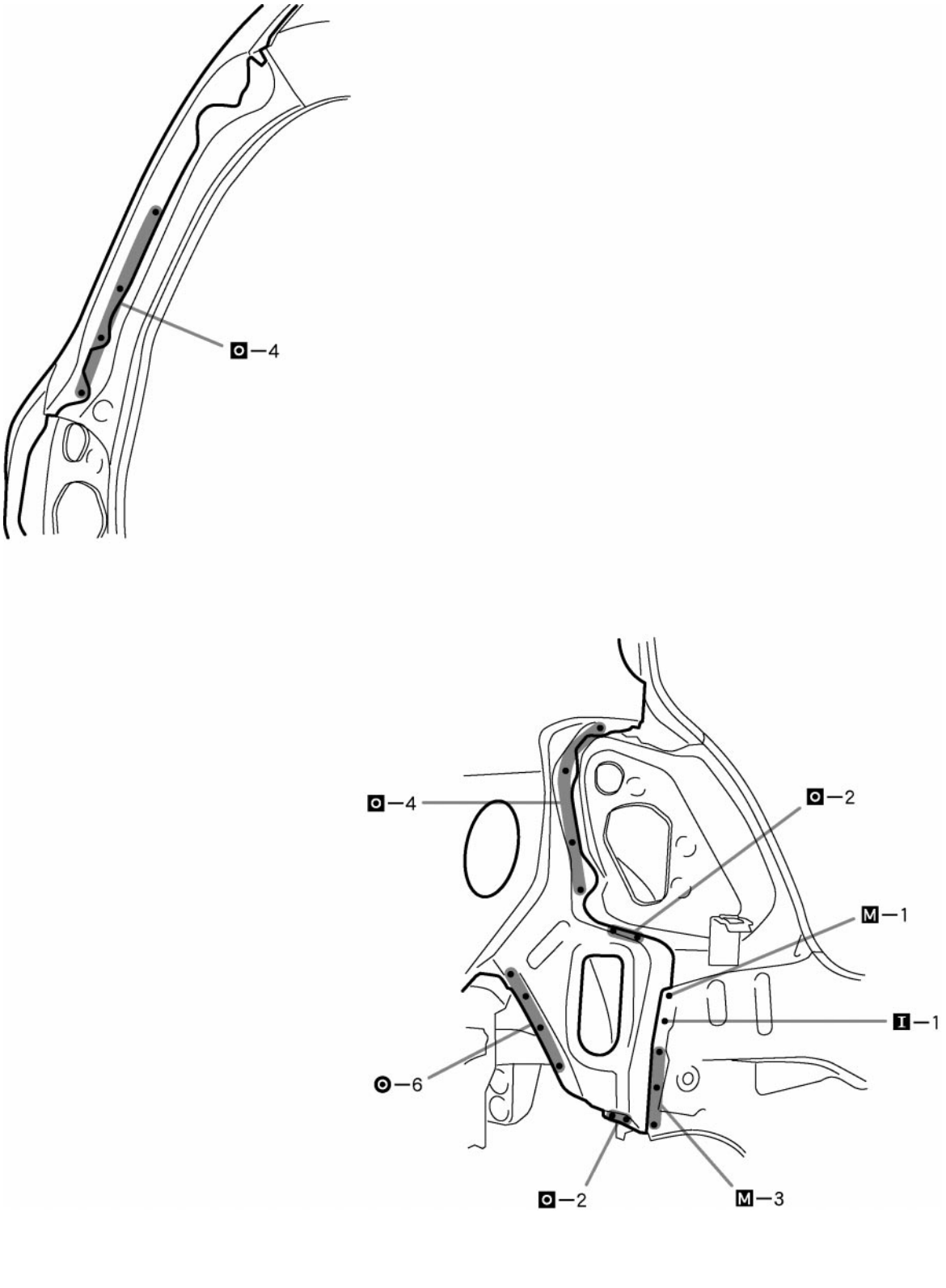
POINT

1 *1: The hatched area indicates the adhesive application area.

PART NAME

[A] Quarter Wheel Housing Outer Panel [B] Fuel Filler Opening Lid [C] Rivet

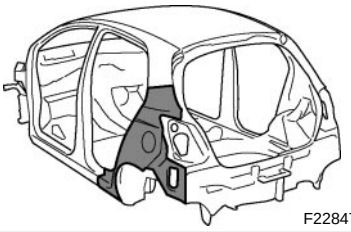
1.0 mm (0.04 in.)



POINT

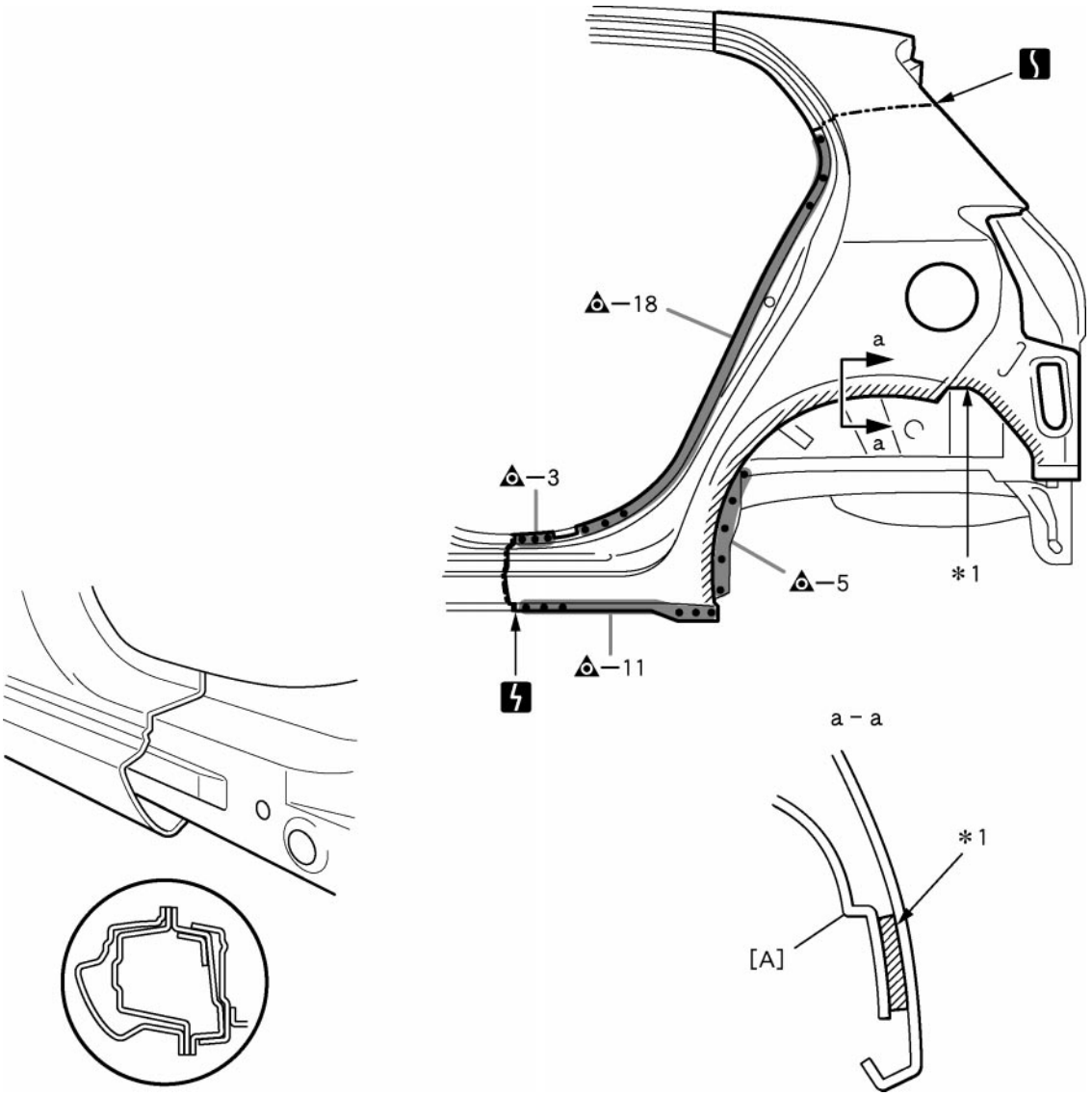
1 Inspect the front door, back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

QUARTER PANEL (CUT): 5-Door


F22847A

REPLACEMENT

REMOVAL



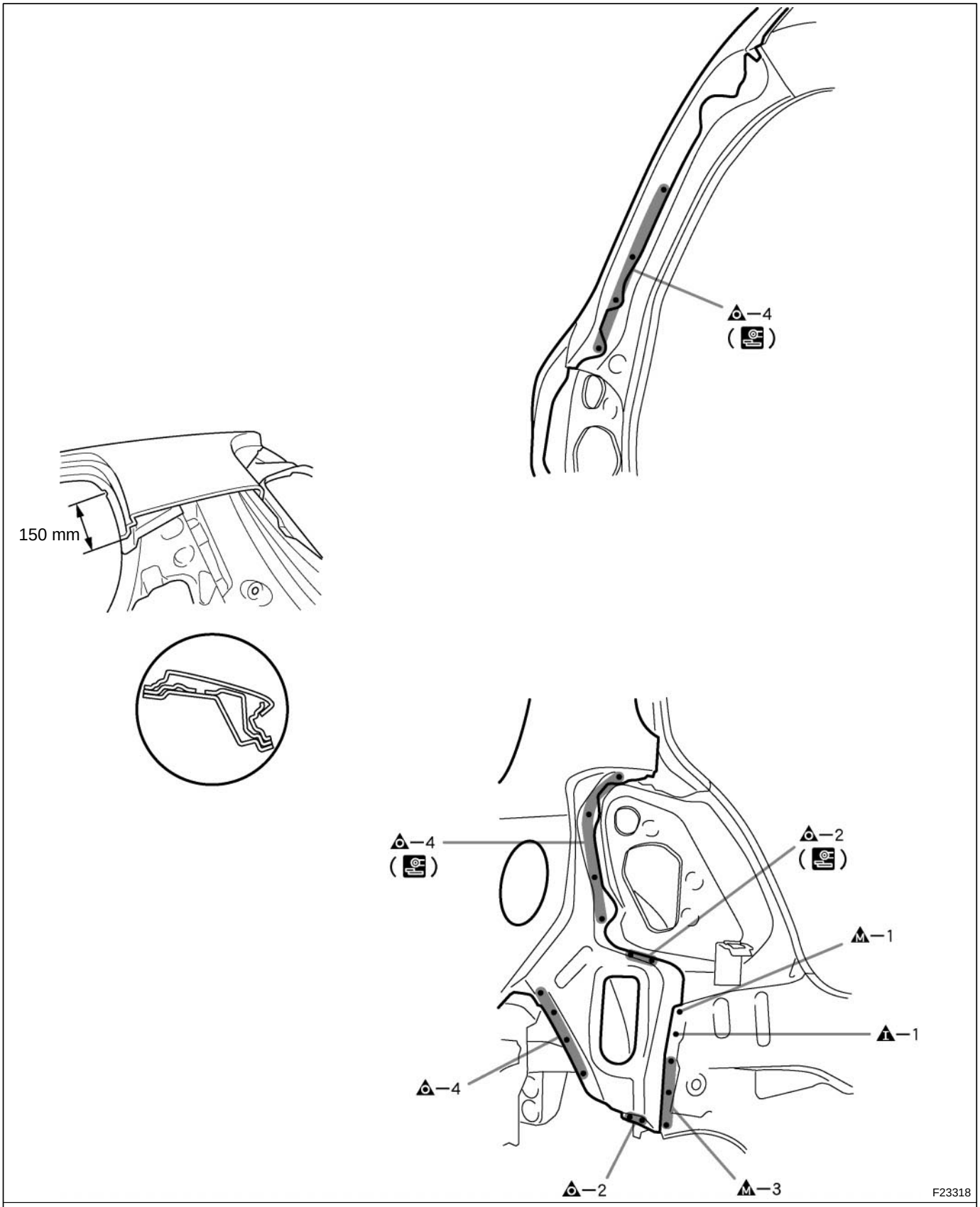
F23317

POINT

1 *1: The hatched area indicates the adhesive application area.

PART NAME

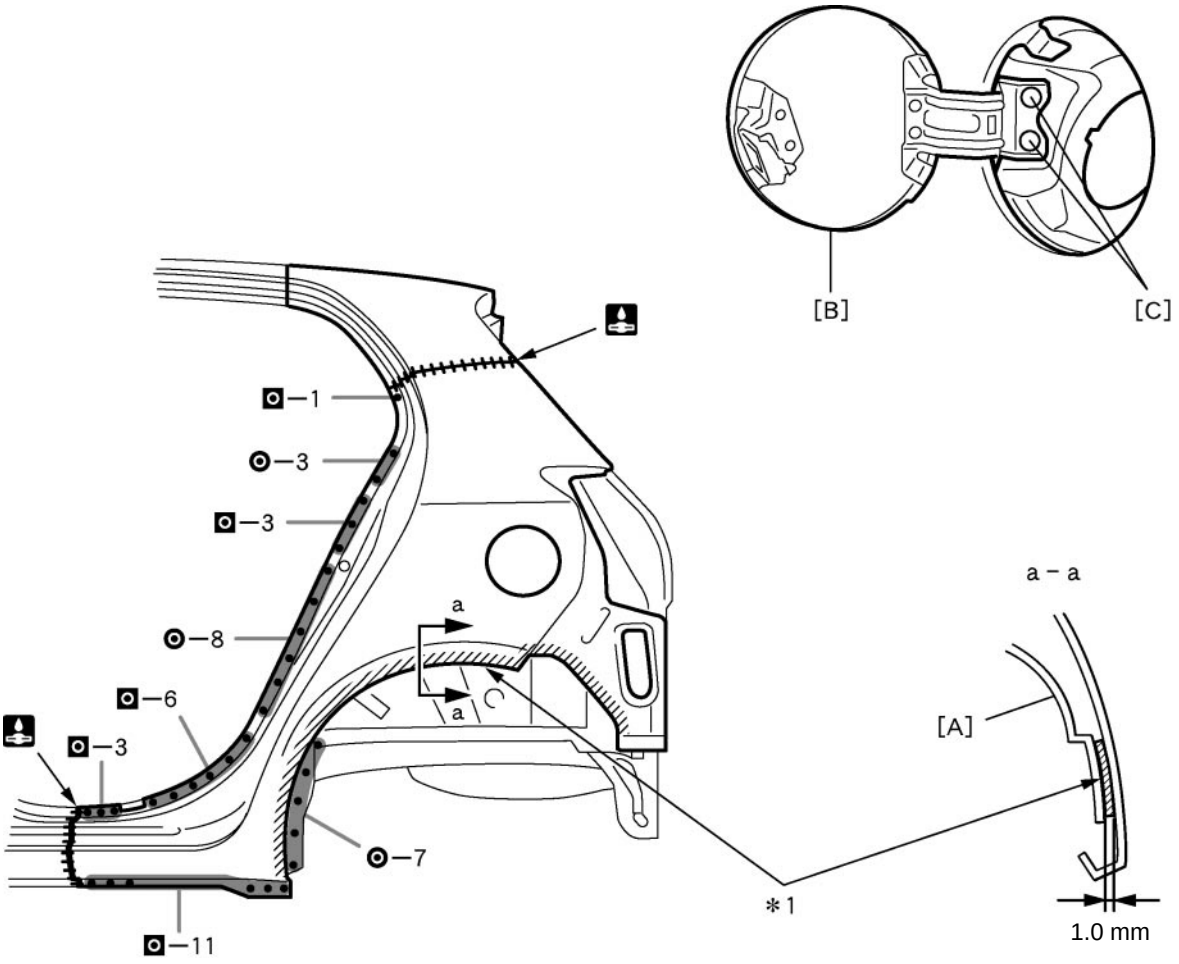
[A] Quarter Wheel Housing Outer Panel



150 mm (5.91in.)

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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F23319

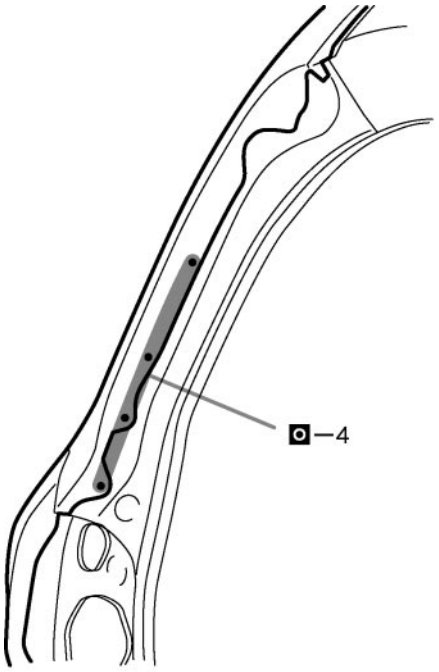
POINT

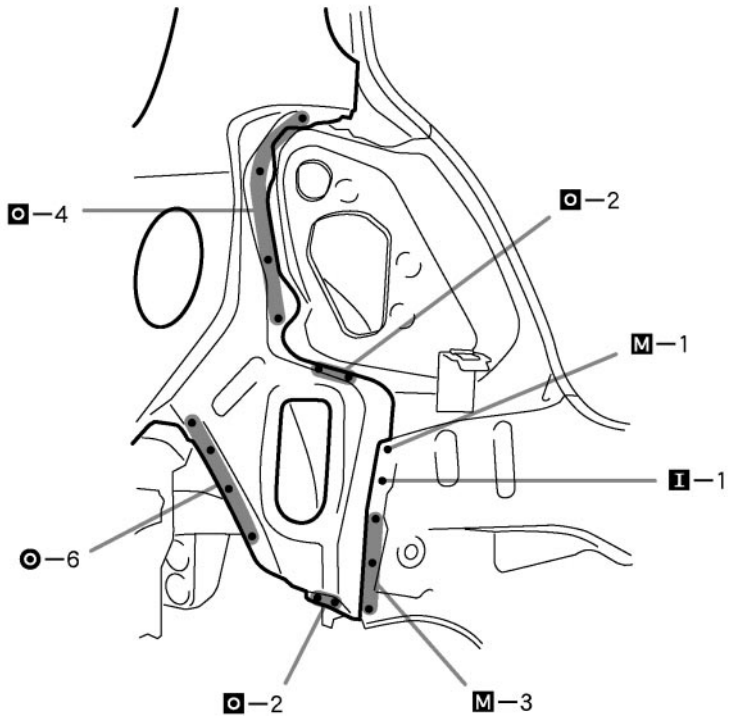
1 *1: The hatched area indicates the adhesive application area.

PART NAME

[A] Quarter Wheel Housing Outer Panel [B] Fuel Filler Opening Lid [C] Rivet

1.0 mm (0.04 in.)



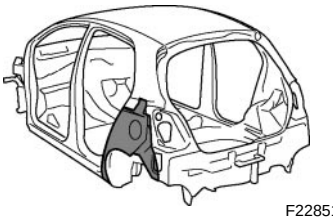


F23320

POINT

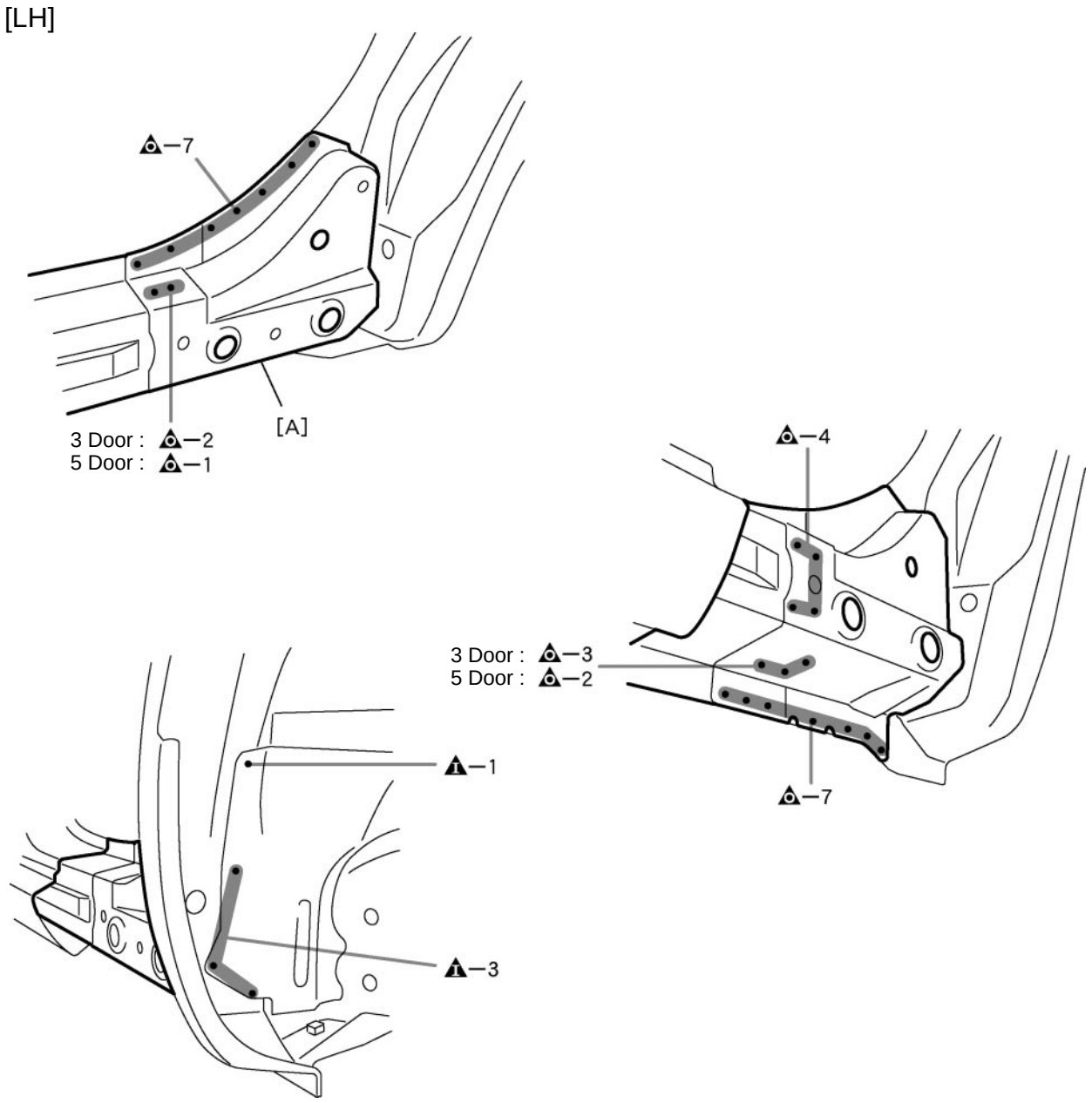
1 Inspect the front door, back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

QUARTER WHEEL HOUSING OUTER PANEL (ASSY)


F22851A

REPLACEMENT
With the quarter panel removed.

REMOVAL

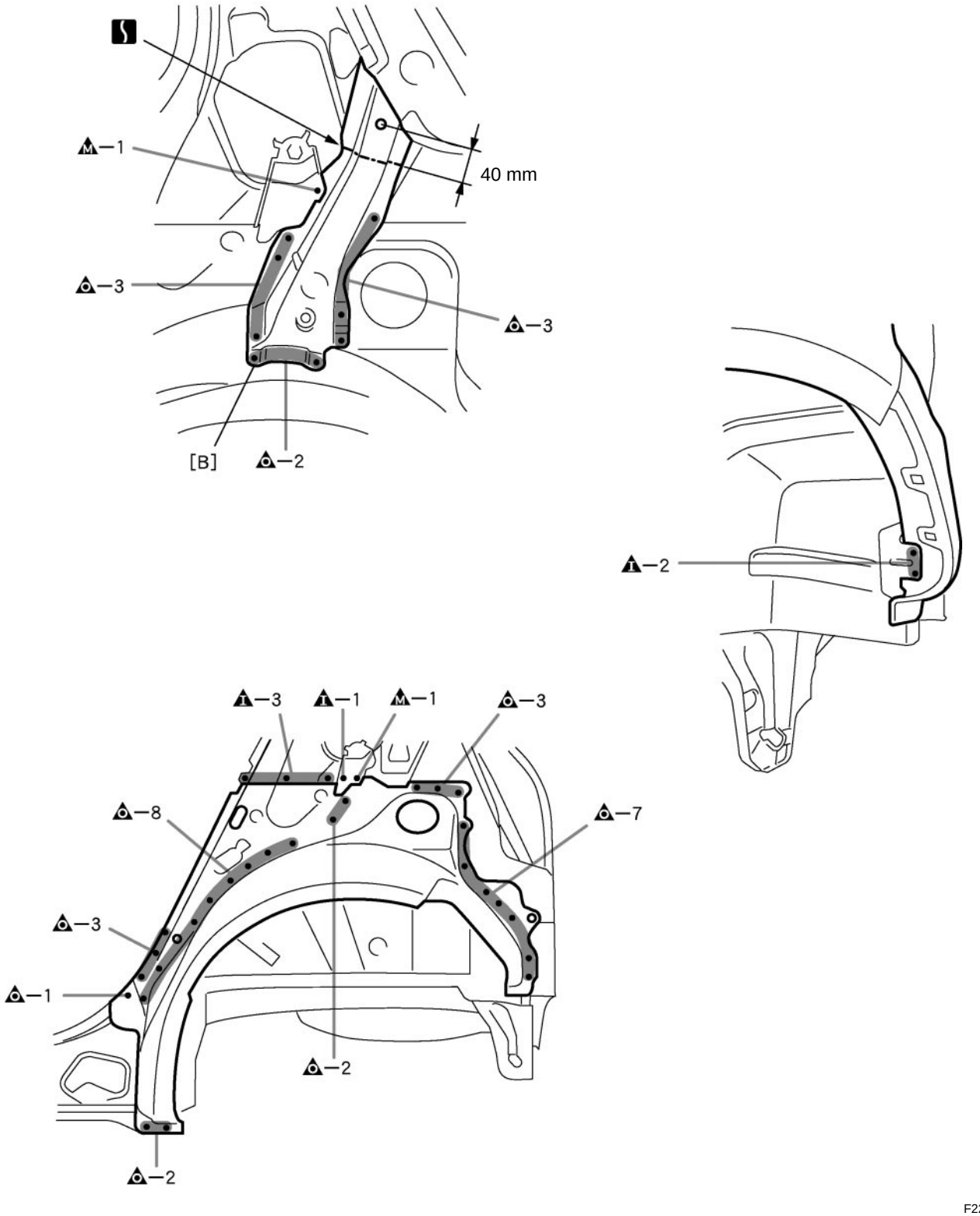


F23321

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

PART NAME
[A] Rocker Outer Extension

[LH]



F22852

POINT

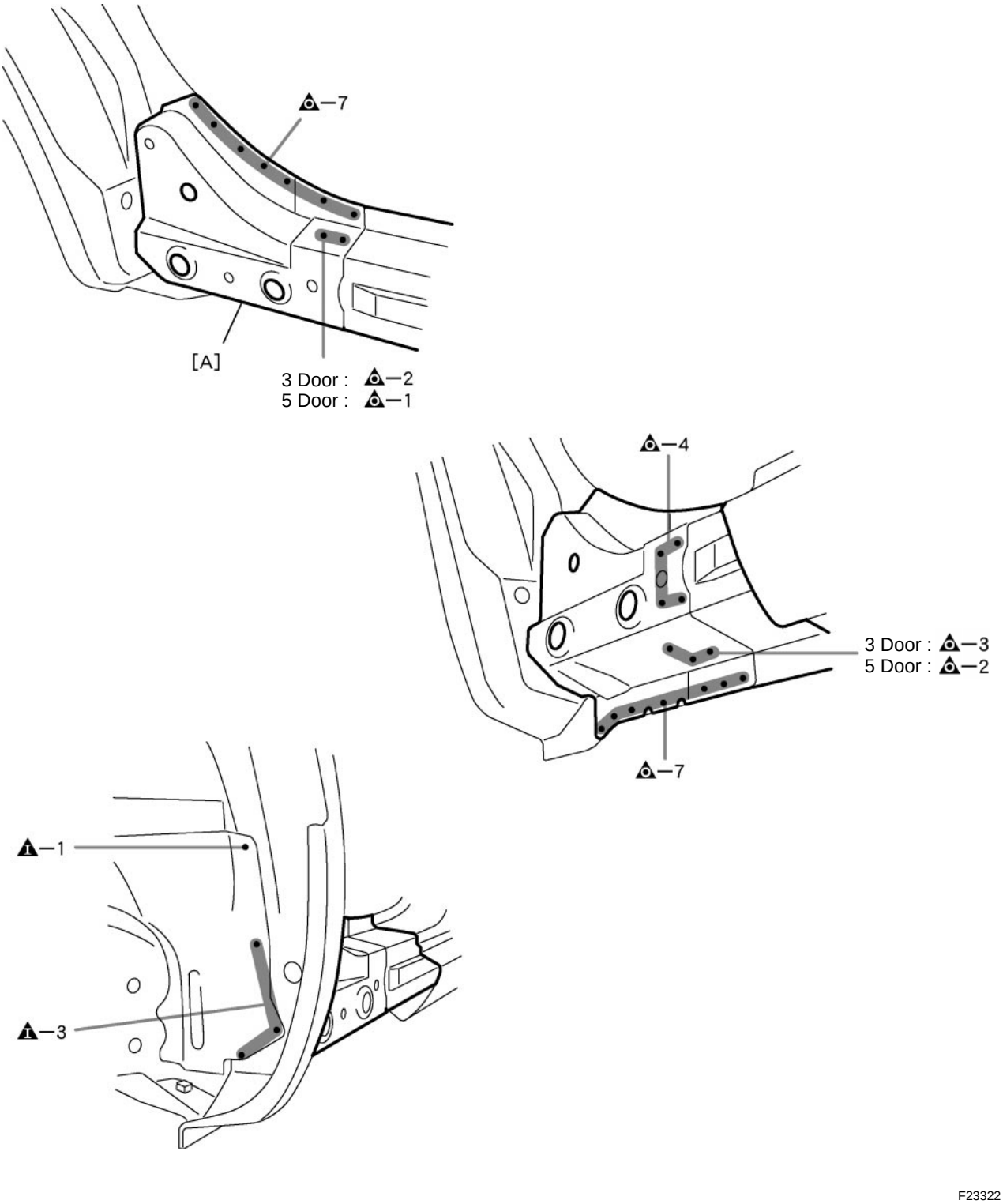
1 After removing [B], remove the quarter wheel housing outer panel.

PART NAME

[B] Roof Side Outer Panel

40 mm (1.57 in.)

[RH]



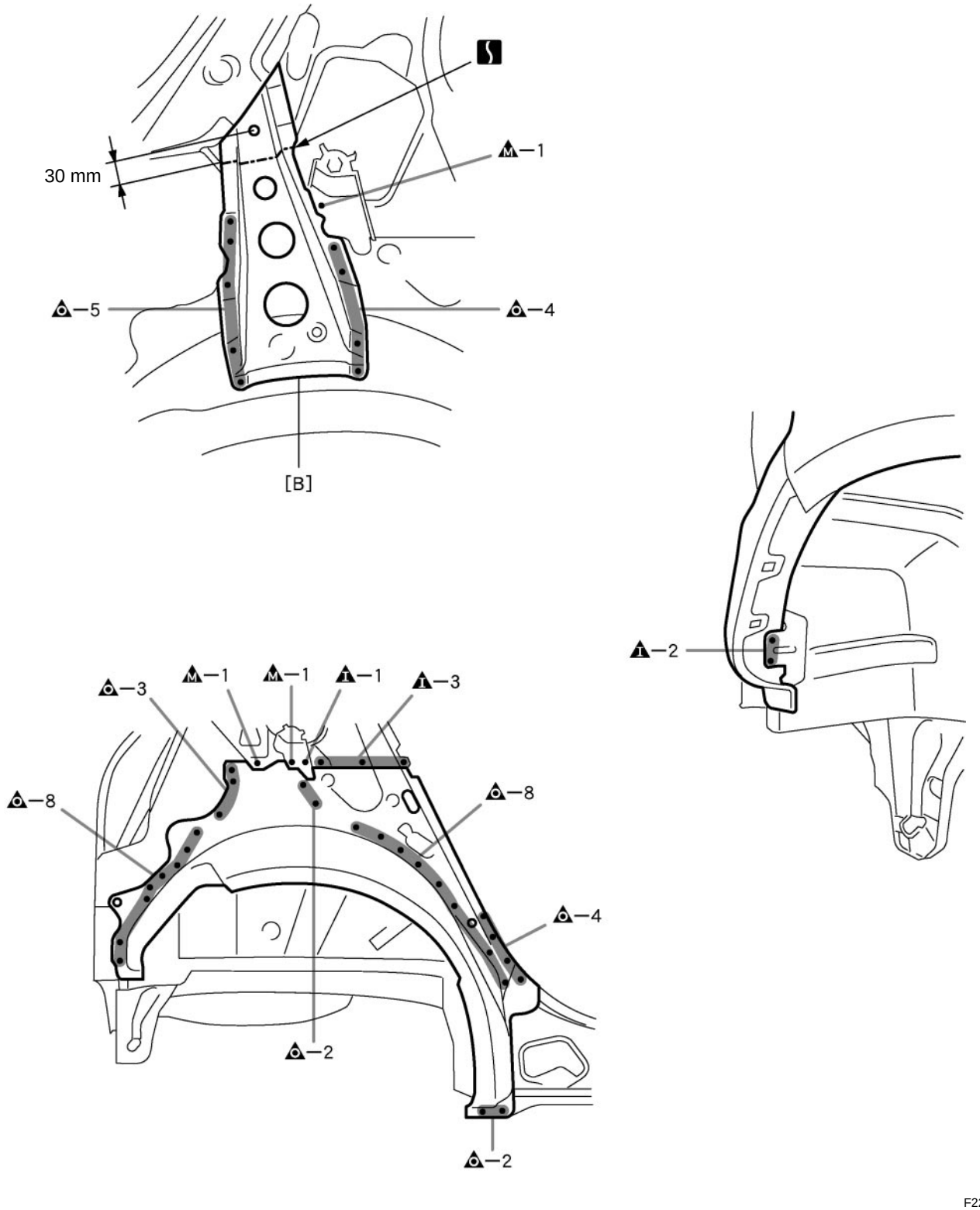
POINT

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

PART NAME

[A] Rocker Outer Extension

[RH]



POINT

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

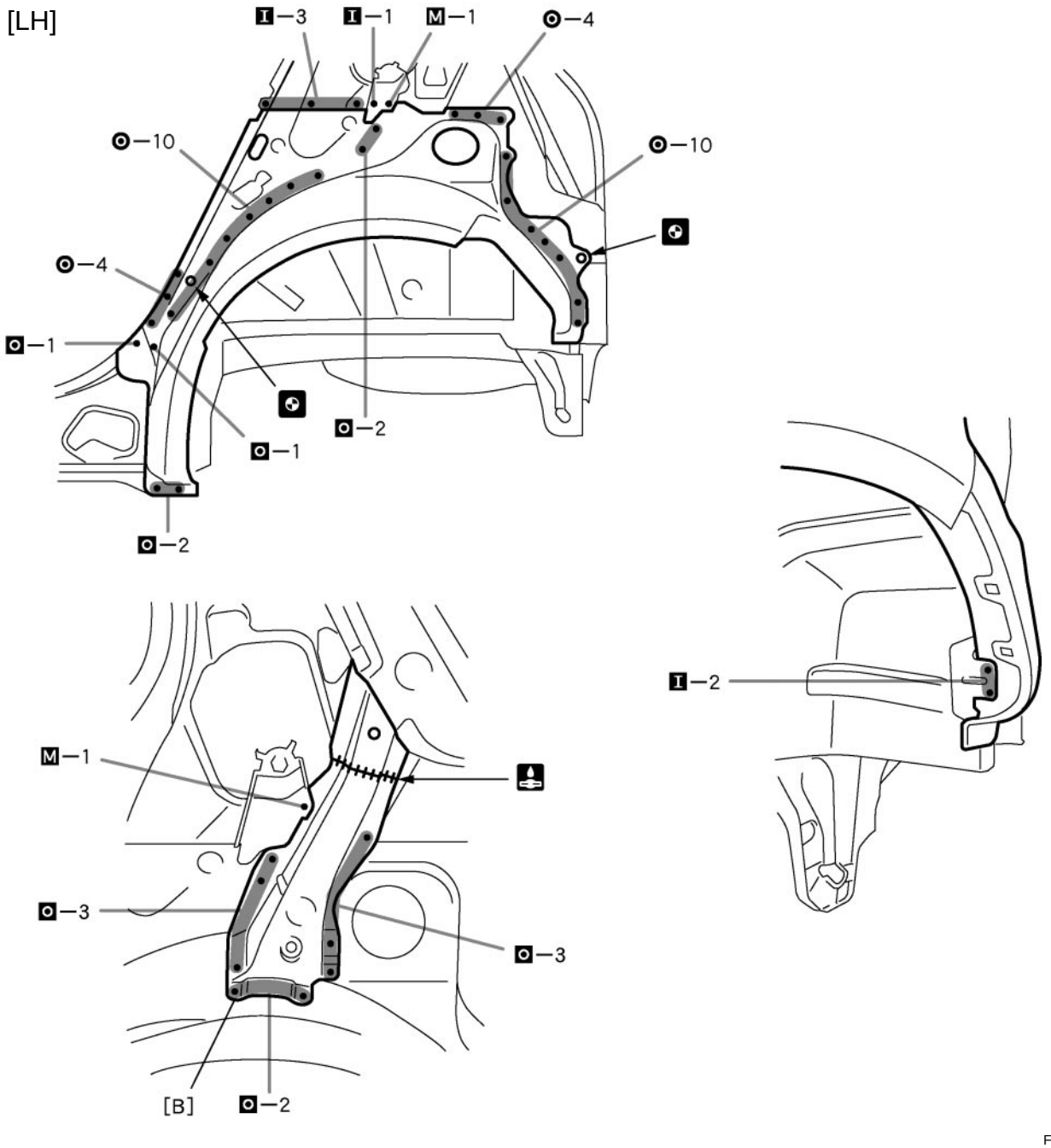
PART NAME

[B] Roof Side Outer Panel

30 mm (1.18 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.



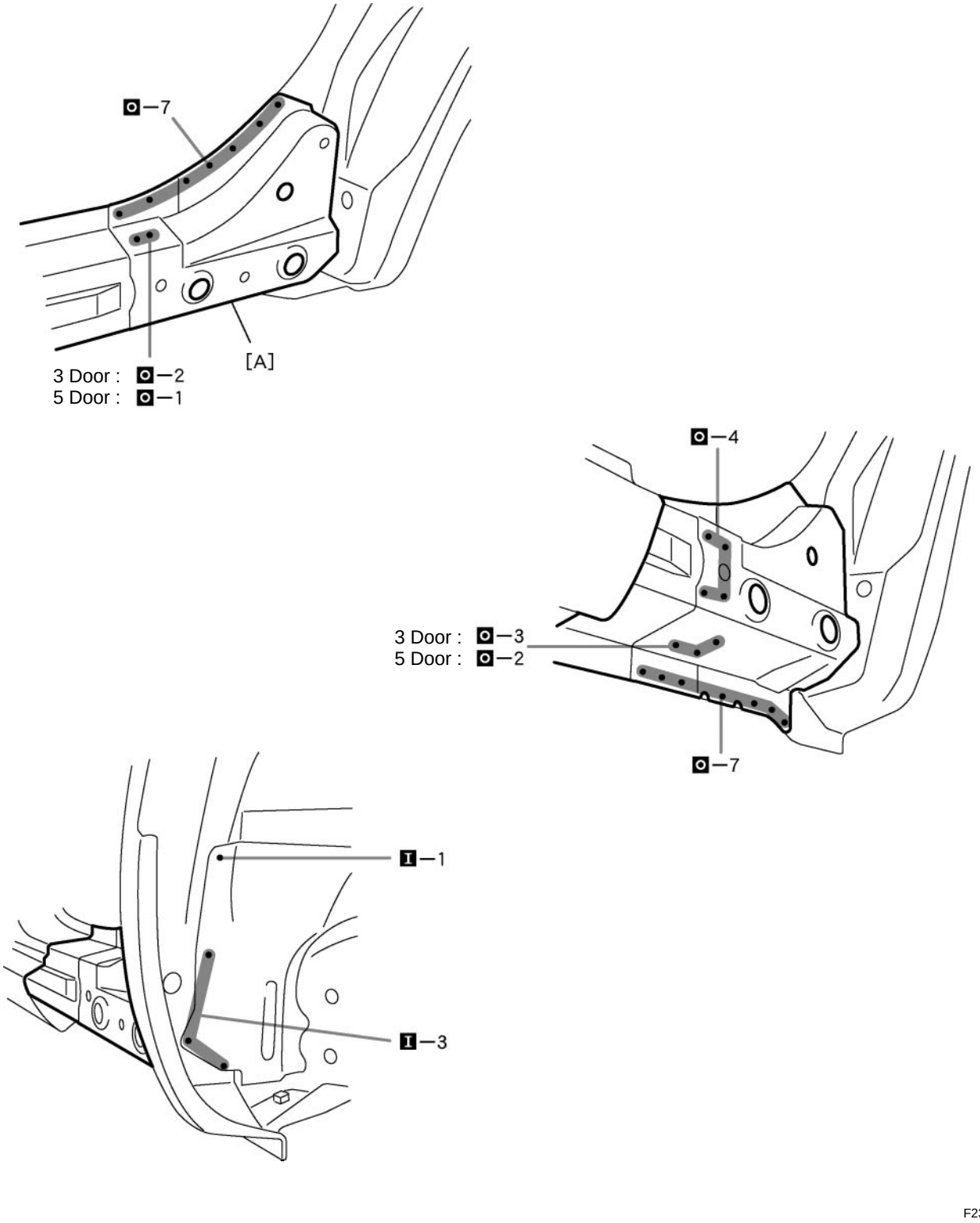
POINT

1 After installing the new parts, install [B].

PART NAME

[B] Roof Side Outer Panel

[LH]



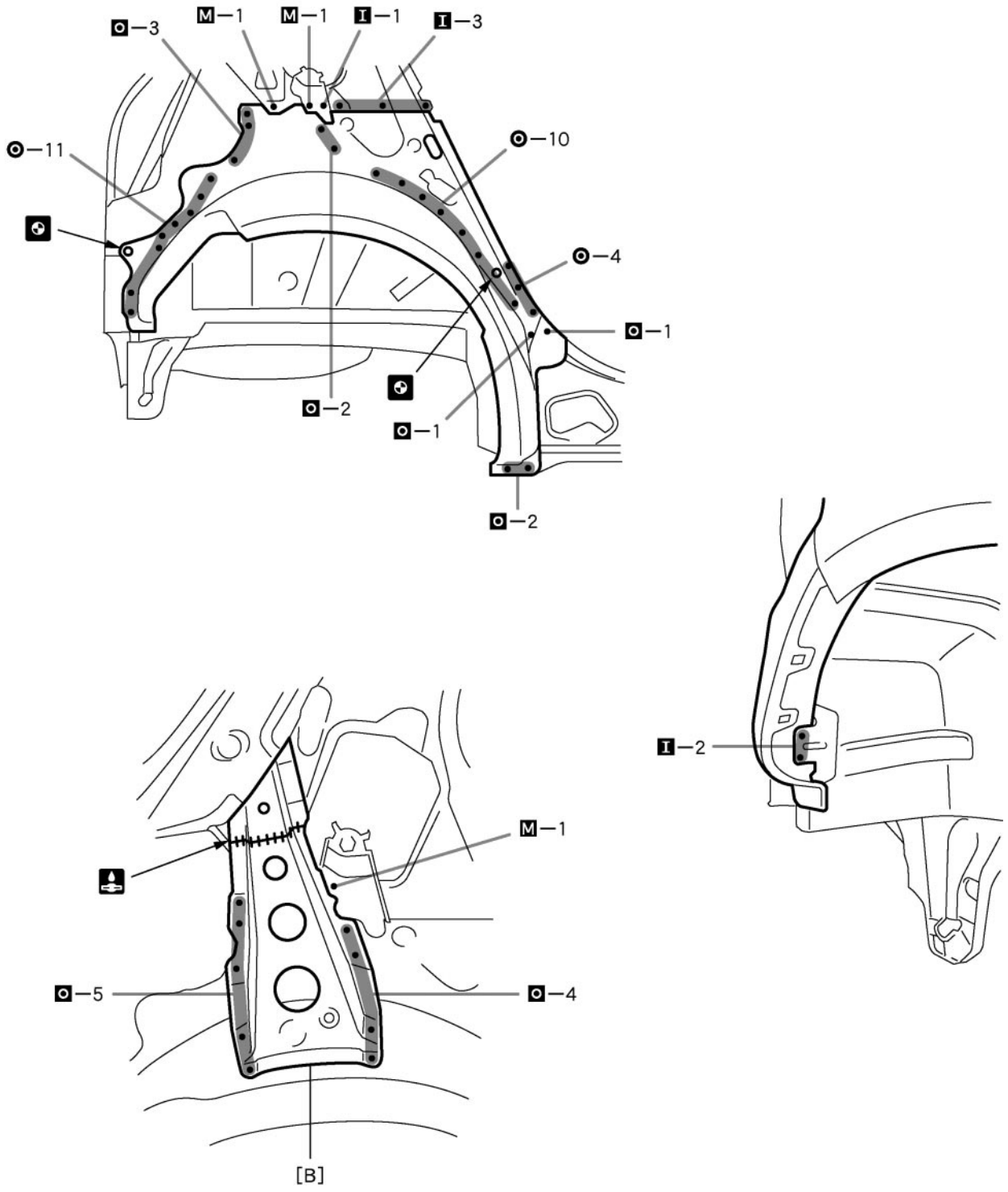
POINT

1 After installing the new parts, install [A].

PART NAME

[A] Rocker Outer Extension

[RH]



F22858

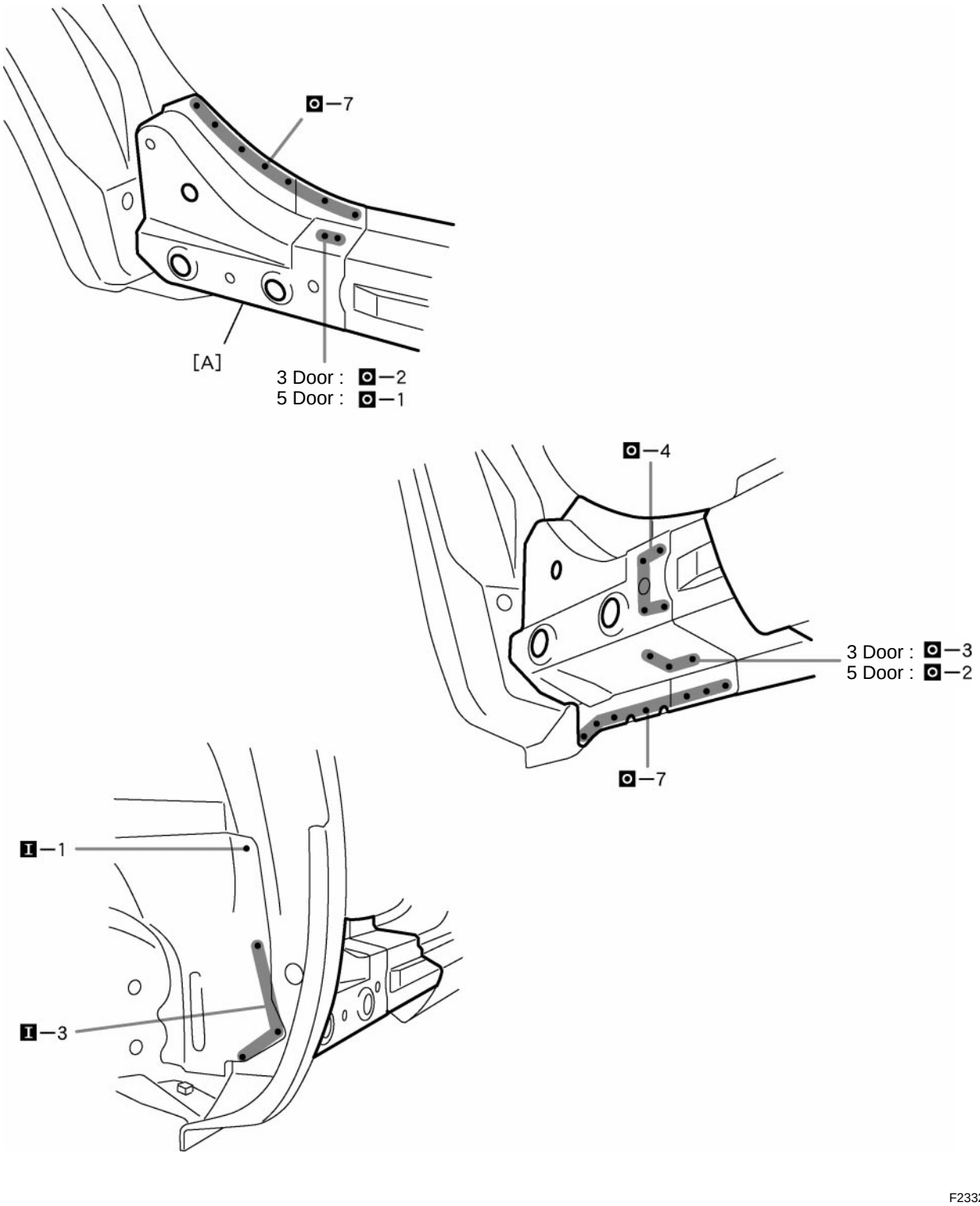
POINT

1 After installing the new parts, install [B].

PART NAME

[B] Roof Side Outer Panel

[RH]



F23324

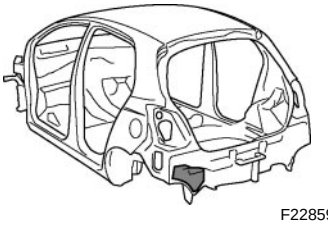
POINT

1 After installing the new parts, install [A].

PART NAME

[A] Rocker Outer Extension

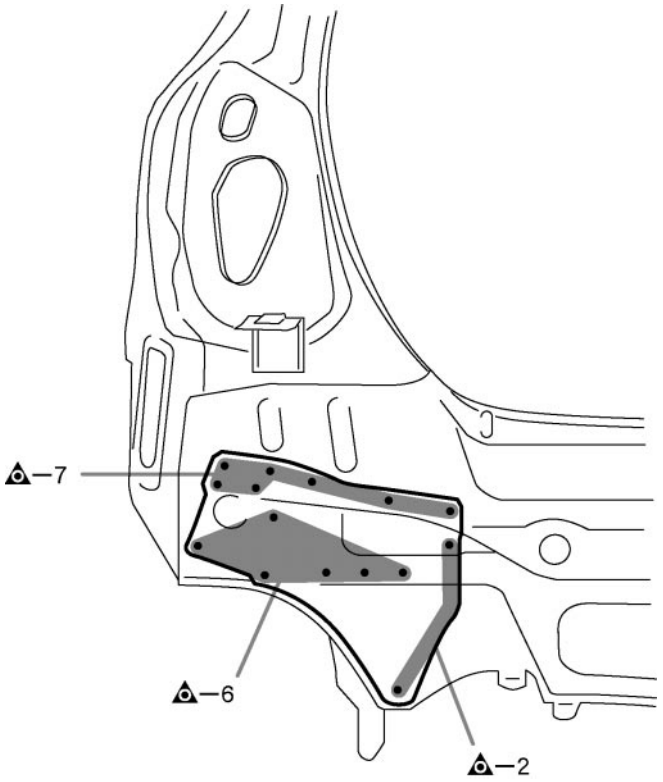
LOWER BACK UPPER GUSSET (ASSY)



F22859A

REPLACEMENT

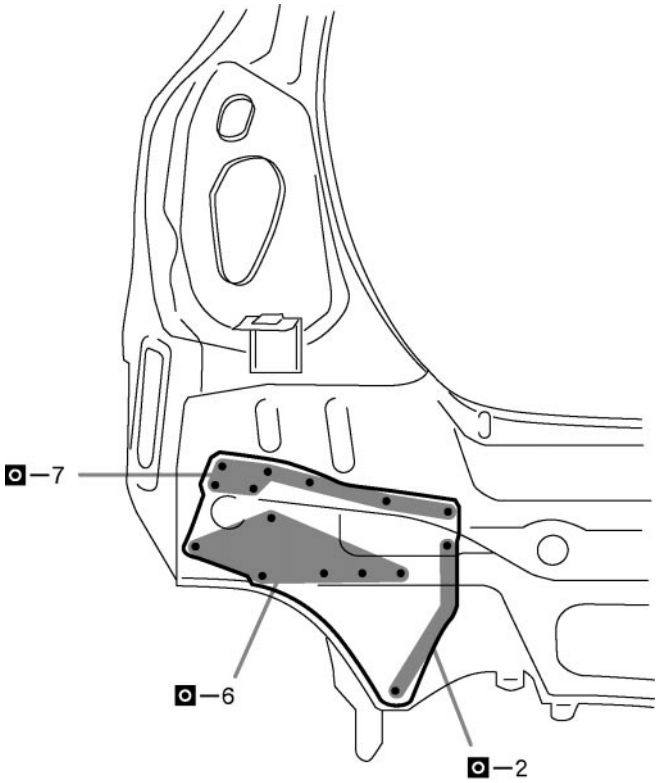
REMOVAL



F22859

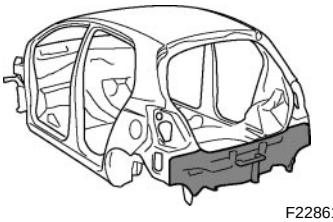
INSTALLATION

⁎ 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.



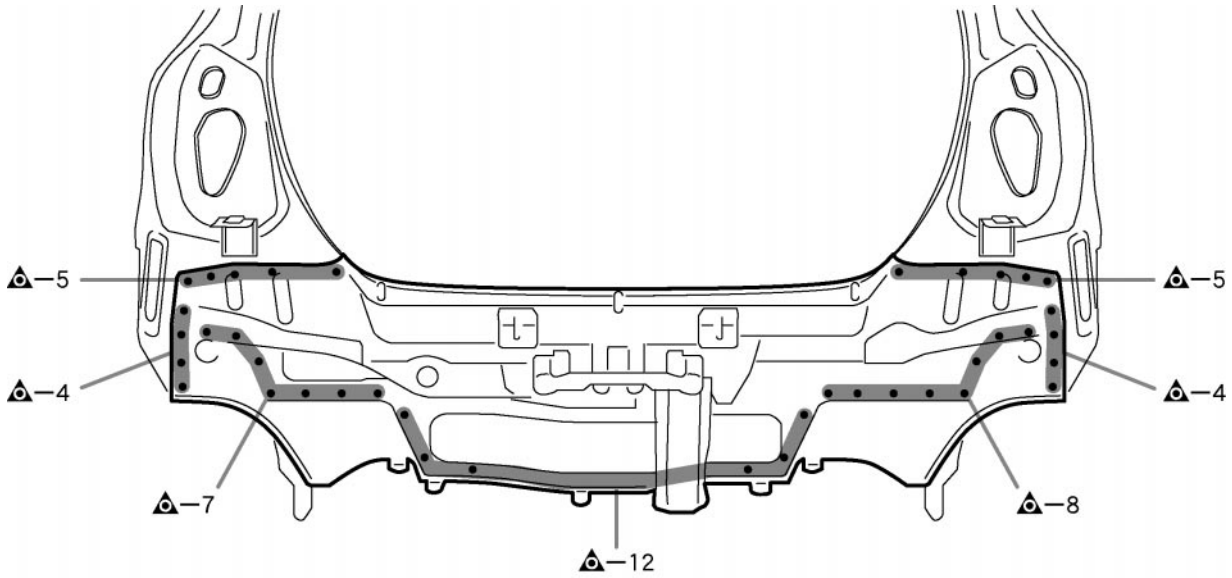
F22860

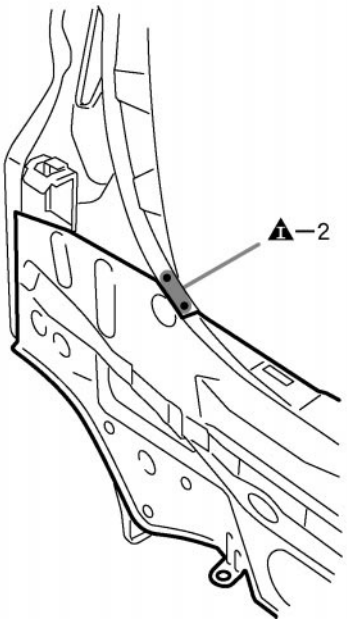
BODY LOWER BACK PANEL (ASSY)


F22861A

REPLACEMENT

REMOVAL

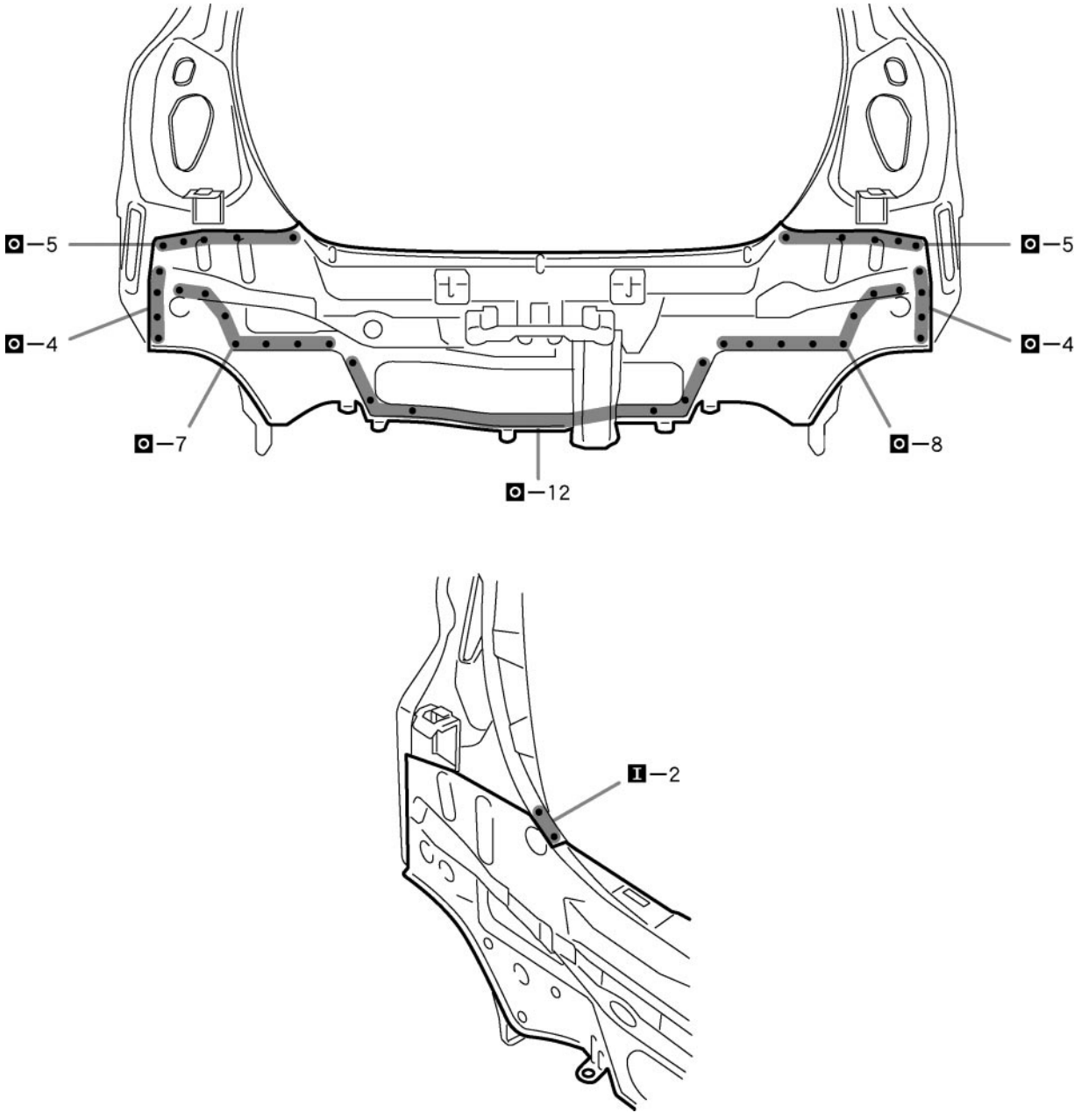




F23325

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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

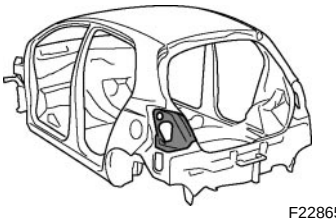


F23326

POINT

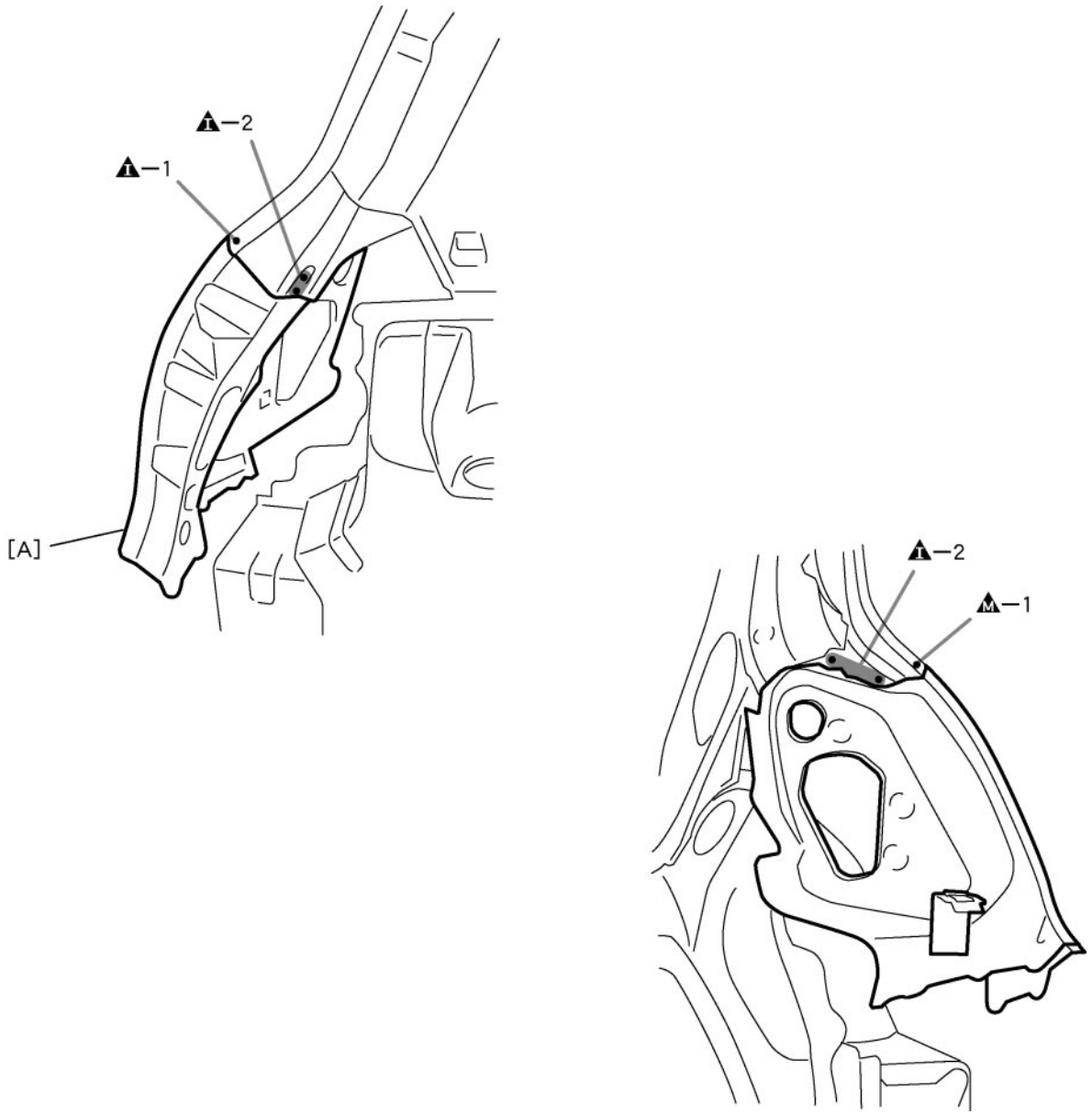
1 Inspect the fitting of the back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

BACK DOOR OPENING TROUGH (ASSY)


F22865A

REPLACEMENT
With the quarter panel and body lower back panel removed.

REMOVAL



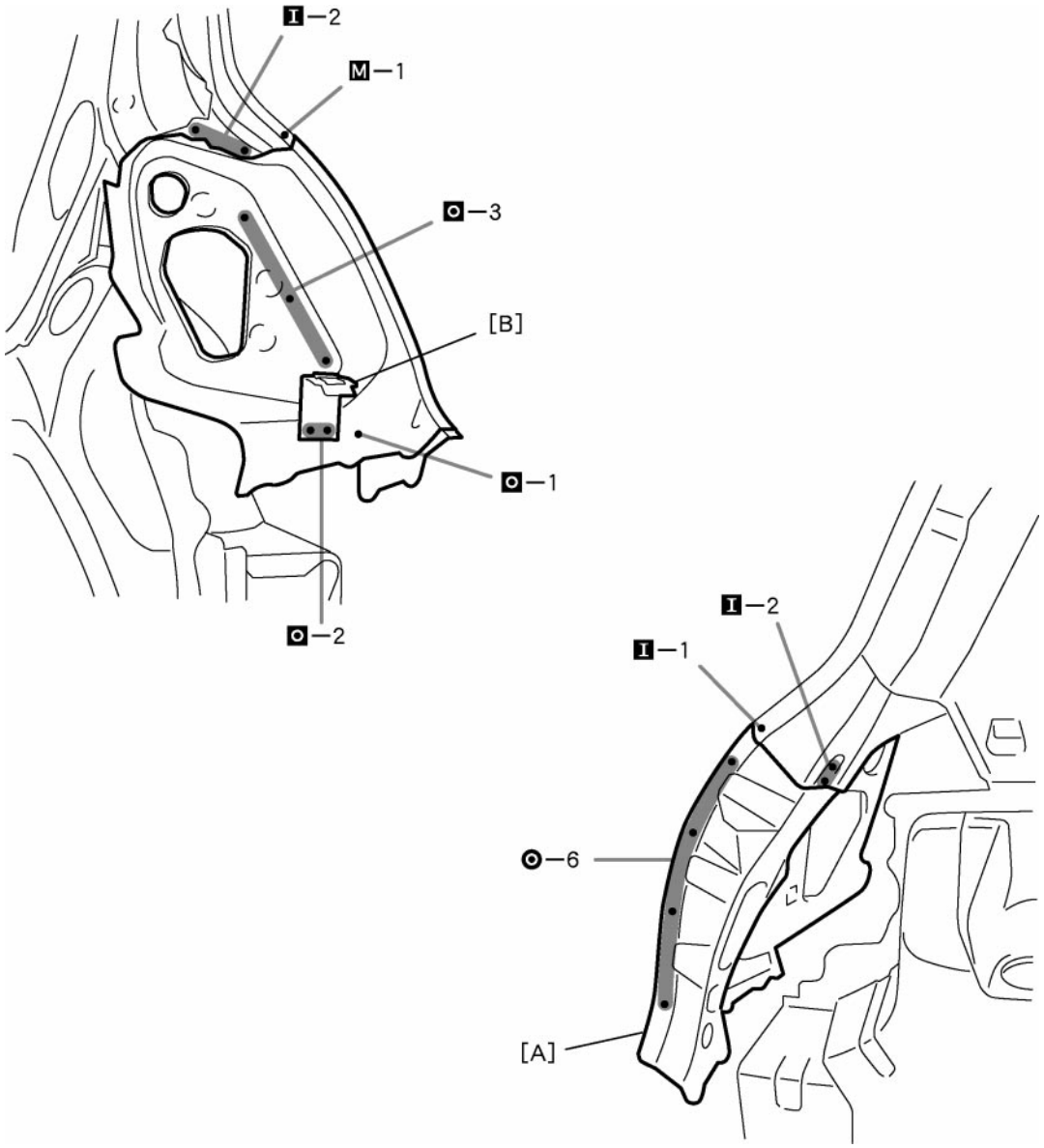
F22865

POINT
1 Remove [A] at the same time.

PART NAME
[A] Back Door Opening Lower 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F22866

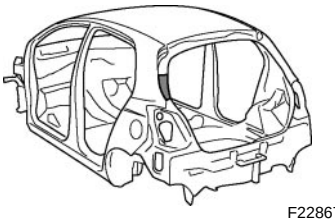
POINT

1 Inspect the fitting of the back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

PART NAME

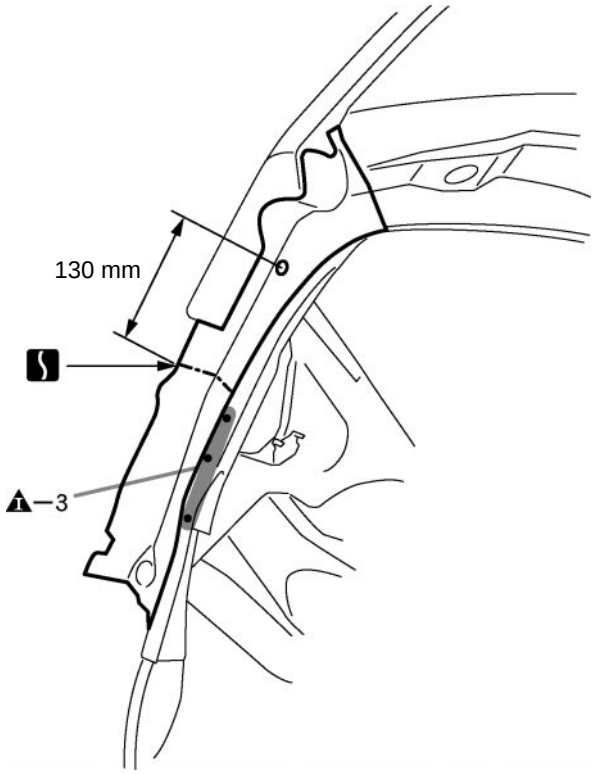
[A] Back Door Opening Lower Reinforcement [B] Rear Bumper Side Retainer

QUARTER PANEL UPPER EXTENSION (CUT)


F22867A

REPLACEMENT
With the back door opening trough removed.

REMOVAL

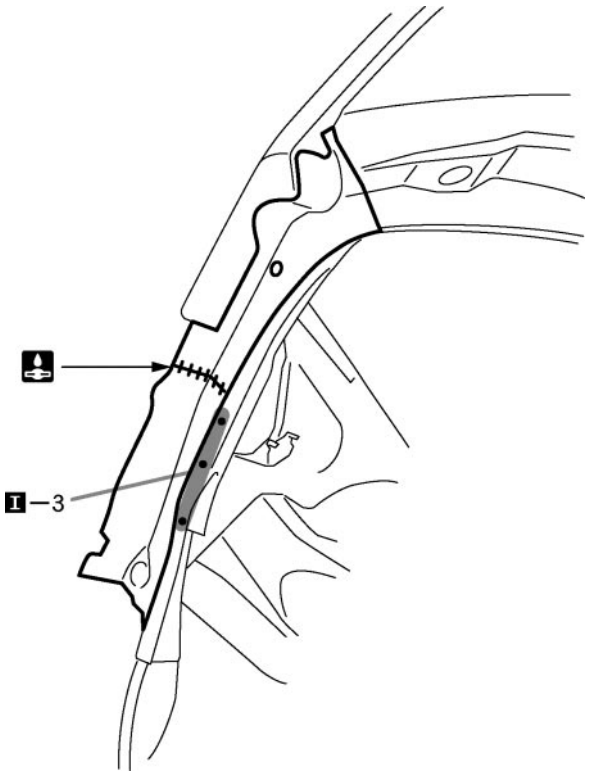


F22867

130 mm (5.12 in.)

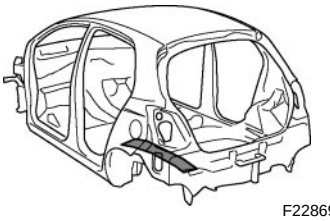
INSTALLATION

⁎ 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.



F22868

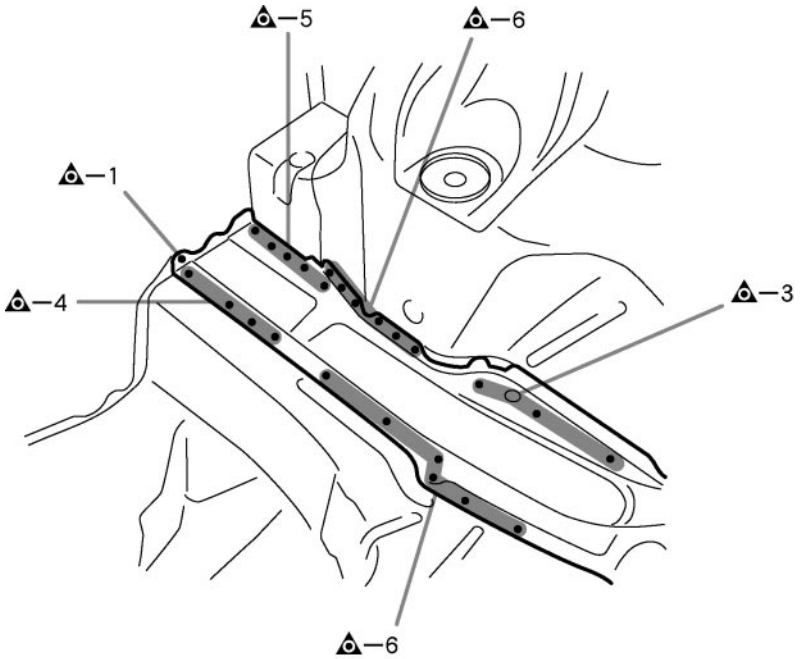
FLOOR SIDE RAIL FRONT PANEL (ASSY)

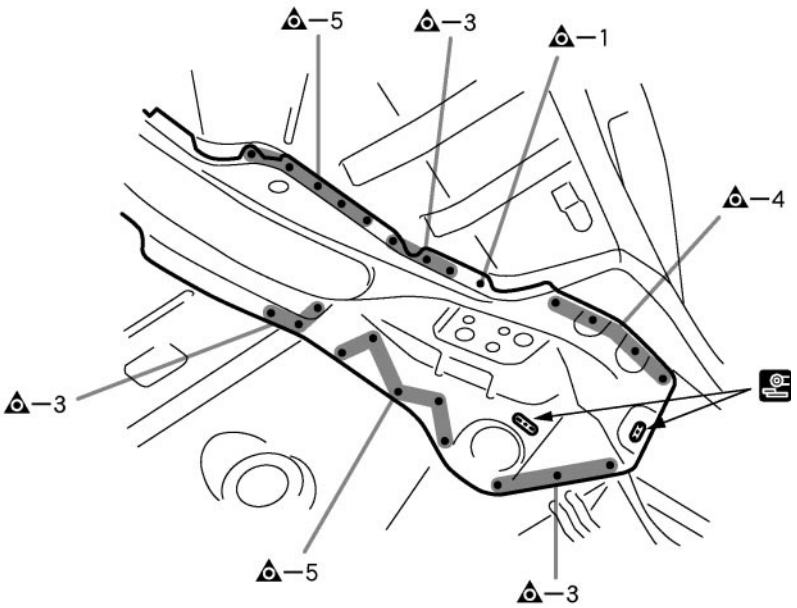

F22869A

REPLACEMENT

With the body lower back panel removed.

REMOVAL

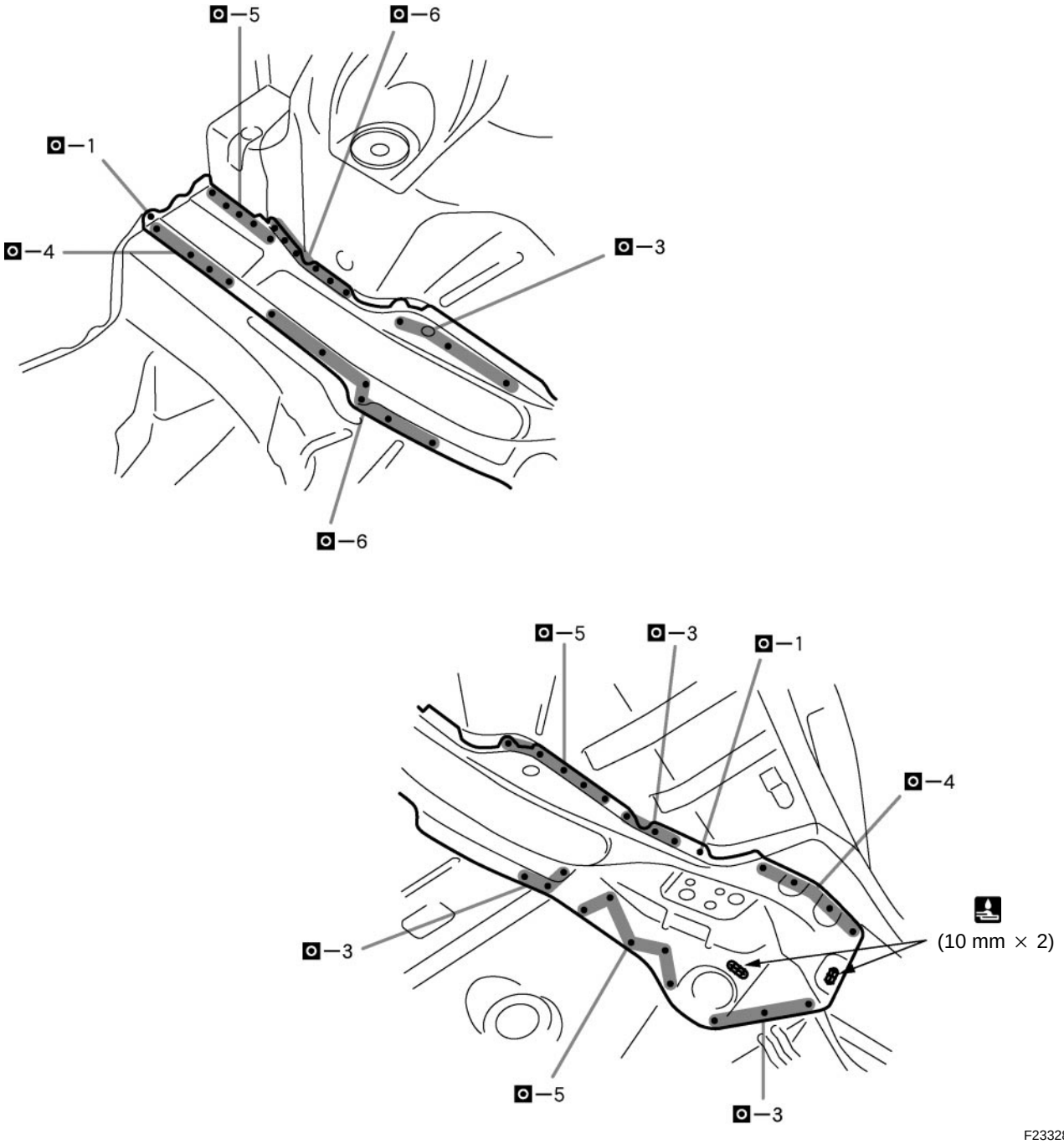




F23327

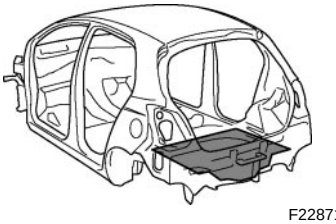
INSTALLATION

⁎ 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.



10 mm (0.39 in.)

REAR FLOOR PAN (ASSY)



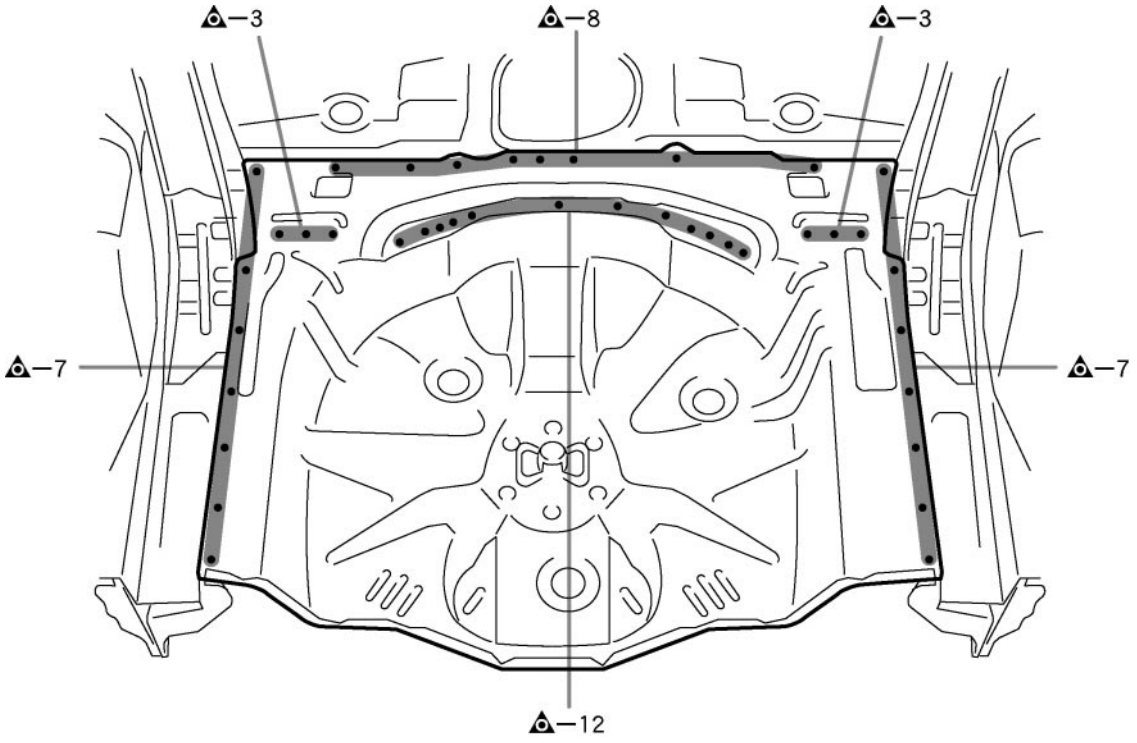
F22871A

REPLACEMENT

With the body lower back panel and floor side rail front panel removed.

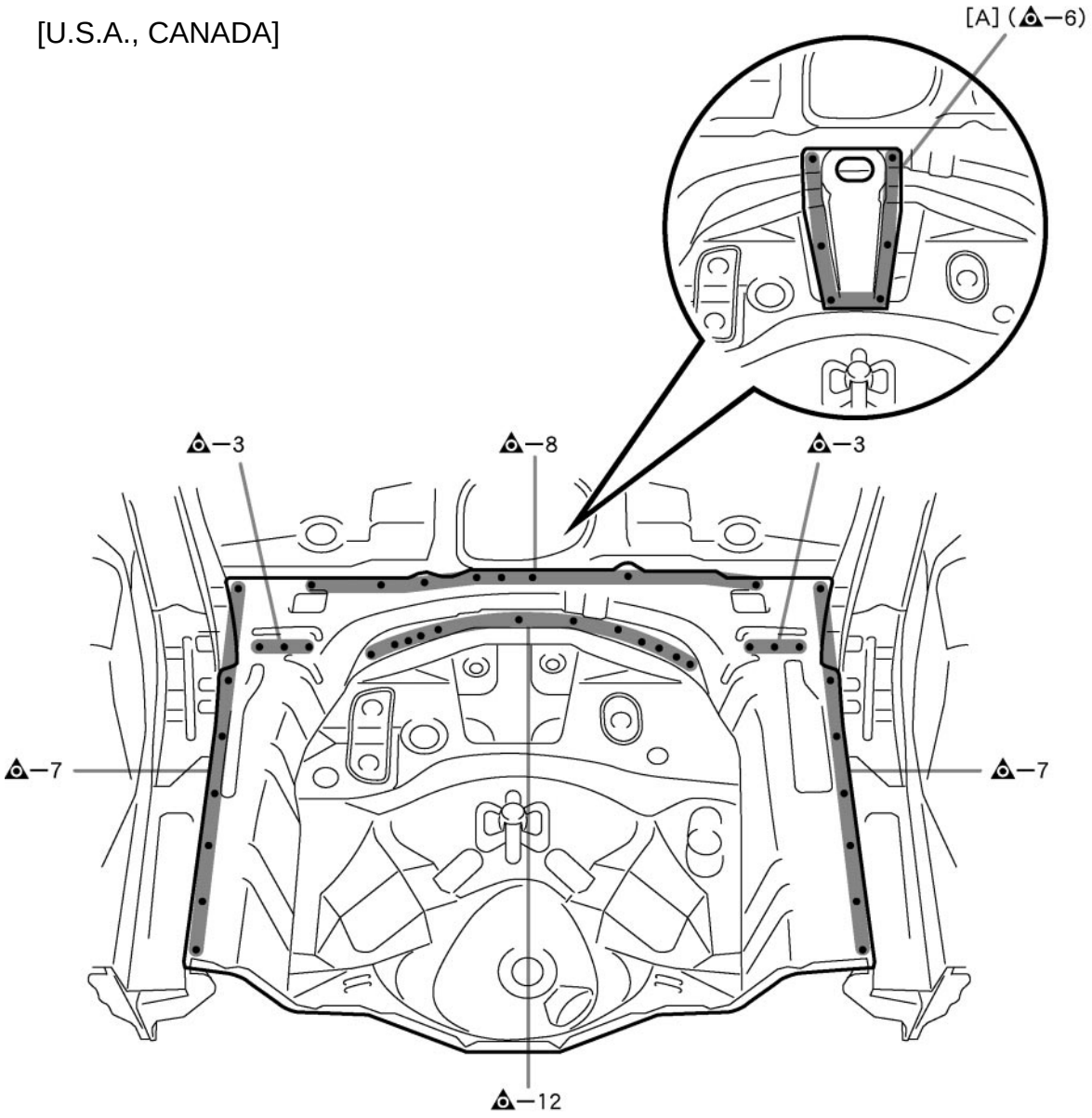
REMOVAL

[EX. U.S.A., CANADA]



F23347

[U.S.A., CANADA]



F23345

POINT

1 After removing [A], remove the rear floor pan.

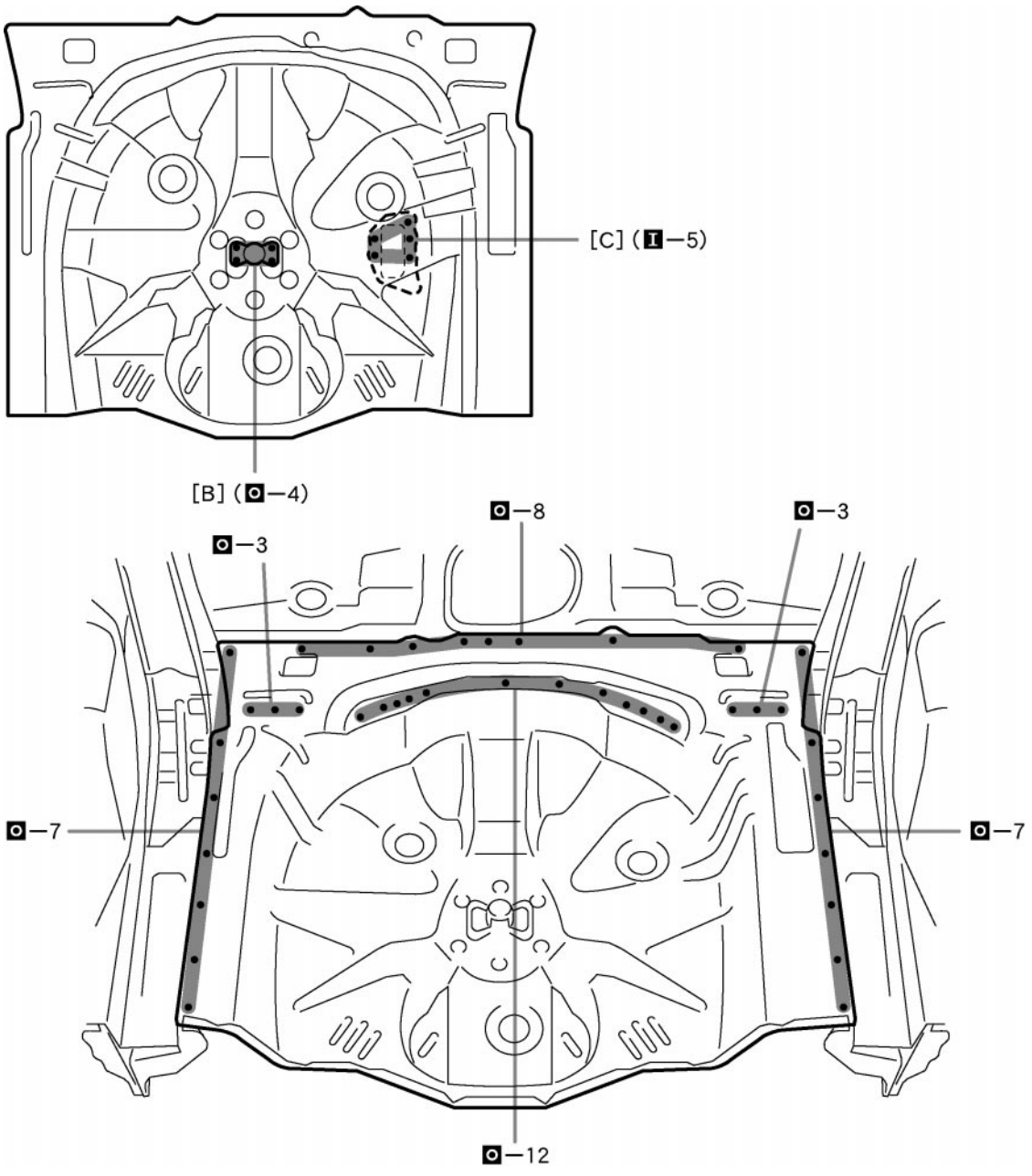
PART NAME

[A] Rear Floor Brace Braket

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

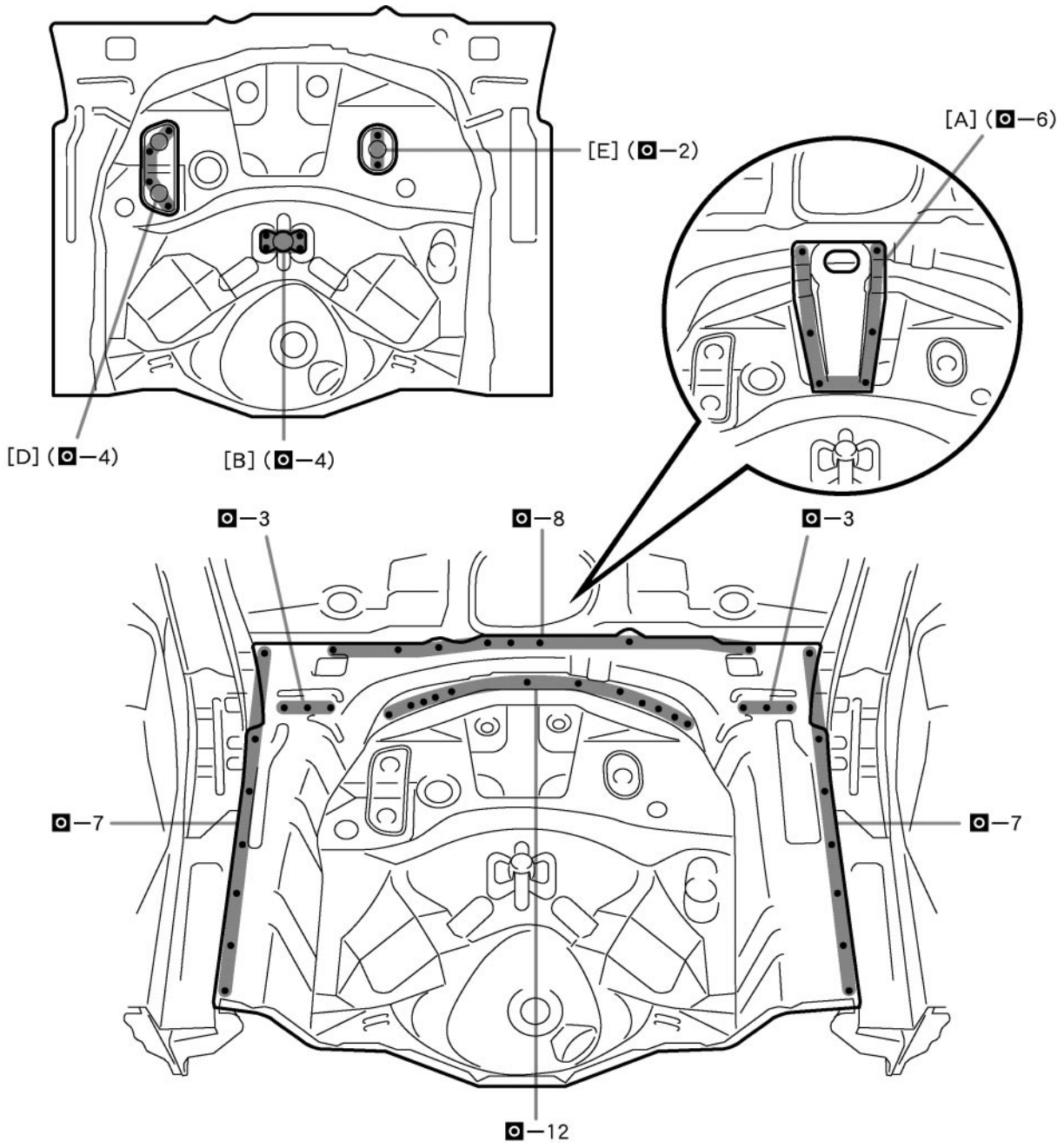
[EX. U.S.A., CANADA]



PART NAME

[B] Spare Wheel Clamp Bracket [C] Actuator Cover No.3 Bracket

[U.S.A., CANADA]



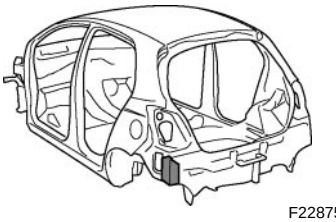
POINT

1 After installing the new parts, install [A].

PART NAME

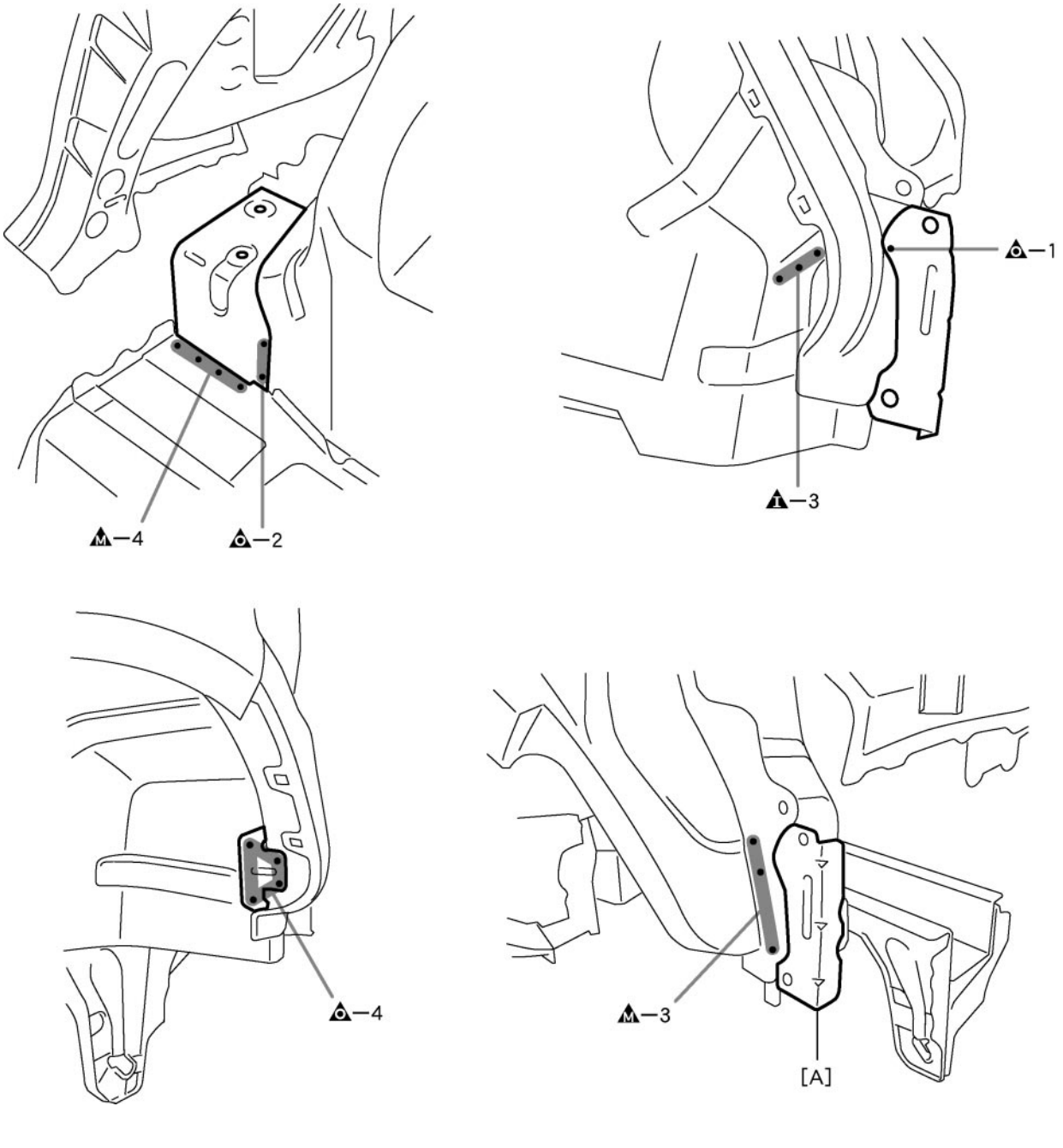
[A] Rear Floor Brace Bracket [B] Spare Wheel Clamp Bracket
[D] Fuel Tube No.2 Bracket [E] Fuel Tube Bracket

REAR FLOOR SIDE PANEL EXTENSION (ASSY)


F22875A

REPLACEMENT
With the quarter panel and body lower back panel removed.

REMOVAL



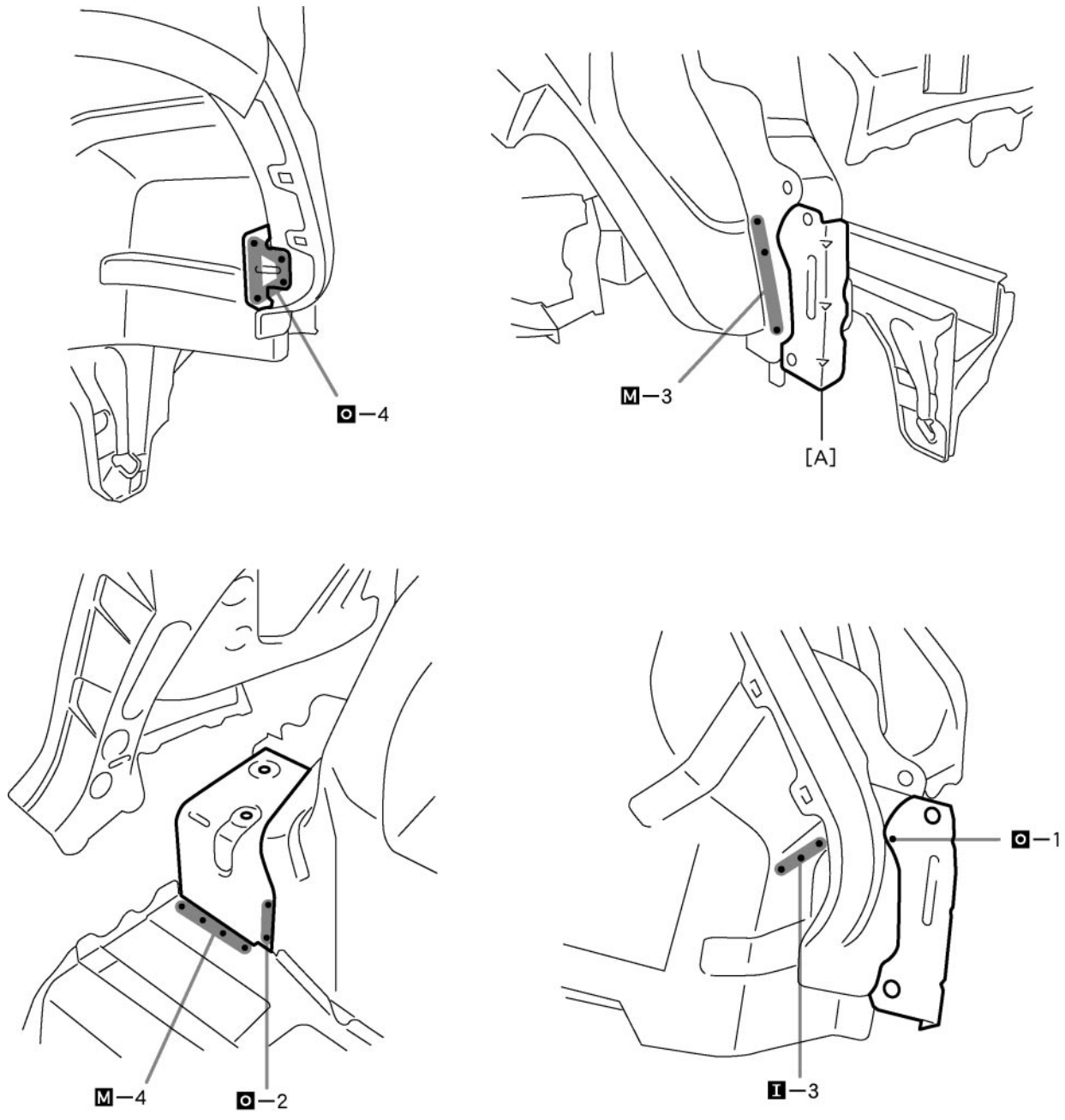
F22875

POINT
1 After removing the rear floor side panel extension, remove [A].

PART NAME
[A] Quarter Wheel Housing 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.



F22876

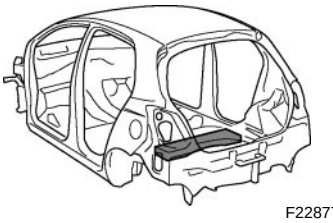
POINT

1 After installing [A], install the new parts.

PART NAME

[A] Quarter Wheel Housing Extension

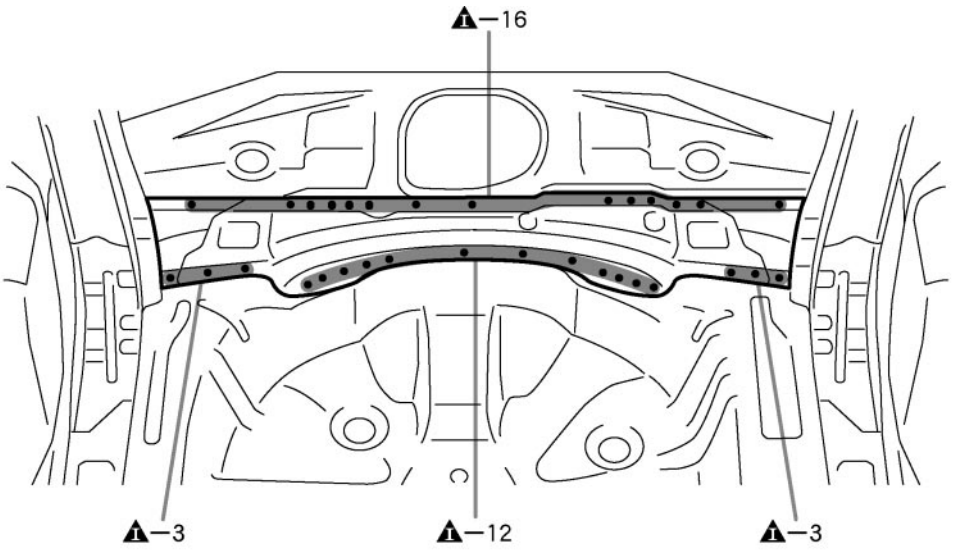
REAR FLOOR CROSSMEMBER NO.2 (ASSY)

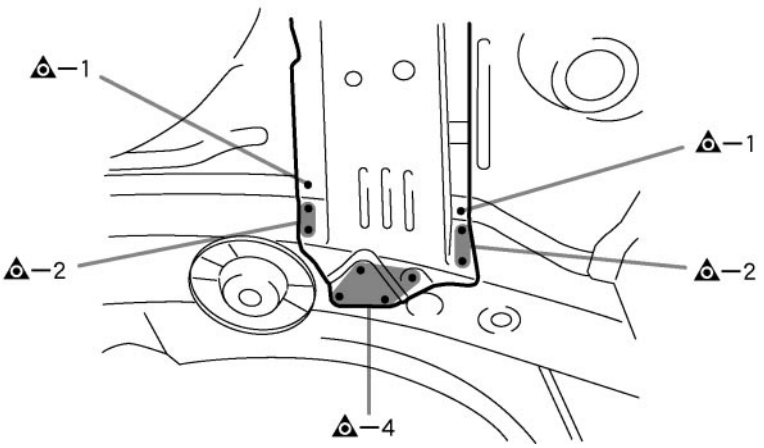


F22877A

REPLACEMENT

REMOVAL

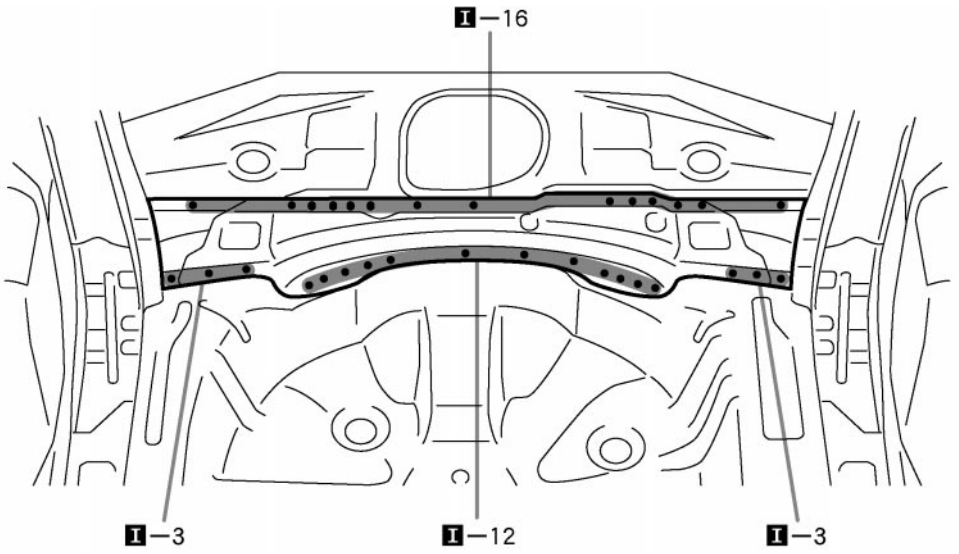


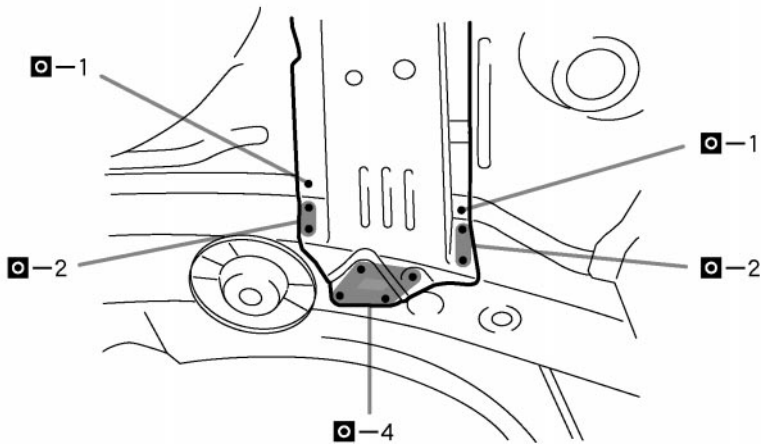


F22877

INSTALLATION

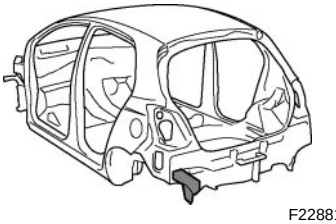
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply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





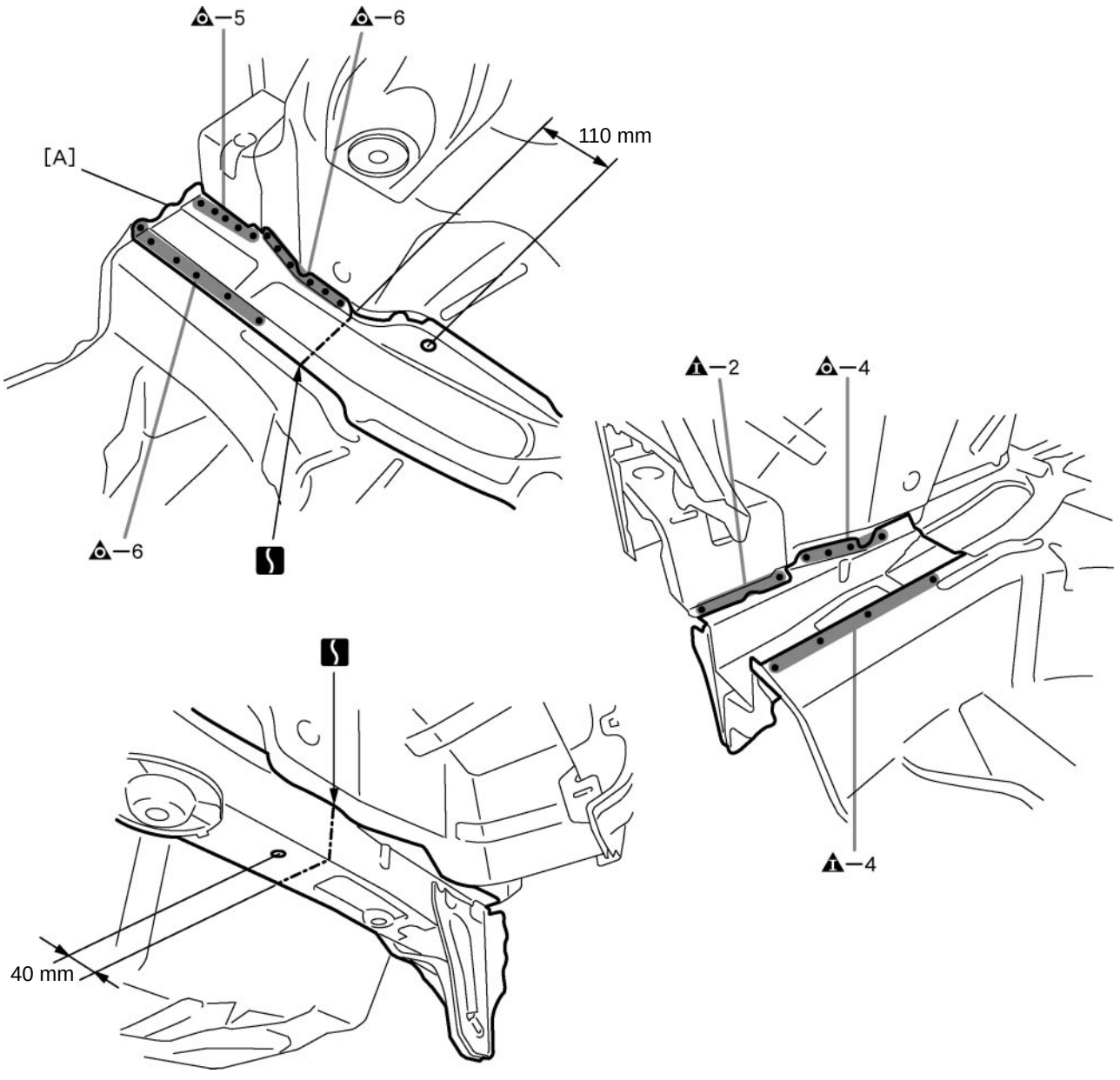
F22878

REAR FLOOR SIDEMEMBER (CUT)


F22881A

REPLACEMENT
With the body lower back panel removed.

REMOVAL



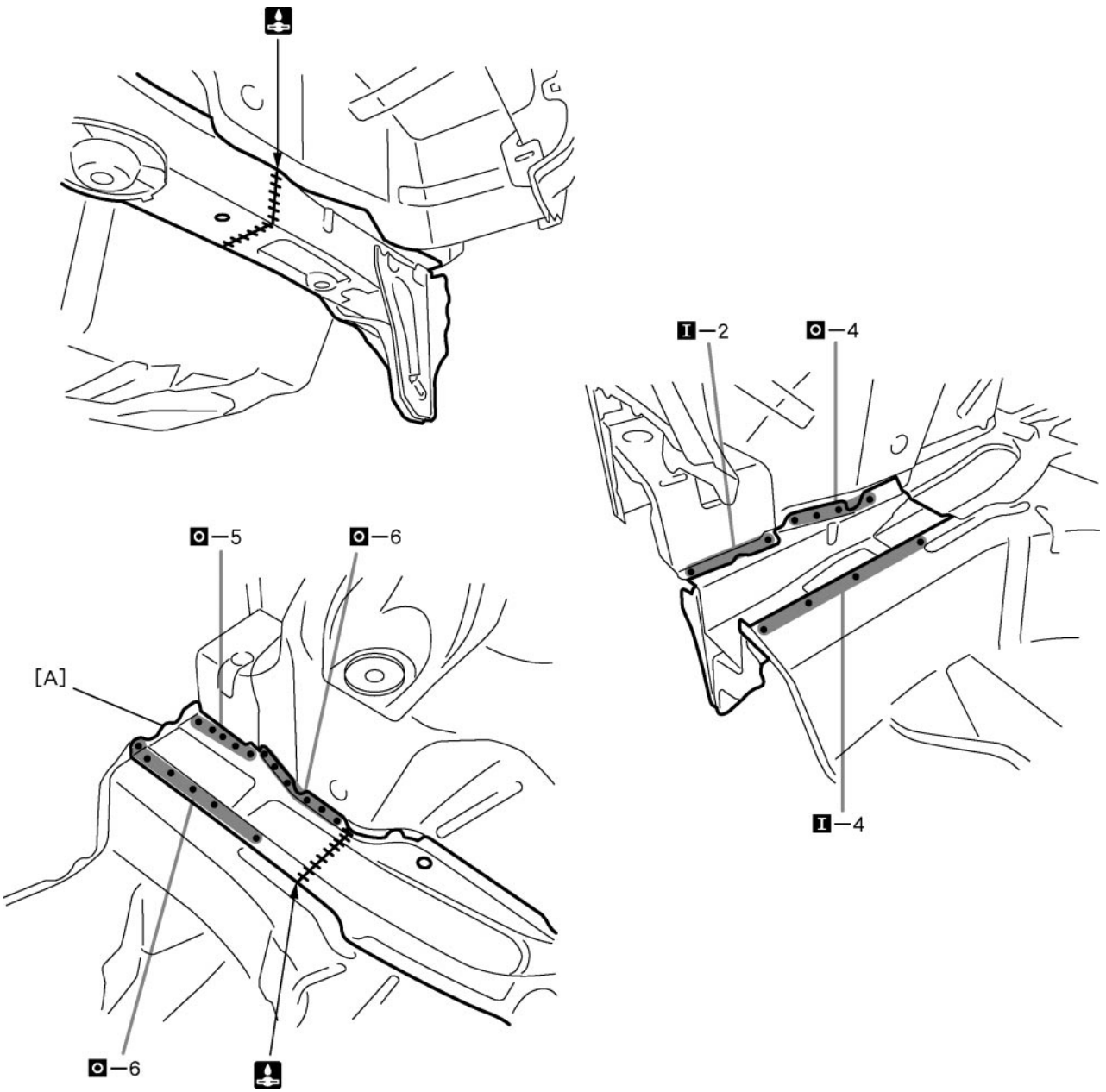
F23329

POINT
1 After removing [A], remove the rear floor sidemember.

PART NAME
[A] Floor Side Rail Front Panel
40 mm (1.57 in.) 110 mm (4.33 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.

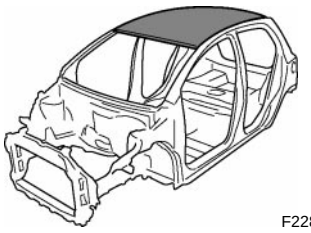


F23330

PART NAME

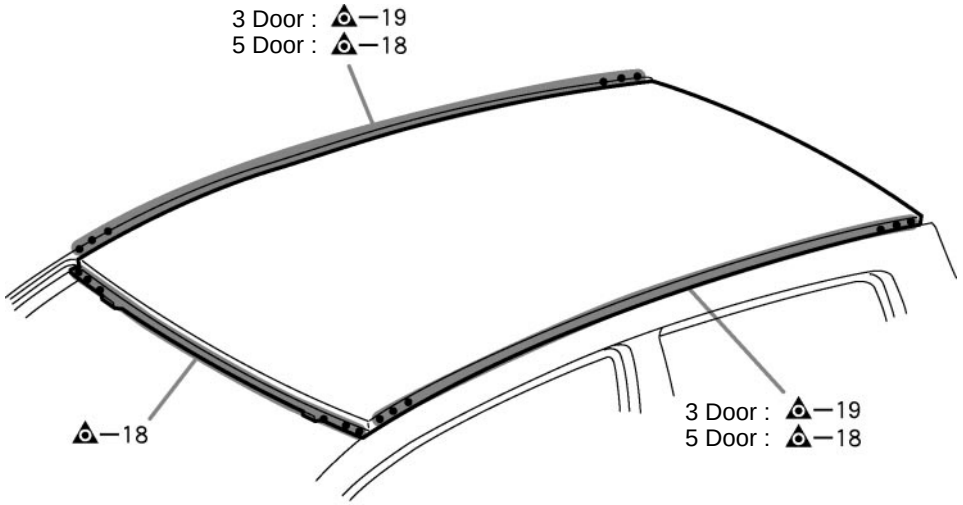
[A] Floor Side Rail Front Panel

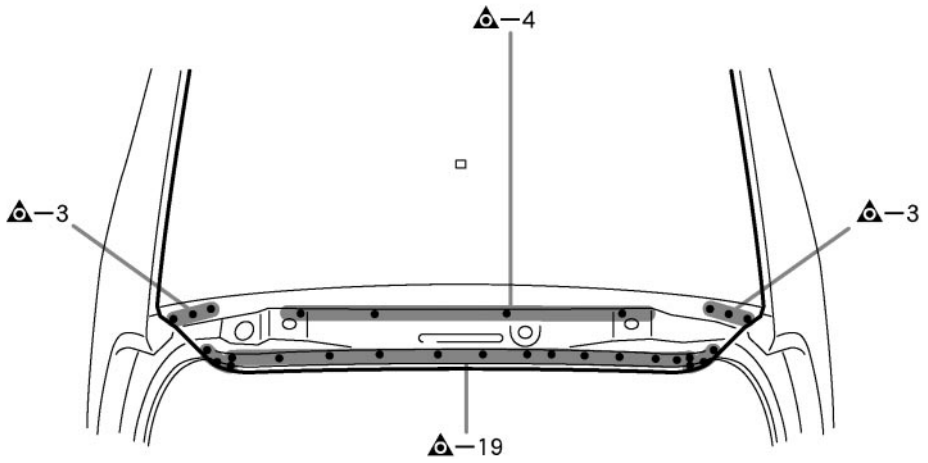
ROOF PANEL (ASSY)


F22885A

REPLACEMENT

REMOVAL

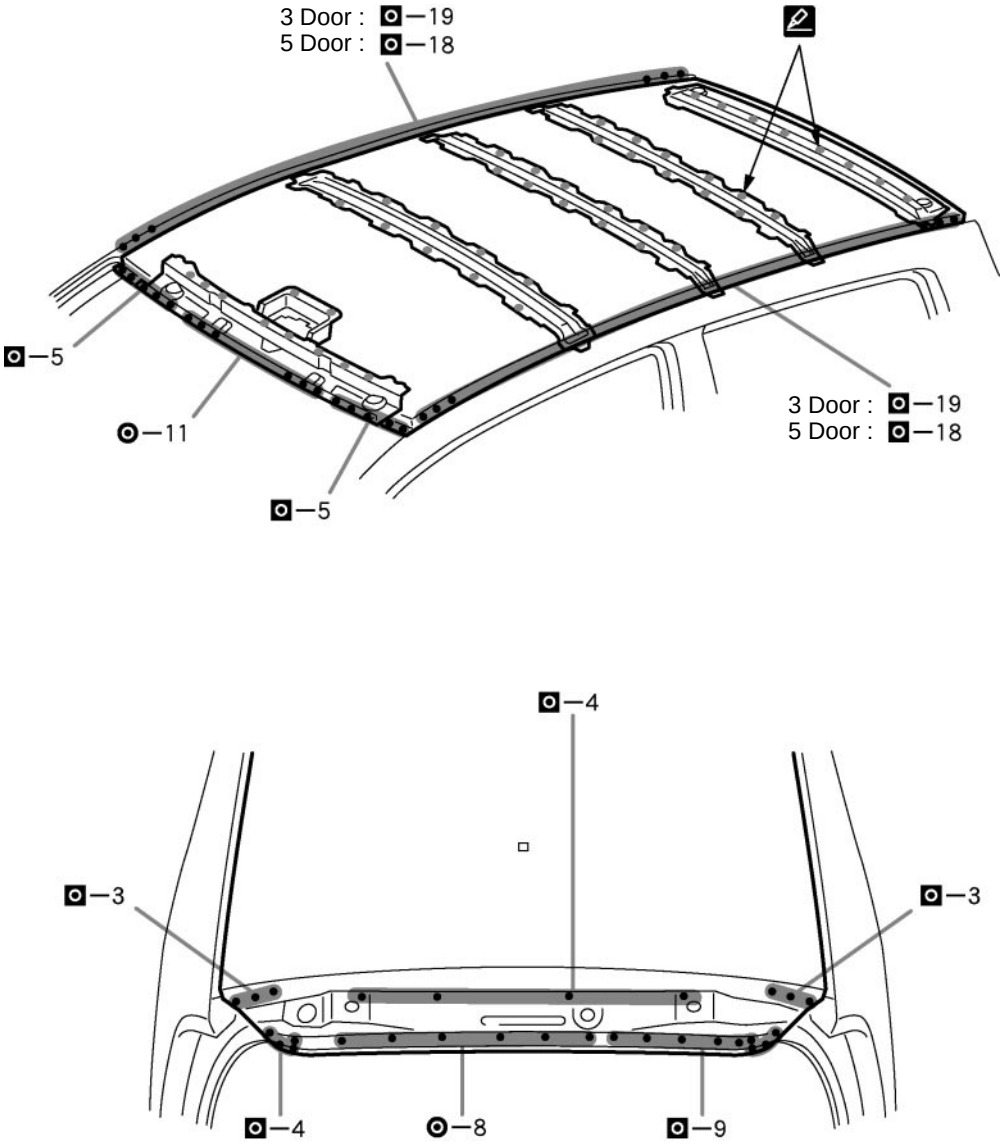




F23331

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

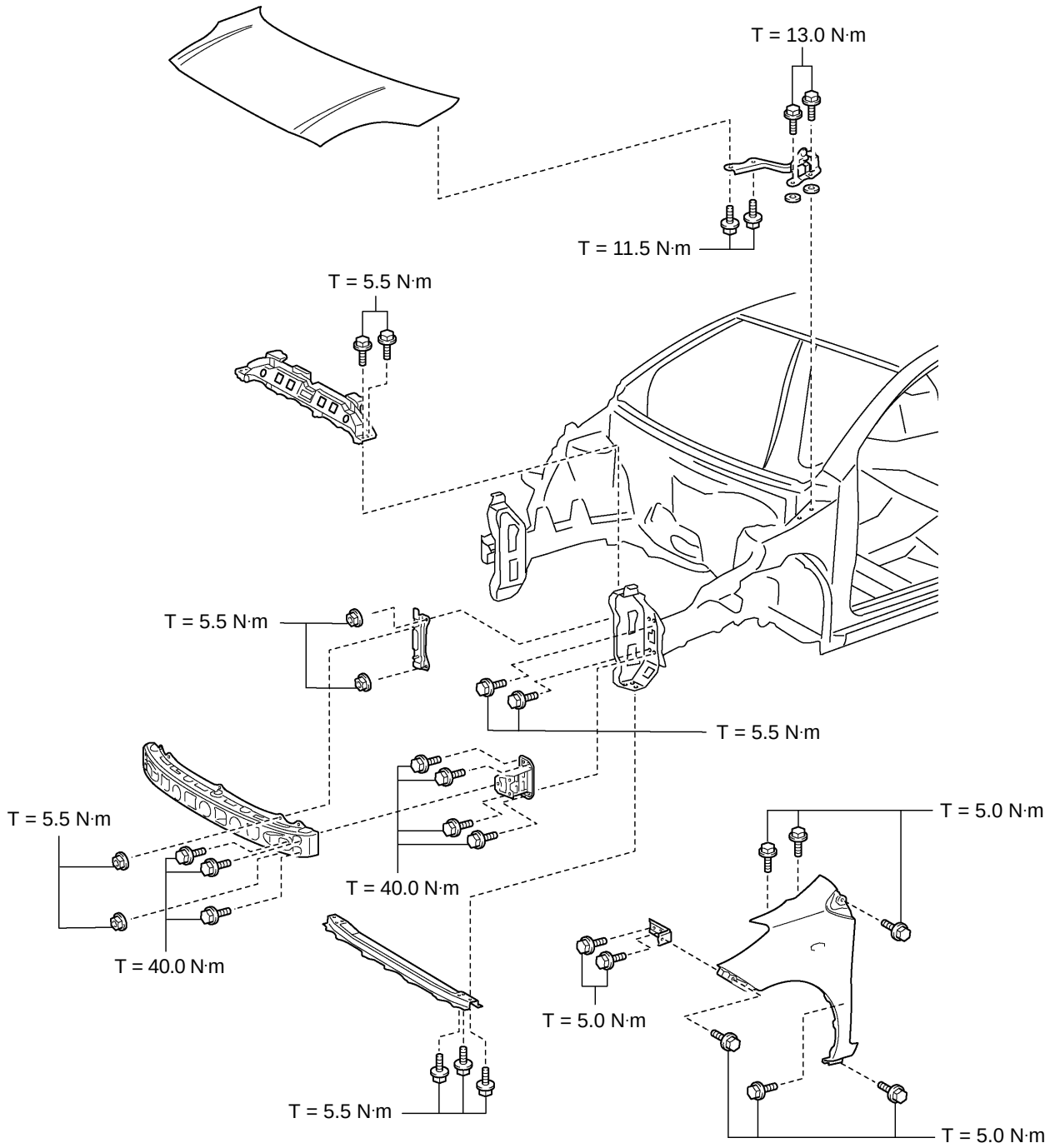


F23332

POINT

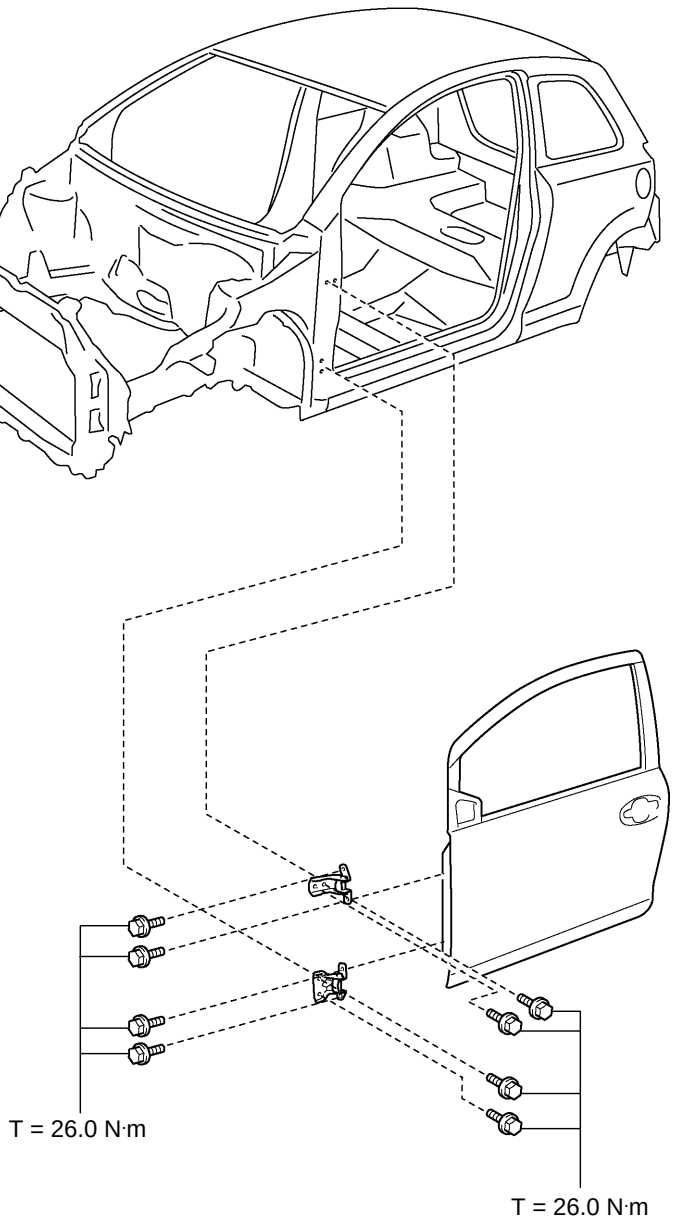
1 Before temporarily installing the new parts, apply body sealer to the window shield header panel, roof panel reinforcement and back window upper frame.
HINT:
1) Apply just enough sealer for the new parts to make contact.

OUTER PANEL INSTALLATION TORQUE



5.0 N·m (51 kgf·cm, 44 in.·lbf)	5.5 N·m (56 kgf·cm, 49 in.·lbf)	11.5 N·m (117 kgf·cm, 8 ft.·lbf)
13.0 N·m (133 kgf·cm, 10 ft.·lbf)	40.0 N·m (408 kgf·cm, 30 ft.·lbf)	—

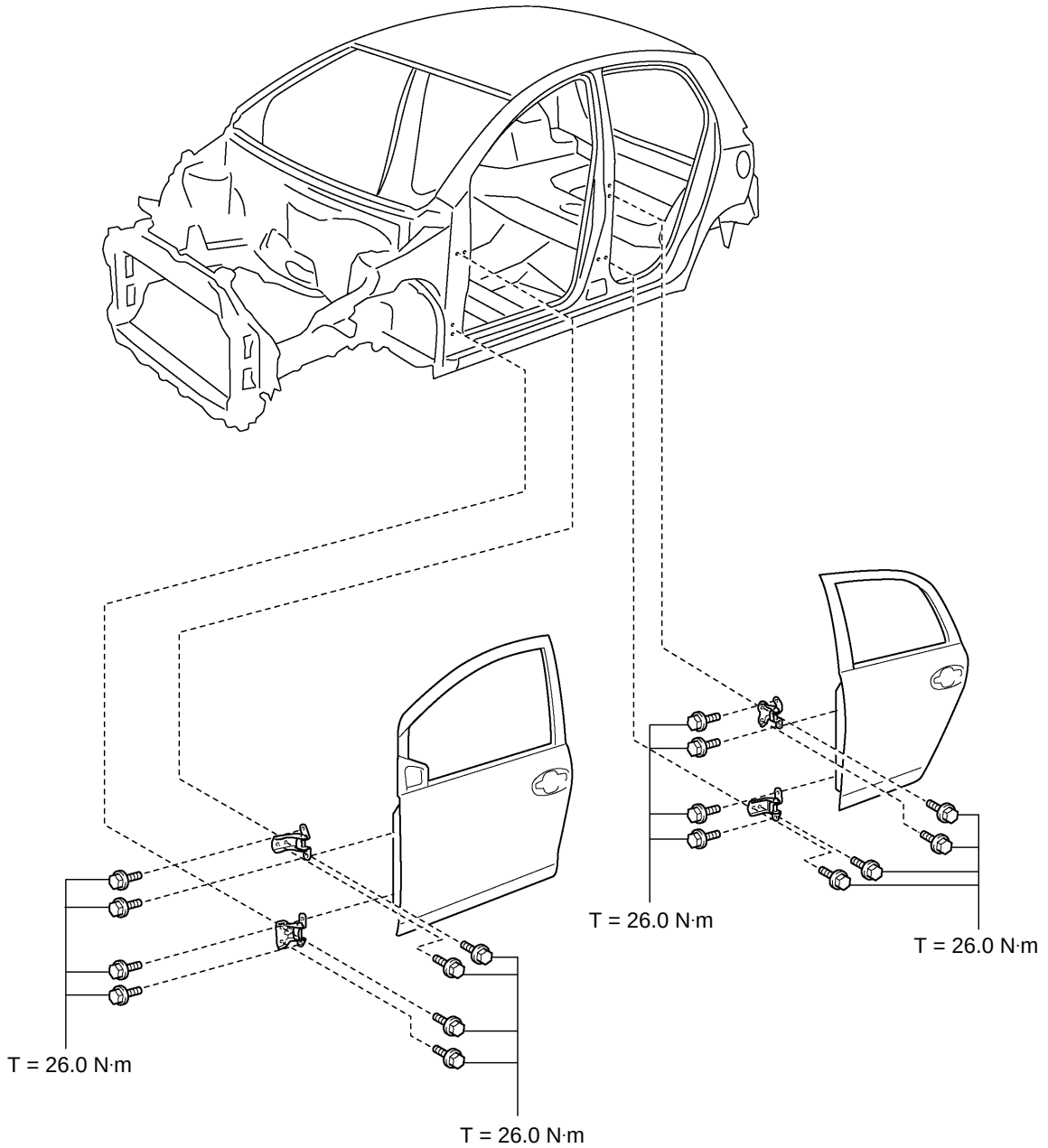
[3 Door]



F23333

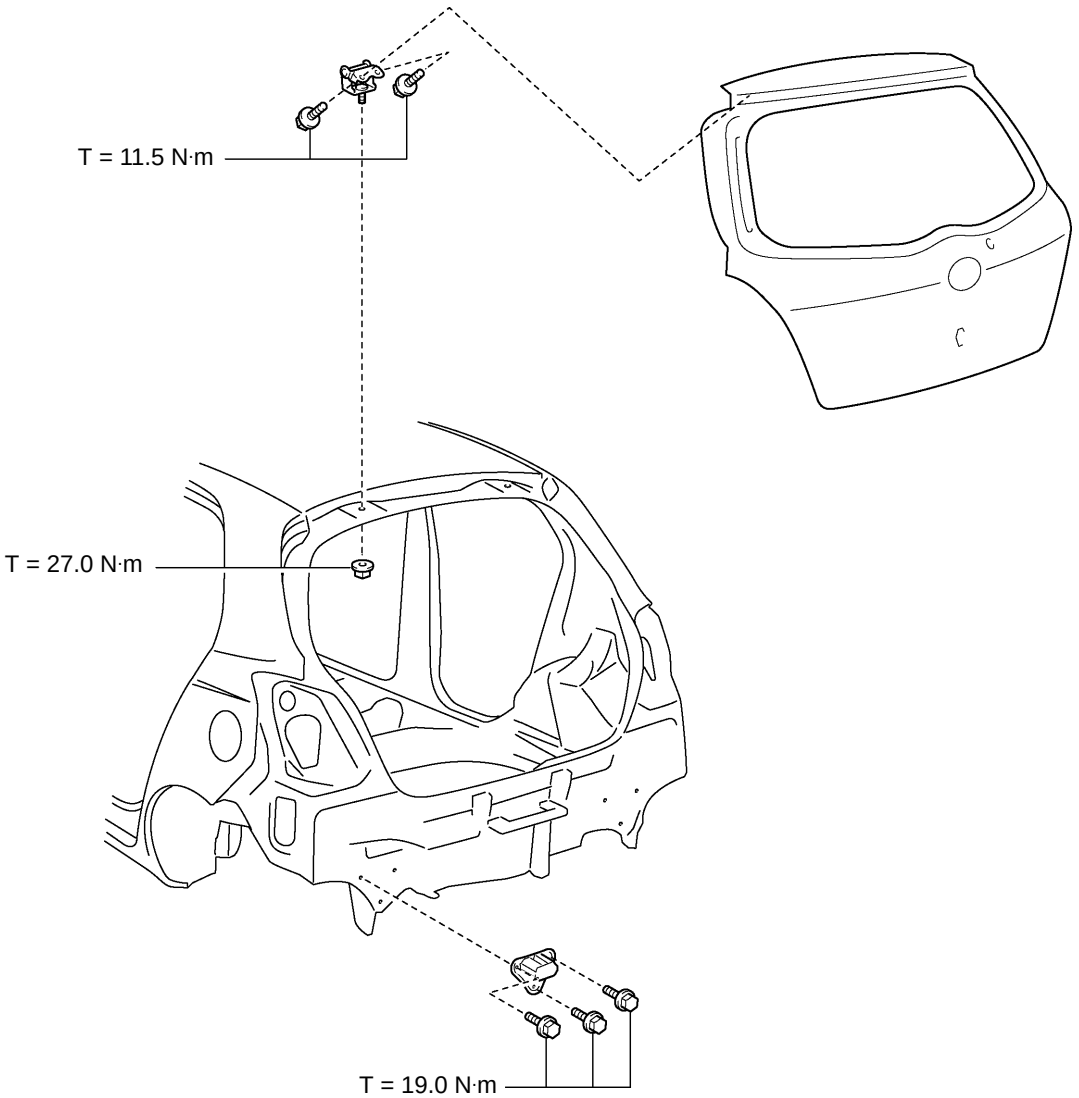
26.0 N·m (265 kgf·cm, 19 ft.·lbf)	—	—

[5 Door]



F23334

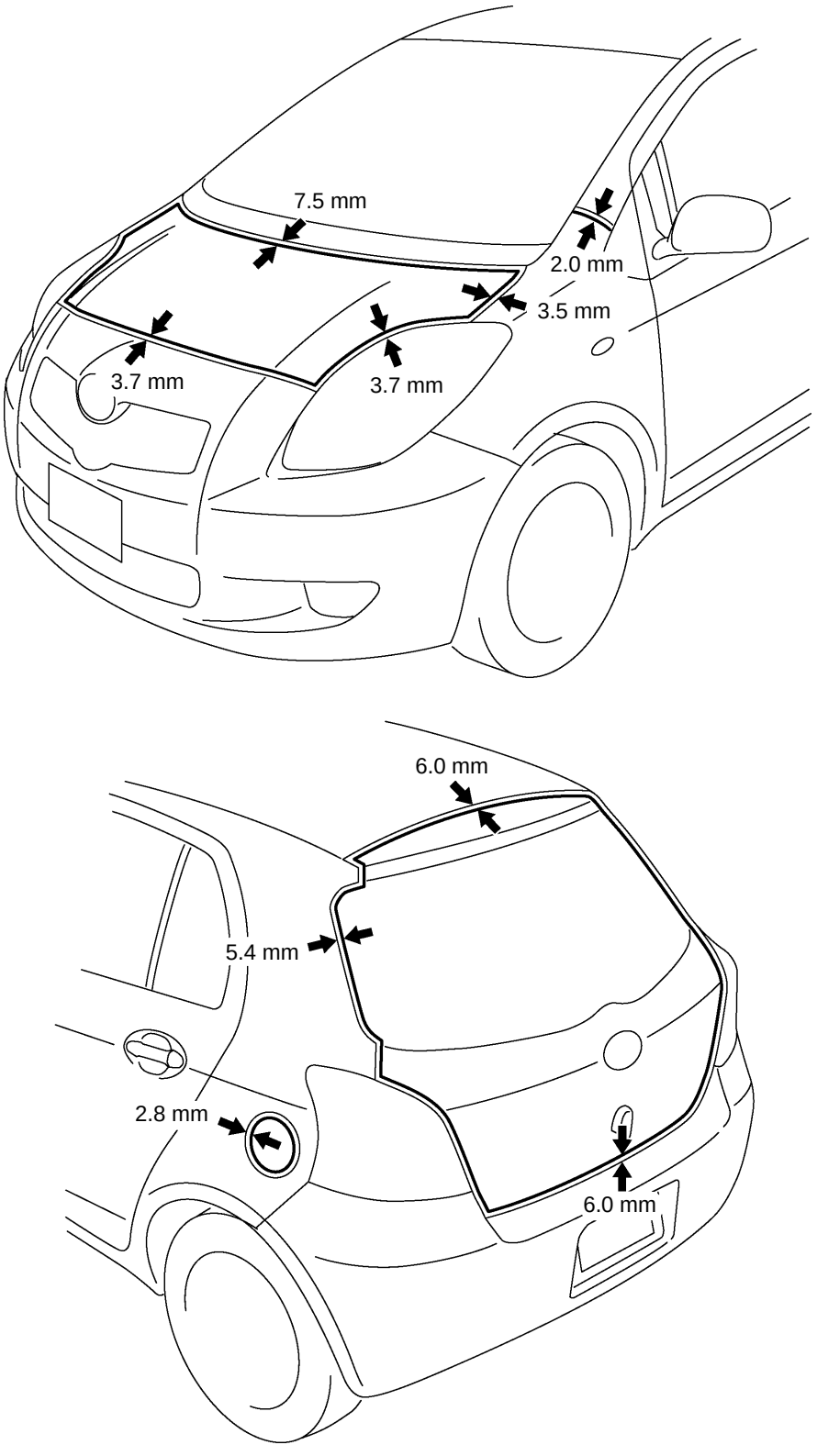
26.0 N·m (265 kgf·cm, 19 ft.·lbf)	—	—



F22803

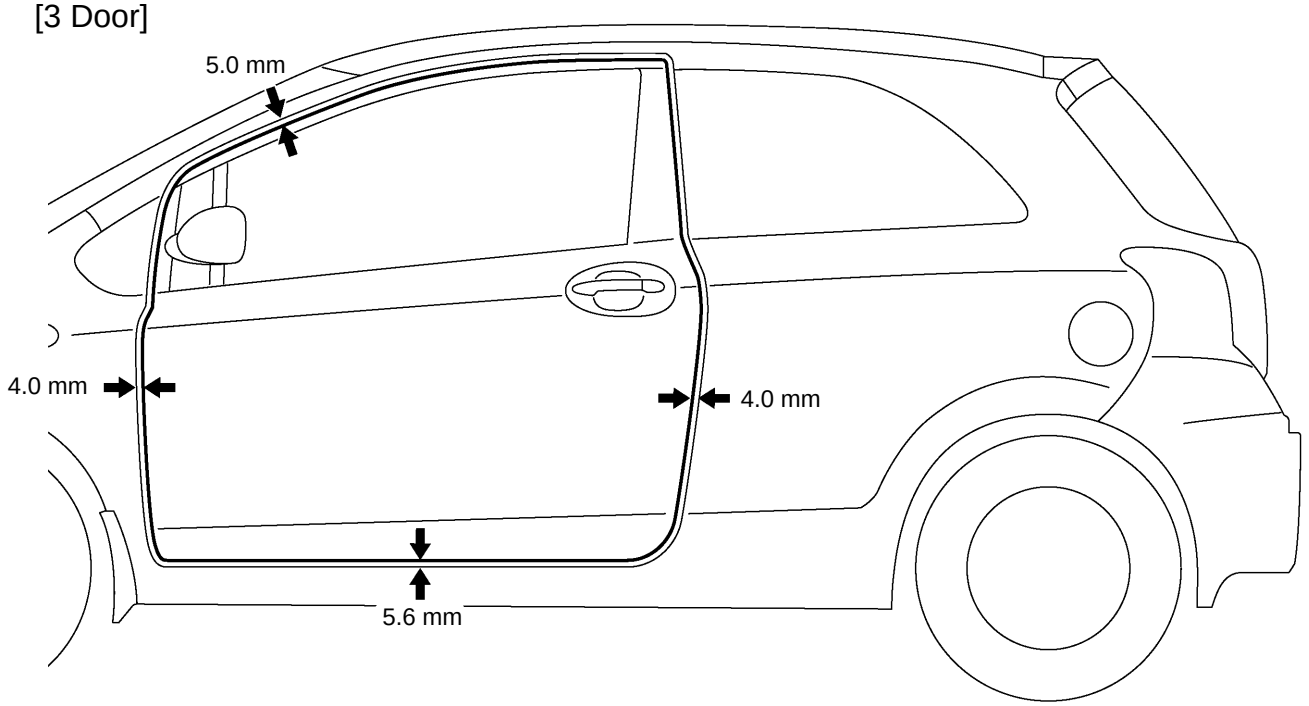
11.5 N·m (117 kgf·cm, 8 ft.·lbf)	19.0 N·m (194 kgf·cm, 14 ft.·lbf)	27.0 N·m (275 kgf·cm, 20 ft.·lbf)

FIT STANDARDS

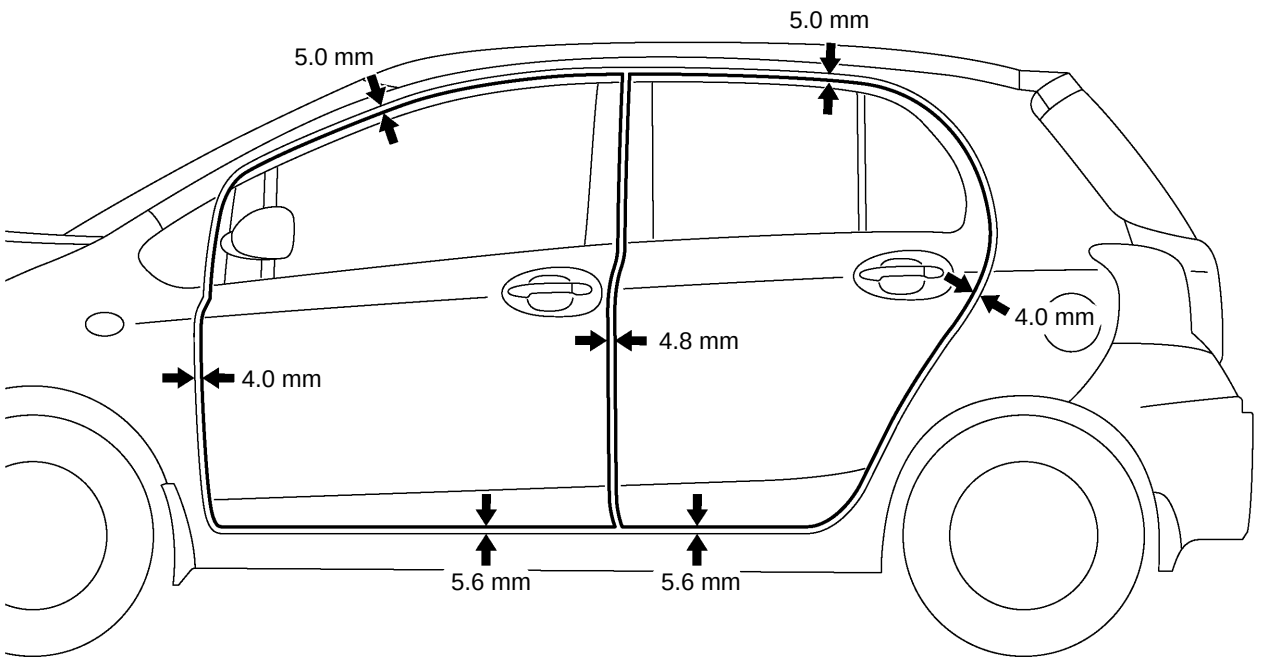


2.0 mm (0.079 in.)	2.8 mm (0.110 in.)	3.5 mm (0.138 in.)
3.7 mm (0.146 in.)	5.4 mm (0.213 in.)	6.0 mm (0.236 in.)
7.5 mm (0.295 in.)	—	—

[3 Door]



[5 Door]



F23335

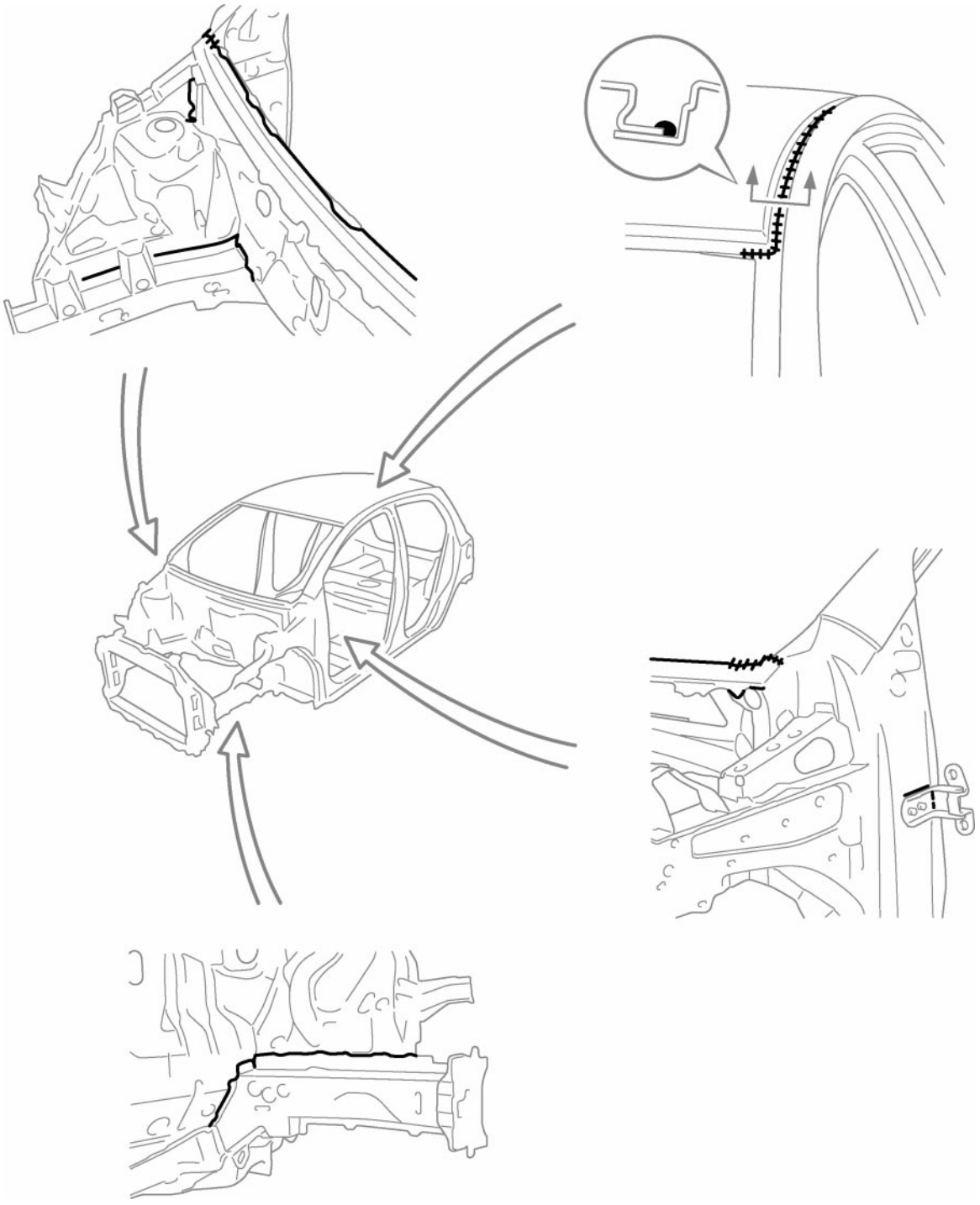
4.0 mm (0.157 in.)	4.8 mm (0.189 in.)	5.0 mm (0.197 in.)
5.6 mm (0.220 in.)	—	—

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 than coat with anti-corrosion primer before applying body sealer.
3) Wipe off excess body sealer with a rag soaked in silicone remover.
4) Besure to repair as necessary if the body sealer shows signs of damage such as peeling or cracking.

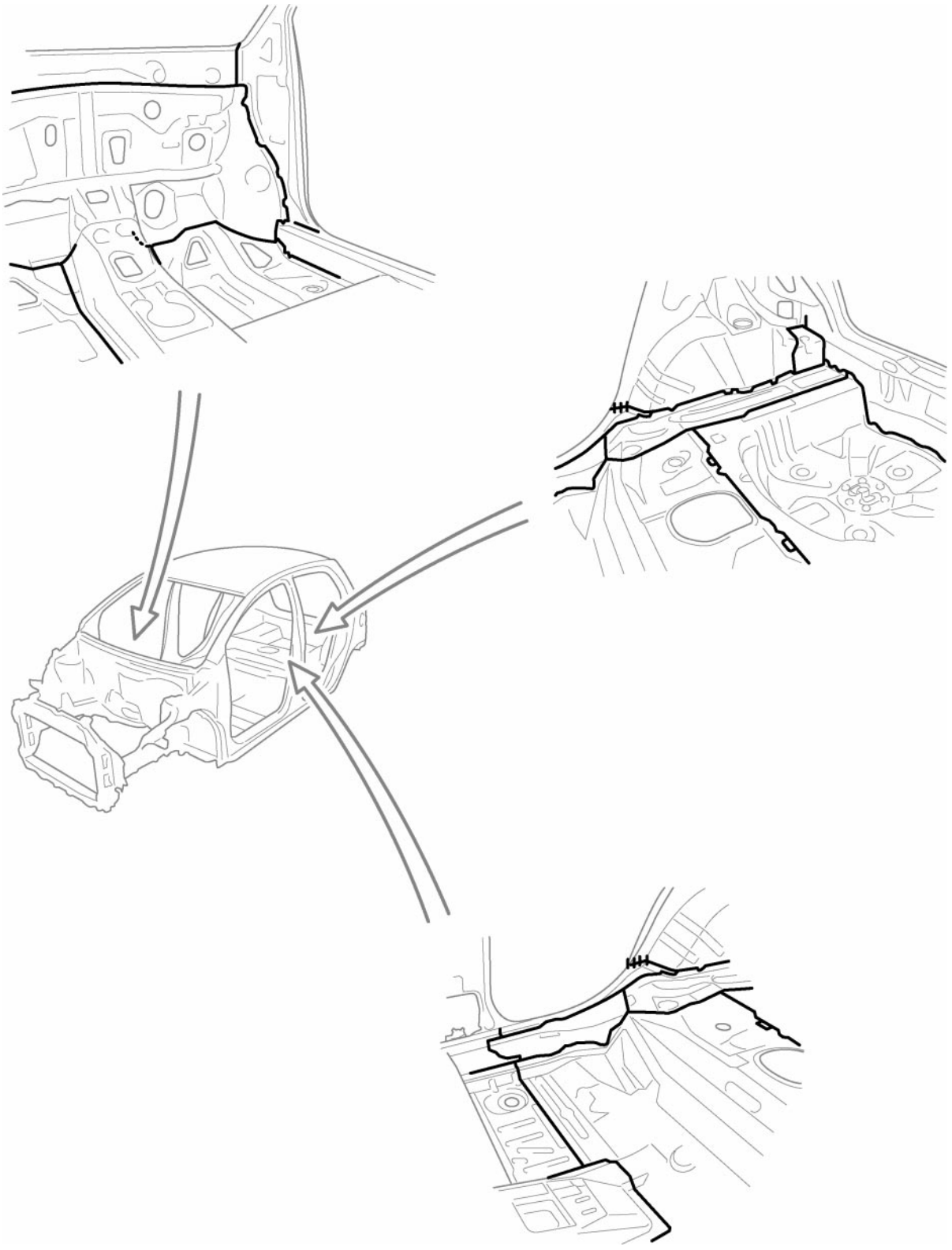
++++++++++	Flat Finishing	————	No Flat Finishing

1. ENGINE COMPARTMENT



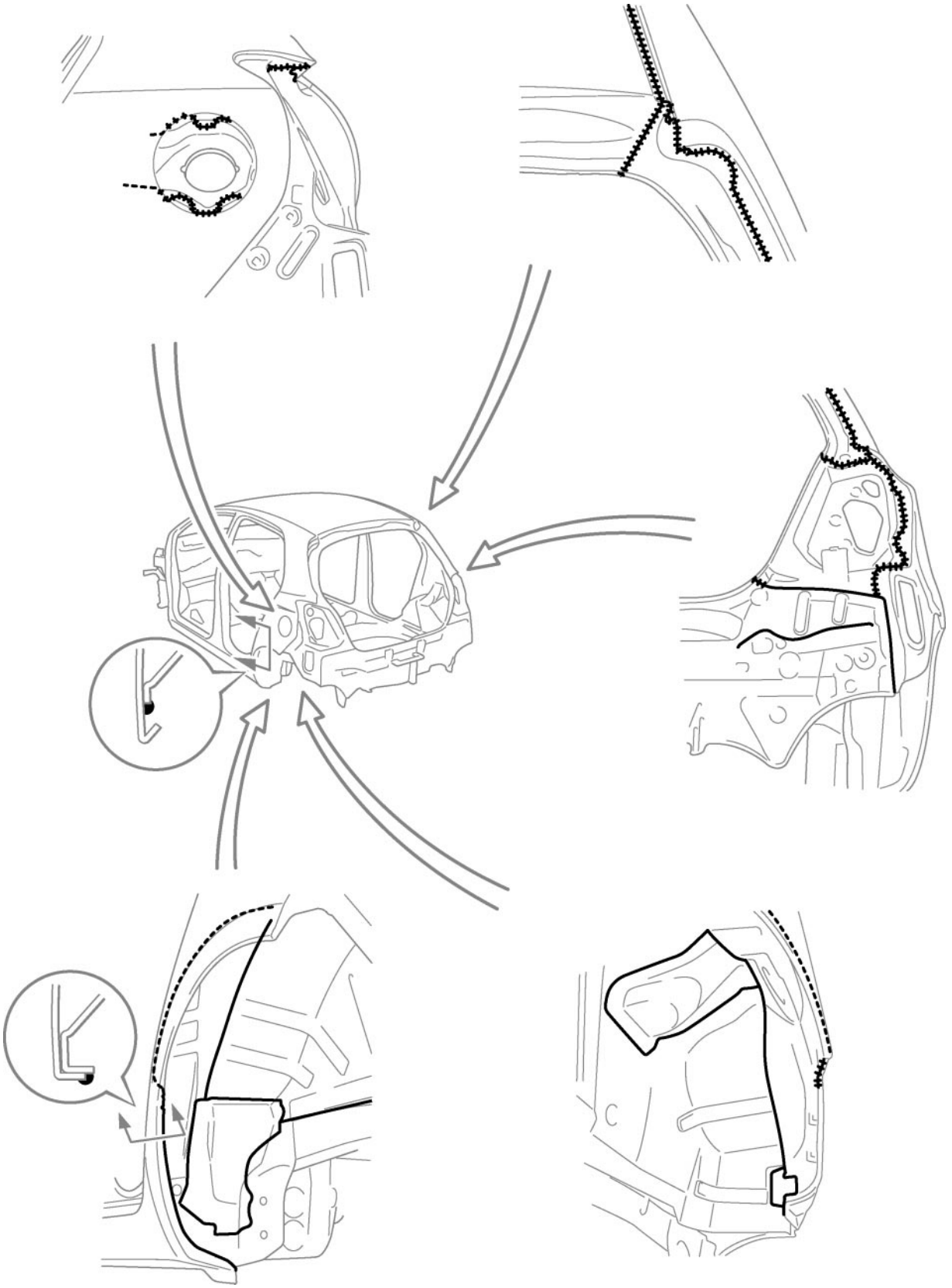
F22806

2. INSIDE



F22336

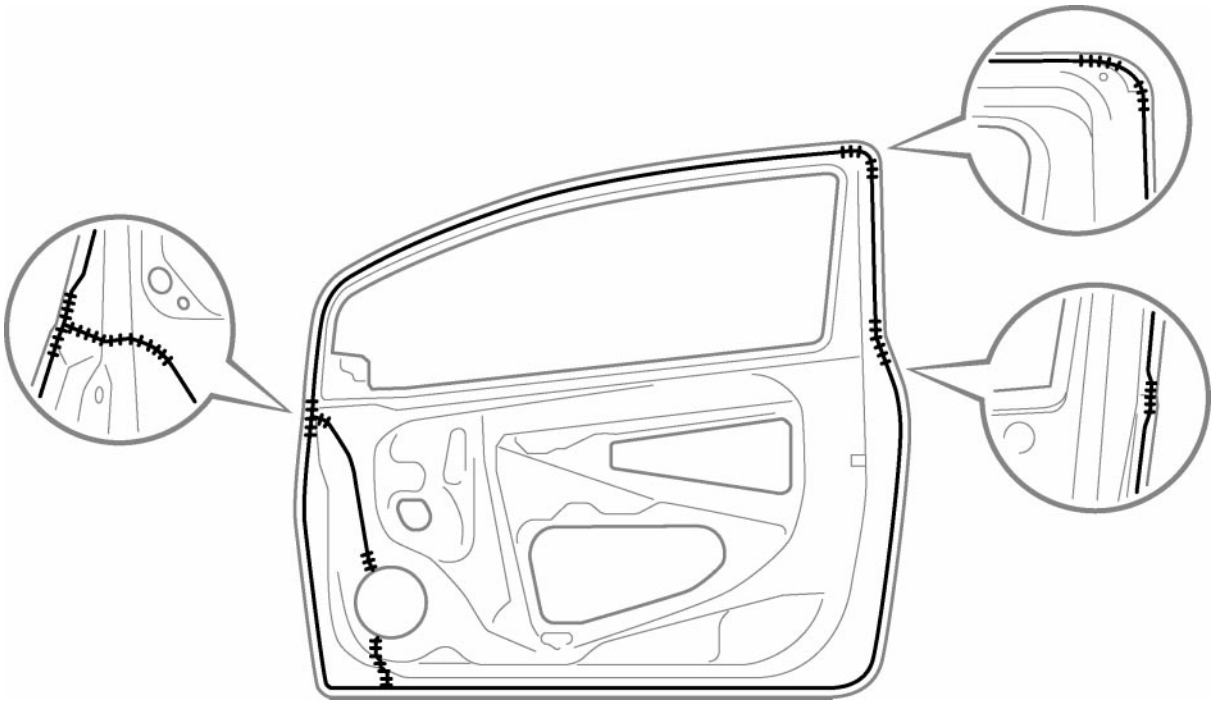
3. OUTSIDE



F22337

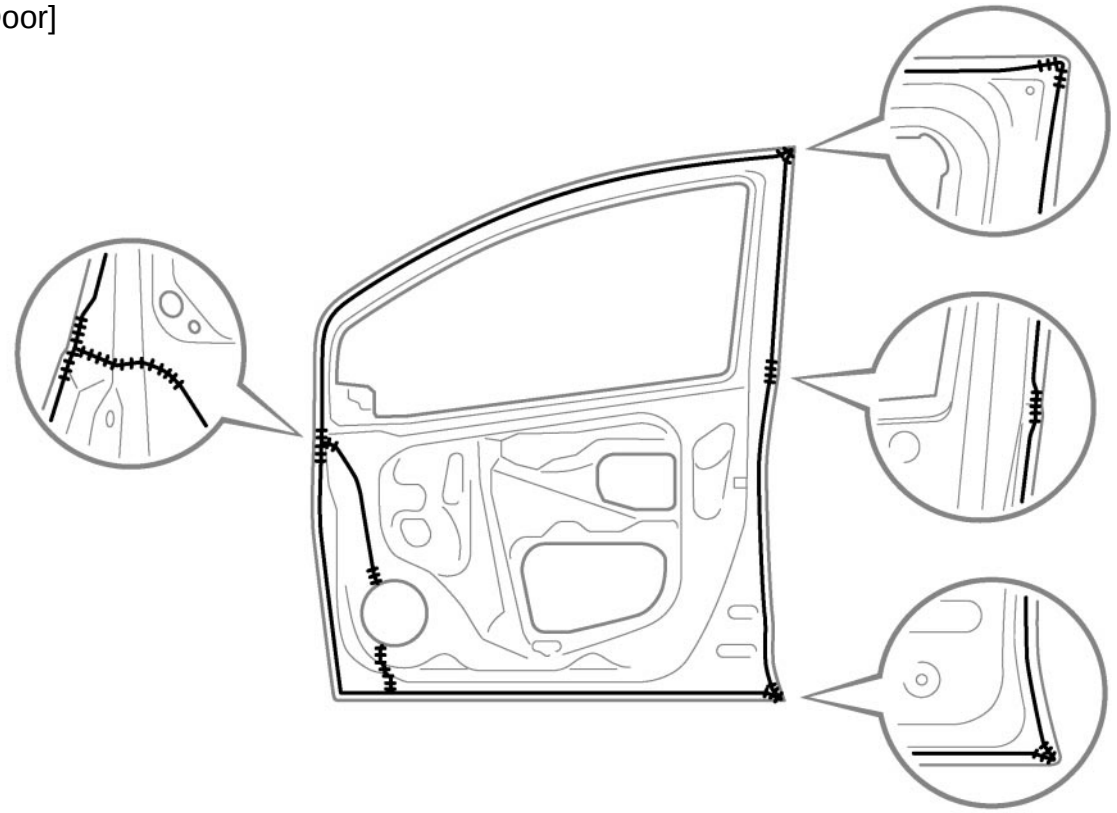
4. DOOR PARTS

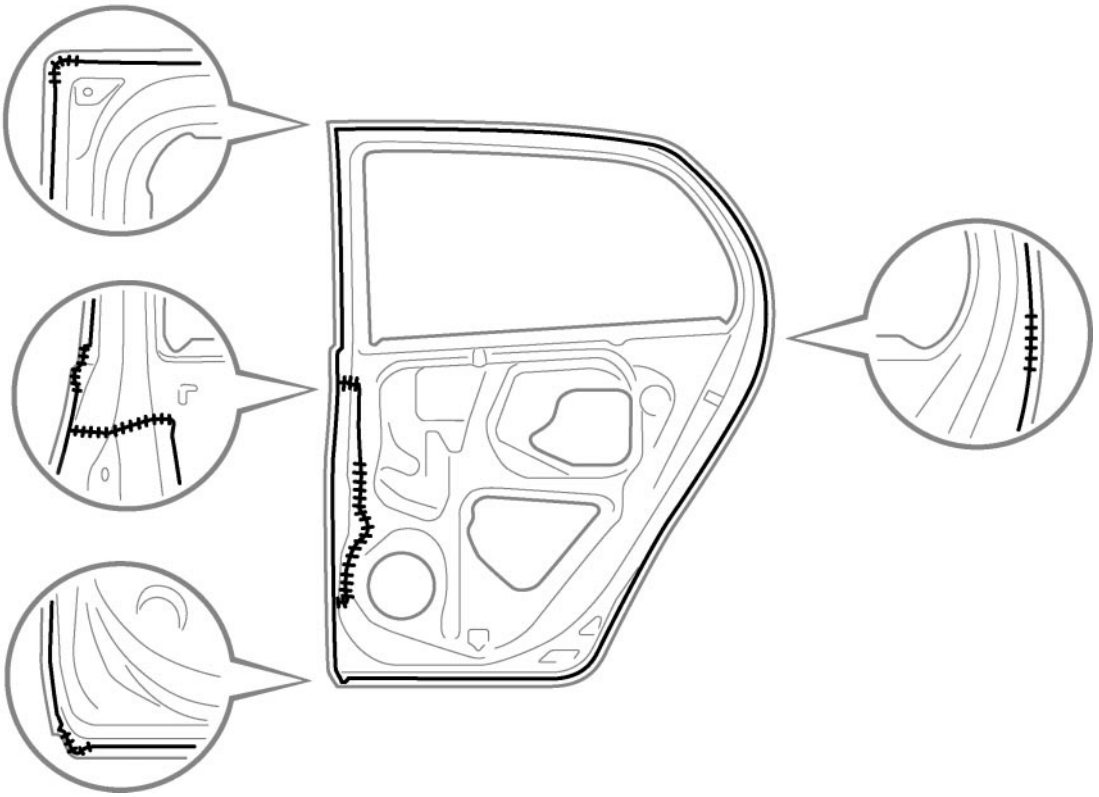
[3 Door]



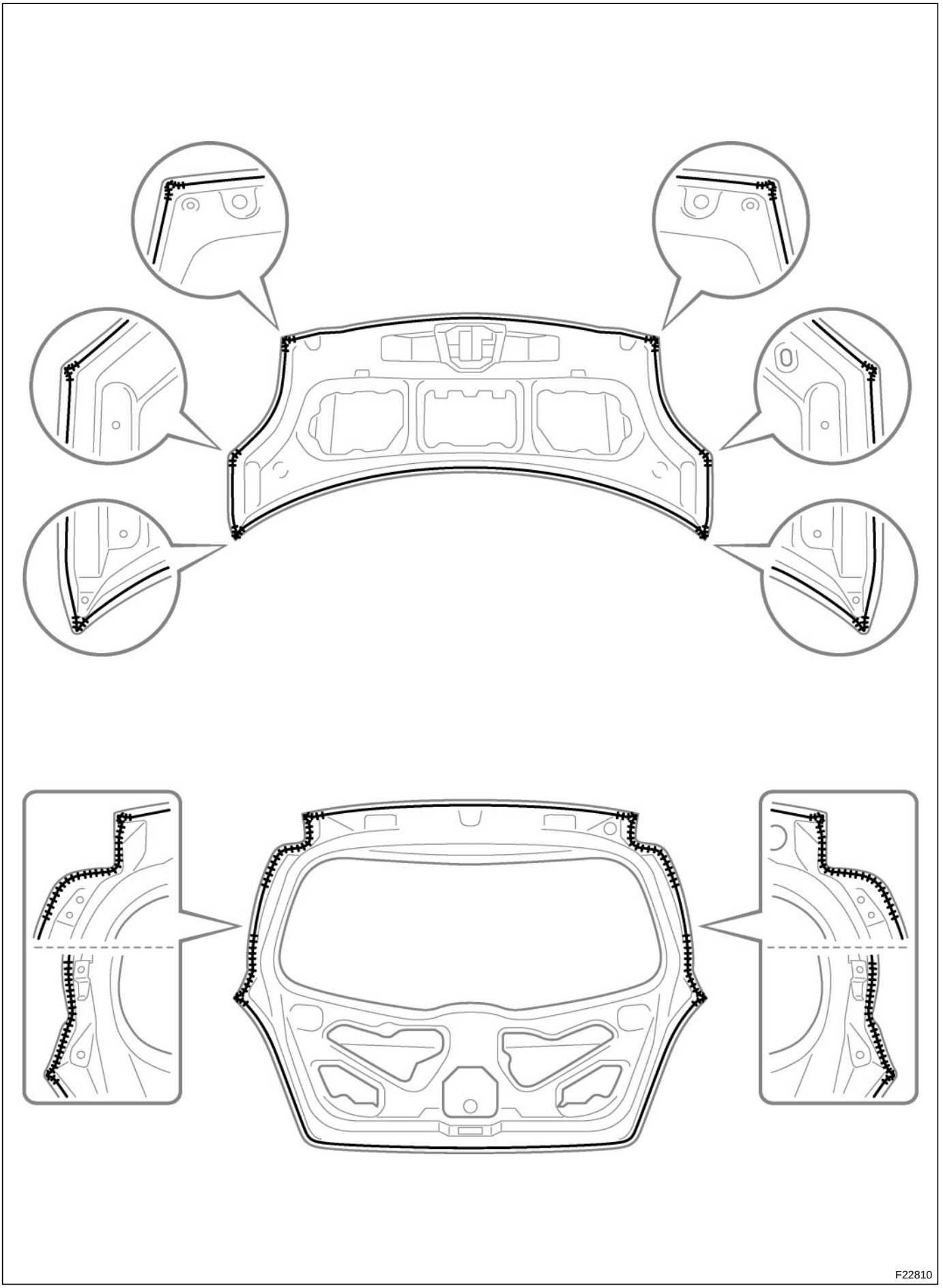
F22338

[5 Door]



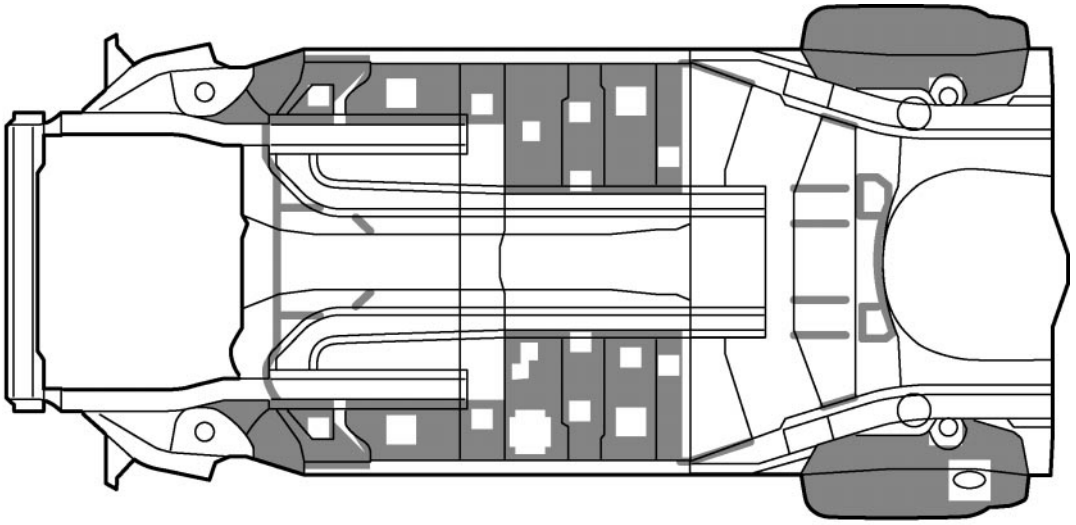


F23339

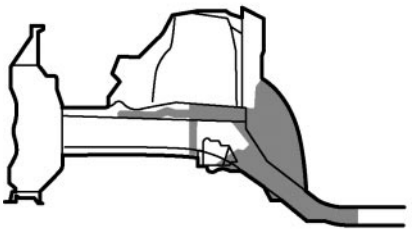

F22810

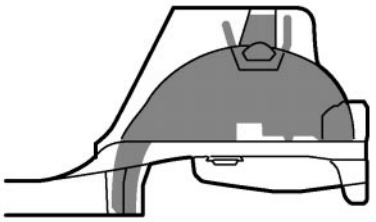
BODY PANEL UNDER COATING AREAS

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 accidently 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, and moving parts such as the propeller shaft.
5) Apply under coating to all weld points under the body to ensure corrosion prevention at every location except the areas below.
6) Be sure to seal the edge of the flange of the member and bracket with undercoating.
7) Be sure to repair the under coating as necessary if there are signs of damage such as cracking or peeling.
8) Apply sealer before applying the under coat for rust prevention.

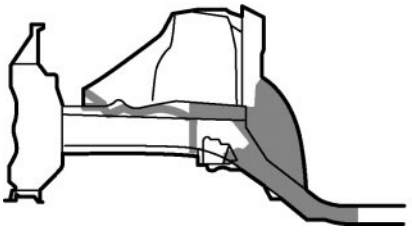


[LH]





[RH]



F23340

POINT

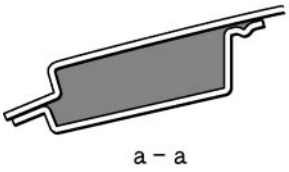
1 The film thickness of the interior portion of the rear wheel housing should be 1.0 mm (0.04 in.) or more for the front half and 2.0 mm (0.08 in.) of more for the rear half.

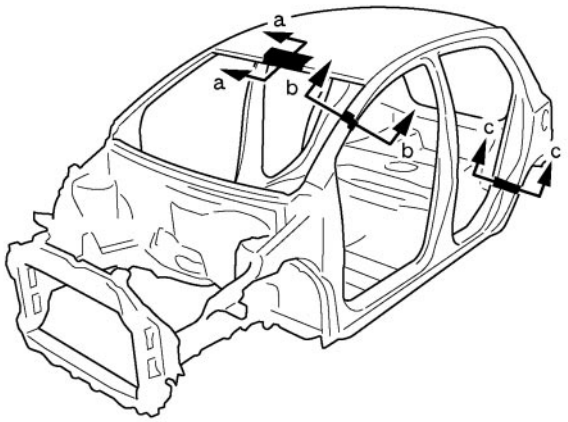
REFERENCE

The under coating should be applied according to the specifications for your country while referring to the notes above.

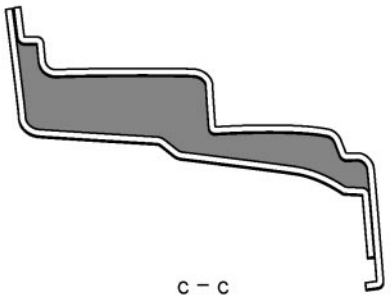
FOAMED MATERIAL APPLICATION AREAS

The sections shown in the figure below are filled with foamed material to provide noise insulation.
Refill with foamed materials after repairing these sections and their surrounding sections.
HINT:
1) Use the service holes located on the reverse side of the body panel to refill foamed materials.
2) Follow manufacturer directions when handling the foamed material.





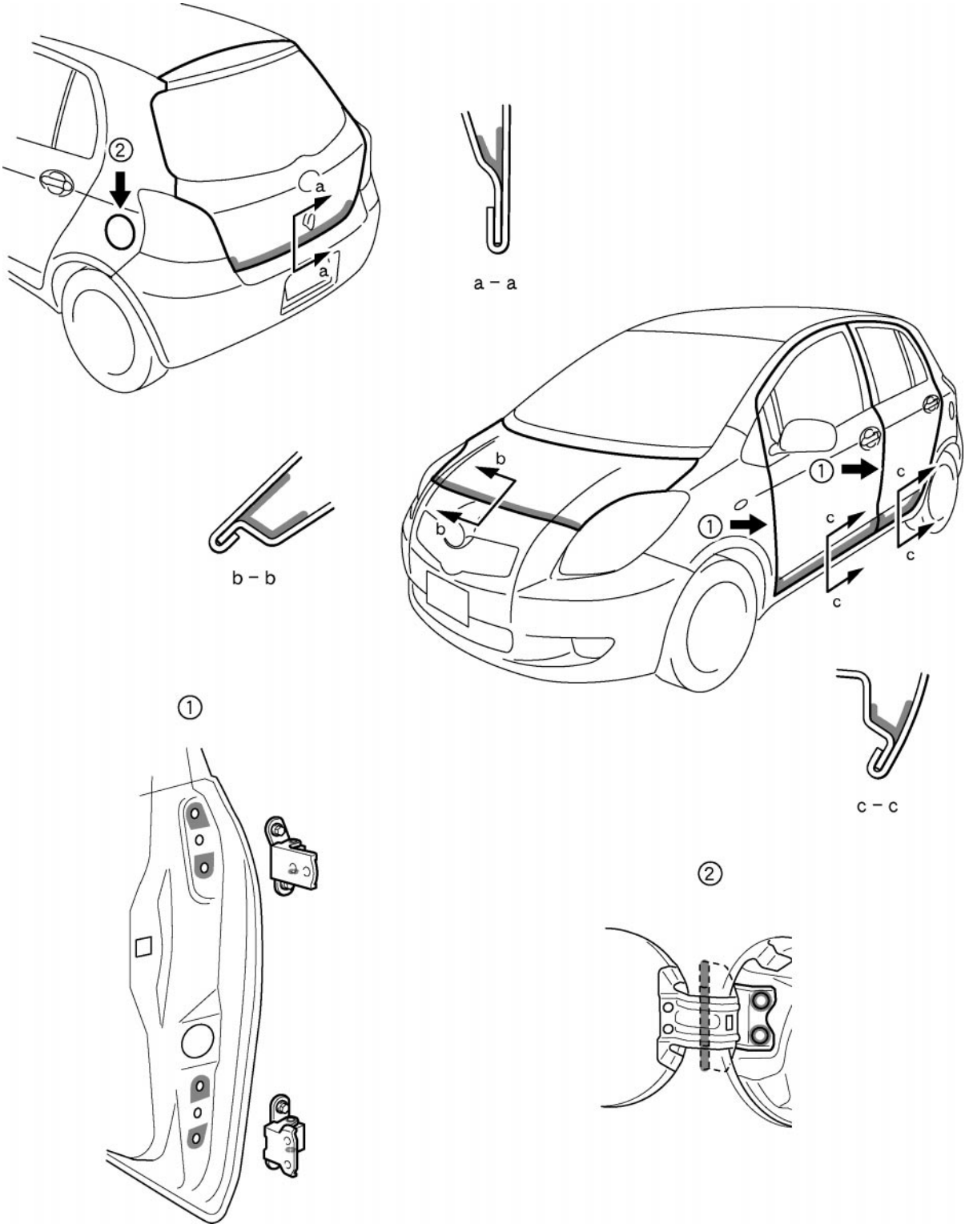
[5 Door Only]



F23341

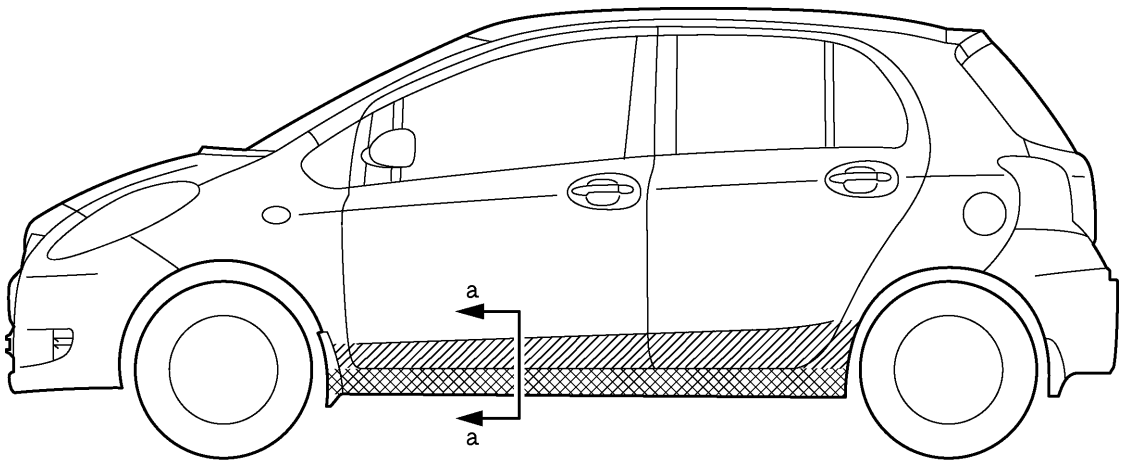
BODY PANEL ANTI-RUST AGENT (WAX) APPLICATION AREAS

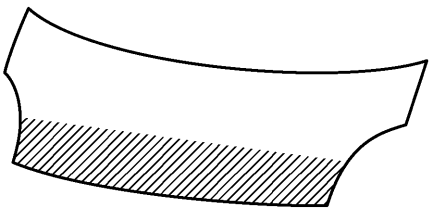
HINT:
1) Apply anti-rust agent (wax) around the hinges whenever adjusting the doors and hoods.
2) Even if partially repairing a part, apply anti-rust agent (wax) over the entire application area of the part.
3) Wipe off the anti-rust agent immediately with a rag soaked in silicone remover if it is accidentally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

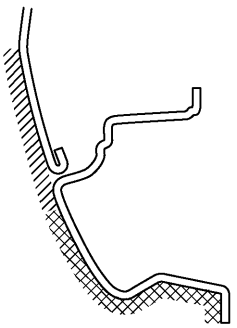


BODY PANEL ANTI-CHIPPING PAINT APPLICATION AREAS

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



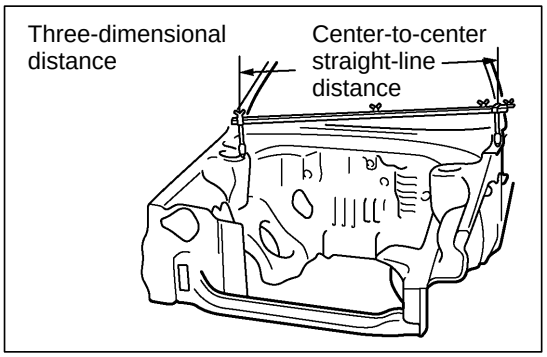




a − a

F23342

	PVC		Soft−Chip (Poly Olefine)	—	—



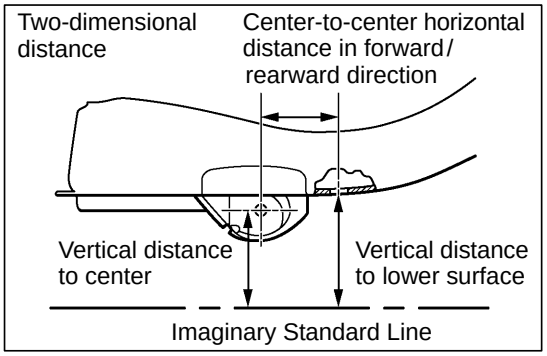
GENERAL INFORMATION

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.

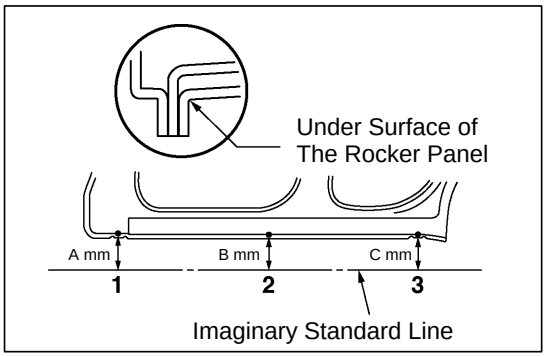


(2) (Two-dimensional distance)

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

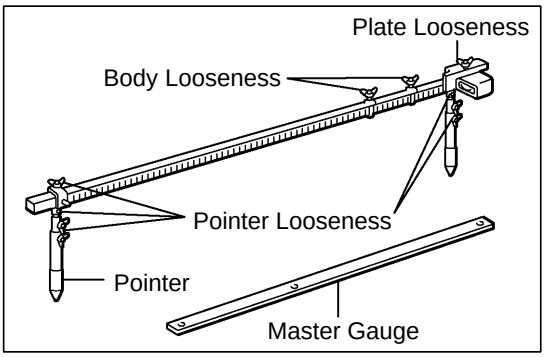
(b) In cases in which only one dimension is given, left and right are symmetrical.

(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.)

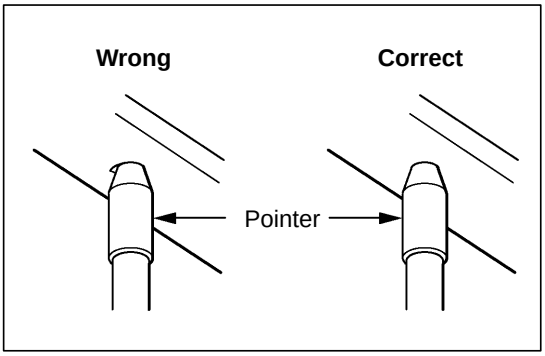
SYMBOL	Name
1	The place that was lowered A mm from the under surface of the rocker panel centered on the front jack up point.
2	The place that was lowered B mm from the under surface of the rocker panel centered between 1 and 3.
3	The place that was lowered C mm from the under surface of the rocker panel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

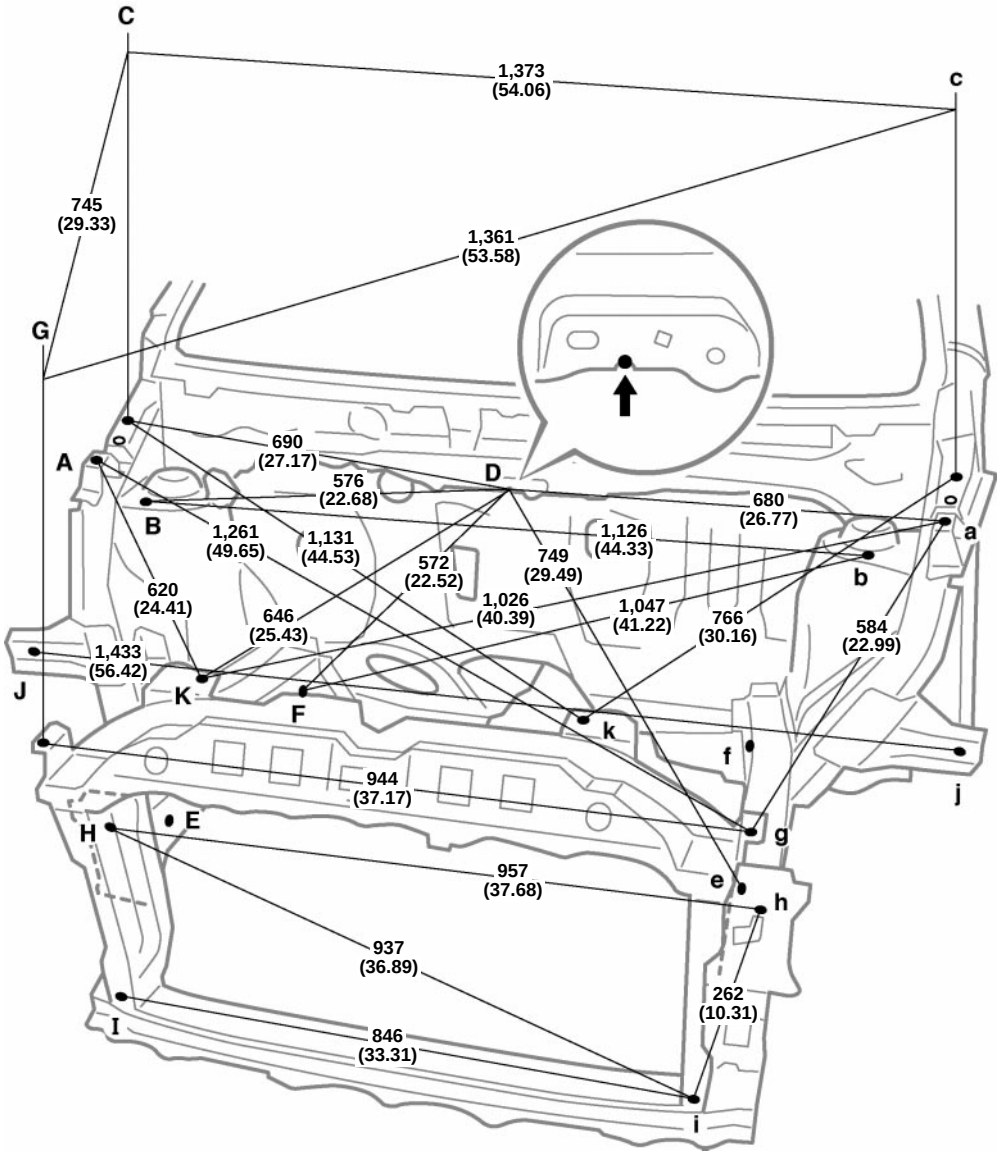
4) Confirm that the pointers are securely in the holes.

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

BODY DIMENSION DRAWINGS

ENGINE COMPARTMENT

(Three-Dimensional Distance)



Vehicle Dimensions

A-a	A-C or a-c	B-C or b-c	B-c or b-C	B-K or b-k	B-k or b-K	K-k
1,324 (52.13)	170 (6.69)	209 (8.23)	1,261 (49.65)	564 (22.20)	942 (37.09)	505 (19.88)

Height from Imaginary Standard Line

A, a	C, c	G, g
810 (31.89)	815 (32.09)	614 (24.17)

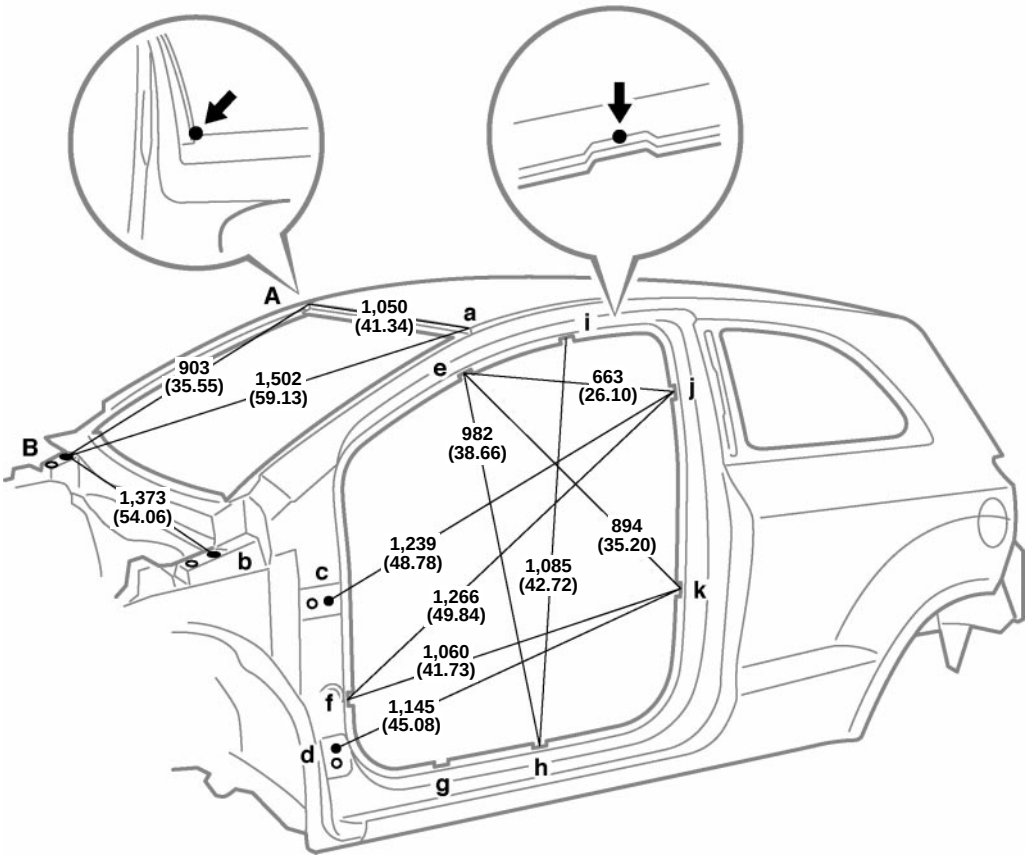
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front fender installation nut	M6 (0.24)	G, g	Headlight bracket standard hole	ø 10 (0.39)
B, b	Front spring support hole−inner	ø 11 (0.43)	H, h	Crush box installation hole	ø 6.3 (0.248)
C, c	Hood hinge installation nut-rear	M8 (0.31)	I, i	Radiator seal installation hole	ø 9 (0.35)
D	Cowl panel center mark	—	J, j	Front fender mounting bracket standard hole	ø 10 (0.39)
E, e	Front side member standard hole	ø 15 (0.59)	K, k	Front bumper installation hole	ø 7 (0.28)
F, f	Front side member standard hole	ø 10 (0.39)	—	—	—

BODY OPENING AREAS (Side View)
3-Door

(Three-Dimensional Distance)



Vehicle Dimensions

E-e	F-f	G-g	H-h	I-i	J-j	K-k
1,147 (45.16)	1,379 (54.29)	1,417 (55.79)	1,417 (55.79)	1,090 (42.91)	1,258 (49.53)	1,395 (54.92)

E-f or e-F	E-h or e-H	E-j or e-J	E-k or e-K	F-j or f-J	F-k or f-K	G-h or g-H	H-i or h-I	J-k or j-K
1,532 (60.31)	1,609 (63.35)	1,372 (54.02)	1,549 (60.98)	1,826 (71.89)	1,745 (68.70)	1,440 (56.69)	1,650 (64.96)	1,429 (56.26)

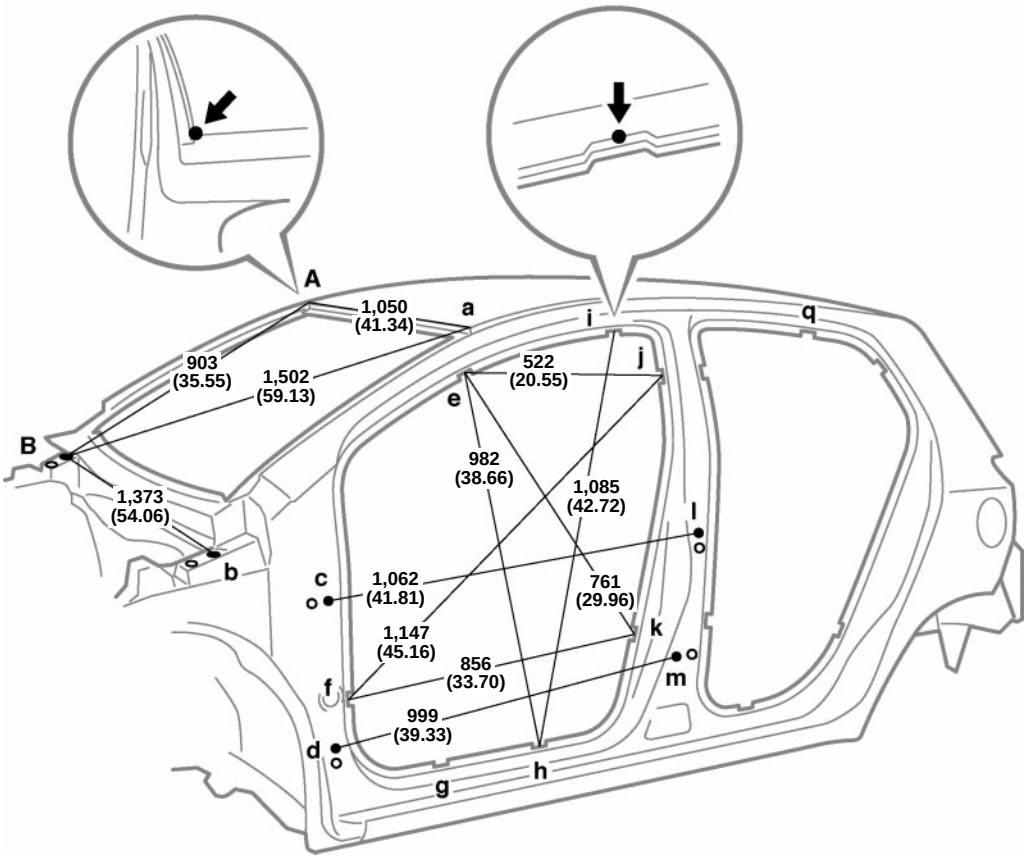
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

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

BODY OPENING AREAS (Side View: Front)
5-Door

(Three-Dimensional Distance)



Vehicle Dimensions Left ↔ Right

E-e	F-f	G-g	H-h	I-i	J-j	K-k
1,147 (45.16)	1,379 (54.29)	1,417 (55.79)	1,417 (55.79)	1,090 (42.91)	1,263 (49.72)	1,391 (54.76)

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	I-q or I-Q	J-k or j-K
1,532 (60.31)	1,609 (63.35)	1,312 (51.65)	1,748 (68.82)	1,628 (64.09)	1,650 (64.96)	1,260 (49.61)	1,431 (56.34)

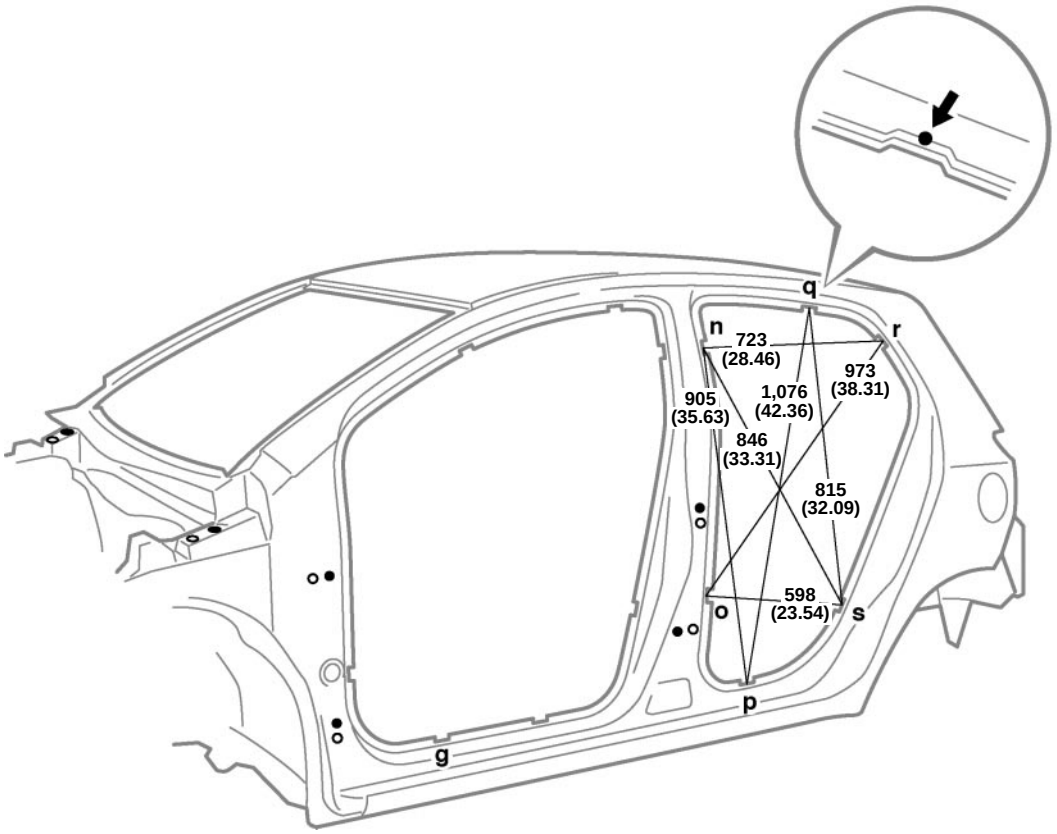
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

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	M8 (0.31)	I, i	Roof side rail assembly mark	—
C, c	Front door hinge installation nut	M8 (0.31)	J, j	Center body pillar assembly mark	—
D, d	Front door hinge installation nut	M8 (0.31)	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	—	Q, q	Roof side rail assembly mark	—

BODY OPENING AREAS (Side View: Rear)
5-Door

(Three-Dimensional Distance)



Vehicle Dimensions Left ↔ Right

N-n	O-o	P-p	Q-q	R-r	S-s
1,263 (49.72)	1,381 (54.37)	1,417 (55.79)	1,068 (42.05)	1,130 (44.49)	1,405 (55.31)

G-p or g-P	N-r or n-R	N-s or n-S	O-r or o-R	O-s or o-S	P-q or p-Q	R-s or r-S
1,717 (67.60)	1,397 (55.00)	1,578 (62.13)	1,584 (62.36)	1,516 (59.69)	1,634 (64.33)	1,451 (57.13)

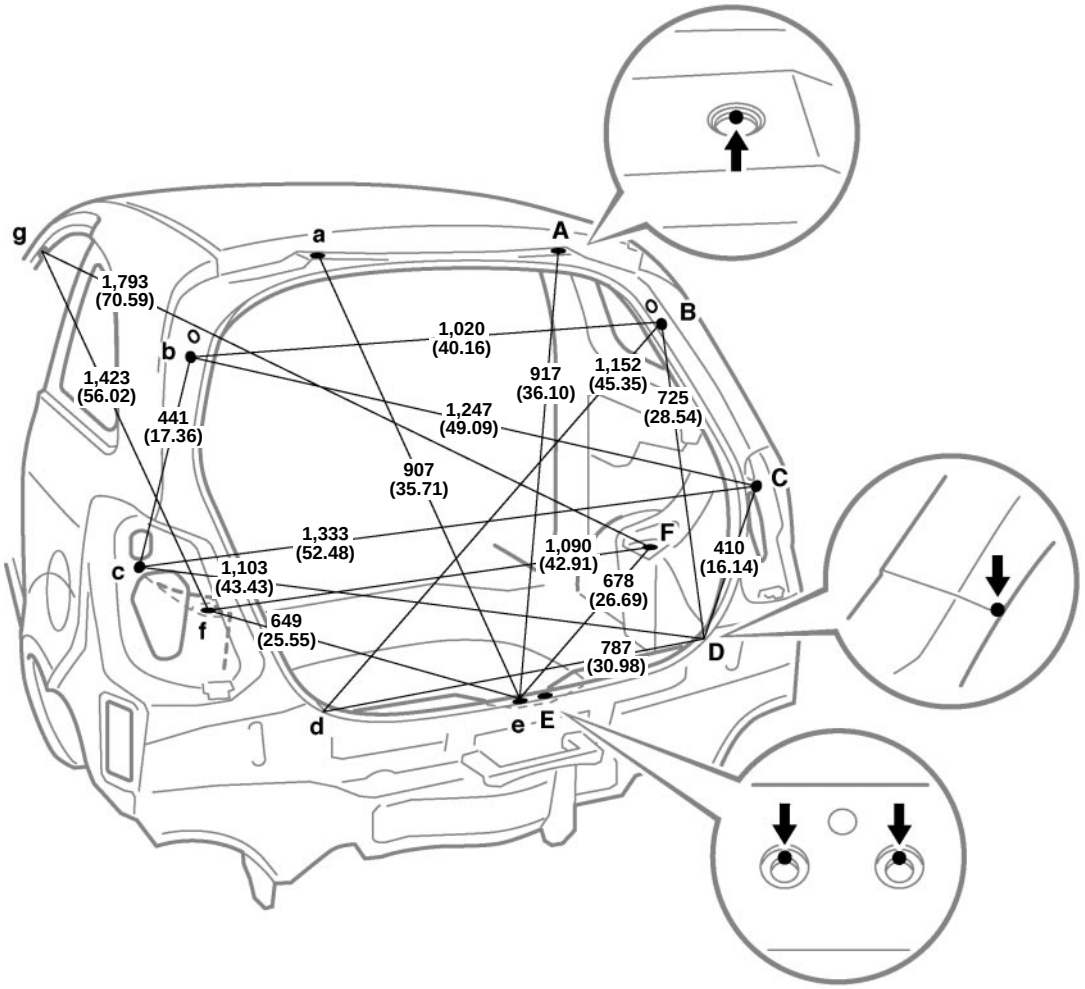
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
G, g	Rocker panel assembly mark	—	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	—
P, p	Quarter panel assembly mark	—	—	—	—

BODY OPENING AREAS (Rear View)
3-Door

(Three-Dimensional Distance)



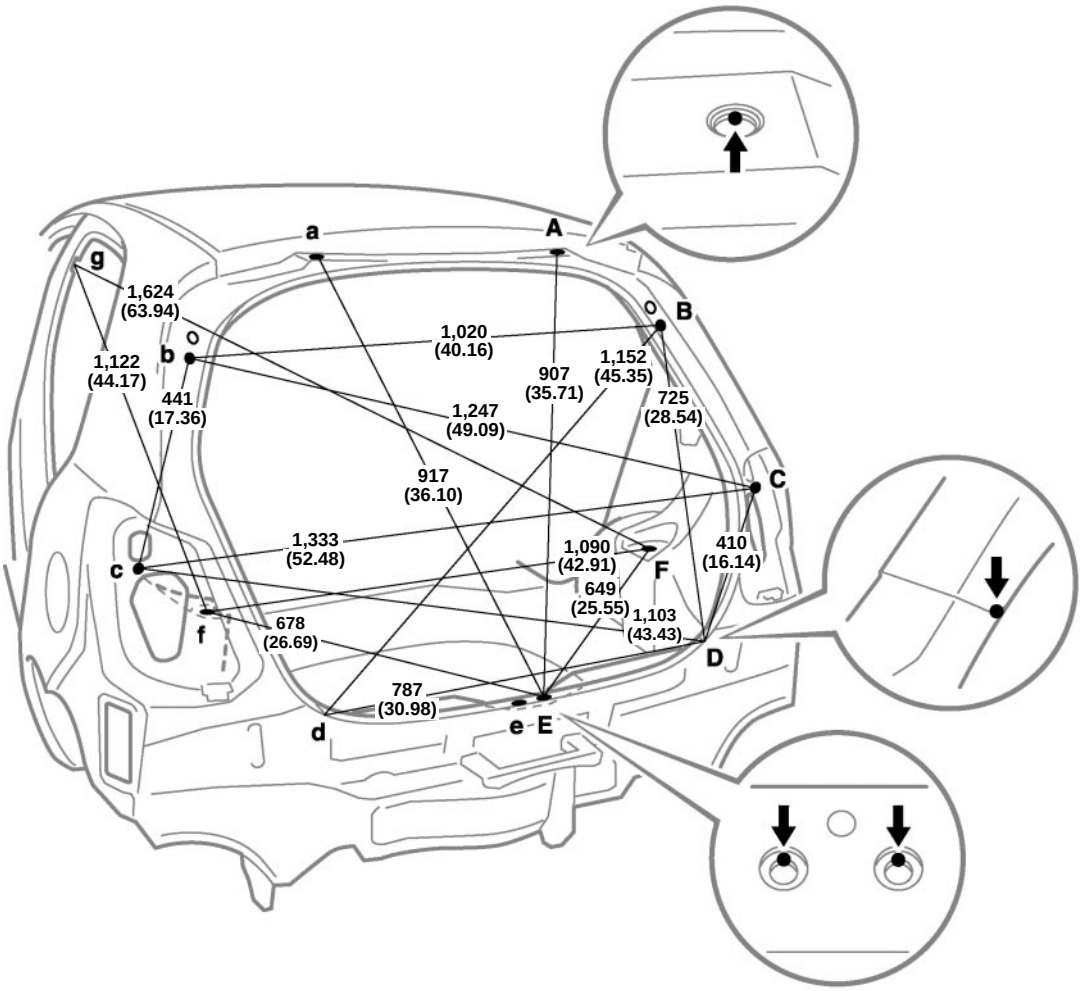
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Back door hinge installation hole	ø 10.2 (0.402): RH ø 10.2 (0.402) × 12 (0.47): LH	E, e	Back door lock striker installation nut	M8 (0.31)
B, b	Back door stay installation nut	M6 (0.24)	F, f	Rear shock absorber installation hole−inner	ø 18 (0.71)
C, c	Back door opening trough standard hole	ø 10 (0.39)	G, g	Roof side rail assembly mark	—
D, d	Back door opening trough/Body lower back panel adjoining point	—	—	—	—

BODY OPENING AREAS (Rear View)
5-Door

(Three-Dimensional Distance)



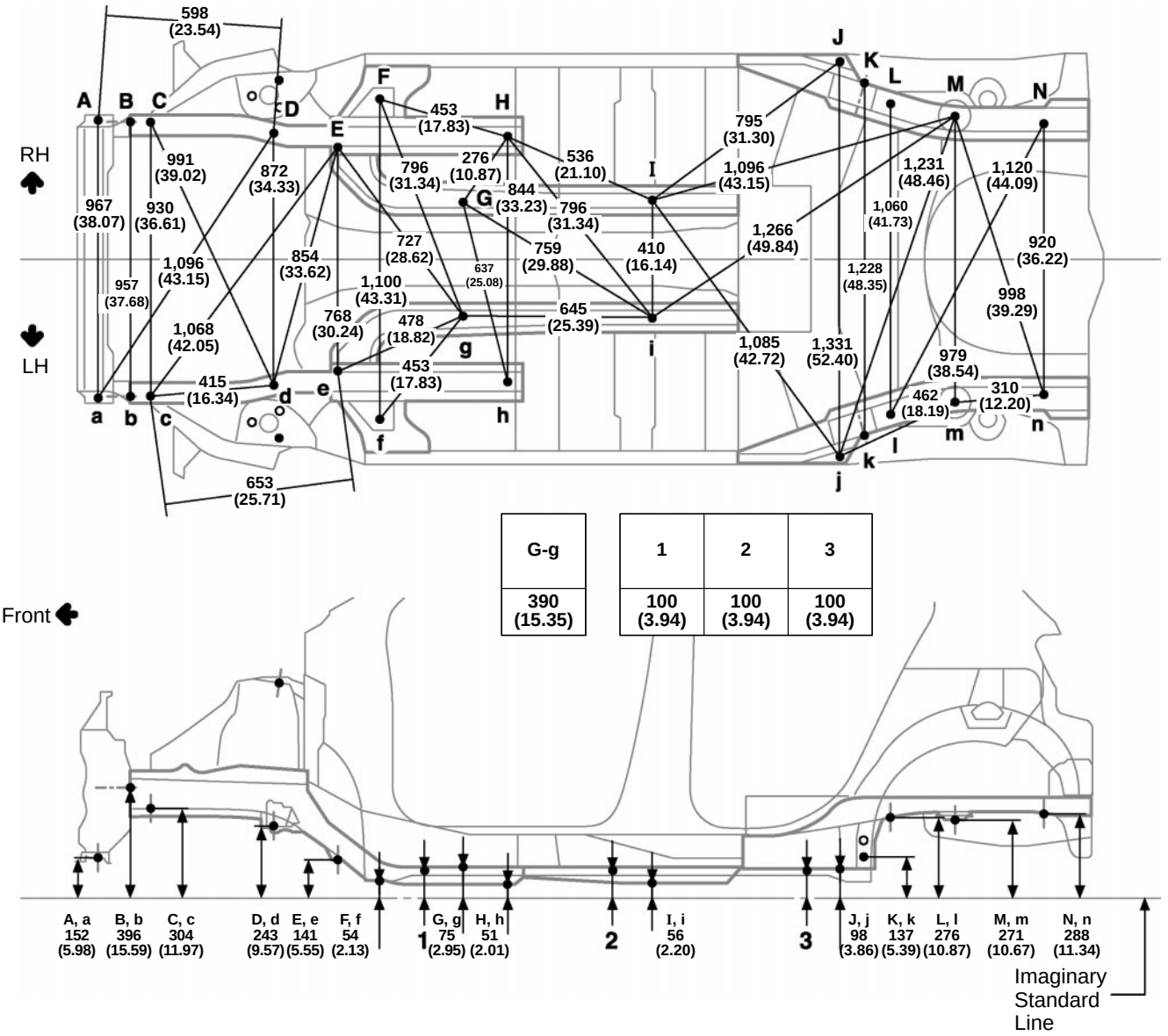
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Back door hinge installation hole	ø 10.2 (0.402): RH ø 10.2 (0.402) × 12 (0.47): LH	E, e	Back door lock striker installation nut	—
B, b	Back door stay installation nut	M6 (0.24)	F, f	Rear shock absorber installation hole−inner	M8 (0.31)
C, c	Back door opening trough standard hole	ø 10 (0.39)	G, g	Center body pillar assembly mark	ø 18 (0.71)
D, d	Back door opening trough/Body lower back panel adjoining point	—	—	—	—

UNDER BODY

(Three-Dimensional Distance)



G-g	1	2	3
390 (15.35)	100 (3.94)	100 (3.94)	100 (3.94)

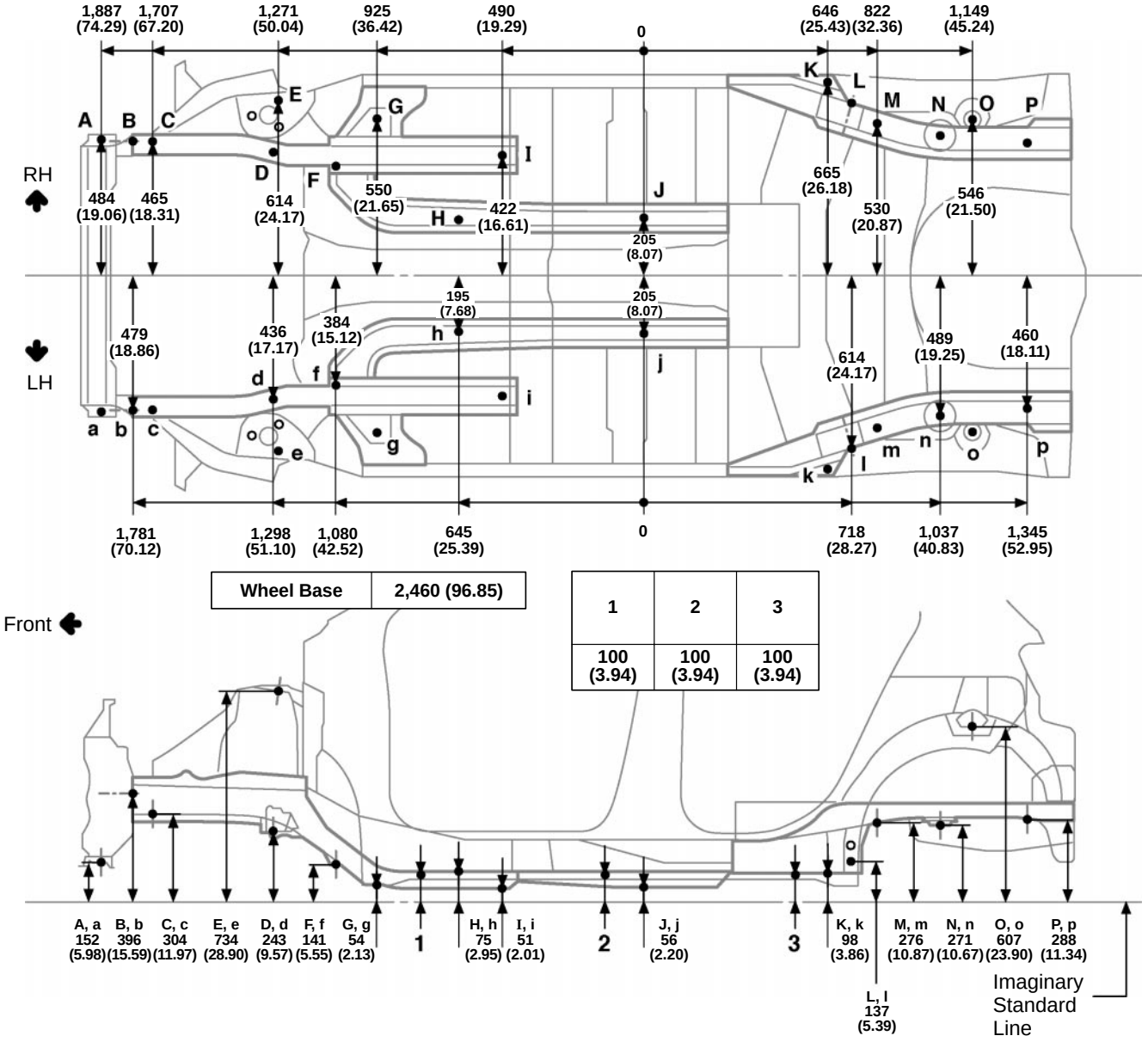
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator side support installation nut	M6 (0.24)	H, h	Front side member standard hole	ø 18 (0.71)
B, b	Crush box installation hole	ø 6.3 (0.248)	I, i	Front floor pan standard hole	ø 18 (0.71)
C, c	Front side member standard hole	ø 18 (0.71)	J, j	Floor side inner rear member standard hole	ø 18 (0.71)
D, d	Front suspension installation nut	M12 (0.47)	K, k	Trading arm installation outer hole−inner	ø 15 (0.59)
E, e	Front suspension installation nut	M14 (0.55)	L, l	Rear floor sidemember standard hole	ø 18 (0.71)
F, f	Torque box front standard hole	ø 25 (0.98)	M, m	Rear spring plate standard hole	ø 18 (0.71)
G, g	Front floor pan standard hole	ø 18 (0.71)	N, n	Rear floor sidemember standard hole	ø 18 (0.71)

UNDER BODY

(Two-Dimensional Distance)



Wheel Base	2,460 (96.85)

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

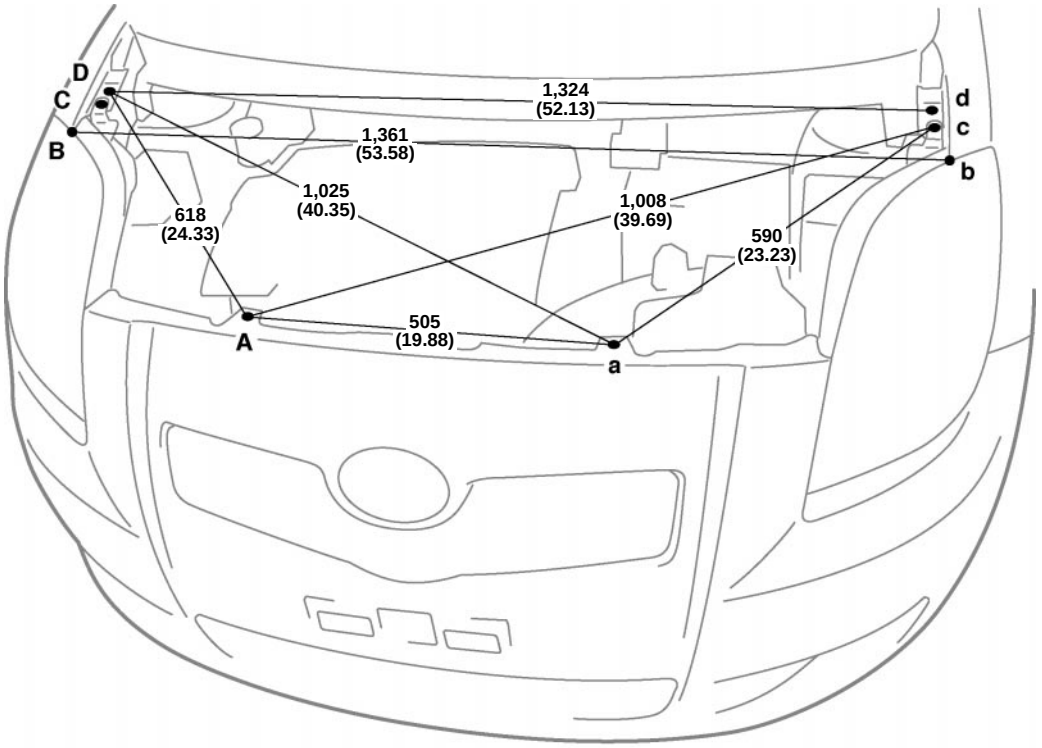
HINT: For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

mm (in.)

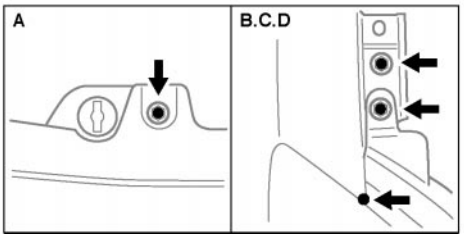
Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Radiator side support installation nut	M6 (0.24)	I, i	Front side member standard hole	ø 18 (0.71)
B, b	Crush box installation hole	ø 6.3 (0.248)	J, j	Front floor pan standard hole	ø 18 (0.71)
C, c	Front side member standard hole	ø 18 (0.71)	K, k	Floor side inner rear member standard hole	ø 18 (0.71)
D, d	Front suspension member installation nut	M12 (0.47)	L, l	Trading arm installation outer hole−inner	ø 15 (0.59)
E, e	Front spring support plate standard hole−outer	ø 11 (0.43)	M, m	Rear floor sidemember standard hole	ø 18 (0.71)
F, f	Front suspension member installation nut	M14 (0.55)	N, n	Rear spring plate standard hole	ø 18 (0.71)
G, g	Torque box front standard hole	ø 25 (0.98)	O, o	Rear shock absorber installation hole	ø 18 (0.71)
H, h	Front floor pan standard hole	ø 18 (0.71)	P, p	Rear floor sidemember standard hole	ø 18 (0.71)

REFERENCE VALUE
ENGINE COMPARTMENT

(Three-Dimensional Distance)



C-c	C-D or c-d
1,324 (52.13)	38 (1.50)



HINT: These values are actual measurements made on a vehicle.
Use these reference values.

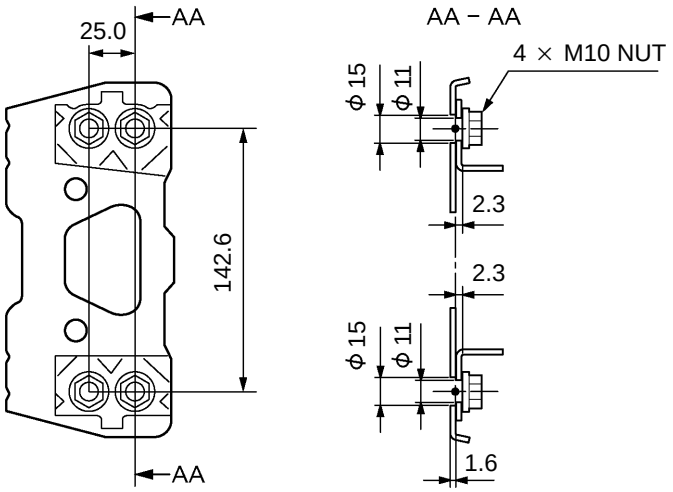
mm (in.)

Symbol	Name	Hole dia.	Symbol	Name	Hole dia.
A, a	Front bumper cover installation bolt	—	C, c	Headlight installation bolt	—
B, b	Front end of fender	—	D, d	Front fender installation bolt	—

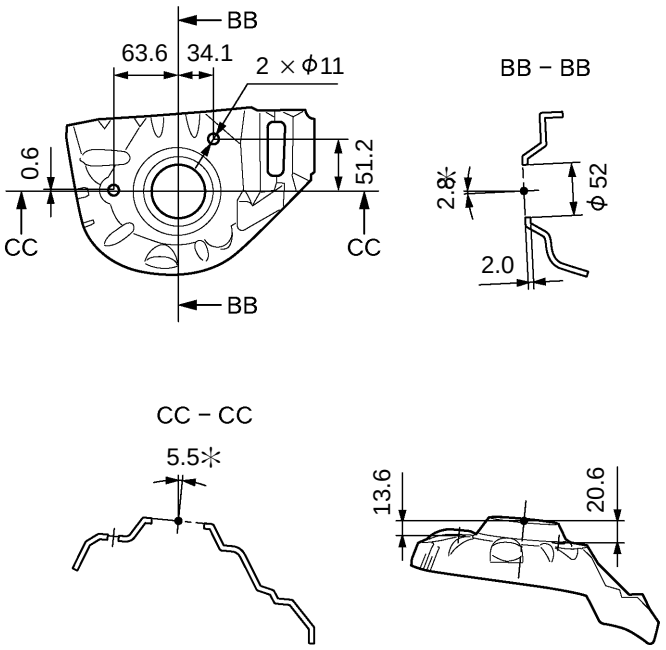
UNDER BODY

(Two-Dimensional Distance)

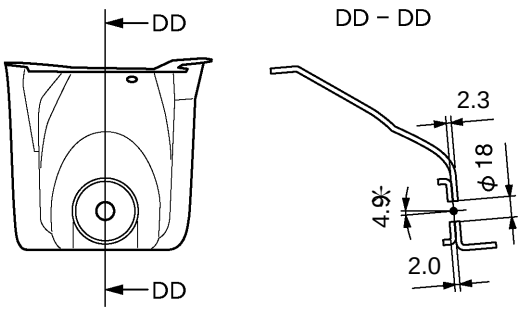
Radiator support installation



Front spring support



Rear shock absorber installation



mm

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 YARIS.

Applicable models: KSP90 series
NCP90, 91, 92, 93 series
SCP90 series
NLP90 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, this TOYOTA model are 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 YARIS 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

HOW TO USE THIS MANUAL

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

⁎ This manual 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 coating. Body sealer.

Contents omitted in this manual.

⁎ Make sure to perform the following essential procedures, although they are omitted in this manual.

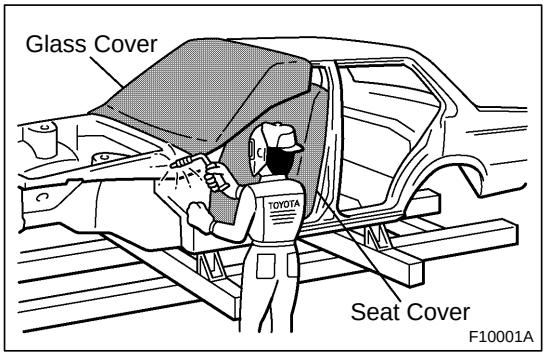
(1) Jack and lift operations.

(2) Clean and wash removed parts, if necessary.

(3) Visual inspection.

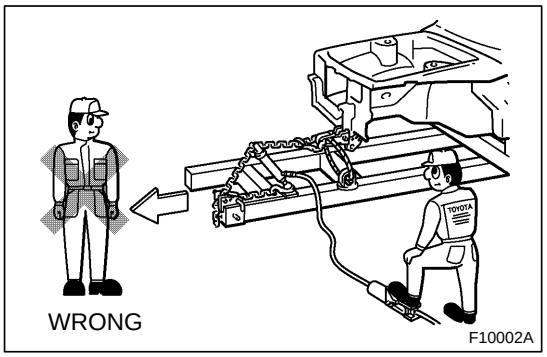
GENERAL REPAIR INSTRUCTIONS

1. WORK PRECAUTIONS



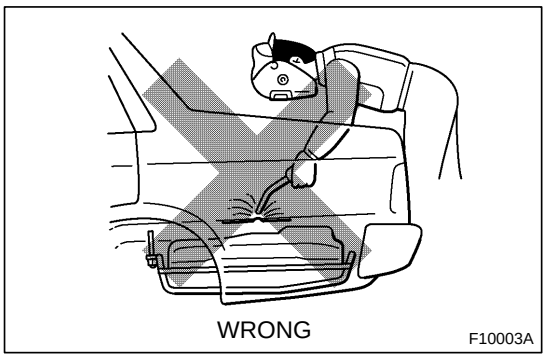
(a) VEHICLE PROTECTION

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



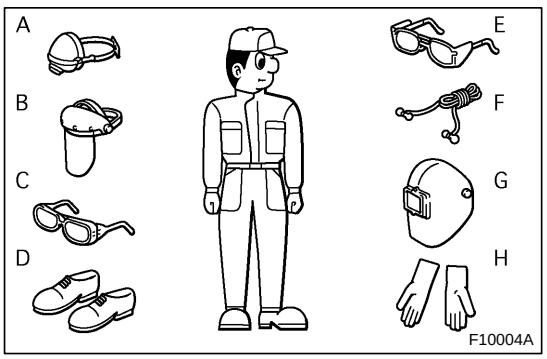
(b) SAFETY

(1) Never stand in a 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 completely.

(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 properties 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.

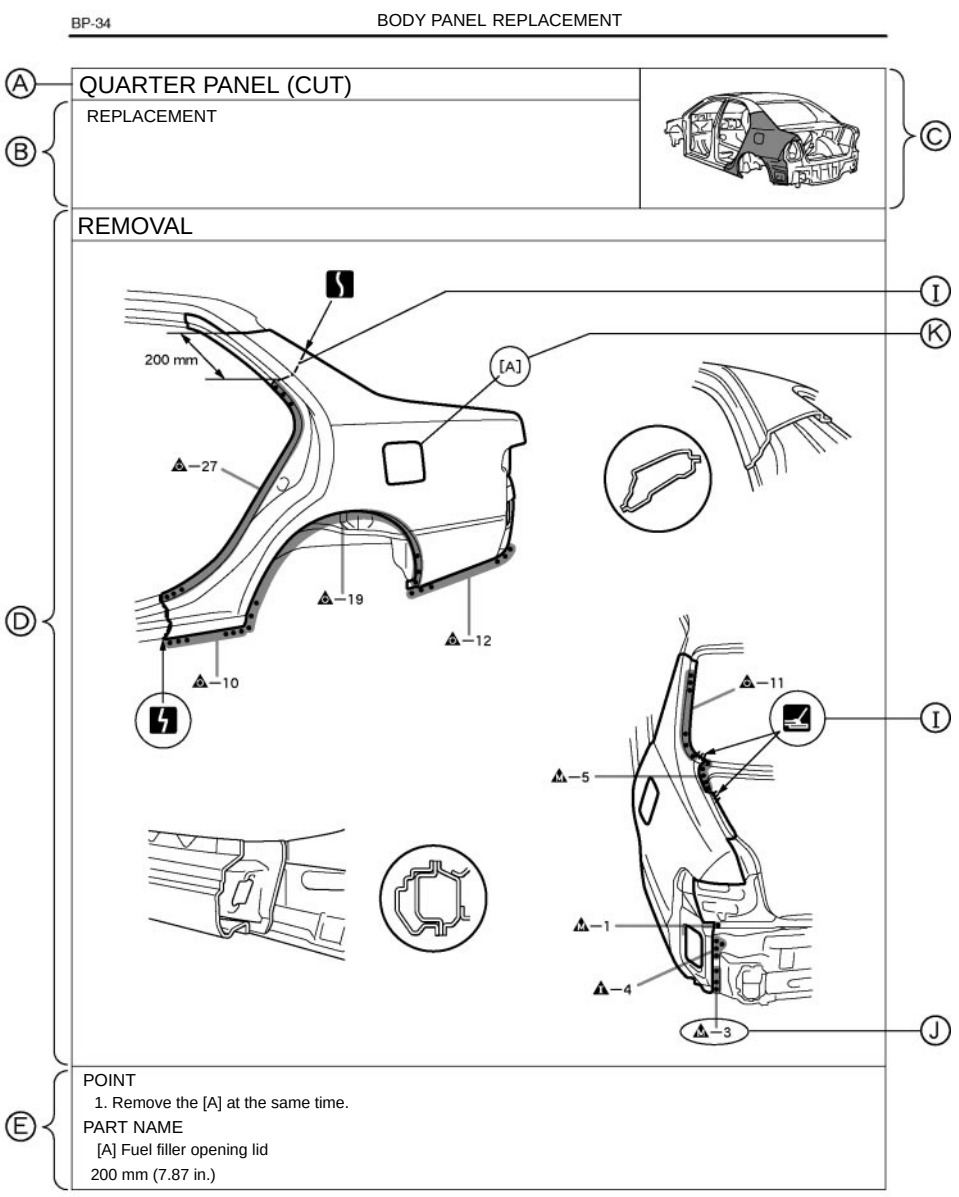
3. LOCATION OF PLASTIC BODY PARTS

Parts Name	Code
Front Bumper Cover	TSOP
Front Spoiler Cover	TSOP ⁎TPO
Radiator Grille	AES
Headlight	PC/PP
Foglight	PBT/ASA
Front Pillar Upper Cover (Hatchback)	AES
Front Pillar Cover (Sedan)	AES
Side Turn Signal Light	PMMA/PC/ABS
Cowl Top Ventilator Louver	TSOP
Outer Rear View Mirror	PA/ABS ⁎ASA ⁎PP
Door Outside Handle	PA/PC/PBT
Mudguard	PP
Back Door Outside Handle (Hatchback)	PA
Luggage Compartment Door Outside Garnish (Sedan)	ABS
Rear Spoiler (Sedan)	ABS
License Plate Light	PC
Rear Combination Light	PMMA/ABS
Rear Bumper Cover	TSOP

HINT:
⁎ Resin material differs depending on model.
/ Made up of 2 or more kinds of materials.

HOW TO USE THIS MANUAL

1. BODY PANEL REPLACEMENT IN THIS MANUAL



Ⓐ : 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

Ⓑ : REMOVAL CONDITIONS

Ⓒ : PART LOCATION

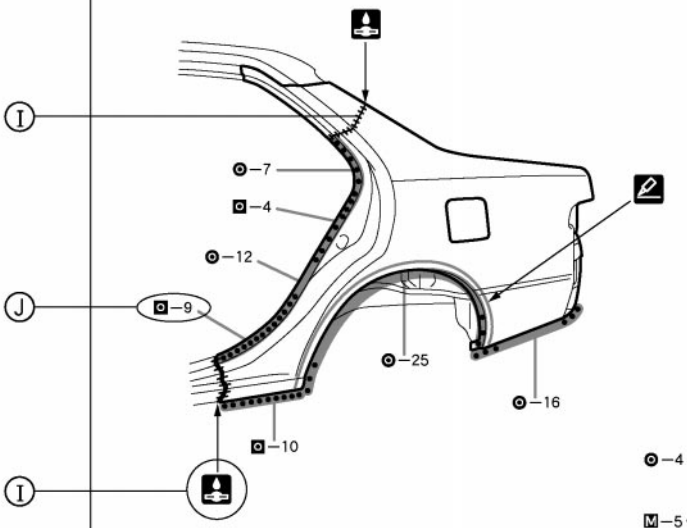
Ⓓ : REMOVAL DIAGRAM
Describes in detail the removal of the damaged part involving repair by cutting.

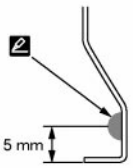
Ⓔ : REMOVAL GUIDE
Provides additional information to more efficiently help you perform the removal.

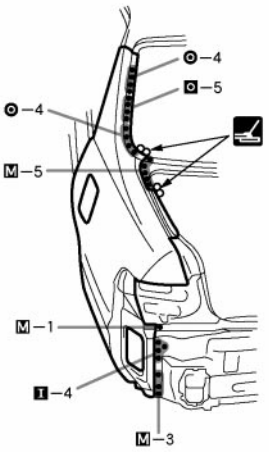
F13890A

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 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.

Ⓗ

Ⓕ : INSTALLATION CONDITIONS

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

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

Ⓘ : SYMBOLS
(See page IN-7)

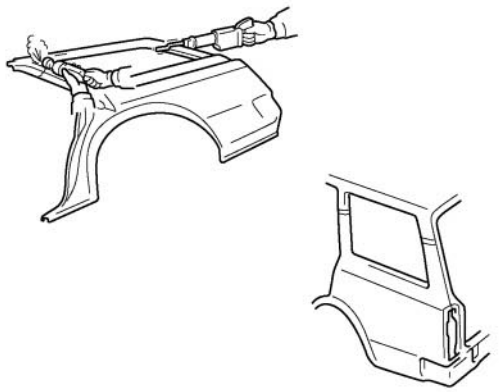
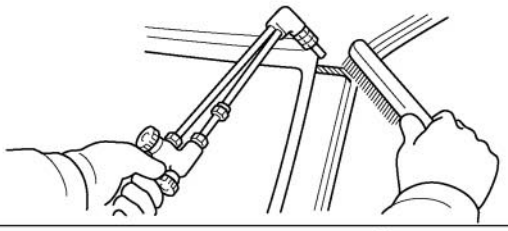
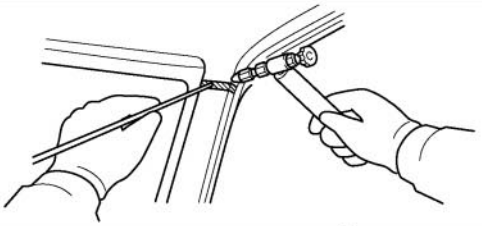
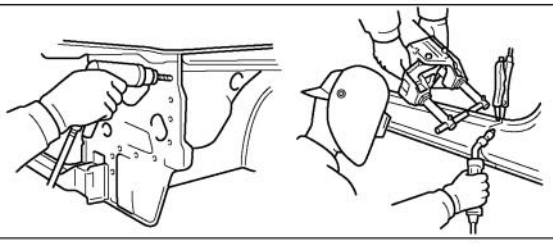
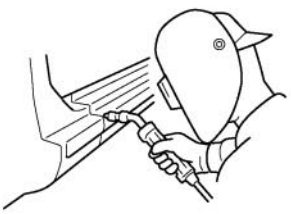
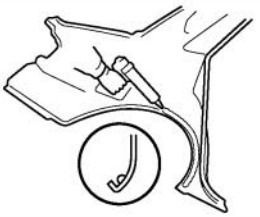
Ⓙ : INSTALLATION OF WELD POINTS
Weld method and panel position symbols (See page IN-9)

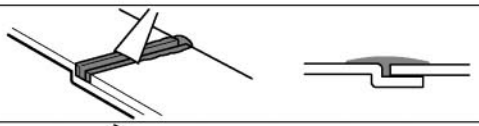
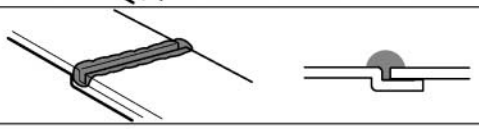
Ⓚ : PART NAME

F13891A

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)	
		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

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

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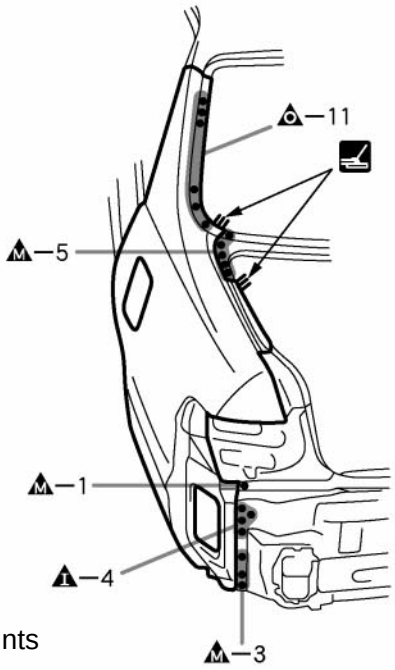
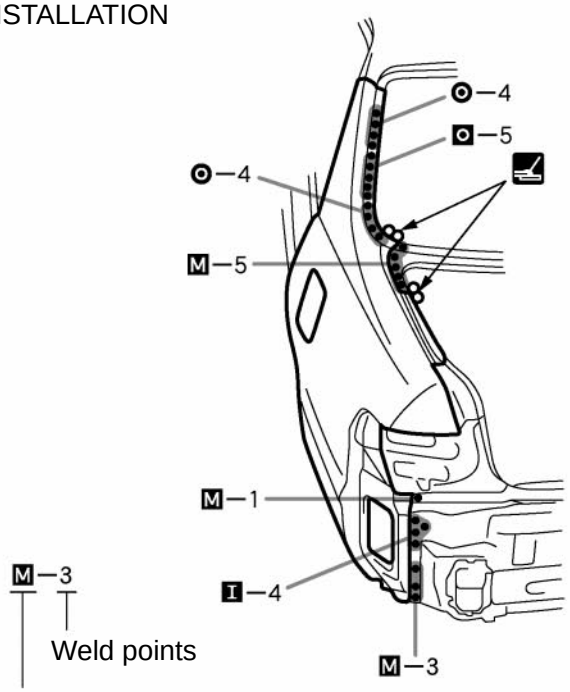
3. ILLUSTRATION OF WELD POINT SYMBOLS

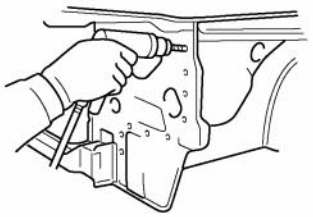
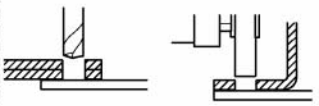
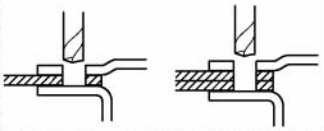
EXAMPLE:

REMOVAL

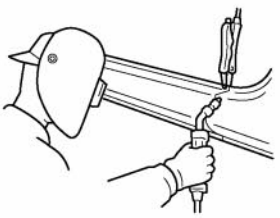
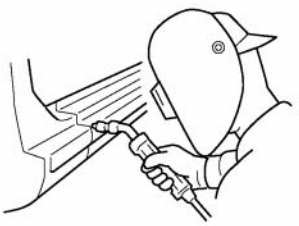


INSTALLATION



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

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

SYMBOLS	MEANING	ILLUSTRATION
O M I	Spot Weld	
O M I	MIG Plug Weld	
+	Spot MIG Weld	

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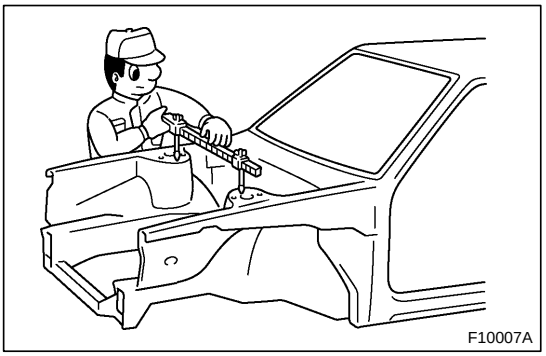
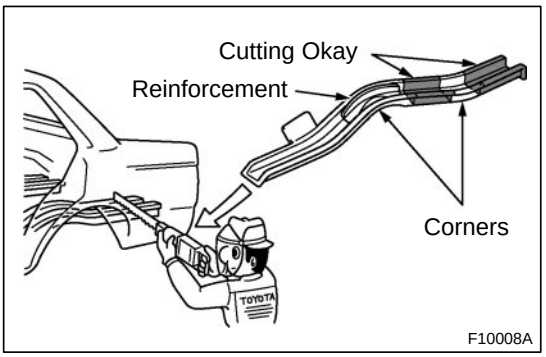
PROPER AND EFFICIENT WORK PROCEDURES


F10007A

1. REMOVAL

(a) PRE-REMOVAL MEASURING

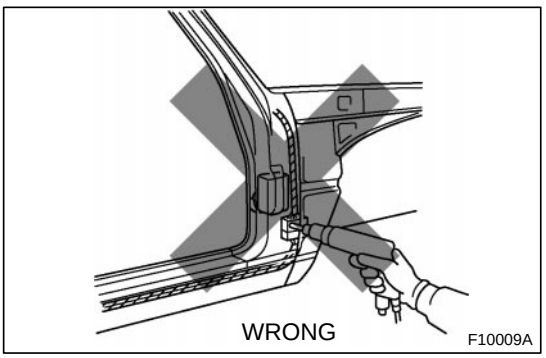
(1) Before removal or cutting operations, take measurements in accordance with the dimensions diagram. Always use a puller to straighten a damaged body or frame.



F10008A

(b) CUTTING AREA

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

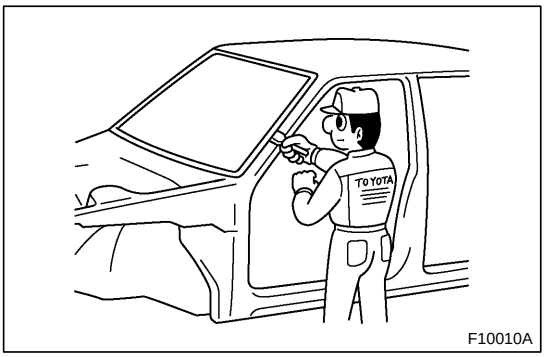


F10009A

(c) PRECAUTIONS FOR DRILLING OR CUTTING

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

HINT: See “Handling Precautions on Related Components” on page IN-15.

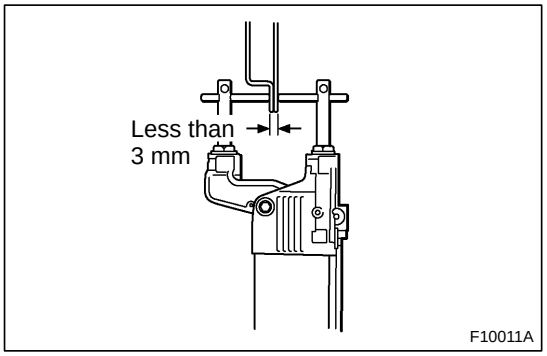


F10010A

(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.

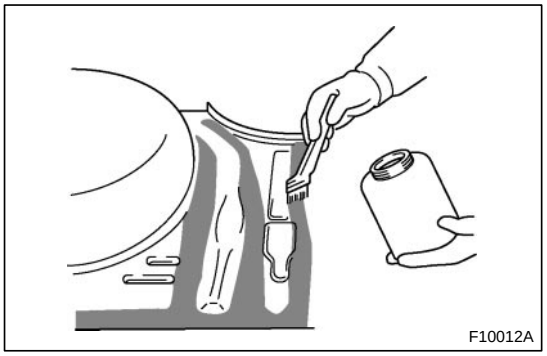


2. PREPARATION FOR INSTALLATION

(a) SPOT WELD POINTS

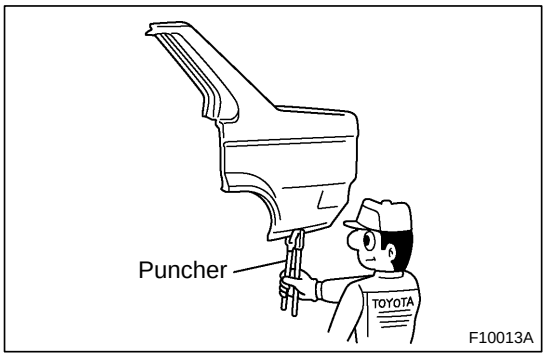
(1) When welding panels with a combined thickness of over 3 mm (0.12 in.), use a MIG (Metal Inert Gas) welder for plug welding.

HINT: Spot welding does not provide sufficient durability for panels with a combined thickness of over 3 mm (0.12 in.).



(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.

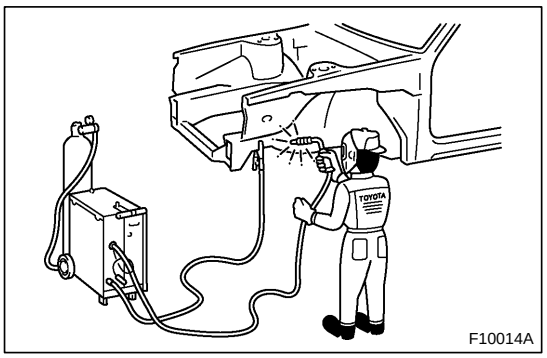


(c) MAKING HOLES FOR PLUG WELDING

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

REFERENCE: mm (in.)

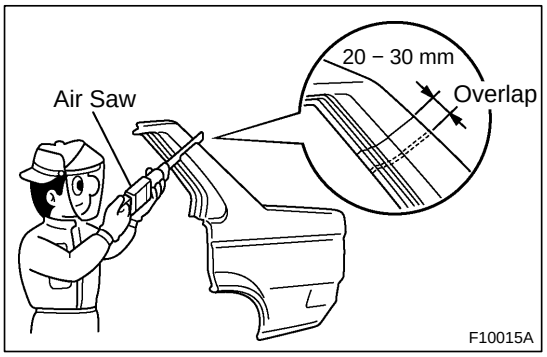
Thickness of welded portion	Size of plug hole
1.0 (0.04) under	5 (0.20) ø over
1.0 (0.04) − 1.6 (0.06)	6.5 (0.26) ø over
1.7 (0.07) − 2.3 (0.09)	8 (0.31) ø over
2.4 (0.09) over	10 (0.39) ø over



(d) SAFETY PRECAUTIONS FOR ELECTRICAL COMPONENTS

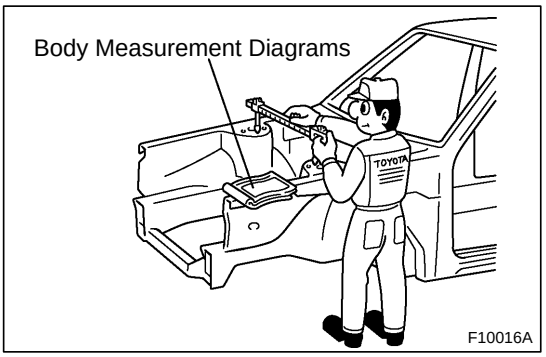
(1) When welding, there is a danger that electrical components will be damaged by the electrical current flowing through the body.

(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

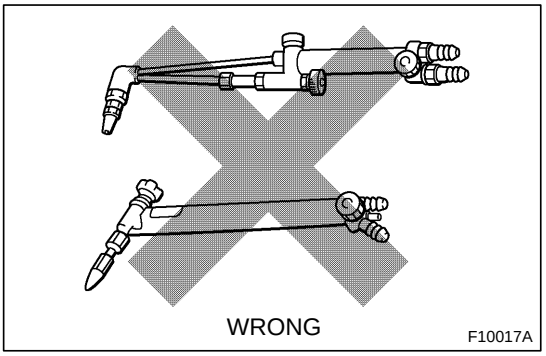
(1) For joint areas, rough cut the new parts, leaving 20 − 30 mm (0.79 − 1.18 in.) of overlap.



3. INSTALLATION

(a) PRE-WELDING MEASUREMENTS

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

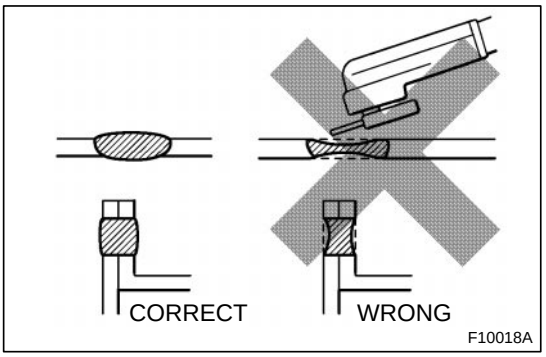


(b) WELDING PRECAUTIONS

(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.

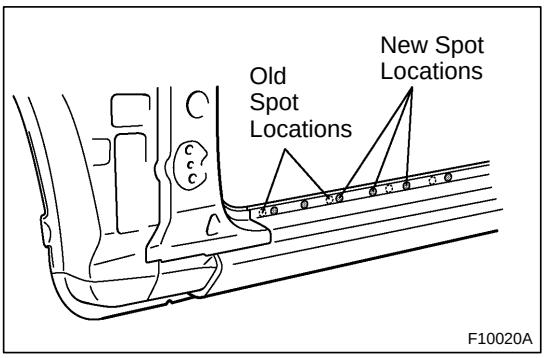
(2) Plug welding should be done with a MIG (Metal Inert Gas) welder. Do not gas weld or braze panels at areas other than specified.



(c) POST-WELDING REFINISHING

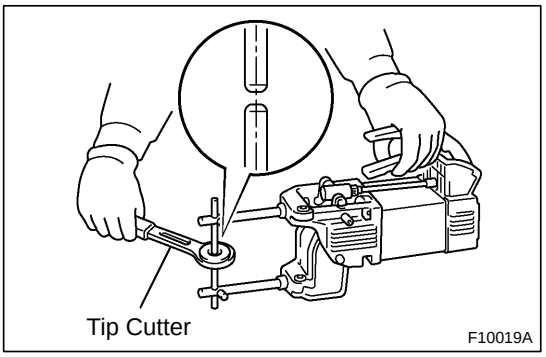
(1) Always check the welded spots to ensure they are secure.

(2) When smoothing out the weld spots with a disc grinder, be careful not to grind off too much as this will weaken the weld.



(d) SPOT WELD LOCATIONS

(1) Avoid welding over previously welded areas.

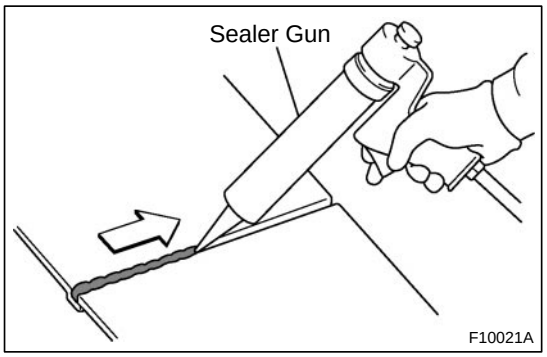


(e) SPOT WELDING PRECAUTIONS

(1) The shape of the tip point of the spot welder significantly affects the strength of the weld. Therefore, maintain the tip point in the proper shape, and allow it to cool after every five or six spots.

(2) Completely remove the paint from the areas to be spot welded, including the seams and the surfaces that come in contact with the welding tip.

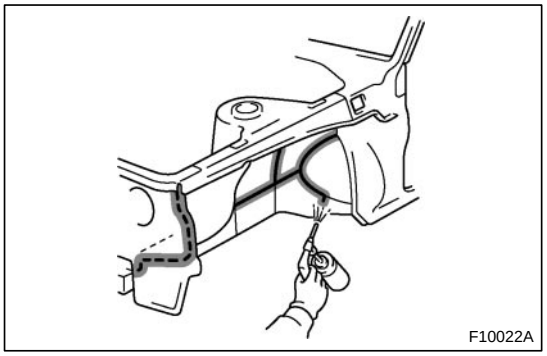
(3) Use a sander to remove any burrs that are created during spot welding.



4. ANTI-RUST TREATMENT AFTER INSTALLATION (BEFORE PAINTING PROCESS)

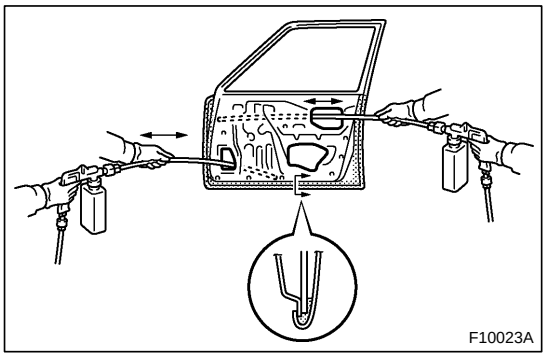
(a) BODY SEALER APPLICATION

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



(b) UNDERCOAT APPLICATION

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



5. ANTI-RUST TREATMENT AFTER INSTALLATION (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 hood, and around the hinges, or the welded surfaces inside the box-shaped cross sections of the side members, body pillar, etc.

6. ANTI-RUST TREATMENT BY PAINTING

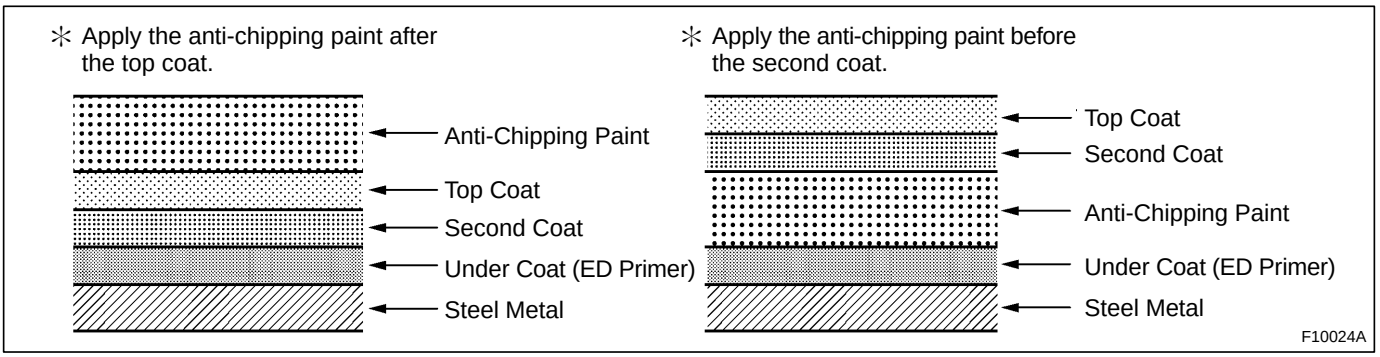
REFERENCE:

Painting prevents corrosion and protects 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.



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 the 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. Body repair must be particularly accurate 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.

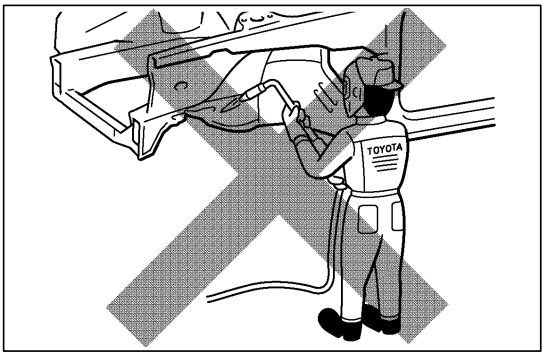
4. ECU (ELECTRONIC CONTROL UNIT)

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 canceled. 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 seats and outside rear view mirrors, which are all equipped with a 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

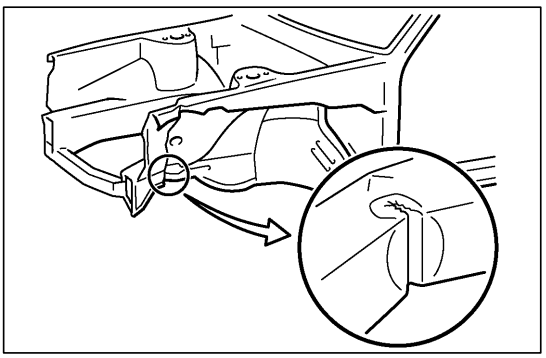
Toyota prohibits the use of the heat repair method on body structure panels when repairing a vehicle damaged in a collision.

Panels that have high strength and rigidity, as well as a long life span for the automobile body are in high demand.

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 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.

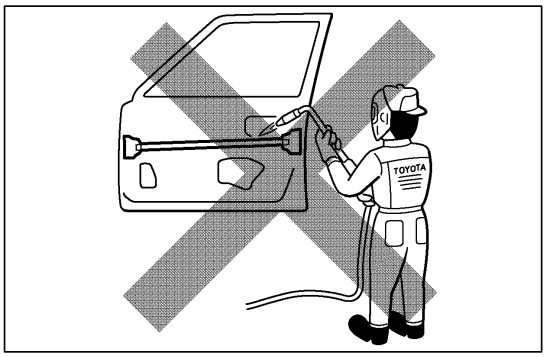


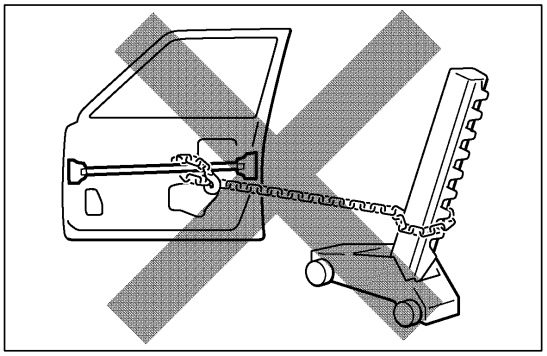
2. STRUCTURE PANEL KINKS

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

Structural parts are designed to perform in their original shape. If parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may be unable to perform as intended.

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 beams, we use special high tensile strength steel.

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

Structural parts are designed to perform in their original shape. If parts are deformed in an accident, or if the deformed parts are repaired and reused, the parts may be unable to perform as intended.

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

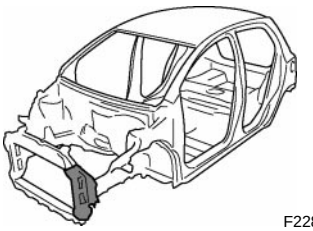
Also, the bumper reinforcement is a necessary and important part that helps reduce the probability of injury to passengers in front collisions, and for the same reasons explained above, should be replaced if damaged.

ABBREVIATIONS USED IN THIS MANUAL

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

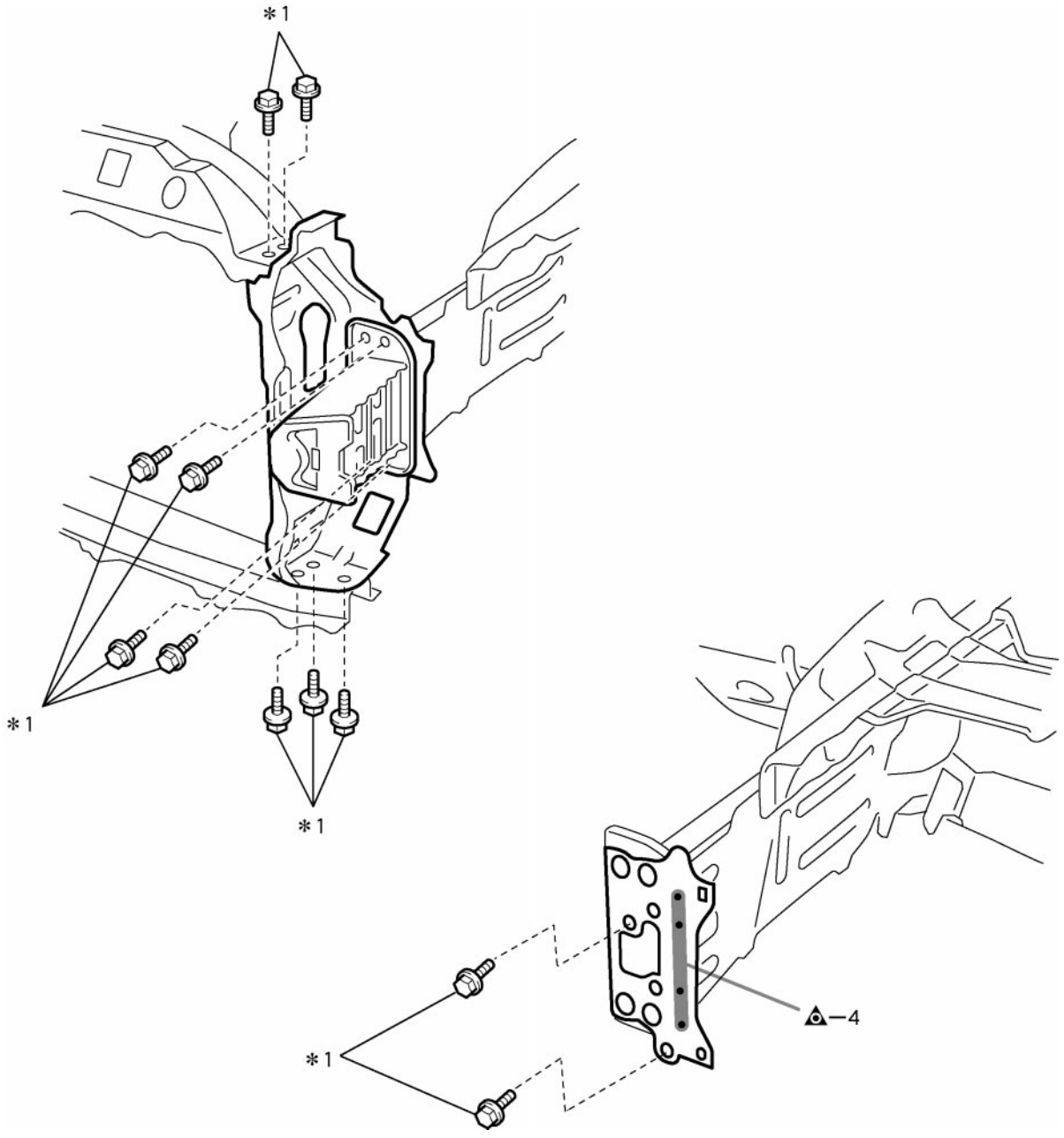
ABS	Antilock Brake System
A/C	Air Conditioner
assy	assembly
ECT	Electronic Controlled Transmission
ECU	Electronic Control Unit
e.g.	Exempli Gratia (for Example)
Ex.	Except
FWD	Front Wheel Drive Vehicles
2WD	Two Wheel Drive Vehicles
4WD	Four Wheel Drive Vehicles
in.	inch
LH	Left-hand
LHD	Left-hand Drive
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

RADIATOR SUPPORT (ASSY)


F22816A

REPLACEMENT

REMOVAL



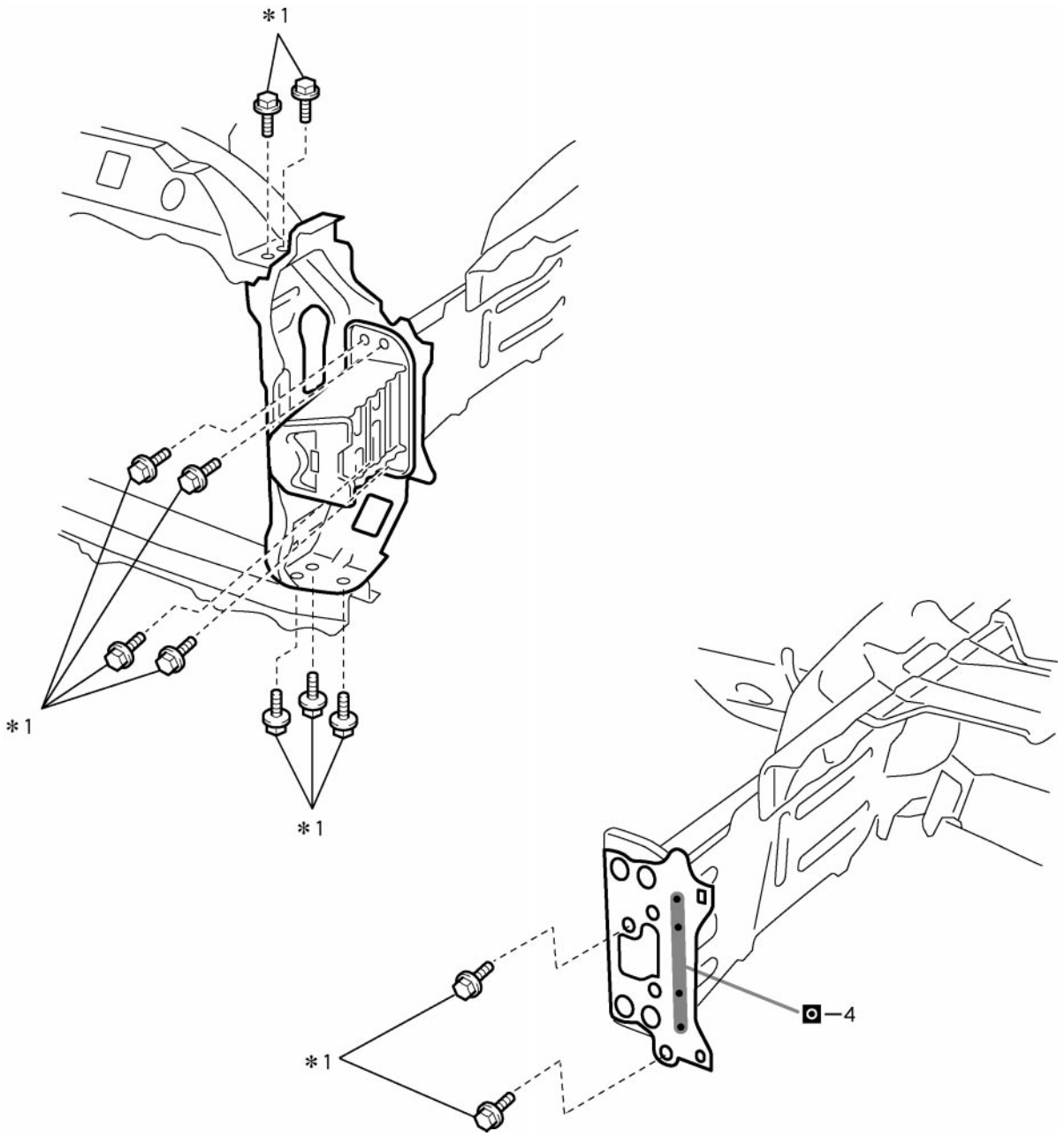
F22816

POINT

1 *1: Bolt

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

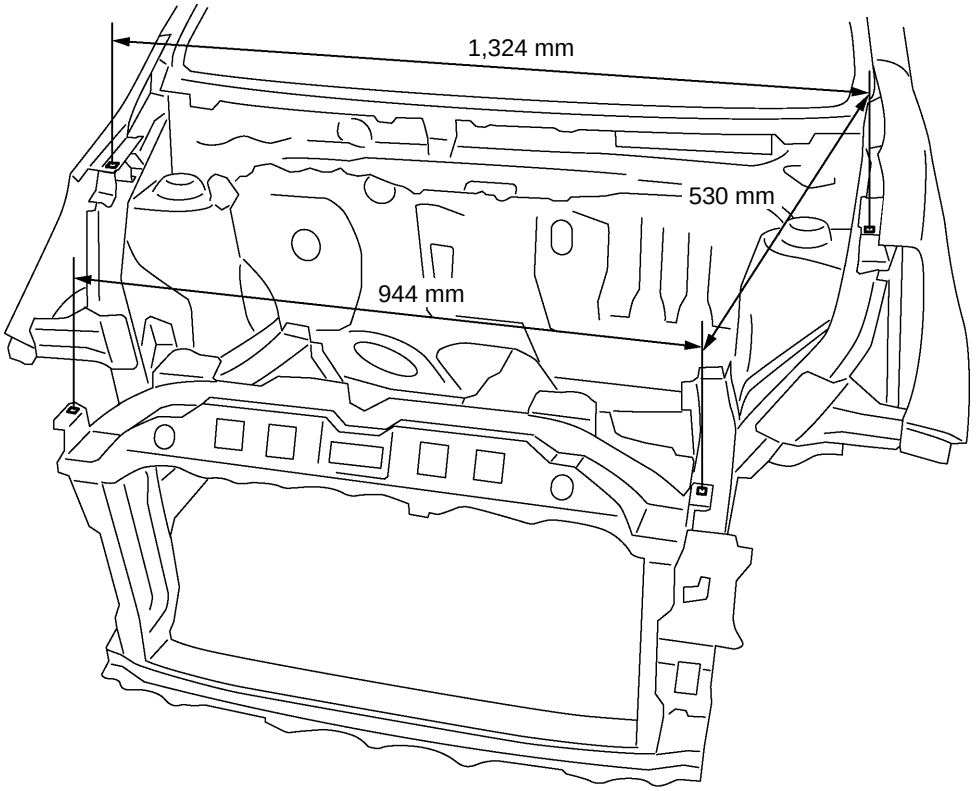


F22817

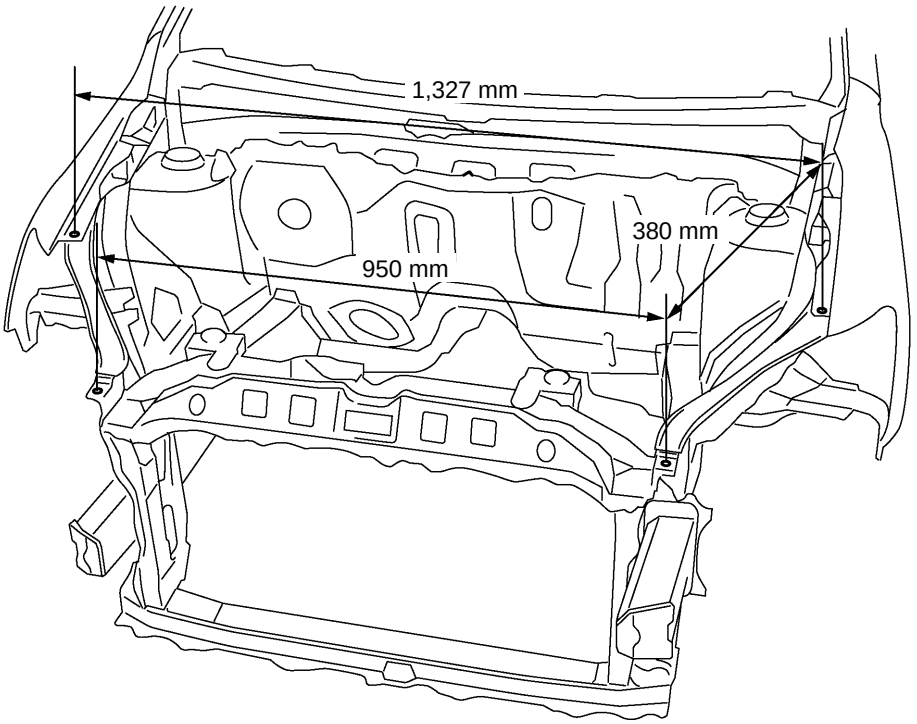
POINT

1 Inspect the fitting of the headlight, front fender, hood and other related parts, before welding as this affects the appearance of the finish.
2 *1: Bolt

[Hatchback]



[Sedan]



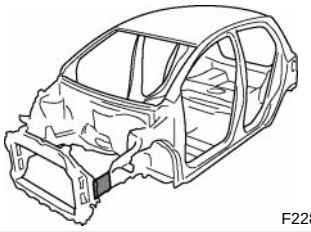
F22818-1

POINT

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

380 mm (14.96 in.) 530 mm (20.87 in.) 944 mm (37.17 in.) 950 mm (37.40 in.)
1,324 mm (52.13 in.) 1,327 mm (52.24 in.)

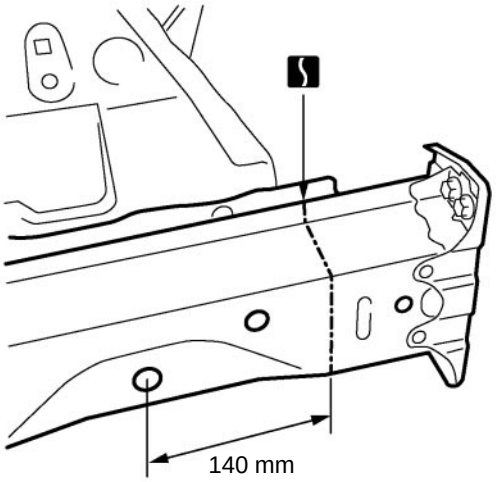
FRONT SIDEMEMBER REINFORCEMENT (CUT-P)

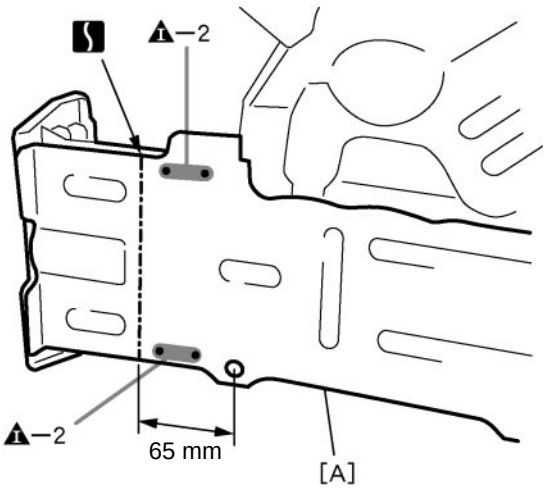

F22825A

REPLACEMENT
With the radiator support removed.

REMOVAL

[LH]



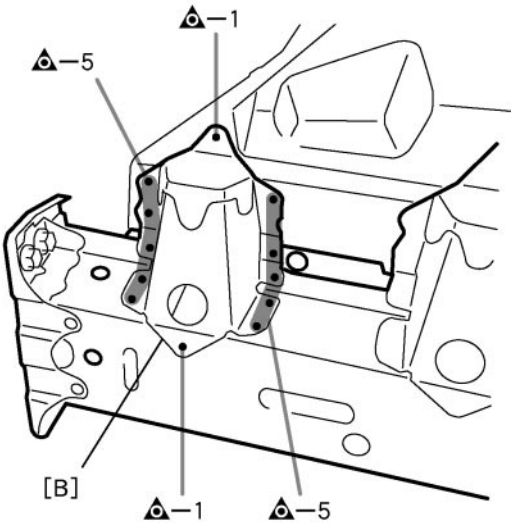


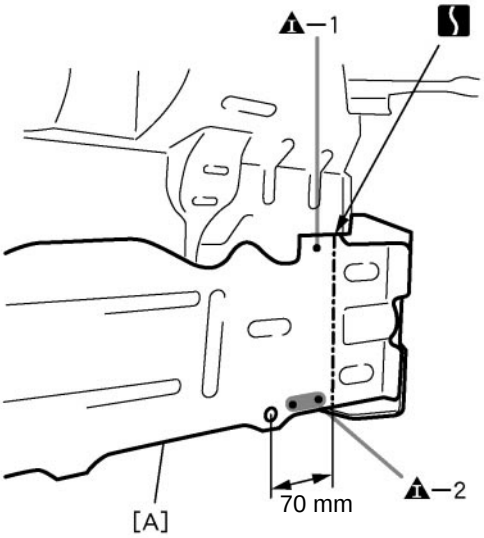
F23301

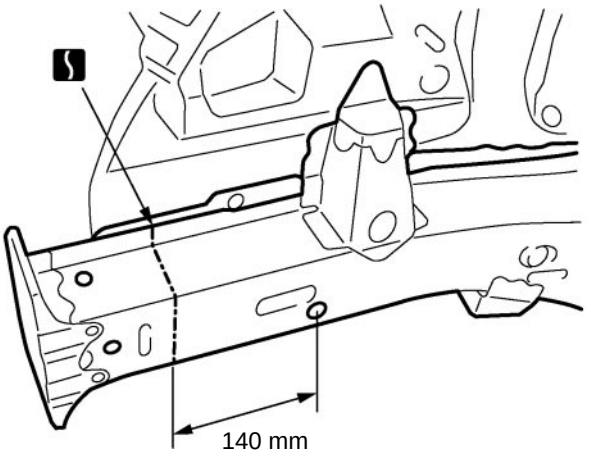
POINT
1 Remove [A] at the same time.

PART NAME
[A] Front Sidemember Outer Plate
65 mm (2.56 in.) 140 mm (5.51 in.)

[RH]







F23302

POINT

1 Remove [B] before conducting this work.
2 Remove [A] at the same time.

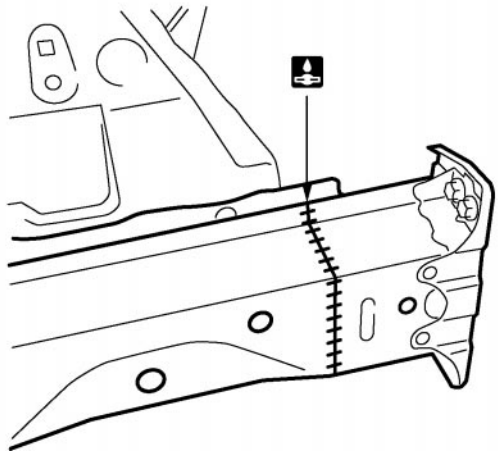
PART NAME

[A] Front Sidemember Outer Plate [B] Engine Front Mounting Bracket
70 mm (2.76 in.) 140 mm (5.51 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.

[LH]

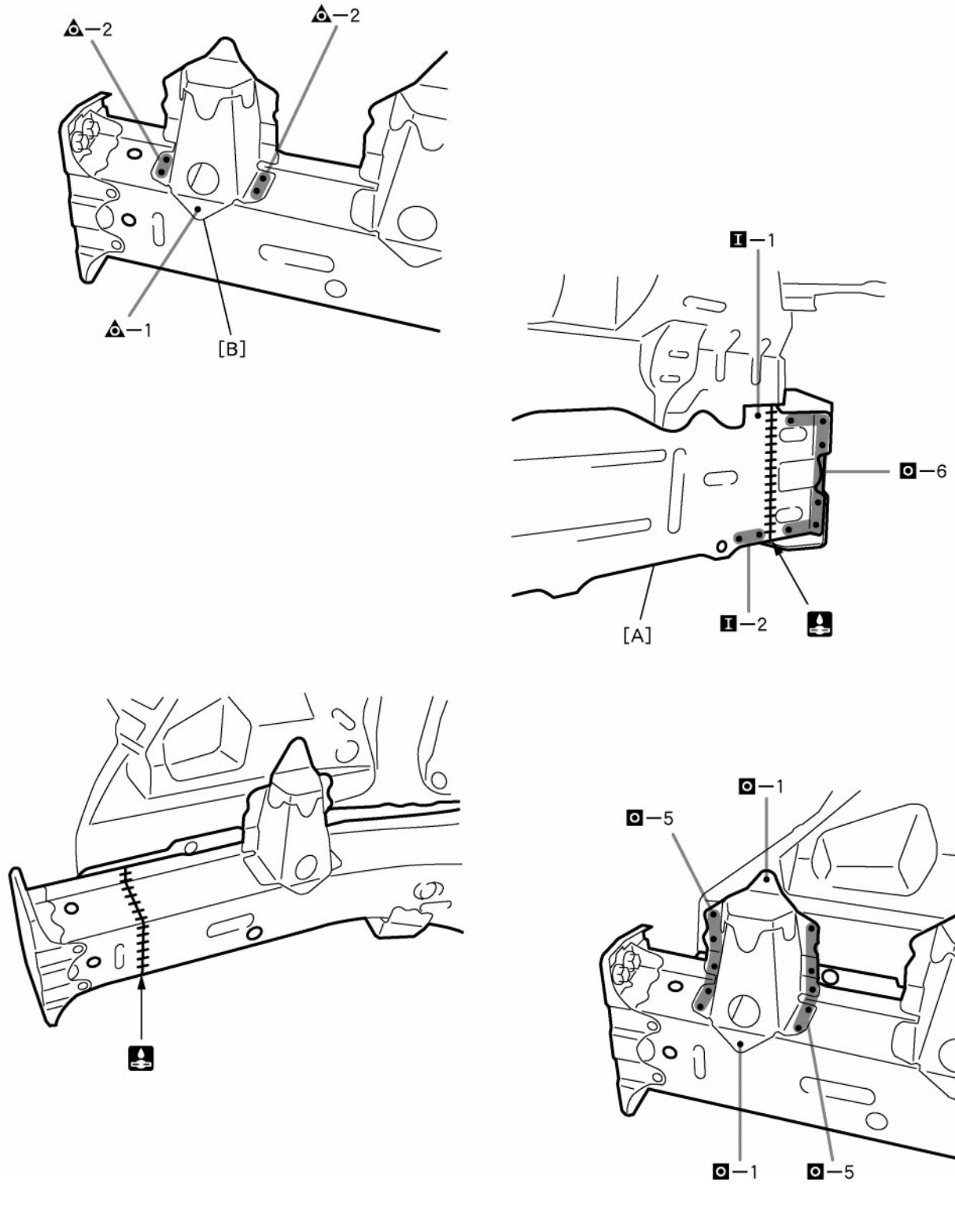


F23303

PART NAME

[A] Front Sidemember Outer Plate

[RH]



F23304

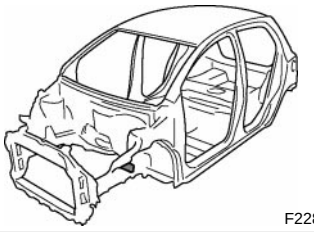
POINT

1 Remove the [B] from the new parts of the front sidemember reinforcement.
2 After installing the new parts, install [B].

PART NAME

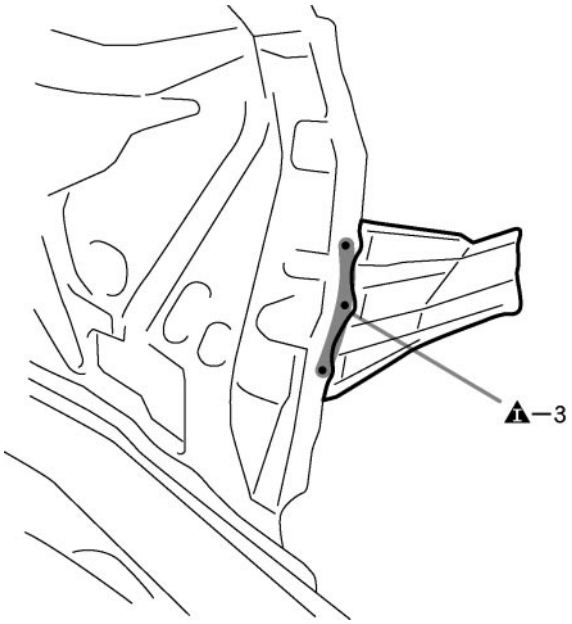
[A] Front Sidemember Outer Plate [B] Engine Front Mounting Bracket

FRONT FENDER MOUNTING BRACKET (ASSY)


F22819A

REPLACEMENT

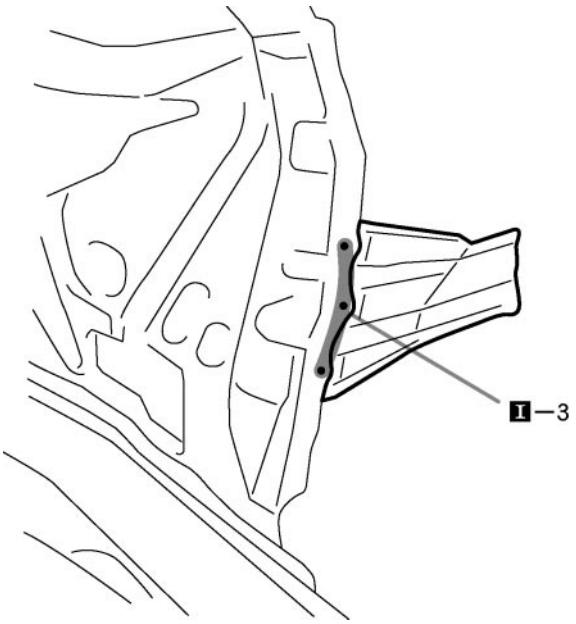
REMOVAL



F22819

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

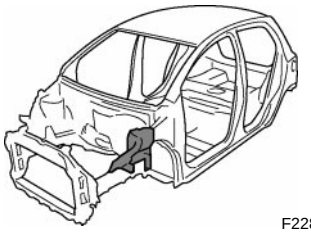


F22820

POINT

1 Inspect the fitting of the front fender and other related parts before welding as this affects the appearance of the finish.

FRONT FENDER APRON (ASSY)

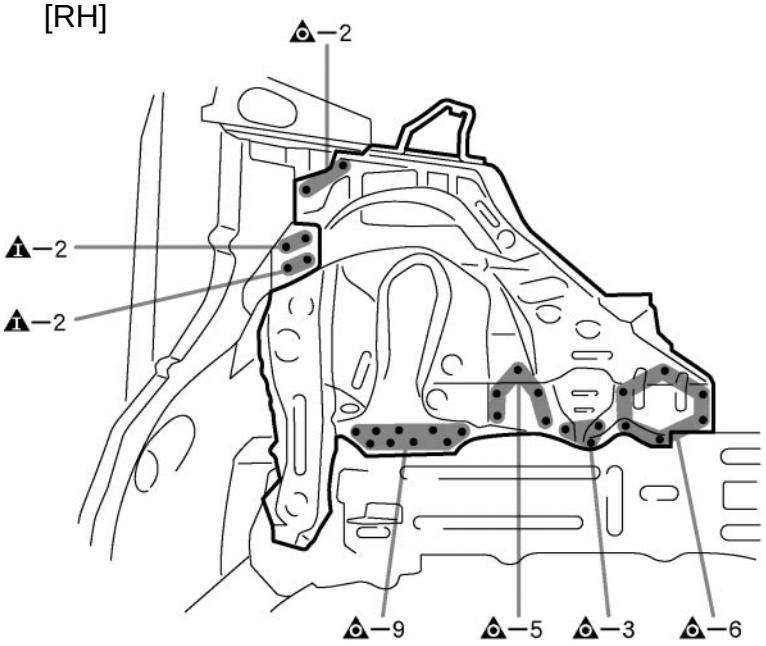

F22821A

REPLACEMENT

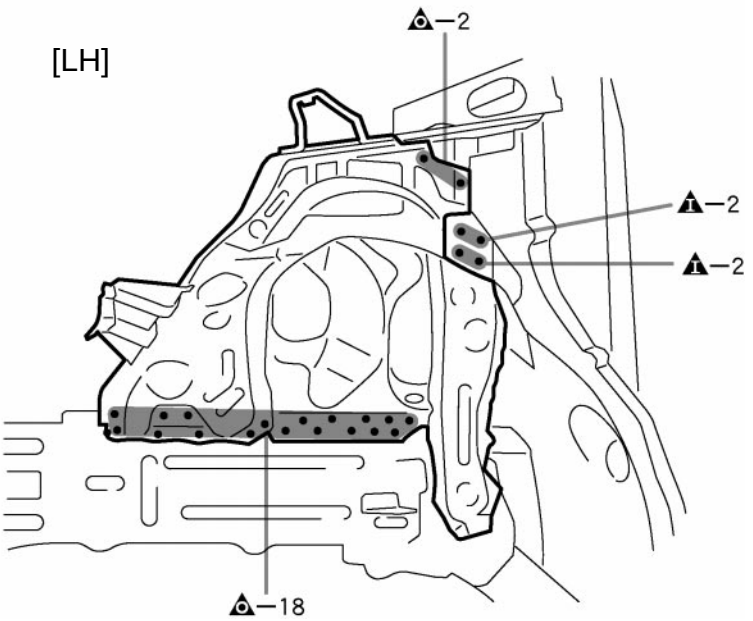
With the cowl top side panel removed.

REMOVAL

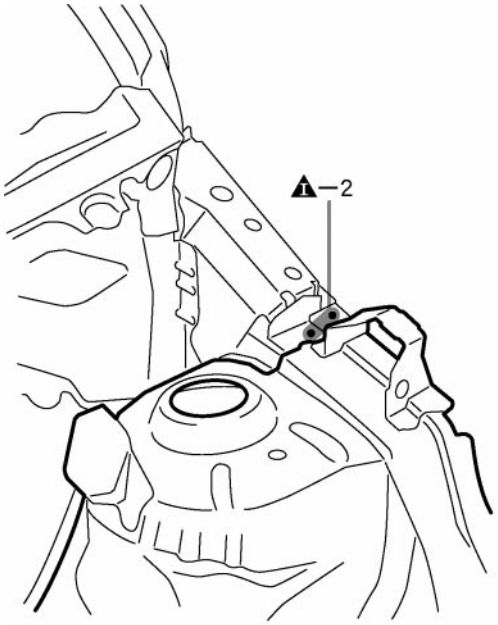
[RH]

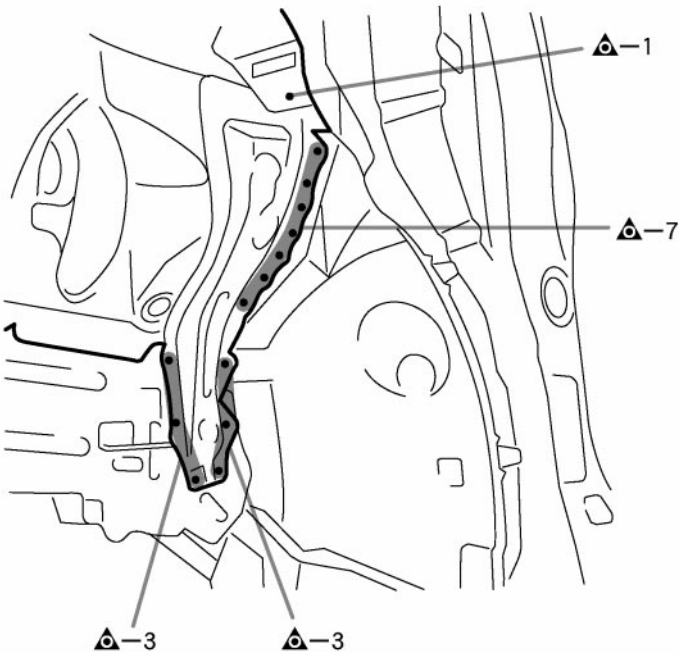


[LH]



F22821

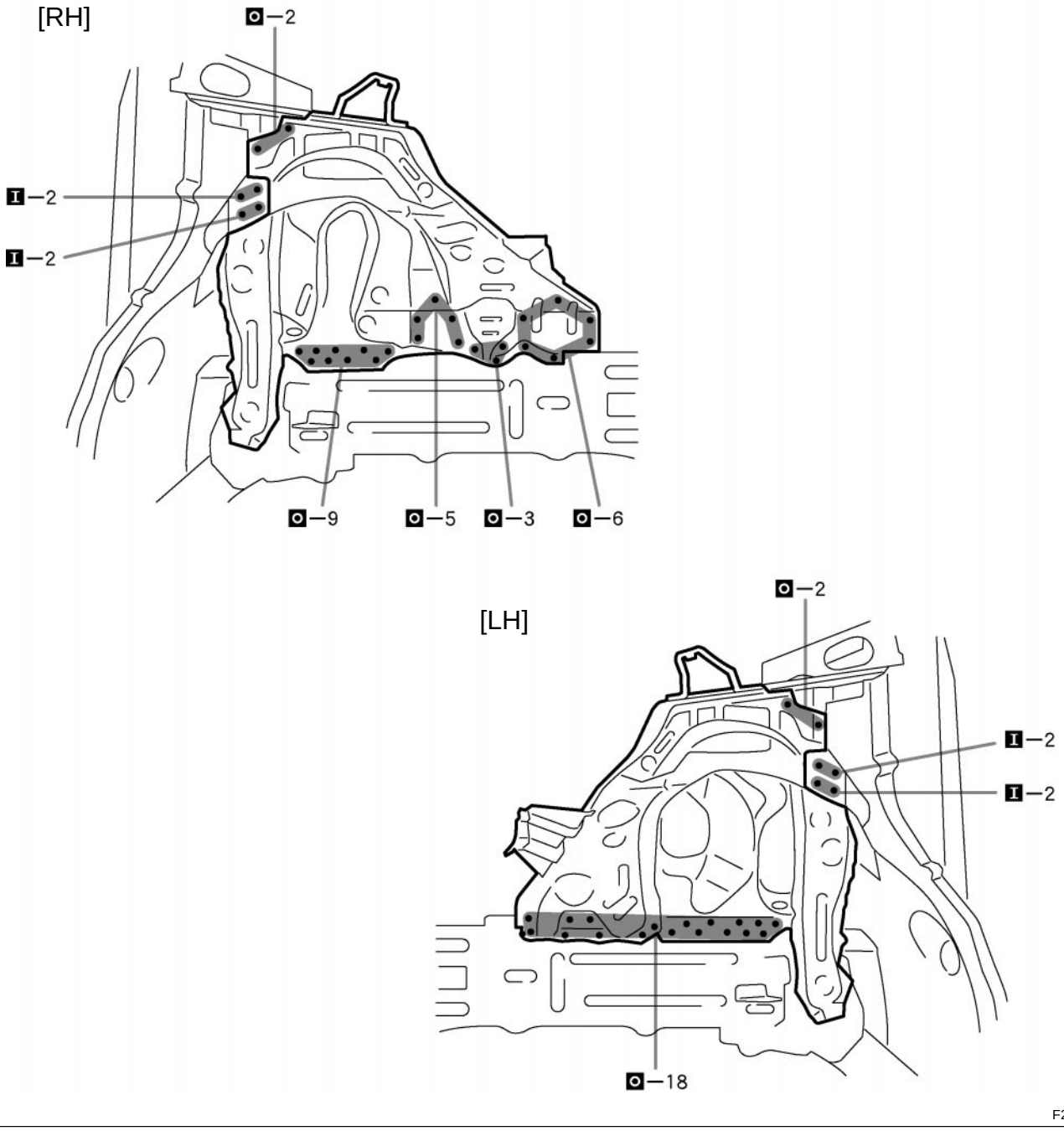




F22822

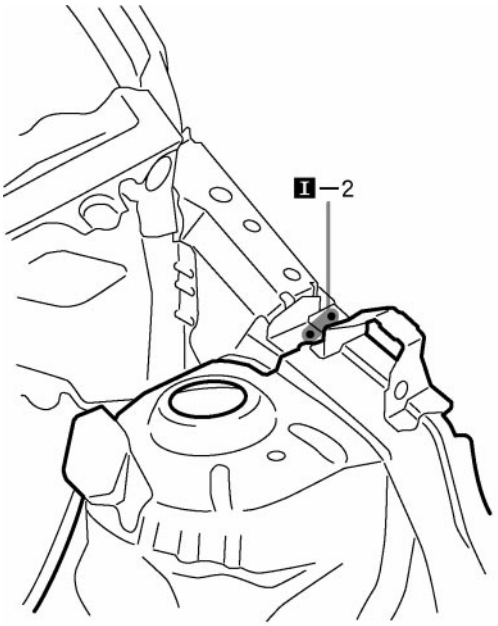
INSTALLATION

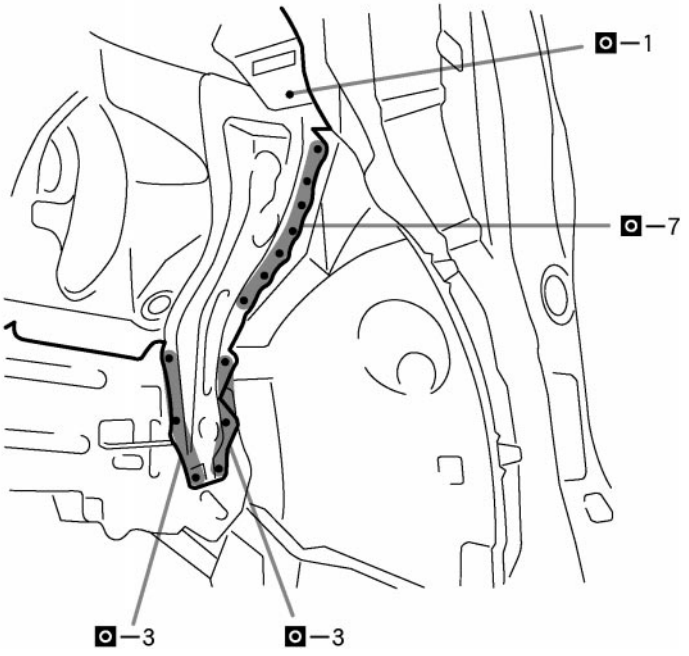
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply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

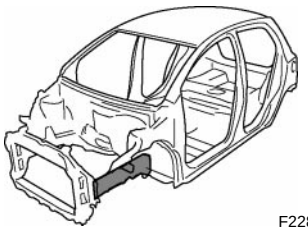
1 Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.
2 Inspect the fitting of the front fender, hood and other related parts before welding as this affects the appearance of the finish.





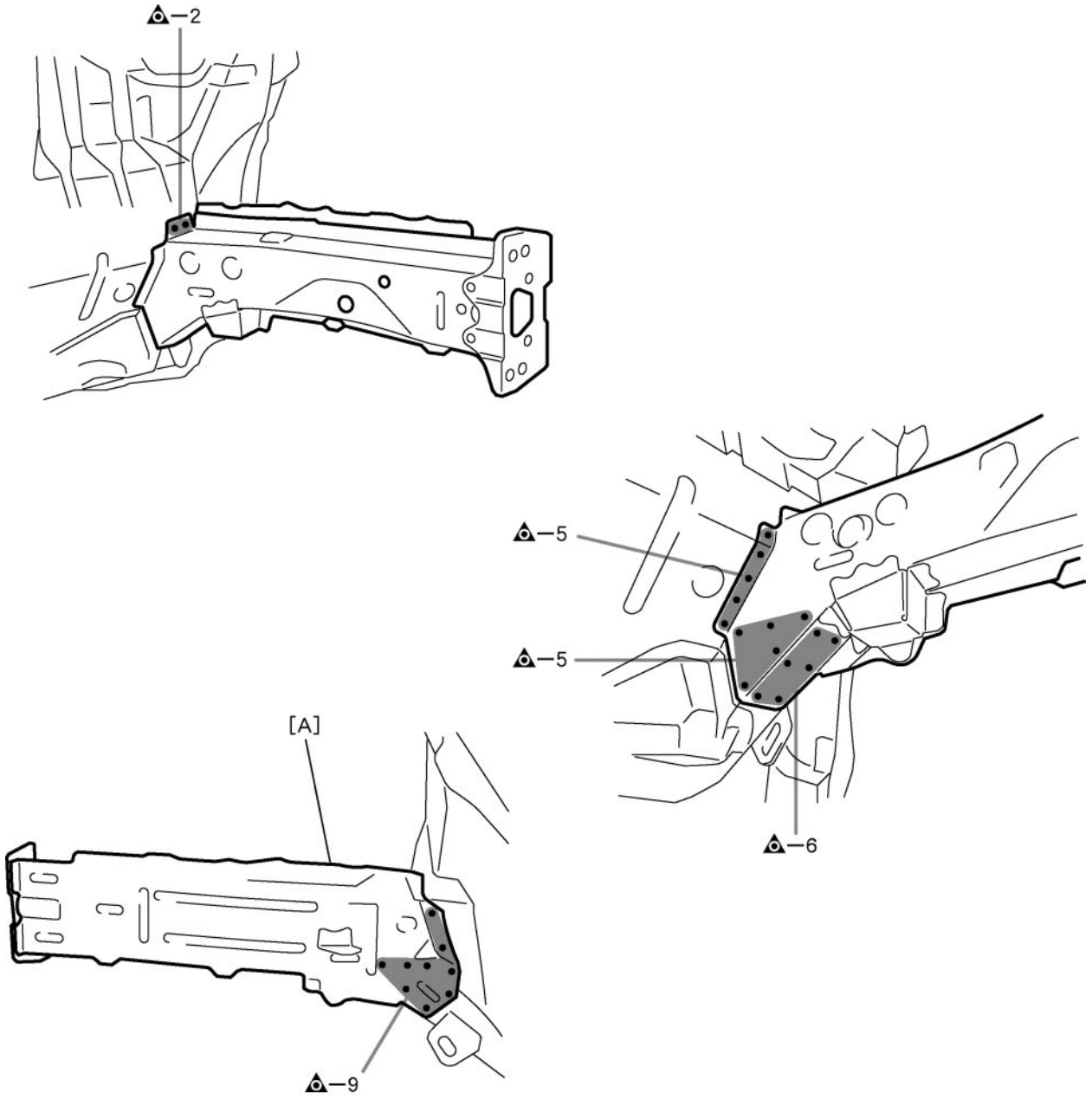
F22824

FRONT SIDEMEMBER REINFORCEMENT (ASSY)


F22829A

REPLACEMENT
With the radiator support and front fender apron removed.

REMOVAL



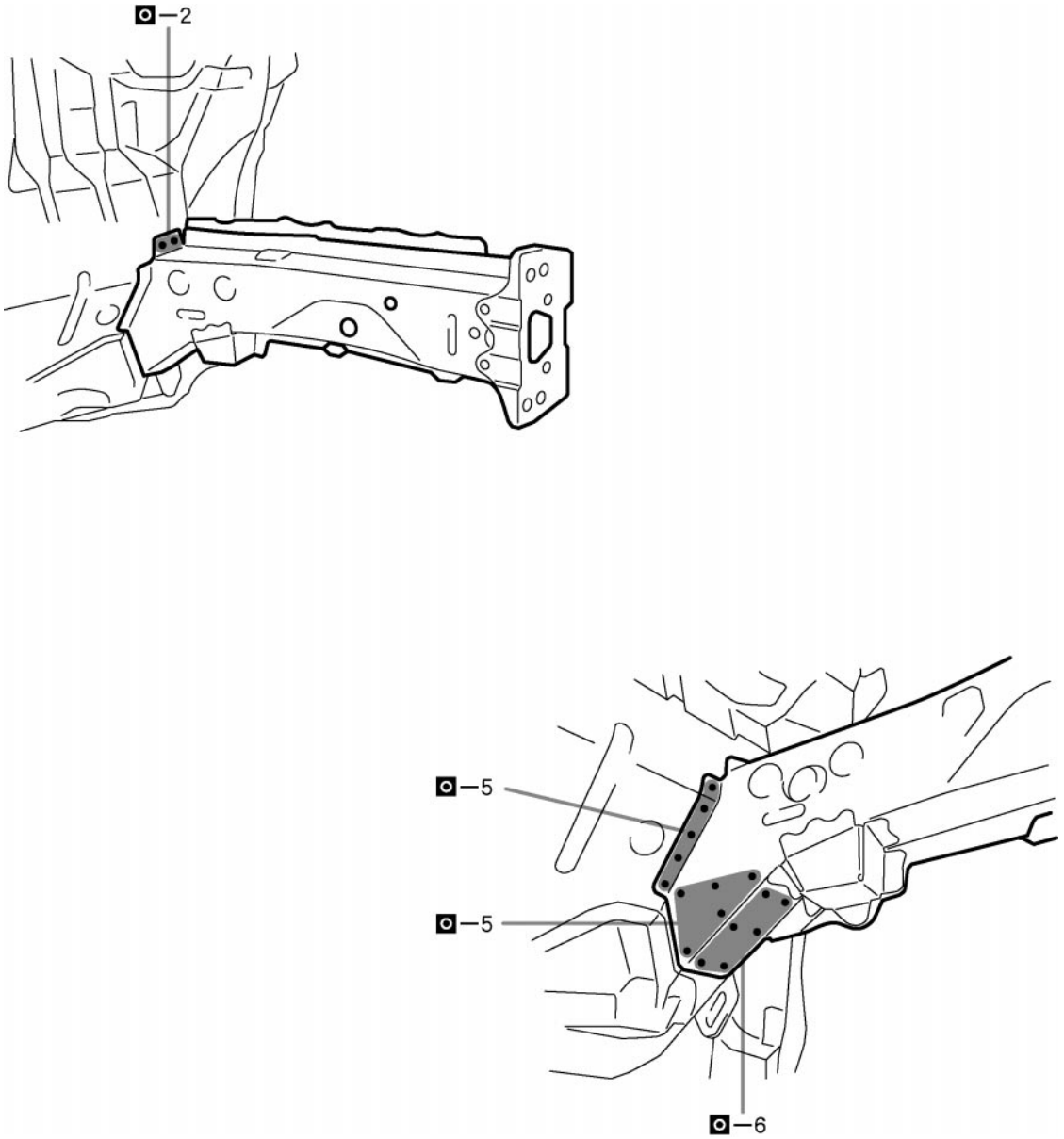
F22829

POINT
1 Remove [A] at the same time.

PART NAME
[A] Front Sidemember Outer Plate

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.

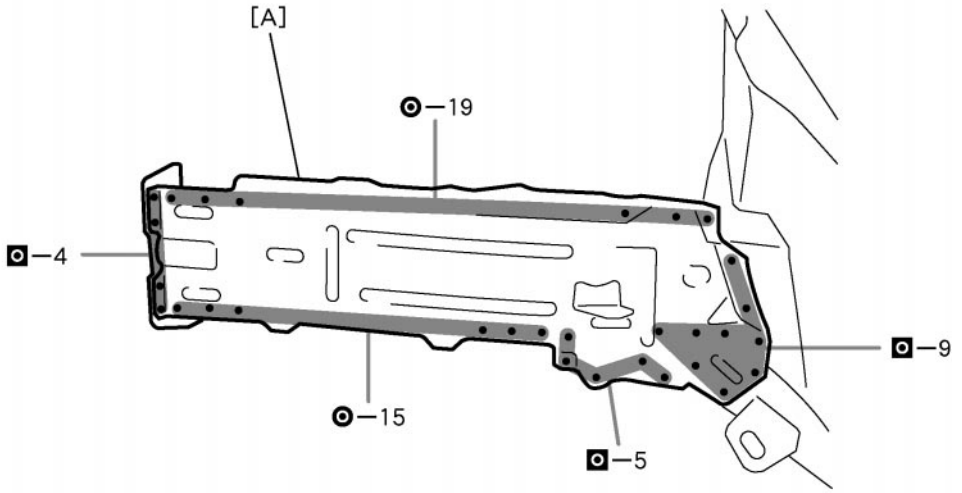


F22830

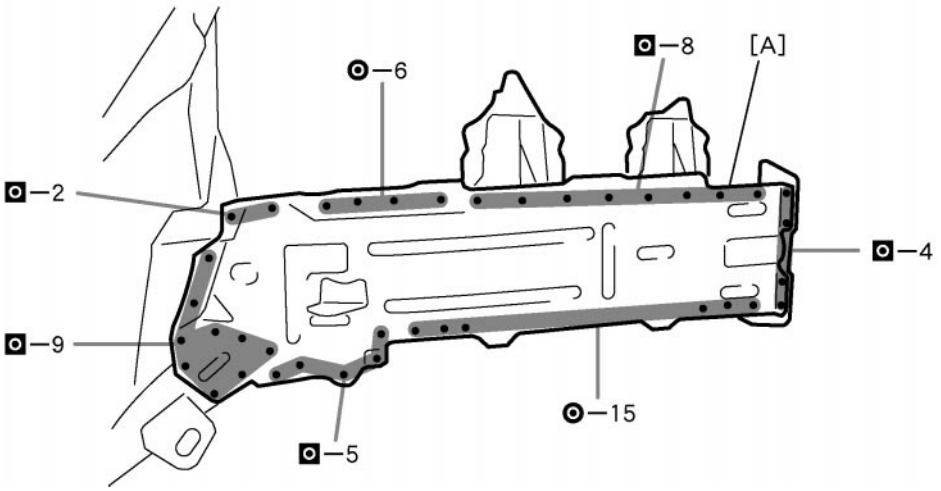
POINT

1 Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.

[LH]



[RH]

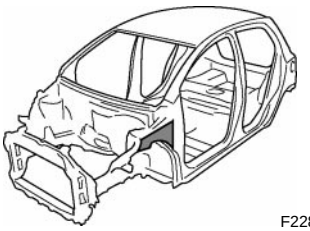


F22831

PART NAME

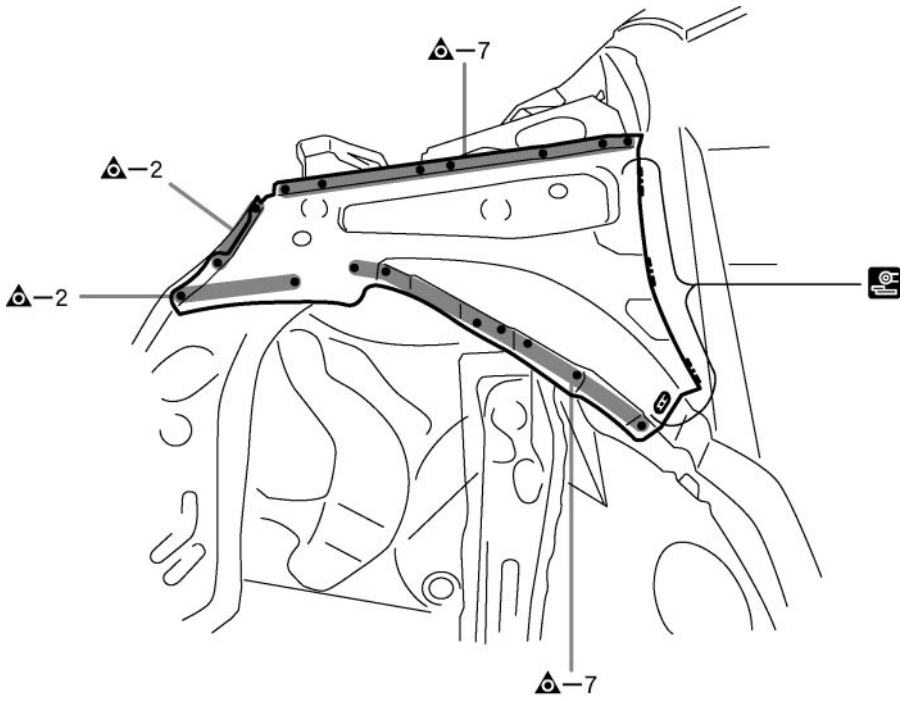
[A] Front Sidemember Outer Plate

COWL TOP SIDE PANEL (ASSY): Hatchback


F22832A

REPLACEMENT

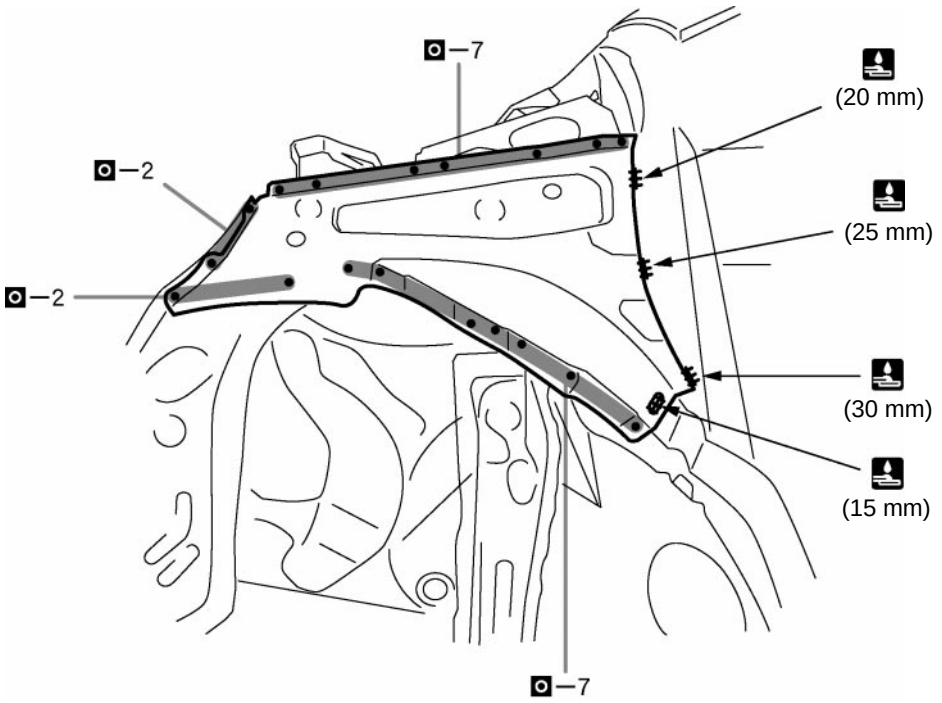
REMOVAL



F22832

INSTALLATION

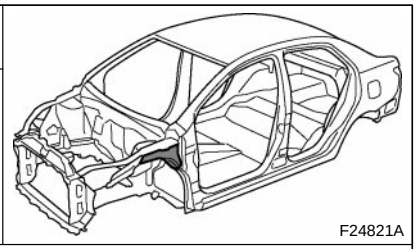
⁎ Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
⁎ Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
⁎ After welding, apply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



F22833

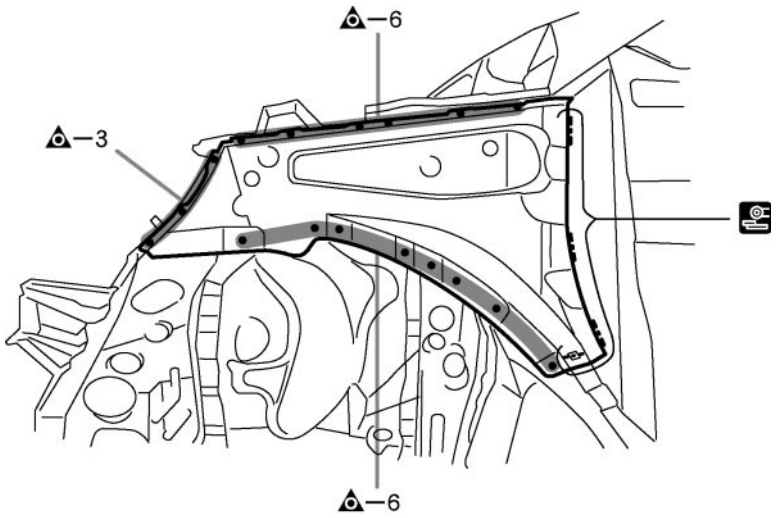
15 mm (0.59 in.) 20 mm (0.79 in.) 25 mm (0.98 in.) 30 mm (1.18 in.)

COWL TOP SIDE PANEL (ASSY): Sedan


F24821A

REPLACEMENT

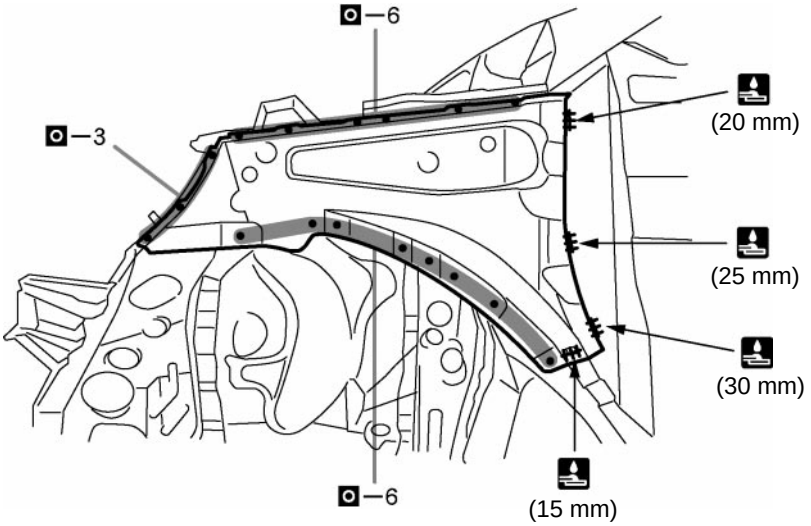
REMOVAL



F24821-1

INSTALLATION

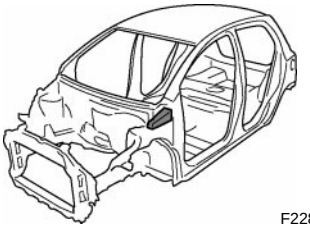
* Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimension diagram)
* Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
* After welding, apply polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F24821-2

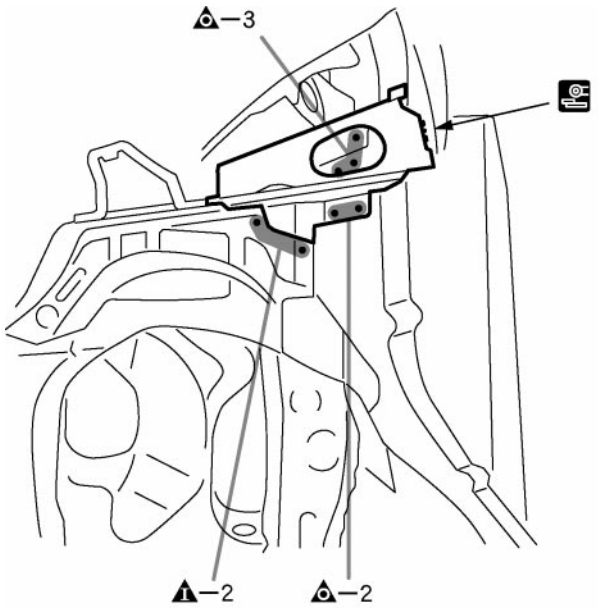
15 mm (0.59 in.) 20 mm (0.79 in.) 25 mm (0.98 in.) 30 mm (1.18 in.)

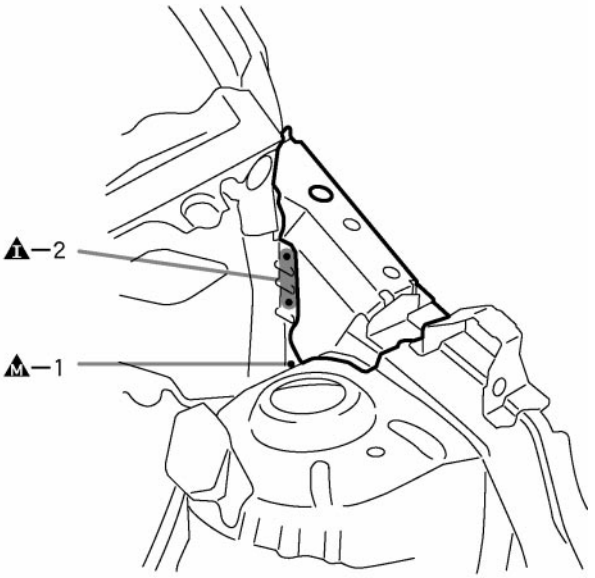
COWL TOP SIDE UPPER PANEL (ASSY): Hatchback

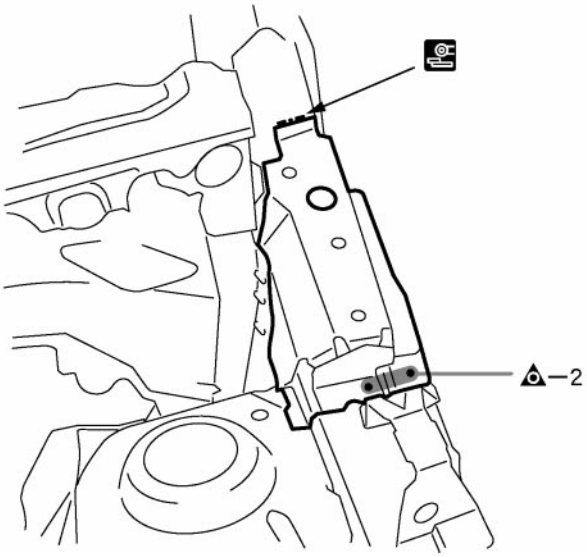

F22834A

REPLACEMENT
With the cowl top side panel removed.

REMOVAL



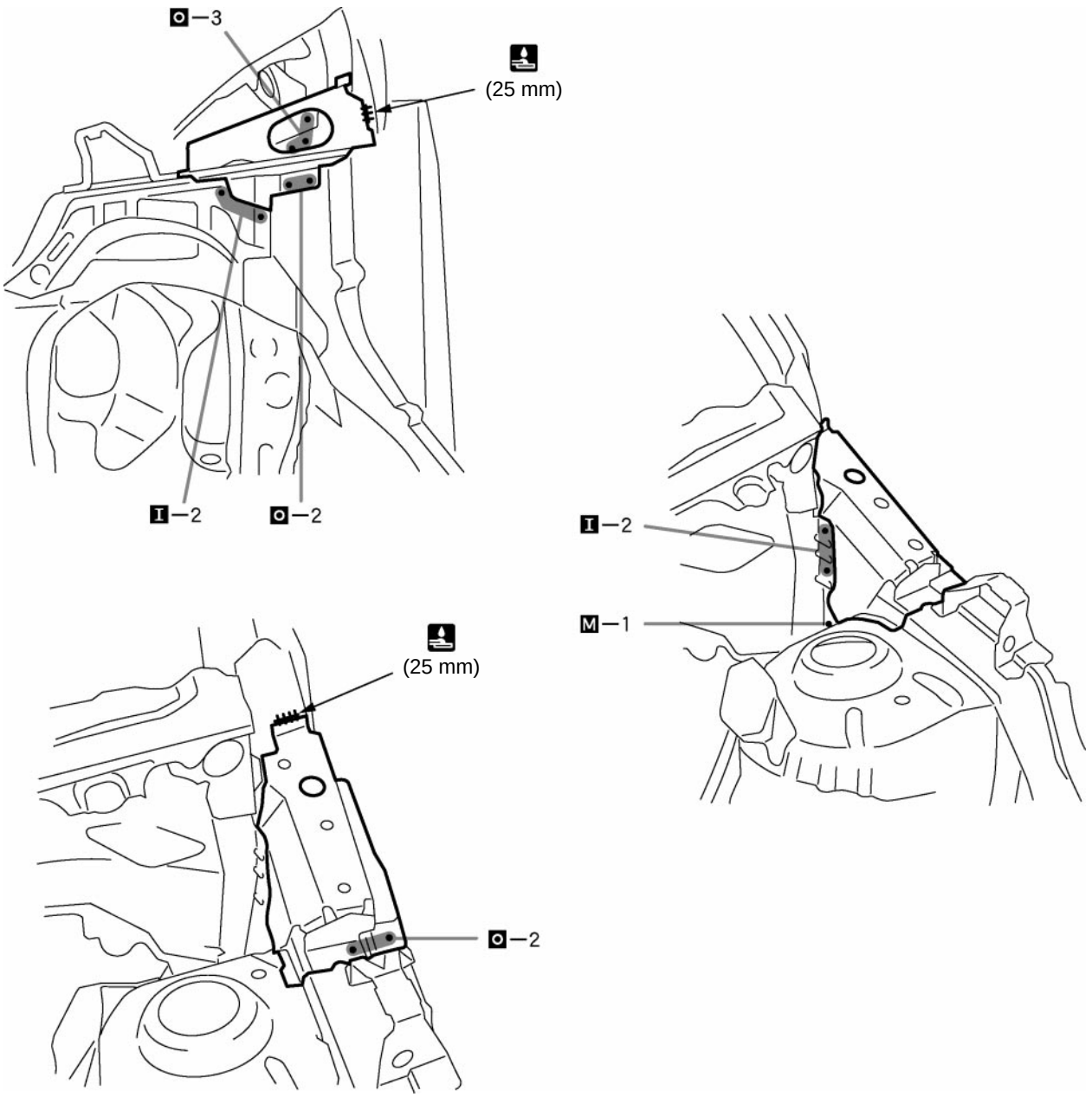




F22834

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.



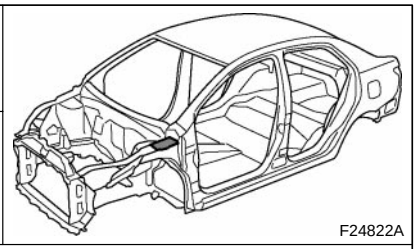
F22835

POINT

1 Inspect the fitting of the hood and related parts before welding as this affects the appearance of the finish.

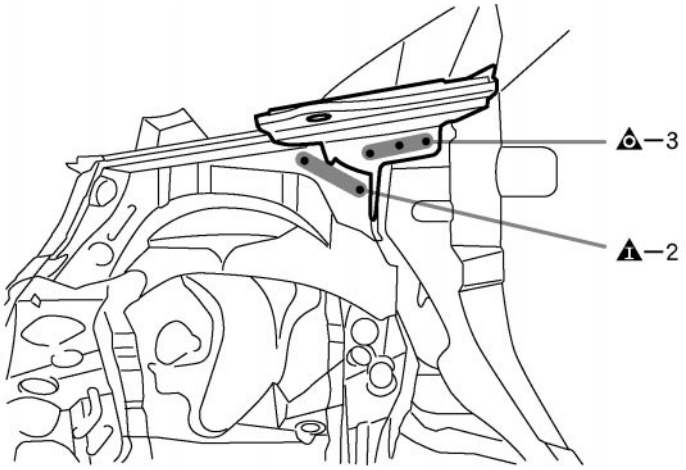
25 mm (0.98 in.)

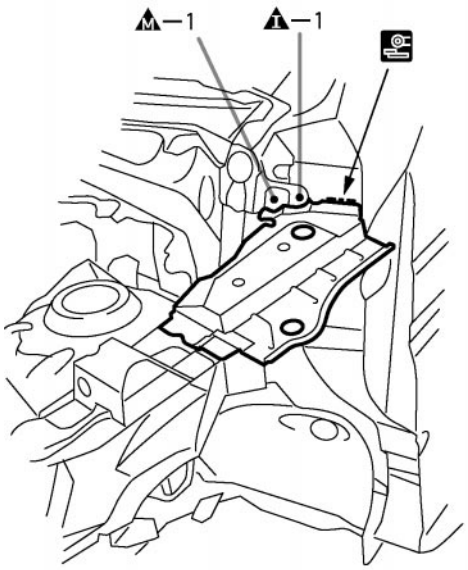
COWL TOP SIDE UPPER PANEL (ASSY): Sedan

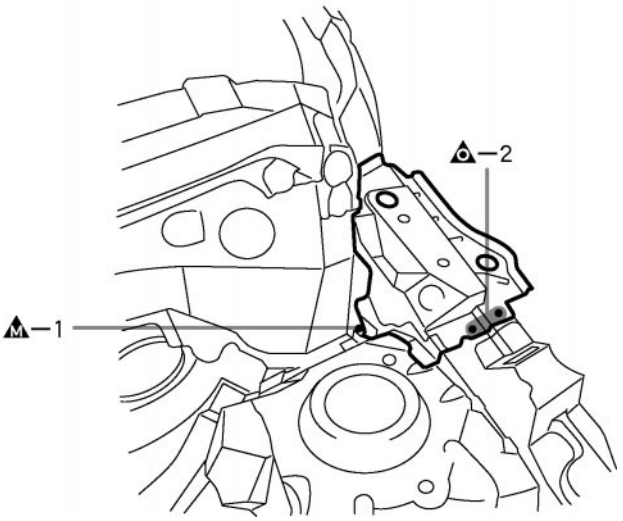

F24822A

REPLACEMENT
With the cowl top side panel removed.

REMOVAL



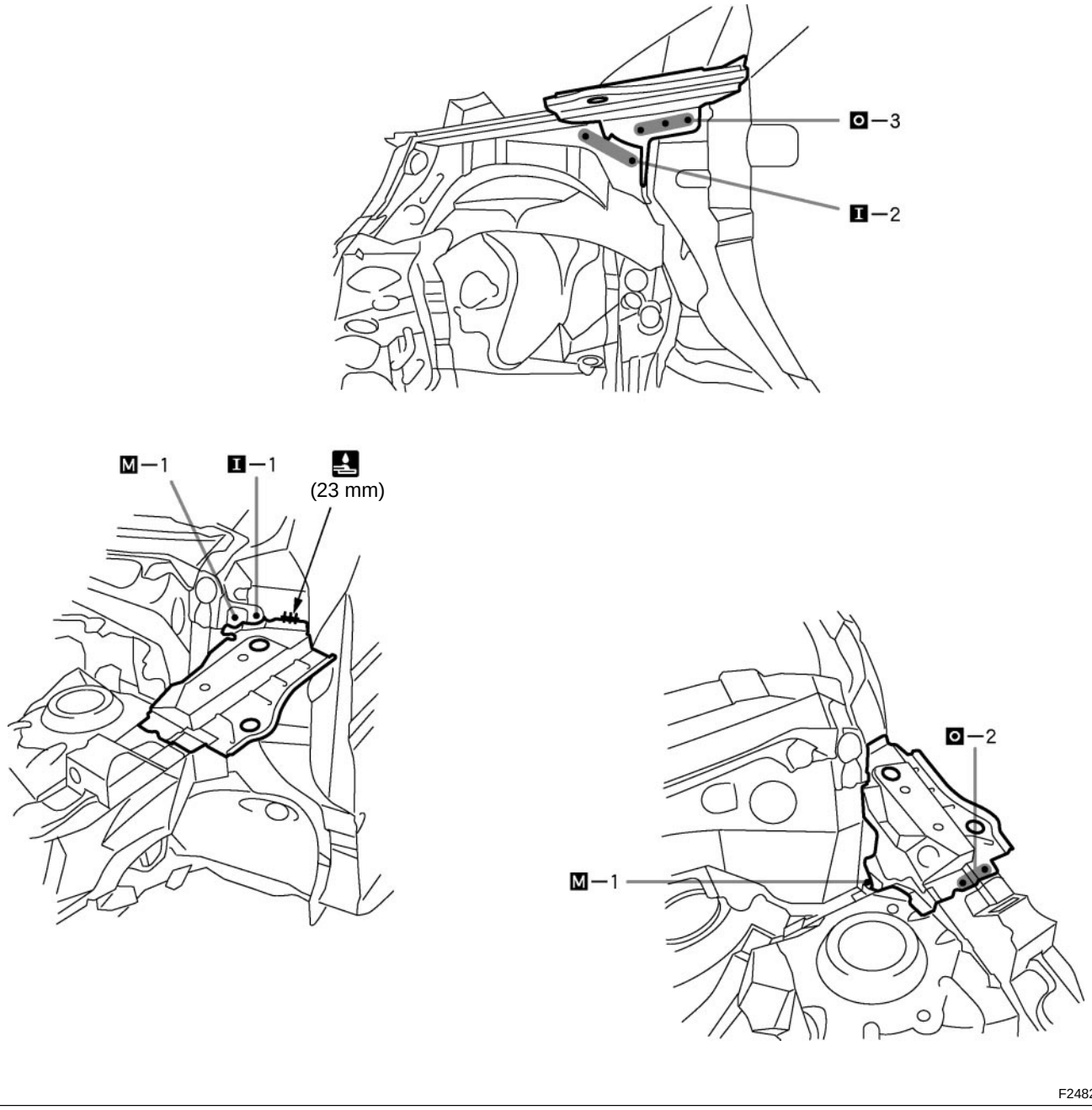




F24822-1

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



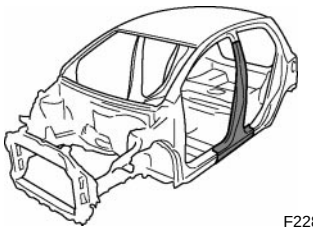
F24822-2

POINT

1 Inspect the fitting of the hood and related parts before welding as this affects the appearance of the finish.

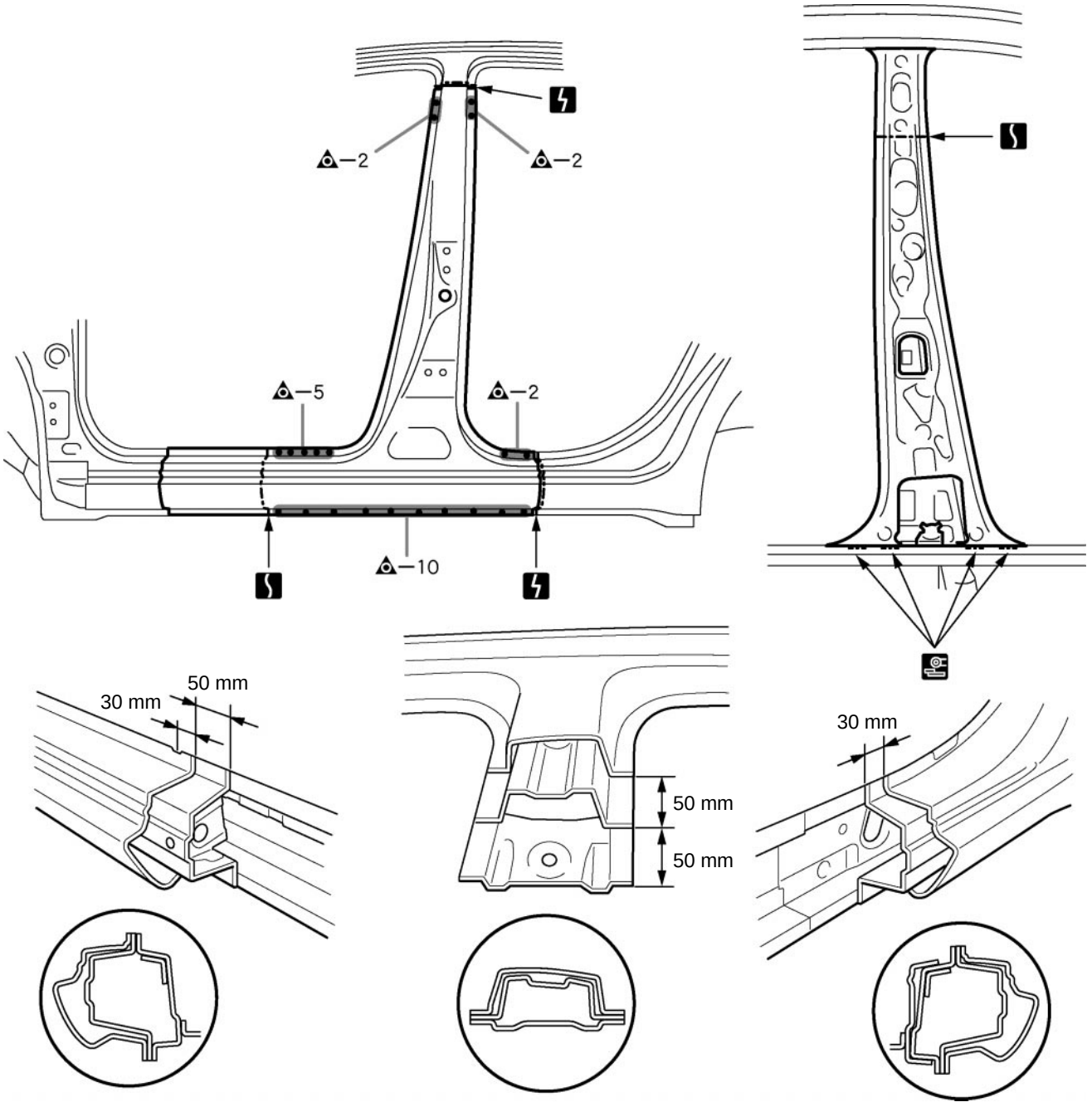
23 mm (0.91 in.)

CENTER BODY PILLAR (CUT): Hatchback 5 Door


F22840A

REPLACEMENT

REMOVAL

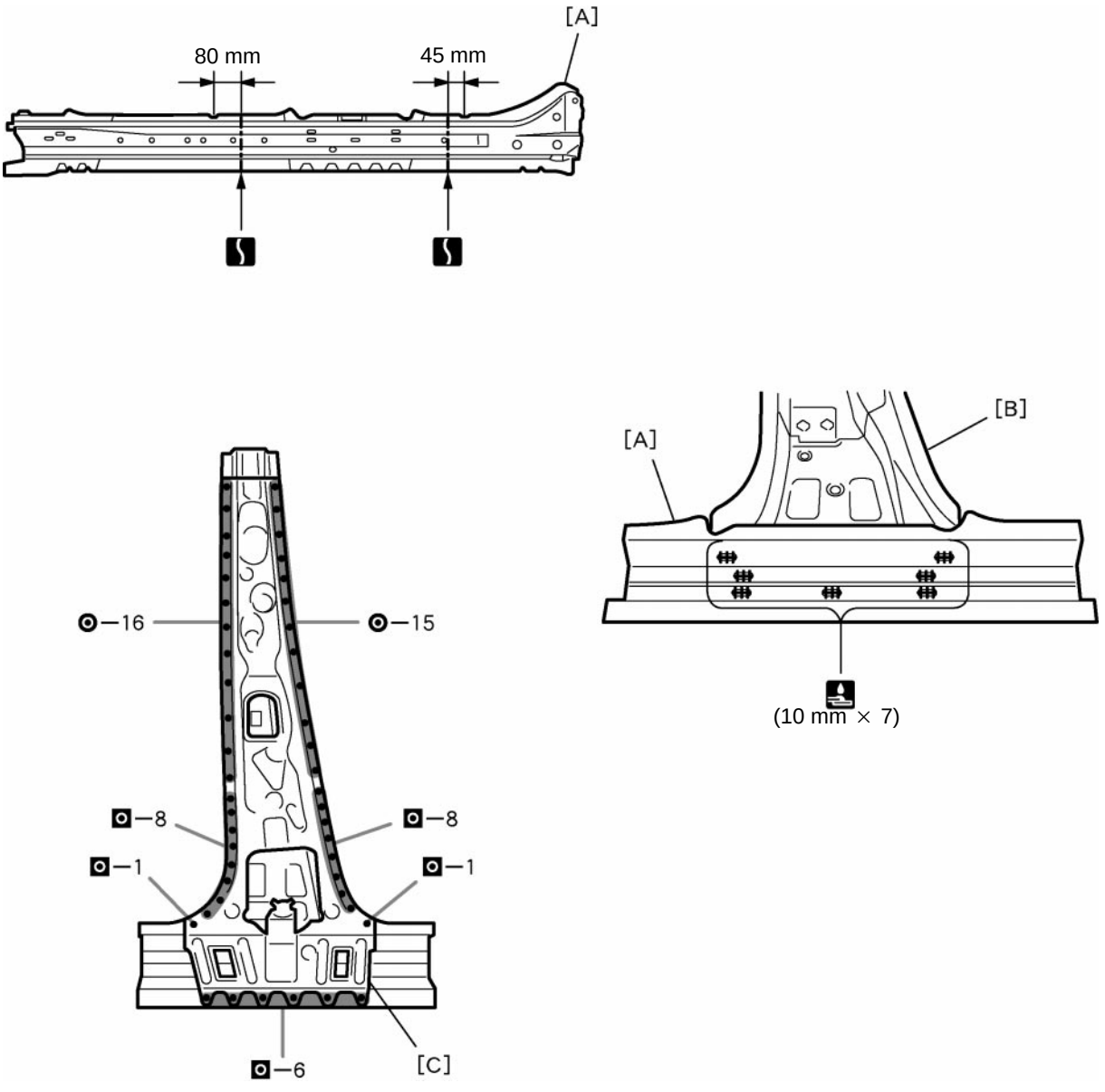


F22840

30 mm (1.18 in.) 50 mm (1.97 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.



F22841

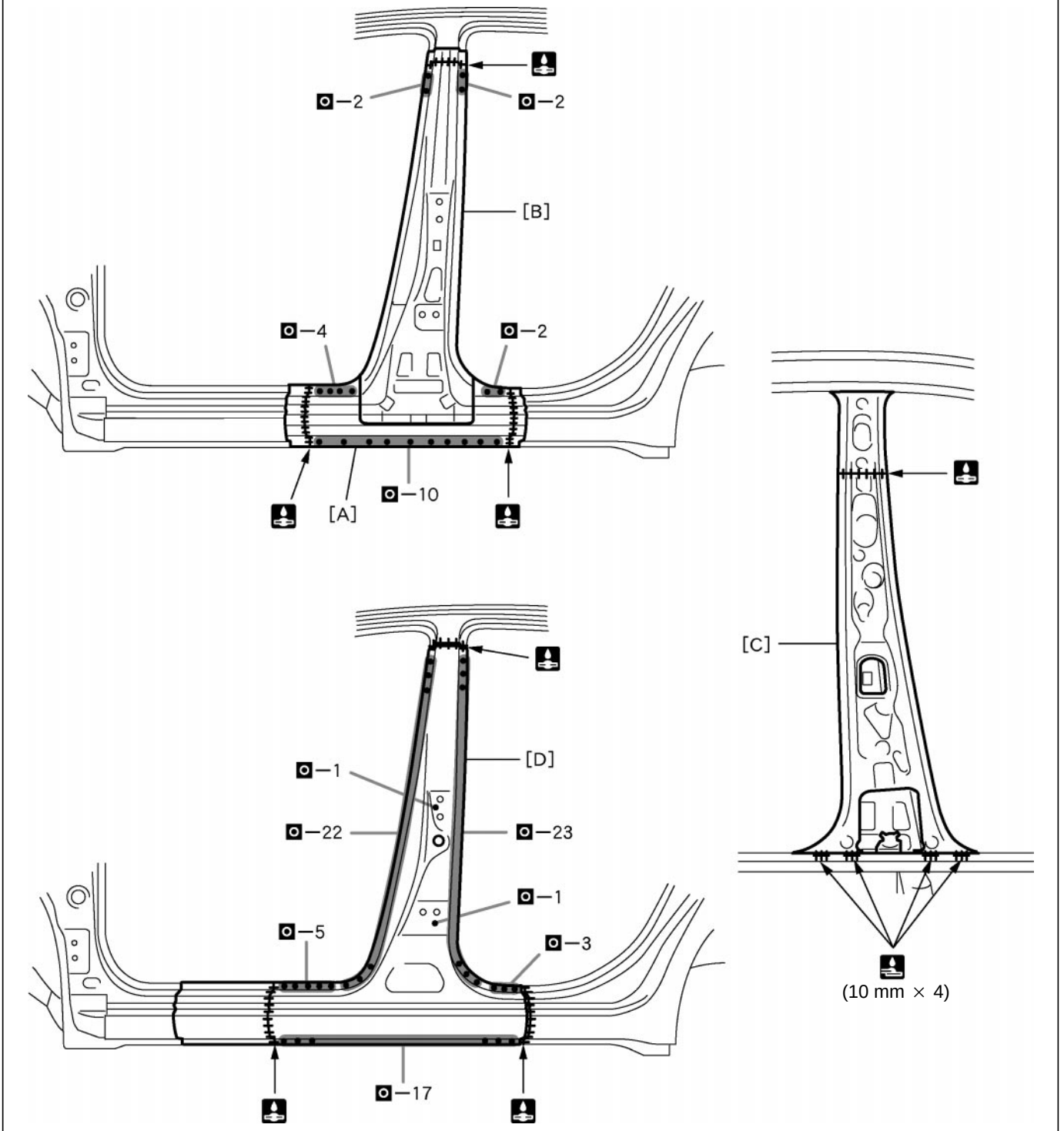
POINT

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

PART NAME

[A] Rocker Outer Reinforce [B] Center Body Pillar Reinforcement [C] Center Body Inner Pillar

10 mm (0.39 in.) 45 mm (1.77 in.) 80 mm (3.15 in.)



POINT

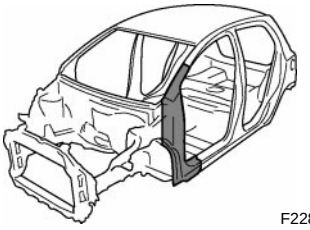
1 Inspect the fitting of the front door, rear door and other related parts before welding as this affects the appearance of the finish.
2 After welding [A], [B] and [C] to the vehicle, install [D].

PART NAME

[A] Rocker Outer Reinforce
[B] Center Body Pillar Reinforcement
[C] Center Body Inner Pillar
[D] Center Body Outer Pillar

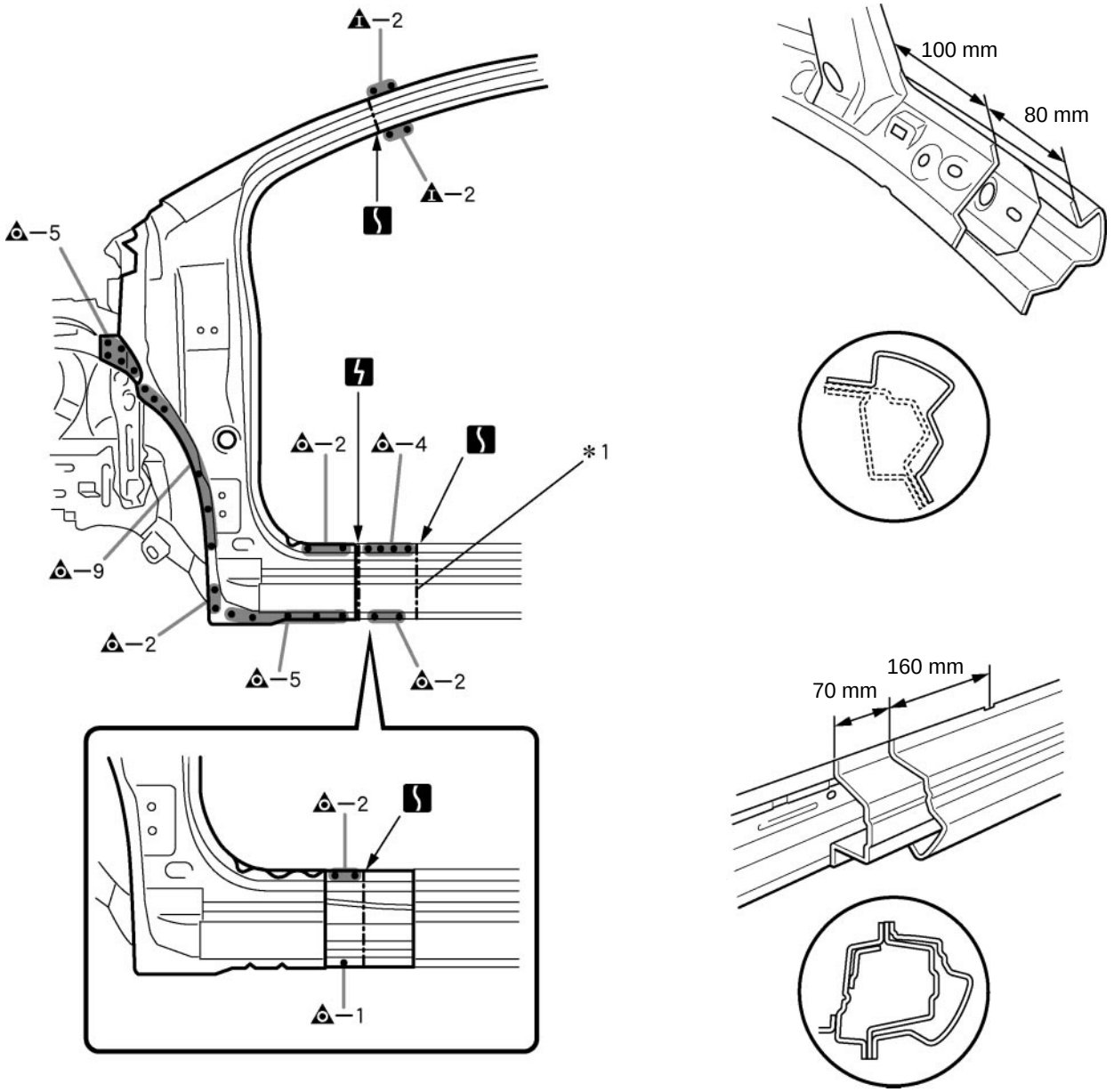
10 mm (0.39 in.)

FRONT BODY PILLAR (CUT): Hatchback


F22836A

REPLACEMENT
With the cowl top side upper panel removed.

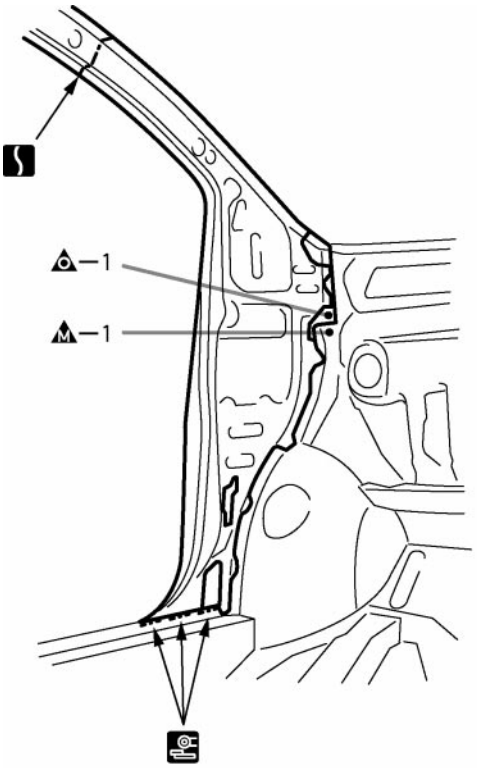
REMOVAL

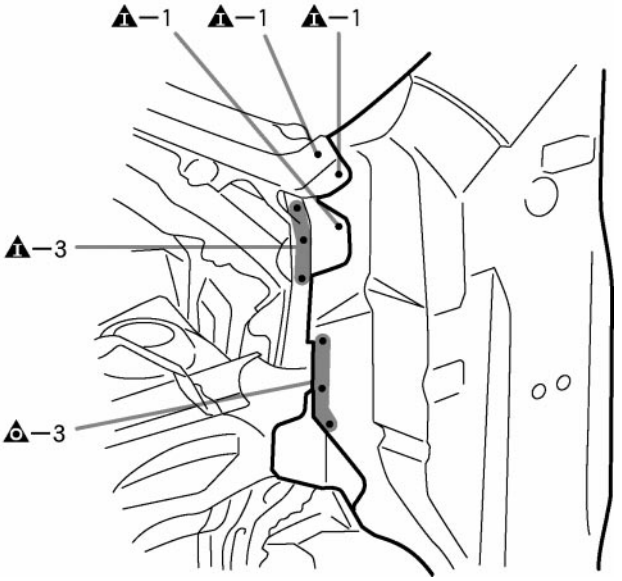


F22836

POINT
1 *1: This part of the outer panel is reused because the rocker panel section is cut off at a position behind the service part cut position of the outer panel.

70 mm (2.76 in.) 80 mm (3.15 in.) 100 mm (3.94 in.) 160 mm (6.30 in.)

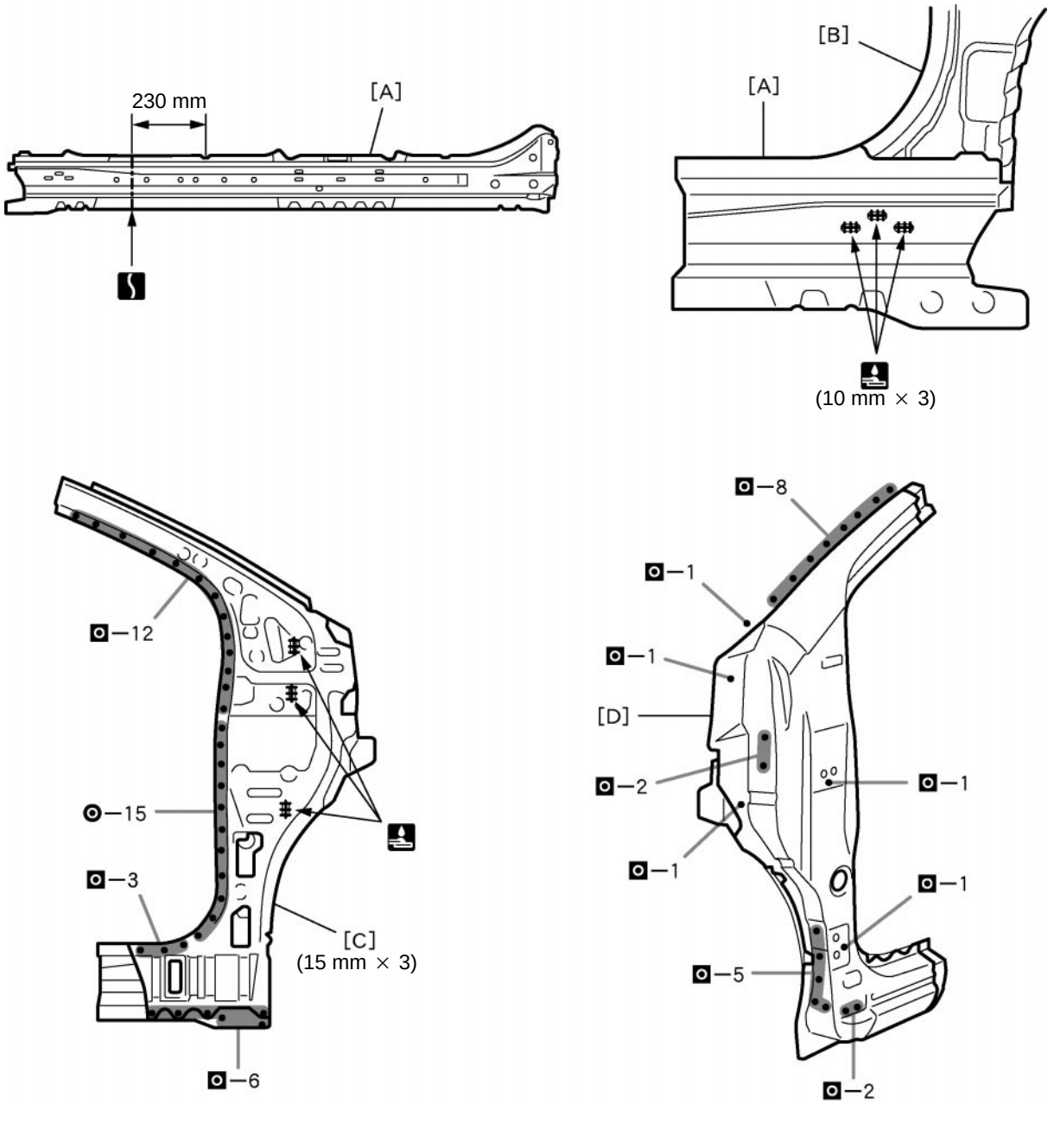




F22837

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

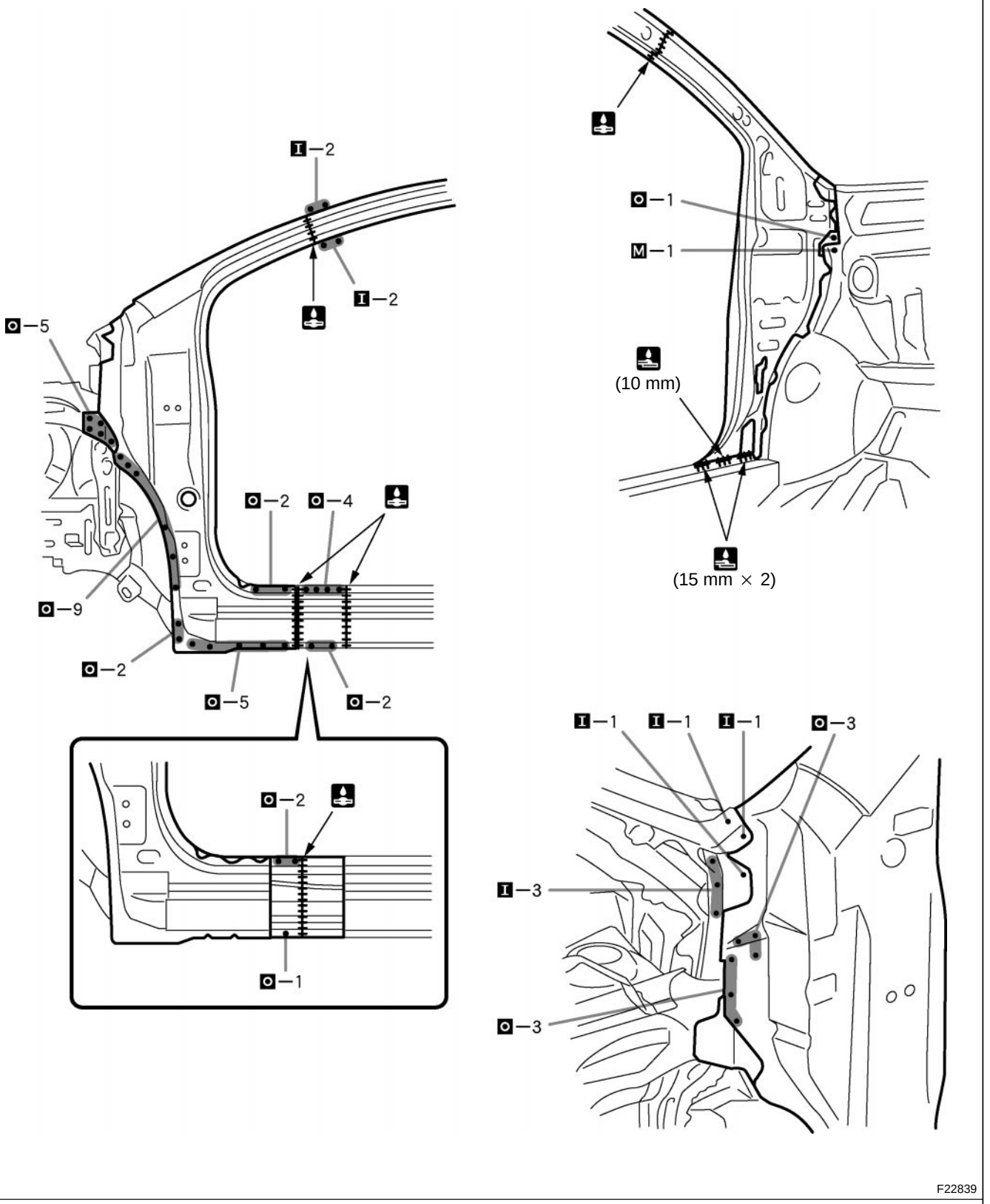


POINT

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

PART NAME

[A] Rocker Outer Reinforce [B] Front Body Pillar Lower Reinforce
[C] Front Body Inner Pillar [D] Front Body Outer Pillar
10 mm (0.39 in.) 15 mm (0.59 in.) 230 mm (9.06 in.)

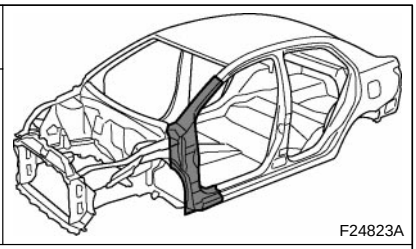


POINT

1 Inspect the fitting of the front fender, front door, windshield glass and other related parts before welding as this affects the appearance of the finish.

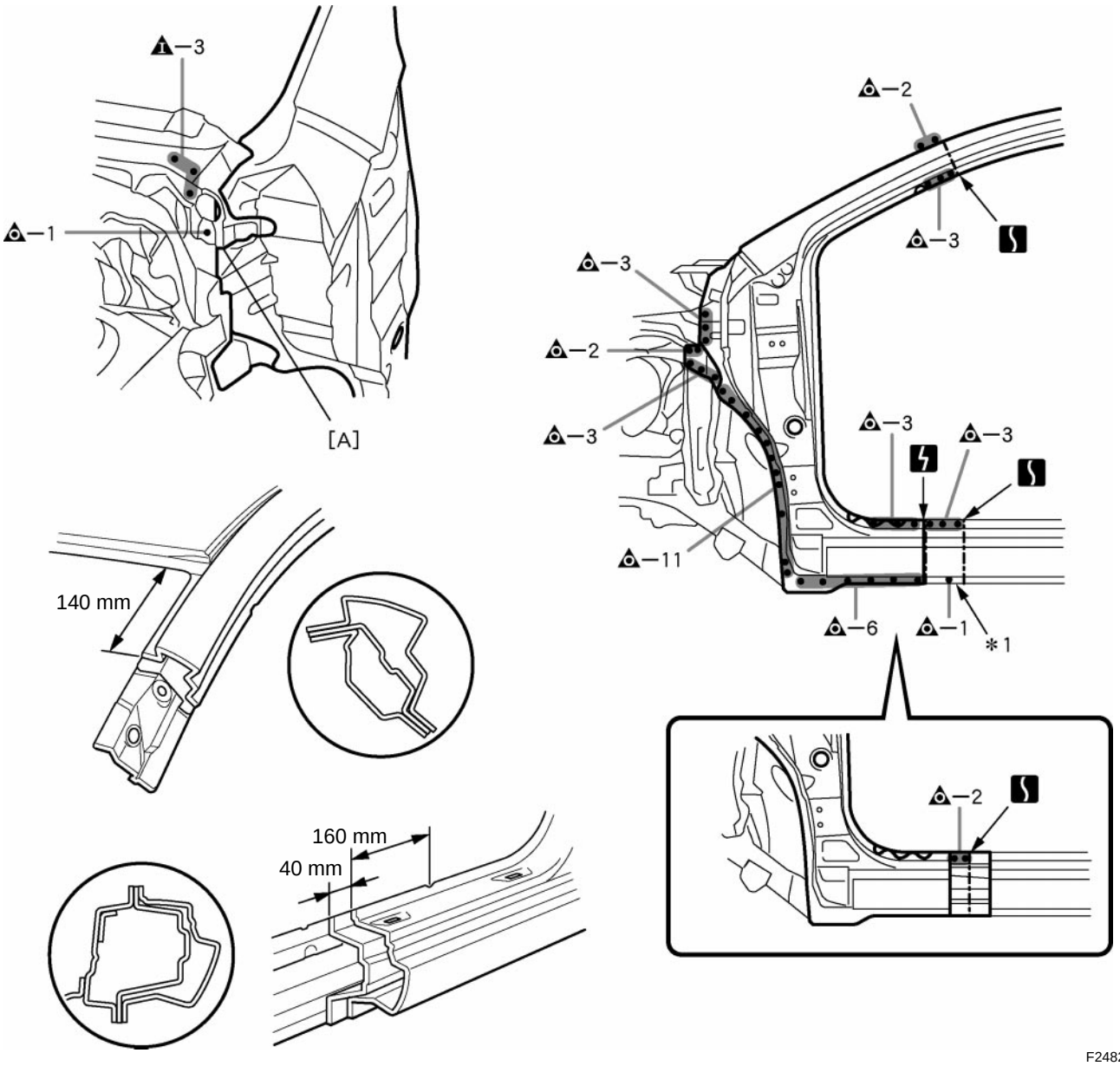
10 mm (0.39 in.) 15 mm (0.59 in.)

FRONT BODY PILLAR (CUT): Sedan


F24823A

REPLACEMENT
With the cowl top side upper panel removed.

REMOVAL

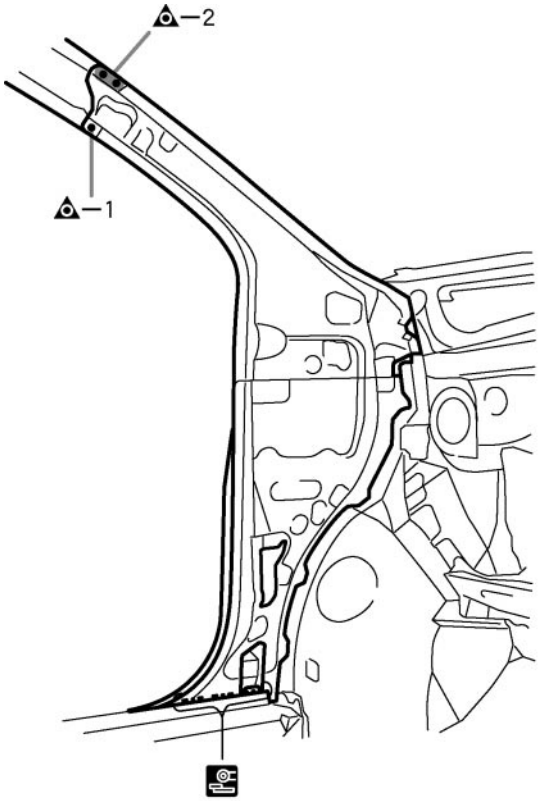


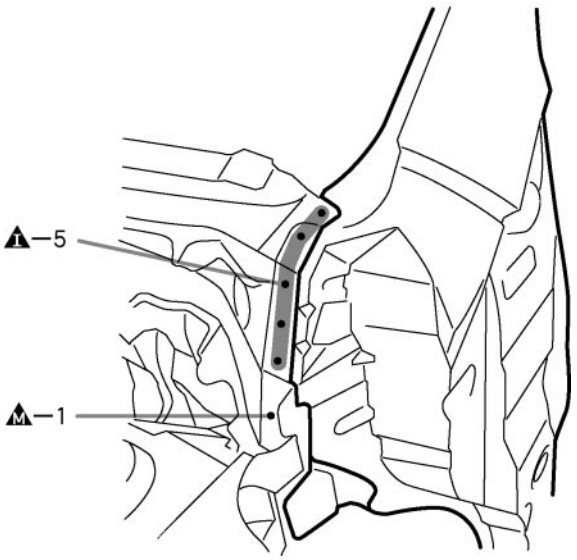
F24823-1

POINT
1 After removing [A], remove the front body pillar.
2 *1: This part of the outer panel is reused because the rocker panel section is cut off at a position behind the service part cut position of the outer panel.

PART NAME
[A] Front Panel No.1 Bracket

40 mm (1.57 in.) 140 mm (5.51 in.) 160 mm (6.30 in.)

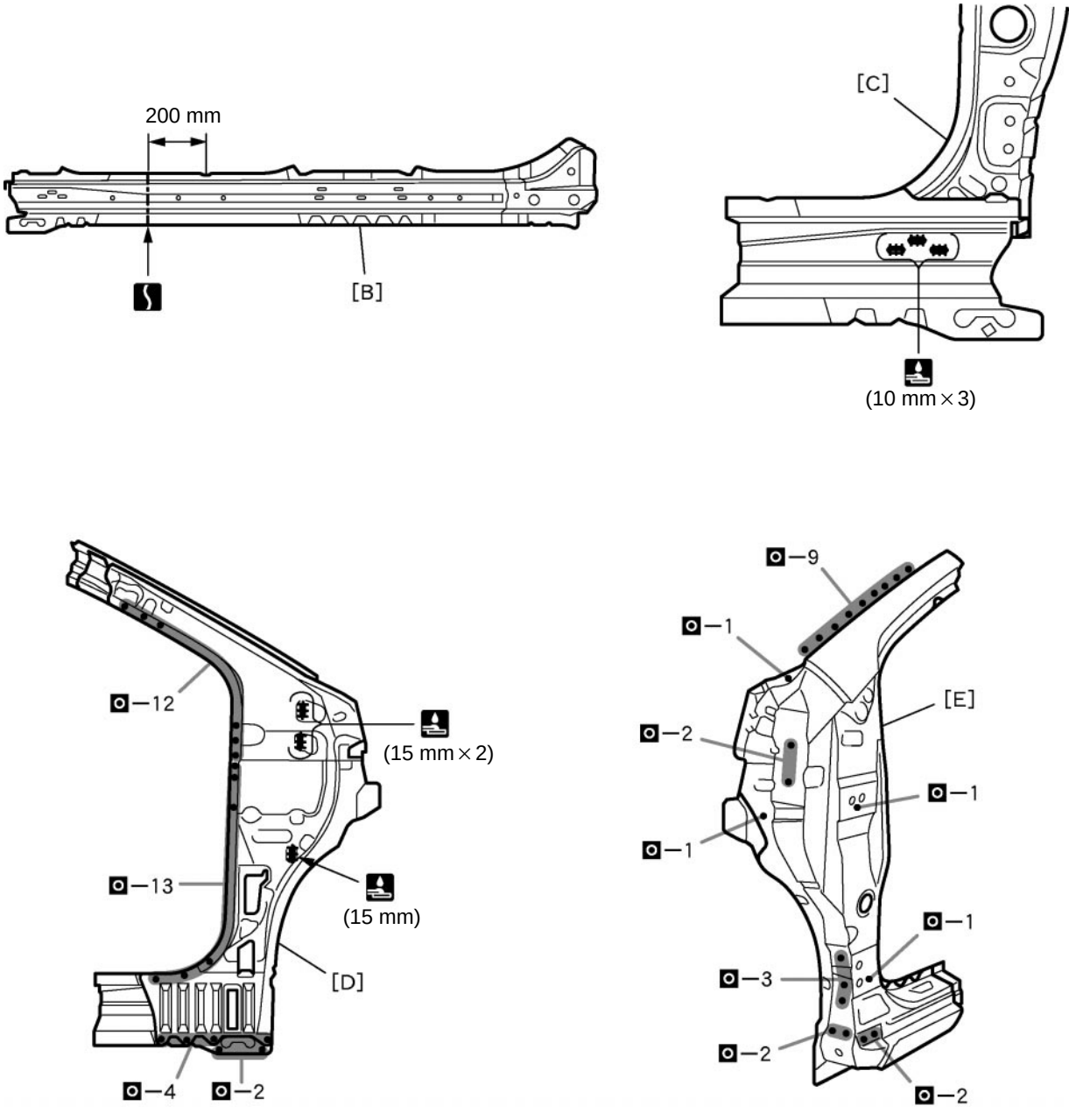




F24824

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 polyurethane foam to the corresponding parts.
- ⁎ After welding, apply body sealer and undercoating to the corresponding parts.
- ⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



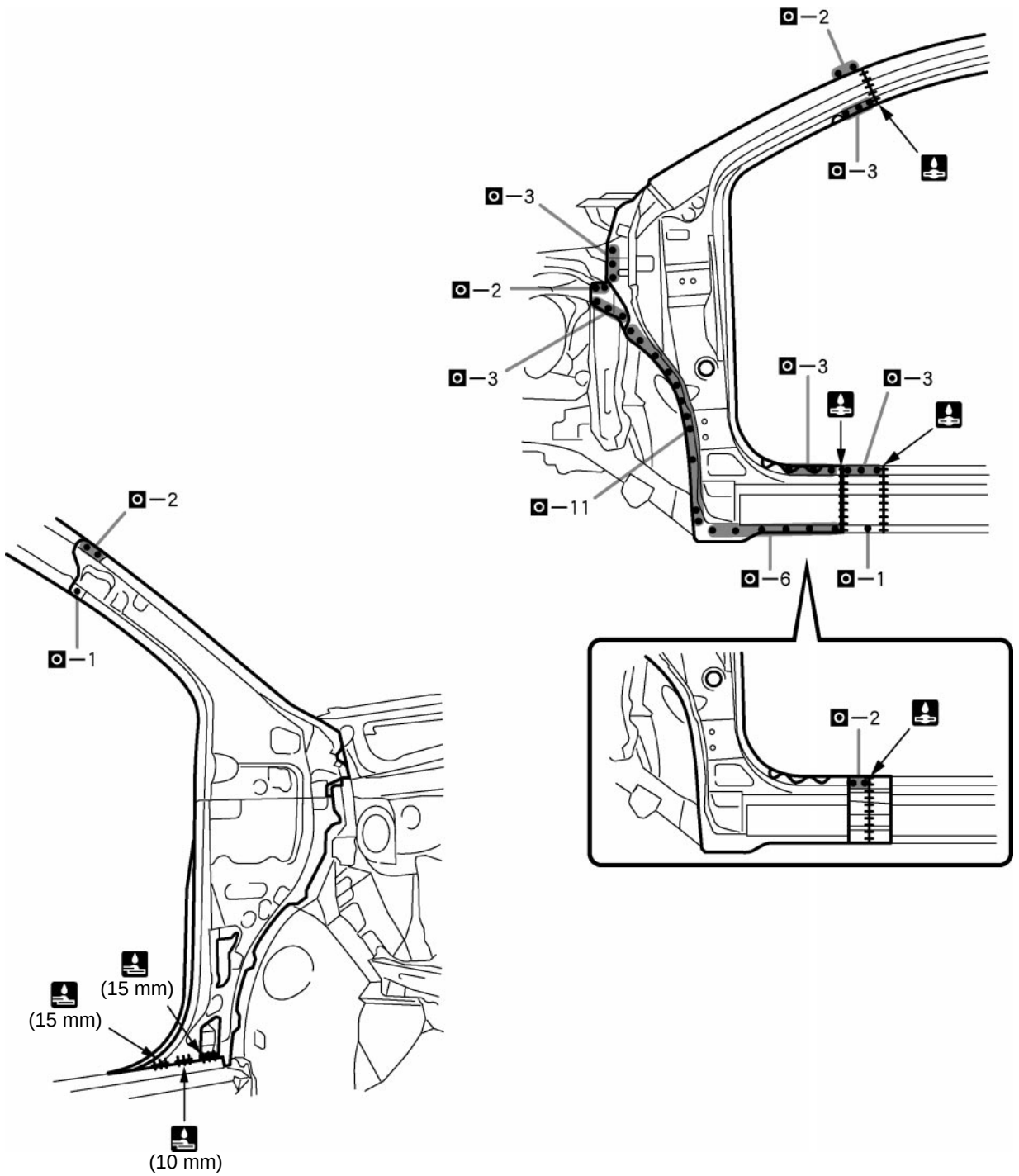
POINT

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

PART NAME

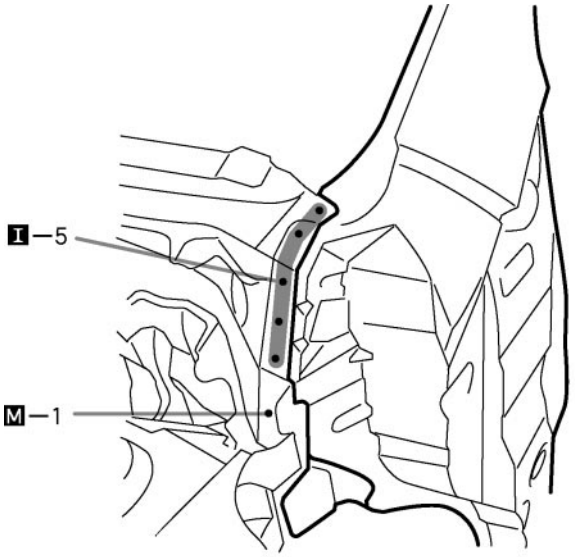
[B] Rocker Outer Reinforce
[C] Front Body Pillar Lower Reinforce
[D] Front Body Inner Pillar
[E] Front Body Upper Outer Pillar

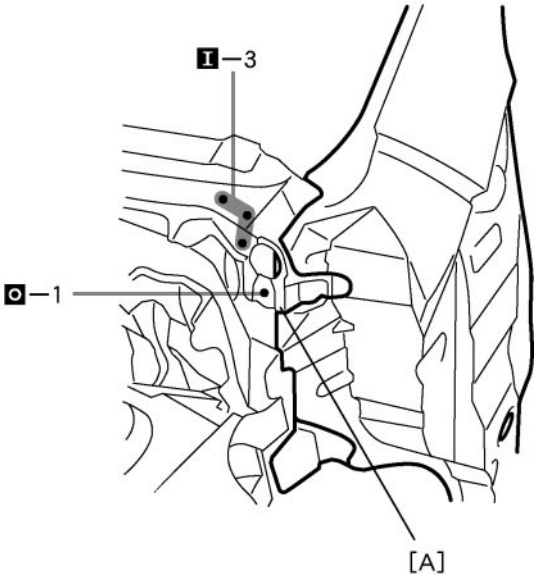
10 mm (0.39 in.) 15 mm (0.59 in.) 200 mm (7.87 in.)



F24826

10 mm (0.39 in.) 15 mm (0.59 in.)





F24827-1

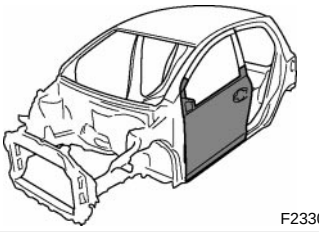
POINT

1 Inspect the fitting of the front fender, front door, window shield glass and other related parts before welding as this affects the appearance of the finish.
2 After installing the new parts, install [A]

PART NAME

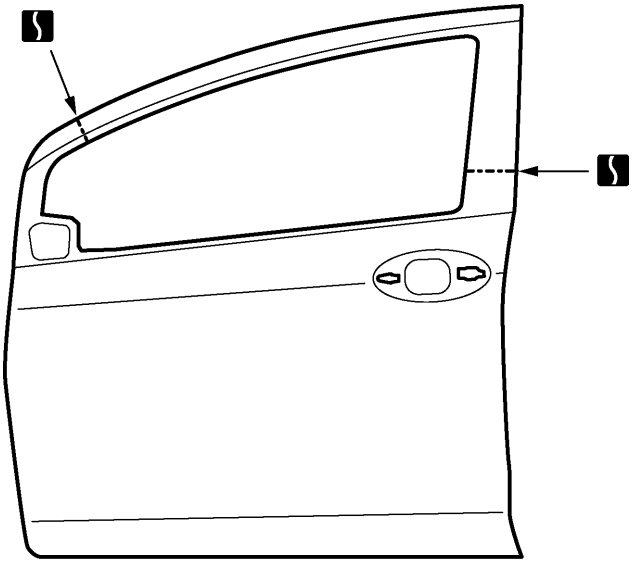
[A] Front Panel No.1 Bracket

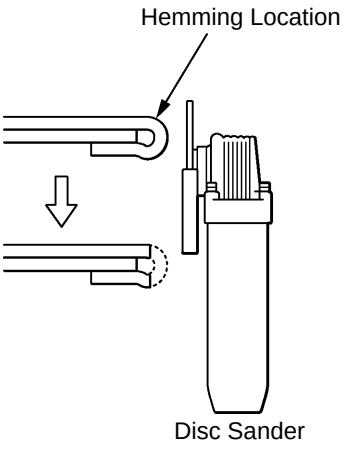
FRONT DOOR OUTER PANEL (CUT): Hatchback 5 Door


F23307A

REPLACEMENT

REMOVAL





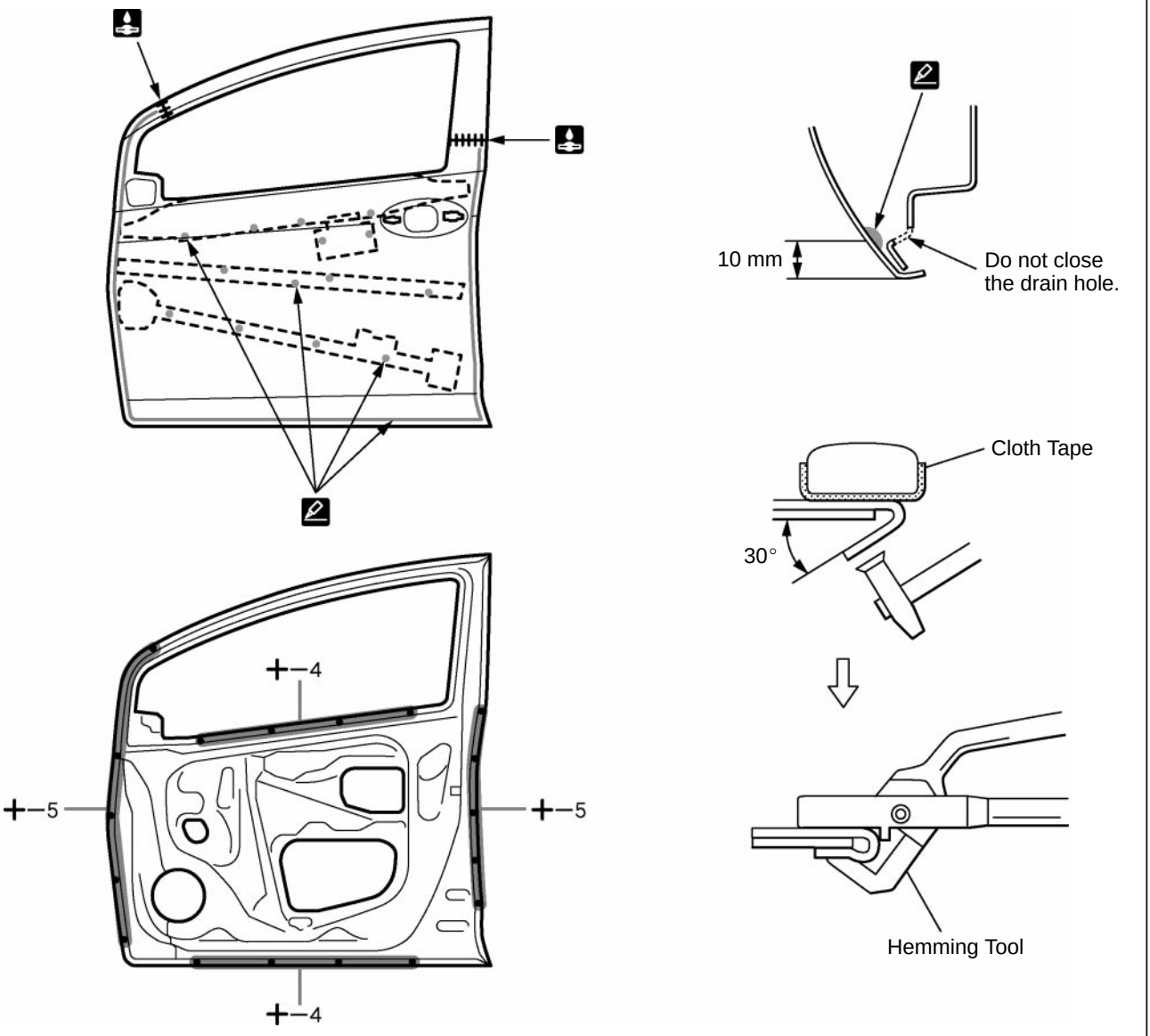
F23307

POINT

1 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.

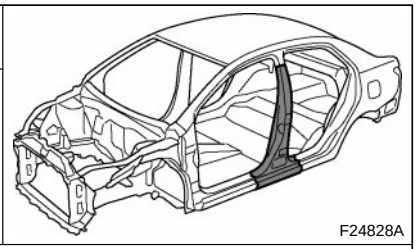


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

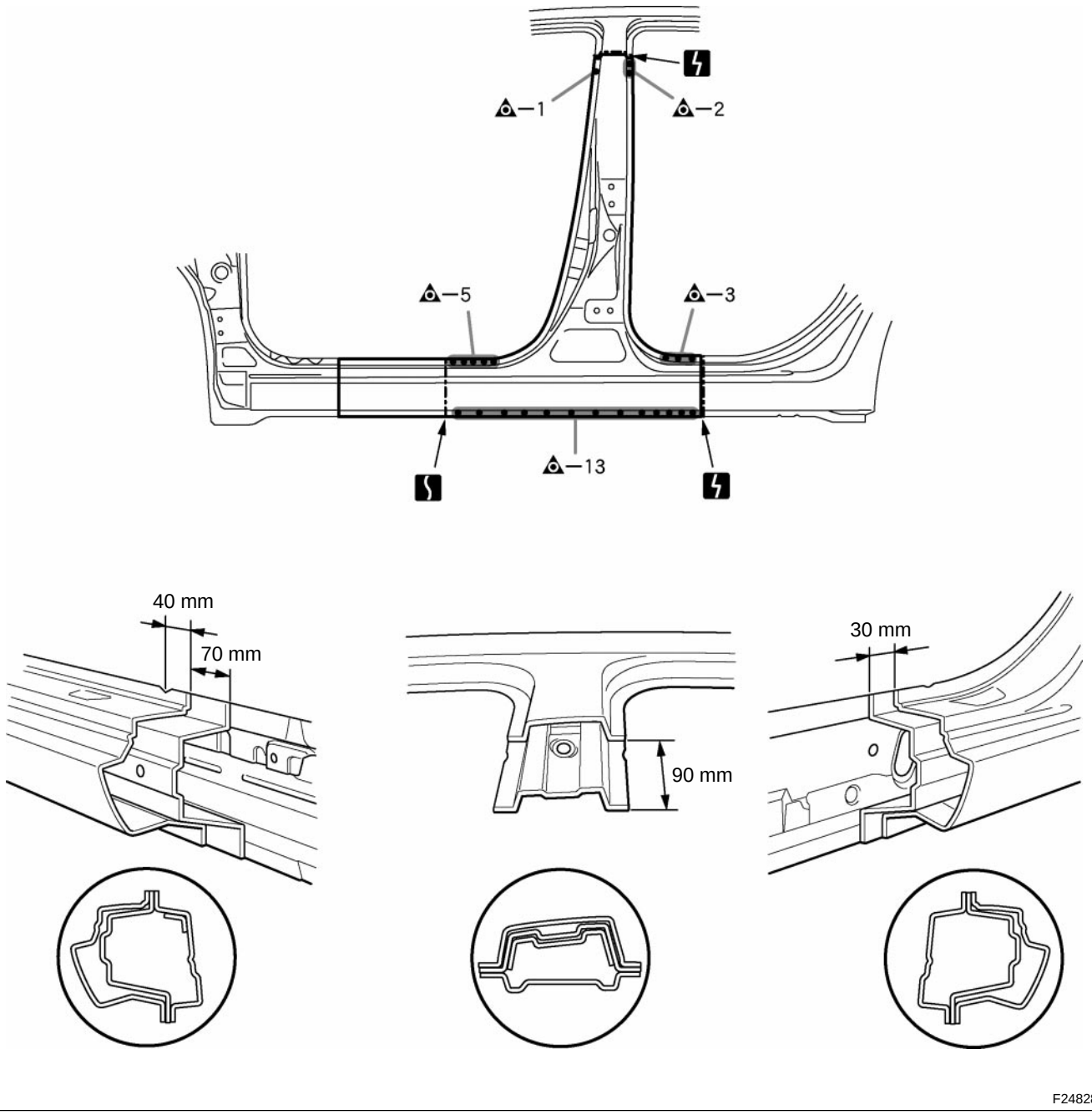
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

CENTER BODY PILLAR (CUT): Sedan


F24828A

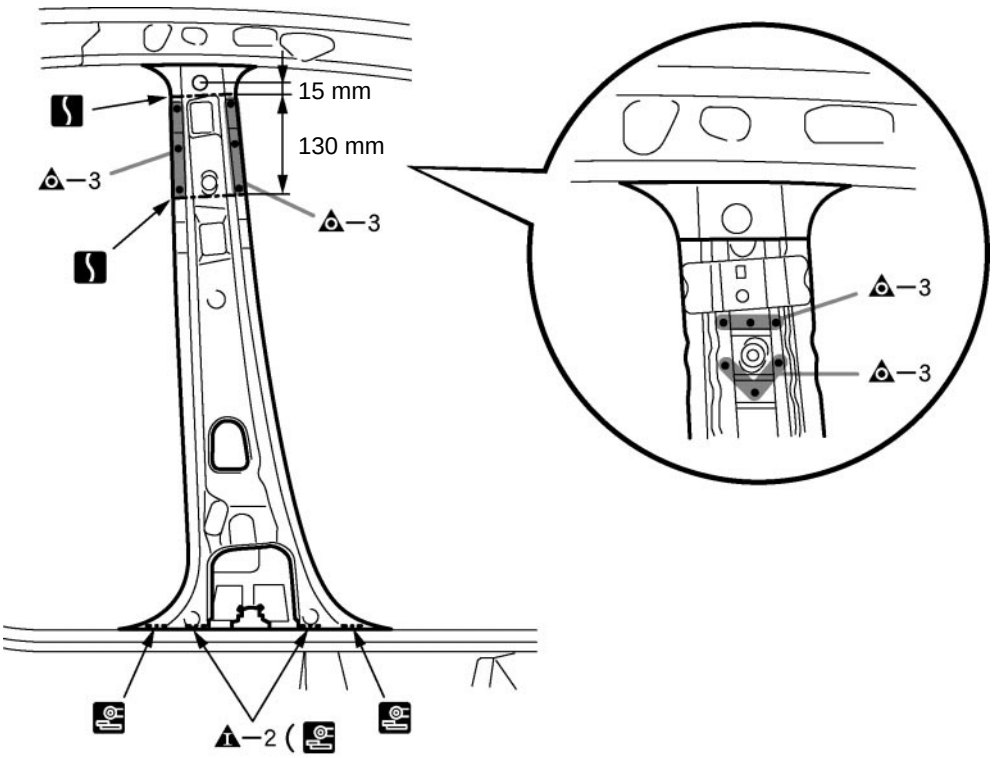
REPLACEMENT

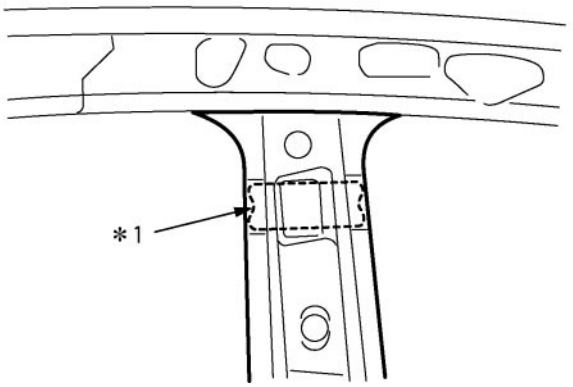
REMOVAL



F24828-1

30 mm (1.18 in.) 40 mm (1.57 in.) 70 mm (2.76 in.) 90 mm (3.54 in.)





F24829

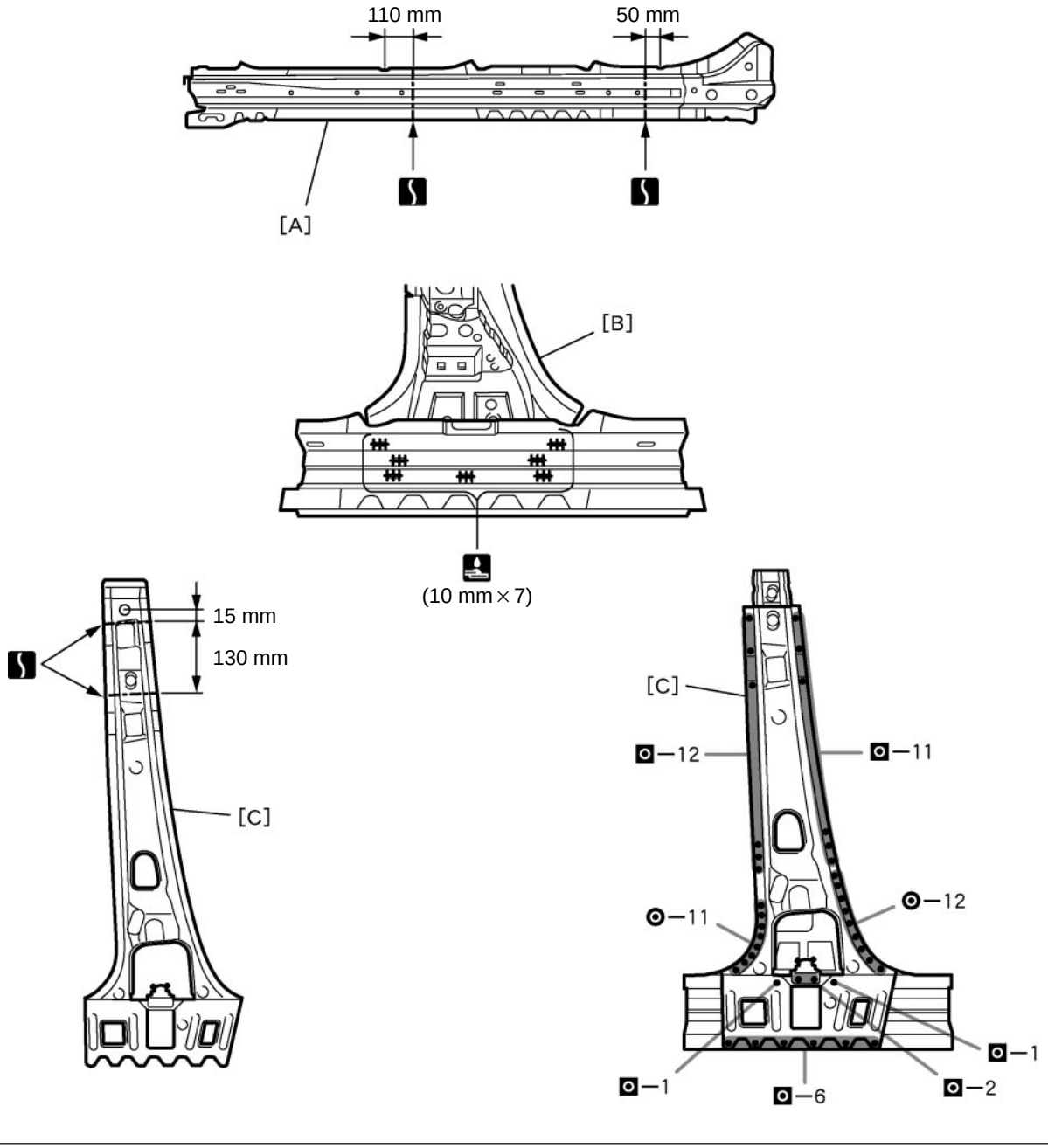
POINT

1 *1: Take care not to damage the internal reinforcement.

15 mm (0.59 in.) 130 mm (5.12 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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F24830-1

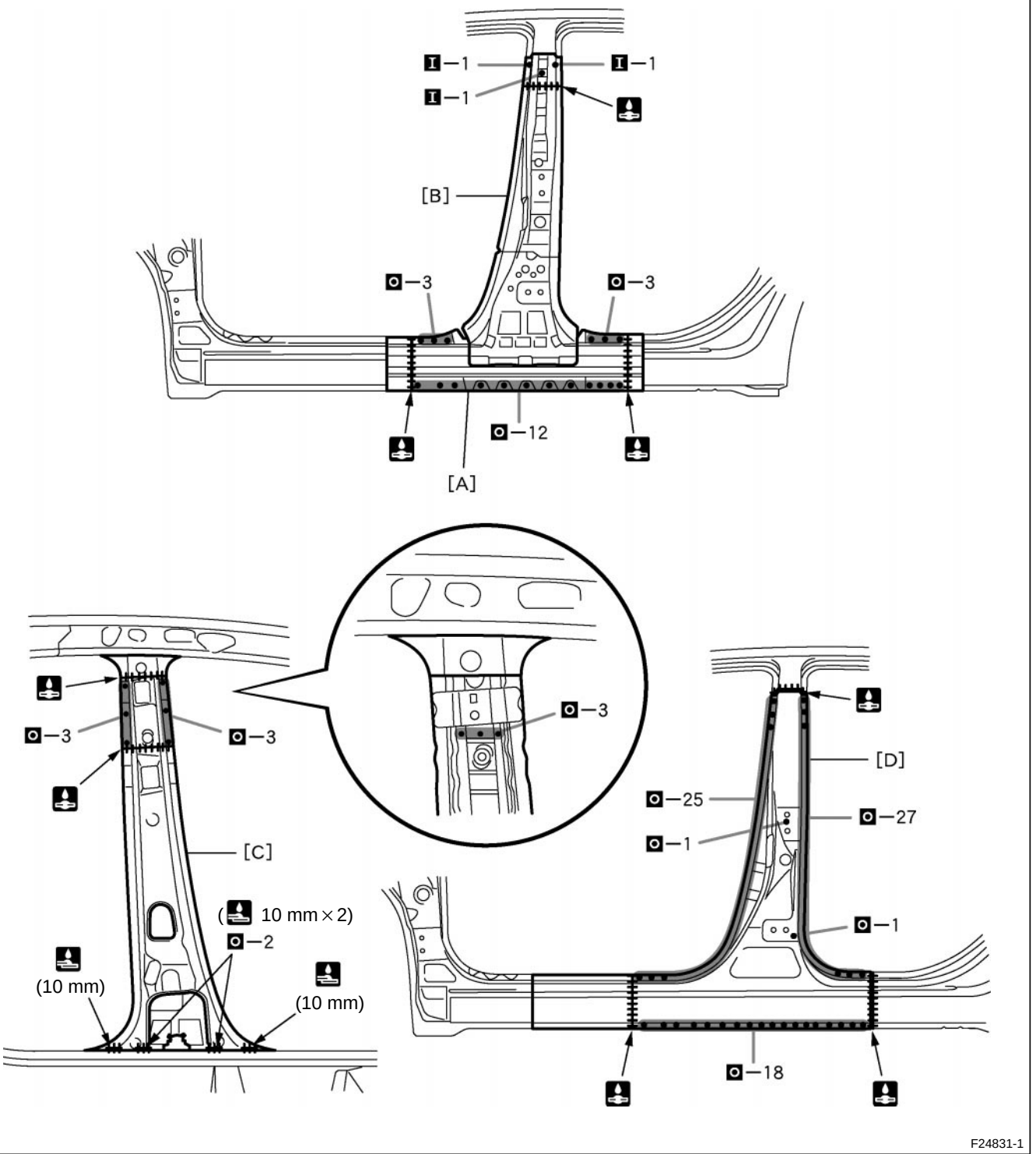
POINT

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

PART NAME

[A] Rocker Outer Reinforce [B] Center Body Pillar Reinforcement
[C] Center Body Inner Pillar

10 mm (0.39 in.) 15 mm (0.59 in.) 50 mm (1.97 in.) 110 mm (4.33 in.) 130 mm (5.12 in.)



F24831-1

POINT

1 Inspect the fitting of the front door, rear door and other related parts before welding as this affects the appearance of the finish.

2 After welding [A], [B] and [C] to the vehicle, install [D].

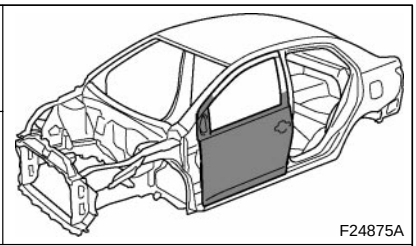
PART NAME

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

[C] Center Body Inner Pillar [D] Rocker Outer Panel

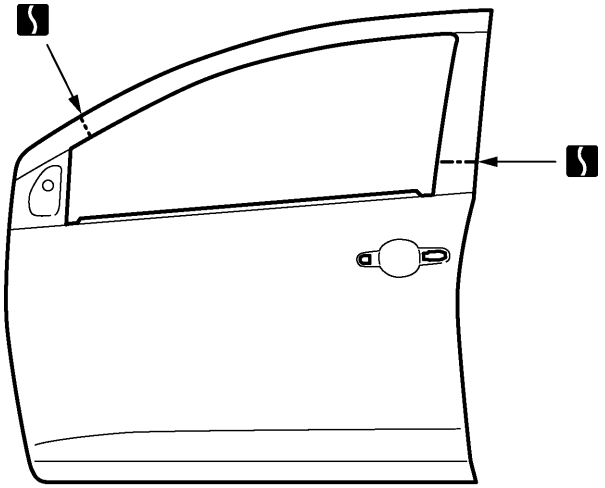
10 mm (0.39 in.)

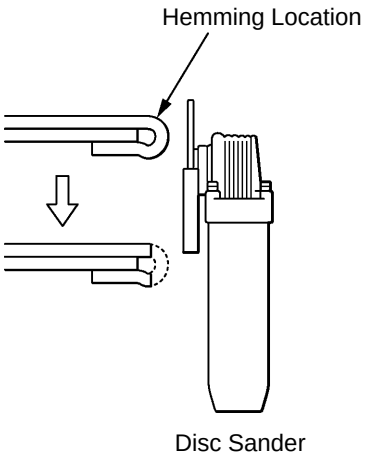
FRONT DOOR OUTER PANEL (CUT): Sedan Ex. U.S.A., CANADA


F24875A

REPLACEMENT

REMOVAL





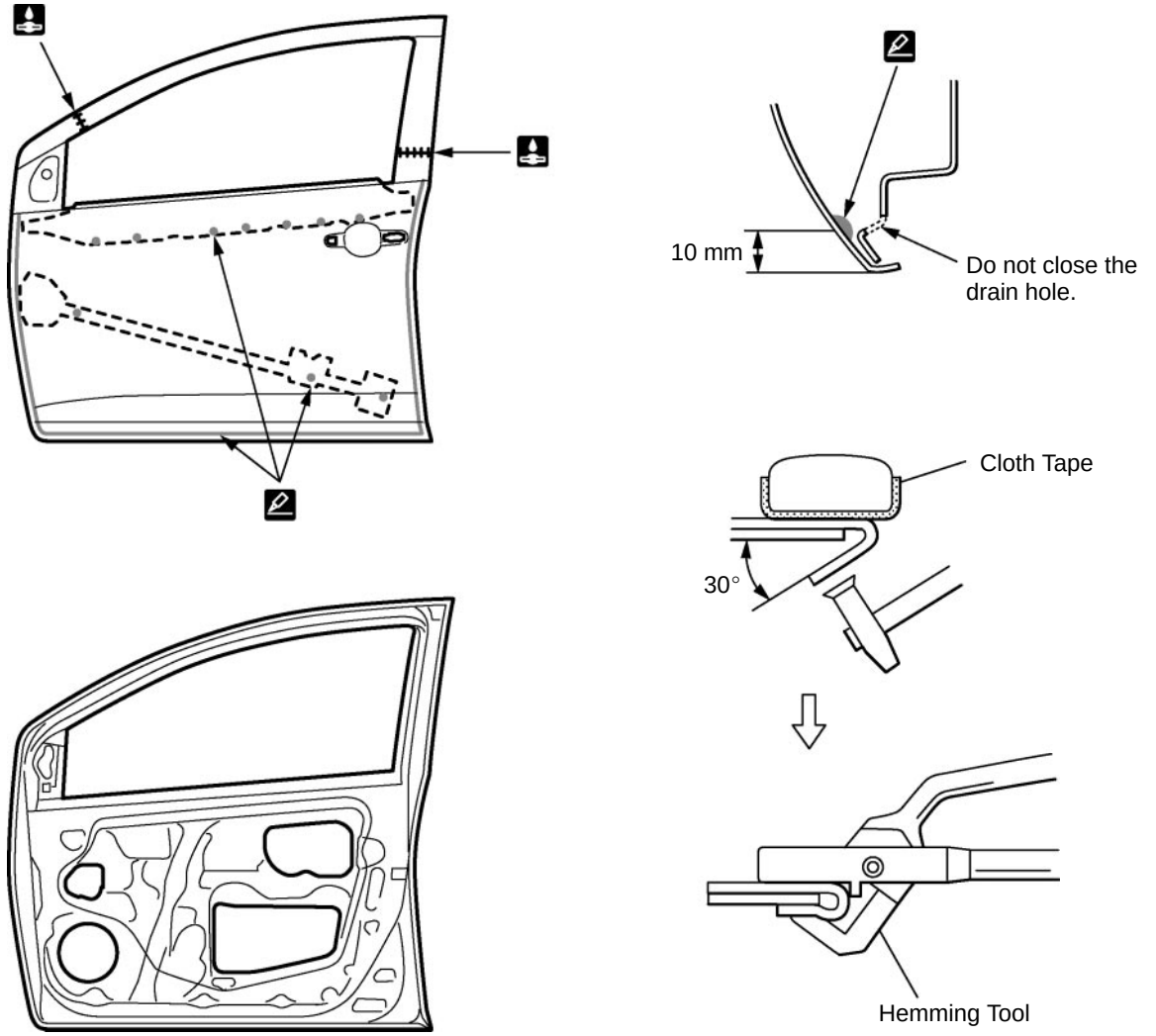
F24875

POINT

1 Afer 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

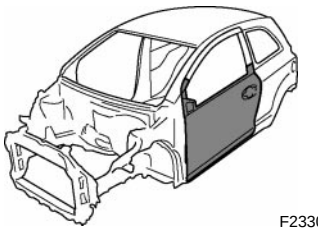


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

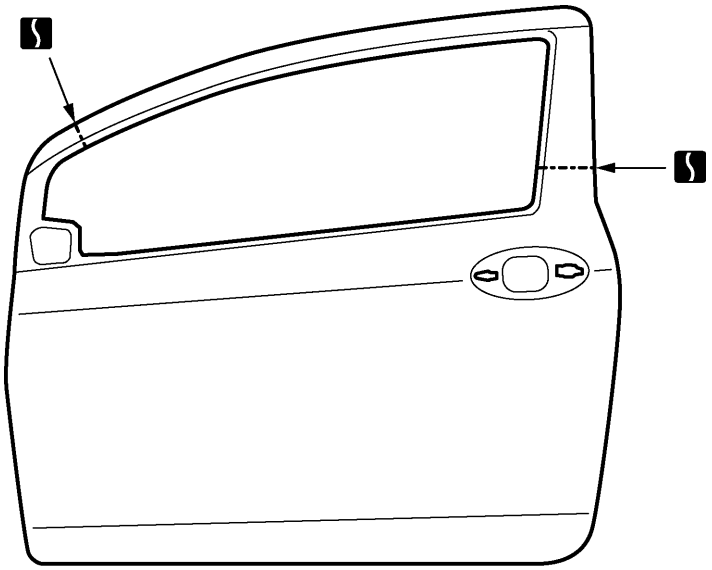
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

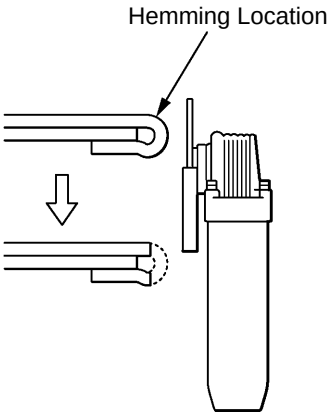
FRONT DOOR OUTER PANEL (CUT): Hatchback 3 Door


F23305A

REPLACEMENT

REMOVAL





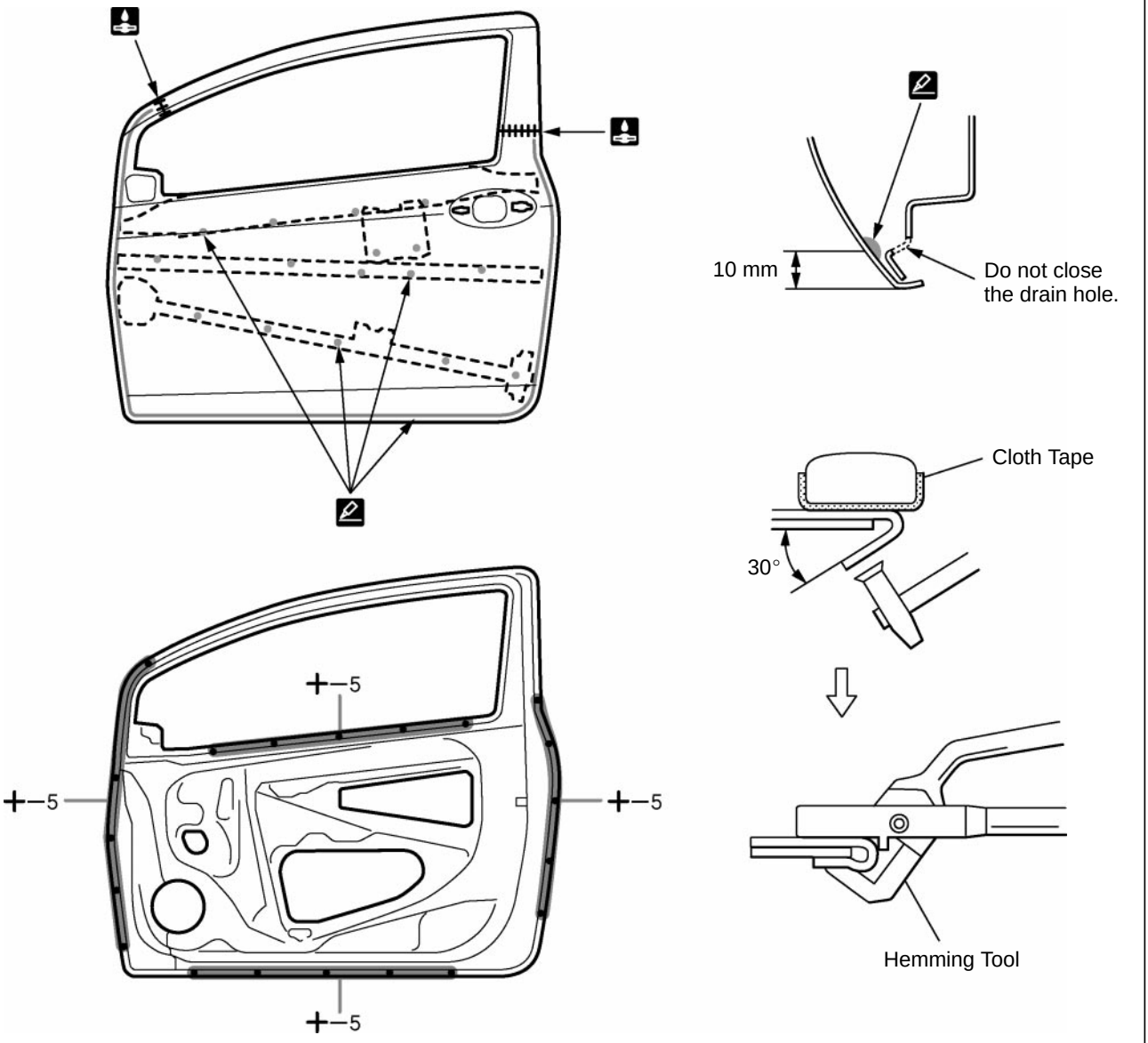
F23305

POINT

1 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.



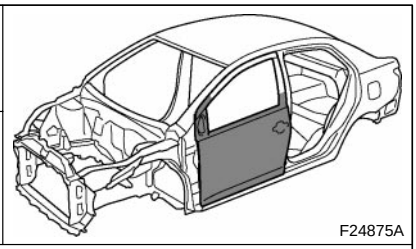
F23306

POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

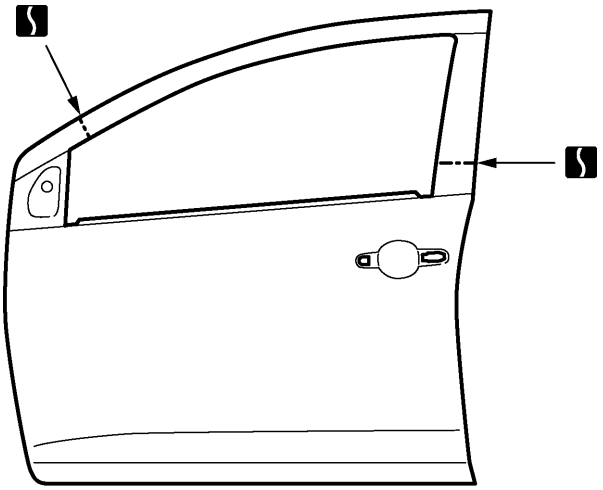
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

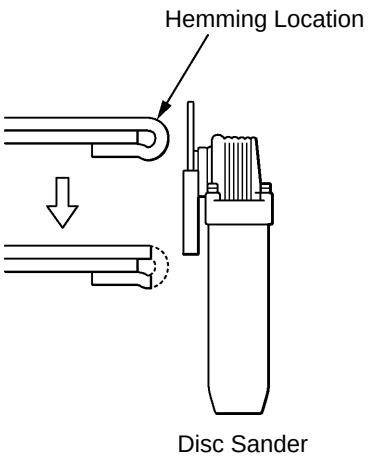
FRONT DOOR OUTER PANEL (CUT): Sedan U.S.A., CANADA


F24875A

REPLACEMENT

REMOVAL





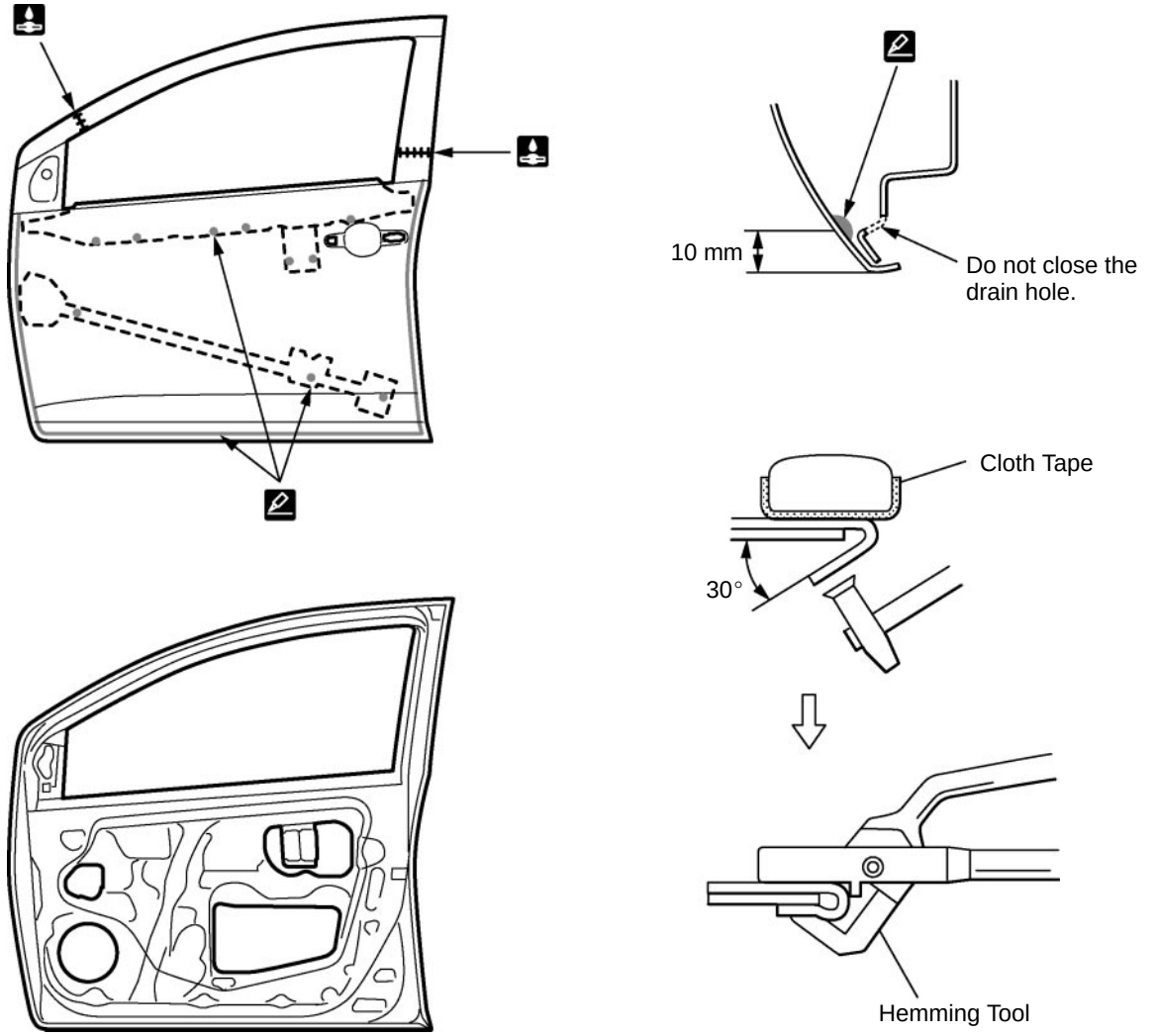
F24877

POINT

1 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 polyurethane foam to the corresponding parts.
- ⁎ After welding, apply body sealer and undercoating to the corresponding parts.
- ⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

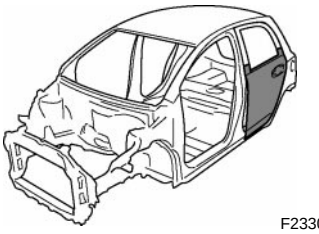


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

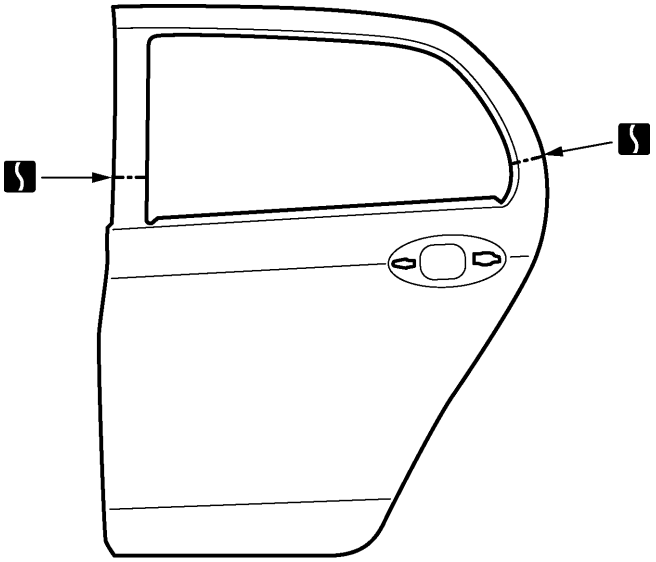
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

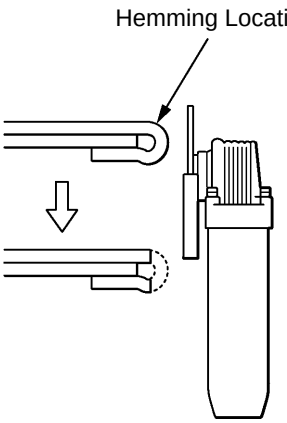
REAR DOOR OUTER PANEL (CUT): Hatchback 5 Door


F23309A

REPLACEMENT

REMOVAL





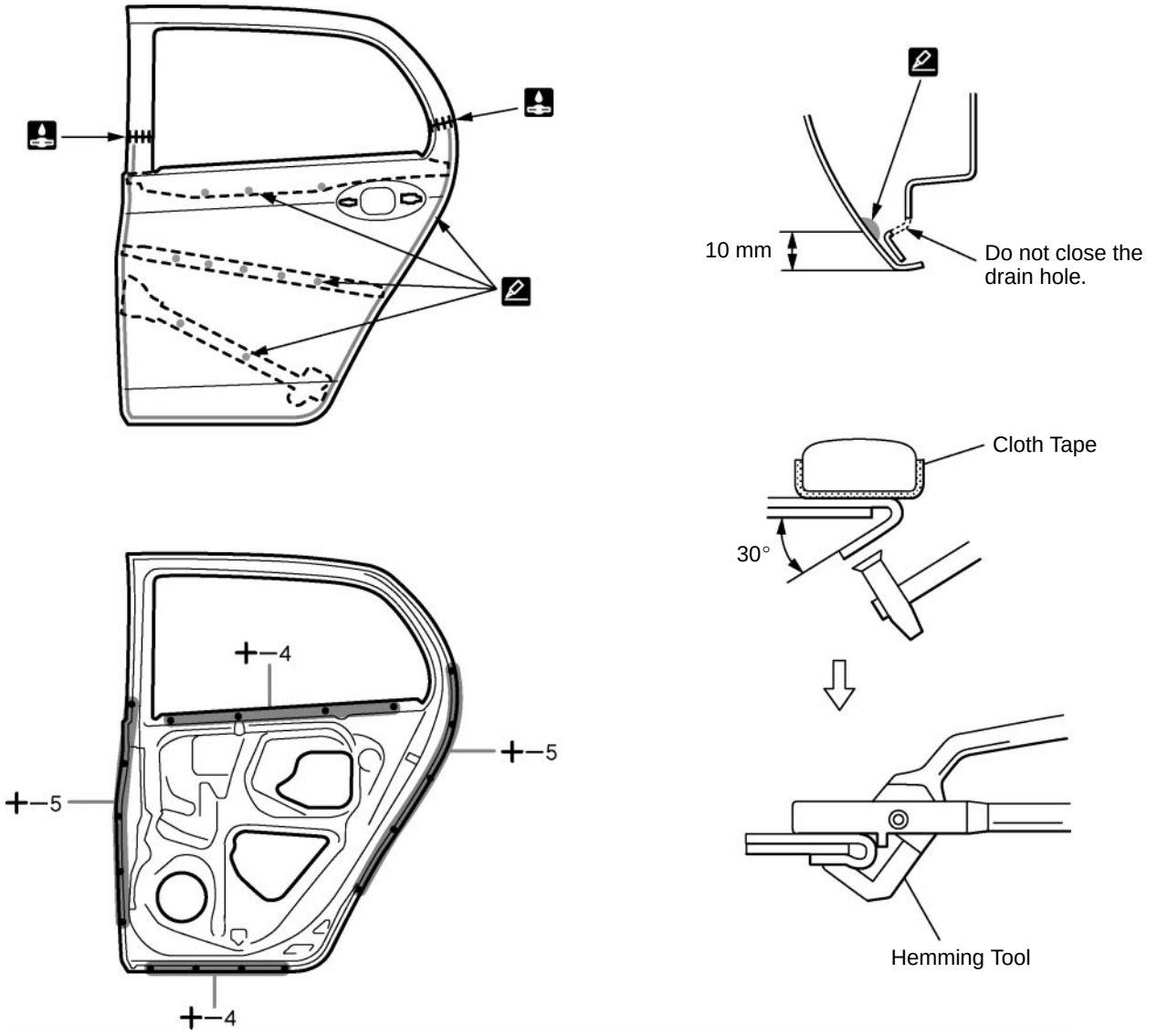
F23309

POINT

1 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.

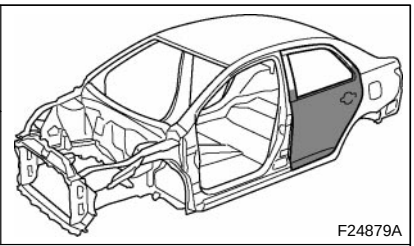


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

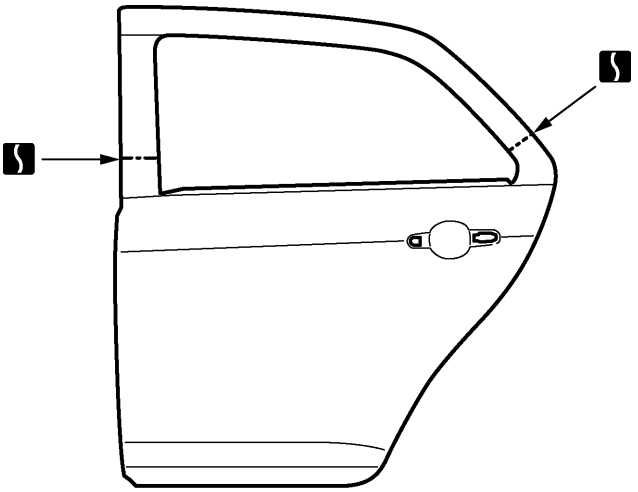
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

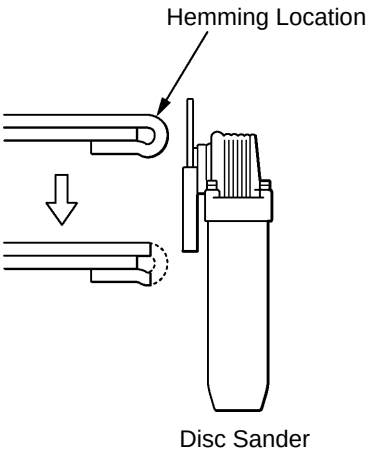
REAR DOOR OUTER PANEL (CUT): Sedan Ex. U.S.A., CANADA


F24879A

REPLACEMENT

REMOVAL





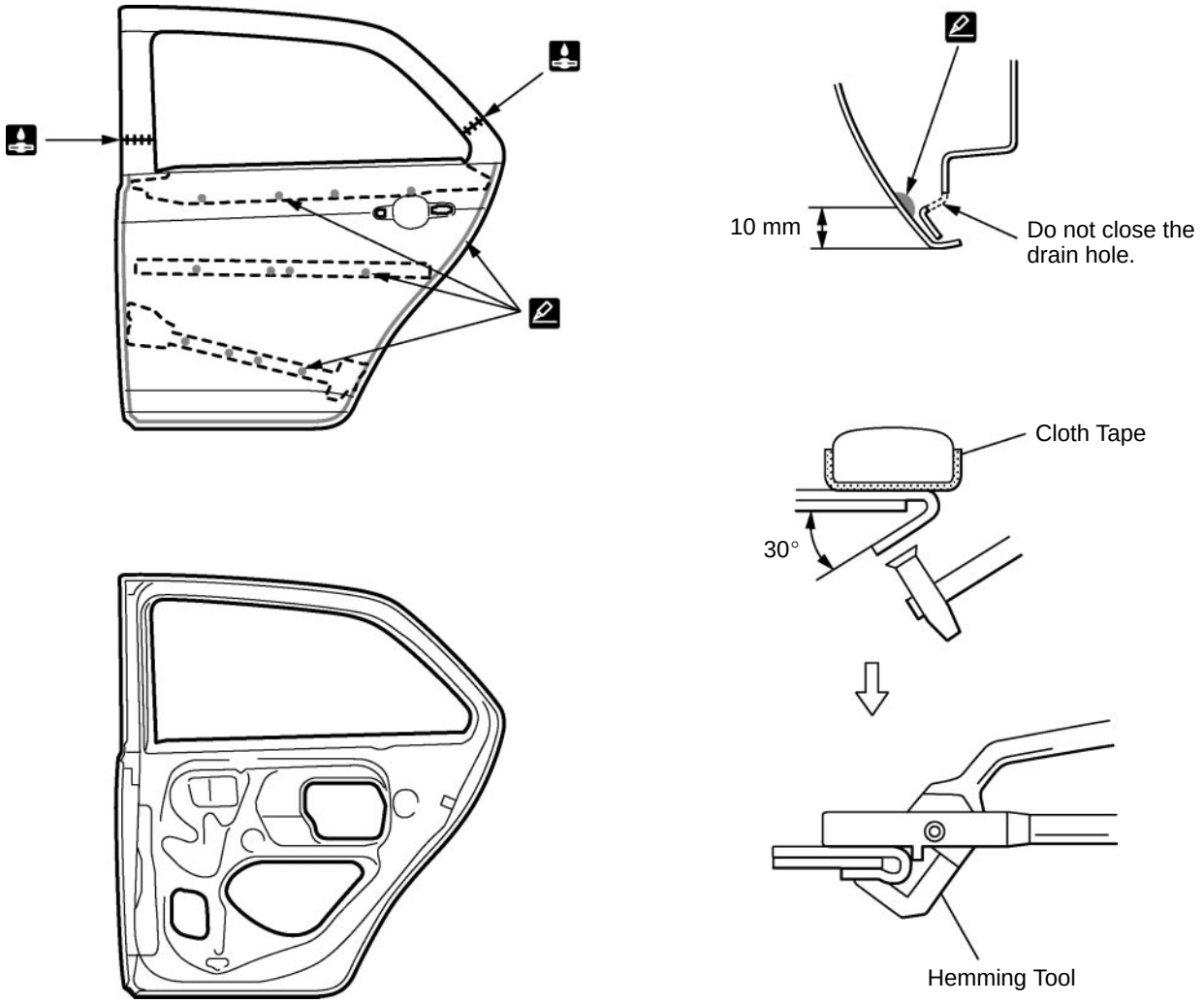
F24879

POINT

1 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

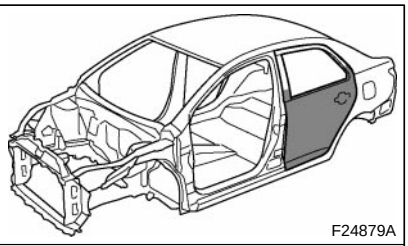


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

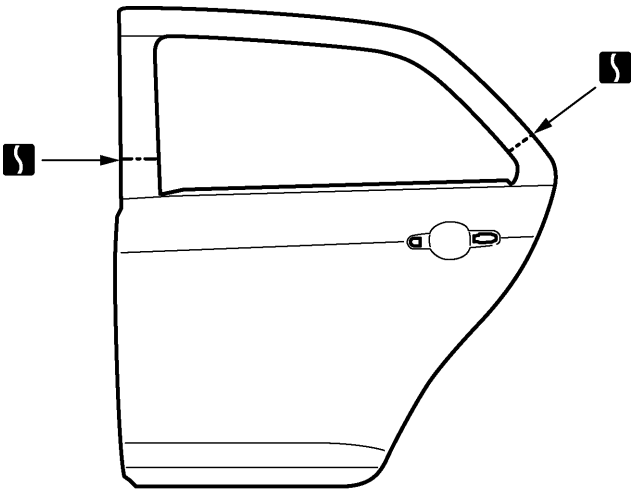
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

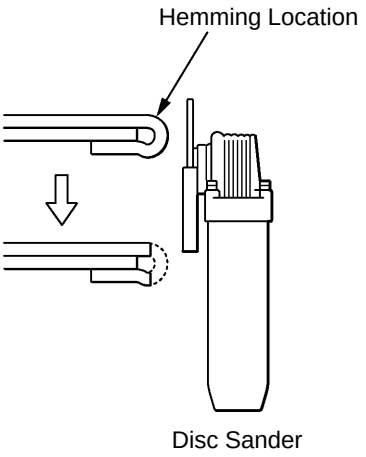
REAR DOOR OUTER PANEL (CUT): Sedan U.S.A., CANADA


F24879A

REPLACEMENT

REMOVAL





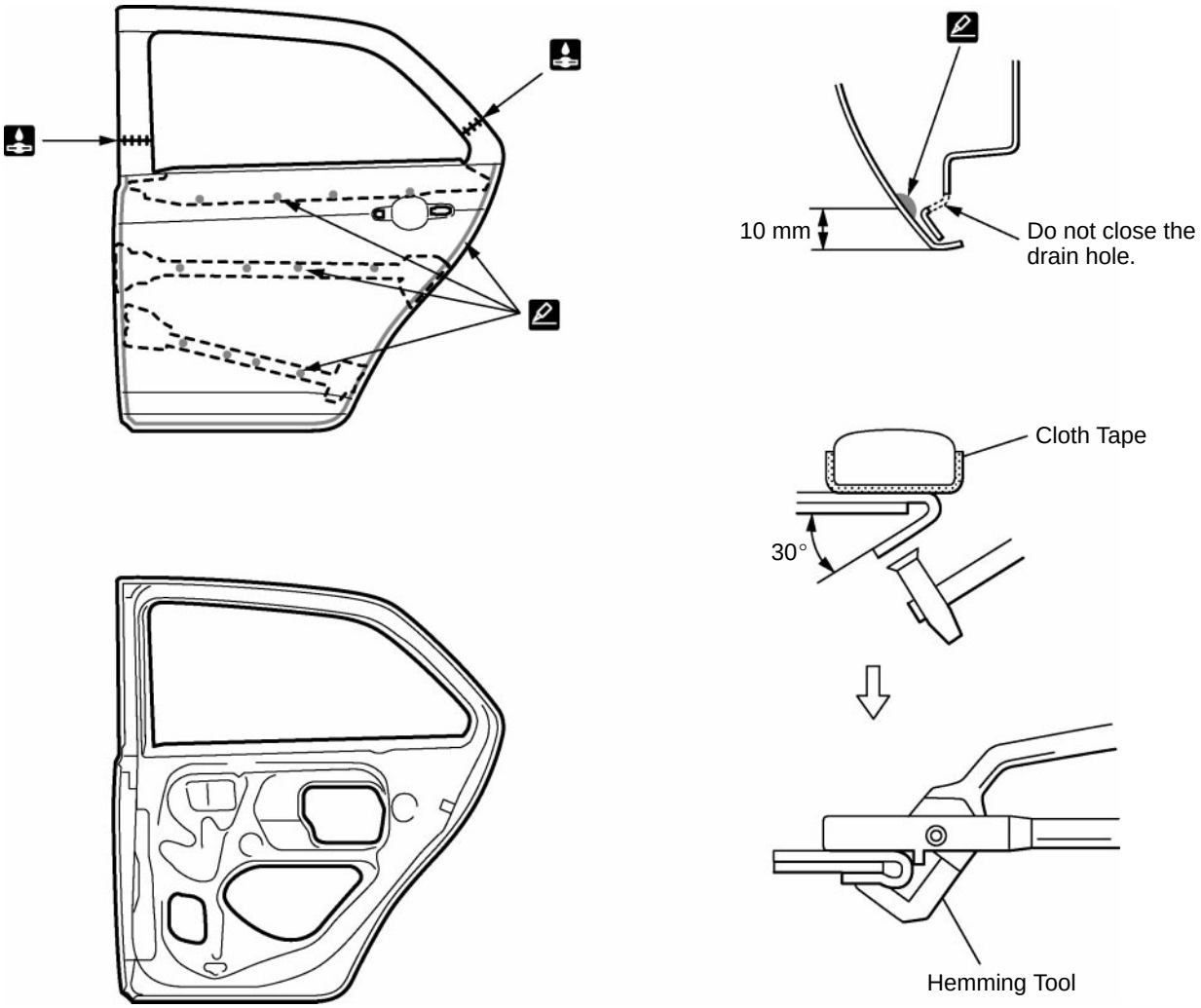
F24881

POINT

1 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

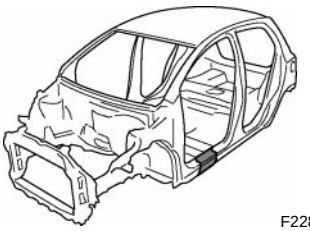


POINT

1 Before temporarily installing the new parts, apply body sealer to the reinforcement, side impact protection beam and backside of the new parts.
HINT:
1) Apply sealer evenly of about 10 mm (0.39 in.) from the flange and 3 mm (0.12 in.) in diameter on the outer panel and apply just enough sealer for the reinforcement and side impact protection beam to make contact.

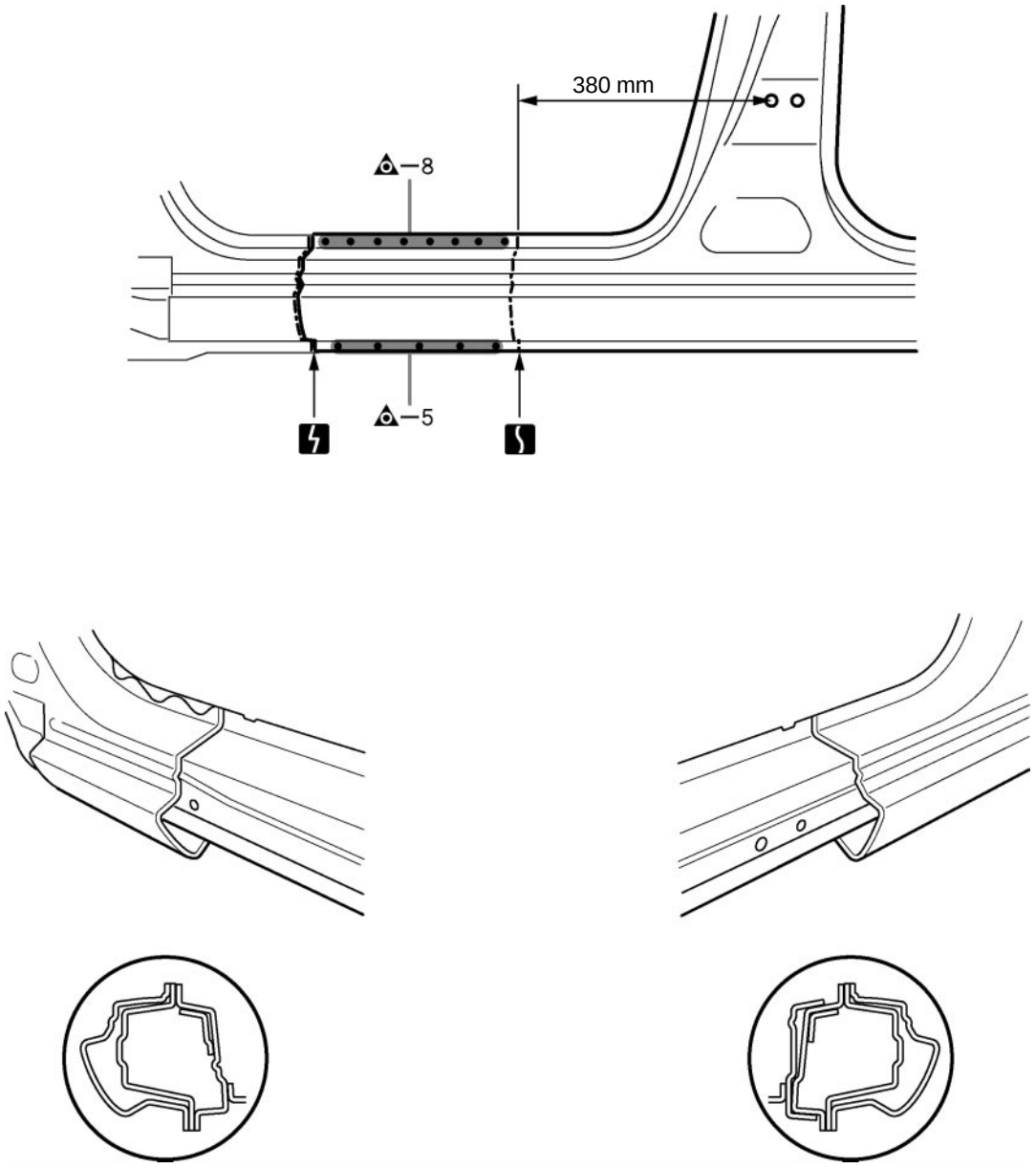
2 Bend the flange hem about 30° with a hammer and dolly. Then, fasten tightly with a hemming tool.
HINT:
1) Perform hemming in three steps, being careful not to warp the panel.
2) If a hemming tool cannot be used, hem with a hammer and dolly.

ROCKER OUTER PANEL (CUT-H): Hatchback 5 Door


F22843A

REPLACEMENT

REMOVAL

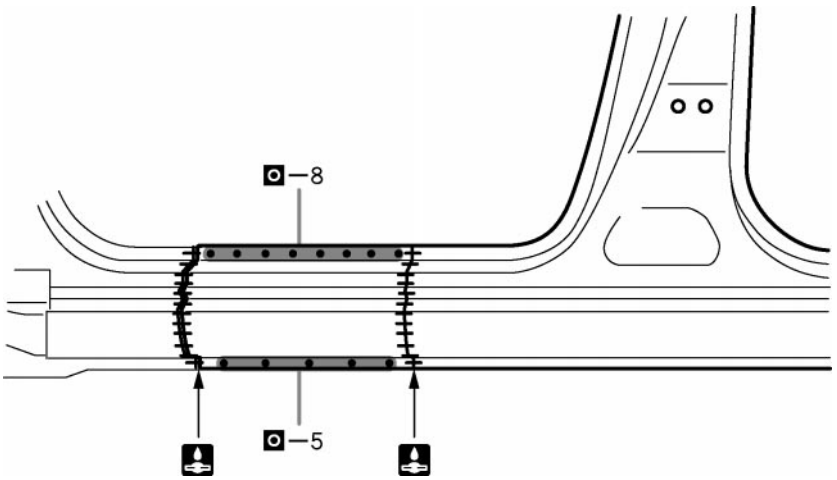


F22843

380 mm (14.96 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.

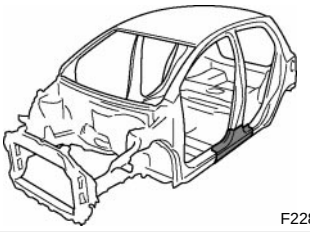


F22844

POINT

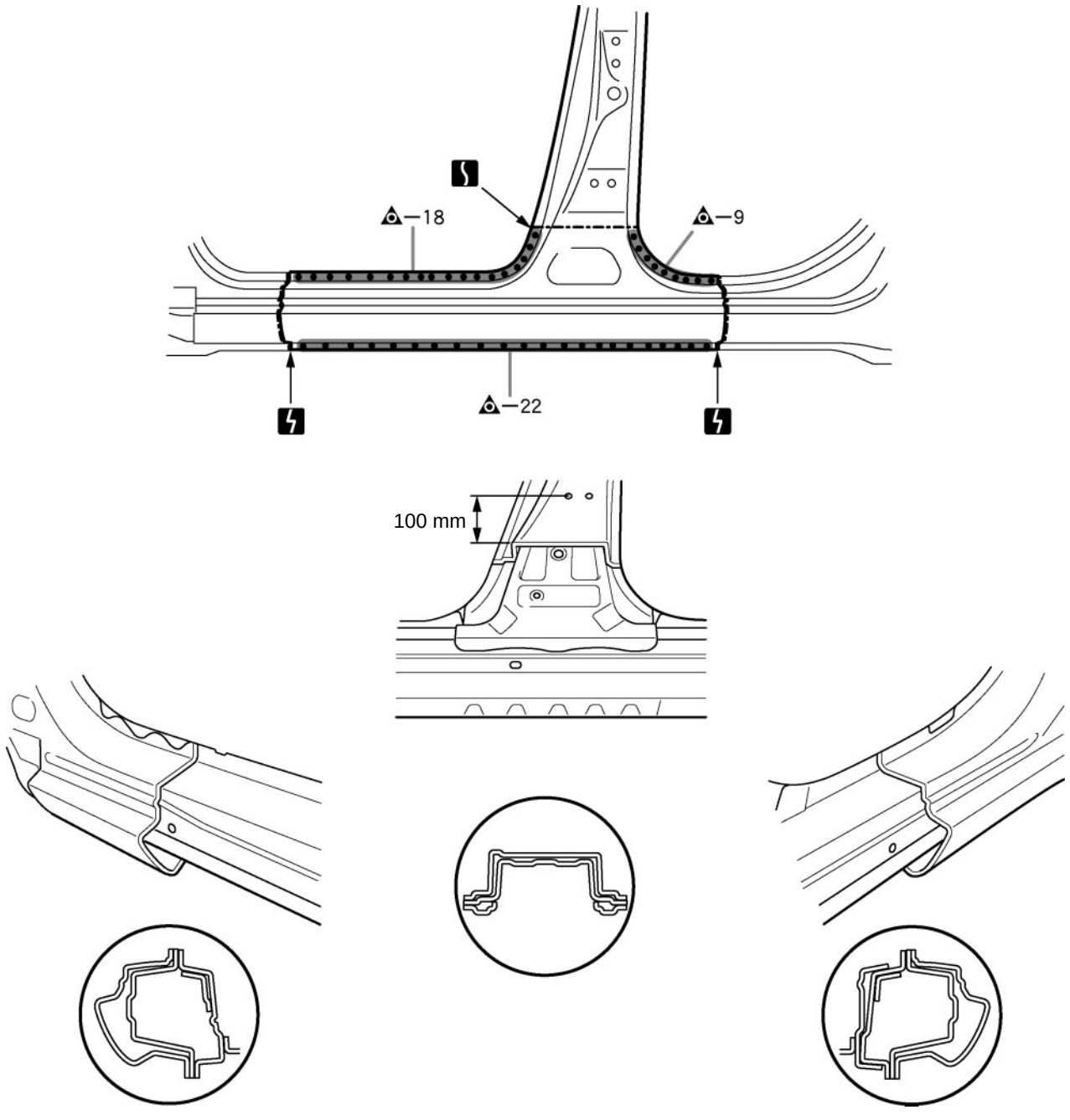
1 Inspect the fitting of the front door and other related parts before welding as this affects the appearance of the finish.

ROCKER OUTER PANEL (CUT): Hatchback 5 Door


F22845A

REPLACEMENT

REMOVAL

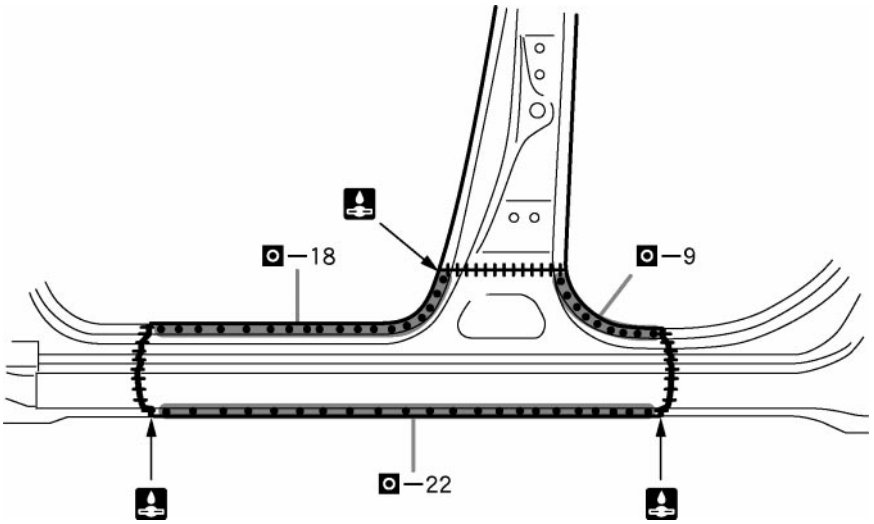


F22845

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

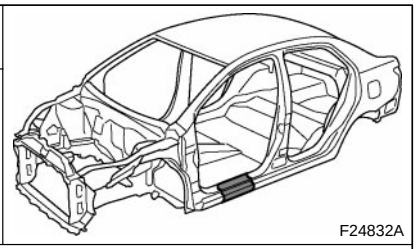


F22846

POINT

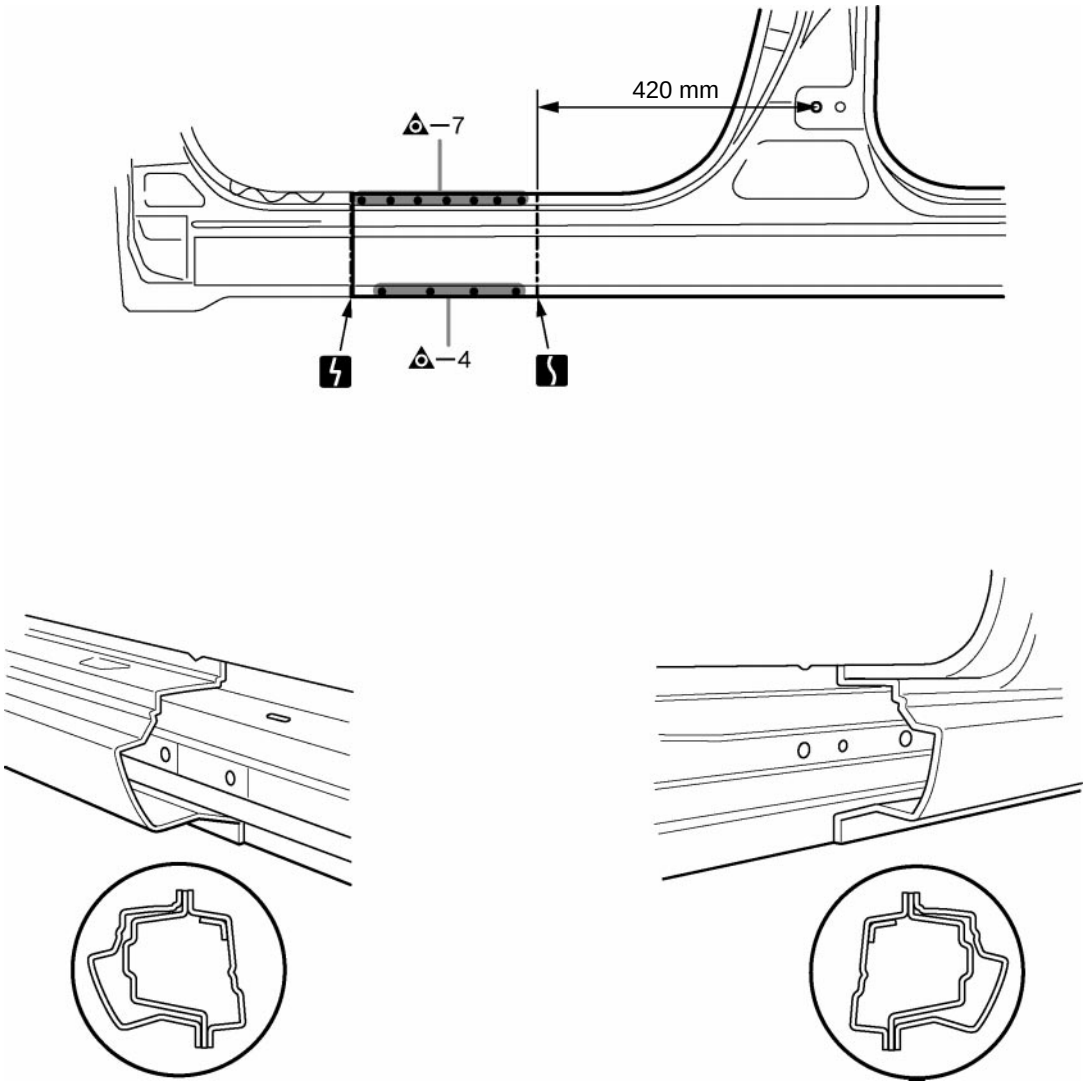
1 Inspect the fitting of the front door, rear door and other related parts before welding as this affects the appearance of the finish.

ROCKER OUTER PANEL (CUT-H): Sedan


F24832A

REPLACEMENT

REMOVAL

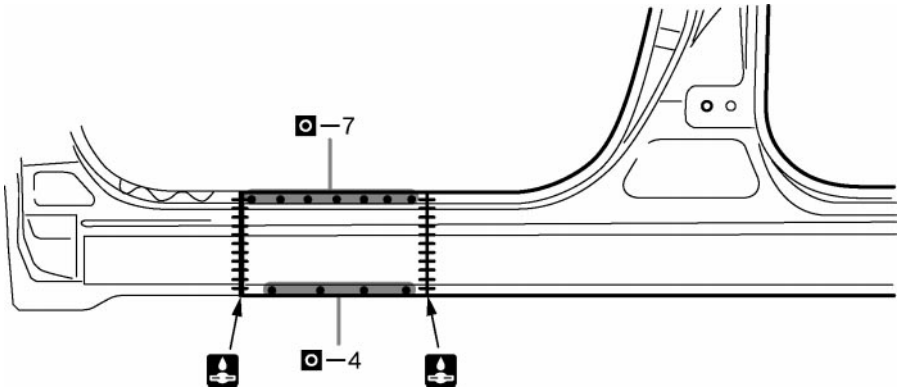


F24832-1

420 mm (16.54 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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

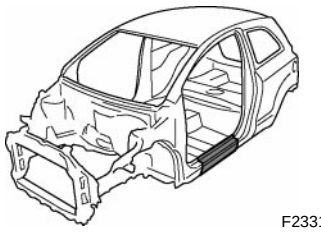


F24832-2

POINT

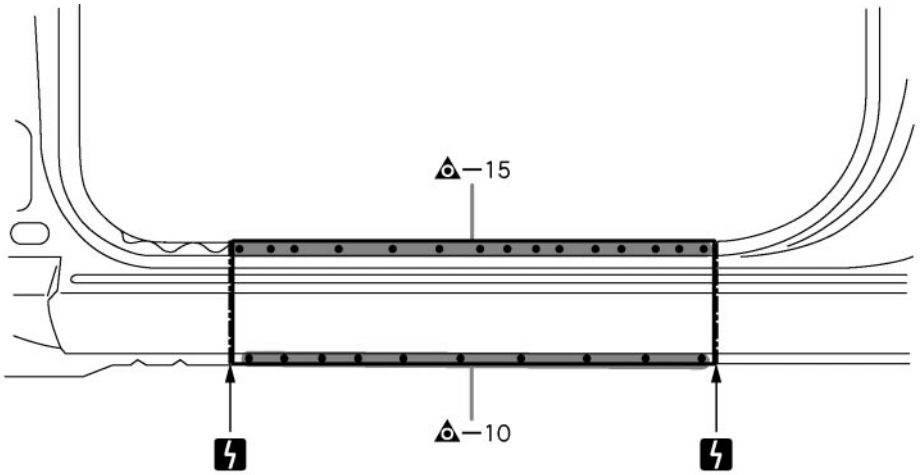
1 Inspect the fitting of the front door and other related parts before welding as this affects the appearance of the finish.

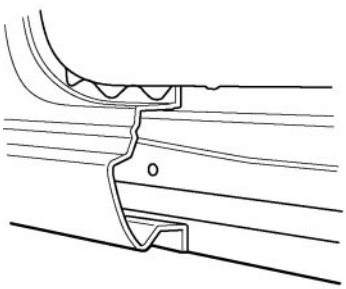
ROCKER OUTER PANEL (CUT): Hatchback 3 Door

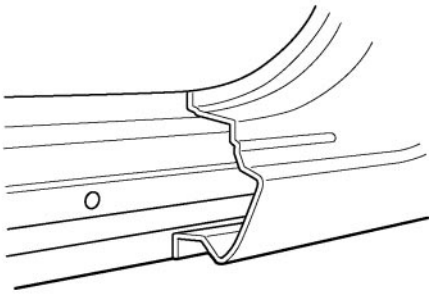

F23311A

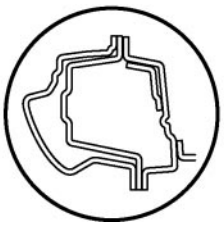
REPLACEMENT

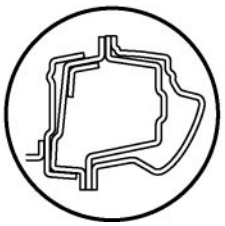
REMOVAL







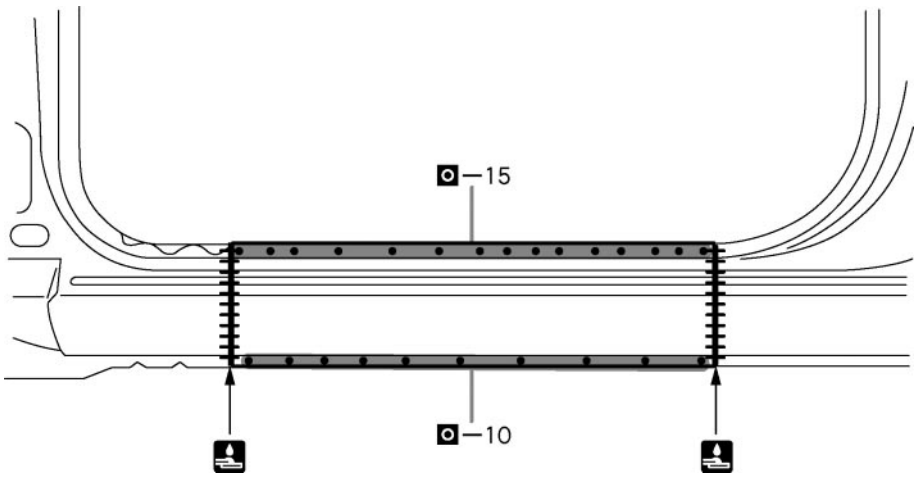




F23311

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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

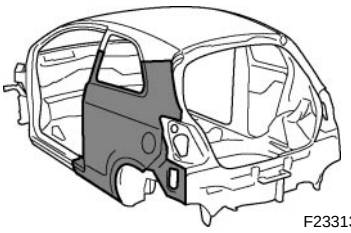


F23312

POINT

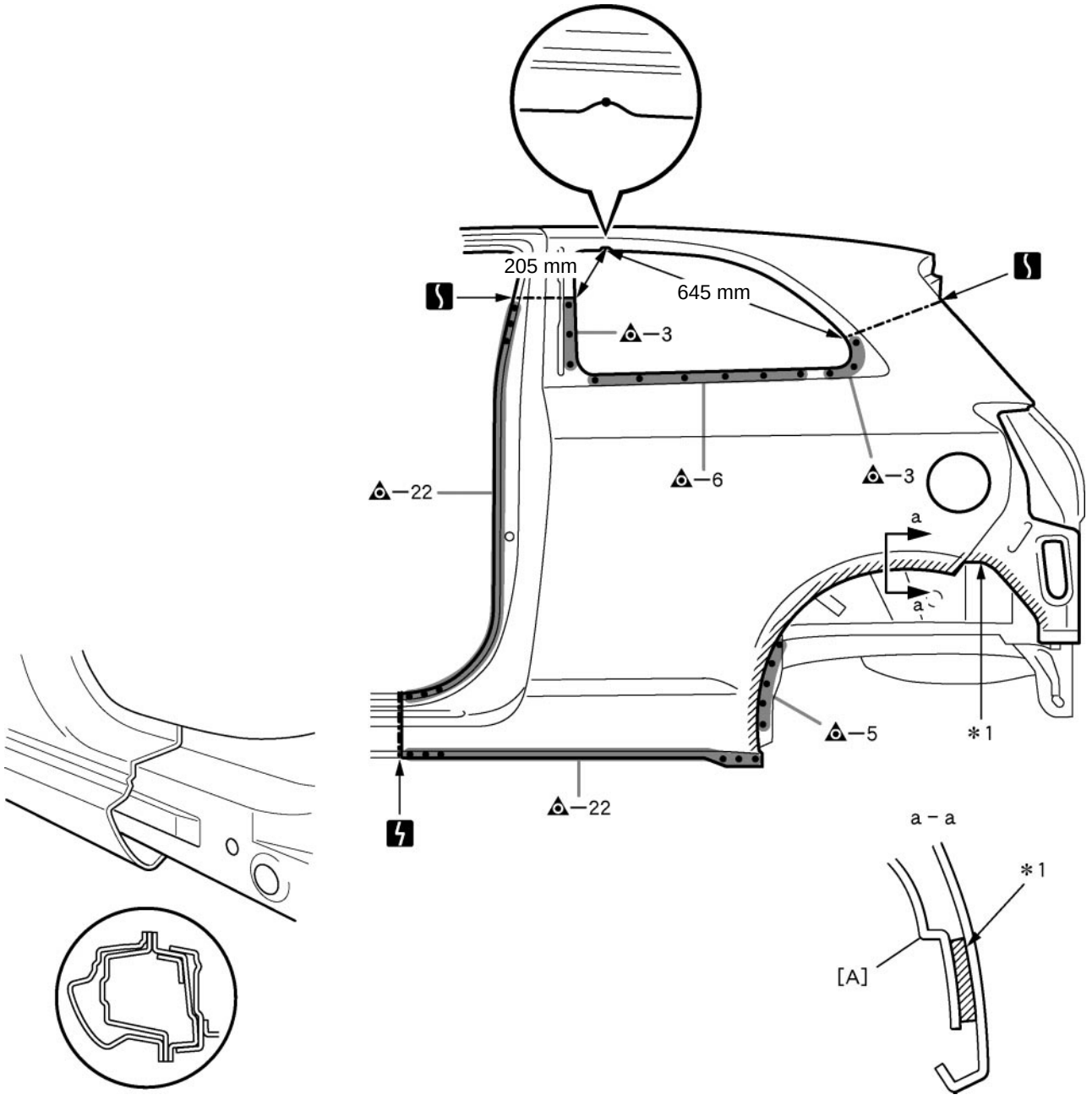
1 Inspect the fitting of the front door and other related parts before welding as this affects the appearance of the finish.

QUARTER PANEL (CUT): Hatchback 3 Door


F23313A

REPLACEMENT

REMOVAL



F23313

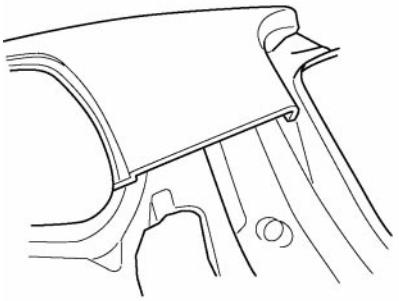
POINT

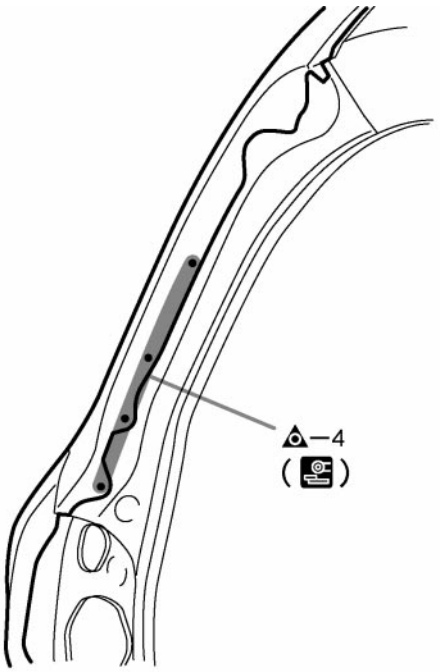
1 *1: The hatched area indicates the adhesive application area.

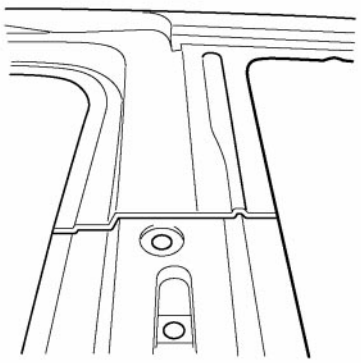
PART NAME

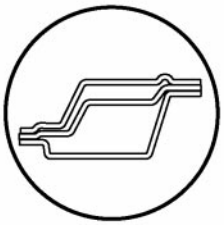
[A] Quarter Wheel Housing Outer Panel

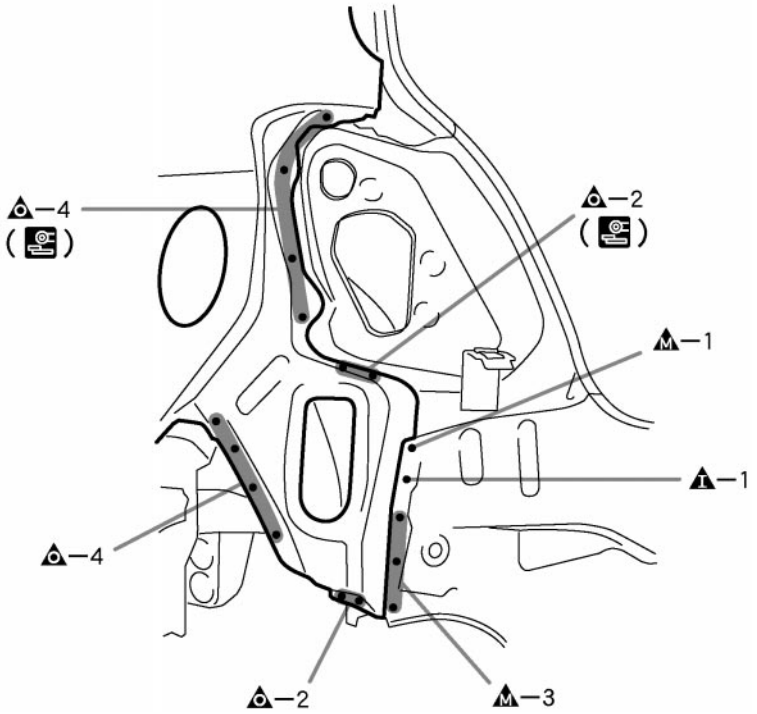
205 mm (8.07 in.) 645 mm (25.39 in.)







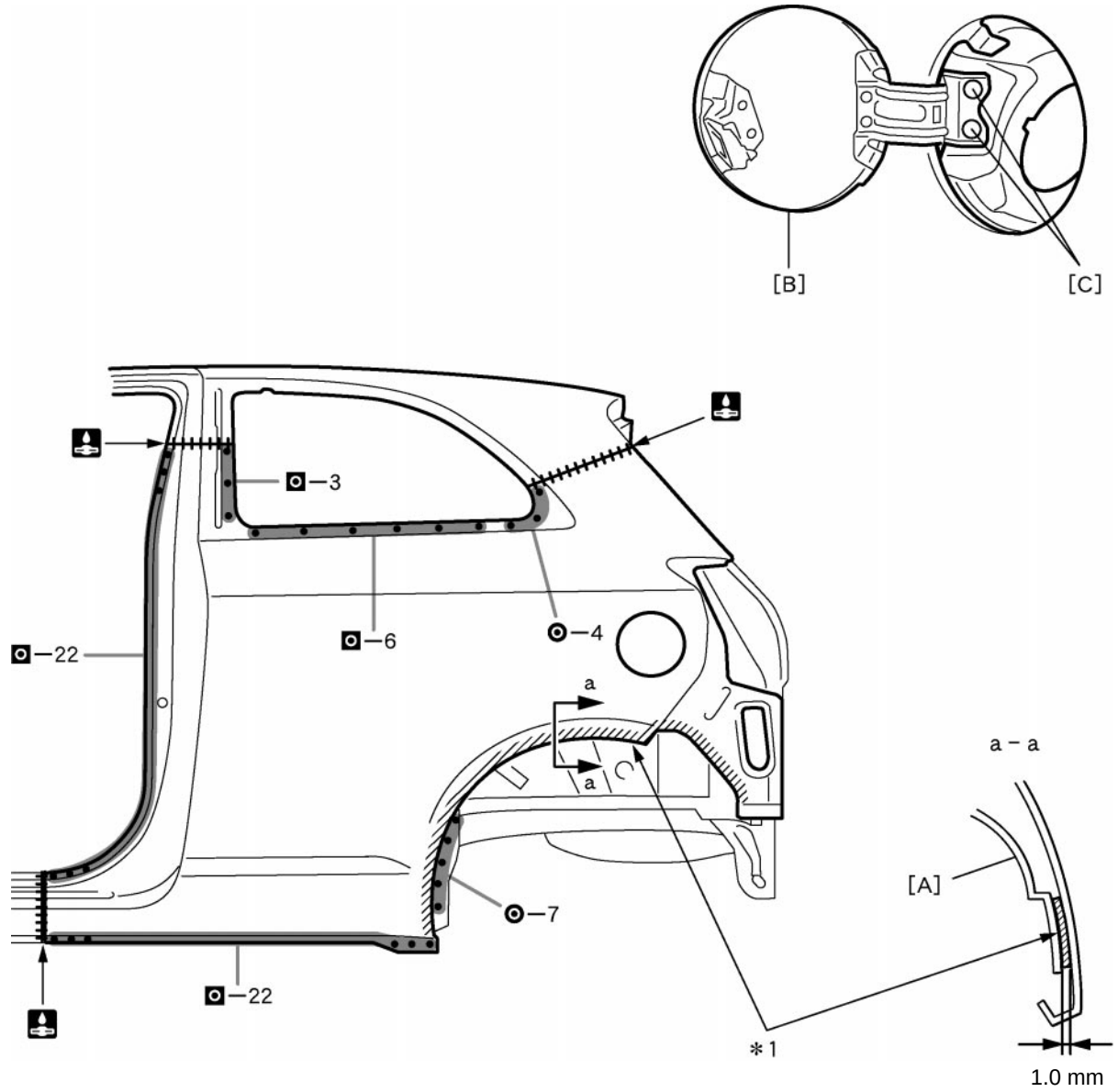




F23314

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

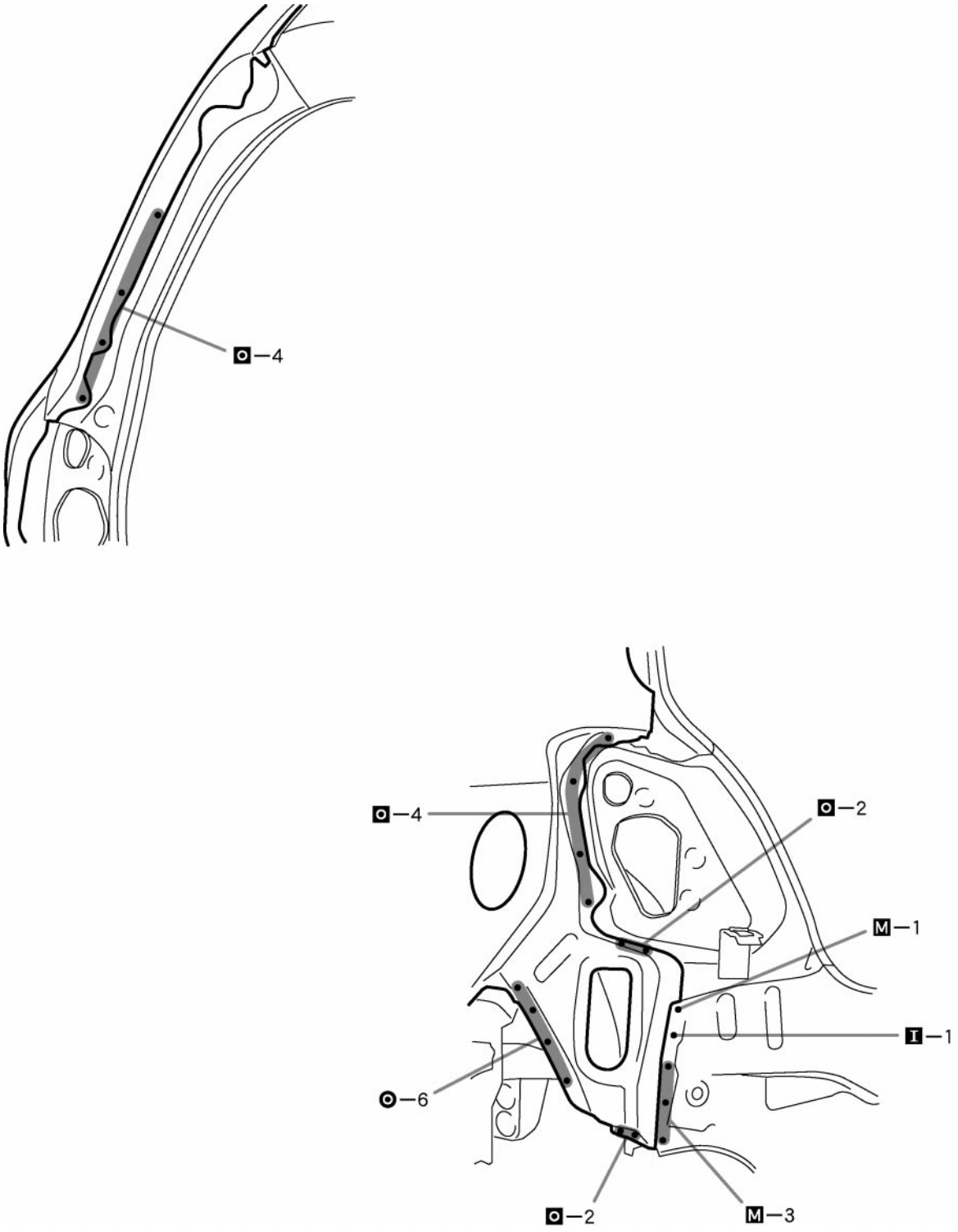


POINT

1 *1: The hatched area indicates the adhesive application area.

PART NAME

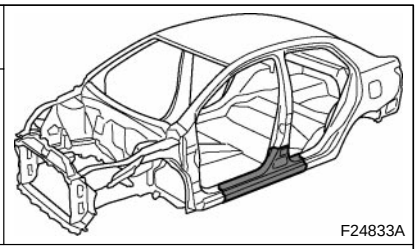
[A] Quarter Wheel Housing Outer Panel [B] Fuel Filler Opening Lid [C] Rivet
1.0 mm (0.04 in.)



POINT

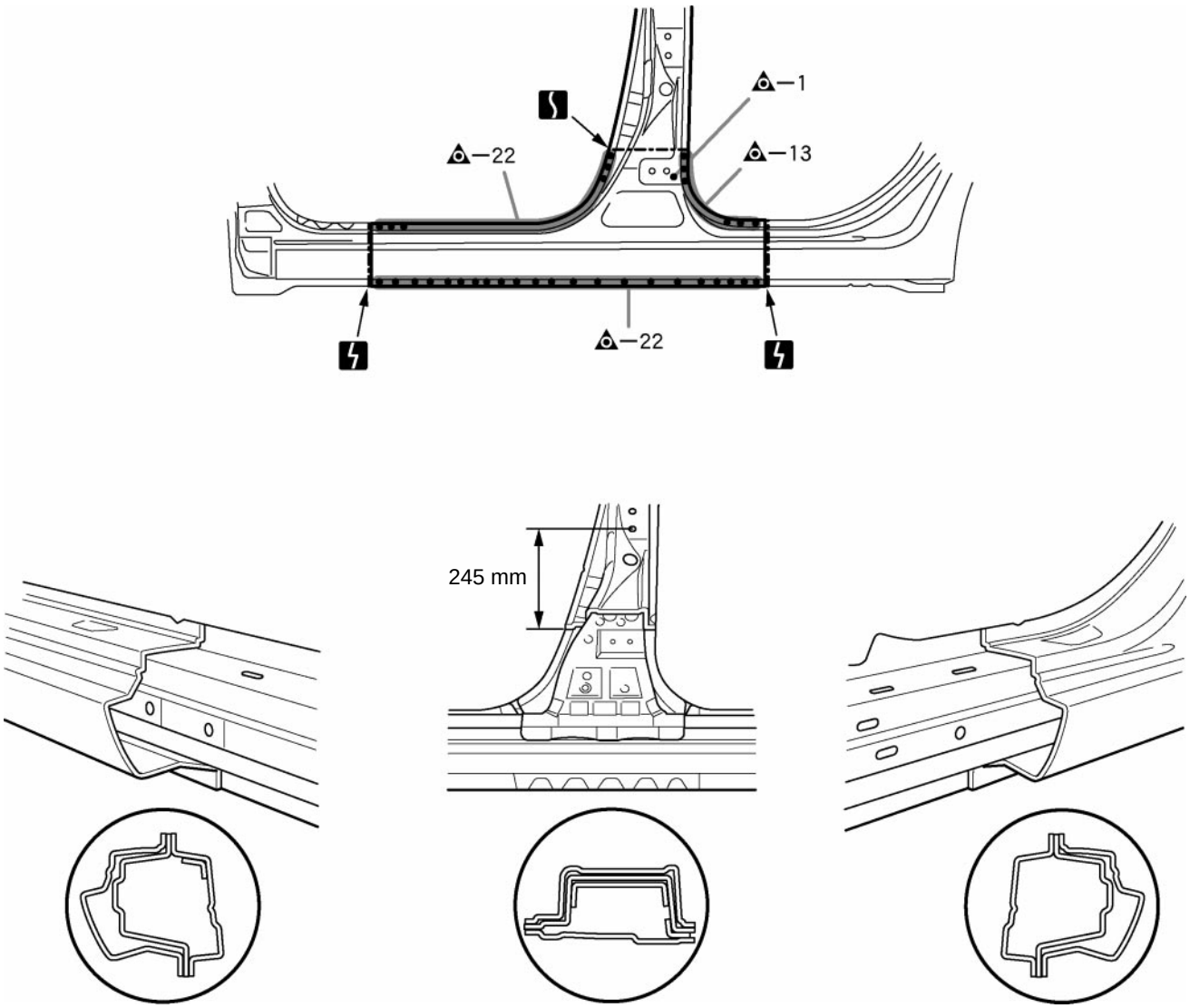
1 Inspect the front door, back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

ROCKER OUTER PANEL (CUT): Sedan


F24833A

REPLACEMENT

REMOVAL

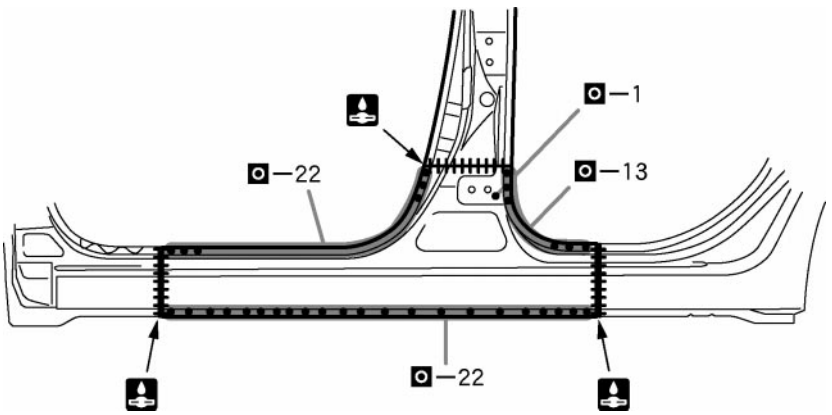


F24833-1

245 mm (9.65 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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

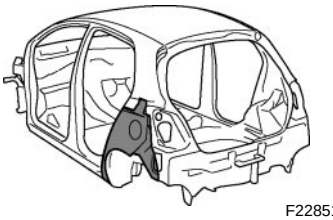


F24833-2

POINT

1 Inspect the fitting of the front door, rear door and other related parts before welding as this affects the appearance of the finish.

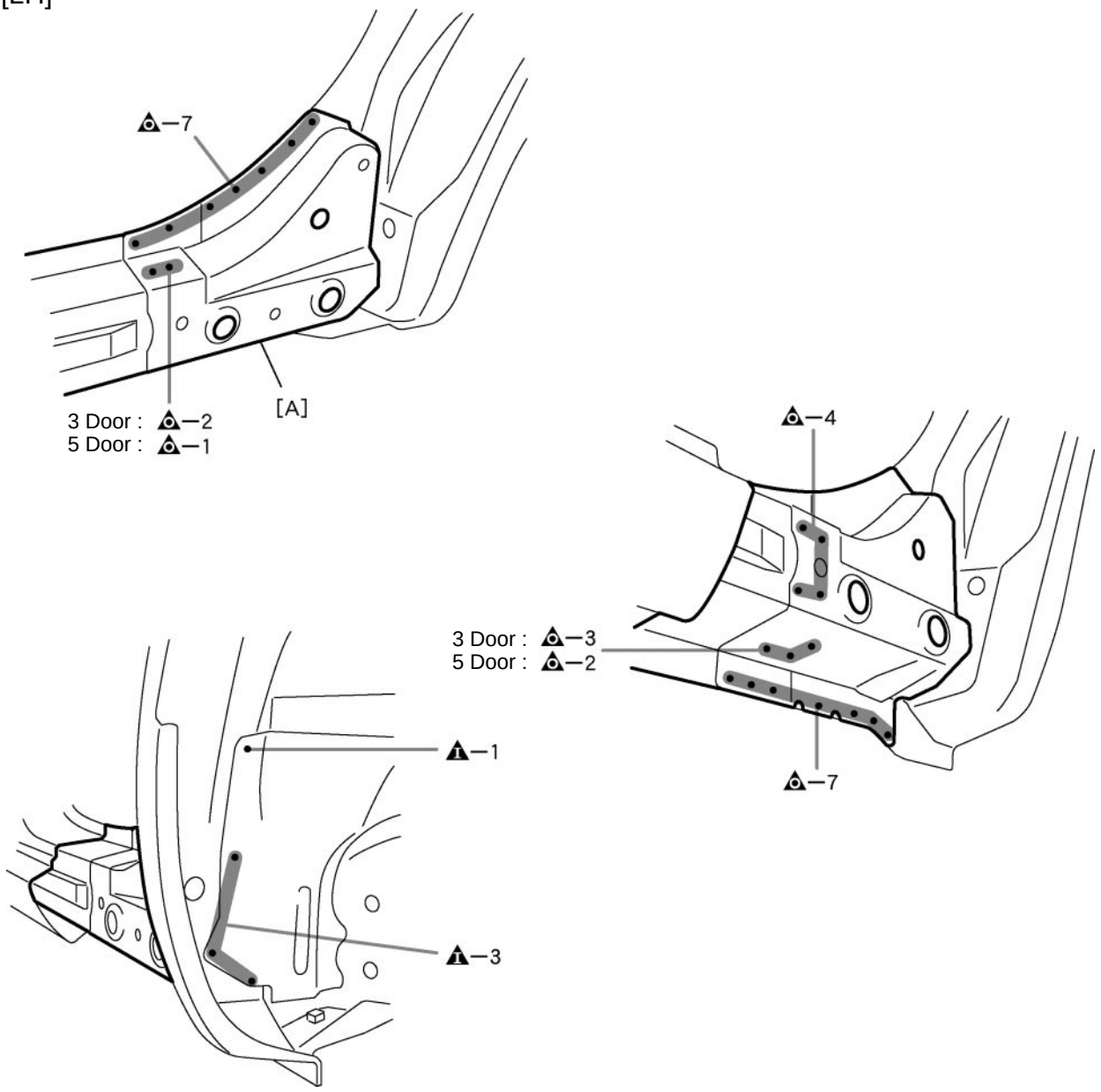
QUARTER WHEEL HOUSING OUTER PANEL (ASSY): Hatchback


F22851A

REPLACEMENT
With the quarter panel removed.

REMOVAL

[LH]

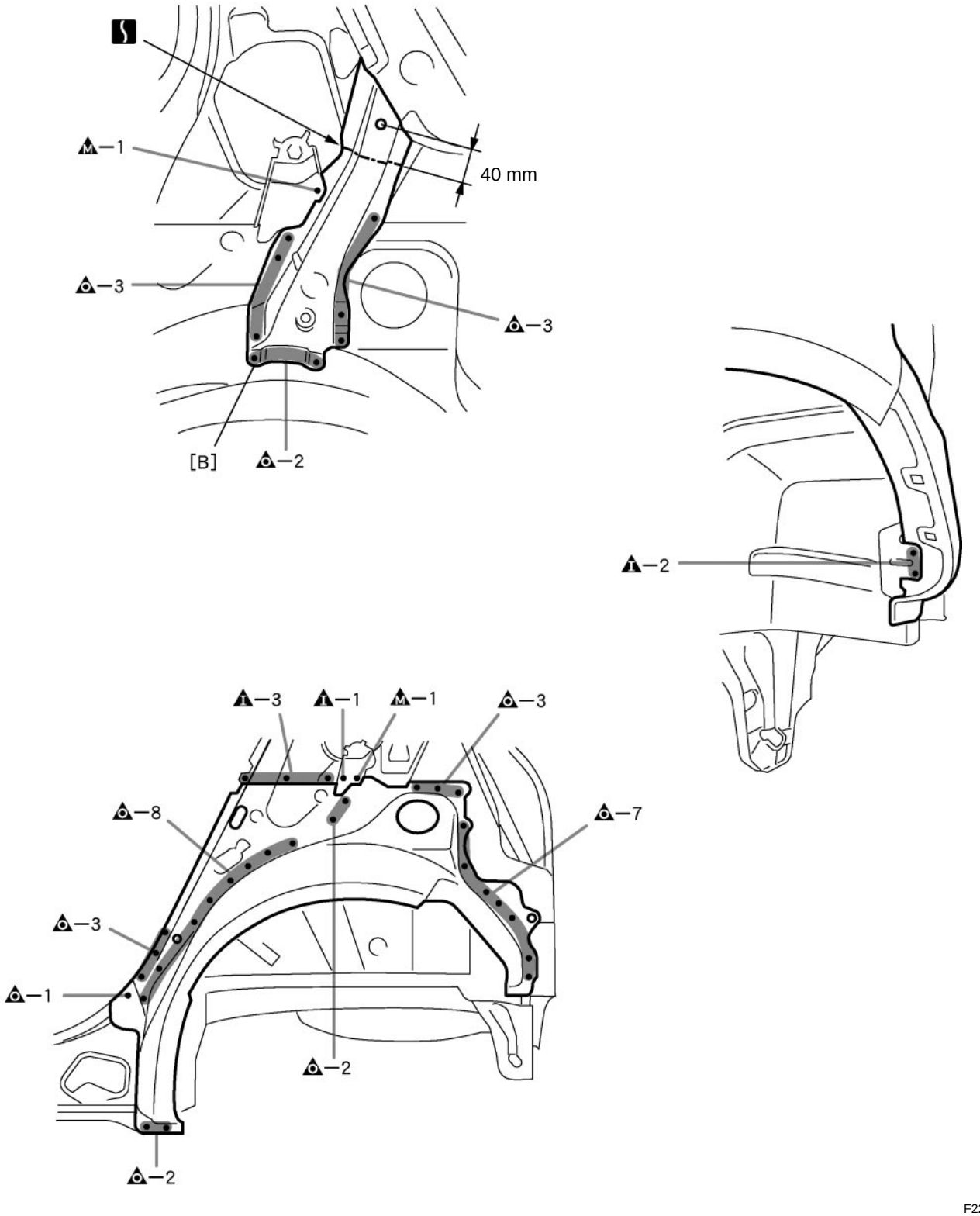


F23321

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

PART NAME
[A] Rocker Outer Reinforce

[LH]



POINT

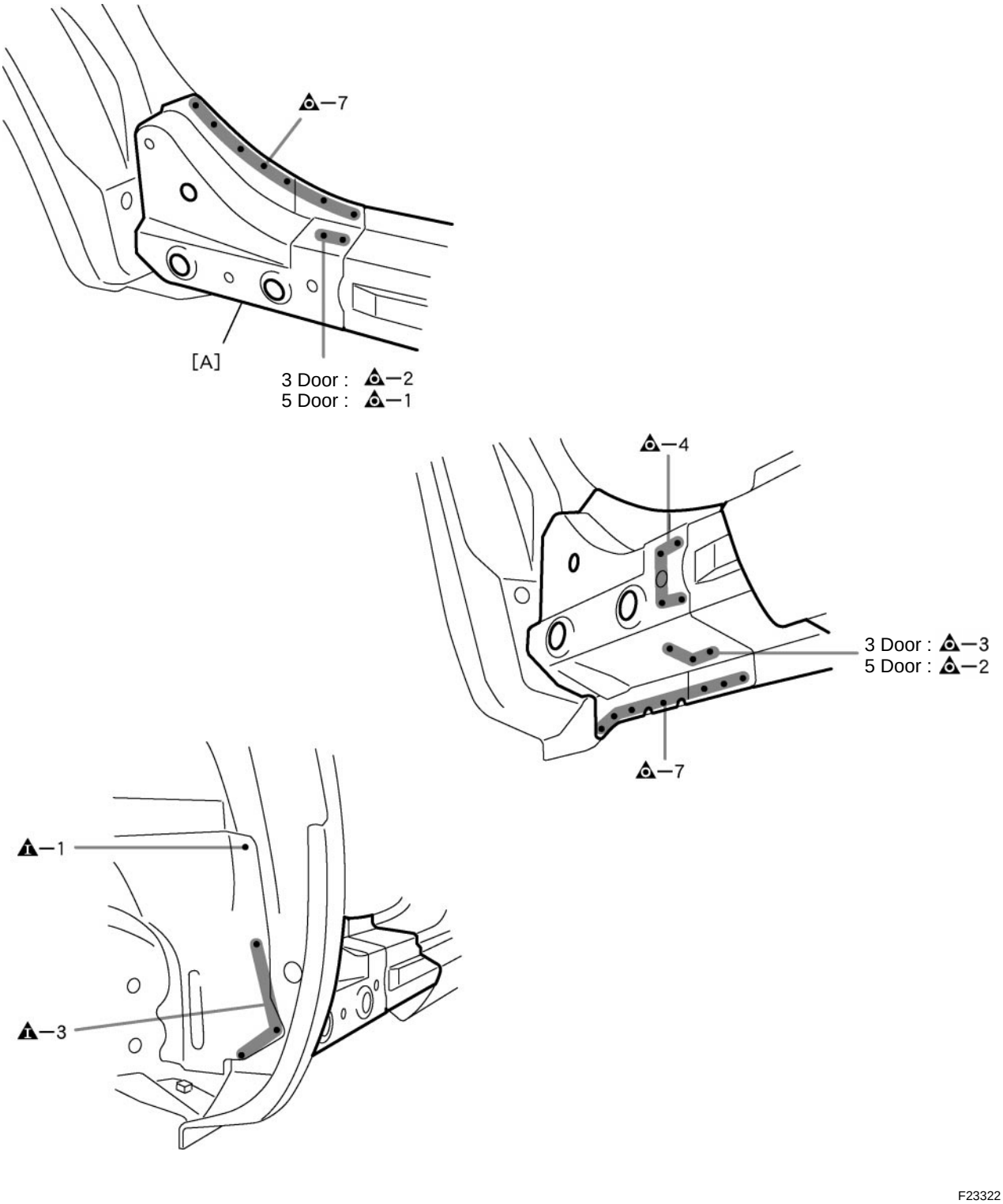
1 After removing [B], remove the quarter wheel housing outer panel.

PART NAME

[B] Roof Side Outer Panel

40 mm (1.57 in.)

[RH]



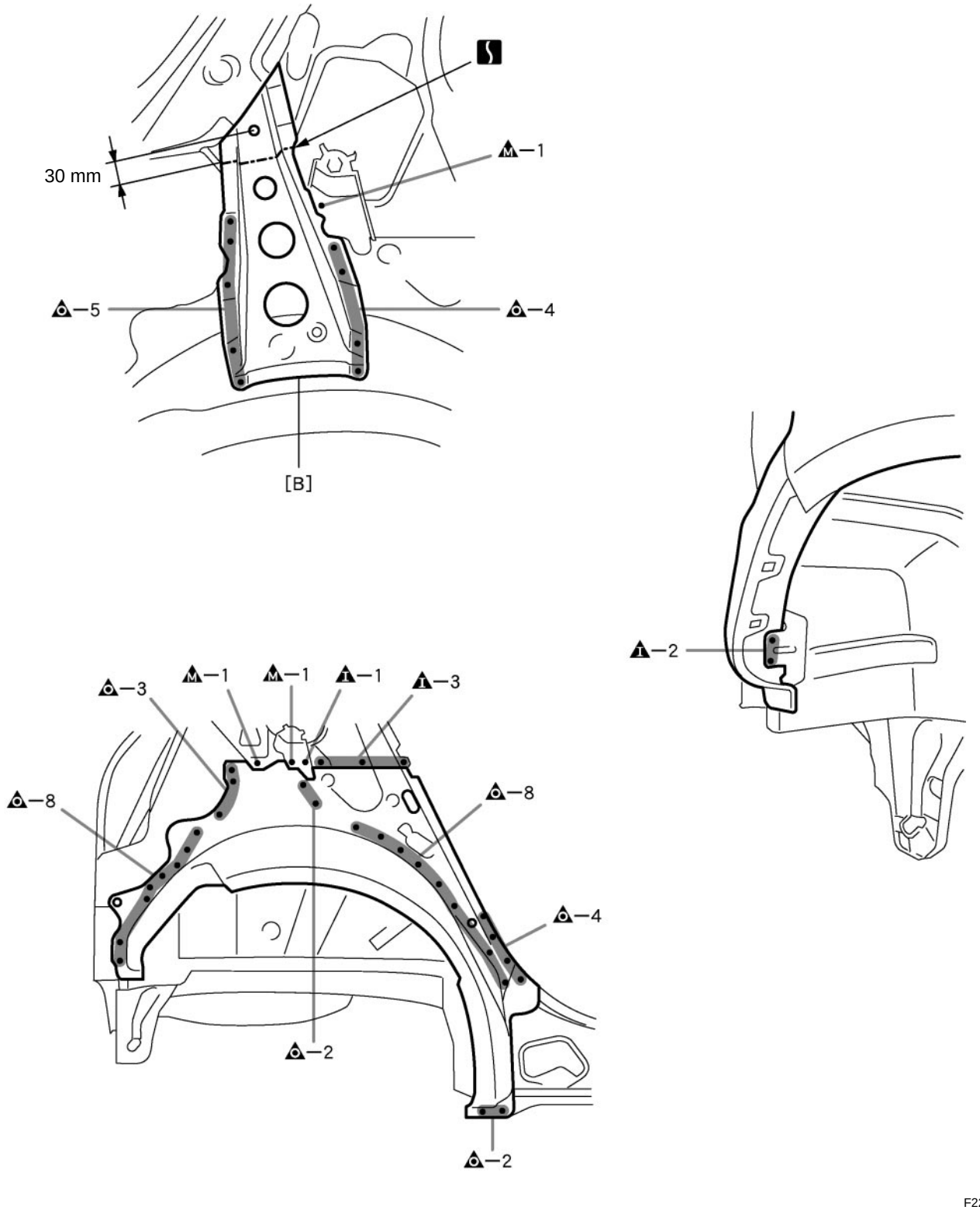
POINT

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

PART NAME

[A] Rocker Outer Reinforce

[RH]



POINT

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

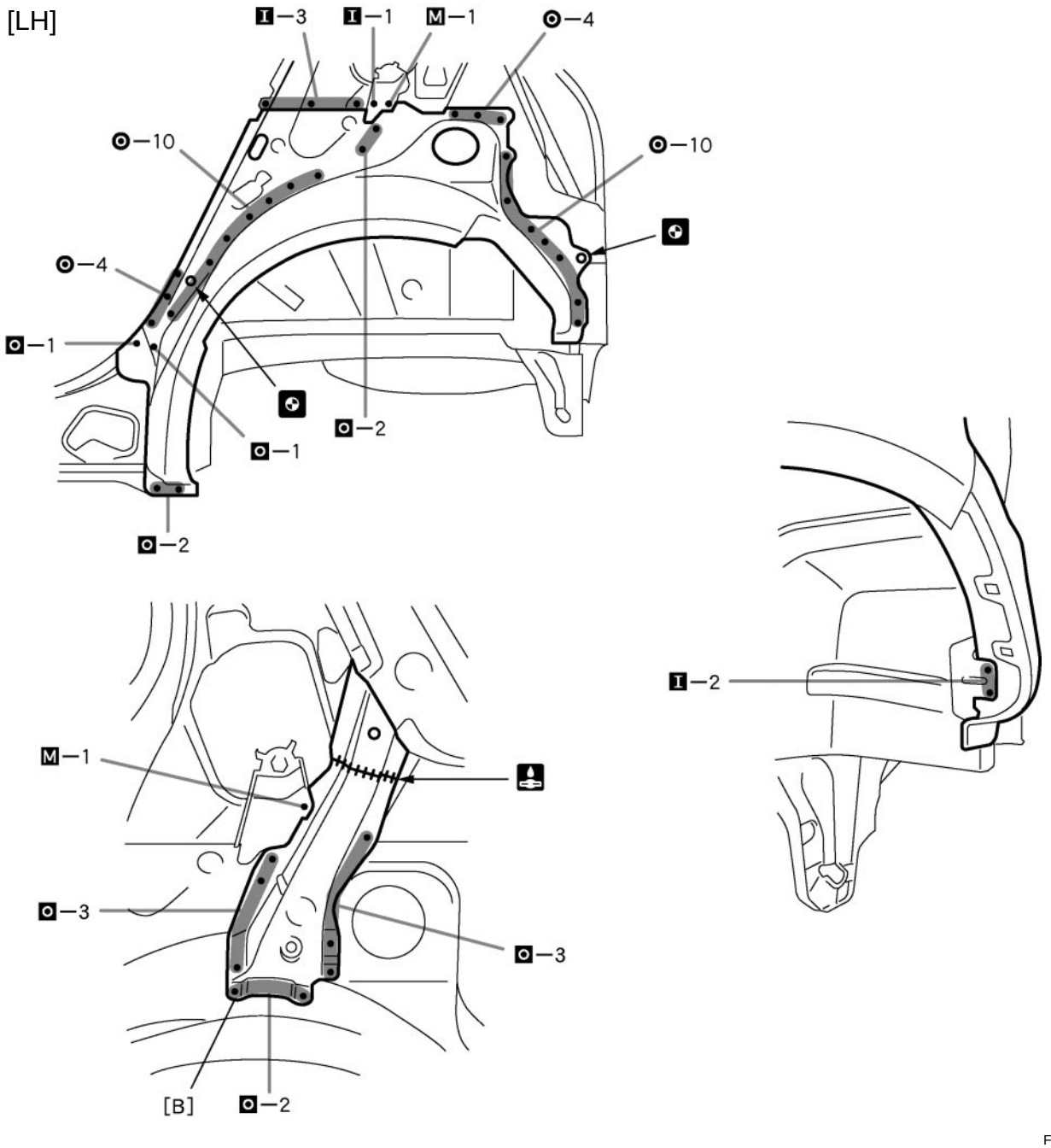
PART NAME

[B] Roof Side Outer Panel

30 mm (1.18 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.



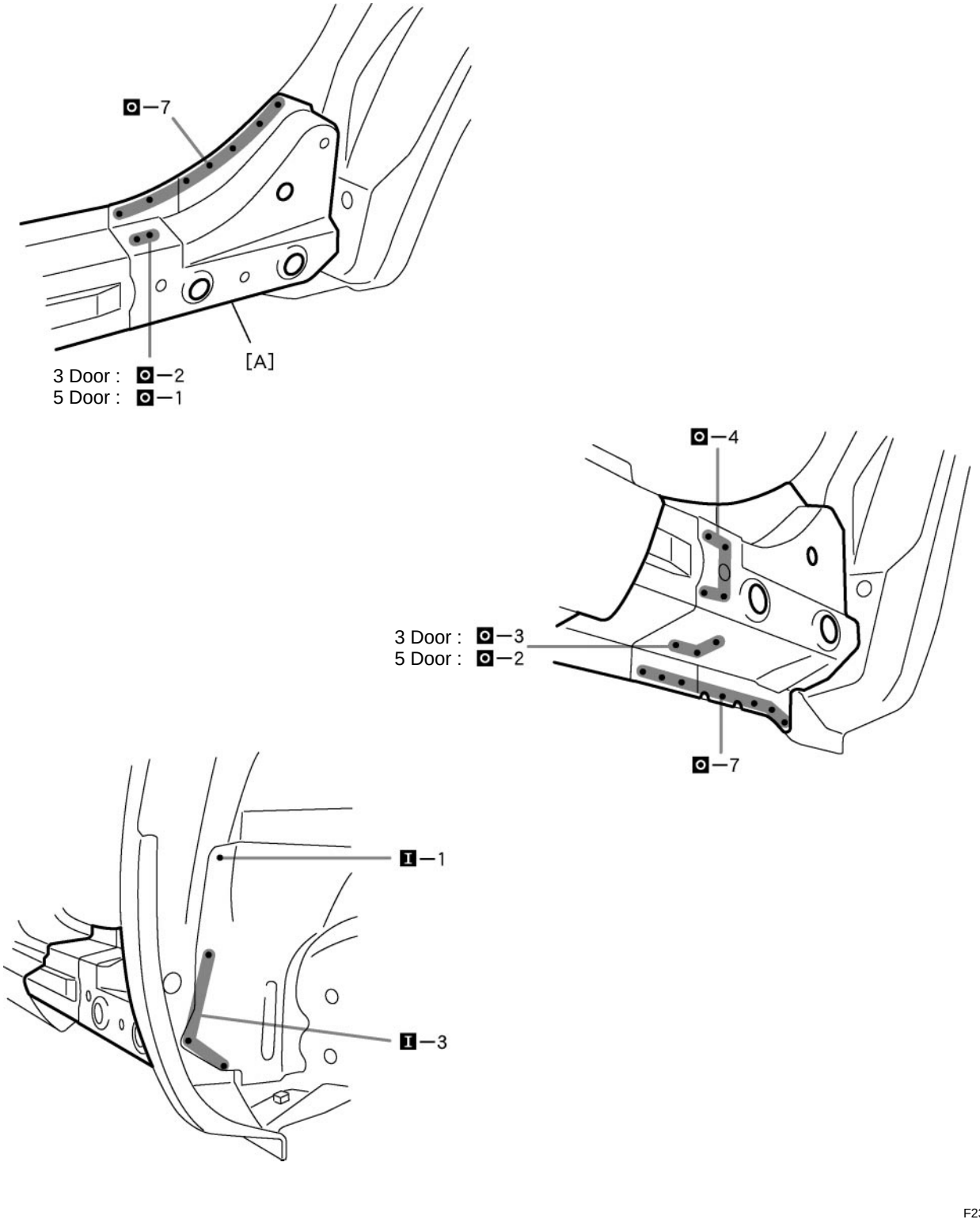
POINT

1 After installing the new parts, install [B].

PART NAME

[B] Roof Side Outer Panel

[LH]



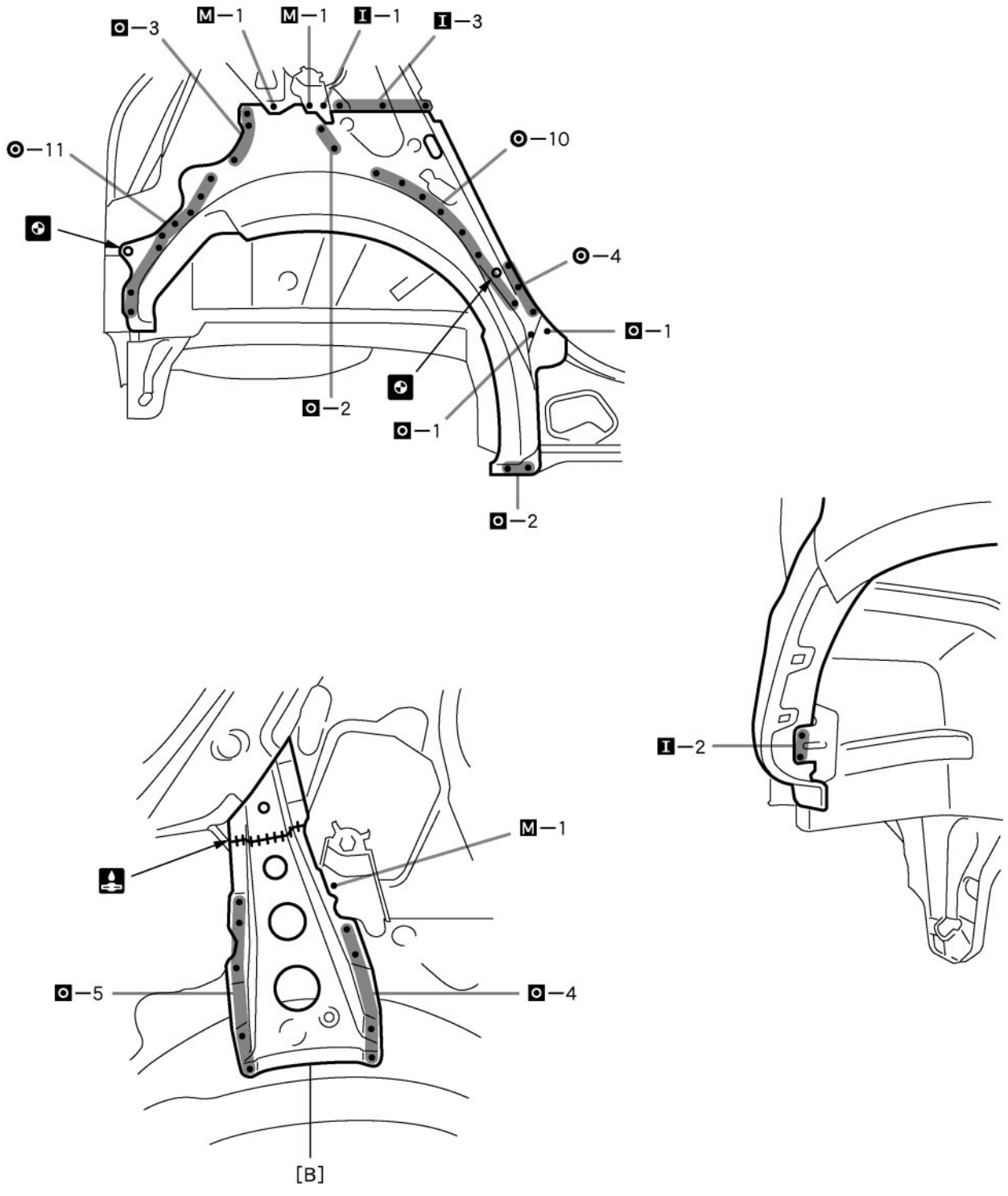
POINT

1 After installing the new parts, install [A].

PART NAME

[A] Rocker Outer Reinforce

[RH]



F22858

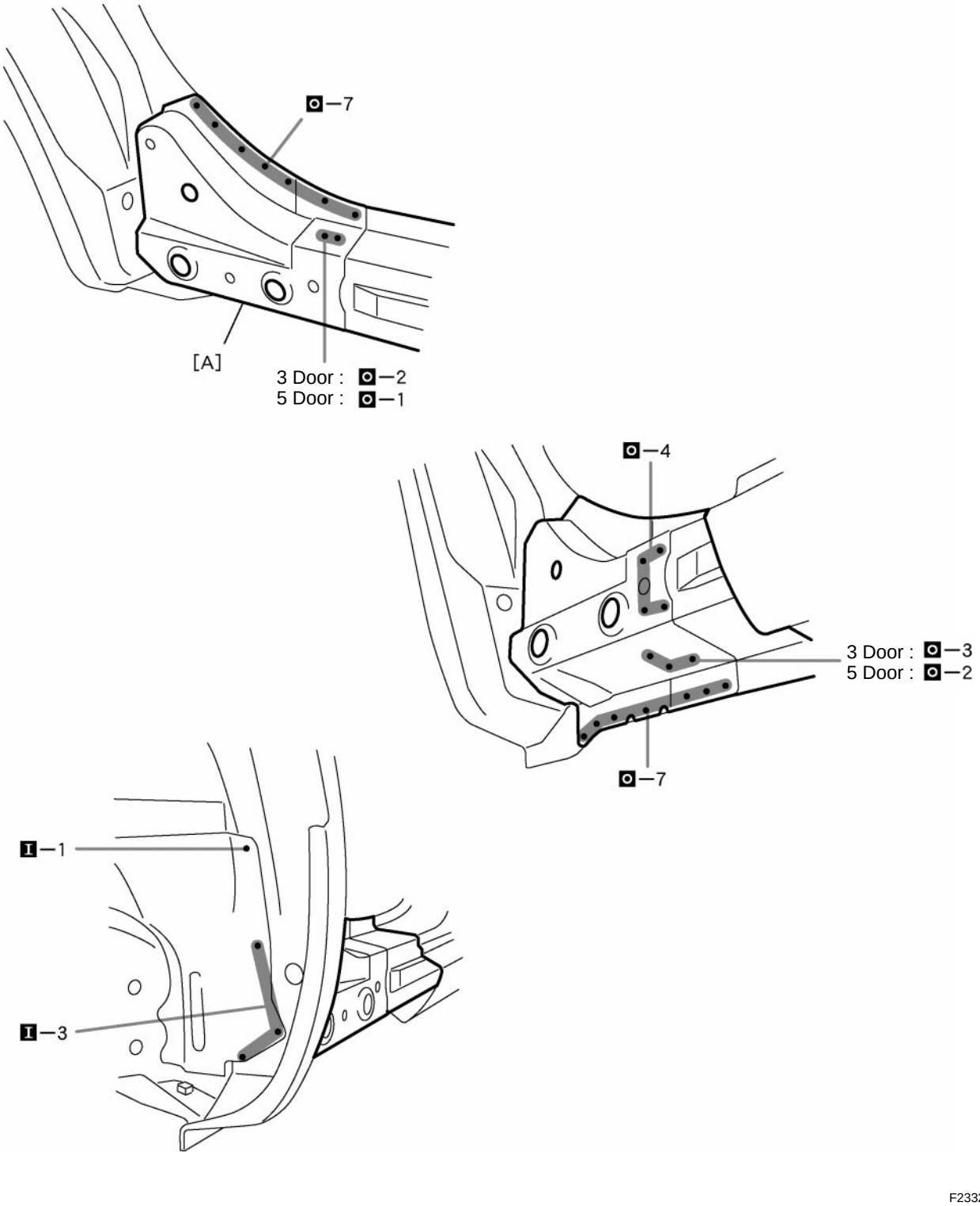
POINT

1 After installing the new parts, install [B].

PART NAME

[B] Roof Side Outer Panel

[RH]



F23324

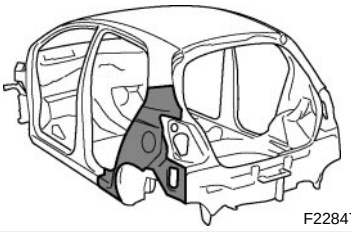
POINT

1 After installing the new parts, install [A].

PART NAME

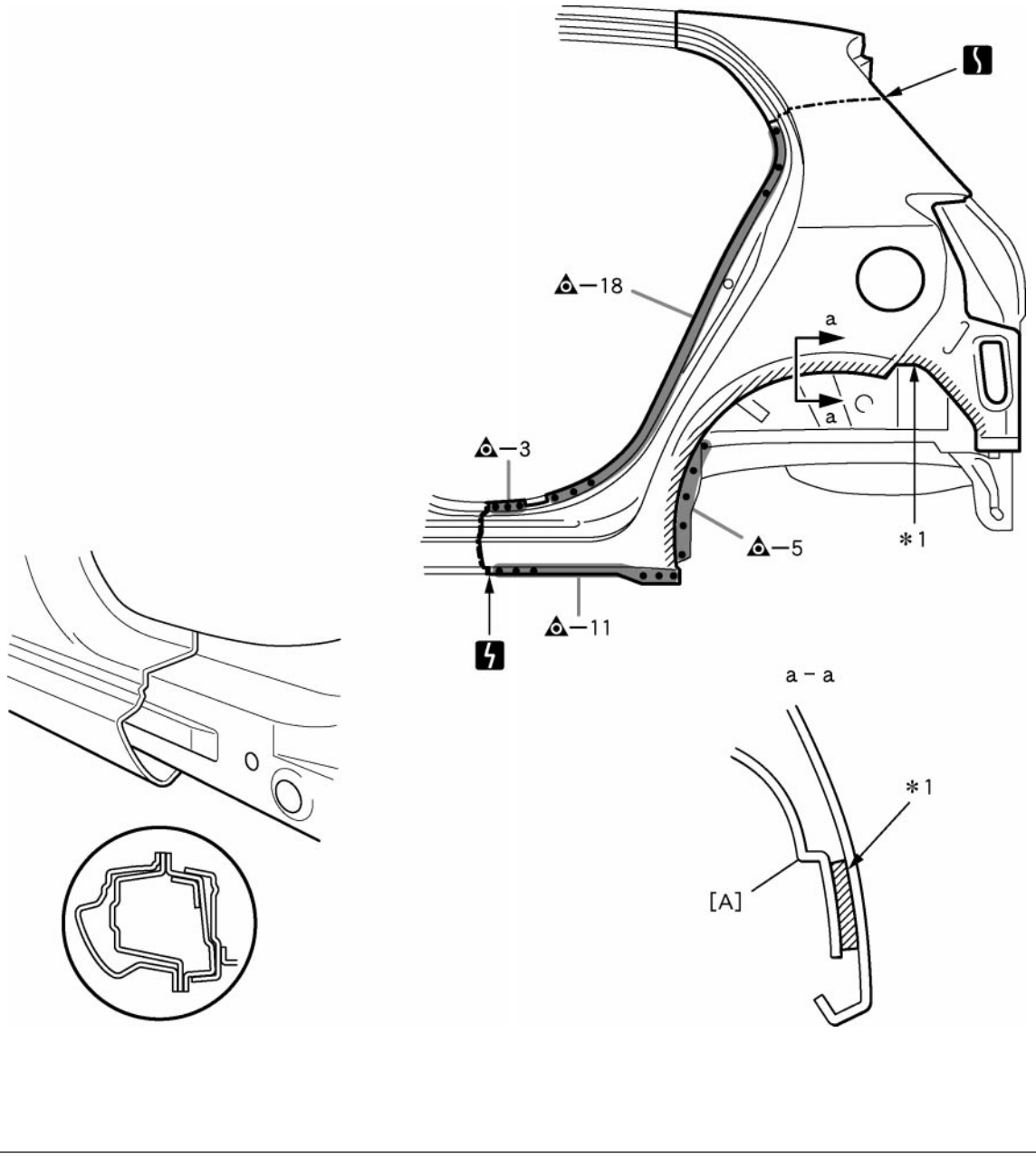
[A] Rocker Outer Reinforce

QUARTER PANEL (CUT): Hatchback 5 Door


F22847A

REPLACEMENT

REMOVAL



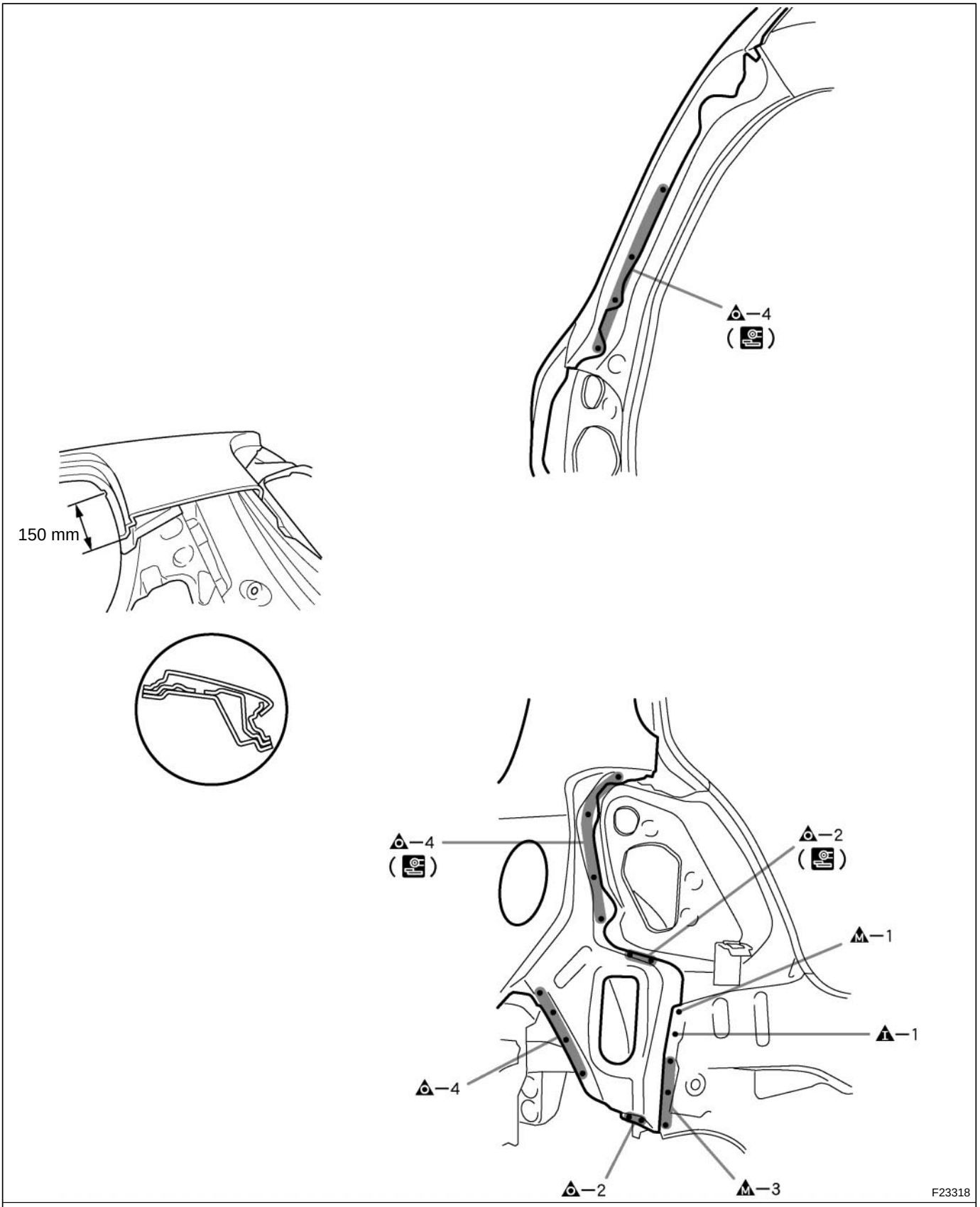
F23317

POINT

1 *1: The hatched area indicates the adhesive application area.

PART NAME

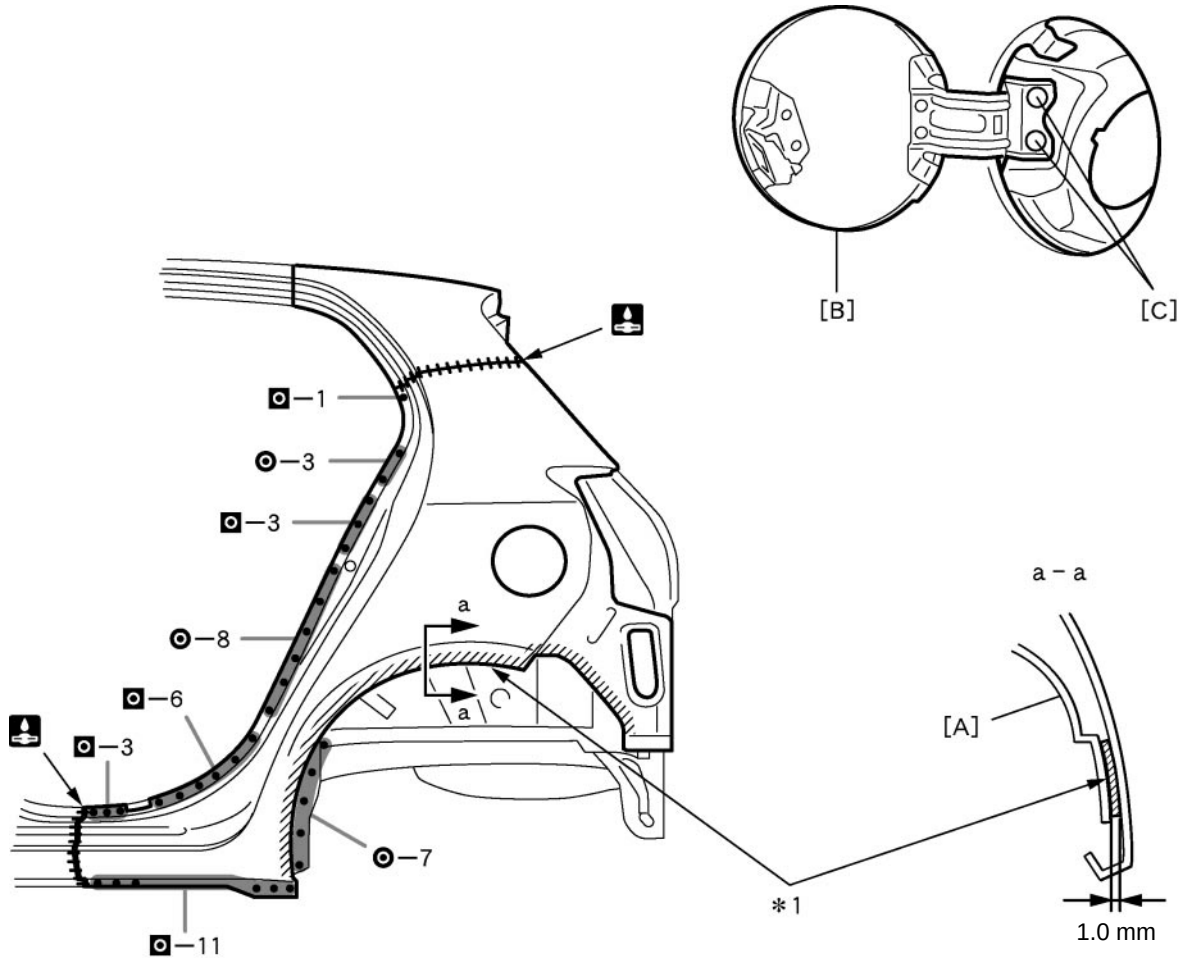
[A] Quarter Wheel Housing Outer Panel



150 mm (5.91in.)

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



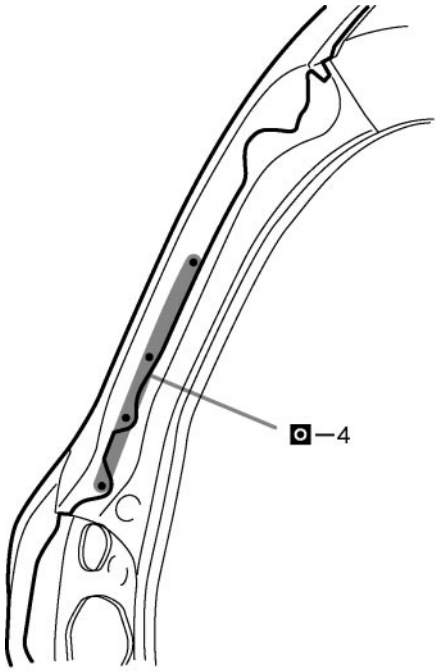
F23319

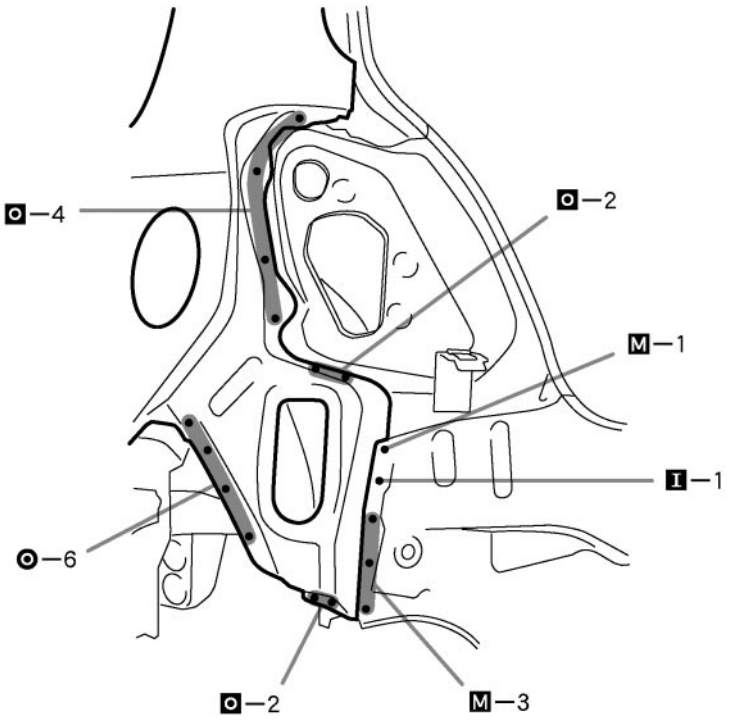
POINT

1 *1: The hatched area indicates the adhesive application area.

PART NAME

[A] Quarter Wheel Housing Outer Panel [B] Fuel Filler Opening Lid [C] Rivet
1.0 mm (0.04 in.)





F23320

POINT

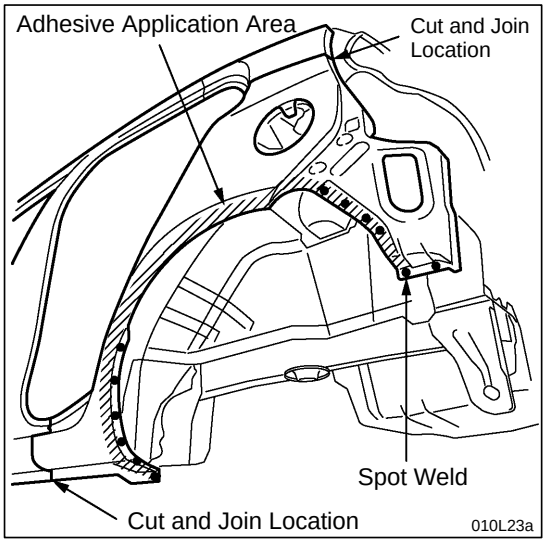
1 Inspect the front door, back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

Adhesive Application Area Work Procedure

※NOTE※

This vehicle has areas on the Quarter Panel and Quarter Wheel Housing Outer Panel that are joined together only with adhesive. It is necessary to conduct the correct repair procedures for high durability so make sure to follow the instructions below for the adhesive application areas.
Type of adhesive used: 3M8115 Auto Mix Panel Bond

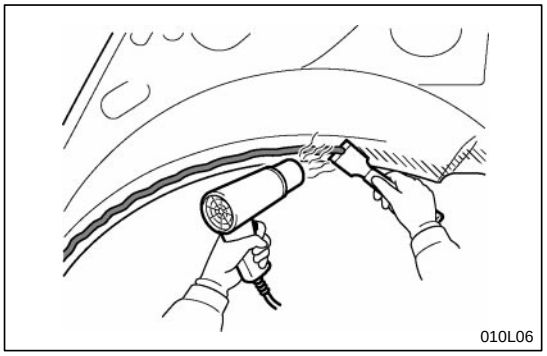
1. Removal of the Quarter Panel



(A) Remove the body sealer from the Quarter Panel and cut at the cut and join location. Remove the spot welded portions.

(B) After rough cutting the Wheel Arch portion, heat the adhesive applied area and remove the panel. {Heat the Wheel Arch portion of the Quarter Panel at 110 to 140 C (230 to 284 F) with a dryer or gas burner and remove the Quarter Panel.}

2. Removal of the previous adhesive coating



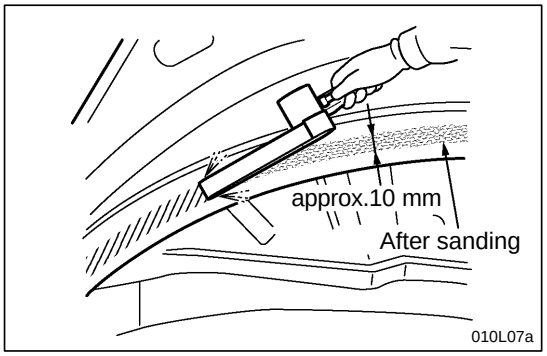
(A) Heat at 110 to 140 C (230 to 284 F) with a dryer or gas burner.

(B) Scrape away the adhesive with a scraper, and scuff while sanding with a disc grinder or a belt sander.

※NOTE※

- Make sure to use either a disc grinder or belt sander to sand coarsely and deeply to improve adhesiveness.
- Scuff at a width of approximately 10 mm (0.39 in.) over the previous adhesive coating.

3. Treatment of the spot welded portions on the body



(A) After the adhesive has been removed from the body, remove the paint from the underside of the spot welded points blow air and degrease.

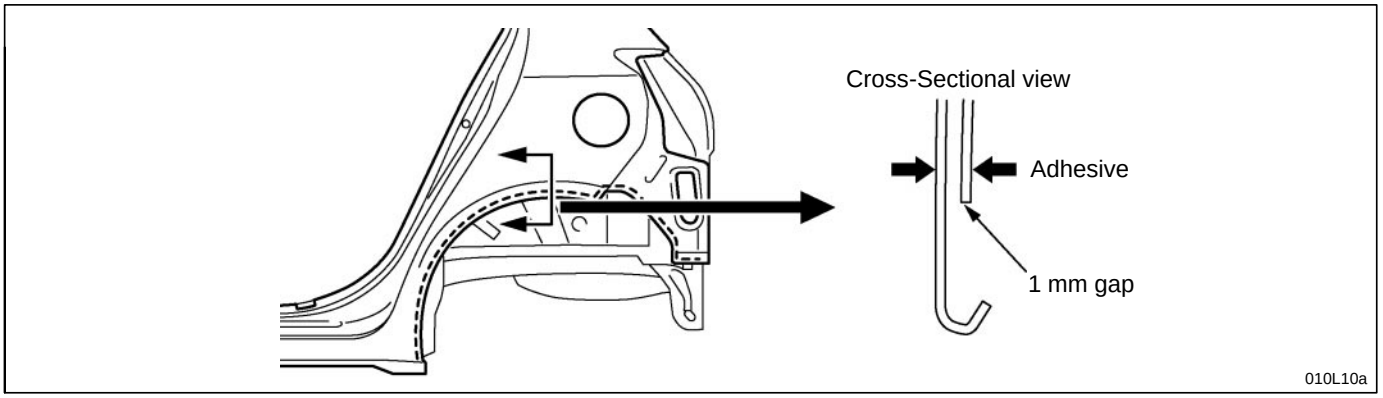
(B) Apply spot sealer at the joined portion between panels.

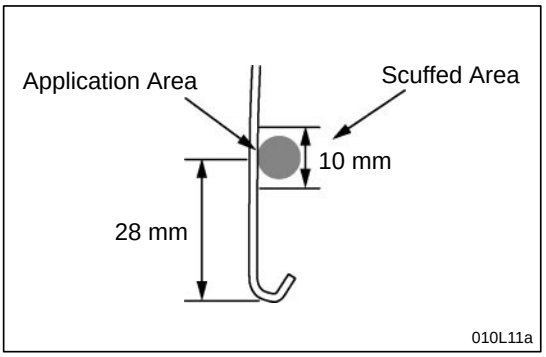
4. Attachment of the New Quarter Panel

(A) Temporarily attach the new panel and check the fitting condition, the cut and join locations, the welded areas, and the adhesive applied area.

※ NOTE ※

- Check the adhesive applied condition to ensure adhesive strength.
- Conduct hammering to fix the non-adhered portions.





5. Adhesive Application to New Quarter Panel

(A) Scuff with #60-120 grit sandpaper at the adhesive application area.

※ POINT ※

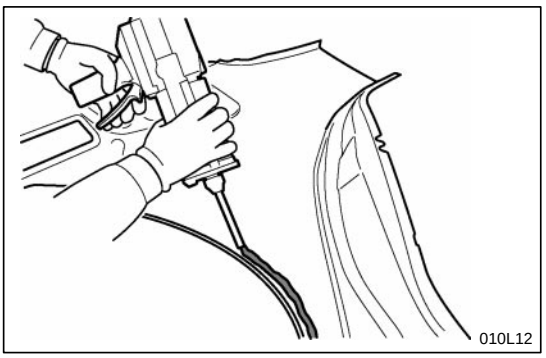
Sand deeply into the ED coat.

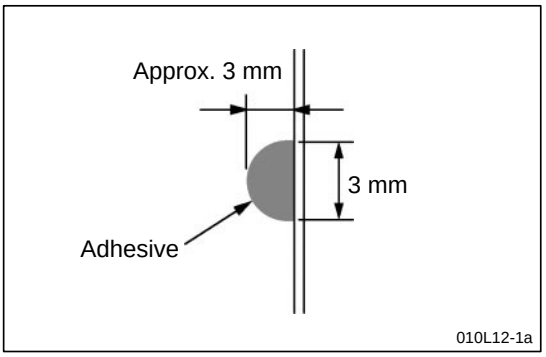
(B) Blow air around the scuffed portion and then degrease.

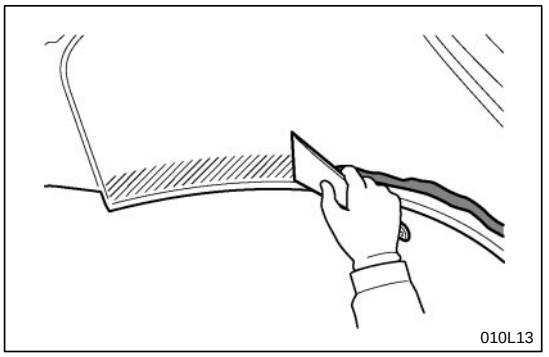
(C) Apply adhesive.

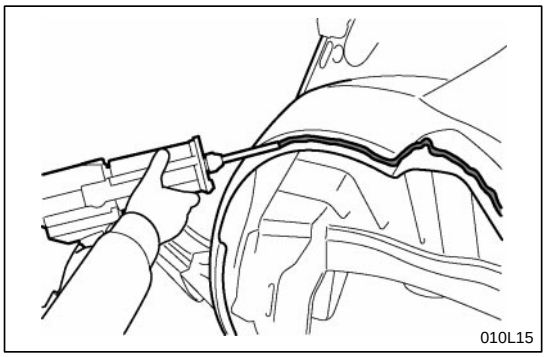
※ POINT ※

Apply adhesive at a width of approximately 10 mm (0.39 in.) at a location 28 mm (1.10 in.) from the panel flange edge. Spread the adhesive flatly within the scuffed area {approximately 10 mm (0.39 in.) in width} to remove trapped air.









6. Application of Adhesive to the Body

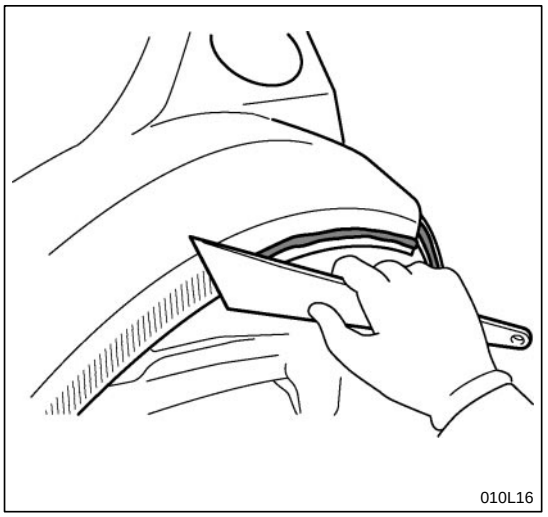
(A) Degrease the adhesive aplication area.

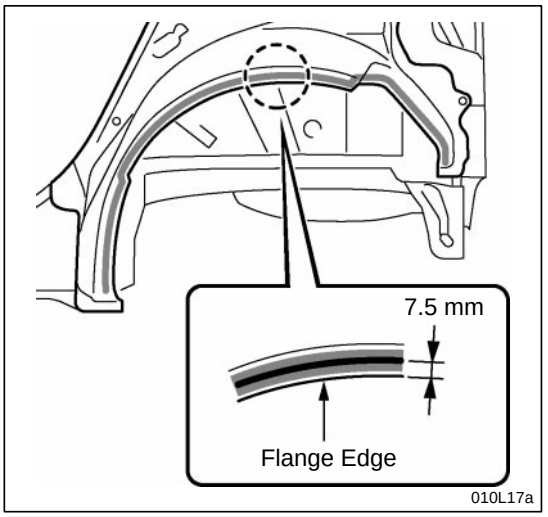
(B) Apply adhesive.

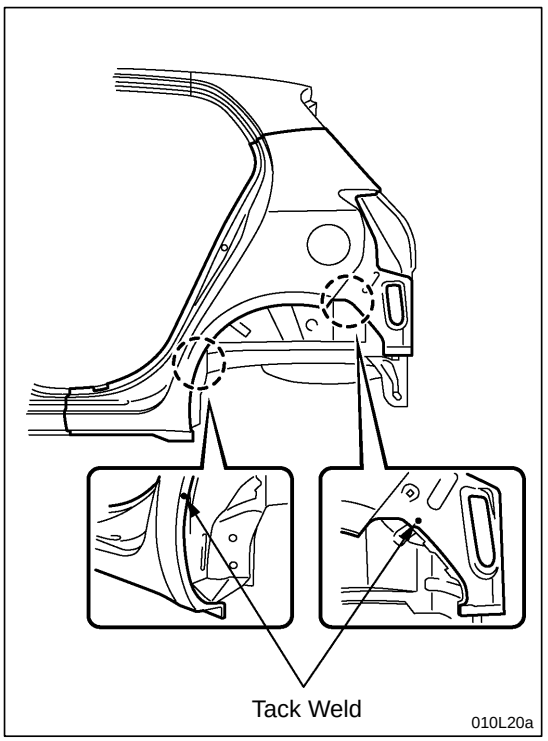
- Refer to the diagram of step 5 for the application amount.
- The application location is 7.5 mm (0.295 in.) from the flange edge.

(C) Flatten out the applied adhesive with a spatula until it is at an even level.

- Apply adhesive at exposed metal plate portions to prevent corrosion.
- It is not necessary to flatten out adhesive after it has been reapplied.







7. Attachment of the new Quarter Panel

(A) Set the new panel in the position for temporary attachment. (Be careful of where you hold the panel so as not to touch the adhesive applied surfaces.)

(B) Secure in a vice grip or equivalent and check the fitting condition.

(C) Press on the entire surface so that the adhesive between the Quarter Panel and Quarter Wheel Housing Outer panel becomes an even thickness.

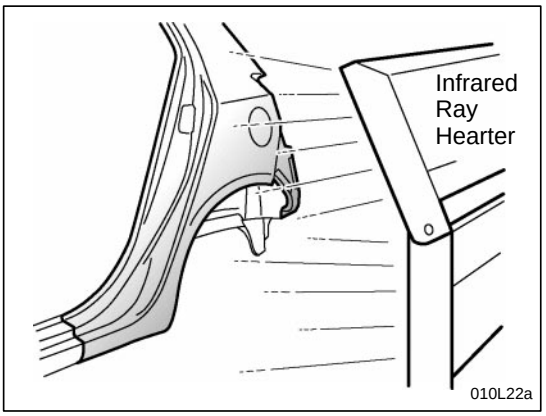
※ NOTE ※

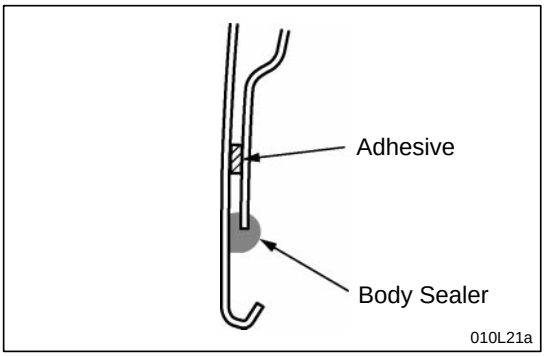
Be careful that adhesive that spills over does not contact the Brake Drum.

(D) Tack weld at the cut and join welded portion.

(E) Tack weld by spot welding at one point on both ends of the adhesive applied portions.

(F) Conduct actual welding using procedures in the BP section of this manual.





8. Drying

(A) Clean away adhesive that has spilled over with a degreaser or equivalent.

(B) After all welding works have been completed, dry the adhesive with a heater.

◦ Hardening Time

⁎ Forced drying

60 C (140 F) at 90 minutes.

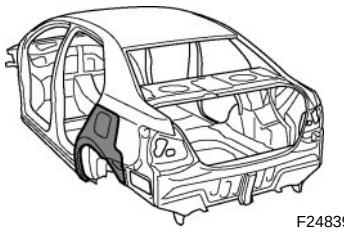
⁎ Natural drying

24 C (75 F) (room temperature) for 24 hours.

9. Other work

(A) After applying Primer Surfacer to the underside of the Wheel Arch of the Quarter Panel, apply body sealer to the locations indicated in the body repair manual.

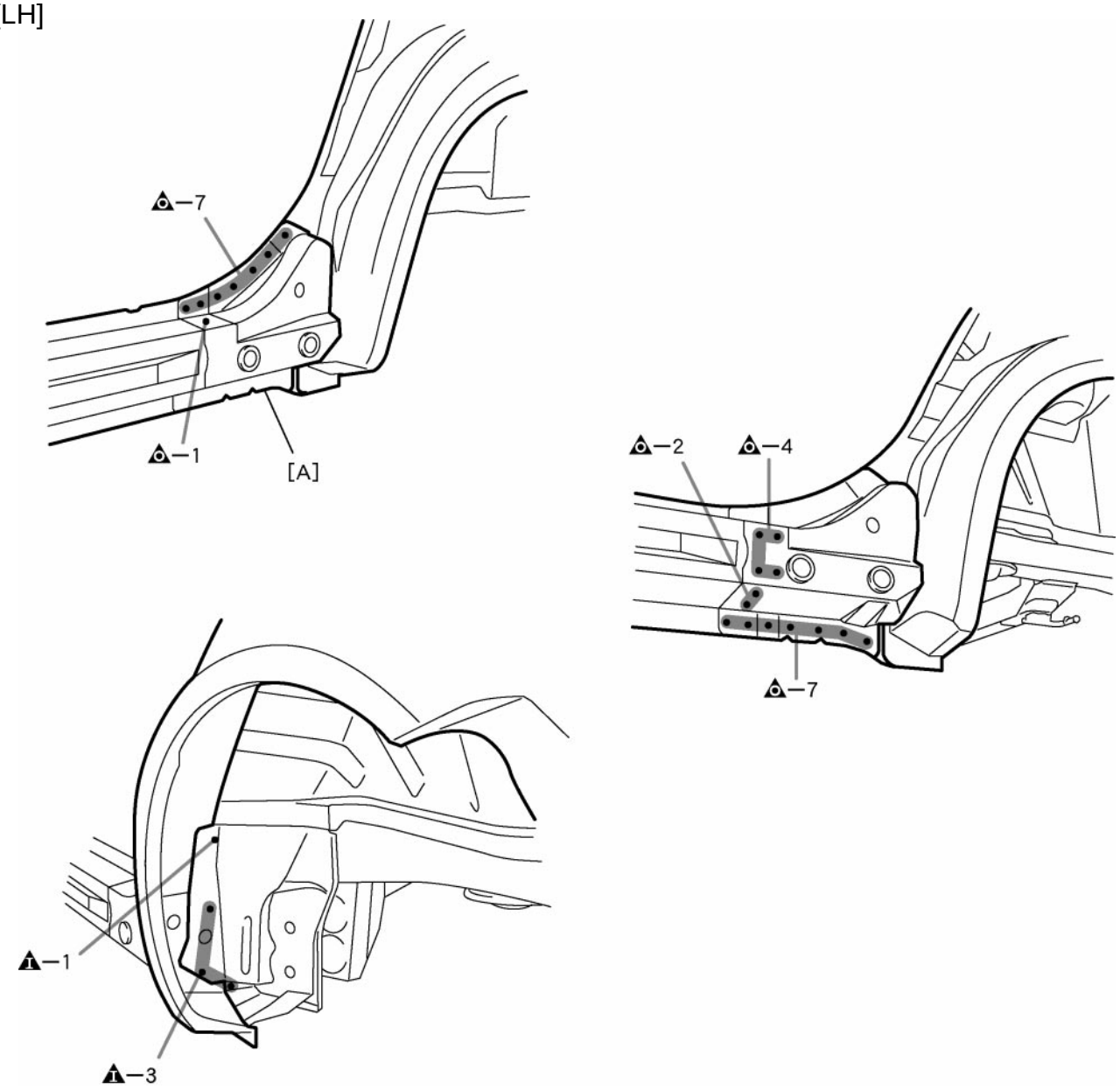
QUARTER WHEEL HOUSING OUTER PANEL (ASSY): Sedan


F24839A

REPLACEMENT
With the quarter panel removed.

REMOVAL

[LH]

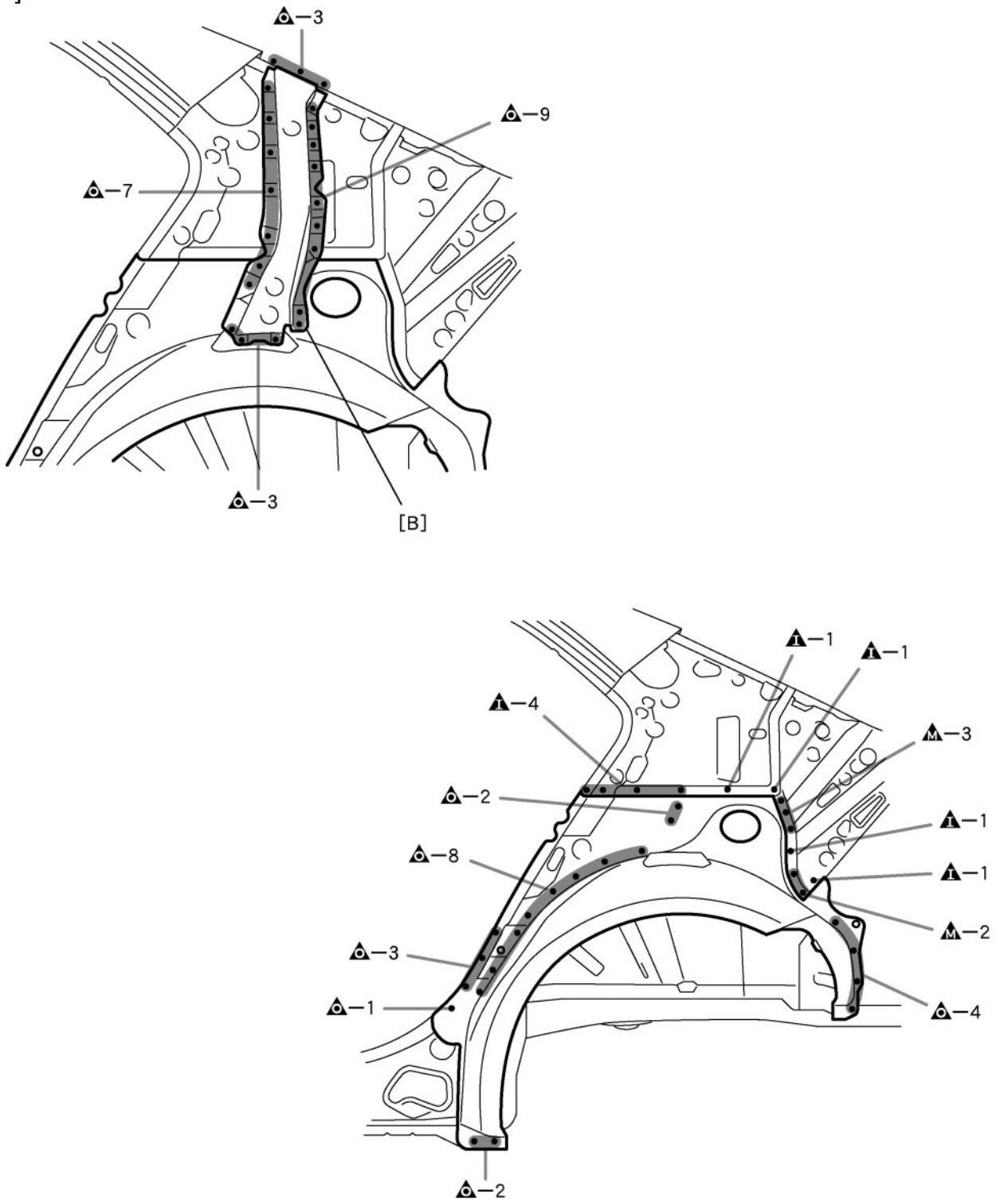


F24839-1

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

PART NAME
[A] Rocker Outer Reinforce

[LH]



F24840-1

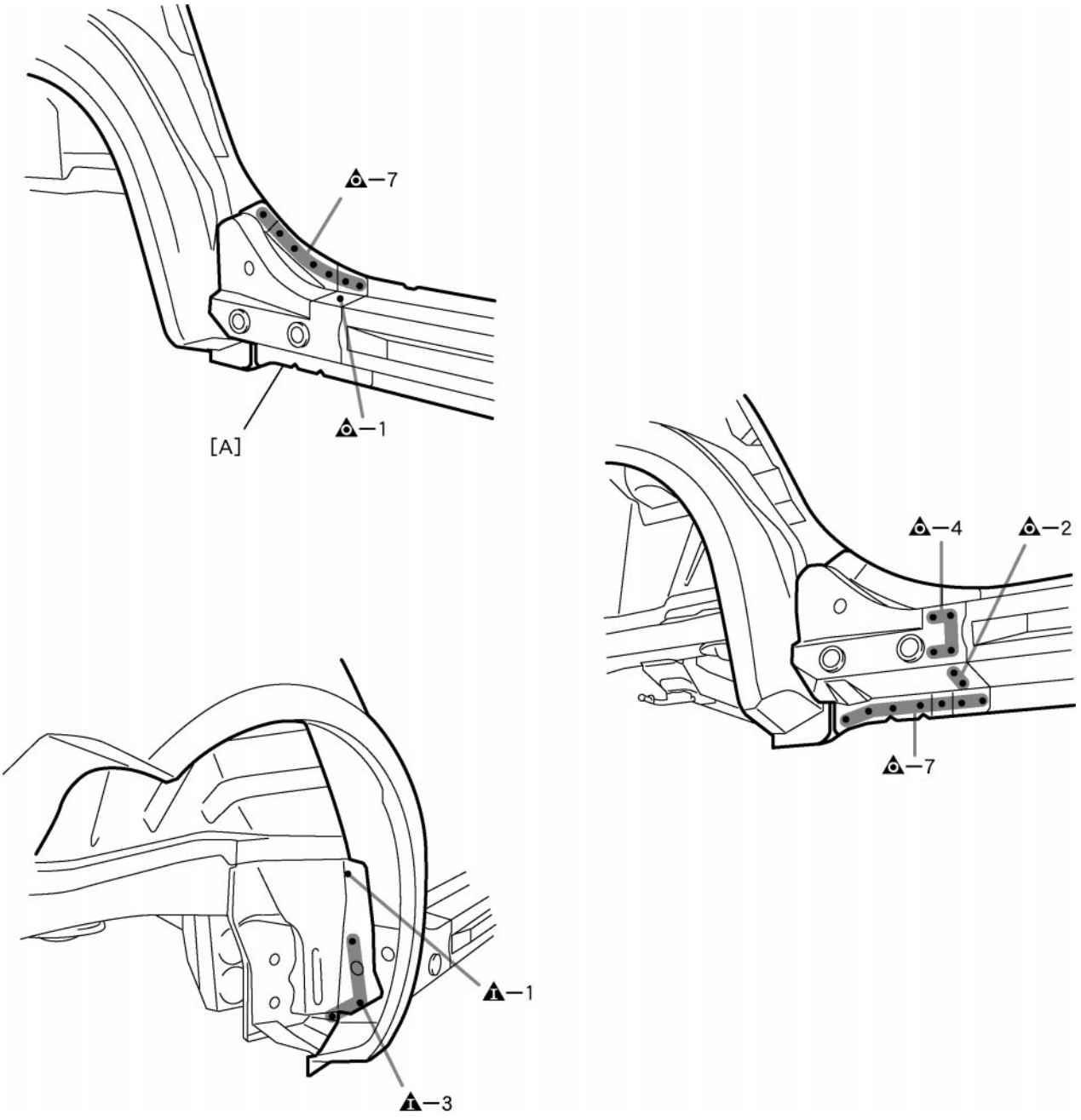
POINT

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

PART NAME

[B] Roof Side Outer Panel

[RH]



F24841-1

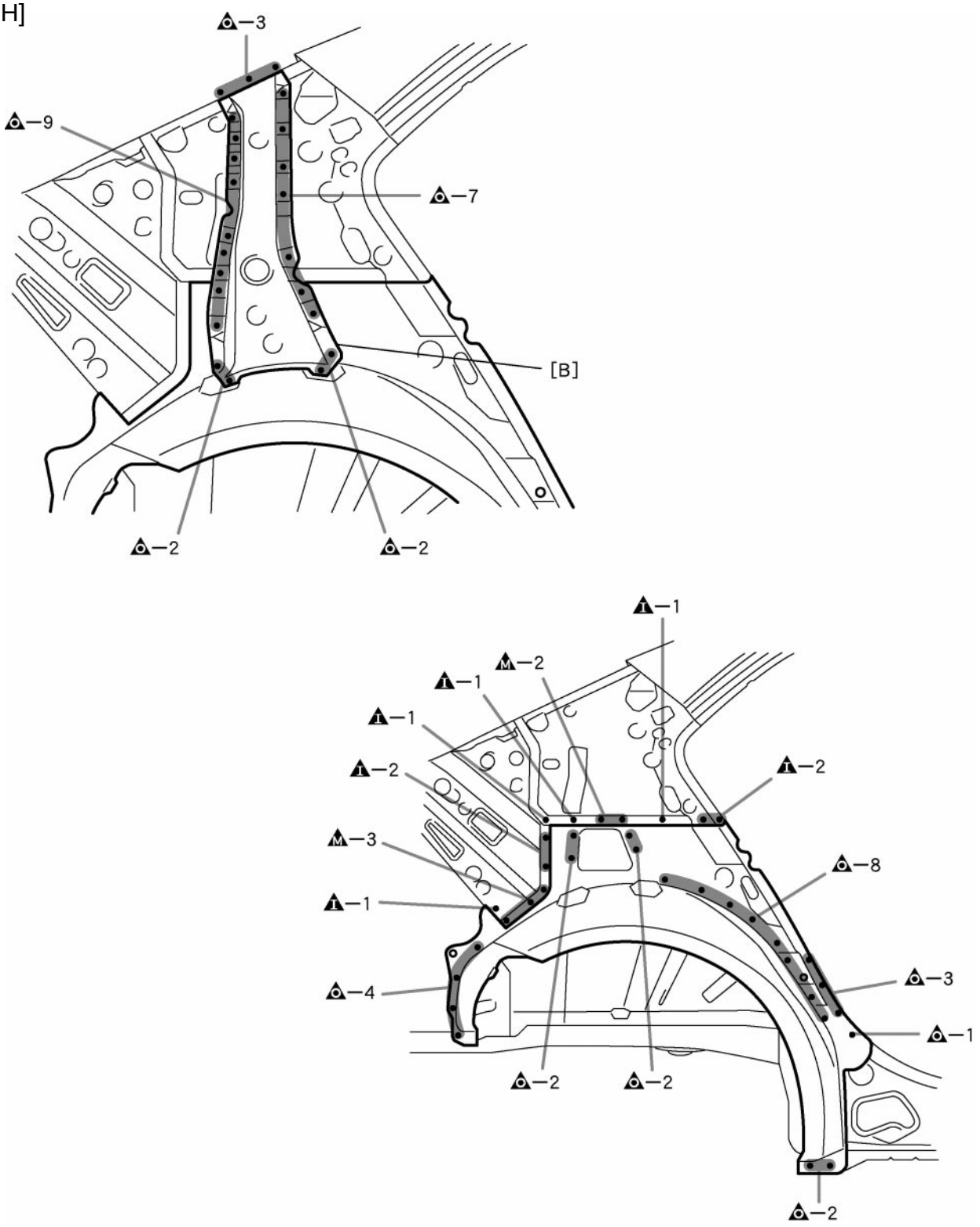
POINT

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

PART NAME

[A] Rocker Outer Reinforce

[RH]



F24842-1

POINT

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

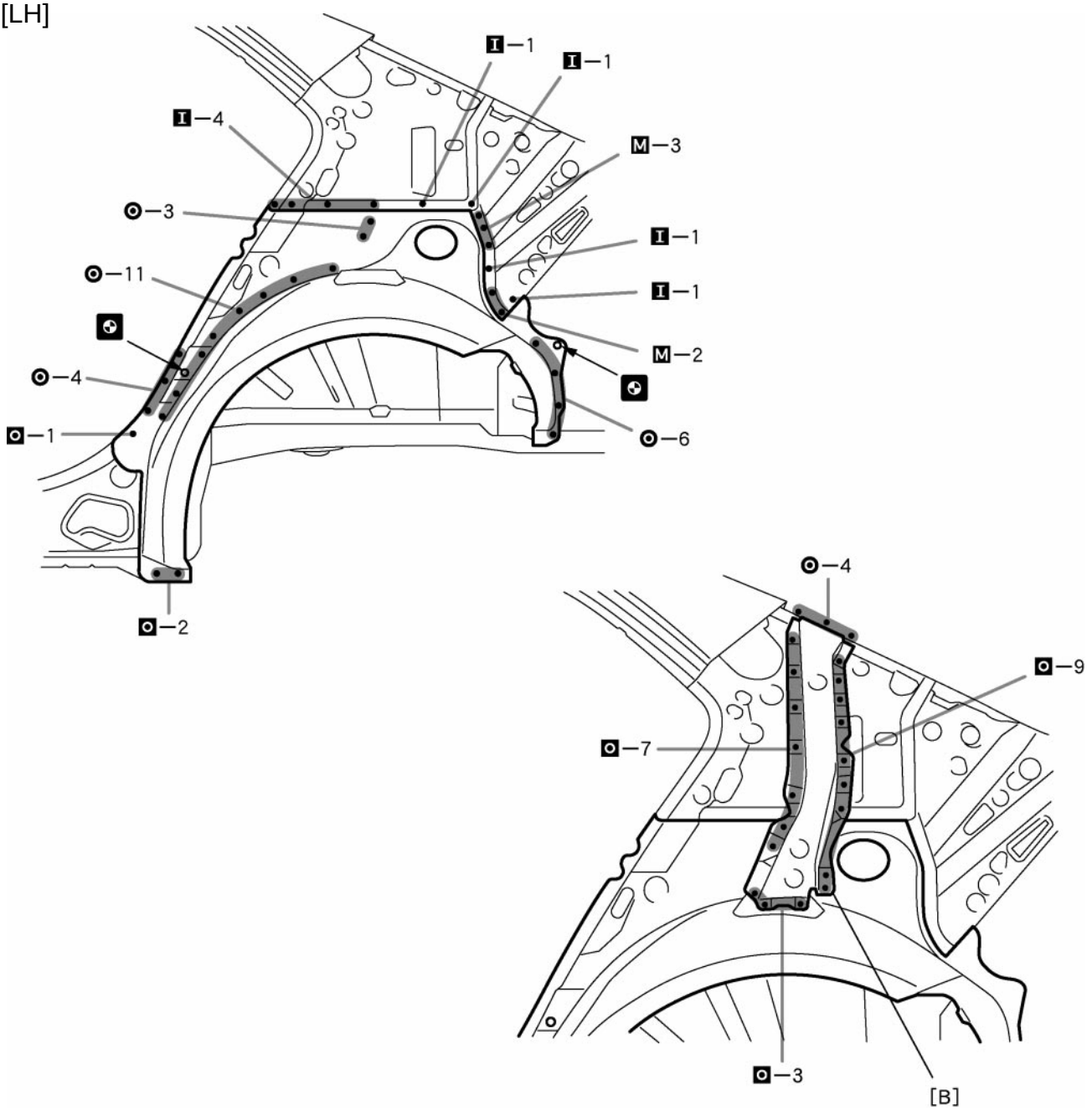
PART NAME

[B] Roof Side 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 polyurethane foam to the corresponding parts.
* After welding, apply body sealer and undercoating to the corresponding parts.
* After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

[LH]



F24840-2

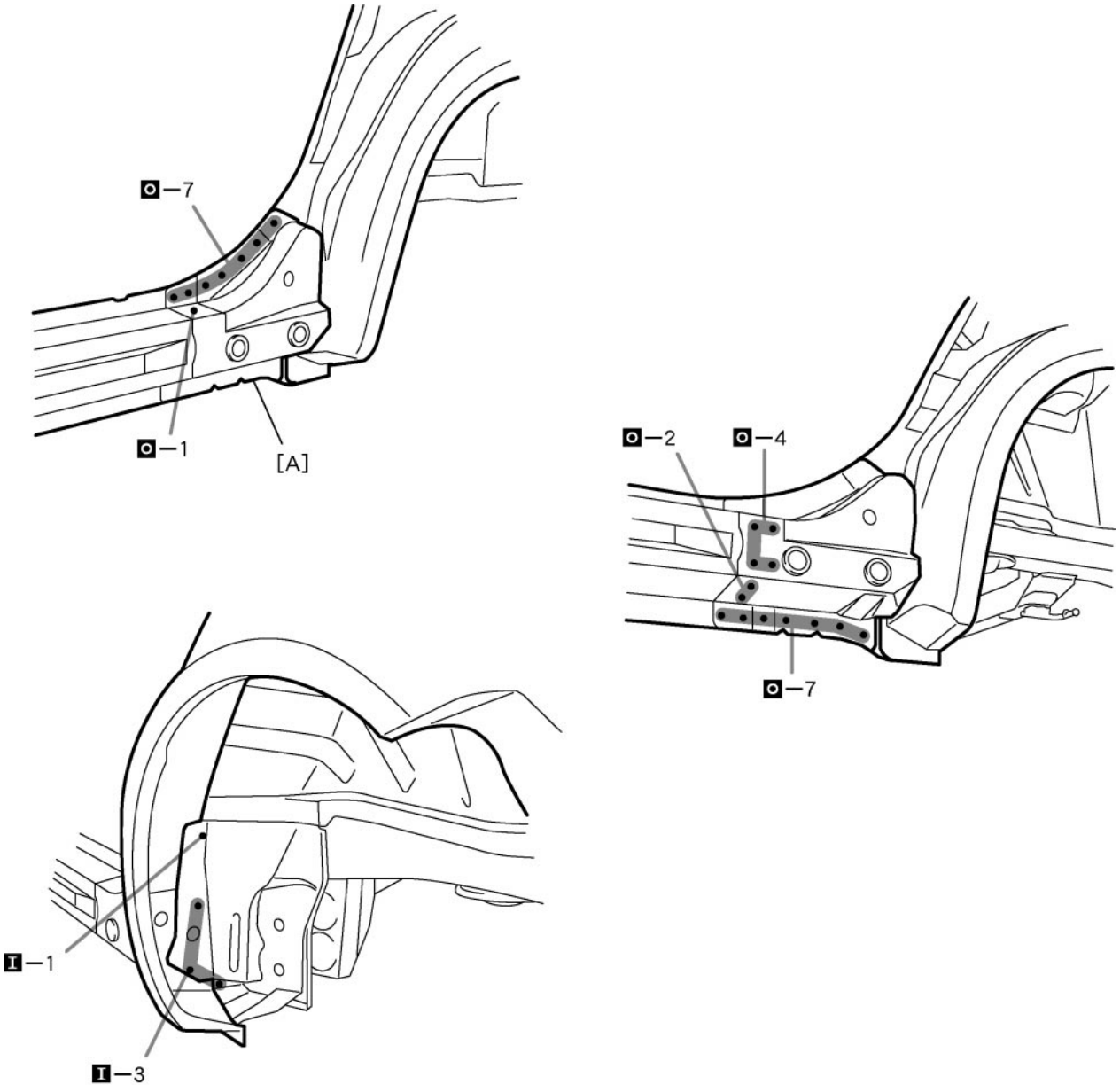
POINT

1 After installing the new parts, install [B].

PART NAME

[B] Roof Side Outer Panel

[LH]



F24839-2

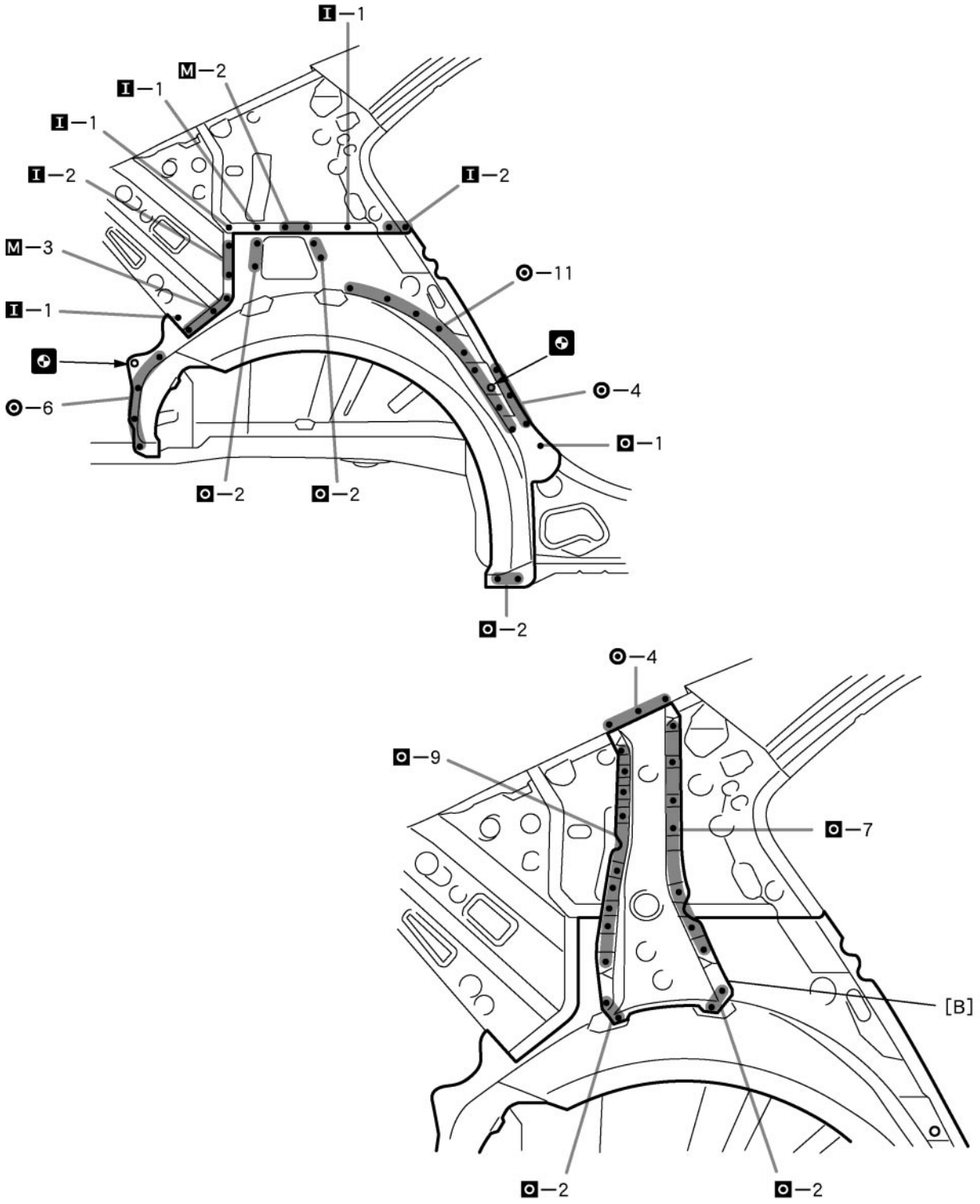
POINT

1 After installing the new parts,install [A].

PART NAME

[A] Rocker Outer Reinforce

[RH]



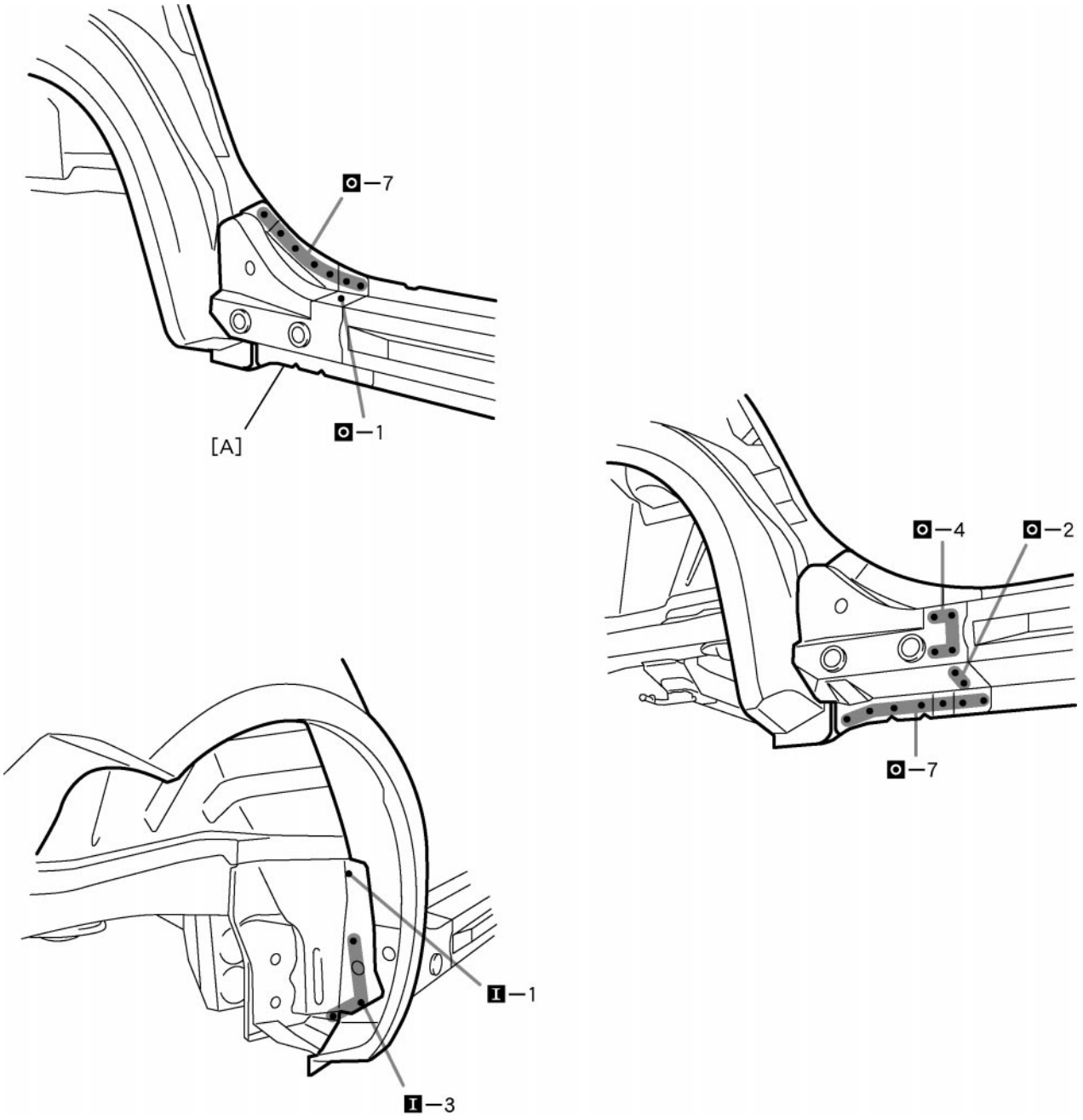
POINT

1 After installing the new parts, install [B].

PART NAME

[B] Roof Side Outer Panel

[RH]



F24841-2

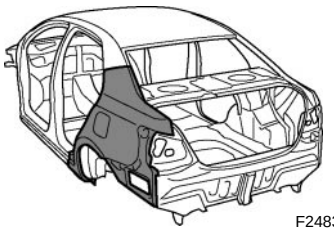
POINT

1 After installing the new parts, install [A].

PART NAME

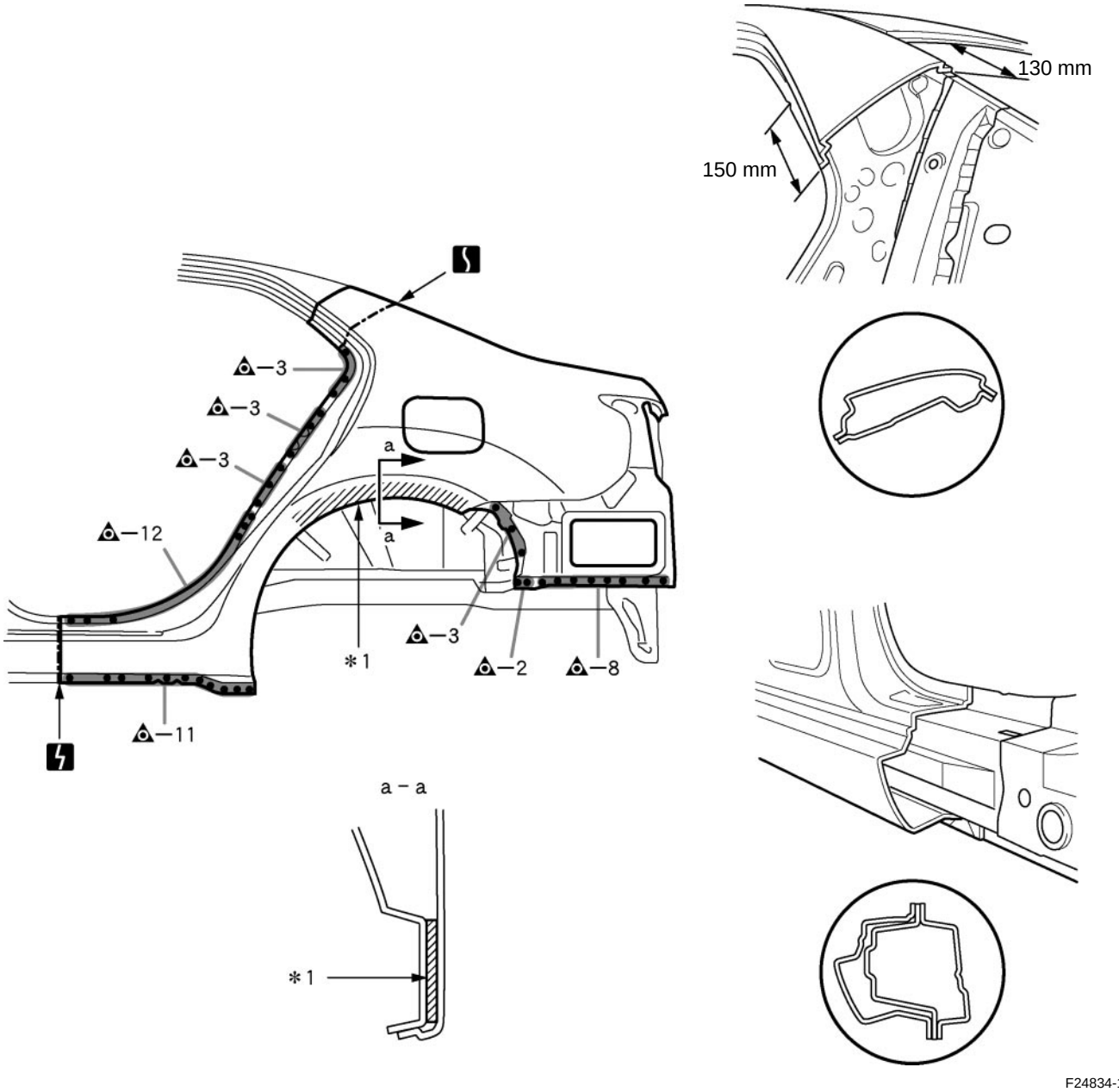
[A] Rocker Outer Reinforce

QUARTER PANEL (CUT): Sedan


F24834A

REPLACEMENT

REMOVAL



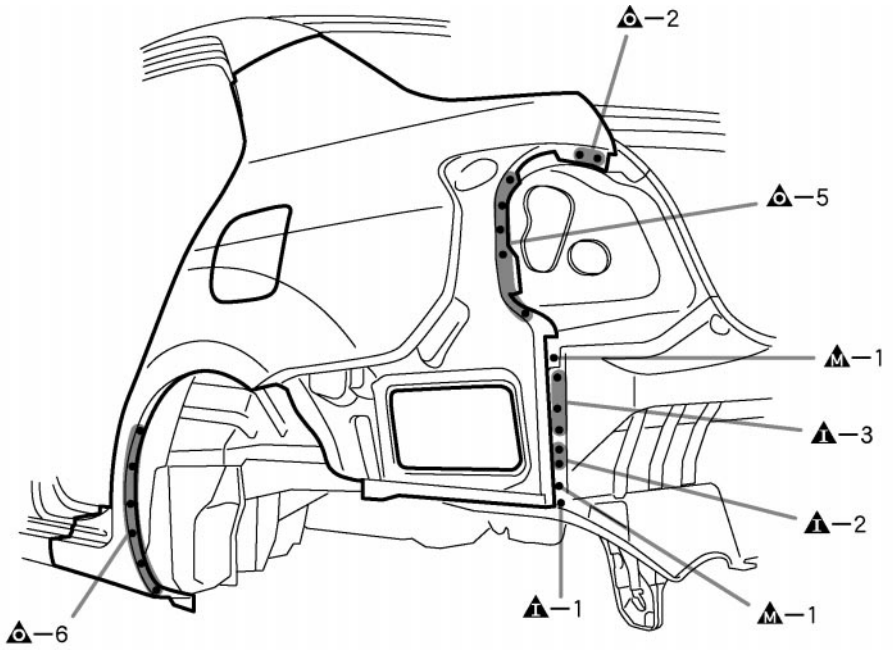
F24834-1

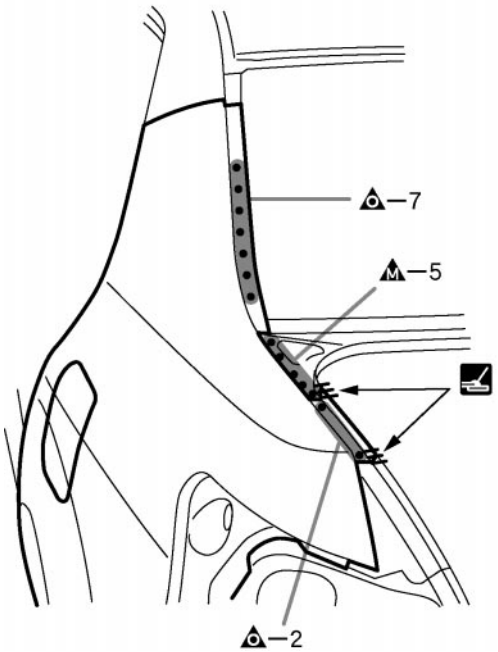
POINT

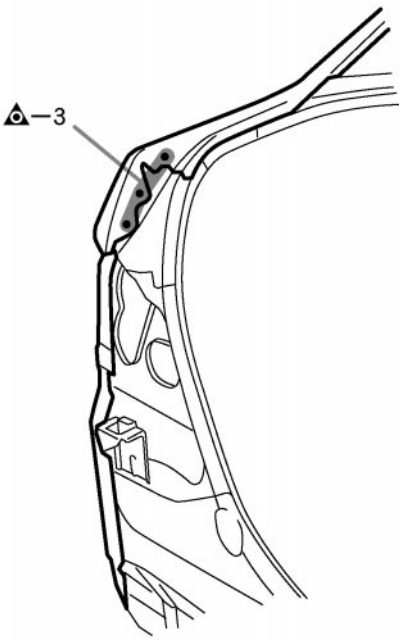
1 *1: in illustration above indicates where the adhesive is.

2 Roughly cut open the wheel arch of the panel so that the adhesive can be reached. Cut through the adhesive with a cut chisel to remove the panel.
HINT:
1) If the cut chisel cannot reach the adhesive, heat the adhesive with a heat gun, oxygen-acetylene burner. When heating, do not deform the quarter housing outer panel.

130 mm (5.12 in.) 150 mm (5.91 in.)



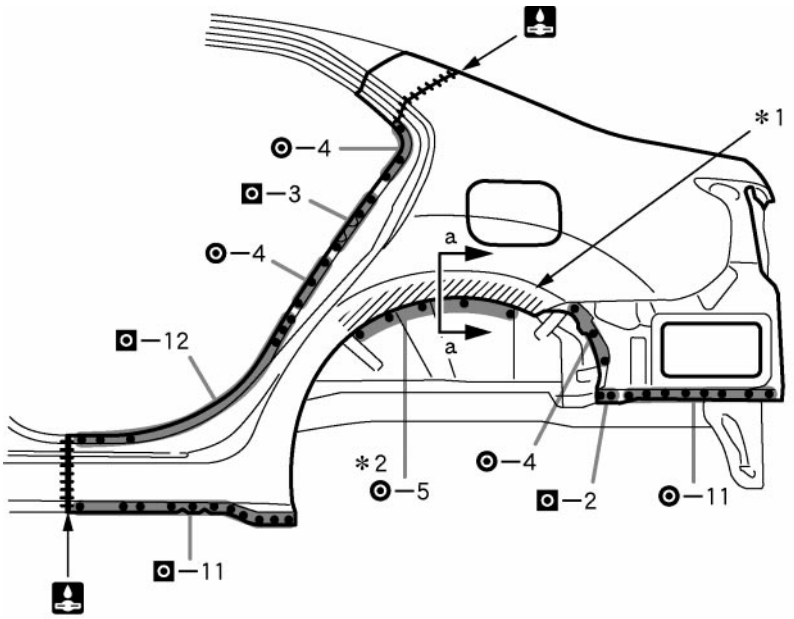


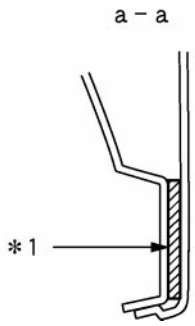


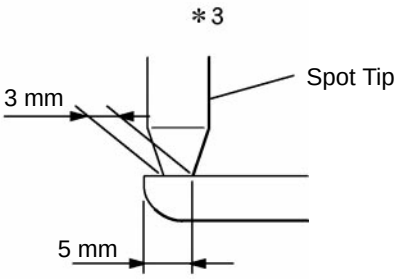
F24835

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.





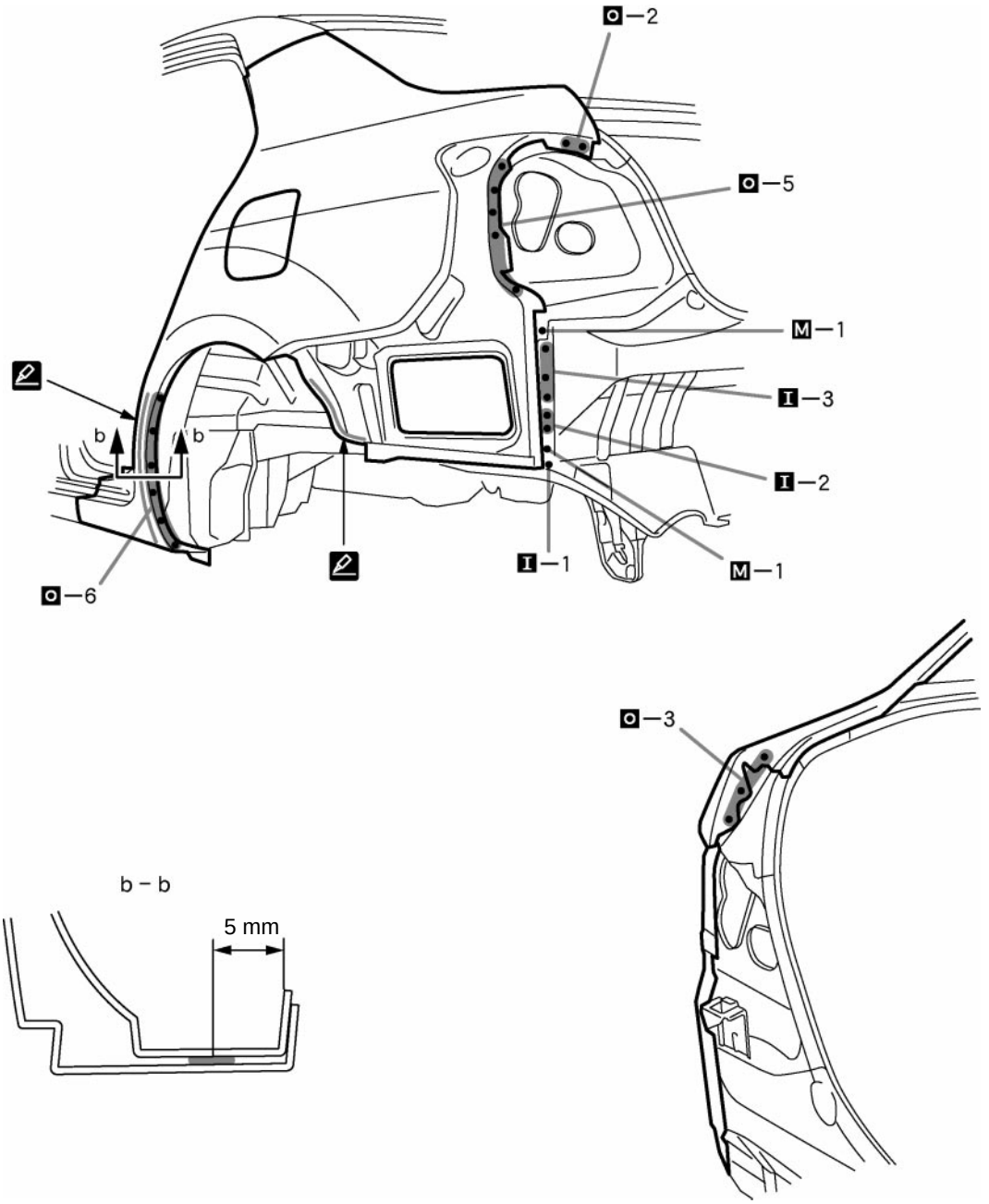


F24836-1

POINT

1 Inspect the fitting of the rear door, luggage compartment door, rear combination light and other related parts before welding as this affects the appearance of the finish.
2 Apply adhesive (3M™ Automix™ Panel Bonding Adhesive #8115) to the area indicated by ⁎1 in illustration.
HINT:
1) Apply enough adhesive for the panels to sick to each other.
3 Perform spot-welding on the flange indicated by ⁎2 in the illustration. Modify/cut the spot tip as shown in the illustration (⁎3) so that it can fit into the narrow flange.

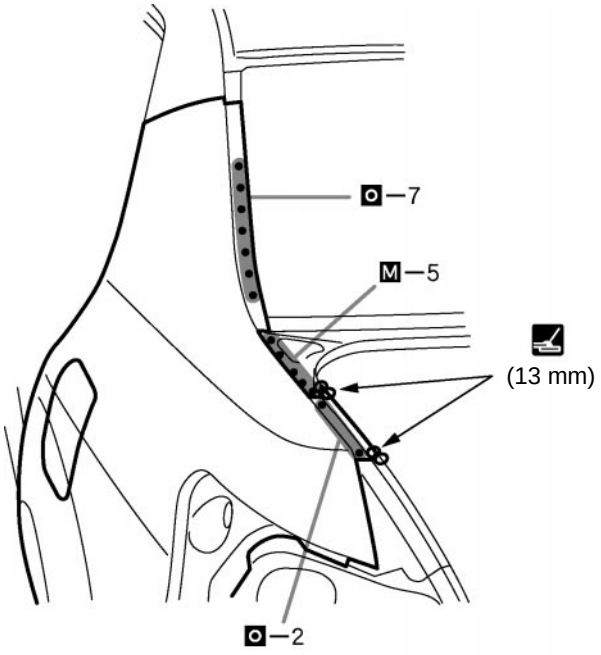
3 mm (0.12 in.) 5 mm (0.20 in.)

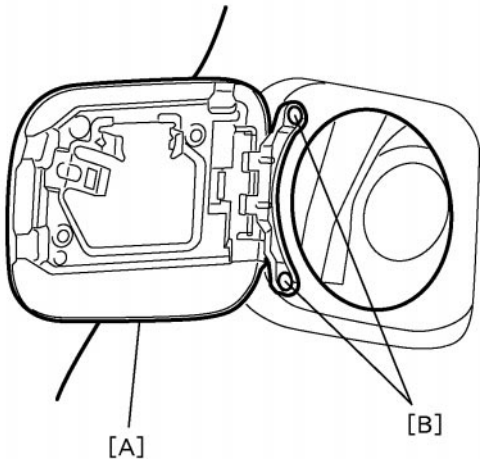


POINT

1 Before temporarily installing the new parts, apply body sealer to the wheel arch.
HINT:
1) Apply body sealer evenly about 5 mm (0.20 in.) form the flange, avoiding any oozing.
2) Apply sealer evenly, about 3 − 4 mm (0.12 − 0.16 in.) in diameter.

5 mm (0.20 in.)



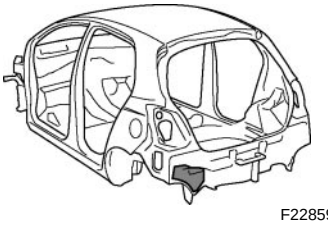


F24838-1

PART NAME
[A] Fuel Filler Opening Lid [B] Rivets

13 mm (0.51 in.)

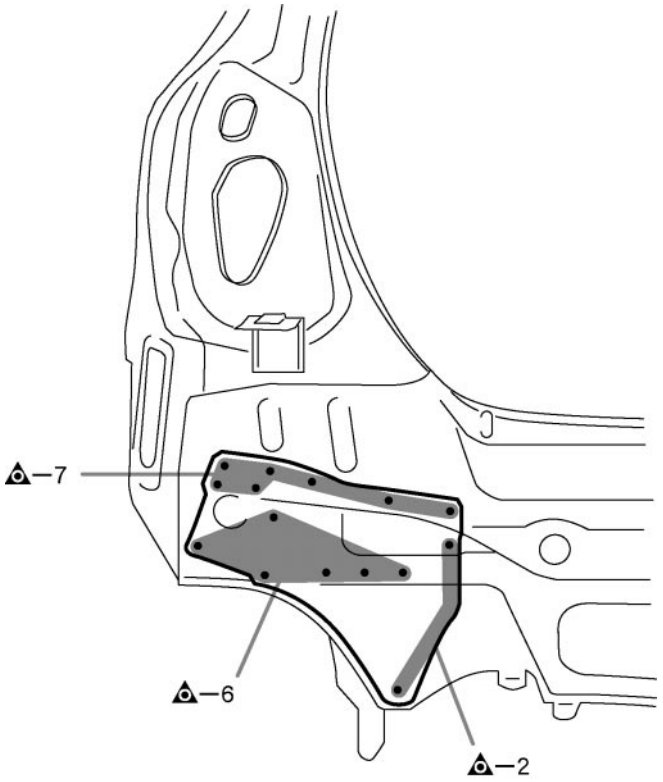
LOWER BACK UPPER GUSSET (ASSY): Hatchback



F22859A

REPLACEMENT

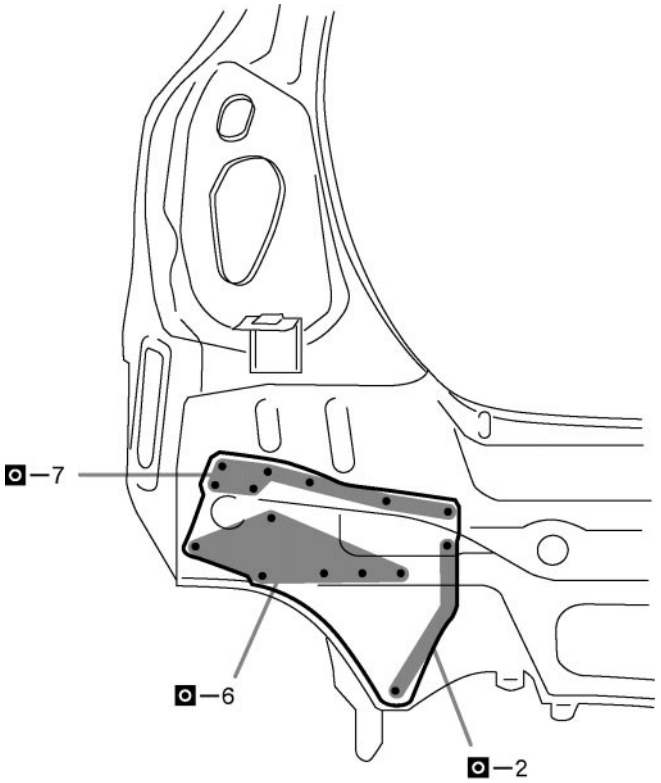
REMOVAL



F22859

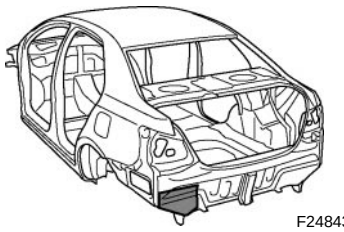
INSTALLATION

⁎ 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.



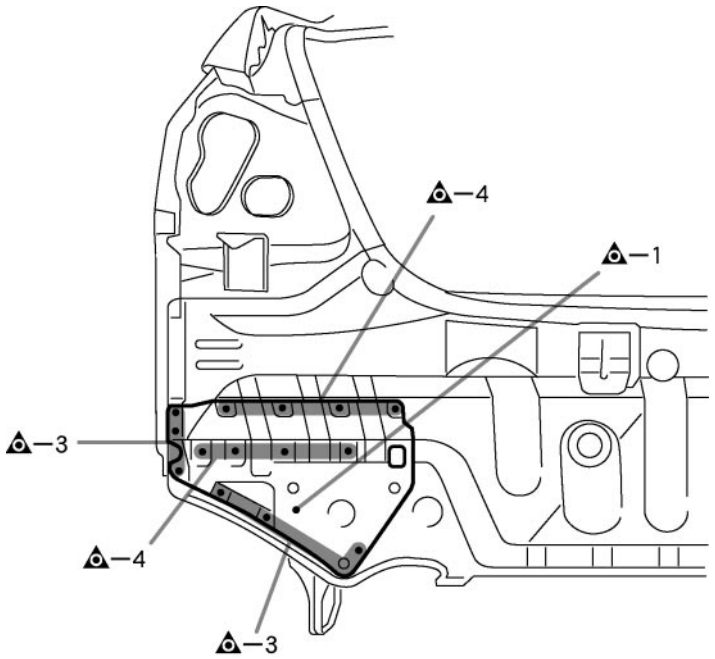
F22860

LOWER BACK UPPER QUSSET (ASSY): Sedan


F24843A

REPLACEMENT

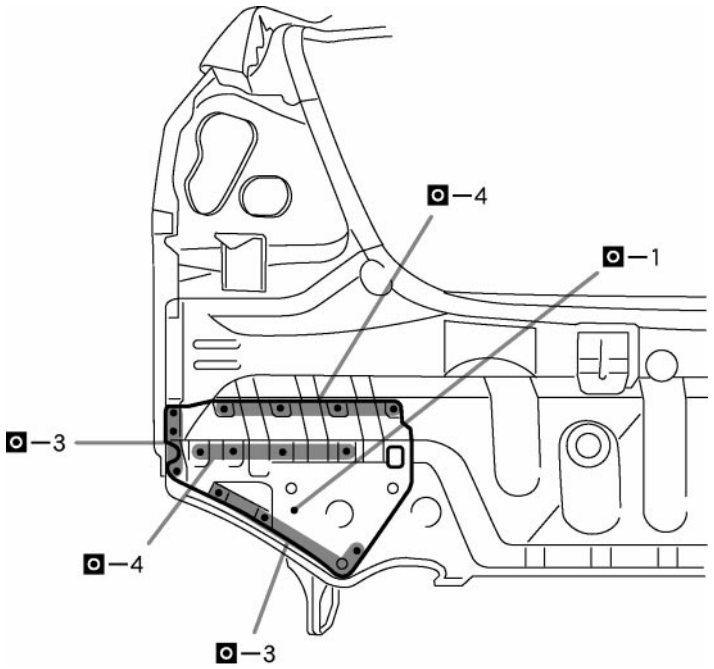
REMOVAL



F24843-1

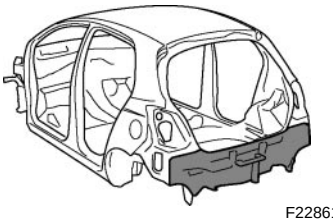
INSTALLATION

⁎ 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



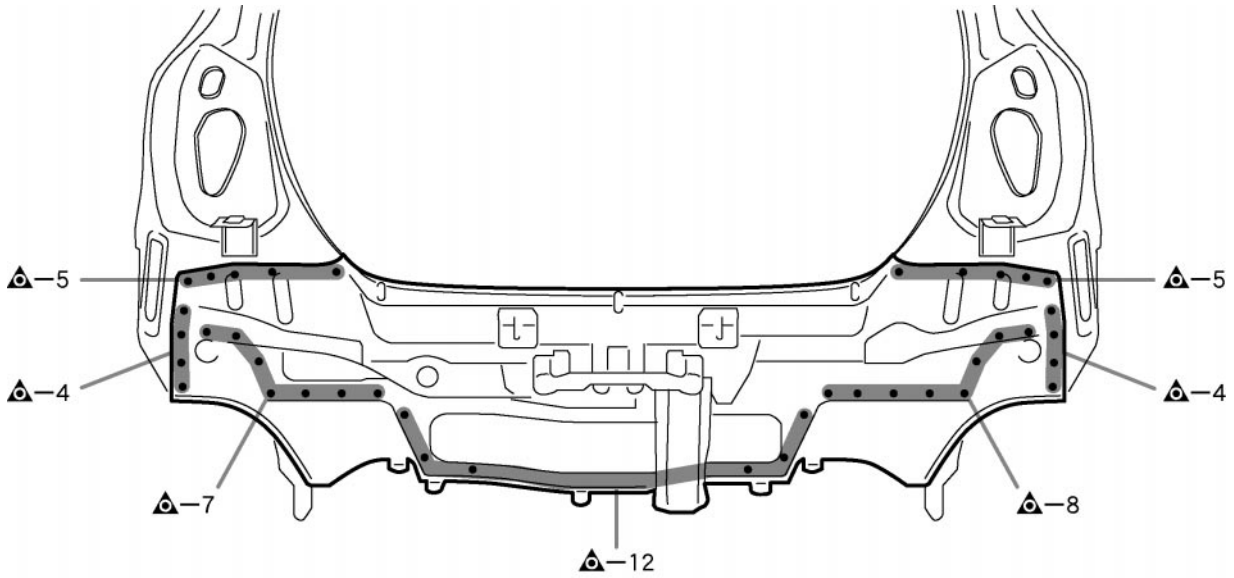
F24843-2

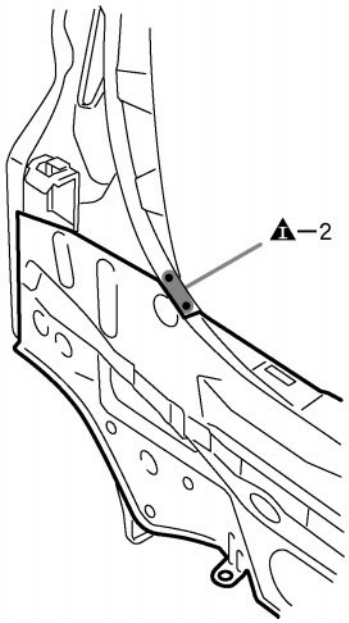
BODY LOWER BACK PANEL (ASSY): Hatchback


F22861A

REPLACEMENT

REMOVAL

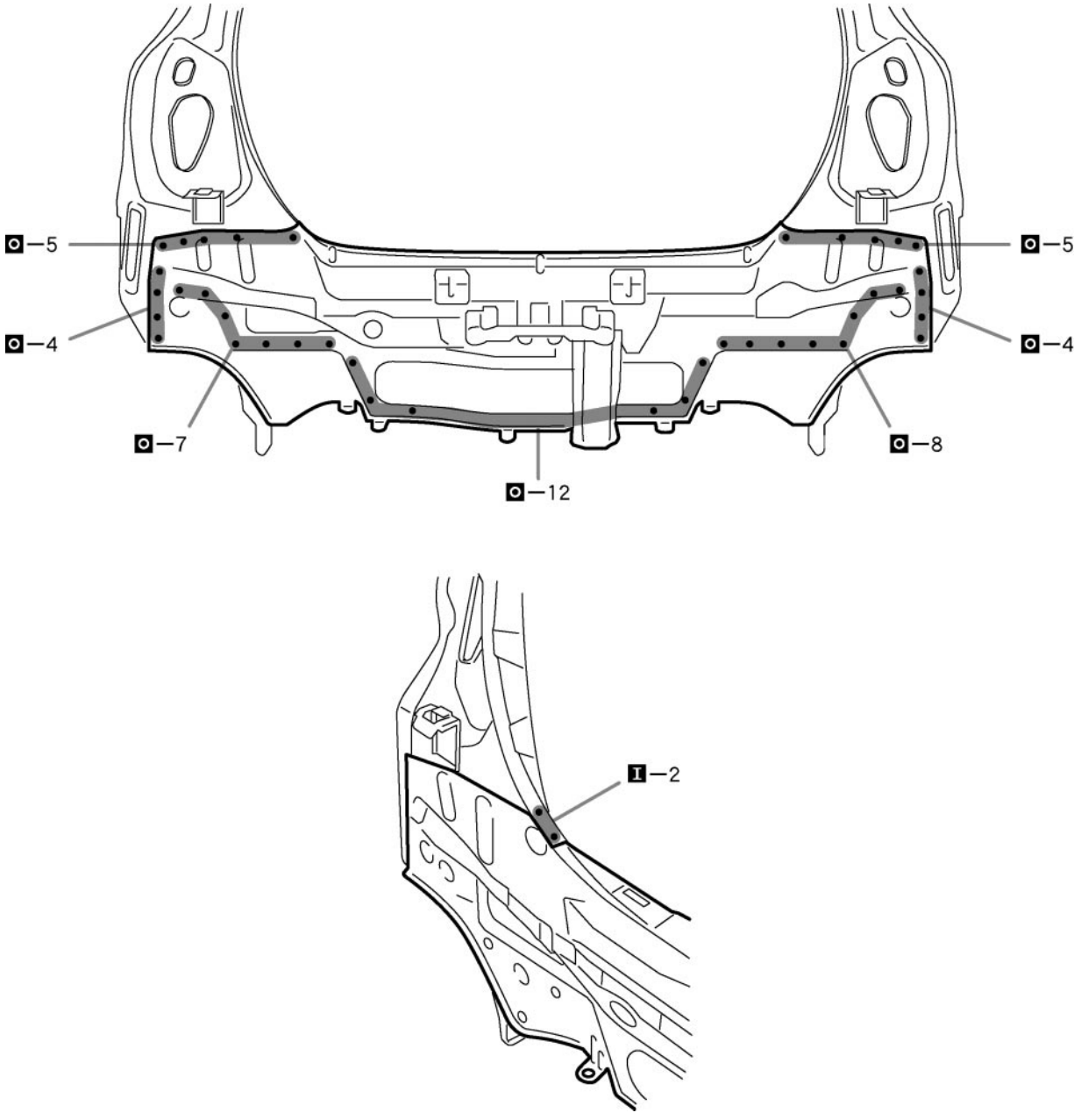




F23325

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

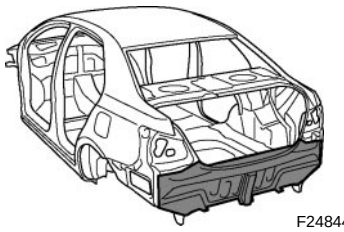


F23326

POINT

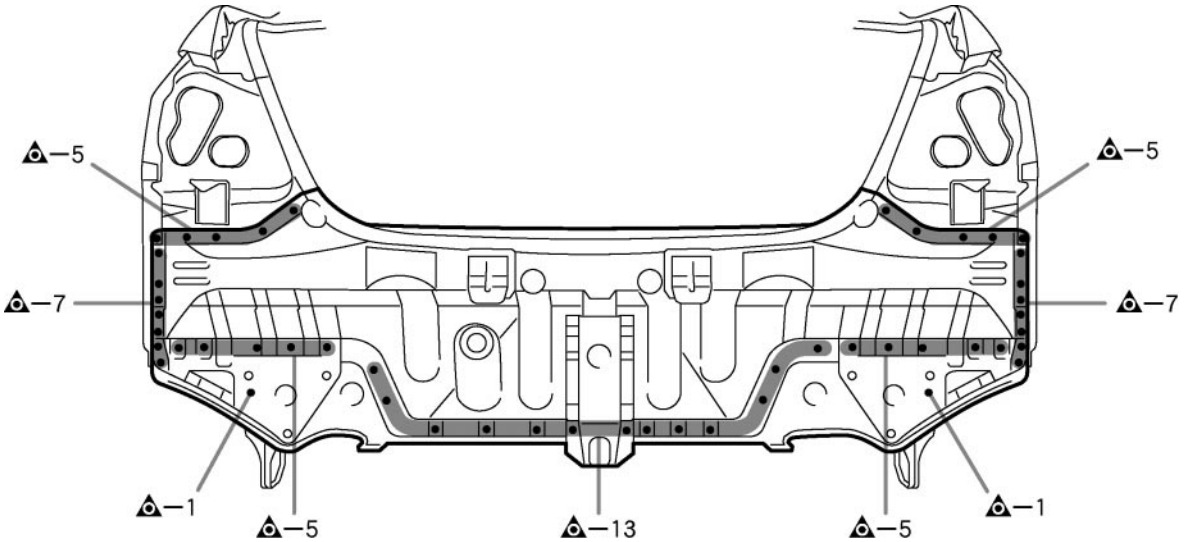
1 Inspect the fitting of the back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

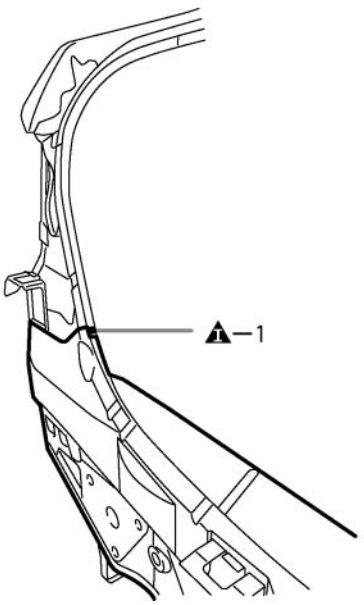
BODY LOWER BACK PANEL (ASSY): Sedan


F24844A

REPLACEMENT

REMOVAL

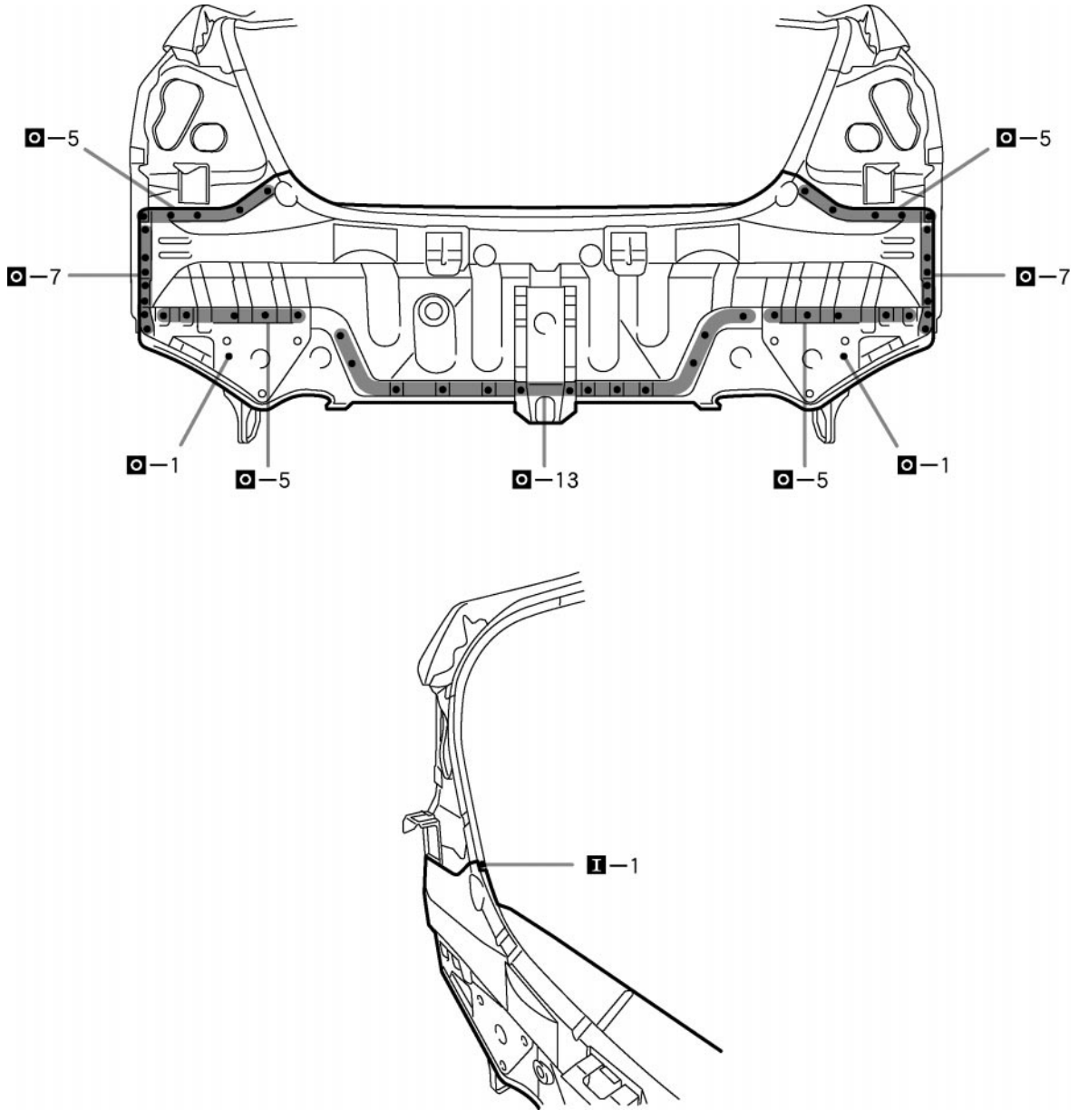




F24844-1

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

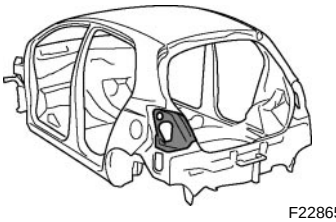


F24844-2

POINT

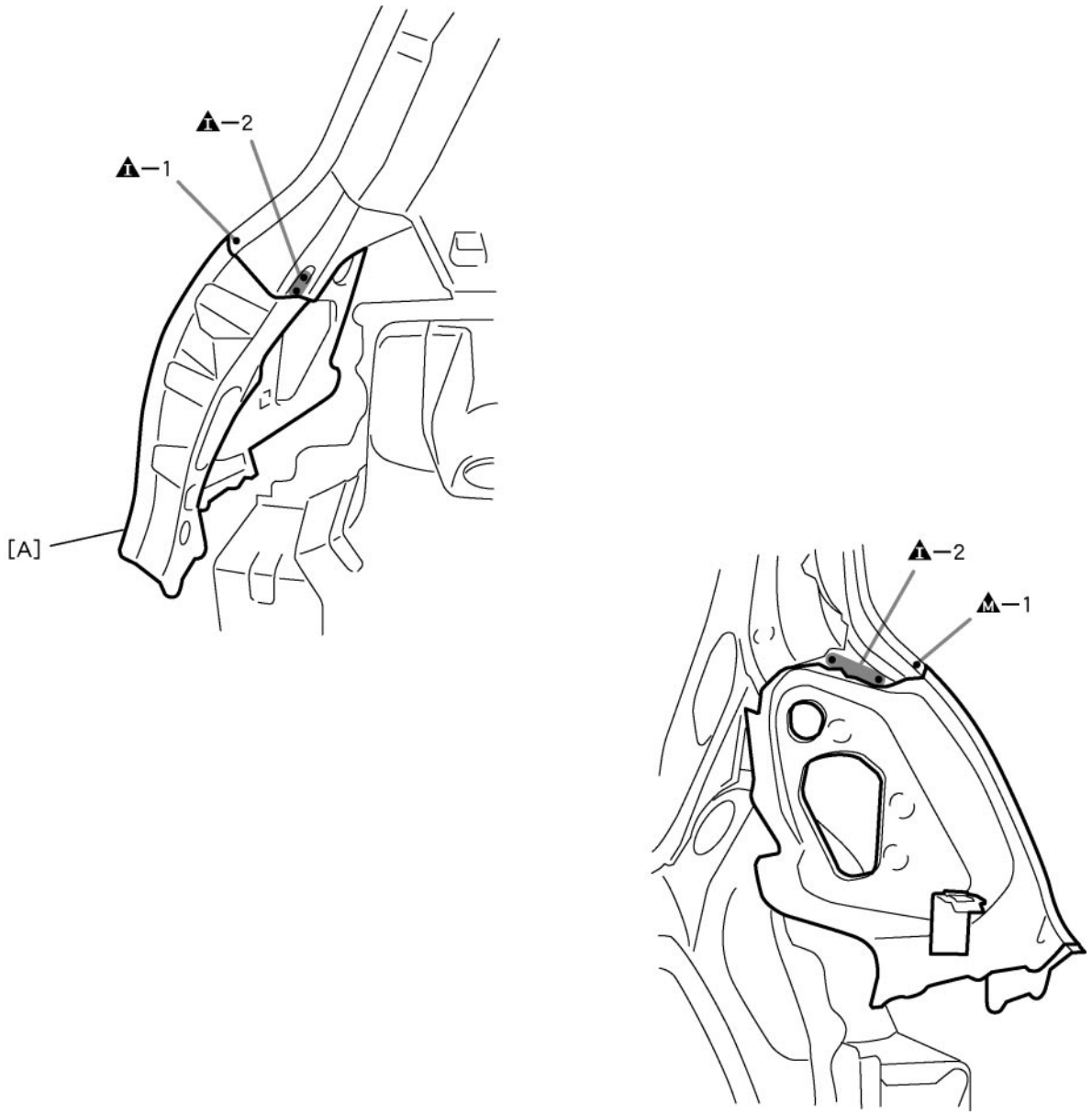
1 Inspect the fitting of the back door and rear combination light and other related parts before welding as this affects the appearance of the finish.

BACK DOOR OPENING TROUGH (ASSY): Hatchback


F22865A

REPLACEMENT
With the quarter panel and body lower back panel removed.

REMOVAL



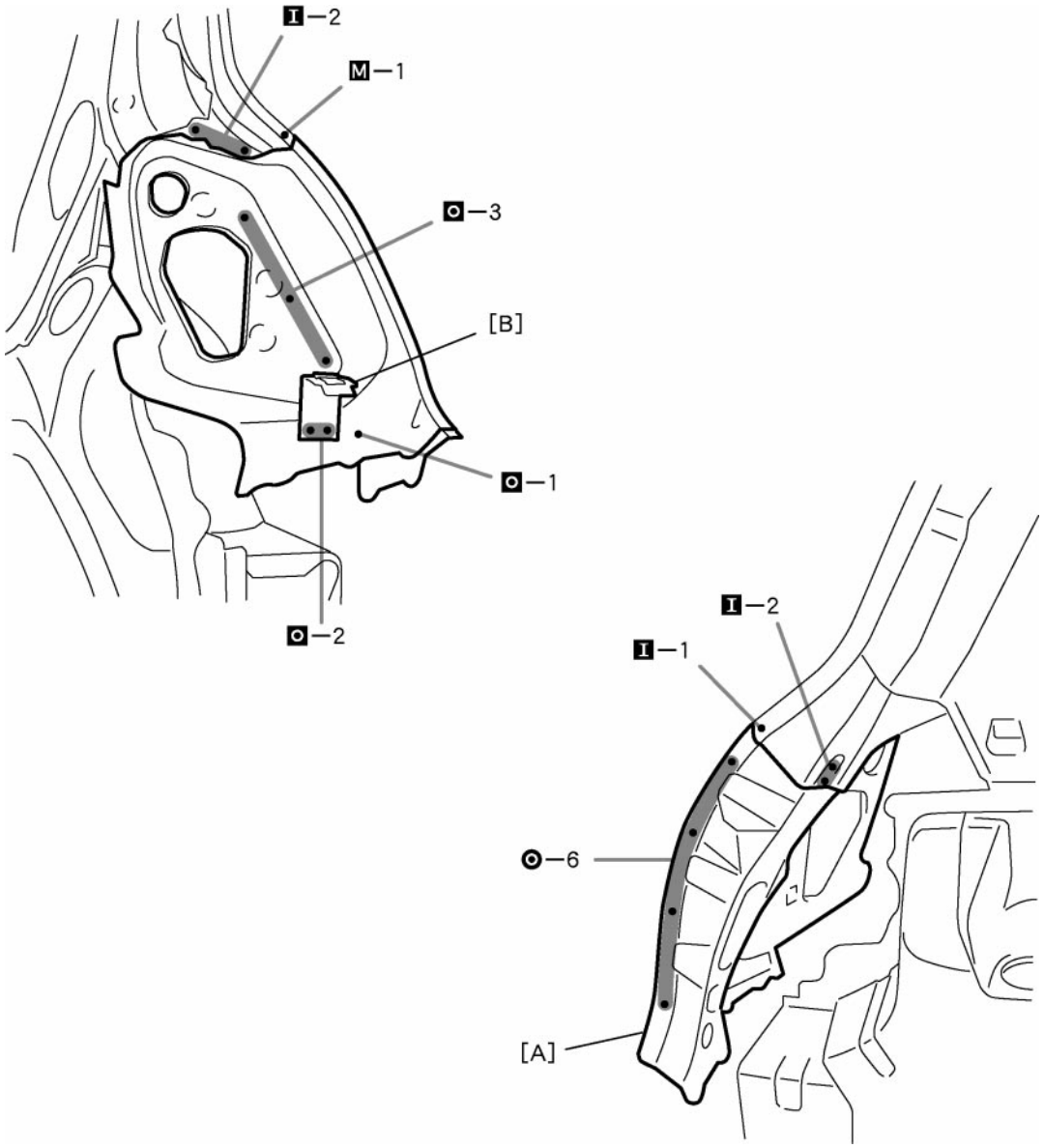
F22865

POINT
1 Remove [A] at the same time.

PART NAME
[A] Back Door Opening Lower 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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F22866

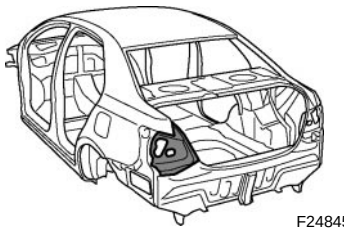
POINT

1 Inspect the fitting of the back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

PART NAME

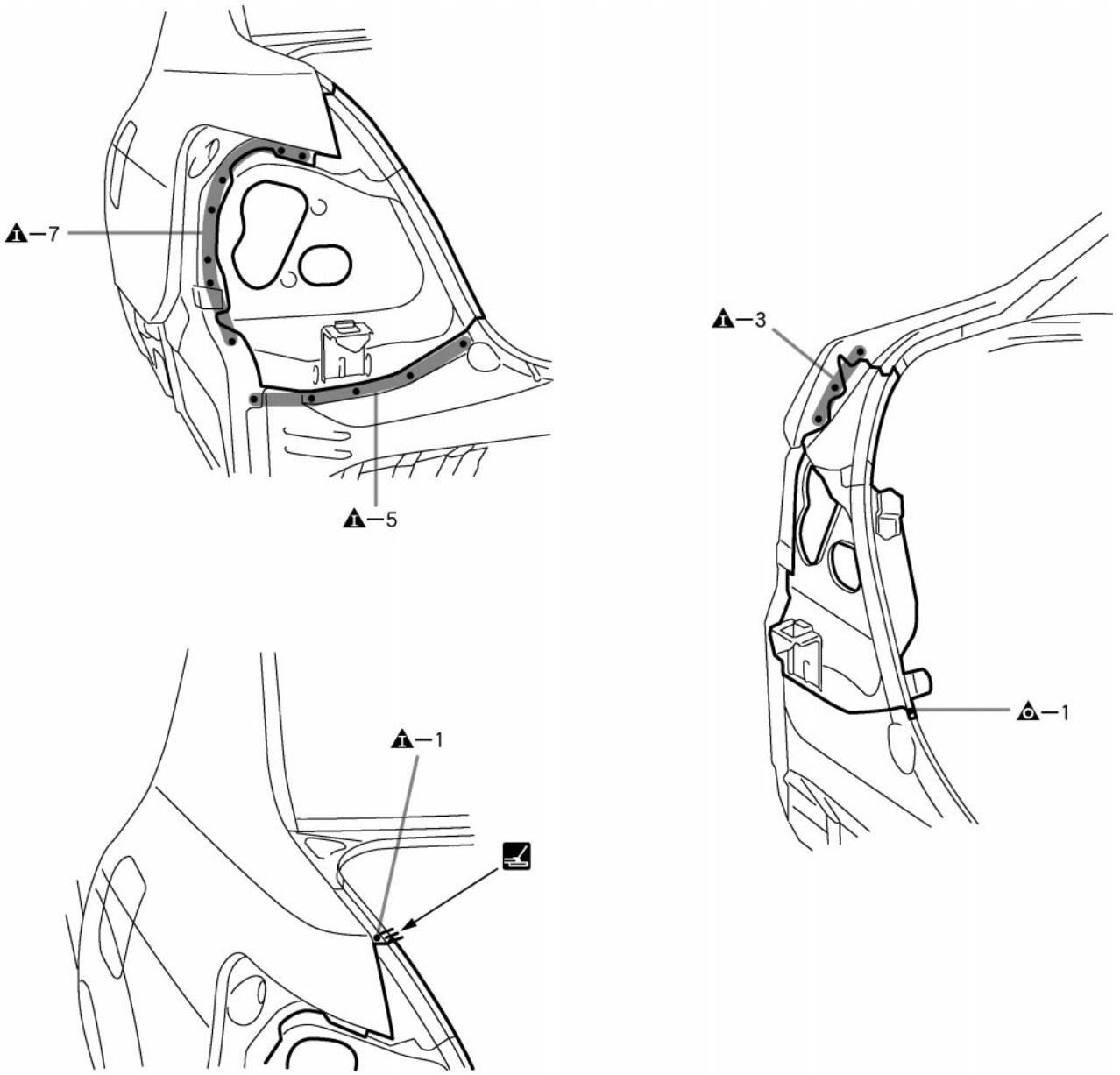
[A] Back Door Opening Lower Reinforcement [B] Rear Bumper Side Retainer

LUGGAGE DOOR OPENING FRONT TROUGH (ASSY): Sedan


F24845A

REPLACEMENT

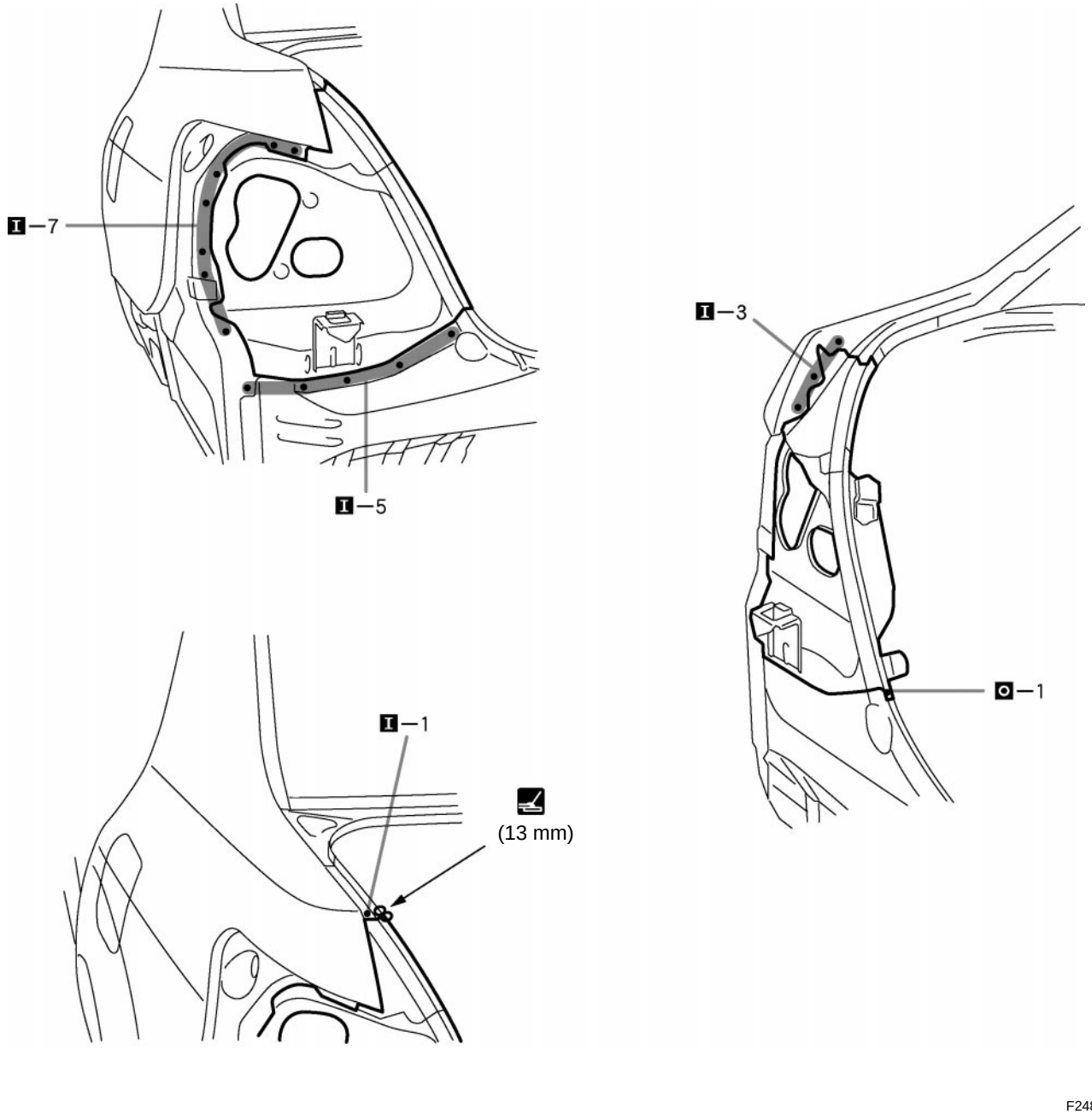
REMOVAL



F24845-1

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 polyurethane foam to the corresponding parts.
⁎ After welding, apply body sealer and undercoating to the corresponding parts.
⁎ After applying the top, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



F24845-2

POINT

1 Inspect the fitting of the back door, rear combination light and other related parts before welding as this affects the appearance of the finish.

13 mm (0.51 in.)