INTRODUCTION

IN

HOW TO USE THIS MANUAL

GENERAL INFORMATION

1. Scope of the repair work explanation

(a) 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.

(b) When repairing, do not cut and join areas that are not shown in this manual. Only work on the specified contents to maintain body strength.

(c) Make sure to perform the following essential procedures, although they are omitted in this manual.
  (1) Clean and wash removed parts, if necessary.
  (2) Visual inspection.

(d) This manual has references to the Repair Manual.
  (1) vehicle interior section
  (2) vehicle exterior section

2. Section categories

(a) This manual has been divided as shown below.

Section Title	Contents	Examples
INTRODUCTION	Explanation of general body repair.	SYMBOLS PRECAUTIONS FOR WELDING
BODY WELD POINT	Instructions for replacing the weld panels from the white body condition, from which bolted parts have been removed, with individual supply parts.	CUT AND JOIN REPLACEMENT SECTION ASSEMBLY REPLACEMENT
BODY DIMENSIONS	Body aligning measurements.	THREE-DIMENSIONAL DISTANCE TWO-DIMENSIONAL DISTANCE
PAINTING / COATING	Scope and type of anti-rust treatment, etc. together with weld panel replacement.	APPLICATION AREAS INSTALLATION AREAS

3. REPAIR PROCEDURES

(a) Illustrations of similar vehicle models are sometimes used. In these cases, minor details may be different from the actual vehicle.

(b) About a symmetrical part, only one side is described.

4. TERM DEFINITIONS

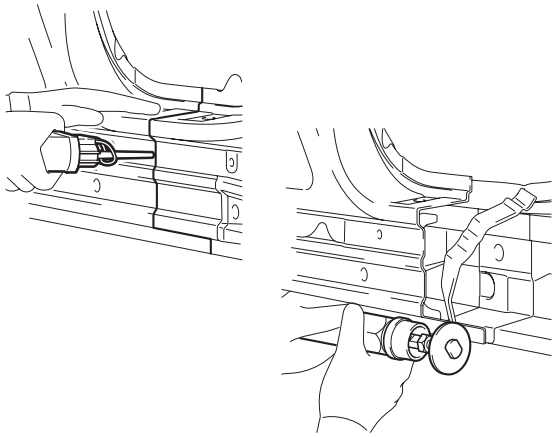
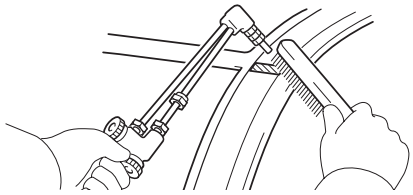
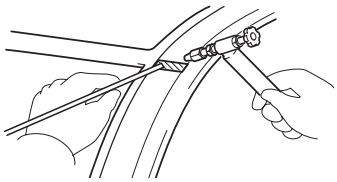
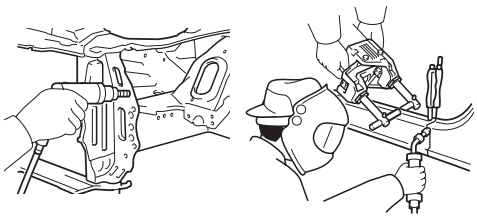
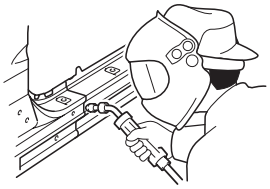
CAUTION	Possibility of injury to you or other people.
NOTICE	Possibility of damage to components being repaired.
HINT	Provides additional information to help you perform repairs.

5. INTERNATIONAL SYSTEM OF UNITS

(a) The units used in this manual comply with the International System of Units (SI UNIT) standard. Other units from the metric system and the English systems are also provided.
Example:
Torque: 30 N*m (310 kgf*cm, 22 ft.*lbf)

IN

SYMBOLS

REPAIR AREA INDICATOR SYMBOLS		REPAIR METHOD INDICATOR SYMBOLS		ILLUSTRATION
------	CUT		CUT AND JOIN LOCATION (Saw Cut)	
			CUT AND JOIN LOCATION (Cut Location for Supply Parts)	
			CUT LOCATION	
			CUT WITH DISC SANDER, ETC.	
/////	BRAZE		BRAZING OR ARC BRAZING FOR REMOVAL	
OOOO	BRAZE		BRAZE	
O M I O I O M I	WELD POINTS	-	SPOT WELD OR PLUG WELD (See the ILLUSTRATION OF WELD POINT SYMBOLS)	
++++	WELDING		BUTT WELD	
			FILLET WELD	

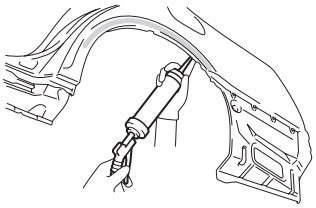
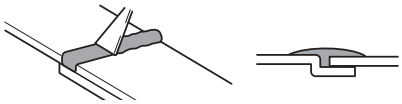
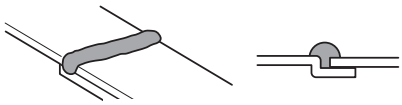
REPAIR AREA INDICATOR SYMBOLS		REPAIR METHOD INDICATOR SYMBOLS		ILLUSTRATION
	BODY SEALER		BODY SEALER	
-	ASSEMBLY MARK		STANDARD HOLE FOR INSTALLATION	-
	BODY SEALER	-	FLAT FINISHING	
			NO FLAT FINISHING	

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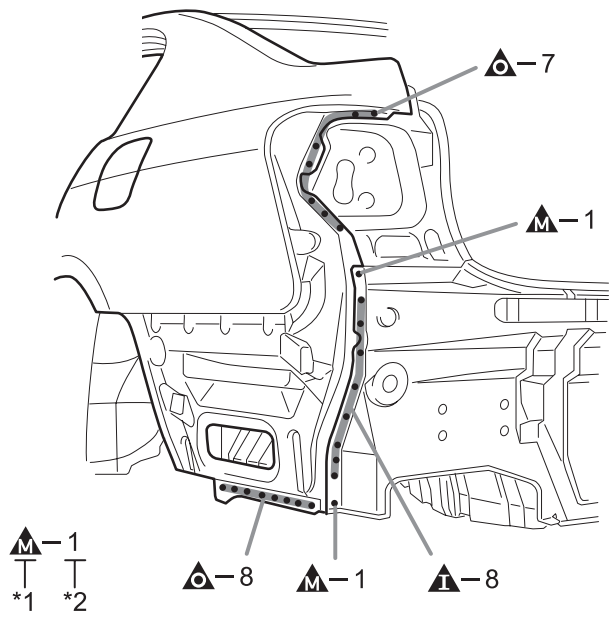
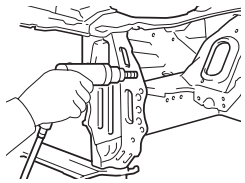
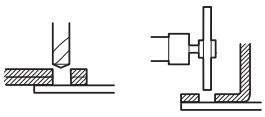
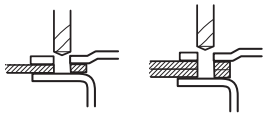
ILLUSTRATION OF WELD POINT SYMBOLS

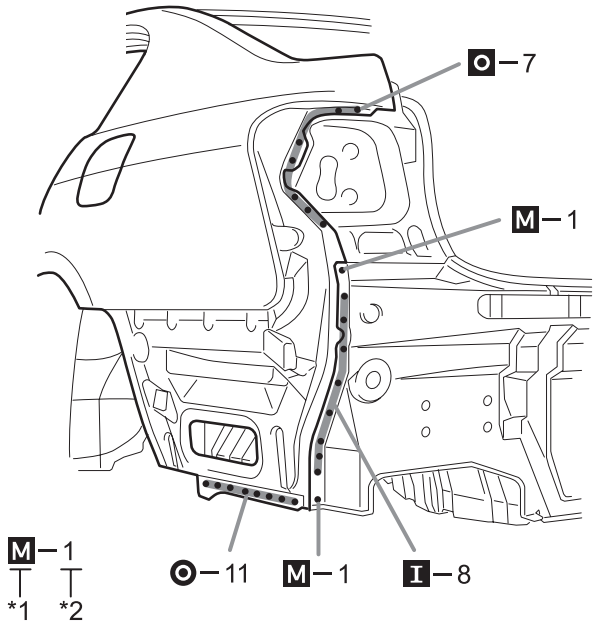
REMOVAL



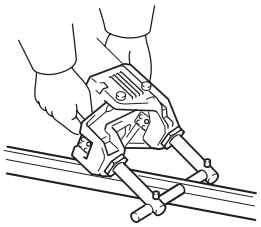
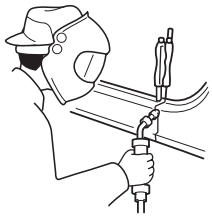
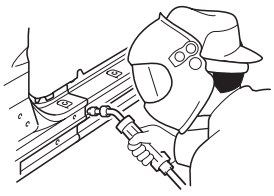
*1	Position of panels that are removed
*2	Weld points

SYMBOLS	MEANING	ILLUSTRATION
▲	Remove Weld Points	
O	Position of Panel Being Replaced is on Outside	
M	Position of Panel Being Replaced is in Center	
I	Position of Panel Being Replaced is on Inside	

INSTALLATION

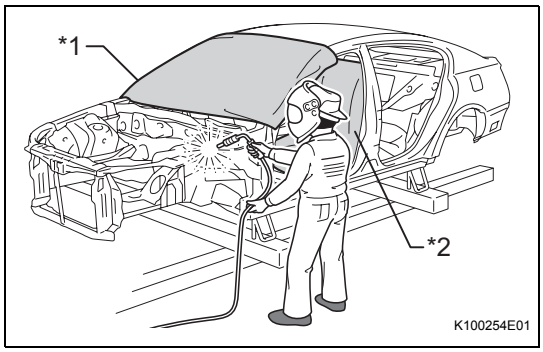


*1	Welding method and panel position
*2	Weld points

SYMBOLS	MEANING	ILLUSTRATION
●	Spot Welding	
■	Plug Welding	
+	Spot MIG Welding	

WORK NOTICES AND PRECAUTIONS

WHEN REPAIRING THE VEHICLE BODY

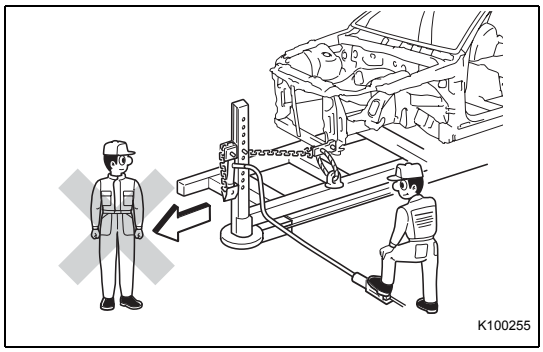


1. VEHICLE PROTECTION

(a) When welding, cover glass, seats, carpets, etc. with heat resistant fireproof covers to protect them.

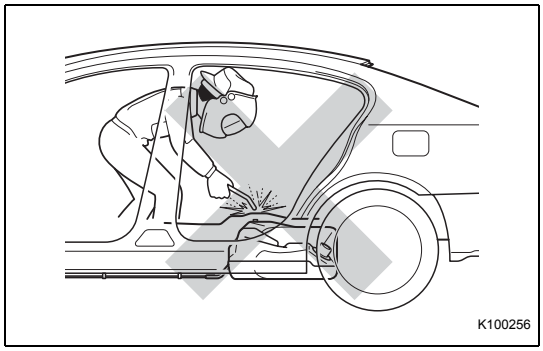
Text in Illustration

*1	Glass Cover
*2	Seat Cover

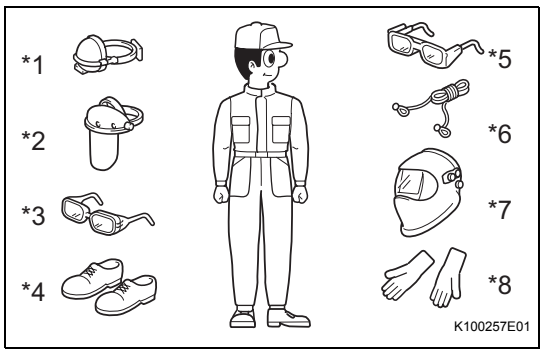


2. SAFETY

(a) Never stand in the path of the chain when using a puller on the body of frame, and be sure to attach a safety cable.



(b) If it is necessary to use a flame in the area of the fuel tank, first remove the tank and plug the fuel line.



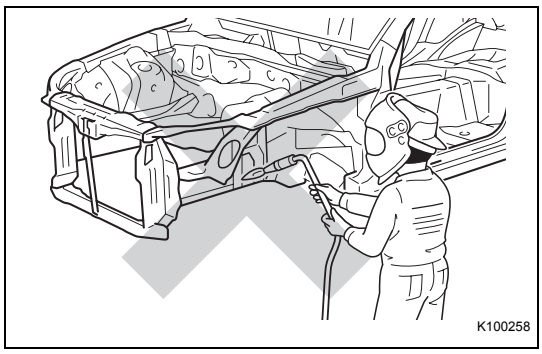
3. SAFETY WORK CLOTHES

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

Text in Illustration

*1	Dust mask
*2	Face protector
*3	Safety glasses
*4	Safety shoes
*5	Welder's glasses
*6	Ear plugs
*7	Head protector
*8	Welder's gloves

PRECAUTIONS FOR REPAIRING BODY STRUCTURE (INCLUDING CRUSH BOXES)

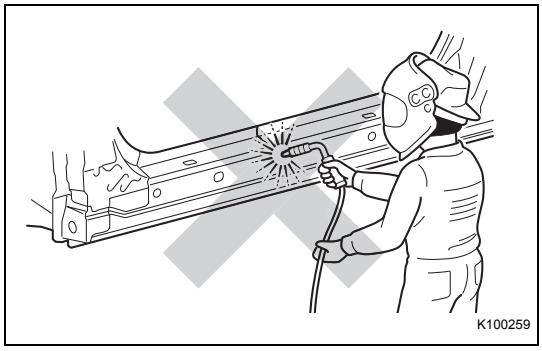


1. PROHIBITION OF HEAT REPAIR FOR BODY FRAME PARTS

(a) Rustproof high strength steel sheets are used for the body frame. Therefore, if these parts are heat repaired using an acetylene torch or equivalent, the crystalline structure changes, causing the strength of the steel sheets to decrease. Also, the zinc coating which is used to protect the body from rust will be damaged. This causes the surface of the steel sheets to become oxidized, which reduces their ability to resist rust.

2. NOTES ON ULTRA HIGH STRENGTH STEEL PANEL REPAIR

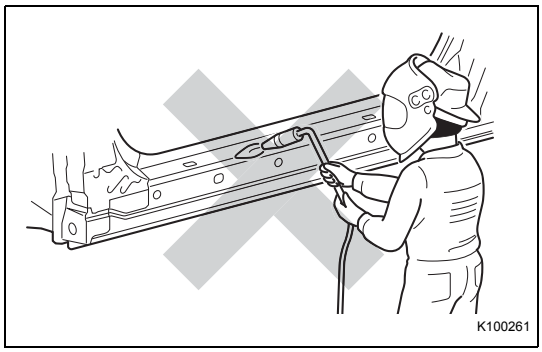
(a) Make sure that the frame aligning machine does not affect undamaged areas when aligning the frame.



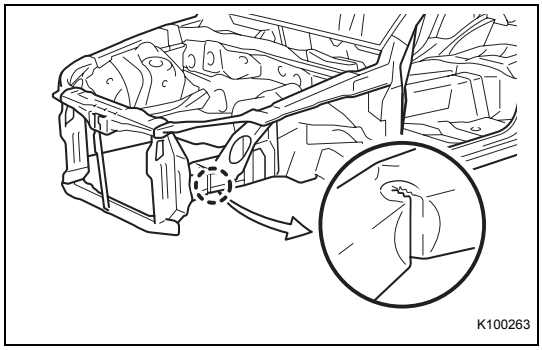
(b) Do not butt weld because the heat decreases the strength of the steel.

(c) Use a spot cutter suitable for high strength steel when removing spot welds. The cutter should be able to cut welding nuggets smoothly.

(d) Always follow the welding instructions when welding. (Refer to the PRECAUTIONS FOR WELDING)



(e) Do not heat the panel when repairing.



3. WHEN TO REPLACE FRAME PARTS

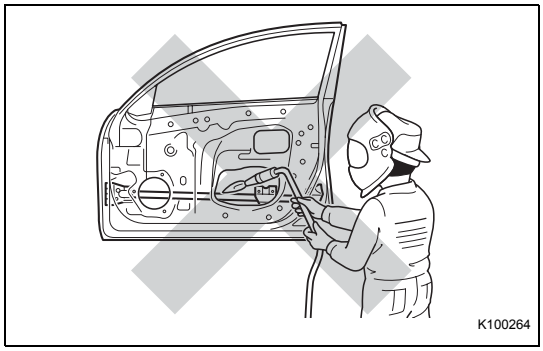
NOTICE:

Replace the sections of the frame where kinks have occurred.

HINT:

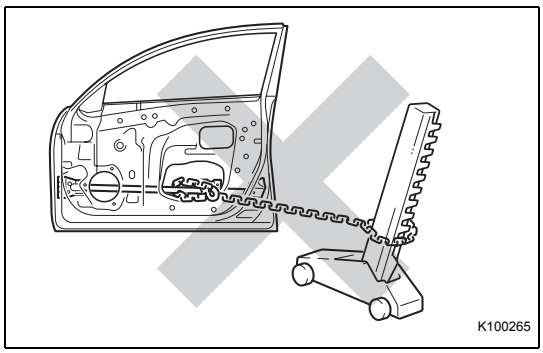
What is kink?

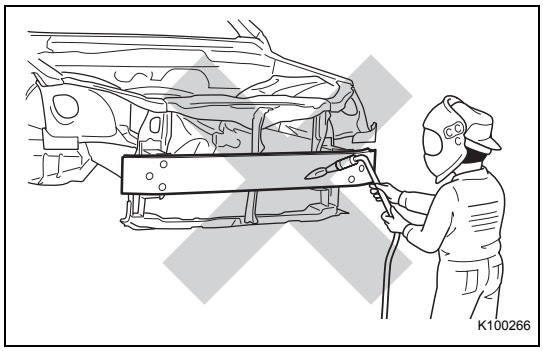
A deformation on a steel sheet that cannot be returned to its original shape by pulling or hammering due to the deformation angle being sharp.



4. REPAIR OF DOOR SIDE IMPACT BEAM IS PROHIBITED

(a) The impact beam is designed so that it performs at 100% in its original shape. However, if the impact beam is repaired, its performance may not be the same as before the accident.
PARTS WHICH ARE PROHIBITED TO BE REPAIRED:
Door side impact beam

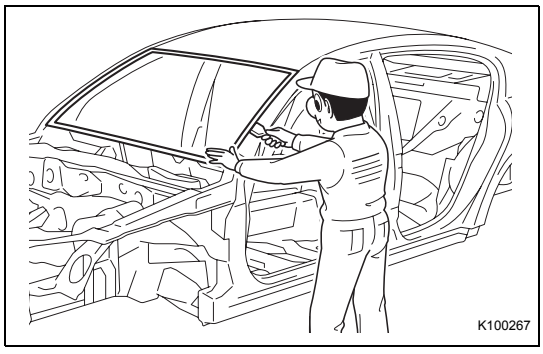




5. REPAIR OF BUMPER REINFORCEMENT IS PROHIBITED

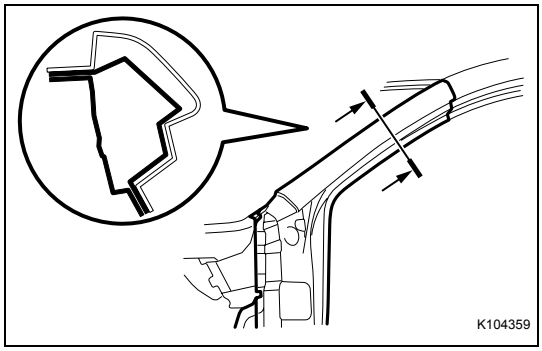
(a) The bumper reinforcement is designed so that it performs at 100% in its original shape. However, if the bumper reinforcement is repaired, its performance may not be the same as before the accident.
PARTS WHICH ARE PROHIBITED TO BE REPAIRED:
Bumper reinforcement

PRECAUTIONS FOR WELDING



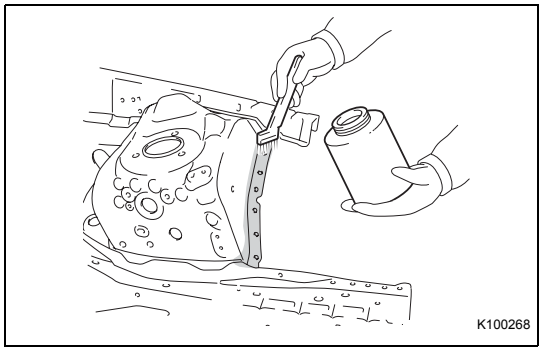
1. REMOVAL OF ADJACENT COMPONENTS

(a) To prevent damage to the body and parts, apply protective tape to the body and tools before removing the parts.
NOTICE:
If the paint film is damaged, make sure to refinish the paint.



2. CUTTING WORK

(a) When cutting a panel, be careful not to damage the surrounding panels or any panels underneath.
NOTICE:
If any panels are damaged, be sure to repair them.



3. ANTI-RUST TREATMENT BEFORE WELDING

(a) Apply welding primer to the contact surfaces of the welding areas to protect them from rust.
NOTICE:
Do not apply welding primer outside of the contact surfaces.

4. WELDING WORK

(a) To assure sufficient weld strength, it is recommended to follow the welding conditions below when welding ultra high strength steel.
- It is recommended to perform spot welding according to board thickness and number of overlapping sheets under the following conditions (*1 - *4).
- When conditions can't be met, it is recommended to perform the plug welding following *5.

Weld work for 1500 MPa ultra high strength steel

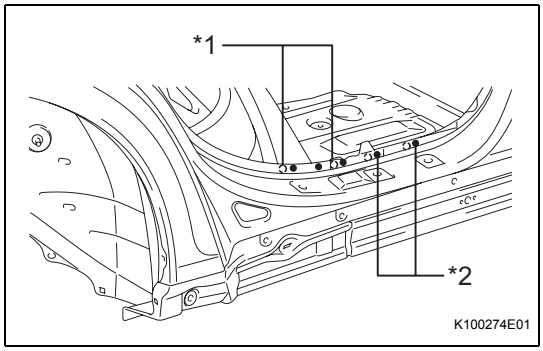
Plug welding	Plug diameter	8.5 mm (0.33 in)	Total number of 2 or 3 overlapping sheets
	Wire	AWS A5.18 ER70S	
	Gas	CO_2	
	Plug diameter	8.5 mm (0.33 in)	
	Wire	AWS A5.18 ER70S-3	
	Gas	Gas mixture (argon: 80%, CO_2: 20%)	

Weld work for 980 MPa ultra high strength steel

Spot welding	*1	Compression	2.6 kN	Total number of 2 overlapping sheets
		Current	6.0 kN	
		Welding time	10 Cyc.	
	*2	Compression	4.0 kN	Total number of 2 overlapping sheets
		Current	7.0 kN	
		Welding time	15 Cyc.	
	*3	Compression	3.5 kN	Total number of 3 overlapping sheets
		Current	7.0 kN	
		Welding time	25 Cyc.	
	*4	Compression	4.4 kN	Total number of 3 overlapping sheets
		Current	7.5 kN	
		Welding time	20 Cyc.	

Plug welding	*5	Plug diameter	8 mm (0.31 in) or more	Total number of 2 or 3 overlapping sheets
		Wire	AWS A5.18 ER70S	
		Gas	CO_2	
		Plug diameter	8 mm (0.31 in) or more	
		Wire	AWS A5.18 ER70S-3	
		Gas	Gas mixture (argon: 80%, CO_2: 20%)	

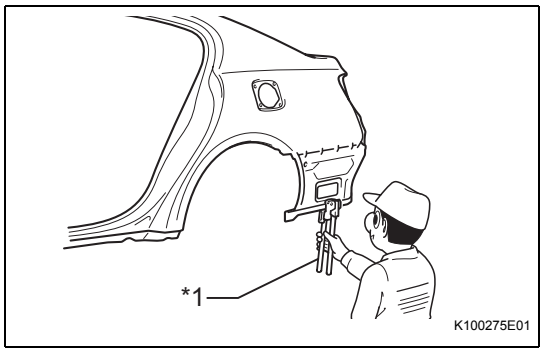
NOTICE:
Inspect the welds after spot welding. For points with insufficient weld strength join the panels using plug welds.



(b) Spot weld locations
Text in Illustration

*1	Old Spot Locations
*2	New Spot Locations

Avoid welding over previously welded areas.



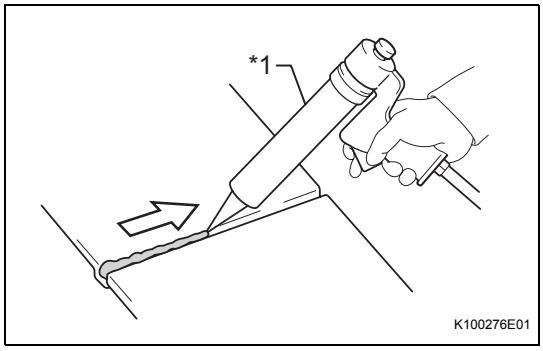
5. MAKING HOLES FOR PLUG WELDING
Text in Illustration

*1	Puncher

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

Thickness of welded portion	Diameter of plug hole
Under 1.0 mm (0.04 in.)	Over 5.0 mm (0.20 in.)
1.0 to 1.6 mm (0.04 to 0.06 in.)	Over 6.5 mm (0.26 in.)
1.7 to 2.3 mm (0.07 to 0.09 in.)	Over 8.0 mm (0.31 in.)
Over 2.4 mm (0.09 in.)	Over 10 mm (0.39 in.)

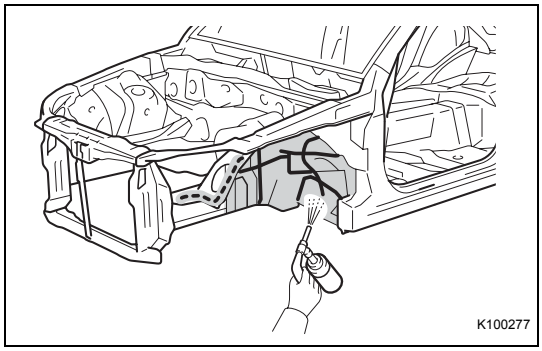
ANTI-RUST TREATMENT AFTER INSTALLATION OF BODY STRUCTURE PARTS OR OUTER PANELS



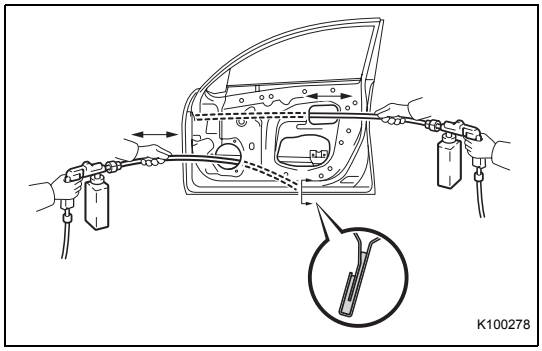
1. BODY SEALER APPLICATION
Text in Illustration

*1	Sealer Gun

PURPOSE:
For water-proofing and anti-rust measures, always apply the body sealer to the body panel seams and hems of the doors, hood, etc.
NOTICE:
Apply body sealer neatly to parts that require a high quality appearance.



2. UNDERCOAT APPLICATION
PURPOSE:
To prevent corrosion and protect the body from gravel, always apply a sufficient undercoating to the areas indicated.



3. VEHICLE BODY ANTI-RUST AGENT APPLICATION
PURPOSE:
The purpose is to protect areas from rust which are difficult to paint such as the backside of the box-shaped cross section frame parts.
METHOD:
Apply anti-rust agent through the service holes and/or installation holes of the parts.

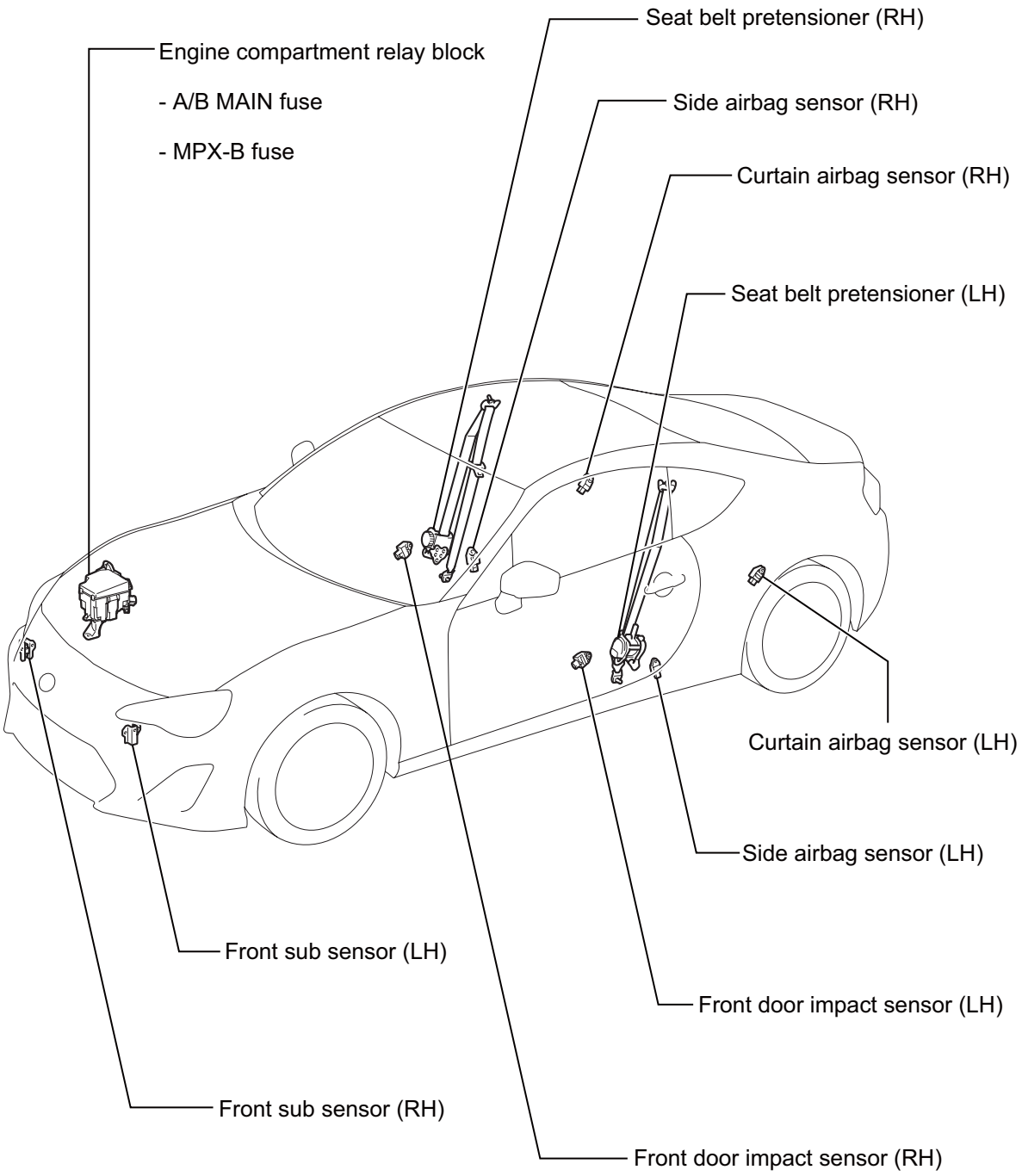
PRECAUTIONS FOR SRS AIRBAG SYSTEM

1. HANDLING OF A VEHICLE THAT HAS BEEN DAMAGED IN A COLLISION
(a) Refer to the SUBARU Repair Manual for the SRS airbag system inspection procedures.
(b) If impacts are likely to occur to the front sub sensors, front door impact sensors, side airbag sensors, curtain airbag sensors, satellite safing sensor or airbag control module remove each sensor as necessary beforehand.
(c) Do not allow the front sub sensors, front door impact sensors, side airbag sensors, curtain airbag sensors, satellite safing sensor or airbag control module to become heated to high temperatures.
(d) Check the wire harnesses and connectors for damage and/or melting, as some areas of the airbags and seat belt pretensioners may heat up to several hundred degrees when they operate.

2. PRECAUTIONS FOR USING ELECTRIC WELDER
(a) Check the Diagnostic Trouble Codes (DTCs).
(1) If one or more DTCs are displayed:
- Disconnect the negative (-) terminal cable from the battery.
- Disconnect all the malfunctioning circuit connectors.
- Disconnect the airbag control module connector.

(2) If DTCs are NOT displayed:
- Inspect for damage to the electric wiring harnesses and connectors.
- Disconnect the negative (-) terminal cable from the battery.
- Disconnect the airbag control module connector.

3. PARTS LOCATION



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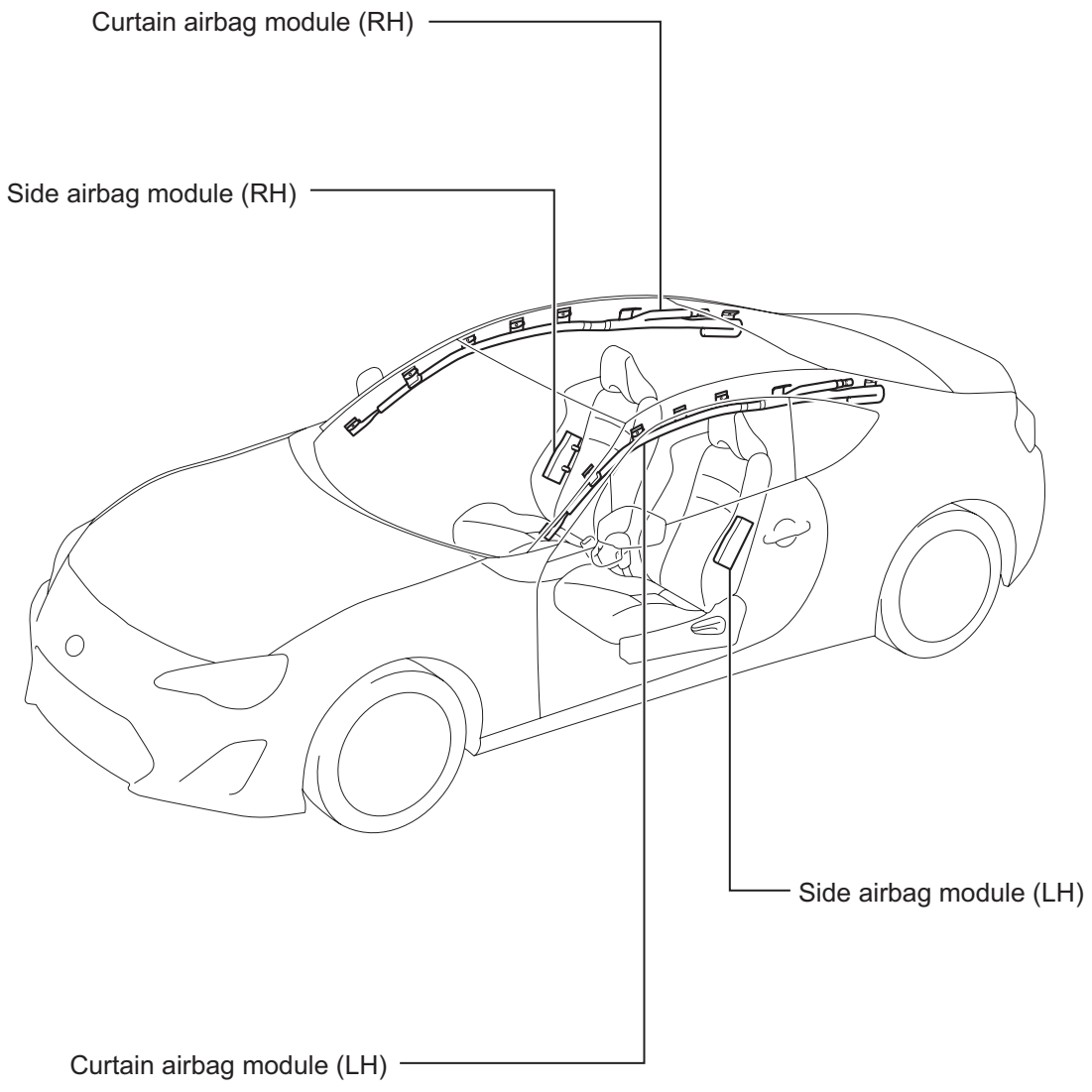
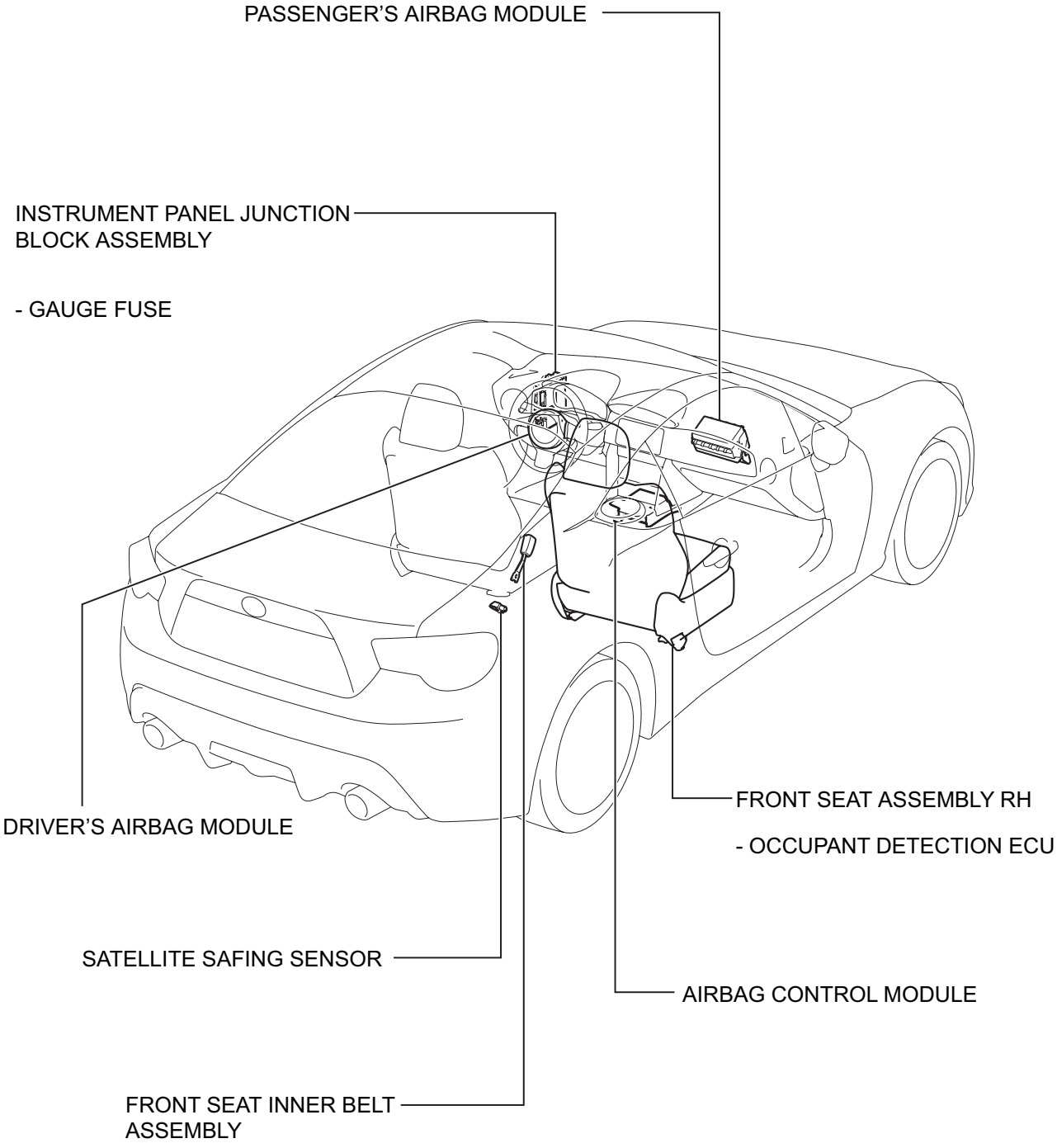
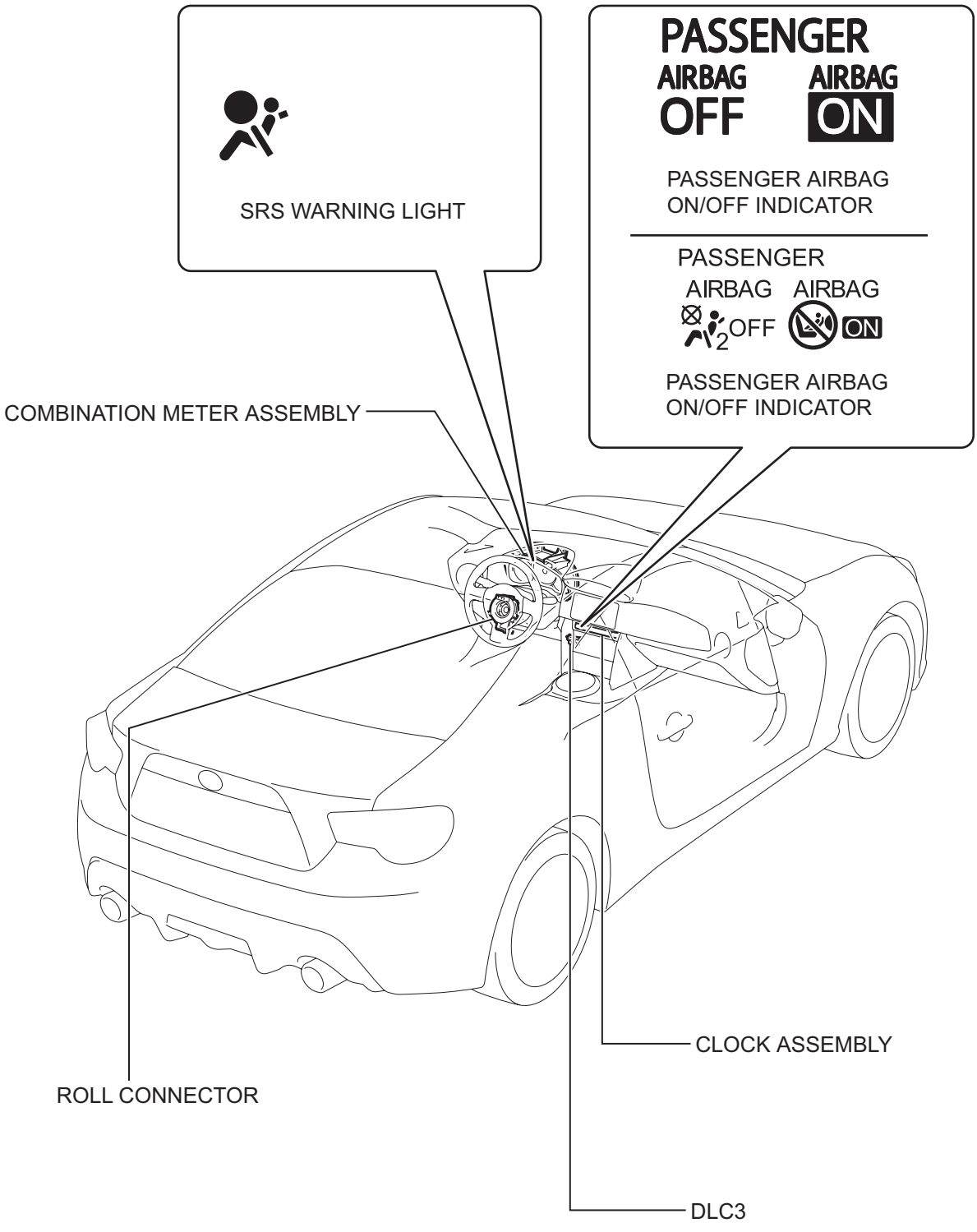


T

K106296E01


PASSENGER'S AIRBAG MODULE
INSTRUMENT PANEL JUNCTION BLOCK ASSEMBLY
- GAUGE FUSE
DRIVER'S AIRBAG MODULE
FRONT SEAT ASSEMBLY RH
- OCCUPANT DETECTION ECU
SATELLITE SAFING SENSOR
AIRBAG CONTROL MODULE
FRONT SEAT INNER BELT ASSEMBLY
K106526E01

IN


SRS WARNING LIGHT
PASSENGER
AIRBAG
OFF
AIRBAG
ON
PASSENGER AIRBAG
ON/OFF INDICATOR
PASSENGER
AIRBAG
OFF
AIRBAG
ON
PASSENGER AIRBAG
ON/OFF INDICATOR
COMBINATION METER ASSEMBLY
CLOCK ASSEMBLY
ROLL CONNECTOR
DLC3
K106527E01

NOTICE ABOUT VEHICLE CONDITION WHEN JACKING UP VEHICLE

1. LIFT AND JACK

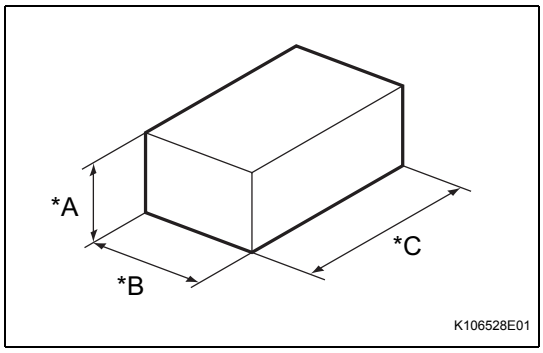
When using a lift or shop jack to raise a vehicle or using rigid rack to support a vehicle, always follow instructions concerning jack-up points and weight limits to prevent the vehicle from falling, which could result in injury. Be especially careful that the vehicle is balanced before raising it. Be sure to set the wheel stoppers when jacking-up only the front or rear side of the vehicle.

CAUTION:

Select the lift attachment so that the side sill does not contact the lift arm.

NOTICE:

- **When using a lift, follow its operation manual.**
- **When the side sill cover contacts the lift arm, use a lift attachment.**
- **Do not work or leave unattended while the vehicle is supported with jack, support it with rigid racks.**
- **Be sure to use the rigid racks with rubber attached to cradle to support the vehicle.**
- **When using a lift, use an attachment or something similar.**



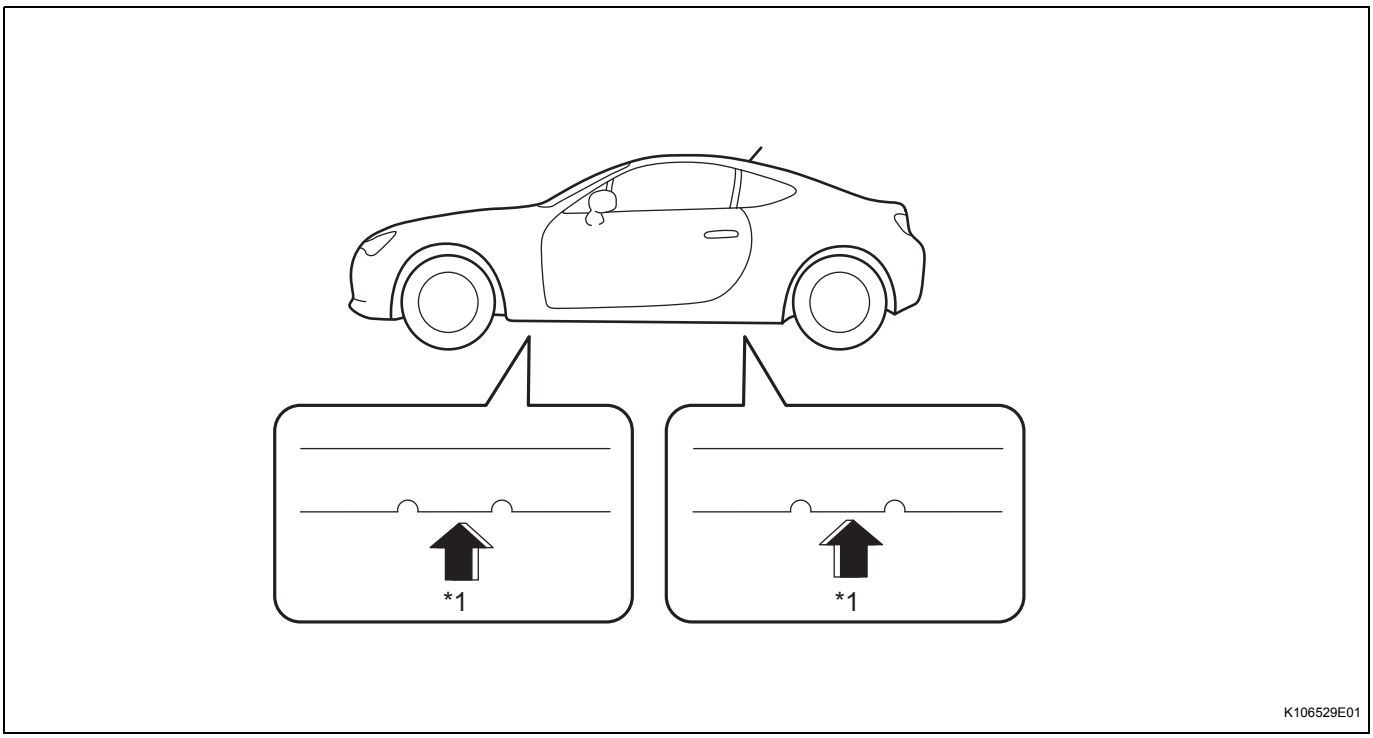
- **When using a plate lift, use a rubber attachment. Place the attachment to the specified position of the vehicle, by adjusting front/rear and left/right sides accordingly.**

Text in Illustration

*A	80 mm (3.1 in) or more
*B	80 - 100 mm (3.15 - 3.94 in)
*C	120 - 200 mm (4.72 - 7.87 in)

- **Align the cushion rubber center part of plate lift with the center part of rubber attachment.**
- **Do not use the plate lift whose attachment does not reach the supporting locations.**

(a) Support locations



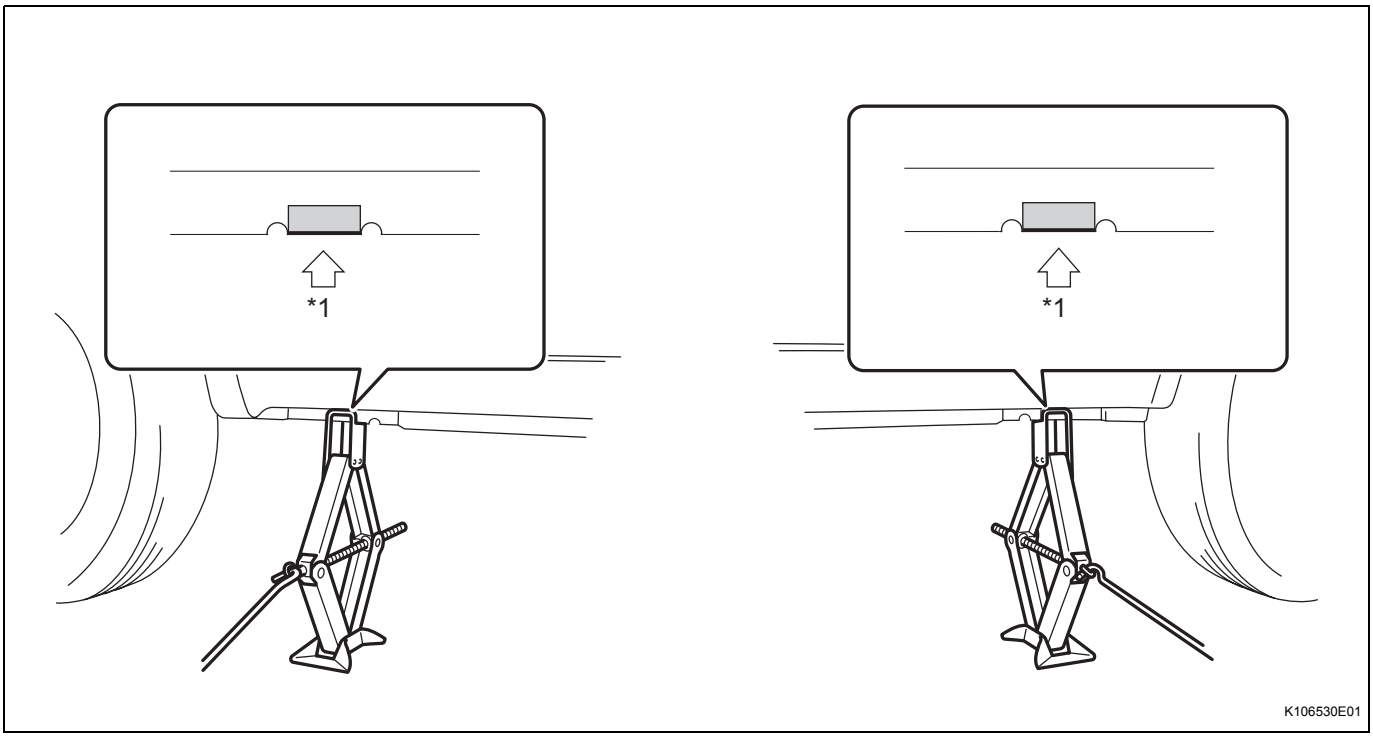
Text in Illustration

*1	Jack-up point

(b) Pantograph jack

CAUTION:

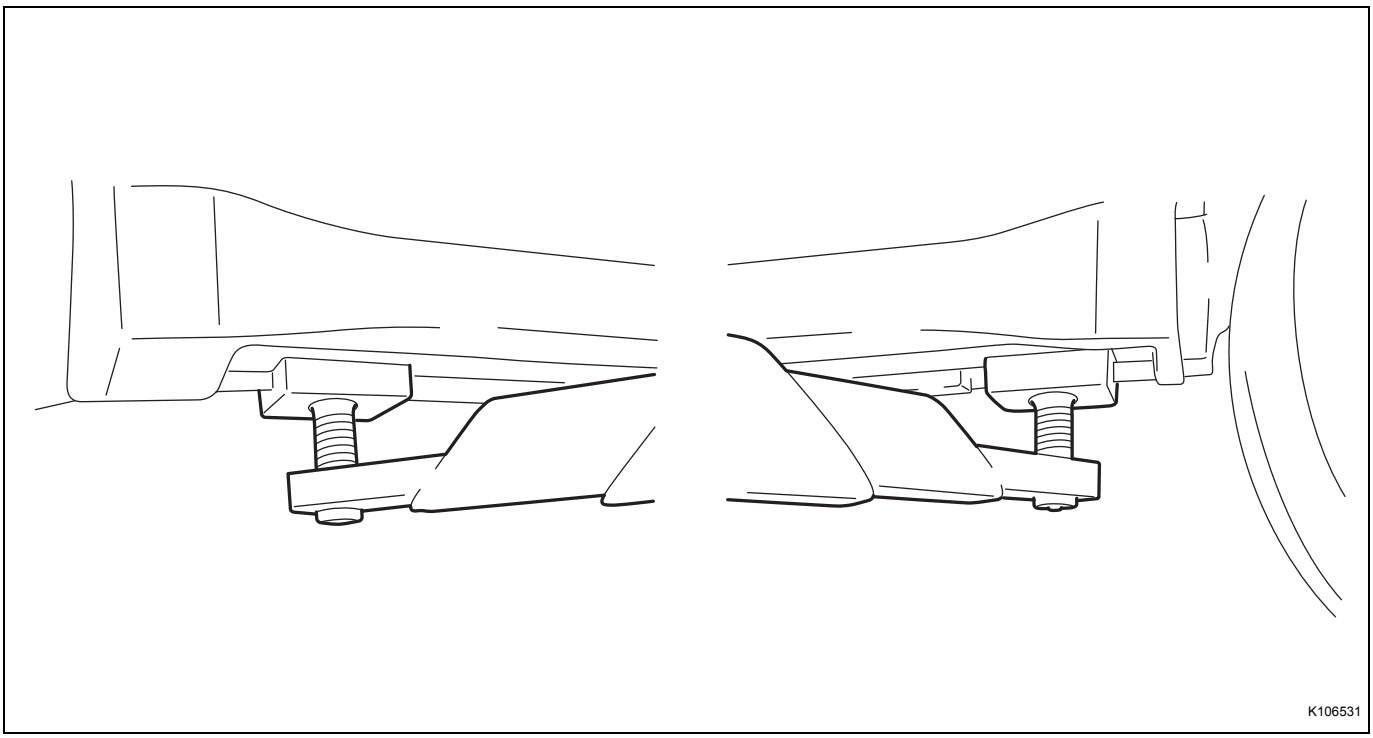
When storing the jack holder after use, store with the jack handle mount of the jack facing the inside of the trunk.



Text in Illustration

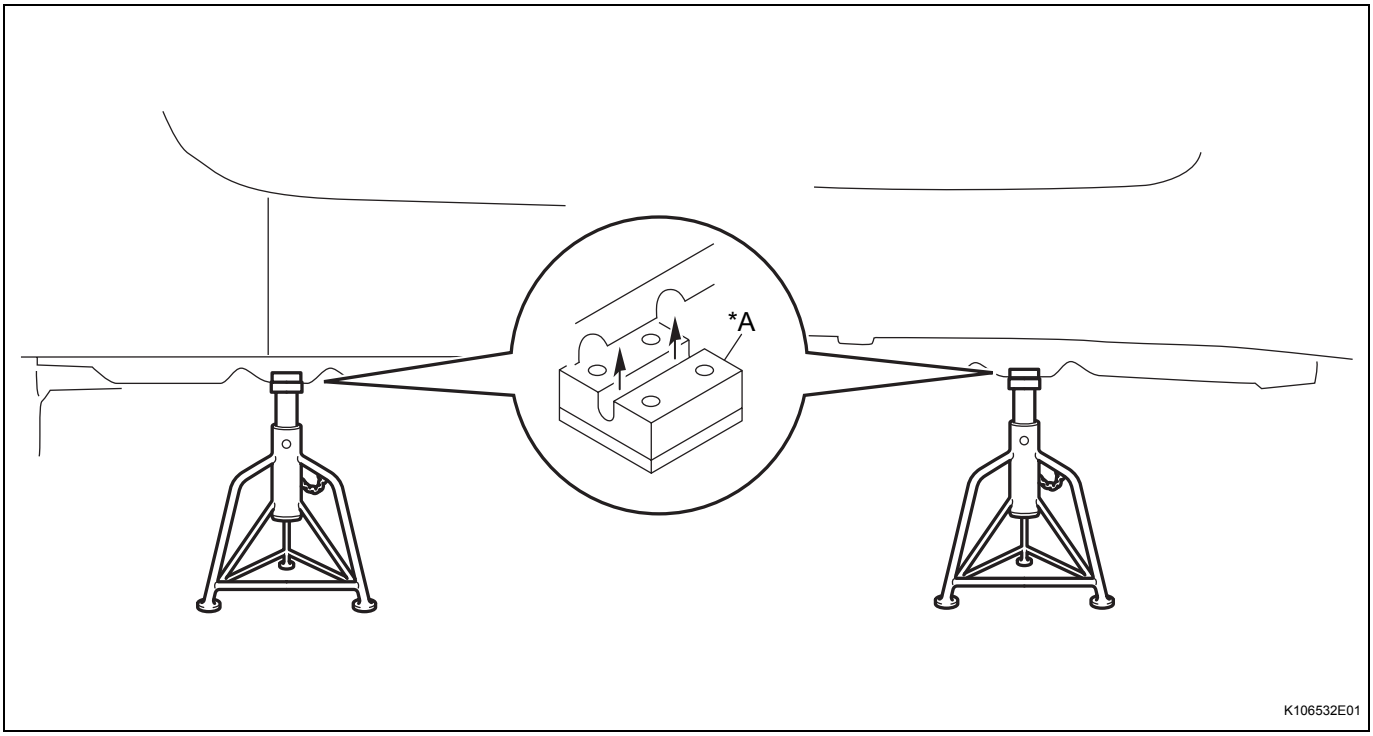
*1	Jack-up point

(c) Lift



CAUTION:
For models with side under skirt, use a spacer or an attachment to lift up the vehicle securely at jack up point, without contact of side under skirt and lift.

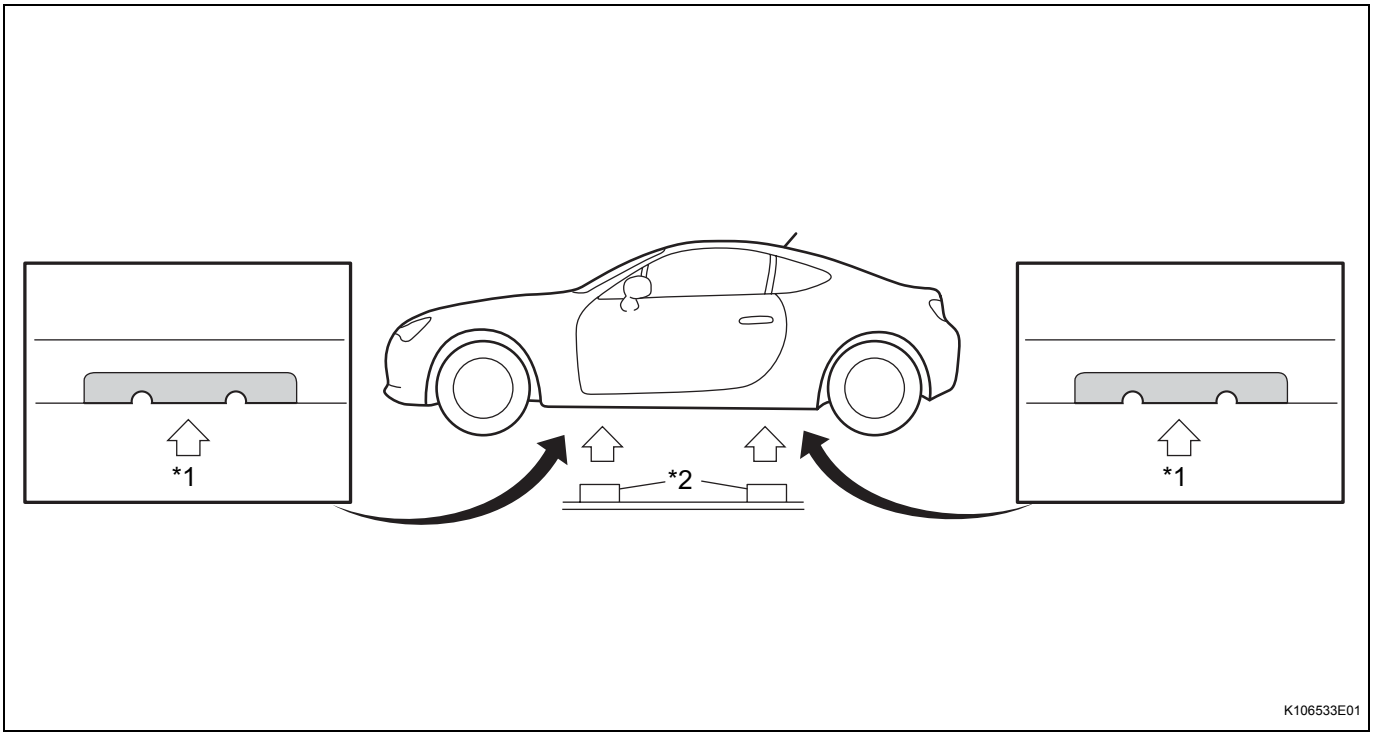
(d) Rigid rack



Text in Illustration

*A	Attachment

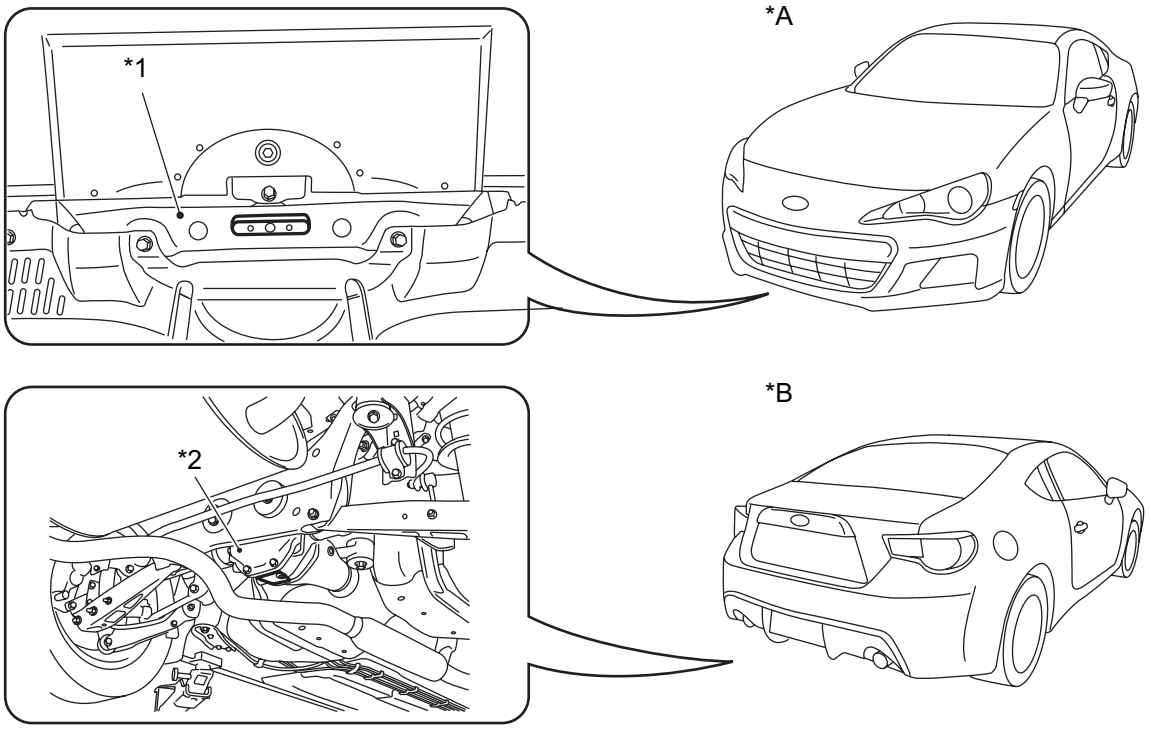
(e) Plate lift



Text in Illustration

*1	Jack-up point
*2	Attachment

(f) Jack-up point (When using a garage jack)



Text in Illustration

*A	Front
*B	Rear
*1	Frame
*2	Rear differential

CAUTION:
If jacking up the front side of the vehicle, make sure that the jack is attached at the center of the jack-up plate not at the sides.

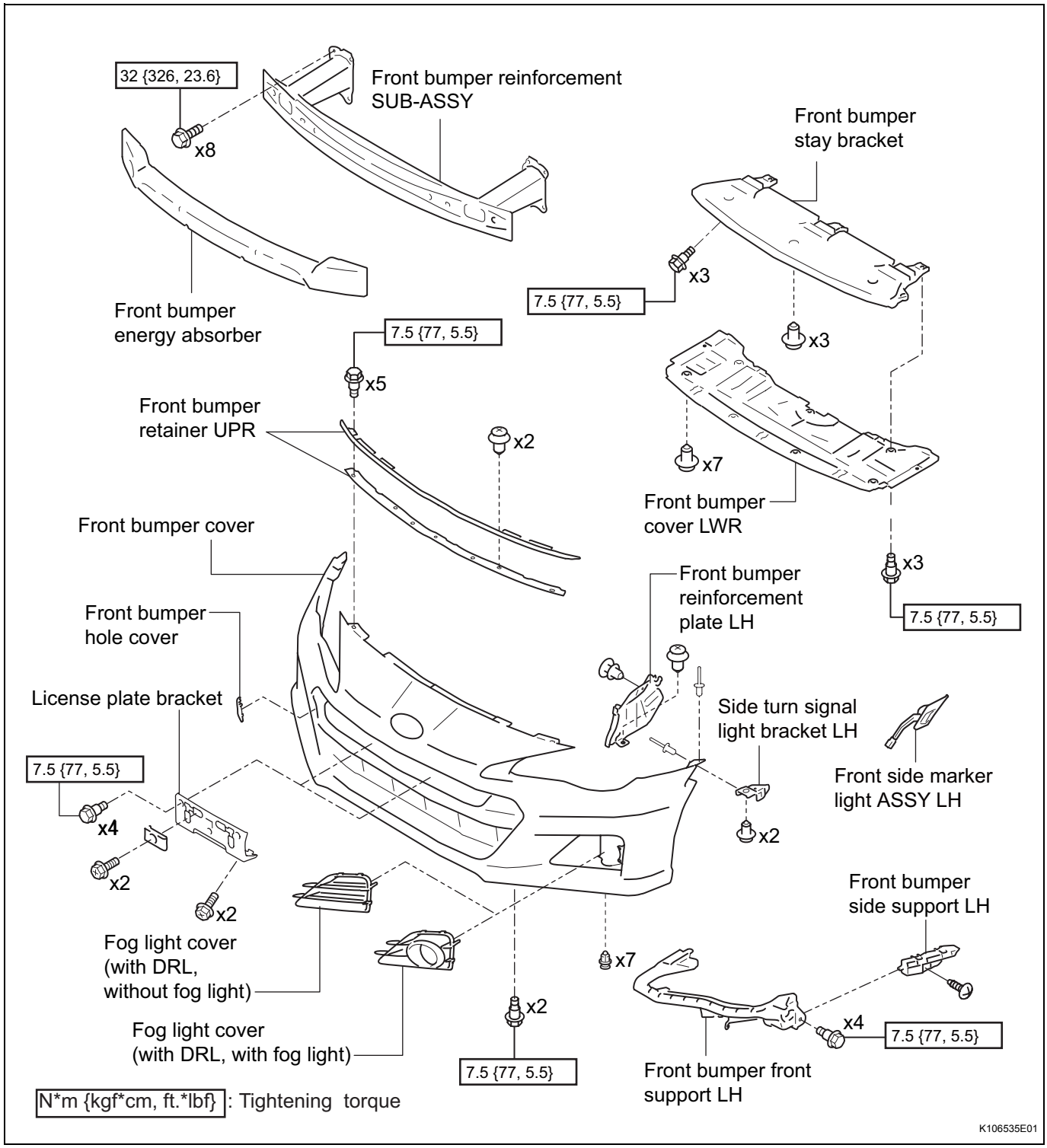
WHEN REMOVING,INSTALLING,REPAIRING OR REPLACING PARTS

COMPONENTS

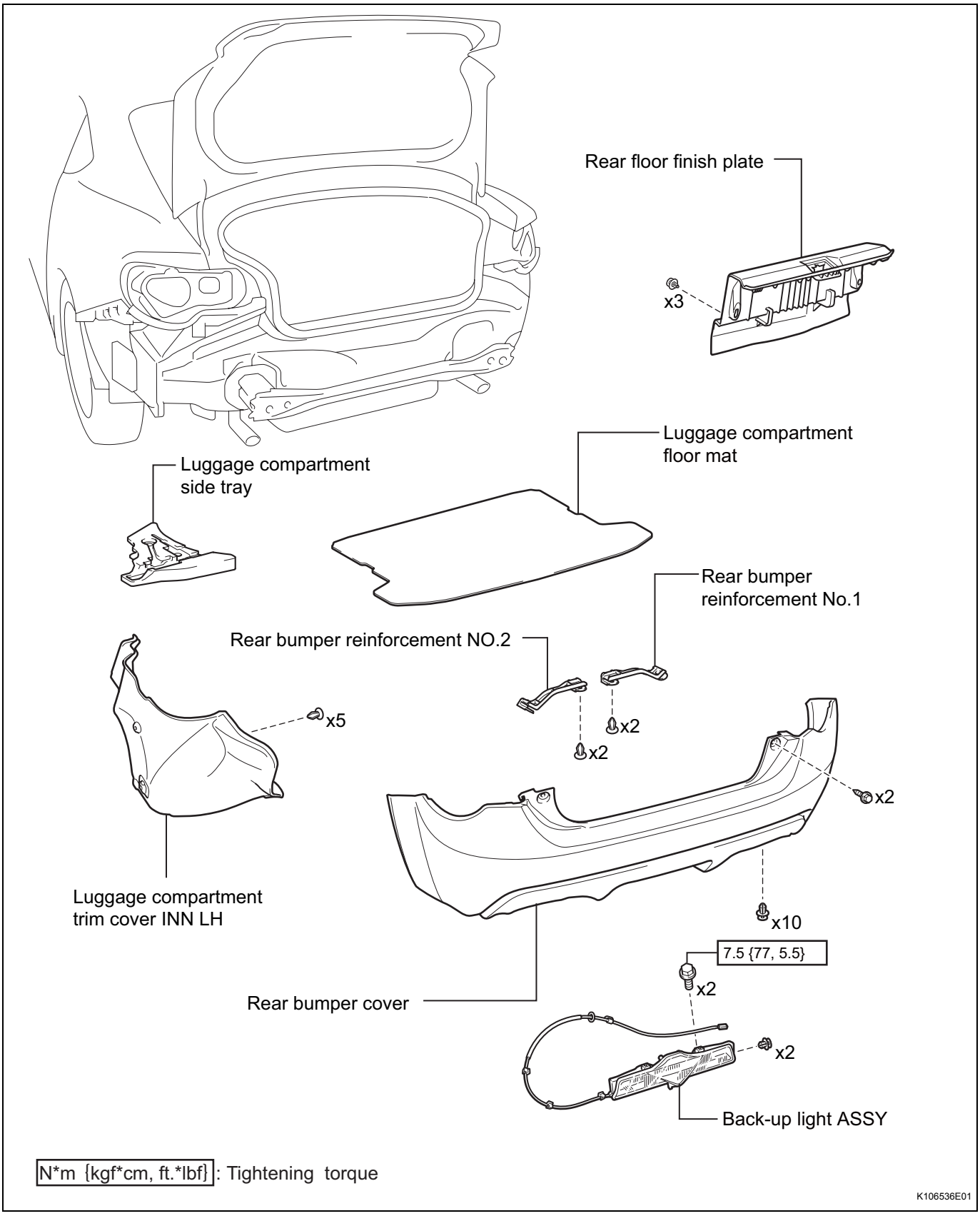
IN

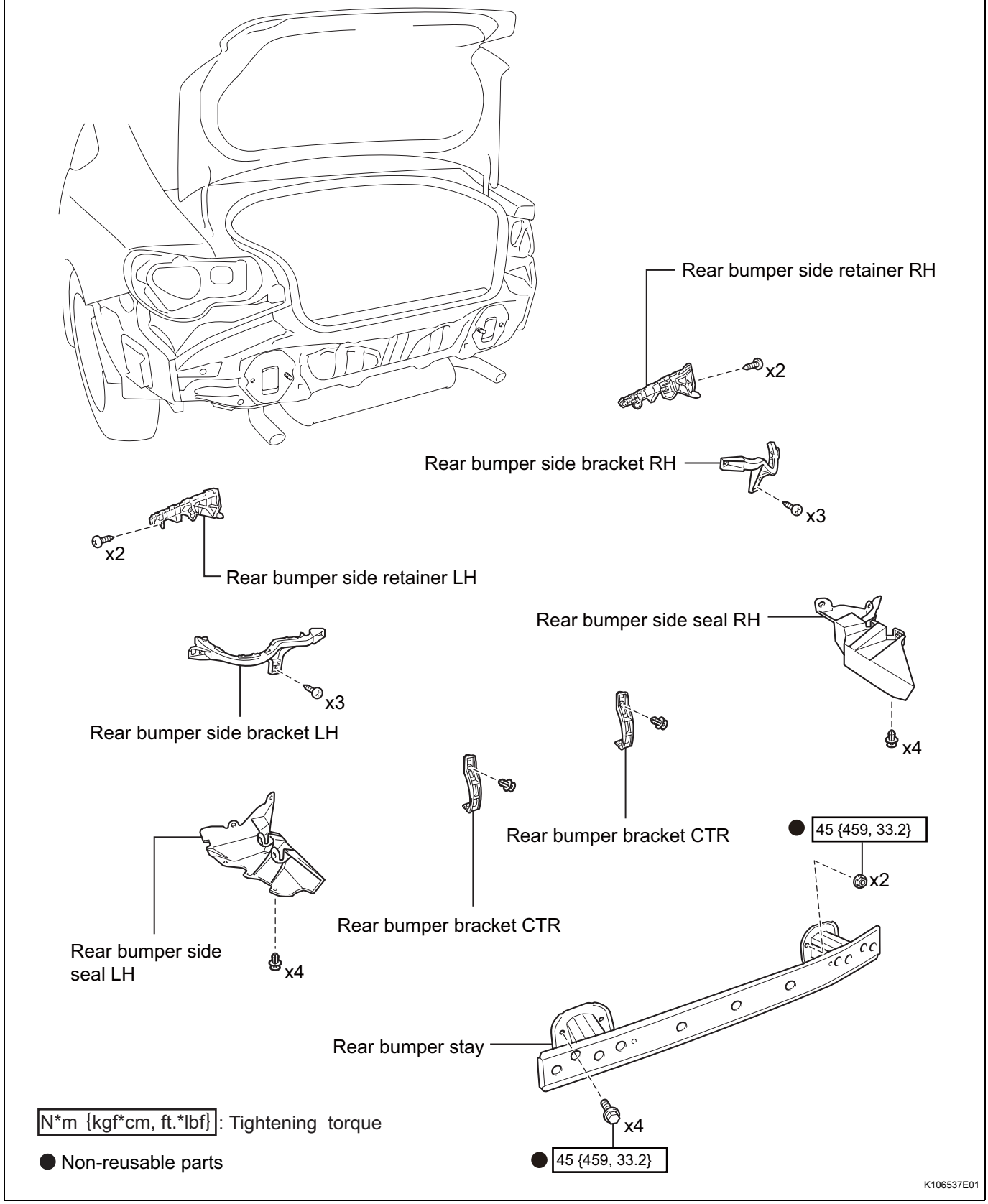
HINT:
The shapes and names of parts and the general layout may differ depending on the vehicle grade and options.

1. FRONT BUMPER

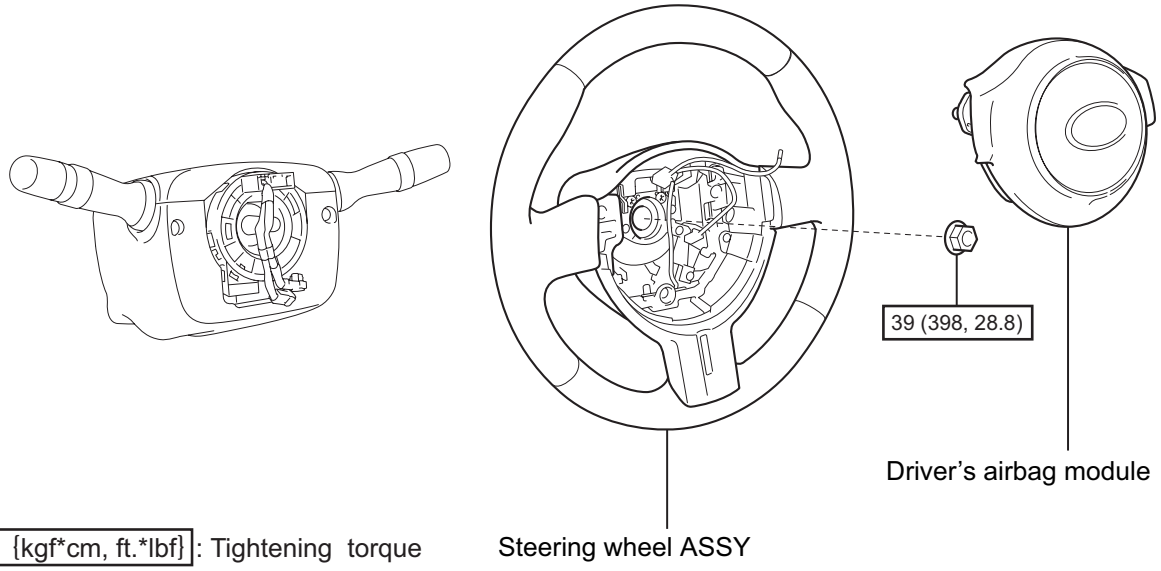


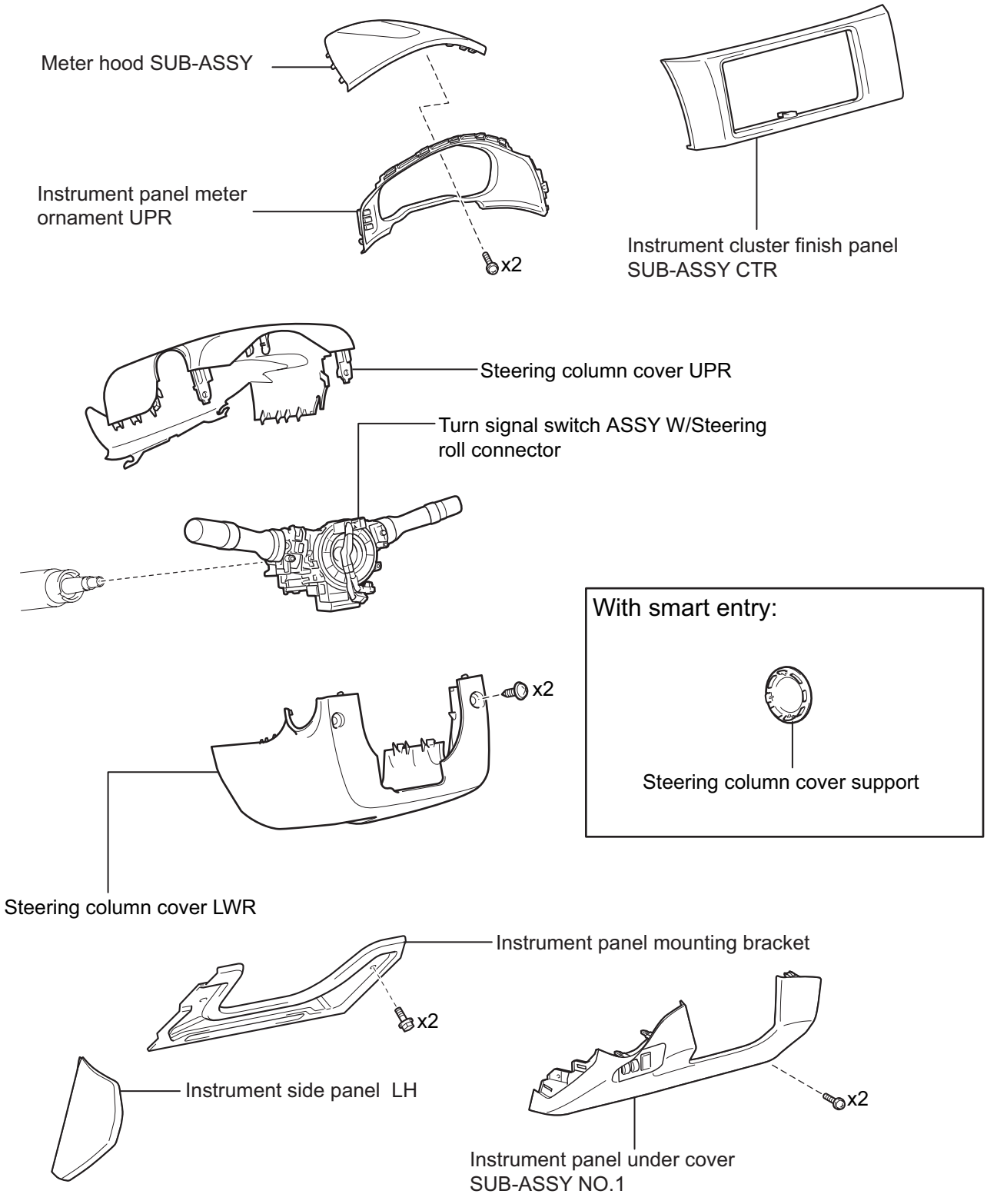
2. REAR BUMPER



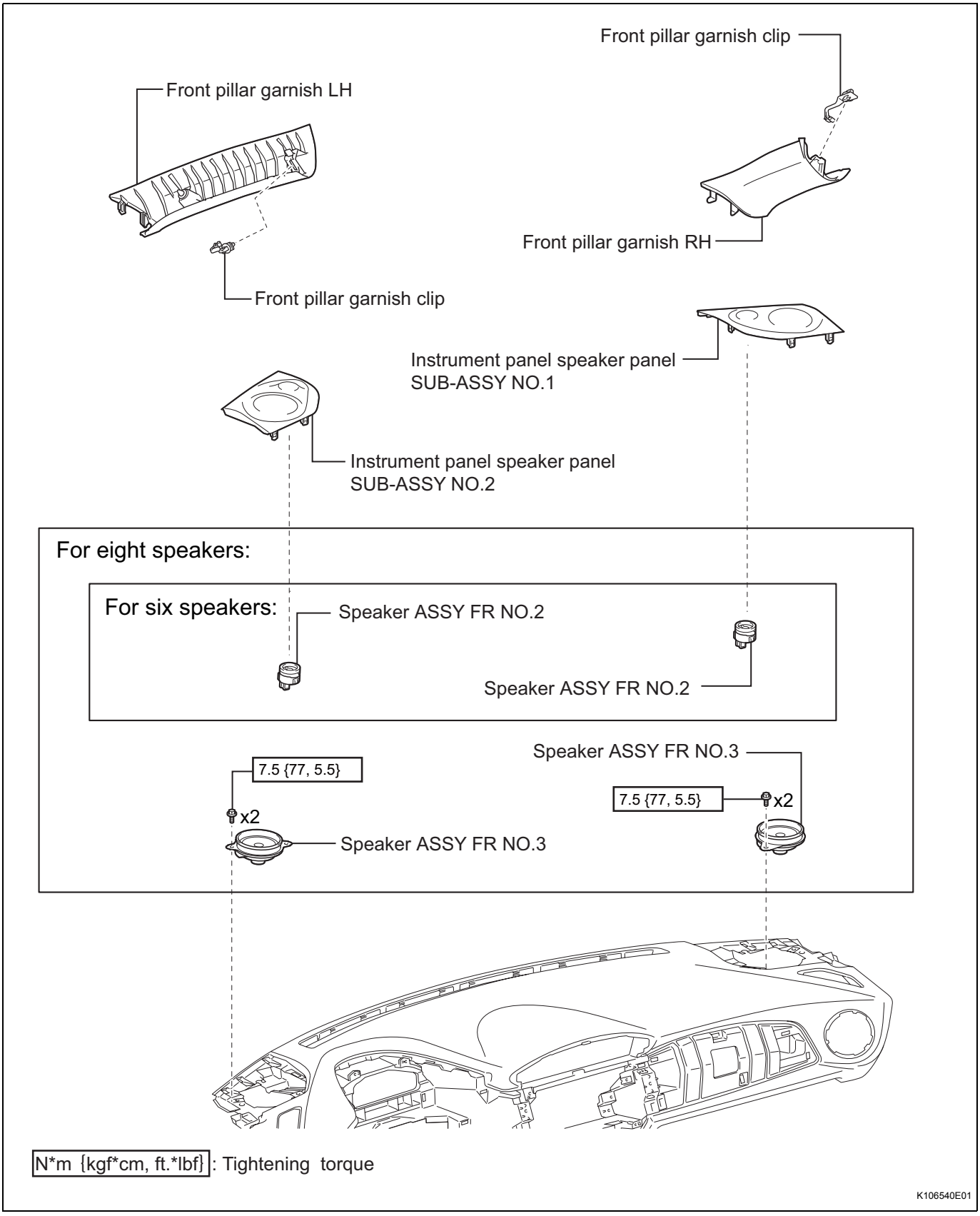

Rear bumper side retainer RH
x2
Rear bumper side bracket RH
x3
x2
Rear bumper side retainer LH
Rear bumper side seal RH
x3
Rear bumper side bracket LH
x4
Rear bumper bracket CTR
45 {459, 33.2}
x2
Rear bumper bracket CTR
Rear bumper side seal LH
x4
Rear bumper stay
x4
45 {459, 33.2}
N*m {kgf*cm, ft.*lbf}: Tightening torque
● Non-reusable parts
K106537E01

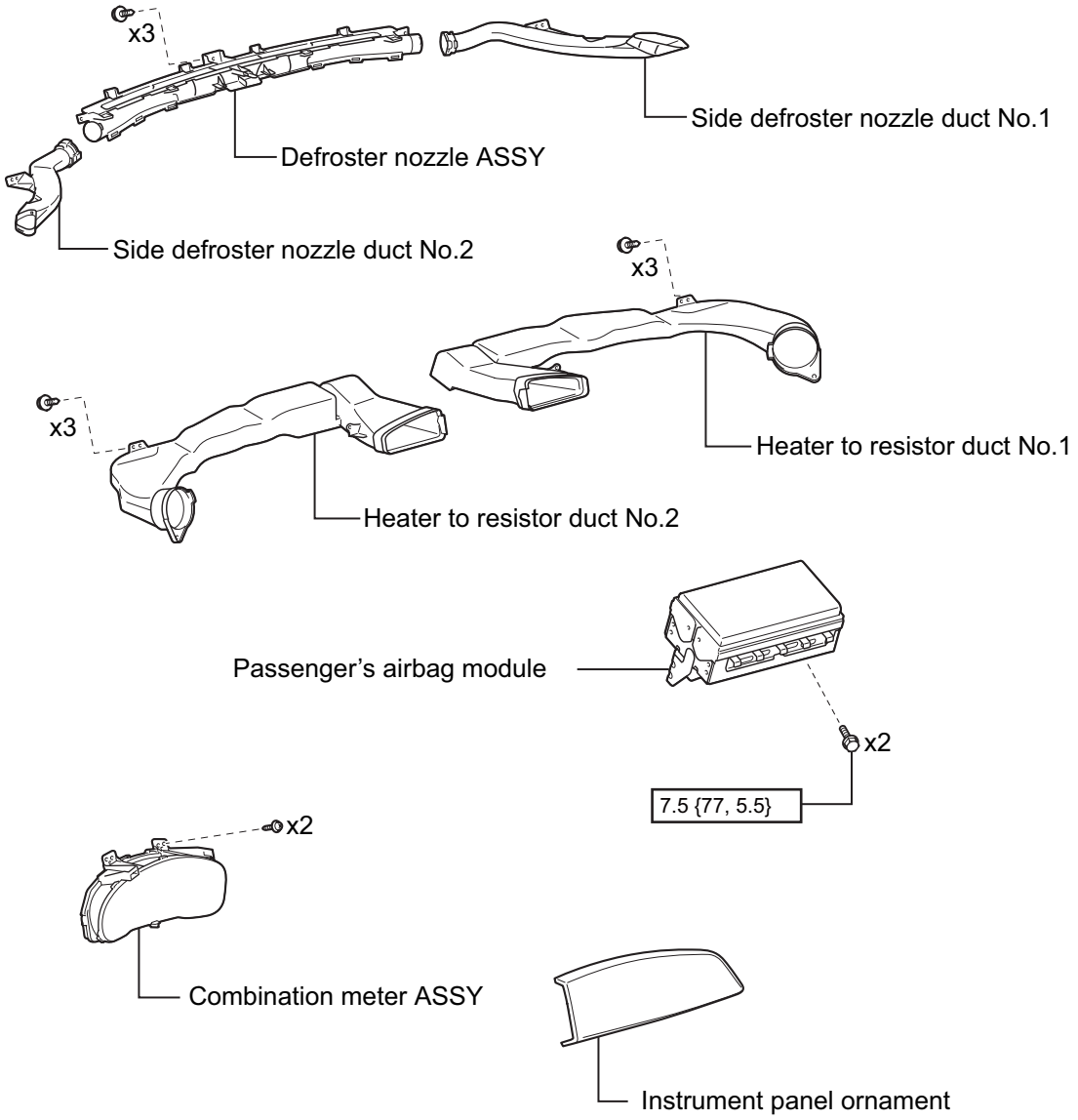
3. INSTRUMENT PANEL




Meter hood SUB-ASSY
Instrument panel meter ornament UPR
x2
Instrument cluster finish panel SUB-ASSY CTR
Steering column cover UPR
Turn signal switch ASSY W/Steering roll connector
x2
With smart entry:
Steering column cover support
Steering column cover LWR
Instrument panel mounting bracket
x2
Instrument side panel LH
x2
Instrument panel under cover SUB-ASSY NO.1
K106539E01

IN

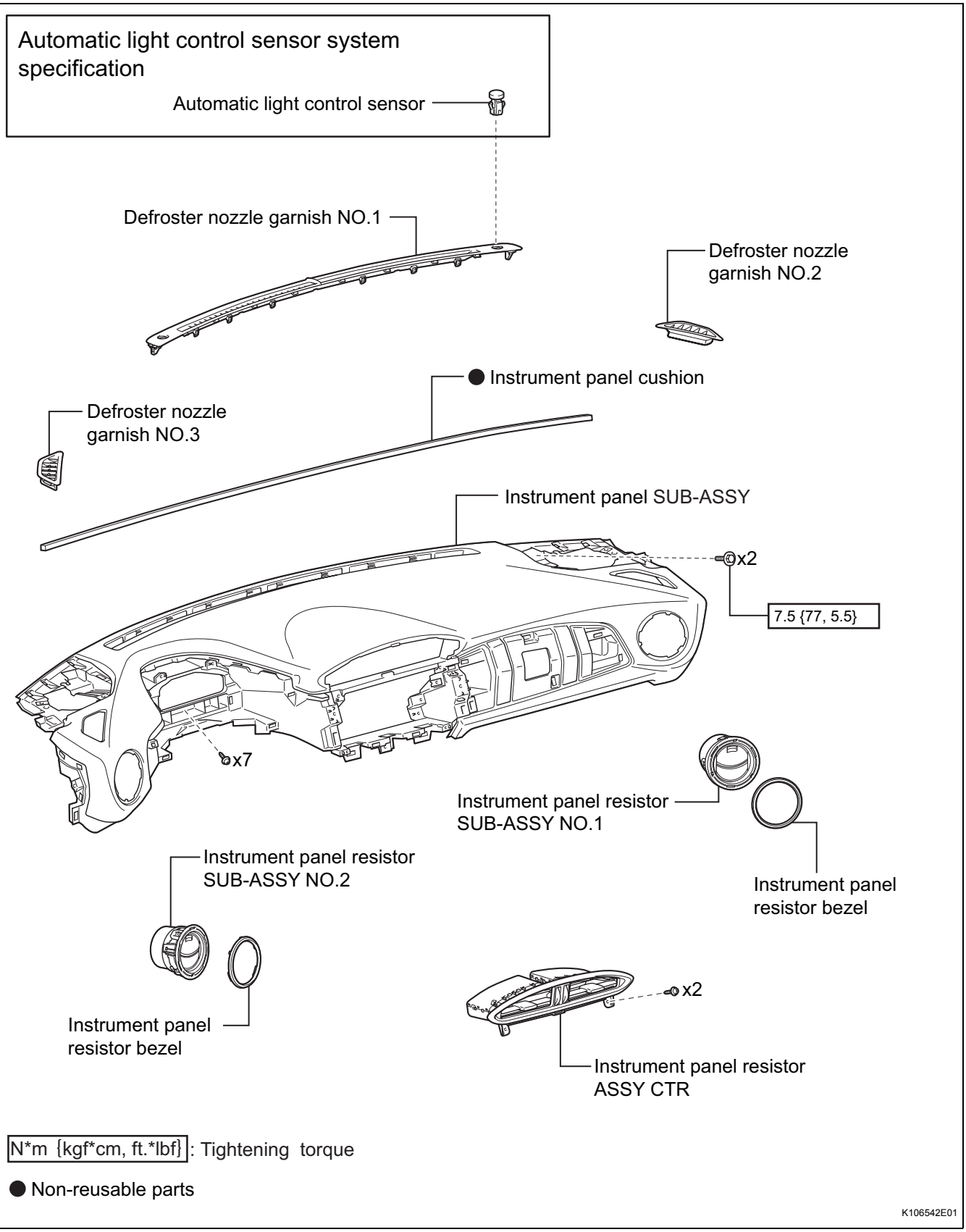

Front pillar garnish clip
Front pillar garnish LH
Front pillar garnish RH
Front pillar garnish clip
Instrument panel speaker panel SUB-ASSY NO.1
Instrument panel speaker panel SUB-ASSY NO.2
For eight speakers:
For six speakers:
Speaker ASSY FR NO.2
Speaker ASSY FR NO.2
Speaker ASSY FR NO.3
7.5 {77, 5.5}
x2
Speaker ASSY FR NO.3
7.5 {77, 5.5}
x2
N*m {kgf*cm, ft.*lbf}: Tightening torque
K106540E01

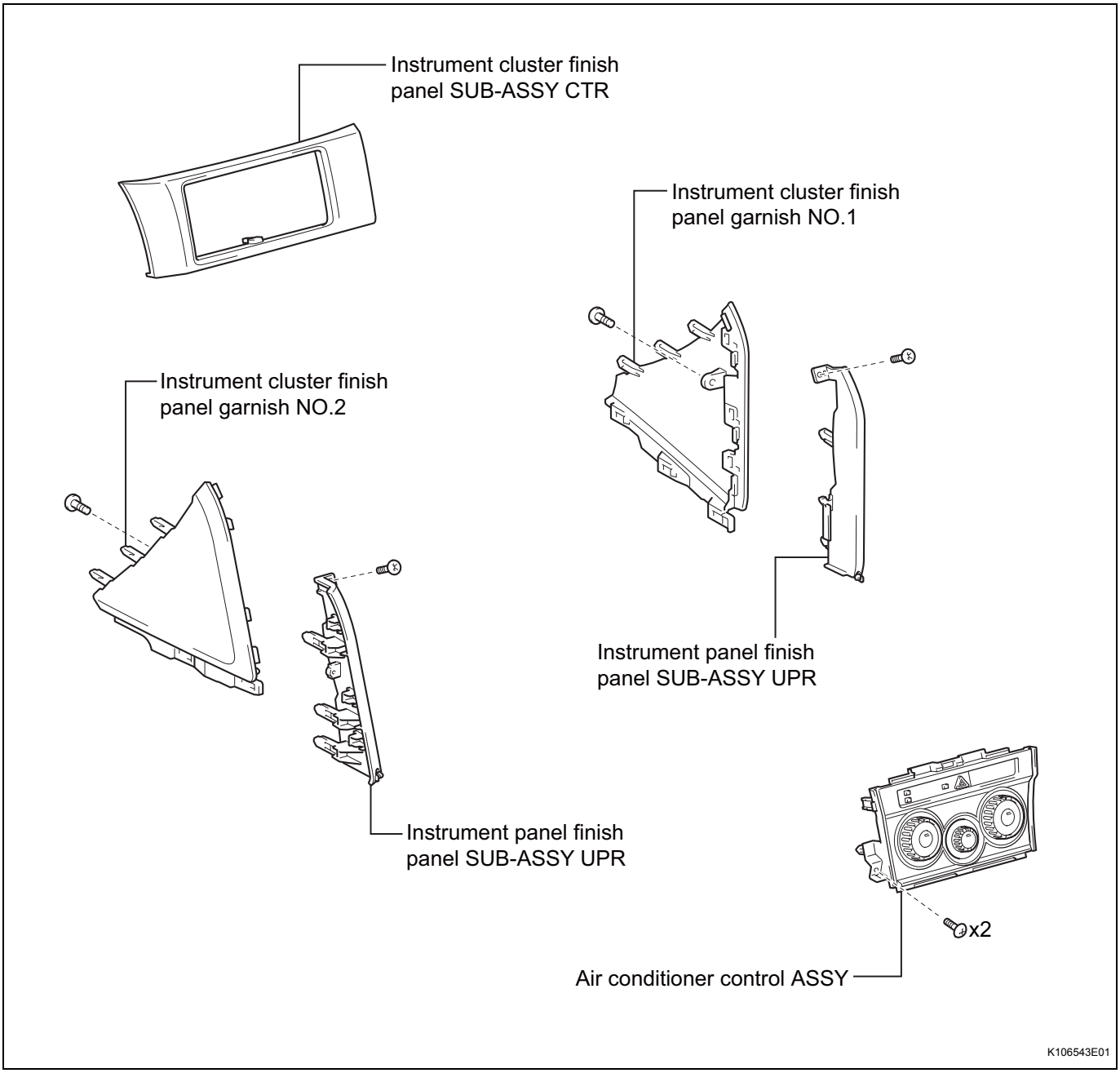


N*m {kgf*cm, ft.*lbf} : Tightening torque

K106541E01

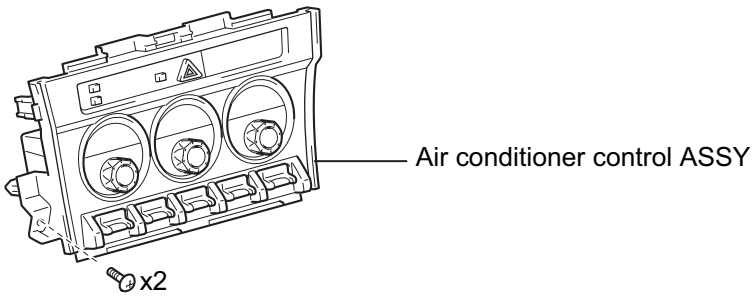
IN


Automatic light control sensor system specification
Automatic light control sensor
Defroster nozzle garnish NO.1
Defroster nozzle garnish NO.2
● Instrument panel cushion
Defroster nozzle garnish NO.3
Instrument panel SUB-ASSY
x2
7.5 {77, 5.5}
x7
Instrument panel resistor SUB-ASSY NO.1
Instrument panel resistor bezel
Instrument panel resistor SUB-ASSY NO.2
Instrument panel resistor bezel
x2
Instrument panel resistor ASSY CTR
N*m {kgf*cm, ft.*lbf}: Tightening torque
● Non-reusable parts
K106542E01

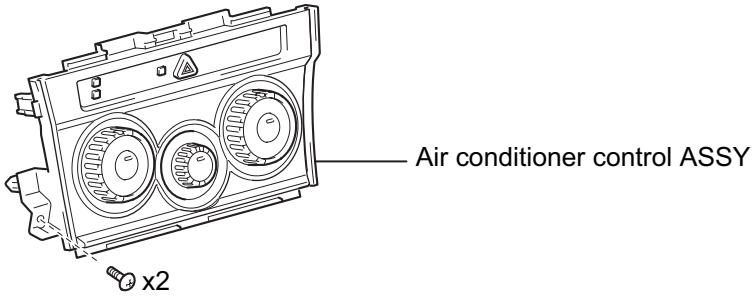

Instrument cluster finish panel SUB-ASSY CTR
Instrument cluster finish panel garnish NO.1
Instrument cluster finish panel garnish NO.2
Instrument panel finish panel SUB-ASSY UPR
Instrument panel finish panel SUB-ASSY UPR
x2
Air conditioner control ASSY
K106543E01

IN

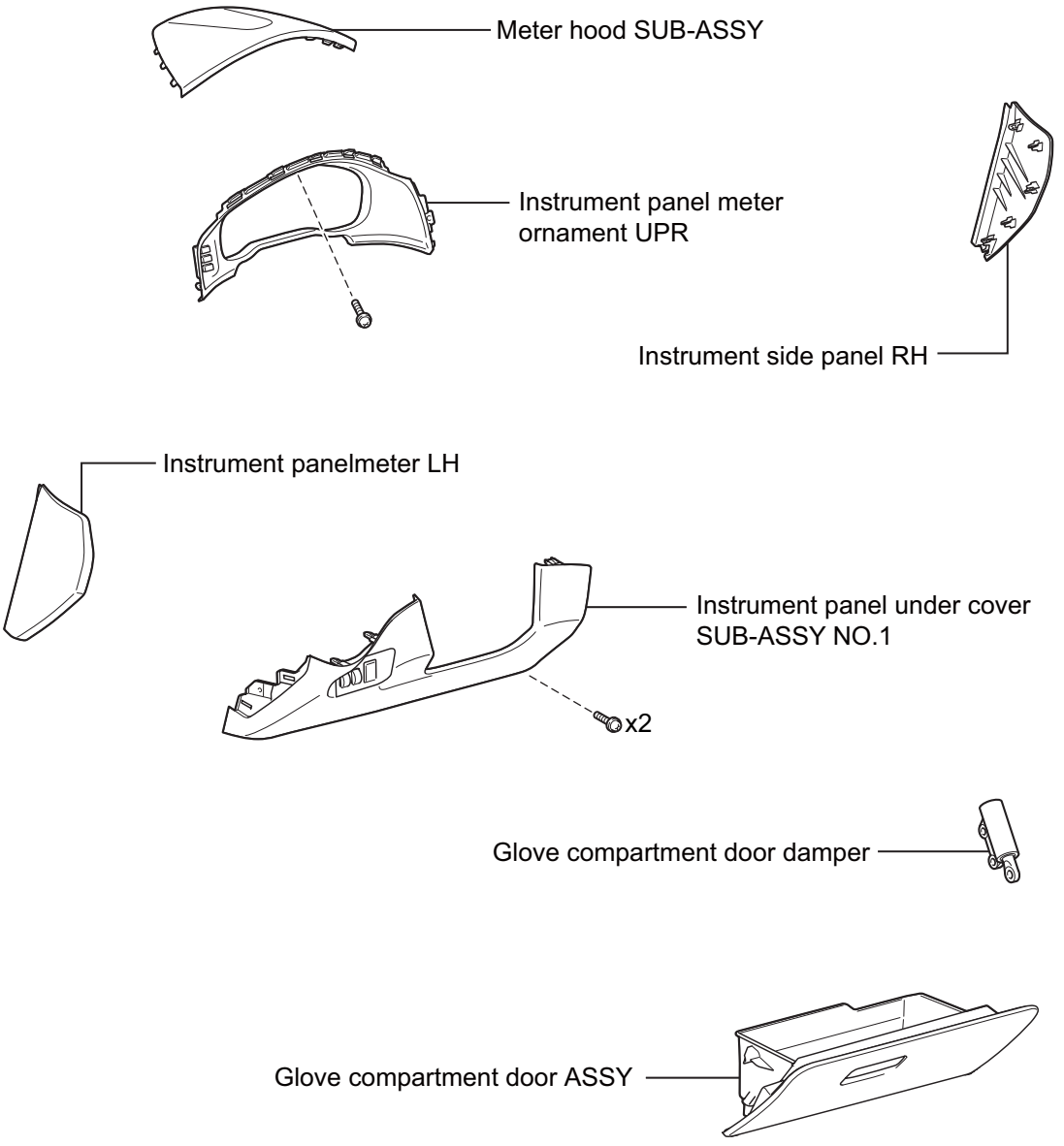
For automatic air conditioning system:

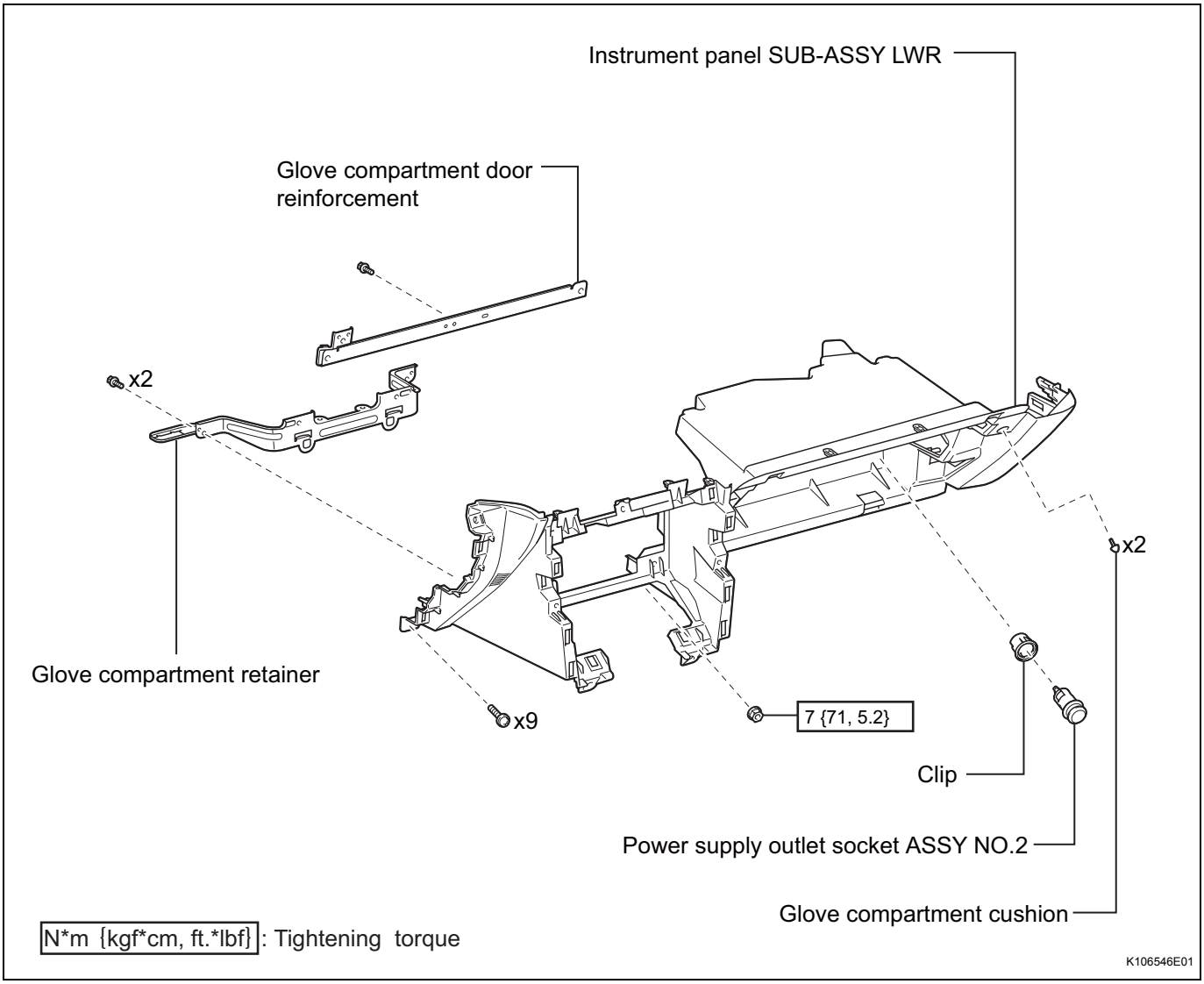


For manual air conditioning system:

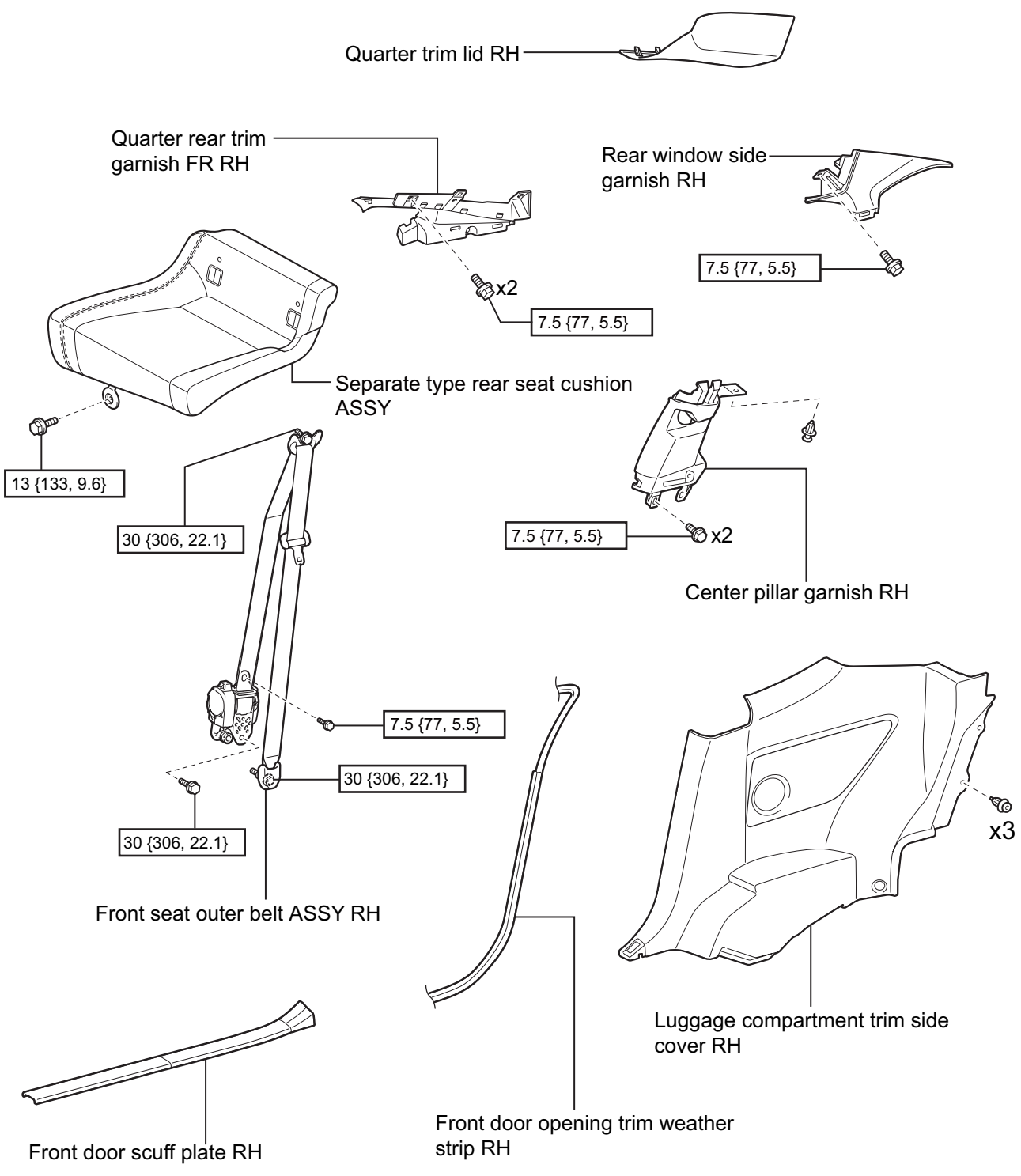


K106544E01


Meter hood SUB-ASSY
Instrument panel meter ornament UPR
Instrument side panel RH
Instrument panelmeter LH
Instrument panel under cover SUB-ASSY NO.1
x2
Glove compartment door damper
Glove compartment door ASSY
K106545E01

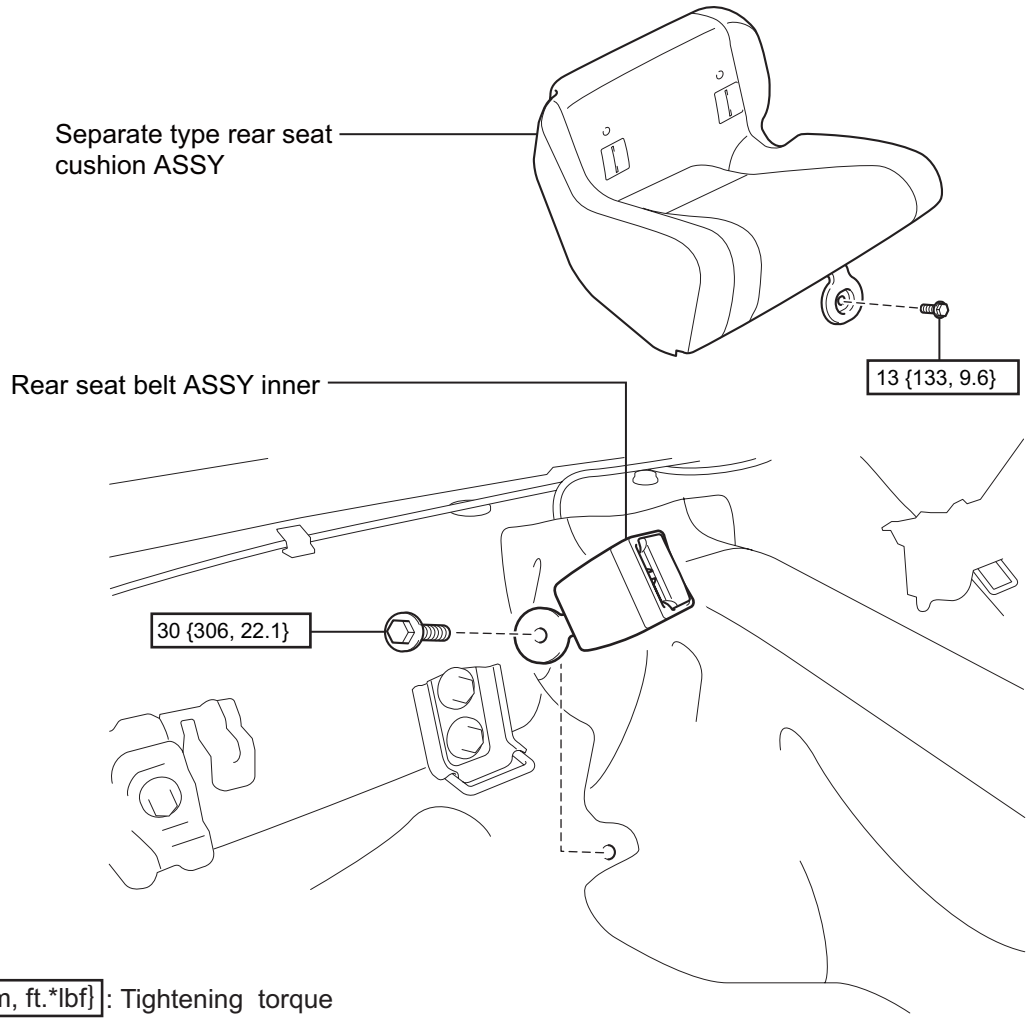

Instrument panel SUB-ASSY LWR
Glove compartment door reinforcement
x2
Glove compartment retainer
x9
7 {71, 5.2}
x2
Clip
Power supply outlet socket ASSY NO.2
Glove compartment cushion
N*m {kgf*cm, ft.*lbf}: Tightening torque
K106546E01

4. INTERIOR TRIM



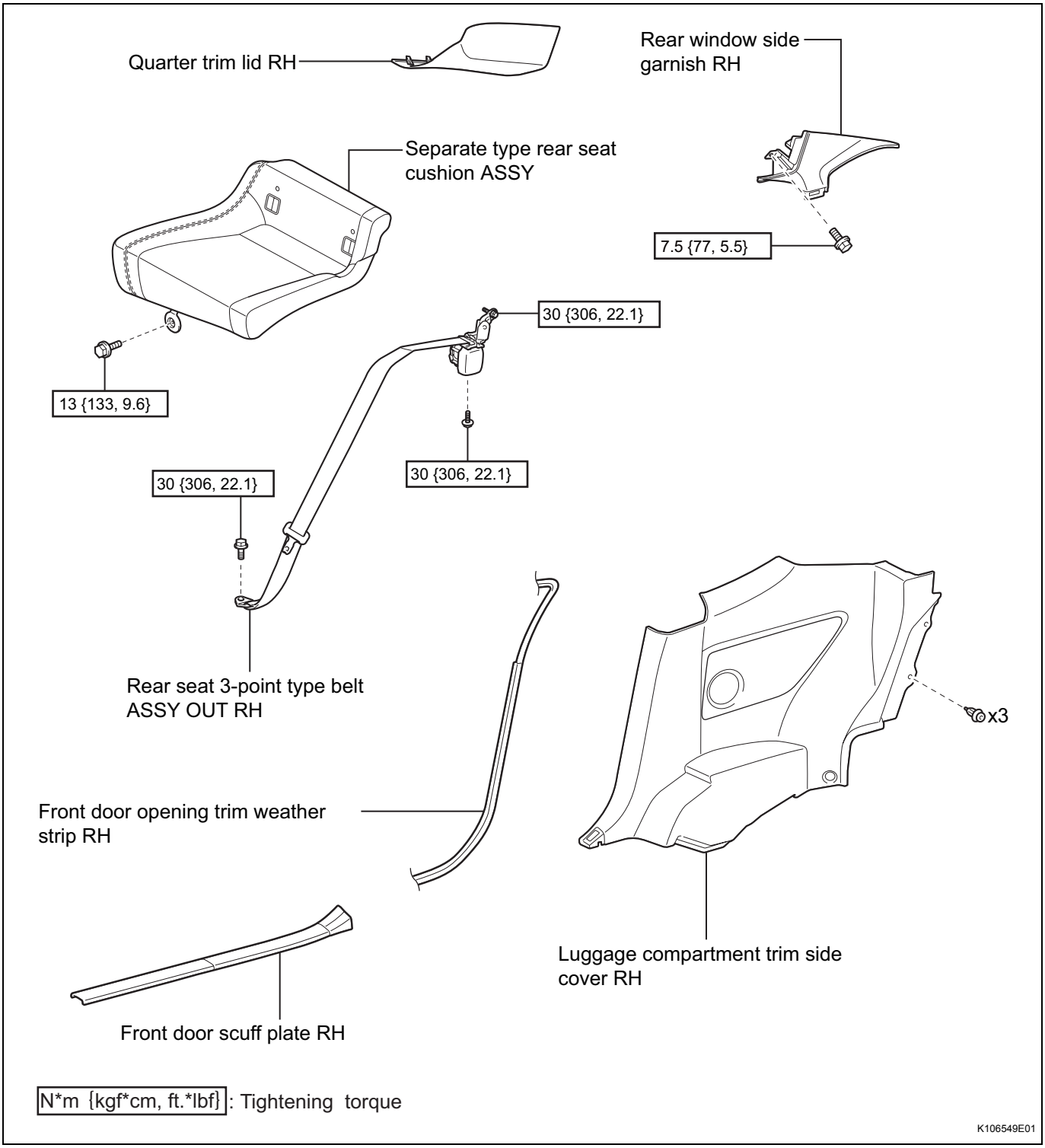
N*m {kgf*cm, ft.*lbf}: Tightening torque

K106547E01

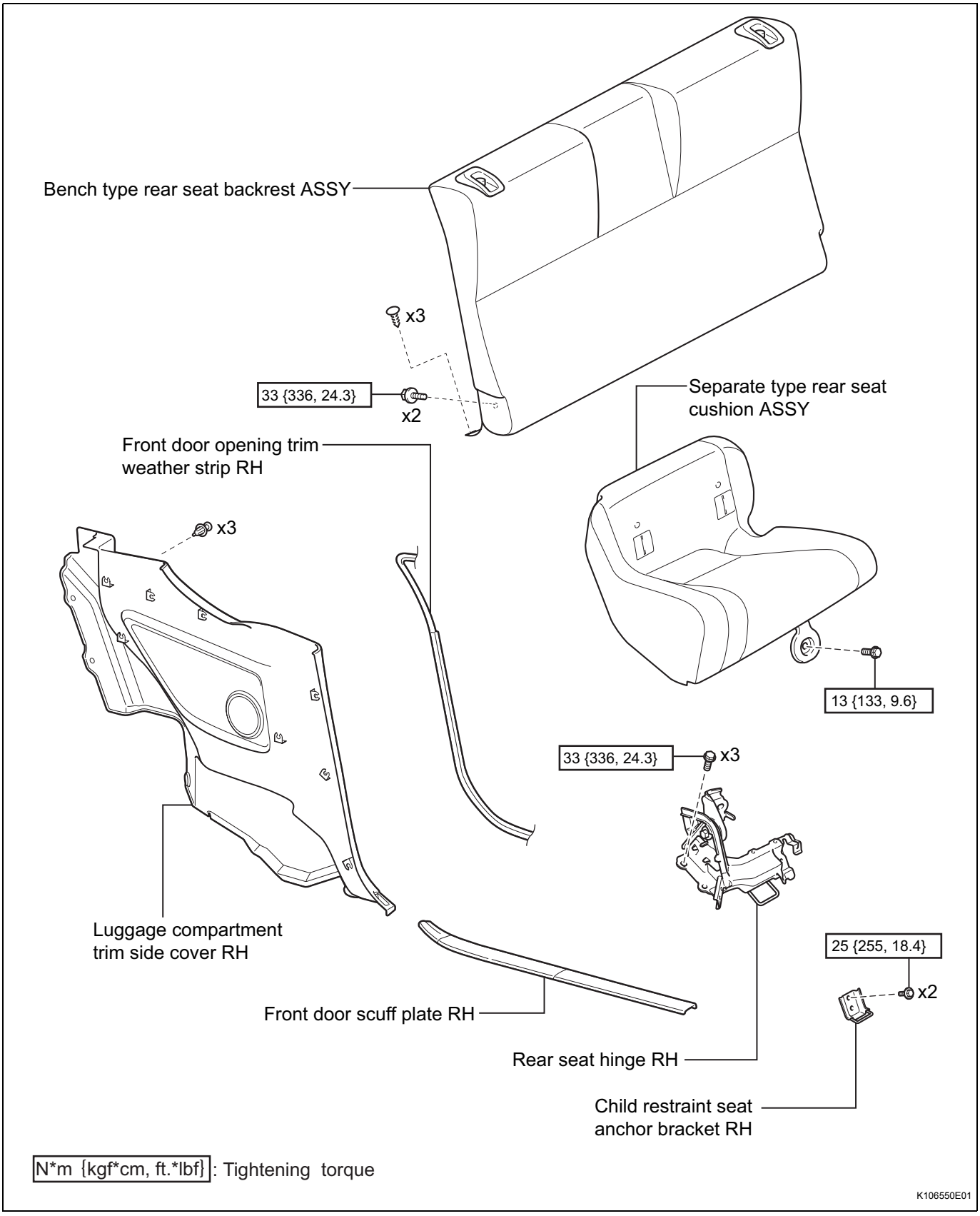


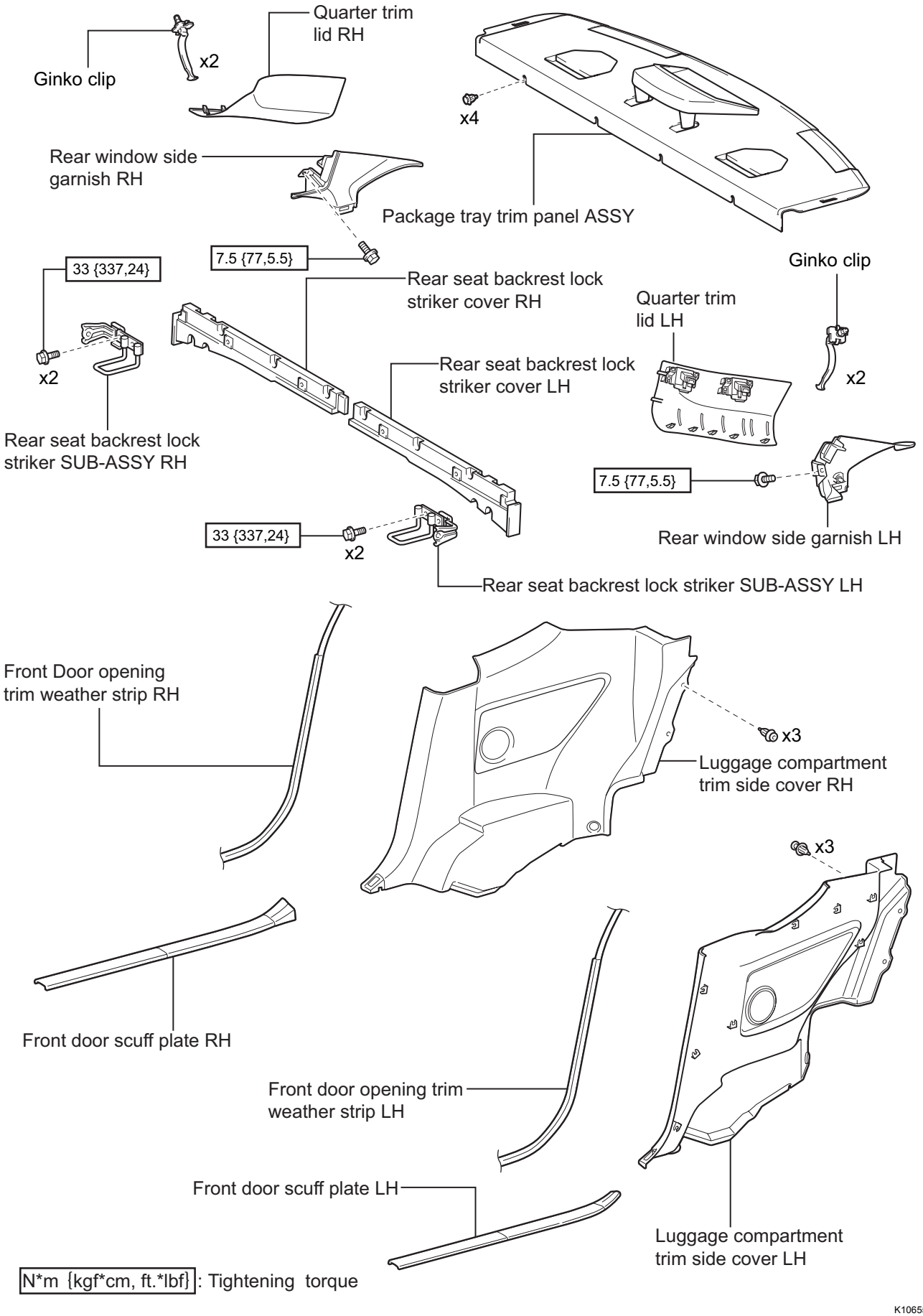
N*m {kgf*cm, ft.*lbf}: Tightening torque

K106548E01

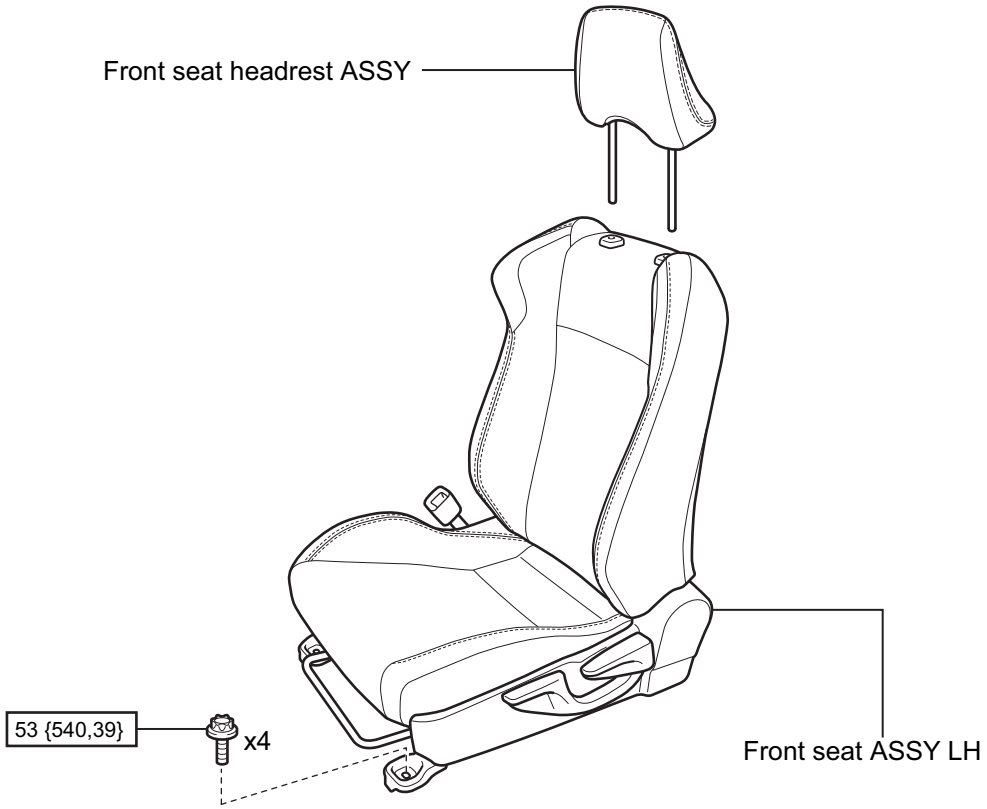

Quarter trim lid RH
Rear window side garnish RH
Separate type rear seat cushion ASSY
7.5 {77, 5.5}
30 {306, 22.1}
13 {133, 9.6}
30 {306, 22.1}
30 {306, 22.1}
Rear seat 3-point type belt ASSY OUT RH
x3
Front door opening trim weather strip RH
Luggage compartment trim side cover RH
Front door scuff plate RH
N*m {kgf*cm, ft.*lbf}: Tightening torque
K106549E01

IN


Bench type rear seat backrest ASSY
x3
33 {336, 24.3}
x2
Separate type rear seat cushion ASSY
Front door opening trim weather strip RH
x3
13 {133, 9.6}
33 {336, 24.3}
x3
Luggage compartment trim side cover RH
25 {255, 18.4}
x2
Front door scuff plate RH
Rear seat hinge RH
Child restraint seat anchor bracket RH
N*m {kgf*cm, ft.*lbf}: Tightening torque
K106550E01

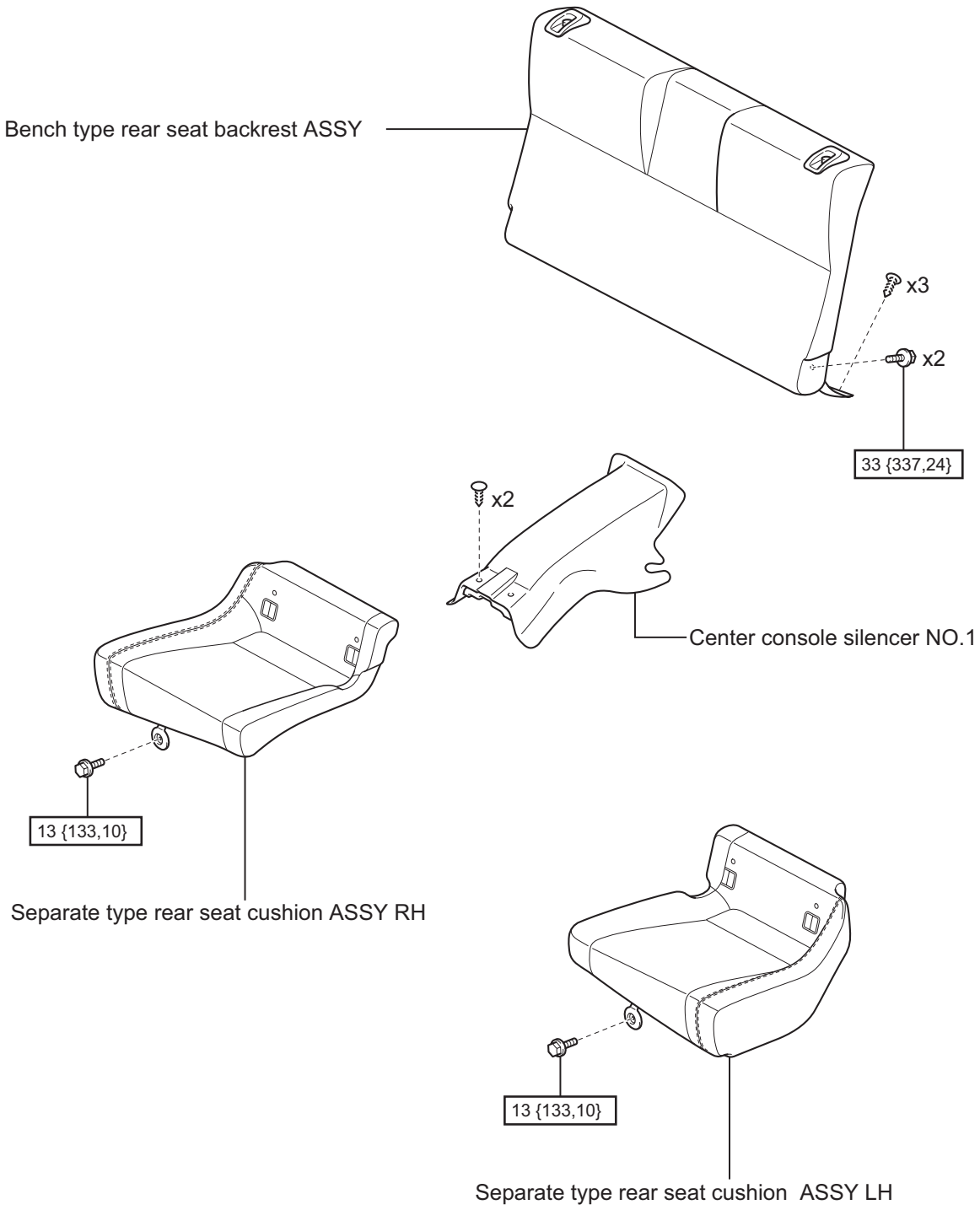

Ginko clip
x2
Quarter trim lid RH
x4
Rear window side garnish RH
Package tray trim panel ASSY
33 {337,24}
7.5 {77,5.5}
Rear seat backrest lock striker cover RH
Ginko clip
Quarter trim lid LH
x2
x2
Rear seat backrest lock striker cover LH
Rear seat backrest lock striker SUB-ASSY RH
7.5 {77,5.5}
33 {337,24}
x2
Rear window side garnish LH
Rear seat backrest lock striker SUB-ASSY LH
Front Door opening trim weather strip RH
x3
Luggage compartment trim side cover RH
x3
Front door scuff plate RH
Front door opening trim weather strip LH
Front door scuff plate LH
Luggage compartment trim side cover LH
N*m {kgf*cm, ft.*lbf}: Tightening torque
K106553E01

5. SEAT



N*m {kgf*cm, ft.*lbf}: Tightening torque

K106551E01



N*m {kgf*cm, ft.*lbf}: Tightening torque

K106552E01

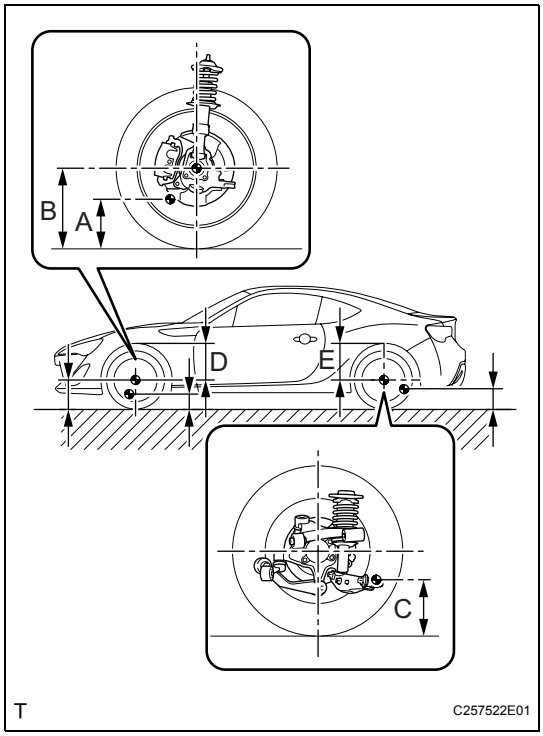
PROCEDURES NECESSARY WHEN ECU OR OTHER PARTS ARE REPLACED

Each inspection procedure refers to the SUBARU Repair Manual.

1. List of replacement procedures

Replaced parts and procedures	Required procedures	Possible phenomena/unavailable functions (unless required procedure is performed)
Engine control computer	1. ID code registration	Engine start inoperable
• Transmission control computer ASSY • Automatic transmission ASSY • Transmission valve body ASSY • Transmission wire • Each solenoid • Engine ASSY	1. AT learning values initialization	• High revving of engine • Large shift shock
• Brake actuator ASSY • Steering sensor • Steering column ASSY • Rack & pinion power steering gear ASSY • Front wheel alignment adjustment	1. VSC sensor mid point setting	• VSC system does not operate normally (warning light is illuminated)
Power steering computer ASSY	1. Steering 0-point correction	• P/S warning light illumination • EPS control
Steering column ASSY	1. Steering 0-point correction	• Different left/right steering control force
With smart entry • Electrical key transmitter SUB-ASSY • ID CODE BOX (Immobilizer CODE ECM) • Smart key computer ASSY (collation ECM) • Steering lock actuator ASSY (steering lock ECM)	1. ID code registration	• Wireless function • Smart function • Engine start inoperable
No smart entry • Key • Main body ECU (network gateway computer) • TRANSPONDER KEY ECM • Combination meter assembly	1. ID code registration	• Engine start inoperable
• Power window regulator motor ASSY (RH, LH) • Front door window regulator SUB-ASSY RH (RH, LH) • Front door glass SUB-ASSY (RH, LH), front door frame SUB-ASSY RR LWR (RH, LH) or front door sash (RH, LH) • Front door opening trim weather strip (RH, LH)	1. Power window system initialization	• Door glass automatic opening/closing function • Anti-pinching function • Operating functions after key OFF (IG OFF) • Seat remote operation using driver's seat switch
• Main body ECM (network gateway computer)	1. Customize	• Functions are inoperable

WHEEL ALIGNMENT STANDARD



1. Vehicle height inspection

(a) Perform vehicle height inspection after bouncing the vehicle at the corners by large amounts to stabilize the suspension.

Standard value

Tire Size	Dimension B - Dimension A [mm (in)]	Dimension C [mm (in)]	Dimension D [mm (in)]	Dimension E [mm (in)]
P205/55R16	146 (5.75)	225 (8.86)	375 (14.76)	372 (14.65)
215/45R17	146 (5.75)	225 (8.86)	375 (14.76)	372 (14.65)

CAUTION:

- **Perform the inspection while the vehicle is at curb weight (with the spare tire, jack, and service tools loaded and with a full fuel tank).**
- **These values are for adjusting the wheel alignment and do not indicate the actual vehicle height.**

NOTE:

- Dimension A: Center of the head of the front lower arm No. 1 bushing mounting bolt
- Dimension B: Center of the front wheel
- Dimension C: Center of the rear end of the rear lower arm No. 2 bushing mounting bolt threaded portion
- Dimension D: From the front fender arch upper end to the center of the front wheel
- Dimension E: From the rear fender arch upper end to the center of the rear wheel

2. Inspection of camber, caster, and kingpin angle (FRONT)

CAUTION:

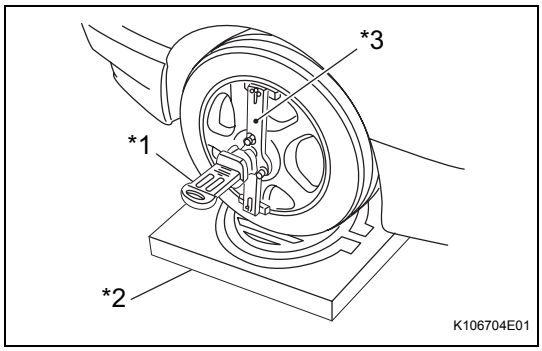
Perform the inspection while the vehicle is at curb weight (with the spare tire, jack, and service tools loaded and with a full fuel tank).

(a) Place the front wheel on the turning radius gauge.

Standard value

Tire Size	Camber	Caster	Kingpin angle
P205/55R16 215/45R17	-1°12' +/- 0°45'	5°54' (Reference)	15°31' (Reference)

NOTE:
Make sure the ground contact surfaces of the front and rear wheels are at the same height.



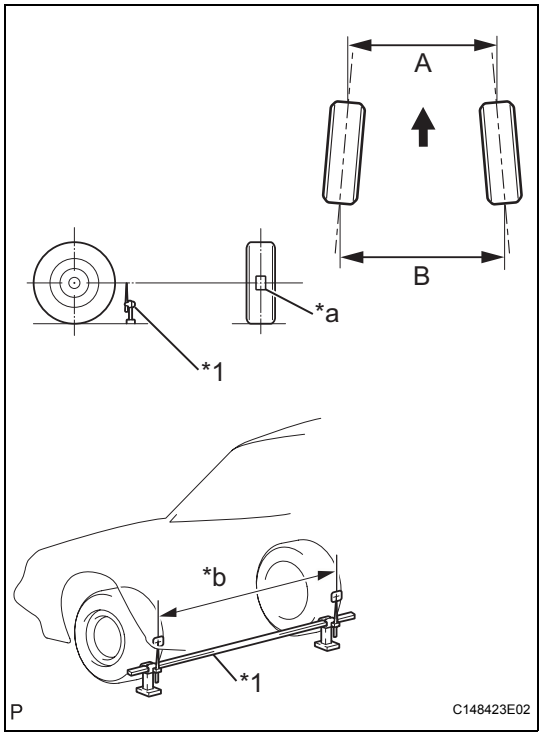
(b) Set the adapter into the center of wheel, and then set the wheel alignment gauge.
Captions in illustration

*1	Wheel alignment gauge
*2	Turning radius gauge
*3	Adapter

(c) Measure the camber angle in accordance with the operation manual for wheel alignment gauge.
(d) Check whether the measured value is within standard value.
(e) Measure the caster angle in accordance with the operation manual for wheel alignment gauge.
(f) Check whether the measured value is within standard value.

3. Toe-in inspection (FRONT)

(a) Bounce the vehicle to stabilize the suspension.
(b) Move the vehicle straight 5 m (16.4 ft.) forward by manually pushing it.
CAUTION:
If the vehicle has been moved backward, be sure to move it forward by the same distance.

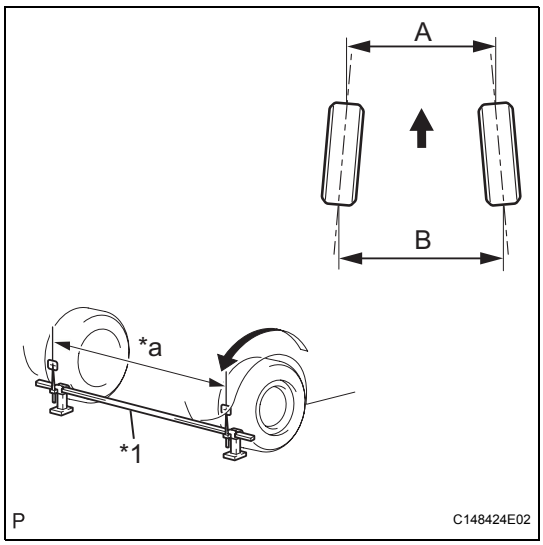


(c) Adjust the height of the toe-in gauge pointer so that it is at the same height as the center of the front wheel axis, and set it behind the tire.
Captions in illustration

*1	Toe-in gauge
*a	Tread center
*b	Dimension B
➡	Front side of vehicle

(d) Place a tread center mark on the back of both front tires, and measure the distance between the marks (dimension B).

(e) Move the vehicle forward by pushing it slowly to rotate the front wheels 180°.
CAUTION:
Be sure not to rotate more than 180°, and if the wheels have been over-rotated, repeat from the setting up of the toe-in gauge.



(f) Measure the distance between the marks at the front of the vehicle (dimension A).
Captions in illustration

*1	Toe-in gauge
*a	Dimension A
➡	Front side of vehicle

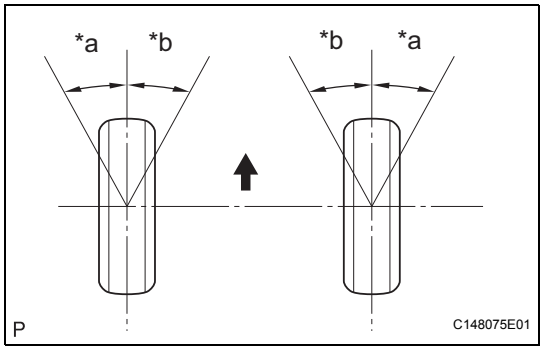
(g) Calculate the toe-in.
Standard value

Toe-in [mm (in)]
0 +/- 3 (0 +/- 0.12) (at curb weight)

NOTE:
Toe-in = Dimension B - Dimension A

4. Wheel turning angle inspection

(a) Set the turning radius gauge.



(b) Check the wheel turning angle.
Captions in illustration

*a	Inside
*b	Outside
➡	Front

Standard value

Inside	Outside
36°54' (Reference)	31°12' (Reference)

CAUTION:
- **Perform the inspection while the vehicle is at curb weight (with the spare tire, jack, and service tools loaded and with a full fuel tank).**
- **While the vehicle is at curb weight, apply the foot brake using a brake pedal depressor, etc. to prevent the front wheels from rotating during the inspection.**

- **Remove the stop light fuse to prevent the stop light from illuminating during the inspection.**

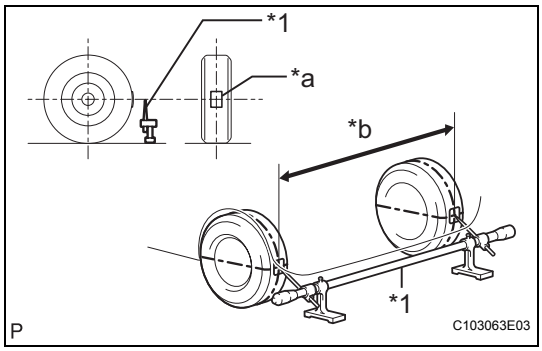
5. Toe-in inspection (REAR)

(a) Bounce the vehicle to stabilize it.

(b) Move the vehicle straight 5 m (16.4 ft.) forward by manually pushing it.

CAUTION:

If the vehicle has been moved backward, be sure to move it forward by the same distance.



(c) Adjust the height of the toe-in gauge pointer so that it is at the same height as the center of the rear wheel axis, and set it behind the tire.

Captions in illustration

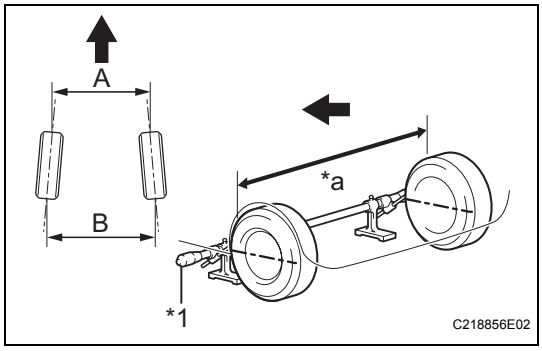
*1	Toe-in gauge
*a	Tread Center
*b	Dimension B
➡	Front side of vehicle

(d) Place a tread center mark on the back of both rear tires, and measure the distance between the marks (dimension B).

(e) Move the vehicle forward by pushing it slowly to rotate the rear wheels 180°.

CAUTION:

Be sure not to rotate the tires more than 180°. If the wheels have been over-rotated, repeat from the setting up of the toe-in gauge.



(f) Measure the distance between the marks at the front of the tires (dimension A).

Captions in illustration

*1	Toe-in gauge
*a	Dimension A
➡	Front side of vehicle

(g) Calculate the toe-in.

Standard value:

2 +/- 3 mm (0.08 +/- 0.12 in.)

NOTE:

Toe-in = Dimension B - Dimension A

6. Camber inspection (REAR)

(a) Lift up the vehicle on a level surface.

(b) Set the wheel alignment gauge.

(c) Calibrate the wheel alignment gauge.

(d) Check the camber.

Standard value

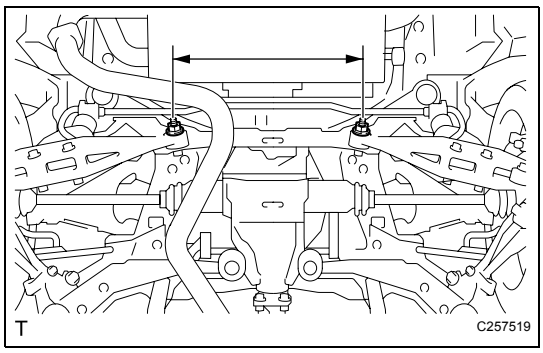
Camber
-1°12' +/- 45'

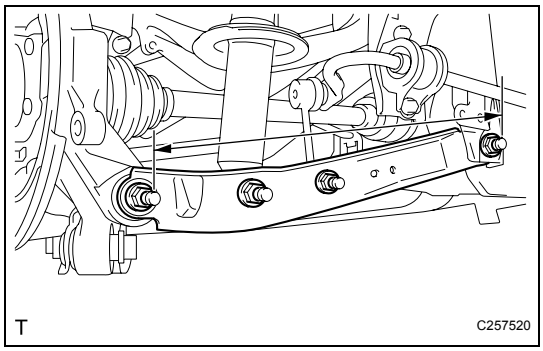
CAUTION:

- **Perform the inspection while the vehicle is at curb weight (with the spare tire, jack, and service tools loaded and with a full fuel tank).**

- **The limit of difference between the left and right camber values is 45'.**
- **Remove foreign matter from the axle hub end surface before performing the inspection.**

(e) Remove the wheel alignment gauge.





7. Rear suspension inspection

(a) Inspection of rear suspension member

(1) Check the distance between the center of rear suspension arm ASSY No. 2 LH and RH mounting bolts.

Standard value:

445.8 +/- 3 mm (17.55 +/- 0.12 in.)

NOTE:

If it is out of standard value, replace with a new rear suspension member.

(b) Inspection of rear suspension arm ASSY No. 2

(1) Check the distance between the center of rear suspension arm ASSY No. 2 mounting bolts.

Standard value:

450.9 +/- 2 mm (17.75 +/- 0.08 in.)

NOTE:

If it is out of standard value, replace with a new rear suspension arm ASSY No. 2.

(c) Inspection and adjustment of toe-in and camber

(1) Inspect the toe-in and camber.

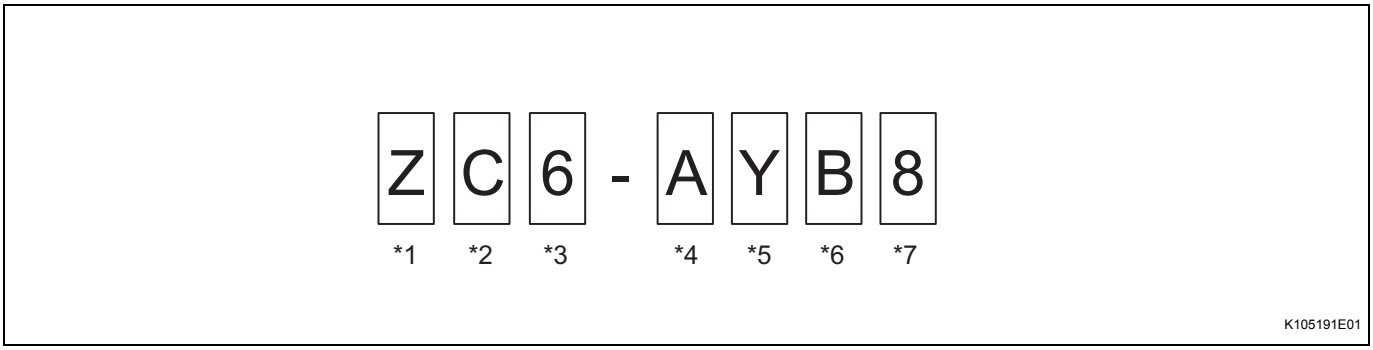
Check the toe-in and camber, and if they are out of standard value, adjust them with the play in the mounting portion of the rear suspension member or that of the upper control arm and rear suspension arm.

ABOUT THIS VEHICLE

STRUCTURAL OUTLINE

1. MODEL CODE AND LINE-UP

(a) MODEL CODE



*1	MODEL NAME	Z: BRZ
*2	BODY TYPE	C: Coupe
*3	DISPLACEMENT, DRIVE TYPE, SUSPENSION	6: 2.0L DOHC 2WD (NA)
*4	MODEL YEAR	A: 2012=A, →B→C→...
*5	DESTINATION	Y: U.S.A.*
*6	GRADE	B: Base Grade E: High Grade
*7	GEAR SHIFT TYPE, ENGINE SPECIFICATION	7: 6-Speed Automatic 8: 6-Speed Manual

*: Destination packages for Canada is included.

(b) MODEL LINE-UP

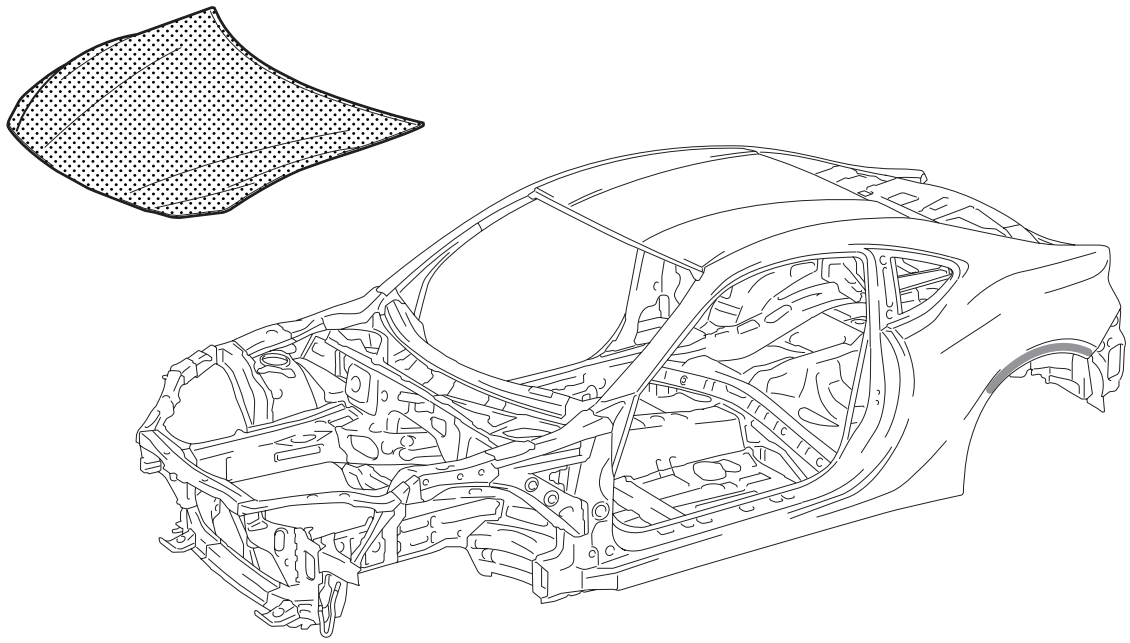
DESTINATION	ENGINE	TRANSMISSION	GRADE	MODEL CODES
U.S.A.*	FA20	TL70	Base Grade	ZC6-AYB8
			High Grade	ZC6-AYE8
		TX6A	Base Grade	ZC6-AYB8
			High Grade	ZC6-AYE8

*: Destination packages for Canada is included.

2. STRUCTURAL OUTLINE

Text in Illustration

	Aluminium		Adhesive Application Area

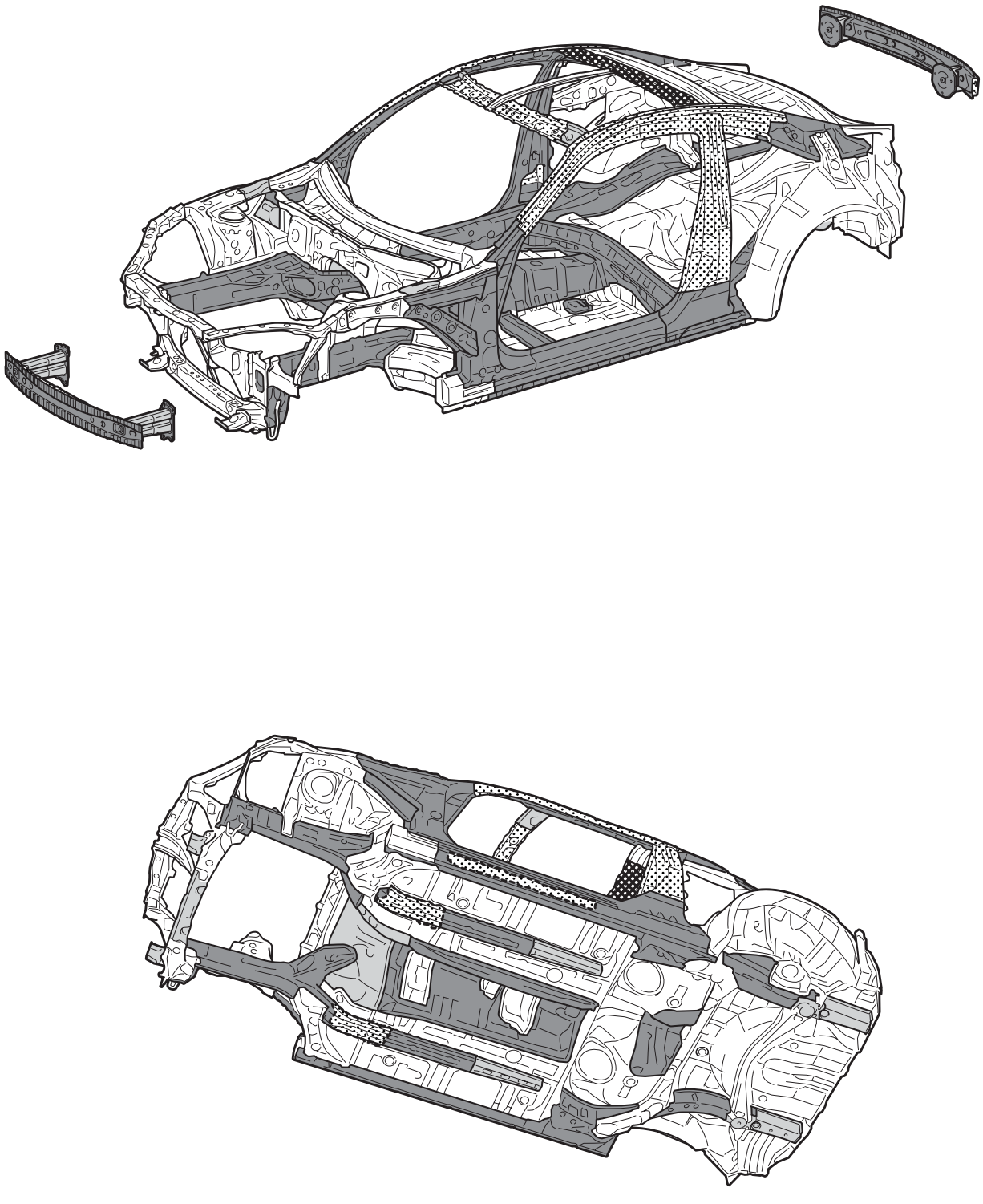


K105163

Text in Illustration

	1500 MPa Ultra High Strength Steel		980 MPa Ultra High Strength Steel
	590 MPa High Strength Steel		440 MPa High Strength Steel

IN

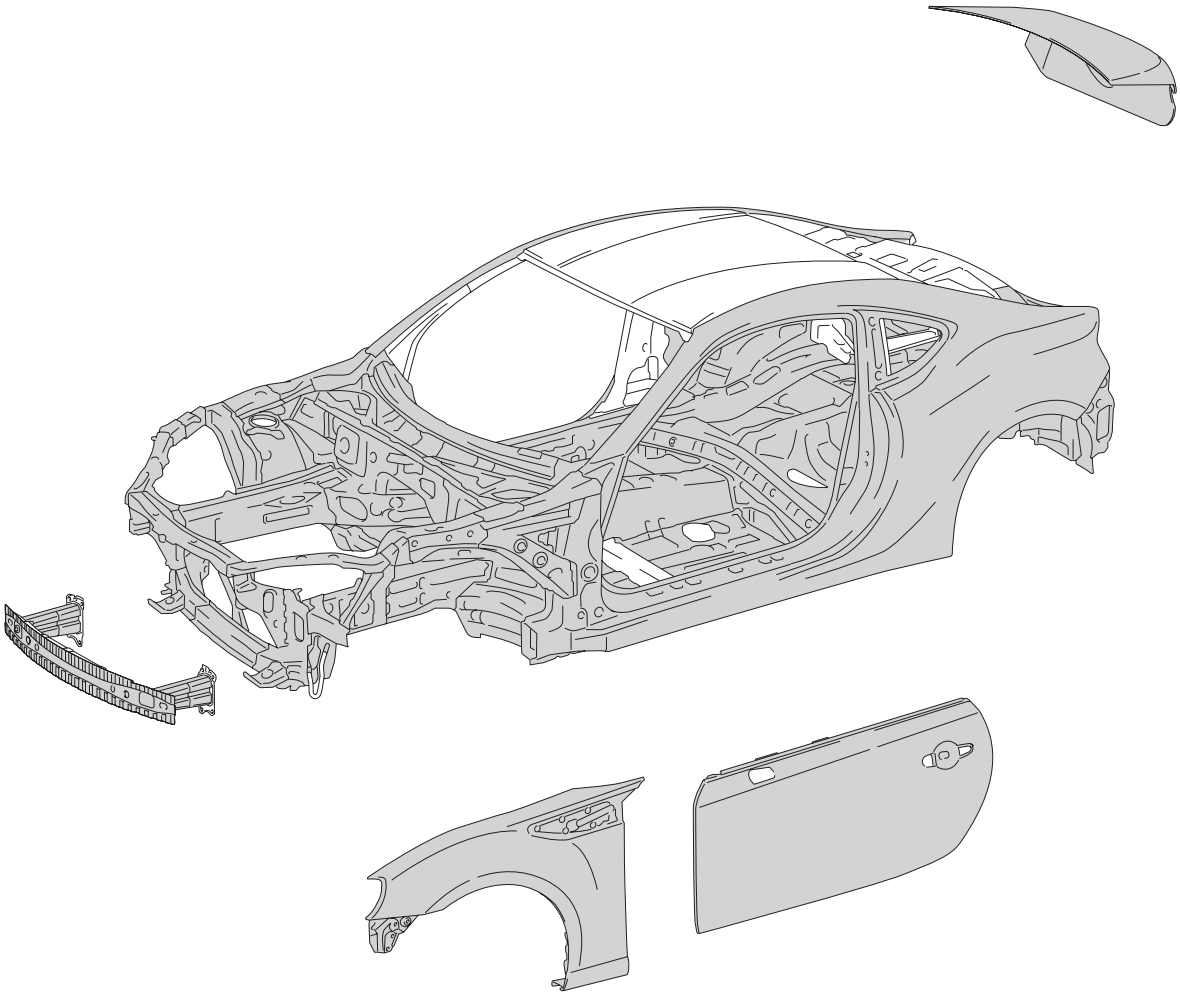


K105165

Text in Illustration

	Anti-rust Coating Steel	-	-

IN



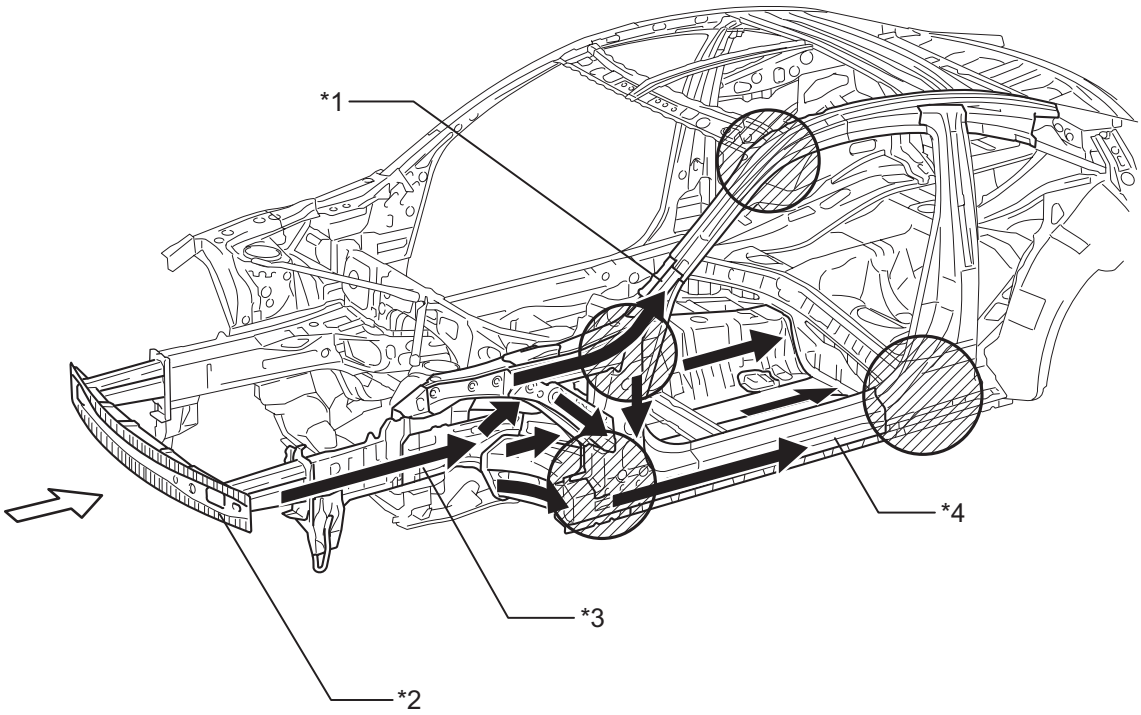
K105188

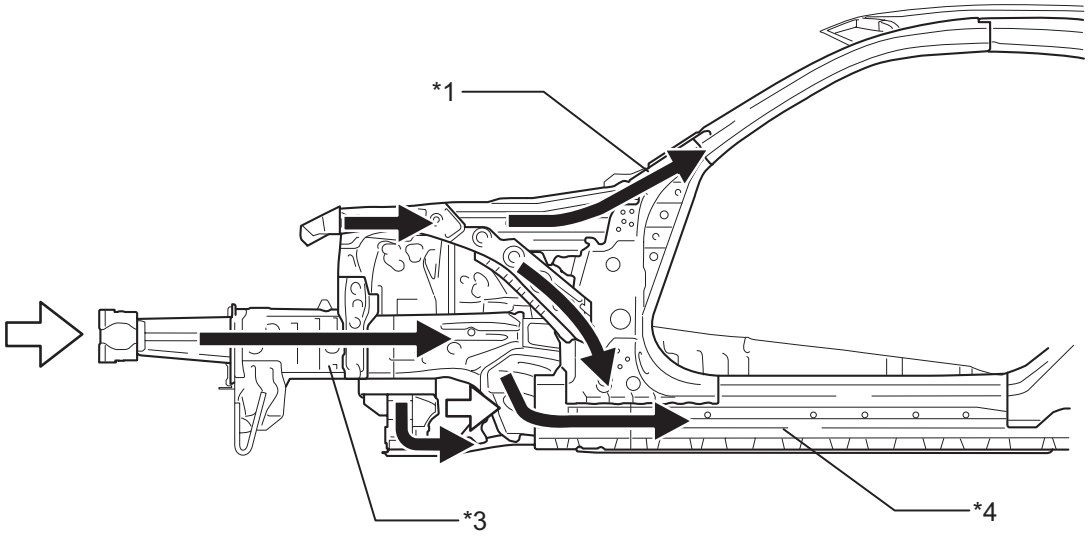
DAMAGE DIAGNOSIS

Text in Illustration

*1	Reinforce Pillar Front Upper	*2	Beam Front
*3	Frame Side Front	*4	Reinforce Sill Side Outer
*5	Frame Side Rear	*6	Front Floor Center Panel
*7	Brace Center	*8	Reinforce Rail Side Outer
*9	Cross Member Front Seat Front	*10	Reinforce Pillar Center
	Confirmation Point		Collision Direction
	Collision Force Absorption Direction	-	-

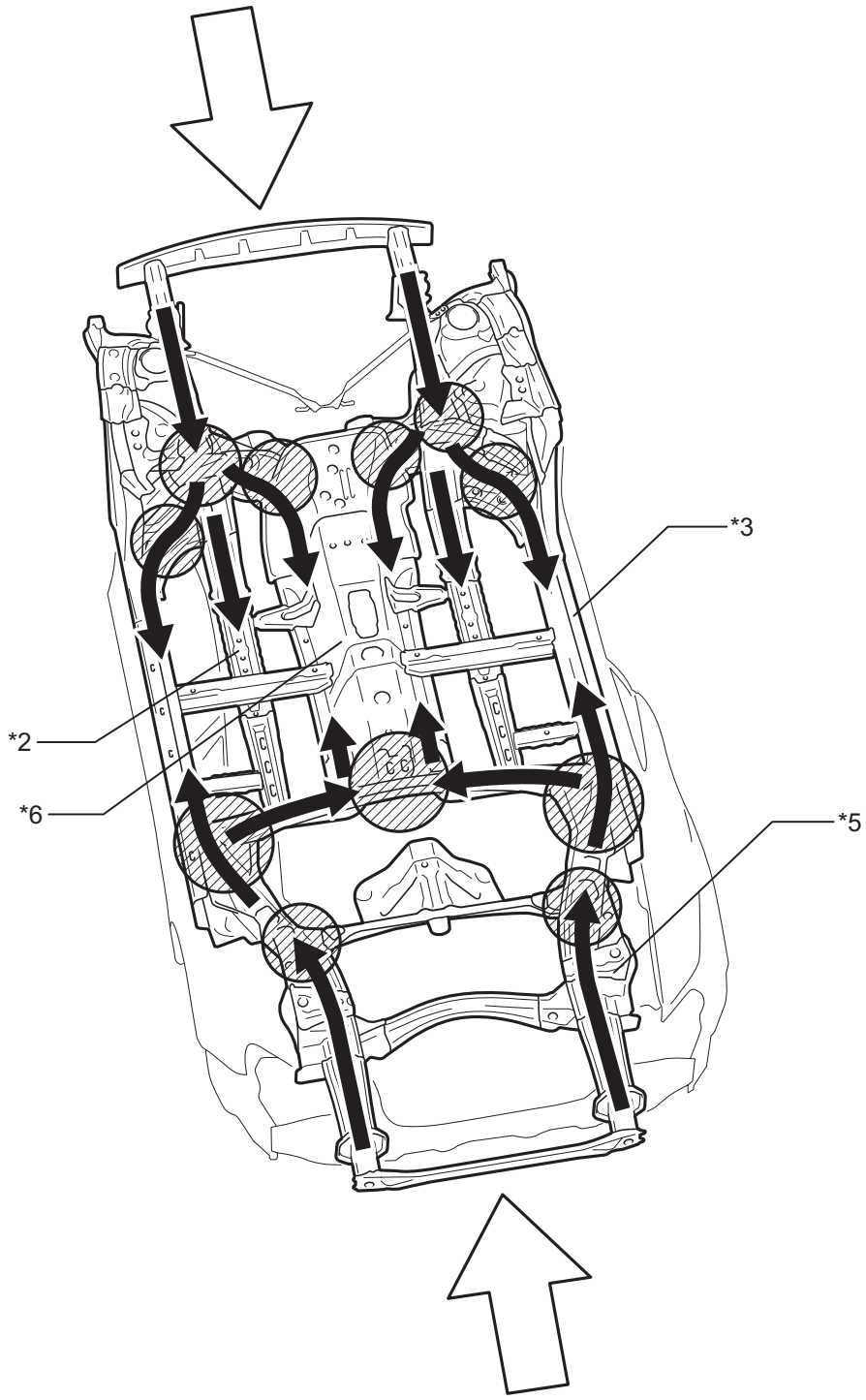
IN



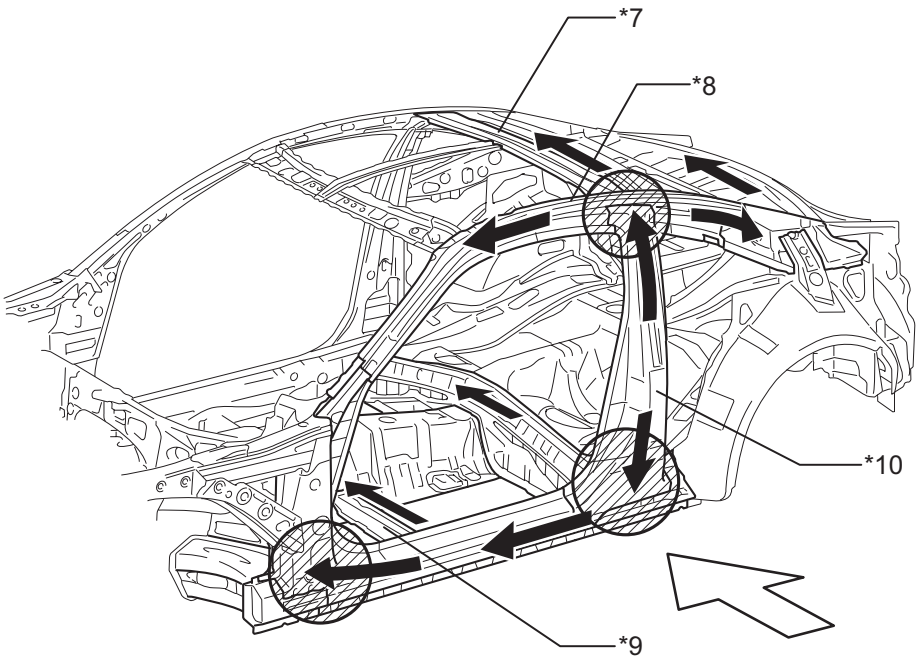


K105166E01

IN



K105167E01



K105168E01

EXTERIOR RESIN PARTS AND RESIN CHARACTERISTICS

1. PLASTIC PROPERTIES CHART

When repairing, some parts may be deformed by the heat. Therefore, confirm the properties of the plastic parts, and remove parts beforehand as necessary.

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.
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.
FRP	Fiber Reinforced Plastics	180 (356)	Alcohol and gasoline are harmless.	Avoid alkali.
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.
PE	Polyethylene	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PEI	Polyetherimide	160 (320)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PET	Polyethylene Terephthalate	75 (167)	Alcohol and gasoline are harmless.	Avoid dipping in water.
PGM	Polypropylene Glass Fiber Pulp	80 (176)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PMMA	Polymethyl Methacrylate	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.
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.
PPC	Polyphthlate Carbonate	149 (300)	Alcohol and gasoline are harmless.	Most solvents are harmless.
PPE	Polyphenylene Ether	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.
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.

Code	Material name	Heat resistant temperature limit* °C (°F)	Resistance to alcohol or gasoline	Notes
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.
TPE	Thermoplastic Elastomer	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.
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.

*The heat resistant temperature means a temperature that may cause heat deformation during a procedure.

2. THE PLASTIC BODY PARTS MATERIAL LIST

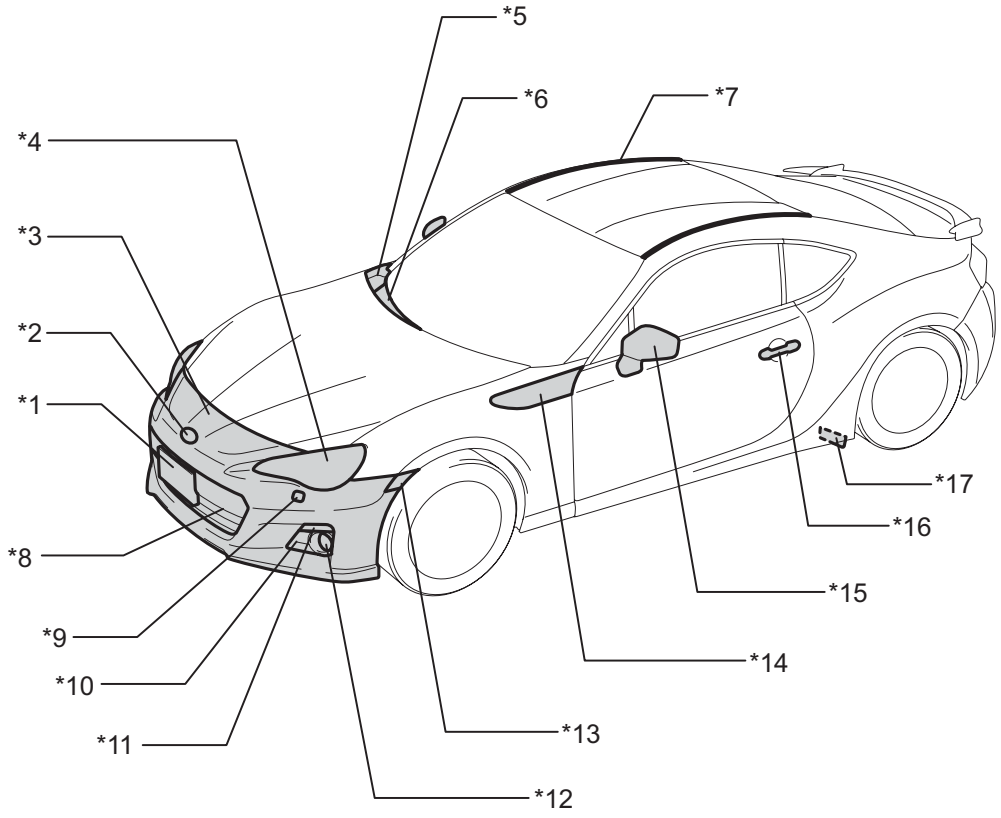
Text in Illustration

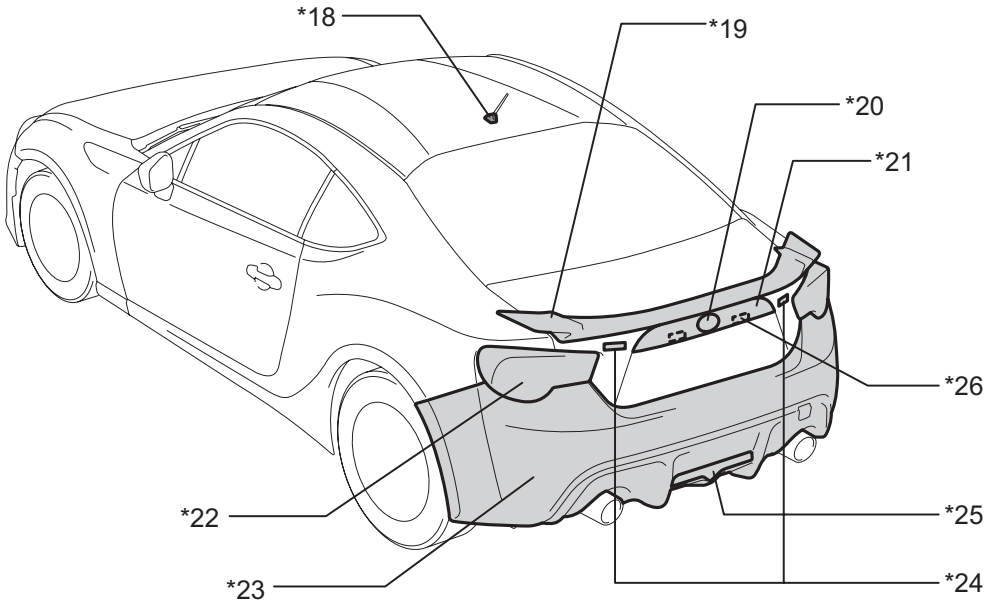
*1	Licence Plate Base (PP)	*2	Ornament (ABS)
*3	Front Bumper (PP)	*4	Head Light (PC/PP)
*5	Cowl Panel Side (PP/TPO)	*6	Cowl Top Ventilator Louver (PP)
*7	Roof Moulding (TPO)	*8	Intake Cover Front (PP)
*9	Nozzle Cover (ABS)	*10	Fog Light Cover (PP)
*11	Day Running Light (PC/PP)	*12	Fog Light (PC)
*13	Side Turn Light (PMMA/PC)	*14	Fender Garnish (ABS/PP)
*15	Rear View Mirror (ABS,AES)	*16	Door Outside Handle (PC/PBT,PA)
*17	Air Flap Plate (PP)	*18	Antenna Base (ASA/PC)
*19	Rear Spoiler (ABS)	*20	Trunk Garnish (ABS)
*21	Rear Combination Light (PMMA/ASA)	*22	Rear Bumper (PP)
*23	Ornament (ABS)	*24	Letter Mark (ABS)
*25	Backup Light (PC/PBT/PET)	*26	Licence Plate Light (PC)

/ Made up of 2 or more kinds of materials.

, Resin material differs with model.

IN



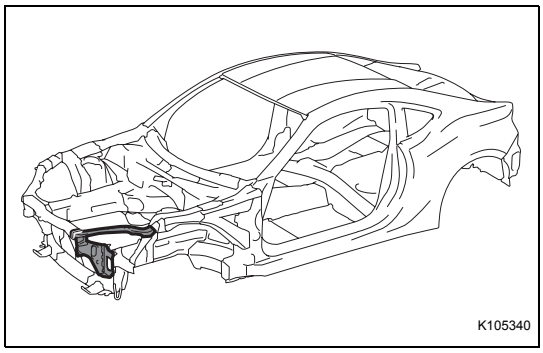


K105372E01

BODY WELD POINT

RADIATOR SIDE SUPPORT

ASSEMBLY REPLACEMENT



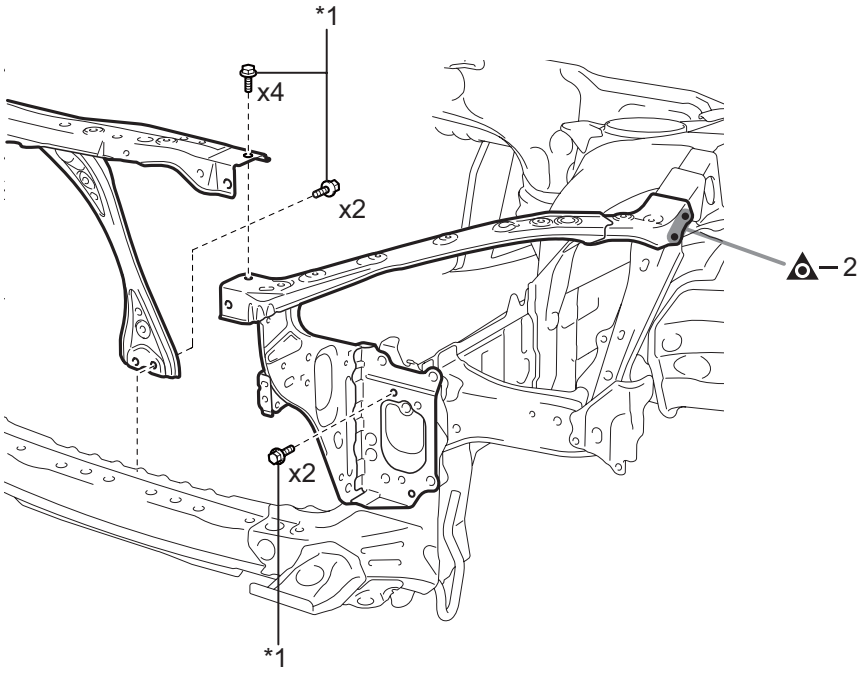
1. REMOVAL

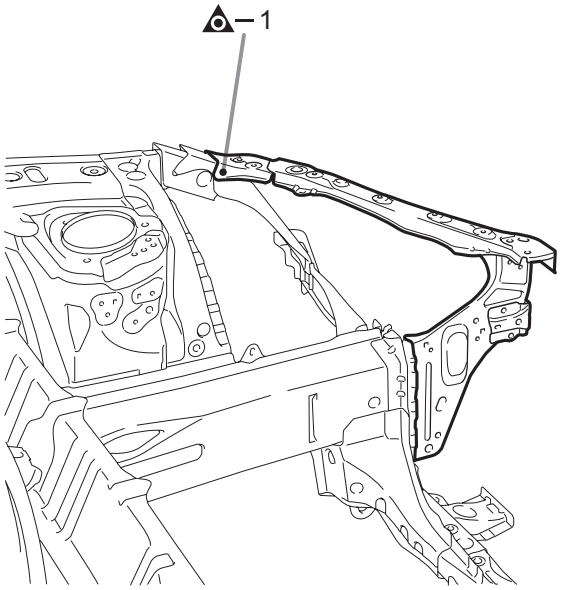
Symbol meaning	
	Remove Weld Points

REMOVAL POINT

1. *1: Bolts.

WP





K105034E01

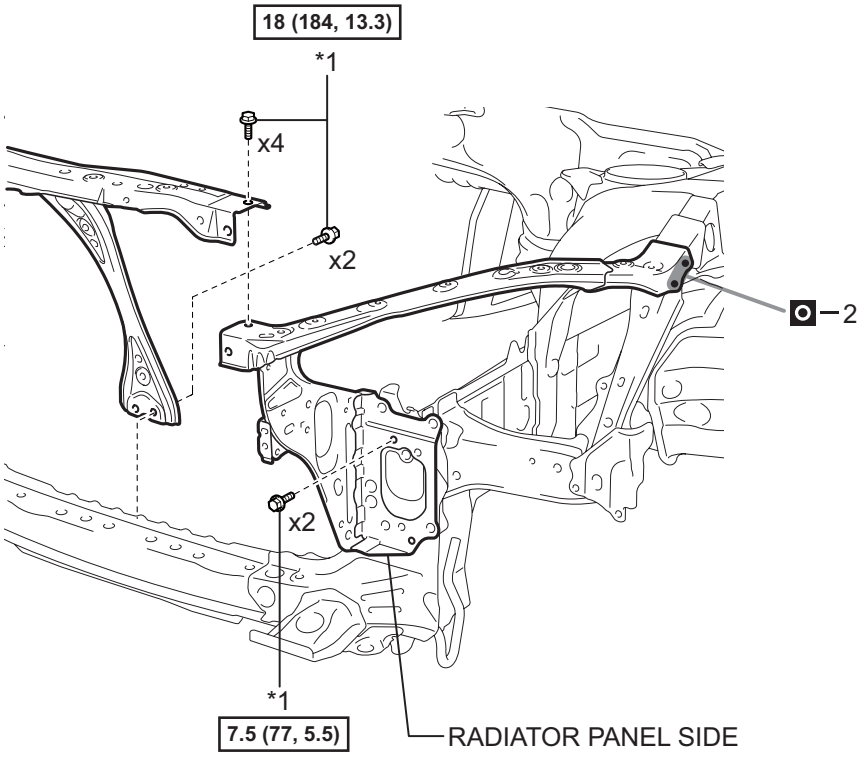
2. INSTALLATION

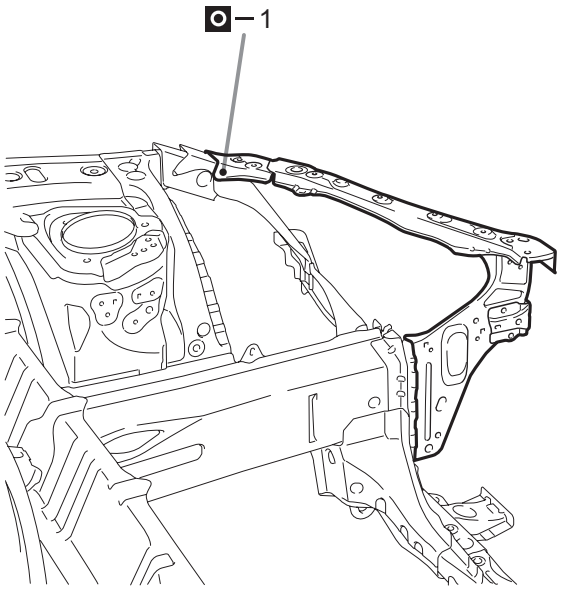
Symbol meaning	
	Plug Weld

INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. *1: Bolts.
4. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

WP



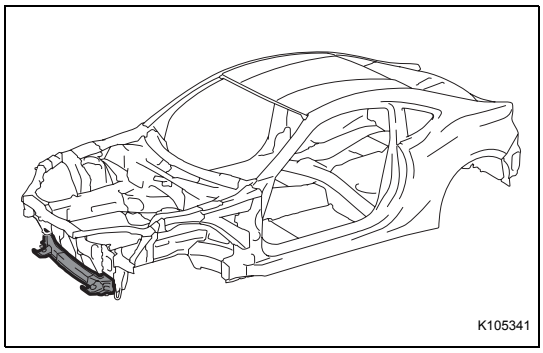


N*m (kgf*cm, ft.*lbf): Specified torque

K105035E02

RADIATOR LOWER SUPPORT

ASSEMBLY REPLACEMENT



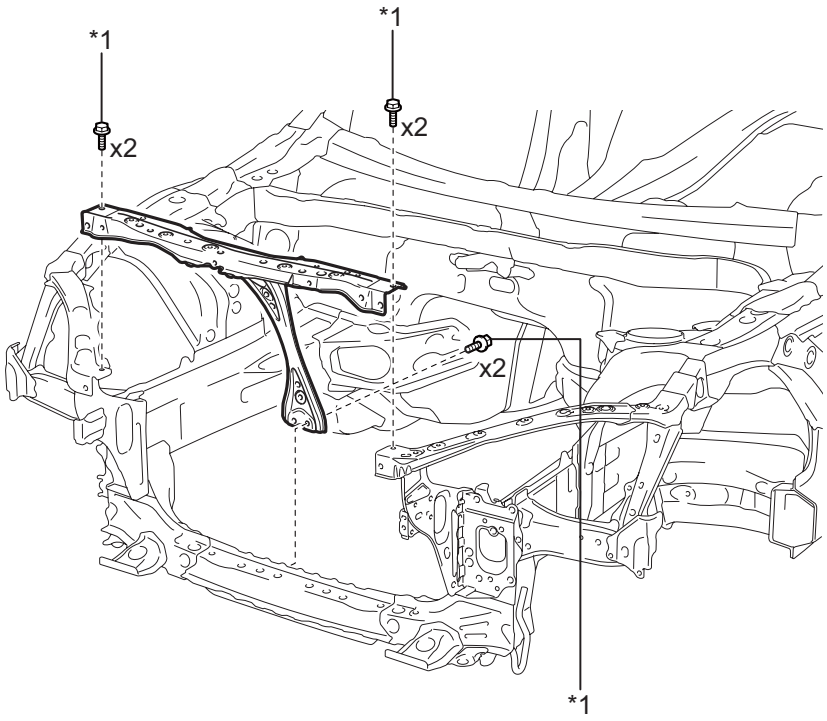
1. REMOVAL

Symbol meaning	
	Remove Weld Points
	Remove Weld Points

REMOVAL POINT

1. *1: Bolts.

WP



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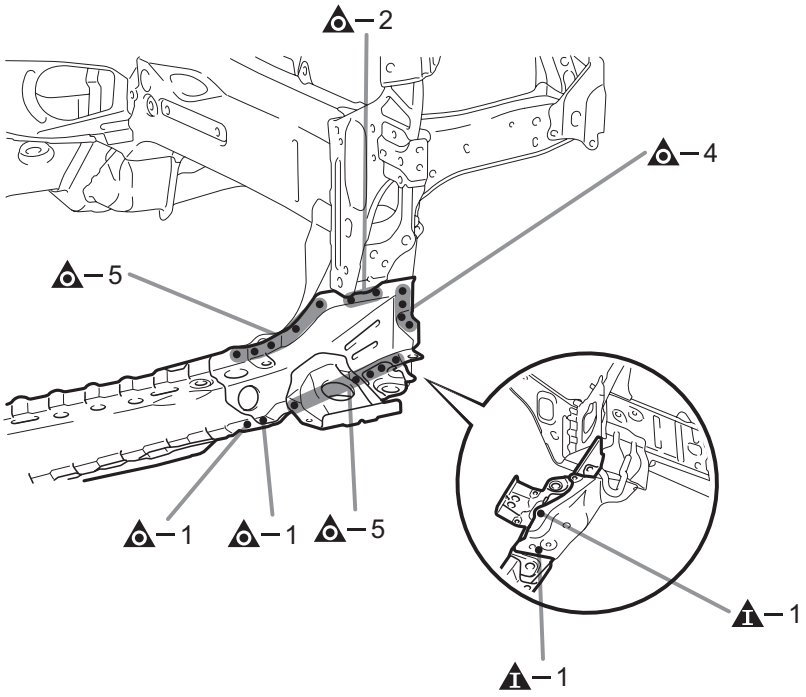
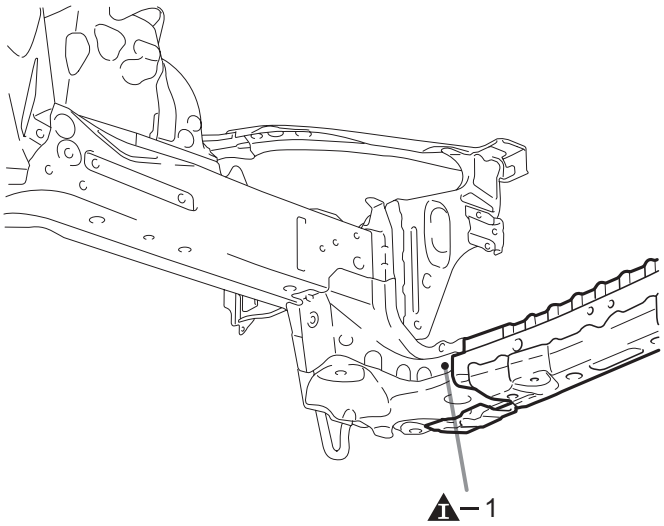
LH Side:

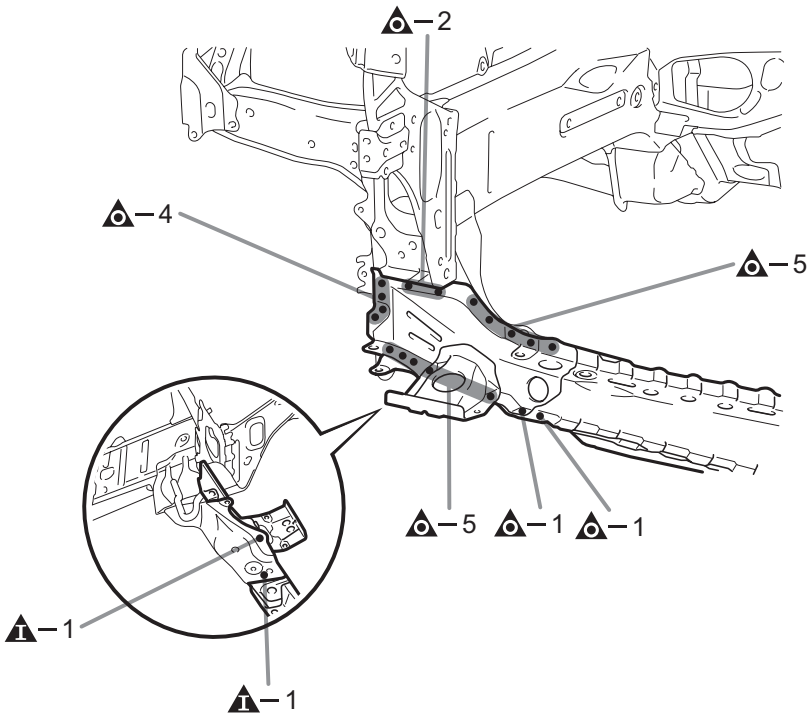


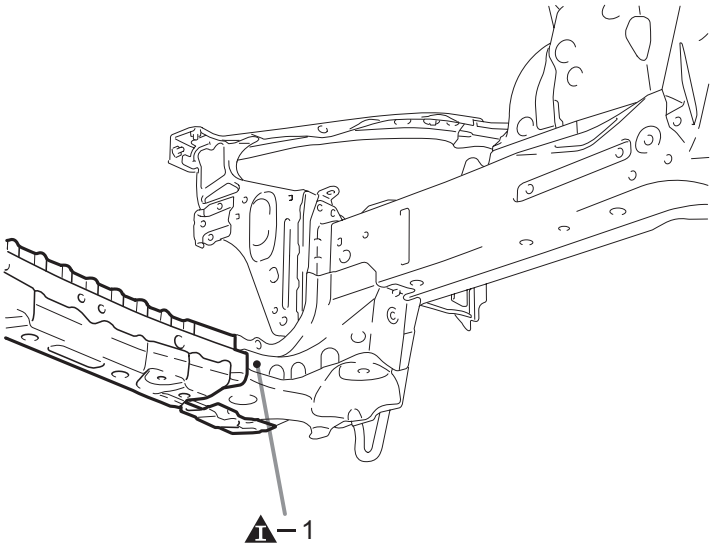


K105037E01

WP

RH Side:





K105038E01

2. INSTALLATION

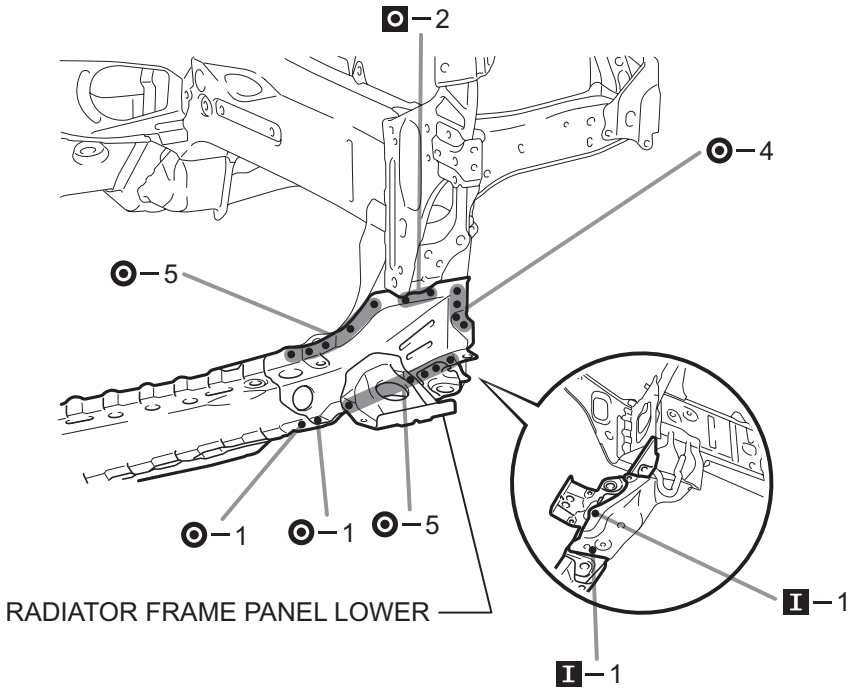
Symbol meaning	
⊙	Spot Weld
◘	Plug Weld
I	Plug Weld

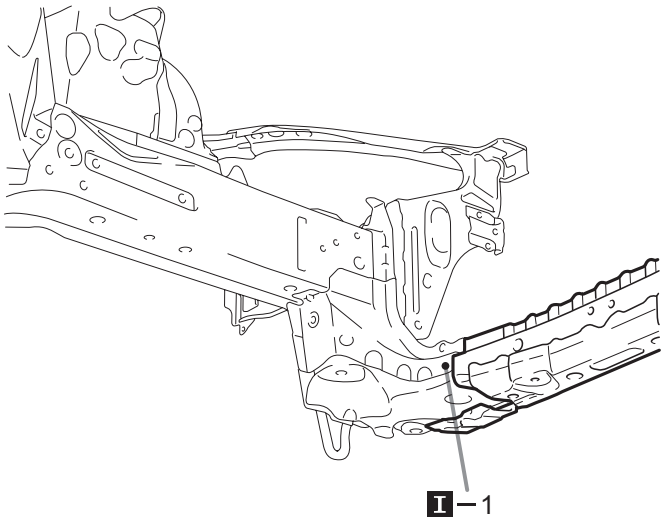
INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. *1: Bolts.
4. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

WP

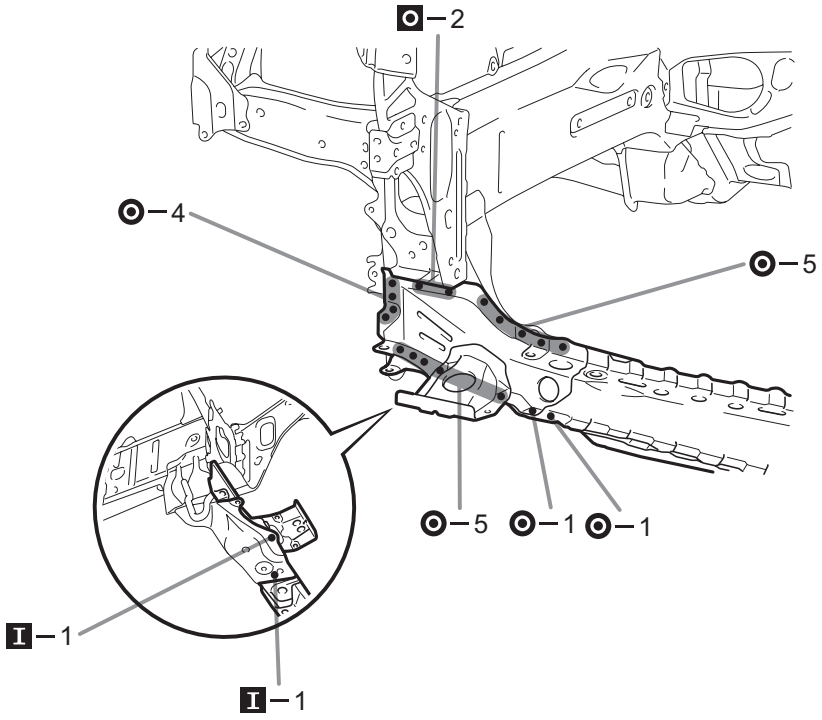
LH Side:

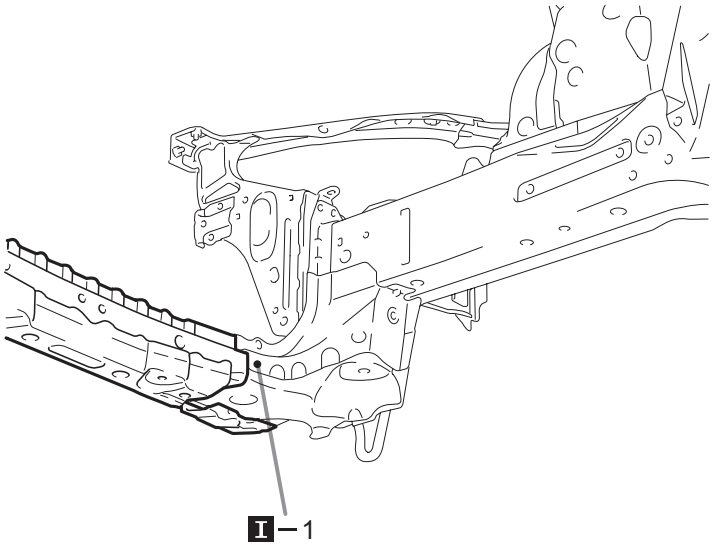




K105039E02

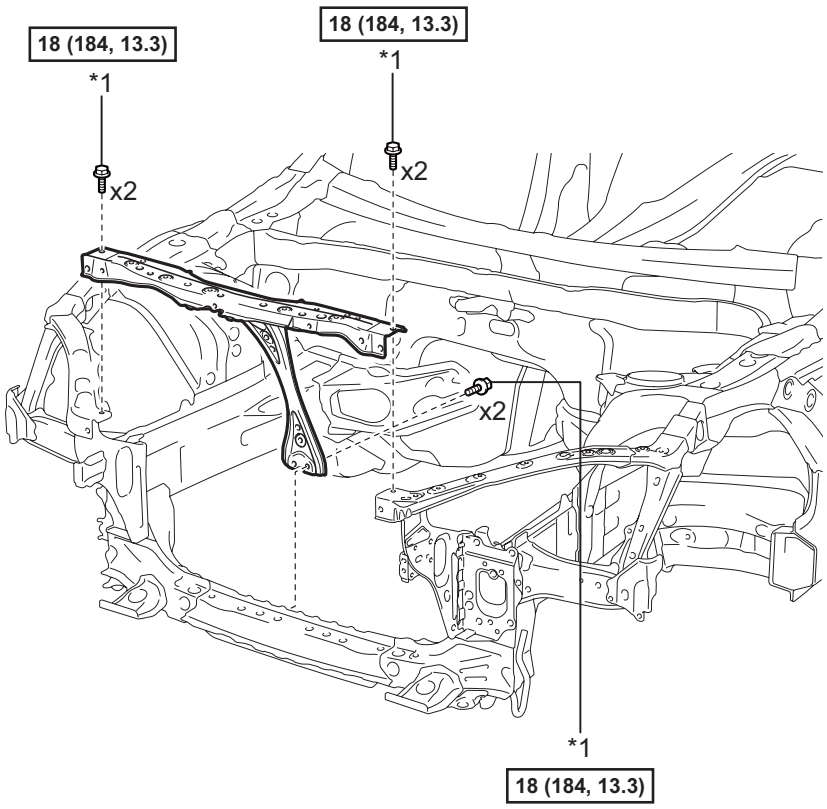
RH Side:





K105040E02

WP

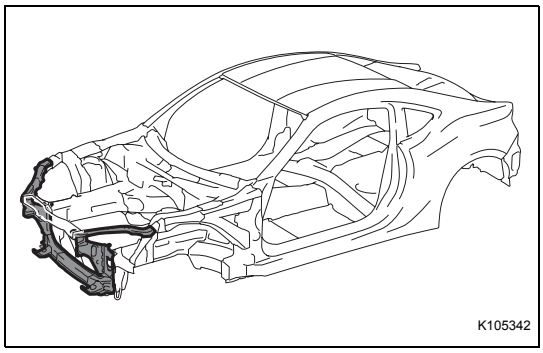


N*m (kgf*cm, ft.*lbf): Specified torque

K105041E01

RADIATOR SUPPORT

ASSEMBLY REPLACEMENT

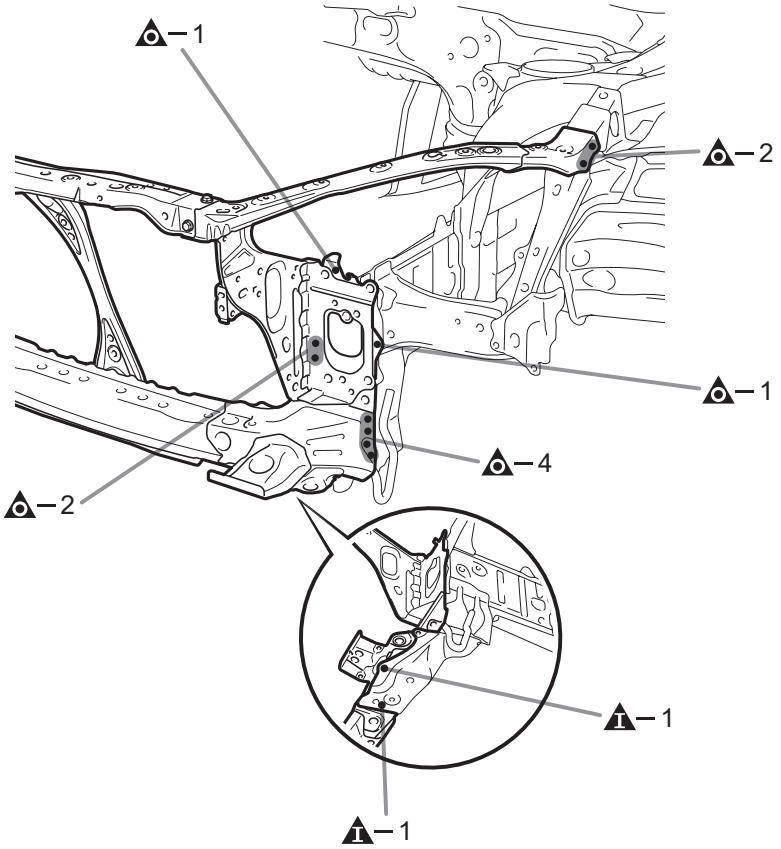


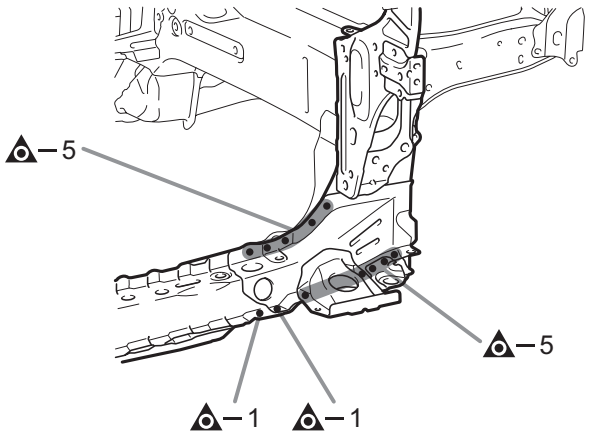
1. REMOVAL

Symbol meaning	
	Remove Weld Points
	Remove Weld Points

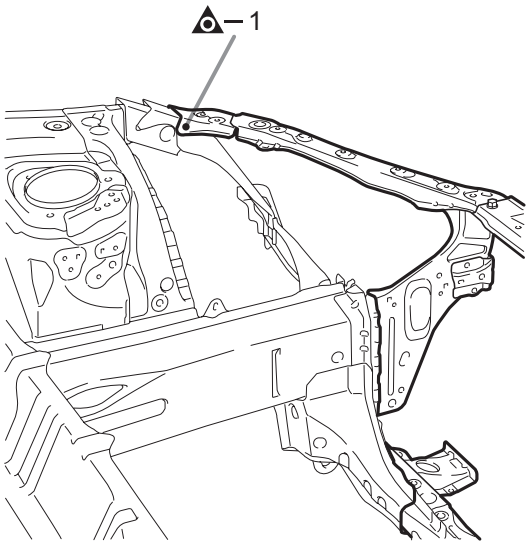
WP

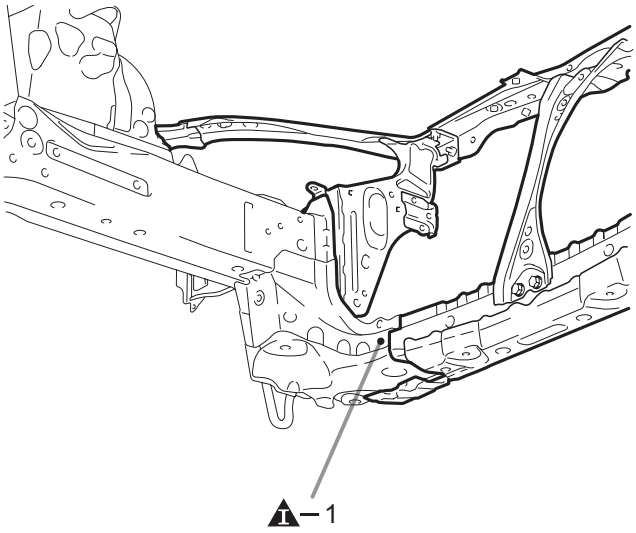
LH Side:





K105042E01

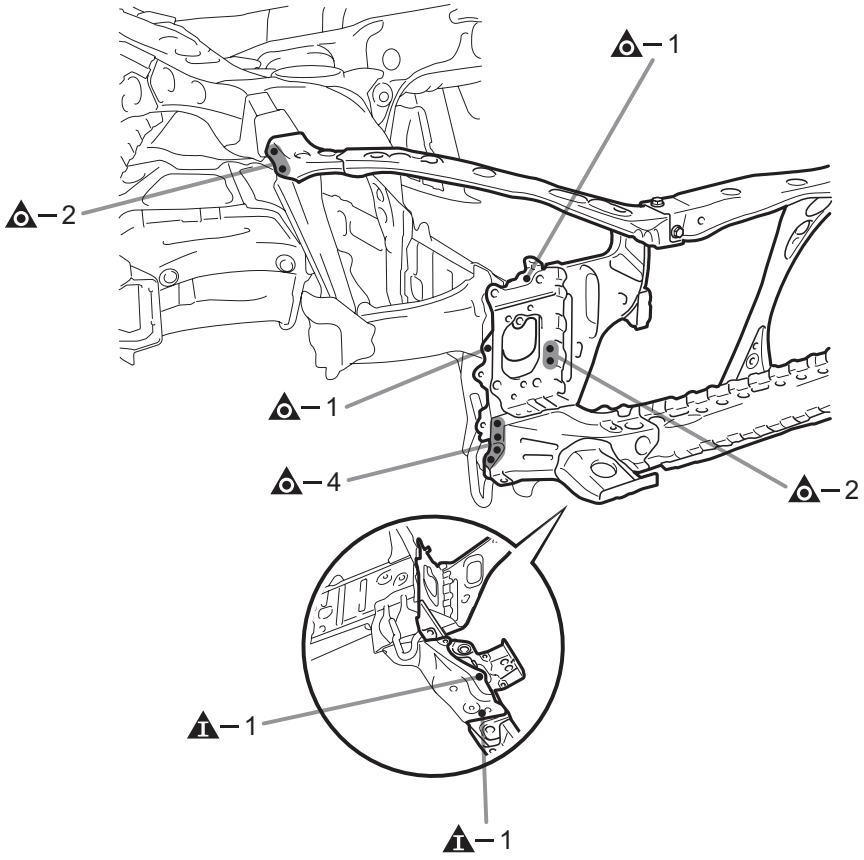


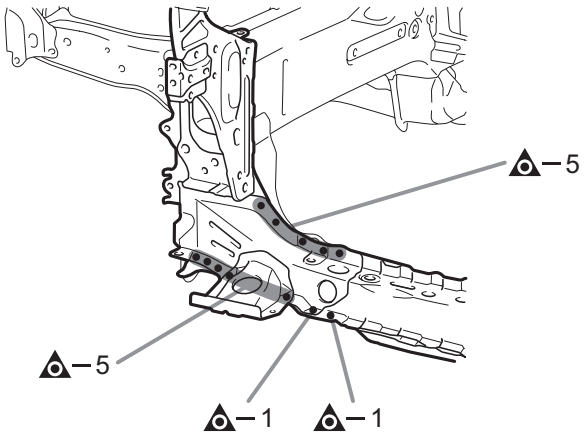


K105043E01

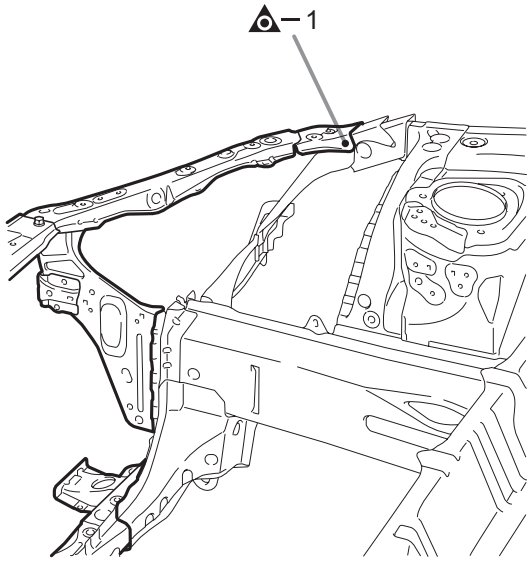
WP

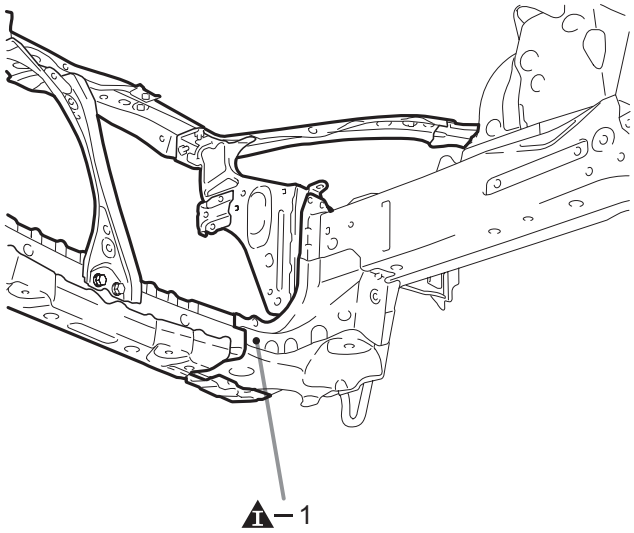
RH Side:





K105044E01





K105045E01

2. INSTALLATION

Symbol meaning	
⊙	Spot Weld
⊙	Plug Weld
I	Plug Weld

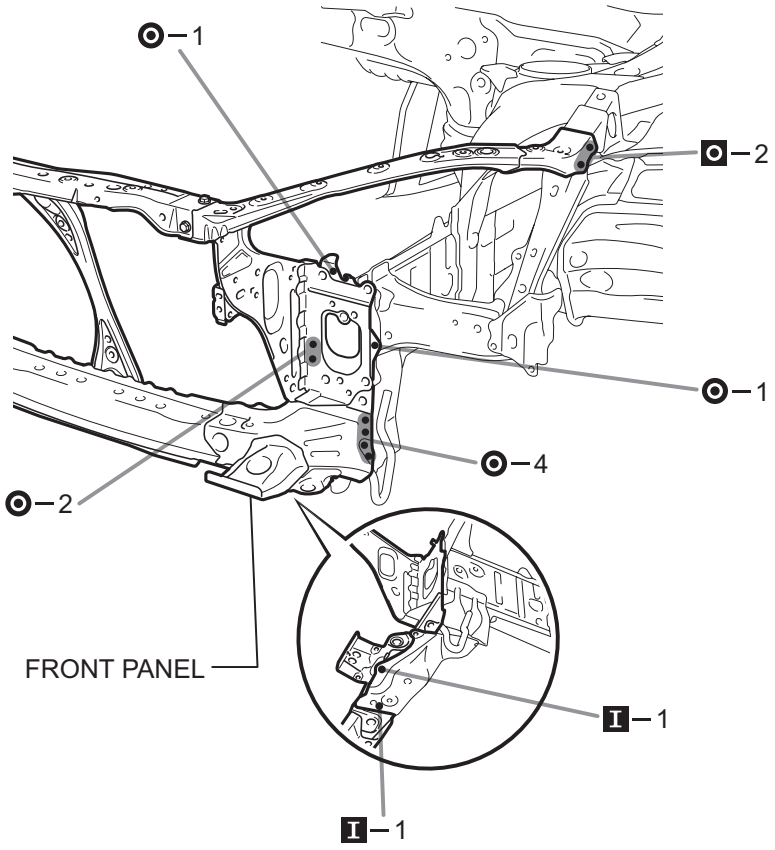
INSTALLATION POINT

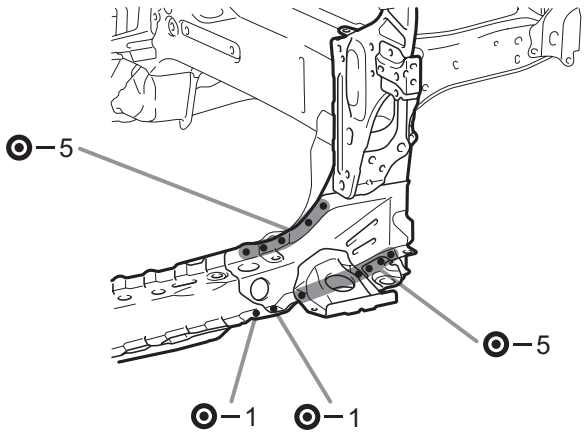
1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.
4. Measure the dimensions before installing the headlights.

Reference Value

Area	Measurement	Area	Measurement
*a	1360 mm (53.54 in.)	*b	1278 mm (50.31 in.)
*c	1097 mm (43.19 in.)	*d	888 mm (34.96 in.)
*e	881 mm (34.68 in.)	*f	889 mm (35.00 in.)
*g	805 mm (31.69 in.)	-	-

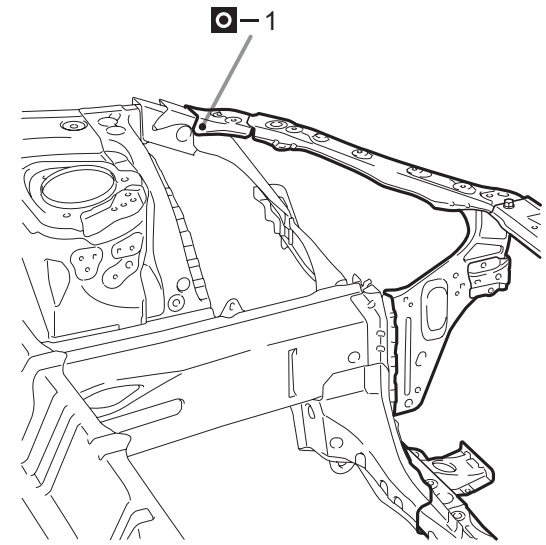
LH Side:

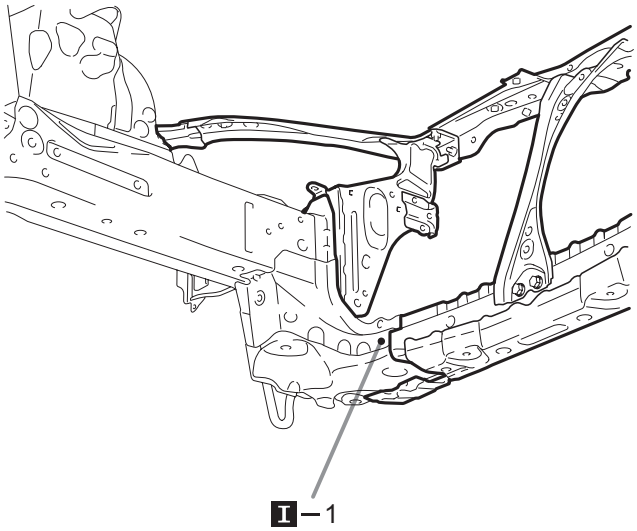




K105046E02

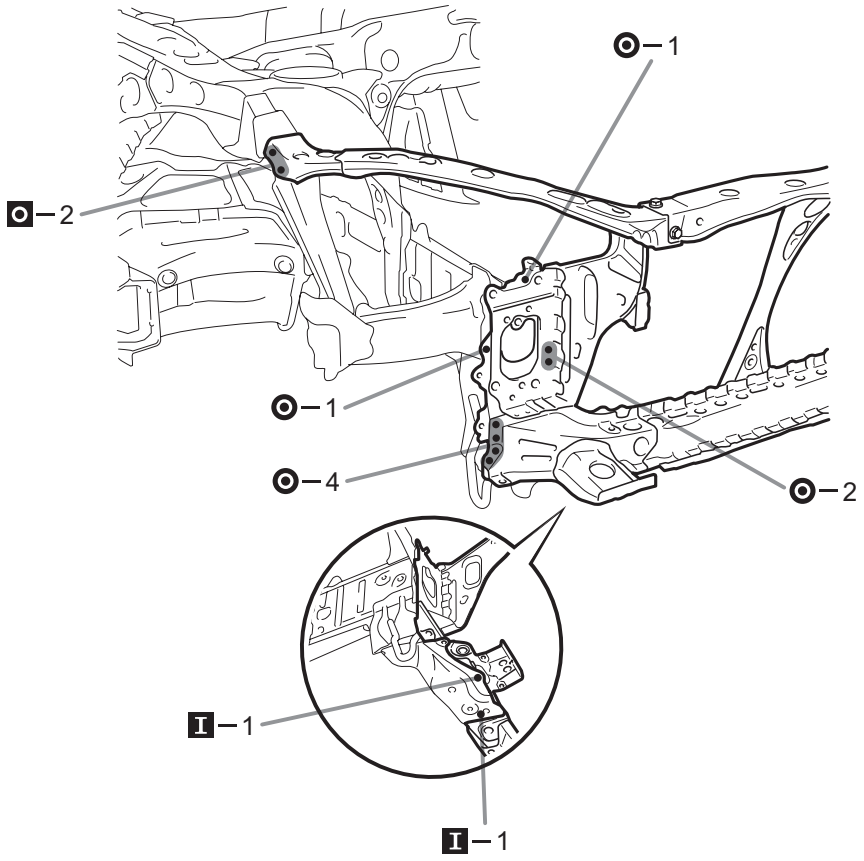
WP

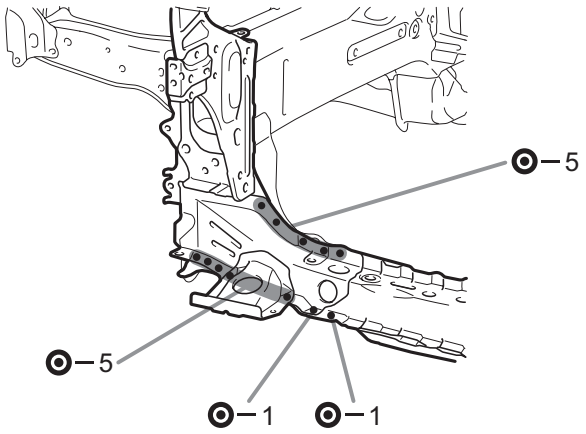




K105047E01

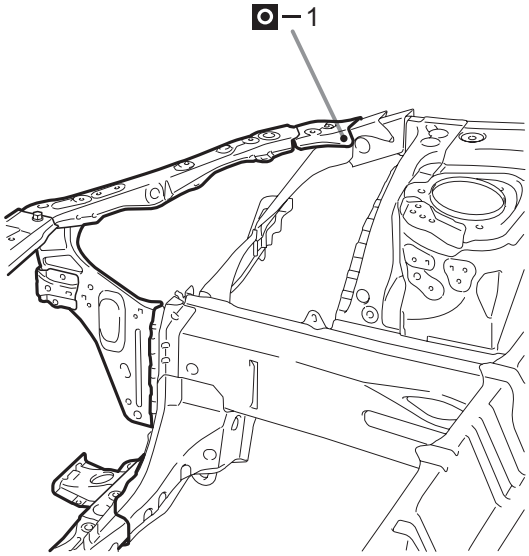
RH Side:

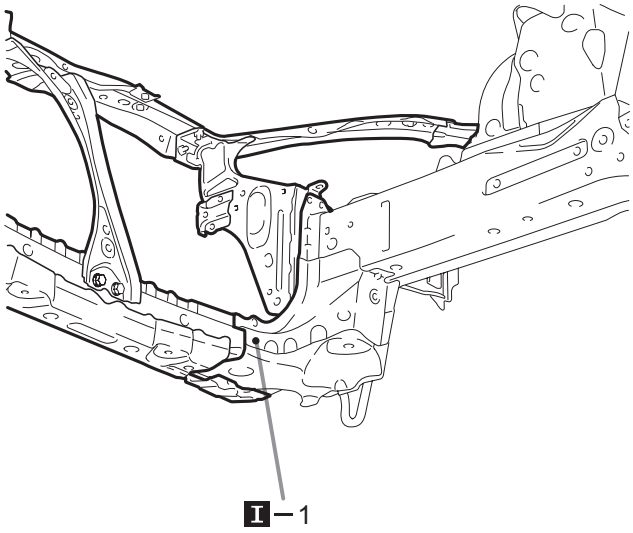




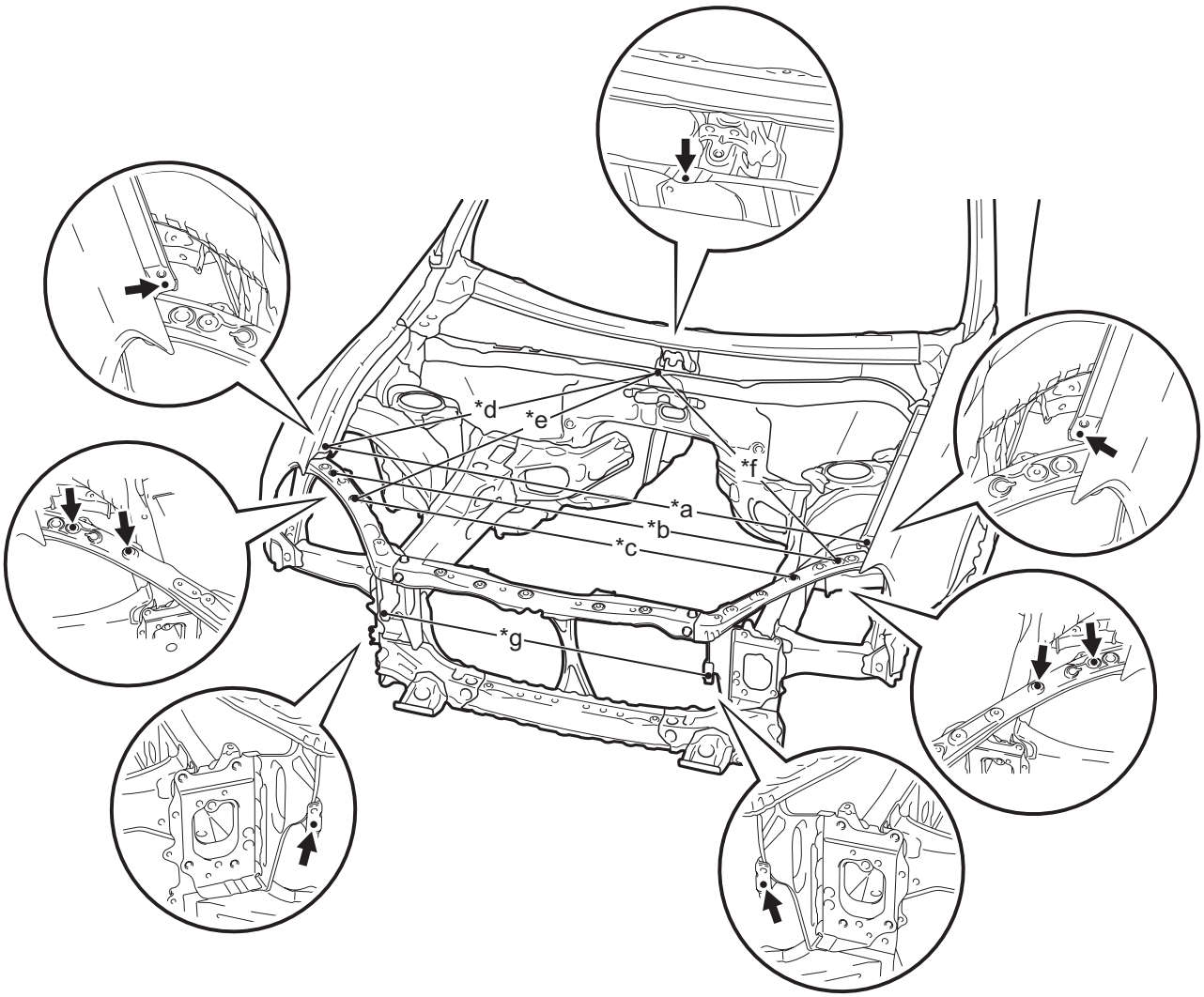
K105048E02

WP





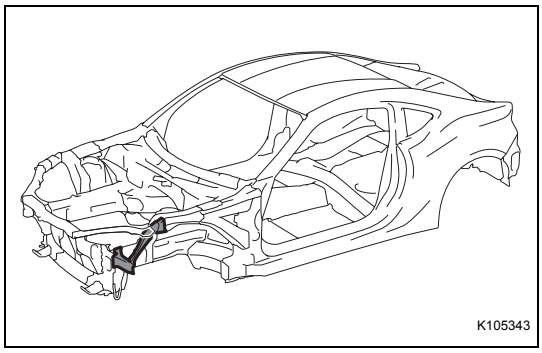
K105049E01



K105050E01

FRONT FENDER MOUNTING BRACKET

ASSEMBLY REPLACEMENT



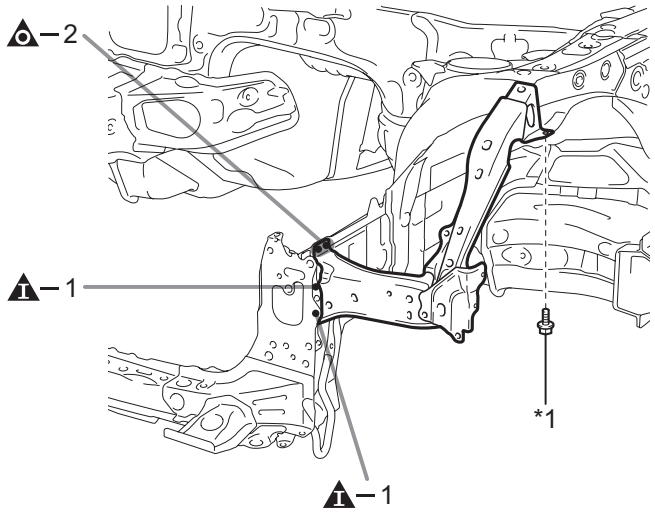
With the radiator side support removed.

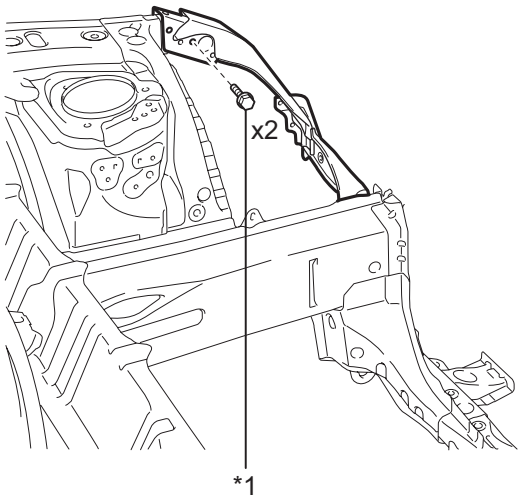
1. REMOVAL

Symbol meaning	
▲	Remove Weld Points
▲	Remove Weld Points

REMOVAL POINT

1. *1: Bolts.





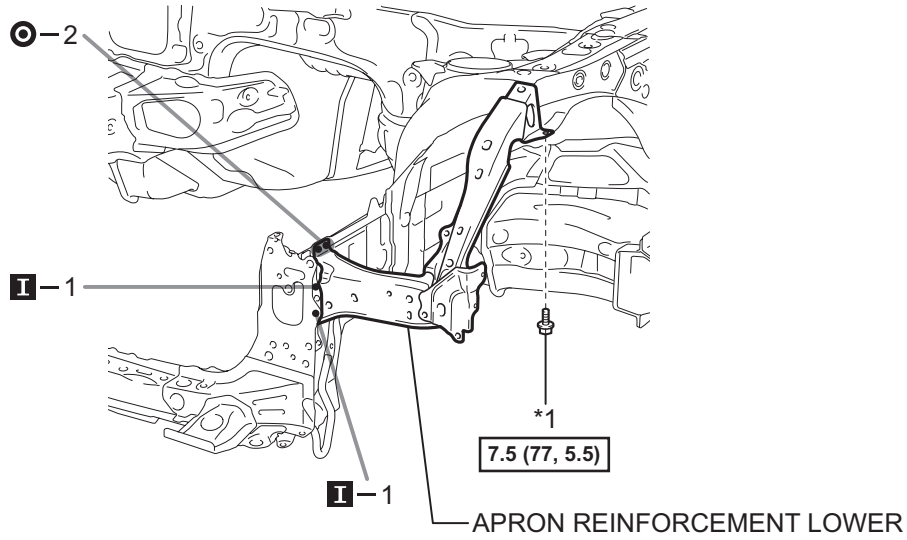
K105051E01

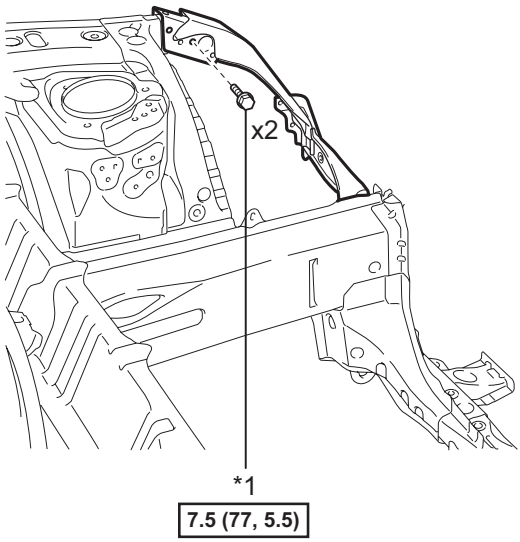
2. INSTALLATION

Symbol meaning	
⊙	Spot Weld
⊙	Plug Weld
I	Plug Weld

INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. 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)
3. *1: Bolts.
4. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



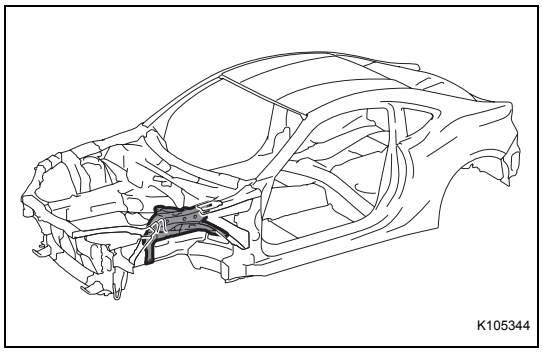


N*m (kgf*cm, ft.*lbf): Specified torque

K105052E02

FRONT FENDER APRON

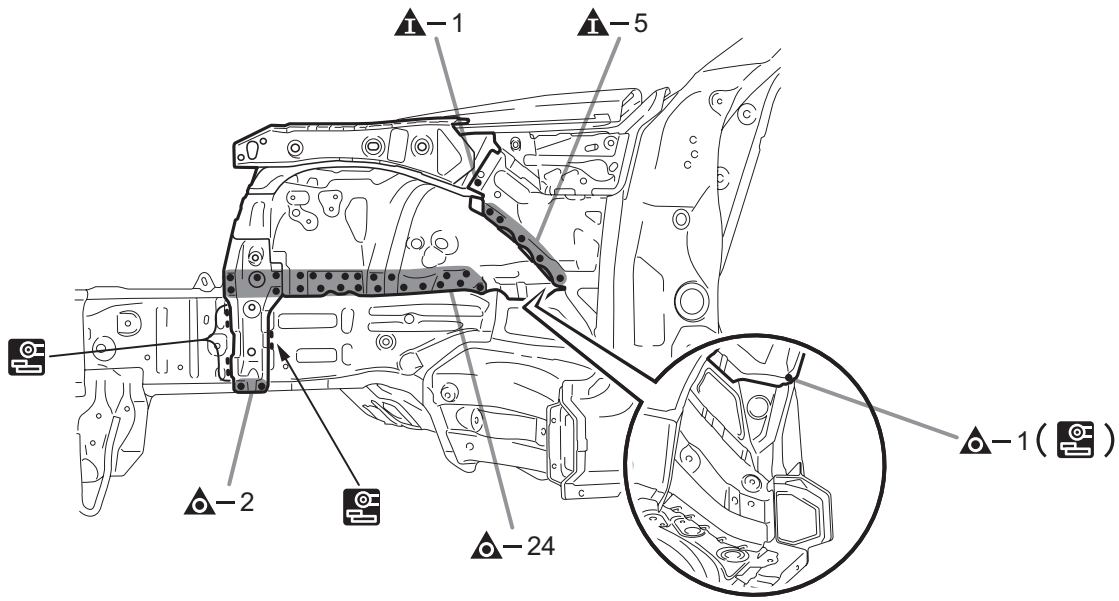
ASSEMBLY REPLACEMENT

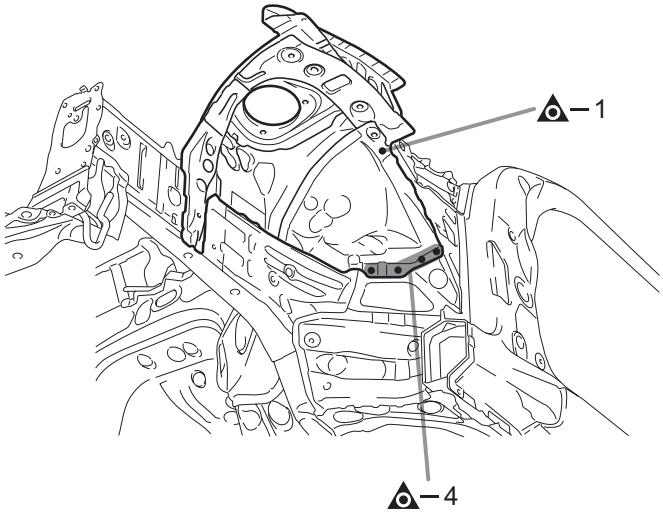


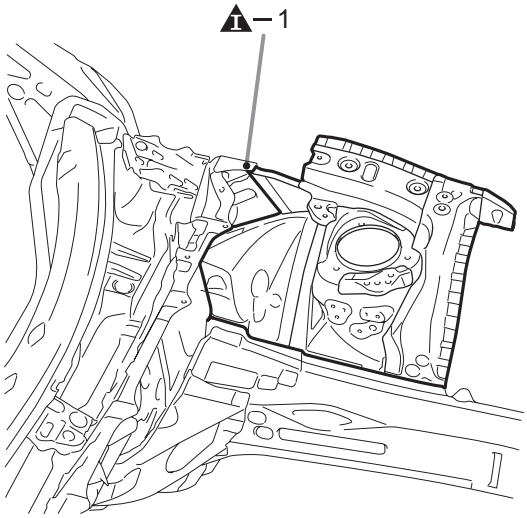
With the front fender mounting bracket and front body pillar lower gusset removed.

1. REMOVAL

Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Cut with Disk Sander etc.







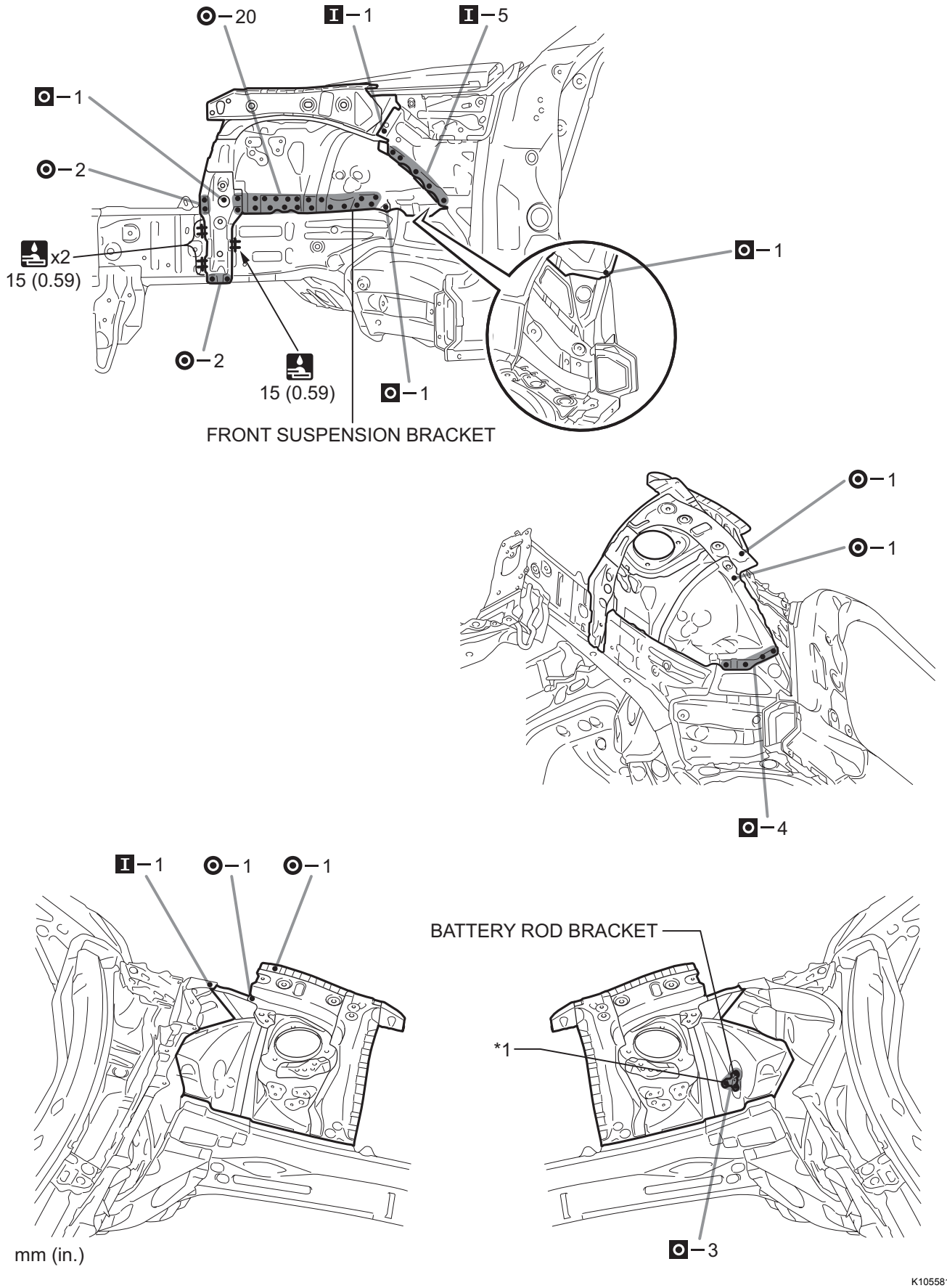
K105054E01

2. INSTALLATION

Symbol meaning	
	Spot Weld
	Plug Weld
	Plug Weld
	Fillet Weld

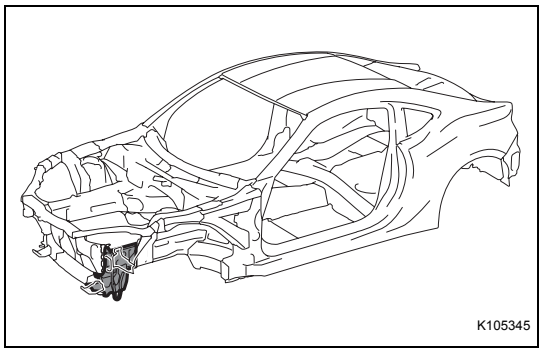
INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. 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)
3. *1 is only for RH.
4. Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.
5. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
6. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.


20
1
5
1
2
x2
15 (0.59)
2
15 (0.59)
1
1
FRONT SUSPENSION BRACKET
1
1
4
1
1
1
BATTERY ROD BRACKET
*1
3
mm (in.)
K105581E01

FRONT SIDE MEMBER

CUT AND JOIN REPLACEMENT SECTIONS (SMALL AREAS)



With the radiator support and front fender mounting bracket removed.

1. REMOVAL

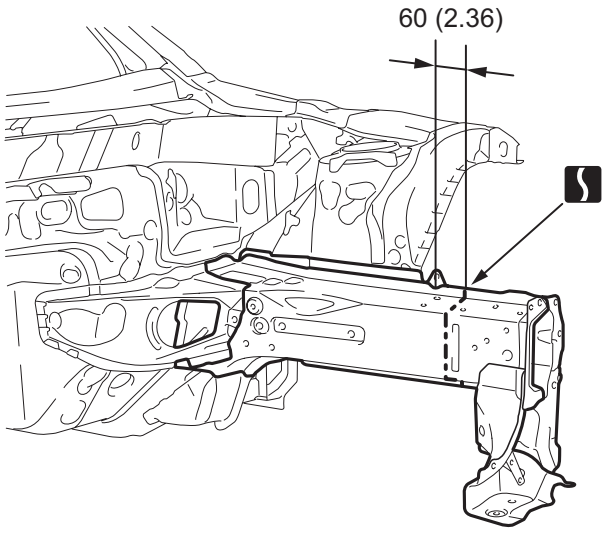
Symbol meaning	
	Remove Weld Points
	Cut and Join Location

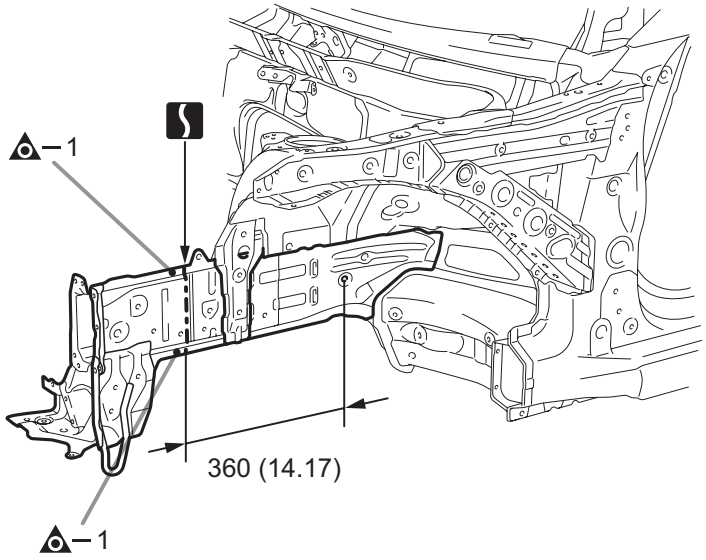
REMOVAL POINT

1. Carefully cut the member so not to damage *1.

Reference Value

Area	Measurement	Area	Measurement
*a	135 mm (5.31 in.)	*b	271 mm (10.67 in.)
*c	410 mm (16.14 in.)	*d	135 mm (5.31 in.)
*e	271 mm (10.67 in.)	*f	410 mm (16.14 in.)



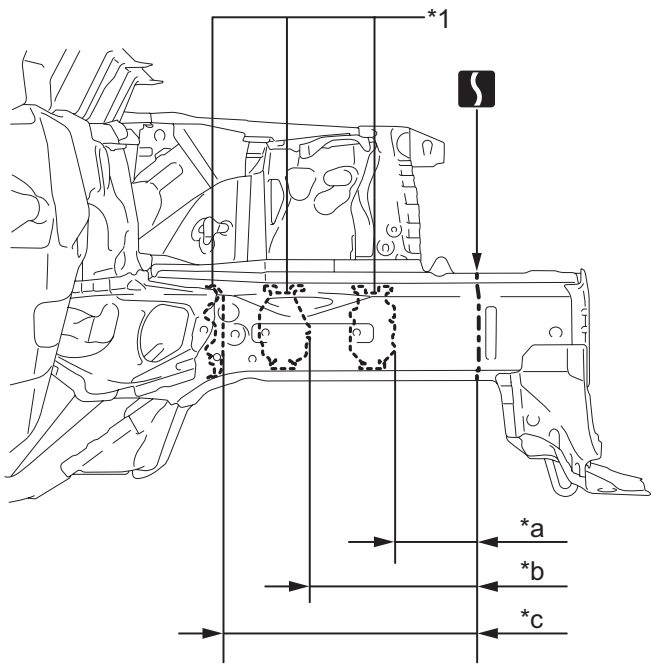


mm (in.)

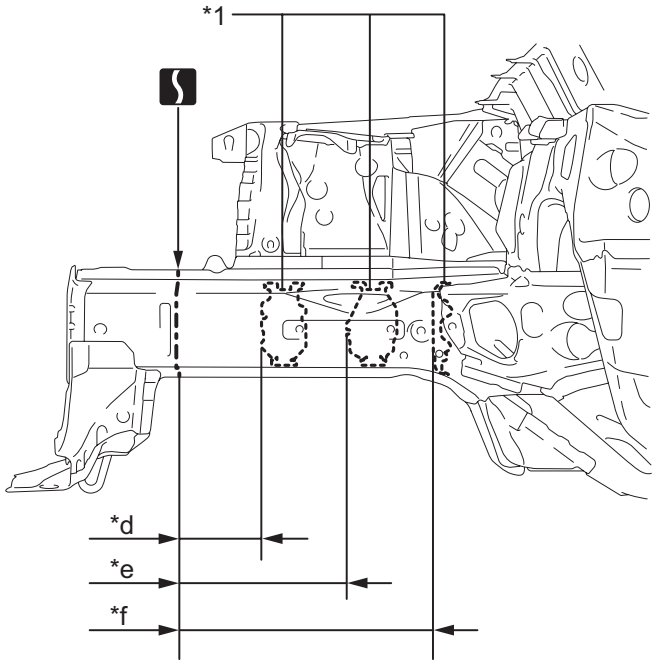
K105058E01

WP

LH:



RH:



K105059E01

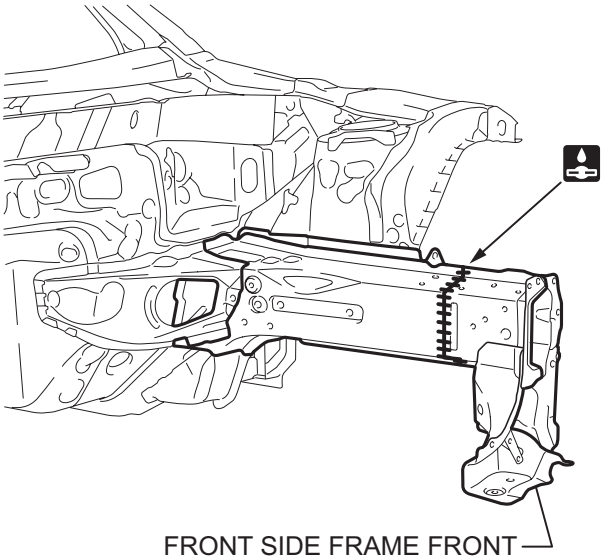
2. INSTALLATION

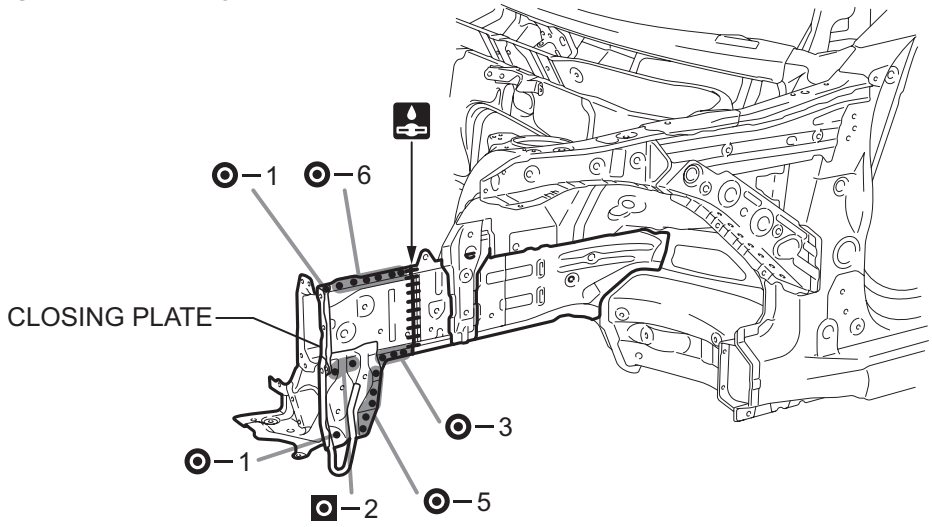
Symbol meaning	
	Spot Weld
	Plug Weld
	Butt Weld

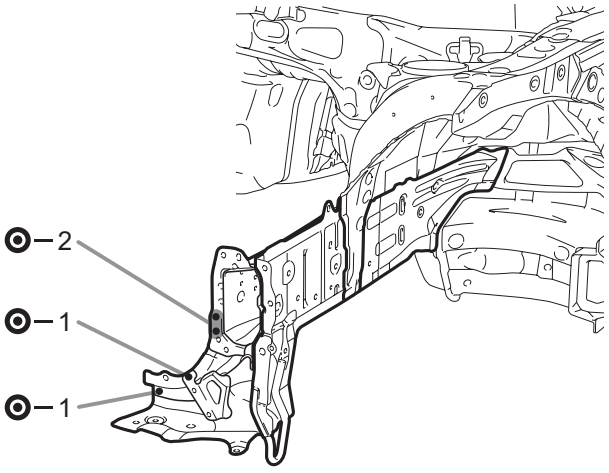
INSTALLATION POINT

1. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
2. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
3. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

WP

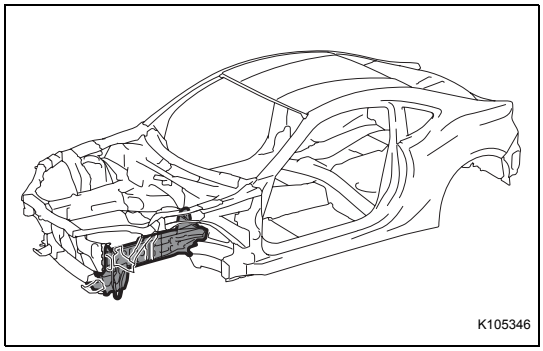






K105060E02

ASSEMBLY REPLACEMENT (PATTERN 1)



With the radiator support and front fender mounting bracket removed.

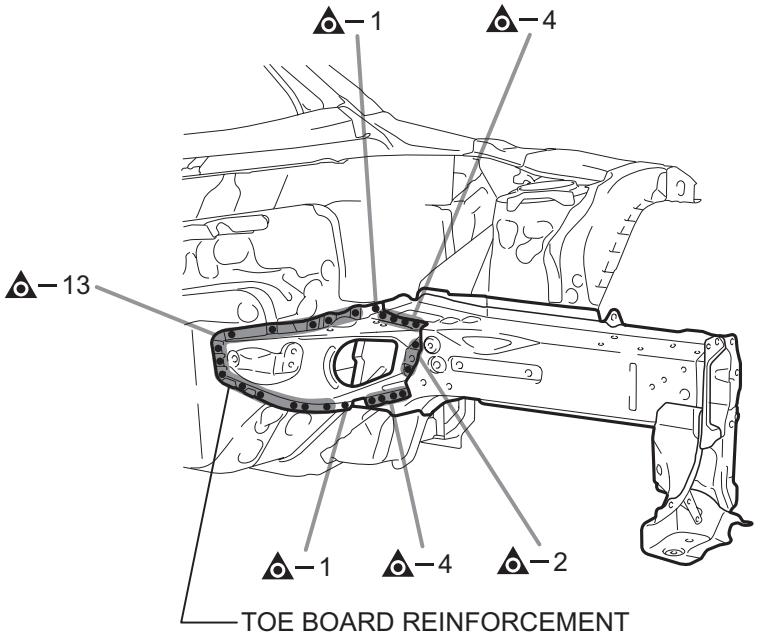
1. REMOVAL

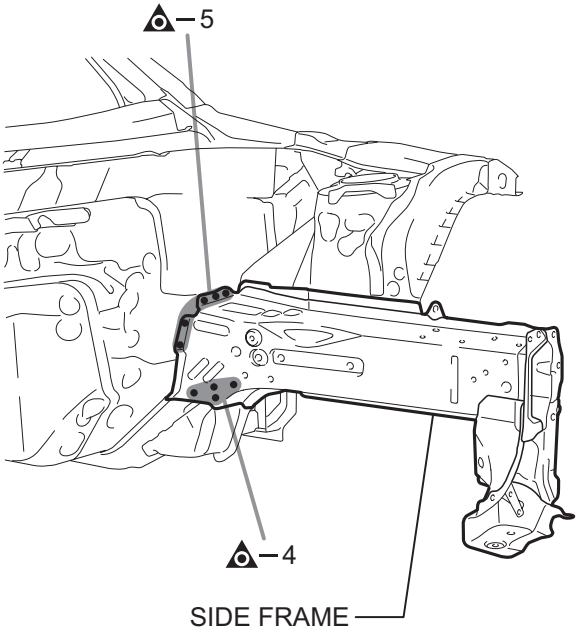
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Cut with Disk Sander etc.

REMOVAL POINT

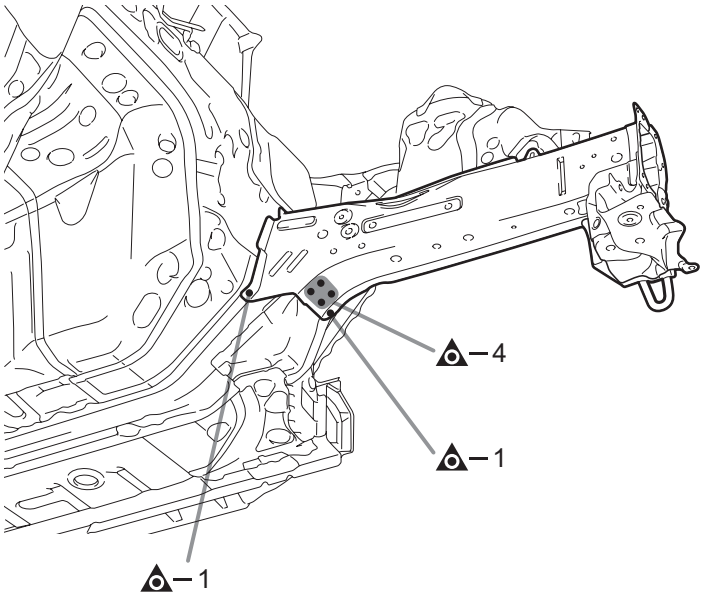
1. After removing the toe board reinforcement, remove the side frame.

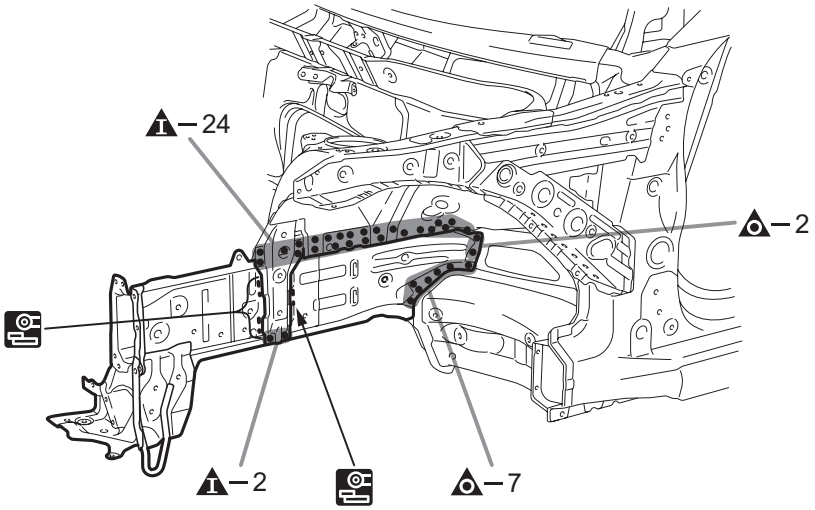
WP





K105061E02





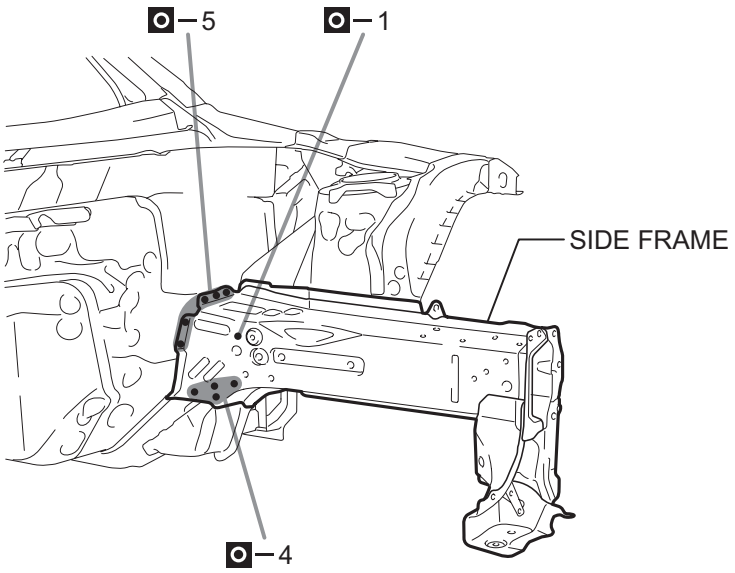
K105062E01

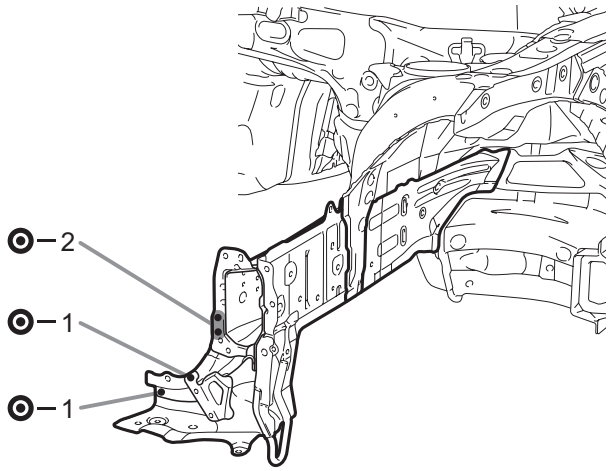
2. INSTALLATION

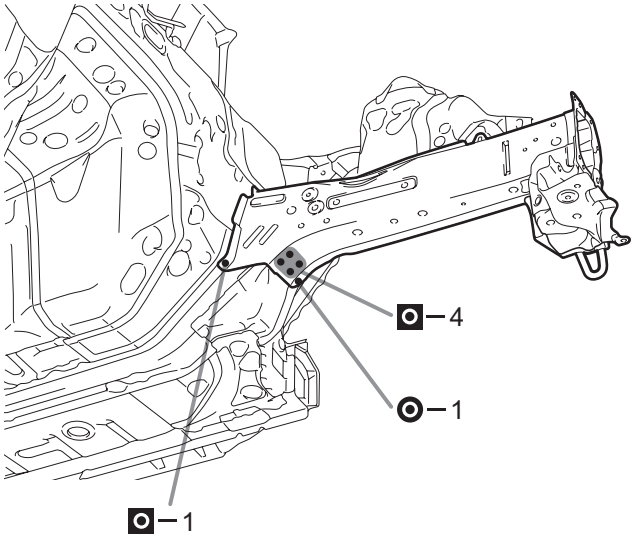
Symbol meaning	
⊙	Spot Weld
⊙	Plug Weld
I	Plug Weld
◢	Fillet Weld

INSTALLATION POINT

1. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
2. After welding the side frame to the vehicle side, install the toe board reinforcement.
3. Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.
4. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
5. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

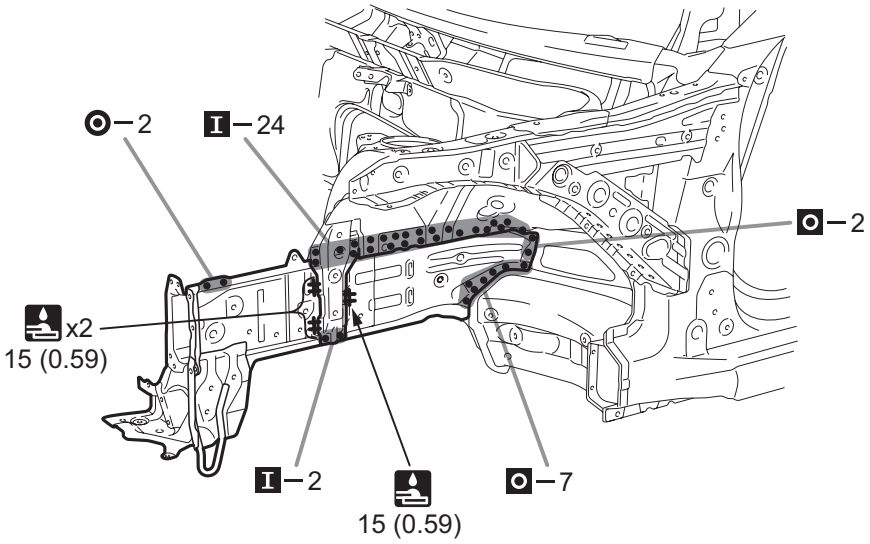


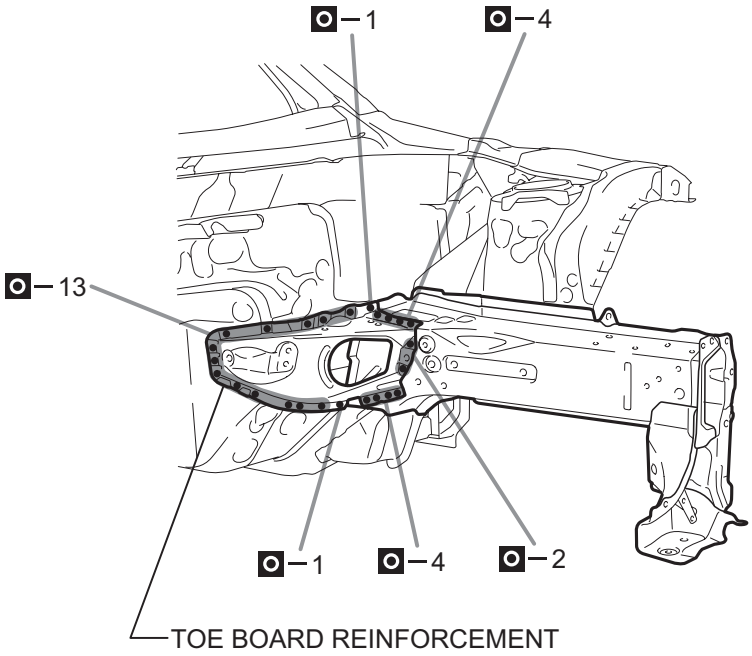




K105063E02

WP

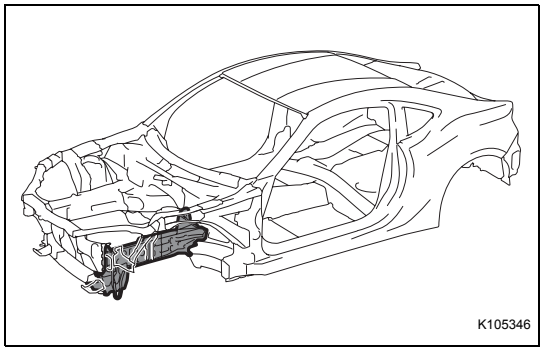




mm (in.)

K105064E02

ASSEMBLY REPLACEMENT (PATTERN 2)



With the radiator support and front fender apron removed.

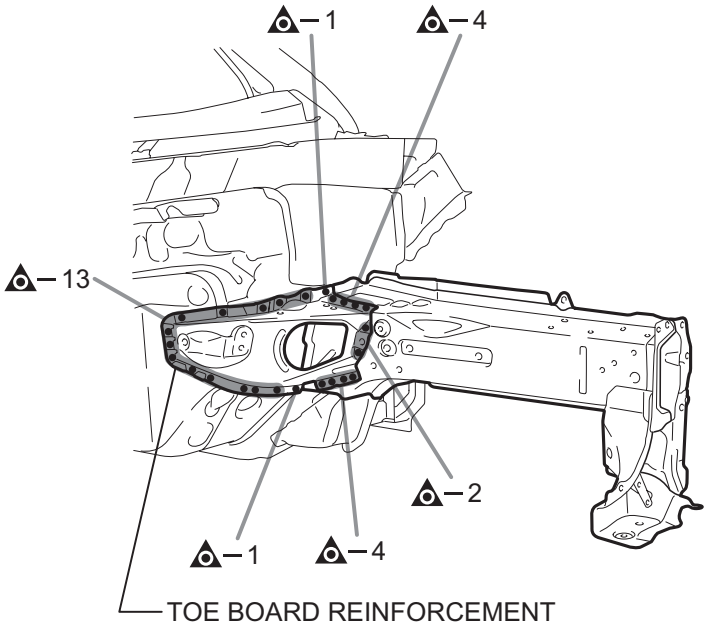
1. REMOVAL

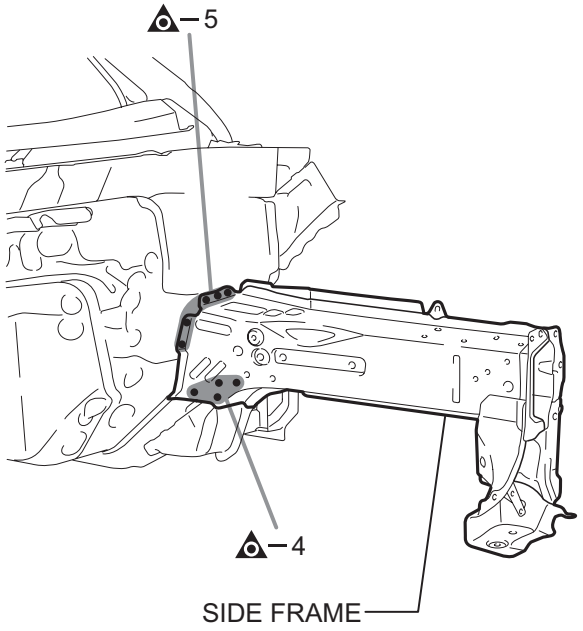
Symbol meaning	
▲	Remove Weld Points

REMOVAL POINT

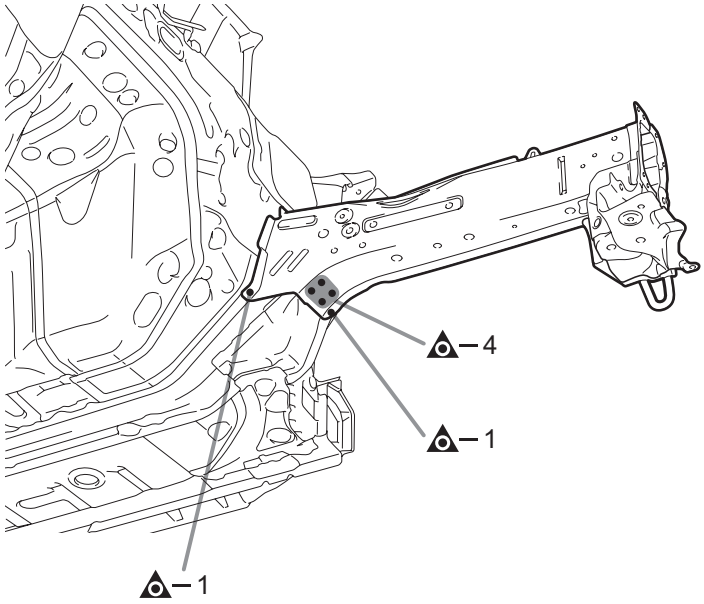
1. After removing the toe board reinforcement, remove the side frame.

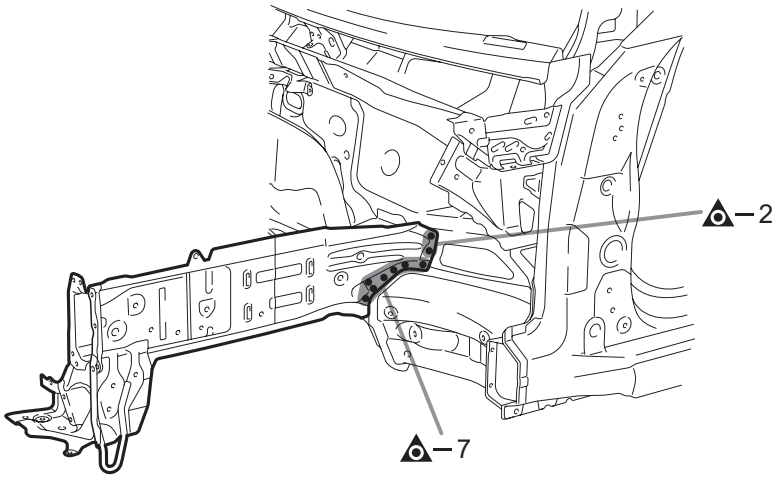
WP





K105065E02





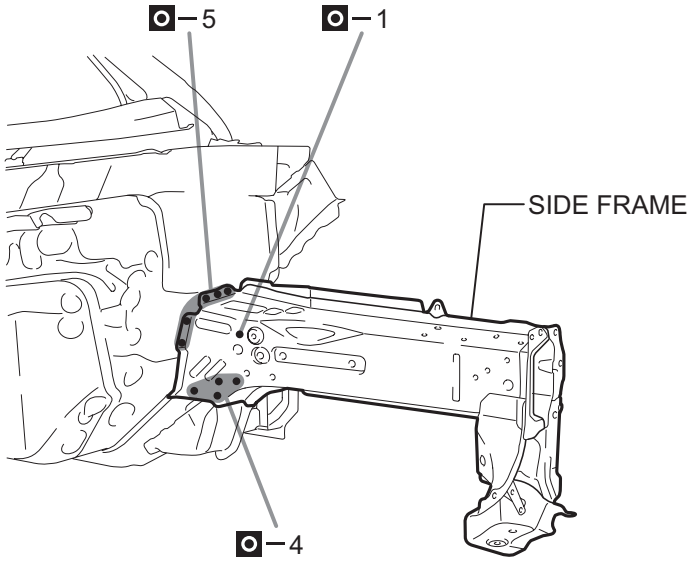
K105066E01

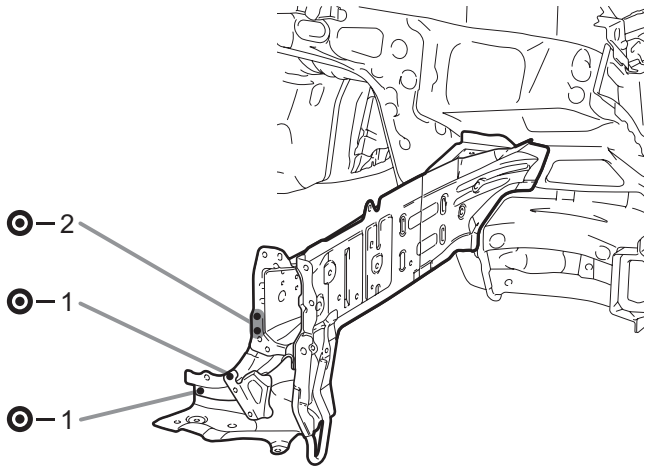
2. INSTALLATION

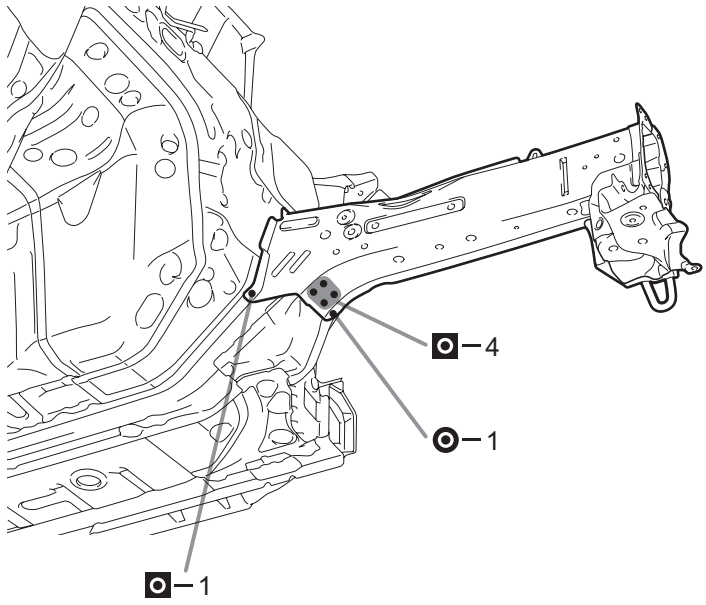
Symbol meaning	
⊙	Spot Weld
◘	Plug Weld

INSTALLATION POINT

1. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
2. After welding the side frame to the vehicle side, install the toe board reinforcement.
3. Make sure to attach correctly in accordance with the body dimension diagram as this part affects the front wheel alignment.
4. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
5. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.







K105067E02

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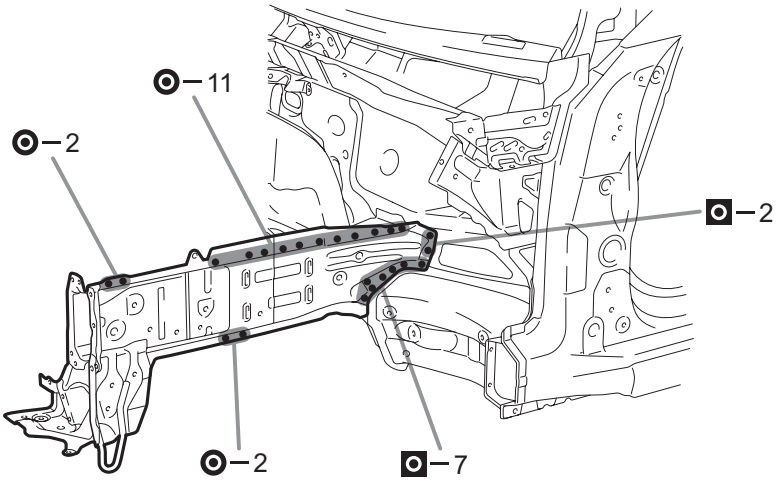
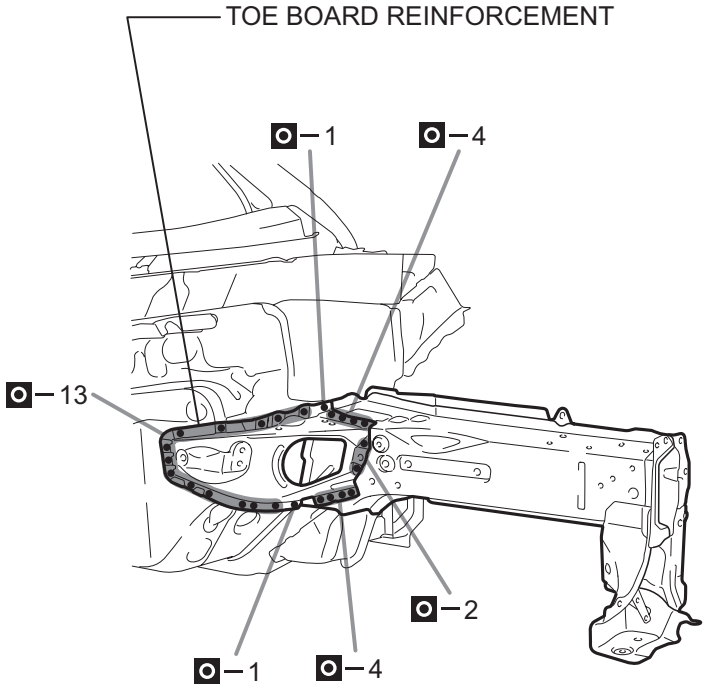
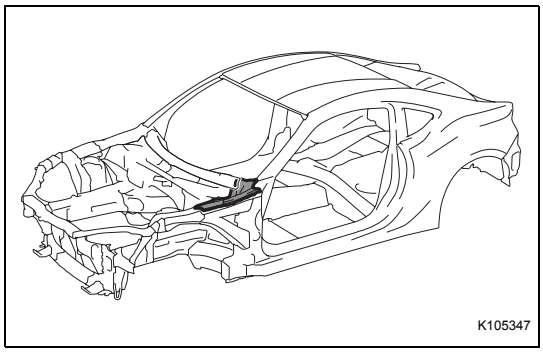




K105068E02

COWL TOP TO APRON BRACE

ASSEMBLY REPLACEMENT



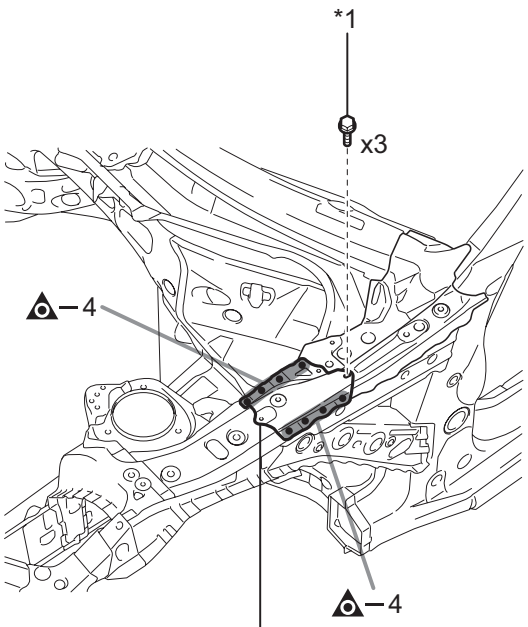
1. REMOVAL

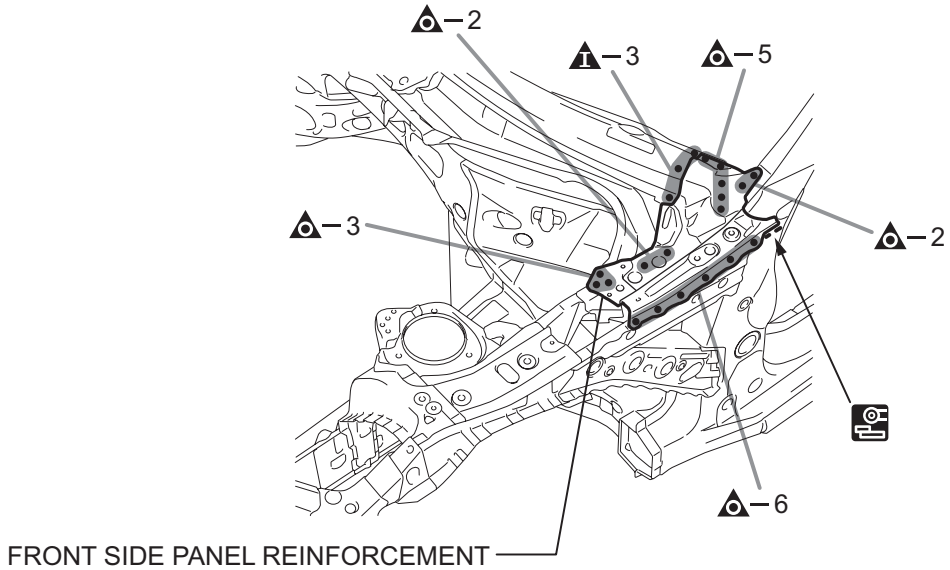
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Cut with Disk Sander etc.

REMOVAL POINT

1. *1: Bolts.
2. After removing the patch frame side upper, remove the front side panel reinforcement.

WP





K105069E02

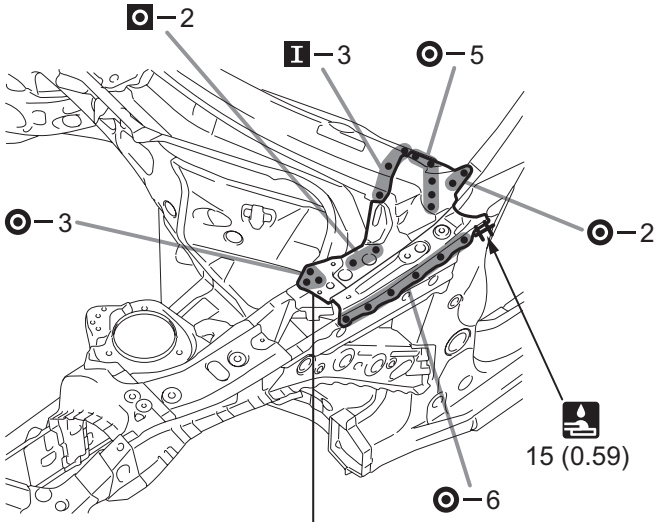
2. INSTALLATION

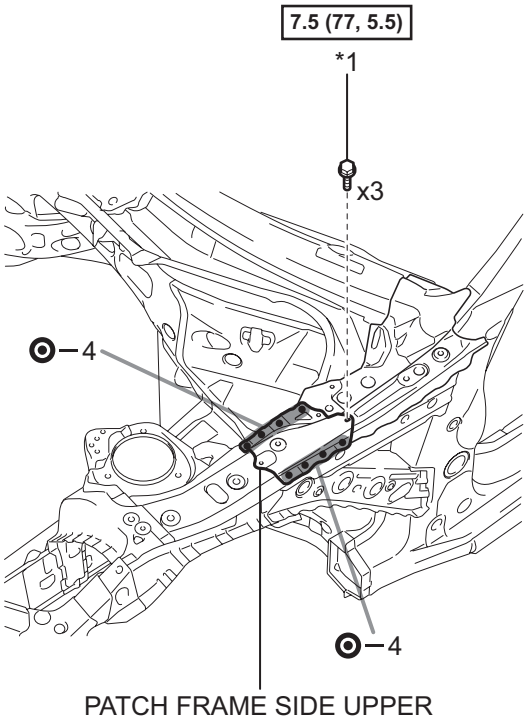
Symbol meaning	
	Spot Weld
	Plug Weld
	Plug Weld
	Fillet Weld

INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. 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)
3. *1: Bolts.
4. After welding the front side panel reinforcement to the vehicle side, install the patch frame side upper.
5. After welding, apply body sealer to the corresponding parts. (See the painting / coating)
6. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

WP





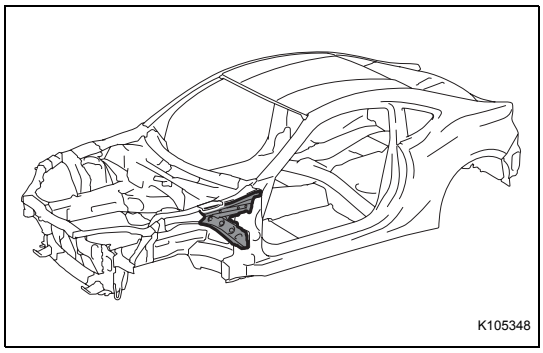
N*m (kgf*cm, ft.*lbf): Specified torque

mm (in.)

K105070E02

FRONT BODY PILLAR LOWER GUSSET

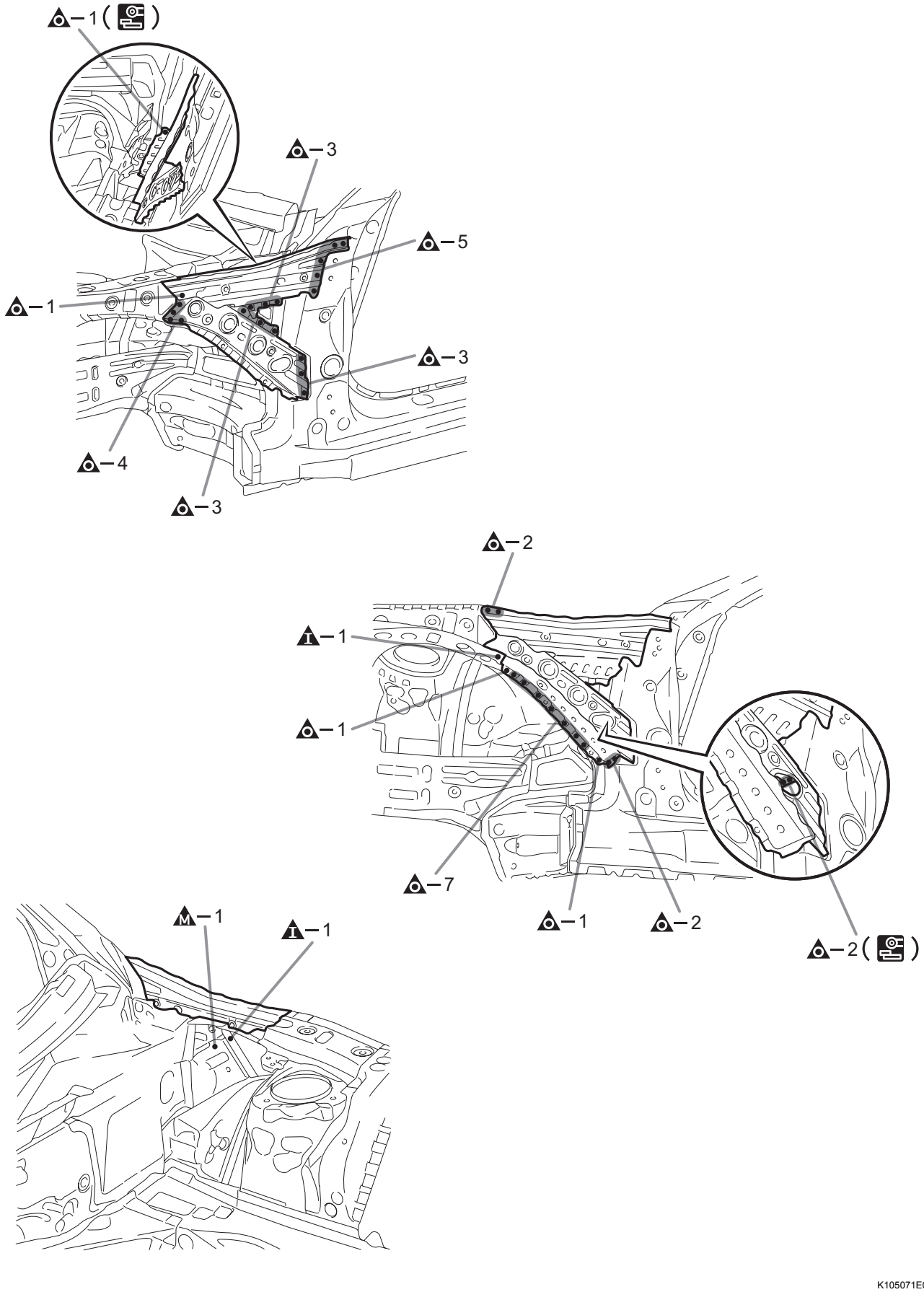
ASSEMBLY REPLACEMENT



With the cowl top to apron brace removed.

1. REMOVAL

Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut with Disk Sander etc.



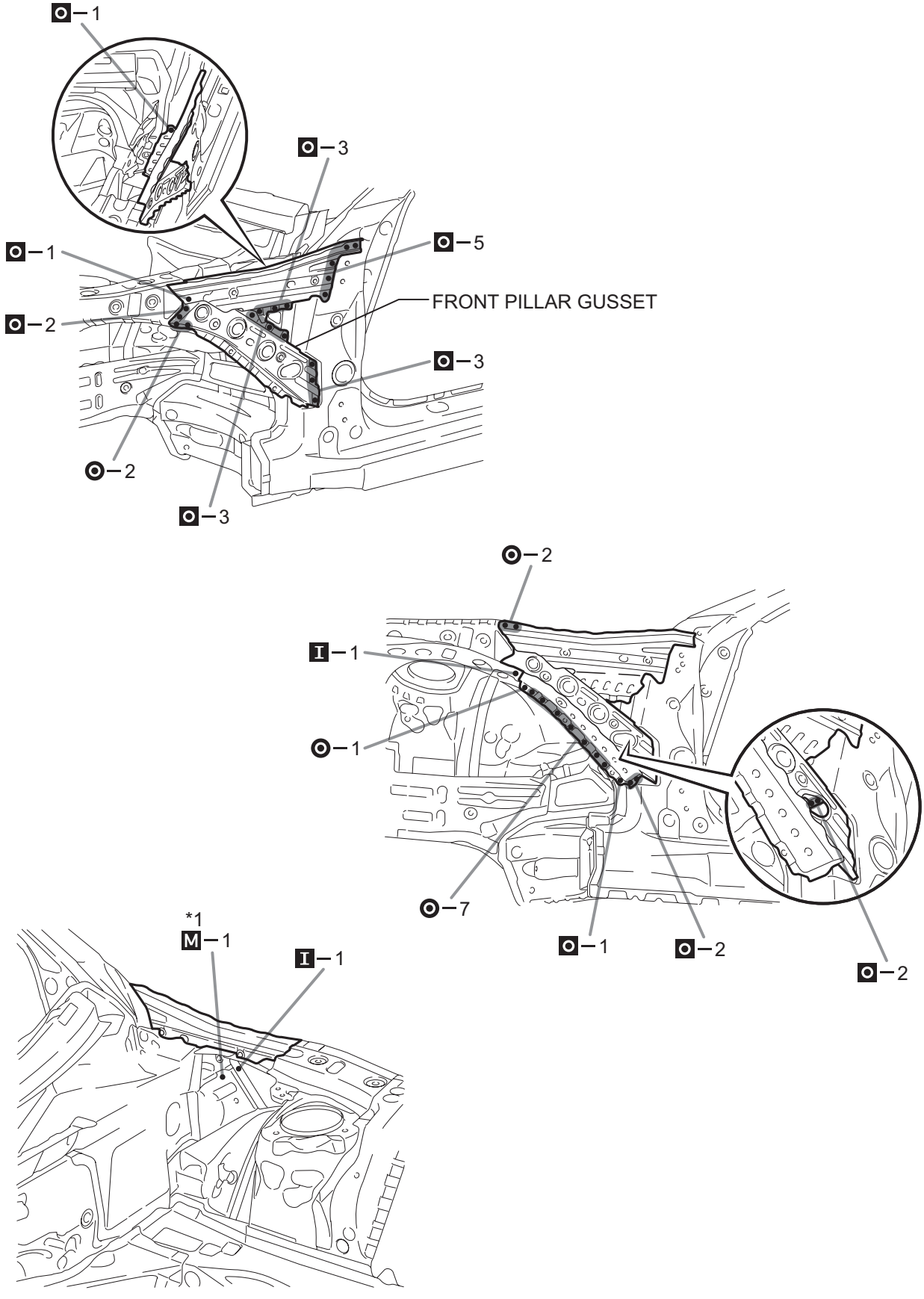
K105071E01

2. INSTALLATION

Symbol meaning	
⊙	Spot Weld
O	Plug Weld
M	Plug Weld
I	Plug Weld

INSTALLATION POINT

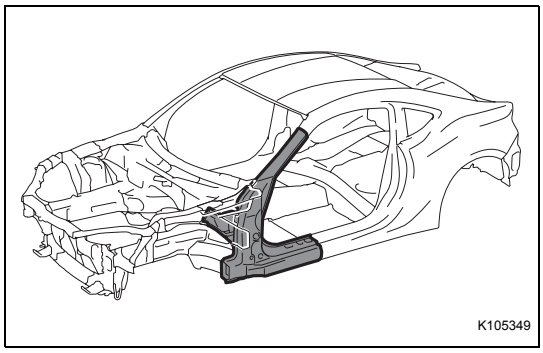
1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. When welding *1, make a hole on a new part for plug welding and weld the panel with the panel behind completely.
4. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.



K105583E01

FRONT BODY PILLAR

CUT AND JOIN REPLACEMENT SECTIONS



With the front body pillar lower gusset removed.

Weld work for 980 MPa ultra high strength steel
To assure sufficient weld strength, it is recommended to follow the welding conditions below when welding ultra high strength steel.

- It is recommended to perform spot welding according to board thickness and number of overlapping sheets under the following conditions (*1 - *3)
- When conditions can't be met, it is recommended to perform the plug welding following *4.

Spot welding	*1	Compression	4.0 kN	Total number of 2 overlapping sheets
		Current	7.0 kN	
		Welding time	15 Cyc.	
	*2	Compression	3.5 kN	Total number of 3 overlapping sheets
		Current	7.0 kN	
		Welding time	25 Cyc.	
	*3	Compression	4.4 kN	
		Current	7.5 kN	
		Welding time	20 Cyc.	
Plug welding	*4	Plug diameter	8 mm (0.31 in) or more	Total number of 2 or 3 overlapping sheets
		Wire	AWS A5.18 ER70S	
		Gas	CO_2	
		Plug diameter	8 mm (0.31 in) or more	
		Wire	AWS A5.18 ER70S-3	
		Gas	Gas mixture (argon: 80%, CO_2: 20%)	

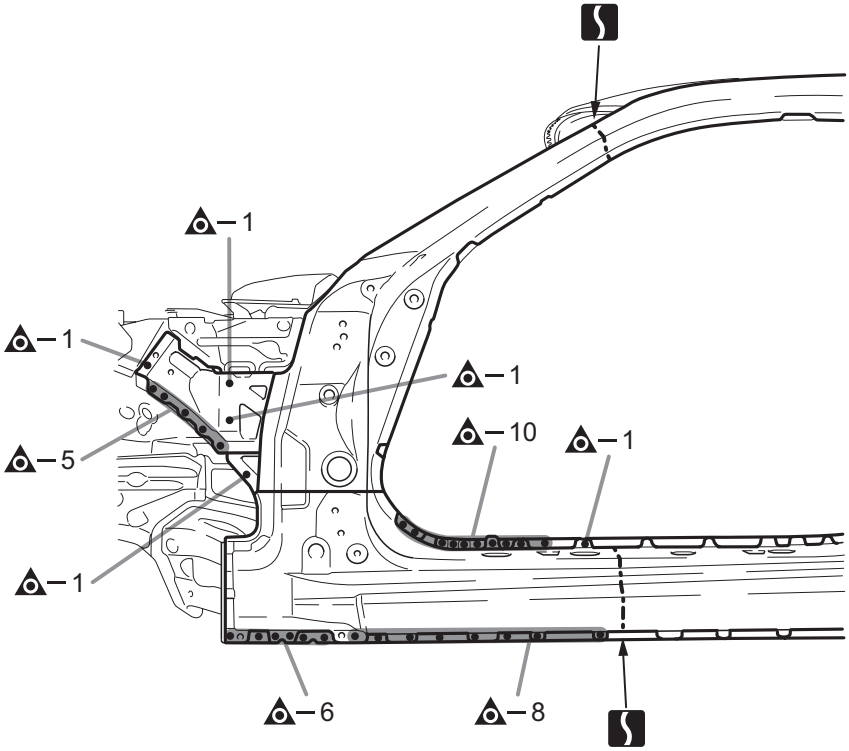
1. REMOVAL

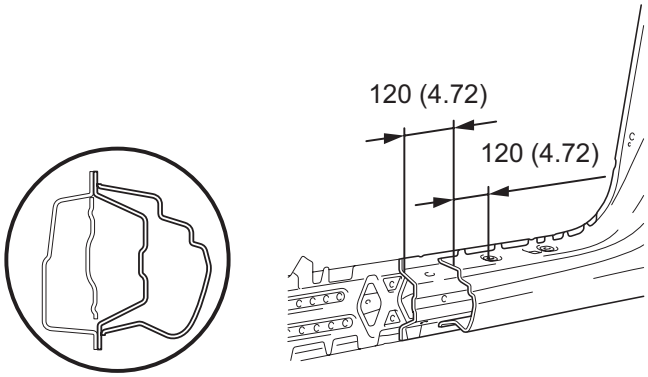
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut with Disc Sander etc.

Symbol meaning	
	Cut and Join Location

REMOVAL POINT

1. Do not butt weld or heat repair because the heat decreases the strength of areas where ultra high strength steel is used. (See the introduction)

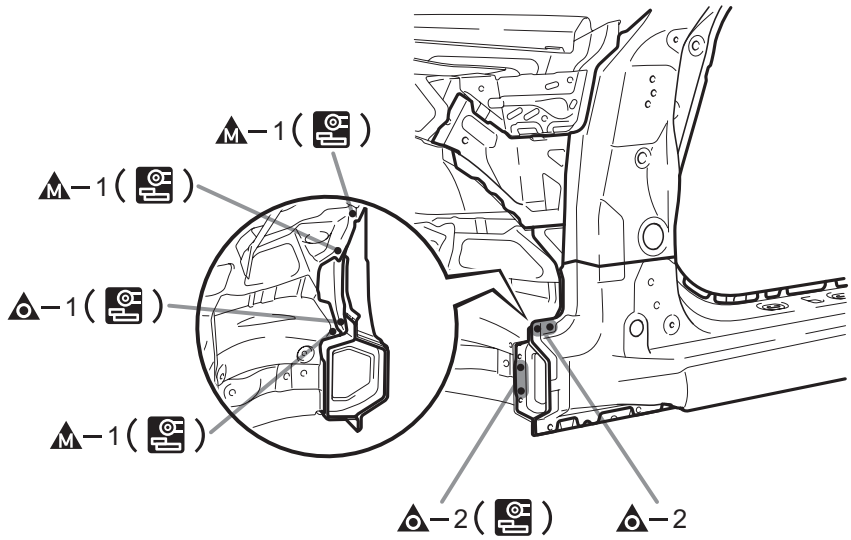


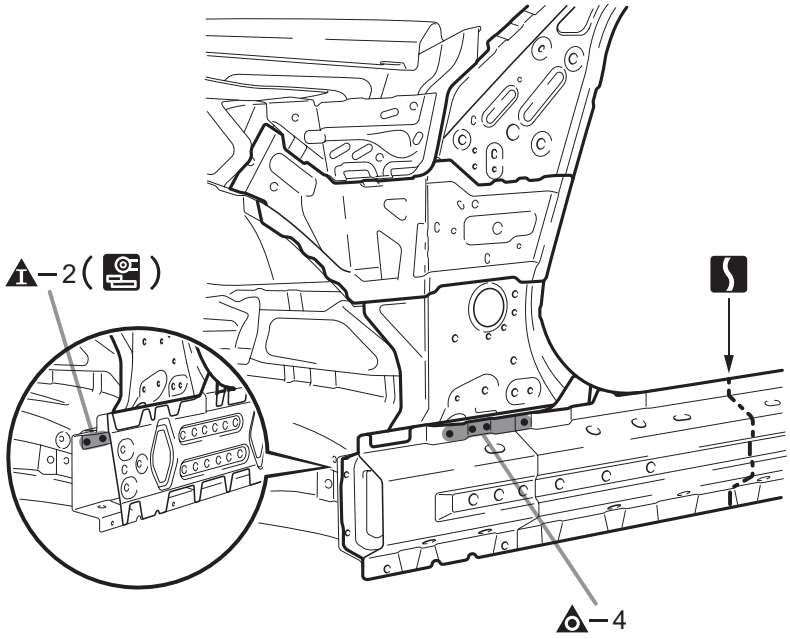


mm (in.)

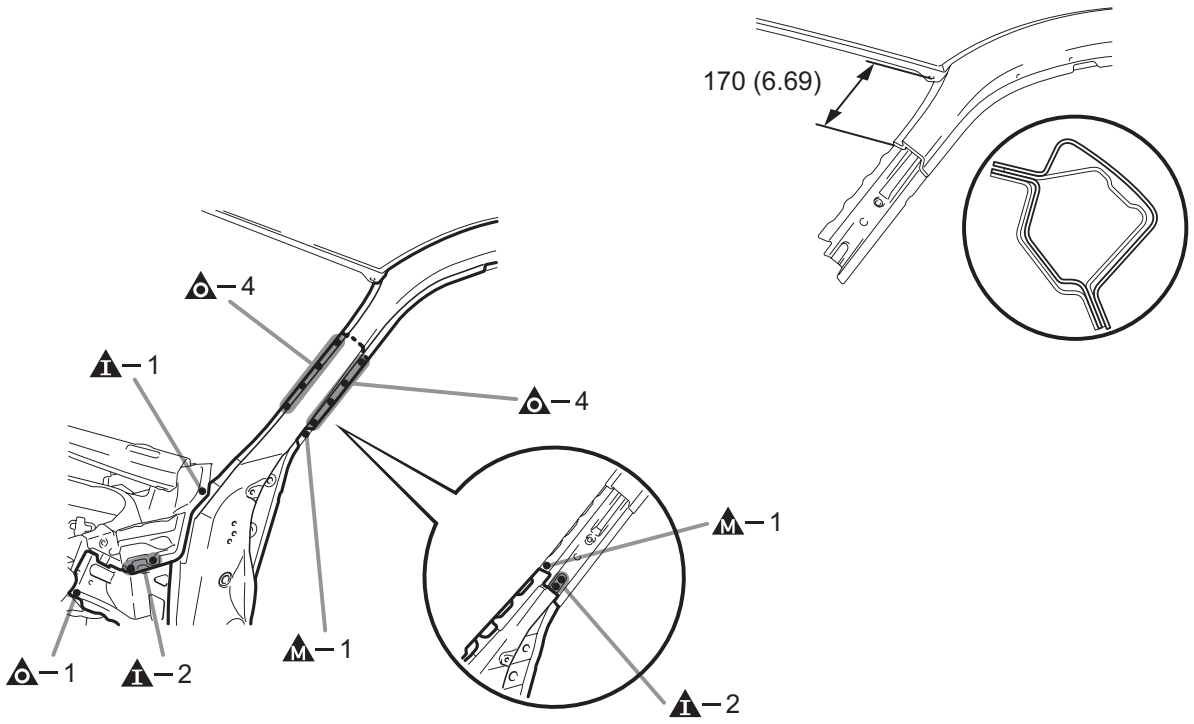
K105129E01

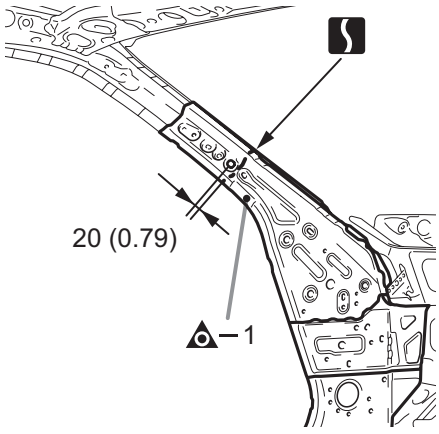
WP

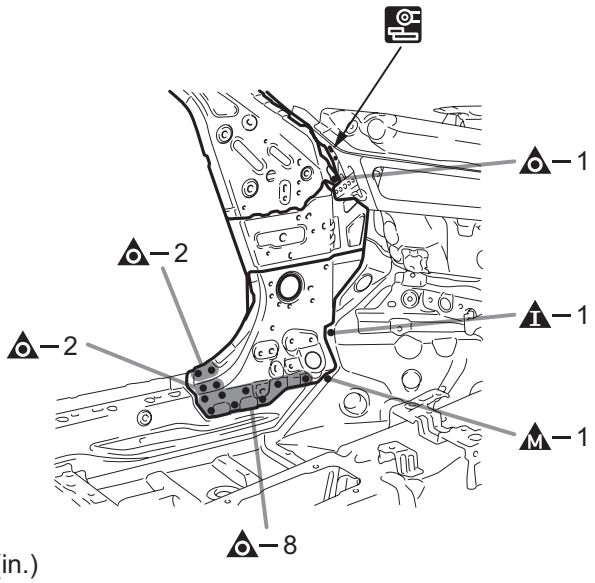




K105130E01







mm (in.)

K105131E01

2. INSTALLATION

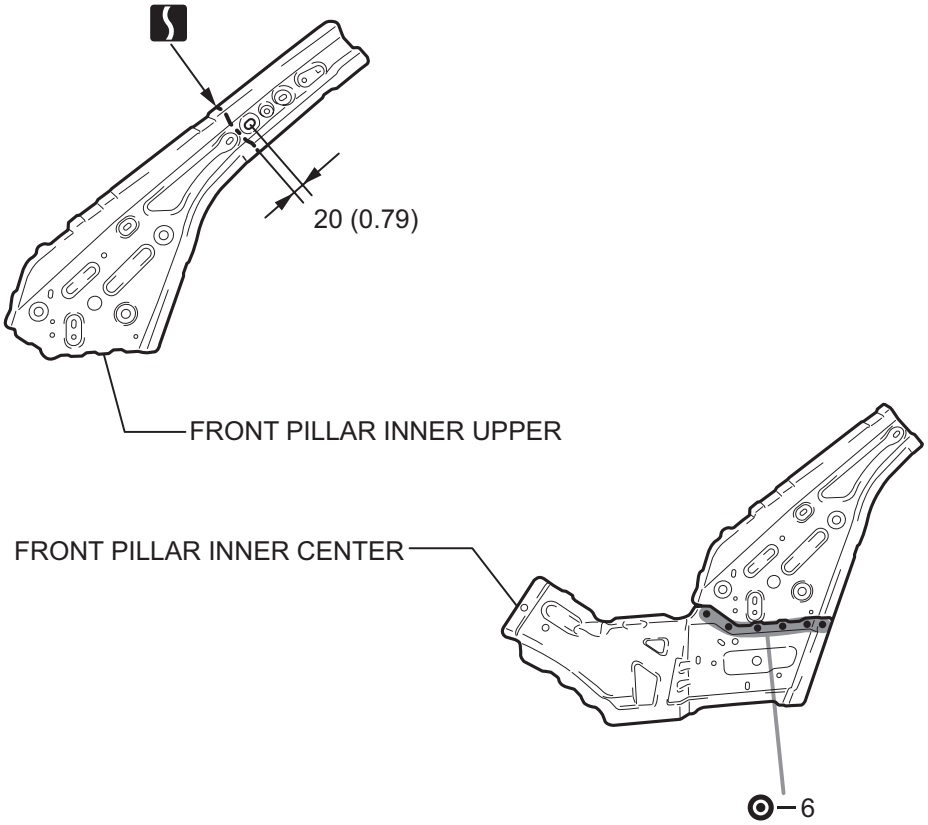
Symbol meaning	
	Spot Weld
	Plug Weld
	Plug Weld
	Plug Weld
	Cut and Join Location
	Fillet Weld
	Butt Weld
	Body Sealer

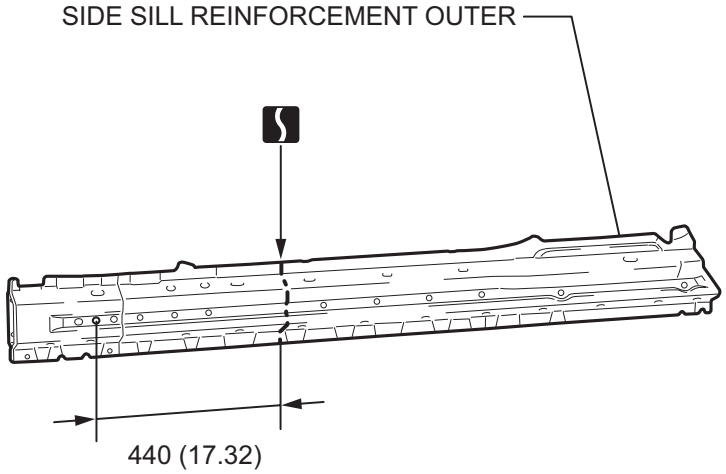
INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. If the entire supply part is not needed, remove the part of the supply part that is needed.
4. Before installing a new part, apply body sealer.
   HINT:
   Apply body sealer in an even, continuous bead.
5. To assure sufficient weld strength, it is recommended to follow the welding conditions when welding *1, *2, *3 or *4. (See the introduction)
6. Before temporarily installing the new parts, weld the front pillar inner upper and front pillar inner center with the standard number of welding points.
7. When welding *5, make a hole on a new part for plug welding and weld the panel with the panel.
8. After welding the front pillar inner lower the vehicle side, install the front pillar inner upper and front pillar inner center.
9. After welding the front pillar inner upper, front pillar inner center and front pillar inner lower the vehicle side, install the side sill reinforcement outer.
10. After welding the front pillar inner upper, front pillar inner center, front pillar inner lower and side sill reinforcement outer the vehicle side, install the front pillar reinforcement lower.
11. After welding the front pillar inner upper, front pillar inner center, front pillar inner lower, side sill reinforcement outer and front pillar reinforcement lower the vehicle side, install the front pillar outer and side sill outer.
12. After welding, apply body sealer to the corresponding parts. (See the painting / coating)

13.After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

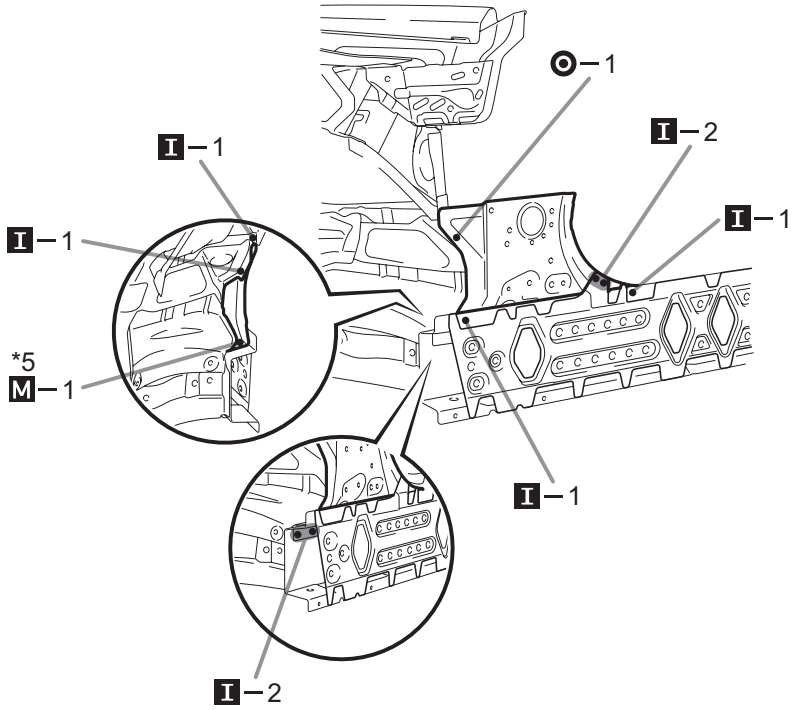
WP

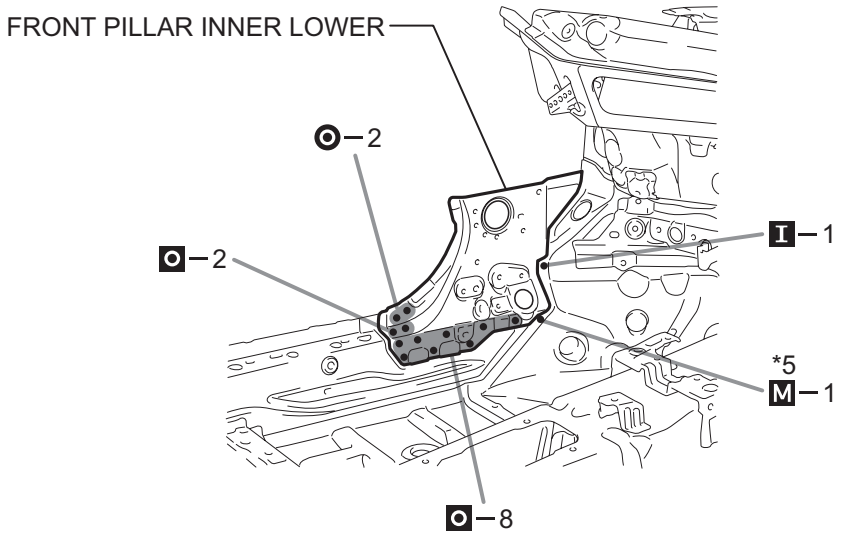




mm (in.)

K105132E02





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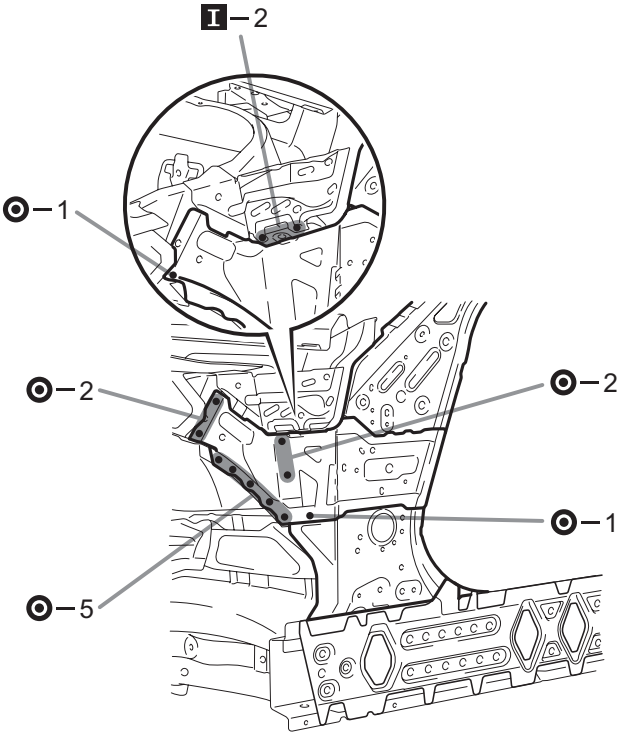
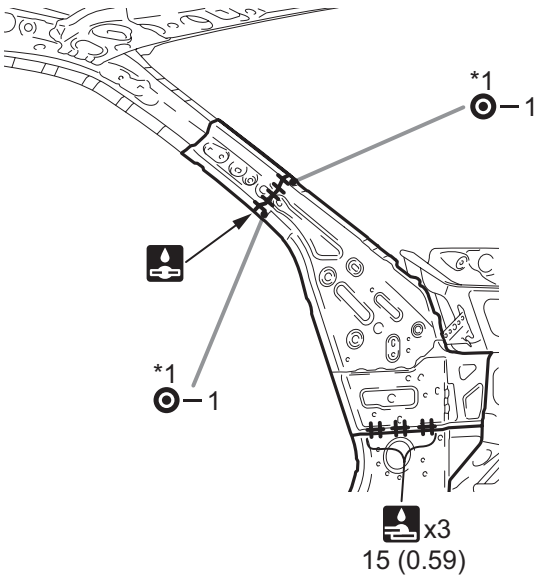
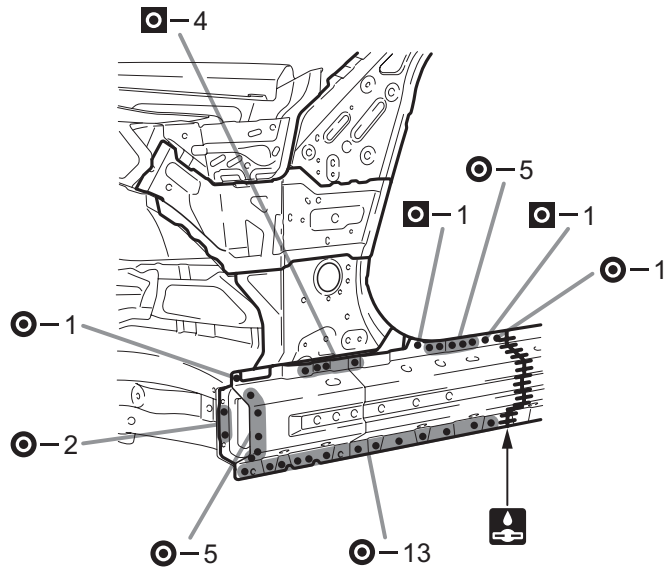
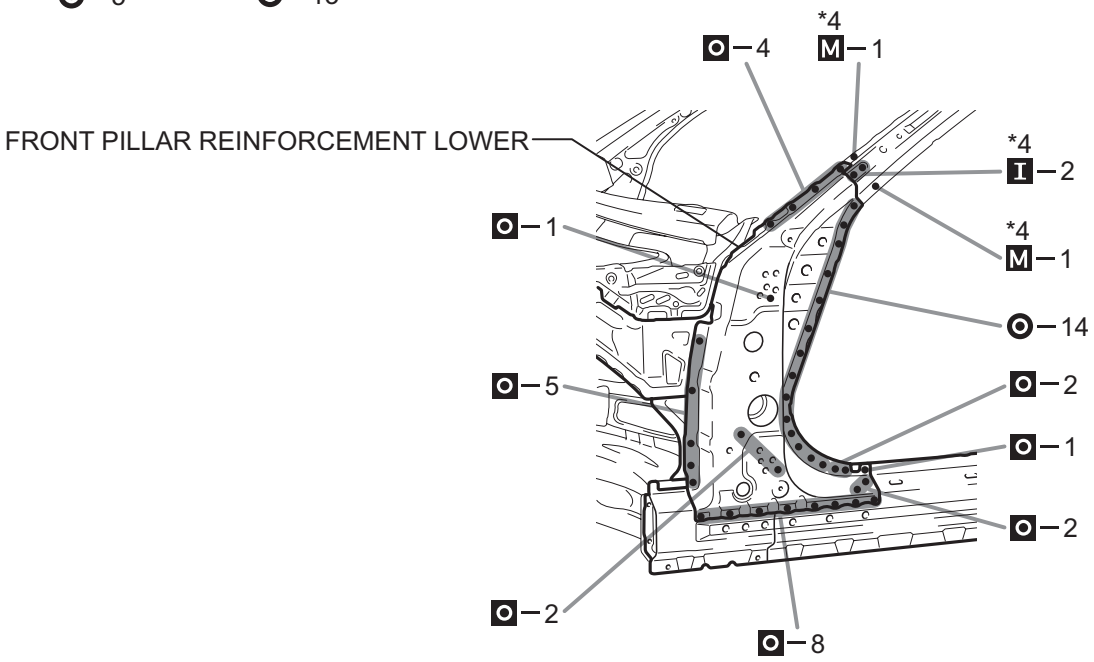


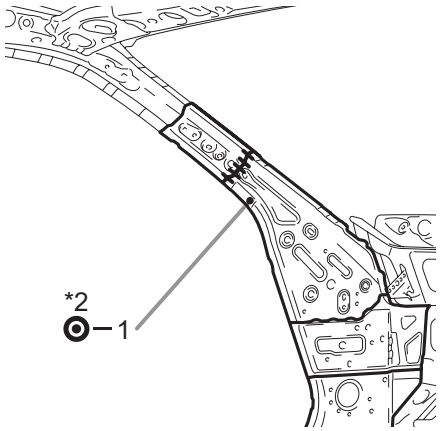


mm (in.)

K105134E02

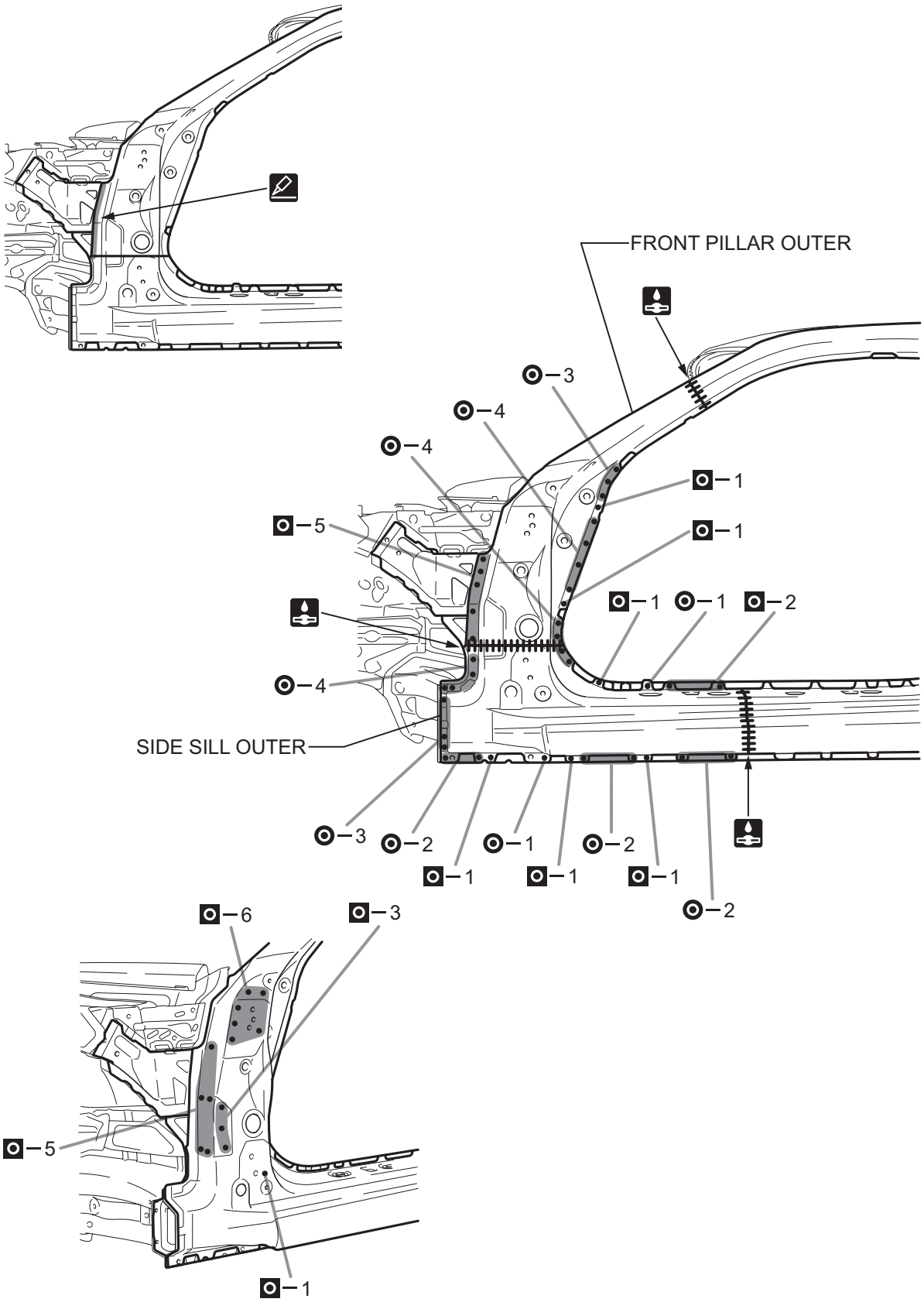

4
5
1
1
1
1
2
5
13

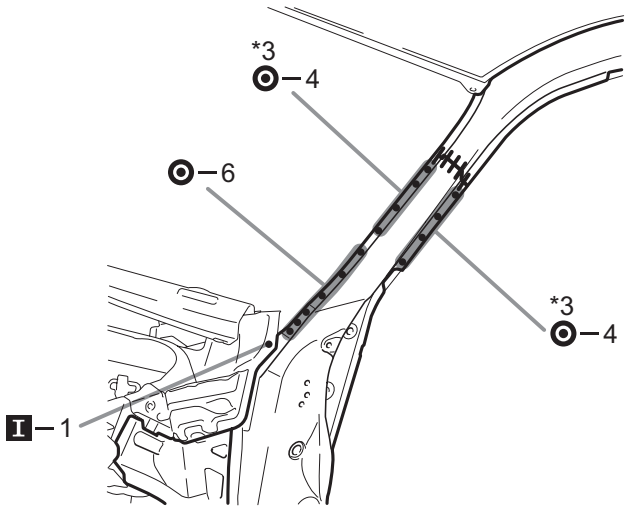

FRONT PILLAR REINFORCEMENT LOWER
*4
4
M 1
*4
I 2
1
*4
M 1
14
5
2
1
2
2
8

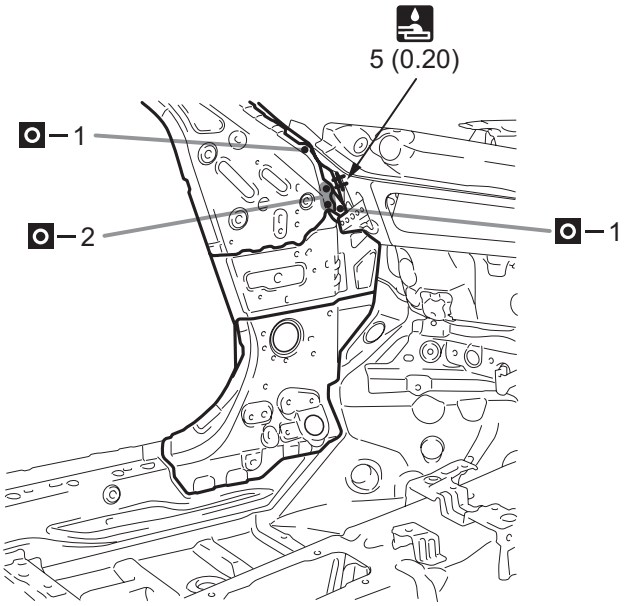

*2
1

K105584E01

WP





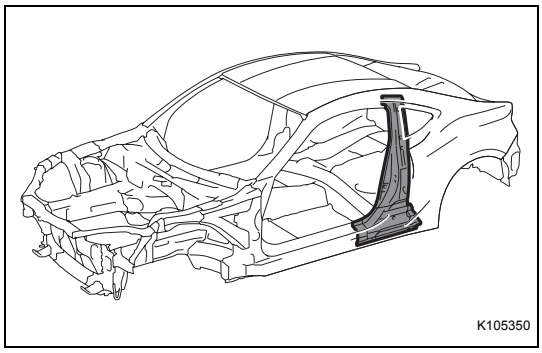


mm (in.)

K105137E02

CENTER BODY PILLAR

CUT AND JOIN REPLACEMENT SECTIONS



With the quarter panel removed.

Weld work for 980 MPa ultra high strength steel
To assure sufficient weld strength, it is recommended to follow the welding conditions below when welding ultra high strength steel.

- It is recommended to perform spot welding according to board thickness and number of overlapping sheets under the following conditions (*1 - *3)
- When conditions can't be met, it is recommended to perform the plug welding following *4.

Spot welding	*1	Compression	4.0 kN	Total number of 2 overlapping sheets
		Current	7.0 kN	
		Welding time	15 Cyc.	
	*2	Compression	3.5 kN	Total number of 3 overlapping sheets
		Current	7.0 kN	
		Welding time	25 Cyc.	
	*3	Compression	4.4 kN	
		Current	7.5 kN	
		Welding time	20 Cyc.	
Plug welding	*4	Plug diameter	8 mm (0.31 in) or more	Total number of 2 or 3 overlapping sheets
		Wire	AWS A5.18 ER70S	
		Gas	CO_2	
		Plug diameter	8 mm (0.31 in) or more	
		Wire	AWS A5.18 ER70S-3	
		Gas	Gas mixture (argon: 80%, CO_2: 20%)	

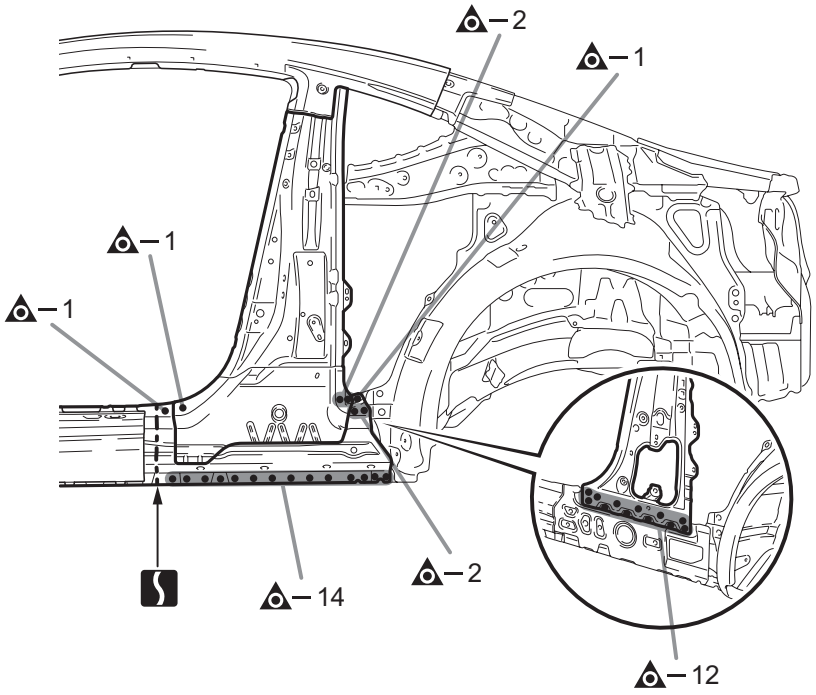
1. REMOVAL

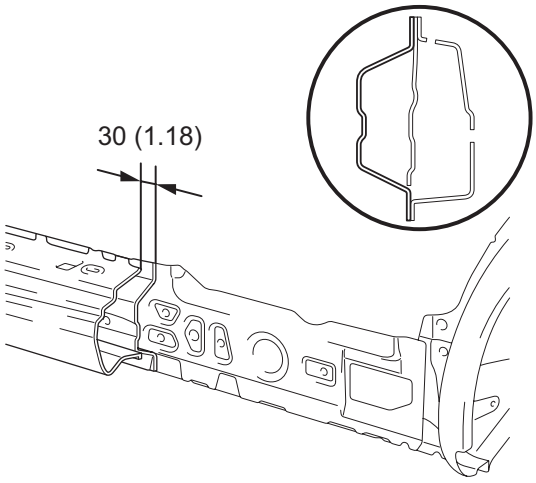
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Cut with Disc Sander etc.
	Cut and Join Location

REMOVAL POINT

1. Do not butt weld or heat repair because the heat decreases the strength of areas where ultra high strength steel is used. (See the introduction)
2. *5 is reused.

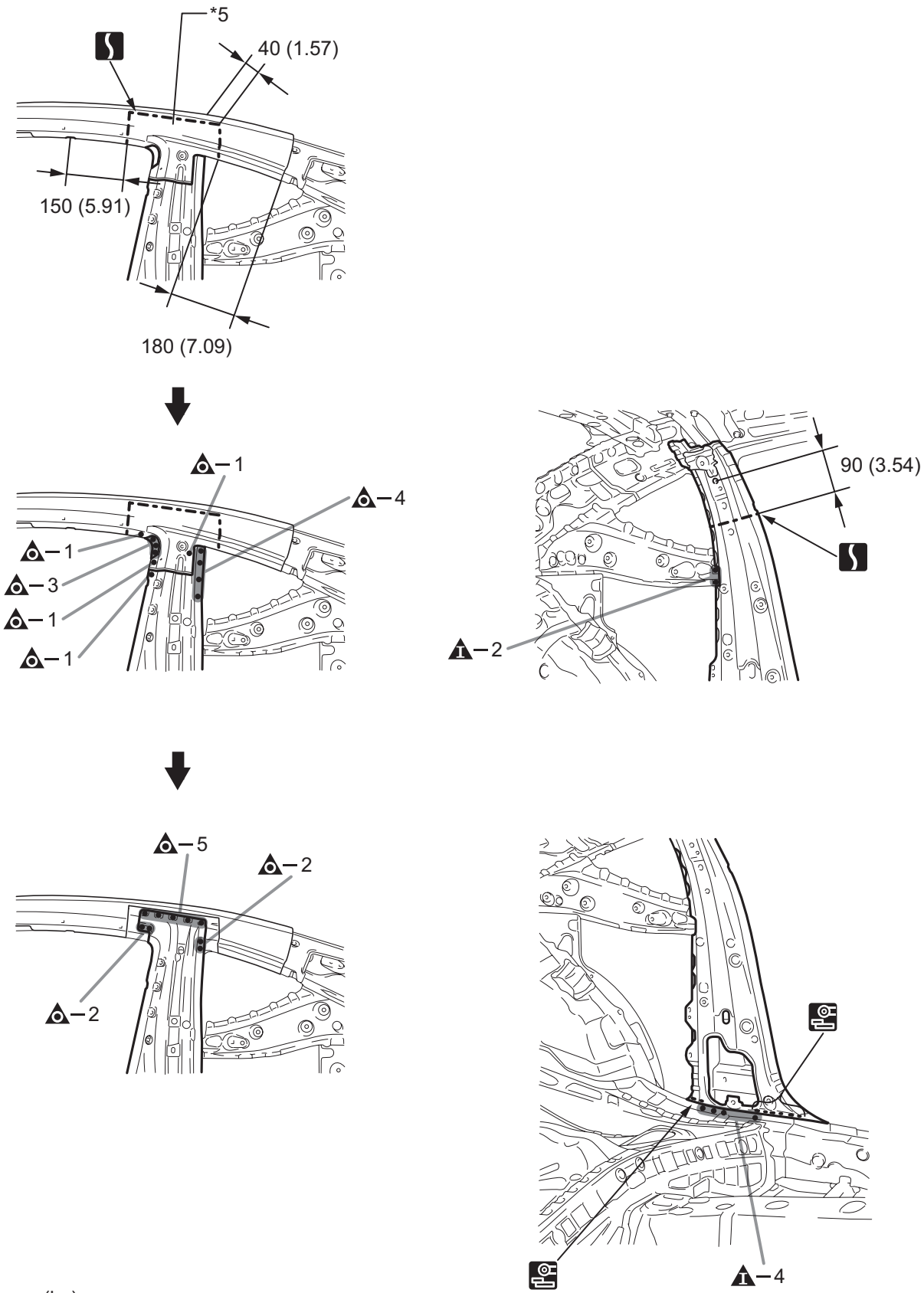
WP





mm (in.)

K105138E01



mm (in.)

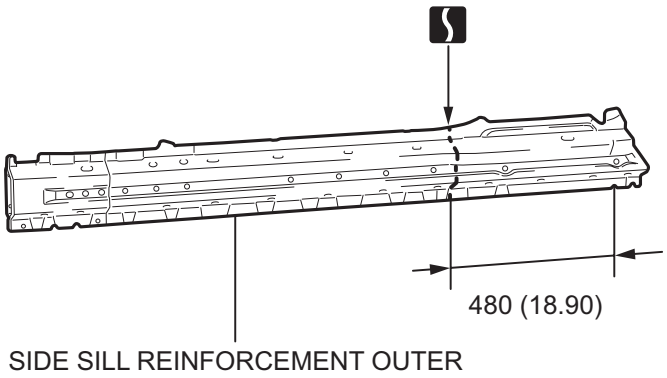
K105139E02

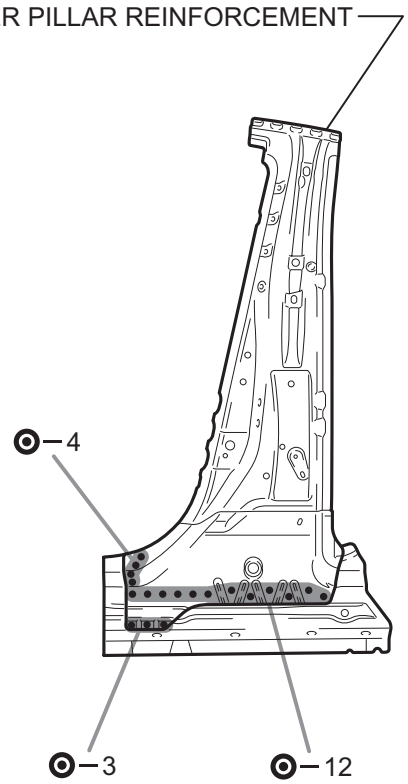
2. INSTALLATION

Symbol meaning	
	Spot Weld
	Plug Weld
	Plug Weld
	Cut and Join Location
	Fillet Weld
	Butt Weld

INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. If the entire supply part is not needed, remove the part of the supply part that is needed.
4. To assure sufficient weld strength, it is recommended to follow the welding conditions when welding *1, *2, *3 or *4. (See the introduction)
5. Before temporarily installing the new parts, weld the center pillar reinforcement and side sill reinforcement outer with the standard number of welding points.
6. After welding the center pillar inner the vehicle side, install the center pillar reinforcement and side sill reinforcement outer.
7. After welding the center pillar inner, center pillar reinforcement and side sill reinforcement outer the vehicle side, install the *5.
8. After welding, apply body sealer to the corresponding parts. (See the painting / coating)
9. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

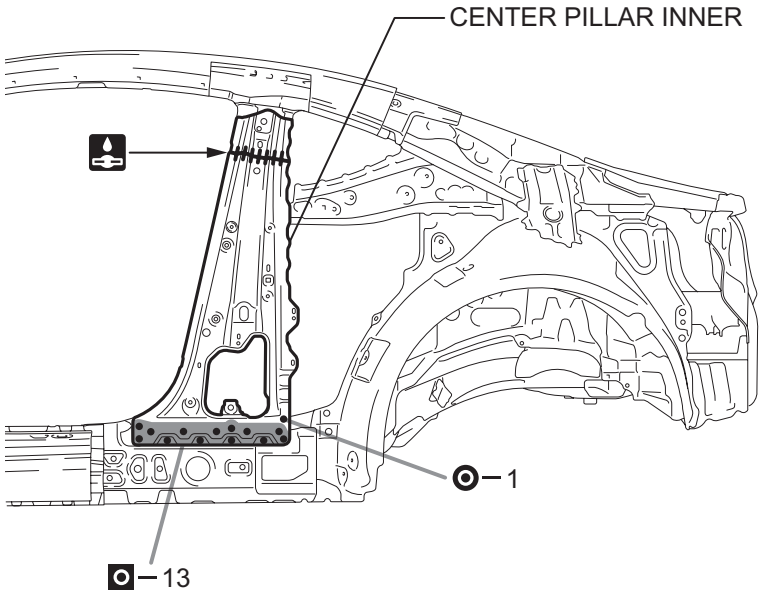


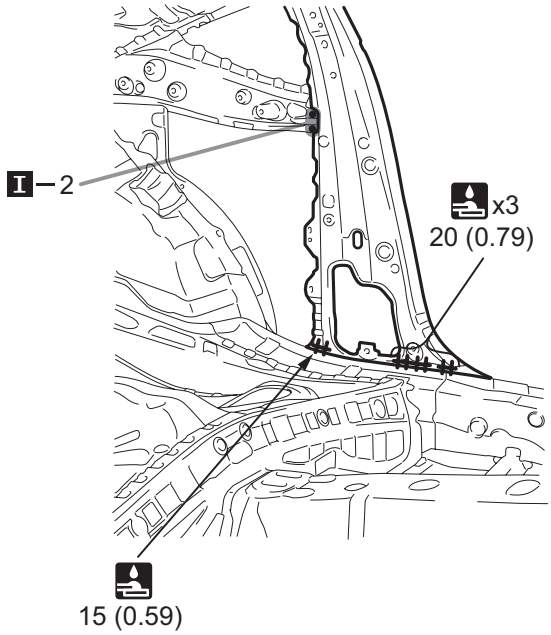


mm (in.)

K105140E02

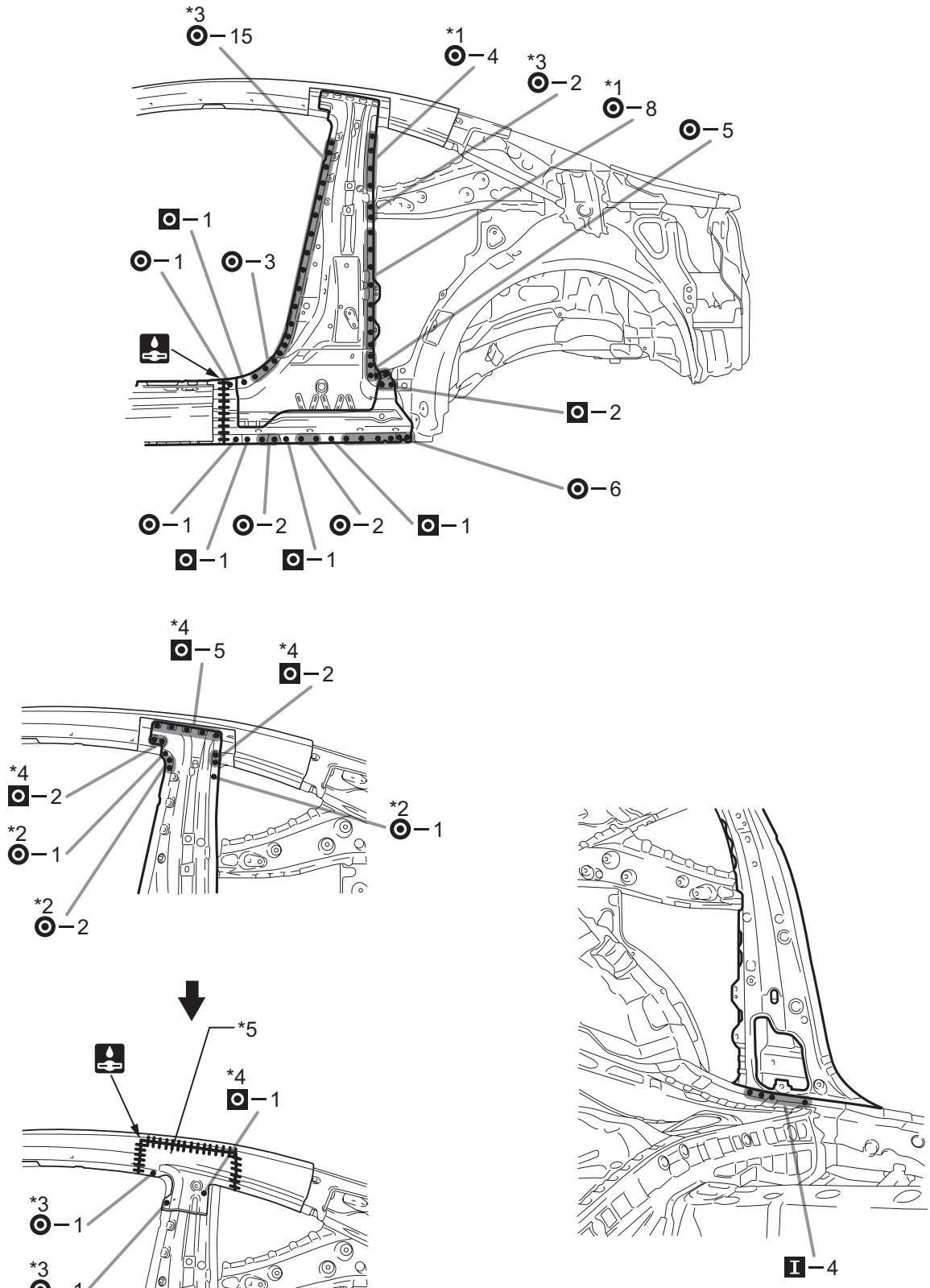
WP





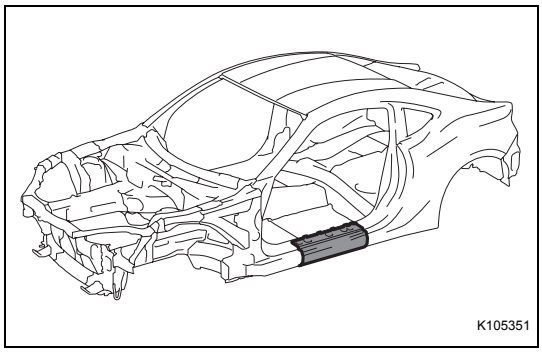
mm (in.)

K105141E02


*3
15
*1
4
*3
2
*1
8
5
1
1
3
2
6
1
2
2
1
1
1
*4
5
*4
2
*4
2
*2
1
*2
1
*2
2
*5
*4
1
*3
1
*3
1
I
4
K105586E01

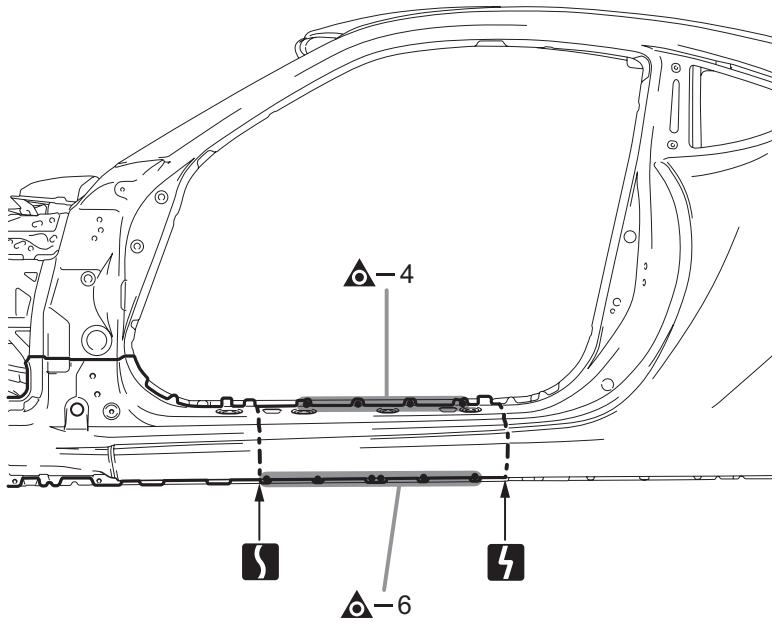
ROCKER OUTER PANEL

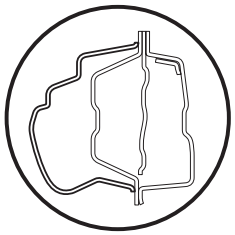
CUT AND JOIN REPLACEMENT SECTIONS (SMALL AREAS)

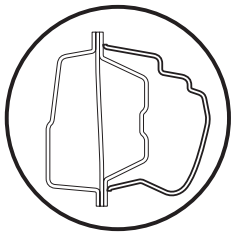


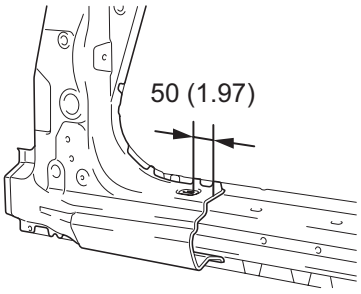
1. REMOVAL

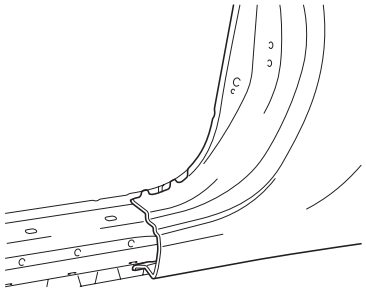
Symbol meaning	
	Remove Weld Points
	Cut and Join Location
	Cut Location for Supply Parts











mm (in.)

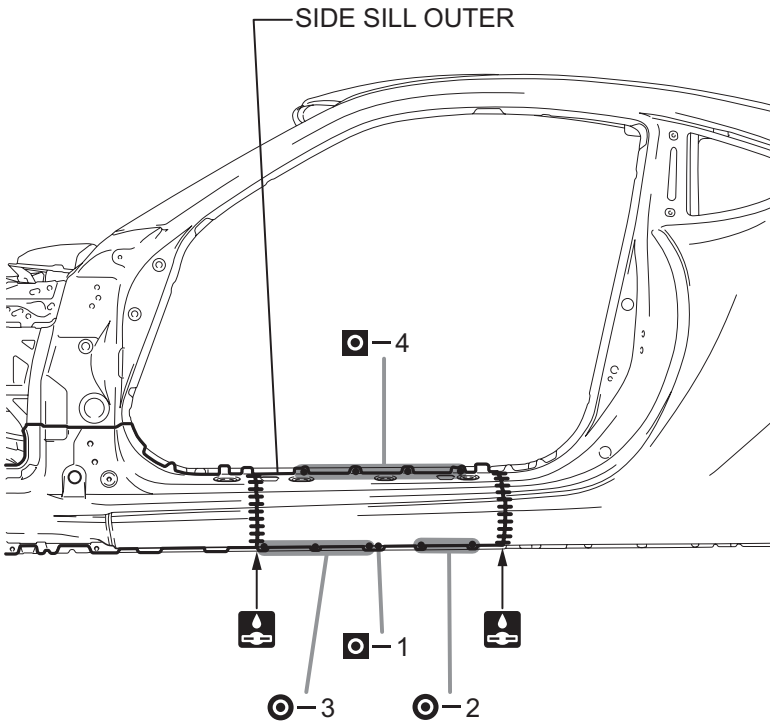
K105143E01

2. INSTALLATION

Symbol meaning	
	Spot Weld
	Plug Weld
	Butt Weld

INSTALLATION POINT

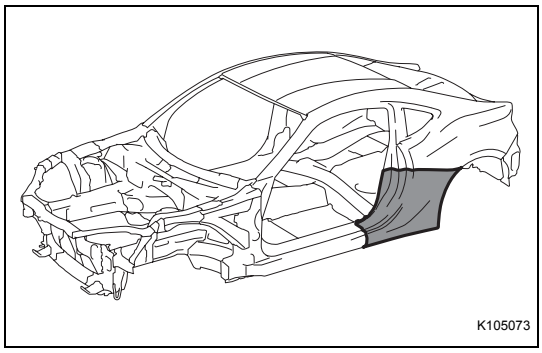
1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. After applying the top coat,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



K105587E01

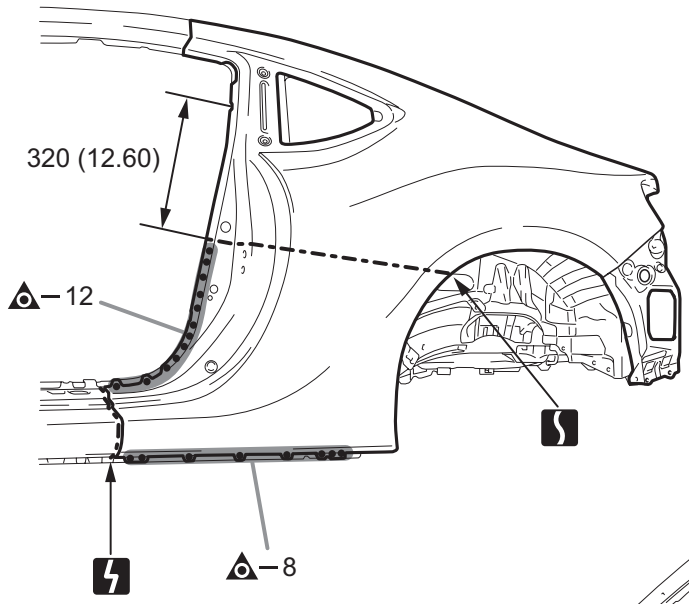
QUARTER PANEL

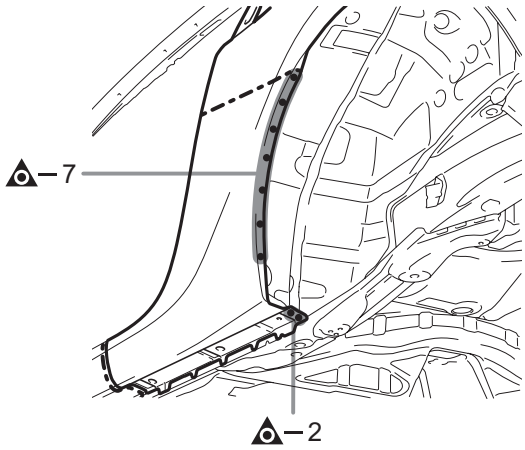
CUT AND JOIN REPLACEMENT SECTIONS (SMALL AREAS)

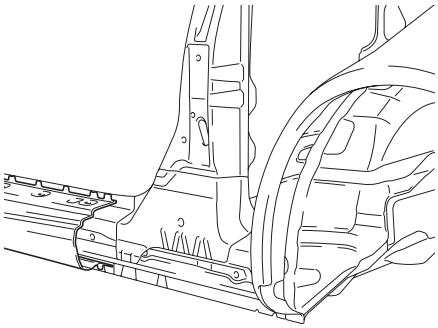


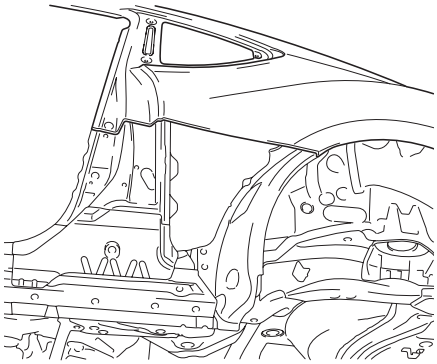
1. REMOVAL

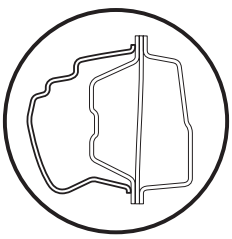
Symbol meaning	
	Remove Weld Points
	Cut and Join Location
	Cut Location for Supply Parts

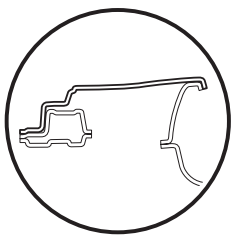












mm (in.)

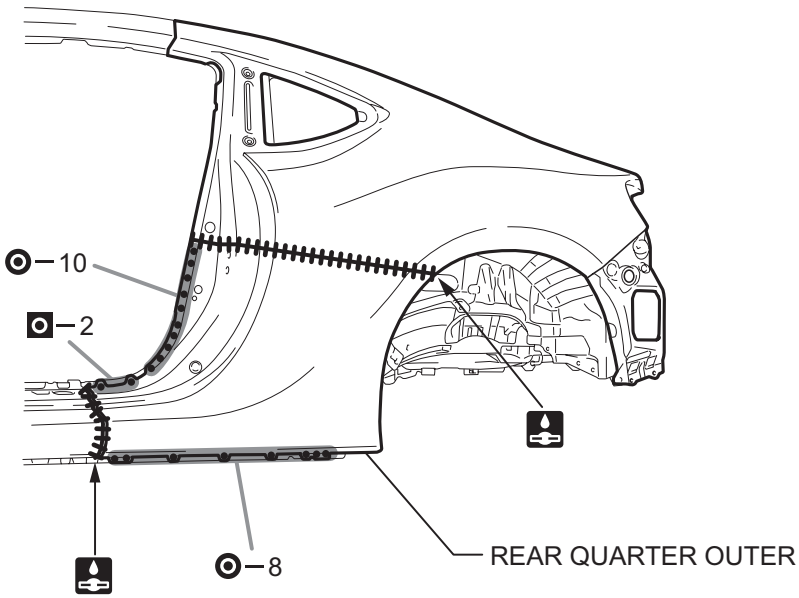
K105074E01

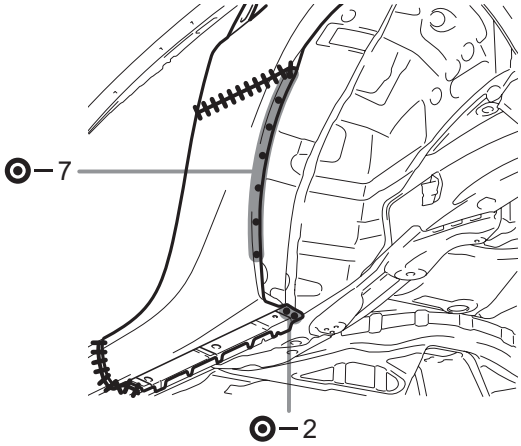
2. INSTALLATION

Symbol meaning	
	Spot Weld
	Plug Weld
	Butt Weld

INSTALLATION POINT

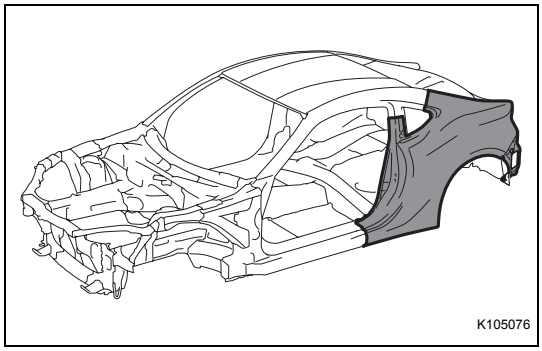
1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. After welding, apply body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





K105599E01

CUT AND JOIN REPLACEMENT SECTIONS



Quarter Panel Replacement Using Adhesive
Work Procedure

1. Cut the wheel arch portion.
2. Heat the quarter panel adhesive area and remove the quarter panel.
   HINT:
   Using an industrial heater gun or gas burner, heat the quarter panel to 110 to 140°C. Make sure the quarter panel does not warp.
3. Clean off any adhesive that remains on the vehicle.
   HINT:
   - Using an industrial heater gun or gas burner, heat the adhesive to 110 to 140°C.
   - Using a scraper, scrape away the adhesive.
   - If adhesive remains, the strength of any subsequently applied adhesive will be weak.
4. Using a disc grinder or belt sander, scuff and sand any adhesive that remains on the vehicle.
   HINT:
   Scuff at a width of approximately 10 mm (0.39 in.) over the previous adhesive coating.
5. Apply adhesive to the exposed metal areas on the vehicle. Using a spatula, spread the adhesive evenly.
6. Apply adhesive to the vehicle again.
7. Using #60-120 grit sandpaper, scuff the adhesive application area on the new quarter panel.
8. Apply adhesive to the new quarter panel. Using a spatula, spread the adhesive evenly.
9. Using a vise grip or the palms of your hands, press the quarter panel so that the thickness of the adhesive is even.
10. Complete installation the new quarter panel.
11. Dry the adhesive areas of the new quarter panel.
    HINT:
    - With dryer or equivalent (60°C): 60 minutes (complete hardening: 90 minutes)
    - Ambient temperature (25°C): 12 hours (complete hardening: 24 hours)

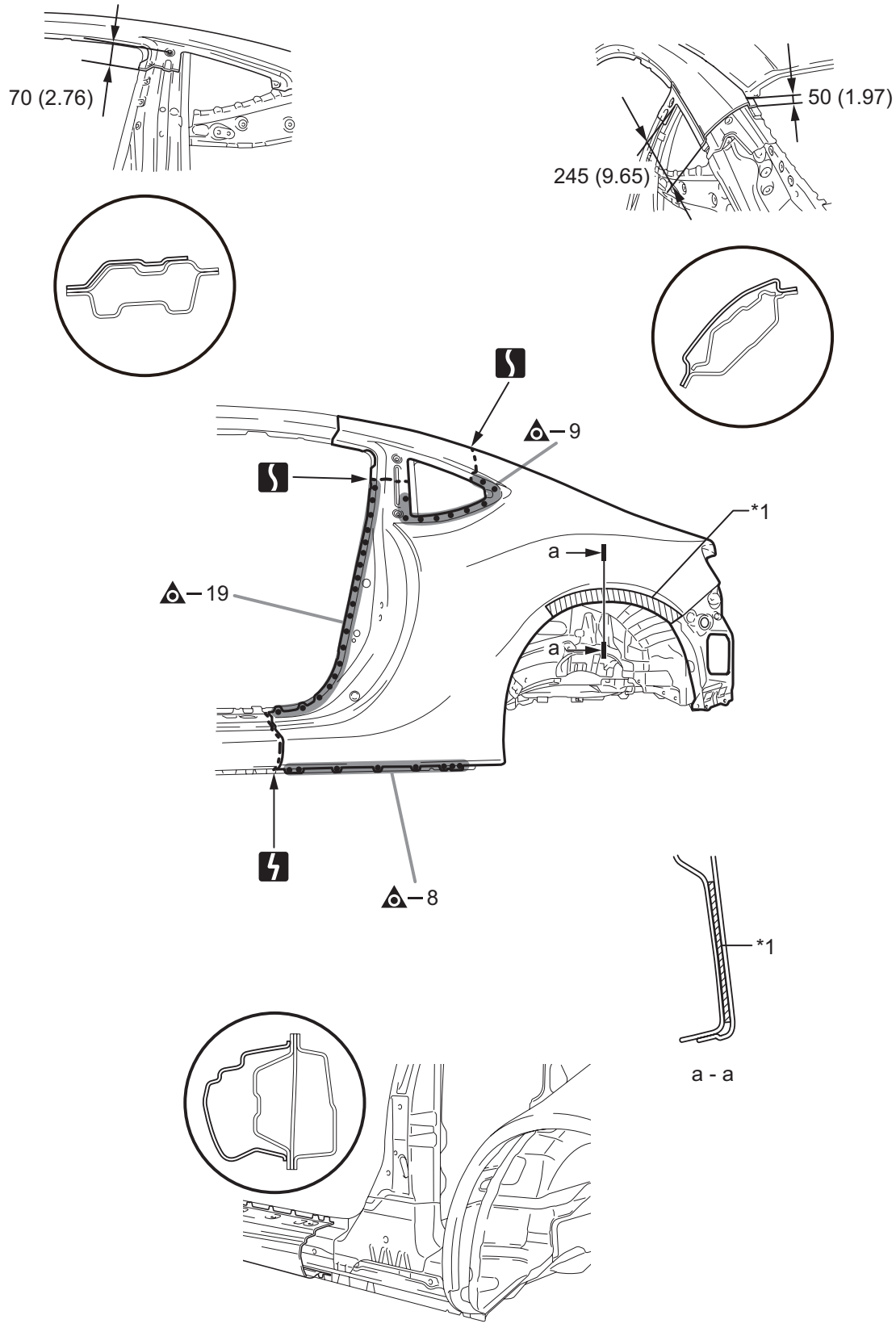
1. REMOVAL

Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut and Join Location

Symbol meaning	
	Cut Location for Supply Parts

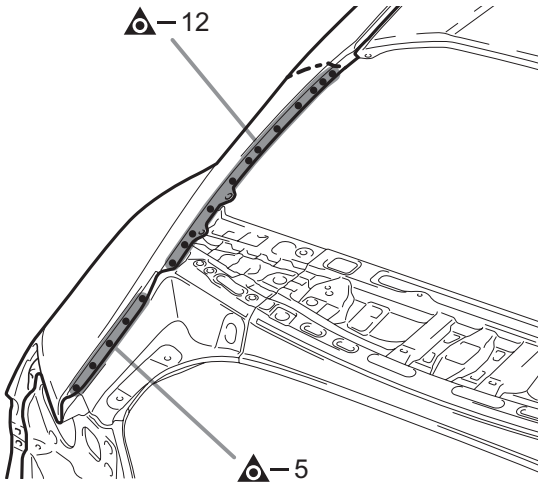
REMOVAL POINT

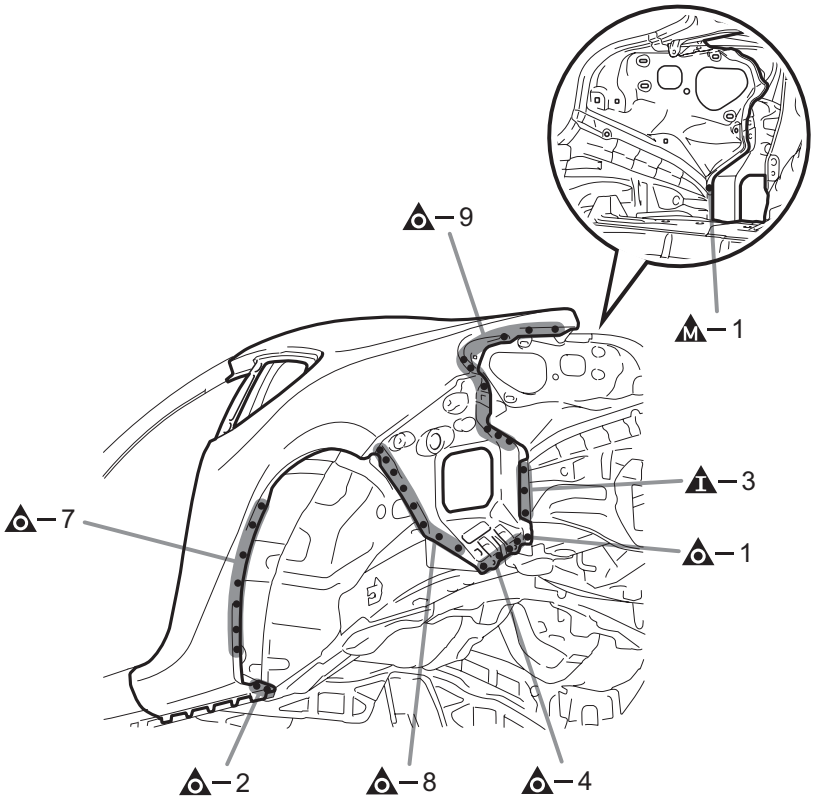
1. *1 in illustration above indicates where the adhesive is located.
2. Roughly cut open the panel so that the adhesive can be reached. Cut through the adhesive with a cut chisel to remove the panel.
   HINT:
   In cases where the adhesive cannot be removed with a cut chisel, heat the adhesive with an industrial heater gun or gas burner taking care not to cause panel deformation by overheating.



mm (in.)

K106311E01





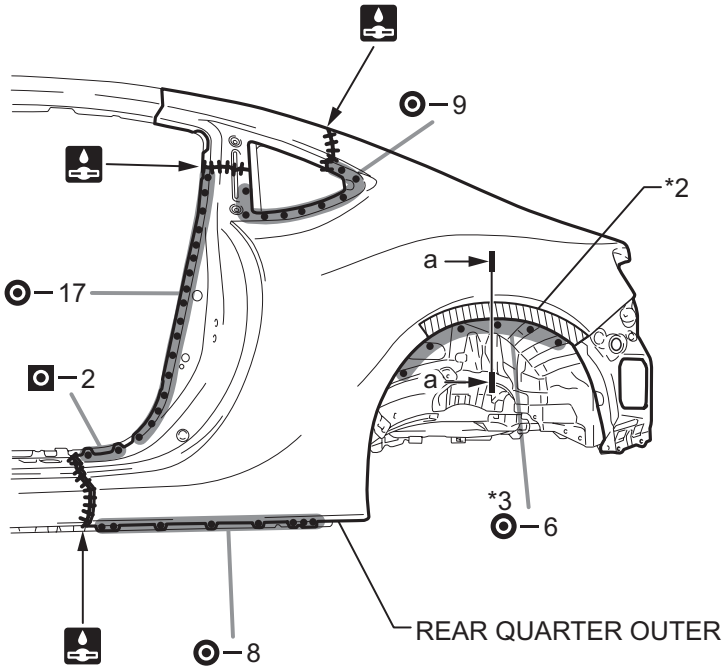
K106312E01

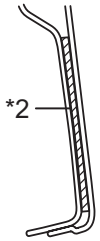
2. INSTALLATION

Symbol meaning	
⊙	Spot Weld
⊡	Plug Weld
M	Plug Weld
I	Plug Weld
	Butt Weld

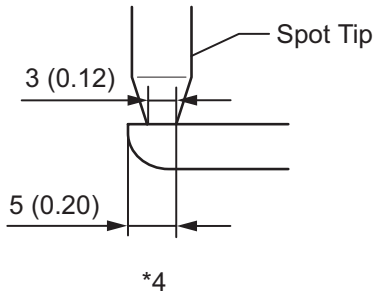
INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. When welding *1, make a hole on a new part for plug welding and weld the panel with the panel behind completely.
4. Apply adhesive (3M™ Automix™ Panel Bonding Adhesive #8115) to the area indicated by *2 in the illustration.
   HINT:
   Apply enough adhesive for the panels to stick to each other.
5. Perform spot-welding on the flange indicated by *3 in the illustration. Modify/cut the spot tip as shown in the illustration*4 so that it can fit in to the narrow flange.
6. After welding, apply body sealer to the corresponding parts. (See the painting / coating)
7. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.





a - a

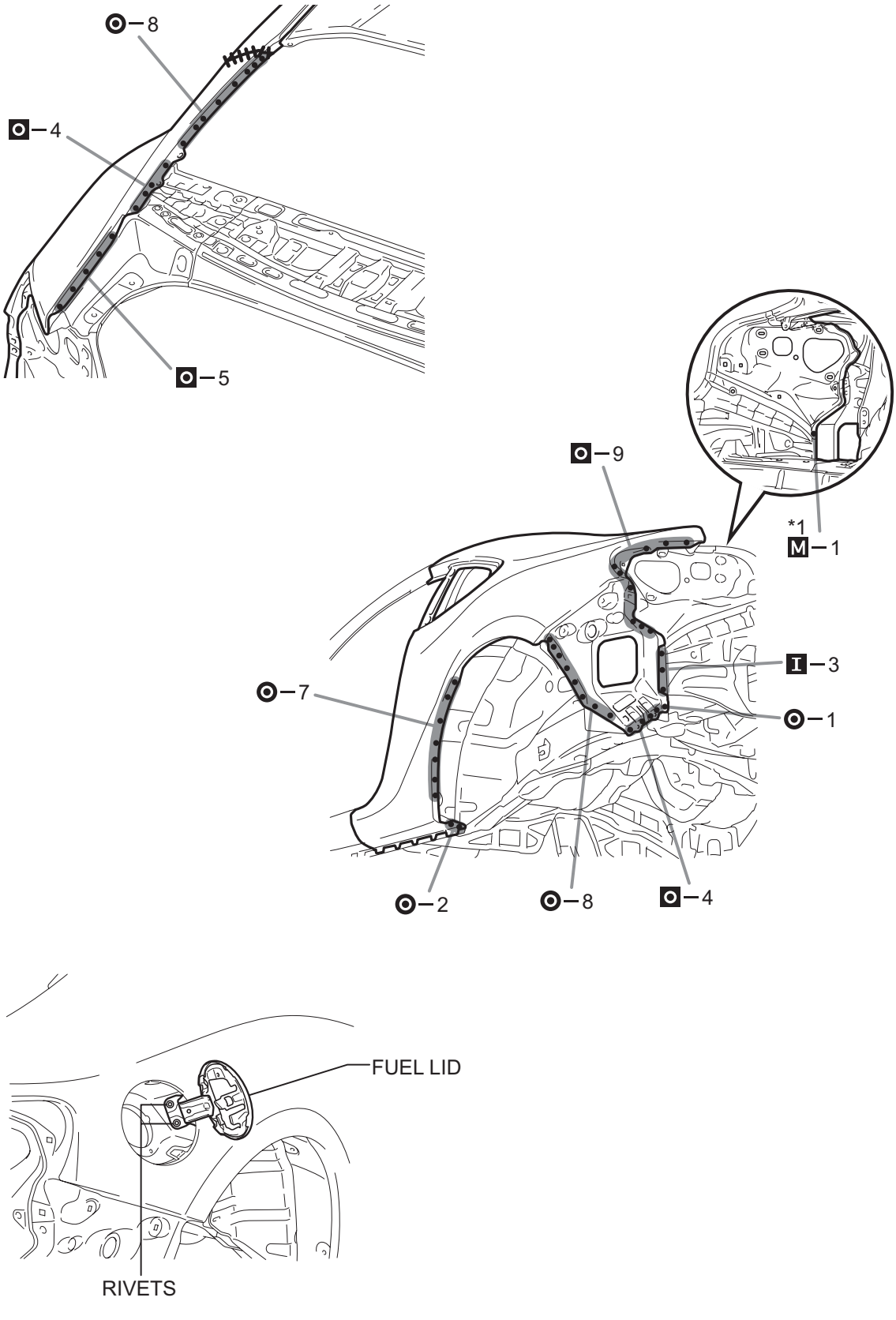


*4

mm (in.)

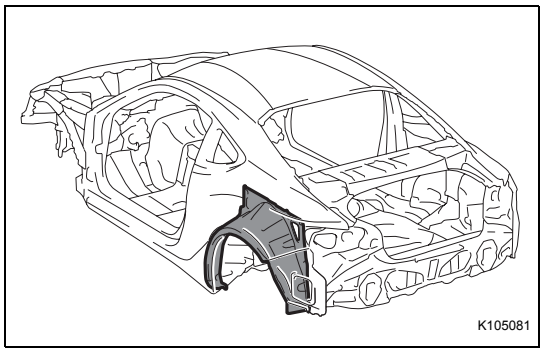
K105600E01

WP



QUARTER WHEEL HOUSING OUTER PANEL

ASSEMBLY REPLACEMENT



With the quarter panel removed.

1. REMOVAL

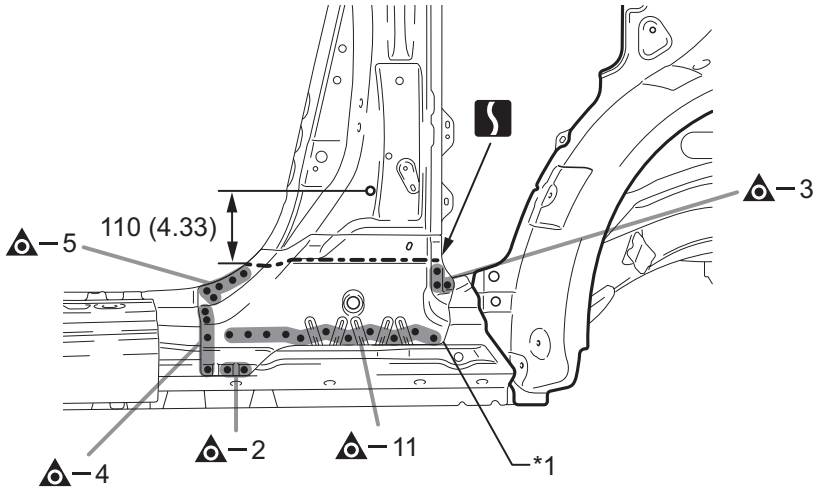
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut and Join Location

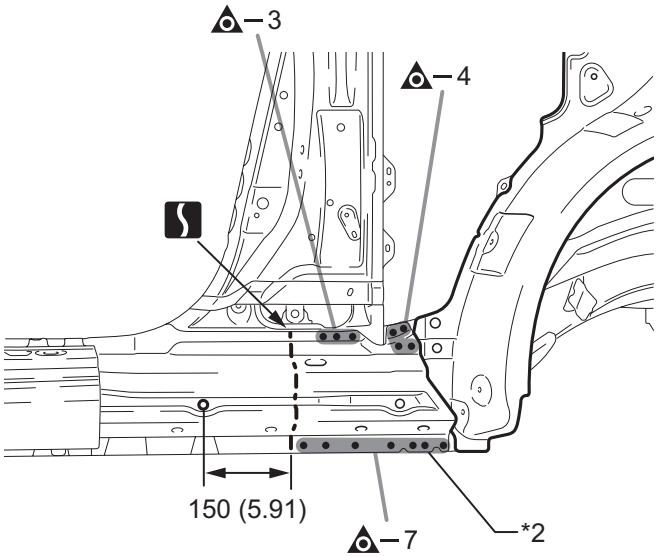
REMOVAL POINT

1. *1 and *2 is reused.
2. After removing the *1, *2 and rear quarter reinforcement inner, remove the rear arch inner.

WP

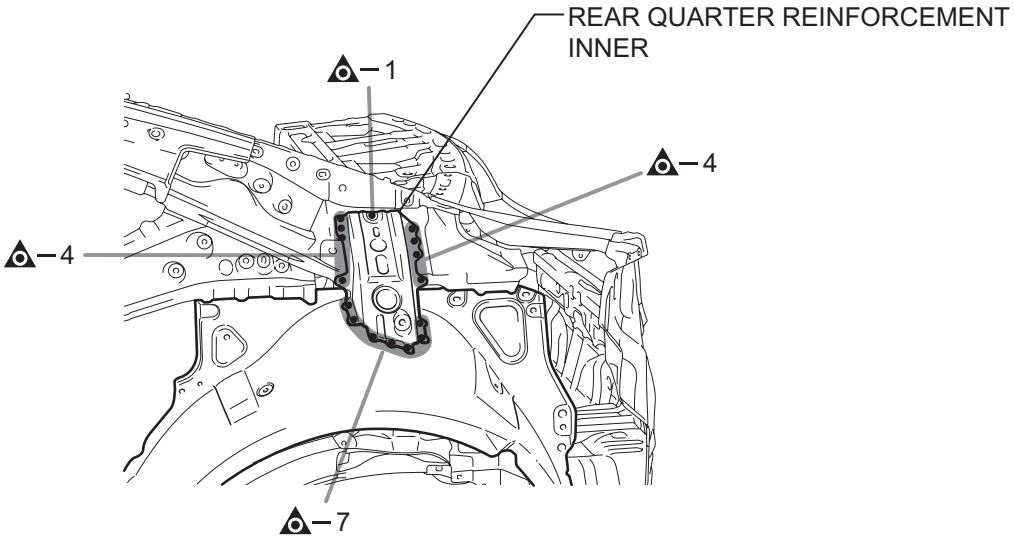
LH:

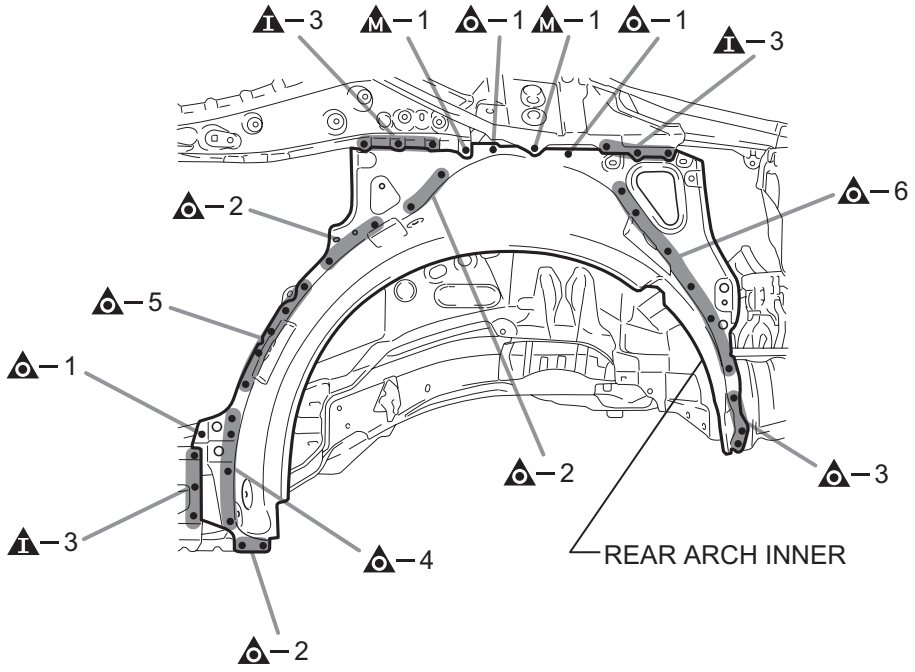




mm (in.)

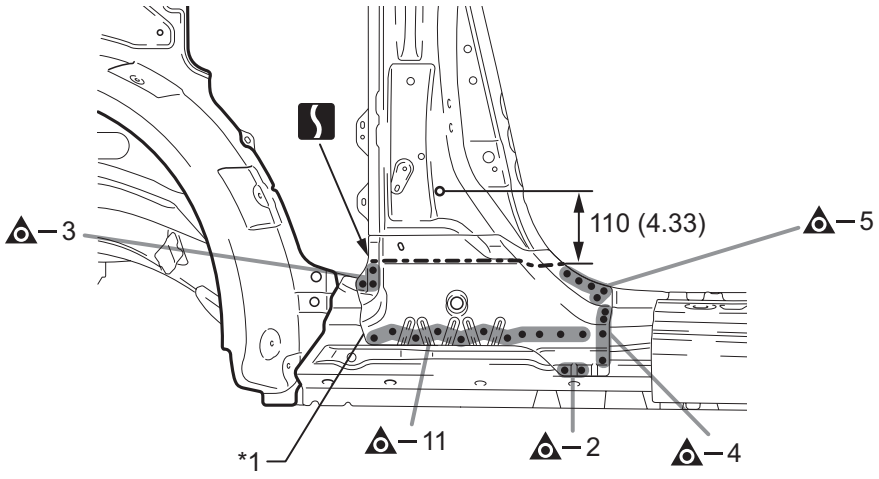
K105602E01

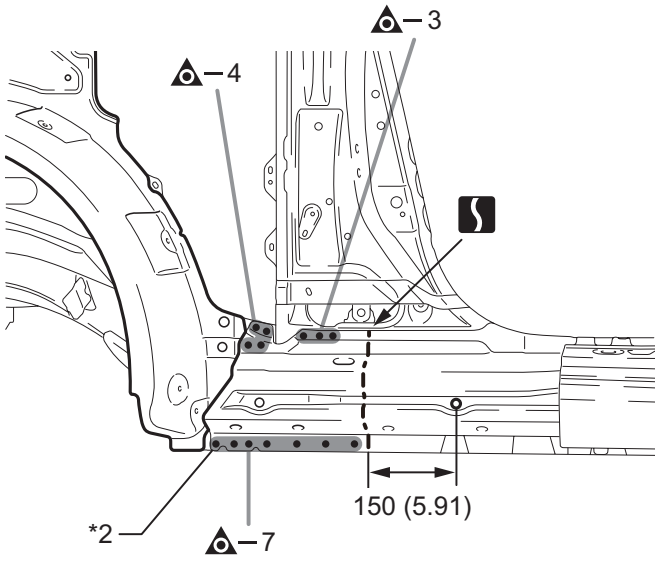

REAR QUARTER REINFORCEMENT INNER
1
4
4
7


I 3
M 1
1
M 1
1
I 3
2
6
5
1
2
3
I 3
4
REAR ARCH INNER
2

K105083E02

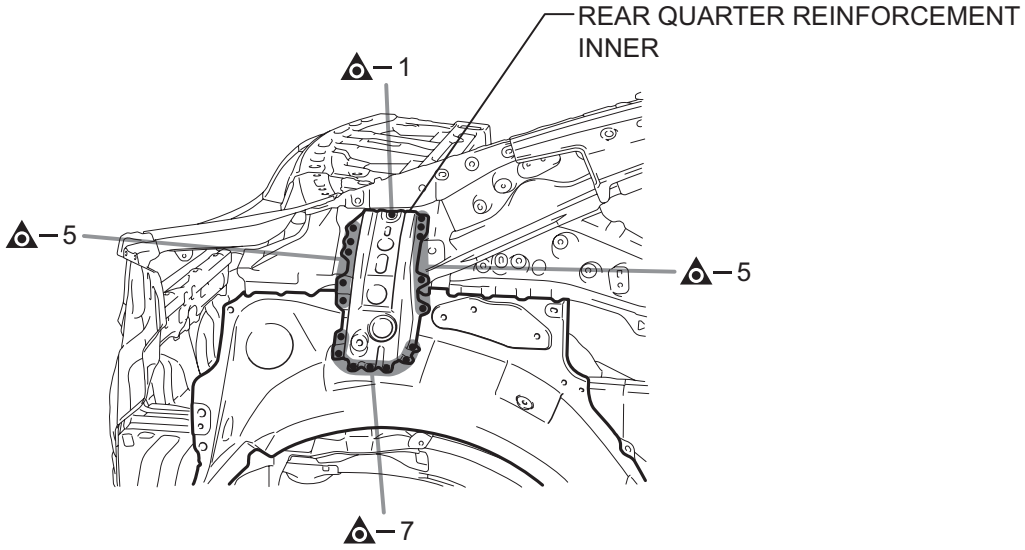
RH:

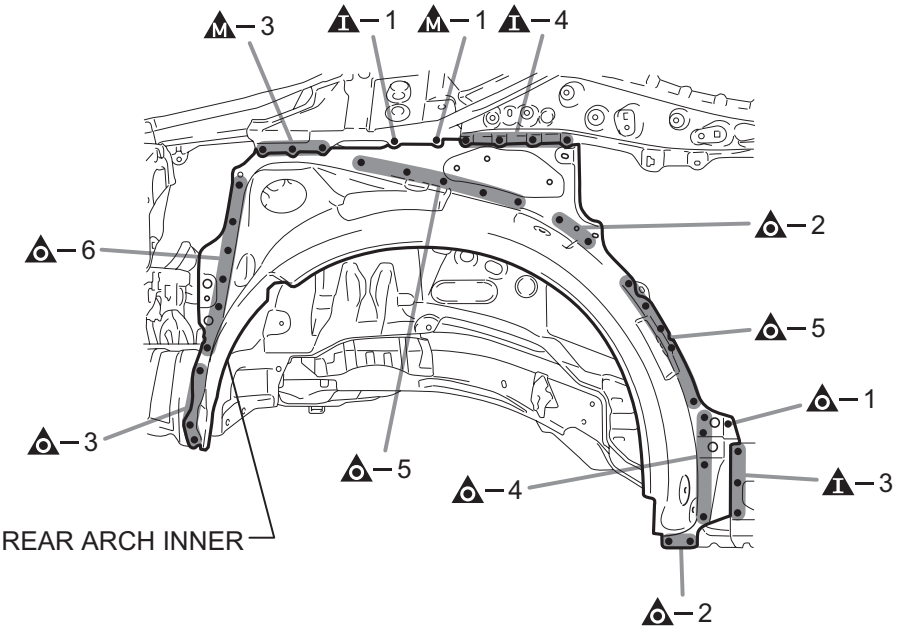




mm (in.)

K105603E01


REAR QUARTER REINFORCEMENT INNER
1
5
5
7


M 3
I 1
M 1
I 4
2
6
5
1
3
5
4
I 3
REAR ARCH INNER
2

K105085E02

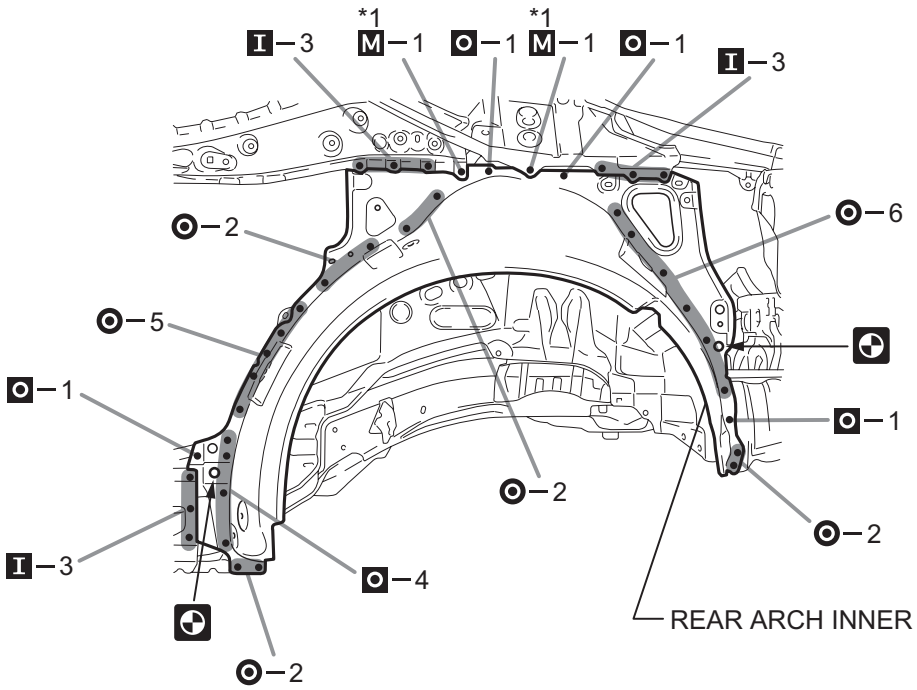
2. INSTALLATION

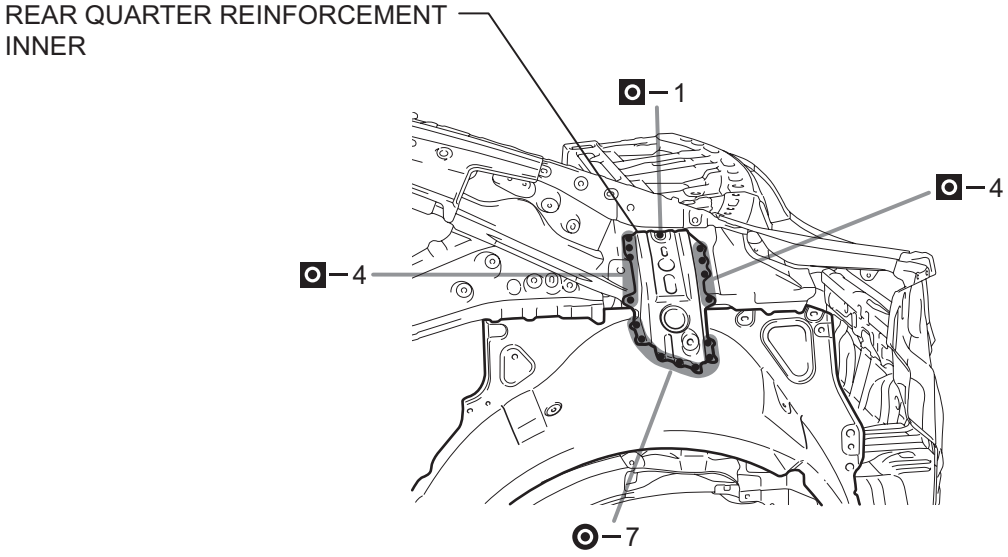
Symbol meaning	
⊙	Spot Weld
⊙	Plug Weld
M	Plug Weld
I	Plug Weld
	Butt Weld
	Assembly Mark

INSTALLATION POINT

1. When welding *1, make a hole on a new part for plug welding and weld the panel with the panel behind completely.
2. For positioning of the new parts, align the installation standard holes of the outer panel and the inner panel.
3. After welding the rear arch inner to the vehicle side, install the rear quarter reinforcement inner, *2 and *3.
4. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
5. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

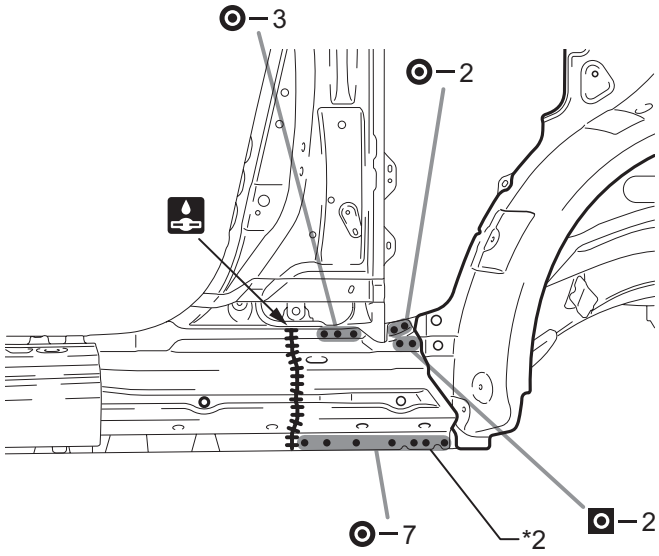
LH:

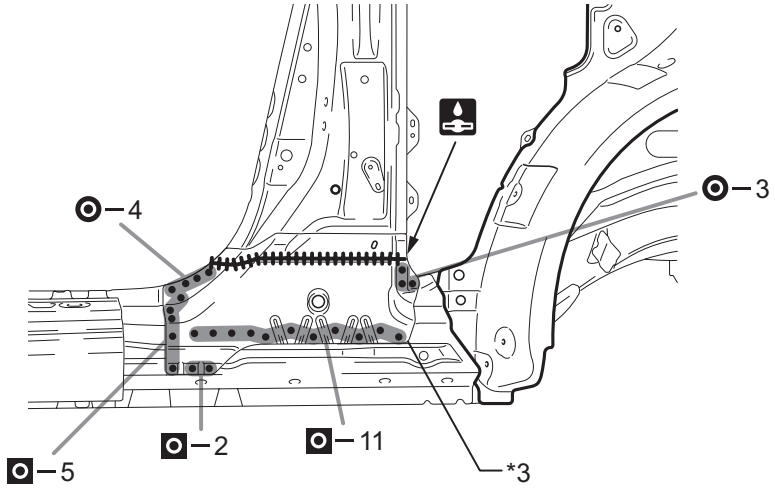




K105604E01

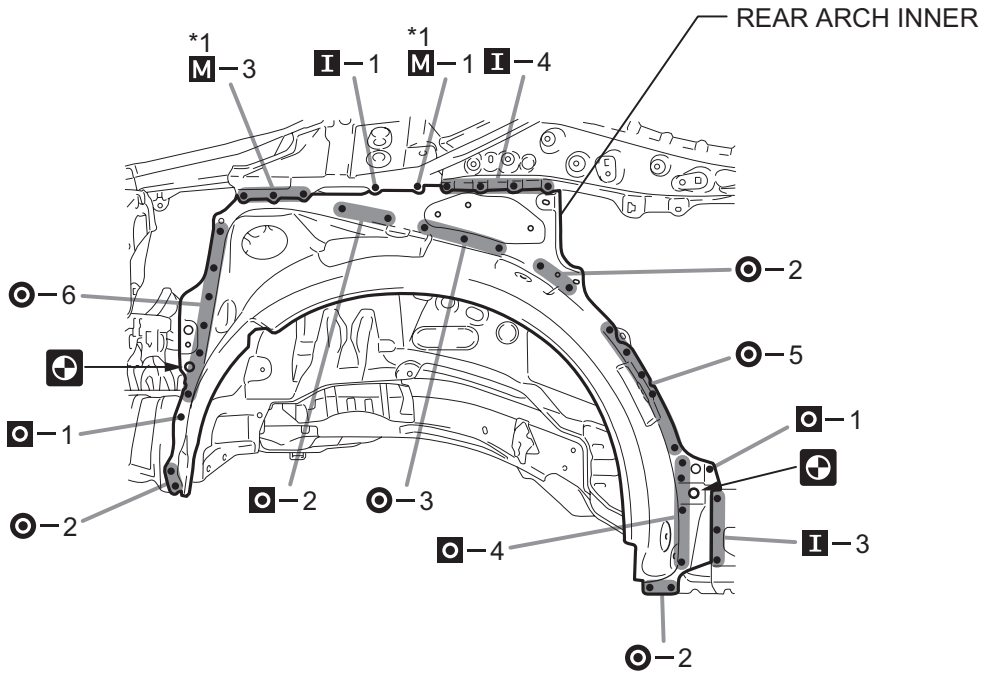
WP

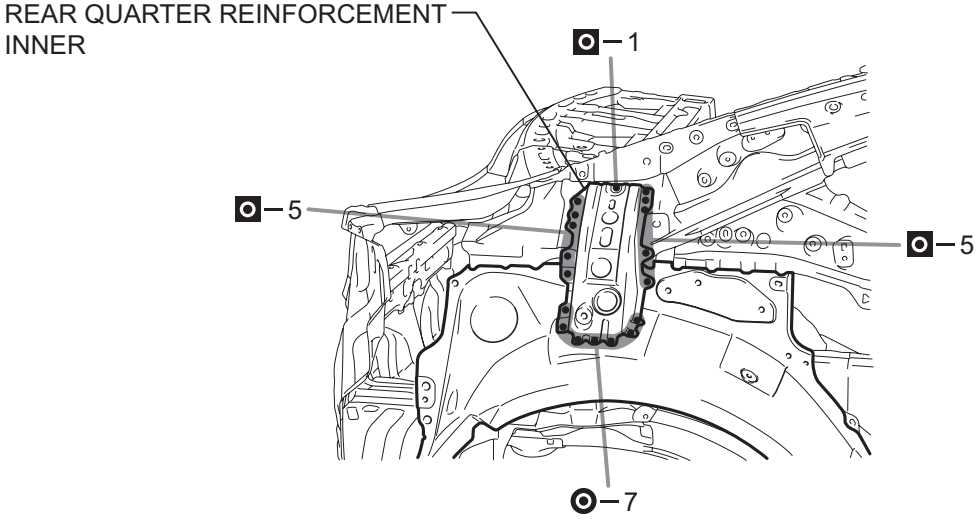




K105605E01

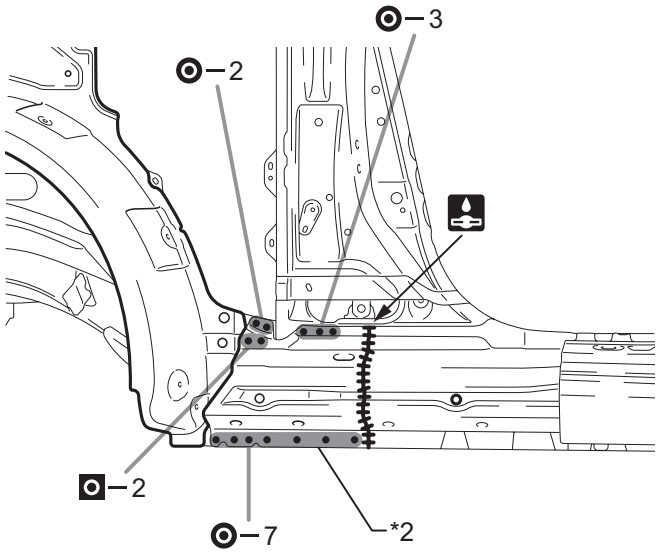
RH:

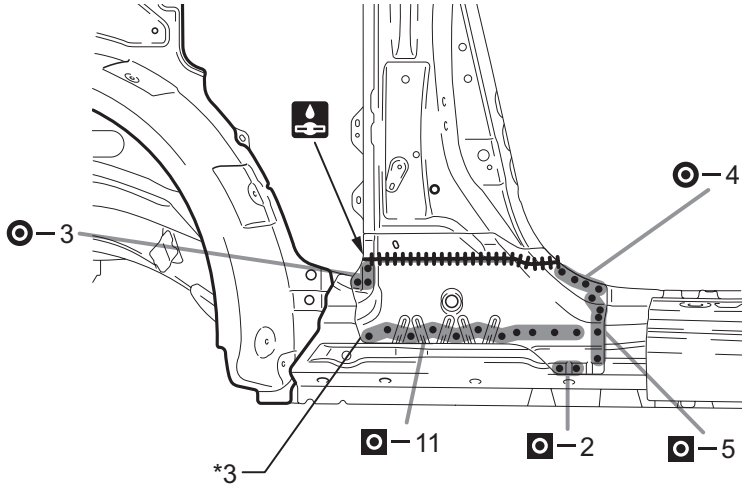




K105606E01

WP

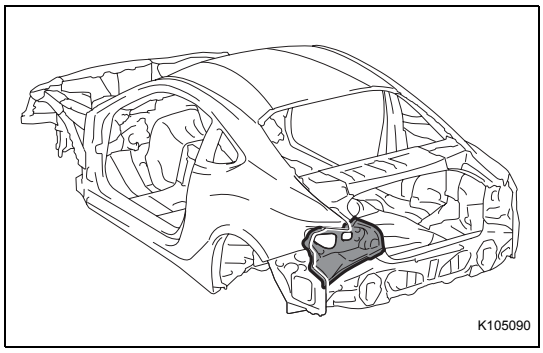




K105607E01

QUARTER PANEL END HOUSING

ASSEMBLY REPLACEMENT



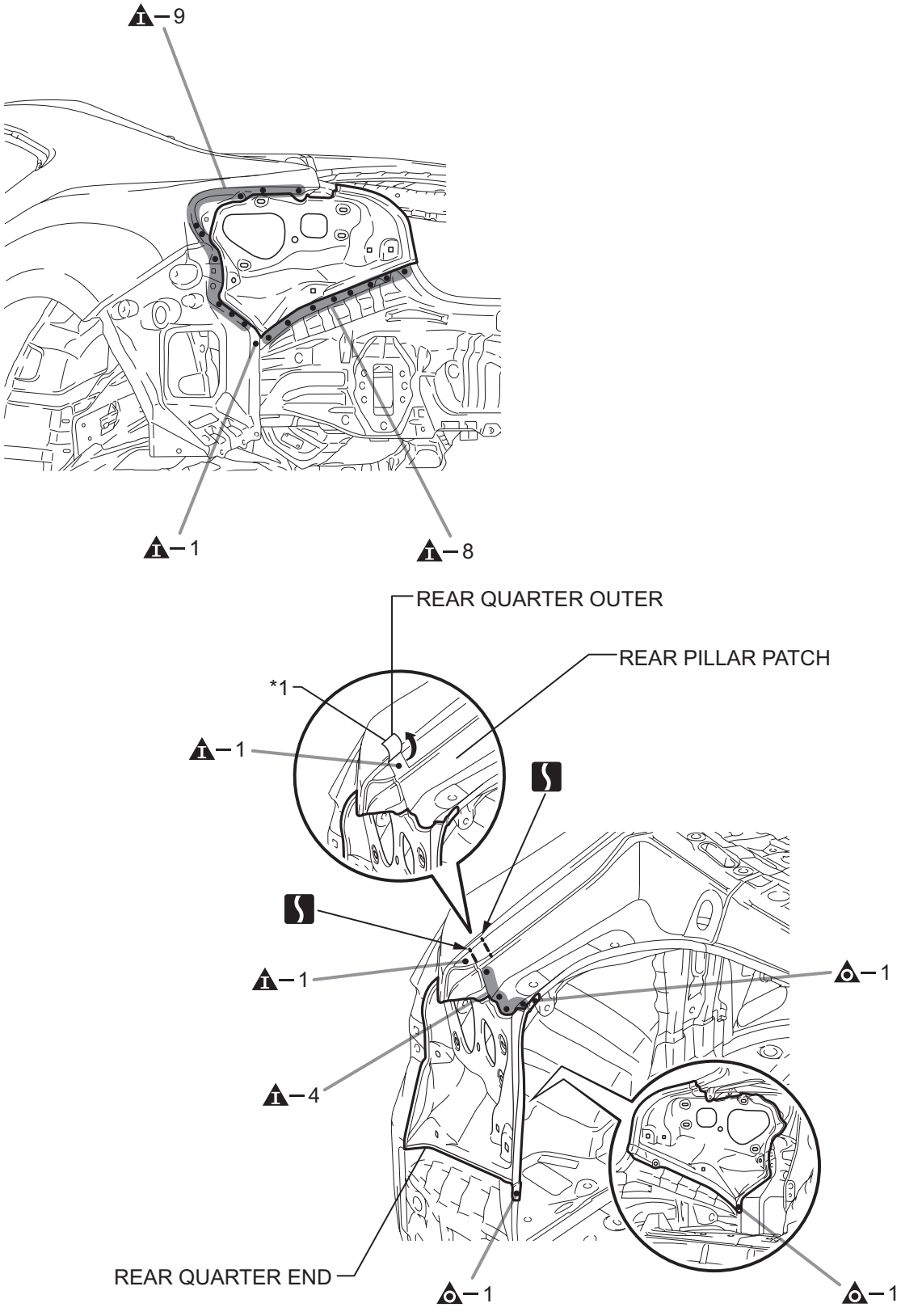
1. REMOVAL

Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Cut with Disc Sander etc.

REMOVAL POINT

1. Cut the rear quarter outer and fold it upward as shown in *1. Then cut through the welded area of the rear pillar patch, and remove the rear quarter end.

WP



K105091E02

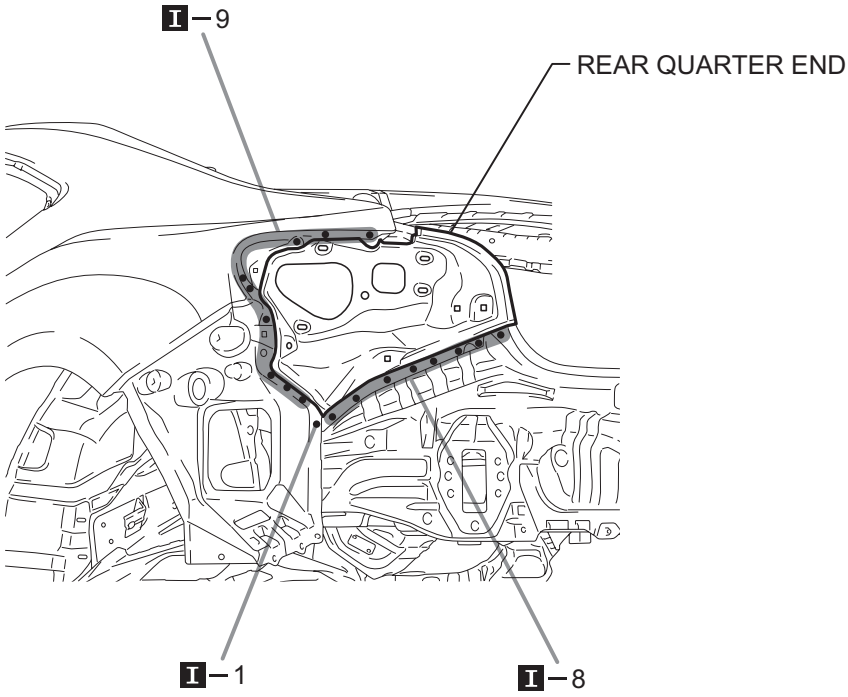
2. INSTALLATION

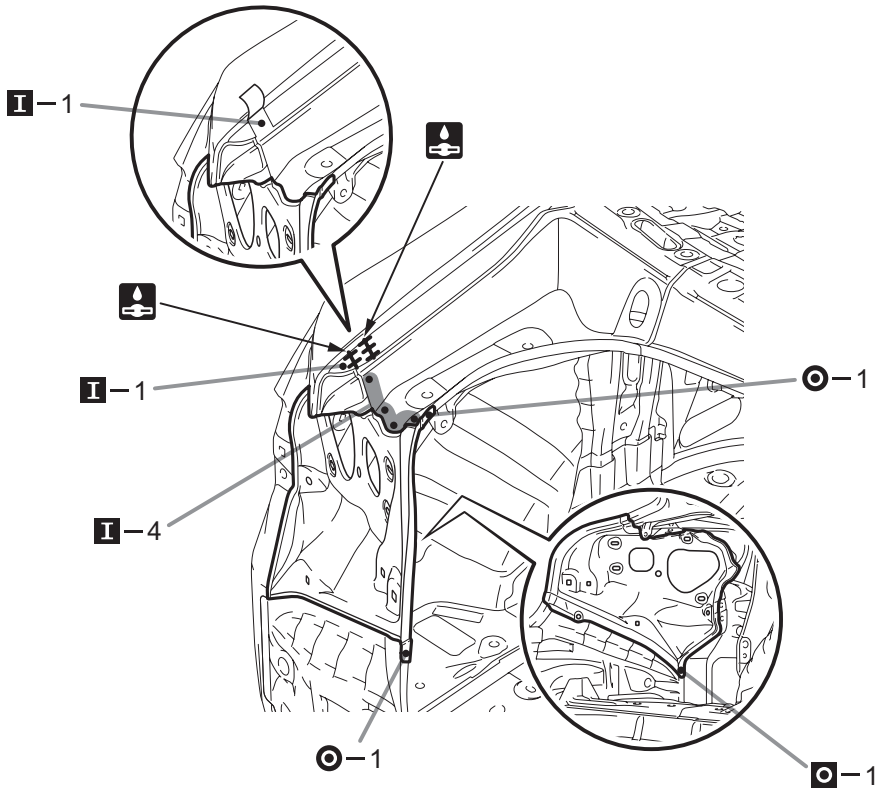
Symbol meaning	
	Spot Weld
	Plug Weld
	Plug Weld
	Butt Weld

INSTALLATION POINT

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

WP

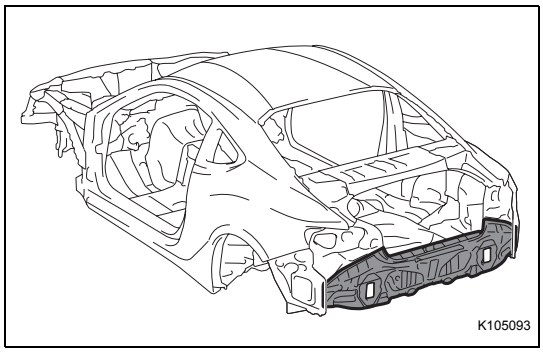




K105092E02

BODY LOWER BACK PANEL

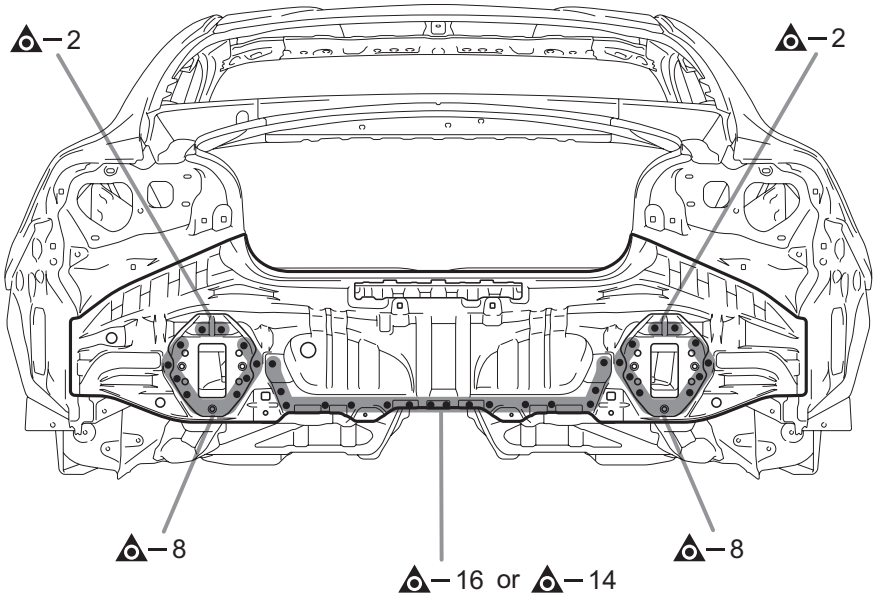
ASSEMBLY REPLACEMENT



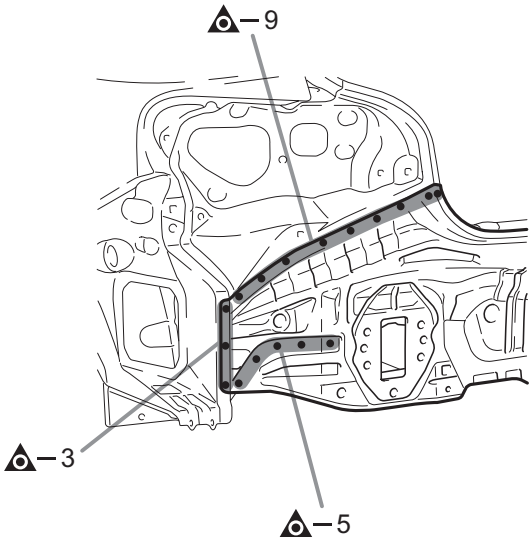
1. REMOVAL

Symbol meaning	
	Remove Weld Points

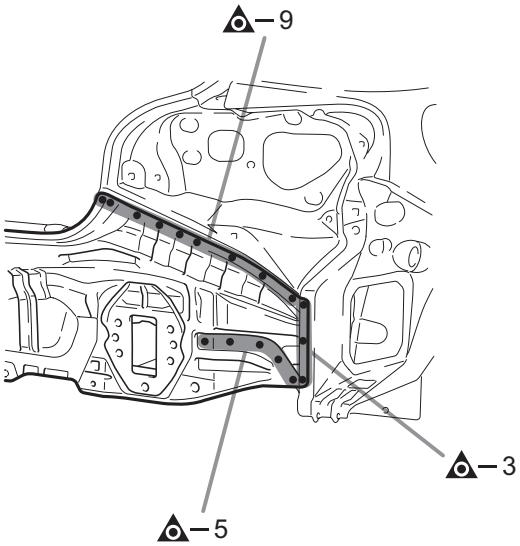
WP



LH Side:



RH Side:



K105094E02

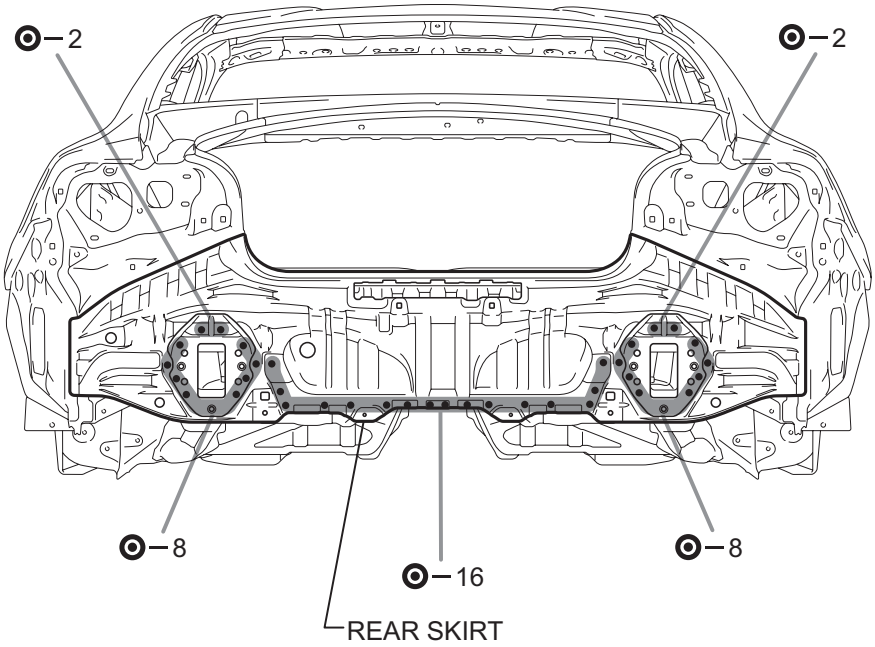
2. INSTALLATION

Symbol meaning	
⊙	Spot Weld

INSTALLATION POINT

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

WP



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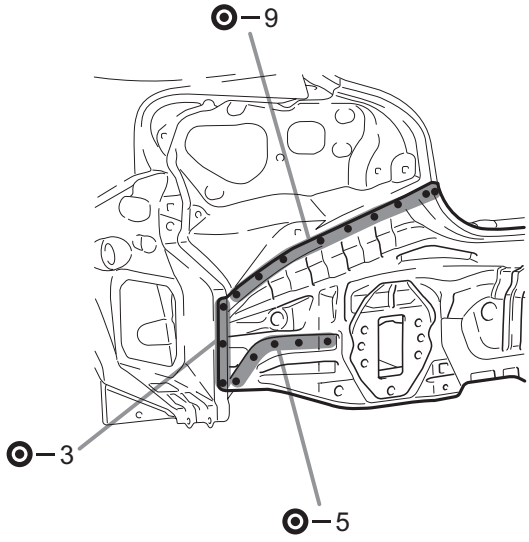
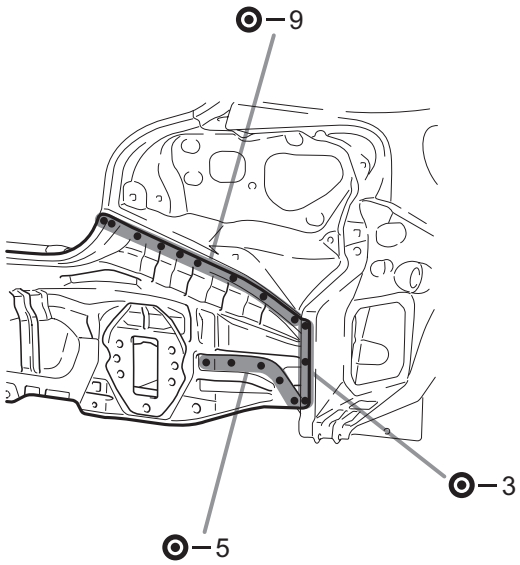


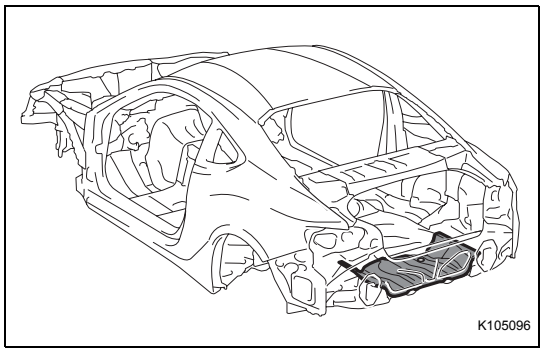
RH Side:



K105095E02

REAR FLOOR PAN

CUT AND JOIN REPLACEMENT SECTIONS



With the body lower back panel removed.

1. REMOVAL

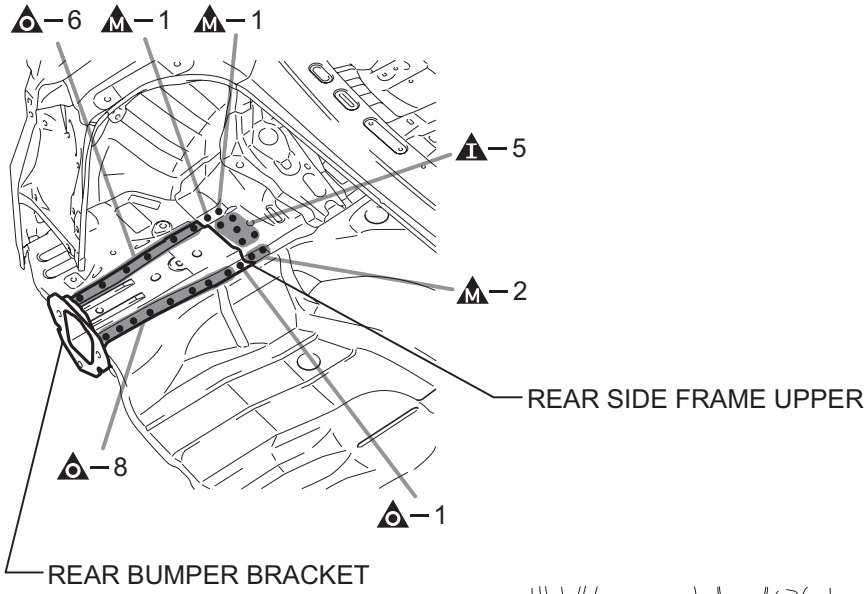
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut with Disc Sander etc.
	Cut Location

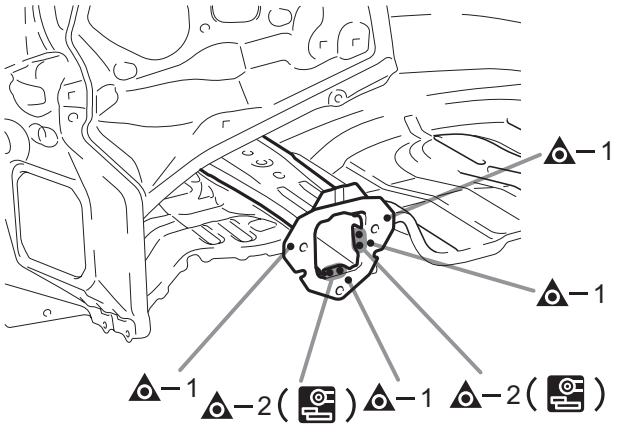
REMOVAL POINT

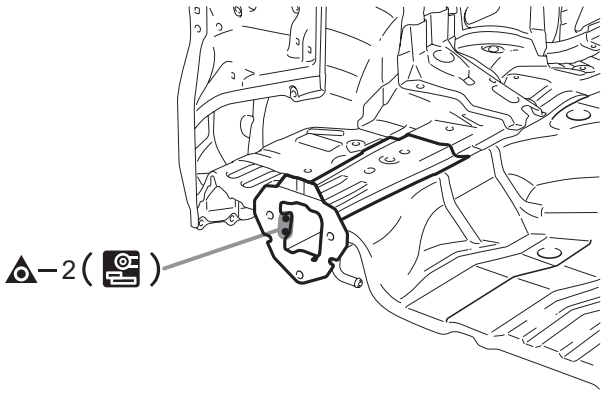
1. After removing the rear side frame upper and rear bumper bracket, remove the rear floor pan rear.

WP

LH:

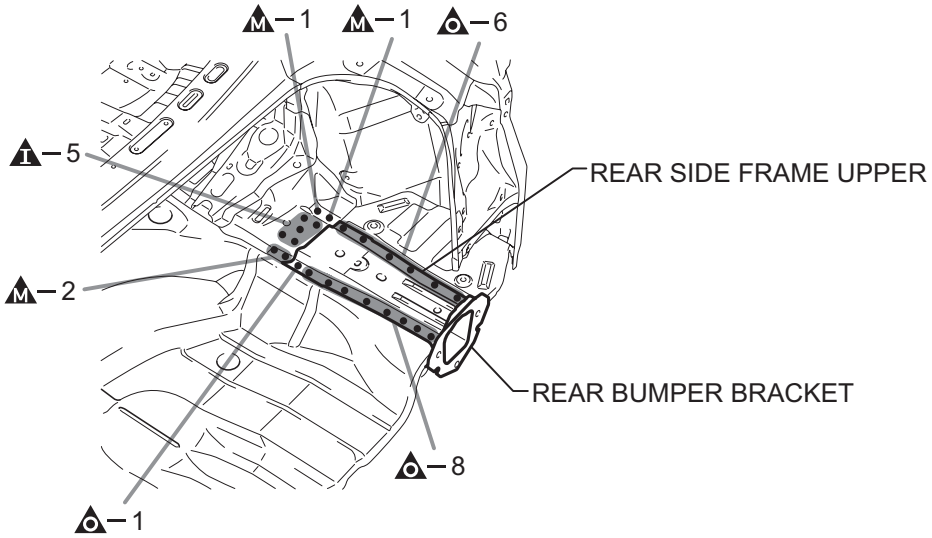


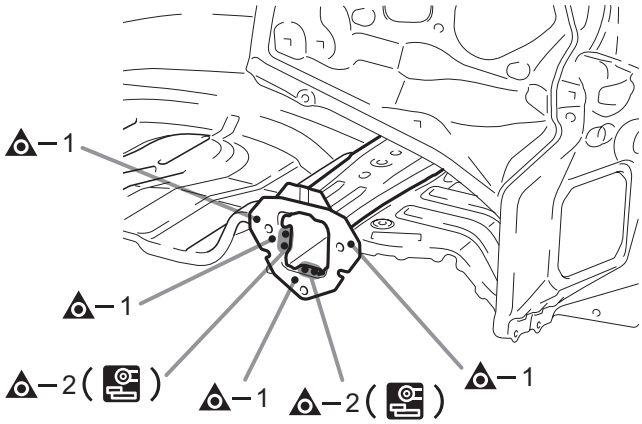


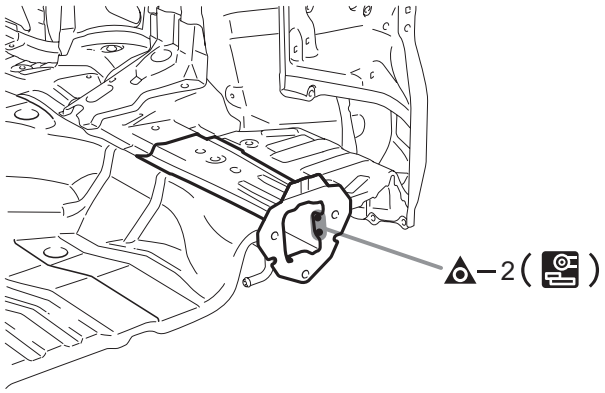


K105097E03

RH:

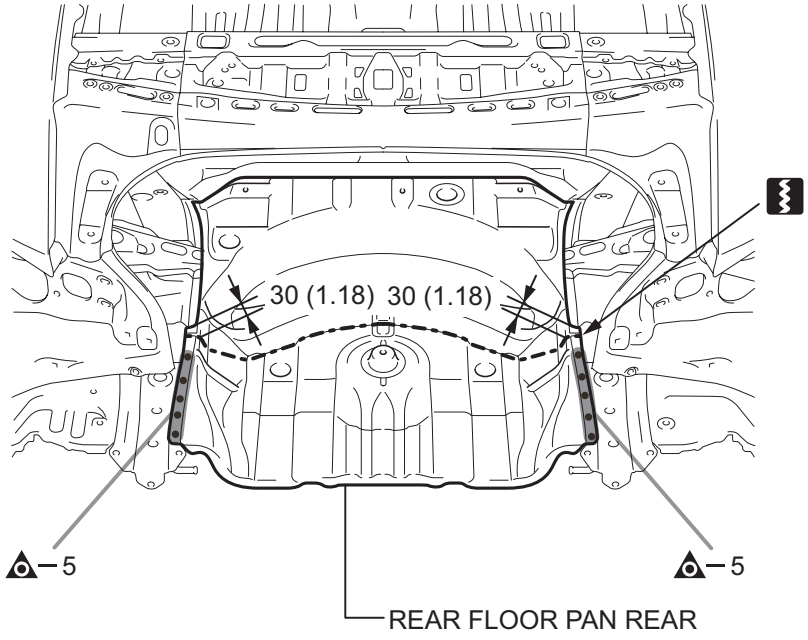






K105098E02

WP



mm (in.)

K105099E02

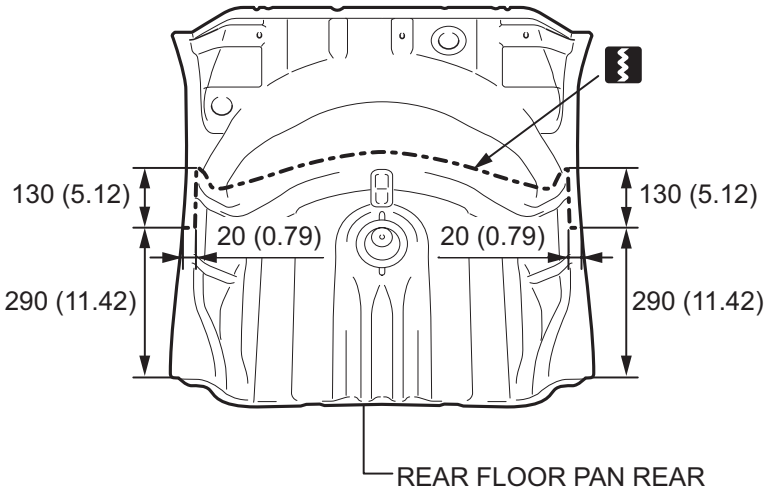
2. INSTALLATION

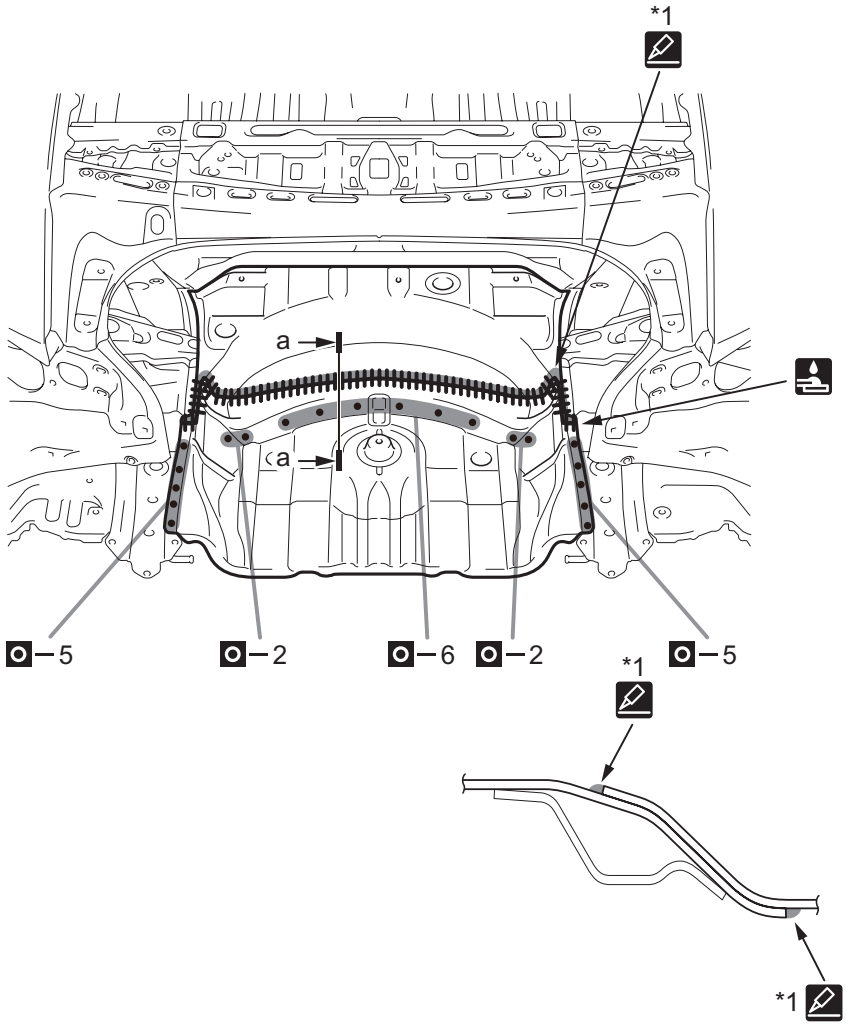
Symbol meaning	
	Spot Weld
	Plug Weld
	Plug Weld
	Plug Weld
	Cut Location
	Fillet Weld
	Body Sealer

INSTALLATION POINT

1. Cut the new part so that it overlaps the previous cut location.
2. When welding *2, make a hole on a new part for plug welding and weld the panel with the panel behind completely.
3. *1: Perform plug-welding in the area where the panel are overlapped. Apply body sealer to both sides of each panel.
   HINT:
   - Confirm that the panels are securely welded together.
   - Apply body sealer in an even, continuous bead.
4. After welding the rear floor pan rear to the vehicle side, install the rear side frame upper and rear bumper bracket.
5. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
6. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

WP



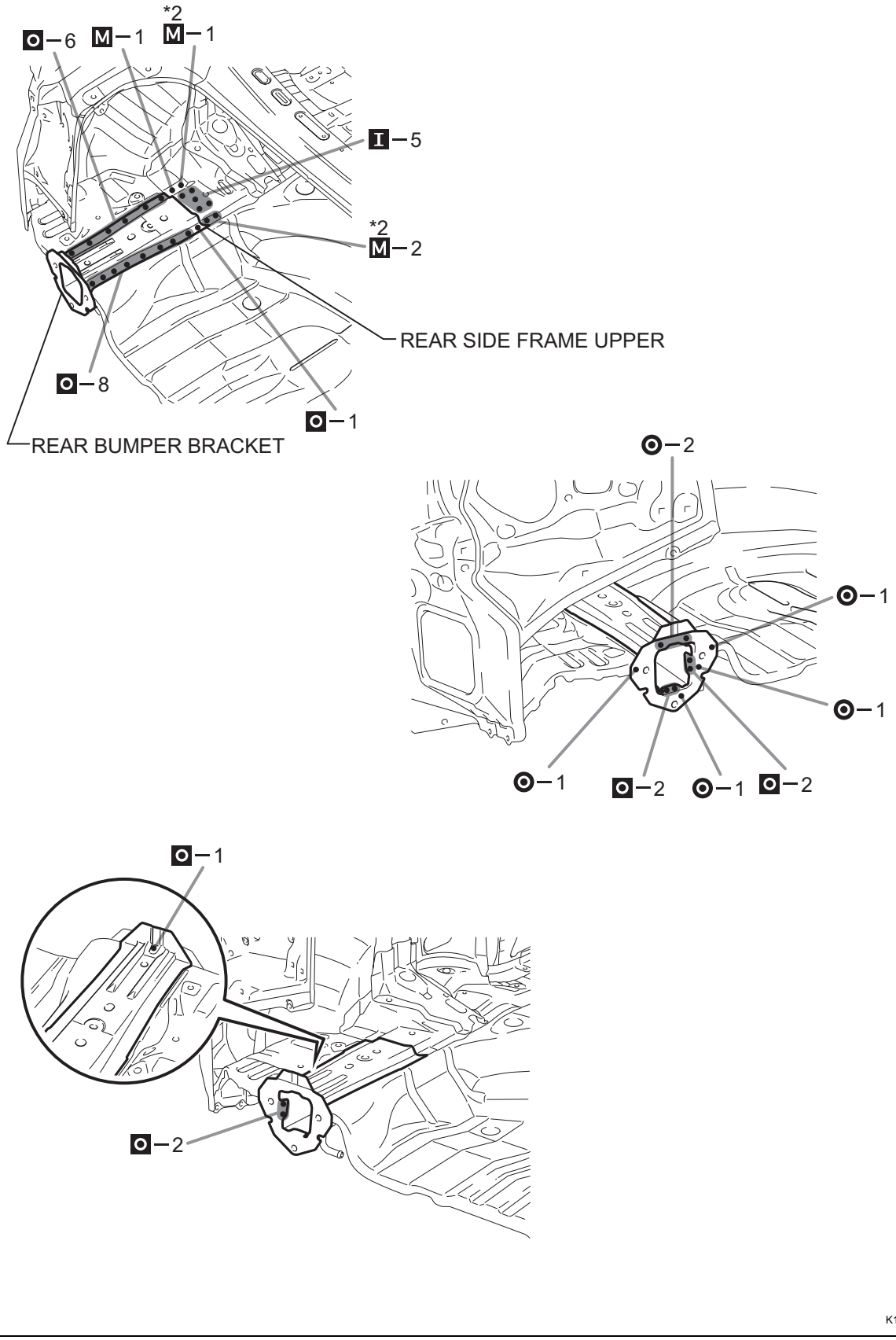


mm (in.)

a - a

K105100E02

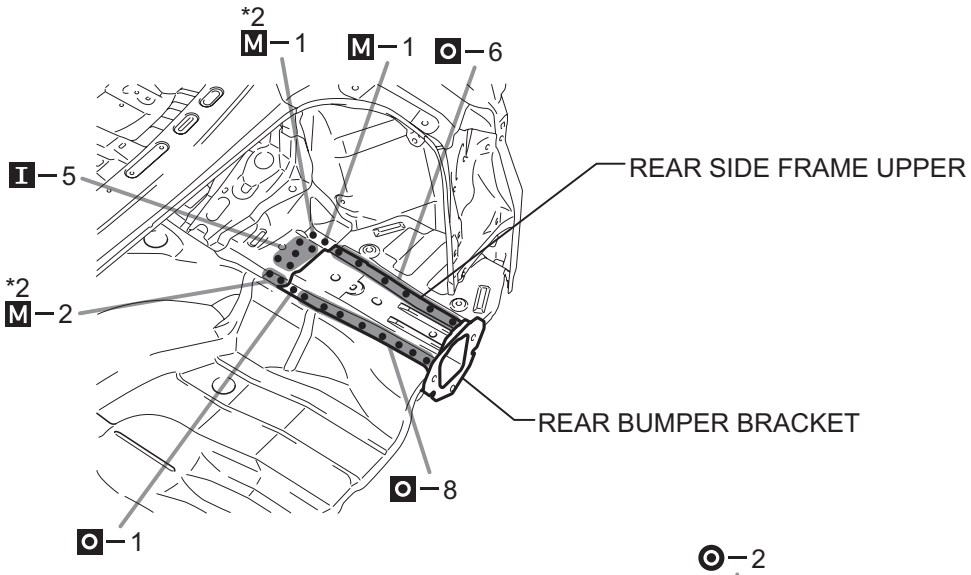
LH:

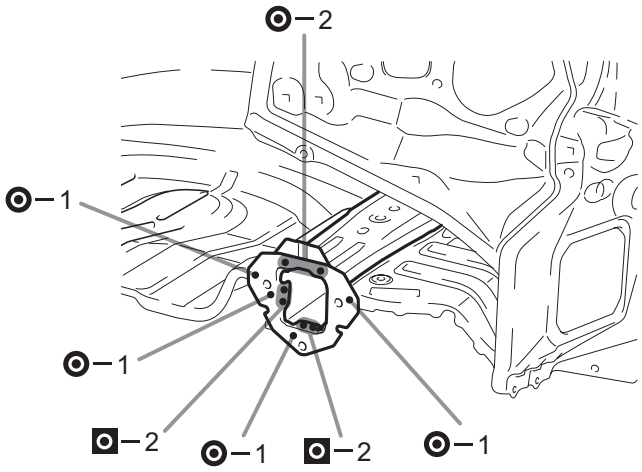


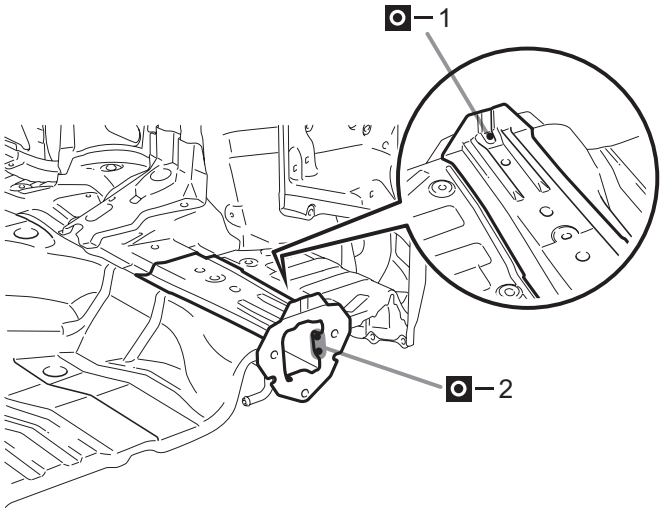
K105101E03

WP

RH:



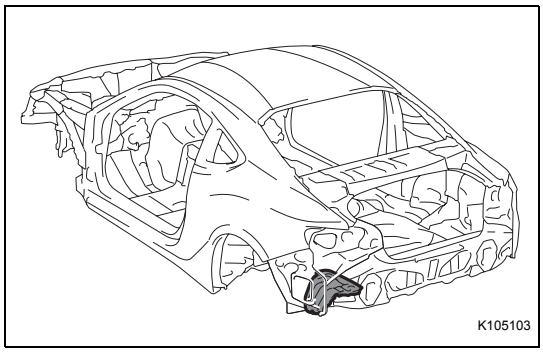




K105102E03

REAR FLOOR SIDE PANEL

ASSEMBLY REPLACEMENT



With the body lower back panel removed.

1. REMOVAL

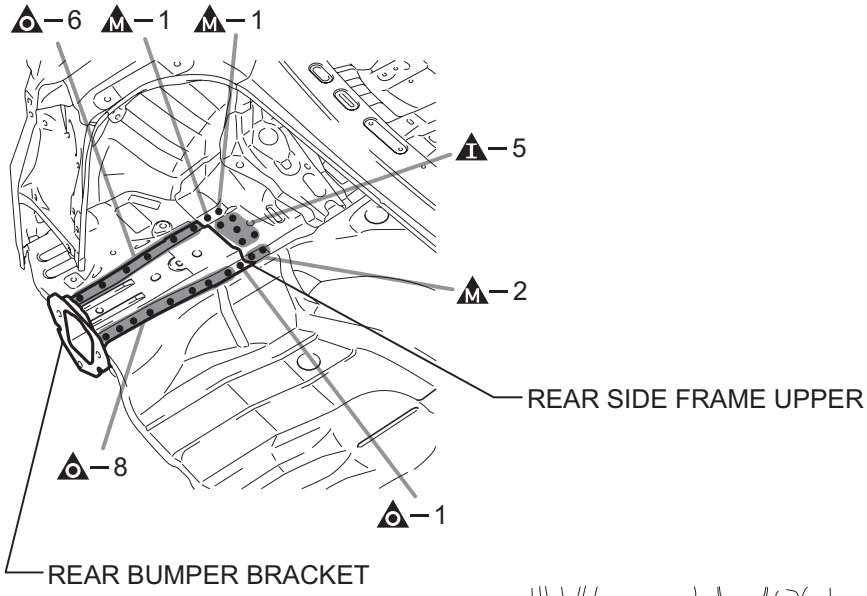
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut with Disc Sander etc.

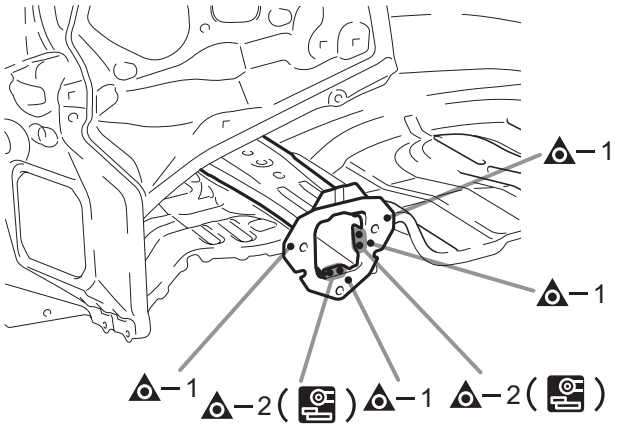
REMOVAL POINT

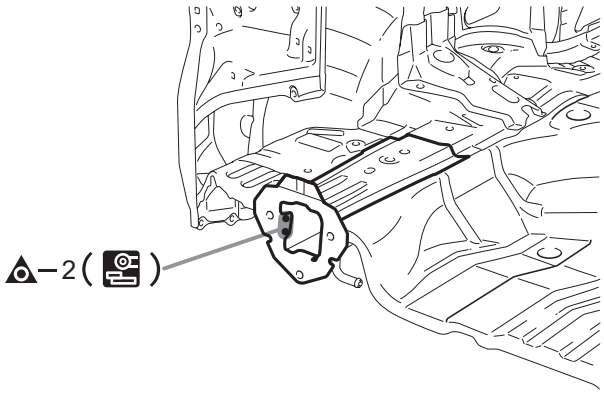
1. After removing the rear side frame upper and rear bumper bracket, remove the rear floor side.

WP

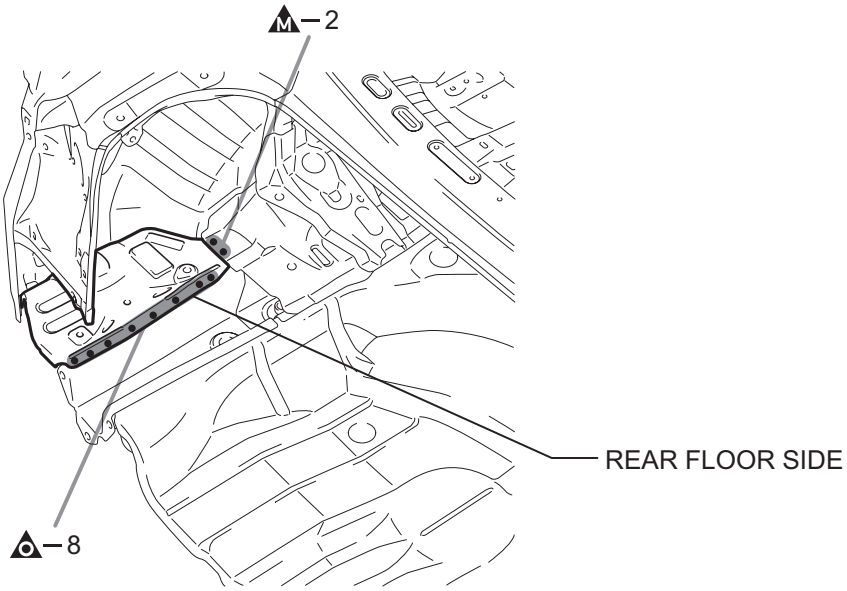
LH:

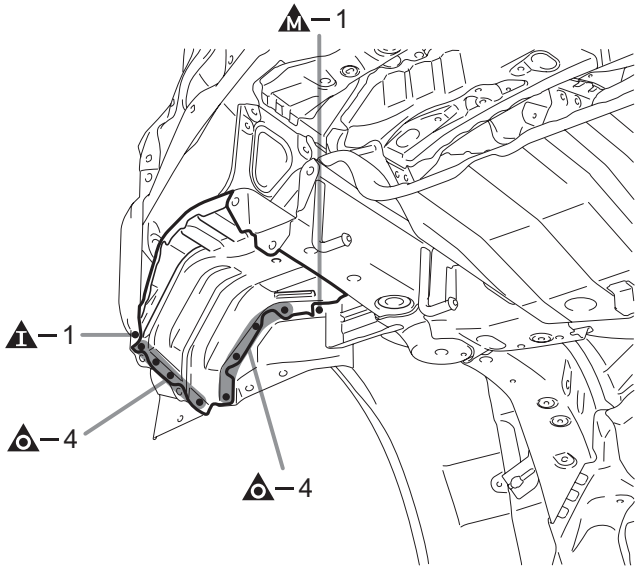






K105097E03

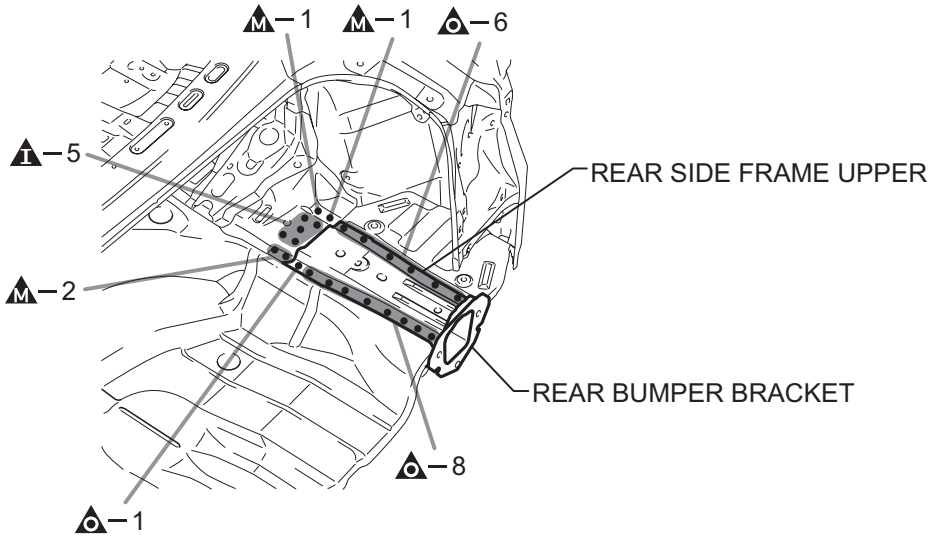


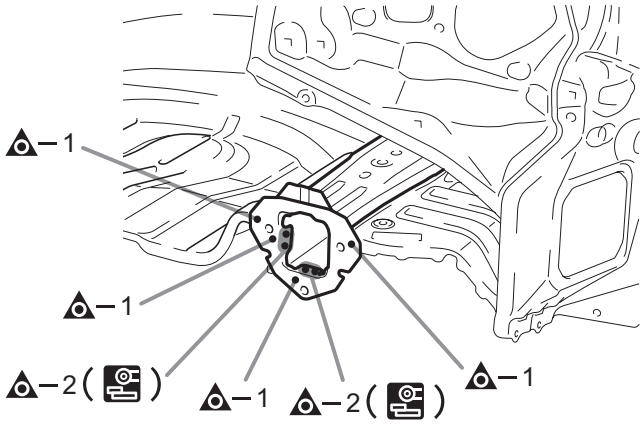


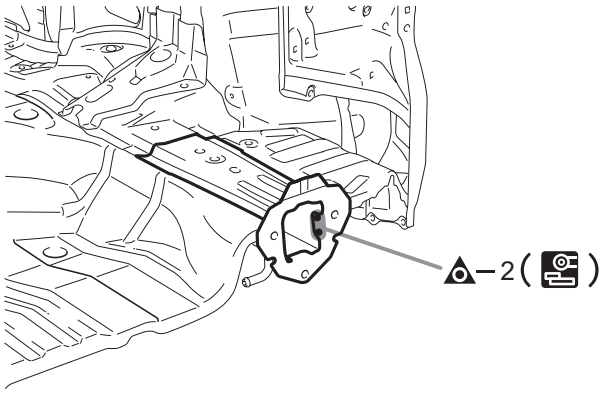
K105106E02

WP

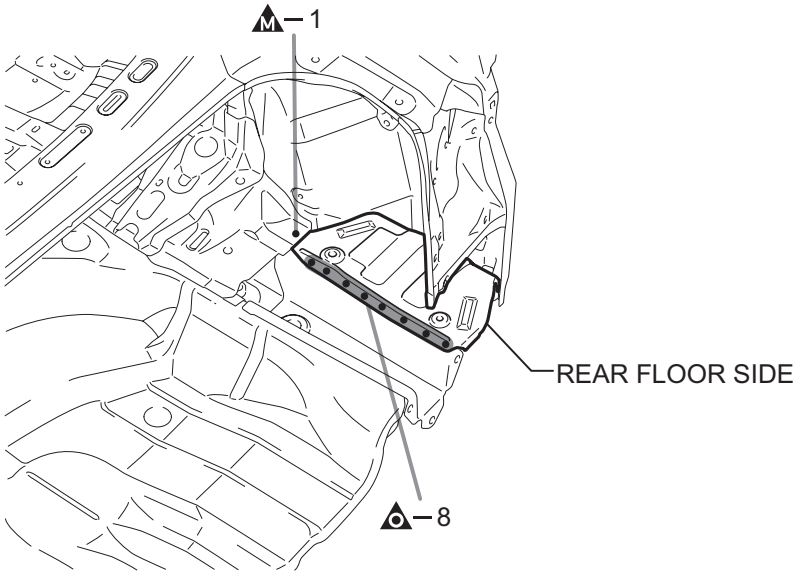
RH:

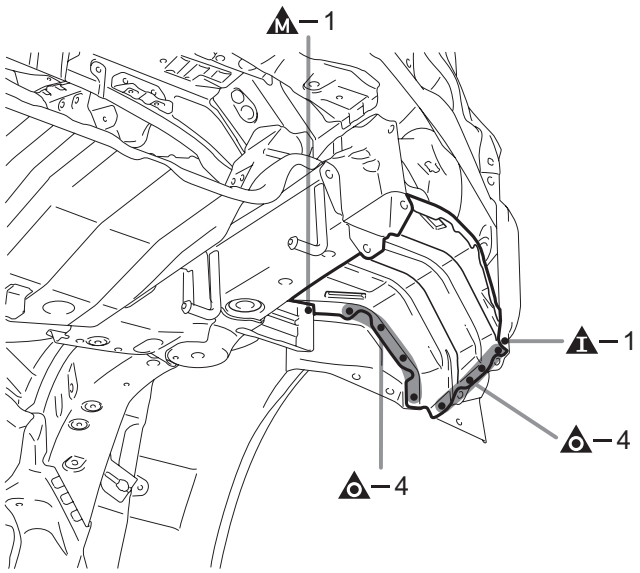






K105098E02





K105107E02

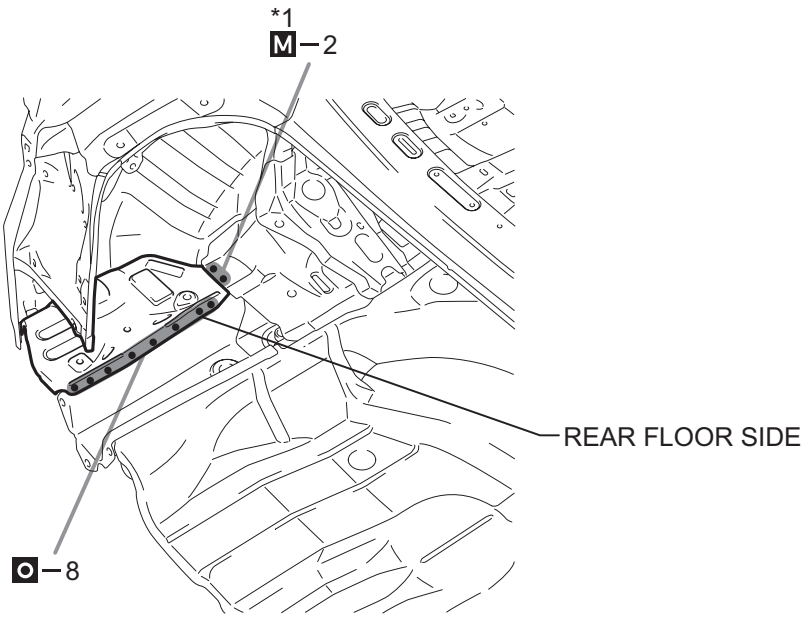
2. INSTALLATION

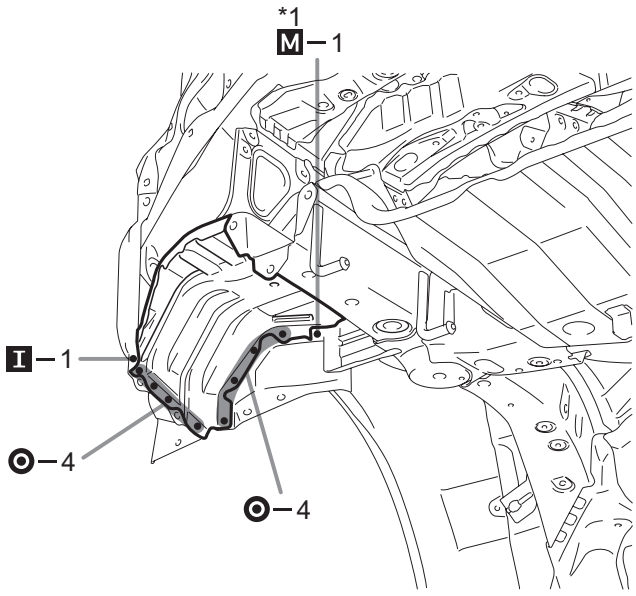
Symbol meaning	
⊙	Spot Weld
O	Plug Weld
M	Plug Weld
I	Plug Weld

INSTALLATION POINT

1. When welding *1, make a hole on a new part for plug welding and weld the panel with the panel behind completely.
2. After welding the rear floor side to the vehicle side, install the rear side frame upper and rear bumper bracket.
3. After welding, apply body sealer to the corresponding parts. (See the painting / coating)
4. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

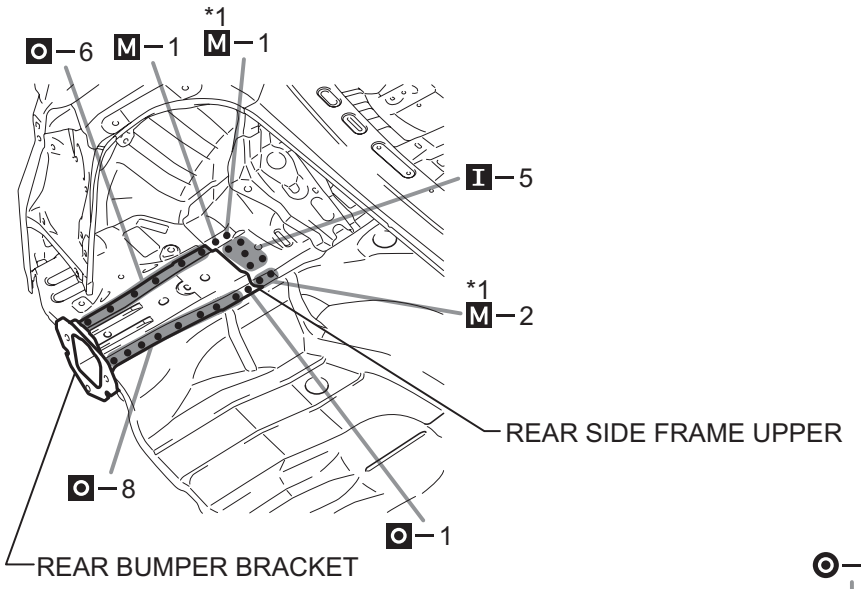
LH:

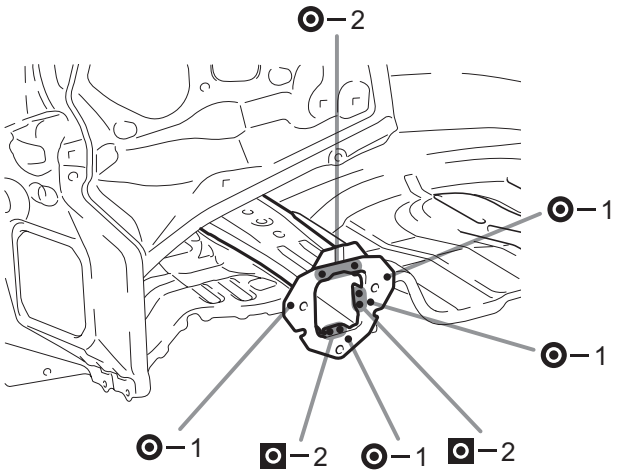


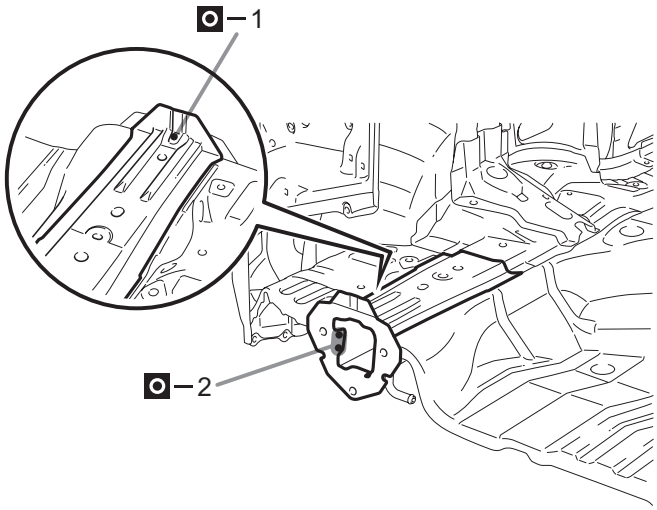


K105108E02

WP

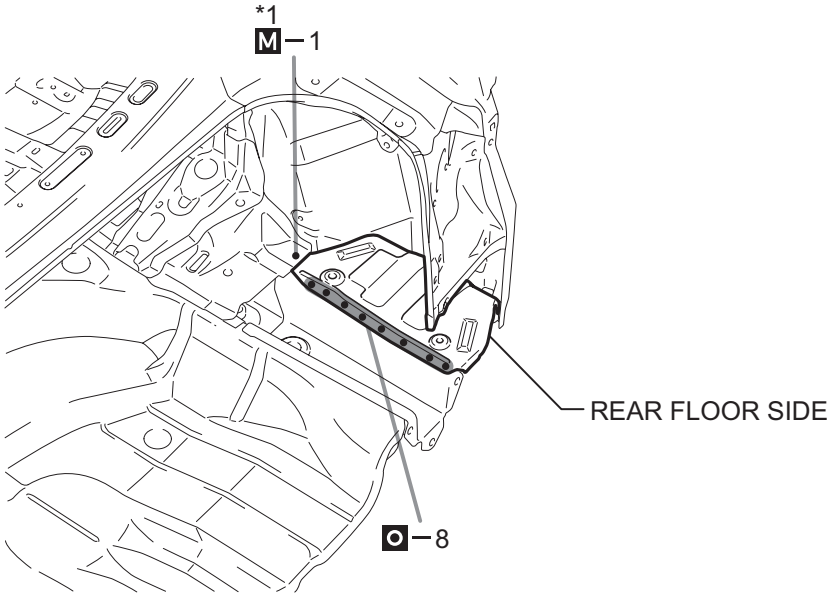


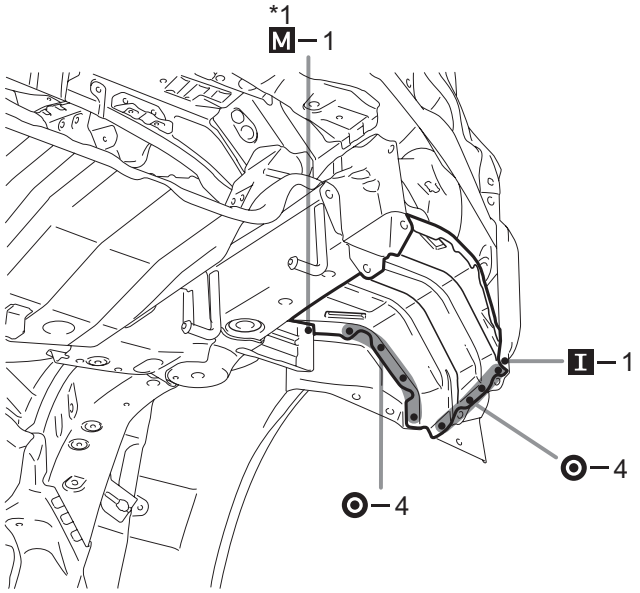




K105101E04

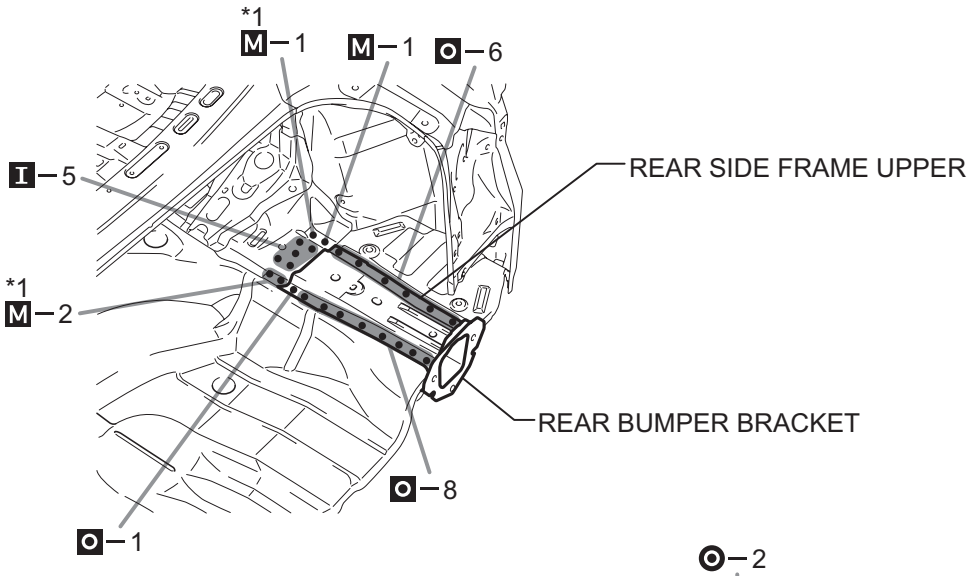
RH:

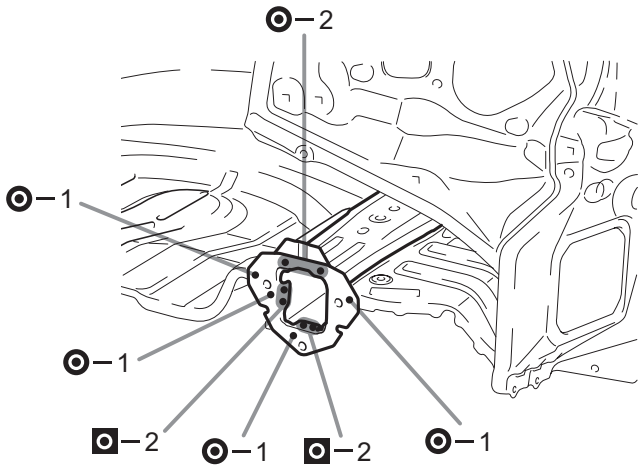


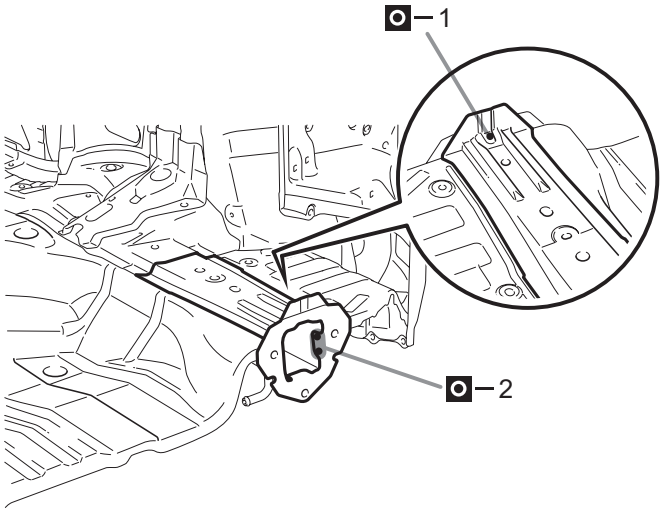


K105109E02

WP



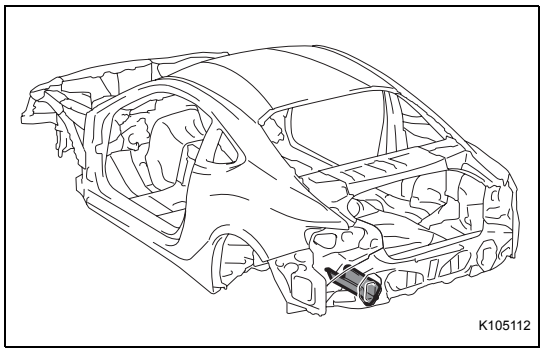




K105102E04

REAR FLOOR SIDE MEMBER

ASSEMBLY REPLACEMENT



With the body lower back panel removed.

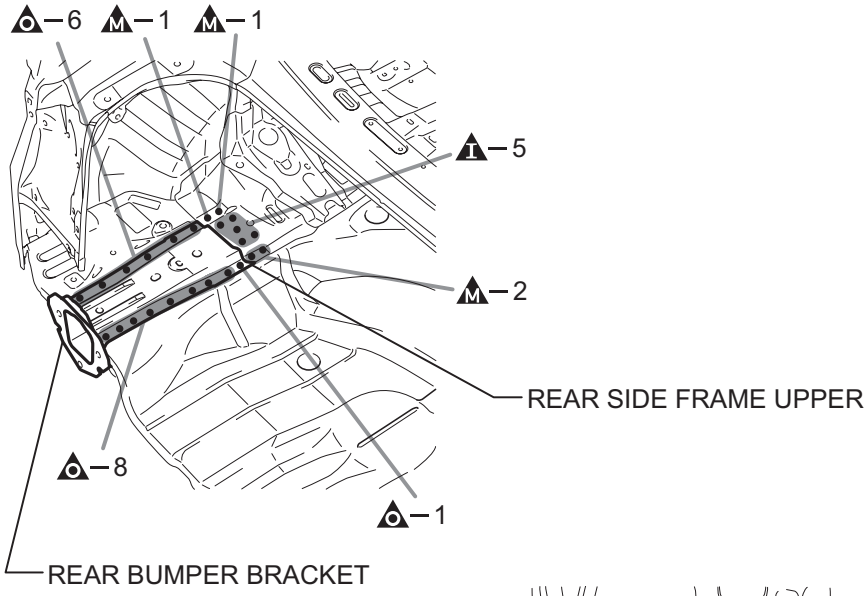
1. REMOVAL

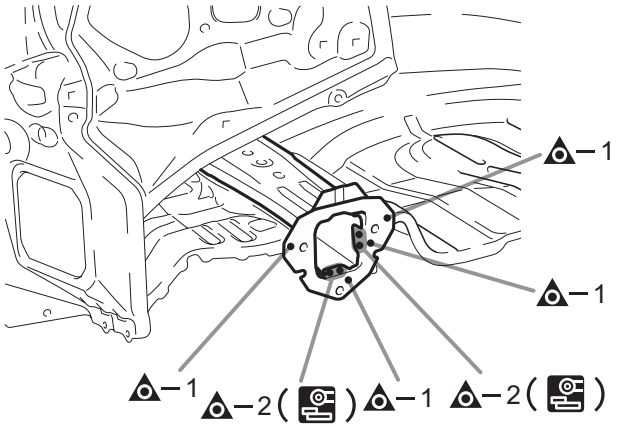
Symbol meaning	
	Remove Weld Points
	Remove Weld Points
	Remove Weld Points
	Cut with Disc Sander etc.

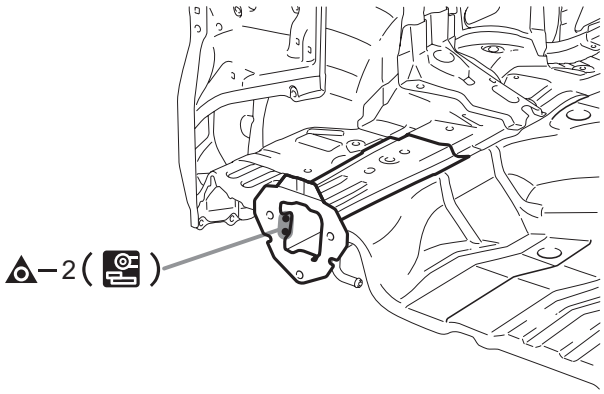
REMOVAL POINT

1. After removing the rear side frame upper and rear bumper bracket, remove the rear floor frame rear.

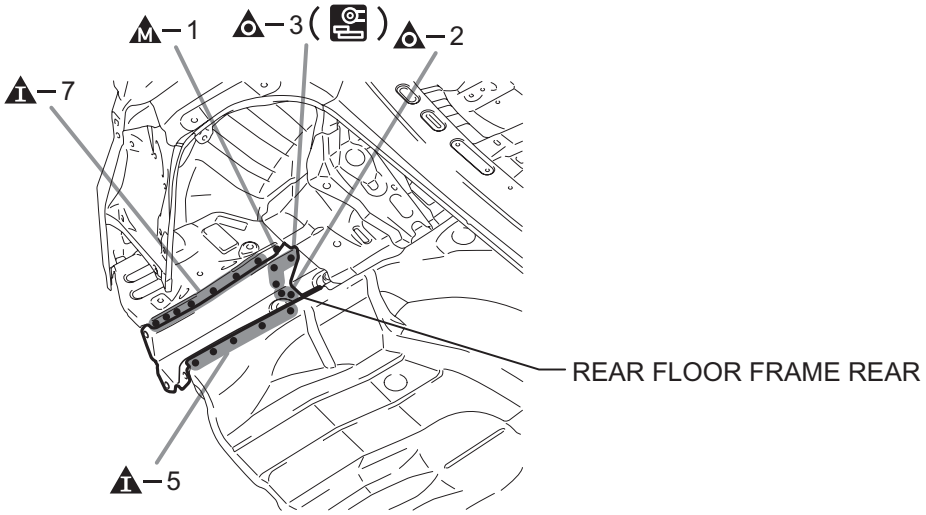
WP

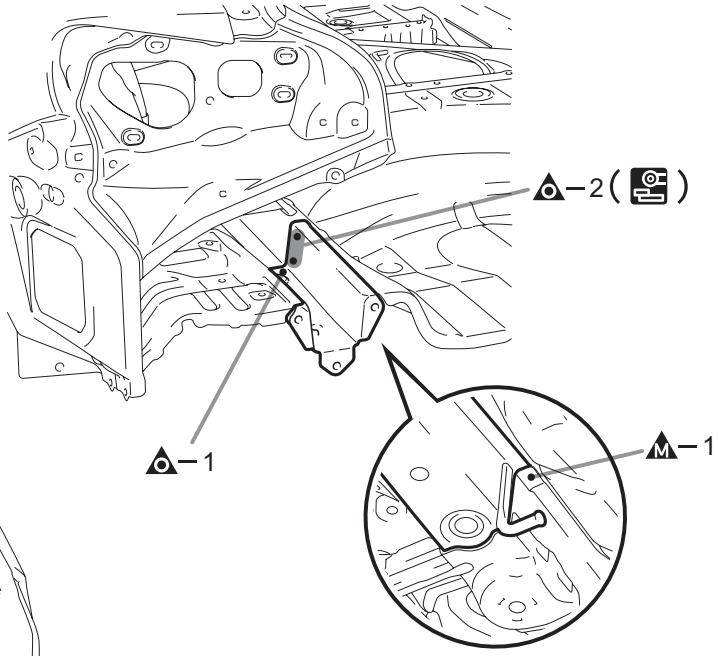


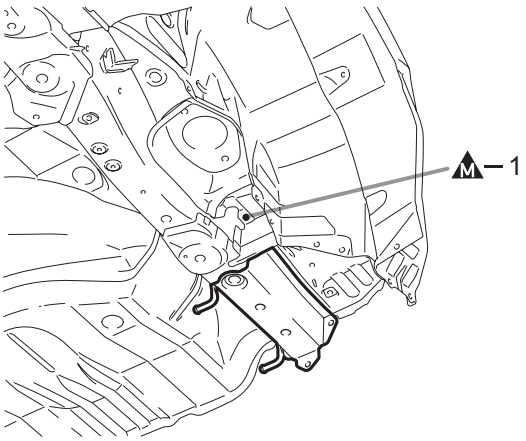




K105097E04







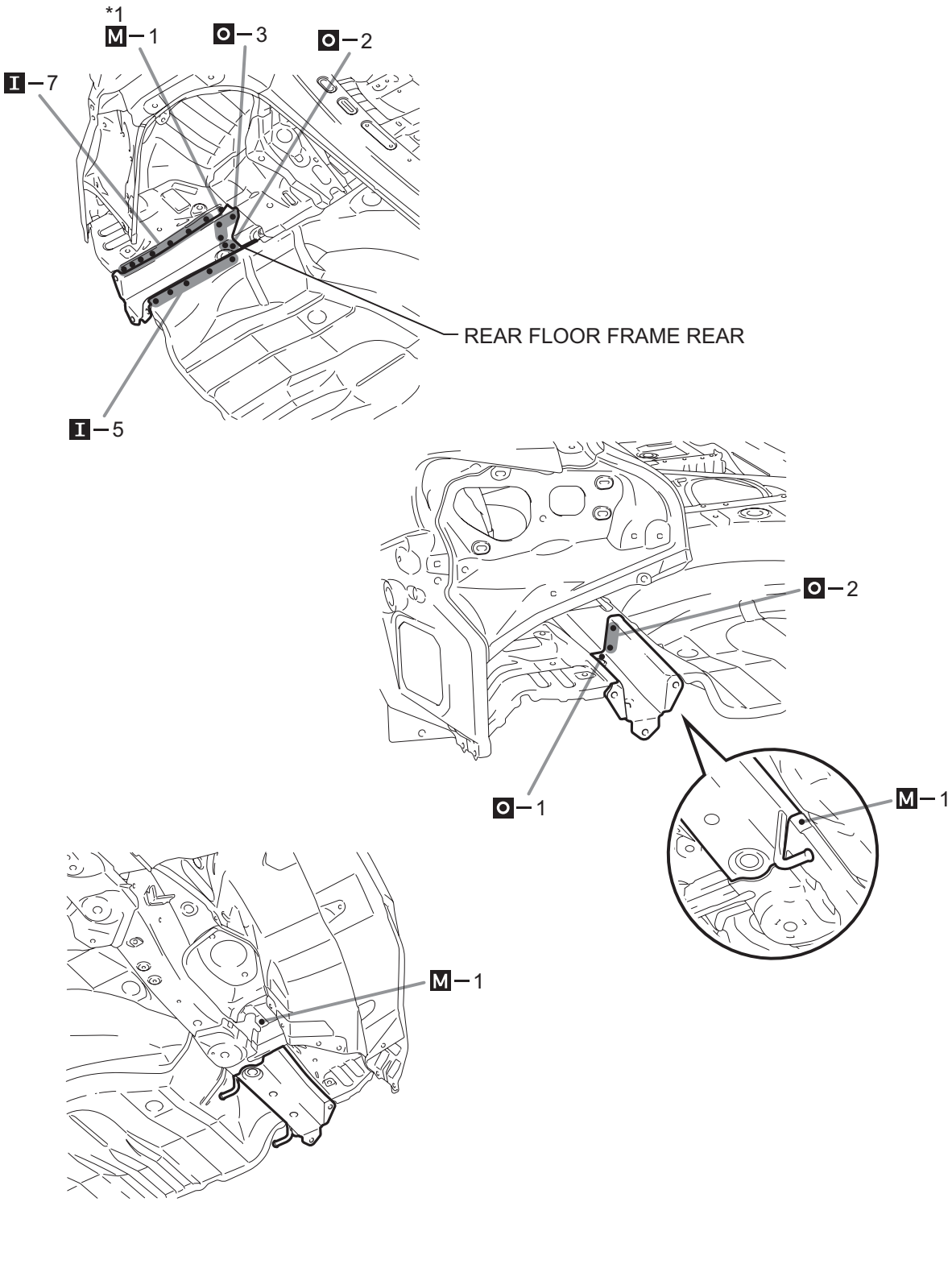
K105114E02

2. INSTALLATION

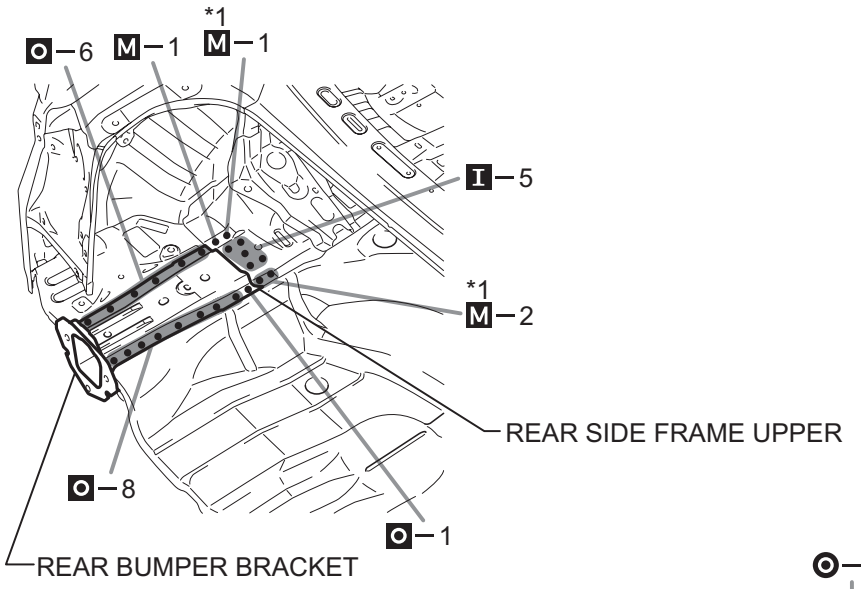
Symbol meaning	
⊙	Spot Weld
O	Plug Weld
M	Plug Weld
I	Plug Weld

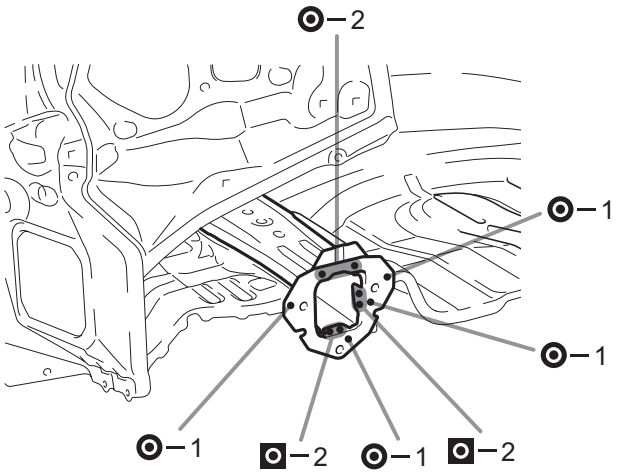
INSTALLATION POINT

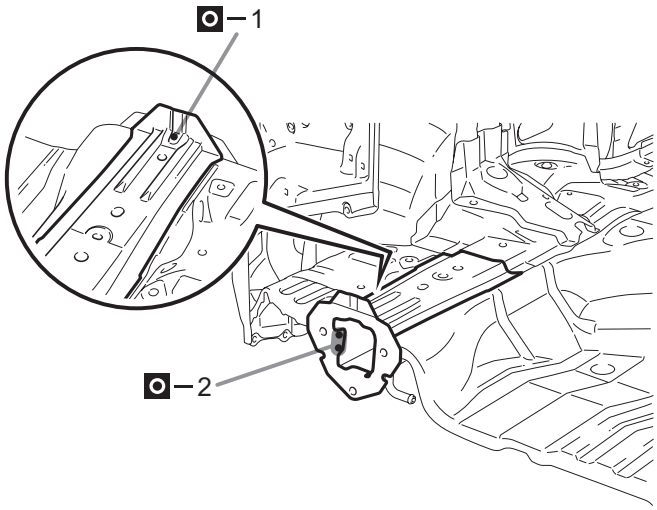
1. When welding *1, make a hole on a new part for plug welding and weld the panel with the panel behind completely.
2. After welding the rear floor frame rear to the vehicle side, install the rear side frame upper and rear bumper bracket.
3. After welding, apply body sealer and undercoating to the corresponding parts. (See the painting / coating)
4. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.


*1
M – 1
O – 3
O – 2
I – 7
REAR FLOOR FRAME REAR
I – 5
O – 2
O – 1
M – 1
M – 1
K105115E02

WP



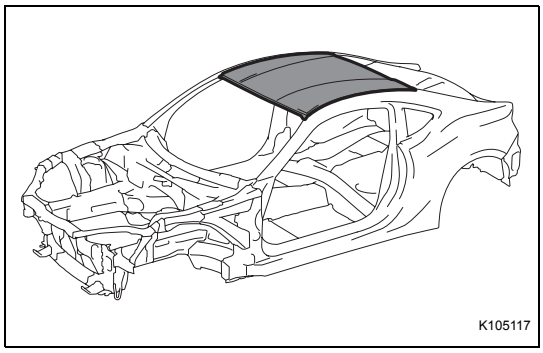




K105101E04

ROOF PANEL

ASSEMBLY REPLACEMENT



Weld work for 980 MPa ultra high strength steel
To assure sufficient weld strength, it is recommended to follow the welding conditions below when welding ultra high strength steel.

- It is recommended to perform spot welding according to board thickness and number of overlapping sheets under the following conditions (*1 - *2)
- When conditions can't be met, it is recommended to perform the plug welding following *3.

Spot welding	*1	Compression	2.6 kN	Total number of 2 overlapping sheets
		Current	6.0 kN	
		Welding time	10 Cyc.	
	*2	Compression	4.4 kN	Total number of 3 overlapping sheets
		Current	7.5 kN	
		Welding time	20 Cyc.	
Plug welding	*3	Plug diameter	8 mm (0.31 in) or more	Total number of 2 or 3 overlapping sheets
		Wire	AWS A5.18 ER70S	
		Gas	CO_2	
		Plug diameter	8 mm (0.31 in) or more	
		Wire	AWS A5.18 ER70S-3	
		Gas	Gas mixture (argon: 80%, CO_2: 20%)	

Weld work for 1500 MPa ultra high strength steel
To assure sufficient weld strength, it is recommended to follow the welding conditions below when welding ultra high strength steel.
When conditions can't be met, it is recommended to perform the plug welding following *4.

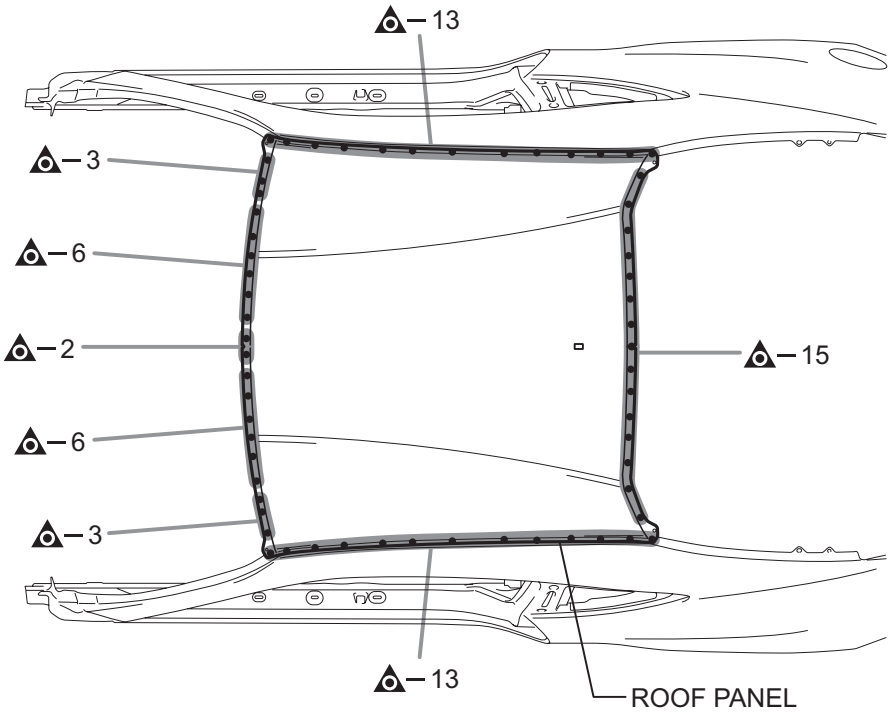
Plug welding	*4	Plug diameter	8.5 mm (0.33 in)	Total number of 2 or 3 overlapping sheets
		Wire	AWS A5.18 ER70S	
		Gas	CO_2	
		Plug diameter	8.5 mm (0.33 in)	
		Wire	AWS A5.18 ER70S-3	
		Gas	Gas mixture (argon: 80%, CO_2: 20%)	

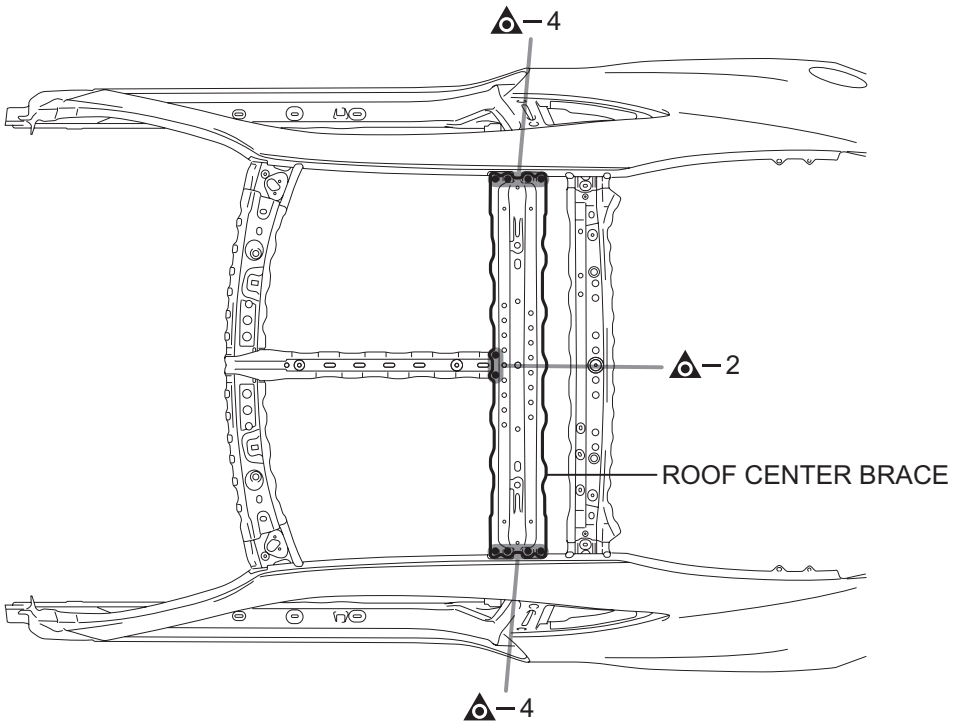
1. REMOVAL

Symbol meaning	
◬	Remove Weld Points

1. After removing the roof panel, remove the roof center brace.

2. Do not butt weld or heat repair because the heat decreases the strength of areas where ultra high strength steel is used. (See the introduction)





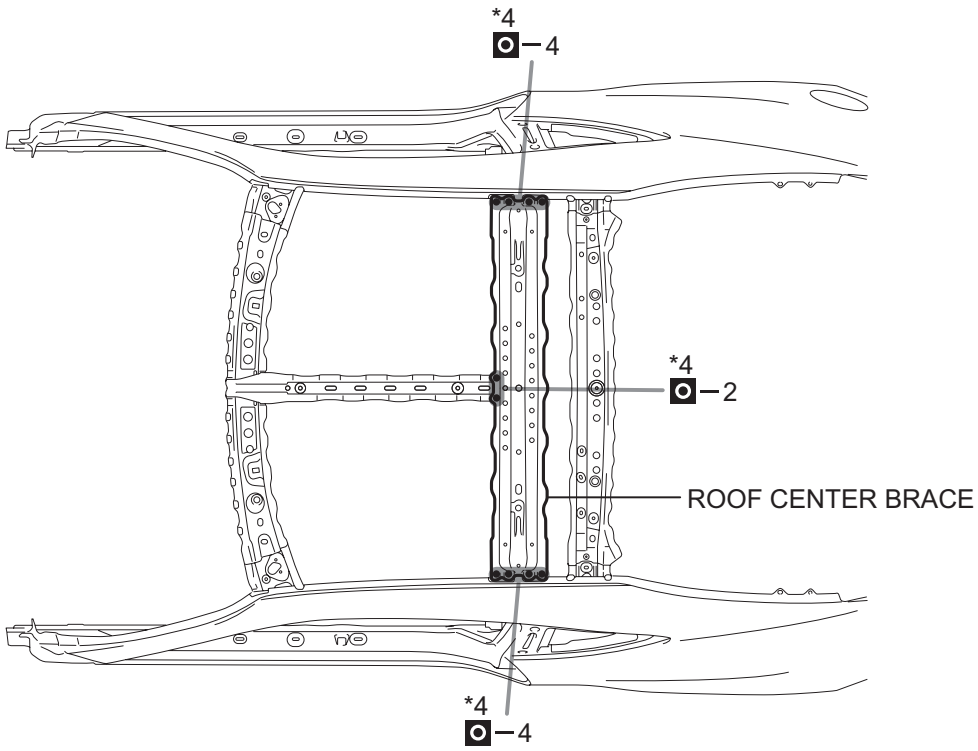
K105608E01

2. INSTALLATION

Symbol meaning	
	Spot Weld
	Plug Weld
	Body Sealer

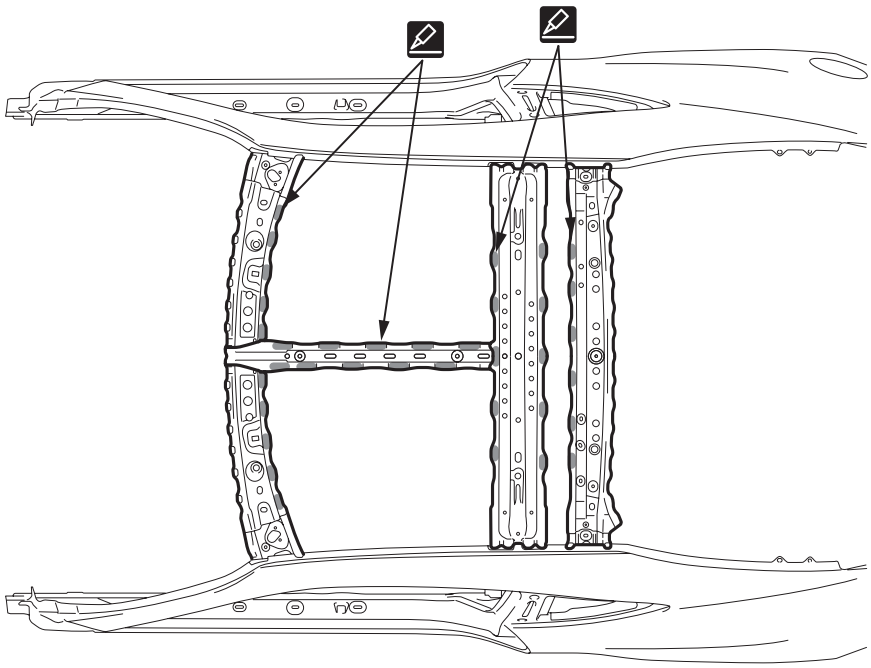
INSTALLATION POINT

1. Inspect the fitting of the related parts around the new parts before welding. This affects the appearance of the finish.
2. Temporarily install the new parts and measure each part of the new parts in accordance with the body dimension diagram. (See the body dimensions)
3. To assure sufficient weld strength, it is recommended to follow the welding conditions when welding *1, *2, *3 or *4. (See the introduction)
4. Before temporarily installing the new parts, apply body sealer to the front roof rail, roof brace, center roof brace and rear roof rail.
   HINT:
   Apply just enough body sealer for the new parts to make contact.
5. After welding the roof center brace to the vehicle side, install the roof panel.
6. After welding, apply body sealer to the corresponding parts. (See the painting / coating)
7. After applying the top coat, apply anti-rust agent to the internal panel portion of the closed section structural weld points.

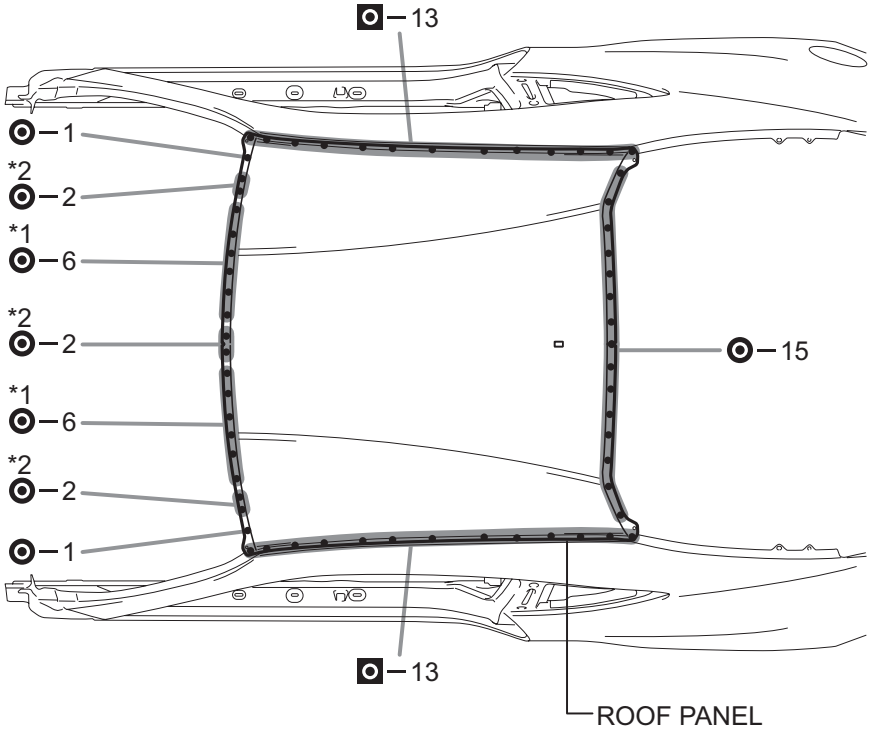


K105609E01

WP



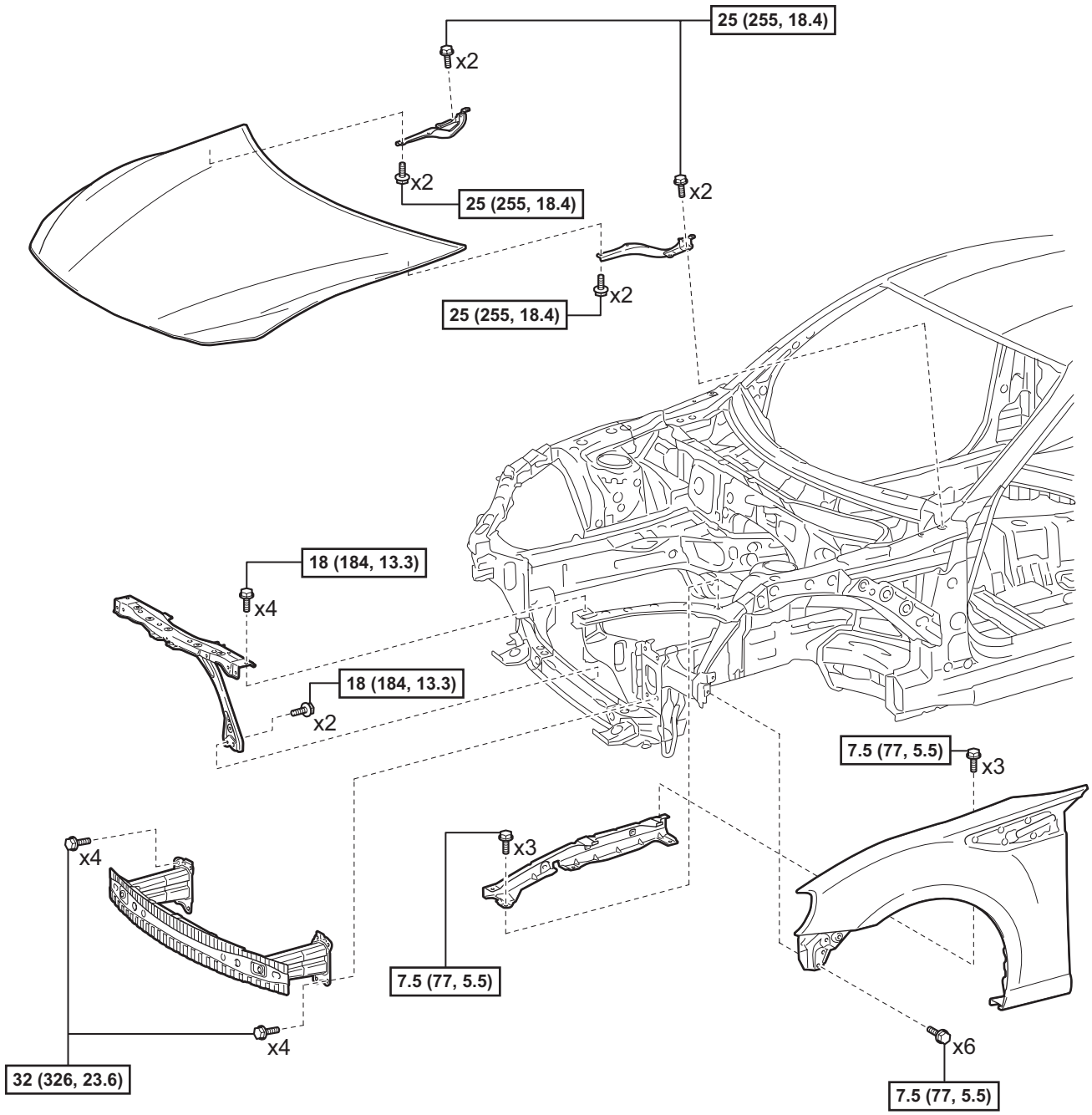
K105119



K106313E01

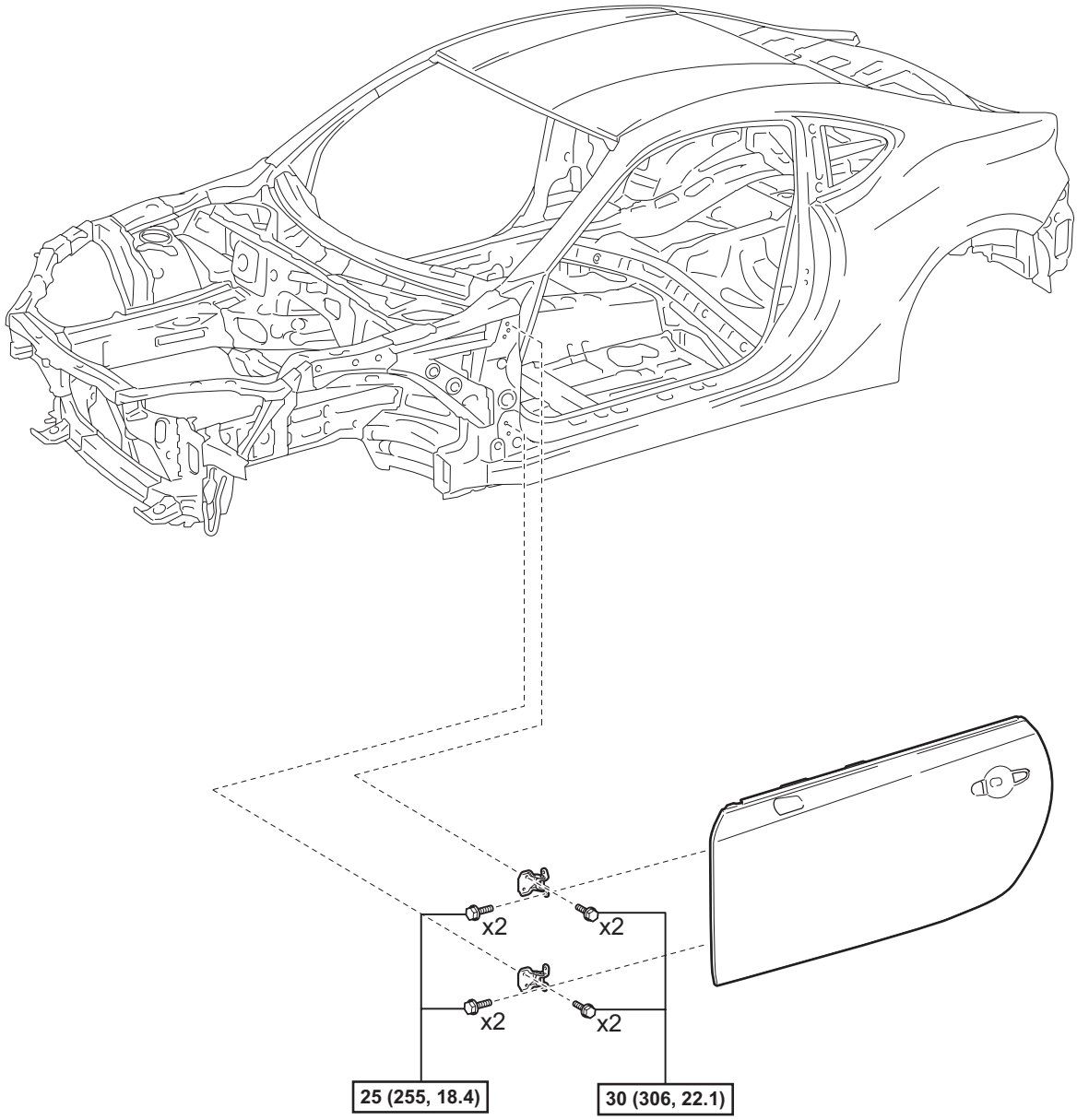
SPECIFIED TORQUE

COMPONENTS



N*m (kgf*cm, ft.*lbf): Specified torque

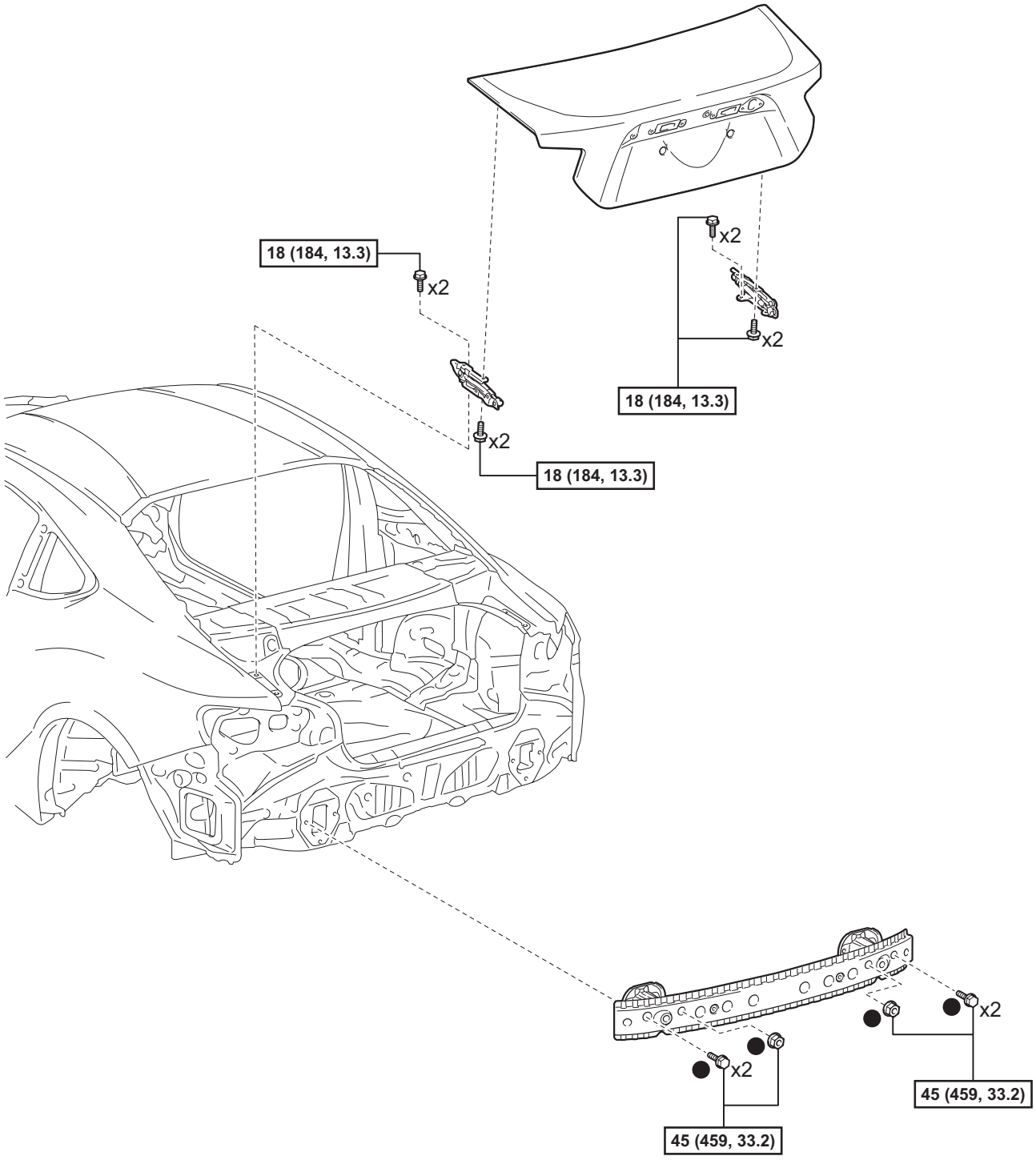
K105121E02



N*m (kgf*cm, ft.*lbf): Specified torque

K105122E02

WP



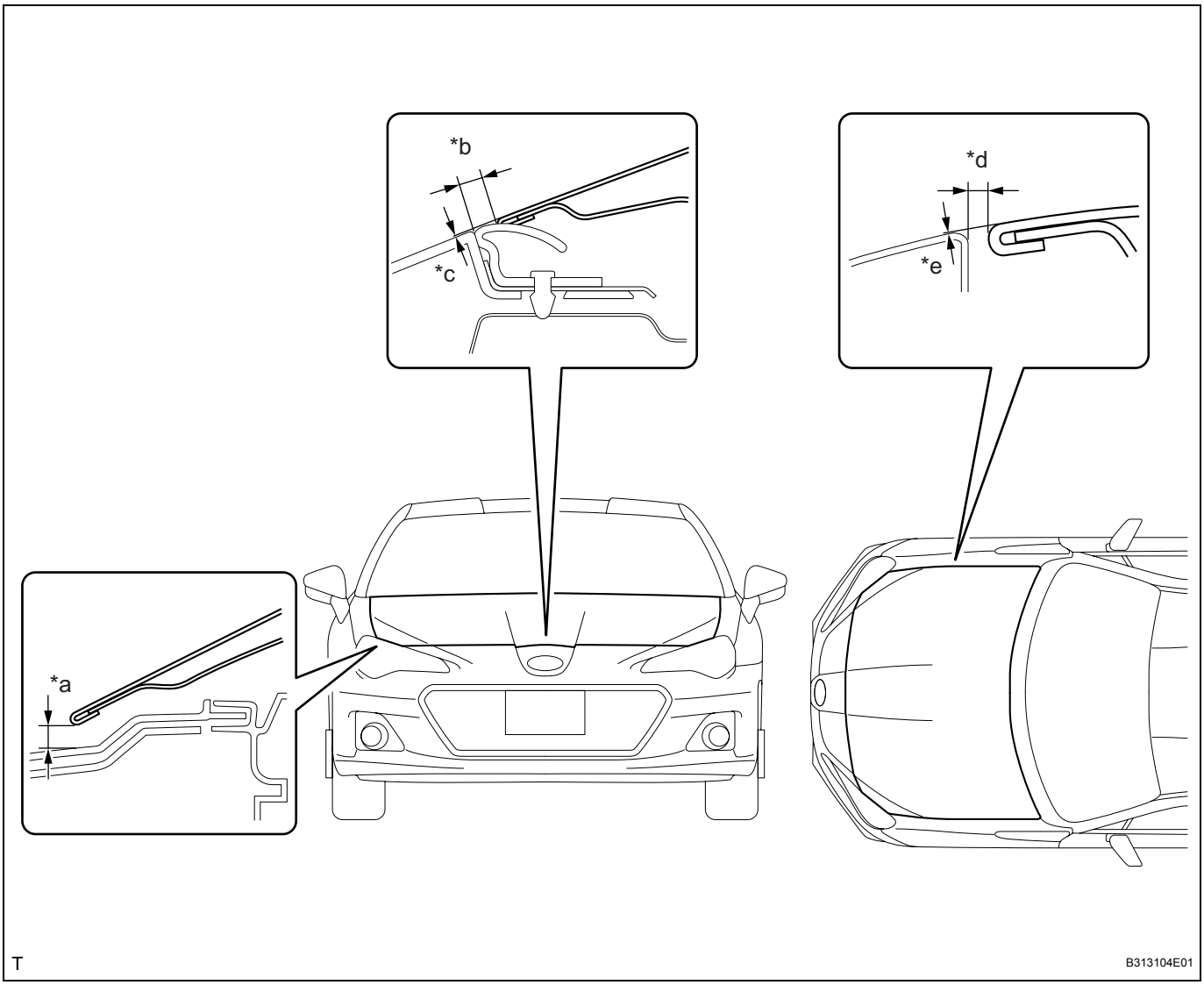
N*m (kgf*cm, ft.*lbf): Specified torque ● Non-reusable part

K105124E02

FIT STANDARD / ADJUSTMENT METHOD

ADJUSTMENT

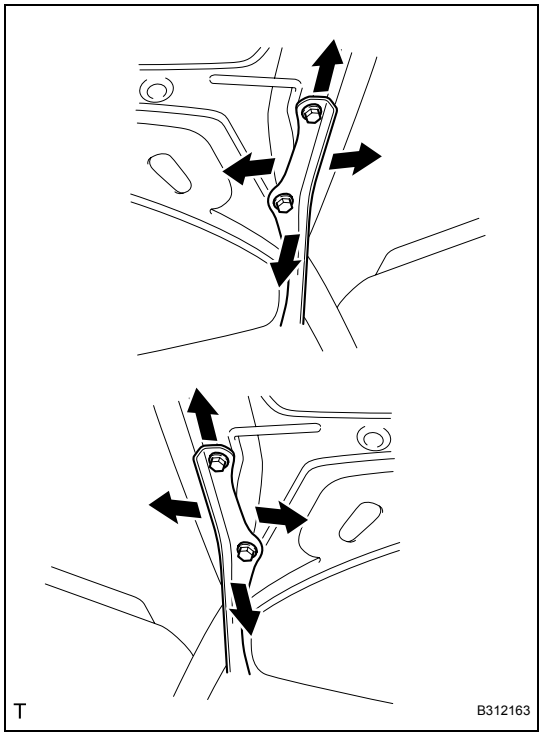
1. Inspection of the hood ASSY (hood SUB-ASSY)



(a) Inspect if each placement dimension is within the reference values.

Reference values

*a	5.8 to 9.8 mm (0.2283 to 0.3858 in.)	*b	3.0 to 7.0 mm (0.1181 to 0.2756 in.)
*c	-2.0 to 2.0 mm (-0.0787 to 0.0787 in.)	*d	2.0 to 5.0 mm (0.0787 to 0.1969 in.)
*e	-2.0 to 1.0 mm (-0.0787 to 0.0394 in.)	-	-

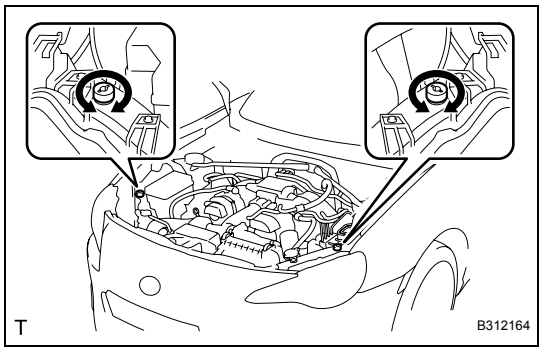


2. Adjustment of the hood ASSY (hood SUB-ASSY)

(a) Adjustment of the forward and backward directions, and the rear left and right directions

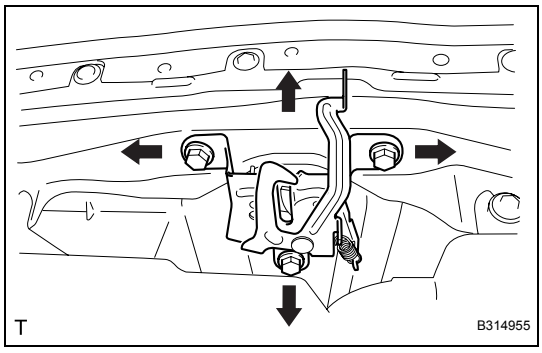
(1) Loosen the bolts of the hood hinge ASSY to adjust.

Torque: 25 N*m (255 kgf*cm, 18.4 ft.*lbf)
CAUTION:
When adjusting, use the bolt supplied and adjust the placement.



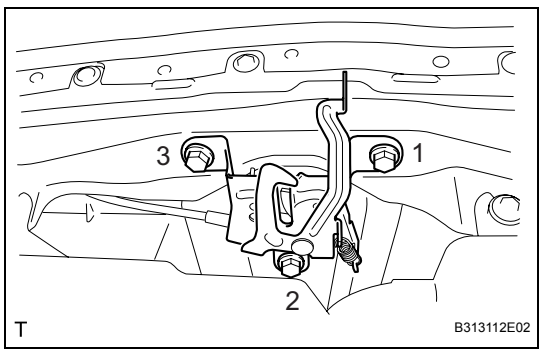
(b) Adjustment of the vertical direction of both sides of the hood's front end

(1) Turn the 2 cushions to adjust the height.



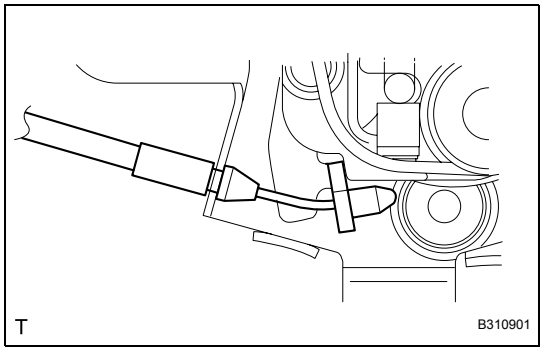
(c) Adjustment of the vertical and left and right directions of the hood's front end.

(1) Loosen the 3 bolts to adjust.



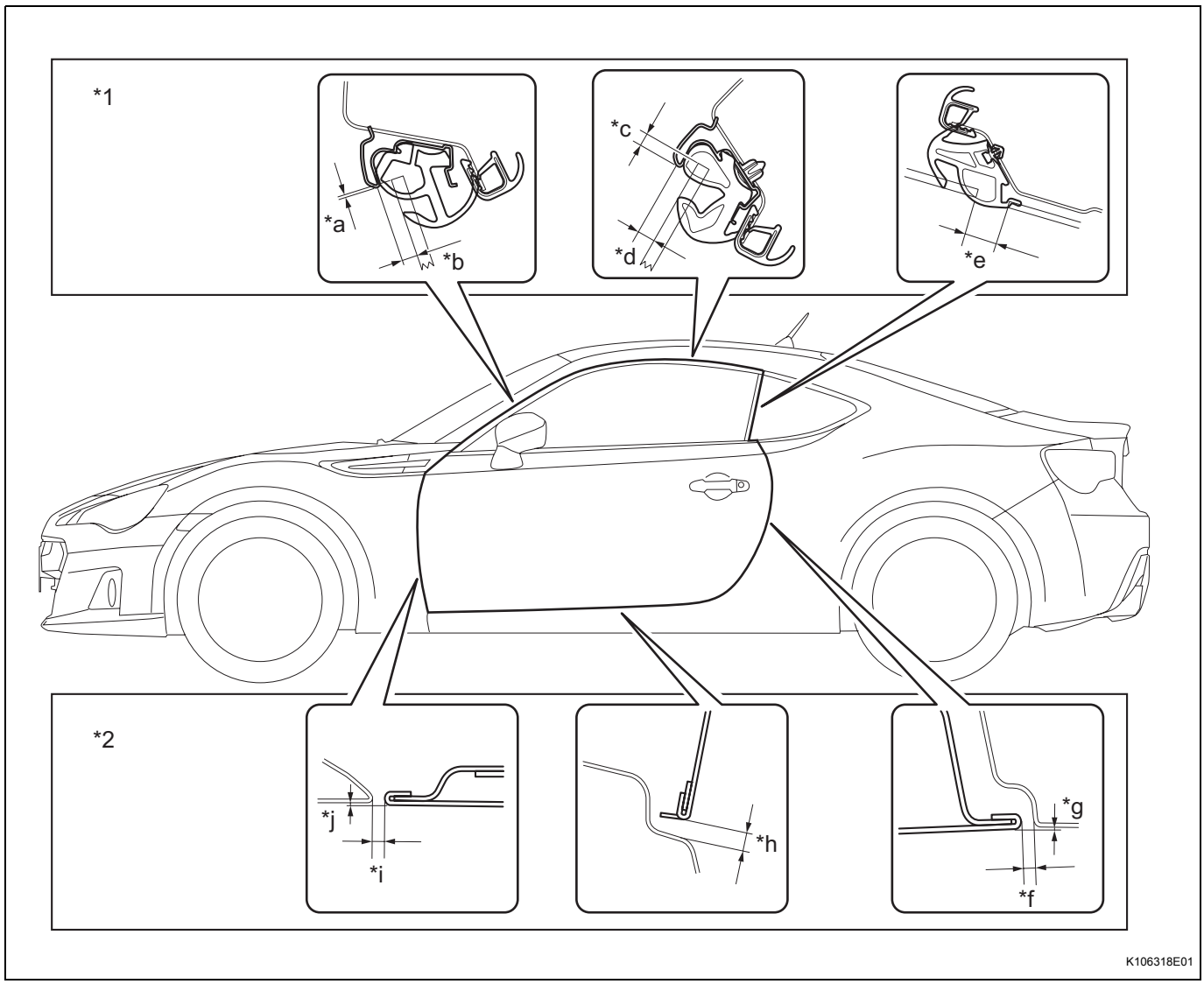
(2) In the order shown in the figure, tighten the 3 bolts.

Torque: 33 N*m (336 kgf*cm, 24.3 ft.*lbf)
CAUTION:
When adjusting, use the bolt supplied and adjust the placement.



(3) Connect the cable ASSY front hood (hood lock control cable ASSY).

3. Inspection of the front door LH



(a) Inspect if each placement dimension is within the reference values range.

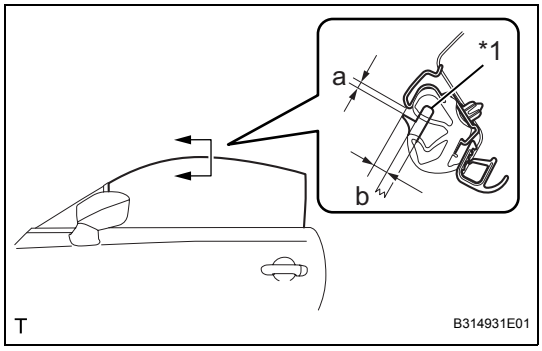
Reference values

*a	-1.0 to 2.0 mm {-0.039 to 0.079 in}	*b	5.5 to 8.5 mm {0.217 to 0.335 in}
*c	3.5 to 6.5 mm {0.138 to 0.256 in}	*d	5.2 to 8.2 mm {0.205 to 0.323 in}
*e	13.5 to 16.5 mm {0.5315 to 0.6496 in}	*f	2.5 to 5.5 mm {0.0984 to 0.2165 in}
*g	0.0 to 1.5 mm {0.0 to 0.0591 in}	*h	4.8 to 7.8 mm {0.1890 to 0.3071 in}
*i	3.1 to 5.6 mm {0.122 to 0.220 in}	*j	-1.0 to 1.5 mm {-0.0394 to 0.0591 in}

Captions in illustration

*1	Front Glass	*2	Front Door

HINT:
The procedures described below are for the LH side. The RH side and the LH side follow the same steps.



4. Adjustment of the front door glass

(a) Insert the SST in the front door glass and measure the placement dimensions.
SST 61299CA000
Captions in illustration

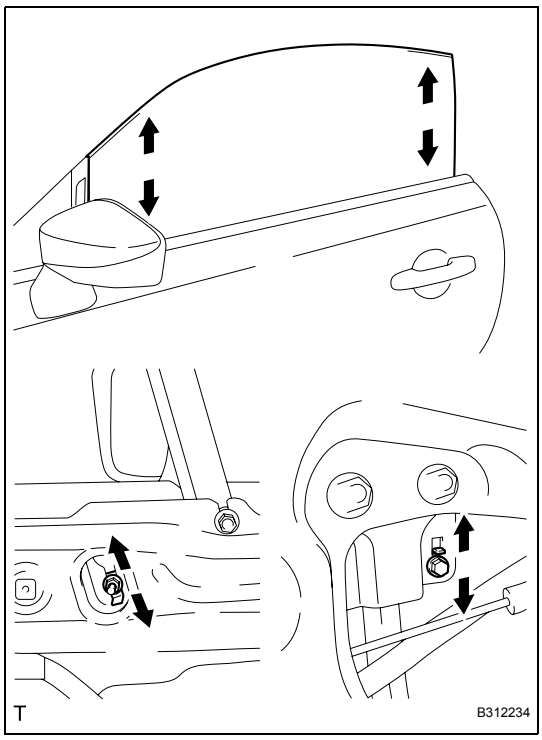
*1	SST

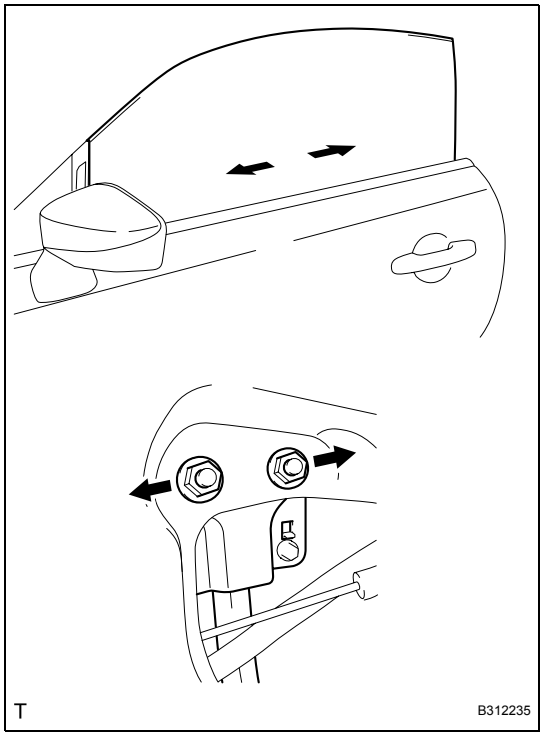
Reference values

*a	3.5 to 6.5 +/- 1.5 mm {0.138 to 0.256 in}
*b	5.2 to 8.2 mm {0.205 to 0.323 in}

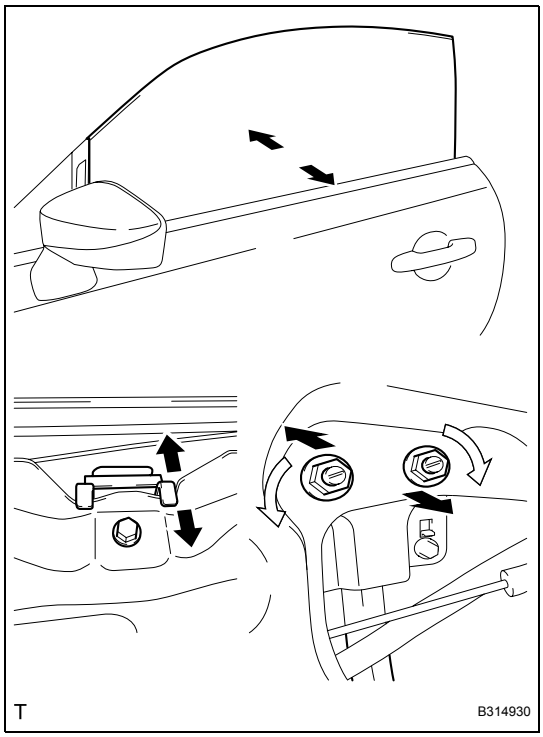
(b) Adjust the front door glass so that the placement dimensions are within the reference values.

(c) Loosen the nut of the front door sash stopper and the bolt of the front door frame SUB-ASSY RR LWR RH stopper section, and adjust the vertical direction of the front door glass.
Torque: 7.5 N*m (77 kgf*cm, 5.5 ft.*lbf)



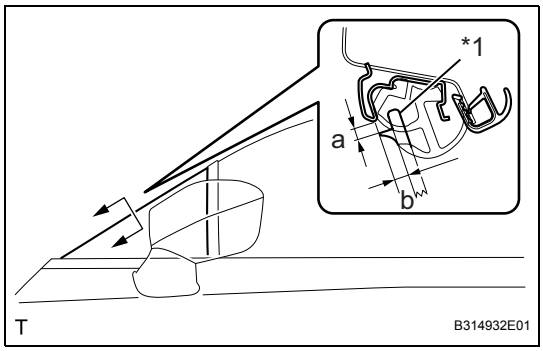


(d) Loosen the 2 nuts of the front door frame SUB-ASSY RR LWR RH, and adjust the forward and backward direction of the front door glass.
Torque: 14 N*m (143 kgf*cm, 10.3 ft.*lbf)



(e) Loosen the bolt of the door glass stabilizer INN, and adjust the side to side direction of the front door glass.
Torque: 7.5 N*m (77 kgf*cm, 5.5 ft.*lbf)

(f) Loosen the nut of the front door frame SUB-ASSY RR LWR RH, turn the bolt with a flat tip screwdriver, and adjust the side to side direction of the front door glass.
Torque: 14 N*m (143 kgf*cm, 10.3 ft.*lbf)

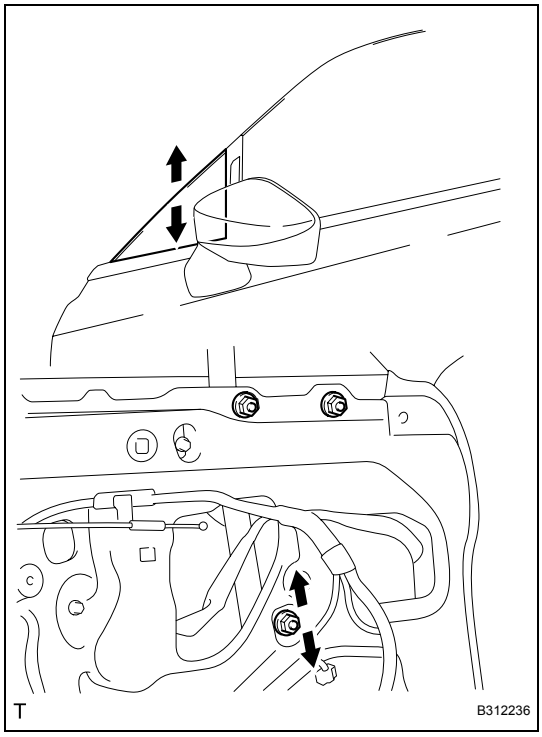


(g) Insert the SST in the side fix window and measure the placement dimensions.
SST 61299CA010
Captions in illustration

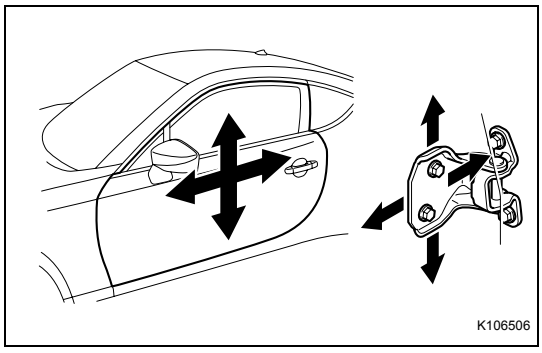
*1	SST

Reference values

*a	2.5 to 5.5 mm {0.0984 to 0.2165 in}
*b	5.2 to 8.2 mm {0.2047 to 0.3228 in}

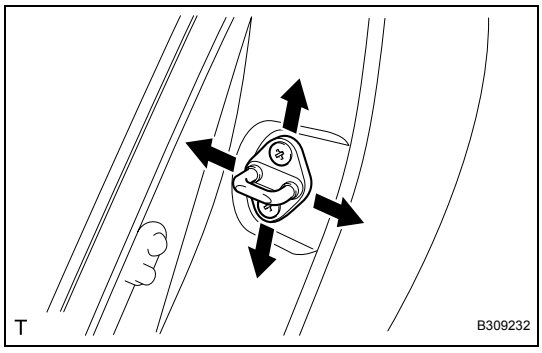


(h) Loosen the 3 nuts of the front door sash and adjust the vertical direction of the front door sash so that the placement dimensions are within the reference values.
Torque: 14 N*m (143 kgf*cm, 10.3 ft.*lbf)



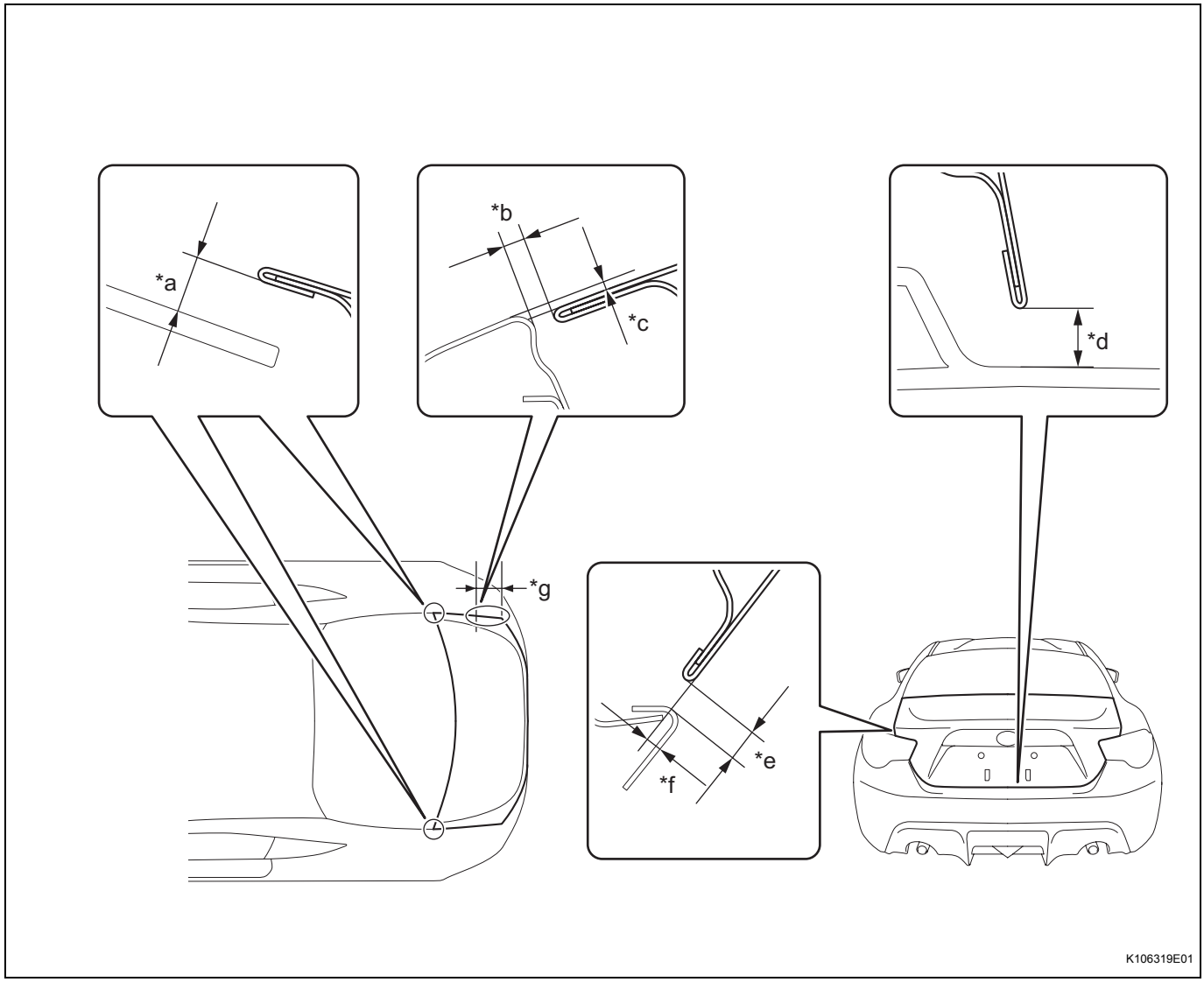
5. Adjustment of the front door LH

(a) Loosen the bolts on the body side, and adjust the door's front and rear, and vertical directions.
Torque: 30 N*m (306 kgf*cm, 22.1 ft.*lbf)



(b) Loosen the striker installation screws until the striker can move. Using a brass bar, hit the striker lightly and adjust the side to side and vertical directions of the rear end of the door and the front door lock striker plate ASSY.
Torque: 18 N*m (184 kgf*cm, 13.3 ft.*lbf)

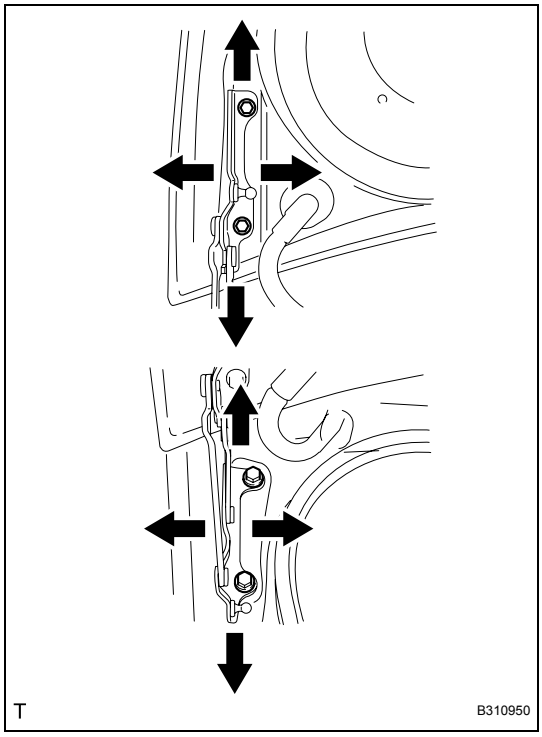
6. Inspection of the trunk lid COMPL (luggage compartment door panel SUB-ASSY)



(a) Inspect if placement dimensions are within the reference values.

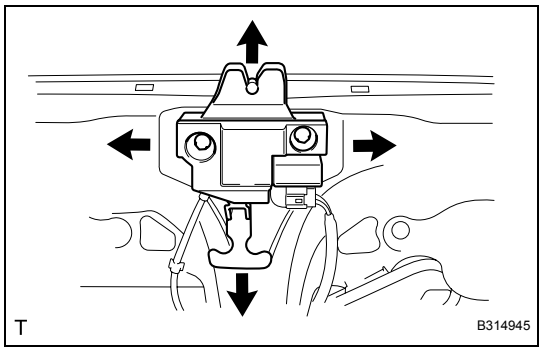
Reference values

*a	7.8 mm {0.3071 in}	*b	2.0 to 5.0 mm {0.0787 to 0.1969 in}
*c	0 mm {0 in} (section of 150 mm {5.906 in} from the back end of the trunk)	*d	5.8 to 10.2 mm {0.2283 to 0.4016 in}
*e	4.3 to 7.3 mm {0.1693 to 0.2874 in}	*f	-2.0 to 1.0 mm {-0.0787 to 0.0394 in}
*g	150 mm {5.906 in}		



7. Adjustment of the trunk lid COMPL (luggage compartment door panel SUB-ASSY)

(a) Loosen the bolts before adjusting the door's forward and backward direction, and the side to side direction of the door's front end.
Torque: 18 N*m (184 kgf*cm, 13.3 ft.*lbf)
CAUTION:
When adjusting, use the bolt supplied and adjust the placement.

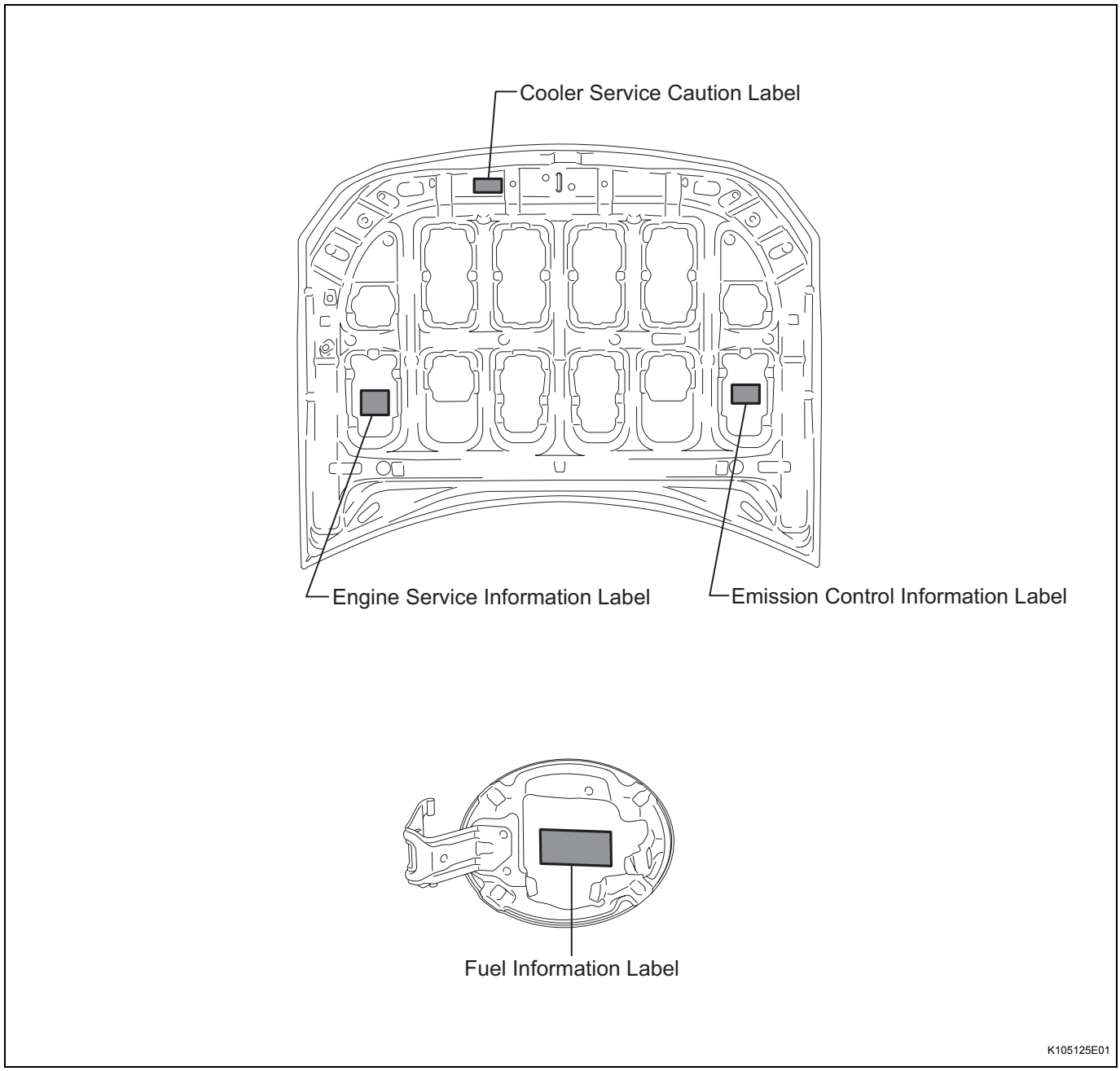


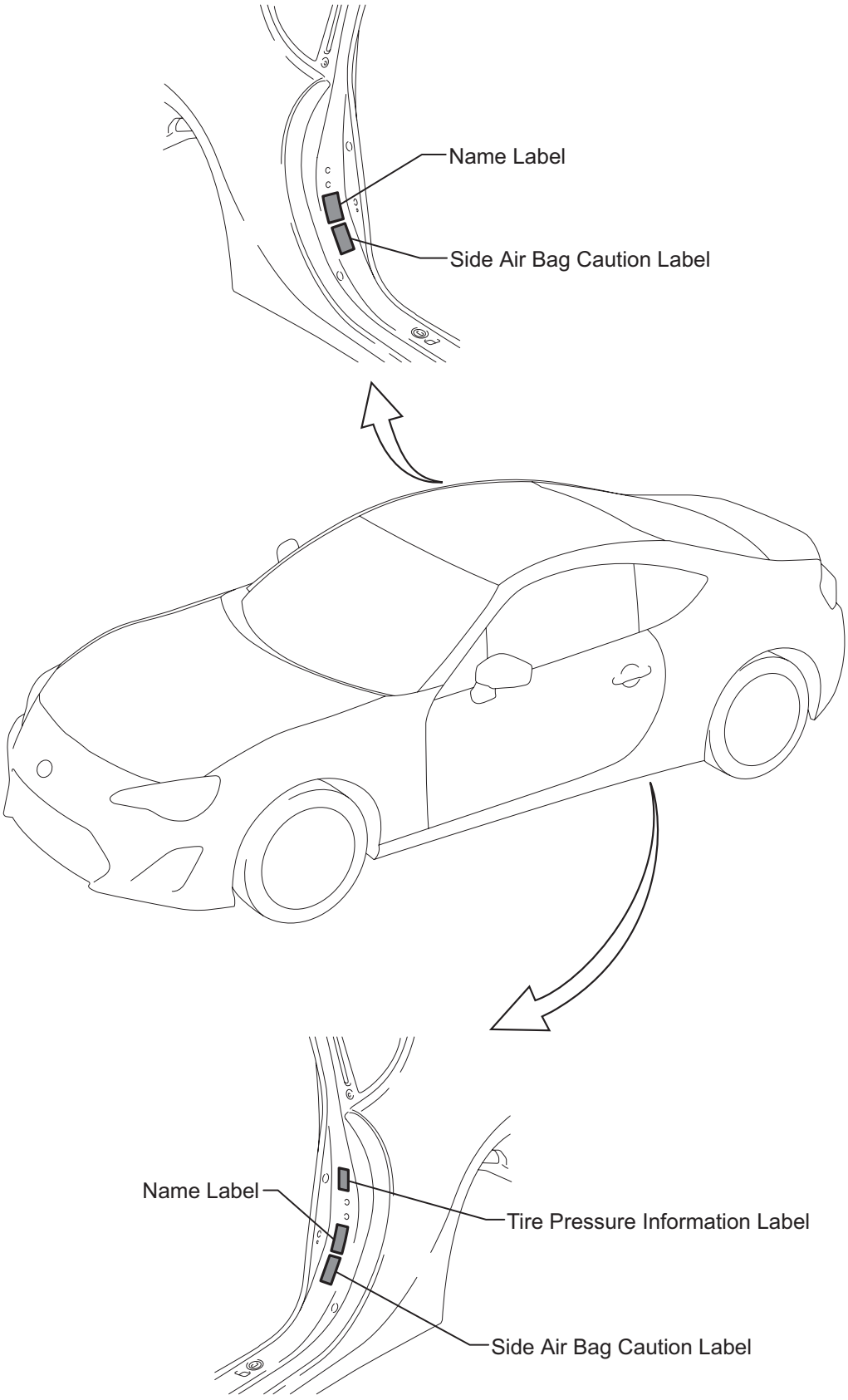
(b) Loosen the bolts before adjusting the side to side direction of the door's rear end and the striker.
Torque: 7.5 N*m (77 kgf*cm, 5.5 ft.*lbf)

CAUTION LABEL

ATTACHMENT POSITION

1. After using a degreasing agent to clean the surfaces of the body where the caution labels will be attached, attach the caution labels to the positions shown in the illustration.
   HINT:
   - Make sure the caution label is not attached over a spot weld.
   - When attaching the caution label, make sure not to touch the label's adhesive surface.
   - To prevent the edges of the caution label from peeling, apply extra pressure to the label's periphery.
   - If the work area's temperature is 5°C or less, the caution label's adhesive will deteriorate. It is recommended that you heat the label to 20 to 40°C.




Name Label
Side Air Bag Caution Label
Name Label
Tire Pressure Information Label
Side Air Bag Caution Label
K105127E01

BODY DIMENSIONS

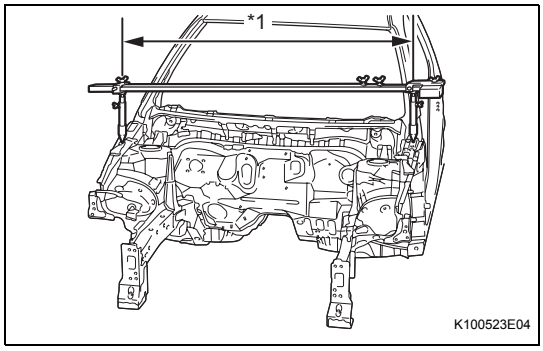
BD

MEASURING INFORMATION

DIAGRAM DESCRIPTION

HINT:

- There are two types of dimensions in the diagram.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

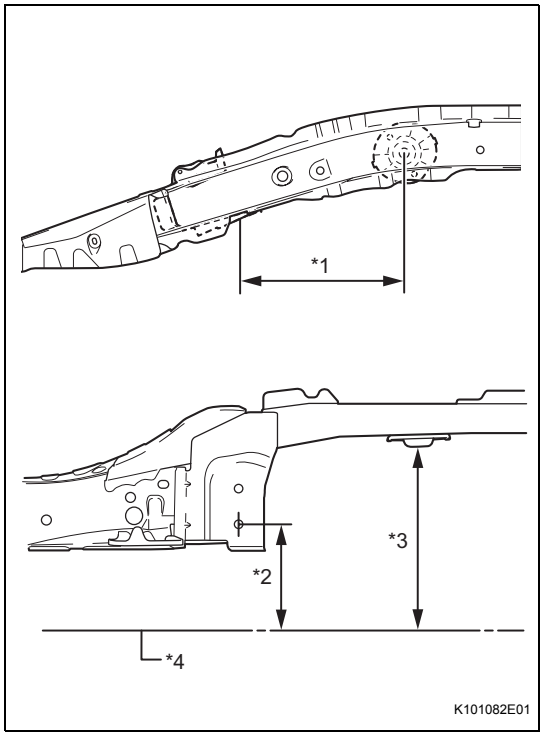


1. Three-Dimensional Distance

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

Text in Illustration

*1	Distance between the centers of the measuring points



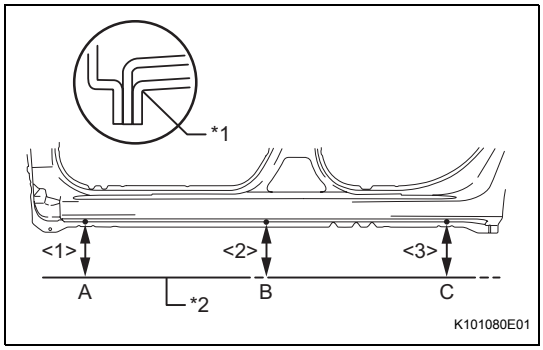
2. Two-Dimensional Distance

(a) Horizontal distance in forward/rearward between the centers of two measuring points.

(b) Distance from the Imaginary Datum Line.

Text in Illustration

*1	Center-to-center horizontal distance in forward/rearward
*2	Vertical distance to center
*3	Vertical distance to lower surface
*4	Imaginary Datum Line



3. Imaginary Datum Line

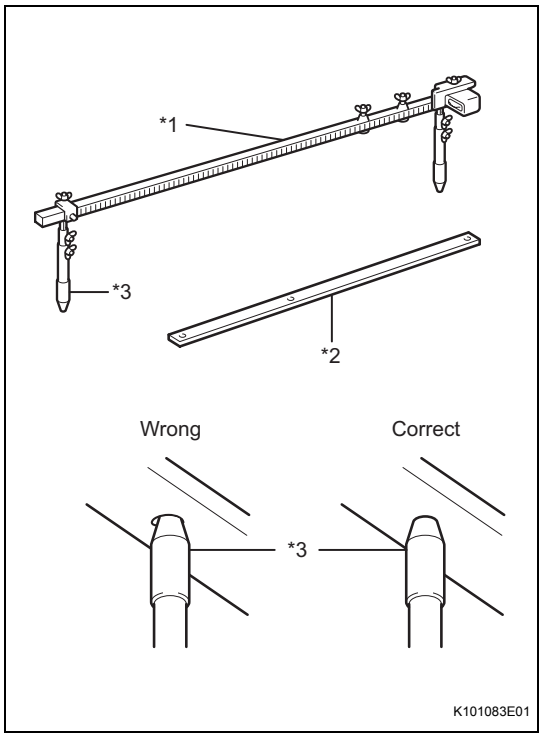
(a) The imaginary line used to measure height is a line which connects the points described in the following chart (actual dimensions are listed in the next chapter of this manual).

Text in Illustration

*1	Under surface of the Rocker Panel
*2	Imaginary Datum Line

Symbol	Measuring Points
A	The place that was lowered <1> mm from the under surface of the rocker panel centered on the front jack up point.

Symbol	Measuring Points
B	The place that was lowered <2> mm from the under surface of the rocker panel centered between A and C.
C	The place that was lowered <3> mm from the under surface of the rocker panel centered on the rear jack up point.



4. Measurement

(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.

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

Text in Illustration

*1	Tracking Gauge
*2	Master Gauge
*3	Pointer

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

ENGINE COMPARTMENT

THREE-DIMENSIONAL DISTANCE

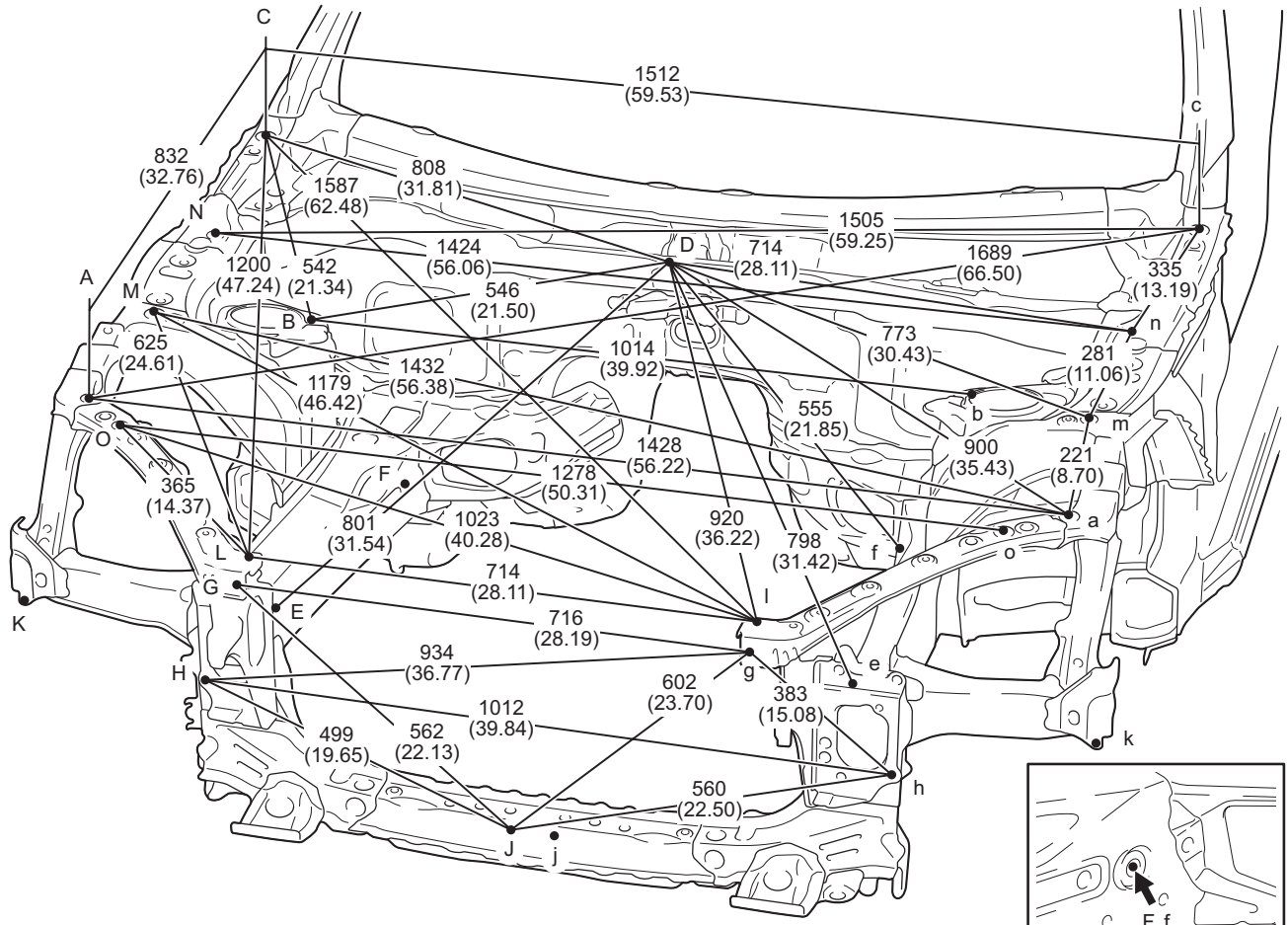
HINT:

- Point E, e on the vehicle are asymmetrical.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Fender Extension Installation Nut	M6 (0.24)
B, b	Front Suspension Installation Hole	ϕ9.5 (0.37)
C, c	Hood Hinge Installation Nut	M8 (0.31)
D	Cowl Panel Installation Hole	ϕ7 (0.28)
E, e	Earth Installation Nut	M6 (0.24)
F, f	Side Frame Standard Hole	ϕ14 (0.55)
G, g	Radiator Upper Frame Center Installation Nut	M8 (0.31)
H, h	Front Beam Installation Nut	M8 (0.31)
J, j	Bumper Lower Center Stay Installation Nut	M6 (0.24)
K, k	Fender Bracket Standard Hole	ϕ8 (0.31)
L, l	Radiator Upper Frame Center Installation Nut	M8 (0.31)
M, m	Fender Extension Installation nut	M6 (0.24)
N, n	Fender Extension Installation nut	M6 (0.24)
O, o	Headlight Installation Nut	M6 (0.24)

BD



Distance between points other than those above

E - e	F - f	K - k	M - m	A - L, a - l
855 (33.66)	780 (30.71)	1568 (61.73)	1401 (55.16)	467 (18.39)

A - N, a - n	A - l, a - L	A - n, a - N	B - L, b - l	B - c, b - C
499 (19.65)	1113 (43.82)	1511 (59.49)	669 (26.34)	1351 (53.19)

B - l, b - L	C - M, c - m	C - O, c - o	C - m, c - M	C - o, c - O
1082 (42.60)	615 (24.21)	910 (35.83)	1580 (62.20)	1661 (65.39)

L - N, l - n	L - n, l - N	M - O, m - o	M - n, m - N	M - o, m - O
875 (34.45)	1335 (52.56)	297 (11.69)	1440 (56.69)	1371 (53.98)

Height from Imaginary Datum Line

A, a	C, c	H, h
646 (25.43)	745 (29.33)	278 (10.94)

L, l
580 (22.83)

mm
(in.)

K104846E01

FRONT DOOR

THREE-DIMENSIONAL DISTANCE

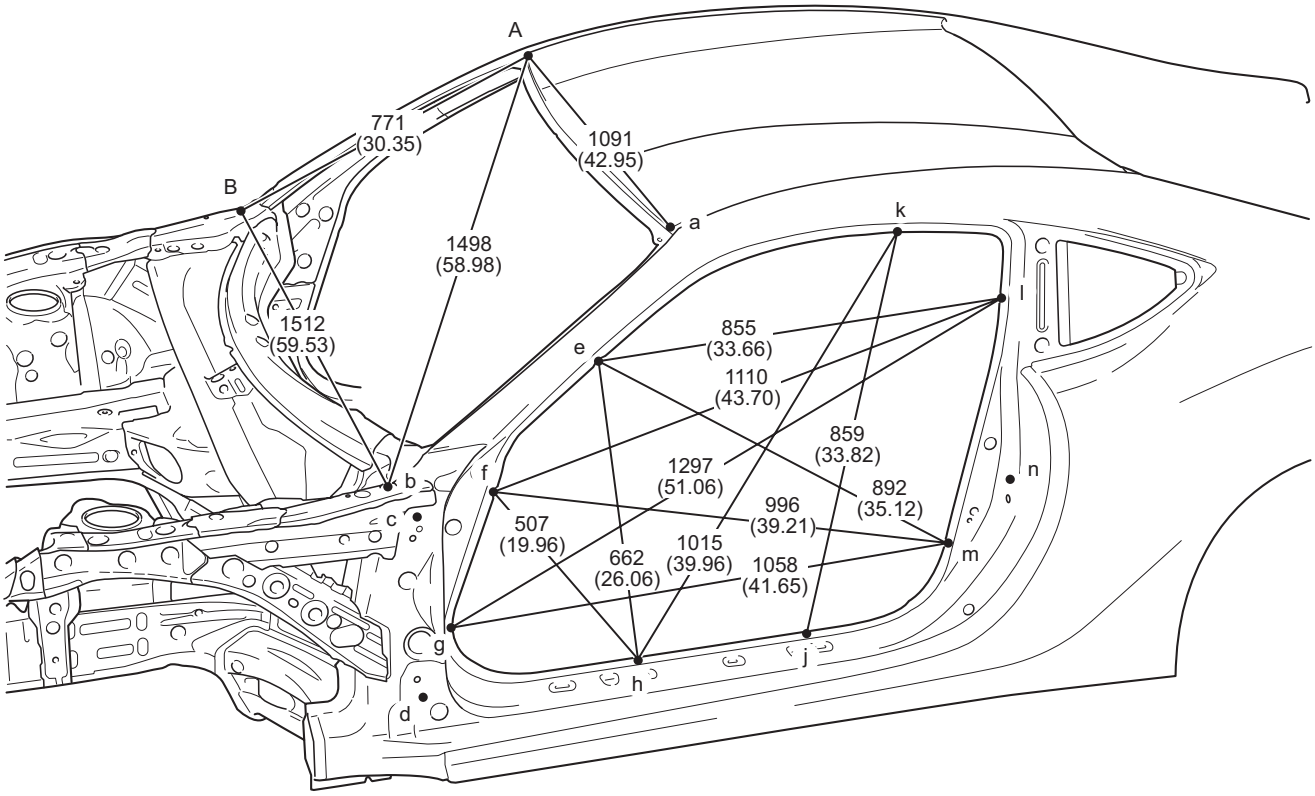
HINT:

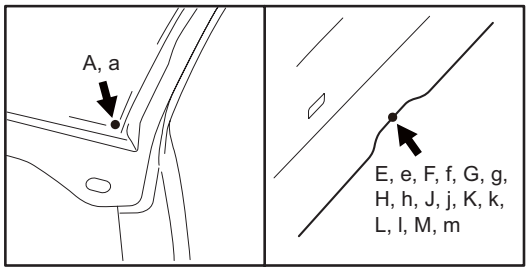
- Use specification *1 when performing centering measurements for the body dimensions.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Roof Panel Corner	-
B, b	Hood Hinge Installation Nut	M8 (0.31)
C, c	Front Door Hinge Installation Nut	M8 (0.31)
D, d	Front Door Hinge Installation Nut	M8 (0.31)
E, e	Front Outer Body Pillar Assembly Mark	-
F, f	Front Outer Body Pillar Assembly Mark	-
G, g	Front Outer Body Pillar Assembly Mark	-
H, h	Side Sill Outer Assembly Mark	-
J, j	Side Sill Outer Assembly Mark	-
K, k	Front Outer Body Pillar Assembly Mark	-
L, l	Rear Quarter Outer Assembly Mark	-
M, m	Rear Quarter Outer Assembly Mark	-
N, n	Front Door Lock Striker Installation Nut	M8 (0.31)
O, o	Front Filler Crossmember Standard Hole	ϕ14 (0.55)
*1	Hand Brake Installation Nut	M8 (0.31)

BD





Distance between points other than those above

E - e	F - f	G - g	H - h	J - j	K - k	L - l	M - m
1389 (54.68)	1440 (56.69)	1445 (56.89)	1465 (57.68)	1465 (57.68)	1220 (48.03)	1364 (53.70)	1441 (56.73)

N - n	C - N, c - n	D - N, d - n	E - J, e - j	E - g, e - G	E - h, e - H	E - j, e - J	E - k, e - K
1552 (61.10)	1247 (49.09)	1280 (50.39)	785 (30.91)	1546 (60.87)	1573 (61.93)	1628 (64.09)	1467 (57.76)

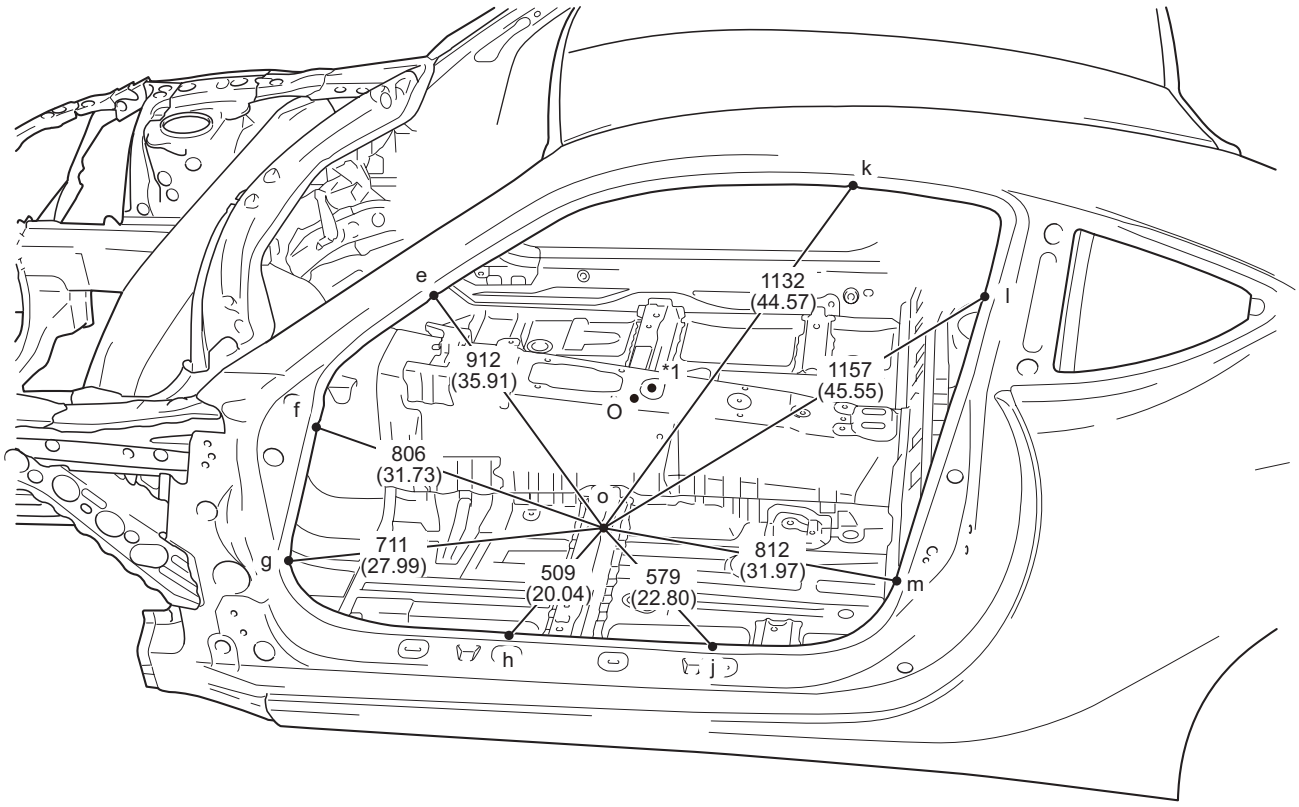
E - l, e - L	E - m, e - M	F - J, f - j	F - K, f - k	F - g, f - G	F - h, f - H	F - j, f - J	F - k, f - K
1620 (63.78)	1673 (65.87)	773 (30.43)	970 (38.19)	1474 (58.03)	1539 (60.59)	1645 (64.76)	1643 (64.68)

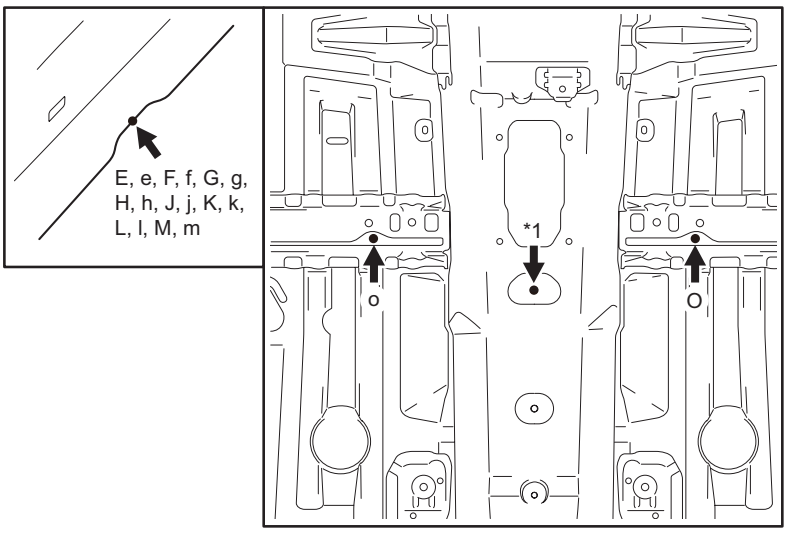
F - l, f - L	F - m, f - M	G - K, g - k	G - j, g - J	G - k, g - K	G - l, g - L	G - m, g - M	H - L, h - l
1788 (70.39)	1751 (68.94)	1198 (47.17)	1641 (64.61)	1788 (70.39)	1911 (75.24)	1789 (70.43)	1040 (40.94)

H - j, h - J	H - k, h - K	H - l, h - L	J - k, j - K	J - l, j - L	K - M, k - m	K - m, k - M	L - m, l - M
1509 (59.41)	1679 (66.10)	1755 (69.09)	1589 (62.56)	1625 (63.98)	678 (26.69)	1489 (58.62)	1500 (59.06)

mm
(in.)

K104847E02





Distance between points other than those above

H - o, h - O	J - o, j - O	K - o, k - O
987 (38.86)	1025 (40.35)	1370 (53.94)

mm
(in.)

K104848E01

LUGGAGE DOOR

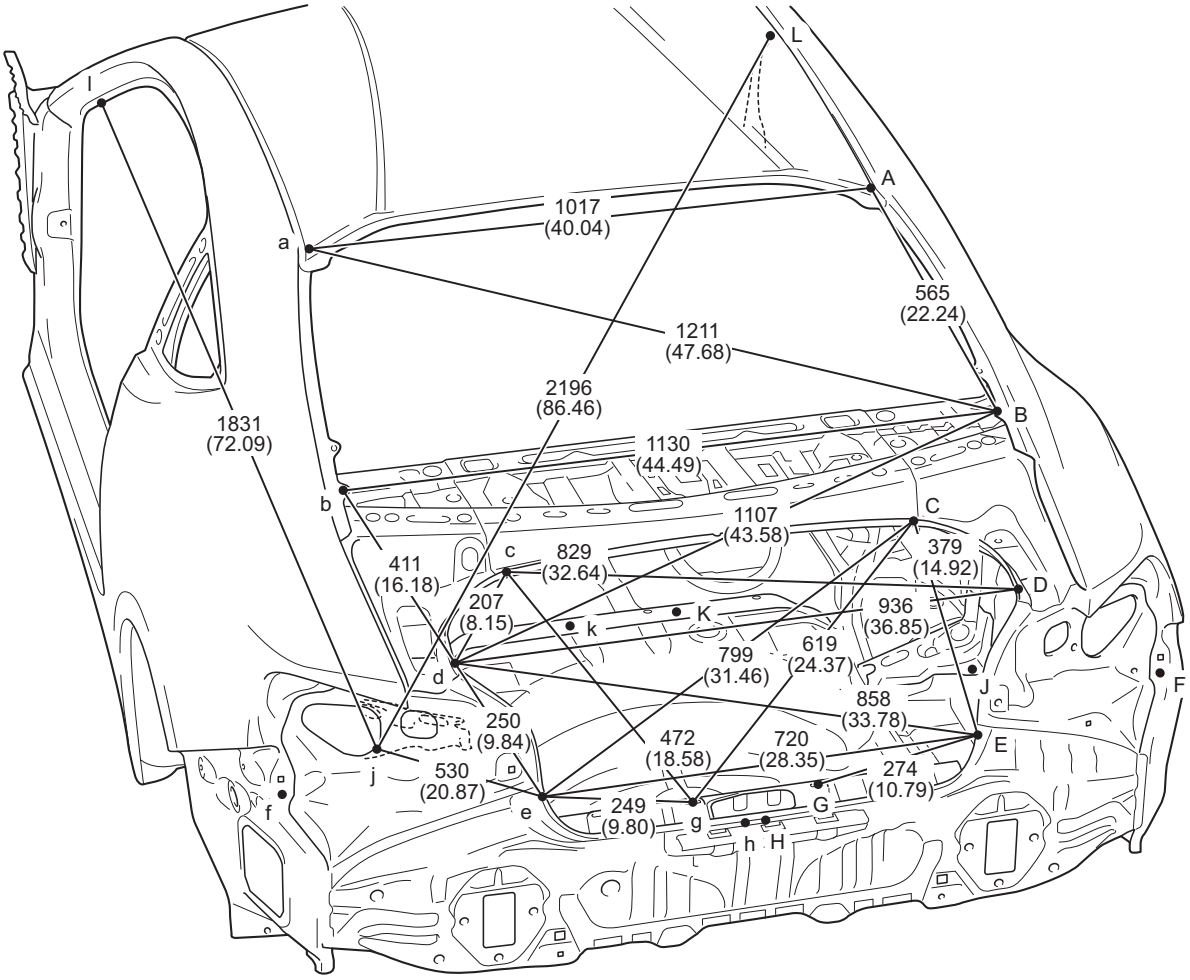
THREE-DIMENSIONAL DISTANCE

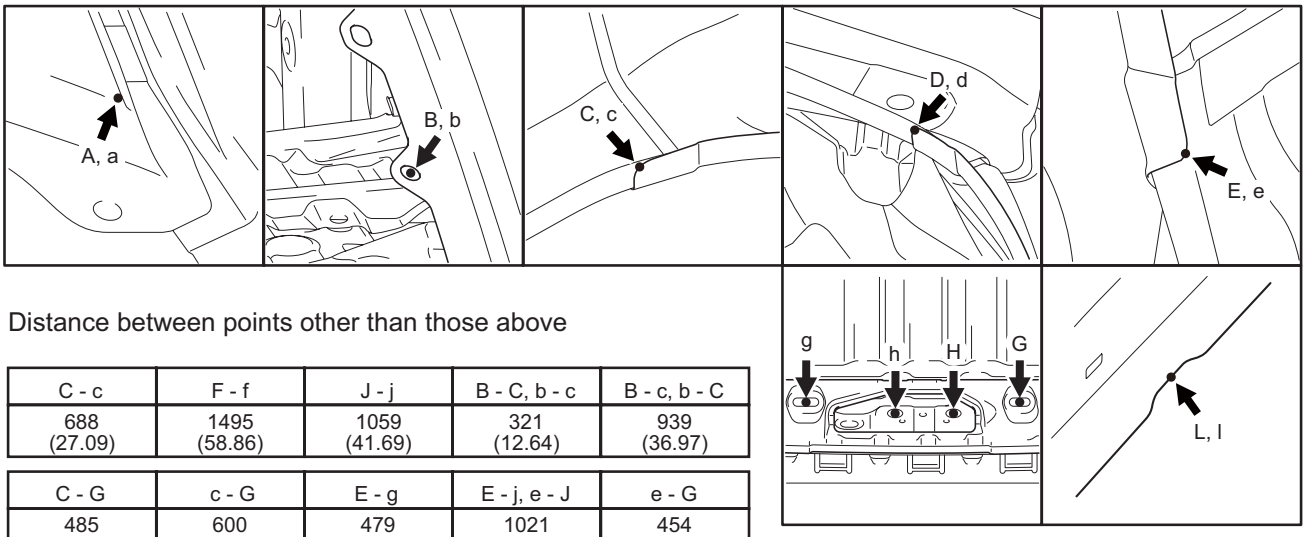
HINT:

- Point G, g and H, h on the vehicle are asymmetrical.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Roof Panel Corner	-
B, b	Rear Quarter Outer Standard Hole	ϕ10 (0.39)
C, c	Rear Pillar Patch/Rear Arch Inner Adjoining Portion	-
D, d	Rear Quarter End/Rear Arch Inner Adjoining Portion	-
E, e	Rear Quarter End/Rear Skirt Adjoining Portion	-
F, f	Rear Quarter Outer Standard Hole	ϕ12 (0.47)
G	Trim Installation Hole	8X20 (0.31X0.79)
g	Trim Installation Hole	8X25 (0.31X0.98)
H, h	Striker Installation Nut	M12 (0.47)
J, j	Rear Suspension Installation Hole	ϕ13 (0.51)
K, k	Rear Floor Pan Standard Hole	ϕ10 (0.39)
L, l	Front Outer Body Pillar Assembly Mark	-





Distance between points other than those above

C - c	F - f	J - j	B - C, b - c	B - c, b - C
688 (27.09)	1495 (58.86)	1059 (41.69)	321 (12.64)	939 (36.97)

C - G	c - G	E - g	E - j, e - J	e - G
485 (19.09)	600 (23.62)	479 (18.86)	1021 (40.20)	454 (17.87)

G - J	G - K	G - j	G - k	g - J	g - K
653 (25.71)	847 (33.35)	787 (30.98)	868 (34.17)	807 (31.77)	874 (34.41)

g - j	g - k	H - K	h - k	J - K, j - k	J - k, j - K
636 (25.04)	847 (33.35)	854 (33.62)	854 (33.62)	564 (22.20)	728 (28.66)

mm
(in.)

K104849E02

UNDER BODY

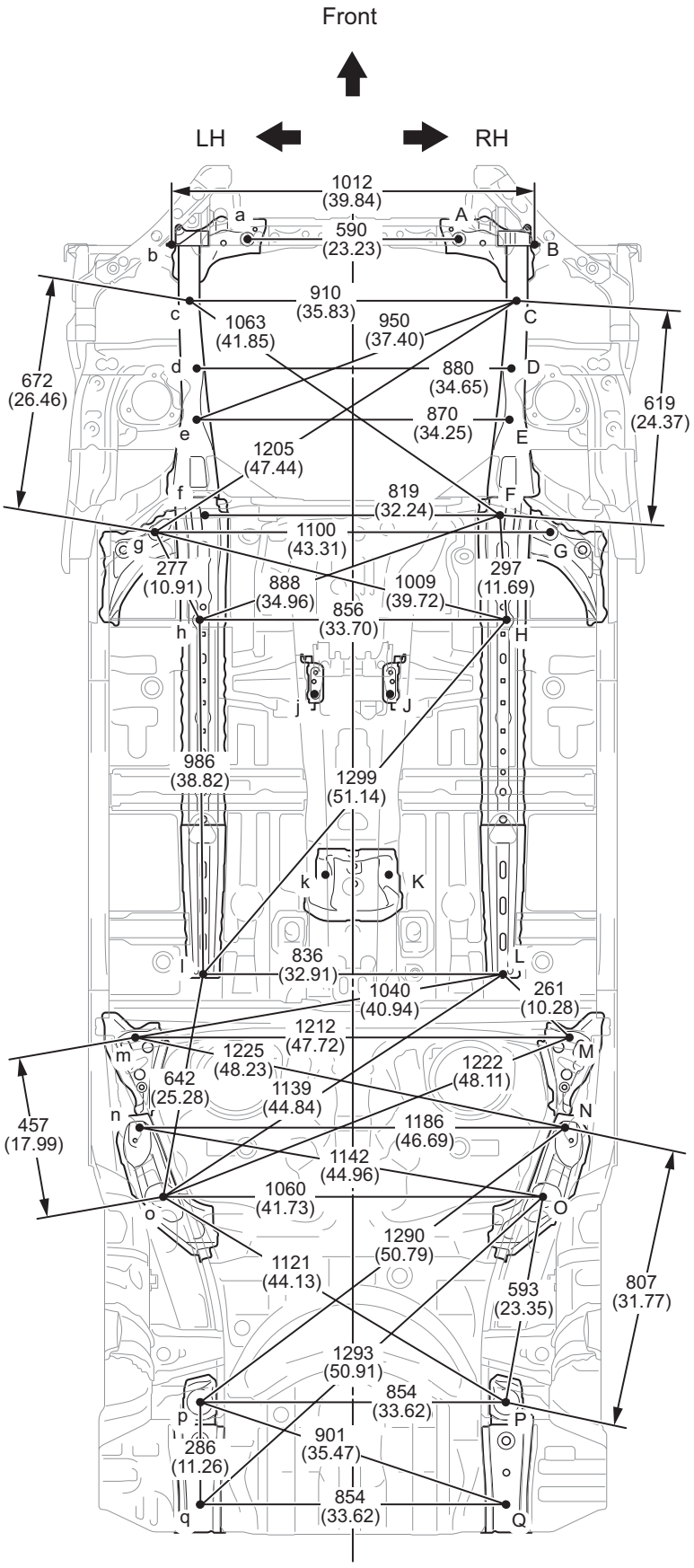
THREE-DIMENSIONAL DISTANCE

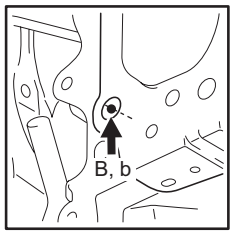
HINT:

- Point J, j and K, k on the vehicle are asymmetrical.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Under Cover Installation Nut	M8 (0.31)
B, b	Front Beam Installation Nut	M8 (0.31)
C, c	Side Frame Standard Hole	ϕ18 (0.71)
D, d	Front Suspension Member Installation Nut	M12 (0.47)
E, e	Front Suspension Member Installation Nut	M12 (0.47)
F, f	Lower Member Installation Nut	M10 (0.39)
G, g	Toe Board Reinforcement Lower Standard Hole	ϕ25 (0.98)
H, h	Front Side Frame Rear Standard Hole	ϕ18 (0.71)
J, j	Transmission Crossmember Installation Nut	M10 (0.39)
K, k	Propeller Shaft Installation Nut	M10 (0.39)
L, l	Front Floor Rear Frame Standard Hole	ϕ13 (0.51)
M, m	Side Frame Gusset Standard Hole	ϕ13 (0.51)
N, n	Rear Suspension Support Installation Nut	M10 (0.39)
O, o	Rear Suspension Member Installation Nut	M14 (0.55)
P, p	Rear Suspension Member Installation Nut	M14 (0.55)
Q, q	Rear Floor Frame Rear Standard Hole	ϕ18 (0.71)





Distance between points other than those to the left

J - j	K - k	A - F, a - f
210 (8.27)	181 (7.13)	776 (30.55)

A - f, a - F	C - D, c - d	C - E, c - e
1042 (41.02)	190 (7.48)	333 (13.11)

C - H, c - h	C - d, c - D	C - h, c - H
914 (35.98)	915 (36.02)	1270 (50.00)

D - E, d - e	D - e, d - E	J - K
143 (5.63)	887 (34.92)	505 (19.88)

J - k	j - K	j - k
538 (21.18)	545 (21.46)	507 (19.96)

M - N, m - n	N - O, n - o	O - Q, o - q
251 (9.88)	218 (8.58)	876 (34.49)

mm
(in.)

K104850E01

TWO-DIMENSIONAL DISTANCE

HINT:

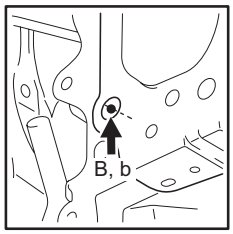
- Length measurements are indicated at the points where the arrows extending from the zero point intersect the lines that extend towards the outside of the illustration from each point.
- Point K, k and L, l on the vehicle are asymmetrical.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

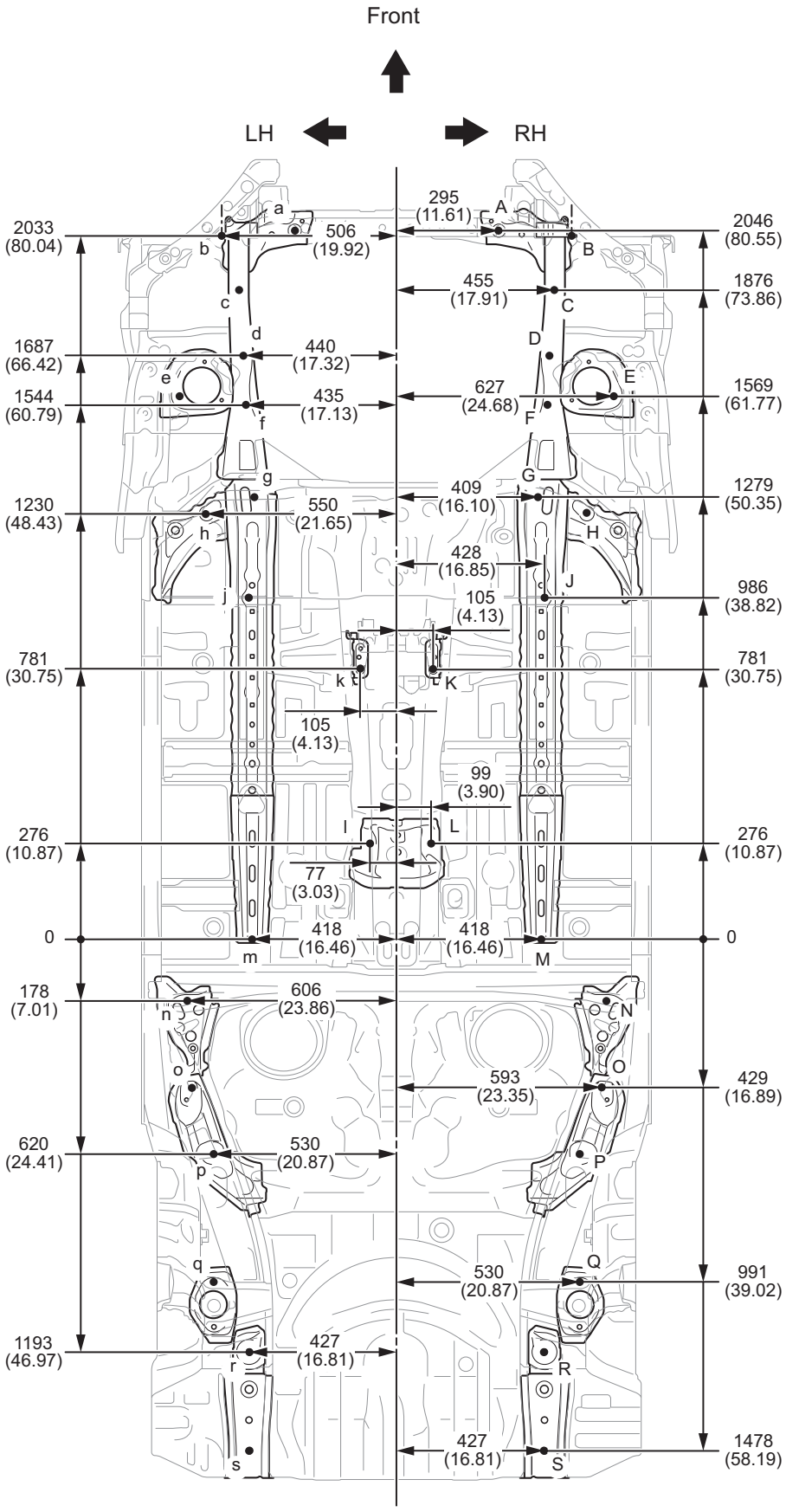
Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Under Cover Installation Nut	M8 (0.31)
B, b	Front Beam Installation Nut	M8 (0.31)
C, c	Side Frame Standard Hole	ϕ18 (0.71)
D, d	Front Suspension Member Installation Nut	M12 (0.47)
E, e	Front Suspension Installation Hole	ϕ9.5 (0.37)
F, f	Front Suspension Member Installation Nut	M12 (0.47)
G, g	Lower Member Installation Nut	M10 (0.39)
H, h	Toe Board Reinforcement Lower Standard Hole	ϕ25 (0.98)
J, j	Front Side Frame Rear Standard Hole	ϕ18 (0.71)
K, k	Transmission Crossmember Installation Nut	M10 (0.39)
L, l	Propeller Shaft Installation Nut	M10 (0.39)
M, m	Front Floor Rear Frame Standard Hole	ϕ13 (0.51)
N, n	Side Frame Gusset Standard Hole	ϕ13 (0.51)
O, o	Rear Suspension Support Installation Nut	M10 (0.39)
P, p	Rear Suspension Member Installation Nut	M14 (0.55)
Q, q	Rear Suspension Installation Hole	ϕ11 (0.43)
R, r	Rear Suspension Member Installation Nut	M14 (0.55)
S, s	Rear Floor Frame Rear Standard Hole	ϕ18 (0.71)

Wheel Base

Wheel Base	2570 mm (101.18 in.)

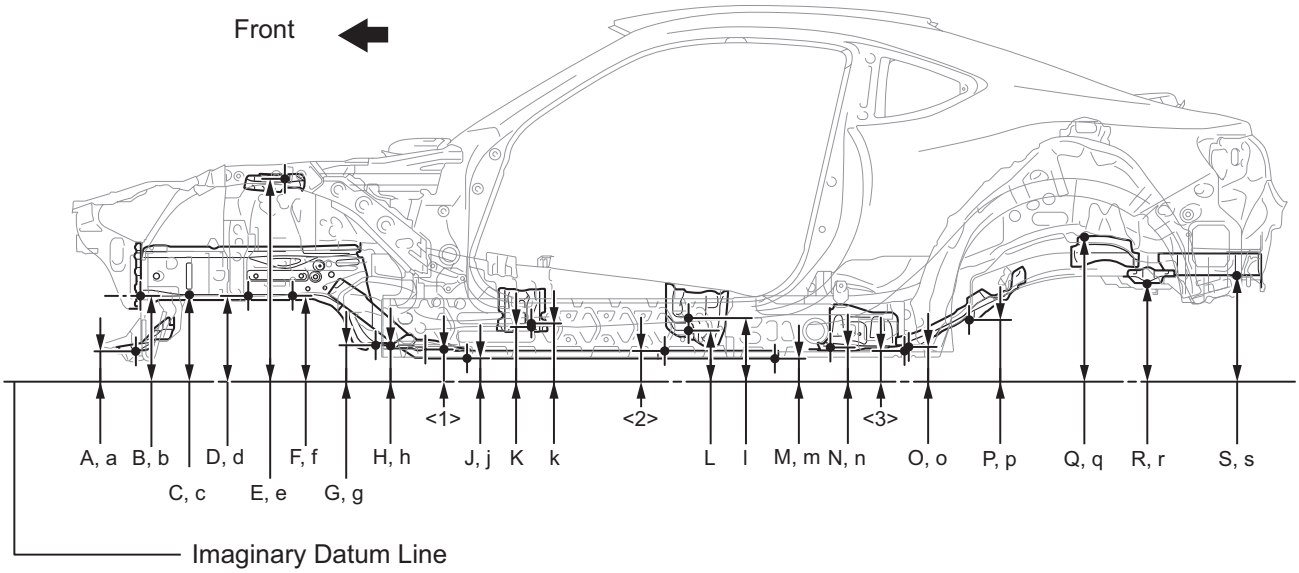




mm
(in.)

K104851E01

BD



Height from Imaginary Datum Line

A, a	B, b	C, c	D, d
100 (3.94)	278 (10.94)	277 (10.91)	277 (10.91)

E, e	F, f	G, g	H, h
649 (25.55)	277 (10.91)	118 (4.65)	119 (4.69)

J, j	K	k	L
74 (2.91)	177 (6.97)	177 (6.97)	164 (6.46)

l	M, m	N, n	O, o
208 (8.19)	75 (2.95)	111 (4.37)	113 (4.45)

P, p	Q, q	R, r	S, s
197 (7.76)	466 (18.35)	312 (12.28)	339 (13.35)

Imaginary Datum Line

<1>	<2>	<3>
105 (4.13)	100 (3.94)	102 (4.02)

mm
(in.)

K104852E01

FRONT SUSPENSION CROSSMEMBER

THREE-DIMENSIONAL DISTANCE

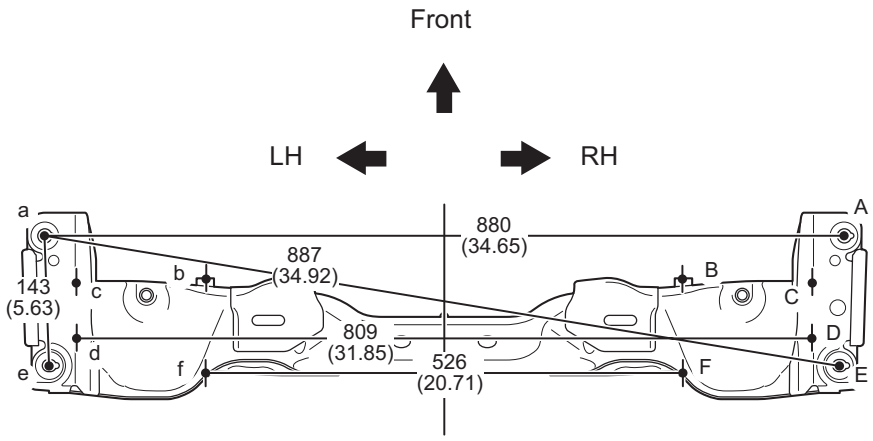
HINT:

- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A	Front Suspension Crossmember Installation Hole	15X16 (0.59X0.63)
a	Front Suspension Crossmember Installation Hole	ϕ16 (0.63)
B, b	Gear Box Installation Hole	ϕ15 (0.59)
C, c	Front Suspension Lower Arm Installation Hole	ϕ12.5 (0.49)
D, d	Front Suspension Lower Arm Installation Hole	ϕ12.5 (0.49)
E	Front Suspension Crossmember Installation Hole	ϕ13.5 (0.53)
e	Front Suspension Crossmember Installation Hole	12.5X16 (0.49X0.63)
F, f	Gear Box Installation Hole	ϕ14 (0.55)

BD



Distance between points other than those above

B - b	C - c	E - e
526 (20.71)	809 (31.85)	870 (34.25)

A - C, a - c	D - E, d - e	D - F, d - f	D - f, d - F
114 (4.49)	104 (4.09)	150 (5.91)	669 (26.34)

mm
(in.)

K104853E01

TWO-DIMENSIONAL DISTANCE

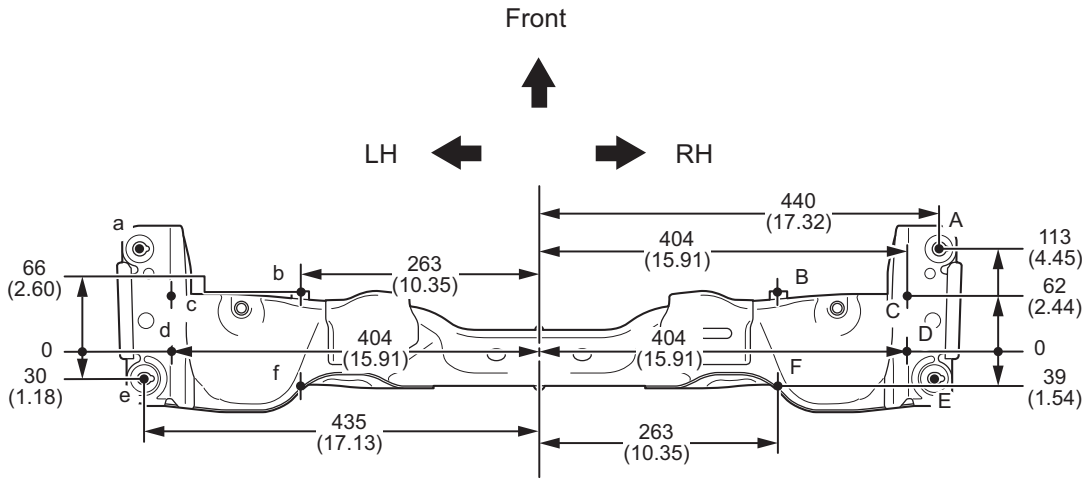
HINT:

- Length measurements are indicated at the points where the arrows extending from the zero point intersect the lines that extend towards the outside of the illustration from each point.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

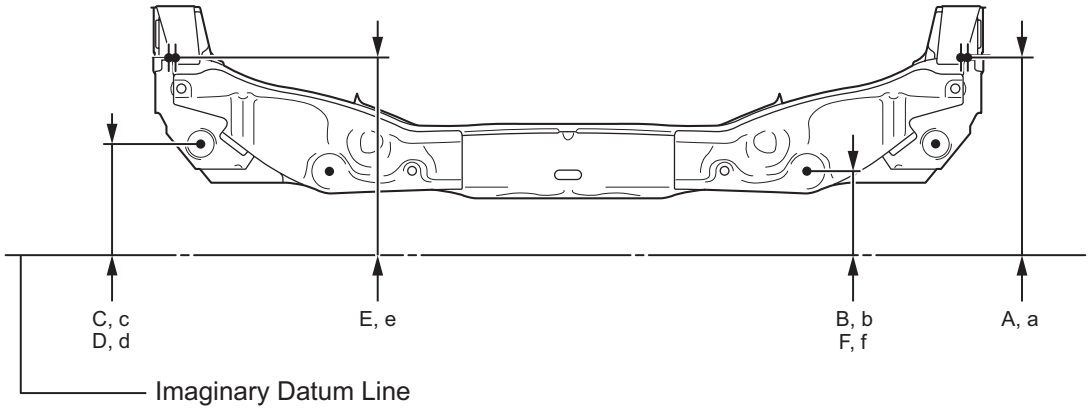
Symbol	Name	Hole Diameter mm (in.)
A	Front Suspension Crossmember Installation Hole	15X16 (0.59X0.63)
a	Front Suspension Crossmember Installation Hole	ϕ16 (0.63)
B, b	Gear Box Installation Hole	ϕ15 (0.59)
C, c	Front Suspension Lower Arm Installation Hole	ϕ12.5 (0.49)
D, d	Front Suspension Lower Arm Installation Hole	ϕ12.5 (0.49)
E	Front Suspension Crossmember Installation Hole	ϕ13.5 (0.53)
e	Front Suspension Crossmember Installation Hole	12.5X16 (0.49X0.63)
F, f	Gear Box Installation Hole	ϕ14 (0.55)

BD



mm
(in.)

K104854E02



Height from Imaginary Datum Line

A, a	B, b	C, c	D, d	E, e	F, f
219 (8.62)	94 (3.70)	124 (4.88)	124 (4.88)	219 (8.62)	94 (3.70)

mm
(in.)

K104855E01

REAR SUSPENSION CROSSMEMBER

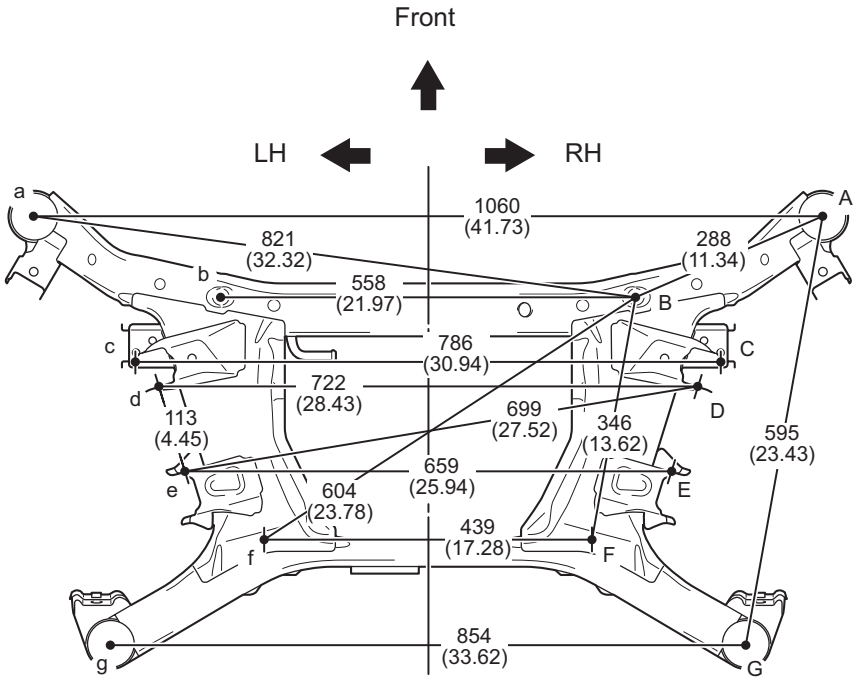
THREE-DIMENSIONAL DISTANCE

HINT:

- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Rear Suspension Crossmember Installation Hole	ϕ60 (2.36)
B, b	Rear Suspension Crossmember Standard Hole	ϕ10 (0.39)
C, c	Rear Suspension Lower Arm Installation Hole	14.5X25 (0.57X0.98)
D, d	Rear Suspension Upper Arm Installation Hole	ϕ13.5 (0.53)
E, e	Rear Suspension Upper Arm Installation Hole	ϕ13.5 (0.53)
F, f	Rear Suspension Lower Arm Installation Hole	ϕ12.5 (0.49)
G, g	Rear Suspension Crossmember Installation Hole	ϕ60 (2.36)



Distance between points other than those above

A - F, a - f	A - f, a - F	A - g, a - G	C - F, c - f	C - f, c - F
532 (20.94)	865 (34.06)	1122 (44.17)	295 (11.61)	657 (25.87)

mm
(in.)

K104856E01

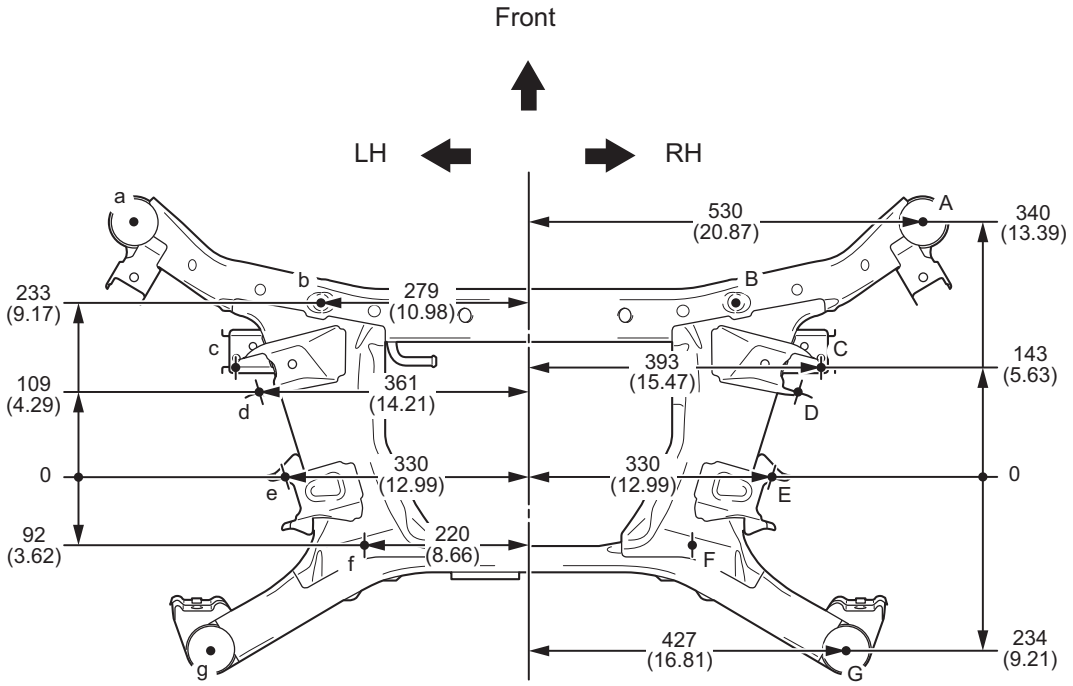
TWO-DIMENSIONAL DISTANCE

HINT:

- Length measurements are indicated at the points where the arrows extending from the zero point intersect the lines that extend towards the outside of the illustration from each point.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

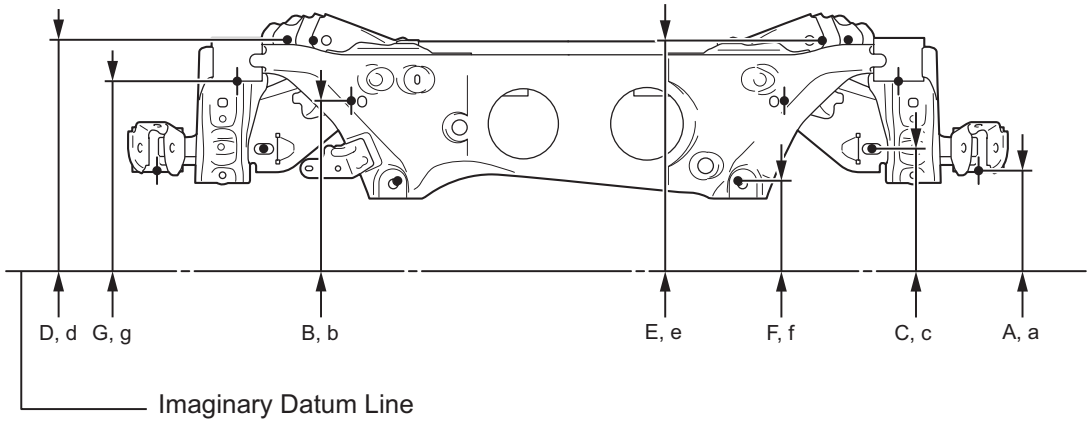
Symbol	Name	Hole Diameter mm (in.)
A, a	Rear Suspension Crossmember Installation Hole	ϕ60 (2.36)
B, b	Rear Suspension Crossmember Standard Hole	ϕ10 (0.39)
C, c	Rear Suspension Lower Arm Installation Hole	14.5X25 (0.57X0.98)
D, d	Rear Suspension Upper Arm Installation Hole	ϕ13.5 (0.53)
E, e	Rear Suspension Upper Arm Installation Hole	ϕ13.5 (0.53)
F, f	Rear Suspension Lower Arm Installation Hole	ϕ12.5 (0.49)
G, g	Rear Suspension Crossmember Installation Hole	ϕ60 (2.36)



mm
(in.)

K104857E01

BD



Height from Imaginary Datum Line

A, a	B, b	C, c	D, d	E, e	F, f	G, g
130 (5.12)	222 (8.74)	159 (6.26)	301 (11.85)	300 (11.81)	118 (4.65)	247 (9.72)

mm
(in.)

K104858E01

ENGINE COMPARTMENT REFERENCE VALUES

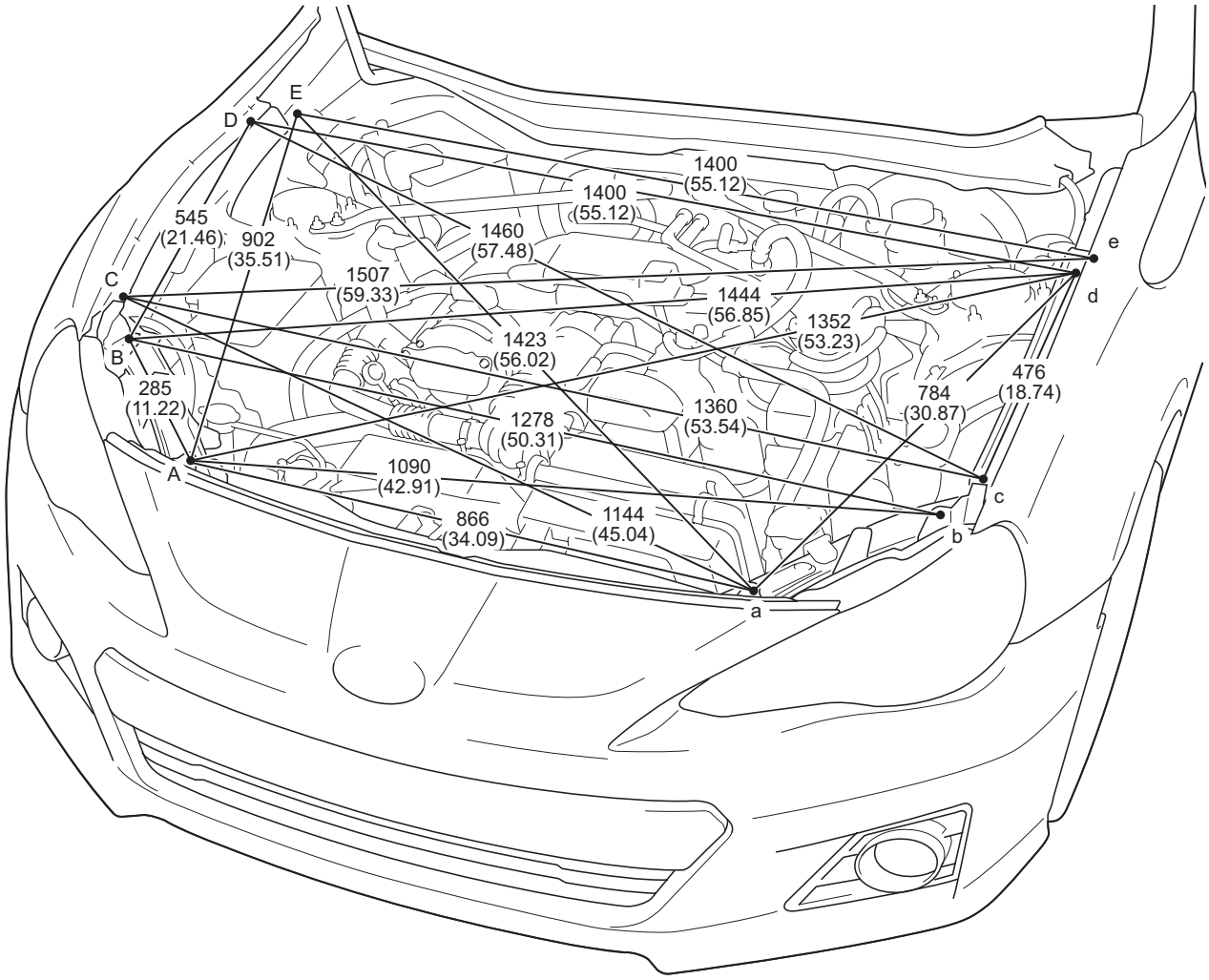
THREE-DIMENSIONAL DISTANCE

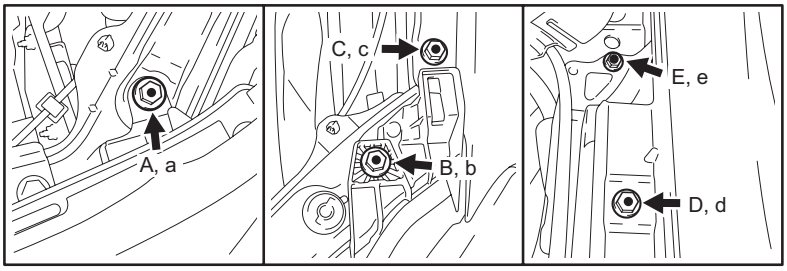
HINT:

- Measure points with the engine cover removed.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Bracket Corner Installation Bolt	M6 (0.24)
B, b	Headlight Installation Bolt	M6 (0.24)
C, c	Front Fender Installation Bolt	M6 (0.24)
D, d	Front Fender Installation Bolt	M6 (0.24)
E, e	Patch Frame Side Upper Installation Bolt	M6 (0.24)





Distance between points other than those above

A - C, a - c	B - C, b - c	B - E, b - e	B - c, b - C	B - e, b - E	C - E, c - e	D - E, d - e	D - e, d - E
361 (14.21)	79 (3.11)	671 (26.42)	1321 (52.01)	1497 (58.94)	606 (23.86)	149 (5.87)	1408 (55.43)

mm
(in.)

K105374E02

UNDER BODY REFERENCE VALUES

THREE-DIMENSIONAL DISTANCE

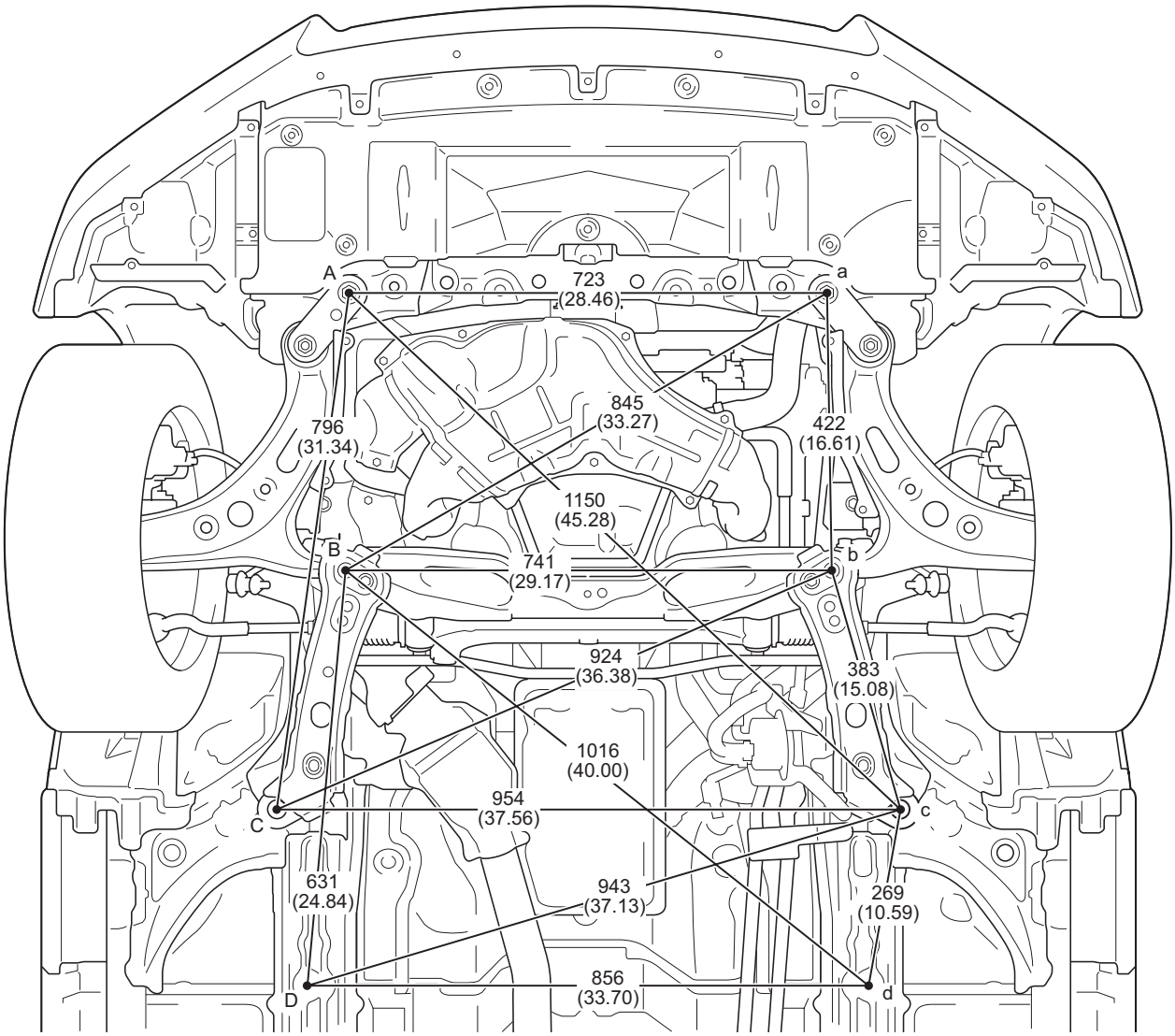
HINT:

- Measure points with the engine under cover removed.
- In cases in which only one dimension is given, left and right are symmetrical.
- For symbols, capital letters indicate right side of vehicle, small letters indicate left side of vehicle (seen from rear).

Measuring Point Name

Symbol	Name	Hole Diameter mm (in.)
A, a	Plate Arm Installation Bolt	M14 (0.55)
B, b	Lower Member Installation Bolt	M10 (0.39)
C, c	Lower Member Installation Bolt	M10 (0.39)
D, d	Front Side Frame Rear Standard Hole	ϕ18 (0.71)

BD



Distance between points other than those above

A - D, a - d	A - d, a - D
1052 (41.42)	1314 (51.73)

mm
(in.)

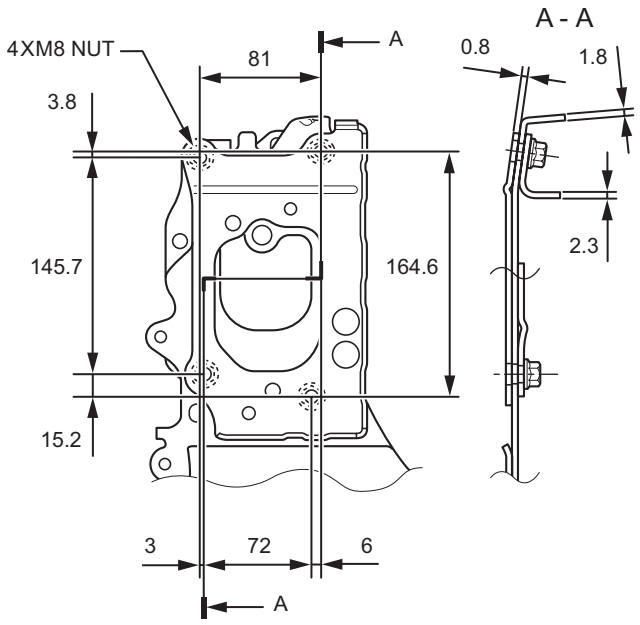
K104860E01

OTHER REFERENCE VALUES

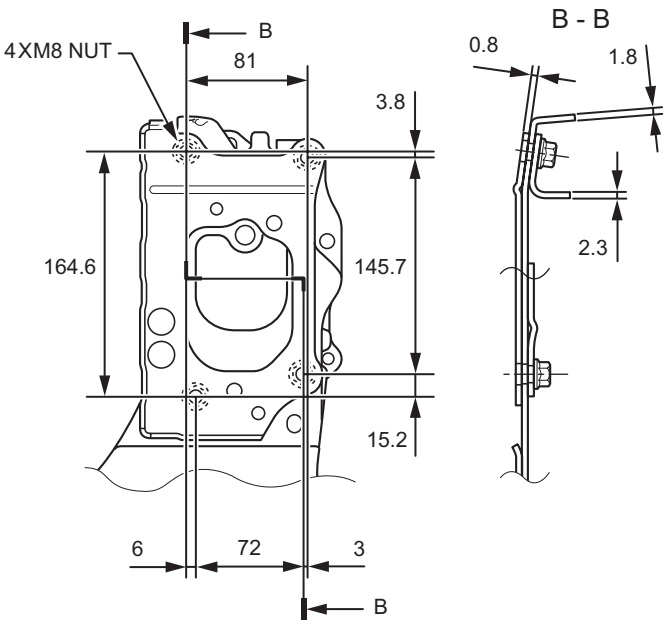
TWO-DIMENSIONAL DISTANCE

Front Beam installation

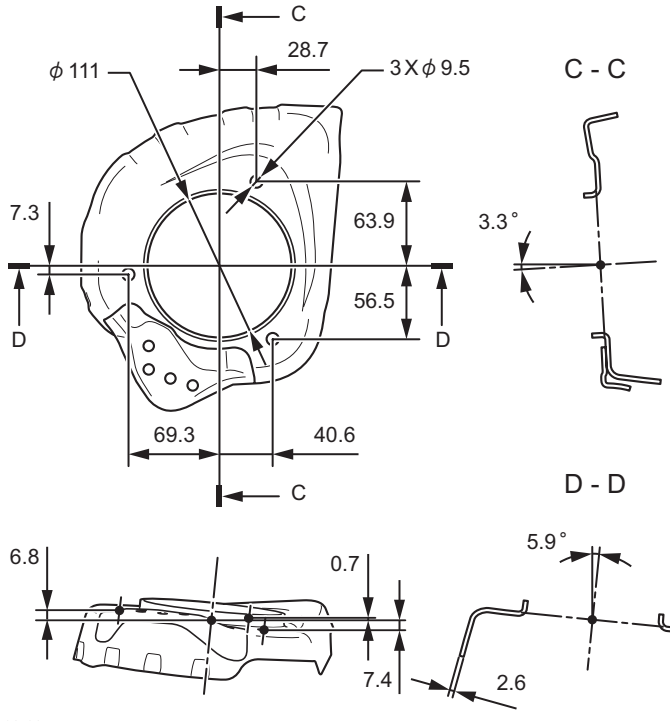
RH:



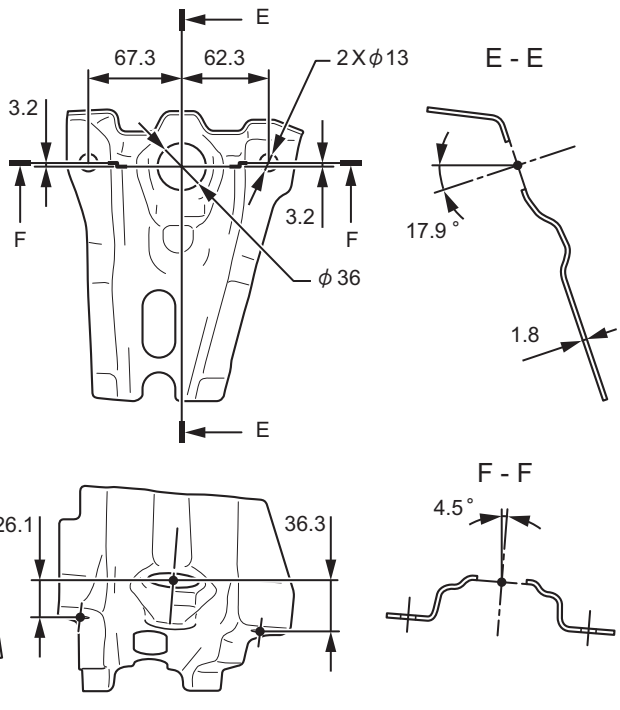
LH:



Front Suspension installation



Rear suspension installation



mm

K104861E02

PAINTING / COATING

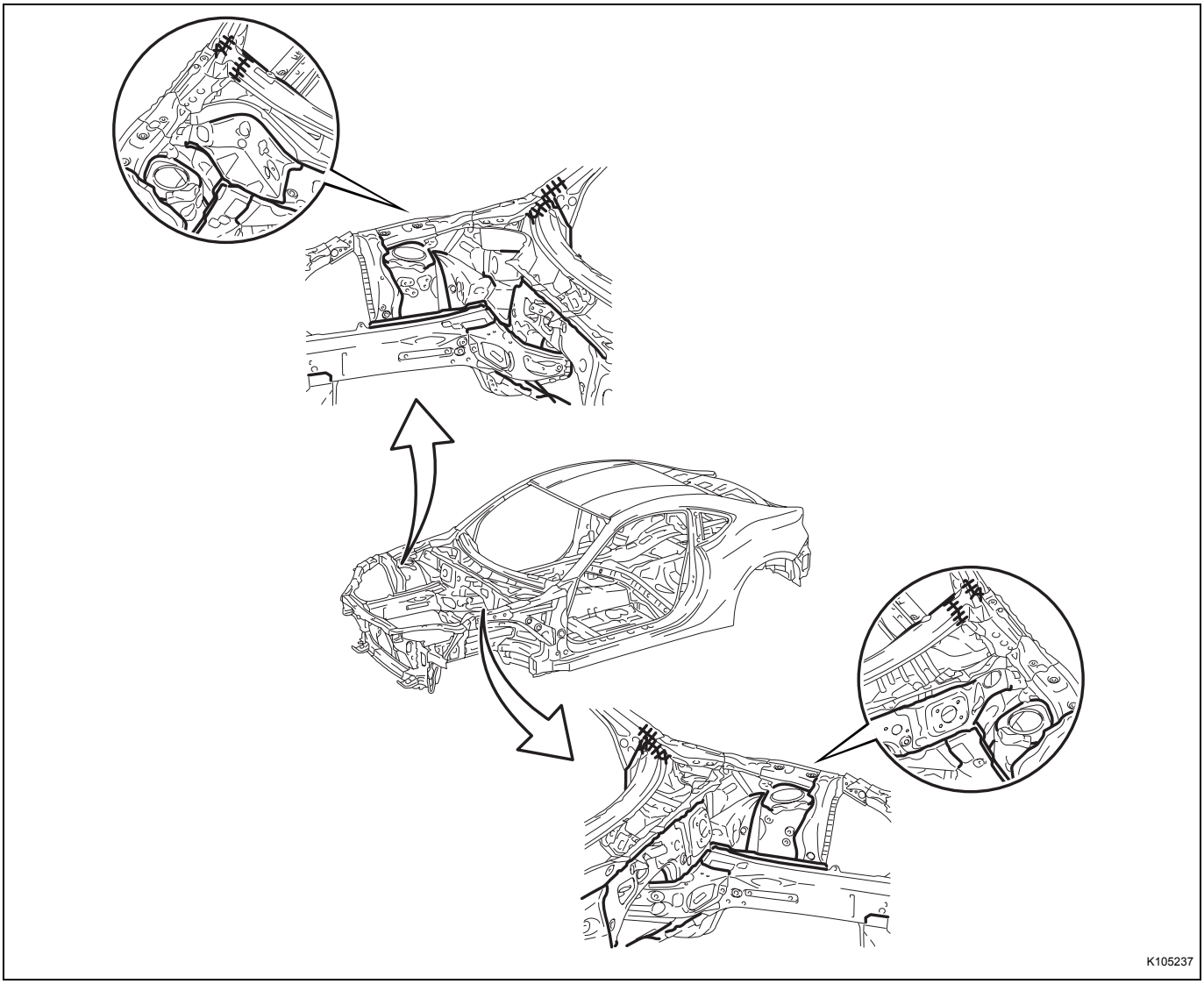
PC

BODY PANEL SEALING

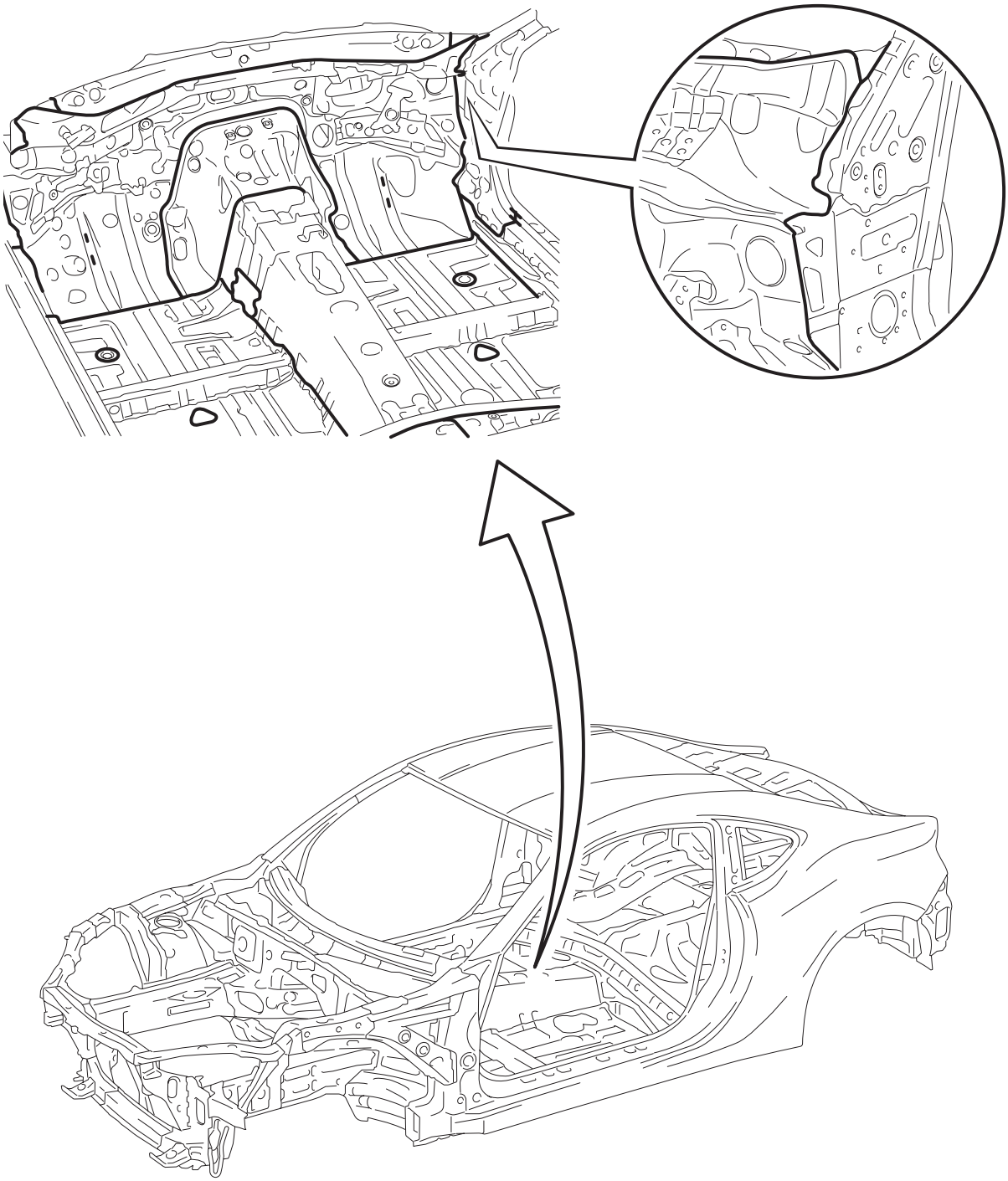
APPLICATION AREAS

1. Be sure to apply body sealer to the body panel joints and door edges (tip of outer panel folded part), etc., to waterproof and rustproof them.
   HINT:
   - Apply degreasing agent to a clean cloth and clean the sealer application areas.
   - After removing the applied spot sealer from the sealer application areas using thinner or equivalent, rust-proof the areas by applying primer or equivalent. Then apply body sealer.
   - If sealer is unnecessarily applied to an area, apply degreasing agent to a clean cloth and clean off the body sealer immediately.

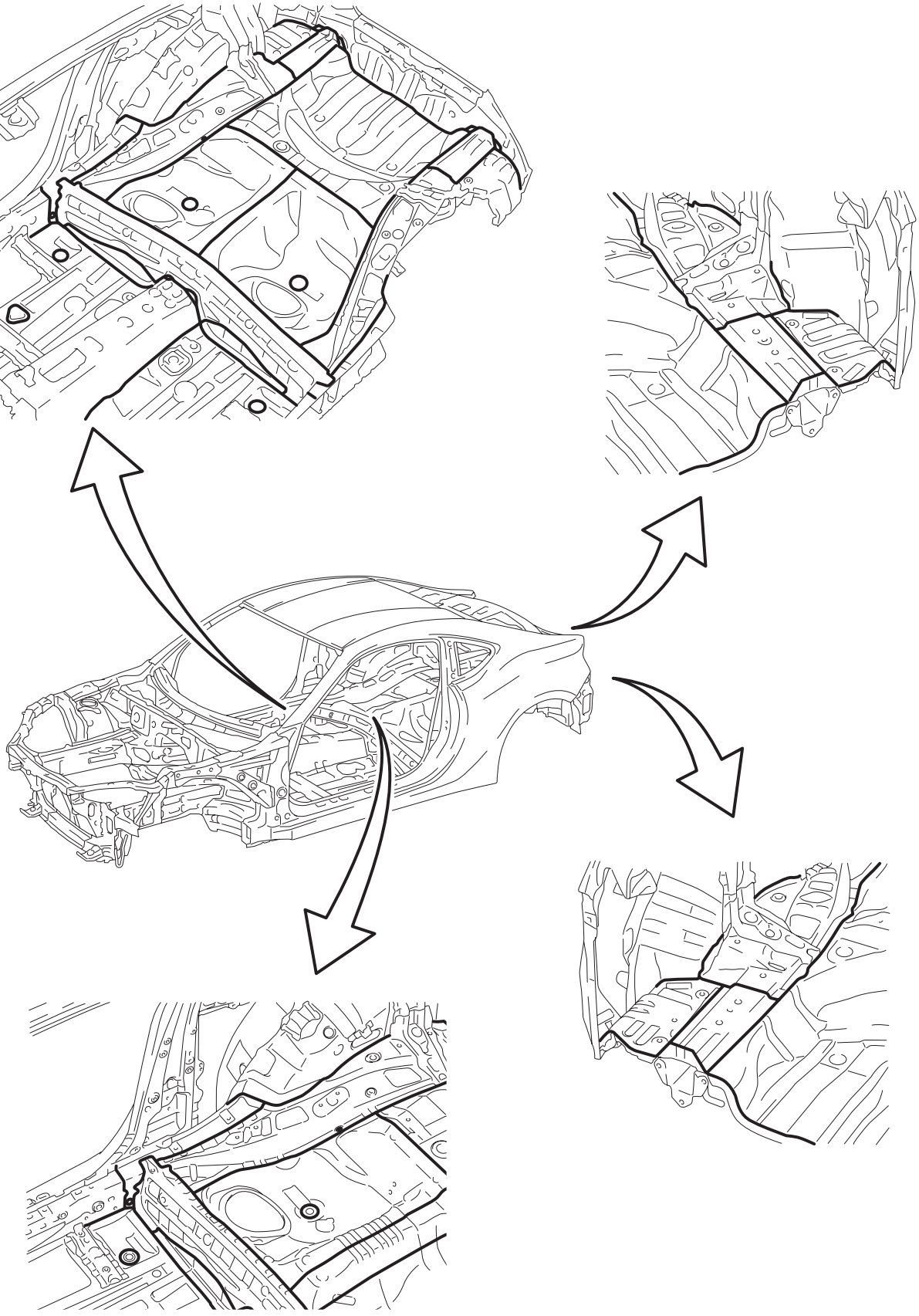
++++++++	Flat Finishing	——	No Flat Finishing



PC

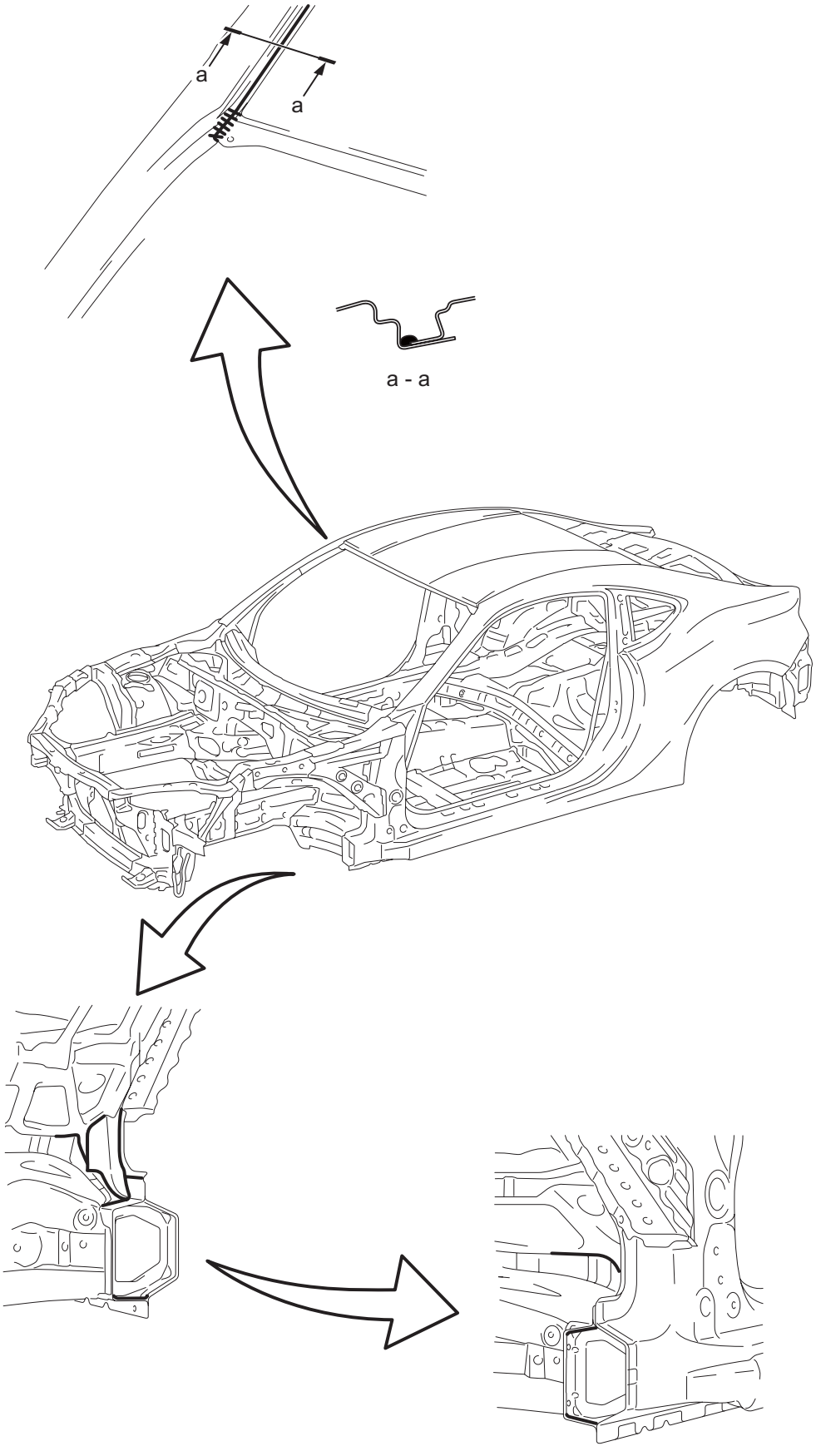


K104839

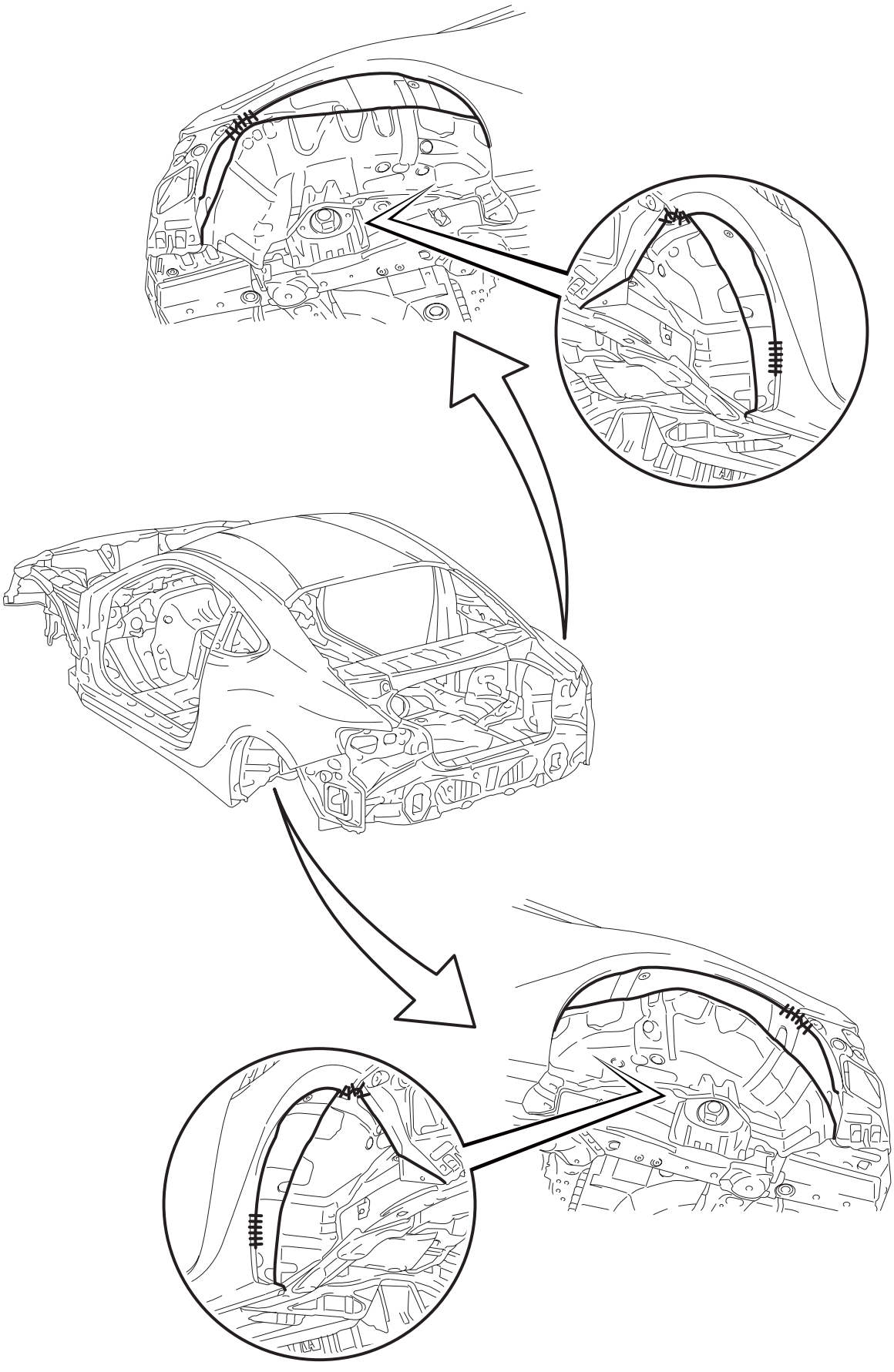


K104840

PC

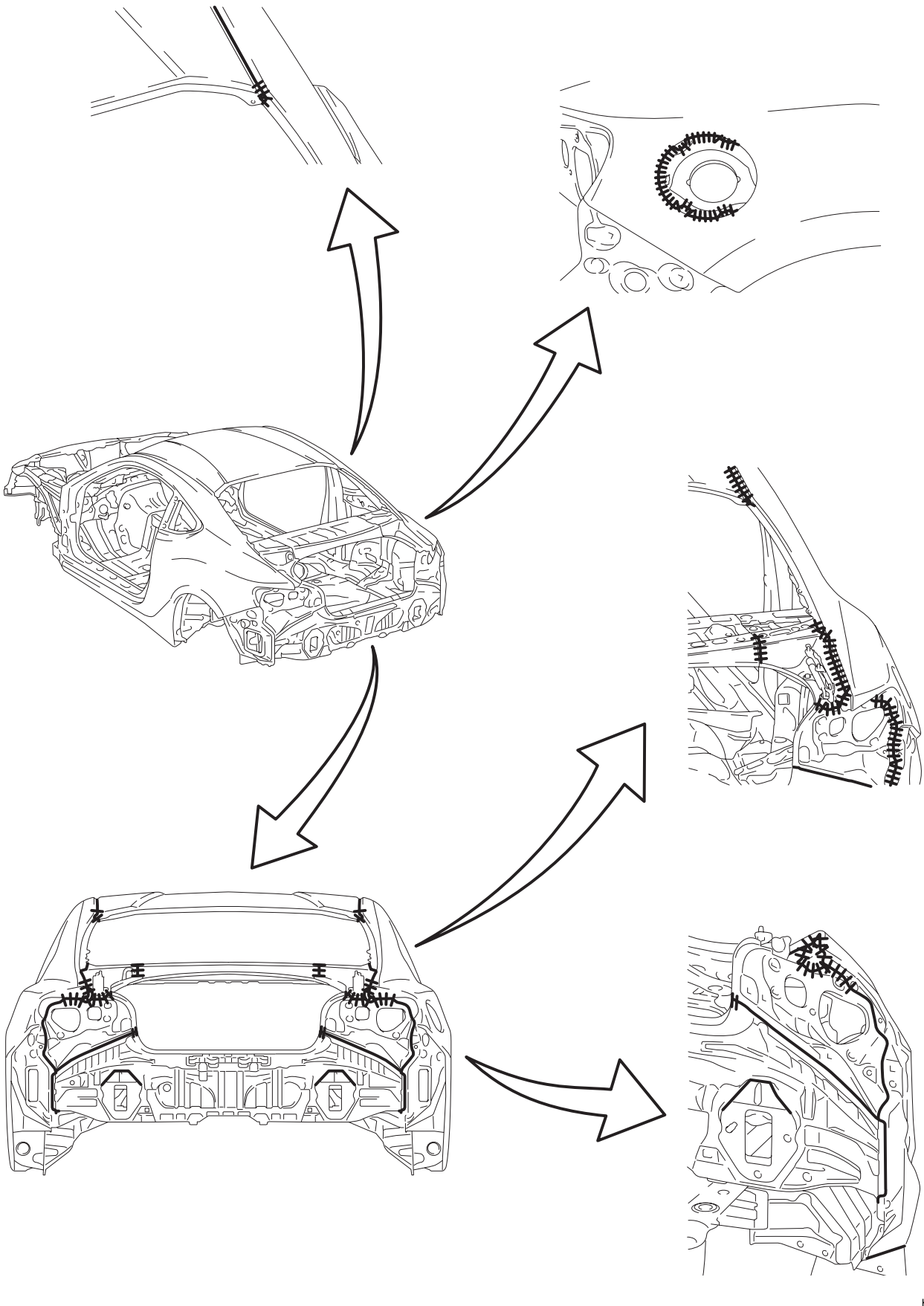


K104841E02

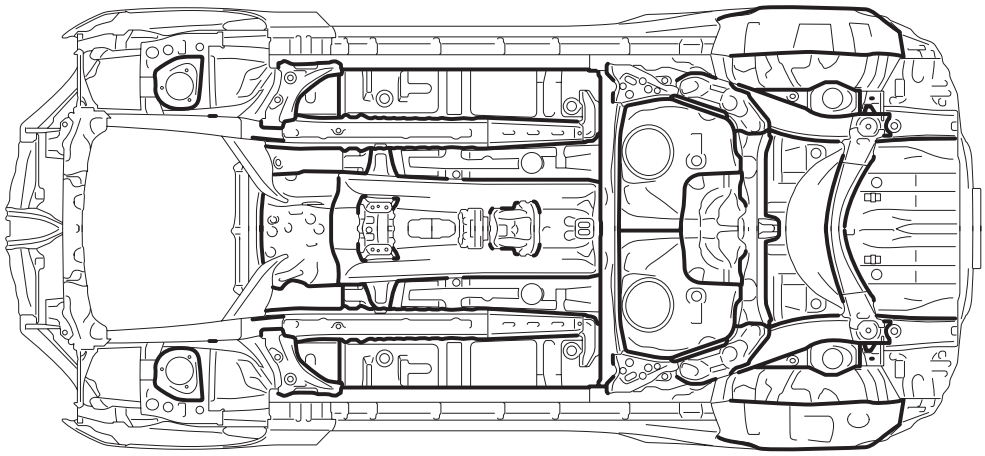


K104842

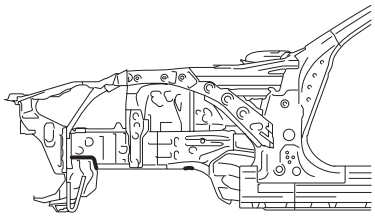
PC

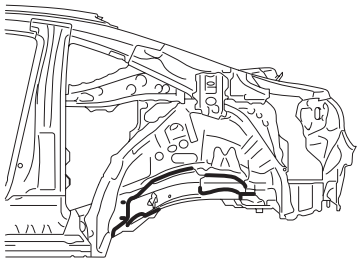


K106314

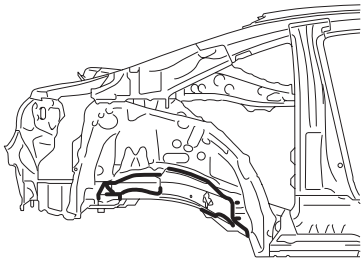


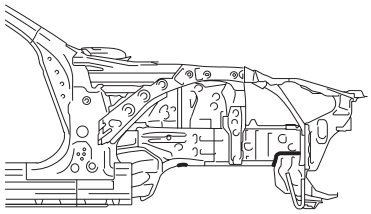
LH:





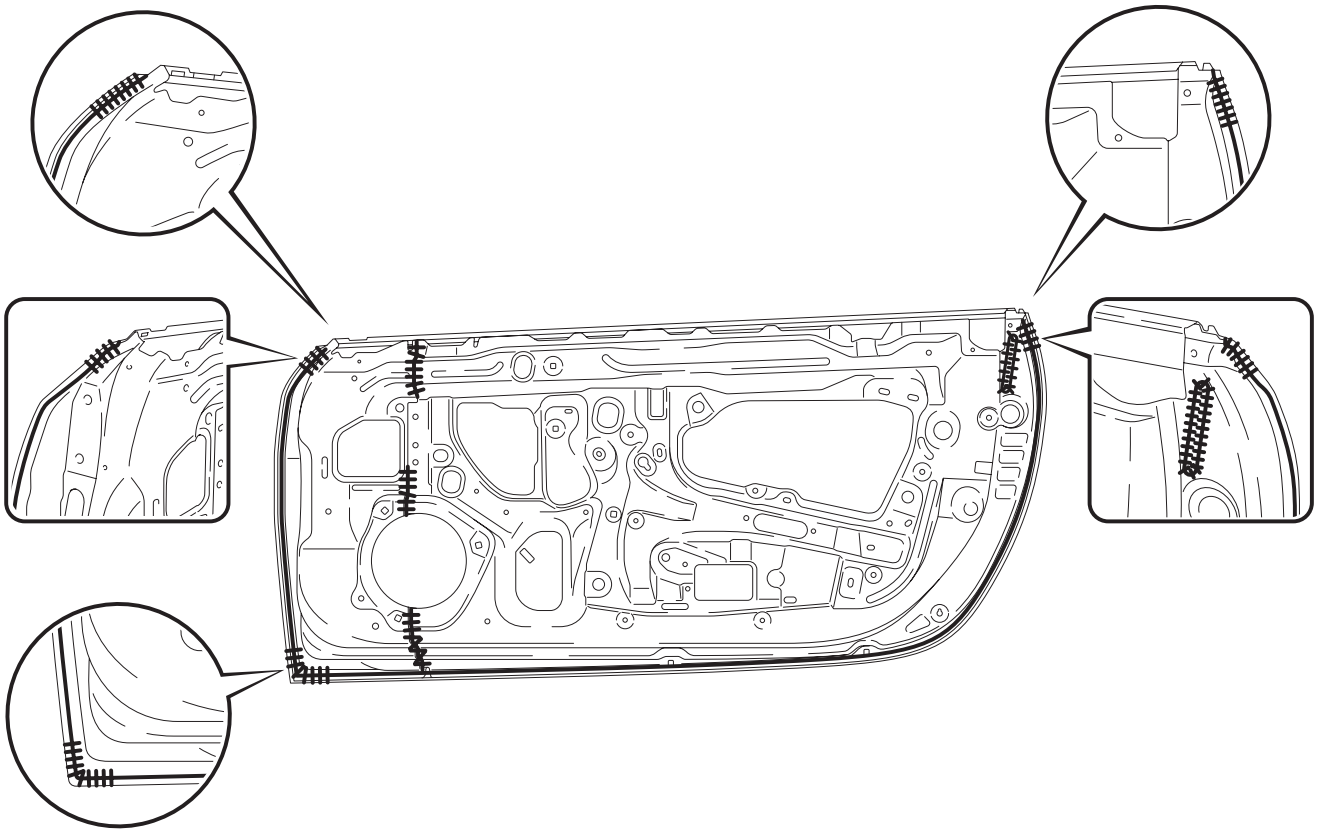
RH:



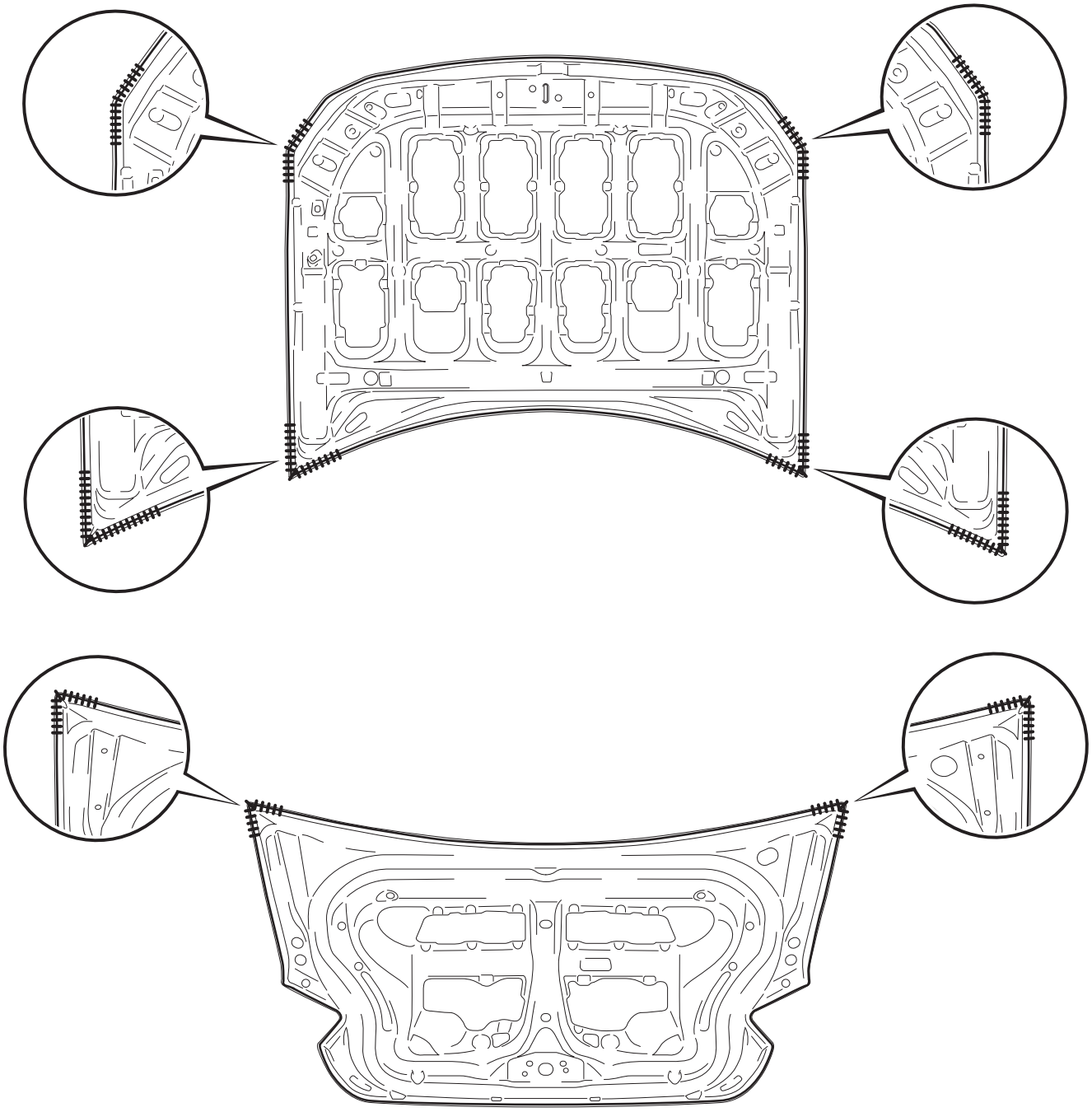


K106316E01

PC



K104844



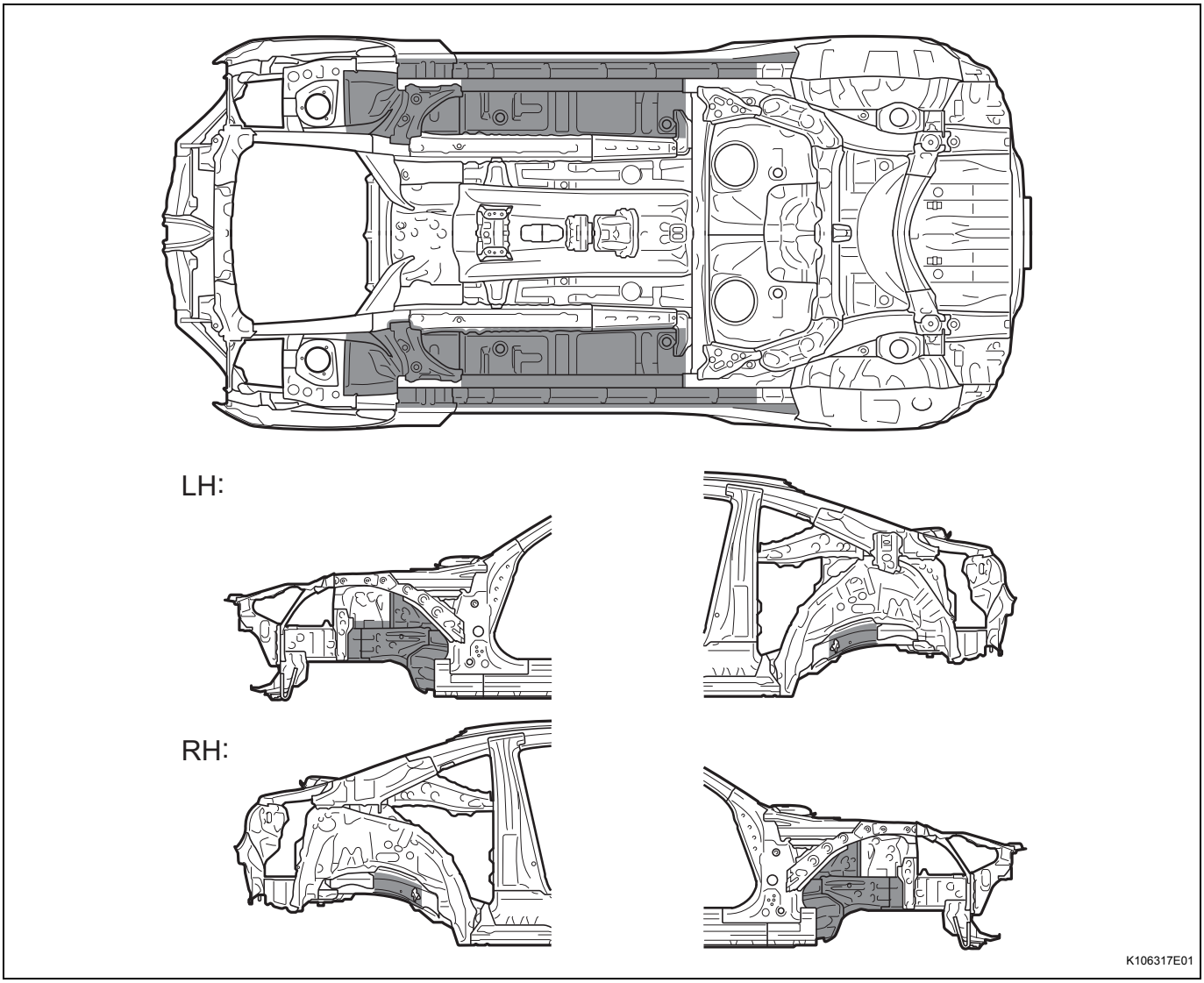
K104845

BODY PANEL UNDERCOATING

APPLICATION AREAS

CAUTION:
Work must be performed while wearing the appropriate protective gear and in a well-ventilated area.
NOTICE:
Do not coat high temperature areas, such as the tailpipe, or moving parts, such as the drive shaft.

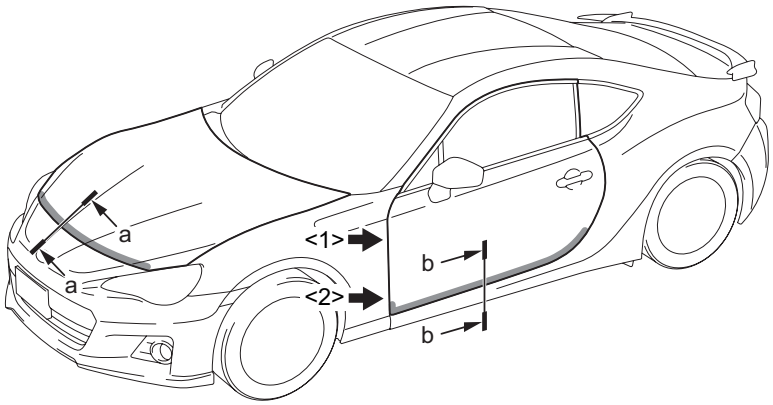
1. Apply undercoating to the chassis, floor underside, sheet metal fitting weld points of the body, and inside of the wheel house to prevent rust and noise, as well as protect the body from gravel.
   HINT:
   - Apply degreasing agent to a clean cloth and clean any dirt and oil from the application areas.
   - Cover the surrounding areas of the application areas with masking paper to avoid coating unnecessary areas.
   - Do not leave any gaps between the panel joints.
   - Apply body sealer to the panel joints in advance.
   - Referring to the notes above, undercoating should be applied according to the specifications for your country.

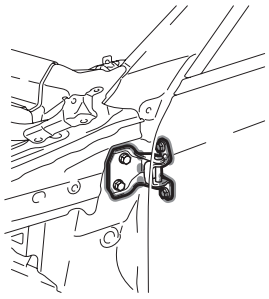


BODY PANEL ANTI-RUST AGENT MATERIAL

APPLICATION AREAS

1. Apply anti-rust agent (wax) to the doors and hood edges (tips of outer panel folded parts) and undersides, areas around hinges, etc., to prevent rust. Coat the undersides of the edges using a nozzle and air gun, and coat the areas around the hinges using a brush.
   HINT:
   If anti-rust agent (wax) is unnecessarily applied to an area, apply degreasing agent to a clean cloth and clean off the anti-rust agent (wax) immediately.





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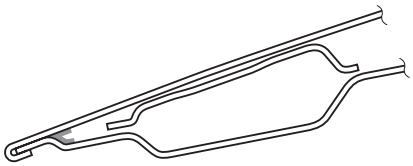
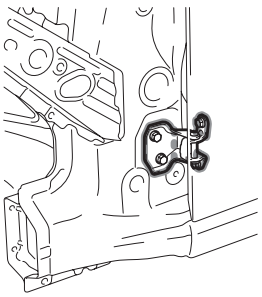


a - a



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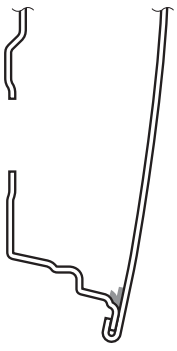
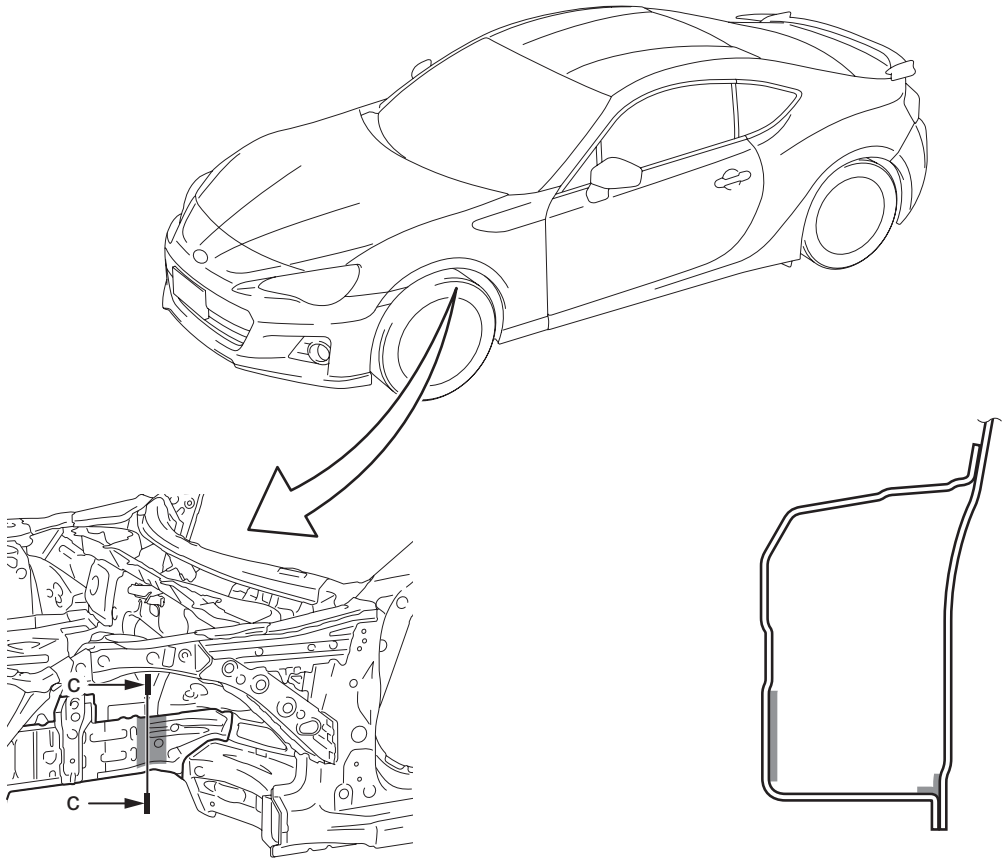


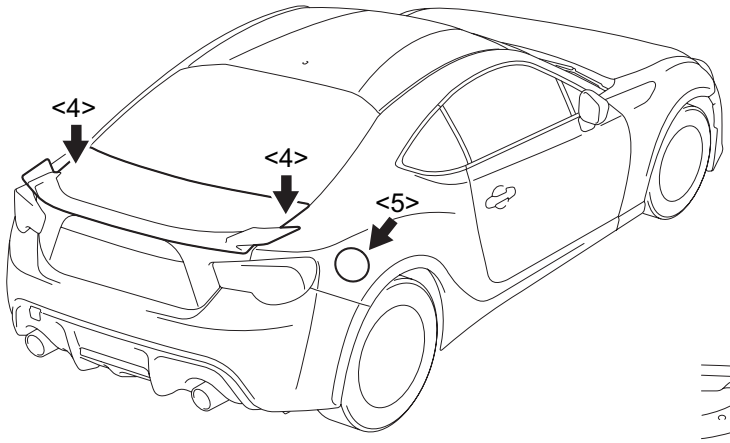
b - b

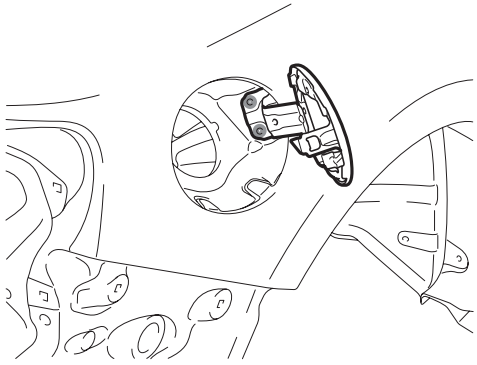
K105614E01

PC



C - C





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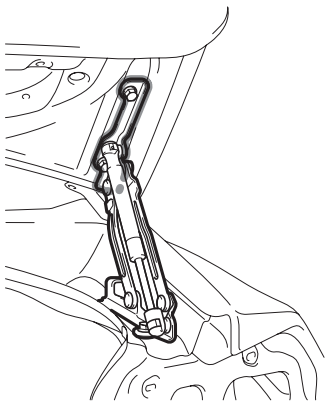
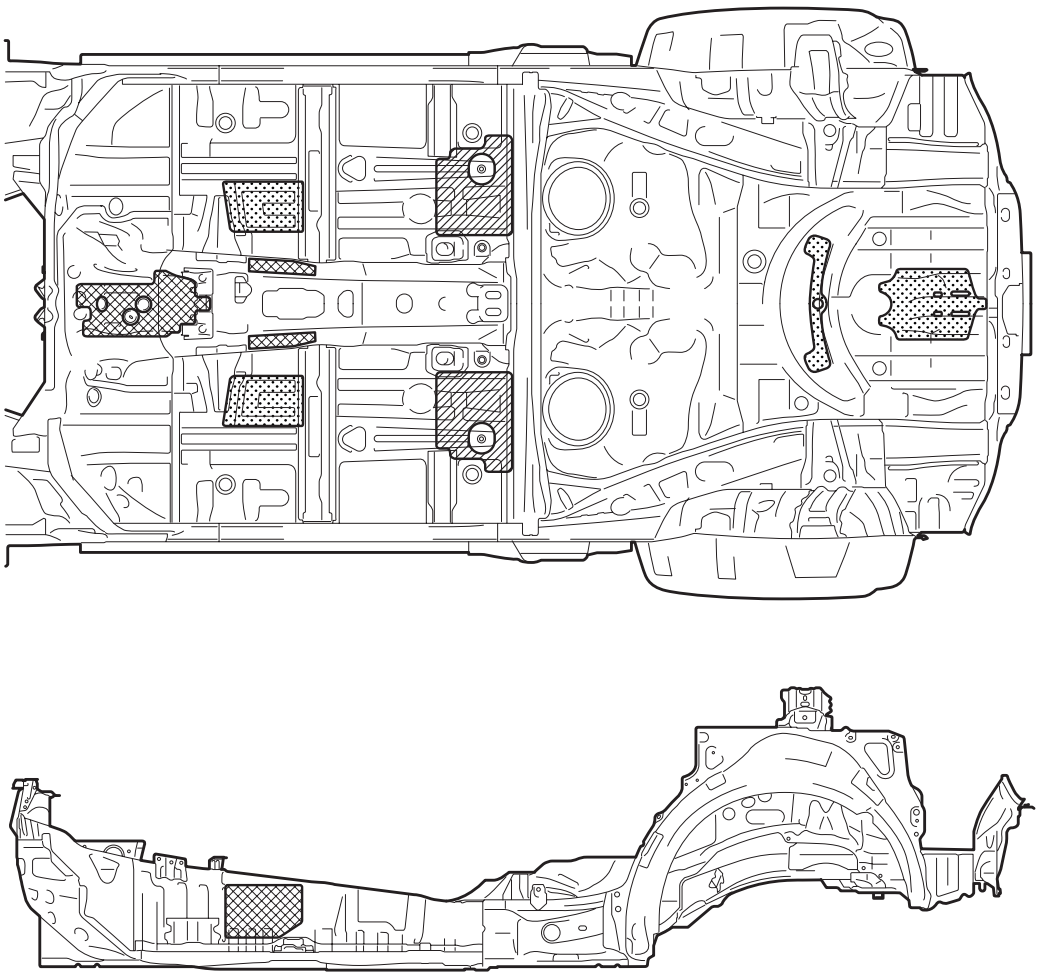


<4>

K105615E01

SILENCER SHEET

INSTALLATION AREAS



Thickness of Silencer Sheet mm (in.)

- • • •3.0 (0.118)
- • • •3.5 (0.138)
- • • •4.0 (0.157)

K105027E01

BODY PANEL ANTI-CHIPPING PAINT

APPLICATION AREAS

CAUTION:
Work must be performed while wearing the appropriate protective gear and in a well-ventilated area.

1. To protect the body from damage due to gravel, apply the anti-chipping paint to the rocker panels, roof panel, front body pillar, doors, wheel arches and hood.
   HINT:
   - Apply anti-chipping paint to the indicated areas first, before applying the top coat.
   - If anti-chipping paint is unnecessarily applied to an area, apply degreasing agent to a clean cloth and clean the paint off immediately.

PC