

SECTION **BRM**
BODY REPAIR

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B
C
D
E
F
G
H
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J
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N
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P

CONTENTS

VEHICLE INFORMATION	2	Undercoating	17
BODY EXTERIOR PAINT COLOR	2	BODY SEALING	19
Body Exterior Paint Color	2	Description	19
PRECAUTION	3	BODY CONSTRUCTION	22
PRECAUTIONS	3	Body Construction	22
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN- SIONER"	3	REPLACEMENT OPERATIONS	24
HANDLING PRECAUTIONS FOR PLASTICS	4	Description	24
Precautions For Plastics	4	Hoodledge	27
REPAIRING HIGH STRENGTH STEEL	7	Front Side Member (Partial Replacement)	28
High Strength Steel (HSS)	7	Front Pillar	29
Handling of Ultra High Strength Steel Plate Parts.....	9	Dash Side	31
Welding of Ultra High Strength Steel	9	Center Pillar	32
PREPARATION	11	Sill outer Reinforcement	34
REPAIRING MATERIAL	11	Rear Fender	36
Foam Repair	11	Rear Body Side Inner Assembly	36
BODY COMPONENT PARTS	12	Rear Floor Rear (Partial Replacement)	37
Underbody Component, Engine Compartment Parts	12	Rear Panel Assembly	40
Body Component Parts	14	Roof	41
REMOVAL AND INSTALLATION	16	Rear Side Member Extension	42
CORROSION PROTECTION	16	SERVICE DATA AND SPECIFICATIONS (SDS)	44
Description	16	BODY ALIGNMENT	44
Anti-Corrosive Wax	16	Body Center Marks	44
		Description	45
		Engine Compartment	45
		Underbody	47
		Passenger Compartment	50
		Rear Body	51

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BODY EXTERIOR PAINT COLOR

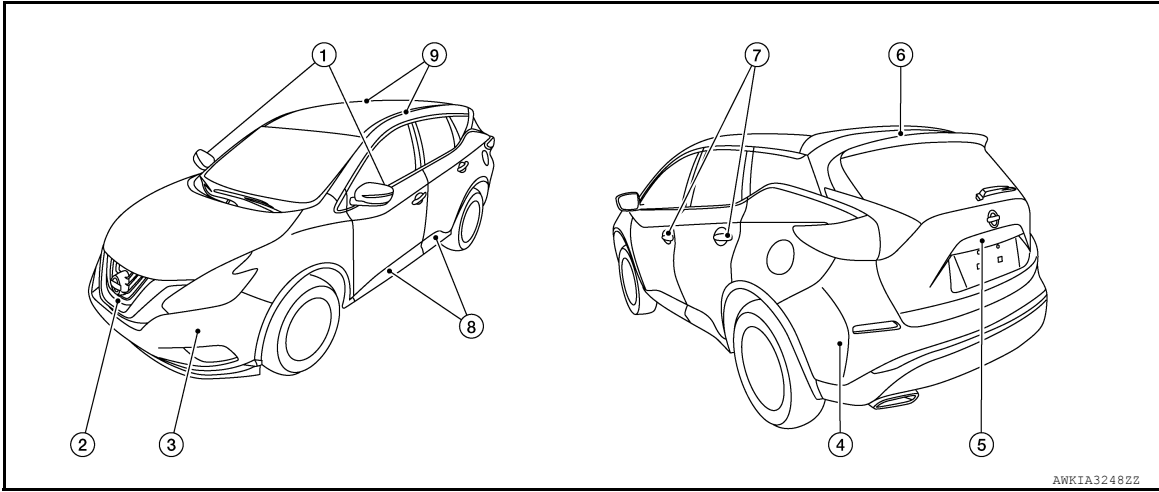
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VEHICLE INFORMATION

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

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Component	Color code	CAJ	EAW	G41	K23	KAD	NAH	RBG	QAB
	Description	Brown	Orange	Black	Silver	Gray	Red	Blue	White
	Paint type	M	PM	P	M	M	PM	PM	3P
	Standard clear coat	x	x	x	x	x	x	x	x
1. Door mirror	Body color	CAJ	EAW	G41	K23	KAD	NAH	RBG	QAB
2. Front grille	Chromium Plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
3. Front bumper fascia	Body color	CAJ	EAW	G41	K23	KAD	NAH	RBG	QAB
4. Rear bumper fascia	Body color	CAJ	EAW	G41	K23	KAD	NAH	RBG	QAB
5. Back door outer finisher	Body color	CAJ	EAW	G41	K23	KAD	NAH	RBG	QAB
6. Rear spoiler	Black	G41	G41	G41	G41	G41	G41	G41	G41
7. Door outside handle	Chromium Plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
8. Door outside lower molding	Chromium Plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
9. Roof rack (If equipped)	Body color	K23	K23	K23	K23	K23	K23	K23	K23

M= Metallic, P= Pearl, PM= Pearl, Metallic, 3P= 3 stage pearl, Black is solvent based, all others are water based, x= Standard clear coat, Cr= Chrome

PRECAUTIONS

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PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:000000011674877

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

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HANDLING PRECAUTIONS FOR PLASTICS

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HANDLING PRECAUTIONS FOR PLASTICS

Precautions For Plastics

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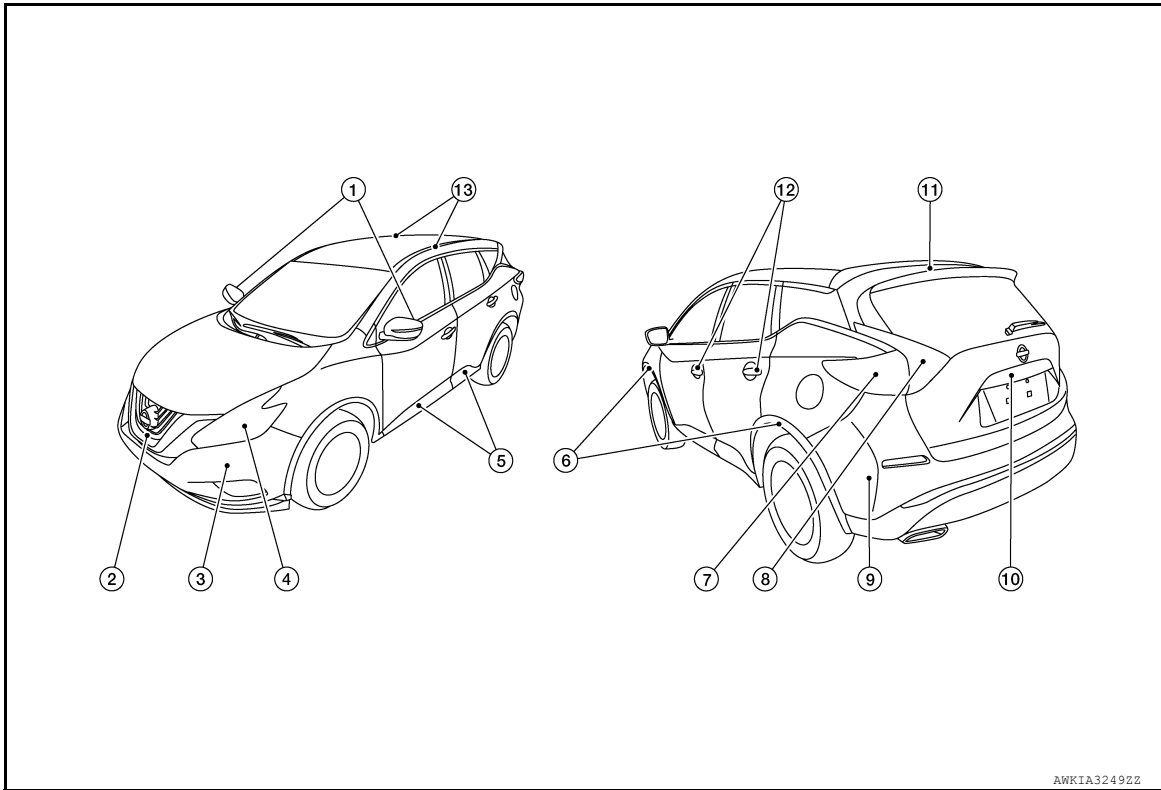
Abbreviation	Material name	Heatresisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60(140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Poly Vinyl Chloride	80(176)	Same as above.	Poison gas is emitted when burned.
EPM/EPDM	Ethylene Propylene (Diene) copolymer	80(176)	Same as above.	Flammable
TPO/TPR	Thermoplastic Olefine/ Thermoplastic rubber	80(176)	Same as above.	Flammable
PP	Polypropylene	90(194)	Same as above.	Flammable, avoid battery acid.
UP	Unsaturated Polyester	90(194)	Same as above.	Flammable
PS	Polystyrene	80(176)	Avoid solvents.	Flammable
ABS	Acrylonitrile Butadiene Styrene	80(176)	Avoid gasoline and solvents.	—
PMMA	Poly Methyl Methacrylate	85(185)	Same as above.	—
EVAC	Ethylene Vinyl Acetate	90(194)	Same as above.	—
ASA	Acrylonitrile Styrene Acrylate	100(222)	Same as above.	Flammable
PPE	Poly Phenylene Ether	110(230)	Same as above.	—
PC	Polycarbonate	120(248)	Same as above.	—
PAR	Polyarylate	180(356)	Same as above.	—
PUR	Polyurethane	90(194)	Same as above.	—
PPC	Polypropylene Composite	115 (239)	Same as above	Flammable
POM	Poly Oxymethylene	120(248)	Same as above.	Avoid battery acid.
PBT+PC	Poly Butylene Terephthalate + Polycarbonate	120(248)	Same as above.	Flammable
PA	Polyamide (Nylon)	140(284)	Same as above.	Avoid immersing in water.
PBT	Poly Butylene Terephthalate	140(284)	Same as above.	—
PET	Polyester	180(356)	Same as above.	—
PEI	Polyetherimide	200(392)	Same as above.	—

1. When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
2. Plastic parts should be repaired and painted using methods suiting the materials' characteristics.

HANDLING PRECAUTIONS FOR PLASTICS

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LOCATION OF PLASTIC PARTS



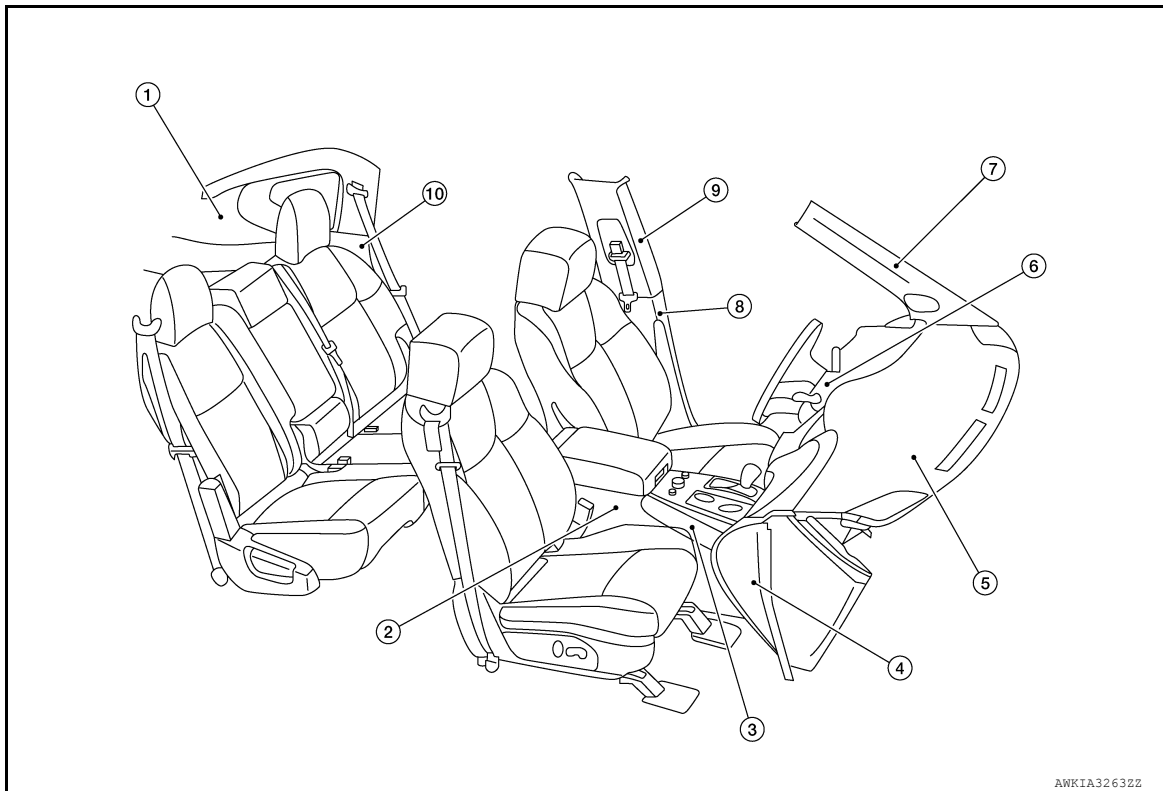
Item	Component	Abbreviation	Material
1.	Door mirror	Base	ABS Acrylonitrile Butadiene Styrene
		Housing	ABS Acrylonitrile Butadiene Styrene
2.	Front grille	ABS	Acrylonitrile Butadiene Styrene
3.	Front bumper fascia	PP	Polypropylene
4.	Front combination lamp	Lens	PC Polycarbonate
		Housing	PP Polypropylene
5.	Door outside lower moldings	Molding	PP Polypropylene
		Chrome	ABS Acrylonitrile Butadiene Styrene
6.	Over fenders	PP	Polypropylene
7.	Rear combination lamp	Lens	PMMA Poly Methyl Methacrylate
		Housing	ASA Acrylonitrile Styrene Acrylate
8.	Reverse lamp	Lens	PMMA Poly Methyl Methacrylate
		Housing	PC Polycarbonate
9.	Rear bumper fascia	PP	Polypropylene
10.	Back door outer finisher	ASA	Acrylonitrile Styrene Acrylate
11.	Rear spoiler	ABS + PC	Acrylonitrile Butadiene Styrene + Polycarbonate
12.	Door outside handle	Grip	PC Polycarbonate
		Escutcheon	ABS Acrylonitrile Butadiene Styrene
13.	Roof side molding	PVC	Poly Vinyl Chloride

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HANDLING PRECAUTIONS FOR PLASTICS

< PRECAUTION >



Item	Component		Abbreviation	Material
1.	Luggage side upper finisher		PP	Polypropylene
2.	Center console assembly	Base	PP + EPM	Polypropylene + Ethylene Propylene (Diene) copolymer
3.	Shift selector side finisher	Base	ABS + PC	Acrylonitrile Butadiene Styrene + Polycarbonate
		Skin	PVC	Poly Vinyl Chloride
4.	Instrument panel side finisher		PP + EPM	Polypropylene + Ethylene Propylene (Diene) copolymer
5.	Instrument panel	Skin	TPO	Thermoplastic Olefine
		Pad	PUR	Polyurethane
		Core	PP	Polypropylene
6.	Steering column covers		PPC	Polypropylene Composite
7.	Front pillar finisher		PP	Polypropylene
8.	Center pillar lower finisher		PP	Polypropylene
9.	Center pillar upper finisher		PP	Polypropylene
10.	Luggage side lower finisher		PP	Polypropylene

REPAIRING HIGH STRENGTH STEEL

< PRECAUTION >

REPAIRING HIGH STRENGTH STEEL

High Strength Steel (HSS)

INFOID:000000011218523

High strength steel is used for body panels in order to reduce vehicle weight.

Accordingly, precautions in repairing automotive bodies made of high strength steel are described below:

Tensile strength	Major applicable parts
370 - 590 MPa	<ul style="list-style-type: none"> • Lower front and rear hoodledge • Upper hoodledge • Side dash • Roof bow No. 2 and No.4 • 3rd, crossmember (Front floor component part) • Inner sill • Rear side member assembly • Lower dash • 2nd, 4th, 5th, and 7th crossmember • Front side member outrigger • 2nd crossmember extension • Seatbelt anchor reinforcement • Center pillar reinforcement • Front seat inner and outer mounting bracket • Side member outrigger • Rear floor front extension • Other reinforcements
780 - 1350 MPa	<ul style="list-style-type: none"> • Front side member assembly • Front side member closing plate assembly • Front side member extension • Front side member extension front • Outer roof rail reinforcement (Side body assembly component part) • Front suspension inner and outer mounting bracket • Inner sill • Front pillar upper reinforcement • Center pillar outer reinforcement • Front side member stiffener

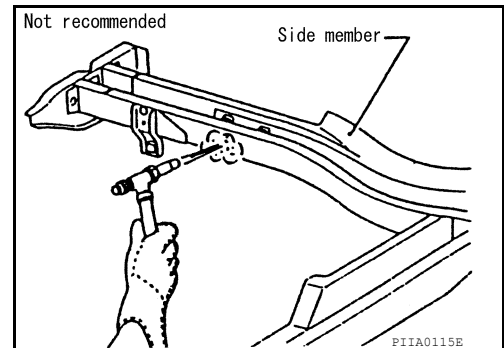
Read the following precautions when repairing HSS:

1. Additional points to consider:

- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).

Verify heating temperature with a thermometer.

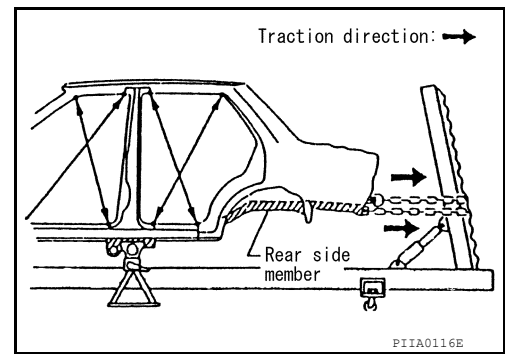
(Crayon-type and other similar type thermometers are appropriate.)



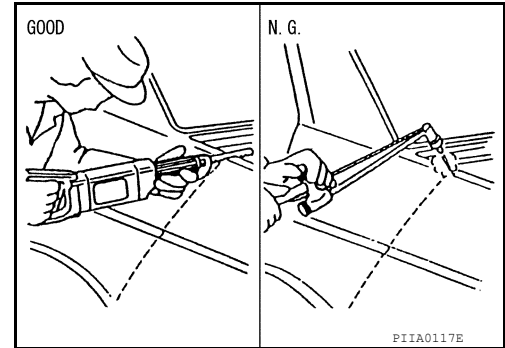
REPAIRING HIGH STRENGTH STEEL

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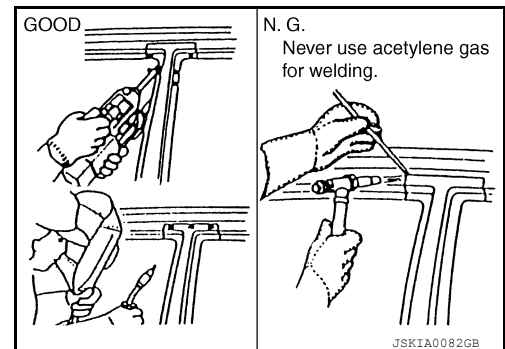
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points and carefully pull the HSS panel.



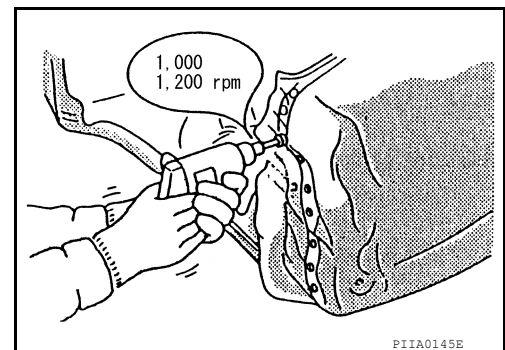
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97 in).



- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat. If spot welding is impossible, use MIG. welding. Do not use gas (torch) for welding because it is inferior in welding strength.



- The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



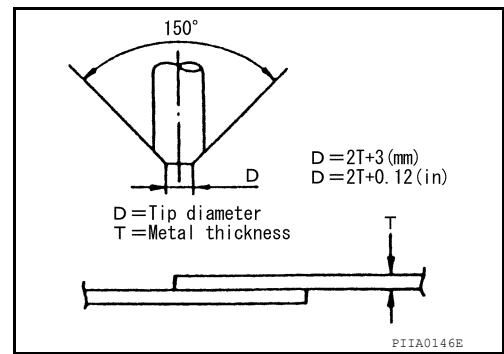
REPAIRING HIGH STRENGTH STEEL

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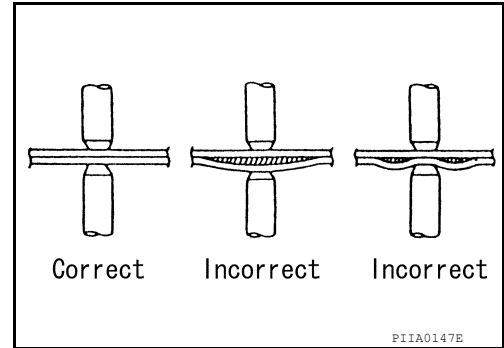
2. Precautions in spot welding HSS

This work should be performed under standard working conditions. Always note the following when spot welding HSS:

- The electrode tip diameter must be sized properly according to the metal thickness.



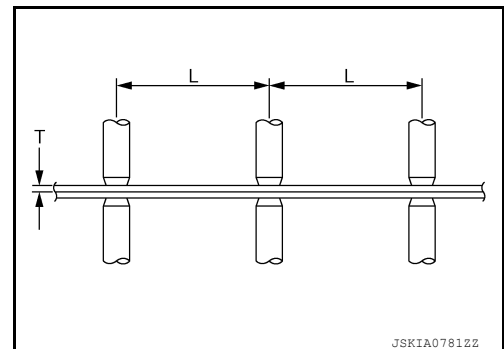
- The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit: mm (in)

Thickness (T)	Minimum pitch (L)
0.6 (0.024)	10 (0.39) or over
0.8 (0.031)	12 (0.47) or over
1.0 (0.039)	18 (0.71) or over
1.2 (0.047)	20 (0.79) or over
1.6 (0.063)	27 (1.06) or over
1.8 (0.071)	31 (1.22) or over



Handling of Ultra High Strength Steel Plate Parts

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PROHIBITION OF CUT AND CONNECTION

Do not cut and join the lower lock pillar reinforcement (center pillar reinforcement inside frame parts) because its material is high strength steel plate (ultra high strength steel plate).

The center pillar reinforcement must be replaced if this part is damaged.

Welding of Ultra High Strength Steel

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SPOT WELDING

Spot welding is limited to ultra high strength steel of (tensile strength: 980 MPa) according to the welding conditions listed below.

CAUTION:

- If the below welding conditions cannot be met, then perform plug welding.
- Never spot weld ultra high strength steel of tensile strength more than 980 MPa. For this type of ultra high strength steel, perform plug welding.
- The below welding condition is applicable only to this vehicle. Never apply these same conditions to other vehicles.

Welding condition

Welder tip diameter	6 MM
Welding pressure (Gun force)	4150 N

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BRM

REPAIRING HIGH STRENGTH STEEL

< PRECAUTION >

Welding current	7900 A
Weld time*	.24 sec (12 cyc: 50 Hz) .23 sec (14 cyc: 60 Hz)
Panel configuration	Combination of a plate of tensile strength of 980 MPa and that of tensile strength less than 980 MPa. (Up to 3 plates)

* Select weld time based on the frequency (Hz) of the electrical power supplied in your area.

PLUG WELDING

To weld ultra high strength steel of tensile strength 980 MPa or more, perform plug welding observing the welding hole diameter described in the manual.

CAUTION:

- To perform plug welding, use fuel mixture (Ar 80% + CO2 20%) for shielding gas of welder.
- Never use carbon dioxide gas (CO2 100%) as shielding gas of welder. Using CO2 100% gas results in inadequate weld strength.
- When welding hole diameter cannot be met, make multiple holes (smaller diameter) so that the sum of the holes areas equals the area of the original weld hole.

REPAIRING MATERIAL

< PREPARATION >

PREPARATION

REPAIRING MATERIAL

Foam Repair

INFOID:000000011673902

During factory body assembly, foam insulators are installed in certain body panels and locations around the vehicle. Use the following procedure(s) to replace any factory-installed foam insulators.

URETHANE FOAM APPLICATIONS

Use commercially available urethane foam for sealant (foam material) repair of material used on vehicle.

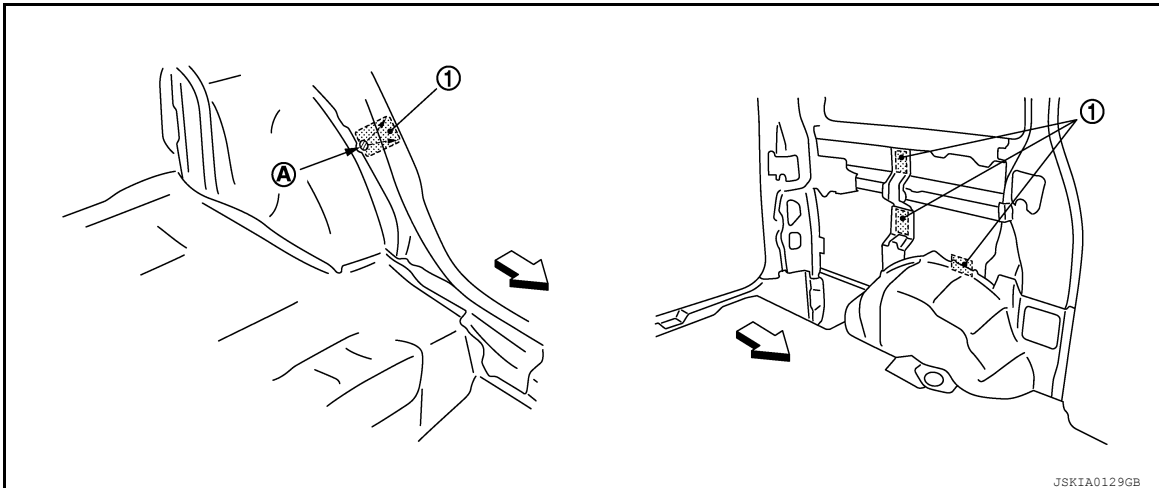
<Urethane foam for foaming agent>

3M™ Automix™ Flexible Foam 08463 or equivalent

Read instructions on product for fill procedures.

Example of foaming agent filling operation procedure:

1. Fill procedures after installation of service part.
 - a. Eliminate foam material remaining on vehicle side.
 - b. Clean area after eliminating form insulator and foam material.
 - c. Install service part.
 - d. Insert nozzle into hole near fill area and fill foam material or fill enough to close gap with the service part.



1. Urethane foam

A. Nozzle insert hole

← Front

2. Fill procedures before installation of service part:
 - a. Eliminate foam material remaining on vehicle side.
 - b. Clean area after eliminating foam insulator and foam material.
 - c. Fill with enough foam material on the wheelhouse outer side to close the gap with the service part while avoiding the flange area.

1. Urethane foam

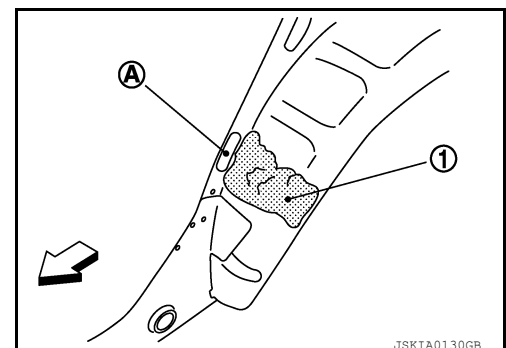
A. Fill while avoiding flange area

← Front

- d. Install service part.

NOTE:

Refer to the label on the urethane foam container for information on working times.



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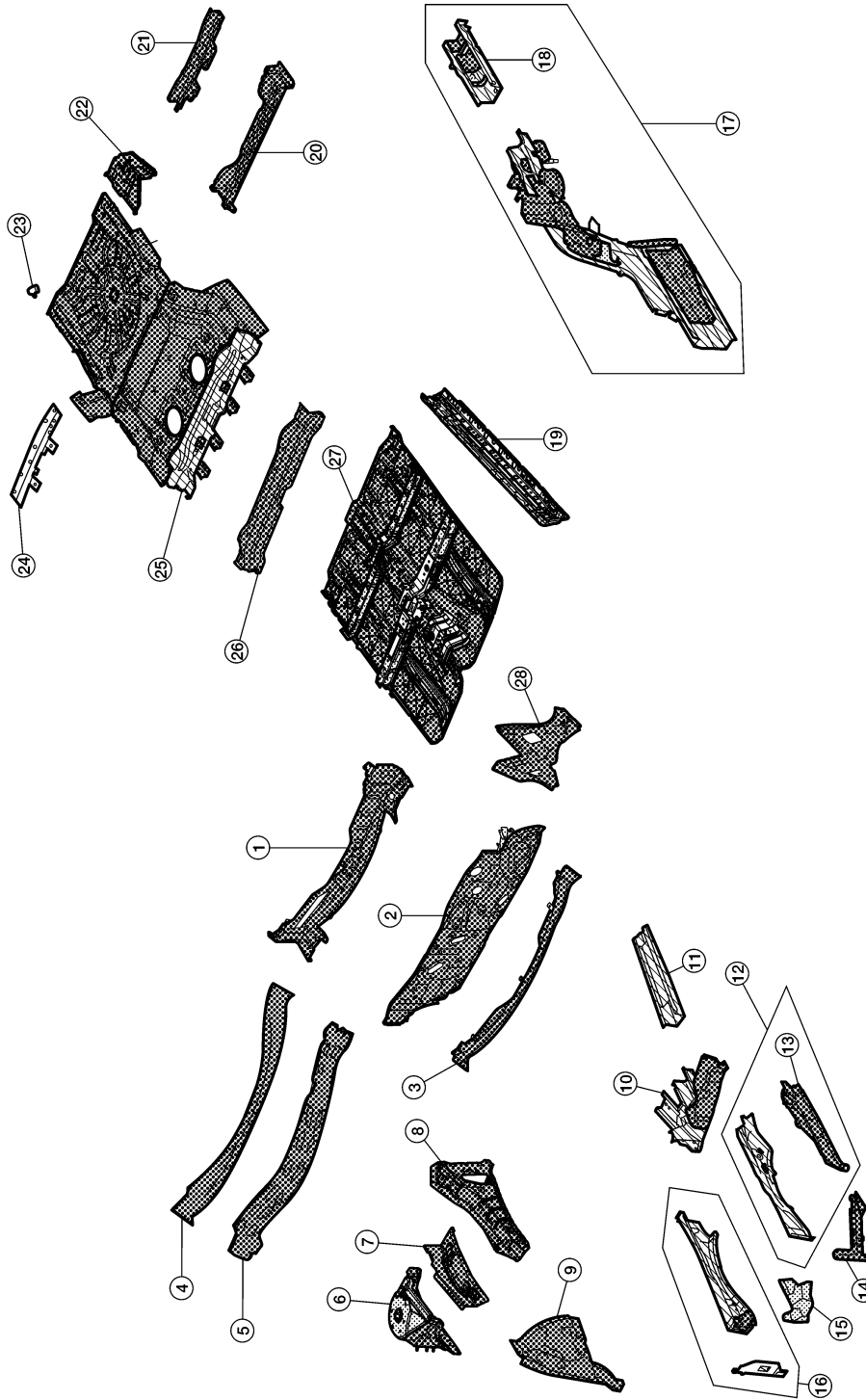
BODY COMPONENT PARTS


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BODY COMPONENT PARTS

Underbody Component, Engine Compartment Parts

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



 : Both sided anti-corrosive pre-coated steel portions

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BODY COMPONENT PARTS

< PREPARATION >

-  : High strength steel (HSS) portions
 : Both sided anti-corrosive steel and HSS portions

No.	Parts name	Tensile strength (MPa)	Both sided anti-corrosive pre-coated steel sections	Aluminum portion
1.	Dash upper	440	x	—
2.	Dash lower	Under 440	x	—
3.	Dash lower crossmember	980	x	—
4.	Cowl top center	440	x	—
5.	Cowl top front	440	x	—
6.	Front strut housing (LH/RH)	590	x	—
7.	Hoodledge reinforcement (LH/RH)	590	x	—
8.	Hoodledge (LH/RH)	440	x	—
9.	Front strut housing extension (LH/RH)	Under 440	x	—
10.	Front suspension mounting bracket (LH/RH)	Under 440	x	—
11.	Front side member extension (LH/RH)	590	x	—
12.	Front side member closing plate assembly (LH/RH)	590	x	—
13.	Front side member closing plate (LH/RH)	590	x	—
14.	Radiator upper side panel (LH/RH)	Under 440	x	—
15.	Radiator lower bracket (LH/RH)	Under 440	x	—
16.	Front side member (LH/RH)	440	x	—
17.	Rear side member assembly (LH/RH)	440	x	—
18.	Rear side member extension (LH/RH)	440	x	—
19.	Sill inner (LH/RH)	980	x	—
20.	Rear cross member assembly	Under 440	x	—
21.	Spare tire bracket reinforcement	440	x	—
22.	Rear floor side	Under 440	x	—
23.	Spare tire bracket	Under 440	x	—
24.	Rear seatback member lower	Under 440	x	—
25.	Rear seat crossmember	590	x	—
26.	Extension assembly rear floor front	Under 440	x	—
27.	Rear seat lower crossmember	590	x	—
28.	Front floor assembly	Under 440	x	—
29.	Side dash inner (LH/RH)	590	x	—

NOTE:

- For the parts without a number described in the figure, it is supplied only with the assembly part that the part is included with.
- Tensile strength column shows the largest strength value of a part in the component part.

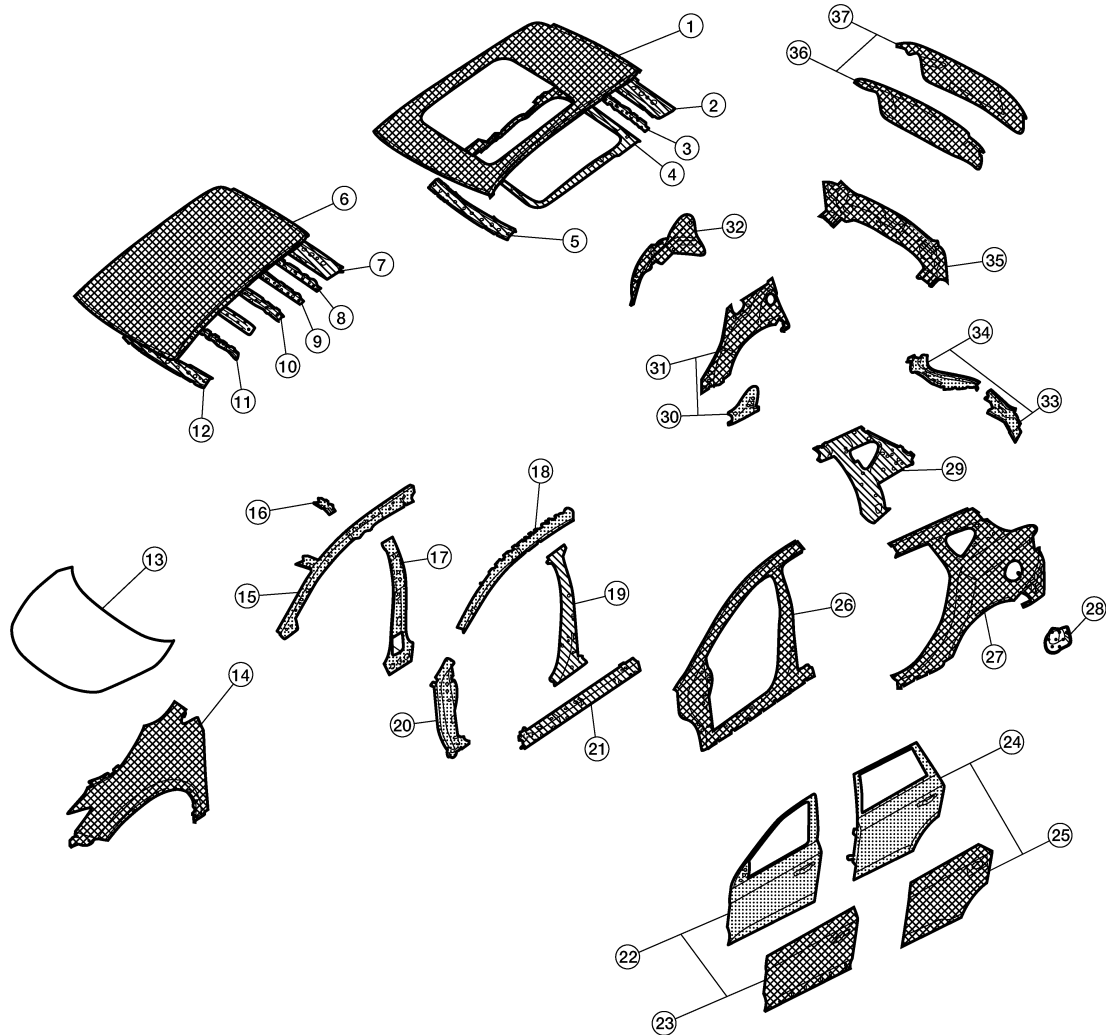
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BODY COMPONENT PARTS

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Body Component Parts

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-  :Both sided anti-corrosive precoated steel portions
-  :High strength steel (HSS) portions
-  :Both sided anti-corrosive steel and HSS portions

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BODY COMPONENT PARTS

< PREPARATION >

No.	Parts name	Tensile strength (MPa)	Both sided anti-corrosive pre-coated steel sections	Aluminum portion	
1.	Moonroof	Under 440	X	—	A
2.	Roof rear rail assembly	Under 440	X	—	B
3.	Roof bow rear	Under 440	X	—	C
4.	Moonroof reinforcement	590	X	—	
5.	Roof front rail assembly	980	X	—	
6.	Standard roof	Under 440	X	—	D
7.	Roof rear rail assembly	Under 440	X	—	
8.	Roof bow No. 4	Under 440	X	—	E
9.	Roof bow No. 3	Under 440	X	—	
10.	Roof bow No. 2	Under 440	X	—	
11.	Roof bow No. 1	Under 440	X	—	F
12.	Roof front rail assembly	590	X	—	
13.	Hood	—	—	X	G
14.	Front fender (LH/RH)	Under 440	X	—	
15.	Roof side inner assembly (LH/RH)	980	X	—	
16.	Roof rail inner brace (LH/RH)	590	X	—	H
17.	Center pillar inner (LH/RH)	980	X	—	
18.	Roof side outer reinforcement (LH/RH)	980	X	—	I
19.	Center pillar reinforcement (LH/RH)	980	—	—	
20.	Front pillar lower hinge brace (LH/RH)	980	X	—	
21.	Sill outer reinforcement (LH/RH)	980	X	—	J
22.	Front door assembly (LH/RH)	Under 440	X	—	
23.	Front door outer panel (LH/RH)	Under 440	X	—	
24.	Rear door assembly (LH/RH)	Under 440	X	—	BRM
25.	Rear door outer panel (LH/RH)	Under 440	X	—	
26.	Body side front (LH/RH)	Under 440	X	—	L
27.	Fender rear (LH/RH)	Under 440	X	—	
28.	Fuel filler base	Under 440	X	—	
29.	Pillar inner rear (LH/RH)	590	X	—	M
30.	Wheelhouse outer rear (LH/RH)	Under 440	X	—	
31.	Wheelhouse outer rear extension (LH/RH)	Under 440	X	—	N
32.	Wheelhouse inner rear (LH/RH)	Under 440	X	—	
33.	Pillar back reinforcement (LH/RH)	Under 440	X	—	
34.	Pillar back main assembly (LH/RH)	Under 440	X	—	O
35.	Rear panel assembly	Under 440	X	—	
36.	Back door assembly	Under 440	X	—	P
37.	Back door panel	Under 440	X	—	

CAUTION:

If the high strength steel (ultra high strength steel) is bent or broken, replace by assembly for the supply part.

NOTE:

- For the parts without a number described in the figure, it is supplied only with the assembly part that the part is included with.
- Tensile strength column shows the largest strength value of a part in the component part.

CORROSION PROTECTION

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

CORROSION PROTECTION

Description

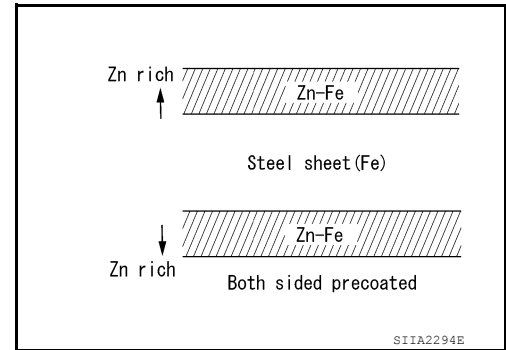
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To provide improved corrosion prevention, the following anti-corrosive measures have been implemented in NISSAN production plants. When repairing or replacing body panels, it is necessary to use the same anti-corrosive measures.

Anti-Corrosive Precoated Steel (Galvannealed Steel)

To improve repairability and corrosion resistance, a new type of anti-corrosive precoated steel sheet has been adopted, replacing conventional zinc-coated steel sheet.

Galvannealed steel is electroplated and heated to form zinc-iron alloy, which provides excellent and long term corrosion resistance with cationic electrodeposition primer.



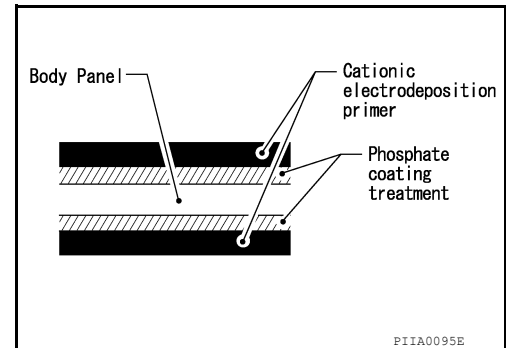
NISSAN Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

Phosphate Coating Treatment and Cationic Electrodeposition Primer

A phosphate coating treatment and a cationic electrodeposition primer, which provide excellent corrosion protection, are employed on all body components.

CAUTION:

Confine paint removal during welding operations to an absolute minimum.



NISSAN Genuine Service Parts are also treated in the same manner. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain anti-corrosive performance built into the vehicle at the factory.

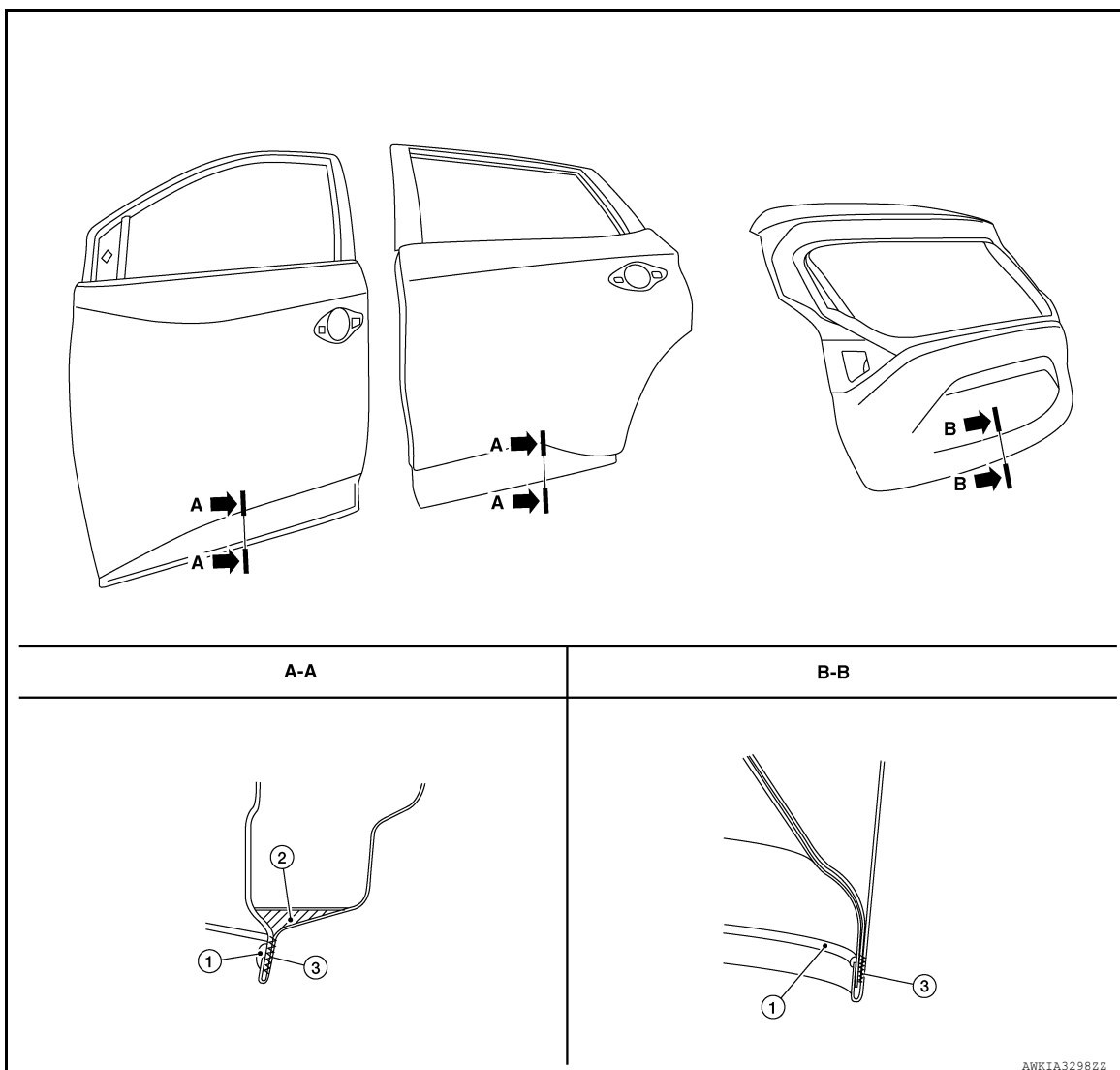
Anti-Corrosive Wax

INFOID:000000011218529

To improve corrosion resistance, anti-corrosive wax is applied inside the body sill and inside other closed sections. Accordingly, when replacing these parts, be sure to apply anti-corrosive wax to the appropriate areas of the new parts. Select an excellent anti-corrosive wax which will penetrate after application and has a long shelf life.

CORROSION PROTECTION

< REMOVAL AND INSTALLATION >



1. Body caulk

2. Anti-corrosive wax

3. Panel adhesive

Undercoating

INFOID:000000011218530

The underside of the floor and wheelhouse are undercoated to prevent rust, vibration, noise and stone chipping. Therefore, when such a panel is replaced or repaired, apply undercoating to that part. Use an undercoating which is rust preventive, soundproof, vibration-proof, shock-resistant, adhesive, and durable.

Precautions in Undercoating

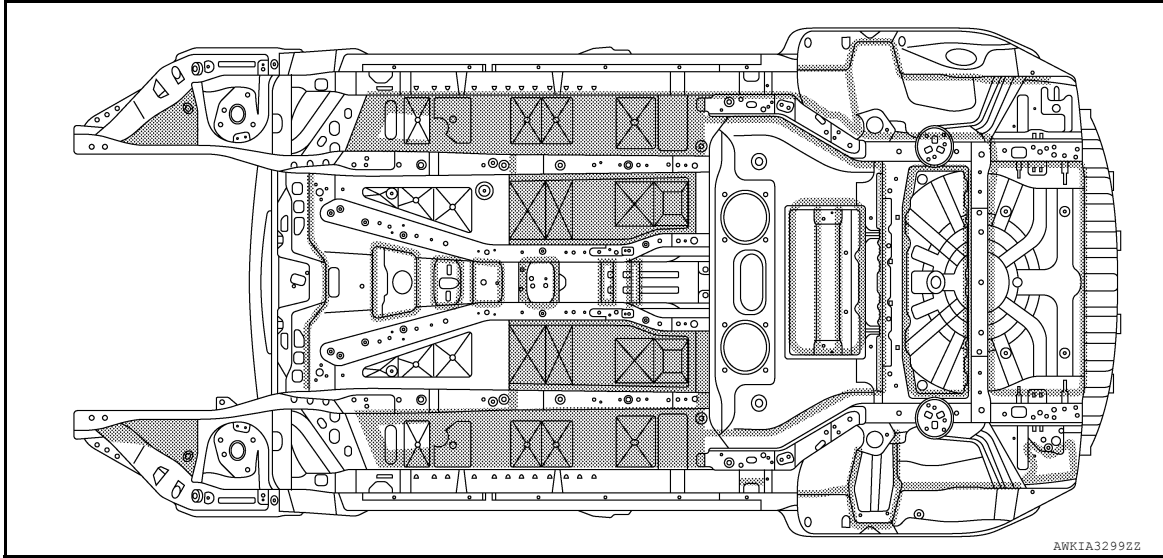
1. Do not apply undercoating unless specified. Avoid areas such as the areas above the muffler and three-way catalyst which are subjected to heat
2. Do not undercoat the exhaust pipe or other parts which become hot.
3. Do not undercoat rotating parts.
4. Apply bitumen wax after applying undercoating.
5. After putting seal on the vehicle, put undercoating on it.

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CORROSION PROTECTION

< REMOVAL AND INSTALLATION >



Undercoated areas are shaded.

BODY SEALING

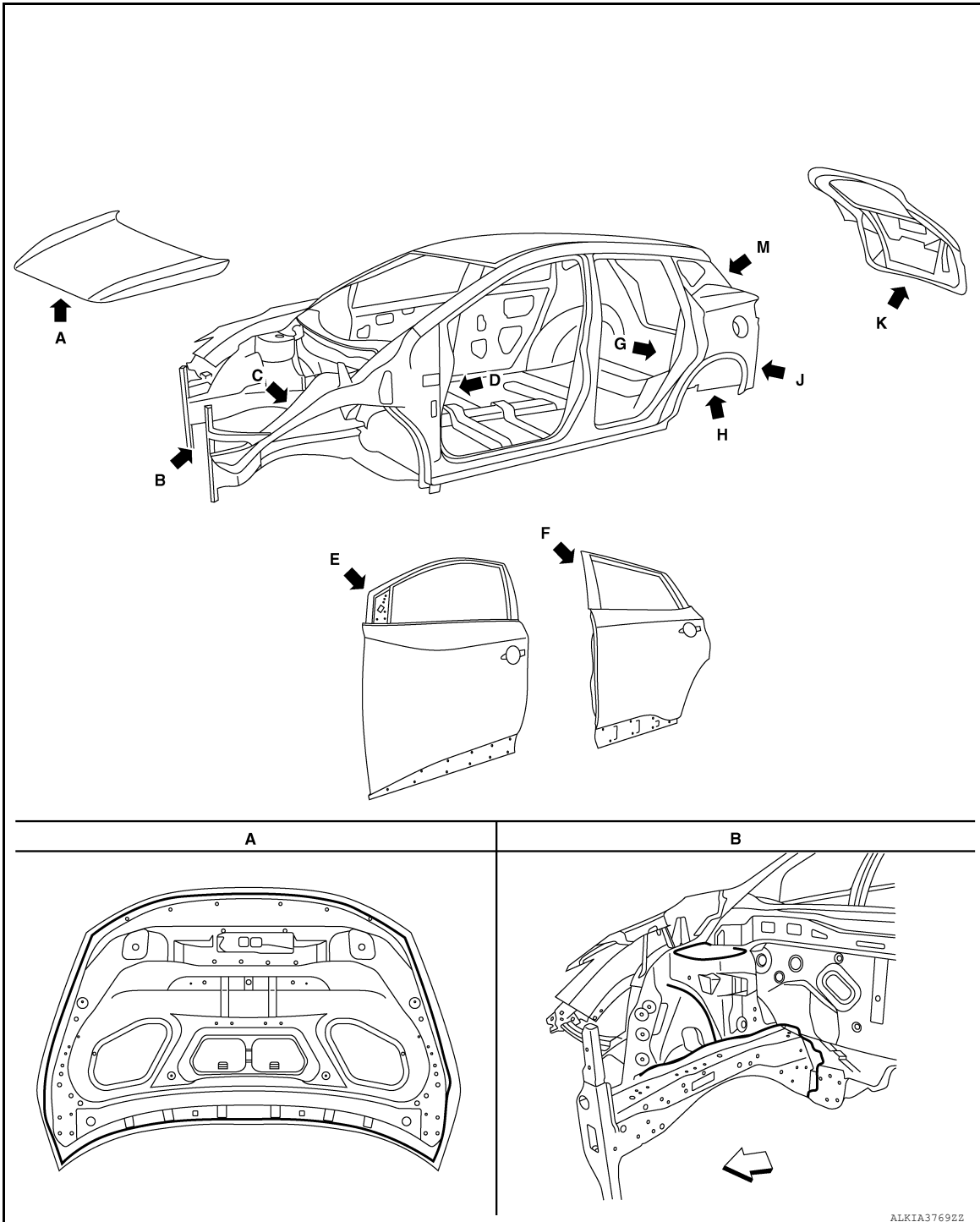
< REMOVAL AND INSTALLATION >

BODY SEALING

Description

INFOID:000000011218531

The following figure shows the areas which are sealed at the factory. Sealant which has been applied to these areas should be smooth and free from cuts or gaps. Care should be taken not to apply an excess amount of sealant and not to allow other unaffected parts to come into contact with the sealant.



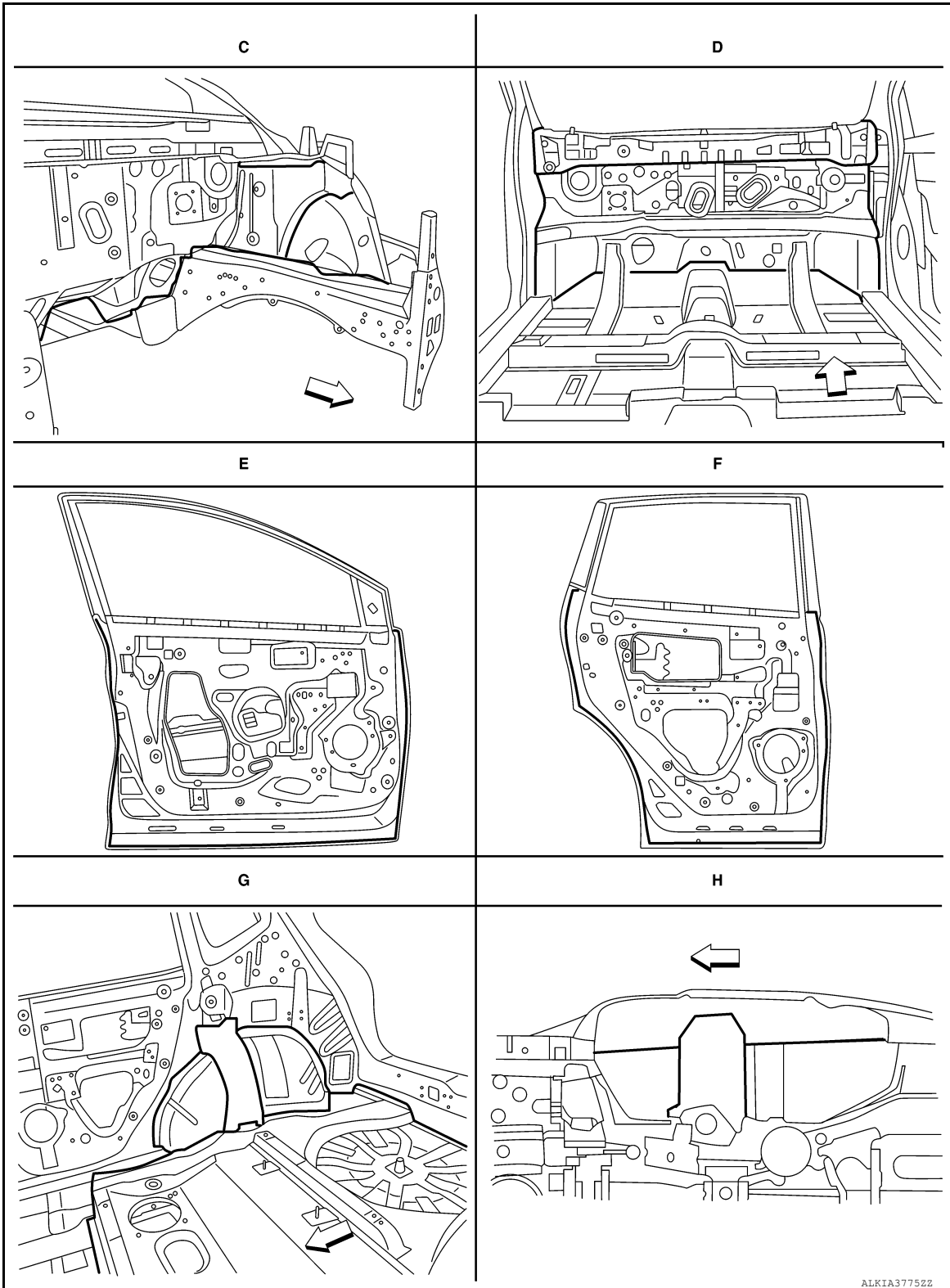
← Front

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BODY SEALING

< REMOVAL AND INSTALLATION >

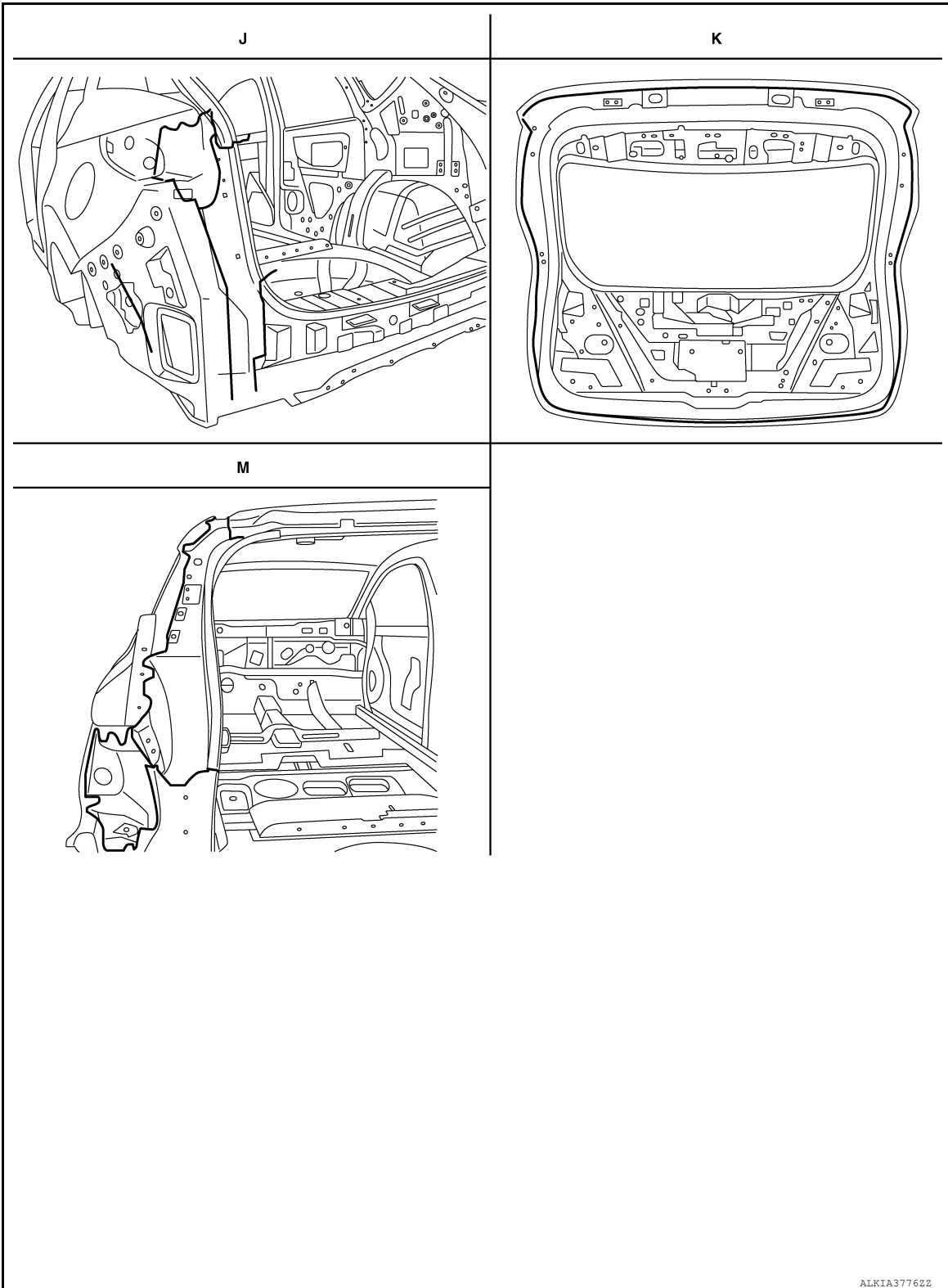


ALKIA37752Z

⇐ Front

BODY SEALING

< REMOVAL AND INSTALLATION >



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↩ Front

ALKIA377622

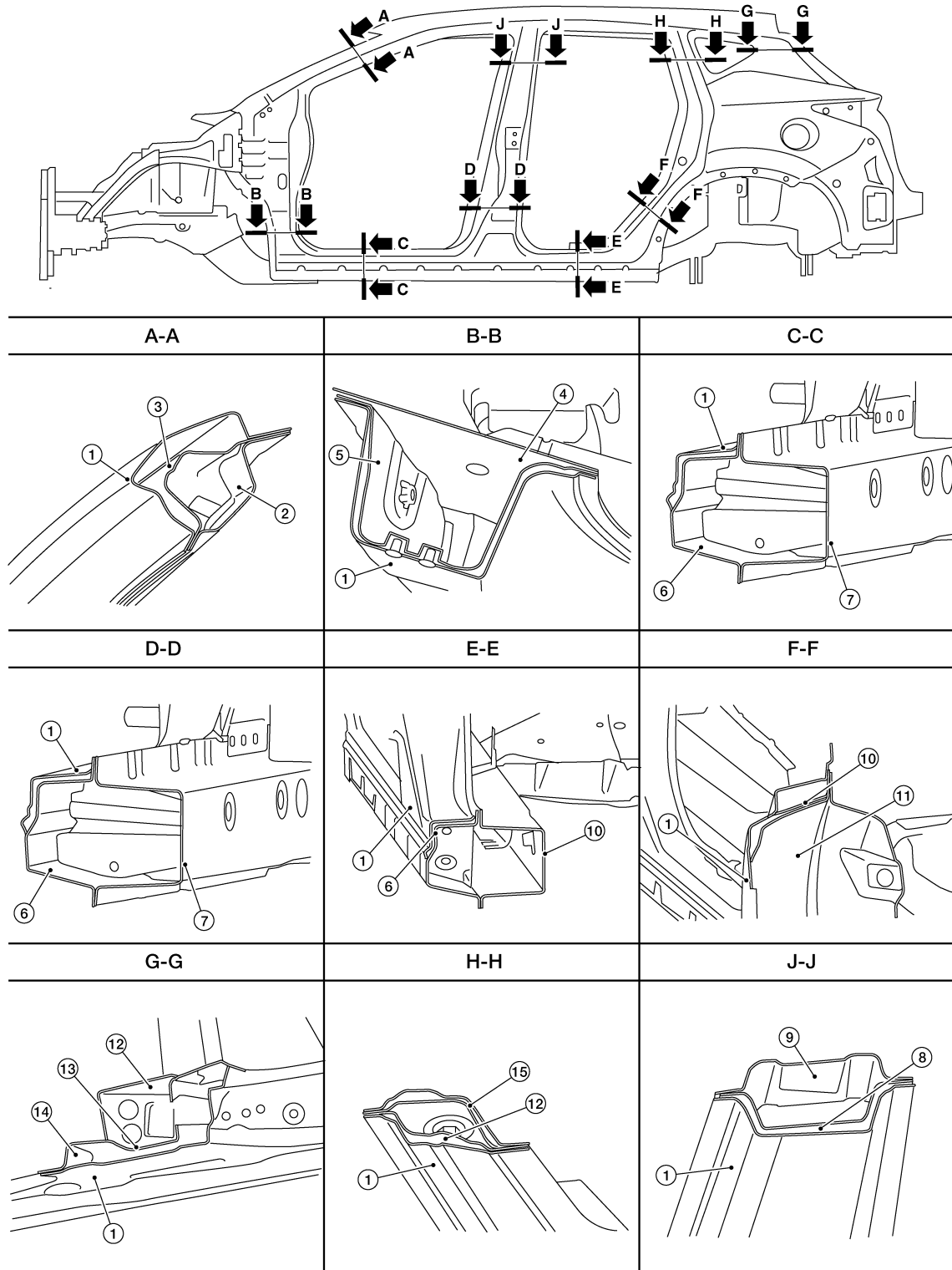
BODY CONSTRUCTION

< REMOVAL AND INSTALLATION >

BODY CONSTRUCTION

Body Construction

INFOID:000000011218532



ALKIA37852Z

- | | | |
|--------------------|---|-------------------------------------|
| 1. Body side outer | 2. Front pillar inner upper | 3. Upper front pillar reinforcement |
| 4. Dash side inner | 5. Front hinge pillar lower reinforcement | 6. Outer sill reinforcement |
| 7. Inner sill | 8. Center pillar reinforcement | 9. Inner center pillar |

BODY CONSTRUCTION

< REMOVAL AND INSTALLATION >

- | | | |
|------------------------------|---------------------------------|-------------------------------------|
| 10. Rear sill assembly | 11. Rear wheel housing assembly | 12. Back pillar inner reinforcement |
| 13. Roof rail brace assembly | 14. Back pillar inner | |

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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

REPLACEMENT OPERATIONS

Description

INFOID:000000011673909

This section is prepared for technicians who have attained a high level of skill and experience in repairing collision-damaged vehicles and also use modern service tools and equipment. Persons unfamiliar with body repair techniques should not attempt to repair collision-damaged vehicles by using this section.


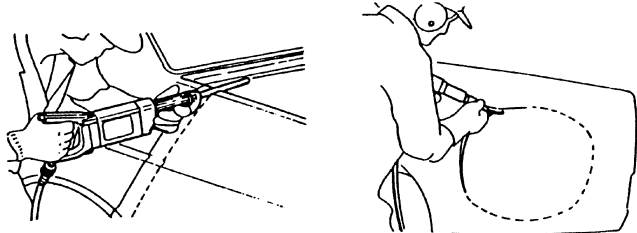

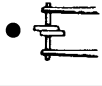

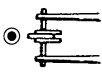

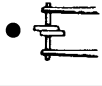

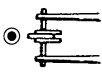

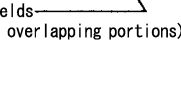
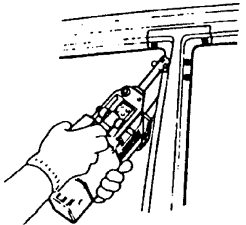

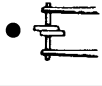

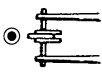

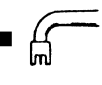



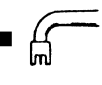


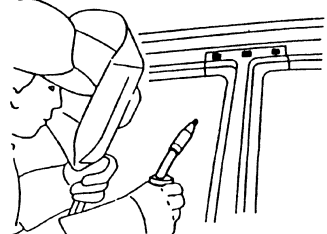
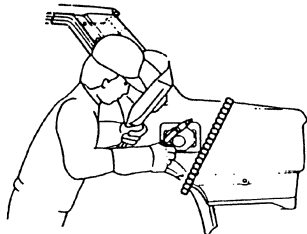

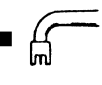




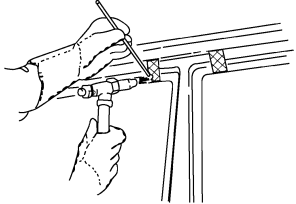
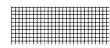

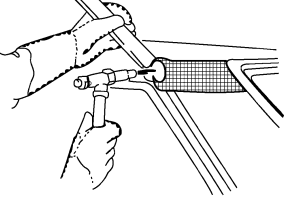

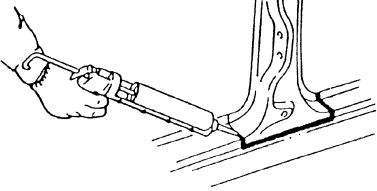
Technicians are also encouraged to read Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warnings, that are not included in this manual. Technicians should refer to both manuals to ensure proper repairs.

Please note that this information is prepared for worldwide usage, and as such, certain procedures might not apply in some regions or countries.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

The symbols used in this section for cutting and welding / brazing operations are shown below.

 Saw cut or air chisel cut							
<table border="1"> <tr> <td data-bbox="282 470 380 590"> Spot weld </td> <td data-bbox="380 470 633 590">  2-spot welds </td> <td data-bbox="532 506 633 590">  </td> </tr> <tr> <td data-bbox="282 590 380 701"> 3-spot welds </td> <td data-bbox="380 590 633 701">  3-spot welds </td> <td data-bbox="532 625 633 701">  </td> </tr> </table>	Spot weld	 2-spot welds		3-spot welds	 3-spot welds		<p>2-spot welds (2-panel overlapping portions)</p>  <p>3-spot welds (3-panel overlapping portions)</p>  
Spot weld	 2-spot welds						
3-spot welds	 3-spot welds						
<table border="1"> <tr> <td data-bbox="282 716 633 835">  MIG plug weld </td> <td data-bbox="532 751 633 835">  </td> </tr> <tr> <td data-bbox="282 835 633 947">  MIG seam weld/ Point weld </td> <td data-bbox="532 871 633 947">  </td> </tr> </table>	 MIG plug weld		 MIG seam weld/ Point weld		 		
 MIG plug weld							
 MIG seam weld/ Point weld							
<p>Brazing</p>  							
<p>Soldering</p>  							
<p>Sealing</p> 							

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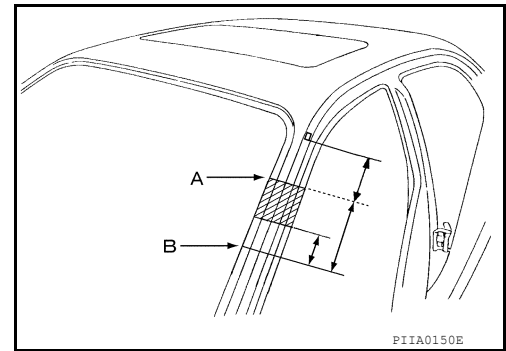
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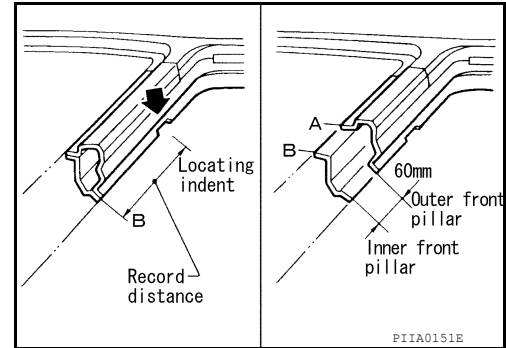
REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

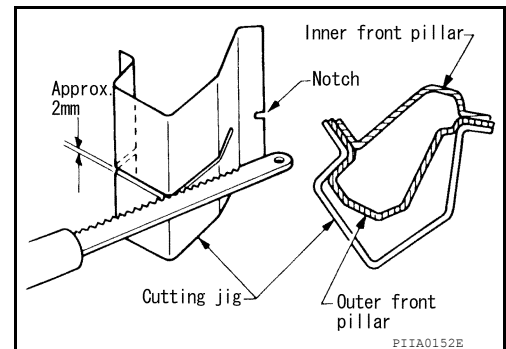
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- Determine cutting position and record distance from the locating indent. Use this distance when cutting the service part. Cut outer front pillar over 60 mm (2.4 in) above inner front pillar cut position.

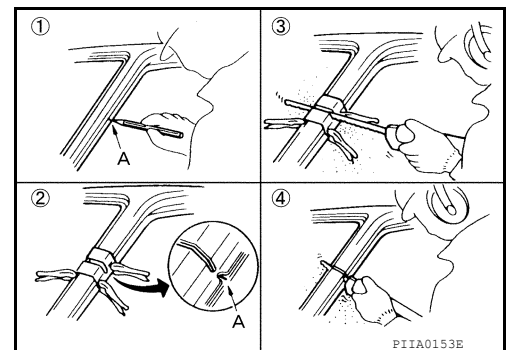


- Prepare a cutting jig to make the outer pillar easier to cut. Also, this will permit the service part to be accurately cut at the joint position.



- An example of cutting operation using a cutting jig is as follows:

1. Mark cutting lines.
A: Cut position of outer pillar
2. Align cutting line with notch on jig. Clamp jig to pillar.
3. Cut outer pillar along groove of jig. (At position A)
4. Remove jig and cut remaining portions.

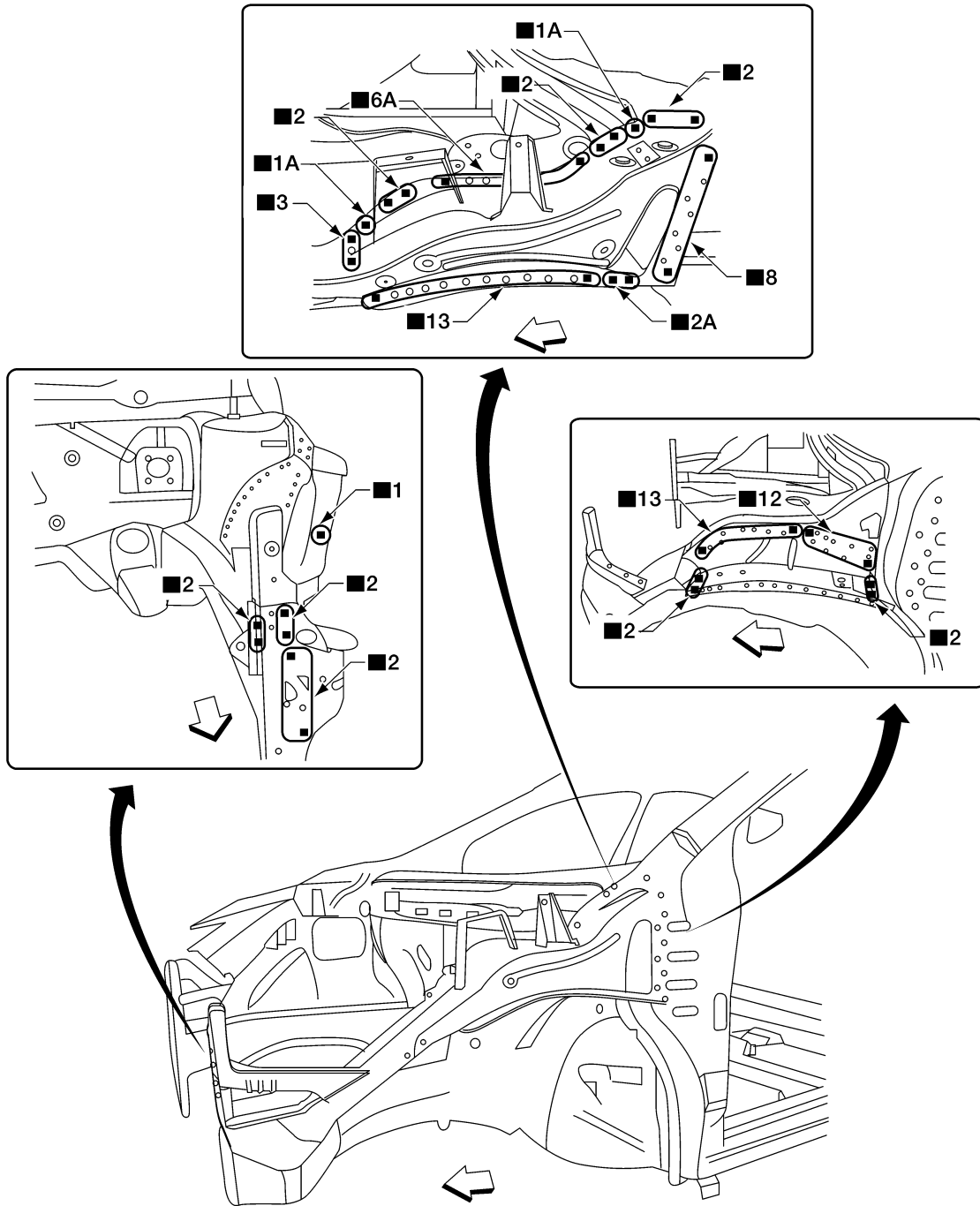


REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

Hoodledge

INFOID:000000011218534



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Replacement parts

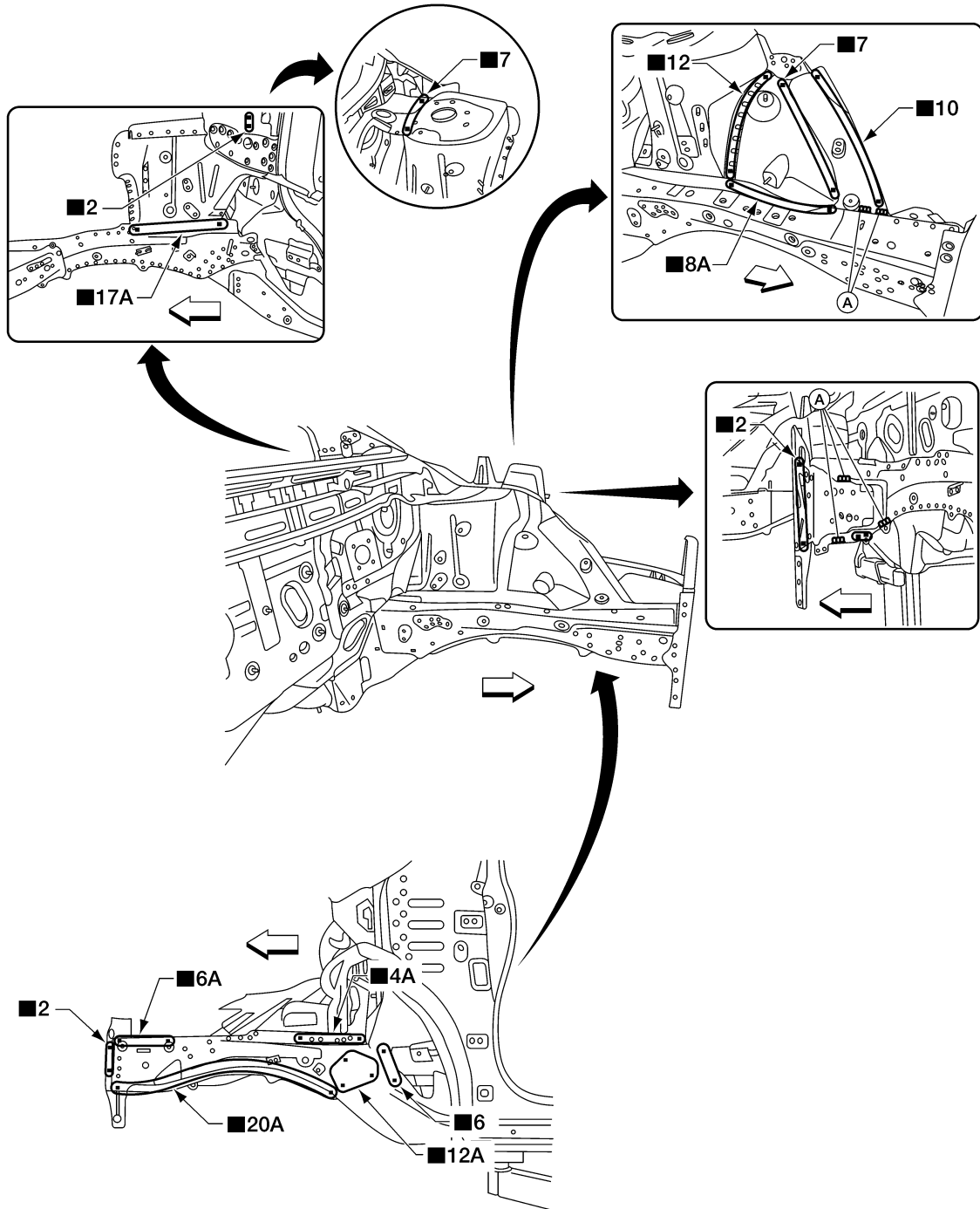
- Upper radiator core support
- Hoodledge
- Hoodledge reinforcement

⇐ Front

ALKIA37802Z

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



AWKIA3300ZZ

Replacement parts

- Front strut housing
- Front side member closing plate
- Front strut housing extension
- A. Mig weld
- Front side member extension
- ◁ Front

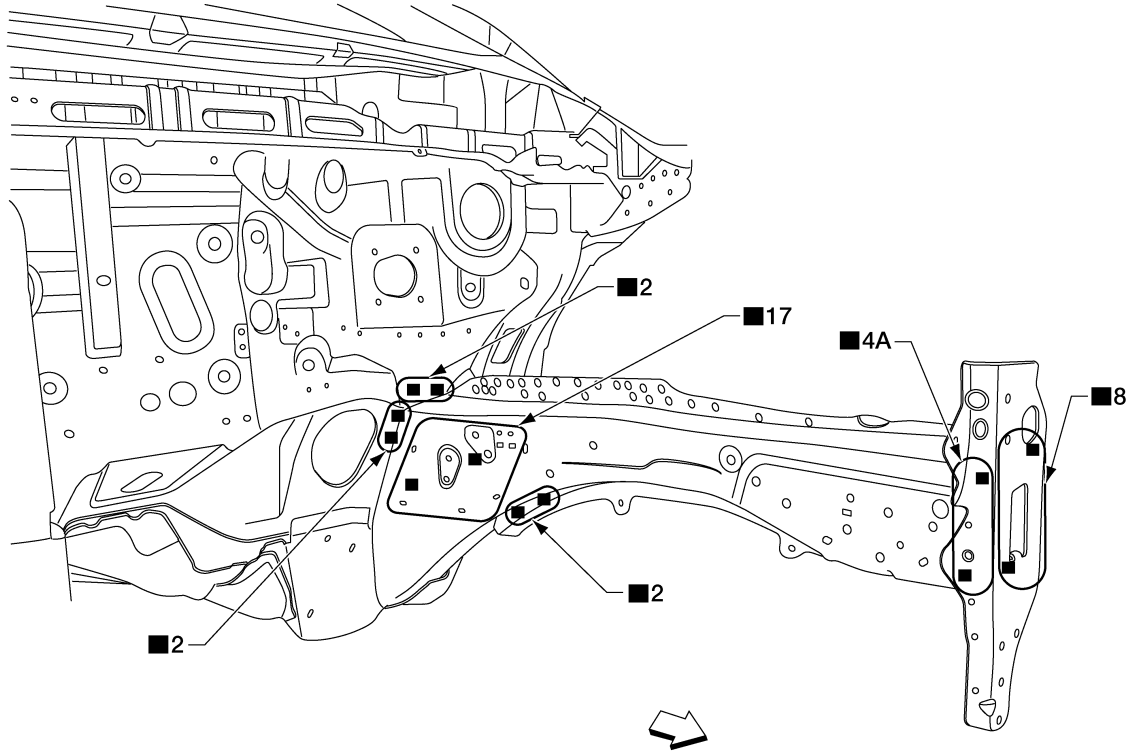
Front Side Member (Partial Replacement)

INFOID:000000011218535

Work after the hoodledge assembly and front suspension spring support assembly has been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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ALKIA37822Z

Replacement parts

● Front side member

● Front side member extension

← Front

Front Pillar

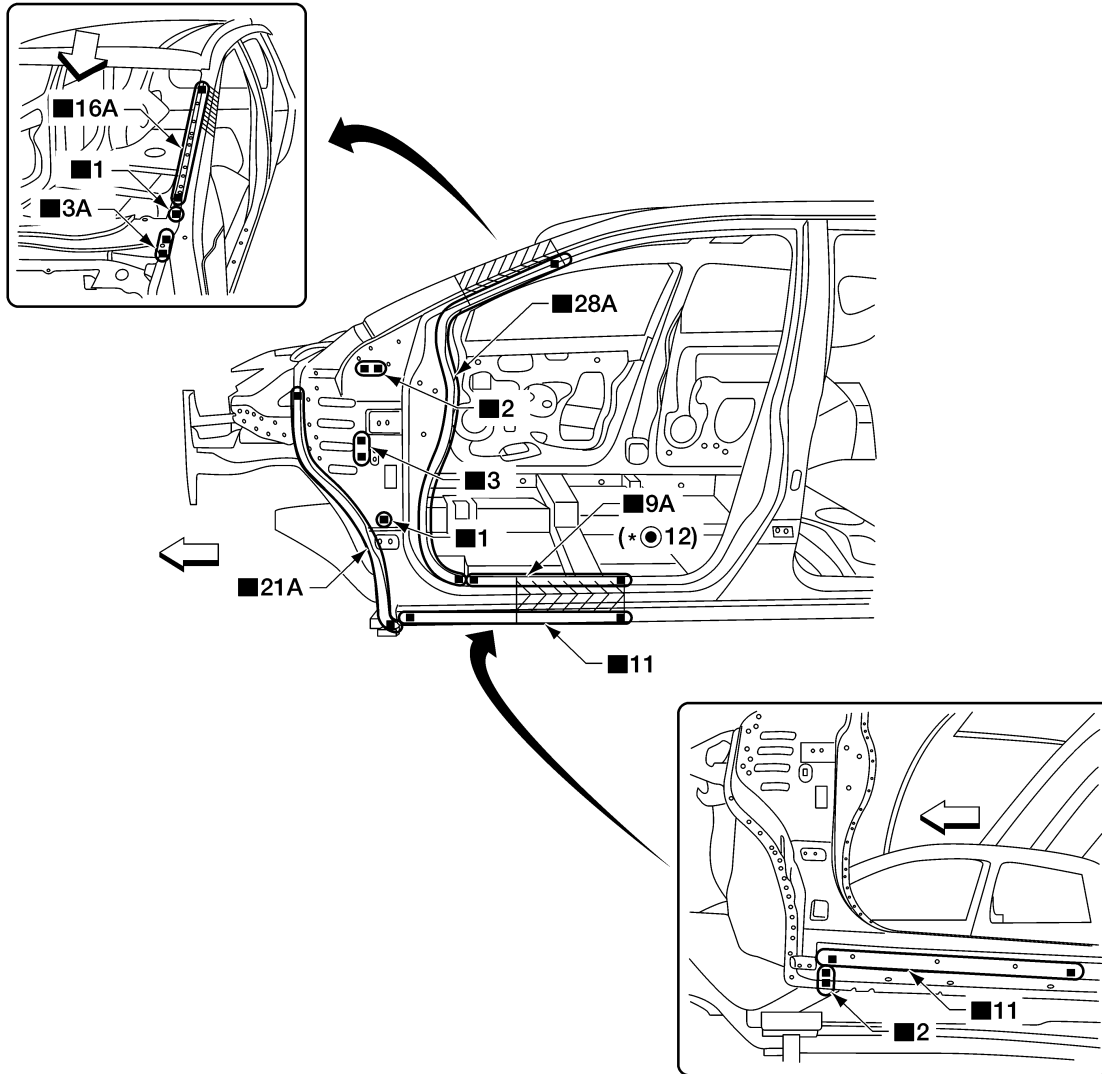
INFOID:000000011218536

OUTER

- Work after the upper hoodledge has been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



ALKIA3787ZZ

Replacement parts

- Front pillar section of front body side outer ← Front

* For spot welding of steel plate of strength 980 MPa, observe the indicated welding conditions. Refer to [BRM-9, "Welding of Ultra High Strength Steel"](#).

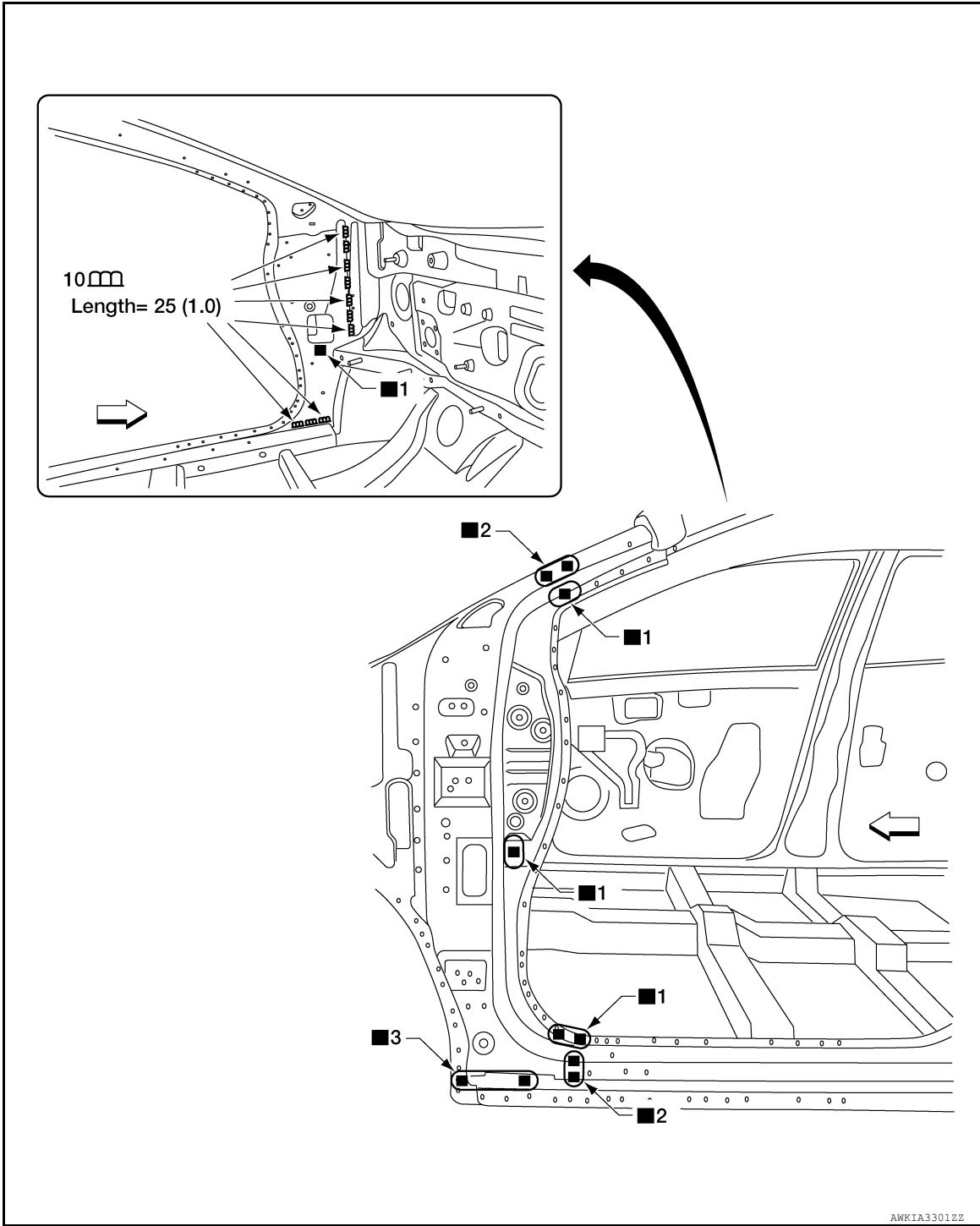
HINGE PILLAR BRACE

Upper

- Work after front pillar outer has been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Unit: mm (in)

Replacement parts

- Front pillar upper hinge brace

↔ Front

Dash Side

INFOID:000000011218537

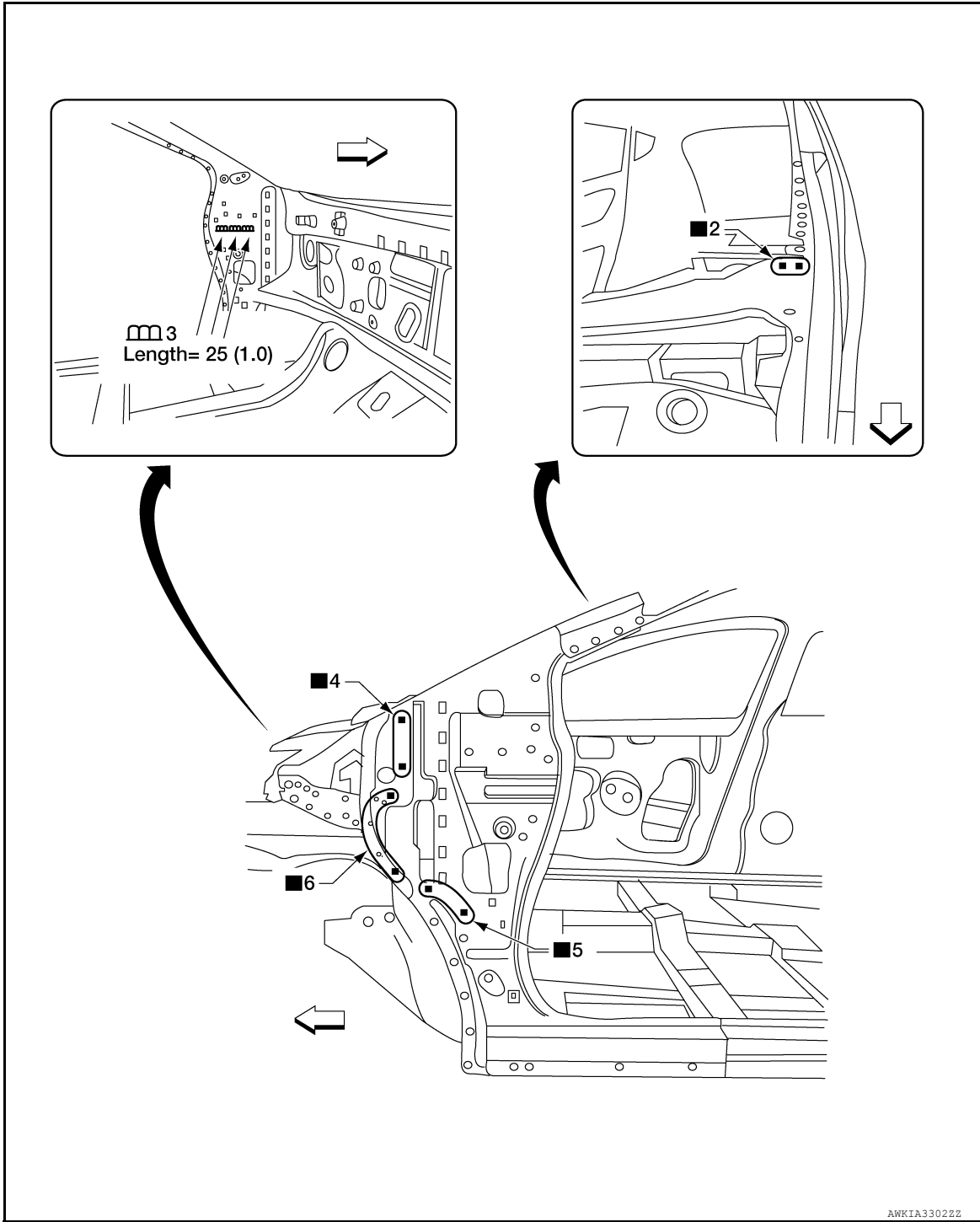
Work after the front pillar portion of body side inner reinforcement and the front pillar lower hinge brace have been removed.

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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Unit: mm (in)

Replacement parts

● Dash side

← Front

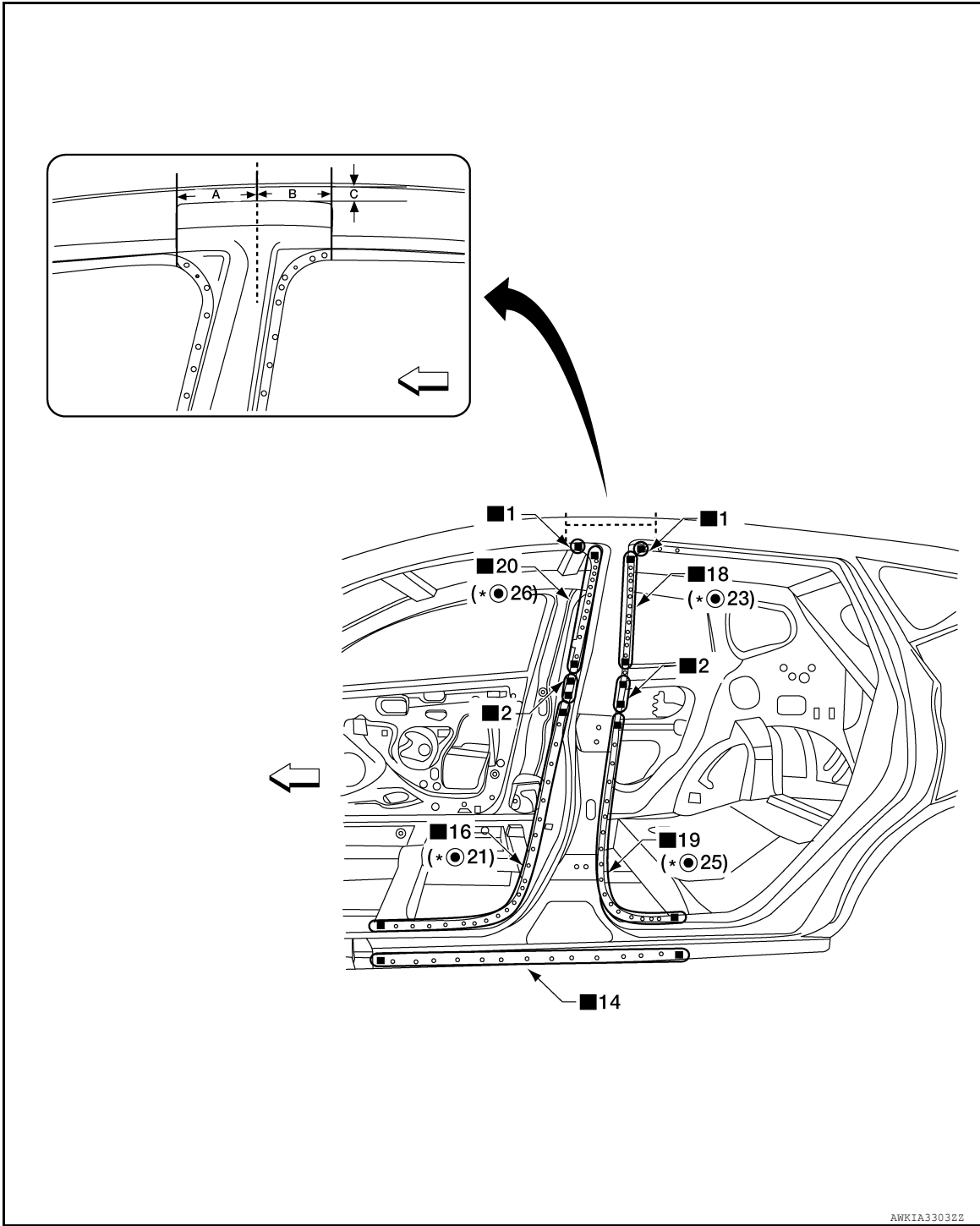
Center Pillar

INFOID:000000011218538

OUTER

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Unit: mm (in)

Replacement parts

- Center pillar portion of front body side outer
- | | |
|---------------|---------------|
| A. 130 (5.12) | B. 110 (4.33) |
| C. 50 (1.97) | ⇐ Front |

REINFORCEMENT

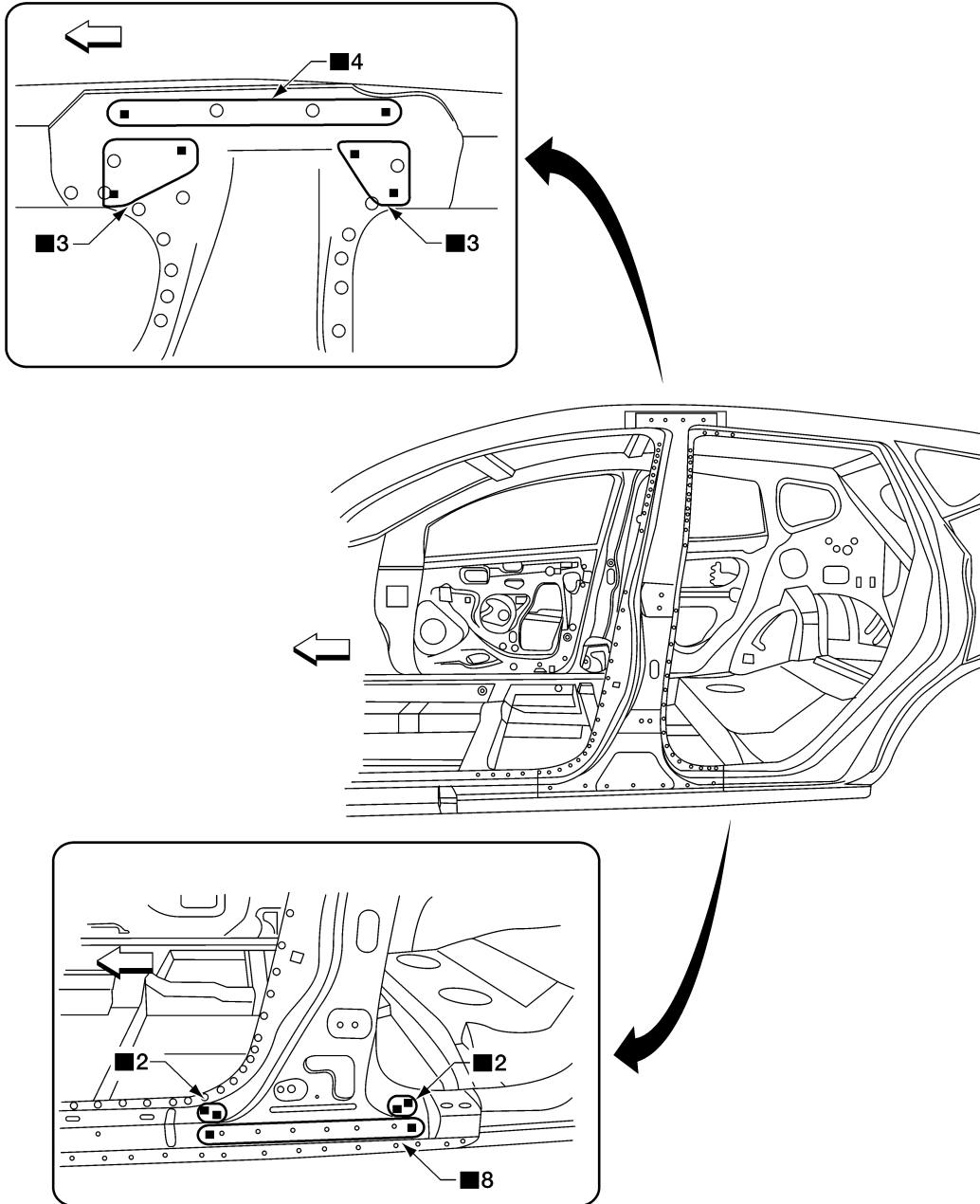
Work after center pillar portion of front body side outer has been removed.

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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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Replacement parts

- Center pillar reinforcement
- ⇐ Front

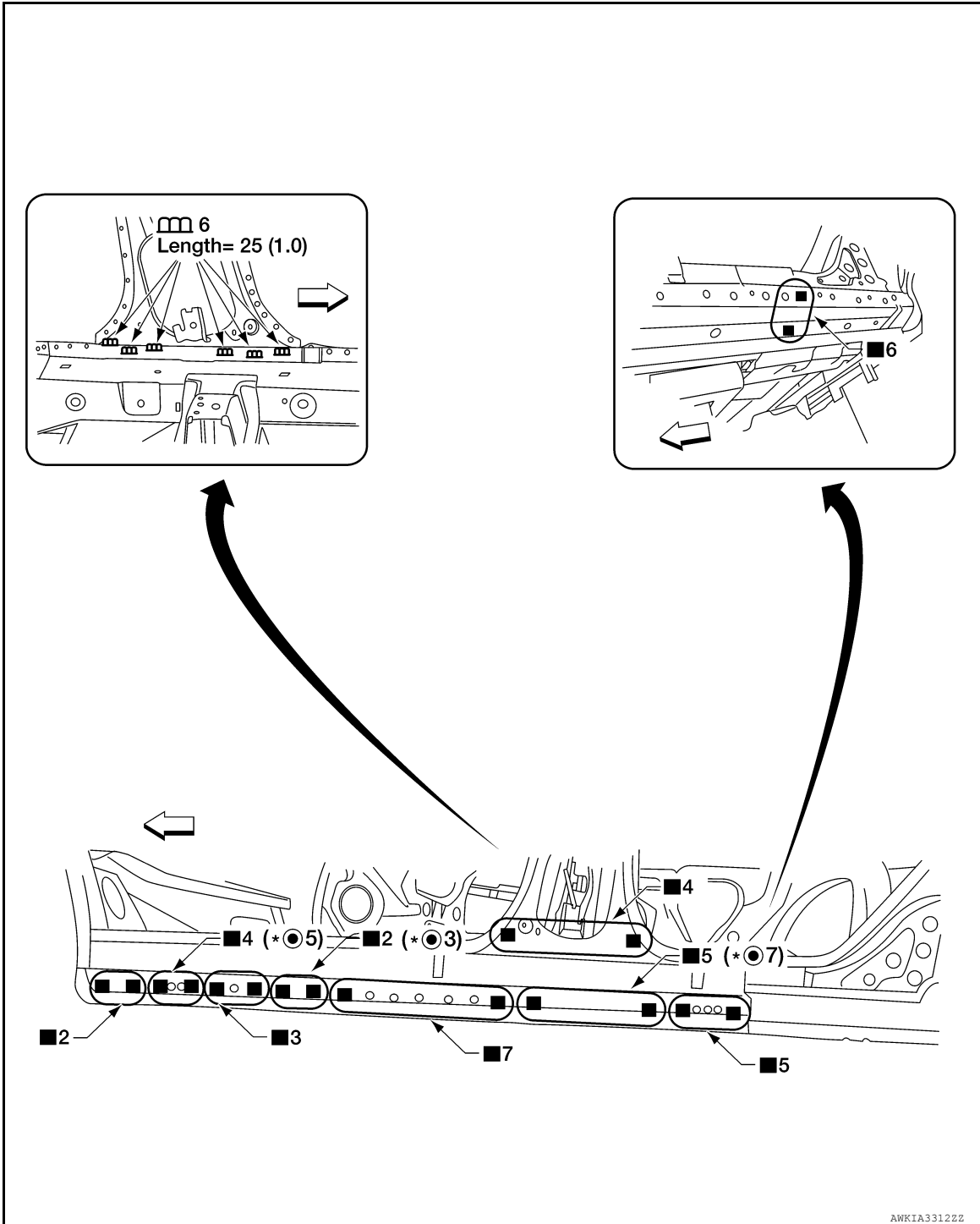
Sill outer Reinforcement

INFOID:000000011218539

Work after the front pillar lower hinge brace and the center pillar reinforcement have been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Replacement parts

- Sill outer reinforcement

⇐ Front

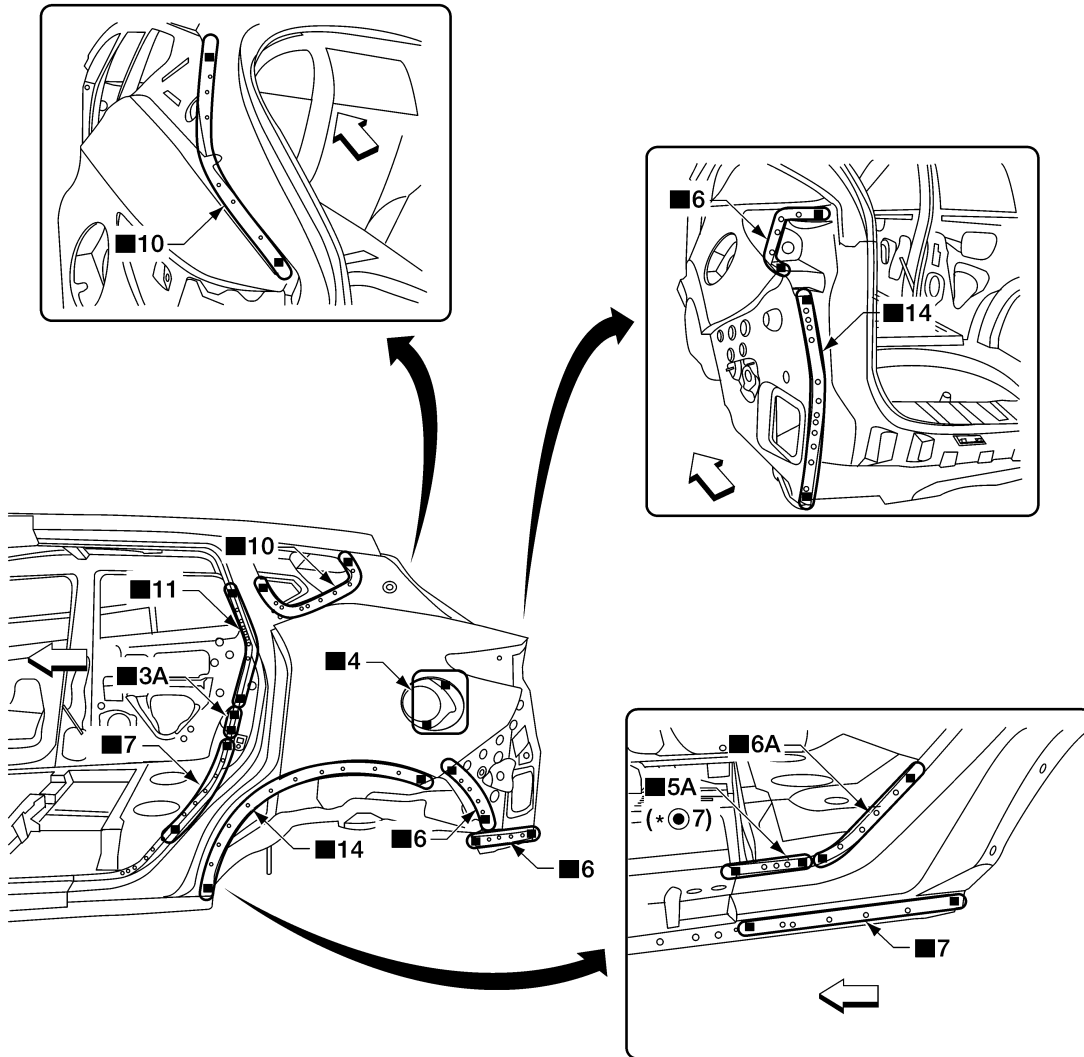
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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

Rear Fender

INFOID:000000011218540



Replacement parts

- Rear fender

⇐ Front

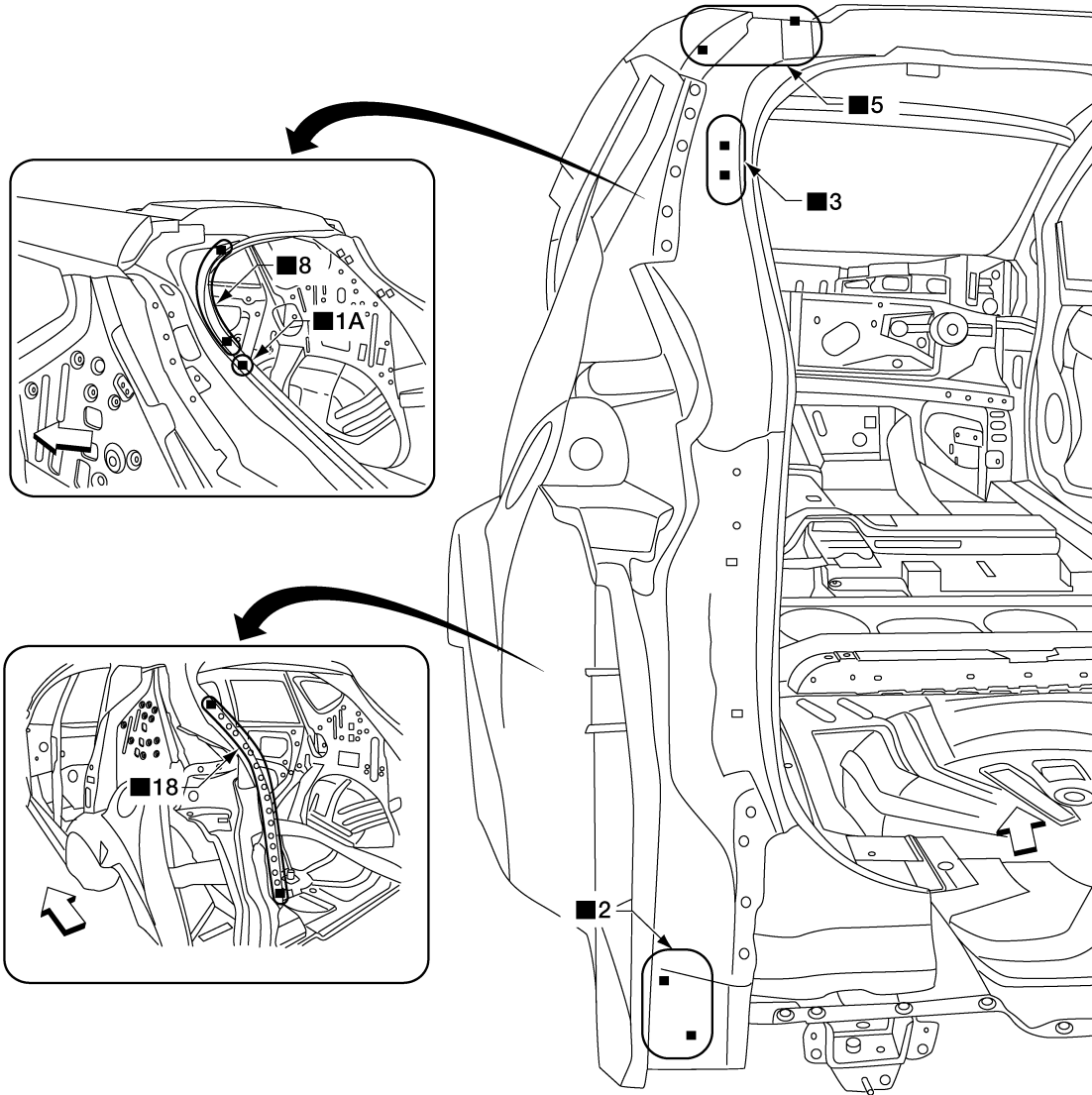
Rear Body Side Inner Assembly

INFOID:000000011218541

- Work after rear body side outer has been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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Replacement parts

- Rear pillar assembly

⇐ Front

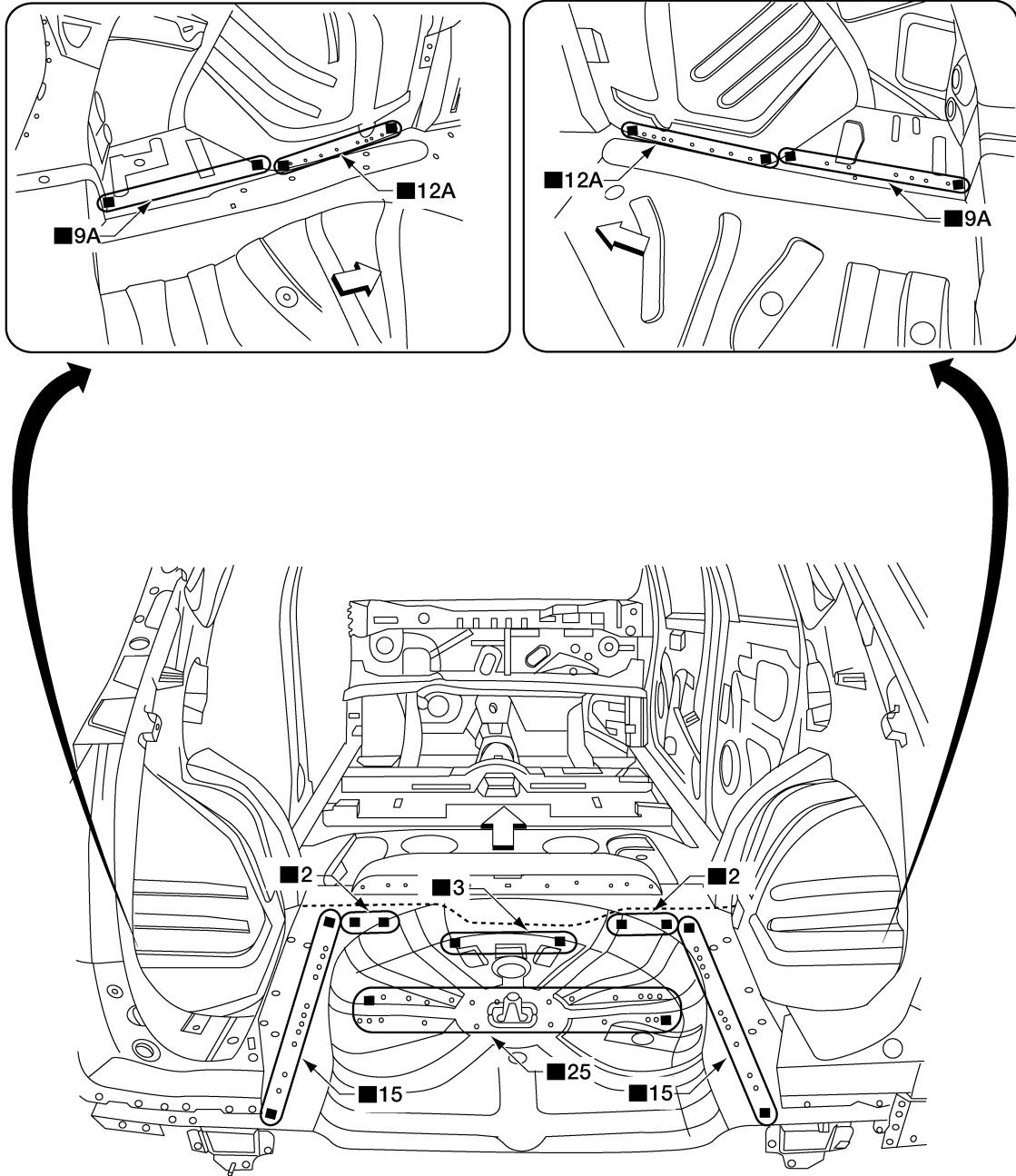
Rear Floor Rear (Partial Replacement)

INFOID:000000011218542

- Work after rear panel assembly has been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



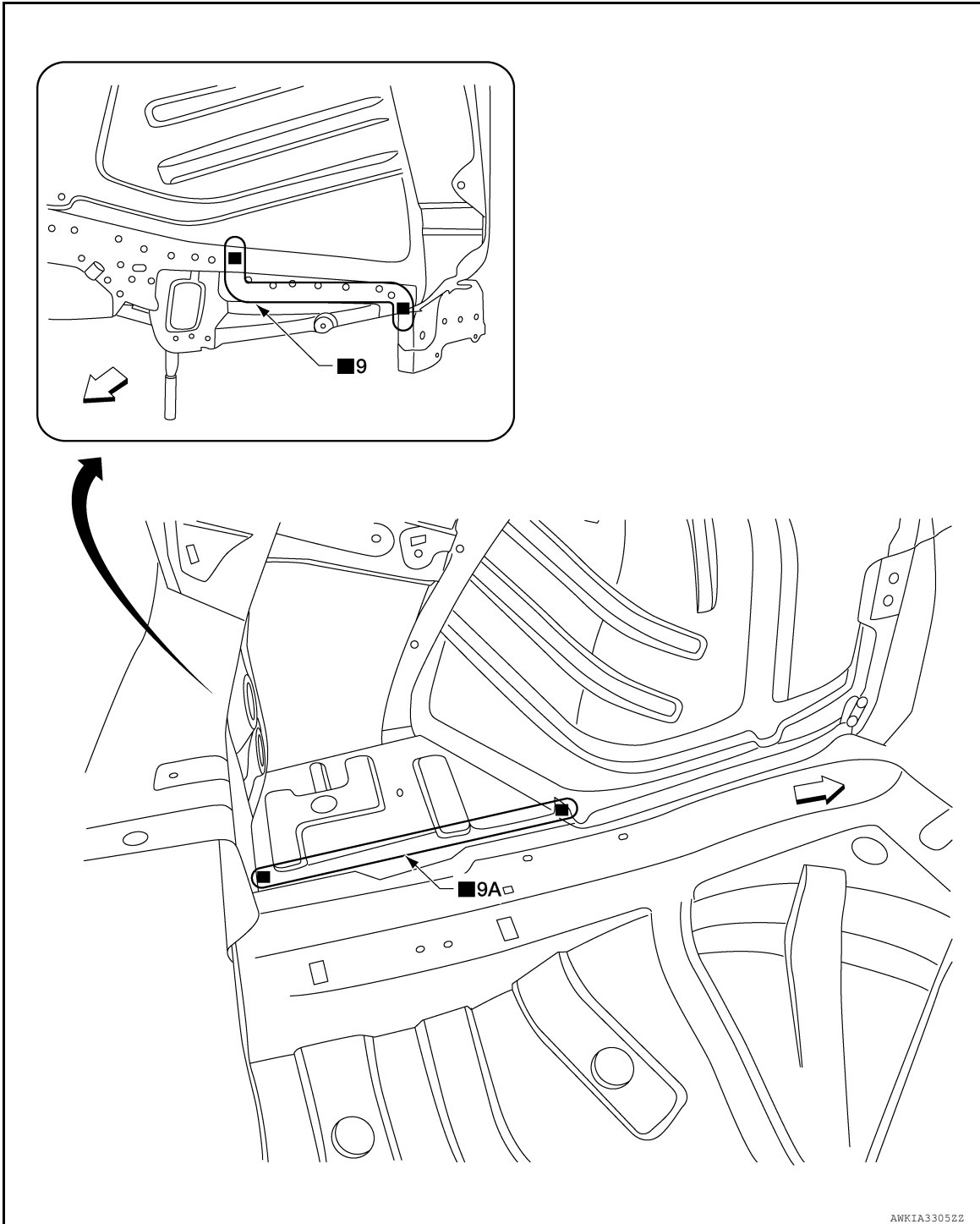
ALKIA37992Z

Replacement parts

- Rear floor rear (Partial Replacement) ◀ Front

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Replacement parts

- Rear floor side (RH, LH)

⇐ Front

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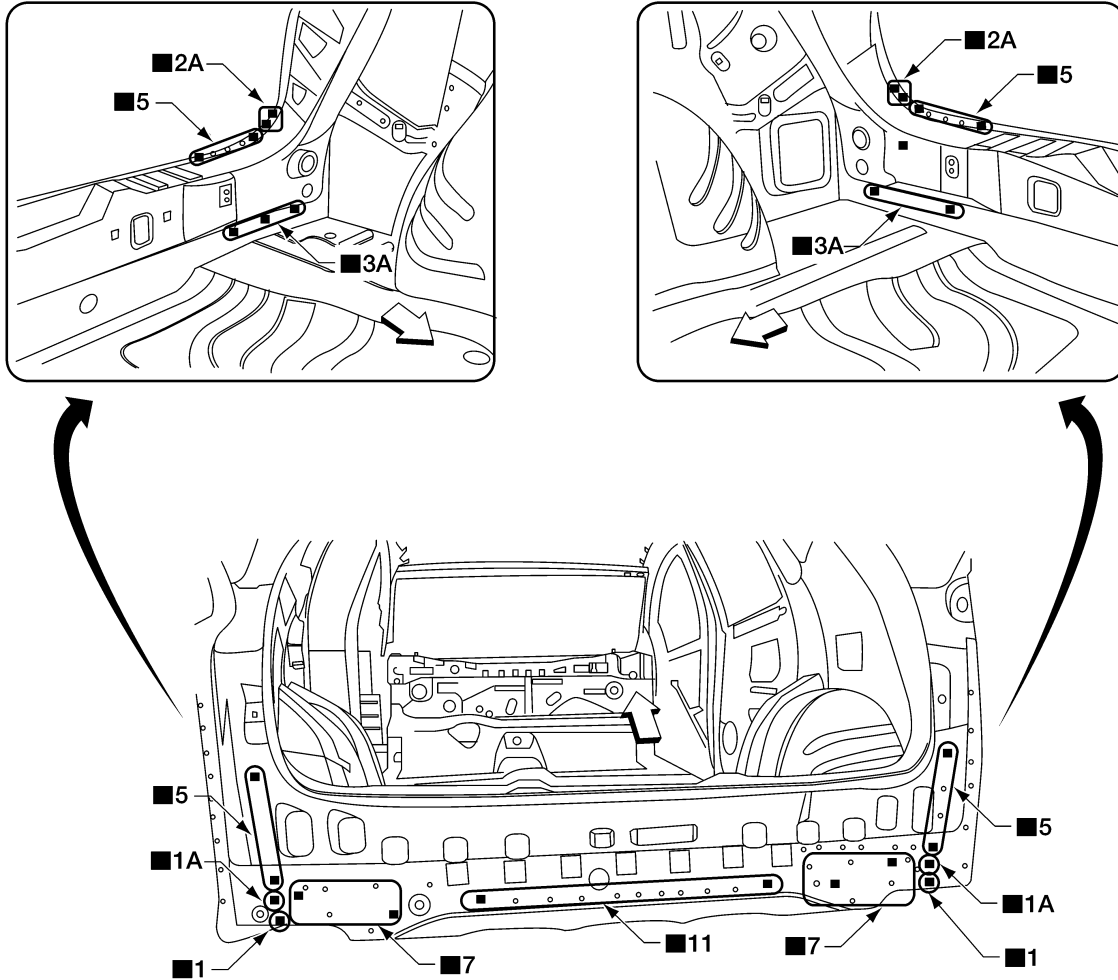
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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

Rear Panel Assembly

INFOID:000000011218543



Replacement parts

- Rear panel assembly

⇐ Front

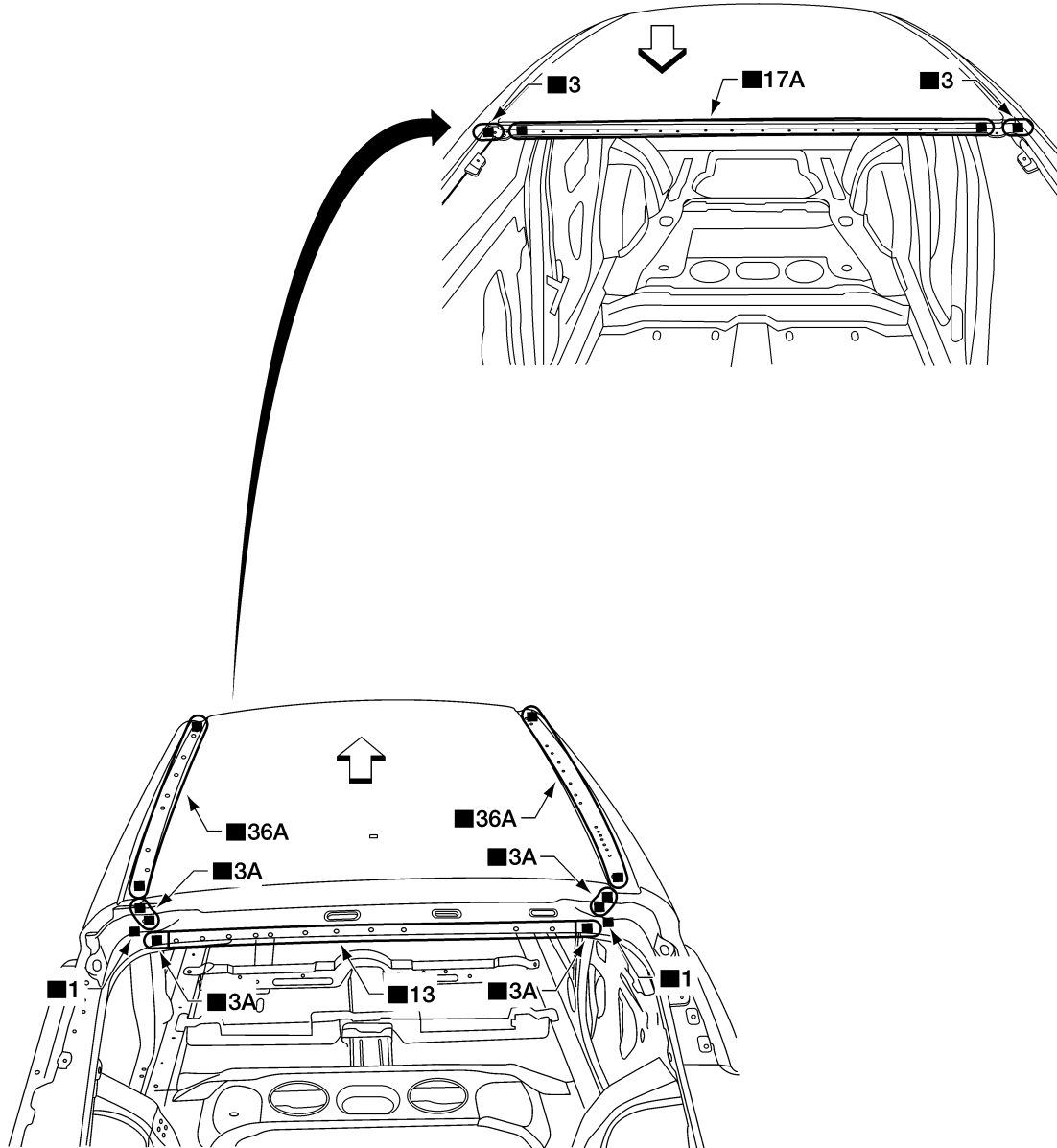
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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

Roof

INFOID:000000011218544



Replacement parts

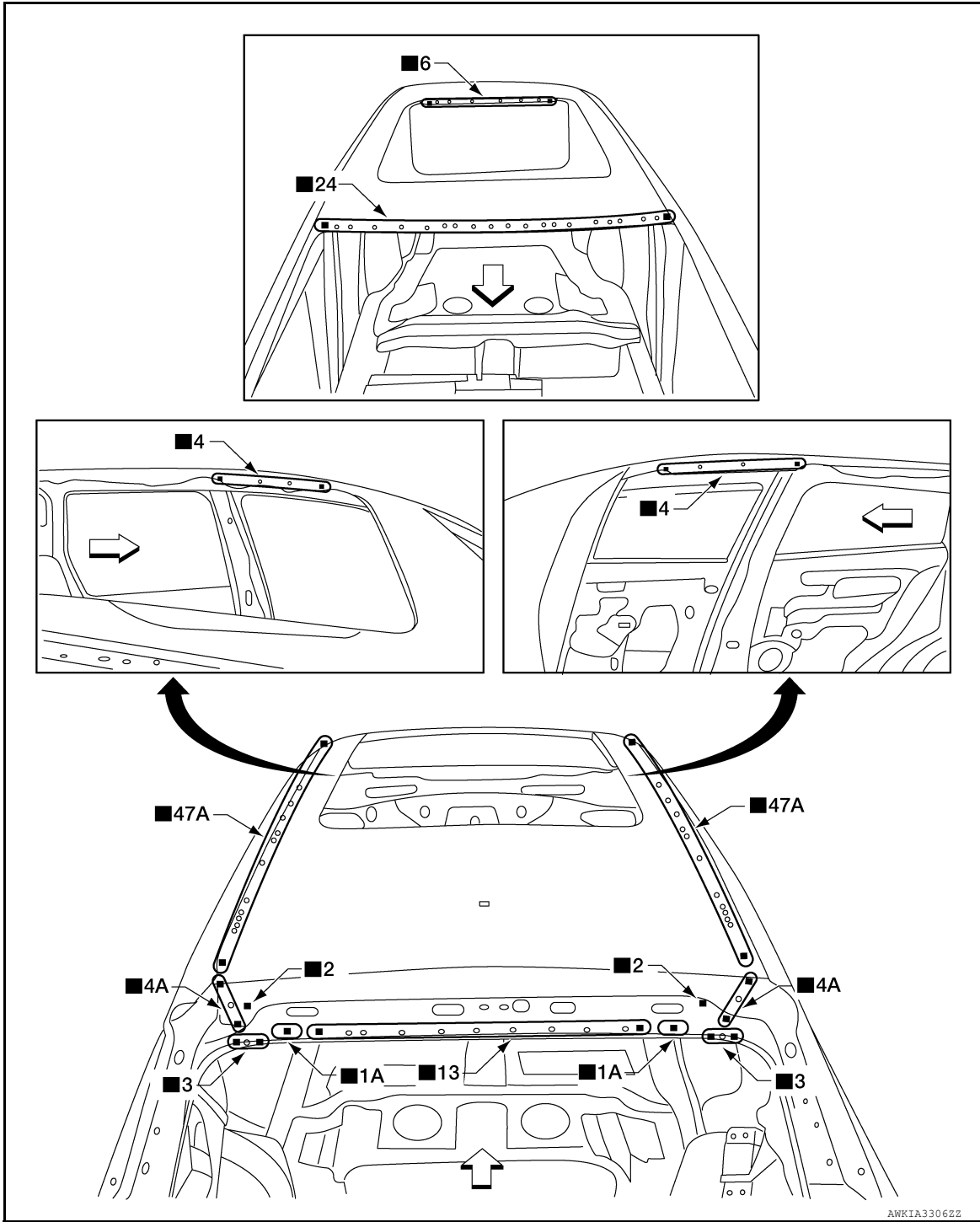
● Roof panel

⇐ Front

Moon Roof

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Replacement parts

- Roof panel, Moon roof shown
- ← Front

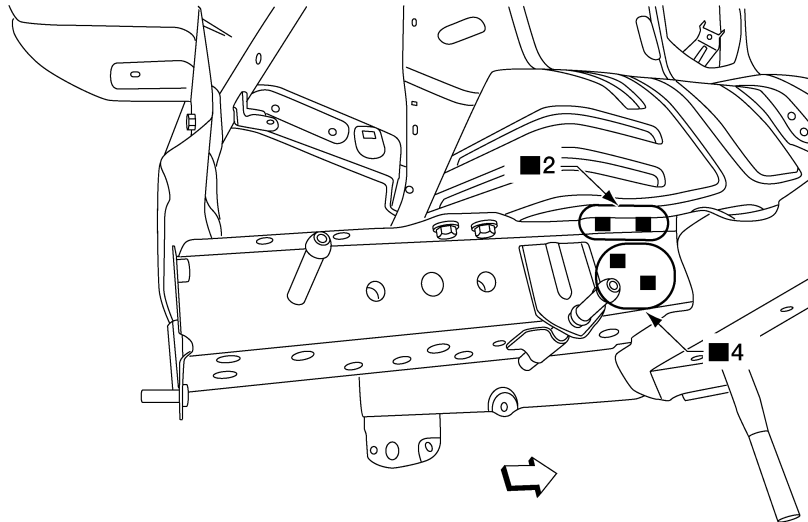
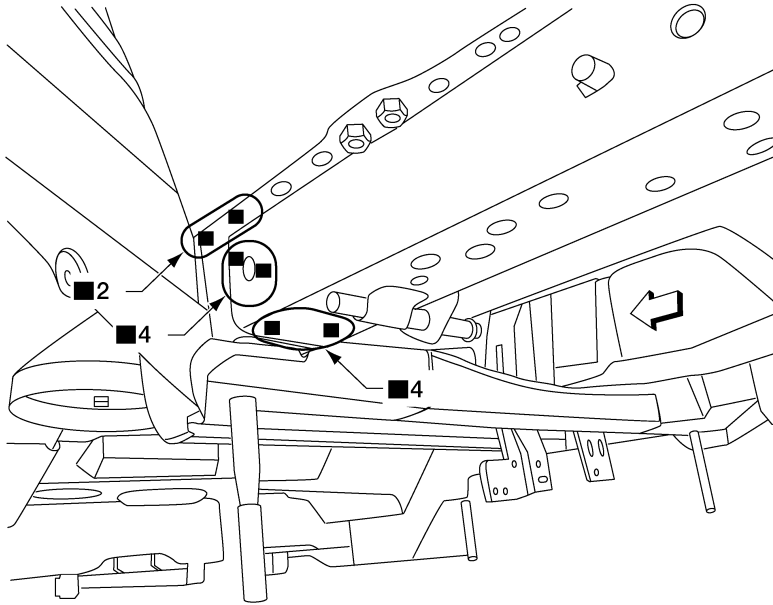
Rear Side Member Extension

INFOID:000000011218545

- Work after rear panel assembly has been removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



ALKIA3801ZZ

Replacement parts

- Rear side member extension

← Front

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BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

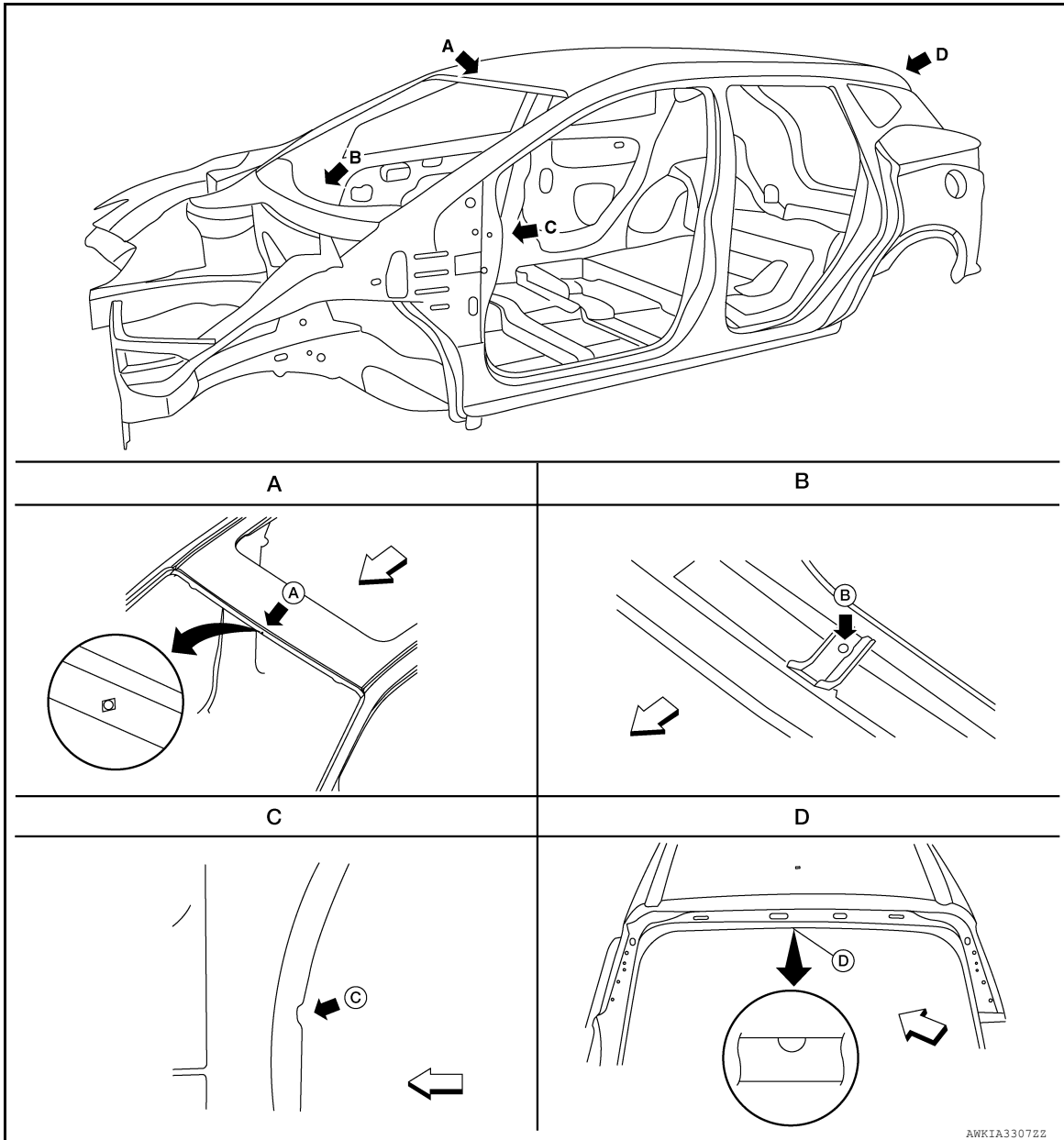
SERVICE DATA AND SPECIFICATIONS (SDS)

BODY ALIGNMENT

Body Center Marks

INFOID:000000011218546

A mark is placed on each part of the body to indicate the vehicle center. When repairing the vehicle frame (members, pillars, etc.) damaged in an accident the most accurate and effective repair will be achieved by using these marks together with body alignment specifications.



↶ Front

Points	Portion	Marks
A	Front roof	Embossment
B	Center cowl top	Hole
C	Body side	Notch
D	Rear roof	Notch

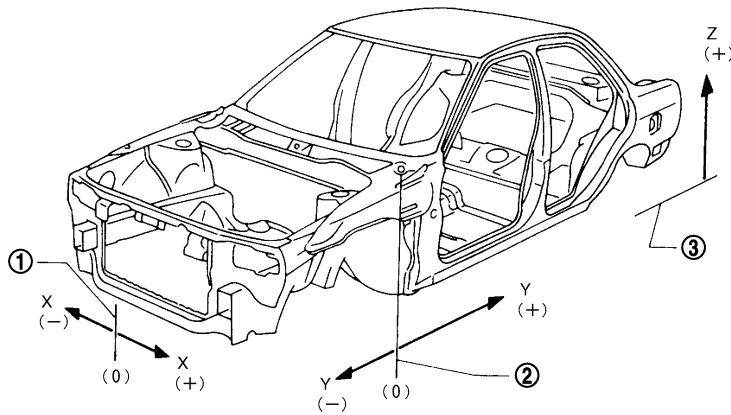
BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

Description

INFOID:000000011218547

- All dimensions indicated in the figures are actual.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge itself to make sure there is no free play.
- When a measuring tape is used, check to be sure there is no elongation, twisting or bending.
- Measurements should be taken at the center of the mounting holes.
- An asterisk (*) following the value at the measuring point indicates that the measuring point on the other side is symmetrically the same value.
- The coordinates of the measurement points are the distances measured from the standard line of "X", "Y" and "Z".
- "Z": Imaginary base line [200 mm (7.87 in) below datum line ("0Z" at design plan)]



JSKIA0073GB

1. Vehicle center

2. Front axle center

3. Imaginary base line

Engine Compartment

INFOID:000000011218548

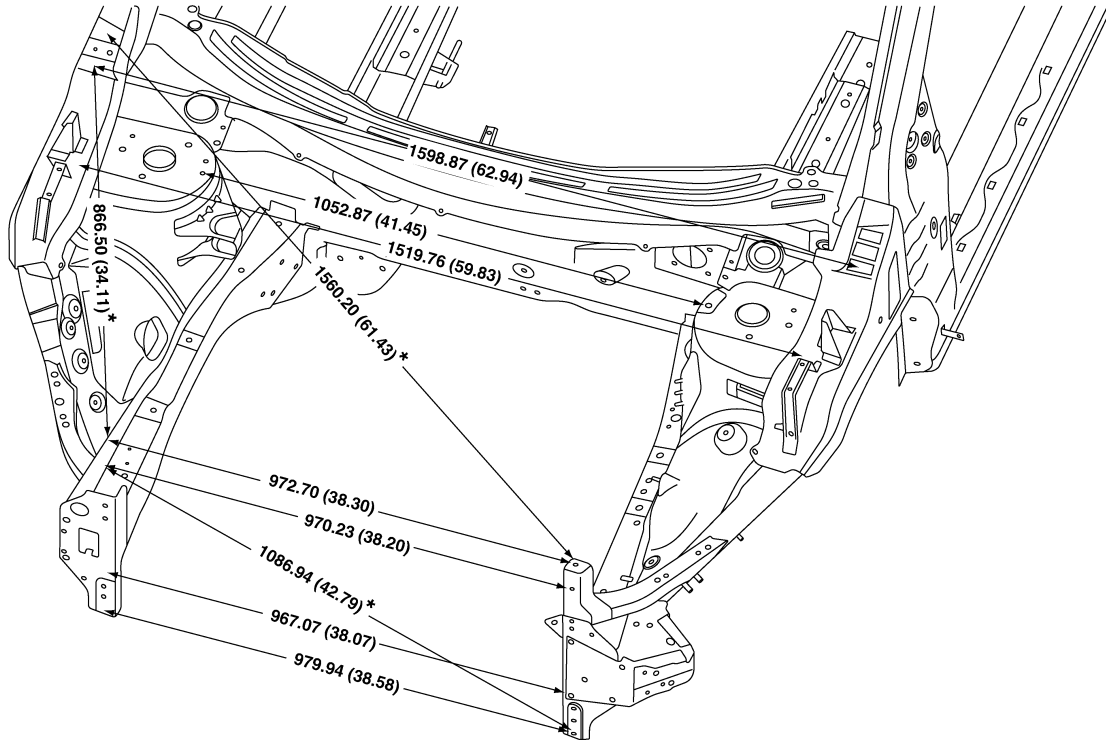
MEASUREMENT

Dimensions marked with "*" indicate symmetrically identical dimensions on both the RH and LH sides of the vehicle.

BRM

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

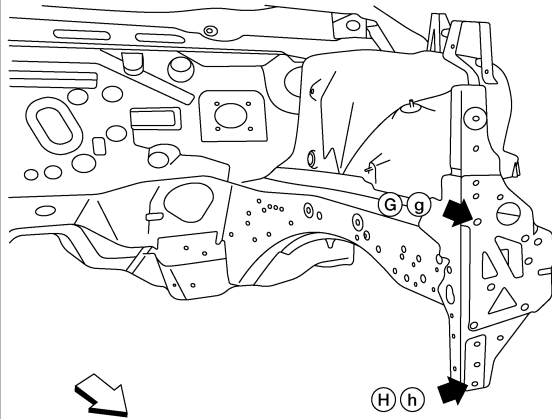
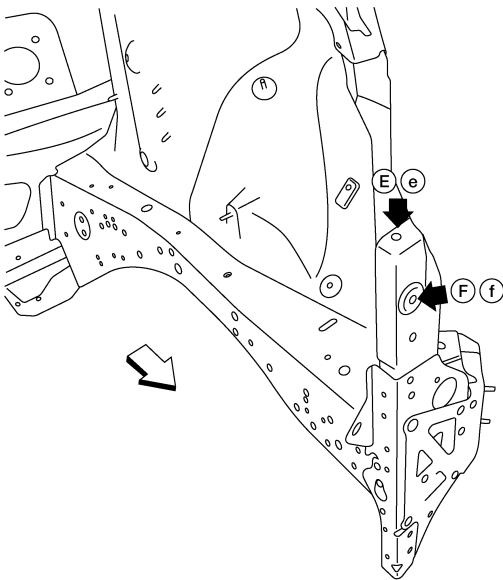
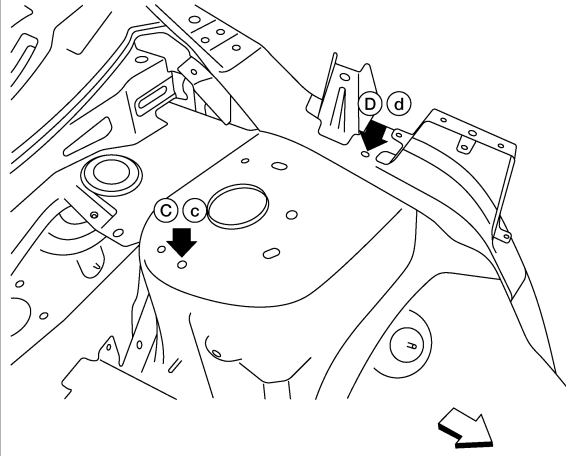
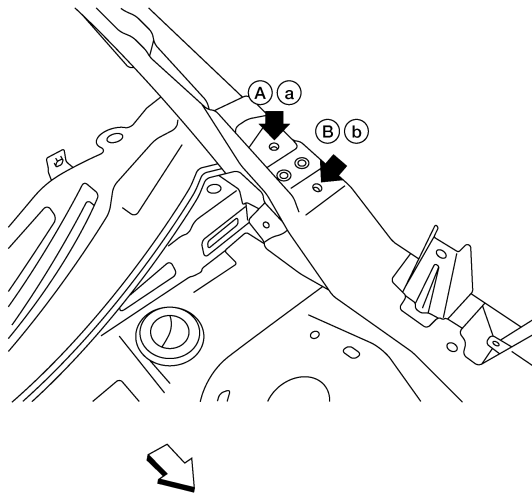


ALKIA3804ZZ

MEASUREMENT POINTS

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



ALKIA3806ZZ

← Front

A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

BRM

Unit: mm (in)

Point	Description
A, a	Hood hinge rear hole 8.0 (0.31)
B, b	Hood hinge front hole 8.0 (0.31)
C, c	Front strut housing hole 8.0 (0.31)
D, d	Hoodledge locator hole 10.0 (0.36)
E, e	Upper radiator support top hole 8.0 (0.31)
F, f	Upper radiator support front hole 8.0 (0.31)
G, g	Bumper reinforcement lower hole 8.0 (0.31)
H, h	Lower radiator support hole 8.0 (0.31)

Underbody

INFOID:000000011218549

MEASUREMENT

Revision: October 2014

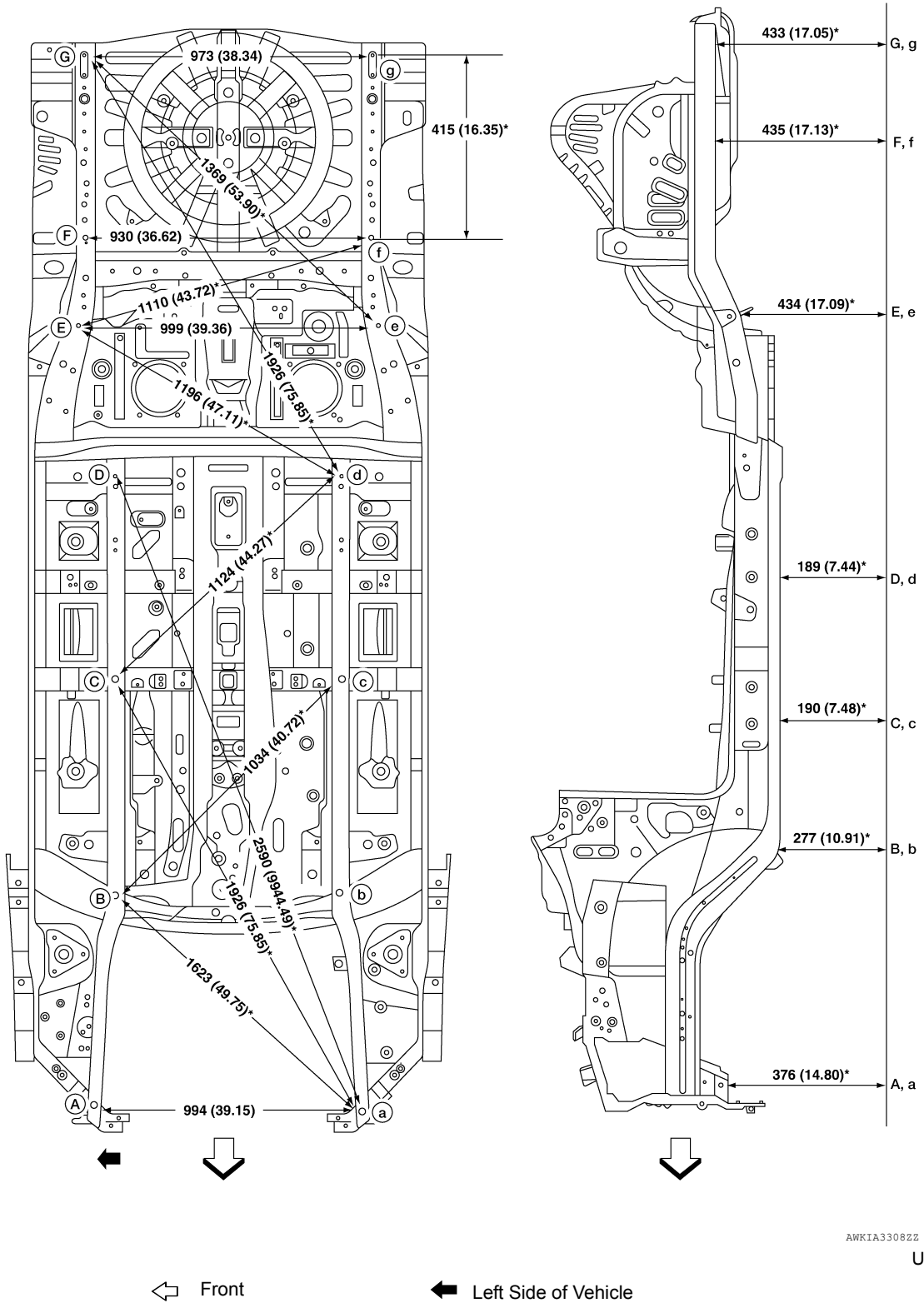
BRM-47

2015 Murano

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

The following figure shows a bottom view and a side view of the vehicle.



AWKIA33082Z

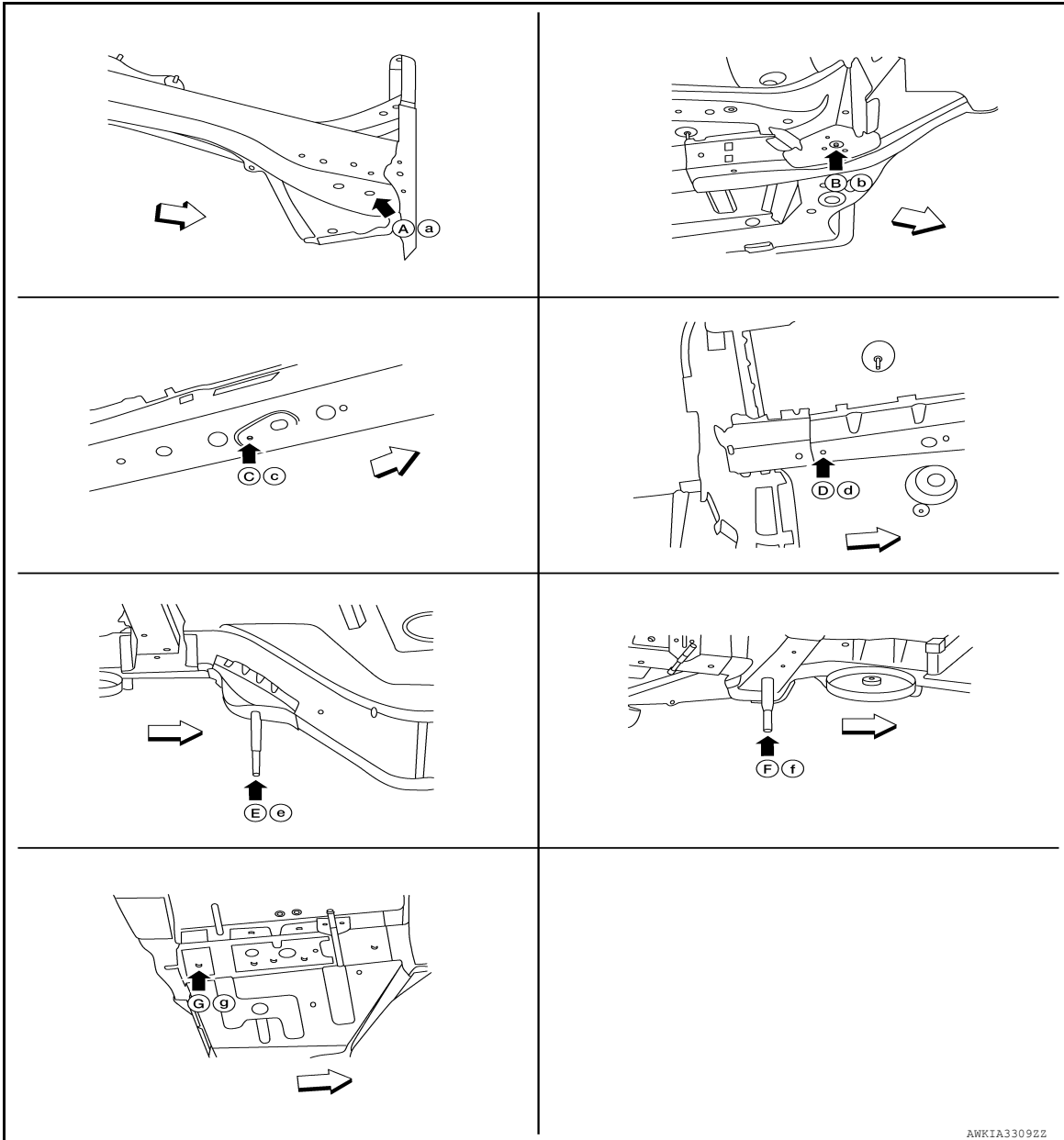
Unit: mm (in).

Dimensions marked with "*" indicate symmetrically identical dimensions on both the RH and LH sides of the vehicle.

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

MEASUREMENT POINTS



↔ Front

Unit: mm (in)

Points	Coordinates			Remarks
	X	Y	Z	
A, a	±566.60 (±22.31))	-478.00 (-18.82) 501.0 19.72	175.50 (12.99)	Hole 18 (0.71)
B, b	±301.00 (±12.20)	±305.00 (12.01)	77.77 (3.06)	Hole 29.5 (1.16)
C, c	±660.00 (±25.98)	±410.00 (±16.14)	-9.63 (-0.38)	Hole 14.0 (0.55)
D, d	±1270.00 (±20.23)	±410.00 (±16.14)	-10.80 (0.43)	Hole 12.0 (0.47)
E, e	±2501.0 (±98.46)	±330.0 (±12.99)	234.00 (9.21)	Hole 29.5 (1.16)
F, f	±2897.2 (±114.06)	±525.5 (±20.69)	235.0 (9.25)	Hole 20.0 (0.79)
G, g	±3248.0 (±127.87)	-551.0 (-21.69) 523.5 (20.61)	233.8 (9.20)	Hole 16.0x14.0 (0.63x0.55)

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BODY ALIGNMENT

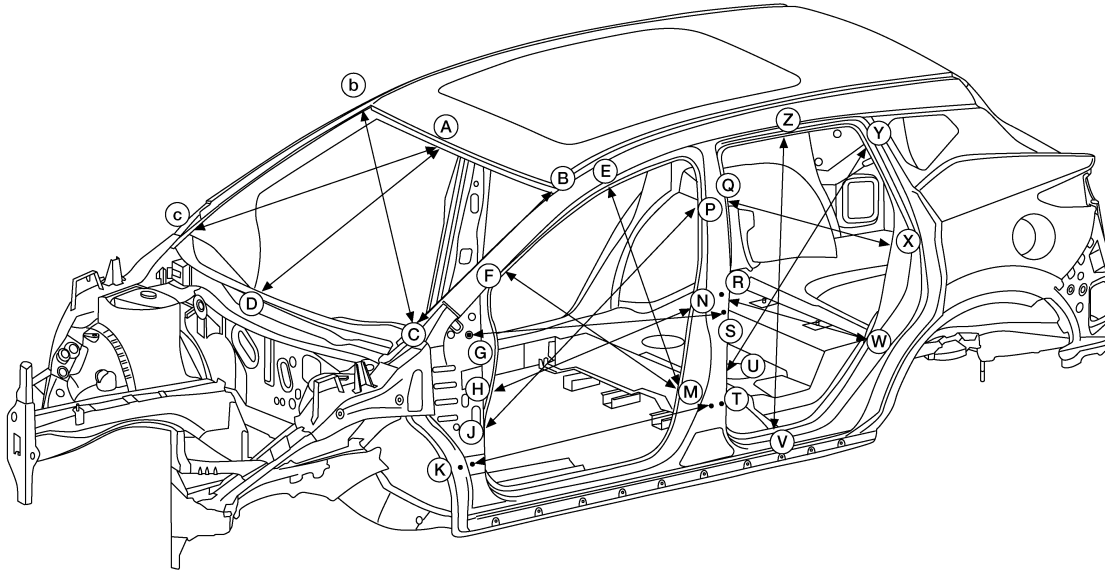
< SERVICE DATA AND SPECIFICATIONS (SDS)

Passenger Compartment

INFOID:000000011218550

MEASUREMENT

Dimensions marked with "*" indicate symmetrically identical dimensions on both the LH and RH side of the vehicle.



AWKIA3291ZZ

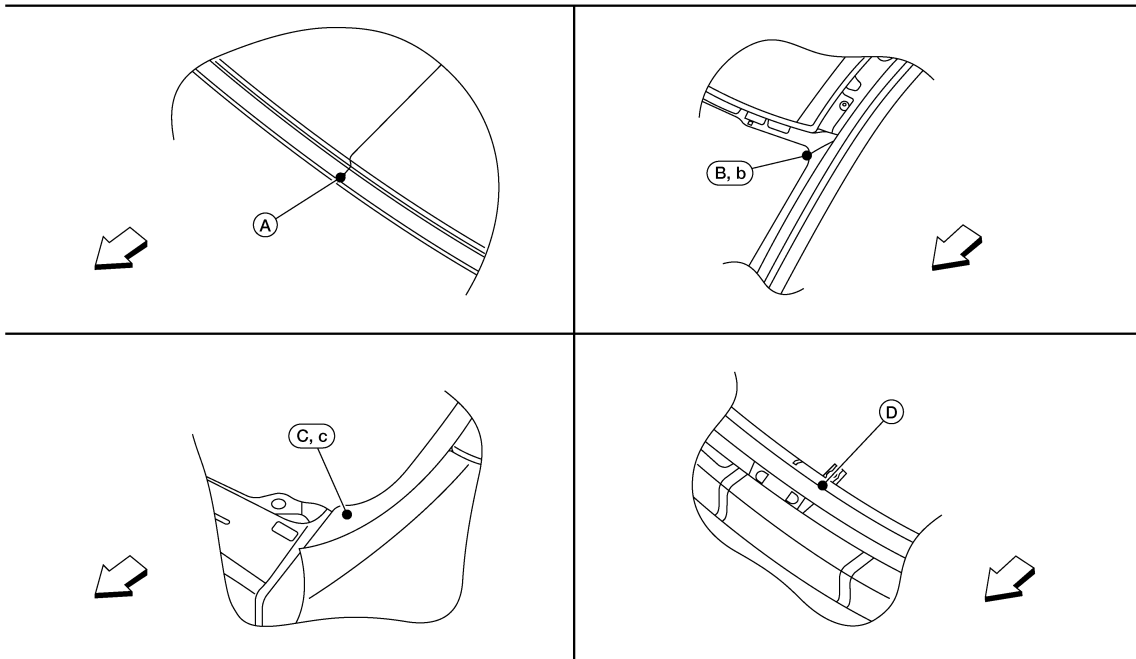
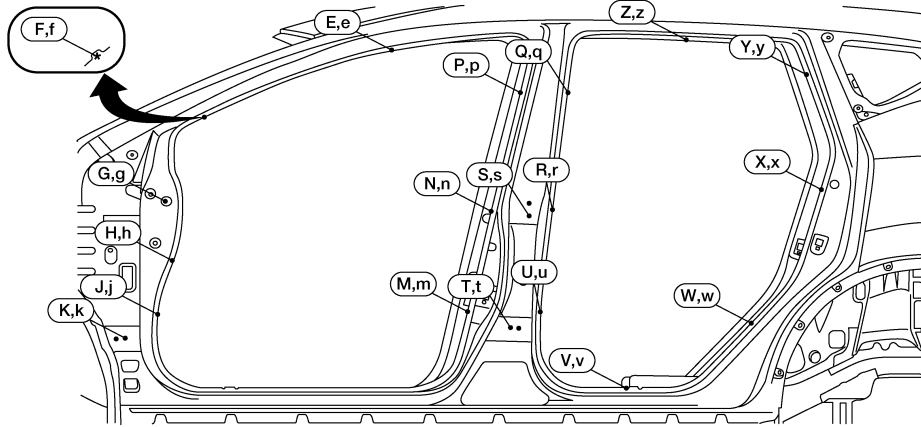
Unit: mm (in)

Coordinates	Measurement	Coordinates	Measurement
A-D	943.64(37.15)	A-C*	1037.90 (40.86)
C-b*	1544.04 (60.79)	E-M*	846.53 (33.33)
F-M*	970.77 (38.22)	G-S*	1047.83 (41.25)
H-N*	935.61 (36.83)	J-P*	1255.09 (49.41)
K-T*	1121.60 (44.16)	R-W*	696.45 (27.42)
U-Y*	1072.95 (42.24)	Q-X*	790.61 (31.13)
V-Z*	1117.28 (43.99)		

MEASUREMENT POINTS

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



ALKTA38092Z

↔ Front

Point	Description	Point	Description
A	Roof flange end of center positioning mark	E,e F,f G,g H,h J,j	Front pillar indent
B, b	Outer side body joggle	M,m N,n P,p Q,q R,r	Center pillar indent
C, c	Outer side body indent	K,k T,t S,s	Door hinge installing hole center
D	Center of center cowl top hole	V,v W,w X,x Y,y Z,z	Rear fender indent

Rear Body

INFOID:0000000011218551

MEASUREMENT

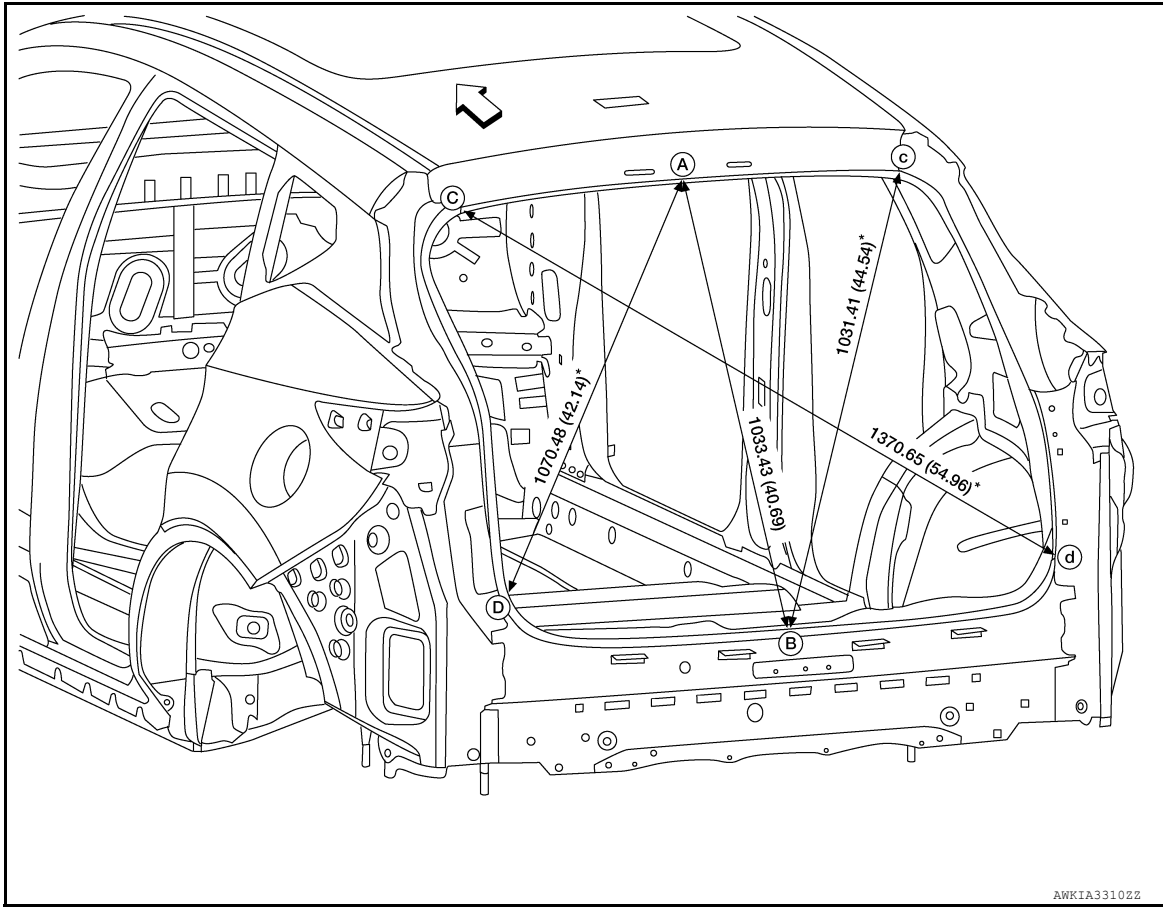
Dimensions marked with "*" indicate symmetrically identical dimensions on both the LH and RH side of the vehicle.

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BRM

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



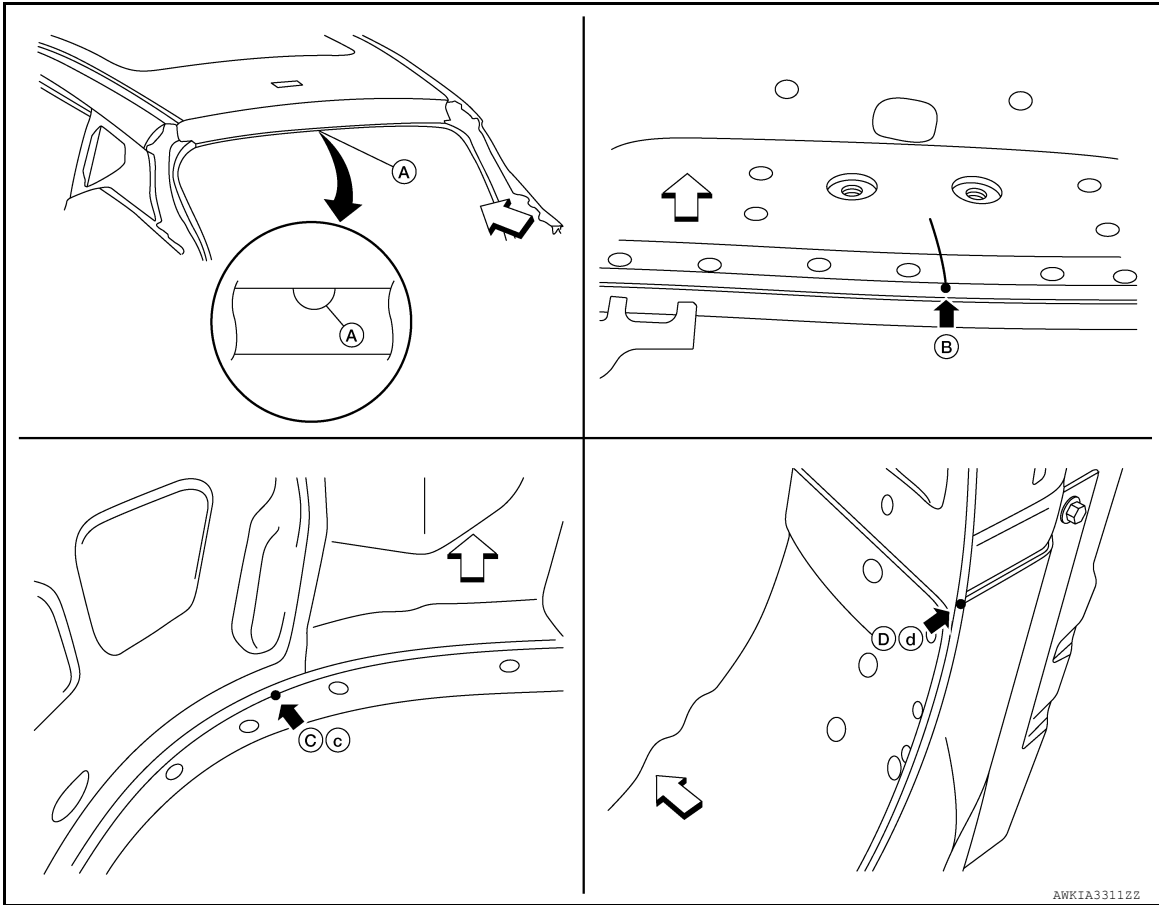
Unit: mm (in)

↔ Front

MEASUREMENT POINTS

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



↩ Front

Point	Description	Point	Description
A	Roof flange end of center positioning mark	B	Edge of rear panel between back door striker installing holes
C, c	Back pillar main joggle	D, d	Upper rear panel joggle

A
B
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BRM