SECTION BRM
BODY REPAIR

CONTENTS

REGULAR GRADE

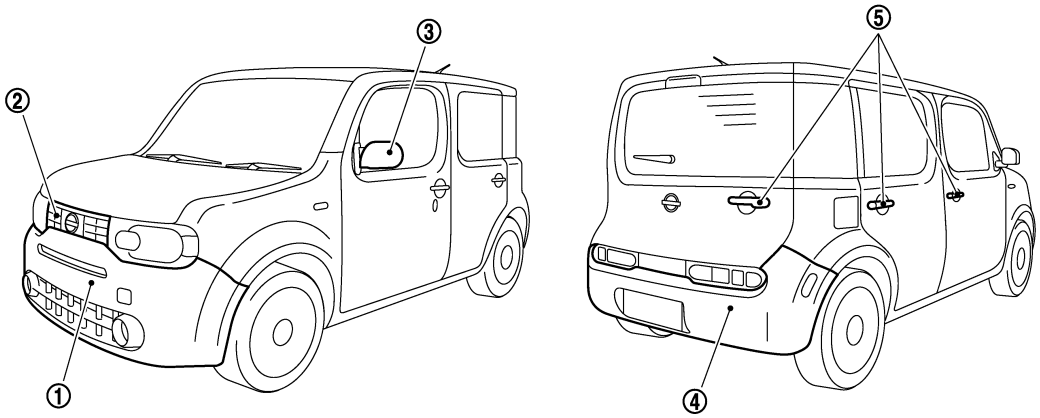
Krom

VEHICLE INFORMATION

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

INFOID:0000000006953117



JSKIA1176ZZ

Component			Color code	BAY4	BB20	BCAH	BKY0	BK21	BL50	BQX1	BRAH
			Description	Red	Bluish Black	Brown	Silver	Gray	Brownish Purple	White	Blue
			Paint type note	PM	P	PM	M	FPM	P	3P	PM
			Hard clear coat	×	×	×	–	–	×	–	–
1	Front bumper fascia		Body color	BAY4	BB20	BCAH	BKY0	BK21	BL50	BQX1	BRAH
2	Front grille		Dark Gray	LX15	LX15	LX15	LX15	LX15	LX15	LX15	LX15
3	Door outside mirror	Cover	Body color	BAY4	BB20	BCAH	BKY0	BK21	BL50	BQX1	BRAH
			Material color	-	-	-	-	-	-	-	-
4	Rear bumper fascia		Body color	BAY4	BB20	BCAH	BKY0	BK21	BL50	BQX1	BRAH
5	Door outside handle		Body color	BAY4	BB20	BCAH	BKY0	BK21	BL50	BQX1	BRAH

NOTE:

- S: Solid
- 2S: Solid + Clear
- CS: Color clear solid
- M: Metallic
- P: 2-Coat pearl
- 3P: 3-Coat pearl
- FPM: Iron oxide pearl
- TPM: Titanium pearl metallic
- RM, RPM: Multi flex color
- TM: Micro titanium metallic
- PM: Pearl metallic

PRECAUTION

REPAIRING HIGH STRENGTH STEEL

High Strength Steel (HSS)

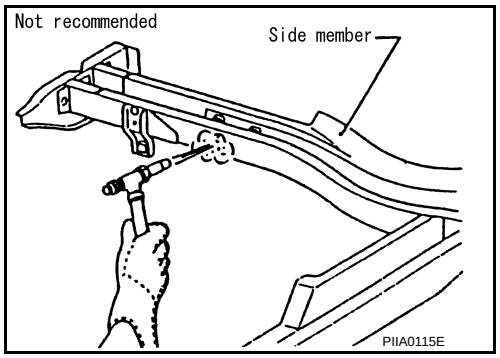
INFOID:0000000006953118

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:

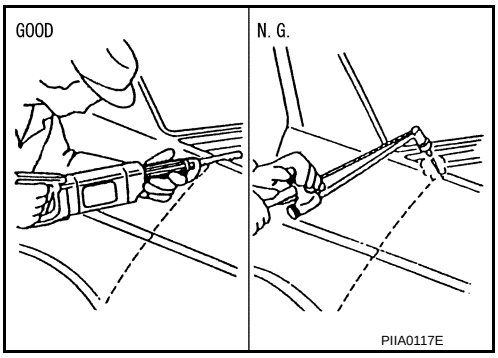
Tensile strength	Major applicable parts
370 - 590 MPa	• Front strut housing • Side dash • Lower dash crossmember assembly • Lower dash crossmember reinforcement (Component part) • Center front floor • 2nd and 3rd crossmember (Front floor component part) • Front side member assembly • Front side member closing plate assembly • Front suspension mounting bracket • Rear seat crossmember • Center rear crossmember assembly • Rear side member assembly • Front pillar brace • Center pillar reinforcement • Inner side roof rail complete • Inner center pillar • Inner rear pillar (Component part) • Lower inner rear pillar • Back pillar assembly (Component part) • Rear panel assembly (Component part) • Front side member front assembly • Rear bumper stay • Other reinforcements
780 - 1350 MPa	• Inner sill • Front side member rear extension (Front floor component part) • Outer side roof rail reinforcement • Outer sill reinforcement • Inner center rear bumper reinforcement assembly

Read the following precautions when repairing HSS:

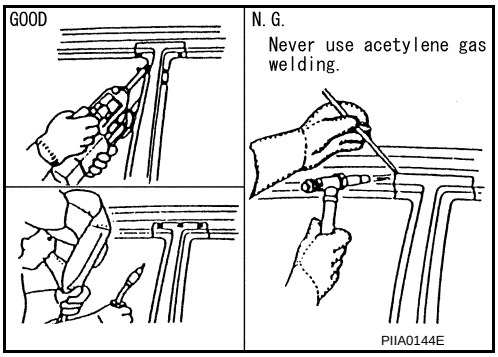
1. Additional points to consider
   - The repair of reinforcements (such as side members) by heating is not recommended, because it may weaken the component. When heating is unavoidable, never heat HSS parts above 550°C (1,022°F).
     Verify heating temperature with a thermometer.
     (Crayon-type and other similar type thermometer are appropriate.)



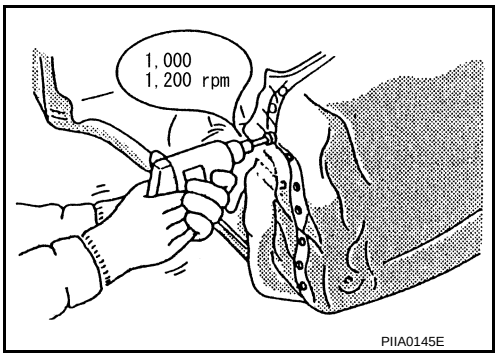
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent sections of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.
- When cutting HSS panels, avoid gas (torch) cutting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



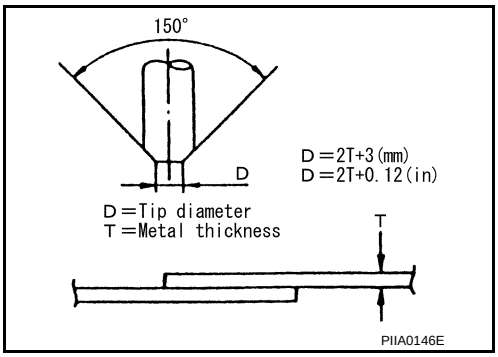
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
  If spot welding is impossible, use MIG. welding. Do not use gas (torch) for welding because it is inferior in welding strength.



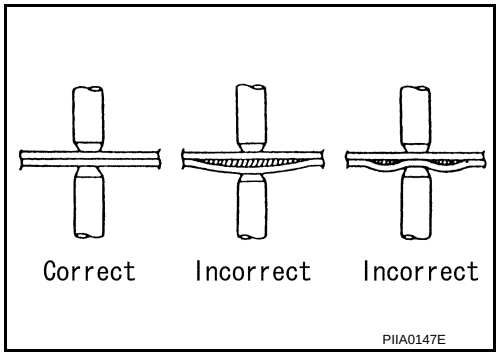
- Spot welding on HSS panels is harder than that of an ordinary steel panel.
  Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



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.



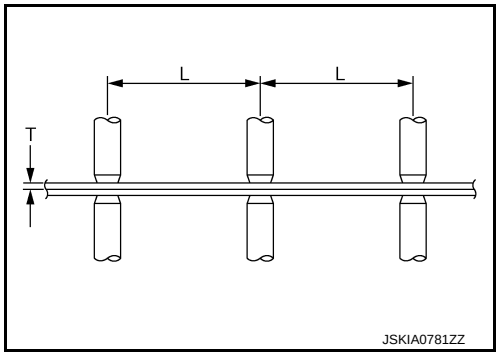
- The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit: mm (in)

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



Handling of Ultra High Strength Steel Plate Parts

INFOID:0000000006953119

PROHIBITION OF CUT AND CONNECTION

Never cut and joint 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.

PREPARATION

REPAIRING MATERIAL

Foam Repair

INFOID:0000000006953120

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

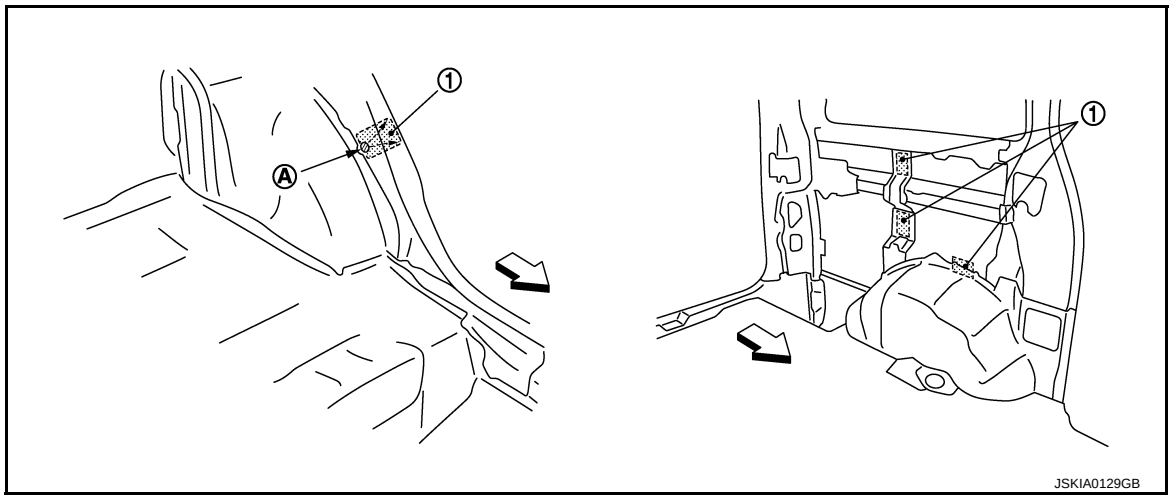
1. Fill procedures after installation of service part.

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

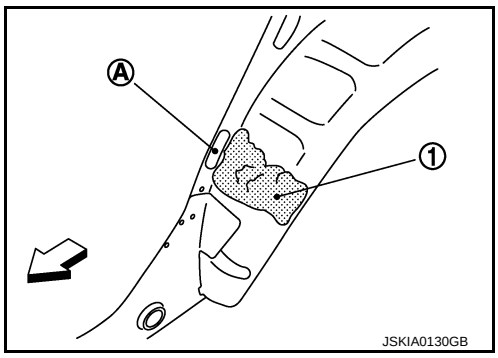
⇦: Vehicle front

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 foam material on wheelhouse outer side.



1. Urethane foam
A. Fill while avoiding flange area

⇦: Vehicle front

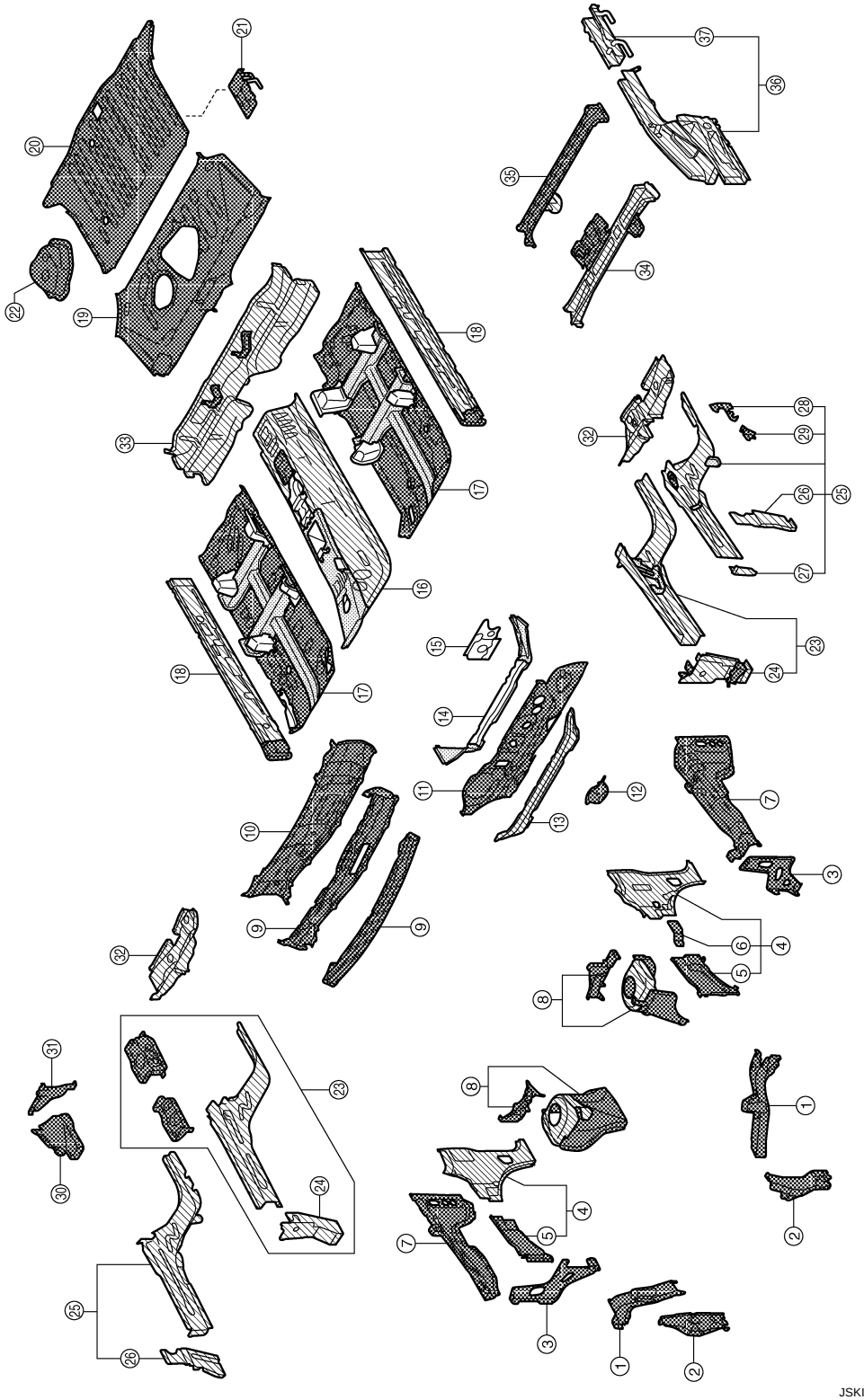
NOTE:
Fill enough to close gap with service part while avoiding flange area.

d. Install service part.
NOTE:
Refer to label for information on working times.

BODY COMPONENT PARTS

Underbody Component Parts

INFOID:0000000006953121



1. Side radiator core support (RH & LH)
2. Side radiator core reinforcement (RH & LH)
3. Hoodledge connector (RH & LH)
4. Side dash (RH & LH)
5. Upper hoodledge (RH & LH)
6. Hoodledge reinforcement gusset

7. Hoodledge reinforcement (RH & LH)	8. Front strut housing (RH & LH)	9. Cowl top
10. Upper dash assembly	11. Lower dash	12. Steering hole patch
13. Lower dash crossmember assembly	14. Lower dash crossmember reinforcement	15. Lower dash reinforcement
16. Center front floor	17. Front floor (RH & LH)	18. Inner sill (RH & LH)
19. Rear floor front	20. Rear floor rear	21. Center rear member assembly
22. Rear floor rear cover	23. Front side member assembly (RH & LH)	24. Outer add on frame bracket (RH & LH)
25. Front side member closing plate assembly (RH & LH)	26. Add on frame bracket (RH & LH)	27. Tie down hook reinforcement
28. Front side closing plate reinforcement	29. Front side rear closing reinforcement	30. Lower front hoodledge
31. Strut housing reinforcement	32. Front suspension mounting bracket (RH & LH)	33. Rear seat crossmember
34. Center rear crossmember assembly	35. 7th crossmember	36. Rear side member assembly (RH & LH)
37. Rear side member extension (RH & LH)		

: Both sided anti-corrosive precoated steel sections

: High strength steel (HSS) sections

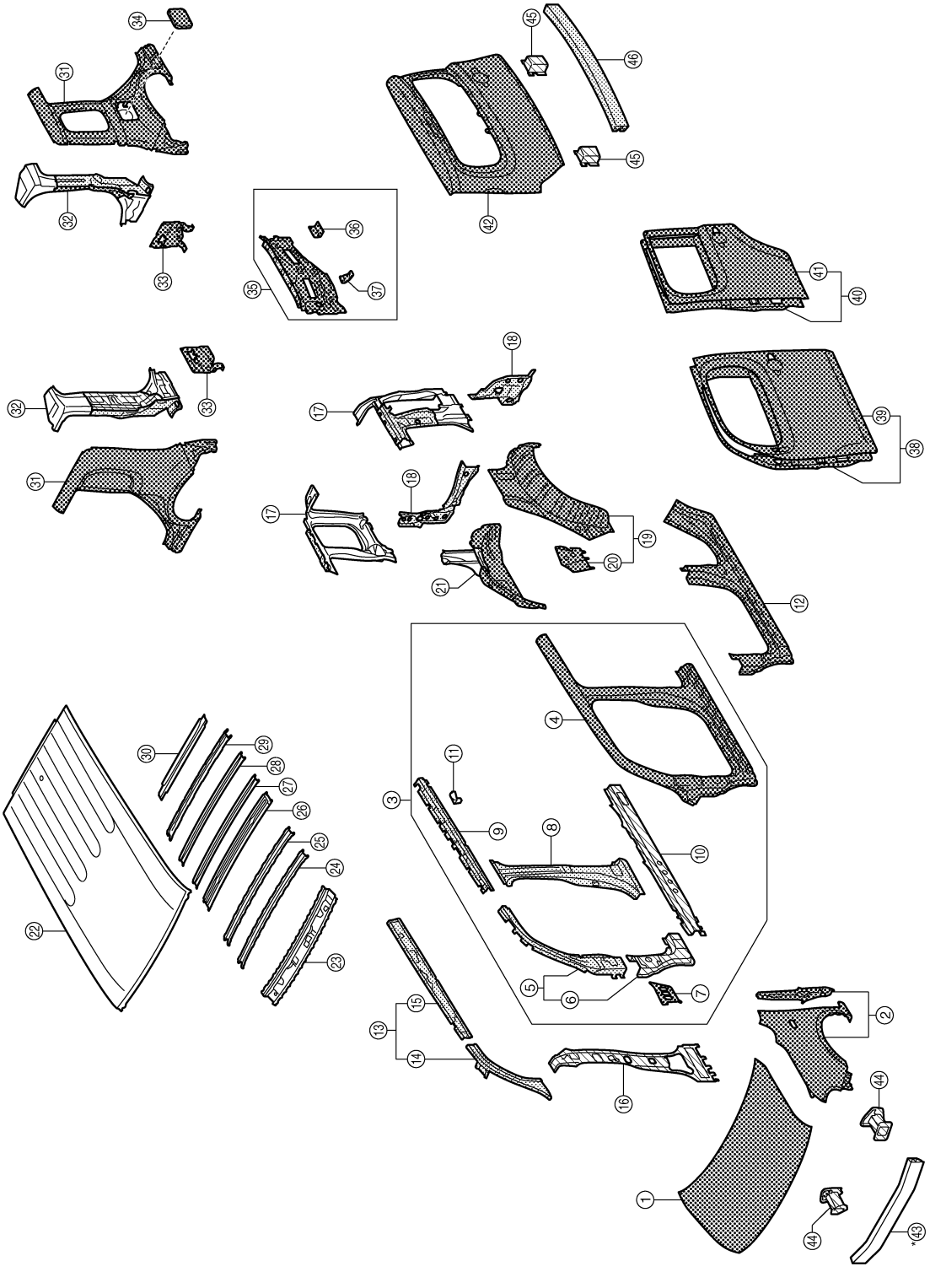
: Both sided anti-corrosive steel and HSS sections

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.

Body Component Parts

INFOID:0000000006953122



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1. Hood
2. Front fender (RH & LH)
3. Side body assembly (RH & LH)
4. Outer front side body (RH & LH)
5. Front pillar brace (RH & LH)
6. Lower front pillar hinge brace (RH & LH)
7. Lower front pillar reinforcement (RH & LH)
8. Center pillar reinforcement (RH & LH)
9. Outer side roof rail reinforcement (RH & LH)

10. Outer sill reinforcement (RH & LH)
11. Seat belt anchor reinforcement
12. Outer sill (RH & LH)
13. Inner side roof rail complete (RH & LH)
14. Upper inner front pillar (RH & LH)
15. Inner side roof rail (RH & LH)
16. Inner center pillar (RH & LH)
17. Inner rear pillar (RH & LH)
18. Lower inner rear pillar (RH & LH)
19. Outer rear wheelhouse (RH & LH)
20. Outer rear wheelhouse extension (RH & LH)
21. Inner rear wheelhouse (RH & LH)
22. Roof
23. Front roof rail
24. Roof bow No. 1
25. Roof bow No. 2
26. Center roof reinforcement
27. Roof bow No. 3
28. Roof bow No. 4
29. Roof bow No. 5
30. Rear roof rail
31. Rear fender assembly (RH & LH)
32. Back pillar assembly (RH & LH)
33. Rear combination lamp base extension (RH & LH)
34. Fuel filler lid
35. Rear panel assembly
36. Upper rear bumper retainer
37. Rear side bumper bracket
38. Front door assembly (RH & LH)
39. Outer front door panel (RH & LH)
40. Rear door assembly (RH & LH)
41. Outer rear door panel (RH & LH)
42. Back door
43. Front bumper armature assembly
44. Front side member front assembly (RH & LH)
45. Rear bumper stay (RH & LH)
46. Inner center rear bumper reinforcement assembly

: Both sided anti-corrosive precoated steel sections
: High strength steel (HSS) sections
: Both sided anti-corrosive steel and HSS sections
*: Aluminum portion

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.

REMOVAL AND INSTALLATION

CORROSION PROTECTION

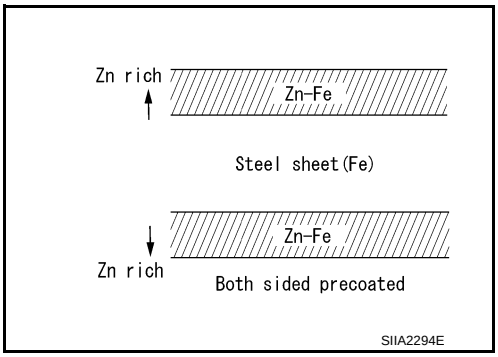
Description

INFOID:0000000008167159

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 is 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.



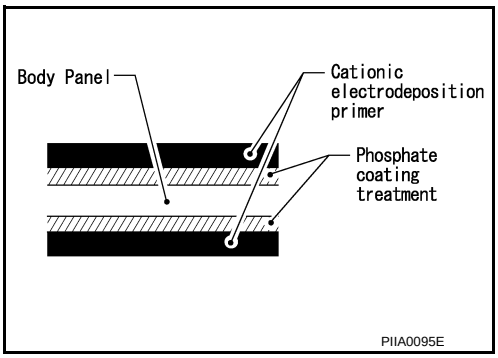
NISSAN genuine parts are fabricated from galvannealed steel. Therefore, it is recommended that NISSAN genuine parts or an equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

Phosphate Coating Treatment and Cationic Electrodeposition Primer

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

CAUTION:

Confine paint removal during welding operation to an absolute minimum.



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

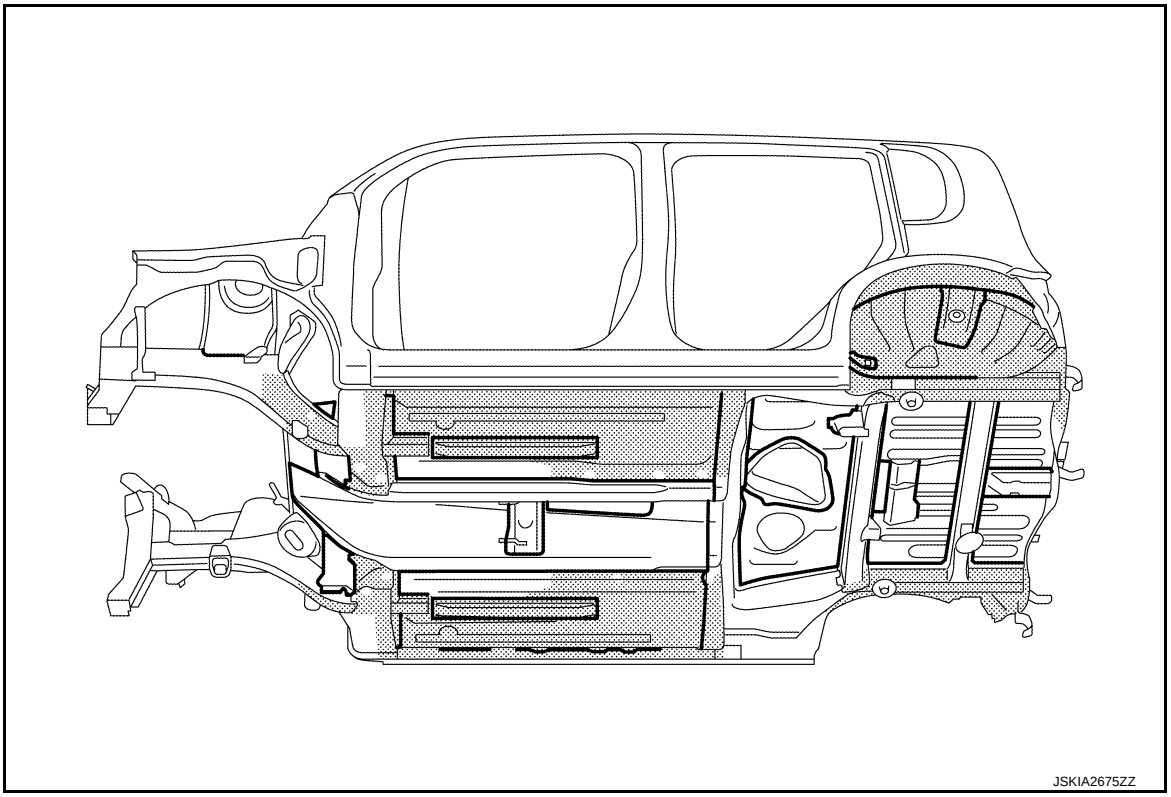
Undercoating

INFOID:0000000008167160

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 resistant, soundproof, vibration-proof, shock-resistant, adhesive, and durable.

PRECAUTIONS IN UNDERCOATING

1. Never apply undercoating to any place unless specified (such as the areas above the muffler and three way catalyst that are subjected to heat).
2. Never undercoat the exhaust pipe or other parts that become hot.
3. Never undercoat rotating parts.
4. Apply bitumen wax after applying undercoating.
5. After putting seal on the vehicle, put undercoating on it.

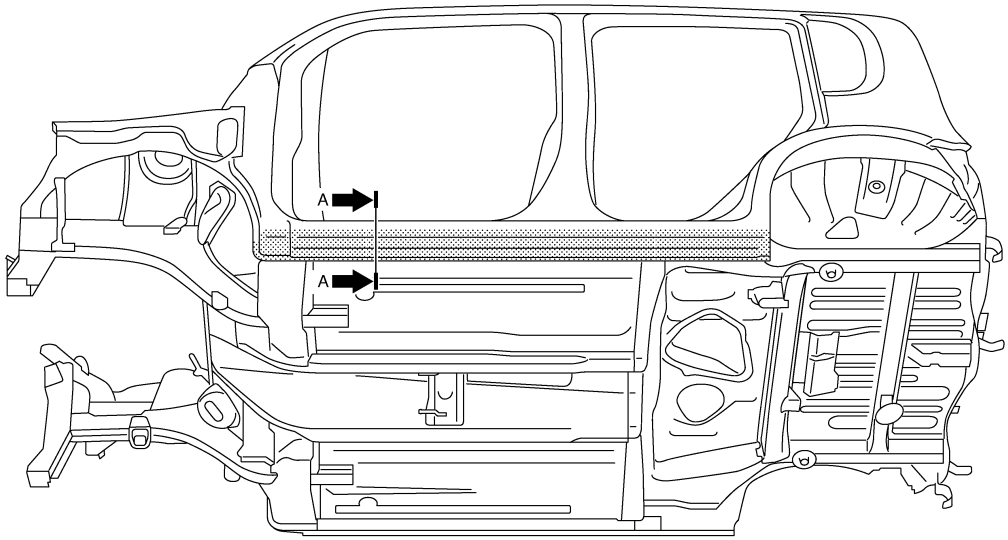


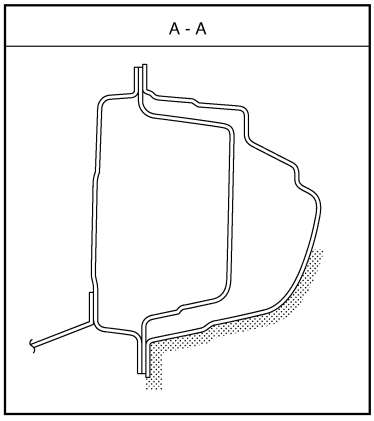
: Undercoated areas
: Sealed portions

Stone Guard Coat

INFOID:0000000008167161

To prevent damage caused by stones, the lower outer body panel (fender, door, etc.) have an additional layer of Stone Guard Coating over the ED primer coating. When replacing or repairing these panels, apply Stone Guard coating to the same portions as before. Use a coating which is rust preventive, durable, shock-resistant and has a long shelf life.





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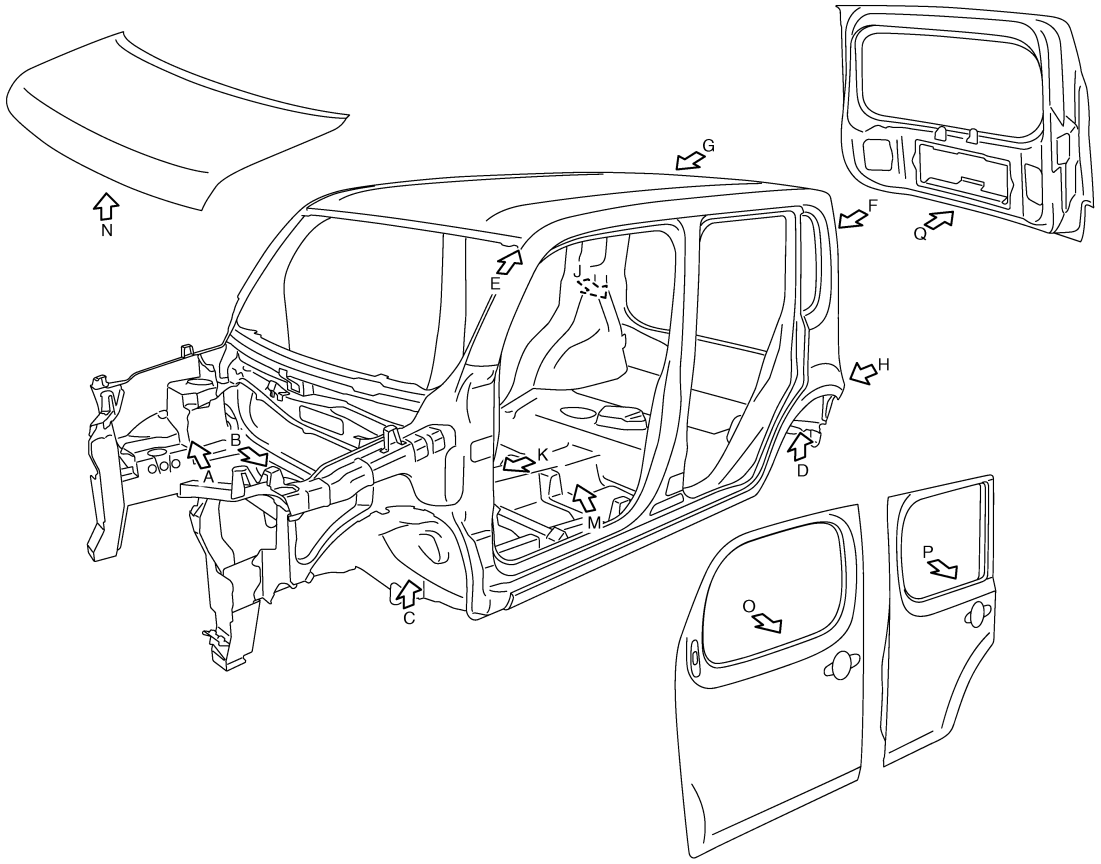
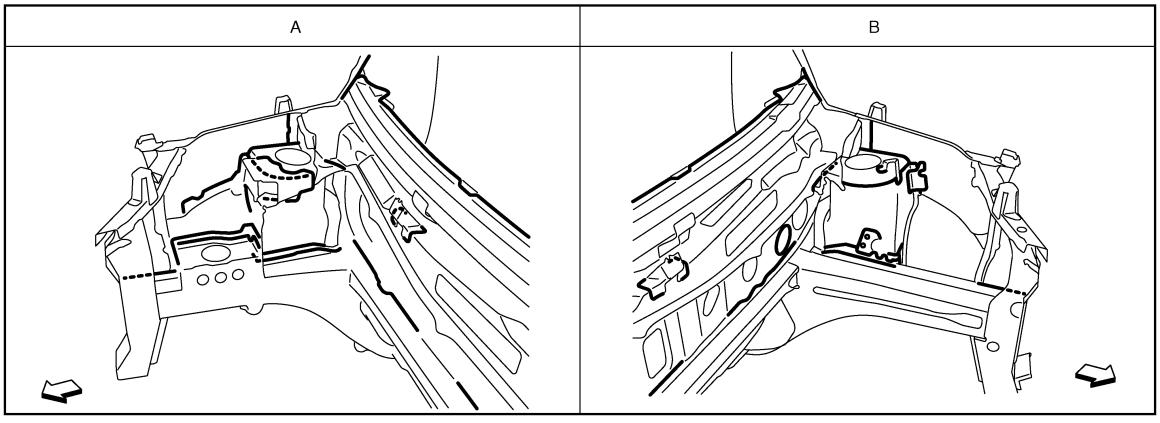
: Stone guard coated portions

Body Sealing

INFOID:0000000008167162

The following figure shows the areas that are sealed at the factory. Sealant that is 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.





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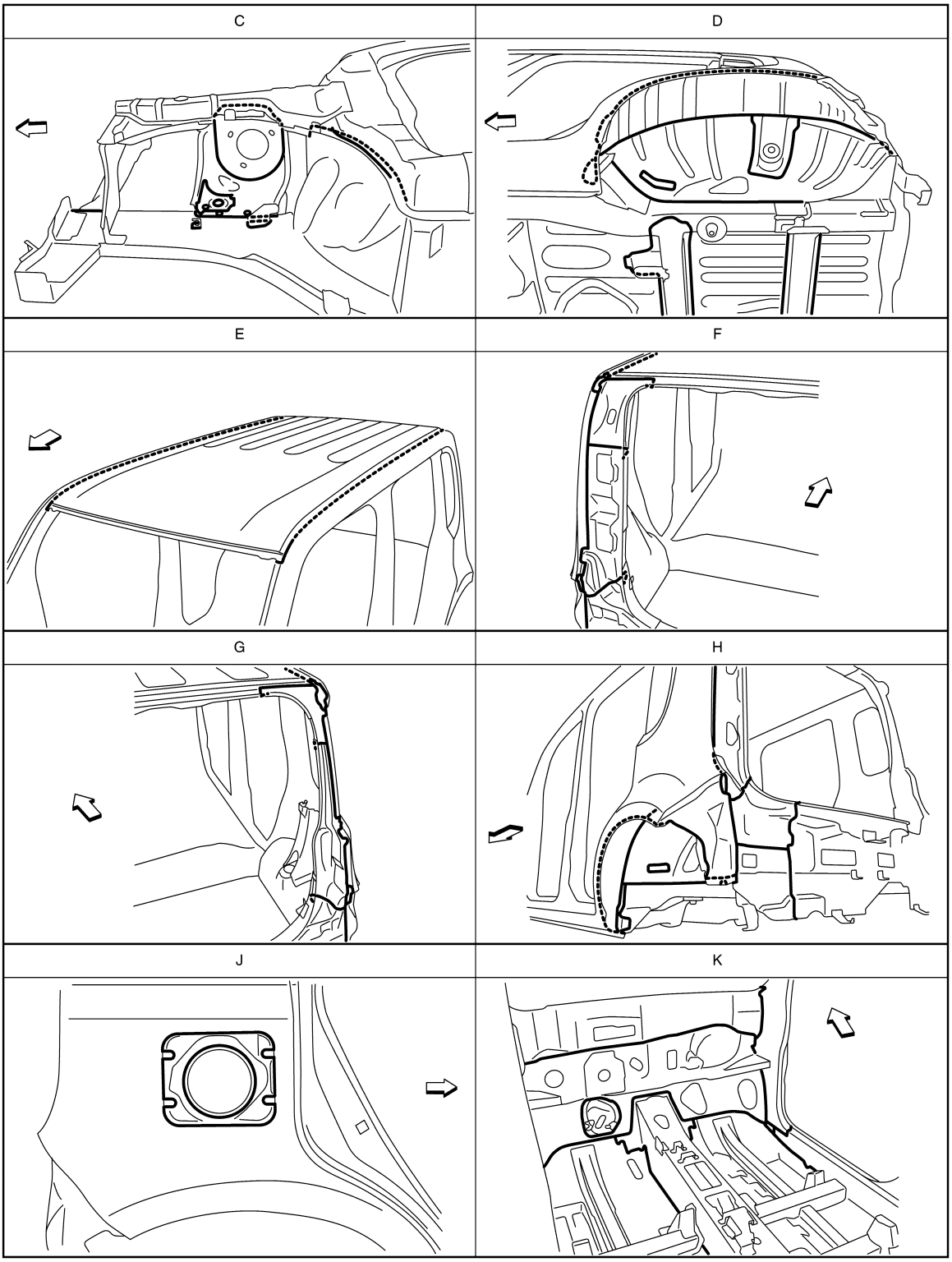
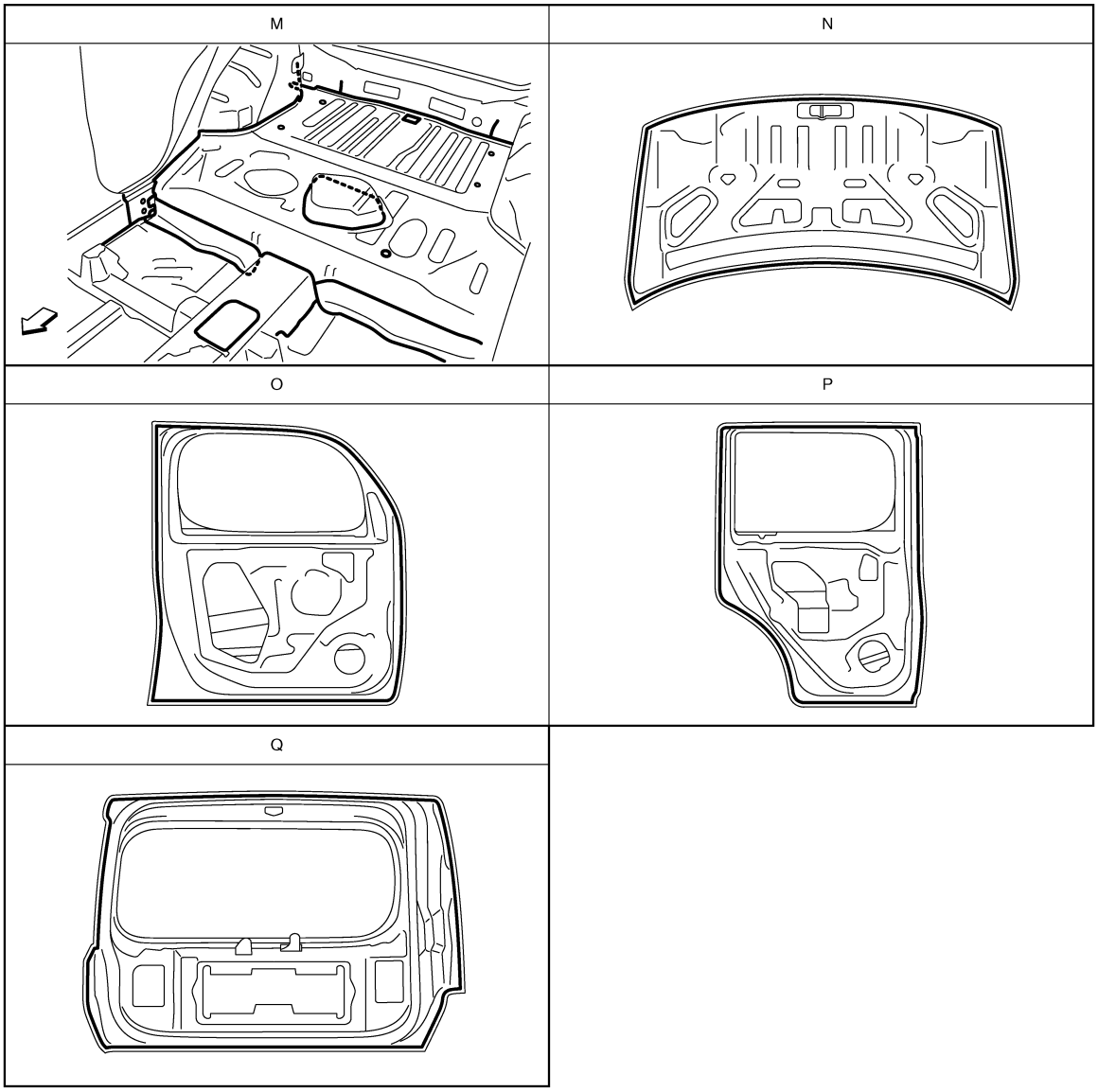
⇦: Vehicle front

▬: Sealed portions



JSKIA2655ZZ

⇦: Vehicle front
▬: Sealed portions



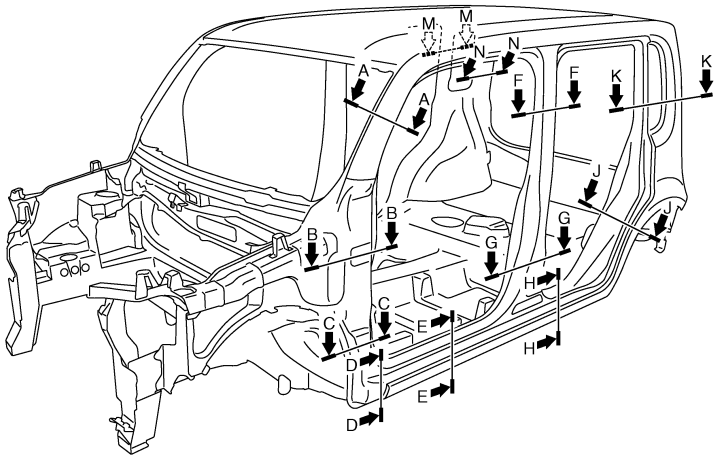
JSKIA1185ZZ

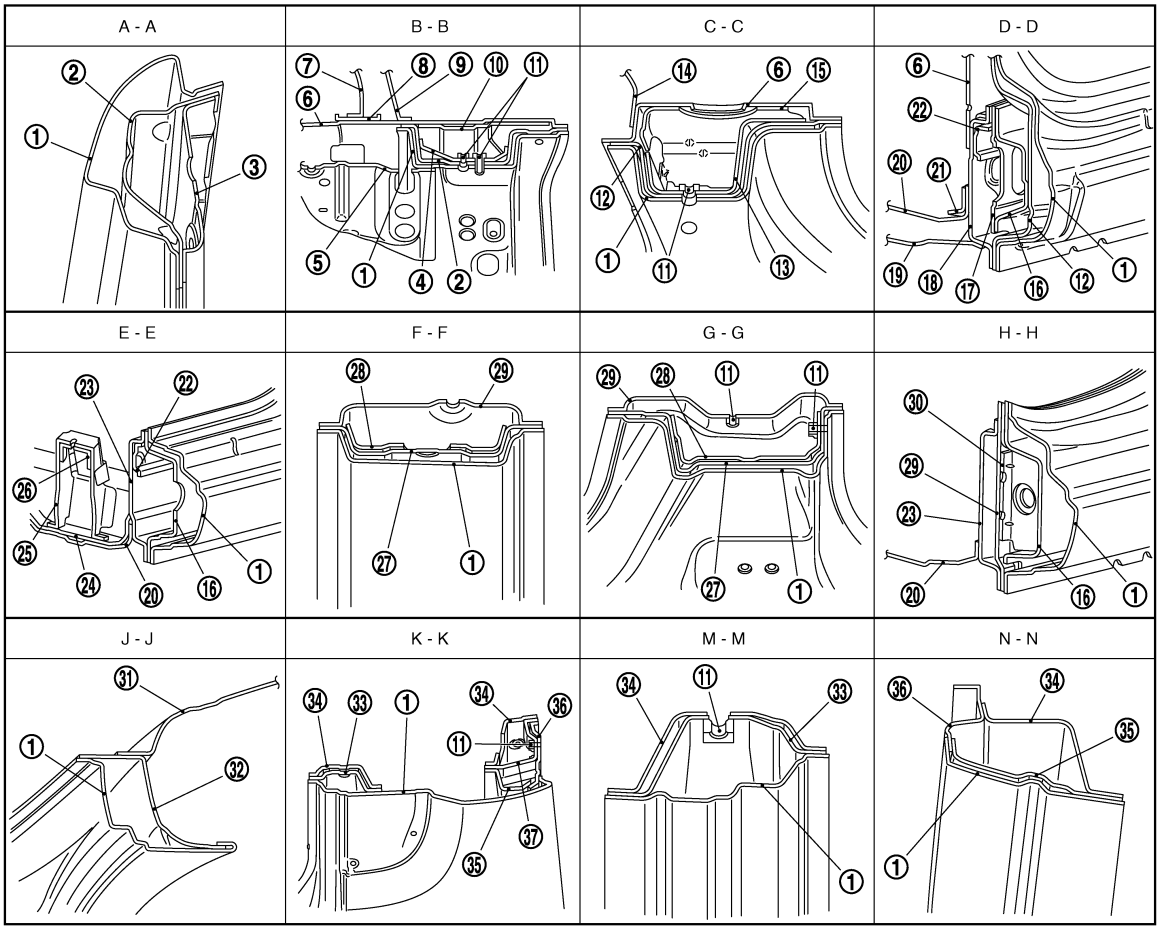
⇦: Vehicle front
▬: Sealed portions

BODY CONSTRUCTION

Body Construction

INFOID:0000000006953127





JSKIA1186ZZ

1. Outer side body
2. Outer front pillar reinforcement
3. Upper inner front pillar
4. Upper hinge plate
5. Hoodledge reinforcement
6. Side dash
7. Cowl top
8. Cowl top stay
9. Upper dash

10. Inner front pillar reinforcement
11. Weld nut
12. Lower front pillar hinge brace
13. Lower hinge plate
14. Lower dash
15. Inner front pillar reinforcement
16. Outer sill reinforcement
17. Lower front pillar reinforcement
18. Inner sill
19. Front outrigger
20. Front floor
21. Front floor reinforcement
22. Inner sill reinforcement
23. Inner sill
24. 2nd crossmember
25. Outer front seat mount bracket
26. Outer front seat mount front reinforcement
27. Center pillar reinforcement
28. Lower lock pillar reinforcement
29. Inner center pillar
30. Outer sill brace
31. Inner rear wheelhouse
32. Outer rear wheelhouse
33. Rear pillar seat belt anchor
34. Inner rear pillar
35. Back pillar reinforcement
36. Lower outer back pillar
37. Upper hinge brace

Rear Fender Hemming Process

INFOID:0000000006953128

1. A wheel arch is to be installed and hemmed over the left and right outer wheel houses.
2. In order to hem the wheel arch, it is necessary to repair any damaged or defaced parts around outer wheel house.

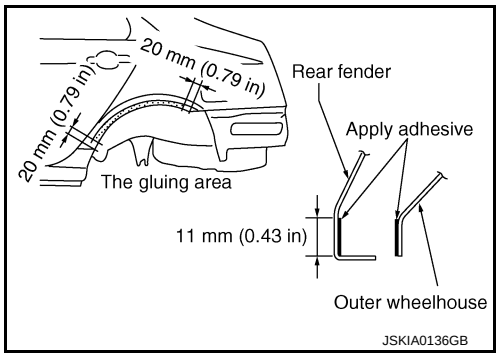
CAUTION:

Ensure that the area that is to be glued around the outer wheelhouse is undamaged or defaced.

PROCEDURE OF THE HEMMING PROCESS

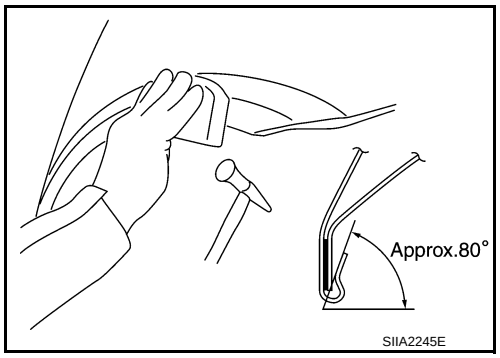
- Peel off old bonding material on the surface of the outer wheelhouse and clean thoroughly.
- Peel off a primer coat in the specified area where new adhesive is to be applied on rear fender (the replacing part).
- Apply new adhesive to both specified areas of the outer wheelhouse and rear fender.

<Adhesive> 3M™ Automix™ Panel Bonding Adhesive 08115 or equivalent

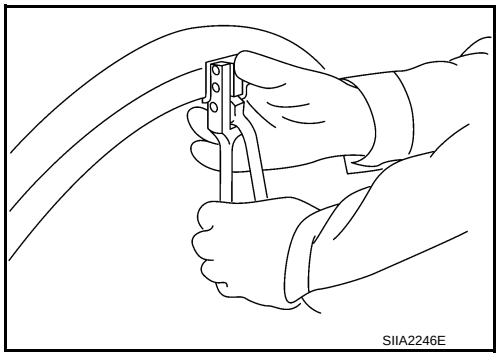


- Attach rear fender to the body of the car, and weld the required part except the hemming part.

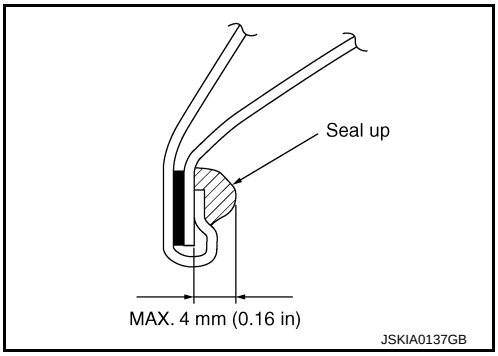
- Bend the welded part starting from the center of the wheel arch gradually with a hammer and a dolly. (Also hem the end of the flange.)
- Hemming with a hammer is conducted to an approximate angle of 80 degrees.



- Starting from the center, hem the wheel arch gradually, using slight back and forth motion with a hemming tool.



- Seal up the area around the hemmed end of the flange.



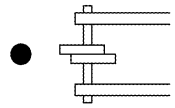
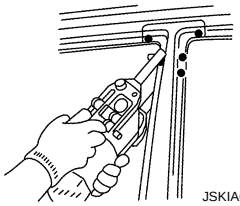
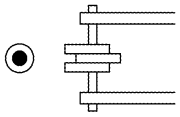
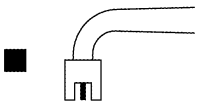
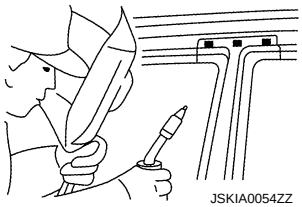
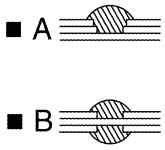
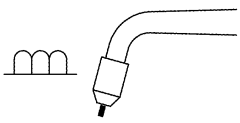
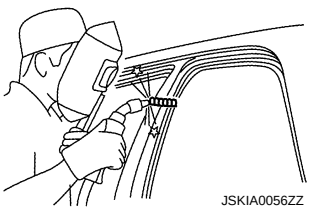
REPLACEMENT OPERATIONS

Description

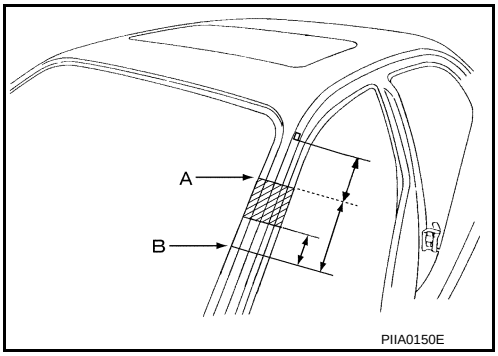
INFOID:0000000006953129

- 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 the Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle are maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warnings, that are not including in this manual. Technicians should refer to both manuals to ensure proper repair.
- Please note that this information is prepared for worldwide usage, and as such, certain procedures might not apply in some regions or countries.

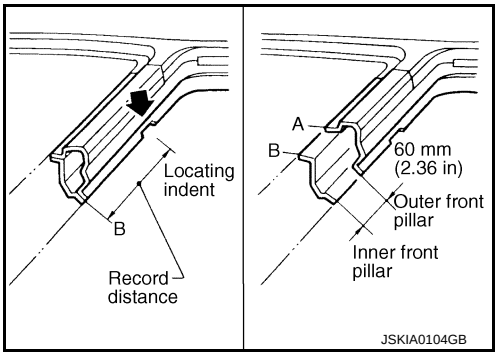
The symbols used in this section for welding operations are shown below.

Symbol marks	Description	
 JSKIA0049ZZ	2-spot welds	 JSKIA0053ZZ
 JSKIA0050ZZ	3-spot welds	
 JSKIA0051ZZ	MIG plug weld	 JSKIA0054ZZ For 3 panels plug weld method  JSKIA0055ZZ
 JSKIA0052ZZ	MIG seam weld / Point weld	 JSKIA0056ZZ

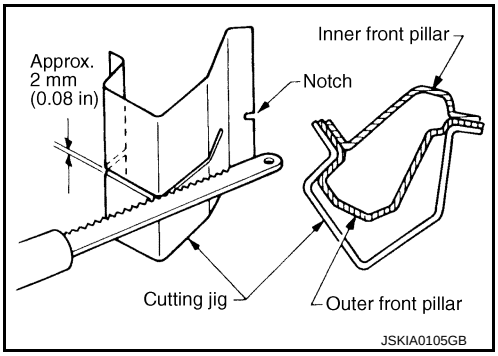
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle.



- 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 (2.36 in) above the inner front pillar cut position.

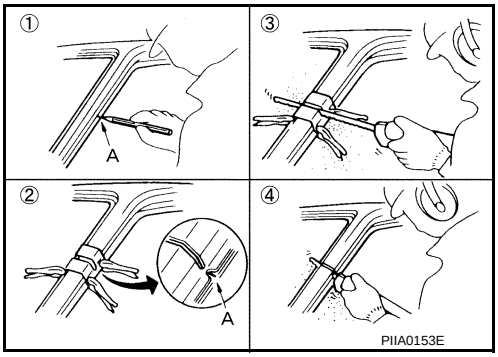


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit the service part to be accurately cut at the joint position.



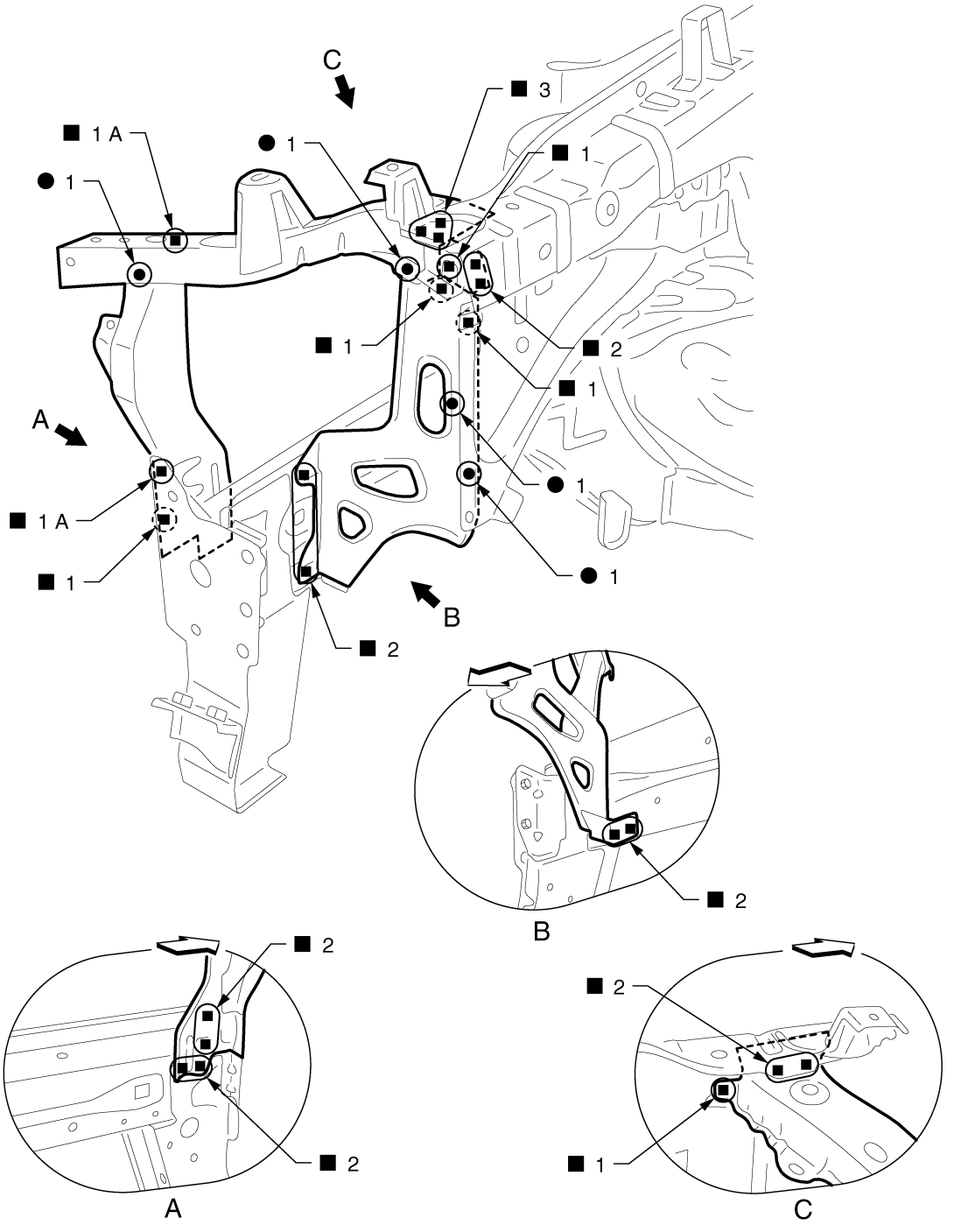
- An example of cutting operation using a cutting jig is as per the following.

1. Mark cutting lines.
   A: Cut position of outer pillar
   B: Cut position of inner 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.
5. Cut inner pillar at position B in same manner.



Radiator Core Support

INFOID:0000000006953130



⇦: Vehicle front

( ): Weld the parts onto the back of the component part.

Replacement parts

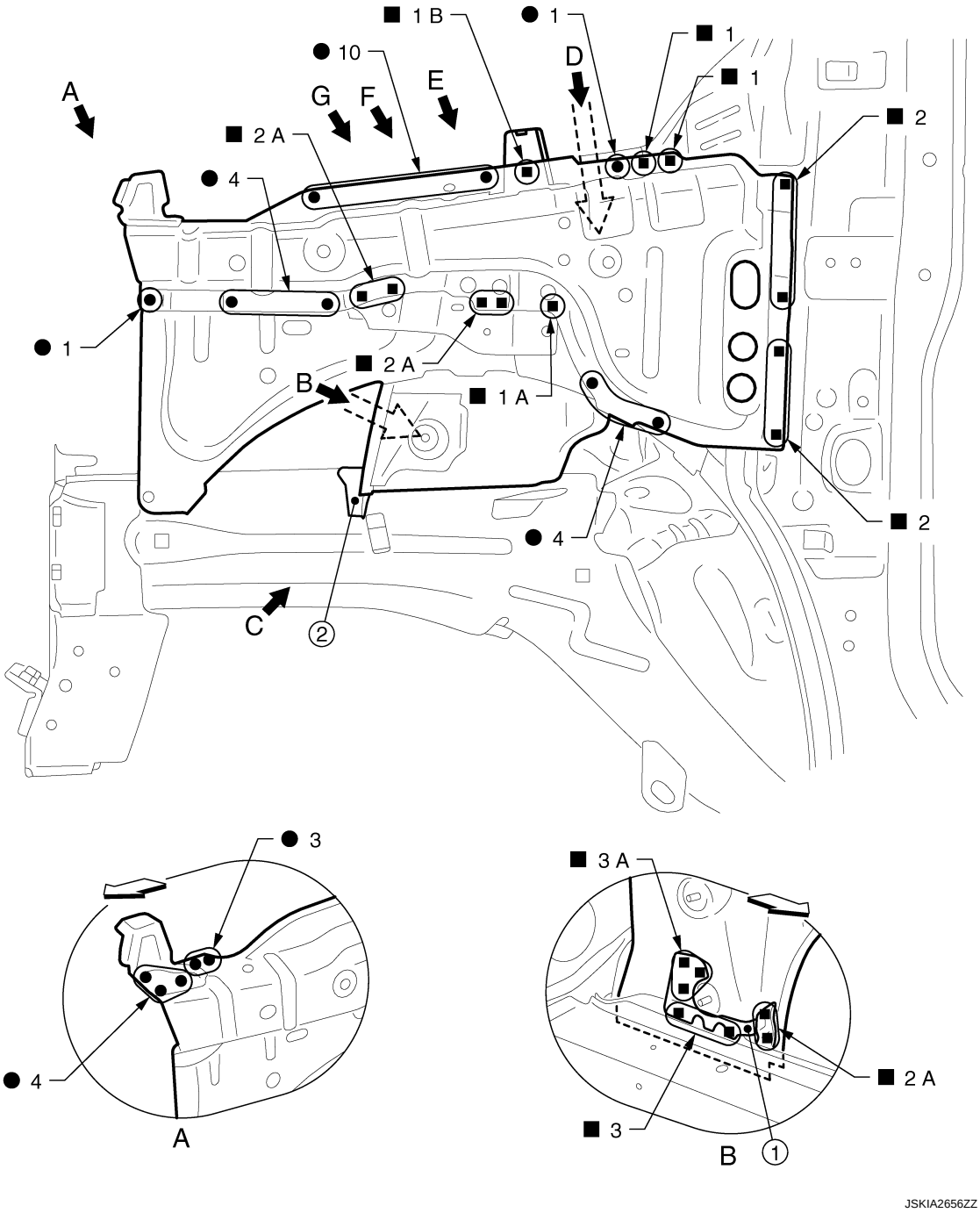
- Side radiator core support (LH)
- Side radiator core reinforcement (LH)
- Hoodledge connector (LH)

Hoodledge

INFOID:0000000006953131

Work after radiator core support is removed.

Remove the front side closing plate reinforcement (reusable) and front side rear closing reinforcement (reusable).

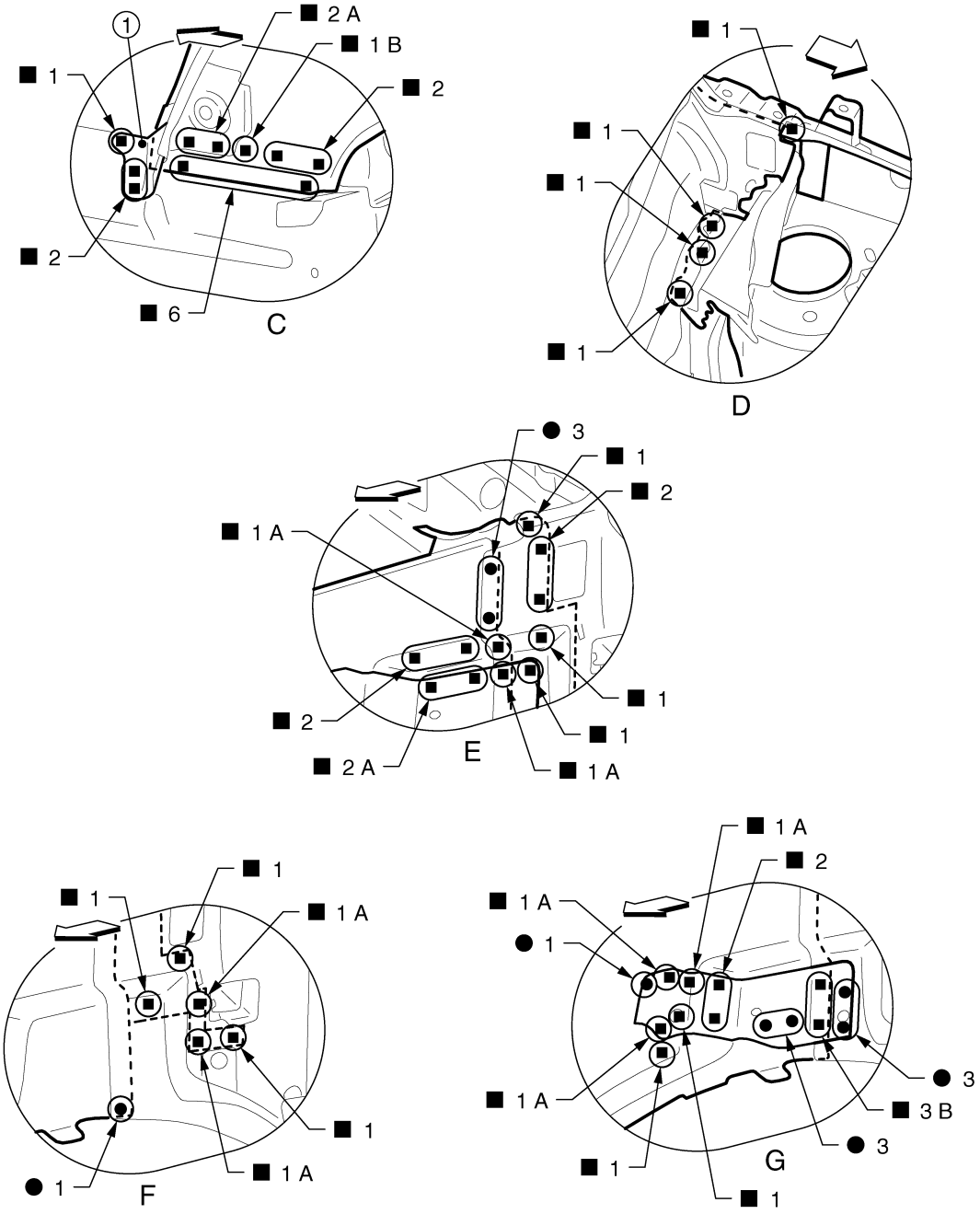


1. Front side closing plate reinforcement
2. Front side rear closing reinforcement

⇦: Vehicle front

Replacement parts

- Upper hoodledge (LH)
- Hoodledge reinforcement (LH)
- Front strut housing (LH)
- Hoodledge reinforcement gusset



JSKIA1152ZZ

1. Front side rear closing reinforcement

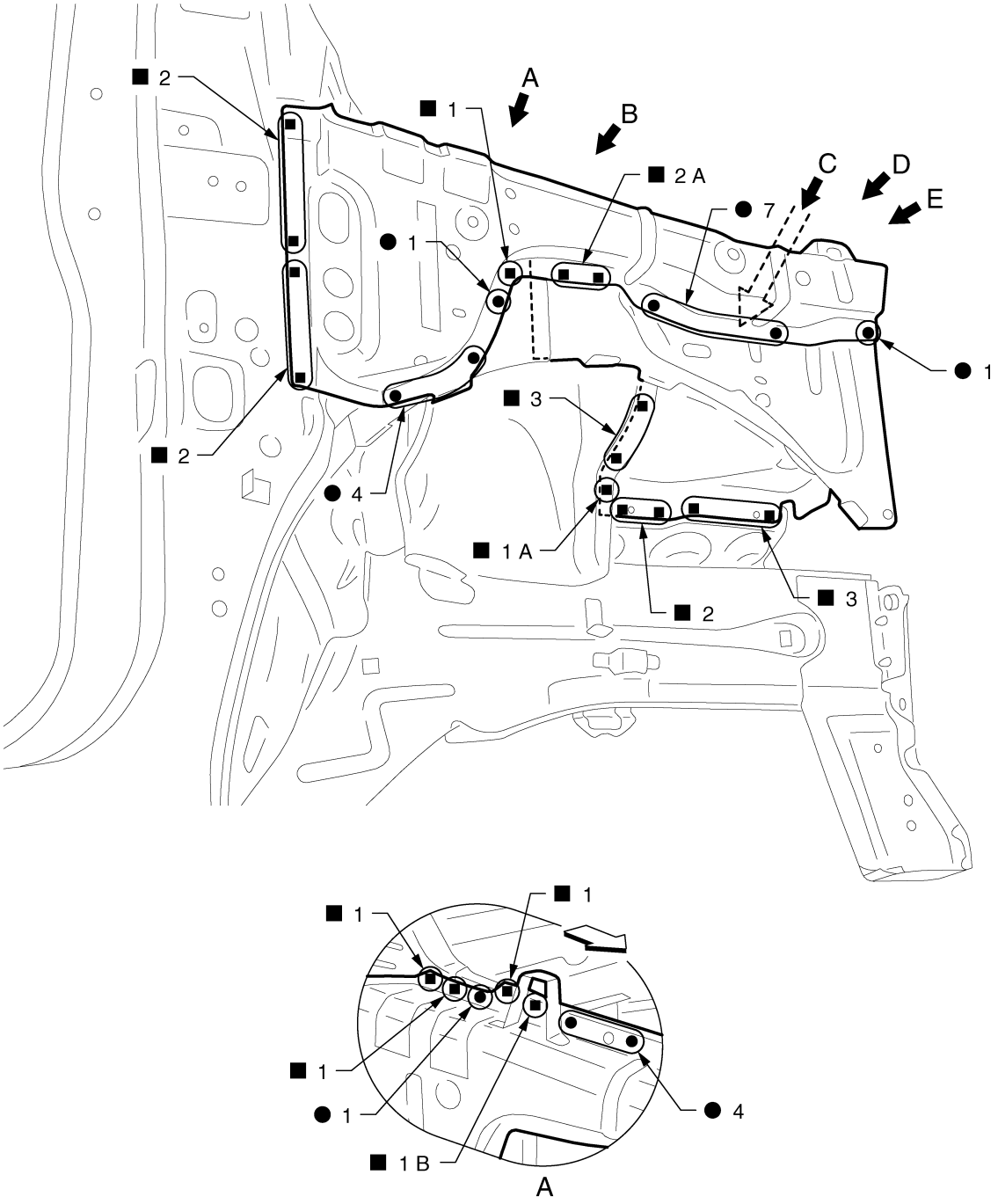
⇦: Vehicle front

View E and G: Before installing hoodledge reinforcement
View F: Before installing hoodledge reinforcement and hoodledge reinforcement gusset

Hoodledge (Partial Replacement)

INFOID:0000000006953132

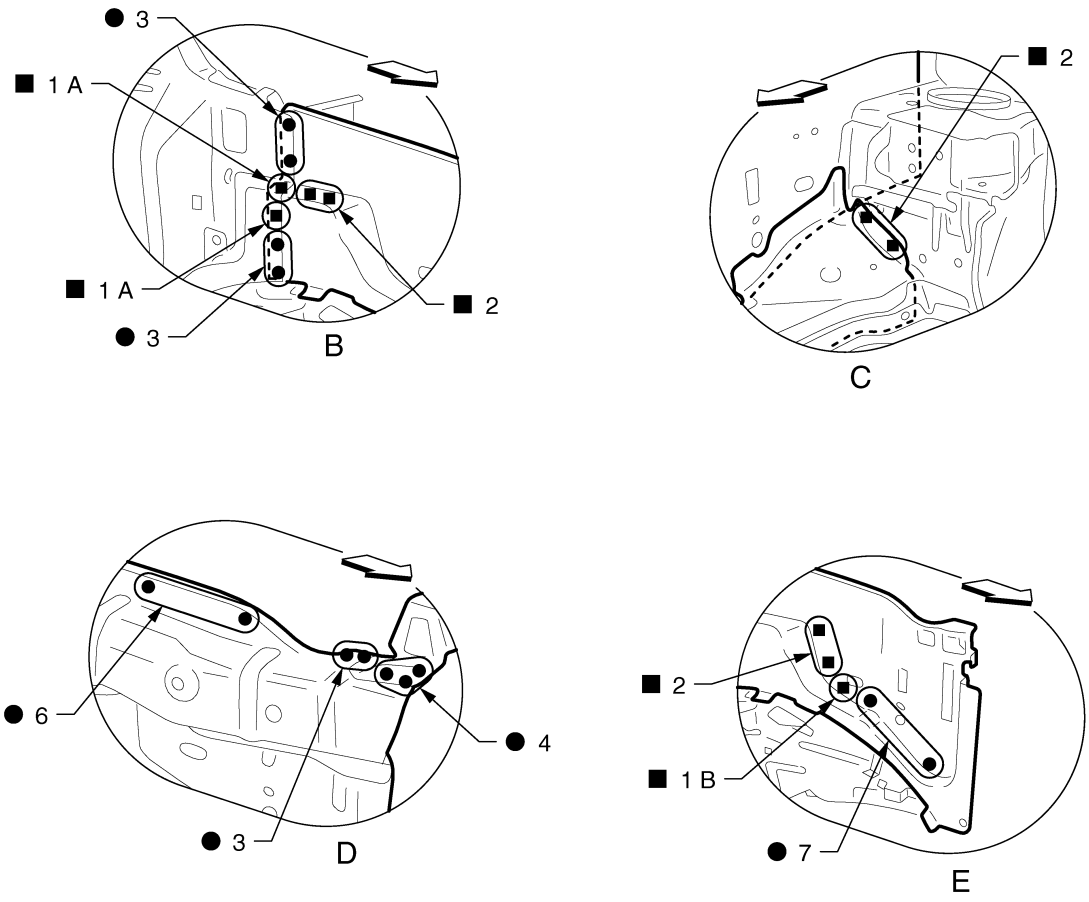
Work after radiator core support is removed.



⇦: Vehicle front

Replacement parts

- Upper hoodledge (RH)
- Hoodledge reinforcement (RH)
- Lower front hoodledge



JSKIA2658ZZ

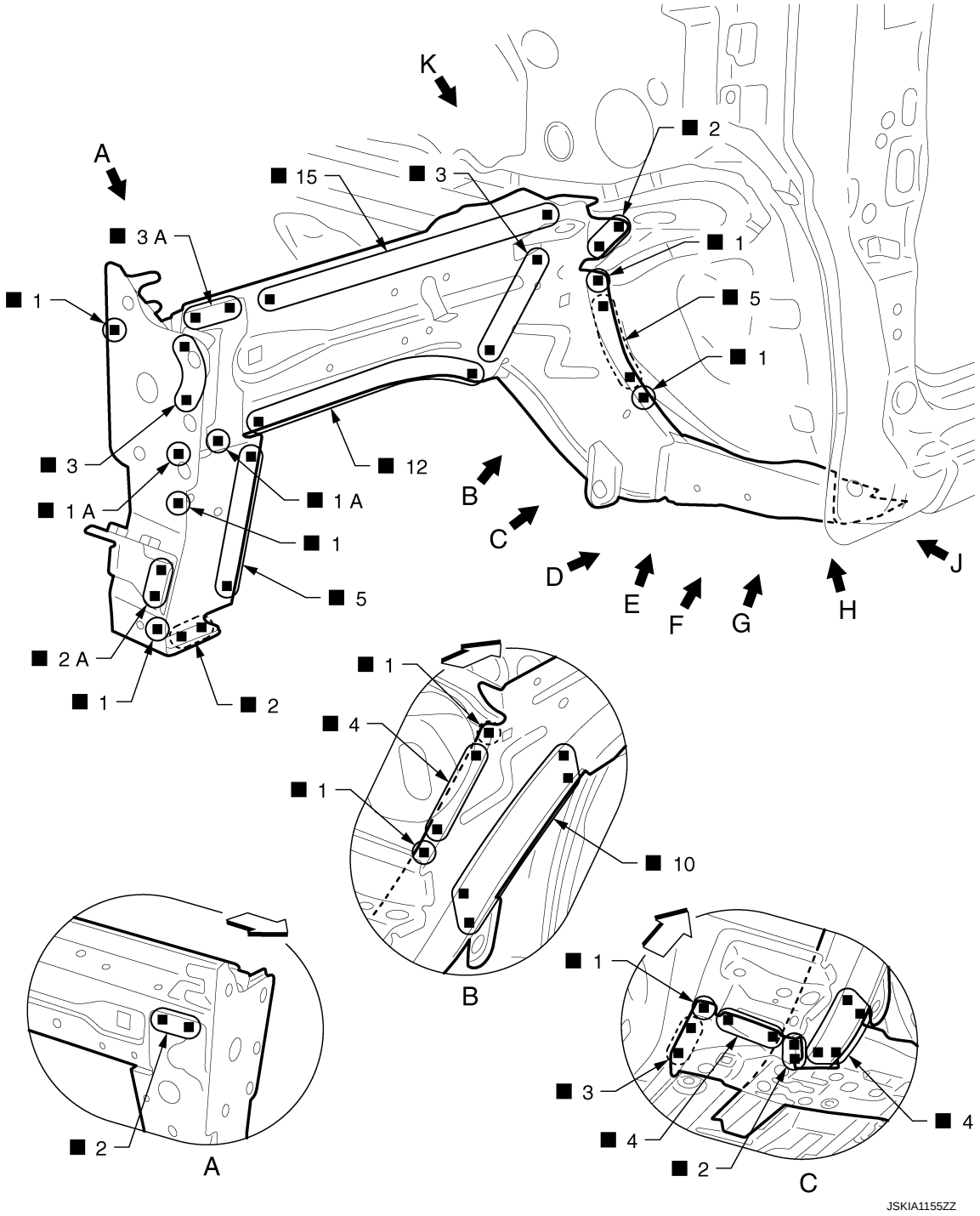
⇦: Vehicle front

View B and E: Before installing hoodledge reinforcement

Front Side Member

INFOID:0000000006953133

Work after radiator core support and hoodledge are removed.
Remove the front side closing plate reinforcement (reusable) and front side rear closing reinforcement (reusable) from the service part "front side member closing plate assembly" for easier installation of hoodledge.

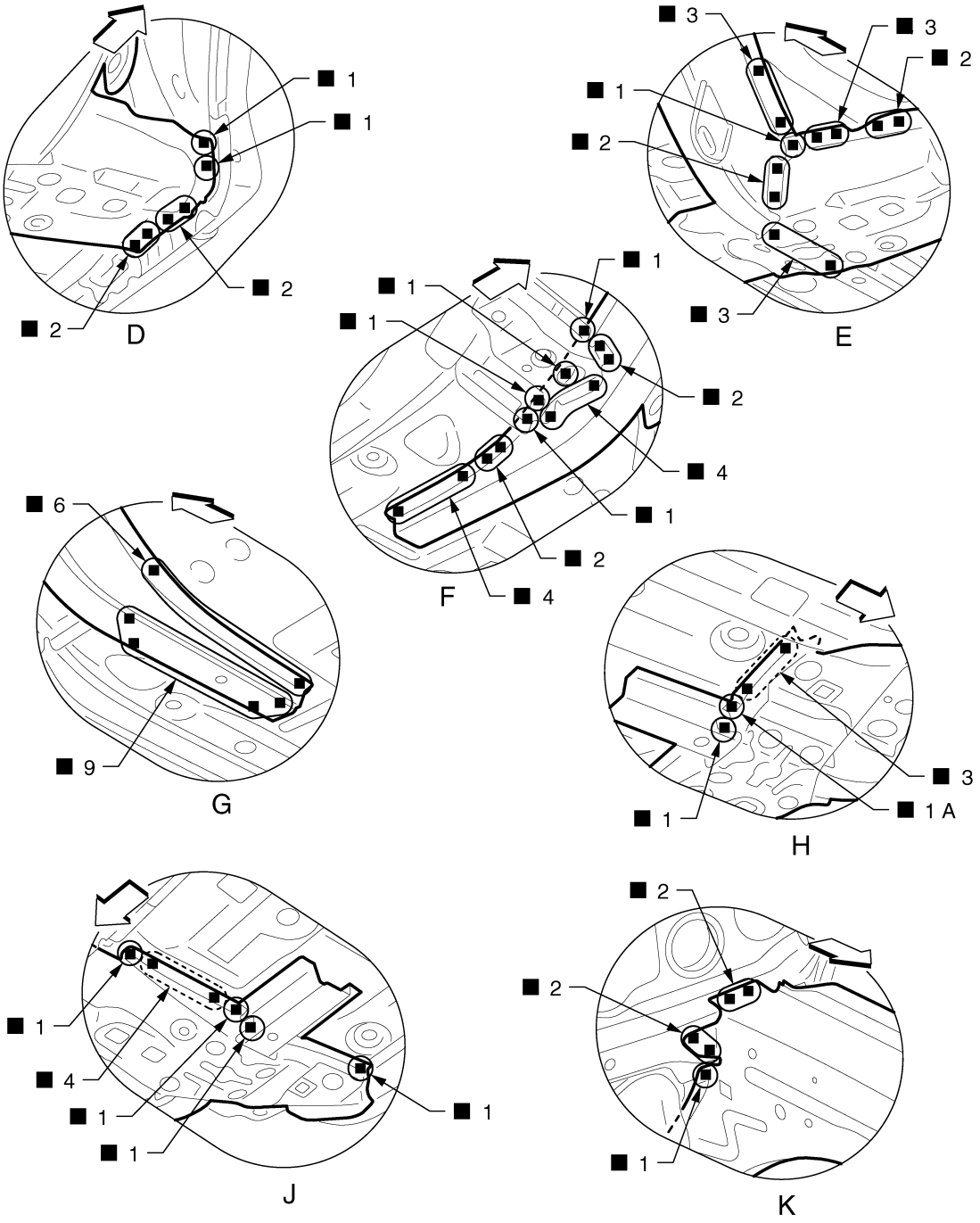


⇦: Vehicle front

(◌): Weld the parts onto the back of the component part.

Replacement parts

- Front side member assembly (LH)
- Front side member closing plate assembly (LH)
- Front suspension mounting bracket (LH)



JSKIA1156ZZ

⇦: Vehicle front

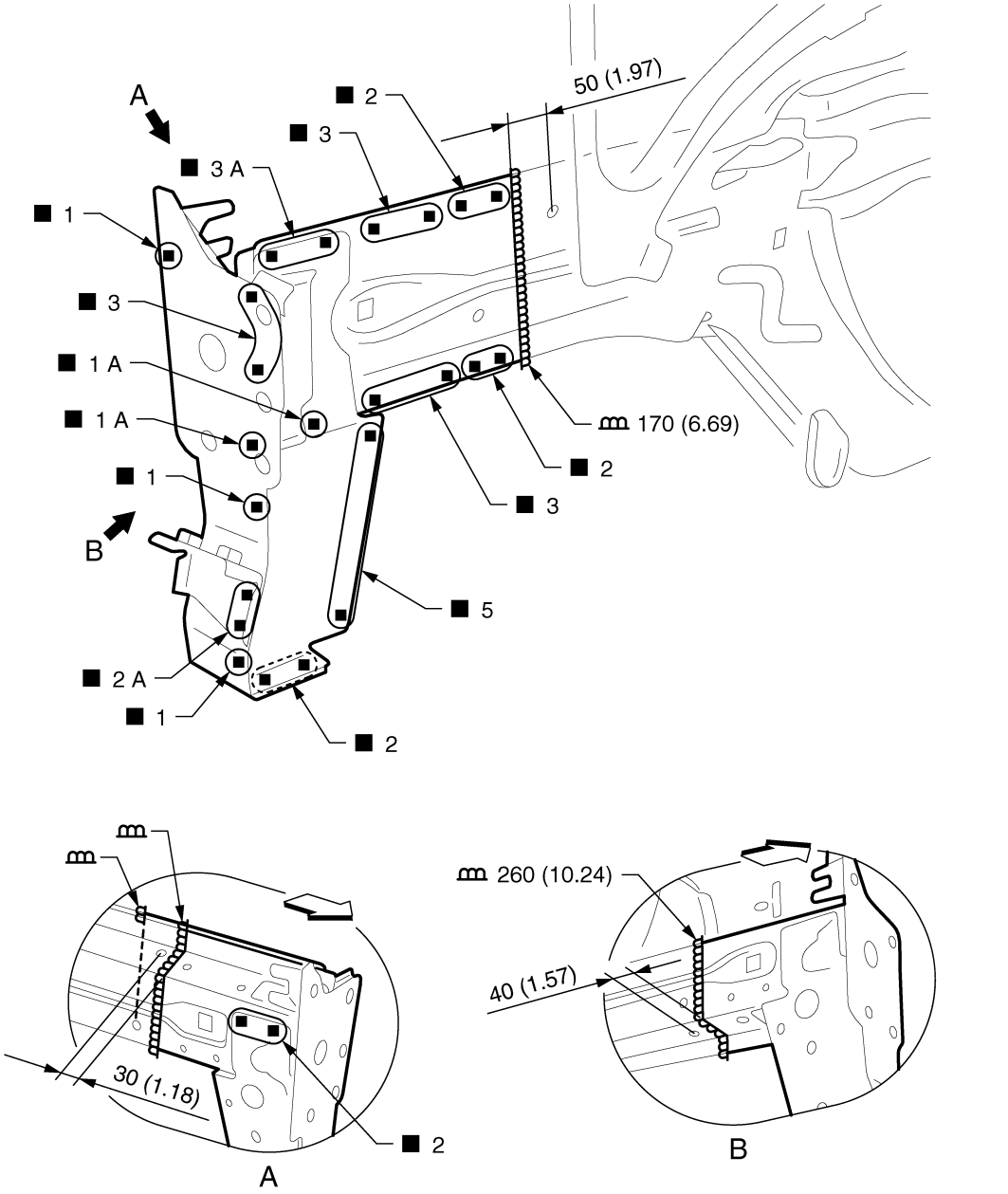
(): Weld the parts onto the back of the component part.

View F and G: Before installing front suspension mounting bracket

Front Side Member (Partial Replacement)

INFOID:0000000006953134

Work after radiator core support is removed.



JSKIA1157GB

Unit: mm (in)

⇦: Vehicle front

(): Weld the parts onto the back of the component part.

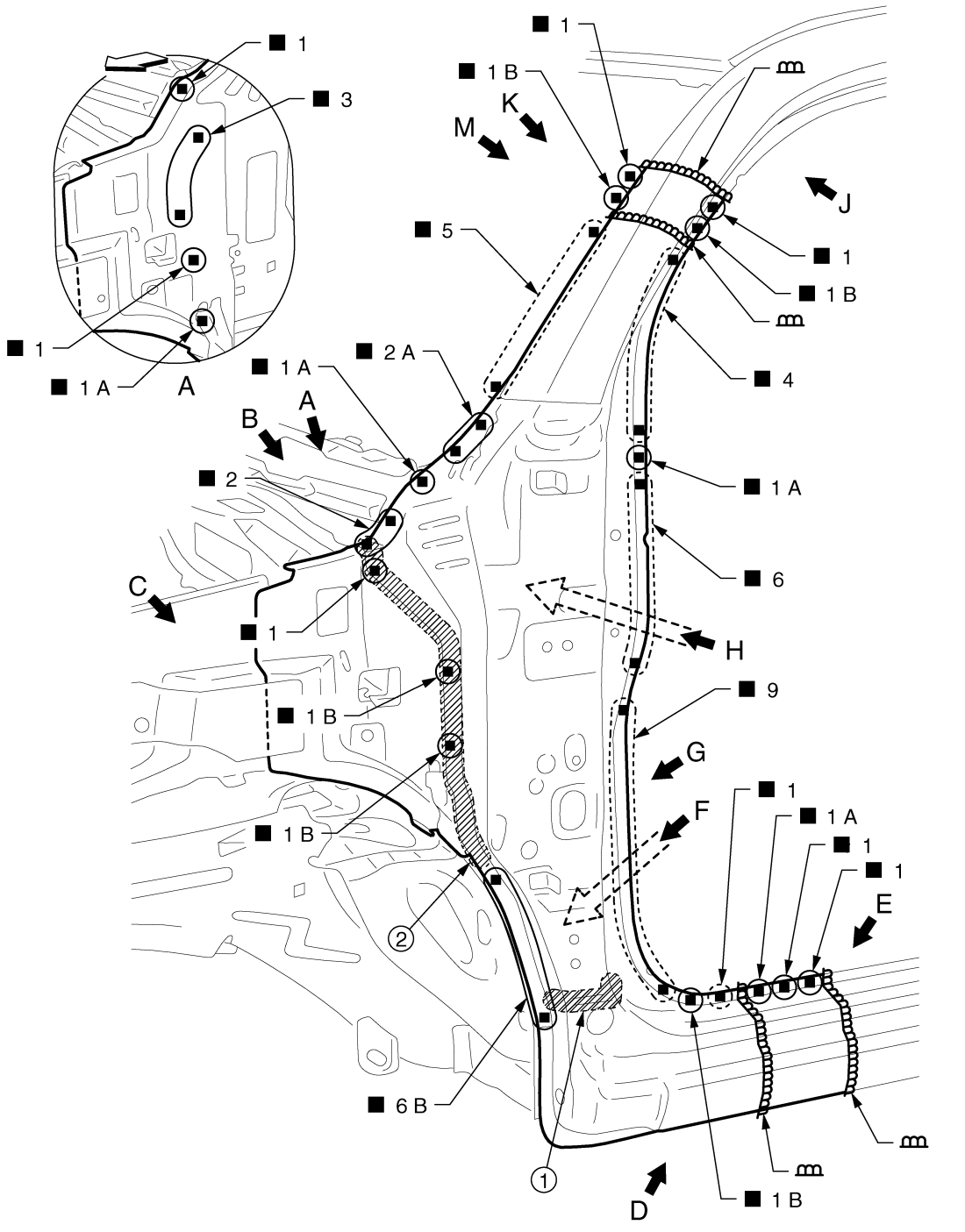
Replacement parts

- Front side member assembly (LH)
- Front side member closing plate assembly (LH)

Front Pillar

INFOID:0000000006953135

Work after hoodledge reinforcement is removed.



JSKIA1158ZZ

1. Urethane foam
2. Body sealing

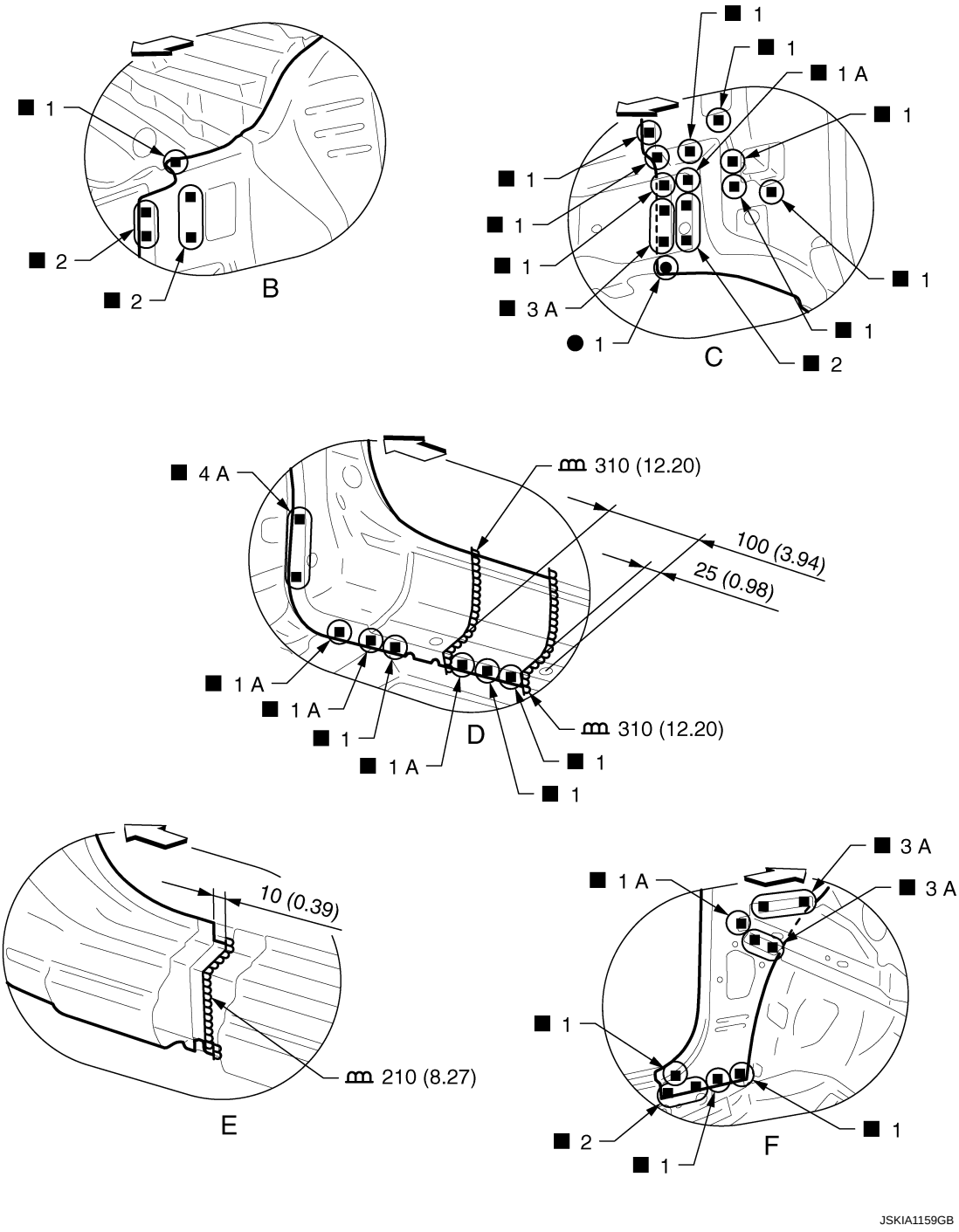
⇦: Vehicle front

(◌): Weld the parts onto the back of the component part.

Replacement parts

- Side body assembly (LH)
- Side dash (LH)
- Upper inner front pillar (LH)

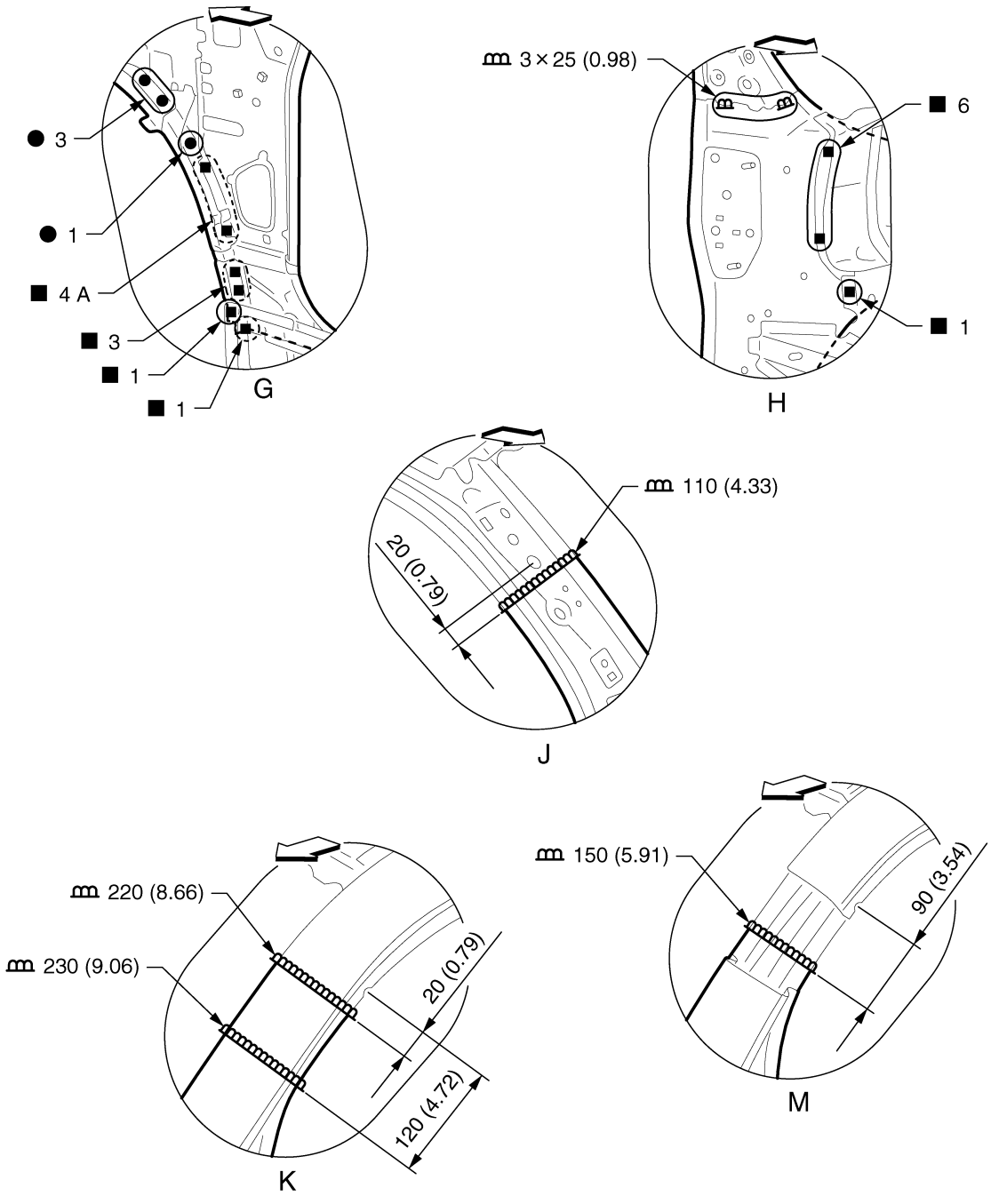
View A: Before installing side body assembly



Unit: mm (in)

⇦: Vehicle front

View E: Before installing outer front side body



Unit: mm (in)

⇦: Vehicle front

(): Weld the parts onto the back of the component part.

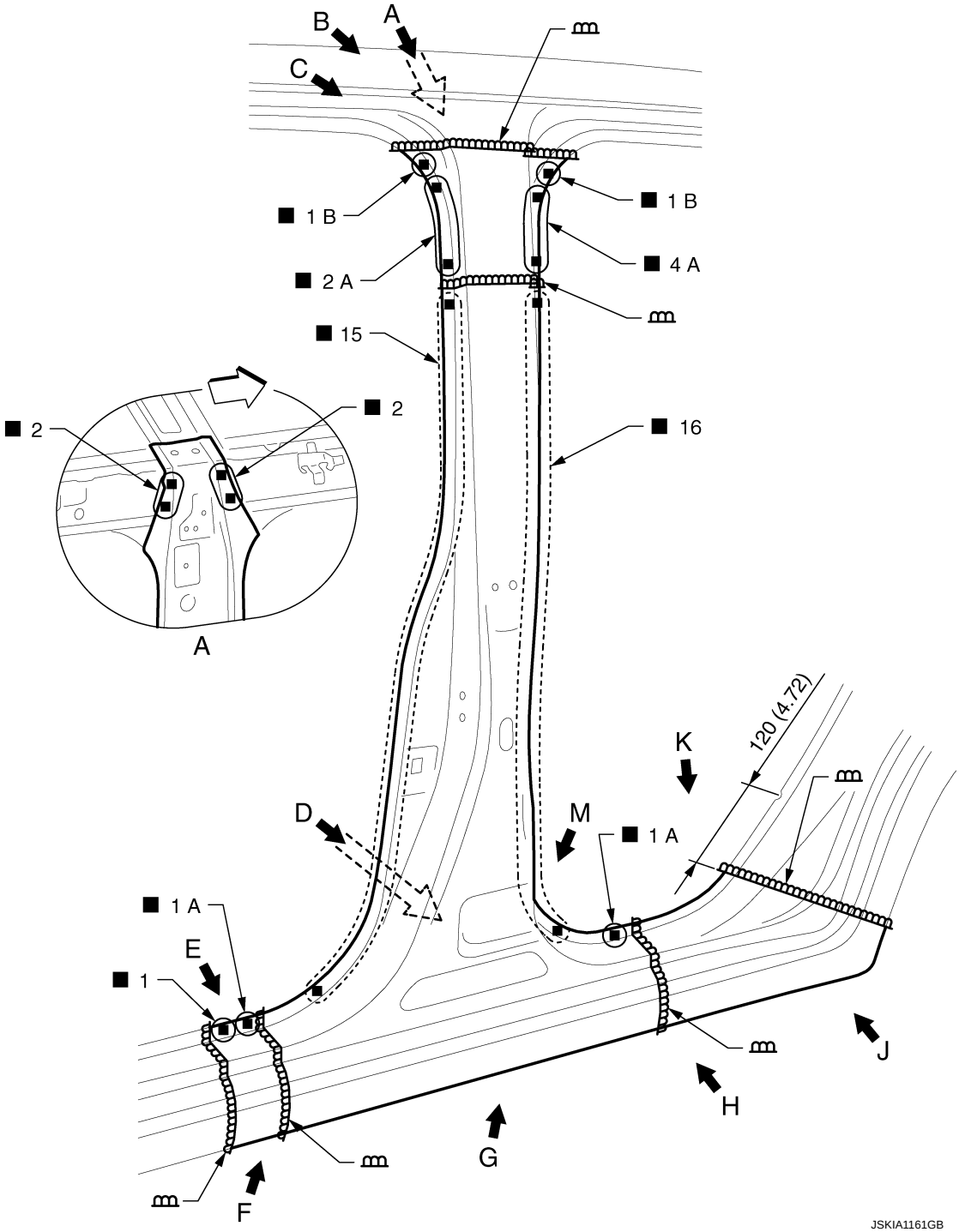
View G: Before installing side body assembly
View M: Before installing outer front side body

Center Pillar

INFOID:0000000006953136

Never cut and joint the lower lock pillar reinforcement, because it is made of ultra high strength steel plate. Remove the reusable area of the outer front side body (see View J and K) from the vehicle for easier installation.

Install the inner center pillar to the side body assembly as shown in the figure for repairing the hidden welding point "View M".



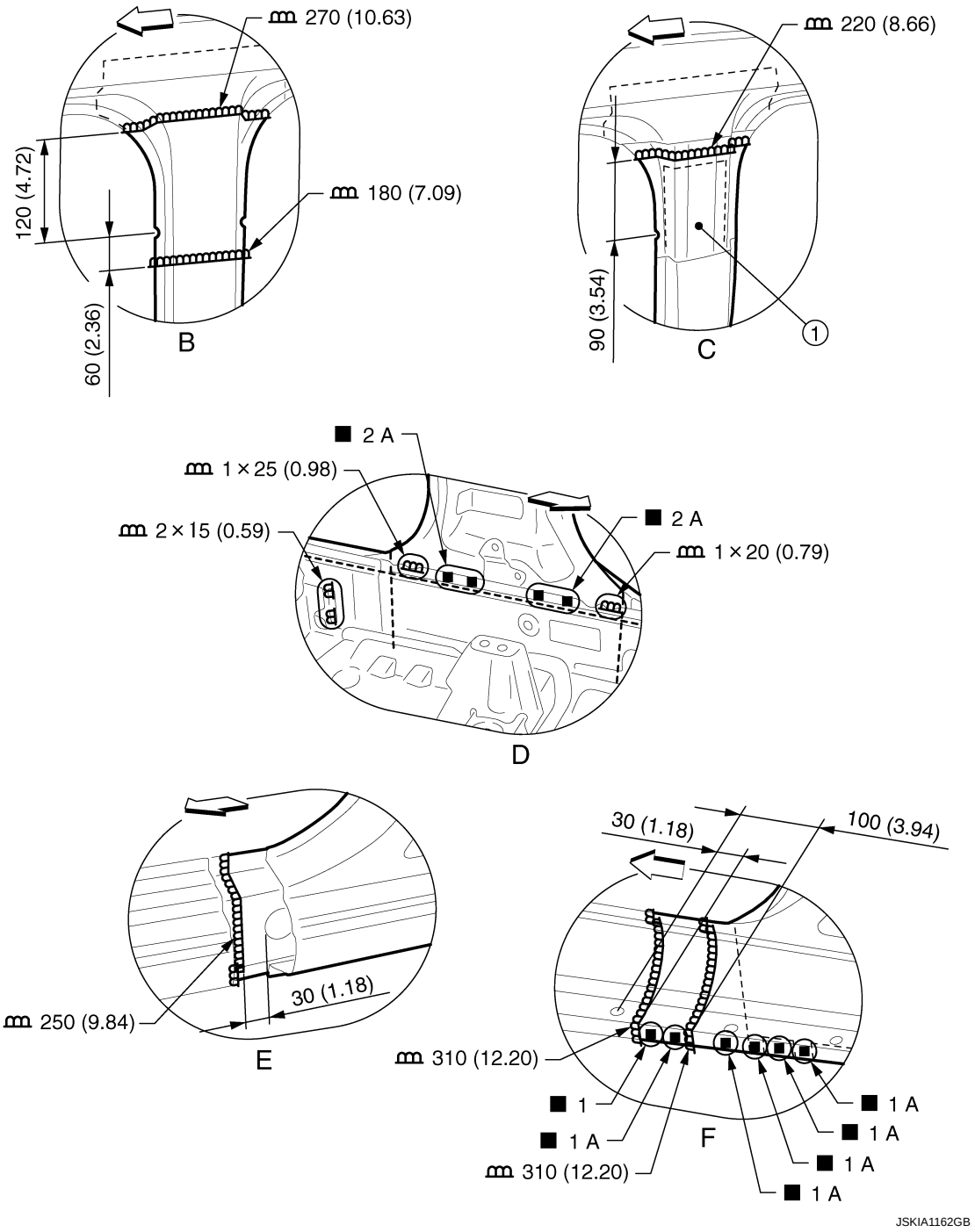
Unit: mm (in)

⇦: Vehicle front

(◌): Weld the parts onto the back of the component part.

Replacement parts

- Side body assembly (LH)
- Inner center pillar (LH)

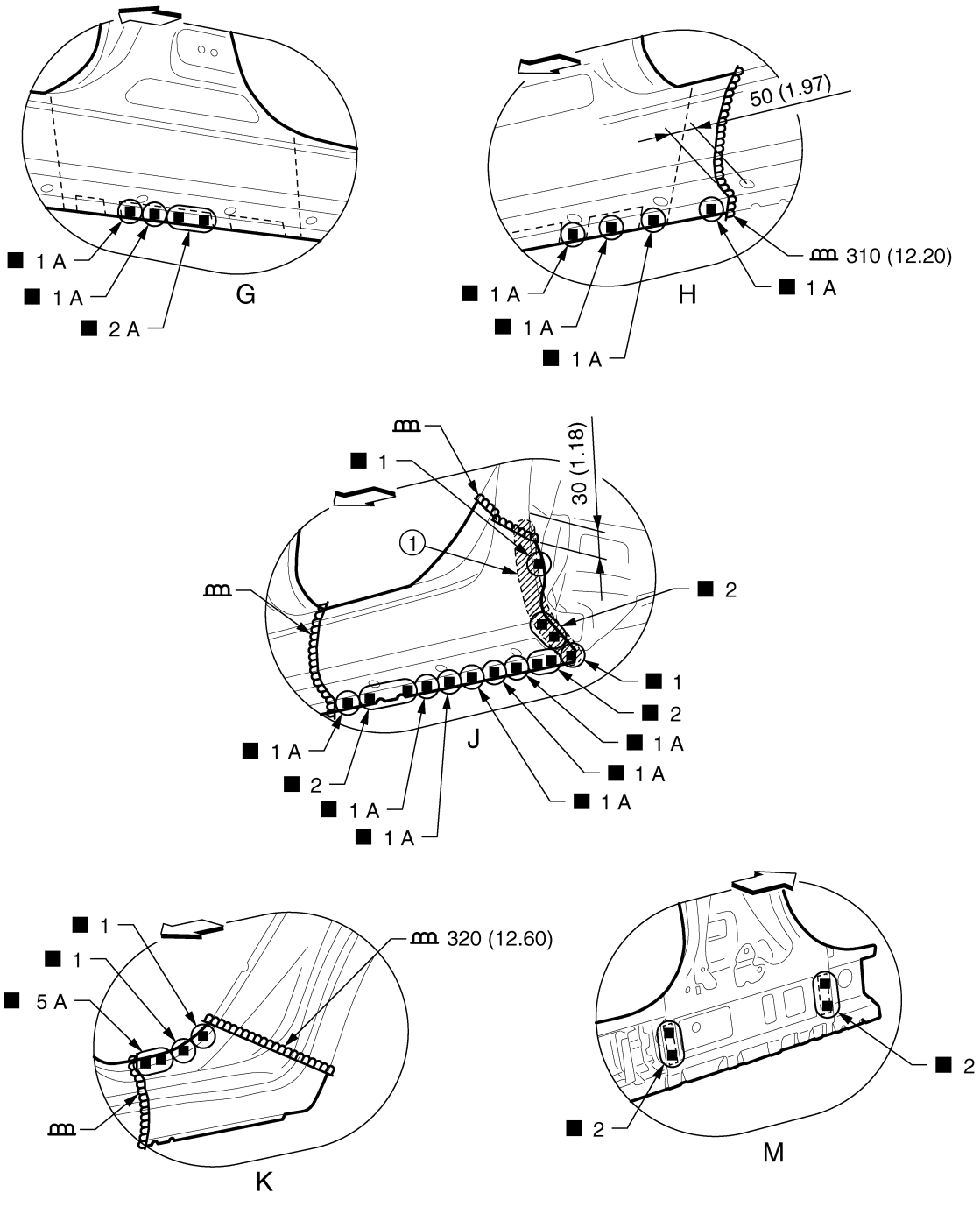


1. Lower lock pillar reinforcement (ultra high strength steel plate)

Unit: mm (in)

⇦: Vehicle front

View C and E: Before installing outer front side body



1. Body sealing

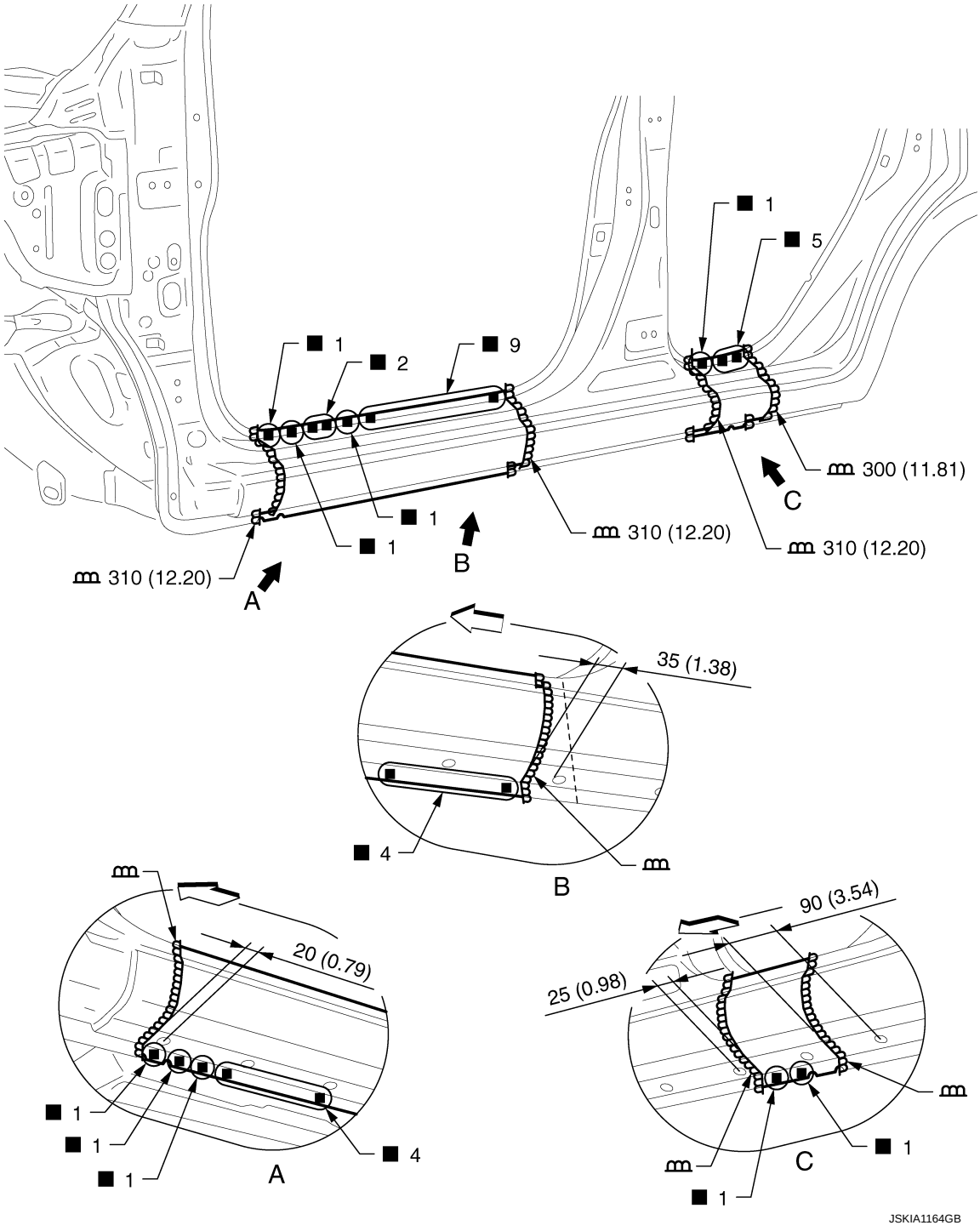
Unit: mm (in)

⇦: Vehicle front

View M: Inner center pillar (replacement parts) and side body assembly (replacement parts)

Outer Sill (Partial Replacement)

INFOID:0000000006953137



Unit: mm (in)

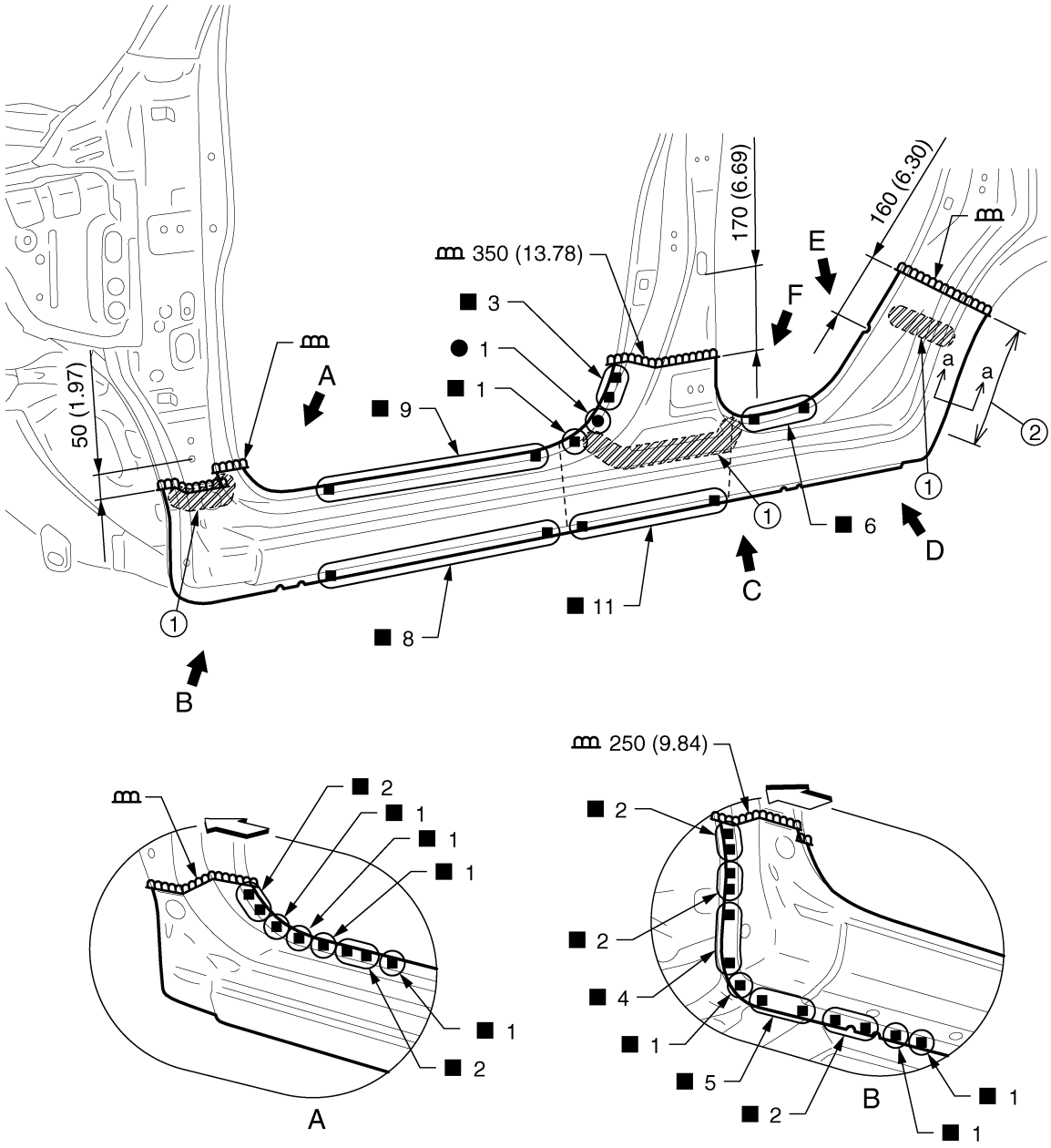
⇦: Vehicle front

Replacement parts

- Outer sill (LH)

Outer Sill

INFOID:0000000006953138



JSKIA1165GB

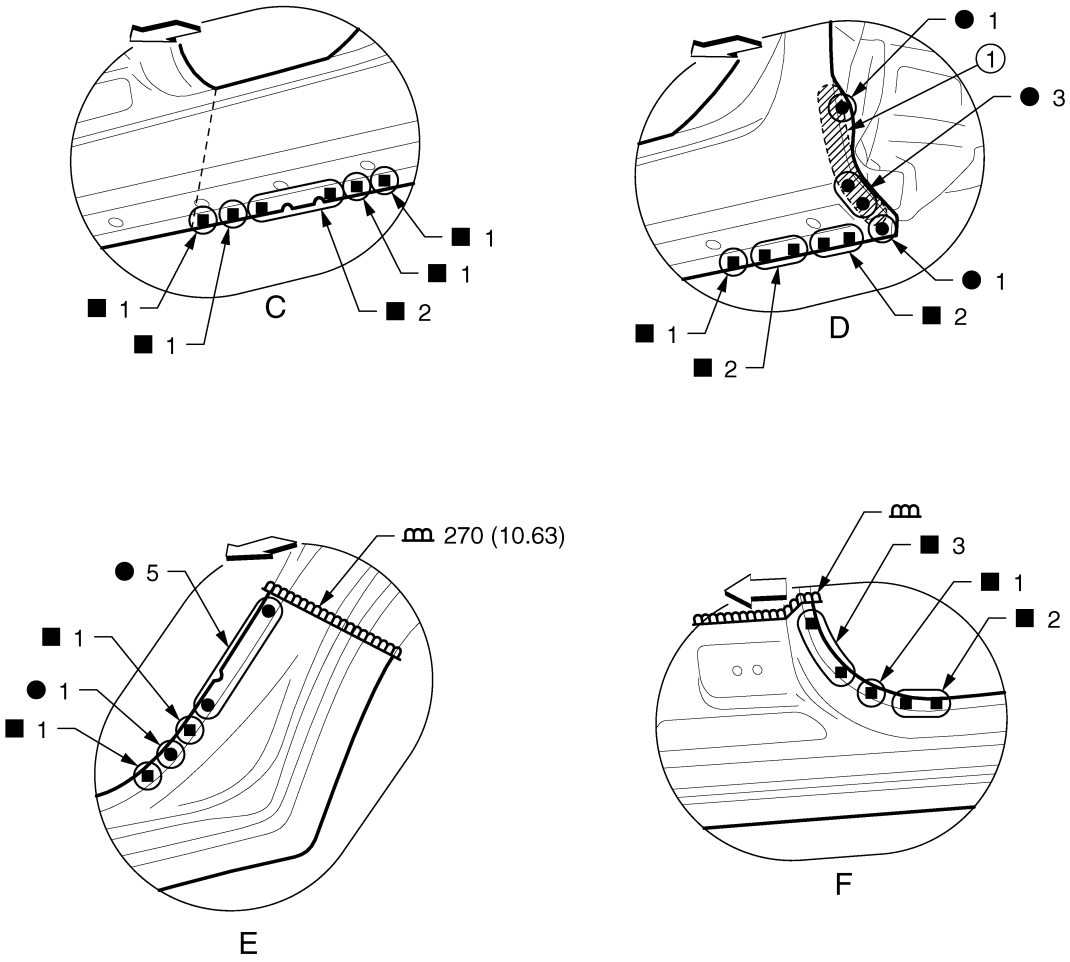
1. Urethane foam
2. Hemming portion

Unit: mm (in)

⇦: Vehicle front

Replacement parts

- Outer sill (LH)



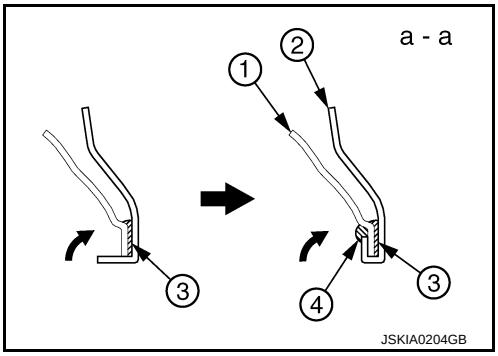
1. Body sealing

Unit: mm (in)

⇦: Vehicle front

POINT

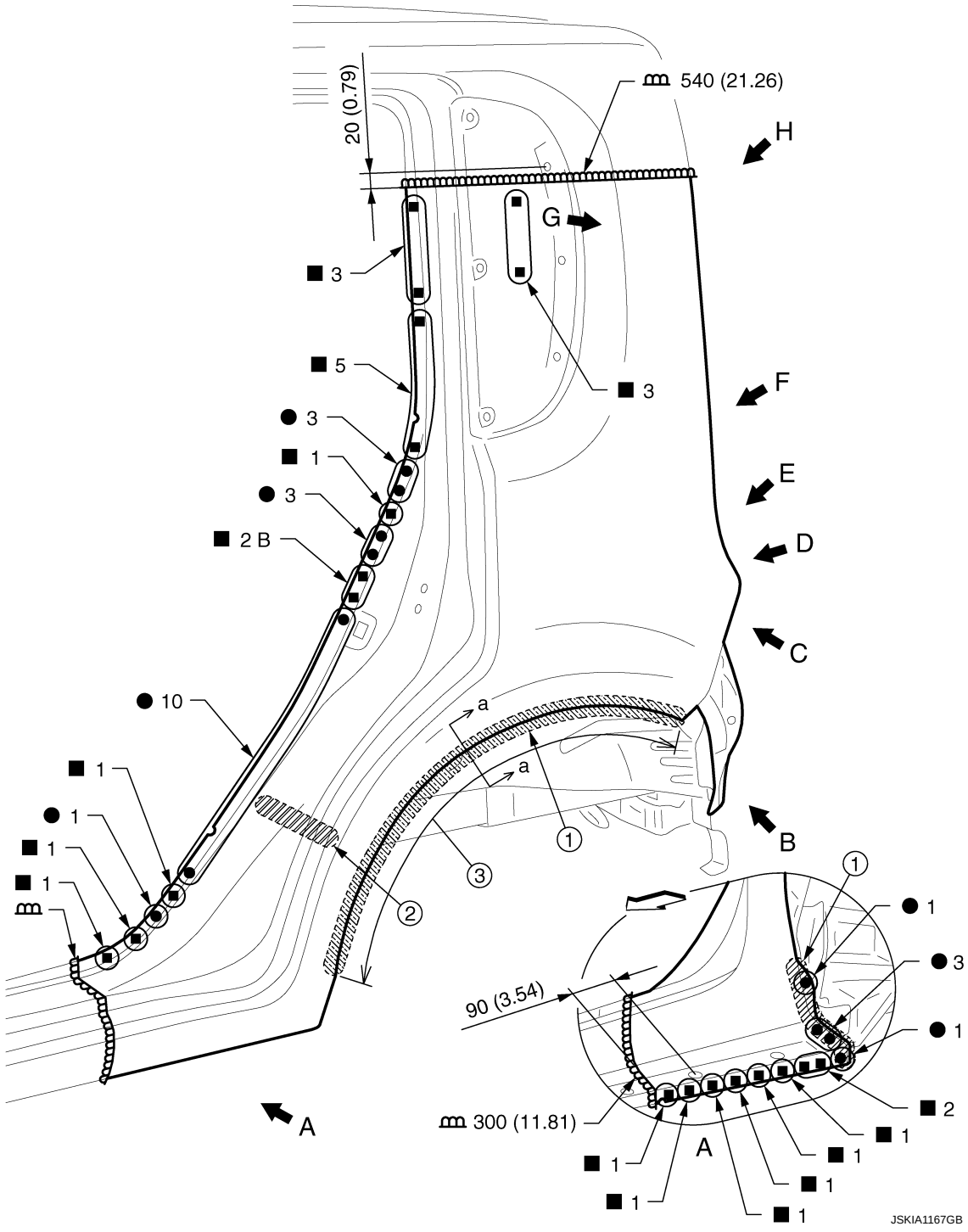
- Perform the hemming to the flange of wheelarch after applying the adhesive.
- Apply the sealing to the flange end.
- Refer to BRM-19, "Rear Fender Hemming Process".



1. **Outer rear wheelhouse**
2. **Rear fender**
3. **Adhesive**
4. **Sealant**

Rear Fender (LH)

INFOID:0000000006953139



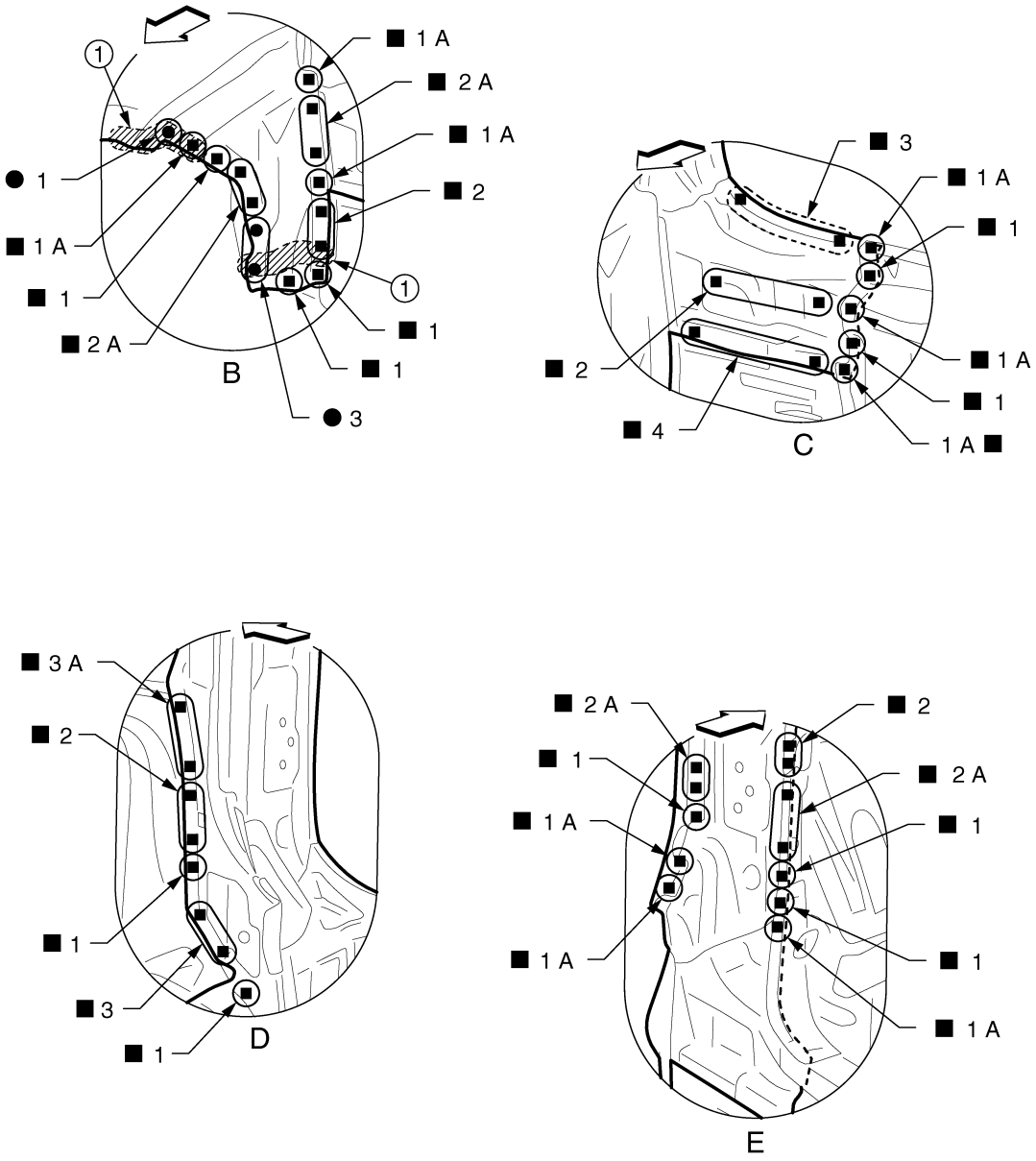
1. Adhesive
2. Urethane foam
3. Hemming portion

Unit: mm (in)

⇦: Vehicle front

Replacement parts

- Rear fender assembly (LH)
- Back pillar assembly (LH)



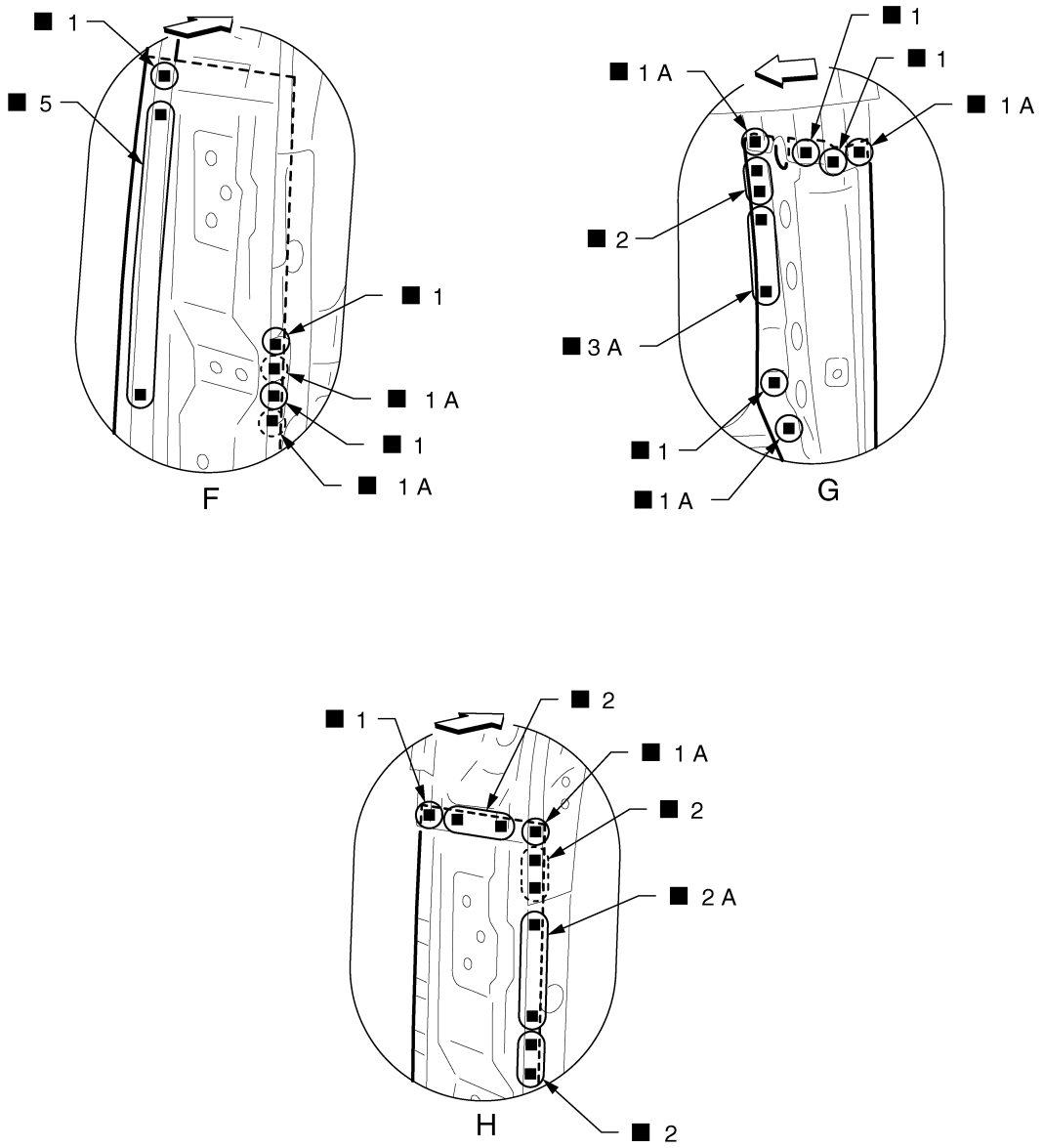
JSKIA1168ZZ

1. Body sealing

⇦: Vehicle front

(⌒): Weld the parts onto the back of the component part.

View D: Before installing rear fender assembly



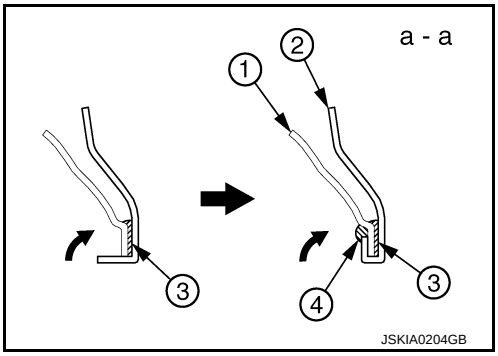
: Vehicle front

: Weld the parts onto the back of the component part.

View G and H: Before installing rear fender assembly

POINT

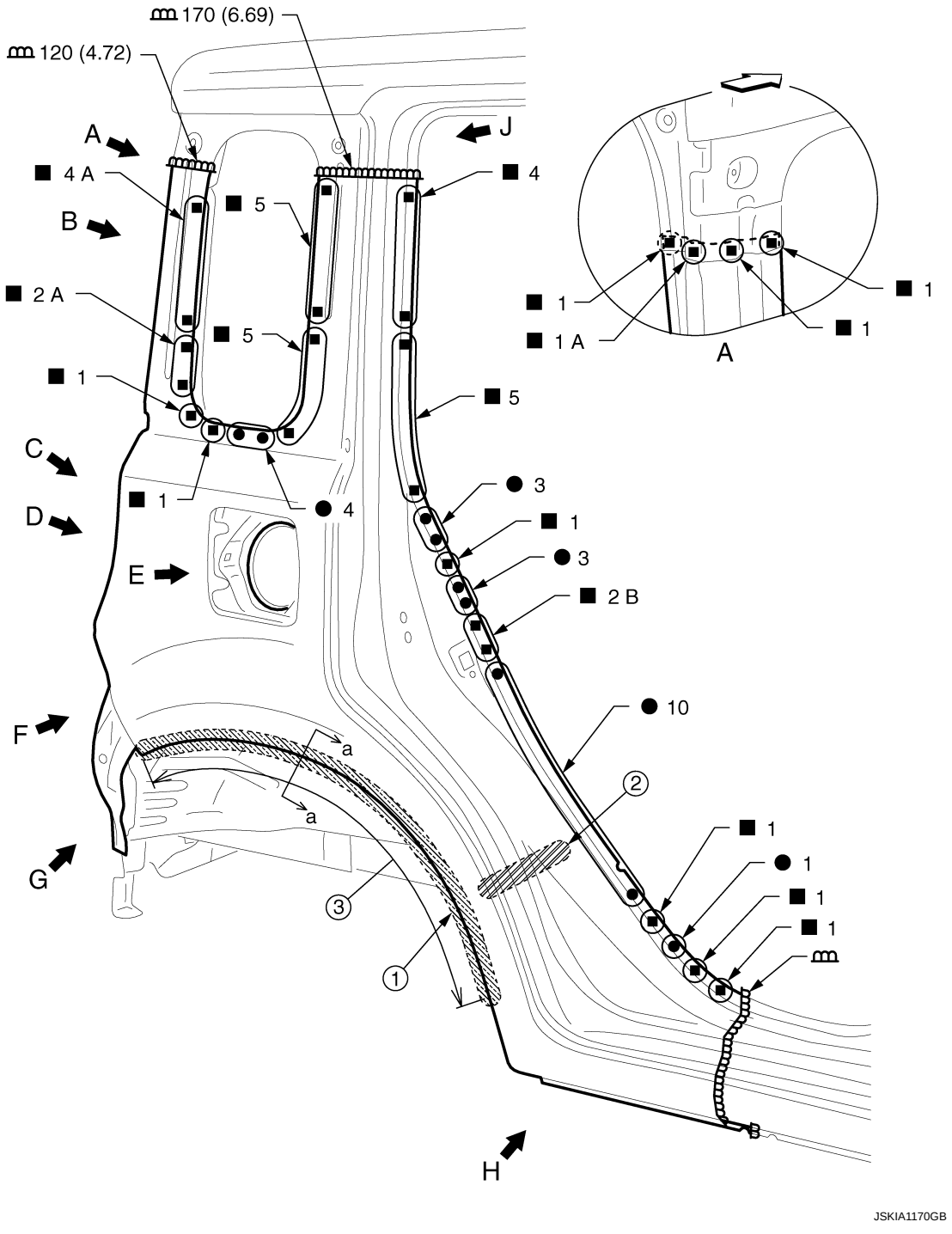
- Perform the hemming to the flange of wheelarch after applying the adhesive.
- Apply the sealing to the flange end.
- Refer to BRM-19, "Rear Fender Hemming Process".



1. **Outer rear wheelhouse**
2. **Rear fender**
3. **Adhesive**
4. **Sealant**

Rear Fender (RH)

INFOID:0000000006953140



JSKIA1170GB

1. Adhesive
2. Urethane foam
3. Hemming portion

Unit: mm (in)

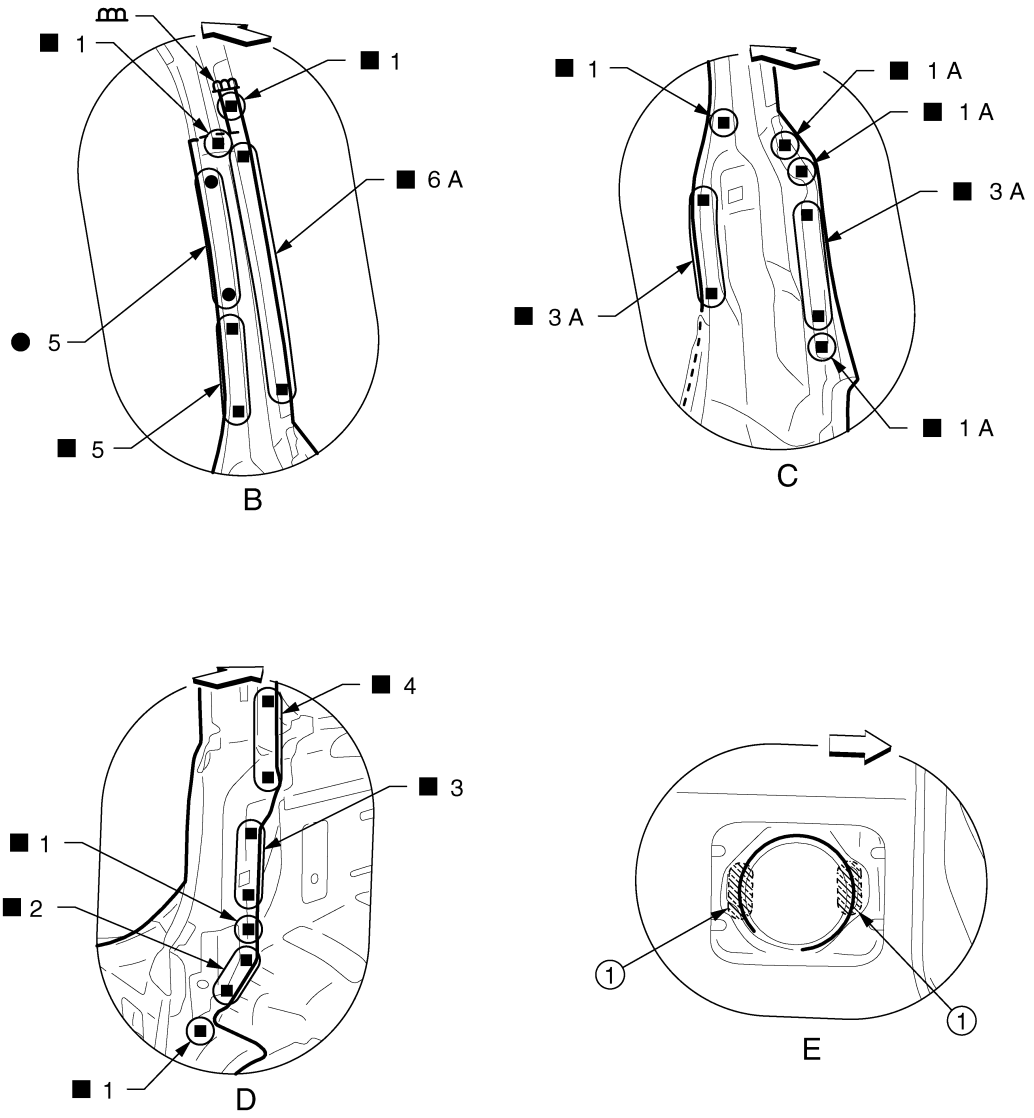
⇦: Vehicle front

(): Weld the parts onto the back of the component part.

Replacement parts

- Rear fender assembly (RH)
- Back pillar assembly (RH)

View A: Before installing rear fender assembly

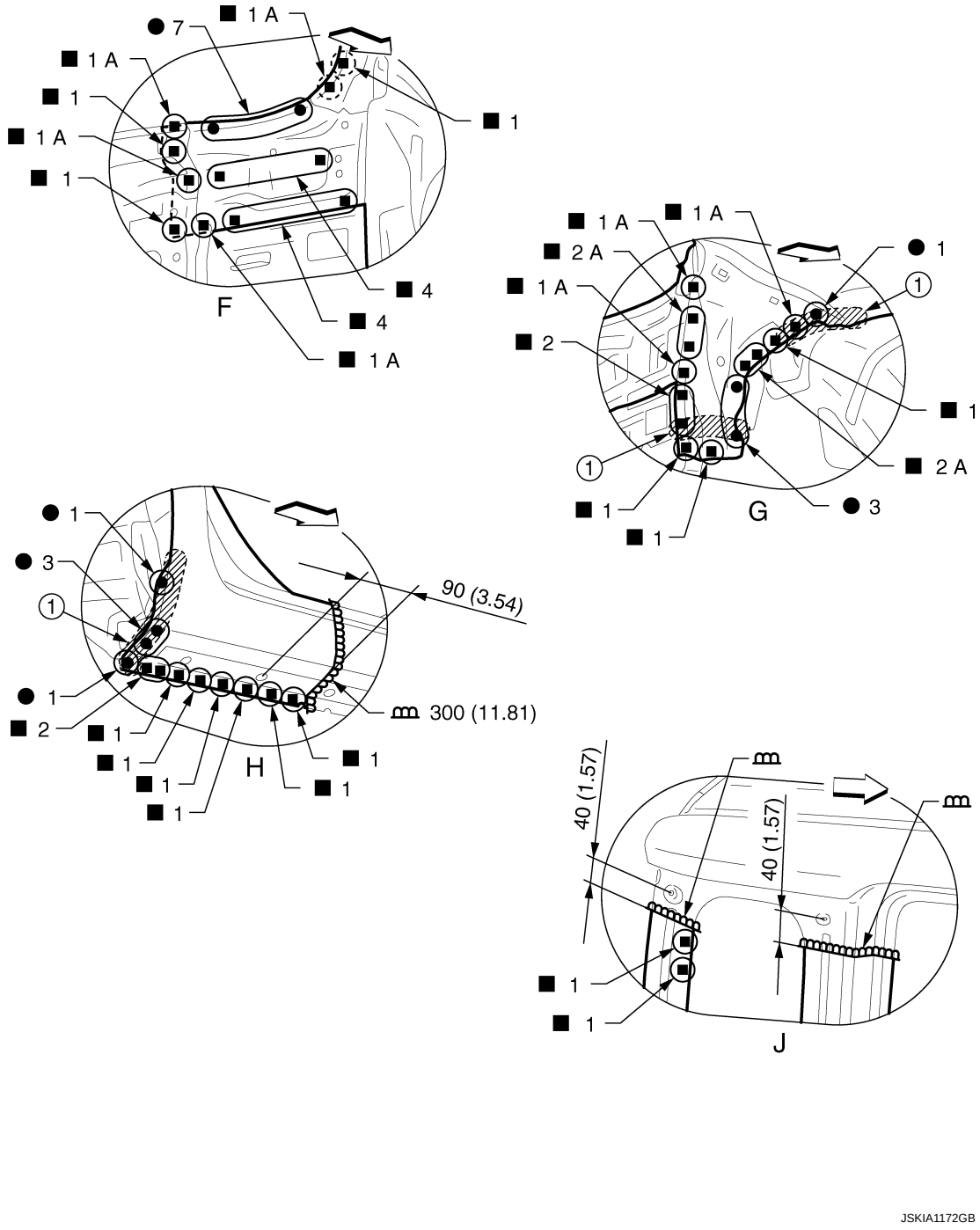


JSKIA1171ZZ

1. Adhesive

⇦: Vehicle front

View D: Before installing rear fender assembly



JSKIA1172GB

1. Body sealing

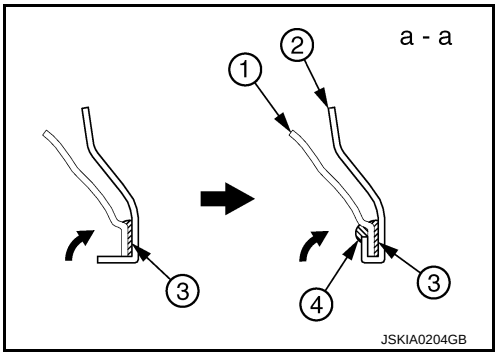
Unit: mm (in)

⇦: Vehicle front

: Weld the parts onto the back of the component part.

POINT

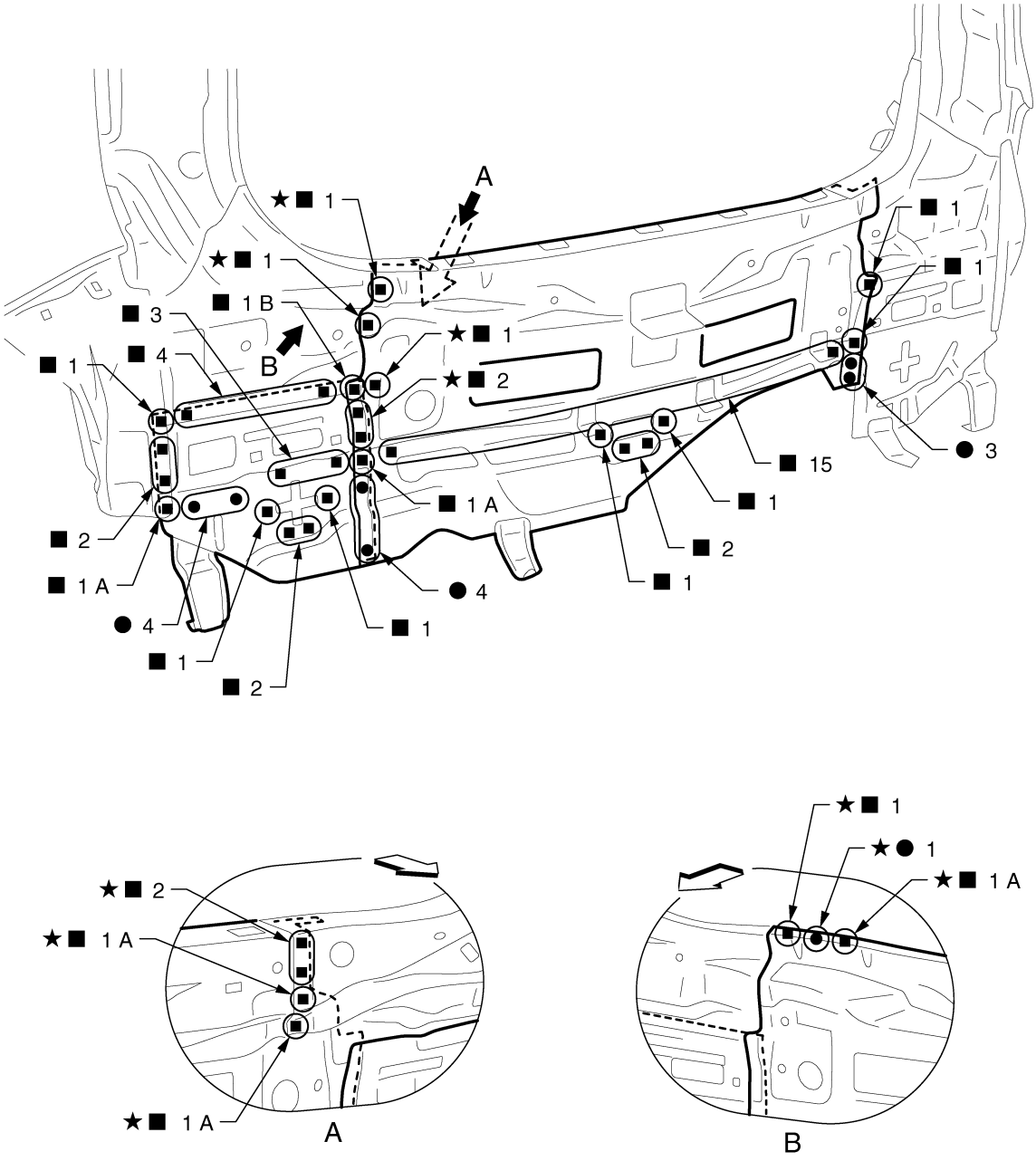
- Perform the hemming to the flange of wheelarch after applying the adhesive.
- Apply the sealing to the flange end.
- Refer to BRM-19, "Rear Fender Hemming Process".



1. **Outer rear wheelhouse**
2. **Rear fender**
3. **Adhesive**
4. **Sealant**

Rear Panel

INFOID:0000000006953141



JSKIA1173ZZ

⇦: Vehicle front

★: Welding method and the number of welding points apply to both side of the vehicle.

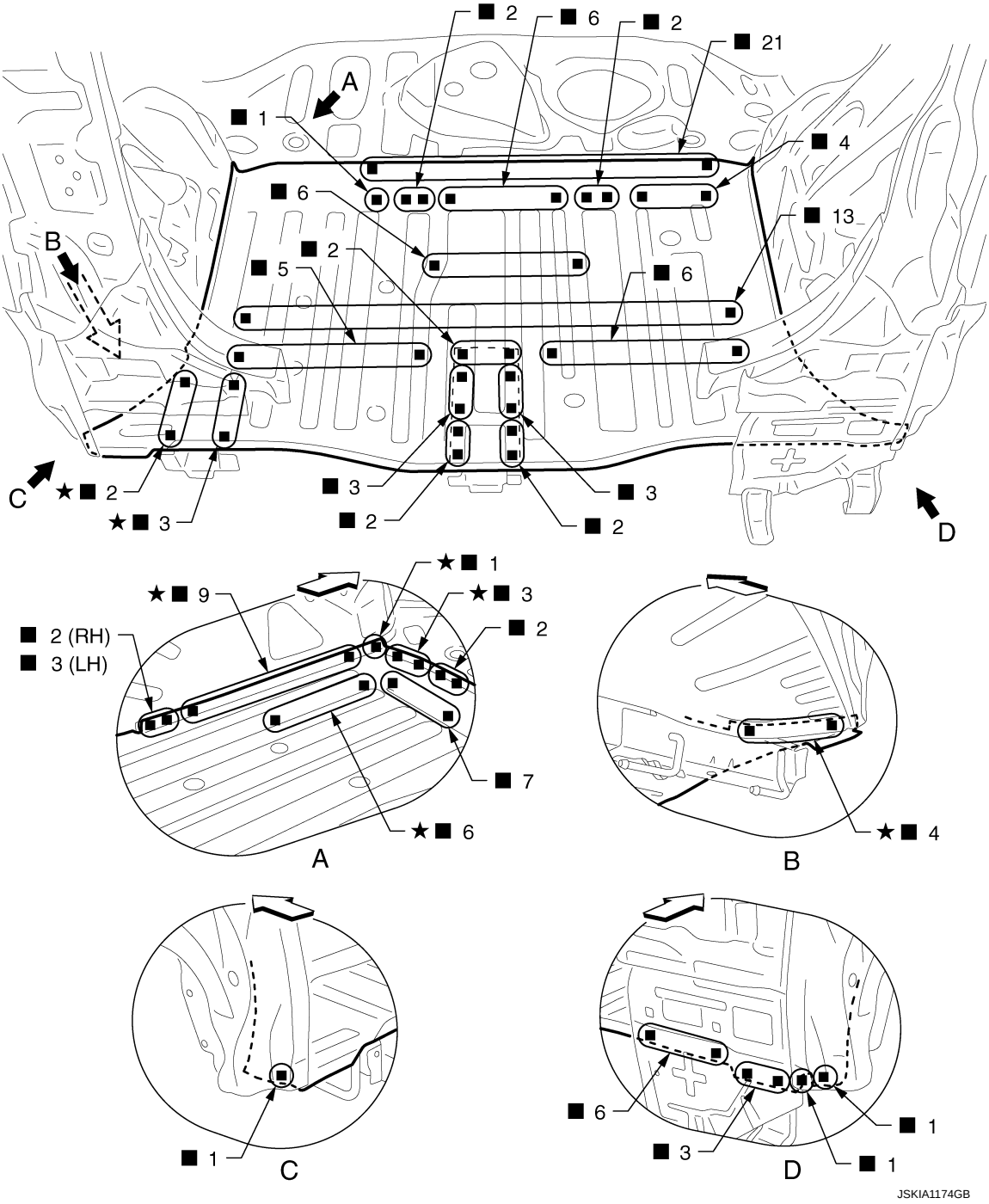
Replacement parts

- Rear panel assembly
- Rear combination lamp base extension (LH)

Rear Floor Rear

INFOID:0000000006953142

Work after rear panel is removed.



⇦: Vehicle front

★: An equivalent welding portion with the same dimensions is on the opposite side.

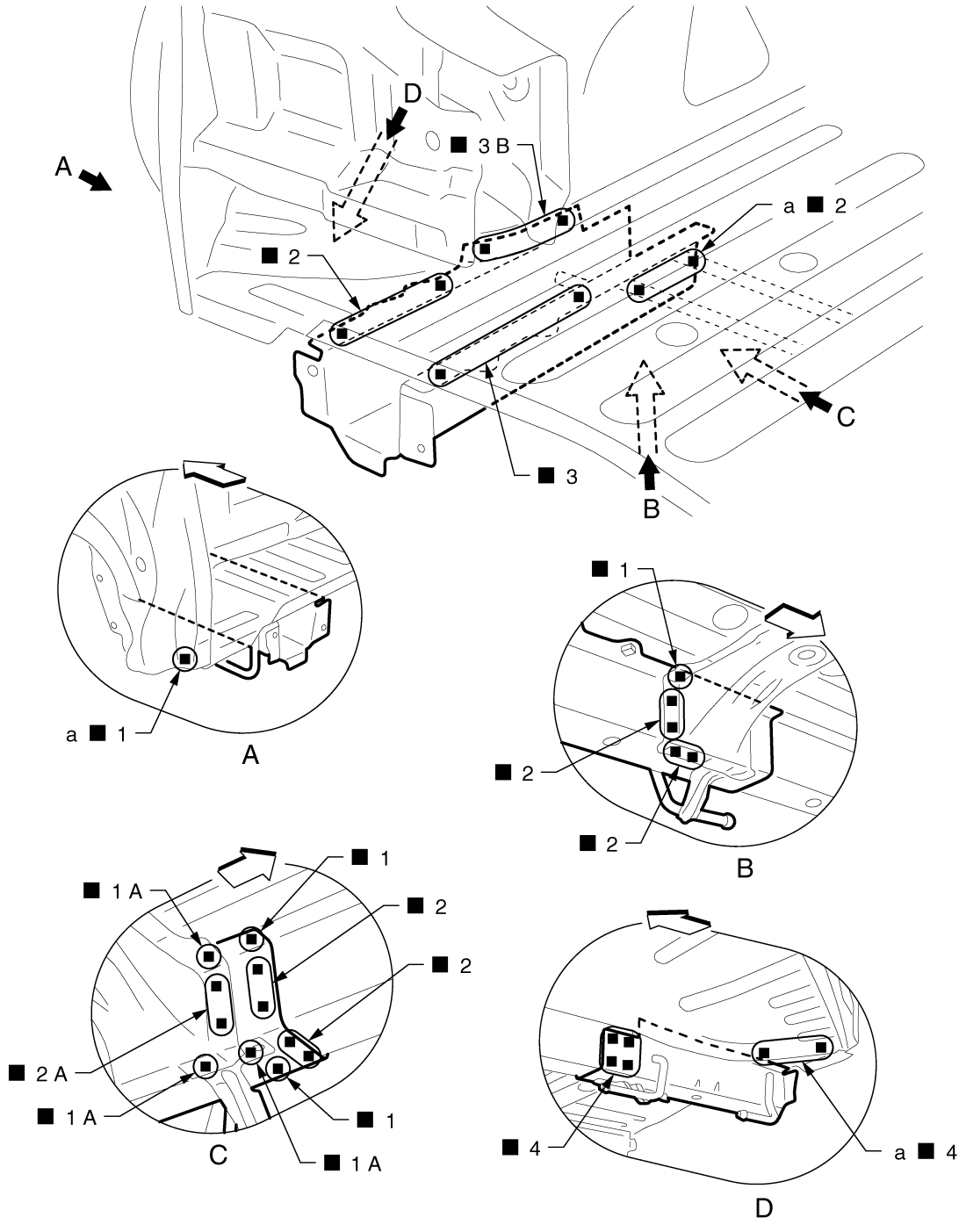
Replacement parts

- Rear floor rear

Rear Side Member Extension

INFOID:0000000006953143

Work after rear panel is removed.
Remove the welding point (a) for easier installation.



⇦: Vehicle front

Replacement parts

- Rear side member extension (LH)

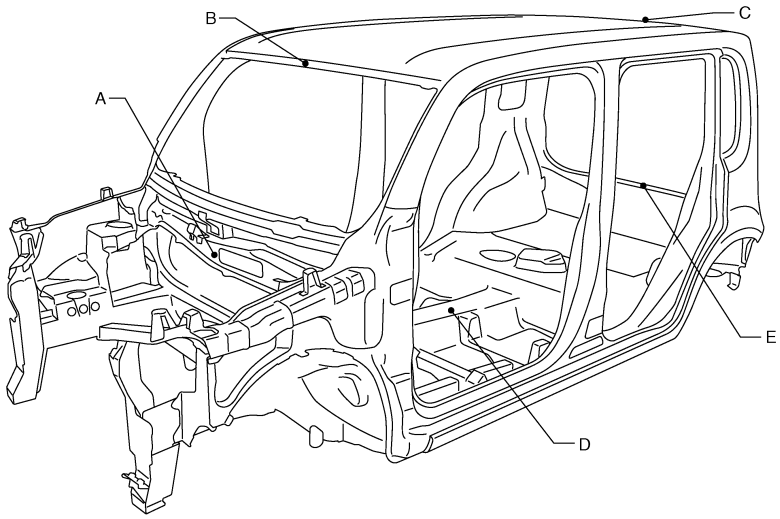
SERVICE DATA AND SPECIFICATIONS (SDS)

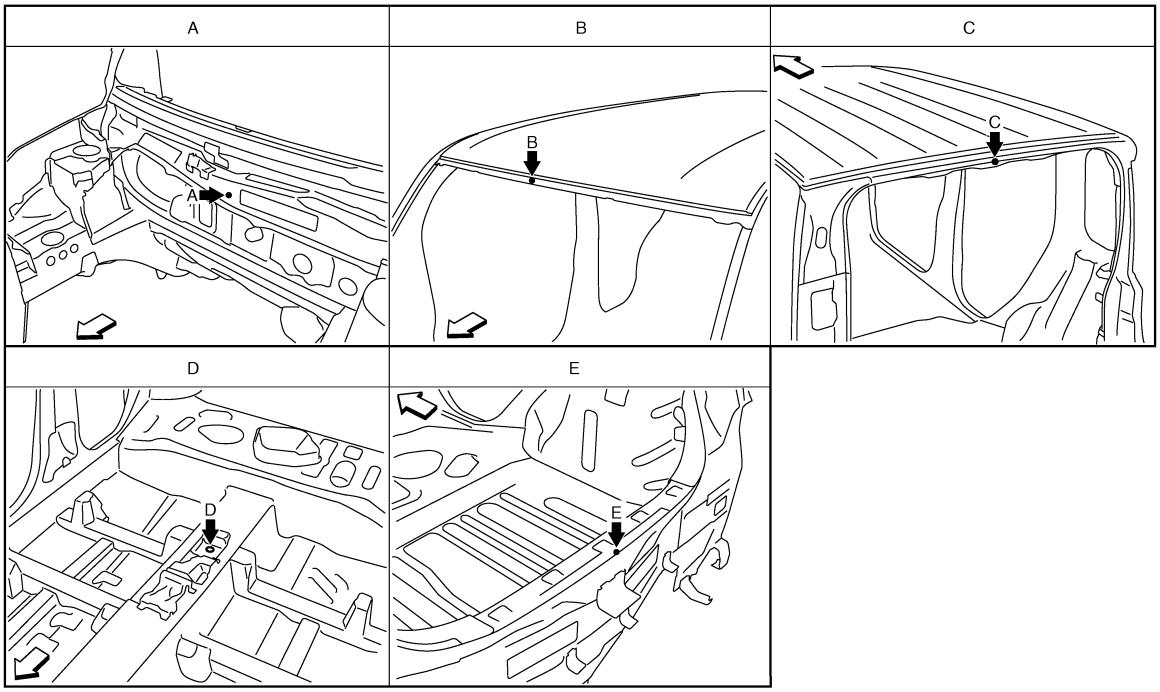
BODY ALIGNMENT

Body Center Marks

INFOID:0000000006953144

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





JSKIA1141ZZ

⇦: Vehicle front

Unit: mm (in)

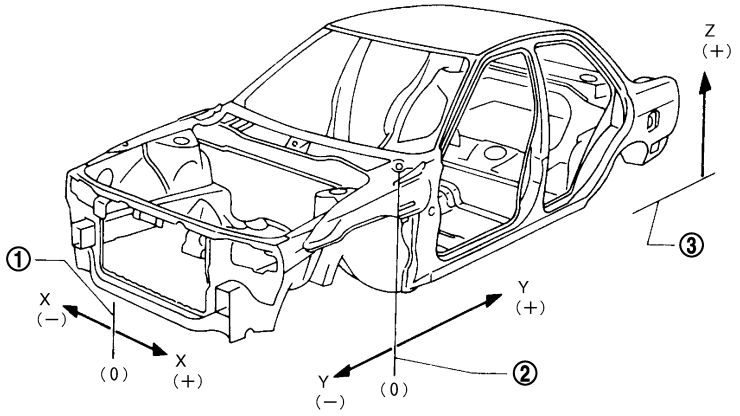
Points	Portion	Marks
A	Cowl top	Embossment
B	Front roof	Embossment
C	Rear roof	Indent

Points	Portion	Marks
D	Parking brake reinforcement	Hole ϕ12 (0.47)
E	Rear panel	Indent

Description

INFOID:0000000006953145

- 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

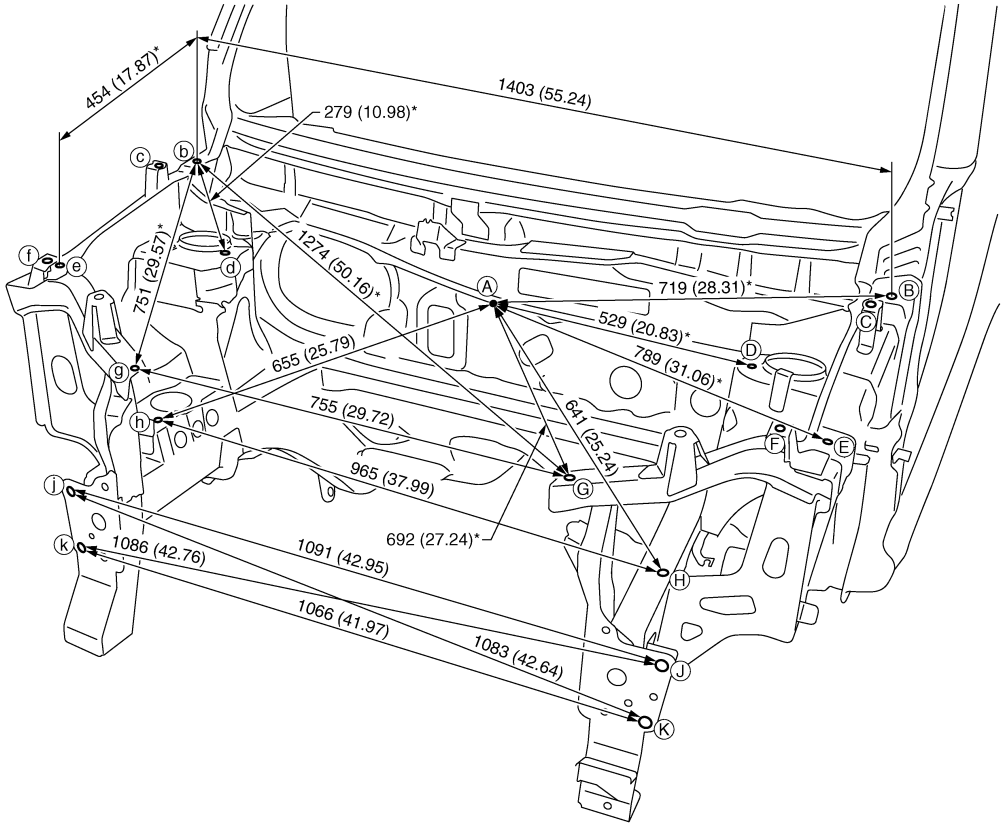
1. Vehicle center
2. Front axle center
3. Imaginary base line

Engine Compartment

INFOID:0000000006953146

MEASUREMENT

Dimensions marked with ″*″ indicate symmetrically identical dimensions on both the right and left hand of the vehicle.



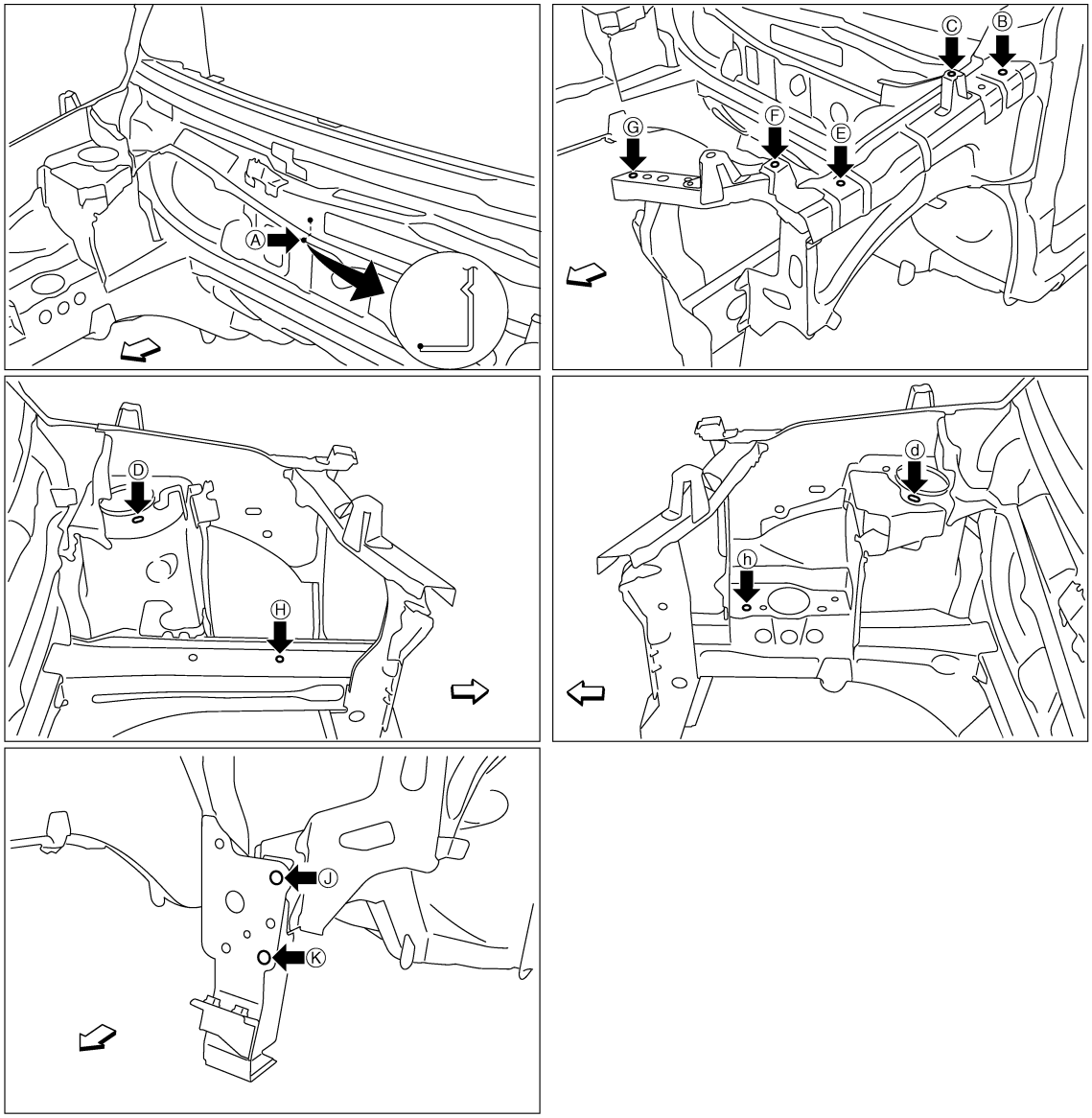
Unit: mm (in)

«The others»

Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
A - C	711 (27.99)*		B - d	1238 (48.74)*		C - c	1377 (54.21)		F - f	1297 (51.06)	
A - F	800 (31.50)*		B - e	1473 (57.99)*		D - d	1037 (40.83)				
B - C	159 (6.26)*		B - F	547 (21.54)*		E - e	1400 (55.12)				

MEASUREMENT POINTS



JSKIA1143ZZ

⇦: Vehicle front

Unit: mm (in)

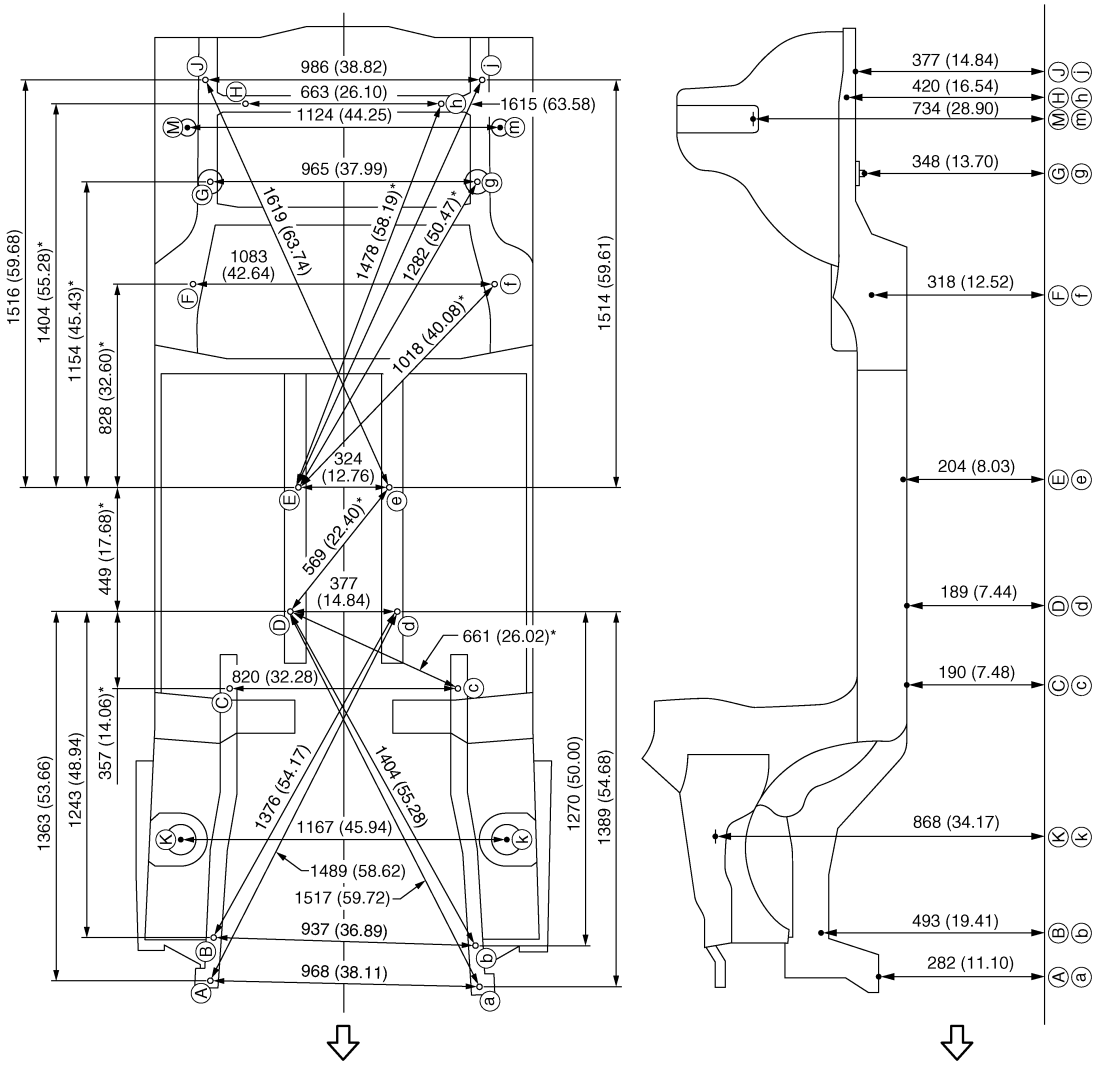
Point	Material	Point	Material
A	Cowl top flange end of center positioning mark	G, g	Upper radiator core support hole center ϕ9 (0.35)
B, b	Hood hinge installing hole center ϕ11 (0.43)	H	Front side member hole center ϕ11 (0.43)
C, c, F, f	Front fender installing hole center ϕ7 (0.28)	h	Engine mounting bracket hole center ϕ11 (0.43)
D, d	Front strut installing hole center 11×16 (0.43×0.63)	J, j	Front side member reinforcement extension hole center J: ϕ14 (0.55) j: 10×14 (0.39×0.55)
E, e	Hoodledge reinforcement hole center ϕ12 (0.47)	K, k	Front side member connector hole center ϕ16 (0.63)

Underbody

INFOID:0000000006953147

MEASUREMENT

Dimensions marked with "*" indicate symmetrically identical dimensions on both the right and left hand of the vehicle.
The following figure shows a bottom view and a side view of the vehicle.

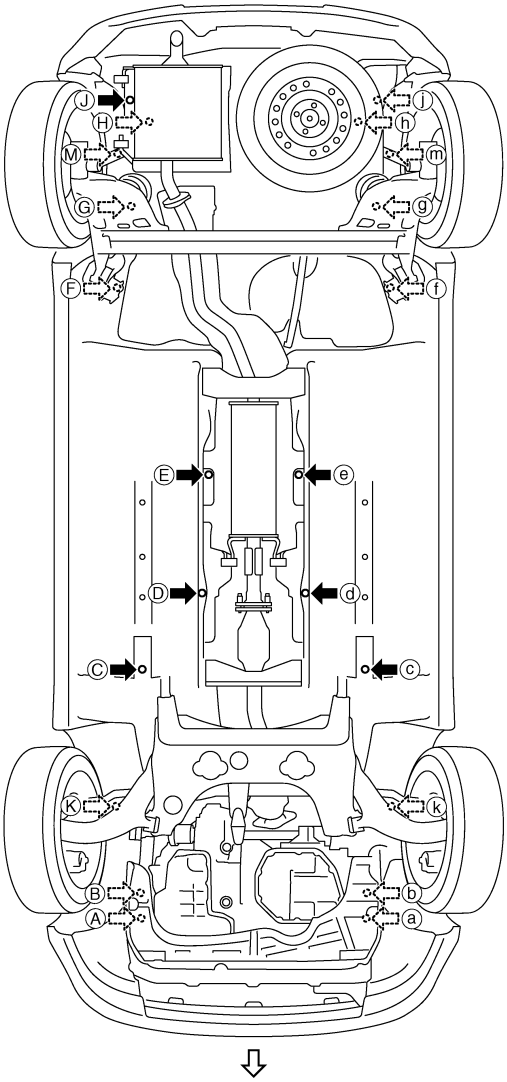


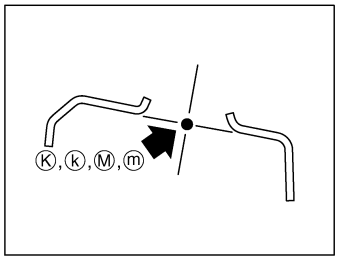
JSKIA1144GB

Unit: mm (in)

⇦: Vehicle front

MEASUREMENT POINTS





JSKIA1145ZZ

⇦: Vehicle front

Unit: mm (in)

Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
A	476.0 (18.740)	–502.0 (–19.764)	282.0 (11.102)	Hole ϕ11 (0.43)	G, g	±482.3 (±18.988)	2374.2 (93.472)	348.3 (13.713)	Hole ϕ12 (0.47)
a	–492.0 (–19.370)	–525.0 (–20.669)	282.0 (11.102)	Hole ϕ11 (0.43)	H	331.3 (13.043)	2651.5 (104.390)	419.8 (16.528)	Hole ϕ16 (0.63)
B	462.4 (18.205)	–346.0 (–13.622)	492.8 (19.402)	Hole ϕ16 (0.63)	h	–331.3 (–13.043)	2651.5 (104.390)	419.8 (16.528)	Hole 16×18 (0.63×0.71)
b	–474.7 (–18.689)	–372.0 (–14.646)	492.8 (19.402)	Hole ϕ16 (0.63)	J	498.0 (19.606)	2743.0 (107.992)	376.8 (14.835)	Hole ϕ16 (0.63)
C, c	±410.0 (±16.142)	547.0 (21.535)	190.2 (7.488)	Hole ϕ16 (0.63)	j	–487.5 (–19.193)	2743.0 (107.992)	376.8 (14.835)	Hole 17×16 (0.67×0.63)
D, d	±188.7 (±7.429)	827.5 (32.579)	189.0 (7.441)	Hole ϕ8 (0.31)	K, k	±583.6 (±22.976)	6.6 (0.260)	868.0 (34.173)	Hole ϕ98 (3.86)

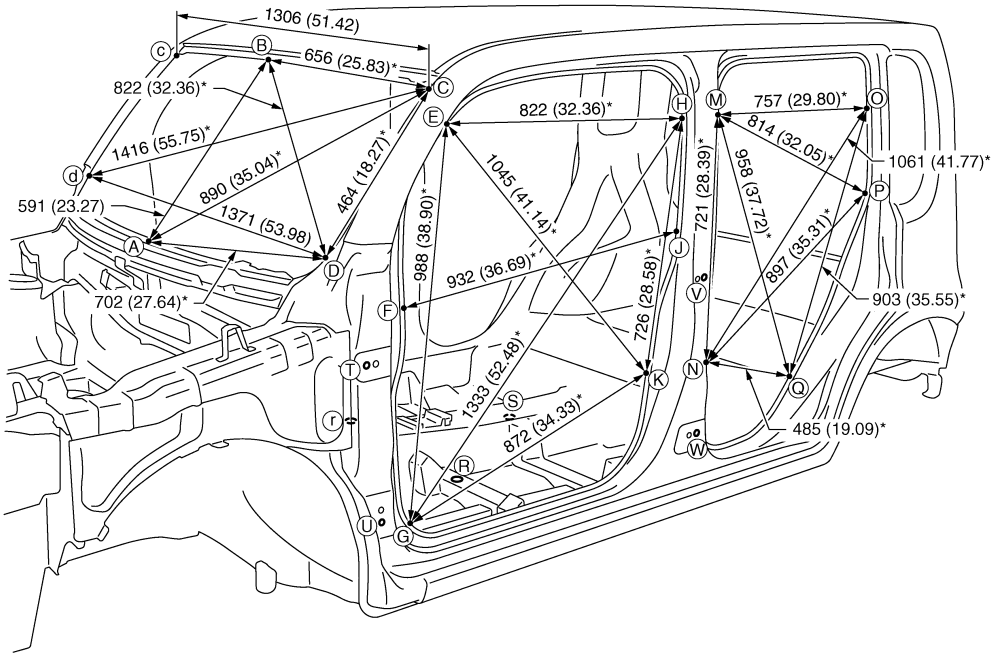
Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
E, e	±162.0 (±6.378)	1275.0 (50.197)	204.0 (8.031)	Hole ϕ21 (0.83)	M, m	±561.9 (±22.122)	2569.2 (101.149)	734.4 (28.913)	Hole ϕ20 (0.79)
F, f	±541.3 (±21.311)	2002.4 (78.834)	318.0 (12.520)	Hole ϕ16 (0.63)					

Passenger Compartment

INFOID:0000000006953148

MEASUREMENT

Dimensions marked with "*" indicate symmetrically identical dimensions on both the right and left hand of the vehicle.



JSKIA1146GB

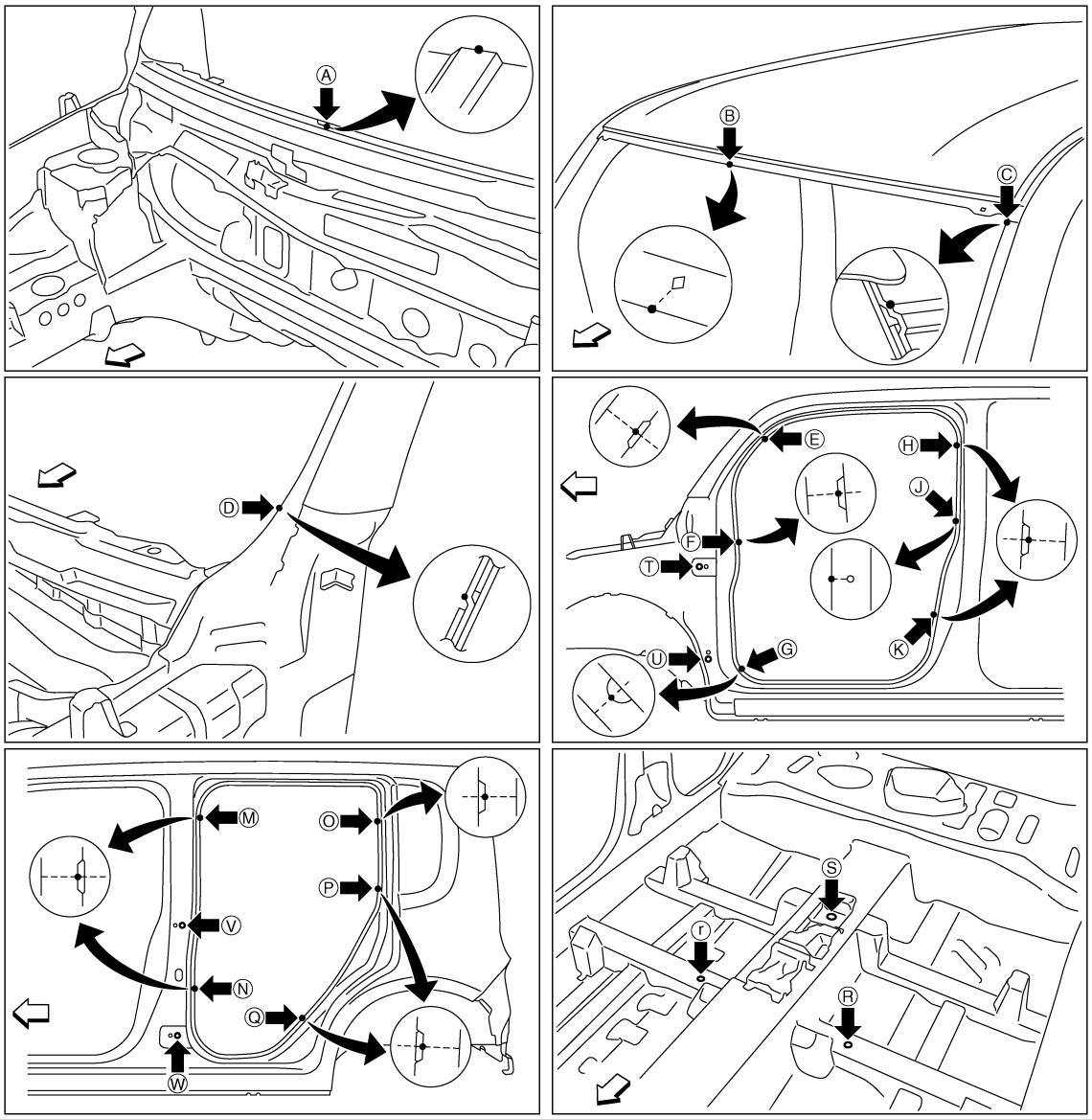
Unit: mm (in)

«The others»

Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
E - e	1367 (53.82)		K - k	1368 (53.86)		P - p	1371 (53.98)		S - Q	961 (37.83)*	
E - g	1689 (66.50)*		M - m	1392 (54.80)		Q - q	1367 (53.82)		T - t	1488 (58.58)	
E - h	1607 (63.27)*		M - n	1554 (61.18)*		R - E	1291 (50.83)*		T - V	1159 (45.63)*	
E - k	1721 (67.76)*		M - o	1562 (61.50)*		R - F	988 (38.90)*		T - W	1207 (47.52)*	
F - f	1346 (52.99)		M - p	1603 (63.11)*		R - G	712 (28.03)*		U - u	1516 (59.68)	
F - j	1653 (65.08)*		M - q	1680 (66.14)*		R - H	1275 (50.20)*		U - V	1213 (47.76)*	
G - g	1373 (54.06)		N - n	1361 (53.58)		R - J	1008 (39.68)*		U - W	1106 (43.54)*	
G - h	1921 (75.63)*		N - o	1717 (67.60)*		R - K	687 (27.05)*		V - v	1490 (58.66)	
G - k	1624 (63.94)*		N - p	1634 (64.33)*		S - M	1278 (50.31)*		W - w	1523 (59.96)	
H - h	1394 (54.88)		N - q	1448 (57.01)*		S - N	778 (30.63)*				
H - k	1560 (61.42)*		O - o	1340 (52.76)		S - O	1571 (61.85)*				
J - j	1385 (54.53)		O - q	1627 (64.05)*		S - P	1407 (55.39)*				

MEASUREMENT POINTS



JSKIA1147ZZ

⇦: Vehicle front

Unit: mm (in)

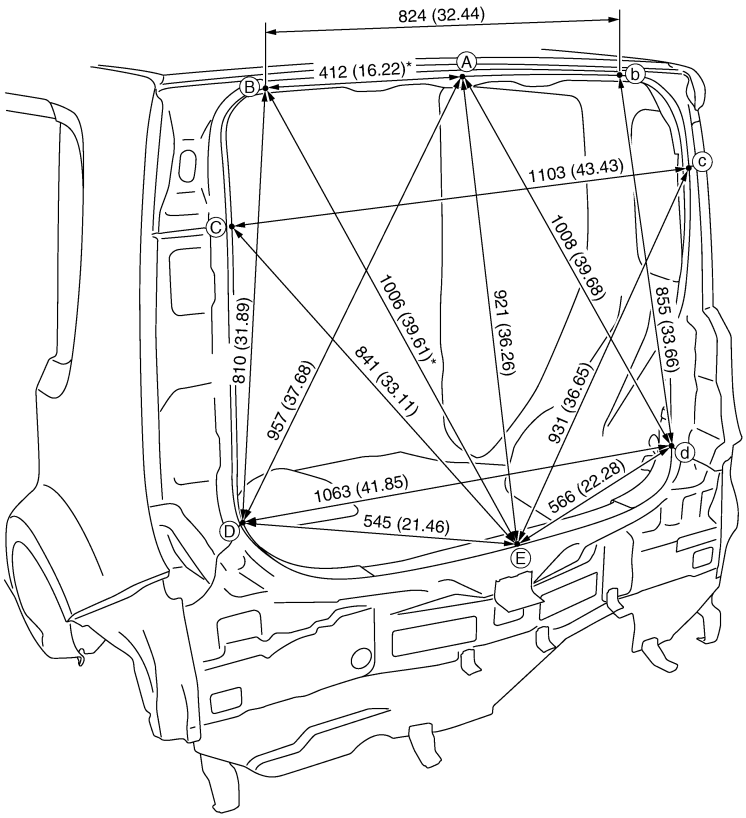
Point	Material	Point	Material
A	Cowl top flange	J, j	Center pillar flange
B	Roof flange end of center positioning mark	O, o, P, p, Q, q	Rear fender indent
C, c	Front pillar joggle	R, r	2nd crossmember hole center 12×14 (0.47×0.55)
D, d	Upper inner front pillar joggle	S	Parking brake reinforcement hole center of center positioning mark ϕ12 (0.47)
E, e, F, f, G, g	Front pillar indent	T, t, U, u, V, v, W, w	Door hinge installing hole center T, t, U, u, W, w: ϕ12 (0.47) V, v: ϕ9 (0.35)
H, h, K, k, M, m, N, n	Center pillar indent		

Rear Body

INFOID:0000000006953149

MEASUREMENT

Dimensions marked with "*" indicate symmetrically identical dimensions on both the right and left hand of the vehicle.



JSKIA1148GB

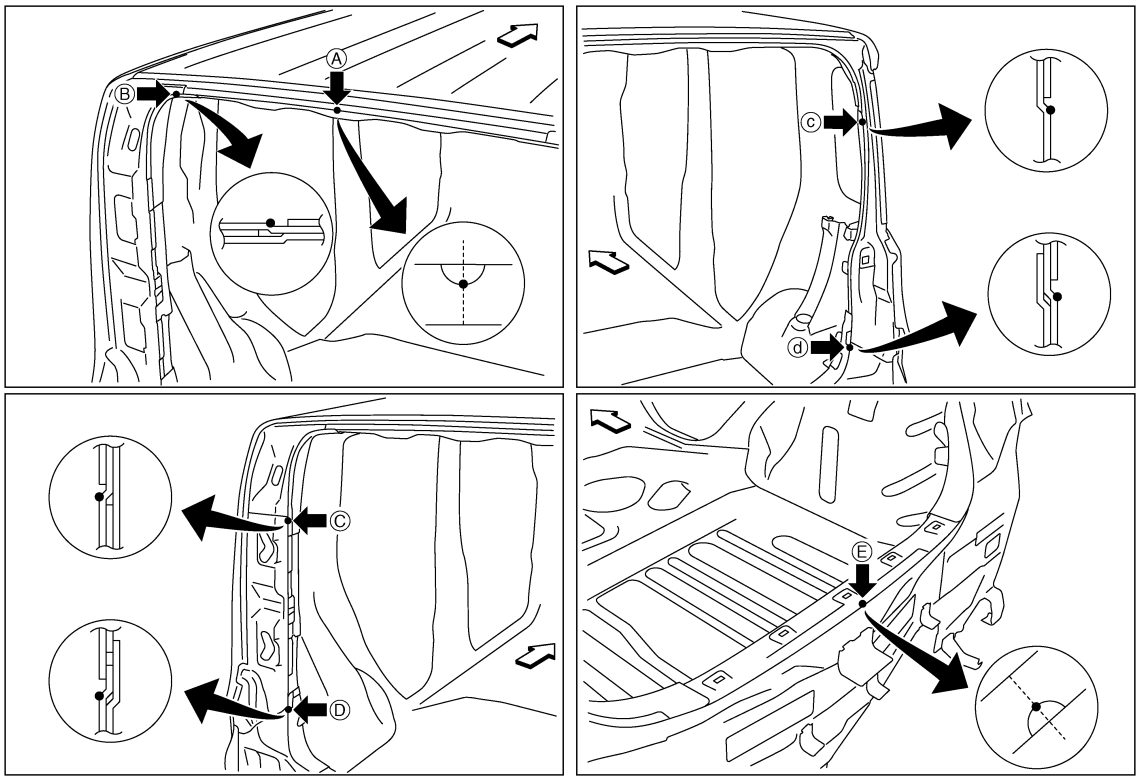
Unit: mm (in)

«The others»

Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
A - C	566 (22.28)		b - C	952 (37.48)		C - D	555 (21.85)		c - D	1261 (49.65)	
A - c	631 (24.84)		B - d	1277 (50.28)		c - d	639 (25.16)				
B - c	1028 (40.47)		b - D	1227 (48.31)		C - d	1210 (47.64)				

MEASUREMENT POINTS



JSKIA1149ZZ

⇦: Vehicle front

Point	Material	Point	Material
A	Roof flange end of center positioning mark	D, d	Rear combination lamp base joggle
B, b	Upper outer back pillar joggle	E	Rear panel indent of center positioning mark
C, c	Lower outer back pillar joggle		

LOCATION OF PLASTIC PARTS

Precautions for Plastics

INFOID:0000000006953150

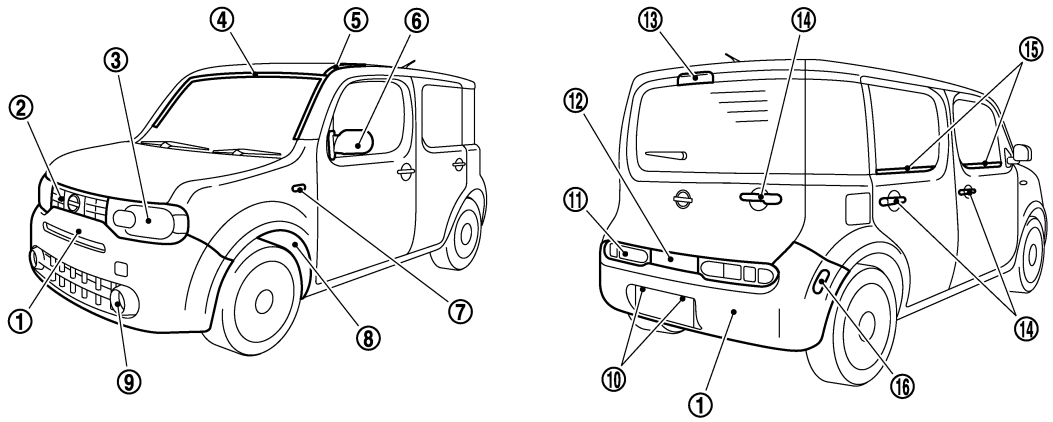
Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable
ABS	Acrylonitrile Butadiene Styrene	80 (176)	Avoid gasoline and solvents.	—
EPM/ EPDM	Ethylene Propylene (Diene) copolymer	80 (176)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable
PS	Polystyrene	80 (176)	Avoid solvents.	Flammable
PVC	Poly Vinyl Chloride	80 (176)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Poisonous gas is emitted when burned.
TPO	Thermoplastic Olefine	80 (176)	↑	Flammable
AAS	Acrylonitrile Acrylic Styrene	85 (185)	Avoid gasoline and solvents.	—
PMMA	Poly Methyl Methacrylate	85 (185)	↑	—
EVAC	Ethylene Vinyl Acetate	90 (194)	↑	—
PP	Polypropylene	90 (194)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable, avoid battery acid.
PUR	Polyurethane	90 (194)	Avoid gasoline and solvents.	—
UP	Unsaturated Polyester	90 (194)	↑	Flammable
ASA	Acrylonitrile Styrene Acrylate	100 (212)	↑	Flammable
PPE	Poly Phenylene Ether	110 (230)	↑	—
TPU	Thermoplastic Urethane	110 (230)	↑	—
PBT+ PC	Poly Butylene Terephthalate + Polycarbonate	120 (248)	↑	Flammable
PC	Polycarbonate	120 (248)	↑	—
POM	Poly Oxymethylene	120 (248)	↑	Avoid battery acid.
PA	Polyamide	140 (284)	↑	Avoid immersing in water.
PBT	Poly Butylene Terephthalate	140 (284)	↑	—
PAR	Polyarylate	180 (356)	↑	—
PET	Polyethylene terephthalate	180 (356)	↑	—
PEI	Polyetherimide	200 (392)	↑	—

CAUTION:

- **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.**
- **Plastic parts should be repaired and painted using methods suiting the materials' characteristics.**

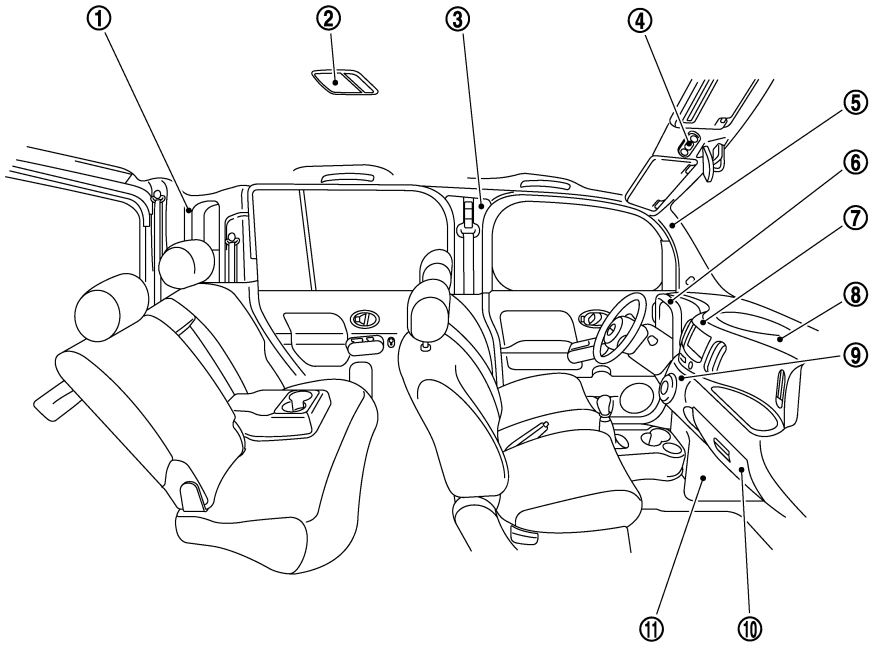
Location of Plastic Parts

INFOID:0000000006953151



JSKIA1179ZZ

Component			Material	Component			Material
1	Bumper fascia		PP + EPM	10	License plate lamp	Lens	PMMA
2	Front grille		ABS			Housing	PC
3	Front combination lamp	Lens	PC	11	Rear combination lamp	Lens	PMMA
		Housing	PP			Housing	ASA
4	Windshield molding		PVC	12	Back door finisher	Lens	PMMA
5	Roof side molding		PVC			Housing	ASA
6	Door outside mirror	Cover (Material color)	ASA	13	High mount stop lamp	Lens	PC
		Cover (Body color)	ABS			Housing	PC
		Base	PBT + PET + Glass fiber	14	Door outside handle		PC + PET
7	Side turn signal lamp	Lens	PMMA	15	Door outside molding		PVC + Stainless
		Housing	PC + ABS	16	Rear side marker lamp	Lens	PMMA
8	Front fender protector		PP			Housing	ASA
9	Front fog lamp	Lens	Glass				
		Housing	PBT + ASA + Glass fiber				



JSKIA1180ZZ

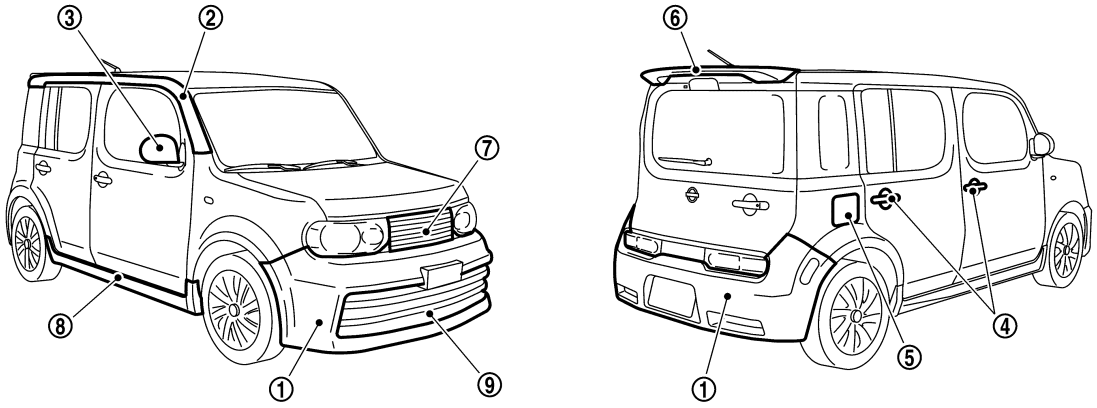
Component			Material	Component		Material
1	Rear pillar finisher		PP	6	Cluster lid A	PP
2	Room lamp	Lens	PC	7	Cluster lid C	PC + ABS
		Housing	PP	8	Instrument panel	PP
3	Center pillar garnish		PP	9	Air conditioner control finisher	PC + ABS
4	Map lamp	Lens	PC	10	Glove box	PP
		Housing	PA	11	Instrument lower cover	PP
5	Front pillar garnish		PP			

SPEC CHANGE INFORMATION

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color (Krom)

INFOID:0000000006953152



JKKIA0009ZZ

Component			Color code	BQX1	BK21	BB20	BL50
			Description	White	Gray	Black	Brownish Purple
			Paint type note	3P	FPM	2S	P
			Hard clear coat	-	-	×	×
1	Bumper fascia		Body color	BQX1	BK21	BB20	BL50
2	Front pillar finisher		Body color	BQX1	BK21	BB20	BL50
3	Door outside mirror	Cover	Body color	BQX1	BK21	BB20	BL50
4	Door outside handle		Body color	BQX1	BK21	BB20	BL50
5	Fuel filler lid		Body color	BQX1	BK21	BB20	BL50
6	Roof spoiler		Body color	BQX1	BK21	BB20	BL50
7	Front grille		Chromium plate	Cr	Cr	Cr	Cr
8	Side sill extensions		Body color	BQX1	BK21	BB20	BL50
9	Bumper grille		Chromium plate	Cr	Cr	Cr	Cr

NOTE:

- 2S: Solid + Clear
- CS: Color clear solid
- M: Metallic
- P: 2-Coat pearl
- 3P: 3-Coat pearl
- FPM: Iron oxide pearl
- RPM: Multi flex color
- TPM: Titanium pearl metallic
- TM: Micro titanium metallic
- PM: Pearl metallic

SERVICE DATA AND SPECIFICATIONS (SDS)

LOCATION OF PLASTIC PARTS

Precautions for Plastics

INFOID:0000000006953153

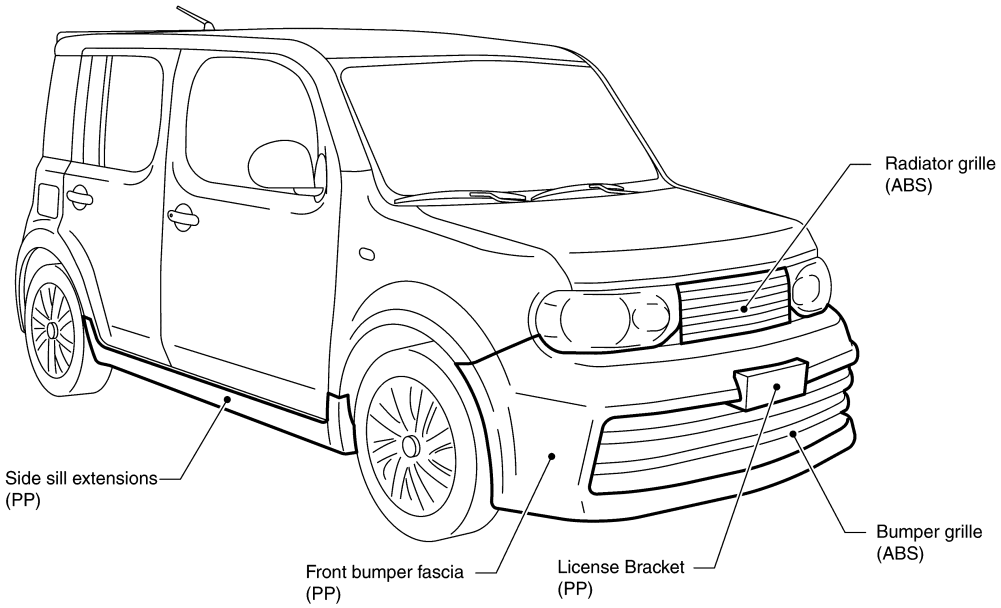
Abbre-viation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable
ABS	Acrylonitrile Butadiene Styrene	80 (176)	Avoid gasoline and solvents.	—
EPM/ EPDM	Ethylene Propylene (Diene) co-polymer	80 (176)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable
PS	Polystyrene	80 (176)	Avoid solvents.	Flammable
PVC	Poly Vinyl Chloride	80 (176)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Poisonous gas is emitted when burned.
TPO	Thermoplastic Olefine	80 (176)	↑	Flammable
AAS	Acrylonitrile Acrylic Styrene	85 (185)	Avoid gasoline and solvents.	—
PMMA	Poly Methyl Methacrylate	85 (185)	↑	—
EVAC	Ethylene Vinyl Acetate	90 (194)	↑	—
PP	Polypropylene	90 (194)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable, avoid battery acid.
PUR	Polyurethane	90 (194)	Avoid gasoline and solvents.	—
UP	Unsaturated Polyester	90 (194)	↑	Flammable
ASA	Acrylonitrile Styrene Acrylate	100 (212)	↑	Flammable
PPE	Poly Phenylene Ether	110 (230)	↑	—
TPU	Thermoplastic Urethane	110 (230)	↑	—
PBT+ PC	Poly Butylene Terephthalate + Polycarbonate	120 (248)	↑	Flammable
PC	Polycarbonate	120 (248)	↑	—
POM	Poly Oxymethylene	120 (248)	↑	Avoid battery acid.
PA	Polyamide	140 (284)	↑	Avoid immersing in water.
PBT	Poly Butylene Terephthalate	140 (284)	↑	—
PAR	Polyarylate	180 (356)	↑	—
PET	Polyethylene terephthalate	180 (356)	↑	—
PEI	Polyetherimide	200 (392)	↑	—

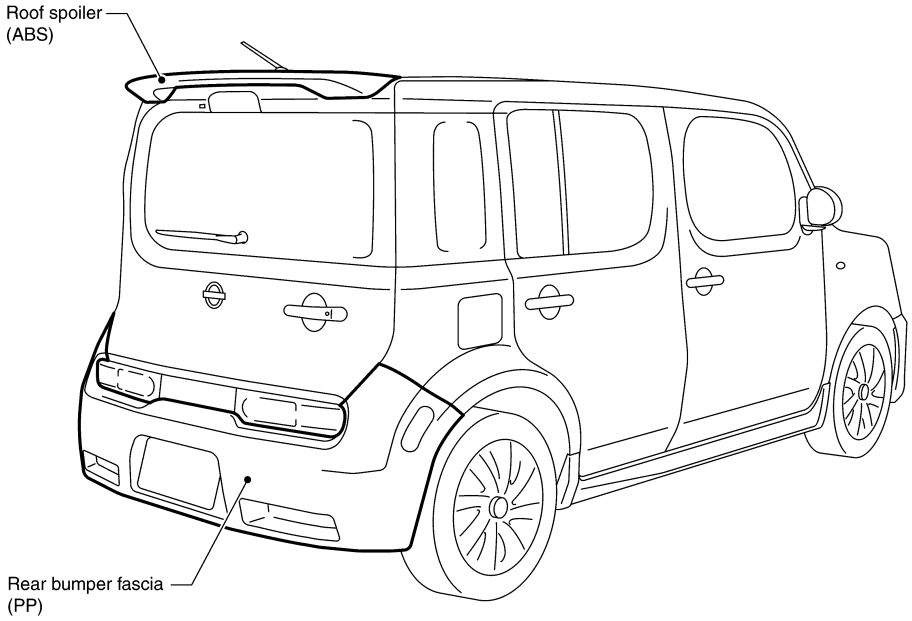
CAUTION:

- **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.**
- **Plastic parts should be repaired and painted using methods suiting the materials' characteristics.**

Location of Plastic Parts (Krom)

INFOID:0000000006953154





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