

SECTION **BRM**
 BODY REPAIR

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

CONTENTS

VEHICLE INFORMATION	2	REPLACEMENT OPERATIONS	21
BODY EXTERIOR PAINT COLOR	2	Description	21
Body Exterior Paint Color	2	Radiator Core Support	23
PRECAUTION	3	Hoodledge	23
REPAIRING HIGH STRENGTH STEEL	3	Hoodledge (Partial Replacement)	25
High Strength Steel (HSS)	3	Front Side Member	26
PREPARATION	6	Front Side Member (Partial Replacement)	27
REPAIRING MATERIAL	6	Front Pillar	28
Foam Repair	6	Center Pillar	31
BODY COMPONENT PARTS	8	Outer Sill	34
Underbody Component Parts	8	Rear Fender	37
Body Component Parts	10	Rear Panel	40
UNIT REMOVAL AND INSTALLATION	12	Rear Floor Rear	40
CORROSION PROTECTION	12	Rear Side Member Extension	42
Description	12	SERVICE DATA AND SPECIFICATIONS	
Anti-corrosive Wax	12	(SDS)	44
Undercoating	13	BODY ALIGNMENT	44
Stone Guard Coat	14	Body Center Marks	44
Body Sealing	15	Description	45
BODY CONSTRUCTION	19	Engine Compartment	45
Body Construction	19	Underbody	47
		Passenger Compartment	50
		Rear Body	52
		LOCATION OF PLASTIC PARTS	54
		Precautions for Plastics	54
		Location of Plastic Parts	55

BRM

BODY EXTERIOR PAINT COLOR

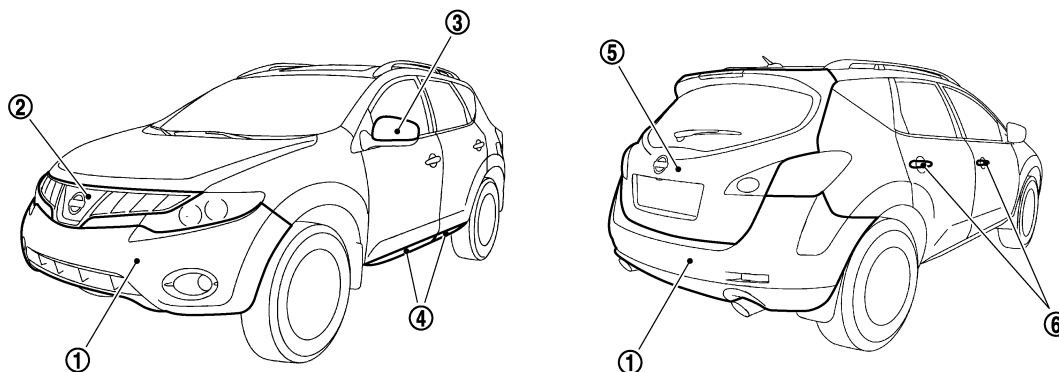
< VEHICLE INFORMATION >

VEHICLE INFORMATION

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

INFOID:000000005513898



JSKIA0574ZZ

Component			Color code	BAX5	BCAB	BKAH	BKH3	BK23	BK51	BQX1	BRAA
			Description	Red	Grayish Brown	Silver	Black	Silver	Gray	White	Dark Blue
			Paint type ^{Note}	P	M	TPM	2S	M	M	3P	PM
			Hard clear coat	×	-	-	×	-	-	-	×
1	Bumper fascia	Upper	Body color	BAX5	BCAB	BKAH	BKH3	BK23	BK51	BQX1	BRAA
		Lower	Gray	BKR2	BKR2	BKR2	BKR2	BKR2	BKR2	BKR2	BKR2
2	Radiator grille		Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
3	Door outside mirror	Cover	Body color	BAX5	BCAB	BKAH	BKH3	BK23	BK51	BQX1	BRAA
4	Side guard molding		Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
5	Back door		Body color	BAX5	BCAB	BKAH	BKH3	BK23	BK51	BQX1	BRAA
6	Door outside handle		Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr

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

REPAIRING HIGH STRENGTH STEEL

< PRECAUTION >

PRECAUTION

REPAIRING HIGH STRENGTH STEEL

High Strength Steel (HSS)

INFOID:000000005513899

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 • Rear seat crossmember • Center rear crossmember assembly • Inner side roof rail • Inner center pillar • Inner center front bumper reinforcement • Front bumper stay • Rear side bumper bracket • 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 center extension • Outer roof rail reinforcement (Side body assembly component part) • 2nd crossmember (Front floor component part)

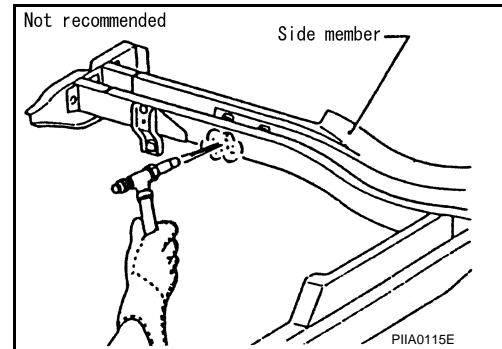
Read the following precautions when repairing HSS:

1. Additional points to consider

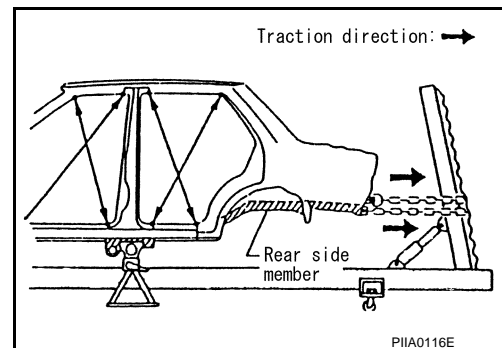
- The repair of reinforcements (such as side members) by heating is not recommended because it may weaken the component. When heating is unavoidable, never heat HSS parts above 550°C (1,022°F).

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.



A
B
C
D
E
F
G
H
I
J

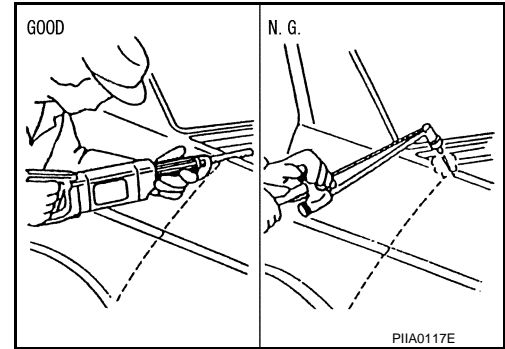
BRM

L
M
N
O
P

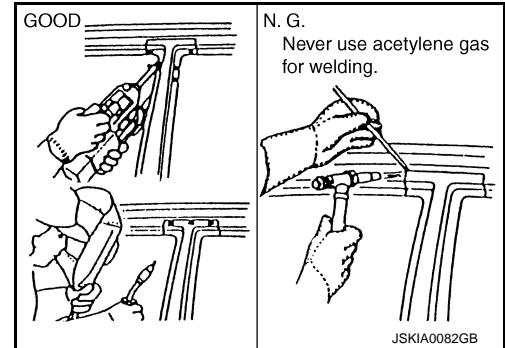
REPAIRING HIGH STRENGTH STEEL

< PRECAUTION >

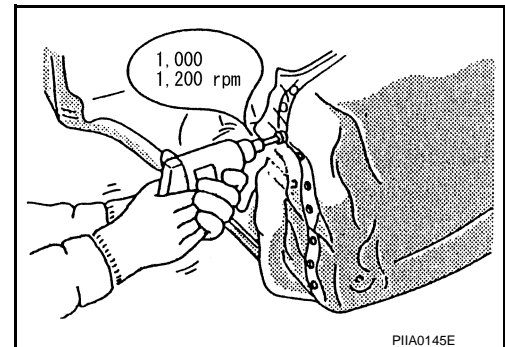
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97 in).



- 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.



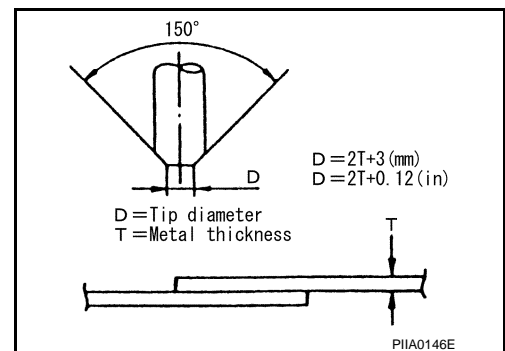
- Spot welding on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



2. Precautions in spot welding HSS

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

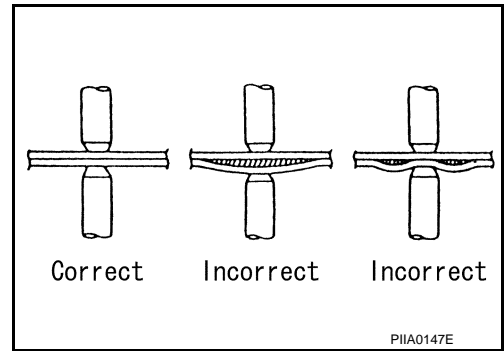
- The electrode tip diameter must be sized properly according to the metal thickness.



REPAIRING HIGH STRENGTH STEEL

< PRECAUTION >

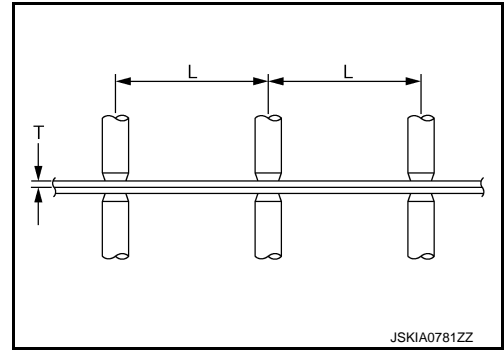
- The panel surfaces must fit flush to each other, leaving no gaps.



- 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



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

BRM

REPAIRING MATERIAL

< PREPARATION >

PREPARATION

REPAIRING MATERIAL

Foam Repair

INFOID:000000005513900

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.

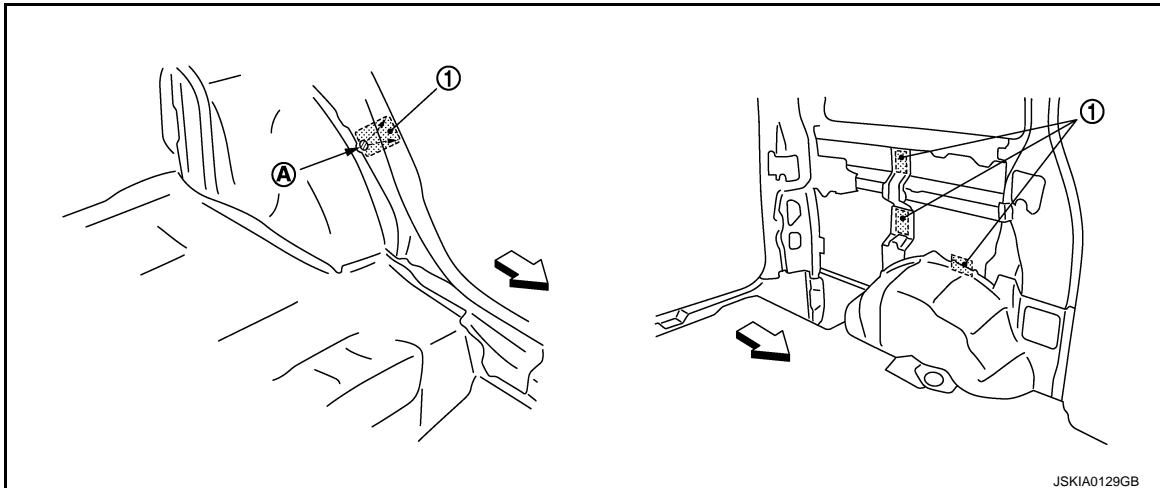
<Urethane foam for foaming agent>

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.

REPAIRING MATERIAL

< PREPARATION >

- 1. Urethane foam
- A. Fill while avoiding flange area

←: Vehicle front

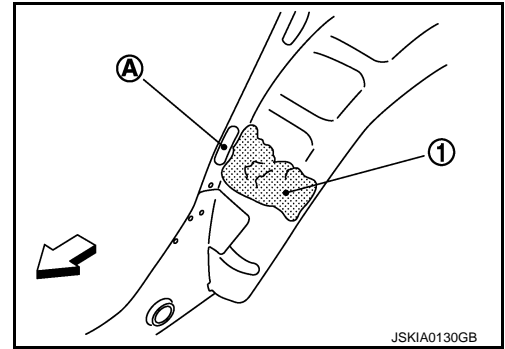
NOTE:

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.



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

BRM

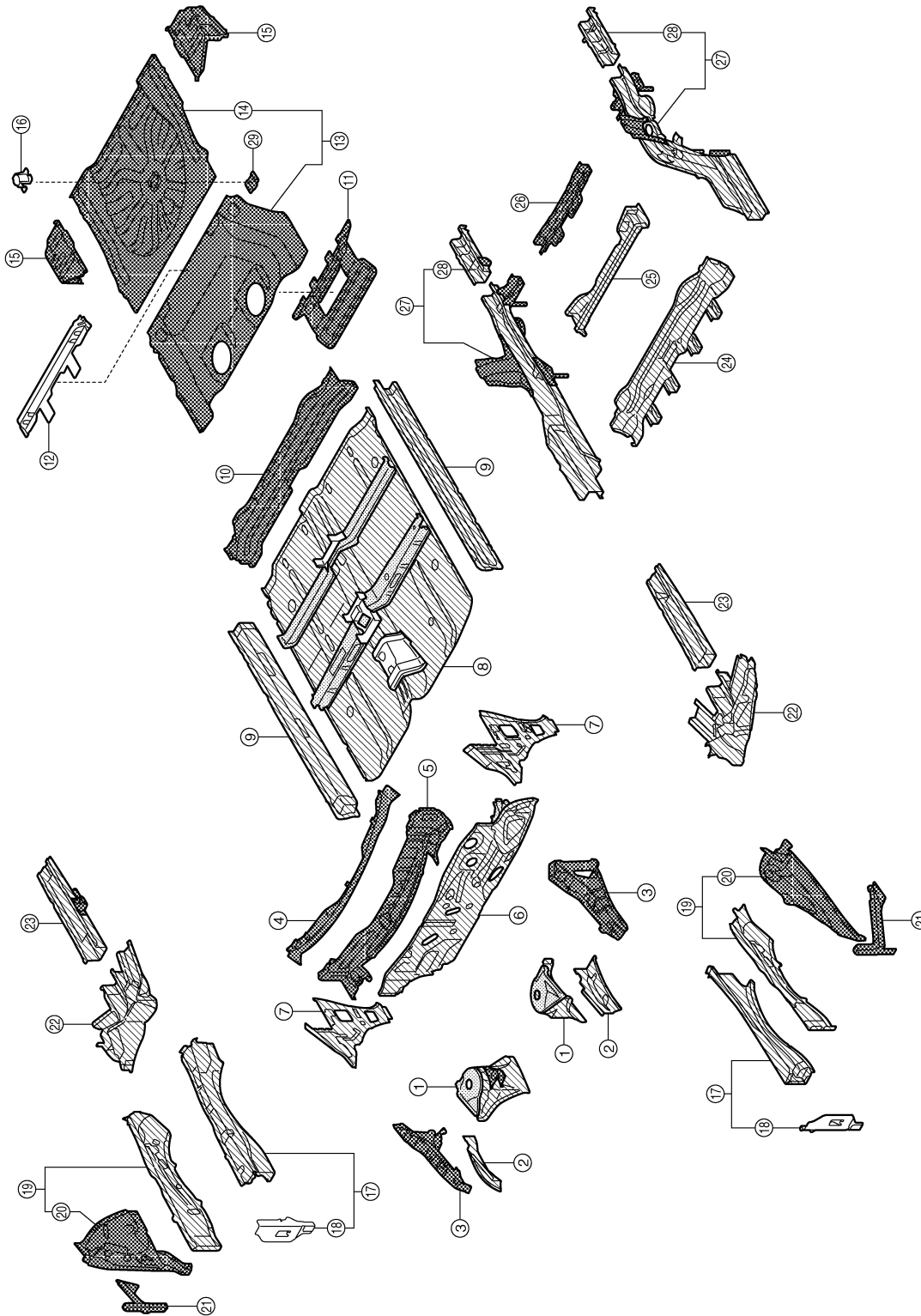
BODY COMPONENT PARTS

< PREPARATION >

BODY COMPONENT PARTS

Underbody Component Parts

INFOID:000000005513901




- | | | |
|----------------------------------|-----------------------------|-------------------------------------|
| 1. Lower rear hoodedge (RH & LH) | 2. Upper hoodedge (RH & LH) | 3. Hoodedge reinforcement (RH & LH) |
| 4. Center cowl top | 5. Upper dash | 6. Lower dash |
| 7. Side dash (RH & LH) | 8. Front floor | 9. Inner sill (RH & LH) |


JSKIA1107ZZ


BODY COMPONENT PARTS

< PREPARATION >

- | | | | |
|--|--|--|---|
| 10. Rear floor front extension | 11. 2nd seat mounting bracket | 12. Rear seat back support | |
| 13. Rear floor front | 14. Rear floor rear | 15. Rear floor side (RH & LH) | A |
| 16. Spare tire clamp bracket | 17. Front side member assembly (RH & LH) | 18. Front side member connector assembly (RH & LH) | |
| 19. Front side member closing plate assembly (RH & LH) | 20. Lower front hoodledge (RH & LH) | 21. Side radiator core support (RH & LH) | B |
| 22. Front side member extension (RH & LH) | 23. Front side member center extension (RH & LH) | 24. Rear seat crossmember | C |
| 25. Center rear crossmember assembly | 26. Spare wheel crossmember | 27. Rear side member assembly (RH & LH) | |
| 28. Rear side member extension (RH & LH) | 29. Spare wheel clamp reinforcement | | D |

 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.

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

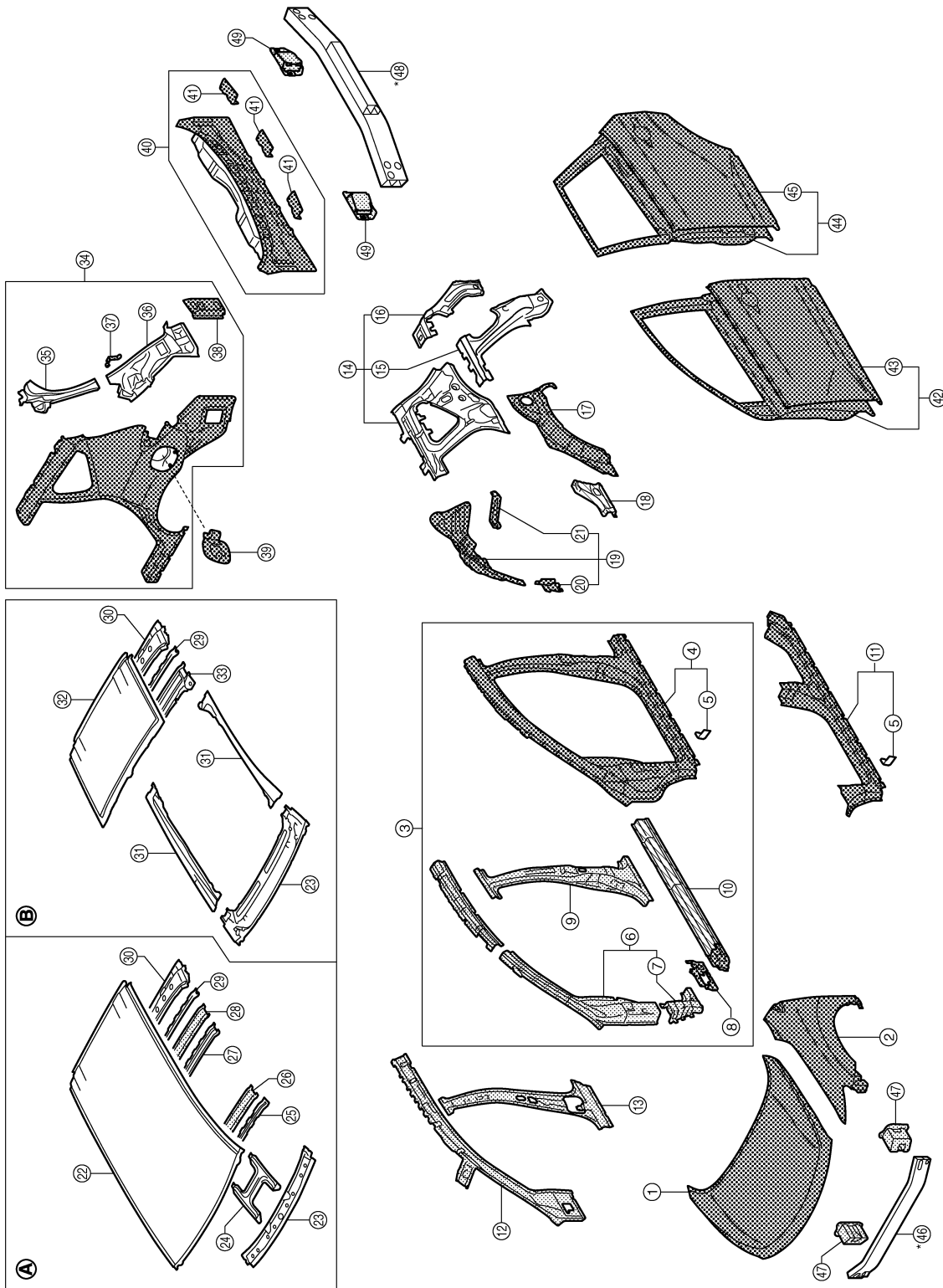
BRM

BODY COMPONENT PARTS

< PREPARATION >

Body Component Parts

INFOID:0000000513902



JSKIA0577ZZ


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

BODY COMPONENT PARTS

< PREPARATION >

- | | | | |
|--|---|--|---|
| 10. Outer sill reinforcement (RH & LH) | 11. Outer sill (RH & LH) | 12. Inner side roof rail (RH & LH) | A |
| 13. Inner center pillar (RH & LH) | 14. Inner rear pillar (RH & LH) | 15. Inner rear pillar reinforcement (RH & LH) | |
| 16. Back pillar reinforcement assembly (RH & LH) | 17. Outer rear wheelhouse (RH & LH) | 18. Outer rear sill reinforcement (RH & LH) | B |
| 19. Inner rear wheelhouse (RH & LH) | 20. Inner rear wheelhouse front extension (RH & LH) | 21. Inner rear wheelhouse rear extension (RH & LH) | |
| 22. Roof | 23. Front roof rail | 24. Roof reinforcement assembly | C |
| 25. Roof bow No. 1 | 26. Roof bow No. 2 | 27. Roof bow No. 3 | |
| 28. Roof bow No. 4 | 29. Roof bow No. 5 | 30. Rear roof rail | D |
| 31. Side roof reinforcement (RH & LH) | 32. Rear roof | 33. Rear sunroof reinforcement assembly | |
| 34. Rear fender assembly (RH & LH) | 35. Outer back pillar (RH & LH) | 36. Rear combination lamp base (RH & LH) | E |
| 37. Rear fascia rear bracket (RH & LH) | 38. Rear combination lamp base extension (RH & LH) | 39. Fuel filler lid | |
| 40. Rear panel assembly | 41. Upper rear bumper retainer | 42. Front door assembly (RH & LH) | F |
| 43. Outer front door panel (RH & LH) | 44. Rear door assembly (RH & LH) | 45. Outer rear door panel (RH & LH) | |
| 46. Inner front bumper center reinforcement | 47. Front bumper stay (RH & LH) | 48. Inner center rear bumper reinforcement | G |
| 49. Rear side bumper bracket (RH & LH) | | | |
| A. Standard roof | B. With sunroof | | |

 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.

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

BRM

CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >

UNIT REMOVAL AND INSTALLATION

CORROSION PROTECTION

Description

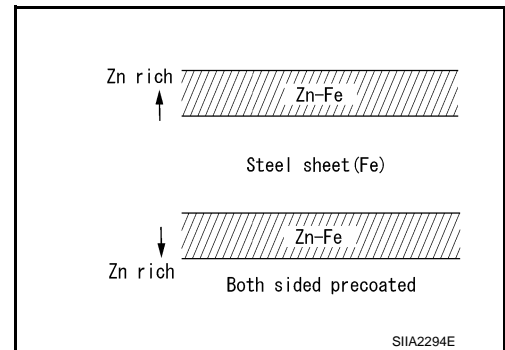
INFOID:000000005513903

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 reparability 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.



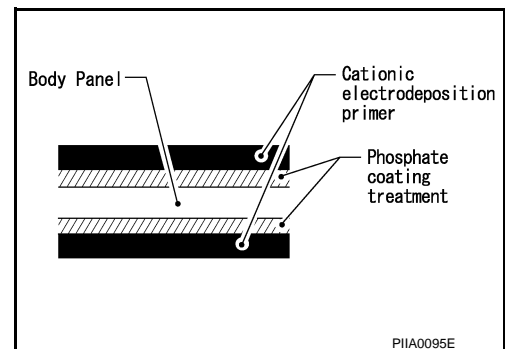
NISSAN genuine parts are fabricated from galvannealed steel. Therefore, it is recommended that NISSAN genuine parts or an equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

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.

Anti-corrosive Wax

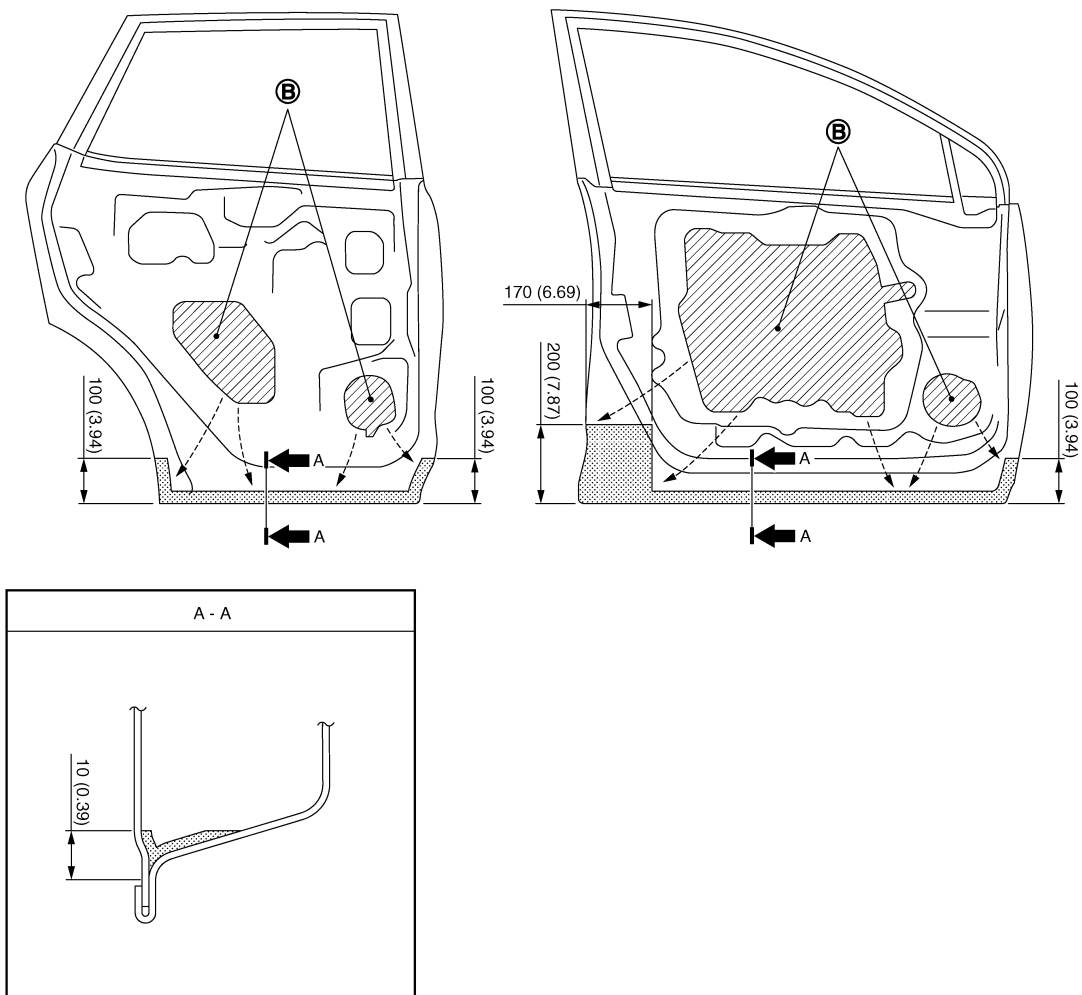
INFOID:000000005513904

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.

DOOR


CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >



JSKIA0552GB

B. Nozzle insert hole

: Anti-corrosive wax coated portions

Undercoating

INFOID:000000005513905

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.

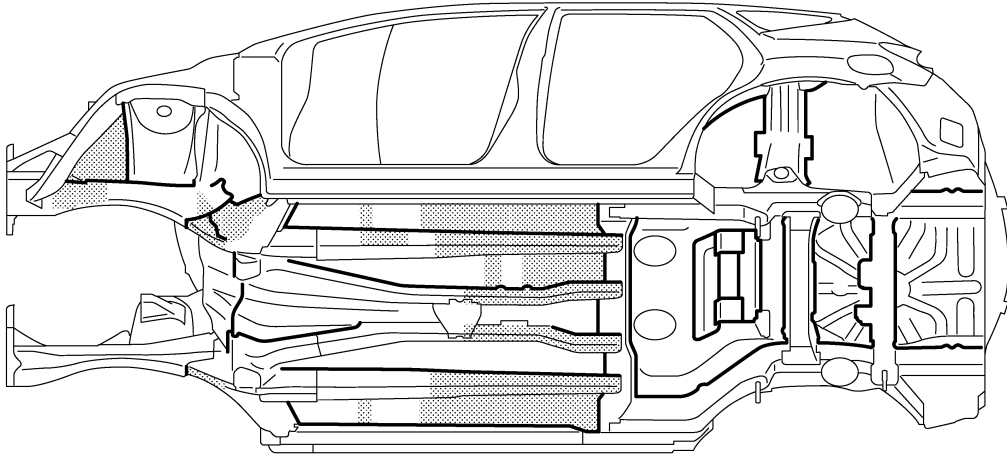
Precautions in Undercoating

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.


A
B
C
D
E
F
G
H
I
J
BRM


CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >



JSKIA1606ZZ

 Undercoated areas

 Sealed portions

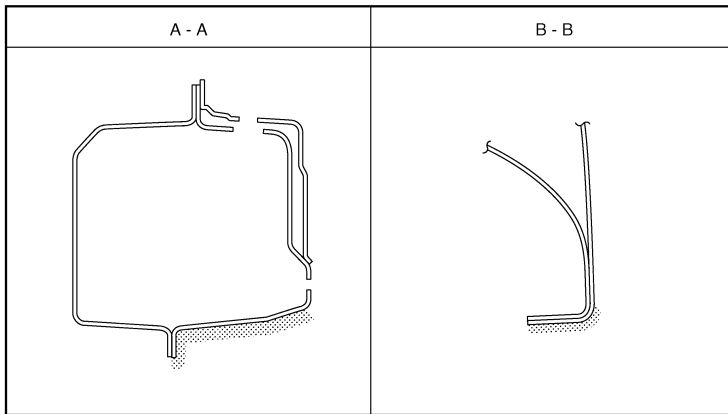
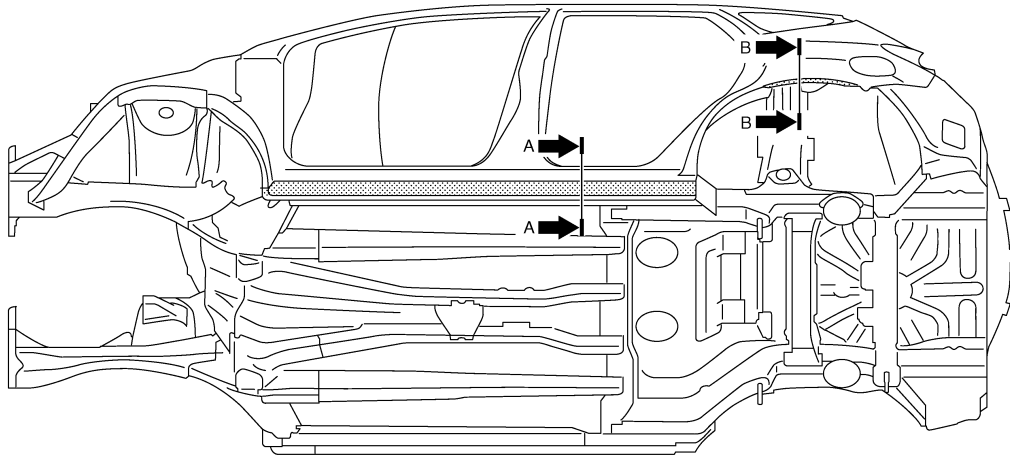
Stone Guard Coat


INFOID:000000005513906

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.

CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >



 Stone guard coated portions

Body Sealing

INFOID:000000005513907

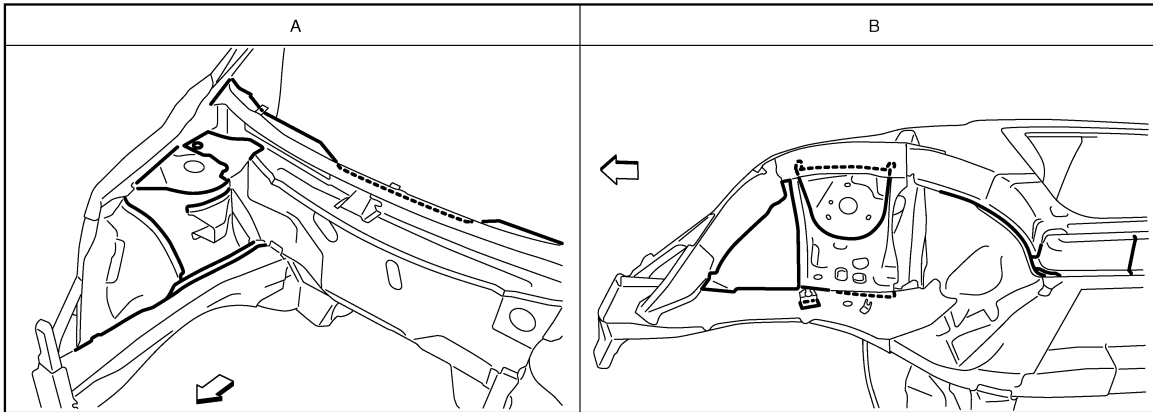
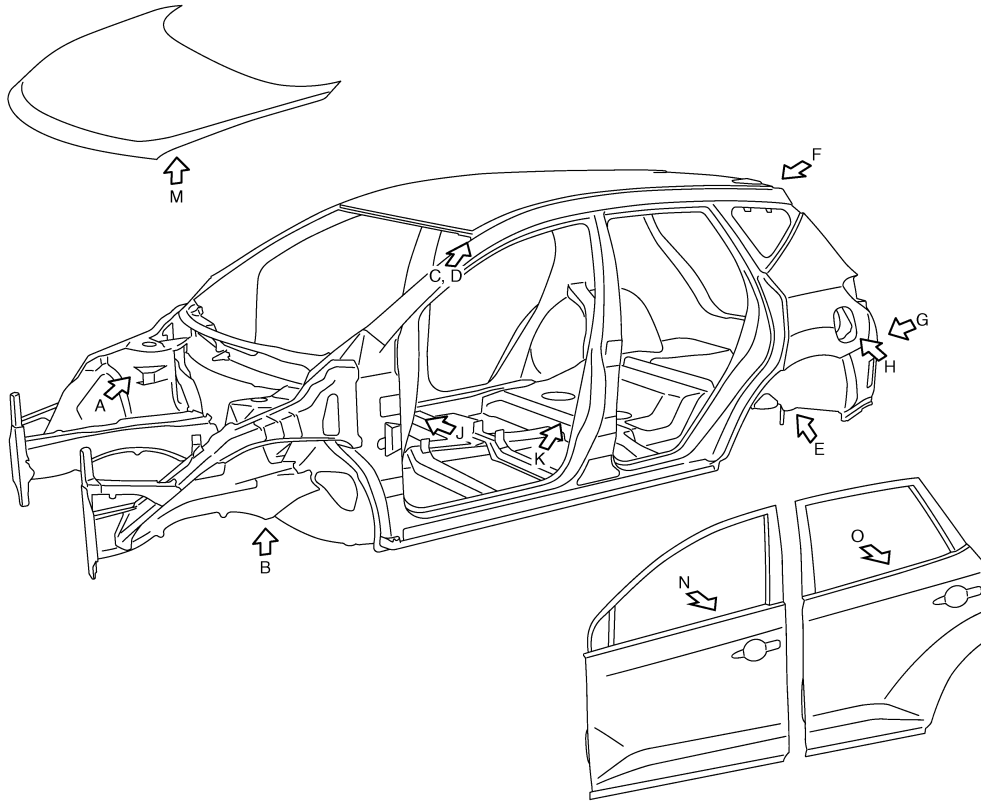
The following figure shows the areas that are sealed at the factory. Sealant that is applied to these areas should be smooth and free from cuts or gaps. Care should be taken not to apply an excess amount of sealant and not to allow other unaffected parts to come into contact with the sealant.

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

BRM

CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >



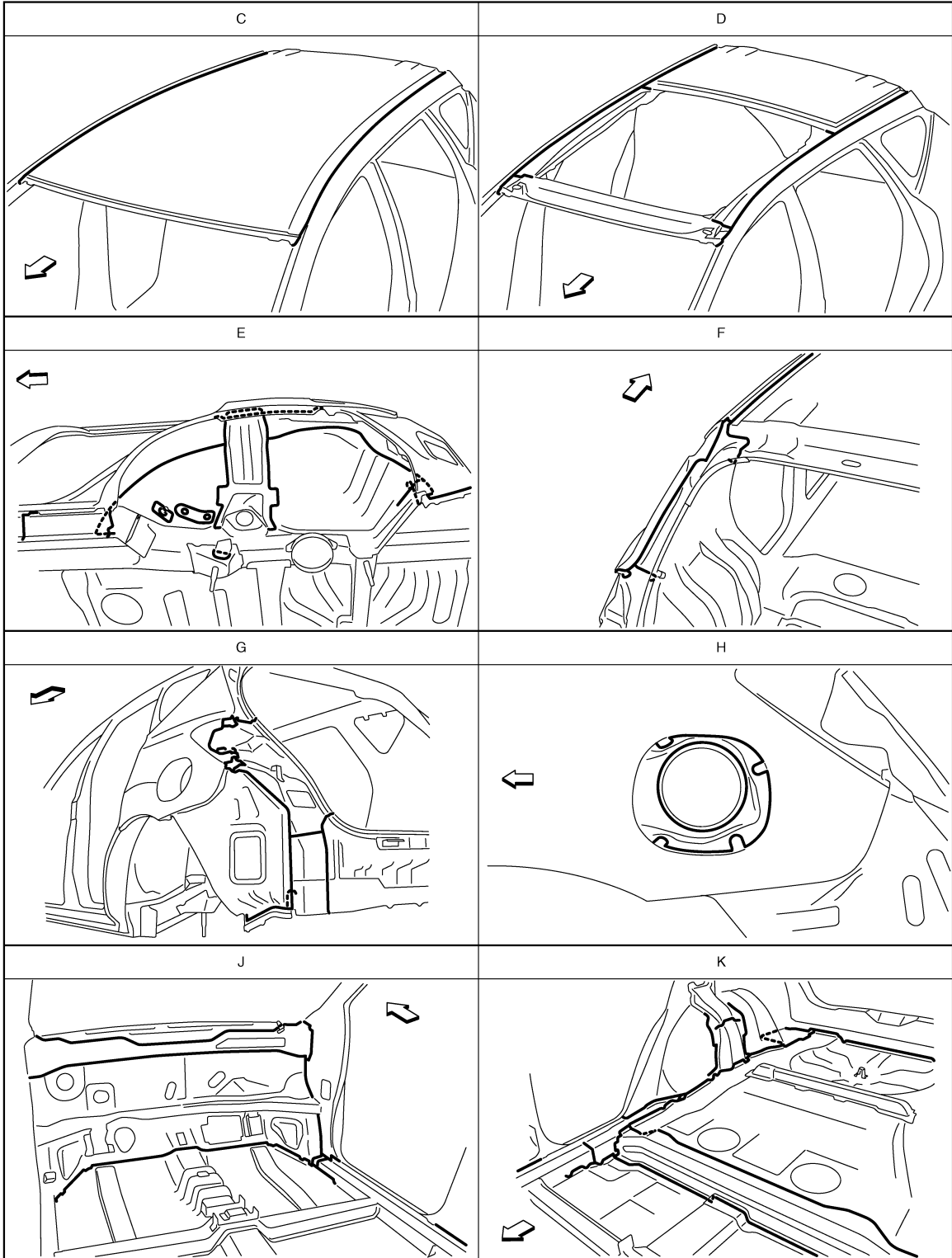
JSKIA0555ZZ

←: Vehicle front

—: Sealed portions

CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >



JSKIA0556ZZ

↔: Vehicle front

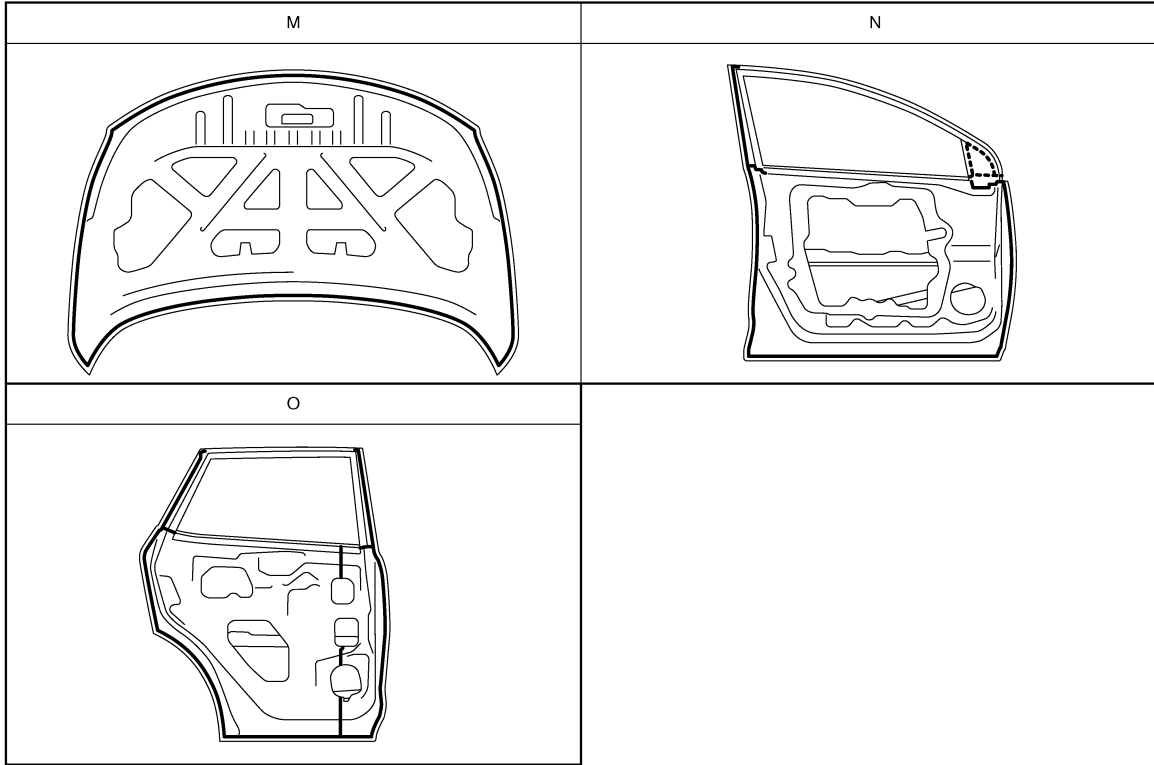
—: Sealed portions

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

BRM

CORROSION PROTECTION

< UNIT REMOVAL AND INSTALLATION >



JSKIA0557ZZ

■: Sealed portions

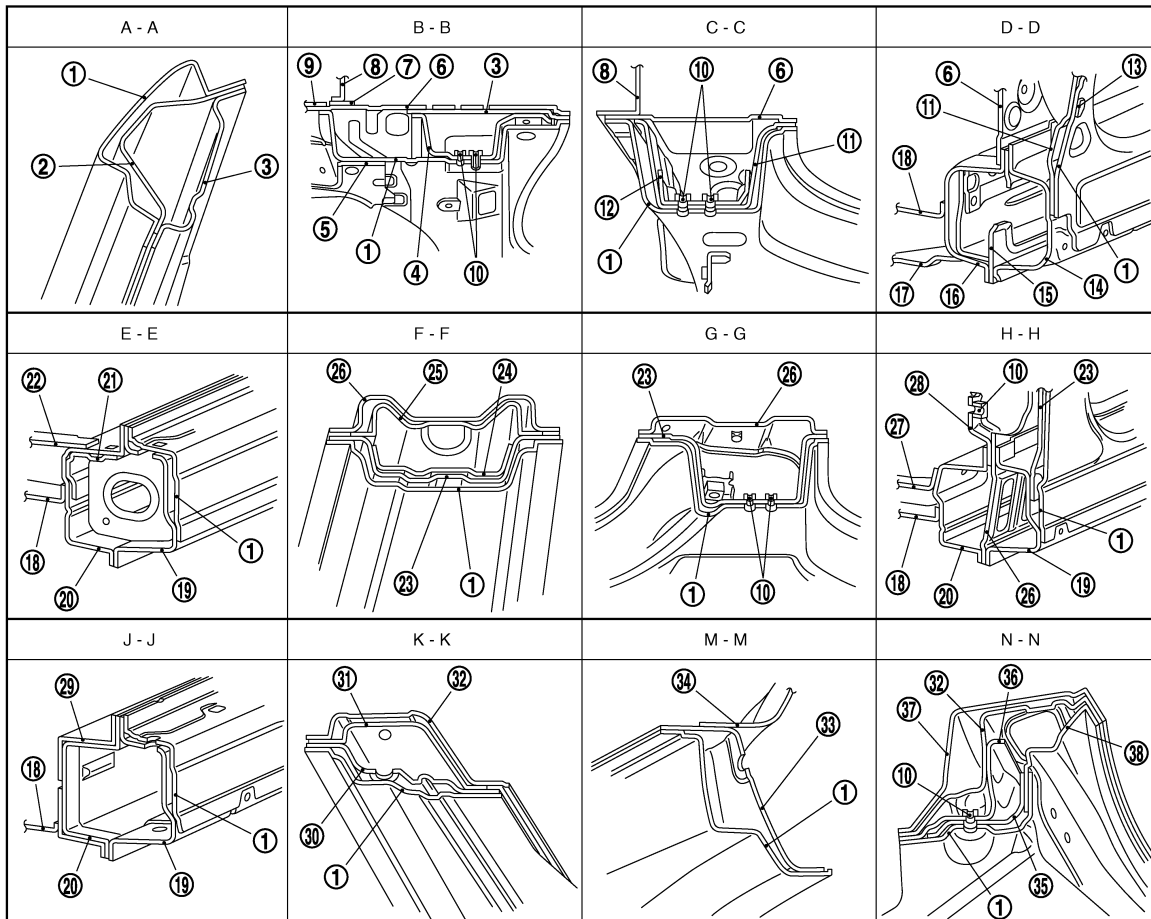
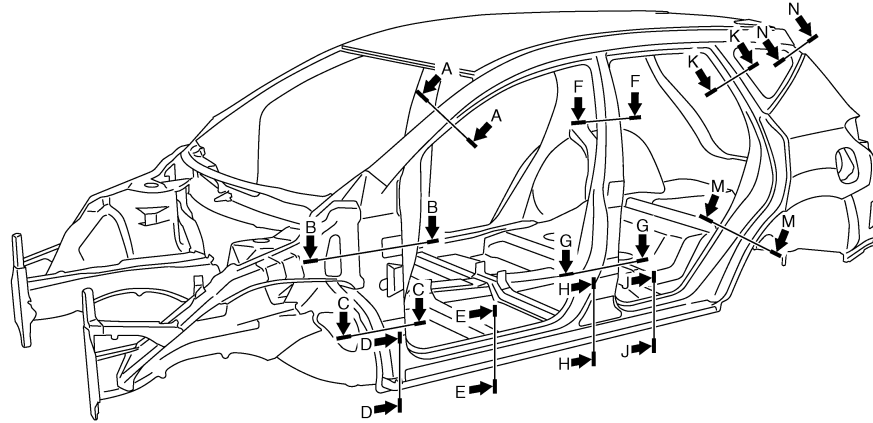
BODY CONSTRUCTION

< UNIT REMOVAL AND INSTALLATION >

BODY CONSTRUCTION

Body Construction

INFOID:000000005513908



- | | | |
|-----------------------------------|-------------------------------------|-----------------------------|
| 1. Outer side body | 2. Upper front pillar reinforcement | 3. Upper inner front pillar |
| 4. Upper front pillar hinge brace | 5. Hoodledge reinforcement | 6. Side dash |
| 7. Upper dash | 8. Lower dash | 9. Side cowl top brace |

JSKIA0575ZZ

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

BRM

BODY CONSTRUCTION

< UNIT REMOVAL AND INSTALLATION >

- | | | |
|--|------------------------------------|---|
| 10. Weld nut | 11. Lower front pillar hinge brace | 12. Lower front pillar patch |
| 13. Front fender bracket | 14. Outer front sill reinforcement | 15. Lower front pillar reinforcement |
| 16. Inner front sill reinforcement | 17. Front side member outrigger | 18. Front floor |
| 19. Outer sill reinforcement | 20. Inner sill | 21. Inner rear sill reinforcement |
| 22. 2nd crossmember | 23. Center pillar reinforcement | 24. Center pillar seat belt reinforcement |
| 25. Inner center pillar reinforcement | 26. Inner center pillar | 27. 3rd crossmember |
| 28. Seat belt anchor | 29. Inner sill extension | 30. Inner rear pillar reinforcement |
| 31. Inner rear pillar seat belt anchor | 32. Inner rear pillar | 33. Outer rear wheelhouse |
| 34. Inner rear wheelhouse | 35. Outer back pillar | 36. Back pillar reinforcement |
| 37. Rear roof rail brace | 38. Back pillar main | |

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >

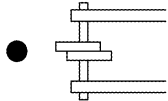
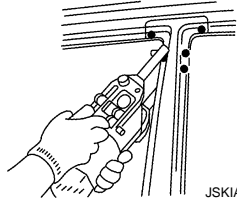
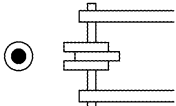
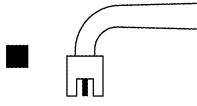

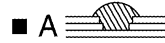
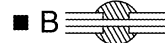
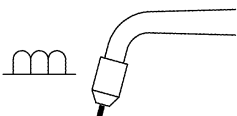
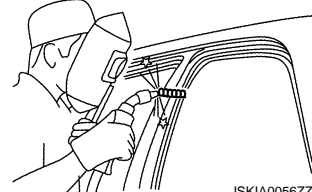
REPLACEMENT OPERATIONS

Description

INFOID:000000005513909

- 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	
 <p data-bbox="402 842 488 861">JSKIA0049ZZ</p>	2-spot welds	 <p data-bbox="1291 968 1377 987">JSKIA0053ZZ</p>
 <p data-bbox="402 1094 488 1113">JSKIA0050ZZ</p>	3-spot welds	
 <p data-bbox="402 1472 488 1491">JSKIA0051ZZ</p>	MIG plug weld	 <p data-bbox="1291 1346 1377 1365">JSKIA0054ZZ</p> <p data-bbox="1008 1377 1318 1402">For 3 panels plug weld method</p> <div style="display: flex; flex-direction: column; align-items: center;"> <div data-bbox="1144 1438 1307 1480">  <p data-bbox="1161 1444 1193 1470">A</p> </div> <div data-bbox="1144 1533 1307 1575">  <p data-bbox="1161 1539 1193 1564">B</p> </div> </div> <p data-bbox="1291 1598 1377 1617">JSKIA0055ZZ</p>
 <p data-bbox="402 1850 488 1869">JSKIA0052ZZ</p>	MIG seam weld / Point weld	 <p data-bbox="1291 1850 1377 1869">JSKIA0056ZZ</p>

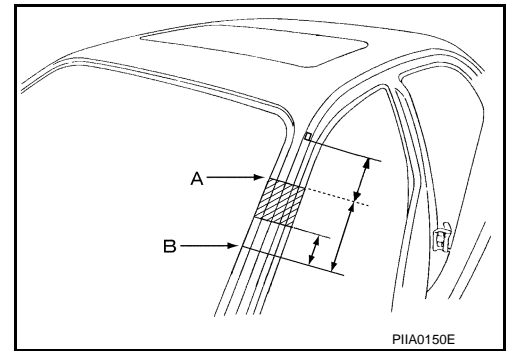
A
B
C
D
E
F
G
H
I
J
L
M
N
O
P

BRM

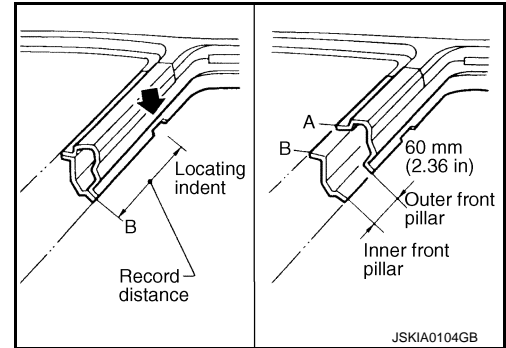
REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >

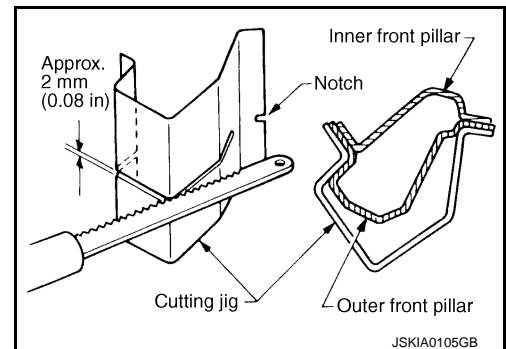
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle.



- 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.

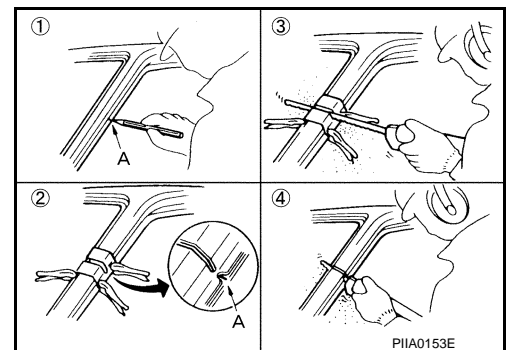


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit the service part to be accurately cut at the joint position.



- 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.

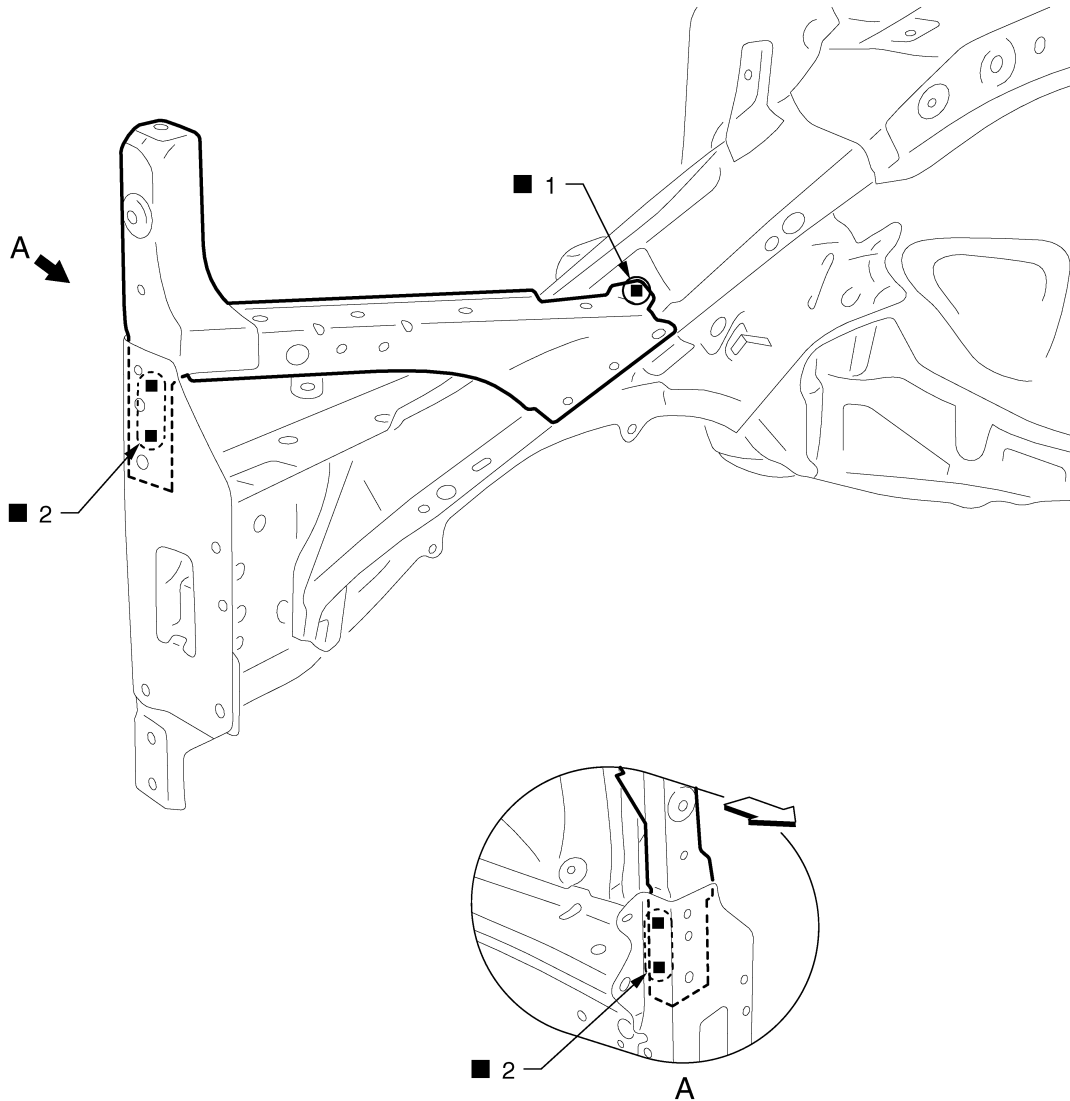


REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >

Radiator Core Support

INFOID:000000005513910



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

BRM

←: Vehicle front

Replacement parts

- Side radiator core support (LH)

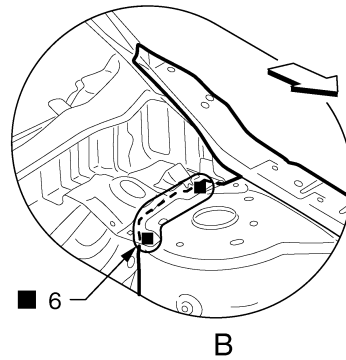
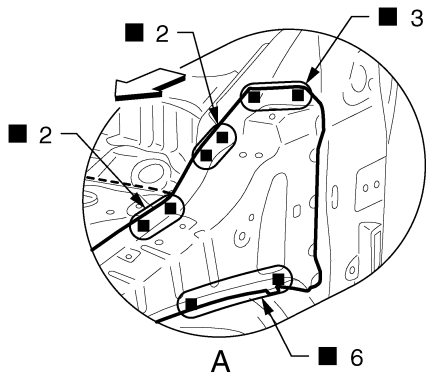
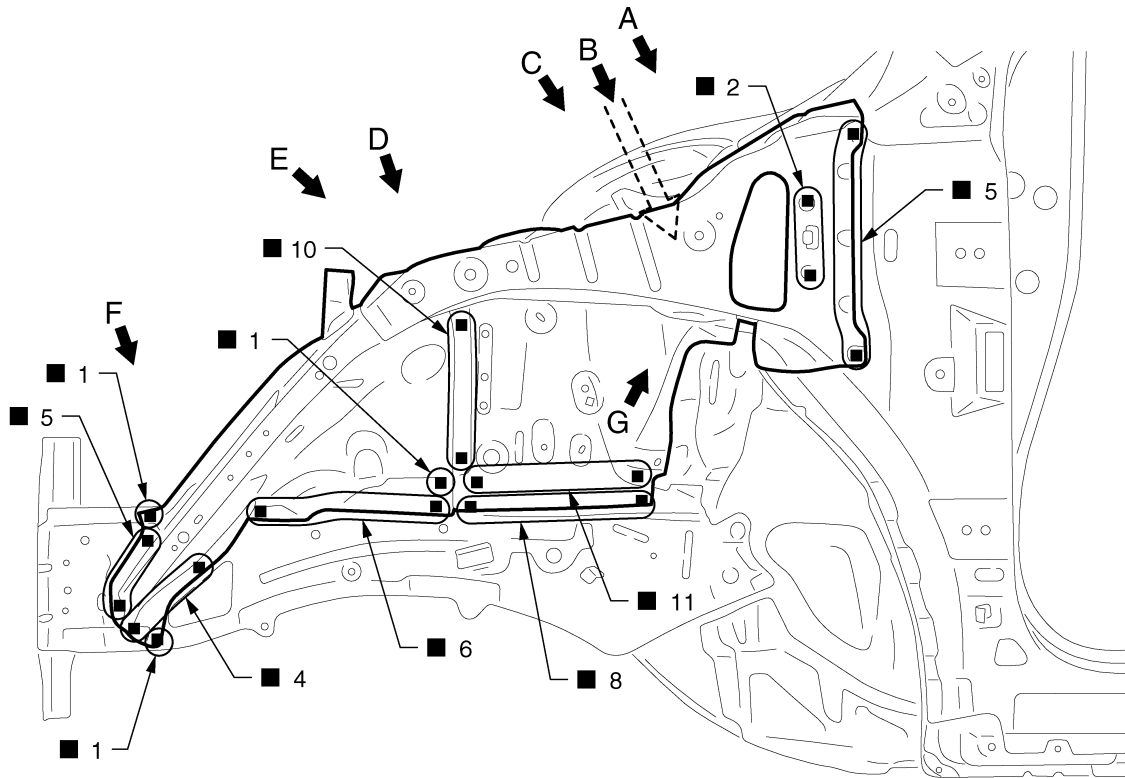
Hoodledge

INFOID:000000005513911

Work after radiator core support is removed.

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0524ZZ

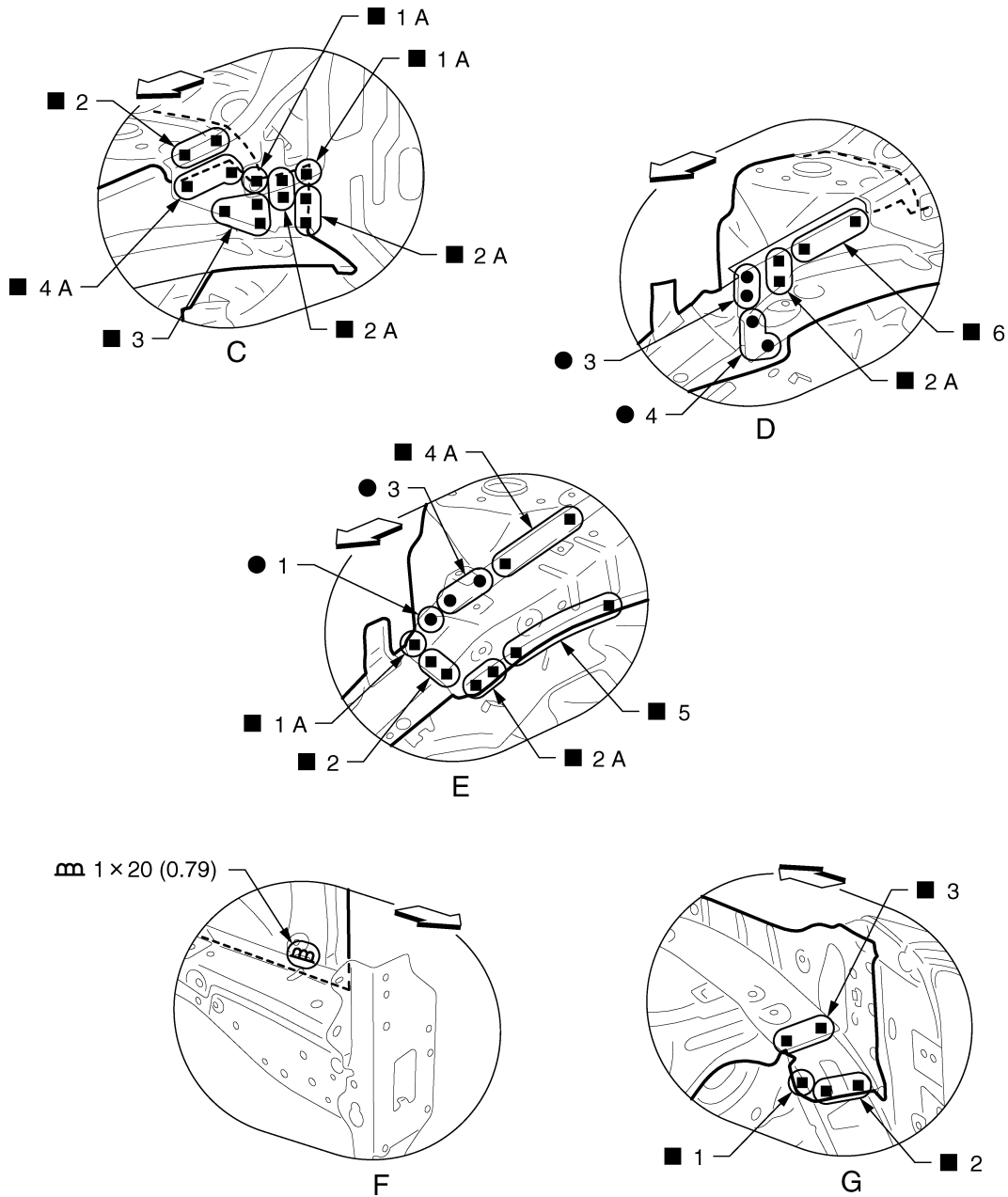
←: Vehicle front

Replacement parts

- Lower front hoodledge (LH)
- Lower rear hoodledge (LH)
- Upper hoodledge (LH)
- Hoodledge reinforcement (LH)

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0525GB

Unit: mm (in)

←: Vehicle front

View C and D: Before installing hoodledge reinforcement

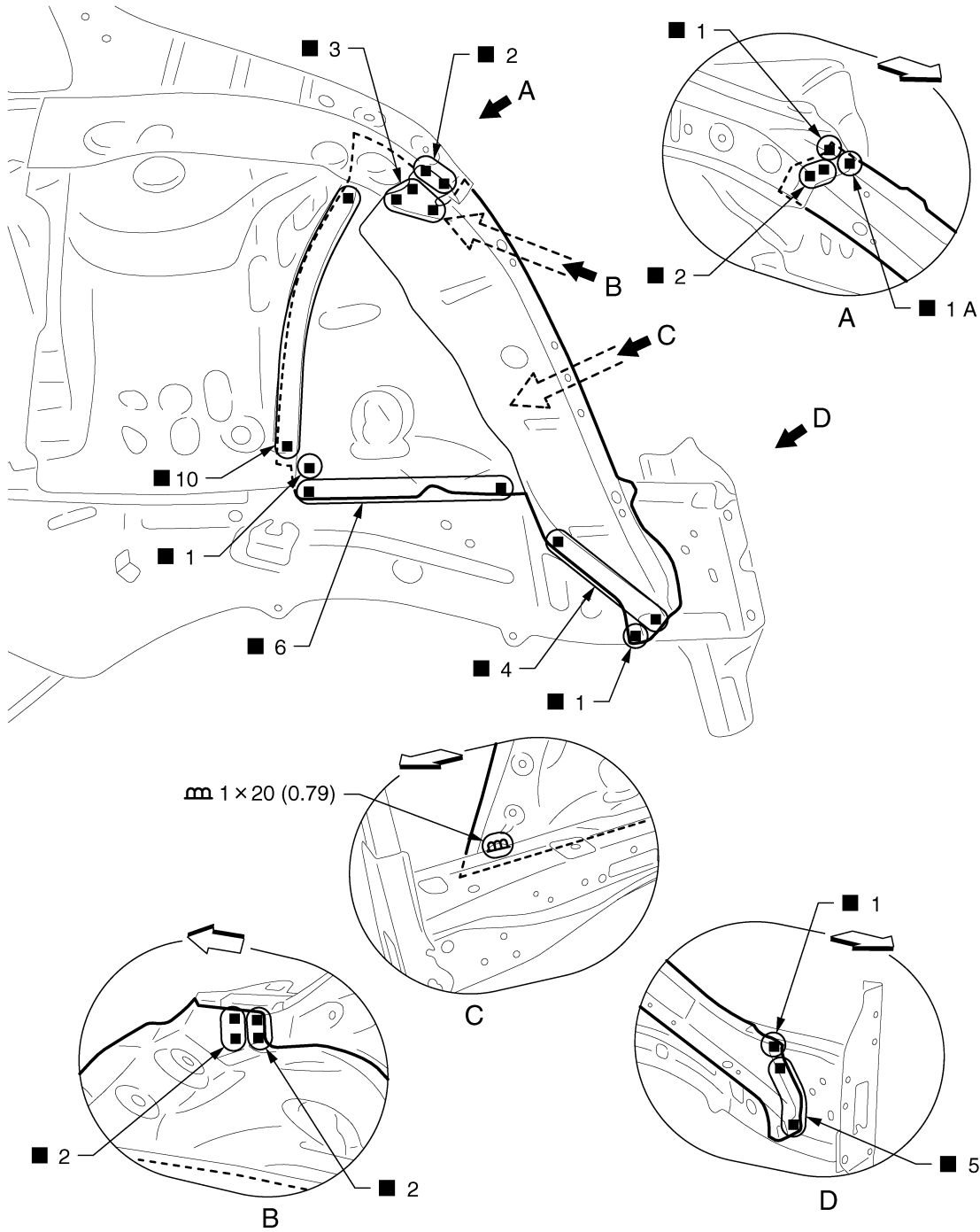
Hoodledge (Partial Replacement)

Work after radiator core support is removed.

INFOID:000000005513912

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0526GB

Unit: mm (in)

◁: vehicle front

Replacement parts

- Lower front hoodledge (RH)

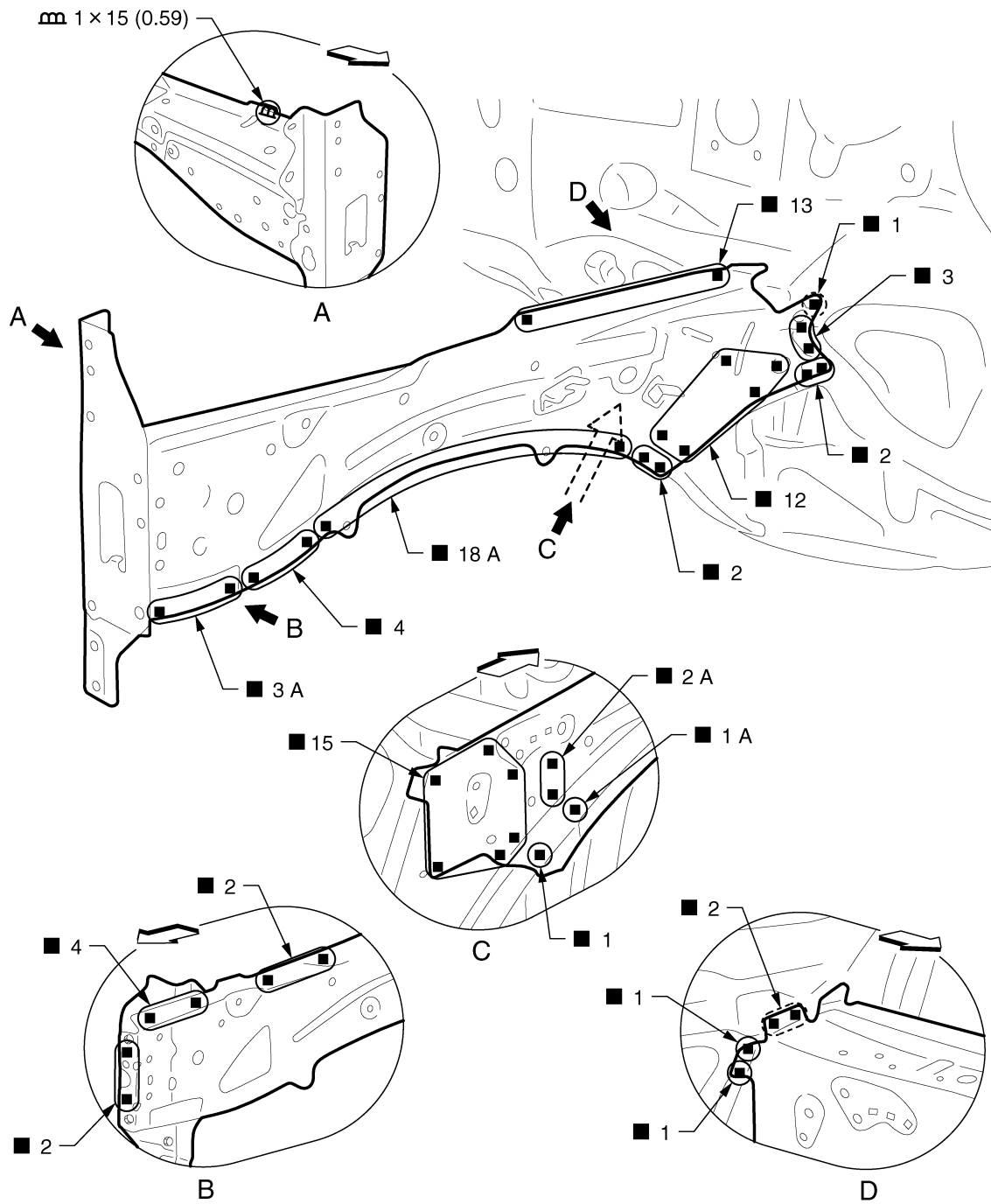
Front Side Member

INFOID:000000005513913

Work after radiator core support and hoodledge are removed.

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0527GB

Unit: mm (in)

←: Vehicle front

Replacement parts

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

Front Side Member (Partial Replacement)

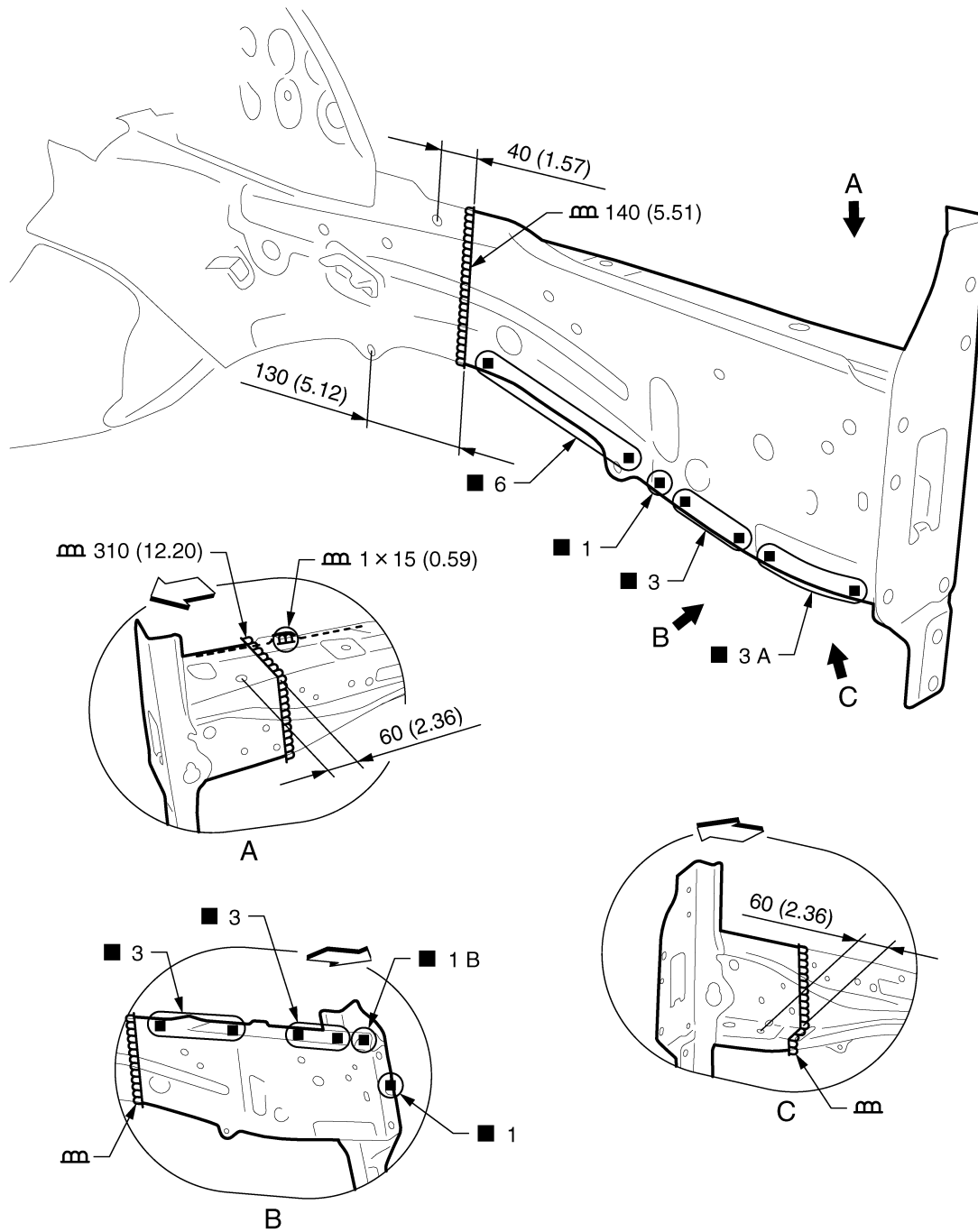
INFOID:000000005513914

Work after radiator core support and lower front hoodledge are removed.

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

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0528GB

Unit: mm (in)

↔: Vehicle front

Replacement parts

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

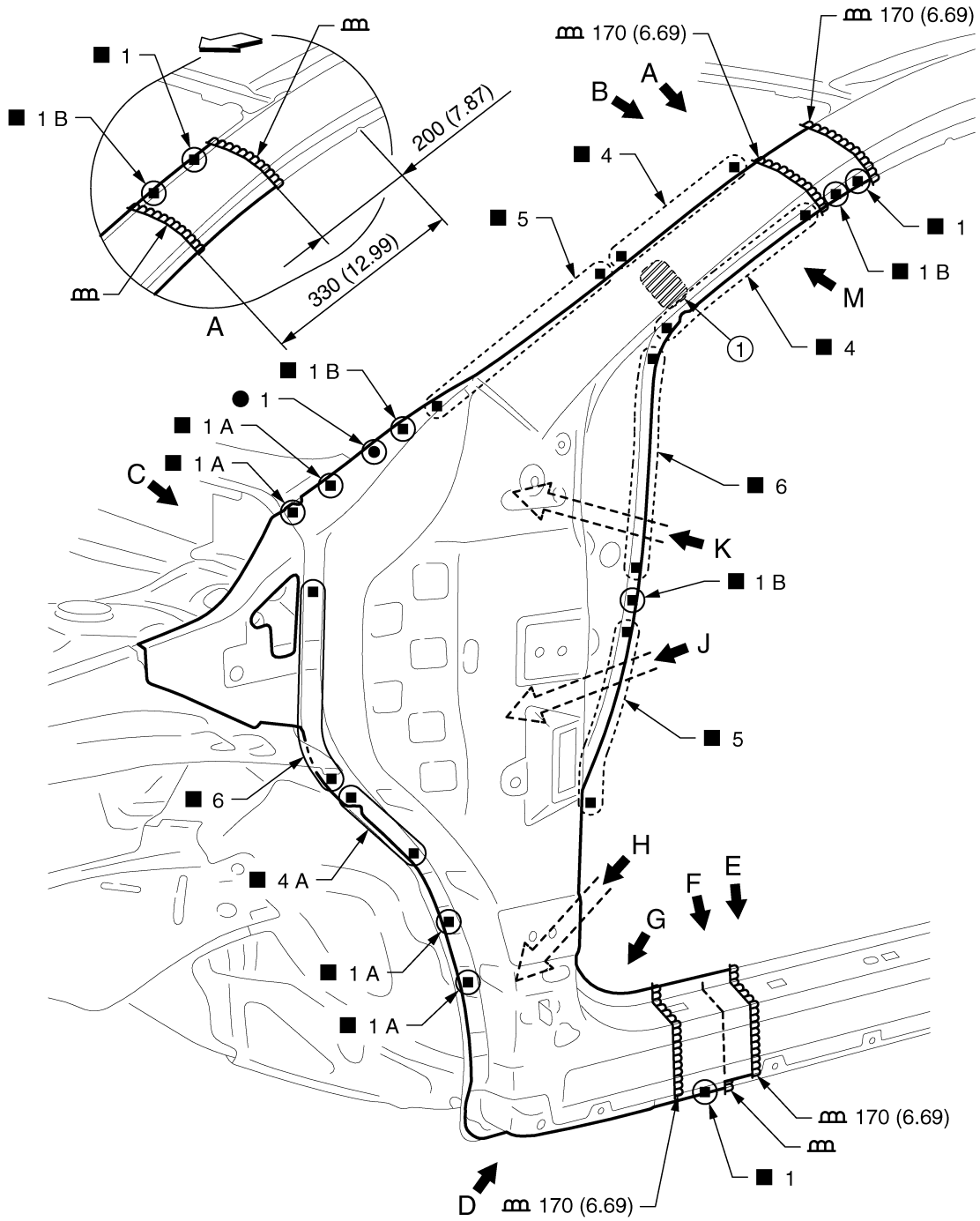
Front Pillar

INFOID:000000005513915

Work after hoodledge reinforcement is removed.

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0529GB

1. Urethane foam

Unit: mm (in)

◁: Vehicle front

Replacement parts

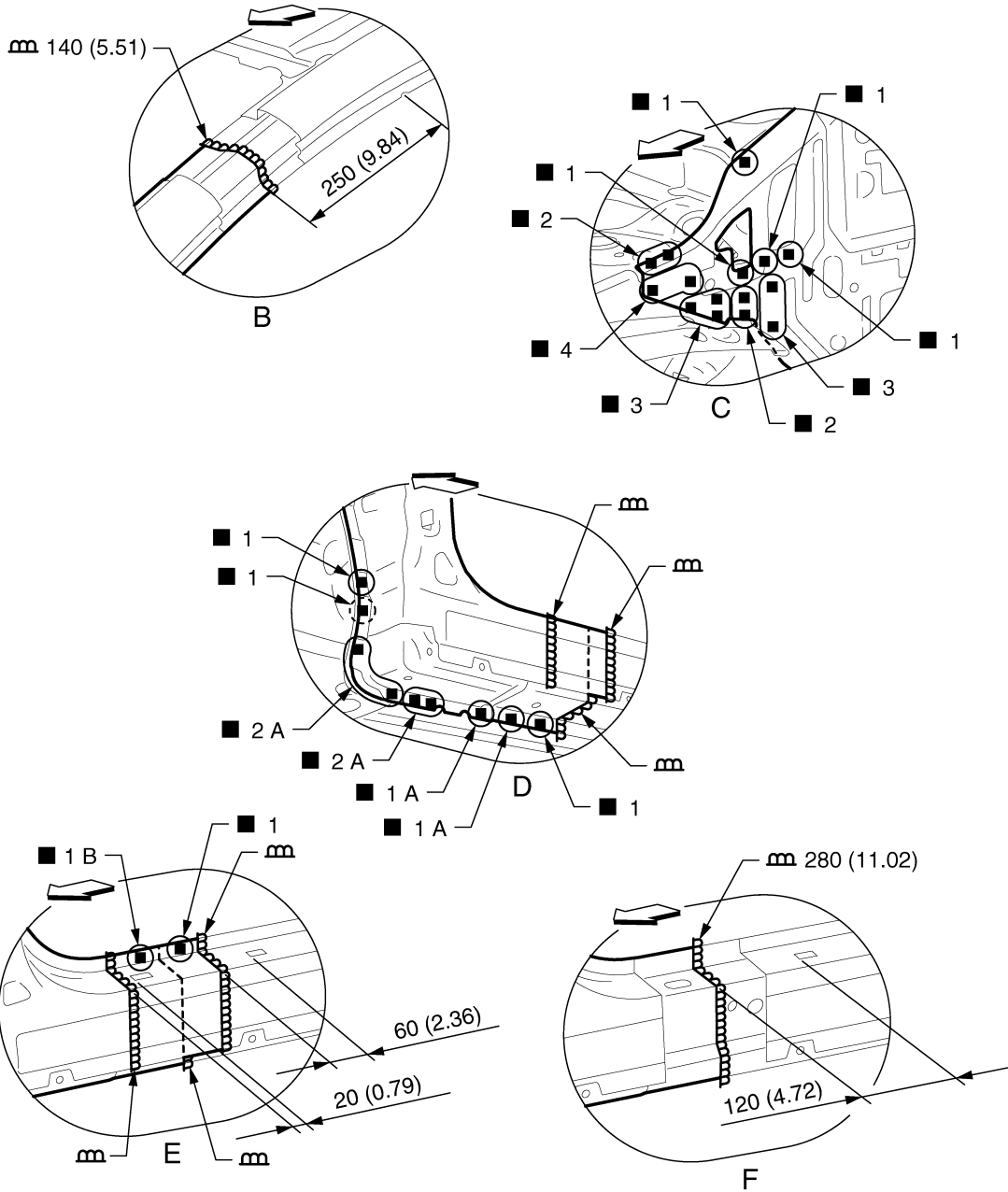
- Side body assembly (LH)
- Side dash (LH)
- Inner side roof rail (LH)

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

BRM

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0530GB

Unit: mm (in)

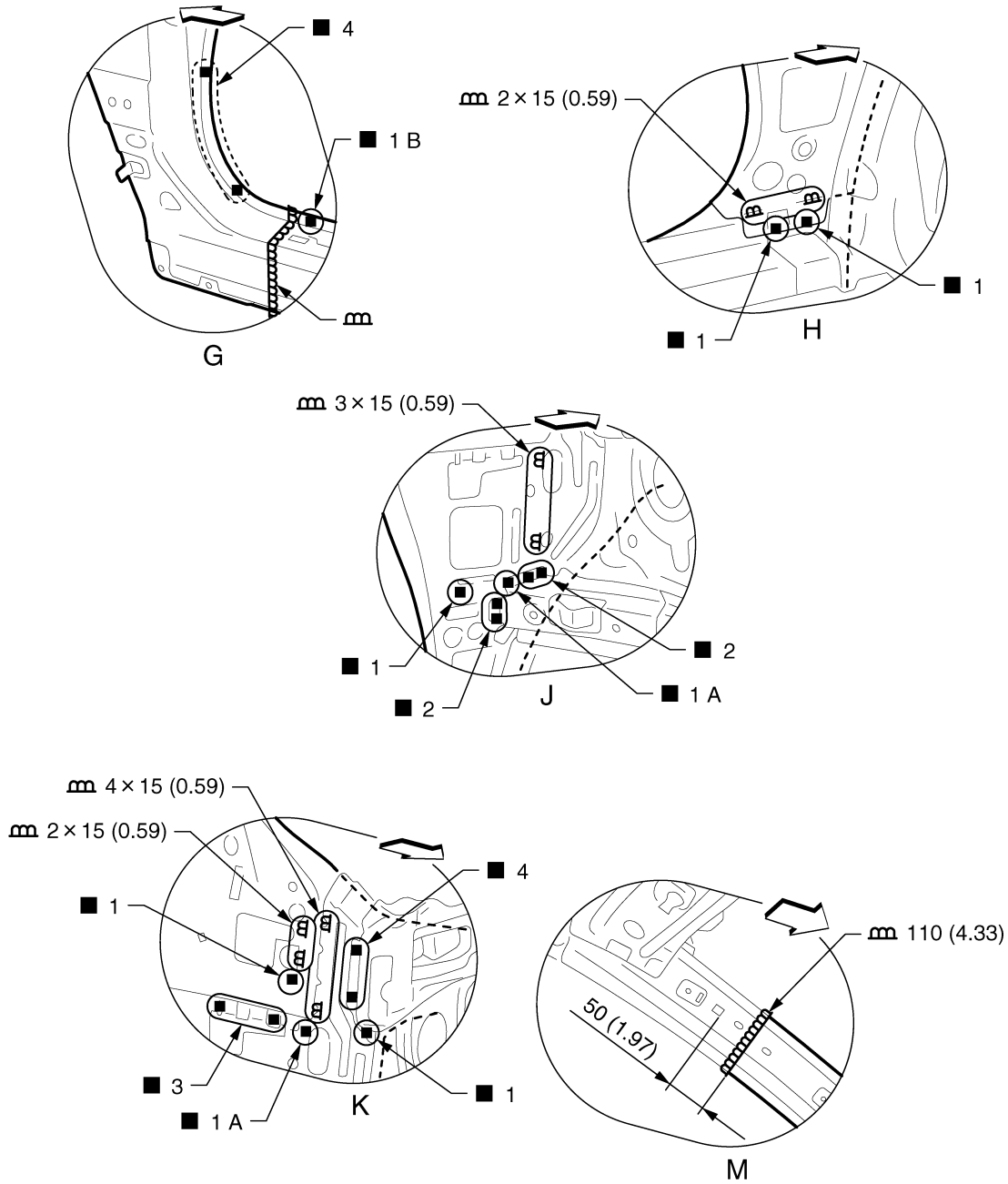
↔: Vehicle front

View B and F: Before installing outer front side body

View C: Before installing side body assembly

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



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

BRM

Unit: mm (in)

↔: Vehicle front

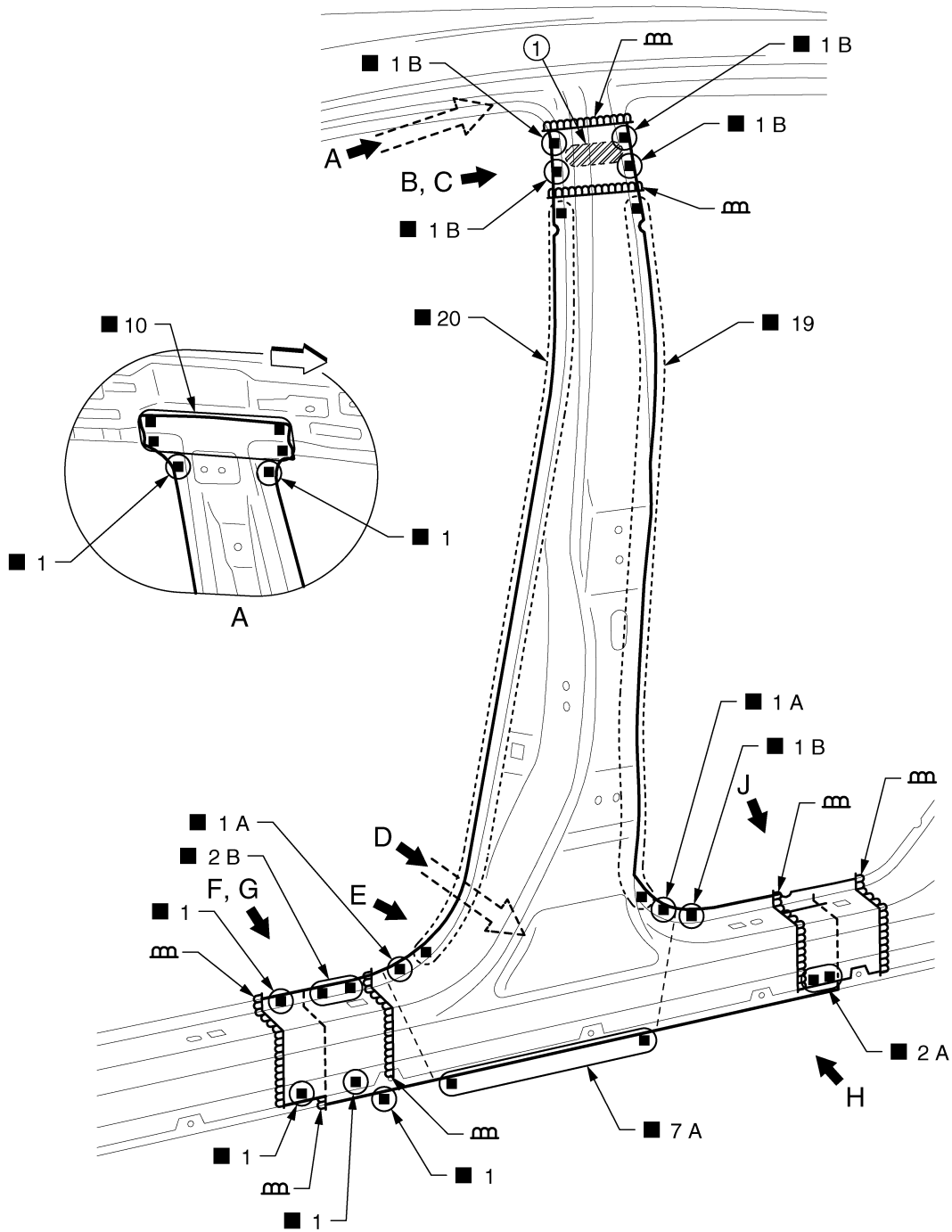
Center Pillar

INFOID:000000005513916

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

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0532ZZ

1. Urethane foam

Unit: mm (in)

◁: Vehicle front

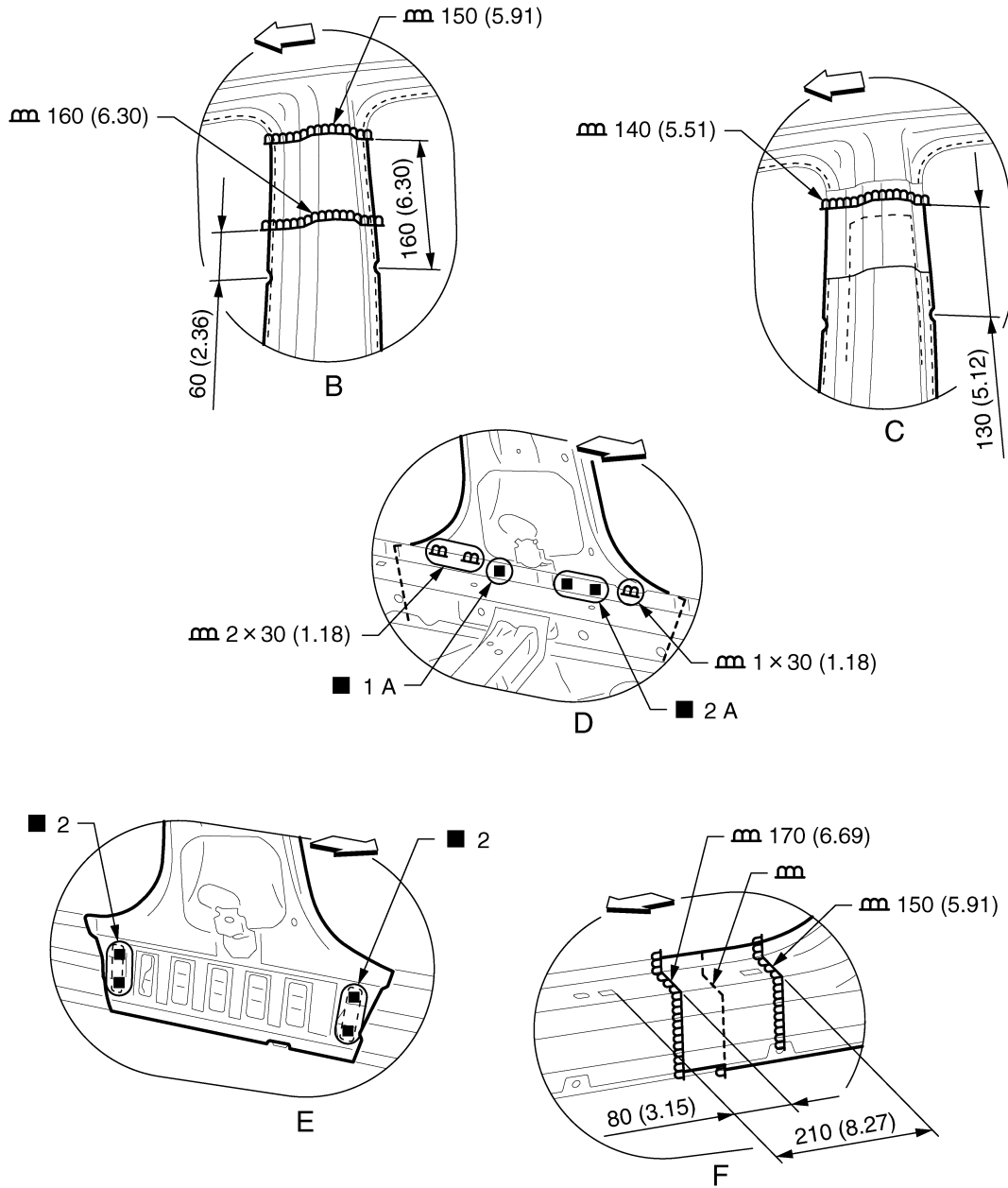
Replacement parts

● Side body assembly (LH)

● Inner center pillar (LH)

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0533GB

Unit: mm (in)

←: Vehicle front

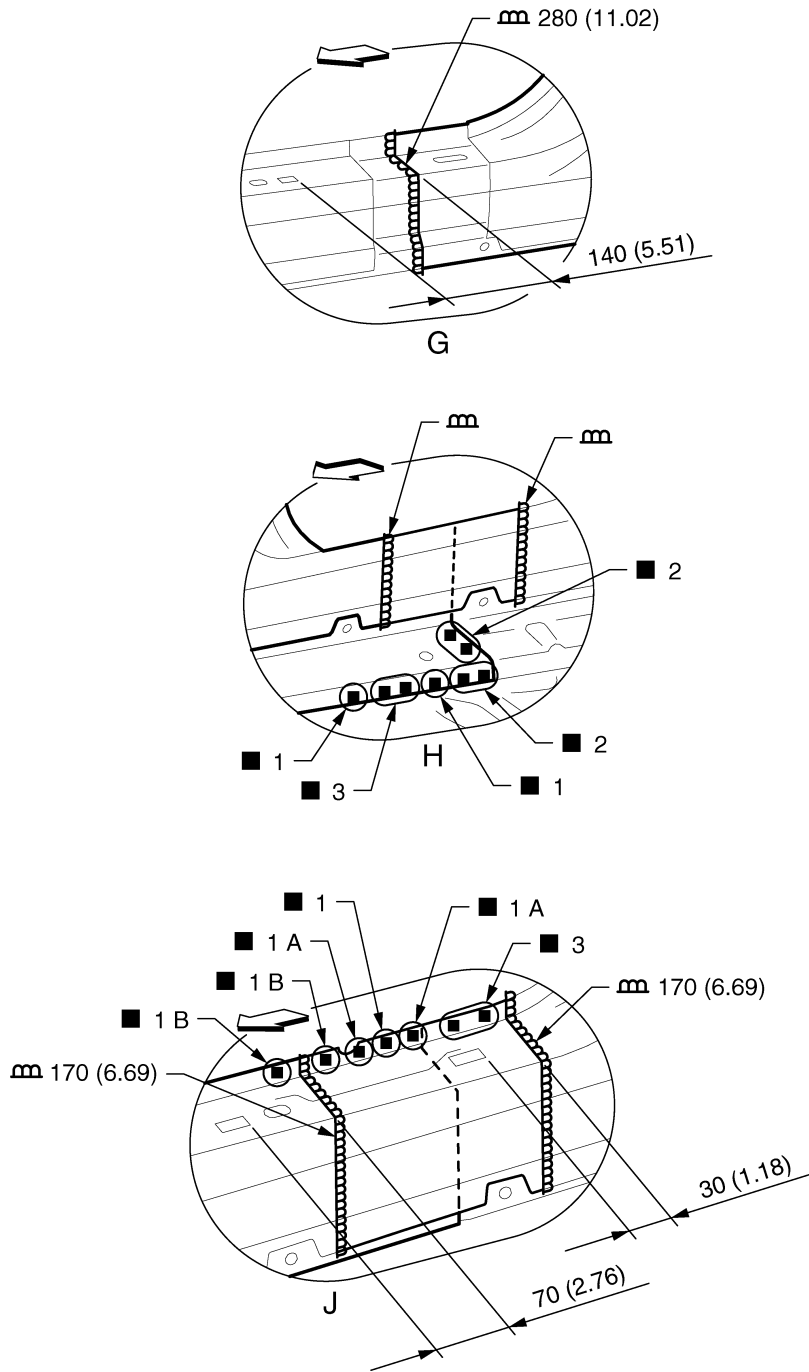
View C: Before installing outer front side body

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

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

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0534GB

Unit: mm (in)

↔: Vehicle front

View G: Before installing outer front side body

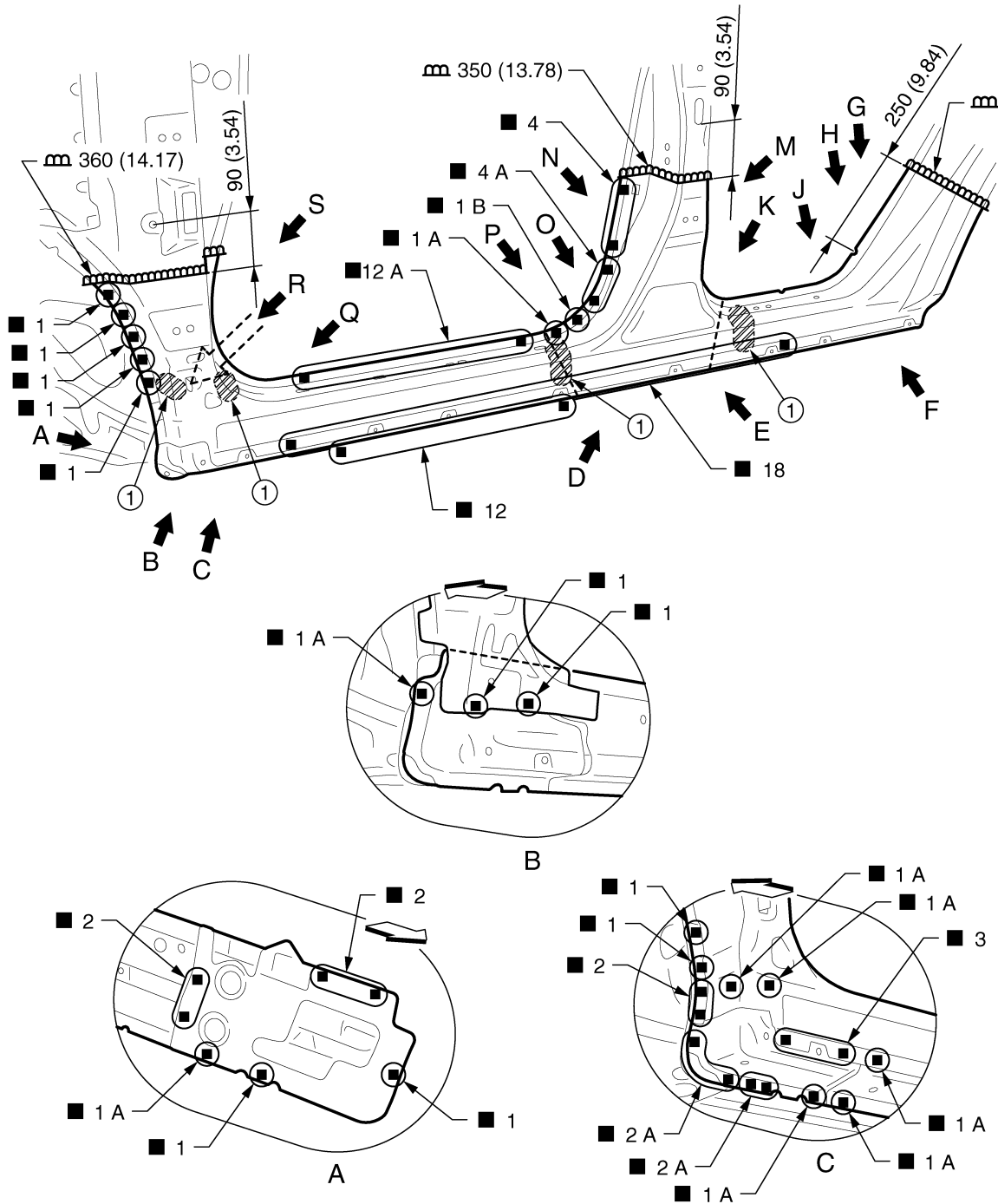
Outer Sill

INFOID:000000005513917

Install the lower front pillar reinforcement assembly to the outer sill reinforcement (replacement part) as shown in the figure for repairing the hidden welding point "View A".

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



1. Urethane foam

Unit: mm (in)

◁: Vehicle front

Replacement parts

● Outer front side body (LH)

● Outer sill reinforcement (LH)

● Lower front pillar reinforcement assembly (LH)

View A: Outer sill reinforcement and lower front pillar reinforcement assembly (replacement parts)

View B: Before installing outer sill

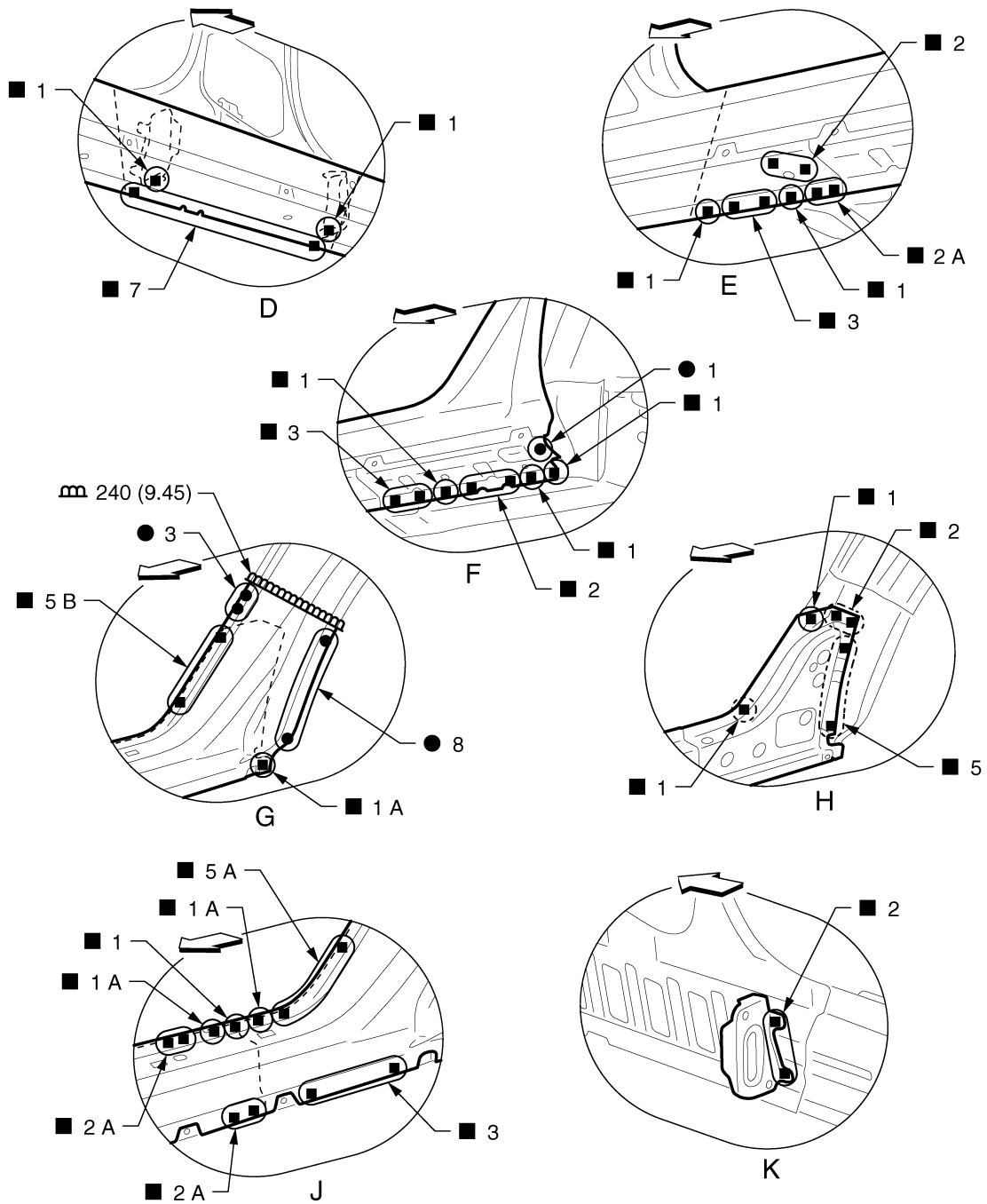
JSKIA0535GB

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

BRM

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA0536GB

Unit: mm (in)

↔: Vehicle front

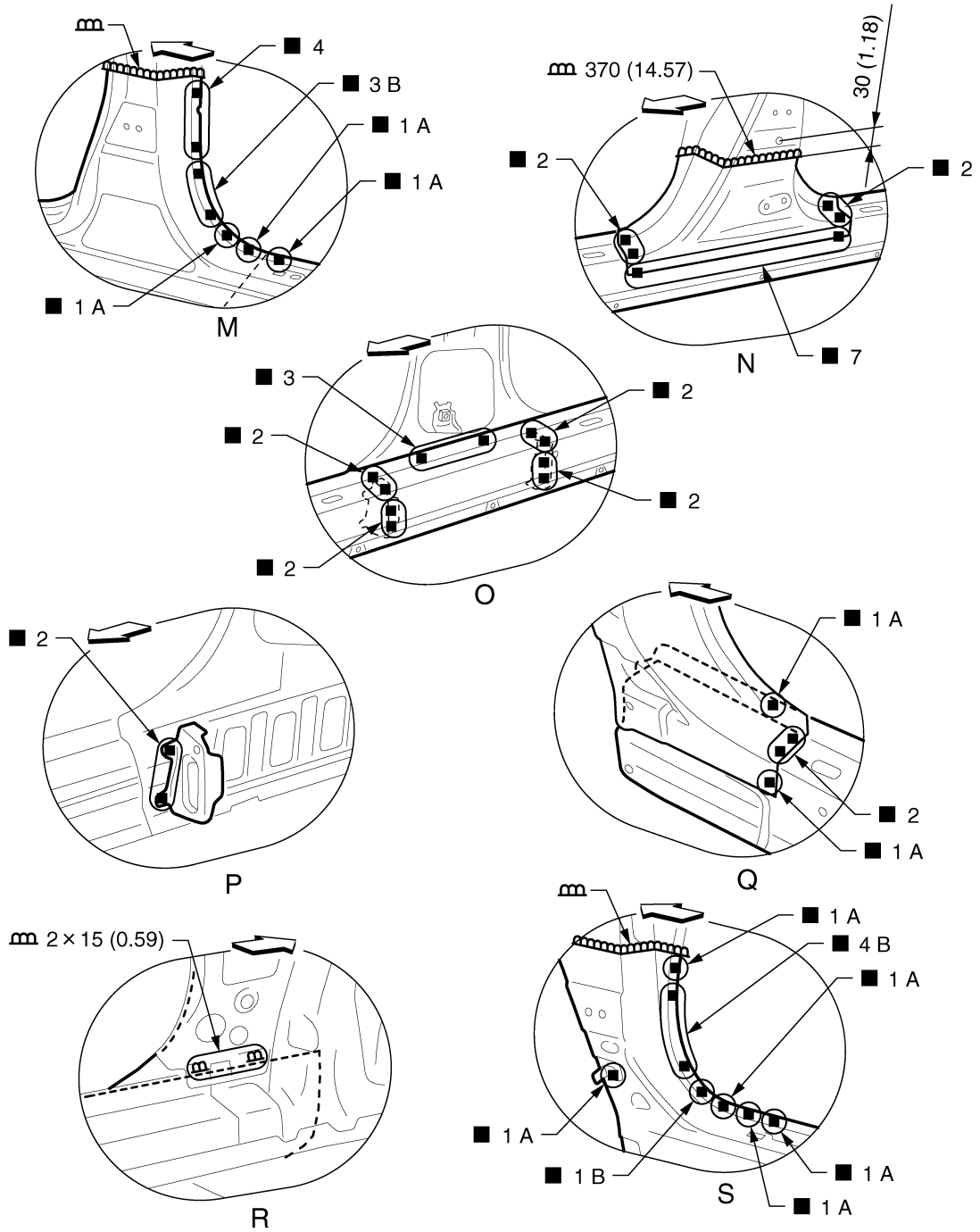
View D: Before installing outer sill and center pillar reinforcement

View H: Before installing outer sill

View K: Before installing outer sill reinforcement

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



Unit: mm (in)

↔: Vehicle front

View N and Q: Before installing outer sill
 View O: Before installing center pillar reinforcement
 View P: Before installing outer sill reinforcement

Rear Fender

INFOID:000000005513918

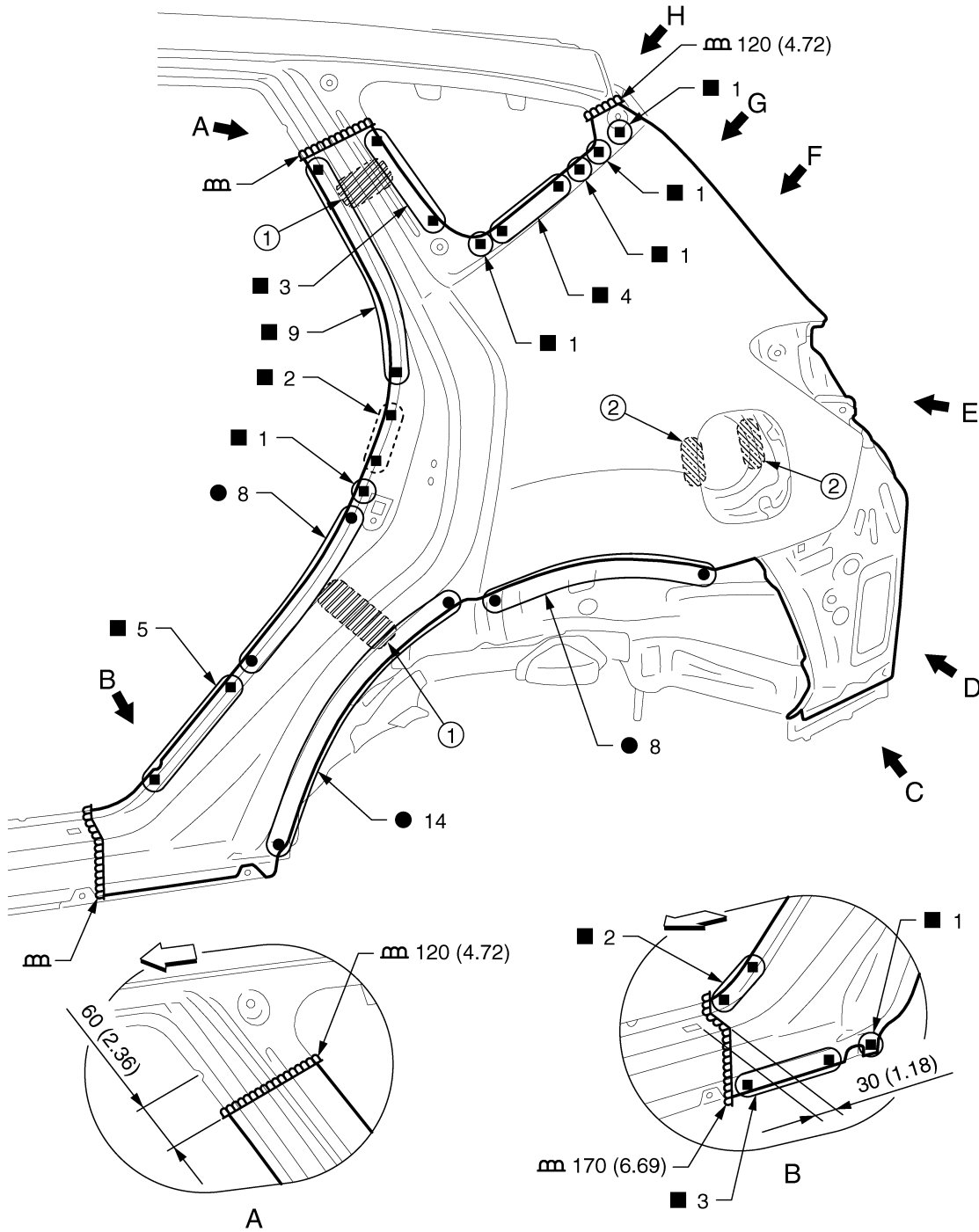
Remove the outer back pillar and rear combination lamp base from the rear fender assembly service part for easier installation.

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

BRM

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >

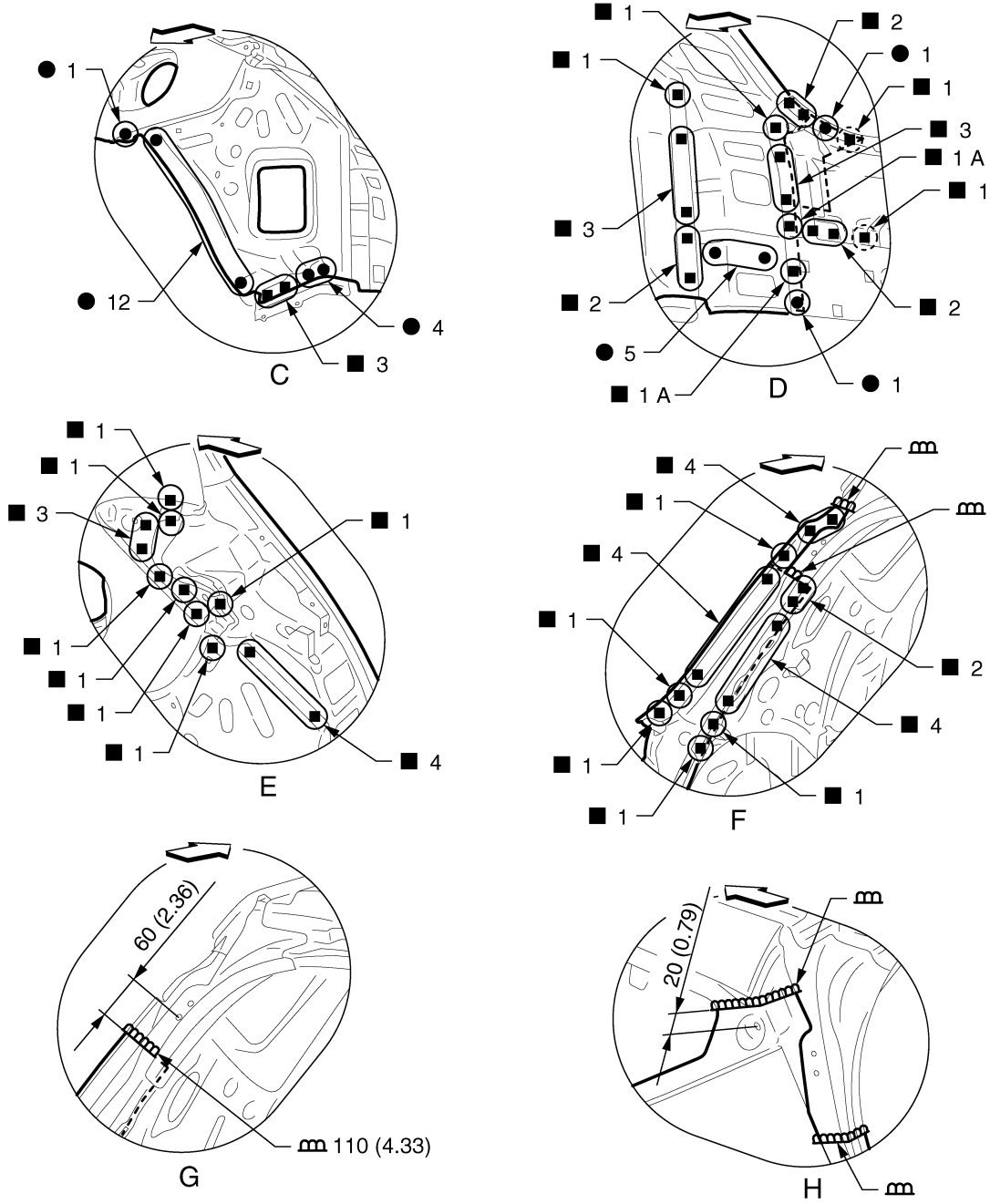


JSKIA0538GB

- 1. Urethane foam
 - 2. Adhesive
- Unit: mm (in)
- ◁: Vehicle front
- Replacement parts
- Rear fender assembly (LH)

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



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

Unit: mm (in)
 ⇐ Vehicle front

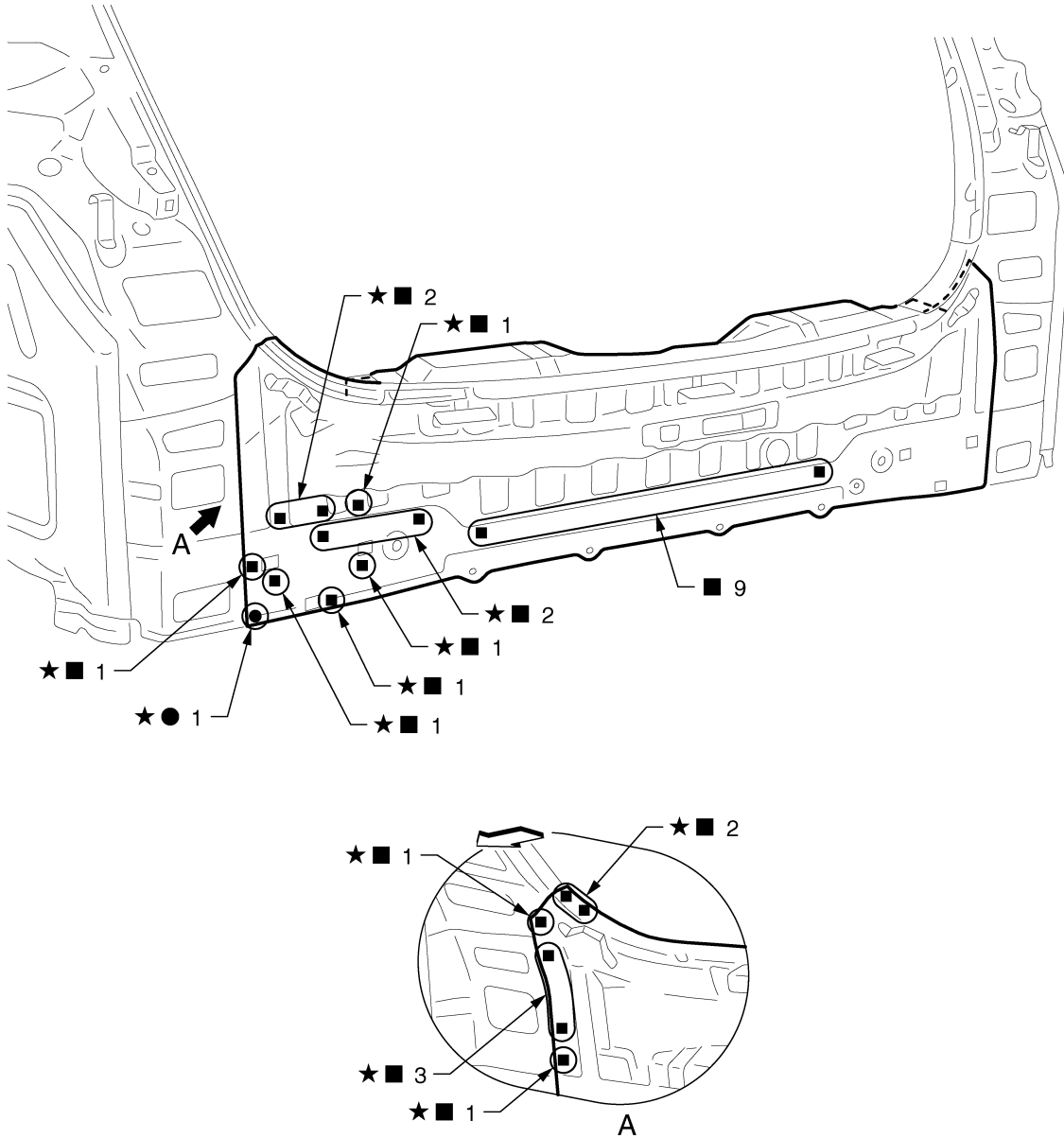
JSKIA0539GB

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >

Rear Panel

INFOID:000000005513919



JSKIA0540ZZ

↶: Vehicle front

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

Replacement parts

● Rear panel assembly

Rear Floor Rear

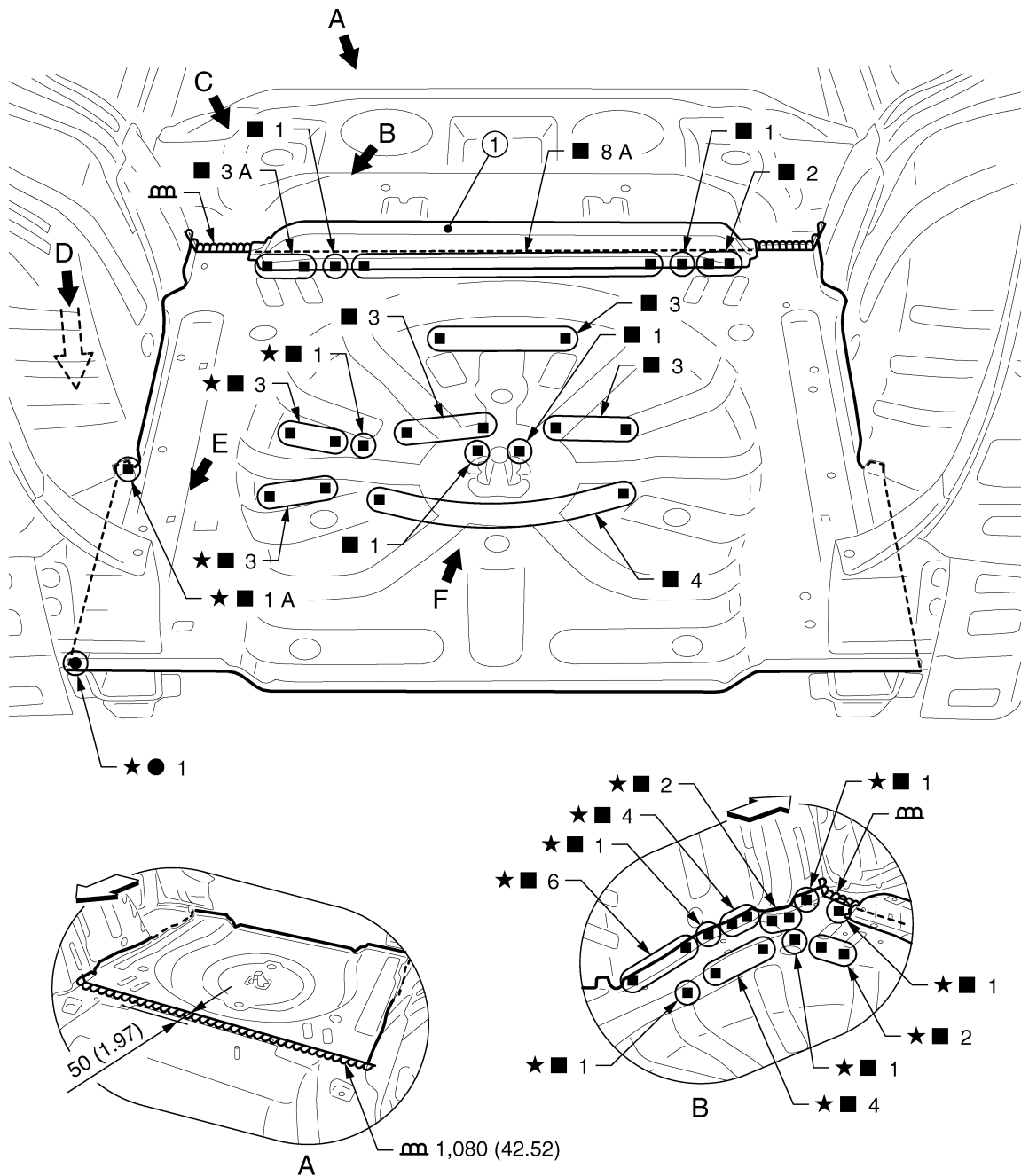
INFOID:000000005513920

Work after rear panel is removed.
Remove the rear seat back support (reusable).

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >

Install the spare wheel clamp reinforcement (replacement part) to the rear floor rear (replacement part) to install it to the vehicle.



1. Rear seat back support

Unit: mm (in)

⇐: Vehicle front

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

Replacement parts

● Rear floor rear

● Spare tire clamp bracket

● Spare wheel clamp reinforcement

View A: Before installing rear seat back support

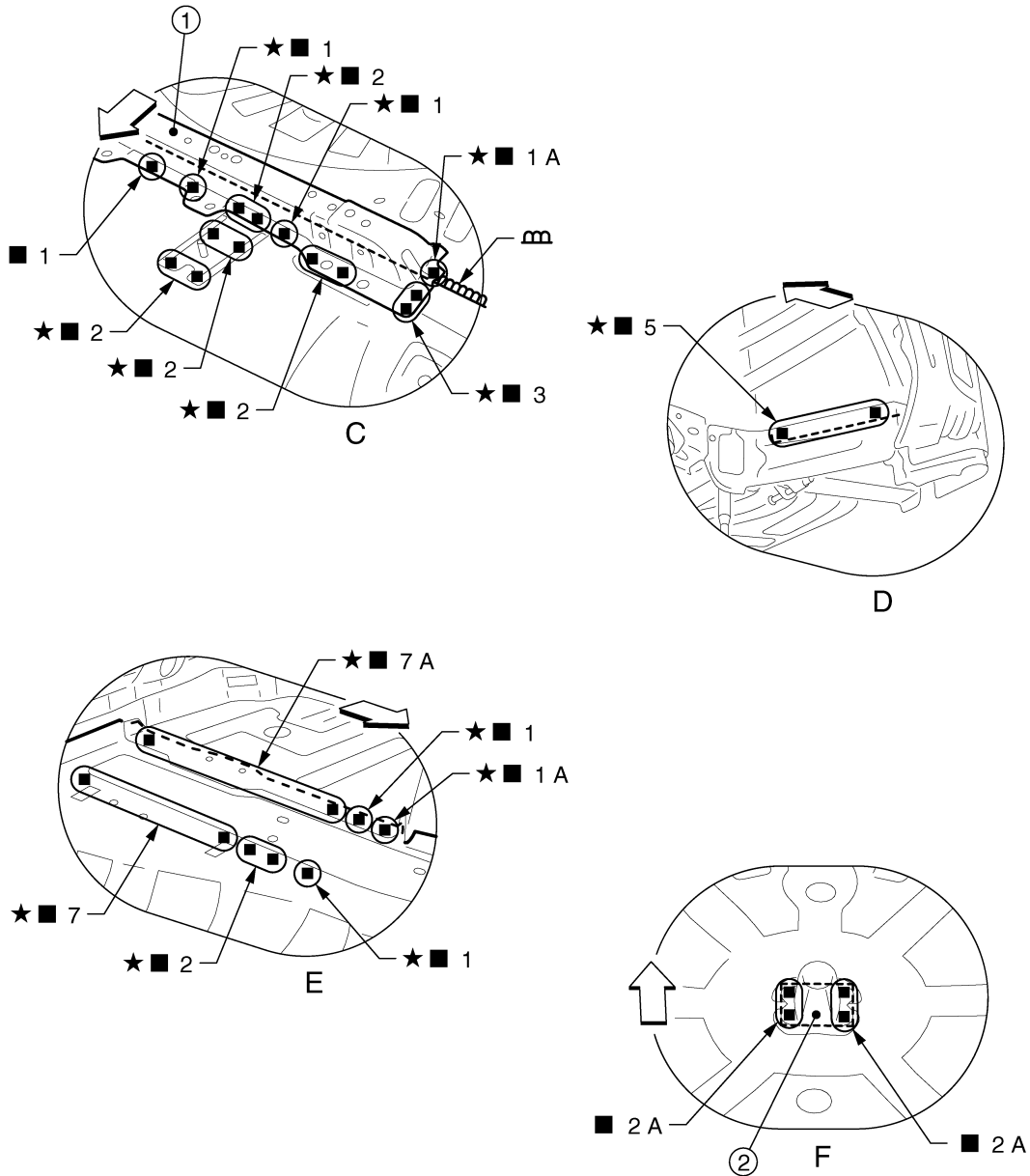
JSKIA1095GB

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

BRM

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



JSKIA1096ZZ

1. Rear seat back support 2. Spare wheel clamp reinforcement

◁: Vehicle front

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

View F: Rear floor rear (replacement part), spare tire clamp bracket (replacement part), and spare wheel clamp reinforcement (replacement part)

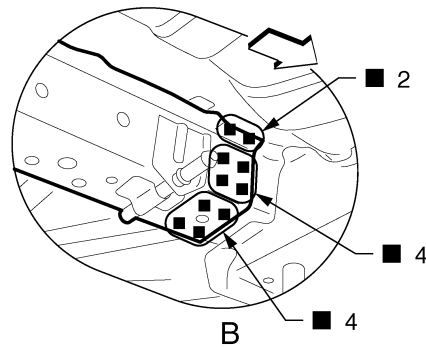
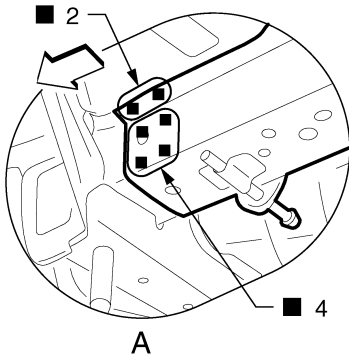
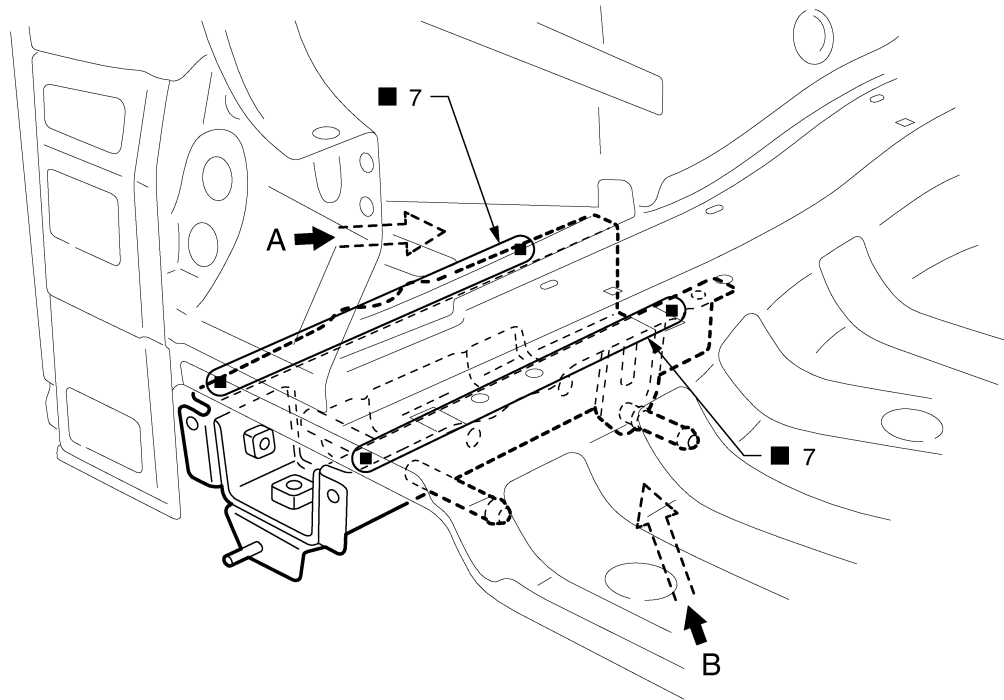
Rear Side Member Extension

INFOID:000000005513921

Work after rear panel is removed.

REPLACEMENT OPERATIONS

< UNIT REMOVAL AND INSTALLATION >



←: Vehicle front

Replacement parts

- Rear side member extension (LH)

JSKIA0543ZZ

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

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

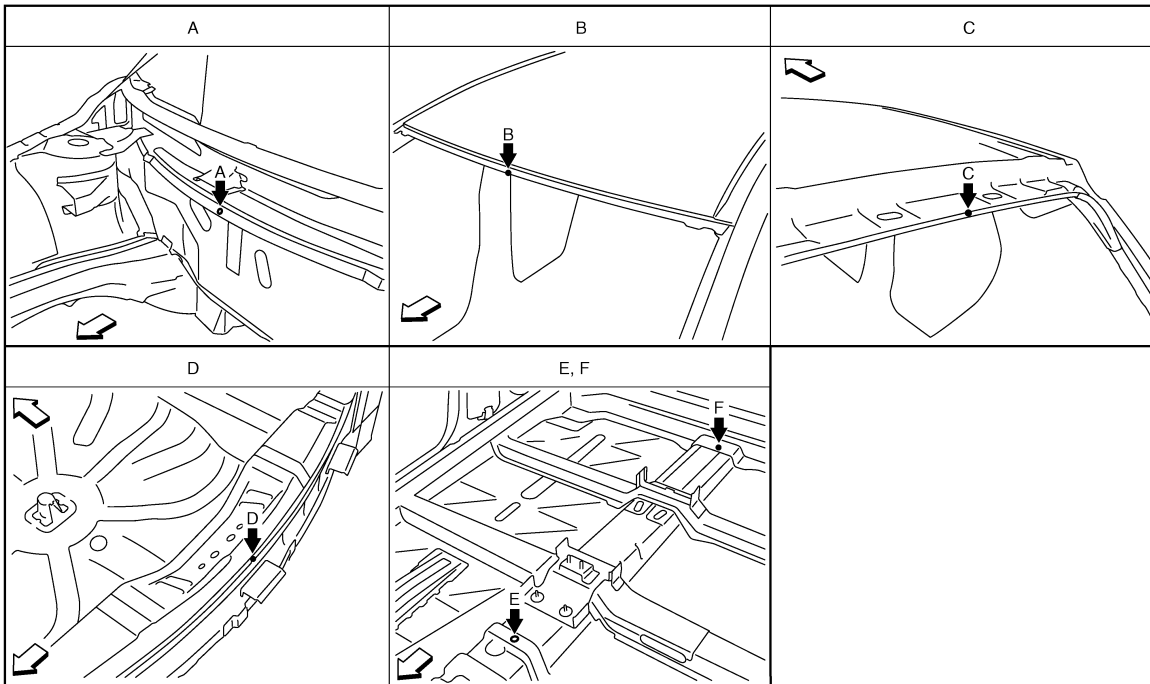
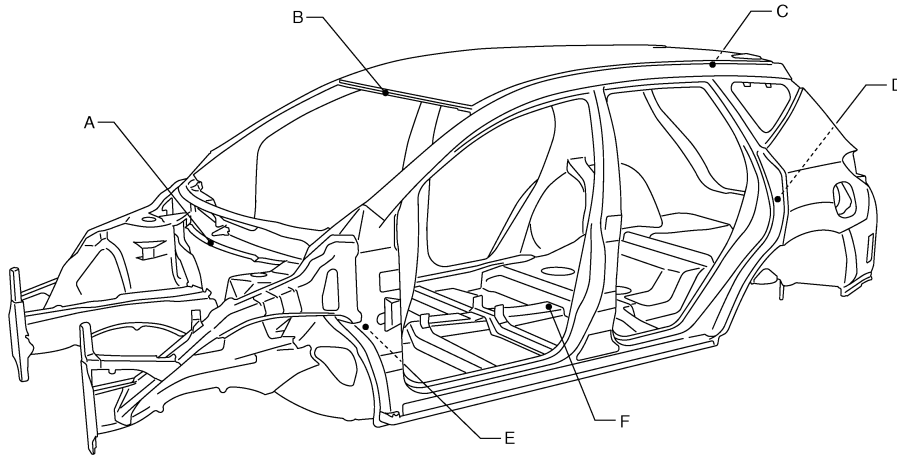
SERVICE DATA AND SPECIFICATIONS (SDS)

BODY ALIGNMENT

Body Center Marks

INFOID:000000005513922

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.



JSKIA0558ZZ

↶: Vehicle front

Unit: mm (in)

Points	Portion	Marks
A	Upper dash	Hole $\phi 7$ (0.28)
B	Front roof	Embossment
C	Rear roof	Indent
D	Upper rear panel	Indent

BODY ALIGNMENT

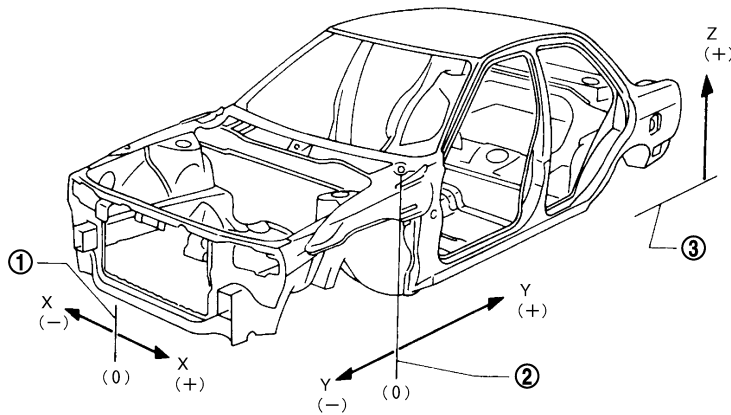
< SERVICE DATA AND SPECIFICATIONS (SDS)

Points	Portion	Marks
E	Front floor reinforcement	Hole $\phi 9$ (0.35)
F	Front floor	Embossment

Description

INFOID:000000005513923

- 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 that 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:000000005513924

Measurement

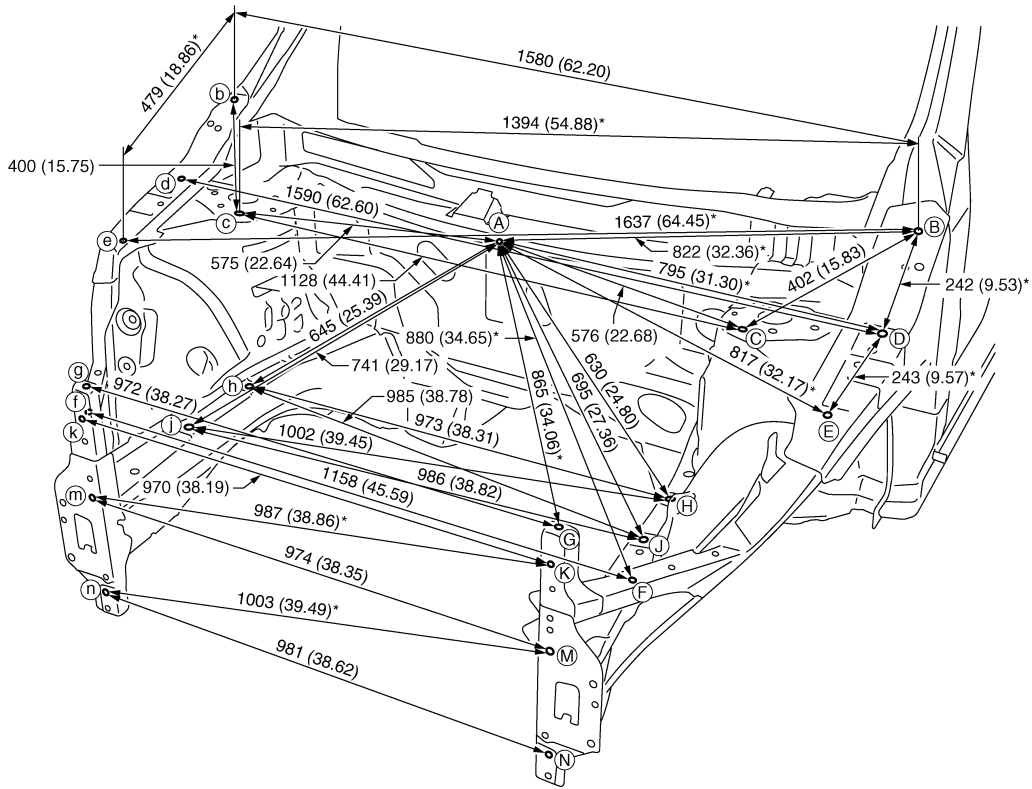
Dimensions marked with "*" indicate symmetrically identical dimensions on both the right and left hand of the vehicle.

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

BRM

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS) >



JSKIA0544GB

Unit: mm (in)

«The others»

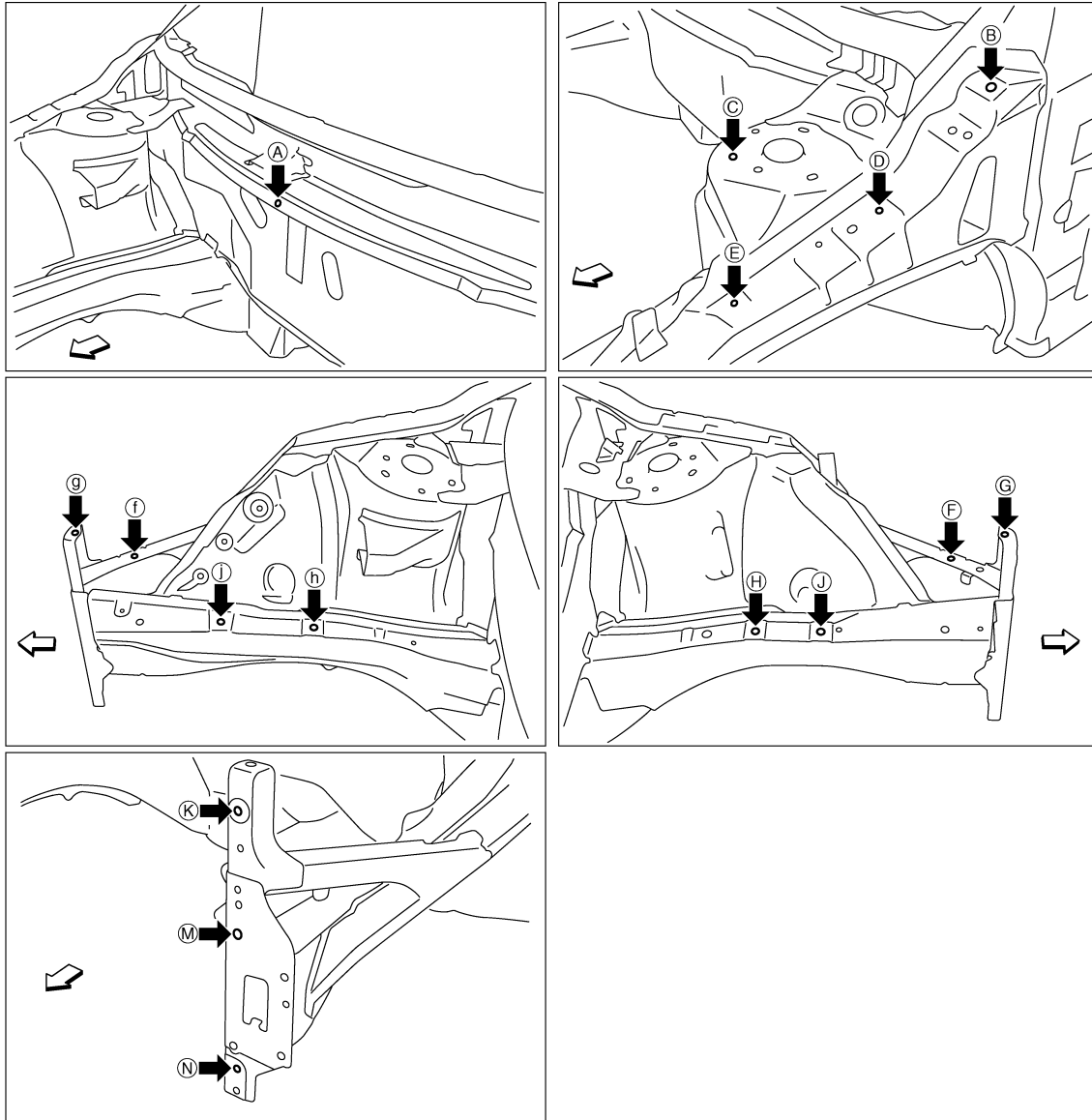
Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
B - c	1394 (54.88)*		E - e	1550 (61.02)							

Measurement Points

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



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

BRM

JSKIA0545ZZ

← Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Cowl top extension installing hole center of center positioning mark $\phi 7$ (0.28)	F, f	Upper radiator core support hole center $\phi 12$ (0.47)
B, b	Hood hinge installing hole center $\phi 13$ (0.51)	G, g, K, k, N, n	Front end module installing hole center $\phi 9$ (0.35)
C, c	Front strut installing hole center 16×10 (0.63×0.39)	H, h, J, j	Front side member hole center $\phi 14$ (0.55)
D, d, E, e	Upper front fender bracket installing hole center $\phi 7$ (0.28)	M, m	Bumper stay installing hole center $\phi 12$ (0.47)

Underbody

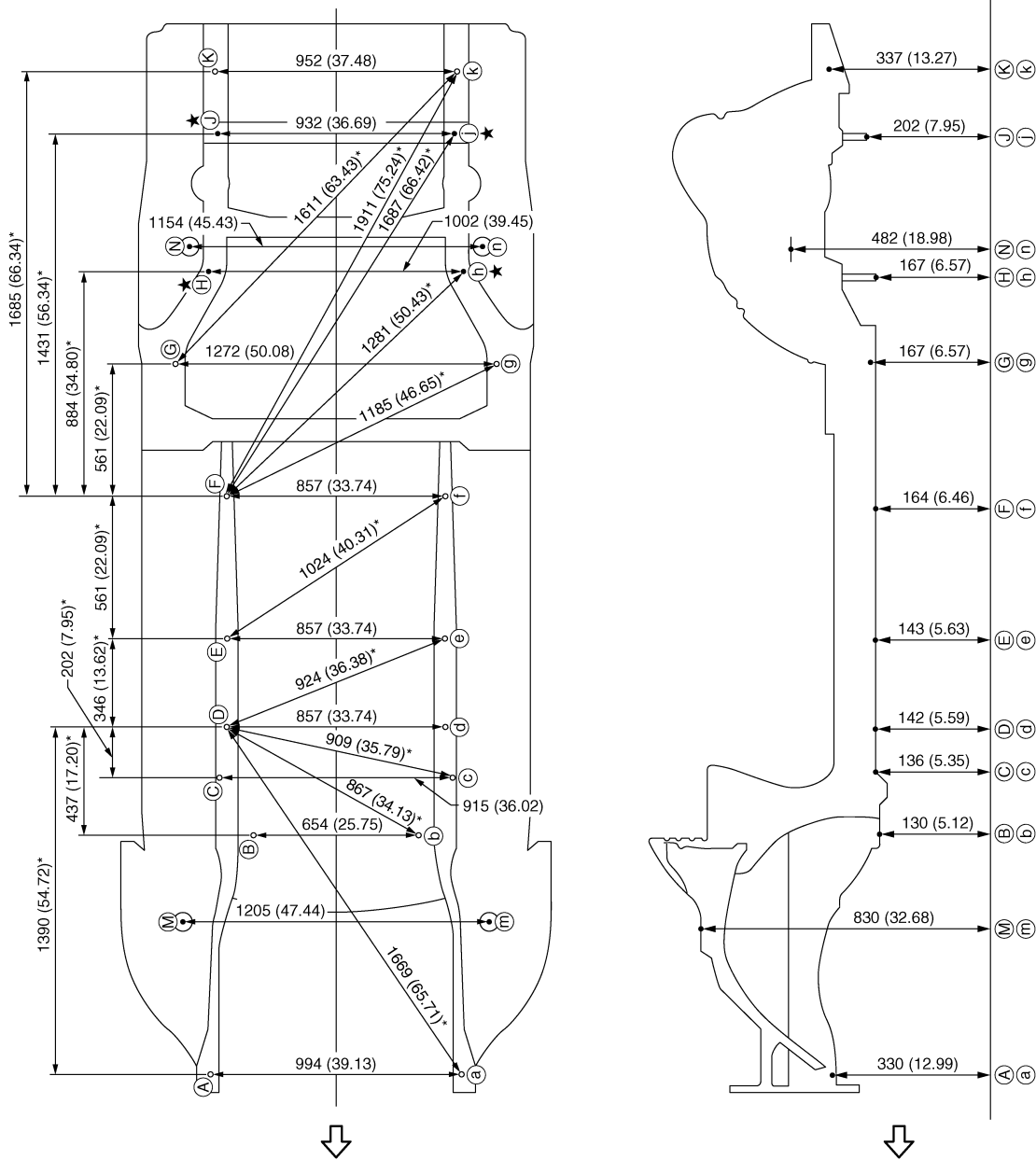
INFOID:000000005513925

Measurement

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

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0790GB

Unit: mm (in)

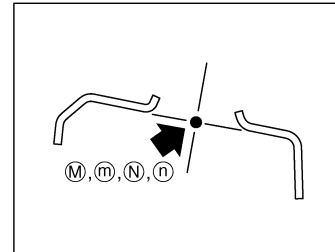
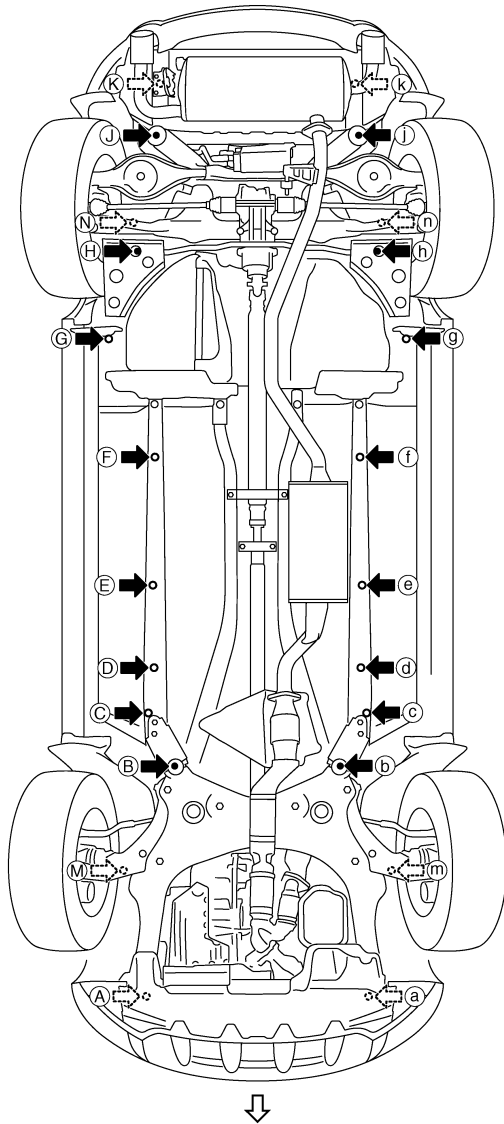
↳: Vehicle front

★: Bolt head

Measurement Points

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0547GB

← Vehicle front

Unit: mm (in)

Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
A, a	±497.0 (±19.567)	-555.5 (-21.870)	330.0 (12.992)	Hole ϕ 17 (0.67)	H, h	±501.0 (±19.724)	2608.0 (102.677)	166.8 (6.567)	Bolt head
B, b	±327.0 (±12.874)	395.0 (15.551)	130.0 (5.118)	B: Hole ϕ 28.5 (1.122) b: Hole 33.1×28.5 (1.303×1.122)	J, j	±466.0 (±18.346)	3157.0 (124.291)	202.0 (7.953)	Bolt head
C, c	±457.7 (±18.020)	620.0 (24.409)	136.0 (5.354)	Hole ϕ 10 (0.39)	K, k	±476.0 (±18.740)	3402.0 (133.937)	336.8 (13.260)	Hole ϕ 16 (0.63)
D, d	±428.5 (±16.870)	820.0 (32.283)	141.8 (5.583)	Hole ϕ 16 (0.63)	M	602.7 (23.728)	52.0 (2.047)	830.3 (32.689)	Hole ϕ 59 (2.32)
E, e	±428.5 (±16.870)	1166.0 (45.905)	143.4 (5.646)	Hole 20×16 (0.79×0.63)	m	-602.7 (-23.728)	54.4 (2.142)	830.1 (32.681)	Hole ϕ 59 (2.32)

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

BRM

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

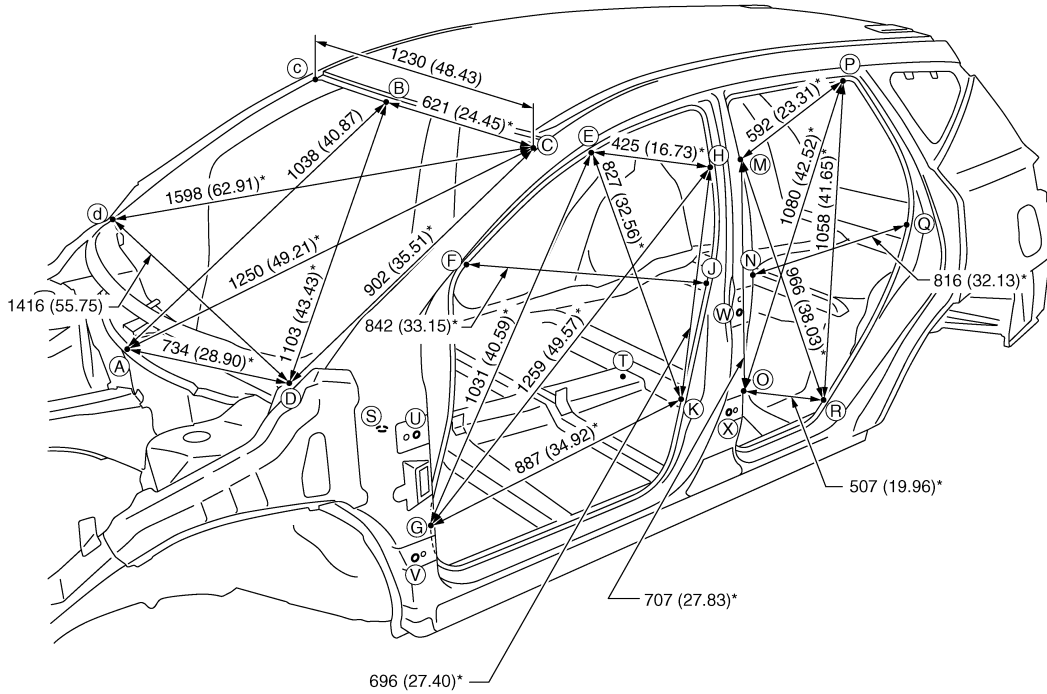
Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
F, f	±428.5 (±16.870)	1727.0 (67.992)	163.6 (6.441)	Hole φ12 (0.47)	N, n	±577.0 (±22.716)	2711.6 (106.756)	482.1 (18.980)	Hole φ64 (2.52)
G, g	±636.0 (±25.039)	2248.2 (88.512)	167.0 (6.575)	Hole φ20 (0.79)					

Passenger Compartment

INFOID:000000005513926

Measurement

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



JSKIA0791GB

Unit: mm (in)

«The others»

Unit: mm (in)

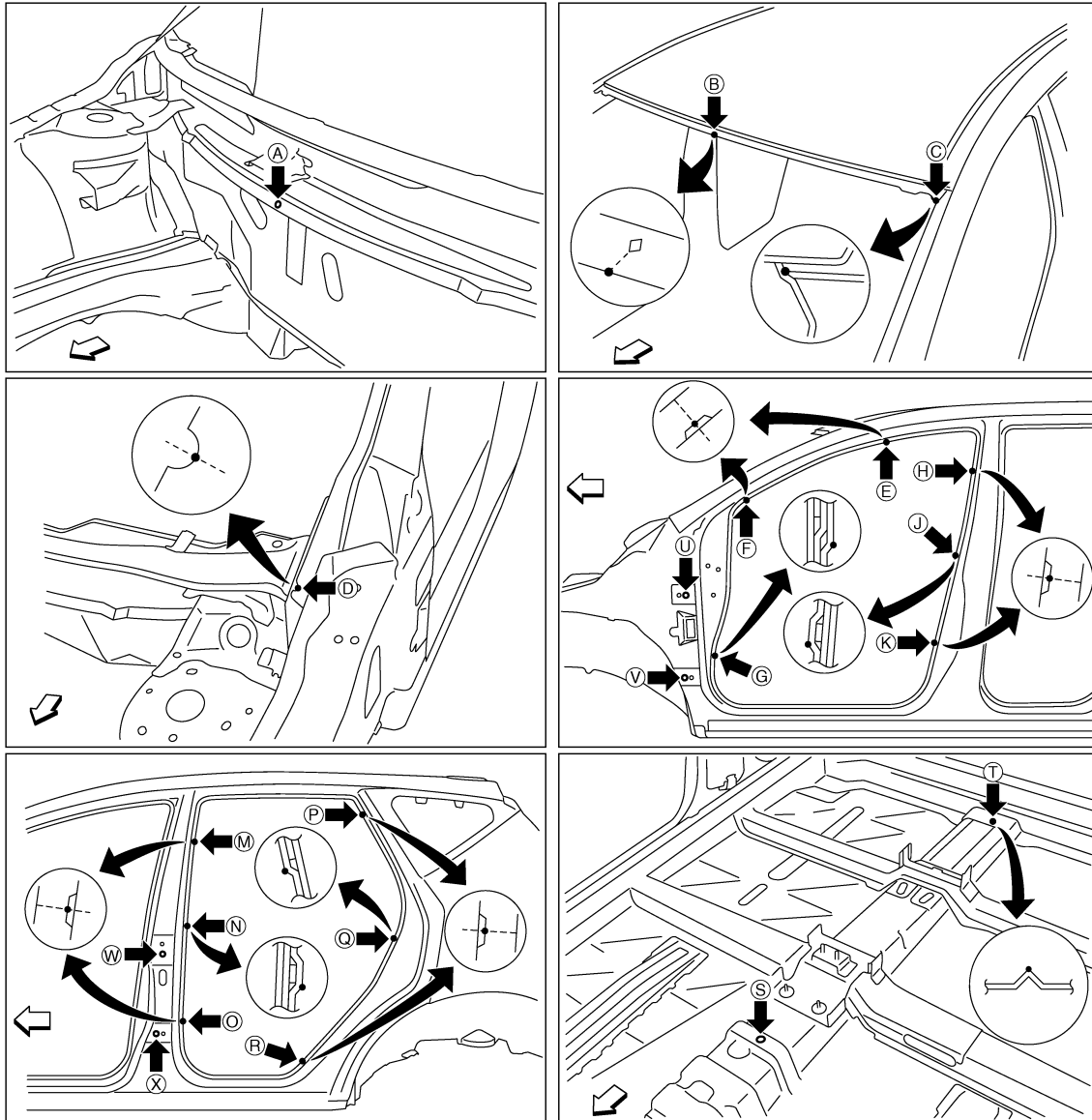
Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
E - e	1292 (50.87)		J - j	1539 (60.59)		P - p	1211 (47.68)		T - N	1047 (41.22)*	
E - g	1741 (68.54)*		K - k	1540 (60.63)		P - r	1726 (67.95)*		T - O	865 (34.06)*	
E - h	1412 (55.59)*		M - m	1403 (55.24)		Q - q	1519 (59.80)		T - P	1365 (53.74)*	
E - k	1635 (64.37)*		M - o	1631 (64.21)*		R - r	1537 (60.51)		T - Q	1183 (46.57)*	
F - f	1456 (57.32)		M - p	1431 (56.34)*		S - E	1265 (49.80)*		T - R	811 (31.93)*	
F - j	1718 (67.64)*		M - r	1758 (69.21)*		S - F	1096 (43.15)*		U - W	1128 (44.41)*	
G - g	1522 (59.92)		N - n	1536 (60.47)		S - G	817 (32.17)*		U - X	1118 (44.02)*	
G - h	1929 (75.94)*		N - q	1732 (68.19)*		S - H	1409 (55.47)*		V - W	1211 (47.68)*	

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
G - k	1770 (69.68)*		O - o	1540 (60.63)		S - J	1220 (48.03)*		V - X	1111 (43.74)*	
H - h	1403 (55.24)		O - p	1741 (68.54)*		S - K	1044 (41.10)*				
H - k	1626 (64.02)*		O - r	1620 (63.78)*		T - M	1237 (48.70)*				

Measurement Points



JSKIA0792ZZ

← Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Cowl top extension installing hole center of center positioning mark $\phi 7$ (0.28)	J, j, N, n	Inner center pillar joggle
B	Roof flange end of center positioning mark	P, p, R, r	Rear fender indent
C, c	Front pillar joggle	Q, q	Rear pillar inner joggle
D, d, E, e, F, f	Front pillar indent	S	Front floor reinforcement hole center of center positioning mark $\phi 9$ (0.35)

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)

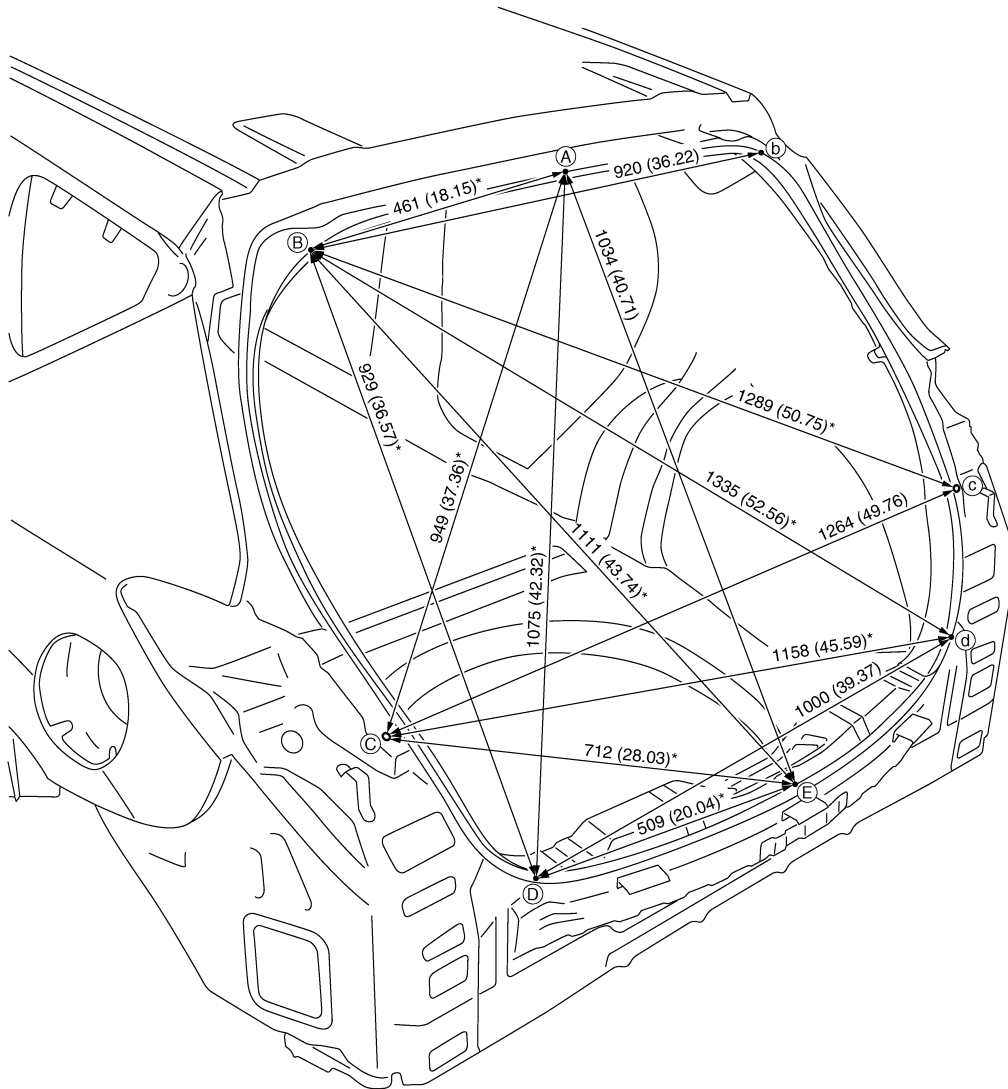
Point	Material	Point	Material
G, g	Side dash joggle	T	Front floor positioning mark of center positioning mark
H, h, K, k, M, m, O, o	Center pillar indent	U, u, V, v, W, w, X, x	Door hinge installing hole center U, u, V, v, X, x: $\phi 12$ (0.47) W, w: 14×12 (0.55×0.47)

Rear Body

INFOID:00000000513927

Measurement

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



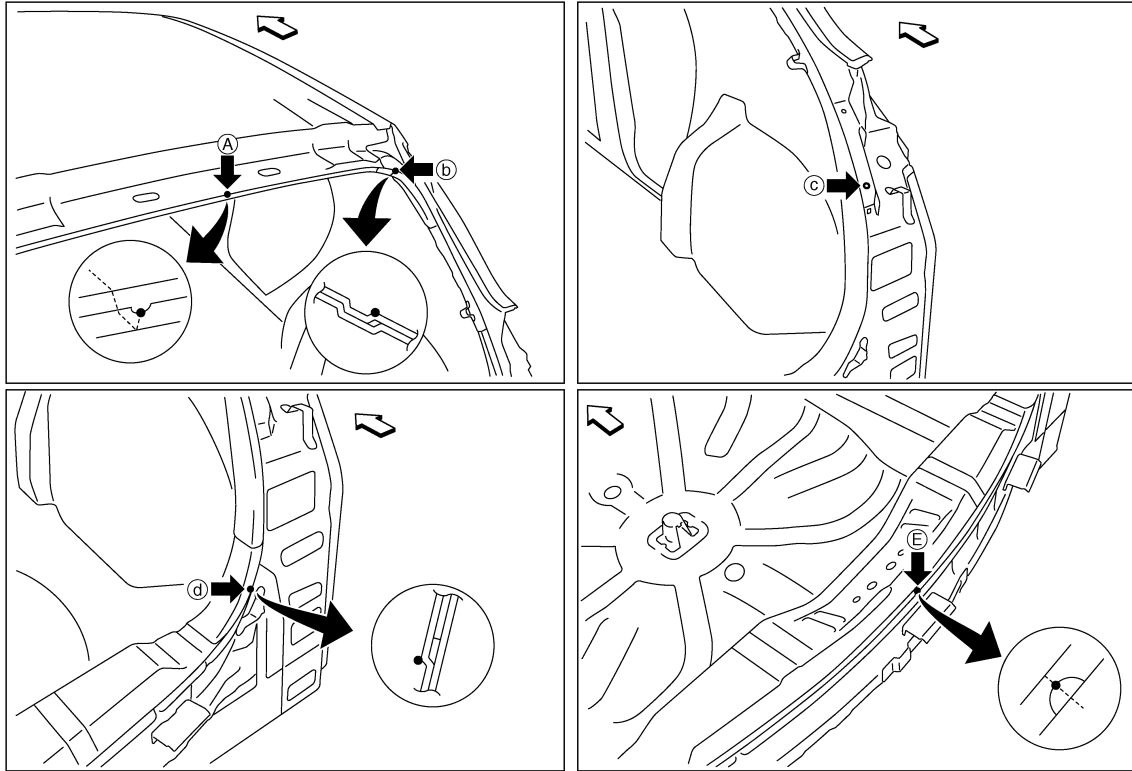
JSKIA0550GB

Unit: mm (in)

Measurement Points

BODY ALIGNMENT

< SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0551ZZ

←: Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Roof indent of center positioning mark	D, d	Rear fender brace joggle
B, b	Back pillar main joggle	E	Upper rear panel indent of center positioning mark
C, c	Center dovetail bracket installing hole center $\phi 7$ (0.28)		

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

BRM

LOCATION OF PLASTIC PARTS

< SERVICE DATA AND SPECIFICATIONS (SDS)

LOCATION OF PLASTIC PARTS

Precautions for Plastics

INFOID:00000000513928

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 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:

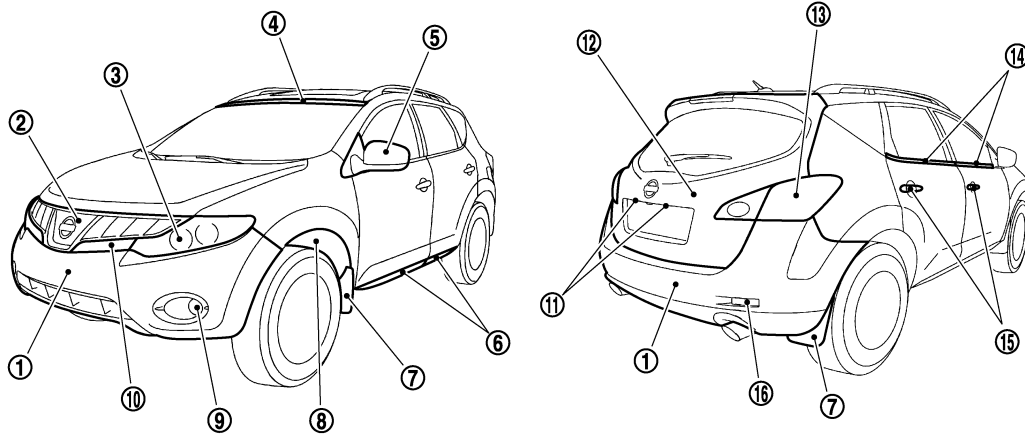
- When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
- Plastic parts should be repaired and painted using methods suiting the materials' characteristics.

LOCATION OF PLASTIC PARTS

< SERVICE DATA AND SPECIFICATIONS (SDS)

Location of Plastic Parts

INFOID:000000005513929



JSKIA0572ZZ

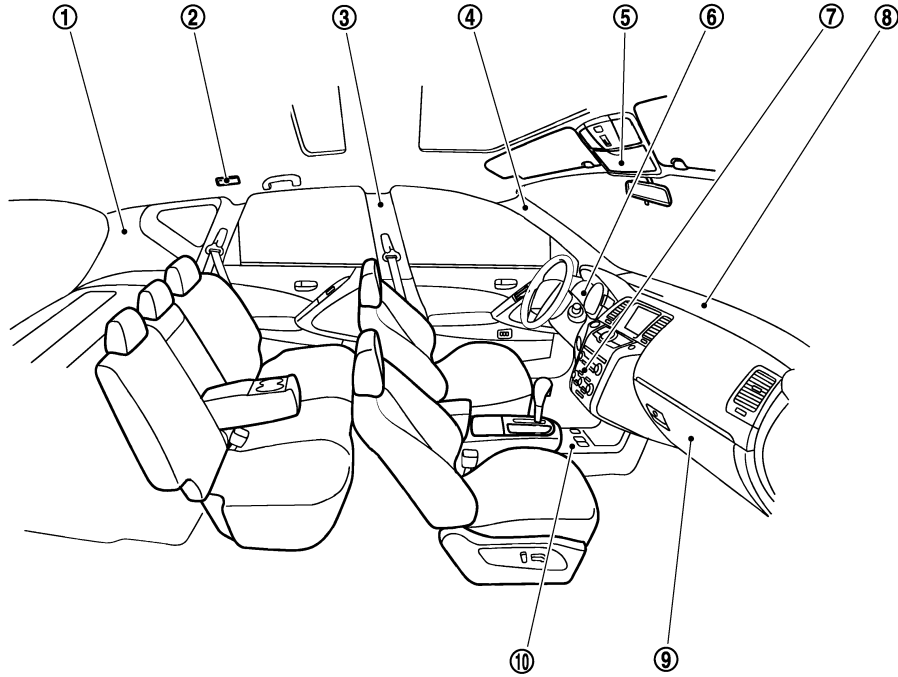
Component		Material	Component		Material	
1	Bumper fascia	PP + EPM	10	Front combination lamp extension	Lens	PMMA
2	Radiator grille	ABS			Housing	AAS
3	Front combination lamp	Lens	11	License plate lamp	Lens	PC
		Housing			Housing	PC
4	Windshield molding	EPDM	12	Back door	Outer	PP
5	Door outside mirror	Cover			Inner	PP
		Housing	13	Rear combination lamp (Rear fender)	Lens	PMMA
		Base			Housing	ABS
6	Side guard molding	PP	13	Rear combination lamp (Back door)	Lens	PMMA
7	Mudguard	TPO			Housing	AAS
8	Fender Protector	Front	14	Door outside molding	PVC + Stainless	
		Rear	PET	15	Door outside handle	PC + ABS
9	Front fog lamp	Lens	16	Reflex reflector	Lens	PMMA
		Housing			PBT + ASA + Glass fiber	Housing

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

BRM

LOCATION OF PLASTIC PARTS

< SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0573ZZ

Component		Material	Component		Material	
1	Luggage side finisher	PP	6	Cluster lid A	ABS	
2	Personal lamp	Lens	PC	7	Cluster lid C	PC + ABS
		Housing	PP	8	Instrument panel	PP
3	Center pillar garnish	PP	9	Glove box	PP	
4	Front pillar garnish	PP	10	Center console	PP	
5	Map lamp	Lens	PC			
		Housing	PP			