# SECTION BODY REPAIR

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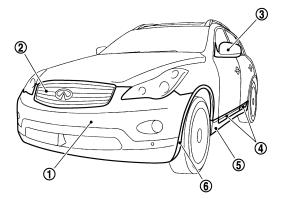
#### < VEHICLE INFORMATION >

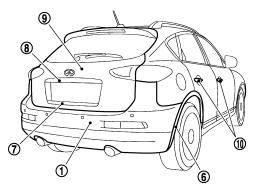
## VEHICLE INFORMATION BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

INFOID:000000009060418

JSKIA0579ZZ





			Color code	BK23	BKH3	BQAA	BKAD	BNAB	BGAC
Component			Description	Silver	Black	White	Gray	Dark Red	Black
		nt	Paint type <sup>note</sup>	М	2S	3P	М	Р	Р
			Hard clear coat	_	×	_	_	×	_
			Anti scratch advanced paint	-	_	_	_	-	×
4	Dummerfee		Body color	BK23	BKH3	BQAA	BKAD	BNAB	BGAC
1	Bumper fase	Cia	Material color	-	-	-	-	-	-
2	Front grille		Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr
3	Door out- side mirror	Cover	Body color	BK23	BKH3	BQAA	BKAD	BNAB	BGAC
	Side guard i	molding	Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr
4	4 Side guard molding		Material color	-	_	-	-	-	-
5	Contor mud	quard	Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr
5	5 Center mudguard		Material color	_	_	-	-	-	-
6	Fillet moldin	g	Material color	-	_	-	-	-	-
7	Center back finisher	door	Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr
8	Back door fi	nisher	Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr
9	Back door		Body color	BK23	BKH3	BQAA	BKAD	BNAB	BGAC
10	Door outside	e handle	Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr

#### NOTE:

• 2S: Solid + Clear

M: Metallic

• P: 2-Coat pearl

• 3P: 3-Coat pearl

< PRECAUTION >

# PRECAUTION REPAIRING HIGH STRENGTH STEEL

High Strength Steel (HSS)

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:

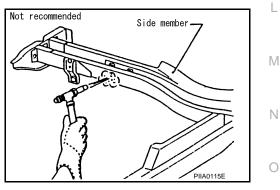
		0
Tensile strength	Major applicable parts	
	<ul> <li>Front strut housing</li> <li>Hoodledge reinforcement</li> <li>Upper front hoodledge</li> <li>Lower dash</li> </ul>	D
	<ul> <li>Lower dash crossmember assembly</li> <li>Front roof rail</li> <li>Upper inner front pillar assembly</li> <li>Inner center pillar</li> </ul>	E
370 - 590 MPa	<ul> <li>Inner sill</li> <li>Upper &amp; lower outer rear wheelhouse extension</li> <li>Center front floor</li> </ul>	F
	<ul> <li>Front floor (Component part)</li> <li>Front &amp; rear side member assembly</li> <li>Front side member closing plate assembly</li> </ul>	G
	<ul> <li>Front side member outrigger assembly</li> <li>Front side member rear extension</li> <li>Rear seat crossmember</li> <li>Other reinforcements</li> </ul>	Н
	<ul> <li>Center pillar reinforcement (Component part)</li> <li>Inner center pillar</li> </ul>	I
780 - 1350 MPa	<ul> <li>(Component part)</li> <li>Outer side roof rail reinforcement</li> <li>Outer sill reinforcement (Component part)</li> </ul>	J

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.)



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#### **REPAIRING HIGH STRENGTH STEEL**

#### < PRECAUTION >

• 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).

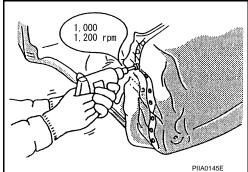
• When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.

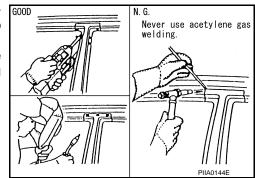
If spot welding is impossible, use MIG. welding. Do not use gas (torch) for welding because it is inferior in welding strength.

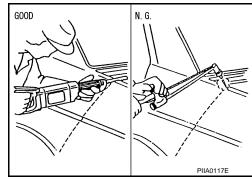
• Spot welding on HSS panels is harder than that of an ordinary steel panel.

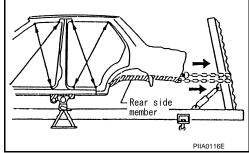
Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.

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Traction direction: ----

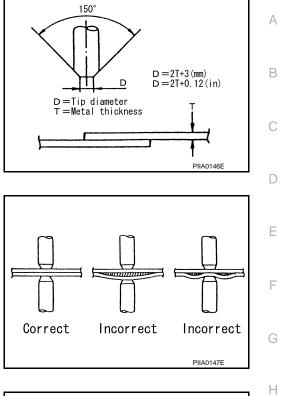
#### **REPAIRING HIGH STRENGTH STEEL**

#### < PRECAUTION >

gaps.

- 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



• 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

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# < PREPARATION > PREPARATION REPAIRING MATERIAL

#### Foam Repair

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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.

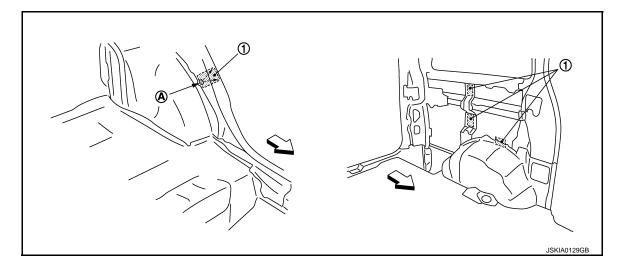
#### <Urethane foam for foaming agent>

#### 3M<sup>™</sup> Automix<sup>™</sup> 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

C: 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

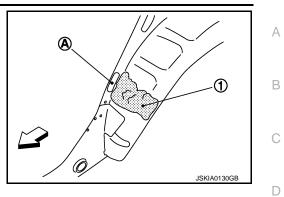
#### NOTE:

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.



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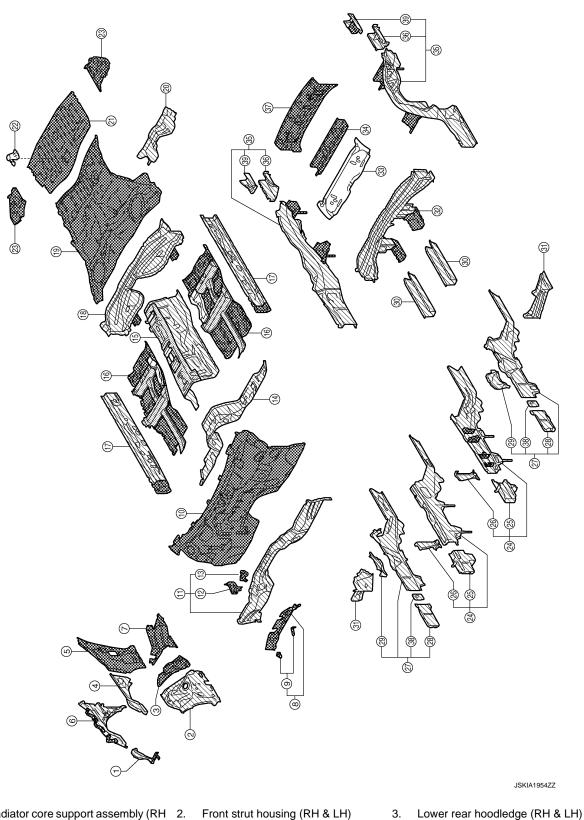
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< PREPARATION >

#### **BODY COMPONENT PARTS**

#### Underbody Component Parts

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- 1. Radiator core support assembly (RH 2. Front strut housing (RH & LH) & LH)
- Upper front hoodledge (RH & LH) 4.

6.

Upper rear hoodledge (RH & LH) 5.

Hoodledge reinforcement (RH & LH)

#### **BODY COMPONENT PARTS**

#### < PREPARATION >

7.	Upper side cowl top (RH & LH)	8.	Upper front cowl top assembly	9.	Cowl top bracket (RH & LH)		
10.	Upper dash	11.	Lower dash crossmember assembly	12.	Lower outer battery support bracket	А	
13.	Lower battery support bracket	14.	Lower dash	15.	Center front floor		
16.	Front floor (RH & LH)	17.	Inner sill (RH & LH)	18.	Rear seat crossmember reinforce- ment assembly	В	
19.	Rear floor front	20.	Rear floor seat belt anchor reinforce- ment	21.	Rear floor rear		
22.	Spare tire clamp bracket	23.	Rear floor side (RH & LH)	24.	Front side member assembly (RH & LH)	С	
25.	Front side member front extension (RH & LH)	26.	Front side member connector as- sembly (RH & LH)	27.	Front side member closing plate as- sembly (RH & LH)	D	
28.	Front side member front closing plate (RH & LH)	29.	Front side member center closing plate (RH & LH)	30.	Front side member rear extension (RH & LH)	D	
31.	Front side member outrigger assembly (RH & LH)	32.	Rear seat crossmember	33.	2nd rear crossmember	Е	
34.	Rear crossmember center assembly	35.	Rear side member assembly (RH & LH)	36.	Rear side member extension (RH & LH)		
37.	Rear end crossmember assembly	38.	Front side rear closing reinforcement (RH & LH)	39.	Rear side member extension rein- forcement assembly (RH & LH)	F	
	Both sided anti-corrosive precoated	steel	sections				
	High strength steel (HSS) sections					G	
	Both sided anti-corrosive steel and H	ISS s	ections				
NOTE:							
or the	parts without a number described in th	e fiai	ire it is supplied only with the assemb	lv na	rt that the part is included with	Н	

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For the parts without a number described in the figure, it is supplied only with the assembly part that the part is included with.

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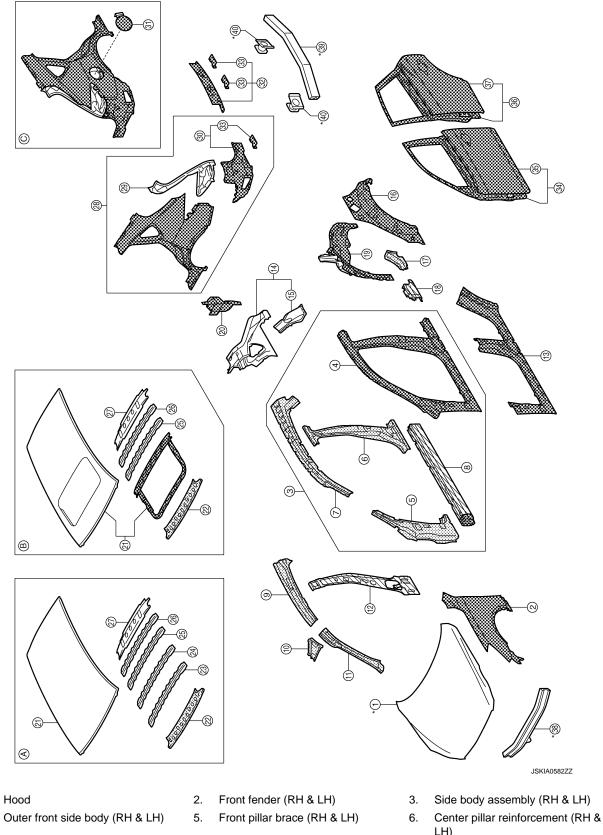
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#### < PREPARATION >

#### Body Component Parts

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- Outer side roof rail reinforcement 7. (RH & LH)

8.

- Outer sill reinforcement (RH & LH)
- LH)
- Inner roof rail reinforcement (RH & LH)

9.

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#### **BODY COMPONENT PARTS**

#### < PREPARATION >

10.	Front roof rail brace (RH & LH)	11.	Upper inner front pillar assembly (RH & LH)	12.	Inner center pillar (RH & LH)	А
13.	Outer sill (RH & LH)	14.	Inner rear pillar (RH & LH)	15.	Inner rear pillar reinforcement (RH & LH)	
16.	Outer rear wheelhouse (RH & LH)	17.	Upper outer rear wheelhouse extension (RH & LH)	18.	Lower outer rear wheelhouse exten- sion (RH & LH)	В
19.	Inner rear wheelhouse (RH & LH)	20.	Lower inner rear pillar (RH & LH)	21.	Roof	
22.	Front roof rail	23.	Roof bow No. 1	24.	Roof bow No. 2	С
25.	Roof bow No. 3	26.	Roof bow No. 4	27.	Rear roof rail	0
28.	Rear fender assembly (RH & LH)	29.	Tail pillar assembly (RH & LH)	30.	Rear fender extension (RH & LH)	
31.	Fuel filler lid	32.	Rear panel assembly	33.	Upper rear bumper retainer	D
34.	Front door assembly (RH & LH)	35.	Outer front door panel (RH & LH)	36.	Rear door assembly (RH & LH)	
37.	Outer rear door panel (RH & LH)	38.	Inner center front bumper reinforce- ment	39.	Inner center rear bumper reinforce- ment assembly	E
40.	Rear bumper stay (RH & LH)					
Α.	Standard roof	В.	With sunroof	C.	RH side	
	Both sided anti-corrosive precoated	steel	sections			F
	High strength steel (HSS) sections					
[[]]]	E Both sided anti-corrosive steel and H	ISS s	ections			
*:A	luminum portion					G
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.

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#### < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION CORROSION PROTECTION

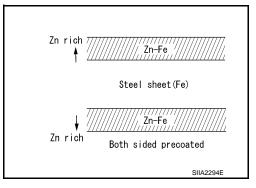
#### Description

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 anticorrosive 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.



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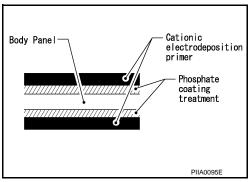
NISSAN genuine parts are fabricated from galvannealed steel. Therefore, it is recommended that NISSAN genuine parts or an equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

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.

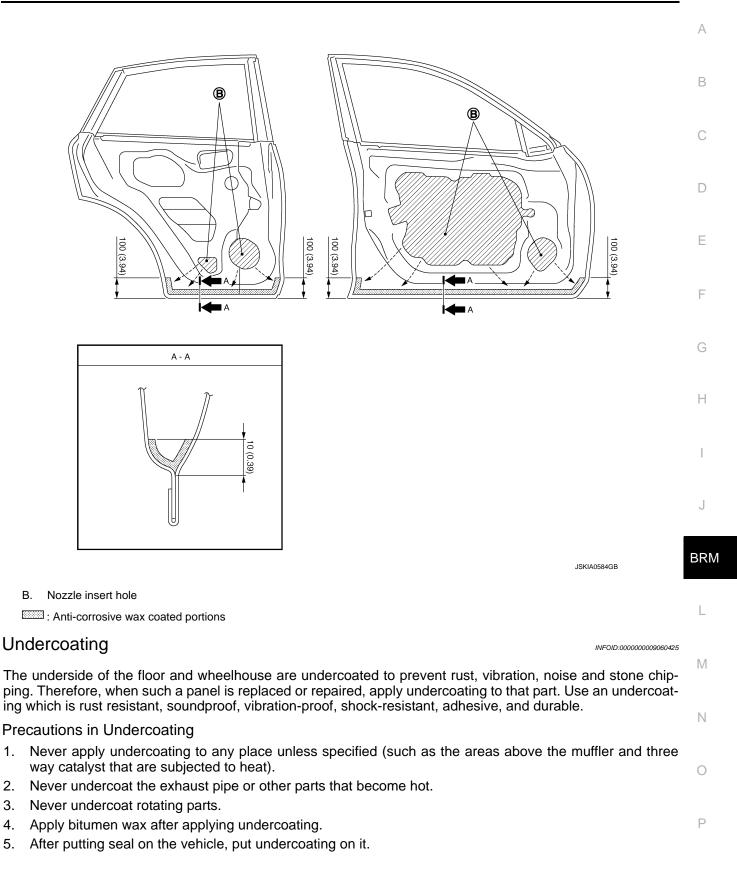
#### Anti-corrosive Wax

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.

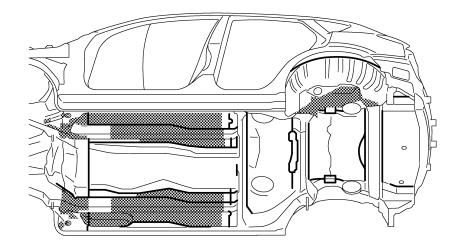
#### DOOR

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#### < REMOVAL AND INSTALLATION >



#### < REMOVAL AND INSTALLATION >



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: Undercoated portions

: Sealed portions

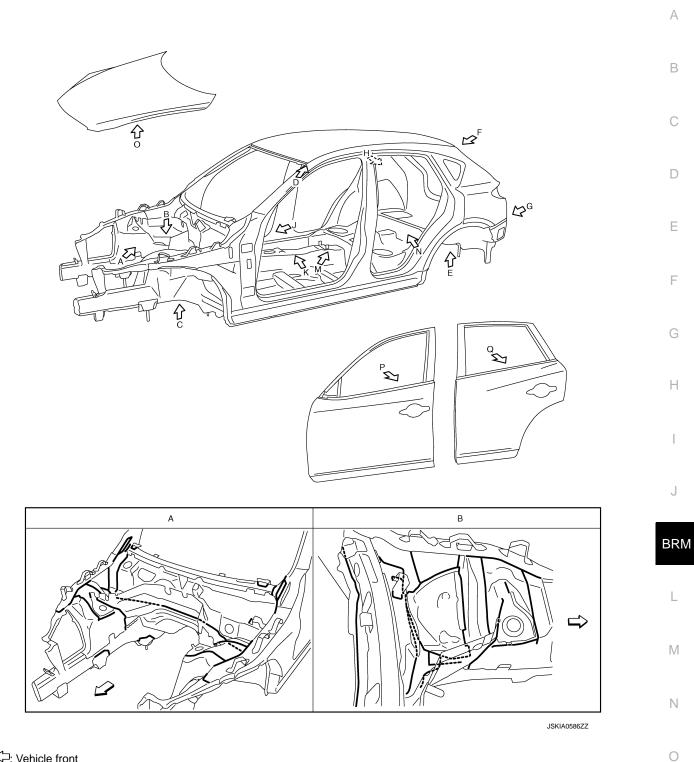
#### **Body Sealing**

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

2WD

#### < REMOVAL AND INSTALLATION >

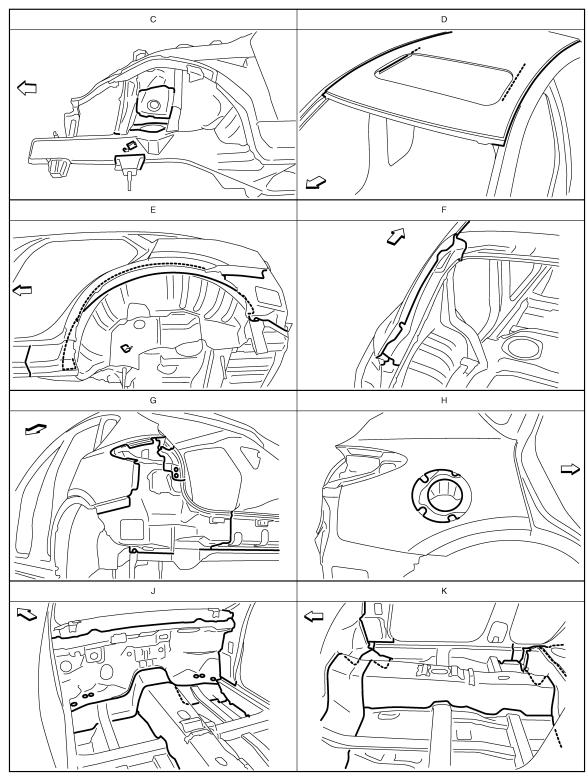


C: Vehicle front

Sealed portions

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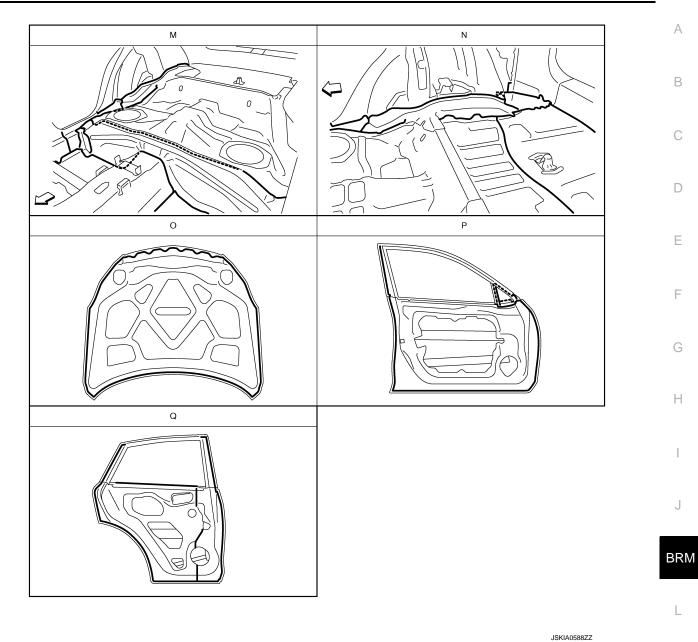
#### < REMOVAL AND INSTALLATION >



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C: Vehicle front

#### < REMOVAL AND INSTALLATION >



C: Vehicle front

Revision: 2013 March

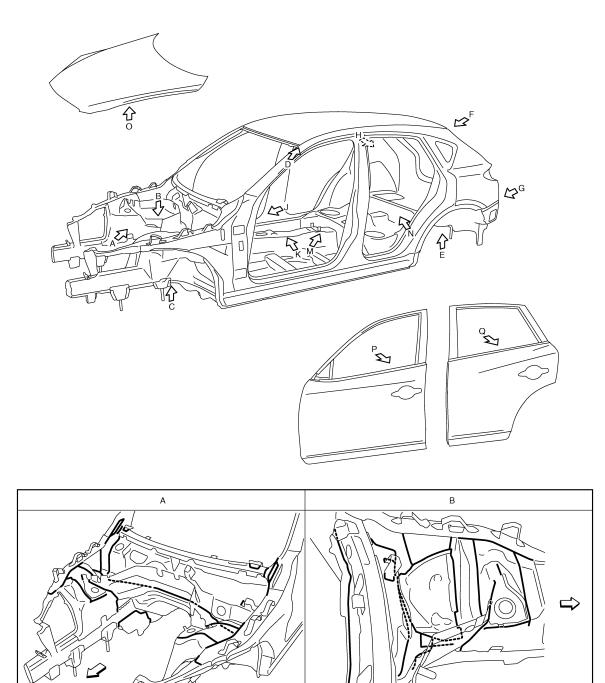
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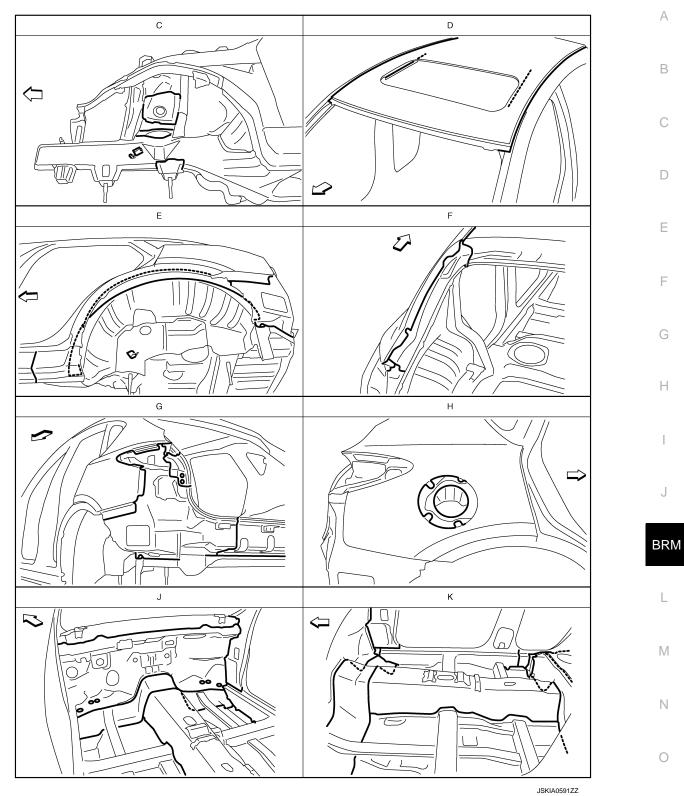
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C: Vehicle front

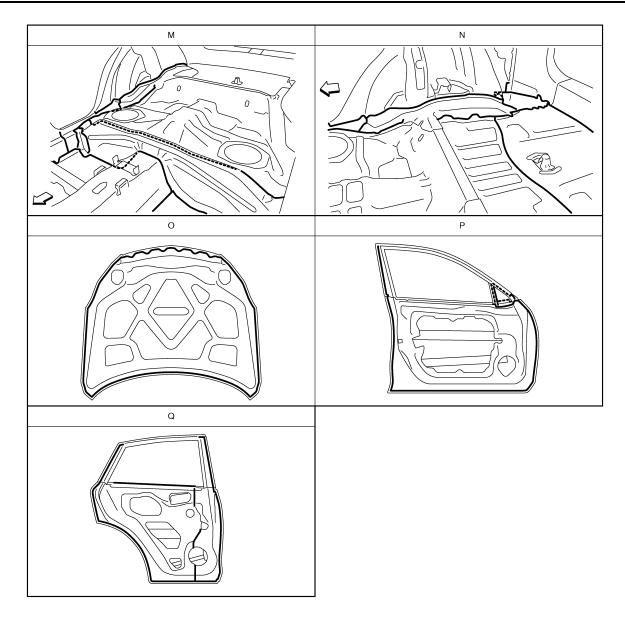
#### < REMOVAL AND INSTALLATION >



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C: Vehicle front

#### < REMOVAL AND INSTALLATION >



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Chicle front

#### < REMOVAL AND INSTALLATION >

### **BODY CONSTRUCTION**

#### **Body Construction**

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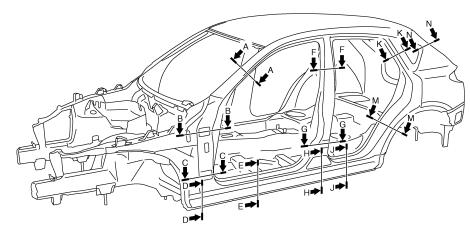
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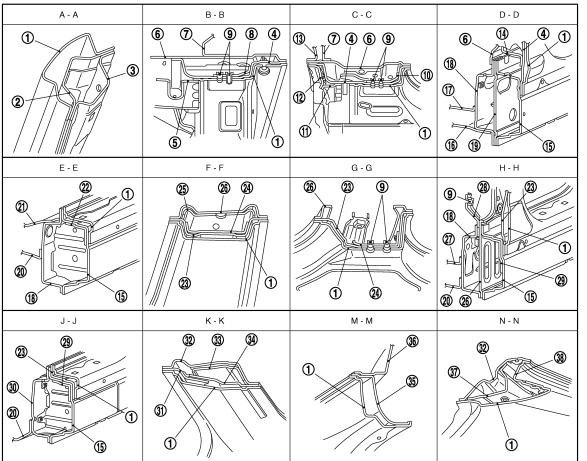
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- 1. Outer side body
- 4. Front pillar hinge brace
- 7. Upper dash

- 2. Outer front pillar reinforcement
- 5. Hoodledge reinforcement
- 8. Upper hinge plate

- JSKIA0589ZZ
- 3. Upper inner front pillar
- 6. Upper rear hoodledge
- 9. Weld nut

Revision: 2013 March

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#### **BODY CONSTRUCTION**

#### < REMOVAL AND INSTALLATION >

- 10. Lower hinge plate
- 13. Lower dash crossmember
- 16. Front side member outrigger
- 19. Lower front pillar reinforcement
- 22. Outer sill extension
- 25. Center pillar seat belt anchor
- 28. Seat belt anchor
- 31. Side roof rail reinforcement
- 34. Inner rear pillar reinforcement
- 37. Upper back pillar reinforcement

- 11. Rear hoodledge reinforcement
- 14. Lower front pillar gusset
- 17. Lower dash
- 20. Front floor
- 23. Center pillar reinforcement
- 26. Inner center pillar
- 29. Center sill reinforcement
- 32. Inner rear pillar
- 35. Outer rear wheelhouse
- 38. Back pillar main

- 12. Hoodledge reinforcement gusset
- 15. Outer sill reinforcement
- 18. Inner sill
- 21. Front floor gusset
- 24. Center pillar seat belt reinforcement
- 27. 3rd crossmember
- 30. Rear side member front
- 33. Upper rear pillar seat belt anchor
- 36. Inner rear wheelhouse

#### < REMOVAL AND INSTALLATION >

#### **REPLACEMENT OPERATIONS**

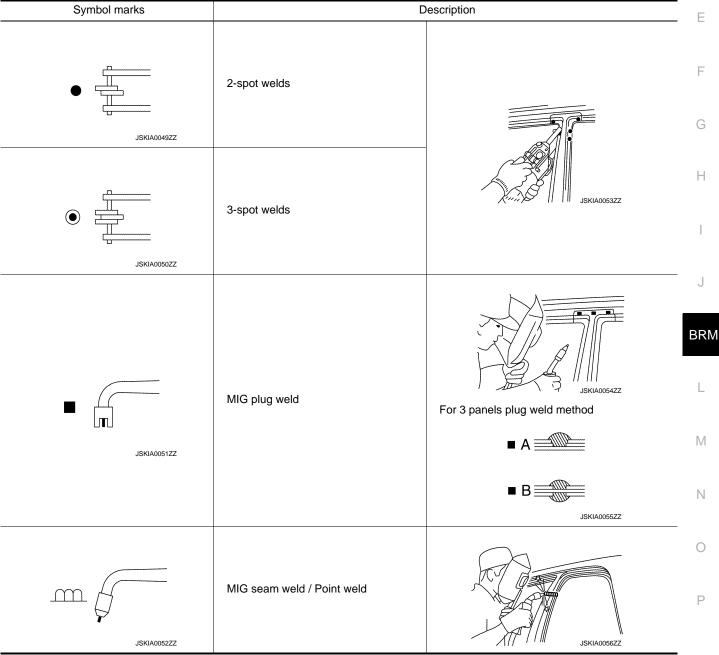
#### Description

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- 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.



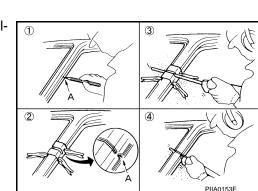
#### < REMOVAL AND INSTALLATION >

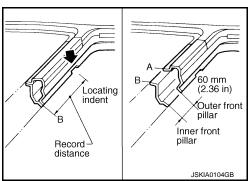
• Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle.

• 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.

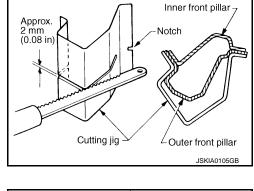
• Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit the service part to be accurately cut at the joint position.

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





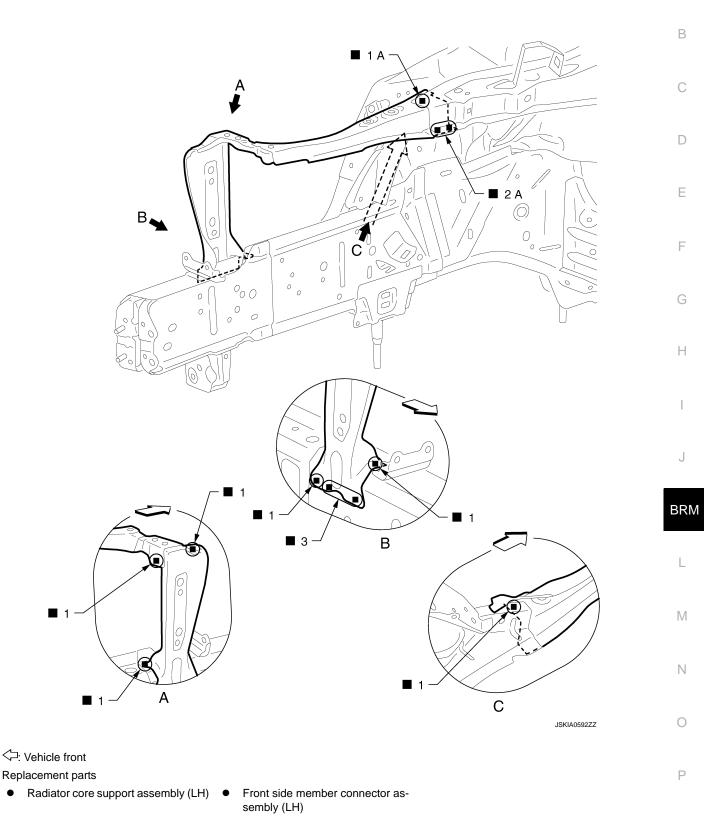
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< REMOVAL AND INSTALLATION >

#### Radiator Core Support

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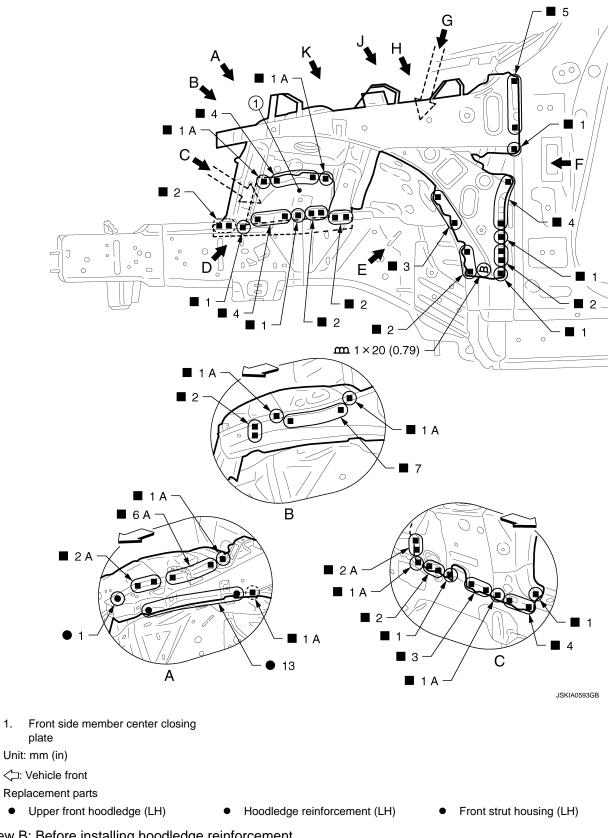
#### Hoodledge

Work after radiator core support is removed. Remove the front side member center closing plate (reusable).

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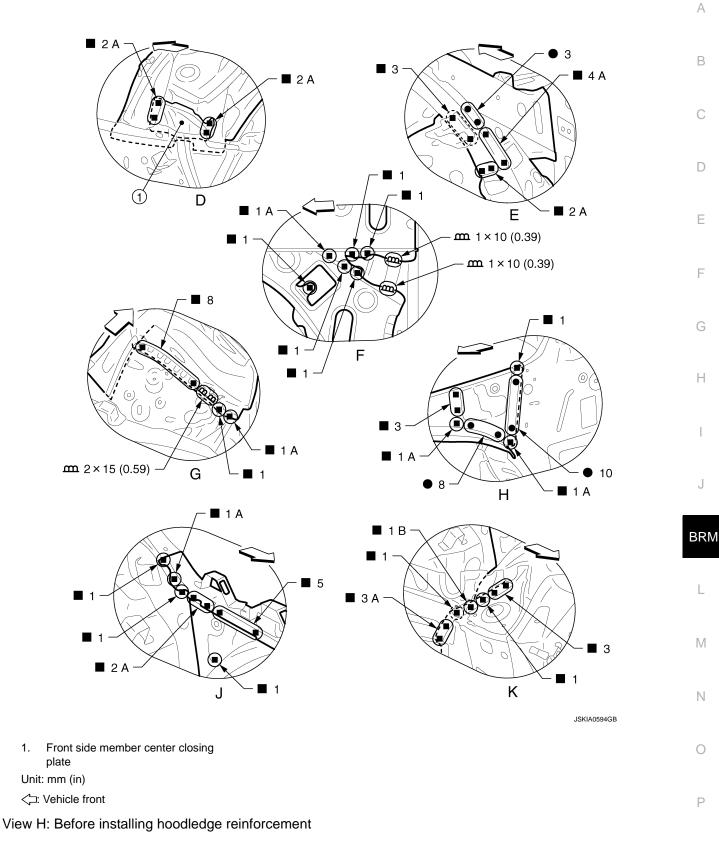
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#### < REMOVAL AND INSTALLATION >



View B: Before installing hoodledge reinforcement

#### < REMOVAL AND INSTALLATION >



#### Front Side Member (2WD)

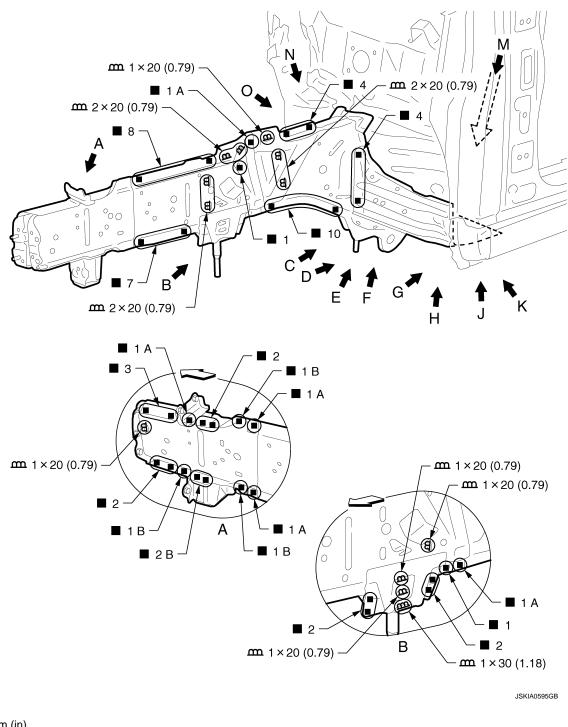
Work after radiator core support and hoodledge are removed. Assemble the hoodledge and check the fitting according to Body Alignment before replacing the front side member center closing plate.

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#### **BRM-27**

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#### < REMOVAL AND INSTALLATION >

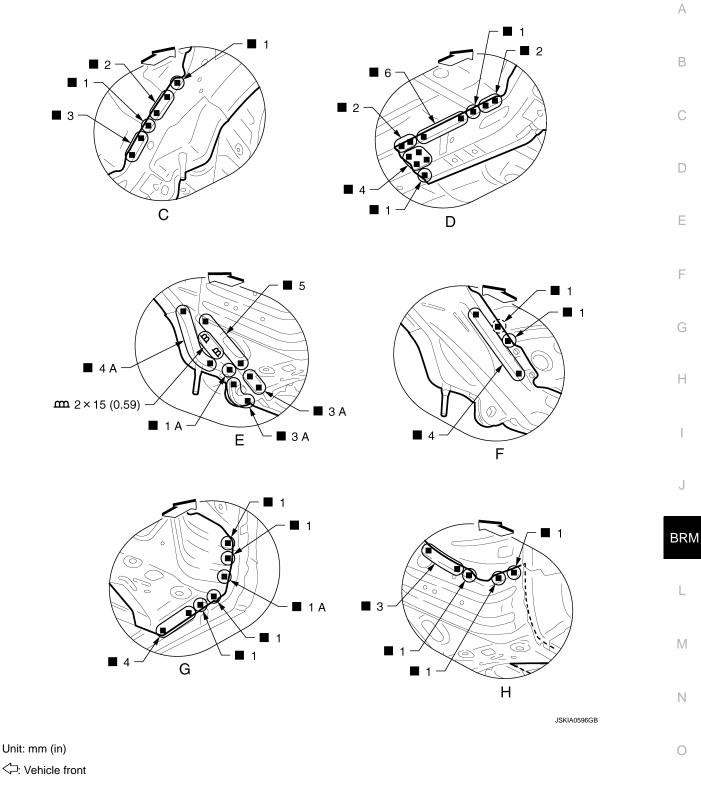


Unit: mm (in)

C: Vehicle front

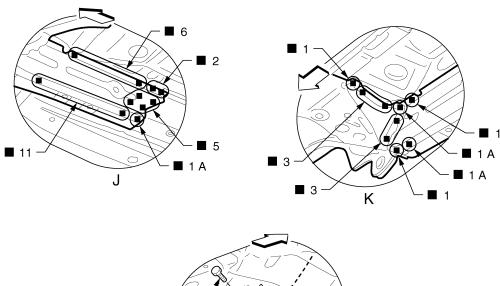
- Replacement parts
- Front side member assembly (LH)
- Front side member closing plate as- 
  Front side member outrigger assem-• sembly (LH)
  - bly (LH)

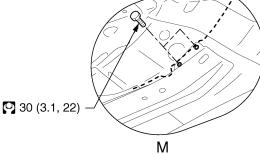
#### < REMOVAL AND INSTALLATION >

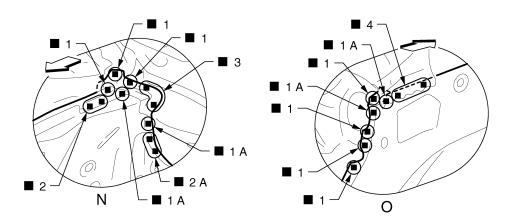


View F: Before installing front side member outrigger assembly

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JSKIA0597GB

←: Vehicle front Refer to <u>GI-4, "Components"</u> for symbols in the figure.

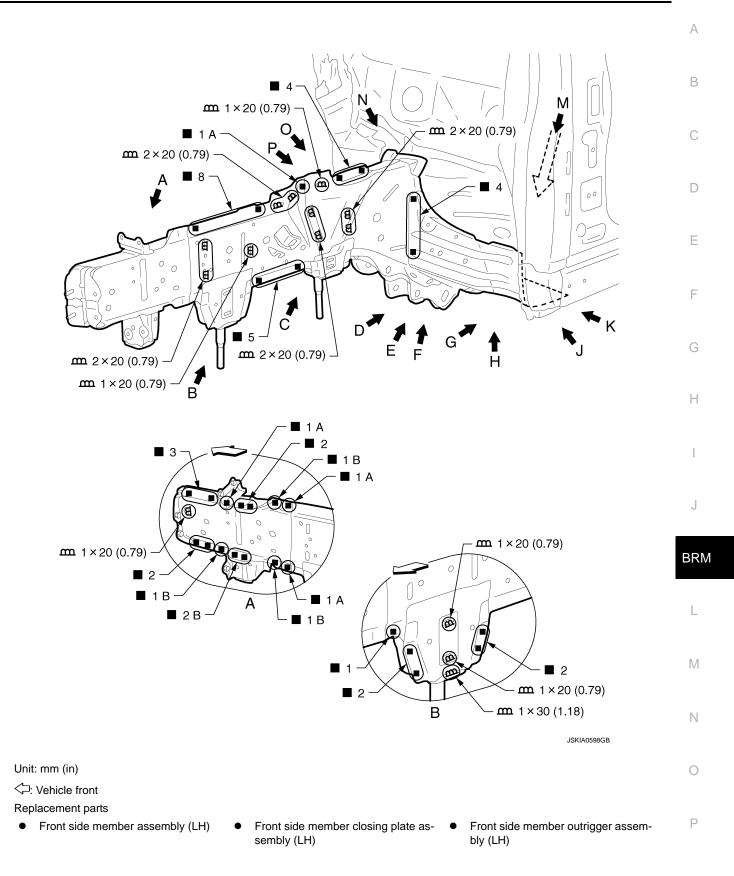
#### Front Side Member (AWD)

Work after radiator core support and hoodledge are removed.

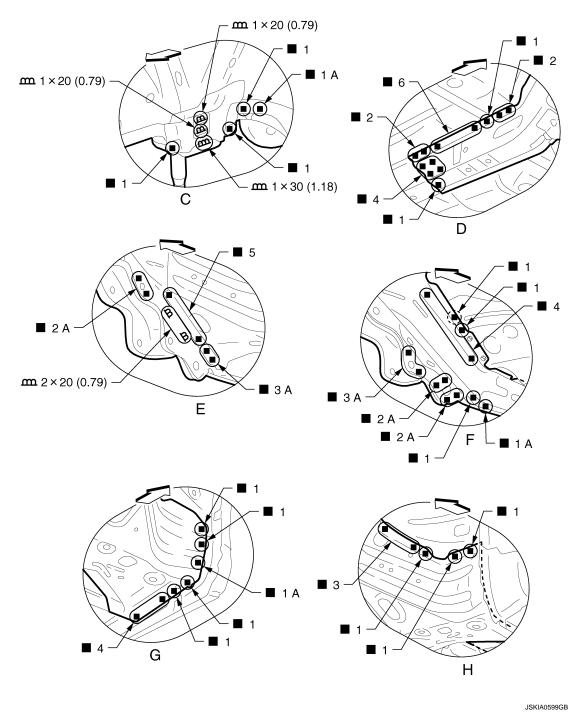
Assemble the hoodledge and check the fitting according to Body Alignment before replacing the front side member center closing plate.

INFOID:000000009060432

#### < REMOVAL AND INSTALLATION >



#### < REMOVAL AND INSTALLATION >



Unit: mm (in)

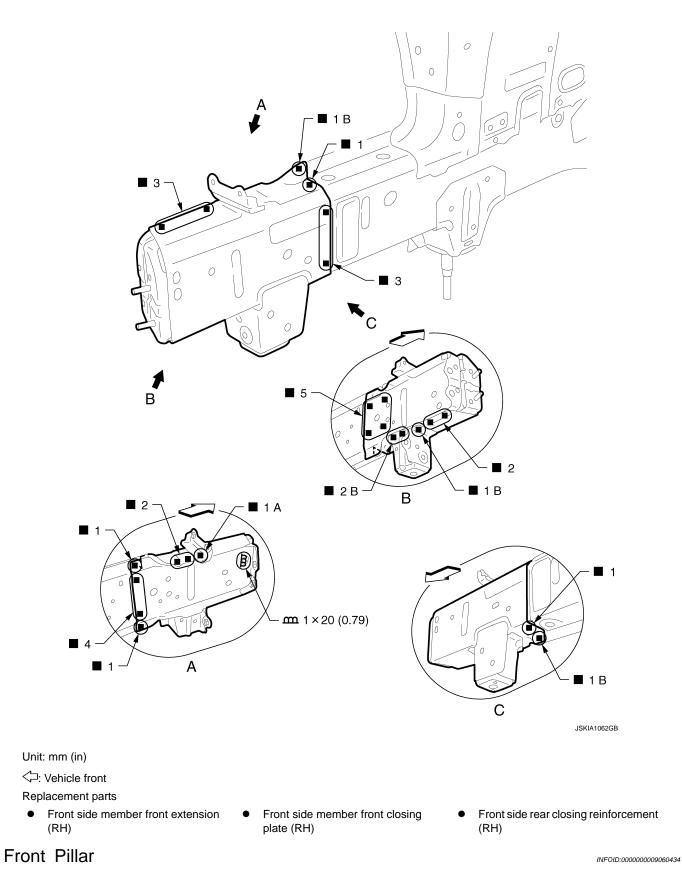
View F: Before installing front side member outrigger assembly

# **REPLACEMENT OPERATIONS** < REMOVAL AND INSTALLATION >

А 6 В 2 С D **1**1 1 A 3 J З Κ Е F 1 3 G 30 (3.1, 22) Н **1** A Μ 0 2 A 2 Ν 1 A J 🔳 1 A 4 BRM 1 A 2 0 L 1 3 1 Μ 0 Ρ Ν JSKIA0600GB C: Vehicle front Ο Refer to <u>GI-4, "Components"</u> for symbols in the figure. Front Side Member (Partial Replacement) INFOID:000000009060433 Ρ

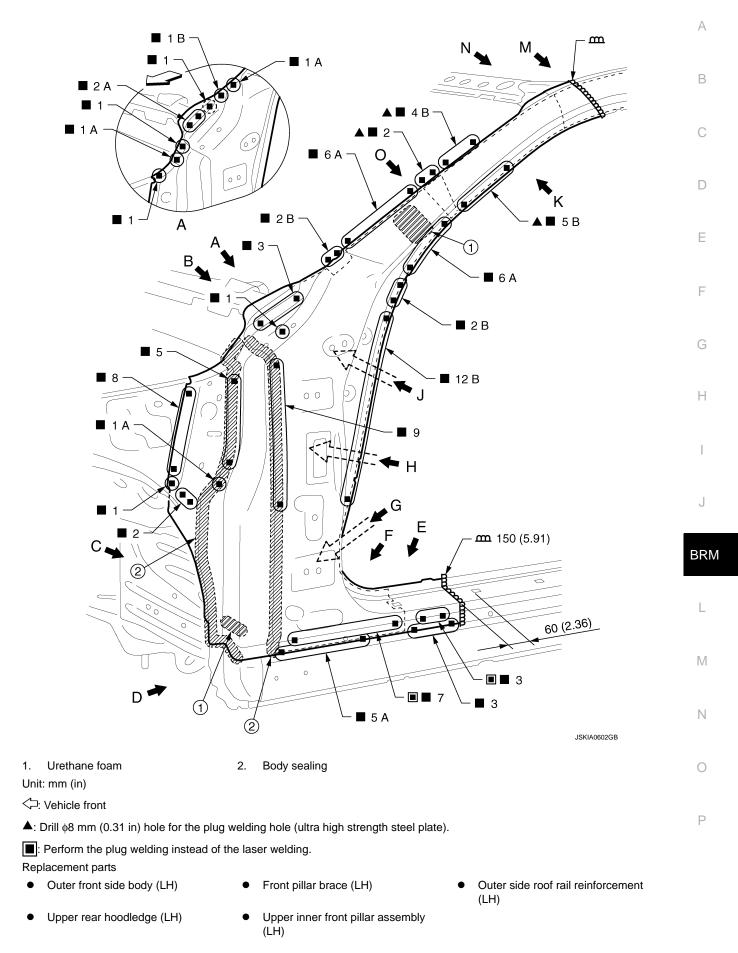
Work after radiator core support is removed.

< REMOVAL AND INSTALLATION >



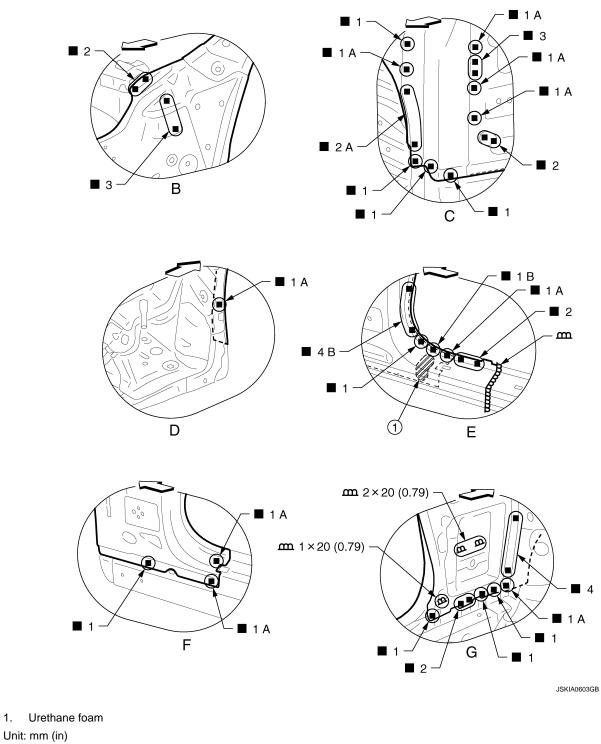
#### Work after hoodledge reinforcement and roof are removed.

< REMOVAL AND INSTALLATION >



**BRM-35** 

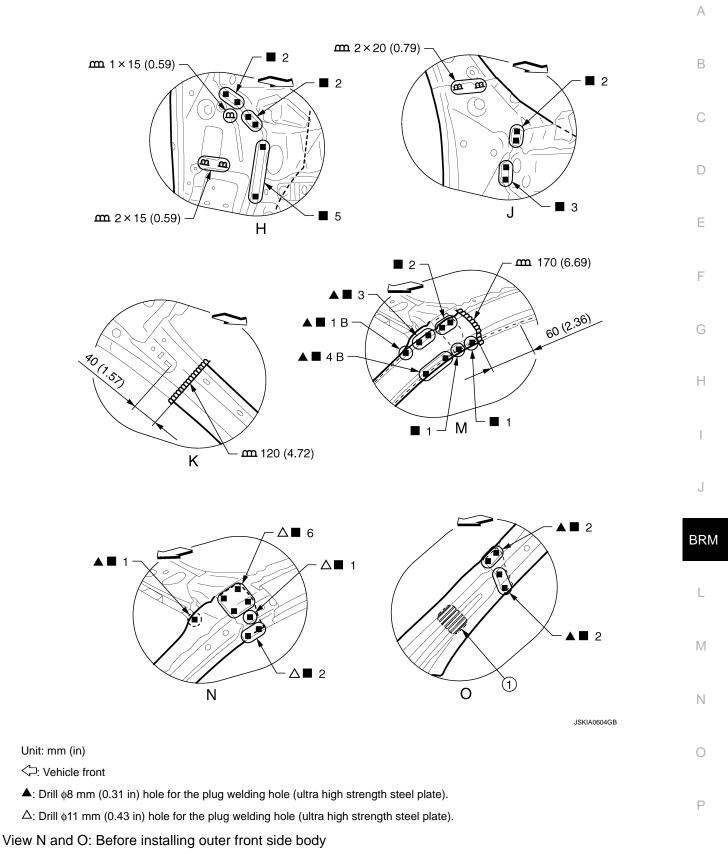
#### < REMOVAL AND INSTALLATION >



C: Vehicle front

View B: Before installing outer front side body and front pillar brace View F: Before installing outer front side body

# **REPLACEMENT OPERATIONS** < REMOVAL AND INSTALLATION >



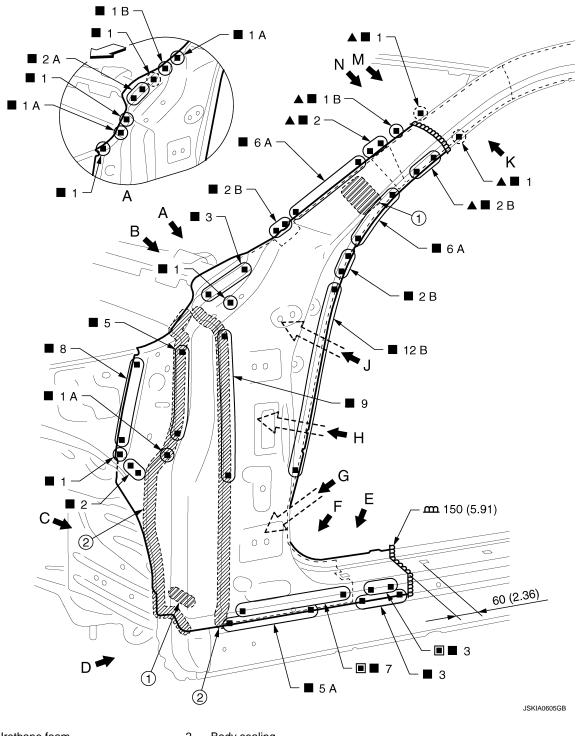
# Front Pillar (Partial Replacement)

Work after hoodledge reinforcement is removed.

#### **BRM-37**

INFOID:000000009060435

#### < REMOVAL AND INSTALLATION >



1. Urethane foam

2. Body sealing

Unit: mm (in)

C: Vehicle front

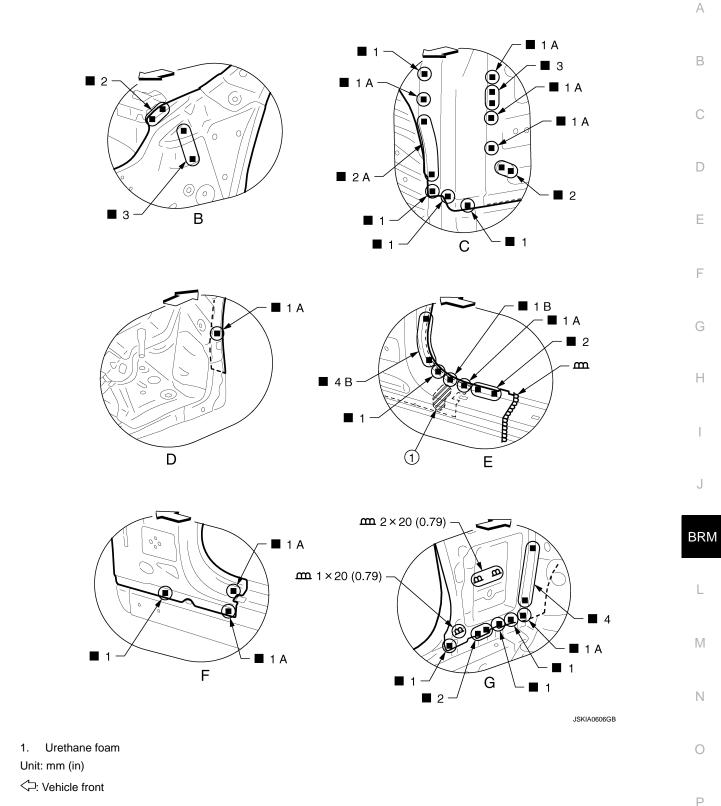
Perform the plug welding instead of the laser welding.

Replacement parts

- Outer front side body (LH)
- Front pillar brace (LH)
- Upper rear hoodledge (LH)

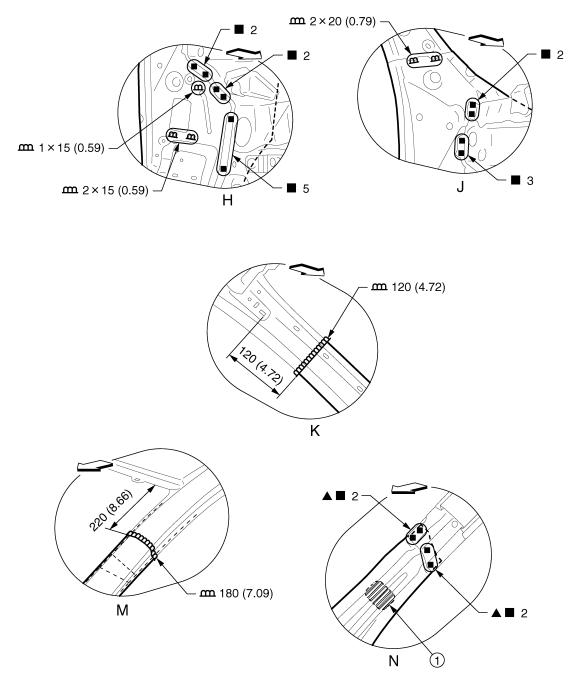
Upper inner front pillar assembly (LH)

#### < REMOVAL AND INSTALLATION >



View B: Before installing outer front side body and front pillar brace View F: Before installing outer front side body

#### < REMOVAL AND INSTALLATION >



JSKIA0607GB

1. Urethane foam

Unit: mm (in)

 $\Box$ : Vehicle front

View N: Before installing outer front side body

#### **Center Pillar**

Work after roof is removed.

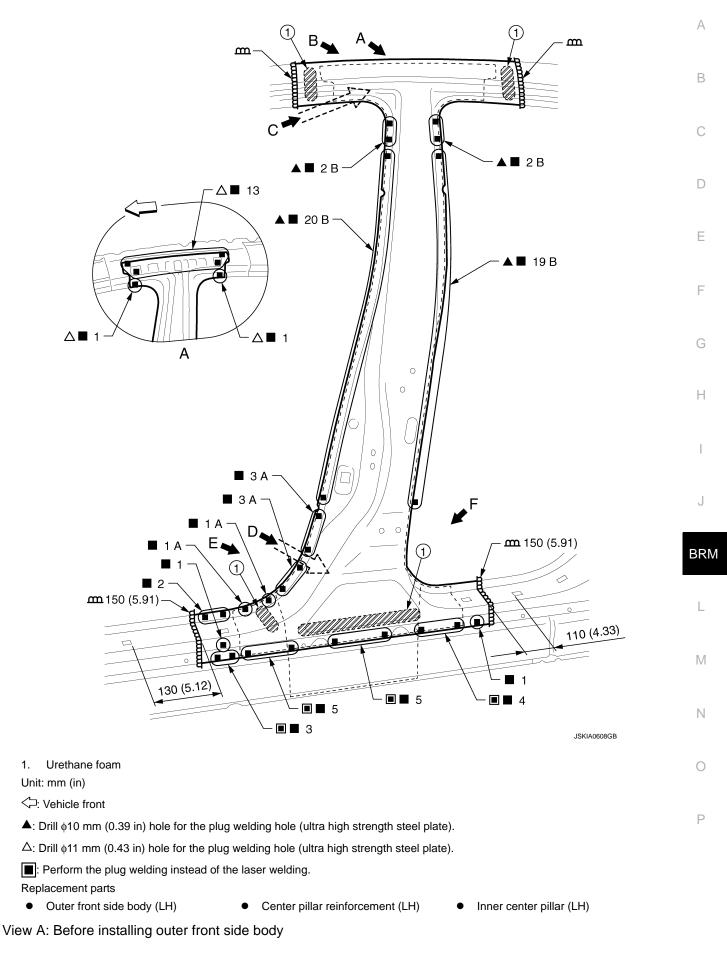
Revision: 2013 March

#### BRM-40

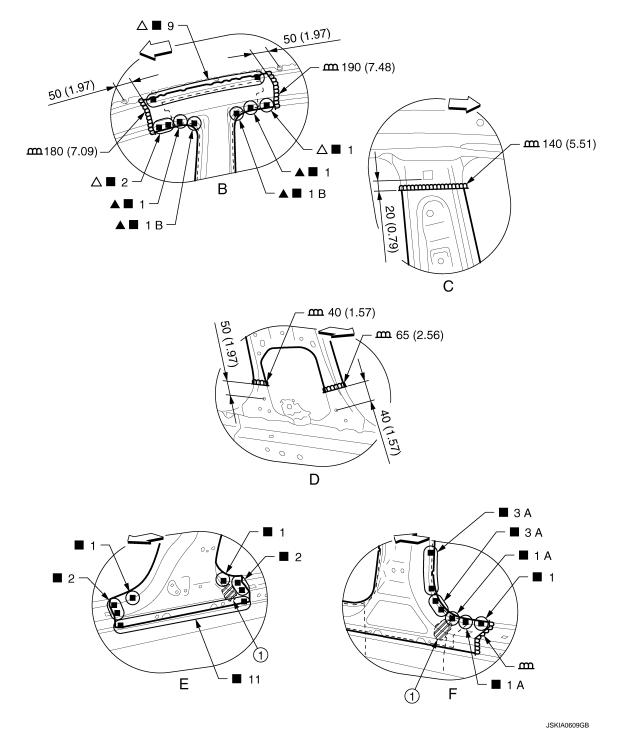
2014 QX50

INFOID:000000009060436

#### < REMOVAL AND INSTALLATION >



#### < REMOVAL AND INSTALLATION >



1. Urethane foam

Unit: mm (in)

C: Vehicle front

 $\Delta$ : Drill  $\phi$ 11 mm (0.43 in) hole for the plug welding hole (ultra high strength steel plate).

View E: Before installing outer front side body

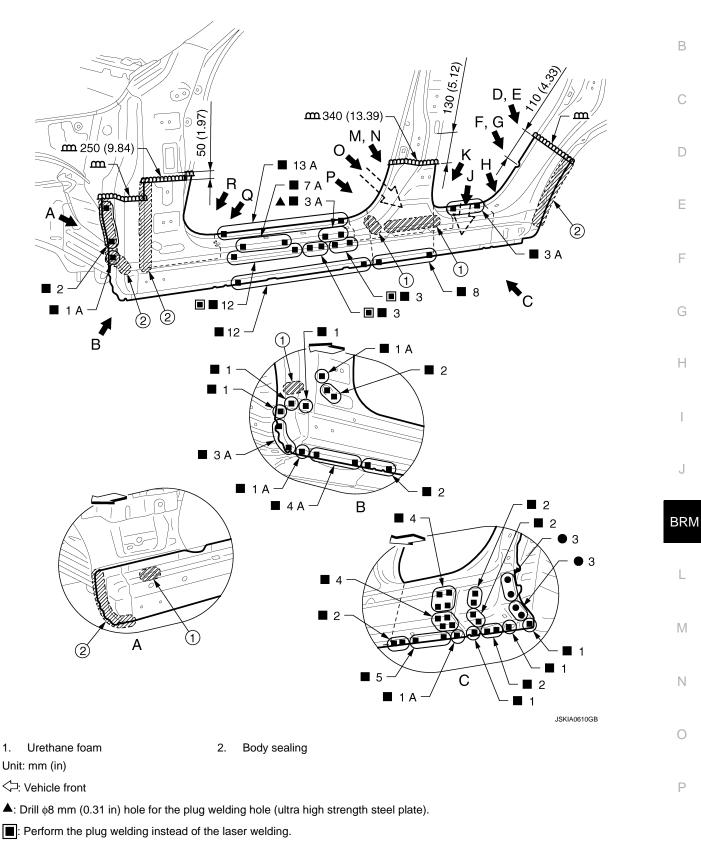
# Outer Sill

Work after hoodledge reinforcement is removed.

INFOID:000000009060437

#### < REMOVAL AND INSTALLATION >

Remove the front pillar brace and the center pillar reinforcement (reusable).



Replacement parts

А

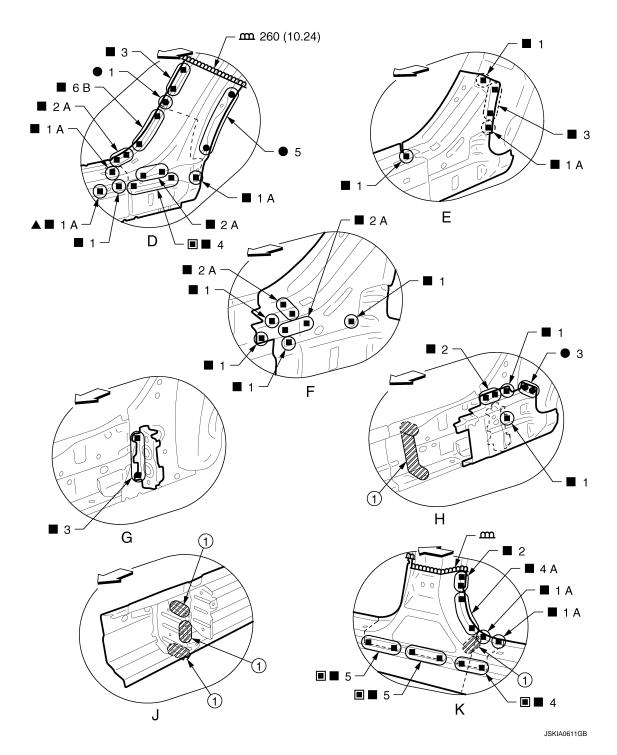
#### < REMOVAL AND INSTALLATION >

• Outer sill (LH)

- Outer sill reinforcement (LH)
- Upper outer rear wheelhouse extension (LH)

• Lower outer rear wheelhouse extension (LH)

View A: Before installing outer sill and front pillar brace



1. Urethane foam

Unit: mm (in)

C: Vehicle front

Perform the plug welding instead of the laser welding.

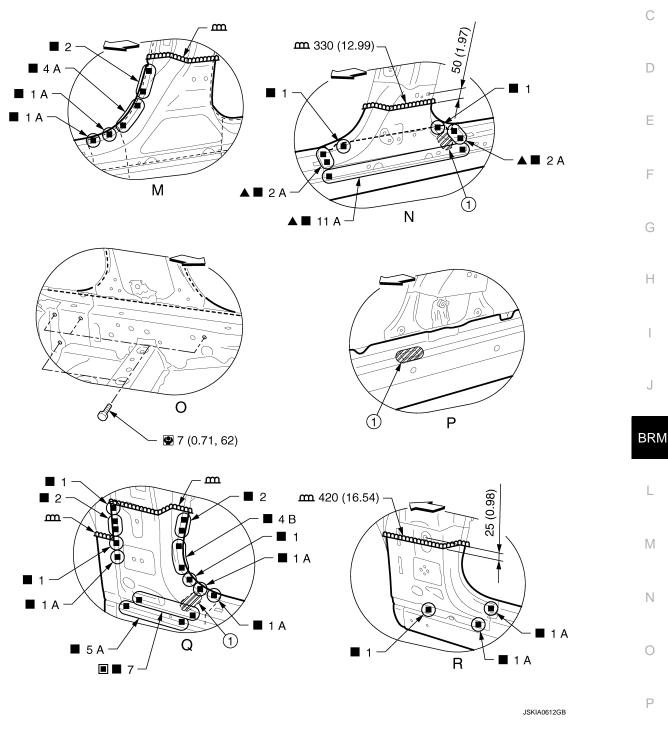
#### < REMOVAL AND INSTALLATION >

View E: Before installing outer sill

View F: Before installing outer sill and outer sill reinforcement

View G: Before installing outer sill, outer sill reinforcement, upper outer rear wheelhouse extension, and lower outer rear wheelhouse extension

View H: Before installing outer sill, outer sill reinforcement, and upper outer rear wheelhouse extension View J: Outer sill reinforcement (replacement parts)



1. Urethane foam

Unit: mm (in)

C: Vehicle front

#### BRM-45

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#### < REMOVAL AND INSTALLATION >

: Perform the plug welding instead of the laser welding. Refer to GI-4, "Components" for symbols in the figure.

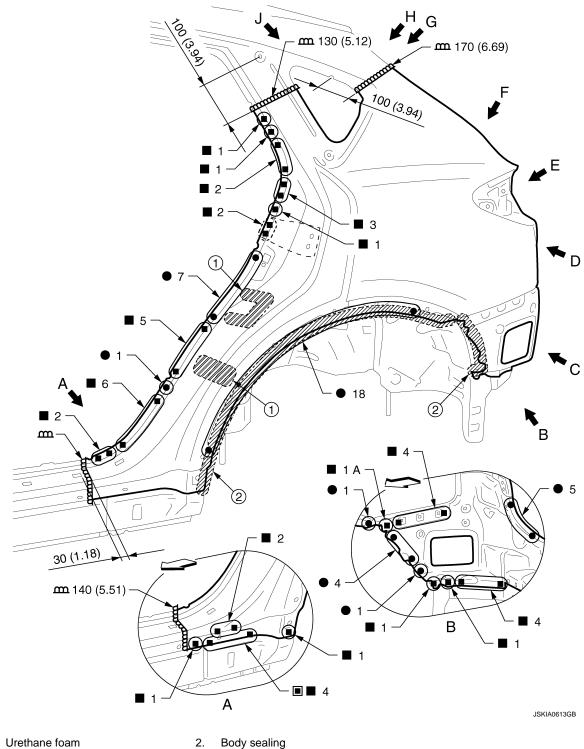
#### View N and R: Before installing outer sill

View P: Before installing outer sill and center pillar reinforcement

#### Rear Fender

INFOID:000000009060438

Remove the tail pillar assembly and rear fender extension from the rear fender assembly service part for easier installation.



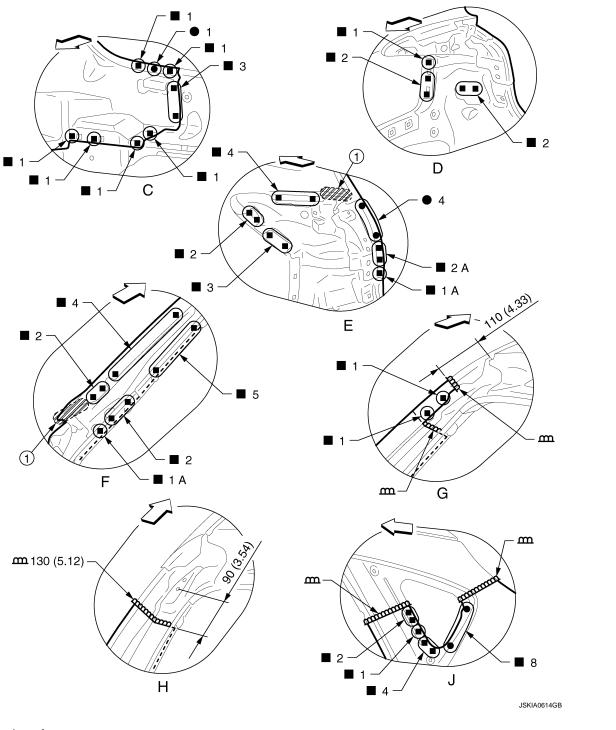
1. Unit: mm (in)

#### < REMOVAL AND INSTALLATION >

#### <⊐: Vehicle front

E: Perform the plug welding instead of the laser welding. Replacement parts

• Rear fender assembly (LH)



1. Urethane foam

Unit: mm (in)

<⊐: Vehicle front

View H: Before installing rear fender

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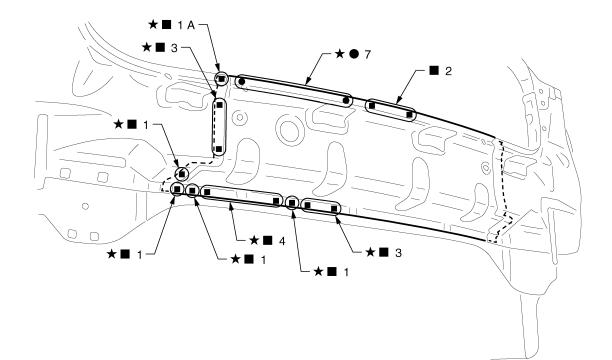
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< REMOVAL AND INSTALLATION >

# Rear Panel

INFOID:000000009060439



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 $\bigstar$ : An equivalent welding portion with the same dimensions is on the opposite side. Replacement parts

• Rear panel assembly

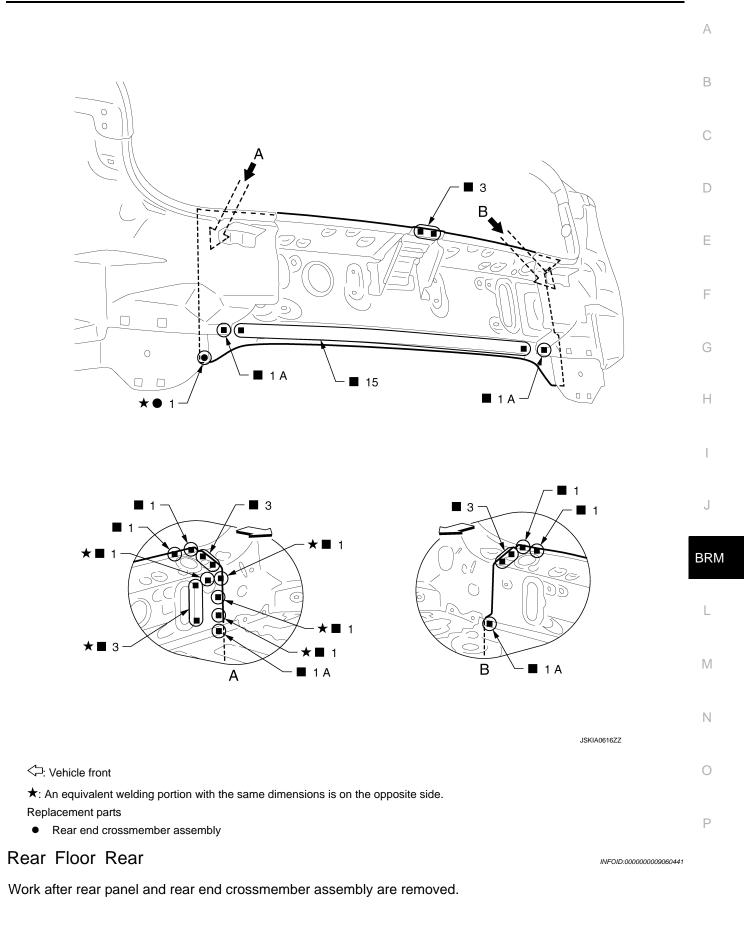
# Rear End Crossmember

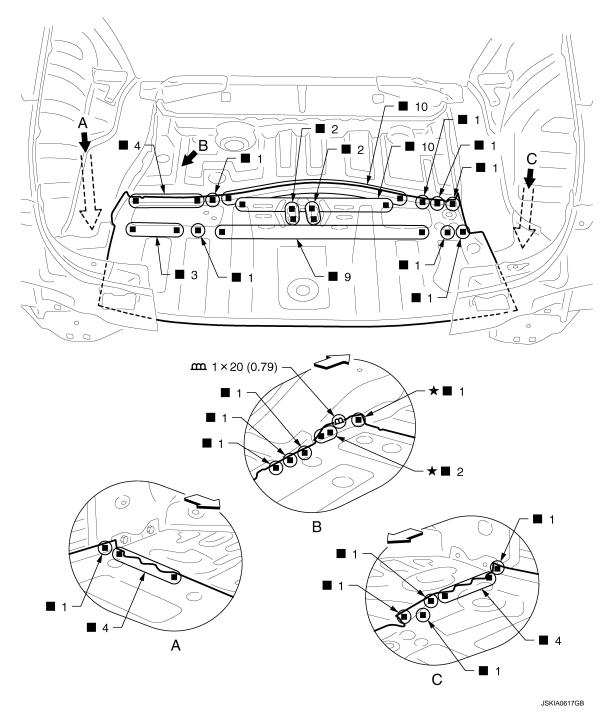
Work after rear panel is removed.

# **BRM-48**

INFOID:000000009060440

#### < REMOVAL AND INSTALLATION >





unit: mm (in)

C: Vehicle front

 $\star$ : An equivalent welding portion with the same dimensions is on the opposite side.

Replacement partsRear floor rear

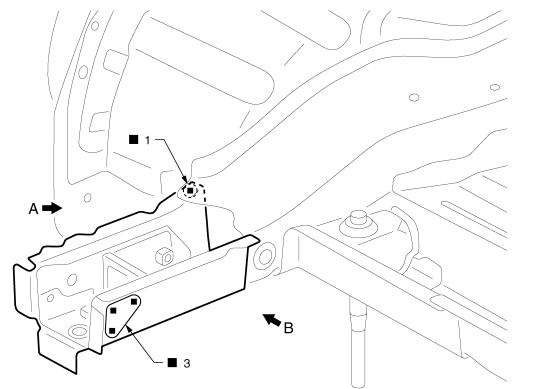
• Spare tire clamp bracket

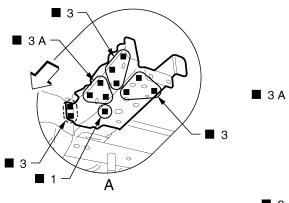
# Rear Side Member Extension

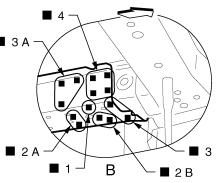
INFOID:000000009060442

Work after rear panel, rear end crossmember, rear fender extension, lower inner rear pillar, rear floor rear, and rear floor side are removed.

#### < REMOVAL AND INSTALLATION >







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C: Vehicle front

- Replacement parts
- Rear side member extension (LH)
- Rear side member extension reinforcement assembly (LH)

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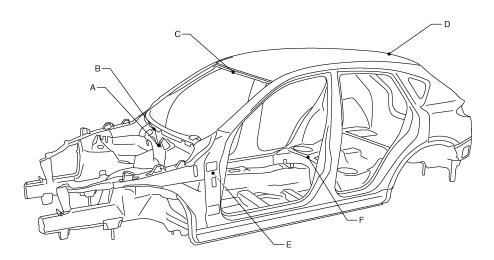
# < SERVICE DATA AND SPECIFICATIONS (SDS)</p> SERVICE DATA AND SPECIFICATIONS (SDS) BODY ALIGNMENT

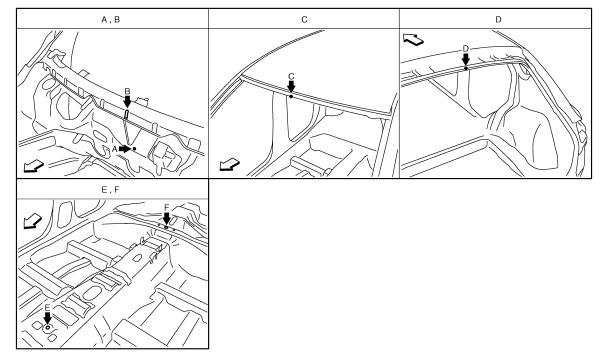
# Body Center Marks

INFOID:000000009060443

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.

**BODY ALIGNMENT** 





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C: Vehicle front

Unit: mm (in)

Points	Portion	Marks
A	Upper dash	Embossment
В	Upper dash crossmember	Bead
C	Front roof	Embossment
D	Rear roof	Indent

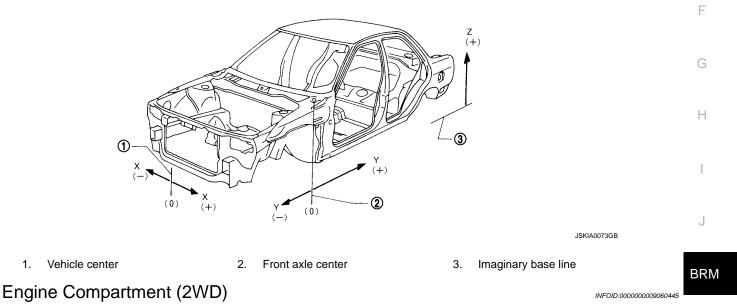
#### < SERVICE DATA AND SPECIFICATIONS (SDS)

	Points	Portion	Marks	^
Е		Trans control reinforcement	Hole 12×14 (0.47×0.55)	A
F		Rear seat crossmember reinforcement	Hole	

#### Description

• 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)]



#### MEASUREMENT

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

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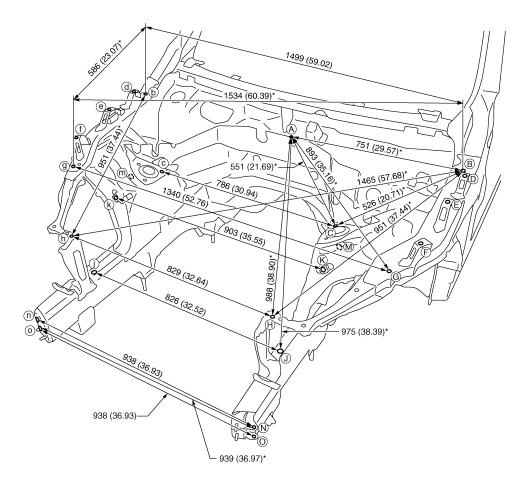
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Unit: mm (in)

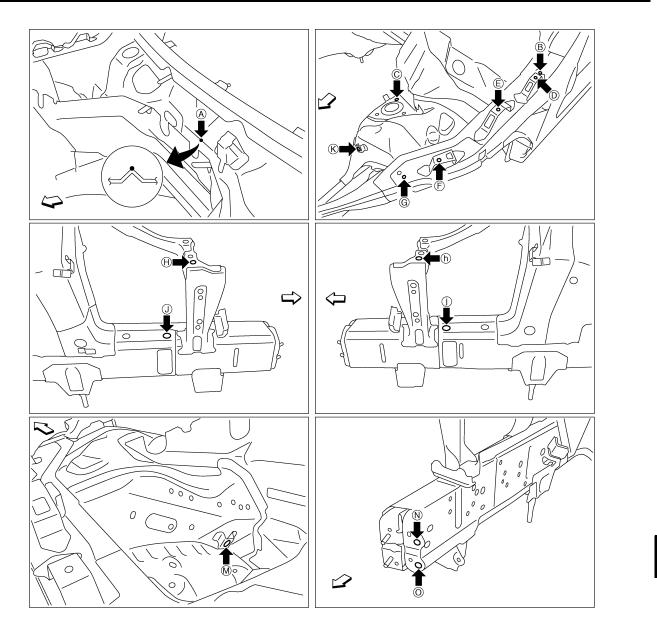
«The others»

Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
A - D	770 (30.31)*		B - d	1514 (59.61)*		C - k	875 (34.45)*		F-f	1471 (57.91)	
A - E	797 (31.38)*		B - E	246 (9.69)*		D - d	1525 (60.04)		M - m	903 (35.55)	
A - F	894 (35.20)*		В-е	1520 (59.84)*		D - F	435 (17.13)*				
В-с	1206 (47.48)*		B - F	493 (19.41)*		D - f	1559 (61.38)*				
B - D	70 (2.76)*		B - f	1565 (61.61)*		E - e	1502 (59.13)				

#### MEASUREMENT POINTS

#### < SERVICE DATA AND SPECIFICATIONS (SDS)



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Unit: mm (in)

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Point	Material	Point	Material	
А	Upper dash positioning mark of center position- ing mark	H, h	Radiator core stay installing hole center \$\overline{12}\$ (0.47)	
B, b, G, g	Hoodledge reinforcement hole center B, b: φ9 (0.35) G, g: φ5 (0.20)	J, j	Front side member hole center $\phi$ 20 (0.79)	
С, с	Front strut installing hole center $\phi$ 11 (0.43)	K, k, M, m	Nut holder hole center ¢16 (0.63)	
D, d, E, e, F, f	Front fender installing hole center $\phi$ 7 (0.28)	N, n, O, o	Front bumper stay installing hole center $\phi$ 11 (0.43)	

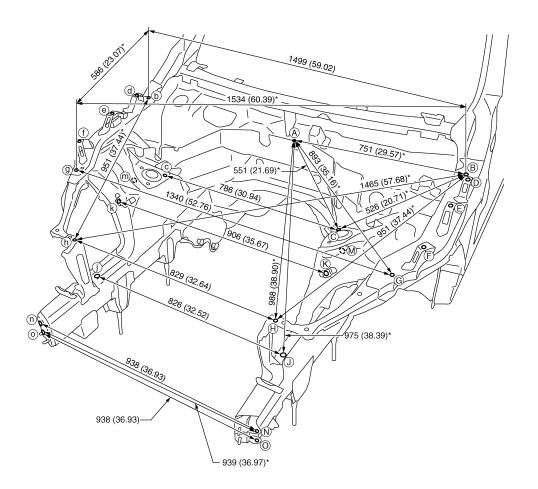
# Engine Compartment (AWD)

MEASUREMENT

INFOID:000000009060446

#### < SERVICE DATA AND SPECIFICATIONS (SDS)

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



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Unit: mm (in)

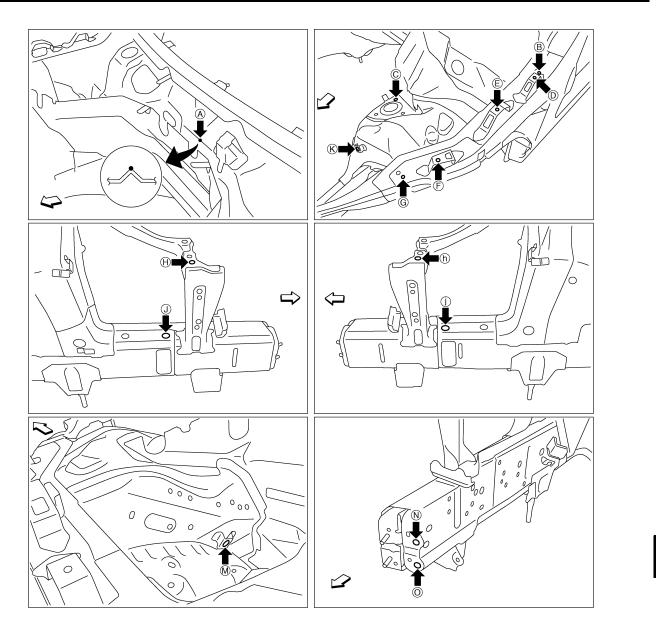
«The others»

Unit: mm (in)

											( )
Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
A - D	770 (30.31)*		B - d	1514 (59.61)*		C - k	878 (34.57)*		F-f	1471 (57.91)	
A - E	797 (31.38)*		B - E	246 (9.69)*		D - d	1525 (60.04)		M - m	906 (35.67)	
A - F	894 (35.20)*		В-е	1520 (59.84)*		D - F	435 (17.13)*				
B - c	1206 (47.48)*		B - F	493 (19.41)*		D - f	1559 (61.38)*				
B - D	70 (2.76)*		B - f	1565 (61.61)*		E - e	1502 (59.13)				

#### MEASUREMENT POINTS

#### < SERVICE DATA AND SPECIFICATIONS (SDS)



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Unit: mm (in)

<u></u>	Vehicle	front
~:	venicie	tront

Point	Material	Point	Material	
A	Upper dash positioning mark of center position- ing mark	H, h	Radiator core stay installing hole center $\phi$ 12 (0.47)	-
B, b, G, g	Hoodledge reinforcement hole center B, b: \otimes 9 (0.35) G, g: \otimes 5 (0.20)	J, j	Front side member hole center $\phi 20$ (0.79)	-
C, c	Front strut installing hole center $\phi$ 11 (0.43)	K, k, M, m	Nut holder hole center \u00e916 (0.63)	-
D, d, E, e, F, f	Front fender installing hole center $\phi$ 7 (0.28)	N, n, O, o	Front bumper stay installing hole center $\phi$ 11 (0.43)	-

# Underbody (2WD)

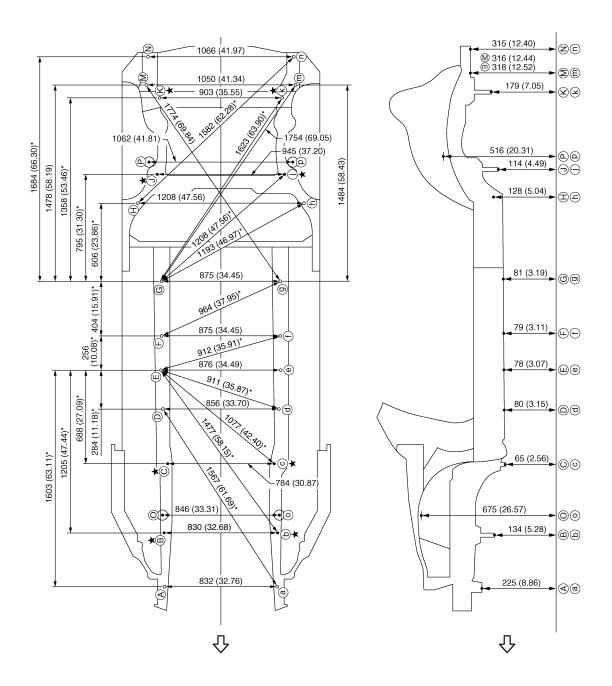
INFOID:000000009060447

#### MEASUREMENT

Revision: 2013 March

#### < SERVICE DATA AND SPECIFICATIONS (SDS)

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

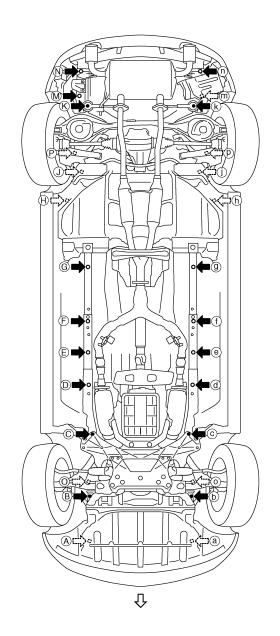


Unit: mm (in) <⊐: Vehicle front ★: Bolt head

MEASUREMENT POINTS

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# **BODY ALIGNMENT** < SERVICE DATA AND SPECIFICATIONS (SDS)



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Ch: Vehicle front

#### < SERVICE DATA AND SPECIFICATIONS (SDS)

<b>.</b>		Coordinates	6		<b>D</b> · /		Coordinates		
Points	Х	Y	Z	Remarks	Points	Х	Y	Z	Remarks
A, a	±416.0 (±16.378)	-496.0 (-19.528)	224.5 (8.839)	Hole	J, j	±472.6 (±18.606)	2553.8 (100.543)	114.0 (4.488)	Bolt head
B, b	±415.0 (±16.339)	-104.0 (-4.094)	133.5 (5.256)	Bolt head	K, k	±451.5 (±17.776)	3113.9 (122.594)	179.1 (7.051)	Bolt head
C, c	±392.0 (±15.433)	414.0 (16.299)	64.5 (2.539)	Bolt head	М	550.0 (21.654)	3214.6 (126.559)	316.4 (12.457)	Hole
D, d	±428.0 (±16.850)	816.6 (32.150)	80.0 (3.150)	Hole 16×18 (0.63×0.71)	m	-500.0 (-19.685)	3223.3 (126.901)	318.0 (12.520)	Hole
E, e	±438.0 (±17.244)	1100.0 (43.307)	78.0 (3.071)	Hole	N, n	±533.0 (±20.984)	3425.0 (134.842)	315.4 (12.417)	Hole
F, f	±437.5 (±17.224)	1355.9 (53.382)	78.8 (3.102)	Hole	О, о	±423.0 (±16.654)	38.0 (1.496)	674.5 (26.555)	Hole
G, g	±437.5 (±17.224)	1760.0 (69.291)	81.2 (3.197)	Hole	P, p	±531.2 (±20.913)	2642.7 (104.043)	515.6 (20.299)	Hole ¢64 (2.52)
H, h	±604.0 (±23.779)	2340.5 (92.145)	128.3 (5.051)	Hole					

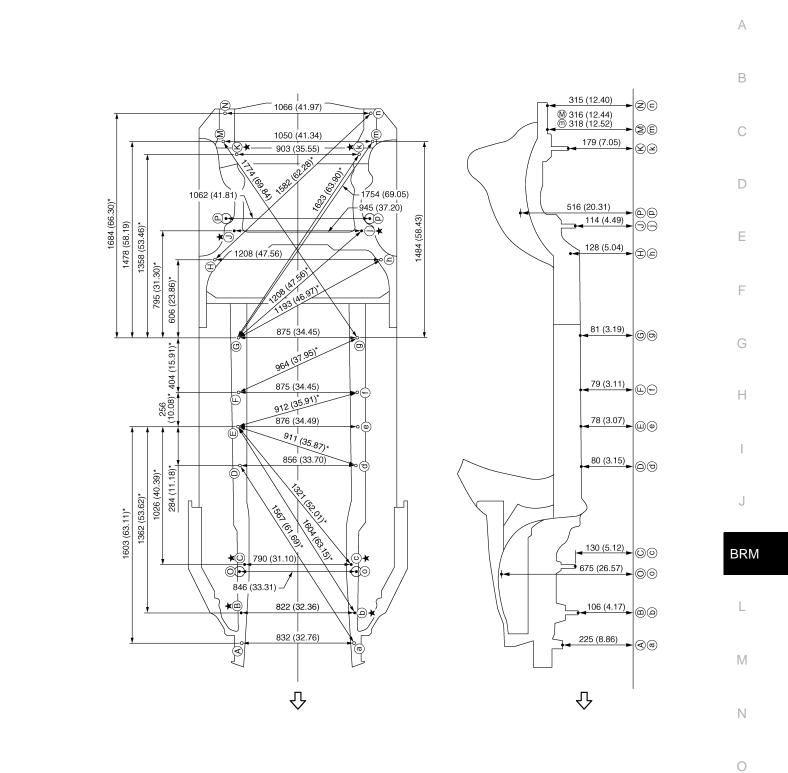
# Underbody (AWD)

INFOID:000000009060448

#### 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)



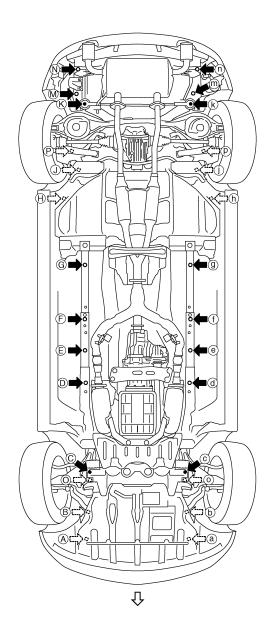
Unit: mm (in) <⊐: Vehicle front ★: Bolt head

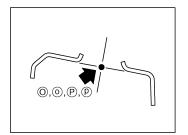
MEASUREMENT POINTS

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# **BODY ALIGNMENT** < SERVICE DATA AND SPECIFICATIONS (SDS)





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C: Vehicle front

#### < SERVICE DATA AND SPECIFICATIONS (SDS)

Deinte		Coordinates		Demerke	Deinte		Coordinates		Demortes
Points	Х	Y	Z	Remarks	Points	Х	Y	Z	Remarks
A, a	±416.0 (±16.378)	-496.0 (-19.528)	224.5 (8.839)	Hole	J, j	±472.6 (±18.606)	2553.8 (100.543)	114.0 (4.488)	Bolt head
B, b	±411.0 (±16.181)	-261.0 (-10.276)	105.5 (4.154)	Bolt head	K, k	±451.5 (±17.776)	3113.9 (122.594)	179.1 (7.051)	Bolt head
C, c	±395.0 (±15.551)	76.0 (2.992)	129.5 (5.098)	Bolt head	М	550.0 (21.654)	3214.6 (126.559)	316.4 (12.457)	Hole
D, d	±428.0 (±16.850)	816.6 (32.150)	80.0 (3.150)	Hole 16×18 (0.63×0.71)	m	-500.0 (-19.685)	3223.3 (126.901)	318.0 (12.520)	Hole
E, e	±438.0 (±17.244)	1100.0 (43.307)	78.0 (3.071)	Hole	N, n	±533.0 (±20.984)	3425.0 (134.842)	315.4 (12.417)	Hole
F, f	±437.5 (±17.224)	1355.9 (53.382)	78.8 (3.102)	Hole	О, о	±423.0 (±16.654)	38.0 (1.496)	674.5 (26.555)	Hole
G, g	±437.5 (±17.224)	1760.0 (69.291)	81.2 (3.197)	Hole	P, p	±531.2 (±20.913)	2642.7 (104.043)	515.6 (20.299)	Hole
H, h	±604.0 (±23.779)	2340.5 (92.145)	128.3 (5.051)	Hole					

# Passenger Compartment

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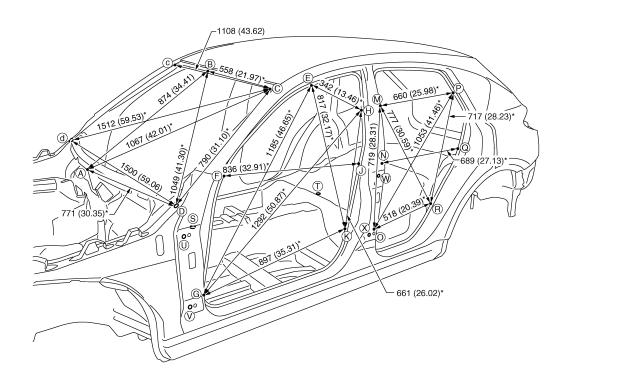
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#### MEASUREMENT

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



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Unit: mm (in)

Revision: 2013 March

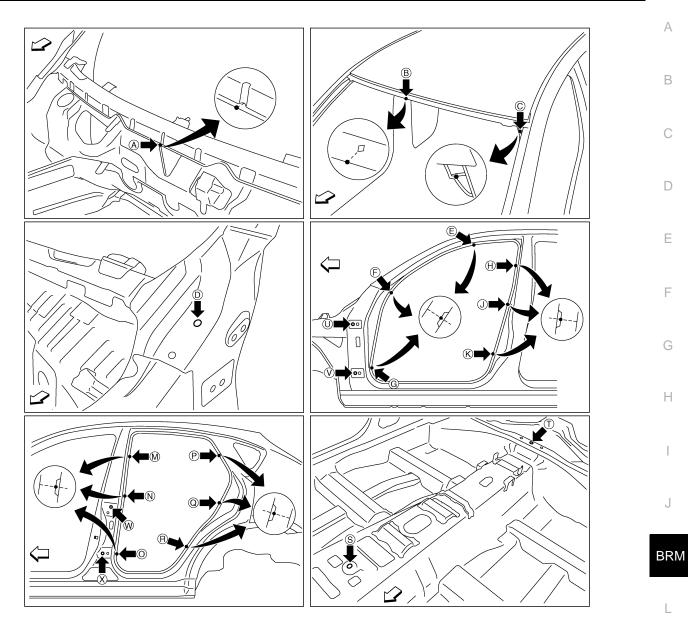
#### < SERVICE DATA AND SPECIFICATIONS (SDS)

«The others»

«The oth	013″									Uni	t: mm (in
Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
E - e	1183 (46.57)		K - k	1485 (58.46)		Q - q	1436 (56.54)		T - Q	994 (39.13)*	
E - g	1776 (69.92)*		M - m	1325 (52.17)		R-r	1469 (57.83)		T - R	805 (31.69)*	
E - h	1302 (51.26)*		M - o	1562 (61.50)*		S - E	1206 (47.48)*		U - u	1587 (62.48)	
E - k	1557 (61.30)*		М-р	1460 (57.48)*		S - F	894 (35.20)*		U - W	1182 (46.54)*	
F-f	1424 (56.06)		M - r	1597 (62.87)*		S - G	764 (30.08)*		U - X	1182 (46.54)*	
F - j	1666 (65.59)*		N - n	1452 (57.17)		S - H	1311 (51.61)*		V - v	1618 (63.70)	
G - g	1478 (58.19)		N - q	1600 (62.99)*		S - J	1168 (45.98)*		V - W	1247 (49.09)*	
G - h	1907 (75.08)*		O - 0	1451 (57.13)		S - K	1024 (40.31)*		V - X	1150 (45.28)*	
G - k	1732 (68.19)*		0 - p	1722 (67.80)*		T - M	995 (39.17)*		W - w	1588 (62.52)	
H - h	1333 (52.48)		0 - r	1550 (61.02)*		T - N	864 (34.02)*		X - x	1625 (63.98)	
H - k	1554 (61.18)*		Р-р	1280 (50.39)		T - O	752 (29.61)*				
J-j	1459 (57.44)		P - r	1547 (60.91)*		T - P	1136 (44.72)*				

## MEASUREMENT POINTS

#### < SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0569ZZ

M

#### C: Vehicle front

			Unit: mm (in)	
Point	Material	Point	Material	N
A	Upper dash crossmember flange end of center positioning mark	H, h, J, j, K, k, M, m, N, n, O, o	Center pillar indent	0
В	Roof flange end of center positioning mark	P, p, Q, q, R, r	Rear fender indent	0
С, с	Front pillar reinforcement joggle	S	Trans control reinforcement hole center of center positioning mark 12×14 (0.47×0.55)	Р
D, d	Hood hinge installing hole center $\phi 6$ (0.24)	т	Rear seat crossmember reinforcement hole center of center positioning mark $\phi 5$ (0.20)	
E, e, F, f, G, g	Front pillar indent	U, u, V, v, W, w, X, x	Door hinge installing hole center U, u, V, v, X, x: φ12 (0.47) W, w: φ9 (0.35)	

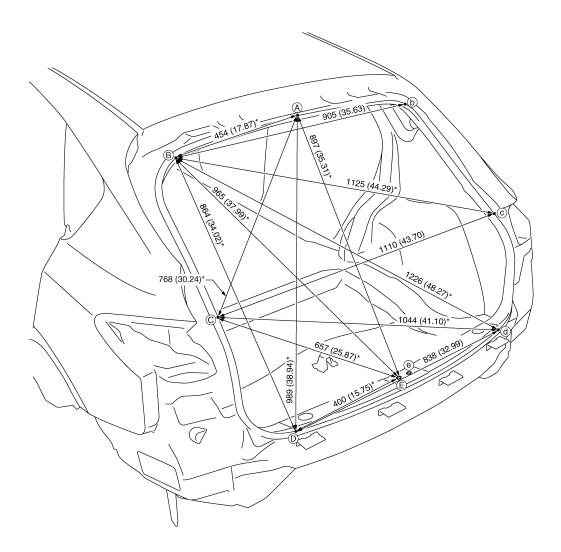
#### < SERVICE DATA AND SPECIFICATIONS (SDS)

# Rear Body

INFOID:000000009060450

#### MEASUREMENT

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

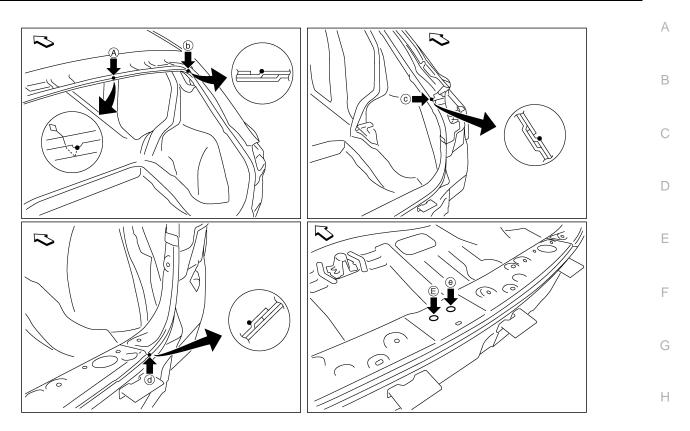


JSKIA0570GB

Unit: mm (in)

MEASUREMENT POINTS

#### < SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0571ZZ

#### C: Vehicle front

Unit: mm (in)

Point	Material	Point	Material	DDM
А	Roof indent of center positioning mark	D, d	Rear end crossmember joggle	BRM
B, b	Back pillar main joggle	E, e	Back door striker installing hole center $\phi$ 14 (0.55)	
С, с	Back pillar main center joggle			

M

J

Ν

0

Ρ

# LOCATION OF PLASTIC PARTS

# < SERVICE DATA AND SPECIFICATIONS (SDS)

# LOCATION OF PLASTIC PARTS

# Precautions for Plastics

INFOID:000000009060451

Abbre- viation	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) 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)	$\uparrow$	Flammable	
AAS	Acrylonitrile Acrylic Styrene	85 (185)	Avoid gasoline and solvents.	—	
PMMA	Poly Methyl Methacrylate	85 (185)	$\uparrow$	—	
EVAC	Ethylene Vinyl Acetate	90 (194)	$\uparrow$	—	
PP	Polypropylene	90 (194)	Gasoline and most solvents are harmless if applied for a very short time (wipe out quickly).	Flammable, avoid bat- tery acid.	
PUR	Polyurethane	90 (194)	Avoid gasoline and solvents.	—	
UP	Unsaturated Polyester	90 (194)	$\uparrow$	Flammable	
ASA	Acrylonitrile Styrene Acrylate	100 (212)	$\uparrow$	Flammable	
PPE	Poly Phenylene Ether	110 (230)	$\uparrow$	—	
TPU	Thermoplastic Urethane	110 (230)	$\uparrow$	—	
PBT+ PC	Poly Butylene Terephthalate + Polycarbonate	120 (248)	Ŷ	Flammable	
PC	Polycarbonate	120 (248)	$\uparrow$	-	
POM	Poly Oxymethylene	120 (248)	$\uparrow$	Avoid battery acid.	
PA	Polyamide	140 (284)	Ŷ	Avoid immersing in wa- ter.	
PBT	Poly Butylene Terephthalate	140 (284)	$\uparrow$	—	
PAR	Polyarylate	180 (356)	$\uparrow$	—	
PET	Polyethylene terephthalate	180 (356)	$\uparrow$	—	
PEI	Polyetherimide	200 (392)	<b>↑</b>	_	

#### **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<sup>,</sup> characteristics.

# LOCATION OF PLASTIC PARTS

### < SERVICE DATA AND SPECIFICATIONS (SDS)

# Location of Plastic Parts

INFOID:000000009060452

В

С

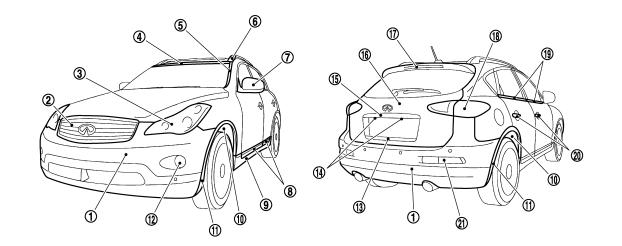
D

Е

F

G

Н

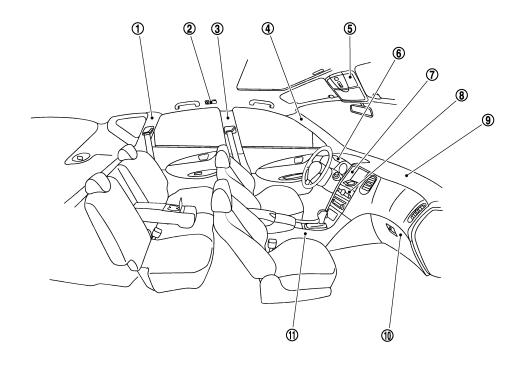


JSKIA0580ZZ

	Component		Material		Component		Material		
1	Bumper fascia		PP + EPM	13	Back door finisher		ABS		
2	Front grille		ABS	4.4	Lens		PC		
3	Front combination lamp	Lens	PC	14	License plate lamp	Housing	PC		
		Housing	PP	15	Center back door finishe	r	ABS		
4	Upper windshield moldin	g	TPO	16	Back door		PP + EPM		
5	Roof side molding		PVC + Stainless	17	High mount stop lown	Lens	PMMA	- - L	
6	Roof rack cover		ABS	17	High mount stop lamp	Housing	ABS		
7	Door outside mirror	Cover	ABS	- 18	Rear combination lamp (Rear Fender)	Lens	PMMA		
		Housing	ABS			Housing	ASA	N	
		Base	PA		Rear combination lamp (Back door)	Lens	PC		
8	Side guard molding	Body	PP			Housing	ASA		
		Chrome part	ABS	19	Door outside molding		PP + TPO + Stainless		
9	Center mudguard		PP	20	Door outside handle		PC + ABS		
10	Fender protector	Front	PP	21	Rear combination lamp (Rear bumper)	Lens	PC		
10		Rear	PET			Housing	PP		
11	Fillet molding		PP + EPM						
12	Front fog lamp	Lens	Glass						
		Housing	PBT + ASA + Glass fiber						

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# **LOCATION OF PLASTIC PARTS** < SERVICE DATA AND SPECIFICATIONS (SDS)



JSKIA0581ZZ

	Component		Material		Component		Material
1	Luggage side finisher		PP	7	Cluster lid D		PC + ABS
2	Personal lamp	Lens	PC	8	Cluster lid C		PC + ABS
2		Housing	PP	0	In strument nenel	Skin	TPU
3	Center pillar garnish		9 PP	Instrument panel	Pad	PP	
4	Front pillar garnish		PP	10	Glove box	Skin	PVC
5	Manlama	Lens	PC		Glove box	Core	ABS
5	Map lamp	Housing	PP	11	Console body		PC + ABS
6	Cluster lid A	+	PP				