SECTION BRM
BODY REPAIR

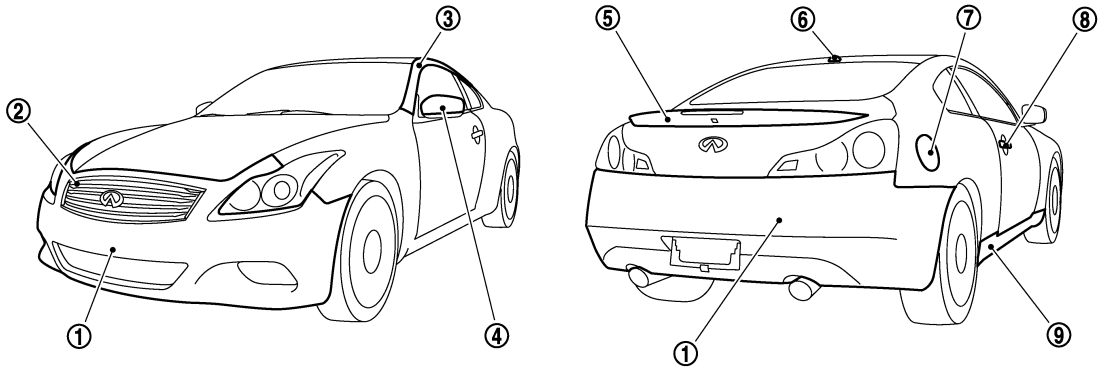
CONTENTS

FEATURES OF NEW MODEL

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

INFOID:0000000001672384



JSKIA0361GB

Component			Color code	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
			Description	Red	Blue	Black	Silver	Gray	Dark Gray	Gray	White
			Paint type Note	3P	PM	M	M	M	PM	TPM	3P
			Hard clear coat	×	×	×	-	-	×	-	-
1	Bumper fascia		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
2	Front grille		Chromium plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
3	Front pillar finisher		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
4	Door outside mirror	Cover	Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
5	Trunk rid finisher		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
6	Satellite radio antenna		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
7	Fuel filler lid		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
8	Door outside handle		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1
9	Center mudguard		Body color	BA54	BB21	BKH3	BK23	BK51	BK52	BK57	BQX1

NOTE:

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

PRECAUTION

HANDLING PRECAUTIONS

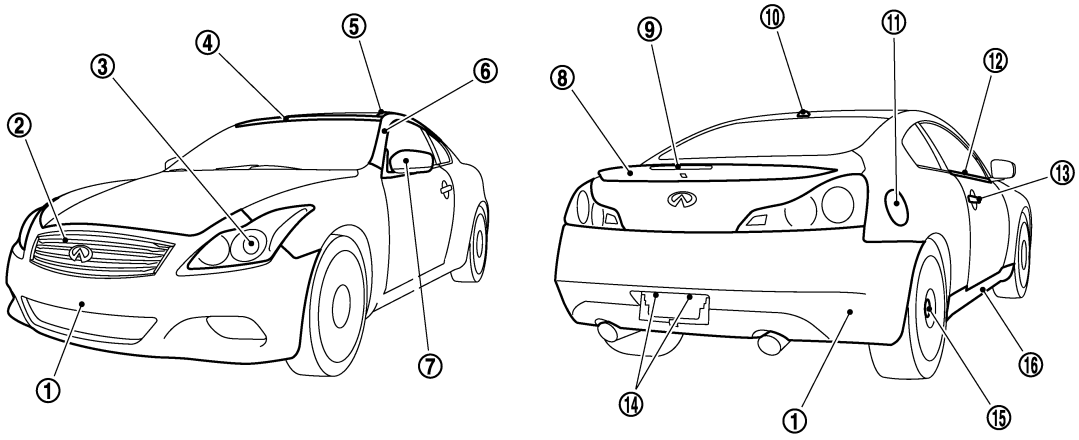
Precautions For Plastics

INFOID:0000000001672385

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

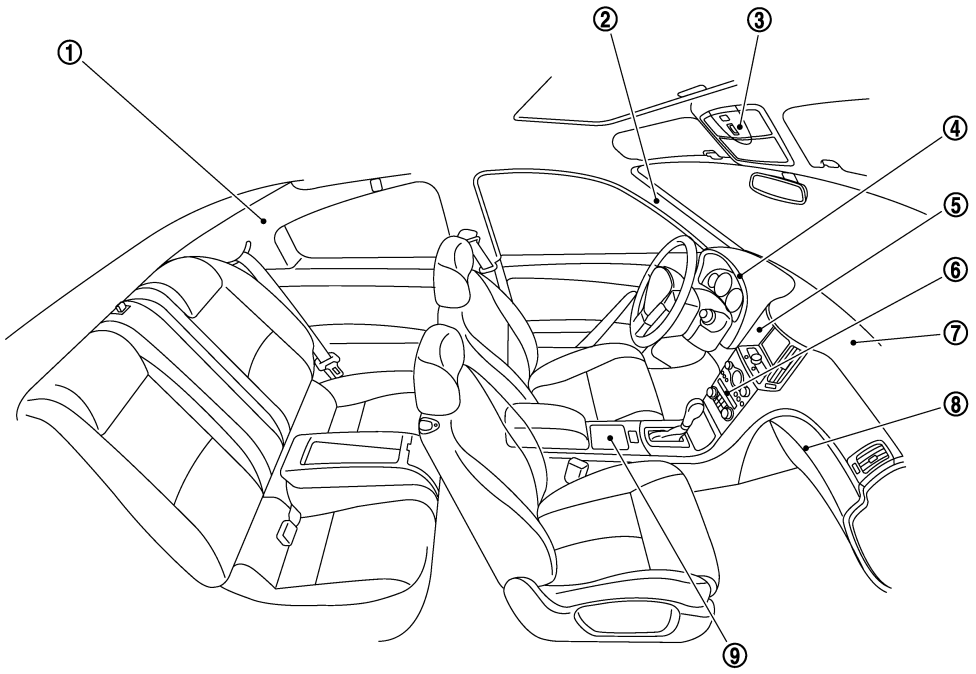
1. When repairing and painting a portion of the body adjacent to plastic parts, consider their characteristics (influence of heat and solvent) and remove them if necessary or take suitable measures to protect them.
2. Plastic parts should be repaired and painted using methods suiting the materials' characteristics.

LOCATION OF PLASTIC PARTS



JSKIA0362GB

Component			Material	Component			Material
1	Bumper fascia		PP	9	High mount stop lamp	Lens	PMMA
2	Front grille		ABS			Housing	ABS
3	Front combination lamp	Lens	PC	10	Satellite radio antenna		ASA + PC
		Housing	PP	11	Fuel filler lid		PA + PPE
4	Windshield molding		TPO	12	Door outside molding		PVC + Stainless
5	Roof side molding		PVC + Stainless	13	Door outside handle		PC + PET
6	Front pillar finisher		PC + PET	14	License plate lamp	Lens	PMMA
7	Door outside mirror	Cover	ABS			Housing	PC
		Housing	PP	15	Wheel disk cap		PC + ABS
		Base	PA + Glass fiber	16	Center mudguard		PP
8	Trunk lid finisher		ABS				



JSKIA0363GB

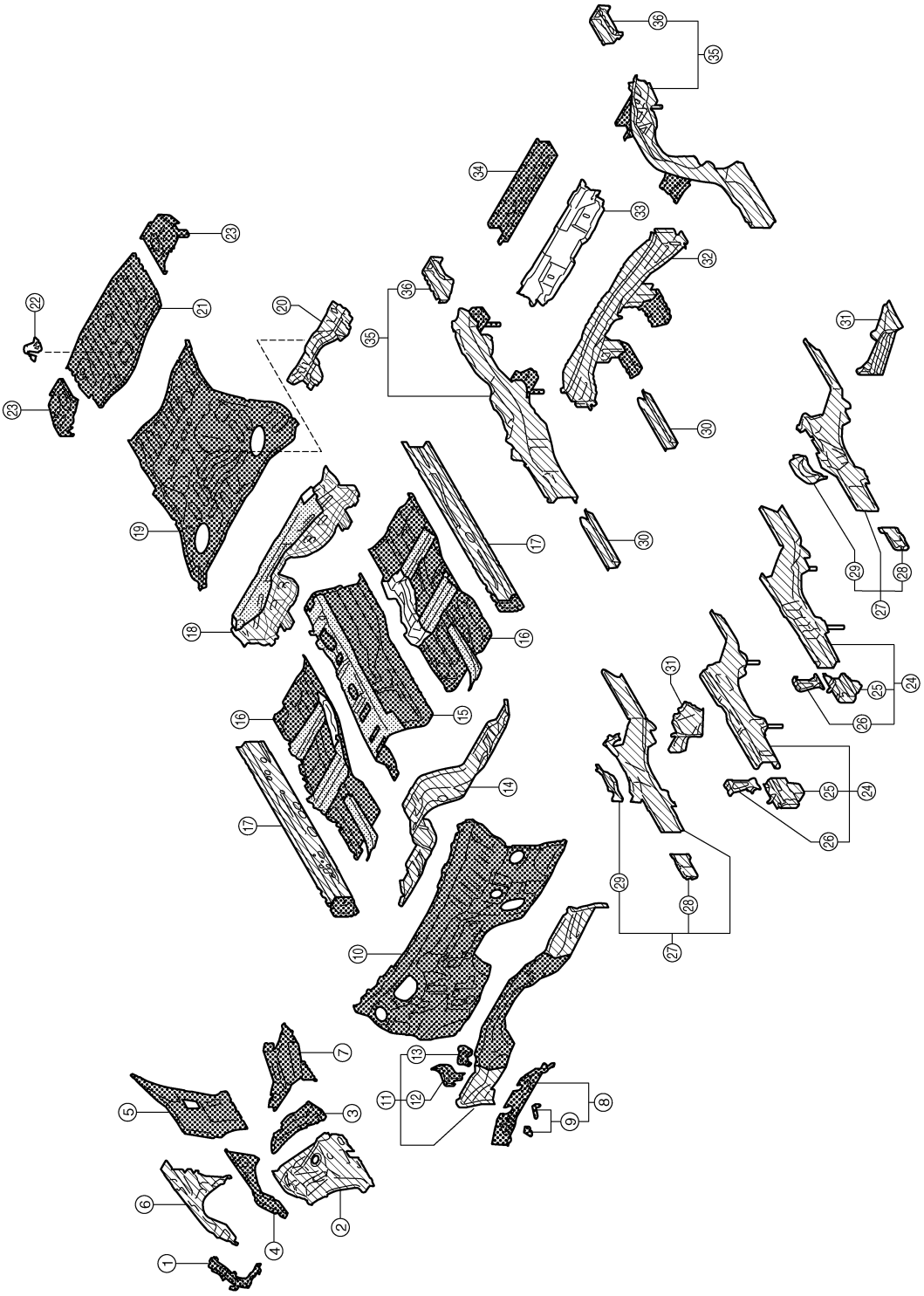
Component			Material	Component			Material
1	Rear pillar finisher		PP	7	Instrument panel	Core	PP
2	Front pillar finisher		PP			Pad	PUR
3	Map lamp	Lens	PC			Skin	TPU
		Housing	PP	8	Glove box	Core	ABS
4	Cluster lid A	Upper	ABS			Pad	PUR
		Lower	PP			Skin	PVC
5	Cluster lid D		ABS	9	Center console		PP + PVC
6	Cluster lid C	Standard finisher	ABS				
		Wood finisher	PC + ABS				

REMOVAL AND INSTALLATION

BODY COMPONENT PARTS

Underbody Component Parts

INFOID:0000000001672386



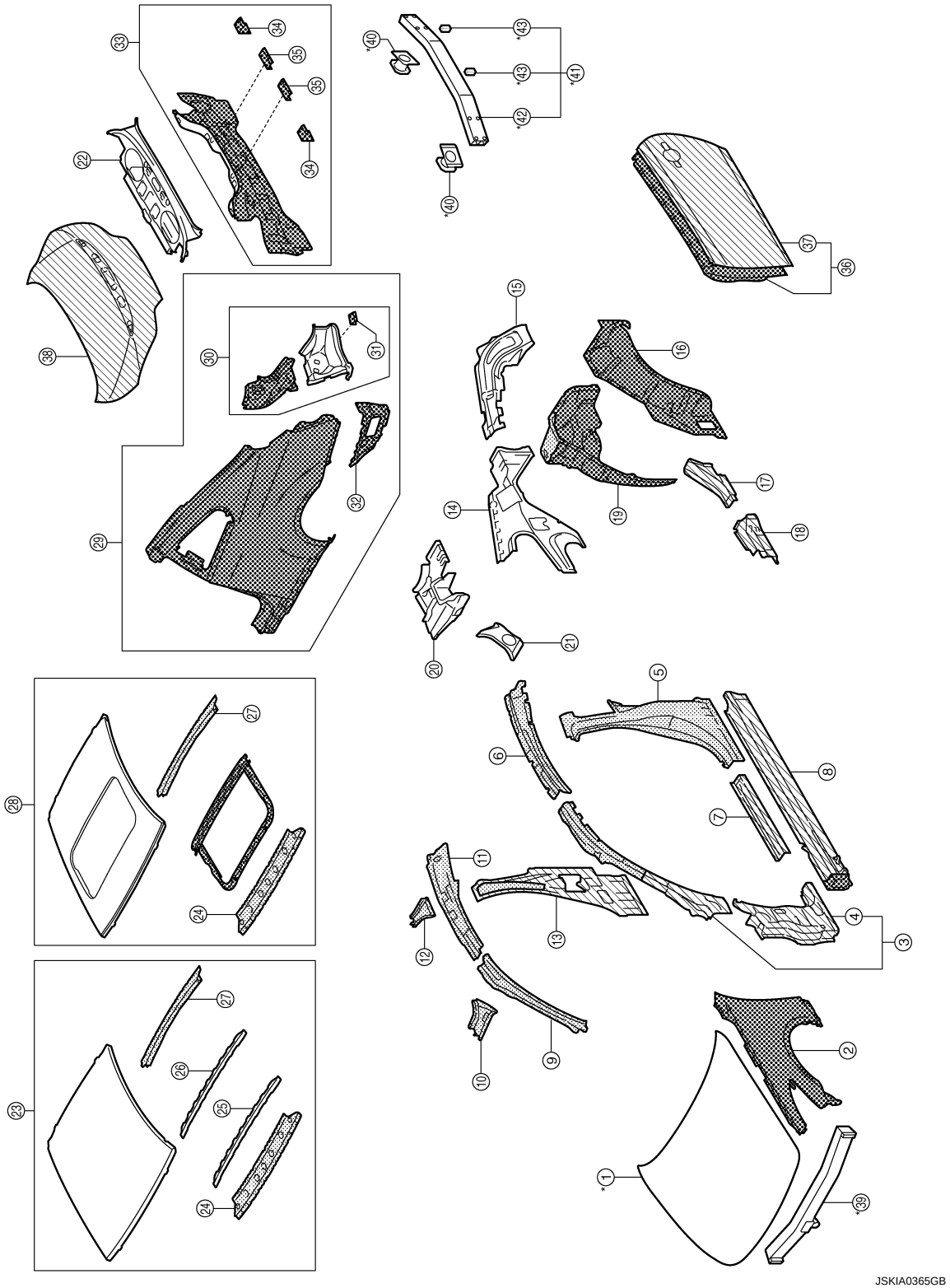
JSKIA0364GB

1. Radiator core support assembly (RH & LH)
2. Front strut housing (RH & LH)
3. Lower rear hoodledge (RH & LH)
4. Upper front hoodledge (RH & LH)
5. Upper rear hoodledge (RH & LH)
6. Hoodledge reinforcement (RH & LH)
7. Upper side cowl top (RH & LH)
8. Upper front cowl top assembly
9. Cowl top bracket
10. Upper dash
11. Lower dash crossmember assembly
12. Lower outer battery support bracket
13. Lower battery support bracket
14. Lower dash
15. Center front floor
16. Front floor
17. Inner sill
18. Rear seat crossmember reinforcement assembly
19. Rear floor front
20. Rear floor seat belt anchor reinforcement
21. Rear floor rear
22. Spare tire clamp bracket
23. Rear floor side
24. Front side member assembly
25. Front side member front extension
26. Front side member connector assembly
27. Front side member closing plate assembly
28. Front side member front closing plate
29. Front side member center closing plate
30. Front side member rear extension
31. Front side member outrigger assembly
32. Rear seat crossmember
33. 2nd rear crossmember
34. Rear crossmember center assembly
35. Rear side member assembly
36. Rear side member extension

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

Body Component Parts

INFOID:0000000001672387



1. Hood
2. Front fender (RH & LH)
3. Upper front pillar reinforcement (RH & LH)
4. Front pillar brace (RH & LH)
5. Outer lock pillar reinforcement (RH & LH)
6. Outer side roof rail reinforcement (RH & LH)

7. Outer step sill (RH & LH)	8. Outer sill reinforcement (RH & LH)	9. Upper inner front pillar assembly (RH & LH)
10. Front roof rail brace (RH & LH)	11. Inner side roof rail (RH & LH)	12. Rear roof rail brace (RH & LH)
13. Inner center pillar (RH & LH)	14. Inner rear pillar (RH & LH)	15. Rear pillar reinforcement (RH & LH)
16. Outer rear wheelhouse (RH & LH)	17. Upper outer rear wheelhouse extension (RH & LH)	18. Lower outer rear wheelhouse extension (RH & LH)
19. Inner rear wheelhouse (RH & LH)	20. Side parcel shelf (RH & LH)	21. Seat back support (RH & LH)
22. Parcel shelf with rear waist	23. Roof assembly (Standard roof)	24. Front roof rail
25. Roof bow No.1	26. Roof bow No.2	27. Rear roof rail
28. Roof assembly (With sunroof)	29. Rear fender assembly (RH & LH)	30. Tail pillar assembly (RH & LH)
31. Rear bumper center bracket (RH & LH)	32. Rear fender extension (RH & LH)	33. Rear panel assembly
34. Rear bumper fascia center bracket	35. Rear bumper fascia bracket	36. Door assembly (RH & LH)
37. Outer door panel (RH & LH)	38. Trunk lid	39. Inner center front bumper reinforcement
40. Rear bumper stay	41. Inner center rear bumper reinforcement assembly	42. Center rear bumper reinforcement
43. Rear bumper overrider assembly		

: Both sided anti-corrosive precoated steel portions

: High strength steel (HSS) portions

: Both sided anti-corrosive steel and HSS portions

* : Aluminum portion

CORROSION PROTECTION

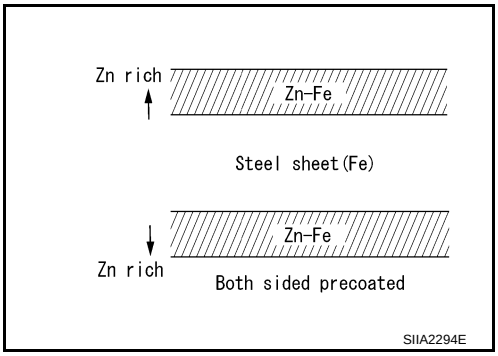
Description

INFOID:0000000001672388

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

Anti-Corrosive Precoated Steel (Galvannealed Steel)

To improve repairability and corrosion resistance, a new type of anti-corrosive precoated steel sheet has been adopted replacing conventional zinc-coated steel sheet.
Galvannealed steel is electroplated and heated to form Zinc-iron alloy, which provides excellent and long term corrosion resistance with cationic electrodeposition primer.



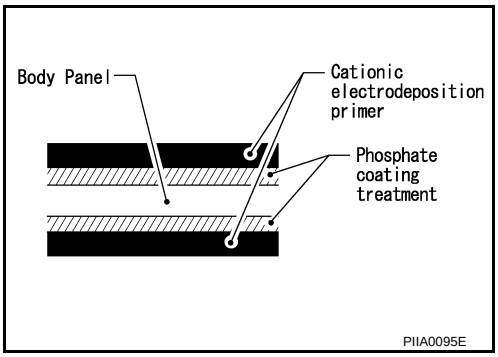
Nissan Genuine Service Parts are fabricated from galvannealed steel. Therefore, it is recommended that GENUINE NISSAN PARTS or equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

Phosphate Coating Treatment and Cationic Electrodeposition Primer

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

CAUTION:

Confine paint removal during welding operations to an absolute minimum.



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

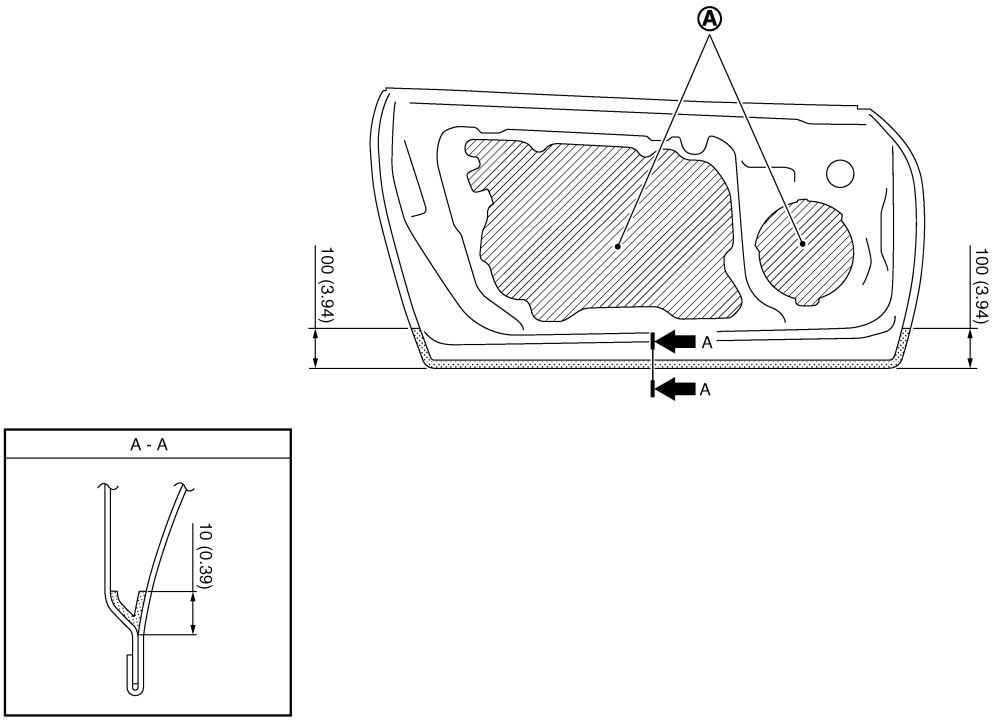
Anti-corrosive Wax

INFOID:0000000001672389

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

Unit : mm (in)



JSKIA0366GB

A. Nozzle insert hole

: Anti-corrosive wax coated portions

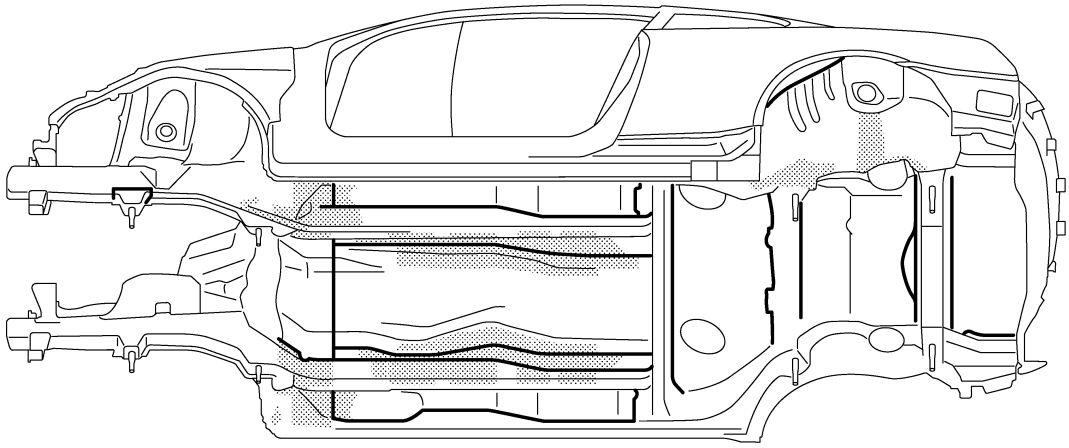
Undercoating

INFOID:0000000001672390

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

Precautions in Undercoating

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



JSKIA0367GB

: Undercoated portions

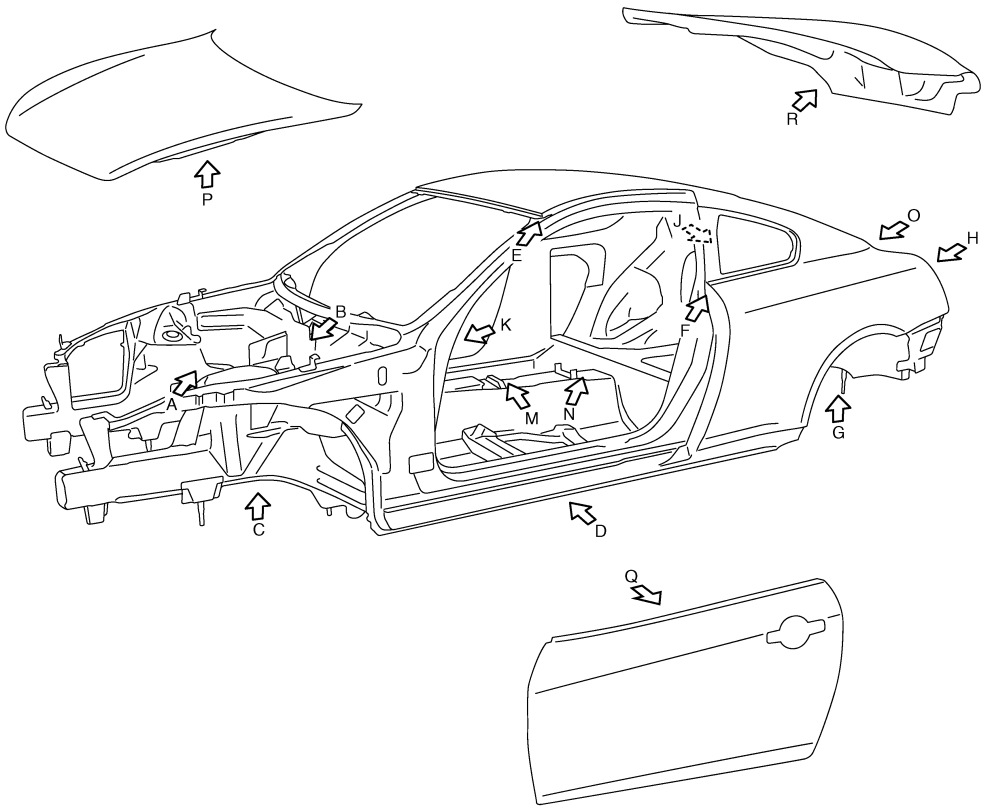
: Sealed portions

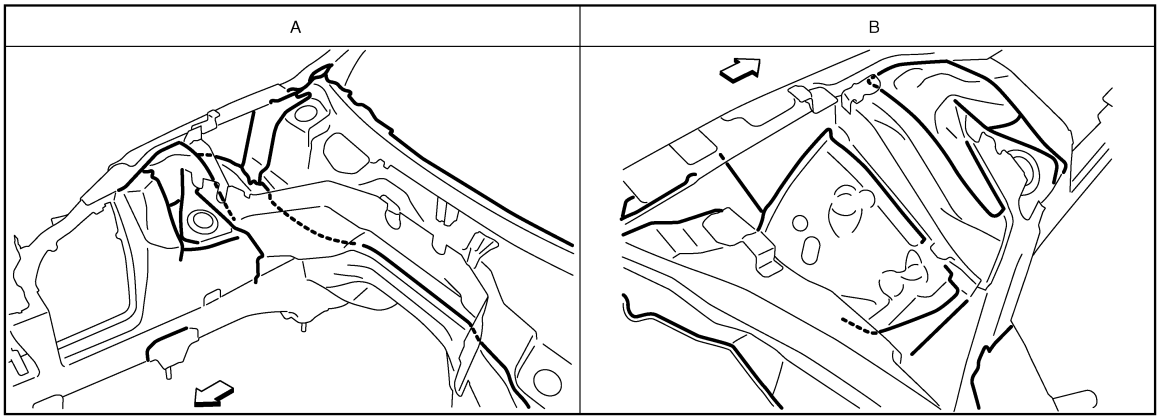
BODY SEALING

Description

INFOID:0000000001672392

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.

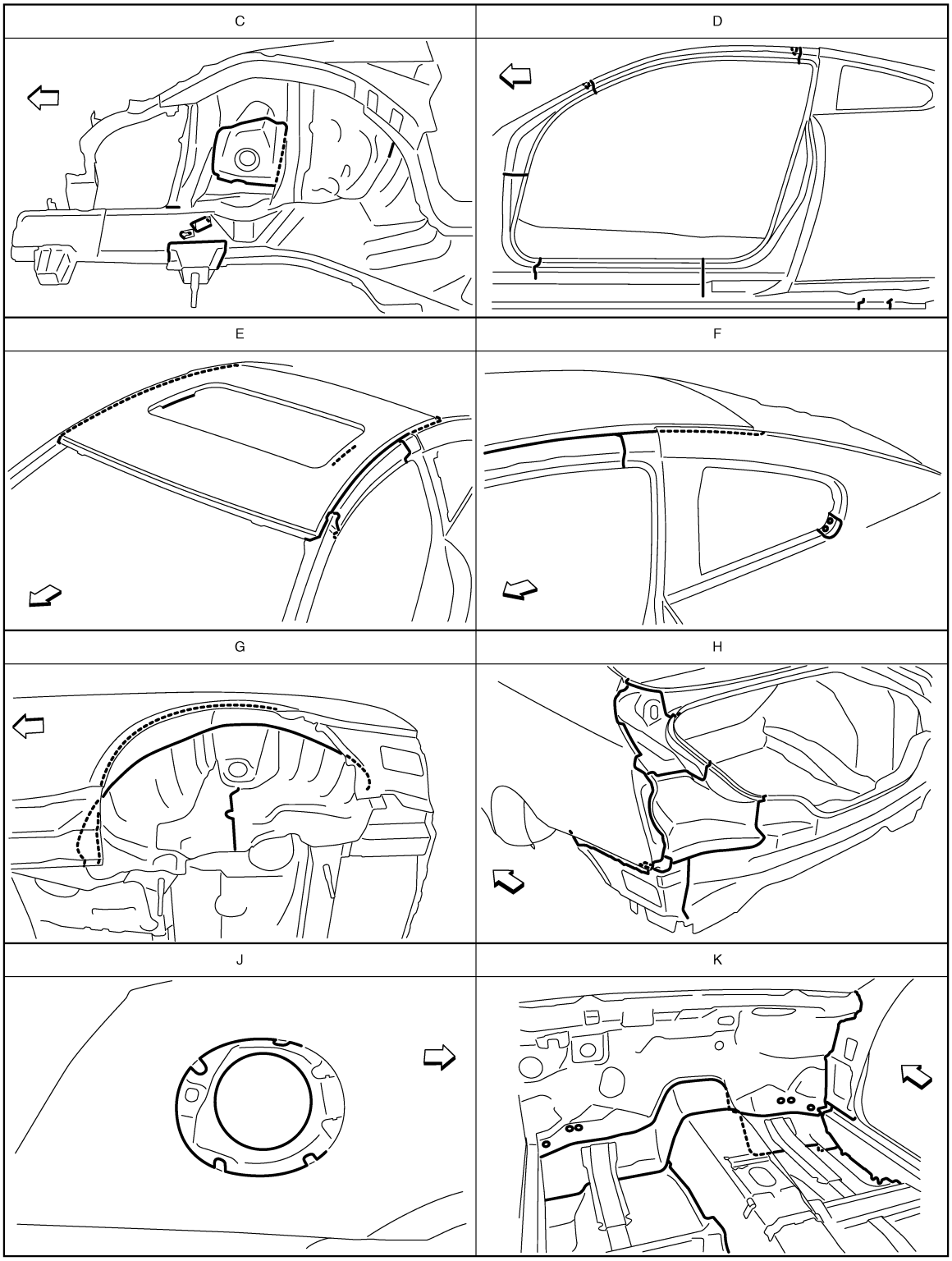




JSKIA0368GB

⇦ : Vehicle front

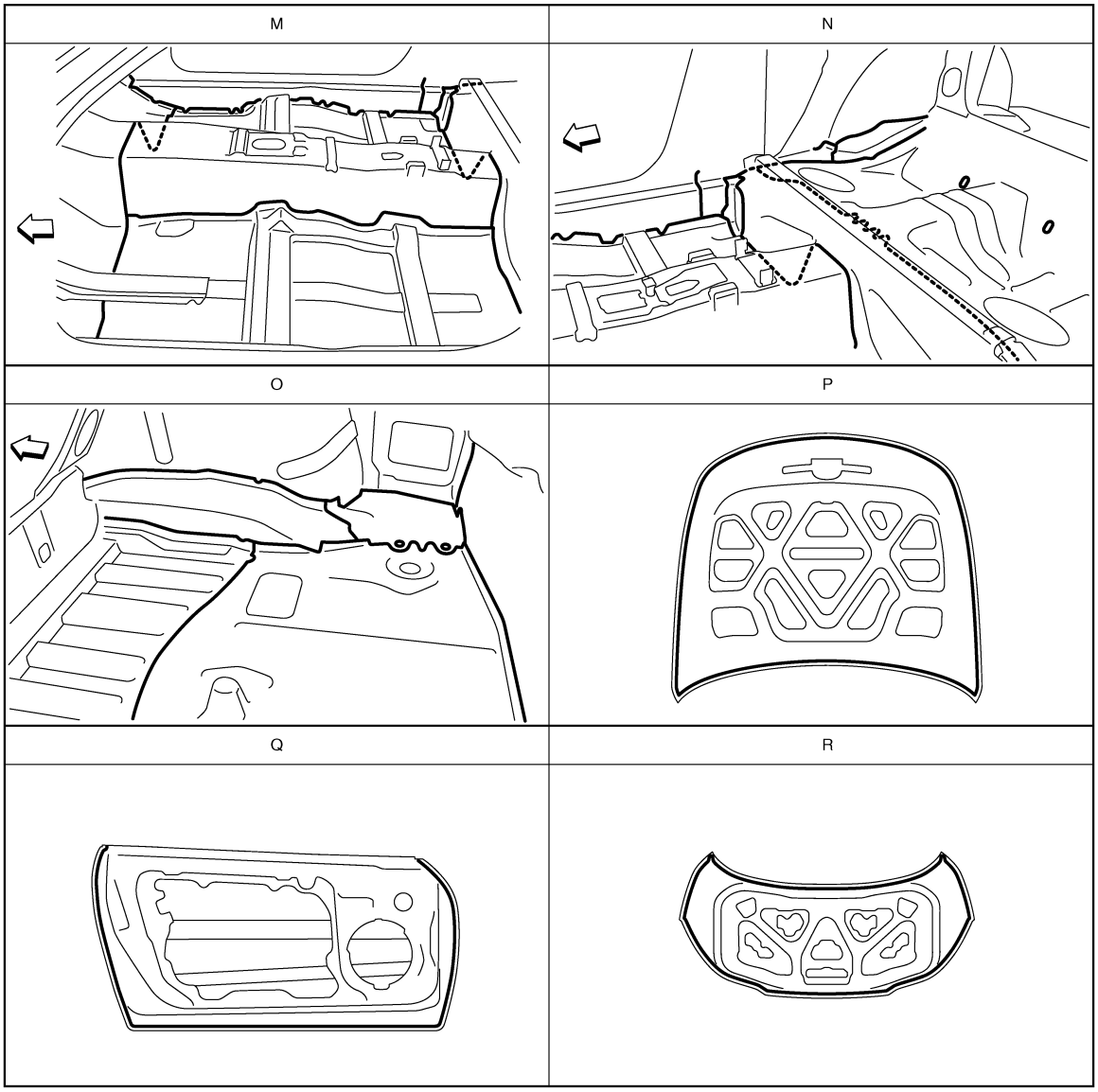
▬ : Sealed portions



JSKIA0369GB

⇦ : Vehicle front

▬ : Sealed portions



JSKIA0370GB

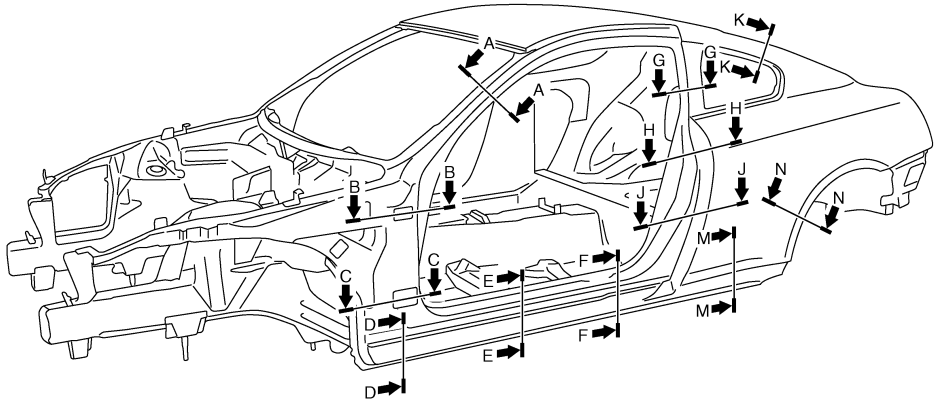
⇦ : Vehicle front

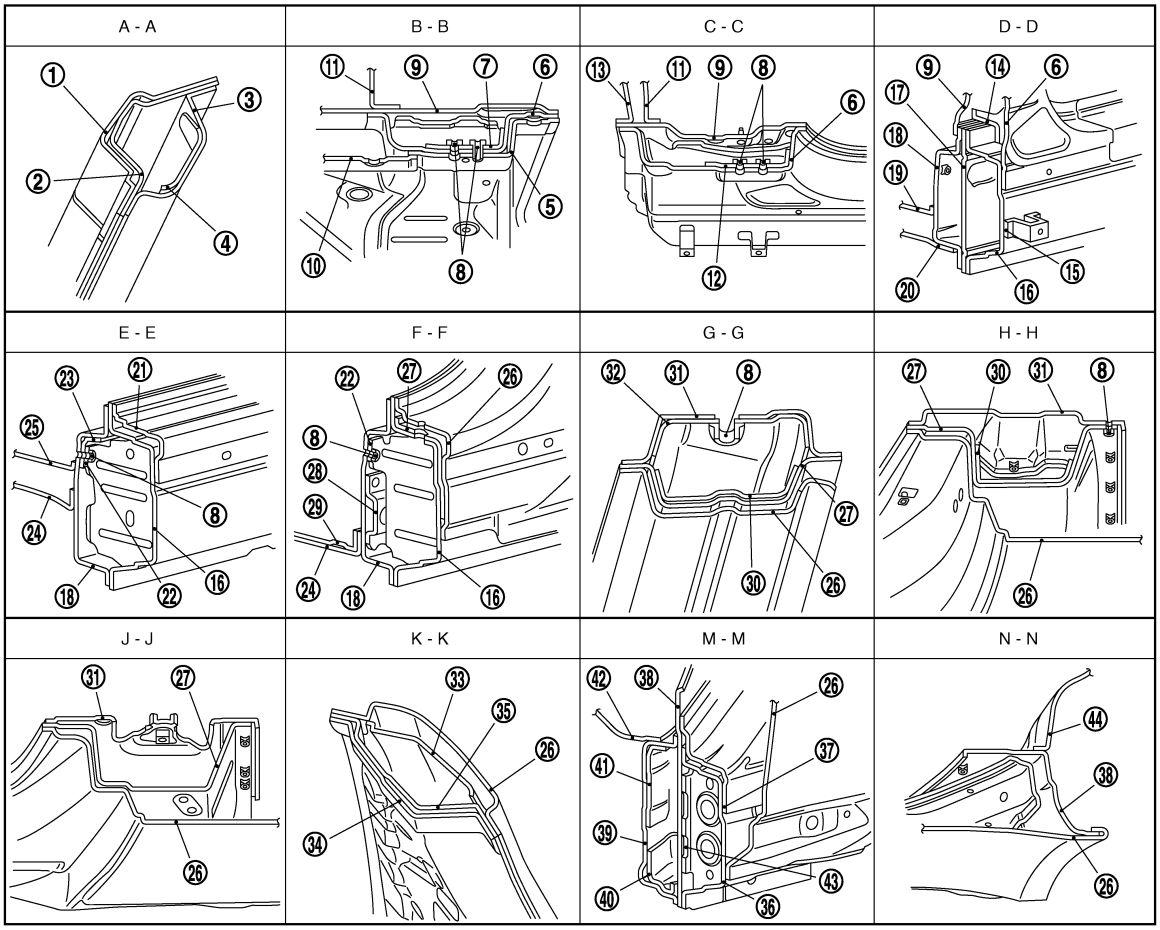
▬ : Sealed portions

BODY CONSTRUCTION

Body Construction

INFOID:0000000001672393





JSKIA0371GB

1. Upper outer front pillar
2. Outer front pillar reinforcement
3. Upper inner front pillar
4. Inner front pillar reinforcement
5. Lower outer front pillar
6. Front pillar hinge brace
7. Upper hinge plate
8. Weld nut
9. Upper rear hoodledge

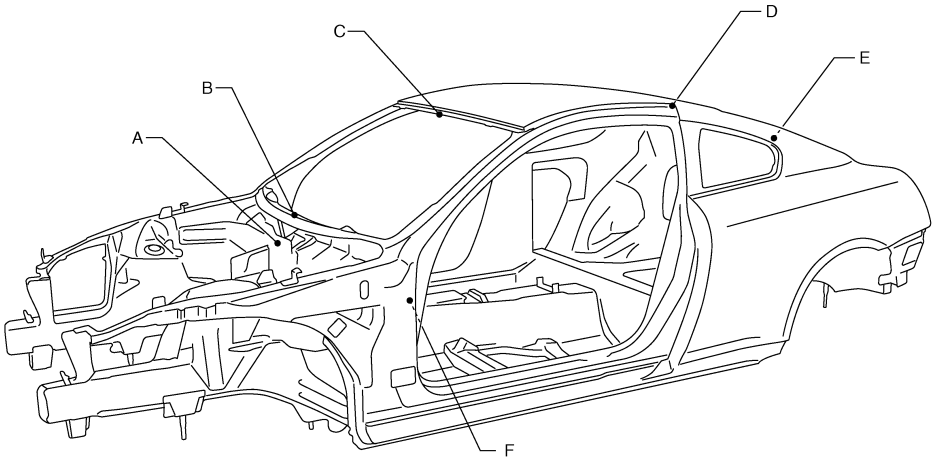
10. Hoodledge reinforcement
11. Upper dash
12. Lower hinge plate
13. Lower dash crossmember
14. Lower front pillar gusset
15. Front fender bracket
16. Outer sill reinforcement
17. Lower front pillar reinforcement
18. Inner sill
19. Lower dash
20. Front side member outrigger
21. Outer step sill
22. Outer sill brace
23. Inner sill reinforcement
24. Front floor
25. 2nd crossmember
26. Rear fender
27. Lock pillar reinforcement
28. Center sill reinforcement
29. 3rd crossmember
30. Upper inner lock pillar reinforcement
31. Inner lock pillar
32. Lock pillar seat belt anchor
33. Rear pillar reinforcement
34. Inner side roof rail
35. Inner rear pillar
36. Outer rear sill reinforcement
37. Outer rear wheelhouse extension
38. Outer rear wheelhouse
39. Rear side member front
40. Rear tie down hook bracket
41. Rear side member front reinforcement
42. Rear floor front
43. Outer rear wheelhouse brace
44. Inner rear wheelhouse

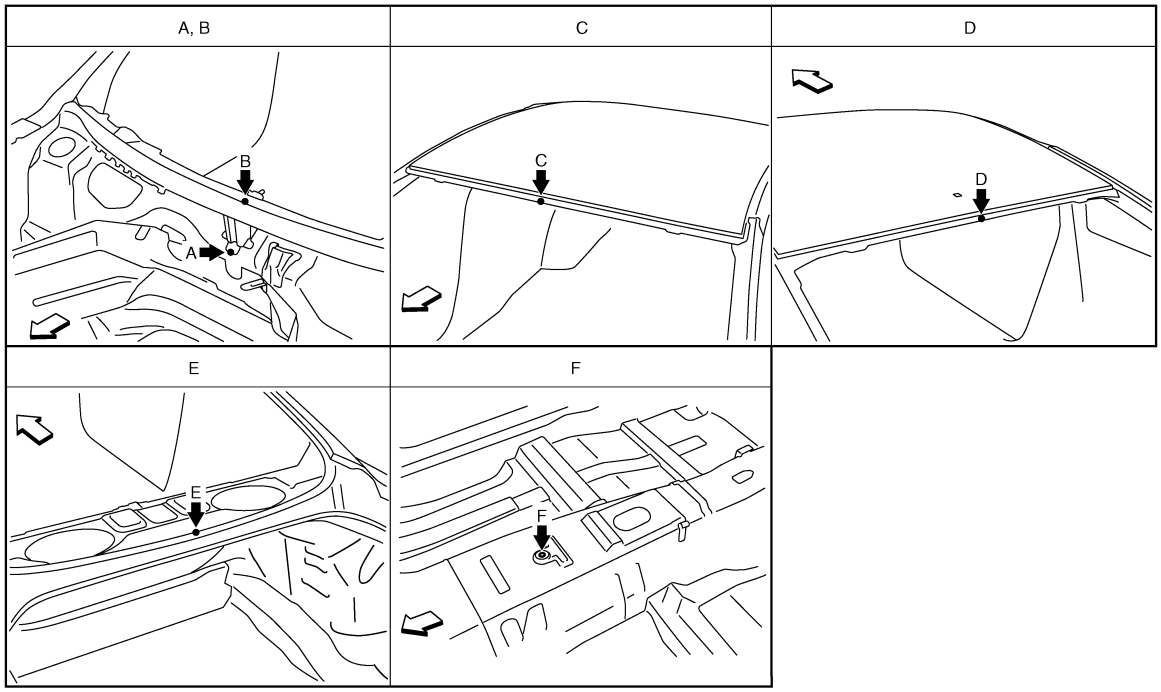
BODY ALIGNMENT

Body Center Marks

INFOID:0000000001672394

A mark has been placed on each part of the body to indicate the vehicle center. When repairing parts damaged by an accident which might affect the vehicle frame (members, pillars, etc.), more accurate and effective repair will be possible by using these marks together with body alignment specifications.





JSKIA0372GB

⇦ : Vehicle front

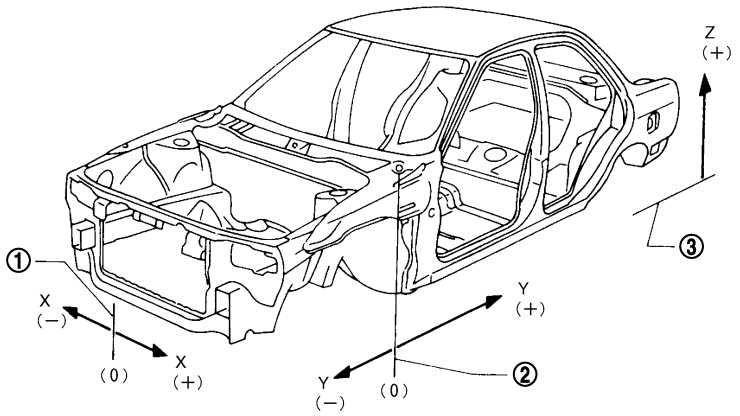
Unit: mm (in)

Points	Portion	Marks
A, B	Upper dash	Embossment
C	Front roof	Embossment
D	Rear roof	Embossment
E	Rear waist	Embossment
F	Trans control reinforcement	Hole 14×12 (0.55×0.47)

Description

INFOID:0000000001672396

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



JSKIA0073GB

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

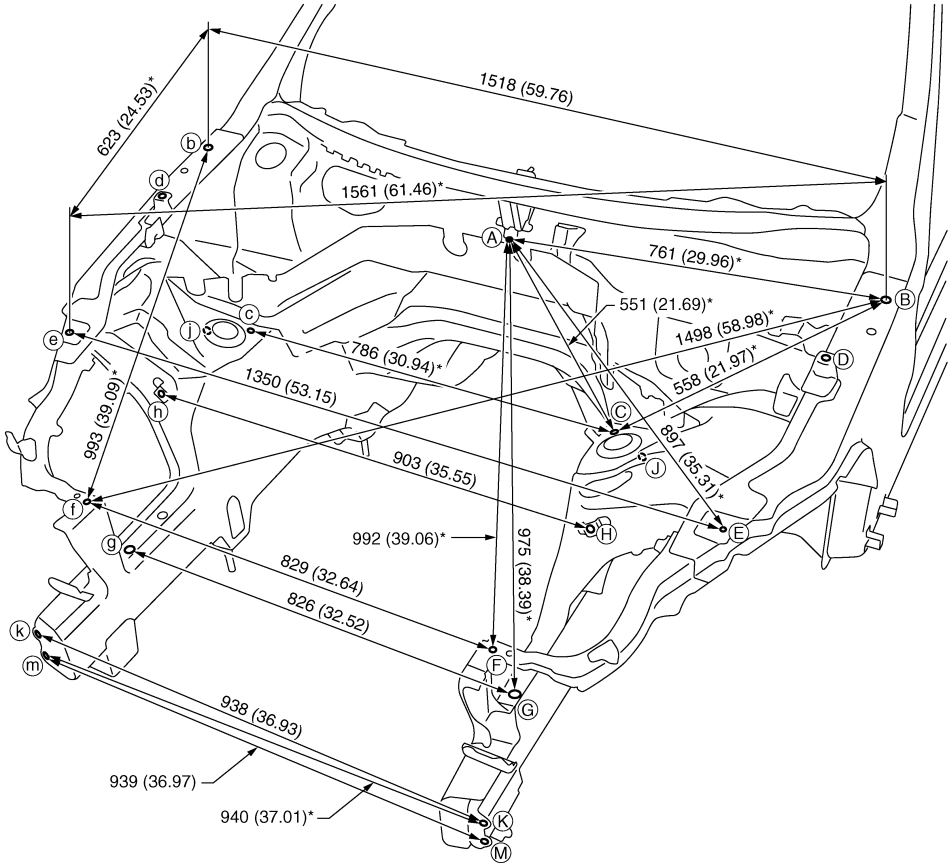
Engine Compartment

INFOID:0000000001672397

Measurement

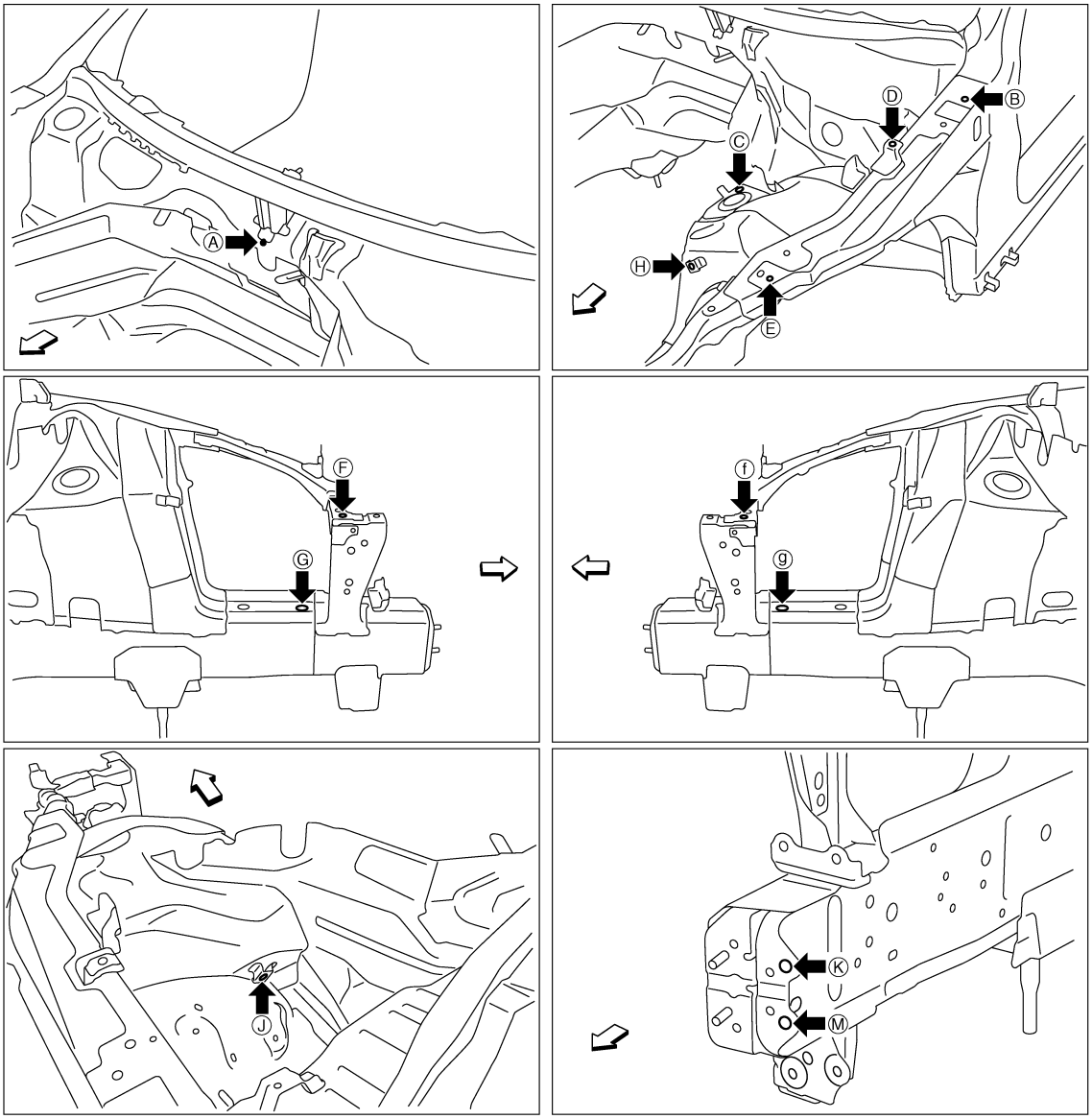
Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand of the vehicle.

Unit : mm (in)



JSKIA0352GB

Measurement Points



JSKIA0353GB

⇦ : Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Upper dash indent of center positioning mark	F, f	Radiator core stay installing hole center ϕ12 (0.47)
B, b	Hood hinge installing hole center ϕ12 (0.47)	G, g	Front side member hole center ϕ20 (0.79)
C, c	Front strut installing hole center 16×10 (0.63×0.39)	H, h, J, j	Nut holder hole center ϕ16 (0.63)
D, d	Upper front fender bracket installing hole center ϕ7 (0.28)	K, k, M, m	Front bumper stay installing hole center ϕ11 (0.43)
E, e	Hoodledge reinforcement hole center ϕ12 (0.47)		

Underbody

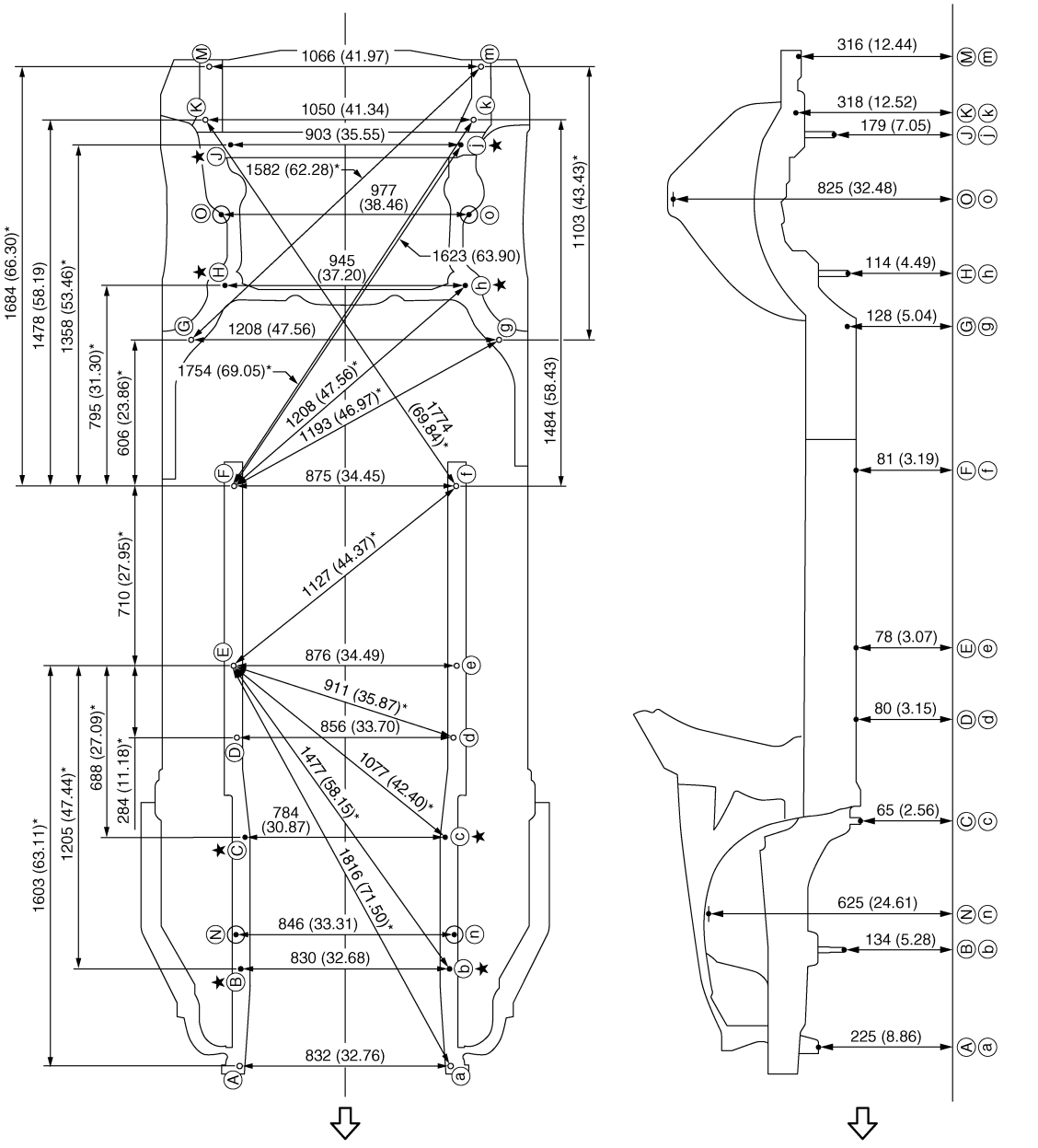
INFOID:0000000001672398

Measurement

Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand of the vehicle.

As viewed from underside.

Unit : mm (in)

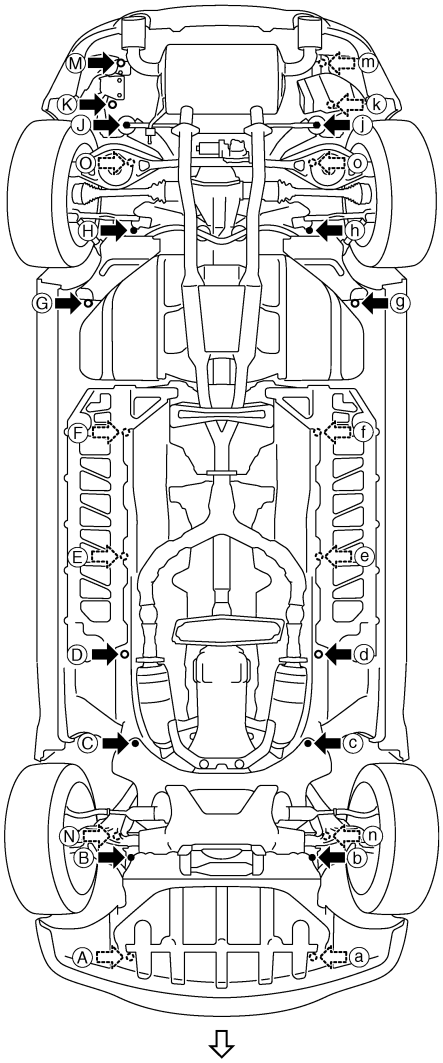


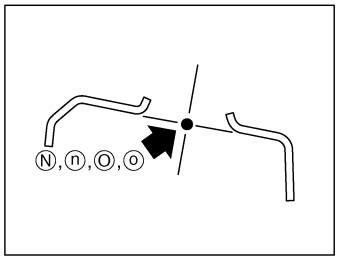
JSKIA0354GB

⇦ : Vehicle front

★ : Bolt head

Measurement Points





JSKIA0355GB

⇦ : Vehicle front

Unit: mm (in)

Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
A, a	±416	-496	225	Hole ϕ13 (0.51)	H, h	±473	2604	114	Bolt head
B, b	±415	-104	134	Bolt head	J, j	±452	3164	179	Bolt head
C, c	±392	414	65	Bolt head	K	550	3265	318	Hole ϕ8 (0.31)
D, d	±428	817	80	Hole 16×18 (0.63×0.71)	k	-500	3273	318	Hole ϕ8 (0.31)
E, e	±438	1100	78	Hole ϕ16 (0.63)	M, m	±533	3475	316	Hole ϕ16 (0.63)
F, f	±438	1810	81	Hole ϕ16 (0.63)	N, n	±423	38	675	Hole ϕ50 (1.97)
G, g	±604	2391	128	Hole ϕ13 (0.51)	O, o	±488	2892	825	Hole ϕ68 (2.68)

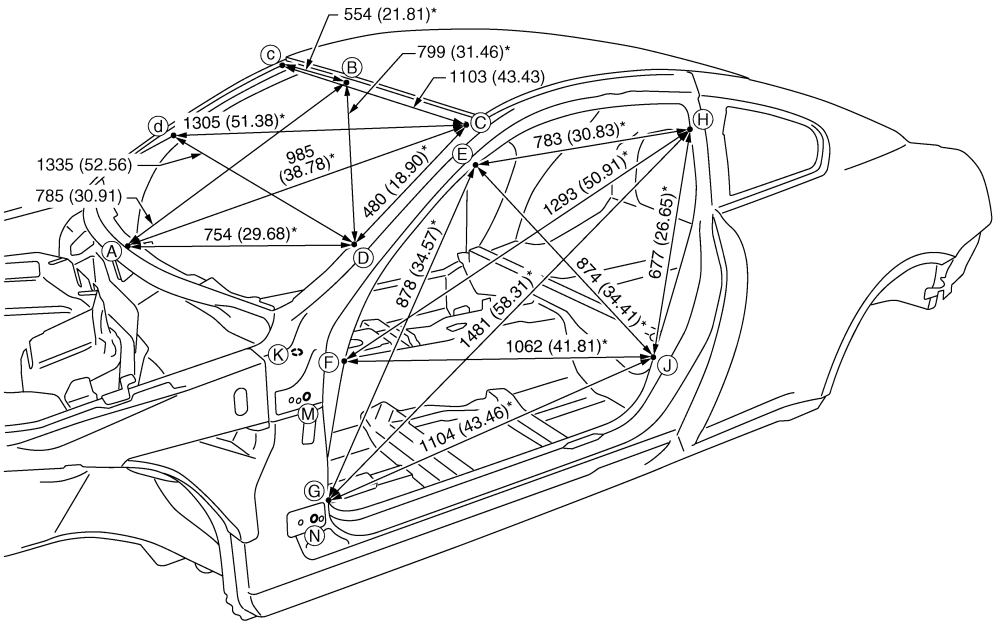
Passenger Compartment

INFOID:0000000001672399

Measurement

Figures marked with a (*) indicates symmetrically identical dimensions on both right and left hand of the vehicle.

Unit : mm (in)



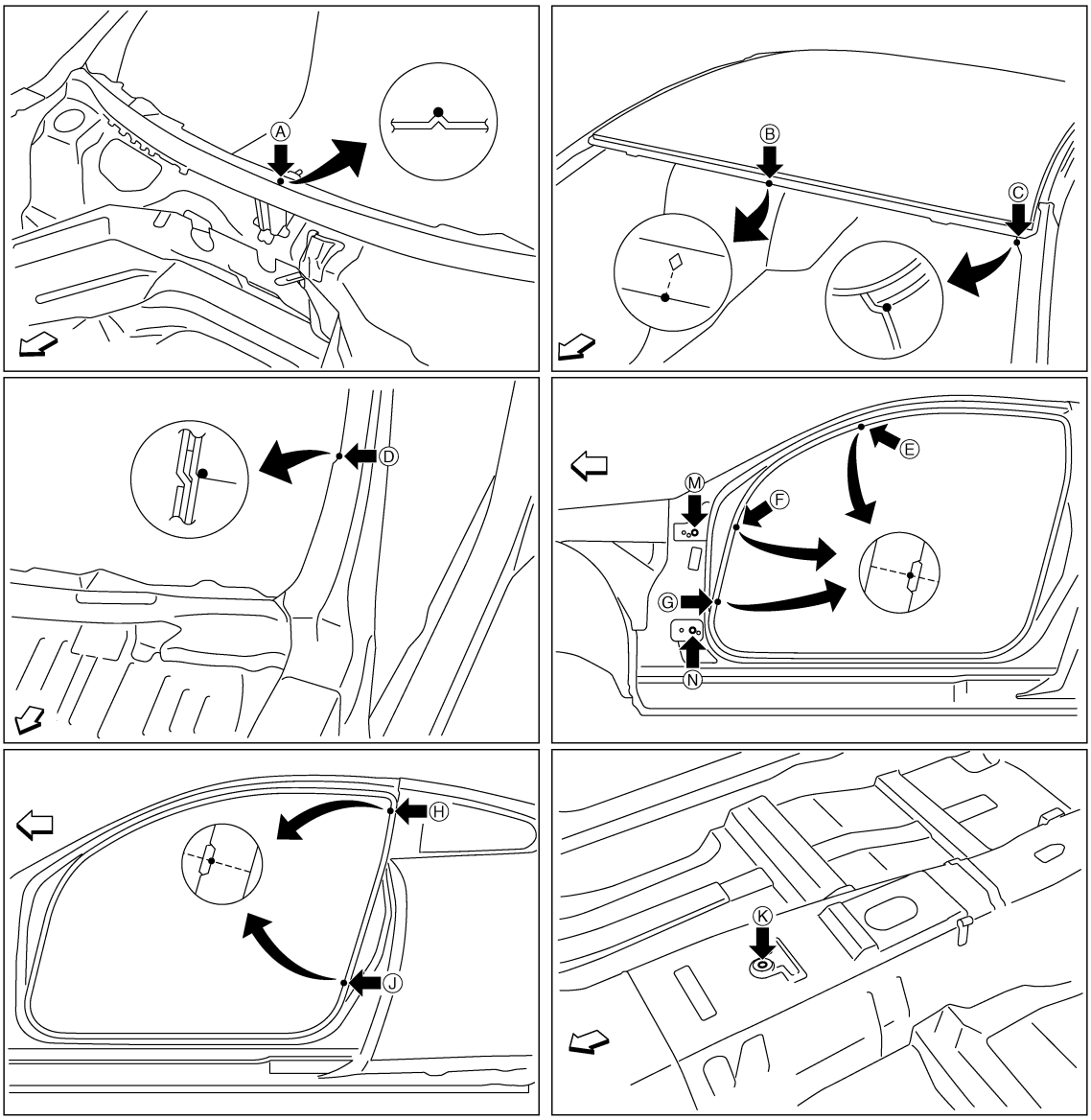
JSKIA0356GB

«The others»

Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
E - e	1253 (49.33)		F - j	1796 (70.71)*		J - j	1451 (57.13)		M - H	1434 (56.46)*	
E - g	1607 (63.27)*		G - g	1447 (56.97)		K - E	987 (38.86)*		M - J	1186 (46.69)*	
E - h	1472 (57.95)*		G - h	1997 (78.62)*		K - F	793 (31.22)*		N - H	1558 (61.34)*	
E - j	1607 (63.27)*		G - j	1822 (71.73)*		K - G	749 (29.49)*		N - J	1170 (46.06)*	
F - f	1446 (56.93)		H - h	1240 (48.82)		K - H	1443 (56.81)*				
F - h	1861 (73.27)*		H - j	1503 (59.17)*		K - J	1164 (45.83)*				

Measurement Points



JSKIA0357GB

⇦ : Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Upper dash positioning mark of center positioning mark	H, h, J, j	Rear fender indent
B	Roof flange end of center positioning mark	K	Trans control reinforcement hole center of center positioning mark 14×12 (0.55×0.47)
C, c, D, d	Front pillar joggle	M, m, N, n	Door hinge installing hole center M, m: ϕ14 (0.55) N, n: ϕ12 (0.47)
E, e, F, f, G, g	Front pillar indent		

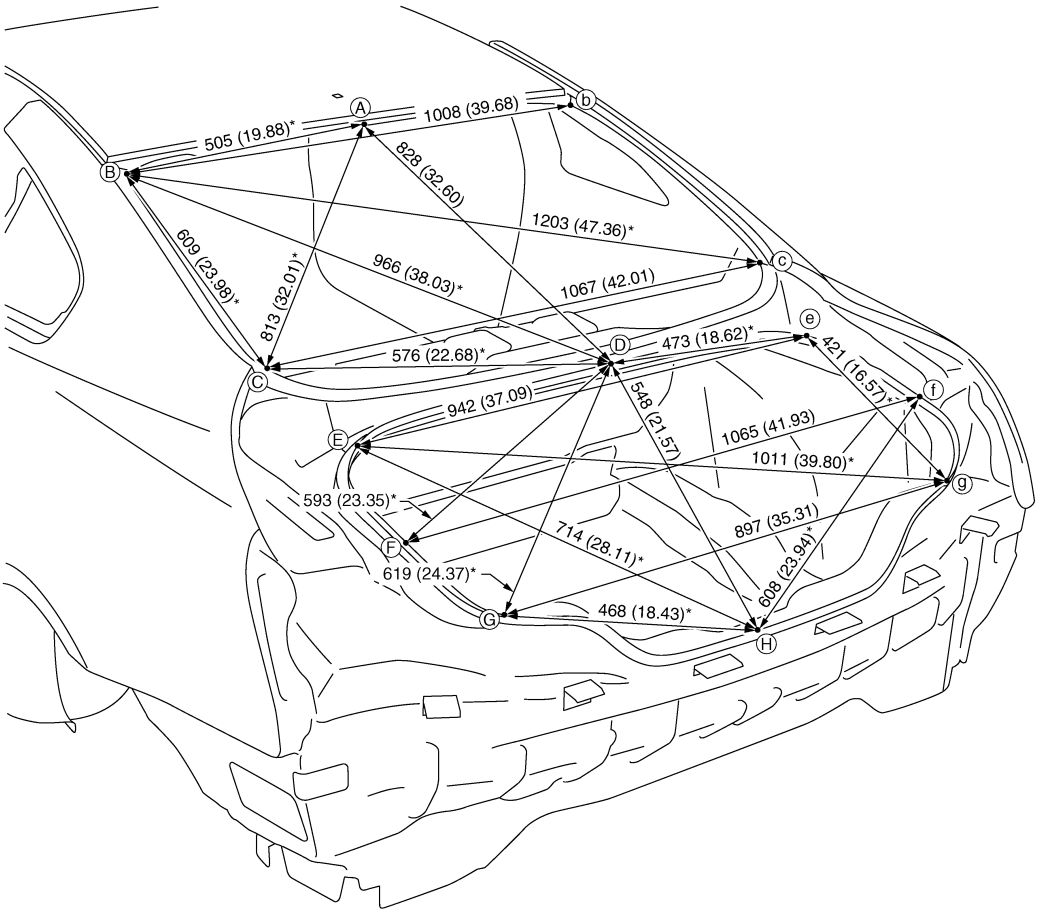
Rear Body

INFOID:0000000001672400

Measurement

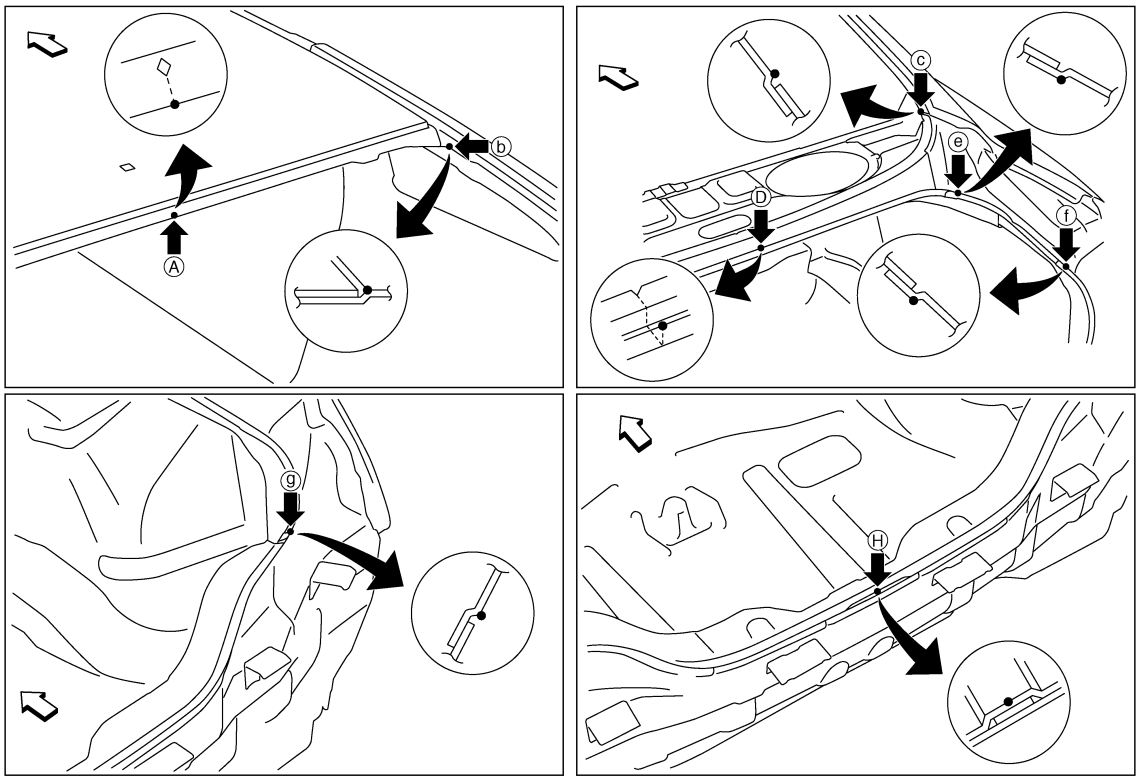
Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand of the vehicle.

Unit : mm (in)



JSKIA0358GB

Measurement Points



JSKIA0359GB

⇦ : Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Roof flange end of center positioning mark	F, f, G, g	Rear combination lamp base joggle
B, b, C, c, E, e	Rear fender corner joggle	H	Upper rear panel flange end of center positioning mark
D	Rear waist flange end of center positioning mark		

REPAIRING HIGH STRENGTH STEEL

High Strength Steel (HSS)

INFOID:0000000001672401

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:

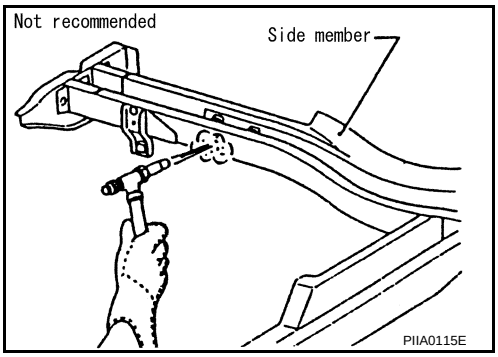
Tensile strength	Nissan/Infiniti designation	Major applicable parts
373 N/mm^2 (38 kg/mm^2, 54 klb/sq in)	SP130	• Side dash • Front floor • Rear side member assembly • Other reinforcements • Inner center front bumper reinforcement
785 - 1350 N/mm^2 (80 - 138 kg/mm^2, 114 - 196 klb/sq in)	SP150	• Front side member assembly • Front side member closing plate assembly • Lower dash crossmember reinforcement • Lower dash crossmember assembly • Front side member rear extension (Front floor component part) • Inner sill • Inner center rear bumper reinforcement

SP130 is the most commonly used HSS.

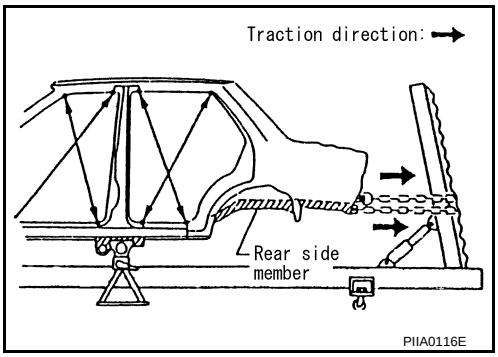
SP150 HSS is used only on parts that require much more strength.

Read the following precautions when repairing HSS:

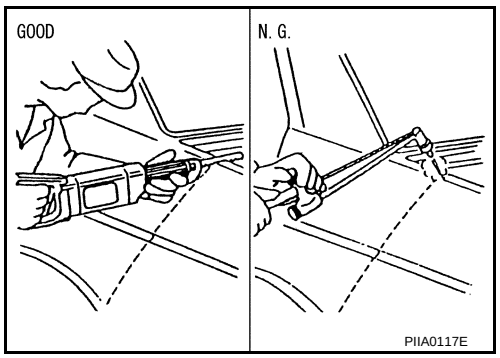
1. Additional points to consider
   - The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).
     Verify heating temperature with a thermometer.
     (Crayon-type and other similar type thermometer are appropriate.)



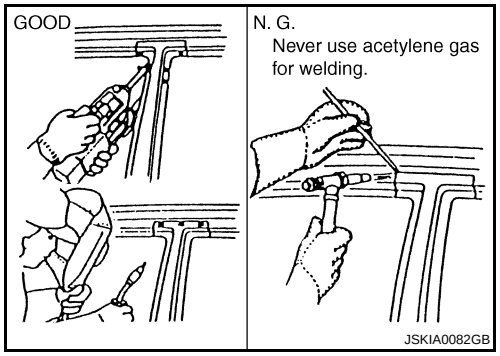
   - When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



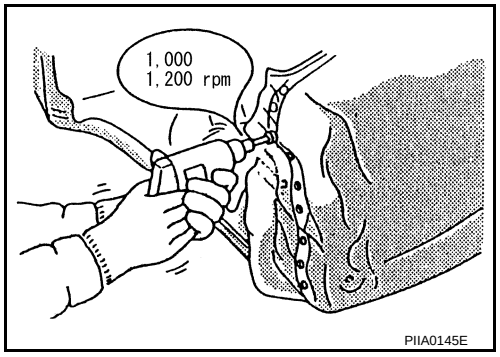
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).



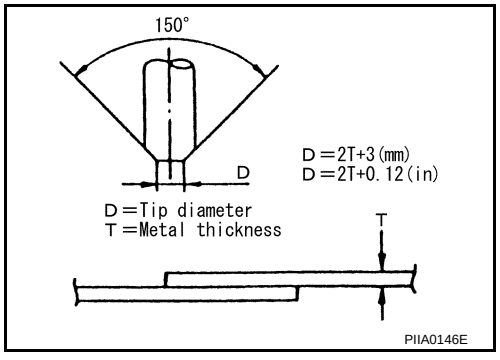
- When welding HSS panels, use spot welding whenever possible in order to minimize weakening surrounding areas due to heat.
  If spot welding is impossible, use MIG. welding. Do not use gas (torch) for welding because it is inferior in welding strength.



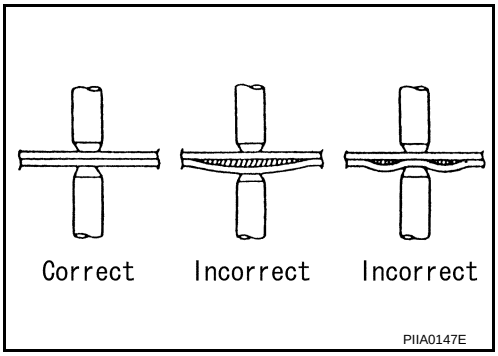
- The spot weld on HSS panels is harder than that of an ordinary steel panel.
  Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



2. Precautions in spot welding HSS
   This work should be performed under standard working conditions. Always note the following when spot welding HSS:
   - The electrode tip diameter must be sized properly according to the metal thickness.



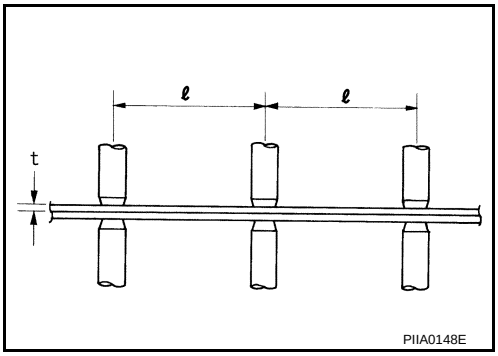
- The panel surfaces must fit flush to each other, leaving no gaps.



- Follow the specifications for the proper welding pitch.

Unit: mm (in)

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



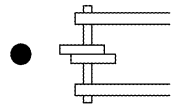
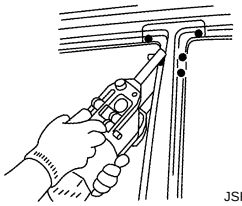
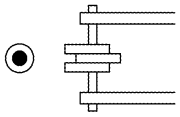
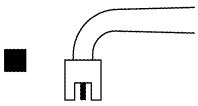
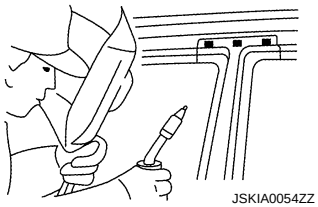
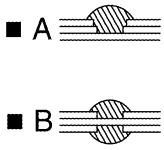
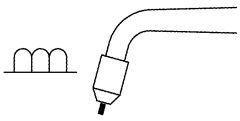
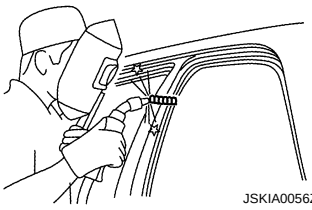
REPLACEMENT OPERATIONS

Description

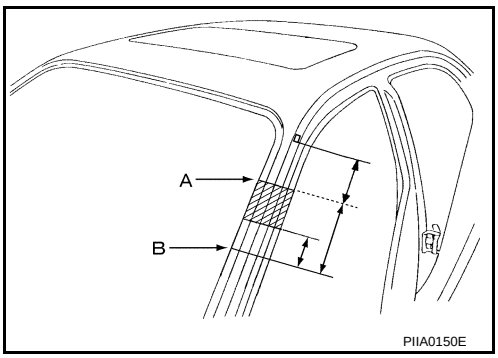
INFOID:0000000001672402

- This section is prepared for technicians who have attained a high level of skill and experience in repairing collision-damaged vehicles and also use modern service tools and equipment. Persons unfamiliar with body repair techniques should not attempt to repair collision-damaged vehicles by using this section.
- Technicians are also encouraged to read Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warning, that are not including in this manual. Technicians should refer to both manuals to ensure proper repairs.
- Please note that these information are prepared for worldwide usage, and as such, certain procedures might not apply in some regions or countries.

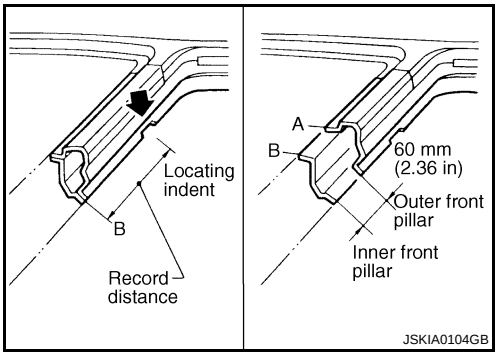
The symbols used in this section for welding operations are shown below.

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

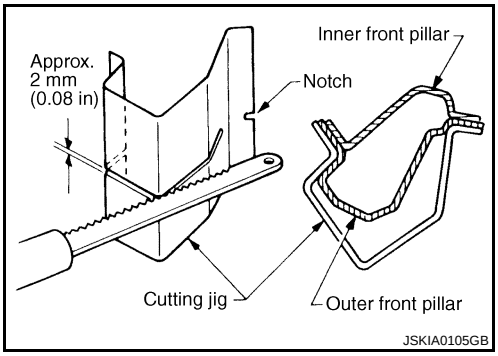
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- Determine cutting position and record distance from the locating indent. Use this distance when cutting the service part. Cut outer front pillar over 60 mm (2.36 in) above inner front pillar cut position.

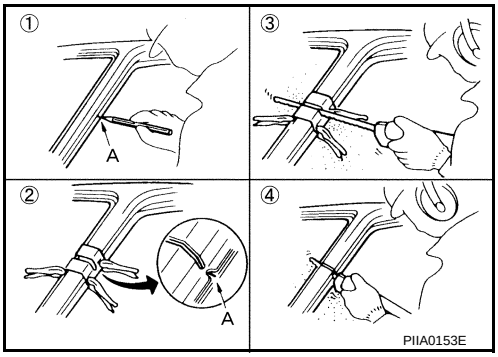


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



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

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.



REAR FENDER HEMMING PROCESS

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

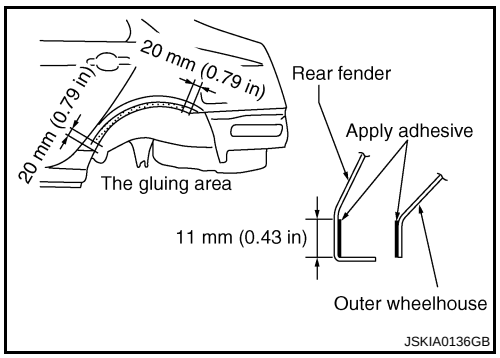
CAUTION:

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

Procedure of the hemming process

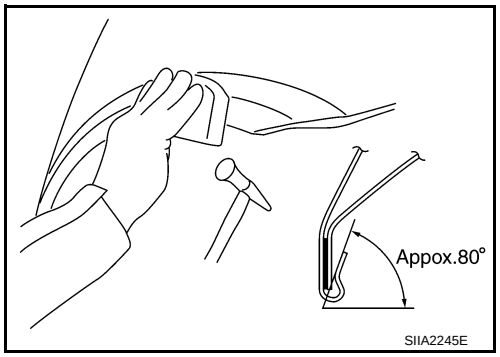
- Peel off old bonding material on the surface of outer wheelhouse and clean thoroughly.
- Peel off a primer coat in the specified area where new adhesive is to be applied on rear fender (the replacing part).
- Apply new adhesive to both specified areas of outer wheelhouse and rear fender.

<Adhesive> 3M automix panel bond 8115, or any equivalents

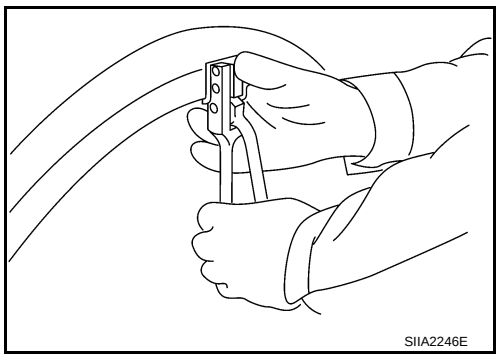


- Attach rear fender to the body of the car, and weld the required part except the hemming part.

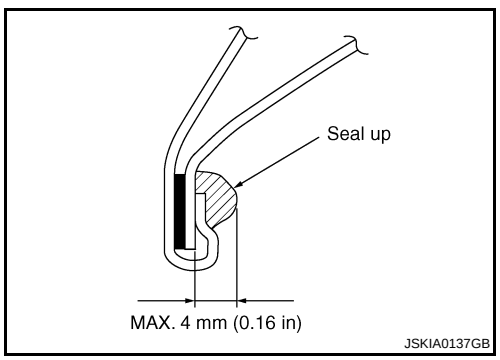
- Bend the welded part starting from the center of the wheel arch gradually with a hammer and a dolly. (Also hem the end of the flange.)
- Hemming with a hammer is conducted to an approximate angle of 80 degrees.



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



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



FOAM REPAIR

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.

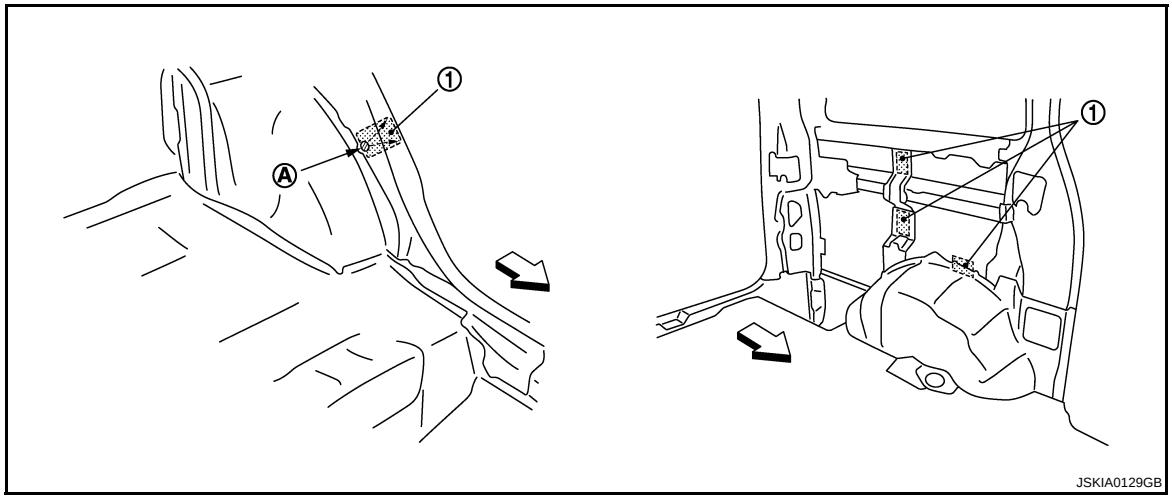
Urethane foam applications

Use commercially available spray foam for sealant (foam material) repair of material used on vehicle. Read instructions on product for fill procedures.

1. Fill procedures after installation of service part.

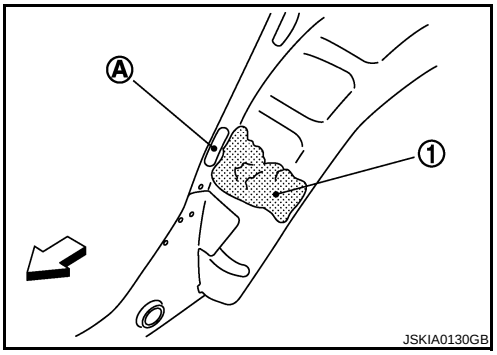
- Remove foam material remaining on vehicle side.
- Clean area in which foam was removed.
- Install service part.

- Insert nozzle into hole near fill area and fill foam material or fill in 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.
- Remove foam material remaining on vehicle side.
- Clean area in which foam was removed.
- Fill foam material on wheelhouse outer side.



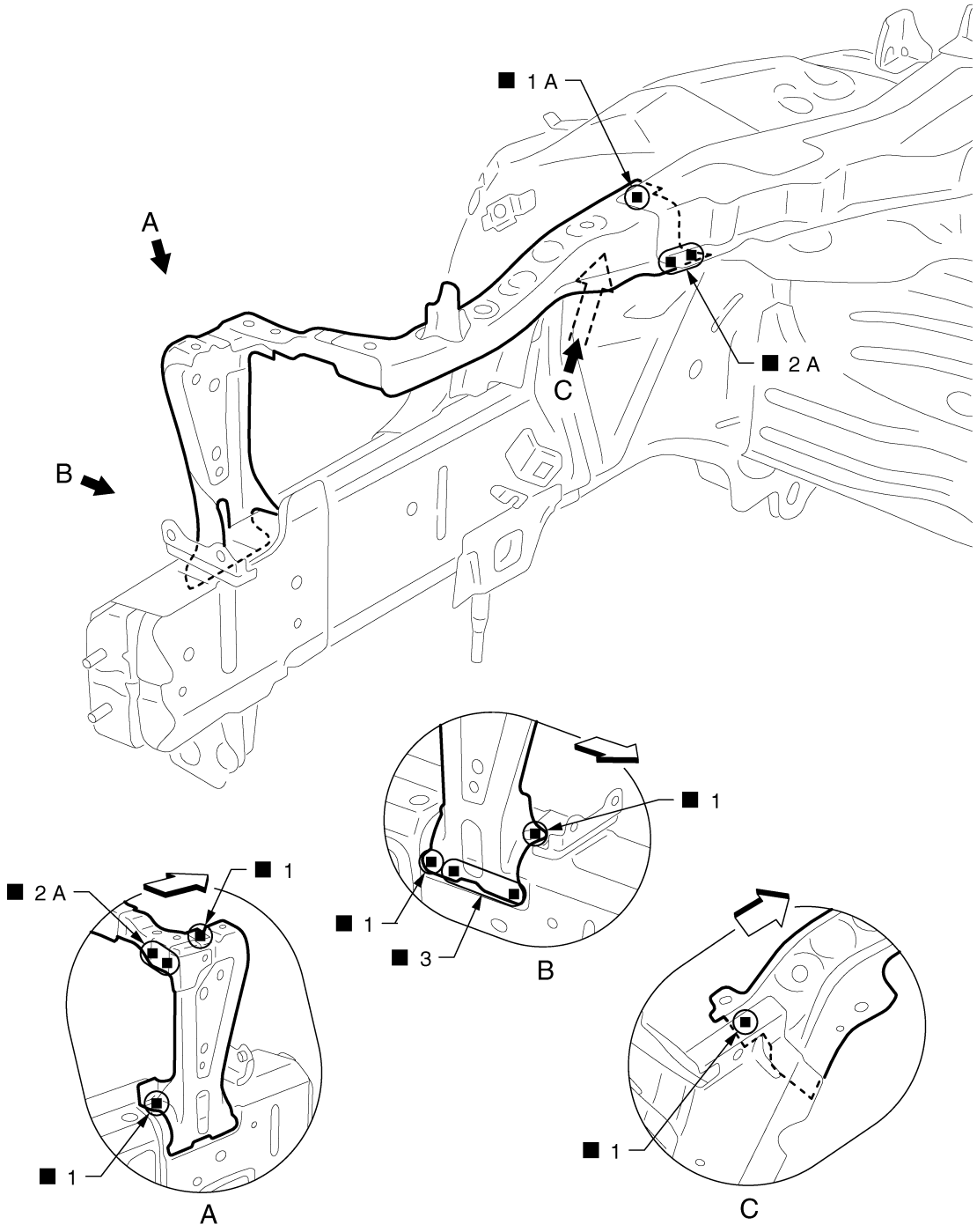
1. Urethane foam
A. Fill while avoiding flange area
⇦ : Vehicle front

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

NOTE:
Refer to label for information on working times.

Radiator Core Support

INFOID:0000000001672404



⇦ : Vehicle front

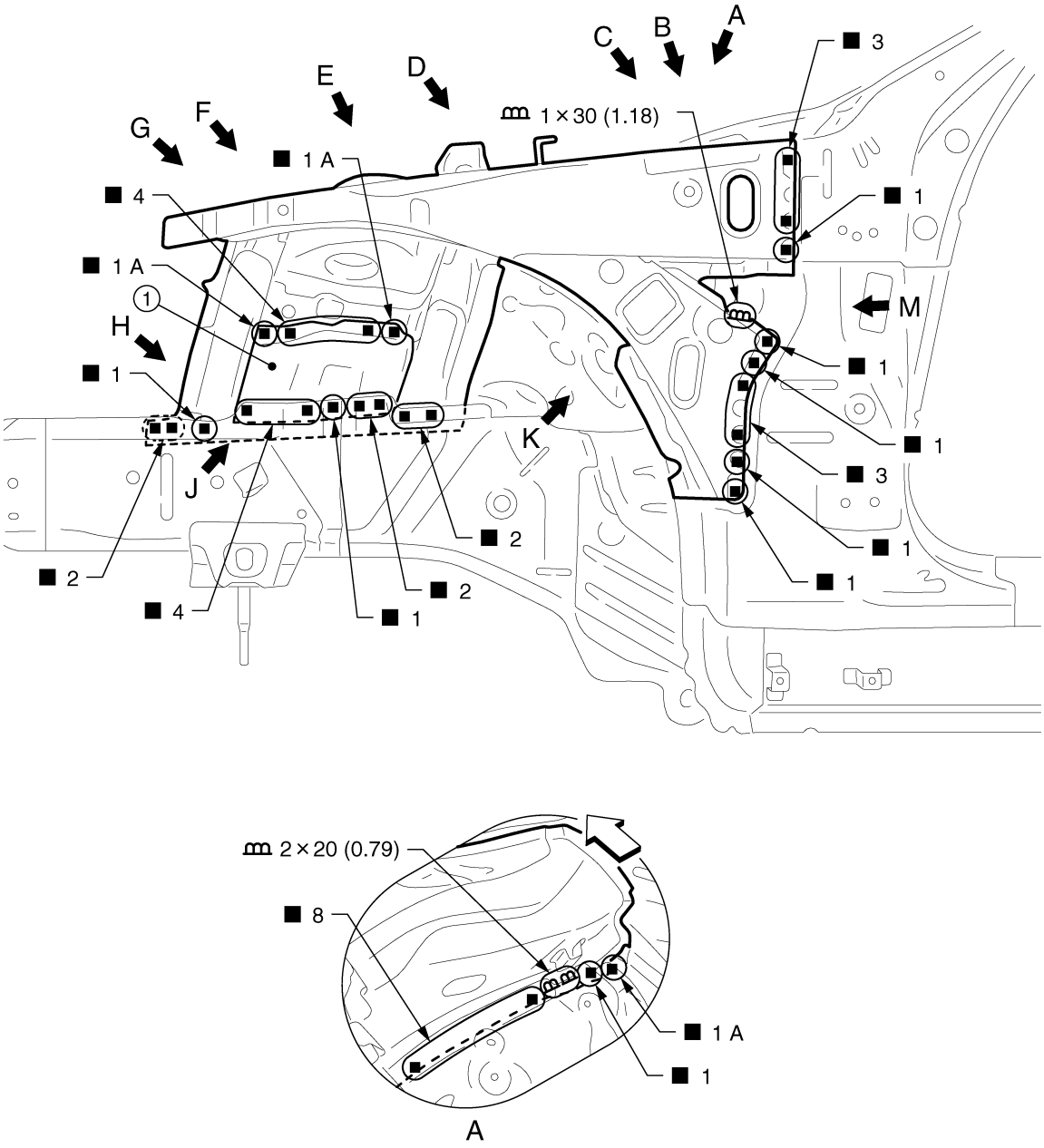
Replacement parts

- Radiator core support assembly (LH)
- Front side member connector assembly (LH)

Hoodledge

INFOID:0000000001672403

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



Unit: mm (in)

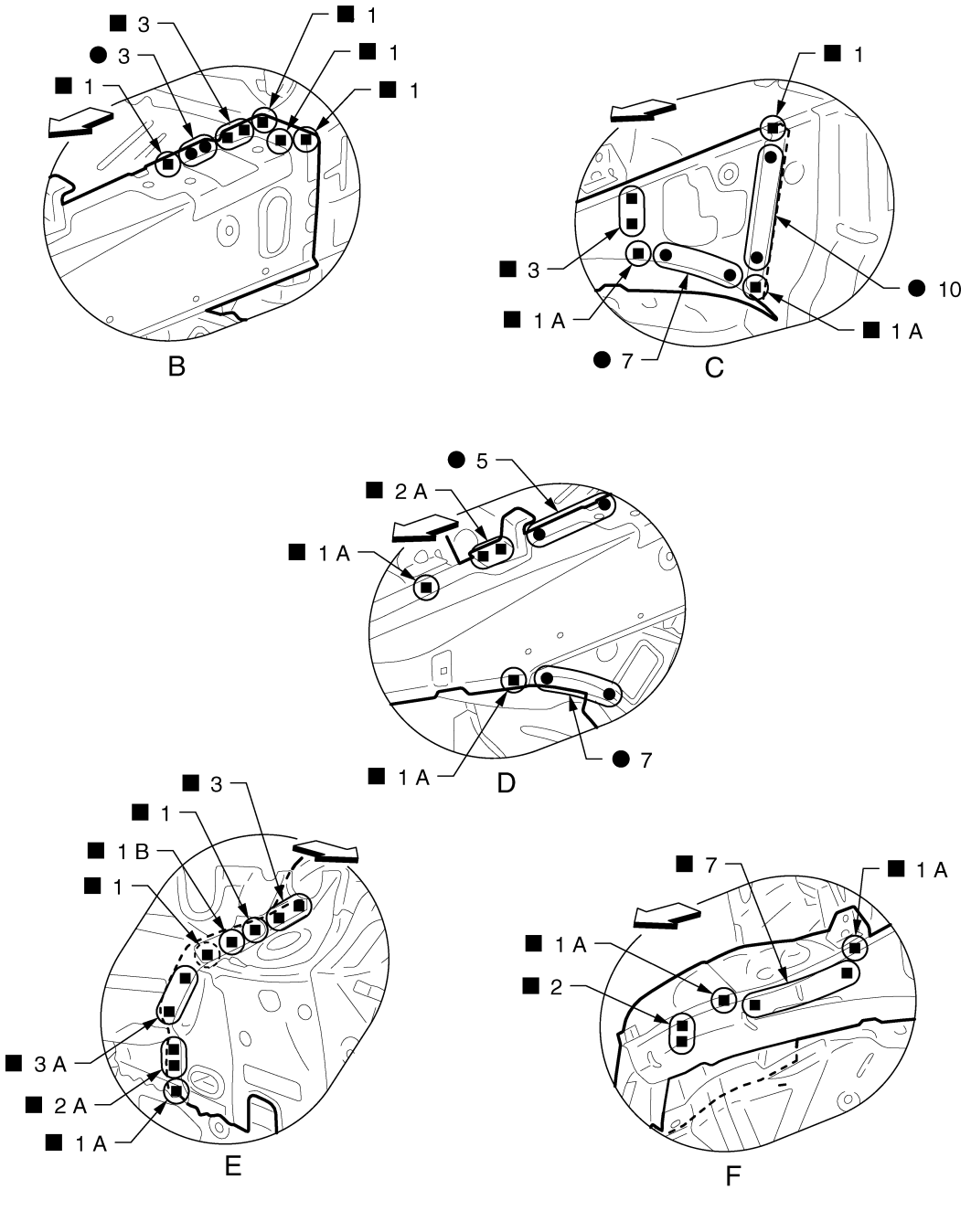
JSKIA0374GB

1. Front side member center closing plate

⇦ : Vehicle front

Replacement parts

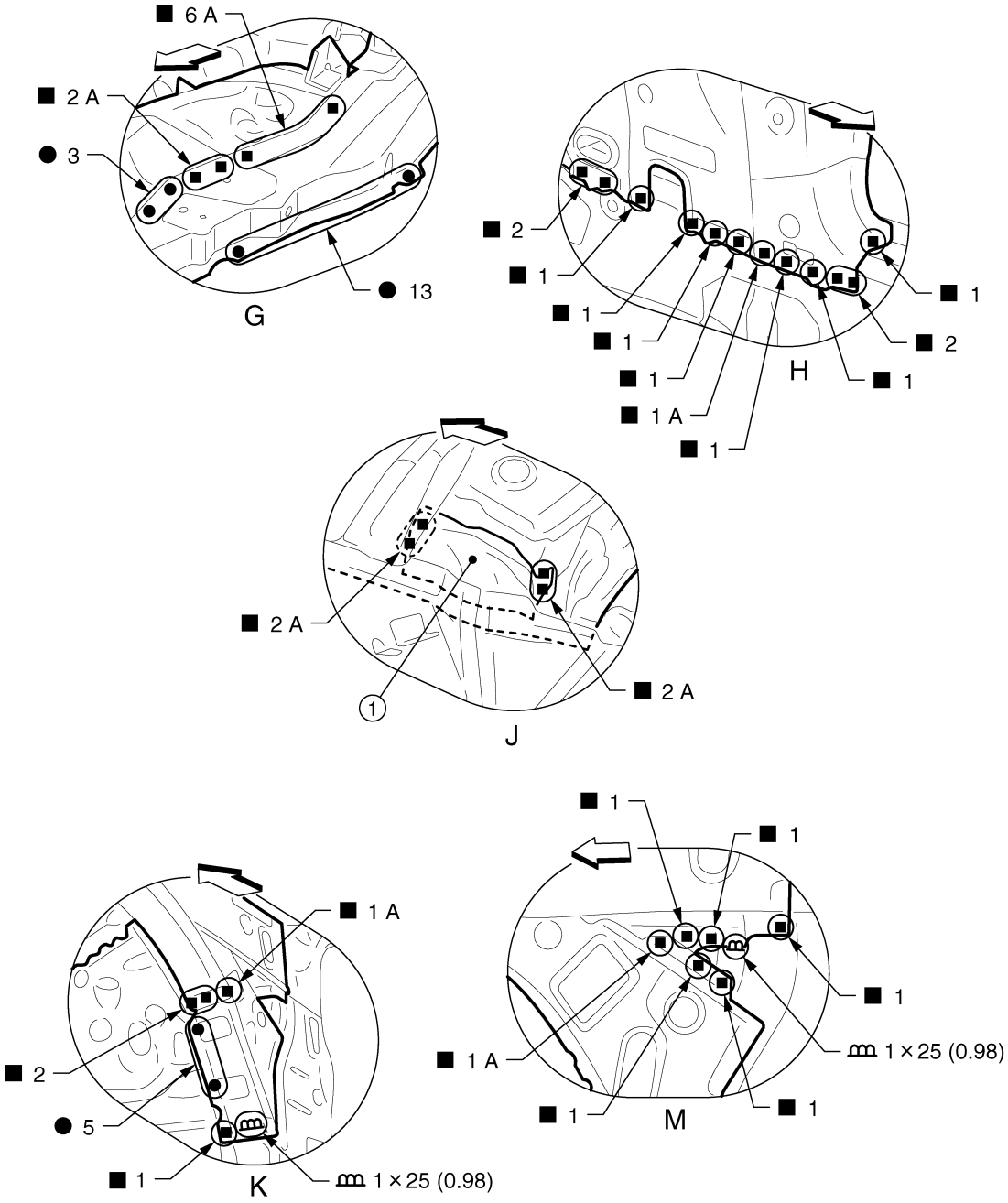
- Upper front hoodledge (LH)
- Hoodledge reinforcement (LH)
- Front strut housing (LH)



JSKIA0375GB

⇦ : Vehicle front

View C, F: Before installing hoodledge reinforcement



Unit: mm (in)

JSKIA0376GB

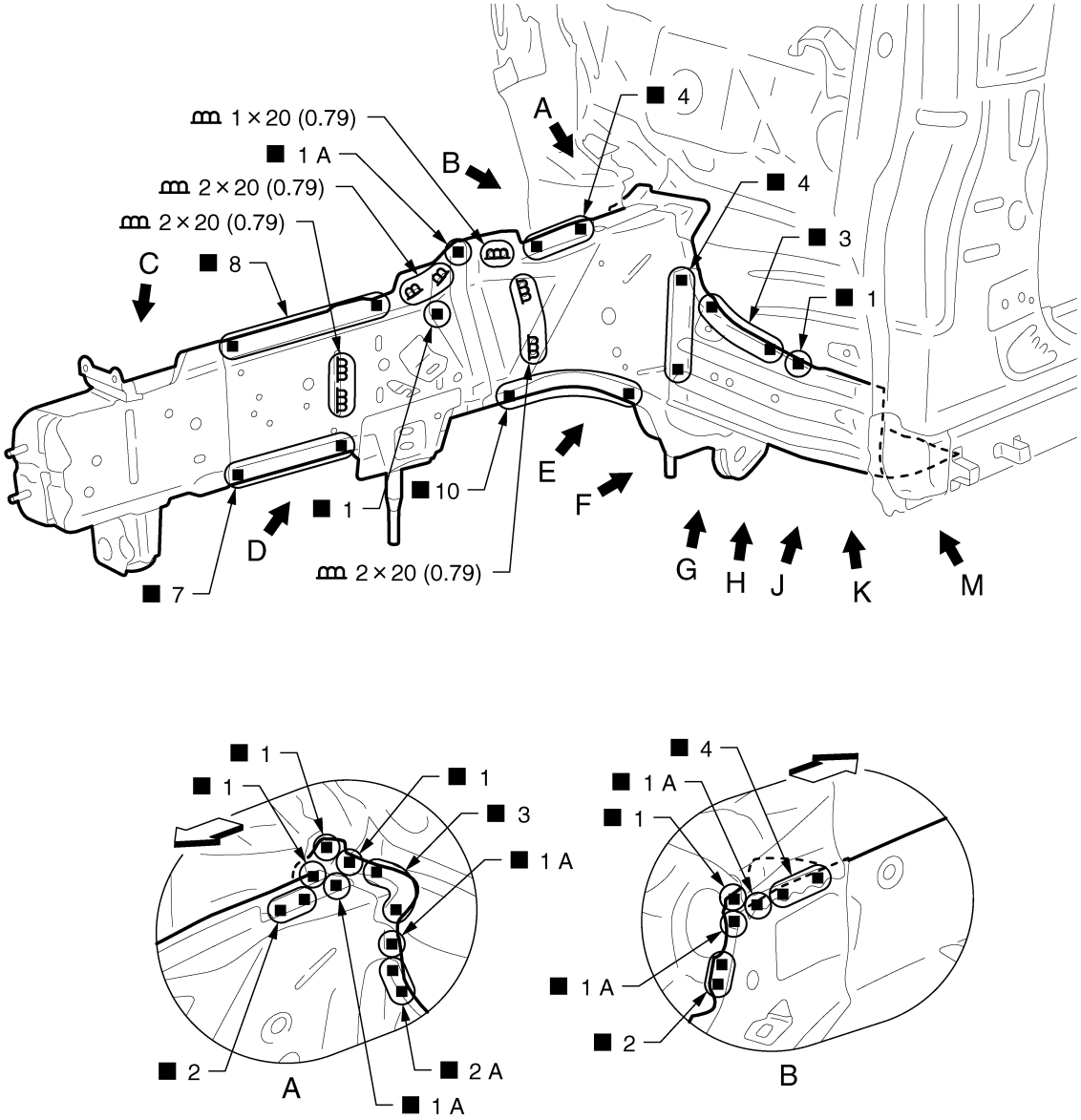
1. Front side member center closing plate

⇦ : Vehicle front

Front Side Member

INFOID:0000000001672405

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



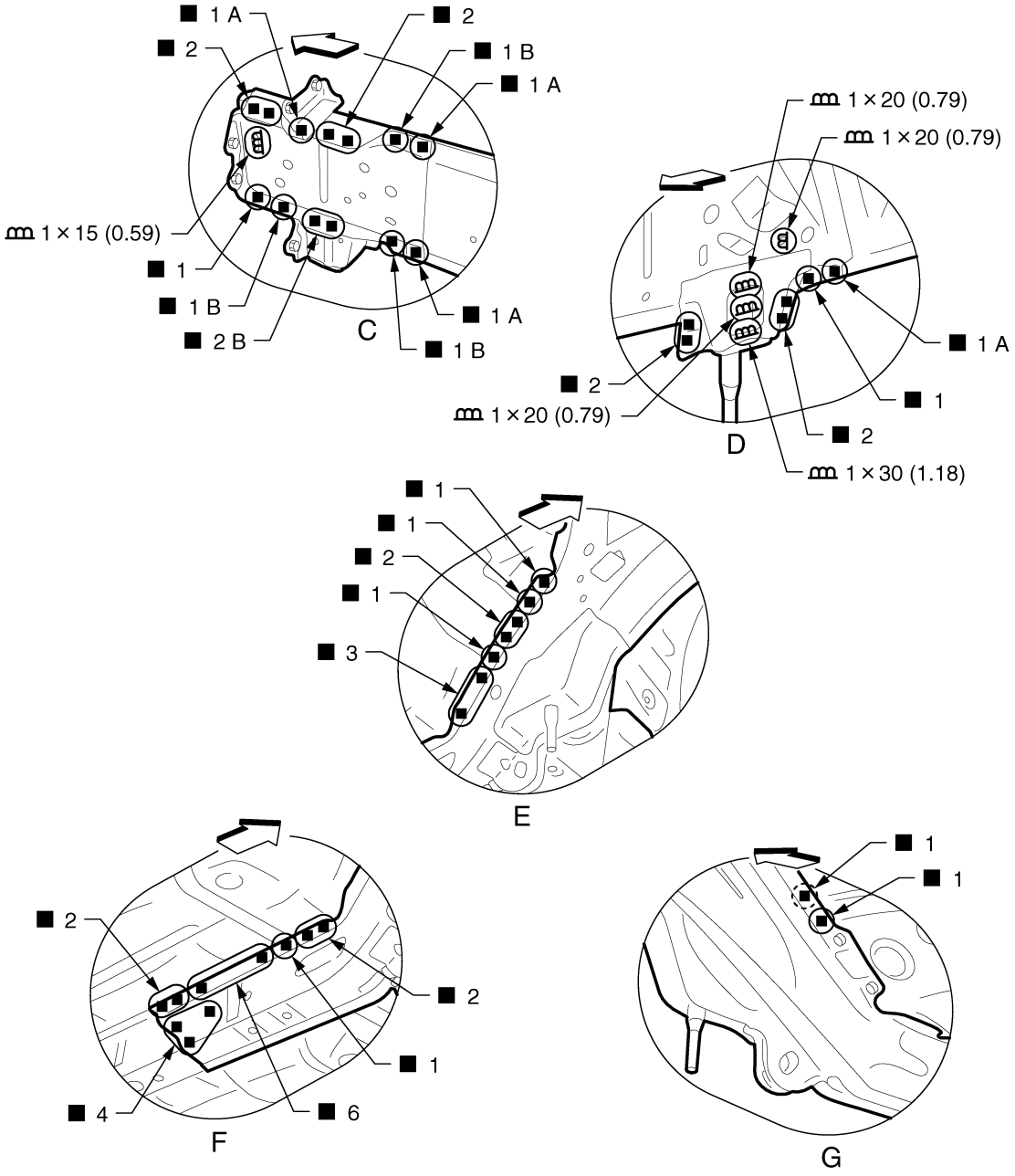
Unit: mm (in)

JSKIA0377GB

⇦ : Vehicle front

Replacement parts

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

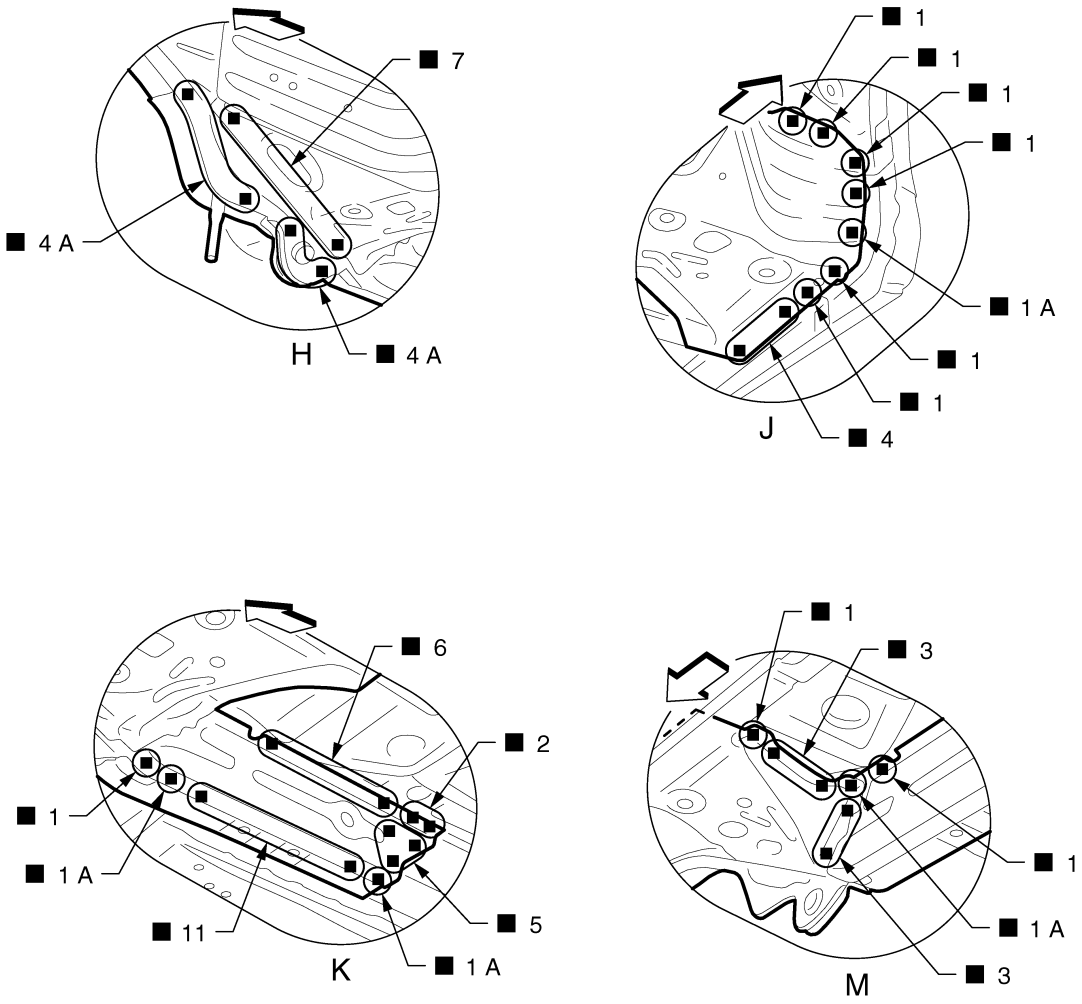


Unit: mm (in)

JSKIA0378GB

⇦ : Vehicle front

View G: Before installing front side member outrigger assembly



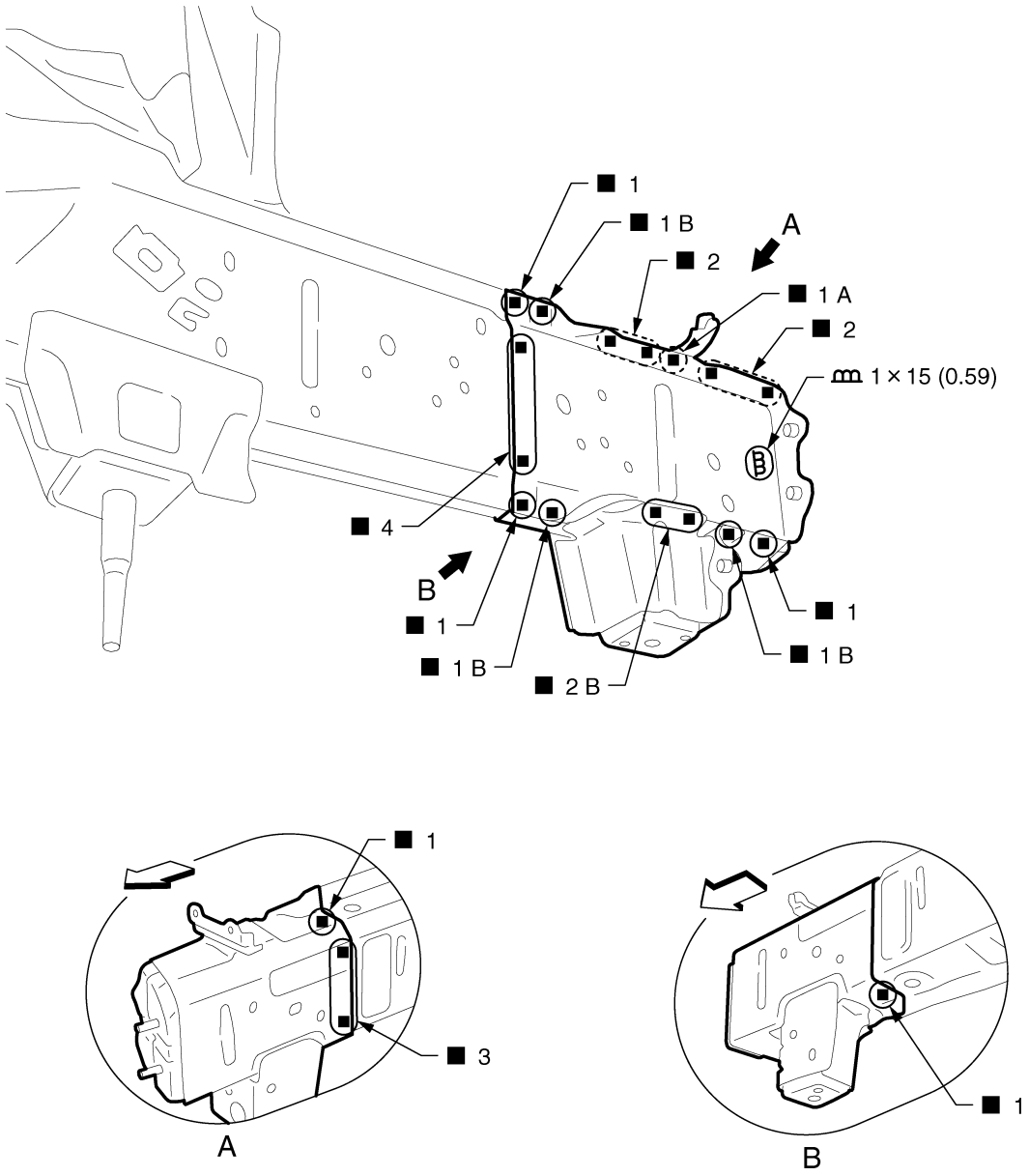
JSKIA0379GB

⇦ : Vehicle front

Front Side Member (Partial Replacement)

INFOID:0000000001672406

Work after radiator core support has been removed.



Unit: mm (in)

JSKIA0380GB

⇦ : Vehicle front

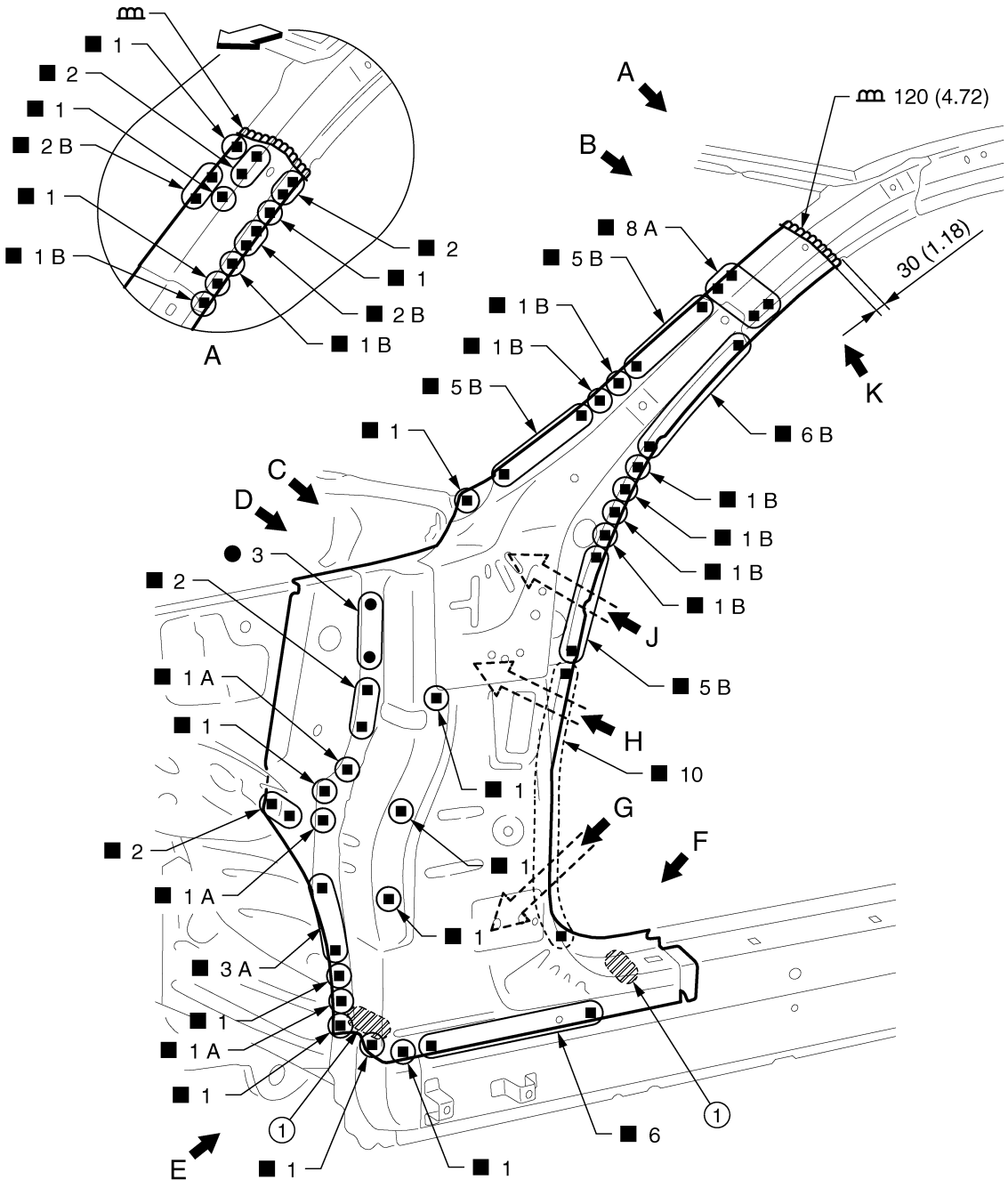
Replacement parts

- Front side member front extension (RH)
- Front side member front closing plate (RH)

Front Pillar

INFOID:0000000001672407

Work after hoodledge reinforcement and outer step sill have been removed.



Unit: mm (in)

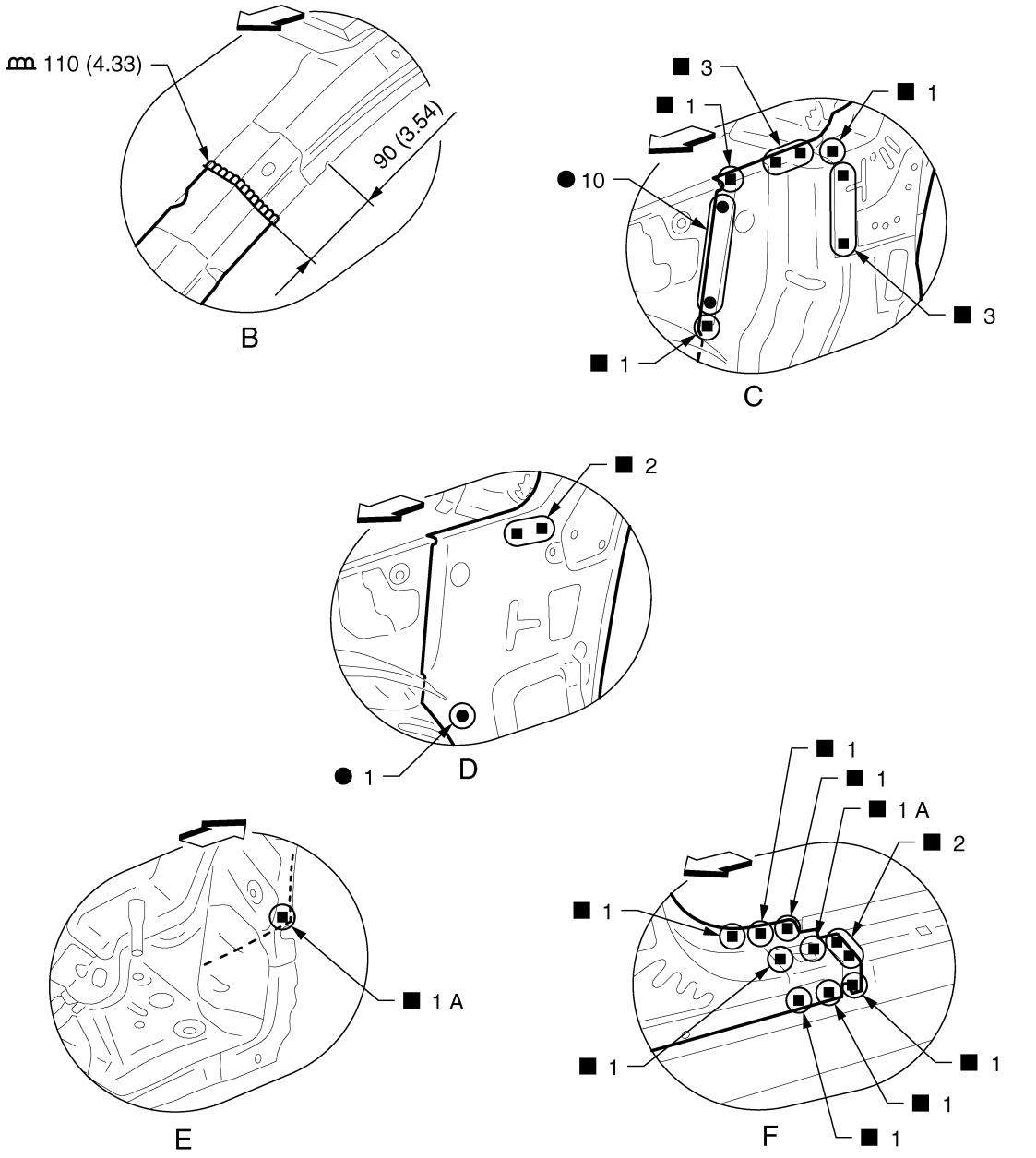
JSKIA0381GB

1. Urethane foam

⇦ : Vehicle front

Replacement parts

- ● Upper front pillar reinforcement (LH)
- ● Upper rear hoodledge (LH)
- ● Upper inner front pillar assembly (LH)

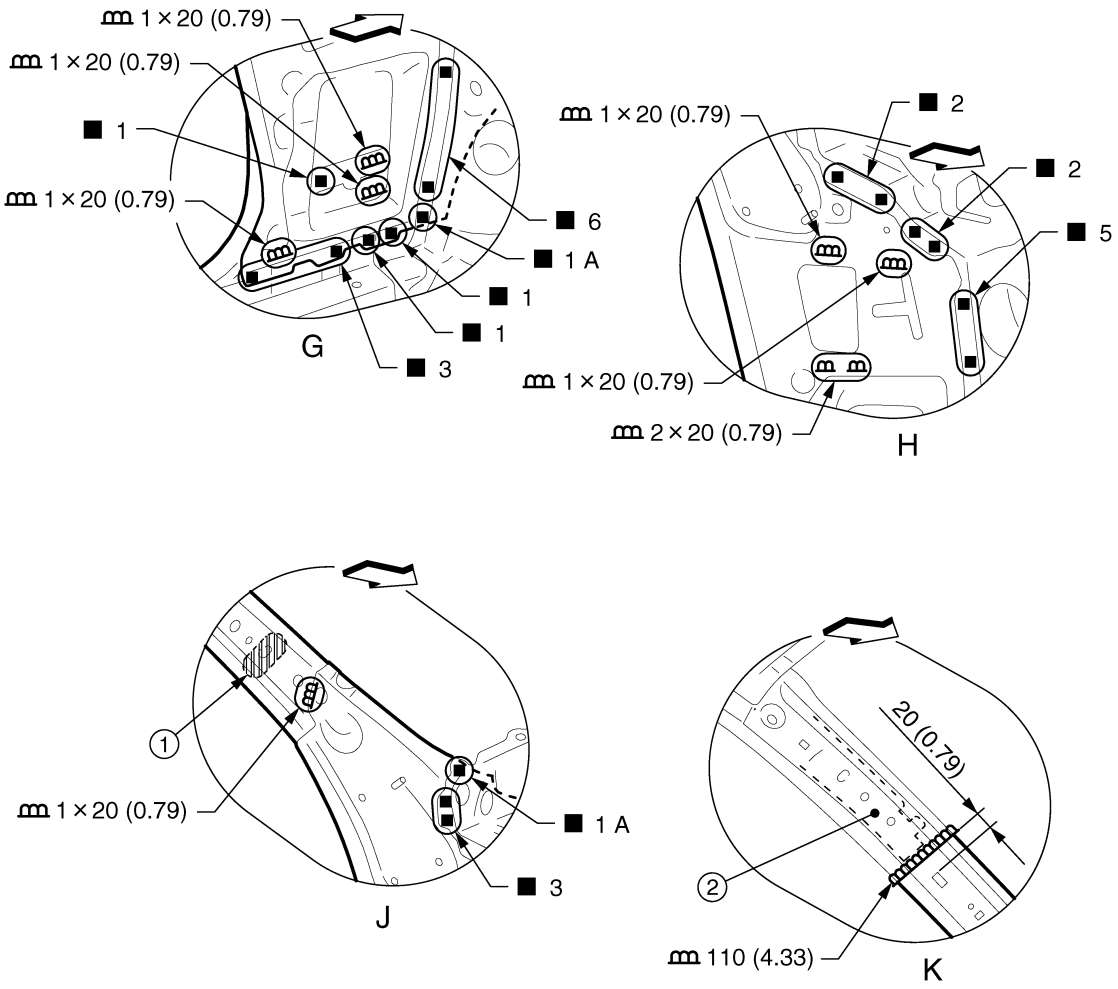


Unit: mm (in)

JSKIA0382GB

⇦ : Vehicle front

View D: Before installing upper front pillar reinforcement



Unit: mm (in)

JSKIA0383GB

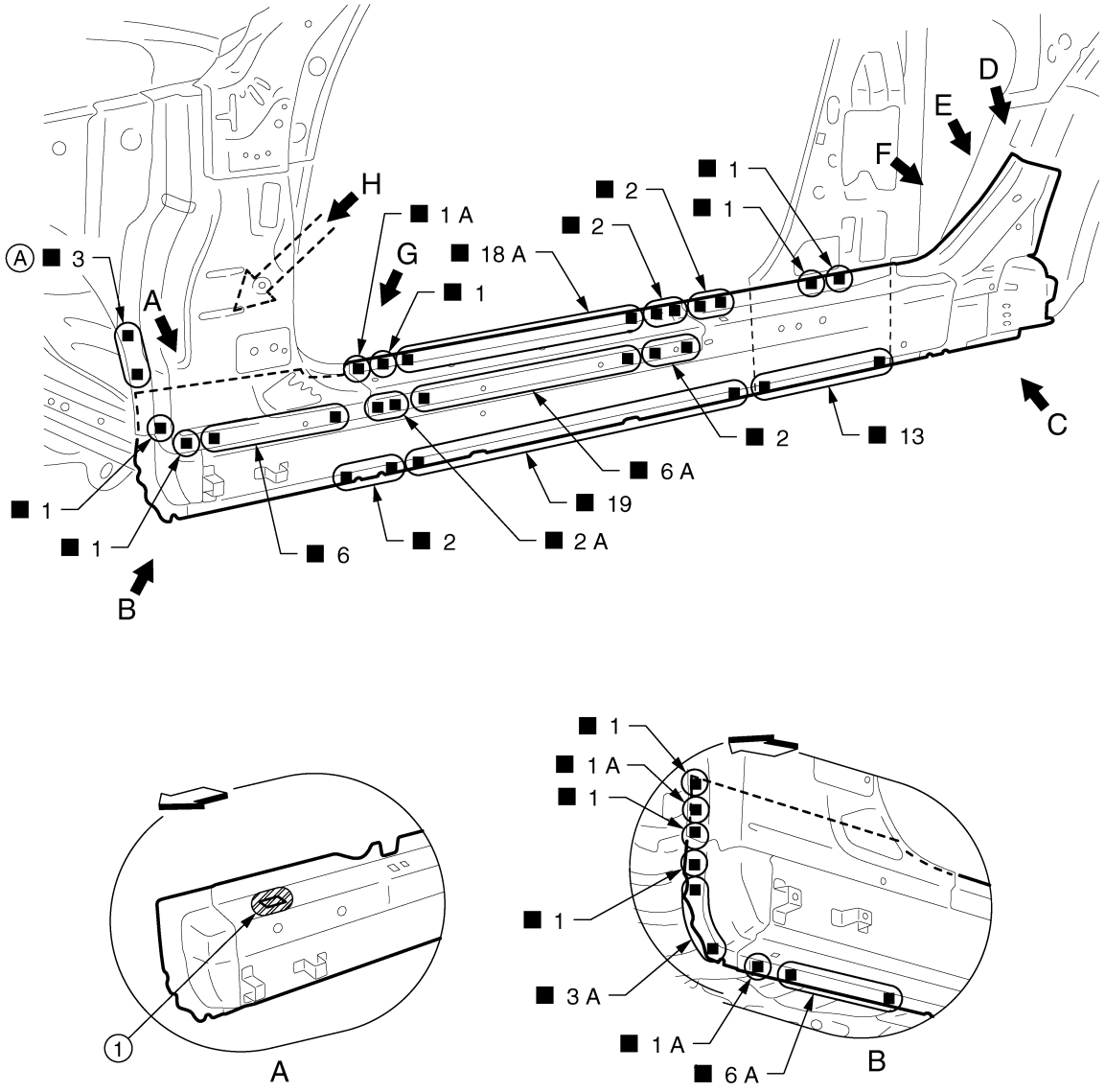
1. Urethane foam
2. Inner front pillar reinforcement

⇦ : Vehicle front

Outer Sill

INFOID:0000000001672409

Work after hoodledge reinforcement, outer lock pillar reinforcement and rear fender have been removed.
Remove the welding point (A) for easier replacement.



JSKIA0384GB

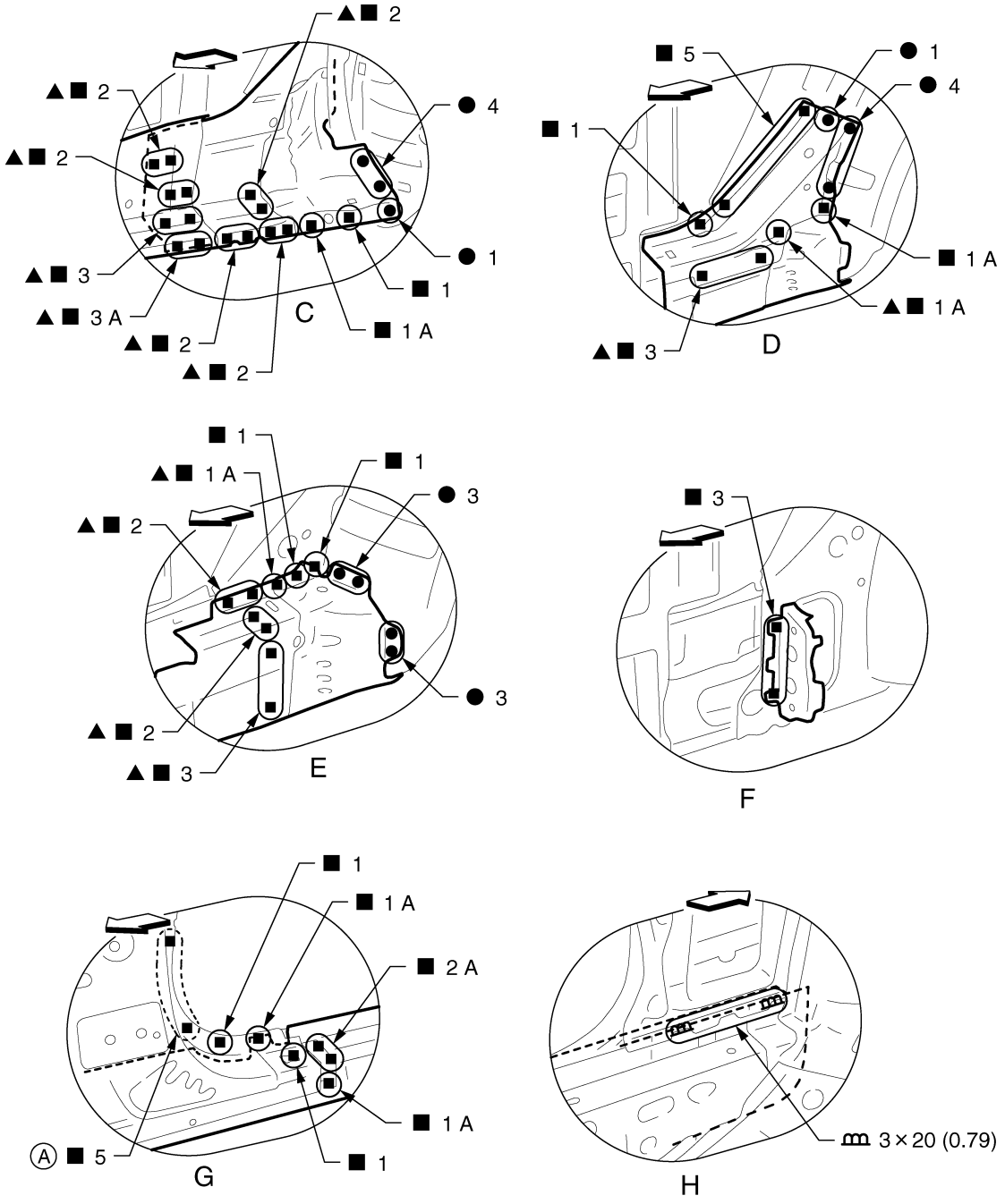
1. Urethane foam (Cover the hole with urethane foam completely.)

⇦ : Vehicle front

Replacement parts

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

Remove the welding point (A) for easier replacement.



Unit: mm (in)

JSKIA0385GB

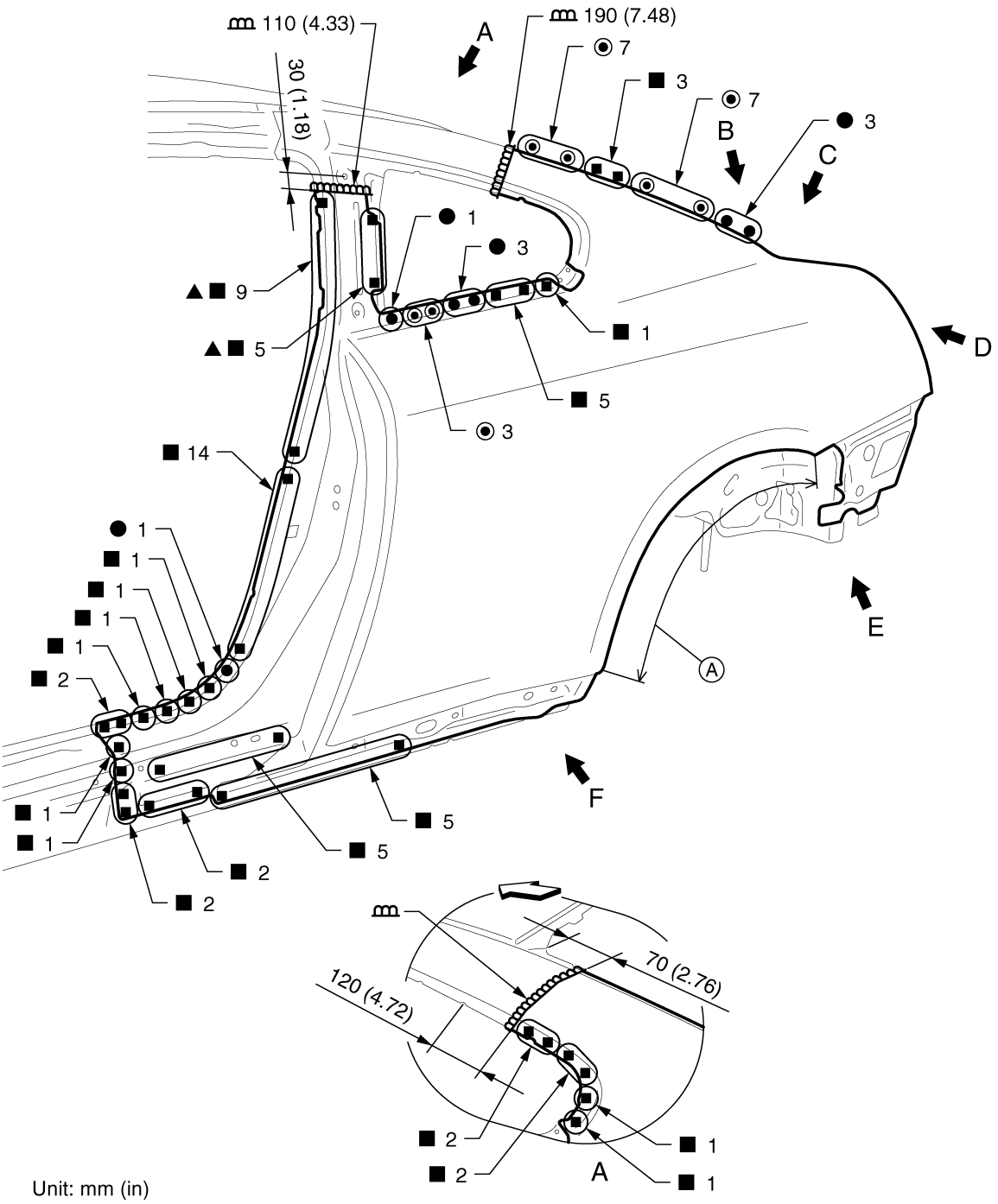
⇦ : Vehicle front

▲ : Drill ϕ8 mm (0.31 in) hole for the plug welding hole (ultra high strength steel plate).

View D: Before installing outer sill reinforcement
View E: Before installing outer sill reinforcement and upper outer rear wheelhouse extension
View F: Before installing outer sill reinforcement, upper outer rear wheelhouse extension and lower outer rear wheelhouse extension
View G: Before installing outer step sill

Rear Fender

INFOID:0000000001672410



Unit: mm (in)

JSKIA0386GB

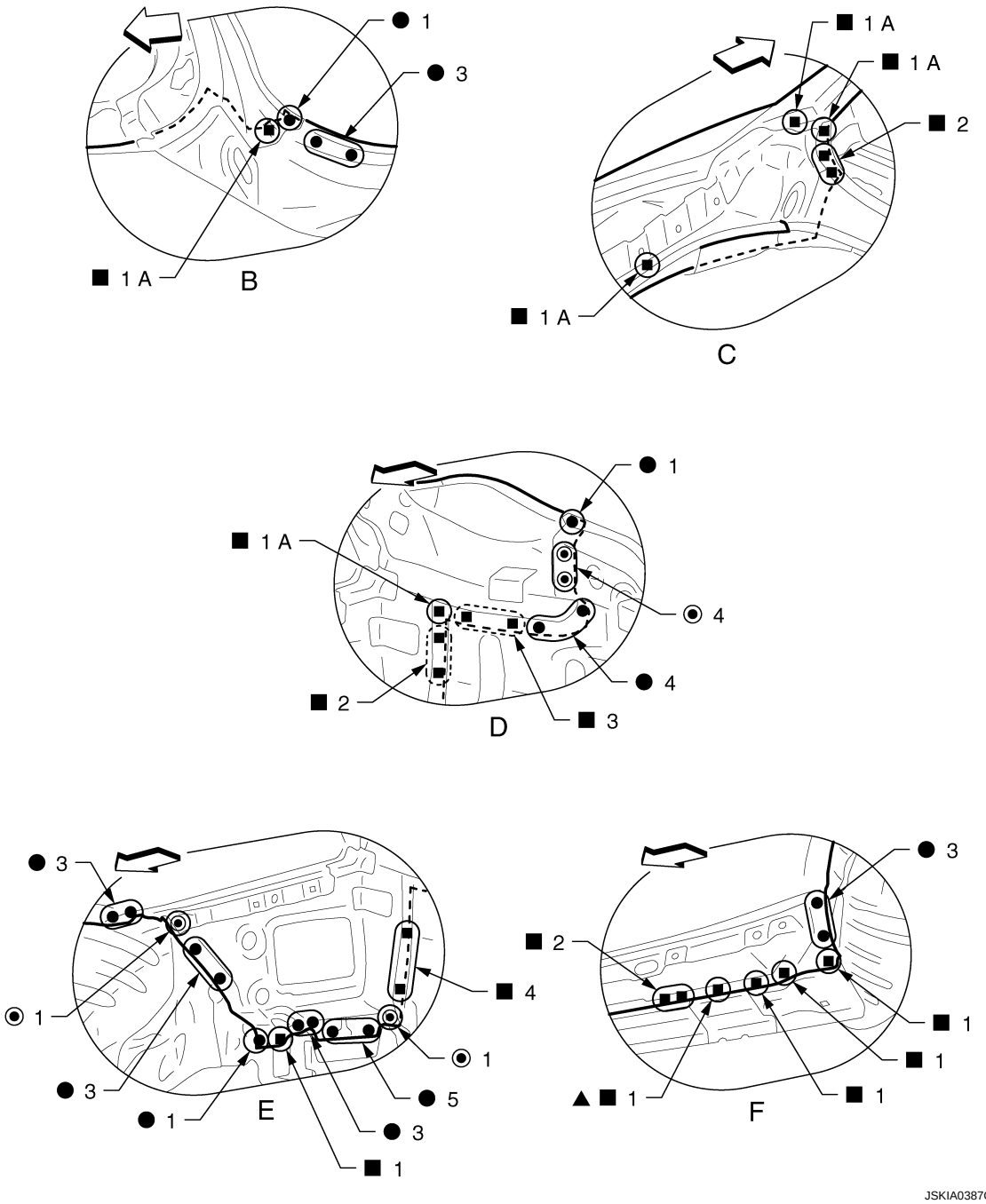
A. Hemming portion

⇦ : Vehicle front

▲ : Drill ϕ10 mm (0.39 in) hole for the plug welding hole (ultra high strength plate).

Replacement parts

● Rear fender assembly (LH)



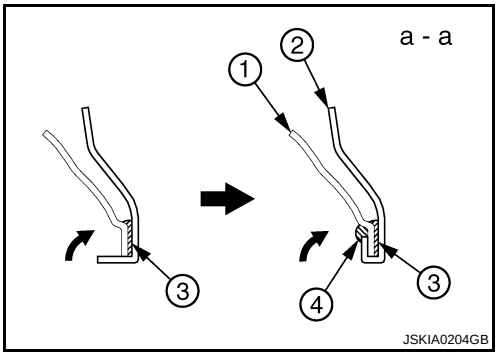
⇦ : Vehicle front

▲ : Drill ϕ8 mm (0.31 in) hole for the plug welding hole (ultra high strength plate).

INSTALLATION NOTES

- Apply the adhesive to the flange of wheel arch and hem it.
- Seal up the area around the hemmed end of the flange.
- Refer to ″Rear fender hemming process″.

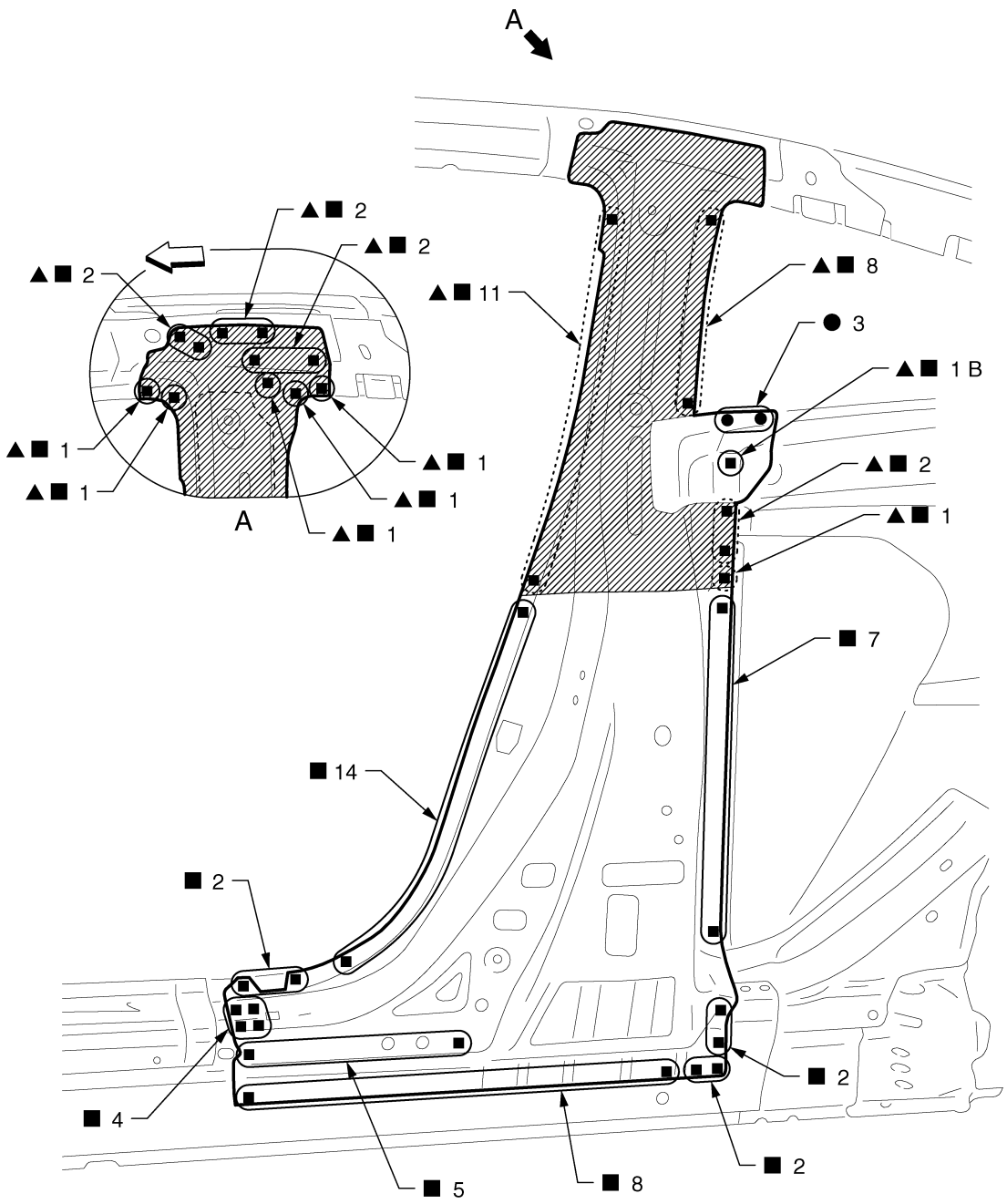
1. Outer rear wheelhouse
2. Rear fender
3. Adhesive
4. Sealant



Lock Pillar Reinforcement

INFOID:0000000001672412

Work after roof and rear fender have been removed.
Never cut and joint the shaded area (see Figure) of lock pillar reinforcement, because it is made of ultra high strength steel plate.



JSKIA0388GB

⇦ : Vehicle front

▲ : Drill ϕ10 mm (0.39 in) hole for the plug welding hole (ultra high strength steel plate).

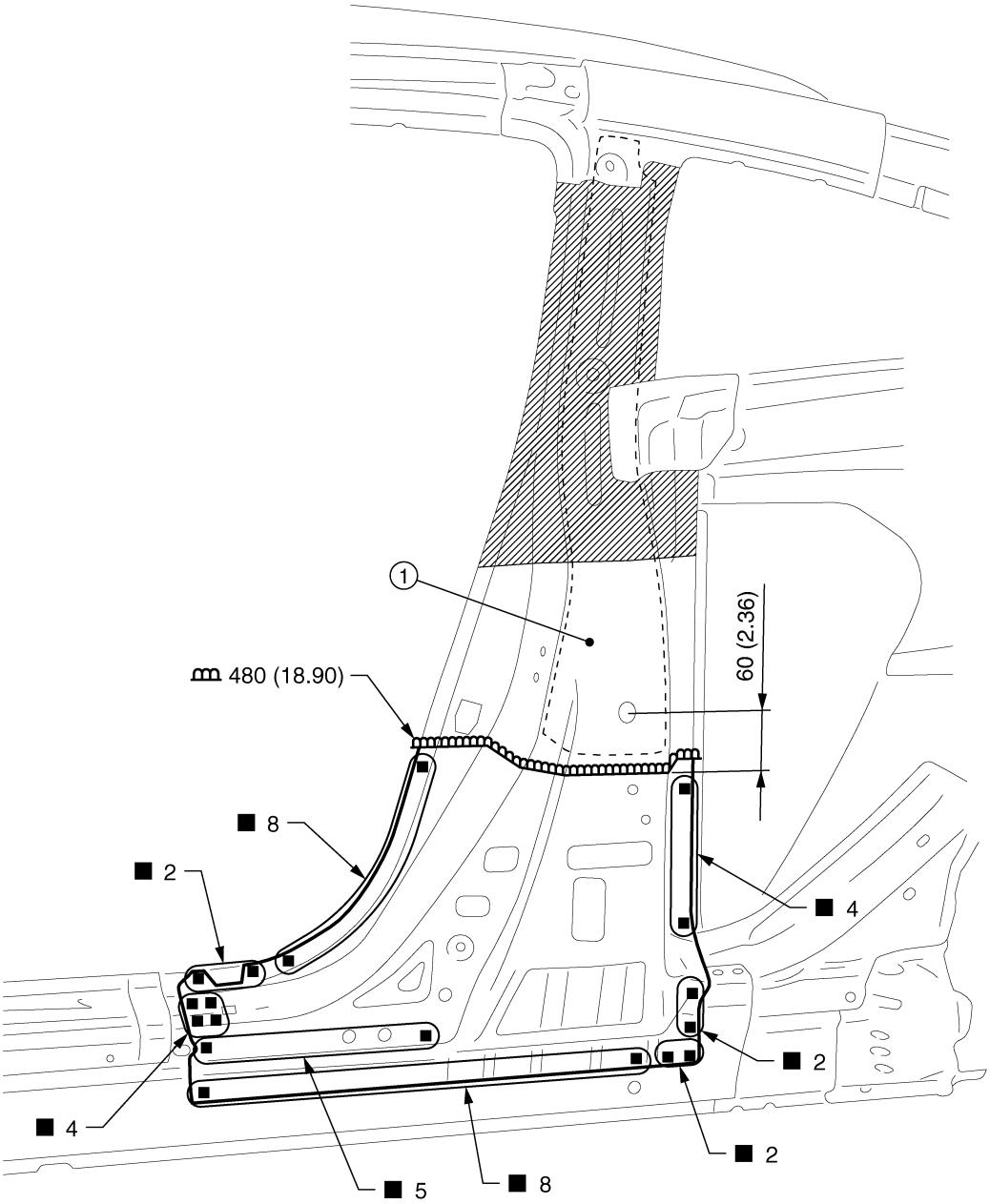
Replacement parts

● Outer lock pillar reinforcement (LH)

Lock Pillar Reinforcement (Partial Replacement)

INFOID:0000000001728852

Work after rear fender have been removed.
Never cut and joint the shaded area (see Figure) of lock pillar reinforcement and the upper inner lock pillar reinforcement, because they are made of ultra high strength steel plate.



Unit: mm (in)

JSKIA0389GB

1. Upper inner lock pillar reinforcement

⇦ : Vehicle front

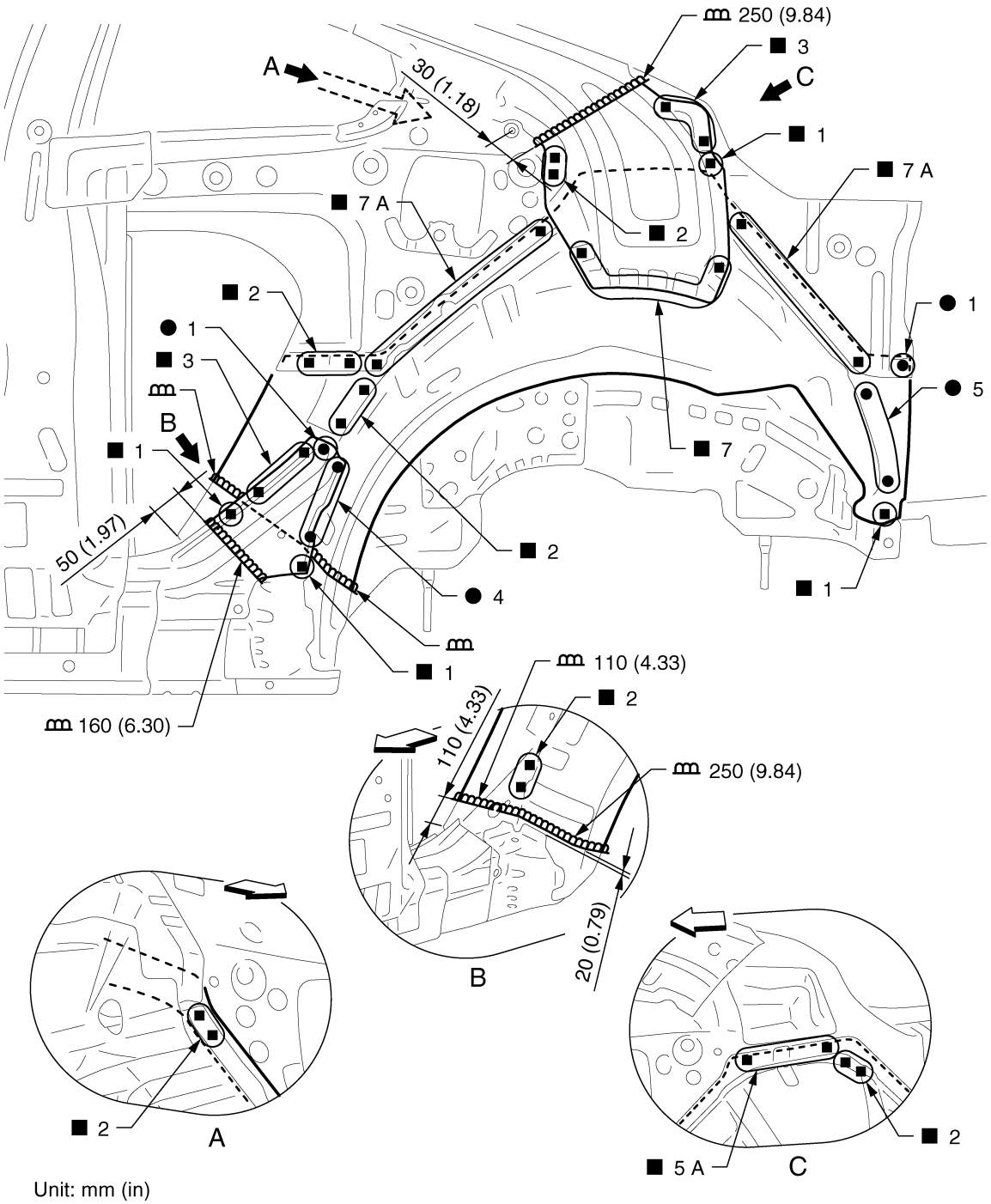
Replacement parts

- Outer lock pillar reinforcement (LH)

Outer Wheelhouse

INFOID:0000000001728884

Work after rear fender has been removed.
Cut the upper outer rear wheelhouse extension and the rear pillar reinforcement as shown in the figure for repairing the hidden welding point.
Reuse the upper outer rear wheelhouse extension and the rear pillar reinforcement (cut parts).



Unit: mm (in)

JSKIA0390GB

⇦ : vehicle front

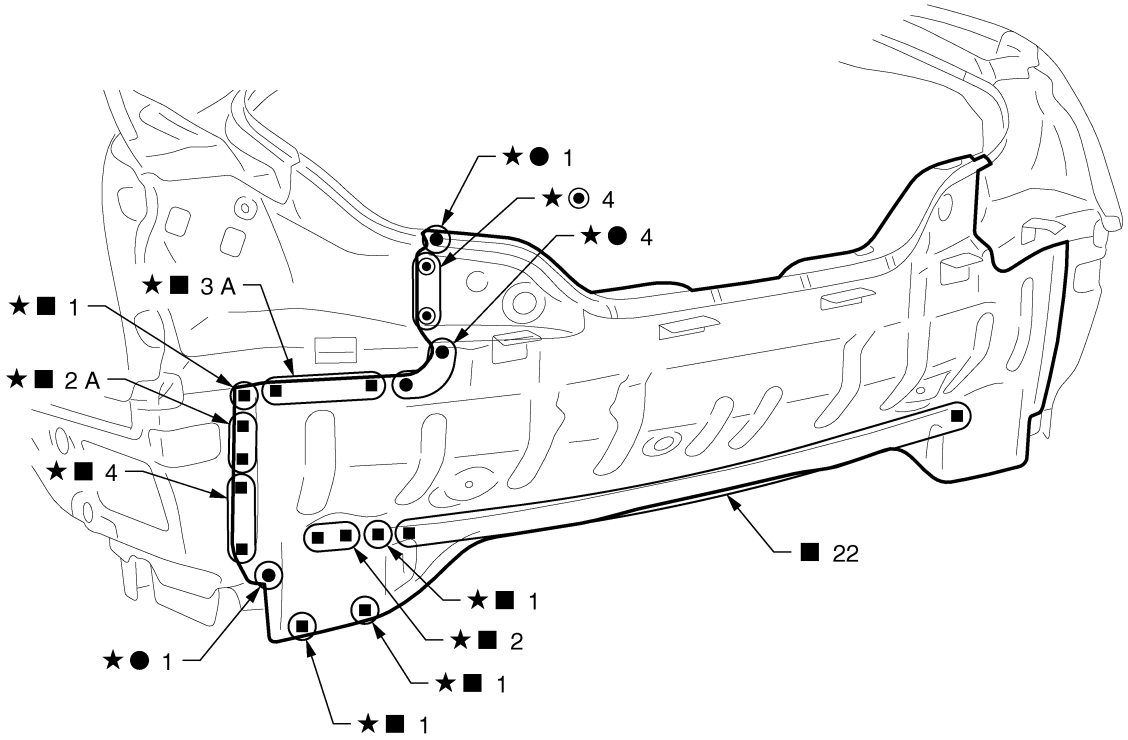
Replacement parts

● Outer rear wheelhouse (LH)

View B: Before installing upper outer rear wheelhouse extension
View C: Before installing rear pillar reinforcement

Rear Panel

INFOID:0000000001672411



JSKIA0391GB

⇦ : Vehicle front

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

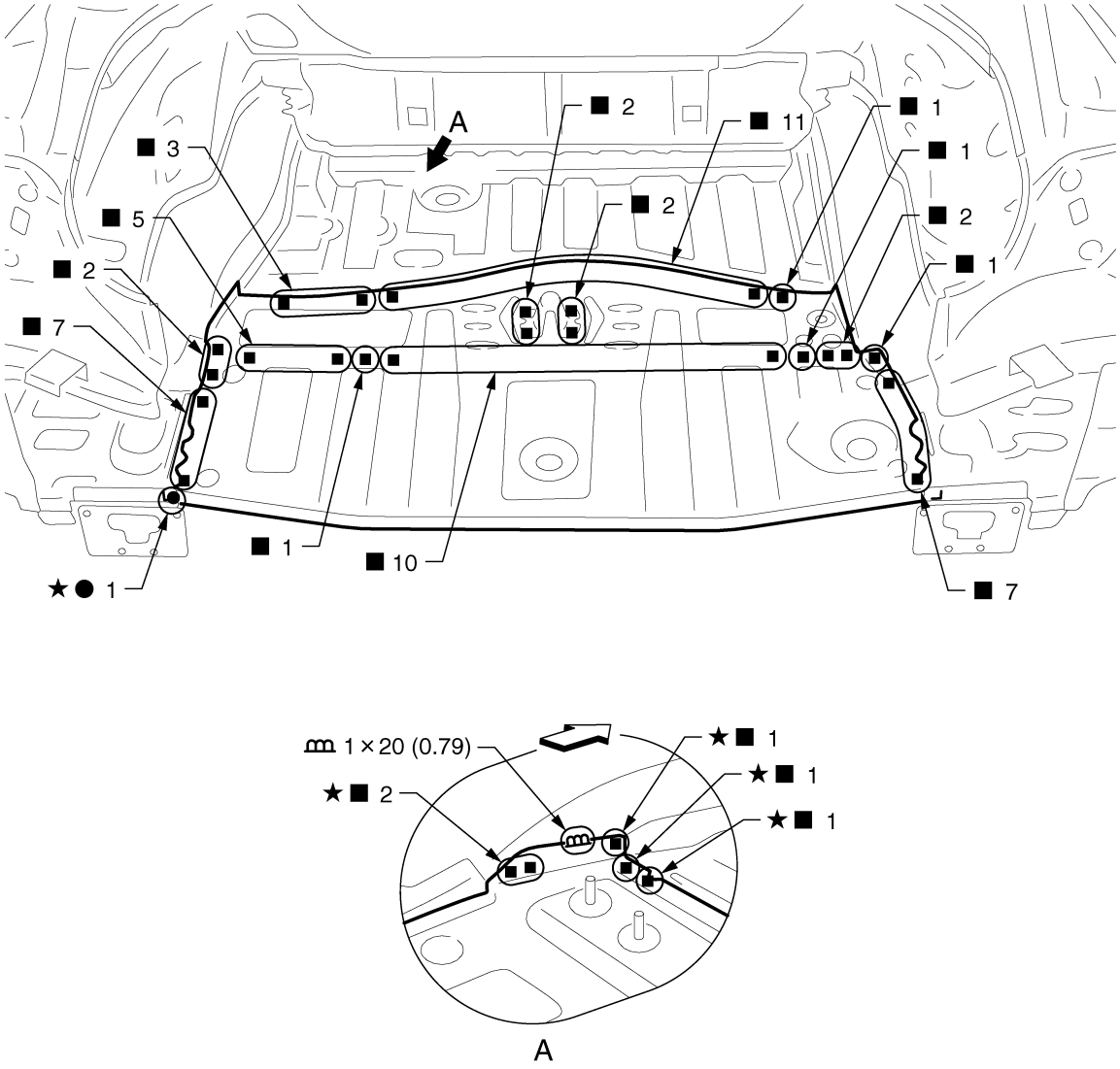
Replacement parts

● Rear panel assembly

Rear Floor Rear

INFOID:0000000001672413

Work after rear panel has been removed.



Unit: mm (in)

JSKIA0392GB

⇦ : Vehicle front

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

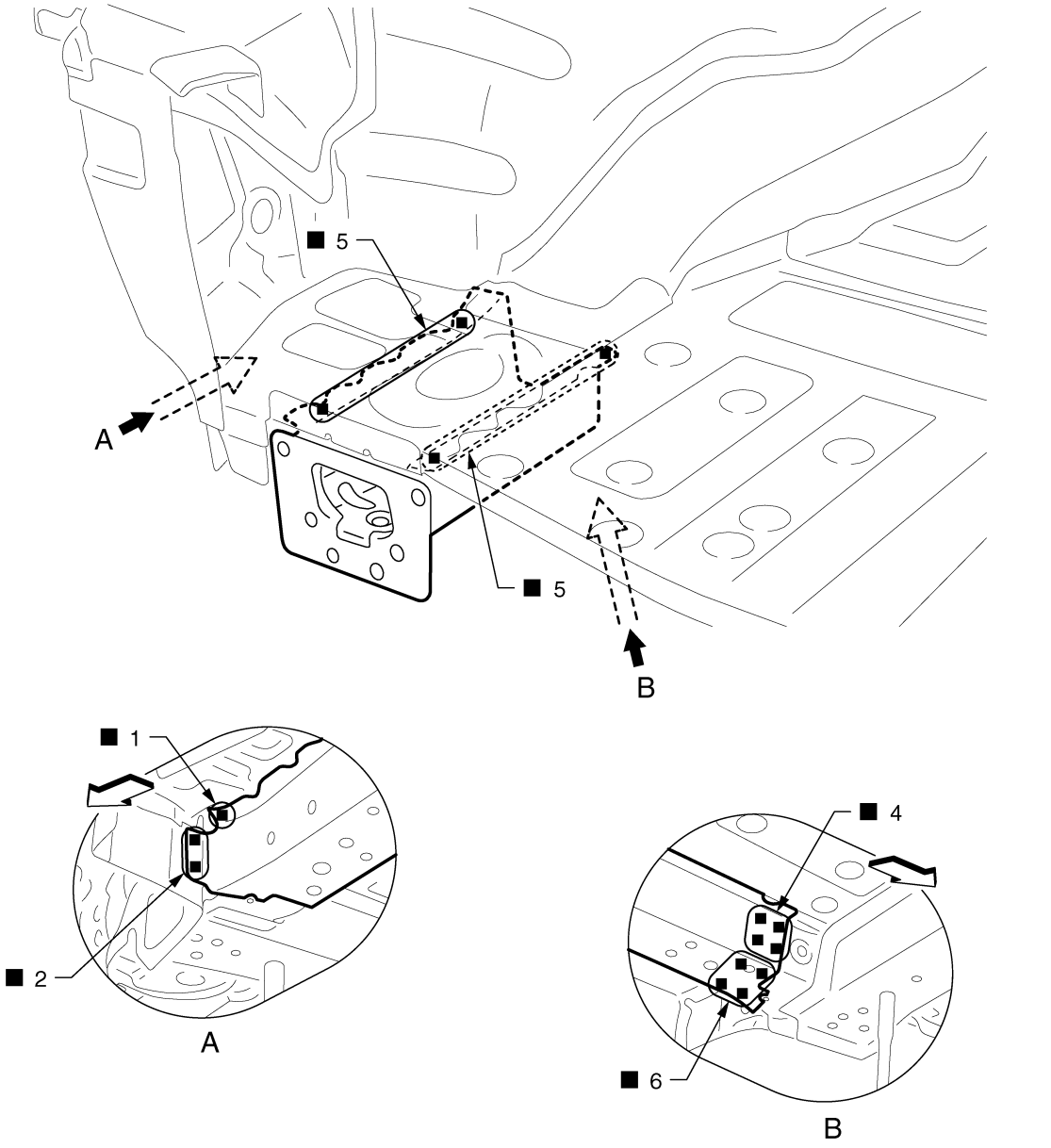
Replacement parts

- ● Rear floor rear
- ● Spare tire clamp bracket

Rear Side Member Extension

INFOID:0000000001672414

Work after rear panel has been removed.



JSKIA0393GB

⇦ : Vehicle front

Replacement parts

- Rear side member extension (LH)