

SECTION

BRM

BODY REPAIR

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BODY EXTERIOR PAINT COLOR

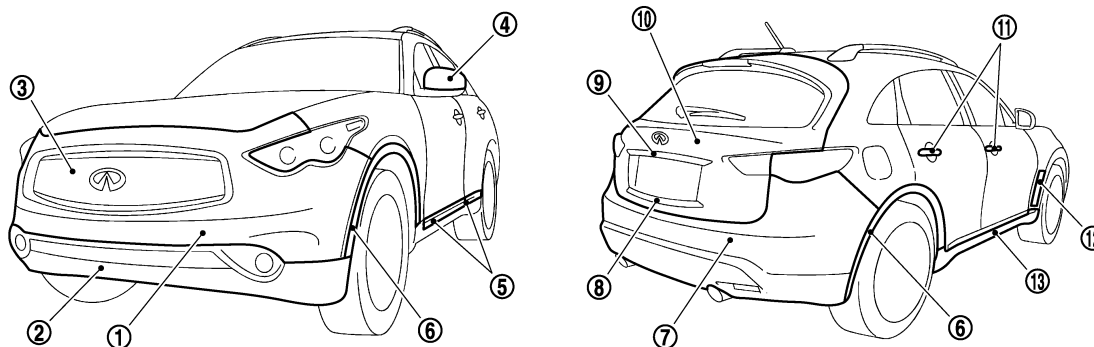
< VEHICLE INFORMATION >

VEHICLE INFORMATION

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

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Component			Color code	BCAC	BJAA	BKH3	BK23	BK51	BK52	BNAE	BQAA
			Description	Brown	Olive Gray	Black	Silver	Gray	Dark Gray	Dark Red	White
			Paint type ^{note}	M	TM	2S	M	M	PM	P	3P
			Hard clear coat	-	-	×	-	-	×	×	-
1	Front bumper fascia		Body color	BCAC	BJAA	BKH3	BK23	BK51	BK52	BNAE	BQAA
2	Lower front bumper fascia		Material color	-	-	-	-	-	-	-	-
3	Front grille		Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
4	Door outside mirror	Cover	Body color	BCAC	BJAA	BKH3	BK23	BK51	BK52	BNAE	BQAA
5	Side guard molding		Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
			Material color	-	-	-	-	-	-	-	-
6	Fillet molding		Material color	-	-	-	-	-	-	-	-
7	Rear bumper fascia		Body color	BCAC	BJAA	BKH3	BK23	BK51	BK52	BNAE	BQAA
			Material color	-	-	-	-	-	-	-	-
8	Center back door finisher		Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
9	Back door finisher		Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
10	Back door		Body color	BCAC	BJAA	BKH3	BK23	BK51	BK52	BNAE	BQAA
11	Door outside handle		Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
12	Front fender duct		Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr

BODY EXTERIOR PAINT COLOR

< VEHICLE INFORMATION >

Component		Color code	BCAC	BJAA	BKH3	BK23	BK51	BK52	BNAE	BQAA
		Description	Brown	Olive Gray	Black	Silver	Gray	Dark Gray	Dark Red	White
		Paint type ^{note}	M	TM	2S	M	M	PM	P	3P
		Hard clear coat	-	-	×	-	-	×	×	-
13	Center mud-guard	Chromium-plate	Cr	Cr	Cr	Cr	Cr	Cr	Cr	Cr
		Material color	-	-	-	-	-	-	-	-

NOTE:

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

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HANDLING PRECAUTIONS

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PRECAUTION

HANDLING PRECAUTIONS

Precautions For Plastics

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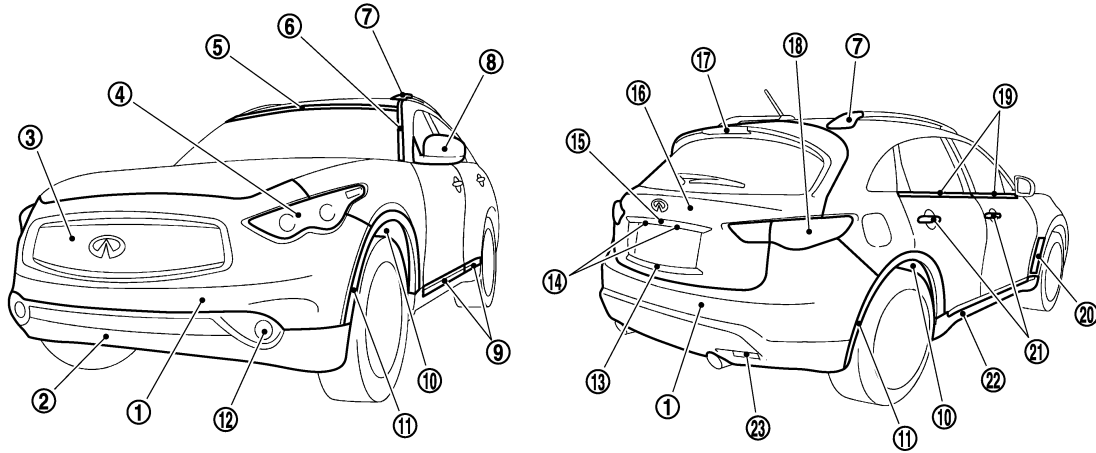
Abbreviation	Material name	Heatresisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
ABS	Acrylonitrile Butadiene Styrene	80 (176)	Avoid gasoline and 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	Polyethylene terephthalate	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

HANDLING PRECAUTIONS

< PRECAUTION >



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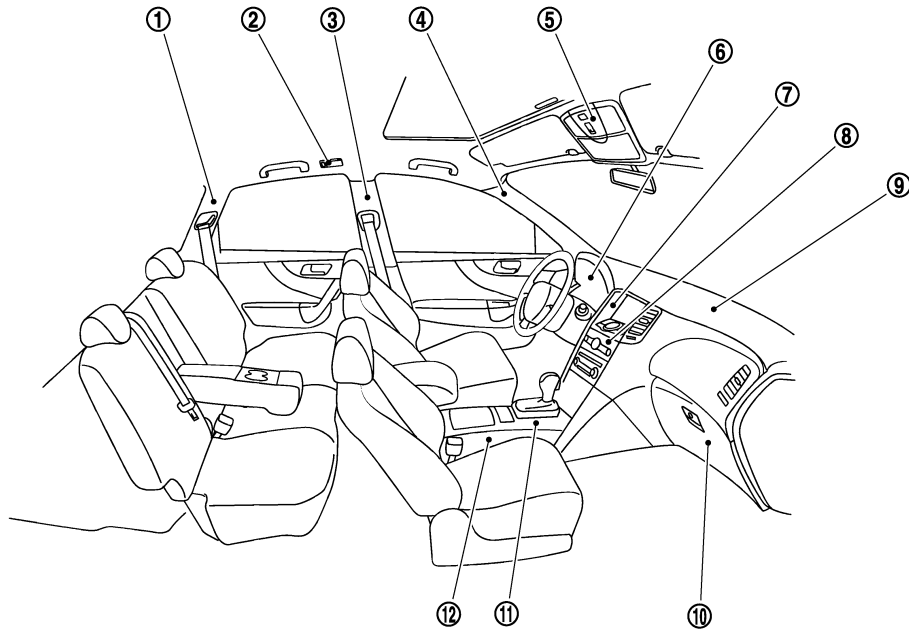
Component			Material	Component			Material
1	Bumper fascia		PP + EPM	13	Center back door finisher		ABS
2	Lower front bumper fascia		PP + EPM	14	License plate lamp	Lens	PC
3	Front grille	Grille	ABS			Housing	PC
		Molding	ABS	15	Back door finisher		ABS
4	Front combination lamp	Lens	PC	16	Back door		PP
		Housing	PP	17	High mount stop lamp	Lens	PMMA
5	Upper windshield molding		TPO			Housing	ABS
6	Roof side molding		PVC + Stainless	18	Rear combination lamp (Rear Fender)	Lens	PMMA
7	Roof rack cover		ABS			Housing	ABS
8	Door outside mirror	Cover	ABS		Rear combination lamp (Back door)	Lens	PMMA
		Housing	ABS			Housing	ASA
		Base	ABS	19	Door outside molding		PVC + Stainless
9	Side guard molding	Body	PP	20	Front fender duct	Outer	ABS
		Molding	ABS			Inner	ASA
10	Fender protector	Front	PP	21	Door outside handle		PC + ABS
		Rear	PET	22	Center mudguard	Body	PP
11	Fillet molding		PP + EPM			Molding	ABS
12	Front fog lamp	Lens	Glass	23	Reflex reflector	Lens	PMMA
		Housing	PBT + ASA + Glass fiber			Housing	ABS

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HANDLING PRECAUTIONS

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Component			Material	Component			Material
1	Rear pillar finisher		PP	8	Cluster lid C		PC + ABS
2	Personal lamp	Lens	PC	9	Instrument panel	Skin	TPU
		Housing	PP			Pad	PP
3	Center pillar garnish		PP	10	Glove box	Skin	PVC
4	Front pillar garnish		PP			Core	ABS
5	Map lamp	Lens	PC	11	Console finisher		ABS
		Housing	PP	12	Console body	Skin	PVC
6	Cluster lid A		PP			Core	PP
7	Cluster lid D		PC + ABS				

BODY COMPONENT PARTS

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

BODY COMPONENT PARTS

Underbody Component Parts

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BODY COMPONENT PARTS

< REMOVAL AND INSTALLATION >

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

 Both sided anti-corrosive precoated steel sections

 High strength steel (HSS) sections

 Both sided anti-corrosive steel and HSS sections

NOTE:

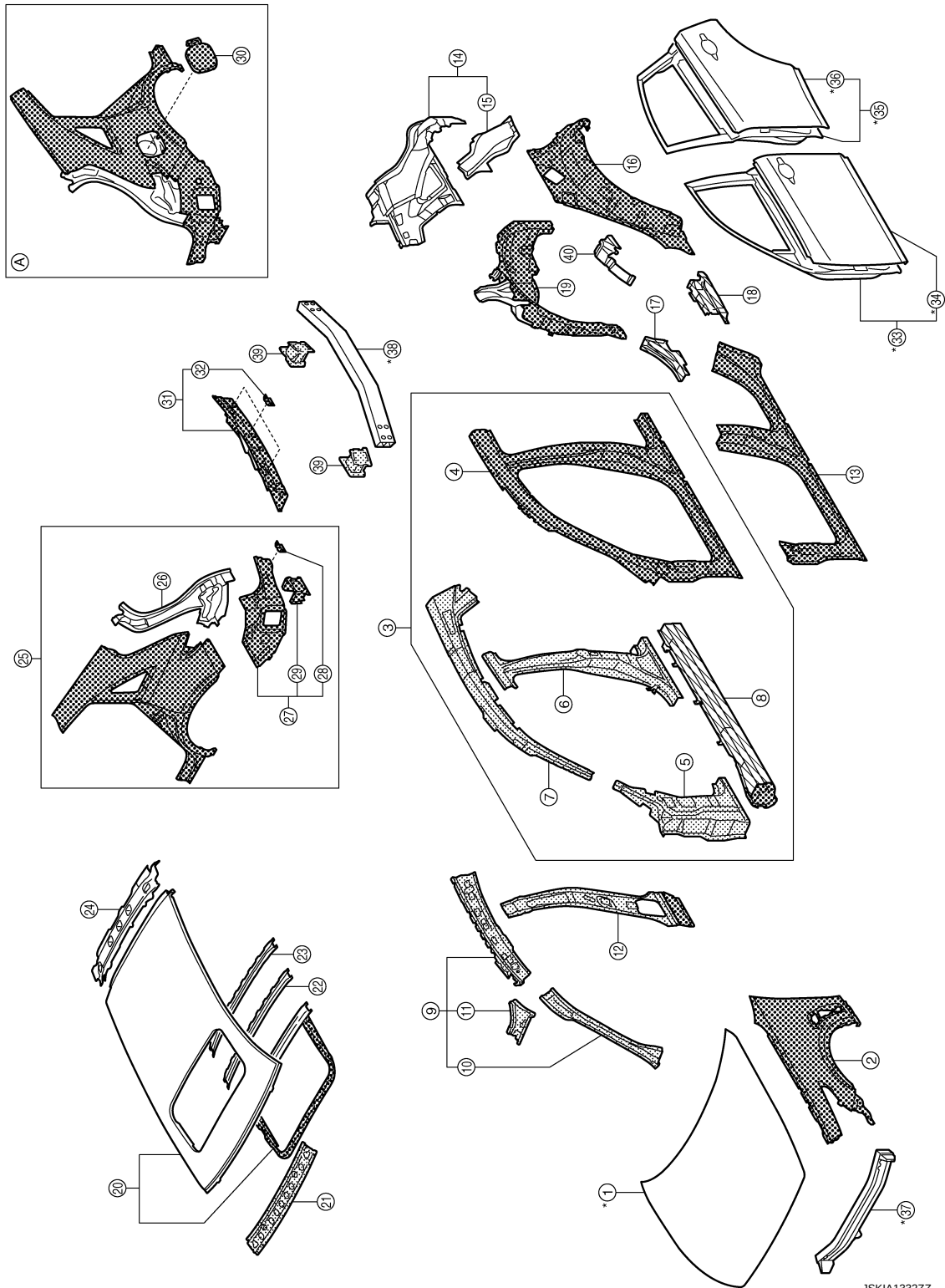
For the parts without a number described in the figure, it is supplied only with the assembly part that the part is included with.

BODY COMPONENT PARTS

< REMOVAL AND INSTALLATION >

Body Component Parts

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

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BODY COMPONENT PARTS

< REMOVAL AND INSTALLATION >

- | | | |
|---|---|---|
| 10. Upper inner front pillar assembly (RH & LH) | 11. Front roof rail brace (RH & LH) | 12. Inner center pillar (RH & LH) |
| 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 extension (RH & LH) |
| 19. Inner rear wheelhouse (RH & LH) | 20. Roof | 21. Front roof rail |
| 22. Roof bow No. 2 | 23. Roof bow No. 3 | 24. Rear roof rail |
| 25. Rear fender assembly (RH & LH) | 26. Upper back pillar assembly (RH & LH) | 27. Lower back pillar assembly (RH & LH) |
| 28. Rear side bumper retainer (RH & LH) | 29. Rear bumper stay reinforcement | 30. Fuel filler lid |
| 31. Rear panel assembly | 32. Upper rear bumper retainer | 33. Front door assembly (RH & LH) |
| 34. Outer front door panel (RH & LH) | 35. Rear door assembly (RH & LH) | 36. Outer rear door panel (RH & LH) |
| 37. Inner center front bumper reinforcement | 38. Inner center rear bumper reinforcement | 39. Rear bumper stay (RH & LH) |
| 40. Outer rear wheelhouse reinforcement (RH & LH) | | |

 Both sided anti-corrosive precoated steel sections

 High strength steel (HSS) sections

 Both sided anti-corrosive steel and HSS sections

*: Aluminum portion

NOTE:

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

CORROSION PROTECTION

< REMOVAL AND INSTALLATION >

CORROSION PROTECTION

Description

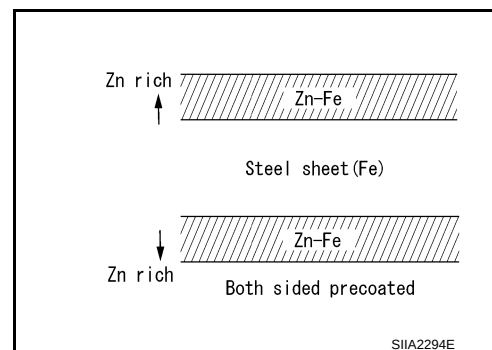
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To provide improved corrosion prevention, the following anti-corrosive measures have been implemented in NISSAN production plants. When repairing or replacing body panels, it is necessary to use the same anti-corrosive measures.

Anti-Corrosive Precoated Steel (Galvannealed Steel)

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

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



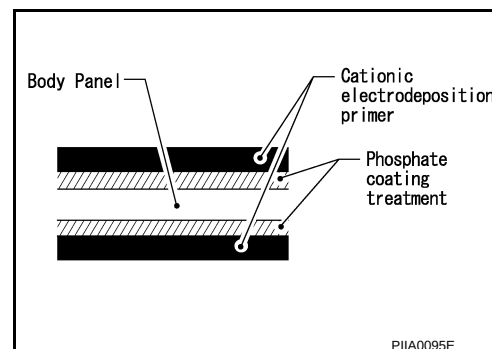
NISSAN genuine parts are fabricated from galvannealed steel. Therefore, it is recommended that NISSAN genuine parts or an equivalent be used for panel replacement to maintain the anti-corrosive performance built into the vehicle at the factory.

Phosphate Coating Treatment and Cationic Electrodeposition Primer

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

CAUTION:

Confine paint removal during welding operation to an absolute minimum.



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

Undercoating

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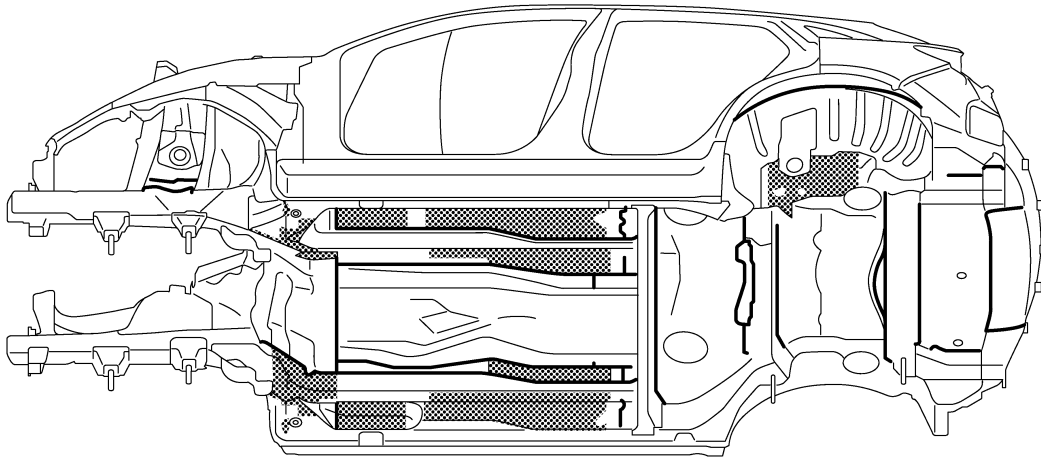
The underside of the floor and wheelhouse are undercoated to prevent rust, vibration, noise and stone chipping. Therefore, when such a panel is replaced or repaired, apply undercoating to that part. Use an undercoating which is rust preventive, soundproof, vibration-proof, shock-resistant, adhesive,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

CORROSION PROTECTION

< REMOVAL AND INSTALLATION >



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▨ : Undercoated portions

■ : Sealed portions

BODY SEALING

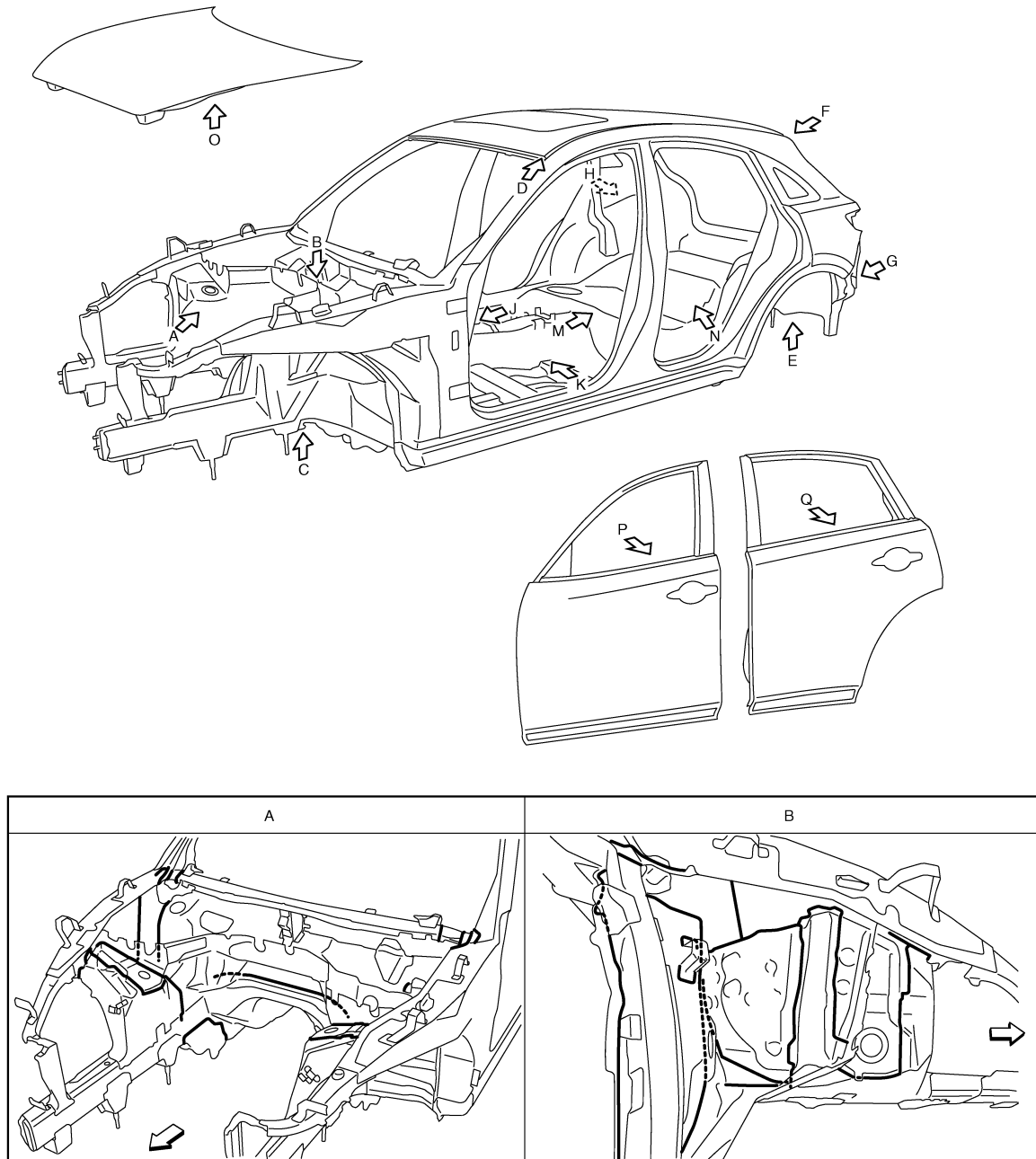
< REMOVAL AND INSTALLATION >

BODY SEALING

Body Sealing

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



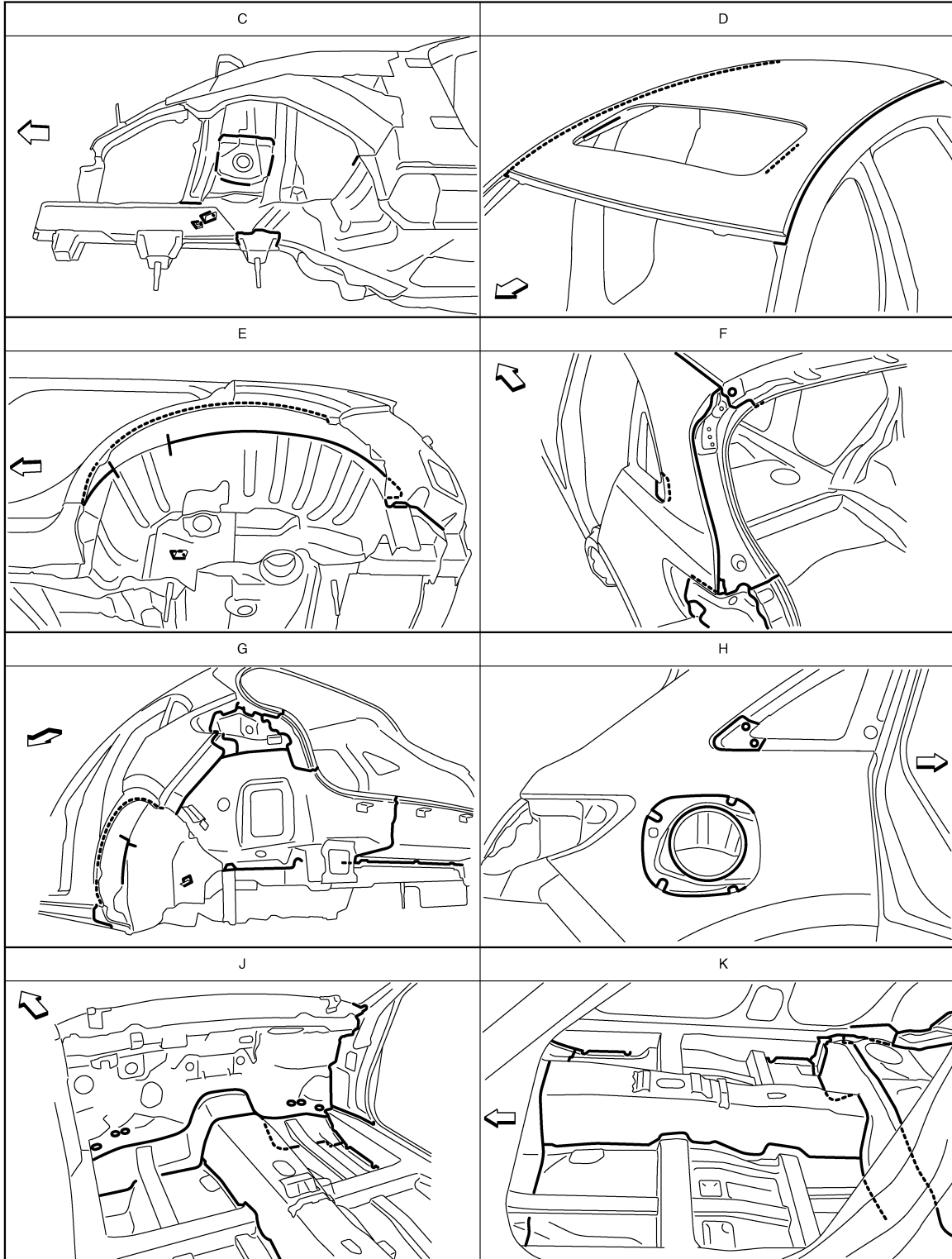
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←: Vehicle front

—: Sealed portions

BODY SEALING

< REMOVAL AND INSTALLATION >



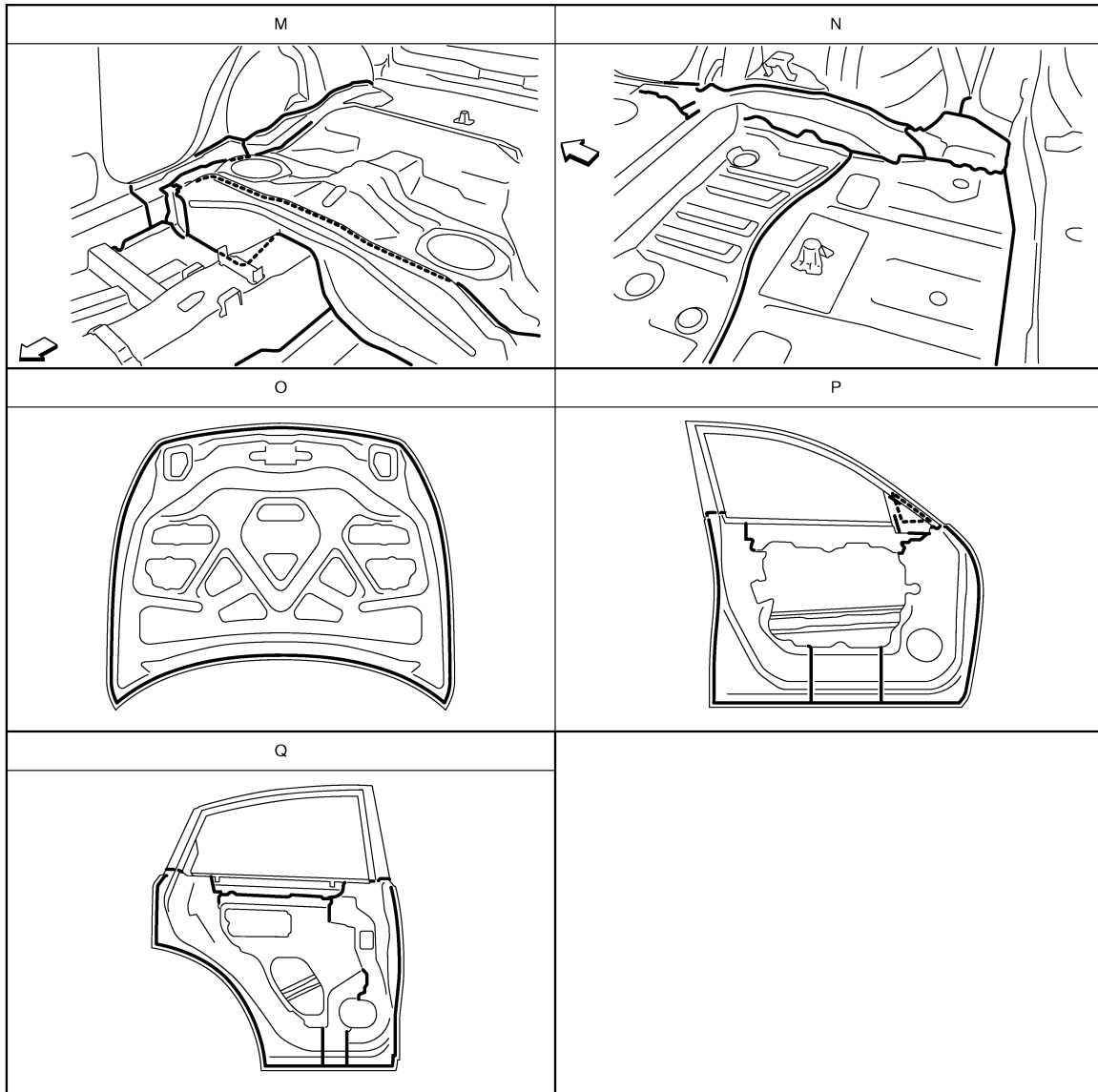
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↩: Vehicle front

—: Sealed portions

BODY SEALING

< REMOVAL AND INSTALLATION >



←: Vehicle front
 —: Sealed portions

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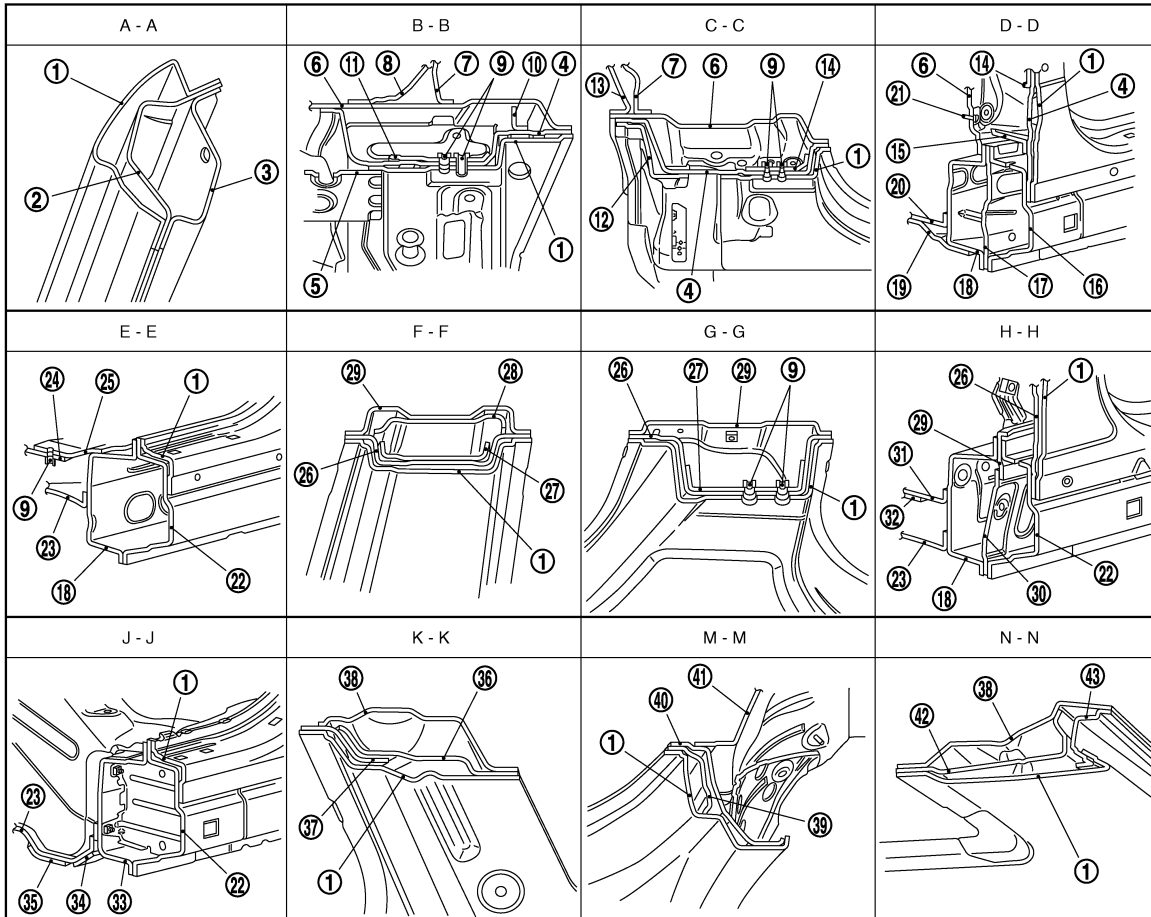
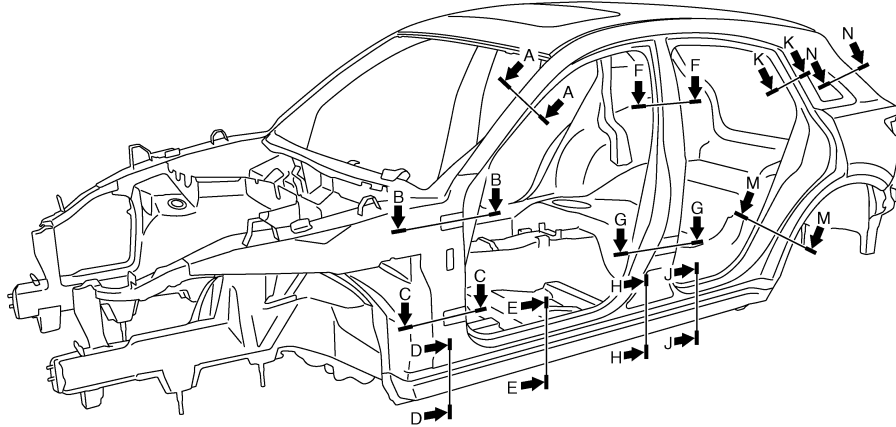
BODY CONSTRUCTION

< REMOVAL AND INSTALLATION >

BODY CONSTRUCTION

Body Construction

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- | | | |
|-----------------------------|-------------------------------------|-----------------------------|
| 1. Outer side body | 2. Outer front pillar reinforcement | 3. Upper inner front pillar |
| 4. Front pillar hinge brace | 5. Hoodedge reinforcement | 6. Upper rear hoodedge |
| 7. Upper dash | 8. Upper dash reinforcement | 9. Weld nut |

BODY CONSTRUCTION

< REMOVAL AND INSTALLATION >

- | | | | |
|------------------------------------|--|---|---|
| 10. Outer front pillar bracket | 11. Front pillar hinge front reinforcement | 12. Rear hoodledge reinforcement | |
| 13. Lower dash crossmember | 14. Lower hinge plate | 15. Lower front pillar gusset | A |
| 16. Outer front sill reinforcement | 17. Lower front pillar reinforcement | 18. Inner sill | |
| 19. Front side member outrigger | 20. Lower dash | 21. Weld bolt | B |
| 22. Outer sill reinforcement | 23. Front floor | 24. 2nd crossmember | |
| 25. Front floor gusset | 26. Center pillar reinforcement | 27. Center pillar seat belt reinforcement | C |
| 28. Center pillar seat belt anchor | 29. Inner center pillar | 30. Lower inner center pillar | |
| 31. 3rd crossmember | 32. Nut plate | 33. Rear side member front | D |
| 34. Rear floor reinforcement | 35. Rear seat crossmember reinforcement | 36. Inner rear pillar reinforcement | |
| 37. Side roof rail reinforcement | 38. Inner rear pillar | 39. Outer rear wheelhouse extension | E |
| 40. Outer rear wheelhouse | 41. Inner rear wheelhouse | 42. Upper back pillar reinforcement | |
| 43. Upper back pillar main | | | F |
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BODY ALIGNMENT

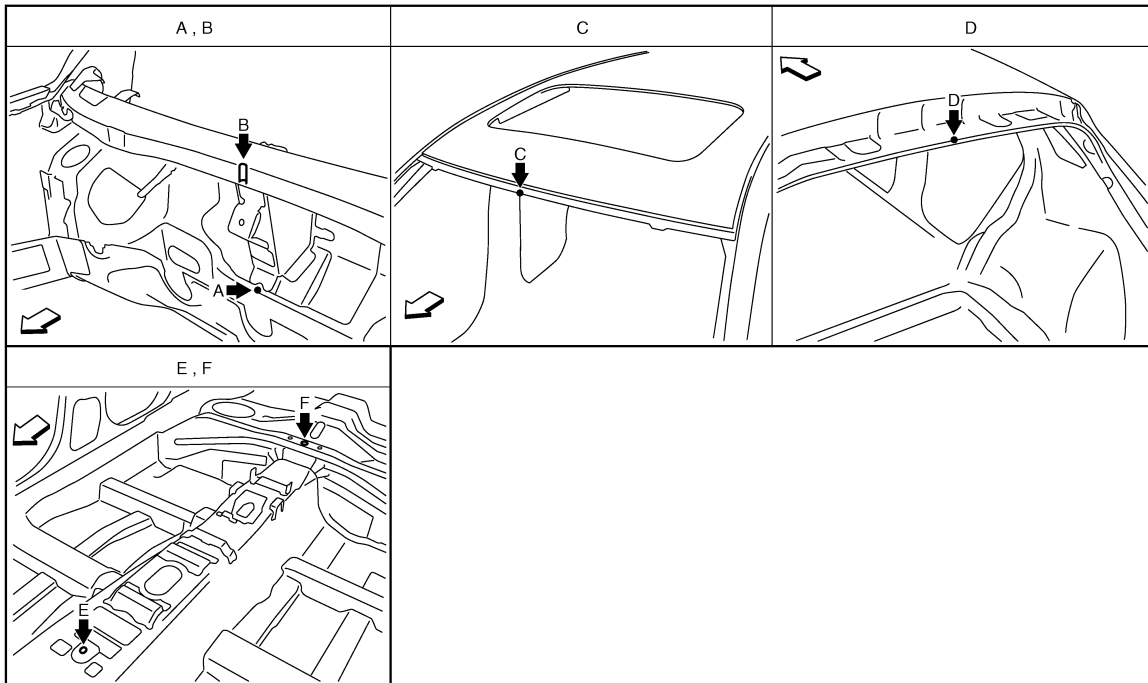
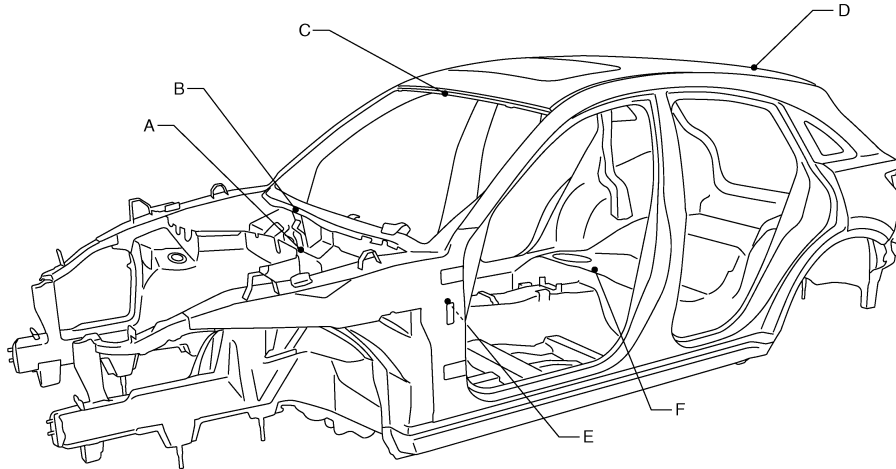
< REMOVAL AND INSTALLATION >

BODY ALIGNMENT

Body Center Marks

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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.



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↶: Vehicle front

Unit: mm (in)

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

BODY ALIGNMENT

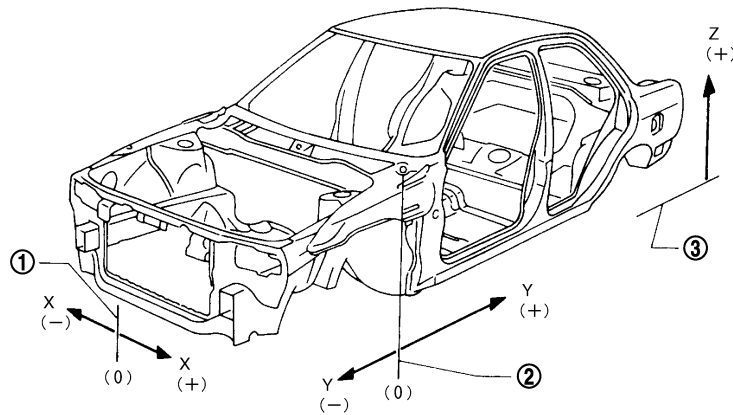
< REMOVAL AND INSTALLATION >

Points	Portion	Marks
E	Trans control reinforcement	Hole 12×14 (0.47×0.55)
F	Rear seat crossmember reinforcement	Hole $\phi 5$ (0.20)

Description

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- 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

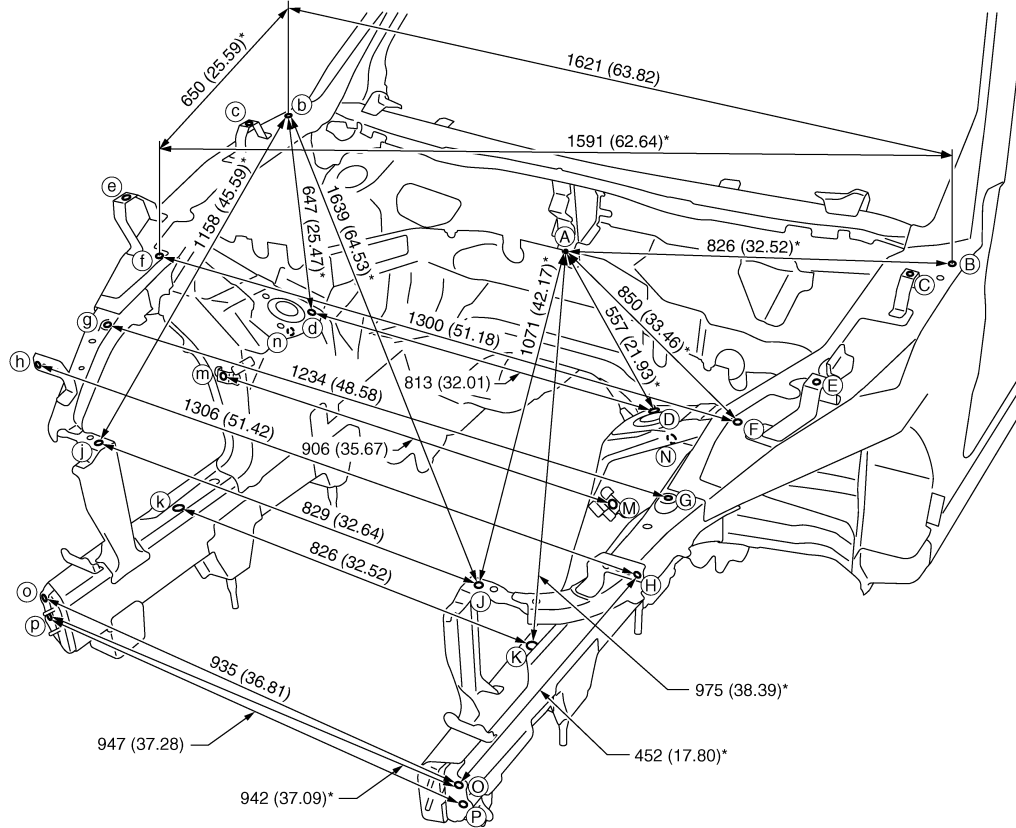
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Measurement

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

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >



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Unit: mm (in)

«The others»

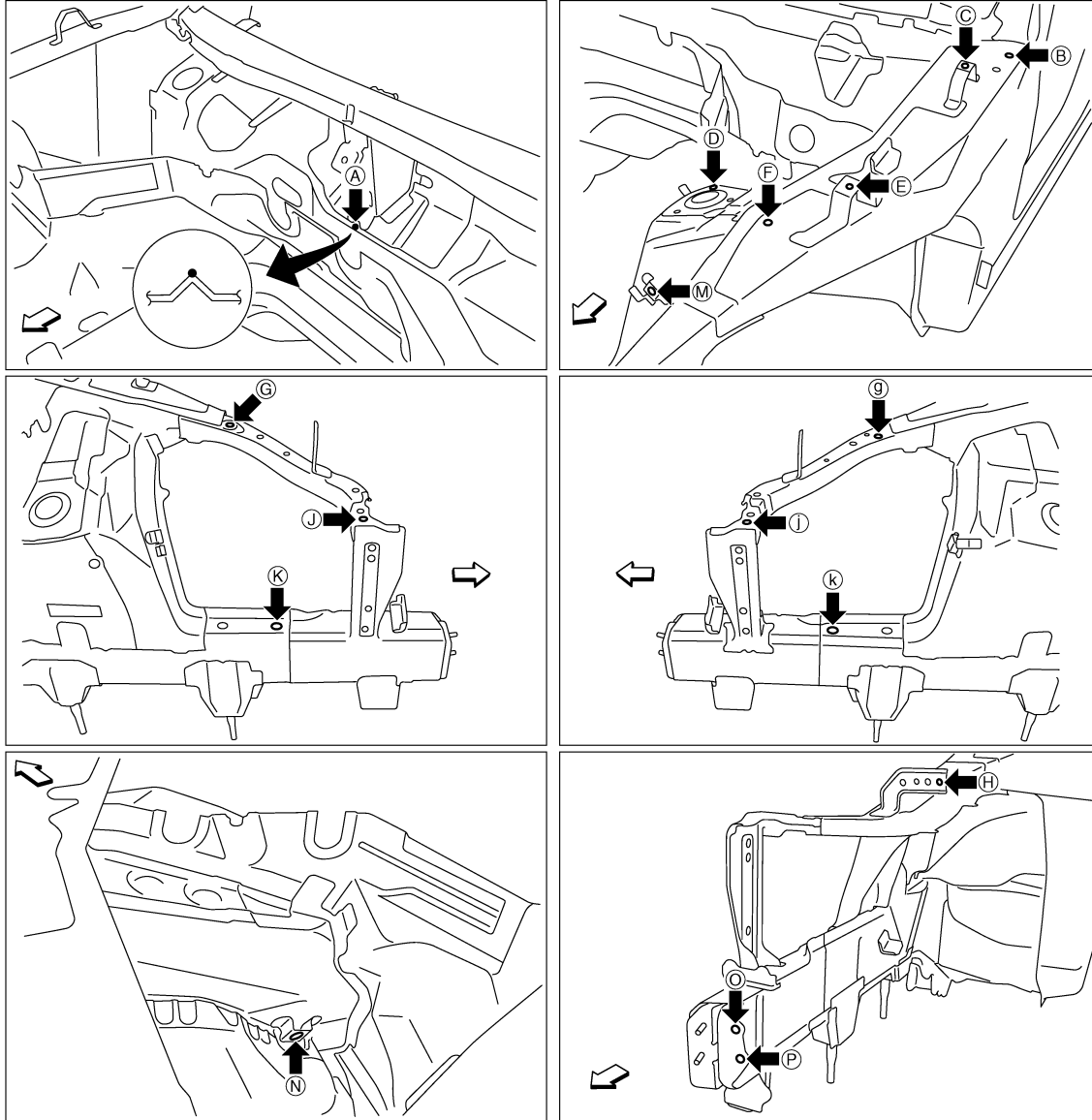
Unit: mm (in)

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
A - C	806 (31.73)*		B - C	178 (7.01)*		B - e	1682 (66.22)*		b - G	1651 (65.00)	
A - E	930 (36.61)*		B - c	1601 (63.03)*		B - G	849 (33.43)		C - c	1561 (61.46)	
A - G	961 (37.83)		B - d	1318 (51.89)*		b - g	860 (33.86)		E - e	1533 (60.35)	
A - g	966 (38.03)		B - E	587 (23.11)*		B - g	1653 (65.08)		N - n	906 (35.67)	

Measurement Points

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >



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↔: Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Upper dash positioning mark of center positioning mark	G, g	Radiator core support hole center $\phi 7$ (0.28)
B, b	Hood hinge installing hole center $\phi 9$ (0.35)	J, j	Radiator core support stay hole center $\phi 12$ (0.47)
C, c, E, e, H, h	Front fender installing hole center $\phi 7$ (0.28)	K, k	Front side member hole center $\phi 10$ (0.39)
D, d	Front strut installing hole center $\phi 11$ (0.43)	M, m, N, n	Nut holder hole center $\phi 16$ (0.63)
F, f	Hoodledge reinforcement hole center $\phi 12$ (0.47)	O, o, P, p	Front bumper reinforcement installing hole center $\phi 11$ (0.43)

Underbody

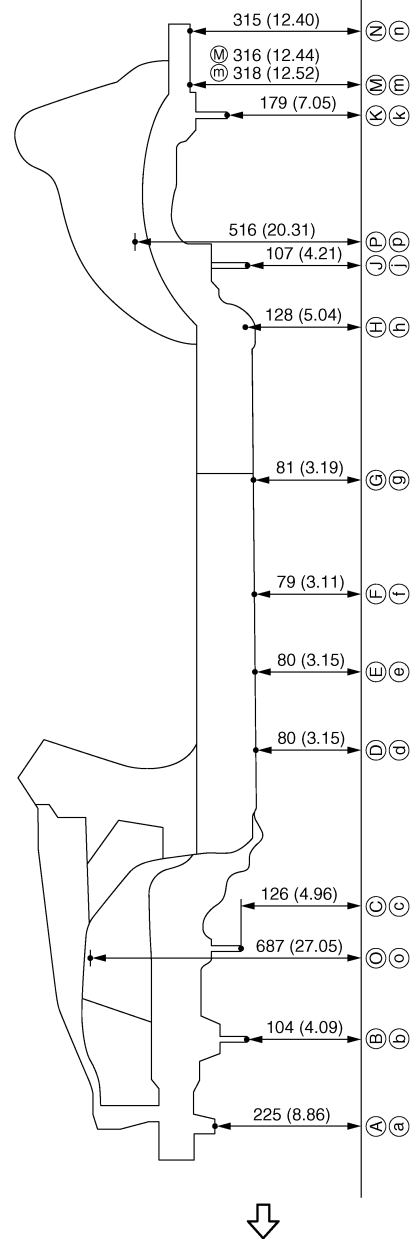
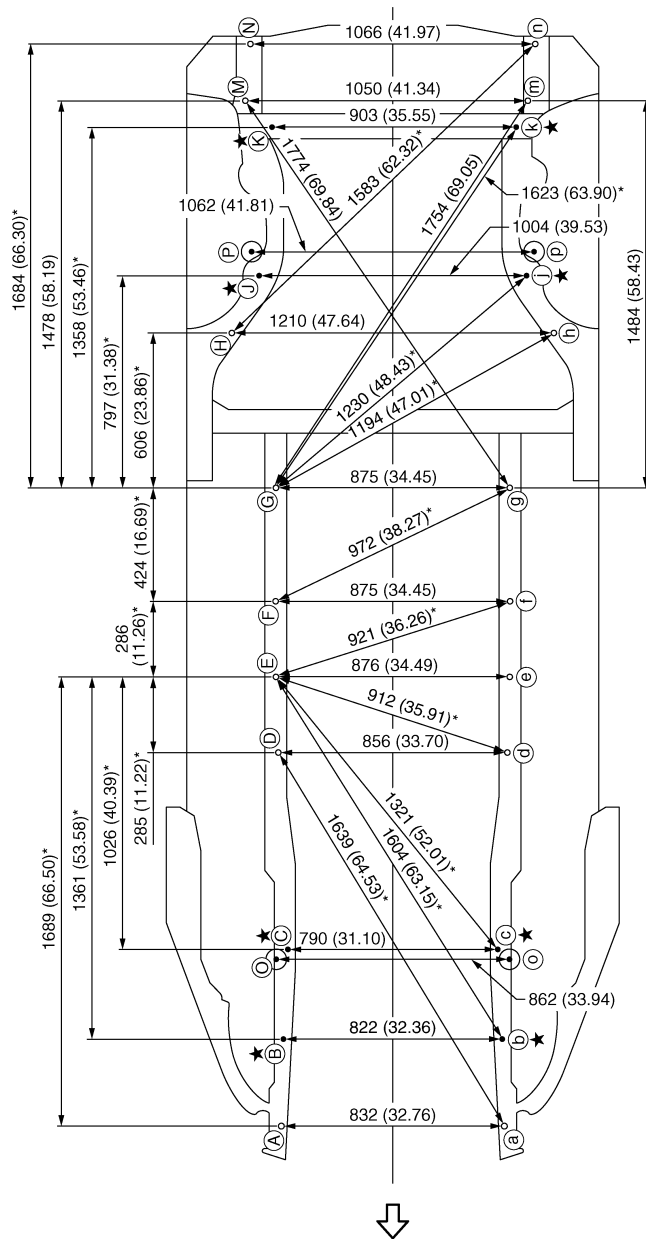
INFOID:000000005248955

Measurement

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

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >



JSKIA0663GB

Unit: mm (in)

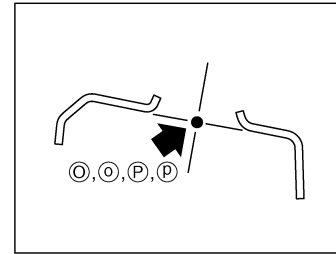
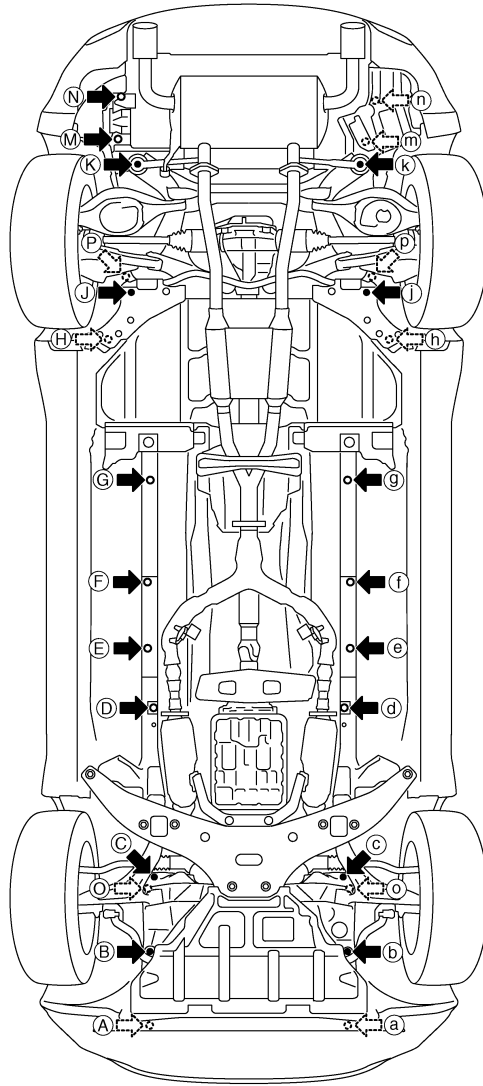
↖: Vehicle front

★: Bolt head

Measurement Points

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >



JSKIA0664ZZ

←: Vehicle front

Unit: mm (in)

Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
A, a	±415.8 (±16.370)	-583.0 (-22.953)	224.6 (8.843)	Hole φ13 (0.51)	J, j	±502.1 (±19.768)	2603.8 (102.512)	106.9 (4.209)	Bolt head
B, b	±411.0 (±16.181)	-261.0 (-10.276)	104.2 (4.102)	Bolt head	K, k	±451.5 (±17.776)	3163.9 (124.563)	179.1 (7.051)	Bolt head
C, c	±395.0 (±15.551)	76.0 (2.992)	126.3 (4.972)	Bolt head	M	550.0 (21.654)	3264.6 (128.527)	316.4 (12.457)	Hole φ8 (0.31)
D, d	±428.0 (±16.850)	815.0 (32.087)	80.0 (3.150)	Hole 16×18 (0.63×0.71)	m	-500.0 (-19.685)	3273.3 (128.870)	318.0 (12.520)	Hole φ8 (0.31)
E, e	±438.0 (±17.244)	1100.0 (43.307)	80.2 (3.157)	Hole φ16 (0.63)	N, n	±533.0 (±20.984)	3475.0 (136.811)	315.4 (12.417)	Hole φ16 (0.63)
F, f	±437.5 (±17.224)	1385.9 (54.563)	78.8 (3.102)	Hole φ14 (0.55)	O, o	±430.8 (±16.961)	39.2 (1.543)	686.6 (27.031)	Hole φ50 (1.97)

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >

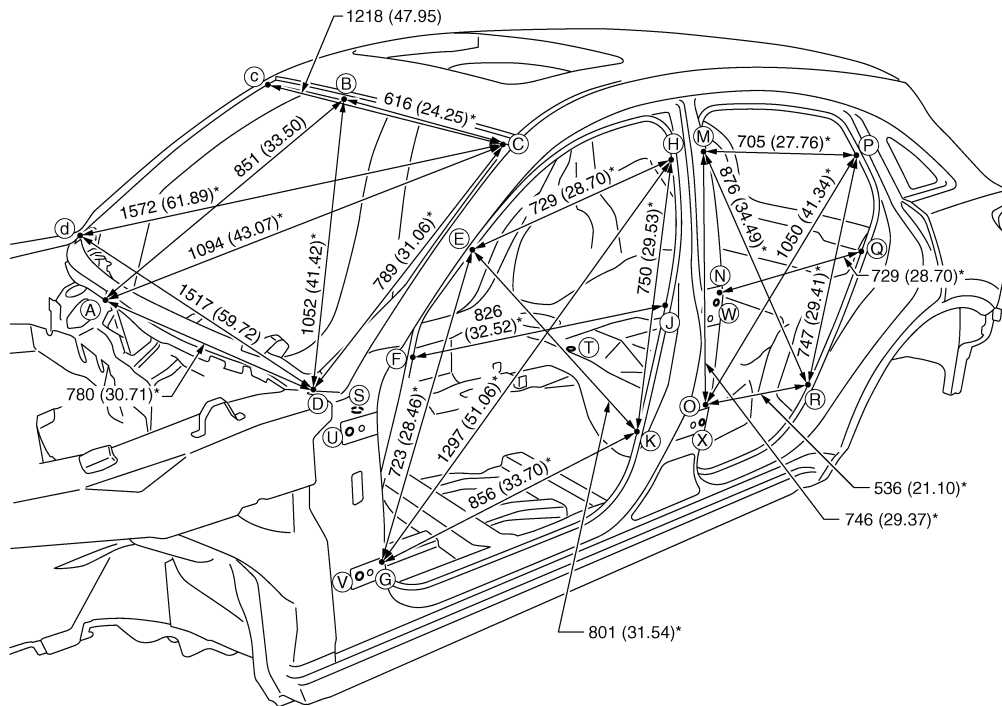
Points	Coordinates			Remarks	Points	Coordinates			Remarks
	X	Y	Z			X	Y	Z	
G, g	±437.5 (±17.224)	1810.0 (71.260)	81.2 (3.197)	Hole ϕ 16 (0.63)	P, p	±531.2 (±20.913)	2692.7 (106.012)	515.6 (20.299)	Hole ϕ 64 (2.52)
H, h	±604.9 (±23.815)	2390.5 (94.114)	128.3 (5.051)	Hole ϕ 13 (0.51)					

Passenger Compartment

INFOID:000000005248956

Measurement

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



JSKIA0665GB

Unit: mm (in)

«The others»

Unit: mm (in)

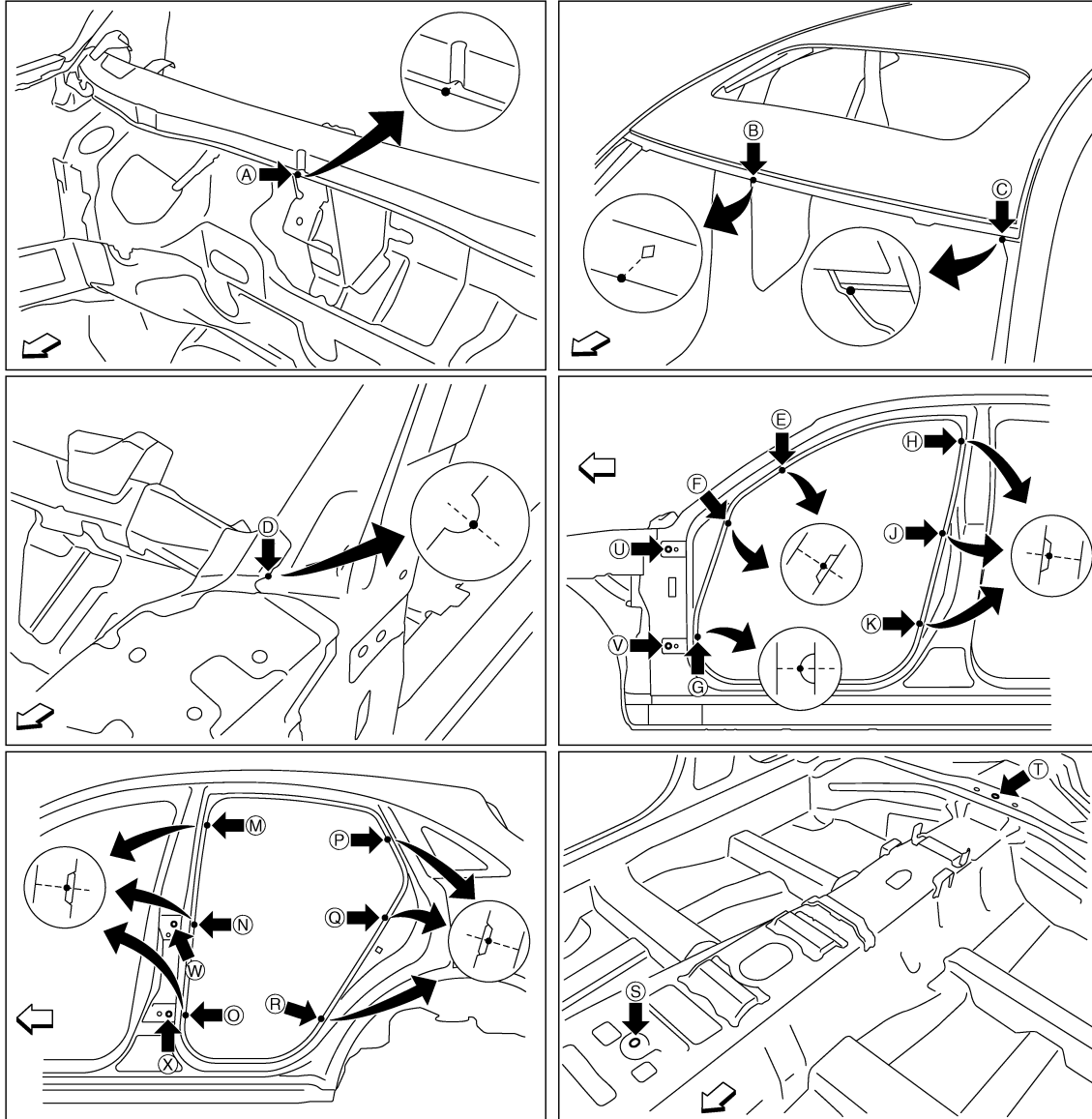
Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
E - e	1438 (56.61)		J - j	1540 (60.63)		P - p	1363 (53.66)		T - N	903 (35.55)*	
E - g	1663 (65.47)*		K - k	1553 (61.14)		P - r	1646 (64.80)*		T - O	814 (32.05)*	
E - h	1564 (61.57)*		M - m	1337 (52.64)		Q - q	1524 (60.00)		T - P	1161 (45.71)*	
E - k	1696 (66.77)*		M - o	1623 (63.90)*		R - r	1579 (62.17)		T - Q	1042 (41.02)*	
F - f	1536 (60.47)		M - p	1523 (59.96)*		S - E	1010 (39.76)*		T - R	848 (33.39)*	
F - j	1746 (68.74)*		M - r	1697 (66.81)*		S - F	907 (35.71)*		U - W	1158 (45.59)*	
G - g	1560 (61.42)		N - n	1541 (60.67)		S - G	797 (31.38)*		U - X	1151 (45.31)*	
G - h	1939 (76.34)*		N - q	1697 (66.81)*		S - H	1373 (54.06)*		V - W	1230 (48.43)*	

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >

Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo	Point	Dimension	Memo
G - k	1777 (69.96)*		O - o	1554 (61.18)		S - J	1187 (46.73)*		V - X	1119 (44.06)*	
H - h	1331 (52.40)		O - p	1795 (70.67)*		S - K	1049 (41.30)*				
H - k	1622 (63.86)*		O - r	1656 (65.20)*		T - M	1056 (41.57)*				

Measurement Points



JSKIA0666ZZ

↶: Vehicle front

Unit: mm (in)

Point	Material	Point	Material
A	Upper dash crossmember flange end of center positioning mark	P, p, Q, q, R, r	Rear fender indent
B	Roof flange end of center positioning mark	S	Trans control reinforcement hole center of center positioning mark 12×14 (0.47×0.55)

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >

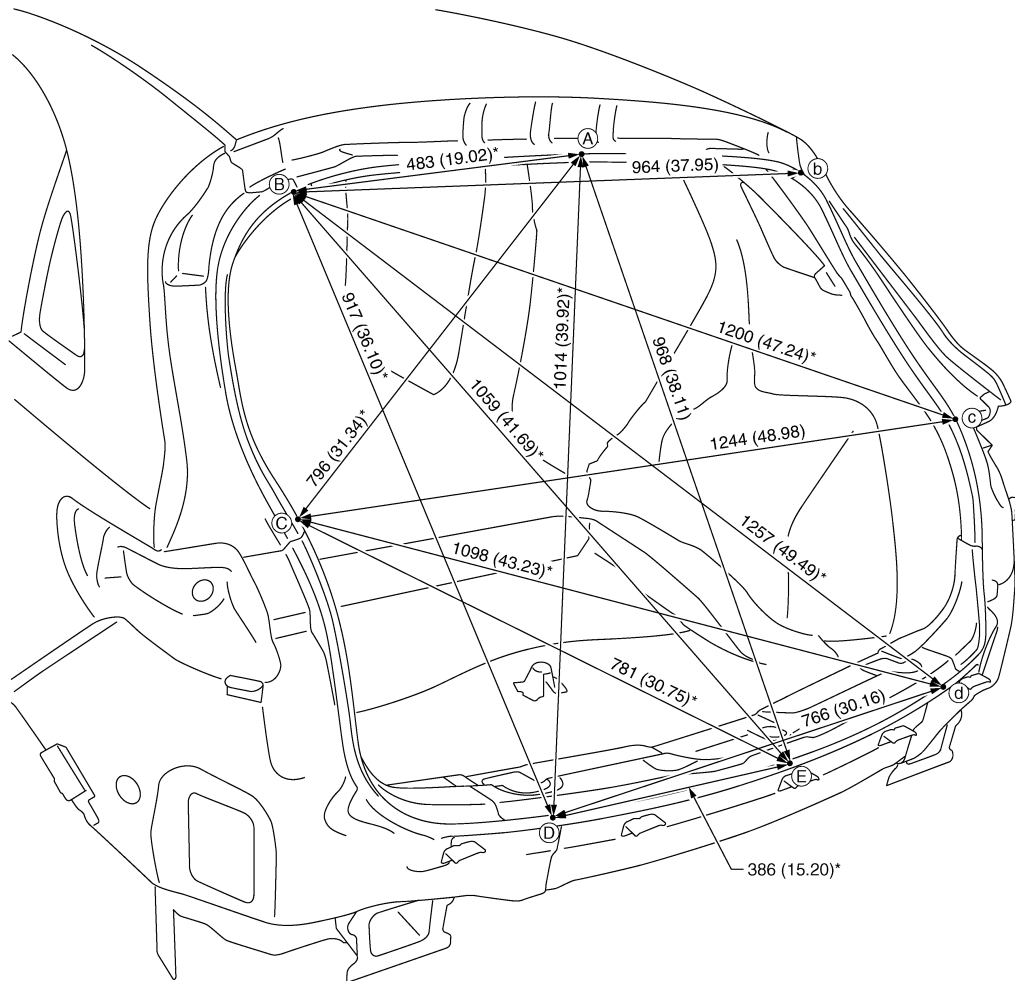
Point	Material	Point	Material
C, c	Front pillar joggle	T	Rear seat crossmember reinforcement hole center of center positioning mark $\phi 5$ (0.20)
D, d, E, e, F, f, G, g	Front pillar indent	U, u, V, v, W, w, X, x	Door hinge installing hole center U, u, V, v, X, x: $\phi 12$ (0.47) W, w: $\phi 9$ (0.35)
H, h, J, j, K, k, M, m, N, n, O, o	Center pillar indent		

Rear Body

INFOID:000000005248957

Measurement

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



JSKIA0667GB

Unit: mm (in)

Measurement Points

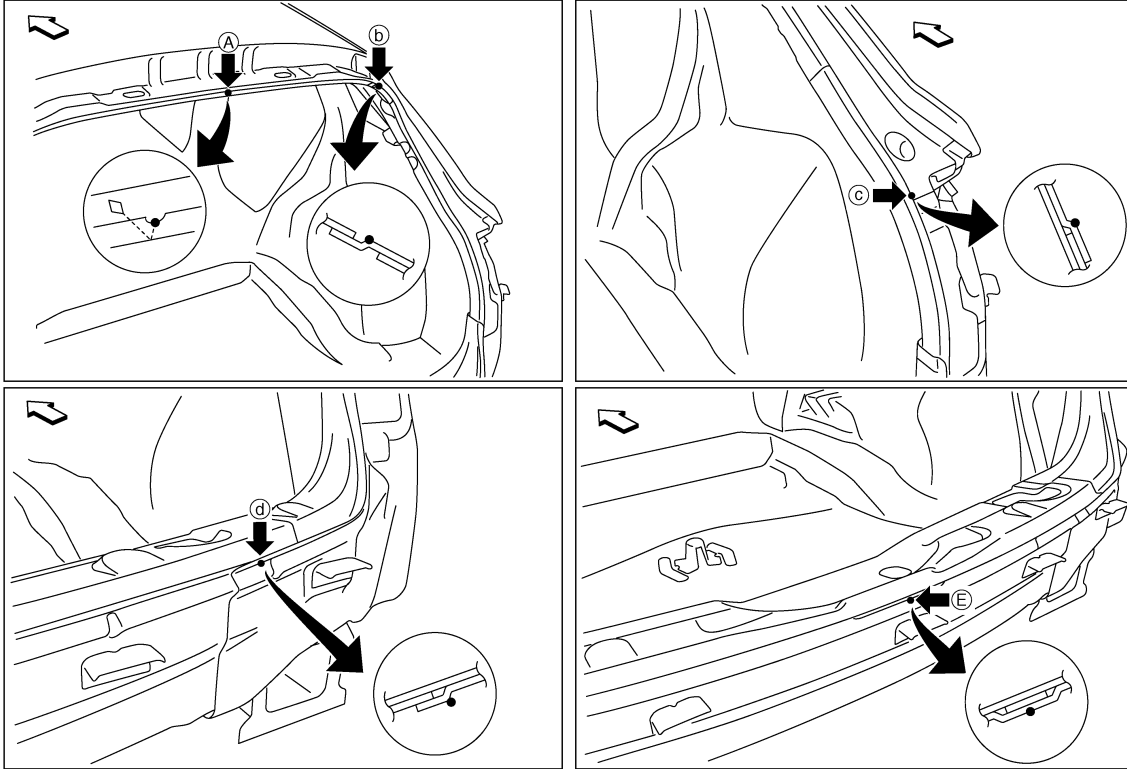
Revision: 2009 August

BRM-26

2010 FX35/FX50

BODY ALIGNMENT

< REMOVAL AND INSTALLATION >



JSKIA0668ZZ

←: Vehicle front

Point	Material	Point	Material
A	Roof indent of center positioning mark	D, d	Lower back pillar main joggle
B, b, C, c	Upper back pillar main joggle	E	Upper rear panel flange end of center positioning mark

BRM

REPAIRING HIGH STRENGTH STEEL

< REMOVAL AND INSTALLATION >

REPAIRING HIGH STRENGTH STEEL

High Strength Steel (HSS)

INFOID:000000005248958

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

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

Tensile strength	Major applicable parts
370 - 590 MPa	• Front strut housing • Hoodledge reinforcement • Upper front hoodledge • Lower dash • Lower dash crossmember assembly • Front roof rail • Inner side roof rail • Inner center pillar • Inner sill • Upper & lower outer rear wheelhouse extension • Center front floor (Component part) • Front floor (Component part) • Front & rear side member assembly • Front side member closing plate assembly • Front side member outrigger assembly • Rear seat crossmember • Other reinforcements
780 - 1350 MPa	• Center pillar reinforcement (Component part) • Inner center pillar (Component part) • Outer side roof rail reinforcement (Component part)

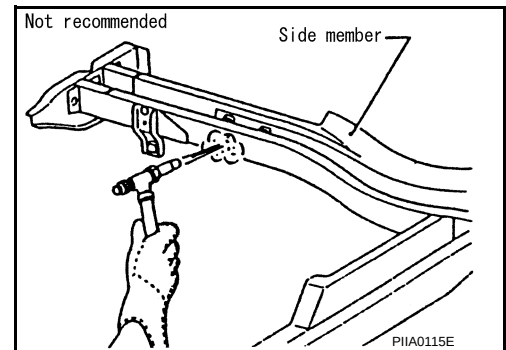
Read the following precautions when repairing HSS:

1. Additional points to consider

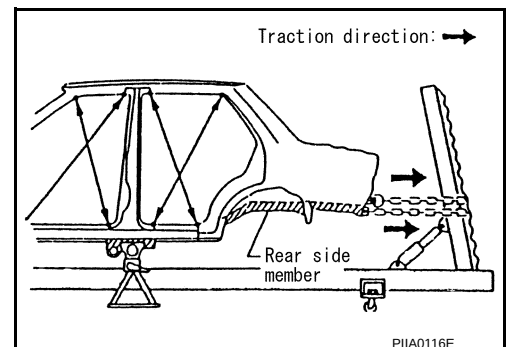
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).

Verify heating temperature with a thermometer.

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



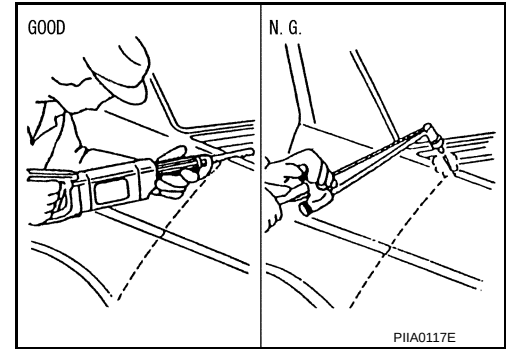
- When straightening body panels, use caution in pulling any HSS panel. Because HSS is very strong, pulling may cause deformation in adjacent portions of the body. In this case, increase the number of measuring points, and carefully pull the HSS panel.



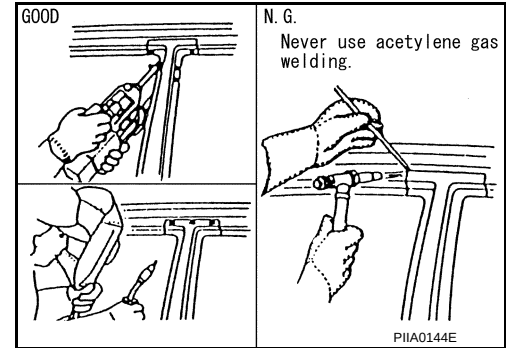
REPAIRING HIGH STRENGTH STEEL

< REMOVAL AND INSTALLATION >

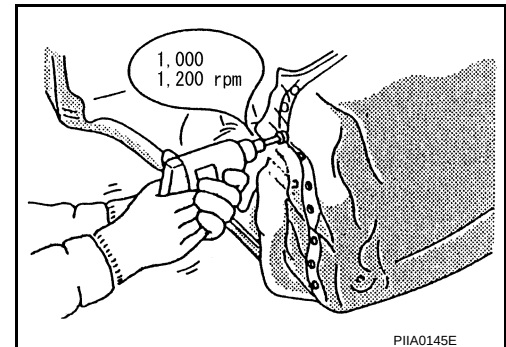
- When cutting HSS panels, avoid gas (torch) cutting if possible. Instead, use a saw to avoid weakening surrounding areas due to heat. If gas (torch) cutting is unavoidable, allow a minimum margin of 50 mm (1.97in).



- 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.



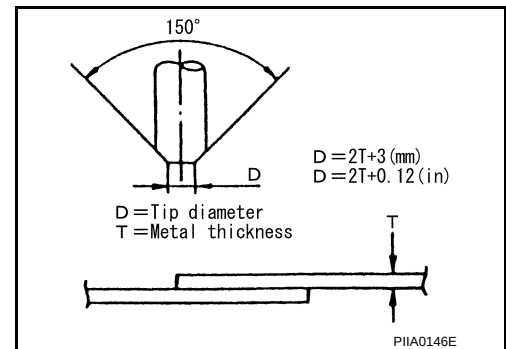
- The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.



2. Precautions in spot welding HSS

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

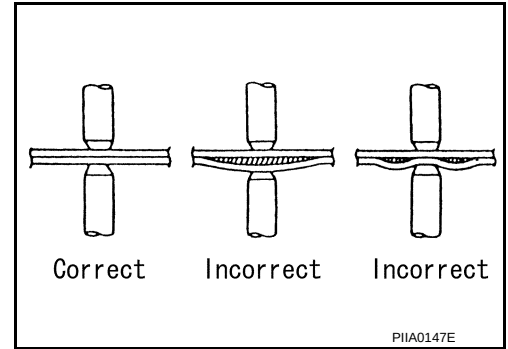
- The electrode tip diameter must be sized properly according to the metal thickness.



REPAIRING HIGH STRENGTH STEEL

< REMOVAL AND INSTALLATION >

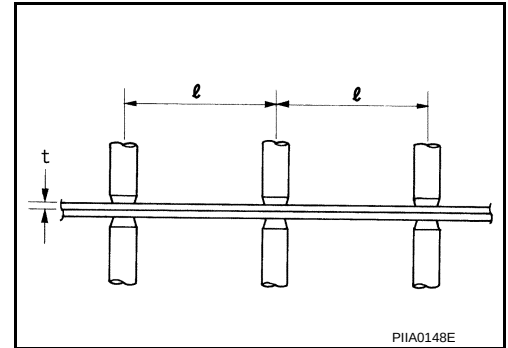
- The panel surfaces must fit flush to each other, leaving no gaps.



- 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

< REMOVAL AND INSTALLATION >

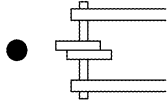
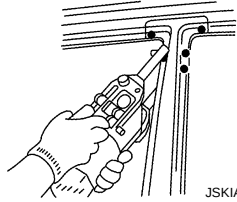
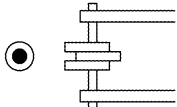
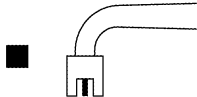
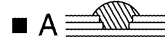
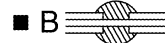
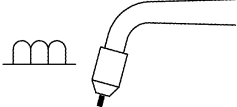
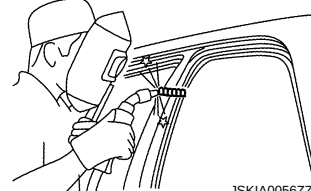
REPLACEMENT OPERATIONS

Description

INFOID:000000005248959

- 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

A

B

C

D

E

F

G

H

I

J

BRM

L

M

N

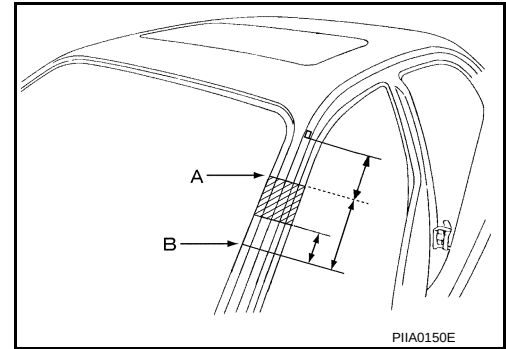
O

P

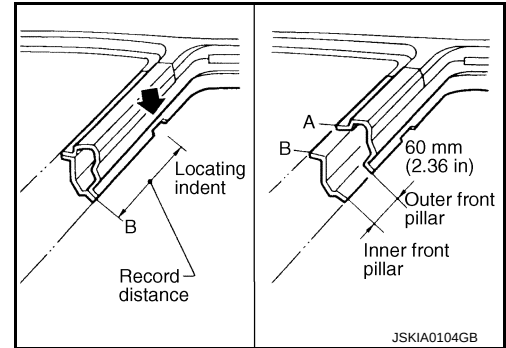
REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

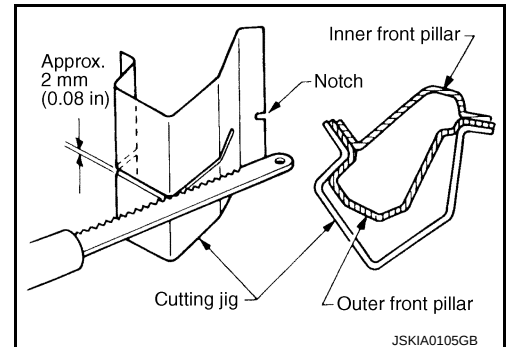
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



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

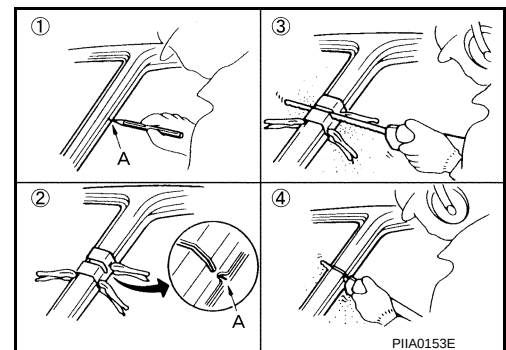


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



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

- Mark cutting lines.
A: Cut position of outer pillar
B: Cut position of inner pillar
- Align cutting line with notch on jig. Clamp jig to pillar.
- Cut outer pillar along groove of jig (at position A).
- Remove jig and cut remaining portions.
- Cut inner pillar at position B in same manner.



REAR FENDER HEMMING PROCESS

- A wheel arch is to be installed and hemmed over left and right outer wheel house.
- 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

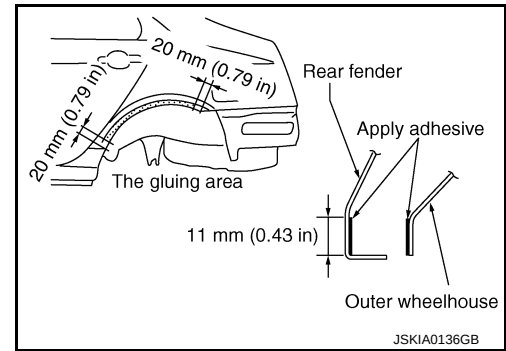
REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

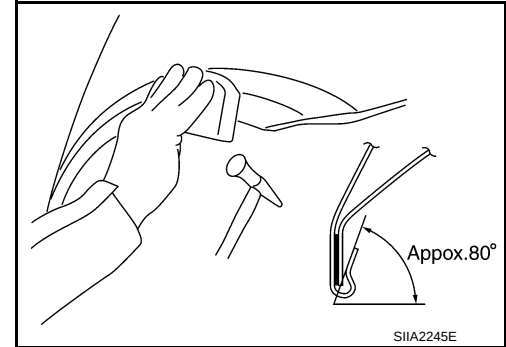
- Peel off old bonding material on the surface of outer wheelhouse and clean thoroughly.
- Peel off a primer coat in the specified area where new adhesive is to be applied on rear fender (the replacing part).
- Apply new adhesive to both specified areas of outer wheelhouse and rear fender.

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

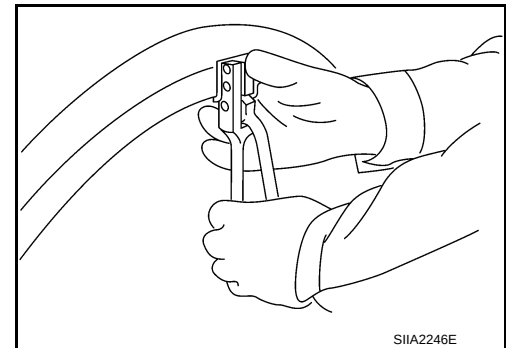
- Attach rear fender to the body of the car, and weld the required part except the hemming part.



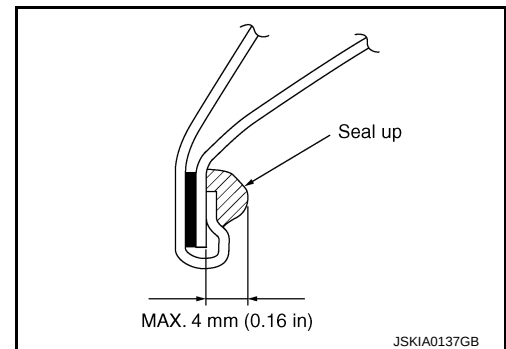
- Bend the welded part starting from the center of the wheel arch gradually with a hammer and a dolly. (Also hem the end of the flange.)
- Hemming with a hammer is conducted to an approximate angle of 80 degrees.



- 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

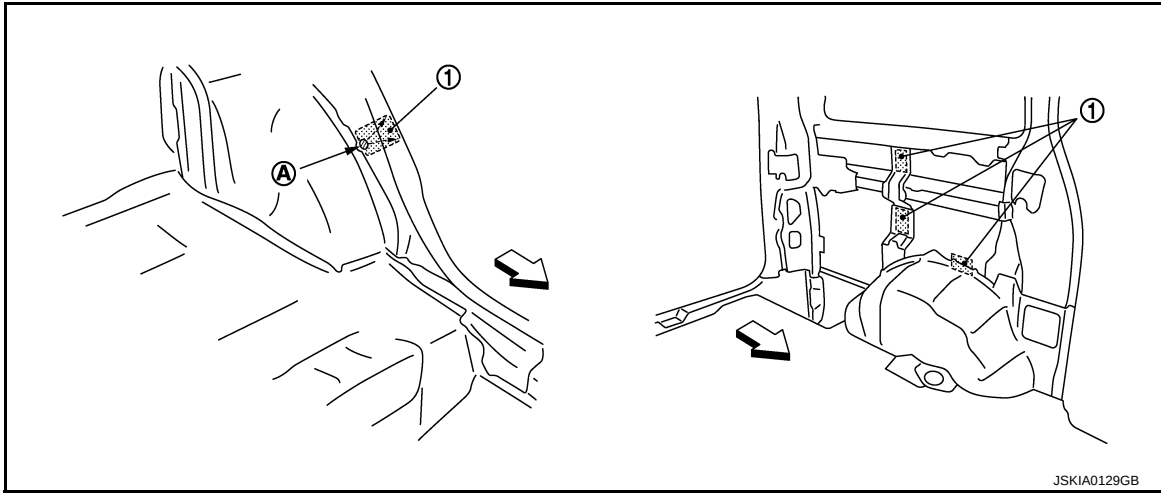
Use commercially available spray foam for sealant (foam material) repair of material used on vehicle. Read instructions on product for fill procedures.

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.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

- 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

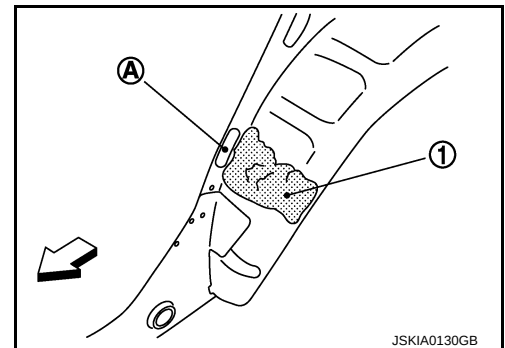
NOTE:

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.

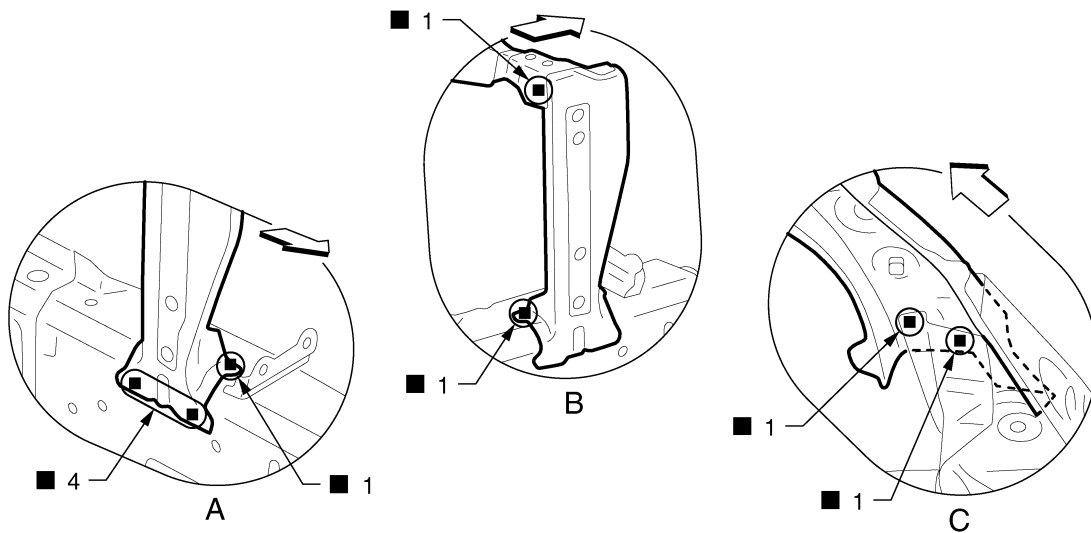
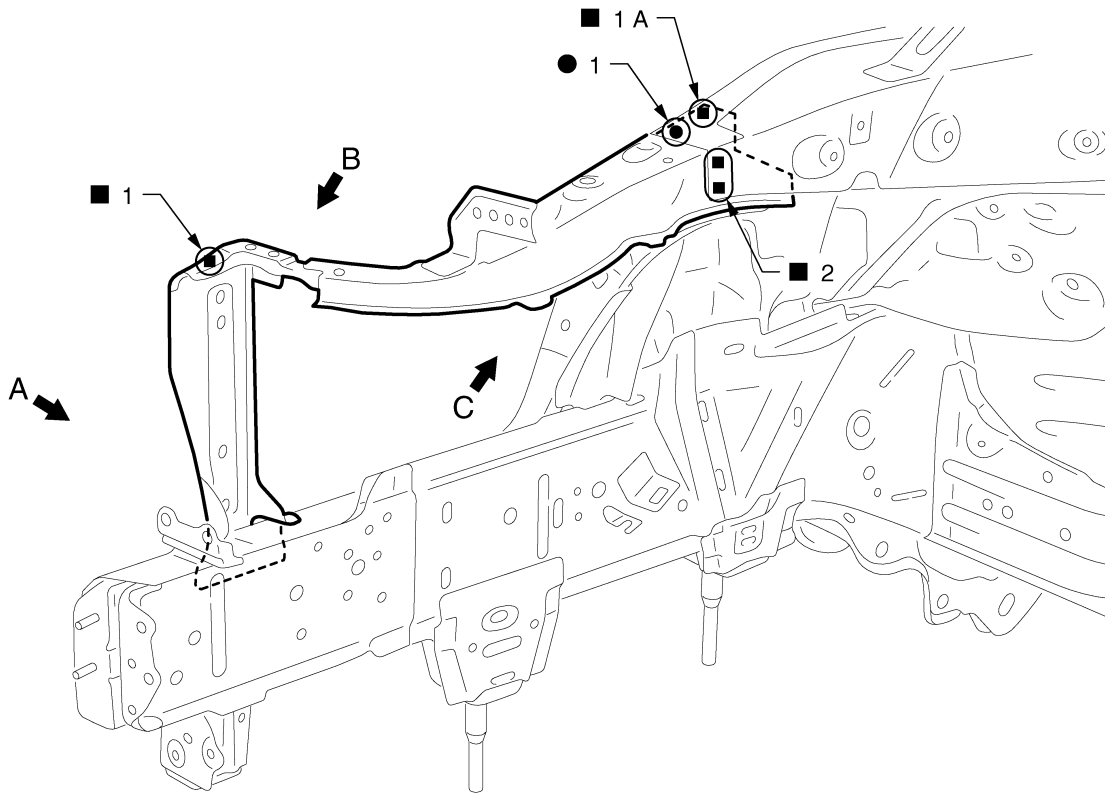


REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

Radiator Core Support

INFOID:000000005248960



JSKIA0669ZZ

⇐: Vehicle front

Replacement parts

- Side radiator core support assembly (LH)
- Front side member connector assembly (LH)

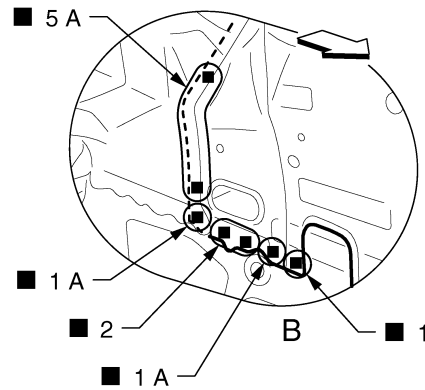
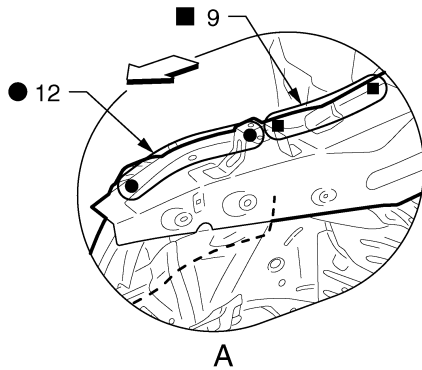
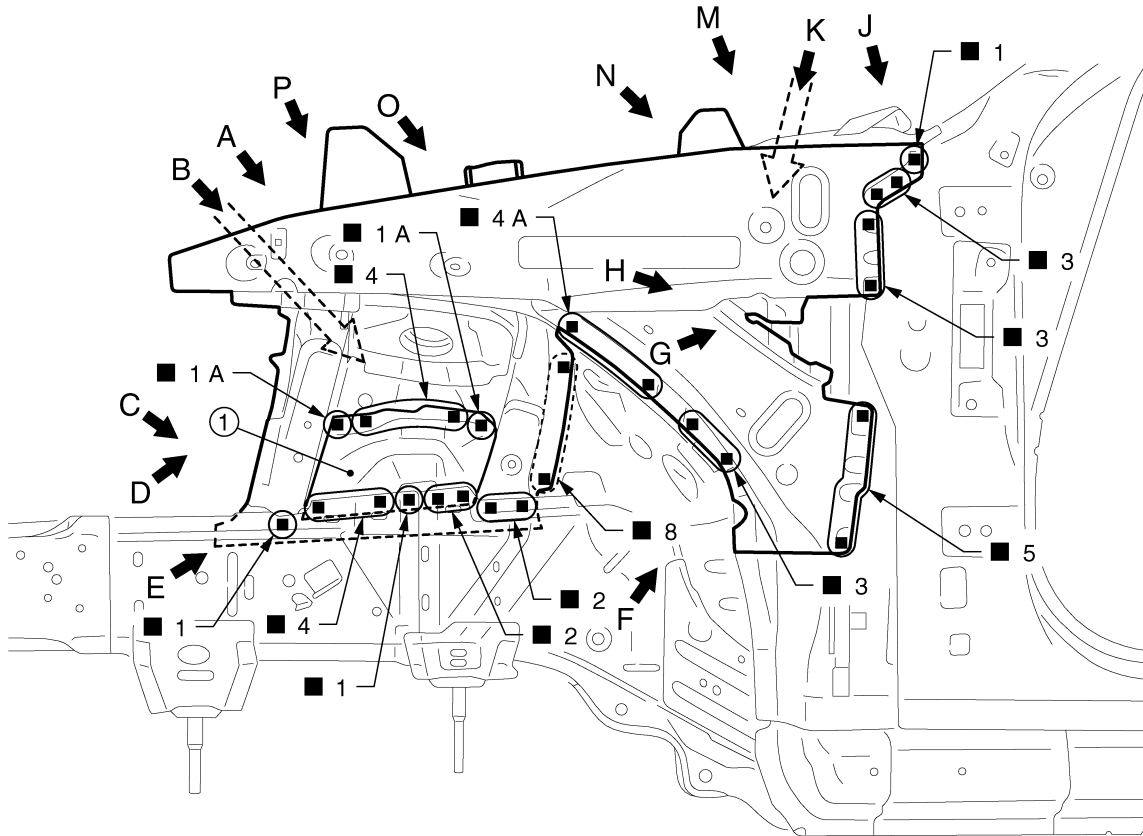
Hoodledge

INFOID:000000005248961

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

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



JSKIA0670ZZ

1. Front side member center closing plate

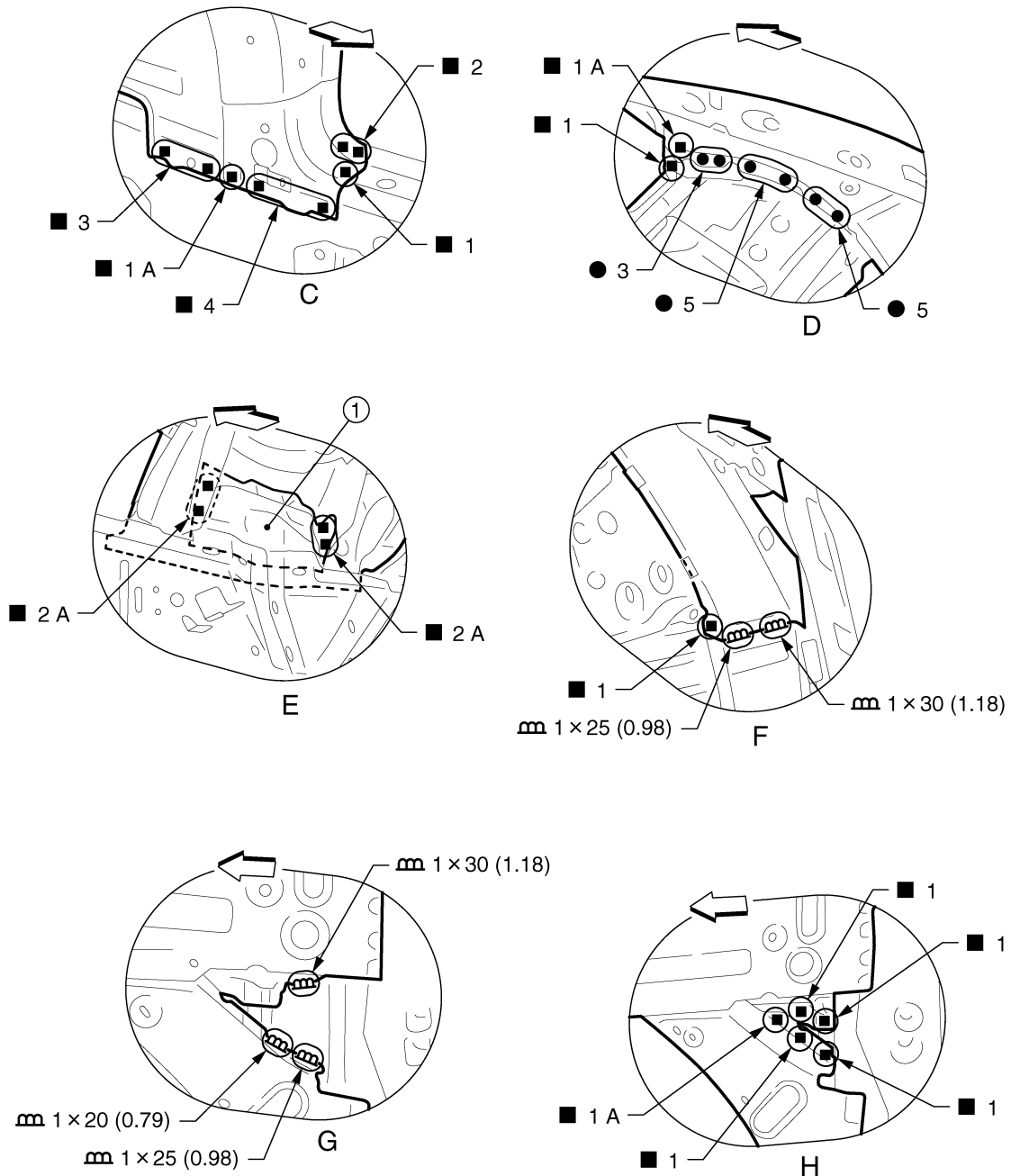
◀: Vehicle front

Replacement parts

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

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



JSKIA0671GB

1. Front side member center closing plate

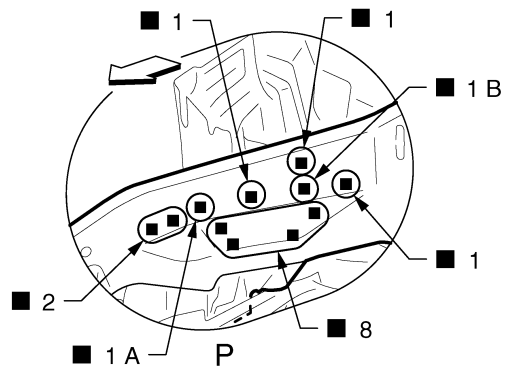
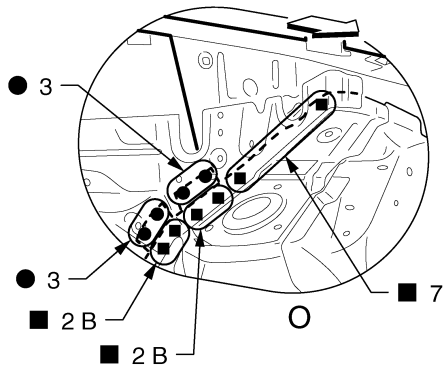
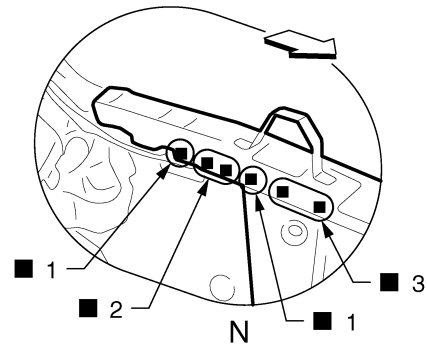
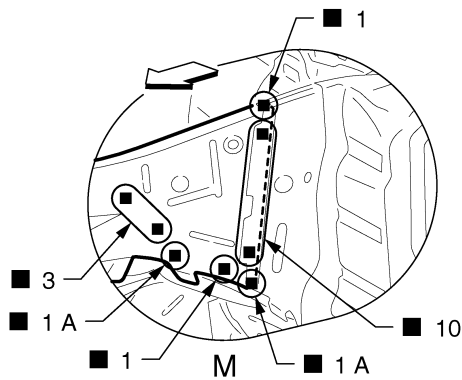
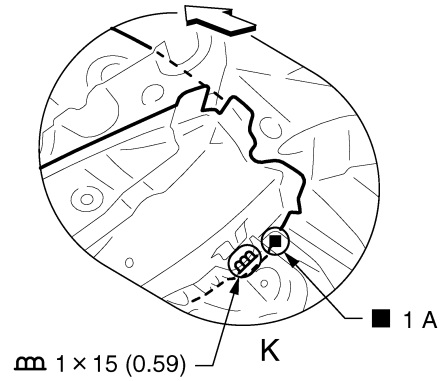
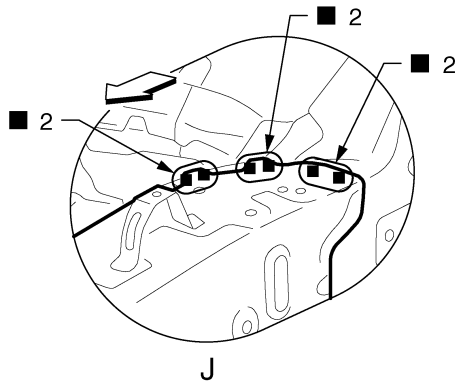
Unit: mm (in)

⇐: Vehicle front

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

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



JSKIA0672GB

Unit: mm (in)

↔: Vehicle front

View M and P: Before installing hoodledge reinforcement

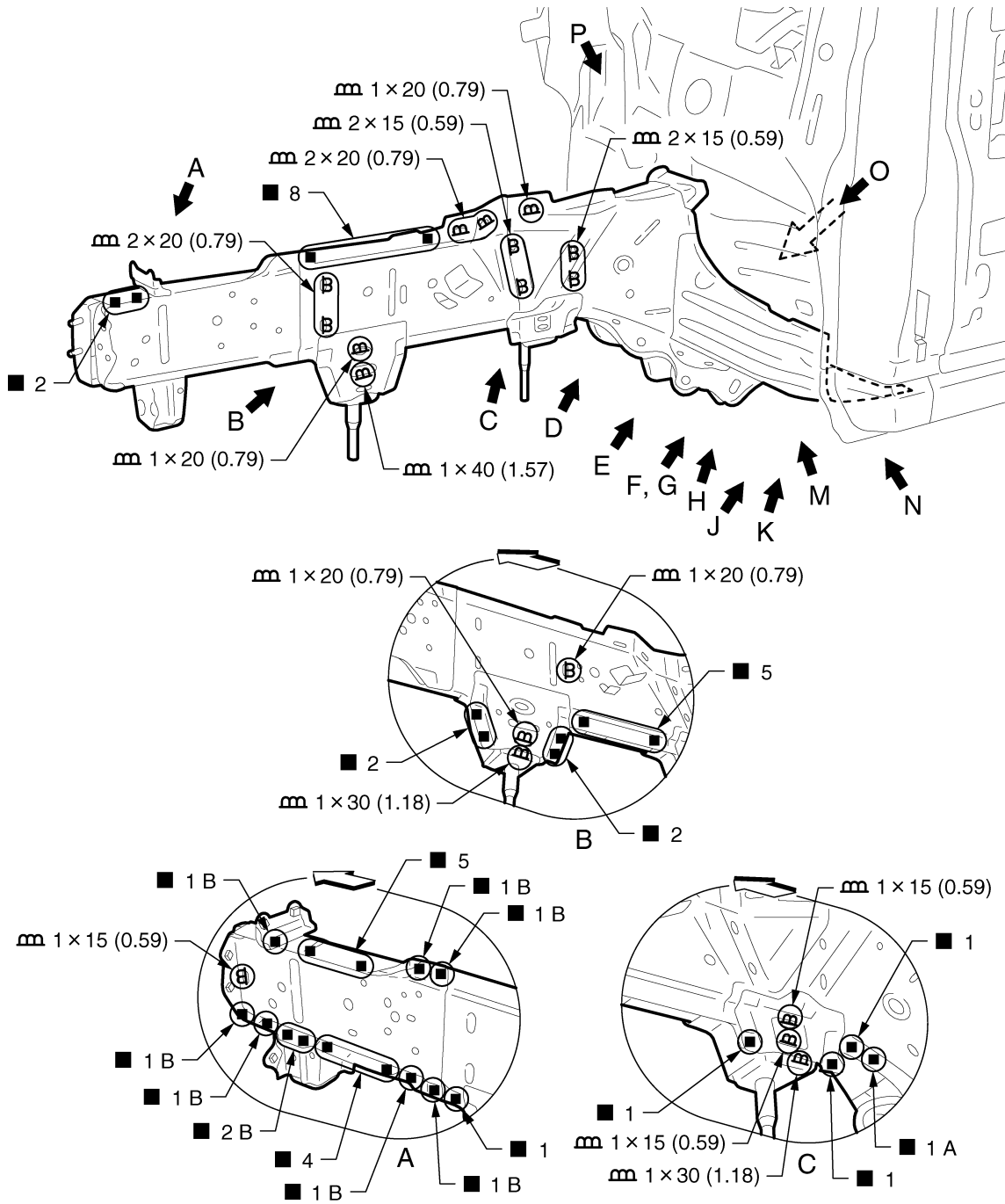
Front Side Member

INFOID:000000005248962

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

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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Unit: mm (in)

⇐: Vehicle front

Replacement parts

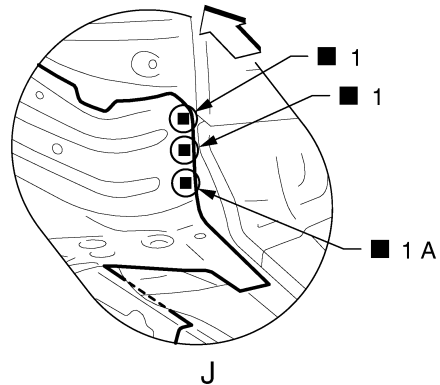
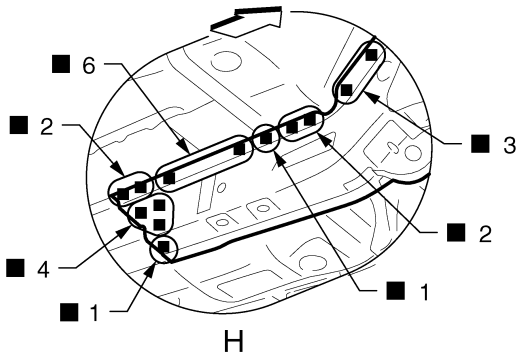
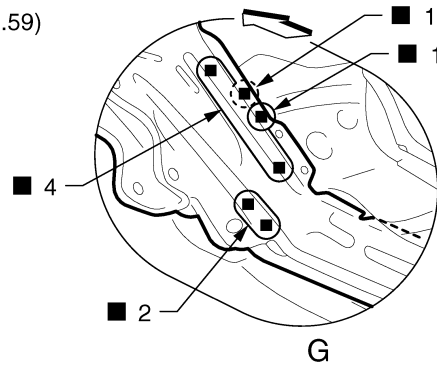
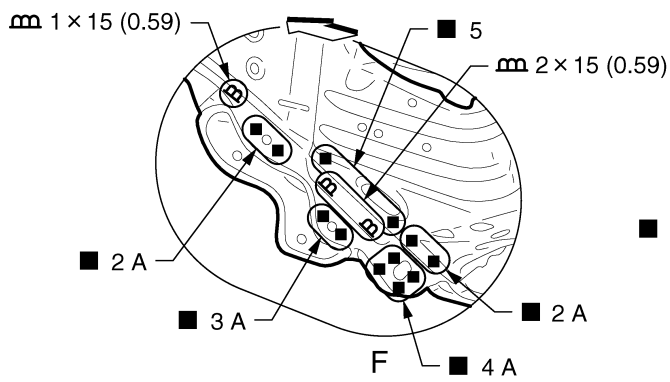
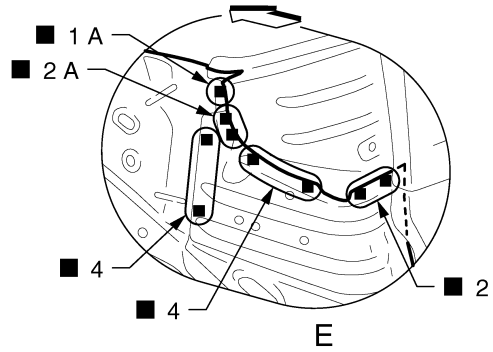
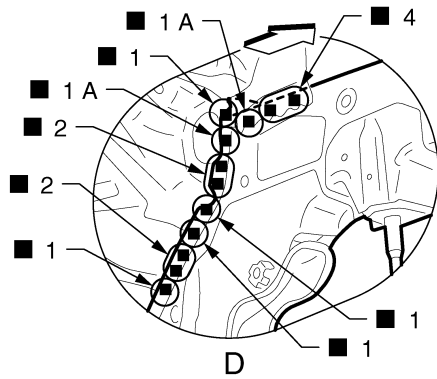
- Front side member assembly (LH)
- Front side member closing plate assembly (LH)
- Front side member outrigger assembly (LH)

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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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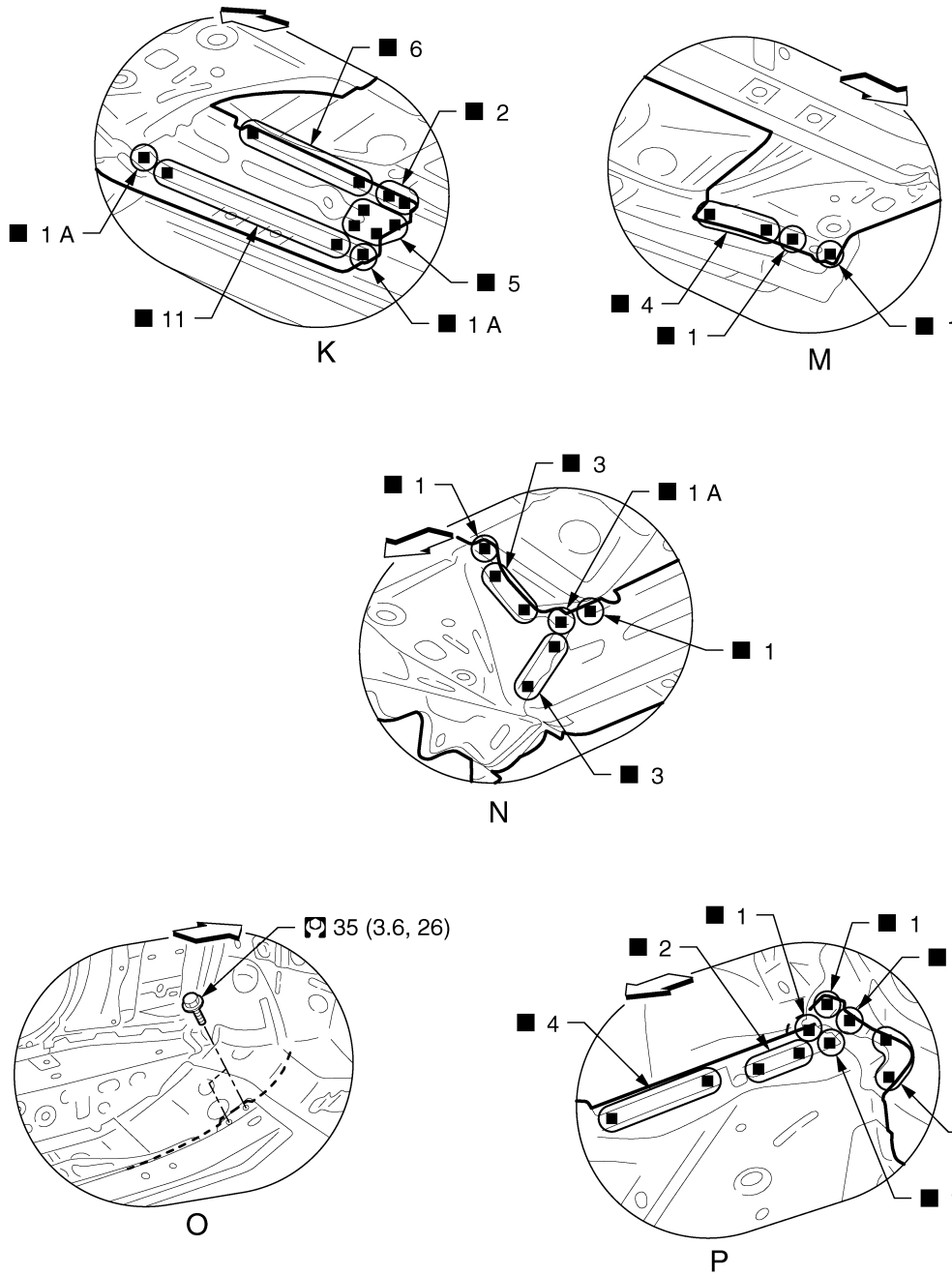
Unit: mm (in)

↔: Vehicle front

View G: Before installing front side member outrigger assembly

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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←: Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

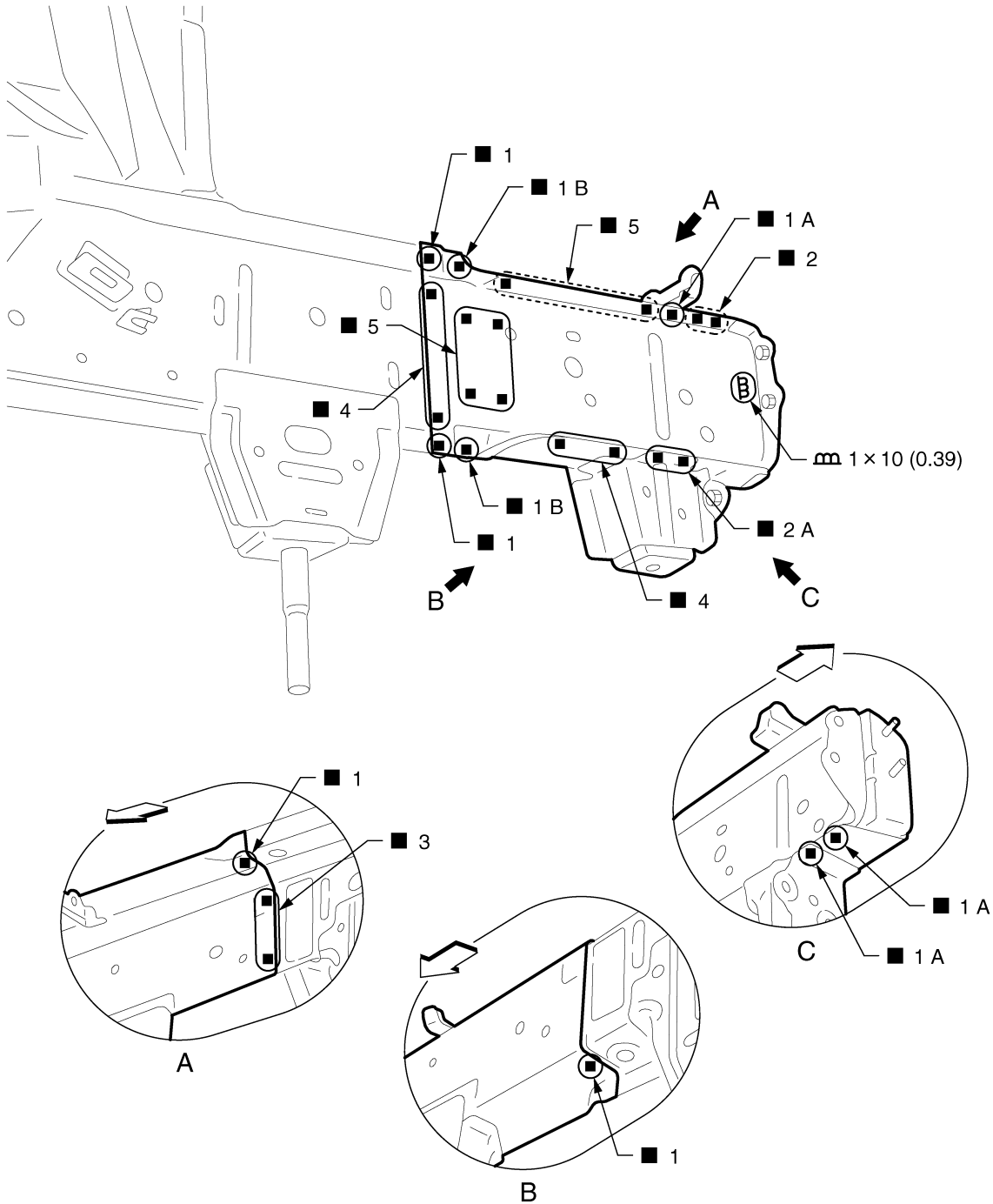
Front Side Member (Partial Replacement)

Work after radiator core support is removed.

INFOID:000000005248963

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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Unit: mm (in)

⇐: Vehicle front

Replacement parts

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

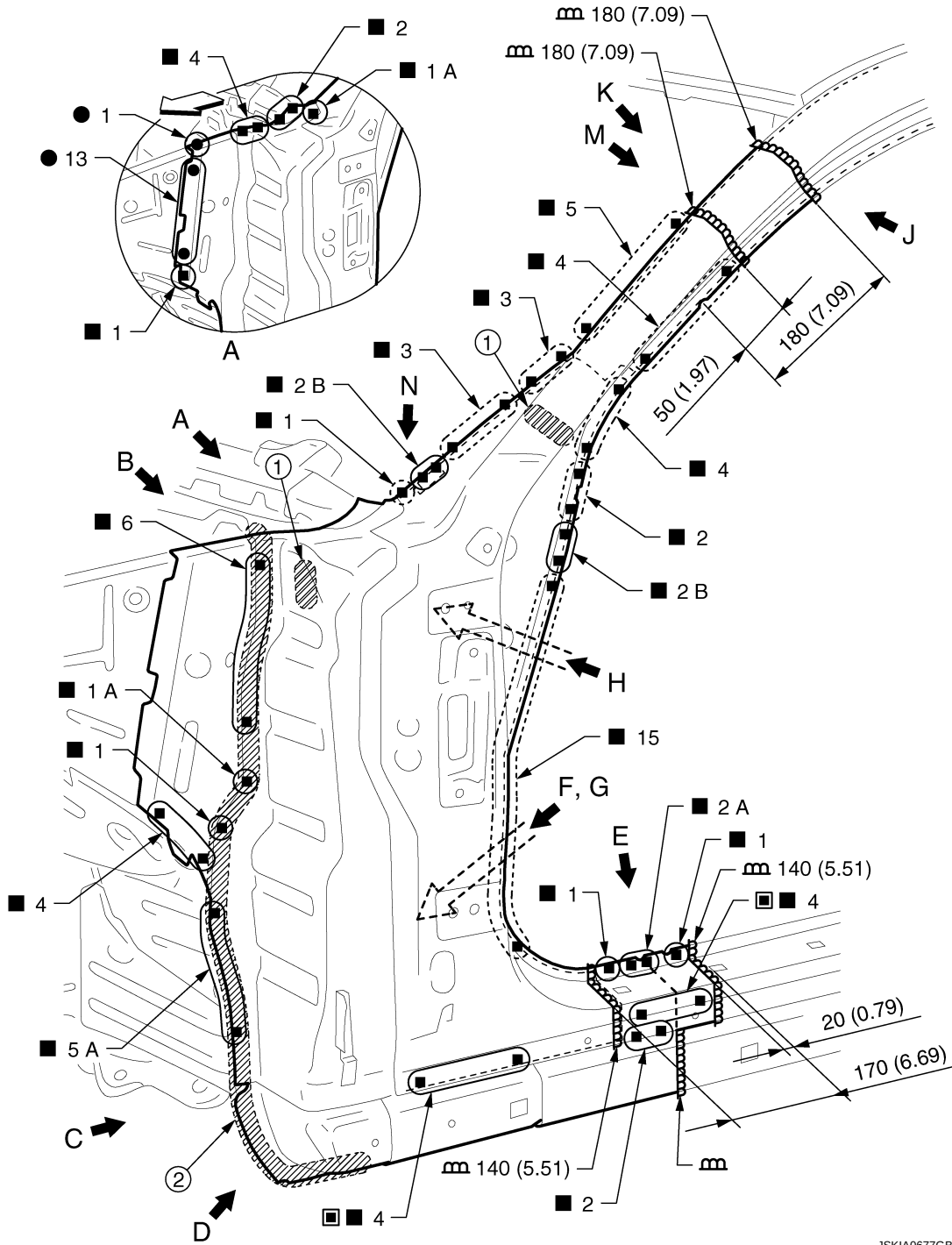
Front Pillar

INFOID:000000005248964

Work after hoodledge reinforcement is removed.

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



1. Urethane foam

2. Body sealing

Unit: mm (in)

⇐: Vehicle front

■: Perform the plug welding instead of the laser welding.

Replacement parts

● Side body assembly (LH)

● Upper inner front pillar assembly (LH)

● Upper rear hoodledge (LH)

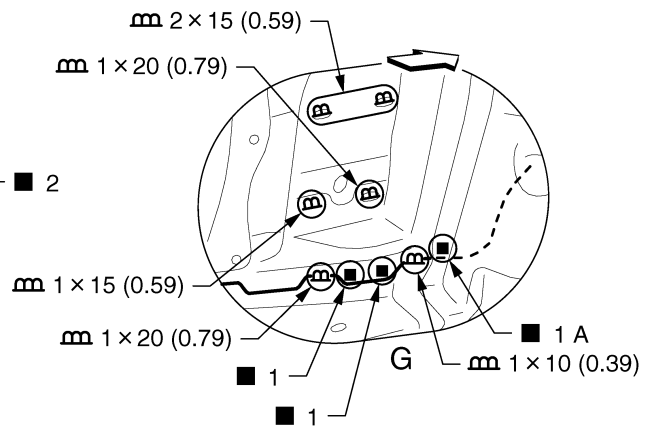
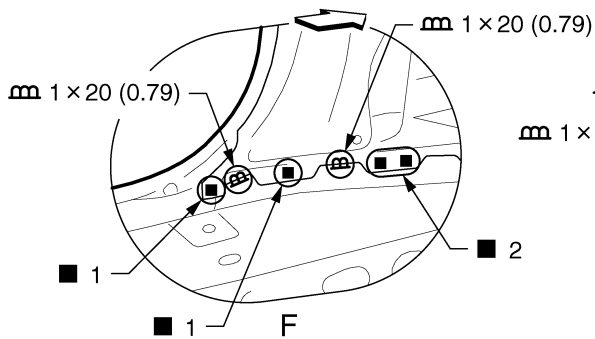
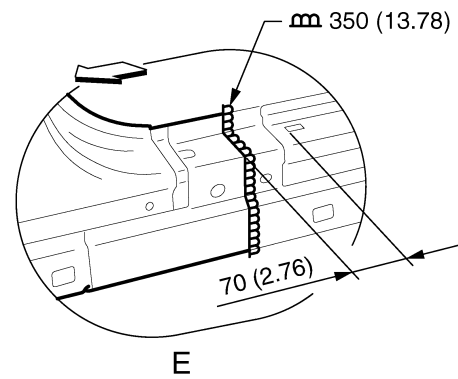
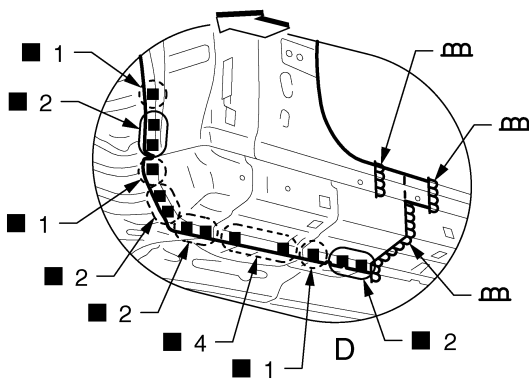
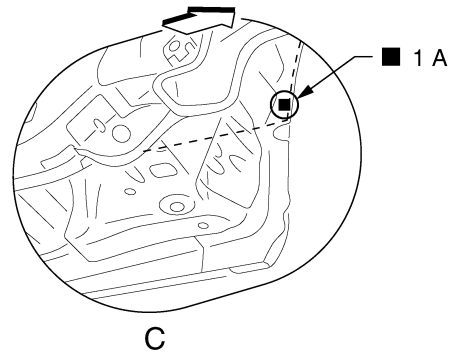
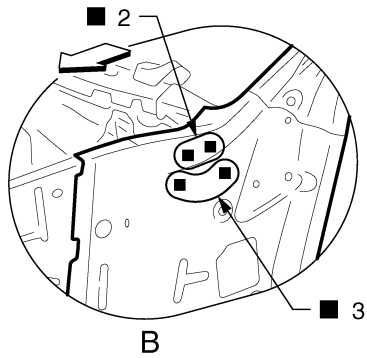
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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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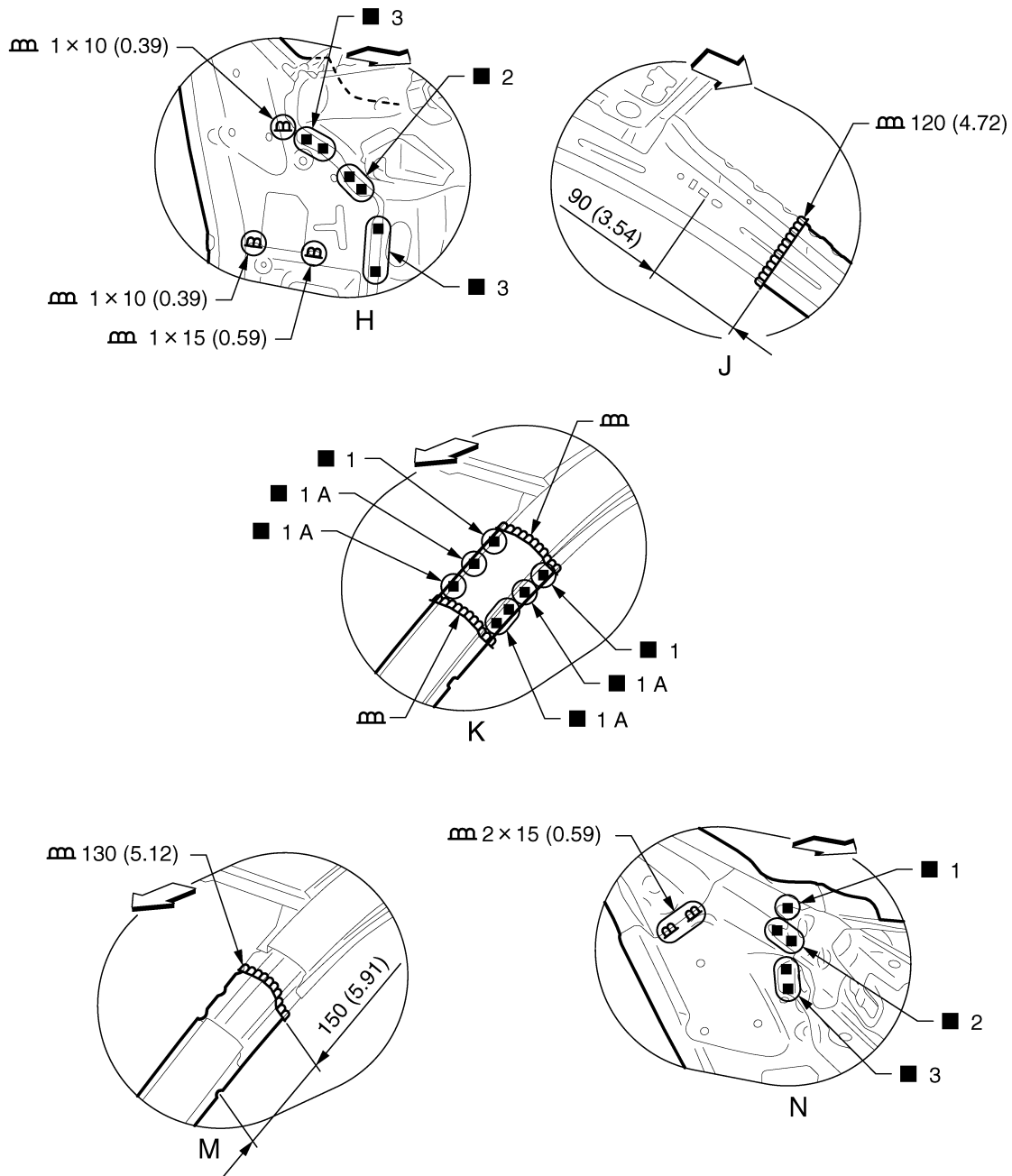
Unit: mm (in)

↔: Vehicle front

View B: Before installing side body assembly
View E: Before installing outer front side body

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



JSKIA0679GB

Unit: mm (in)

Vehicle front

View M: Before installing outer front side body

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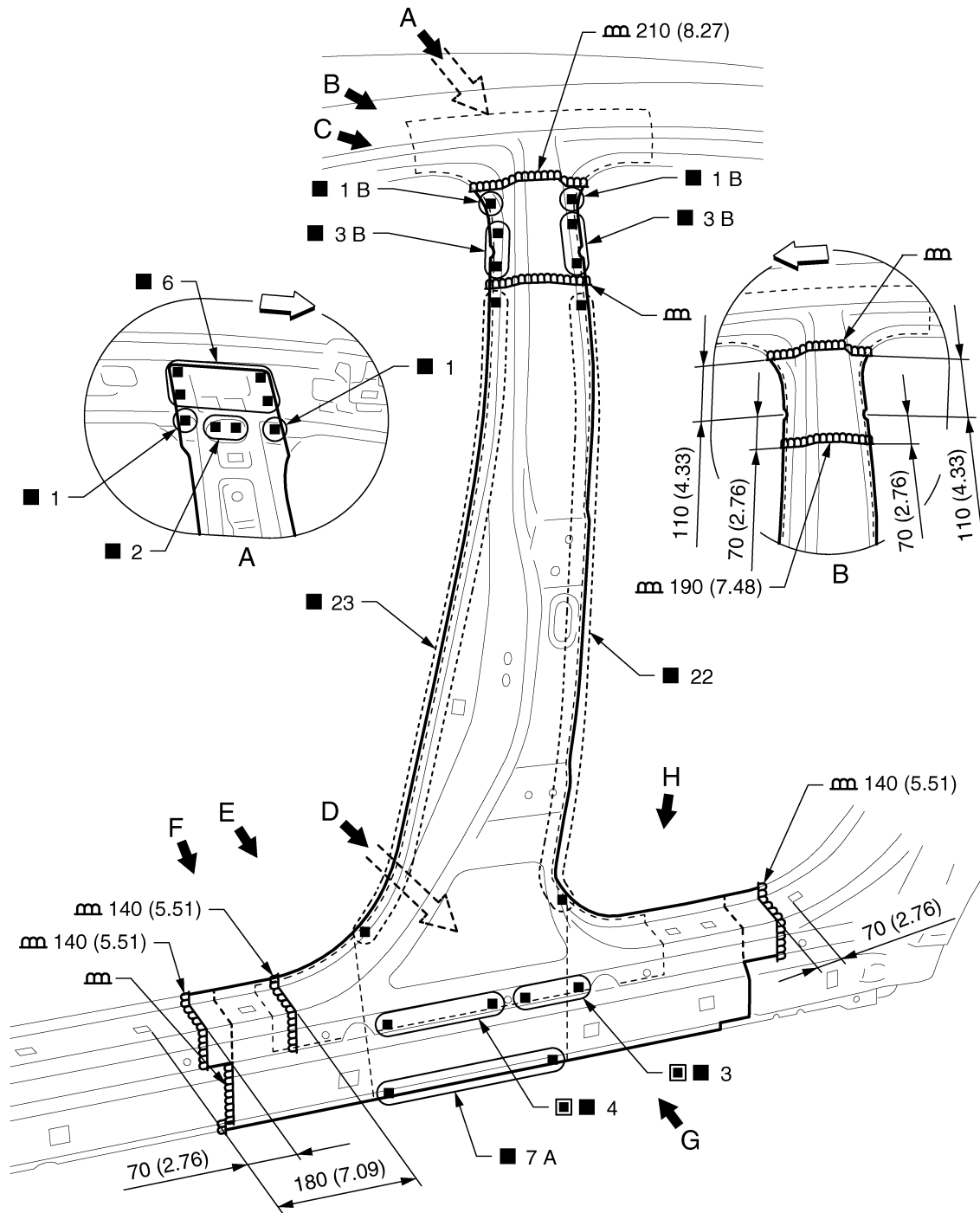
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REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

Center Pillar

INFOID:000000005248965



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Unit: mm (in)

◀: Vehicle front

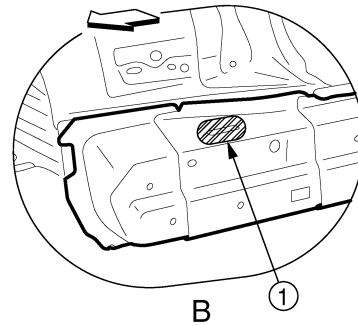
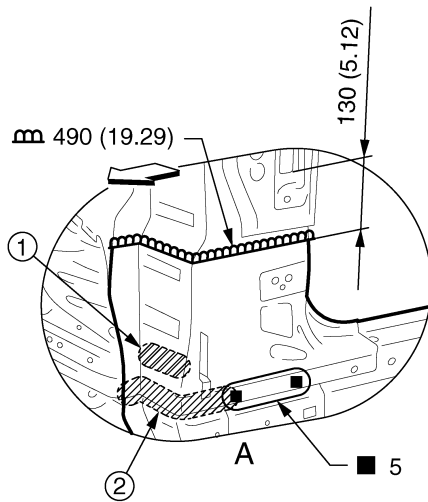
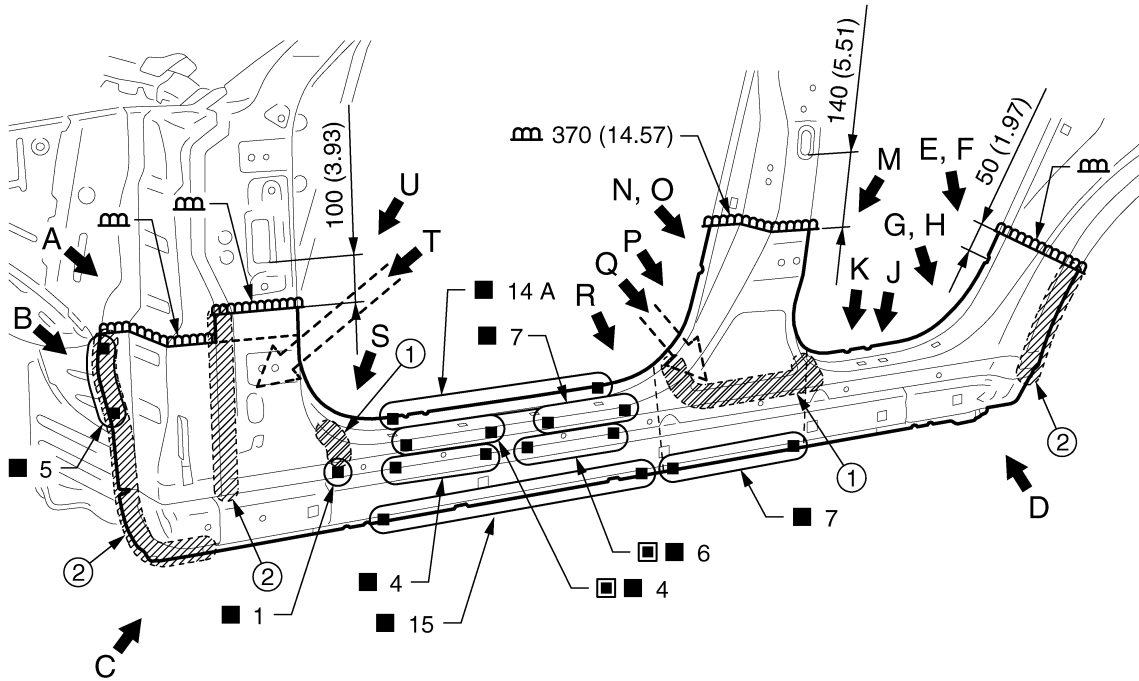
■: Perform the plug welding instead of the laser welding.

Replacement parts

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

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



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1. Urethane foam

2. Body sealing

Unit: mm (in)

◀: Vehicle front

■: Perform the plug welding instead of the laser welding.

Replacement parts

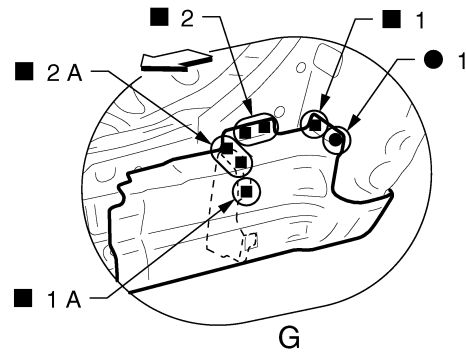
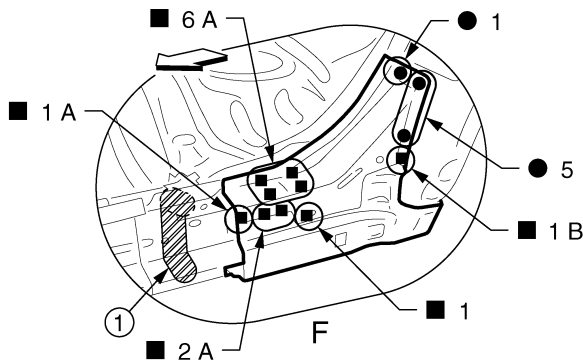
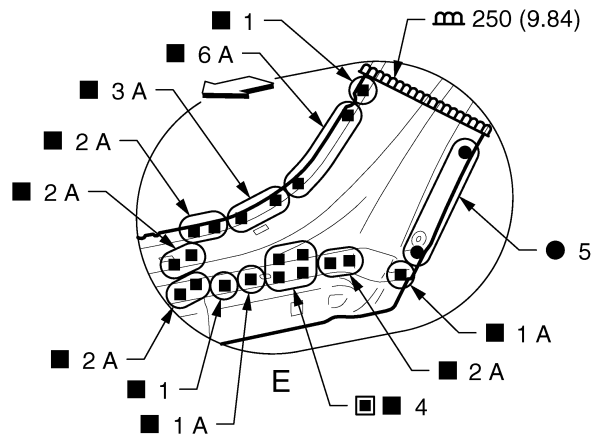
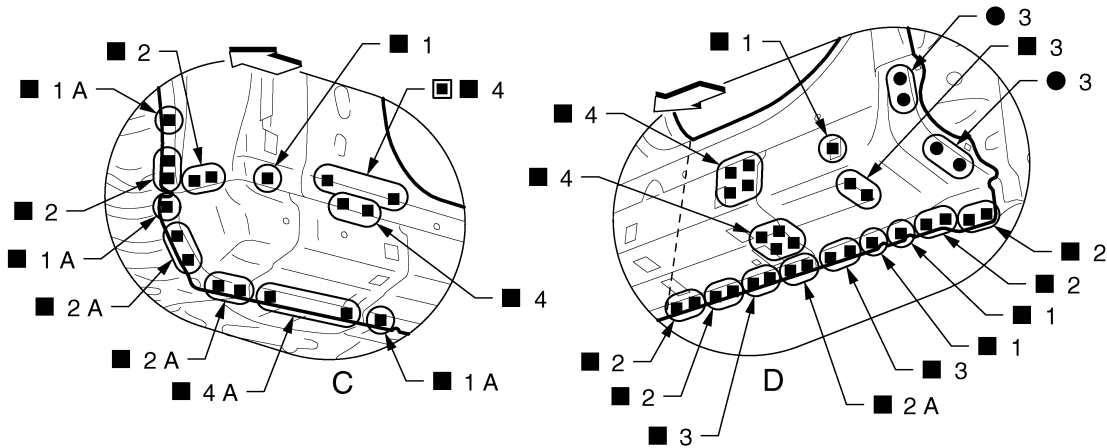
- Outer sill (LH)
- Outer sill reinforcement (LH)
- Upper outer rear wheelhouse extension (LH)
- Lower outer rear wheelhouse extension (LH)

View A: Before installing outer sill

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >

View B: Before installing outer sill and front pillar brace



1. Urethane foam

Unit: mm (in)

↔: Vehicle front

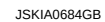
■: Perform the plug welding instead of the laser welding.

View F: Before installing outer sill and outer sill reinforcement

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

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< REMOVAL AND INSTALLATION >

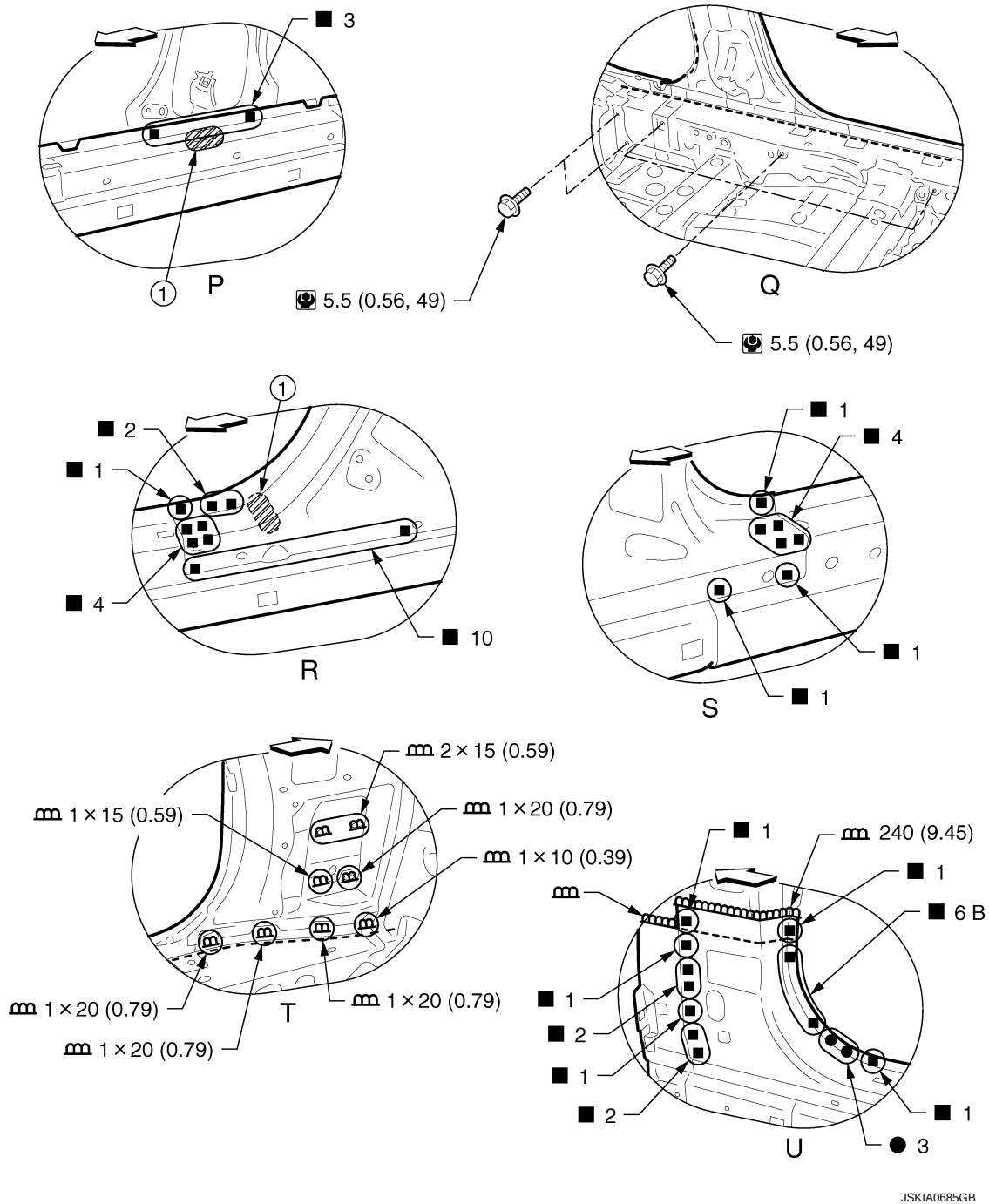


- : Perform the plug welding instead of the laser welding.

View K and O: Before installing outer sill

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



1. Urethane foam

Unit: mm (in)

↔: Vehicle front

Refer to [GI-4, "Components"](#) for symbols in the figure.

View P: Before installing outer sill and center pillar reinforcement

View R and S: Before installing outer sill

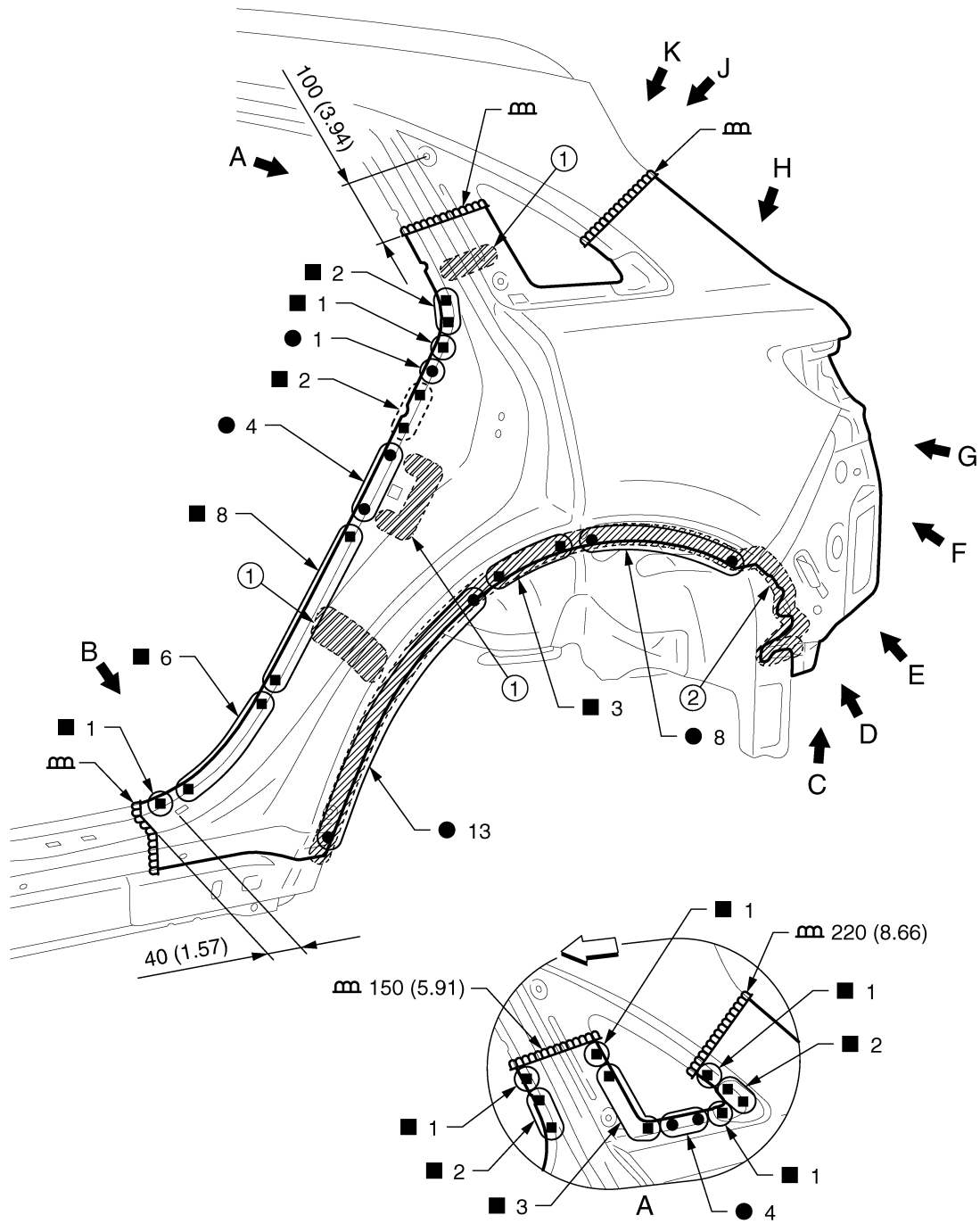
Rear Fender

INFOID:000000005248967

Remove the upper back pillar assembly and lower back pillar assembly from the rear fender assembly service part for easier installation.

REPLACEMENT OPERATIONS

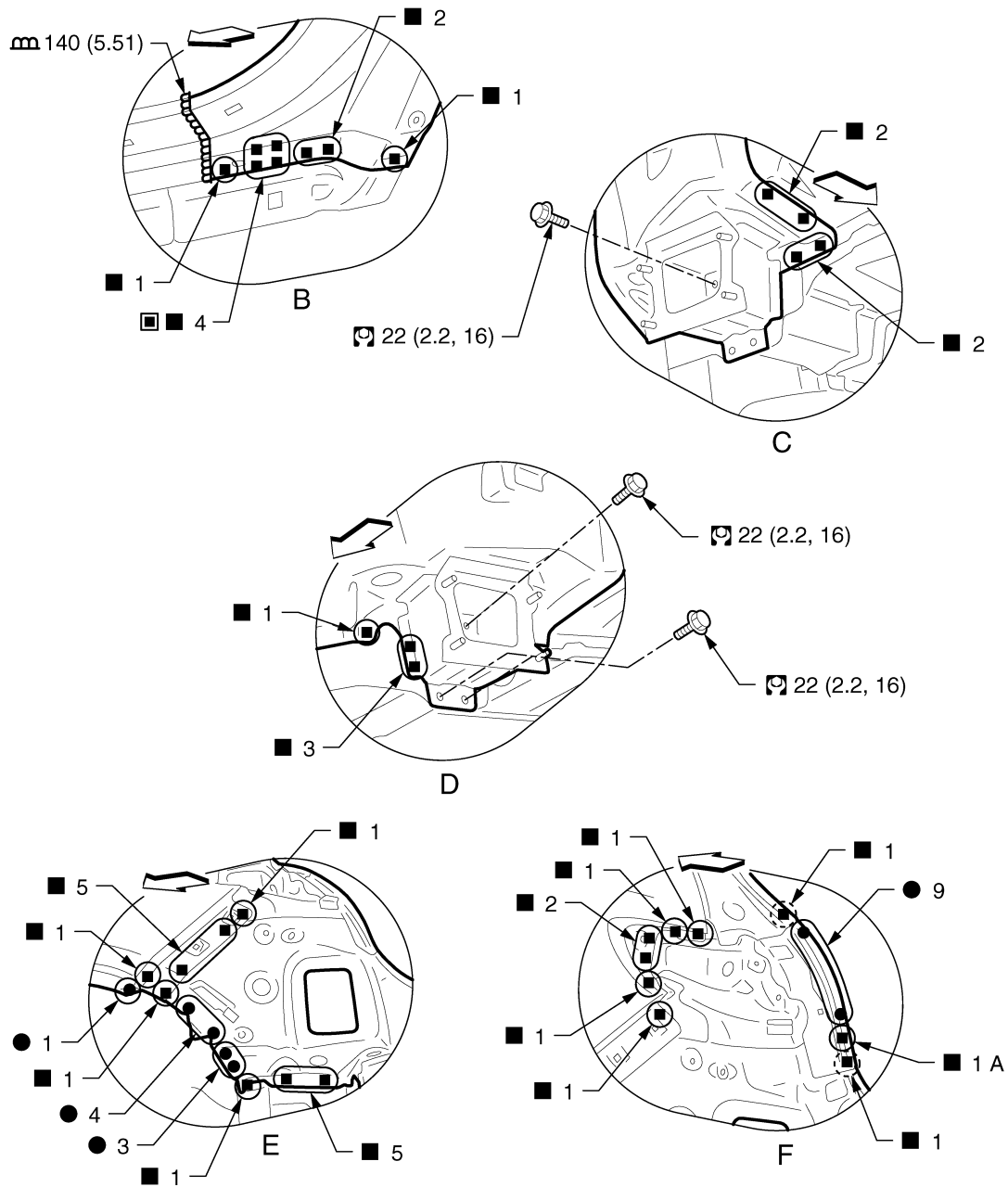
< REMOVAL AND INSTALLATION >



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Unit: mm (in)

←: Vehicle front

■: Perform the plug welding instead of the laser welding.

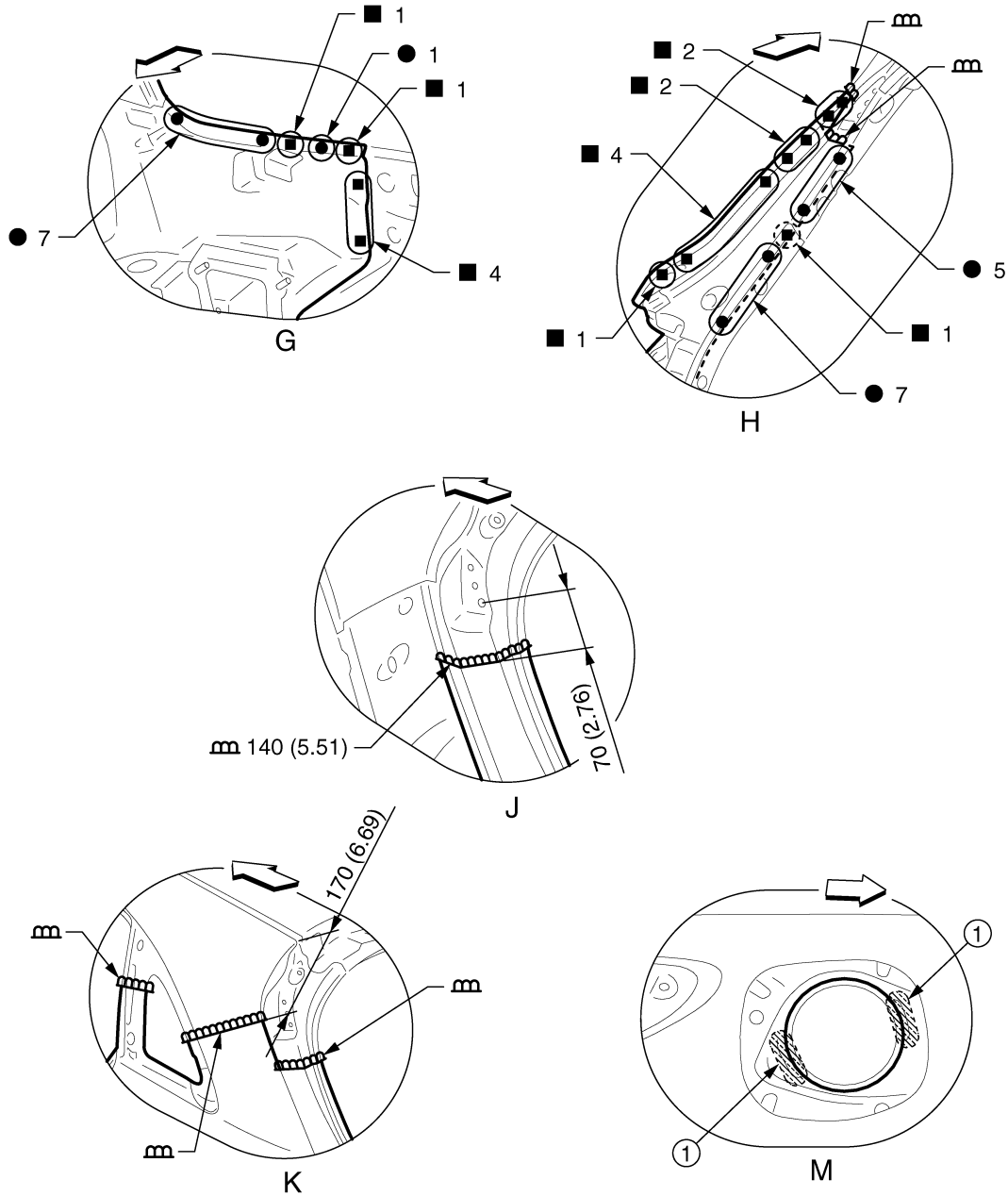
Refer to GI-4, "Components" for symbols in the figure.

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REPLACEMENT OPERATIONS

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- 1. Adhesive
- Unit: mm (in)
- ↖: Vehicle front

View J: Before installing rear fender
View M: Right side rear fender

Rear Panel

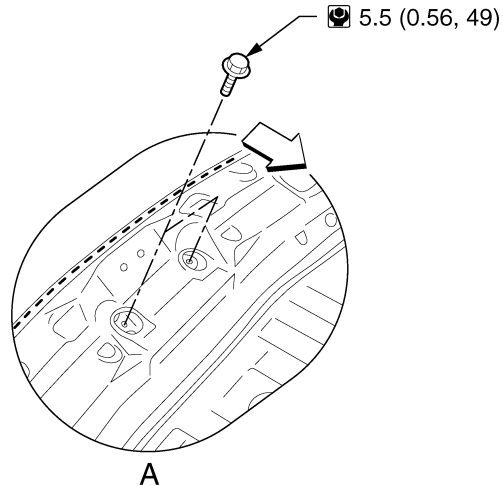
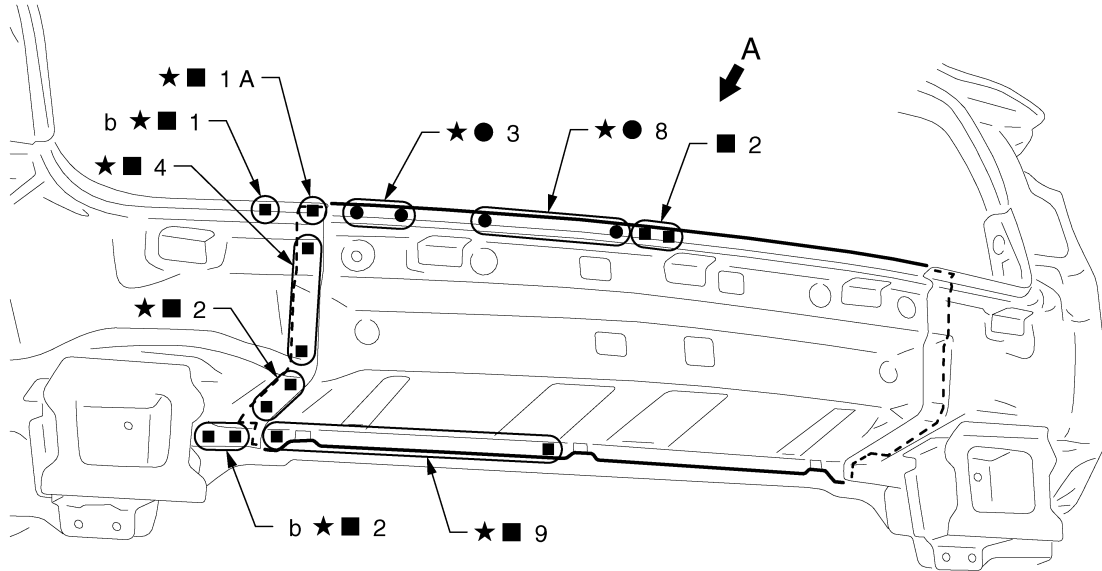
Remove the welding point "b" for easier replacement.

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REPLACEMENT OPERATIONS

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⇐: Vehicle front

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

Refer to [GI-4, "Components"](#) for symbols in the figure.

Replacement parts

- Rear panel assembly

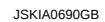
Rear End Crossmember

Work after rear fender extension and rear panel are removed.

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INFOID:000000005248969

< REMOVAL AND INSTALLATION >



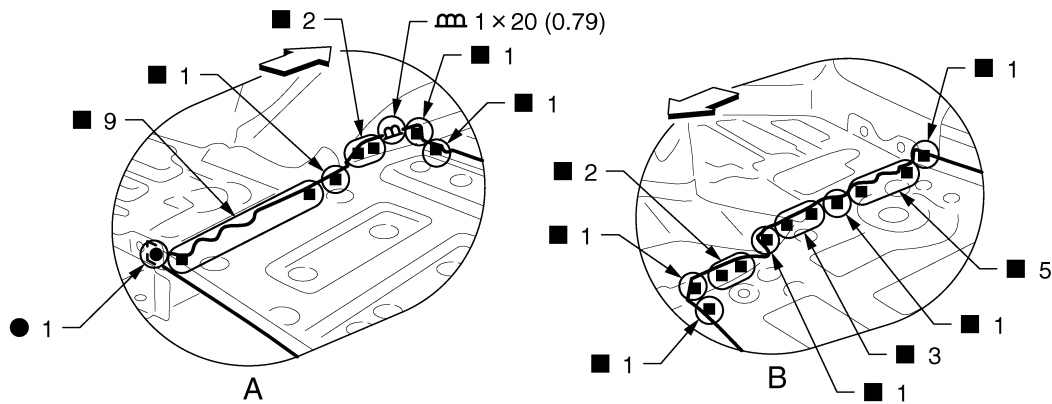
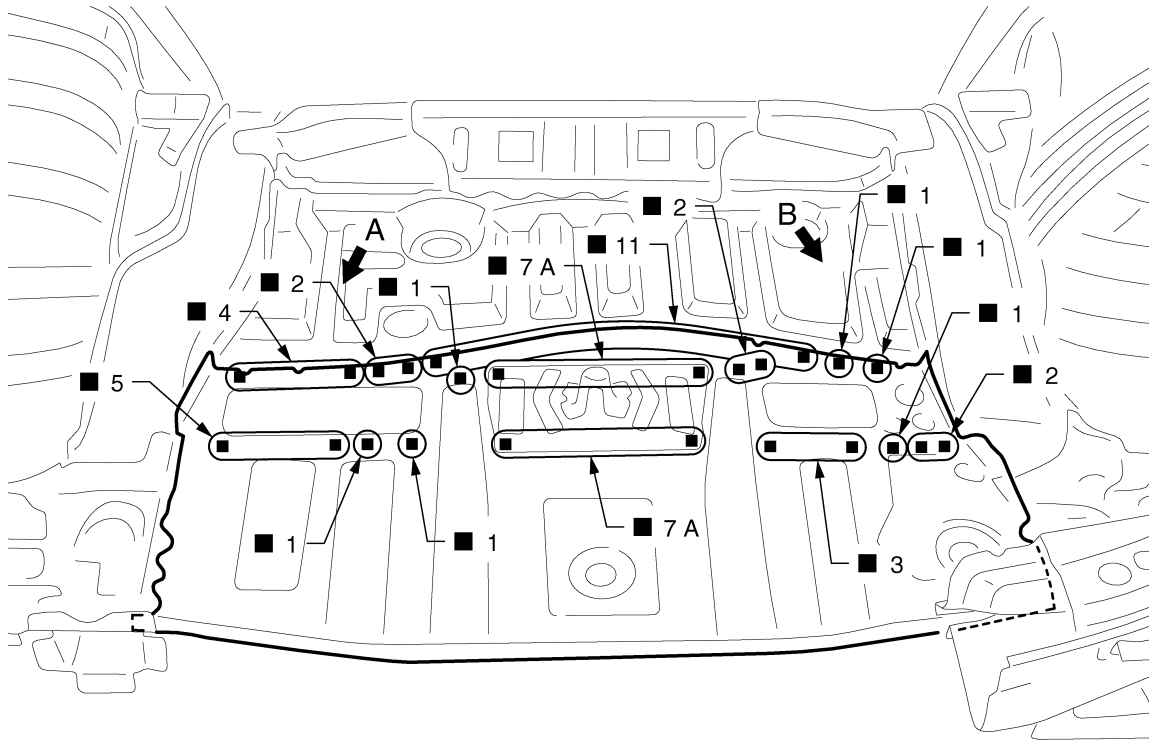
- Rear end crossmember assembly

INFOID:0000000005248970

2010 FX35/FX50

REPLACEMENT OPERATIONS

< REMOVAL AND INSTALLATION >



Unit: mm (in)

⇐: Vehicle front

Replacement parts

● Rear floor rear

● Spare tire clamp reinforcement

Rear Side Member Extension

INFOID:000000005248971

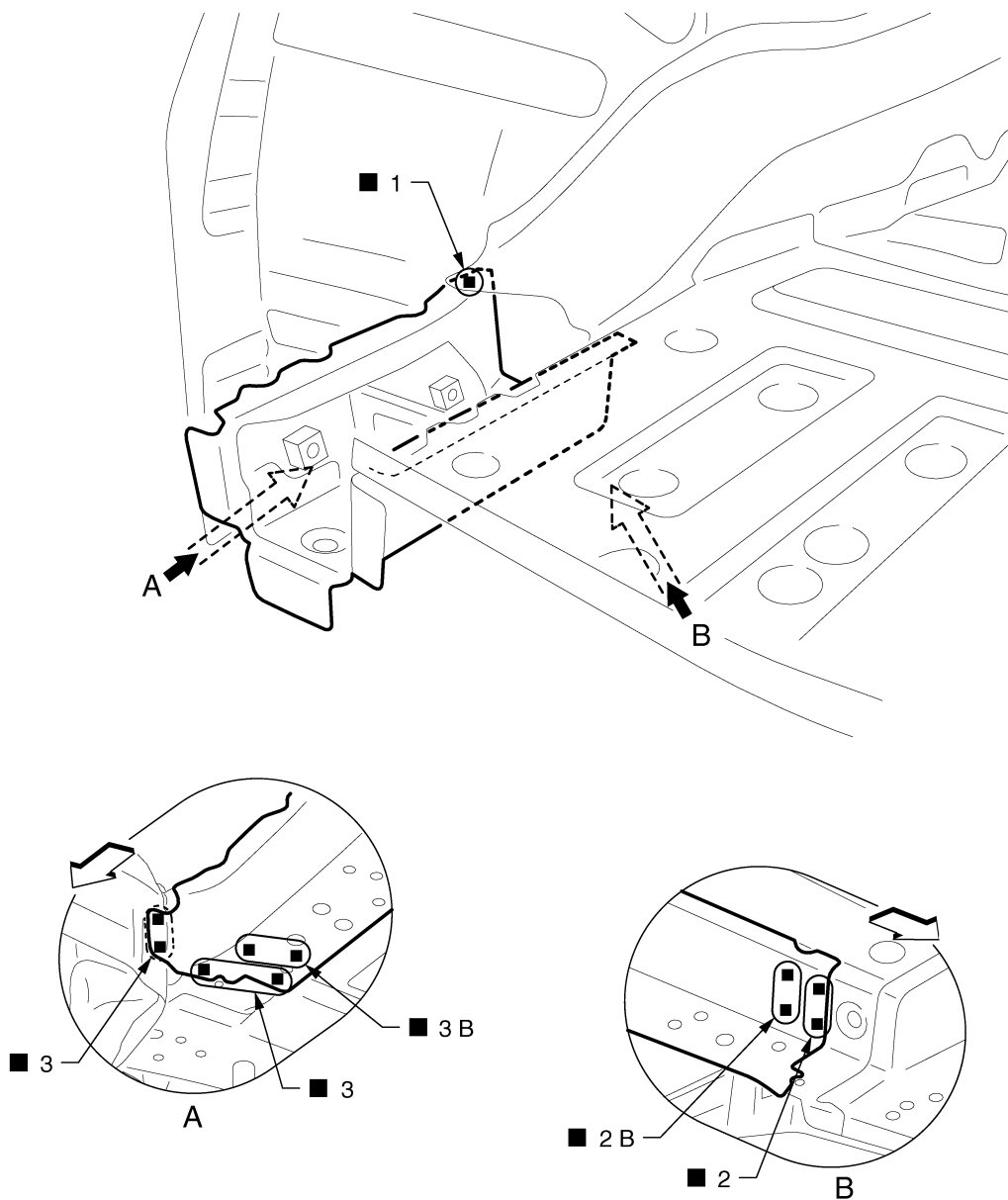
Work after rear panel, lower back pillar assembly, rear end crossmember, and rear floor side are removed.

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REPLACEMENT OPERATIONS

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⇐: Vehicle front

Replacement parts

- Rear side member extension (LH)