

SECTION **BRM**
BODY REPAIR

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BODY EXTERIOR PAINT COLOR

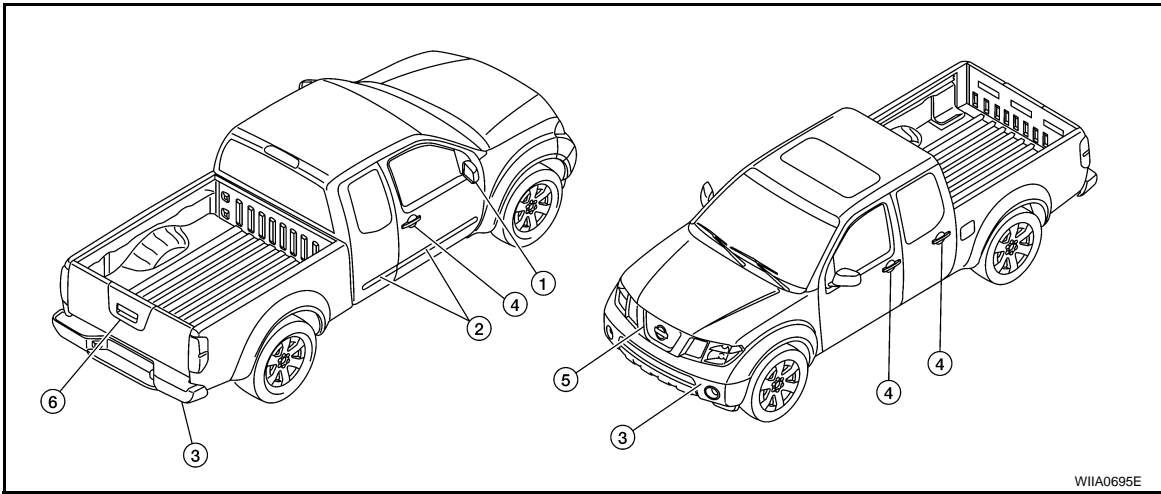
< FEATURES OF NEW MODEL >

FEATURES OF NEW MODEL

BODY EXTERIOR PAINT COLOR

Body Exterior Paint Color

INFOID:000000003301695



WIIA0695E

Component			Color code	A15	A20	BW9	K12	K27	KH3	KY2	QM1	
			Description	Red Alert	Red Brawn	Majestic Blue	Radiant Silver	Storm Gray	Super Black	Granite	Avalanche	
			Paint type	2S	M	M	M	M	2S	M	S	
			Hard clear coat	—	—	—	—	—	—	—	—	
1	Outside mirror	King Cab	XE	Black	—	—	—	—	—	—	—	
			OR*1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE*1									
		CREW CAB	XE	Black	—	—	—	—	—	—	—	—
			OR*1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE	Body Color	A15	A20	BW9	K12	K27	KH3	KY2	QM1
2	Side Guard Molding		Body color	A15	A20	BW9	K12	K27	KH3	KY2	QM1	
3	Bumpers	Fascias		Body color	A15	A20	BW9	K12	K27	KH3	KY2	QM1
4	Outside handles	King Cab	XE	Black	—	—	—	—	—	—	—	
			OR*1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE*1									
		CREW CAB	XE	Black	—	—	—	—	—	—	—	—
			OR*1	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
			SE	Body Color	A15	A20	BW9	K12	K27	KH3	KY2	QM1

BODY EXTERIOR PAINT COLOR

< FEATURES OF NEW MODEL >

Component				Color code	A15	A20	BW9	K12	K27	KH3	KY2	QM1
				Description	Red Alert	Red Brawn	Majestic Blue	Radiant Silver	Storm Gray	Super Black	Granite	Avalanche
				Paint type	2S	M	M	M	M	2S	M	S
				Hard clear coat	—	—	—	—	—	—	—	—
5	Radiator grille	Center and emblem	Chromium plate	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P	Cr2P
		Center	Black	—	—	—	—	—	—	—	—	—
6	Center Rear Gate Handle		Black	—	—	—	—	—	—	—	—	—

M: Metallic; S: 1- Coat Solid, 2S: 2-Coat Solid, 2P: 2-Coat Pearl, PM: Pearl + Metallic

(*) only available on lifeguard units

(*1) if equipped, otherwise body color

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HANDLING PRECAUTIONS

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PRECAUTION

HANDLING PRECAUTIONS

Handling Precaution for Plastics

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HANDLING PRECAUTIONS FOR PLASTICS

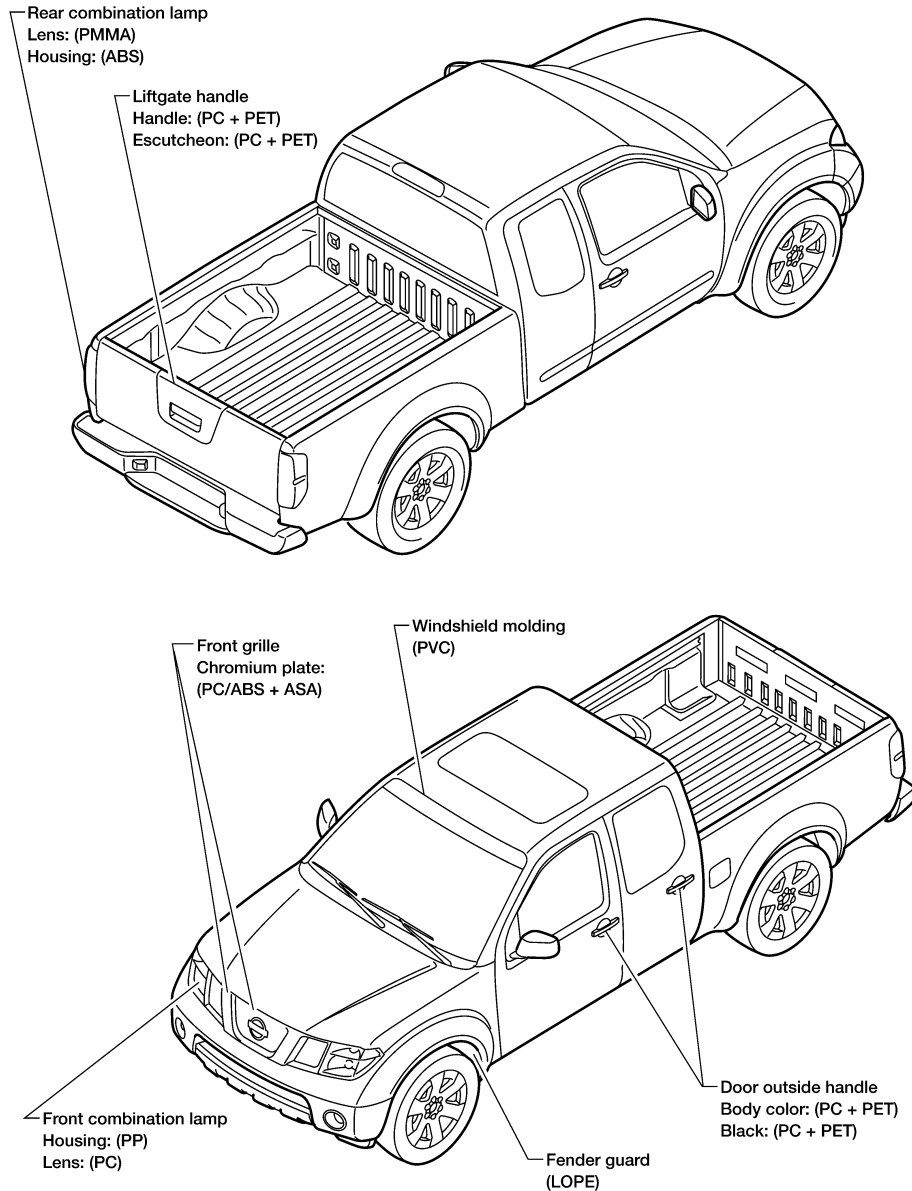
Abbreviation	Material name	Heat resisting temperature °C (°F)	Resistance to gasoline and solvents	Other cautions
PE	Polyethylene	60 (140)	Gasoline and most solvents are harmless if applied for a very short time (wipe up quickly).	Flammable
PVC	Polyvinyl Chloride	80 (176)	Same as above.	Poison gas is emitted when burned.
EPM/EPDM	Ethylene Propylene (Diene) rubber	80 (176)	Same as above.	Flammable
TPO/TPR	Thermoplastic Olefine/ Thermoplastic Rubber	80 (176)	Same as above.	Flammable
PP	Polypropylene	90 (194)	Same as above.	Flammable, avoid battery acid.
UP	Polyester thermoset	90 (194)	Same as above.	Flammable
PS	Polystyrene	80 (176)	Avoid solvents.	Flammable
ABS	Acrylonitrile Butadiene Styrene resin	80 (176)	Avoid gasoline and solvents.	
AES	Acrylonitrile Ethylene Styrene	80 (176)	Same as above.	
PMMA	Polymethyl Methacrylate	85 (185)	Same as above.	
AAS	Acrylonitrile Acrylic Styrene	85 (185)	Same as above.	
AS	Acrylonitrile Styrene	85 (185)	Same as above.	
EVA	Polyvinyl Ethyl Acetate	90 (194)	Same as above.	
ASA	Acrylonitrile Styrene Acrylate	100 (222)	Same as above.	Flammable
PPO/PPE	Polyphenylene Oxide/ Polyphenylene Ether	110 (230)	Same as above.	
PC	Polycarbonate	120 (248)	Same as above.	
PAR	Polyacrylate	180 (356)	Same as above.	
L-LDPE	Linear Low Density PE	45 (100)	Gasoline and most solvents are harmless.	Flammable
PUR	Polyurethane	90 (194)	Same as above.	
TPU	Thermoplastic Urethane	110 (230)	Same as above.	
PPC	Polypropylene Composite	115 (239)	Same as above.	Flammable
POM	Polyacetal	120 (248)	Same as above.	Avoid battery acid.
PBT+PC	Polybutylene Terephthalate+Polycarbonate	120 (248)	Same as above.	Flammable
PA	Polyamide (Nylon)	140 (284)	Same as above.	Avoid immersing in water.
PBT	Polybutylene Terephthalate	140 (284)	Same as above.	
FRP	Fiber Reinforced Plastics	170 (338)	Same as above.	Avoid battery acid.
PET	Polyethylene Terephthalate	180 (356)	Same as above.	
PEI	Polyetherimide	200 (392)	Same as above.	

HANDLING PRECAUTIONS

< PRECAUTION >

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

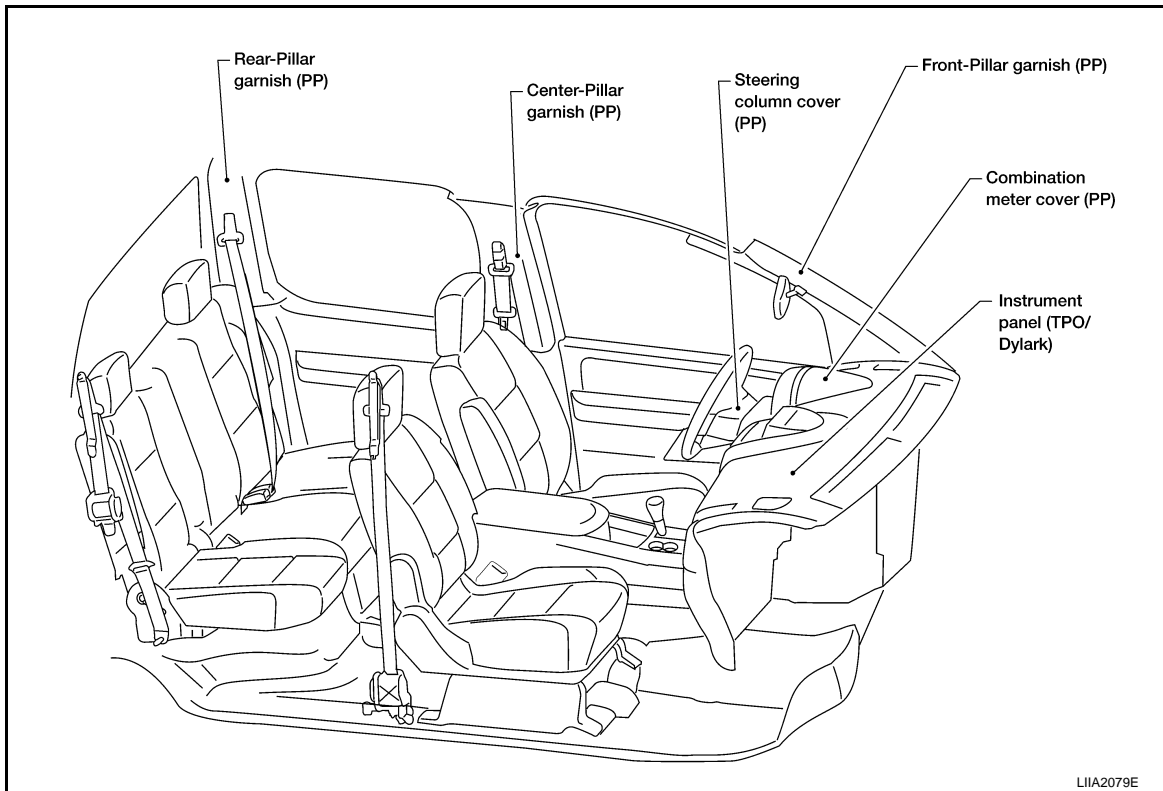


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HANDLING PRECAUTIONS

< PRECAUTION >



BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >




ON-VEHICLE REPAIR

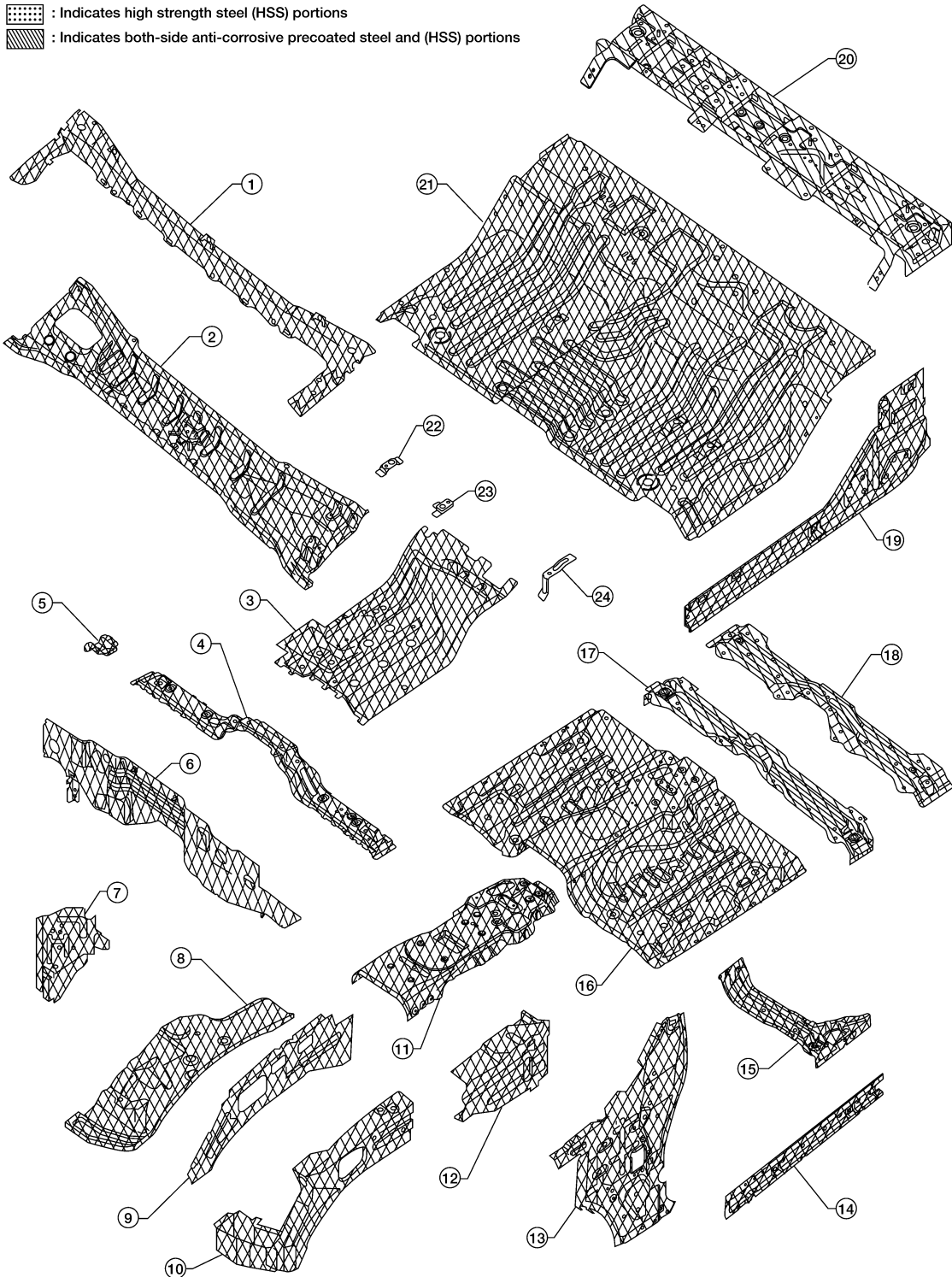
BODY COMPONENT PARTS

Body Component Parts

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UNDERBODY COMPONENT PARTS

-  : Indicates both-side anti-corrosive pre-coated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both-side anti-corrosive pre-coated steel and (HSS) portions



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BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >




1. Upper dash crossmember
2. Upper dash
3. Rear floor reinforcement
4. Front seat crossmember
5. 2nd crossmember extension
6. Lower dash
7. Battery tray
8. Hoodledge lower panel (RH&LH)
9. Hoodledge inner panel (RH&LH)
10. Hoodledge reinforcement (RH&LH)
11. Front floor reinforcement
12. Hoodledge rear reinforcement (RH&LH)
13. Side dash (RH&LH)
14. Inner sill (RH&LH)
15. 2nd crossmember (RH&LH)
16. Front floor
17. Front seat crossmember
18. Center pillar crossmember
19. Inner sill extension (RH&LH)
20. Cross-cab brace
21. Rear floor
22. Woofer bracket
23. Storage box bracket
24. Accessory storage box bracket

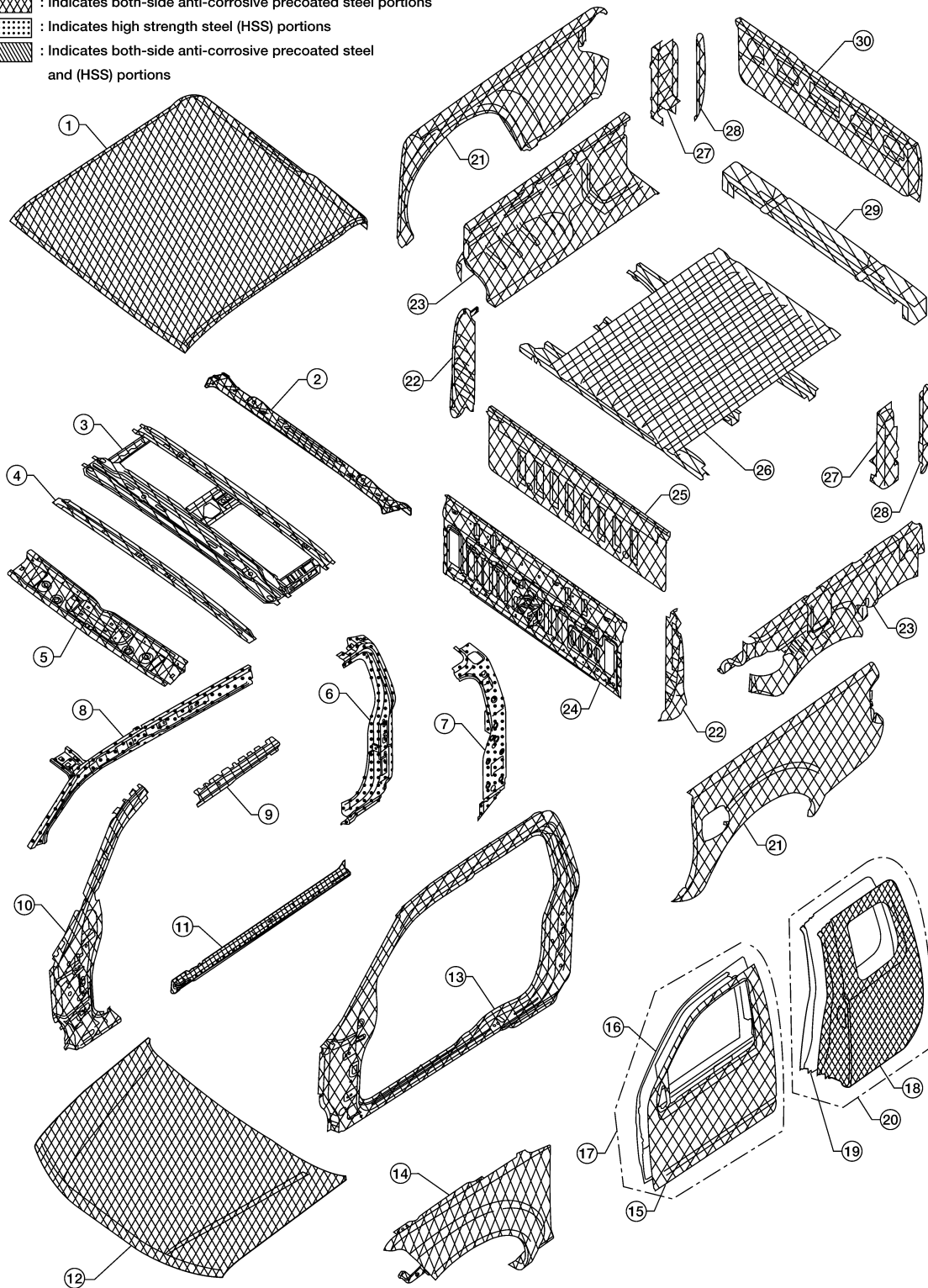
BODY COMPONENT PARTS

BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >

King Cab

-  : Indicates both-side anti-corrosive precoated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both-side anti-corrosive precoated steel and (HSS) portions



1. Roof
2. Rear roof rail
3. Roof bow No. 2
4. Roof bow No. 1
5. Front roof rail (RH&LH)
6. Lock pillar reinforcement (RH&LH)

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BODY COMPONENT PARTS




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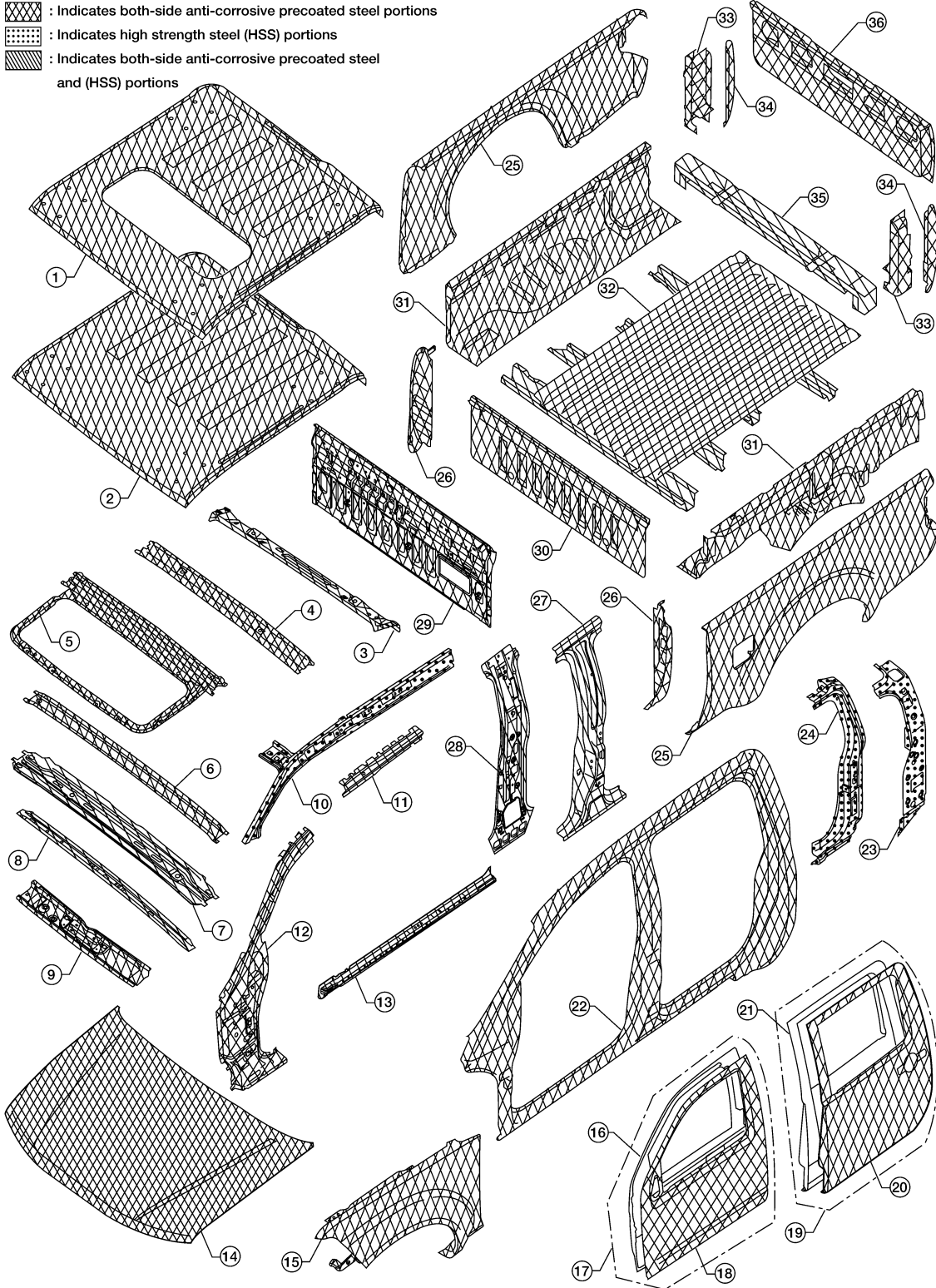
7. Lock pillar inner (RH&LH)
8. Front pillar inner, upper (RH&LH)
9. Roof side rail (RH&LH)
10. Front pillar reinforcement (RH&LH)
11. Inner sill (RH&LH)
12. Hood
13. Body side panel (RH&LH)
14. Front fender (RH&LH)
15. Front door outer (RH&LH)
16. Front door inner (RH&LH)
17. Front door assembly (RH&LH)
18. Rear door (RH&LH)
19. Rear door inner (RH&LH)
20. Rear door assembly (RH&LH)
21. Bed side outer (RH&LH)
22. Front outer strut (RH&LH)
23. Bed side inner (RH&LH)
24. Rear panel
25. Bed front panel
26. Floor board assembly
27. Rear strut inner (RH&LH)
28. Rear strut outer (RH&LH)
29. Rear floor bolster assembly
30. Rear gate

BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >

Crew Cab

-  : Indicates both-side anti-corrosive precoated steel portions
-  : Indicates high strength steel (HSS) portions
-  : Indicates both-side anti-corrosive precoated steel and (HSS) portions



1. Roof (with sunroof)
2. Roof
3. Rear roof rail
4. Roof bow No. 4

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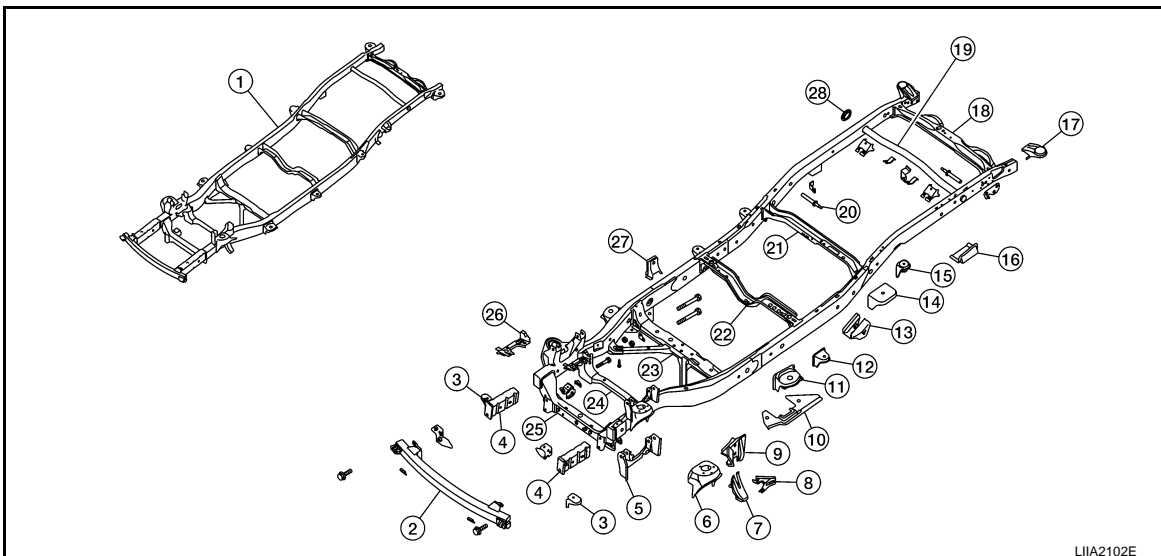
BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >

5. Sunroof reinforcement
6. Roof bow No. 3
7. Roof bow No. 2
8. Roof bow No. 1
9. Front roof rail
10. Front pillar inner, upper (RH&LH)
11. Roof side rail reinforcement (RH&LH)
12. Front pillar reinforcement (RH&LH)
13. Outer sill reinforcement (RH&LH)
14. Hood
15. Front fender (RH&LH)
16. Front door inner (RH&LH)
17. Front door assembly (RH&LH)
18. Front door outer panel
19. Rear door assembly (RH&LH)
20. Rear door outer (RH&LH)
21. Rear door inner (RH&LH)
22. Body side outer (RH&LH)
23. Rear lock pillar inner (RH&LH)
24. Rear side inner reinforcement (RH&LH)
25. Bed side outer panel (RH&LH)
26. Front outer strut (RH&LH)
27. Center pillar brace (RH&LH)
28. Center pillar inner (RH&LH)
29. Rear panel
30. Bed front panel
31. Bed side inner (RH&LH)
32. Floor board assembly
33. Rear inner strut (RH&LH)
34. Rear outer strut (RH&LH)
35. Rear floor bolster assembly
36. Rear gate

FRAME COMPONENT PARTS

Crew Cab



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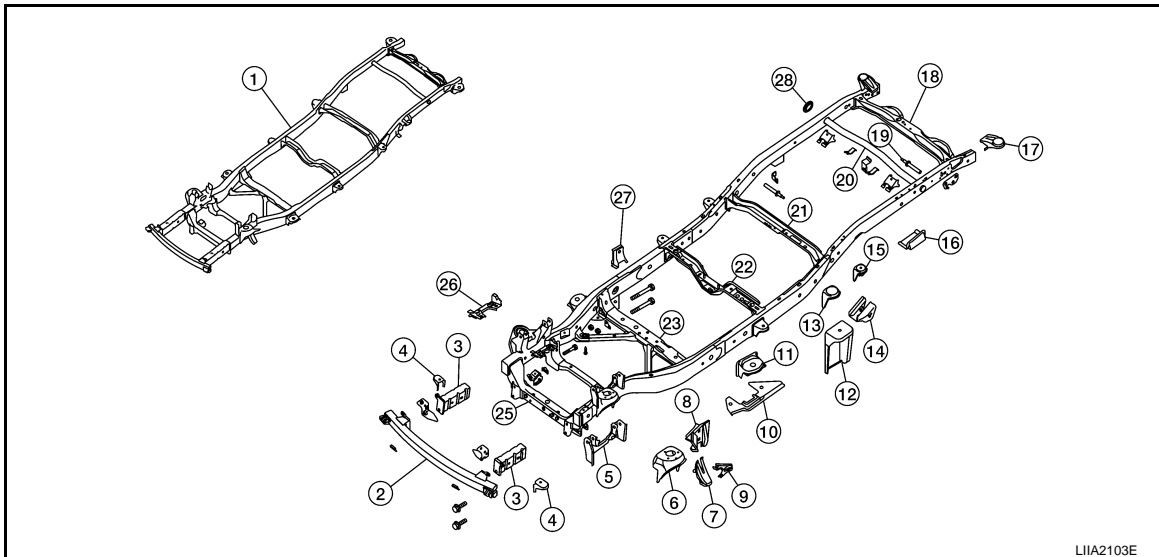
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BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >

1. Frame assembly
2. 1st crossmember assembly
3. 1st cab mounting bracket (RH&LH)
4. Front side member extension assembly (RH&LH)
5. Front upper link mounting bracket (RH&LH)
6. Front shock absorber bracket (RH&LH)
7. Bound bumper bracket (RH&LH)
8. Front brake hose bracket (RH&LH)
9. Panhard rod reinforcement bracket (RH&LH)
10. 4th crossmember gusset (RH&LH)
11. 2nd cab mounting bracket (RH&LH)
12. 3rd cab mounting bracket (RH&LH)
13. Cab mounting bracket (RH&LH)
14. Rear spring front bracket assembly (RH&LH)
15. 2nd rear body mounting bracket (RH&LH)
16. Rear bound bumper bracket (RH&LH)
17. 5th rear body mounting bracket (RH&LH)
18. 9th crossmember assembly
19. Front upper crossmember
20. Rear shock absorber pin (RH&LH)
21. 6th crossmember assembly
22. (2wd) Center bearing bracket assembly, (4wd) 5th crossmember assembly
23. 4th crossmember assembly
24. 3rd crossmember assembly
25. 2nd crossmember assembly
26. Engine mounting bracket assembly (RH&LH)
27. 4th crossmember gusset (RH&LH)
28. Crossmember collar (RH&LH)

King Cab



1. Frame assembly
2. 1st crossmember assembly
3. Front side member extension assembly (RH&LH)
4. 1st cab mounting bracket (RH&LH)
5. Front upper link mounting bracket ((RH&LH)

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BODY COMPONENT PARTS

< ON-VEHICLE REPAIR >

6. Front shock absorber bracket (RH&LH)
7. Bound bumper bracket (RH&LH)
8. Panhard rod reinforcement bracket (RH&LH)
9. Front brake hose bracket (RH&LH)
10. 4th crossmember gusset (RH&LH)
11. 2nd cab mounting bracket (RH&LH)
12. 3rd cab mounting bracket (RH&LH)
13. 1st rear body mounting bracket (RH&LH)
14. Rear spring front bracket assembly (RH&LH)
15. 2nd rear body mounting bracket (RH&LH)
16. Rear bound bumper bracket (RH&LH)
17. 5th rear body mounting bracket (RH&LH)
18. 9th crossmember assembly
19. Rear shock absorber pin (RH&LH)
20. Front upper crossmember
21. 6th crossmember assembly
22. (2wd) Center bearing bracket assembly, (4wd) 5th crossmember assembly
23. 4th crossmember assembly
24. 3rd crossmember assembly
25. 2nd crossmember assembly
26. Engine mounting bracket assembly (RH&LH)
27. 4th crossmember gusset (RH&LH)
28. Crossmember collar (RH&LH)

CORROSION PROTECTION

< ON-VEHICLE REPAIR >

CORROSION PROTECTION

Corrosion Protection

INFOID:000000003301708

DESCRIPTION

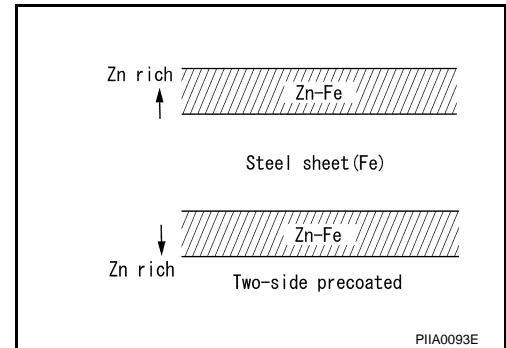
To provide improved corrosion prevention, the following anti-corrosive measures have been implemented in NISSAN production plants. When repairing or replacing body panels, it is necessary to use the same anti-corrosive measures.

Anti-corrosive Pre-coated Steel (Galvannealed Steel)

To improve reparability and corrosion resistance, a new type of anti-corrosive pre-coated 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 electrode position 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.



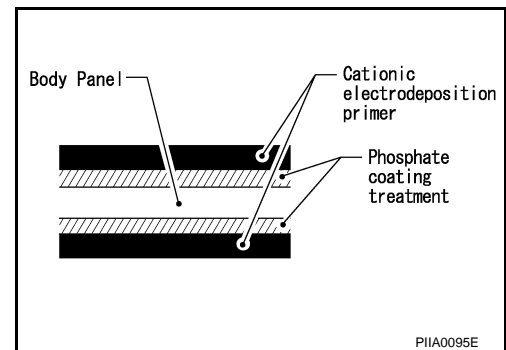
Phosphate Coating Treatment and Cationic Electrodeposition Primer

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

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

CAUTION:

Confine paint removal during welding operations to an absolute minimum.



ANTI-CORROSIVE WAX

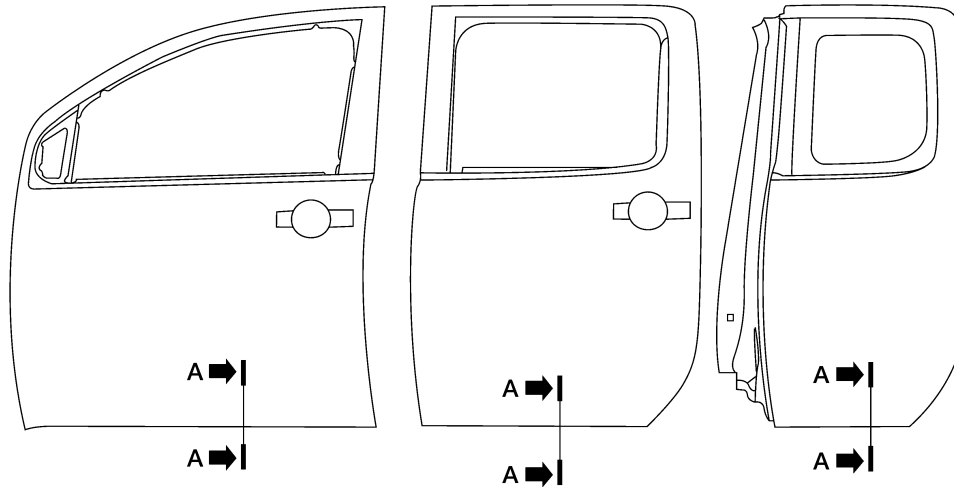
To improve corrosion resistance, anti-corrosive wax is applied inside the body sill and inside other closed sections. Accordingly, when replacing these parts, be sure to apply anti-corrosive wax to the appropriate areas of



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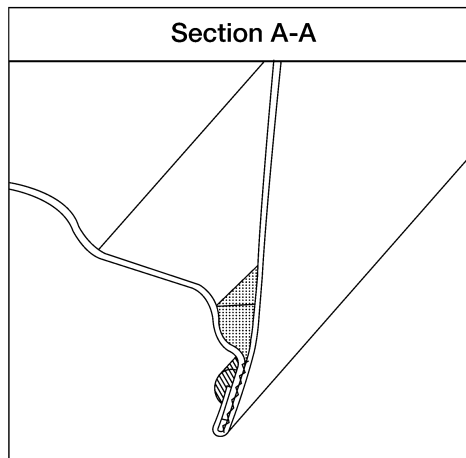
CORROSION PROTECTION

< ON-VEHICLE REPAIR >

the new parts. Select an excellent anti-corrosive wax which will penetrate after application and has a long shelf life.



 : Indicates outside body sealant
 : Indicates anti-corrosive wax coated portions



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UNDERCOATING

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.

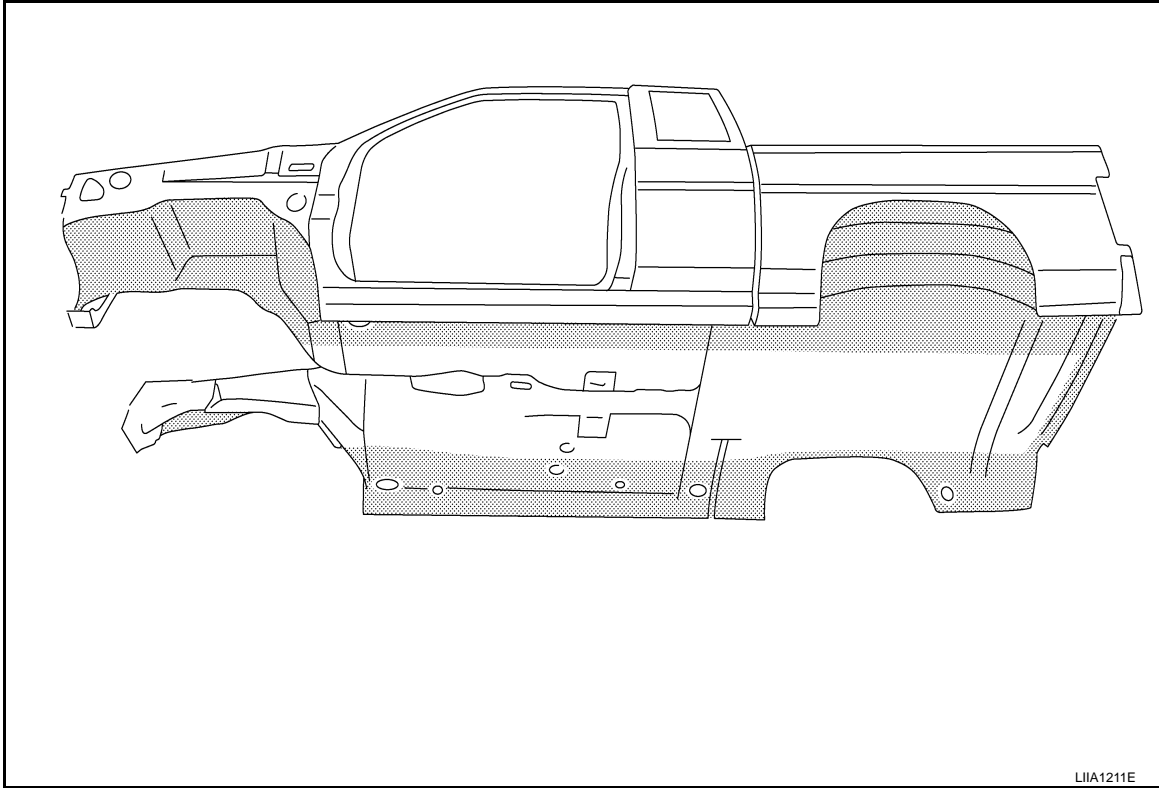
Precautions in Undercoating

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.

CORROSION PROTECTION

< ON-VEHICLE REPAIR >

4. Apply bitumen wax after applying undercoating.



Body Sealing

DESCRIPTION

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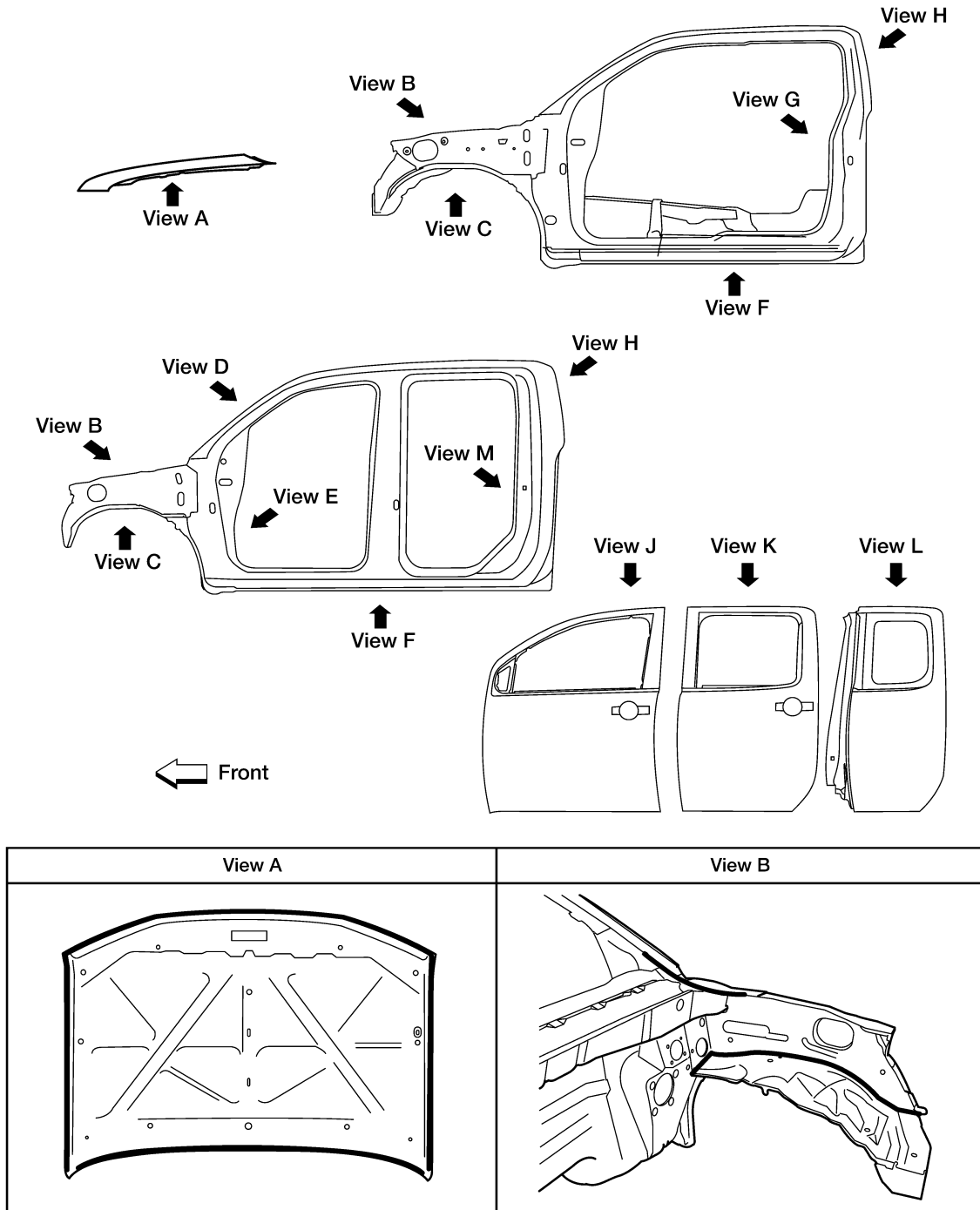
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CORROSION PROTECTION

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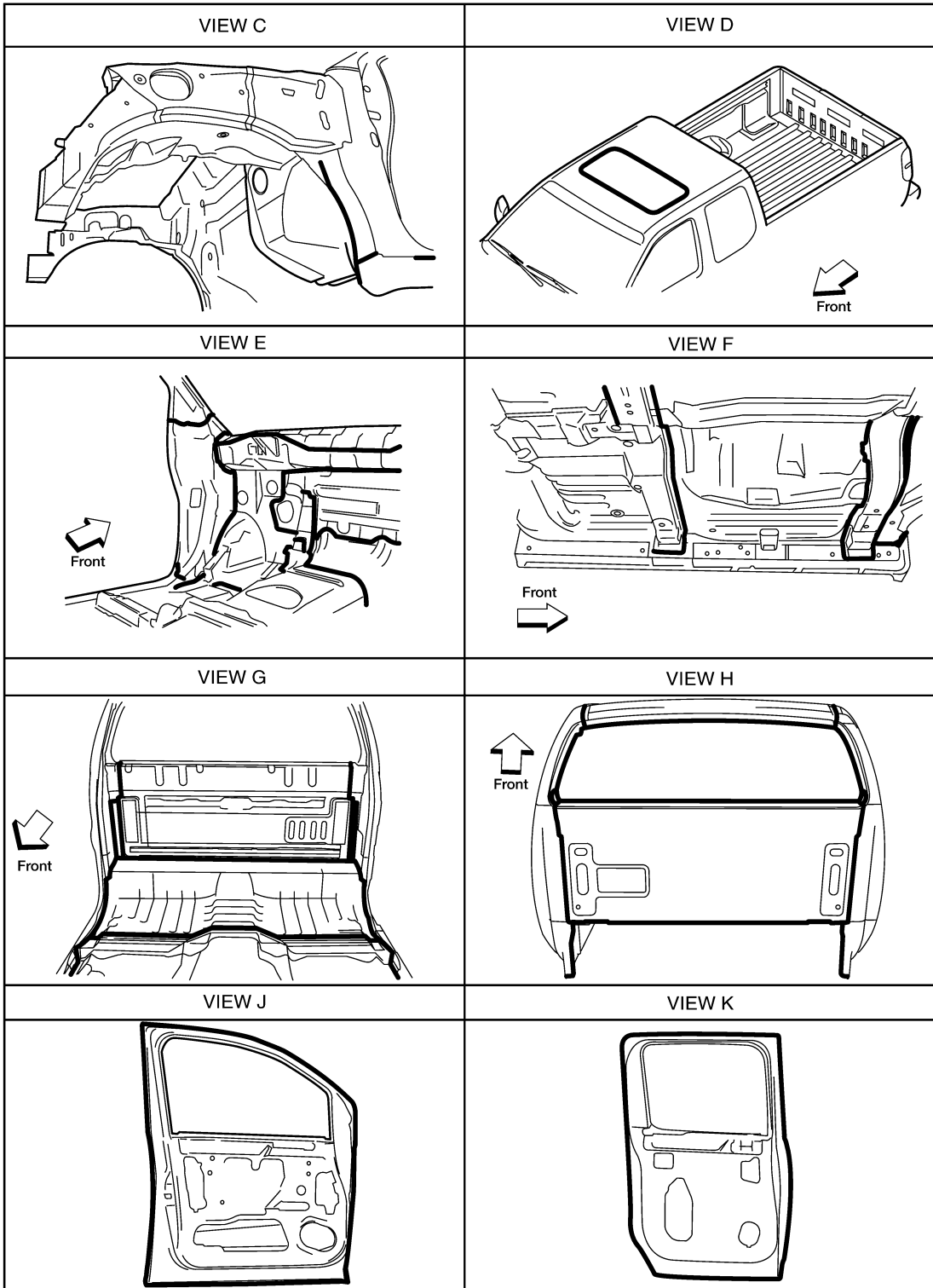
The following figure shows the areas which are sealed at the factory. Sealant which has been applied to these areas should be smooth and free from cuts or gaps. Care should be taken not to apply an excess amount of sealant and not to allow other unaffected parts to come into contact with the sealant.



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CORROSION PROTECTION

< ON-VEHICLE REPAIR >



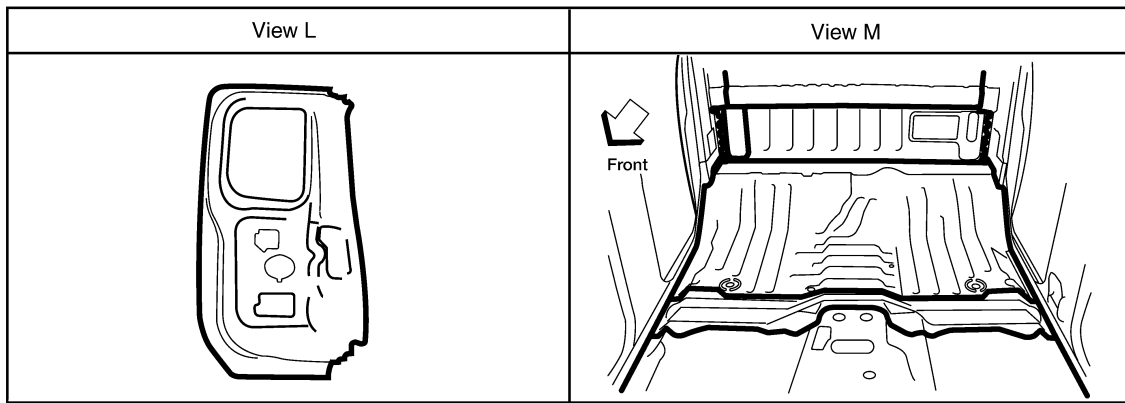
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CORROSION PROTECTION

< ON-VEHICLE REPAIR >



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BODY CONSTRUCTION

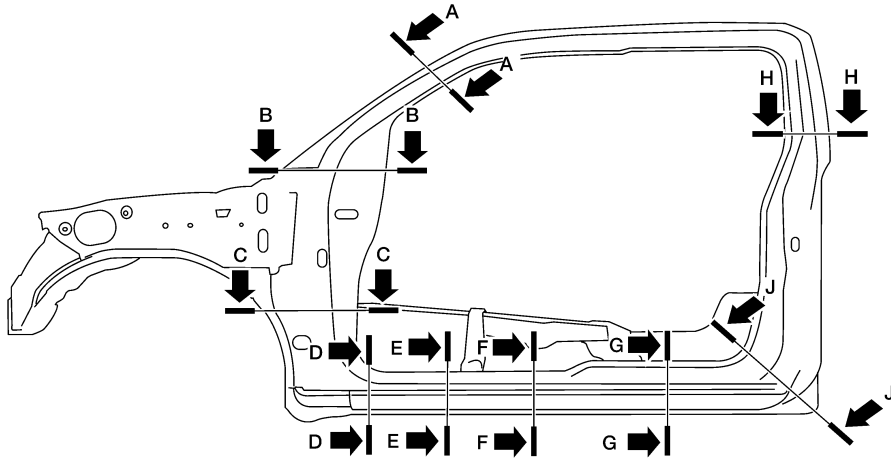
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BODY CONSTRUCTION

Body Construction

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BODY CONSTRUCTION KING CAB



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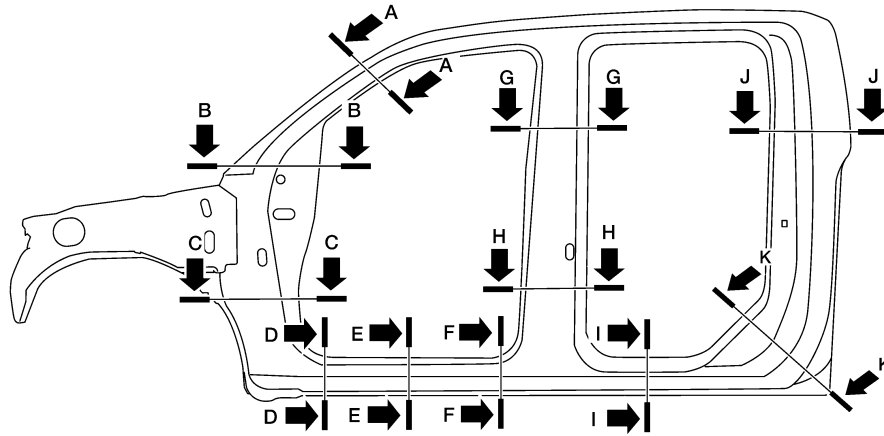
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BODY CONSTRUCTION

< ON-VEHICLE REPAIR >

BODY CONSTRUCTION CREW CAB



Section A-A	Section B-B	Section C-C	Section D-D
Section E-E	Section F-F	Section G-G	Section H-H
Section I-I	Section J-J	Section K-K	

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BODY ALIGNMENT

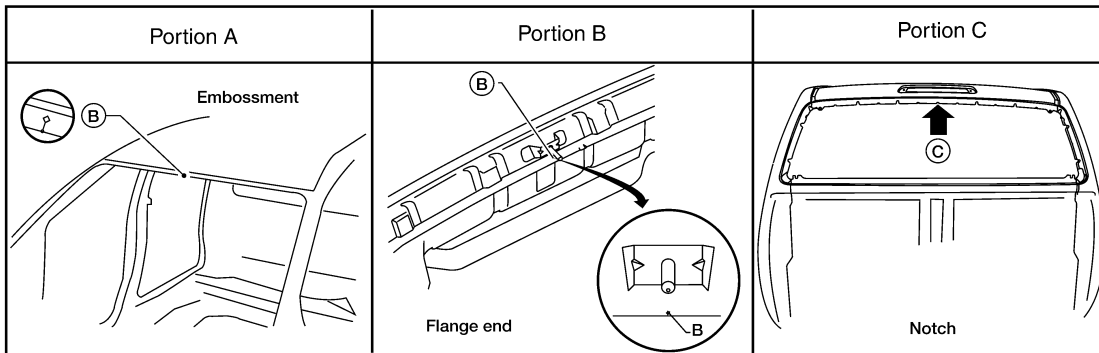
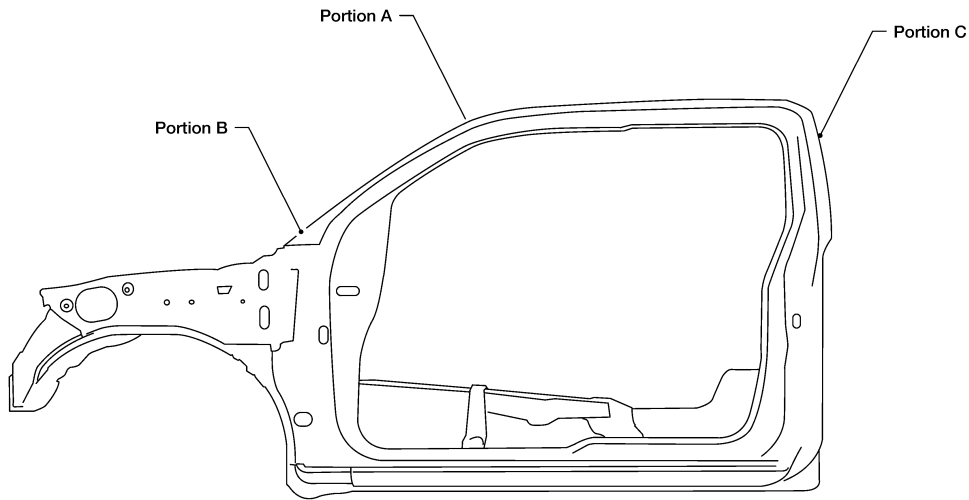
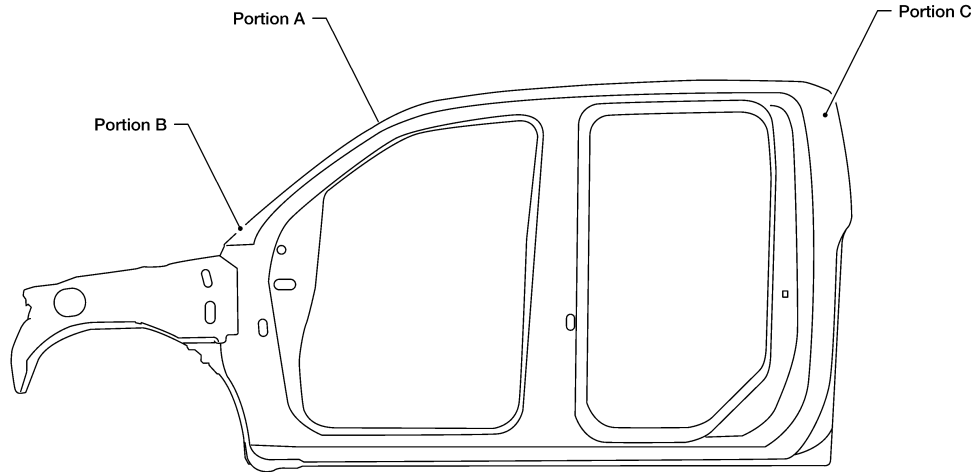
< ON-VEHICLE REPAIR >

BODY ALIGNMENT

Body Alignment

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BODY CENTER MARKS



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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.

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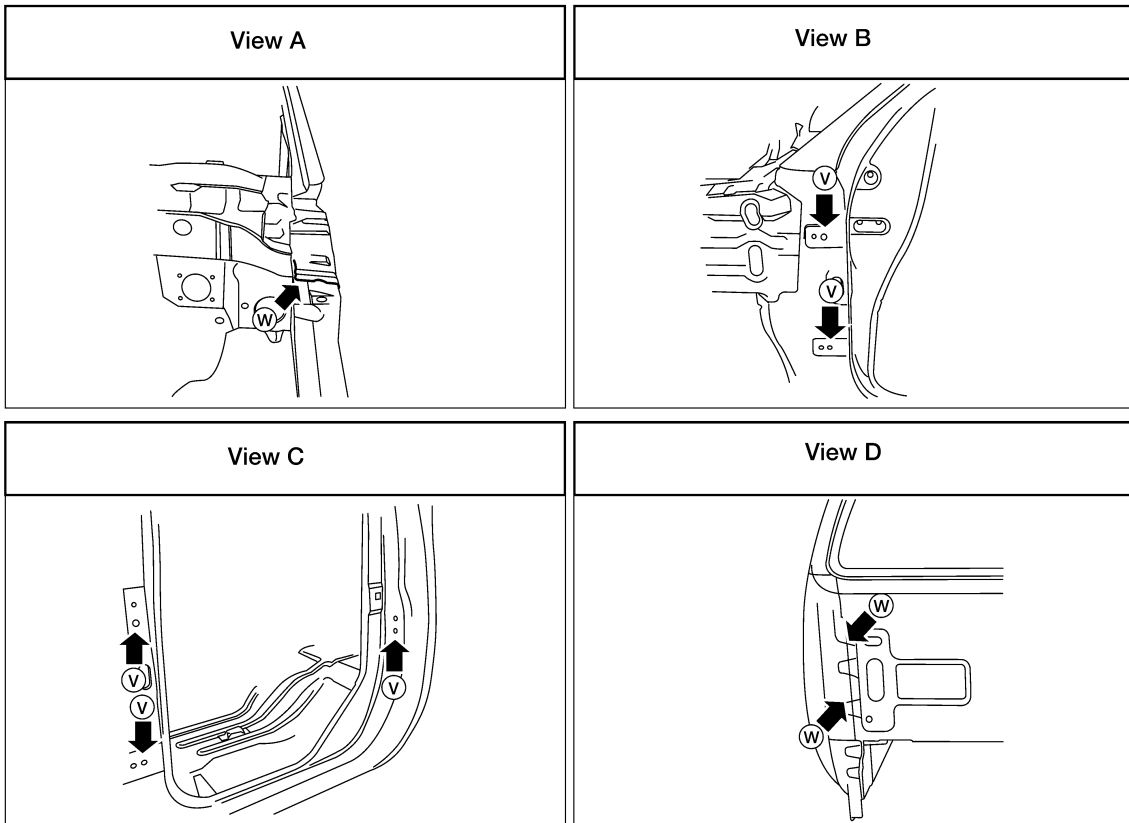
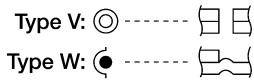
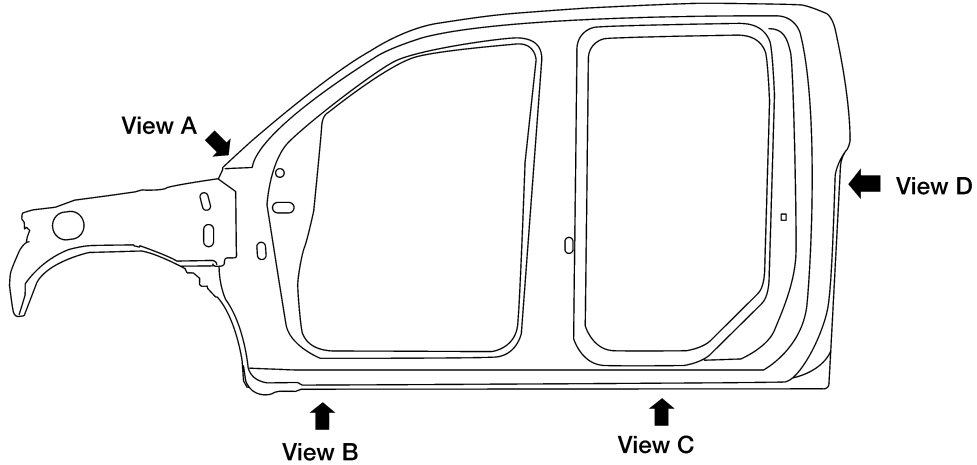
BODY ALIGNMENT

< ON-VEHICLE REPAIR >

PANEL PARTS MATCHING MARKS

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

Crew Cab

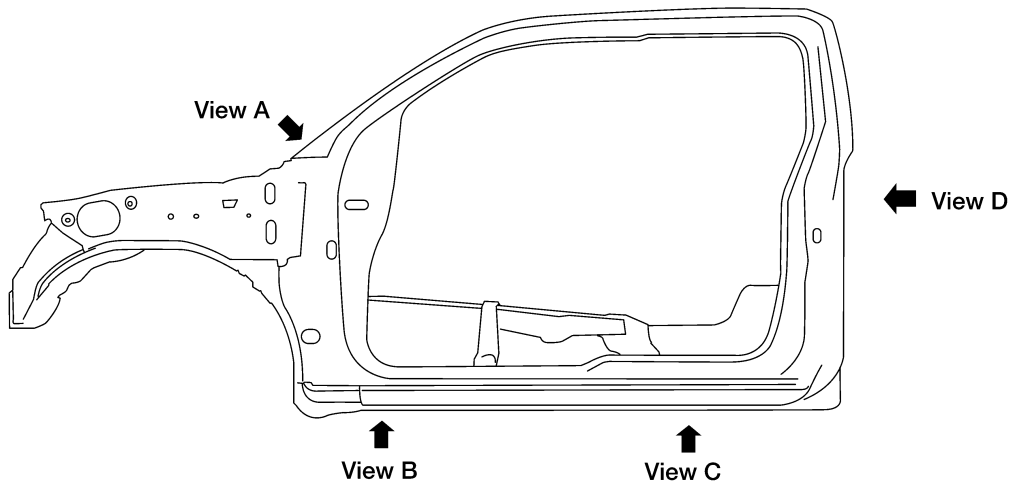




LIA2005E

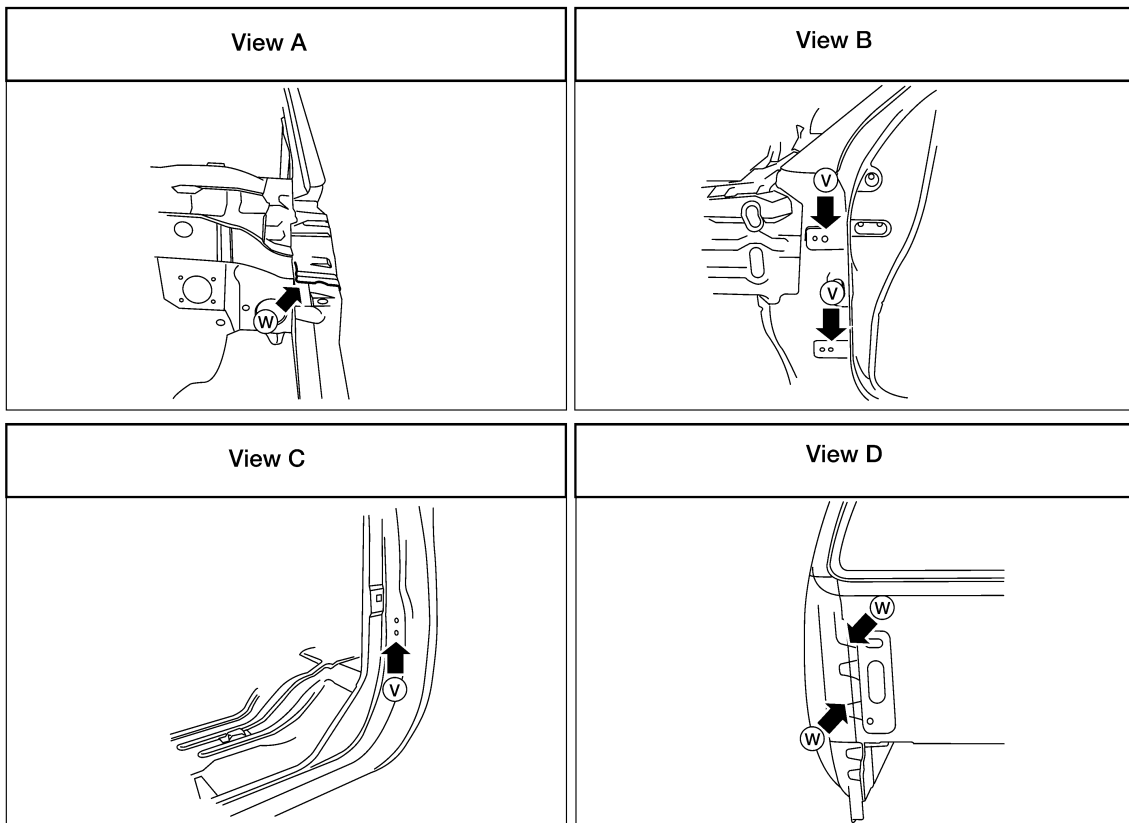
BODY ALIGNMENT

< ON-VEHICLE REPAIR >

King Cab



Type V: 
 Type W: 



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LIA2104E

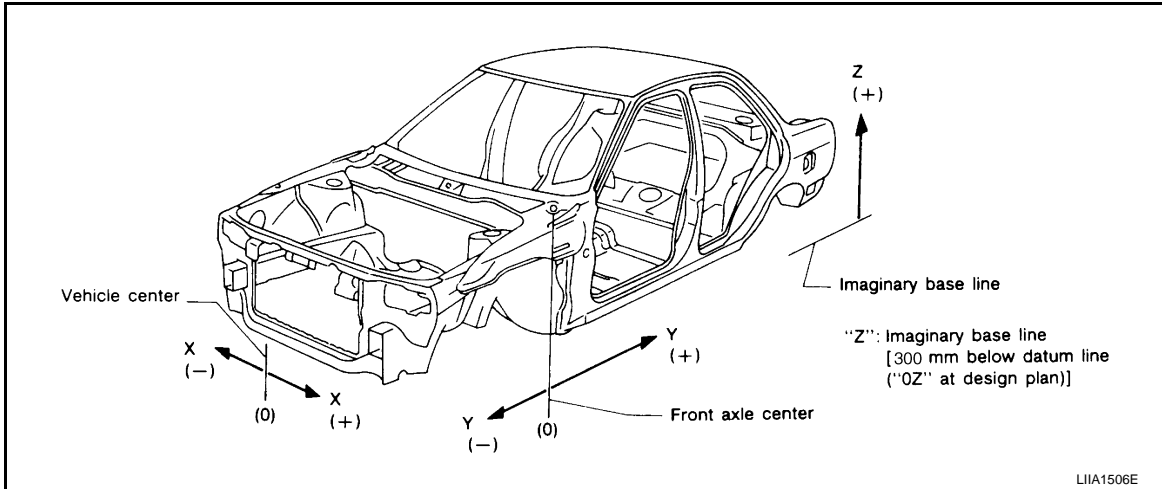
DESCRIPTION

- All dimensions indicated in the figures are actual.
- When using a tracking gauge, adjust both pointers to equal length. Then check the pointers and gauge itself to make sure there is no free play.
- When a measuring tape is used, check 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.

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

- The coordinates of the measurement points are the distances measured from the standard line of "X", "Y" and "Z".



ENGINE COMPARTMENT

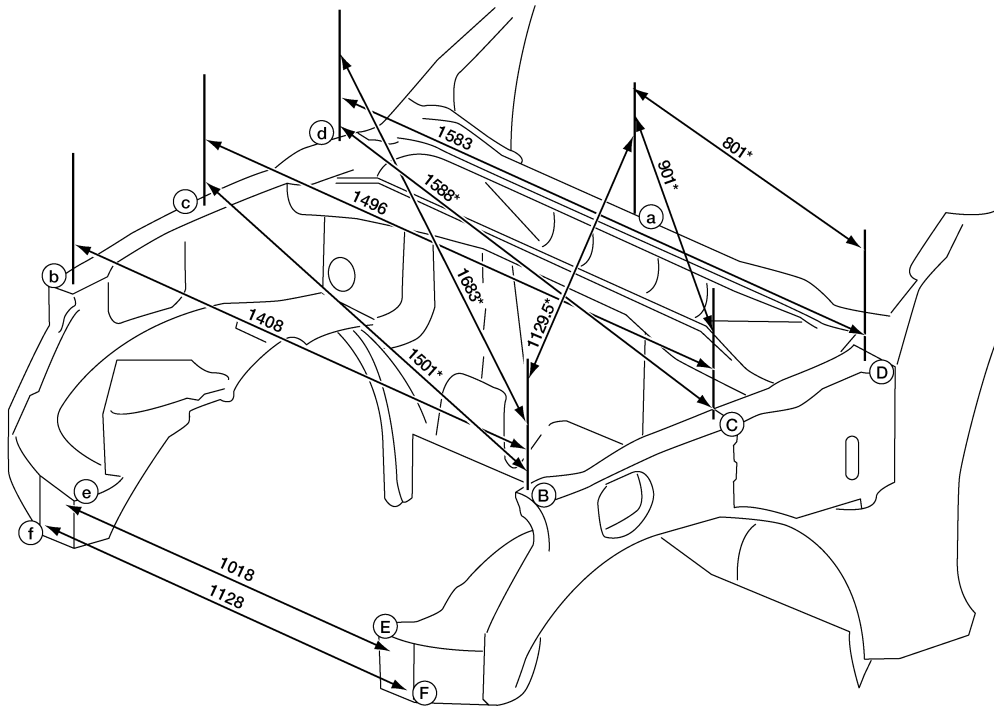
BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement

All dimensions indicated in this figure are actual.

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



Unit: mm

LIA1792E

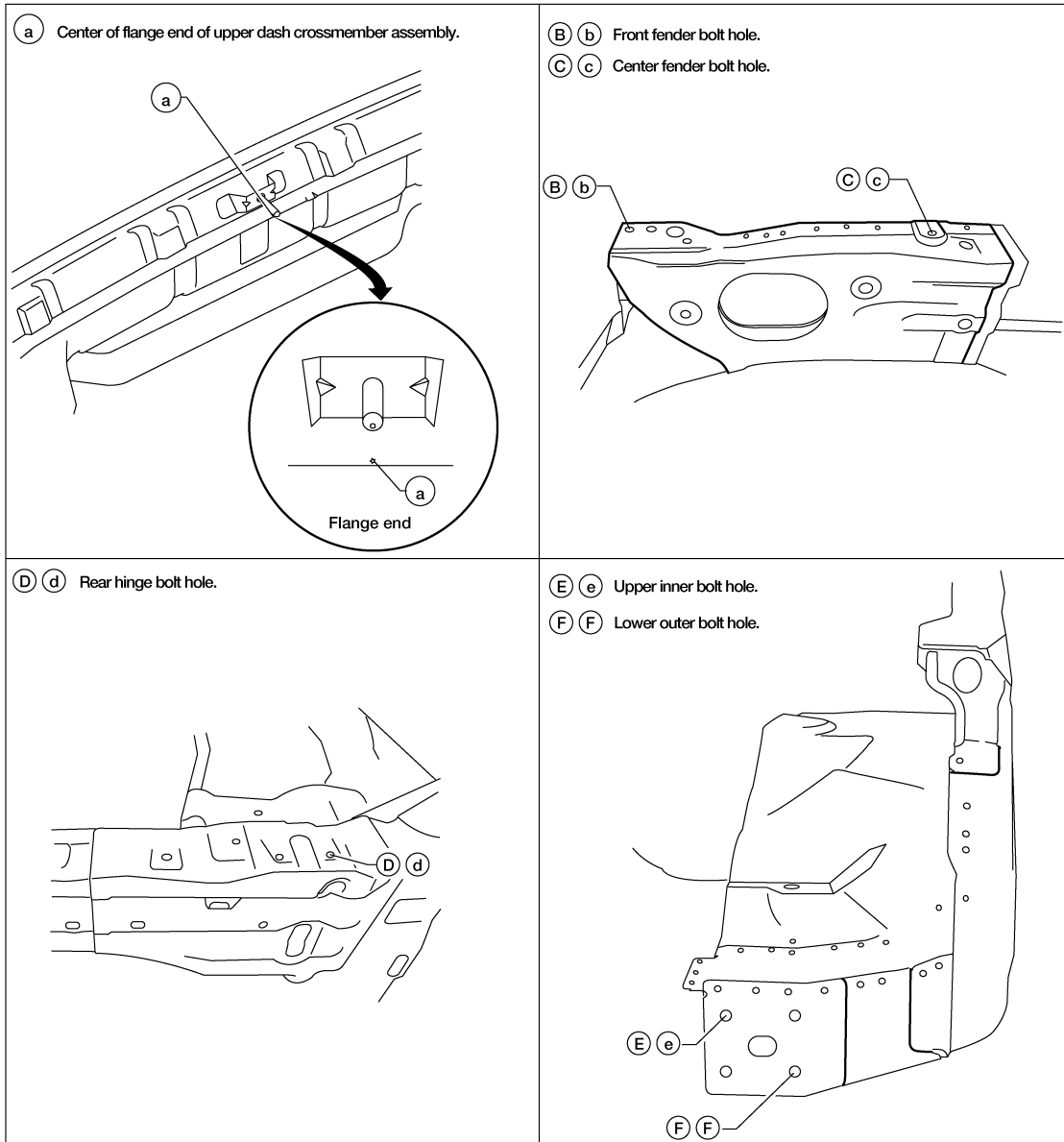
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BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement Points



LIA1793E

UNDERBODY

BODY ALIGNMENT

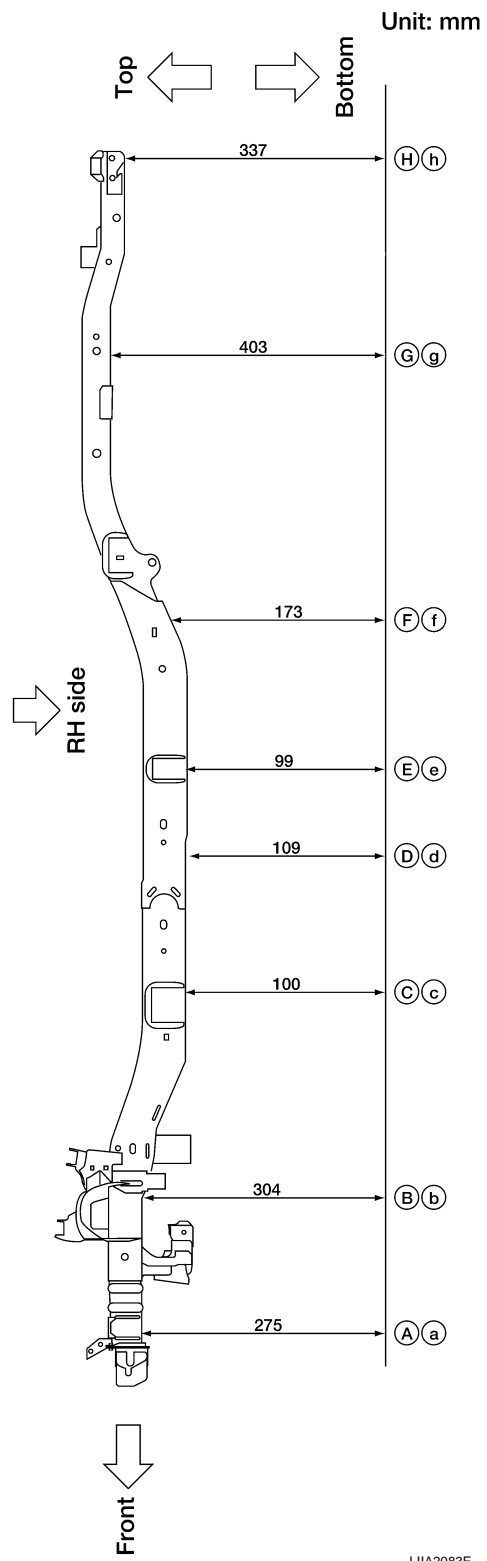
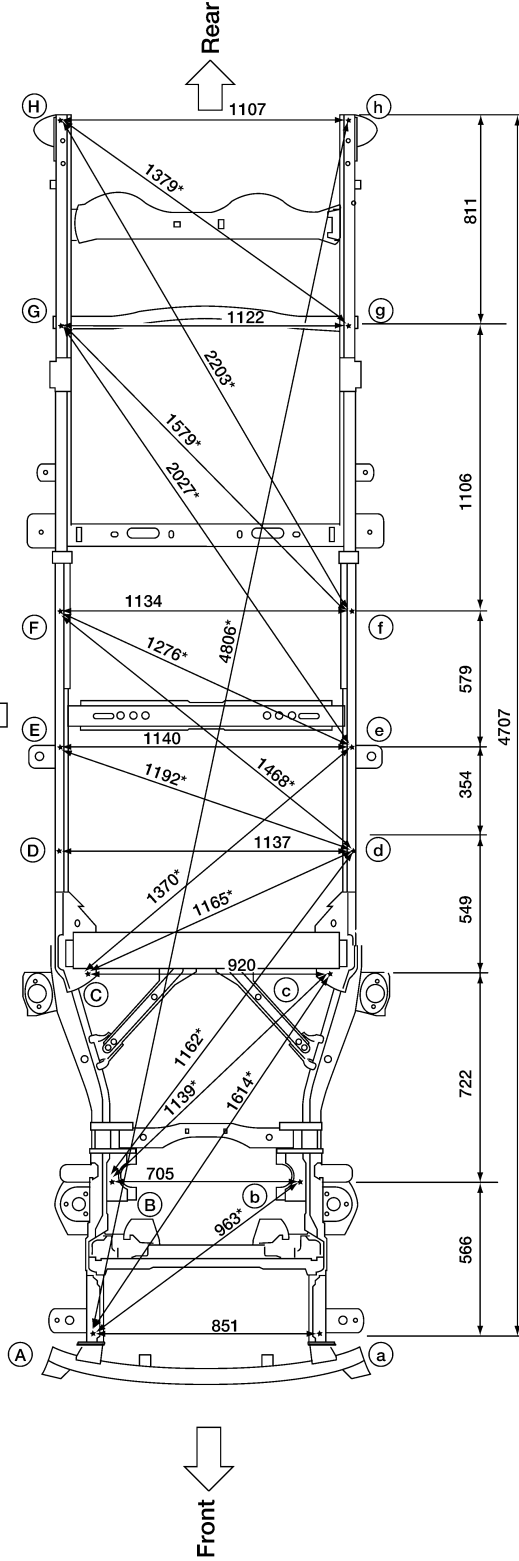
< ON-VEHICLE REPAIR >

Measurement

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

As viewed from underside.
LH side

All dimensions indicated in this figure are actual.



LIA2083E

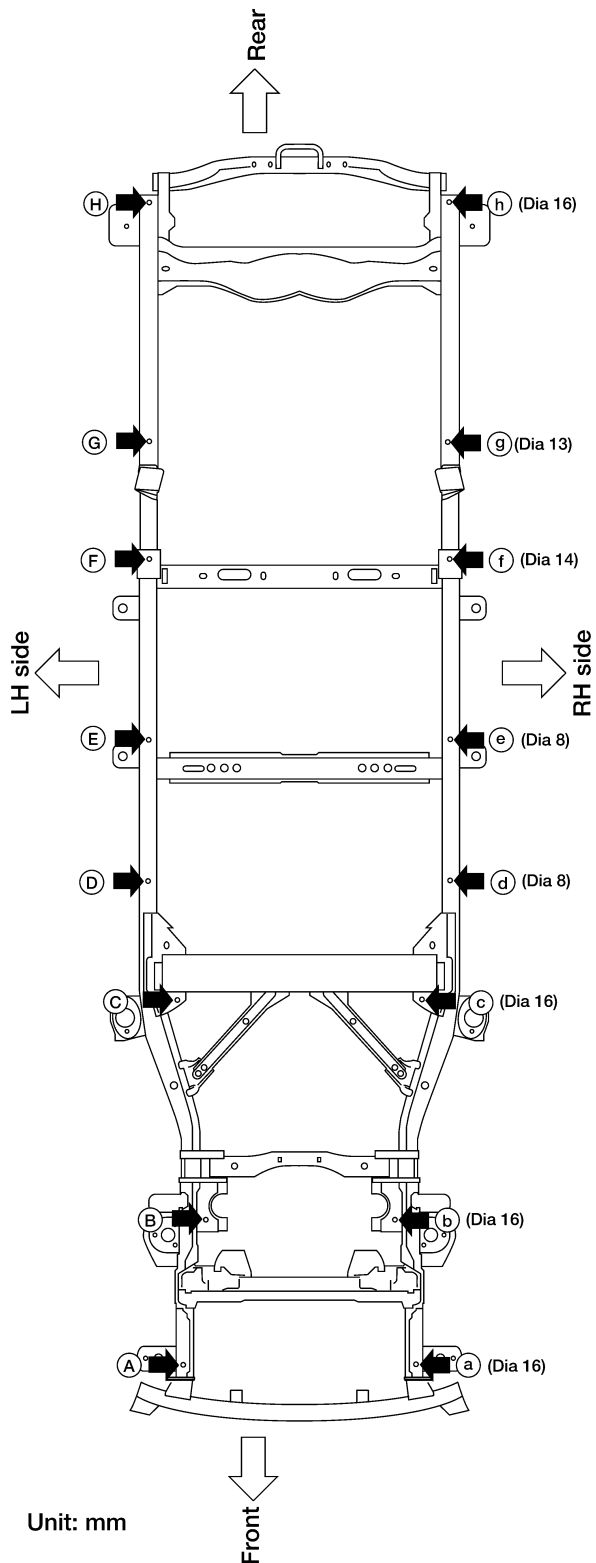
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BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement Points



Unit: mm

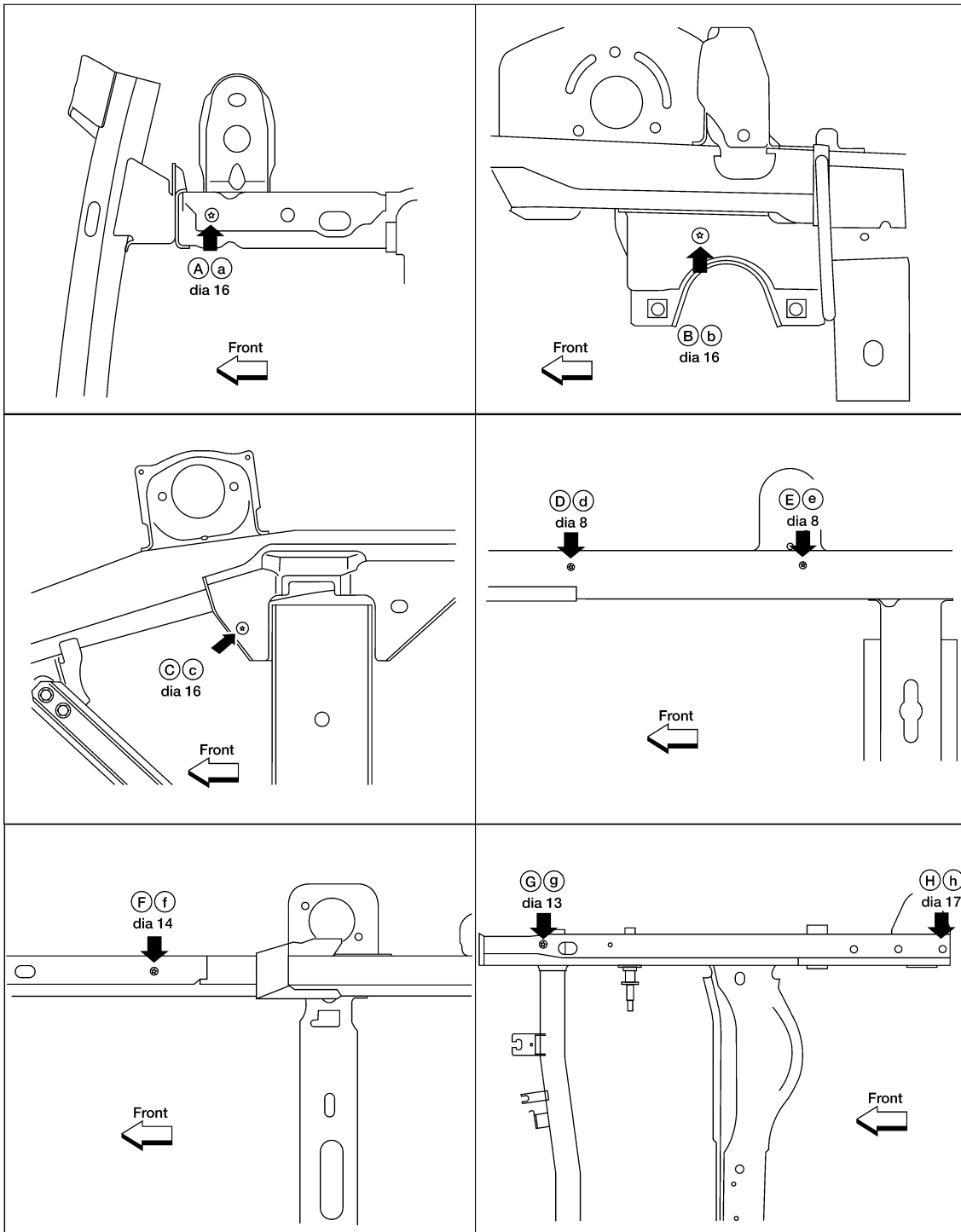
Coordinates:

- (A) (a)
- X: ± 425
- Y: -531
- Z: 275
- (B) (b)
- X: ± 353
- Y: 35
- Z: 304
- (C) (c)
- X: ± 460
- Y: 807
- Z: 100
- (D) (d)
- X: ± 568
- Y: 1356
- Z: 109
- (E) (e)
- X: ± 570
- Y: 1710
- Z: 99
- (F) (f)
- X: ± 567
- Y: 2285
- Z: 173
- (G) (g)
- X: ± 562
- Y: 3365
- Z: 403
- (H) (h)
- X: ± 553
- Y: 4173
- Z: 337

LIA2084E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >



Coordinates:

A (a)	B (b)	C (c)	D (d)	E (e)	F (f)	G (g)	H (h)
X : ± 425	X : ± 353	X : ± 460	X : ± 568	X : ± 570	X : ± 567	X : ± 562	X : ± 553
Y : -531	Y : 35	Y : 807	Y : 1356	Y : 1710	Y : 2285	Y : 3365	Y : 4123
Z : 275	Z : 304	Z : 100	Z : 109	Z : 99	Z : 173	Z : 403	Z : 337

Unit: mm

LIA2085E

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BODY ALIGNMENT

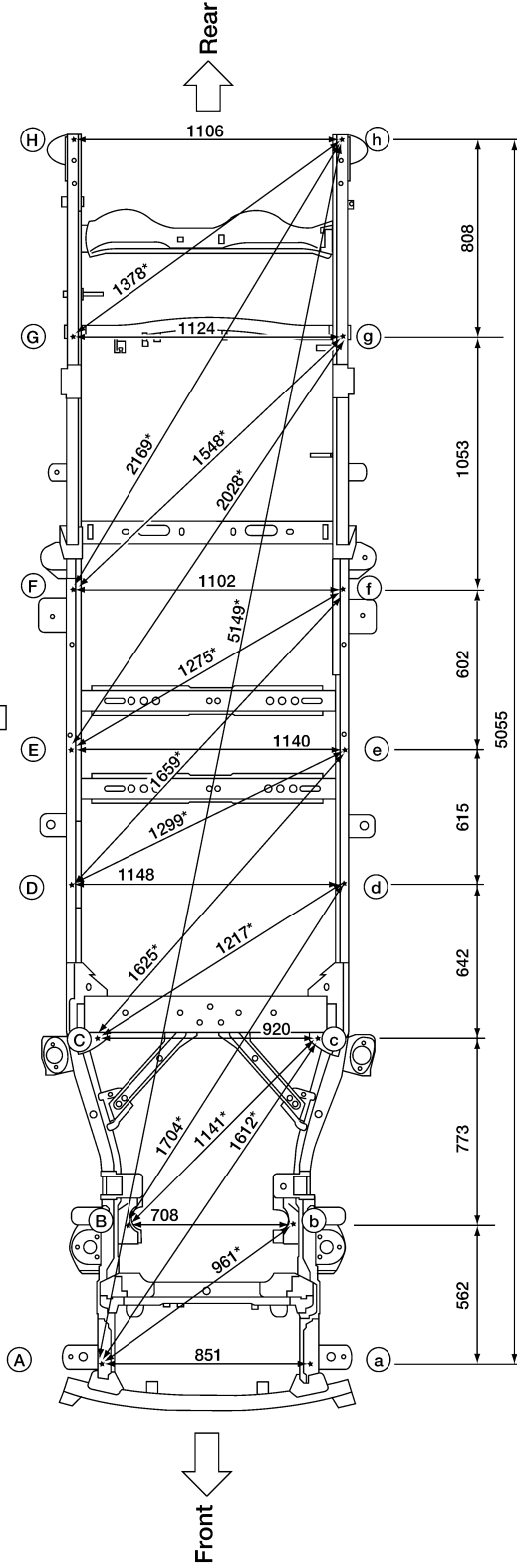
< ON-VEHICLE REPAIR >

Measurement (Crew Cab Long Bed)

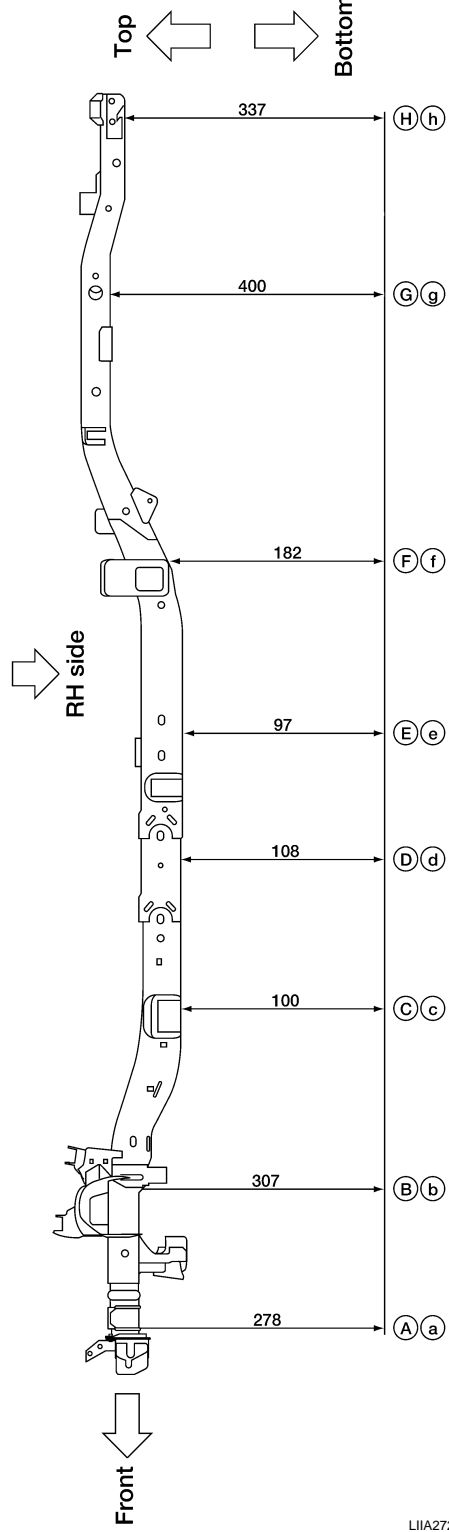
Figures marked with a (*) indicate symmetrically identical dimensions on both right and left hand sides of the vehicle.

As viewed from underside.
LH side

All dimensions indicated in this figure are actual.



Unit: mm

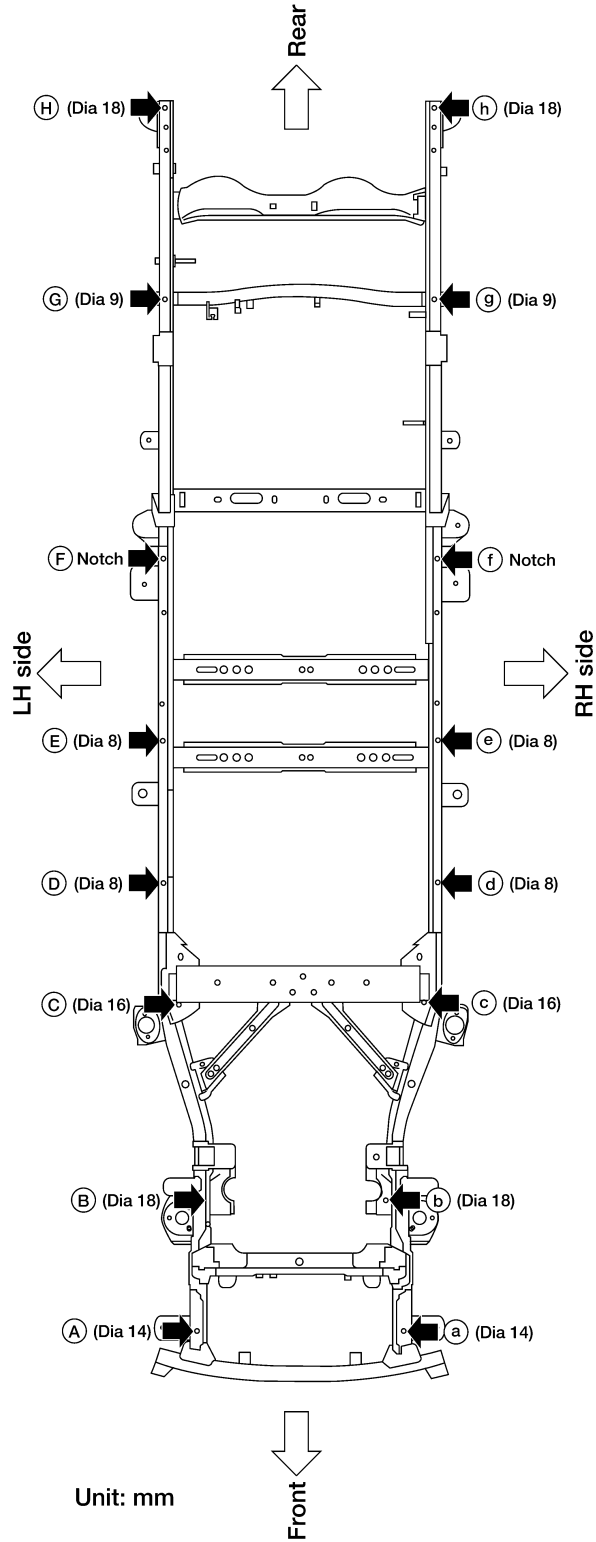


LIA2721E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement Points (Crew Cab Long Bed)



As viewed from underside.

All dimensions indicated in this figure are actual.

Unit: mm

Coordinates:

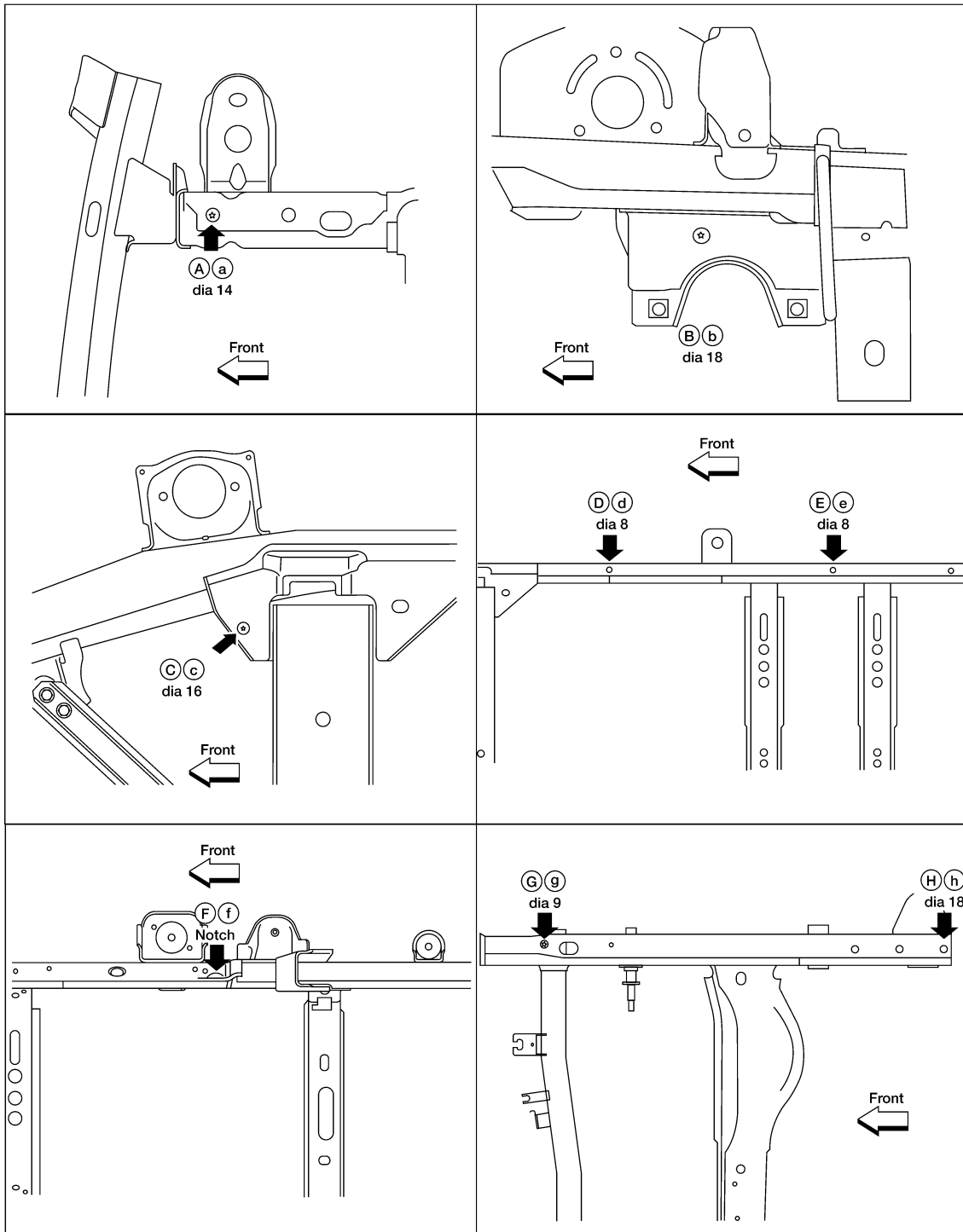
- (A) (a)
X : ± 425.5
Y : -528
Z : 278
- (B) (b)
X : ± 354
Y : 34
Z : 307
- (C) (c)
X : ± 460
Y : 807
Z : 100
- (D) (d)
X : ± 574
Y : 1449
Z : 108
- (E) (e)
X : ± 570
Y : 2064
Z : 97
- (F) (f)
X : ± 551
Y : 2666
Z : 182
- (G) (g)
X : ± 562
Y : 3719
Z : 400
- (H) (h)
X : ± 553
Y : 4527
Z : 337

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BODY ALIGNMENT

< ON-VEHICLE REPAIR >



Coordinates:		A/a	B/b	C/c	D/d	E/e	F/f	G/g	H/h
X :	±	425.5	± 354	X : ± 460	X : ± 574	X : ± 570	X : ± 551	X : ± 562	X : ± 553
Y :		-528	Y : 34	Y : 807	Y : 1449	Y : 2064	Y : 2666	Y : 3719	Y : 4527
Z :		278	Z : 307	Z : 100	Z : 108	Z : 97	Z : 182	Z : 400	Z : 337

Unit: mm

LIA2723E

PASSENGER COMPARTMENT

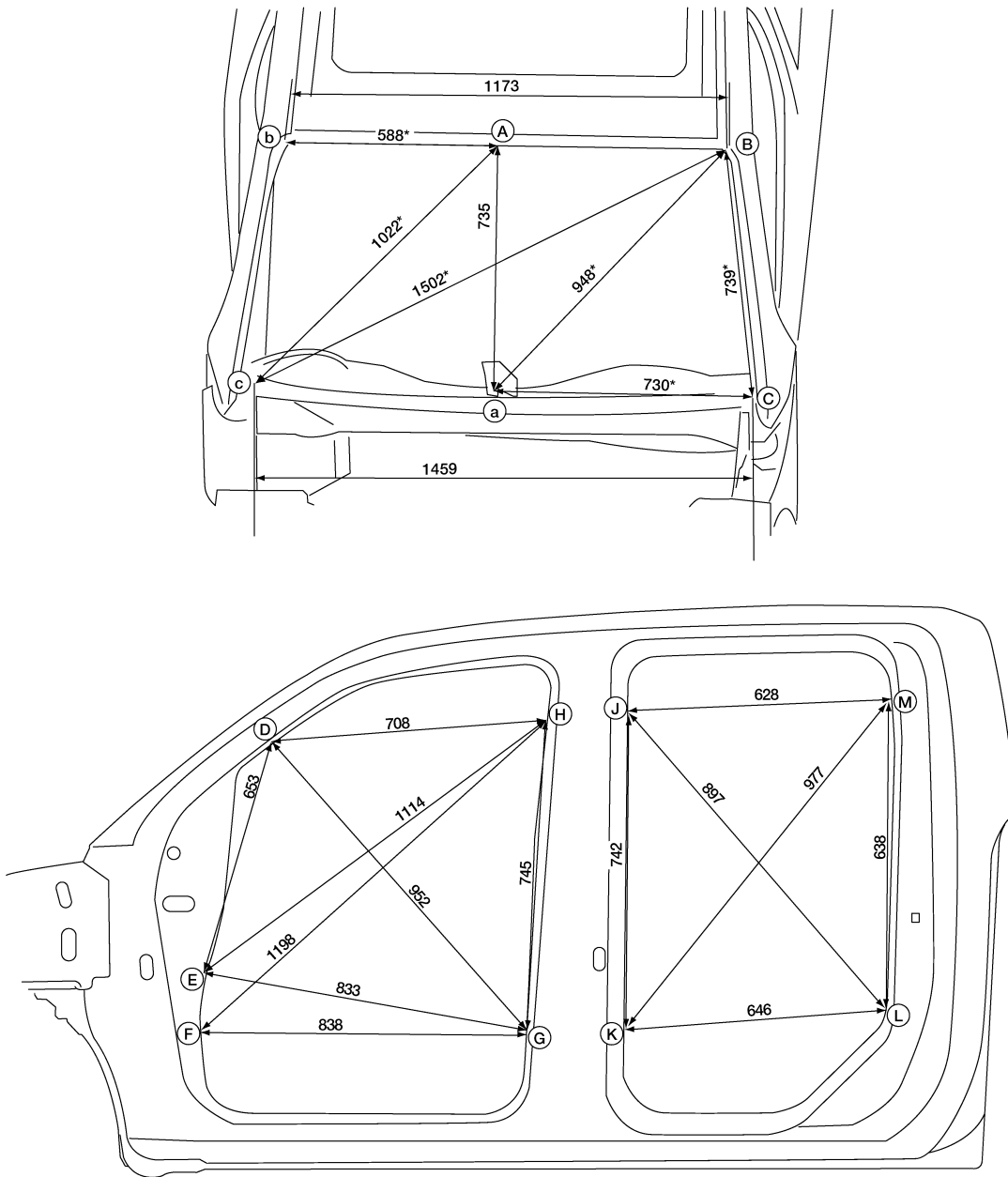
Measurement

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Crew Cab

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



Unit: mm

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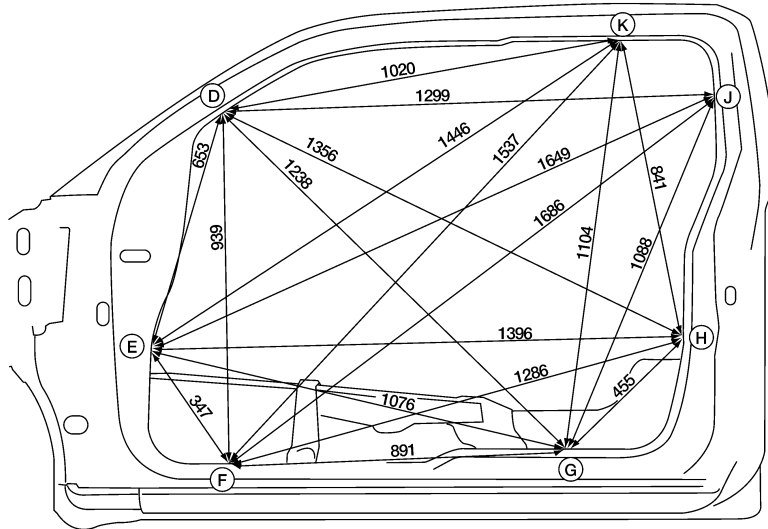
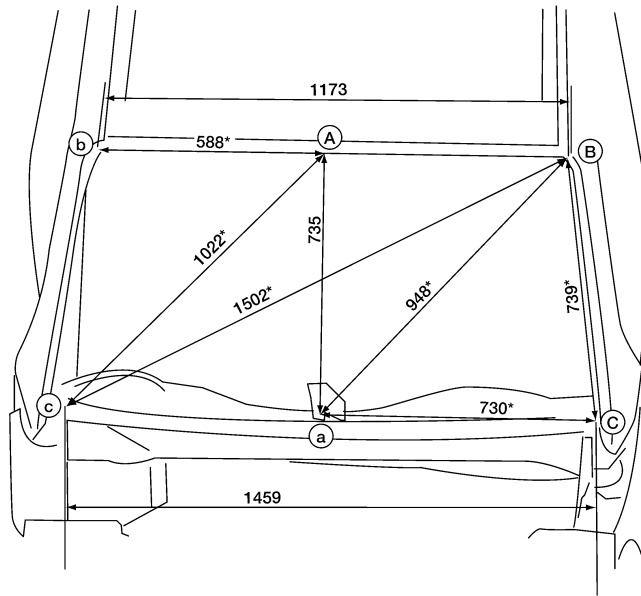
BRM

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

King Cab

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



Unit: mm

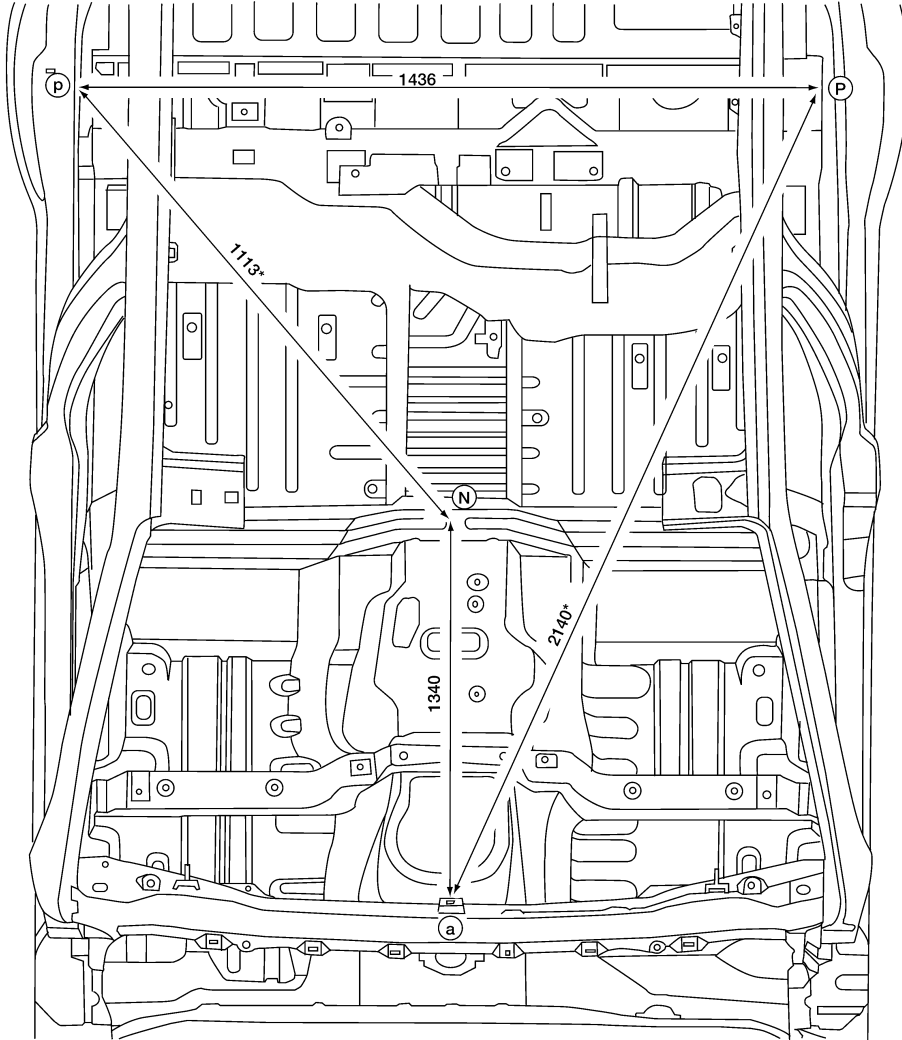
LIA2087E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Crew Cab

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



Unit: mm

LIA2088E

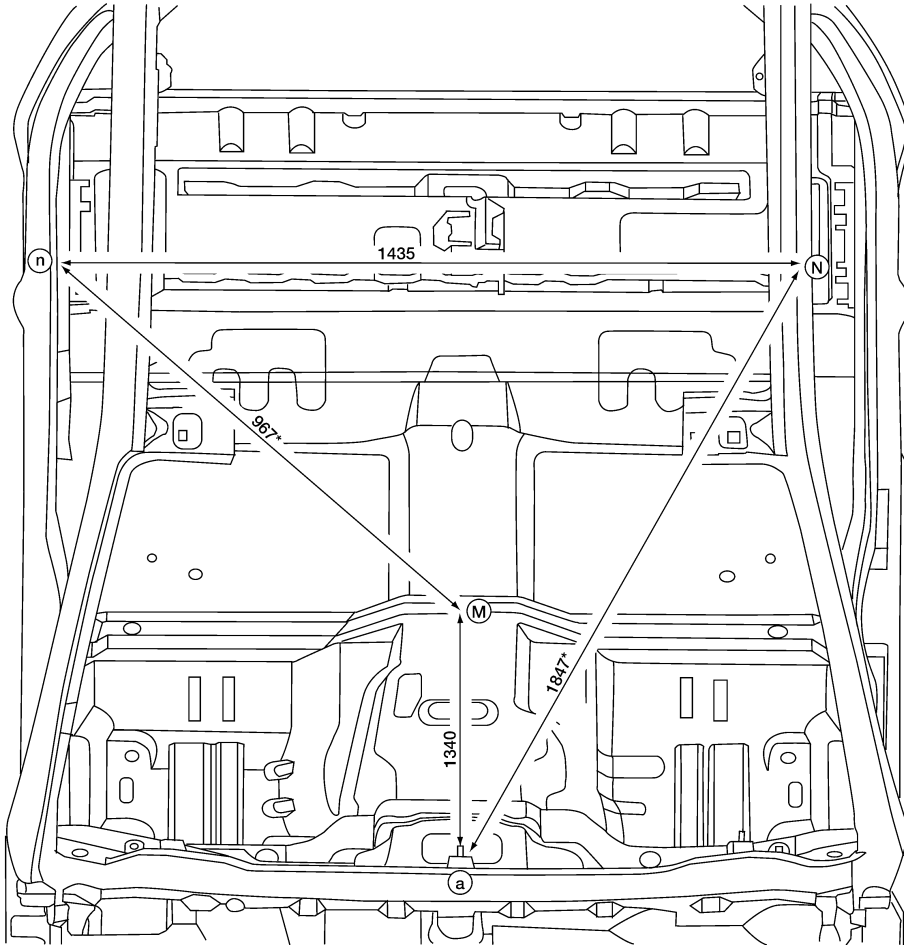
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BODY ALIGNMENT

< ON-VEHICLE REPAIR >

King Cab

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



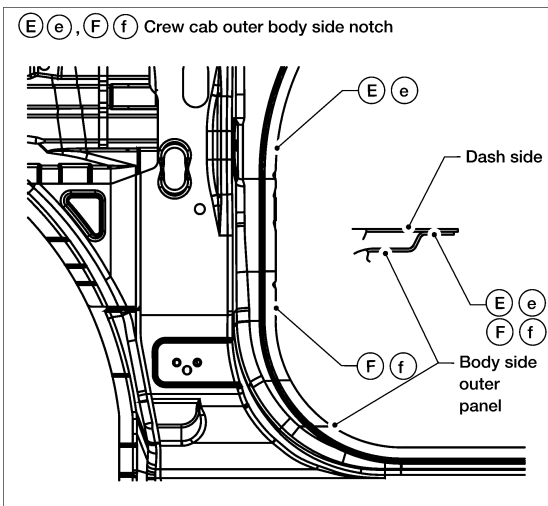
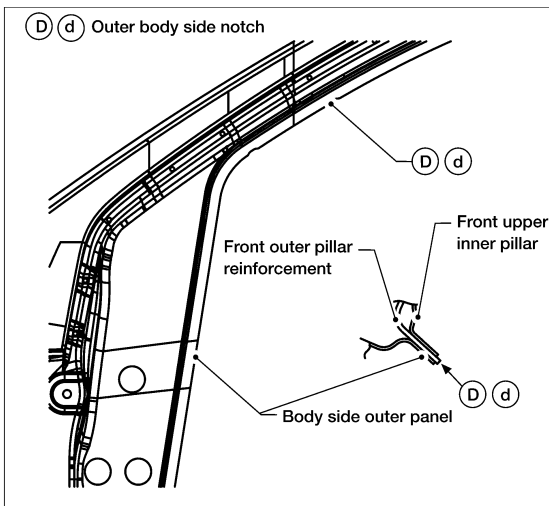
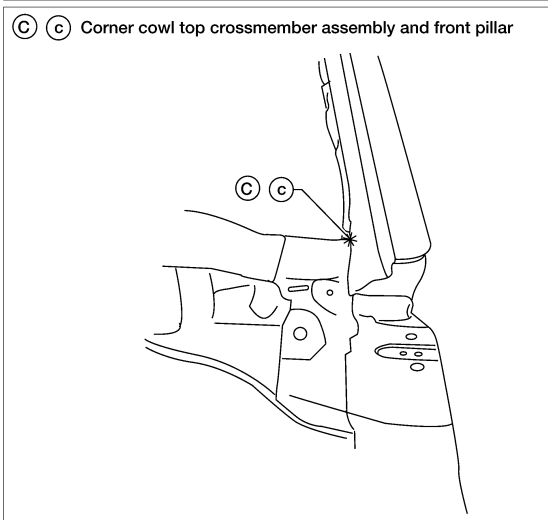
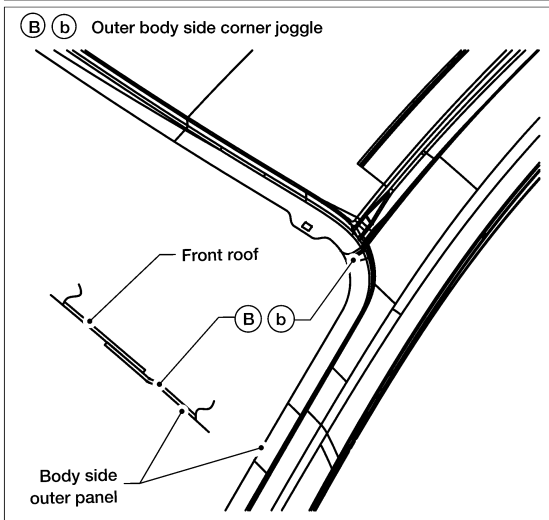
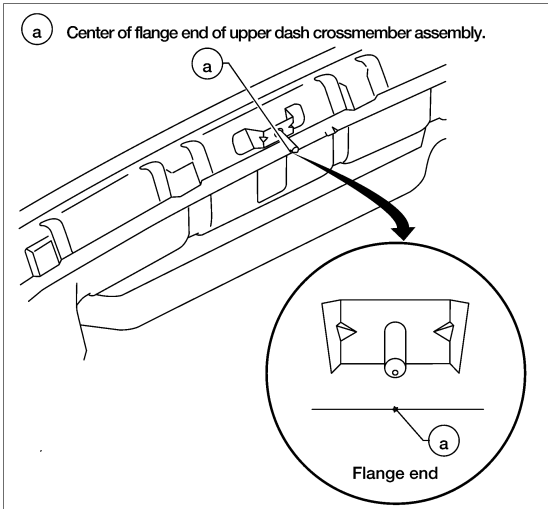
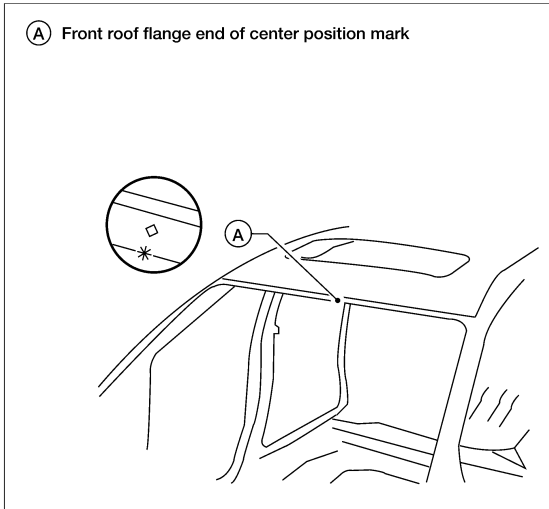
Unit: mm

LIA2089E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement Points

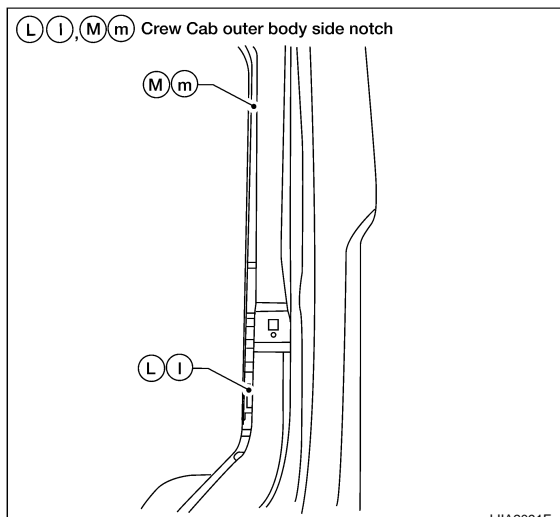
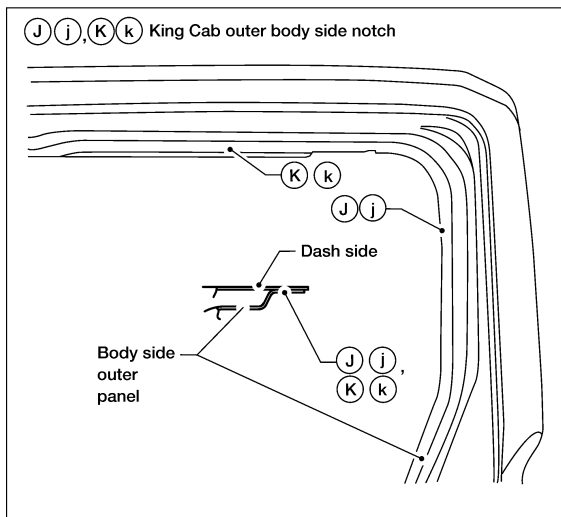
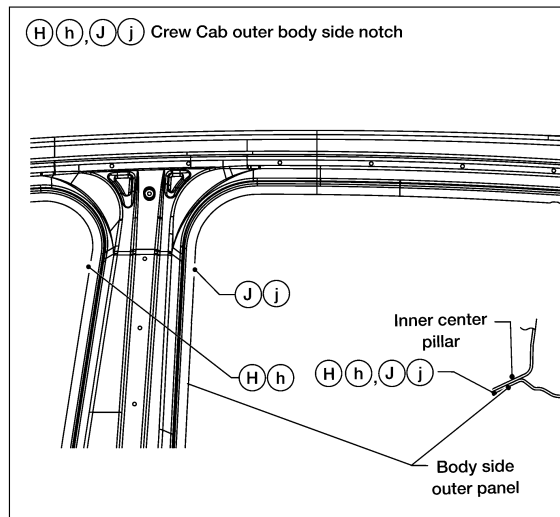
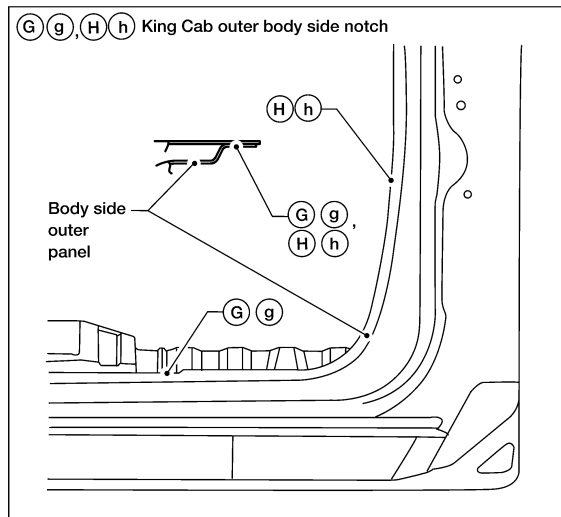
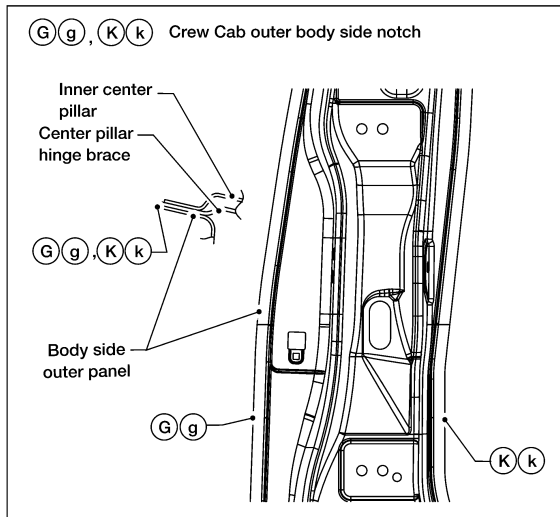
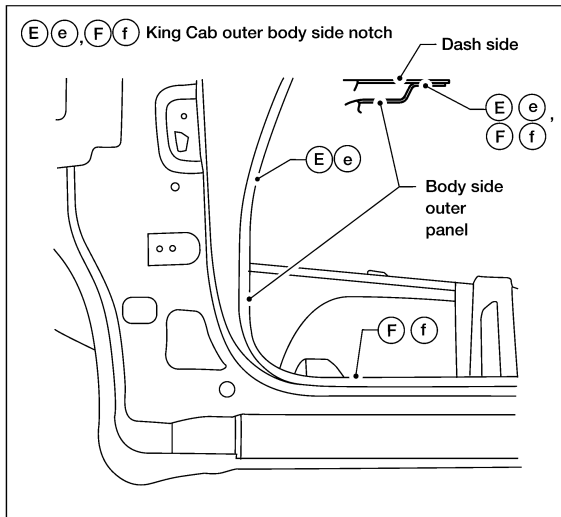


LIA2090E

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BODY ALIGNMENT

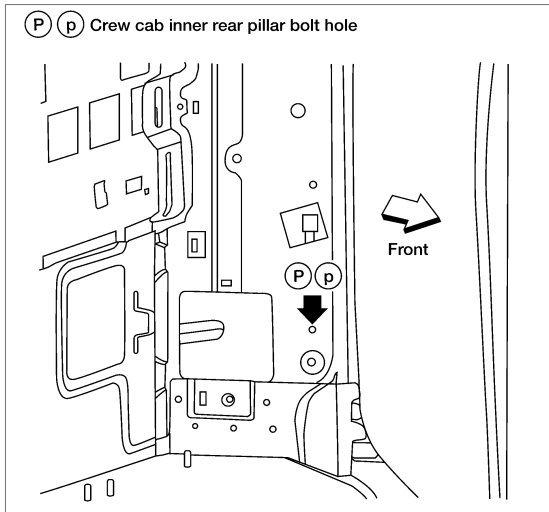
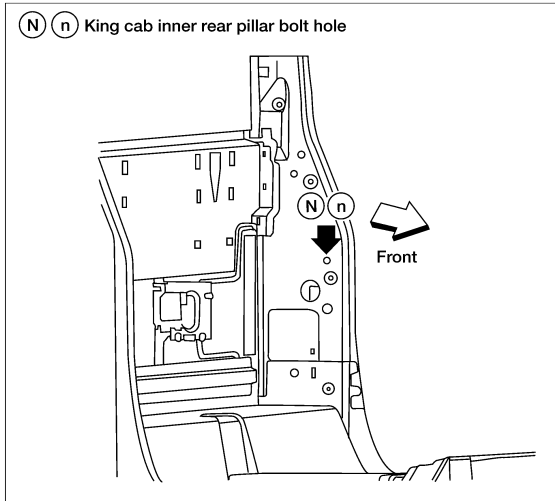
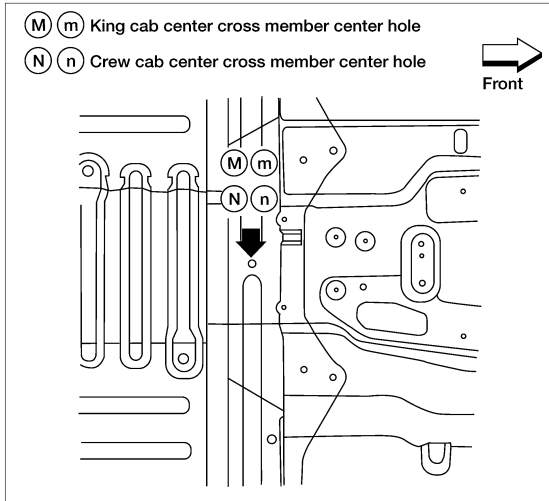
< ON-VEHICLE REPAIR >



LHA2091E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >



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REAR BODY

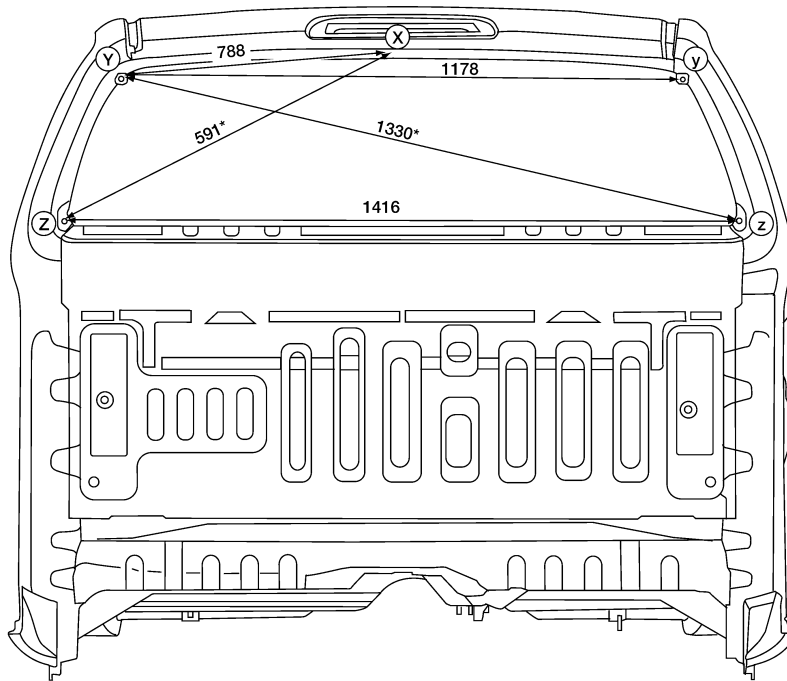
LIA2092E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement

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



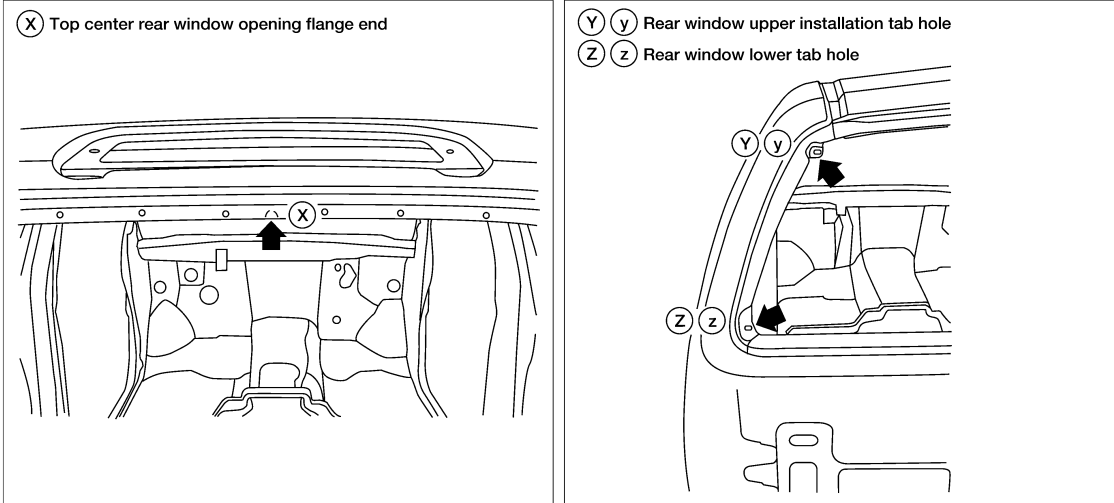
Unit: mm

LIA2093E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement Points



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PICKUP BED
Measurements

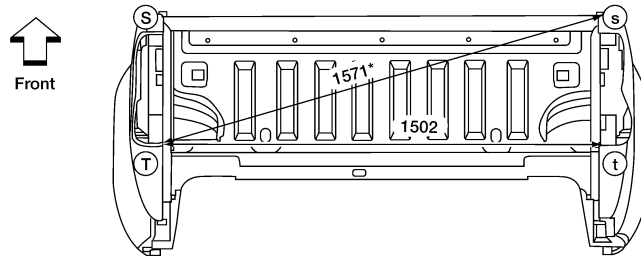
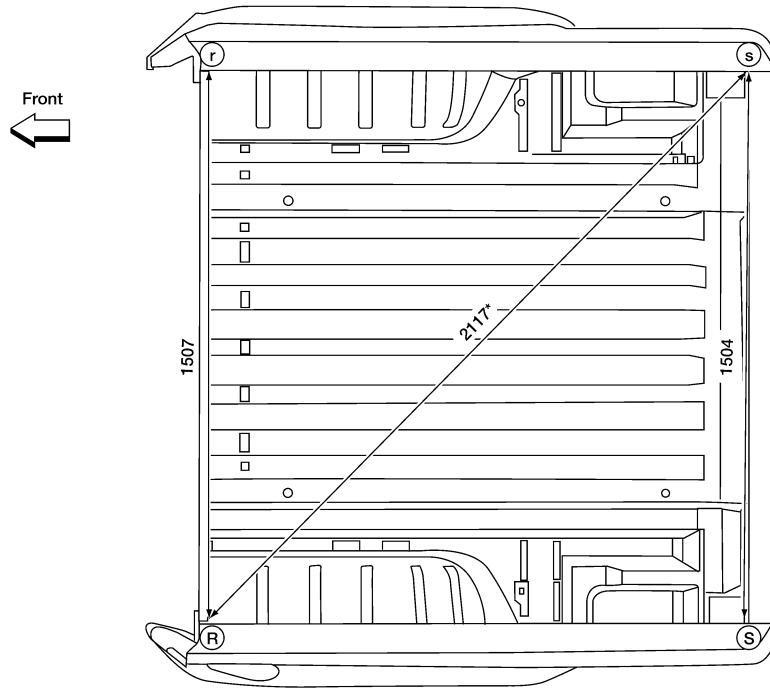
LIA2094E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Crew Cab

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



Unit: mm

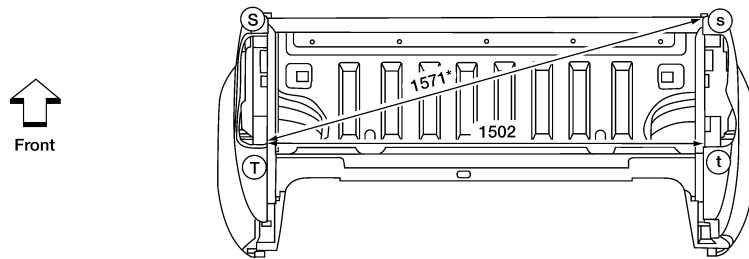
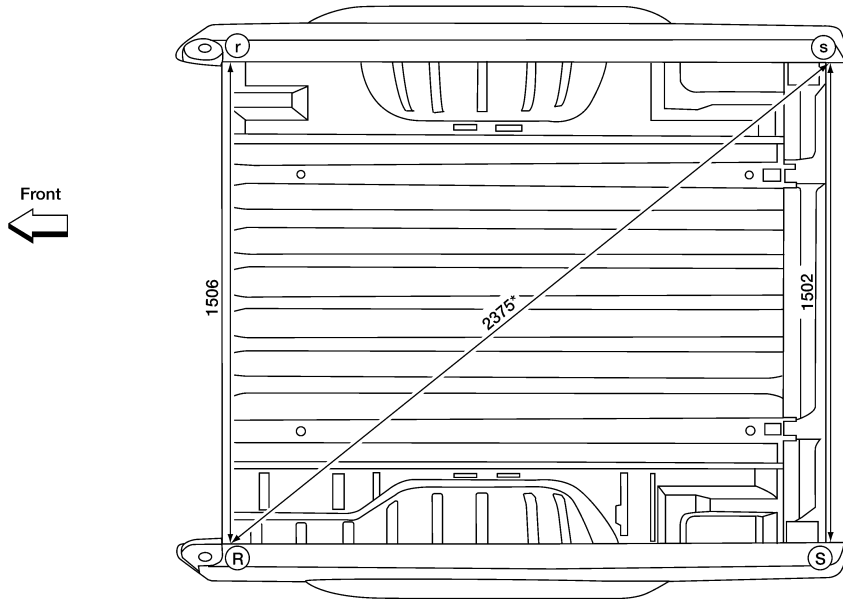
LIA2095E

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

King Cab

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



Unit: mm

LIA2096E

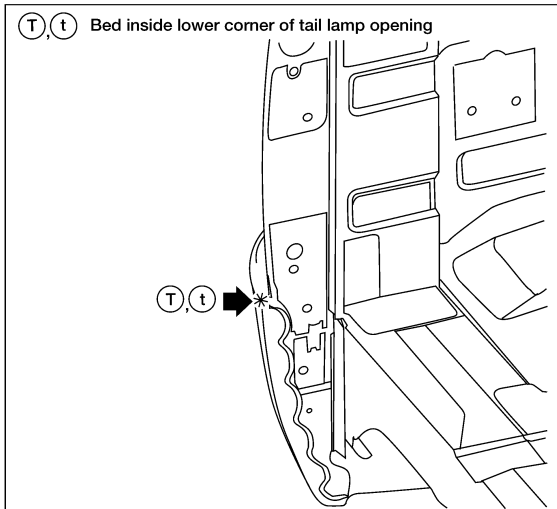
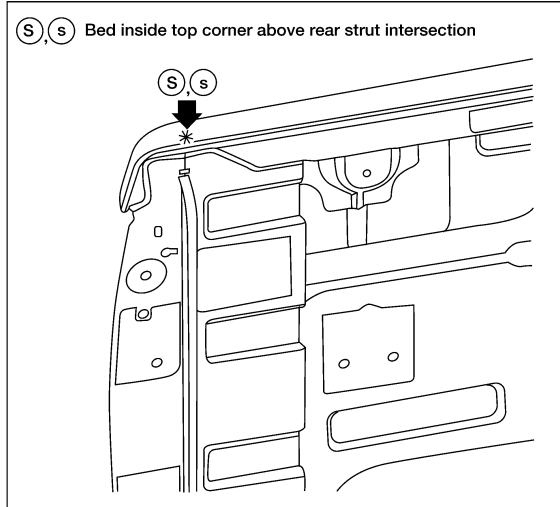
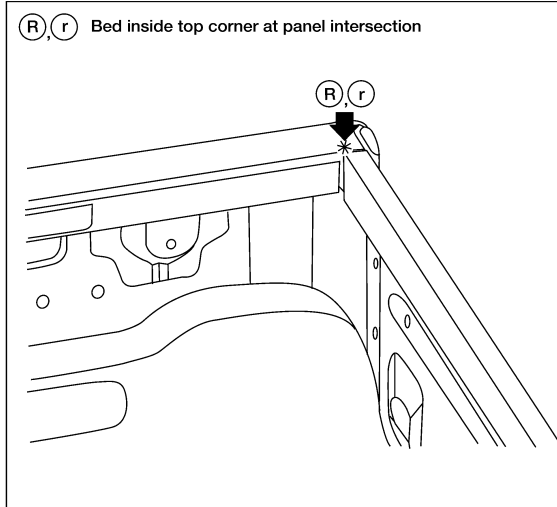
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BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Measurement points



LIA2097E

INFOID:000000003301713

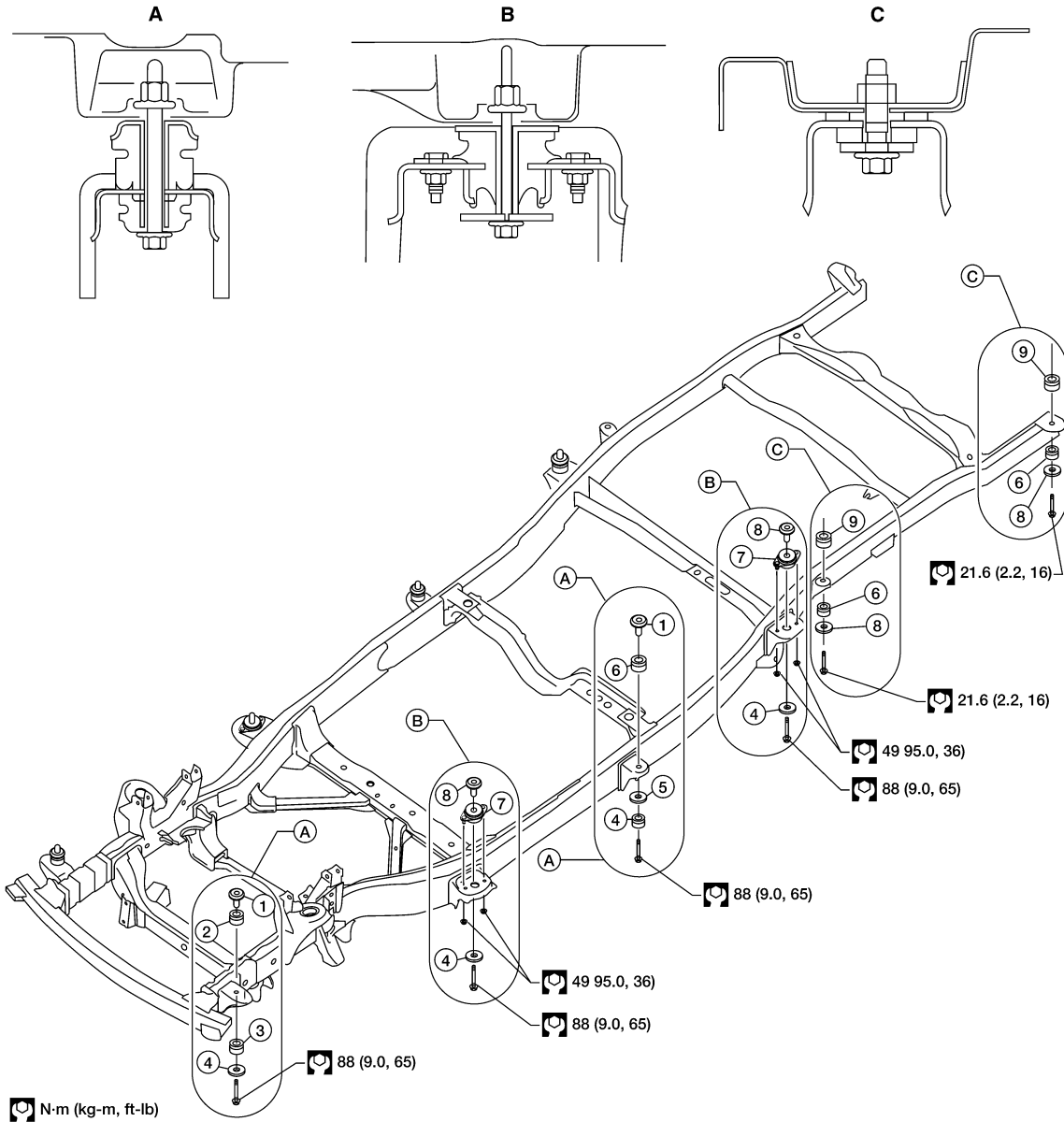
Body Mounting

- When removing, be sure to replace bolts and nuts (sealant applied bolts or self-lock nuts are used for all positions).
- Unless otherwise noted, the bushings and insulators have paint marks that are to be installed facing outward.

BODY ALIGNMENT

< ON-VEHICLE REPAIR >

Crew Cab



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|-------------------------|------------------|-------------------------------------|
| 1. Gold washer | 2. Upper bushing | 3. Lower bushing |
| 4. Black washer | 5. Washer | 6. Upper bushing without paint mark |
| 7. Body mount insulator | 8. Body washer | 9. Shim |

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REPAIRING HIGH STRENGTH STEEL

< ON-VEHICLE REPAIR >

REPAIRING HIGH STRENGTH STEEL

Precaution in Repairing High Strength Steel

INFOID:000000003301714

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:

HIGH STRENGTH STEEL (HSS) USED IN NISSAN VEHICLES

Tensile strength	NISSAN/INFINITI designation	Major applicable parts
373 N/mm ² (38kg/mm ² ,54klb/sq in)	SP130	<ul style="list-style-type: none"> • Front inner pillar upper • Front pillar hinge brace • Outer front pillar reinforcement • Other reinforcements
785-981N/mm ² (80-100kg/mm ² 114-142klb/sq in)	SP150	<ul style="list-style-type: none"> • Outer sill reinforcement • Main back pillar

SP130 is the most commonly used HSS.

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

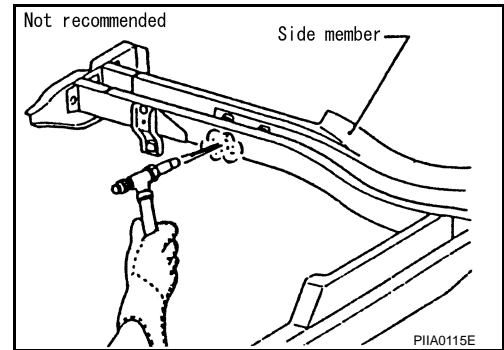
Read the following precautions when repairing HSS:

1. Additional points to consider

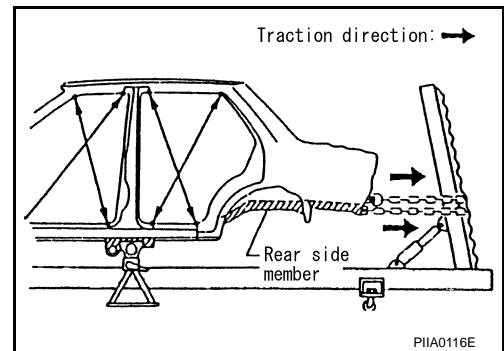
- The repair of reinforcements (such as side members) by heating is not recommended since it may weaken the component. When heating is unavoidable, do not heat HSS parts above 550°C (1,022°F).

Verify heating temperature with a thermometer.

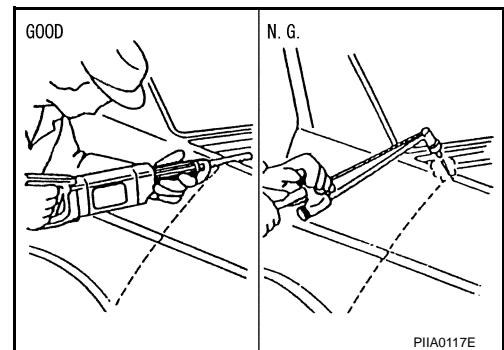
(Crayon-type and other similar type thermometer are appropriate.)



- 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).

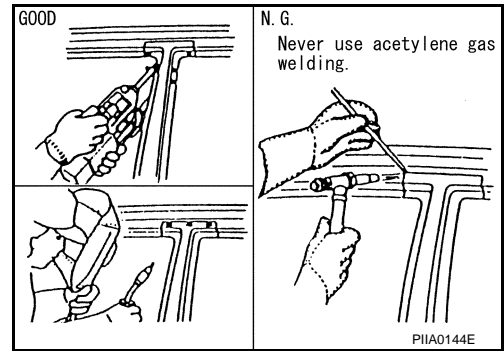


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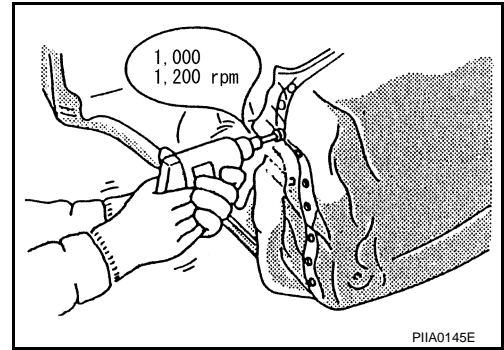
REPAIRING HIGH STRENGTH STEEL

< ON-VEHICLE REPAIR >

- 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 M.I.G. welding. Do not use gas (torch) welding because it is inferior in welding strength.



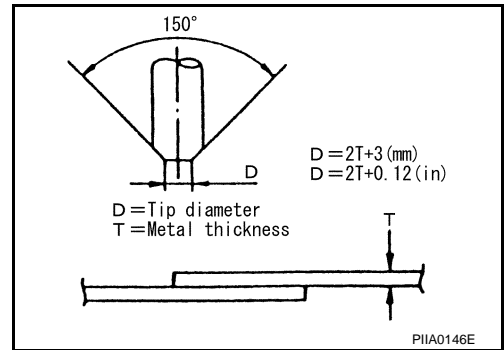
- The spot weld on HSS panels is harder than that of an ordinary steel panel. Therefore, when cutting spot welds on a HSS panel, use a low speed high torque drill (1,000 to 1,200 rpm) to increase drill bit durability and facilitate the operation.
- SP150 HSS panels with a tensile strength of 785 to 981 N/mm² (80 to 100 kg/mm², 114 to 142 klb/sq in), used as reinforcement in the door guard beams, is too strong to repair. When these HSS parts are damaged, the outer panels also sustain substantial damage; therefore, the assembly parts must be replaced.



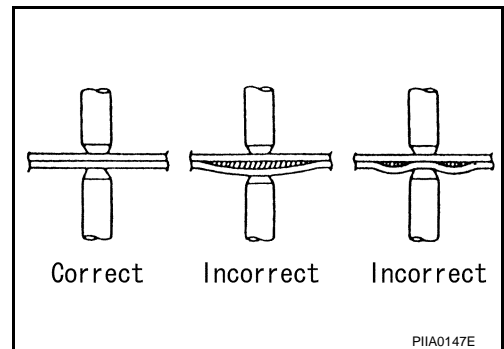
2. Precautions in spot welding HSS

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.



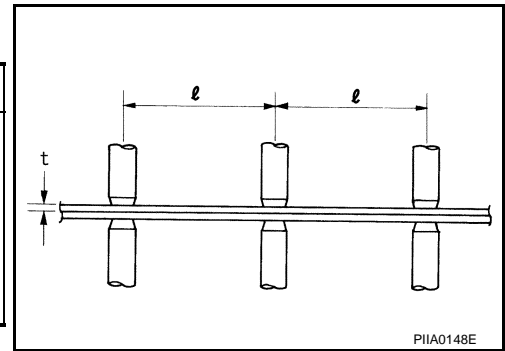
REPAIRING HIGH STRENGTH STEEL

< ON-VEHICLE REPAIR >

- 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



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REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

REPLACEMENT OPERATIONS

Replacement Operation

INFOID:000000003301721

DESCRIPTION

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.


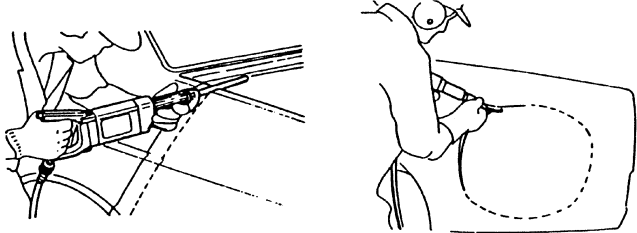



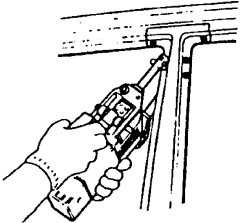

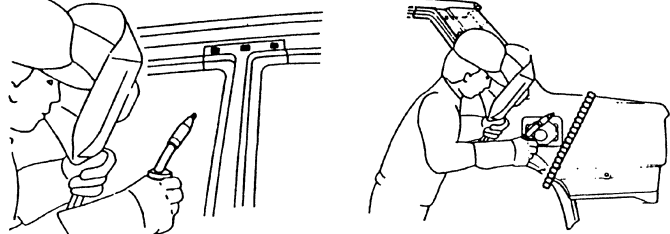
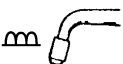

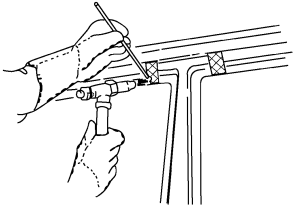

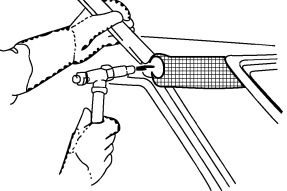
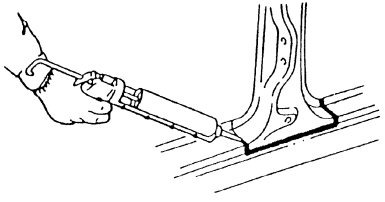
Technicians are also encouraged to read Body Repair Manual (Fundamentals) in order to ensure that the original functions and quality of the vehicle can be maintained. The Body Repair Manual (Fundamentals) contains additional information, including cautions and warnings, that are not including in this manual. Technicians should refer to both manuals to ensure proper repairs.

Please note that this information is prepared for worldwide usage, and as such, certain procedures may not apply in some regions or countries.

The symbols used in this section for cutting and welding / brazing operations are as shown.

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

 <p>Saw cut or air chisel cut</p>	
<p>Spot weld</p> <p>●●●● 2-spot welds</p>  <p>●●●●● 3-spot welds</p> 	<p>2-spot welds (2-panel overlapping portions)</p>  <p>3-spot welds (3-panel overlapping portions)</p> 
<p>■ ■ ■ ■</p> <p>MIG plug weld</p> 	
<p>⌒ ⌒ ⌒</p> <p>MIG seam weld/ Point weld</p> 	
<p>▨ ▨ ▨</p> <p>Brazing</p> 	
<p>▧ ▧ ▧</p> <p>Soldering</p> 	
<p>—</p> <p>Sealing</p>	

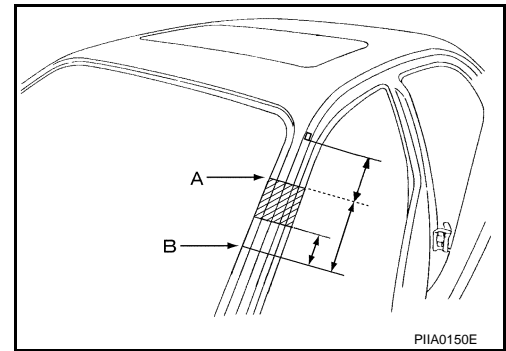
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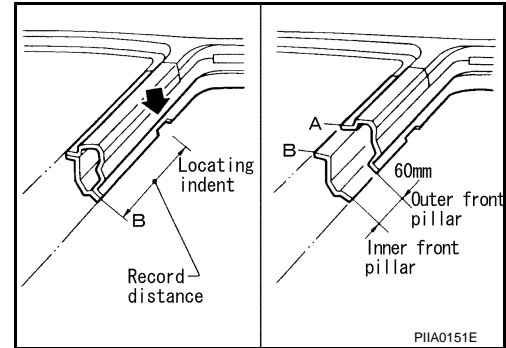
REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

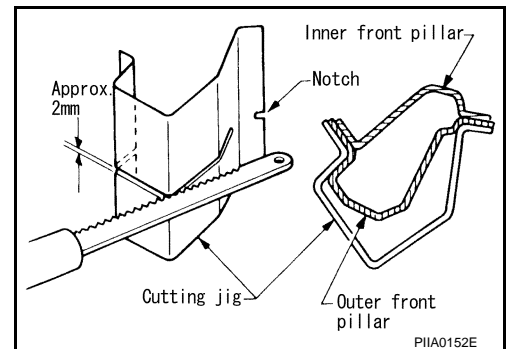
- Front pillar butt joint can be determined anywhere within shaded area as shown in the figure. The best location for the butt joint is at position A due to the construction of the vehicle. Refer to the front pillar section.



- 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 above inner front pillar cut position.

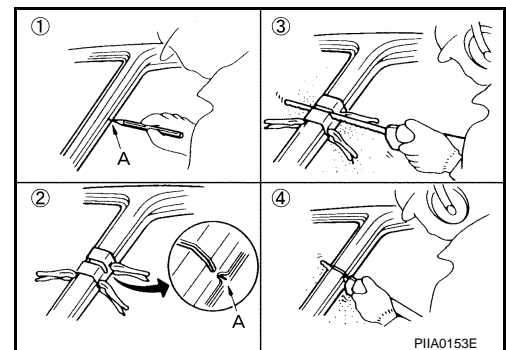


- Prepare a cutting jig to make outer pillar easier to cut. Also, this will permit service part to be accurately cut at joint position.



- 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.



HOODLEDGE

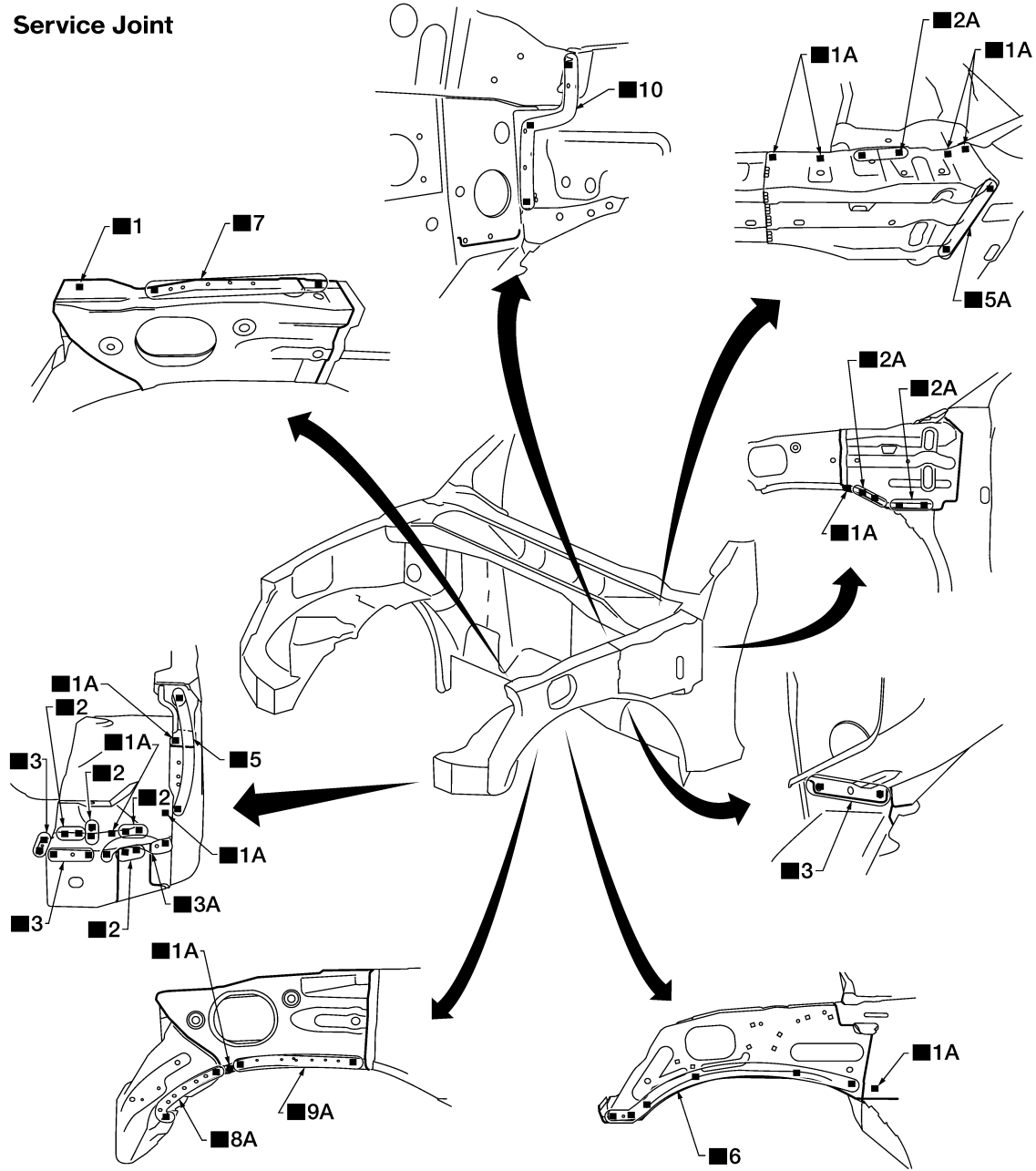
LH Side

REPLACEMENT OPERATIONS

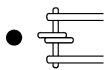
< ON-VEHICLE REPAIR >

- Work after radiator core support has been removed.

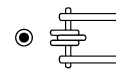
Service Joint



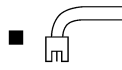
2-spot welds



3-spot welds



MIG Plug weld



(For 3 panels plug weld method)



MIG seam weld/
Point weld



RH Side

LIA2098E

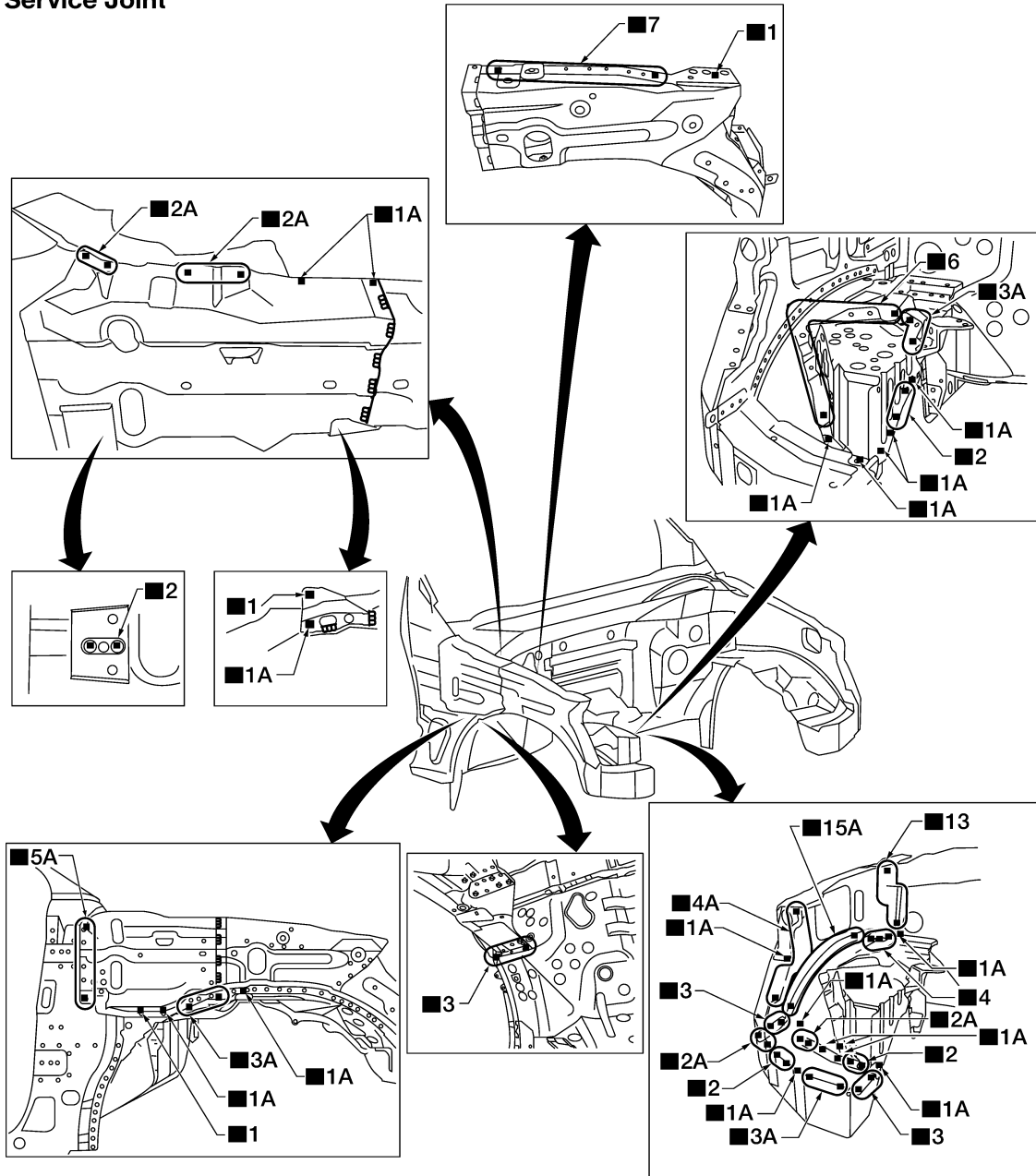
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REPLACEMENT OPERATIONS

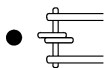
< ON-VEHICLE REPAIR >

- Work after radiator core support has been removed.

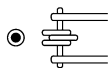
Service Joint



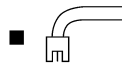
2-spot welds



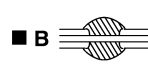
3-spot welds



MIG Plug weld



(For 3 panels plug weld method)



MIG seam weld/
Point weld



LIA2099E

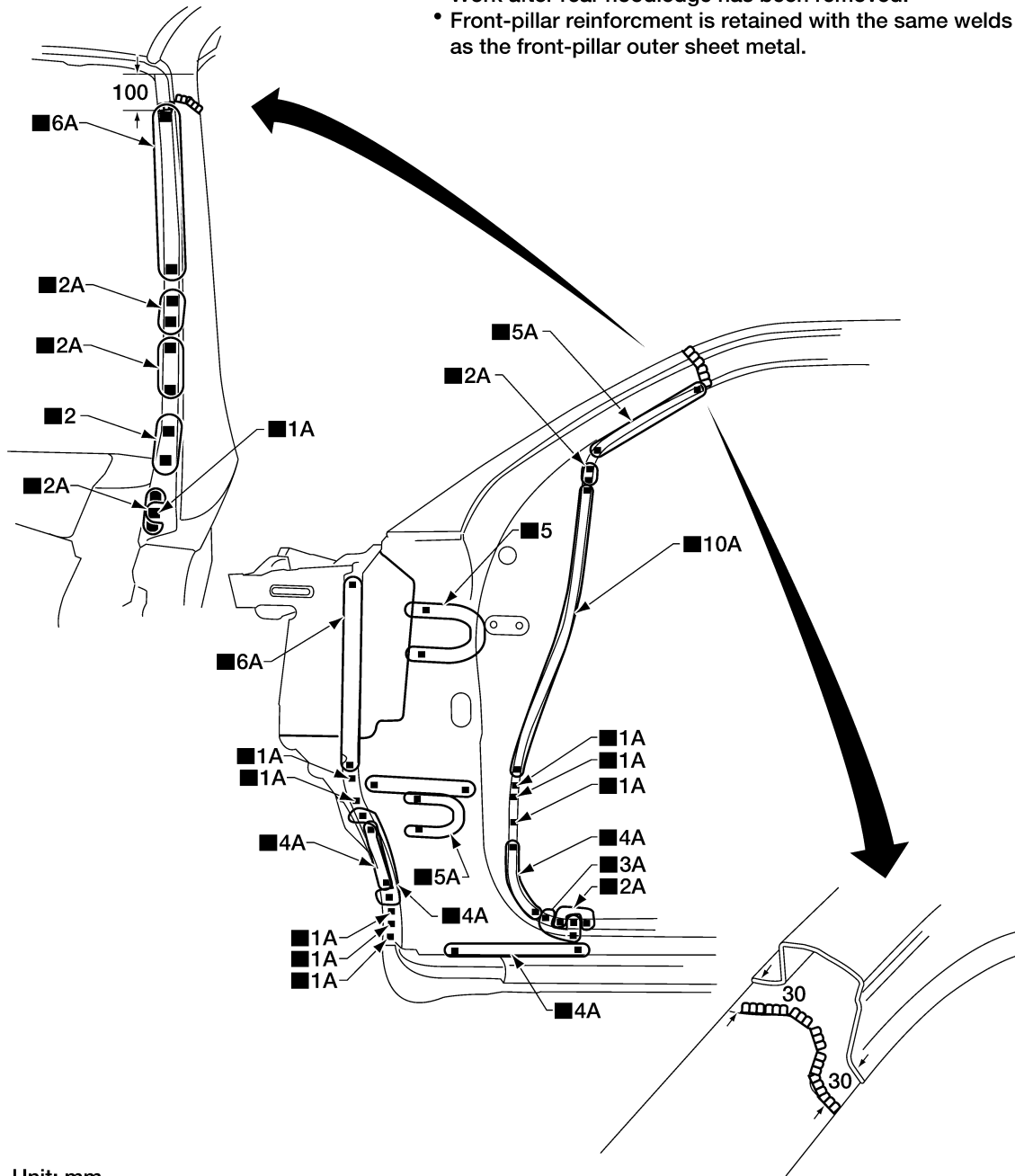
REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

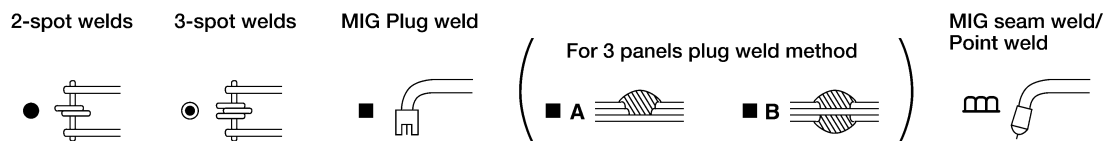
FRONT PILLAR

Service Joint

- Work after rear hoodledge has been removed.
- Front-pillar reinforcement is retained with the same welds as the front-pillar outer sheet metal.



Unit: mm



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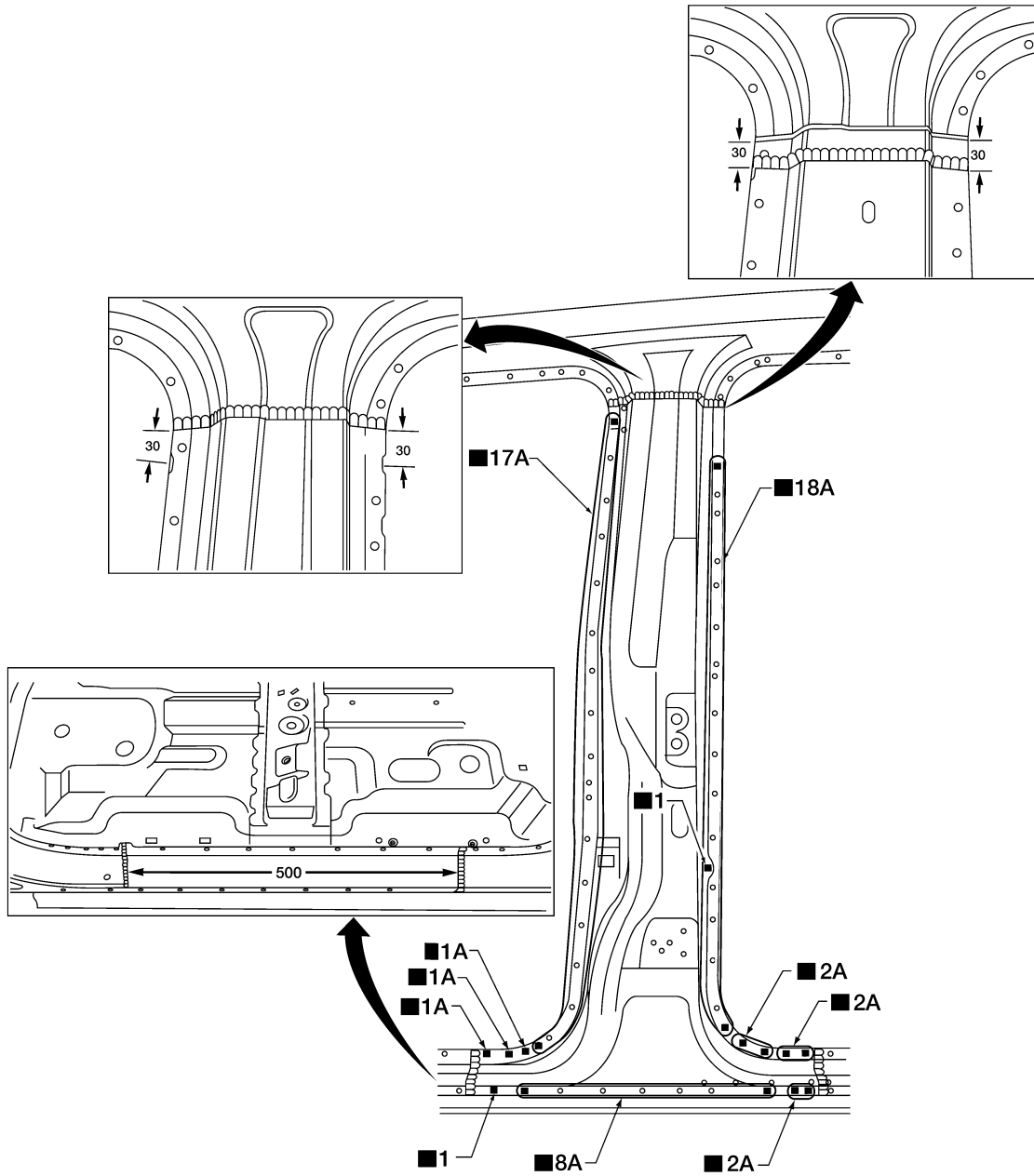
BRM

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

CENTER PILLAR (CREW CAB ONLY)

Service Joint

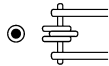


Unit: mm

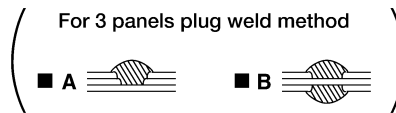
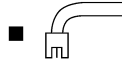
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



LIA2042E

OUTER SILL

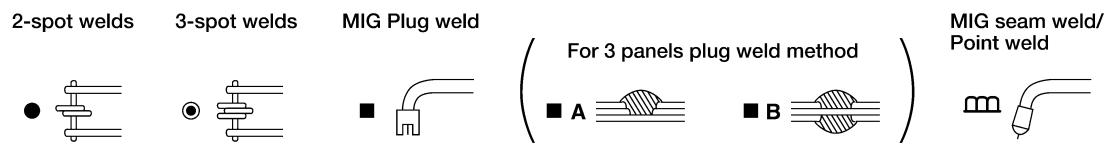
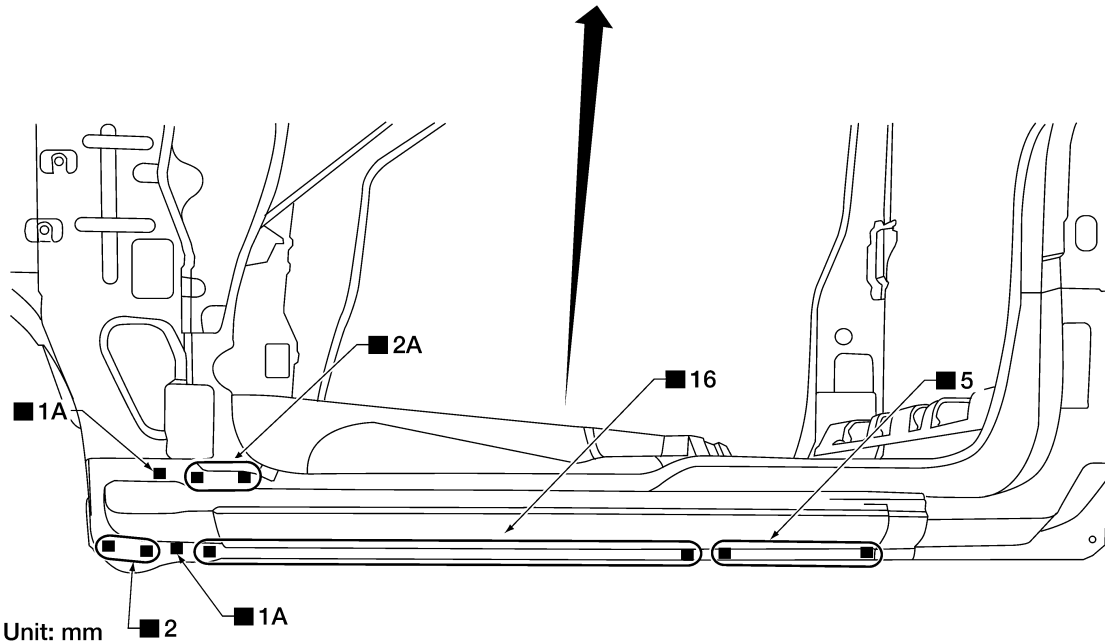
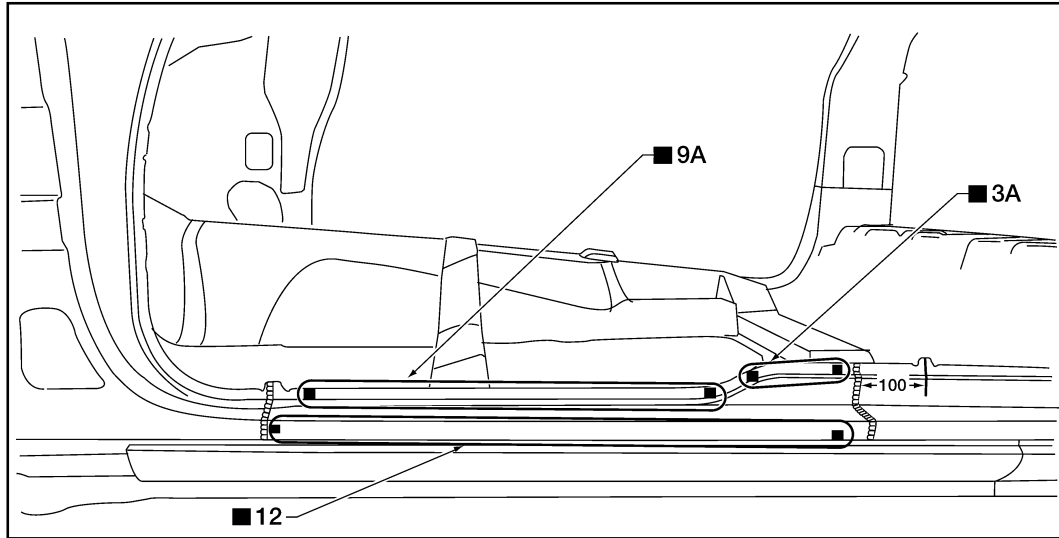
King Cab

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

Work with front pillar outer, front pillar reinforcement, and rear pillar outer removed.

Service Joint



LIA2007E

Crew Cab

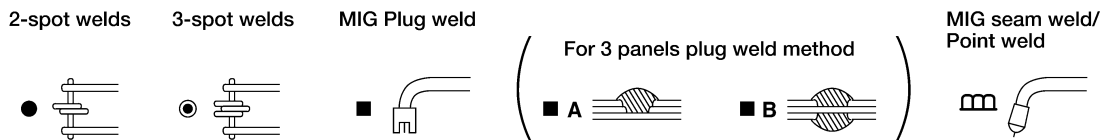
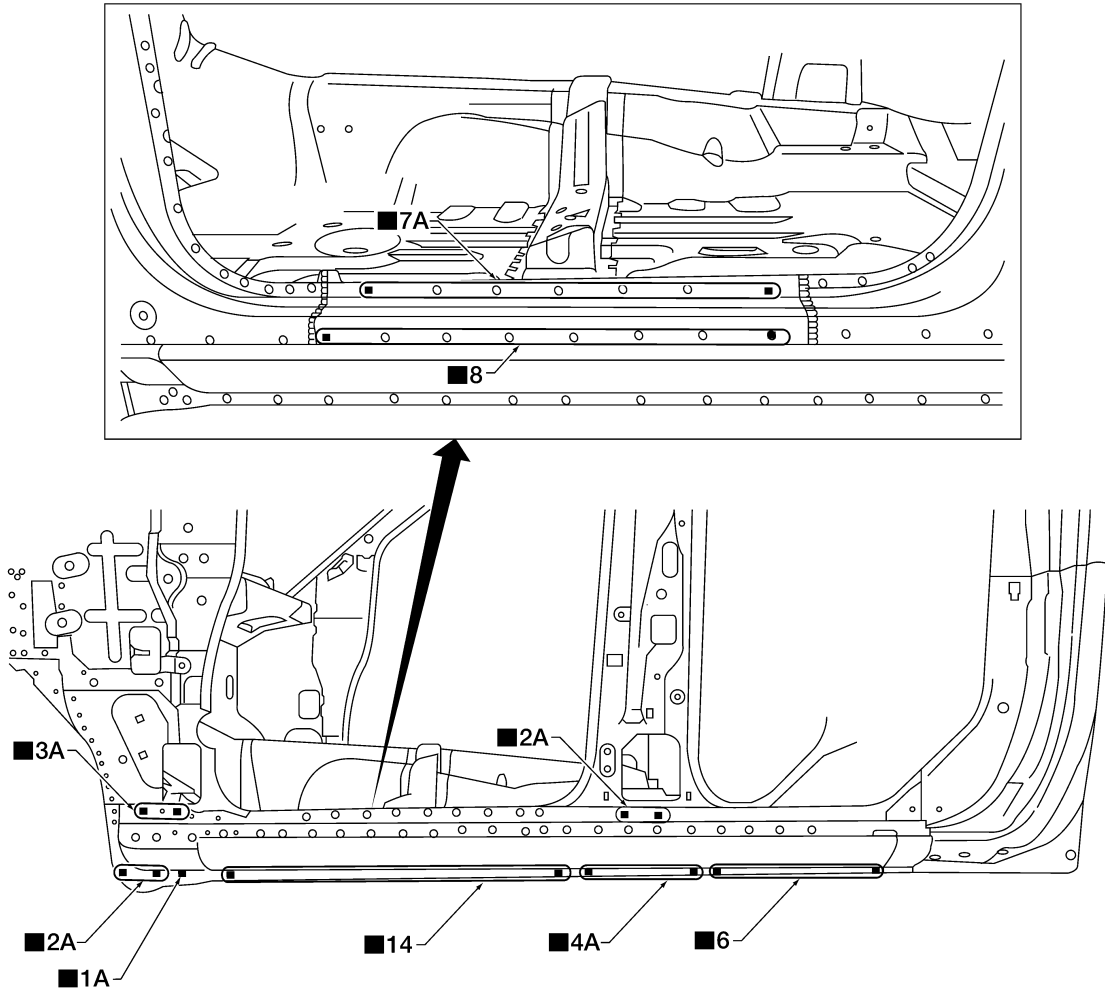
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REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

Work with front pillar outer, front pillar reinforcement, center pillar outer, center pillar reinforcement, and rear pillar outer removed.

Service Joint



L1IA2040E

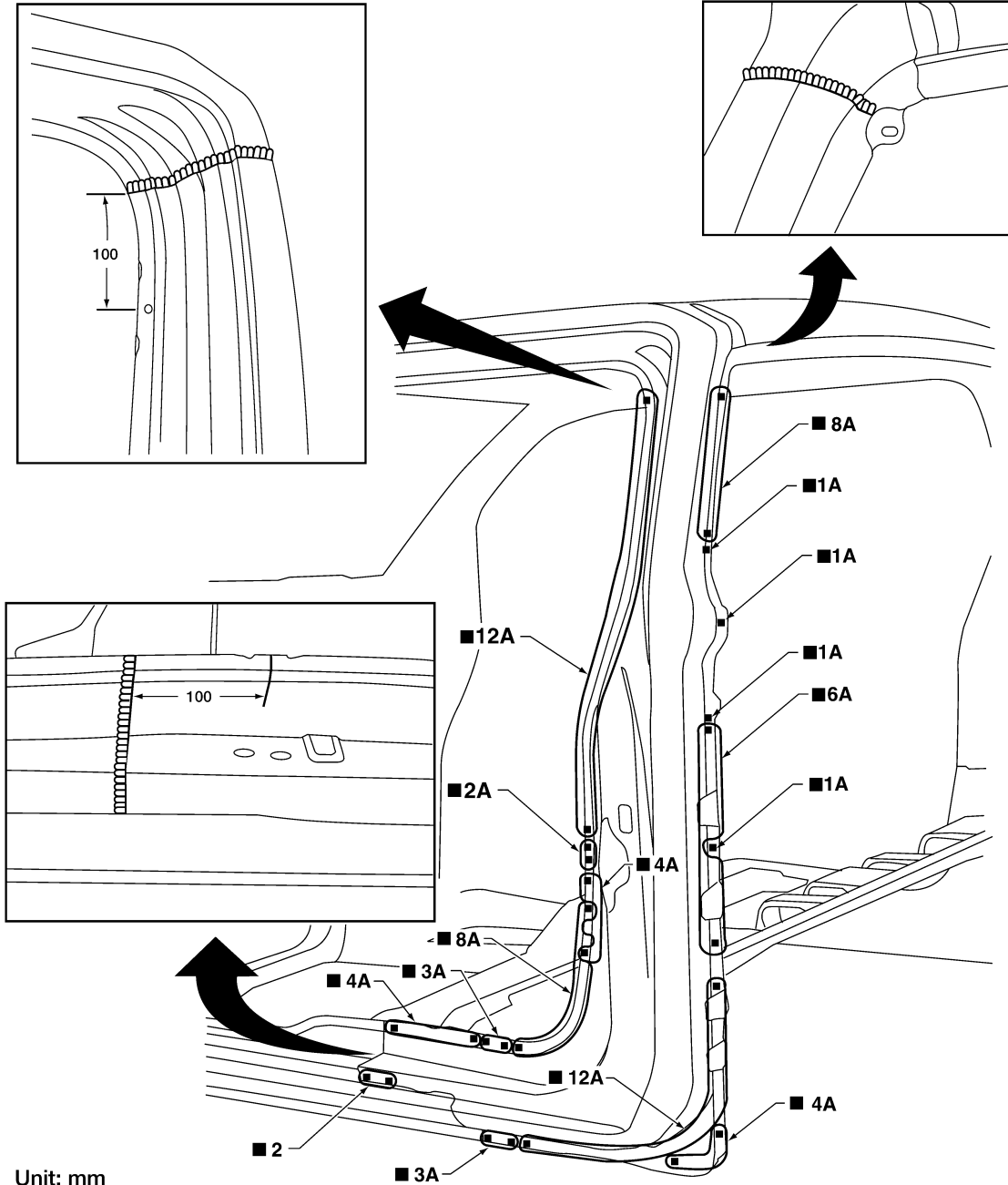
REAR CAB PILLAR

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

King Cab

Service Joint



Unit: mm

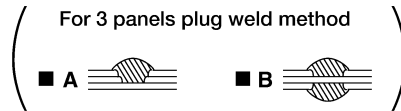
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



LIA2008E

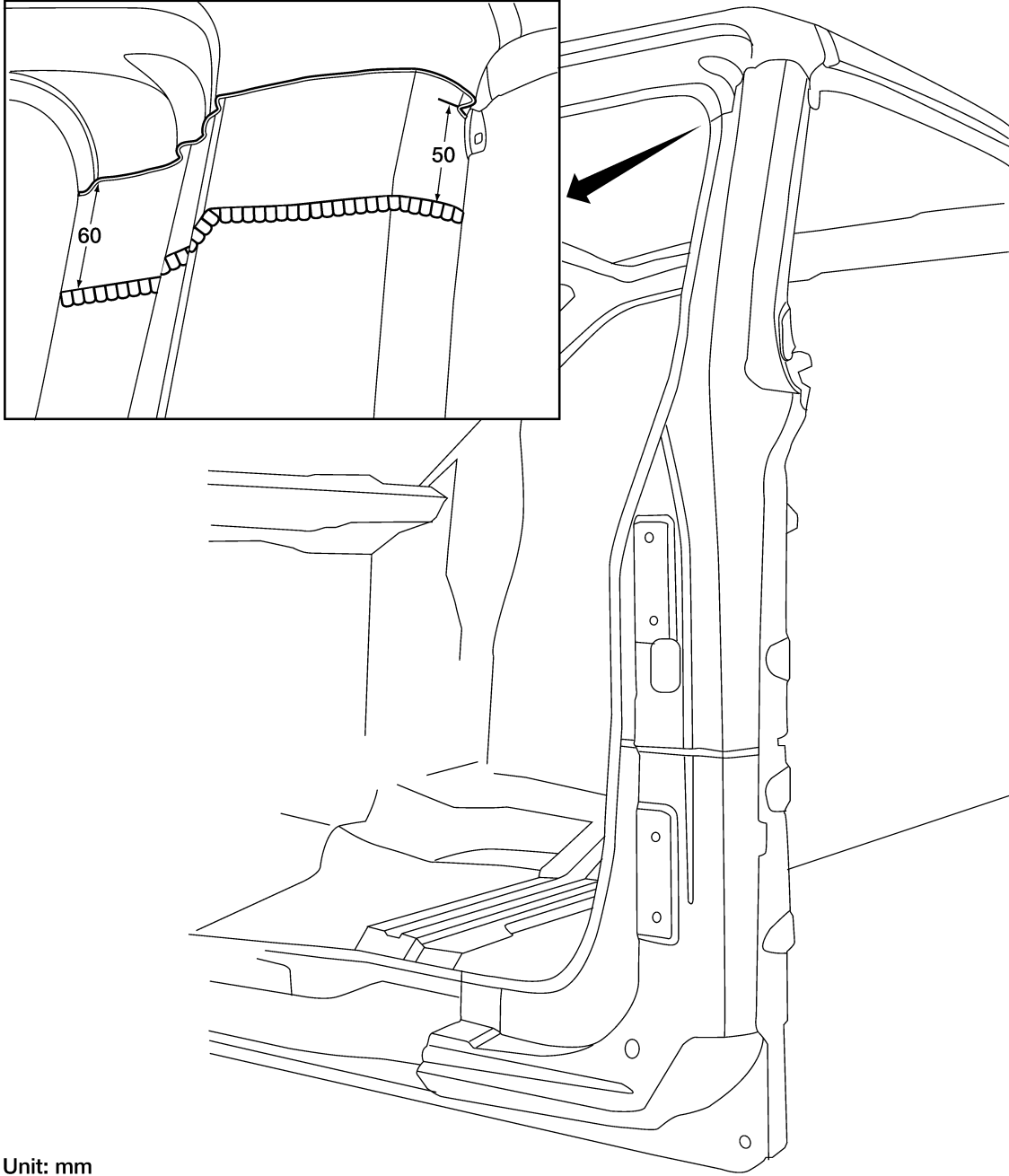
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REPLACEMENT OPERATIONS

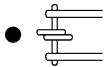
< ON-VEHICLE REPAIR >

Service Joint

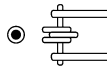


Unit: mm

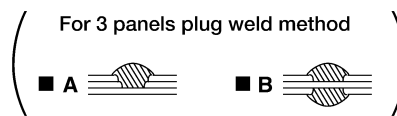
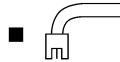
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



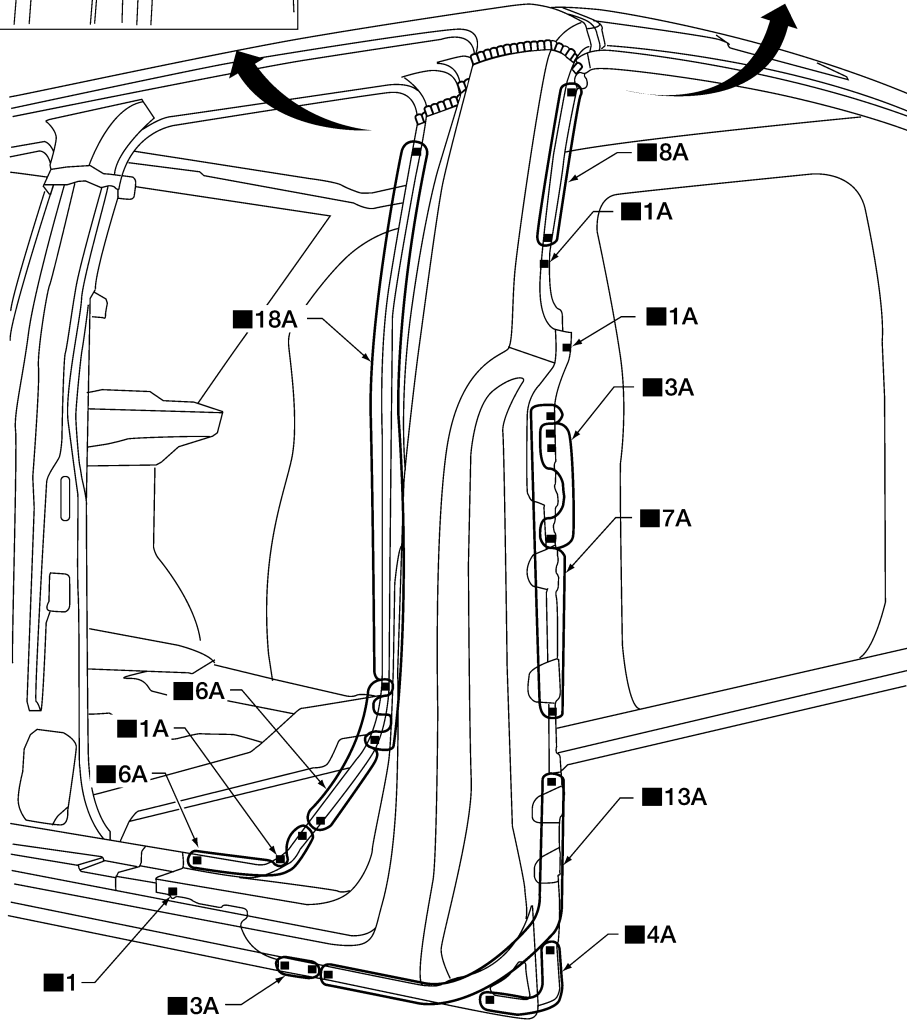
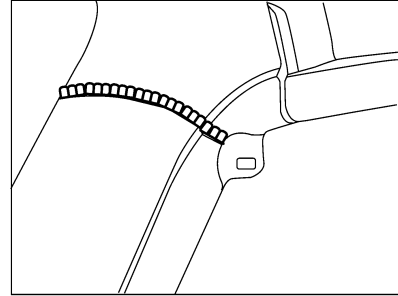
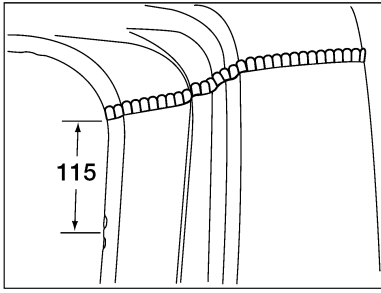
LIA2009E

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

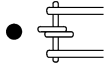
Crew Cab

Service Joint

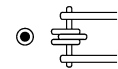


Unit: mm

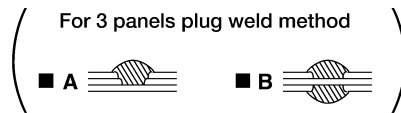
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



LIA2010E

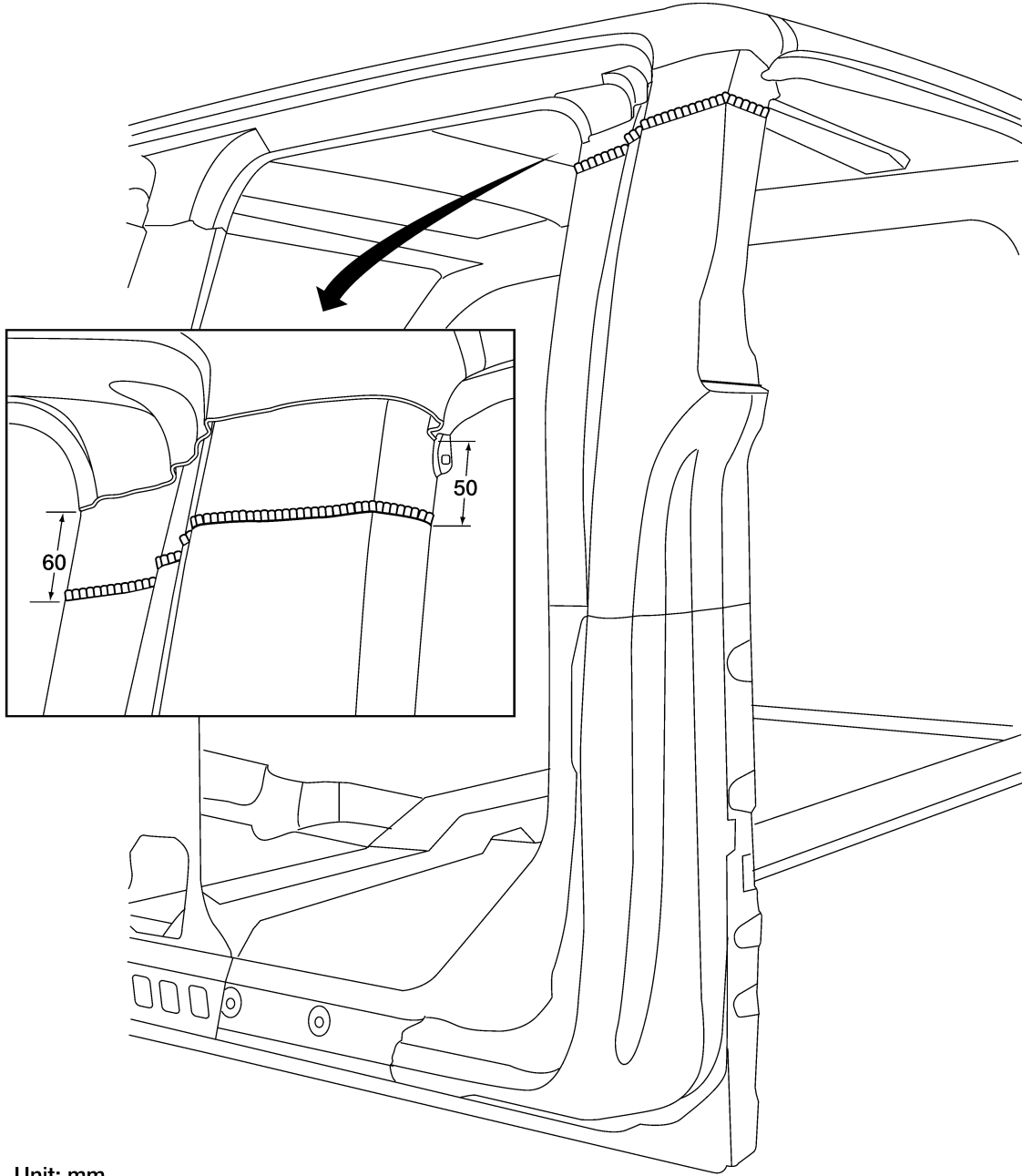
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REPLACEMENT OPERATIONS

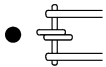
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Service Joint

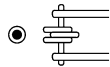


Unit: mm

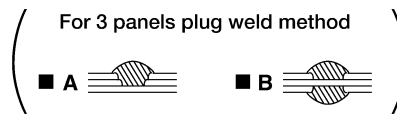
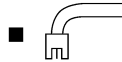
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



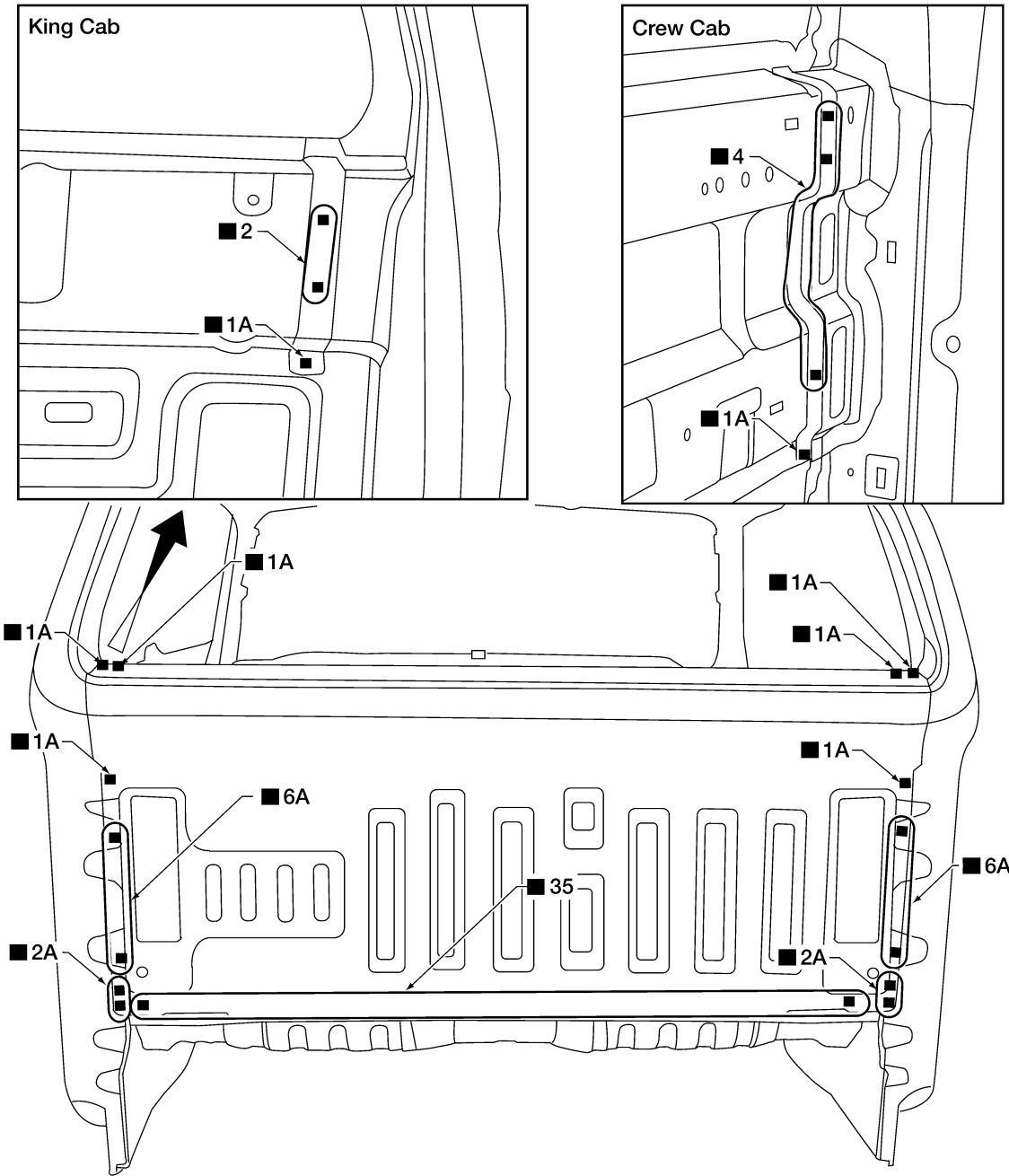
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REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

REAR PANEL

Service Joint



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REAR FLOOR REAR

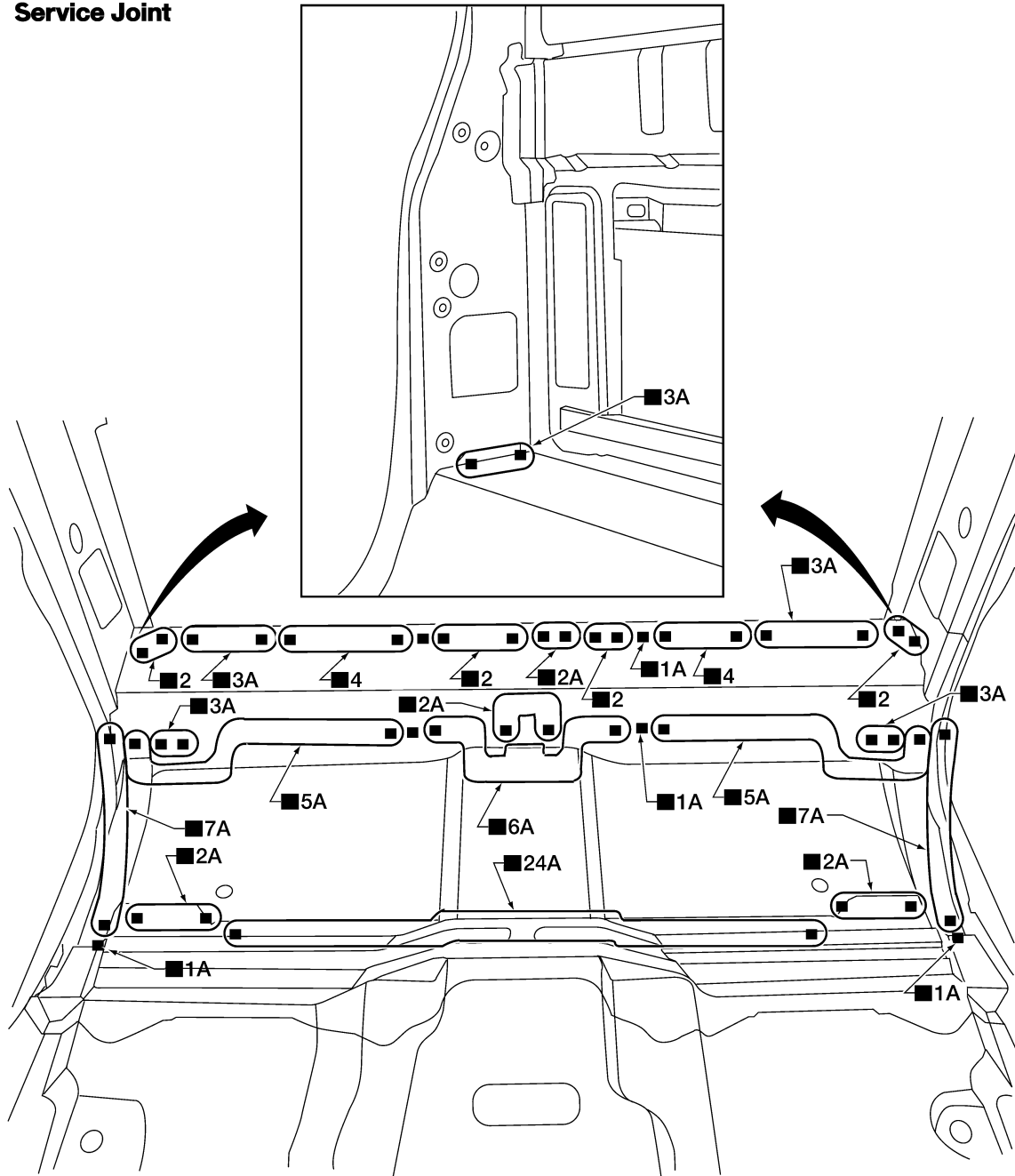
LIA2012E

REPLACEMENT OPERATIONS

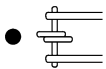
< ON-VEHICLE REPAIR >

King Cab

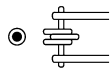
Service Joint



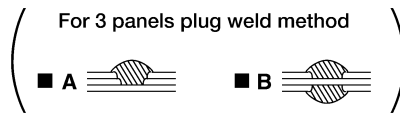
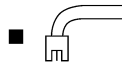
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



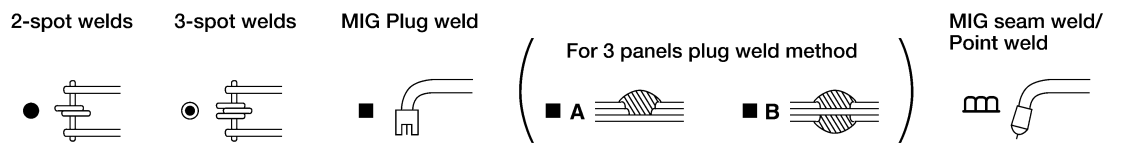
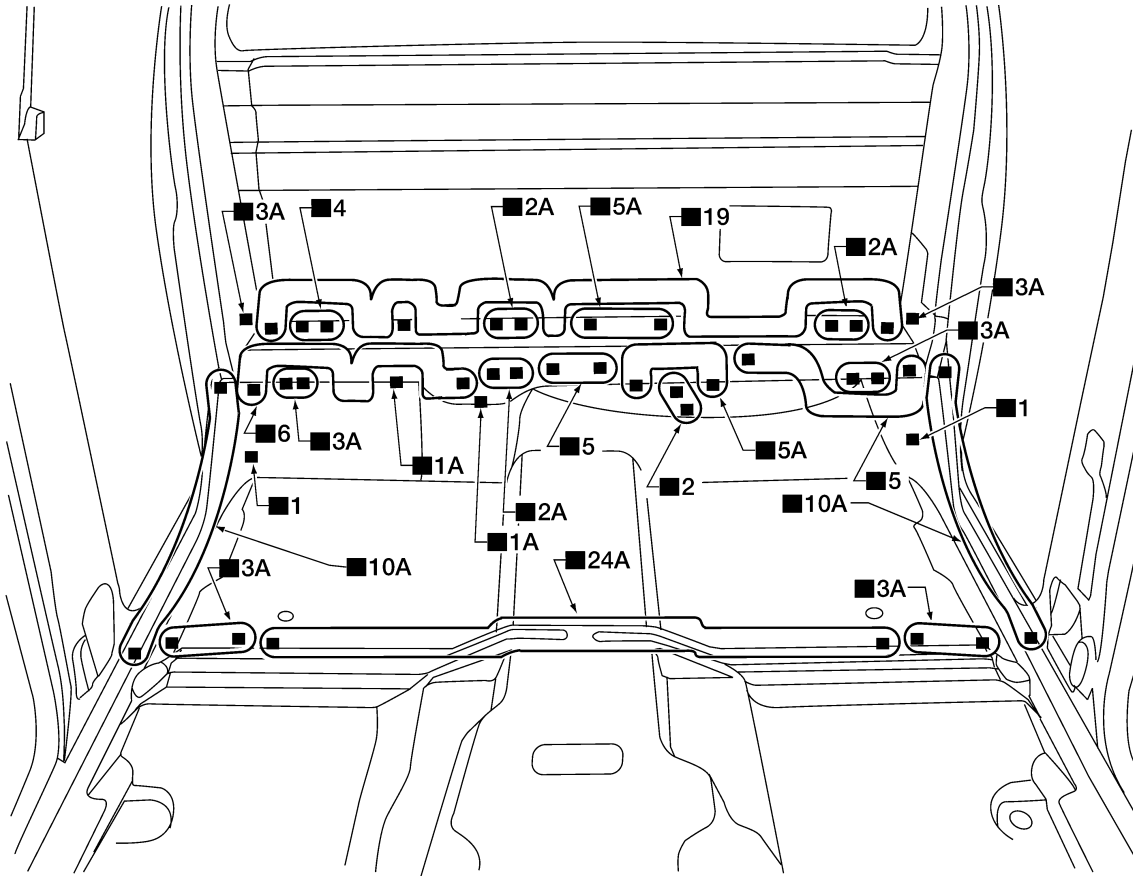
LIA2013E

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

Crew Cab

Service Joint



LIA2014E

PICKUP BED

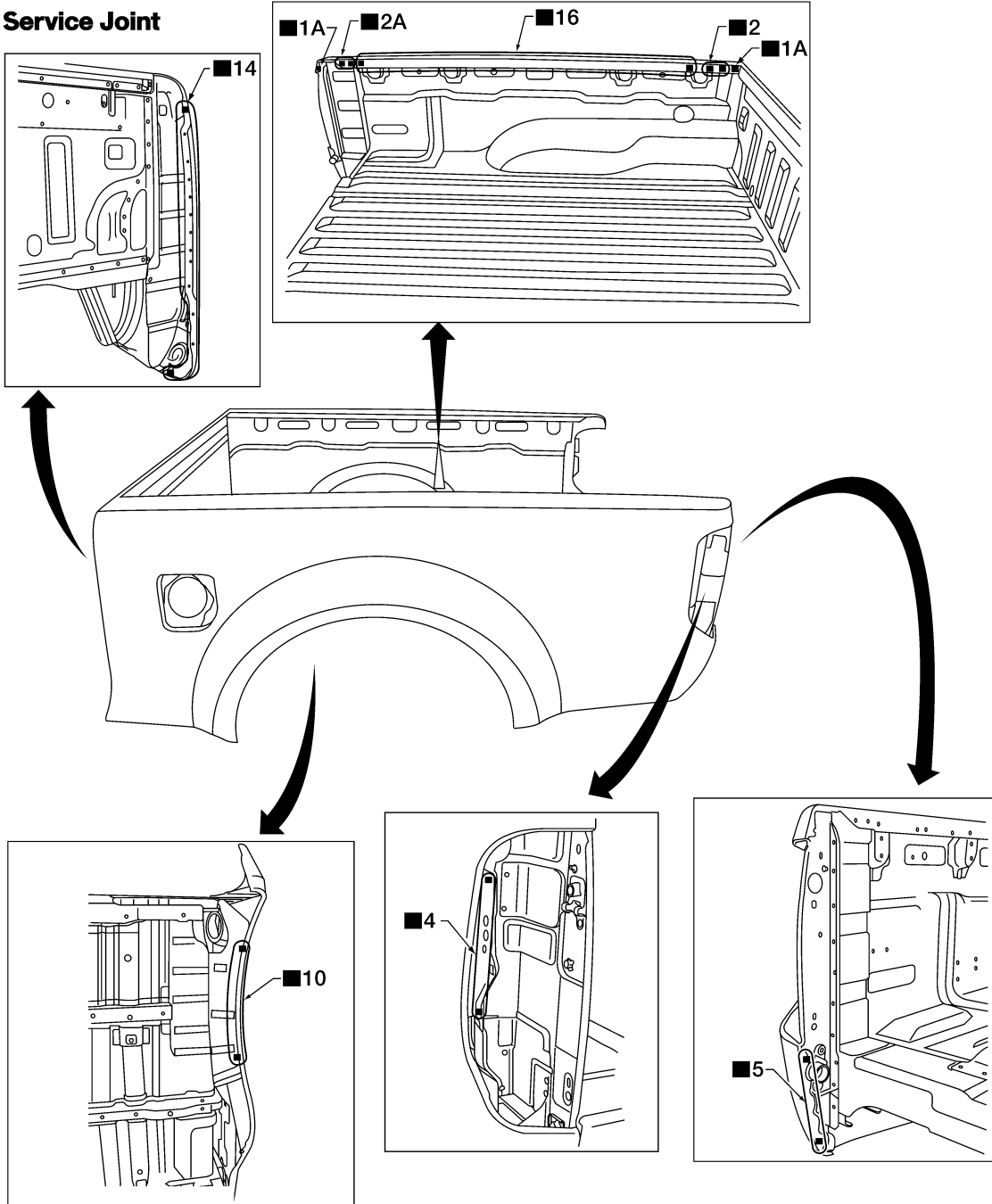
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REPLACEMENT OPERATIONS

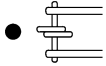
< ON-VEHICLE REPAIR >

King Cab

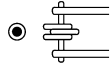
Service Joint



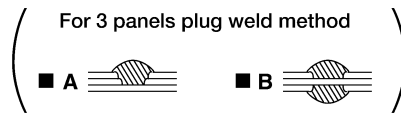
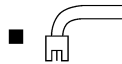
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld

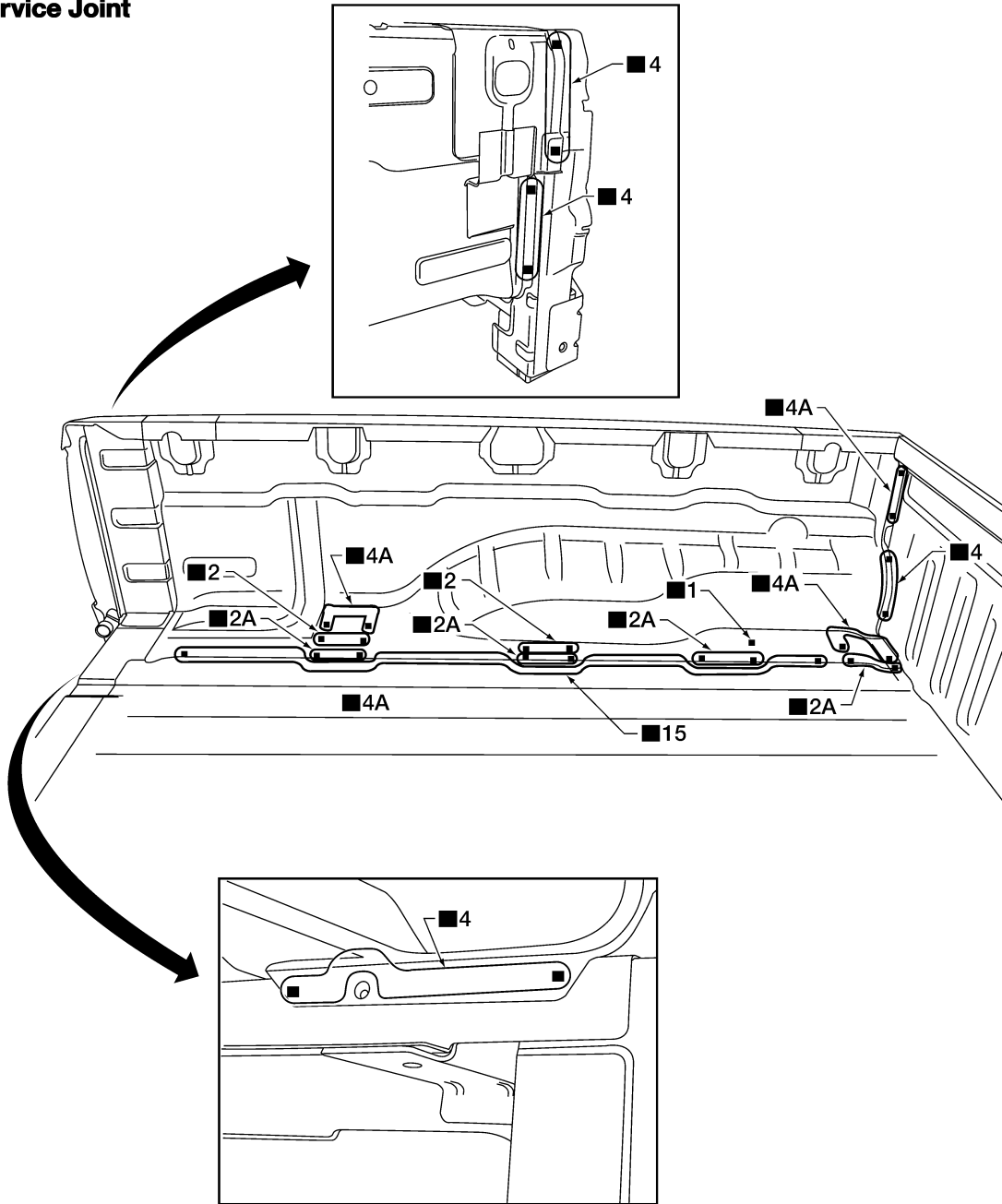


LIA2015E

REPLACEMENT OPERATIONS

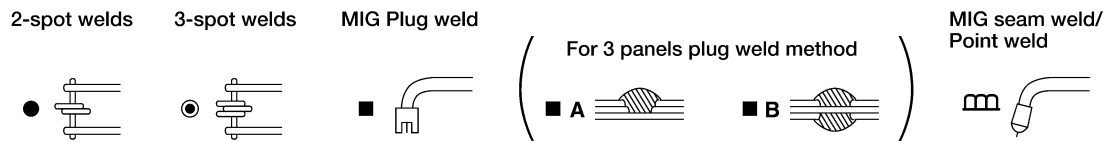
< ON-VEHICLE REPAIR >

Service Joint



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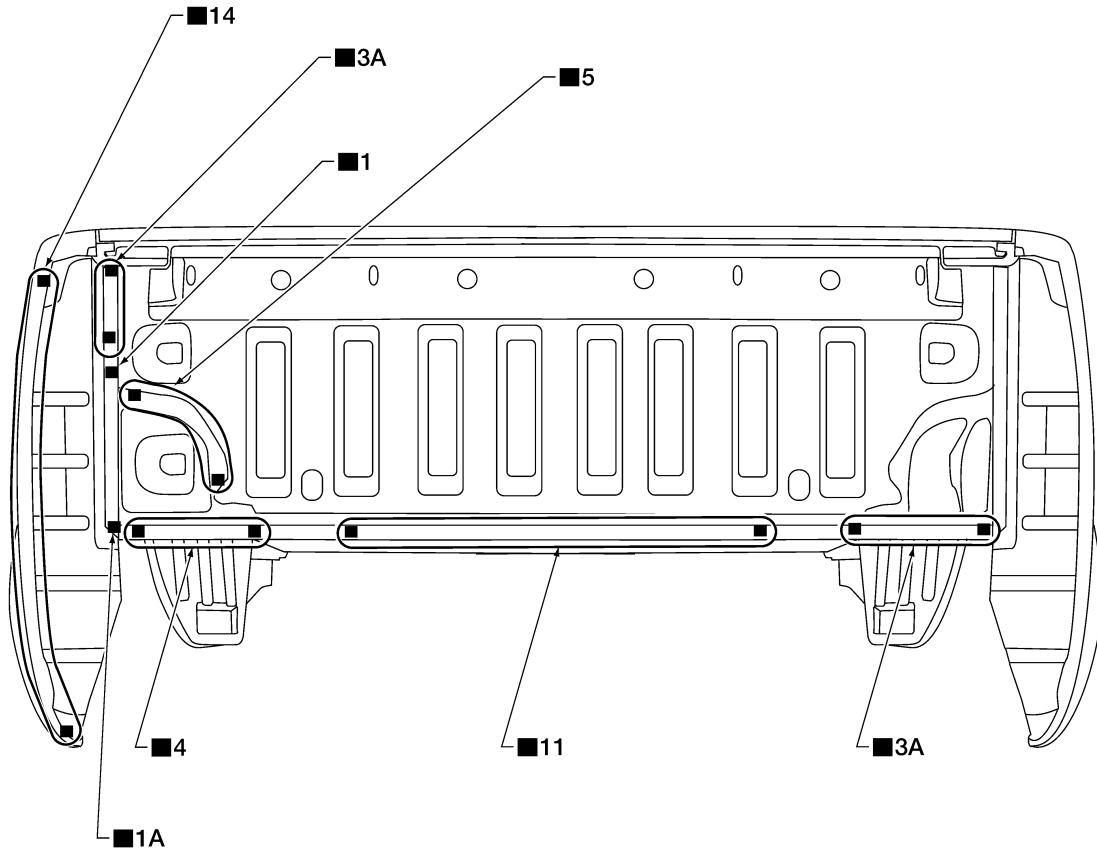


LIA2016E

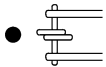
REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

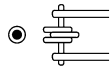
Service Joint



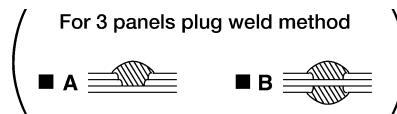
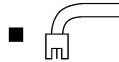
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld

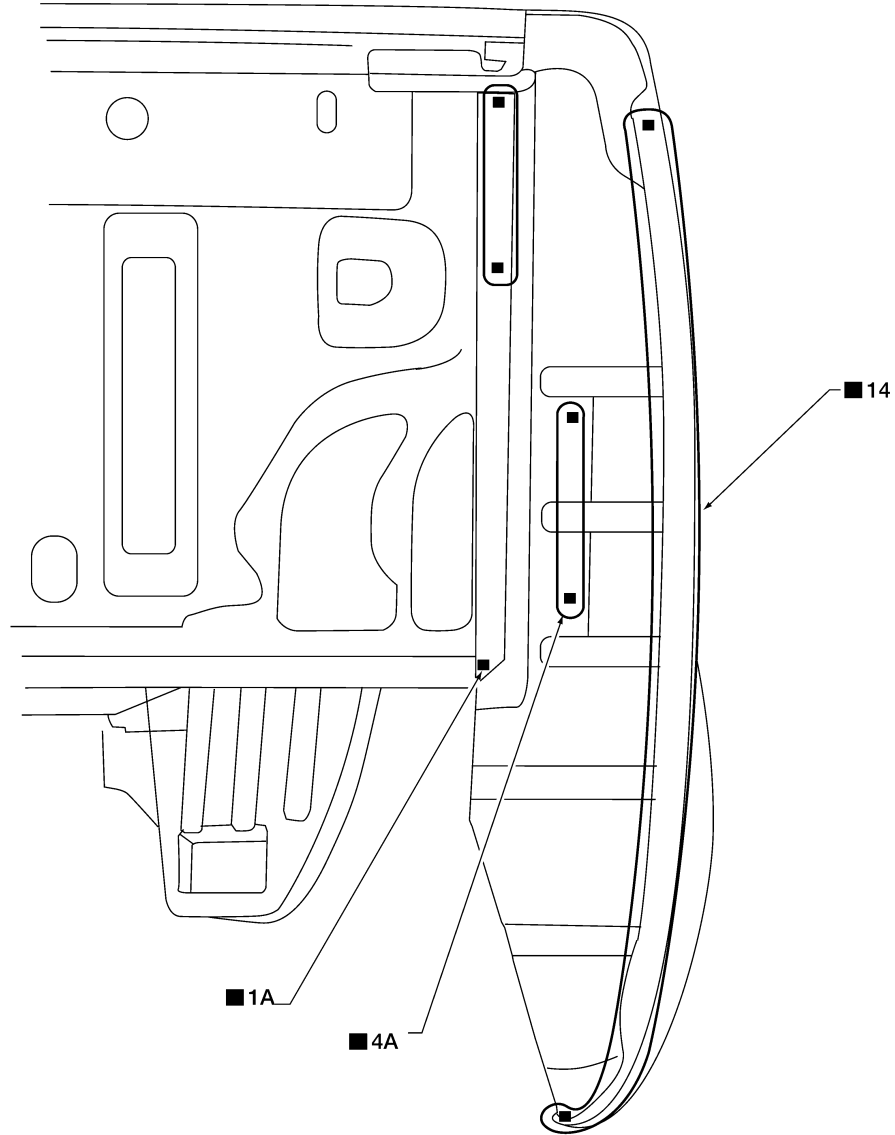


LIA2017E

REPLACEMENT OPERATIONS

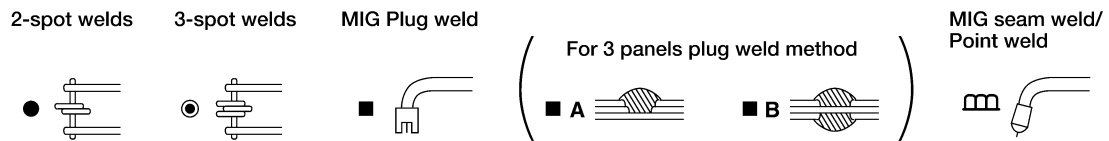
< ON-VEHICLE REPAIR >

Service Joint



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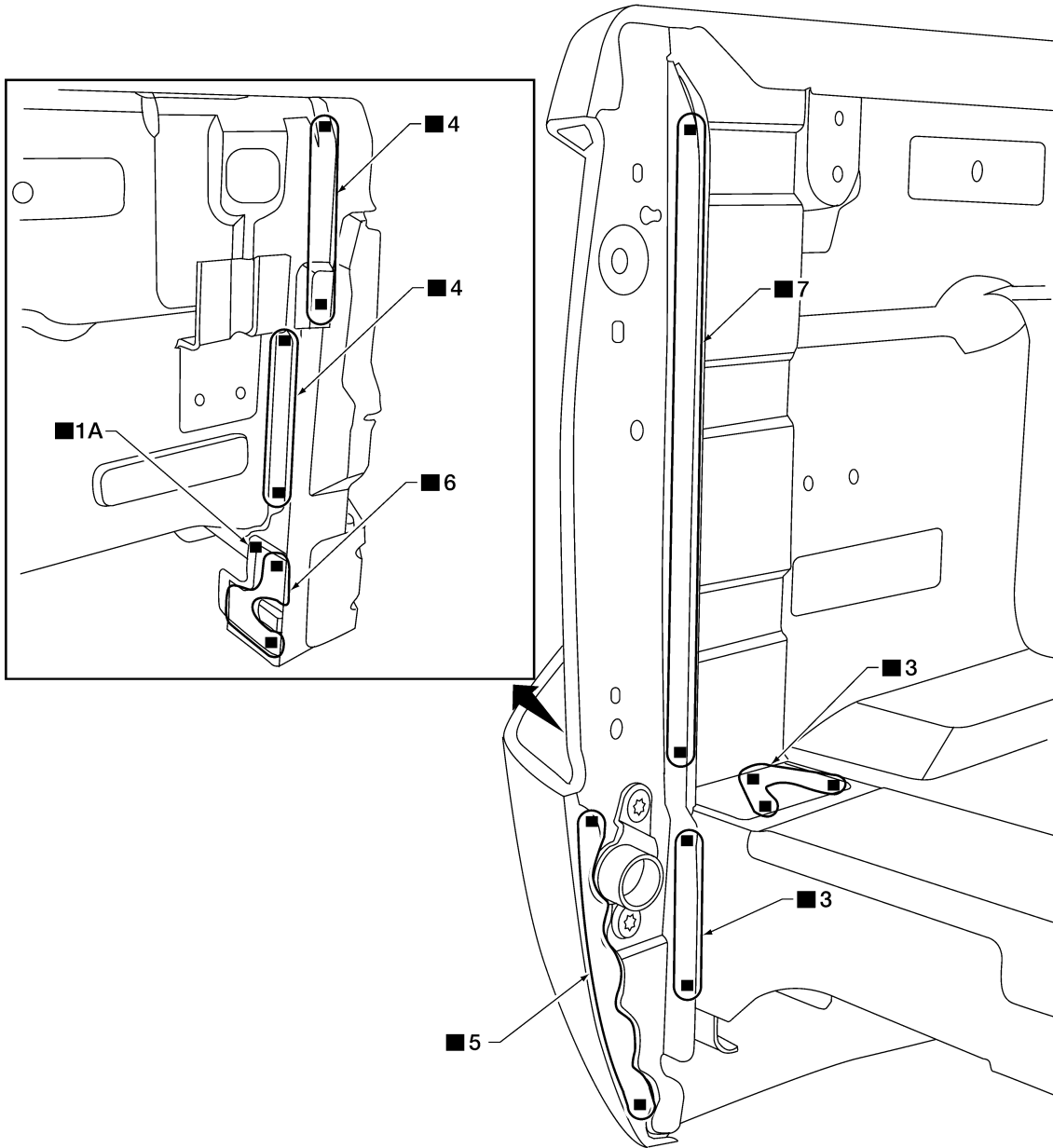


LIA2018E

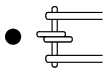
REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

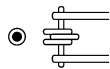
Service Joint



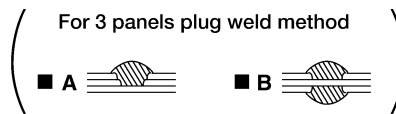
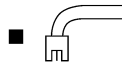
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



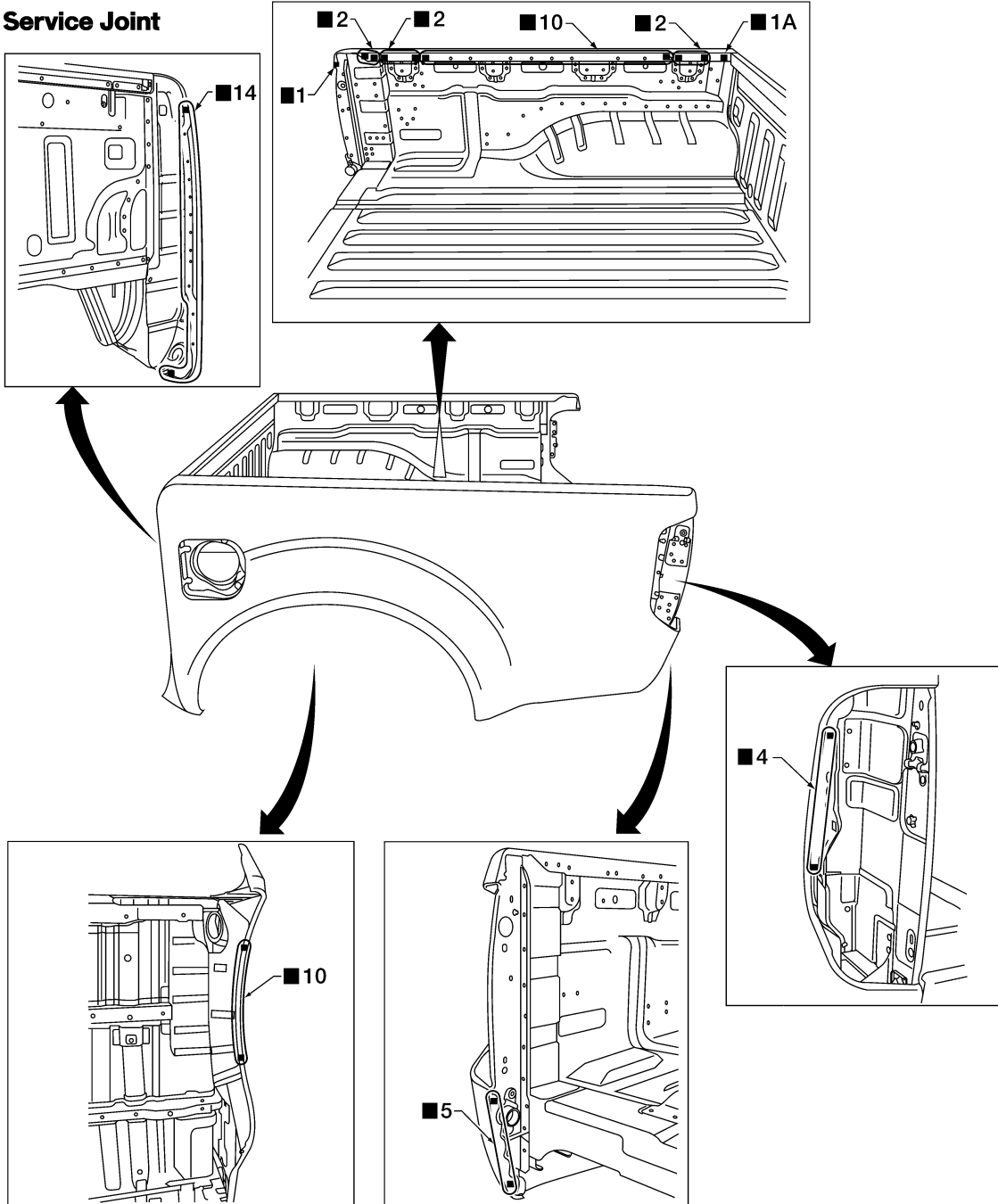
LIA2019E

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

Crew Cab

Service Joint



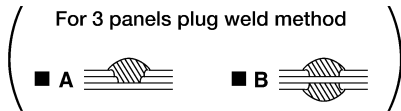
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



LIA2020E

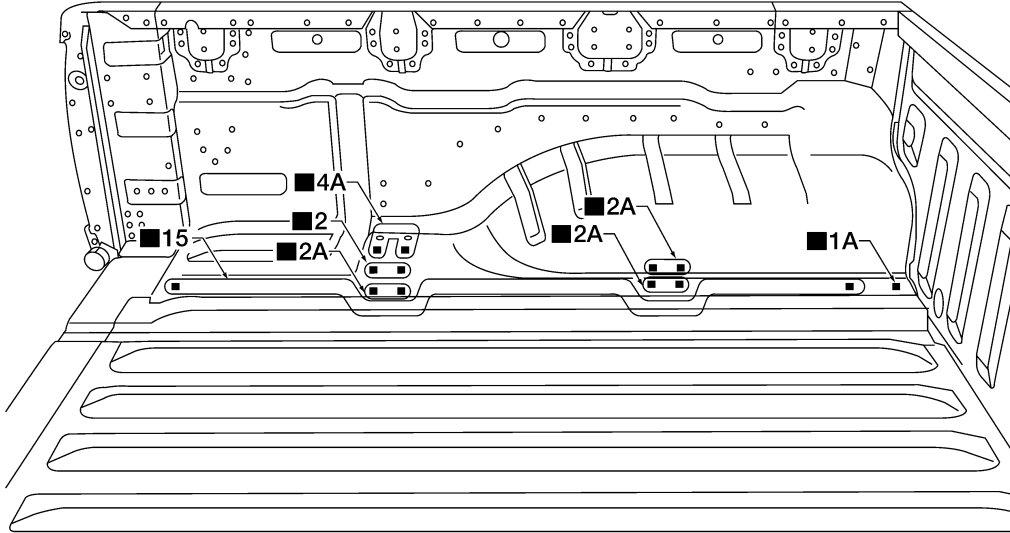
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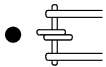
REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

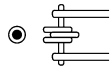
Service Joint



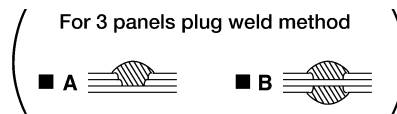
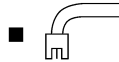
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld

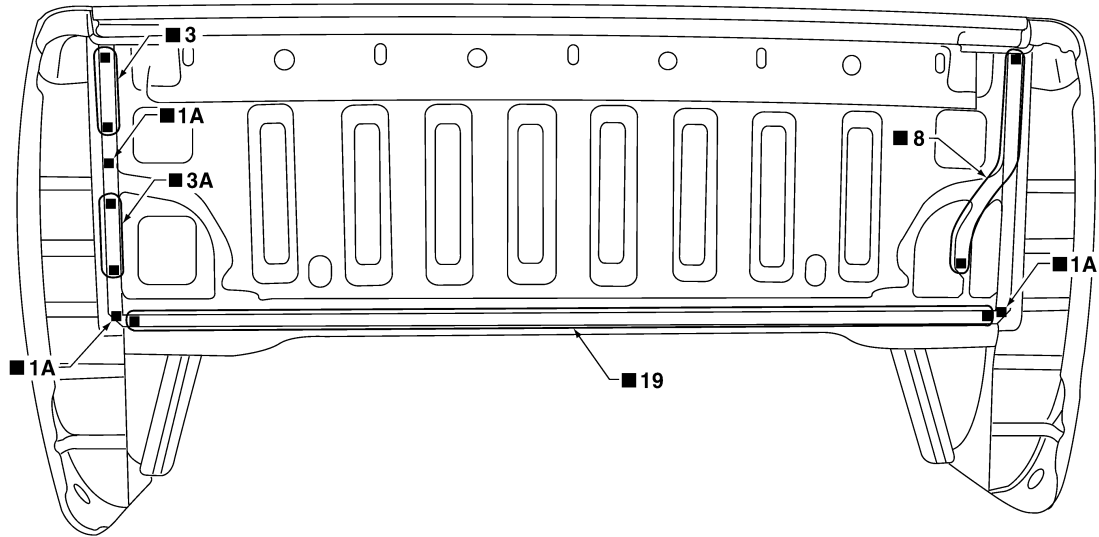


LIA2021E

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

Service Joint



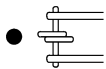
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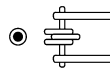
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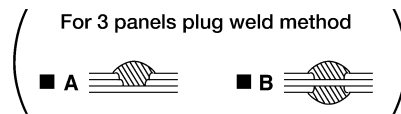
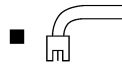
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



LIA2022E

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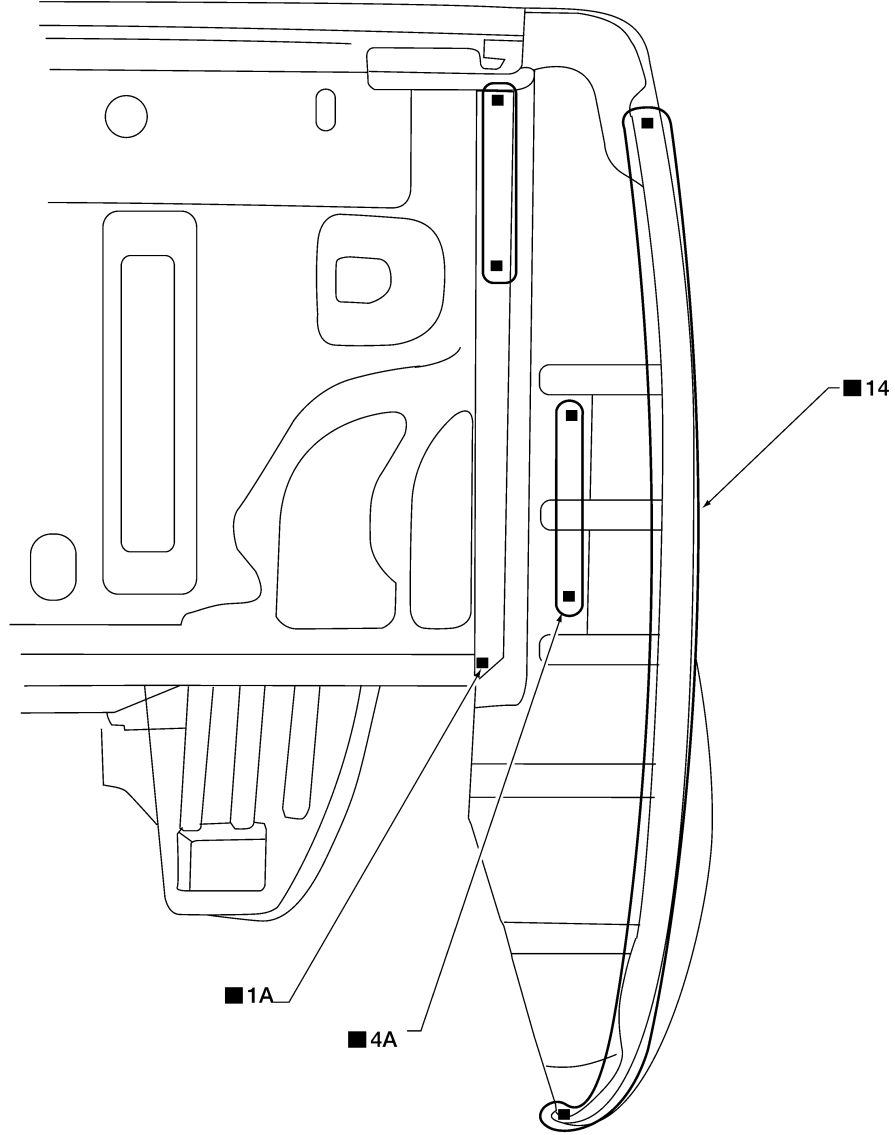
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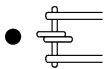
REPLACEMENT OPERATIONS

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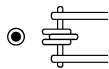
Service Joint



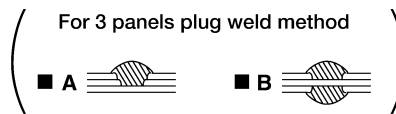
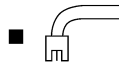
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld

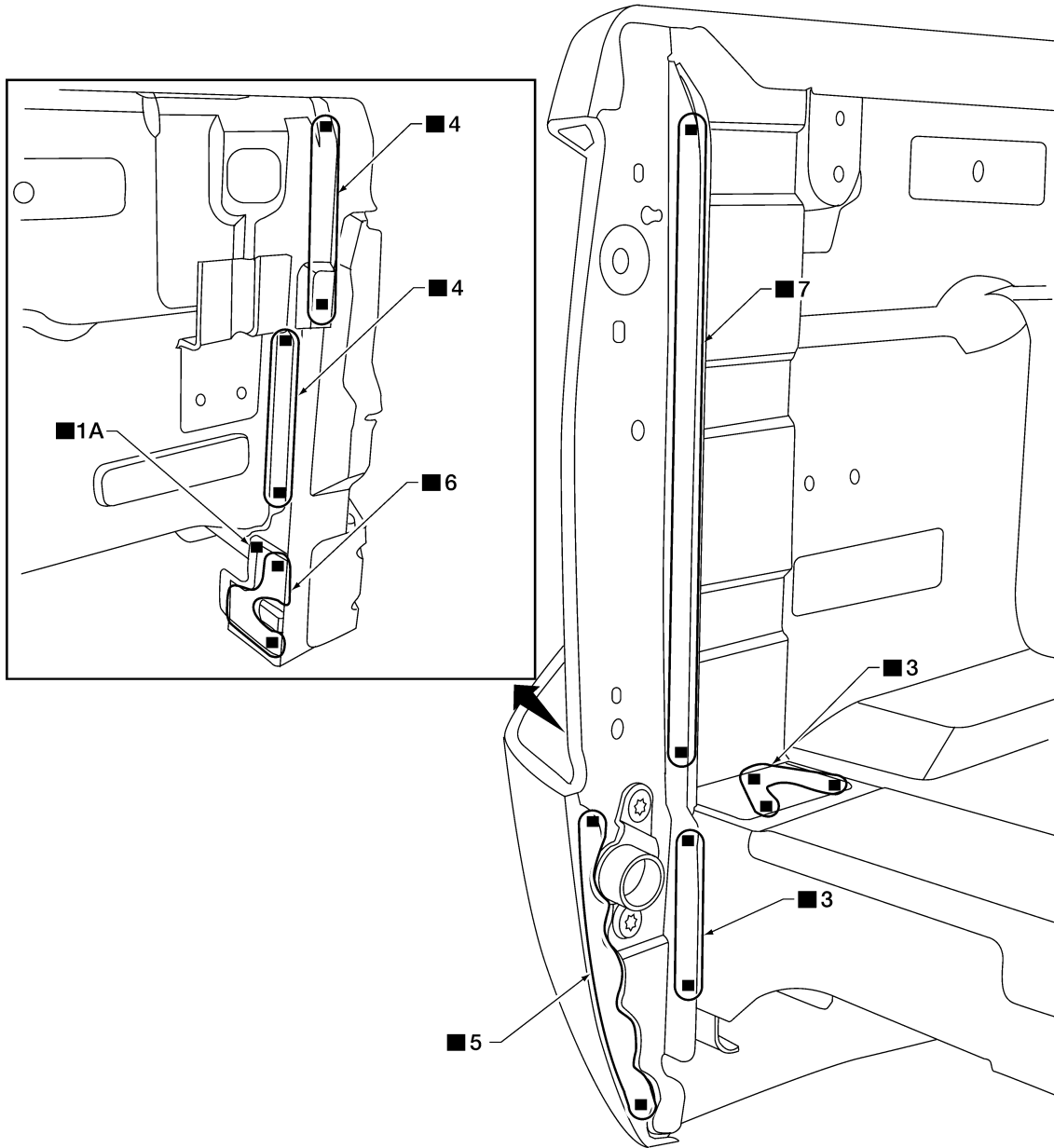


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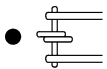
REPLACEMENT OPERATIONS

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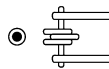
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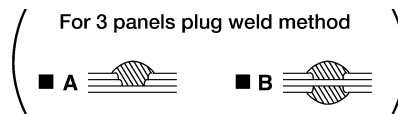
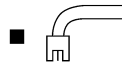
2-spot welds



3-spot welds



MIG Plug weld



MIG seam weld/
Point weld



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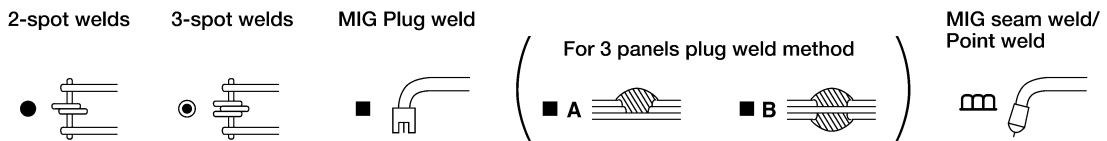
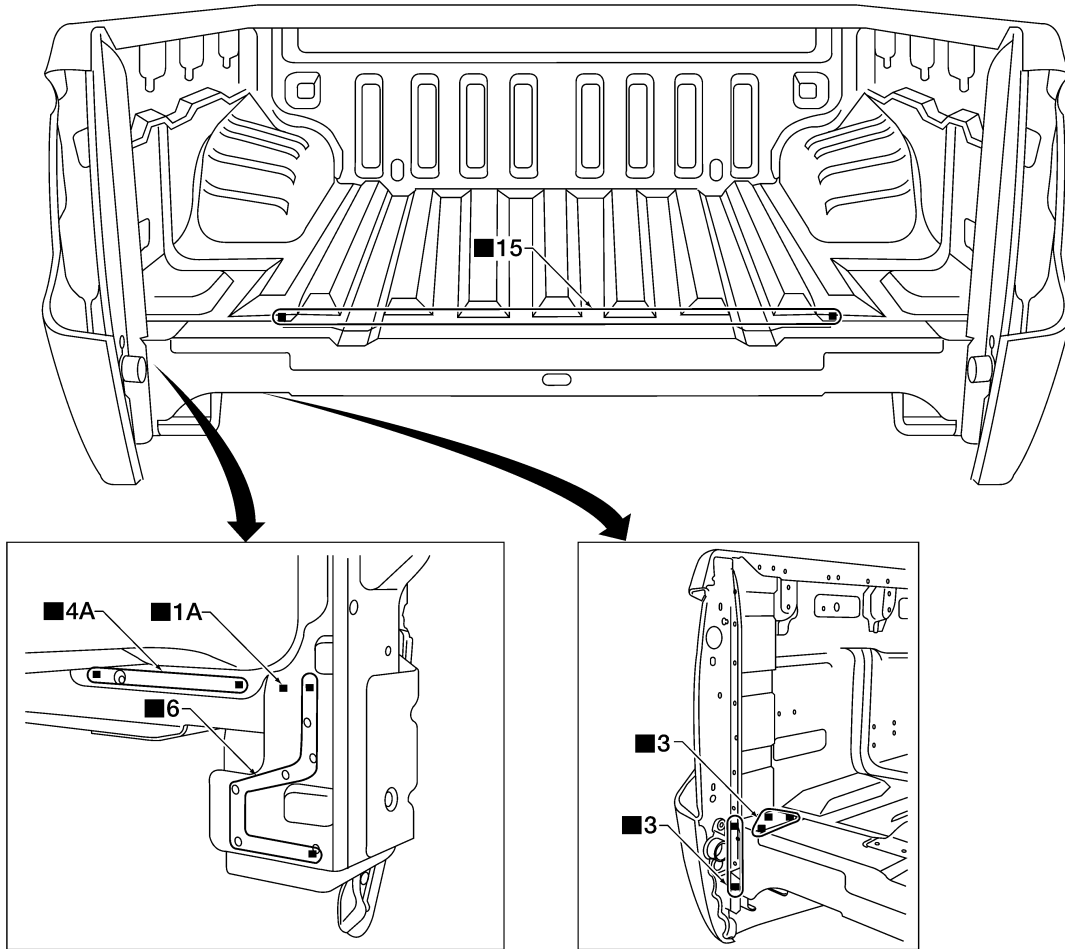
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REPLACEMENT OPERATIONS

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Rear Crossmember

Service Joint



LIA2025E

CRUSH HORN

CAUTION:

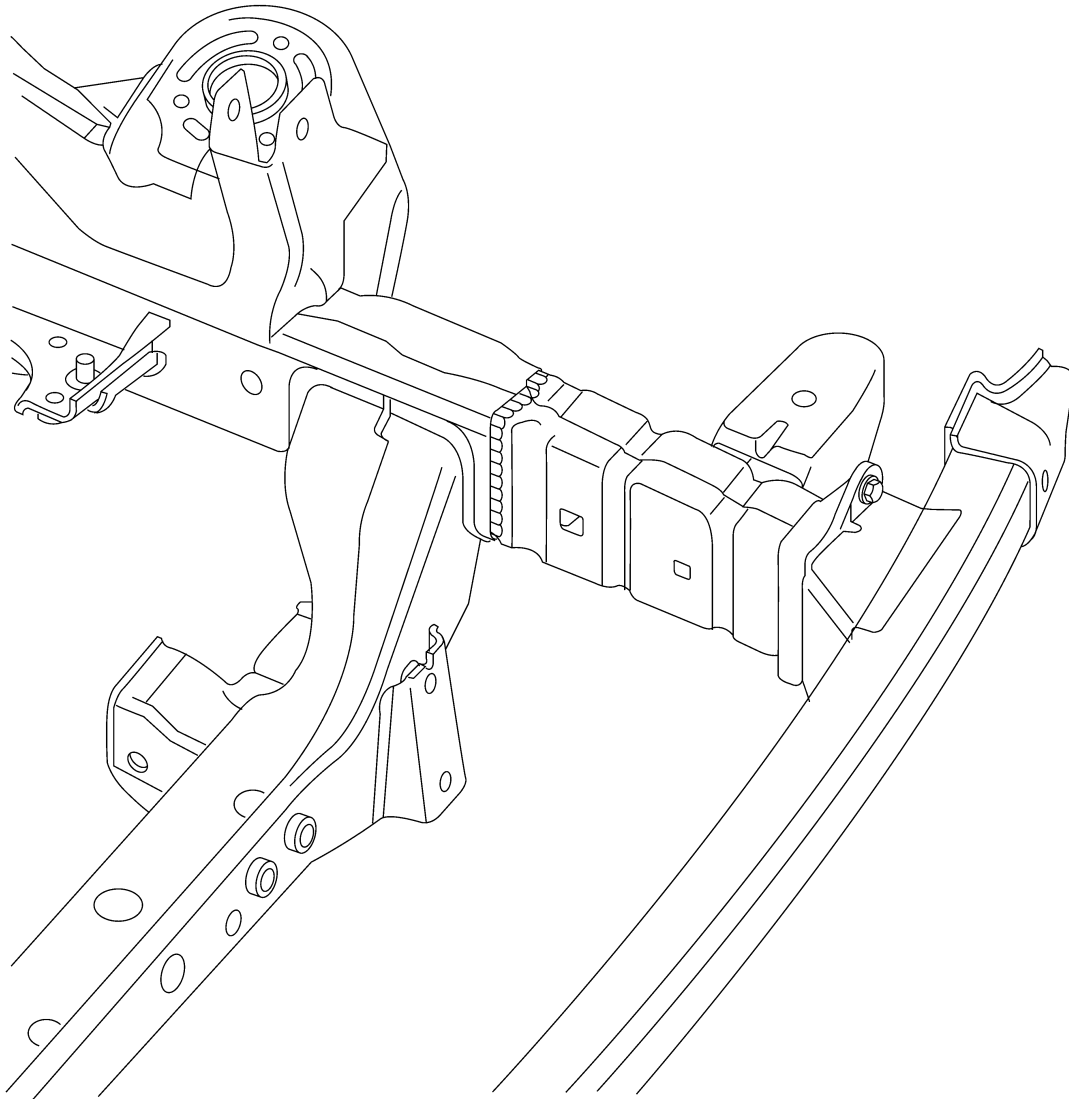
When replacing a damaged crush horn on N50 model, do not choose partial replacement method, such as cutting and butt-joint welding the crush horn.

REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

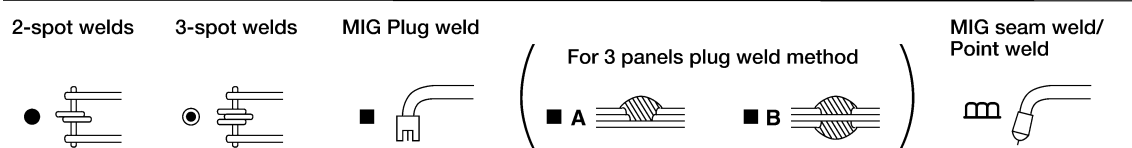
Be sure to replace the entire crush horn when the crush horn has damage at the back of the body mounting bracket.

Service Joint



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Foam Repair

INFOID:000000003301722

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

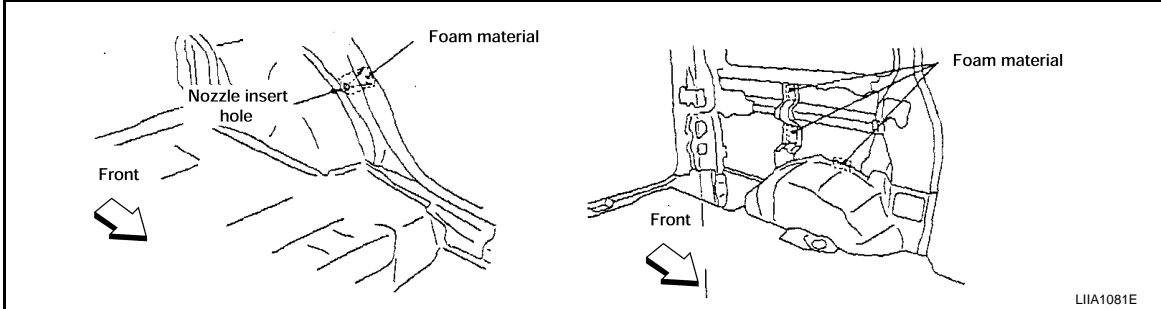
REPLACEMENT OPERATIONS

< ON-VEHICLE REPAIR >

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

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.



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.

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.

