2011 ODYSSEY Body Repair Manual

INTRODUCTION

How to Use This Manual

This manual covers the repairs of a 2011 model-series Odyssey that has been involved in an collision, and it describes the work related to the replacement of damaged body parts. Please read through these instructions and familiarize yourself with them before actually using this manual.
NOTE: Refer to the appropriate Odyssey Service Manual, for specifications, wire harness locations, safety stand support points, etc.

Special Information

⚠ WARNING

You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

⚠ CAUTION

You CAN be HURT if you don't follow instructions.

NOTE: Gives helpful information.

⚠ CAUTION

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause PERSONAL INJURY, damage a vehicle, or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda, might be done or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, must satisfy himself thoroughly that neither personal safety or vehicle safety will be jeopardized.

HONDA MOTOR CO., LTD.
Service Publication Office

Sections with an * include SRS components; special caution is required when servicing.

First Edition 1/11/2011 147 pages

A Few Words About Safety

Service Information

The repair information contained in this manual is intended for use by qualified, professional technicians. Attempting repairs without the proper training, tools, and equipment could cause injury to you or others. It could also damage the vehicle or create an unsafe condition.

This manual describes the proper methods and procedures for doing repairs. Some procedures require the use of specially designed tools and dedicated equipment. Any person who intends to use a replacement part, a repair procedure, or a tool that is not recommended by Honda, must determine the risks to their personal safety and the safe operation of the vehicle.

If you need to replace a part, use Honda parts with the correct part number, or an equivalent part. We strongly recommend that you do not use replacement parts of inferior quality.

FOR YOUR CUSTOMER'S SAFETY

Proper repair is essential to the customer's safety and the reliability of the vehicle. Any error or oversight while repairing a vehicle can result in faulty operation, damage to the vehicle, or injury to others.

⚠ WARNING

Improper repairs can create an unsafe condition that can cause your customer or others to be seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

FOR YOUR SAFETY

Because this manual is intended for the professional service technician, we do not provide warnings about many basic shop safety practices (for example, hot part - wear gloves). If you have not received shop safety training or do not feel confident about your knowledge of safe repairing practices, we recommend that you do not attempt to do the procedures described in this manual.

⚠ WARNING

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.

Some of the most important general service safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in doing repair procedures. Only you can decide whether or not you should do a given task.

IMPORTANT SAFETY PRECAUTIONS

- Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and using safety equipment. When doing any repair task, follow these precautions:
  - Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to do the tasks safely and completely.
  - Protect your eyes by using proper safety glasses, goggles, or face shields any time you hammer, drill, grind, or work around pressurized air or liquids and springs or other stored-energy components. If there is any doubt, put on eye protection.
  - Use other protective wear when necessary, for example, gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
  - Protect yourself and others whenever you have the vehicle up in the air. Any time you raise the vehicle, either with a lift or a jack, make sure that it is always securely supported. Use jack stands.
  - Protect yourself by wearing an approved welding helmet, gloves, and safety shoes any time you are welding. Protect yourself from burns from hot parts; allow the parts to cool before working in that area.
  - Protect yourself from paints and harmful chemicals by wearing an approved respirator, eye protection, and gloves whenever you are painting. Spray paint only in an approved paint booth that is well ventilated.

Reference

Symbols

Replacement

The welding symbols in the removal/installation have these meanings.

⨯: 2-Plate spot welding

⊗: 3-Plate spot welding

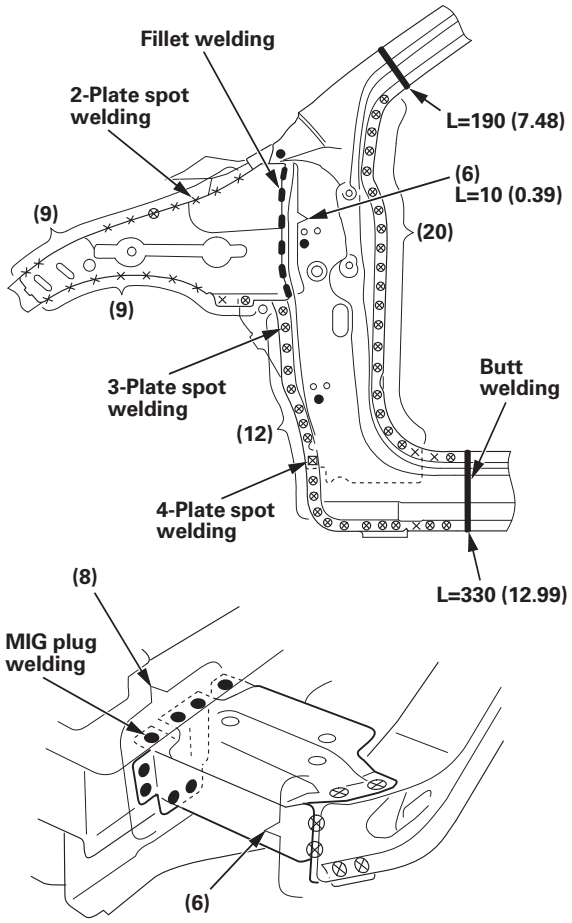
⊠: 4-Plate spot welding

●: MIG plug welding (butt or fillet)

⬬: MIG welding

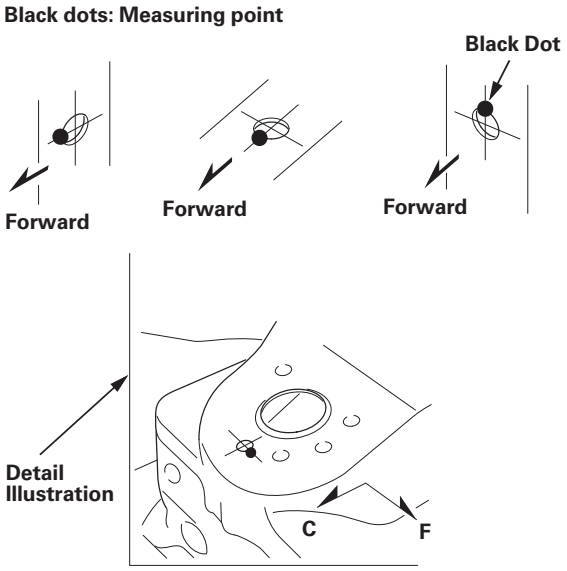
L= Welding length unit: mm (in)

( ): The number of welds



Body Dimensional Drawings

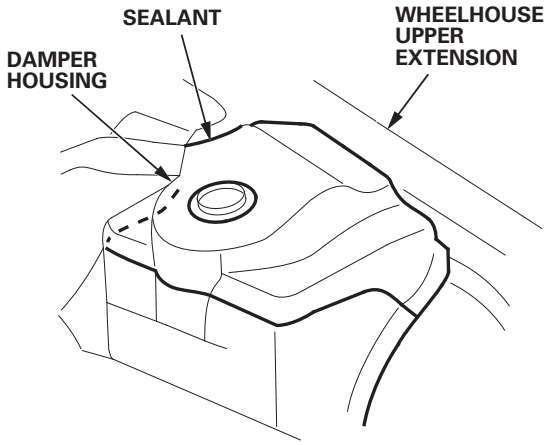
Body measuring dimensions show the distance between the forward or upper edge of positioning bosses and/or holes shown in the detail illustration.



However, the measuring points in the frame repair chart are always the centers of the holes.

Rust Prevention

The following type of illustration shows the areas where sealant is to be applied.



General Information

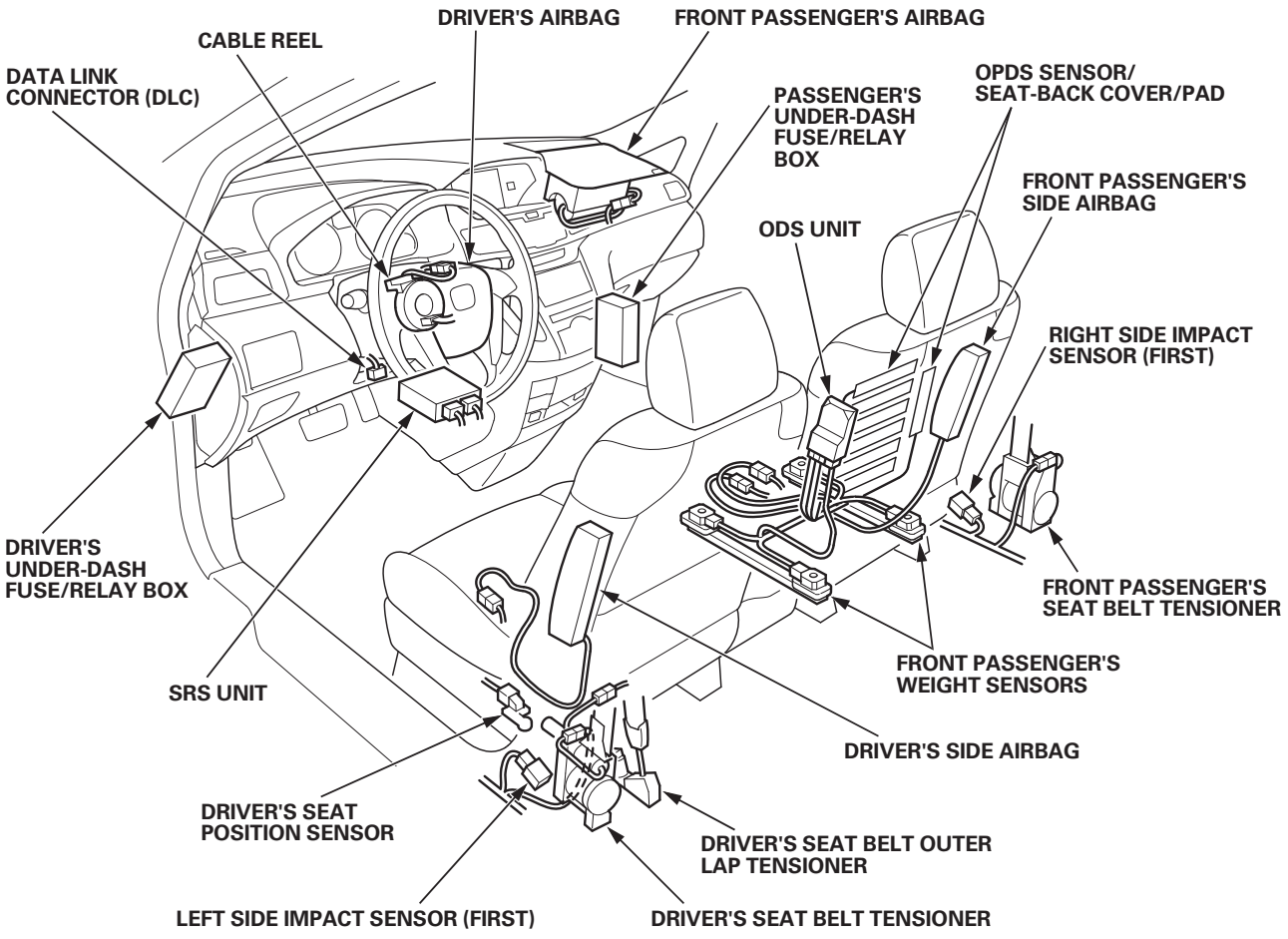
General Information

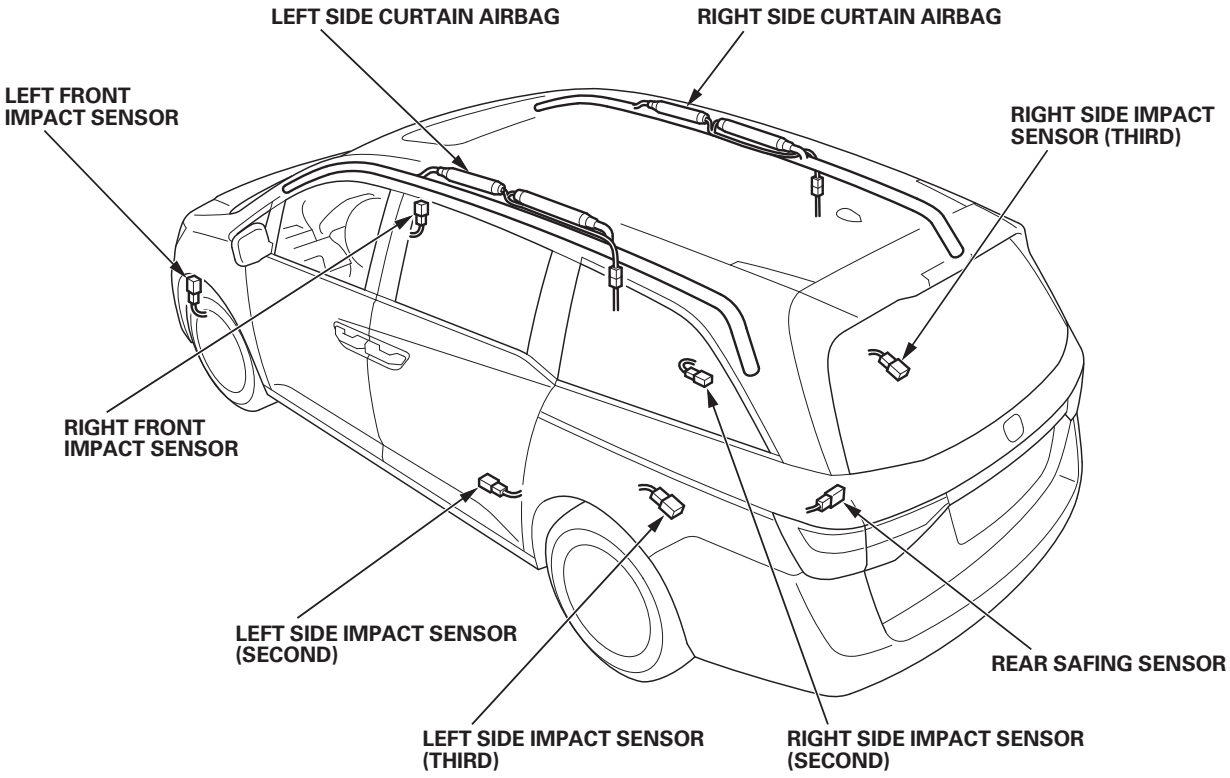
Supplemental Restraint System (SRS)

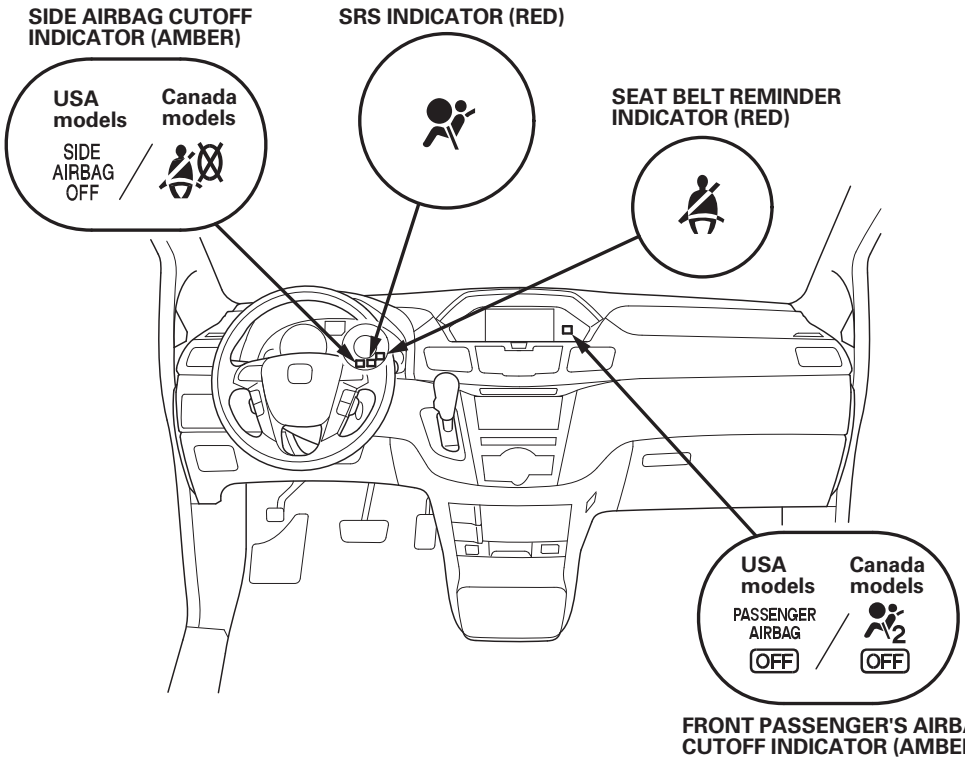
This model has an SRS which includes a driver's airbag in the steering wheel hub, a front passenger's airbag in the dashboard above the glove box, front seat belt tensioners in the front seat belt retractors, driver's seat belt outer lap tensioner in the front seat belt lower anchor, side airbags in the front seat-backs, and side curtain airbags in the sides of the roof. The SRS unit is separate from the airbag assembly and has built-in sensors. The following precautions should be observed when doing sheetmetal work, paint work, and repair work around the locations of the SRS components.

- The SRS unit (including the safing sensor and the impact sensor) is located under the dashboard and the side impact sensors are located in each side sill and rear wheel arch. The front impact sensors are located behind the right and left ends of the front bumper. Avoid any strong impact with a hammer or other tools when repairing the front side frame, the lower part of the dashboard, the side sill, and the rear wheel arch. Do not apply heat to these areas with a torch, etc.
- Take extra care when painting or doing body work in the area below the B-pillar. Do not expose the seat belt retractor and tensioner to heat guns, welding, or spraying equipment.
- SRS electrical connectors are identified by yellow color coding. Take care when repairing this area. Prevent damage to the harness.
- Do not apply heat of more than 212 °F (100 °C) when drying painted surfaces anywhere around the SRS components locations.
- If strong impact or high temperature need to be applied to the areas around the locations of SRS components, remove the components before doing the repair work.
- If any of the SRS-related components are damaged or deformed, be sure to replace them.

NOTE: For after-deployment procedures, and removal and replacement of SRS-related components, refer to the Odyssey Service Manual.




LEFT SIDE CURTAIN AIRBAG
RIGHT SIDE CURTAIN AIRBAG
LEFT FRONT IMPACT SENSOR
RIGHT SIDE IMPACT SENSOR (THIRD)
RIGHT FRONT IMPACT SENSOR
LEFT SIDE IMPACT SENSOR (SECOND)
REAR SAFING SENSOR
LEFT SIDE IMPACT SENSOR (THIRD)
RIGHT SIDE IMPACT SENSOR (SECOND)


SIDE AIRBAG CUTOFF INDICATOR (AMBER)
USA models
Canada models
SIDE AIRBAG OFF
SRS INDICATOR (RED)
SEAT BELT REMINDER INDICATOR (RED)
USA models
Canada models
PASSENGER AIRBAG
OFF
OFF
FRONT PASSENGER'S AIRBAG CUTOFF INDICATOR (AMBER)

SRS Component Replacement/Inspection After Deployment

NOTE:
- Before doing any SRS repairs, check for DTCs with the HDS; refer to the appropriate Odyssey Service Manual, for the less obvious deployed components (front seat belt tensioners, driver's seat belt outer lap tensioner, front impact sensors, side impact sensors, rear safing sensor, etc).
- If there is a breaking or damage found in harness relevant to the replacement parts shown below, replace it, do not repair.
- Do not replace the ODS unit unless it is physically damaged or a specific fault was found during DTC troubleshooting. Because it could complicate troubleshooting other DTCs.
- After a vehicle collision, do the ODS unit operation check; refer to the appropriate Odyssey Service Manual.
- After a vehicle collision, inspect the front seat active head restraints; refer to the appropriate Odyssey Service Manual.

After a collision where the front seat belt tensioners deployed, replace these items:
- SRS unit
- Front seat belt(s)
- Driver's seat belt outer lap tensioner
- Front impact sensor(s)

After a collision where the driver's seat belt outer lap tensioner deployed, replace there items:
- SRS unit
- Front seat belt(s)
- Driver's seat belt outer lap tensioner
- Front impact sensor(s)

After a collision where the front airbag(s) deployed, replace these items:
- SRS unit
- Deployed front airbag(s)
- Front seat belt(s)
- Driver's seat belt outer lap tensioner
- Front impact sensor(s)
- Dashboard

After a collision where the side airbag has deployed, replace the items for the side(s) that deployed:
- SRS unit
- Deployed side airbag(s)
- Side impact sensor(s) (first)
- Side impact sensor(s) (second)
- Side impact sensor(s) (third)
- Rear safing sensor
- B-pillar lower trim
- Seat frame and related parts
- Front seat belt(s)
- Driver's seat belt outer lap tensioner

After a collision where a side curtain airbag has deployed, replace the items for the side(s) that deployed:
- SRS unit
- Front seat belt(s)
- Driver's seat belt outer lap tensioner
- Deployed side curtain airbag(s)
- Side impact sensor(s) (first)
- Side impact sensor(s) (second)
- Side impact sensor(s) (third)
- Rear safing sensor
- A-pillar upper trim
- B-pillar upper trim
- C-pillar trim
- D-pillar trim
- Front grab handle
- Rear grab handle
- All related trim clips
- Sunvisor
- Headliner

After a moderate to severe side or rear collision, inspect for any damage on the side curtain airbag or other related components. Replace the components as needed.

During the repair process, inspect these areas:
- Inspect all the SRS wire harnesses. Replace, do not repair, any damaged harnesses.
- Inspect the cable reel for heat damage. If there is any damage, replace the cable reel; refer to the appropriate Odyssey Service Manual.

After the vehicle is completely repaired, turn the ignition switch to ON (II). If the SRS indicator comes on for about 6 seconds and then goes off, the SRS is OK. If the indicator does not function properly, use the HDS to check for the DTCs; refer to the appropriate Odyssey Service Manual. If you cannot retrieve a code, do the SRS Symptom Troubleshooting.

Battery Terminal Disconnection and Reconnection

Disconnection

NOTE: Some systems store data in memory (including seat position, mirror position, etc) that is lost when the battery is disconnected. Do the following procedures before disconnecting the battery.

1. Make sure you have the anti-theft code(s) for the audio system.
2. Make sure the ignition switch is in LOCK (0).
3. Disconnect and isolate the negative cable from the battery.

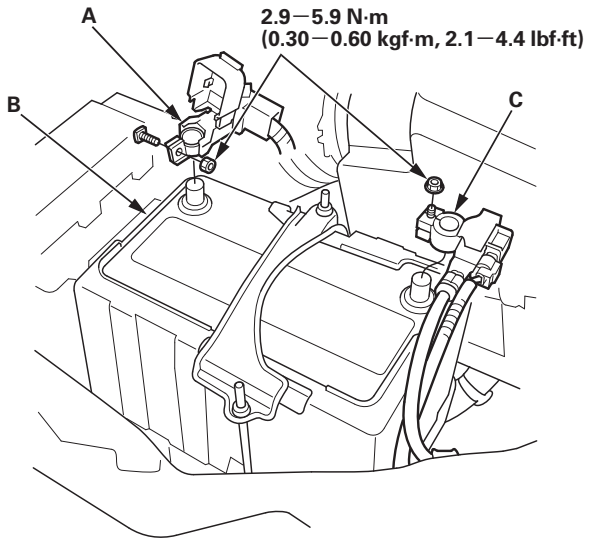
   NOTE: Always disconnect the negative cable from the battery first.
4. Disconnect the positive cable from the battery.

Reconnection

NOTE: Some systems store data in memory (including seat position, mirror position, etc) that is lost when the battery is disconnected. Do the following procedures to restore the systems back to normal operation.

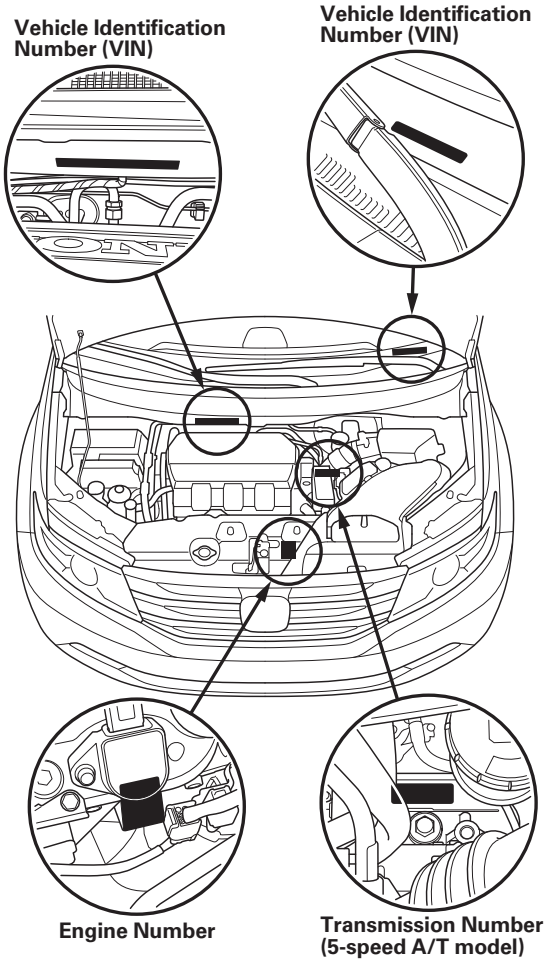
1. Clean the battery terminals.
2. Test the battery; refer to the appropriate Odyssey Service Manual.
3. Reconnect the positive cable (A) to the battery (B) first, then reconnect the negative cable (C) to the battery.

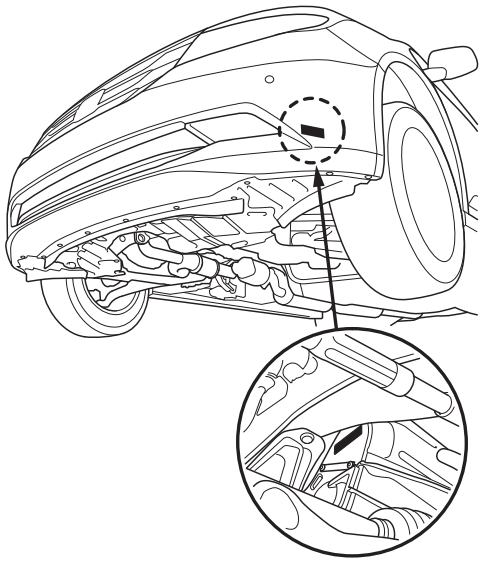
   NOTE: Always connect the positive cable to the battery first.

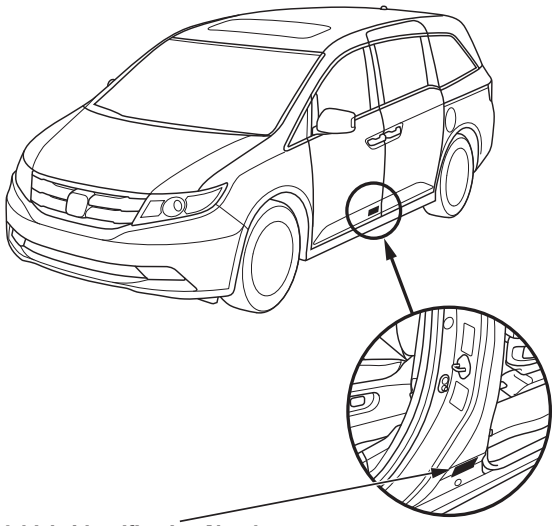


4. Apply multipurpose grease to the terminals to prevent corrosion.
5. Enter the anti-theft code(s) for the audio system.
6. Enter the audio presets.
7. Set the clock (for vehicles without navigation).

Identification Number Locations

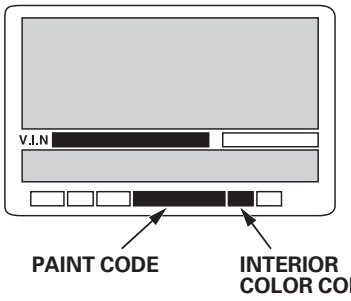






Vehicle Identification Number, Federal Motor Vehicle Safety Standard Certification, and Paint Code Label.

Vehicle Identification Number, Canadian Motor Vehicle Safety Standard Certification, and Paint Code Label.



Parts Marking

To deter vehicle theft, certain major components are marked with the vehicle identification number (VIN). Original parts have self-adhesive labels. Replacement body parts have generic self-adhesive labels. These labels should not be removed. The original engine or transmission VIN plates are not transferable to the replacement engine or transmission.

NOTE: Be careful not to damage the parts marking labels during body repair. Mask the labels before repairing the part.

Lift and Support Points

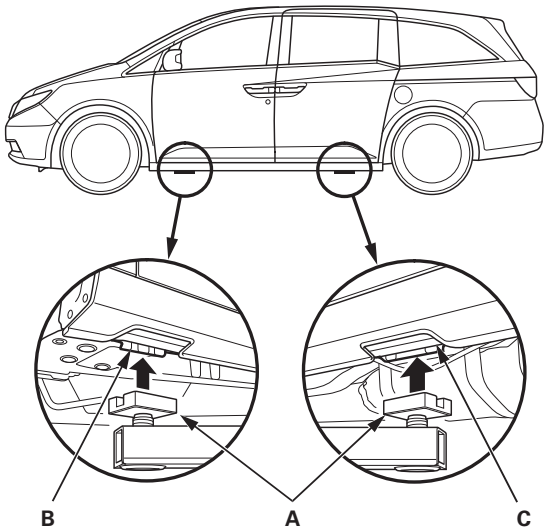
NOTE: If you are going to remove heavy components such as suspension or the fuel tank from the rear of the vehicle, first support the front of the vehicle with tall safety stands. When substantial weight is removed from the rear of the vehicle, the center of gravity can change, causing the vehicle to tip forward on the lift.

Vehicle Lift

1. Position the lift pads (A) under the vehicle's front support points (B) and rear support points (C).

NOTICE

Be sure the lift pads are properly placed to avoid damaging the vehicle.



2. Raise the lift a few inches, and rock the vehicle gently to be sure it is firmly supported.
3. Raise the lift to its full height, and inspect the vehicle support points for solid contact with the lift pads.

Safety Stands

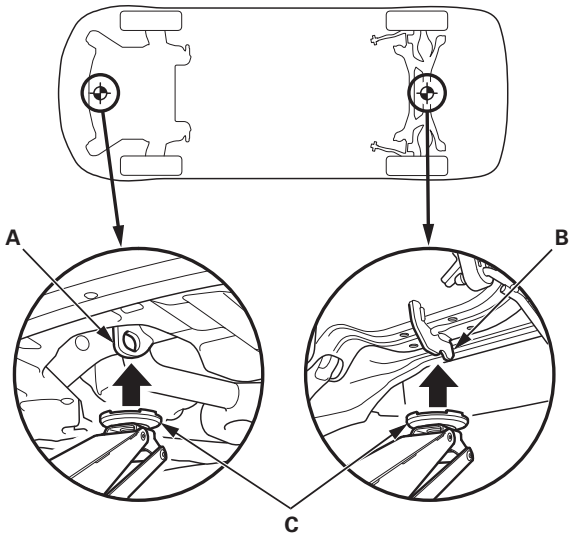
To support the vehicle on safety stands, use the same support points as for a vehicle lift. Always use safety stands when working on or under any vehicle that is supported only by a jack.

Floor Jack

1. When lifting the front of the vehicle, set the parking brake. When lifting the rear of the vehicle, put the shift lever in P.
2. Block the wheels that are not being lifted.
3. Position the floor jack under the front jacking bracket (A) or the rear jacking bracket (B). Center the jacking bracket on the jack lift platform (C), and jack up the vehicle high enough to fit the safety stands under it.

NOTICE

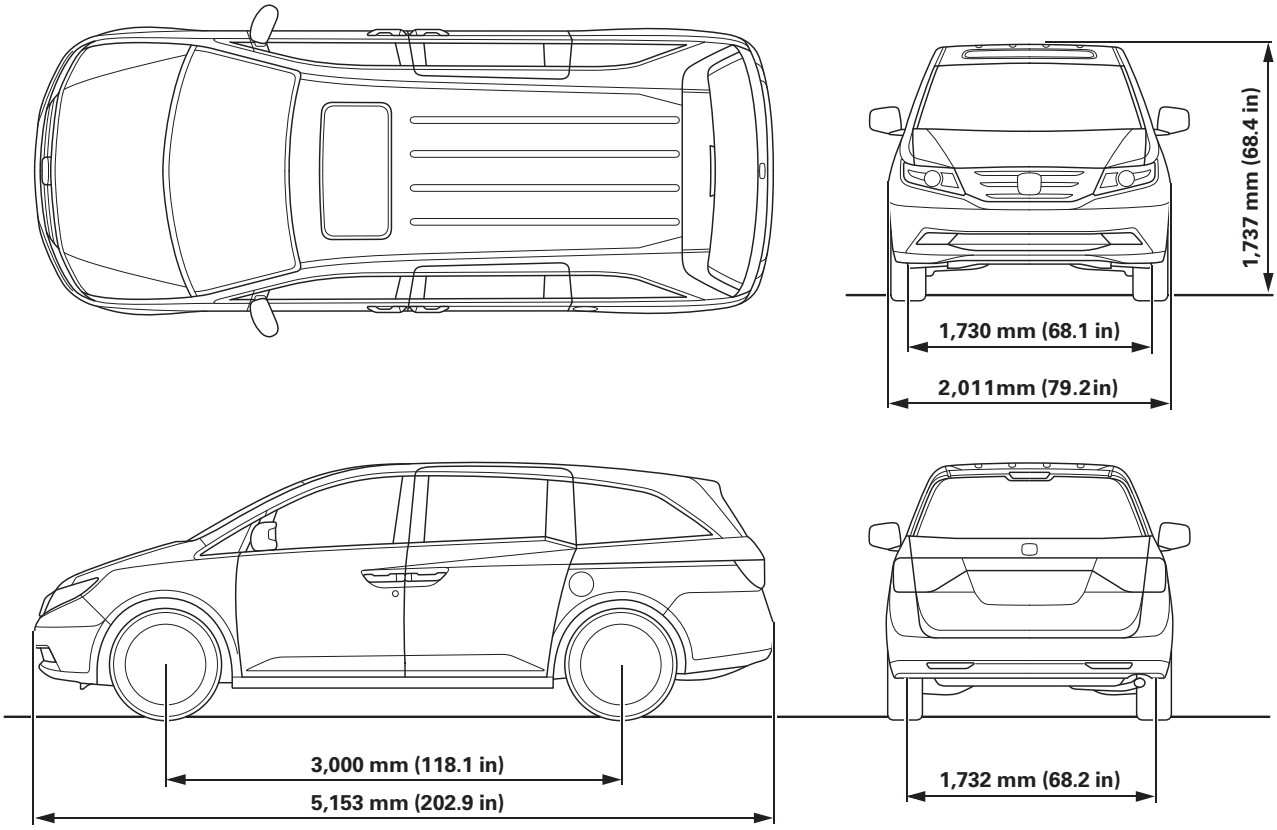
Be sure the lift floor jack is properly placed to avoid damaging the vehicle.



4. Position the safety stands under the support points, and adjust them so the vehicle is level side-to-side.
5. Lower the vehicle onto the stands.

Body Specifications/Wheel Alignment

Body Specifications



Front Wheel Alignment

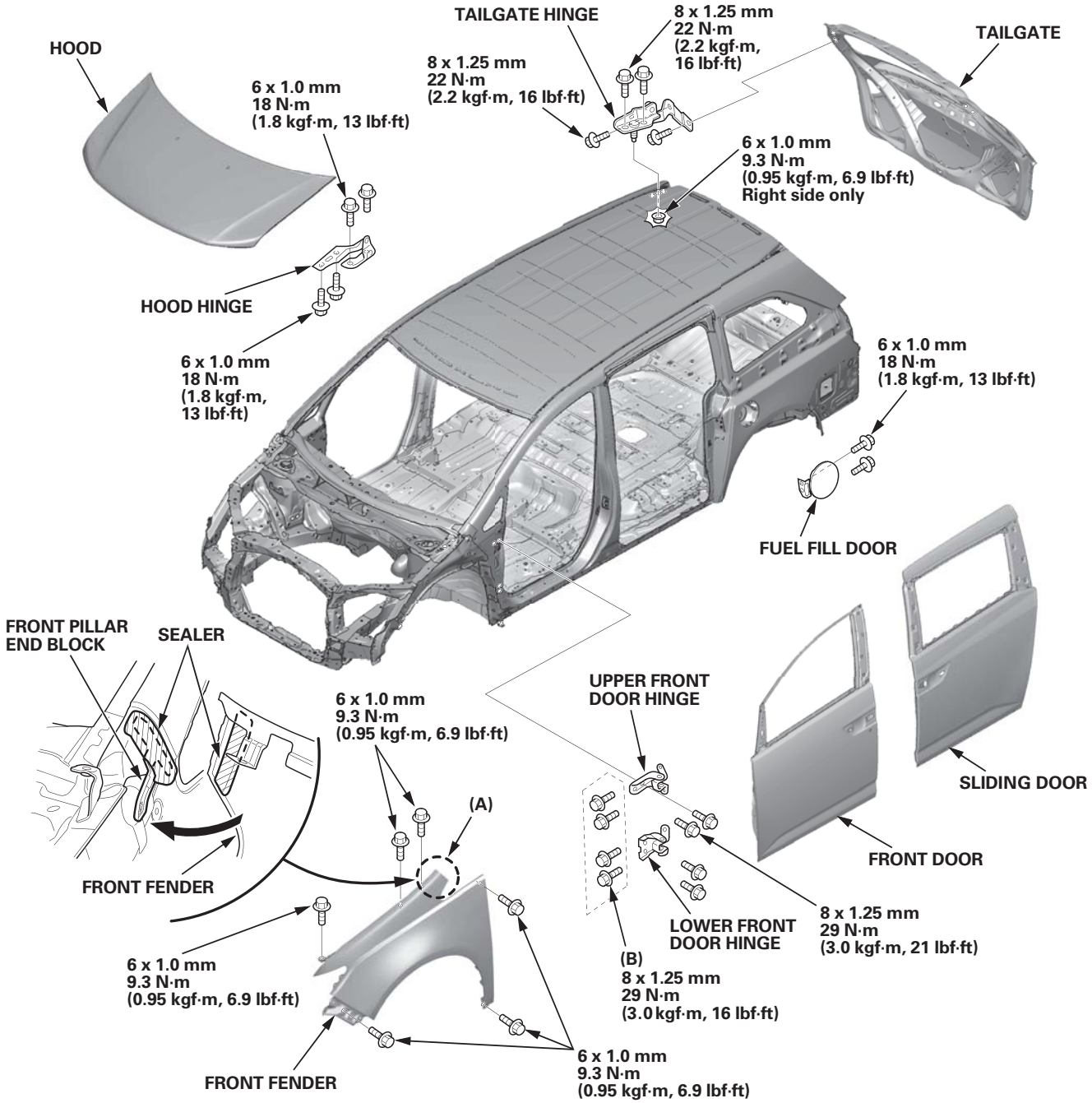
Camber	0 ° 00 ′ ±45 ′	
Caster	2 ° 36 ′ ±36 ′	
Total toe-in	0±2 mm (0±0.08 in)	
Wheel turning angle	Inward	42 ° 06 ′ ±2 °
	Outward	34 ° 40 ′ (Reference)

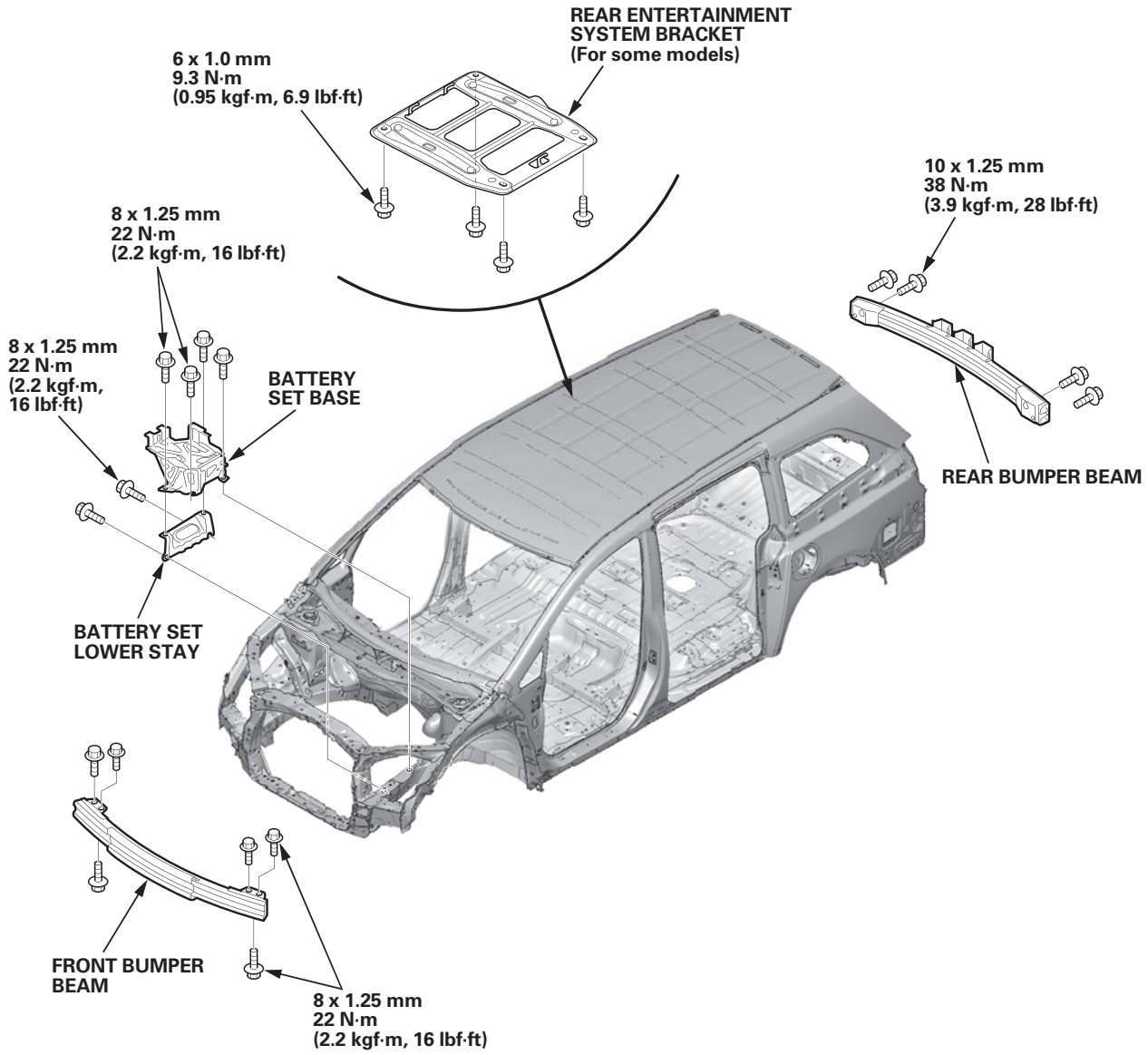
Rear Wheel Alignment

Camber	−0 ° 30 ′ ±45 ′
Total toe-in	2±2 mm (0.08±0.08 in)

Exterior Parts Removal/Installation

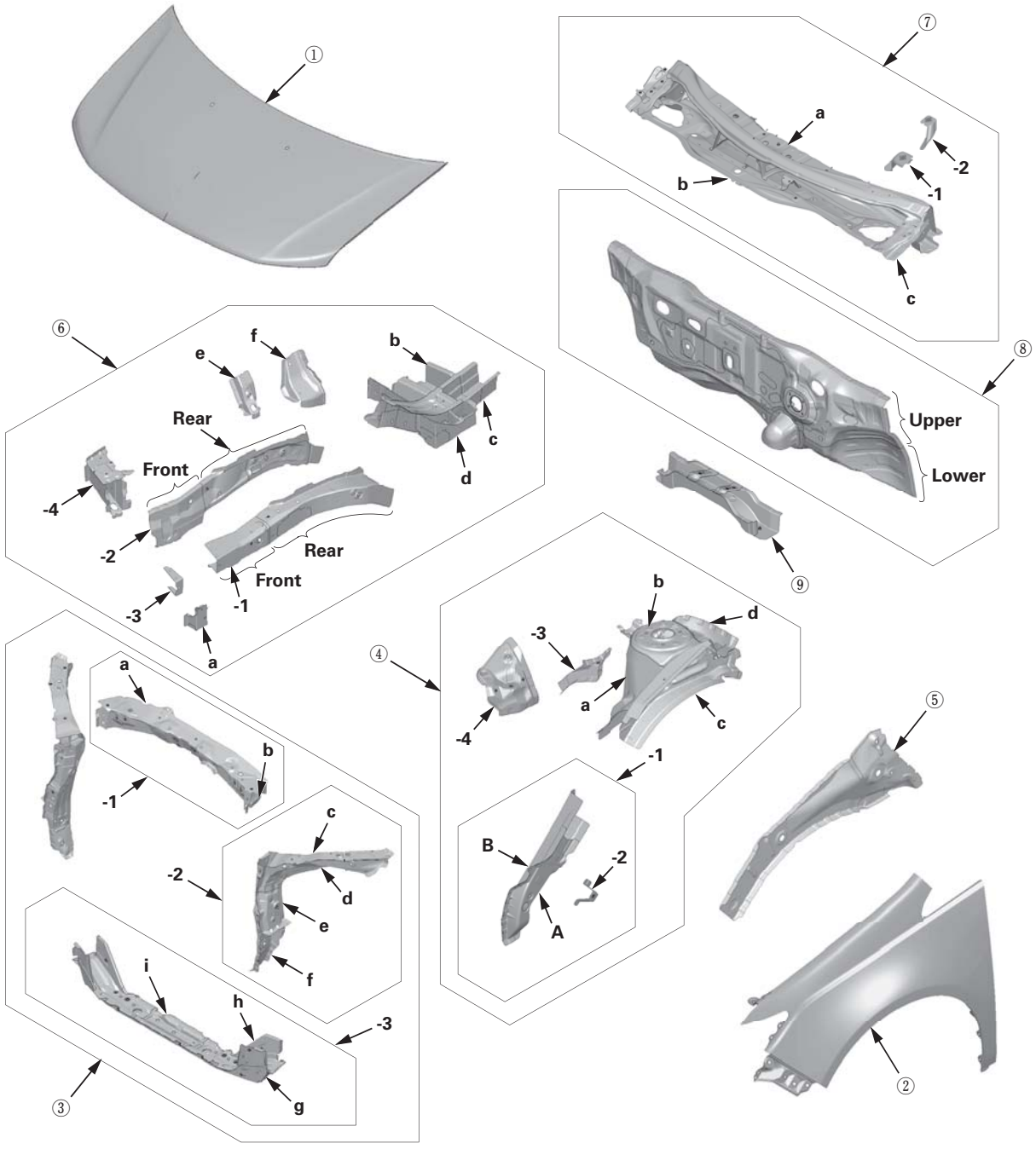
NOTE:
- When removing the front fender, do not deform its upper portion (A).
- When reinstalling the front fender, apply the sealer all the way around the front pillar end block and the front fender without gaps.
- When adjusting the front door in or out, replace the mounting bolts (B); refer to the appropriate Parts Catalog for the necessary adjusting bolts.
- Apply spot sealer to the mating surfaces, then install the front fenders, the hood, the front doors, the tailgate, and the hinges.
- Check the hood, the doors, and the tailgate positions; refer to the external parts fitting positions (see page 4-15).
- Apply sealant around the tailgate hinges (see page 5-6).




REAR ENTERTAINMENT SYSTEM BRACKET (For some models)
6 x 1.0 mm 9.3 N·m (0.95 kgf·m, 6.9 lbf·ft)
10 x 1.25 mm 38 N·m (3.9 kgf·m, 28 lbf·ft)
8 x 1.25 mm 22 N·m (2.2 kgf·m, 16 lbf·ft)
8 x 1.25 mm 22 N·m (2.2 kgf·m, 16 lbf·ft)
BATTERY SET BASE
REAR BUMPER BEAM
BATTERY SET LOWER STAY
FRONT BUMPER BEAM
8 x 1.25 mm 22 N·m (2.2 kgf·m, 16 lbf·ft)

Front Body Construction

NOTE: To confirm which parts are sold as repair parts, refer to the appropriate Parts Catalog.

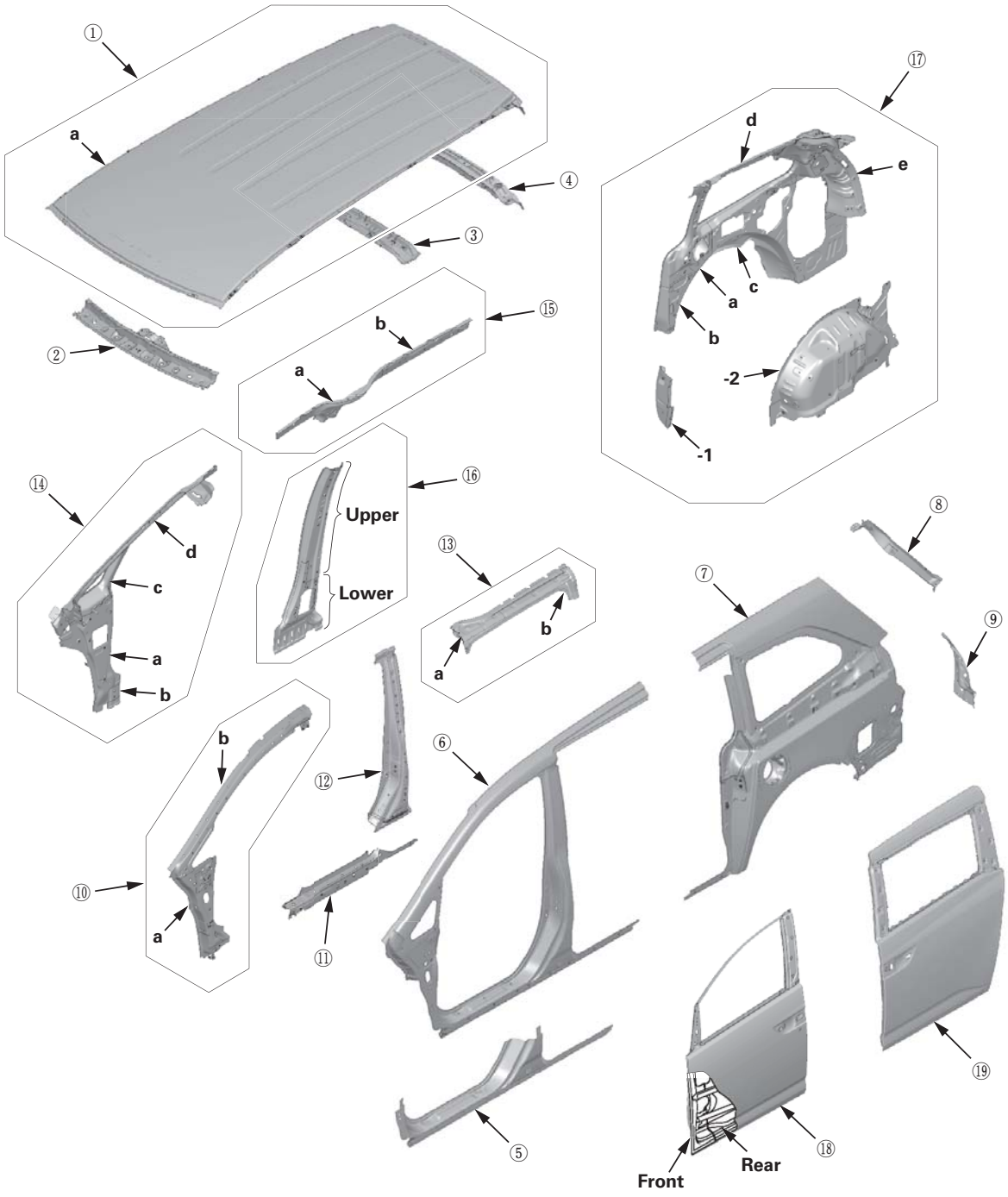


NOTE:
- The parts marked with numbers are sold as repair parts.
- The parts marked with letters are not sold separately and are shown only for reference.
- [ ]: Thickness unit: mm (in)
- High-tension steel sheet: Tensile strength 340 to 590 MPa.

No.	Part Name		Tensile Strength (MPa)	Zinc-Plating
①	Hood	Skin [0.7 (0.028)]	340	○
		Frame [0.6 (0.024)]	270	○
②	Front Fender [0.75 (0.0295)]		270	○
③	Front Bulkhead Complete			
-1	Front Bulkhead Upper Frame Set			
	a: Front Bulkhead Upper Center Frame A [0.8 (0.031)]		440	○
	b: Front Bulkhead Upper Center Frame B [0.8 (0.031)]		440	○
-2	Front Bulkhead Side Stay Set			
	c: Front Bulkhead Upper Frame [0.8 (0.031)]		440	○
	d: Front Bulkhead Upper Support [0.8 (0.031)]		440	○
	e: Front Bulkhead Side Plate [0.8 (0.031)]		440	○
	f: Front Bulkhead Side Stay [0.8 (0.031)]		440	○
-3	Front Bulkhead Lower Crossmember Set			
	g: Front Bulkhead Lower Crossmember [1.0 (0.039)]		590	○
	h: Lower Crossmember Extension Plate [1.0 (0.039)]		270	○
	i: Front Bulkhead Lower Crossmember Upper [1.0 (0.039)]		270	○
④	Front Damper Housing Complete			
	a: Front Damper Housing [1.2 (0.047)]		270	○
	b: Front Damper Base [3.2 (0.126)]		270	○
	c: Front Damper Housing Extension [1.0 (0.039)]		440	○
	d: Front Damper Stiffener [1.0 (0.039)]		270	○
-1	Front Bulkhead Side Member [1.0 (0.039)]		A: 270/B: 440	○
-2	Front Fender Side Bracket [1.2 (0.047)]		270	○
-3	Wheelhouse Gusset A [1.0 (0.039)]		440	○
-4	Engine Side Mount Bracket [1.2 (0.047)]		270	○
⑤	Front Wheelhouse Upper Member [1.0 (0.039)]		270	○
⑥	Front Side Frame Complete			
	a: Front Beam Support Bracket [2.0 (0.079)]		270	○
	b: Front Side Outrigger [1.6 (0.063)]		590	○
	c: Front Side Frame Gusset [1.8 (0.071)]		440	○
	d: Rear Support Bracket [1.8 (0.071)]		440	○
	e: Front Side Frame Gusset A [1.0 (0.039)]		590	○
	f: Front Side Frame Gusset B [1.6 (0.063)]		590	○
-1	Front Side Frame, Front [1.6 (0.063)]/Rear [2.0 (0.079)]		440	○
-2	Front Side Extension, Front [1.6 (0.063)]/Rear [2.0 (0.079)]		440	○
-3	Front Bumper Beam Bracket [1.8 (0.071)]		270	○
-4	Front Side Frame End Outrigger [1.2 (0.047)]		590	○
⑦	Dashboard Upper Complete			
	a: Windshield Lower [1.0 (0.039)]		270	○
	b: Dashboard Upper [1.0 (0.039)]		270	○
	c: Dashboard Upper Side Member [1.6 (0.063)]		440	○
-1	Front Fender Rear Bracket [1.0 (0.039)]		270	○
-2	Front Fender Bracket [1.2 (0.047)]		270	○
⑧	Dashboard Lower	Upper [0.9 (0.035)]	270	○
		Lower [1.4 (0.055)]	590	○
⑨	Floor Front Crossmember A [1.8 (0.071)]		440	○

Roof and Side Panel Construction

NOTE: To confirm which parts are sold as repair parts, refer to the appropriate Parts Catalog.

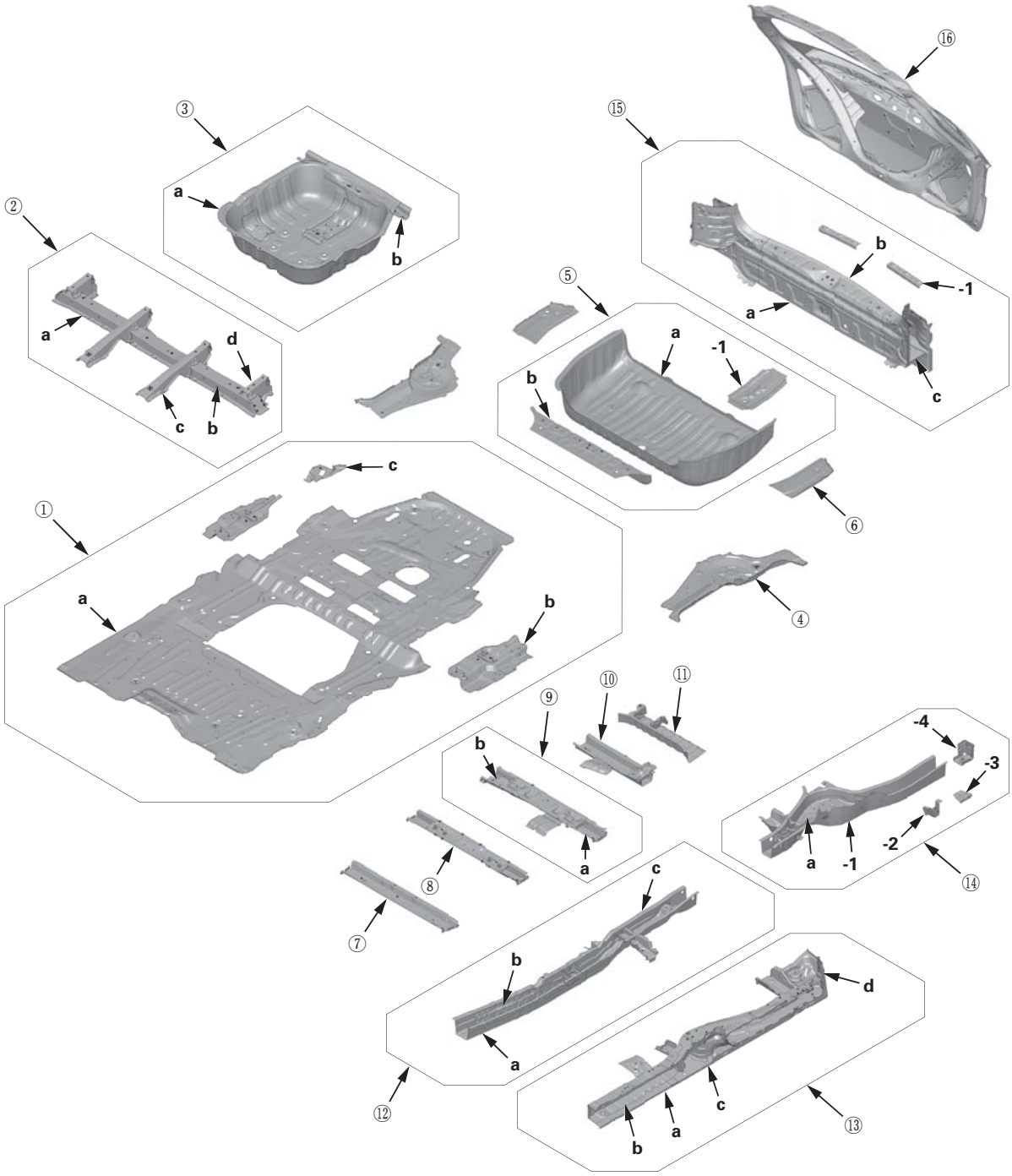


NOTE:
- The parts marked with numbers are sold as repair parts.
- The parts marked with letters are not sold separately and are shown only for reference.
- [ ]: Thickness unit: mm (in)
- High-tension steel sheet: Tensile strength 340 to 980 MPa.

No.	Part Name		Tensile Strength (MPa)	Zinc-Plating
①	Roof Panel Complete			
	a: Roof Panel [0.7 (0.028)]		340	○
②	Front Roof Rail [1.6 (0.063)]		270	
③	Roof Arch D [1.2 (0.047)]		USIBOR 1500P	
④	Rear Roof Rail [1.0 (0.039)]		590	
⑤	Side Sill Outer Panel [0.7 (0.028)]		270	○
⑥	Front Side Outer Panel Set [0.7 (0.028)]		270	○
⑦	Rear Side Outer Panel Set [0.7 (0.028)]		270	○
⑧	Rear Pillar Gutter [0.7 (0.028)]		270	○
⑨	Rear Combination Adapter [0.7 (0.028)]		270	○
⑩	Front Pillar Stiffener Complete			
	a: Front Pillar Lower Stiffener [1.2 (0.047)]		590	○
	b: Front Pillar Upper Stiffener [1.8 (0.071)]		590	
⑪	Side Sill Reinforcement [1.2 (0.047)]		590	○
⑫	Center Pillar Stiffener [1.6 (0.063)]		980	
⑬	Roof Side Outer Complete			
	a: Outer Upper [2.0 (0.079)/1.0 (0.039)]		590	○
	b: Outer Lower [1.0 (0.039)]		270	○
⑭	Front Inner Pillar Complete			
	a: Front Inner Lower Pillar [1.0 (0.039)]		590	○
	b: Jack-Up Base [2.6 (0.102)]		440	○
	c: Front Inner Middle Pillar [1.4 (0.055)]		590	
	d: Front Inner Upper Pillar [1.8 (0.071)]		590	○
⑮	Roof Side Rail Complete			
	a: Roof Side Front Rail [1.4 (0.055)]		USIBOR 1500P	
	b: Roof Side Rear Rail [1.2 (0.047)]		590	
⑯	Center Inner Pillar	Upper [1.8 (0.071)]	980	
		Lower [1.6 (0.063)]	590	○
⑰	Rear Inner Panel Complete			
-1	Rear Wheel Arch Extension [0.75 (0.0295)]		270	○
	a: Quarter Inner Upper Pillar [1.0 (0.039)]		590	
	b: Quarter Inner Lower Pillar [0.8 (0.031)]		440	
	c: Rear Inner Panel [0.65 (0.026)]		270	○
	d: Rear Inner Upper Rail [0.7 (0.028)]		440	
	e: Rear Inner Pillar, Upper [1.6 (0.063)]/Lower [1.0 (0.039)]		440	○
-2	Rear Wheelhouse [0.8 (0.031)]		270	○
⑱	Front Door	Skin [0.8 (0.031)]	340	○
		Panel, Front [1.4 (0.055)]/Rear [0.7 (0.028)]	270	○
⑲	Sliding Door	Skin [0.8.5(0.34)]		○
		Panel [0.7 (0.028)]	270	○

Floor and Rear Body Construction

NOTE: To confirm which parts are sold as repair parts, refer to the appropriate Parts Catalog.



NOTE:
- The parts marked with numbers are sold as repair parts.
- The parts marked with letters are not sold separately and are shown only for reference.
- [ ]: Thickness unit: mm (in)
- High-tension steel sheet: Tensile strength 340 to 980 MPa.

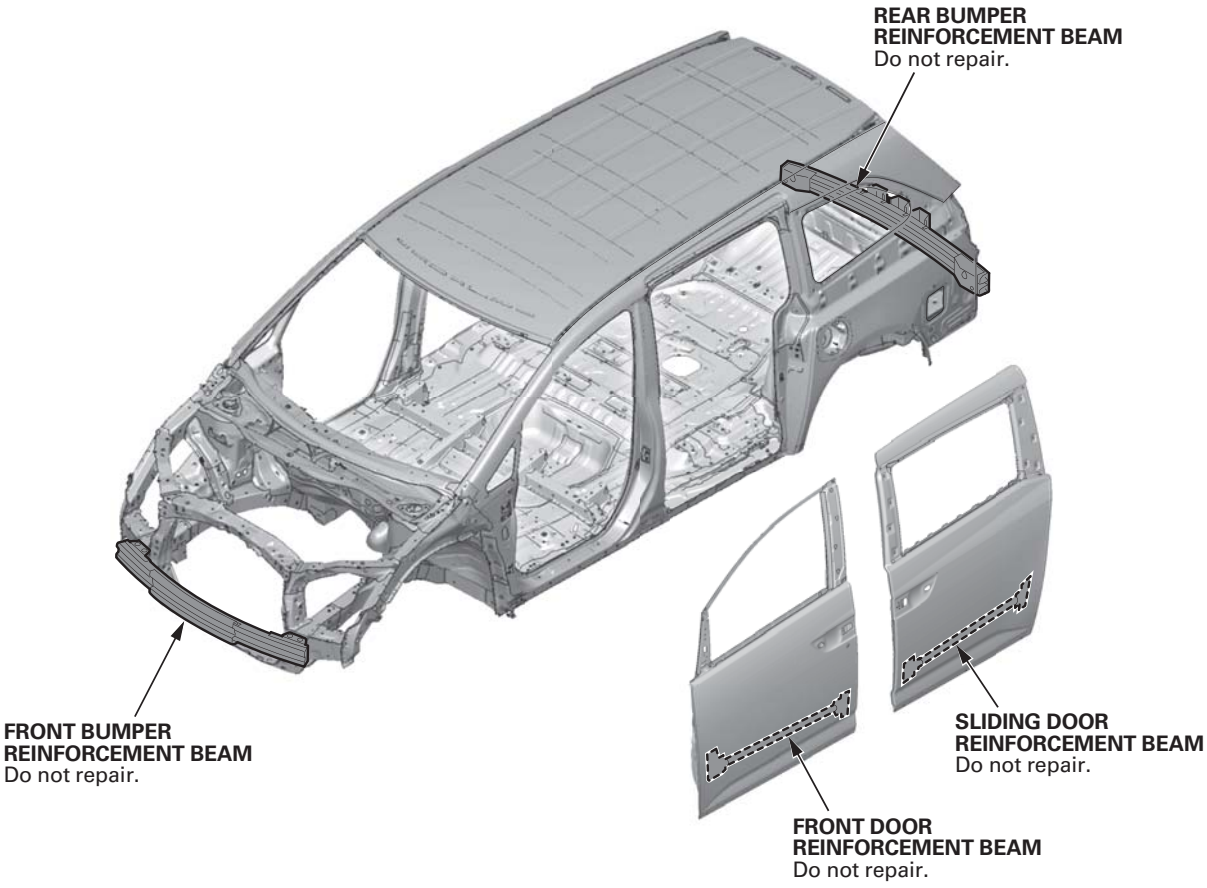
No.	Part Name	Tensile Strength (MPa)	Zinc-Plating
①	Floor Panel Set		
	a: Floor Panel [0.65 (0.026)]	270	○
	b: Second-Seat Plate B [2.0 (0.079)]	440	○
	c: Floor Panel Patch [0.8 (0.031)] Right side only	270	○
②	Under Floor Pan Crossmember Complete		
	a: Under Floor Pan Upper Crossmember A [1.6 (0.063)]	590	
	b: Under Floor Pan Lower Crossmember A [1.6 (0.063)]	590	○
	c: Front Seat Inner Bracket [1.8 (0.071)]	590	
	d: Front Seat Rear Outer Bracket [2.0 (0.079)]	590	
③	Under Floor Pan Complete		
	a: Spare Tire Pan [0.65 (0.026)]	270	○
	b: Under Floor Pan Crossmember B [0.7 (0.028)]	270	○
④	Floor Rear Extension A [2.0 (0.079)]	270	○
⑤	Third Floor Pan Set		
-1	Third-Seat Pan Stiffener [0.7 (0.028)]	270	○
	a: Third-Seat Pan [0.7 (0.028)]	270	○
	b: Third Row Seat Mount Panel [1.8 (0.071)]	590	○
⑥	Floor Rear Extension B [0.6 (0.024)]	270	○
⑦	Floor Front Crossmember B [1.6 (0.063)]	440	○
⑧	Floor Middle Crossmember A [2.3 (0.091)]	590	○
⑨	Middle Floor Crossmember B Complete		
	a: Floor Middle Crossmember B [1.6 (0.063)]	980	○
	b: Middle Floor Crossmember B Stiffener [1.6 (0.063)]	590	○
⑩	Middle Crossmember C [1.2 (0.047)]	590	○
⑪	Middle Floor Crossmember D [1.4 (0.055)]	590	○
⑫	Front Floor Frame Complete		
	a: Floor Front Frame [1.6 (0.063)]	Left side: 780/ Right side: 590	○
	b: Front Floor Frame Stiffener [1.6 (0.063)] Left side only	780	○
	c: Floor Front Extension [2.0 (0.079)] Left side only	590	○
⑬	Front Inside Sill Complete		
	a: Front Inside Sill A [1.4 (0.055)]	590	○
	b: Inside Sill Stiffener [1.2 (0.047)] Left side only	780	○
	c: Front Inside Sill B [1.6 (0.063)]	440	○
	d: Quarter Pillar Stiffener Extension [1.0 (0.039)]	270	○
⑭	Rear Frame Complete		
	a: Rear Frame Stiffener [1.2 (0.047)]	590	○
-1	Rear Frame [2.0 (0.079)]	440	○
-2	Rear Floor Outrigger [1.4 (0.055)]	270	○
-3	Rear Frame Outrigger B [1.2 (0.047)]	270	○
-4	Rear Bumper Beam Bracket [2.3 (0.091)]	590	○
⑮	Floor Rear Crossmember Complete		
	a: Rear Floor Outer Crossmember [1.4 (0.055)/0.8 (0.031)]	270	○
	b: Rear Floor Inner Crossmember [1.2 (0.047)/0.8 (0.031)]	270	○
	c: Rear Floor Crossmember Extension [0.6 (0.024)]	270	○
-1	Rear Bumper Face Stiffener [0.9 (0.035)]	270	○
⑯	Tailgate — Upper Skin [0.7 (0.028)]	340	○
	Tailgate — Lower Skin [0.7 (0.028)]	270	○
	Tailgate — Frame [0.6 (0.024)]	270	○

Door and Bumper Reinforcement Beams

The door and bumper reinforcement beams used on Honda vehicles are made from a metal equivalent to high-strength steel.

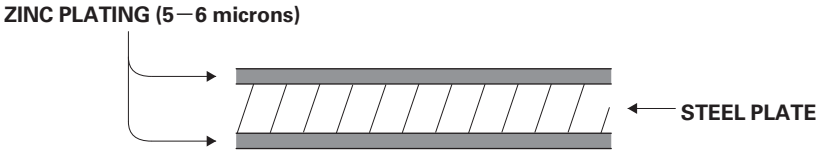
If high-strength steel is heated, the strength of the steel is reduced. If high-strength steel is damaged, for example, in a collision, and the door and bumper reinforcement beams are bent, the beams may crack when attempting to straighten them. If a door beam is damaged, the whole door panel assembly must be replaced.

For this reason, the door and bumper reinforcement beams should NEVER be repaired; they must be replaced if they are damaged.



Zinc-Plated Steel Plate Repair

The zinc-plated steel plate used in some panels of the Odyssey require different repair techniques than ordinary steel plate. Refer to Front Body Construction (see page 1-12), Roof and Side Panel Construction (see page 1-14), and Floor and Rear Body Construction (see page 1-16) for the locations of the zinc-plated panels.



1. Before spot welding the zinc-plated steel plate, remove the paint from both sides of the flange to be welded. Apply sealer to the flange after welding.

   NOTE: Seal the sanded surfaces thoroughly to prevent rust.

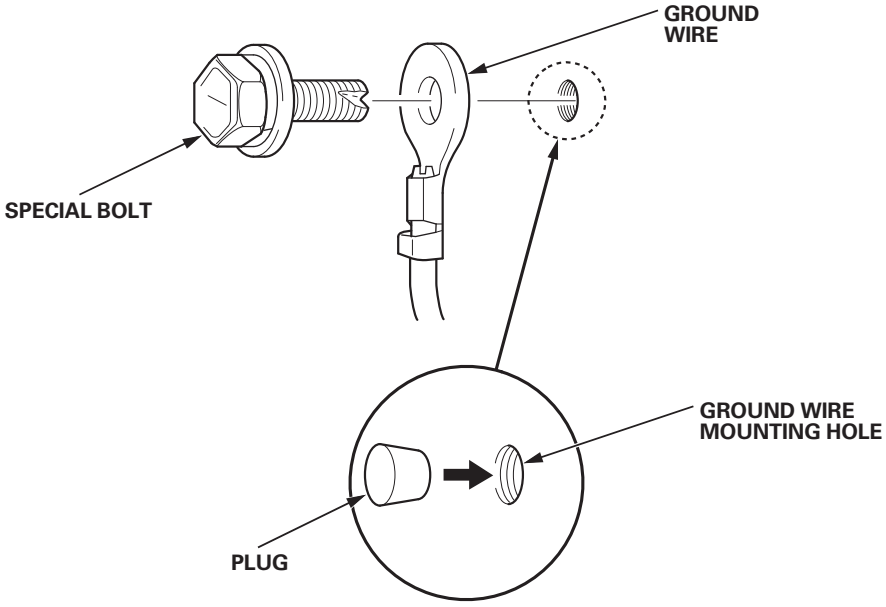
2. The electric continuity properties for zinc-plated steel plates differ from ordinary steel plates. When spot welding, increase the current by 10 to 20 percent, or increase the resistance welding time. Also increase the number of weld spots by 10 to 20 percent.

   NOTE: The MIG welding procedures for zinc-plated steel plates are similar to ordinary steel plates.

3. Before applying putty or body filler to the zinc-plated steel plates, sand the zinc plating thoroughly to promote adhesion and prevent blistering.

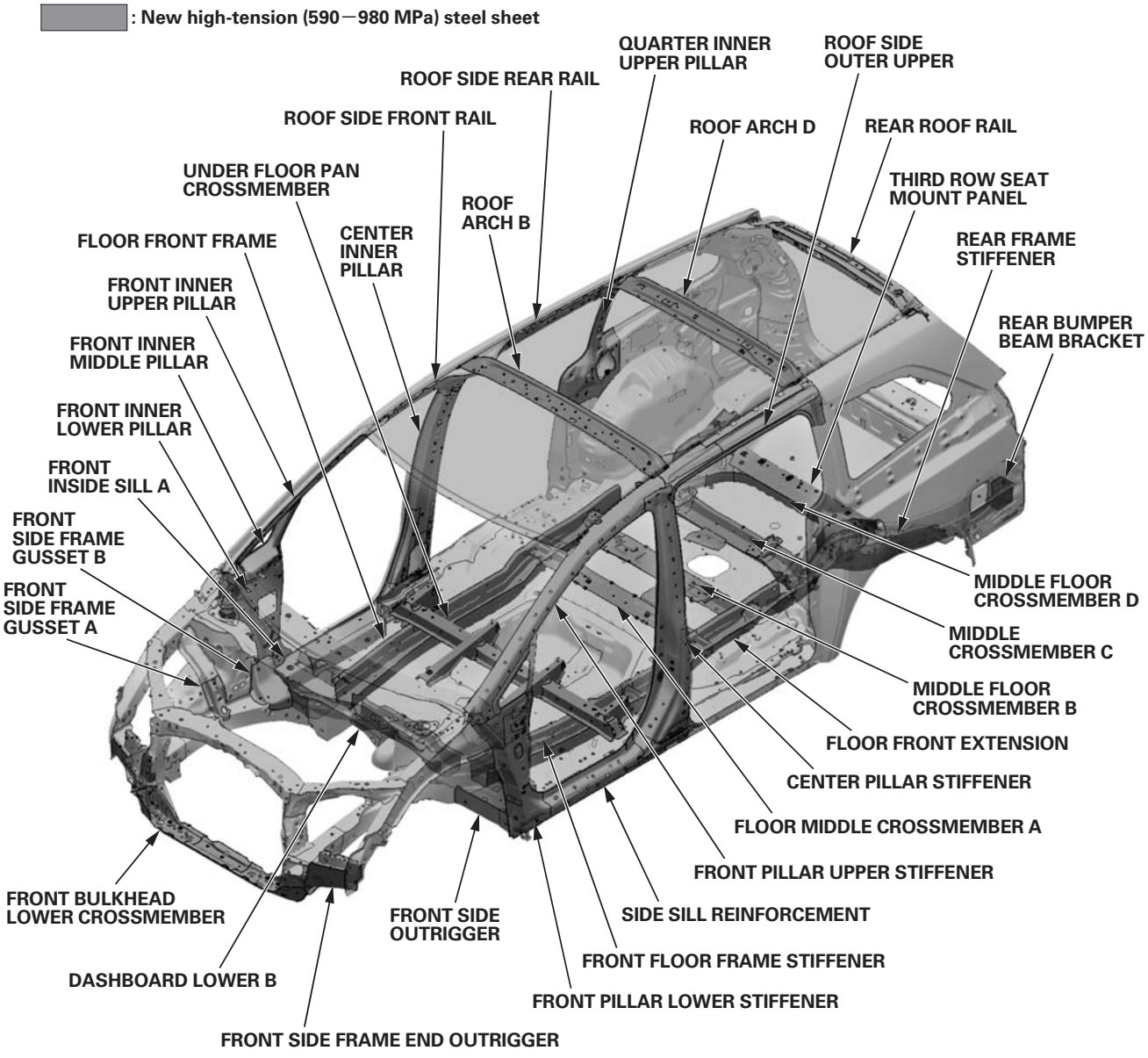
   NOTE: Use only epoxy-based putties and fillers on zinc-plated steel plates, and follow the manufacturer's specifications.

4. When doing paint work, protect the ground wire and the ground wire mounting hole threads with a bolt or a plug.



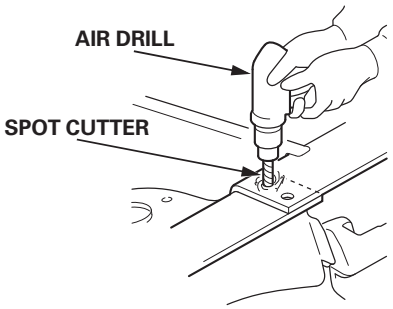
High-Tension Steel Sheet Framed Area

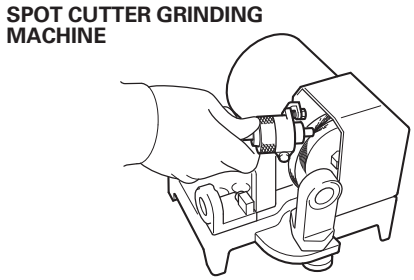
The new high-tension steel sheet has greater tensile strength than conventional high-tension steel sheet. Although it's a thinner sheet, it is as strong as the previous thicker ones. Because the manufacturing press process has improved, its usage has expanded. For this vehicle, the new high-tension steel sheet is used for the main frame and the passenger compartment to make this model lightweight and to improve the high-crush absorption frame.

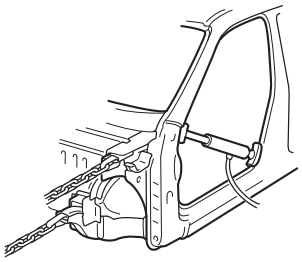


Precautions for High-Tension Steel Parts Area Repair

- The new high-tension steel parts of the frame are all spot welded together. To disassemble, drill a hole in the sections that are spot welded together with a very sharp spot weld bit.
- The new high-tension steel sheet is more rigid than previous steel sheets, making it difficult to straighten. When an automobile's frame is partially constructed with the new high-tension steel sheet, it must be straightened using an accurate frame straightening system. Inspect the body and frame for stress-related damage to the sections that are not made from the new high-tension steel after the repair is complete.
- High-tension steel has more memory than normal steel, and it is necessary to monitor the body dimensions closely during the straightening process.
- Spot welding is acceptable for replacement parts as long as the proper number of welds is used in the repair. For replacement part welding locations, refer to the appropriate replacement procedures in this manual. If spot welding does not provide acceptable repairs, plug the welds using an MIG welder.







Parts Replacement Description

Because of changes in body structure to improve collision safety and body rigidity, the materials and thickness of steel sheets and internal reinforcements (patch, stiffener) of components have become very specific. High-tension steel is extensively used. To ensure the same level of body performance as when it is produced, avoid cut and joining replacement (sectioning); repair by assembly replacement.

NOTE:

- Cut and joint replacement should basically be avoided except for outer panels and floor panels.
- Confirm in what state the component to be replaced is delivered, and replace the component as an assembly as much as possible.

Paint Information

Paint Information

Soft Chipping Guard Primer Coat

Paint Safety Precautions

⚠ WARNING

Most paints contain substances that are harmful if inhaled or swallowed. Read the paint label before opening the container.

Observe the following precautions to maintain a safe painting work area.

- Wear an approved respirator and eye protection when painting.
- Wear approved gloves and appropriate clothing when painting. Avoid contact with skin.
- Spray paint only in a well ventilated area.
- Cover spilled paint with sand, or wipe it up at once.
- If paint gets in your mouth or on your skin, rinse and wash thoroughly with water. If paint gets in your eyes, flush with water and get prompt medical attention.
- After the painting work is finished, wash your face and gargle with water.
- Paint is flammable. Store it in a safe place, and keep it away from sparks, flames, or cigarettes.

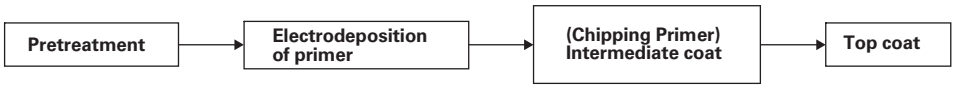
General

The 3-coat·3-bake (3C·3B) paint finish gives the Odyssey a deep gloss and a stunning finish. This manual provides information on paint defects, repair, and refinishing. Throughout, the objective is to explain in a simple yet comprehensive manner the basic items you should know about paint repairs. Select the correct material for the defect and repaint or refinish in the correct manner as described in this manual.

Basic Rules for Repairing a Paint Finish

To repair paint damage, always use the 2-part acrylic urethane paints designated; polish and bake each of the three coats, as in production, to maintain the original film thickness, and to assure the same quality as the original finish.

Outline of factory painting process



Features In Each Work Process

Pretreatment and electrodeposition

In the pretreatment process, the entire body is degreased, cleaned, and coated with zinc phosphate by dipping.

After the body has been cleaned with pure water, it is placed in an electrolytic bath of soluble primer (cationic electrodeposition).

This produces a thorough corrosion inhibiting coating on the inner surface and corners of the body, the pillars, the sills, and the panel joints.

Chipping primer is then applied to the most susceptible areas (see page 2-9).

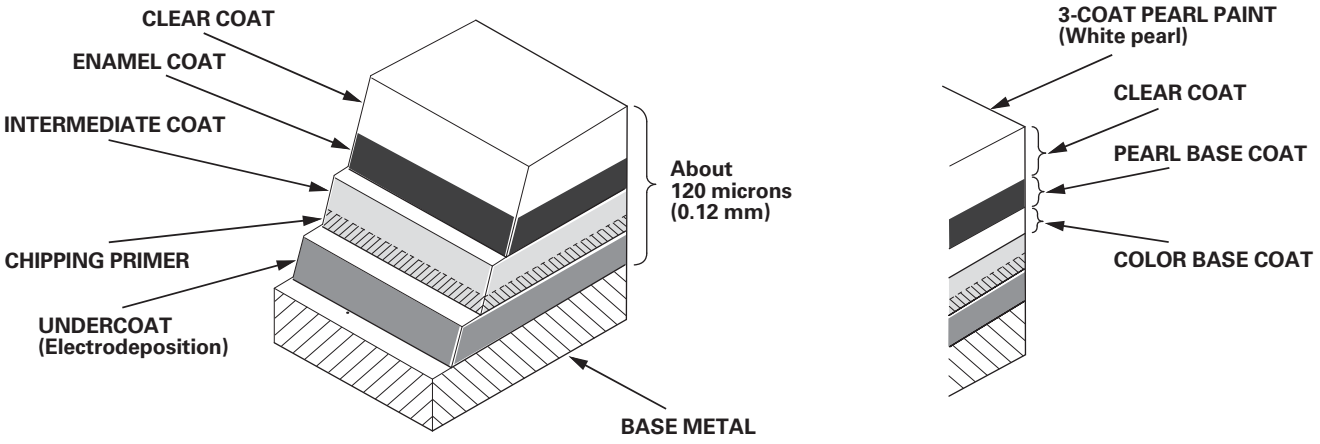
Intermediate coat

The intermediate coat is applied to the prepared surface to further protect against damage.

Top coat

Enamel paint and either polyester or acrylic resin paint are used in the top coat for higher solidity, smoothness, brightness, and weather resistance.

Sectional view of paint coats

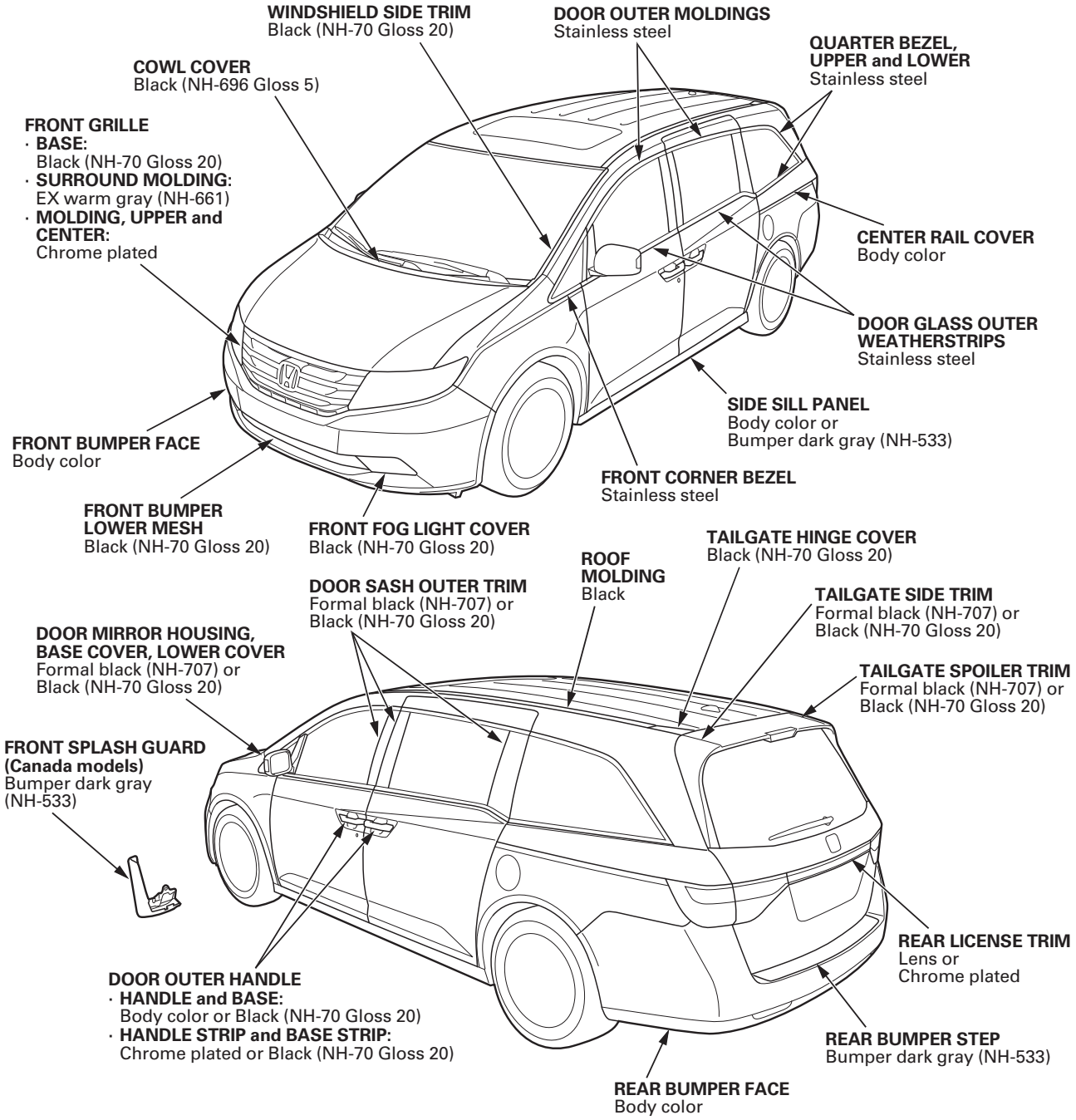


Paint Information

Color Chart Paint Specifications

NOTE:

- For model year paint code information, refer to the appropriate service manual.
- Apply black paint to the visible surface of the front wheelhouse and the rear wheelhouse after repairing and painting (except vehicles painted with black color).



Features of Plastic Materials

- Check each of the plastic parts for solvent resistance and heat resistance before you do any repair work.
- Select the repair material according to materials of the plastic parts.
- Alcohol can be used for degreasing in small amounts, and for short periods of time. Do not soak.
- Contact your paint and material supplier for other recommended cleaners for the type of plastic you are working on.

Standard Symbol	Name	Heat Resistance Temperature °F (°C)	Note
AAS	Acrylonitrile acrylic styrene	176 (80)	
ABS	Acrylonitrile butadiene styrene	176 (80)	
AES	Acrylonitrile ethylene styrene	176 (80)	
A/EPDM/S	Acrylonitrile/ethylene propylene diene monomer (rubber)/styrene	176 (80)	
ASA	Acrylonitrile styrene acrylate	176 (80)	
CAB	Cellulose acetate butylate	176 (80)	
E/VAC	Ethylene-vinyl acetate	176 (80)	
PA	Polyamide	176 (80)	Battery acid (sulfuric acid) can damage the material.
PBT	Polybutylene terephtalate	320 (160)	Solvent can damage the material.
PC	Polycarbonate plastics	248 (120)	Brake fluid, and wax and grease remover can damage the material.
PE	Polyethylene	176 (80)	Solvent can damage the material.
PF	Phenol formaldehyde	176 (80)	
PMMA	Polymethyl methacrylate	176 (80)	Wash remover off with water thoroughly.
POM	Polyoxymethylene polyacetal	212 (100)	Solvent can damage the material.
PP	Polypropylene	176 (80)	Solvent can damage the material.
PPO (PPE)	Polyphenylene oxide	212 (100)	

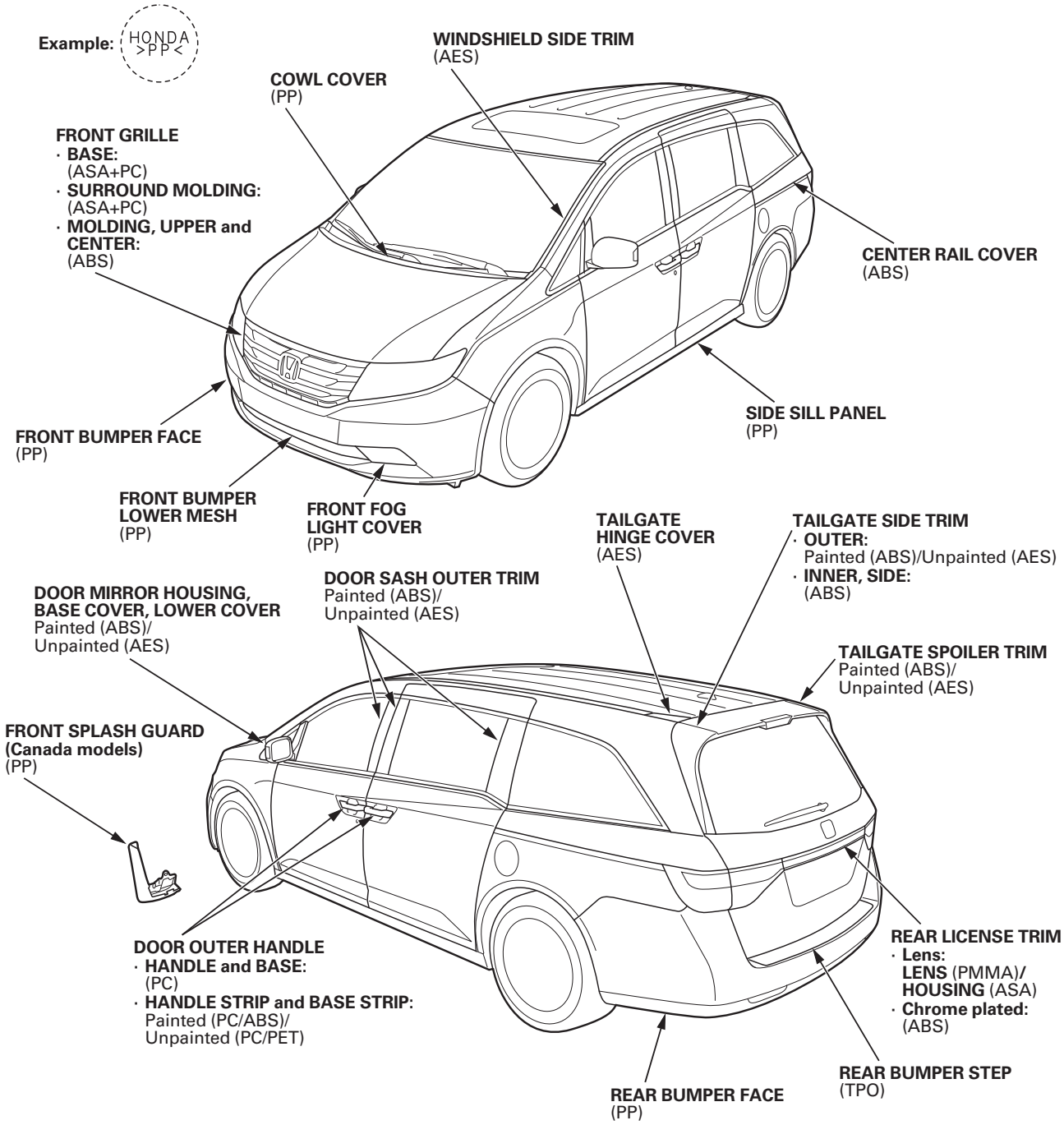
(cont'd)

Features of Plastic Materials (cont'd)

Standard Symbol	Name	Heat Resistance Temperature °F (°C)	Note
PS	Polystyrene	140 (60)	
PUR	Polyurethane	176 (80)	
PVC	Polyvinyl chloride	176 (80)	
SAN	Styrene acrylonitrile	176 (80)	
SMC	Sheet molding compound	356 (180)	Solvent can damage the material.
TPE	Thermoplastic polyester elastomer	176 (80)	Wash remover off with water thoroughly.
TPS	Thermoplastic styrene elastomer	176 (80)	Wash remover off with water thoroughly.
TPO	Thermoplastic olefin/elastomer	176 (80)	Wash remover off with water thoroughly.
TPU	Thermoplastic polyurethane/elastomer	176 (80)	Wash remover off with water thoroughly.
UP	Unsaturated polyester	230 (110)	Alkali can damage the material.

Types and Materials of Exterior Plastic Parts

NOTE:
- For the full plastic name, refer to the features of plastic materials (see page 2-5).
- A standard symbol is stamped on the underside of each plastic part to show the type of material used.



Soft Chipping Guard Primer Coat

General Safety Precautions

The removal of paint and undercoating by stone chips immediately exposes metal to the atmosphere, causing it to oxidize. The thickness of this oxidation increases if the process continues unchecked. The soft chipping guard primer protects against damage due to the impact of such objects.

- The soft chipping guard primer coat is applied over the E. D. (electrostatically deposited) primer. It is followed by the guide coating and the top coating.
- The soft chipping guard primer produces a smooth surface when dry. It should be sprayed so the thickness of the protective film is 20 microns.

Sectional view of paint coats:

Top coat
Intermediate coat + Chipping guard primer
Electrodeposition
Base metal

- A soft chipping guard primer coat is then applied to the most susceptible areas (see page 2-9).
- Spray the primer surface (2-part urethane primer surfacer) on the soft chipping guard primer coating areas when you replace parts using soft chipping guard primer coat.

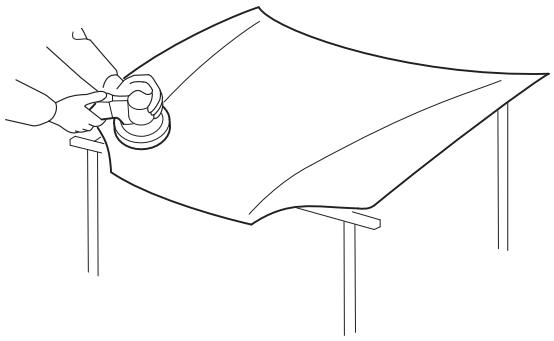
Coating Procedures

⚠ WARNING

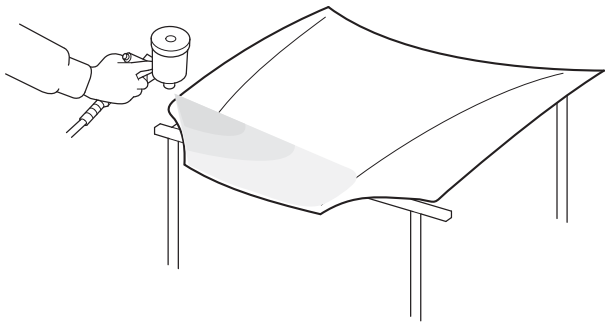
- Wear goggles or safety glasses to prevent eye injury.
- Ventilate when spraying undercoat.

1. Sanding the replacement part.
   Use a double action sander and 400 grit sandpaper.

   NOTE:
   - Do not oversand the edges or corners of the part.
   - Do not expose base metal.



2. Air blowing/degreasing.
   Use alcohol, and wax and grease remover.
3. Protect from overspray.
   Use masking tape and paper to protect the related areas from overspray.



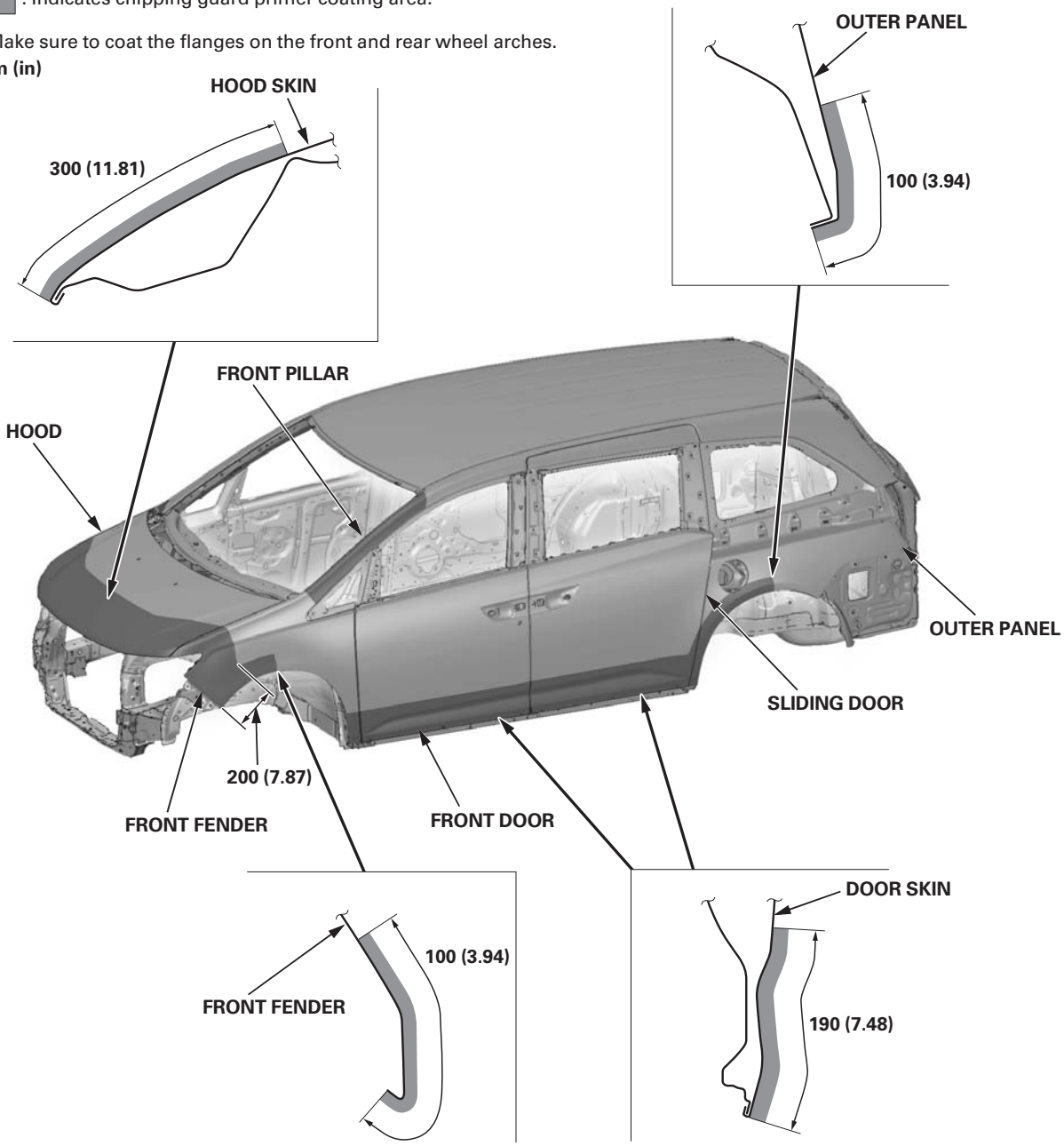
4. Spraying primer surfacer.
   - Spray about four to five coats to get 20 microns of thickness. One coat deposits about 5 to 7 microns.
   - Do not try to cover the surface with one heavy coat. Applying several thin coats is recommended.
   - Use a 2-part urethane primer surfacer and a spray gun.
   - Mix the primer surfacer with the correct ratio of additive and solvent.
   - Follow the primer surfacer manufacturer's instructions.
5. Drying.
   After spraying primer surfacer, allow 7 to 10 minutes of drying time, then force dry it with infrared lamps or an industrial dryer.
6. Polishing.
   - Check that the primer surfacer has dried thoroughly, then sand the primer surfacer.
   - Use a double action sander and 400—600 grit sandpaper.
7. Intermediate coating and top coating.

Coating Areas

: Indicates chipping guard primer coating area.

NOTE: Make sure to coat the flanges on the front and rear wheel arches.

Unit: mm (in)



Replacement

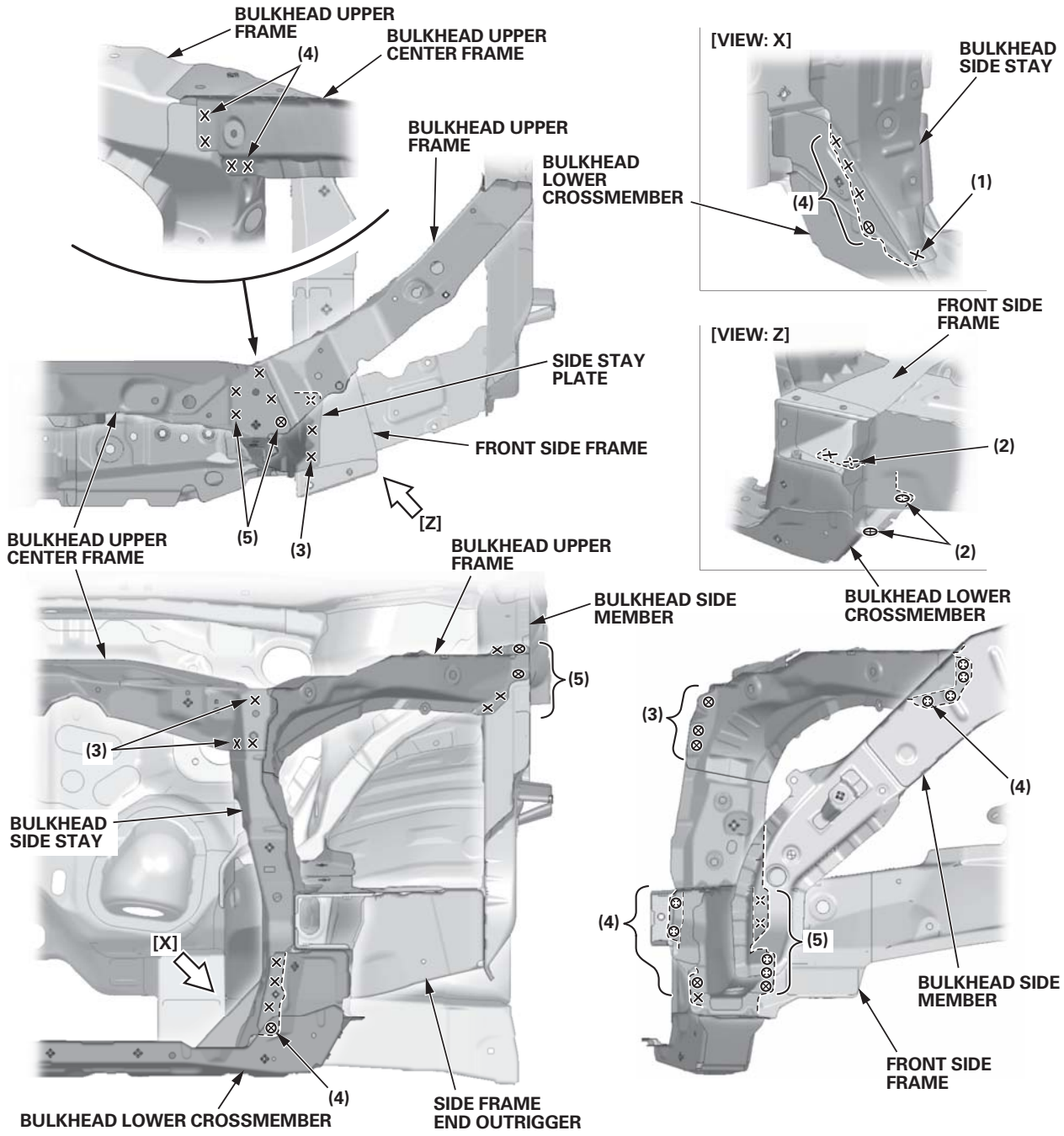
Front Bulkhead

Removal

Mass production body welding positions and numbers

NOTE:

- Welding symbols
  ⨯: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

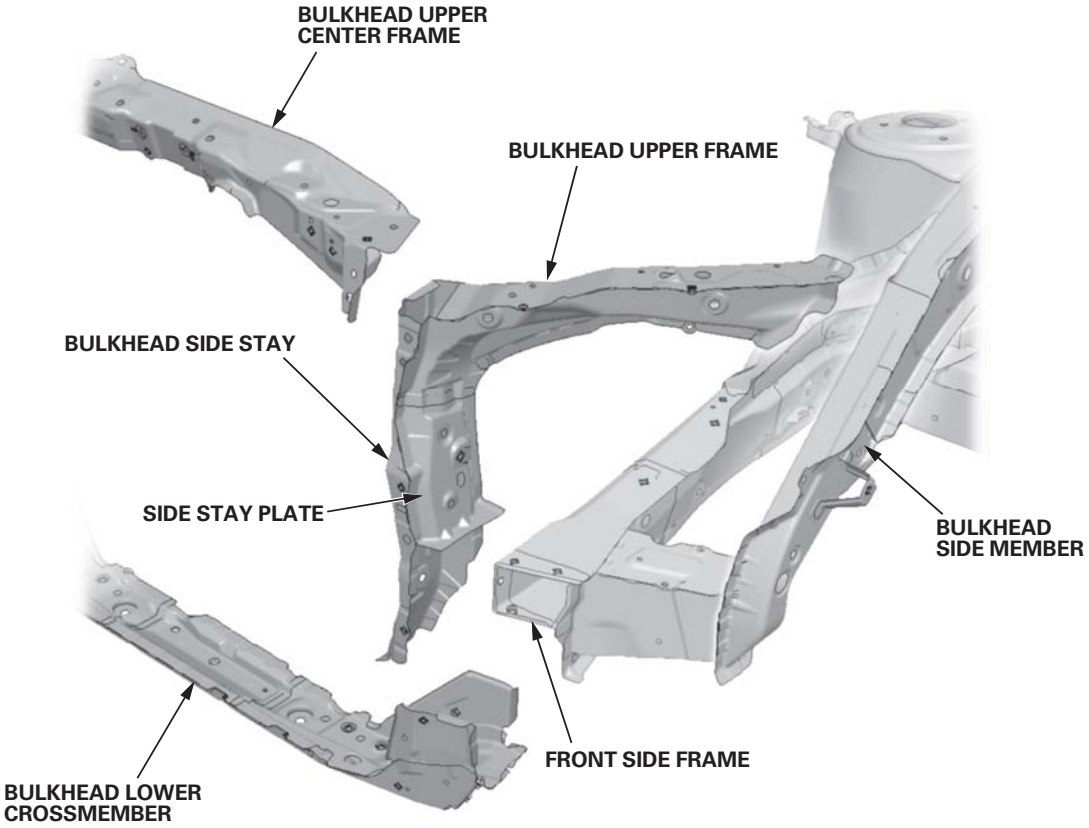


Construction

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

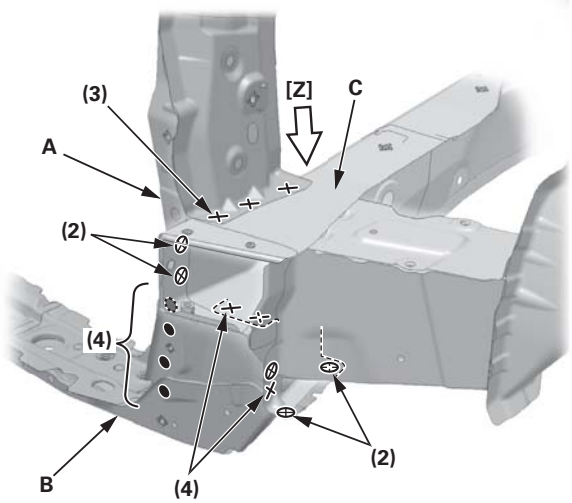
- Replace the bulkhead upper center frame, the bulkhead side stay, and the bulkhead lower crossmember.
- Replace the bulkhead side stay, the side stay plate, and the bulkhead upper frame as an assembly.



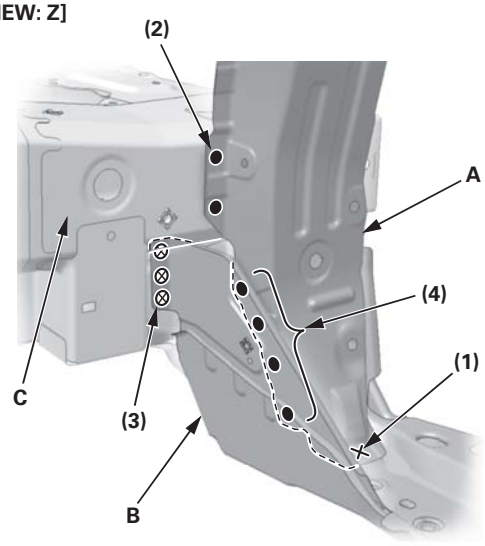
Installation

NOTE:
- Welding symbols
  ⨯: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

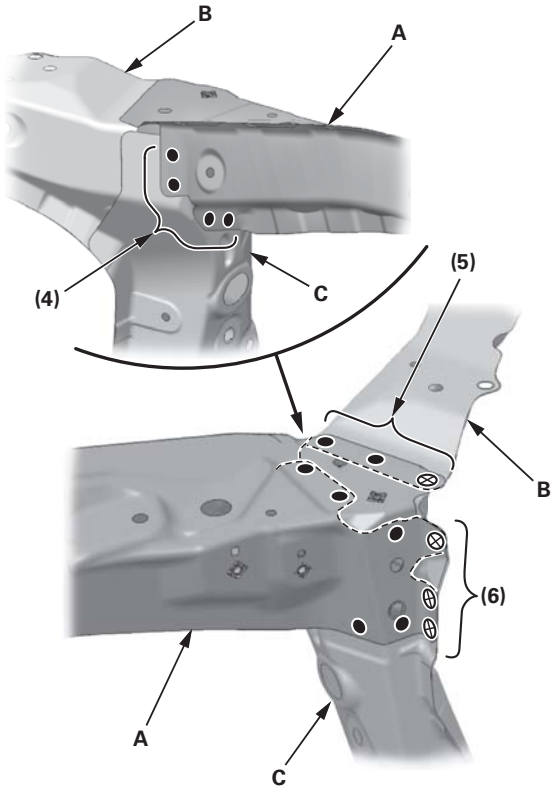
1. Set the new parts bulkhead, and measure the front compartment diagonally.
2. Check the body dimensions.
   - Front bulkhead position (see page 4-3)
   - Engine compartment (see page 4-4)
   - Bulkhead side member position (see page 4-6)
   - Engine compartment and front floor, under view (see page 4-17)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)
3. Tack weld the new parts into position.
4. Temporarily install the front fender, the hood, and the door, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). If necessary, check the headlight and the front bumper positions. Make sure the body lines flow smoothly.
5. Do the main welding.
   Weld the bulkhead side stay (A), the bulkhead lower crossmember (B), and the front side frame (C).



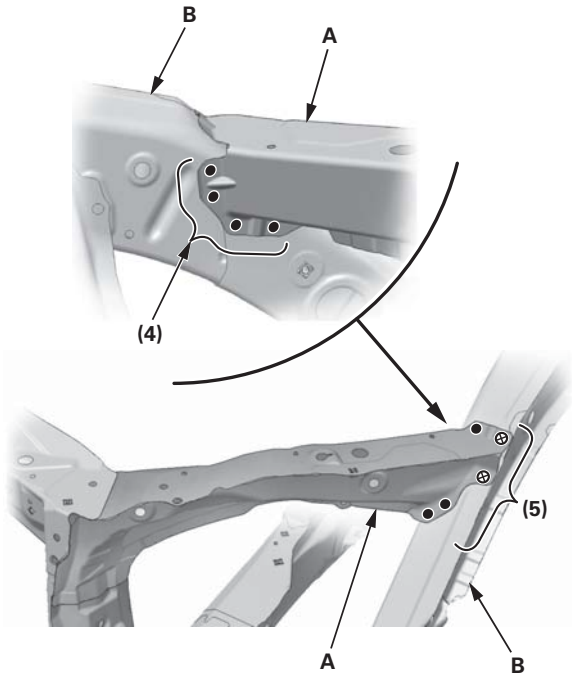
[VIEW: Z]



6. Weld the bulkhead upper center frame (A) to the bulkhead upper frame (B) and the bulkhead side stay (C).



7. Weld the bulkhead upper frame (A) to the bulkhead side member (B).

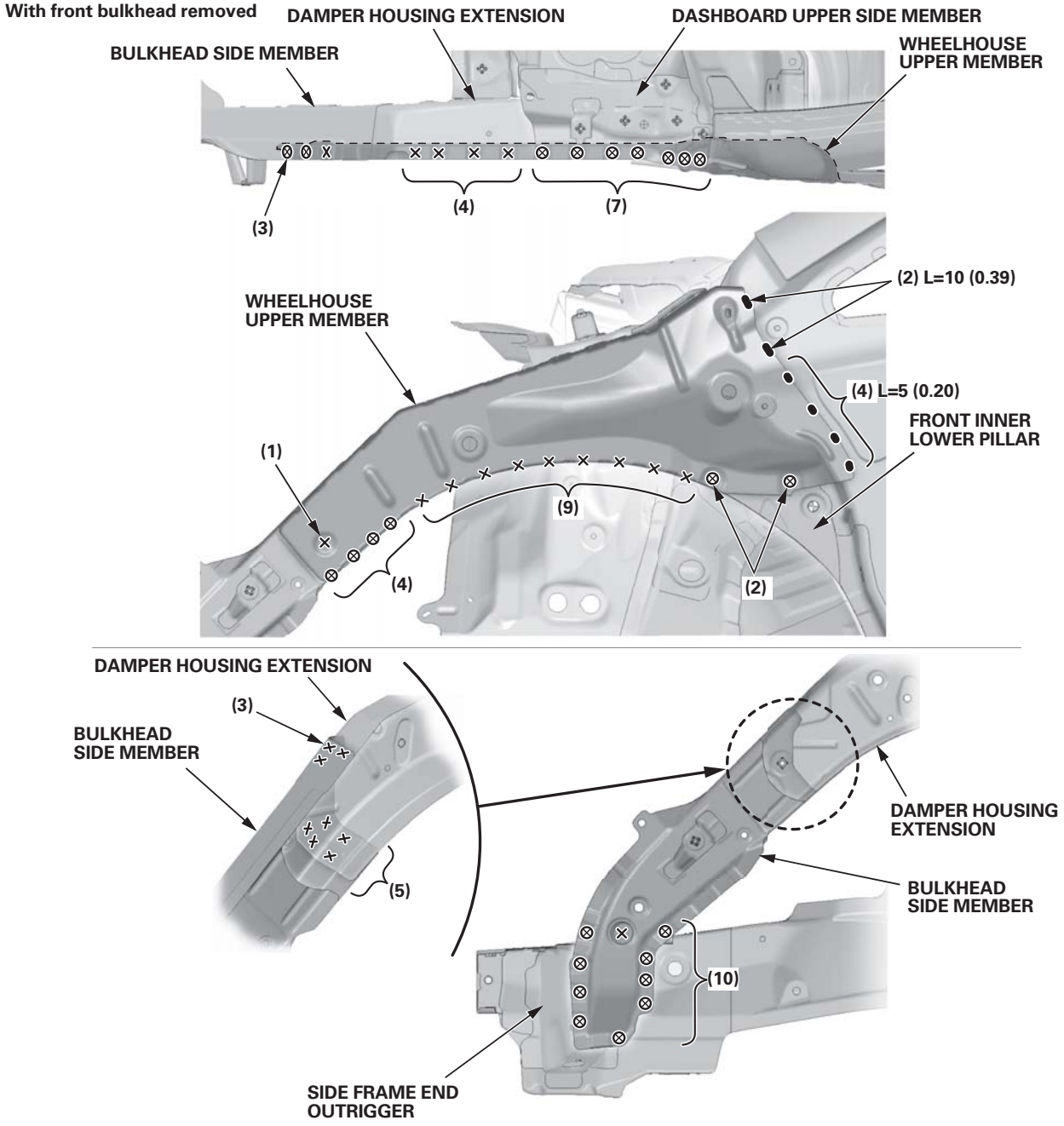


Removal

Mass production body welding positions and numbers (Wheelhouse upper member and bulkhead side member)

NOTE:

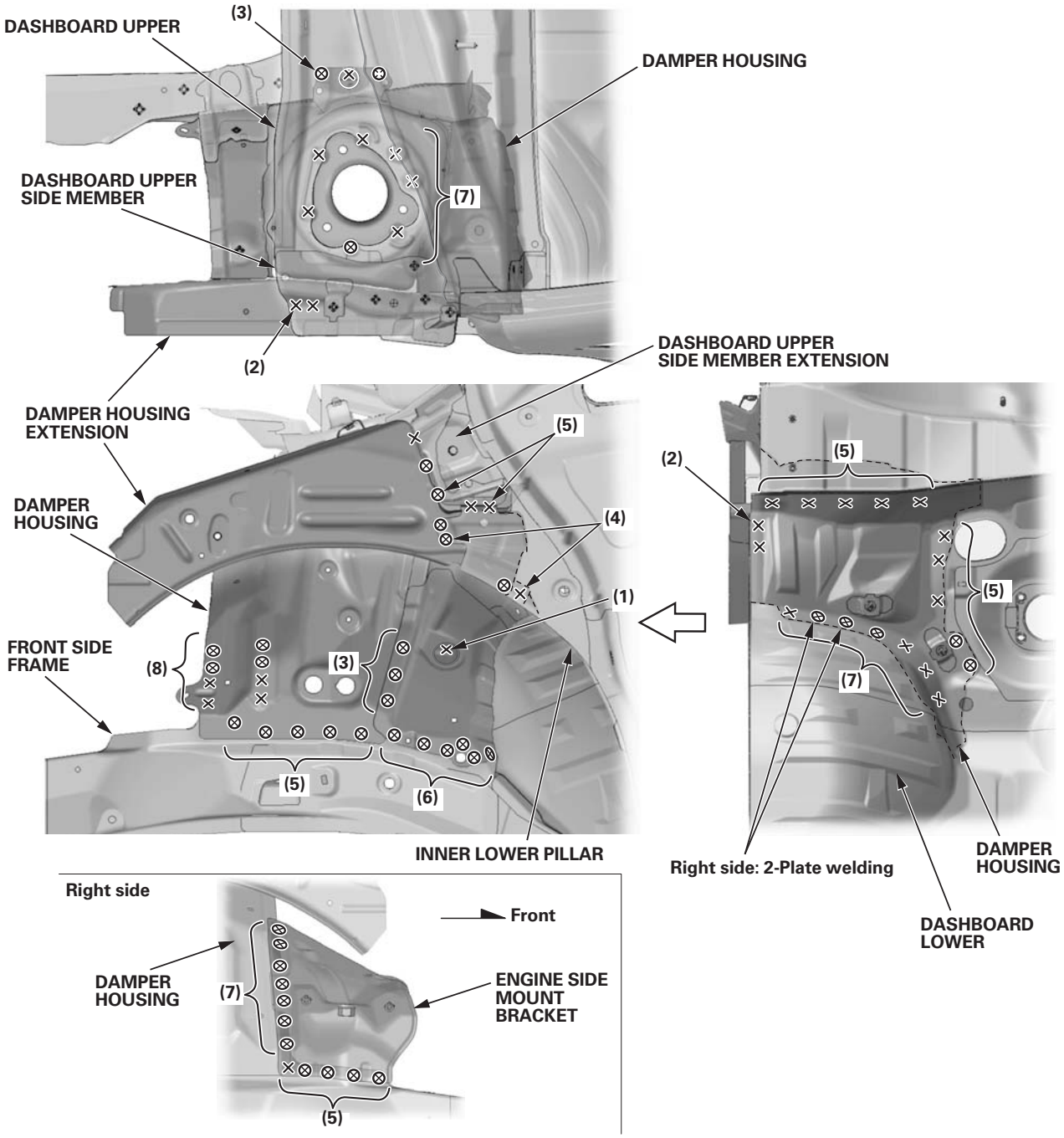
- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ⊠: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



Mass production body welding positions and numbers (Damper housing)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ⊠: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



(cont'd)

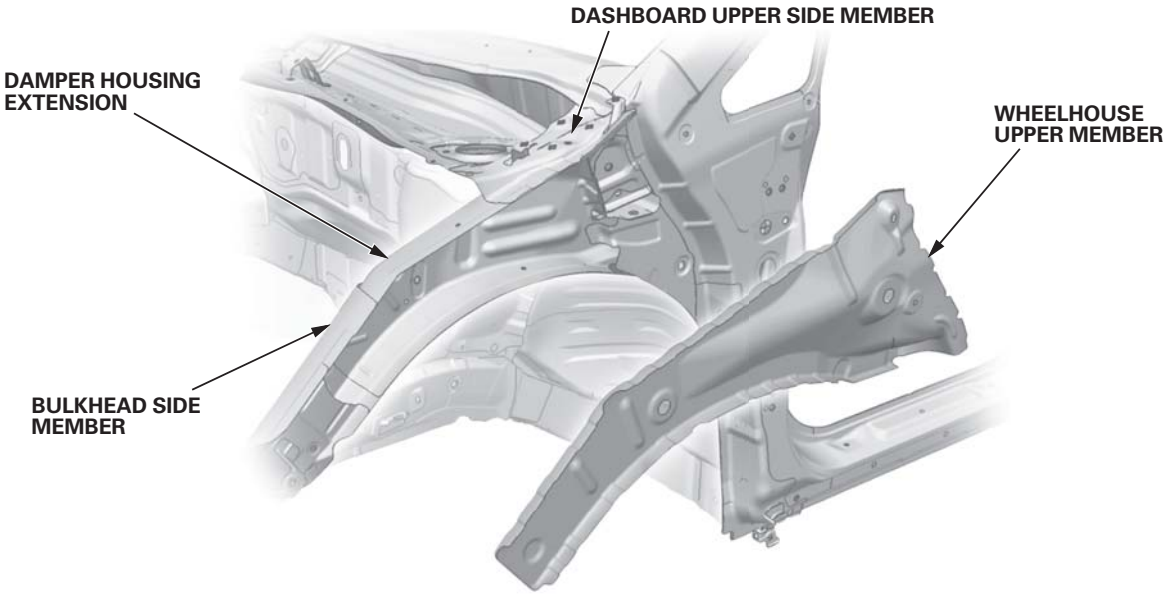
Removal (cont'd)

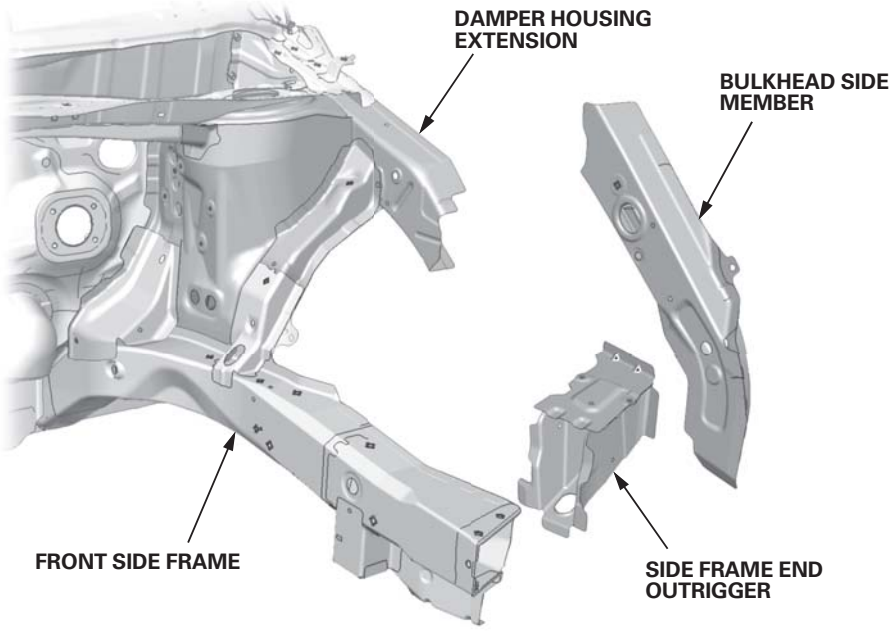
Construction (Wheelhouse upper member and bulkhead side member)

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- Remove the wheelhouse upper member.
- Replace the bulkhead side member, check the side frame end outrigger position for damage. If necessary, replace it.



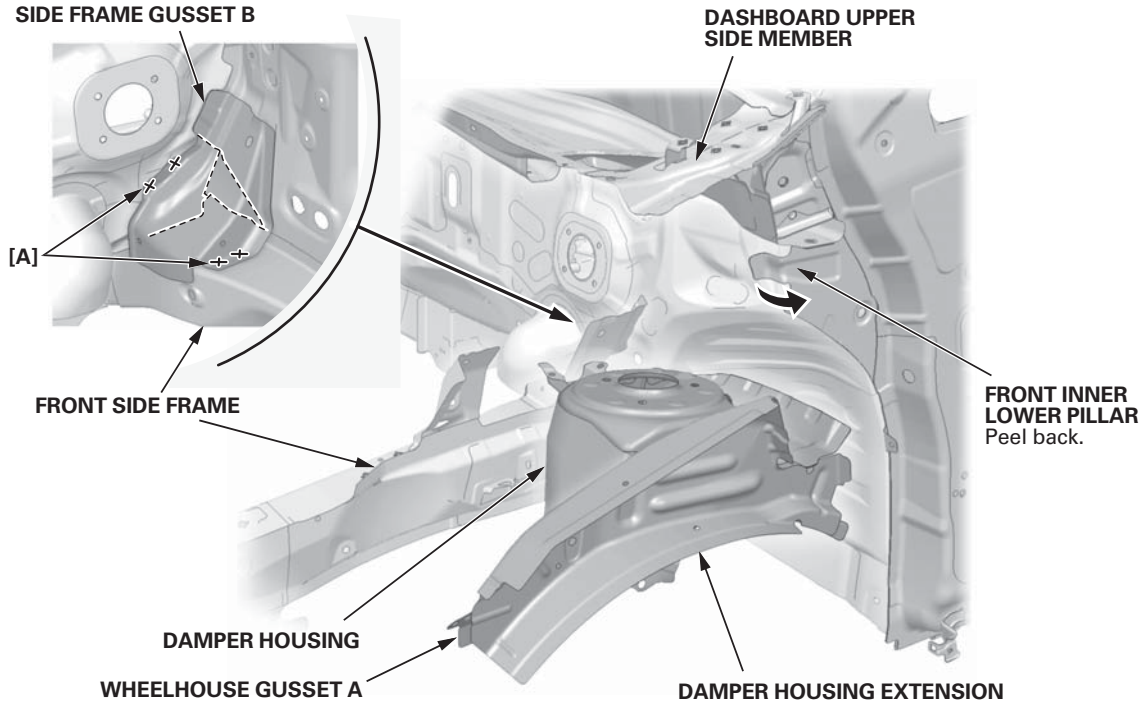


Construction (Damper housing and damper housing extension)

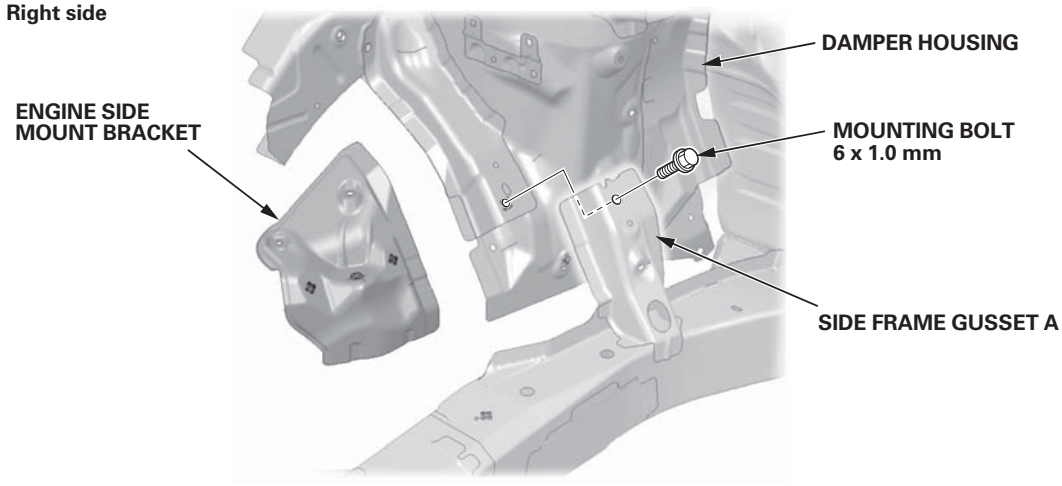
NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- Check the damper housing position for damage.
- If necessary, replace the damper housing, wheelhouse gusset A, and the damper housing extension as an assembly.
- When replacing the damper housing, peel back the front inner lower pillar.
- When sliding the damper housing out, drill the four spot welded points [A] at the joint for side frame gusset B, and pry up its weld flange.



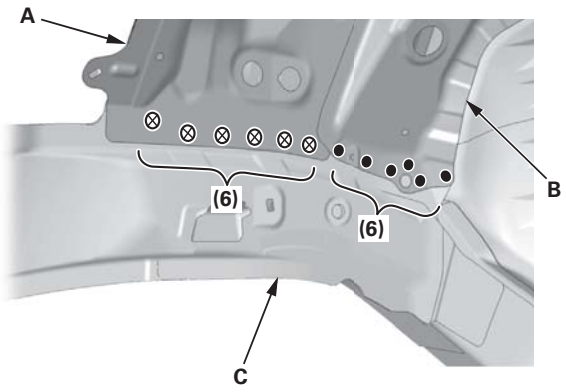
Right side



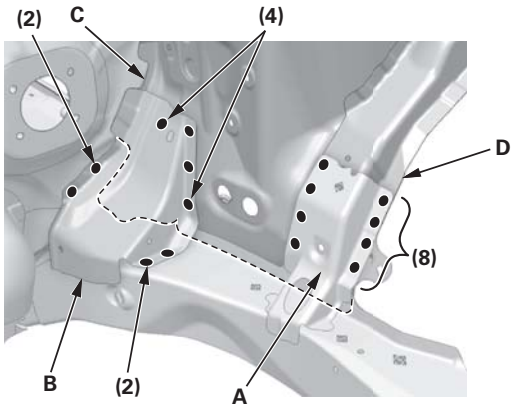
Installation

NOTE:
- Welding symbols
  ⨯: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ☒: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Clamp the new damper housing, the bulkhead side member, the side frame end outrigger, and the front bulkhead, and measure the front compartment diagonally.
2. Check the body dimensions.
   - Front bulkhead position (see page 4-3)
   - Engine compartment (see page 4-4)
   - Engine side mount position (see page 4-5)
   - Bulkhead side member position (see page 4-6)
   - Engine compartment and front floor, under view (see page 4-17)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)
3. Tack weld the new parts and the front bulkhead into position.
4. Temporarily install the front subframe, and check the front side frame position.
5. Temporarily install the front fender, the hood, and the door, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). If necessary, check the headlight and the front bumper positions. Make sure the body lines flow smoothly.
6. Do the main welding.
   Weld the damper housing (A) and wheelhouse lower gusset B to the front side frame (C).

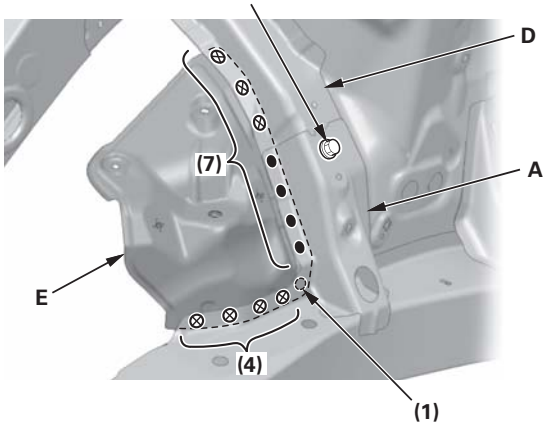


7. Weld the damper housing (C) and wheelhouse gusset A (D) to side frame gusset A and gusset B.
   Right side: Weld the engine side mount bracket (E).

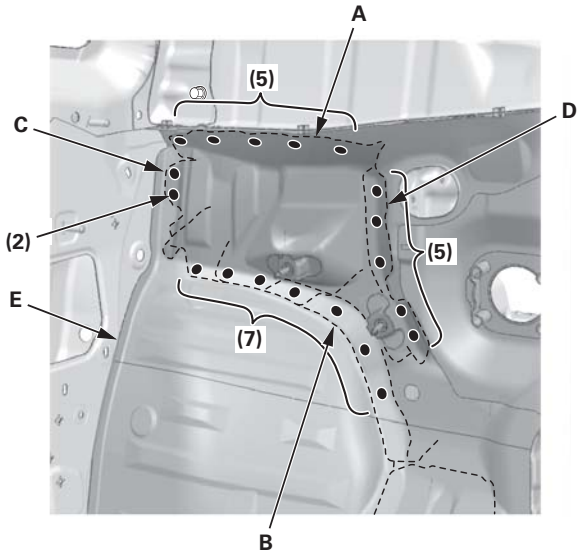


Right side

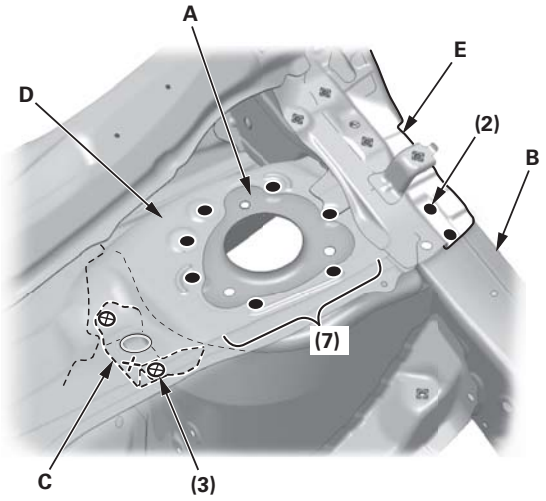
6 x 1.0 mm
9.3 N·m
(0.95 kgf·m, 6.9 lbf·ft)



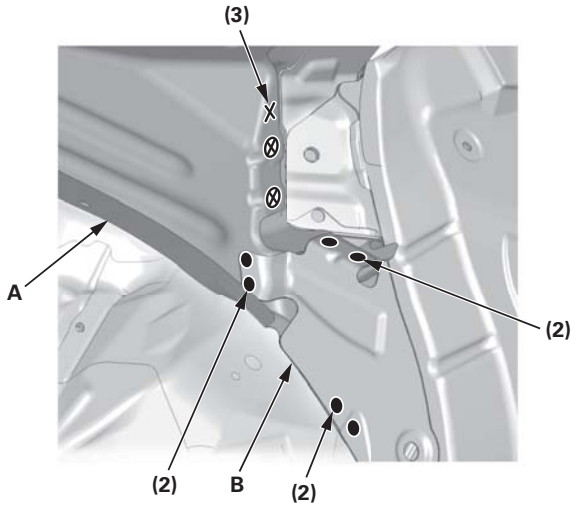
8. From the passenger's compartment, plug weld the damper stiffener (A), the damper housing extension (C), wheelhouse lower gusset B, and the damper housing (D) to the dashboard lower (E).



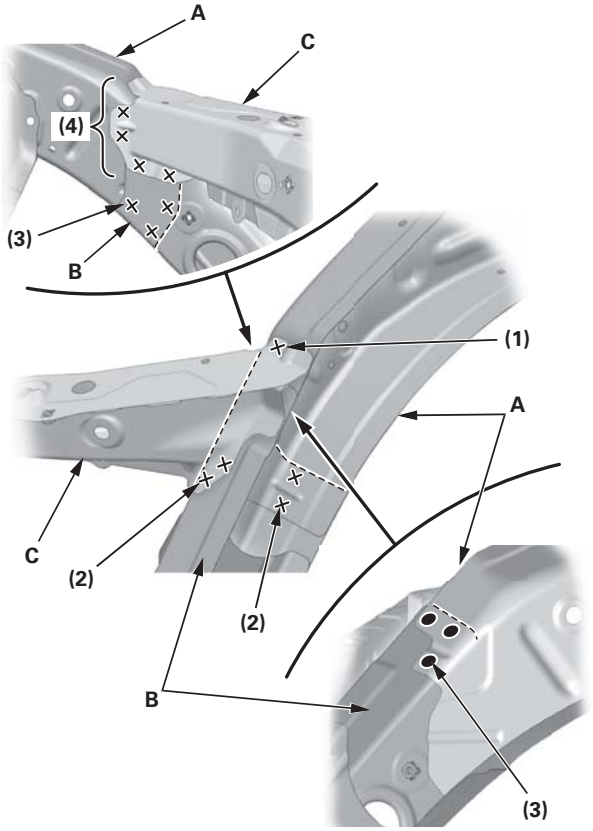
9. Weld the damper base (A), the damper housing extension (B), and the damper housing bracket (C) to the dashboard upper (D) and the dashboard upper side member (E).



10. Weld the damper housing extension (A) and the front inner lower pillar (B).



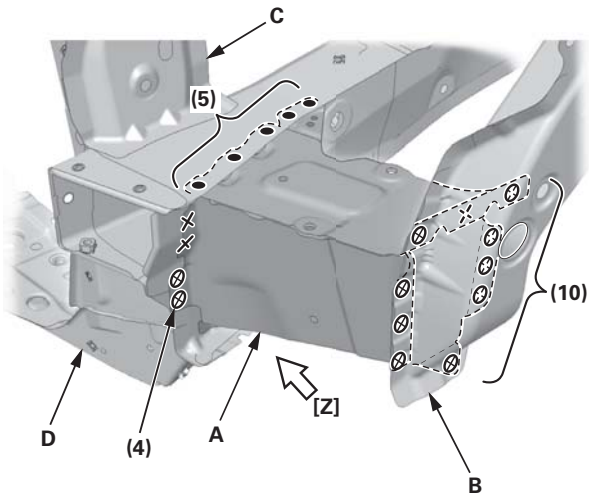
11. Weld the damper housing extension (A), the bulkhead side member (B), and the bulkhead upper frame (C).



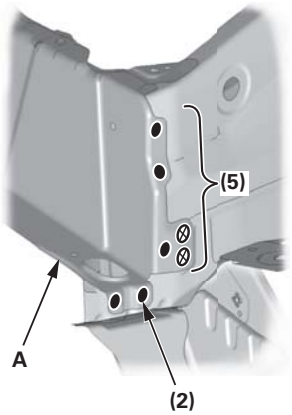
(cont'd)

Installation (cont'd)

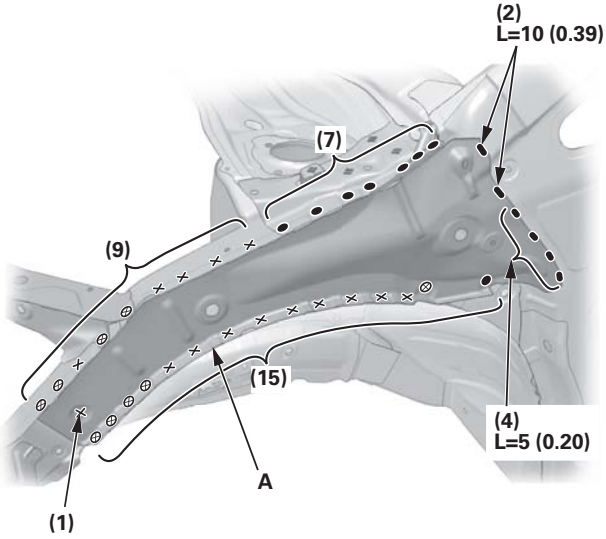
12. Weld the side frame end outrigger (A) and the bulkhead side member (B).
    Weld the bulkhead side stay (C) and the bulkhead lower crossmember (D) (see step 5 on page 3-4).



[VIEW: Z]



13. Weld the wheelhouse upper member (A). When reusing the wheelhouse upper member, weld it with MIG plug welding.



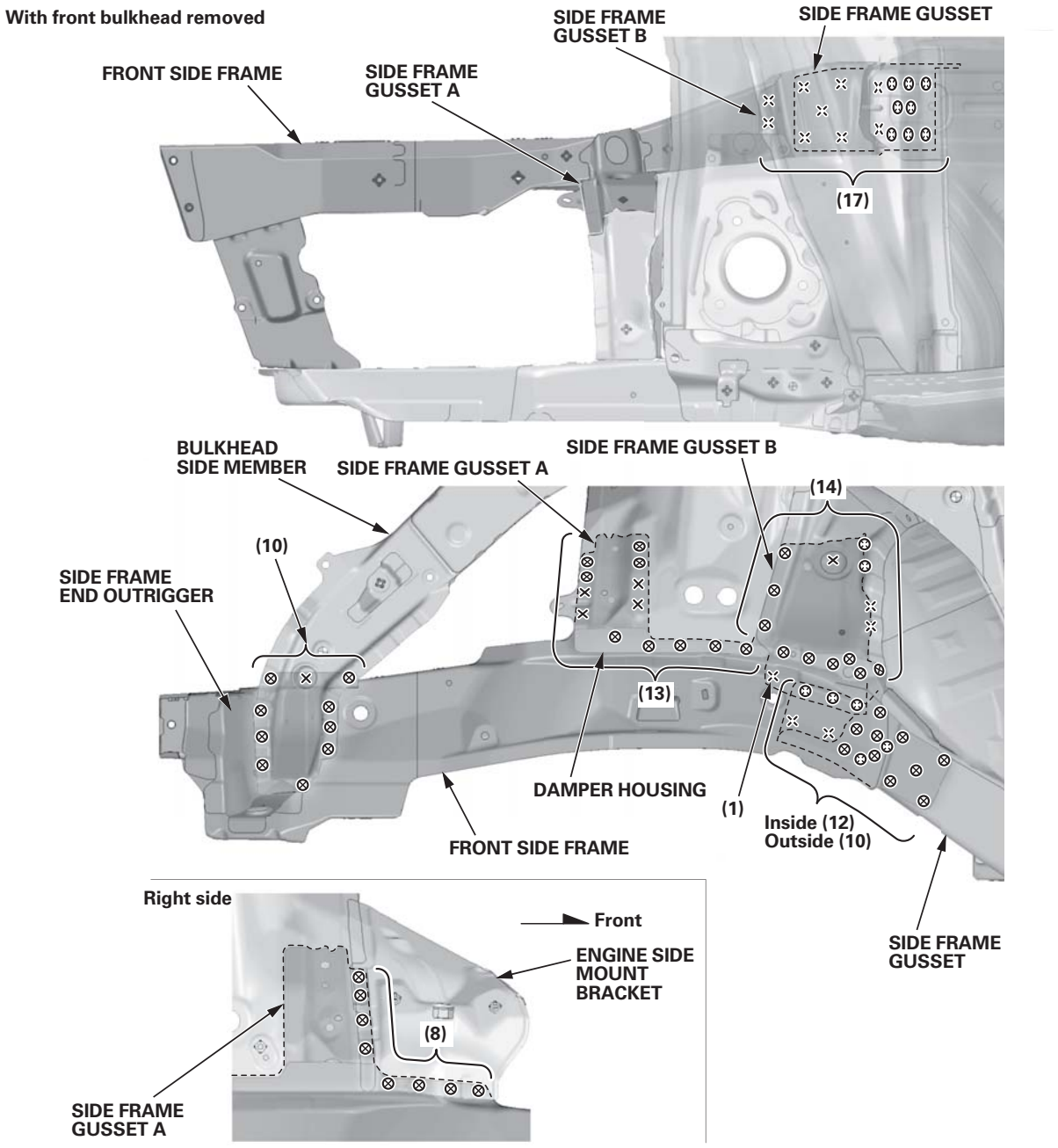
Front Side Frame/Side Frame Gusset

Removal

Mass production body welding positions and numbers (Front side frame)

NOTE:

- Welding symbols
  ⨯: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



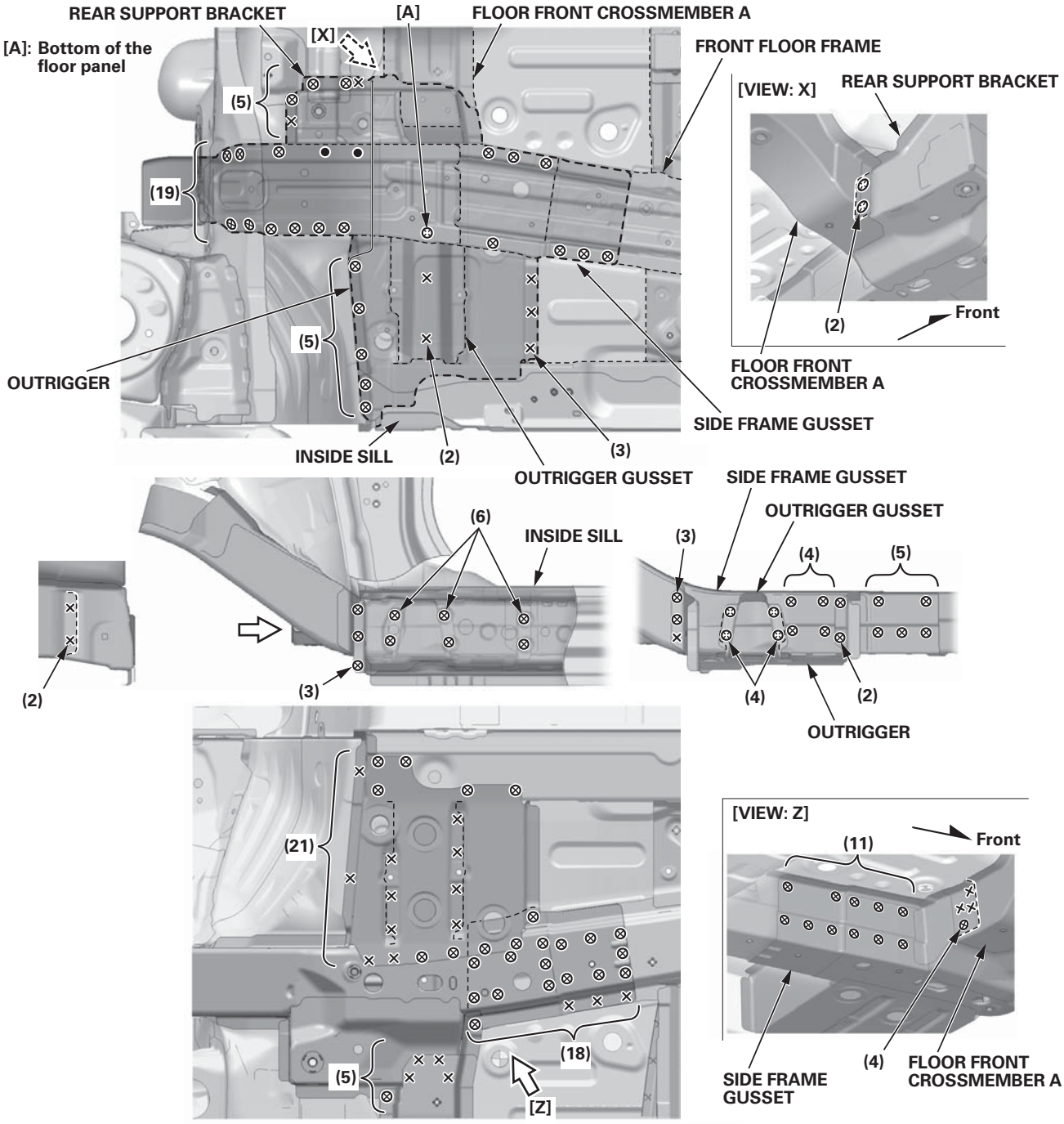
(cont'd)

Removal (cont'd)

Mass production body welding positions and numbers (Outrigger and side frame gusset)

NOTE:

- Welding symbols
  ⨯: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

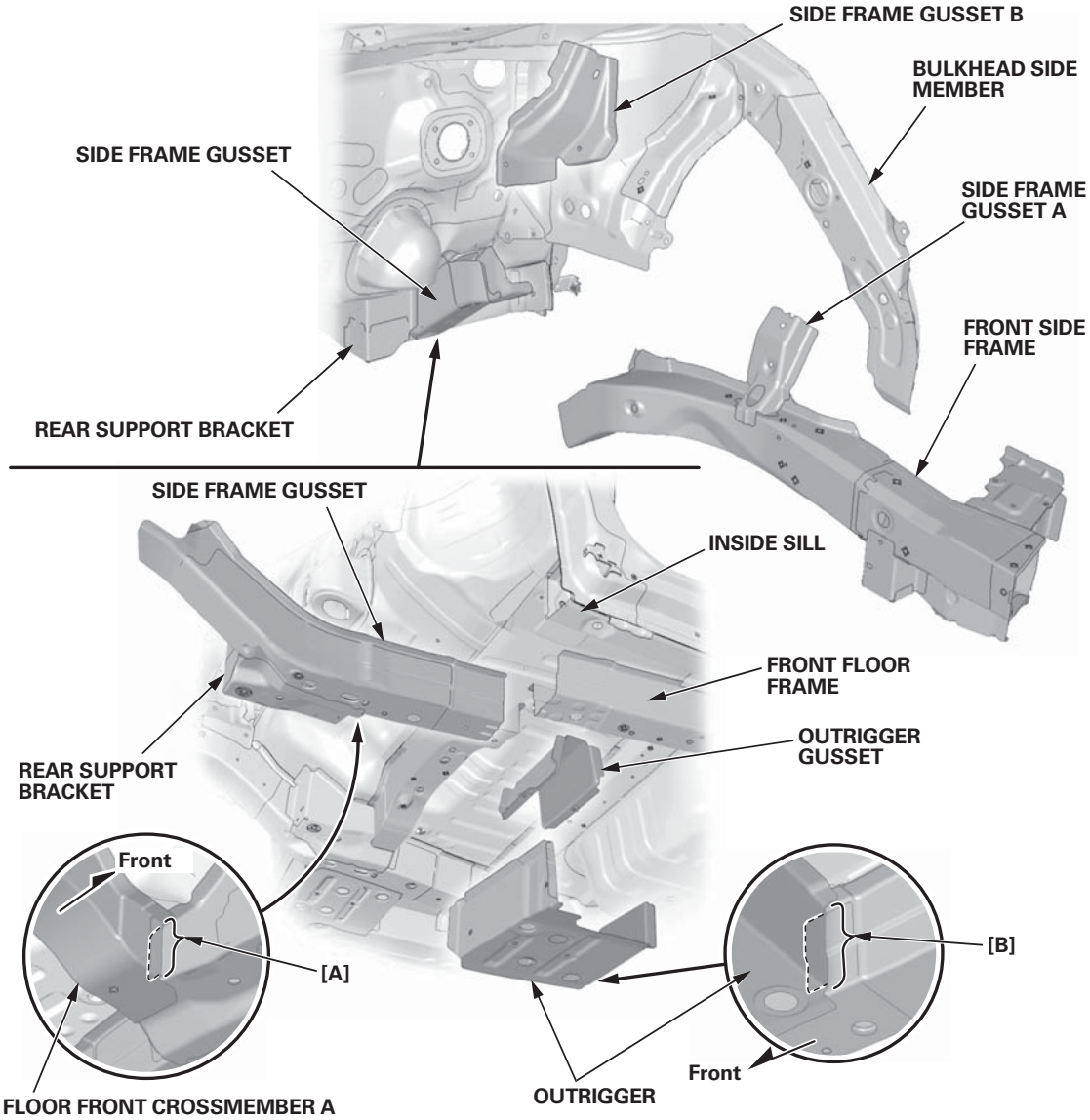


Construction

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- Remove side frame gusset B, and replace the front side frame.
- Check the side frame gusset and the rear support bracket positions for damage.
- If necessary, remove the outrigger and the outrigger gusset, then replace the side frame gusset and the rear support bracket as an assembly.
- [A]: Carefully cut the front welded flange of floor front crossmember A.
- [B]: Cut the rear welded flange of the outrigger.

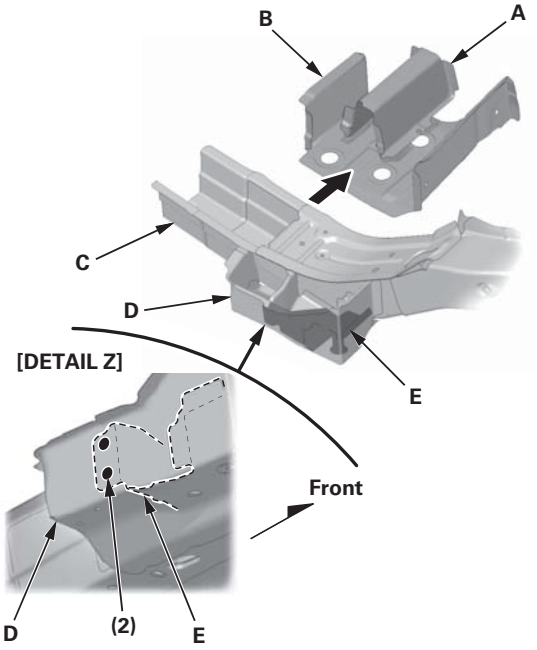


Installation

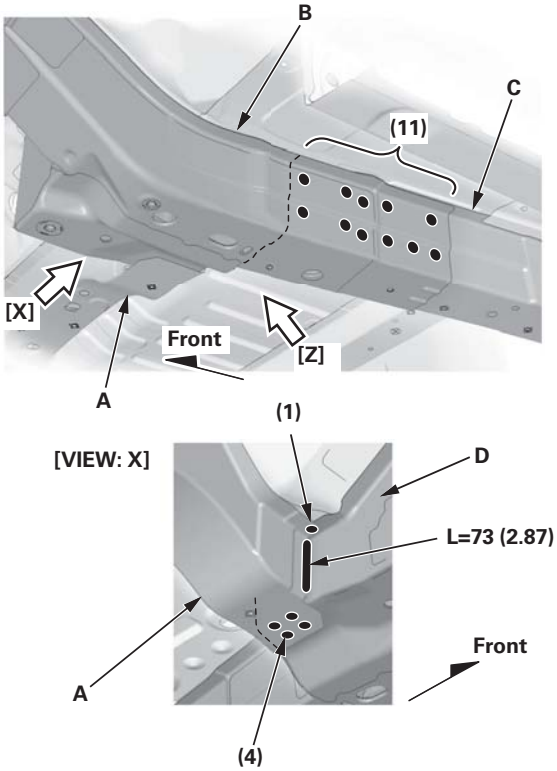
NOTE:

- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

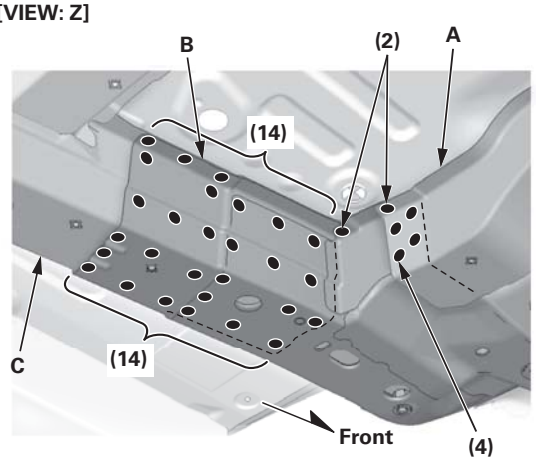
1. Remove the outrigger gusset (A) and the outrigger (B) from new side frame gusset (C).
   Weld the rear support bracket (D) and the support stiffener (E), shown in [DETAIL Z].



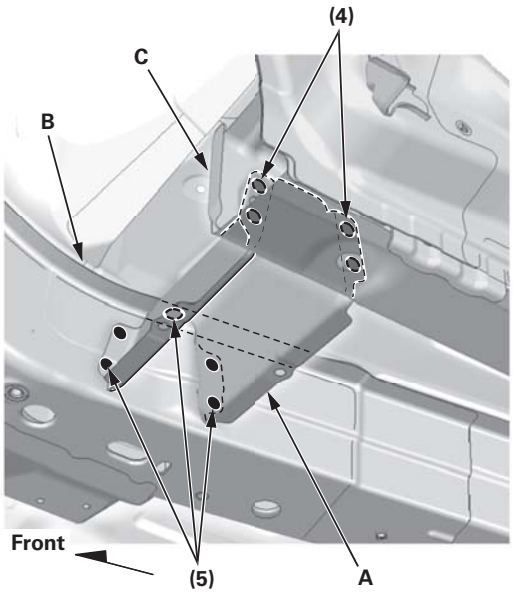
2. Set the side frame gusset and the front side frame. Clamp the front bulkhead, and measure the front compartment diagonally.
3. Check the body dimensions.
   - Front bulkhead position (see page 4-3)
   - Engine compartment (see page 4-4)
   - Engine side mount position (see page 4-5)
   - Bulkhead side member position (see page 4-6)
   - Engine compartment and front floor, under view (see page 4-17)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)
4. Tack weld the new parts and the front bulkhead into position.
5. Temporarily install the front subframe, and check the front side frame and the side frame gusset positions.
6. Temporarily install the front fender, the hood, and the door, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). If necessary, check the headlight and the front bumper positions. Make sure the body lines flow smoothly.
7. Do the main welding.
   - Weld the side frame gusset (B) and the front floor frame (C).
   - Weld the rear support bracket (D) and floor front crossmember A.



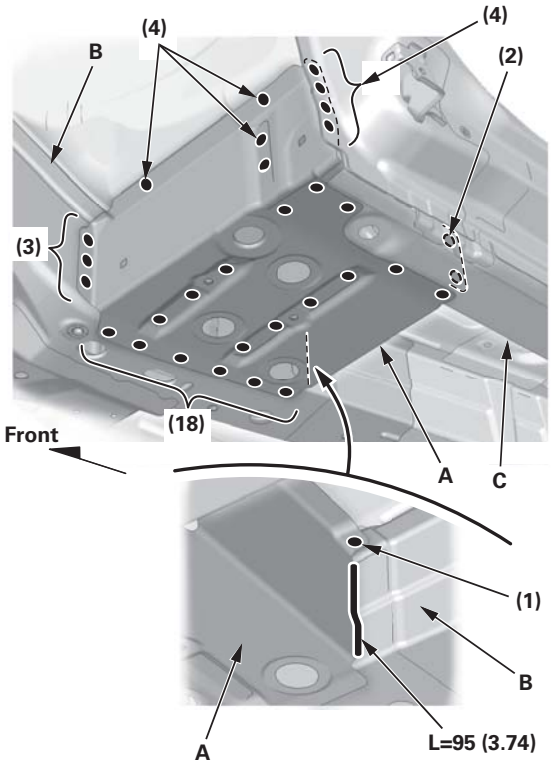
[VIEW: Z]



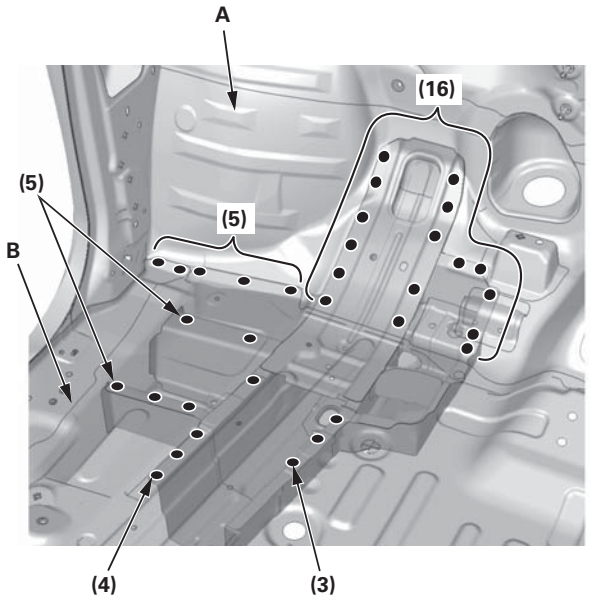
8. Weld the outrigger gusset (A) to the side frame gusset (B) and the inside sill (C).



9. Weld the outrigger (A) to the side frame gusset (B) and the inside sill (C).



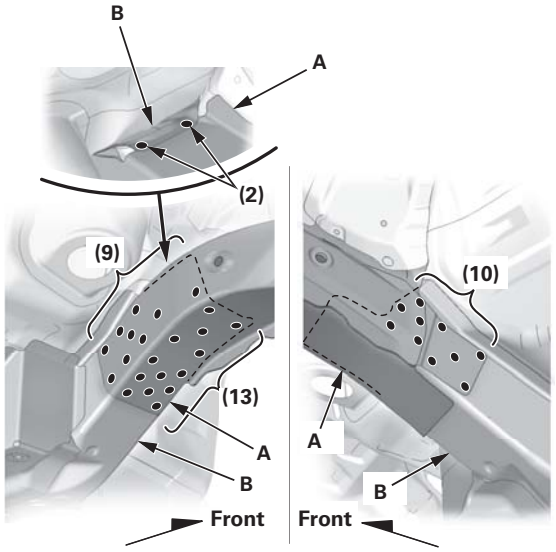
10. From the passenger's compartment, plug weld the holes in the dashboard lower (A) and the floor panel (B).



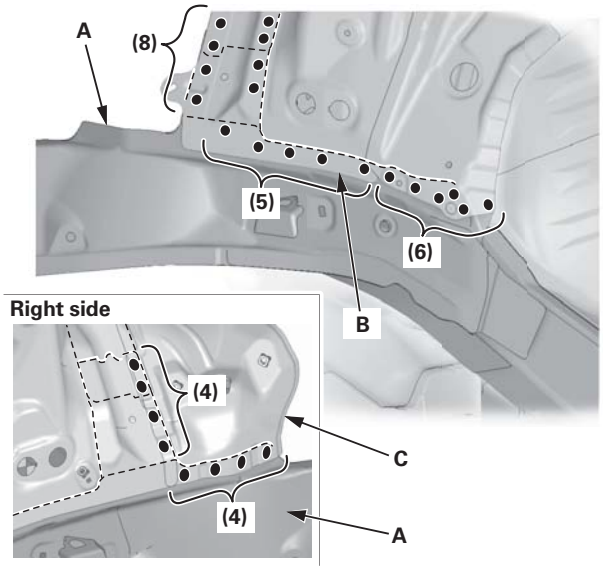
(cont'd)

Installation (cont'd)

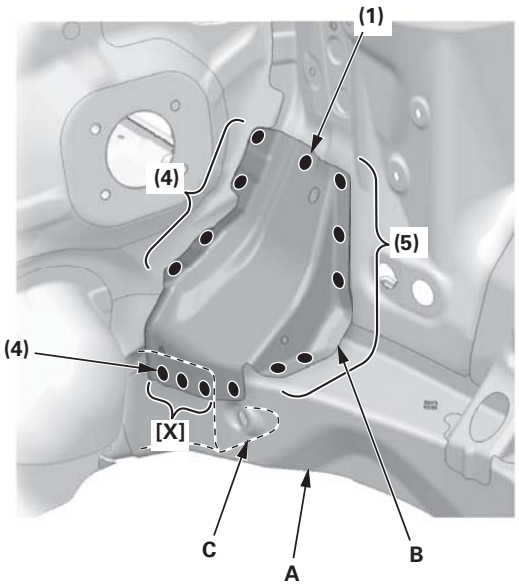
11. When only replacing the front side frame (A), main weld the side frame gusset (B) and the front side frame.



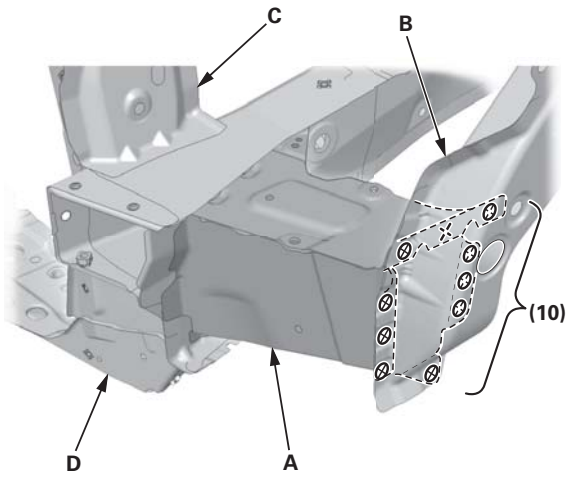
12. Weld the front side frame (A) and the damper housing (B).
Right side: Weld the engine side mount bracket (C).



13. Weld side frame gusset B.
[X] area: Drill the three holes for welding the new front side frame (A), and plug weld the side frame gusset (C).



14. Weld the side frame end outrigger (A) to the bulkhead side member (B).
Weld the bulkhead side stay (C) and the bulkhead lower crossmember (D) (see step 5 on page 3-4).



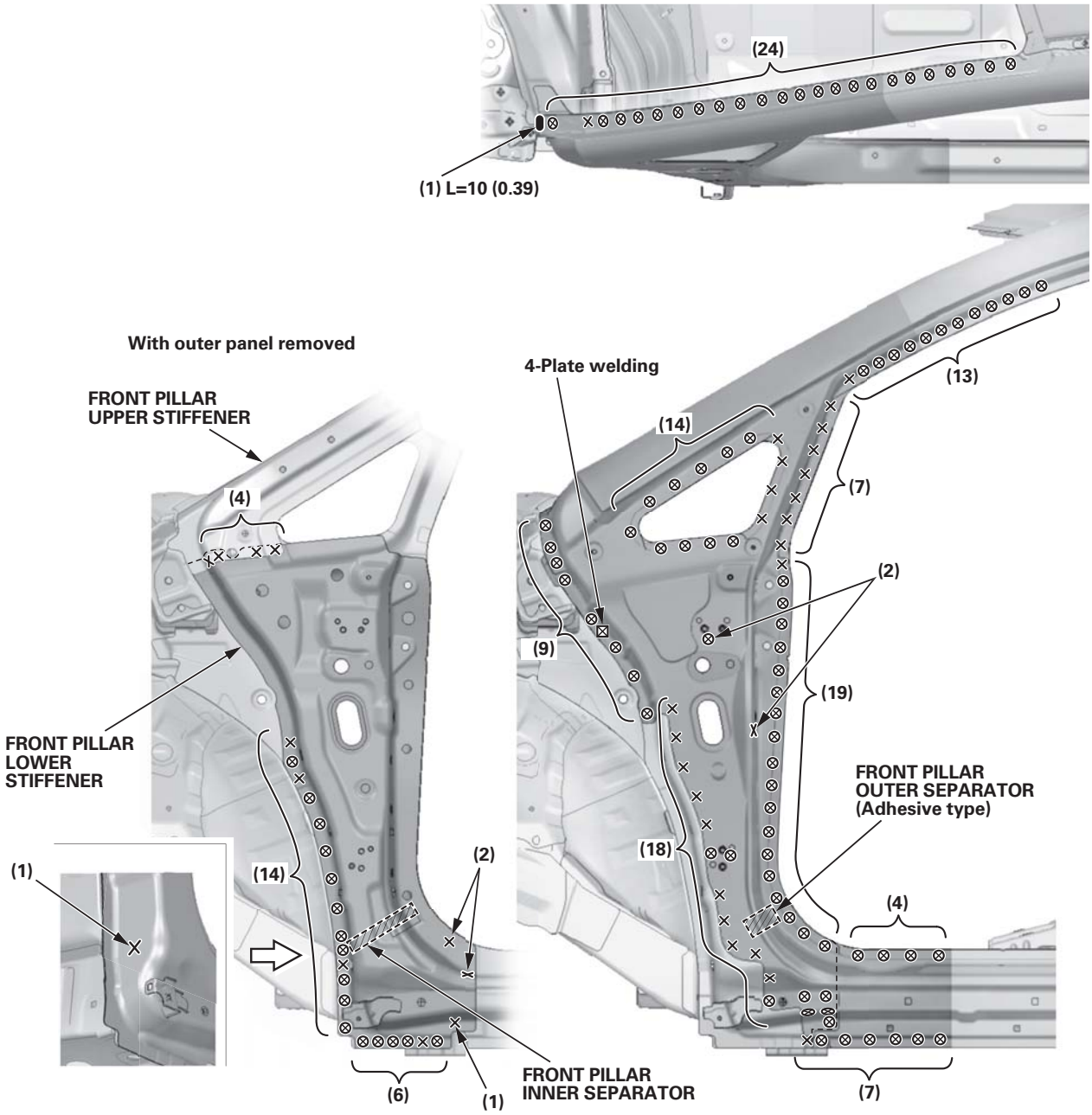
Front Pillar Outer Panel

Removal

Mass production body welding positions and numbers (Outer panel and front pillar lower stiffener)

NOTE:

- Welding symbols
  ⨯: 2-Plate spot welding; ⊗: 3-Plate spot welding; ⊠: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



(cont'd)

Front Pillar Outer Panel

Removal (cont'd)

Construction

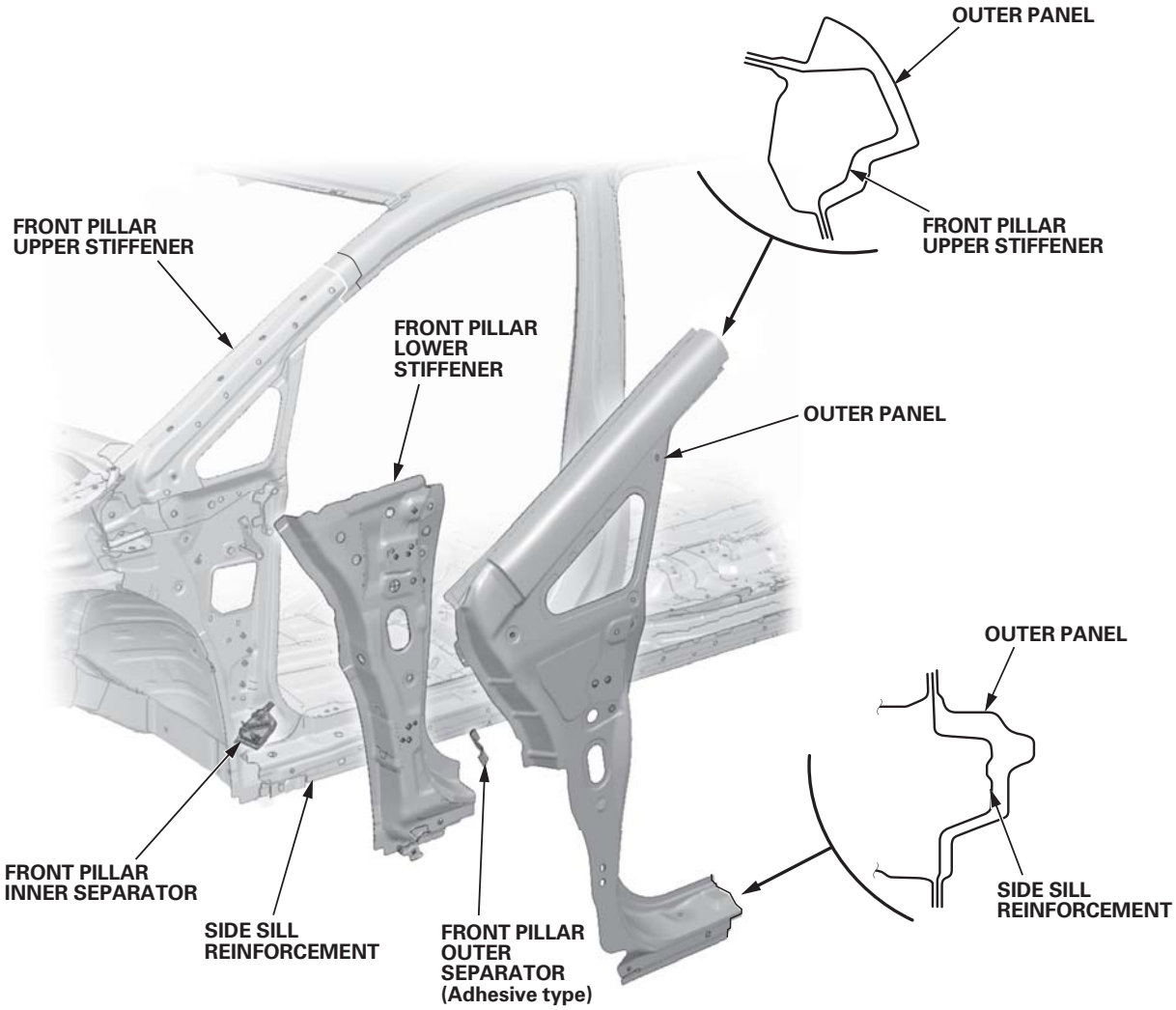
NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- Remove the wheelhouse upper member (see page 3-6).
- Cut and pry off the outer panel at the front pillar and side sill portions.

  NOTE: Select the cutting positions in consideration of the front side outer panel repair part (see page 1-14).

- Check the front pillar lower stiffener position for damage. If necessary, replace it.
- Replace the front pillar inner separator.



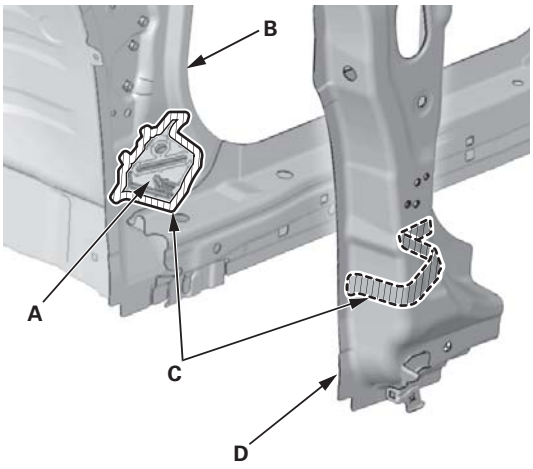
Installation

NOTE:

- Welding symbols
  ⨯: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ☒: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Install the new front pillar inner separator (A) on the front inner lower pillar (B).

   NOTE: Apply the sealer (C) all the way around the separator and inside the front pillar lower stiffener (D) without gaps.

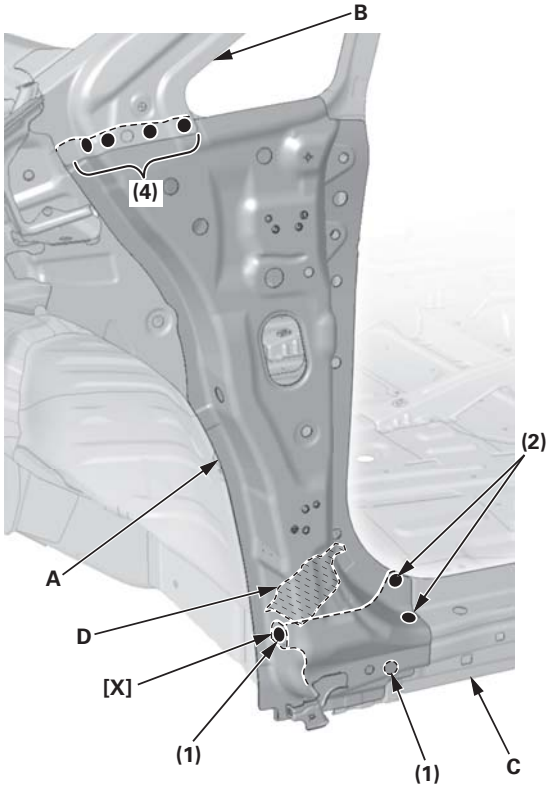


2. Set the new front pillar lower stiffener, and tack weld it into position.
3. Rough-cut the front side outer panel repair part, clamp it to the body, and check the body dimensions.

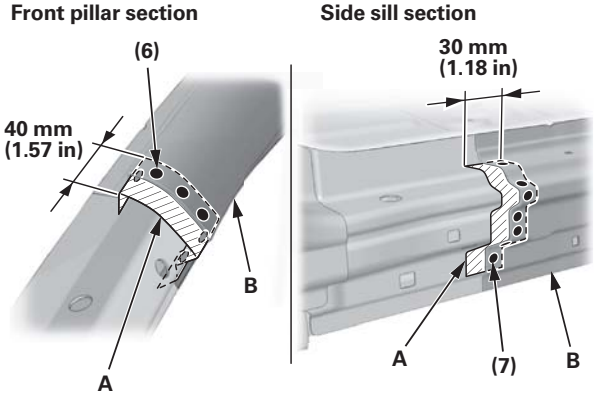
   - Bulkhead side member position (see page 4-6)
   - Door hinge positions (see page 4-7)
   - Windshield and door openings (see page 4-13)

4. Temporarily install the windshield, the door, the hood, and the front fender, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). Make sure the body lines flow smoothly.
5. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding areas.
6. Remove the outer panel repair part, and weld the front pillar lower stiffener (A) to the upper stiffener (B) and the side sill reinforcement (C).

   NOTE: When welding position [X], do not burn the sealer (D) behind the front pillar lower stiffener.



7. Weld the patches (A) at the cut sections of the body side outer panel (B).

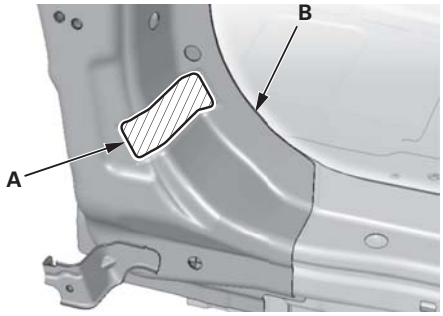


(cont'd)

Installation (cont'd)

8. Apply the sealer (A) on the front pillar lower stiffener (B) at the outer separator location.

   Sealer thickness: 10 mm (0.39 in)

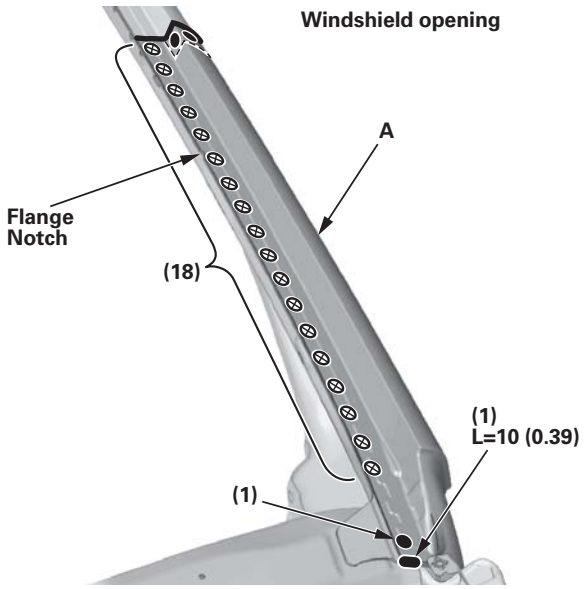


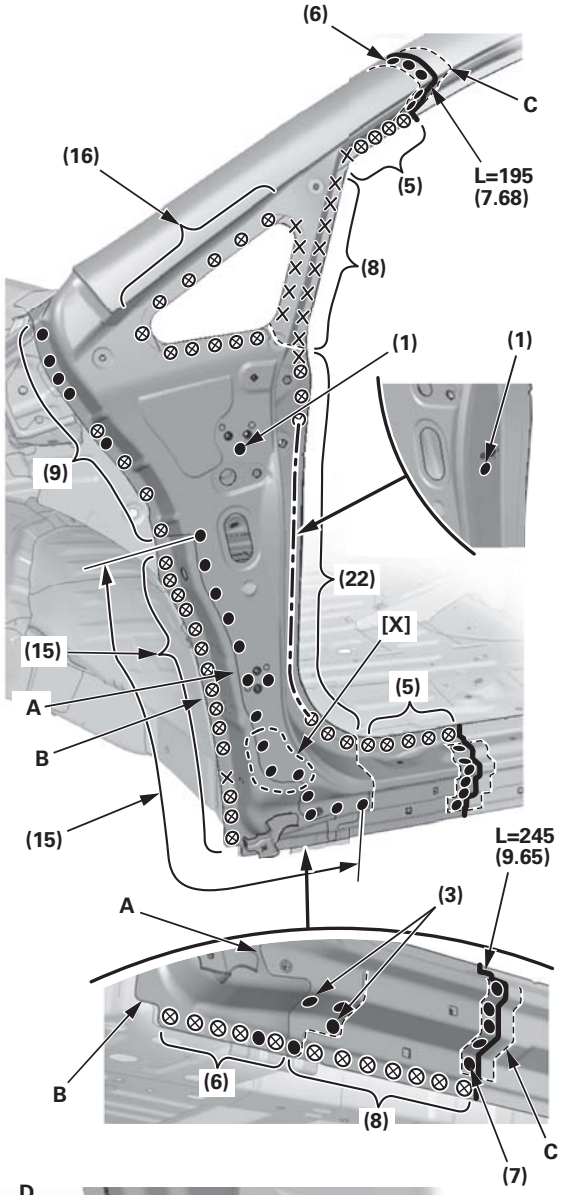
9. Clamp the outer panel repair part, and recheck the clearance and alignment of the door, the front fender, and the windshield.

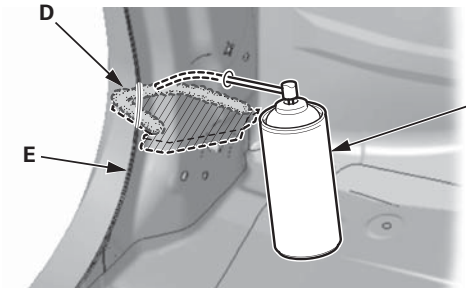
10. Do the main welding.
    Weld the outer panel repair part (A), the front pillar lower stiffener (B), and the patches (C).

NOTICE

[X] Portion: Excessive heat from welding can burn or melt the sealer (D) behind the front pillar lower stiffener. Carefully weld one small area at a time, allowing time to cool before welding the next area. If the sealer becomes damaged, insert the nozzle through the hole of the inner lower pillar (E), and fill the gaps with commercially available expanding urethane foam (F).







11. Weld the wheelhouse upper member (see step 13 on page 3-12).

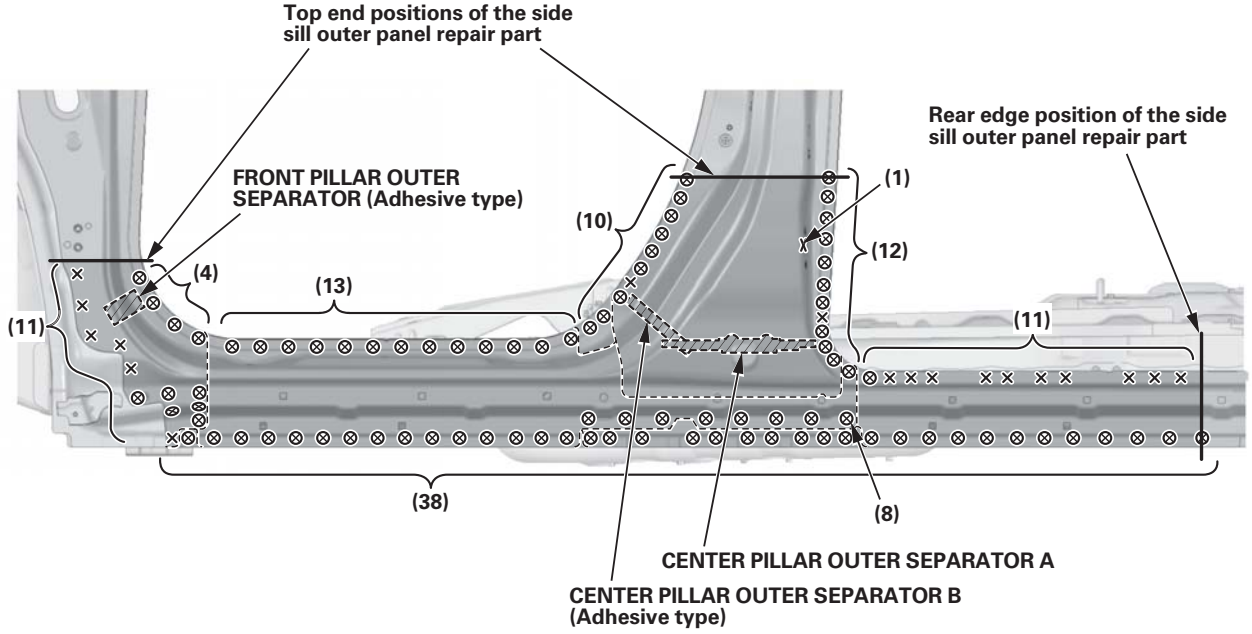
Side Sill Outer Panel

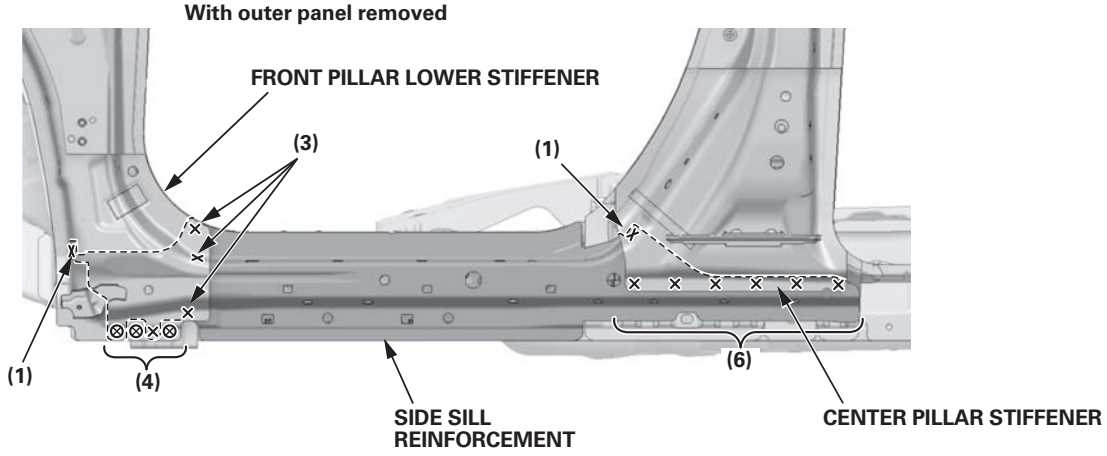
Removal

Mass production body welding positions and numbers (Outer panel and side sill reinforcement)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds
- The figure shows the size of side sill outer panel repair part.





(cont'd)

Side Sill Outer Panel

Removal (cont'd)

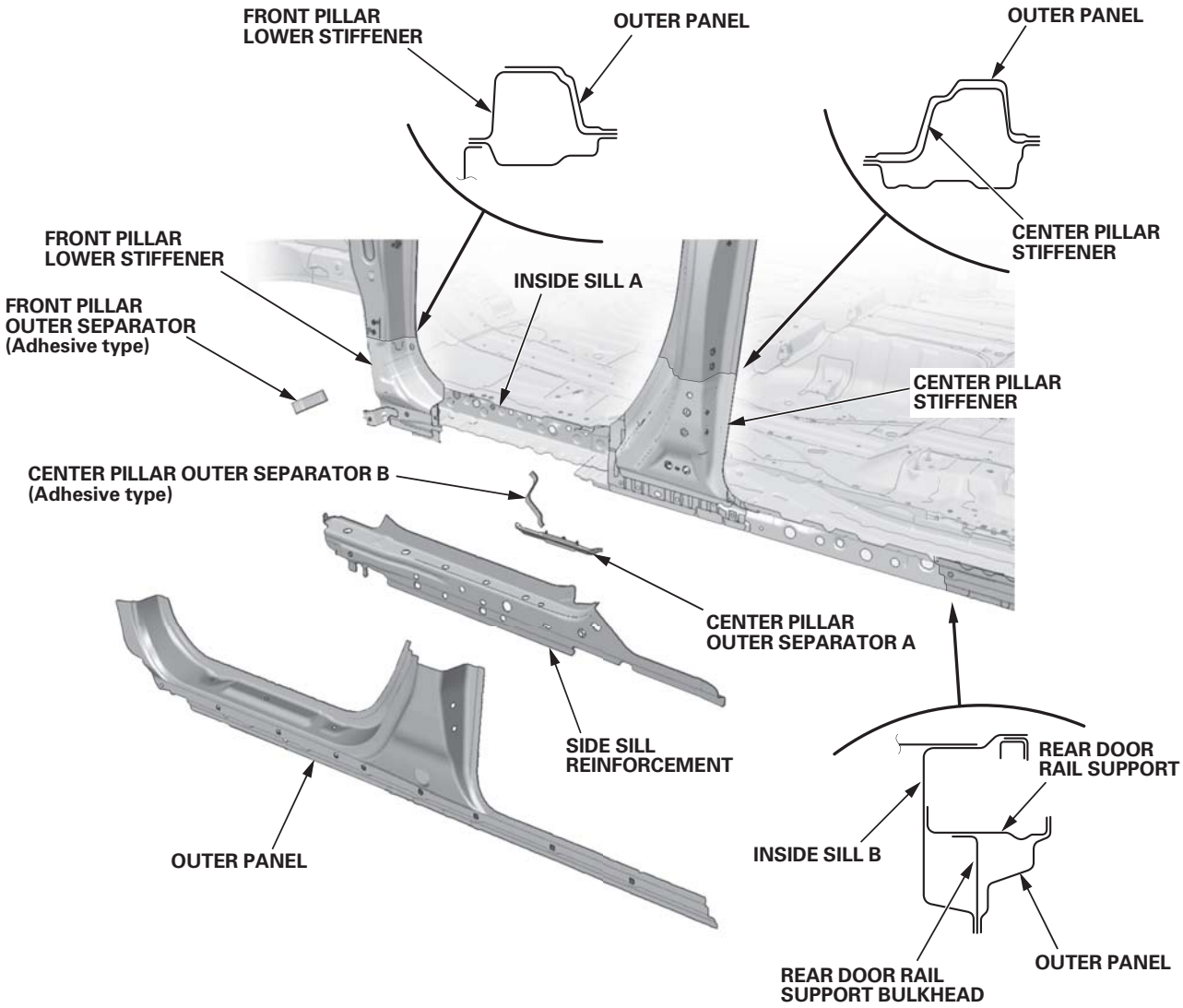
Construction

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.
- Cut and pry off the side sill outer panel, and replace it.

  NOTE: Select the cutting positions in consideration of the side sill outer panel repair part (see page 1-14).

- Replace center pillar outer separator A.
- Check the side sill reinforcement for damage. If necessary, replace it.



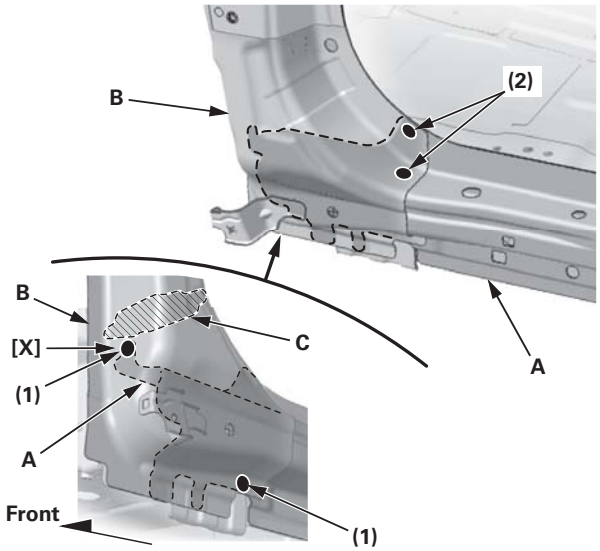
Installation

NOTE:

- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Clamp the side sill reinforcement, and check the body dimensions.
   - Passenger's compartment (see page 4-9)
   - Engine compartment and front floor, under view (see page 4-17)
   - Front floor and rear floor, under view (see page 4-18)
   - Inside sill positions (see page 4-19)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)
2. Tack weld the side sill reinforcement.
3. Rough-cut the side sill outer panel repair part, and clamp it to the body.
4. Check the body dimensions.
   - Bulkhead side member position (see page 4-6)
   - Door hinge positions (see page 4-7)
   - Sliding door female guide and striker positions (see page 4-8)
   - Sliding door rail lower support positions (see page 4-10)
   - Windshield and door openings (see page 4-13)
5. Temporarily install the front fender, the front door, and the sliding door, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). Make sure the body lines flow smoothly.
6. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding connections.
7. Remove the side sill outer panel repair part, and weld the side sill reinforcement (A) and the front pillar lower stiffener (B).

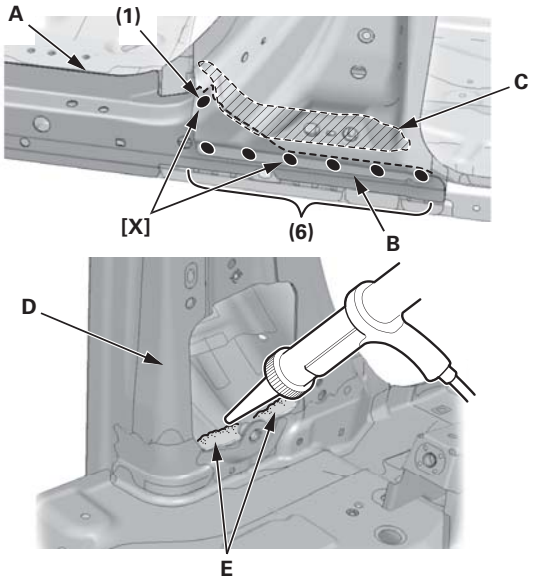
NOTE: When welding position [X], do not burn or melt the inner separator (C) behind the front pillar lower stiffener.



8. Weld the side sill reinforcement (A) and the center pillar stiffener (B).

NOTICE

[X] Portion: Excessive heat from welding can burn or melt the inner separator (C) behind the center pillar stiffener. Carefully weld one small area at a time, allowing time to cool before welding the next area. If the separator becomes damaged, insert the nozzle through the hole of the center inner pillar (D), and fill the gaps with sealer (E).

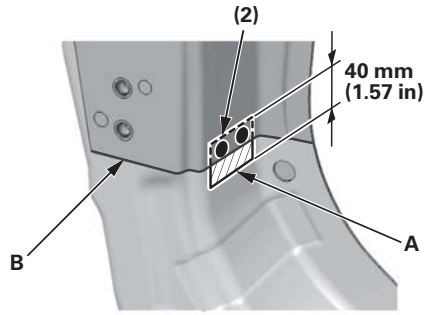


(cont'd)

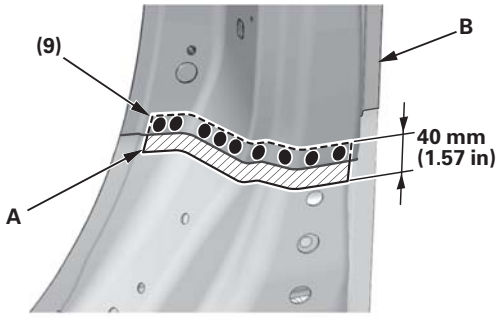
Installation (cont'd)

9. Weld the patches (A) at the cut sections of the body side outer panel (B).

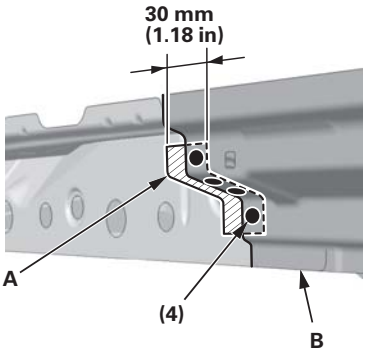
Front pillar section



Center pillar section



Side sill section

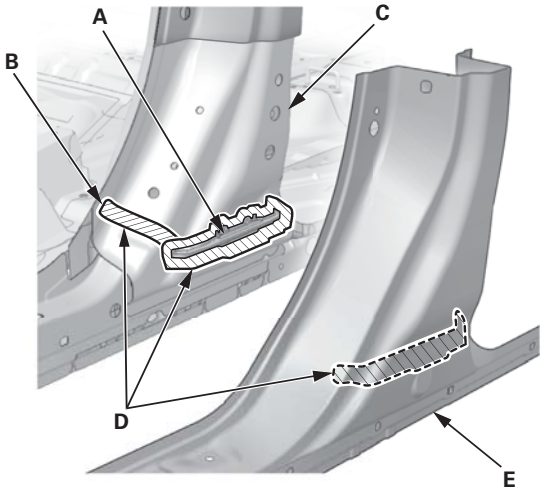


10. Install new center pillar outer separator A on the center pillar stiffener (C).

NOTE: Apply the sealer (D) all the way around the separator and inside the outer panel repair part (E) without gaps.

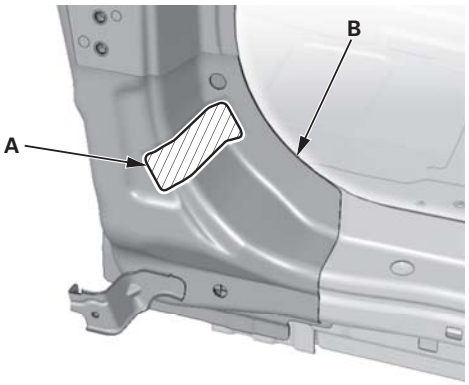
Apply the sealer on the center pillar stiffener at outer separator B location.

Sealer thickness: 10mm (0.39in)



11. Apply the sealer (A) on the front pillar lower stiffener (B) at the outer separator location.

Sealer thickness: 10mm (0.39in)



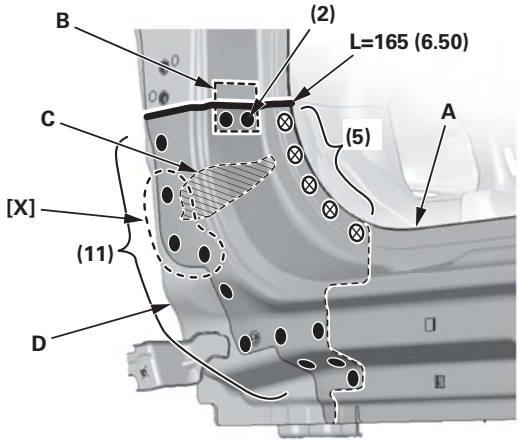
12. Clamp the outer panel repair part, and recheck the clearance and alignment of the sliding door, the front door, and the front fender.

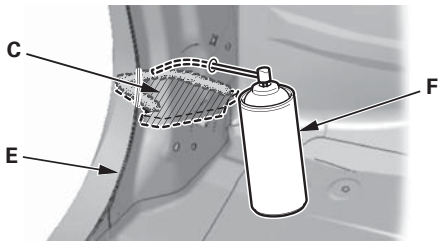
13. Do the main welding.
Weld the outer panel repair part (A) and the patches (B).

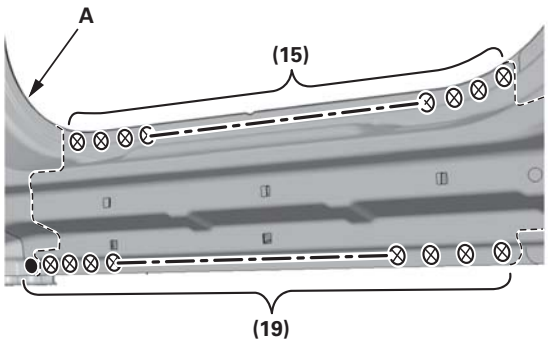
NOTICE

[X] Portion: Excessive heat from welding can burn or melt the inner separator (C) behind the front pillar lower stiffener (D). Carefully weld one small area at a time, allowing time to cool before welding the next area. If the separator becomes damaged, insert the nozzle through the hole of the inner lower pillar (E), and fill the gaps with commercially available expanding urethane foam (F).

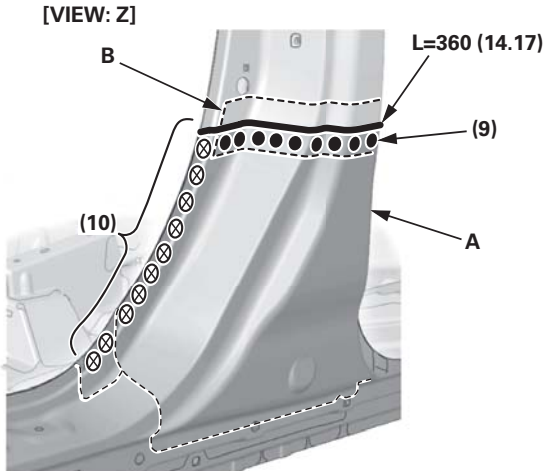
Lower front pillar and side sill front areas

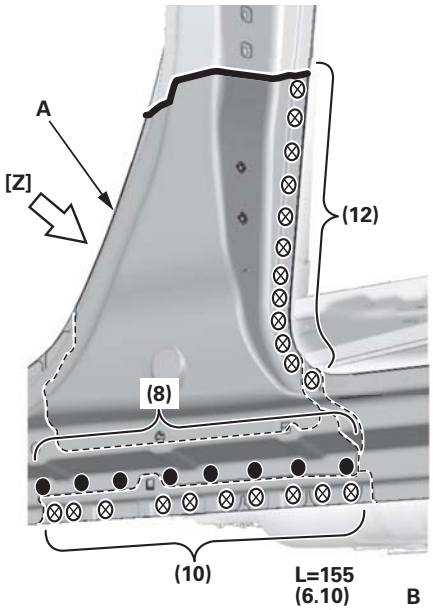


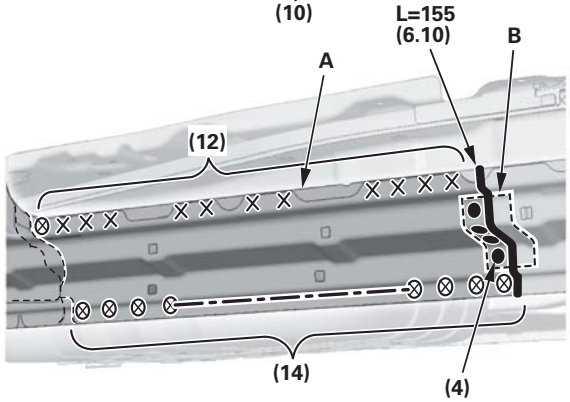




Lower center pillar and side sill rear areas







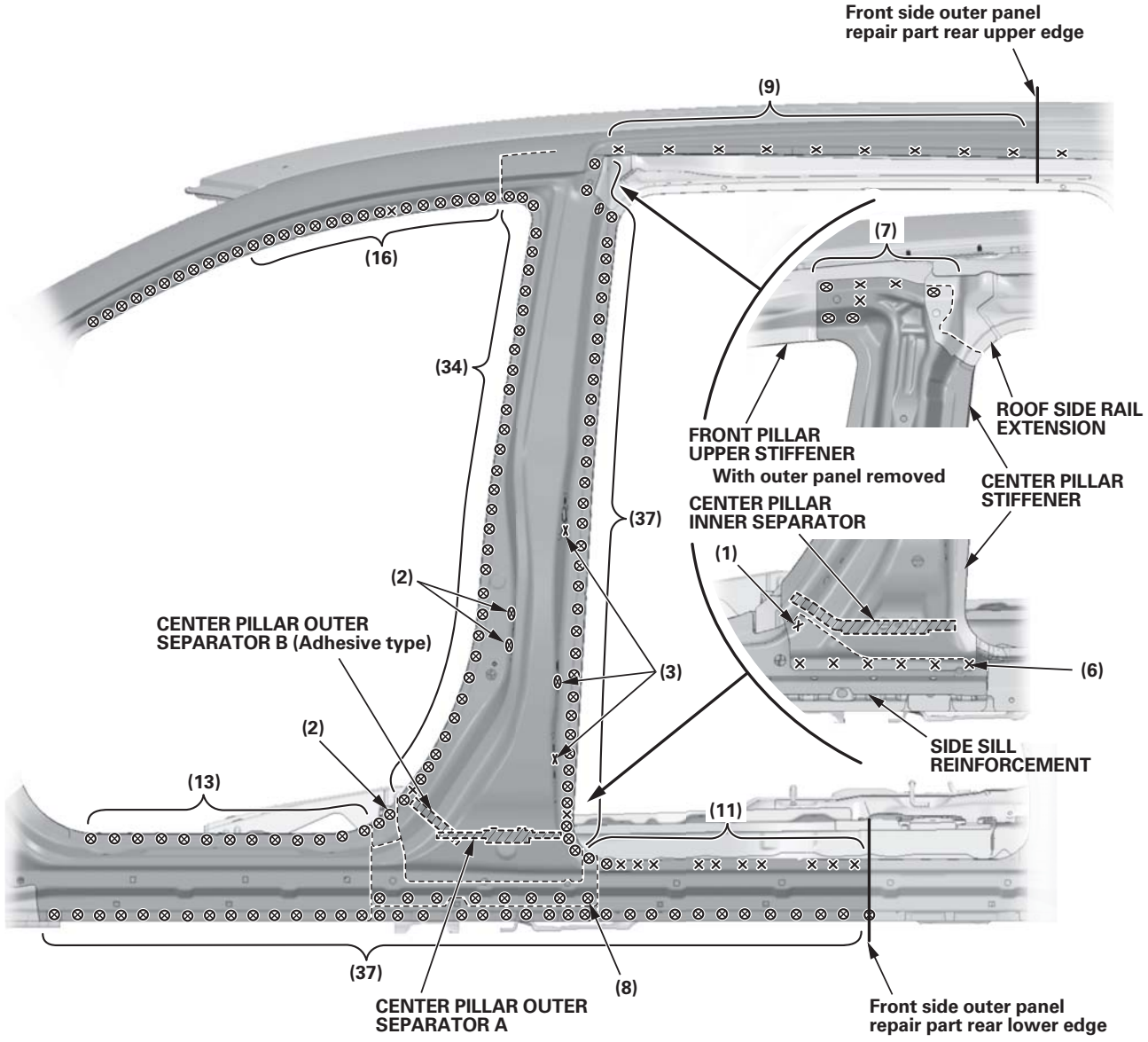
Center Pillar Outer Panel

Removal

Mass production body welding positions and numbers (Outer panel and side sill reinforcement)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



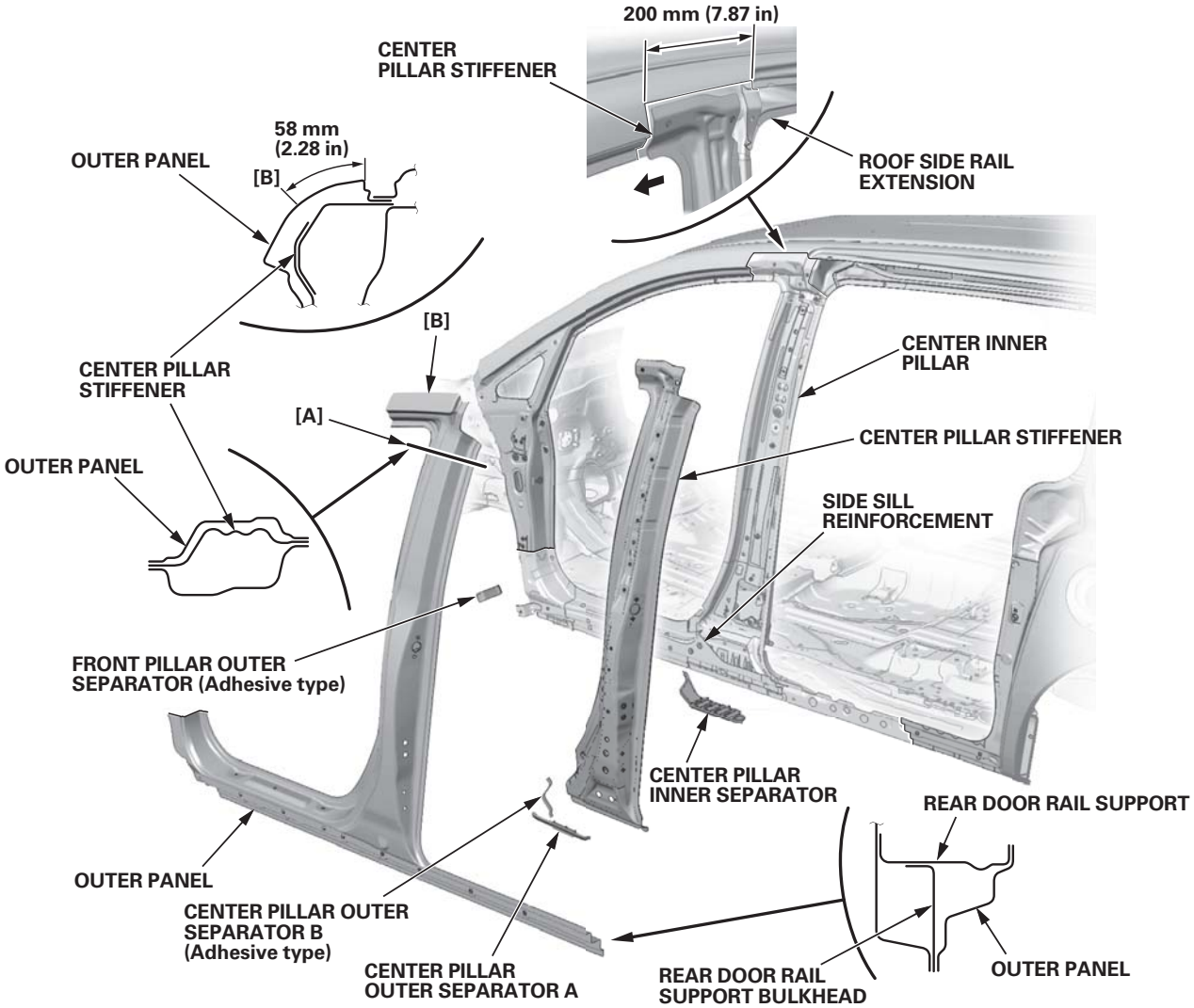
Construction

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.
- If there is any damage to the center pillar, cut the [A] position, pry off the outer panel, and replace it.

  NOTE: Select the cutting positions in consideration of the front side outer panel repair part (see page 1-14).

- Replace center pillar outer separator A.
- Check the center pillar stiffener position for damage. If necessary, replace it.
- When replacing the center pillar stiffener, cut the [B] position at the roof side portion of the outer panel.
- Replace the center pillar inner separator.
- If necessary, replace the side sill reinforcement (see page 3-23).

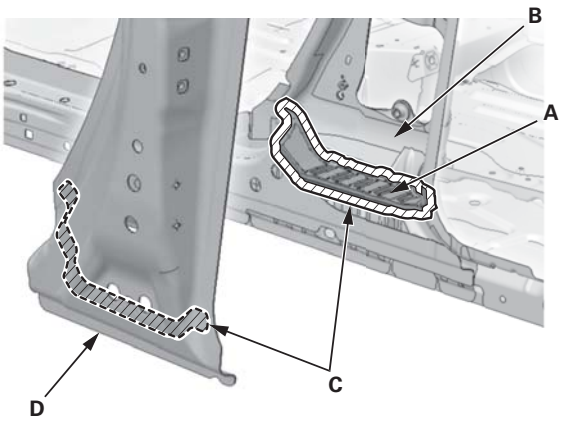


Installation

NOTE:
- Welding symbols
  ⨯: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Check the body dimensions.
   - Passenger's compartment (see page 4-9)
   - Engine compartment and front floor, under view (see page 4-17)
   - Front floor and rear floor, under view (see page 4-18)
   - Inside sill positions (see page 4-19)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)
2. Install the new center pillar inner separator (A) on the center inner pillar (B).

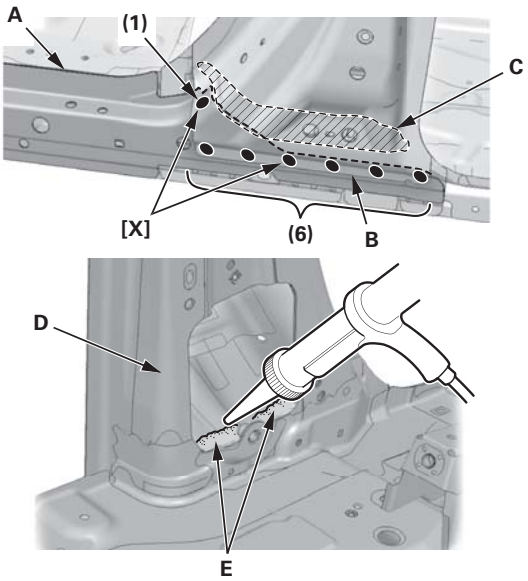
   NOTE: Apply the sealer (C) all the way around the separator and inside the center pillar stiffener (D) without gaps.



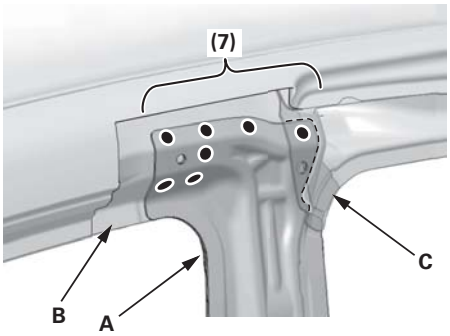
3. Clamp the new center pillar stiffener, and tack weld it into position.
4. Rough-cut the front side outer panel repair part, and clamp it to the body.
5. Check the body dimensions.
   - Bulkhead side member position (see page 4-6)
   - Door hinge positions (see page 4-7)
   - Sliding door female guide and striker positions (see page 4-8)
   - Sliding door rail lower support positions (see page 4-10)
   - Windshield and door openings (see page 4-13)
6. Temporarily install the front fender, the front door, and the sliding door, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). Make sure the body lines flow smoothly.
7. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding connections.
8. Weld the side sill reinforcement (A) and the center pillar stiffener (B).

NOTICE

[X] Portion: Excessive heat from welding can burn or melt the sealer (C) behind the center pillar stiffener. Carefully weld one small area at a time, allowing time to cool before welding the next area. If the sealer becomes damaged, insert the nozzle through the hole of the center inner pillar (D), and fill the gaps with sealer (E).



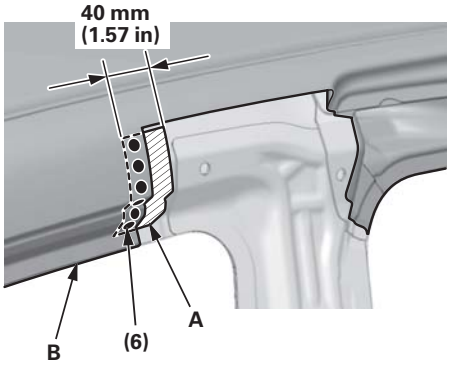
9. Weld the top of the center pillar stiffener (A) to the front pillar upper stiffener (B) and the roof side rail extension (C).



10. Weld the patches (A) at the cut sections of the body side outer panel (B).

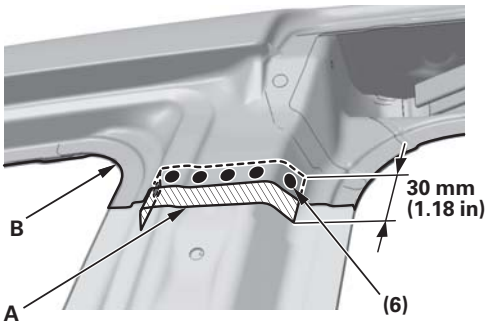
    Front pillar and side sill section (see step 9 on page 3-26)

    Roof side section



    Center pillar section

    In case of outer panel replacement only.

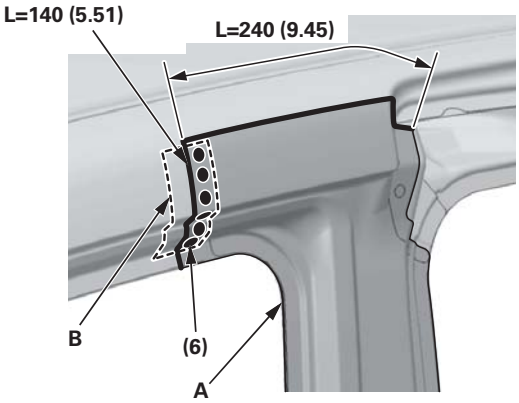


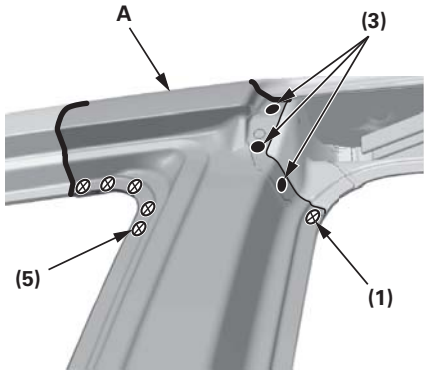
11. Install new center pillar outer separator A on the center pillar stiffener, and apply the sealer to the separator and inside the outer panel repair part. Apply the sealer on the center pillar stiffener at the outer separator B location (see step 10 on page 3-26).

12. Apply the sealer on the front pillar lower stiffener (see step 11 on page 3-26).

13. Do the main welding.
    Weld the outer panel repair part (A) and the patches (B).

    Lower front pillar and side sill areas (see step 13 on page 3-27)

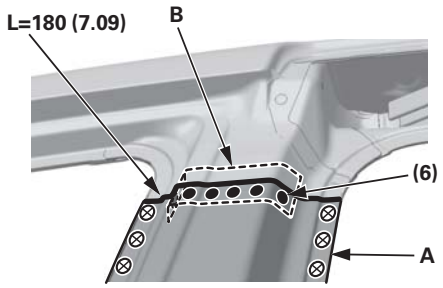


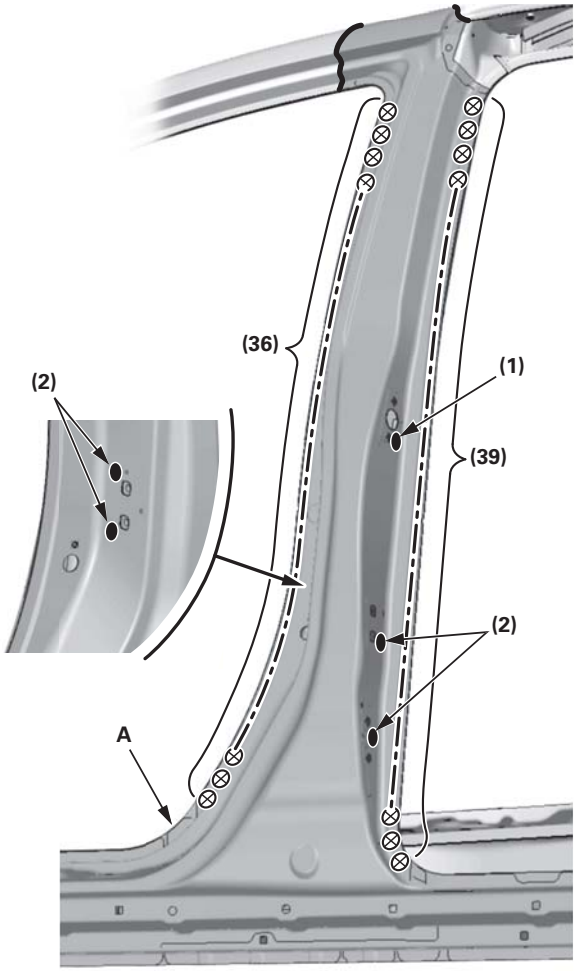


(cont'd)

Installation (cont'd)

In case of outer panel replacement only.





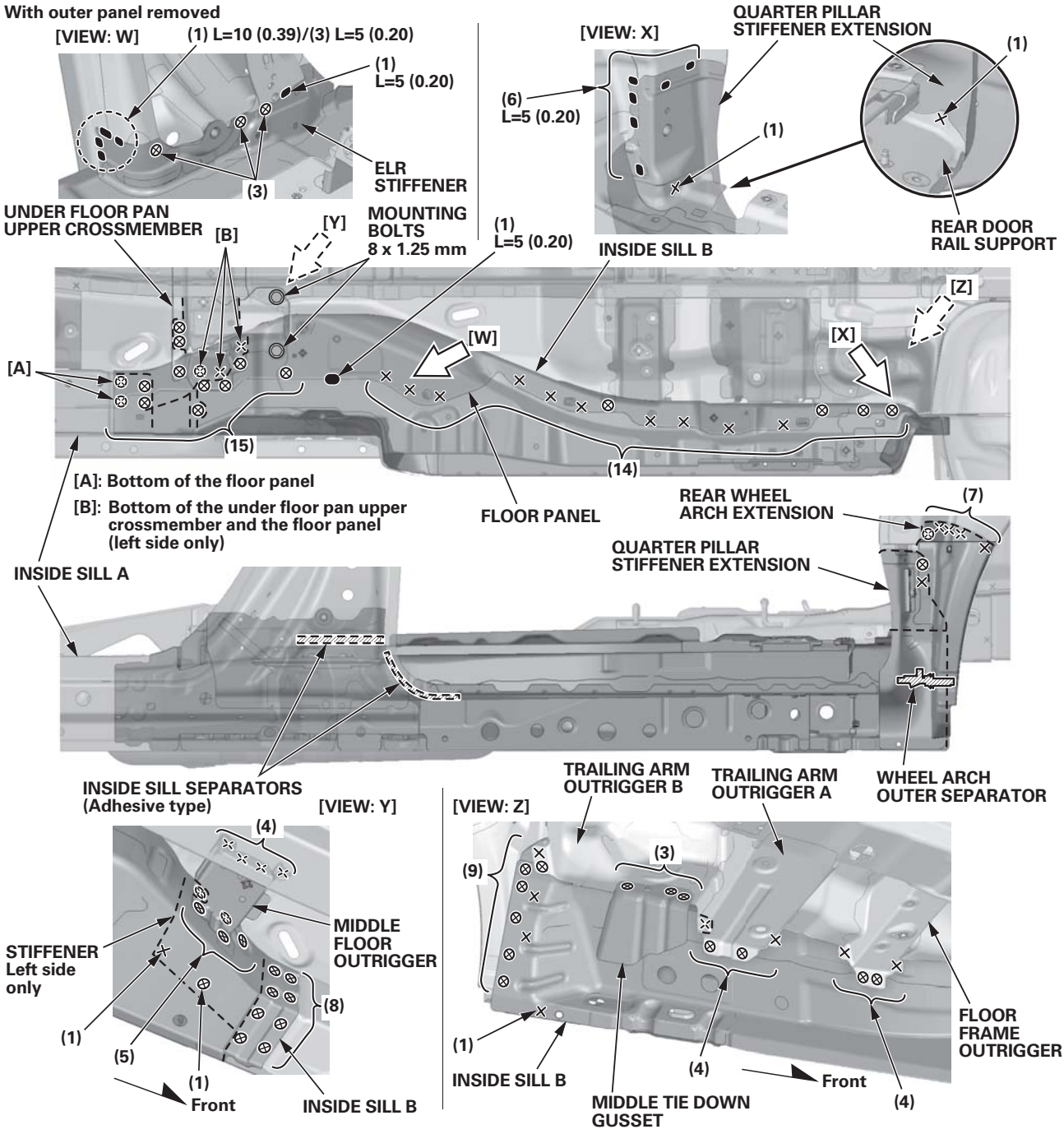
Inside Sill, Rear

Removal

Mass production body welding positions and numbers

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



(cont'd)

Removal (cont'd)

Construction

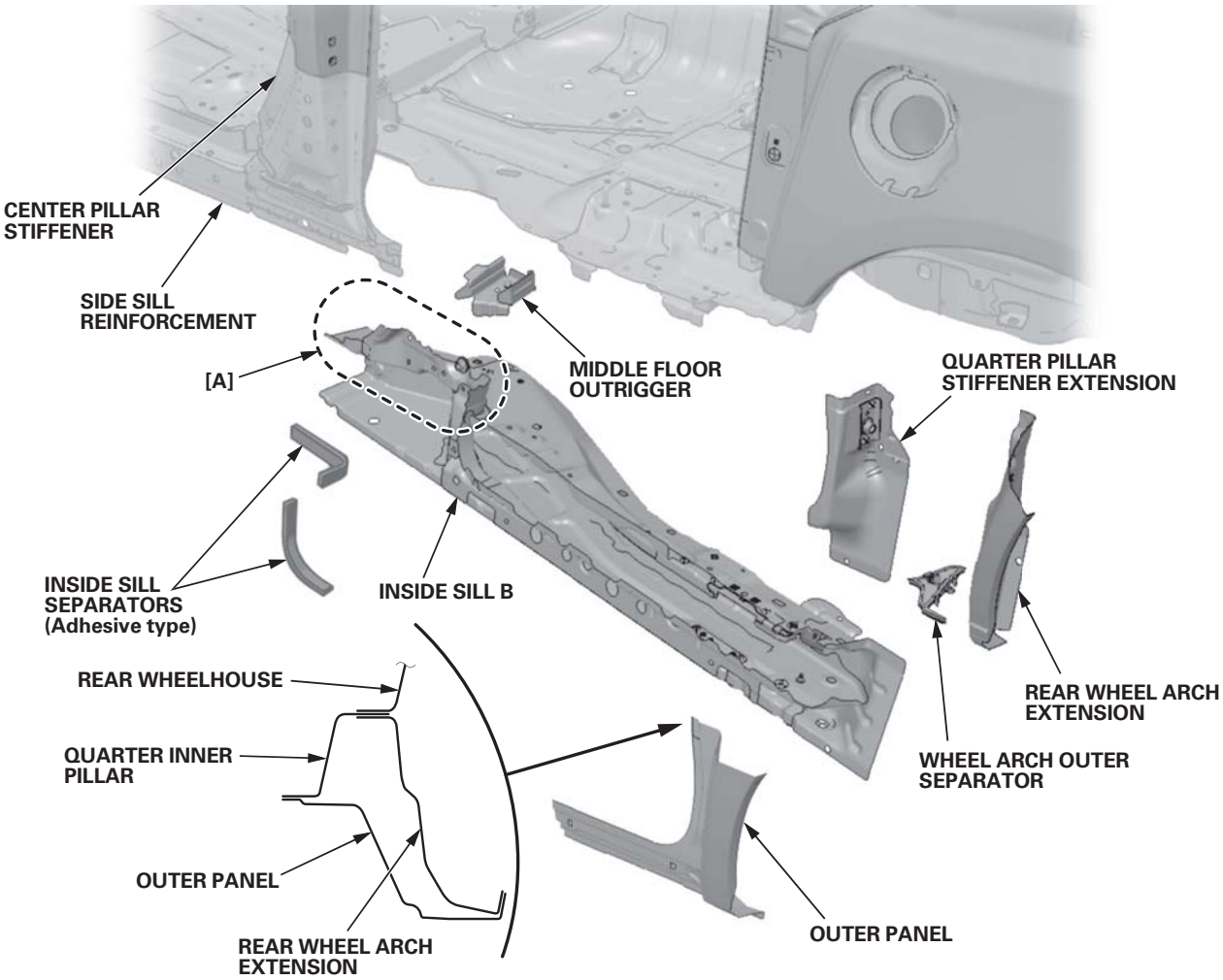
NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.
- Cut and pry off the outer panel, and replace it.

  NOTE: Select the cutting positions in consideration of the front side outer panel repair parts (see page 1-14).

- Remove the rear wheel arch extension and the quarter pillar stiffener extension.
- Replace the wheel arch outer separator.
- Remove the middle floor outrigger, and replace inside sill B as shown.

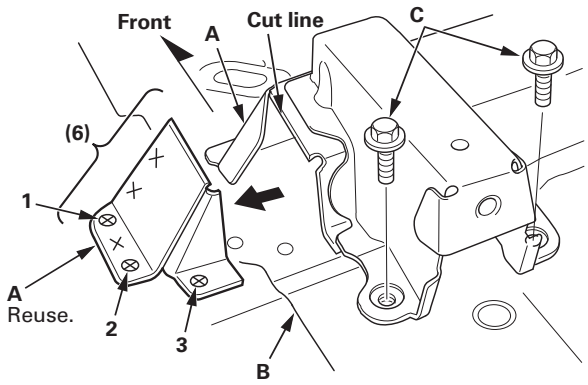
  NOTE: When removing the front portion [A] of left inside sill B, refer to the front portion removal procedures.



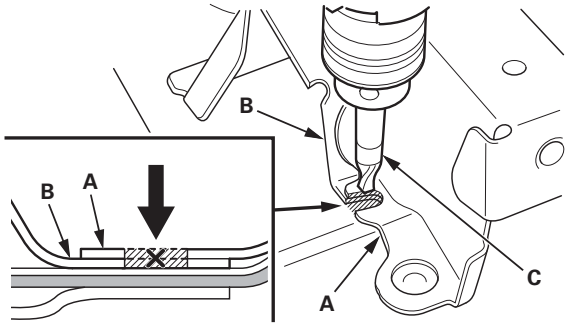
Front portion removal procedure

1. Carefully drill the seven spot welded points at the joint for the under floor pan upper crossmember (A) and the floor panel (B), and cut the side edge of the under floor pan upper crossmember as shown. Remove the mounting bolts (C).

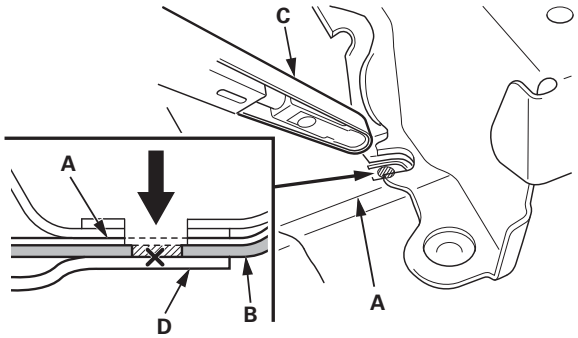
   NOTE: Drill through the three welding nuggets (1, 2, 3).



2. Drill the one spot welded point at the joint for the front seat rear bracket (A) and the under floor pan upper crossmember (B) with a 10mm (0.39 in) spot cutter (C).



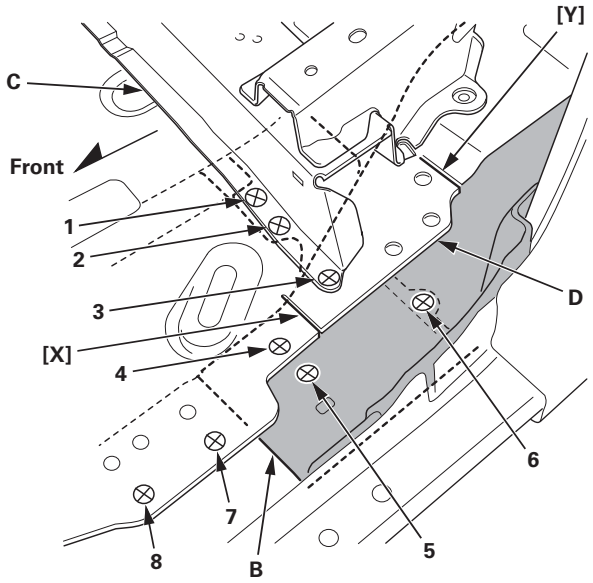
3. Grind away the floor panel (A) with a belt sander (C), then drill the one spot welded point at the joint for inside sill B and the inside sill stiffener (D).



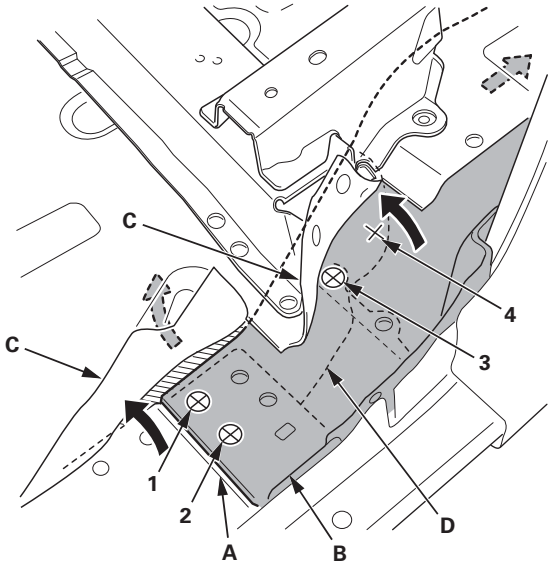
4. Drill the eight spot welded points on inside sill B, the under floor pan upper crossmember (C), and the floor panel (D).

   NOTE: Drill through the two welding nuggets (1, 2).

   Carefully slit the [X] and [Y] positions of the floor panel.



5. Peel back the side edge of the floor panel (C), drill the four spot welded points on inside sill B, then move it backward while turning it inward, and remove it from inside sill A and the inside sill stiffener (D).

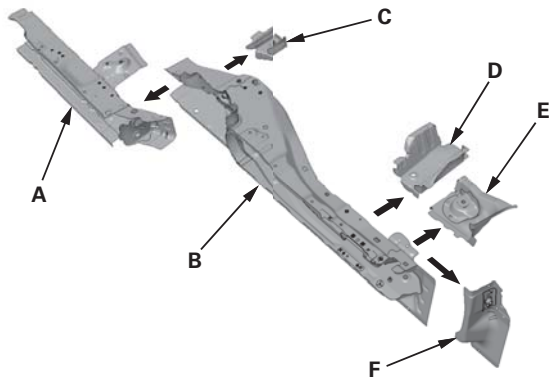


Installation

NOTE:

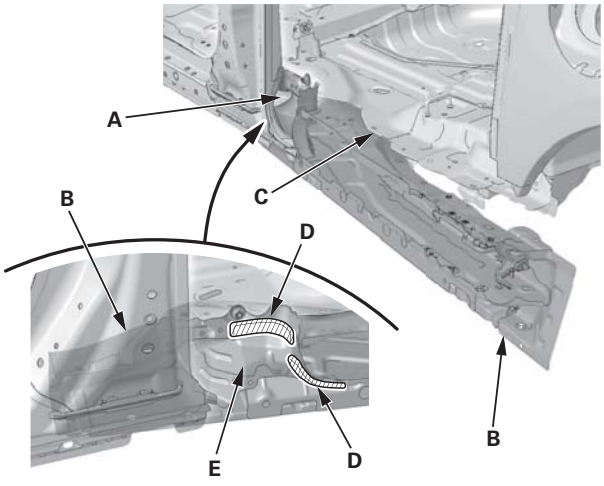
- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ☒: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Separate new inside sill B and inside sill A. Remove the middle floor outrigger (C), the floor frame outrigger (D), the trailing arm outrigger (E), and the quarter pillar stiffener extension (F) from new inside sill B.

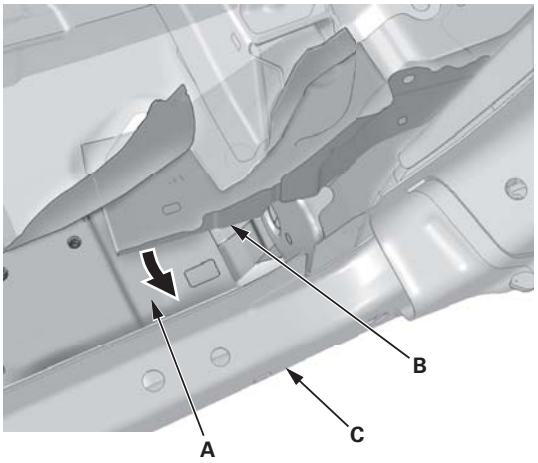


2. Insert inside sill B into the inside sill stiffener (A) under the floor panel (C) halfway, and apply the sealer (D) on the center pillar lower extension (E) at the inside sill separator locations.

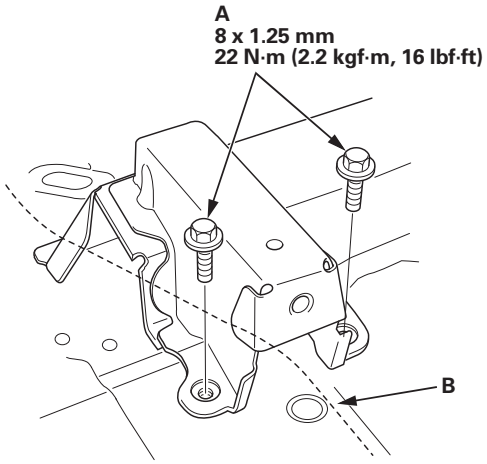
   Sealer thickness: 10mm (0.39in)



3. While inserting inside sill B into inside sill A, push the tip of inside sill B to the side sill reinforcement side (C), and align inside sill B in inside sill A.



4. Install the front seat rear bracket mounting bolts (A), and clamp inside sill B.



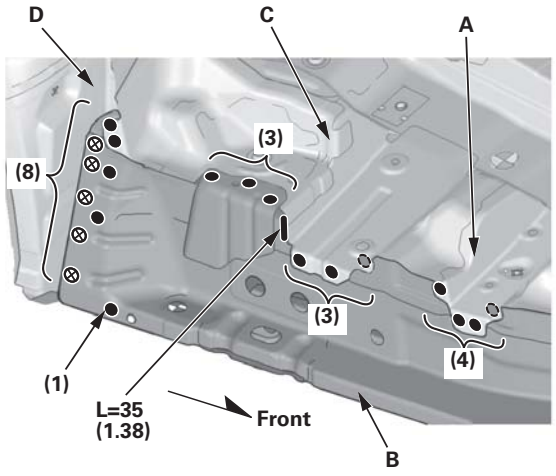
5. Clamp the new quarter pillar stiffener extension and the rear wheel arch extension.

6. Check the body dimensions.

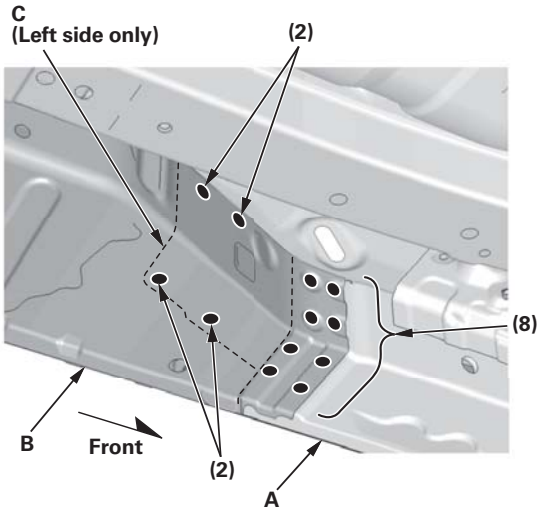
   - Sliding door rail lower support positions (see page 4-10)
   - Front floor and rear floor, under view (see page 4-18)
   - Inside sill positions (see page 4-19)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)

7. Tack weld the new parts, and check the rear suspension position.
8. Rough-cut the side sill outer panel repair part and the rear side outer panel repair part, and clamp them to the body.
9. Check the body dimensions.
   - Door hinge positions (see page 4-7)
   - Sliding door female guide and striker positions (see page 4-8)
   - Passenger's compartment (see page 4-9)
   - Windshield and door openings (see page 4-13)
10. Temporarily install the front door and the sliding door, then check for differences in level and clearance.
    Check the external parts fitting positions (see page 4-15). Make sure the body lines flow smoothly.

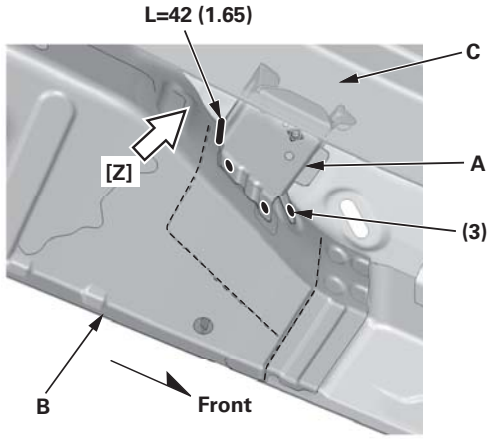
    NOTE: Check that the sliding door opens and closes smoothly.
11. From under the floor, weld inside sill B to the floor frame outrigger (A), the trailing arm outrigger (C), and the rear wheel arch extension (D).

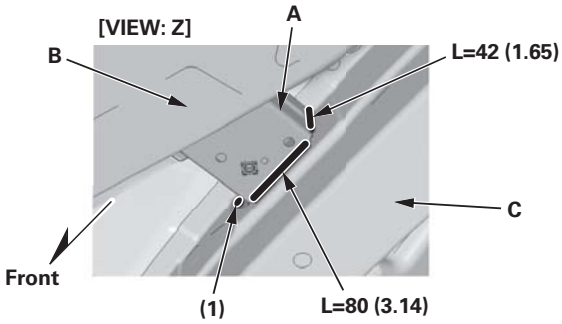


12. Weld side sill B, side sill A, and the side sill stiffener (C).



13. Weld the middle floor outrigger (A) to inside sill B and the floor frame (C).

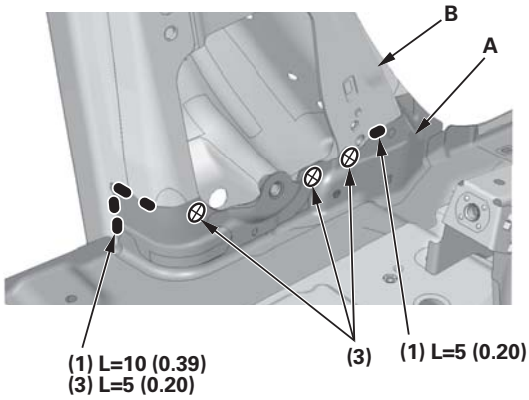




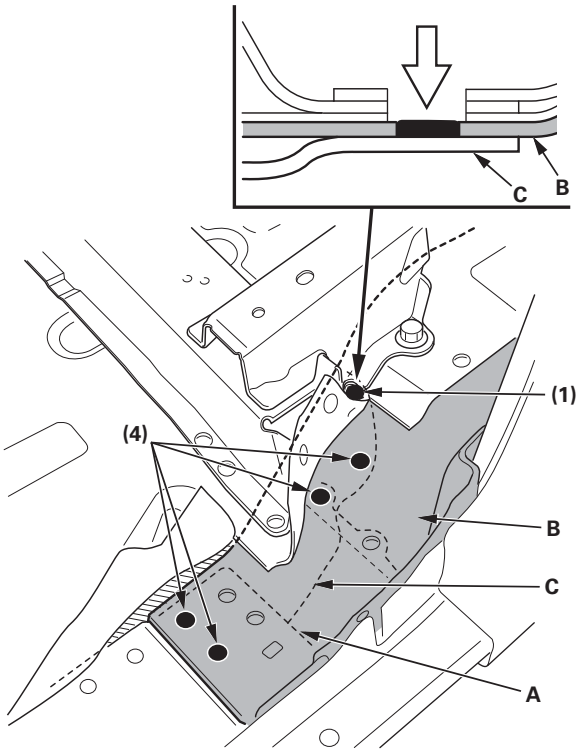
(cont'd)

Installation (cont'd)

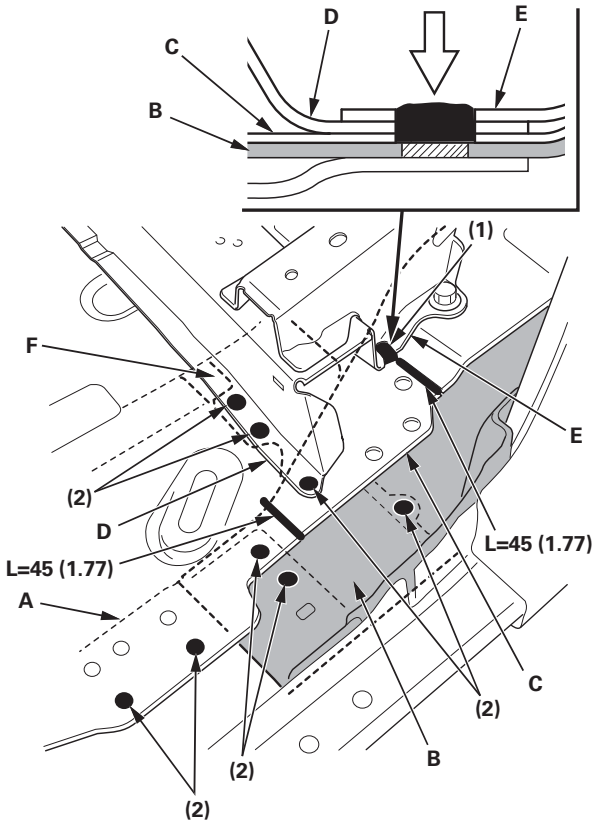
14. From the passenger's compartment side, weld the ELR stiffener (A) and the center inner pillar (B).



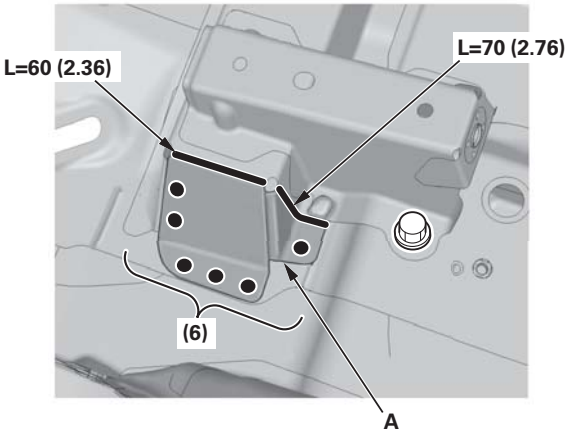
15. Plug weld inside sill B to inside sill A and the side sill stiffener (C).



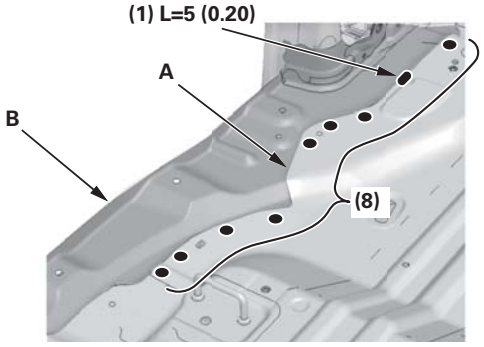
16. Plug weld inside sill B to inside sill A, the floor panel (C), the under floor pan upper crossmember (D), and the front seat rear bracket (E).
Plug weld the front weld flange of the under floor pan upper crossmember and the middle floor outrigger (F).

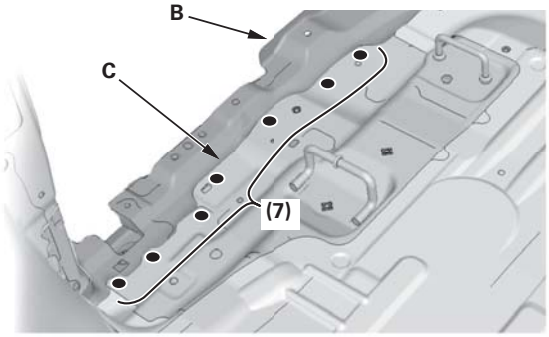


17. Weld the side edge of the under floor pan upper crossmember (A).



18. Plug weld inside sill B to the floor panel (A) and the second seat plate (C).

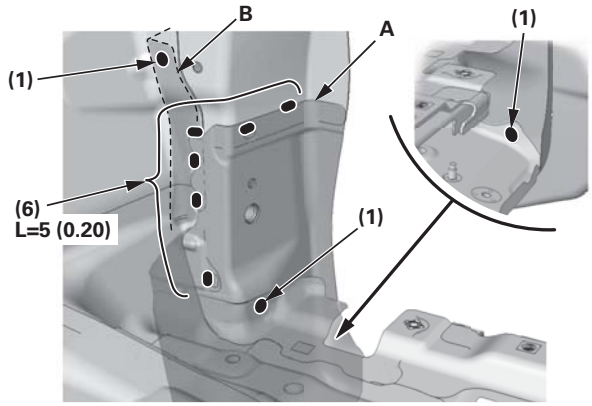


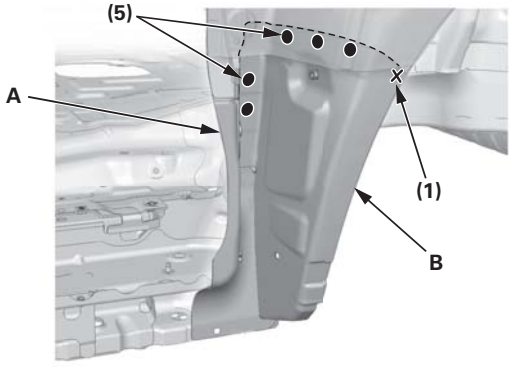


19. Recheck the clearance and alignment of the front door and the sliding door.

20. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding connections. Remove the outer panel repair parts.

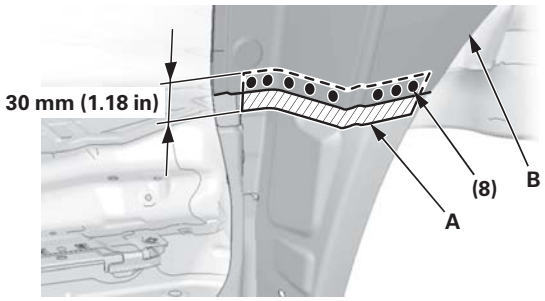
21. Weld the quarter pillar stiffener extension (A) and the rear wheel arch extension (B).





22. Weld the patch (A) at the cut sections of the body side outer panel (B).

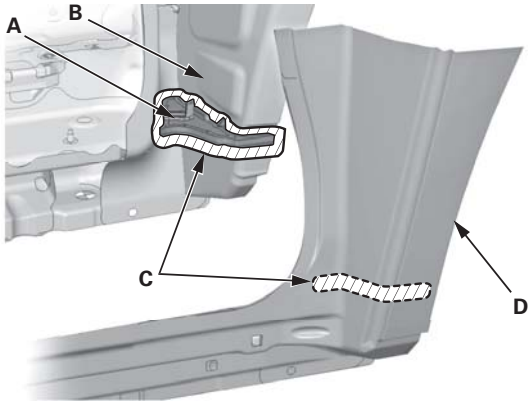
    Front pillar and center pillar cut section (see step 9 on page 3-26)



23. Install the new wheel arch outer separator (A) on the rear wheel arch extension (B).

    NOTE: Apply the sealer (C) all the way around the separator and inside the outer panel (D) without gaps.

    - Front pillar outer separator (see step 11 on page 3-26)
    - Center pillar outer separators (see step 10 on page 3-26)

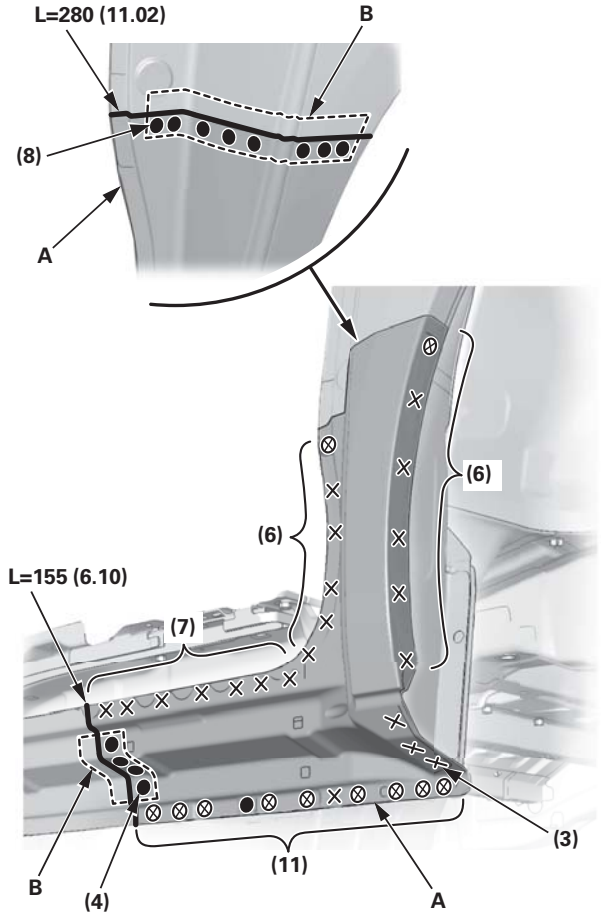


(cont'd)

Installation (cont'd)

24. Weld the rear side outer panel repair part (A) and the patches (B).

    Side sill outer panel repair part (see step 13 on page 3-27)

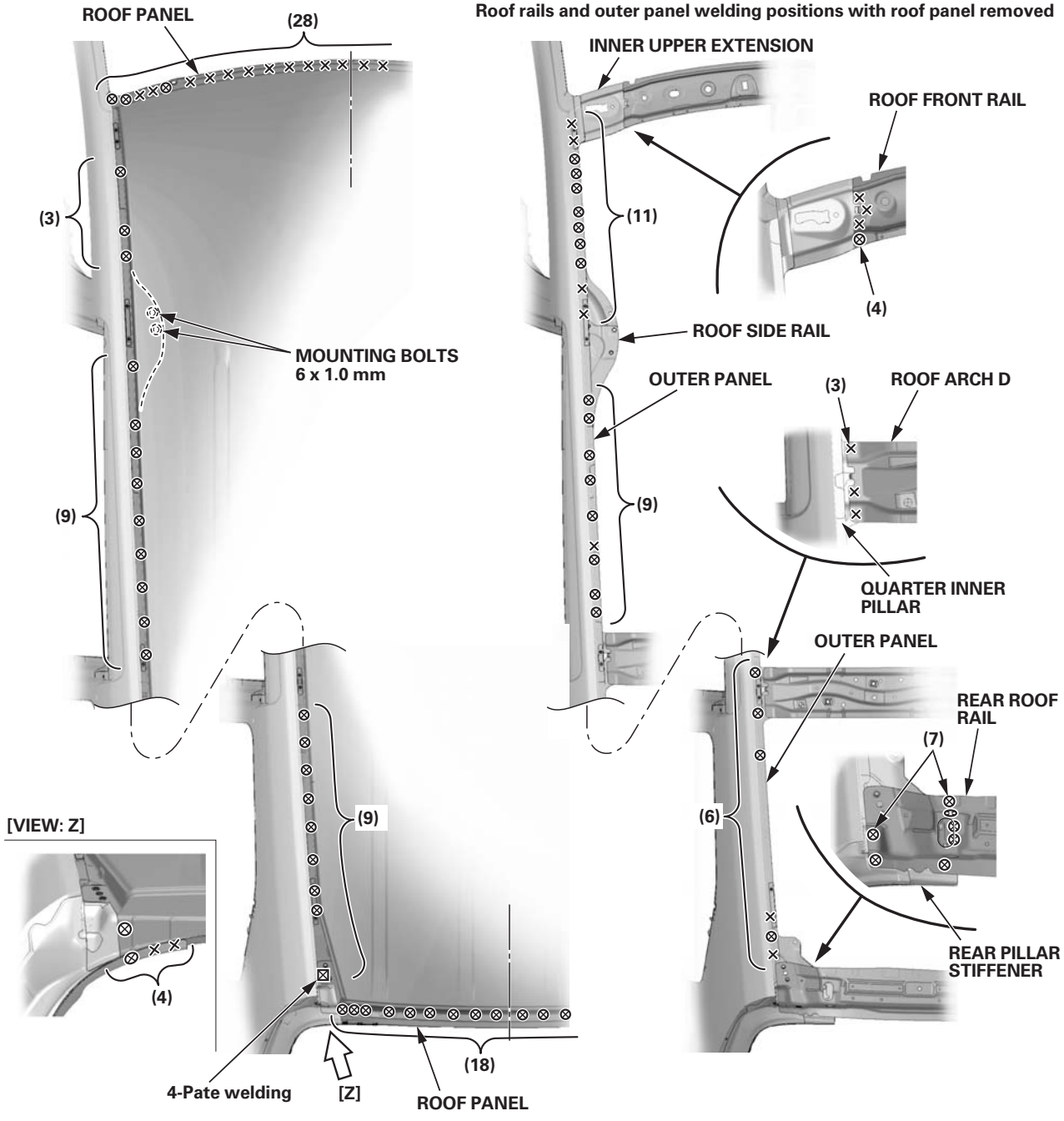


Removal

Mass production body welding positions and numbers

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



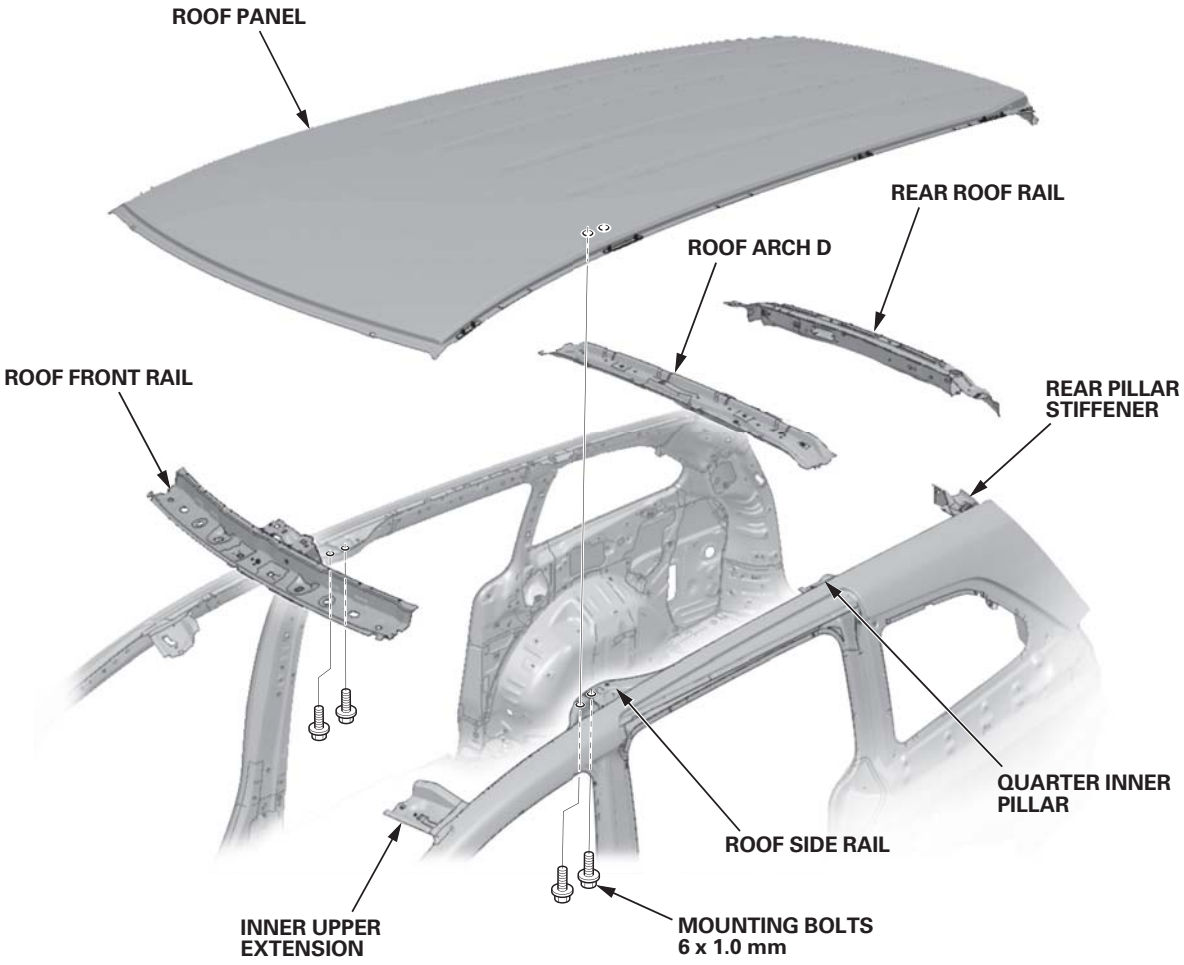
(cont'd)

Removal (cont'd)

Construction

NOTE: This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.

- Remove the mounting bolts, drill the welded flange of the roof panel, and remove it.
- Check the roof front rail, roof arch D, and the rear roof rail positions for damage. If necessary, replace them.

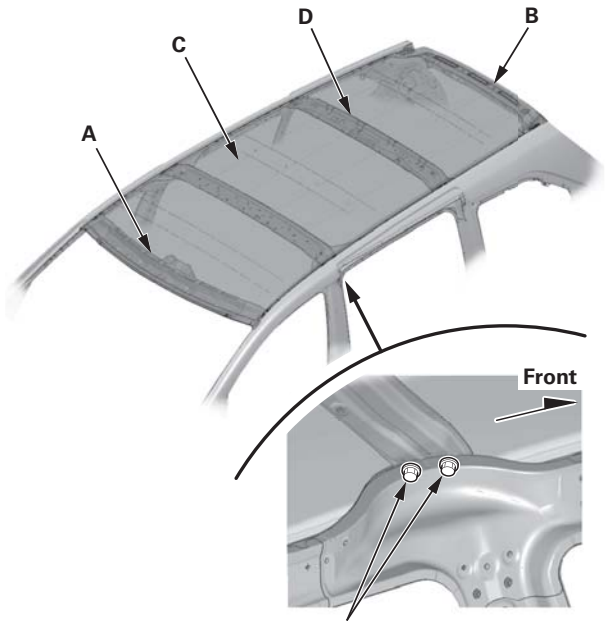


Installation

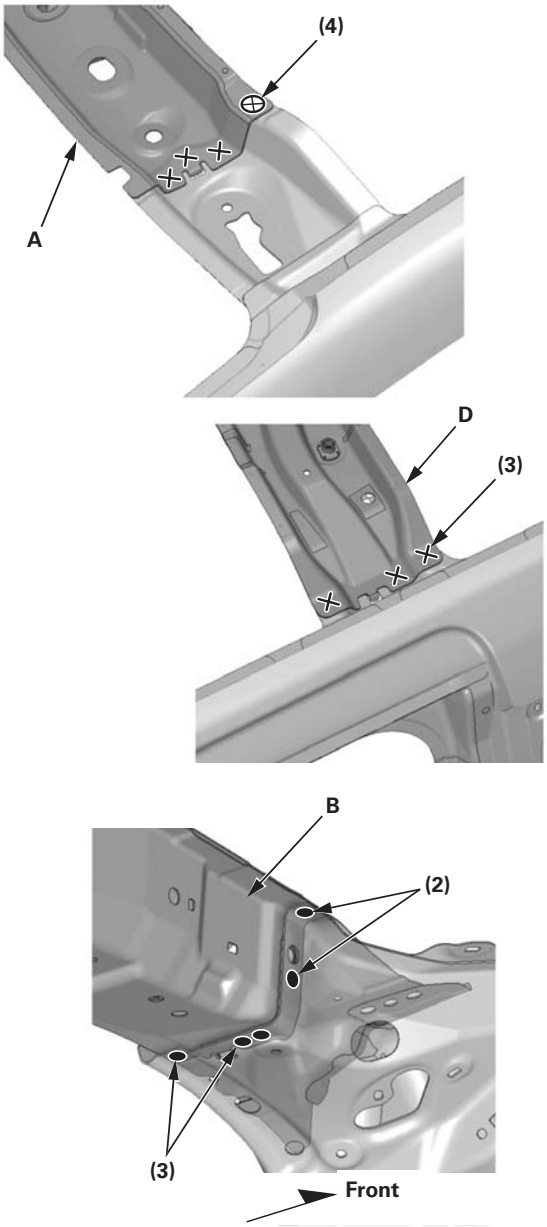
NOTE:

- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ☒: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Set the new the roof front rail (A), roof arch D, and the rear roof rail (B). Clamp the new roof panel (C), and tighten the mounting bolts (E).



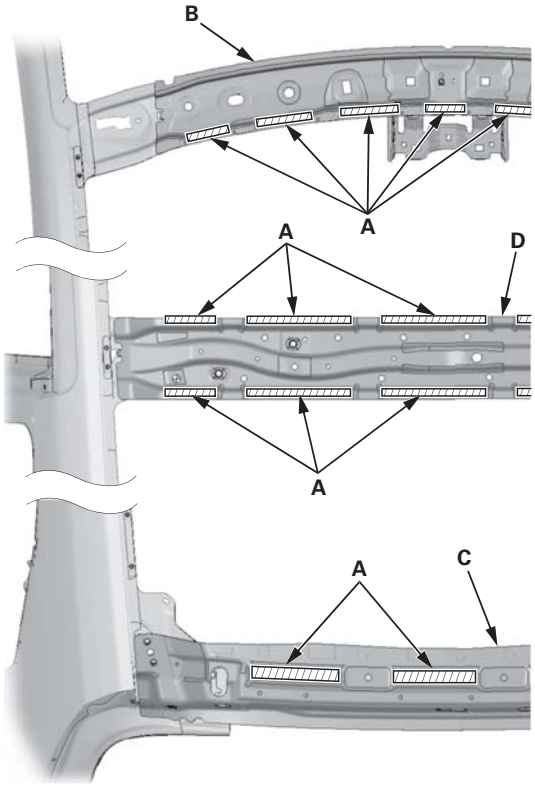
2. Check the body dimensions.
   - Roof rail positions (see page 4-11)
   - Windshield and door openings (see page 4-13)
   - Tailgate opening (see page 4-14)
   - Passenger's compartment (see page 4-9)
   - Door hinge positions (see page 4-7)
3. Tack weld the new roof front rail, roof arch D, and the rear roof rail.
4. Temporarily install the roof moldings, the windshield, the tailgate, the front doors, and the sliding doors, then check for differences in level and clearance. Check the external parts fitting positions (see page 4-15). Make sure the body lines flow smoothly.
5. Remove the roof panel, and weld the roof front rail (A), roof arch D, and the rear roof rail (B).



(cont'd)

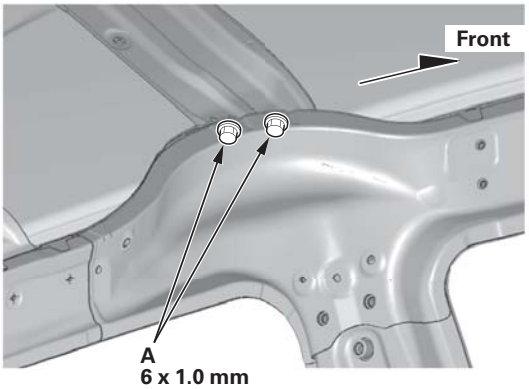
Installation (cont'd)

6. Apply a soft type sealer (A) to the mating surfaces of the roof panel and the front roof rail (B), roof arch D, and the rear roof rail (C).

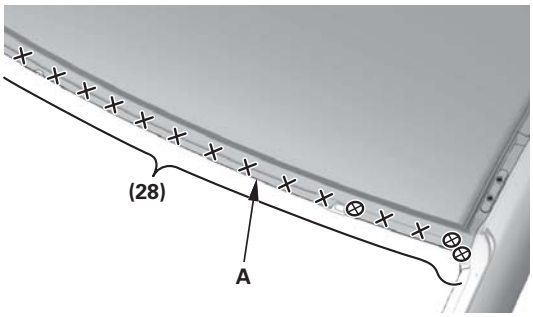


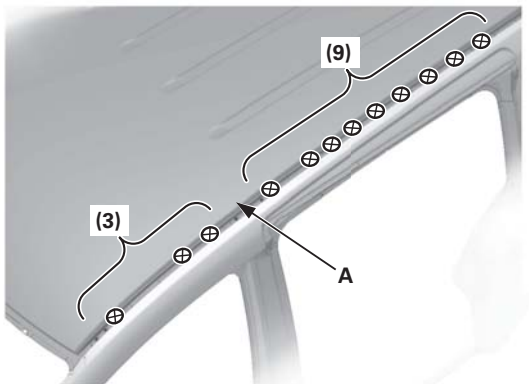
7. Clamp the roof panel, recheck the clearance and alignment of the windshield, the tailgate, and the outer panel.

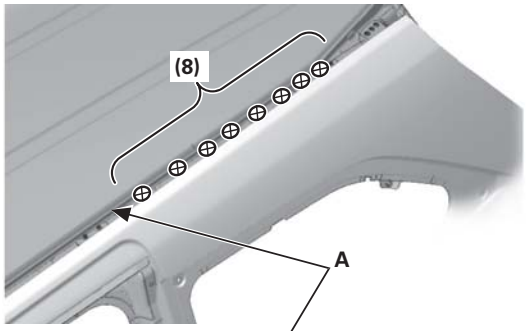
8. Tighten the mounting bolts (A).

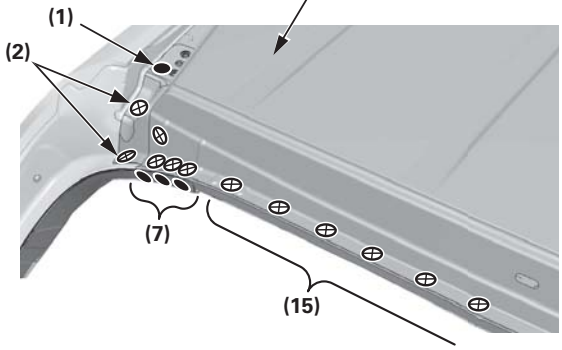


9. Do the main welding.
Weld the front, rear, and side flanges of the roof panel (A).









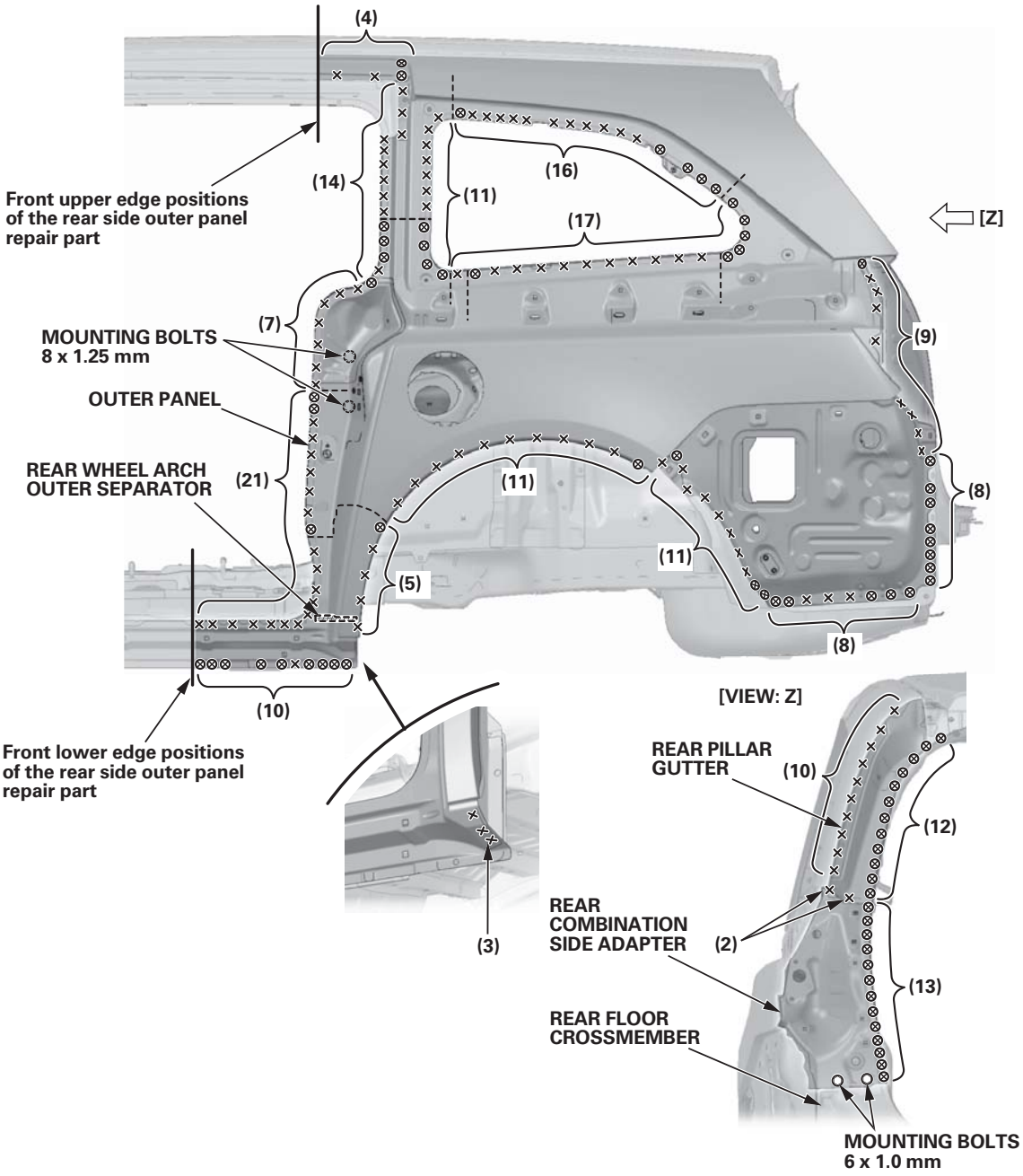
Rear Side Outer Panel

Removal

Mass production body welding positions and numbers (Outer panel and rear gutter)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds



(cont'd)

Removal (cont'd)

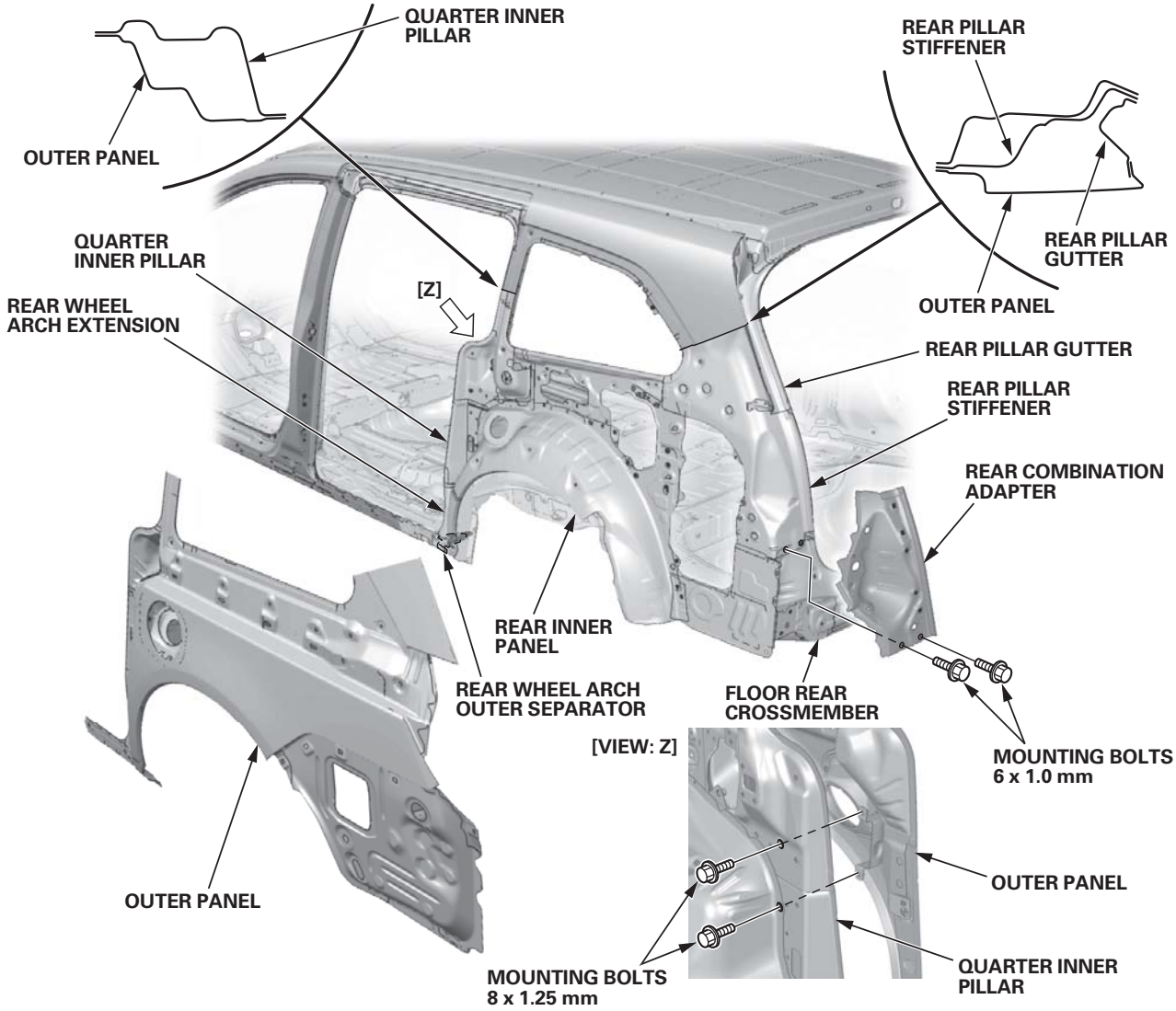
Construction

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.
- Cut and pry off the rear side outer panel, and replace it.

  NOTE: Select the cutting positions in consideration of the rear side outer panel repair part (see page 1-14).

- Check the rear combination adapter for damage. If necessary, replace it.
- Replace the wheel arch outer separator.



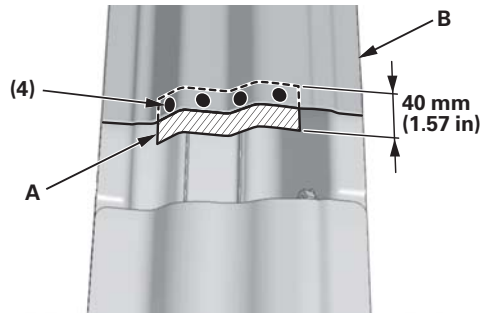
Installation

NOTE:

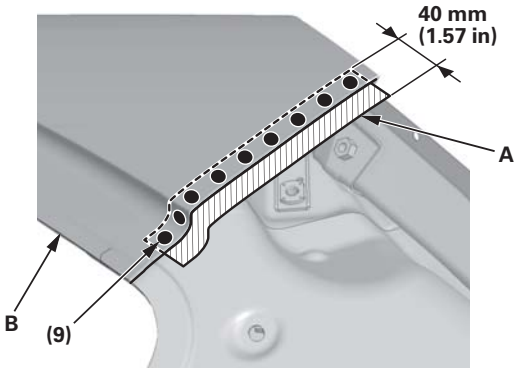
- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Clamp the new rear combination adapter, and tighten the mounting bolts.
2. Rough-cut the rear side outer panel repair part, and clamp it to the body.
3. Check the body dimensions.
   - Door hinge positions (see page 4-7)
   - Sliding door female guide and striker positions (see page 4-8)
   - Passenger's compartment (see page 4-9)
   - Sliding door rail lower support positions (see page 4-10)
   - Rear pillar gutter and floor rear crossmemer positions (see page 4-12)
   - Windshield and door openings (see page 4-13)
   - Tailgate opening (see page 4-14)
4. Temporarily install the sliding door, the tailgate, and the quarter glass, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). Make sure the body lines flow smoothly.
5. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding connections. Remove the outer panel repair part.
6. Weld the patches (A) at the cut sections of the body side outer panel (B).

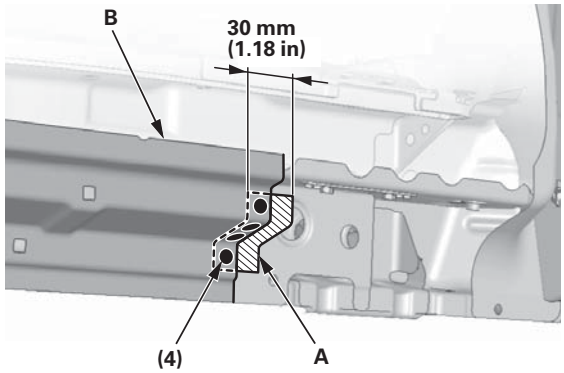
Quarter pillar section



Rear pillar section



Side sill section



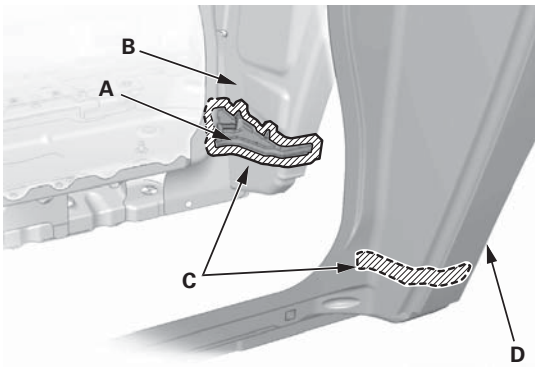
7. Clamp the outer panel repair part, and recheck the clearance and alignment of the sliding door, the quarter glass, and the tailgate. Tighten the mounting bolts.

(cont'd)

Installation (cont'd)

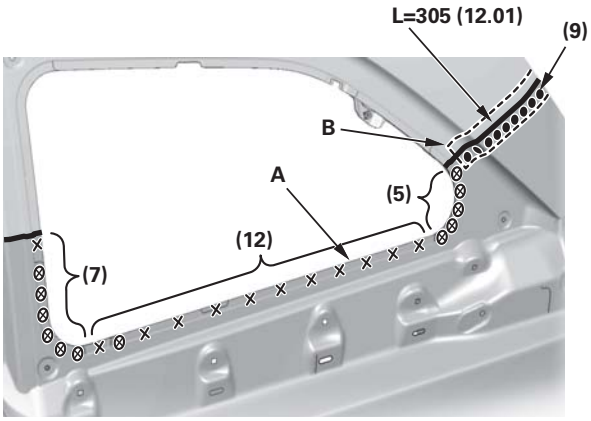
8. Install the new wheel arch outer separator (A) on the wheel arch extension (B).

   NOTE: Apply the sealer (C) all the way around the separator and inside the outer panel repair part (D) without gaps.

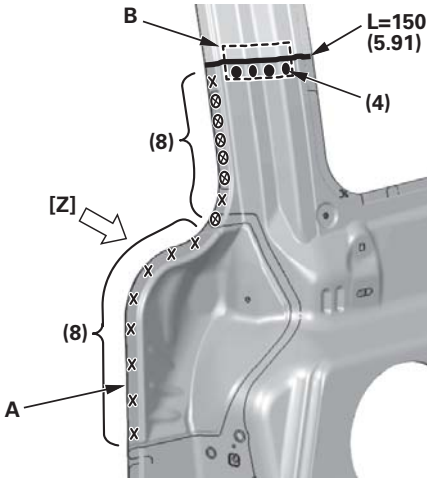


9. Do the main welding.
   Weld the outer panel repair part (A) and the patches (B).

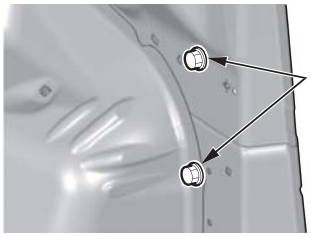
Quarter glass opening and rear pillar area

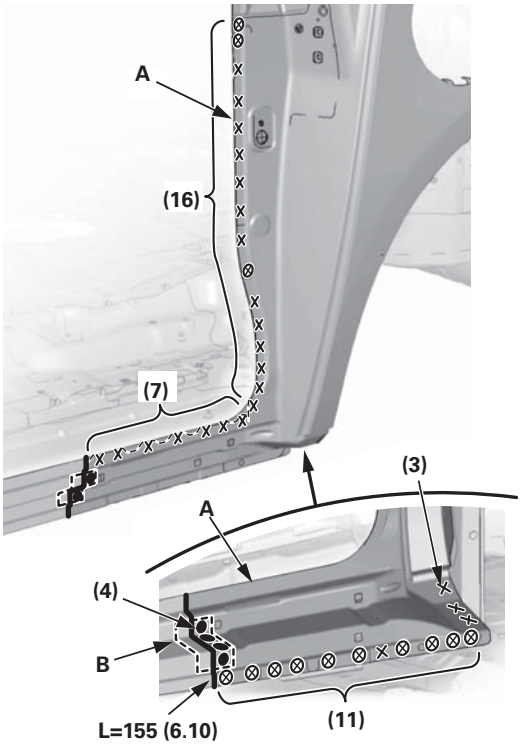


Door opening and side sill area

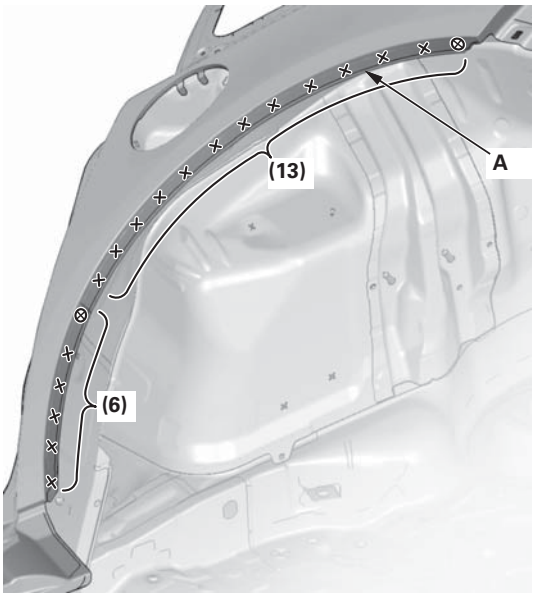


[VIEW: Z]

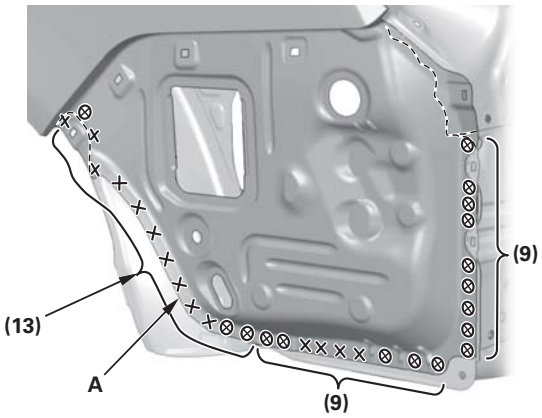




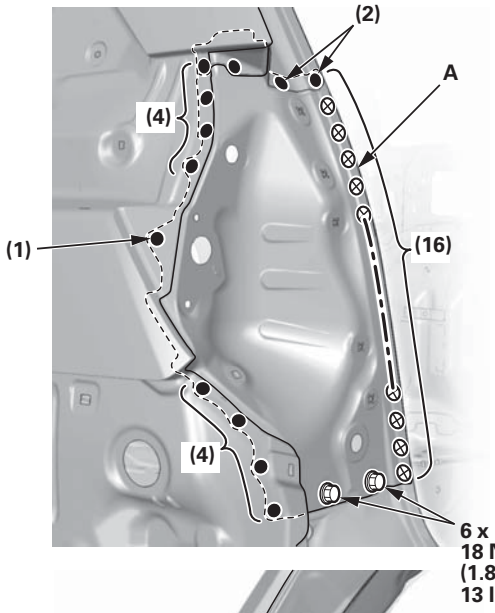
Wheel arch area

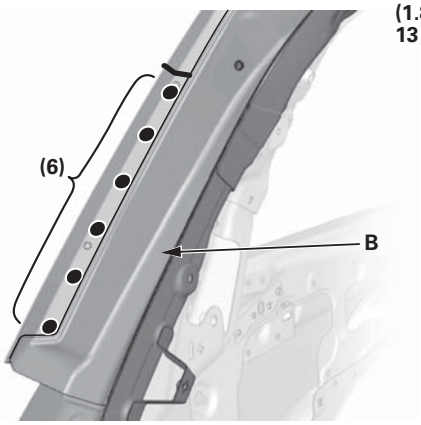


Rear end area



10. Weld the rear combination adapter (A) and the rear pillar gutter (B).



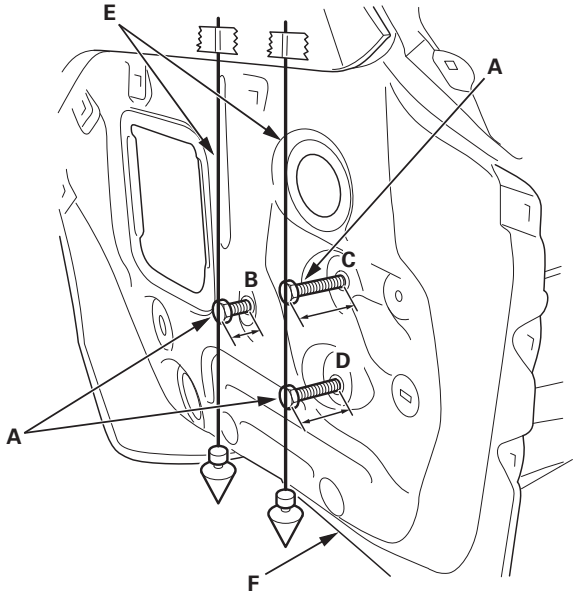


(cont'd)

Installation (cont'd)

11. With BSI radar unit: Check the BSI radar unit mounting holes position. Install 6 mm bolts (A), 45—60 mm long, in the BSI radar unit mounting holes (B, C, D). Tape the plumb line (E) against the outer panel (F) directly above each mounting hole, and thread each bolt in or out until the head of the bolt just touches the plumb line. At each bolt, measure the distance from the head to the end of the threaded insert in the outer panel. If any of the distances are out of specification, adjust the hole positions of the outer panel in order of B, C, D.

    Hole B: 22.6 mm (0.890 in)
    Hole C: 47.5 mm (1.870 in)
    Hole D: 44.3 mm (1.744 in)



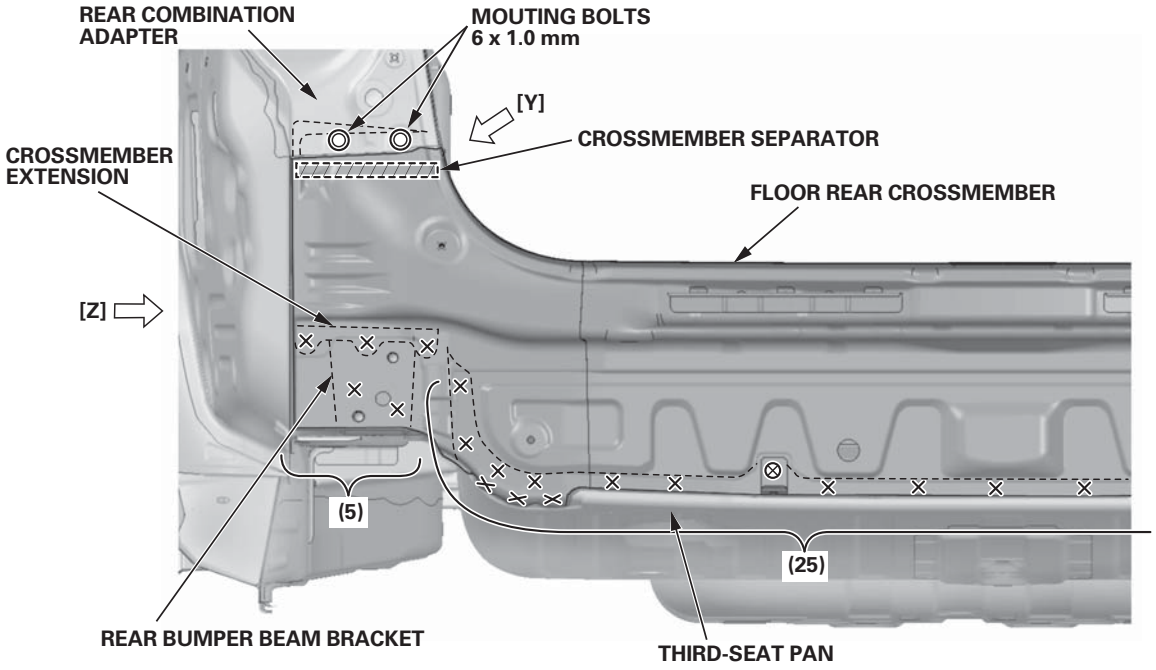
Floor Rear Crossmember

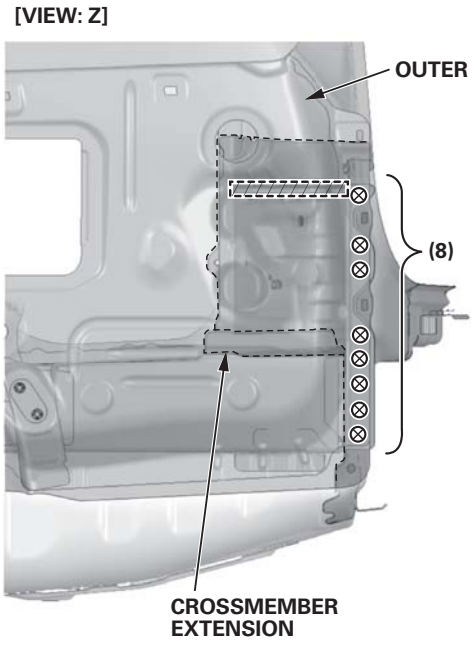
Removal

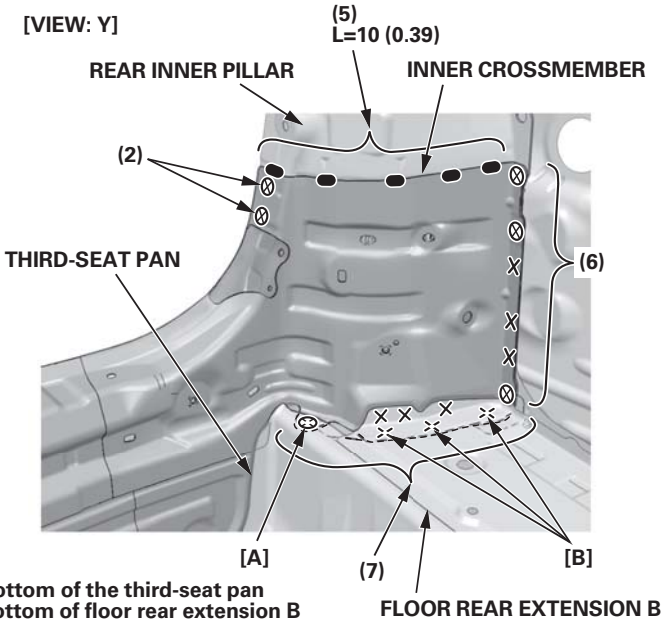
Mass production body welding positions and numbers

NOTE:

- Welding symbols
  ⨯: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds







(cont'd)

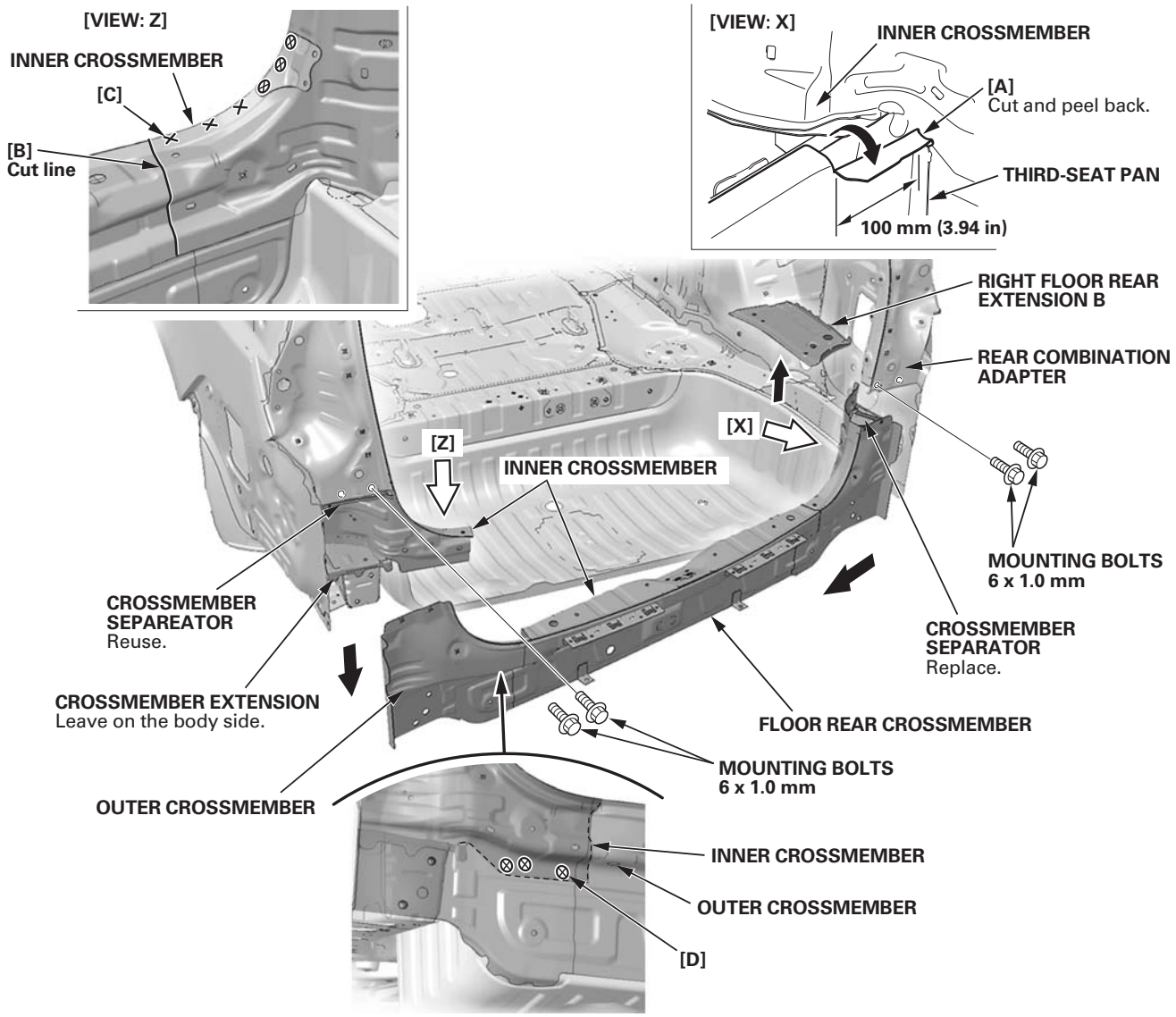
Removal (cont'd)

Construction

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- Remove floor rear extension B from one side.
- Cut the rear edge [A] of the third-seat pan where it wraps over the inner crossmember, and peel it back.
- Cut the position [B] of the inner crossmember, and drill the six spot welded points [C] on the inner crossmember.
- Drill the three spot welded points [D] on the outer crossmember from outside of it, and separate the side and the center with the inner crossmember.
- Leave the left side of the inner crossmember on the body side, while lowering the left side of the outer crossmember, move the other side diagonally, and remove the floor rear crossmemer as shown.
- Replace the crossmember separator of one side.

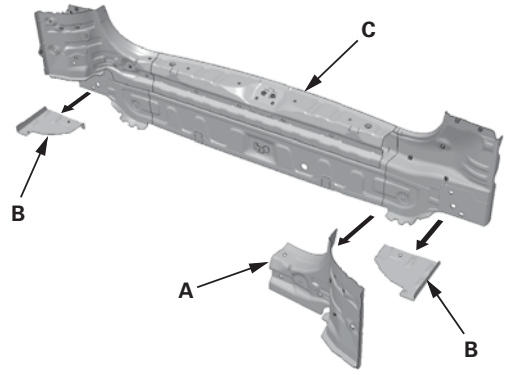


Installation

NOTE:

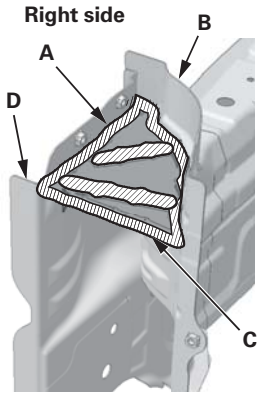
- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

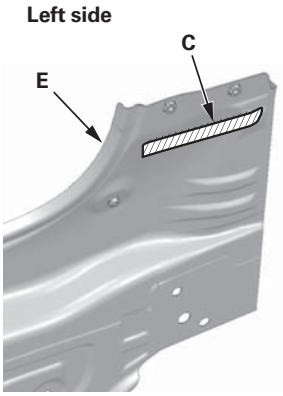
1. Cut the left side of the inner crossmember (A), and remove the floor crossmember extensions (B) from both sides of the the new floor rear crossmember (C).



2. Install the new crossmember separator (A) on the right side inner crossmember (B).

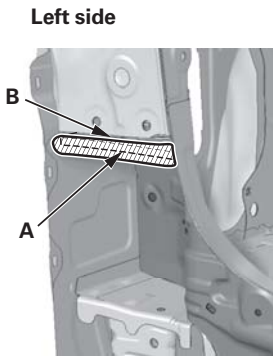
   NOTE: Apply the sealer (C) all the way around the separator and to the right side outer crossmember (D) without gaps.

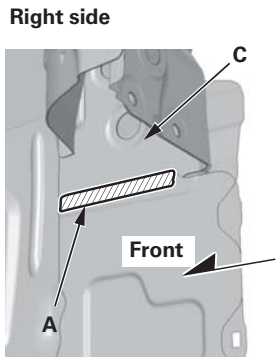




3. Apply the sealer on the left side outer crossmember (E) at the body side separator location.

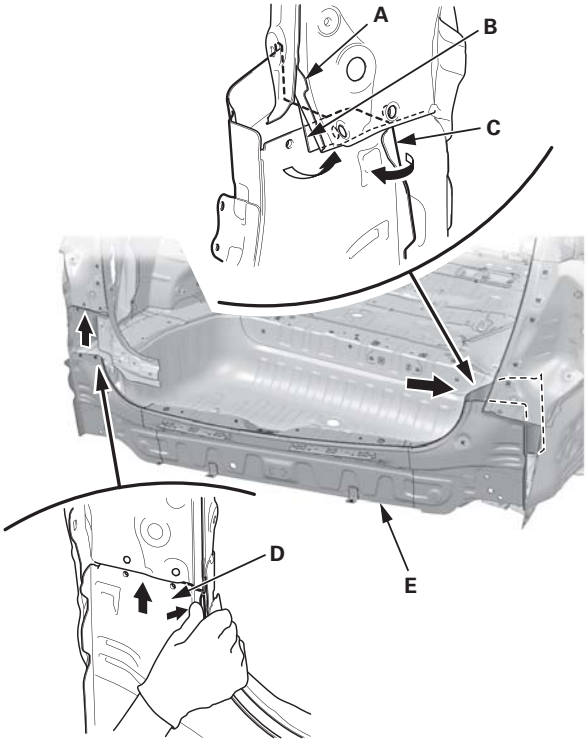
4. Apply the sealer (A) to the left crossmember separator (B) on the body side.





5. Apply the sealer on the right side rear inner panel (C) at the separator location.

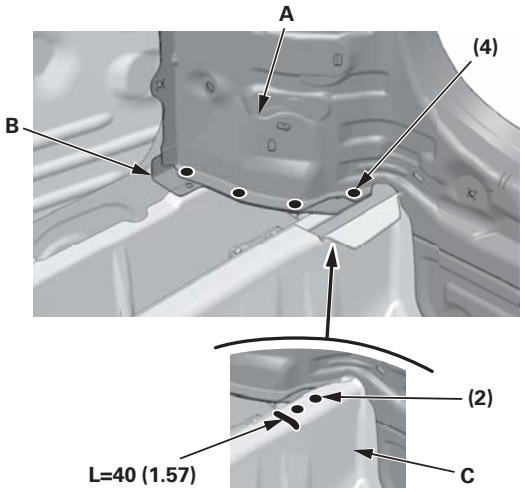
6. Bend the lower edge of the right rear combination adapter (A) and the rear pillar stiffener (B). Bend the weld flange of the new outer crossmember (C) inward.
   Insert the right side of the outer crossmember inside of the rear pillar stiffener, and insert the left side of the outer crossmember (D) inside of the left rear combination adapter from the bottom, then set the floor rear crossmember (E) in the body.



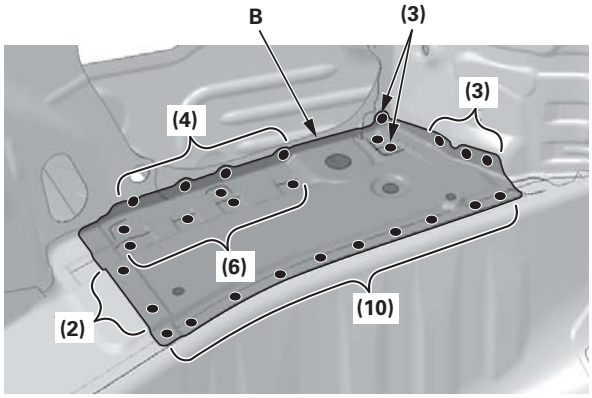
(cont'd)

Installation (cont'd)

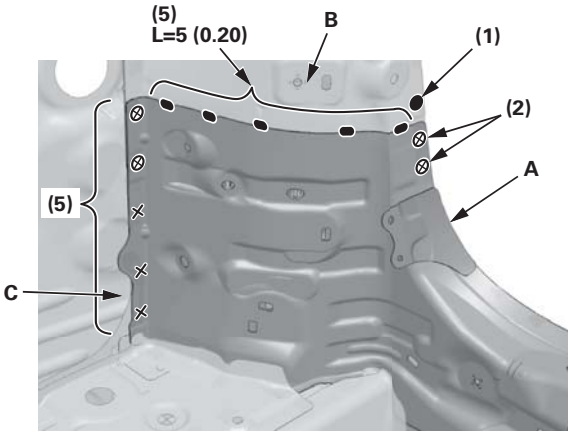
7. Temporarily install the rear bumper beam, and tighten the mounting bolts.
8. Check the body dimensions.
   - Rear pillar gutter and floor rear crossmember positions (see page 4-12)
   - Tailgate opening (see page 4-14)
   - Front floor and rear floor, under view (see page 4-18)
9. Temporarily install the tailgate, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). If necessary, check the taillight and the rear bumper positions. Make sure the body lines flow smoothly.
10. Do the main welding.
    Right side: Weld the inner crossmember (A) to the crossmember extension (B) and the third-seat pan (C).



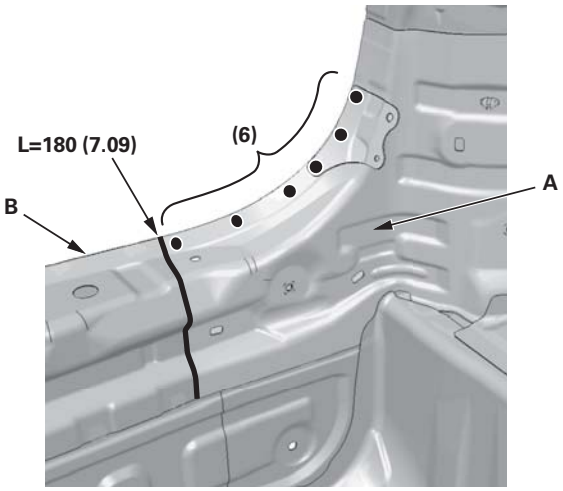
11. Right side: Weld floor rear extension B.



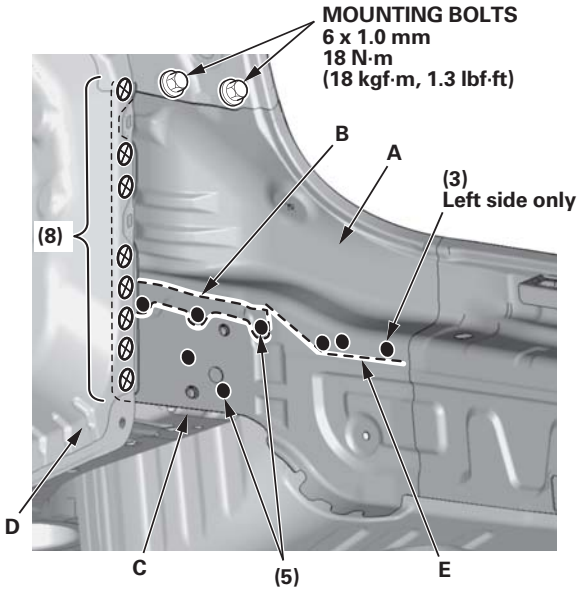
12. Right side: Weld the inner crossmember (A) to the rear inner pillar (B) and the rear inner panel (C).



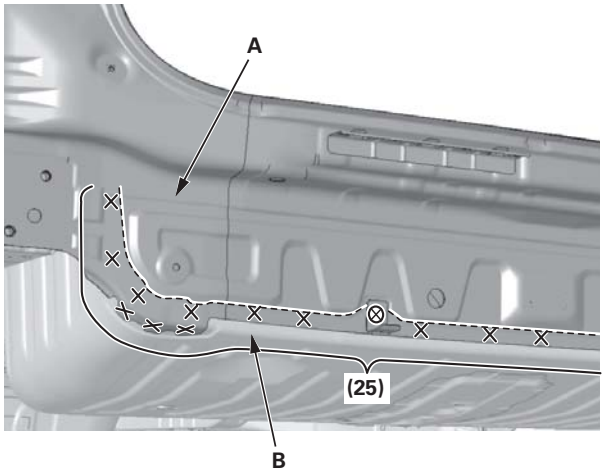
13. Left side: Weld the body side inner crossmember (A) and the new inner crossmember (B).



14. Weld the outer crossmember (A) to the crossmember extension (B) , the bumper beam bracket (C), and the outer panel (D).
    Left side: Weld the outer crossmember and the body side inner crossmember (E).

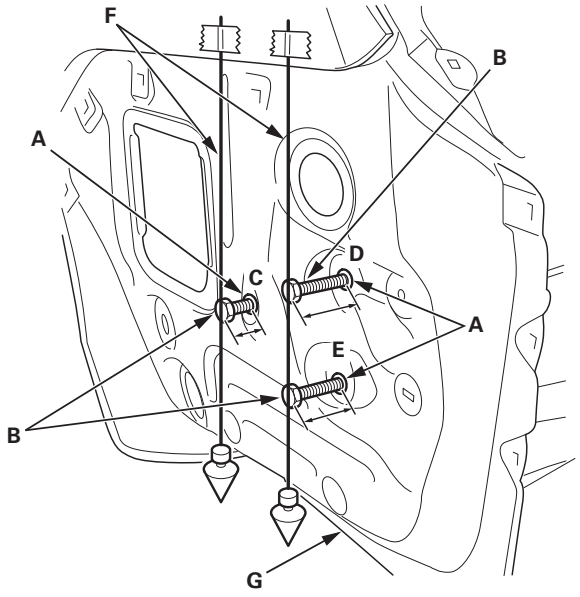


15. Weld the outer crossmember (A) and the third-seat pan (B).



16. With BSI radar unit: If necessary, remove the damaged rivnuts, then install the new rivnuts (A) with a rivnut tool, and check the BSI radar unit mounting holes position. Install 6 mm bolts (B), 45—60 mm long, in the BSI radar unit mounting holes (C, D, E). Tape the plumb line (F) against the outer panel (G) directly above each mounting hole, and thread each bolt in or out until the head of the bolt just touches the plumb line. At each bolt, measure the distance from the head to the end of the threaded insert in the outer panel. If any of the distances are out of specification, adjust the hole positions of the outer panel in order of C, D, E.

    Hole C: 22.6 mm (0.890 in)
    Hole D: 47.5 mm (1.870 in)
    Hole E: 44.3 mm (1.744 in)



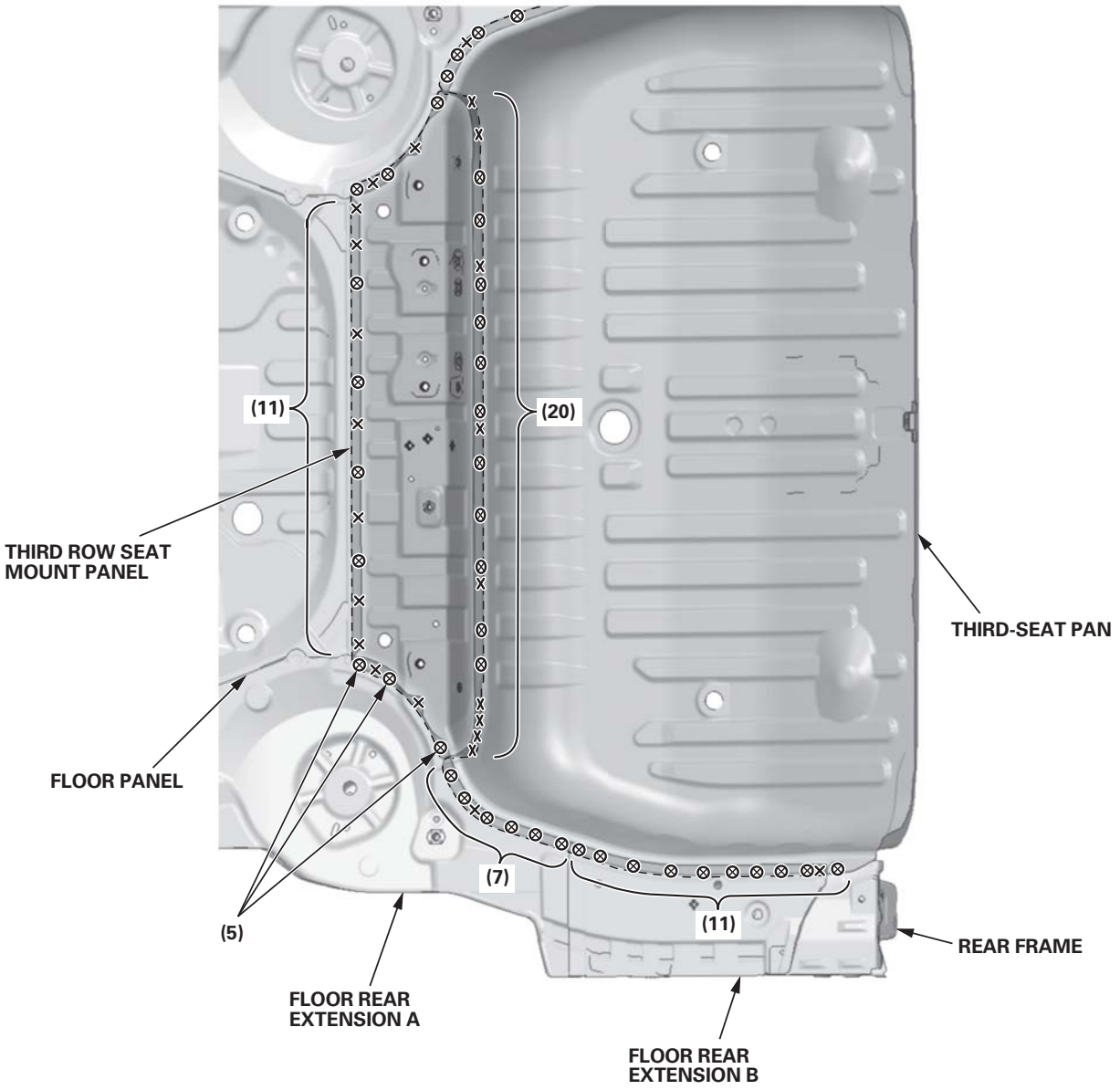
Removal

Mass production body welding positions and numbers (Third-seat pan)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length Unit: mm (in)
- ( ): The number of welds

With floor rear crossmember removed

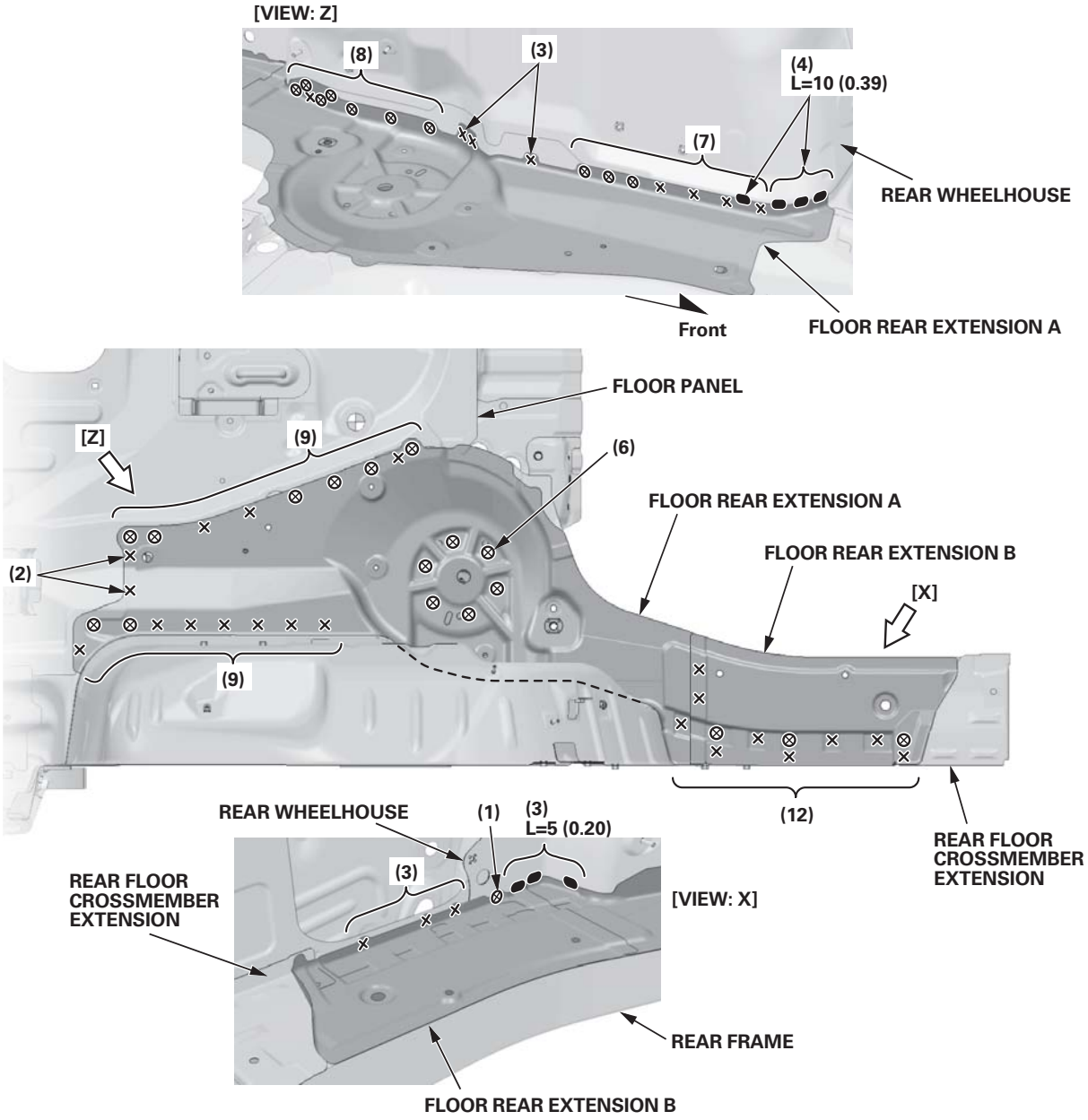


Mass production body welding positions and numbers (Floor rear extension A and B)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length Unit: mm (in)
- ( ): The number of welds

With third-seat pan removed



(cont'd)

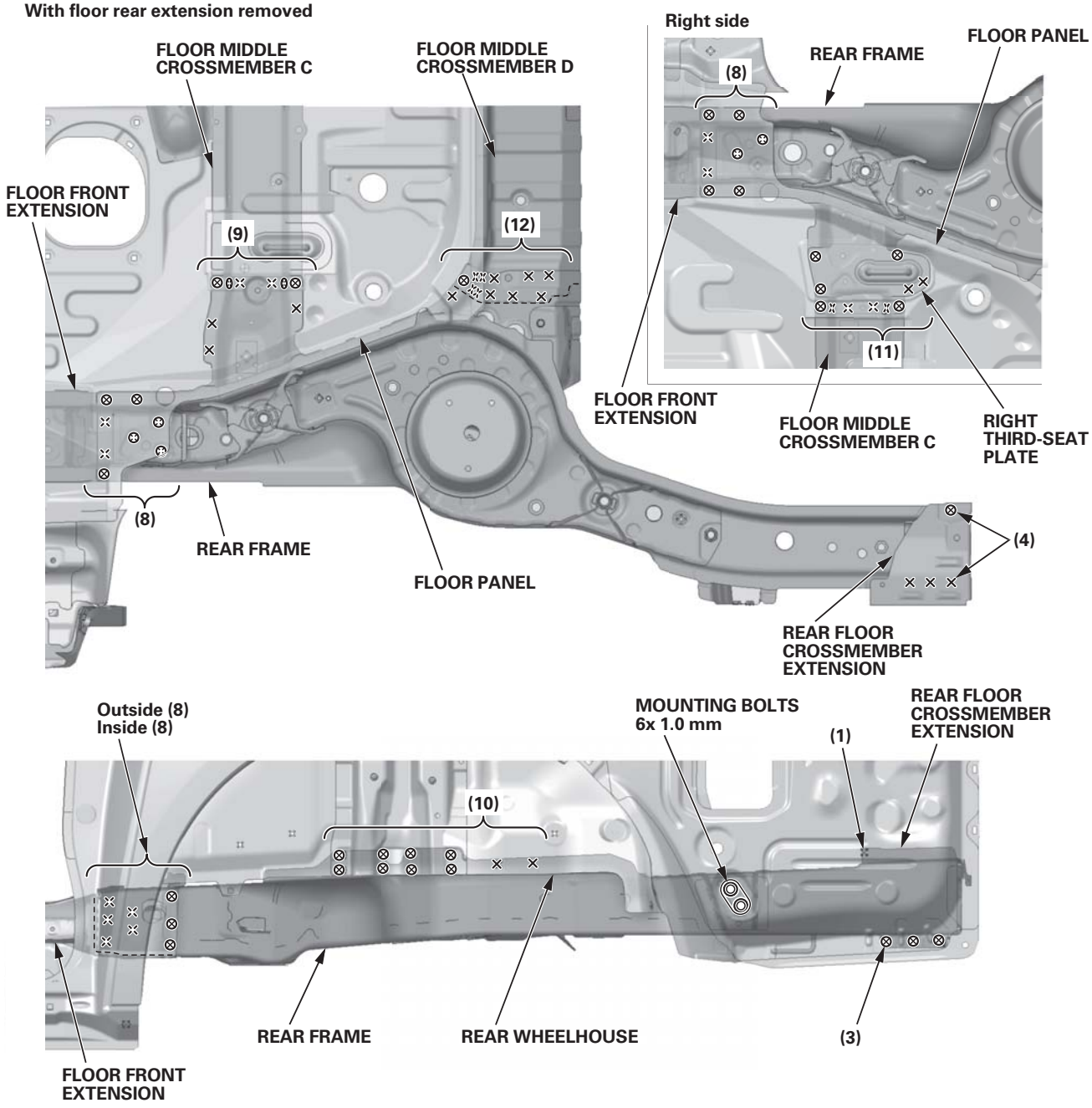
Removal (cont'd)

Mass production body welding positions and numbers (Rear frame)

NOTE:

- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MIG plug welding; ⬬: MIG welding
  L= Welding length Unit: mm (in)
- ( ): The number of welds

With floor rear extension removed

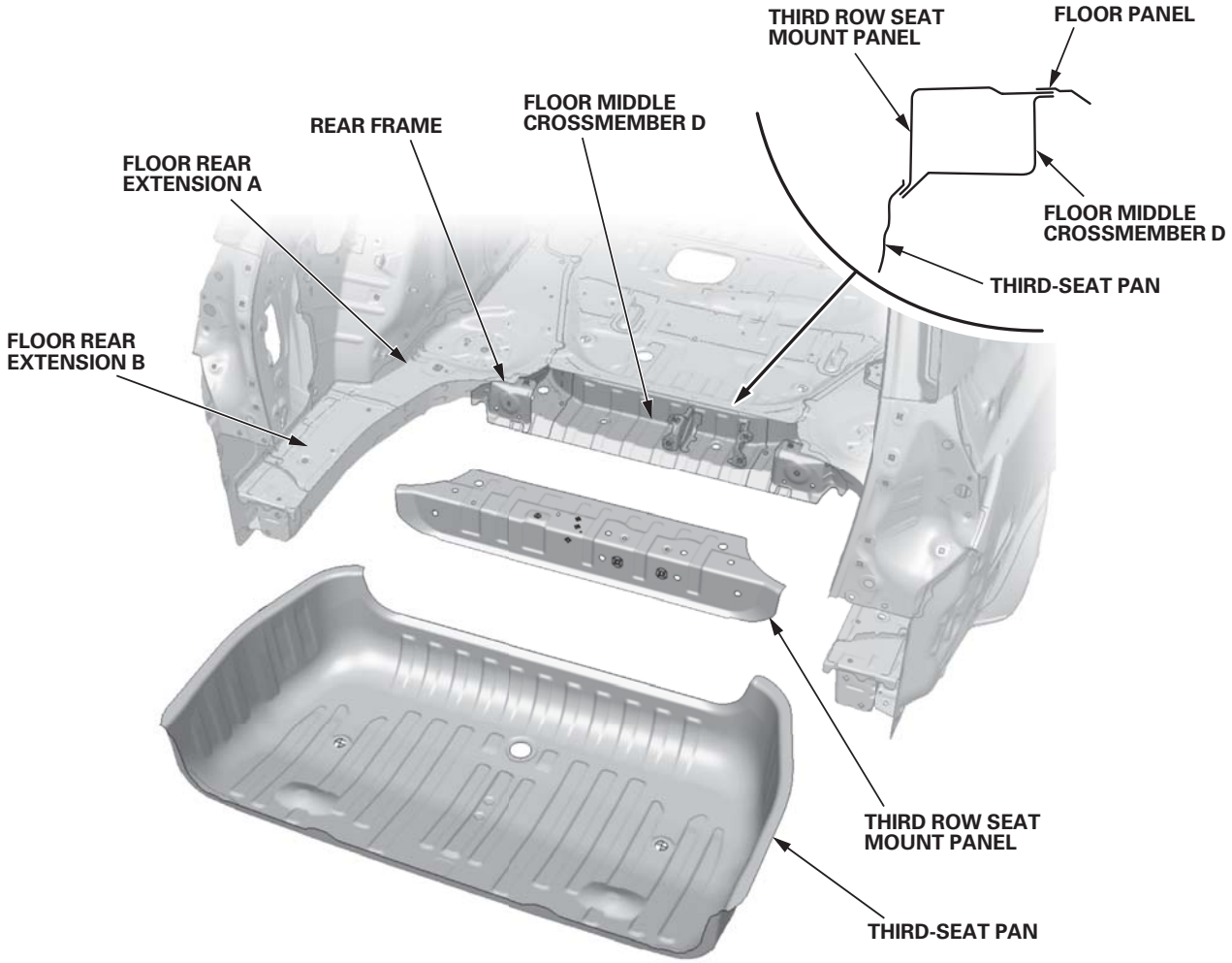


Construction (Third-seat pan)

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- Cut and pry off the third-seat pan, and replace it.
- If necessary, replace the third row seat mount panel.



(cont'd)

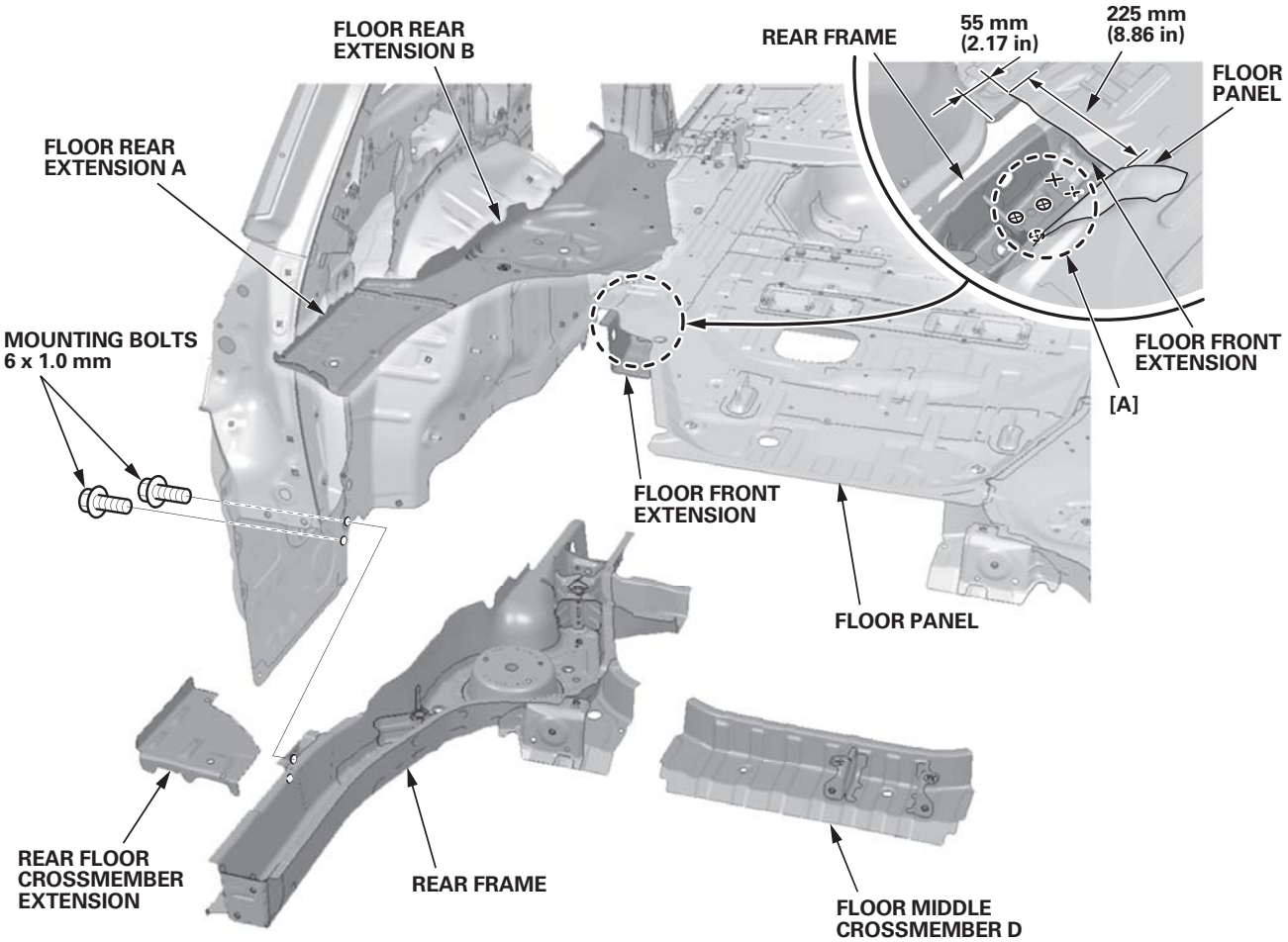
Removal (cont'd)

Construction (Floor rear extension A and B, and rear frame)

NOTE:

- This section explains the procedures after removal of all related parts. For the related parts' removal procedure, refer to the appropriate Service Manual.
- The component replacement procedure described here is only for new Honda-supplied parts, as needed, according to the area and the degree of damage on the body.

- If necessary, remove the rear floor crossmember extension from the rear frame, and replace it.
- Check the rear frame and floor middle crossmember D positions for damage. If necessary, replace them..
- When replacing the rear frame, remove floor rear extensions A and B.
- When drilling the five spot welded points [A] at the joints for the rear frame and the floor front extension, cut and peel back the floor panel to vertically access each welded point from the top.

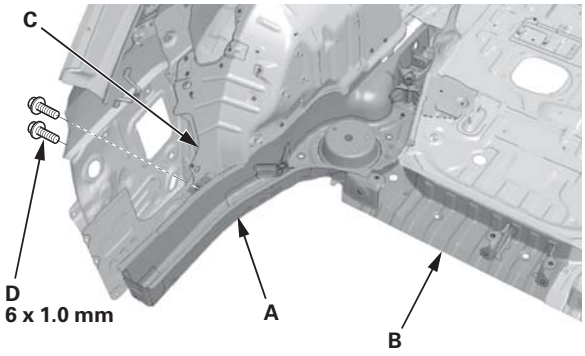


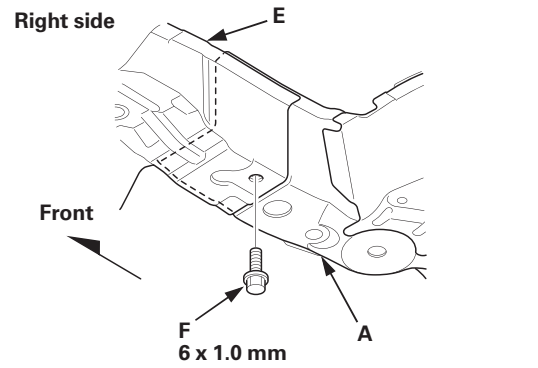
Installation

NOTE:

- Welding symbols
  ×: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MIG plug welding
  ⬬: MIG welding
  L= Welding length unit: mm (in)
- ( ): The number of welds

1. Set the new rear frame (A) and the floor middle crossmember (B).
   Both sides: Secure the new rear frame and the rear inner panel (C) with the mounting bolts (D).
   Right side: Secure the new rear frame and the floor front extension (E) with the mounting bolt (F) from under the rear frame.
   Measure the rear frame diagonally.



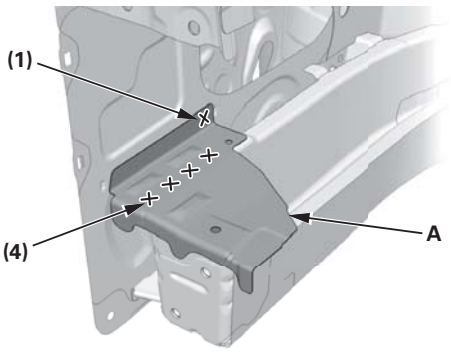


2. Check the body dimensions.

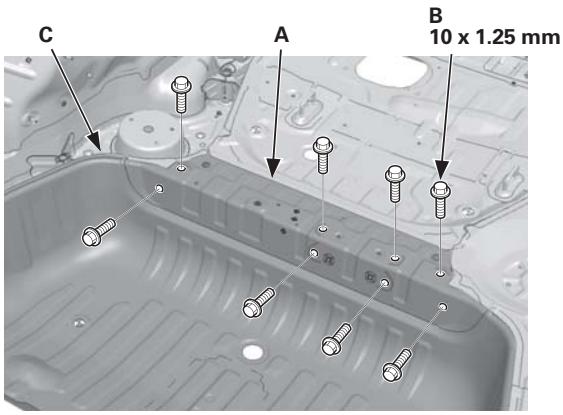
   - Front floor and rear floor, under view (see page 4-18)
   - Inside sill positions (see page 4-19)
   - Repair chart, top view (see page 4-20)
   - Repair chart, side view (see page 4-22)

3. Tack weld the new parts into position, and check the rear suspension position.

4. Weld the rear floor crossmember extension (A).



5. Set the third row seat mount panel (A), secure it with the bolts (B), and set the third-seat pan (C).



6. Clamp the floor rear crossmember, and temporarily install the rear bumper beam. Set floor rear extensions A and B.

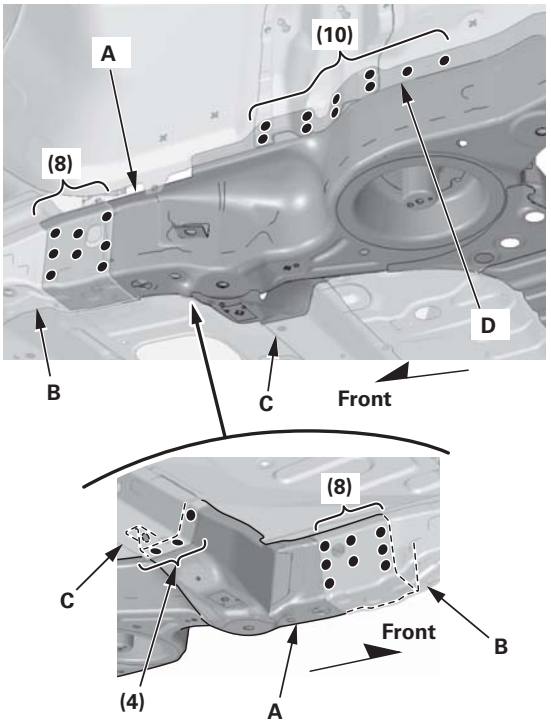
7. Check the body dimensions.

   - Passenger's compartment (see page 4-9)
   - Rear pillar gutter and floor rear crossmember positions (see page 4-12)
   - Tailgate opening (see page 4-14)

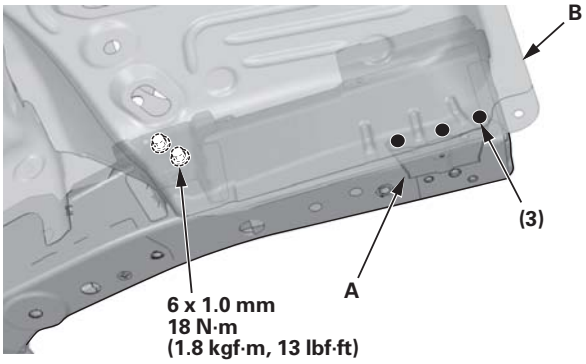
(cont'd)

Installation (cont'd)

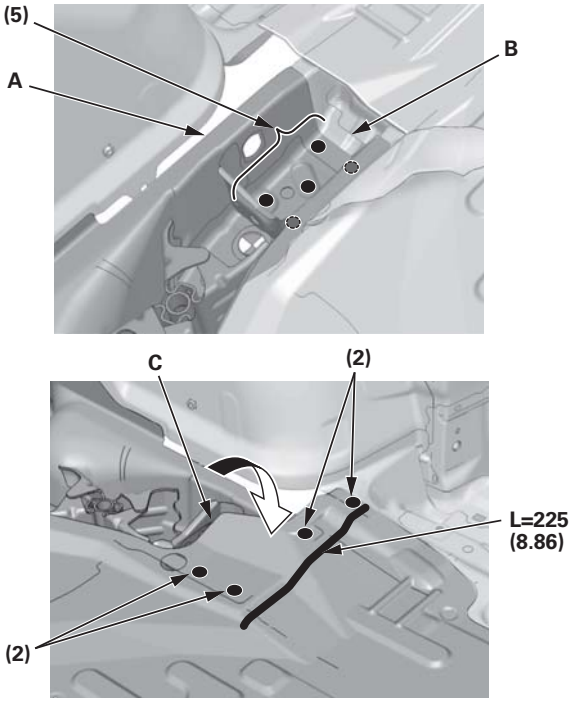
8. Temporarily install the tailgate, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-15). If necessary, check the taillight and the rear bumper positions. Make sure the body lines flow smoothly.
9. Remove the floor rear crossmember, floor rear extensions A and B, the third-seat pan, and the third row seat mount panel.
10. Do the main welding.
    Weld the rear frame (A) to the floor front extension (B), floor middle crossmember C, and the rear wheelhouse (D).



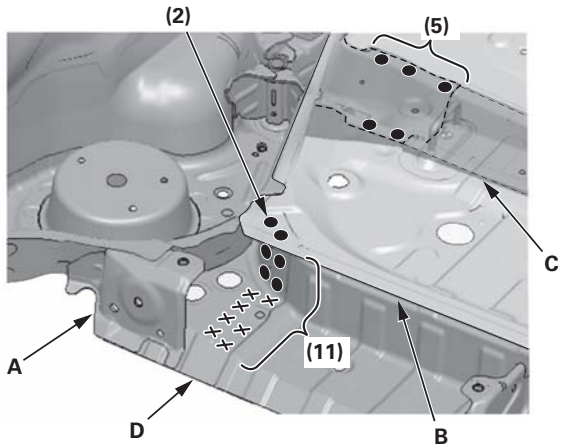
11. Weld the rear frame outrigger (A) to the rear side outer panel (B).

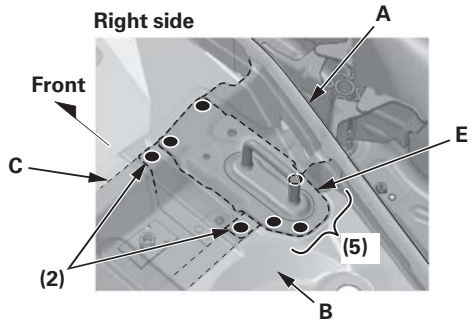


12. From the passenger's compartment side, weld the rear frame (A) to the floor front extension (B) and the floor panel (C).



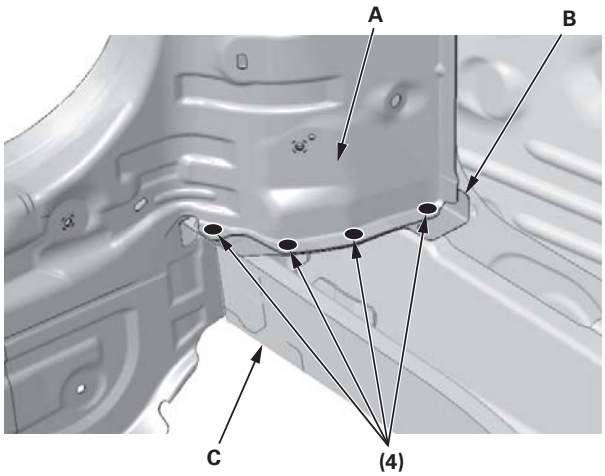
13. Weld the rear frame (A) to floor middle crossmember C, floor middle crossmember D and the floor panel (B).
    Right side: Weld the right third-seat plate (E) to the rear frame and the floor panel.



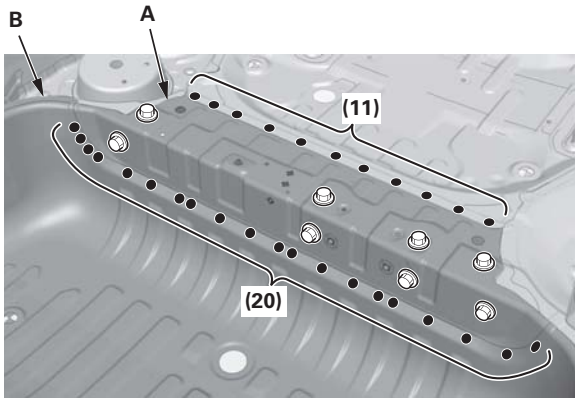


14. Clamp the floor rear crossmember, recheck the clearance and alignment of the tailgate, and install the rear bumper beam.

15. Weld the lower flange of the rear floor inner crossmember (A) to the rear floor crossmember extension (B) and the rear frame (C).



16. Set the third row seat mount panel (A) and the third-seat pan (B), and weld them.

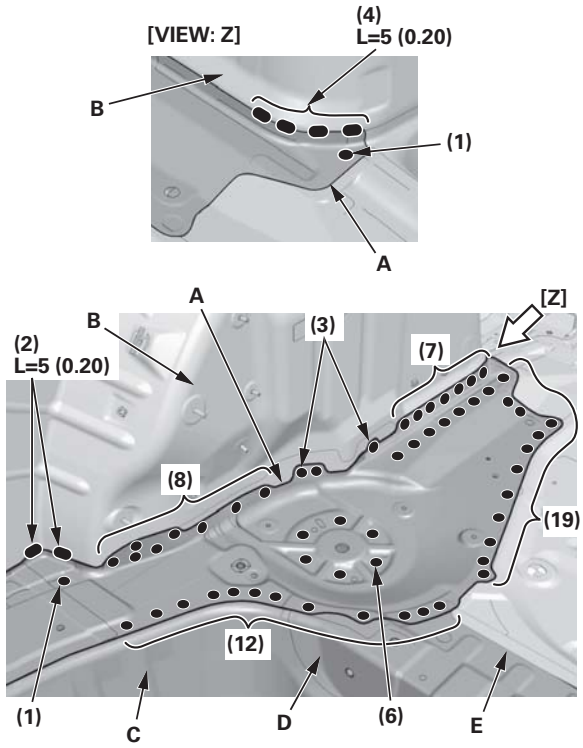


17. Set floor rear extensions A and B, and recheck each part's position.

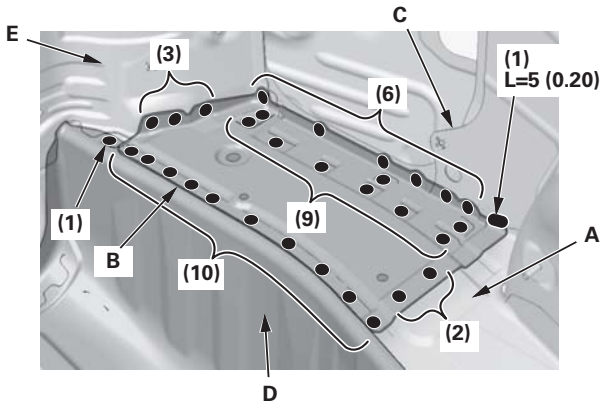
(cont'd)

Installation (cont'd)

18. Weld floor rear extension A to the rear wheelhouse (B), the third-seat pan (C), the third row seat mount panel (D), and the floor panel (E).



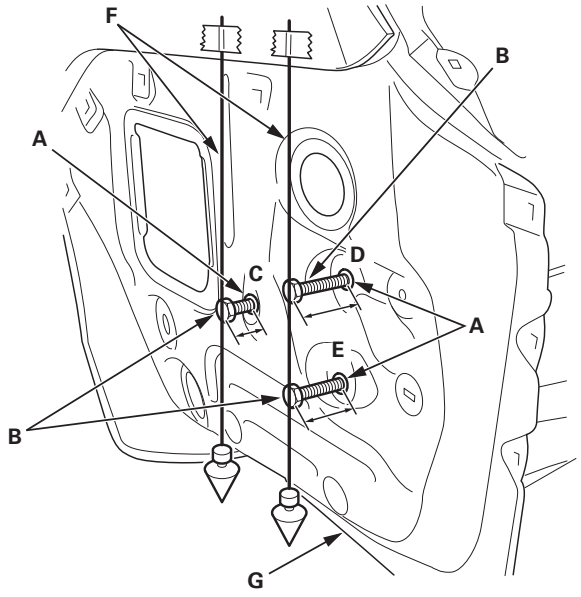
19. Weld floor rear extension B to the rear inner panel (C), the third-seat pan (D), the rear floor inner crossmember (E), and floor rear extension A.



20. Weld the floor rear crossmember (see page 3-53).

21. With BSI radar unit: If necessary, remove the damaged rivnuts, then install the new rivnuts (A) with a rivnut tool, and check the BSI radar unit mounting holes position. Install 6 mm bolts (B), 45—60 mm long, in the BSI radar unit mounting holes (C, D, E). Tape the plumb line (F) against the outer panel (G) directly above each mounting hole, and thread each bolt in or out until the head of the bolt just touches the plumb line. At each bolt, measure the distance from the head to the end of the threaded insert in the outer panel. If any of the distances are out of specification, adjust the hole positions of the outer panel in order of C, D, E.

Hole C: 22.6 mm (0.890 in)
Hole D: 47.5 mm (1.870 in)
Hole E: 44.3 mm (1.744 in)

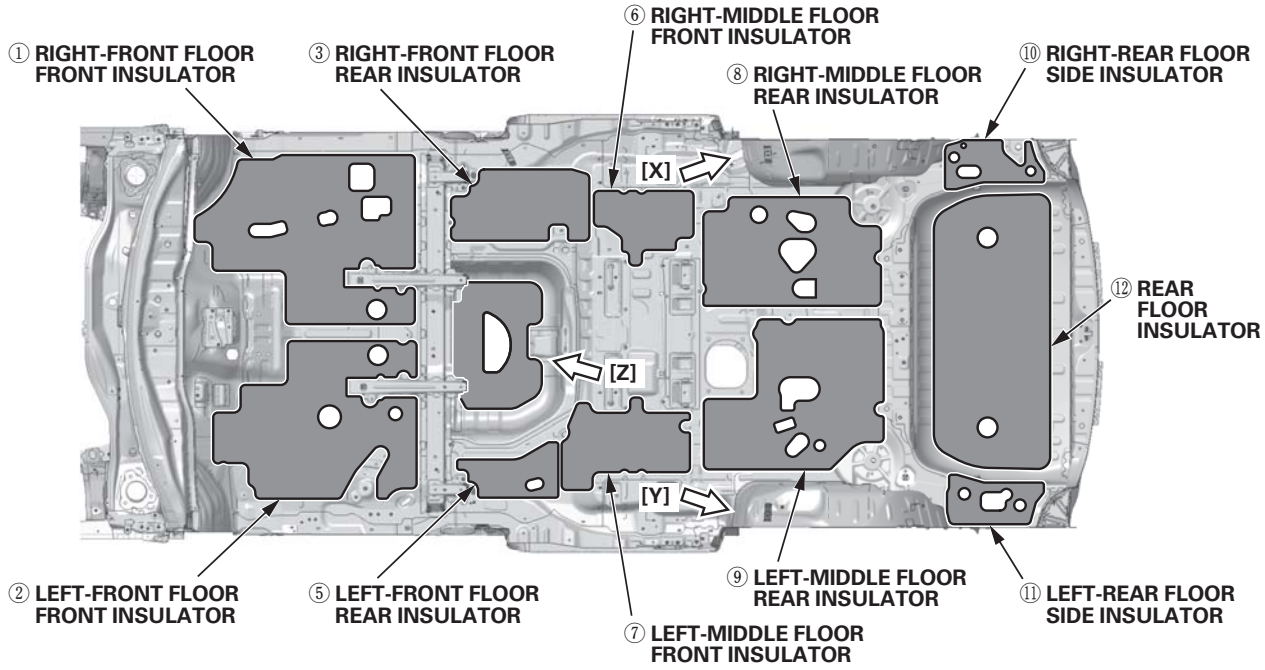


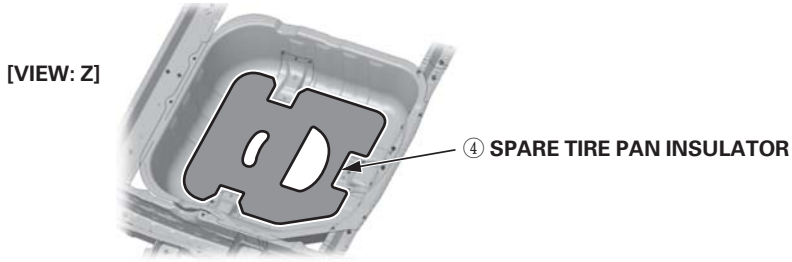
Floor Insulators

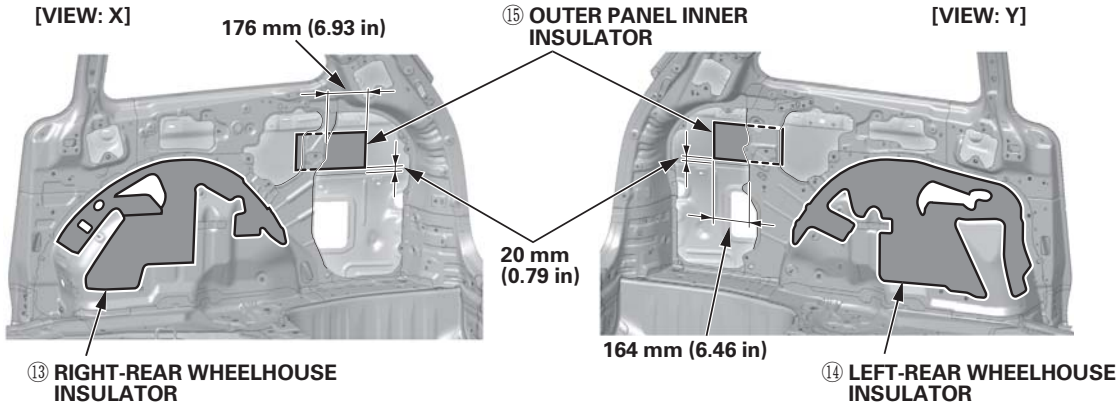
Insulator Locations

Cut new insulators, and apply as indicated.

NOTE: Before applying, clean and degrease the floor.





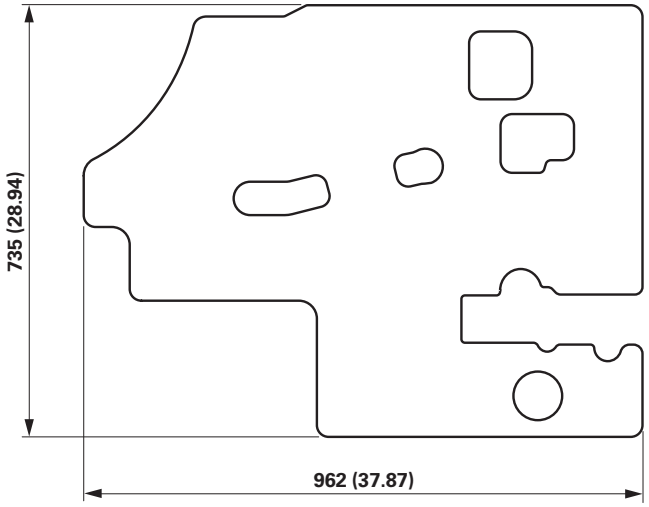


Floor Insulators

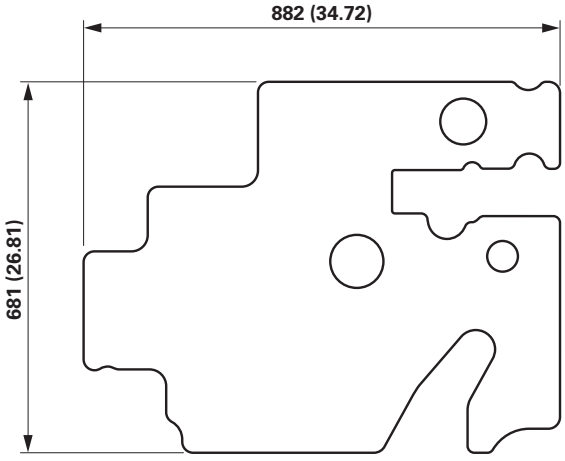
Insulator Sizes

Unit: mm (in)

① RIGHT-FRONT FLOOR FRONT INSULATOR

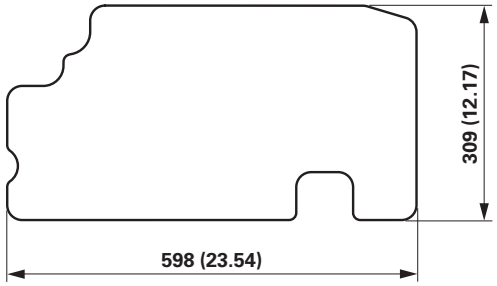


② LEFT-FRONT FLOOR FRONT INSULATOR

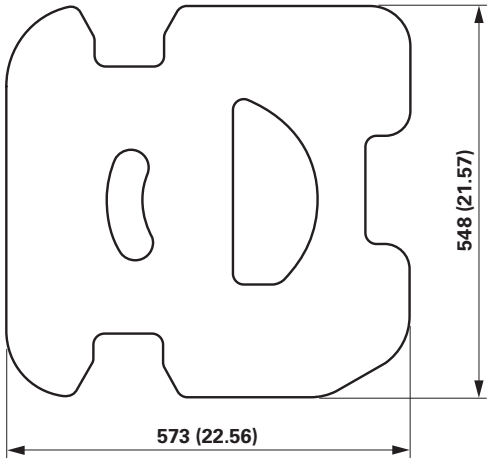


Unit: mm (in)

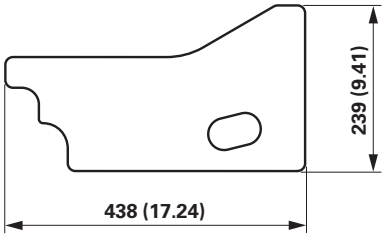
③ **RIGHT-FRONT FLOOR REAR INSULATOR**



④ **SPARE TIRE PAN INSULATOR**



⑤ **LEFT-FRONT FLOOR REAR INSULATOR**

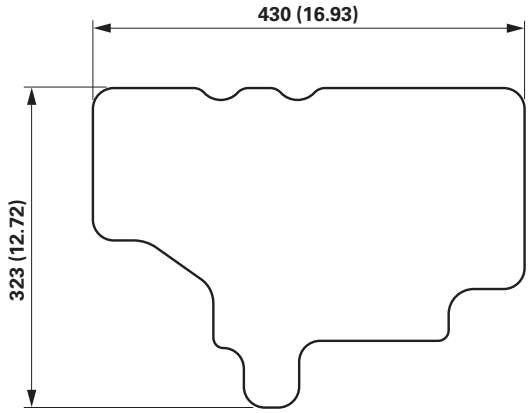


(cont'd)

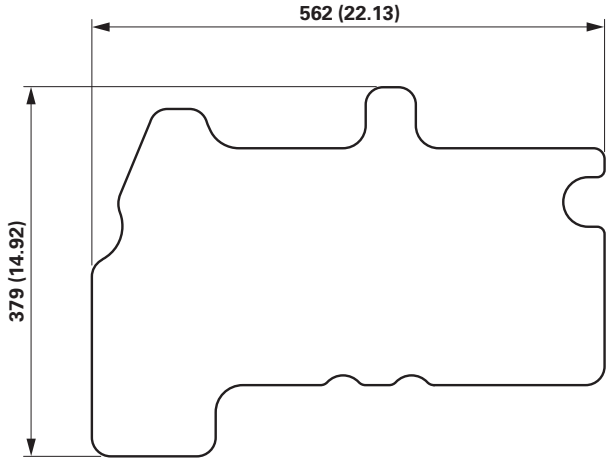
Insulator Sizes (cont'd)

Unit: mm (in)

⑥ RIGHT-MIDDLE FLOOR FRONT INSULATOR

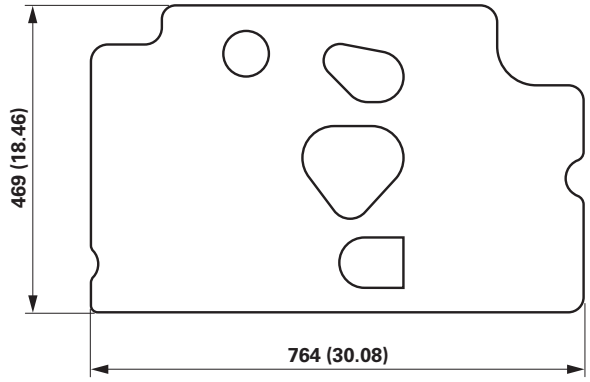


⑦ LEFT-MIDDLE FLOOR FRONT INSULATOR

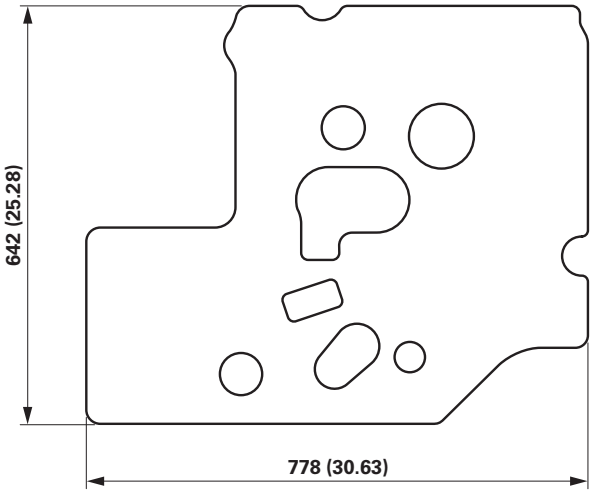


Unit: mm (in)

⑧ **RIGHT-MIDDLE FLOOR REAR INSULATOR**



⑧ **LEFT-MIDDLE FLOOR REAR INSULATOR**

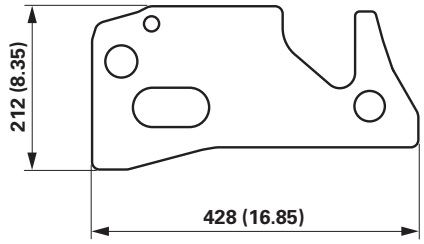


(cont'd)

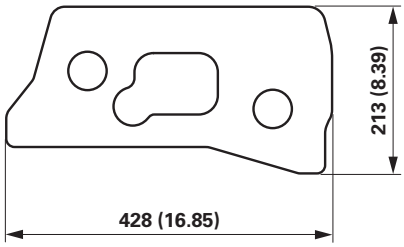
Insulator Sizes (cont'd)

Unit: mm (in)

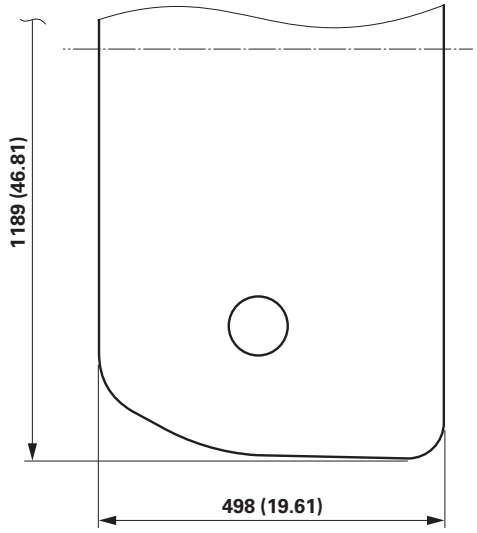
⑩ RIGHT-MIDDLE FLOOR SIDE INSULATOR



⑪ LEFT-REAR FLOOR SIDE INSULATOR

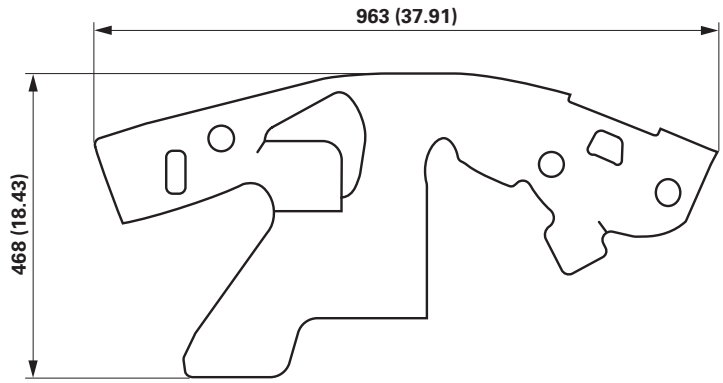


⑫ REAR FLOOR INSULATOR

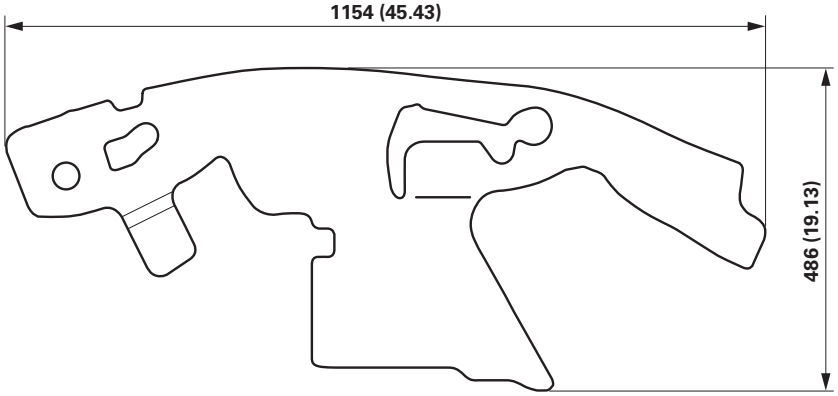


Unit: mm (in)

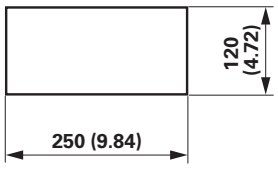
⑬ RIGHT-REAR WHEELHOUSE INSULATOR



⑭ LEFT-REAR WHEELHOUSE INSULATOR



⑮ OUTER PANEL INNER INSULATOR



Body Dimensional Drawings

Upper Body Measuring Dimensions

Under Body Measuring Dimensions

Frame Repair Chart

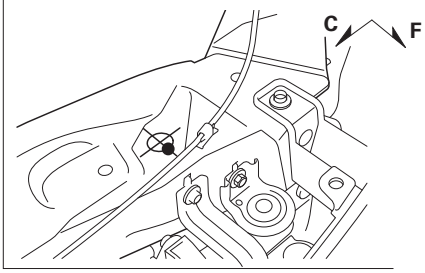
Upper Body Measuring Dimensions

Front Fender Position

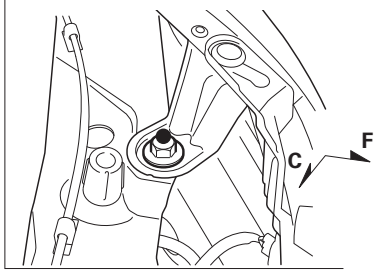
NOTE: The air intake duct and the front bulkhead cover are removed in the illustrations.

Unit: mm (in)

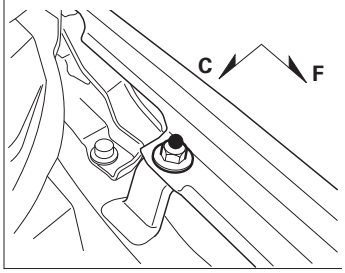
A, a
Bulkhead Upper Center Frame A Locating Hole ø20 (0.78)

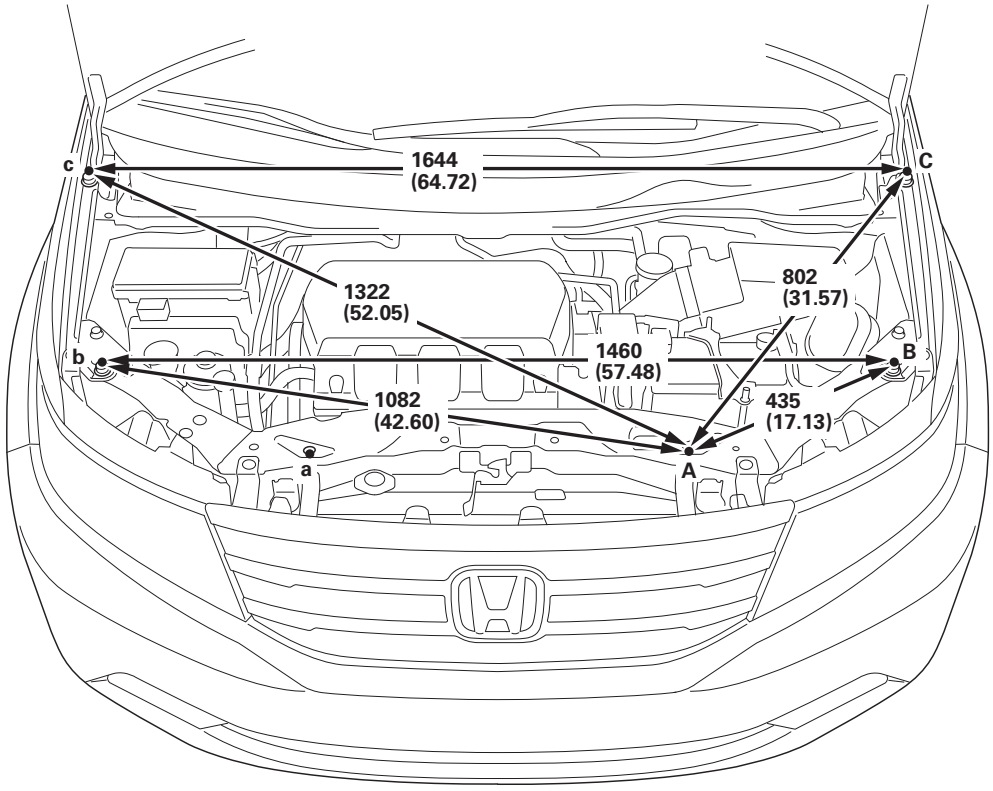


B, b
Front Fender Bracket Mounting Bolt (Center of the bolt)



C, c
Front Fender Rear Mounting Bolt (Center of the bolt)

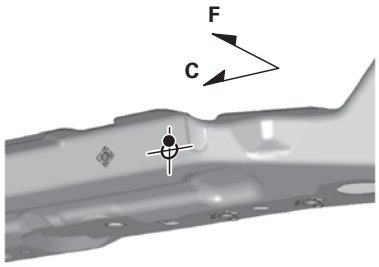




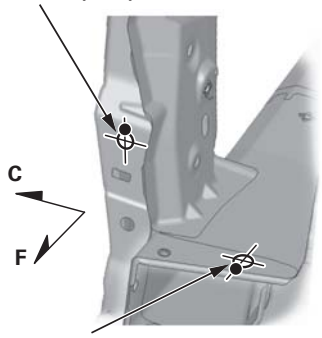
Front Bulkhead Position

Unit: mm (in)

A1, a1
Front Bulkhead Lower Crossmember Locating Hole ø10 (0.39)

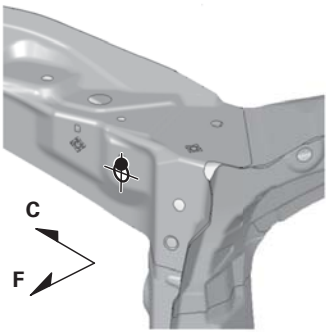


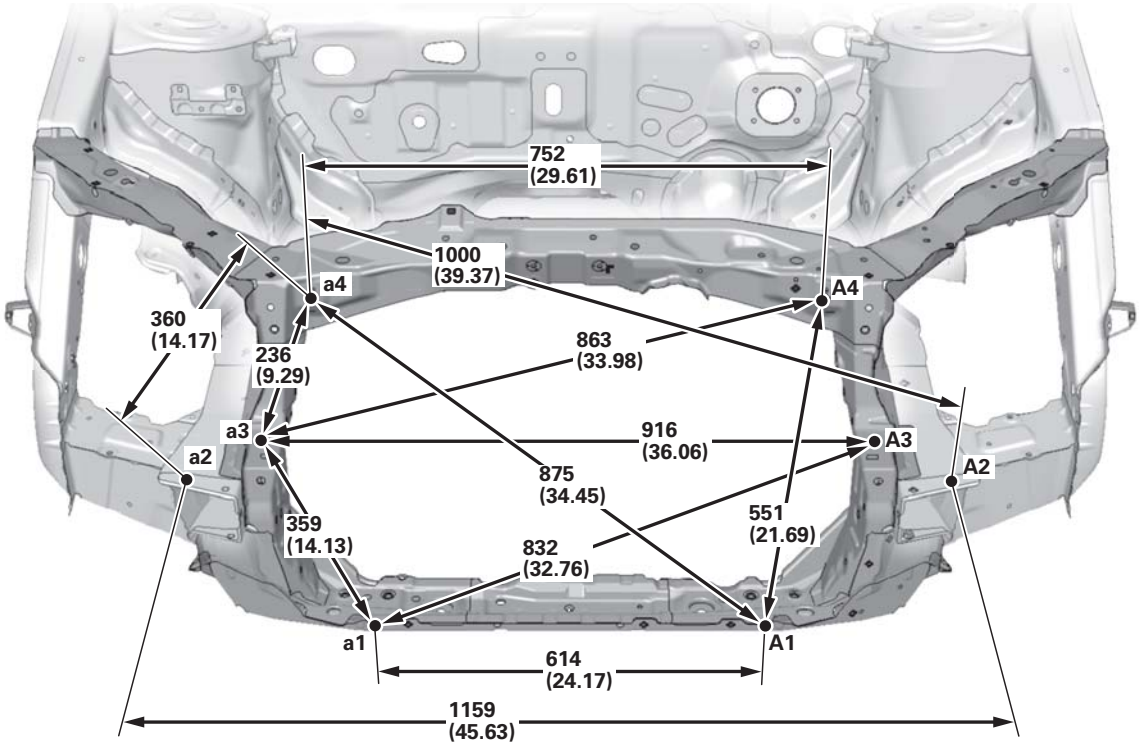
A3, a3
Corner Upper Beam Mounting Hole ø7 (0.28)



A2, a2
Front Bumper Beam Mounting Hole ø11 (0.43)

A4, a4
Radiator Mounting Hole ø9 (0.35)

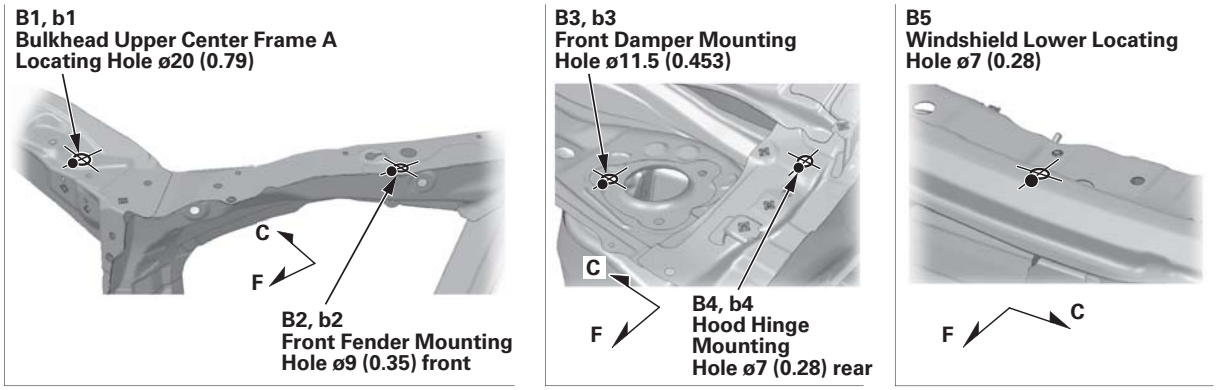


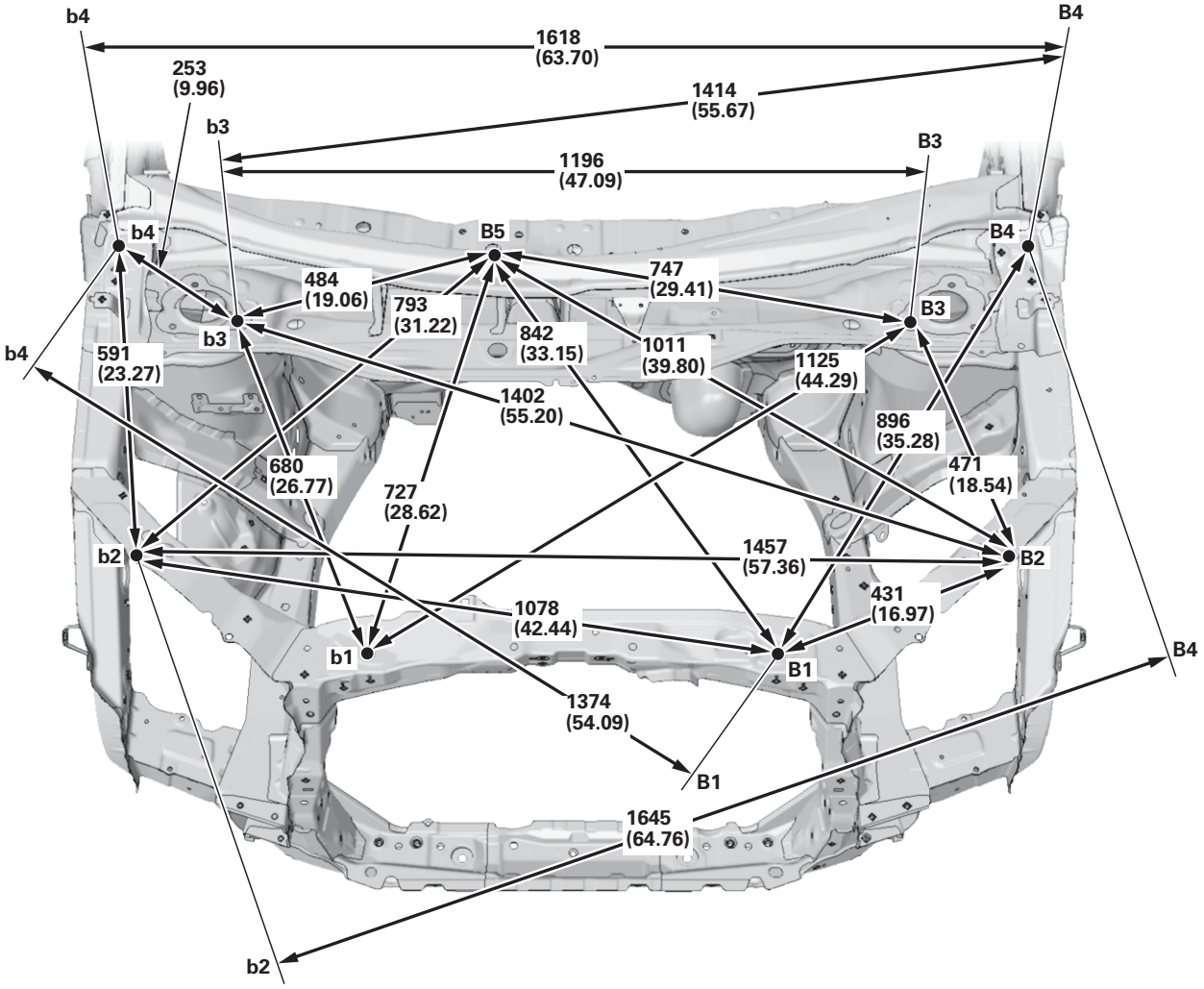


Upper Body Measuring Dimensions

Engine Compartment

Unit: mm (in)

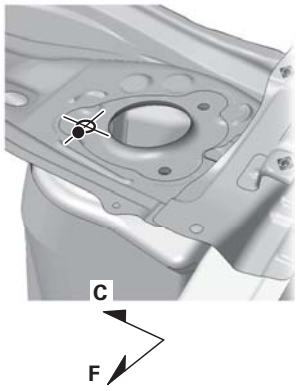




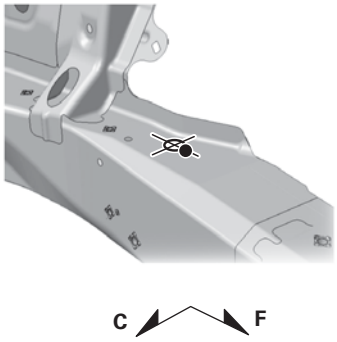
Engine Side Mount Position

Unit: mm (in)

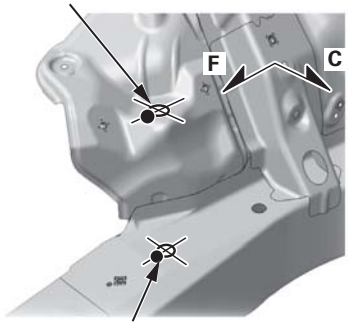
B3, b3
Front Damper Mounting
Hole ø11.5 (0.453)



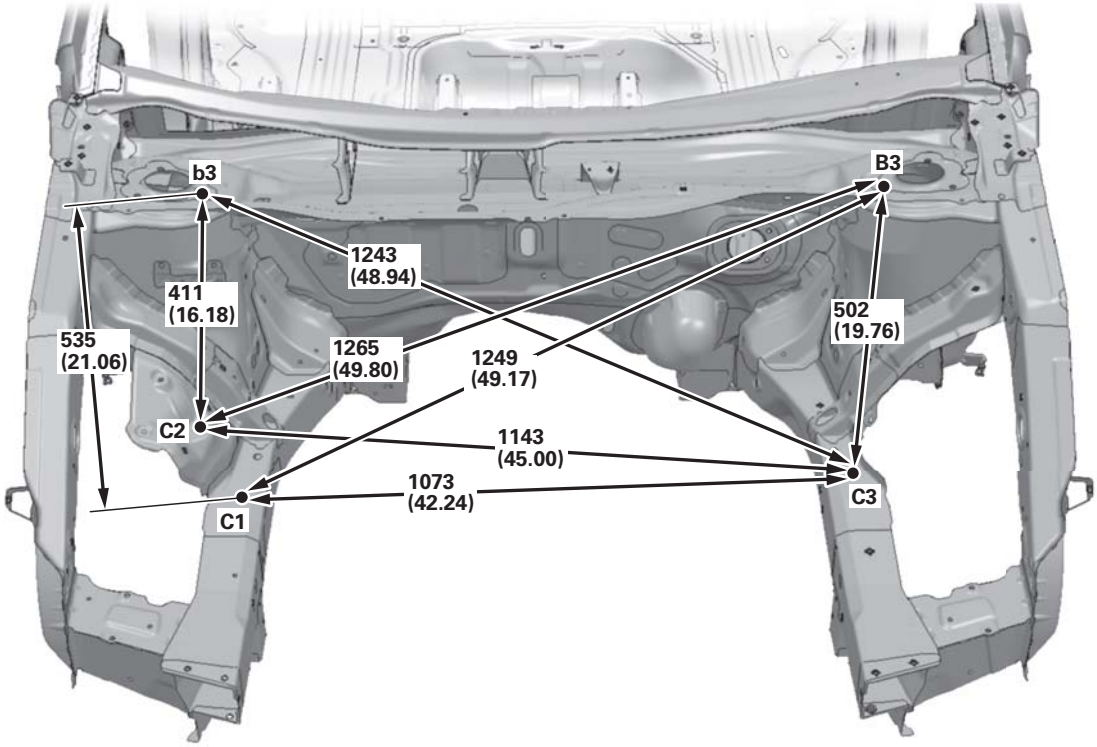
C3
Battery Set Base Mounting
Hole ø9 (0.35)



C2
Engine Side Mounting Hole ø13 (0.51)
Wheelhouse side



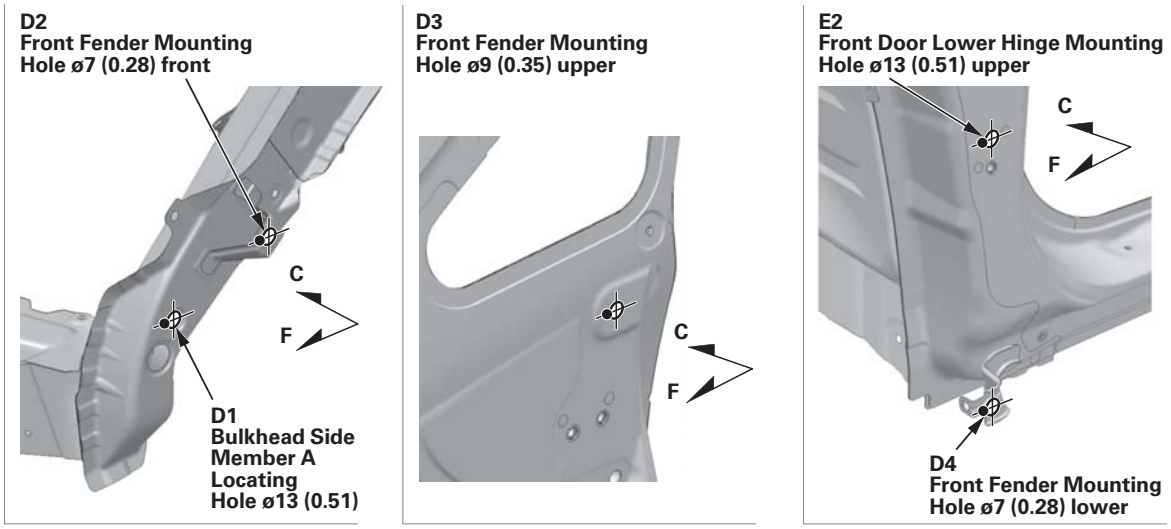
C1
Engine Side Mounting
Hole ø15 (0.59)
Side frame side

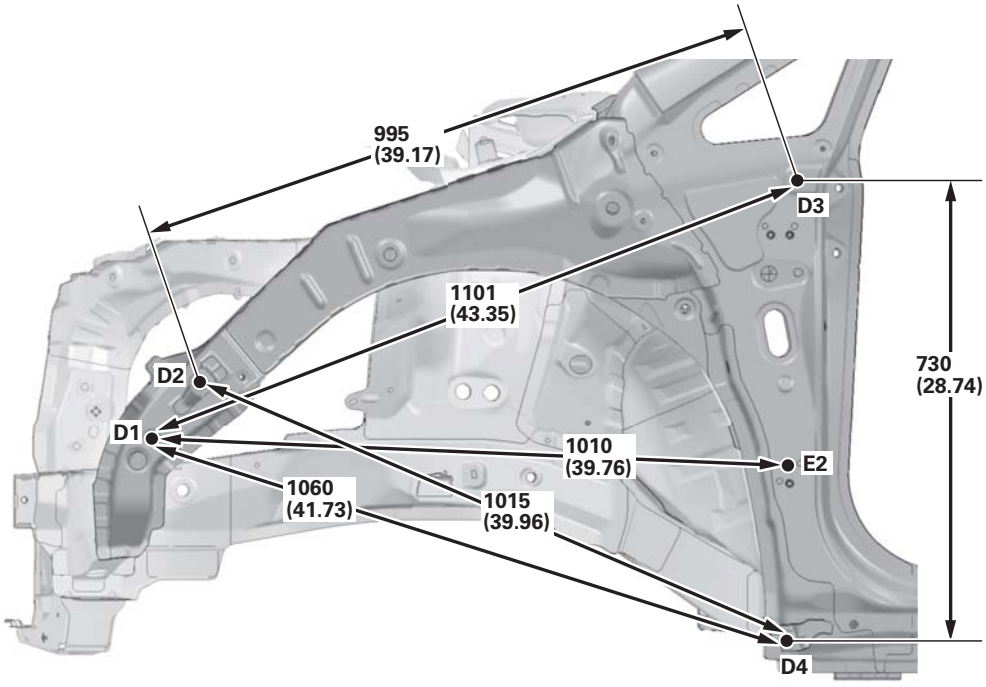


Upper Body Measuring Dimensions

Bulkhead Side Member Position

Unit: mm (in)

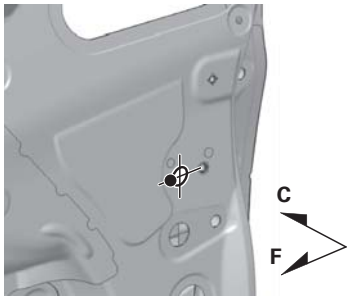




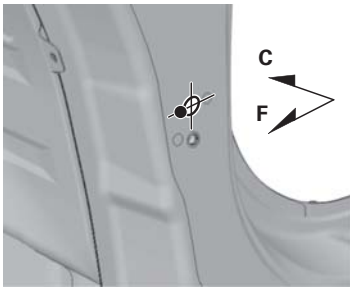
Door Hinge Positions

Unit: mm (in)

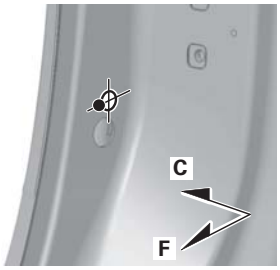
E1
Front Door Upper Hinge
Mounting Hole ø13 (0.51) front

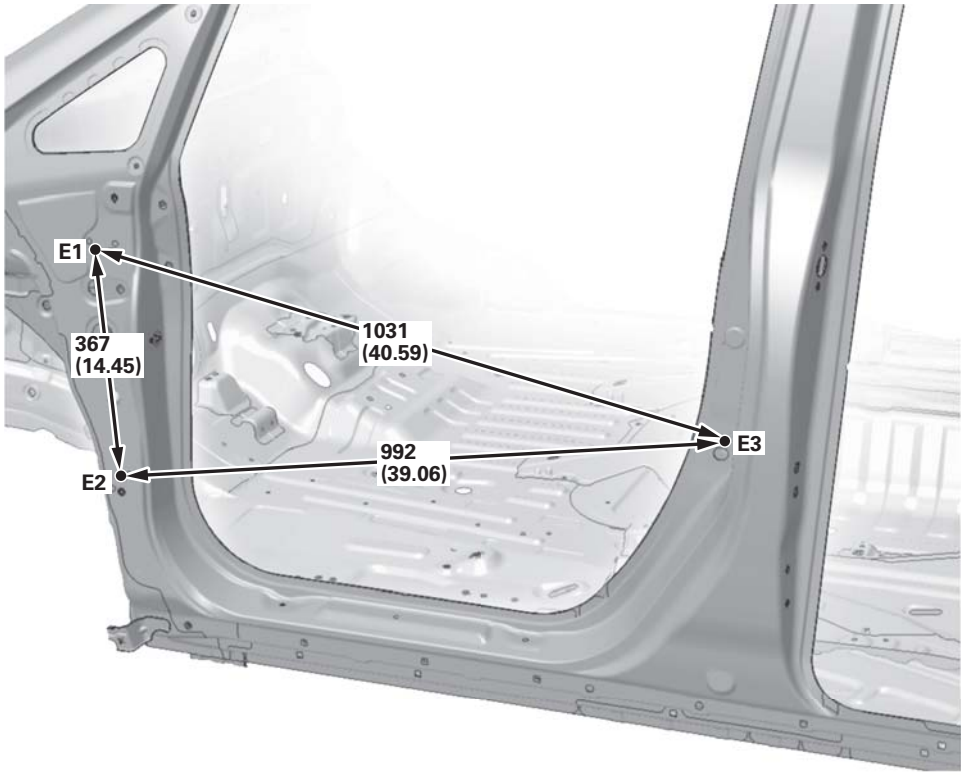


E2
Front Door Lower Hinge
Mounting Hole ø13 (0.51) upper



E3
Front Door Switch
Mounting Hole ø8 (0.32)

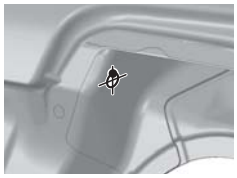




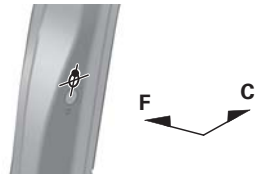
Sliding Door Female Guide and Striker Positions

Unit: mm (in)

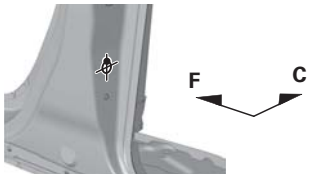
F1, f1
Sliding Door Sub-Seal
Mounting Hole ø5 (0.20)



F2, f2
Sliding Door Upper Female Guide
Mounting Hole ø10 (0.39) upper

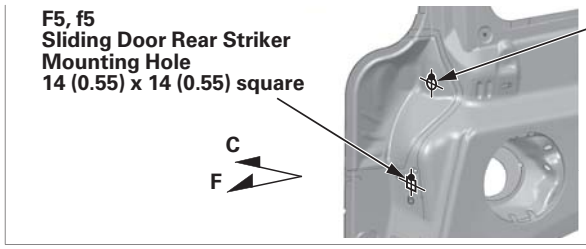


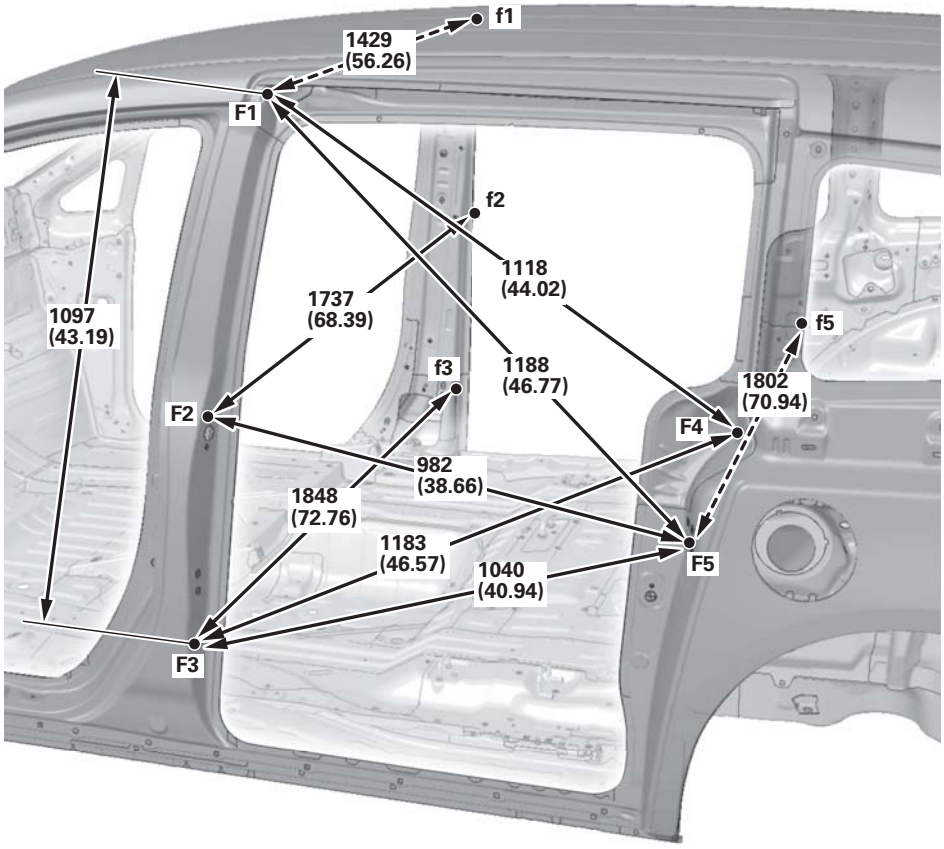
F3, f3
Sliding Door Lower Female Guide
Mounting Hole ø10 (0.39) upper



F5, f5
Sliding Door Rear Striker
Mounting Hole
14 (0.55) x 14 (0.55) square

F4
Sliding Door Center Rail
Mounting Hole ø6.3 (0.248)

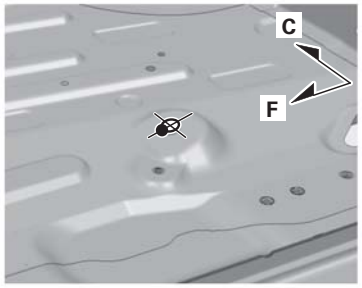




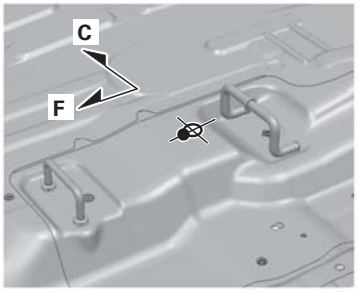
Passenger's Compartment

Unit: mm (in)

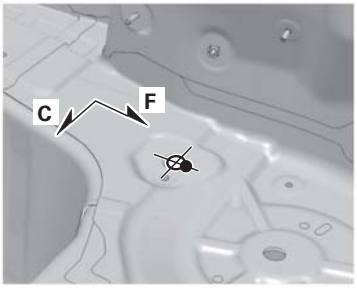
G1, g1
Front Seat Mounting Hole ø15 (0.59) front

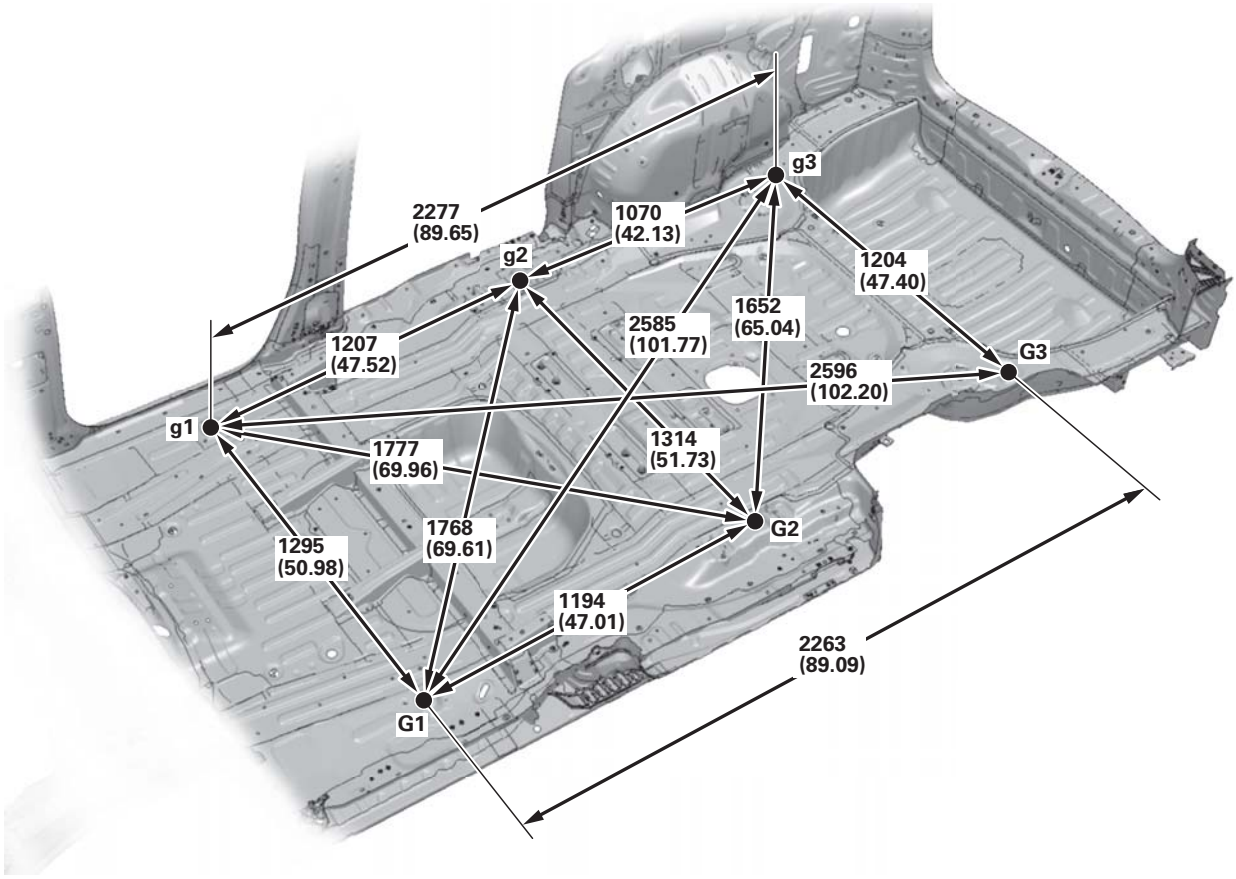


G2, g2
Second-Seat Striker Cover A Mounting Hole ø7 (0.28)



G3, g3
Second Row Seat Belt Lower Anchor Mounting Hole ø12 (0.47)

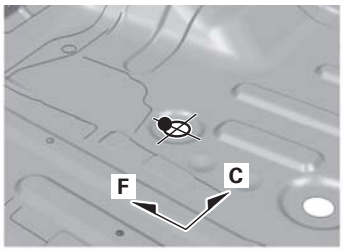




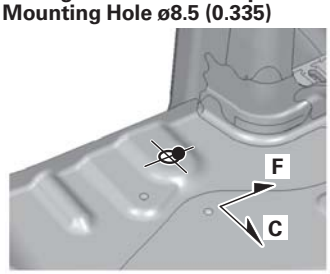
Sliding Door Rail Lower Support Positions

Unit: mm (in)

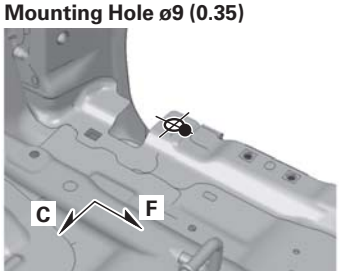
H1, h2
Front Floor Panel Locating
Hole ø26.3 (1.035)



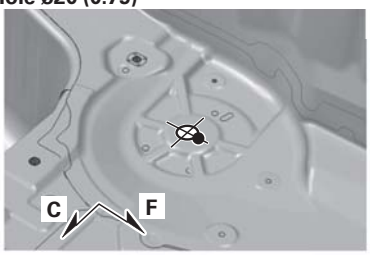
H2, h2
Sliding Door Sill Trim Clip
Mounting Hole ø8.5 (0.335)

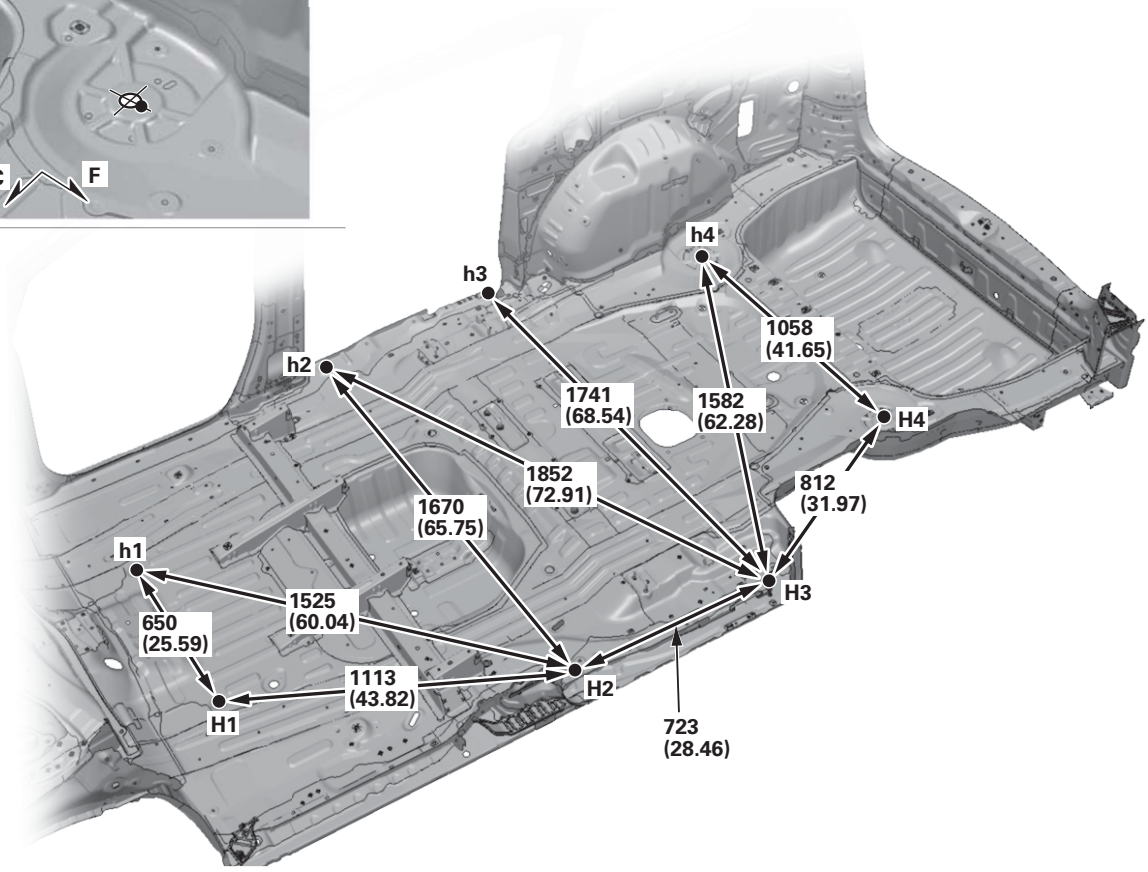


H3, h3
CESS Articulated Harness
Mounting Hole ø9 (0.35)



H4, h4
Floor Rear Extension A Locating
Hole ø20 (0.79)

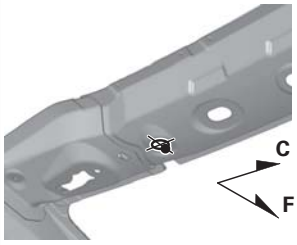




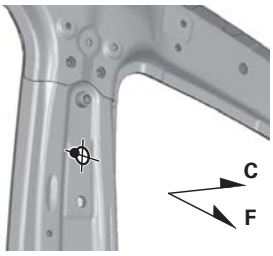
Roof Rail Positions

Unit: mm (in)

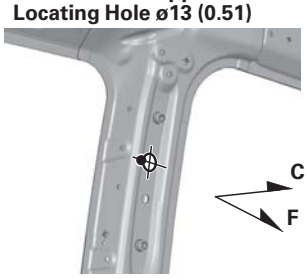
I1, i1
Roof Front Rail Locating Hole ø15 (0.59)



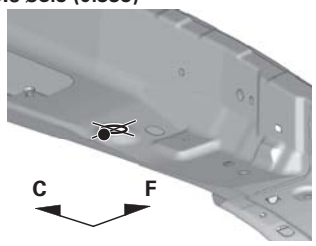
I2, i2
Center Inner Pillar Locating Hole ø13 (0.51)

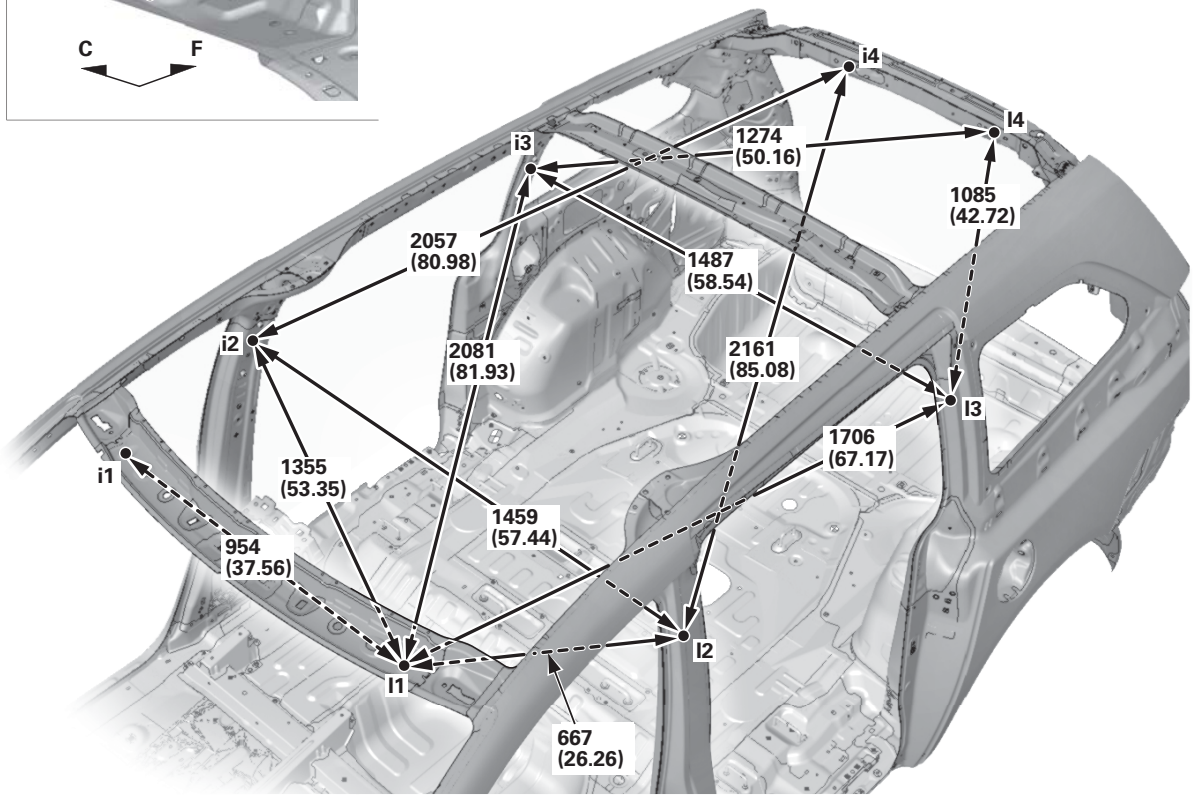


I3, i3
Quarter Inner Upper Pillar Locating Hole ø13 (0.51)



I4, i4
Rear Roof Trim Clip Mounting Hole ø8.5 (0.335)

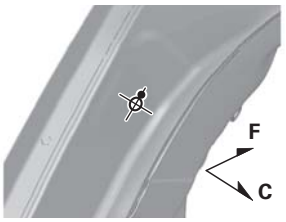




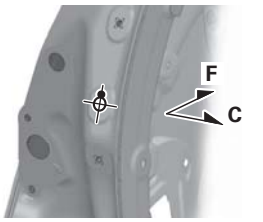
Rear Pillar Gutter and Floor Rear Crossmember Positions

Unit: mm (in)

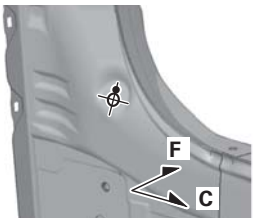
J1, j1
Tailgate Support Strut Mounting Hole ø11 (0.43)



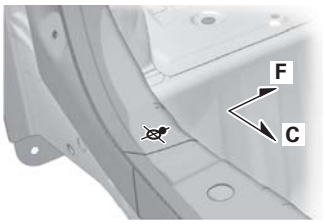
J2, j2
Sliding Door Center Rail Cover Mounting Hole ø7 (0.28)



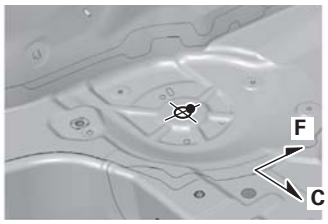
J3, j3
Rear Bumper Mounting Hole ø7 (0.28)

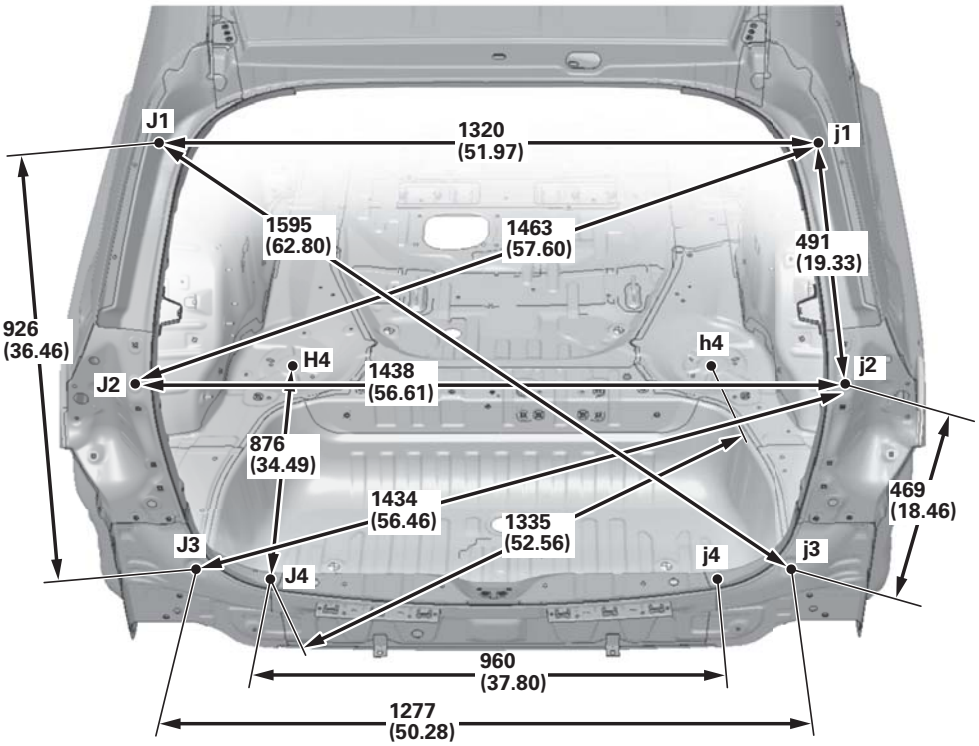


J4, j4
Rear Trim Panel Clip Mounting Hole ø8.5 (0.335)



H4, h4
Floor Rear Extension A Locating Hole ø20 (0.79)

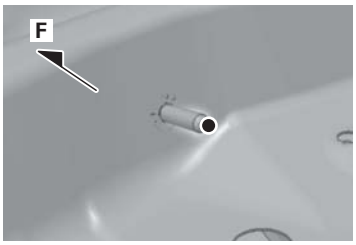




Windshield and Door Openings

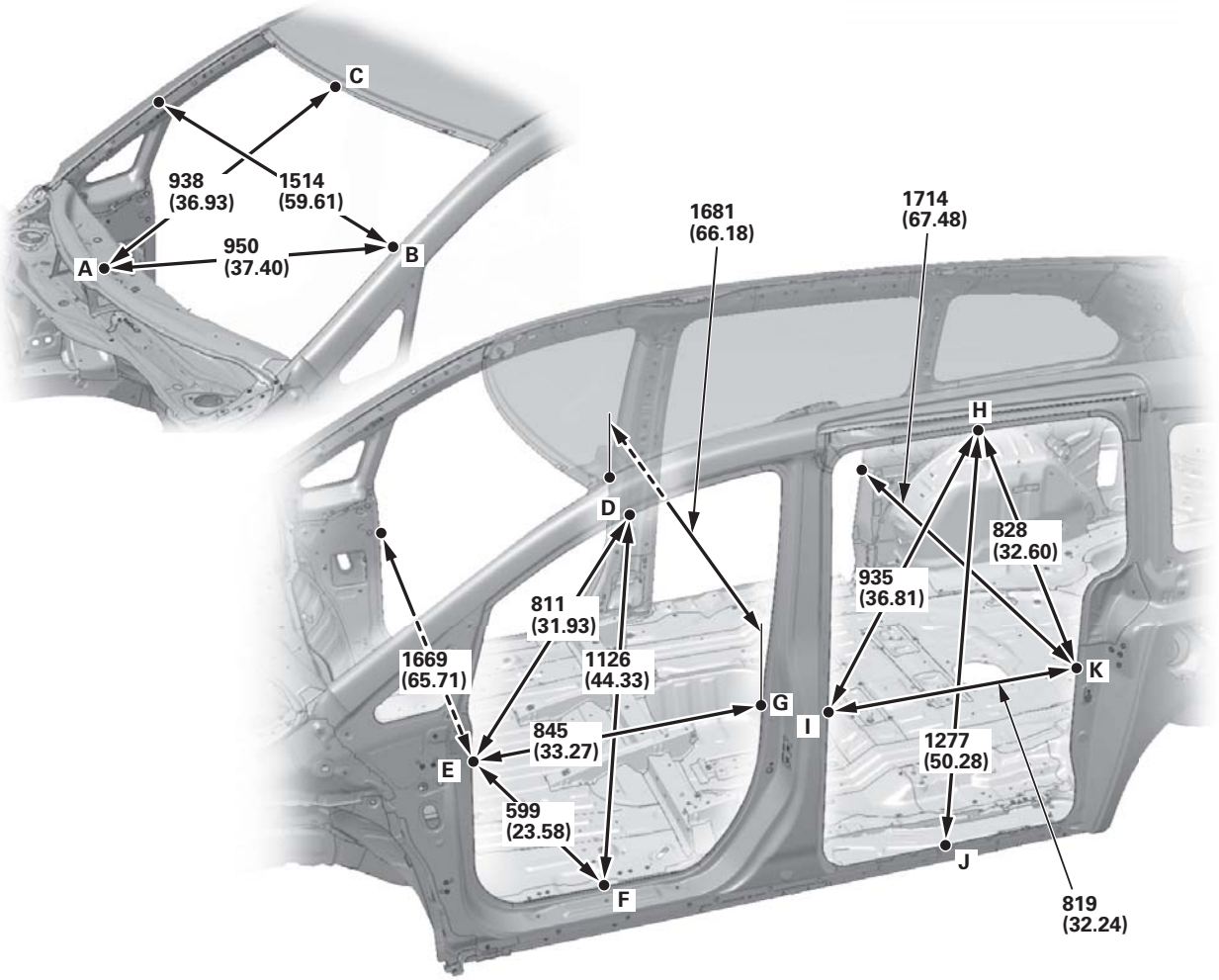
Unit: mm (in)

A
Windshield Lower
Dashboard Front Installing Pin



B, C
Outer Panel and Roof Panel
Windshield Opening
Flange Notch (3 places)

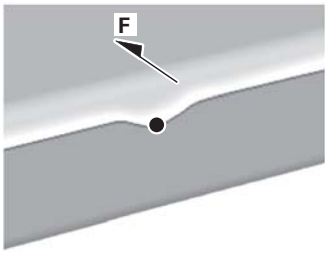
D, E, F, G, H, I, J, K
Outer Panel and Roof Side
Outer Door Opening
Flange Notch (16 places)



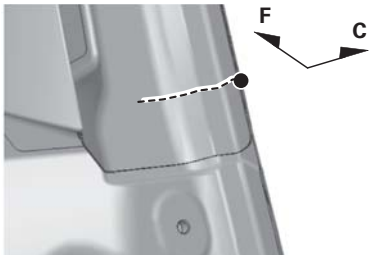
Tailgate Opening

Unit: mm (in)

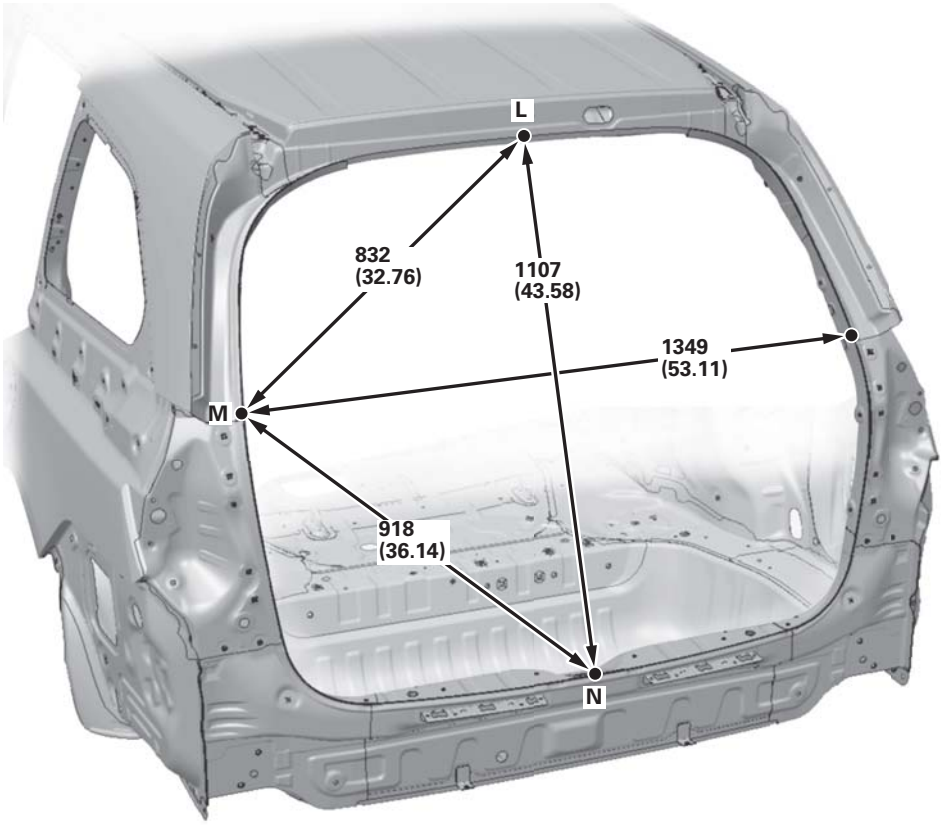
L
Rear Roof Lower Rail
Flange Notch



M
Rear Combination Adapter
Flange End (2 places)

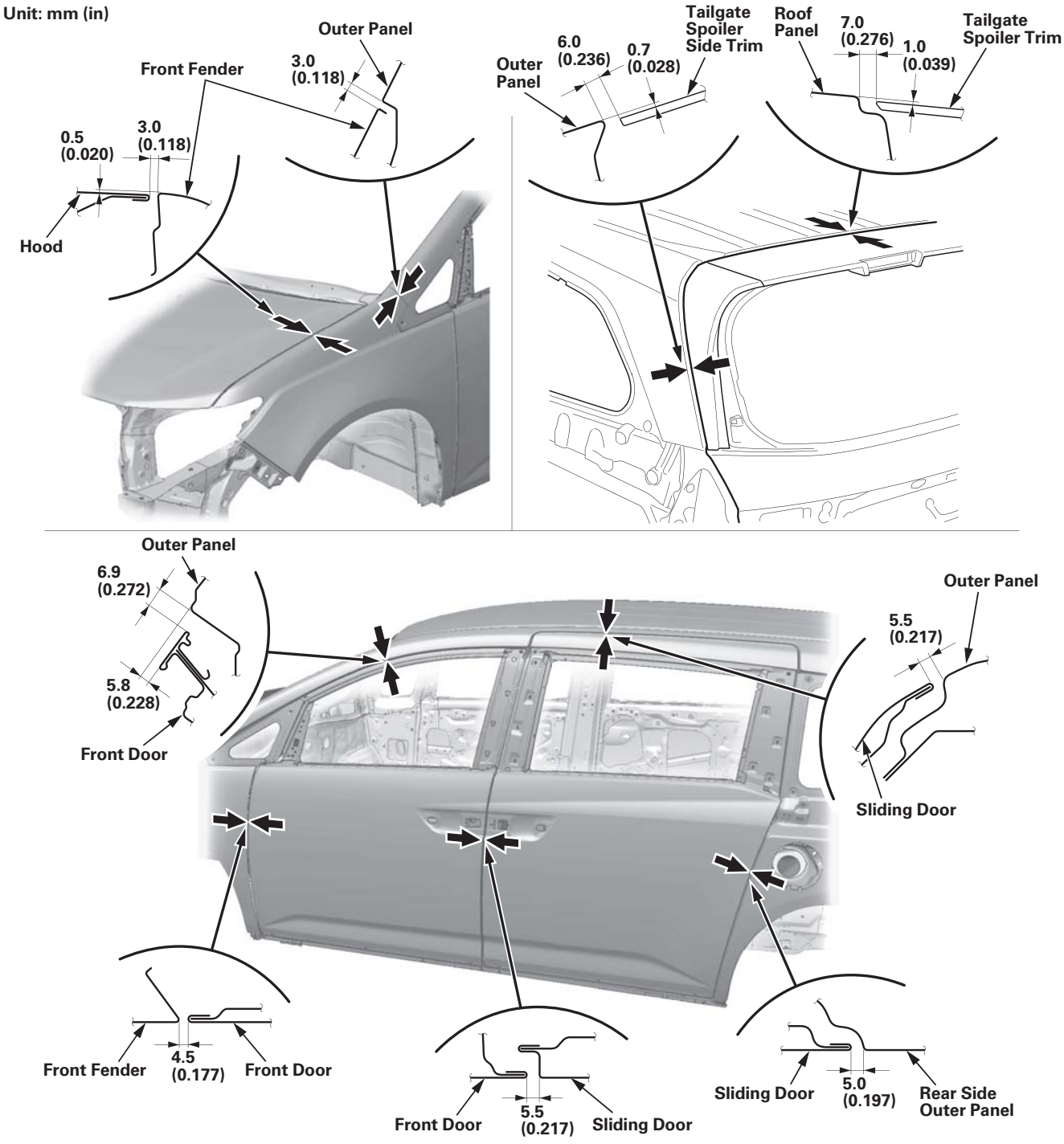


N
Floor Rear Crossmember
Scribe Marks



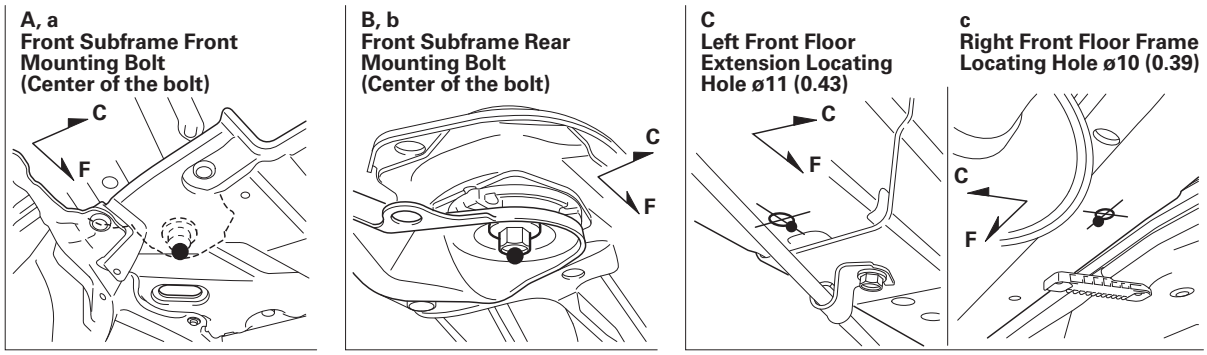
External Parts Fitting Positions

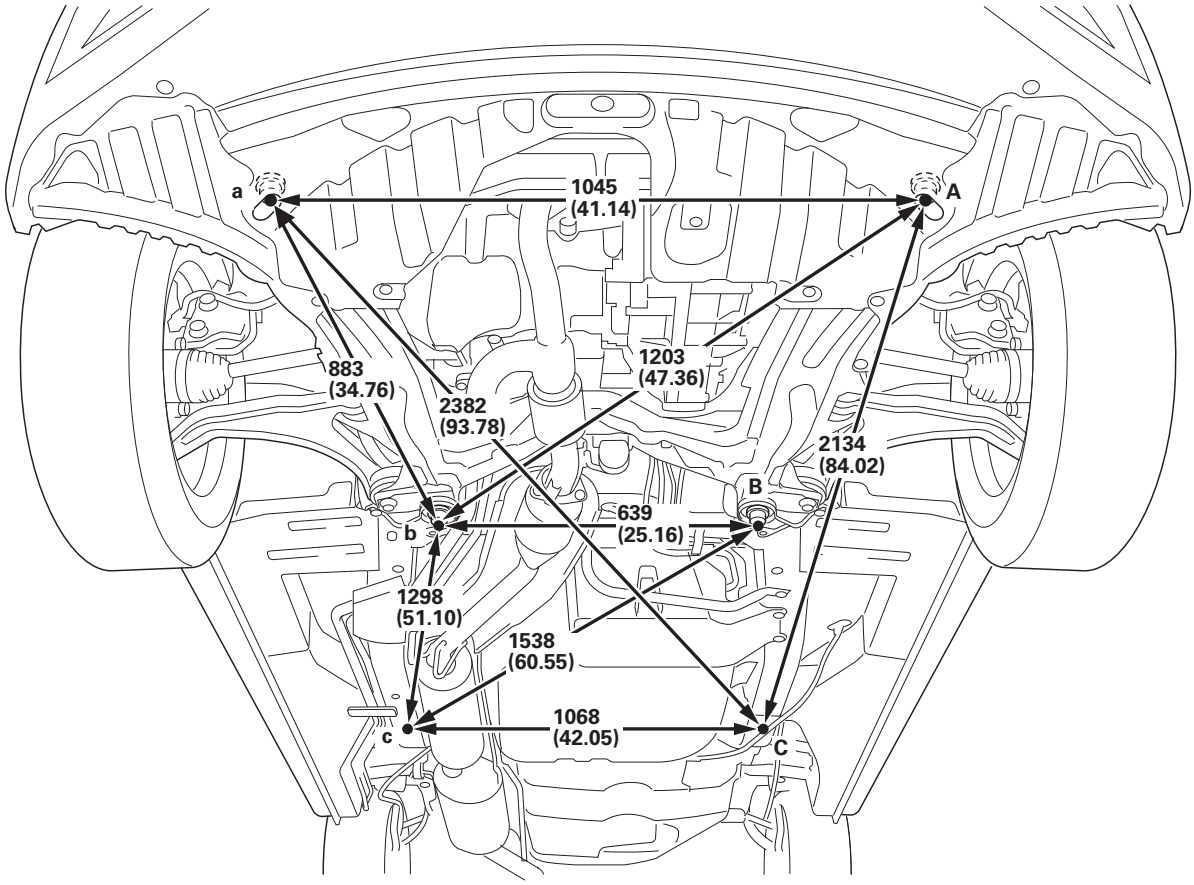
Unit: mm (in)



Front Subframe Position

Unit: mm (in)

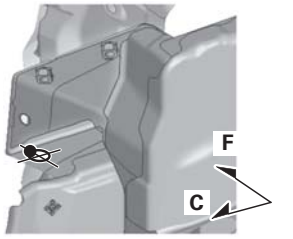




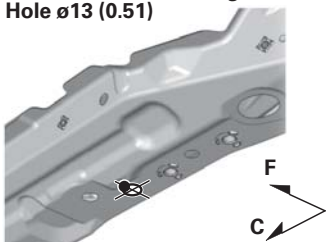
Engine Compartment and Front Floor, Under View

Unit: mm (in)

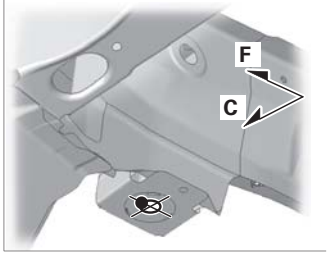
A, a
Front Bumper Beam
Mounting Hole ø11 (0.43)



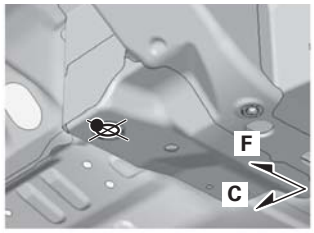
B, b
Front Bulkhead Lower
Crossmember Locating
Hole ø13 (0.51)



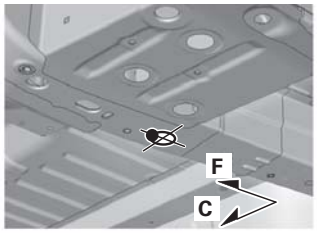
C, c
Front Subframe Mounting
Hole ø15 (0.59) front



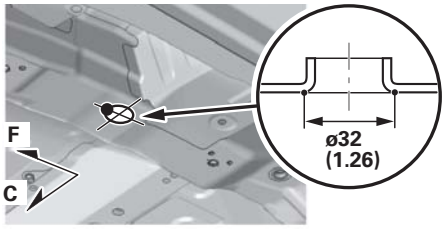
D, d
Front Subframe Mounting
Hole ø15 (0.59) rear

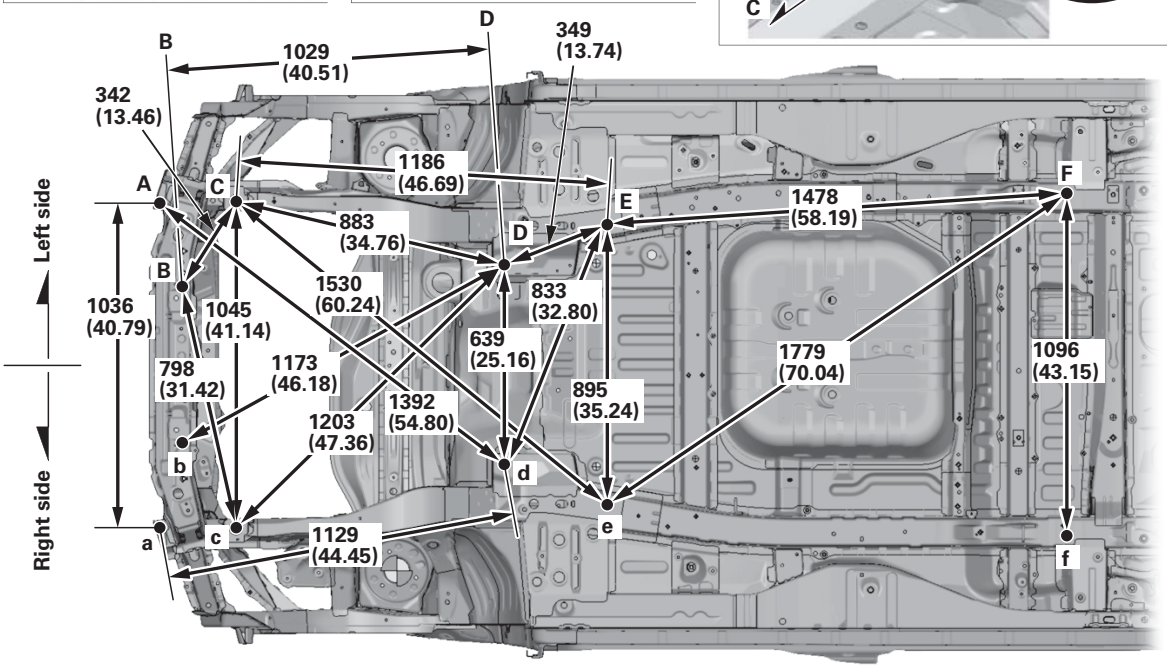


E, e
Front Side Frame Gusset
Locating Hole ø28 (1.10)



F, f
Left Floor Front Extension
Locating Hole ø32 (1.26)
Right Floor Front Frame
Locating Hole ø32 (1.26)



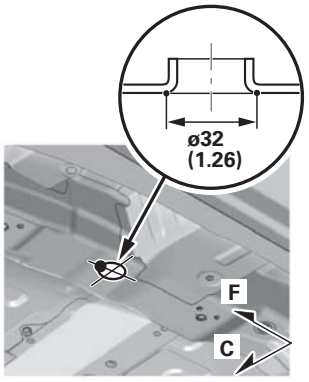


Under Body Measuring Dimensions

Front Floor and Rear Floor, Under View

Unit: mm (in)

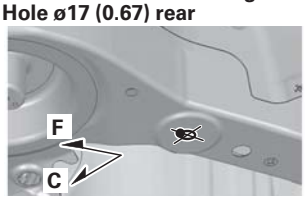
F, f
Left Floor Front Extension
Locating Hole ø32 (1.26)
Right Floor Front Frame
Locating Hole ø32 (1.26)



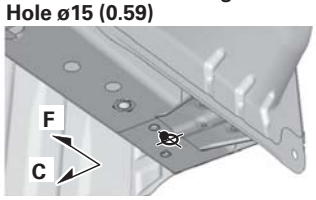
G, g
Rear Subframe Mounting
Hole ø17 (0.67) front

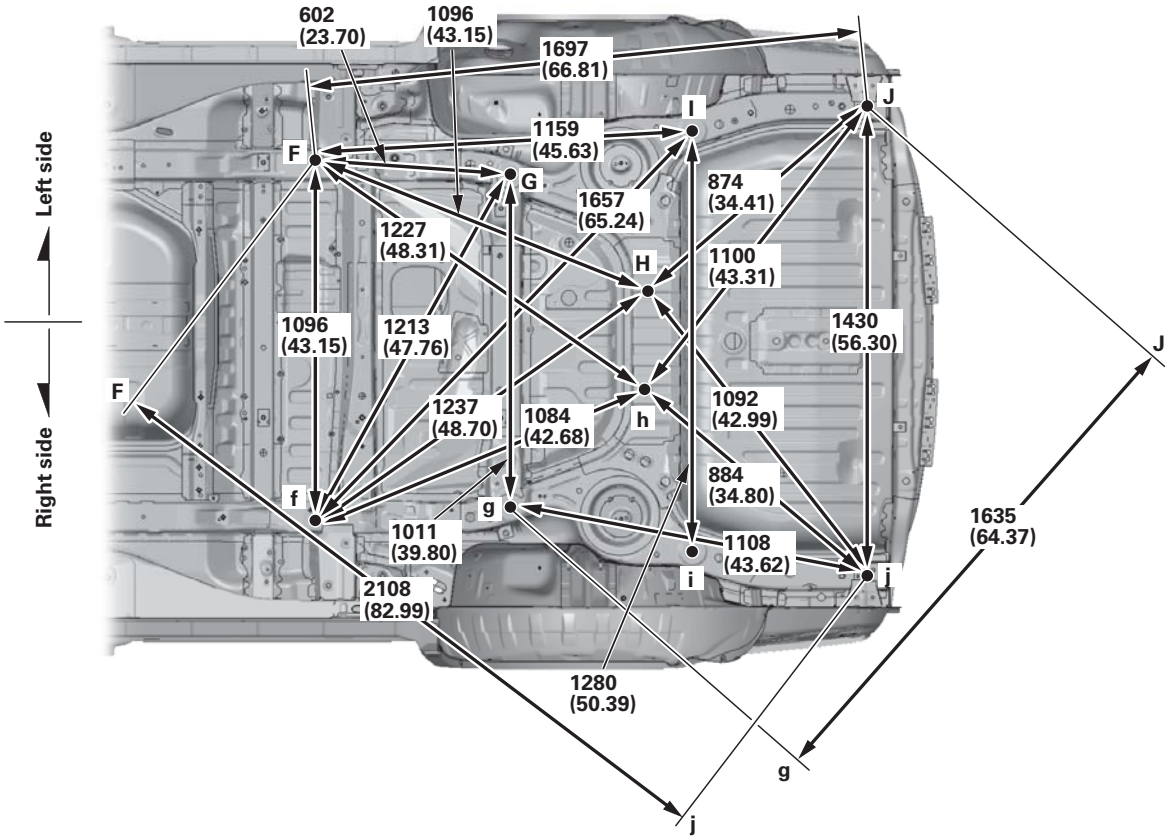
H, h
Floor Middle Crossmember D
Locating Hole
Left: ø15 (0.59)/Right: ø20 (0.79)

I, i
Rear Subframe Mounting
Hole ø17 (0.67) rear



J, j
Trailer Hitch Mounting
Hole ø15 (0.59)

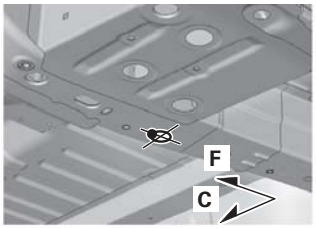




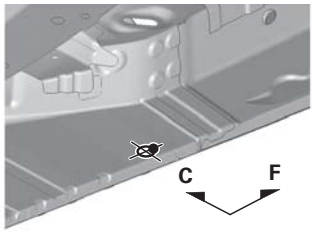
Inside Sill Positions

Unit: mm (in)

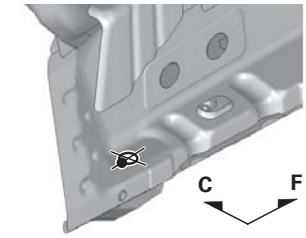
E, e
Front Side Frame Gusset Locating Hole ø28 (1.10)



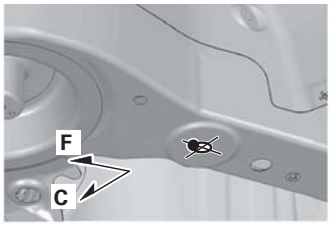
K, k
Front Inside Sill B Locating Hole ø20 (0.79) front

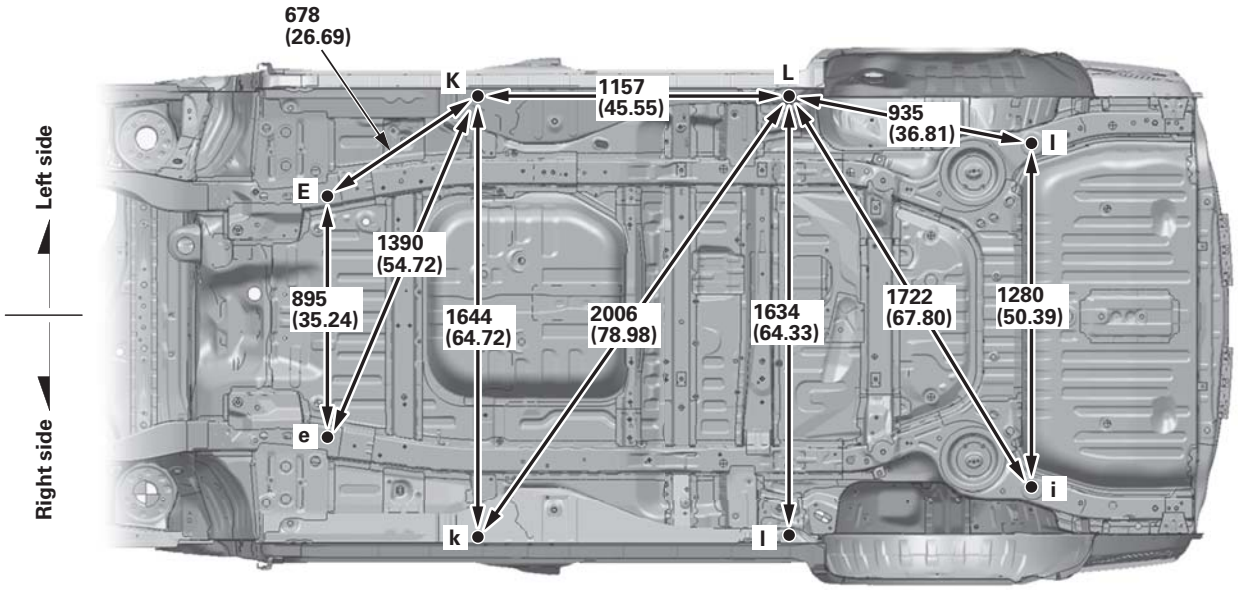


L, l
Front Inside Sill B Locating Hole ø20 (0.79) rear



I, i
Rear Subframe Mounting Hole ø17 (0.67)



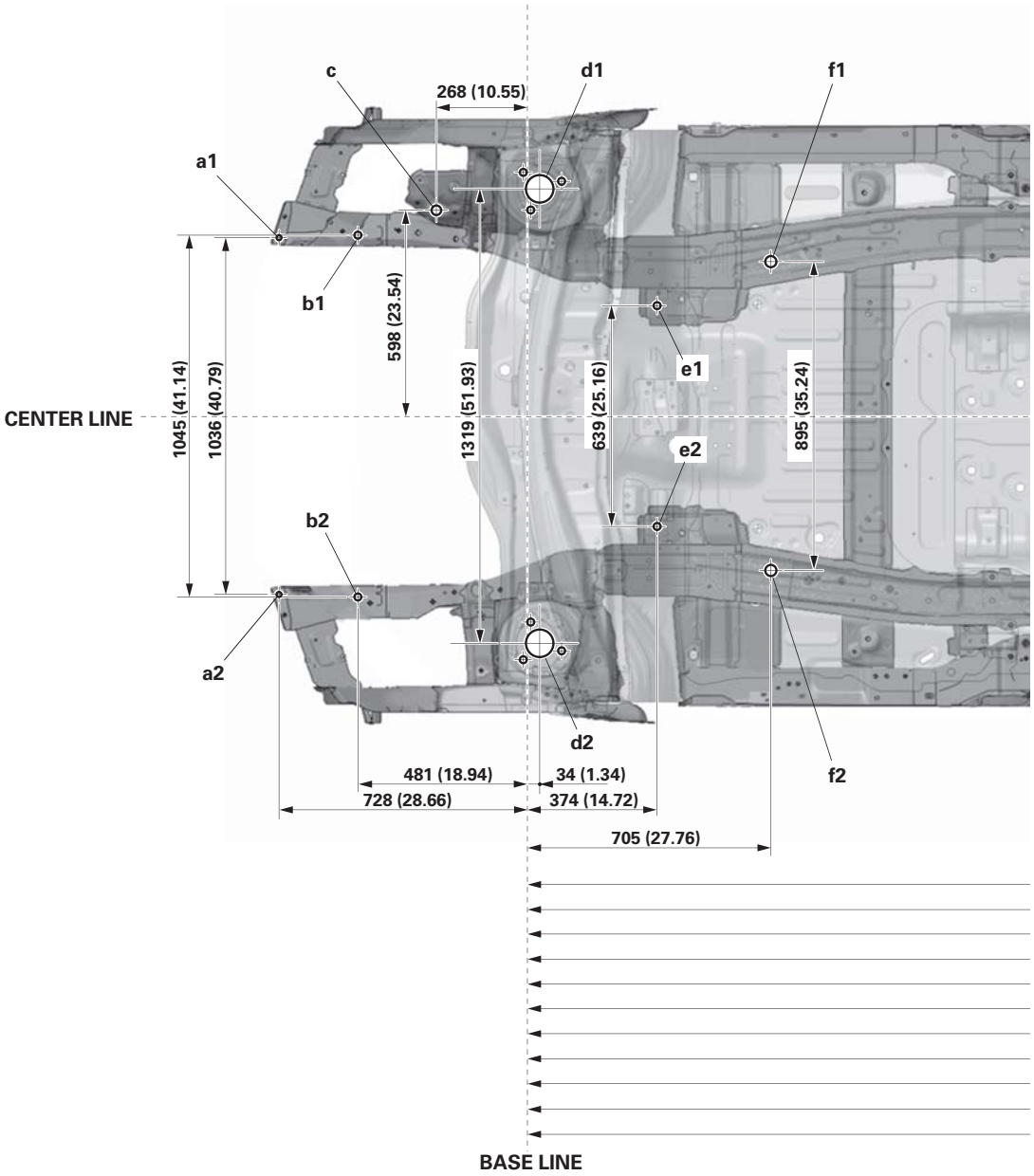


Frame Repair Chart

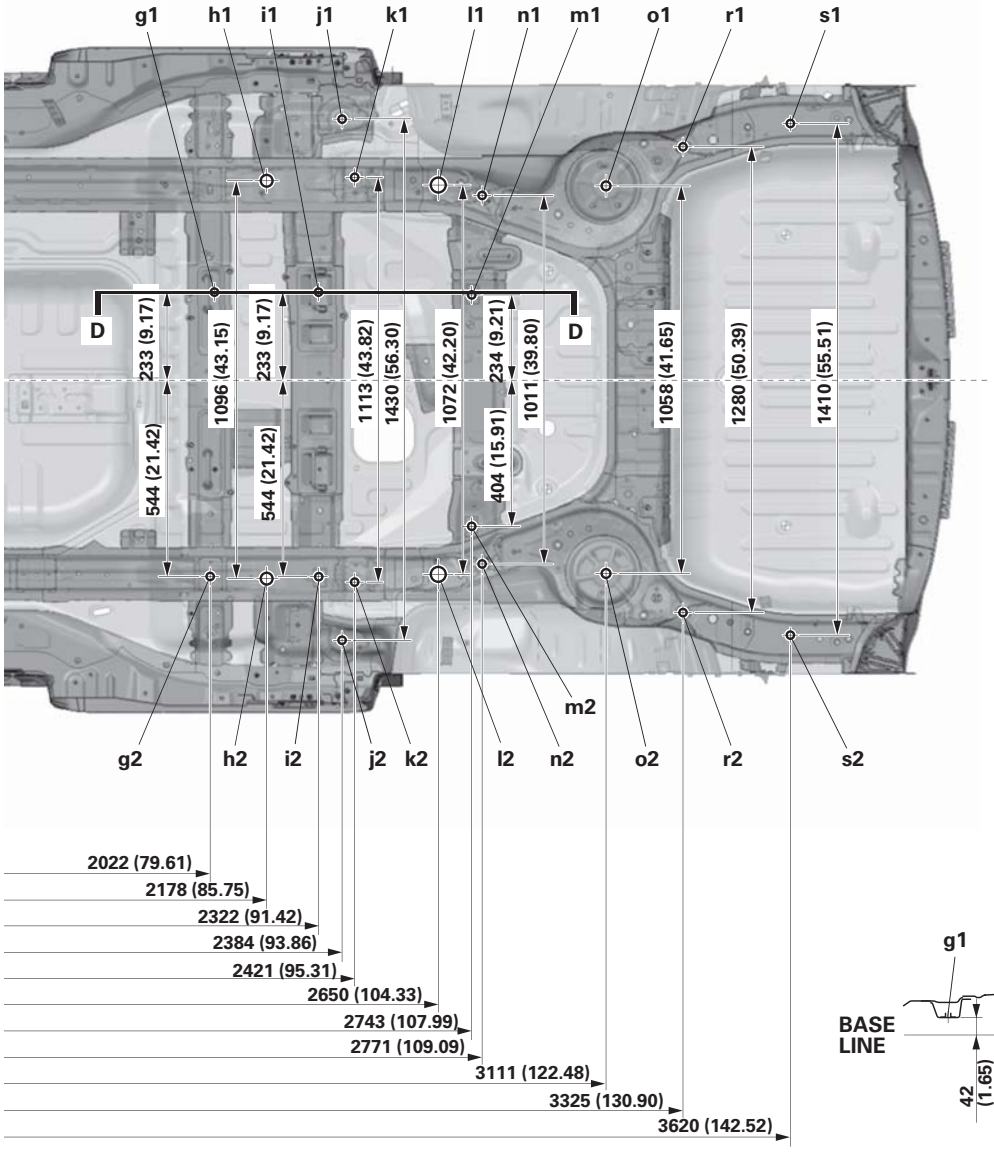
Repair Chart, Top View

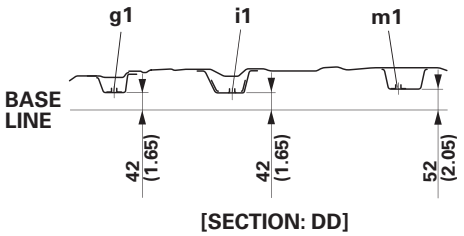
Unit: mm (in)
ø: Inner diameter

a1, a2	**For bumper beam ø11 (0.43)**
b1, b2	**For front subframe ø15 (0.59) forward**
c	**For engine mount ø13 (0.51)**
d1, d2	**Front damper center ø80 (3.15)**
e1, e2	**For front subframe ø15 (0.59) rearward**
f1, f2	**Locating hole ø28 (1.1)**



g1, g2	For fuel tank ø13 (0.51) forward
h1, h2	Locating hole ø25 (0.98)
i1, i2	For fuel tank ø11 (0.43) middle
j1, j2	For trailing arm ø16 (0.63) outrigger side
k1, k2	For trailing arm ø20 (0.79) floor frame side
l1, l2	Locating hole ø25 (0.98)
m1, m2	For fuel tank ø13 (0.51) rearward
n1, n2	For rear subframe ø17 (0.67) forward
o1, o2	For rear spring ø25 (0.98)
r1, r2	For rear subframe ø17 (0.67) rearward
s1, s2	Locating hole ø25 (0.98)





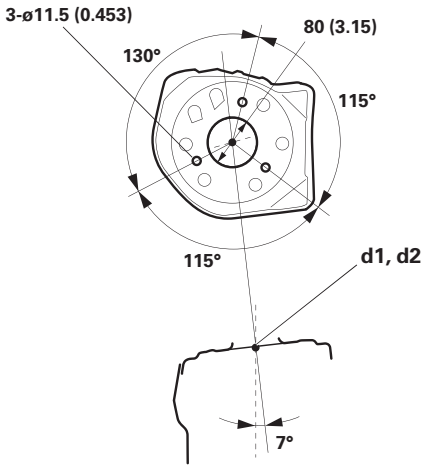
[SECTION: DD]

Frame Repair Chart

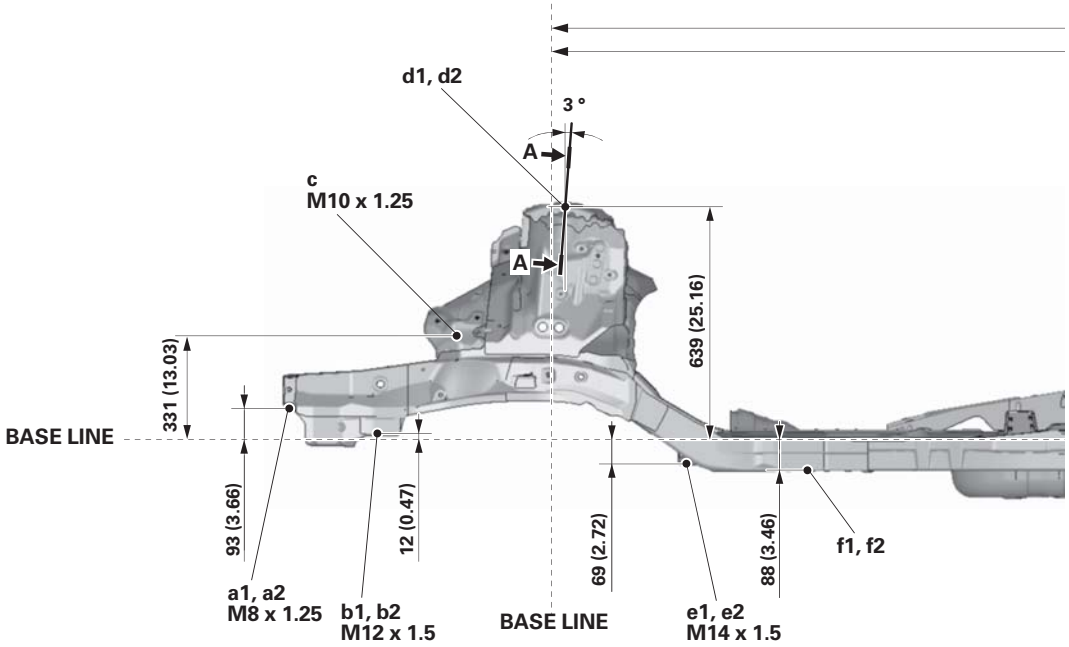
Repair Chart, Side View

Unit: mm (in)
ø: Inner diameter

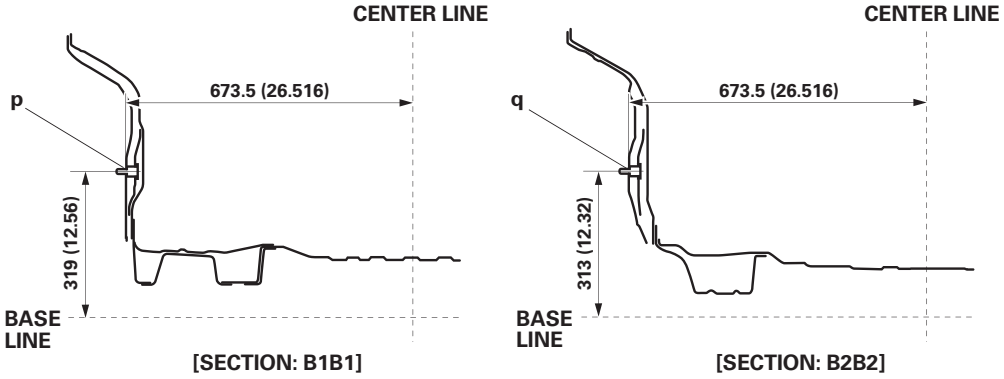
a1, a2	**For bumper beam ø11 (0.43)**
b1, b2	**For front subframe ø15 (0.59) forward**
c	**For engine mount ø13 (0.51)**
d1, d2	**Front damper center ø80 (3.15)**
e1, e2	**For front subframe ø15 (0.59) rearward**
f1, f2	**Locating hole ø28 (1.1)**

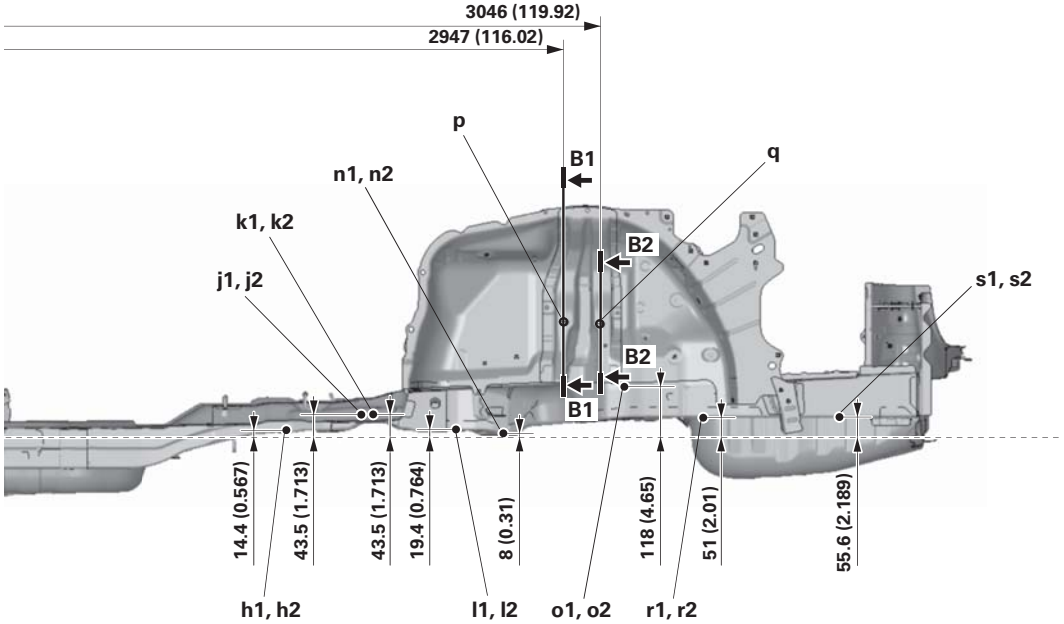


[SECTION: AA]



h1, h2	Locating hole ø25 (0.98)
j1, j2	For trailing arm ø16 (0.63) outrigger side
k1, k2	For trailing arm ø20 (0.79) floor frame side
l1, l2	Locating hole ø25 (0.98)
n1, n2	For rear subframe ø17 (0.67) forward
o1, o2	For rear spring ø25 (0.98)
p	For rear damper ø12 (0.47) forward
q	For rear damper ø12 (0.47) rearward
r1, r2	For rear subframe ø17 (0.67) rearward
s1, s2	Locating hole ø25 (0.98)





Rust Prevention

5

Sealing Areas

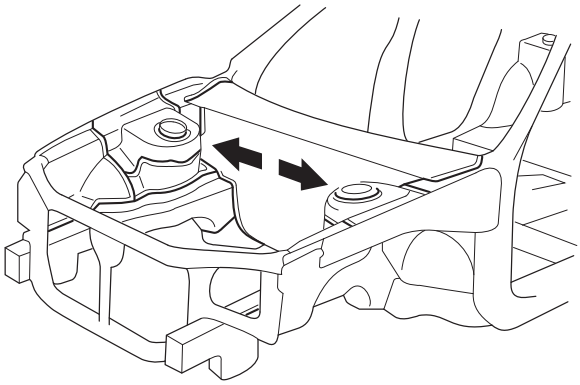
Rust-Preventive Treatments

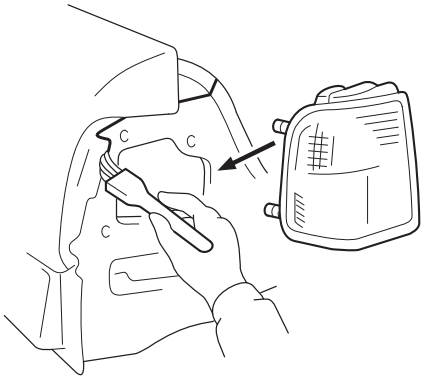
Sealing Areas

General

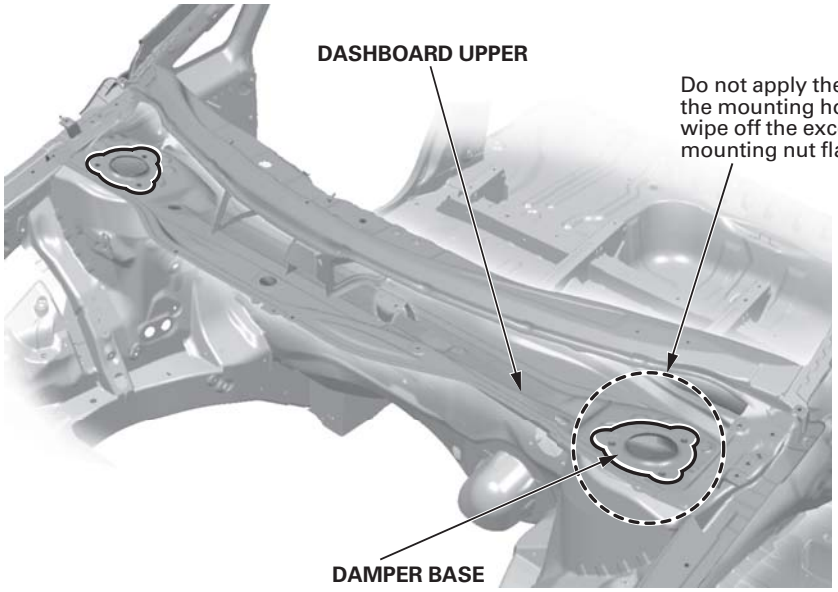
NOTE: Follow the sealant manufacturer's instructions, and apply the sealant. Note the following items:

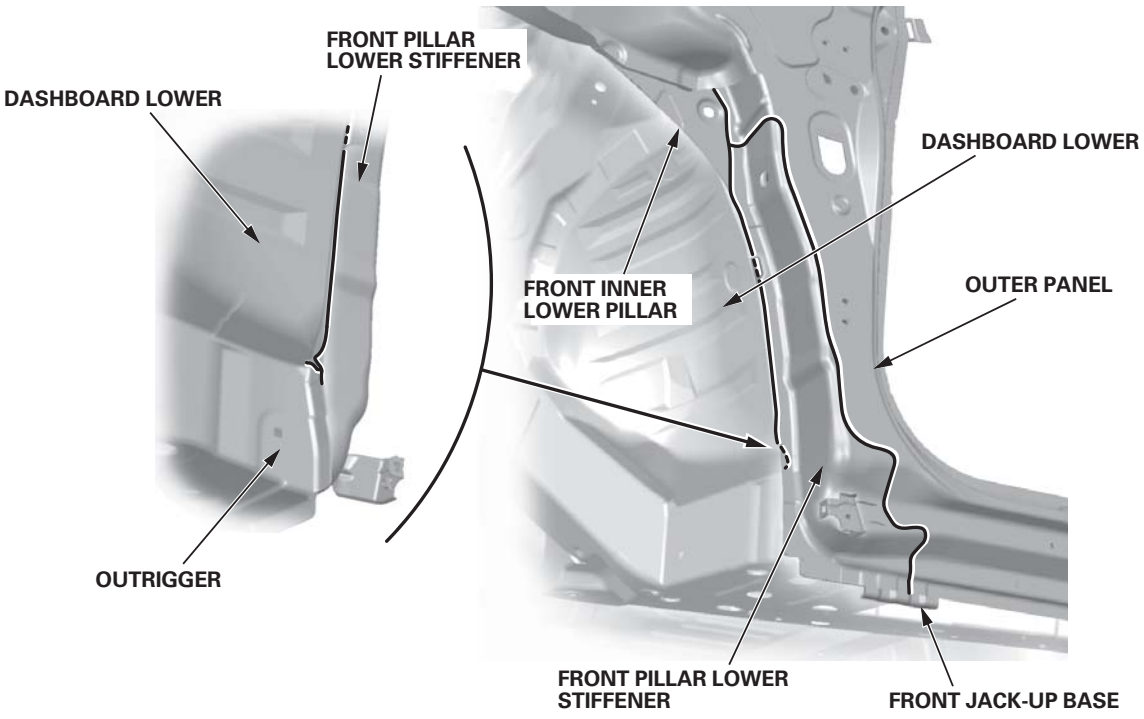
- Clean the areas to be sealed with wax and grease remover.
- Wipe off any excess spot sealant with thinner. After the primer is sprayed, sealant will fill the area where the spot sealant was wiped.
- Make sure you can see the sealant when the sealed part is in its proper location. For the details, refer to front wheelhouse and damper housing (see page 5-3), dashboard upper and dashboard lower (see page 5-4), front floor and rear floor (see page 5-5), roof panel and side outer panel (see page 5-6), rear pillar gutter (see page 5-7), and rear wheelhouse (see page 5-8).
- When applying sealant to the engine compartment, the door opening, and the rear gutter, try to match the appearance of the factory sealant. Wipe off any excess sealant.
- Apply sealant to any area that a replacement part will cover. Smooth the sealant with a brush if necessary.



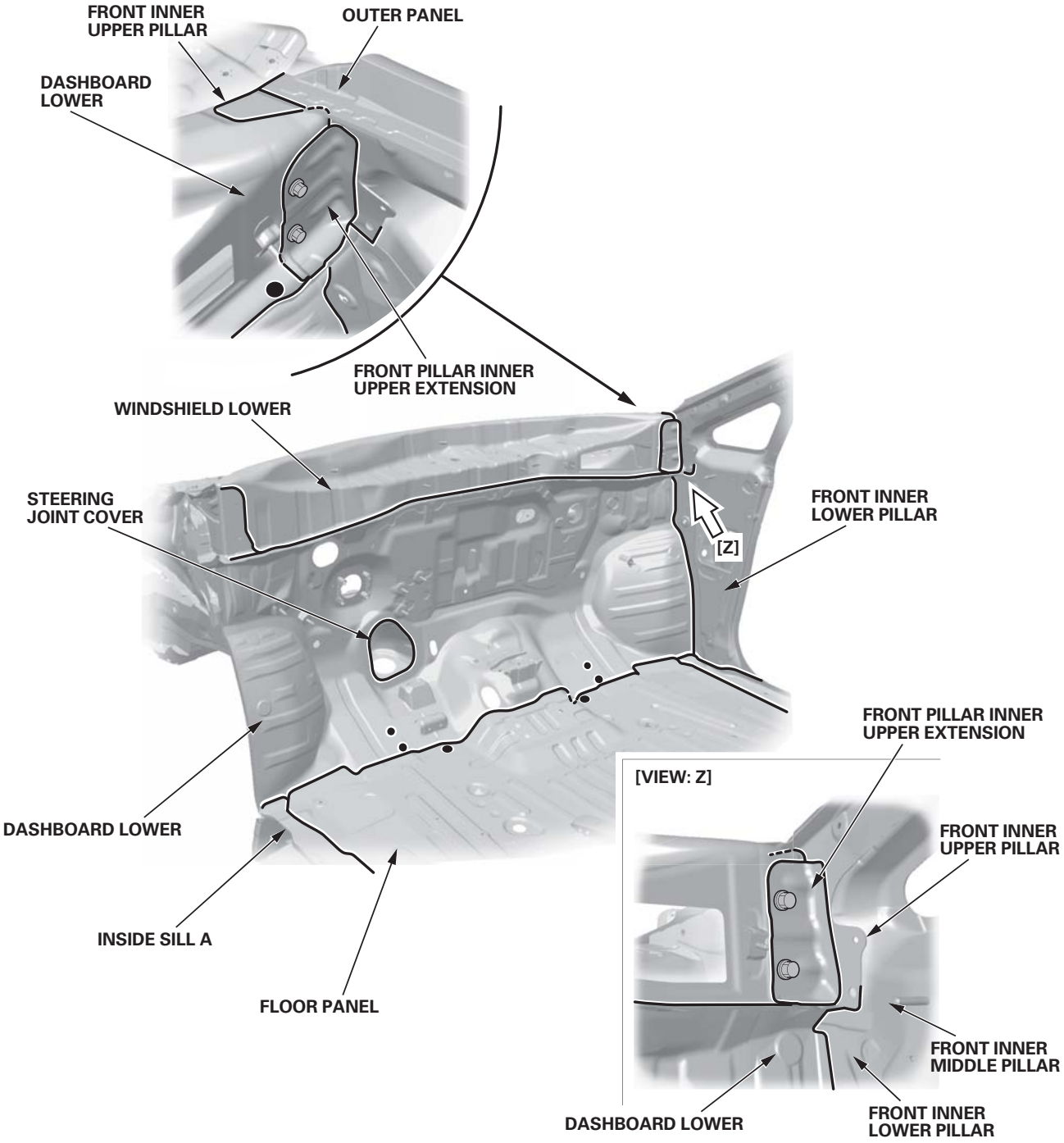


Front Wheelhouse and Damper Housing

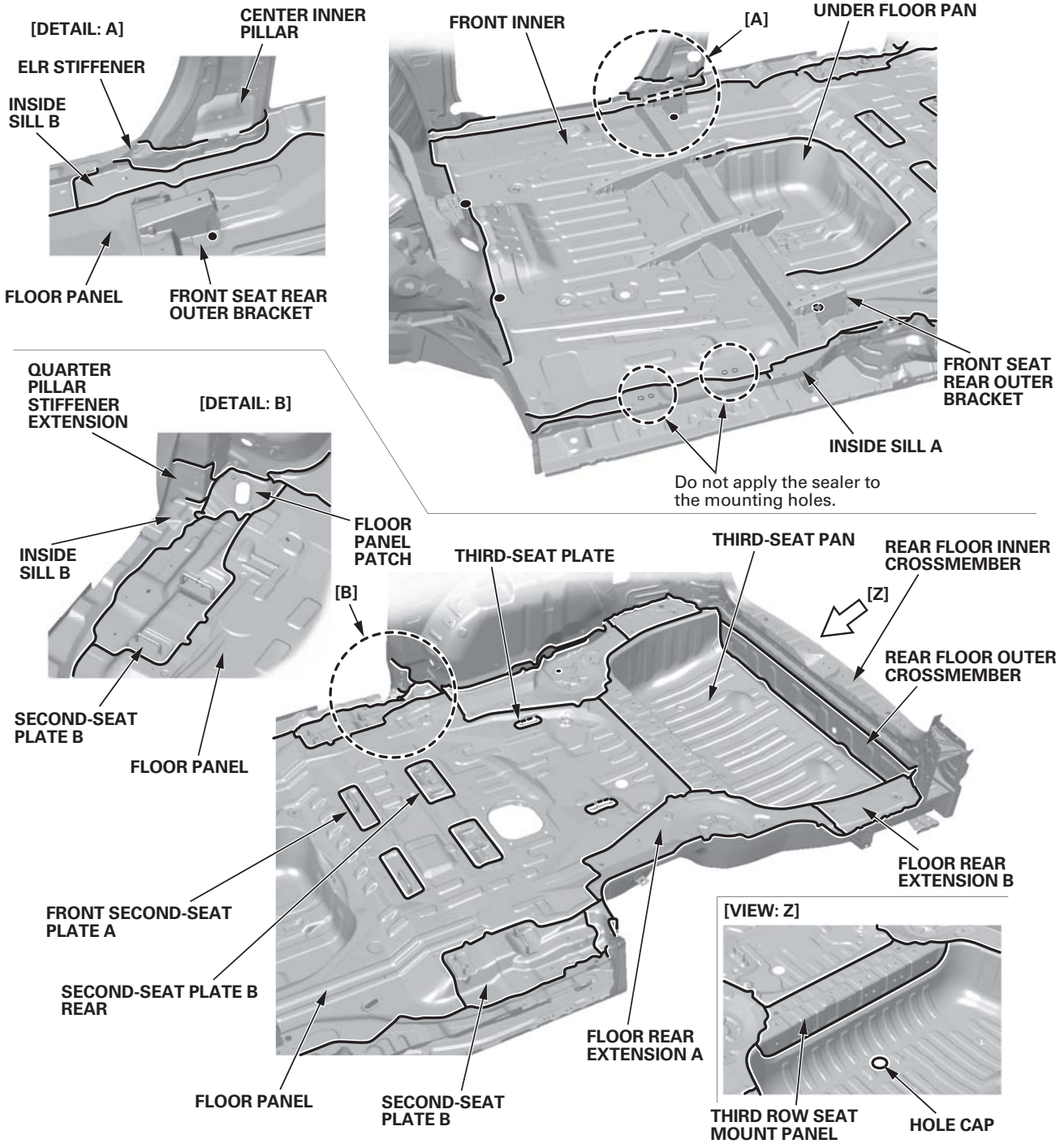




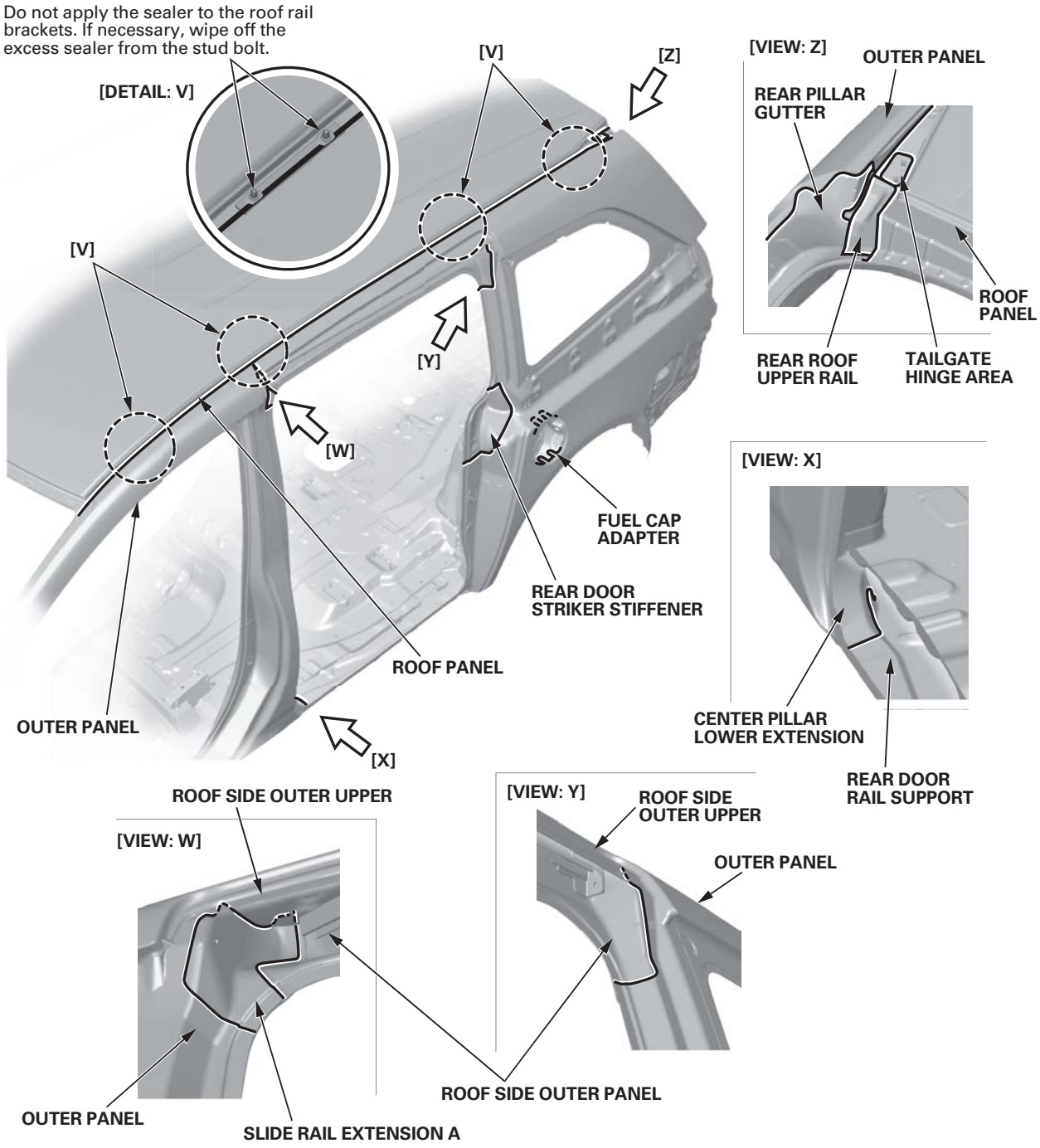
Dashboard Upper and Dashboard Lower



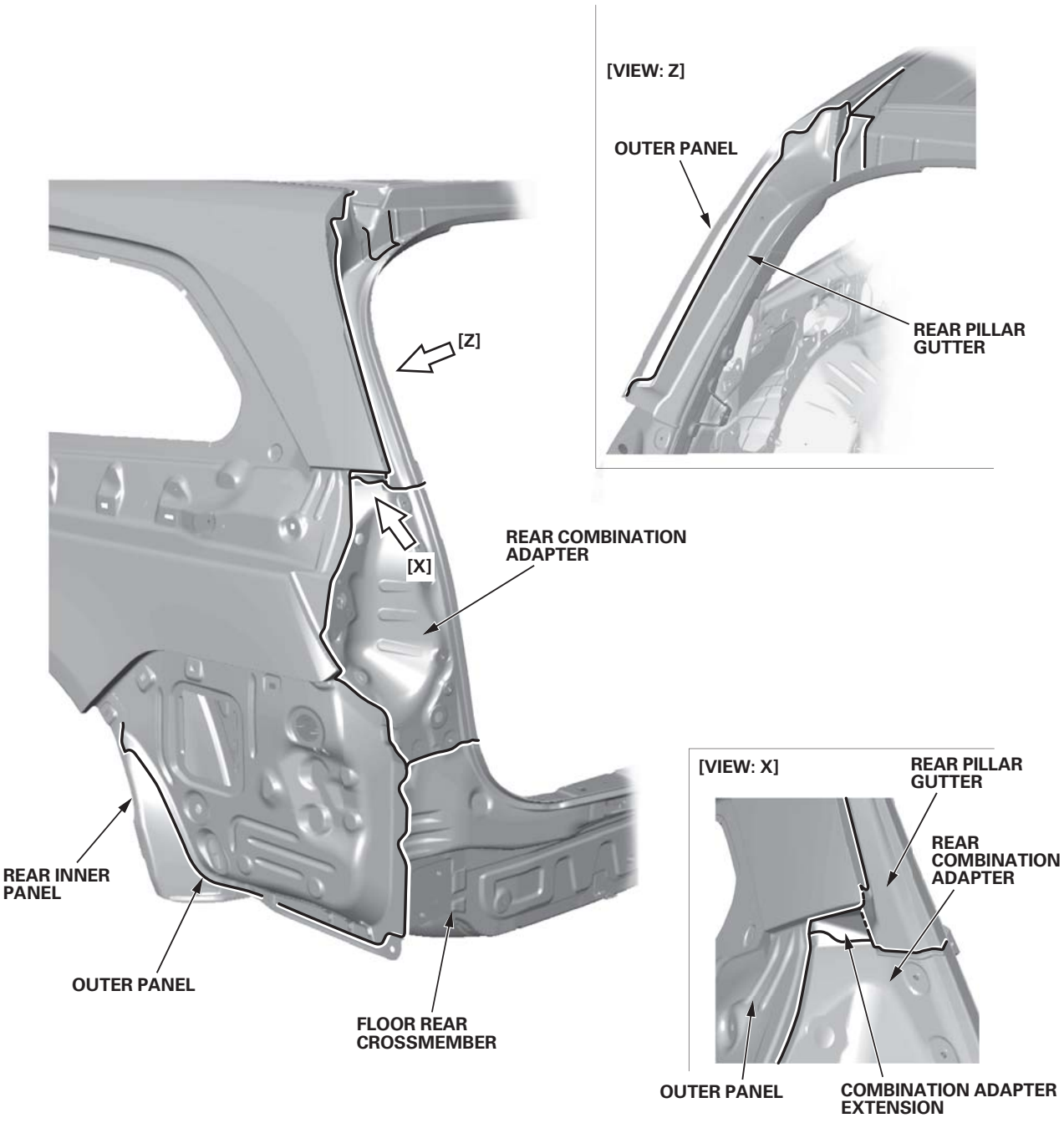
Front Floor and Rear Floor



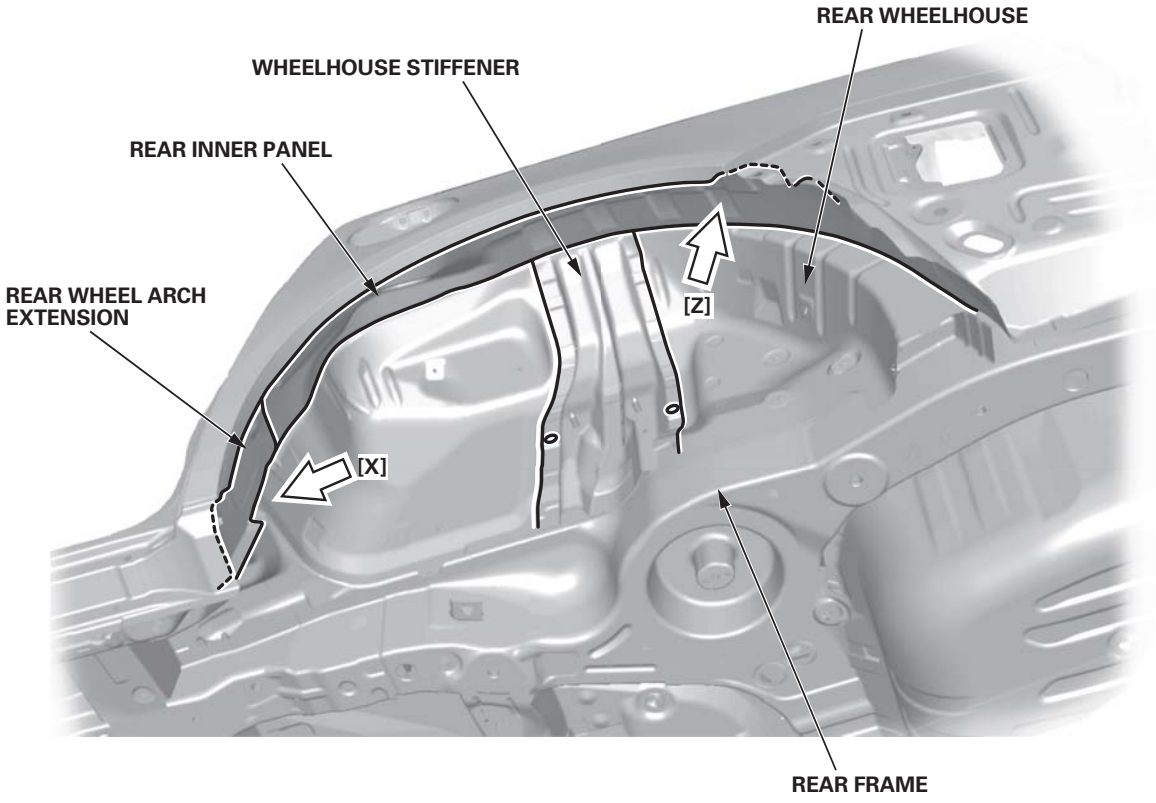
Roof Panel and Side Outer Panel



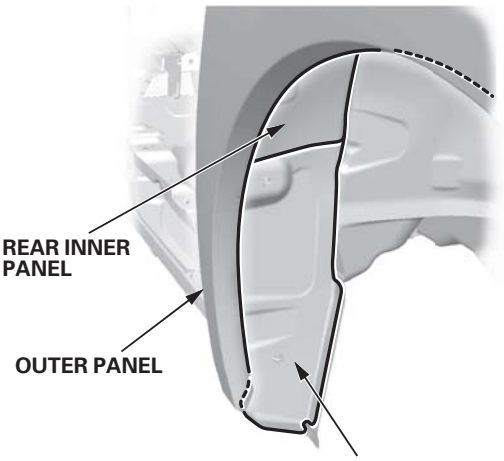
Rear Pillar Gutter



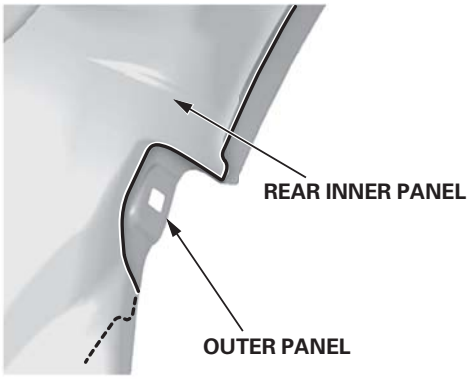
Rear Wheelhouse



[VIEW: X]



[VIEW:Z]



Rust-Preventive Treatments

General

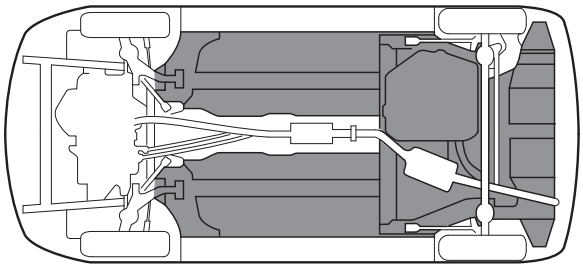
Undercoat

⚠ WARNING

- Wear goggles or safety glasses to prevent eye injury.
- Ventilate when spraying undercoat.

NOTE:

- Mask the exhaust system, the oxygen sensors, and the suspension mounting areas to protect them from the undercoat overspray.
- Follow the undercoating manufacturer's instructions.
- Clean the body with wax and grease remover before the undercoat is sprayed.
- Apply the undercoat to the front wheelhouse, the rear wheelhouse, and the undersides of the front and rear floors; refer to undercoating areas (see page 5-10).
- Coat the bottom of the fuel tank.



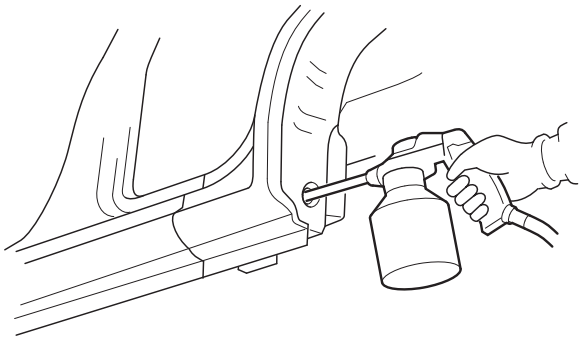
Anti-Rust Agents

⚠ WARNING

- Anti-rust agents contain substances that are harmful if you breathe or swallow them, or get them on your skin. Wear coveralls, gloves, eye protection, and an approved respirator while using such agents.
- Ventilate when spraying an anti-rust agent as it contains a small amount of organic solvent. Keep sparks, flames and cigarettes away.

NOTE:

- Do not spray an anti-rust agent on the brake system components, exhaust system components and related parts, emission control devices in the engine compartment, ball joint covers, the fuel strainer, or exterior and interior parts.
- Wipe the excess agent with a clean rag dampened with light oil.
- Follow the anti-rust agent manufacturer's instructions.
- Before applying an anti-rust agent, thoroughly clean the area to be coated with a steam cleaner, etc., and let it dry. Waxoyl may be applied to a wet surface.
- Apply the anti-rust agent from the installation holes and the access holes to parts in the outer panels and the frame (see page 5-13). Spray the anti-rust agent sufficiently until the excess amount oozes out when filling the side sill.

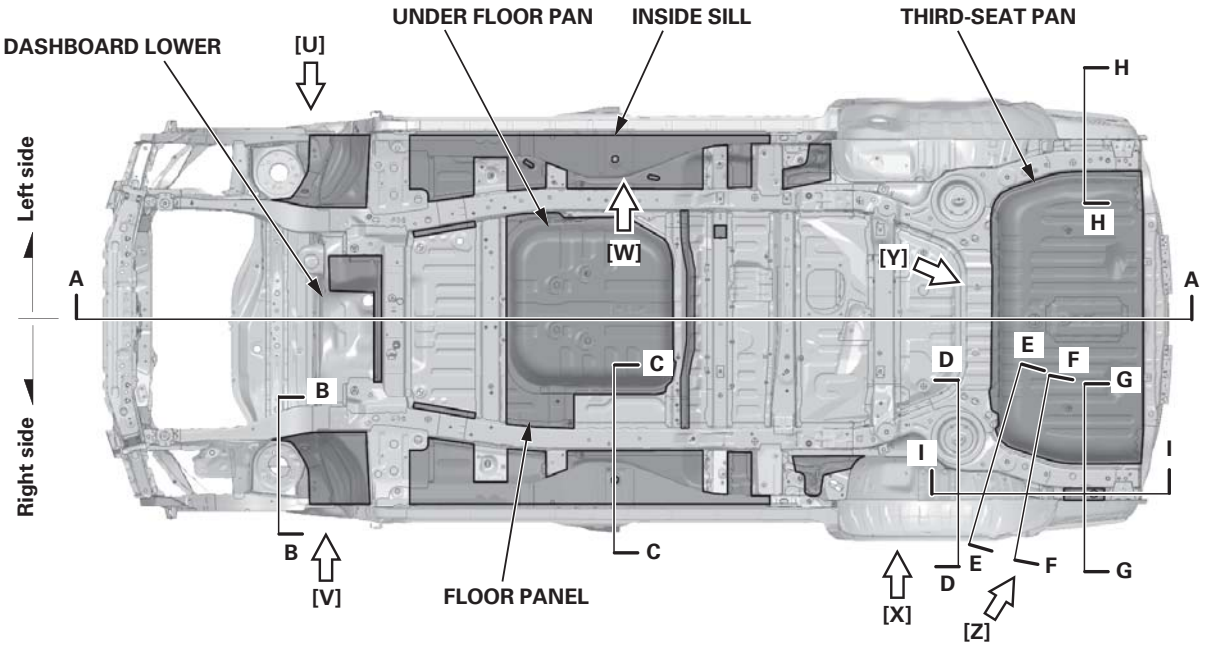


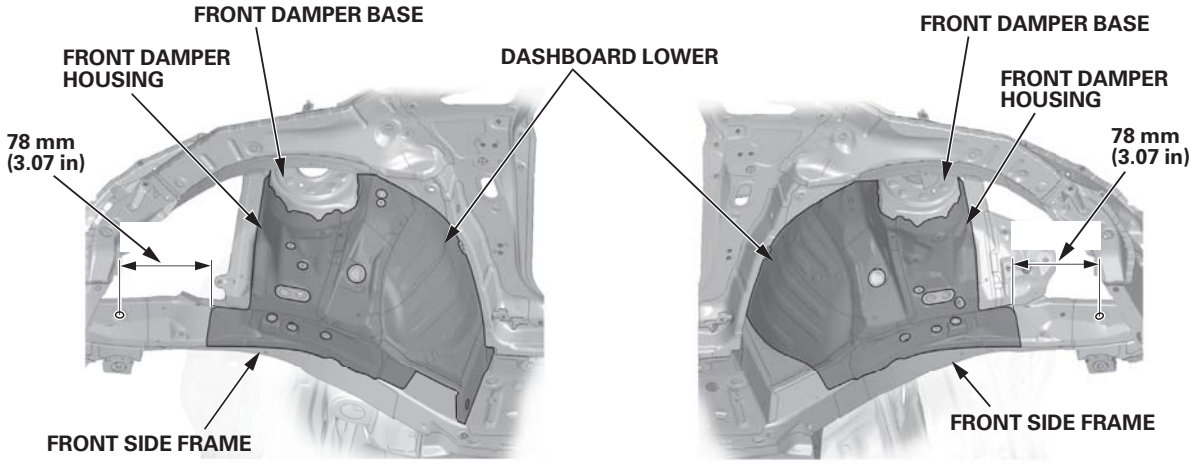
Undercoating Areas

Apply undercoat to the areas shown.

NOTE:
- Coating thickness: 0.4 mm (0.016 in) MIN.
- Front wheelhouse and dashboard lower coating thickness 0.5 mm (0.020 in).
- Apply the undercoat 10 mm (0.39 in) from the edge of the welded flanges.

: Indicates undercoating area.





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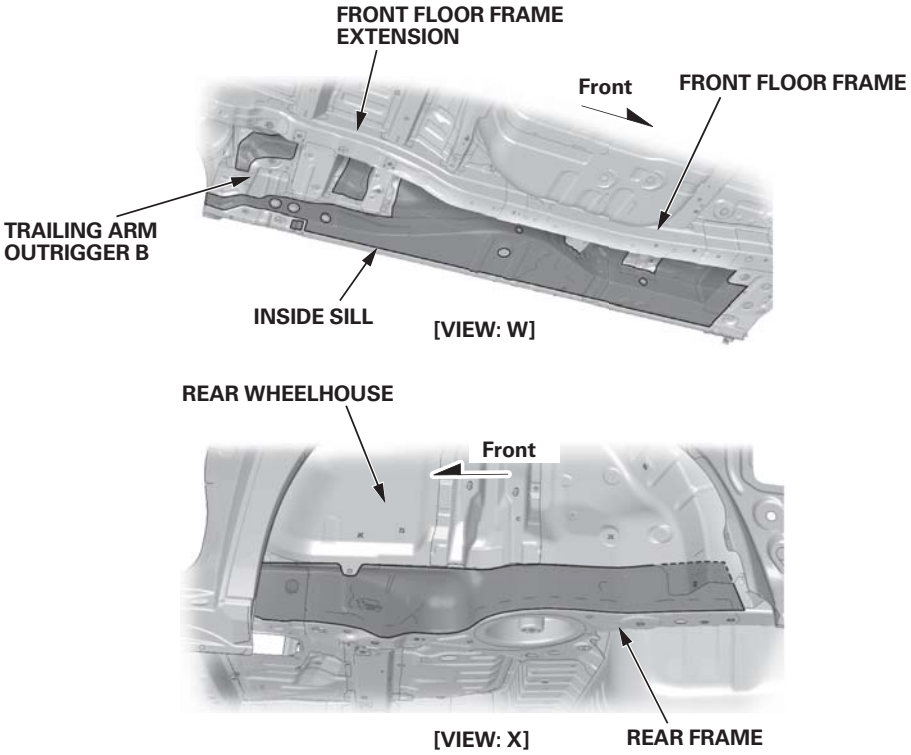
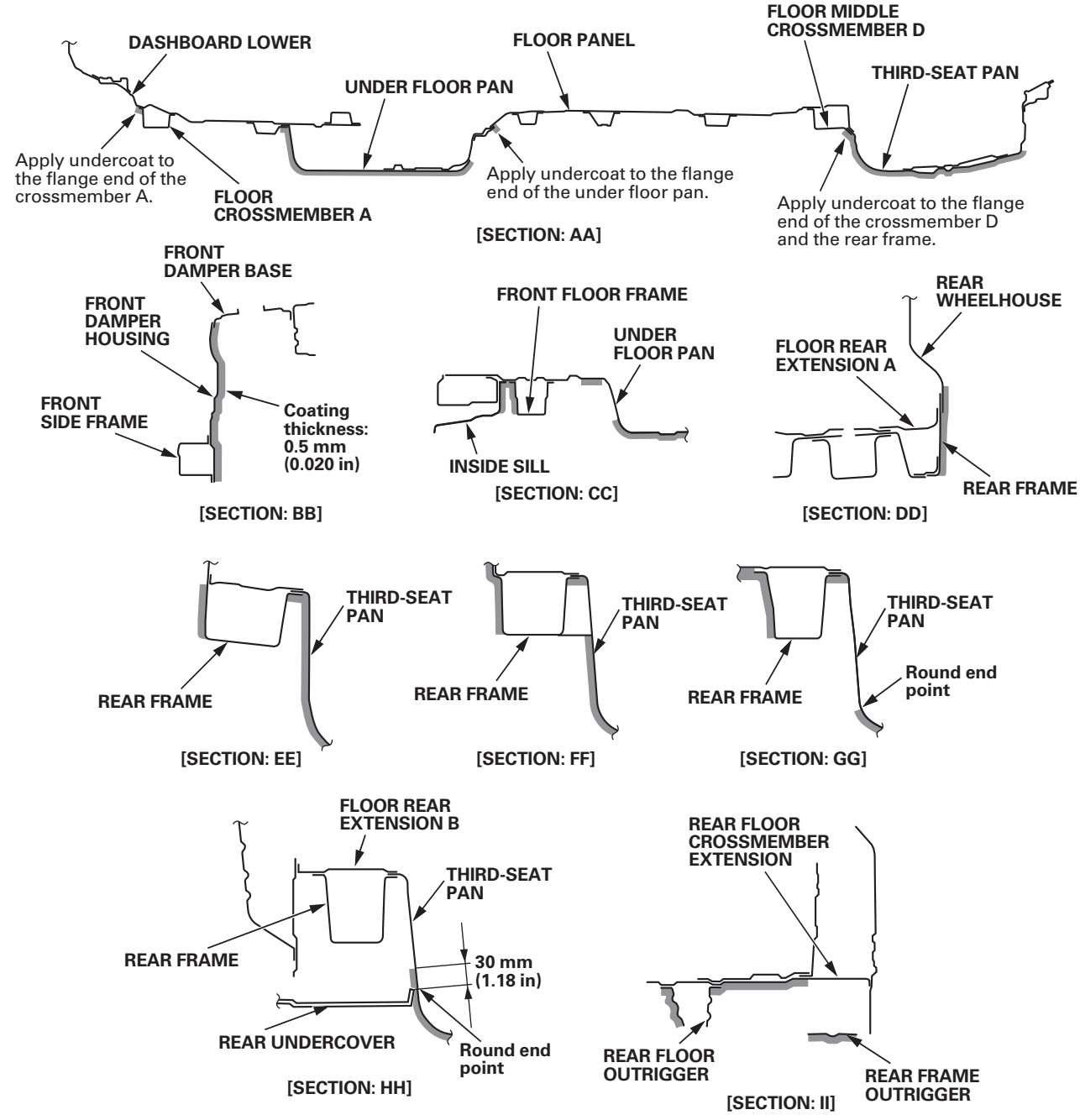
: Indicates undercoating area.



(cont'd)

Undercoating Areas (cont'd)

: Indicates undercoating area.



Areas to be Covered by Internal Anti-Rust Agents

: Indicates anti-rust agents.