2013–2014 ILX Body Repair Manual

INTRODUCTION

How to Use This Manual

This manual covers the repairs of a 2013–2014 model-series that has been involved in a 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 ILX 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.
Customer Service Technology Development Division

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

First Edition 05/2012

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 Acura, must determine the risks to their personal safety and the safe operation of the vehicle.

If you need to replace a part, use Acura 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 CLIENT'S SAFETY

Proper repair is essential to the client'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 if needed.
  - 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

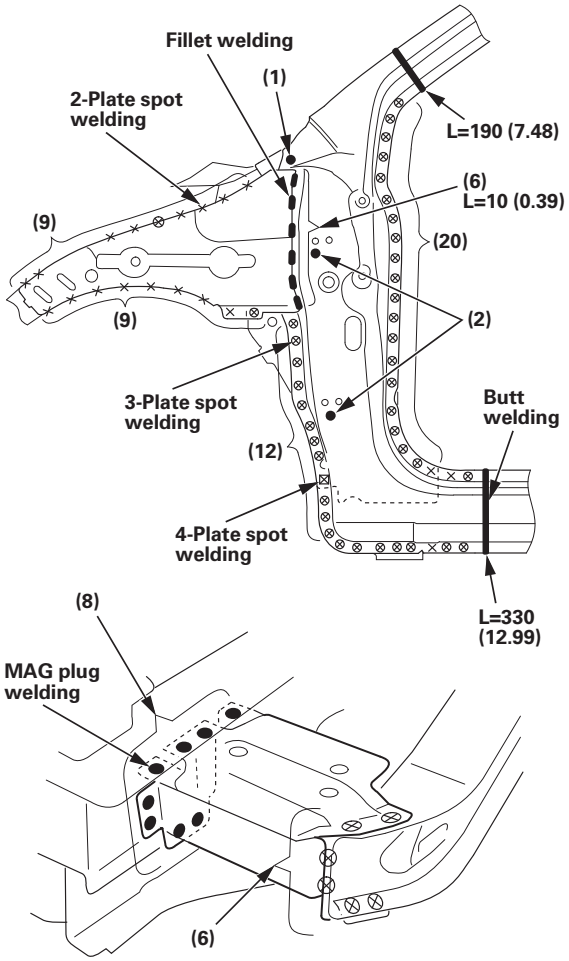
⊠: 4-Plate spot welding

●: MAG plug welding

⬬: MAG welding (butt or fillet)

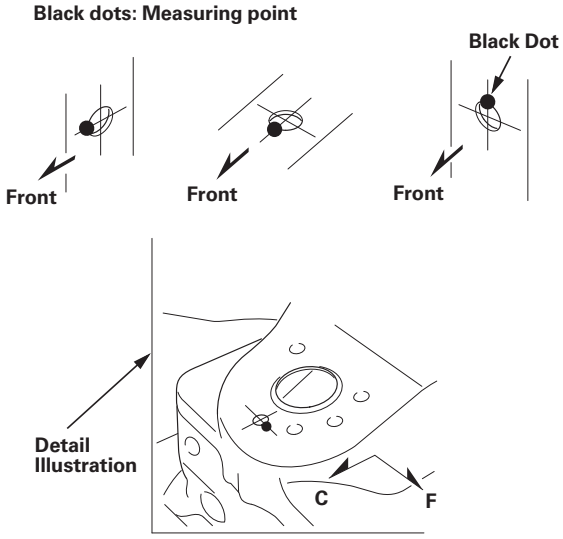
L=Welding length unit: mm (in)

( ): The number of welds



Body Dimensional Drawings

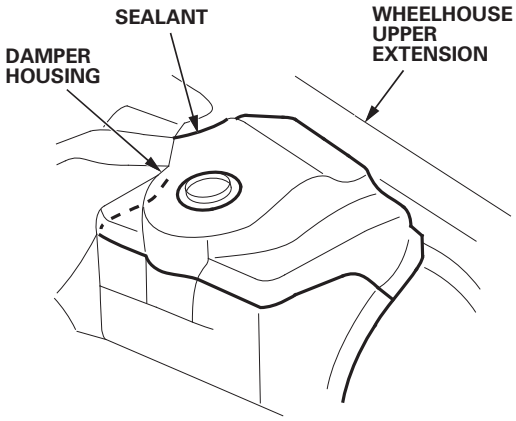
Body measuring dimensions show the distance between the forward or upper edge of positioning bosses and/or holes shown in the detail illustration.



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.



Main Menu

General Information

General Information

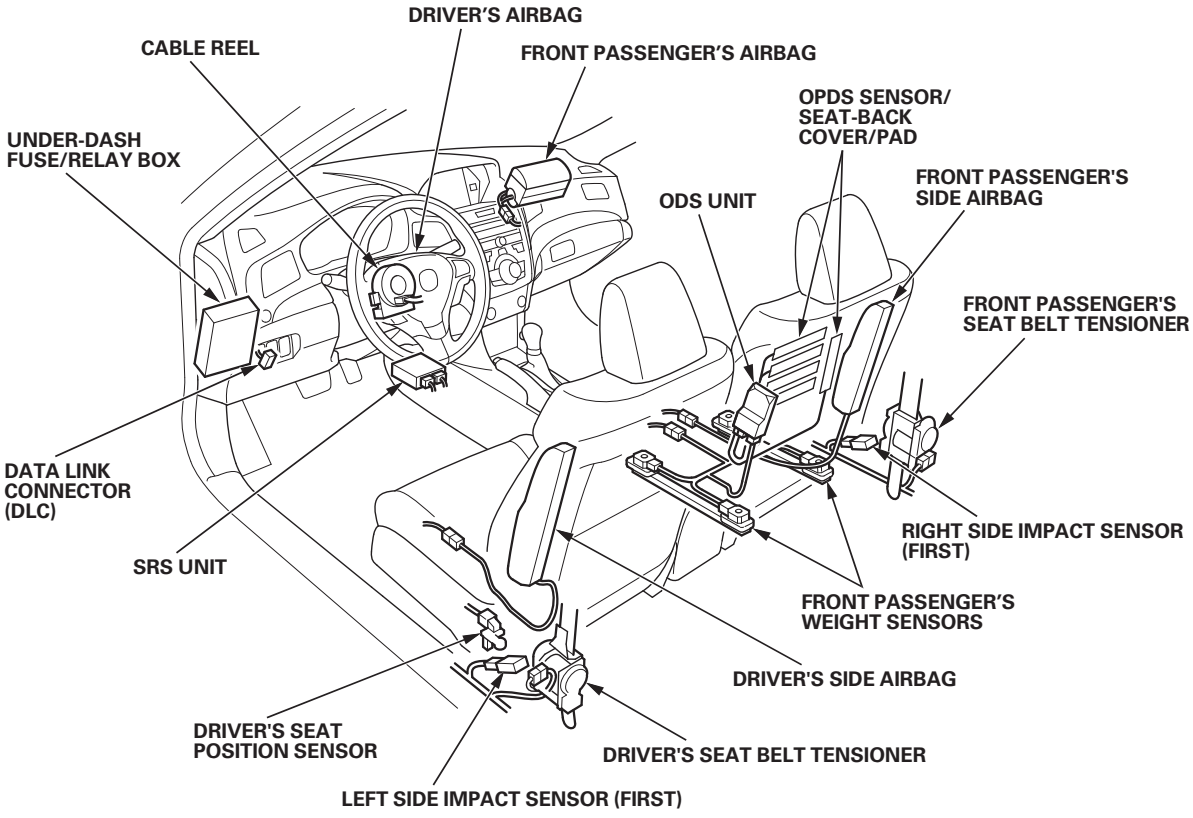
General Information

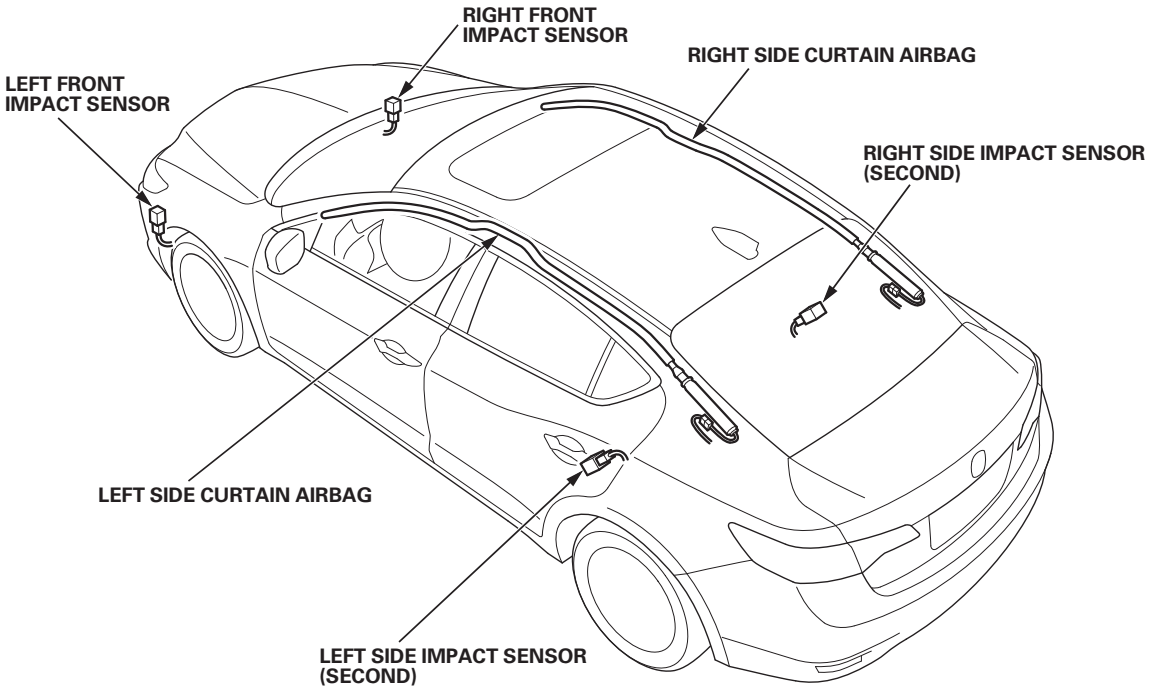
Supplemental Restraint System (SRS)

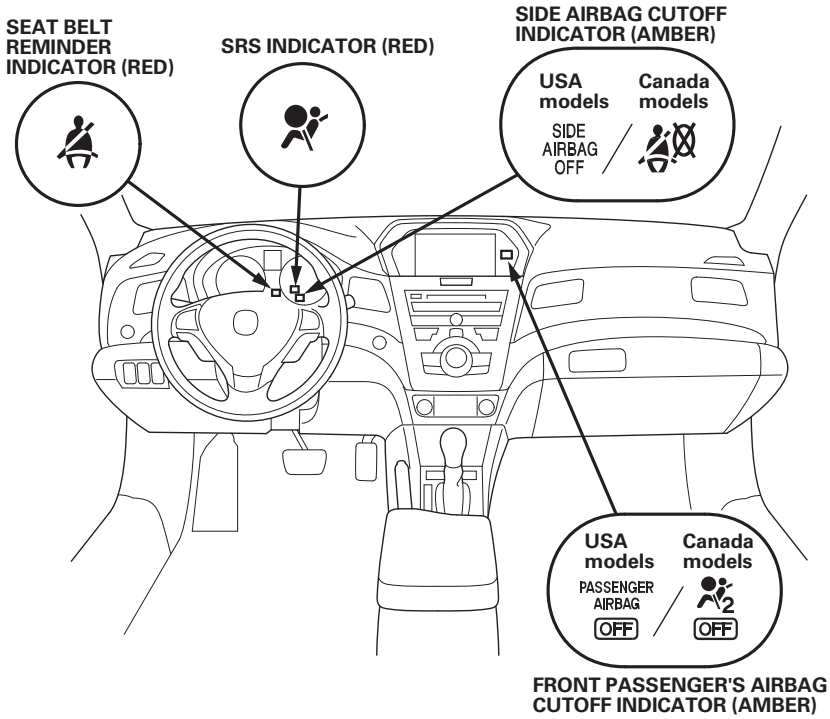
This model has an SRS which includes a driver's airbag in the steering wheel hub, a front passenger's airbag in the dashboard above the glove box, front seat belt tensioners in the front seat belt retractors, side airbags in the front seat-backs, and side curtain airbags in the sides of the roof. The 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 center pillar. Do not expose the seat belt retractor and tensioner to heat guns, welding, or spraying equipment.
- SRS electrical connectors are identified with 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 Acura ILX Service Manual.




RIGHT FRONT IMPACT SENSOR
RIGHT SIDE CURTAIN AIRBAG
LEFT FRONT IMPACT SENSOR
RIGHT SIDE IMPACT SENSOR (SECOND)
LEFT SIDE CURTAIN AIRBAG
LEFT SIDE IMPACT SENSOR (SECOND)


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

General Information

SRS Component Replacement/Inspection After Deployment

NOTE:
- If the harness is broken or damaged in the areas relevant to the replacement parts shown below, replace the harness, do not repair it.
- Before doing any SRS repairs, check for DTCs with the HDS; refer to the appropriate Acura ILX Service Manual for the less obvious deployed components (front seat belt tensioners, front impact sensors, side impact sensors, etc.).
- 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 Acura ILX Service Manual.

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

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

After a collision where the side curtain airbag deployed, replace the items for the side(s) that deployed:
- SRS unit
- Deployed side curtain airbag(s)
- Front seat belt(s)
- Side impact sensor(s) (first)
- Side impact sensor(s) (second)
- A-pillar trim
- B-pillar upper trim
- C-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 Acura ILX Service Manual.

After the vehicle is completely repaired, press the engine start/stop button to select the ON mode. 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 Acura ILX Service Manual. If you cannot retrieve a code, do the SRS Symptom Troubleshooting.

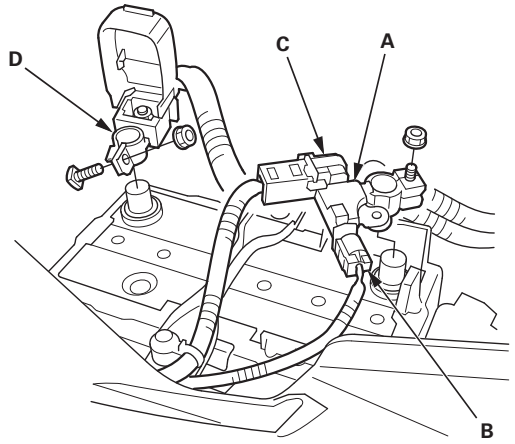
Battery Terminal Disconnection and Reconnection

Disconnection

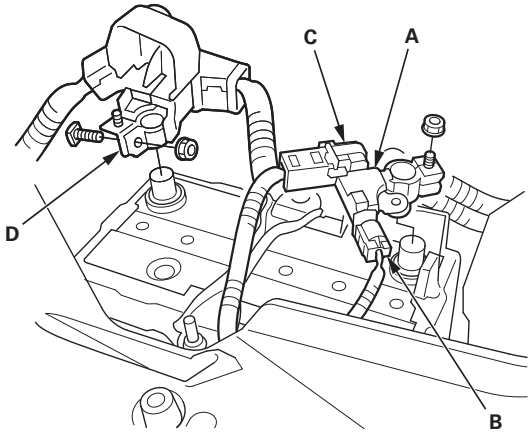
1. Make sure the vehicle ignition is in the OFF mode.
2. Disconnect and isolate the negative cable with the battery sensor (A) from the battery.

   NOTE:
   - Always disconnect the negative side first.
   - To protect the battery sensor connector (B) from damage, do not hold it when removing the negative terminal.
   - Do not disconnect the battery sensor from the negative terminal (C).

R20A5 Engine



K24Z7 Engine



3. Disconnect the positive cable and the battery terminal (D) from the battery.

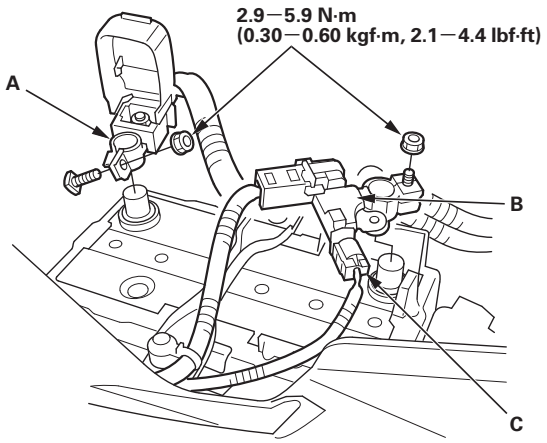
Reconnection

NOTE: If the battery performs abnormally, test the battery; refer to the appropriate Acura ILX Service Manual.

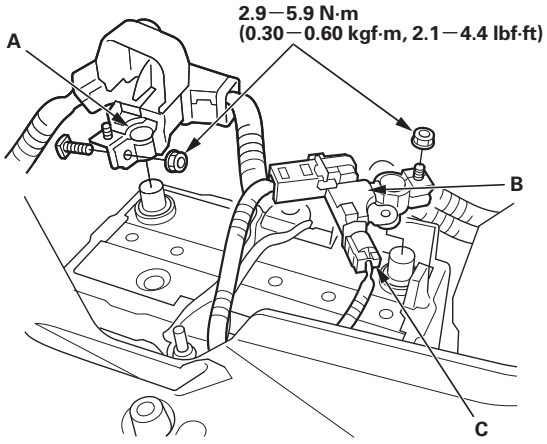
1. Clean the battery terminals.
2. Connect the positive cable and the battery terminal (A) to the battery.

   NOTE: Always connect the positive side first.

R20A5 Engine



K24Z7 Engine



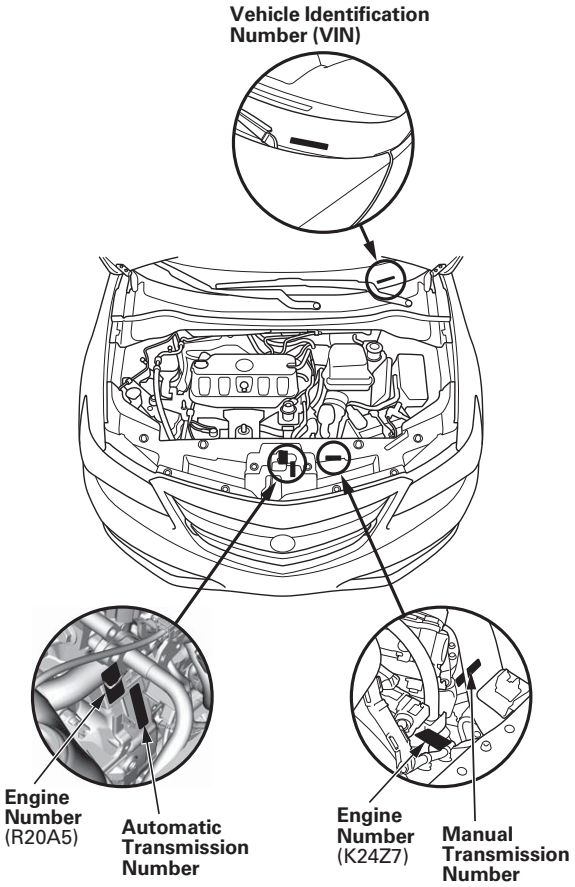
3. Connect the negative cable and the battery sensor (B) to the battery.

   NOTE: To protect the battery sensor connector (C) from damage, do not hold it when installing the negative terminal.

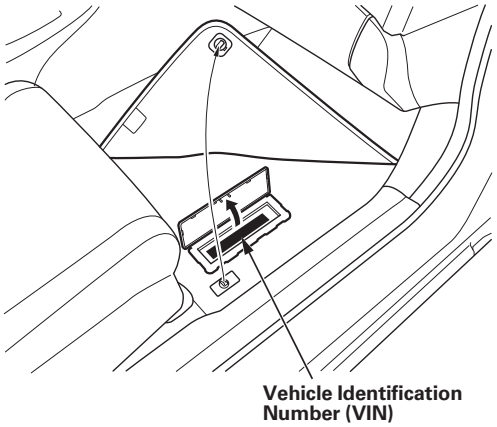
4. Apply multipurpose grease to the terminals to prevent corrosion.

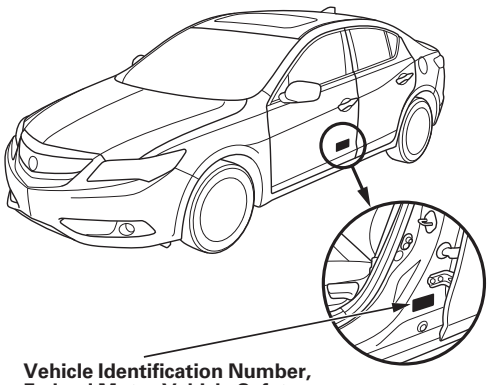
General Information

Identification Number Locations



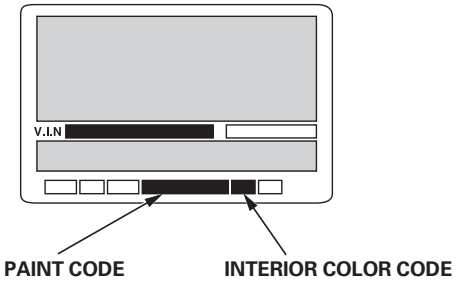
Front Passenger's Under Floor





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.

General Information

Lift and Support Points

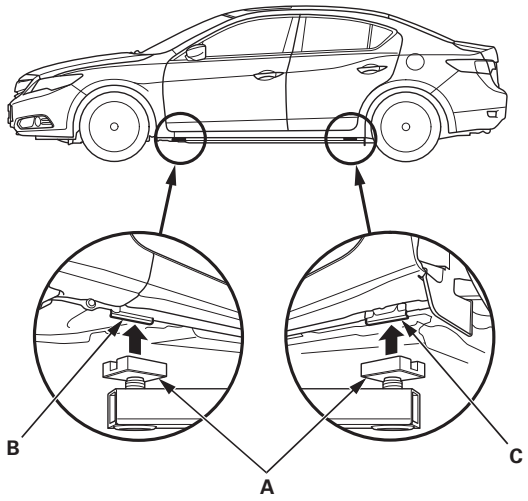
NOTE: If you are going to remove heavy components such as suspension or the fuel tank from the rear of the vehicle, first support the front of the vehicle with tall safety stands. When substantial weight is removed from the rear of the vehicle, the center of gravity can change, causing the vehicle to 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.
- This vehicle has low ground clearance. To avoid damaging the vehicle, make sure there is enough clearance around the support points.



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

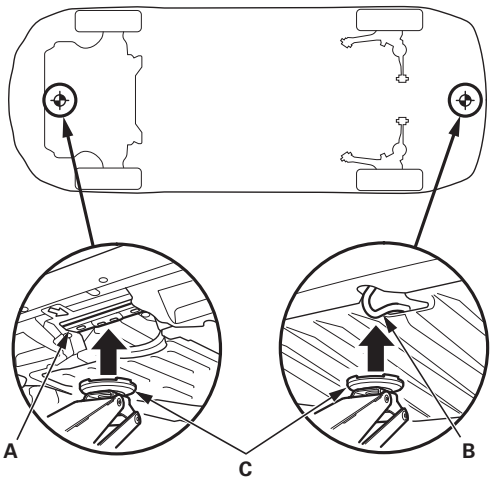
To support the vehicle on safety stands, use the same support points as for a vehicle lift. Always use safety stands when working on or under any vehicle that is supported only by a jack.

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 reverse for manual tramsmission, or in P for automatic transmission.
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

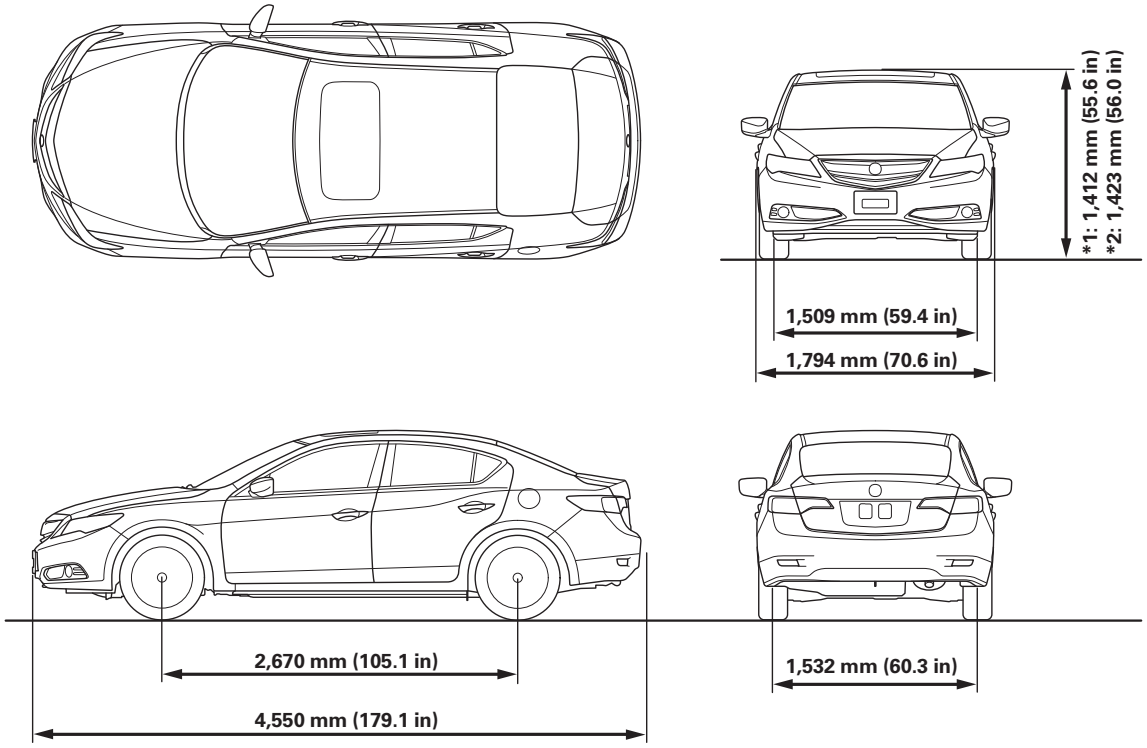
- Be sure the floor jack is properly placed to avoid damaging the vehicle.
- This vehicle has low ground clearance. To avoid damaging the vehicle, make sure there is enough clearance around the support points.



4. Position the safety stands under the front or rear 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



***1: Without antenna**
***2: With antenna**

Front Wheel Alignment

Camber	−0 ° 00 ′ ±30 ′	
Caster	5 ° 19 ′ ±30 ′	
Total toe-in	0±2 mm (0±0.08 in)	
Wheel turning angle	Inward	37 ° 46 ′ ±2 °
	Outward	30 ° 26 ′ ±1 ° (Reference)

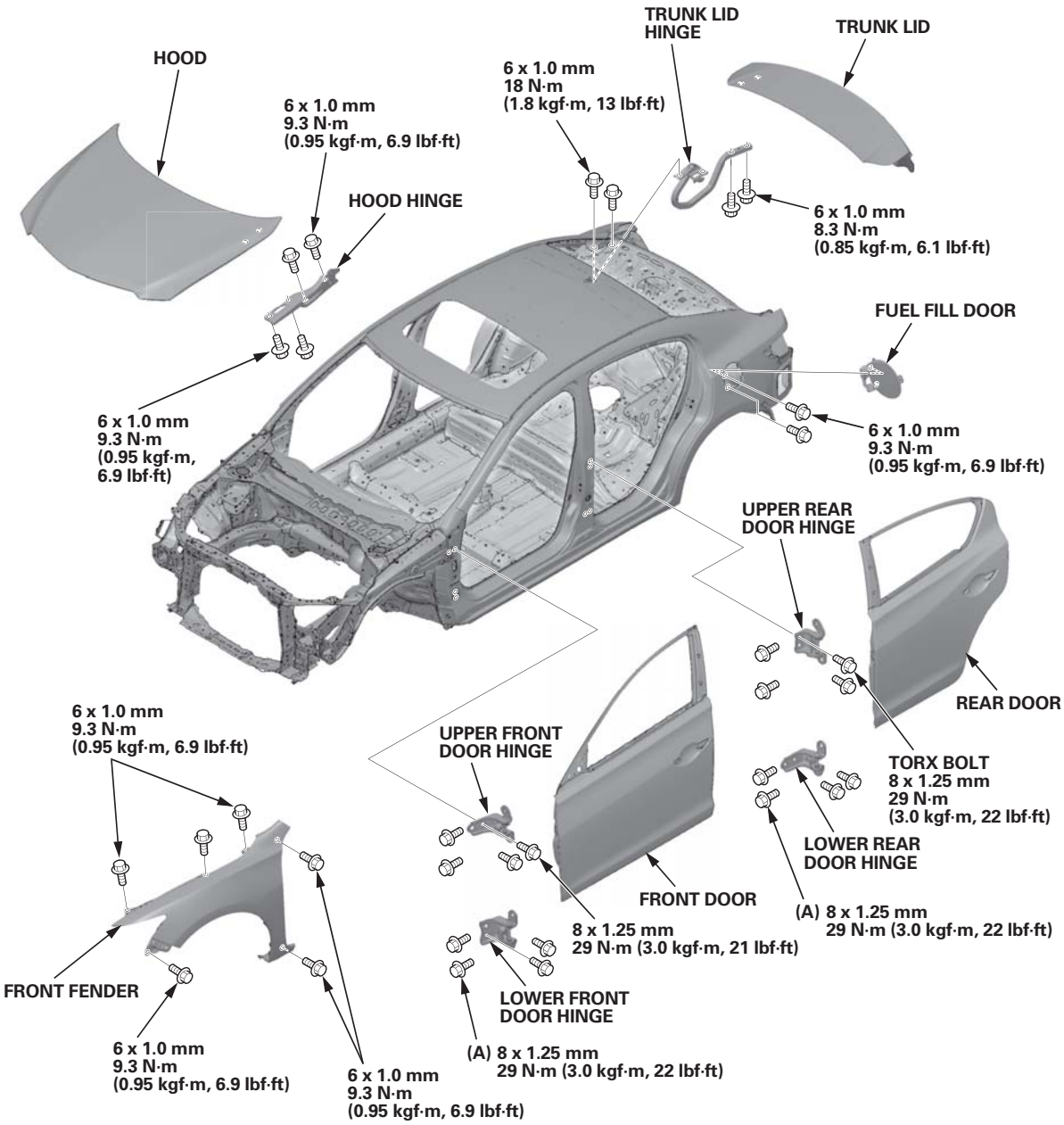
Rear Wheel Alignment

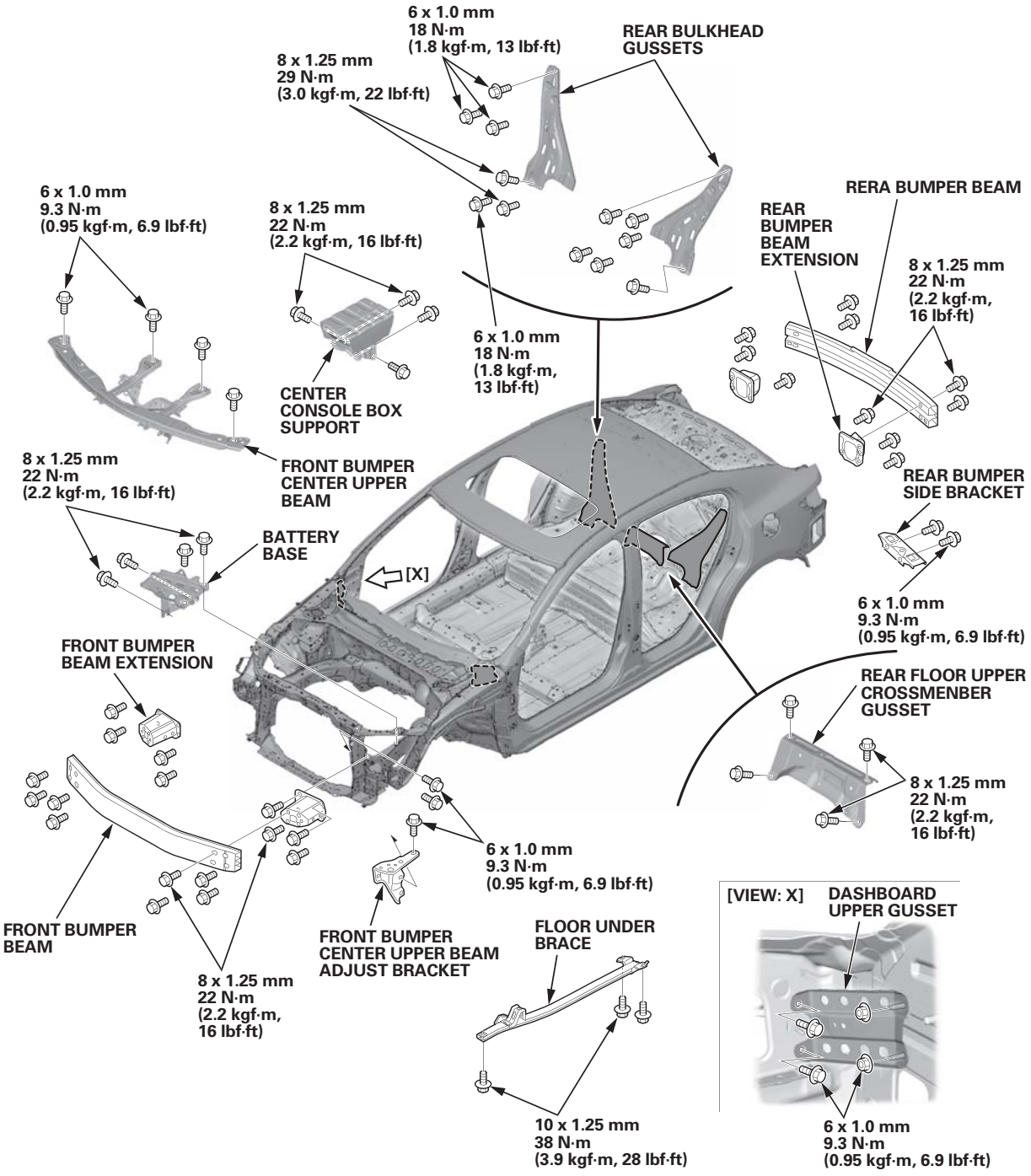
Camber	−0 ° 45 ′ ±45 ′
Total toe-in	2^{+2}_{-1} mm ($0.08^{+0.08}_{-0.04}$ in)

General Information

Exterior Parts Removal/Installation

NOTE:
- To adjust the doors in or out, replace the mounting bolts (A) with adjusting bolts; refer to the appropriate Parts Catalog for the necessary adjusting bolts.
- Apply spot sealer to the mating surface, then install the front fenders, the hood, the doors, the fuel fill door, and the hinges.
- Check the hood, the doors, and the trunk lid positions; refer to the external parts fitting positions (see page 4-12).

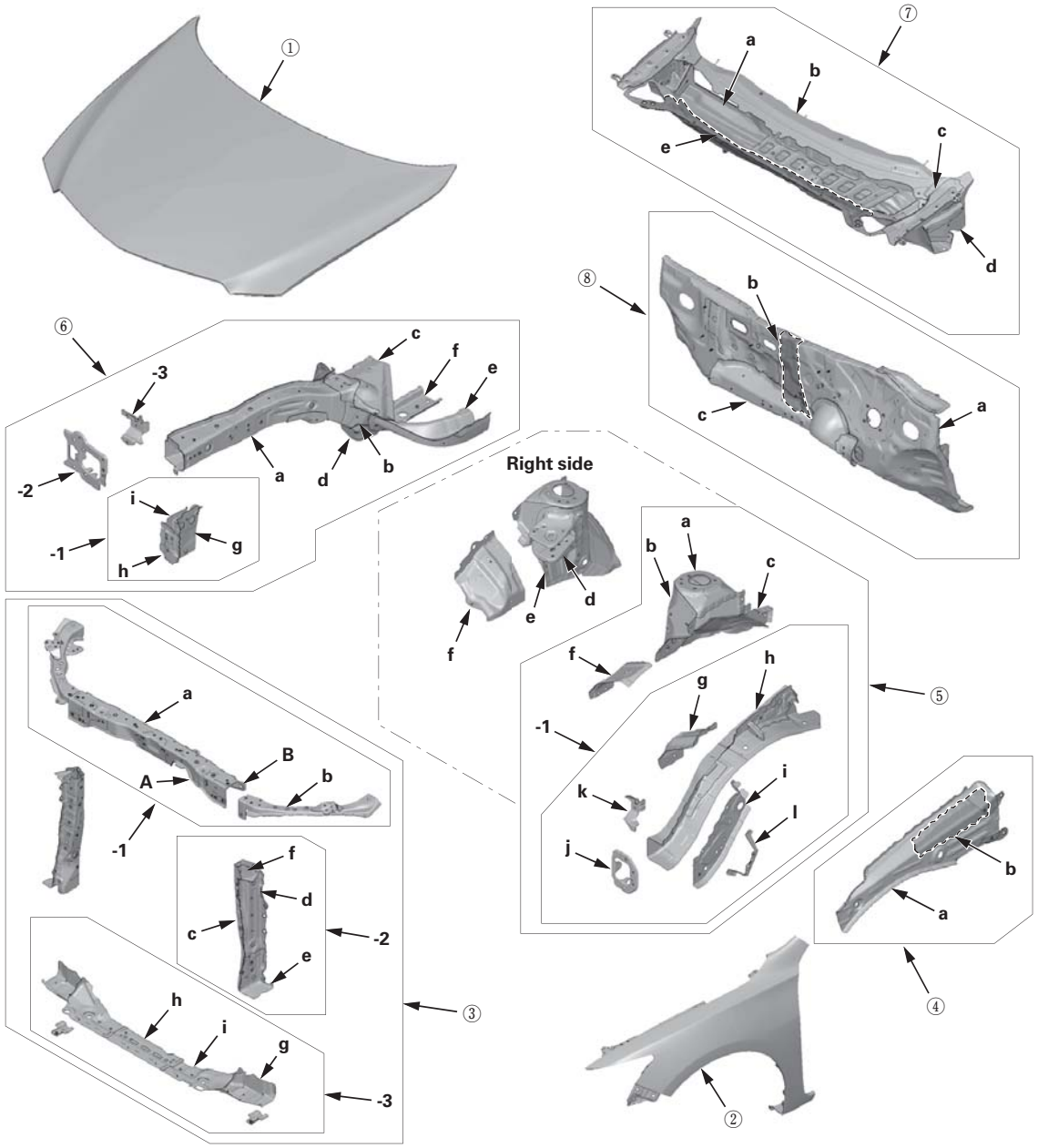



6 x 1.0 mm
18 N·m
(1.8 kgf·m, 13 lbf·ft)
REAR BULKHEAD
GUSSETS
8 x 1.25 mm
29 N·m
(3.0 kgf·m, 22 lbf·ft)
6 x 1.0 mm
9.3 N·m
(0.95 kgf·m, 6.9 lbf·ft)
8 x 1.25 mm
22 N·m
(2.2 kgf·m, 16 lbf·ft)
RERA BUMPER BEAM
REAR
BUMPER
BEAM
EXTENSION
8 x 1.25 mm
22 N·m
(2.2 kgf·m,
16 lbf·ft)
6 x 1.0 mm
18 N·m
(1.8 kgf·m,
13 lbf·ft)
CENTER
CONSOLE BOX
SUPPORT
FRONT BUMPER
CENTER UPPER
BEAM
8 x 1.25 mm
22 N·m
(2.2 kgf·m, 16 lbf·ft)
BATTERY
BASE
[X]
REAR BUMPER
SIDE BRACKET
6 x 1.0 mm
9.3 N·m
(0.95 kgf·m, 6.9 lbf·ft)
FRONT BUMPER
BEAM EXTENSION
REAR FLOOR UPPER
CROSSMENBER
GUSSET
8 x 1.25 mm
22 N·m
(2.2 kgf·m,
16 lbf·ft)
6 x 1.0 mm
9.3 N·m
(0.95 kgf·m, 6.9 lbf·ft)
FRONT BUMPER
BEAM
8 x 1.25 mm
22 N·m
(2.2 kgf·m,
16 lbf·ft)
FRONT BUMPER
CENTER UPPER BEAM
ADJUST BRACKET
FLOOR UNDER
BRACE
10 x 1.25 mm
38 N·m
(3.9 kgf·m, 28 lbf·ft)
[VIEW: X]
DASHBOARD
UPPER GUSSET
6 x 1.0 mm
9.3 N·m
(0.95 kgf·m, 6.9 lbf·ft)

General Information

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-strength steel sheet: Tensile strength 340 to 590 MPa.

No.	Part Name		Tensile Strength (MPa)	Zinc-Plating
①	Hood	Skin [1.0 (0.039)]	Aluminum alloy	—
		Frame [0.9 (0.035)]	Aluminum alloy	—
②	Front Fender [0.7 (0.028)]		270	○
③	Front Bulkhead Complete			
-1	Front Bulkhead Upper Center Frame Set			
	a: Bulkhead Upper Center Frame, A [0.8 (0.031)]/B [0.6 (0.024)]		270	○
	b: Bulkhead Upper Side Frame [1.0 (0.039)]		270	○
-2	Front Bulkhead Side Stay Set			
	c: Bulkhead Side Stay [0.6 (0.024)]		270	○
	d: Bulkhead Side Stay Plate [0.6 (0.024)]		270	○
	e: Bulkhead Side Stay Gusset [0.6 (0.024)]		270	○
	f: Side Stay Stiffener [1.0 (0.039)]		440	○
-3	Front Bulkhead Lower Crossmember Set			
	g: Bulkhead Lower Crossmember [0.6 (0.024)]		270	○
	h: Bulkhead Lower Crossmember Plate [0.6 (0.024)]		270	○
	i: Radiator Lower Mount Bracket [1.0 (0.039)]		270	○
④	Front Wheelhouse Upper Member Complete			
	a: Wheelhouse Upper Member [0.9 (0.035)]		590	—
	b: Wheelhouse Upper Member Patch [1.2 (0.047)] Left side only		590	○
⑤	Front Damper Housing Complete			
	a: Front Damper Base [2.6 (0.102)]		440	○
	b: Front Damper Housing [0.9 (0.035)]		270	○
	c: Front Damper Housing Extension [0.9 (0.035)]		590	○
	d: Torque Rod Bracket [2.0 (0.079)]		270	○
	e: Torque Rod Bracket Stay [2.8 (0.110)]		270	○
	f: Front Wheelhouse, Left [0.65 (0.0256)]/Right [1.4 (0.055)]		270	○
-1	Front Damper Extension Set			
	g: Mission Mounting Bracket [1.8 (0.071)]		270	○
	h: Front Damper Extension A/B [1.0 (0.039)]		590	○
	i: Front Damper Outer Extension [0.7 (0.028)]		590	○
	j: Front Damper Extension Bracket [2.0 (0.079)]		590	○
	k: Front Damper Extension B Gusset [1.8 (0.071)]		590	○
	l: Front Fender Bracket [1.2 (0.047)]		270	○

(cont'd)

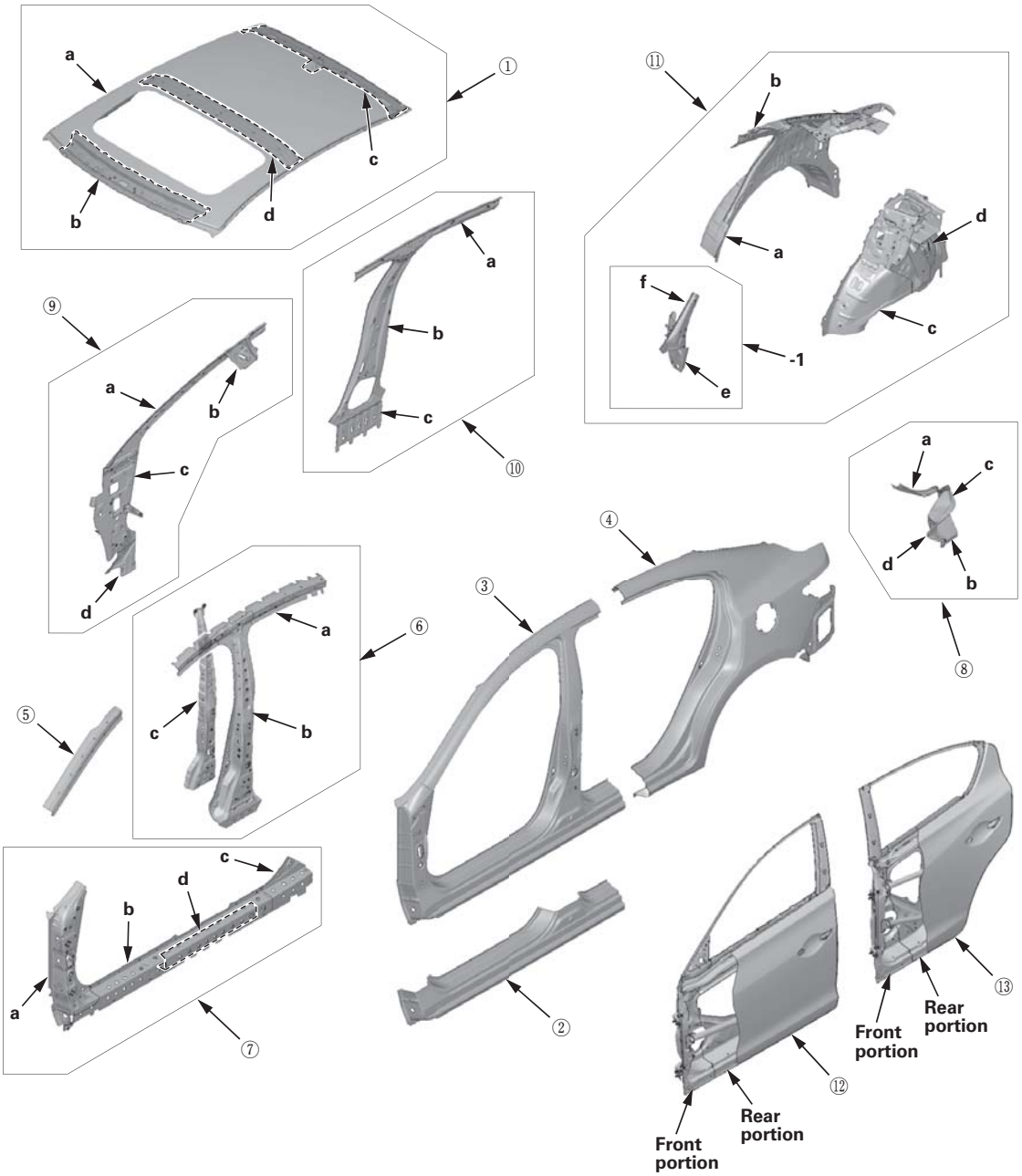
General Information

Front Body Construction (cont'd)

No.	Part Name	Tensile Strength (MPa)	Zinc-Plating
⑥	Front Side Frame Complete		
	a: Front Side Frame [1.4 (0.055)]/Backplate [1.6 (0.063)]	590	○
	b: Front Side Frame Front Outrigger [1.8 (0.071)]	590	○
	c: Front Side Frame Rear Outrigger [1.8 (0.071)]	590	○
	d: Front Subframe Rear Bracket [1.8 (0.071)]	270	○
	e: Center Frame Extension [1.6 (0.063)]	590	○
	f: Front Floor Frame Extension [1.6 (0.063)]	590	○
-1	Front Subframe Front Bracket Set		
	g: Front Subframe Front Bracket [1.4 (0.055)]	590	○
	h: Front Subframe Front Plate [0.8 (0.031)]	270	○
	i: Front Subframe Front Bulkhead [0.8 (0.031)]	270	○
-2	Front Bumper Beam Extension Flange [2.0 (0.079)]	590	○
-3	Front Side Frame Support [1.8 (0.071)]	590	○
⑦	Dashboard Upper Complete		
	a: Dashboard Upper [0.8 (0.031)]	270	○
	b: Front Windshield Lower [0.6 (0.024)]	270	○
	c: Dashboard Upper Side Member [2.0 (0.079)]	590	○
	d: Dashboard Upper Side Member Extension [1.6 (0.063)]	590	○
	e: Dashboard Upper Crossmember [0.7 (0.028)]	270	○
⑧	Dashboard Lower Complete		
	a: Dashboard Lower [0.8 (0.031)]	440	○
	b: Dashboard Lower Center Frame [0.8 (0.031)]	590	—
	c: Dashboard Lower Crossmember [1.4 (0.055)]	440	○

Roof and Side Panel Construction

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



(cont'd)

General Information

Roof and Side Panel Construction (cont'd)

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-strength steel sheet: Tensile strength 340 to 590 MPa.

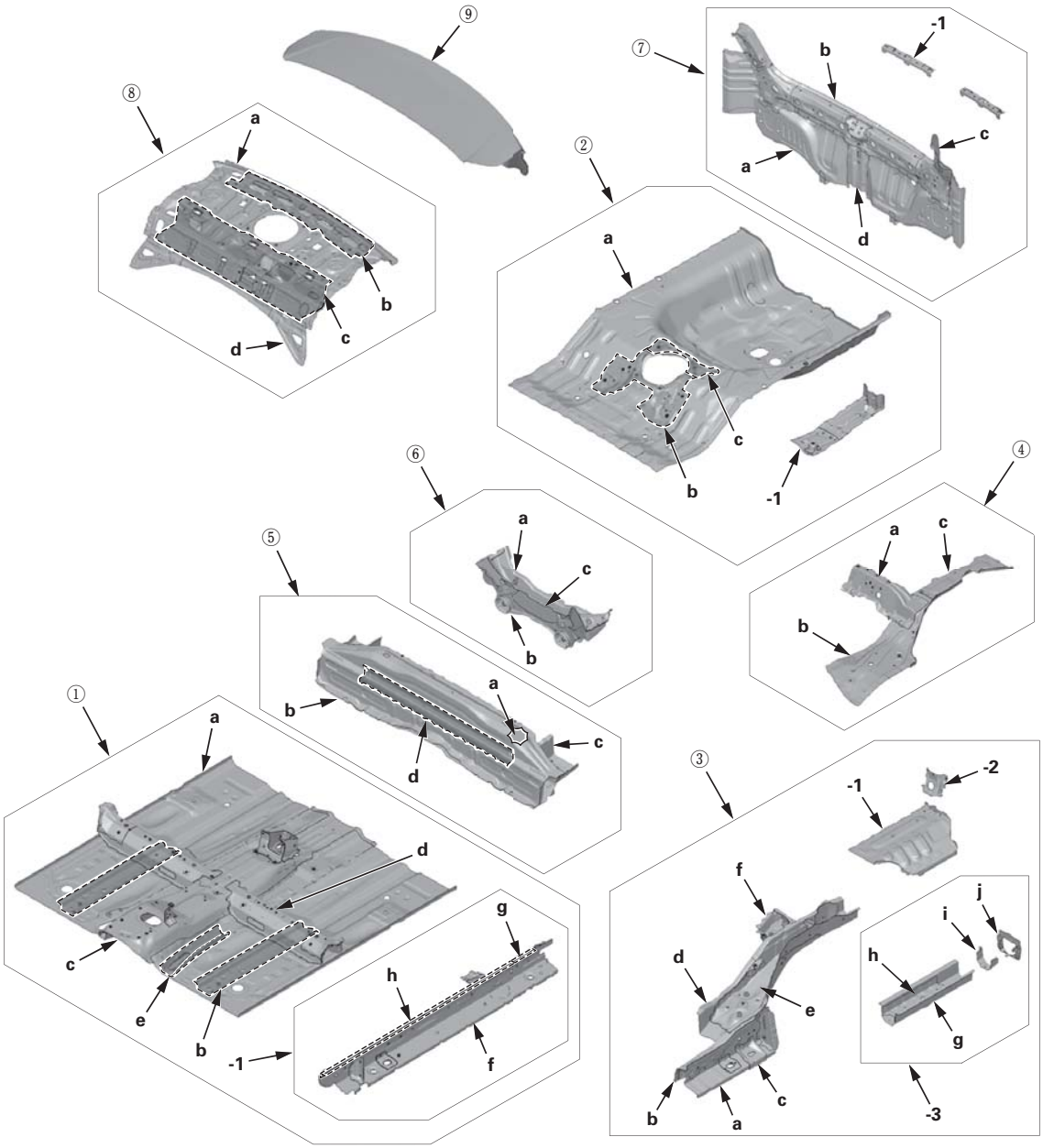
No.	Part Name	Tensile Strength (MPa)	Zinc-Plating
①	Roof Panel Complete		
	a: Roof Panel [0.6 (0.024)]	340	○
	b: Front Roof Rail [1.0 (0.039)]	590	—
	c: Rear Roof Rail [0.7 (0.028)]	270	—
	d: Roof Panel Stiffener Patch [1.4 (0.055)]	590	—
②	Side Sill Panel [0.7 (0.028)]	270	○
③	Front Side Outer Panel Set [0.7 (0.028)]	270	○
④	Rear Side Outer Panel Set [0.7 (0.028)]	270	○
⑤	Front Pillar Upper Stiffener [1.6 (0.063)]	590	○
⑥	Center Pillar Stiffener Complete		
	a: Roof Side Stiffener [1.8 (0.071)]	590	○
	b: Center Pillar Stiffener [1.8 (0.071)]	590	○
	c: Center Pillar Reinforcement [1.8 (0.071)]	590	—
⑦	Side Sill Reinforcement Complete		
	a: Front Pillar Lower Stiffener [1.0 (0.039)]	590	○
	b: Side Sill Reinforcement [1.6 (0.063)]	590	○
	c: Side Sill Reinforcement Extension [1.6 (0.063)]	590	○
	d: Side Sill Reinforcement Patch [1.4 (0.055)]	780	○
⑧	Rear Gutter Complete		
	a: Rear Gutter Upper [0.65 (0.0256)]	270	○
	b: Rear Combination Adapter [0.6 (0.024)]	270	○
	c: Rear Gutter Upper Extension [0.6 (0.024)]	270	○
	d: Rear Gutter Front Extension [0.6 (0.024)]	270	○
⑨	Front Inner Pillar Complete		
	a: Front Inner Upper Pillar [1.8 (0.071)]	590	—
	b: Front Pillar Inner Upper Extension [1.4 (0.055)]	590	—
	c: Front Inner Lower Pillar [0.8 (0.031)]	590	○
	d: Front Jack-Up Base [1.8 (0.071)]	590	○
⑩	Center Inner Pillar Complete		
	a: Roof Side Rail [1.4 (0.055)]	590	—
	b: Center Inner Pillar [2.0 (0.079)]	590	—
	c: Center Pillar Inner Extension [1.0 (0.039)]	270	○

No.	Part Name		Tensile Strength (MPa)	Zinc-Plating
⑪	Rear Inner Panel Complete			
	a: Rear Inner Panel [0.6 (0.024)]		270	○
	b: Rear Damper Stiffener [0.6 (0.024)]		270	—
	c: Rear Wheelhouse [0.6 (0.024)]		270	○
	d: Rear Damper Base [2.0 (0.079)]		590	○
-1	Rear Wheel Arch Extension Complete			
	e: Rear Wheel Arch Extension [0.6 (0.024)]		270	○
	f: Rear Inside Extension [1.6 (0.063)]		590	—
⑫	Front Door	Skin [0.8 (0.031)]	340	○
		Panel, Front portion [1.4 (0.055)]/Rear portion [0.7 (0.028)]	270	○
⑬	Rear Door	Skin [0.8 (0.031)]	340	○
		Panel, Front portion [1.2 (0.047)]/Rear portion [0.65 (0.0256)]	270	○

General Information

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-strength steel sheet: Tensile strength 340 to 980 MPa.

No.	Part Name	Tensile Strength (MPa)	Zinc-Plating
①	Front Floor Complete		
	a: Front Floor [0.6 (0.024)]	270	○
	b: Front Floor Frame [0.8 (0.071)]	590	○
	c: Center Tunnel Frame [1.0 (0.039)]	590	○
	d: Front Floor Crossmember [1.2 (0.047)]	780	—
	e: Center Tunnel Frame Stiffener [2.0 (0.079)] Driver's side only	590	○
-1	Front Inside Sill Complete		
	f: Front Inside Sill [1.4 (0.055)]	780	○
	g: Front Inside Sill Stiffener [1.2 (0.047)]	980	○
	h: Front Inside Sill Stiffener, Driver [1.2 (0.047)]	980	○
②	Rear Floor Complete		
	a: Rear Floor [0.65 (0.0256)]	270	○
	b: Rear Seat Belt Anchor [1.0 (0.039)]	590	○
	c: Rear Floor Stiffener [1.2 (0.047)]	590	○
-1	Rear Jack-Up Stiffener [1.2 (0.047)]	270	○
③	Rear Frame Complete		
	a: Side Sill Extension [1.6 (0.063)]	590	○
	b: Side Sill Extension Patch [2.0 (0.079)]	590	○
	c: Jack-Up Bracket [2.0 (0.079)]	590	○
	d: Rear Frame A [2.0 (0.079)]	590	○
	e: Rear Frame Stiffener [1.6 (0.063)]	590	○
	f: Rear Floor Crossmember Extension A [2.0 (0.079)]	270	○
-1	Rear Floor Side Stiffener Rear [0.65 (0.0256)]	590	○
-2	Rear Panel Gusset [1.2 (0.047)]	270	—
-3	Rear Frame B Complete		
	g: Rear Frame B [1.0 (0.039)]	590	○
	h: Rear Frame B Patch [0.6 (0.024)]	270	○
	i: Rear Frame B Reinforcement [1.6 (0.063)]	590	○
	j: Rear Bumper Beam Bracket [2.3 (0.091)]	440	○
④	Rear Floor Upper Crossmember Complete		
	a: Rear Floor Upper Crossmember [1.2 (0.047)]	270	—
	b: Rear Floor Side Stiffener Front [1.4 (0.055)]	590	○
	c: Rear Floor Side Stiffener Middle [1.0 (0.039)]	590	○

(cont'd)

General Information

Floor and Rear Body Construction (cont'd)

No.	Part Name		Tensile Strength (MPa)	Zinc-Plating
⑤	Middle Floor Crossmember Complete			
	a: Middle Floor Crossmember [0.65 (0.0256)]		590	○
	b: Middle Floor Crossmember Stiffener [1.4 (0.055)]		590	○
	c: Rear Frame Extension [1.6 (0.063)]		590	○
	d: Middle Floor Crossmember Stiffener Patch [0.6 (0.024)]		270	○
⑥	Rear Floor Crossmember Complete			
	a: Rear Floor Crossmember [1.2 (0.047)]		270	○
	b: Lower Arm Bracket A [1.6 (0.063)]		270	○
	c: Lower Arm Bracket B [1.6 (0.063)]		270	○
⑦	Rear Panel Complete			
	a: Rear Panel [0.55 (0.022)]		270	○
	b: Rear Panel Upper Stiffener [0.8 (0.031)]		270	—
	c: Rear Panel Side Stiffener [1.0 (0.039)]		270	—
	d: Rear Panel Center Stiffener [0.65 (0.0256)]		270	—
-1	Rear Bumper Face Stiffener [1.0 (0.039)]		270	—
⑧	Rear Shelf Complete			
	a: Rear Shelf [0.55 (0.0217)]		270	—
	b: Rear Shelf Stiffener Rear [0.55 (0.0217)]		270	—
	c: Rear Shelf Stiffener Front [0.55 (0.0217)]		270	—
	d: Rear Shelf Extension Front [0.8 (0.031)]		270	—
⑨	Trunk Lid	Skin, Upper [0.7 (0.028)]/Lower [0.6 (0.024)]	270	○
		Frame [0.6 (0.024)]	270	○

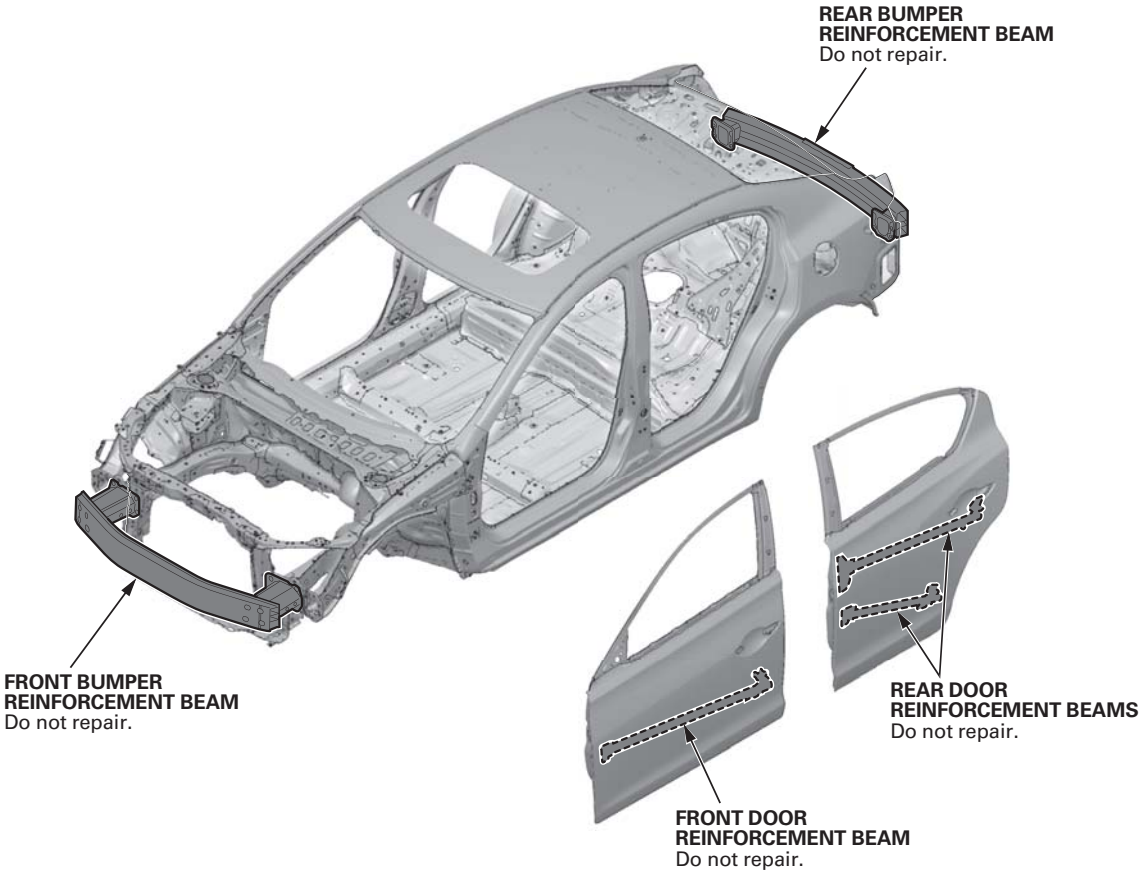
Door and Bumper Reinforcement Beams

The door and rear bumper reinforcement beams are made from 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.

The front bumper reinforcement beam is made of aluminum alloy.

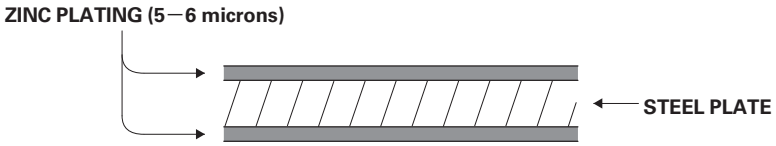
For this reason, the door and bumper reinforcement beams should NEVER be repaired; they must be replaced if they are damaged.



General Information

Zinc-Plated Steel Plate Repair

The zinc-plated steel plate used in some panels of the Acure ILX require different repair techniques than ordinary steel plate. Refer to Front Body Construction (see page 1-12), Roof and Side Panel Construction (see page 1-15), and Floor and Rear Body Construction (see page 1-18) 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.

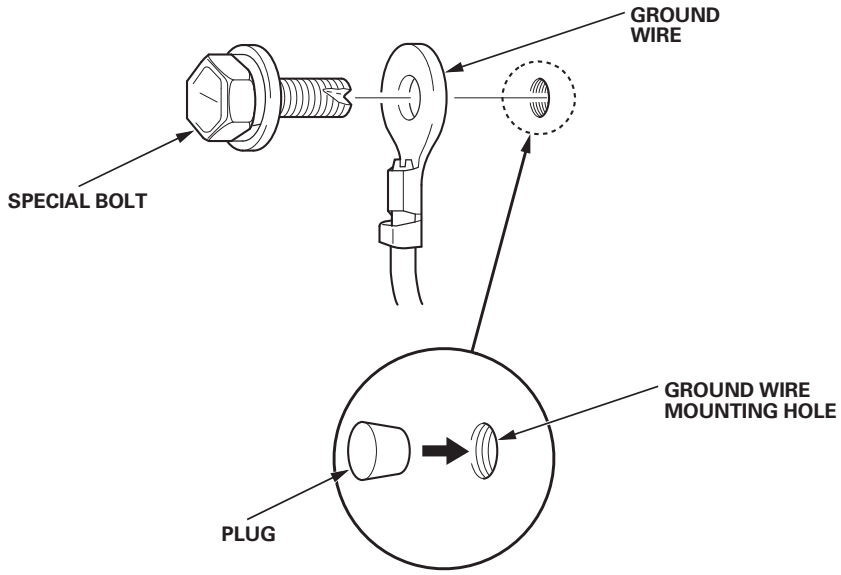
2. The electric continuity properties for zinc-plated steel plates differ from ordinary steel plates. When spot welding, increase the current by 10 to 20 percent, or increase the resistance welding time. Also increase the number of weld spots by 10 to 20 percent.

   NOTE: The MAG 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, and apply epoxy primer to promote adhesion and prevent blistering.

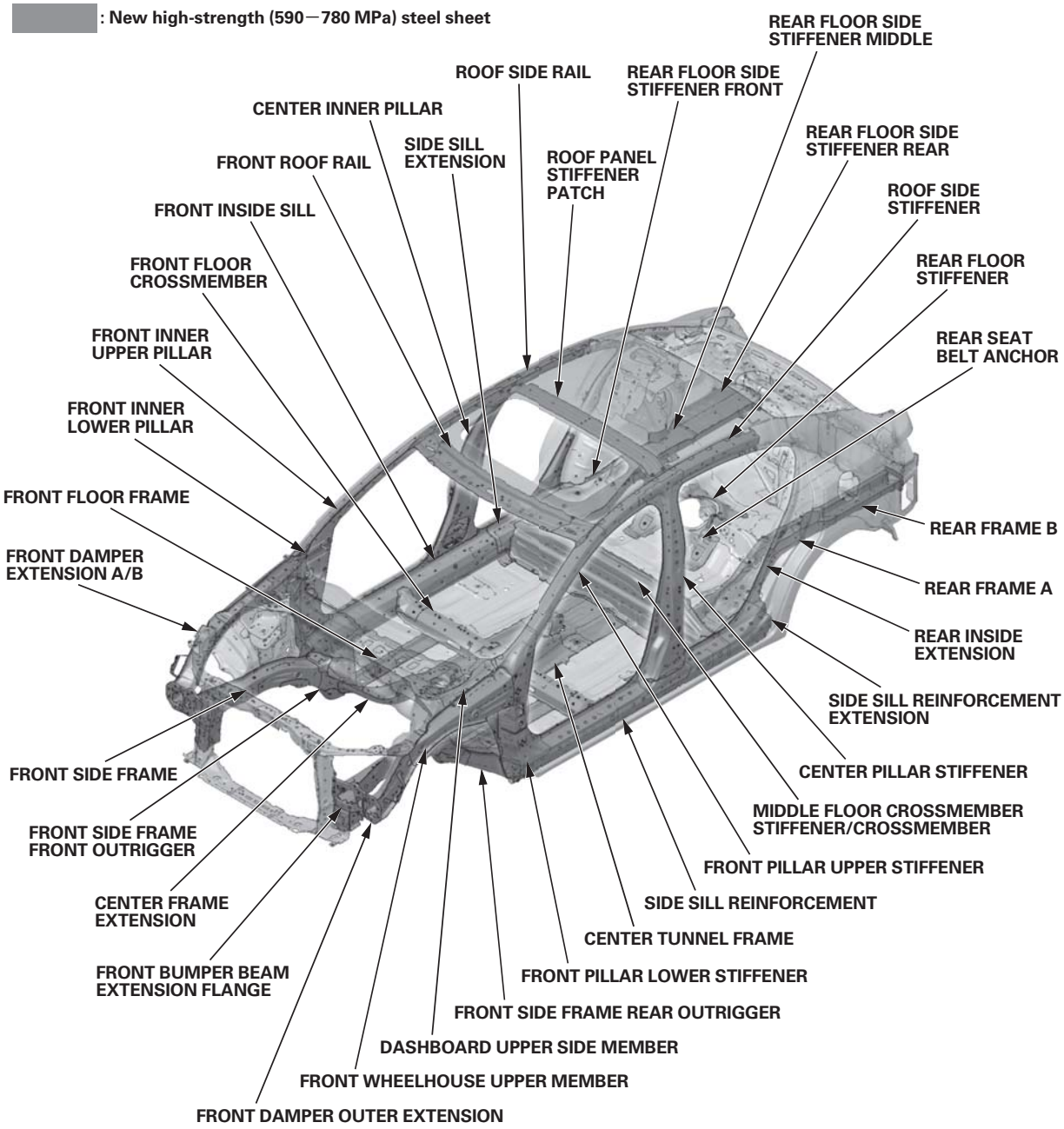
   NOTE: Use putties (one part putty, one part hardener) for zinc-plated steel plates, and follow the manufacturer's specifications.

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



High-Strength Steel Sheet Framed Areas

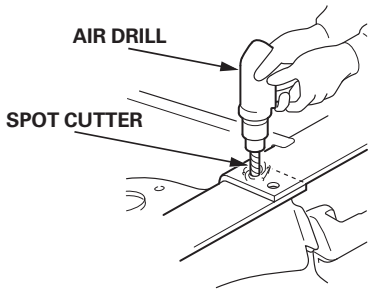
The new high-strength steel sheet has greater tensile strength than conventional high-strength steel sheet. Although it's a thinner sheet, it is as strong as the previous thicker ones. Because the manufacturing press process has improved, its usage has expanded. For this vehicle, the new high-strength 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.

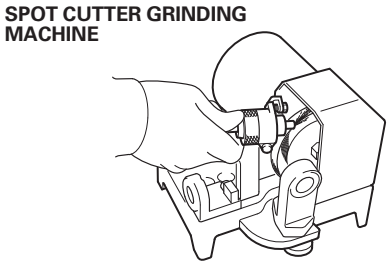


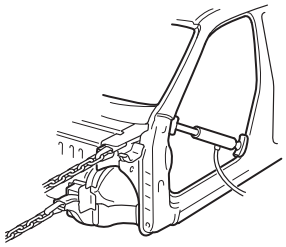
General Information

Precautions for High-Strength Steel Parts Area Repair

- The new high-strength 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-strength 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-strength 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-strength steel after the repair is complete.
- High-strength 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 MAG 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-strength 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.

Main Menu

Paint Information

Paint Information

Soft Chipping Guard Primer Coat

Paint Information

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.

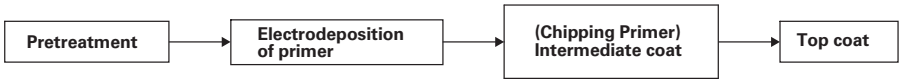
General

The 3-coat·3-bake (3C·3B) paint finish gives the Acura ILX a deep gloss and 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).

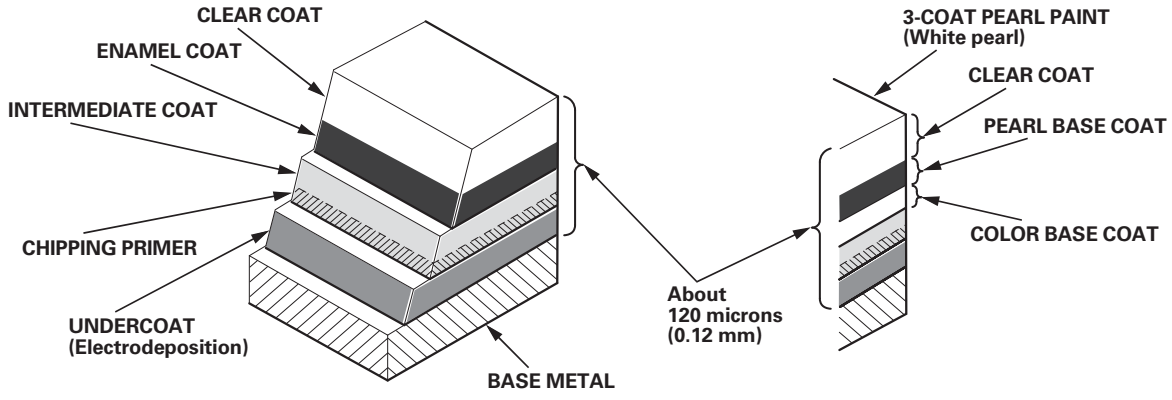
Intermediate coat

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.

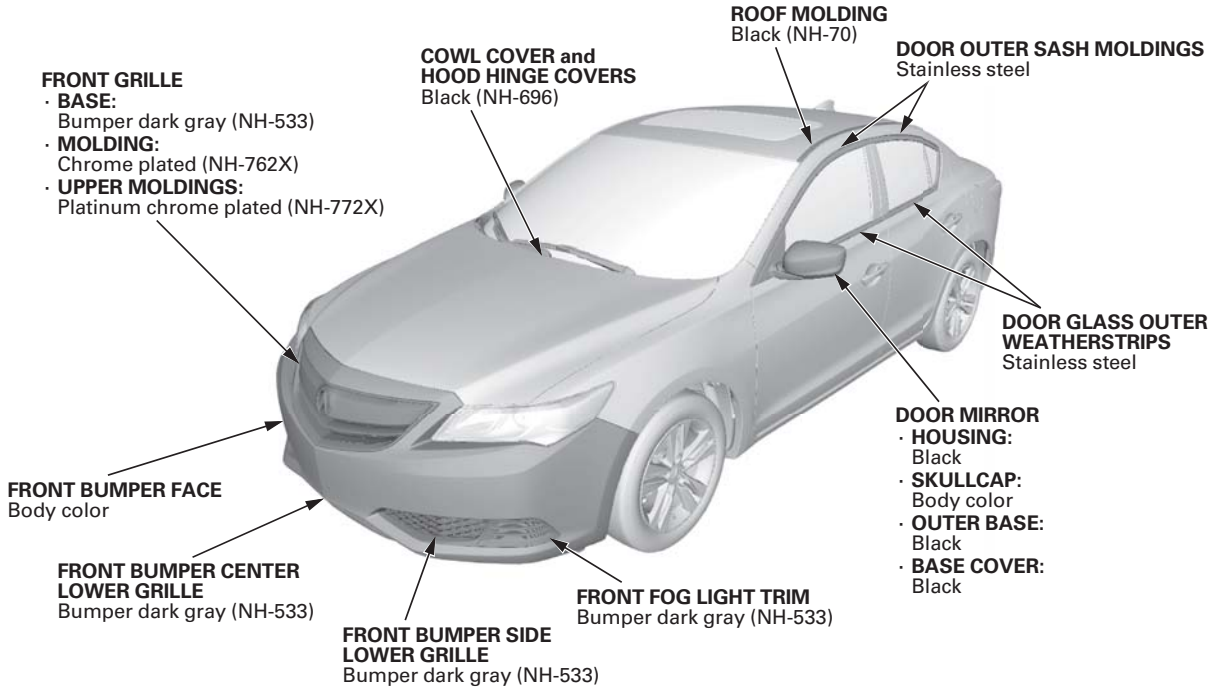
Sectional view of paint coats

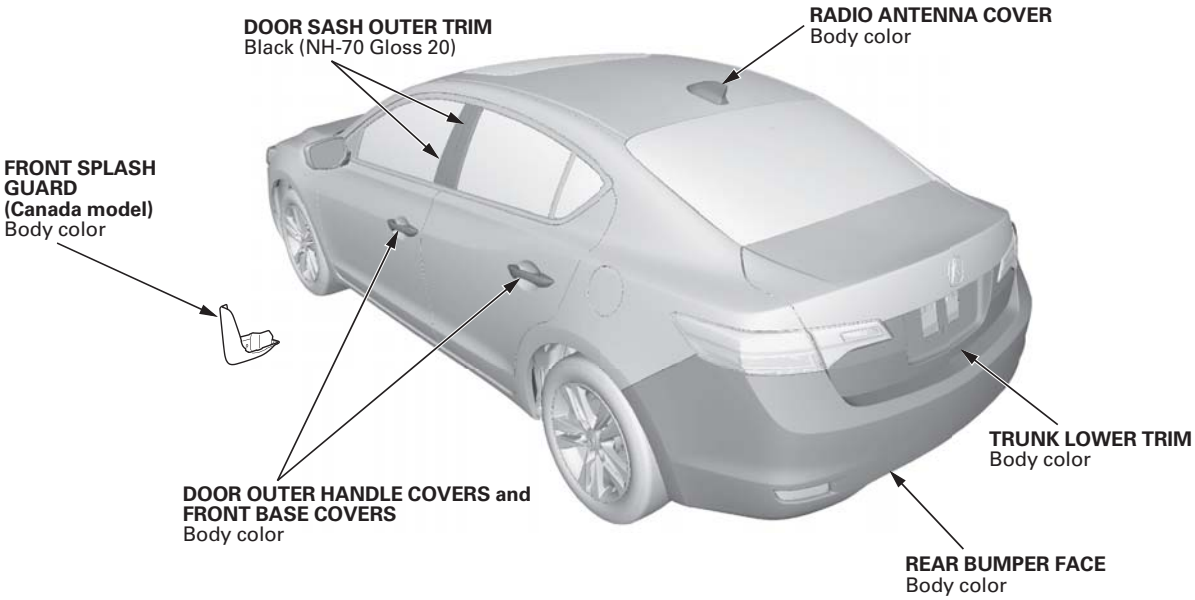


Paint Information

Color Chart Paint Specifications

NOTE:
- For model year paint code information, refer to the appropriate service manual.
- Apply black paint to the visible surfaces of the front wheelhouse, the rear wheelhouse, and the rear jack-up bracket 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)

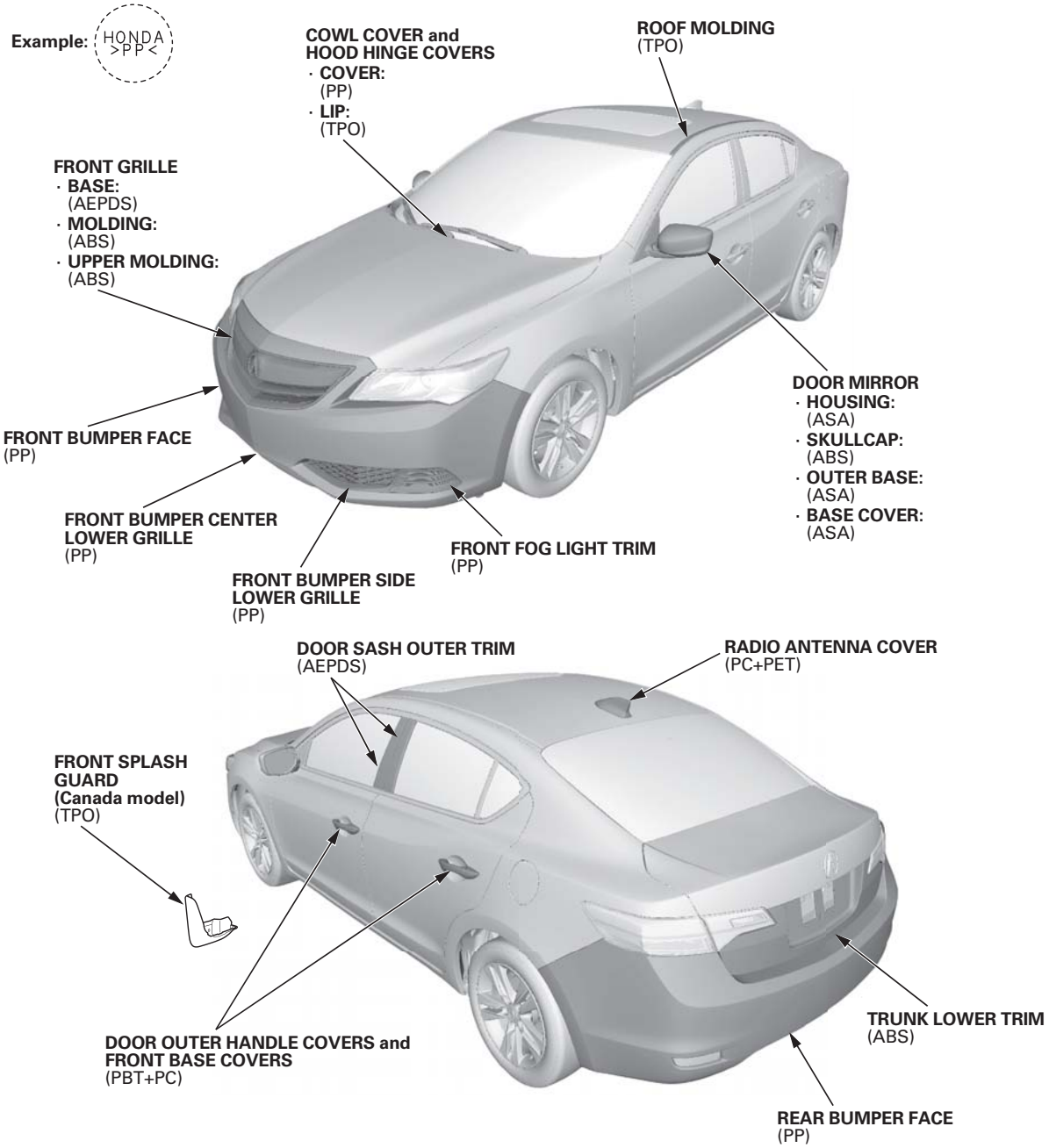
Paint Information

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 area (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.

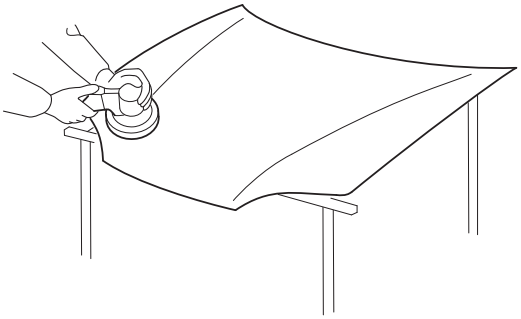
Coating Procedures

⚠WARNING

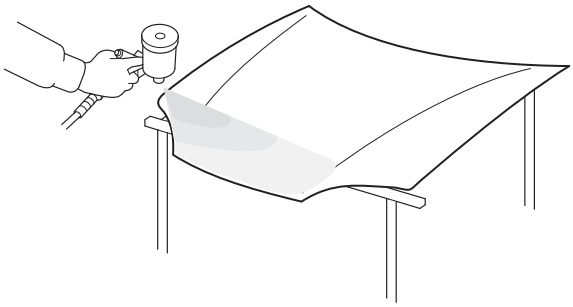
- Wear goggles or safety glasses to prevent eye injury.
- Ventilate when spraying undercoat.

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.



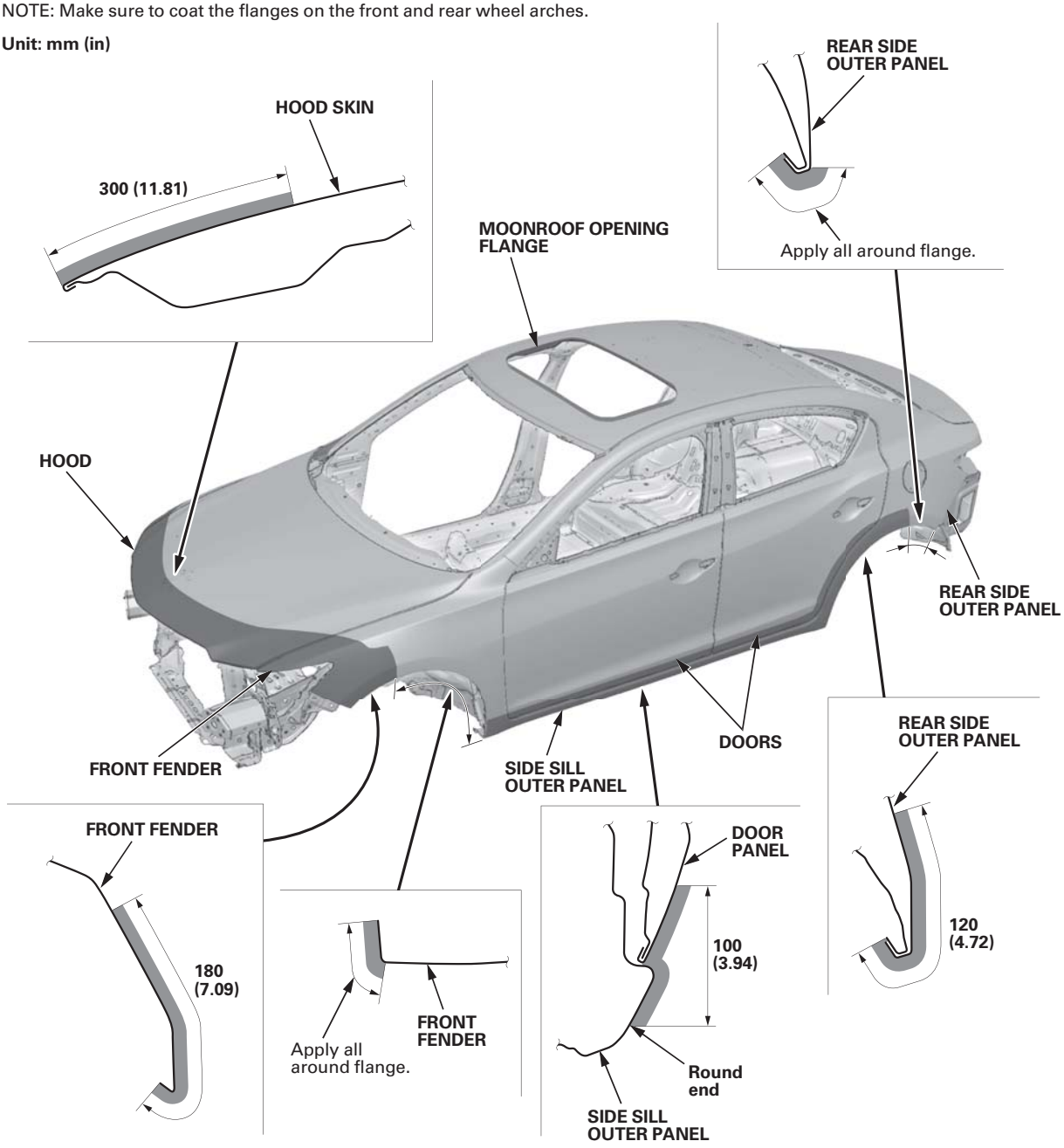
5. Drying.
   After spraying primer surfacer, allow 7 to 10 minutes of drying time, then force dry it with infrared lamps or an industrial dryer.
6. Fine sanding.
   - Check that the primer surfacer has dried thoroughly, then sand the primer surfacer.
   - Use a double action sander and 400—600 grit sandpaper.
7. Intermediate coating and top coating.

Coating Areas

: Indicates chipping guard primer coating areas.

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

Unit: mm (in)



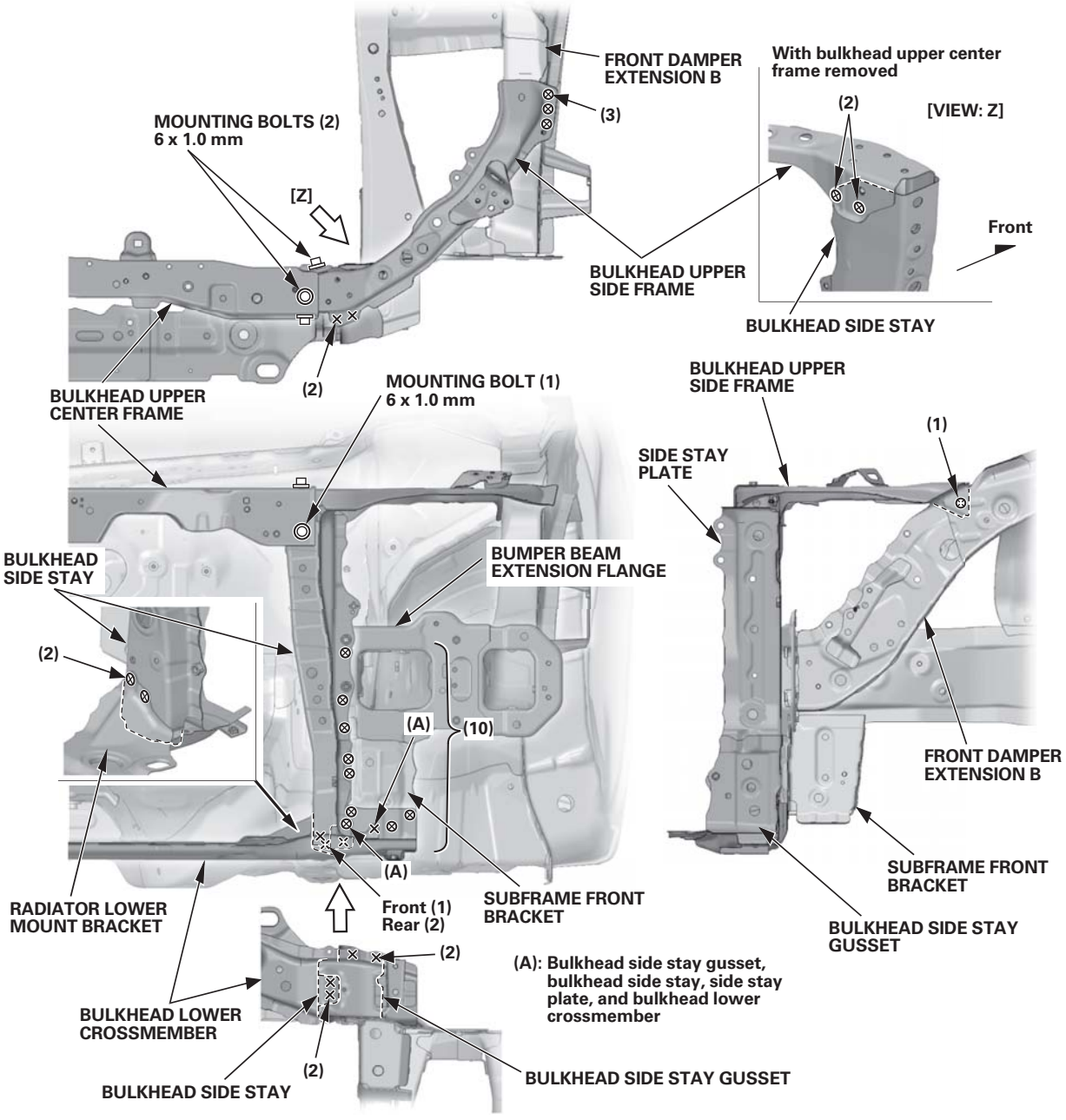
Replacement

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; ●: MAG plug welding; ⬬: MAG welding
  L=Welding length unit: mm (in)
- ( ): The number of welds

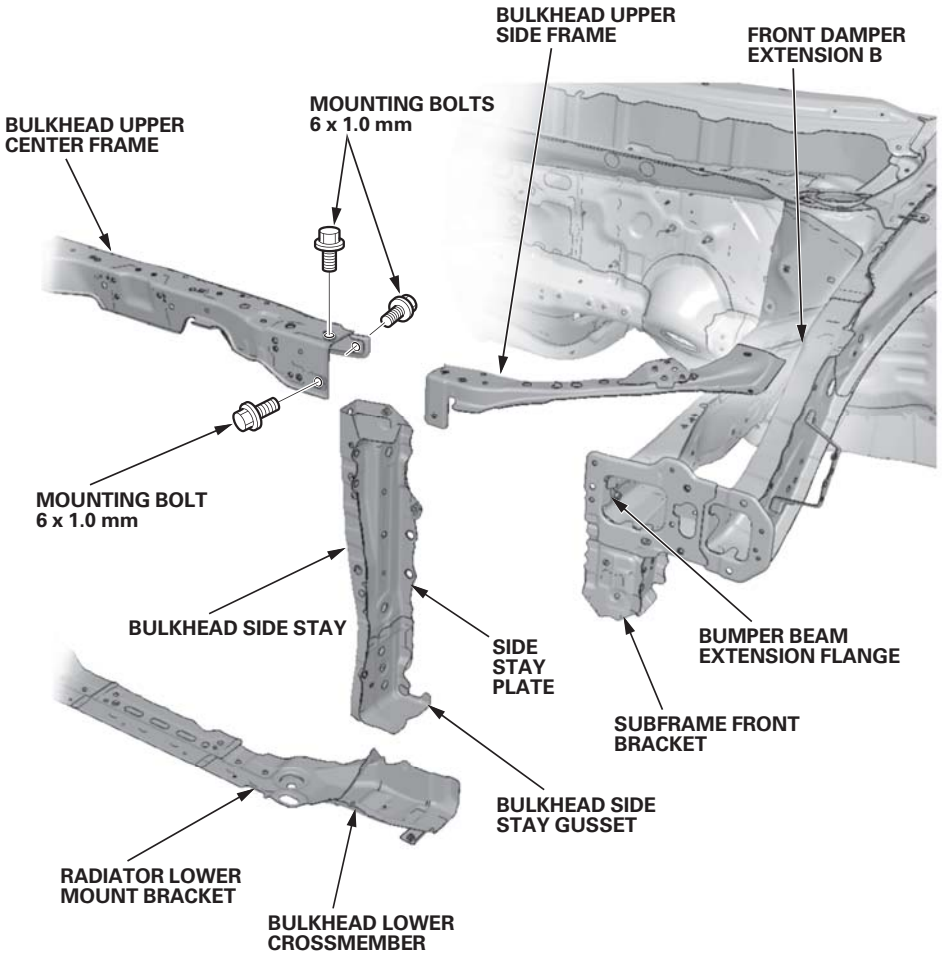


Construction

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.

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

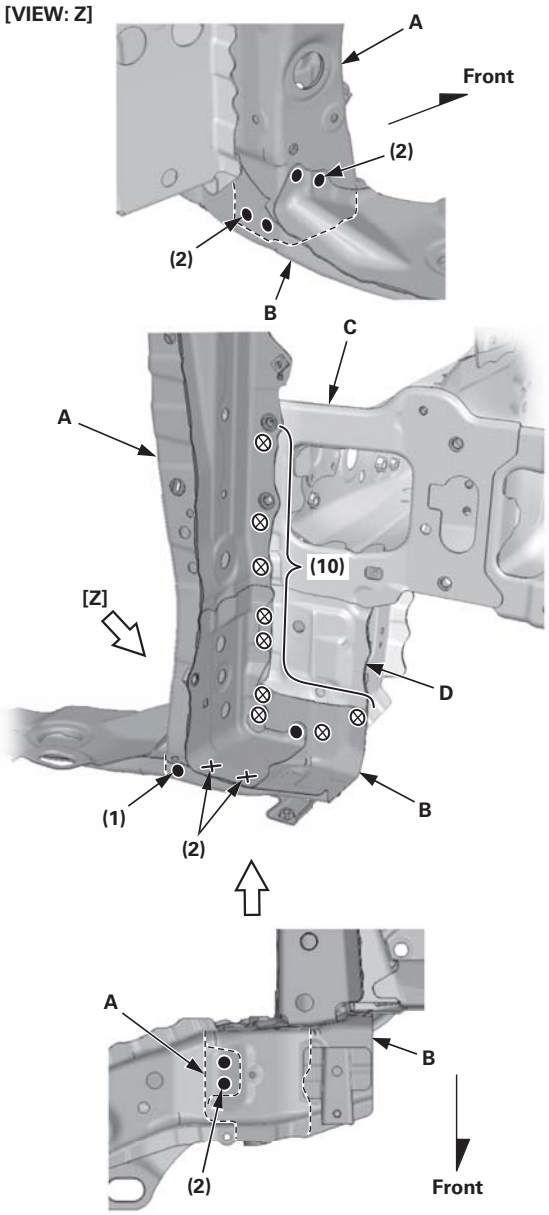


Front Bulkhead

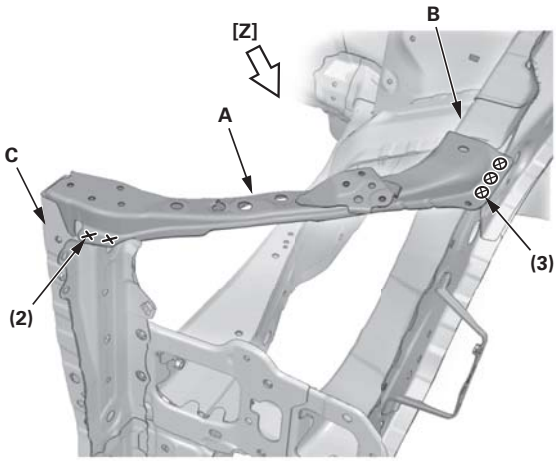
Installation

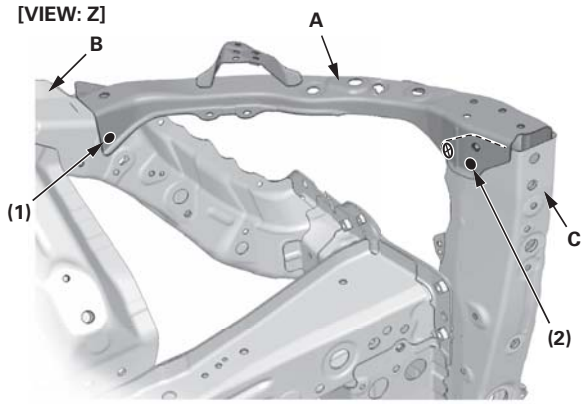
NOTE:
- Welding symbols
  ⨯: 2-Plate spot welding
  ⊗: 3-Plate spot welding
  ⊠: 4-Plate spot welding
  ●: MAG plug welding
  ⬬: MAG welding
  L=Welding length unit: mm (in)
- ( ): The number of welds

1. Clamp the new bulkhead side stay set, the bulkhead lower crossmember, and the bulkhead upper side frame, and install the bulkhead upper center frame. Measure the front compartment diagonally.
2. Check the body dimensions.
   - Front bulkhead position (see page 4-3)
   - Engine compartment (see page 4-4)
   - Front damper extension position (see page 4-7)
   - Engine compartment and front floor, under view (see page 4-14)
   - Repair chart, top view (see page 4-18)
   - Repair chart, side view (see page 4-20)
3. Tack weld the new parts into position.
4. Temporarily install the front fender, the hood, and the door(s), then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). 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 set (A) and the bulkhead lower crossmember (B) to the bumper beam extension flange (C) and the subframe front bracket (D).
   - Weld the bulkhead side stay set and the bulkhead lower crossmember.

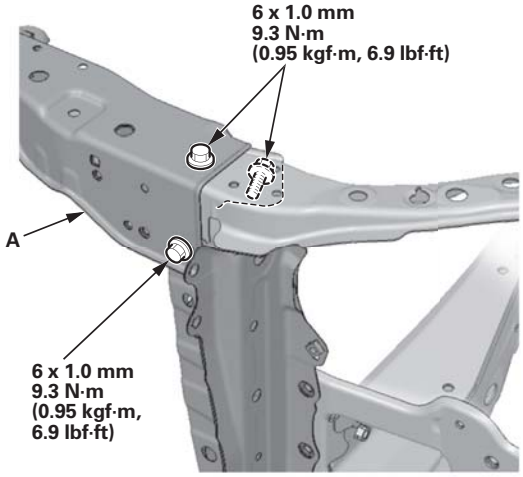


6. Weld the bulkhead upper side frame (A) to the bulkhead side stay (C) and front damper extension B.





7. Attach the bulkhead upper center frame (A) with the mounting bolts.

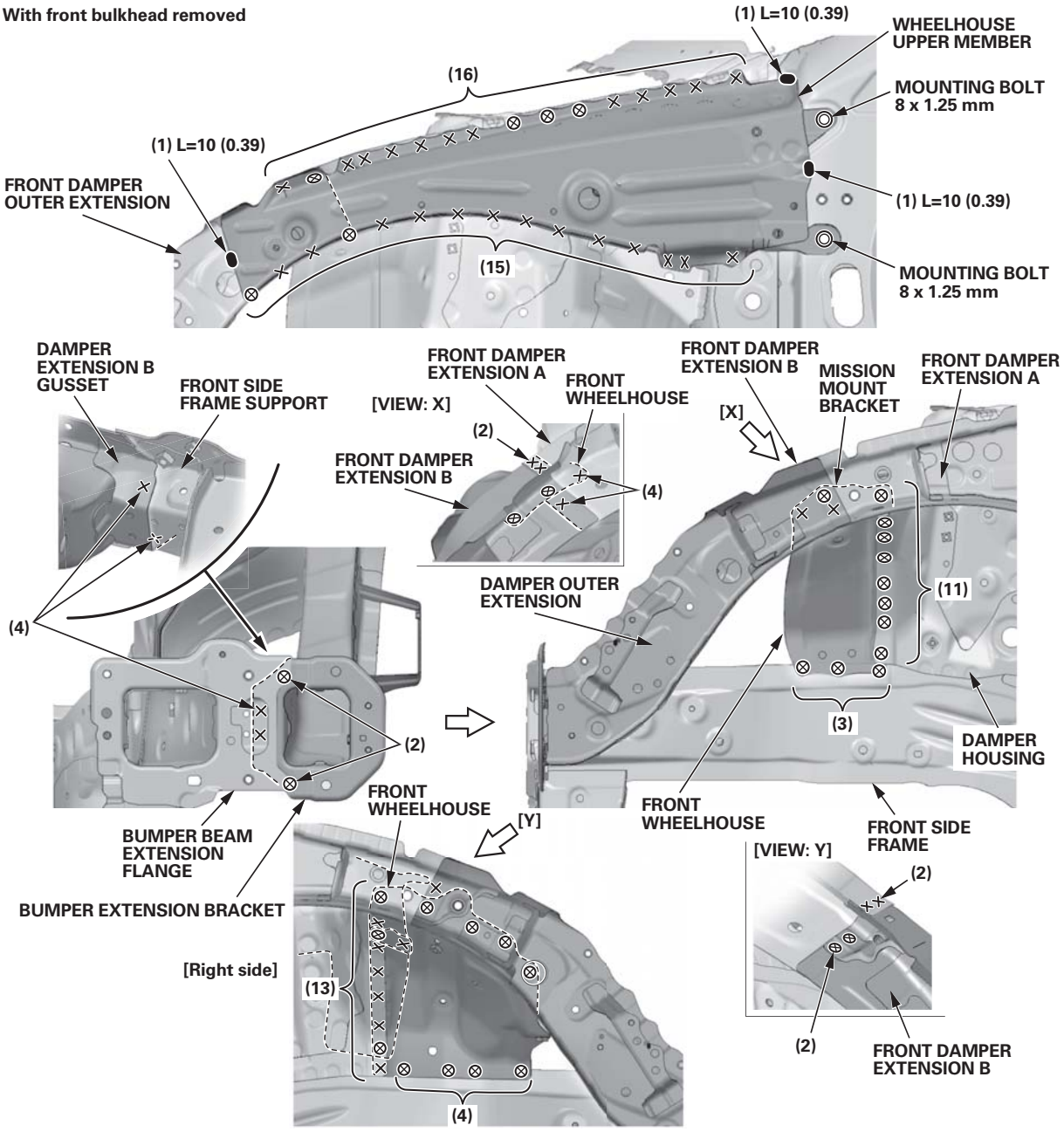


Front Wheelhouse/Damper Housing

Removal

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

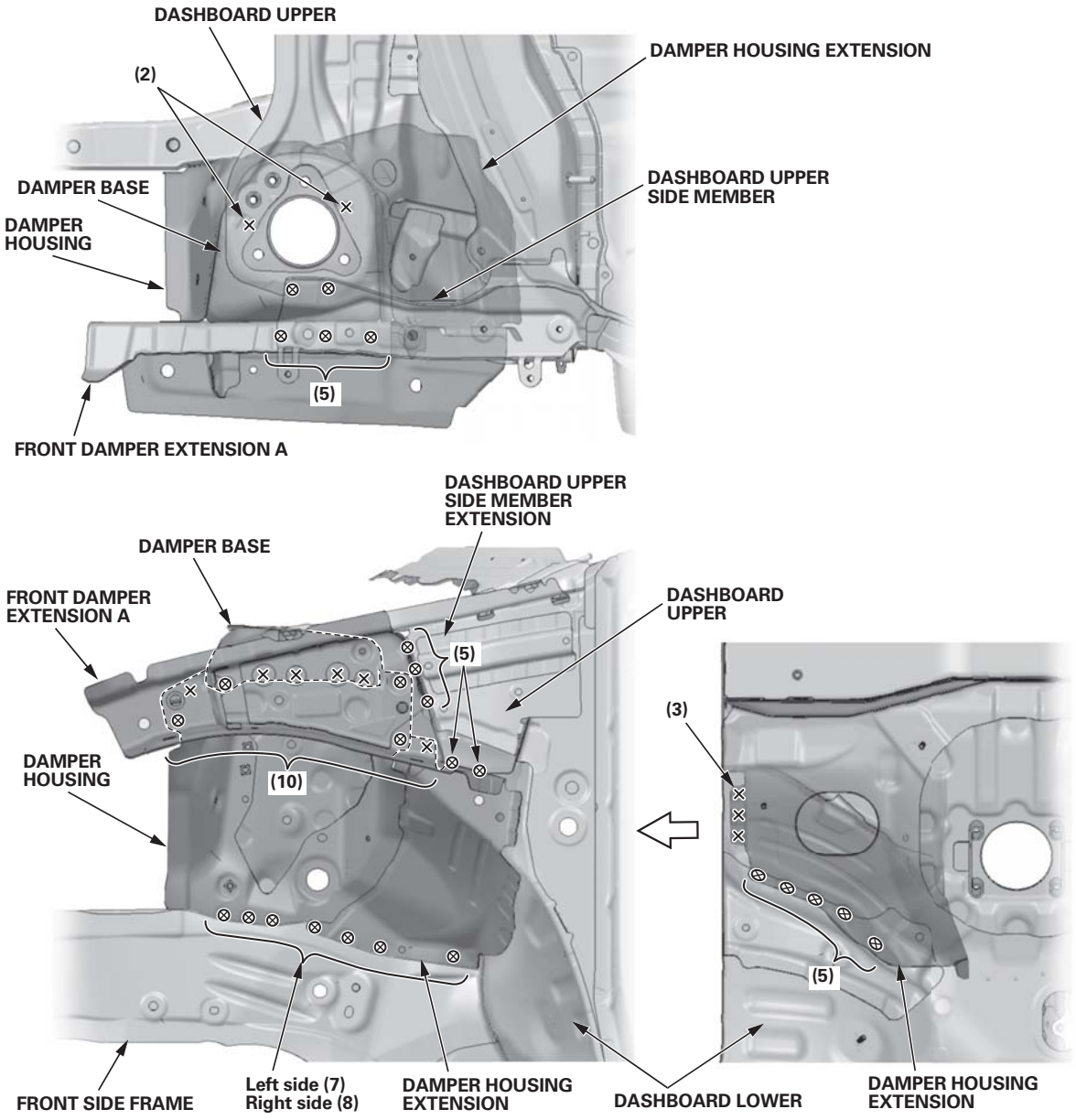
NOTE:
- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MAG plug welding; ⬬: MAG welding
  L=Welding length unit: mm (in)
- ( ): The number of welds



Mass production body welding positions and numbers (Front damper extension A and damper housing)

NOTE:

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



(cont'd)

Front Wheelhouse/Damper Housing

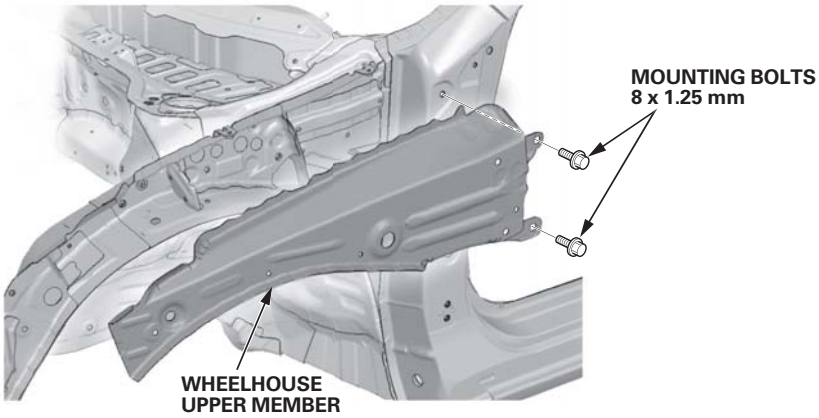
Removal (cont'd)

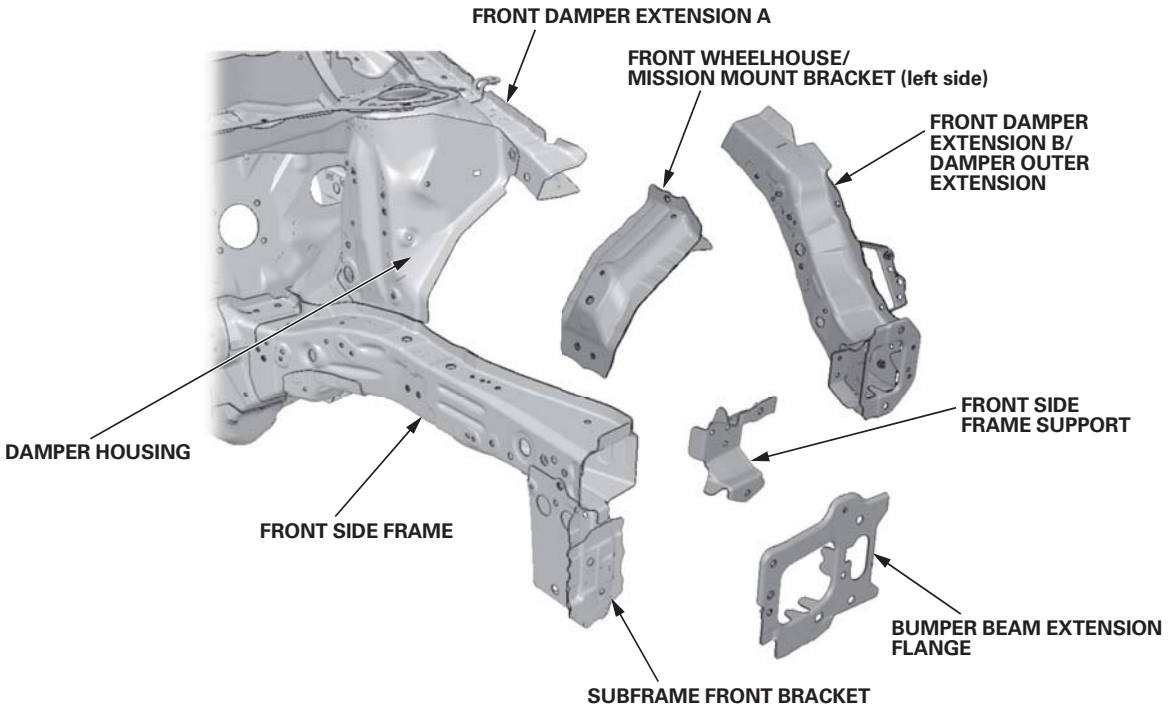
Construction (Wheelhouse upper member and bulkhead side member)

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.

- Remove the wheelhouse upper member, and replace the front damper extension B/damper outer extension.
- Check the front wheelhouse, the front side frame support, and the bumper beam extension flange for damage. If necessary, replace them.



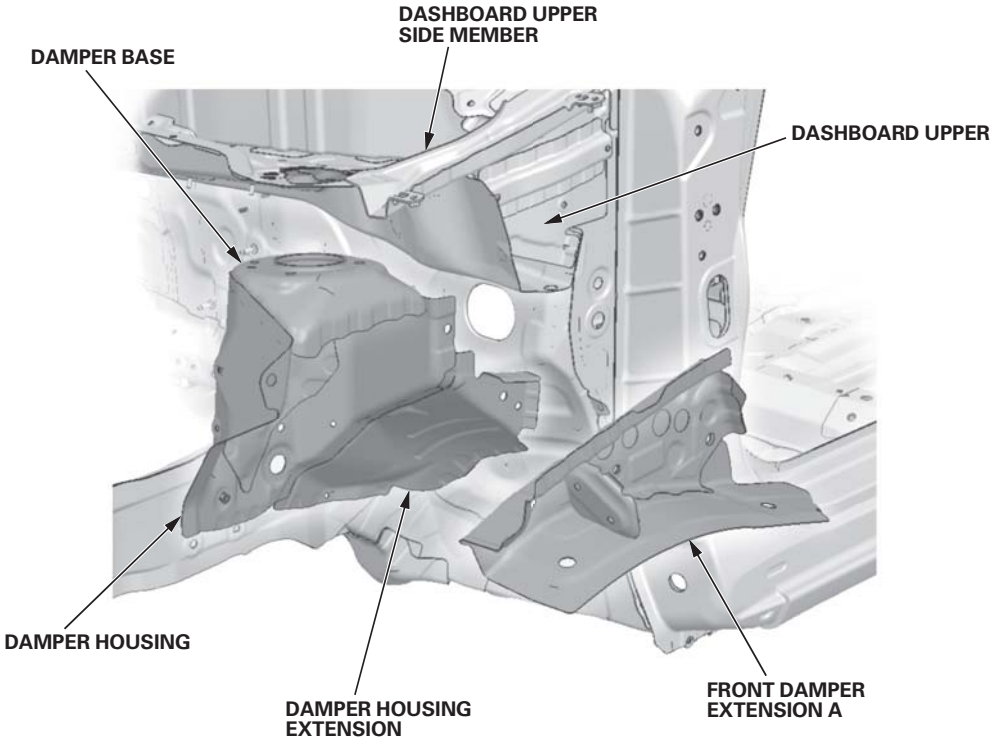


Construction (Damper housing and front damper housing extension A)

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.

- Check front damper extension A and the damper housing positions for damage.
- If necessary, replace the damper housing and the damper housing extension as an assembly.

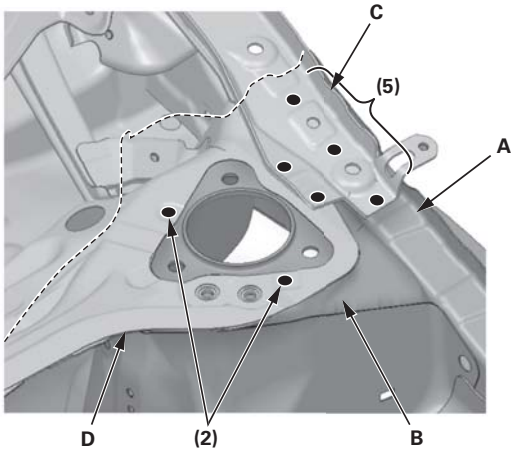


Front Wheelhouse/Damper Housing

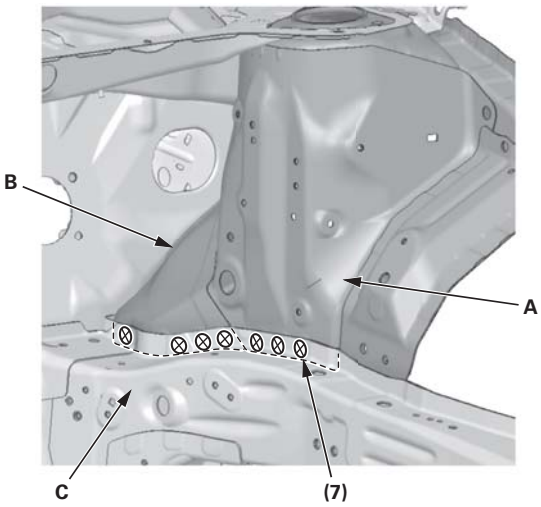
Installation

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

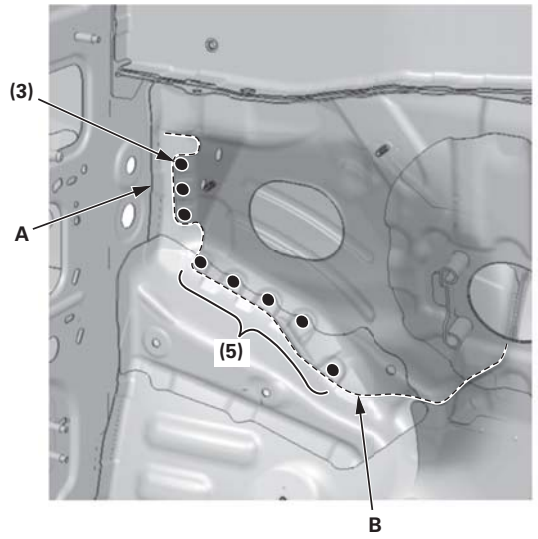
1. Clamp the new damper housing, the front wheelhouse, front damper extensions A and B, the front side frame support, the bumper beam extension flange, and the bulkhead, and measure the front compartment diagonally.
2. Check the body dimensions.
   - Front bulkhead position (see page 4-3)
   - Engine compartment (see page 4-4)
   - Engine and transmission mount positions (see page 4-6)
   - Front damper extension position (see page 4-7)
   - Engine compartment and front floor, under view (see page 4-14)
   - Repair chart, top view (see page 4-18)
   - Repair chart, side view (see page 4-20)
3. Tack weld the new parts and the front bulkhead into position.
4. Temporarily install the front subframe, and check the front suspension position.
5. Temporarily install the front fender, the hood, and the door(s), then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). If necessary, check the headlight and the front bumper positions. Make sure the body lines flow smoothly.
6. Do the main welding.
   - Weld front damper extension A and the damper base (B) to the dashboard upper side member (C).
   - Weld the damper base and the dashboard upper (D).



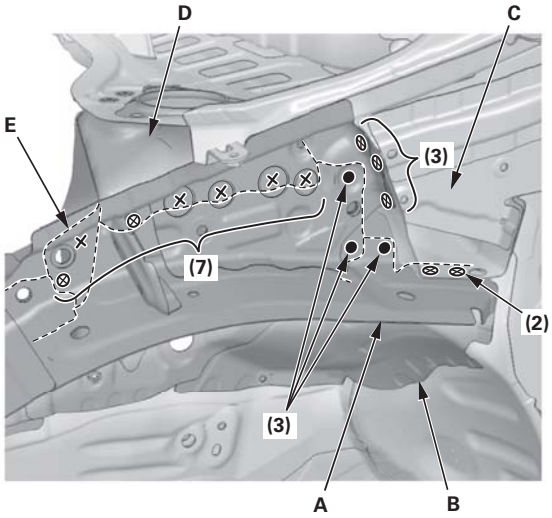
7. Weld the damper housing (A) and the damper housing extension (B) to the front side frame (C).



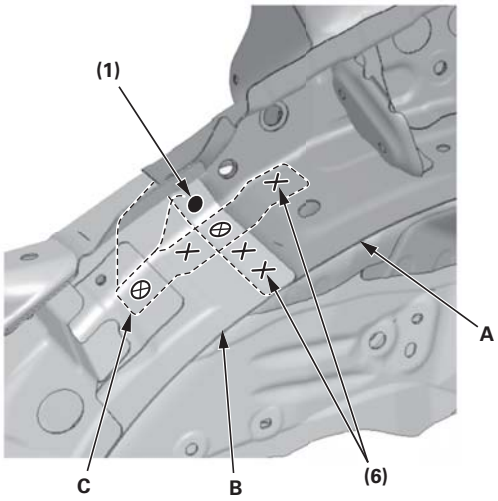
8. From the passenger's compartment, plug weld the holes in the dashboard lower (A) and the damper housing extension (B).



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

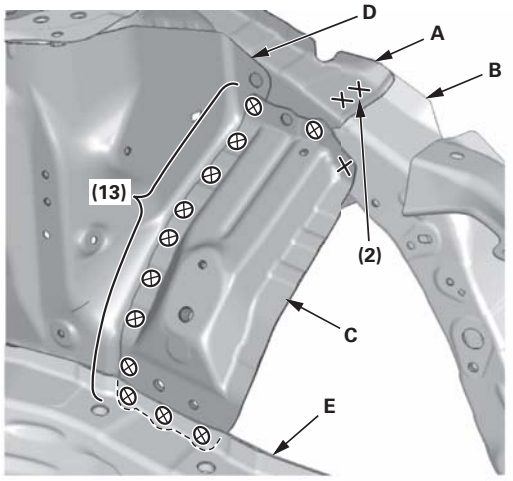


10. Weld front damper extensions A and B, and the front wheelhouse (C).



11. Weld the upper portion of front damper extensions A and B. Weld the front wheelhouse (C) to the damper housing (D) and the front side frame (E).

Left side

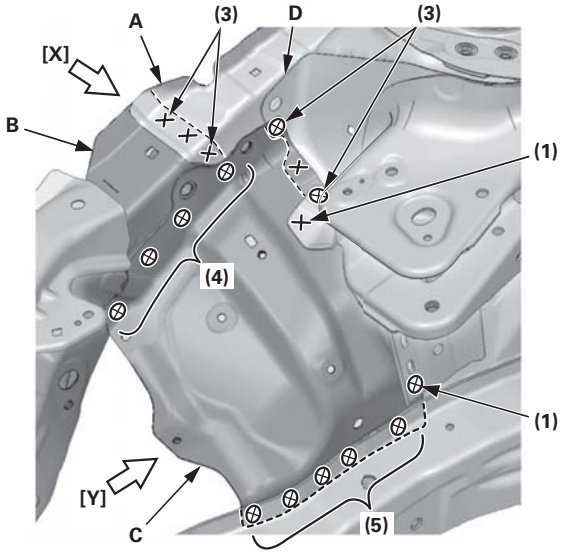


(cont'd)

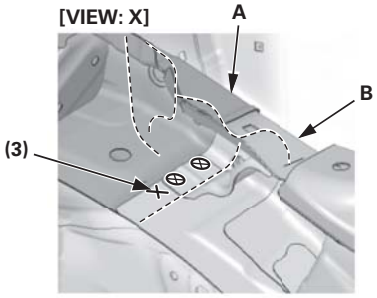
Front Wheelhouse/Damper Housing

Installation (cont'd)

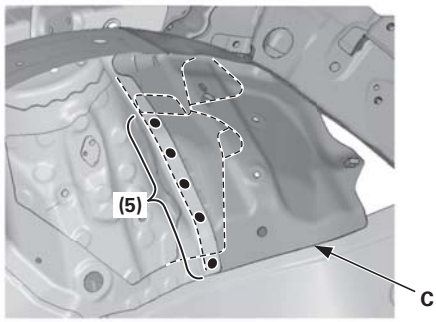
Right side



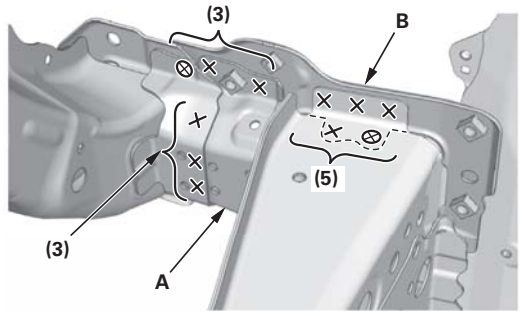
[VIEW: X]

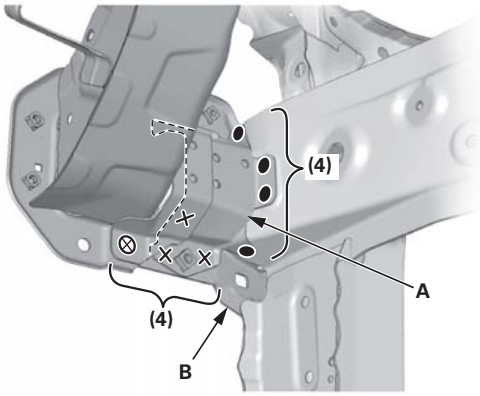


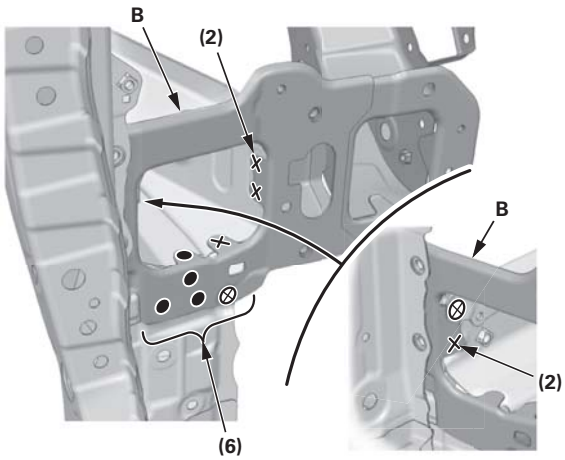
[VIEW: Y]



12. Weld the front side frame support (A) and the bumper beam extension flange (B).

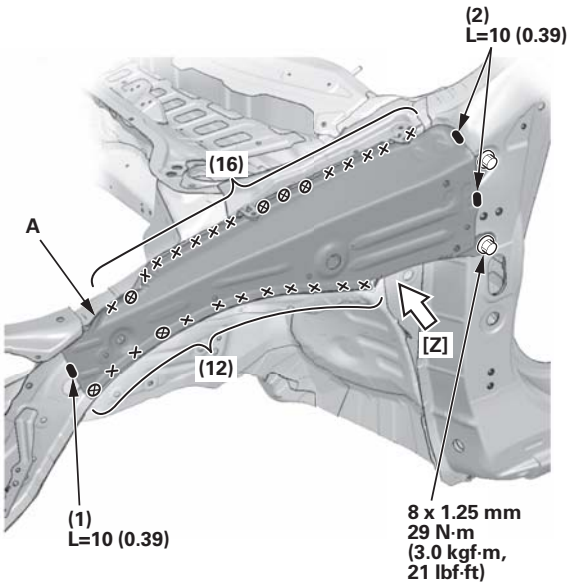




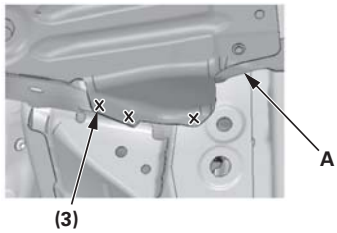


13. Weld the front bulkhead (see page 3-4).

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



[VIEW: Z]

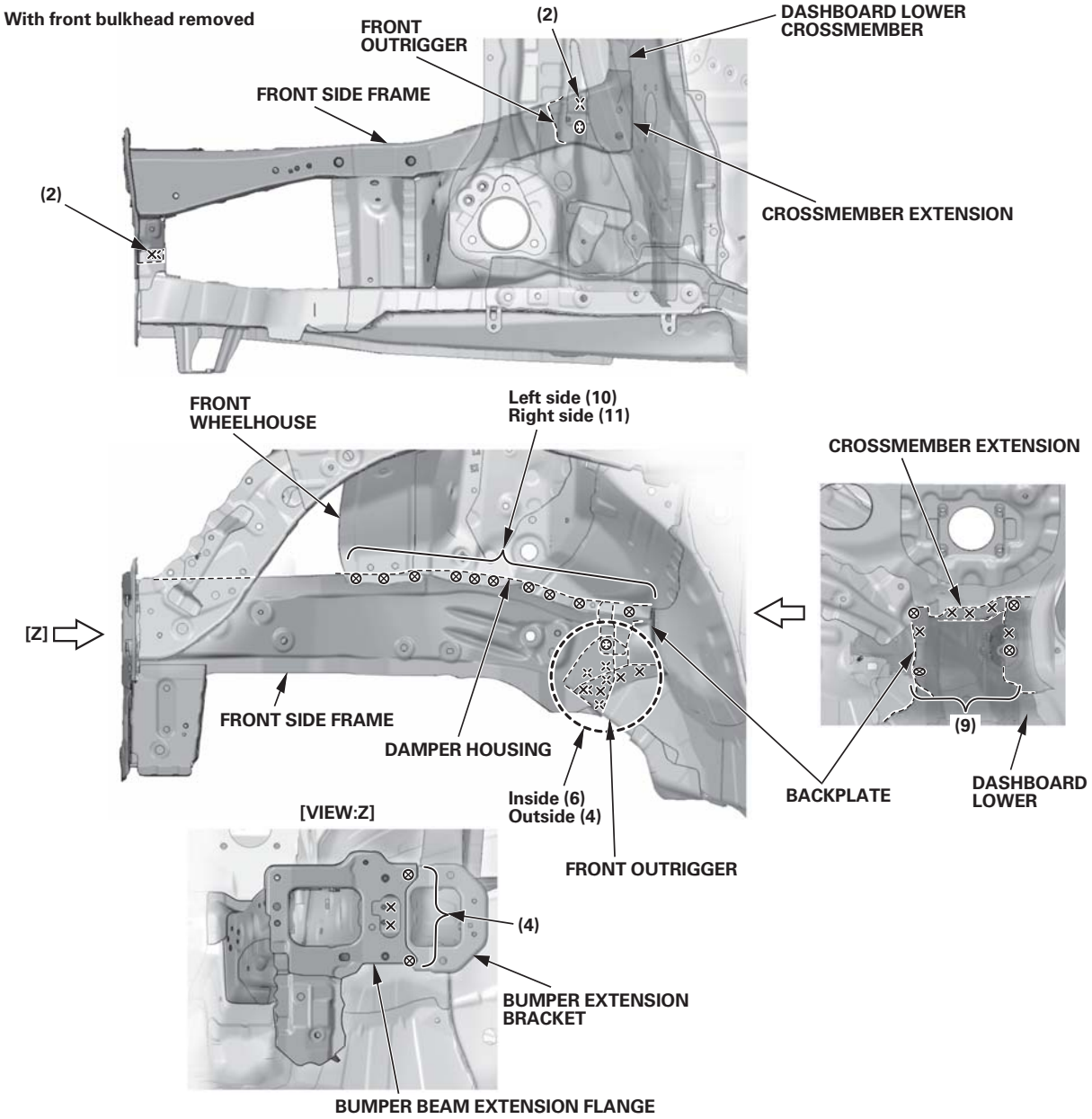


Front Side Frame/Outrigger

Removal

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

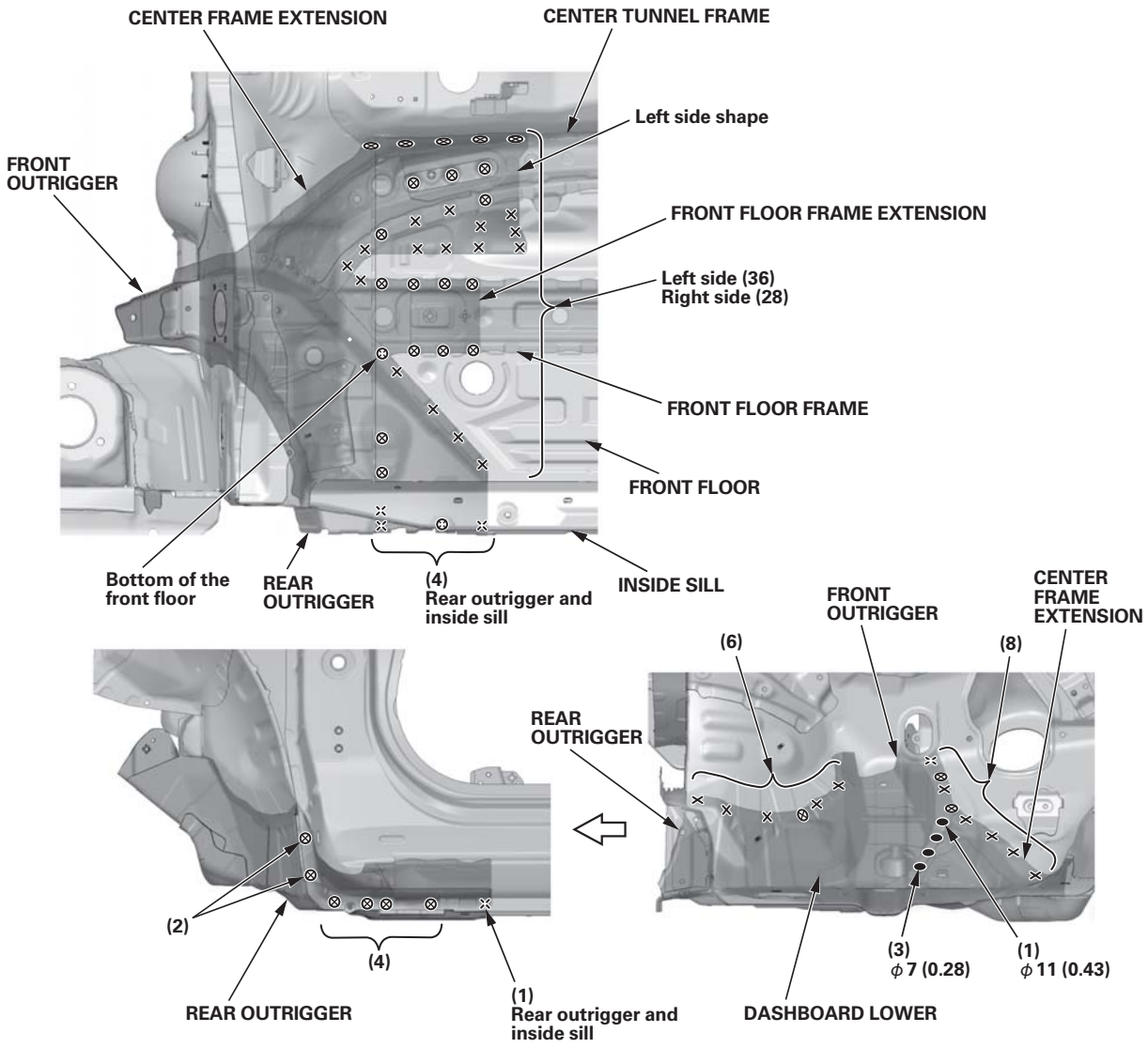
NOTE:
- Welding symbols
  ×: 2-Plate spot welding; ⊗: 3-Plate spot welding; ☒: 4-Plate spot welding; ●: MAG plug welding; ⬬: MAG welding
  L=Welding length unit: mm (in)
- ( ): The number of welds



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; ●: MAG plug welding; ⬬: MAG welding
  L=Welding length unit: mm (in)
- ( ): The number of welds



(cont'd)

Front Side Frame/Outrigger

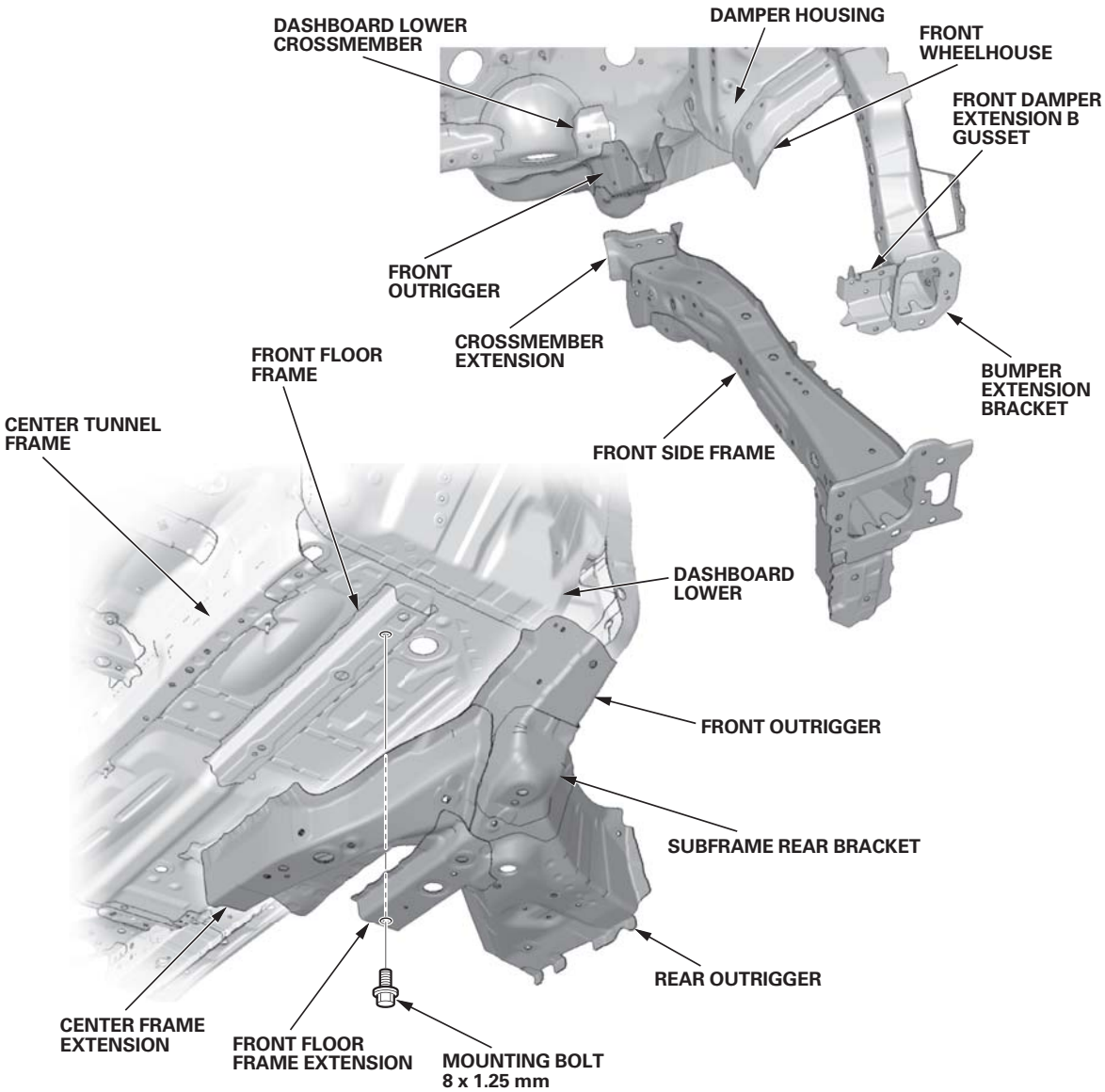
Removal (cont'd)

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.

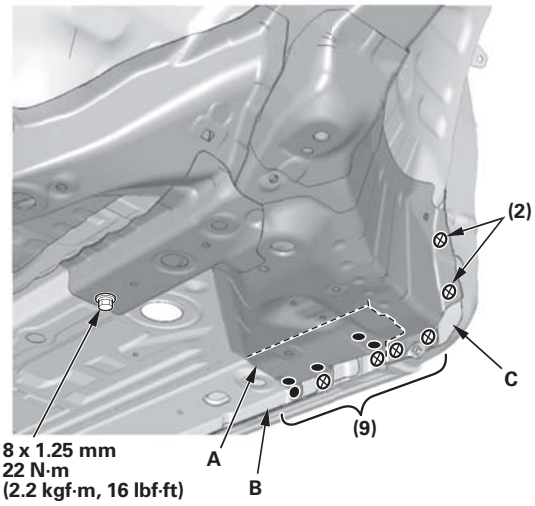
- Replace the front side frame and the crossmember extension as an assembly.
- If necessary, replace the front damper extension B gusset and the bumper extension bracket.
- Check the subframe rear bracket and the outrigger positions for damage.
- If necessary, replace the front outrigger, the rear outrigger, the front floor frame extension, and the center frame extension as an assembly.



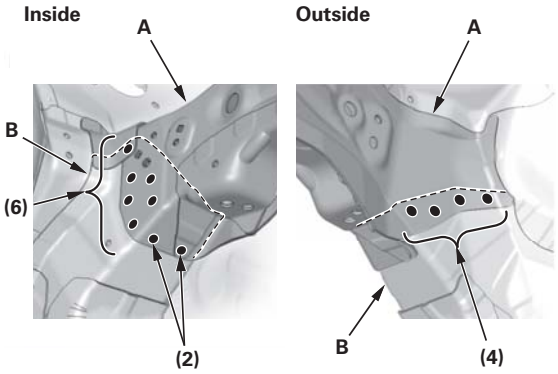
Installation

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

1. Clamp the new side frame 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 and transmission mount positions (see page 4-6)
   - Front damper extension position (see page 4-7)
   - Engine compartment and front floor, under view (see page 4-14)
   - Repair chart, top view (see page 4-18)
   - Repair chart, side view (see page 4-20)
3. Tack weld the new parts and the front bulkhead into position.
4. Temporarily install the front subframe, and check the suspension position.
5. Temporarily install the front fender, the hood, and the door(s), then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). If necessary, check the headlight and the front bumper positions. Make sure the body lines flow smoothly.
6. Do the main welding.
   Weld the rear outrigger (A) to the inside sill (B) and the outer panel complete (C).



7. When replacing the front side frame (A) only, weld the front side frame and the front outrigger (B).

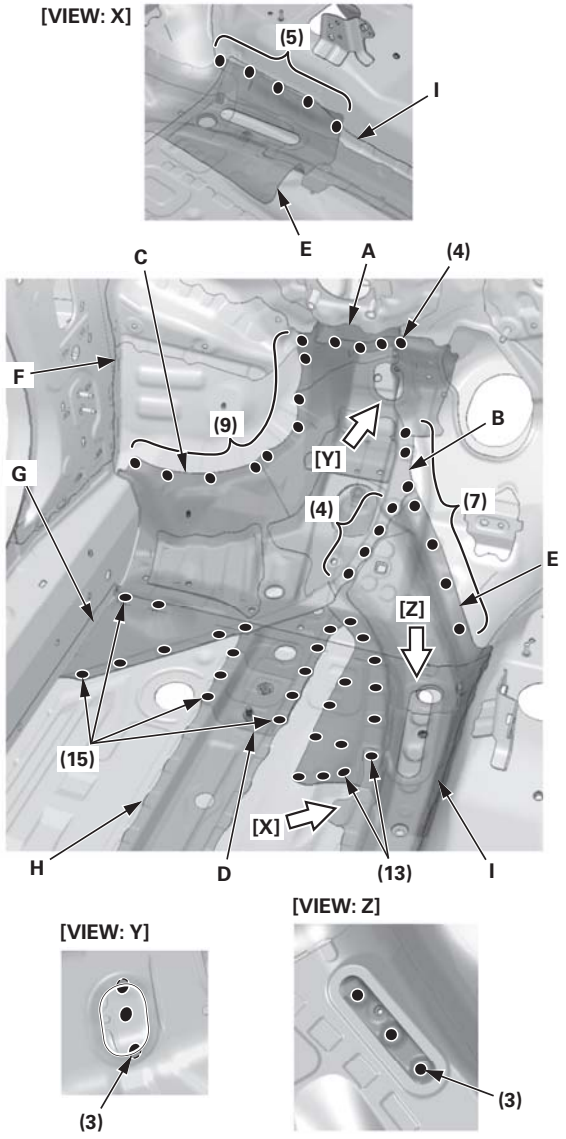


(cont'd)

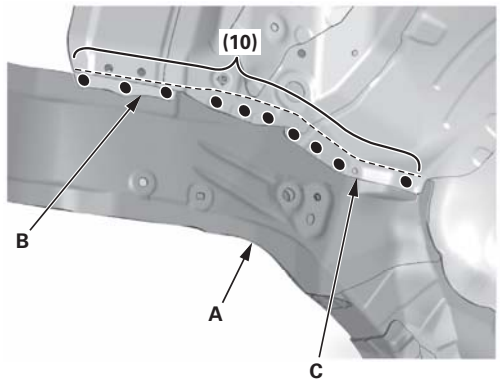
Front Side Frame/Outrigger

Installation (cont'd)

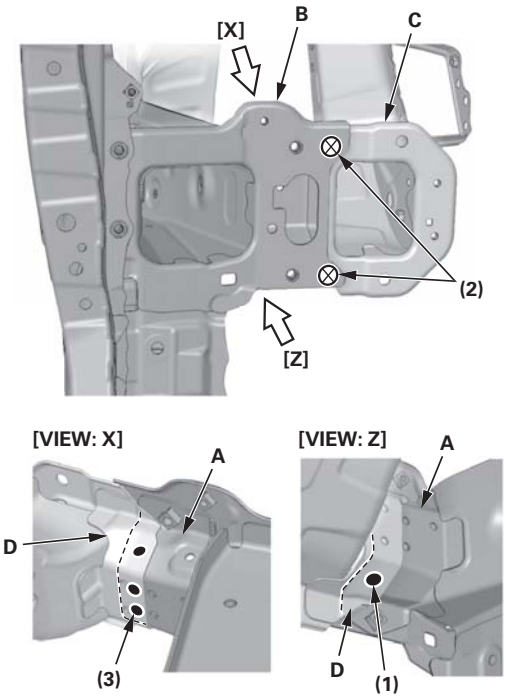
8. From the passenger's compartment, weld the front side frame (A), the front outrigger (B), the rear outrigger (C), the front floor frame extension (D), and the center frame extension (E) to the dashboard lower (F), the front floor (G), the floor frame (H), and the center tunnel frame (I).



9. Weld the front side frame (A) to the front wheelhouse (B) and the damper housing (C).



10. Weld the front side frame support (A) and the bumper beam extension flange (B) to the bumper extension bracket (C) and the damper extension B gusset (D).



11. Weld the front bulkhead (see page 3-4).

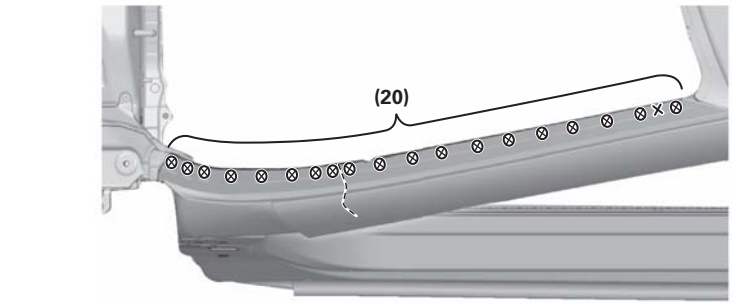
Front Pillar Outer Panel

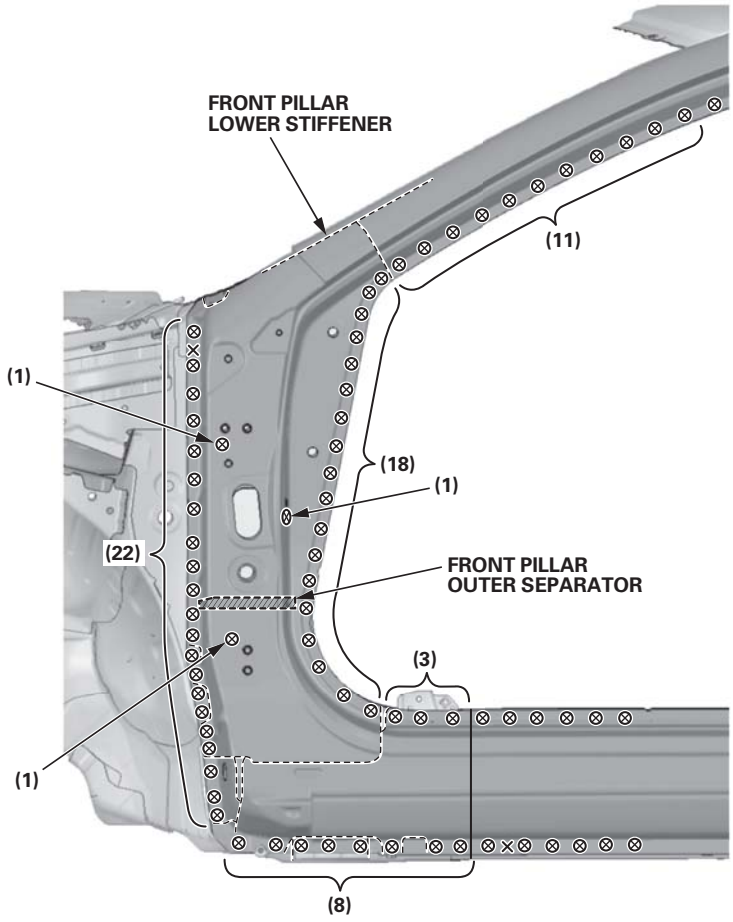
Removal

Mass production body welding positions and numbers (Outer panel)

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

With wheelhouse upper member removed





(cont'd)

Front Pillar Outer Panel

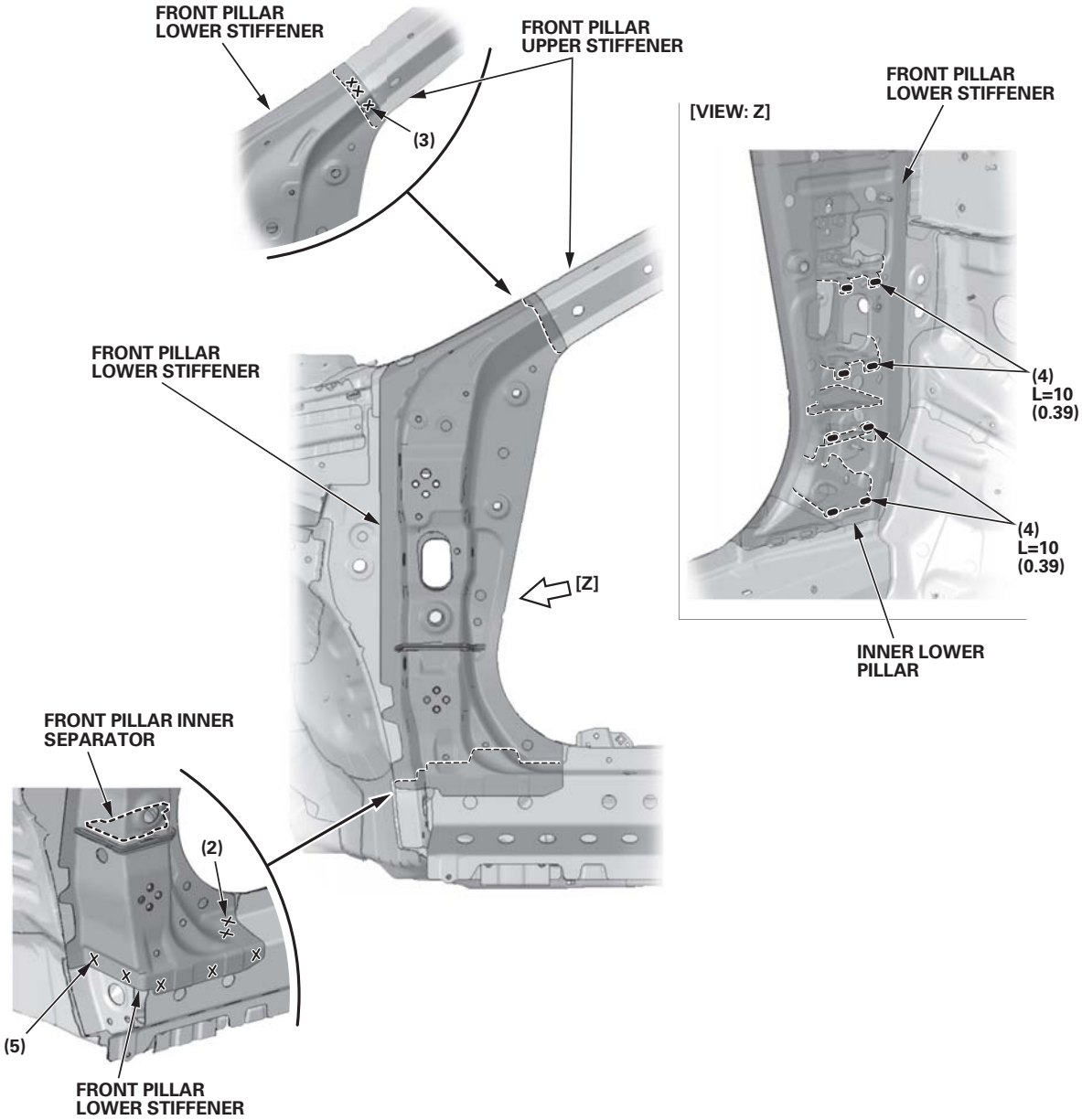
Removal (cont'd)

Mass production body welding positions and numbers (Front pillar lower stiffener)

NOTE:

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

With outer panel removed



Construction

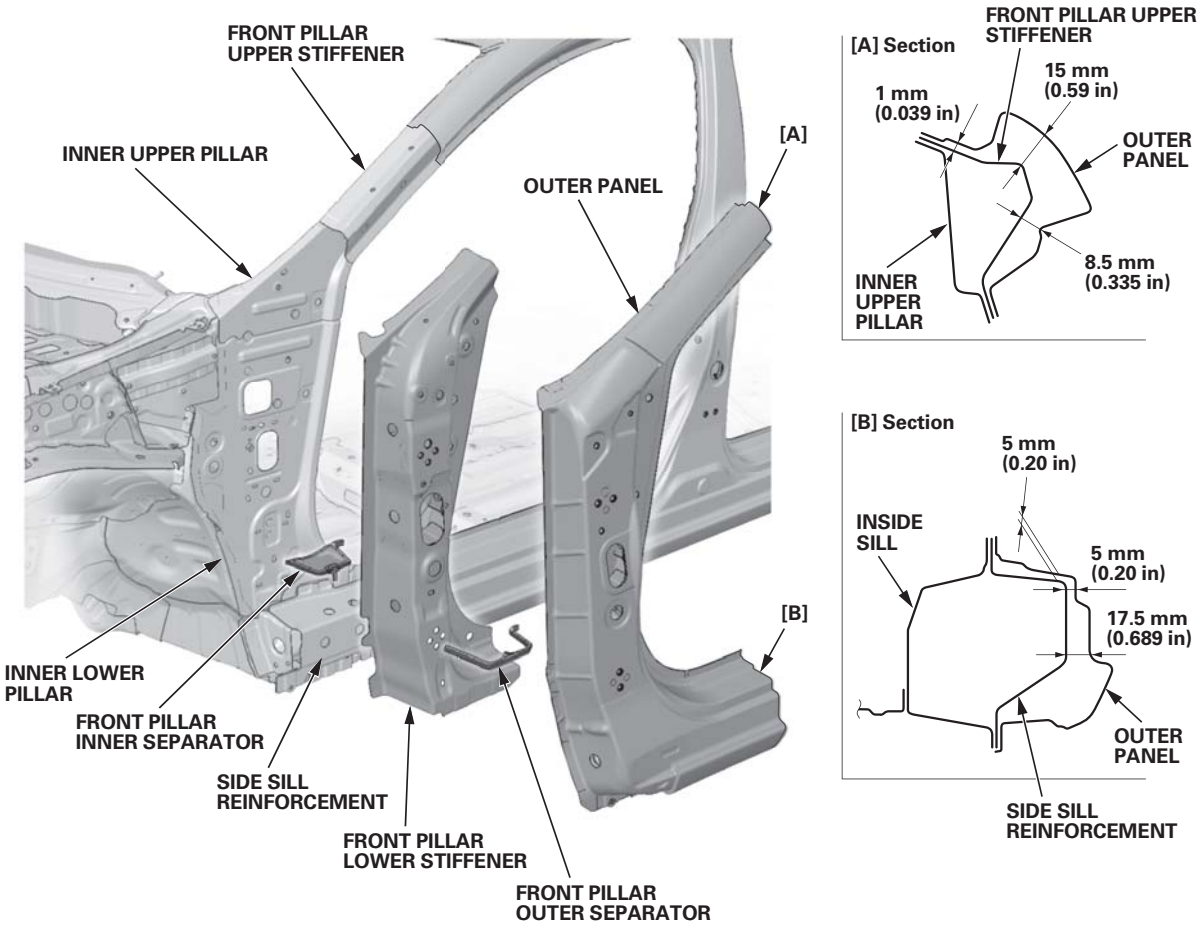
NOTE:

- 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 Acura-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 1-15).
  - When cutting the outer panel, be careful not to damage the front pillar outer separator.

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

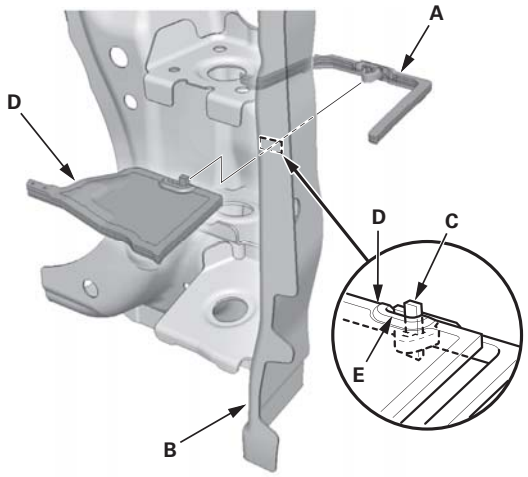


Front Pillar Outer Panel

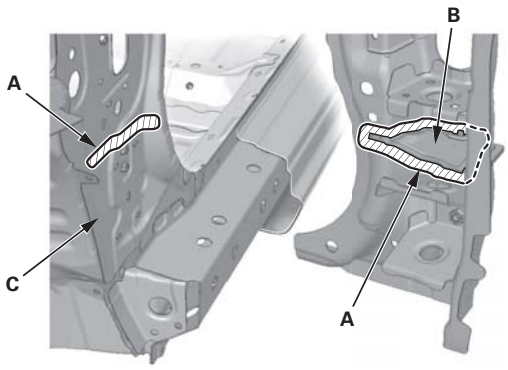
Installation

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

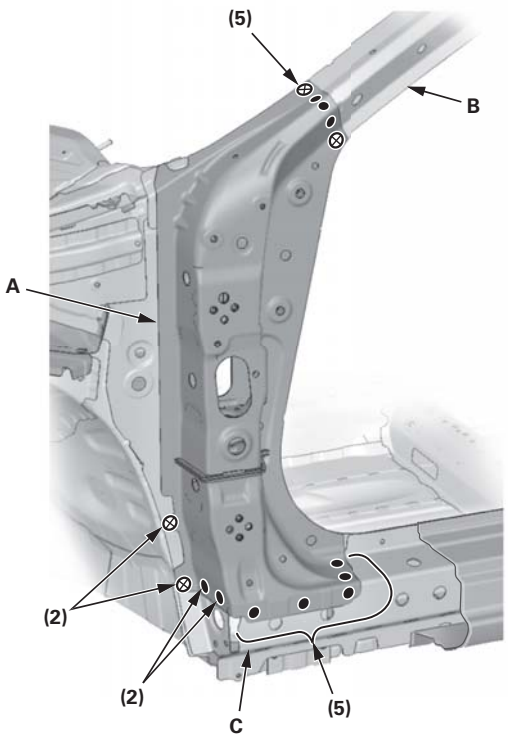
1. Remove the front pillar lower stiffener from the new side sill reinforcement complete.
2. Install the new front pillar outer separator (A) to the new front pillar lower stiffener (B). Insert the tab (C) of the inner separator (D) into the hole (E) of the outer separator.



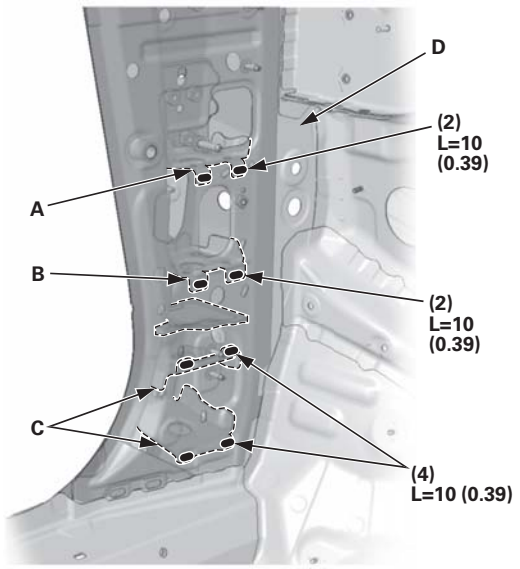
3. Apply the sealer (A) without gaps all the way around the inner separator (B) and the inner lower pillar (C).



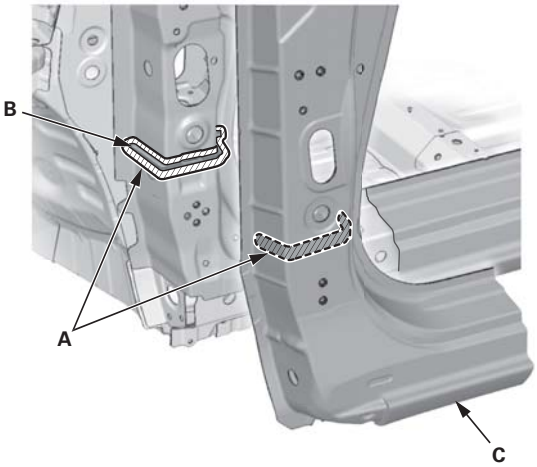
4. Set the new front pillar lower stiffener, and tack weld it into position.
5. Rough-cut the front side outer panel repair part, clamp it to the body, and check the dimensions.
   - Front damper extension position (see page 4-7)
   - Door hinge positions (see page 4-8)
   - Windshield and door openings (see page 4-10)
6. Temporarily install the windshield, the door(s), the hood, and the front fender, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). 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 areas.
8. Remove the outer panel repair part. If necessary, weld the patches at the cut sections of the body side outer panel.
9. Weld the front pillar lower stiffener (A) to the upper stiffener (B) and the side sill reinforcement (C).



10. Weld the front pillar lower bulkhead (A), lower bulkhead B, and the door hinge lower nut (C) to the front inner lower pillar (D).



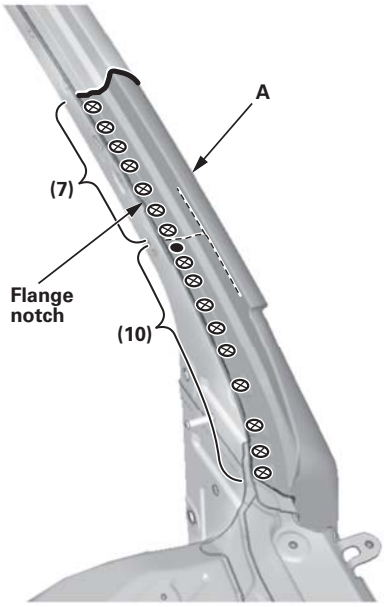
11. Apply the sealer (A) without gaps all the way around the outer separator (B) and inside the outer panel repair part (C).



12. Clamp the outer panel repair part, and recheck the clearance and alignment of the door(s), the front fender, and the windshield.

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

Windshield opening

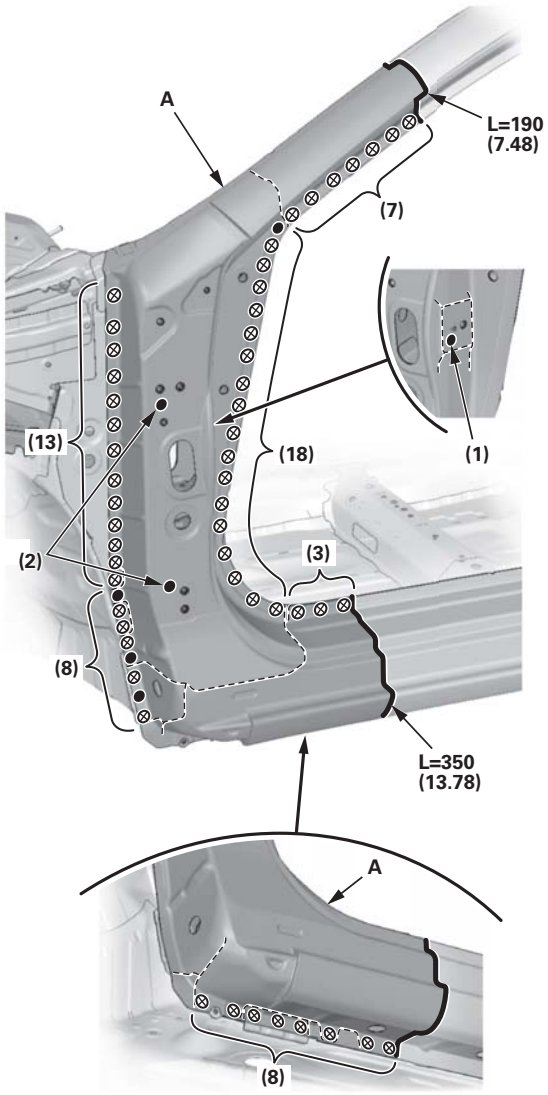


(cont'd)

Front Pillar Outer Panel

Installation (cont'd)

Door opening and side sill lower flange



14. Weld the wheelhouse upper member (see step 14 on page 3-13).

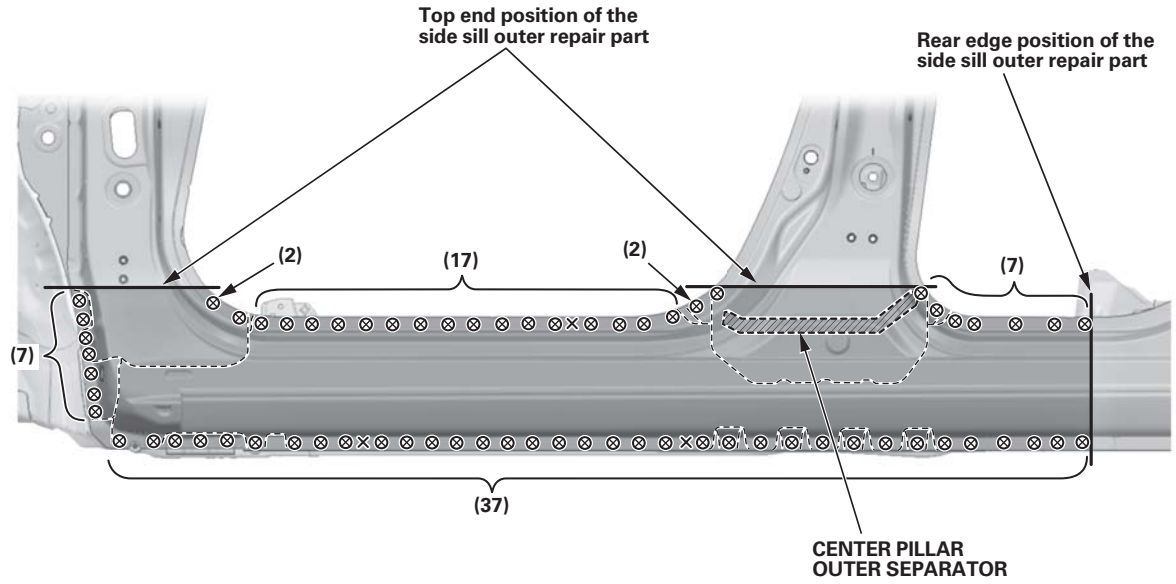
Side Sill Outer Panel

Removal

Mass production body welding positions and numbers

NOTE:

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



(cont'd)

Side Sill Outer Panel

Removal (cont'd)

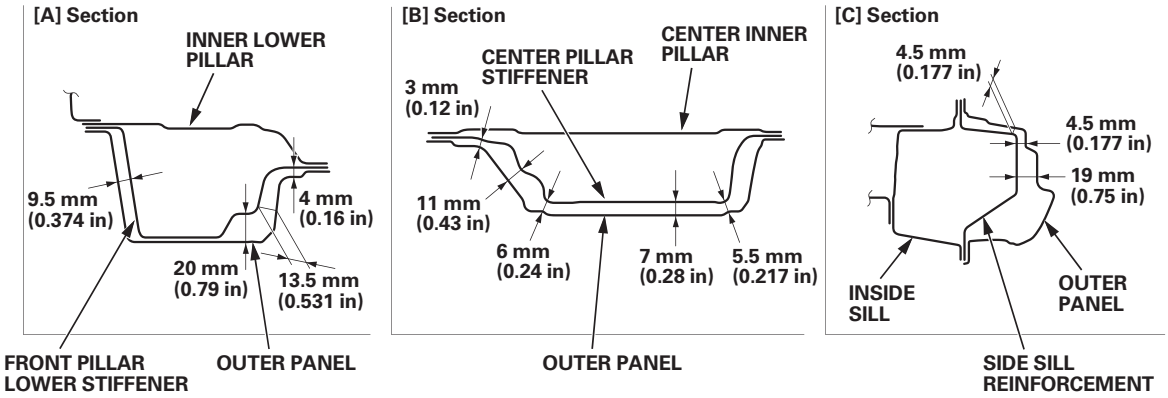
Construction

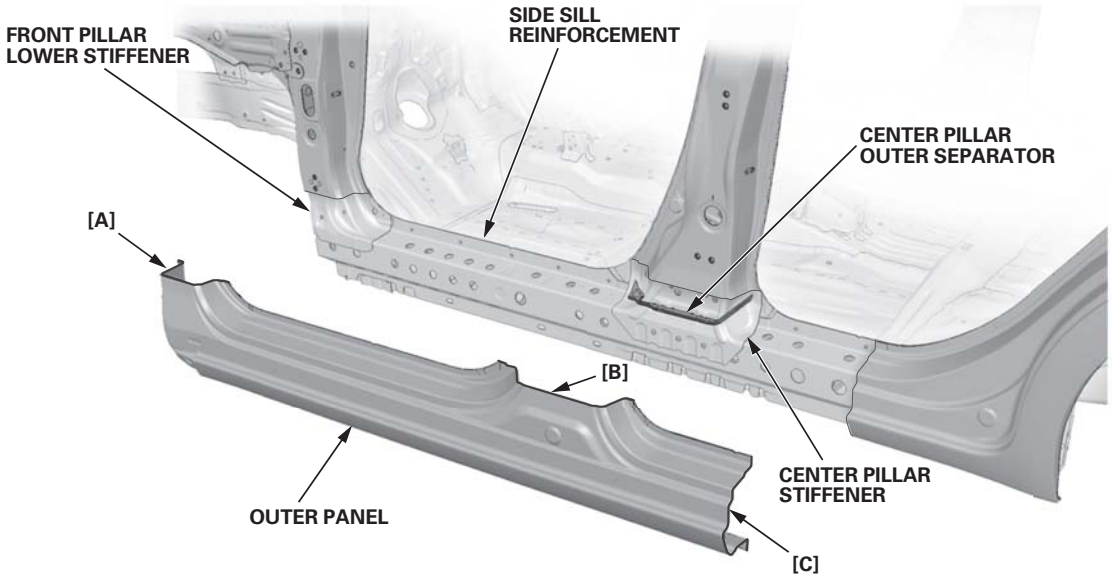
NOTE:

- 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 Acura-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 1-15).

- Replace the center pillar outer separator.

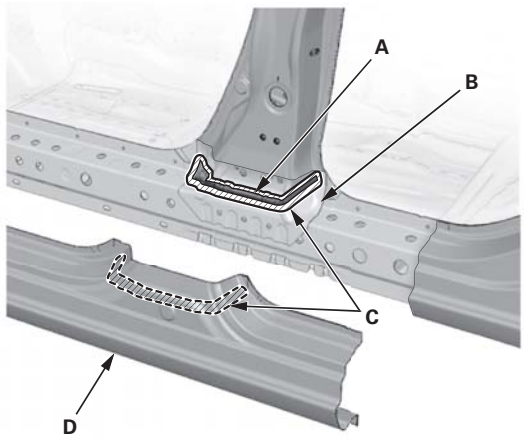




Installation

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

1. Rough-cut the side sill outer panel repair part, and clamp it to the body.
2. Check the dimensions.
   - Front damper extension position (see page 4-7)
   - Door hinge positions (see page 4-8)
   - Windshield and door openings (see page 4-10)
3. Temporarily install the door(s), the hood, and the front fender, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). Make sure the body lines flow smoothly.
4. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding areas.
5. Remove the outer panel repair part. If necessary, weld the patches at the cut sections of the body side outer panel.
6. Install the new center pillar outer separator (A) on the center pillar stiffener (B).
   Apply the sealer (C) without gaps all the way around the separator and inside the outer panel repair part (D).



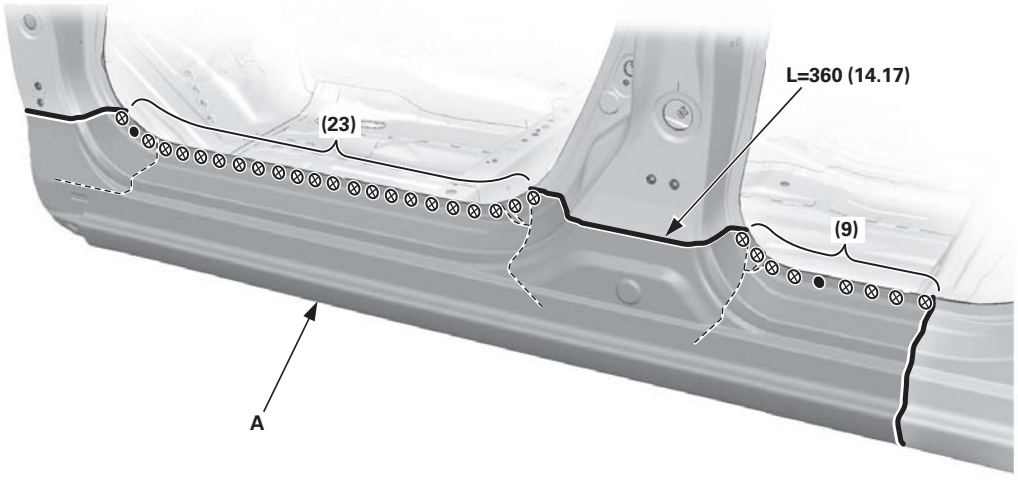
7. Clamp the outer panel repair part, and recheck the clearance and alignment of the door(s) and the front fender.

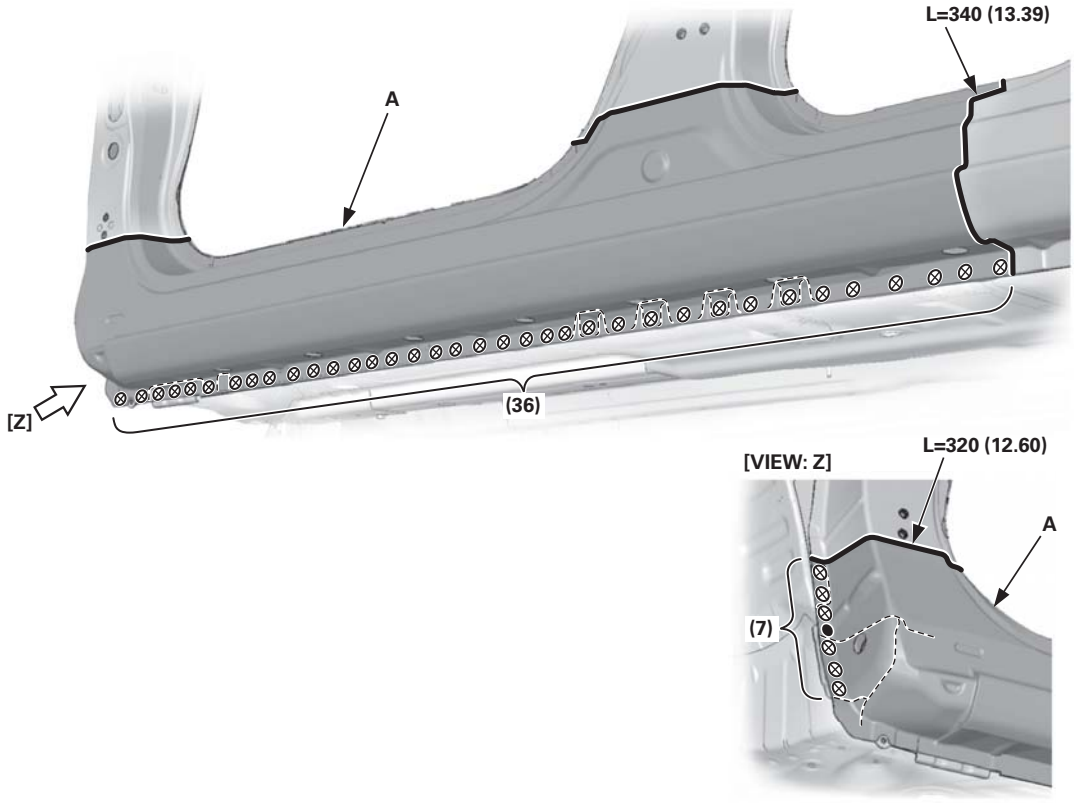
(cont'd)

Side Sill Outer Panel

Installation (cont'd)

8. Do the main welding.
   Weld the outer panel repair part (A).





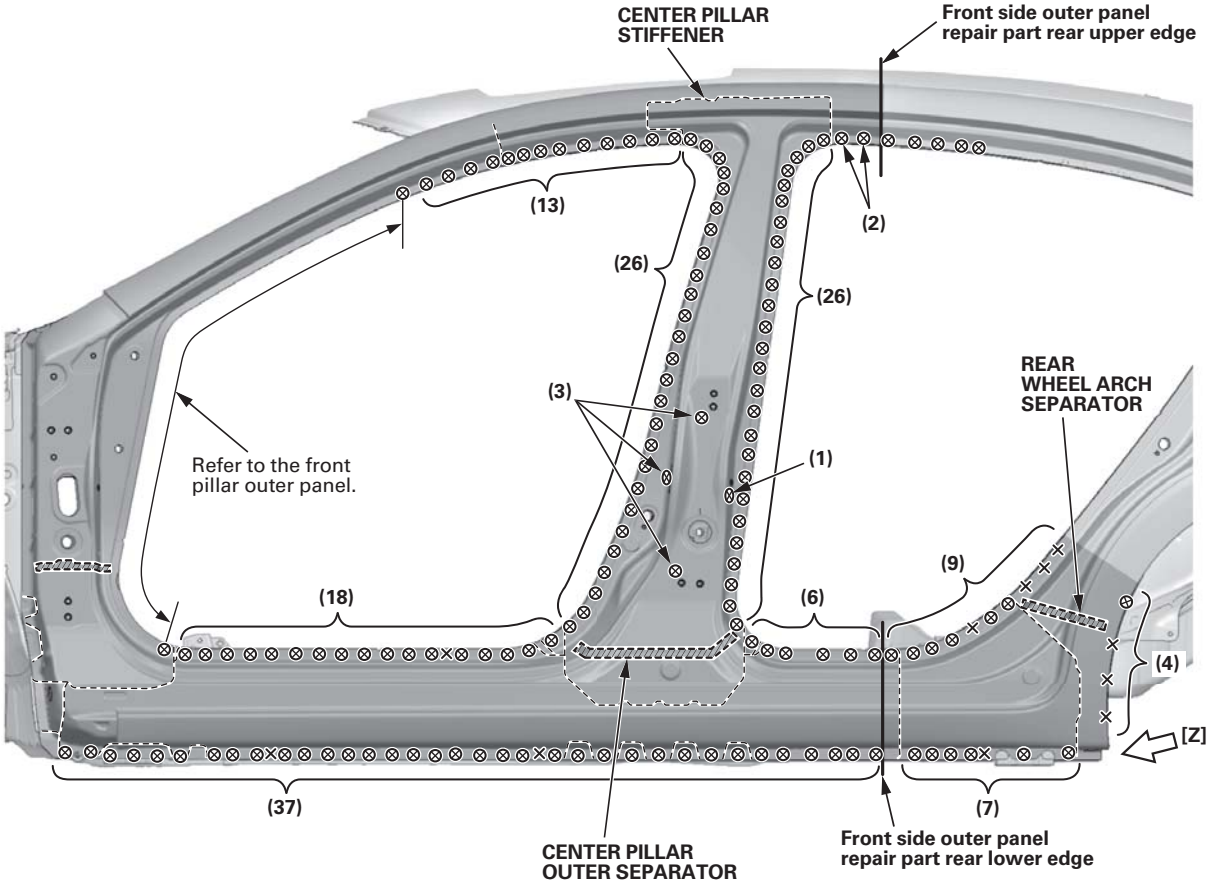
Center Pillar Outer Panel

Removal

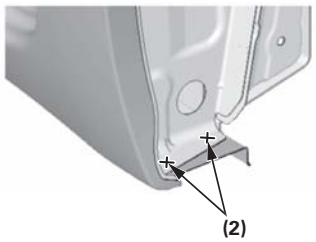
Mass production body welding positions and numbers (Outer panel)

NOTE:

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



[VIEW: Z]



(cont'd)

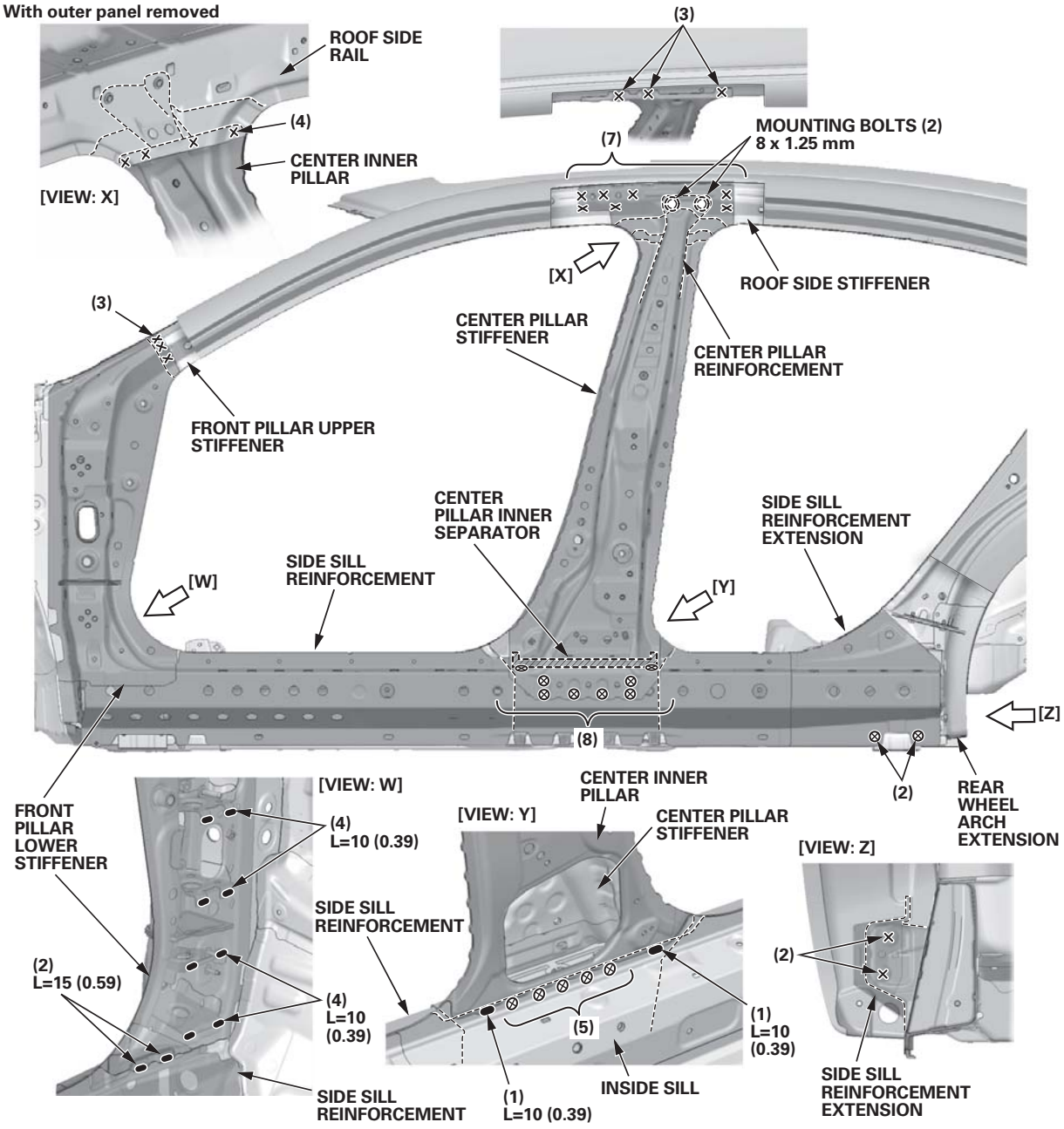
Center Pillar Outer Panel

Removal (cont'd)

Mass production body welding positions and numbers (Center pillar stiffener, side sill reinforcement complete, and center inner pillar)

NOTE:

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



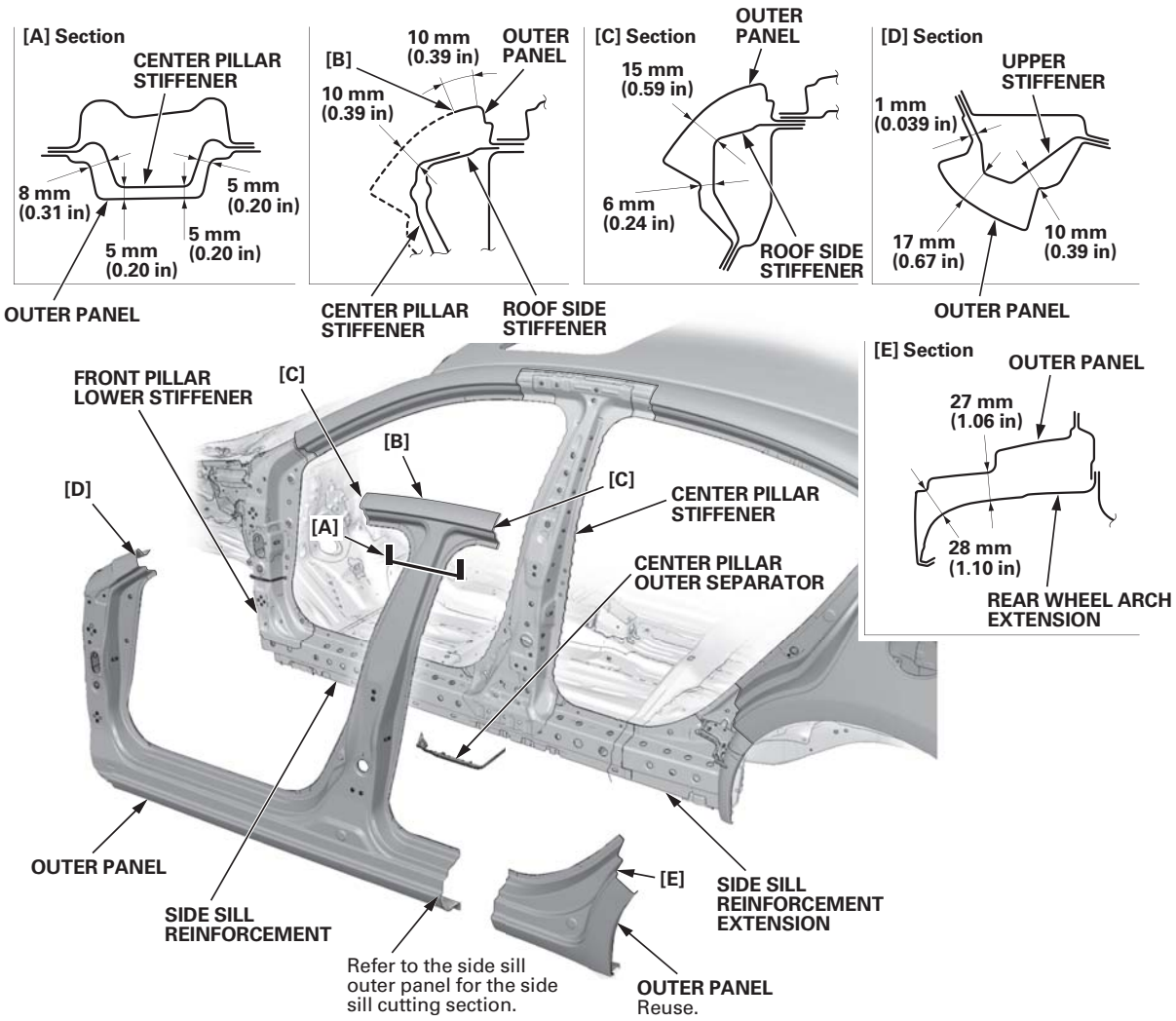
Construction

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 Acura-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 and 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 1-15).

- Replace the center pillar outer separator.
- Check the center pillar stiffener and the side sill reinforcement positions for damage.
- If necessary, cut the [B] and [C] positions of the outer panel, and replace the center pillar stiffener.
- When replacing the side sill reinforcement, carefully cut the [D] position at the front pillar and the [E] position at the rear wheel arch portion of the outer panel.

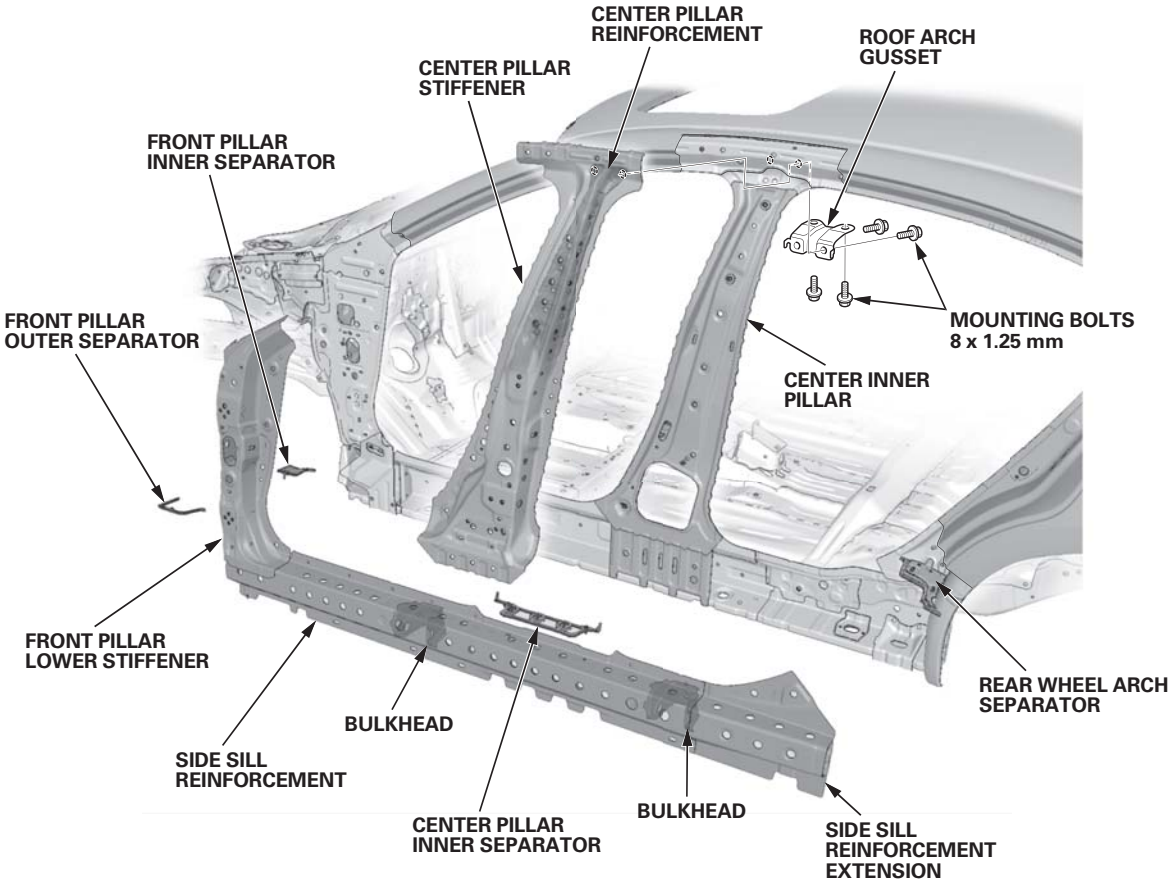


(cont'd)

Center Pillar Outer Panel

Removal (cont'd)

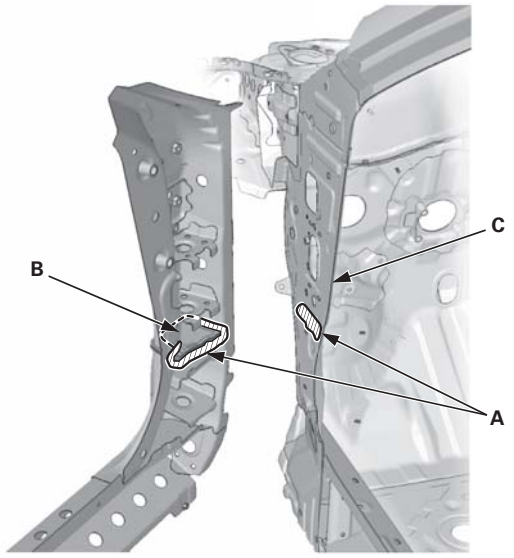
- Remove the roof arch gusset, and replace the center pillar stiffener.
- Replace the front pillar lower stiffener, the side sill reinforcement, and the side sill reinforcement extension as an assembly.
- Replace the front pillar outer and inner separators, the center pillar inner separator, and the rear wheel arch separator.



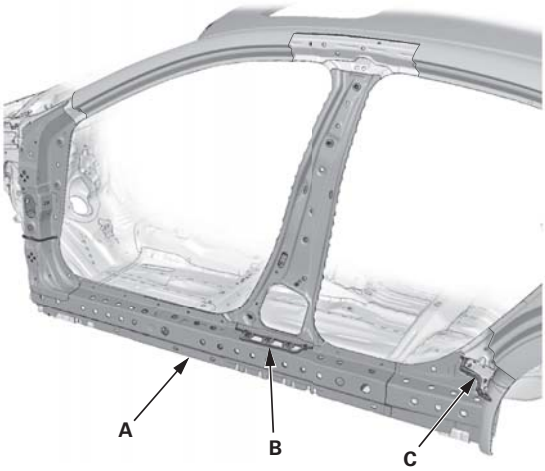
Installation

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

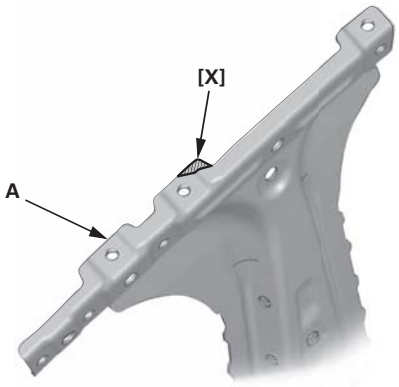
1. Clamp the new center inner pillar.
2. Install the new front pillar inner and outer separators to the front pillar lower stiffener (see step 2 on page 3-22).
3. Apply the sealer (A) without gaps all the way around the front pillar inner separator (B) and the inner lower pillar (C).



4. Clamp the side sill reinforcement complete (A) on the body. Install the center pillar inner separator (B) and the rear wheel arch separator (C).



5. Remove the center pillar stiffener from the new center pillar stiffener complete.
6. Grind away the upper edge [X] position of the new center pillar stiffener (A) as shown.

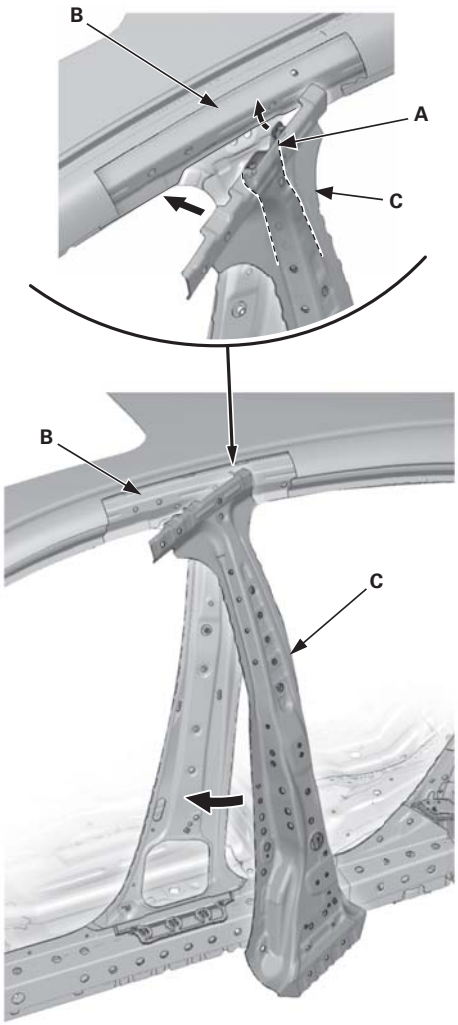


(cont'd)

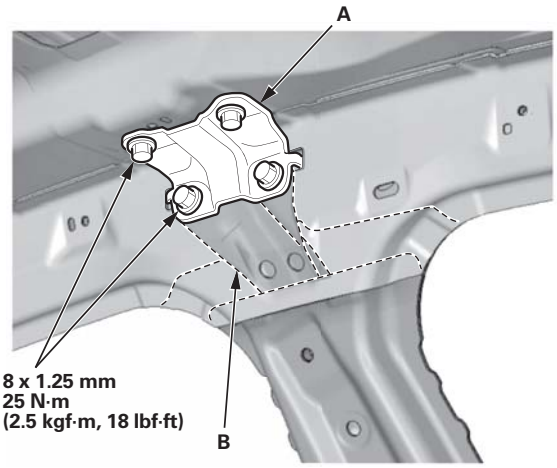
Center Pillar Outer Panel

Installation (cont'd)

7. Insert the center pillar reinforcement (A) into the roof side stiffener (B), and clamp the center pillar stiffener (C).



8. From the passenger's compartment, install the roof arch gusset (A), and secure the center pillar reinforcement (B).

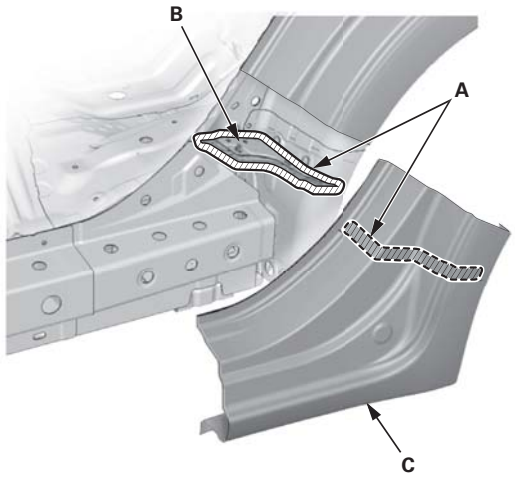


9. Check the body dimensions.

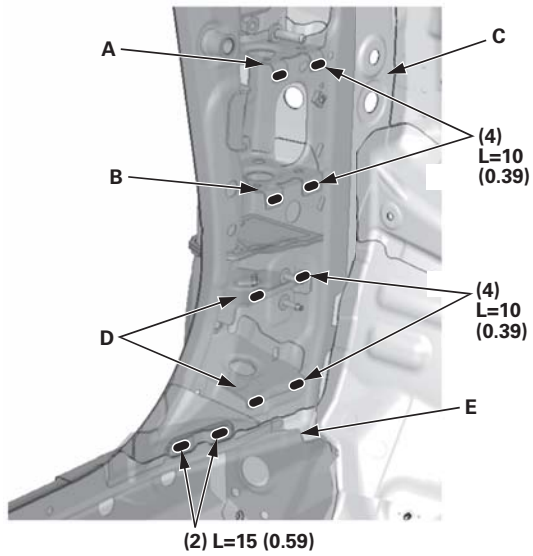
- Passenger's compartment (see page 4-9)
- Engine compartment and front floor, under view (see page 4-14)
- Front floor and rear floor, under view (see page 4-15)
- Inside sill positions (see page 4-16)
- Repair chart, top view (see page 4-18)
- Repair chart, side view (see page 4-20)

10. Tack weld the new parts into position.

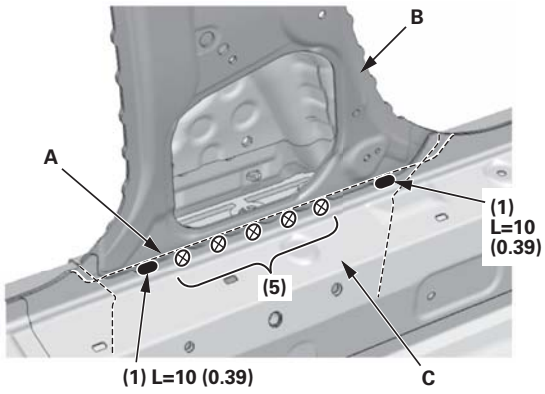
11. Apply the sealer (A) without gaps all the way around the rear wheel arch separator (B) and inside the outer panel reused part (C). Tack weld the outer panel reused part.



12. Rough-cut the front side outer panel repair part, and clamp it to the body.
13. Temporarily install the doors, the hood, and the front fender, then check for differences in level and clearance.
    Check the external parts fitting positions (see page 4-12). Make sure the body lines flow smoothly.
14. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding areas.
15. Remove the outer panel repair part. If necessary, weld the patches at the cut section of the body side outer panel.
16. From the passenger's compartment, weld the holes in the inner lower pillar (C), the front pillar lower bulkheads A and B, and the door hinge lower nuts (D). Weld the front edge of the side sill reinforcement (E).



17. From the passenger's compartment, weld the side sill reinforcement (A) and the center inner pillar (B) to the inside sill (C).

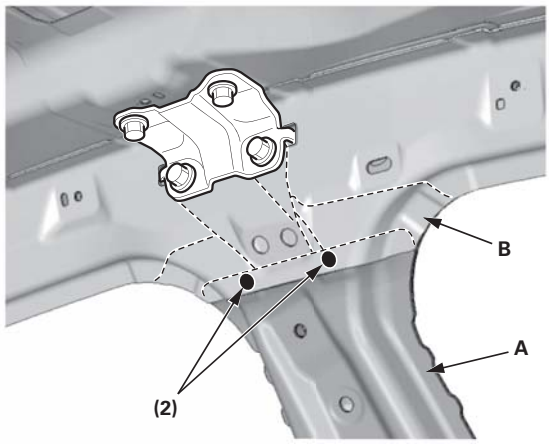


(cont'd)

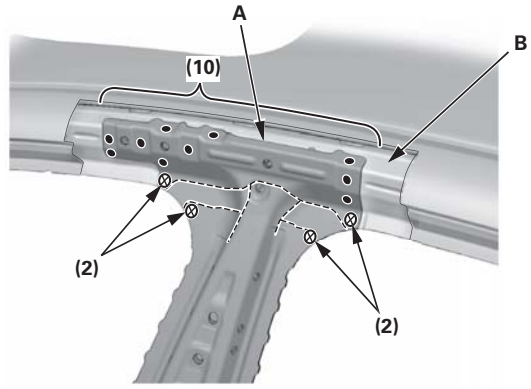
Center Pillar Outer Panel

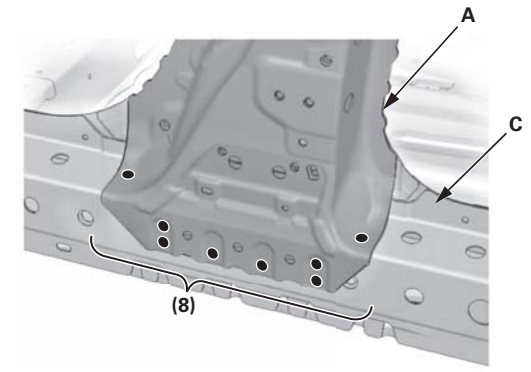
Installation (cont'd)

18. Weld the upper edge of the center inner pillar (A) and the roof side rail (B).

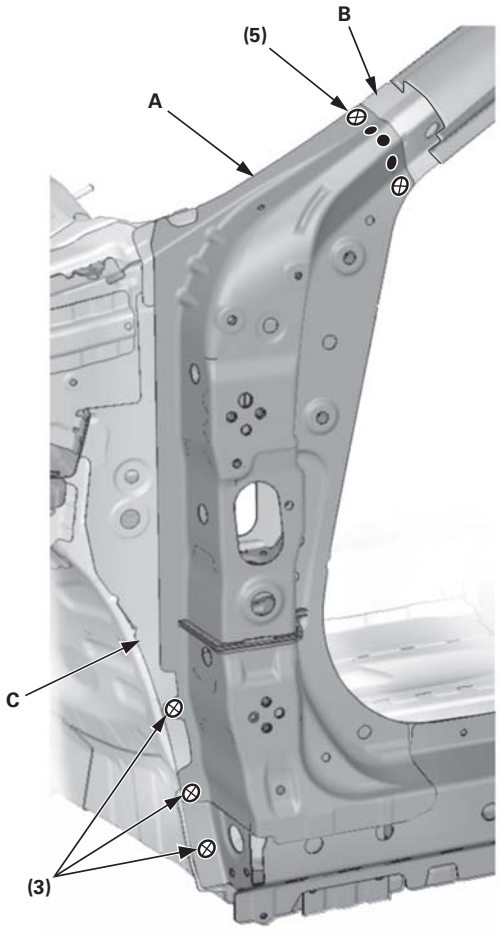


19. Weld the center pillar stiffener (A) to the roof side stiffener (B) and the side sill reinforcement (C).

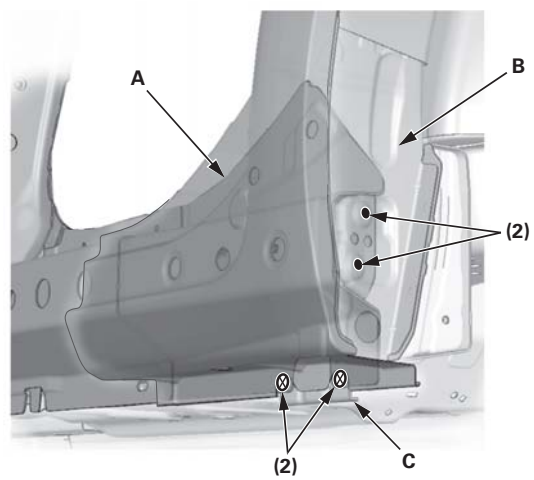




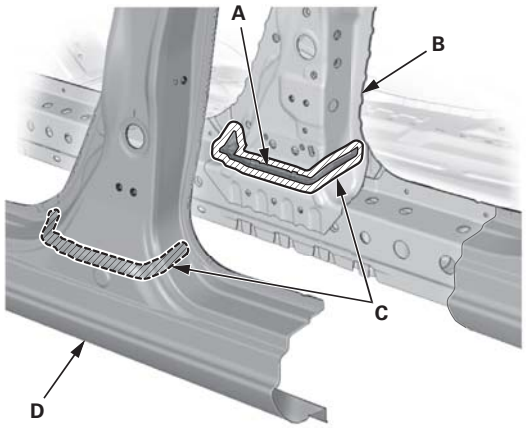
20. Weld the front pillar lower stiffener (A) to the front pillar upper stiffener (B) and the inner lower pillar (C).



21. Weld the side sill reinforcement extension (A) to the rear wheel arch extension (B) and the rear jack-up base (C).



22. Install the new center pillar outer separator (A) on the center pillar stiffener (B).
Apply the sealer (C) without gaps all the way around the separator and inside the outer panel repair part (D).

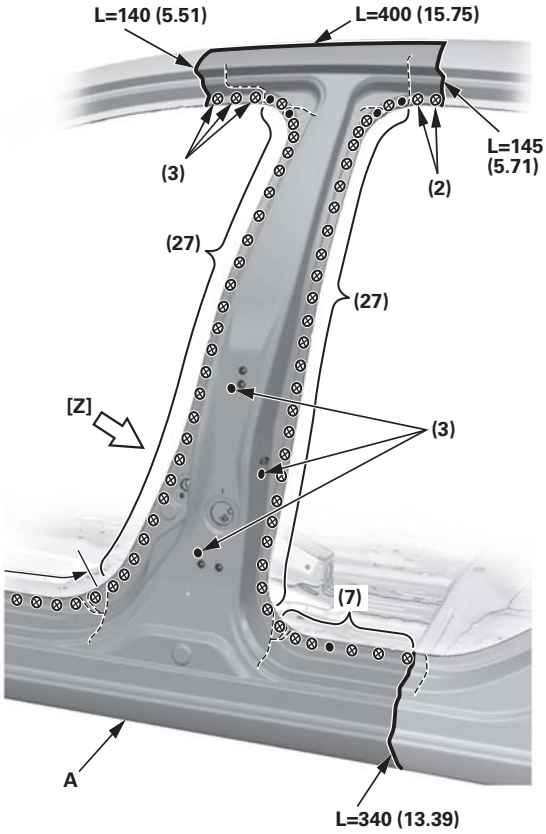


23. Apply the sealer to the front pillar outer separator and inside the outer panel repair part (see step 11 on page 3-23).

24. Clamp the outer panel repair part , and recheck the clearance and alignment of the doors and the front fender.

25. Do the main welding.

- Weld the outer panel repair part (A) and the outer panel reused part (B).
- Front pillar outer panel welding points (see step 13 on page 3-23)
- Side sill outer panel welding points (see step 8 on page 3-28)



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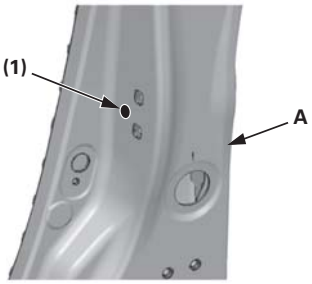
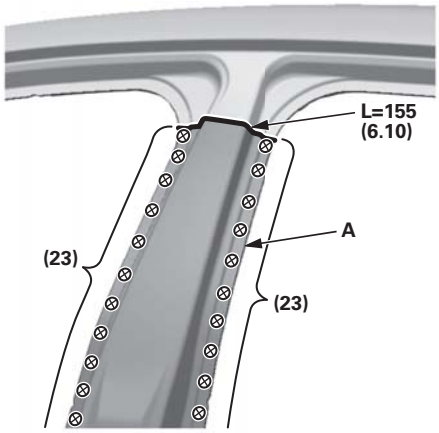


(cont'd)

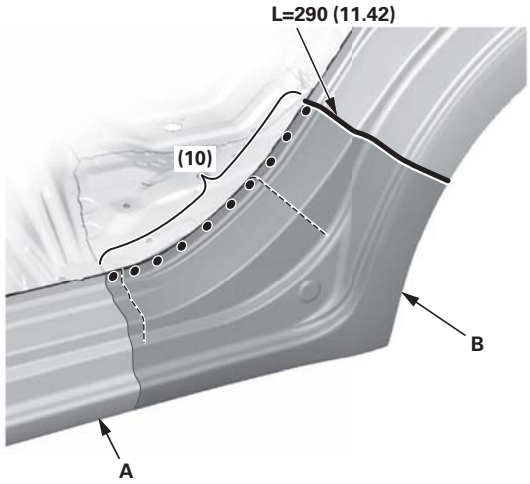
Center Pillar Outer Panel

Installation (cont'd)

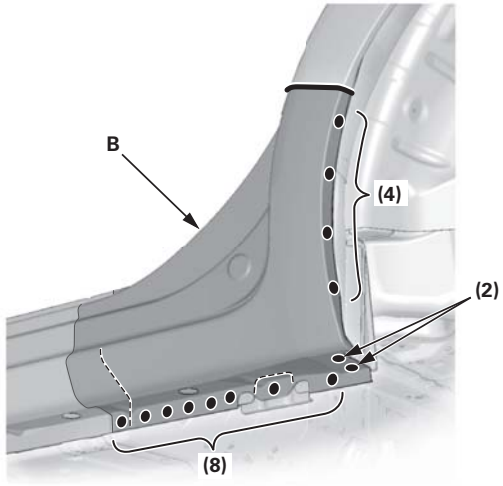
In case of the outer panel replacement only.



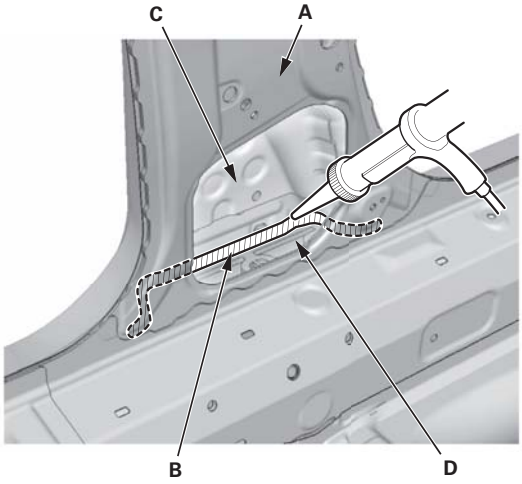
Side sill rear portion



Side sill rear lower and wheel arch portions



26. Insert the nozzle through the hole of the center inner pillar (A), and apply the sealer (B) without gaps between the center pillar stiffener (C) and the side sill reinforcement (D).

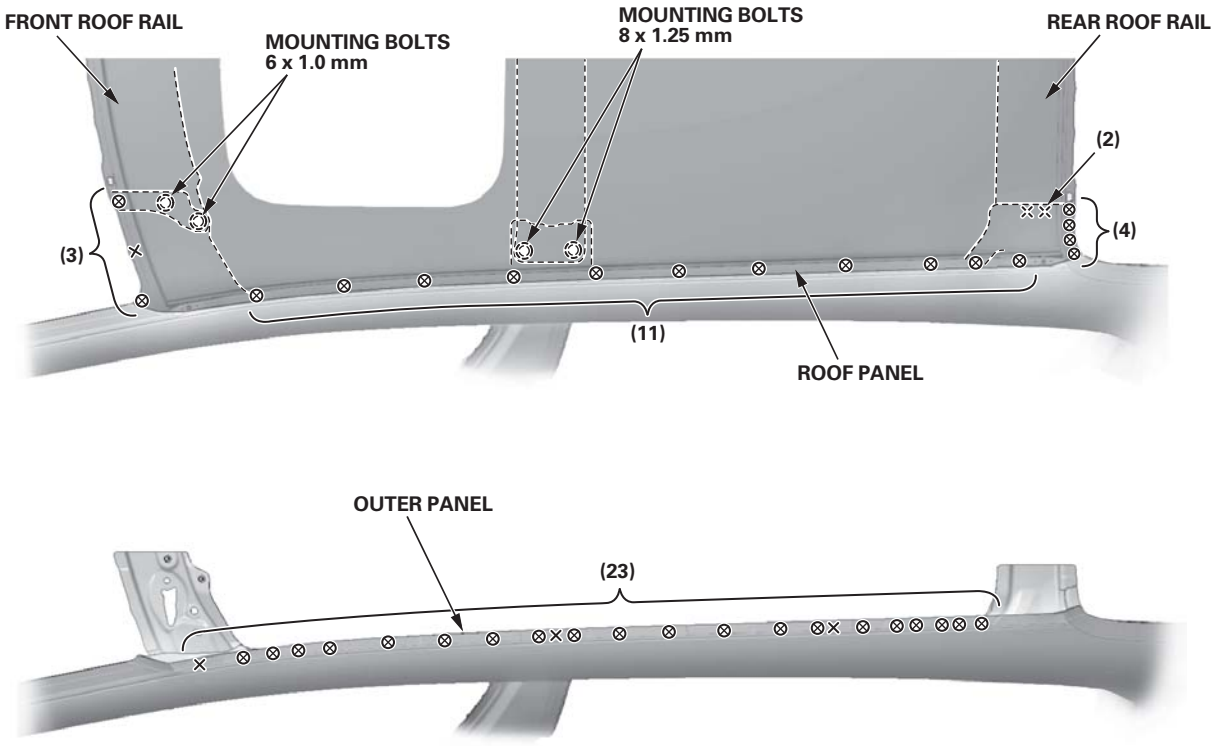


Roof Panel

Removal

Mass production body welding positions and numbers

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



Roof side rails and outer panel welding positions with roof panel removed

(cont'd)

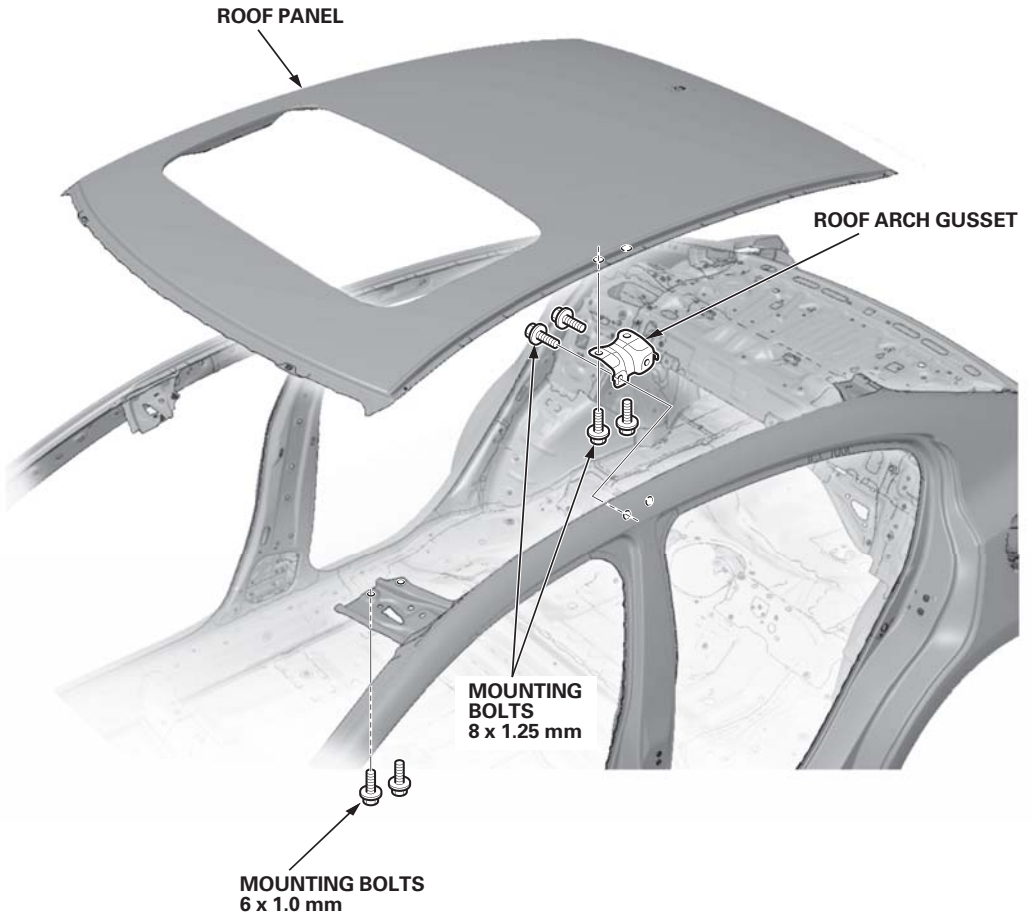
Roof Panel

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.

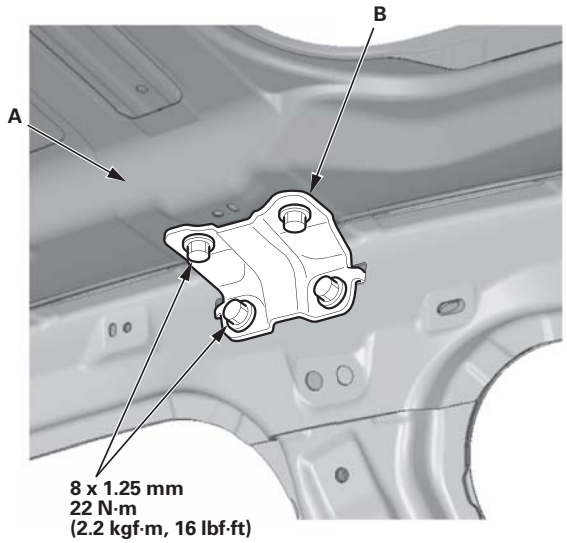
- Remove the mounting bolts and the roof arch gussets from both sides.
- Drill the welded flange of the front roof rail, the rear roof rail (passenger's compartment side), and the side flanges of the roof panel.



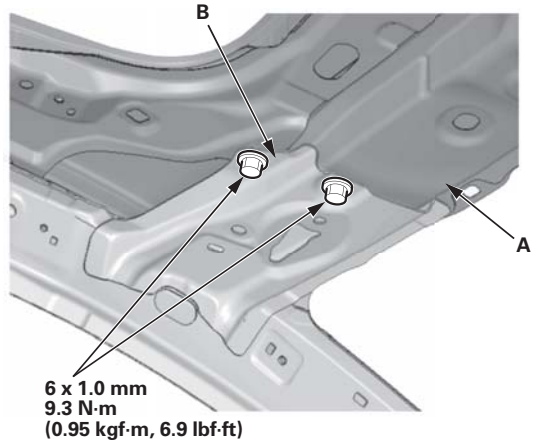
Installation

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

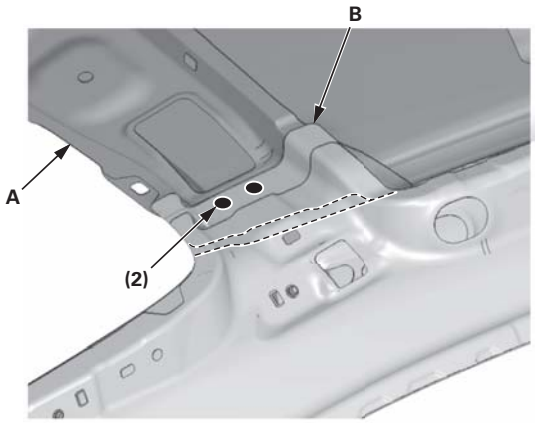
1. Clamp the new roof panel (A), install the roof arch gusset (B), and tighten the mounting bolts.



2. Attach the front roof rail (A) to the front pillar inner upper extension (B) with the mounting bolts.



3. Check the body dimensions.
   - Door hinge positions (see page 4-8)
   - Passenger's compartment (see page 4-9)
   - Windshield and door openings (see page 4-10)
   - Rear window and trunk lid openings (see page 4-11)
4. Tack weld the front and rear corner edges of the roof panel.
5. Temporarily install the roof molding, the windshield, the rear window, and the doors, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). Make sure the body lines flow smoothly.
6. Do the main welding.
   From the passenger's compartment, weld the rear roof rail (A) to the rear damper stiffener (B).



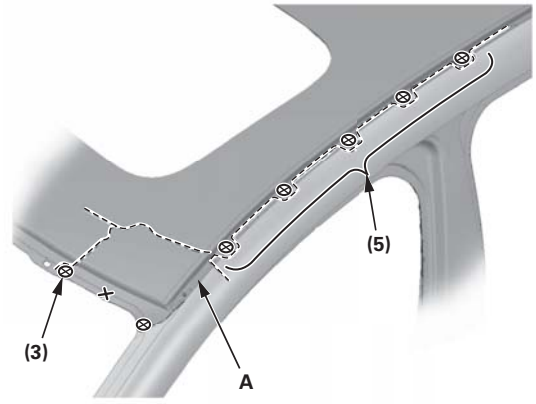
(cont'd)

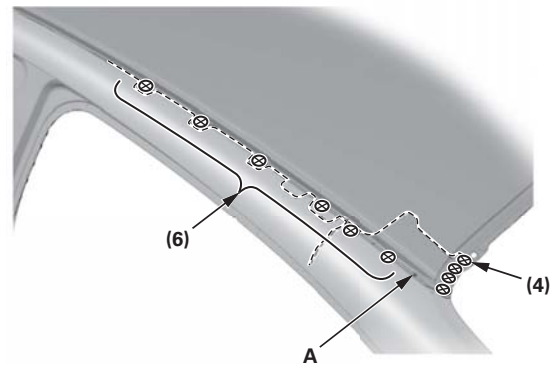
Roof Panel

Installation (cont'd)

7. Weld the front, rear, and side flanges of the roof panel (A).

   NOTE: The roof area must be free of burrs and/or sharp edges to prevent damage to the side curtain airbag during deployment.





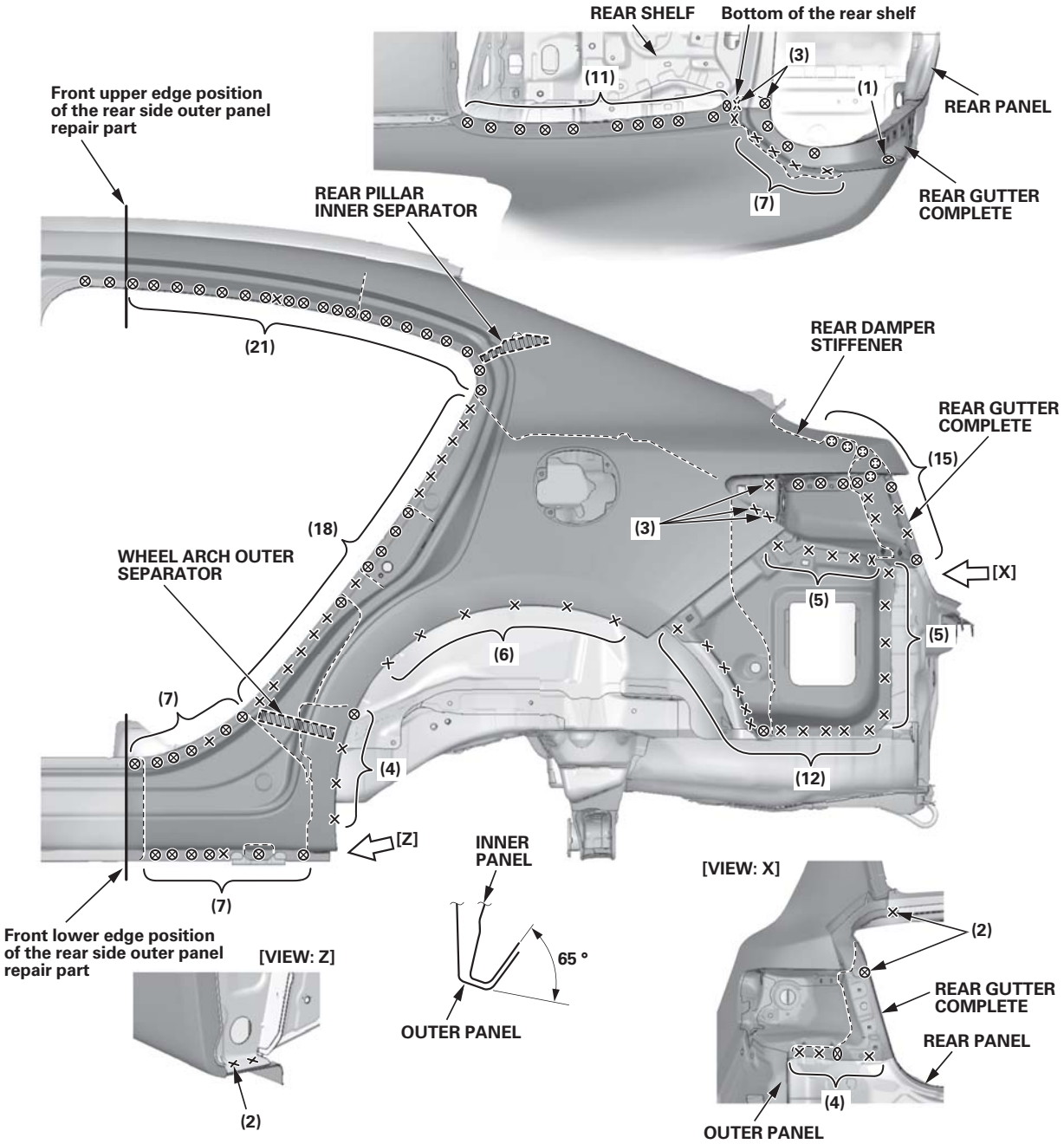
Rear Side Outer Panel

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; ●: MAG plug welding; ⬬: MAG welding
  L=Welding length unit: mm (in)
- ( ): The number of welds



(cont'd)

Rear Side Outer Panel

Removal (cont'd)

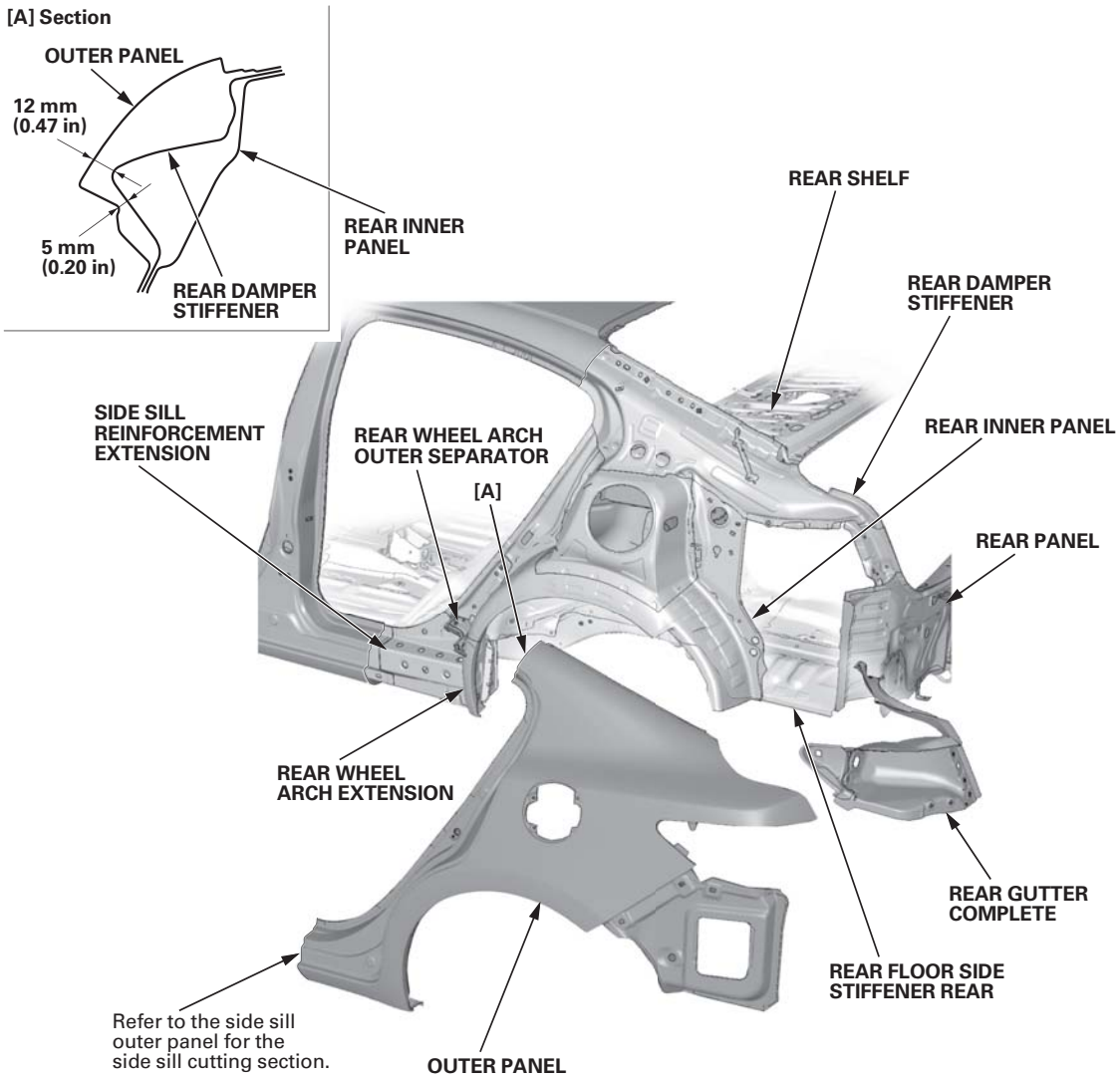
Construction

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 Acura-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 1-15).

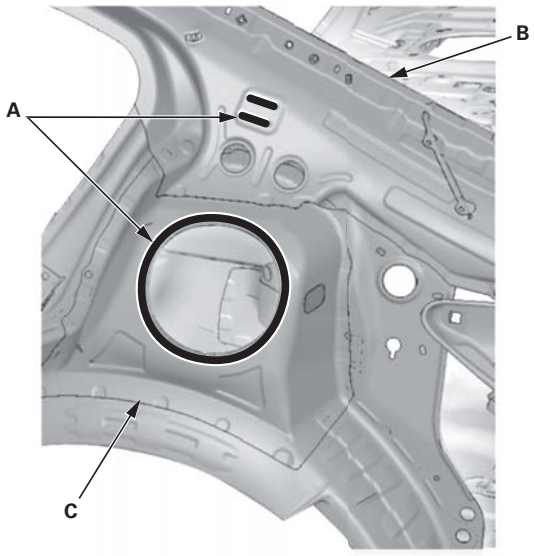
- Check the rear gutter complete for damage. If necessary, replace it.
- Replace the rear wheel arch outer separator.



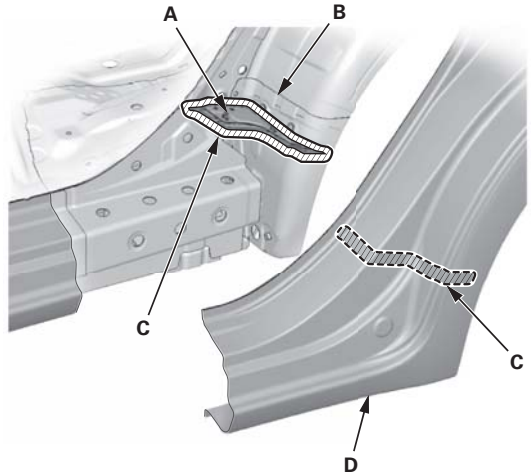
Installation

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

1. Clamp the new rear gutter complete, rough-cut the rear side outer panel repair part, and clamp it to the body.
2. Check the body dimensions.
   - Door hinge positions (see page 4-8)
   - Passenger's compartment (see page 4-9)
   - Windshield and door openings (see page 4-10)
   - Rear window and trunk lid openings (see page 4-11)
3. Temporarily install the rear door, the rear window, and the trunk lid, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). Make sure the body lines flow smoothly.
4. Trim the cut and joint areas of the outer panel repair part as needed, and prepare the butt-welding areas.
5. Remove the outer panel repair part. If necessary, weld the patches at the cut sections of the body side outer panel.
6. Apply the sealer (A) to the rear damper stiffener (B) and around the fuel fill door opening of the damper stiffener extension (C).



7. Install the new wheel arch outer separator (A) on the rear wheel arch extension (B).
   Apply the sealer (C) without gaps all the way around the separator and inside the outer panel repair part (D).



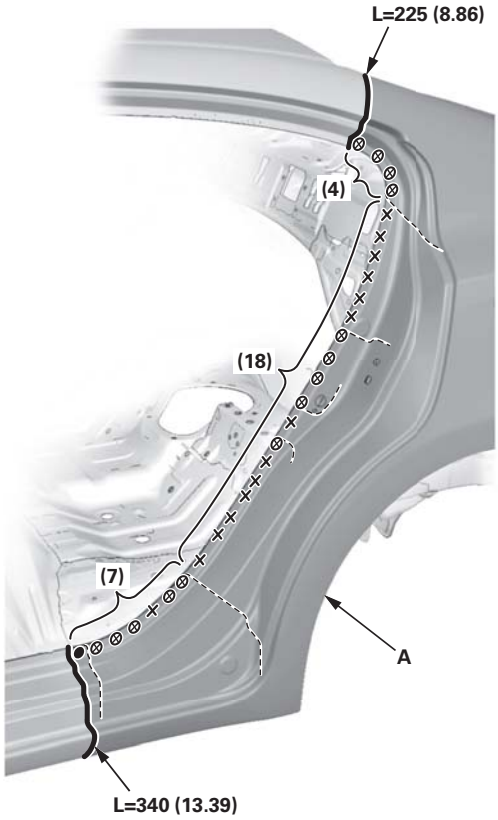
8. Clamp the outer panel repair part, and recheck the clearance and alignment of the rear door, the rear window, and the trunk lid.

(cont'd)

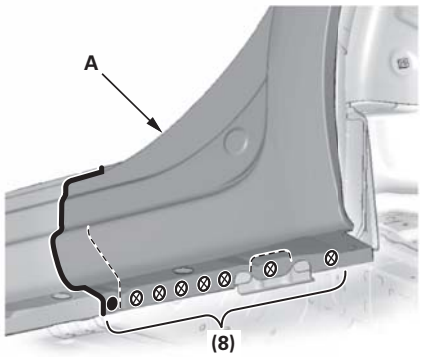
Rear Side Outer Panel

Installation (cont'd)

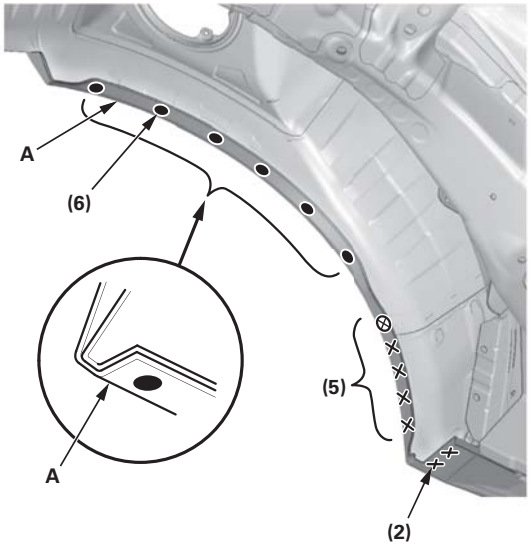
9. Do the main welding.
   Weld the outer panel repair part (A) and the rear gutter complete (B).



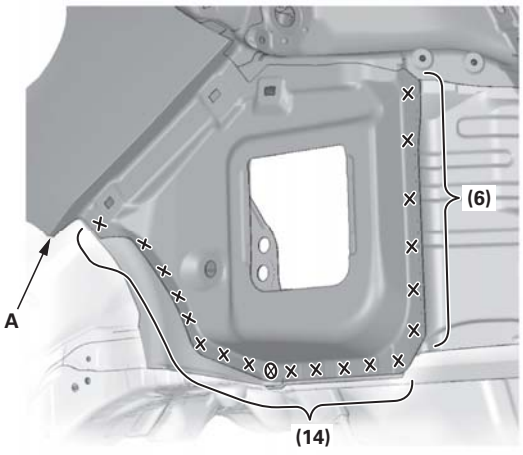
Side sill lower flange



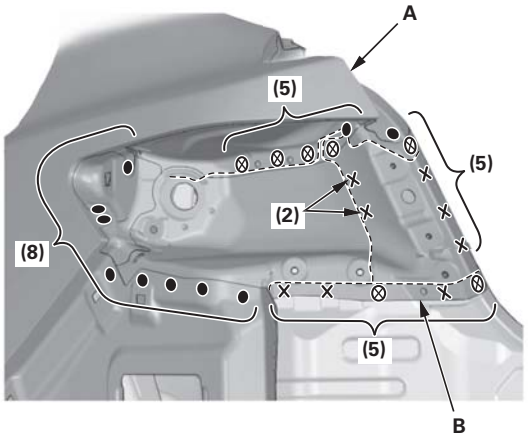
Wheel arch area



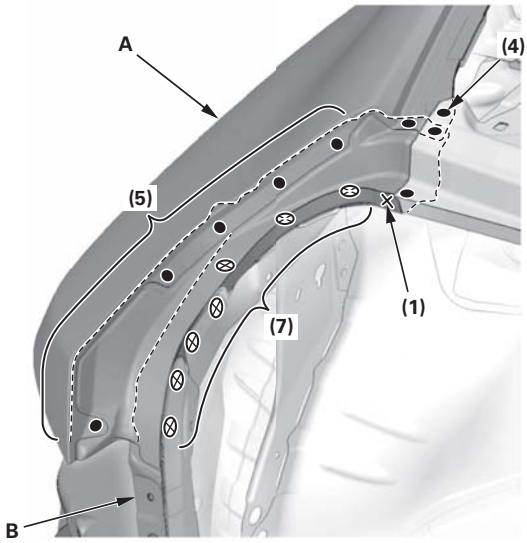
Outer panel rear area



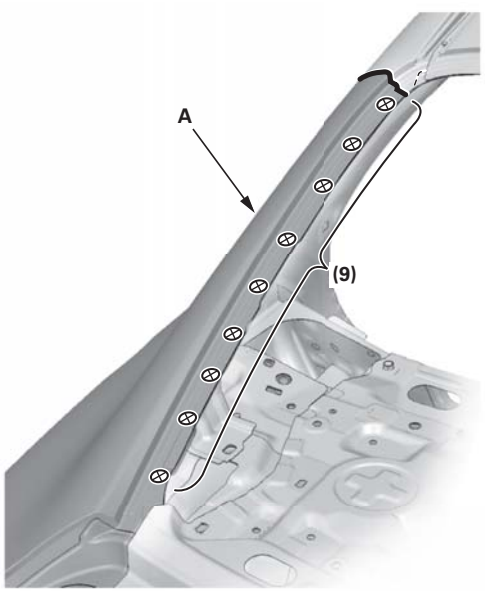
Rear gutter complete



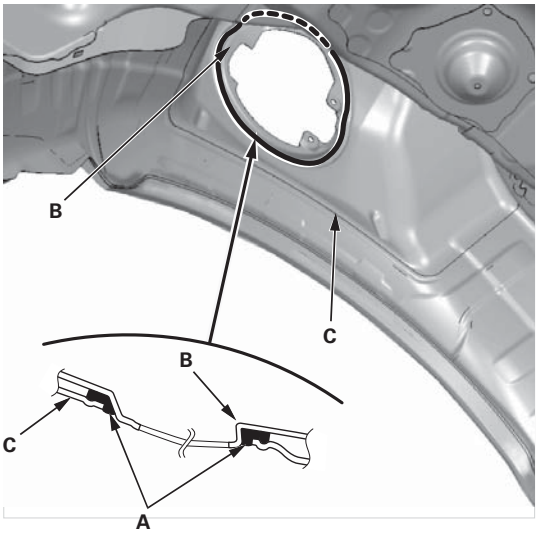
Trunk gutter area



Rear window opening



10. Left side: From inside the rear wheelhouse, apply the sealer (A) to fill the gap between the rear side outer panel (B) and the rear damper stiffener extension (C) around the fuel fill door opening.

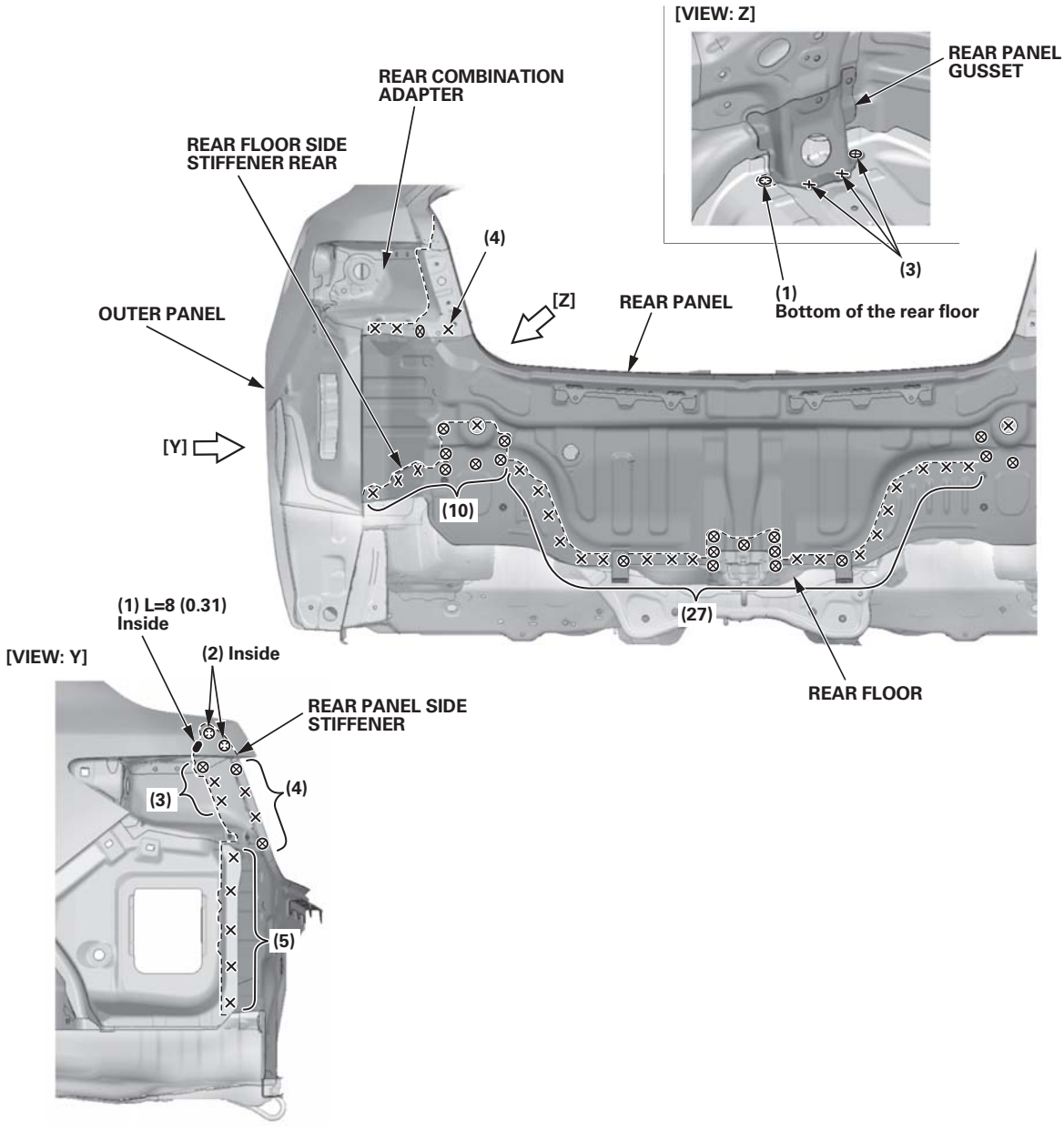


Rear Panel

Removal

Mass production body welding positions and numbers

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

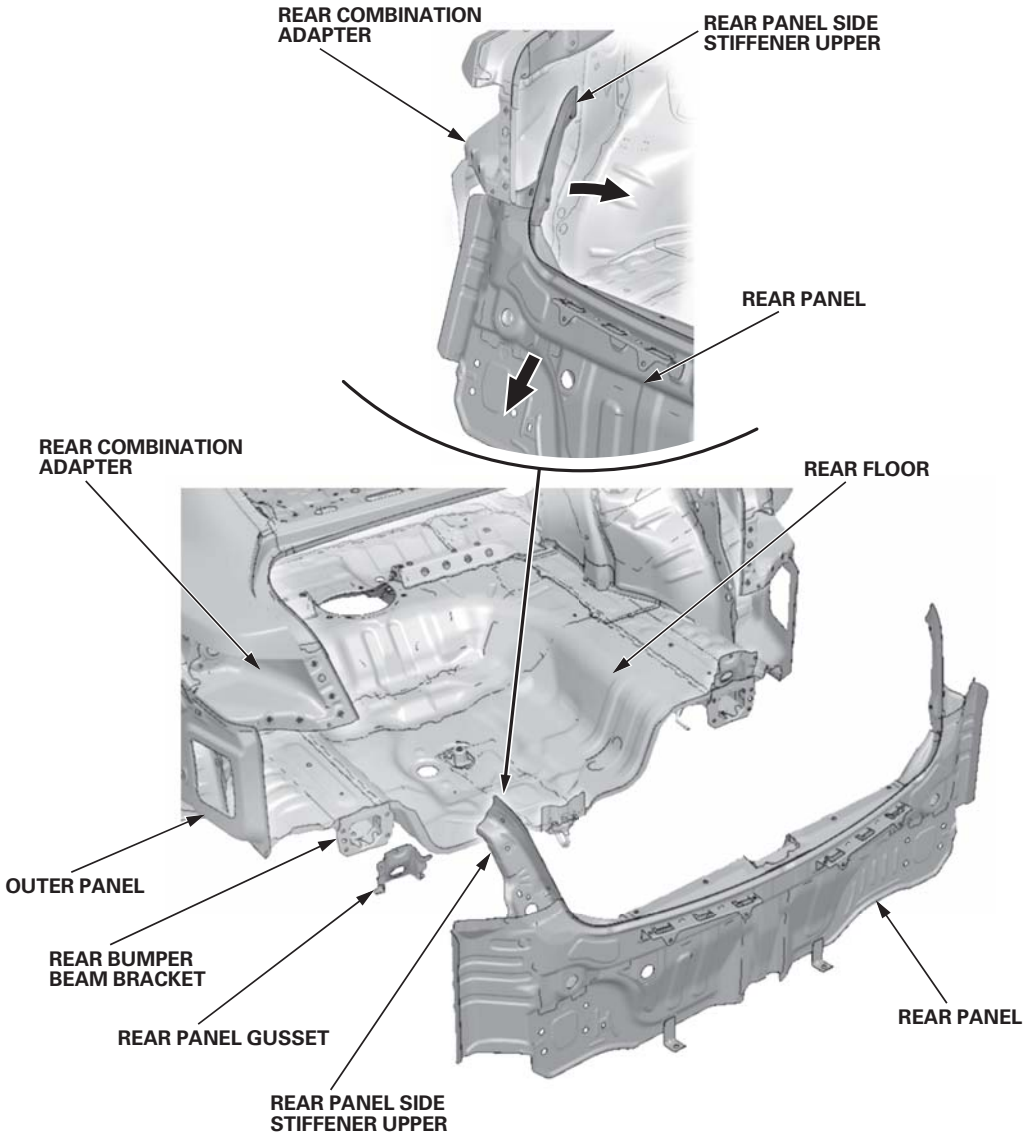


Construction

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.

- Move the rear panel downward while turning it forward, and remove it from the rear combination adapter.
- If necessary, replace the rear panel gussets.

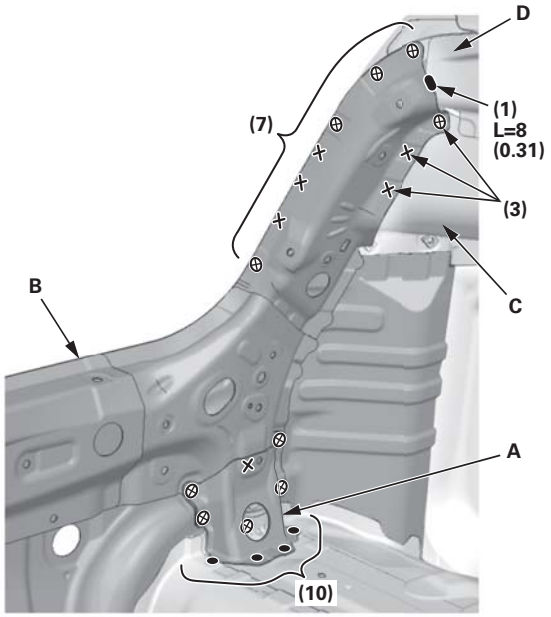


Rear Panel

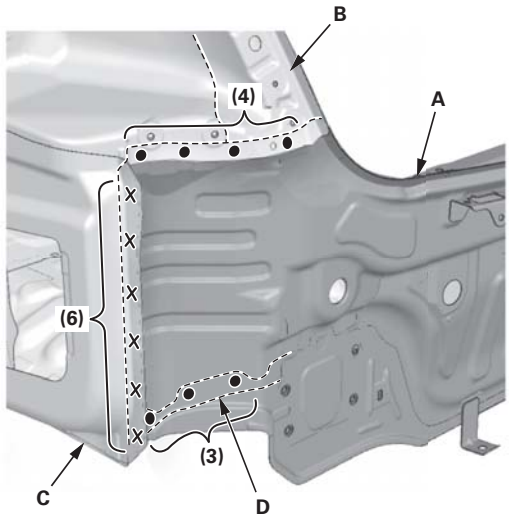
Installation

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

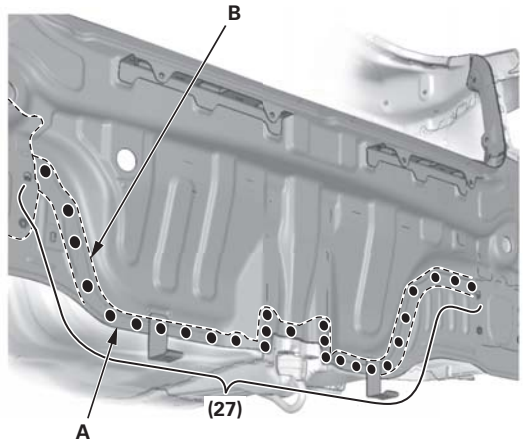
1. Set the rear panel gussets on both sides, and clamp the rear panel.
2. Check the body dimensions.
   - Passenger's compartment (see page 4-9)
   - Rear window and trunk lid openings (see page 4-11)
   - Front floor and rear floor, under view (see page 4-15)
   - Repair chart, top view (see page 4-18)
   - Repair chart, side view (see page 4-20)
3. Tack weld the rear panel into position.
4. Temporarily install the trunk lid, then check for differences in level and clearance.
   Check the external parts fitting positions (see page 4-12). If necessary, check the taillight and the rear bumper positions. Make sure the body lines flow smoothly.
5. Do the main welding.
   Weld the rear panel gusset (A), and weld the rear pannel (B) to the rear combination adapter (C) and the rear damper stiffener (D).



6. Weld the rear panel (A) to the rear combination adapter (B), the outer panel (C), and the rear floor side stiffener rear (D).



7. Weld the rear panel (A) to the rear floor (B).

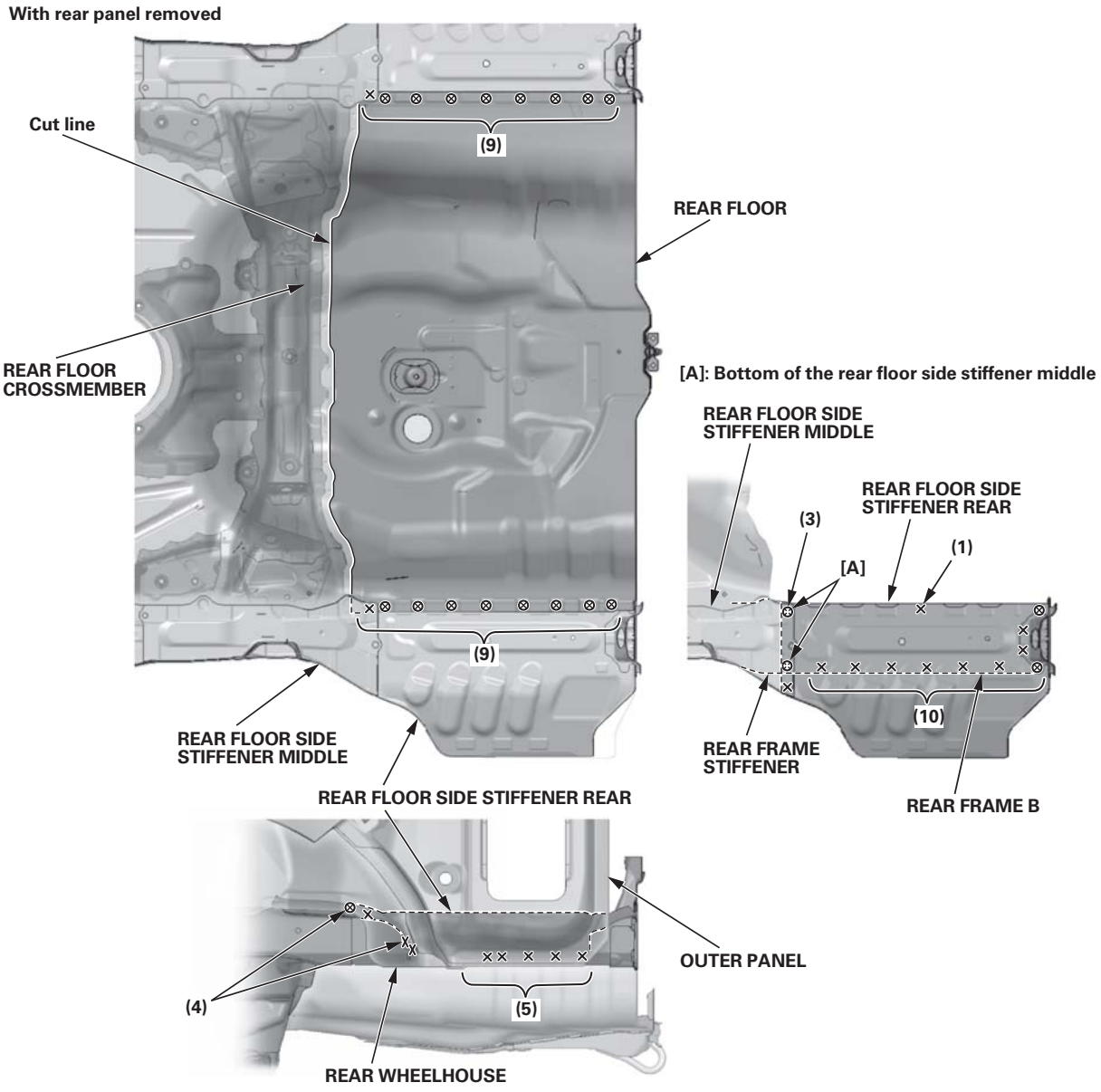


Rear Floor/Rear Frame

Removal

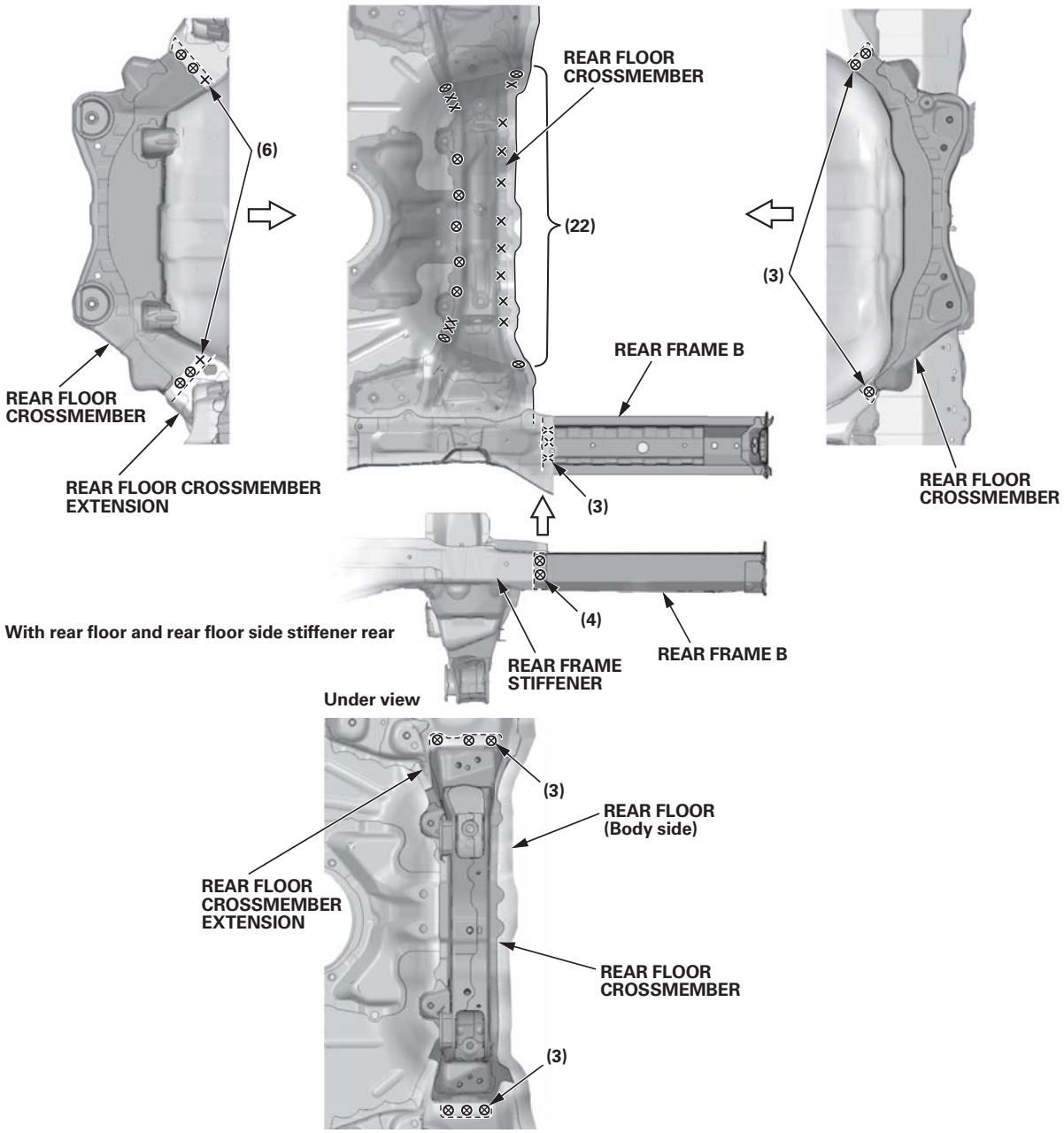
Mass production body welding positions and numbers (Rear floor and rear floor side stiffener rear)

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



Mass production body welding positions and numbers (Rear frame B and rear floor crossmember)

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



(cont'd)

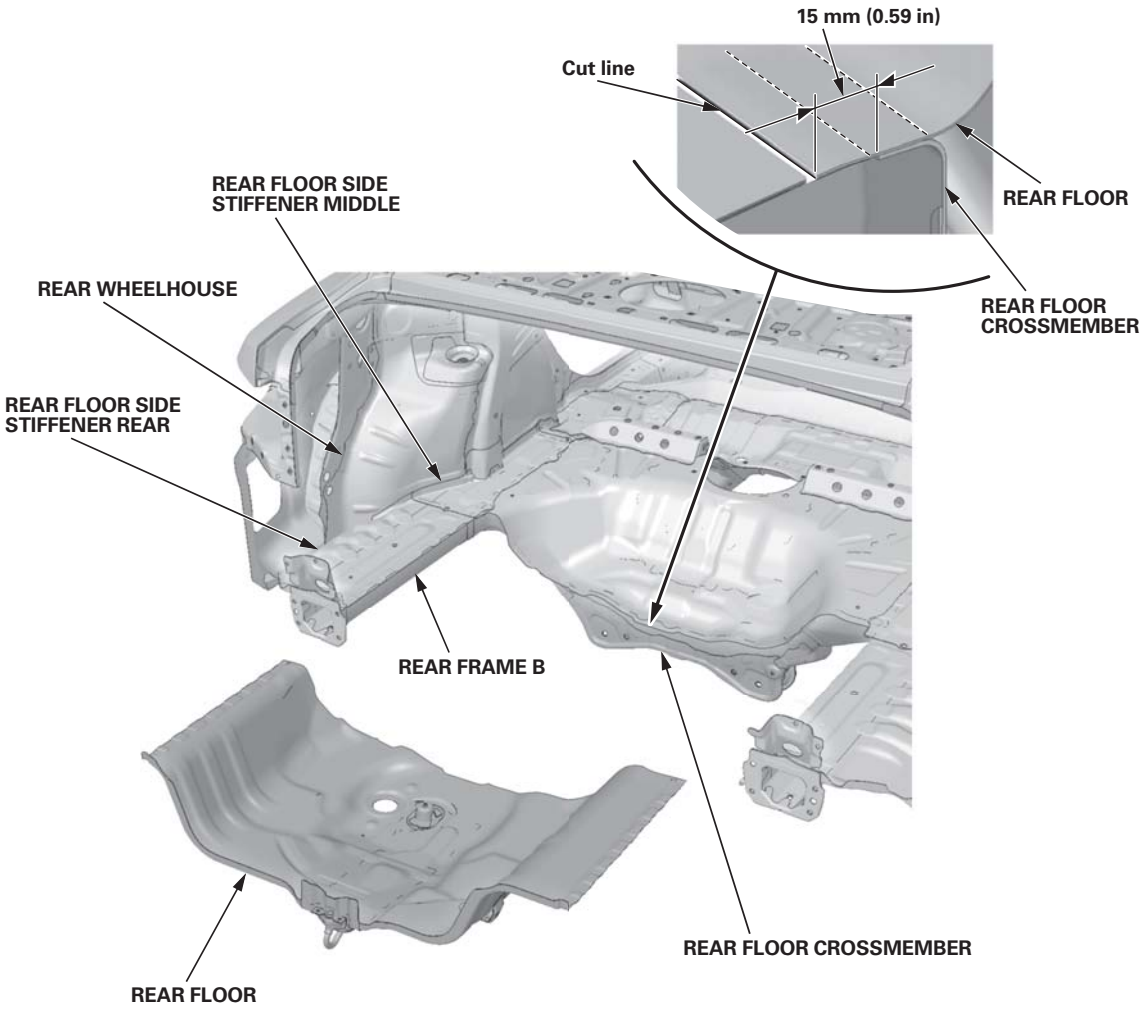
Rear Floor/Rear Frame

Removal (cont'd)

Construction (Rear floor)

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.

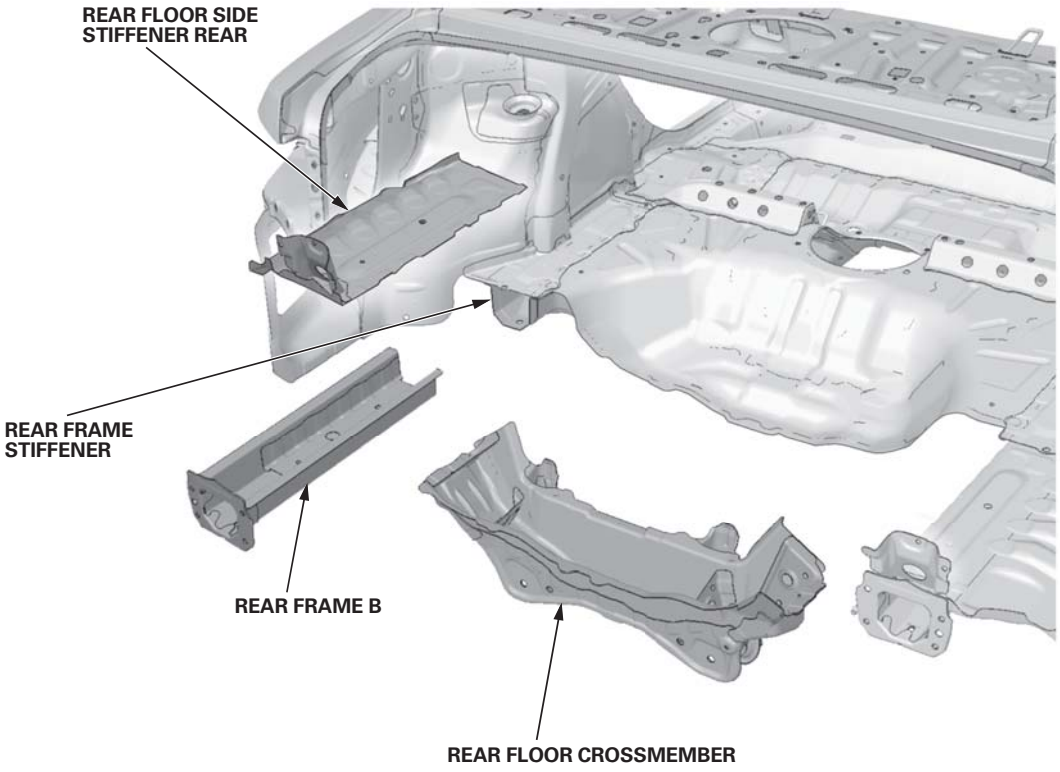
Cut the rear floor 15 mm (0.59 in) from the welded flange of the rear floor crossmember, and replace it.



Construction (Rear frame B and rear floor crossmember)

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 Acura-supplied parts, as needed, according to the area and the degree of damage on the body.
- If necessary, replace the rear floor side stiffener rear.
- Check the rear frame B and the rear floor crossmember positions for damage. If necessary, replace them.

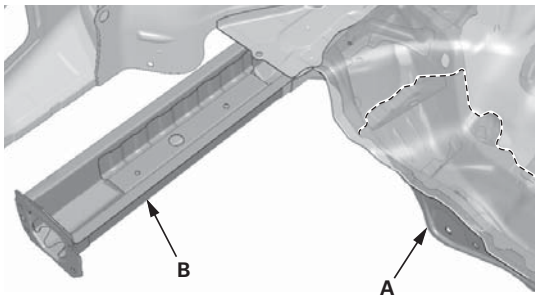


Rear Floor/Rear Frame

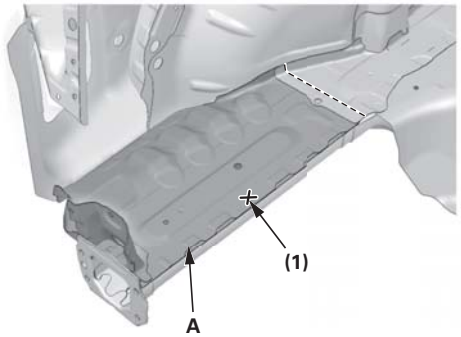
Installation

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

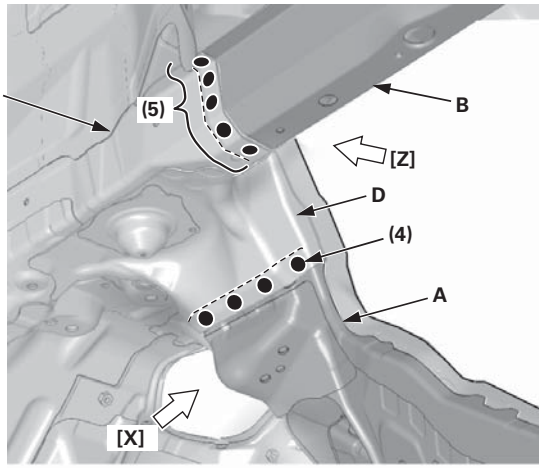
1. Set the new rear flame B and the rear floor crossmember (A). Measure the rear frame diagonally.



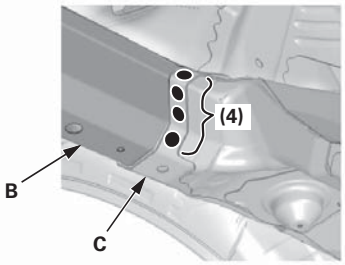
2. Check the body dimensions.
   - Front floor and rear floor, under view (see page 4-15)
   - Repair chart, top view (see page 4-18)
   - Repair chart, side view (see page 4-20)
3. Tack weld the new parts into position.
4. Temporarily install the rear suspension, and check the rear frame stiffener, rear frame B, and the rear floor crossmember positions.
5. Tack weld the new rear floor side stiffener rear (A) into position.



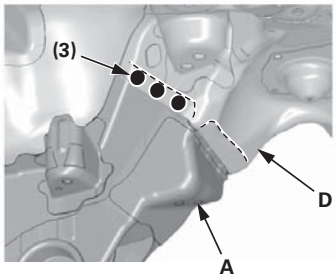
6. Temporarily install the rear panel and the trunk lid, then check for differences in level and clearance. Check the external parts fitting positions (see page 4-12). If necessary, check the taillight and the rear bumper positions. Make sure the body lines flow smoothly.
7. Do the main welding.
   Plug weld rear frame B and the rear floor crossmember (A) to the rear frame stiffener (C) and the rear floor crossmember extension (D).



[VIEW: Z]

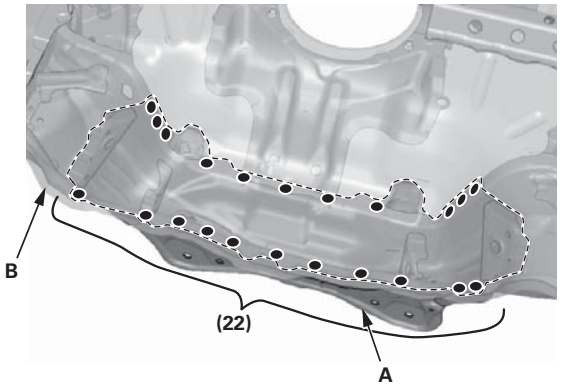


[VIEW: X]

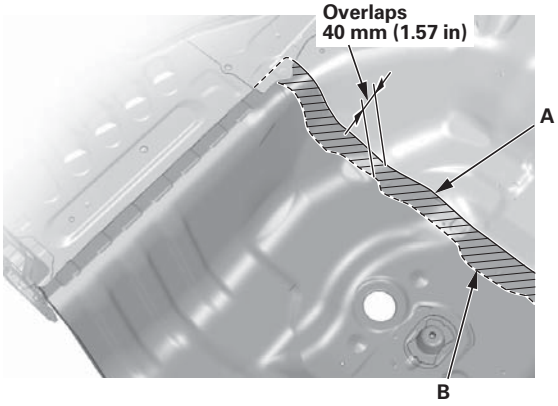


8. Plug weld the rear floor crossmember (A) and the body side rear floor (B), and finish the welded area.

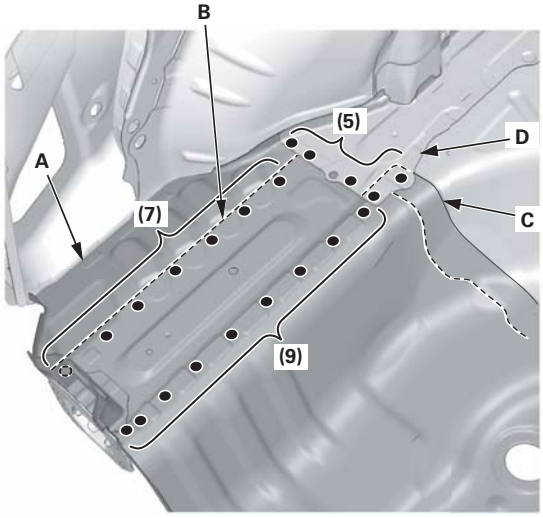
   NOTE: Do not grind the plug welds excessively.



9. Cut the new rear floor (A) so it overlaps the body side rear floor (B) by about 40 mm (1.57 in).
   Set the new rear floor into position, and align it with the body, and recheck the rear panel position.

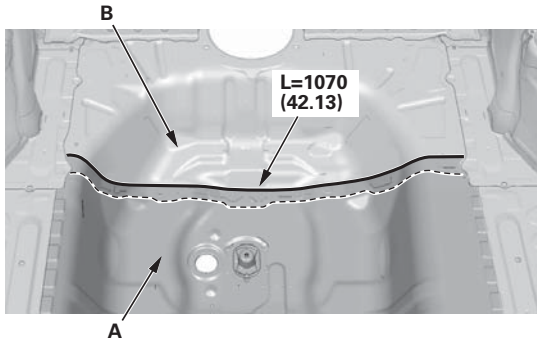


10. Plug weld the rear floor side stiffener rear (A) and the new rear floor (C) to rear frame B and the rear floor side stiffener middle (D).

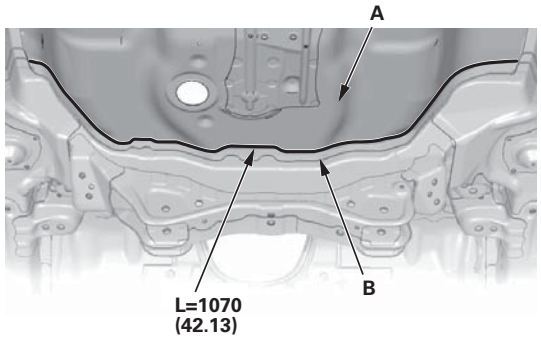


11. Weld the new rear floor (A) and the body side rear floor (B).

Trunk compartment side



Under floor side



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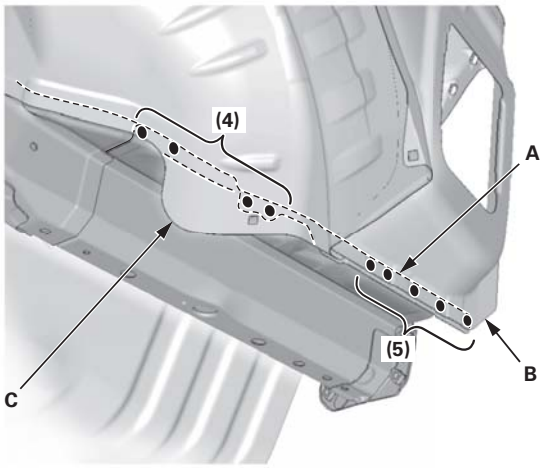
Rear Floor/Rear Frame

Installation (cont'd)

12. Plug weld the rear floor side stiffener rear (A) to the outer panel (B) and the rear wheelhouse (C).



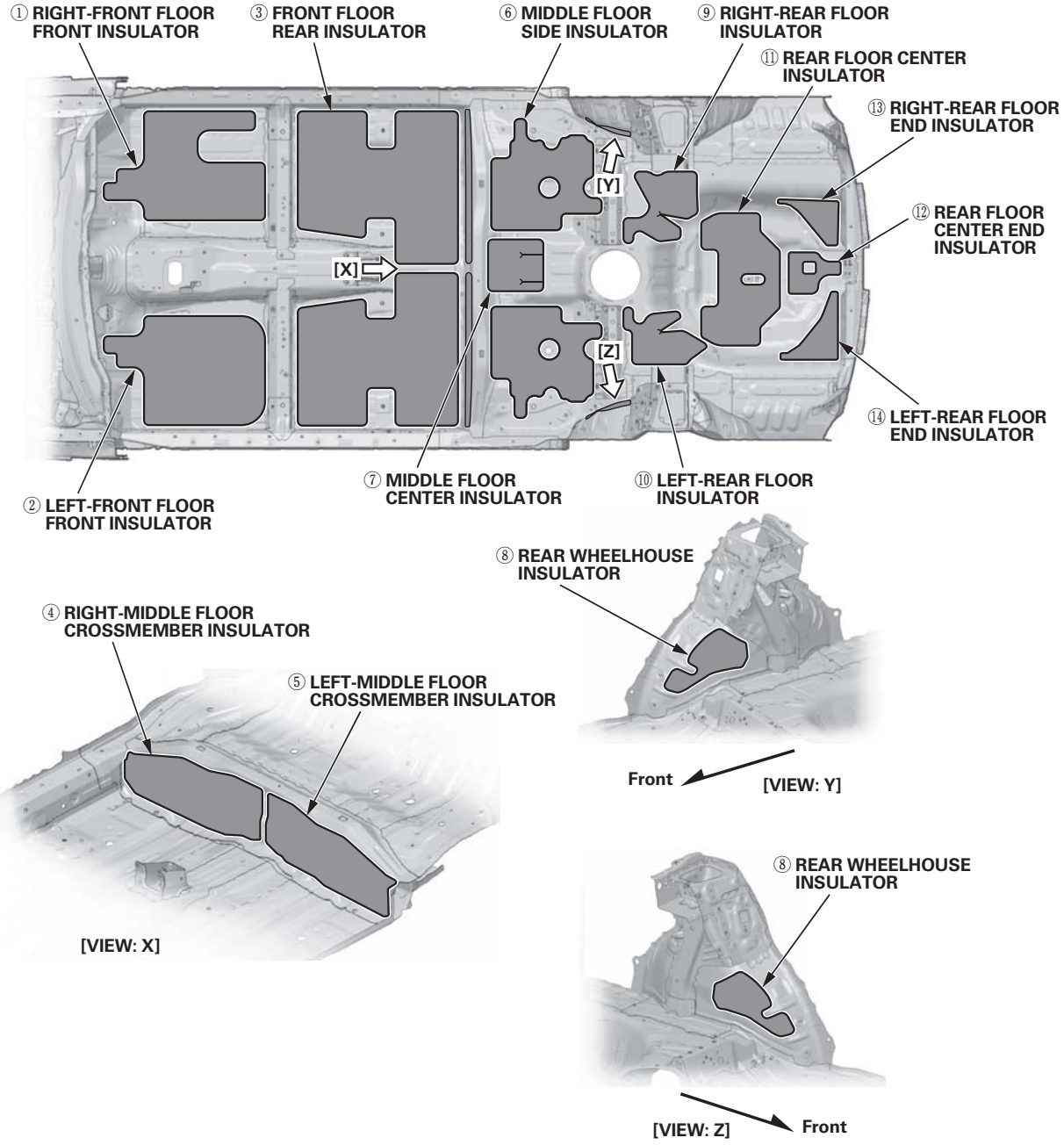
13. Weld the rear panel (see page 3-50).

Floor Insulators

Insulator Locations

Cut new insulators, and apply them in areas shown in this illustration.

NOTE: Before applying, clean and degrease the floor.

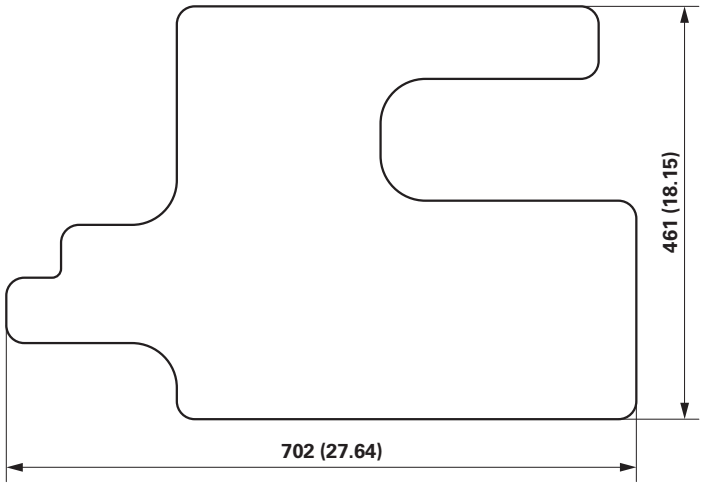


Floor Insulators

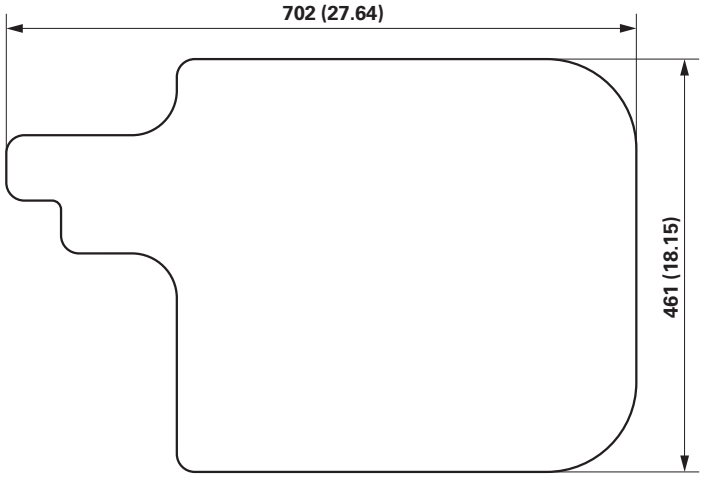
Insulator Sizes

Unit: mm (in)

① RIGHT-FRONT FLOOR FRONT INSULATOR

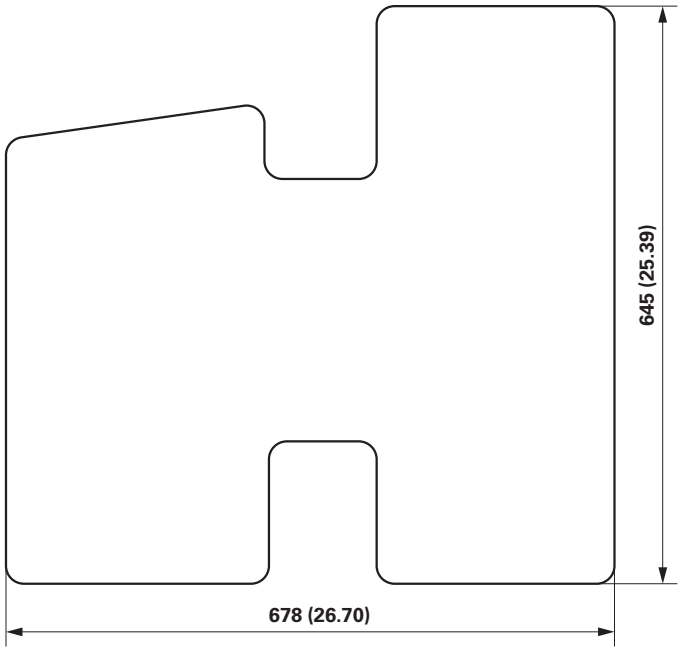


② LEFT-FRONT FLOOR FRONT INSULATOR

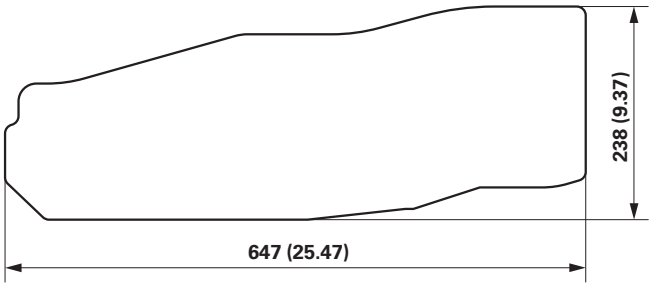


Unit: mm (in)

③ FRONT FLOOR REAR INSULATOR



④ RIGHT-MIDDLE FLOOR CROSSMEMBER INSULATOR



(cont'd)

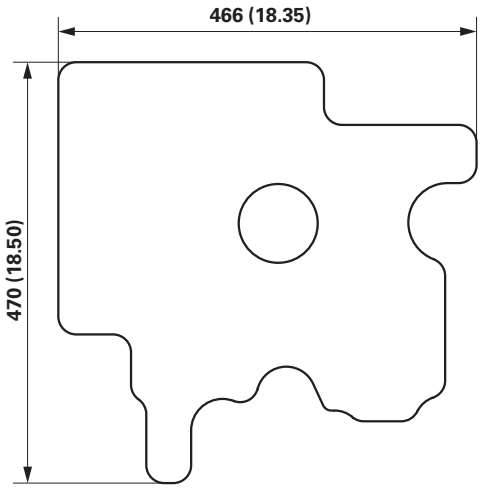
Floor Insulators

Insulator Sizes (cont'd)

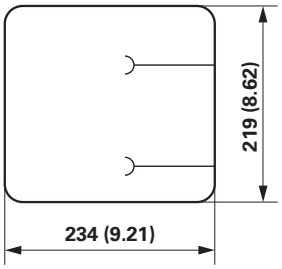
Unit: mm (in)

⑤ LEFT-MIDDLE FLOOR CROSSMEMBER INSULATOR

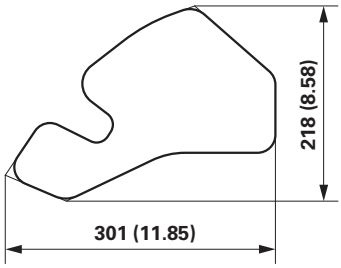
⑥ MIDDLE FLOOR SIDE INSULATOR



⑦ MIDDLE FLOOR CENTER INSULATOR

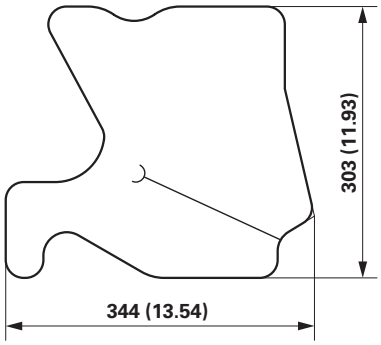


⑧ REAR WHEELHOUSE INSULATOR

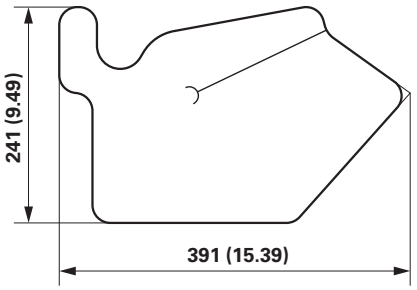


Unit: mm (in)

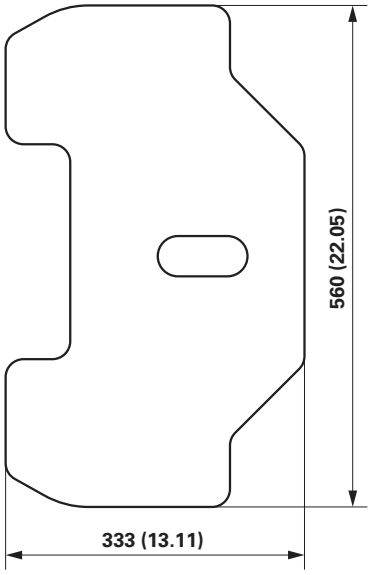
⑨ RIGHT-REAR FLOOR INSULATOR



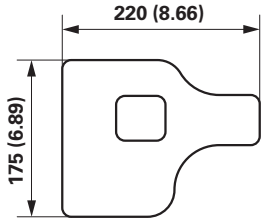
⑩ LEFT-REAR FLOOR INSULATOR



⑪ REAR FLOOR CENTER INSULATOR



⑫ REAR FLOOR CENTER END INSULATOR



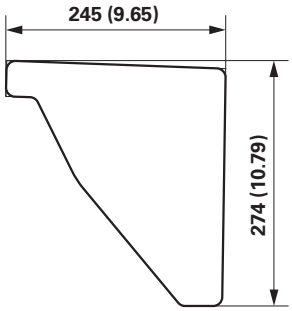
(cont'd)

Floor Insulators

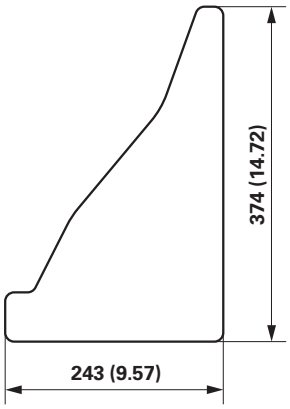
Insulator Sizes (cont'd)

Unit: mm (in)

⑬ RIGHT-REAR FLOOR END INSULATOR



⑭ LEFT-REAR FLOOR END INSULATOR



Body Dimensional Drawings

Upper Body Measuring Dimensions

Under Body Measuring Dimensions

Frame Repair Chart

Upper Body Measuring Dimensions

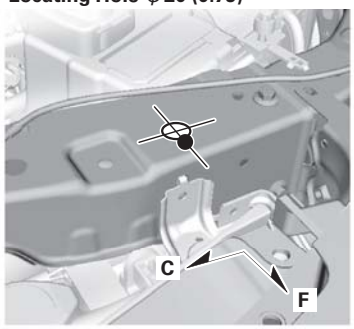
Front Fender Positions

Reference

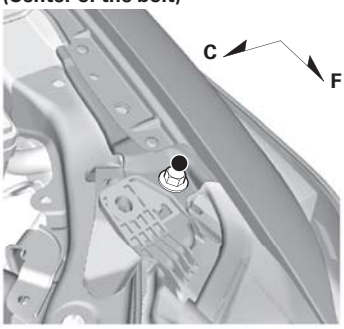
NOTE: The front bumper grille cover and the cowl cover are removed in the illustrations.

Unit: mm (in)
ϕ : Inner diameter

A, a
Bulkhead Upper Center Frame A Locating Hole ϕ 20 (0.79)

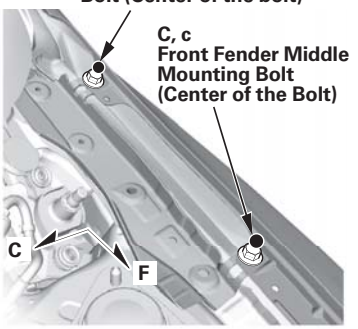


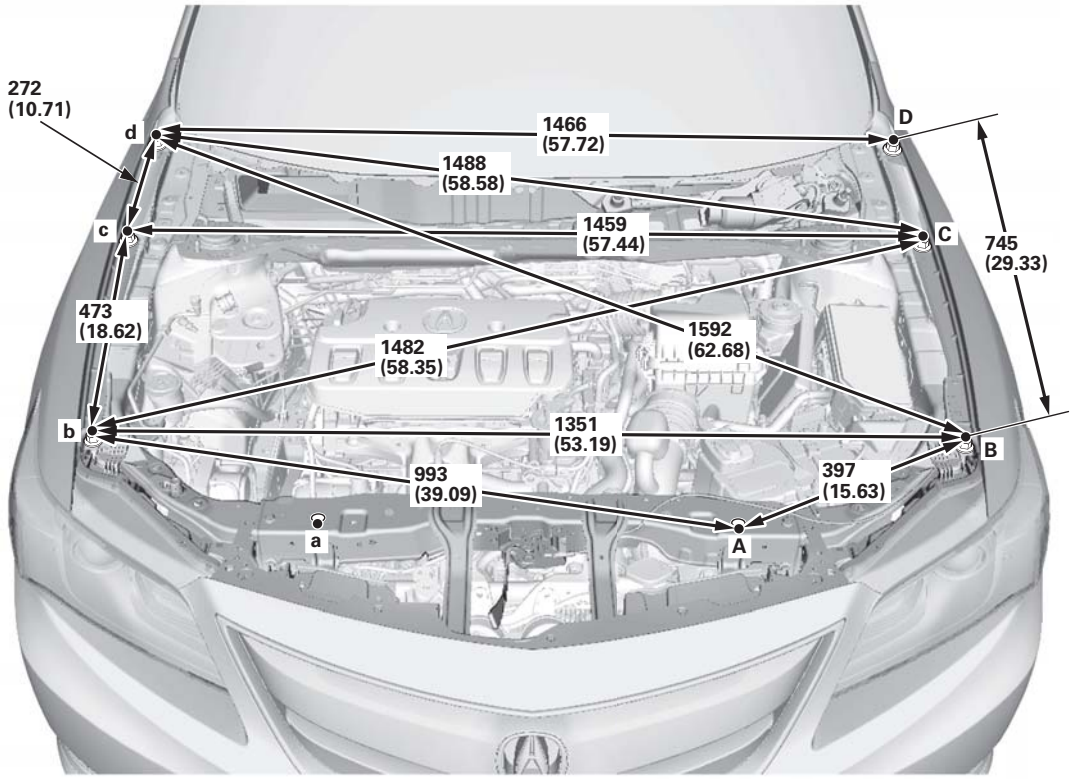
B, b
Front Fender Front Mounting Bolt (Center of the bolt)



D, d
Front Fender Rear Mounting Bolt (Center of the bolt)

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

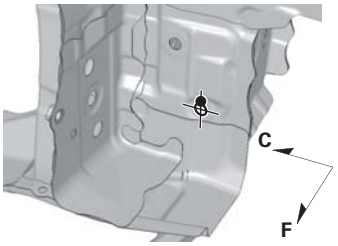




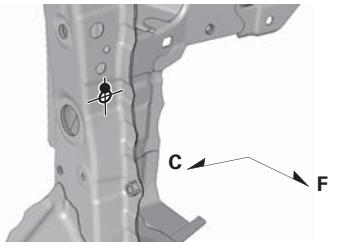
Front Bulkhead Position

Unit: mm (in)
ϕ : Inner diameter

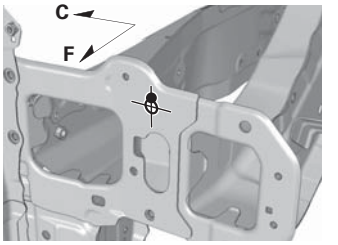
A1, a1
Air Guide Mounting Hole
right: ϕ 11 (0.43)/left: ϕ 9 (0.35)



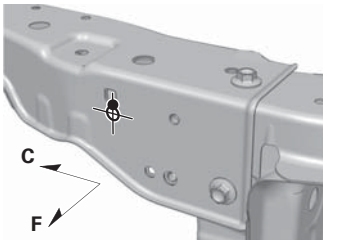
A2, a2
Radiator Side Seal
Mounting Hole ϕ 10 (0.39)

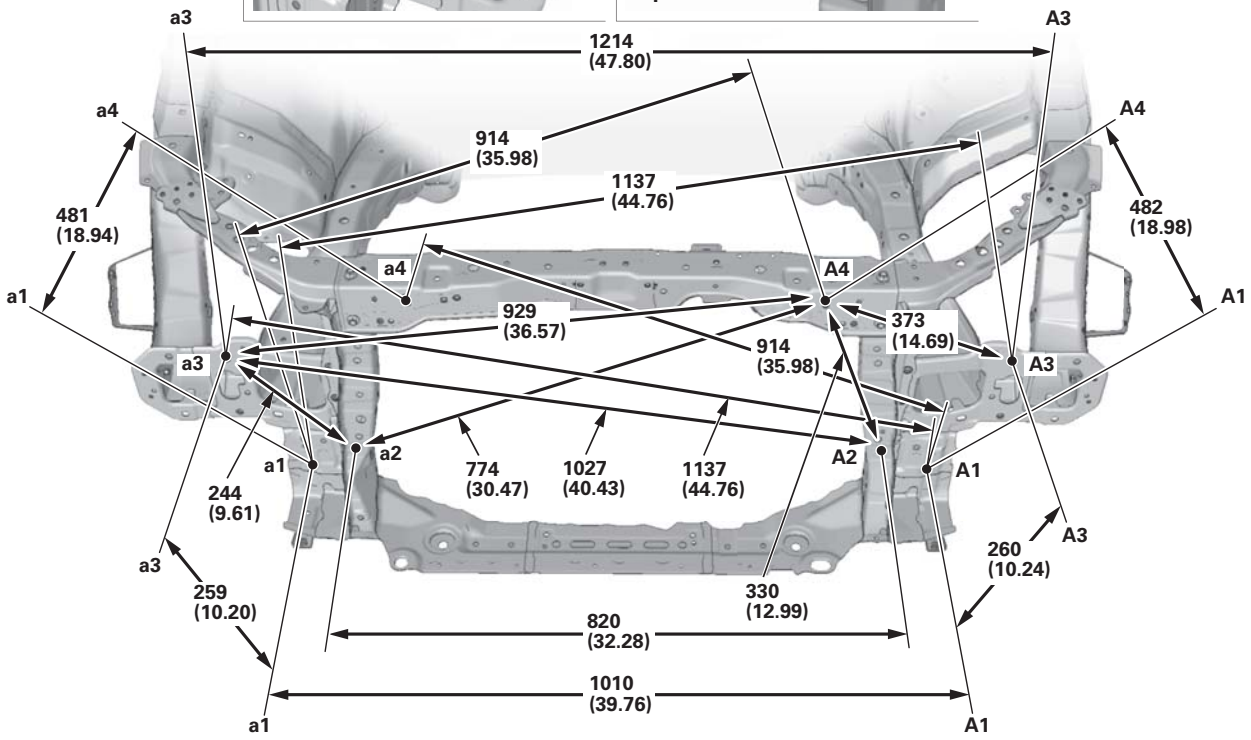


A3, a3
Front Bumper Beam
Mounting Hole ϕ 12 (0.47)



A4, a4
Radiator Upper Mount Bracket
Mounting Hole ϕ 9 (0.35)



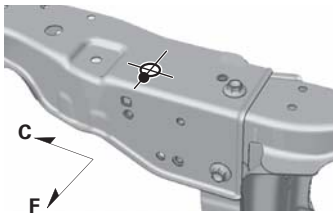


Upper Body Measuring Dimensions

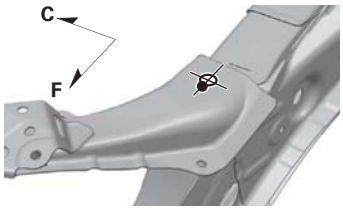
Engine Compartment

Unit: mm (in)
ϕ: Inner diameter

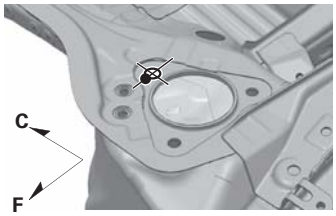
B1, b1
Bulkhead Upper Center
Frame A Locating Hole ϕ 15 (0.59)



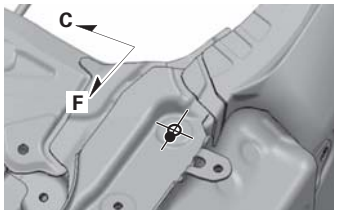
B2, b2
Bulkhead Upper Side Frame
Locating Hole ϕ 11 (0.43)

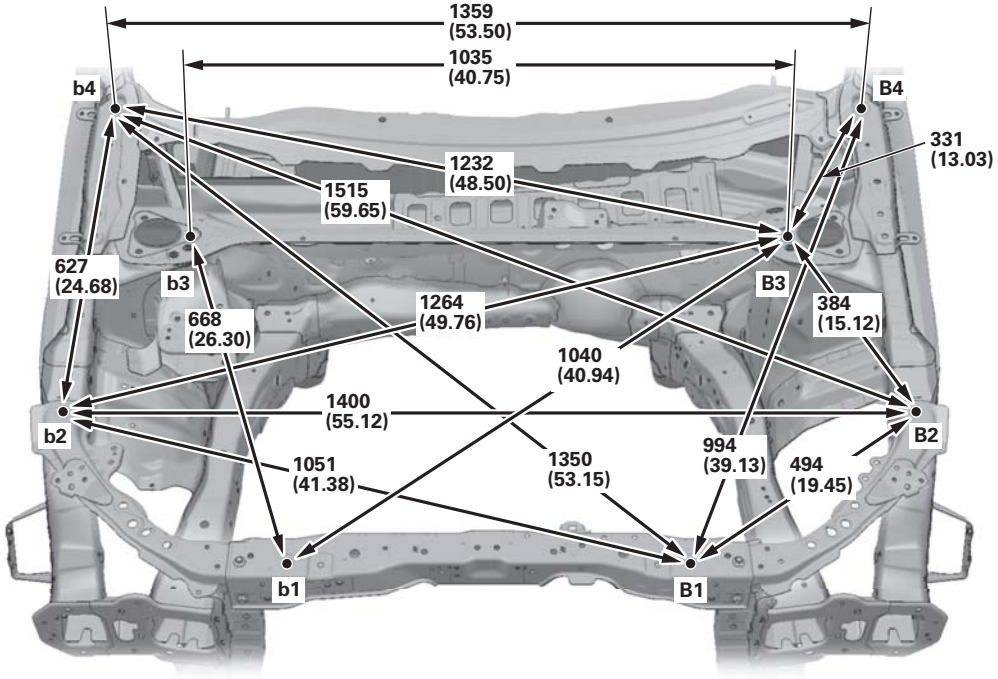


B3, b3
Front Damper Mounting
Hole ϕ 11.5 (0.453)



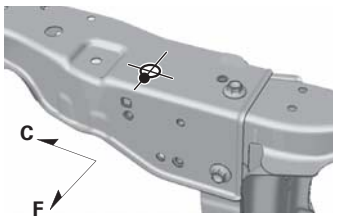
B4, b4
Hood Hinge Rear Mounting
Hole ϕ 7 (0.28)



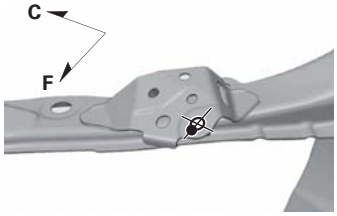


Unit: mm (in)
ϕ : Inner diameter

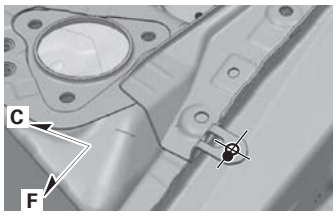
B1, b1
Bulkhead Upper Center Frame A Locating Hole ϕ 15 (0.59)



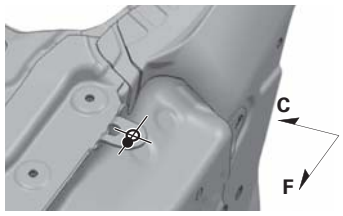
B5, b5
Front Fender Front Mounting Hole ϕ 7 (0.28)

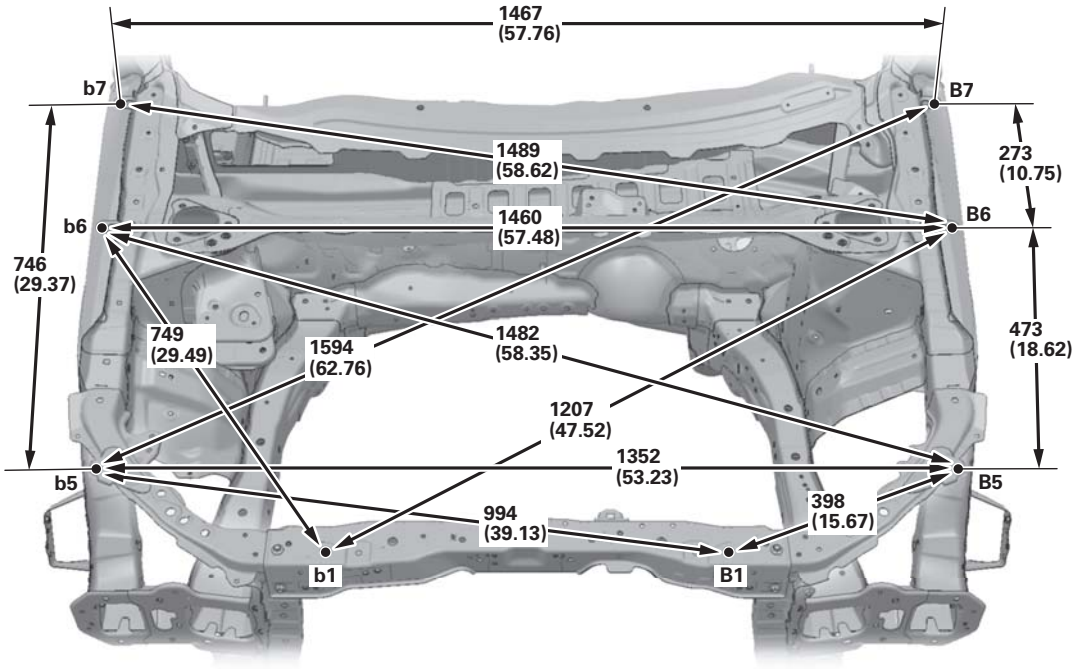


B6, b6
Front Fender Middle Mounting Hole ϕ 7 (0.28)



B7, b7
Front Fender Rear Mounting Hole ϕ 7 (0.28)



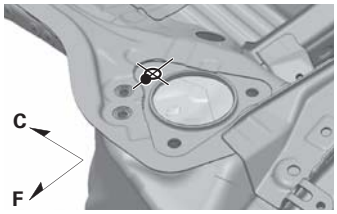


Upper Body Measuring Dimensions

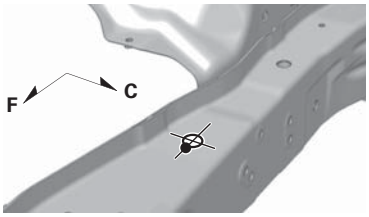
Engine and Transmission Mount Positions

Unit: mm (in)
ϕ: Inner diameter

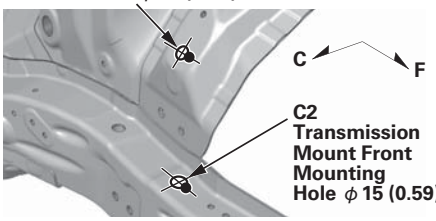
B3, b3
Front Damper Mounting
Hole ϕ 11.5 (0.453)



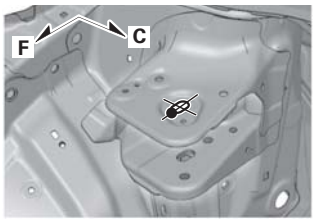
C1
Engine Side Mount Front
Mounting Hole ϕ 15 (0.59)

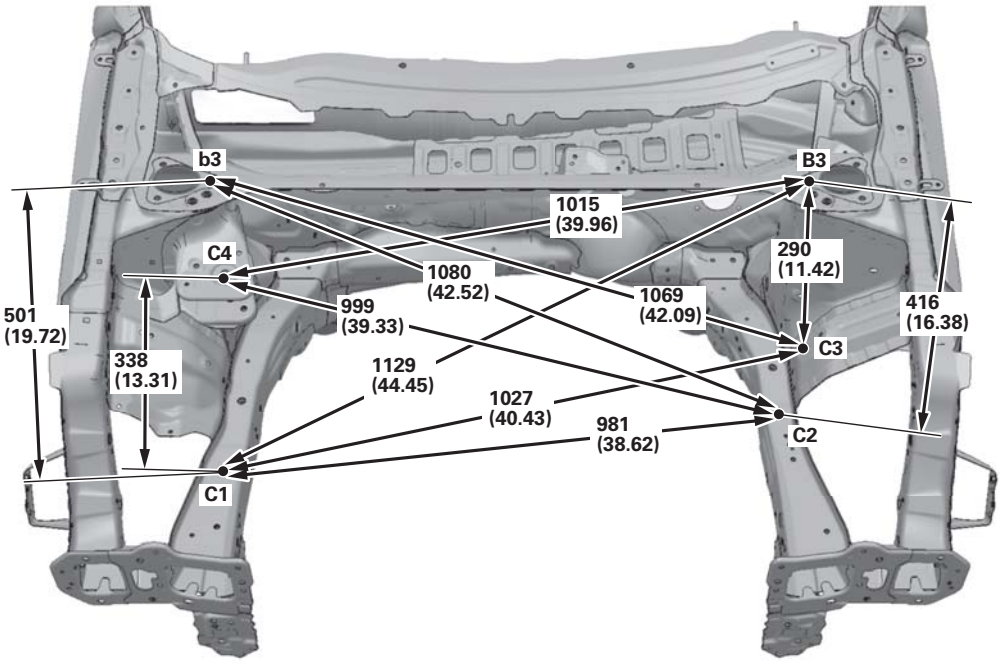


C3
Transmission Mount Mounting
Hole ϕ 13 (0.51) wheelhouse side



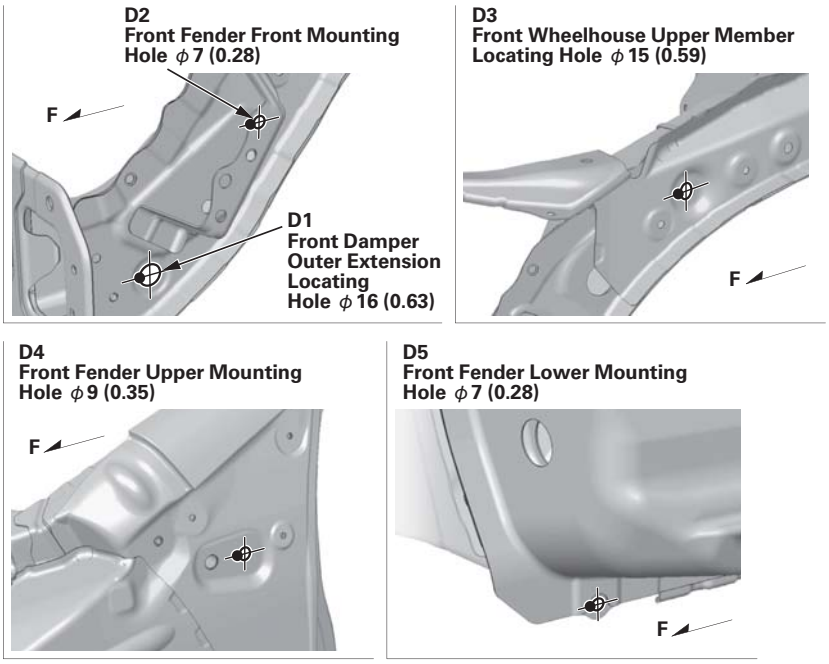
C4
Torque Rod Mounting
Hole ϕ 14.5 (0.571) x 19.5 (0.768) slot

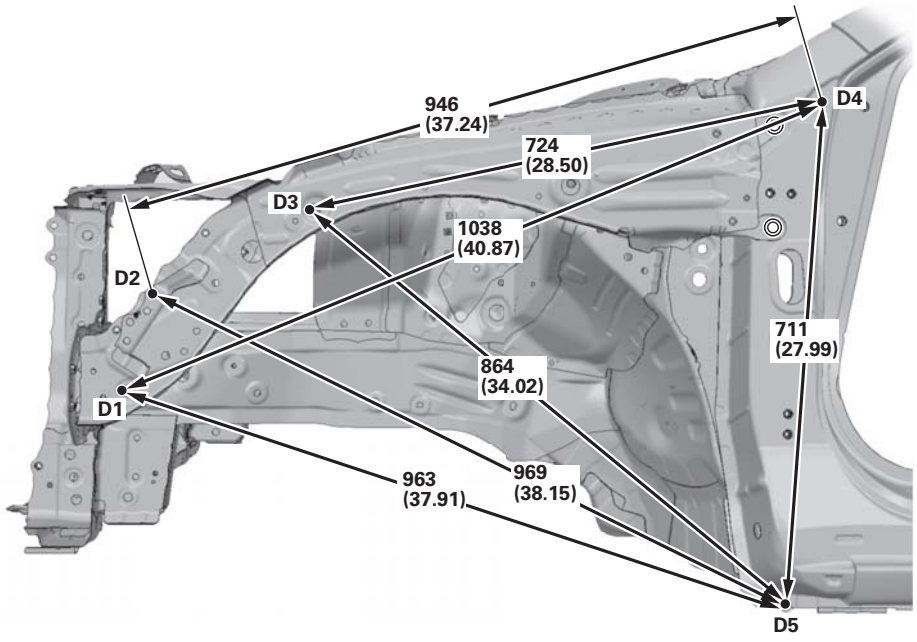




Front Damper Extension Position

Unit: mm (in)
ϕ: Inner diameter



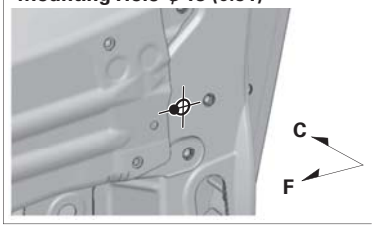


Upper Body Measuring Dimensions

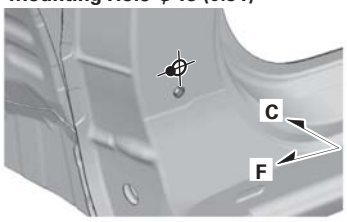
Door Hinge Positions

Unit: mm (in)
ϕ: Inner diameter

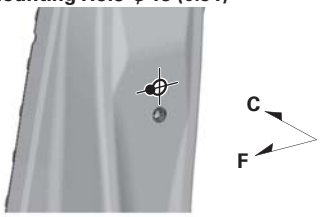
E1
Front Door Upper Hinge Front Mounting Hole ϕ13 (0.51)



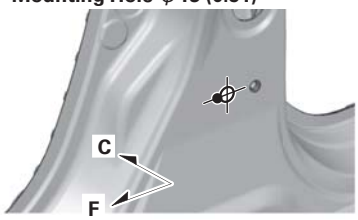
E2
Front Door Lower Hinge Upper Mounting Hole ϕ13 (0.51)



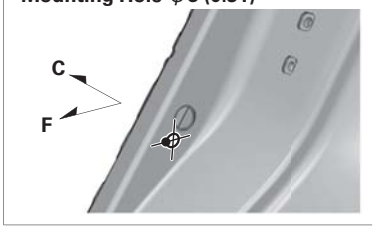
E3
Rear Door Upper Hinge Upper Mounting Hole ϕ13 (0.51)

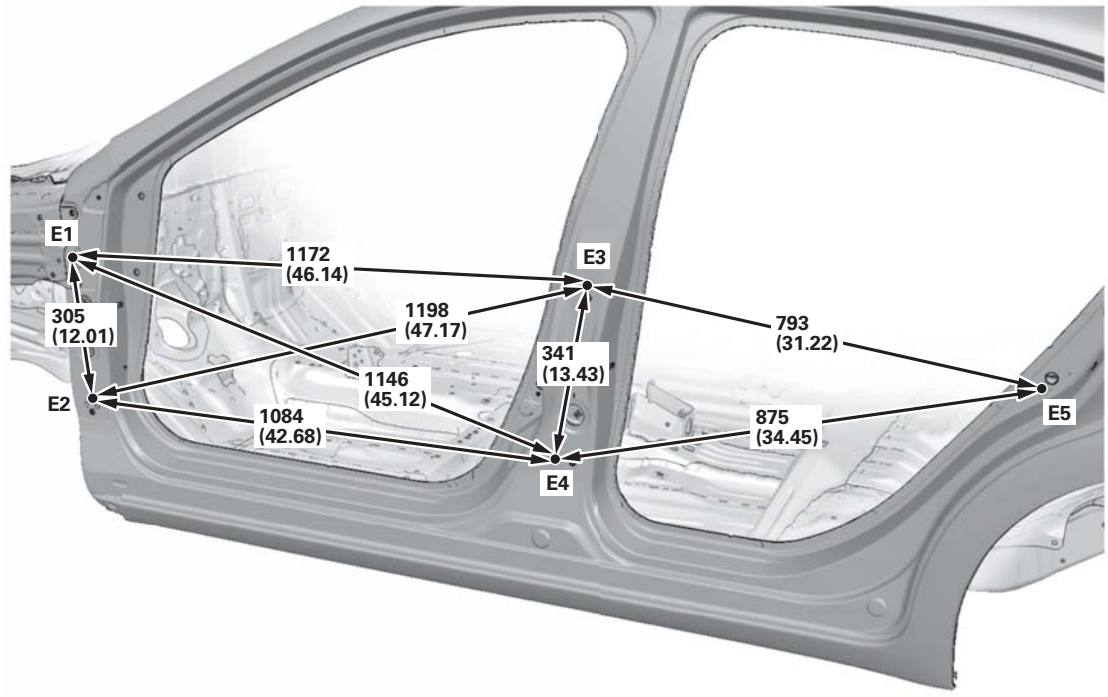


E4
Rear Door Lower Hinge Front Mounting Hole ϕ13 (0.51)



E5
Rear Door Switch Mounting Hole ϕ8 (0.31)

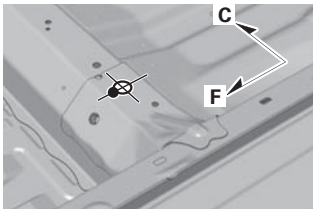




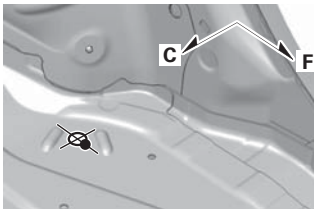
Passenger's Compartment

Unit: mm (in)
ϕ: Inner diameter

F1, f1
Front Floor Crossmember Stiffener Locating Hole ϕ 17 (0.67)

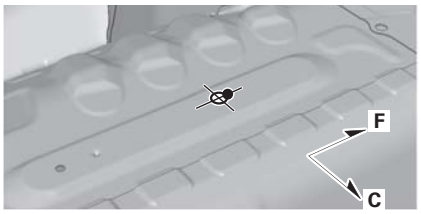


F2, f2
Rear Seat Belt Lower Anchor Mounting Hole ϕ 13 (0.51)

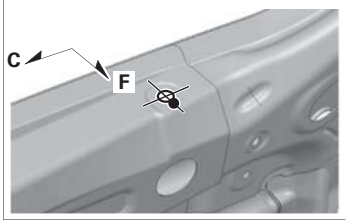


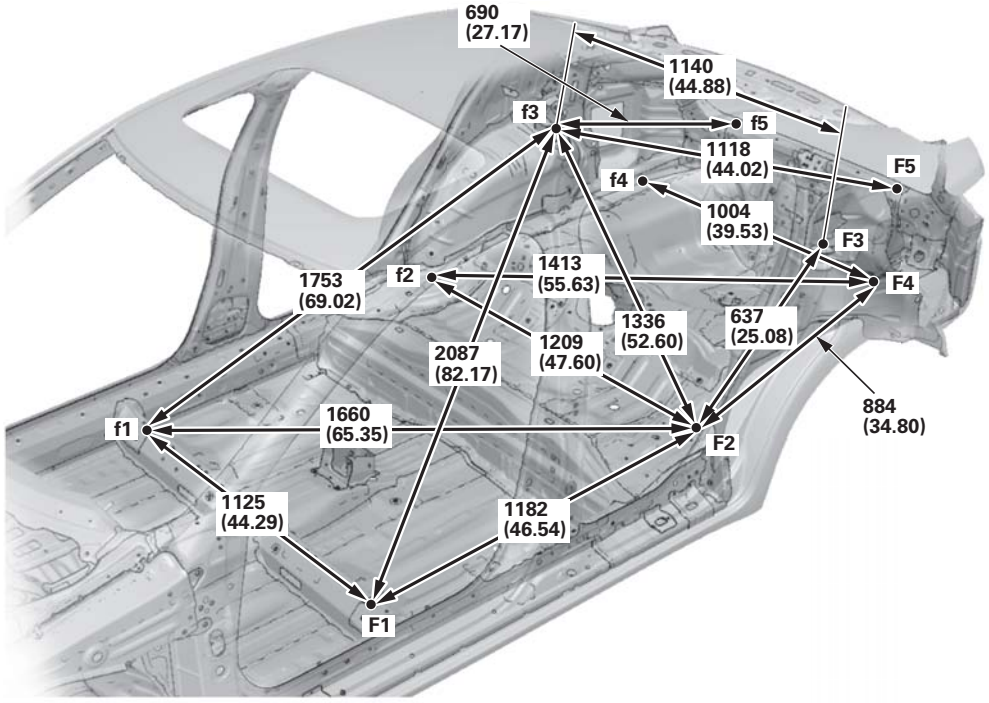
F3, f3
Rear Damper Mounting Hole ϕ 24 (0.94)

F4, f4
Rear Floor Side Stiffener Rear Locating Hole ϕ 11 (0.43)



F5, f5
Trunk Trim Panel Clip Mounting Hole ϕ 8.5 (0.335)



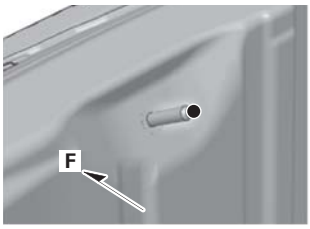


Upper Body Measuring Dimensions

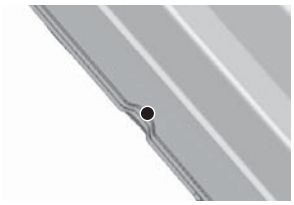
Windshield and Door Openings

Unit: mm (in)

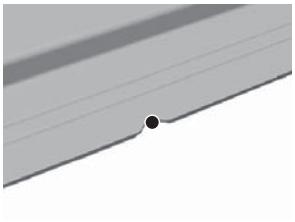
A
Windshield Lower Dashboard Installing Pin center

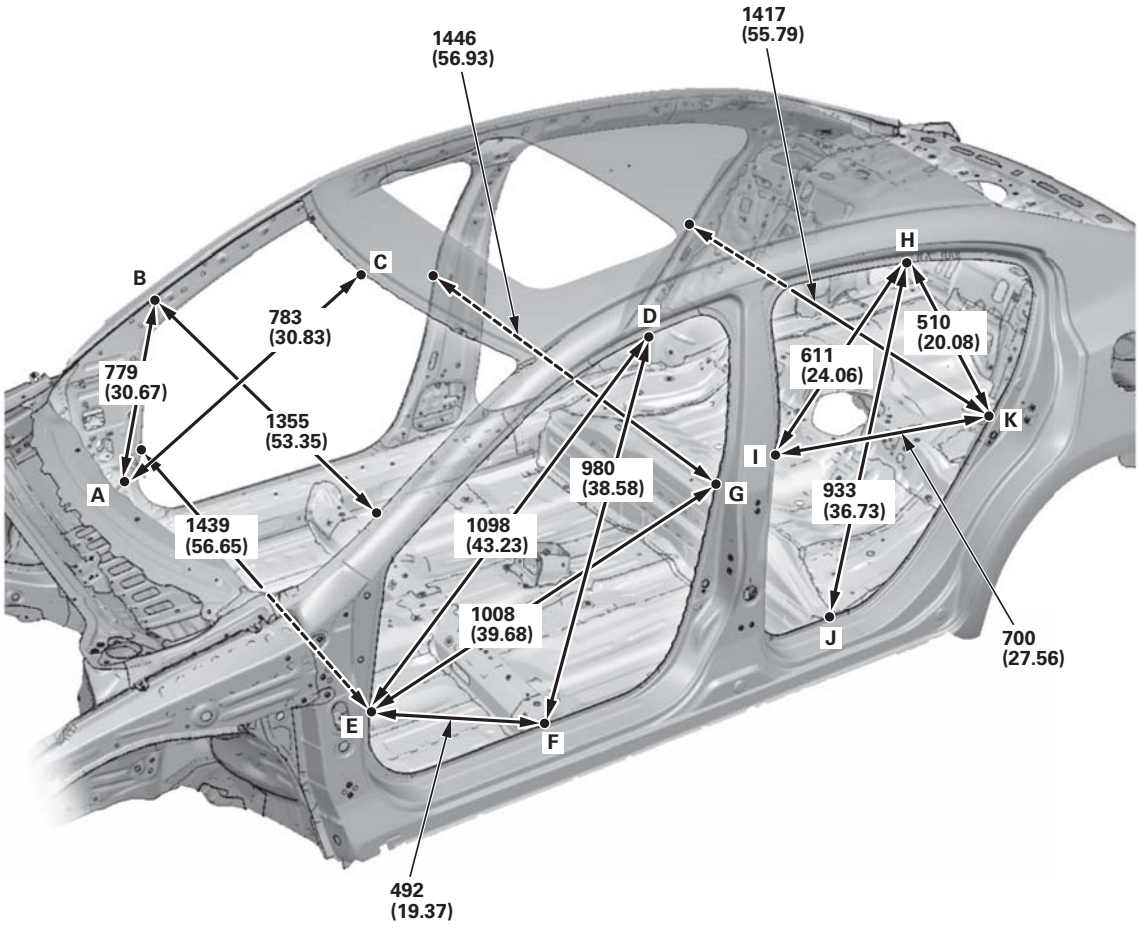


B, C
Outer Panel and Roof Panel Windshield Opening Flange Notch (3 places)



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

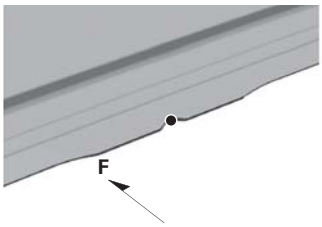




Rear Window and Trunk Lid Openings

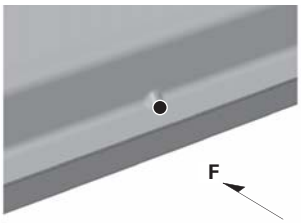
Unit: mm (in)

L
Roof Panel Rear Window Opening Flange Notch

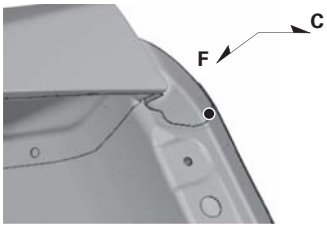


M
Outer Panel Rear Window Opening Flange Notch (2 places)

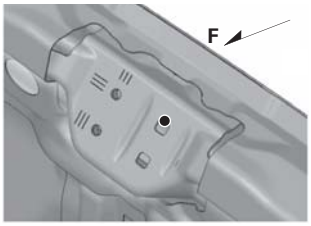
N
Rear Shelf Convex Bead

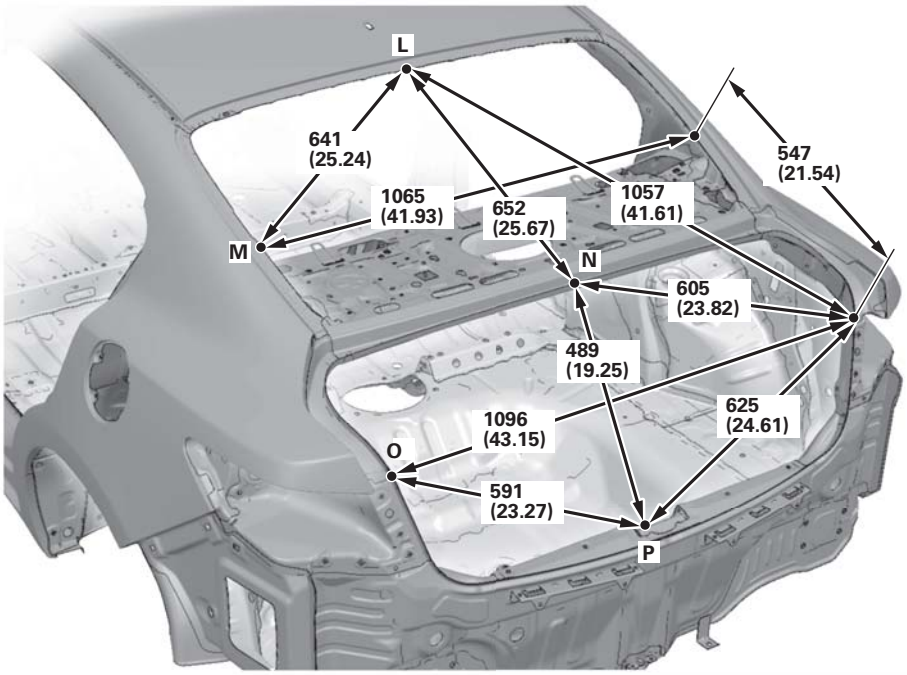


O
Rear Gutter Upper Flange End (2 places)



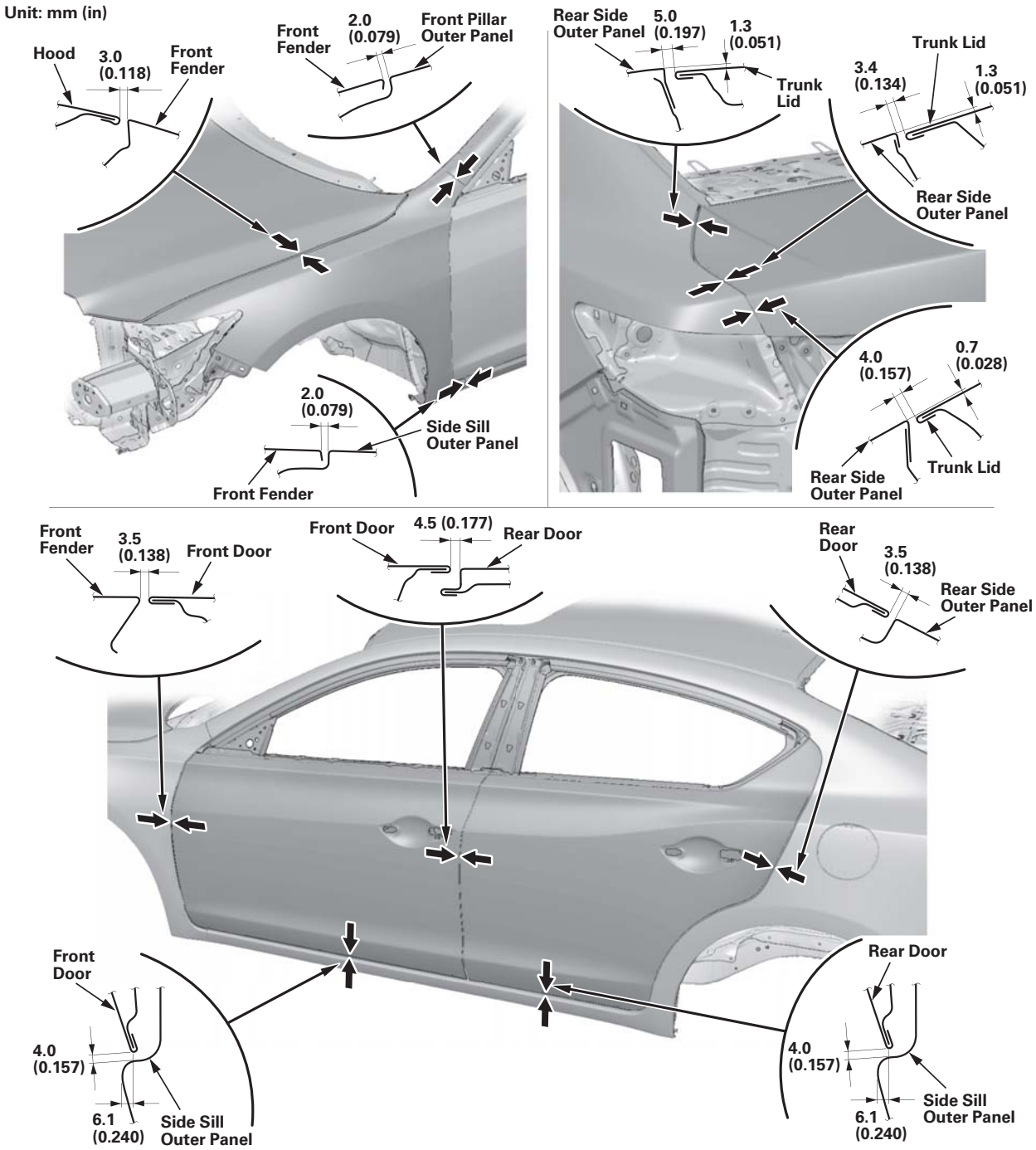
P
Rear Panel Upper Stiffener Striker Jig Upper Hole Center





Upper Body Measuring Dimensions

External Parts Fitting Positions



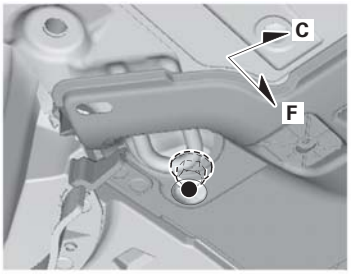
Under Body Measuring Dimensions

Front Subframe Position

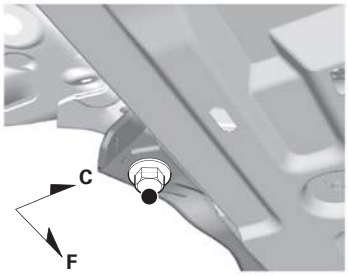
Reference

Unit: mm (in)

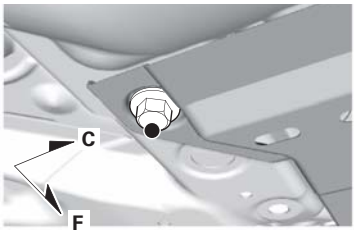
A, a
Front Subframe Front Mounting Bolt (Center of the clip)

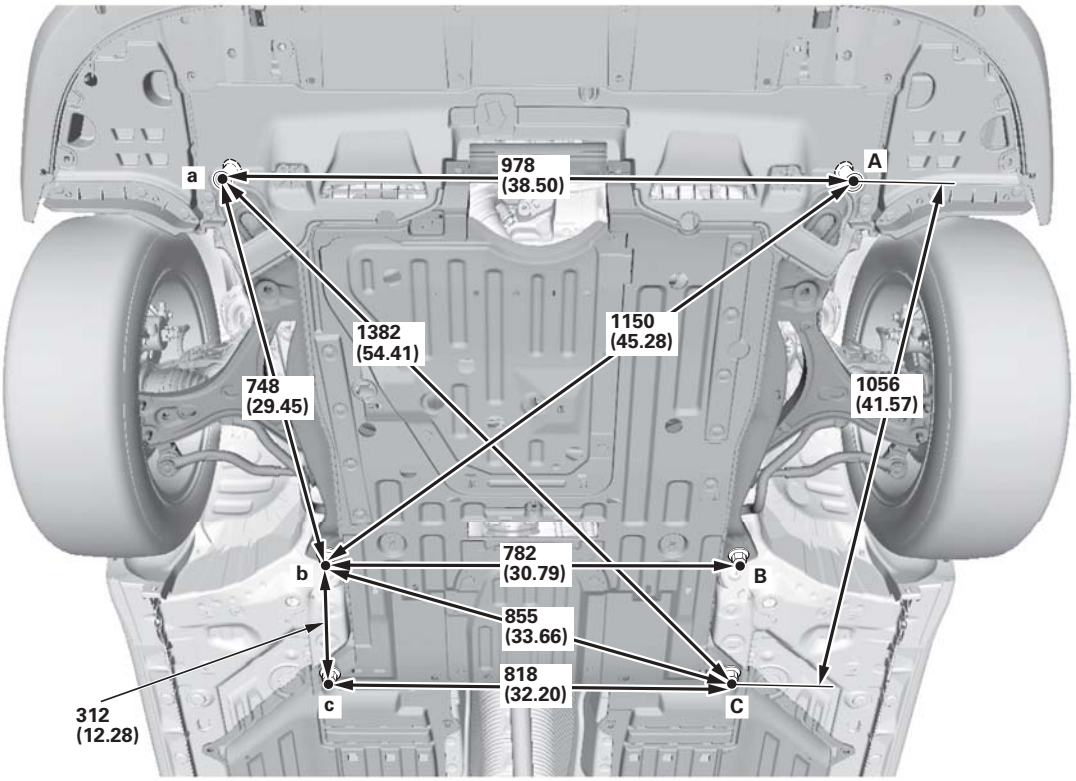


B, b
Front Subframe Rear Mounting Bolt (Center of the bolt)



C, c
Engine Under Cover Mounting Bolt (Center of the bolt) or Front Floor Under Cover Mounting Bolt (Center of the bolt)



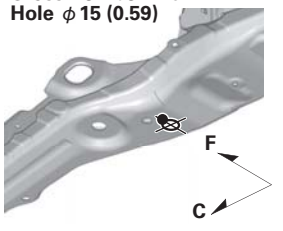


Under Body Measuring Dimensions

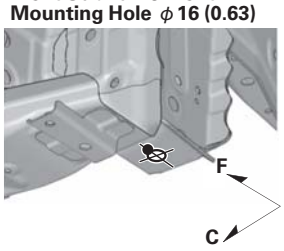
Engine Compartment and Front Floor, Under View

Unit: mm (in)
ϕ : Inner diameter

A, a
Front Bulkhead Lower Crossmember Drain Hole ϕ 15 (0.59)

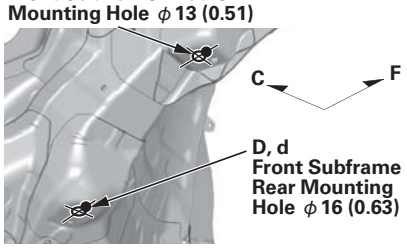


B, b
Front Subframe Front Mounting Hole ϕ 16 (0.63)



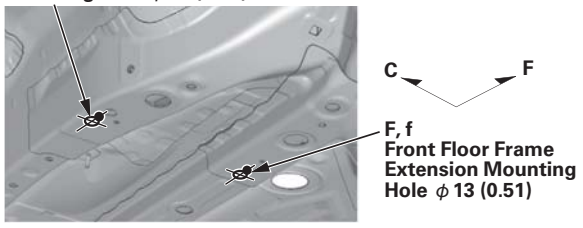
C, c
Front Subframe Middle Mounting Hole ϕ 13 (0.51)

D, d
Front Subframe Rear Mounting Hole ϕ 16 (0.63)

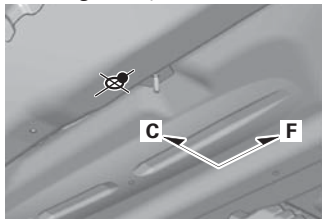


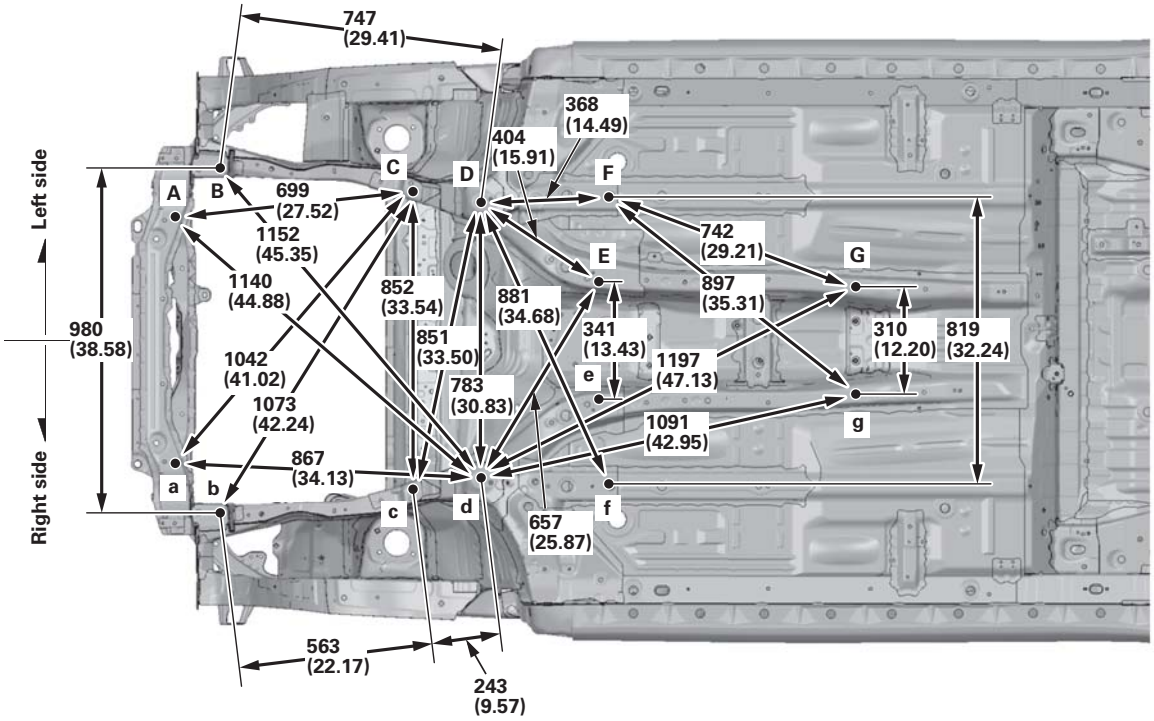
E, e
Center Frame Extension Rear Locating Hole ϕ 11 (0.43)

F, f
Front Floor Frame Extension Mounting Hole ϕ 13 (0.51)



G, g
Center Tunnel Frame Locating Hole ϕ 15 (0.59)

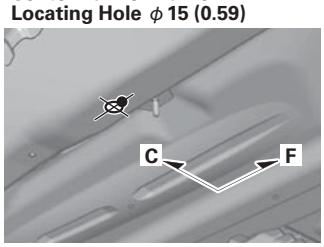




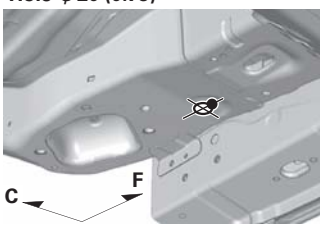
Front Floor and Rear Floor, Under View

Unit: mm (in)
ϕ : Inner diameter

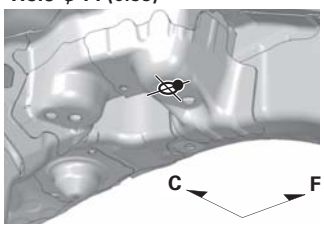
G, g
Center Tunnel Frame
Locating Hole ϕ 15 (0.59)



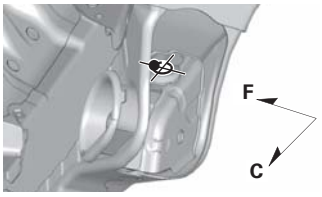
H, h
Rear Frame A Locating
Hole ϕ 20 (0.79)



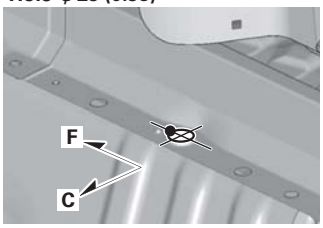
I, i
Rear Upper Arm Mounting
Hole ϕ 14 (0.55)

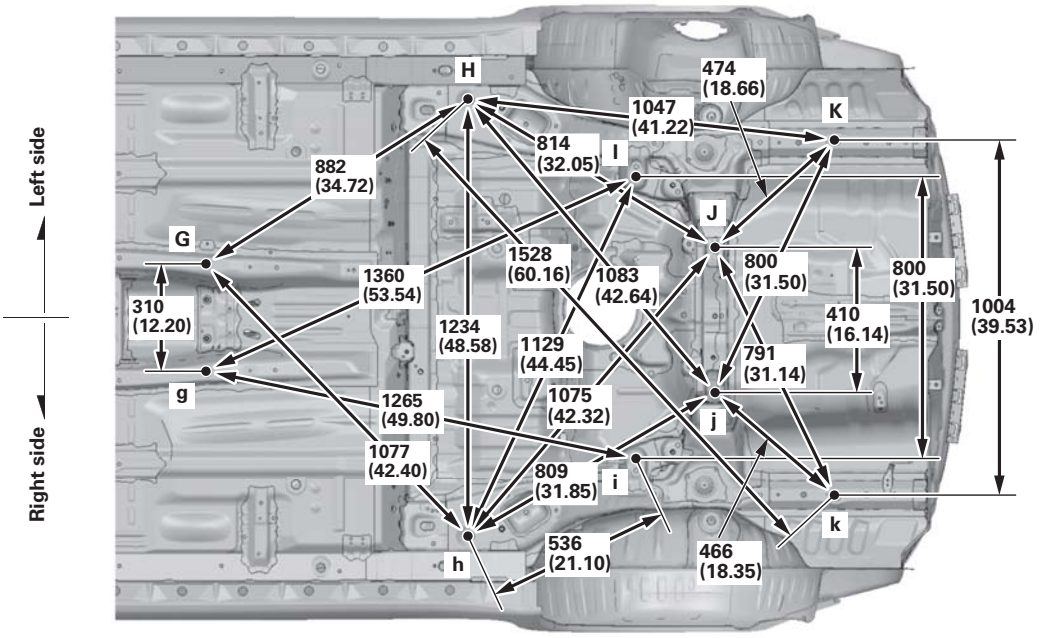


J, j
Rear Floor Crossmember
Locating Hole
left ϕ 15 (0.59)/right ϕ 13 (0.51)



K, k
Rear Frame B Locating
Hole ϕ 25 (0.98)



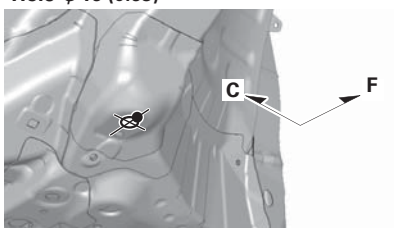


Under Body Measuring Dimensions

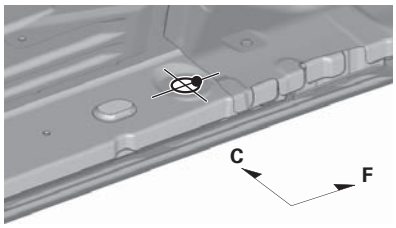
Inside Sill Positions

Unit: mm (in)
ϕ: Inner diameter

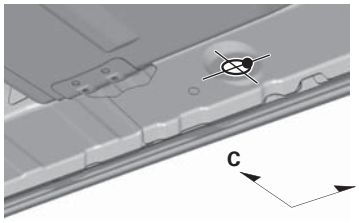
D, d
Front Subframe Rear Mounting Hole ϕ16 (0.63)



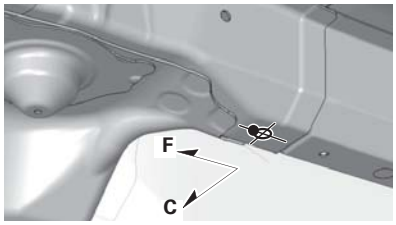
L, l
Inside Sill Front Locating Hole ϕ25 (0.98)

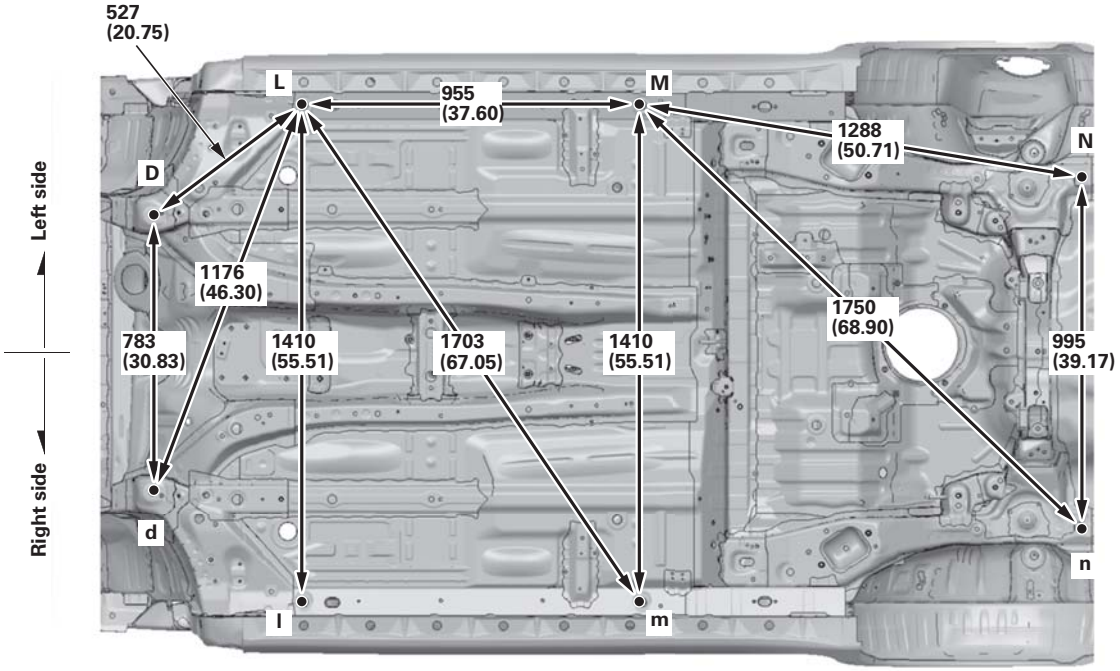


M, m
Inside Sill Rear Locating Hole ϕ25 (0.98)



N, n
Rear Frame Stiffener Locating Hole ϕ11 (0.43)

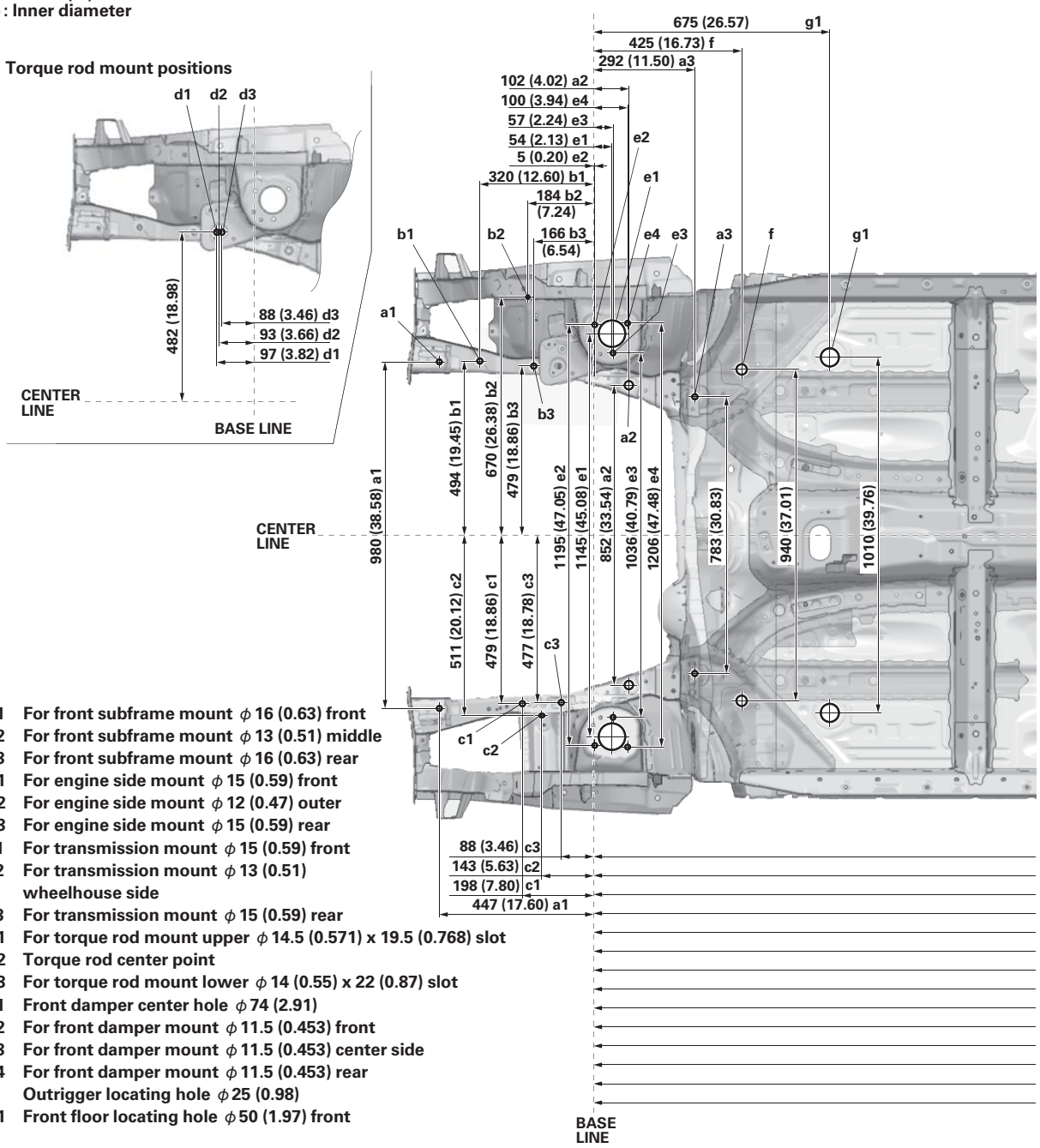




Frame Repair Chart

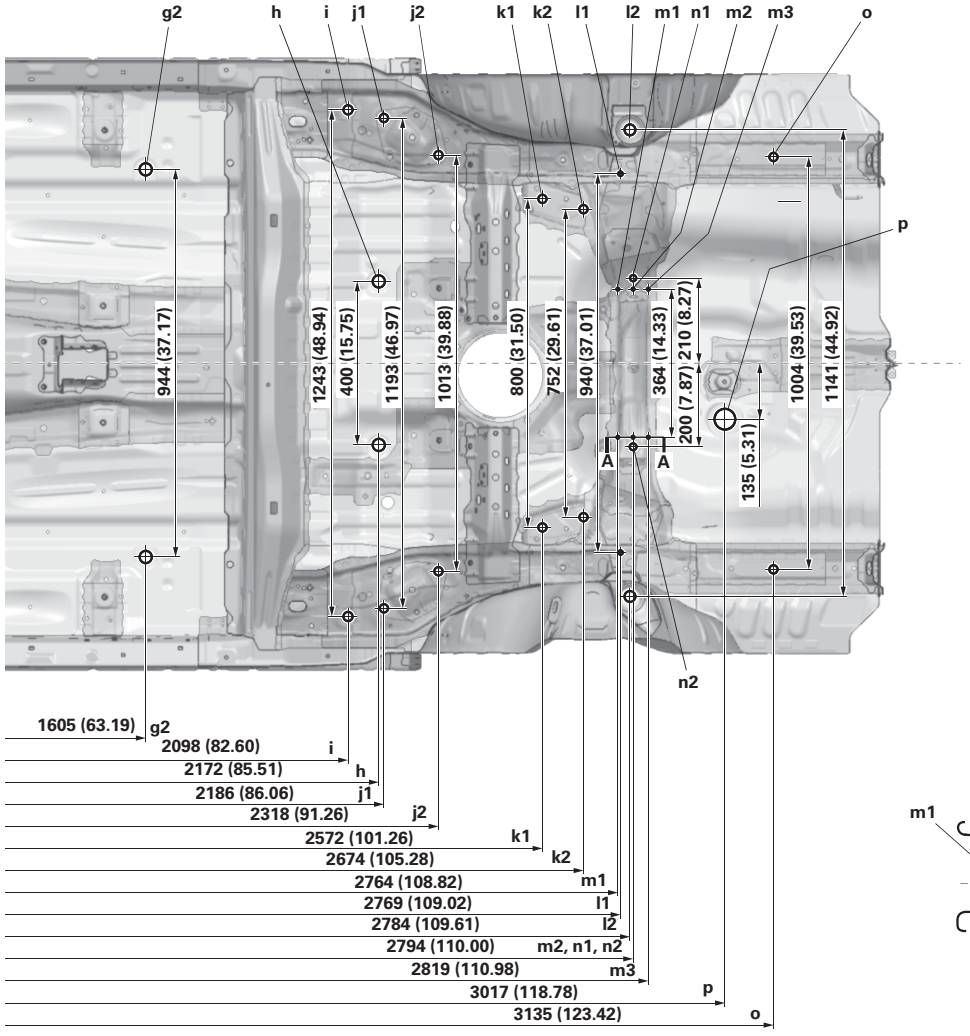
Repair Chart, Top View

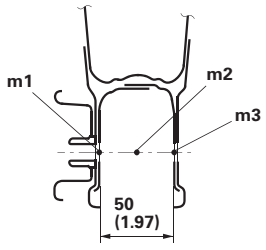
Unit: mm (in)
ϕ: Inner diameter



a1 For front subframe mount ϕ 16 (0.63) front
a2 For front subframe mount ϕ 13 (0.51) middle
a3 For front subframe mount ϕ 16 (0.63) rear
b1 For engine side mount ϕ 15 (0.59) front
b2 For engine side mount ϕ 12 (0.47) outer
b3 For engine side mount ϕ 15 (0.59) rear
c1 For transmission mount ϕ 15 (0.59) front
c2 For transmission mount ϕ 13 (0.51) wheelhouse side
c3 For transmission mount ϕ 15 (0.59) rear
d1 For torque rod mount upper ϕ 14.5 (0.571) x 19.5 (0.768) slot
d2 Torque rod center point
d3 For torque rod mount lower ϕ 14 (0.55) x 22 (0.87) slot
e1 Front damper center hole ϕ 74 (2.91)
e2 For front damper mount ϕ 11.5 (0.453) front
e3 For front damper mount ϕ 11.5 (0.453) center side
e4 For front damper mount ϕ 11.5 (0.453) rear
f Outrigger locating hole ϕ 25 (0.98)
g1 Front floor locating hole ϕ 50 (1.97) front

g2 Front floor locating hole ϕ25 (0.98) rear
h Rear floor locating hole ϕ25 (0.98) front
i Rear frame A locating hole ϕ20 (0.79)
j1 For trailing arm mount ϕ17 (0.67) outer
j2 For trailing arm mount ϕ17 (0.67) inner
k1 For upper arm mount ϕ14 (0.55) front
k2 For upper arm mount ϕ14 (0.55) rear
l1 Rear spring upper seat ϕ5 (0.20)
l2 For rear damper mount ϕ24 (0.94)
m1 For lower arm mount ϕ13.8 (0.543) front
m2 Lower arm center point
m3 For lower arm mount ϕ13 (0.51) rear
n1 Rear floor crossmember locating hole ϕ13 (0.51) right
n2 Rear floor crossmember locating hole ϕ15 (0.59) left
o Rear frame B locating hole ϕ25 (0.98)
p Rear floor locating hole ϕ50 (1.97) rear





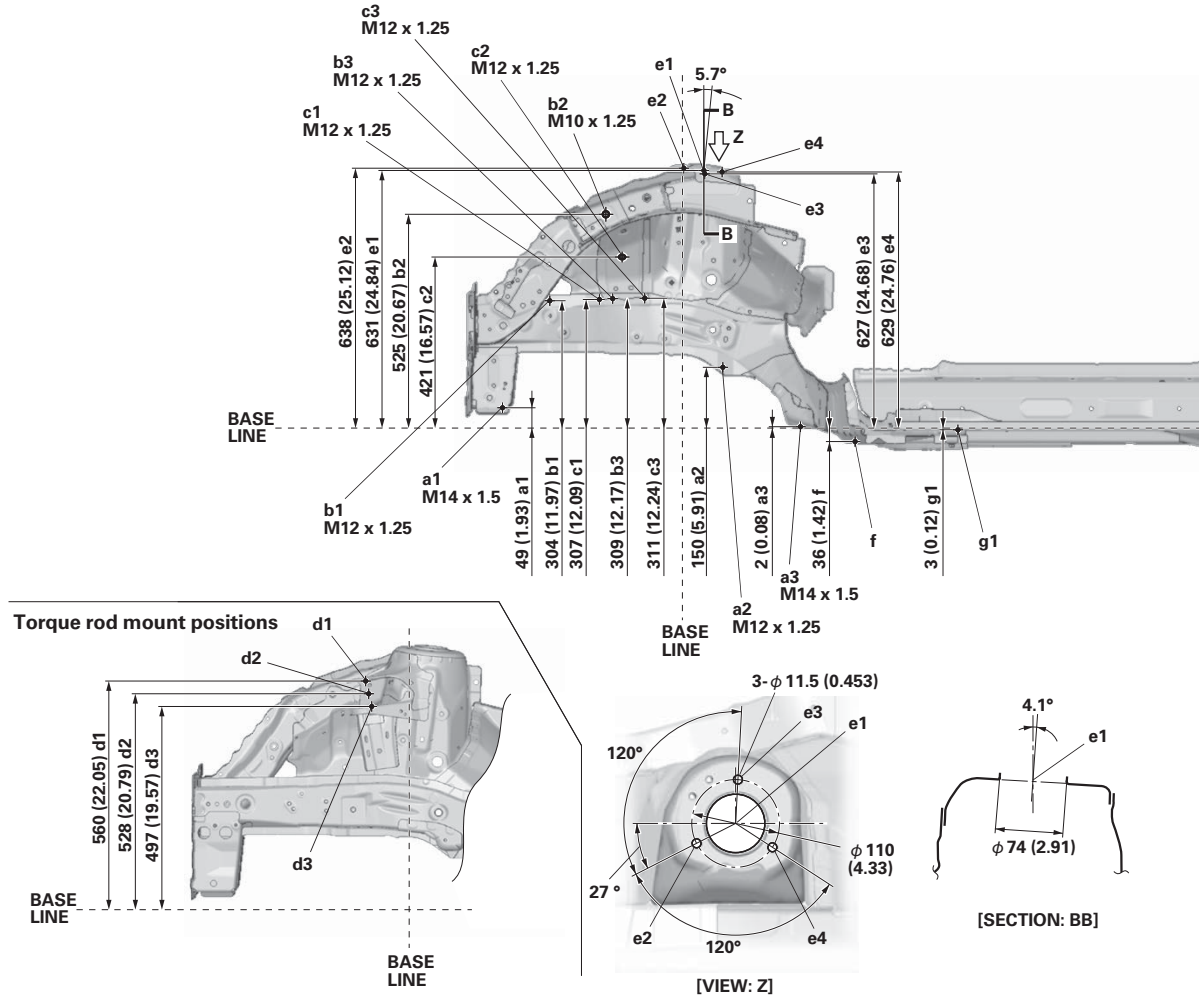
[SECTION: AA]

Frame Repair Chart

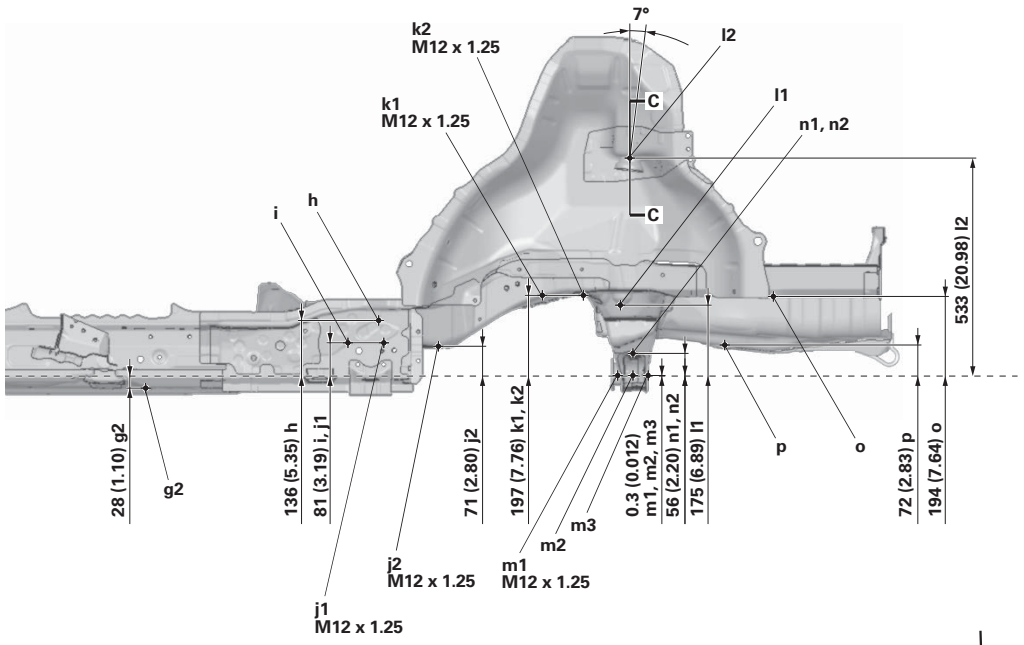
Repair Chart, Side View

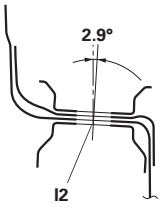
Unit: mm (in)
ϕ: Inner diameter

a1 For front subframe mount ϕ16 (0.63) front
a2 For front subframe mount ϕ13 (0.51) middle
a3 For front subframe mount ϕ16 (0.63) rear
b1 For engine side mount ϕ15 (0.59) front
b2 For engine side mount ϕ12 (0.47) outer
b3 For engine side mount ϕ15 (0.59) rear
c1 For transmission mount ϕ15 (0.59) front
c2 For transmission mount ϕ13 (0.51) wheelhouse side
c3 For transmission mount ϕ15 (0.59) rear
d1 For torque rod mount upper ϕ14.5 (0.571) x 19.5 (0.768) slot
d2 Torque rod center point
d3 For torque rod mount lower ϕ14 (0.55) x 22 (0.87) slot
e1 Front damper center hole ϕ74 (2.91)
e2 For front damper mount ϕ11.5 (0.453) front
e3 For front damper mount ϕ11.5 (0.453) center side
e4 For front damper mount ϕ11.5 (0.453) rear
f Outrigger locating hole ϕ25 (0.98)
g1 Front floor locating hole ϕ50 (1.97) front



g2 Front floor locating hole ϕ25 (0.98) rear
h Rear floor locating hole ϕ25 (0.98) front
i Rear frame A locating hole ϕ20 (0.79)
j1 For trailing arm mount ϕ17 (0.67) outer
j2 For trailing arm mount ϕ17 (0.67) inner
k1 For upper arm mount ϕ14 (0.55) front
k2 For upper arm mount ϕ14 (0.55) rear
l1 Rear spring upper seat ϕ5 (0.20)
l2 For rear damper mount ϕ24 (0.94)
m1 For lower arm mount ϕ13.8 (0.543) front
m2 Lower arm center point
m3 For lower arm mount ϕ13 (0.51) rear
n1 Rear floor crossmember locating hole ϕ13 (0.51) right
n2 Rear floor crossmember locating hole ϕ15 (0.59) left
o Rear frame B locating hole ϕ25 (0.98)
p Rear floor locating hole ϕ50 (1.97) rear





[SECTION: CC]

Rust Prevention

Sealing Areas

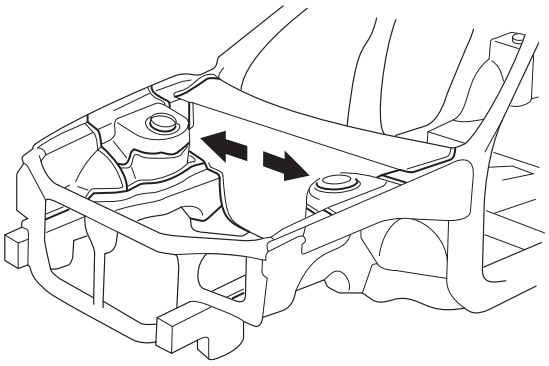
Rust-Preventive Treatments

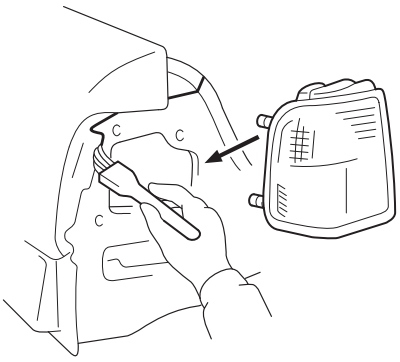
Sealing Areas

General

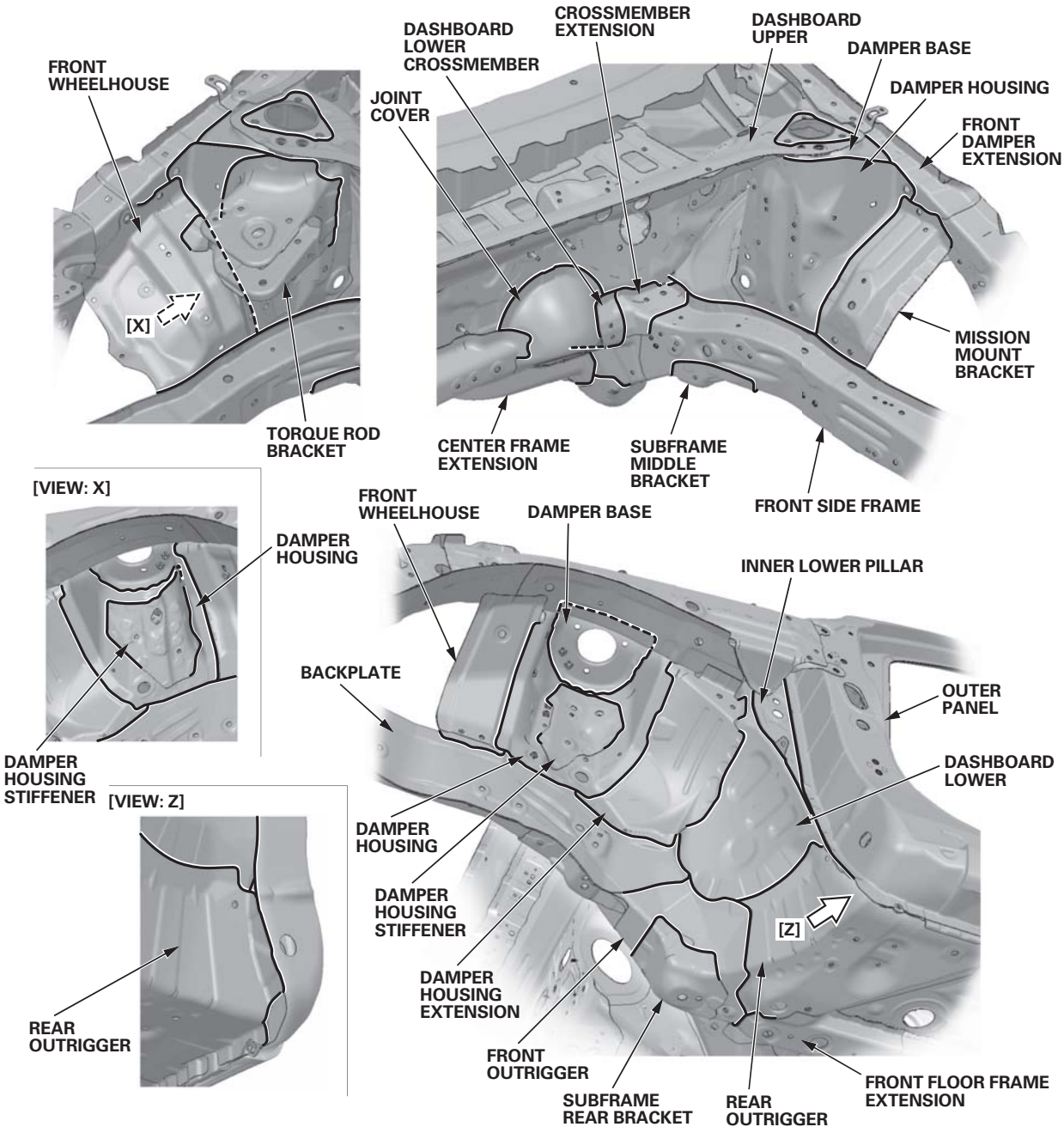
NOTE: Follow the sealant manufacturer's instructions, and apply the sealer. Note the following items:

- 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 these diagrams:
  - Engine compartment, front wheelhouse, and damper housing (see page 5-3)
  - Dashboard upper, dashboard lower, and front floor (see page 5-4)
  - Front floor and rear floor (see page 5-5)
  - Roof panel, rear side outer panel, and rear panel (see page 5-6)
  - Rear wheelhouse (see page 5-7)
  - Under floor, front (see page 5-8)
  - Under floor, rear (see page 5-9)
- 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.



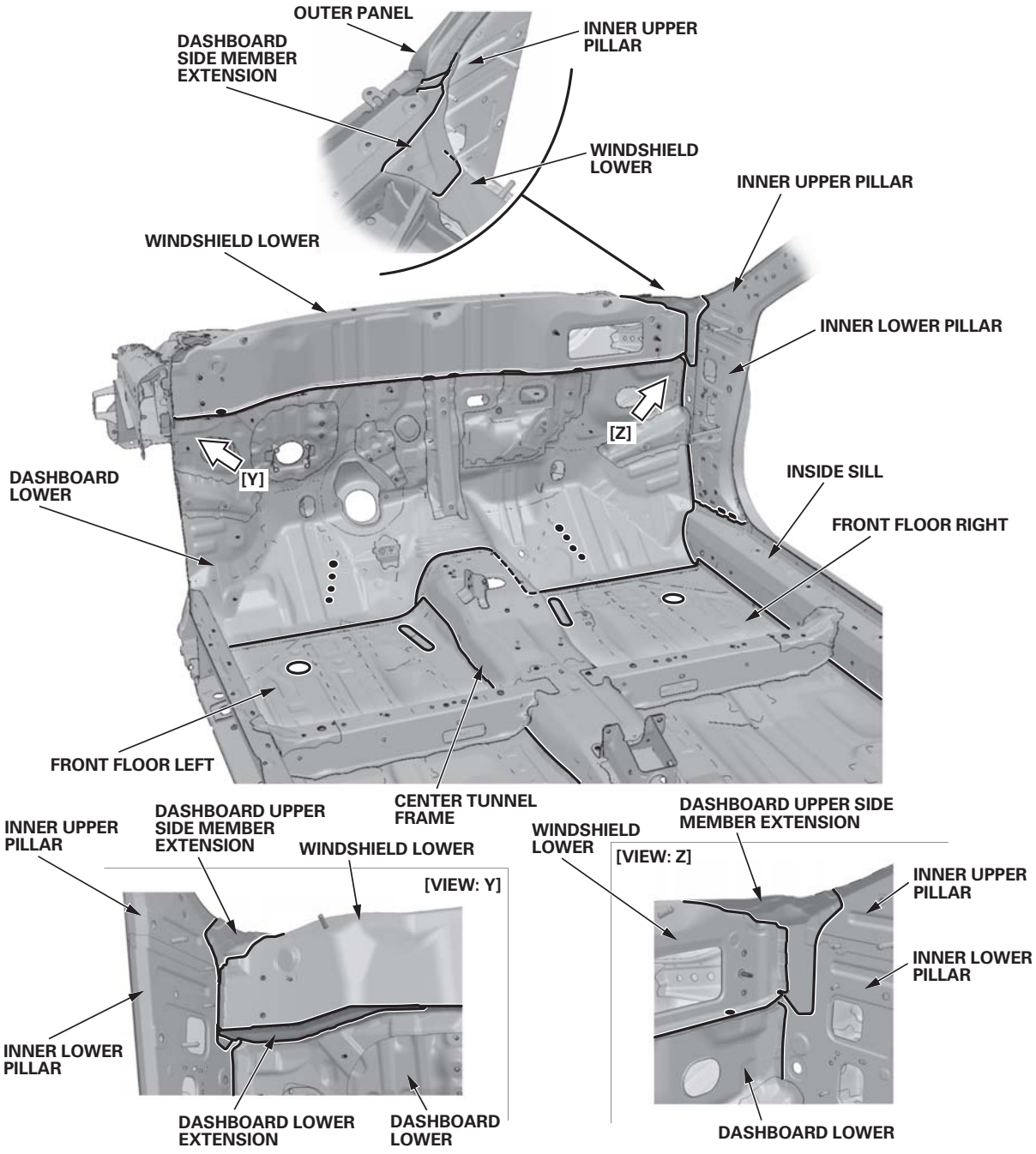


Engine Compartment, Front Wheelhouse, and Damper Housing

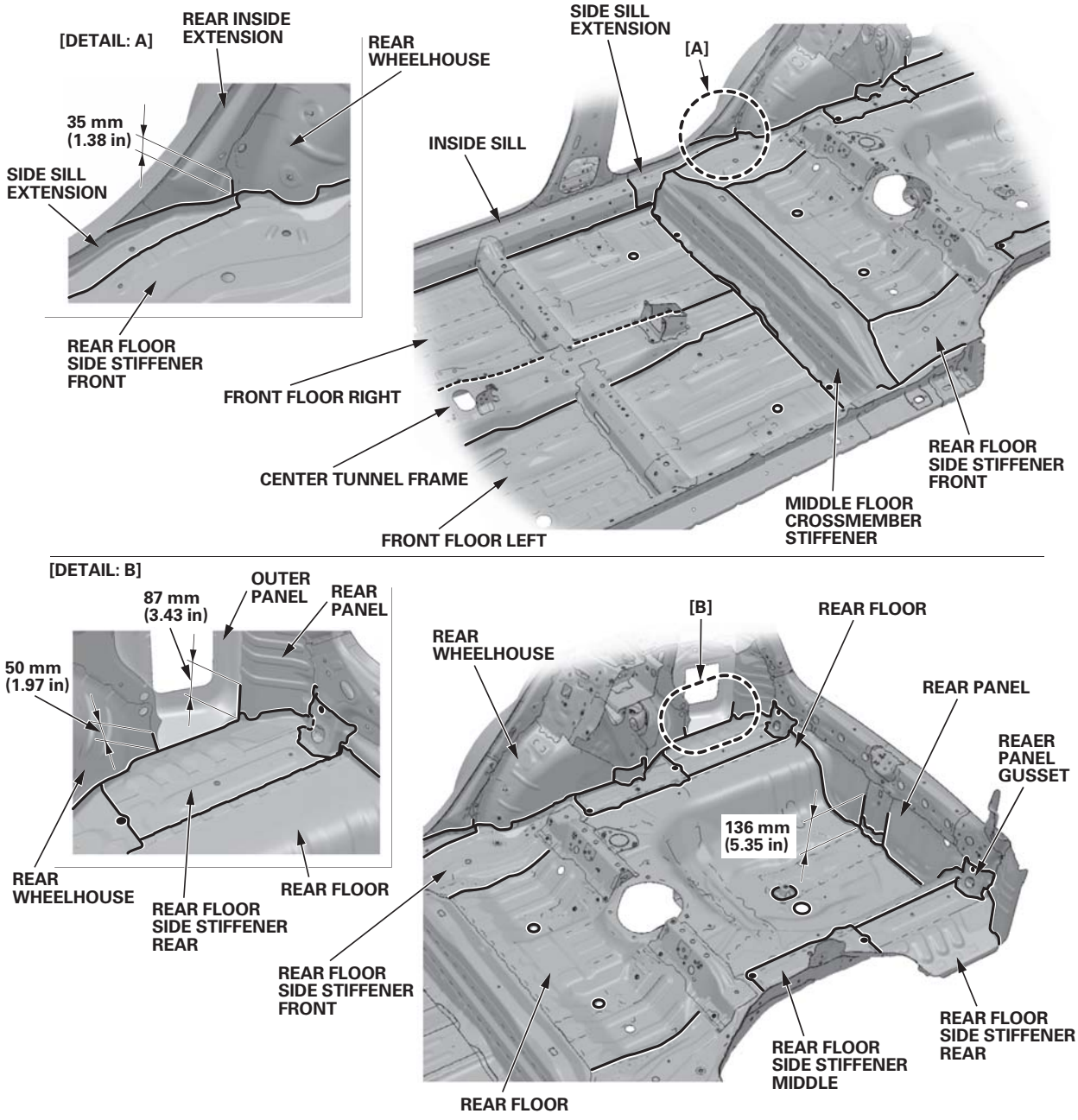


Sealing Areas

Dashboard Upper, Dashboard Lower, and Front Floor

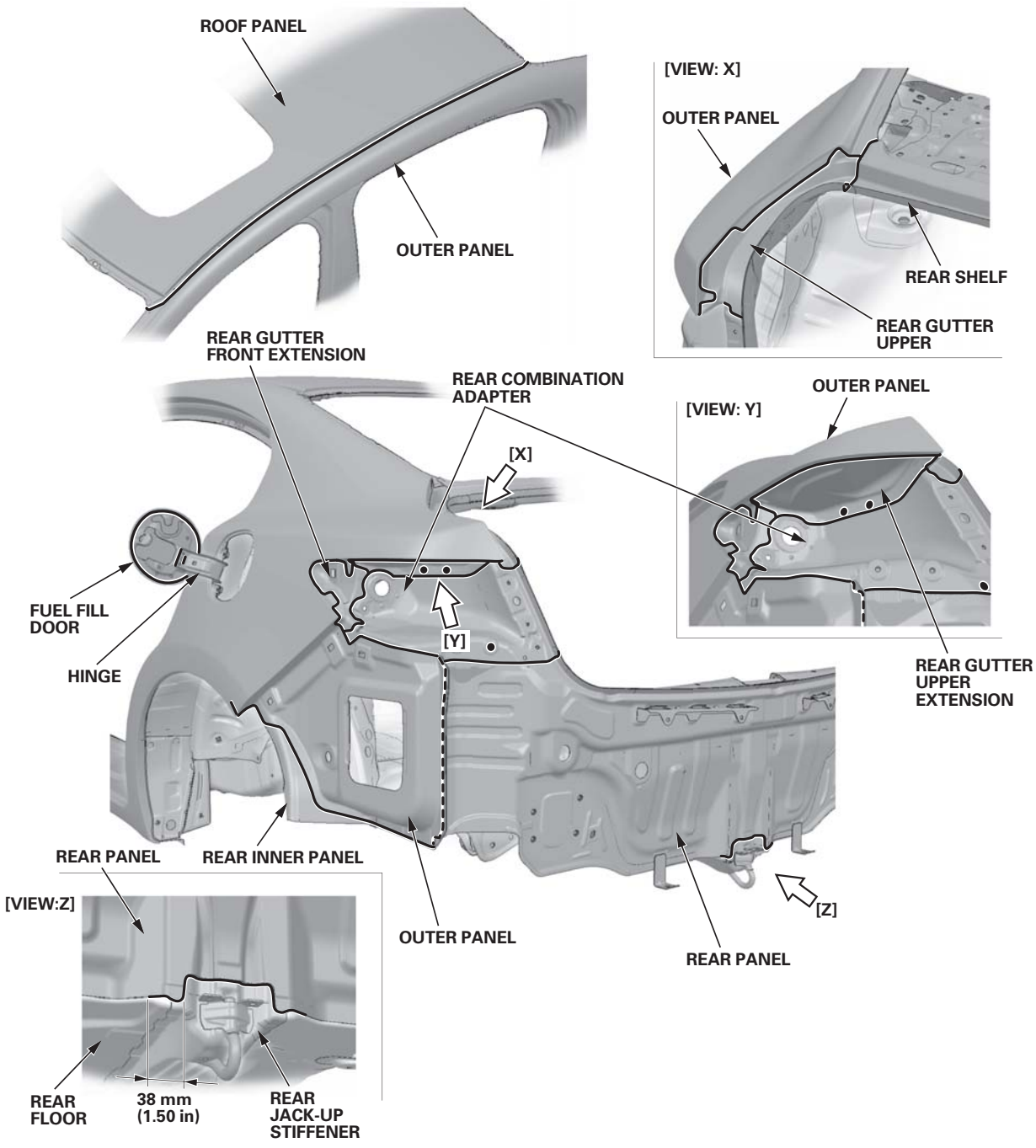


Front Floor and Rear Floor

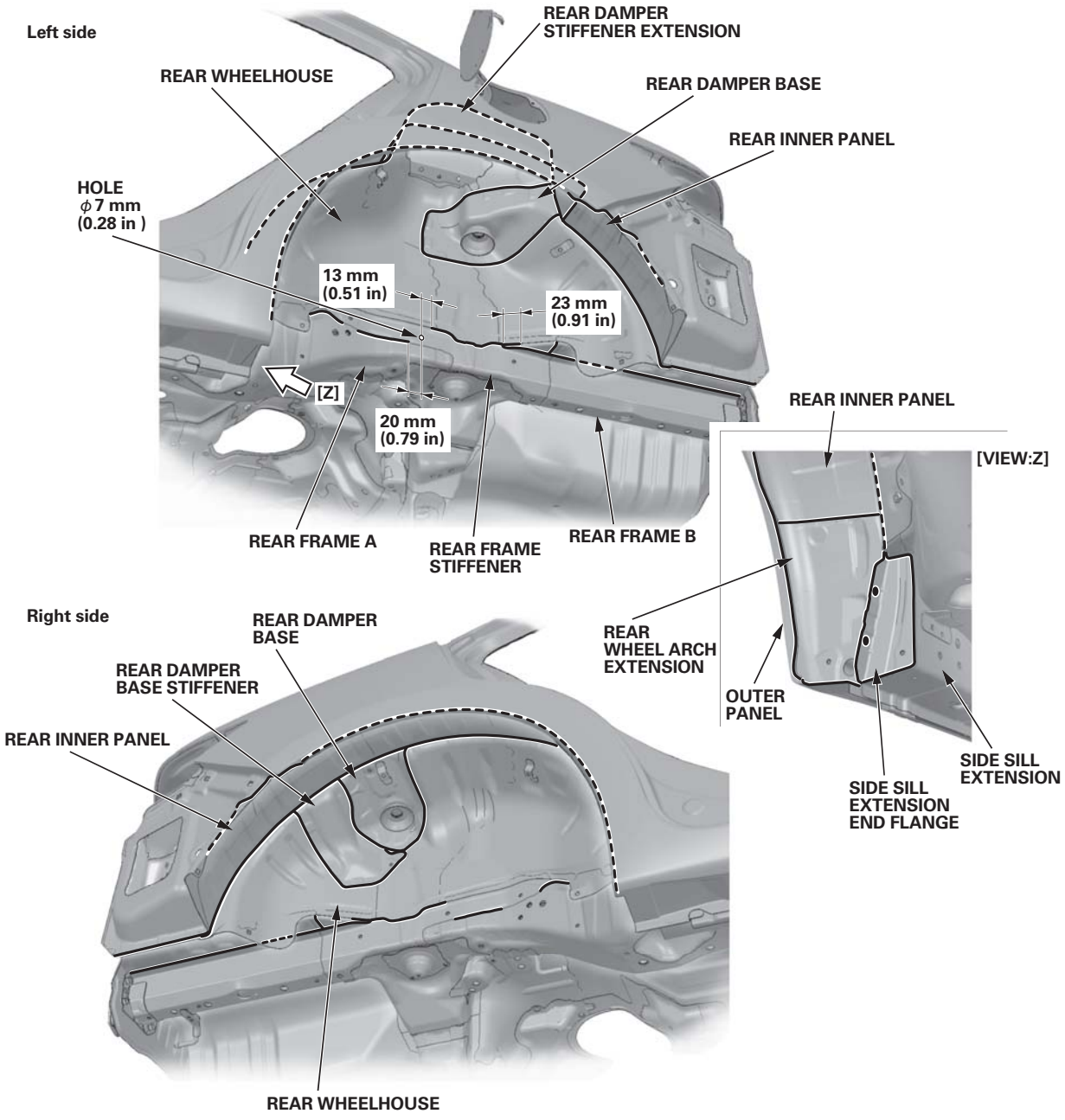


Sealing Areas

Roof Panel, Rear Side Outer Panel, and Rear Panel

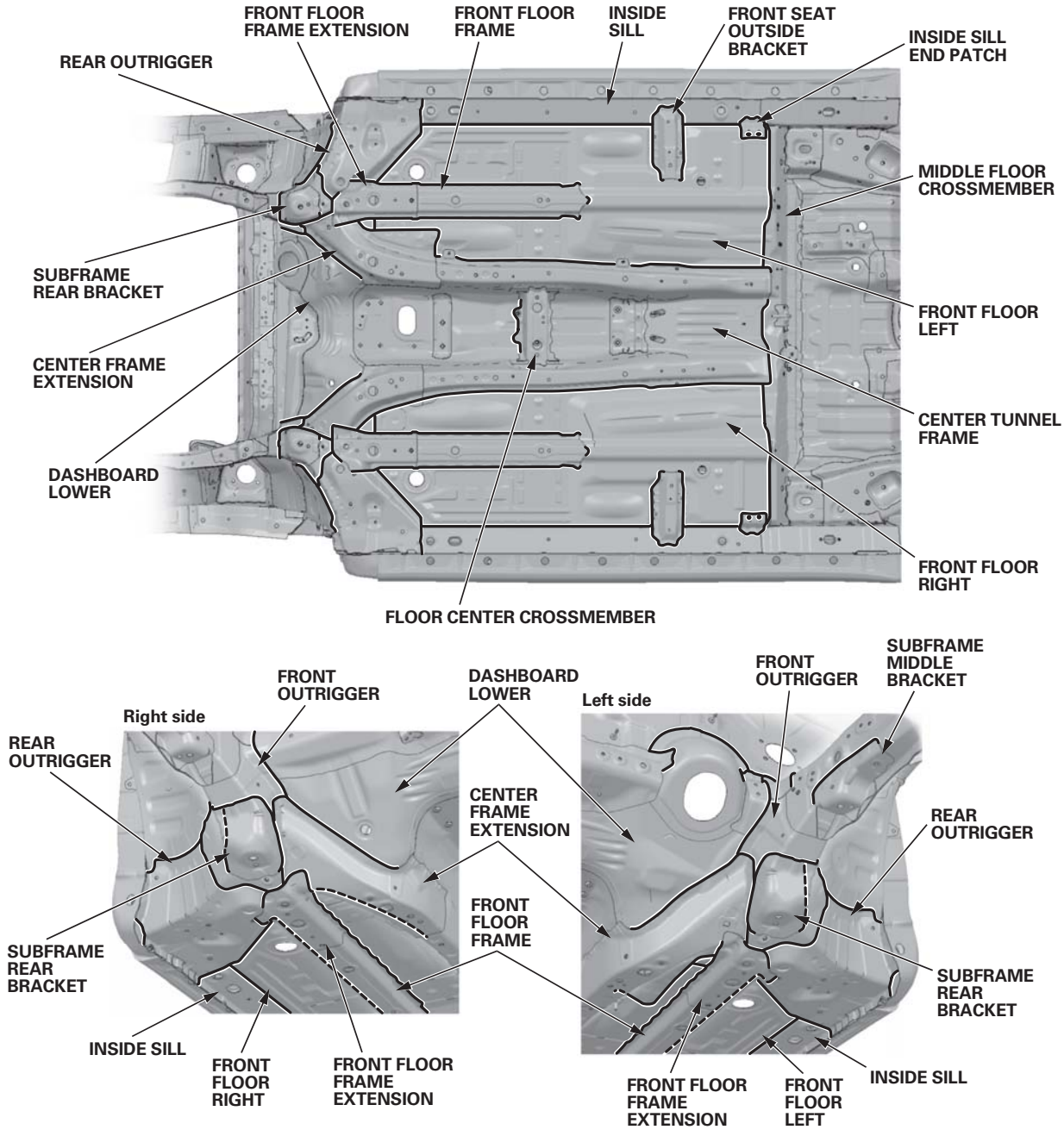


Rear Wheelhouse

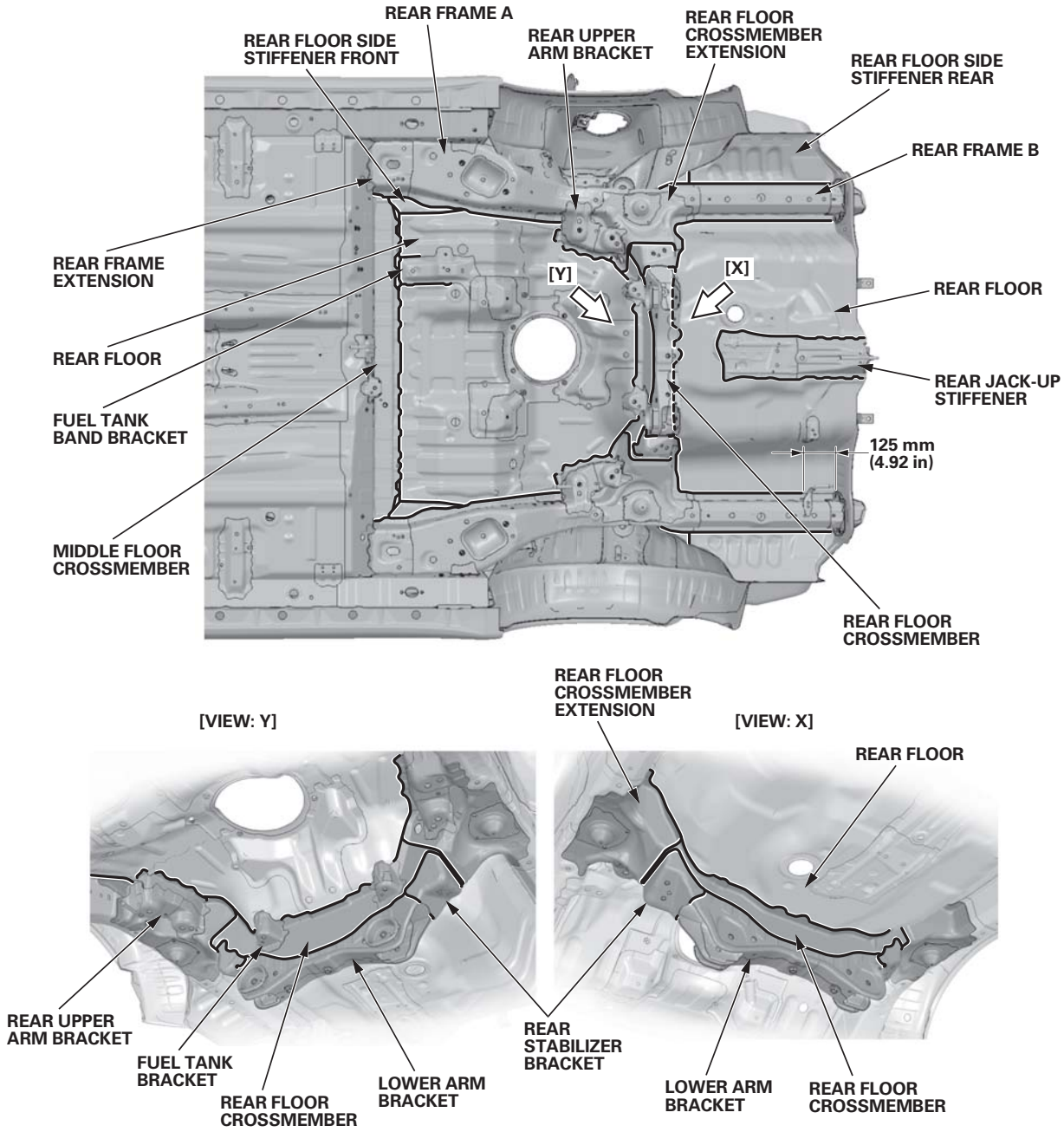


Sealing Areas

Under Floor, Front



Under Floor, Rear



Rust-Preventive Treatments

General

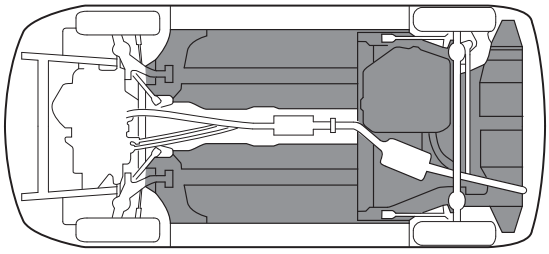
Undercoat

⚠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 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 5-11).
- Coat the bottom of the fuel tank.



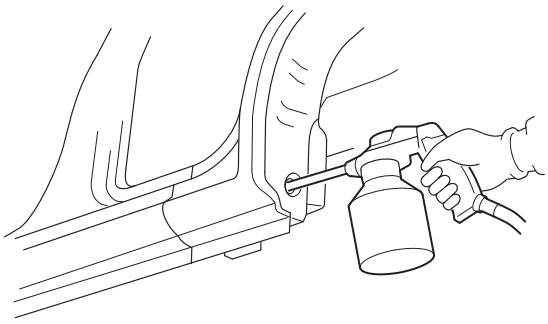
Anti-Rust Agents

⚠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 5-14). Spray the anti-rust agent sufficiently until the excess amount oozes out when filling the side sill.



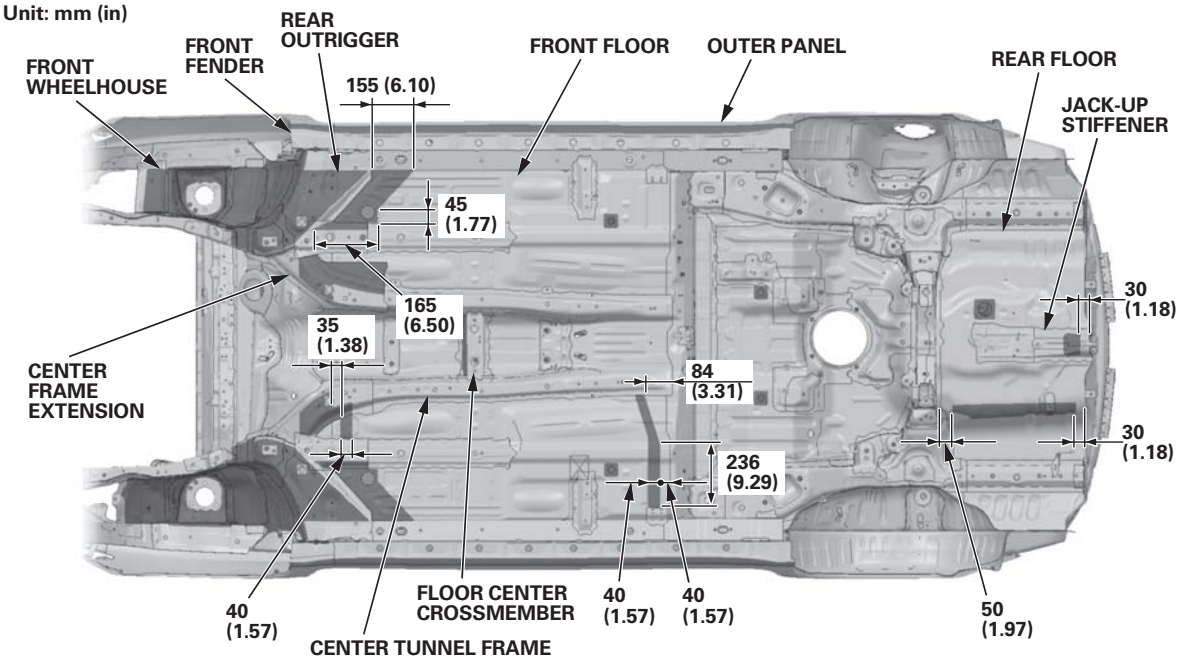
Undercoating Areas

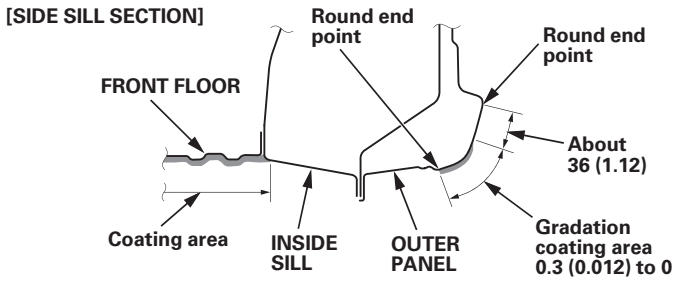
1. Apply the undercoat to the areas shown.

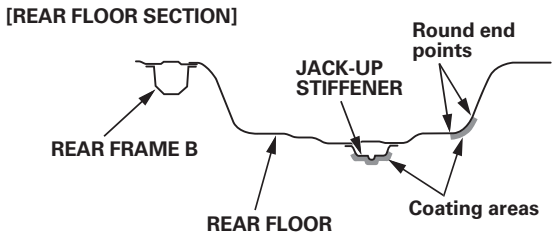
NOTE:
- Coating thickness: 0.4 mm (0.016 in) min.
- Front wheelhouse and dashboard lower coating thickness 0.5 mm (0.020 in).

: Indicates undercoating areas.

Unit: mm (in)







(cont'd)

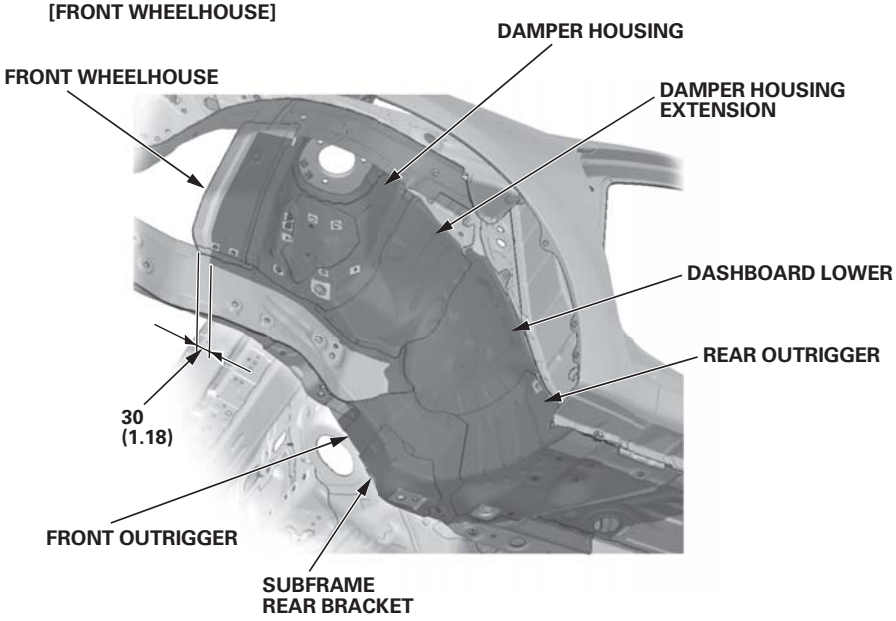
Rust-Preventive Treatments

Undercoating Areas (cont'd)

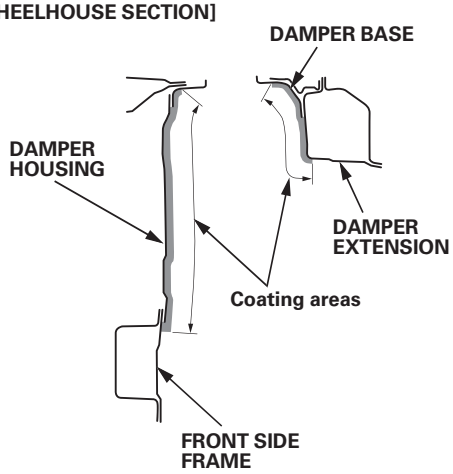
: Indicates undercoating areas.

Unit: mm (in)

[FRONT WHEELHOUSE]



[FRONT WHEELHOUSE SECTION]

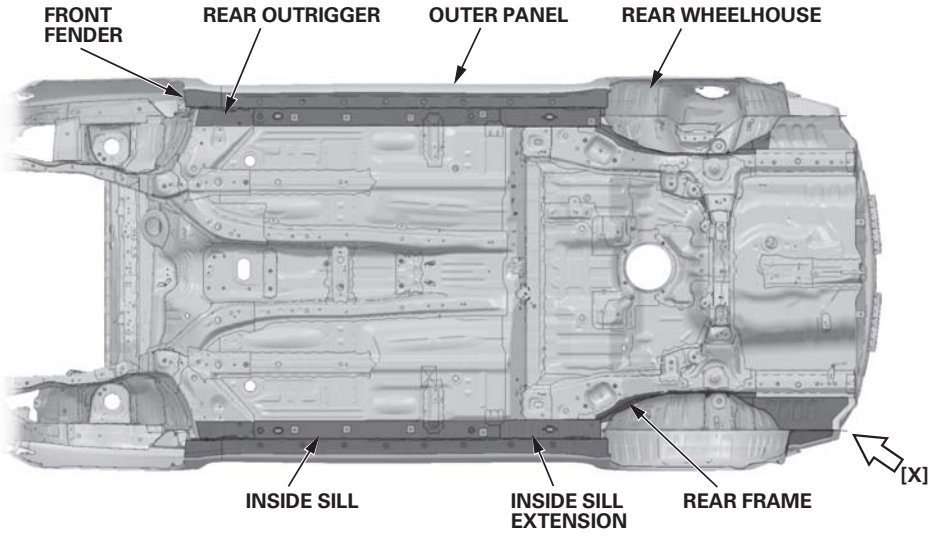


2. Spray the soundproof coating on the areas shown.

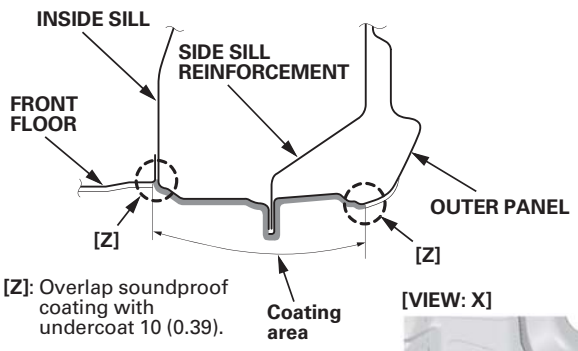
NOTE: Coating thickness: Wet 1.3 mm (0.051 in) min.

: Indicates soundproof coat coating areas.

Unit: mm (in)

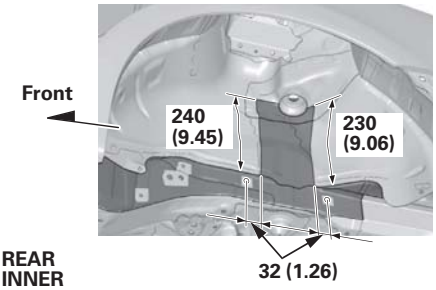


[SIDE SILL SECTION]

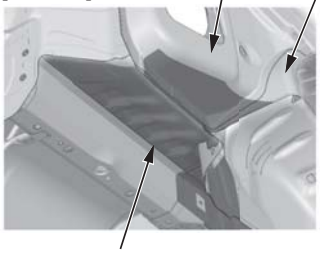


[Z]: Overlap soundproof coating with undercoat 10 (0.39).

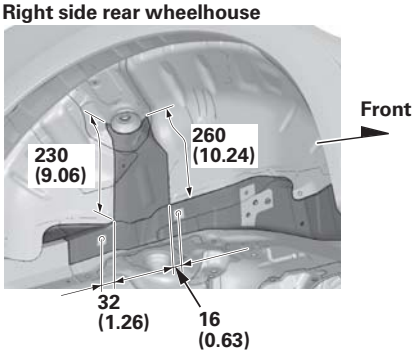
Left side rear wheelhouse

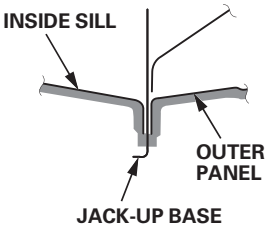


[VIEW: X]



Right side rear wheelhouse





Rust-Preventive Treatments

Areas to be Covered by Internal Anti-Rust Agents

: Indicates anti-rust agents.