

F SPORT PARTS

MS303-48008/9

"Performance Damper®" EX Plus

Installation and handling instructions

Thank you for purchasing F SPORT PARTS "Performance Damper®" EX Plus.

This manual contains instructions and precautions for installing and handling this product.

Please be sure to read this before installation and ensure correct installation and handling.

Please be sure to give this manual to the customer.

"PERFORMANCE DAMPER" is a registered trademark of Yamaha Motor Co., Ltd.

- This product cannot be installed on unregistered vehicles; please install it after registering the vehicle. Please be sure to
- perform installation work and parts replacement for this product at a specialized repair shop. - When
- installing or replacing parts of this product, be sure to follow the repair manual for the vehicle concerned (issued by Toyota Motor Corporation) and observe the precautions in this manual.

Product number/Compatible car model

Product number	Suitable	remarks
MS303-48008	RX '22.10 ~	RX500h、RX450h+
	RX '23.8 ~	RX350h (AWD)
MS303-48009	RX '22.10 ~	RX350
	RX '23.8 ~	RX350h (2WD)

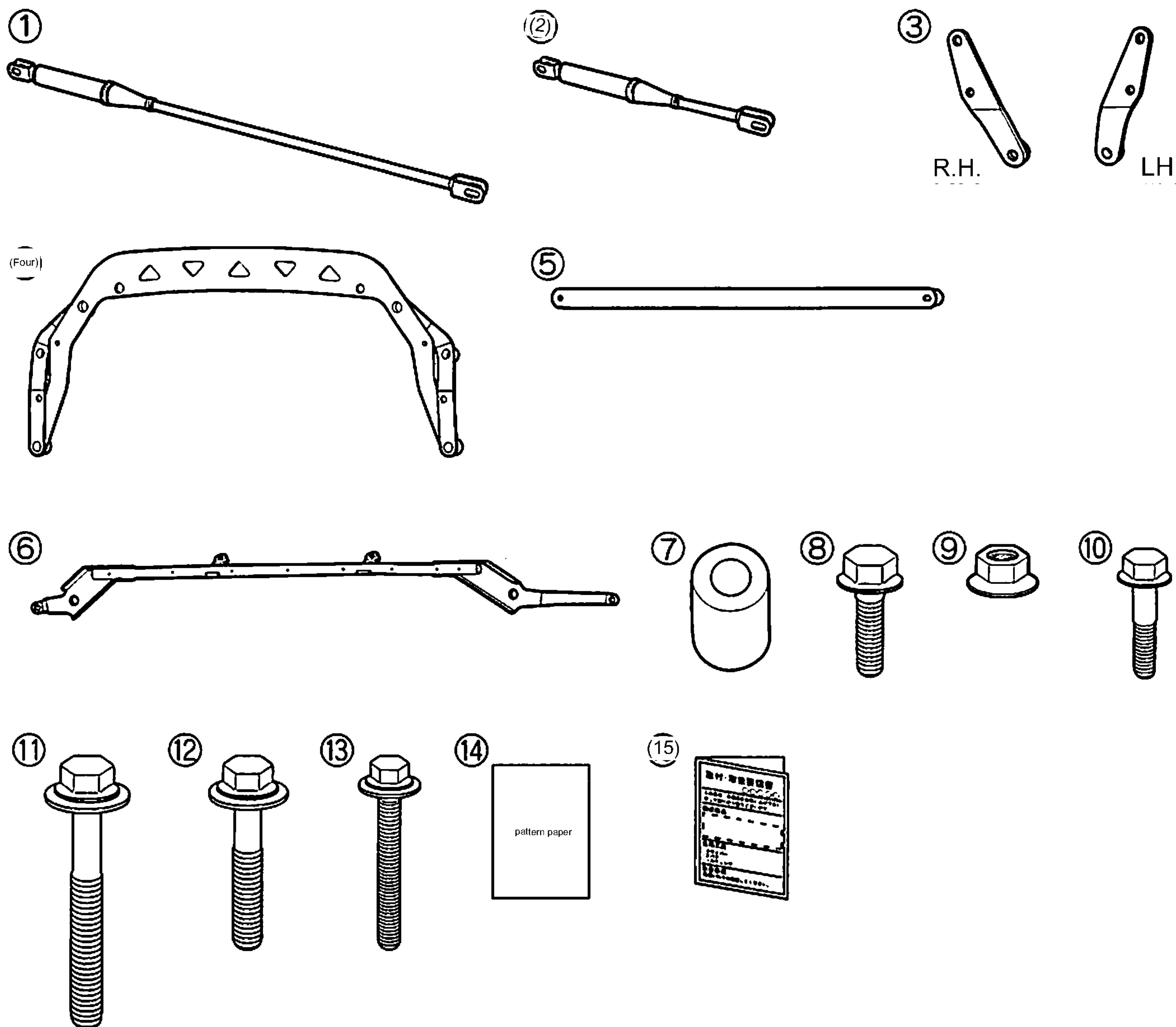
• Please see the TRD catalog site for the latest compatibility information. <https://www.trdparts.jp/>

Component part

No.	parts	quantity	remarks
①	Performance damper FR	1	820mm
②	Performance damper RR	1	350mm
③	Bracket FR(RH/LH)	1 each	
④	FR suspension member brace	1	
⑤	FR lower brace	1	
⑥	RR suspension member brace	1	
⑦	spacer	4	t29.5
⑧	Flange bolt A	4	M10×40
⑨	Flange nut A	4	M10
⑩	Flange bolt B	4	M8×55
⑩	washer bolt A	2	M16×137
⑩	Washer bolt B	4	M12×60
⑩	washer bolt C	2	M8×60
(14)	Patterns A, B, C	1 each	
⑩	Installation and handling instructions	1	This book

* Confirmation: Immediately after receiving this product, please check that there is no damage to the main unit and that all accessories are included. .

Component diagram



Precautions for installation (for installers) Please

read carefully before starting work to ensure safe and reliable installation work.

Warning

Failure to follow these instructions and incorrect installation or handling may result in death or This indicates information that may cause serious injury.

Caution

If you do not follow the precautions and install or handle the product incorrectly, it may lead to an accident. This indicates that there is a risk of injury or damage to the vehicle.



advice

doing.







Describes what you need to know to work quickly and safely.

Things not to do








Things you must do

Warning

-  Never modify or process this product, or install it on a vehicle other than the compatible model, as this may lead to a serious accident. Please don't.
-  Do not disassemble or process this product. Doing so may cause damage or accidents.
-  Before installing, be sure to turn off the engine and make sure the handbrake is applied on a flat surface. The vehicle may move unexpectedly and cause a serious accident such as getting your body caught.
-  When installing or replacing this product, please follow the repair manual for the vehicle concerned (issued by Toyota Motor Corporation) and observe the precautions in this manual.
-  When installing, be sure to tighten according to the specified torque. If it is not tightened enough, it may fall off, resulting in a serious accident or malfunction.
-  If the modification involves lowering the vehicle height, please ensure a minimum ground clearance of 90mm (Note 1).
(Note 1: May vary depending on vehicle wheelbase and overhang value)
- When driving on public roads with a vehicle equipped with a height-adjustable suspension kit, be careful of interference with the road surface. please.

Caution

-  Please be sure to perform replacement and installation work on this product at a professional, well-equipped repair shop.
-  When replacing, be sure to follow the repair manual for the vehicle in question (issued by Toyota Motor Corporation) and observe the precautions in this manual.
- Before installing this product, please check that the main body and all component parts are included and that there are no damages or defects. We may not be able to respond to claims for damage or defects discovered after installation.
-  When installing this product, handle it on a protective sheet to prevent scratches, and at the same time protect the installation site. Please work on it after curing it with wood. Be careful not to scratch or damage the product during installation.
- Be sure to make sure the engine is cold before installation. If the engine compartment or muffler is hot, There is a risk of injury.
-  After installation, check for interference between this product and other parts. If there is interference, please contact the store where you purchased this product. If you continue to drive, it may cause damage or malfunction.
-  If you receive a strong impact such as a collision after installing this product, please stop using it immediately. Doing so may cause deformation, damage, or malfunction of the mounting part or the main body. Be sure to have it inspected at a repair shop.
- After installing this product, if you feel any unusual vibrations or noises while driving, please stop the vehicle in a safe place immediately. Continuing to drive may cause serious accidents or damage. Please have it checked at a repair shop.

After installation is complete.



- After installation, please confirm that there is no interference between this product and the vehicle. If you disconnect the negative terminal of the battery during work, please configure and check the system after work is complete.
-  Depending on the parts that were disassembled or removed during this installation, resetting or adjustment may be required. Please check, adjust, and set each part according to the repair manual for the vehicle (issued by Toyota Motor Corporation).
-  If a problem occurs, please contact the store where you purchased the product as soon as possible.

table of contents

1. Cover, part number, compatible vehicle models, component parts, component diagram/ 1 ~2

2. Precautions for installation (for installation workers) 3. Table of 3

contents, tools required for installation, protective equipment/consumables, warranty, installation configuration diagram...4

4. Installation preparation, installation instructions, tightening torque list/ 5~15

5. Inspection after installation is complete Notes 15

Tools required for installation Protective equipment and consumables

- General tools · Torque wrench · Clip remover · Scribe
- needle · Processing tools (scissors, cutter, air saw, file)
- Drill [Φ3mm] / Hole saw [Φ40mm])
- Safety glasses Work gloves/protective sheet Protective tape Masking tape

About warranty

This product comes with a 3 year 60,000km warranty.

(3 years or 60,000km, whichever comes first) *For warranty details, please see "About the warranty" on the TRD catalog site <<https://www.trdparts.jp>>.

Installation configuration diagram

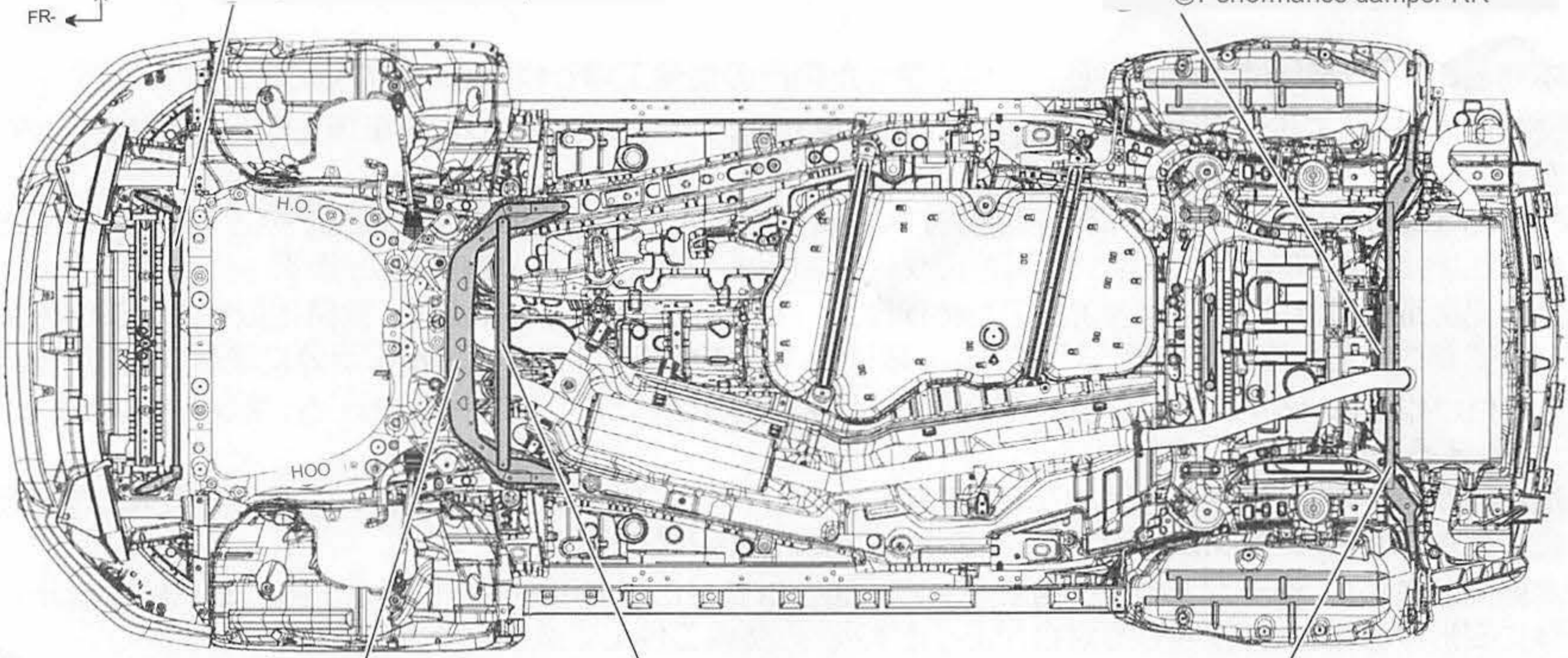
Bottom view

*The diagram shows RX500h (without undercover)



① Performance damper FR

② Performance damper RR



④ FR suspension member brace

⑤ FR lower brace
*Under cover installed after restoration

⑥ RR suspension member brace

Installation instructions

□ Performance damper EX Plus installation preparation

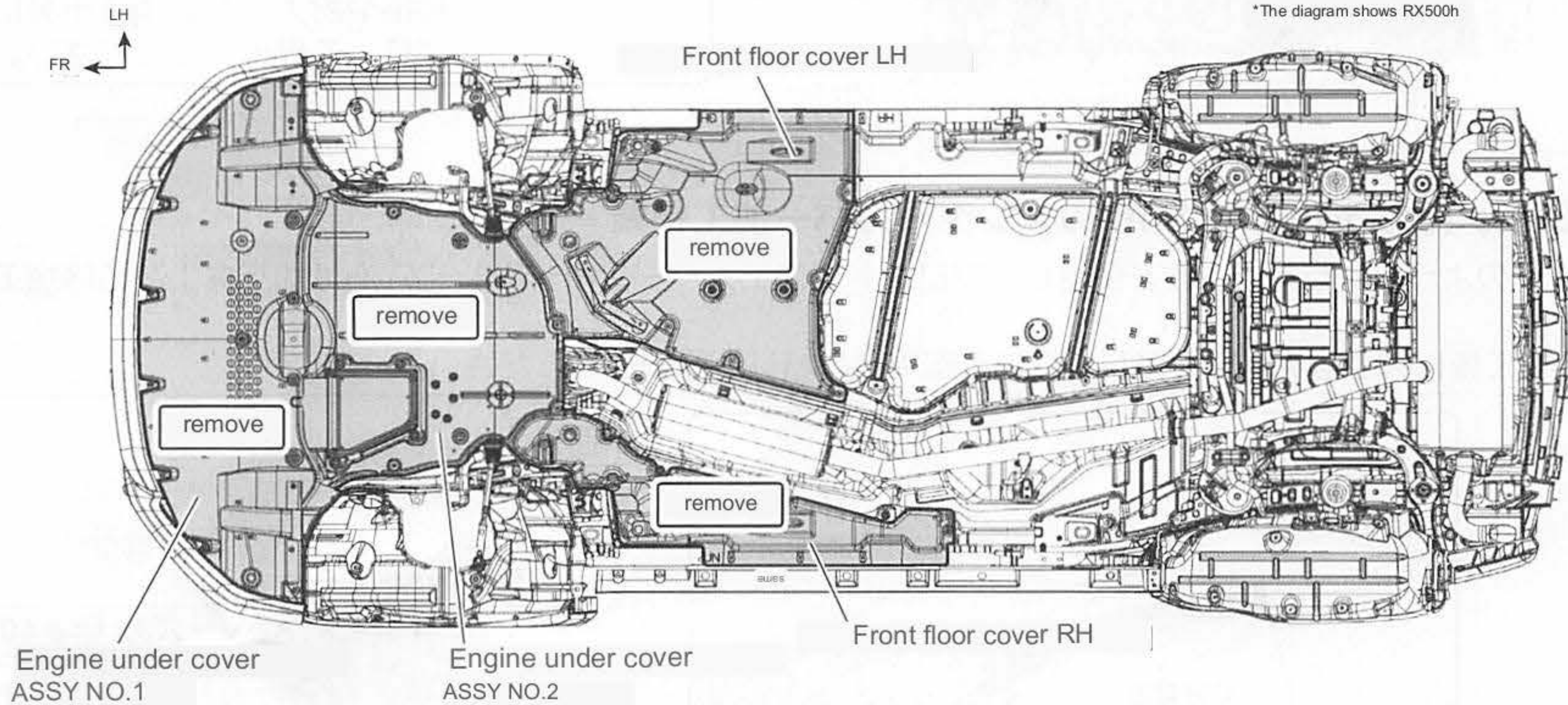
1. Remove each undercover from the vehicle according to the repair manual for the vehicle as shown in Figure 1.

*Please refer to the diagram below as the parts differ depending on the vehicle specifications.

Figure 1 Bottom view

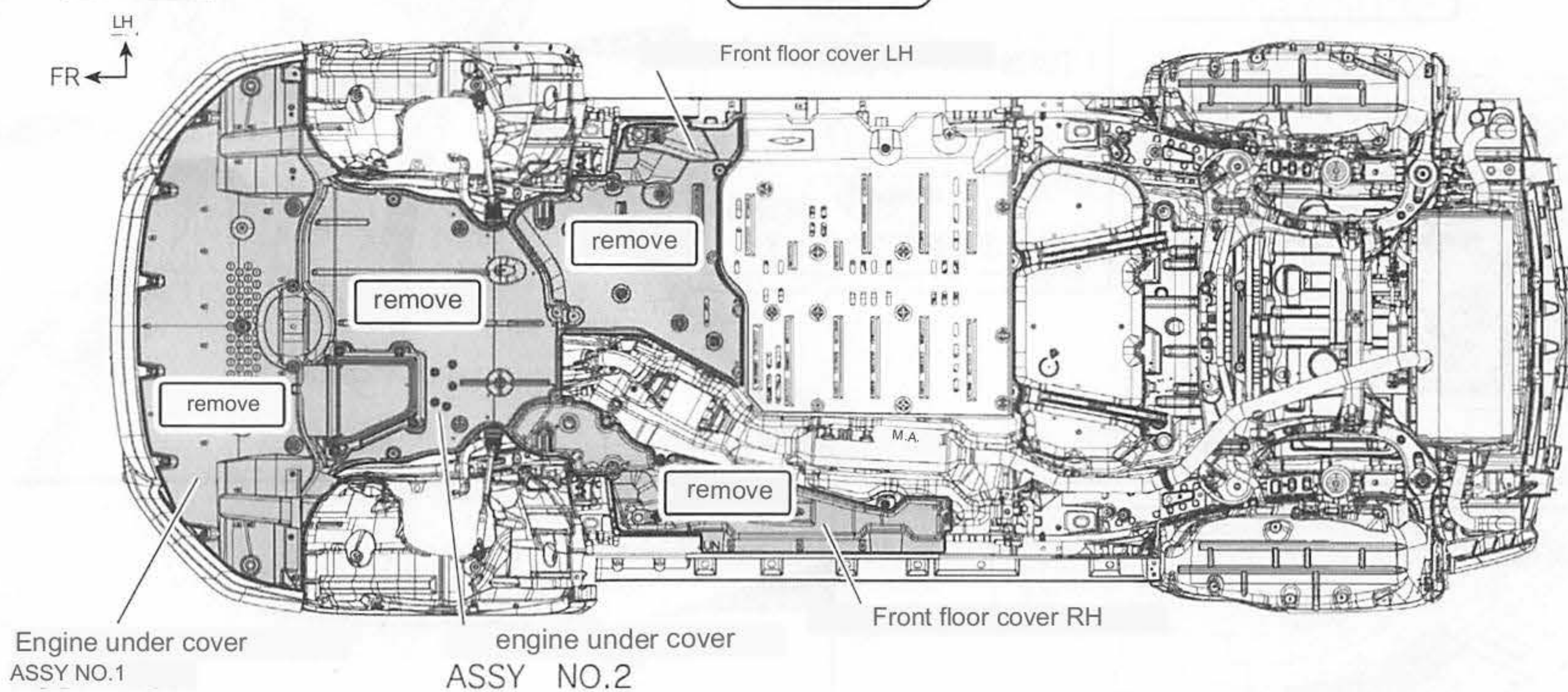
RX500h, RX350h, RX350

*The diagram shows RX500h



Bottom view

RX450h+




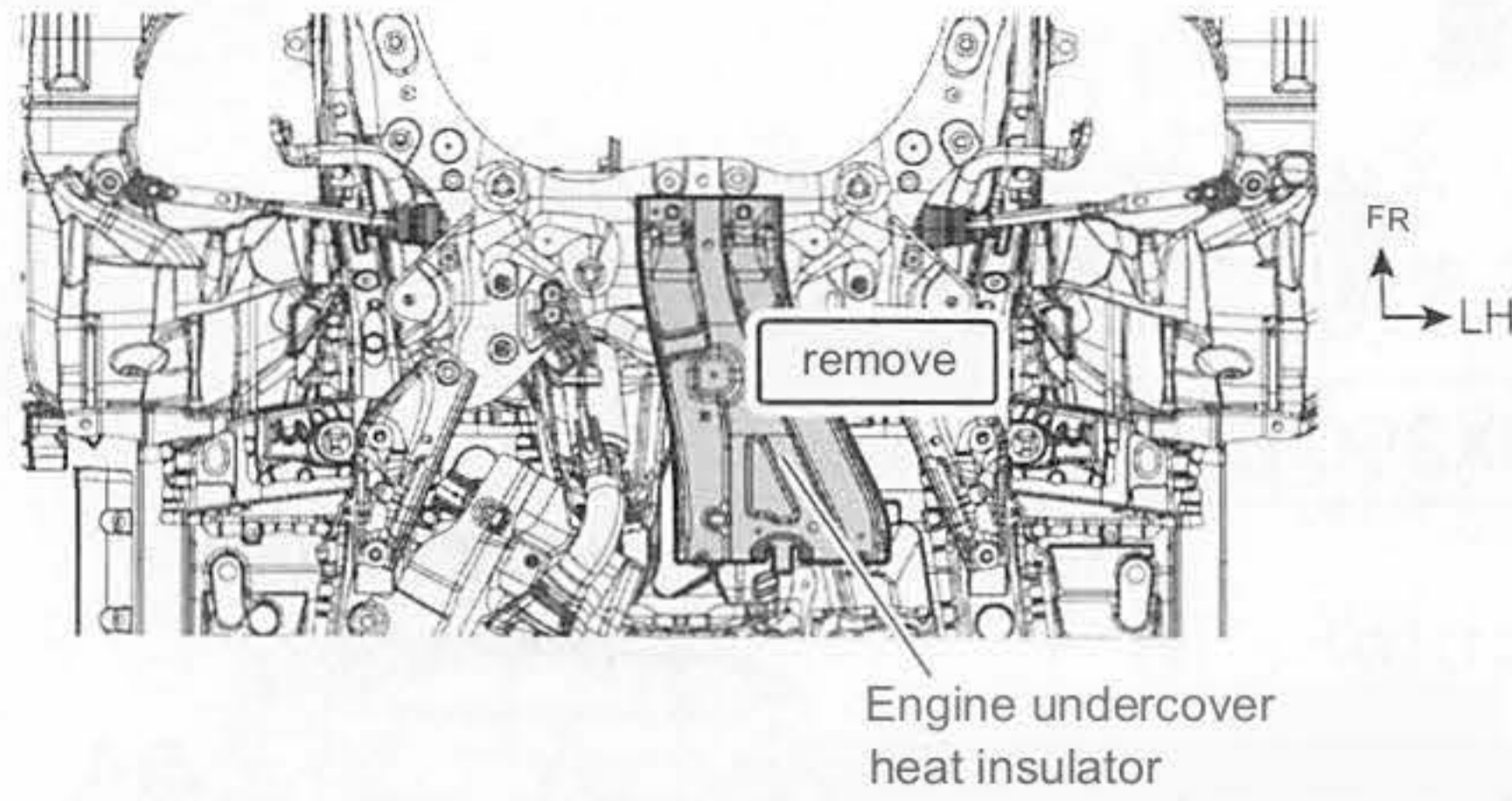

 Advice: Removed vehicle parts and fastening bolts will be reused, so please store them with care to avoid damage or loss.

Figure 2 Bottom view



Works only on RX450h+

2. Remove the vehicle engine undercover heat insulator according to the repair manual for the vehicle as shown in Figure 2.

 **Advice:** Removed vehicle parts and fastening bolts will be reused, so please store them with care to avoid damage or loss.

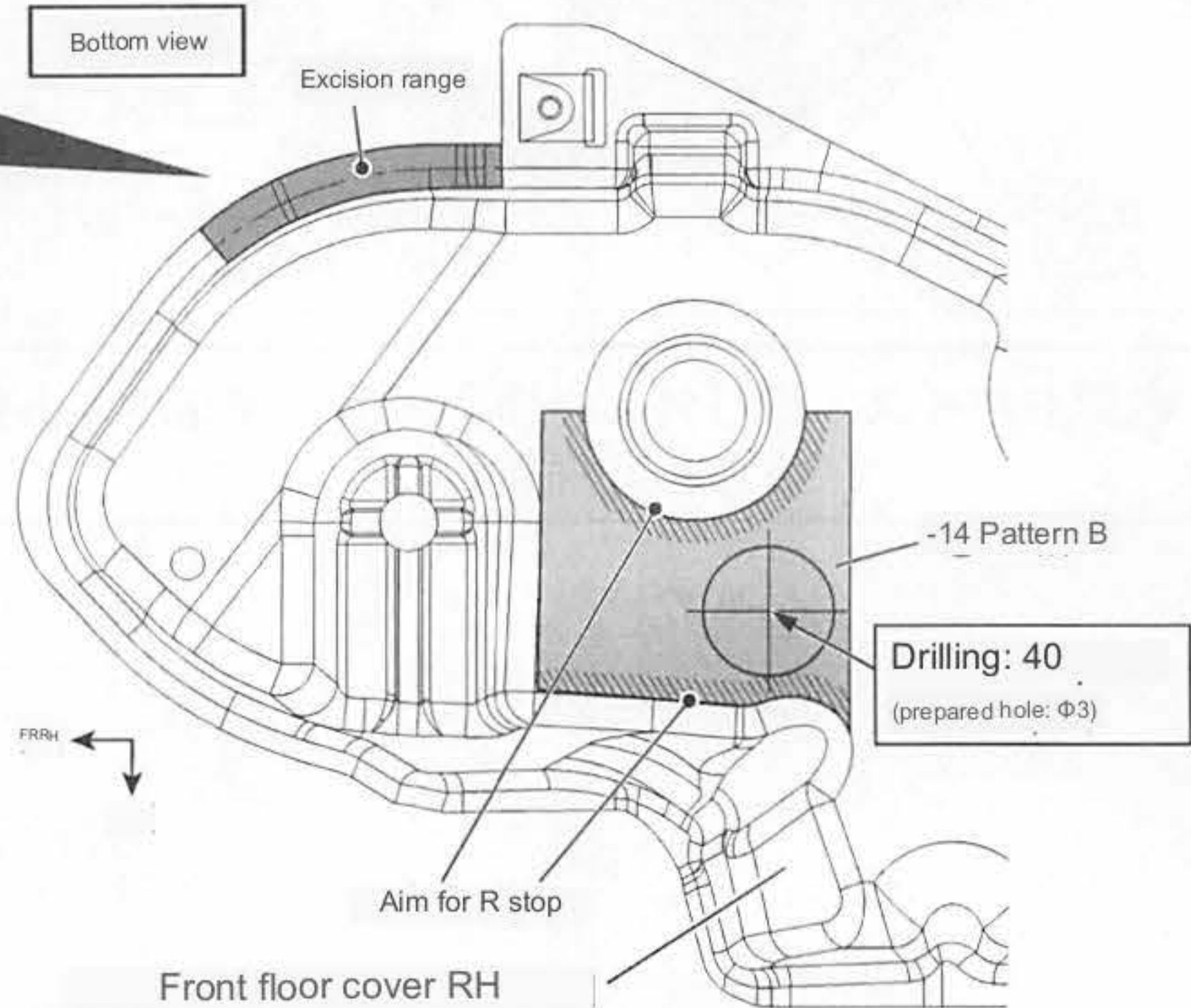
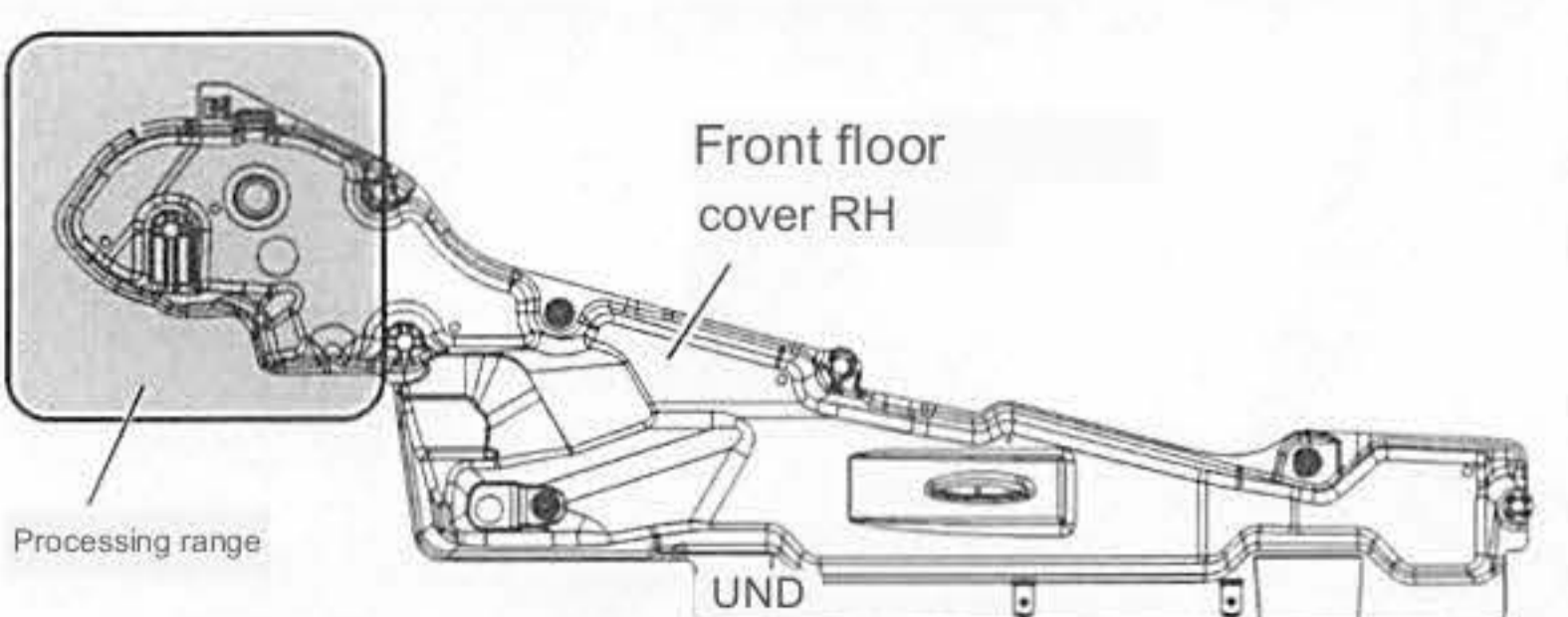
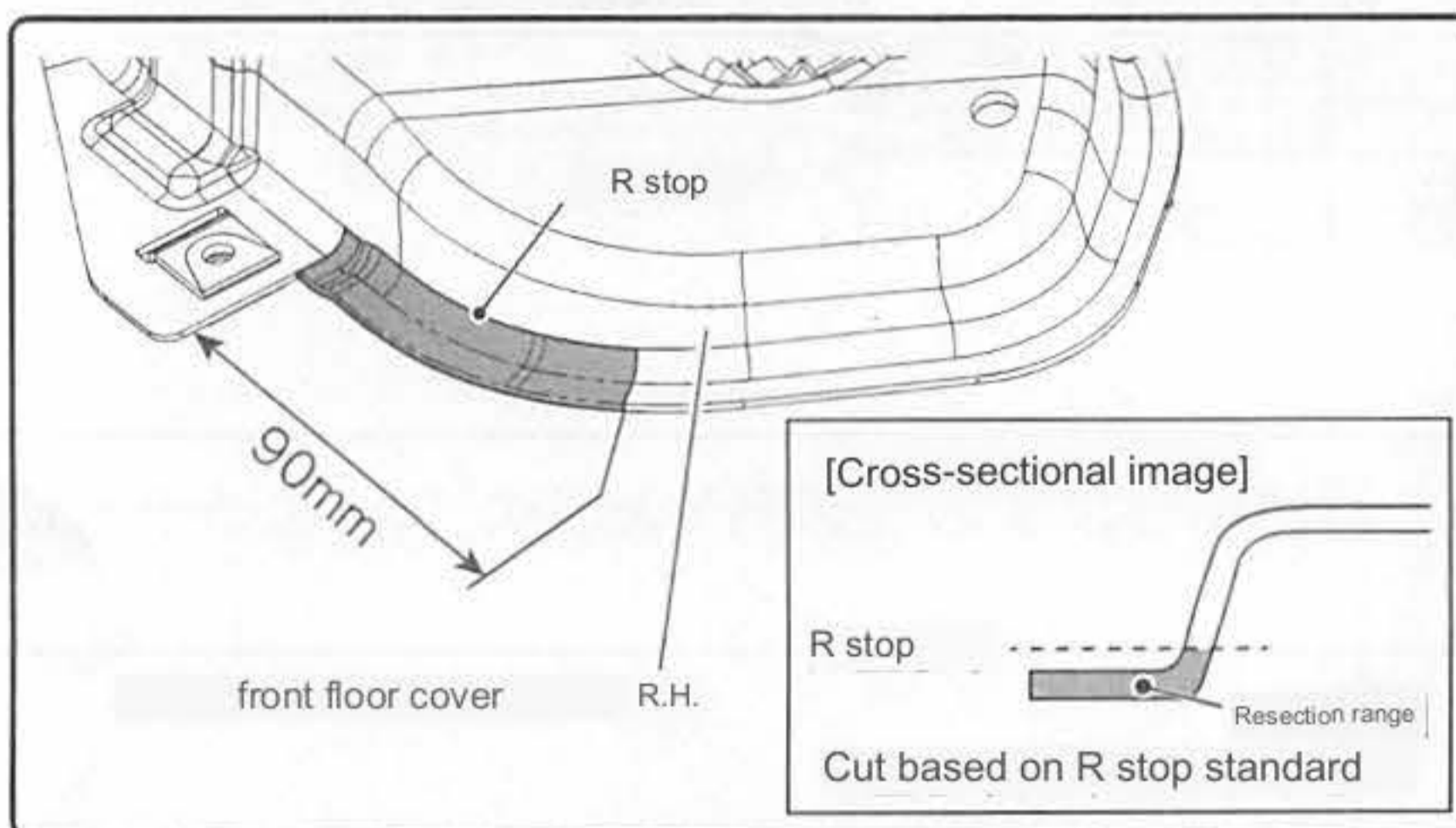
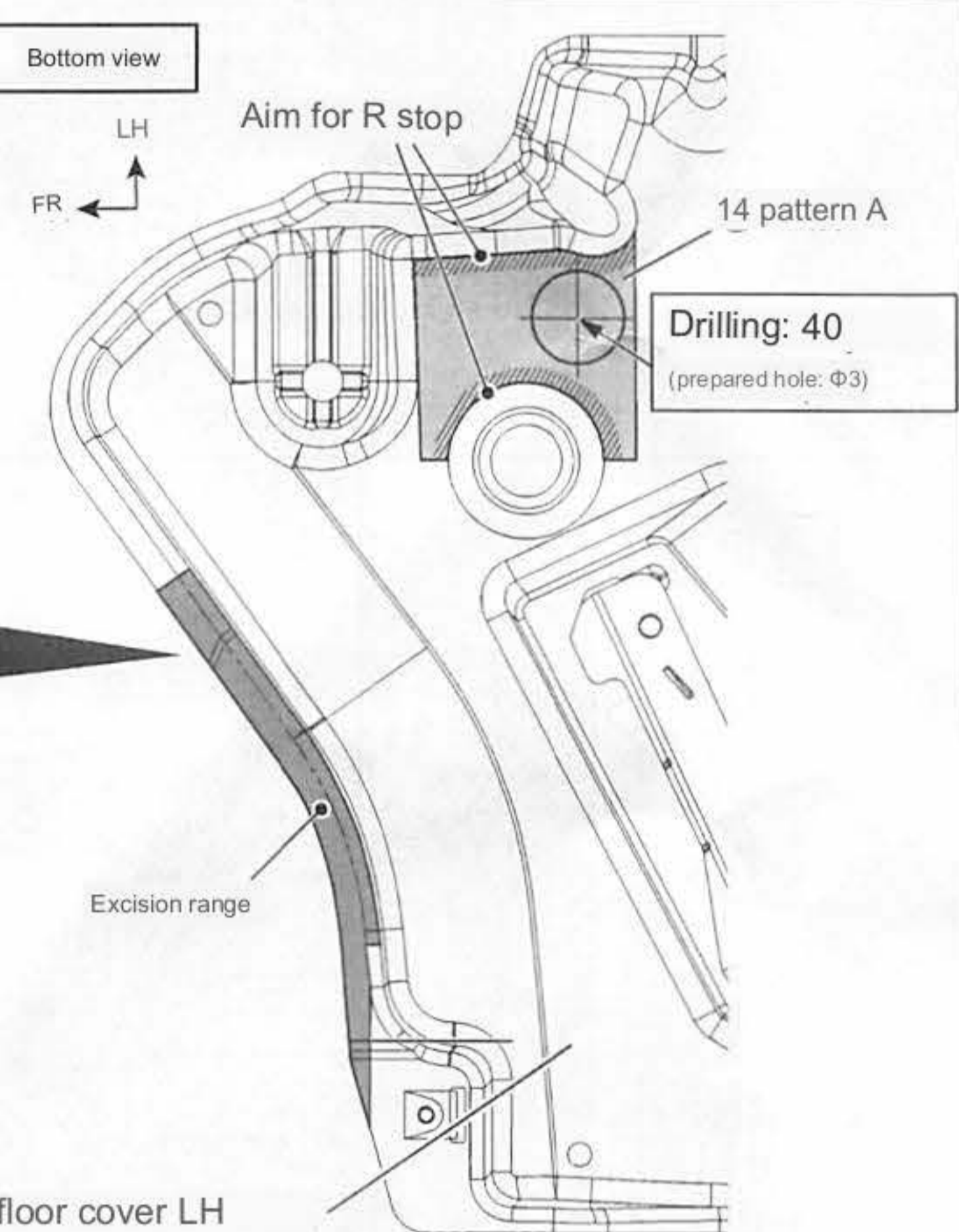
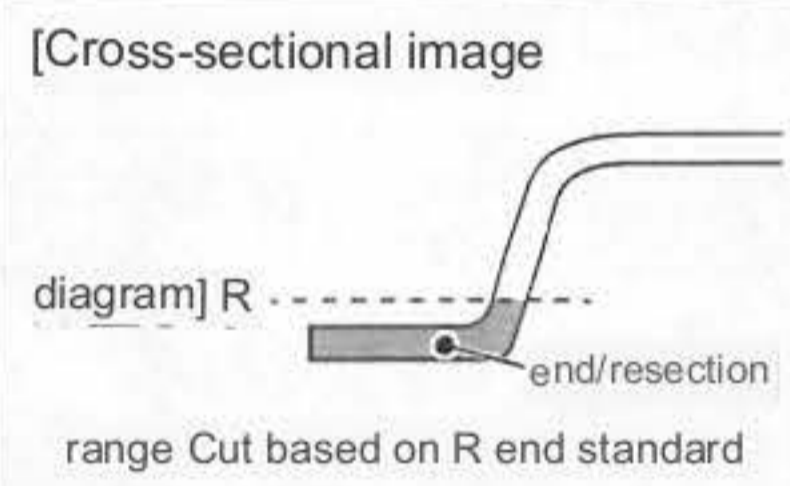
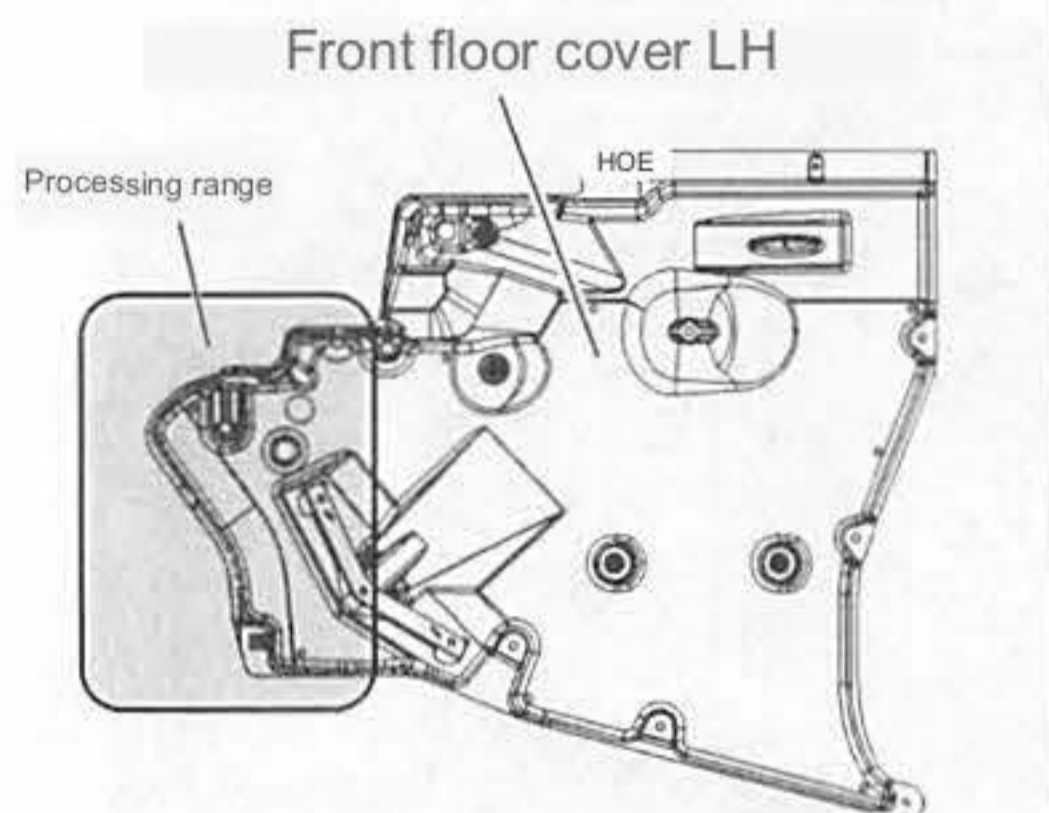
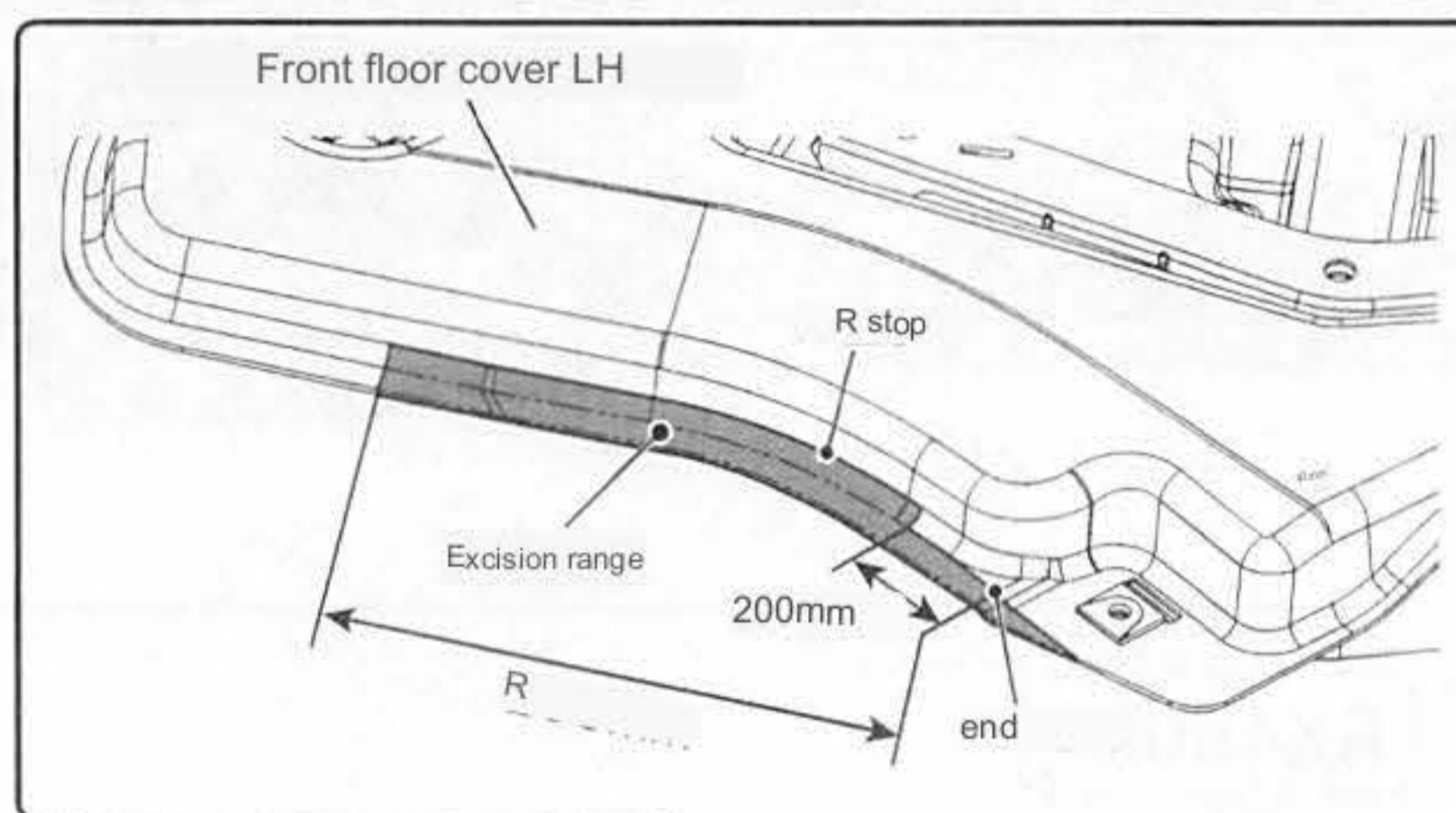
Under cover processing work for RX500h, RX350h, RX350

3. Drill and cut out the front floor cover (RH/LH) using pattern 14 A and B as shown in Figure 3.

do.

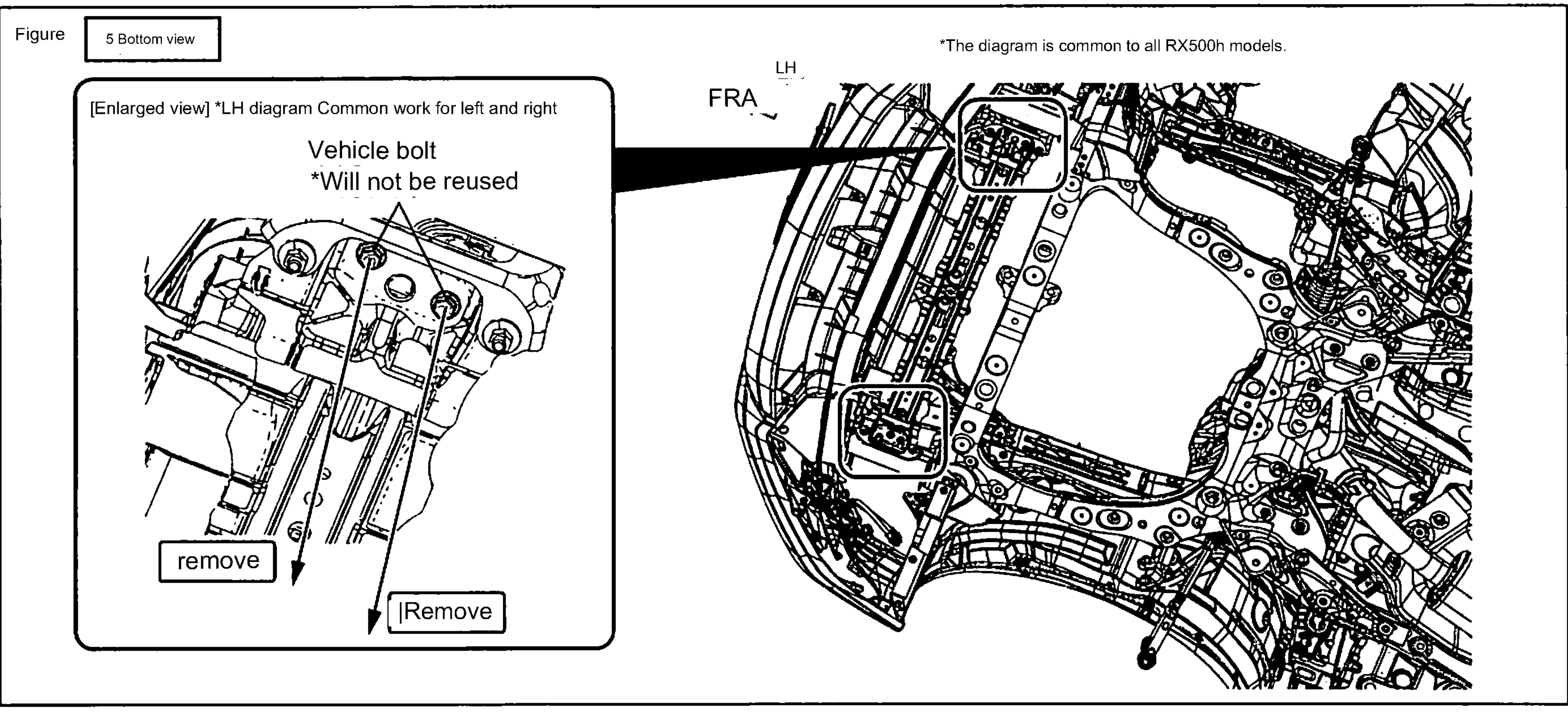
*After processing, peel off Pattern 1 A and B and remove any burrs around the processed area.

Figure 3



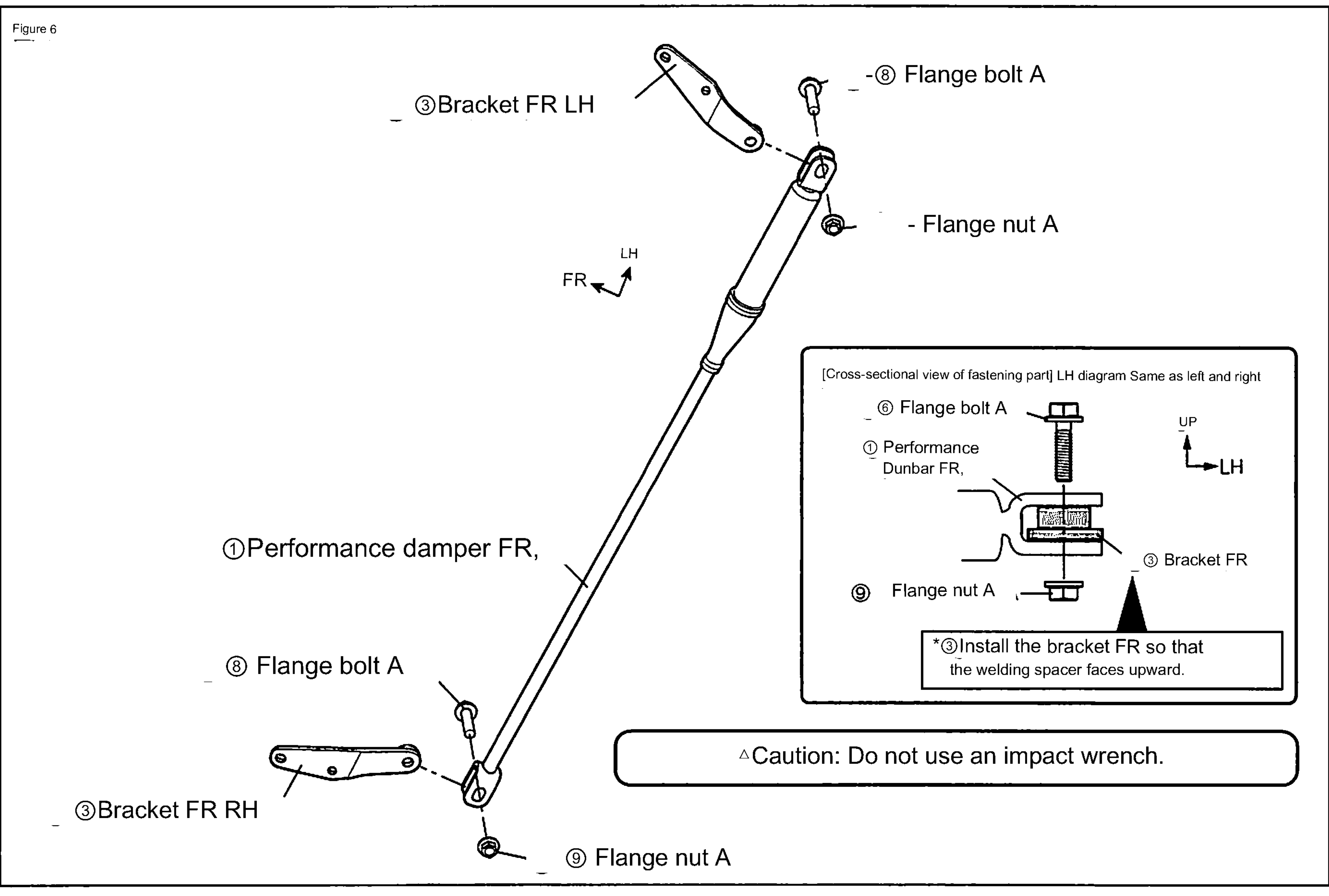
When installing the Performance Damper EX Plus, be sure to place the screw jack in the appropriate place on the underside of the vehicle.

□Preparing to install the front performance damper 1. Remove the vehicle bolts shown on the bottom of the vehicle as shown in Figure 5. (2 locations each on the left and right)



Advice: Do not reuse removed vehicle bolts.

□Front performance damper installation instructions
 1. As shown in Figure 6, align ① Performance damper FR with the holes in ③ Bracket FR, and temporarily secure with ⑧ Flange bolt A and ⑨ Flange nut A.



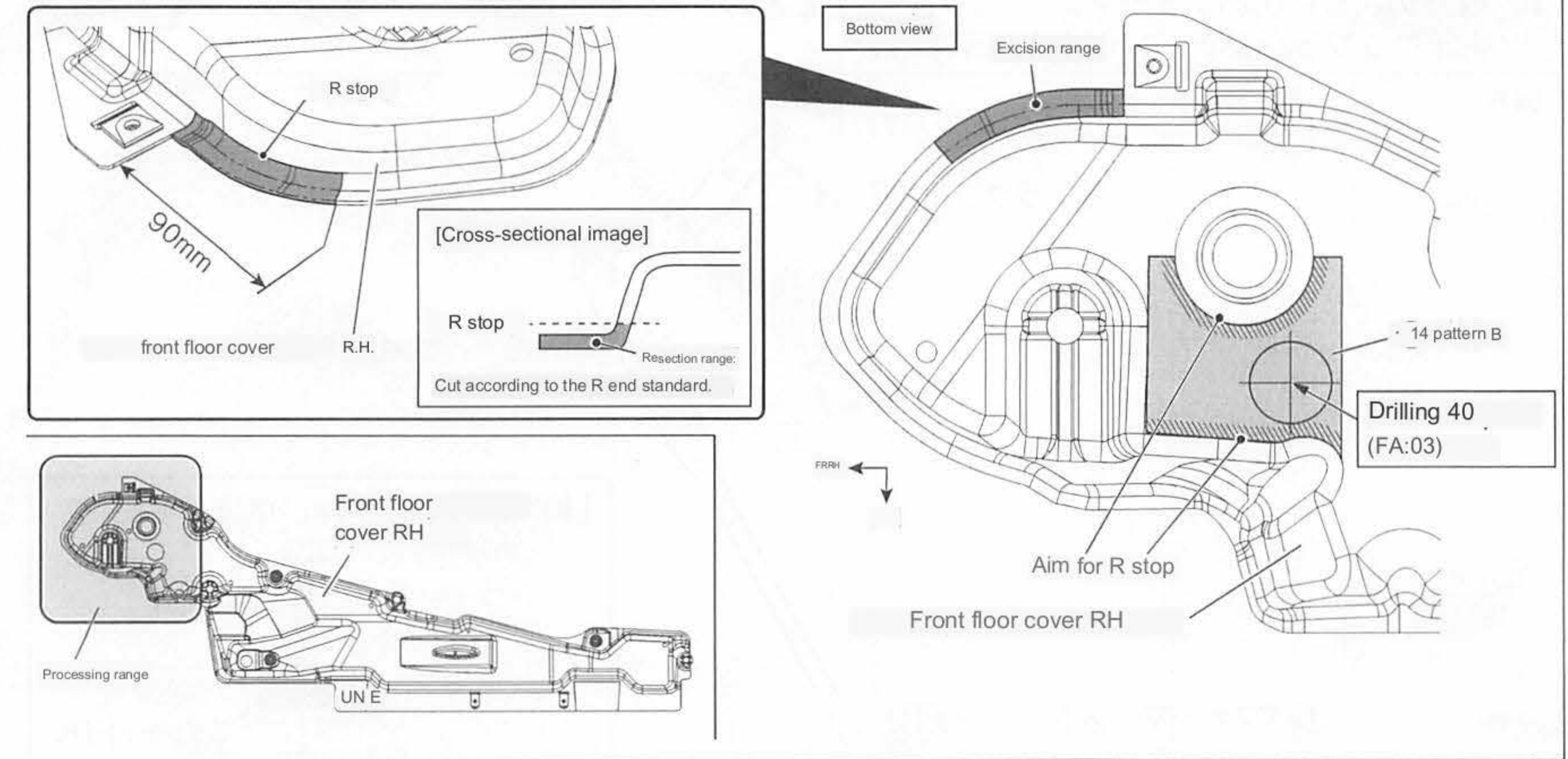
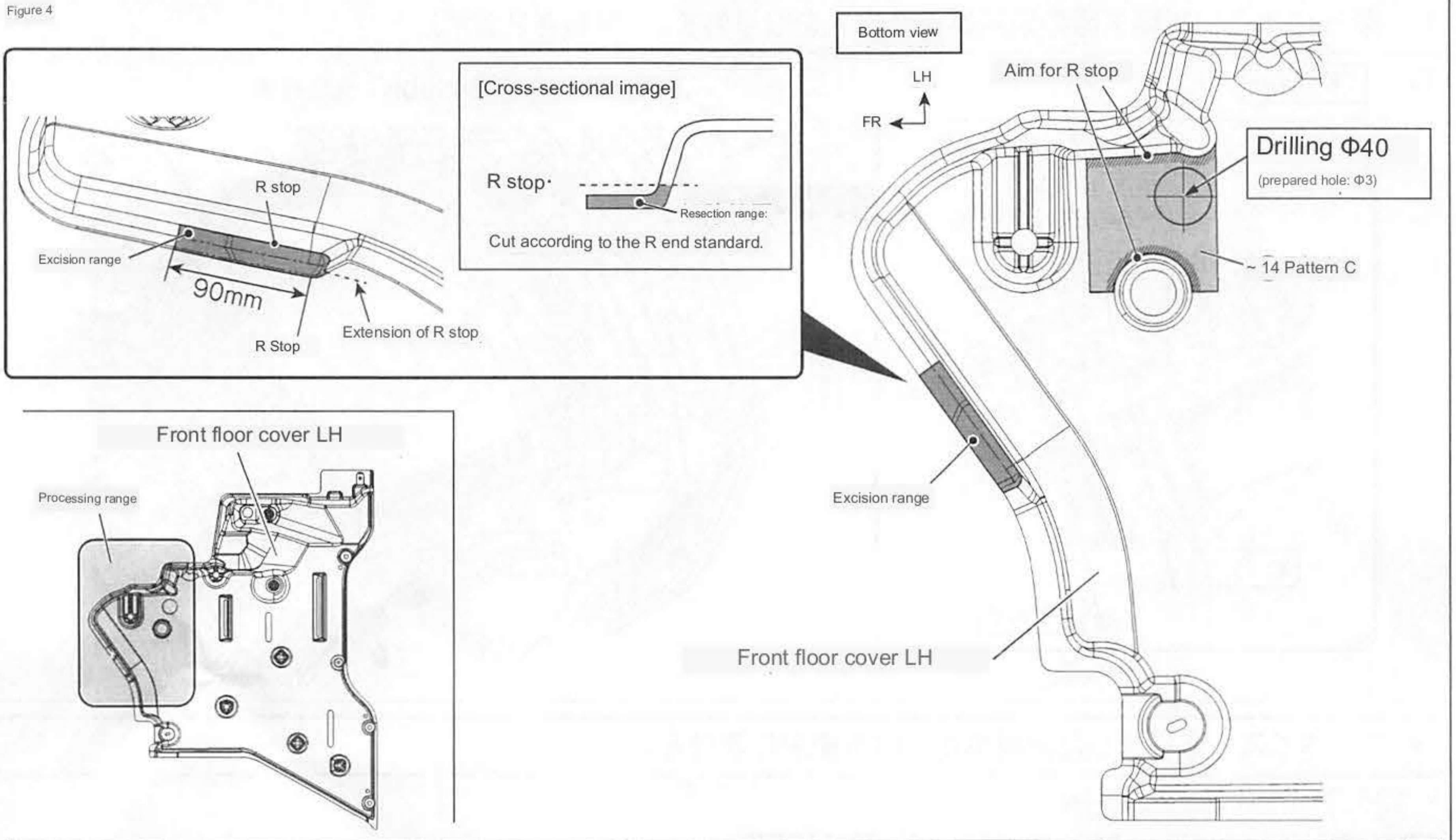
RX450h+ undercover processing work

4. Drill and cut out the front floor cover (RH/LH) using pattern 14 B and C as shown in Figure 4.

do. *After

processing, peel off pattern 14 B and C and remove burrs around the processed area.

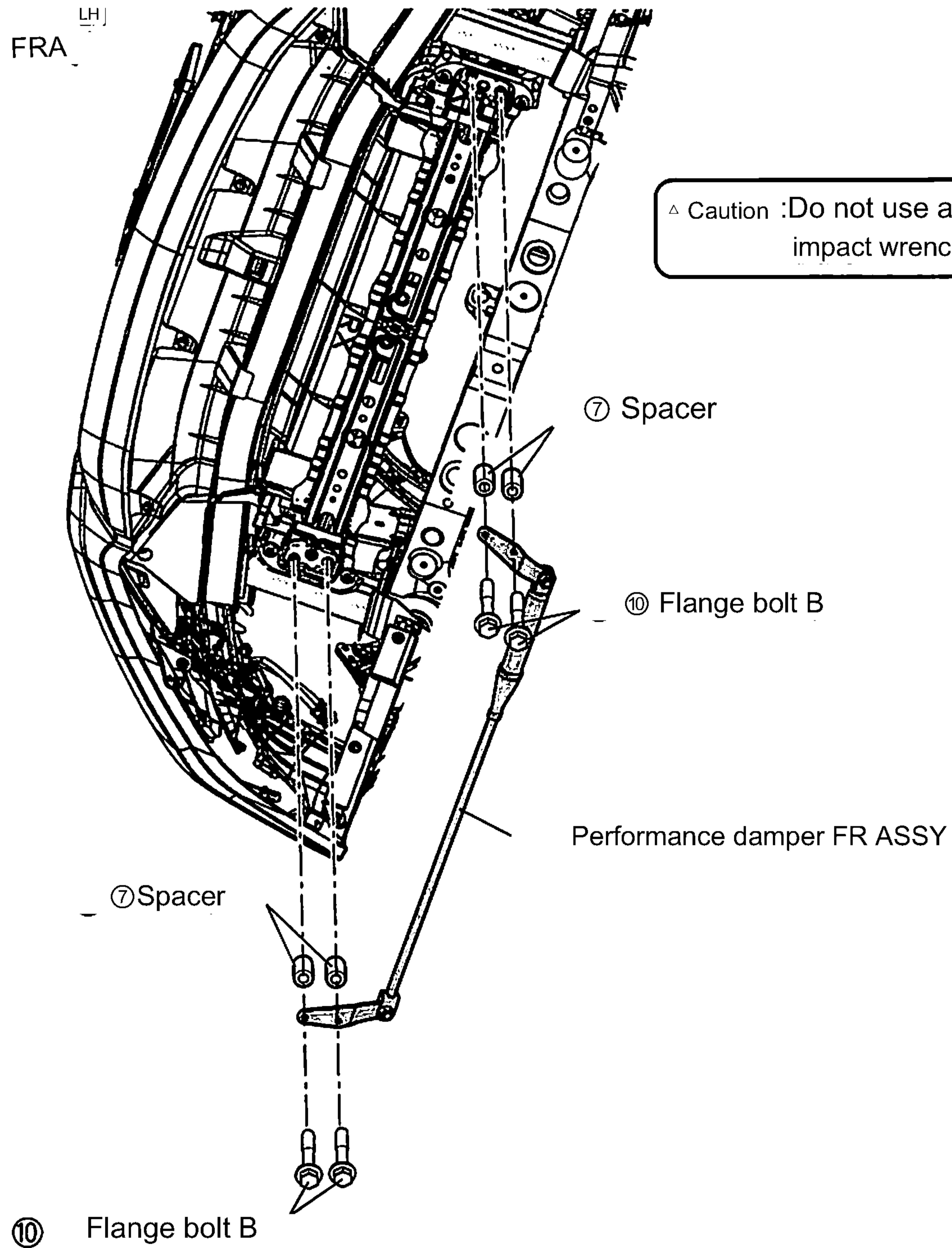
Figure 4



2. Insert the ③ bracket FR (RH/LH) of the performance damper FR ASSY as shown in Figure 7, ⑦ spacer between and temporarily fix it with ⑩ flange bolt B. (2 locations each on the left and right)

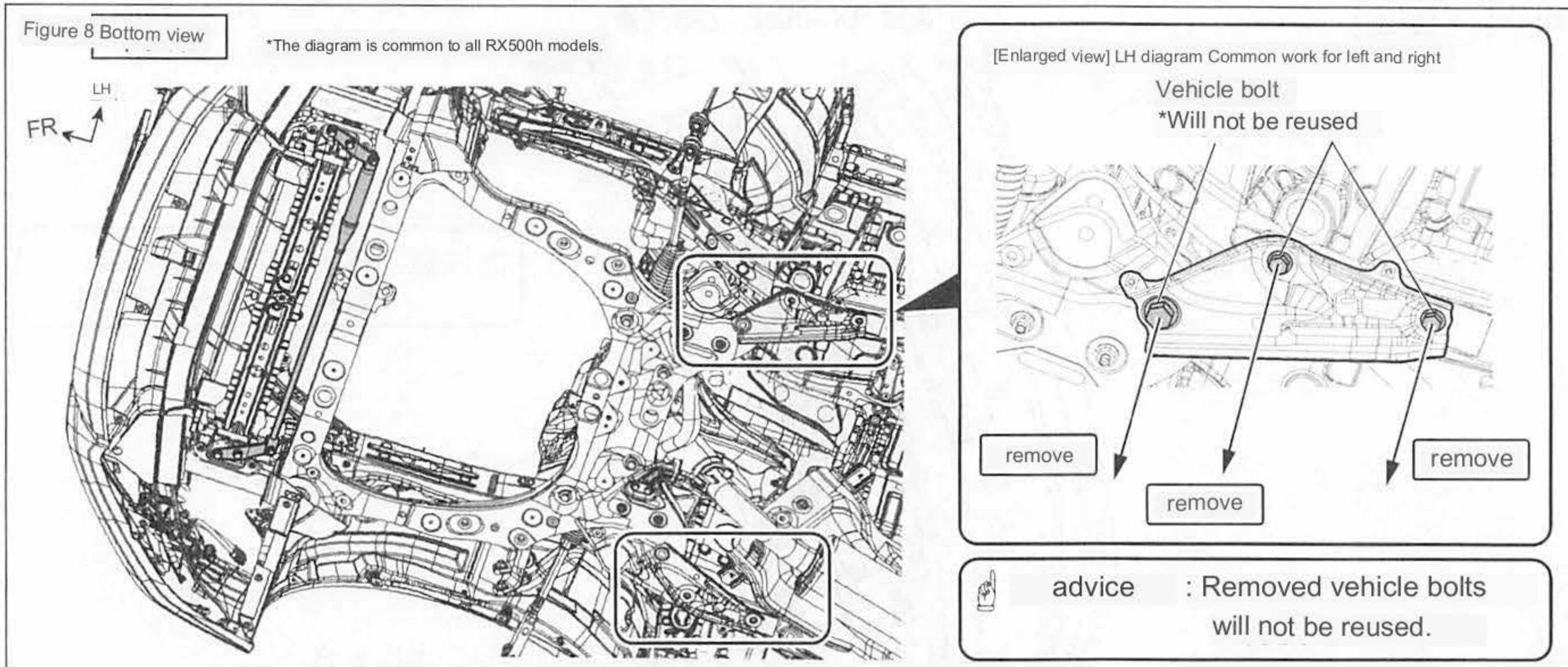
Figure 7 Bottom view

*The diagram is common to all RX500h models.



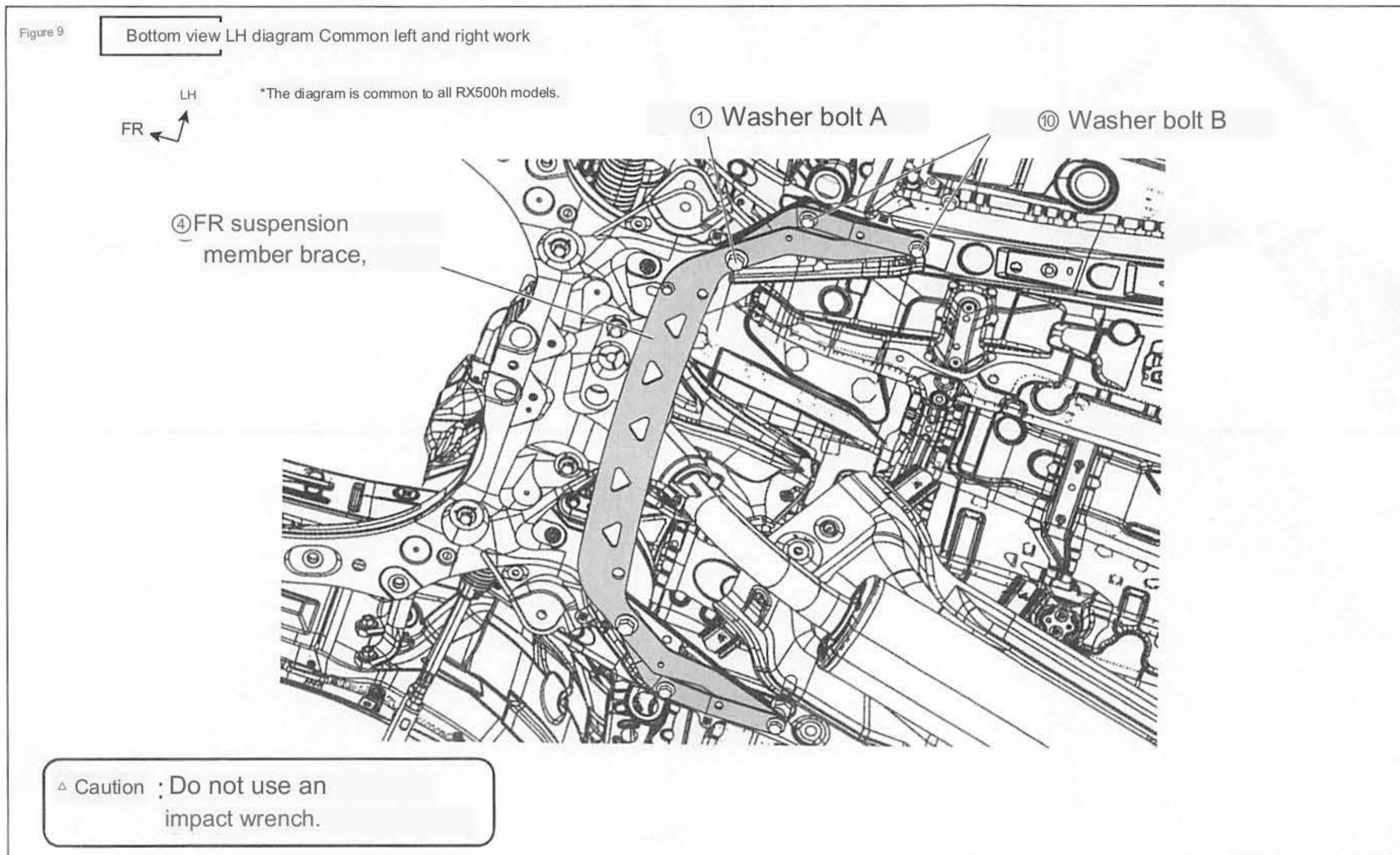
□Preparation for front suspension member brace installation

1. Remove the vehicle bolts shown on the bottom of the vehicle as shown in Figure 8. (3 locations each on the left and right)

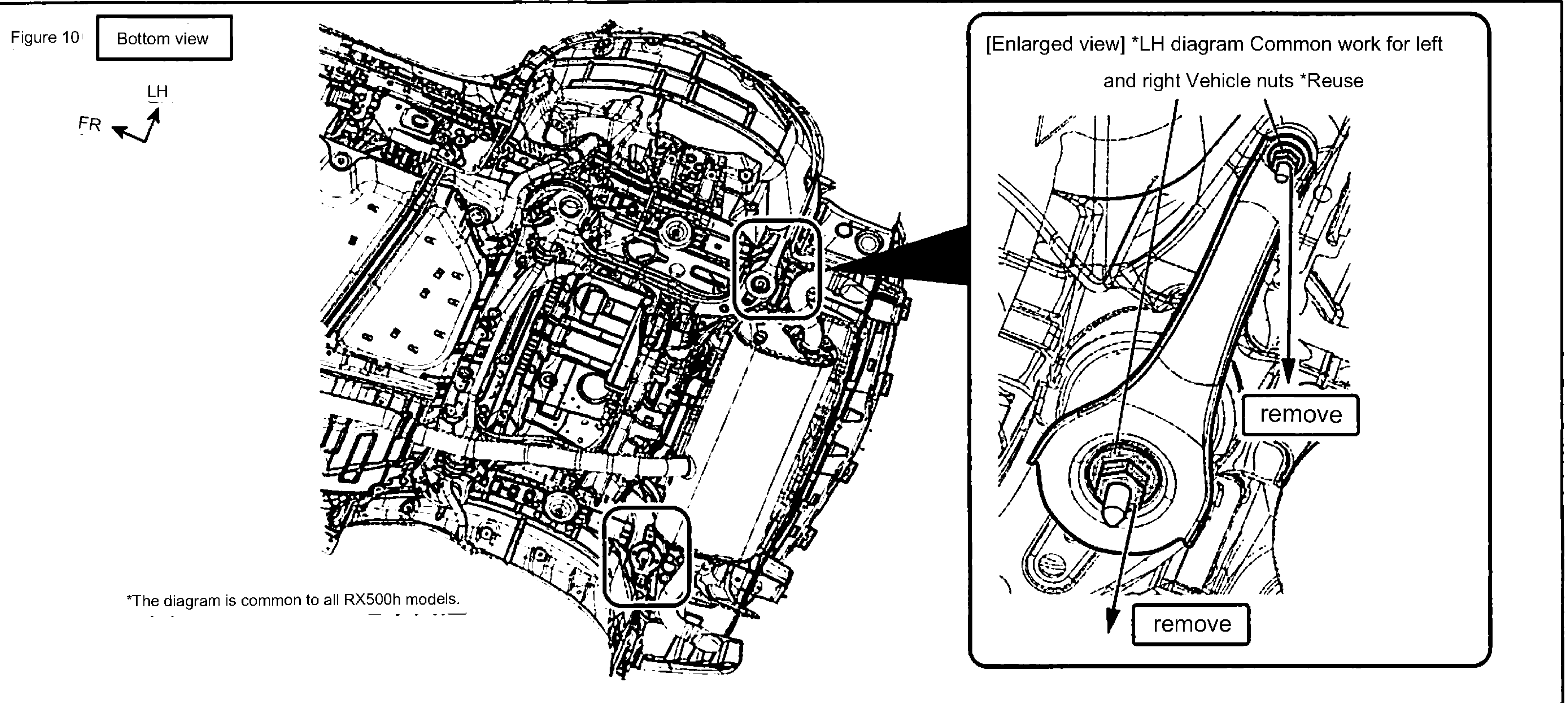


□Front suspension member brace installation instructions 1. Temporarily

tighten the ④FR suspension member brace on the underside of the vehicle with 11 washer bolts A (1 location each on the left and right) and 1 washer bolt B (2 locations each on the left and right) as shown in Figure 9.



- Preparation for installing rear performance damper and rear suspension member brace 1. Remove the vehicle nuts shown on the underside of the vehicle as shown in Figure 10. (2 locations each on the left and right)



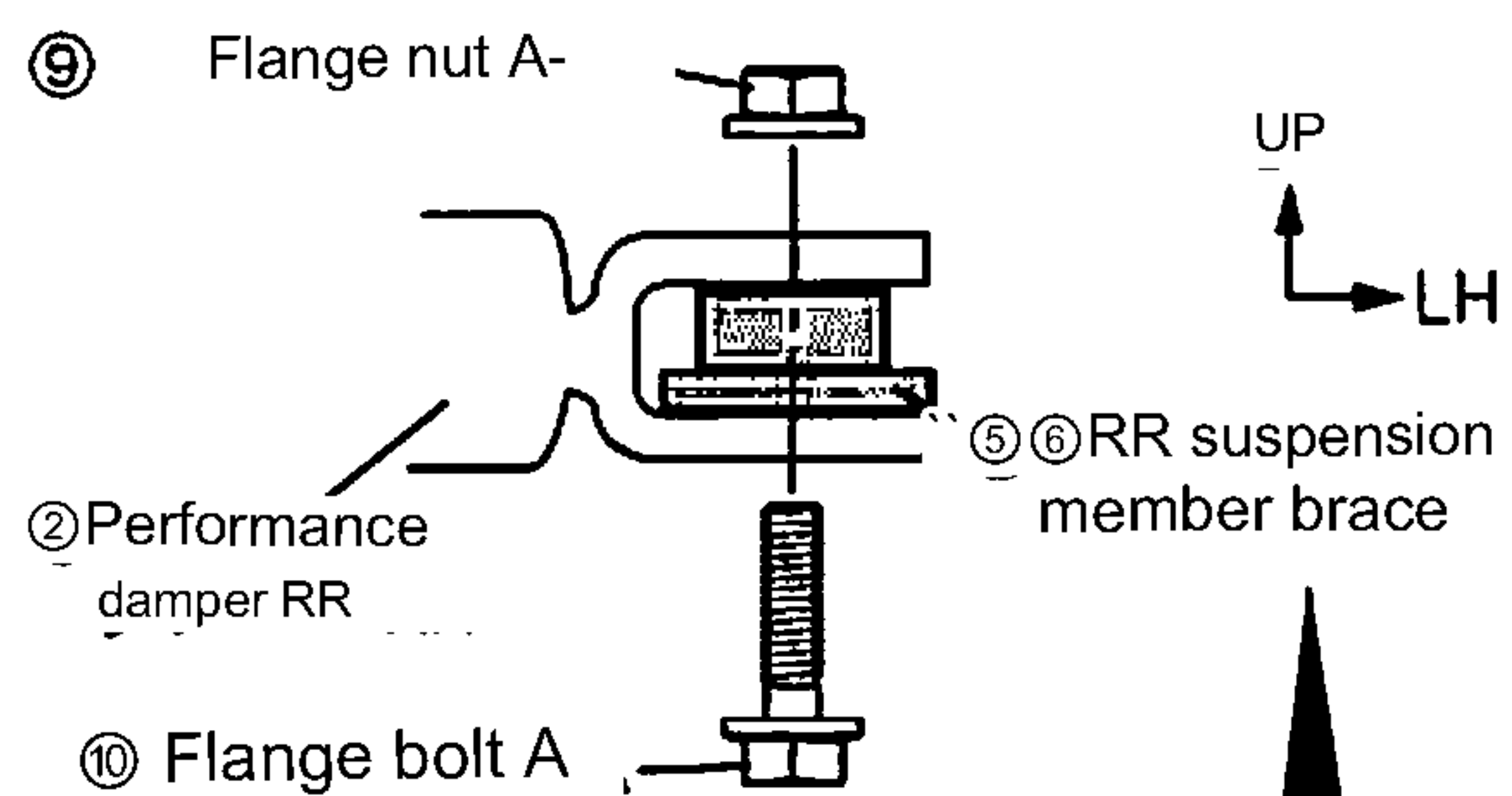
Tip: Reuse the removed vehicle nuts. Please be careful not to lose or damage it.

- Rear performance damper and rear suspension member brace installation instructions
- 1. As shown in Figure 11, align ② performance damper RR with the holes in ⑥ RR suspension member brace, and fully tighten ⑧ flange bolt A and ⑨ flange nut A to the specified torque.

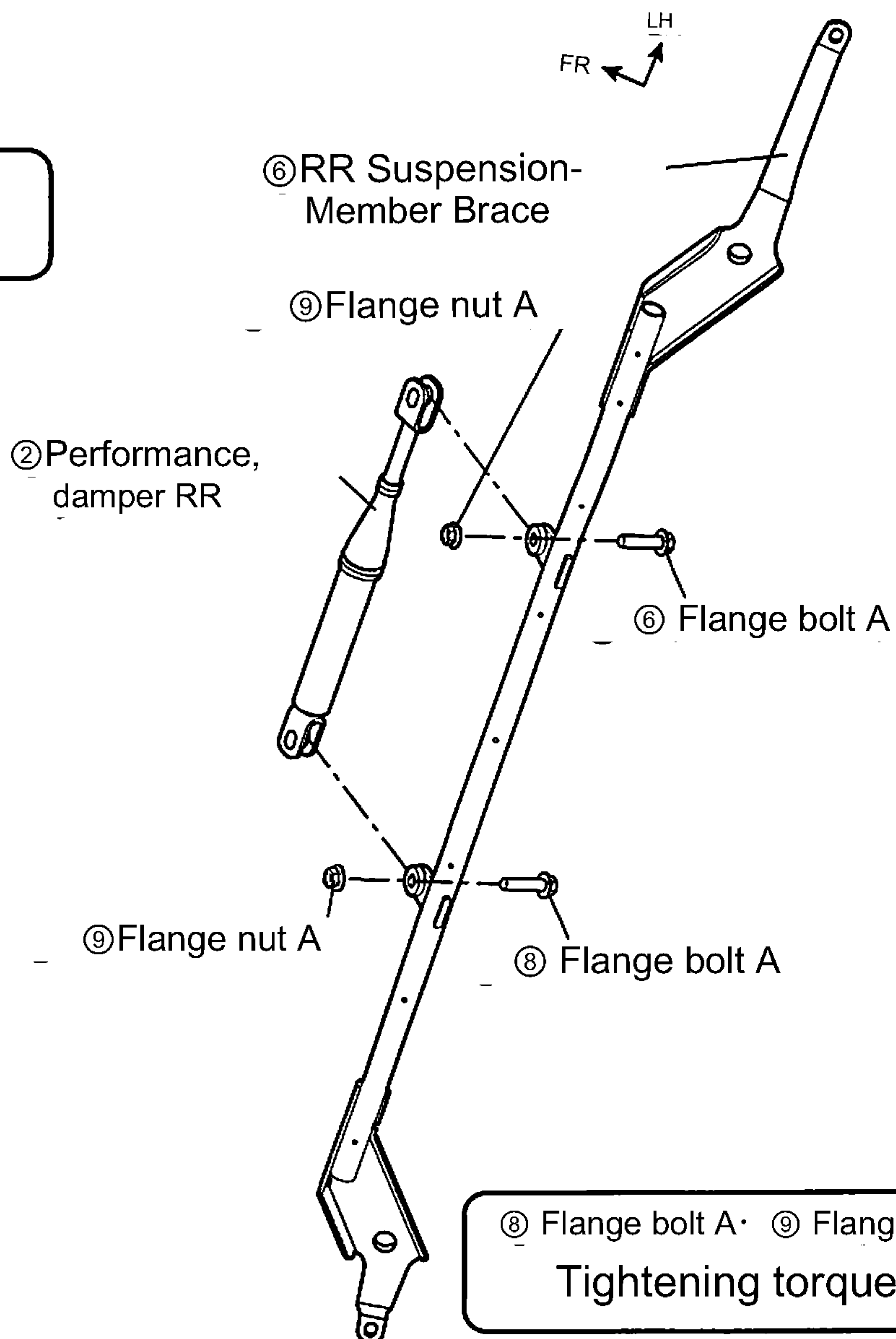
Figure 11

△ Caution: Do not use an impact wrench.

[Cross-sectional view of fastening part] LH diagram Same as left and right



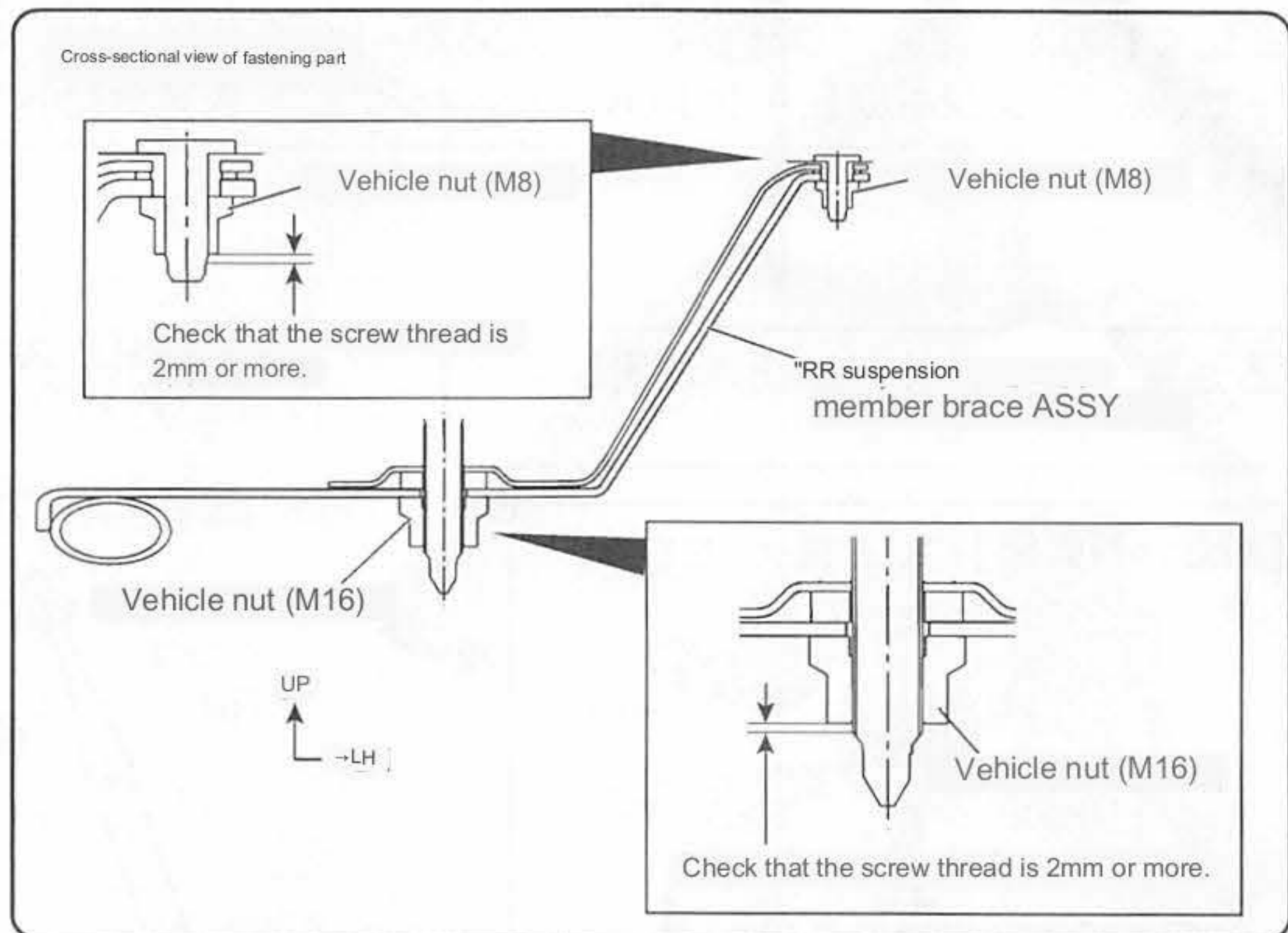
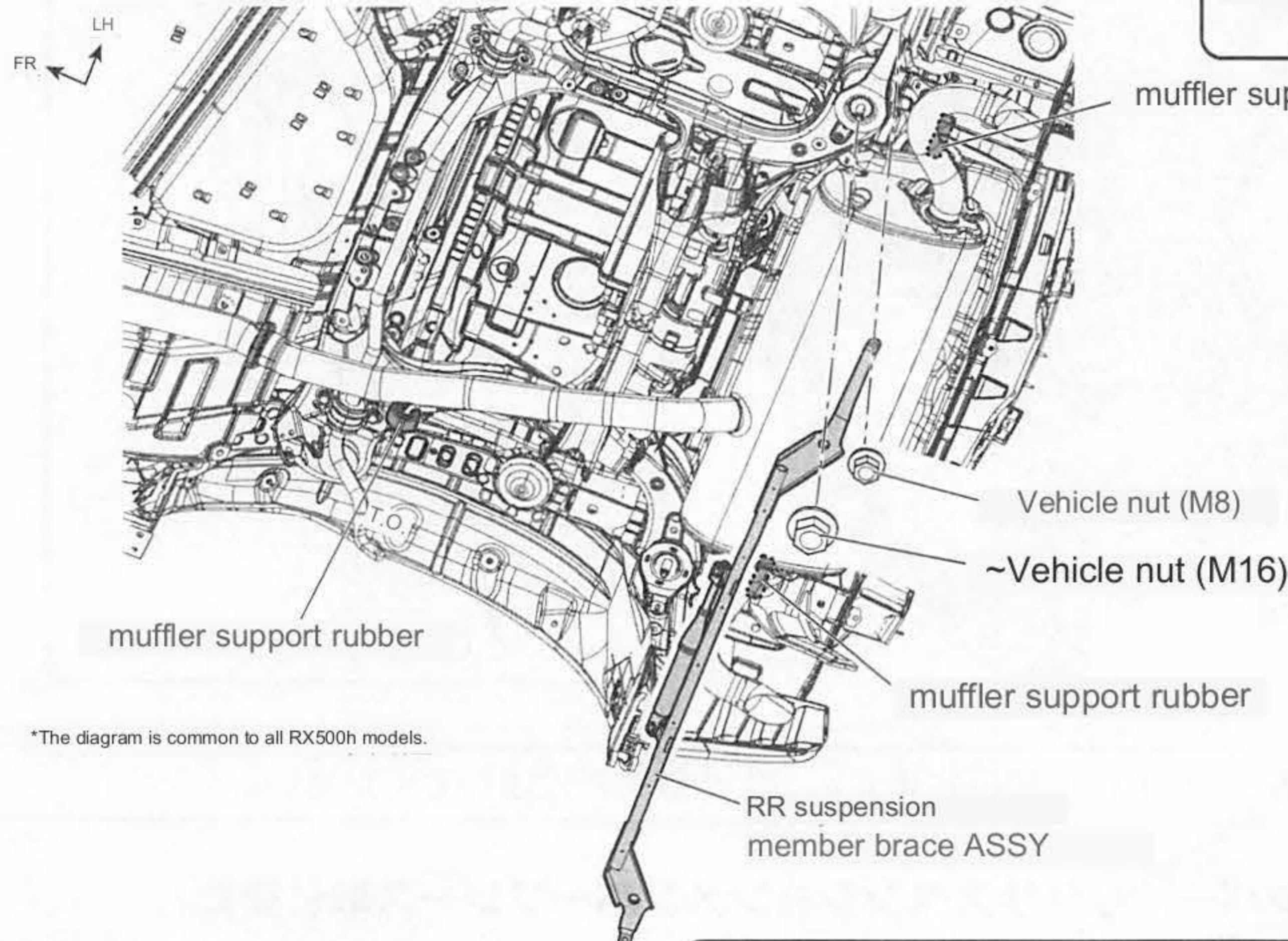
※ ⑩ Welding the RR suspension member place Install so that the spacer faces forward.



- 2 .As shown in Figure 12, remove the vehicle muffler support rubber and slide the exhaust pipe downward to the bottom of the vehicle. Temporarily tighten the RR suspension member brace ASSY with vehicle nuts (reused). (2 locations each on the left and right) After temporarily tightening, restore the vehicle muffler support rubber (3 locations).

Figure 12 Bottom view LH diagram Common left and right work

△ Note: Do not use an impact wrench.




advice

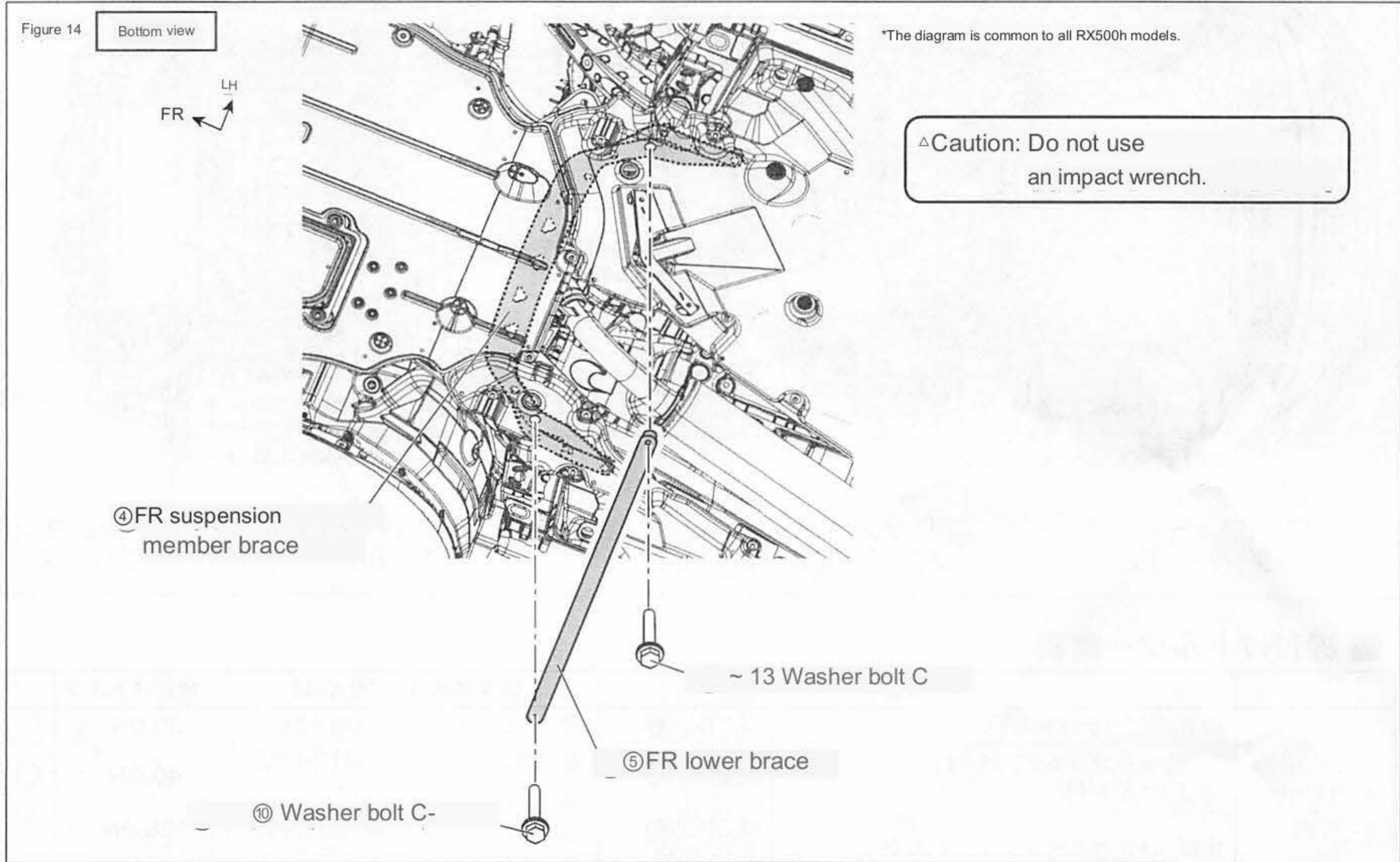
- Work on one side at a time with the tires lifted to avoid applying vehicle weight to the suspension.
- When temporarily tightening, supporting the vehicle's rear suspension with jack stands will make the work easier.

Common work for RX500h, RX450h+, RX350h, RX350 5.

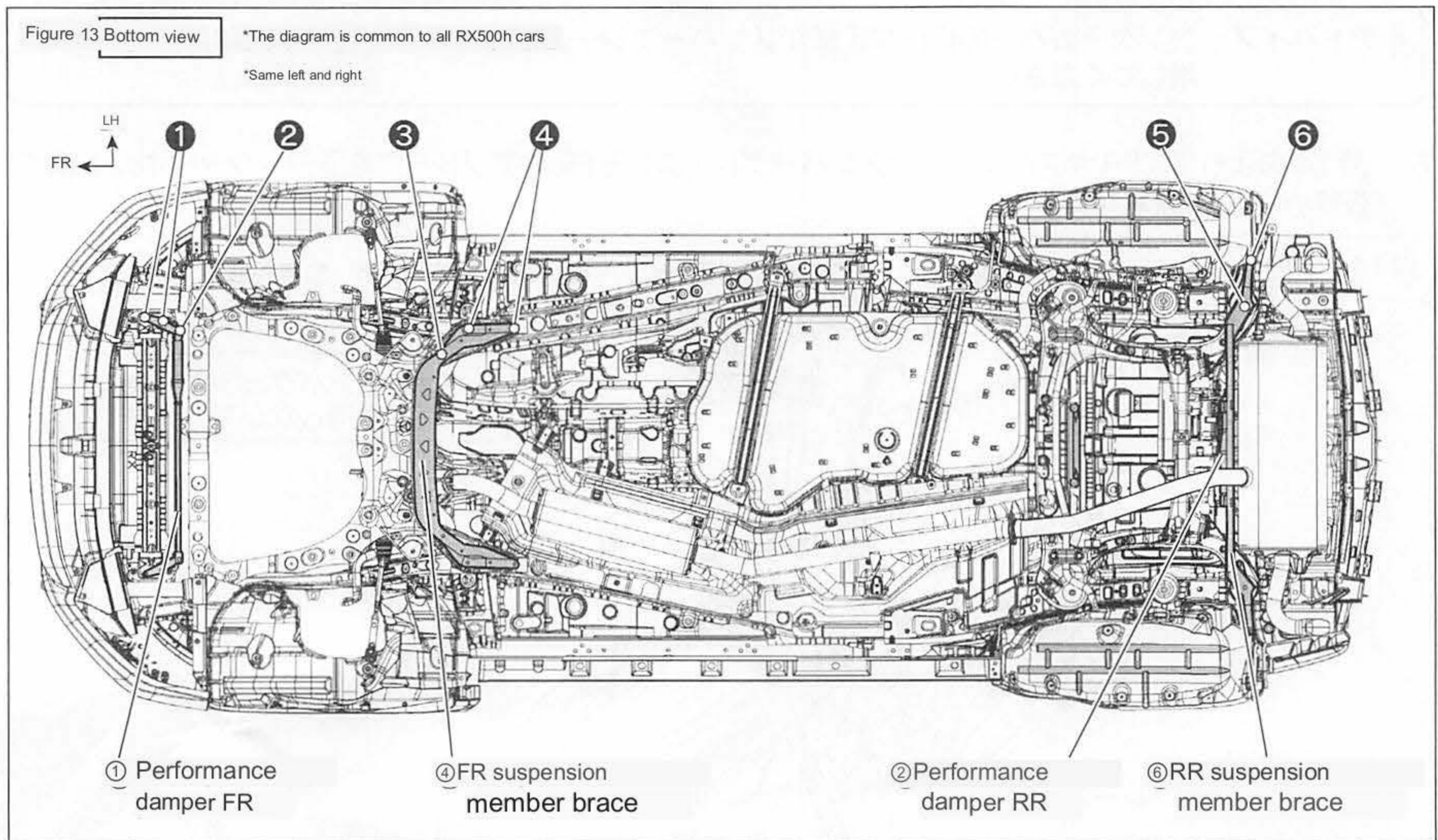
Restore each undercover according to the repair manual for the applicable vehicle.

 Advice: If the cut-out part of the undercover interferes with the member brace, cut the cut-out part accordingly.
Please increase it.

6. As shown in Figure 14, temporarily tighten ⑤FR lower brace to ④FR suspension member brace with washer bolt C. (1 location each on the left and right)



3. As shown in Figure 13, move the vehicle to a work pit or stand-up plate lift, and with the vehicle's load on the suspension (1G condition), tighten the temporarily tightened bolts and nuts of each part to the specified torque. Tighten. (Refer to the tightening torque list)



Tightening torque list

	Installation location	Component No. (Size)	Tightening torque	
<Front>	Vehicle, ③Bracket FR	SECTION①	⑩ Flange bolt B (M8×55)	30.0N·m <input type="checkbox"/>
	① Performance damper FR, ③ Bracket FR	SECTION②	⑧ Flange bolt A (M10×40)	40.0N·m <input type="checkbox"/>
			⑨ Flange nut (M10)	
	Vehicle, ④FR suspension member brace	SECTION③	⑩ Washer bolt A (M16×137)	135.0N·m <input type="checkbox"/>
SECTION④		12 Washer bolt B (M12×60)	70.0N·m <input type="checkbox"/>	
<Riya>	Vehicle, ⑥RR suspension member brace	SECTION⑤ #1	Vehicle nut (M16)	180.0N·m <input type="checkbox"/>
		SECTION⑤ #2	Vehicle nut (M8)	175.0N·m <input type="checkbox"/>
		SECTION⑥	Vehicle nut (M8)	18.0N·m <input type="checkbox"/>

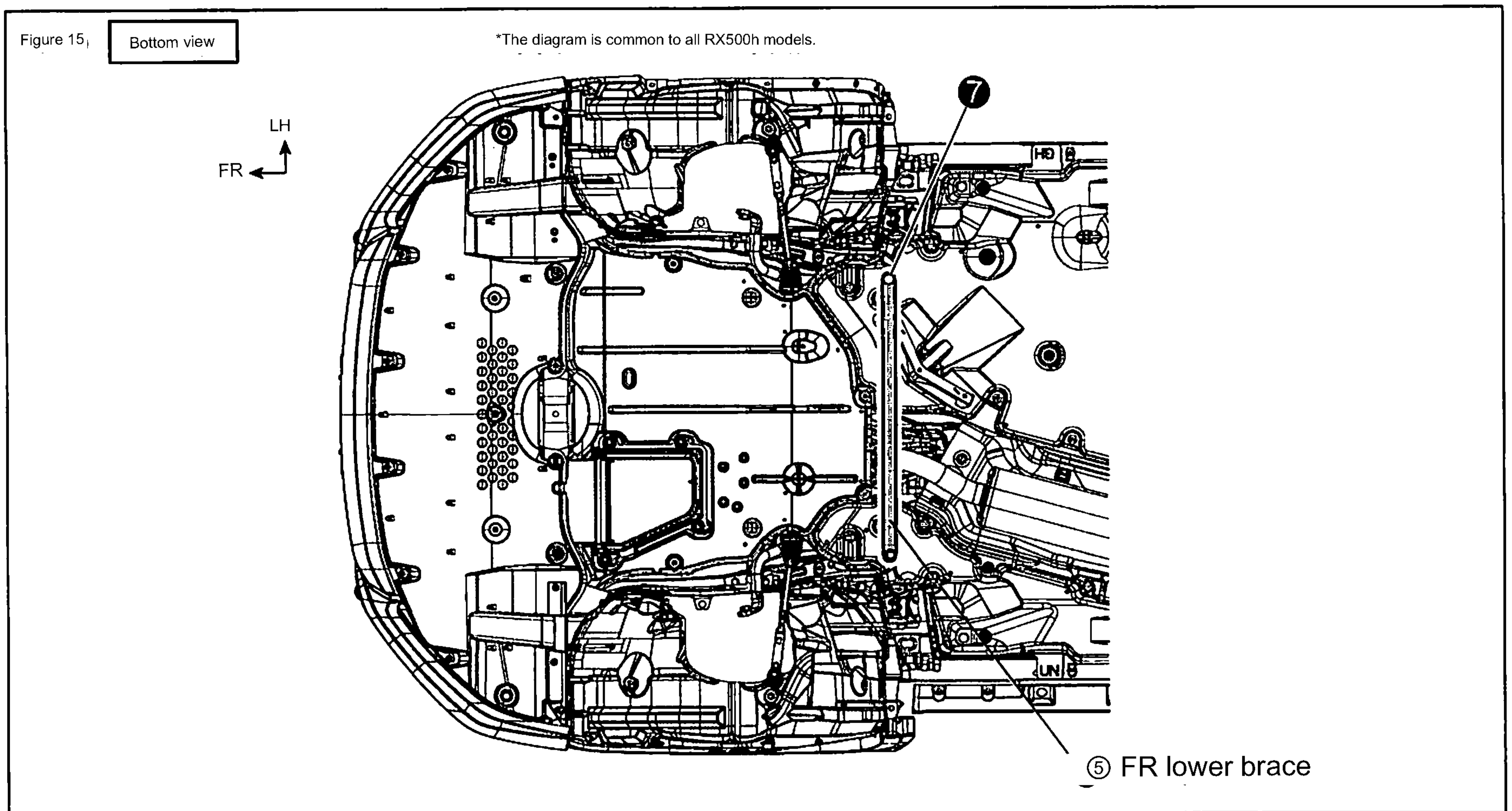
※The tightening torque for SECTION varies depending on the vehicle grade. #1 RX500h, RX450h+, RX350h (AWD) RX350 (AWD)
#2 RX350h (2WD)、RX350 (2WD)

Works only on RX450h+

4. According to the repair manual for the vehicle concerned, restore the vehicle engine undercover heat insulator that was removed in step 3 on page 6, and install the vehicle bolts and vehicle nuts to the specified torque.

Vehicle bolt (M10), vehicle nut (M8)
Tightening torque
18.0N·m

7. As shown in Figure 15, move the vehicle to the work pit or stand-up plate lift, and with the vehicle's load on the suspension (1G condition), ⑤ Temporarily tighten the FR lower brace. ③ Tighten washer bolt C to the specified torque. Final tighten. (See tightening torque table)



■ Tightening torque table

	Installation location	Component No. (Size)	Tightening torque	
<Front>	④FR suspension member brace, ⑤FR lower brace	SECTION 7 13 Washer bolt C (M8×60)	15.0N·m	<input type="checkbox"/>

■ Inspection after installation is complete Notes

1. After installation, drive for several kilometers and check that there is no interference with any parts and that there are no abnormal noises.
2. Depending on the parts disassembled and removed during this installation, resetting and adjustment may be required. Please check, adjust, and set each part according to the repair office (issued by Toyota Motor Corporation) for the vehicle in question.
3. After installation, please periodically (during periodic inspections, etc.) check that there is no looseness in the attachment part.

Toyota Customizing & Development Co., Ltd.
 TRD Product Inquiry Desk
 TEL:050-3161-2121
<https://www.trdparts.jp/>

