

F SPORT PARTS

MS303-58018

"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 proper 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 (published by Toyota Motor Corporation) and observe the precautions in this manual.

y Product number/Compatible vehicle

model number	Vehicles	prepare for exam
MS303-58018	LM 23.11 y	LM500h

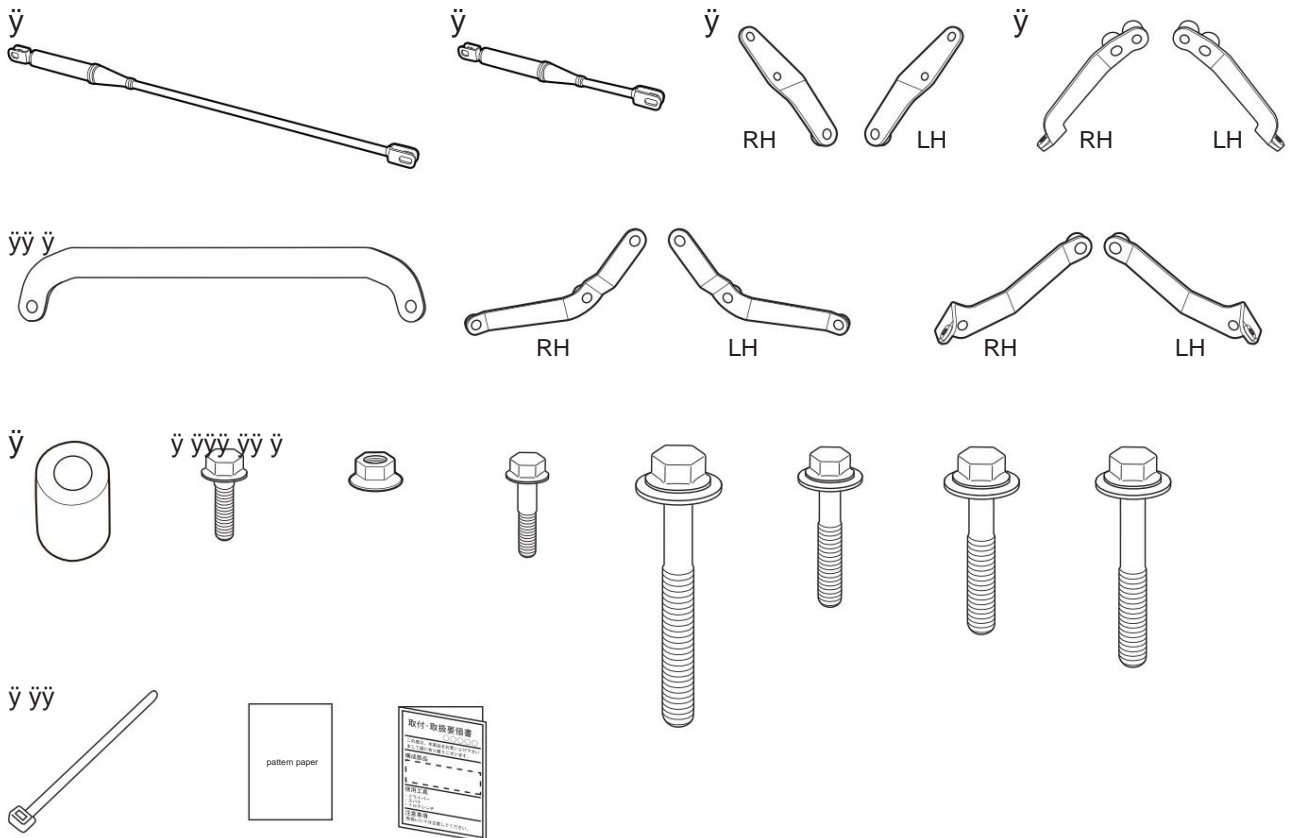
• Please see the TRD catalog site for the latest compatibility information. <https://www.trdparts.jp/>

ÿ Components

No.	Part name	Quantity	prepare for exam
ÿ	Performance damper FR	1	L=820mm
ÿ	Performance damper RR ÿ	ÿ	L=245mm
	Bracket FR (RH/LH) ÿ	1 each	
	Bracket RR (RH/LH)	1 each	
ÿ	FR Suspension member brace (CTR) ÿ	ÿ	
FR	Suspension member brace (RH/LH)	1 each	
ÿ	RR suspension member brace (RH/LH) 1 each		
ÿ	spacer	ÿt29,5	
ÿ	Flange bolt A ÿ	ÿ M10×40	
	Flange nut ÿ	ÿ M10	
Flange bolt B ÿ Washer		ÿ M8×55	
bolt A ÿ Washer bolt B ÿ		ÿ M16×137	
		ÿ M12×50	
	Washer bolt C ÿ	ÿ M14×59	
	Washer bolt D ÿ	ÿ M14×70	
	cable ties	ÿ	
ÿ	Pattern	ÿ	
ÿ	installation/handling instructions	1	This book




*Confirmation - After receiving this product, please immediately check that there is no damage to the main unit and that all accessories are included.

ÿ Component diagram



Precautions for installation (for installation workers)






Please be sure to read this before starting work to ensure safe and secure installation work.

 warn	This indicates information that, if not followed and incorrectly installed or handled, may result in death or serious injury.
 Notice	This indicates that if you do not follow the precautions and install or handle the product incorrectly, it may lead to an accident, injury, or damage to the vehicle.
 advice	This manual contains information that you should know in order to work quickly and safely.









What not to do

Things you must do



-  Warning: Please do not modify or process this product, or install it on vehicles other than those that are compatible, as this may lead to serious accidents. Please 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 (published 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 90 mm (Note 1). (Note 1: This may vary depending on the vehicle's
-  wheelbase and overhang value) When driving on public roads with a vehicle equipped with a vehicle height adjustment type suspension



-  kit, be careful of interference with the road surface. Caution: When replacing or installing this product, be sure to
-  perform the work at a professional, well-equipped repair shop. When replacing, be sure to follow the repair manual for the vehicle
-  (published 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 cover the installation area with a protective material. 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 burns. 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

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 (issued by Toyota Motor Corporation) for the vehicle in question. If a problem occurs, please contact the store where you purchased the product as soon as possible.

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Tools required for installation, protective equipment,

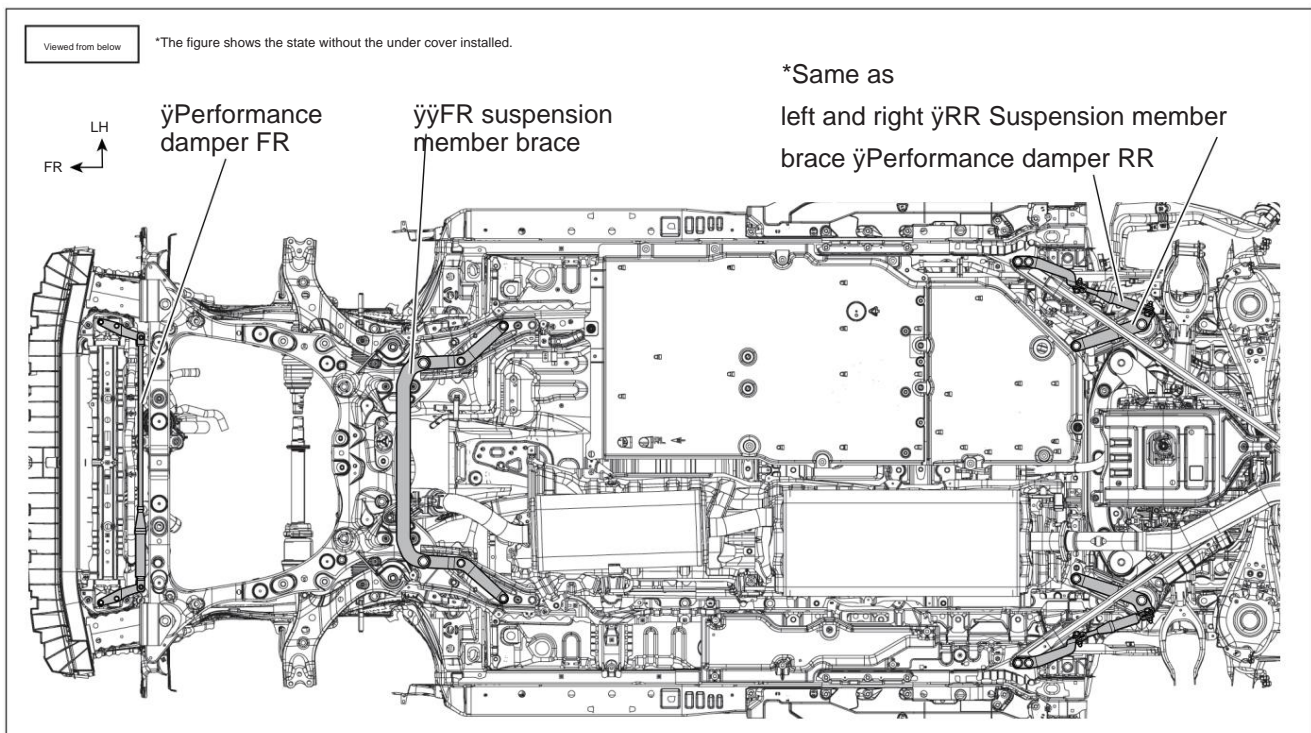
consumables , general tools, torque wrench, clip remover, scribing needle, processing tools (scissors, cutter, air saw, file, drill [3mm, 4mm], hole saw [35mm])•Safety glasses, work gloves, protective sheet, protective tape, masking tape

About the warranty

This product has a 3 year/60,000km warranty. (Until 3 years or 60,000 km, whichever comes first) *Warranty details can be found on the TRD catalog site <<https://www.trdparts.jp>>

Please see "About Warranty".

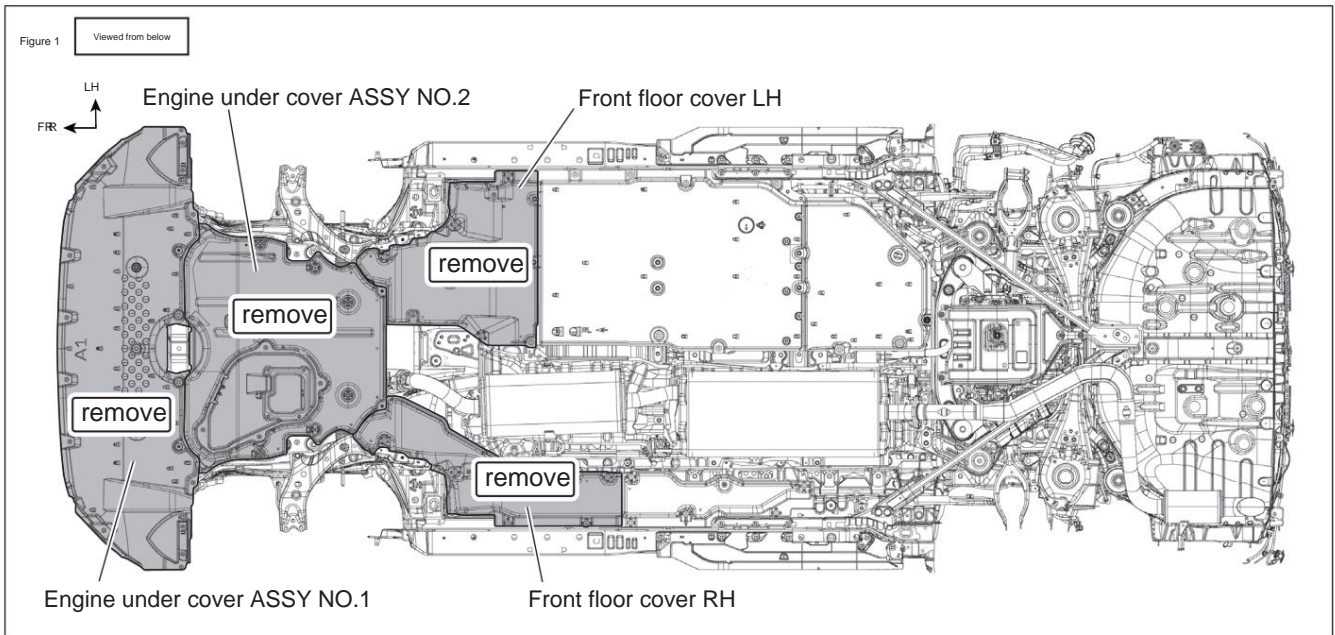
Installation configuration diagram



Installation

EX-TRUCK Preparation for Installation of Performance Driven EX Plus

1. As shown in Figure 1, remove each undercover from the vehicle according to the repair manual for the vehicle.

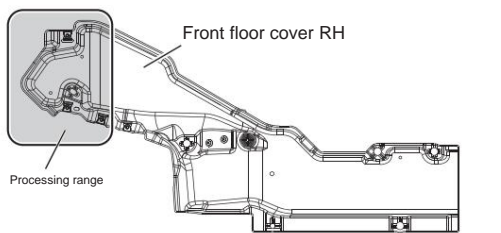
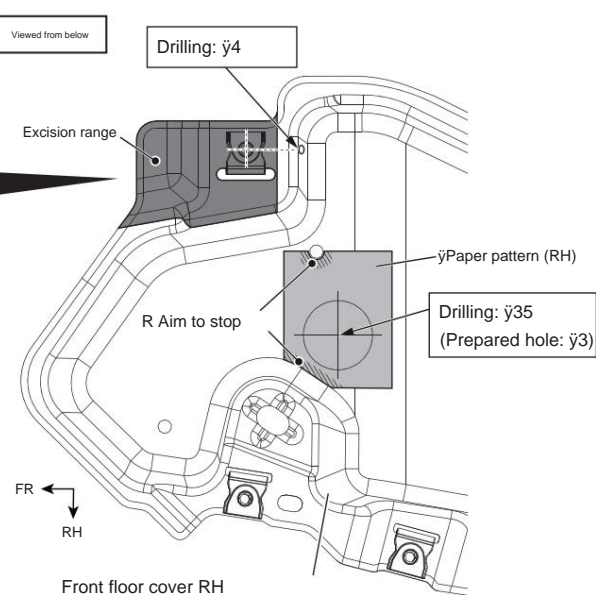
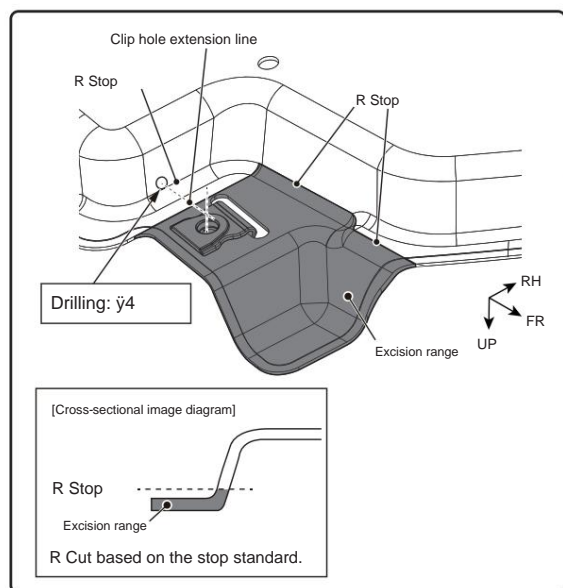
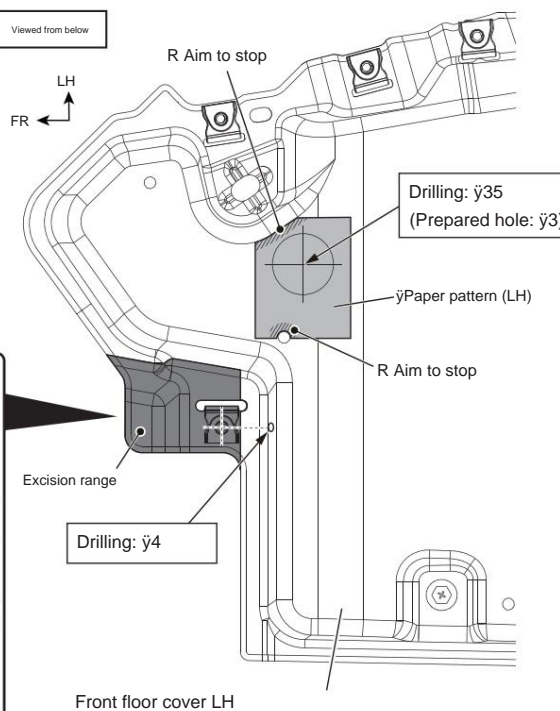
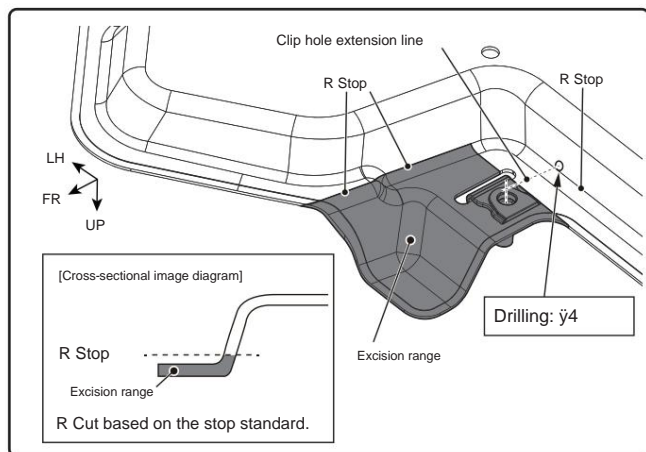
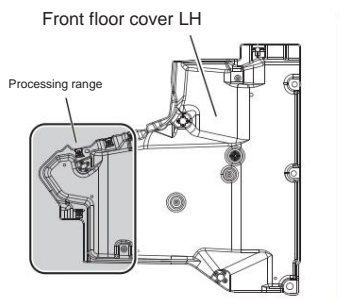


 loss.

The removed vehicle parts and fastening bolts will be reused, so please store them carefully to avoid damage or

2. As shown in Figure 2, use pattern ý (RH/LH) to drill holes and cut out the front floor cover (RH/LH).
 *After processing, peel off pattern paper (RH/LH) ý and remove burrs around the processed area.

Figure 2



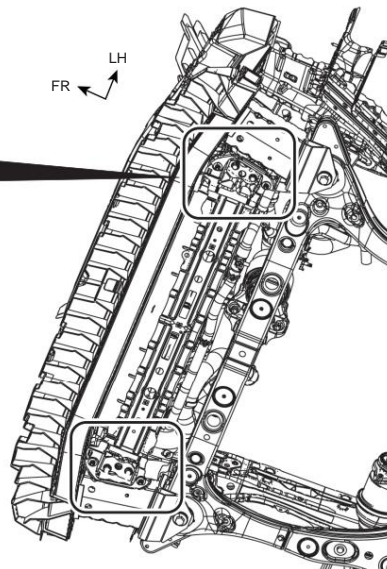
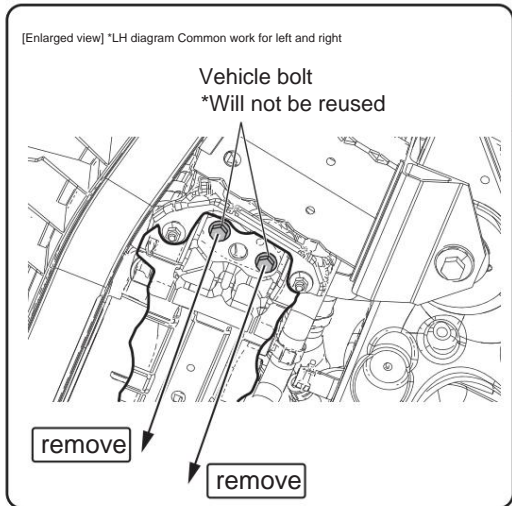
When installing the Performance Damper EX Plus, be sure to place the screw jack in the appropriate place on the underside of the vehicle.

ÿPreparing to install the front performance damper ÿPreparing to install the front performance damper

1. Remove the vehicle bolts shown on the underside of the vehicle as shown in Figure 3. (2 locations each on the left and right)

Figure 3

Viewed from below



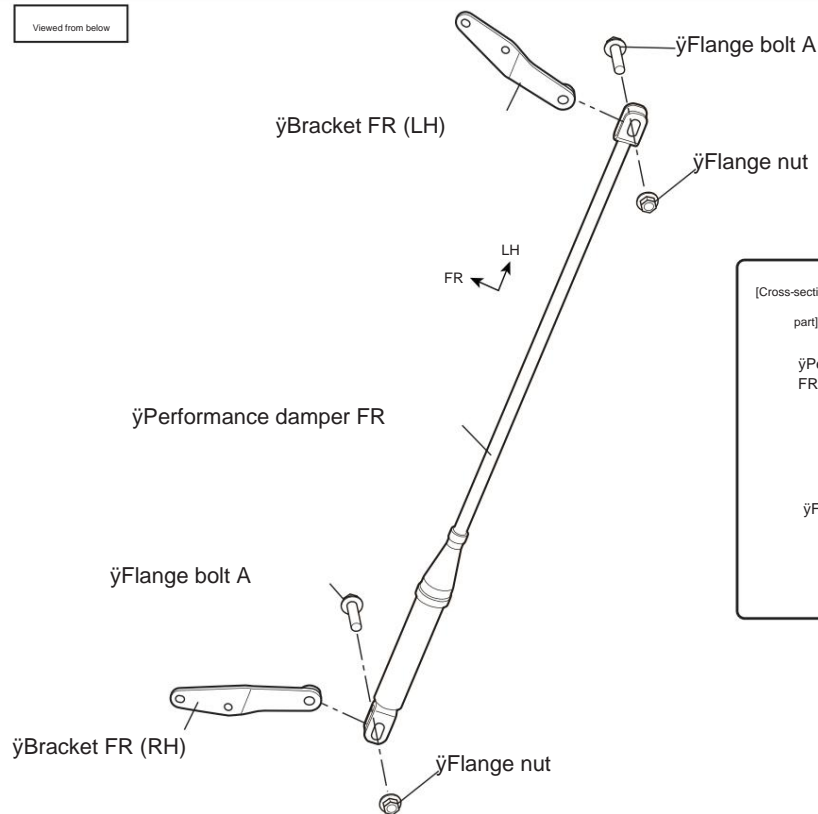
Advice: Do not reuse removed vehicle bolts.

ÿFront performance damper installation instructions ÿFront

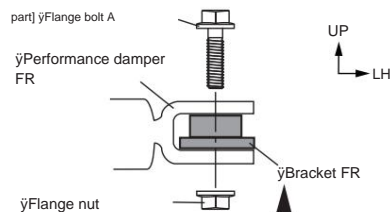
performance damper installation instructions 1. As shown in Figure 4, align ÿPerformance Damper FR with the holes in ÿBracket FR (RH/LH), and temporarily secure with ÿFlange Bolts A and ÿFlange Nuts.

Figure 4

Viewed from below



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



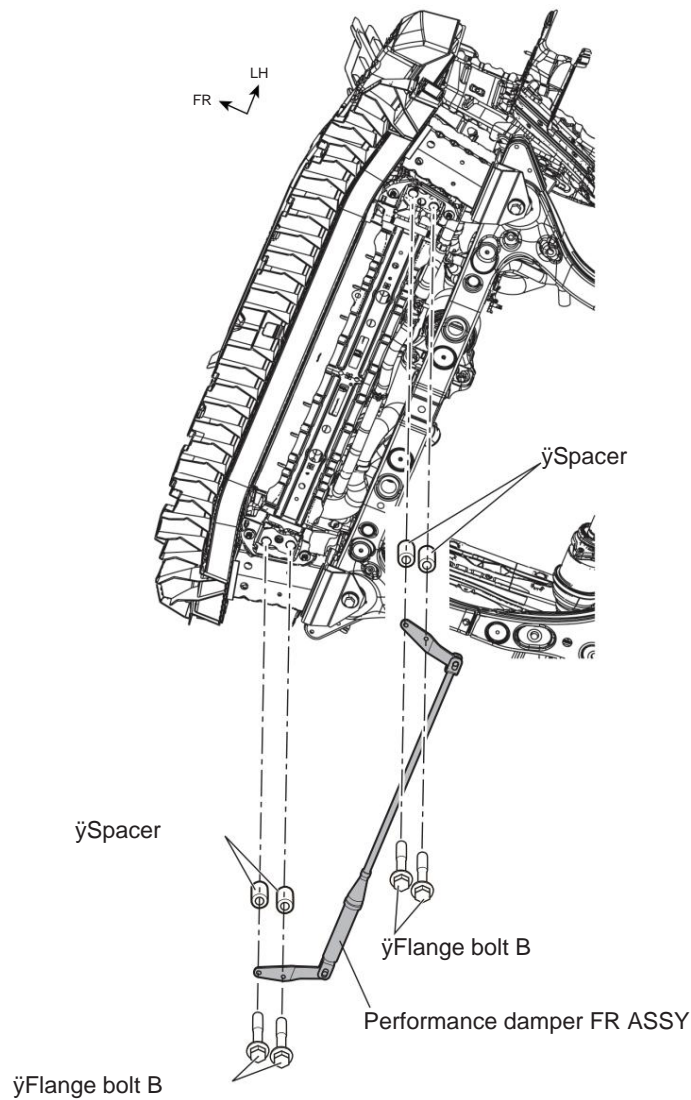
*ÿInstall the bracket FR so that the welding spacer faces upward.



CAUTION: Do not use an impact wrench.

2. As shown in Figure 5, insert the spacer between the performance damper FR ASSY's bracket FR (RH/LH) and the vehicle, and temporarily fix it with the flange bolt B. (2 locations each on the left and right)

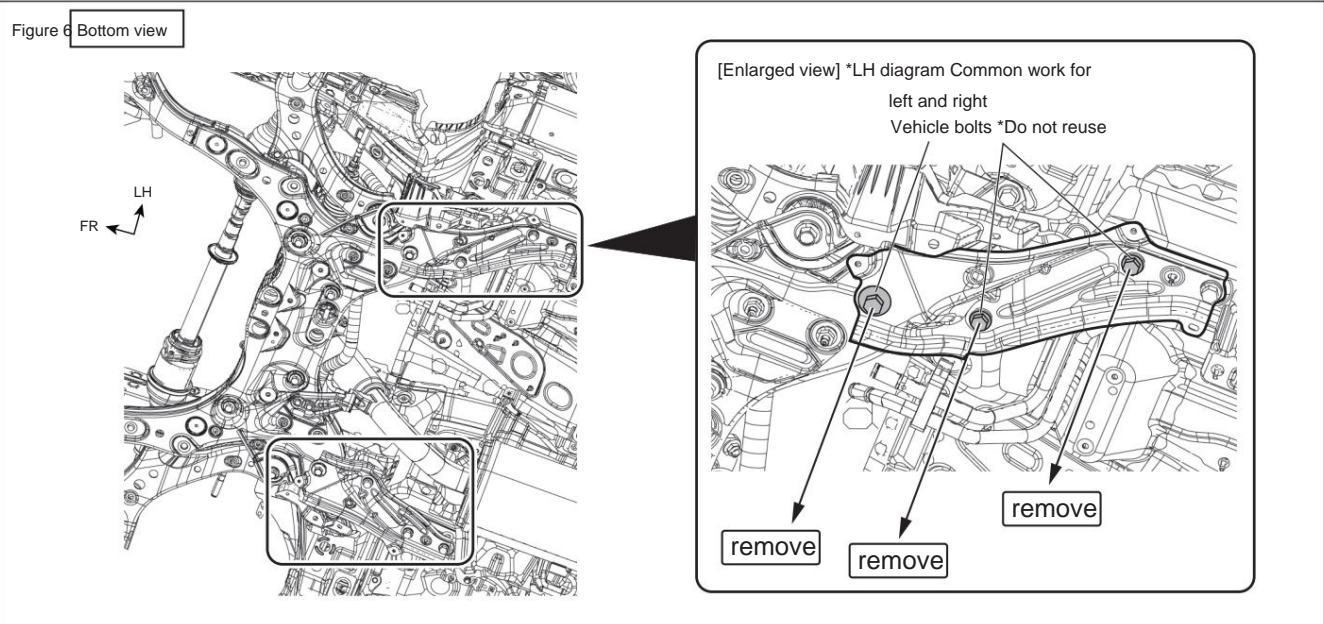
Figure 5 Bottom view



CAUTION: Do not use an impact wrench.

ÿPreparing to install the front suspension member brace ÿPreparing to install the front suspension member brace

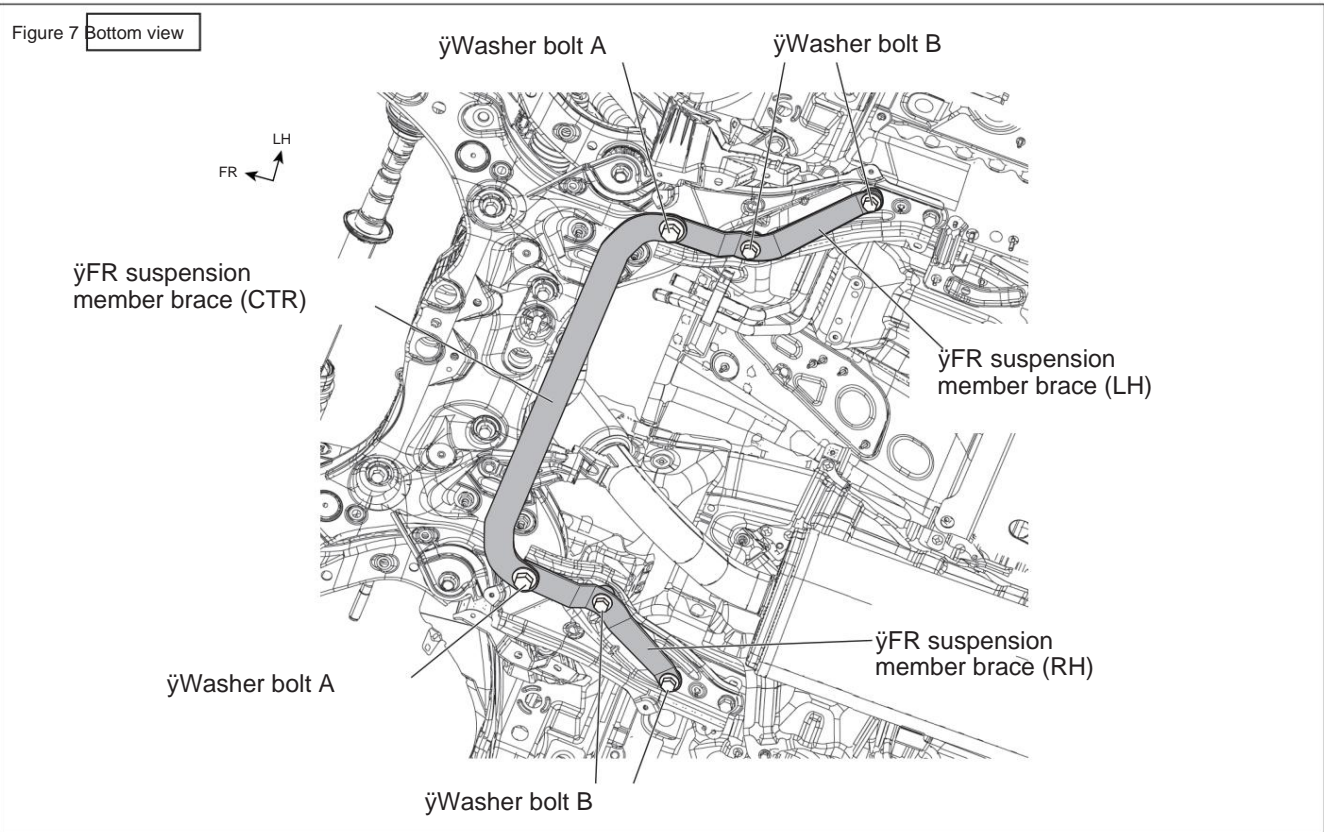
1. As shown in Figure 6, remove the vehicle bolts shown on the underside of the vehicle. (3 locations each on the left and right)



Advice: Do not reuse removed vehicle bolts.

ÿFront suspension member brace installation instructions ÿFront suspension member brace installation instructions

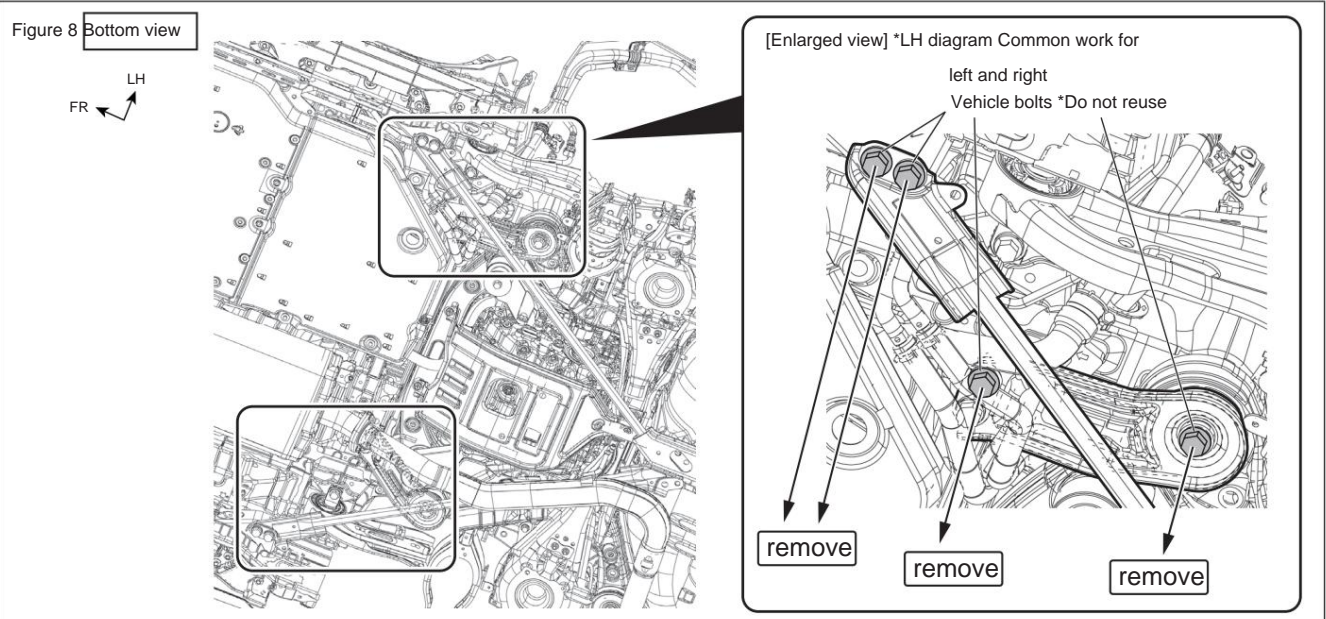
1. As shown in Figure 7, temporarily attach ÿFR suspension member brace (CTR) and ÿFR suspension member brace (RH/LH) to the underside of the vehicle using ÿ washer bolt A (one location each on the left and right) and ÿ washer bolt B (two locations each on the left and right). Tighten.



CAUTION: Do not use an impact wrench.

ÿPreparation for installation of rear performance damper and rear suspension member brace ÿPreparation for installation of rear performance damper and rear suspension member brace

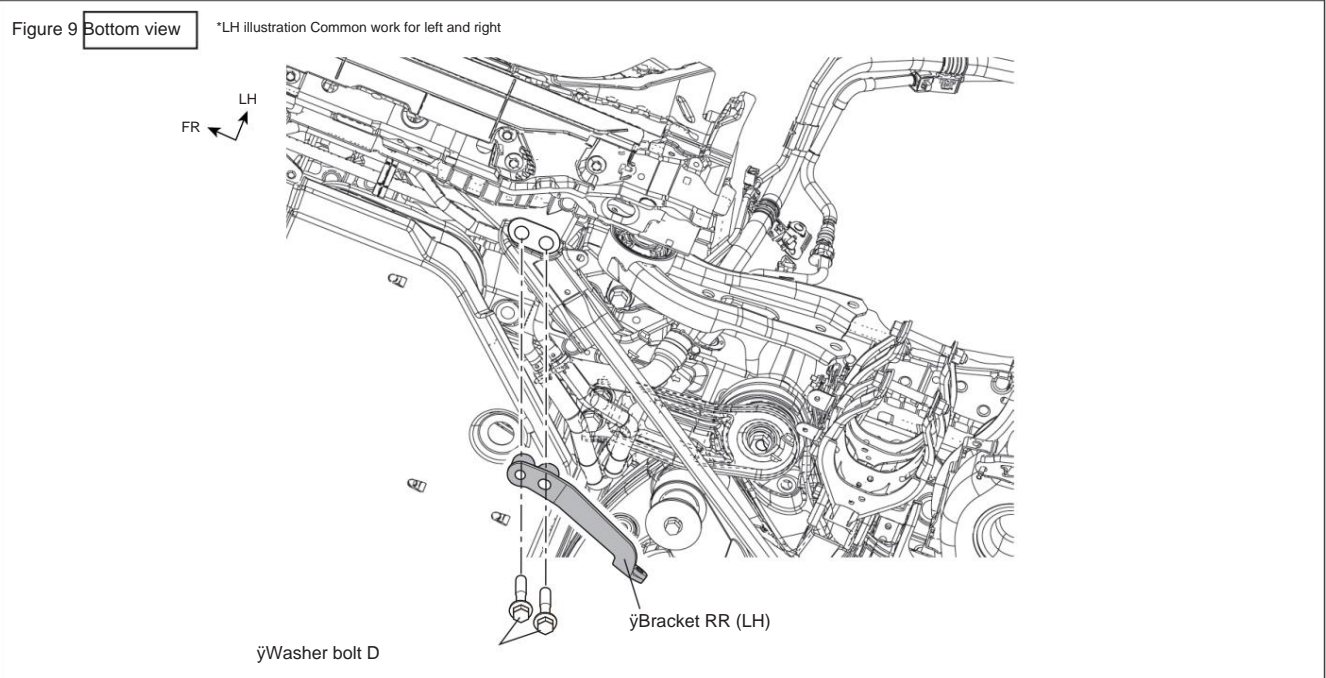
1. As shown in Figure 8, remove the vehicle nut shown on the underside of the vehicle. (4 locations each on the left and right)



Advice: Do not reuse removed vehicle bolts.

ÿ Rear performance damper, rear suspension member brace installation instructions ÿ Rear performance damper, rear suspension member brace installation instructions

1. As shown in Figure 9, temporarily tighten bracket ÿ RR (RH/LH) on the underside of the vehicle with washer bolt D ÿ. (2 locations each on the left and right)

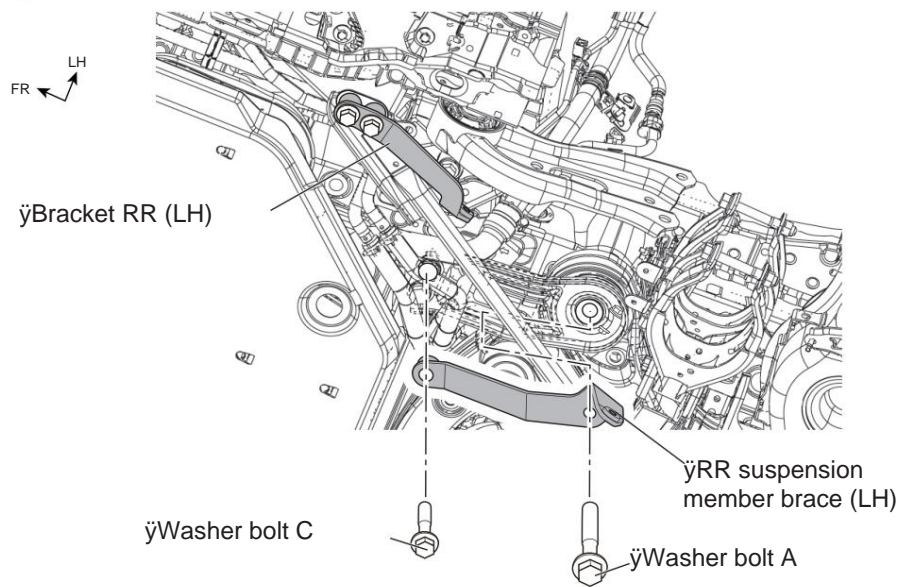


CAUTION: Do not use an impact wrench.

Advice -
Work on one side at a time with the tires lifted to avoid applying vehicle weight to the suspension. •When temporarily tightening, it will be easier to support the rear suspension of the vehicle with jack stands.

2. As shown in Figure 10, temporarily tighten ÿRR suspension member brace (RH/LH) on the underside of the vehicle with ÿ washer bolts A (one location each on the left and right) and ÿ washer bolts C (one location each on the left and right).

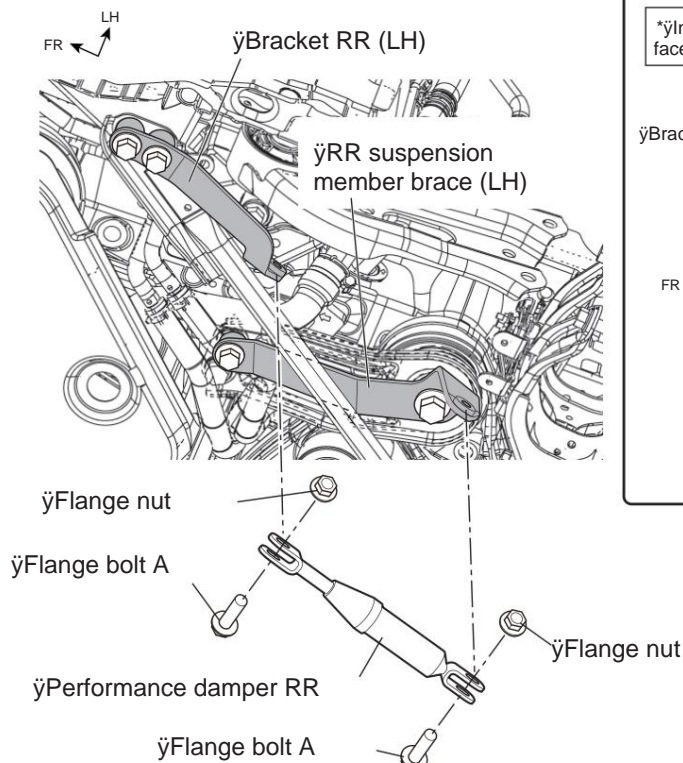
Figure 10 Bottom view *LH illustration Common work for left and right



⚠ CAUTION: Do not use an impact wrench.

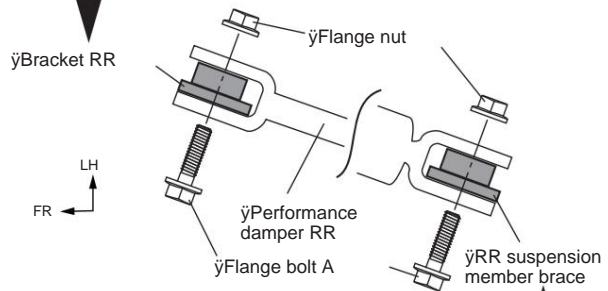
3. As shown in Figure 11, temporarily fix ÿ performance damper RR to the underside of the vehicle, align it with the holes of ÿ bracket RR (RH/LH) and ÿ RR suspension member brace (RH/LH), and temporarily tighten with ÿ flange bolt A and ÿ flange nut. do.

Figure 11 Bottom view *LH illustration Common work for left and right



[Cross-sectional view of fastening part LH]

*ÿInstall so that the welding spacer of bracket RR faces the outside of the vehicle.

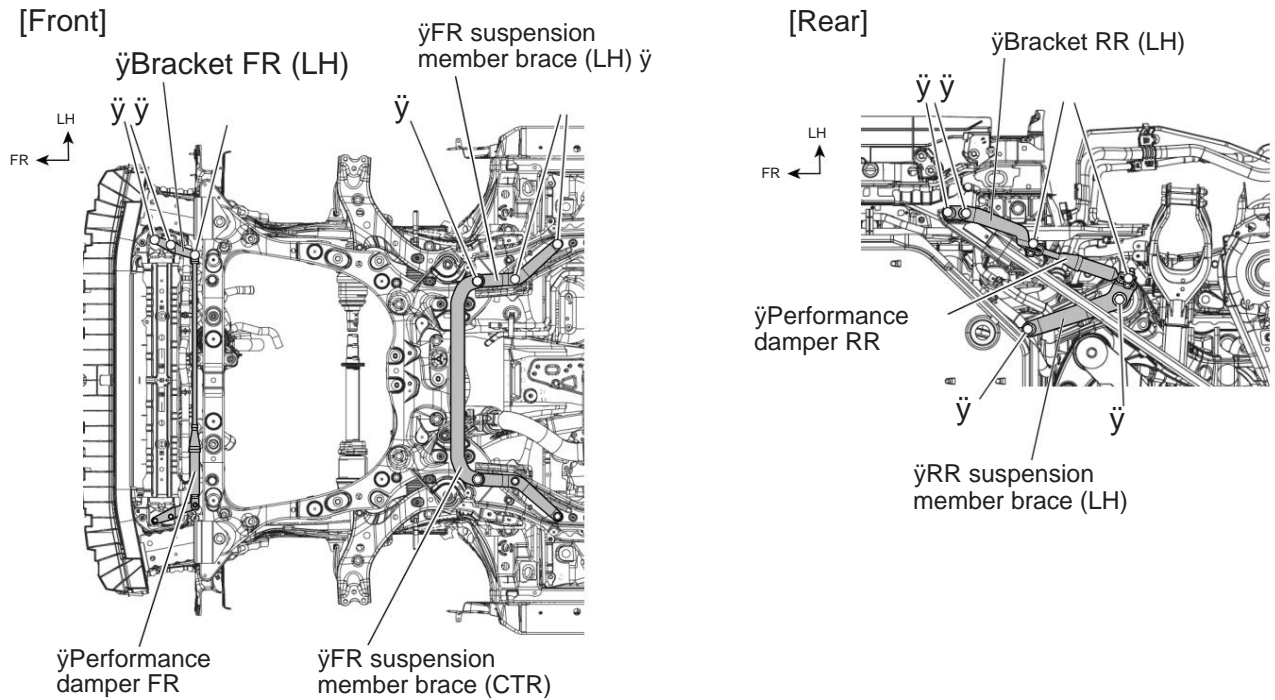


*ÿWelding the RR suspension member brace Install so that the spacer faces toward the outside of the vehicle.

⚠ CAUTION: Do not use an impact wrench.

4. Move the vehicle to the work pit or stand-up plate lift as shown in Figure 12, 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)

Figure 12 Bottom view *Same as left and right

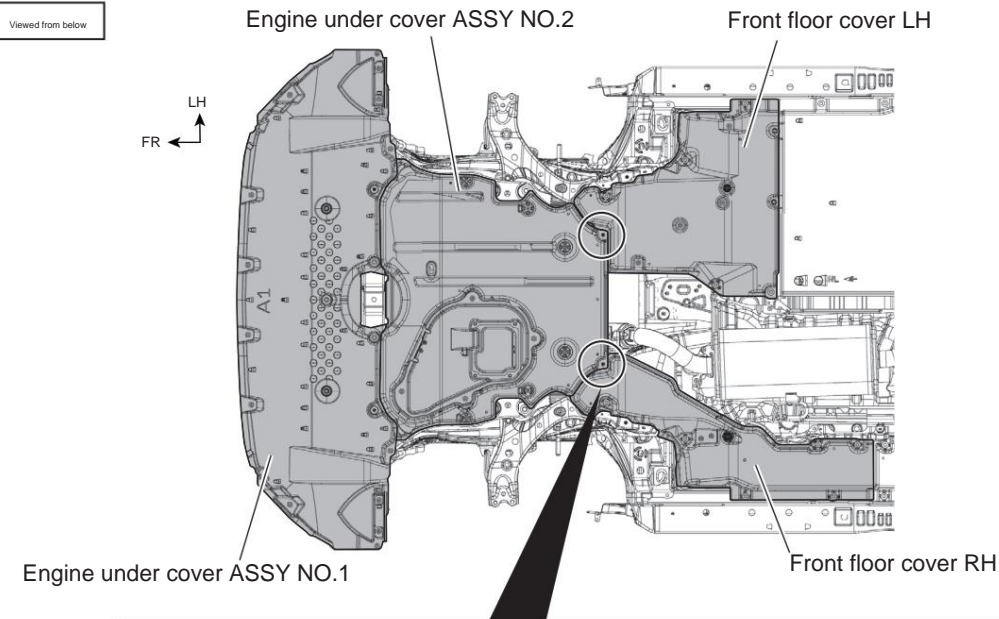


Tightening torque list

	Installation location	Component No. (Size)	Tightening torque	
<Front>	Vehicle, Bracket FR	SECTION Flange bolt B (M8x55) Flange bolt	30.0	
	Performance damper FR, Bracket FR (RH/LH)	SECTION A (M10x40) Flange nut (M10)	40.0	
	Vehicle, FR suspension member brace (CTR)	SECTION Washer bolt A (M16x137) 135.0N•m		
	Vehicle, FR suspension member brace (RH/LH)	SECTION Washer bolt B (M12x50)	70.0	
< rear >	Vehicle, Bracket RR (RH/LH)	SECTION Washer bolt D (M14x70)	142.0	
	Performance damper RR, Bracket RR (RH/LH), RR Suspension member brace (RH) /LH)	SECTION Flange bolt A (M10x40) Flange nut (M10)	40.0	
	Vehicle, RRR suspension member brace (RH/LH)	SECTION Washer bolt C (M14x59) 125.0N•m Washer bolt A (M16x137) 165.0N•m		

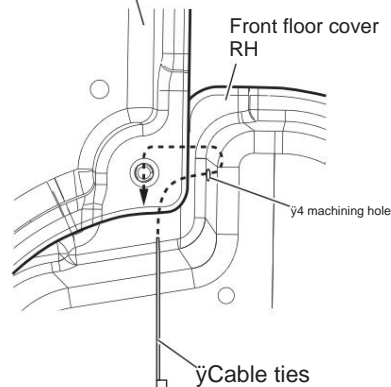
5. Temporarily secure engine undercover ASSY NO.2 and front floor cover with cable ties ÿ as shown in Figure 13, and restore each undercover according to the repair manual for the vehicle in question. After restoring the undercover, secure the cable ties ÿ and cut the excess length.

Figure 13

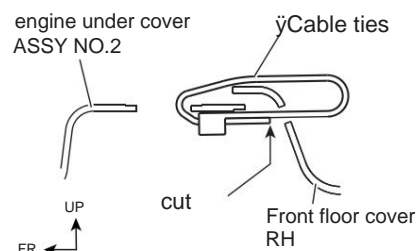


[Enlarged view] *RH diagram Common work for left and right

Engine under cover ASSY NO.2



[Cross section]



Advice: If the cut-out part of the undercover interferes with the member brace, cut the cut-out part further as appropriate.

ÿ Inspection and precautions after installation is complete

1. After installation, drive the product 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 manual (issued by Toyota Motor Corporation) for the vehicle in question. 3. After installation, periodically (during periodic inspections, etc.) check that the attachment part is not loose.

Toyota Customizing & Development Co., Ltd. TRD Product

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