

# HKSTUDIE

HKSTUDIE Exhaust System

User & Installation Manual

<HKSTUDIE-EX001>

<E65400-G15090-00>

"20240701,"

Ver.No2-1.0A

## Confirm Before Installation

Part Number : HKSTUDIE-EX001  
Name of Product : HKSTUDIE EXHAUST  
Application : BMW M3 Competition (G80)  
BMW M4 Competition (G82)

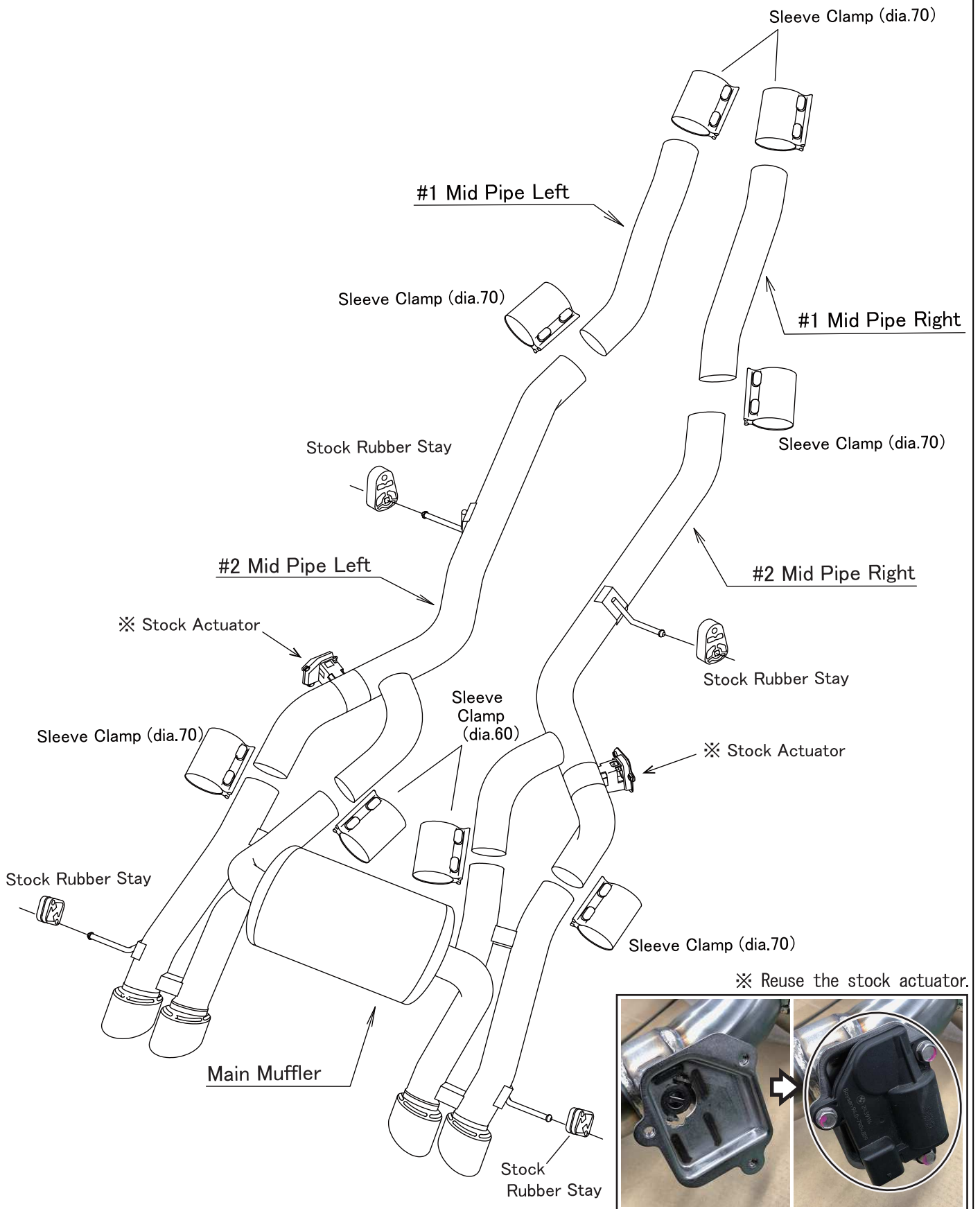
- ★ Please make sure that the kit has all the provided parts listed below.
- ★ Be careful when handling this product; avoid dropping or giving it excessive impact. Otherwise, it may result in product damage or improper installation.

**Cutting of the stock muffler pipe is required to install this product.**

	Parts List / Hardware	QT.
①	Main Muffler	1
②	#1 Mid Pipe Right	1
③	#1 Mid Pipe Left	1
④	#2 Mid Pipe Right	1
⑤	#2 Mid Pipe Left	1
⑥	Sleeve Clamp (dia.70)	6
⑦	Sleeve Clamp (dia.60)	2
⑧	Manual	1

	Tool List	QT.
①	Ring Spanner 10 mm	1
②	Ring Spanner 12 mm	1
③	Socket Wrench 13 mm	1
④	Socket Wrench 15 mm	1
⑤	Special Service Tool for Cutting Exhaust (Equivalent to BMW Genuine No. 0-496-469)	1

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Thank you for purchasing HKS exhaust system. Please read this User & Installation Manual thoroughly before using this product so that you will understand and use product correctly. Please confirm that the contents are correct before installation on the vehicle.

## Foreword

- Replacing exhaust systems entails dangerous work that only mechanics with specialized training should perform in an automobile service shop with adequate facilities. For untrained customers to install an unfamiliar product could be dangerous as it could result in injury and/or severe burns. Please request a specialist service shop to do the installation.
- Do not perform any illegal modifications on this product, such as cutting the pipe and/or removing the internal components of the muffler.
- Our company shall not bear any responsibility should you, the customer, or a third-party cause a breakdown of the product and its auxiliary product through modification or disassembly, or for damages caused by problems resulting from its misuse.
- This product and its parts may be revised without warning to the customer.
- Due to regulations, it is not legal to drive any vehicle with the catalytic converter or any other emission device removed or modified (Unless specified by local regulations).

## Product Precautions

- When the engine is turned on or immediately after it is stopped, the exhaust manifold, exhaust pipe, catalyst and muffler are extremely hot. Be extra careful not to touch the section that exits the rear of the vehicle. You may suffer burns if you touch this or any section of the exhaust system. Please note that when you load or unload items from the trunk, your clothing could burn or melt if it touches the tail pipe. Please take caution around the surroundings when you stop or park the car.
- Oil or brake fluid split on the exhaust manifold could burst into flames.
- Exhaust gases contain toxic substances. There is always a danger of carbon monoxide poisoning if you continue to work in a poorly ventilated garage or warehouse with the engine running. Always turn off the engine and check for adequate ventilation before working in an enclosed space. Be especially careful when pets and children are near the installation site. Take note of wind direction when running a vehicle near people.
- This aftermarket exhaust improves exhaust efficiency and enhances the performance characteristics of the vehicle. Make certain that the brakes have been serviced completely and verify the brake performance and safety check all under carriage components.
- This exhaust system is designed to have a safe clearance from the road surface with the vehicle at standard (stock) height. Therefore, if the vehicle is modified and body height is lowered to an extremely low level, the muffler could become damaged or may damage other objects when it comes in contact with the road surface or protruding objects. Please do not lower the height of the vehicle to extreme levels because exhaust gas could leak from a damaged exhaust system.
- Even if parts in the emission system are used correctly, there is the possibility of deteriorating sound muffling performance from toxic substances in the exhaust gases or corrosion causing holes in the product depending on the usage of the automobile. If this is the case, please consult promptly with your dealer or service shop. If the product had lost its original capabilities, please have it exchanged with the same product. If corrosion is left untended, this could cause fire from leakage of exhaust gas under the lower part of the chassis. Moreover, the driver could be fined for driving a poorly maintained vehicle.
- It is the legal responsibility of the driver to safely upkeep his/her car. Periodic inspection and service is essential for safety and to prevent pollution. Be certain that routine inspections are made as well as periodic inspections and parts replacement if necessary.

- While the product of our company uses carefully selected materials, and the product is manufactured under strict quality control standards in consideration of durability, the product could corrode and develop holes at an unexpectedly early stage if the vehicle is driven under adverse conditions. Moreover, the product could be hit by small rock and other road debris that may damage or cause holes in the product. Please be very careful because this could cause leakage of exhaust gases.
- The law prohibits the removal of the catalytic converter or removing the interior components of it. Please refrain from such action as this could lead to environmental pollution.
- Exhaust components on automobiles sometimes reach very high temperatures. Do not leave the vehicle over dry grass or other flammable materials with the engine running or even after immediately turning off the engine.  
This could cause a fire. Please stop or park your vehicle in an area where there are no flammable objects under the vehicle.
- When using your vehicle, refrain from revving or idling the engine for extended periods of time. This could cause deterioration of the sound muffling material in the muffler. The heat from stagnant exhaust could cause breakdowns of electrical parts and auxiliary parts in the engine compartment.
- Do not store or leave vehicle in humid areas or where salt is prevalent. This could cause deterioration and corrosion of parts.
- Please understand that using your vehicle in various types of races, circuit runs and other special use could markedly lower the durability of the product.

## Installation Precautions

- When installing the product, make sure all instructions are followed precisely. Use a torque wrench and tighten the screws to the regulation (factory) torque so as to prevent the screws from loosening while the vehicle is in operation.
- Exhaust manifolds and catalytic converters can become extremely hot during usage. Coming in contact with a hot exhaust system may result in severe burns. Only work on the vehicle after it cools down. Please use heat-resistant gloves during service to prevent burns.
- Rust may make it difficult to loosen the nuts and bolts on the exhaust system. Use a spray-type lubricant and the correct tools to loosen the nuts and bolts and refrain from using excessive force that may cause the nuts and bolts to break. Always use heat-resistant gloves to prevent injury to hands.
- Exhaust system replacements are usually performed underneath of the vehicle. It is dangerous to replace the system if the lifted vehicle is in an unstable condition. Be certain to work safely by using a specified lifting machine for vehicles. Never work underneath of the vehicle lifted only by a standard car jack, as this could be extremely dangerous.
- Replacing of an exhaust system entails simultaneous tightening of nuts and bolts located separately, and working in situations where a heavy system is supported from below. Therefore, working alone could be very dangerous. Always work with two or more persons.
- Be careful to maintain the proper clearance when installing a new exhaust system. Please be particularly careful when working near brakes, fuel line, drivetrain and electrical systems.
- If you find cracks and other deterioration in the rubber exhaust hangers, replace them with the vehicle manufacturer's new standard parts.
- After the standard (stock) exhaust system is removed, disassemble them into shortest possible pieces and store them horizontally to allow for and moisture dissipation.
- In some instances it may be necessary to cut the stock exhaust into two pieces to remove it. The stock exhaust was installed before the rear suspension was installed on the vehicle.  
The replacement HKS exhaust system will bolt directly on and does not require any modification ( to the vehicle or the exhaust system).

# Installation Procedure

- ※ Please follow the automobile manufacturer's work procedures when removing stock parts.
- ※ "stock parts" in this manual refers to the manufacturer's genuine parts.

## MUFFLER Installation Procedure

### WARNING

Do not apply lubricant, etc. to the rubber stays.  
If lubricant, etc. is used when removing and installing the rubber stays, be sure to clean the stays to remove any oil or grease.  
If oil or grease remains on the stay, it may cause a serious accident such as coming off while driving.

### NOTE

All rubber stays for hanging should be reused in the stock parts.

#### 1. Removal and processing of the stock exhaust

- (1) Remove the stock floor panel brace.
- (2) Cut the stock exhaust using the special service tool, referring to the Fig. 1 to 3.  
Recommended Special Service Tool: Equivalent to BMW genuine exhaust pipe cutter  
(No. 0-496-469)

### NOTE

Make sure to cut vertically to the pipe.

### CAUTION

Electric or air-driven tools used for cutting may damage the vehicle due to the clearance between the stock exhaust and the vehicle is limited.  
Be sure to use the recommended special service tool for cutting operations.



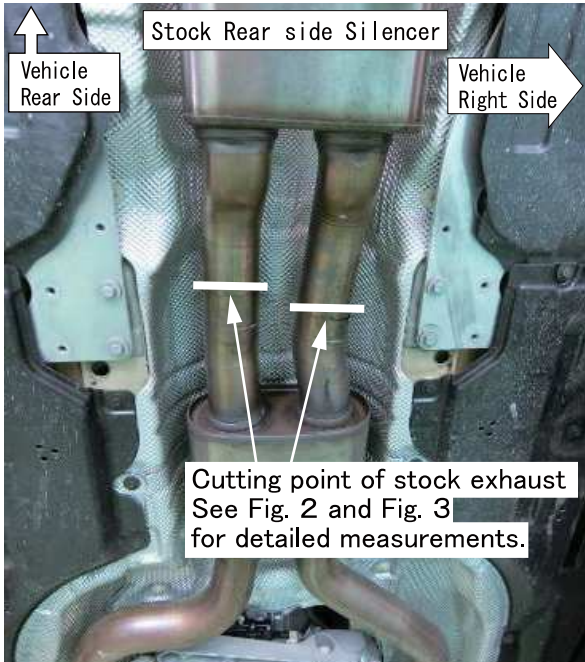


Fig.1 Cutting point of stock exhaust  
(Photo shows a car without GPF)

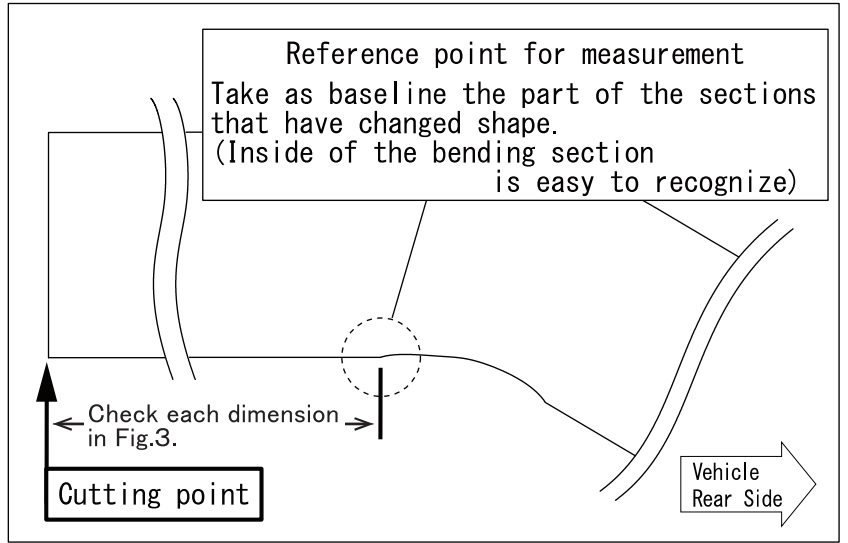


Fig. 2 Schematic of dimensional reference position for cutting

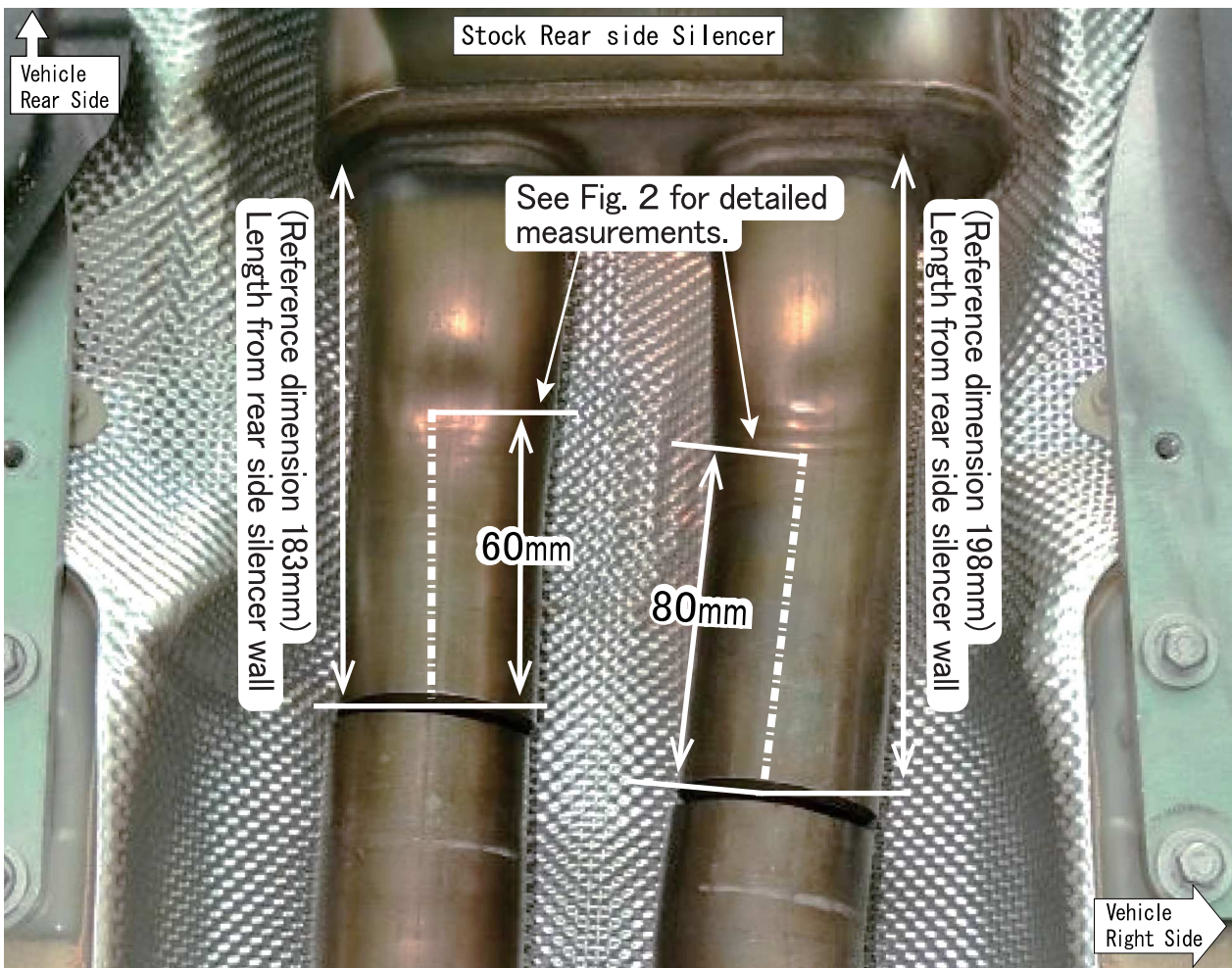


Fig. 3 Detail of cutting point of stock exhaust

(3) After cutting, be sure to remove burrs from the inside and outside of the cut surface.

**! CAUTION**

Insufficient burr removal on the cut surface may cause exhaust leakage.

(4) Disconnect the connector by unlocking the two locks on the stock actuator.

**! CAUTION**

- Make sure the vehicle ignition is OFF when disconnecting the stock actuator harness connector.
- If the connector is disconnected with the ignition ON, the DTC code will be recorded and the check engine light may be turned on.

(5) Remove the nuts from the four stock muffler rubber brackets shown in Fig.4, and remove the stock muffler on the rear side of the vehicle from the cut section.

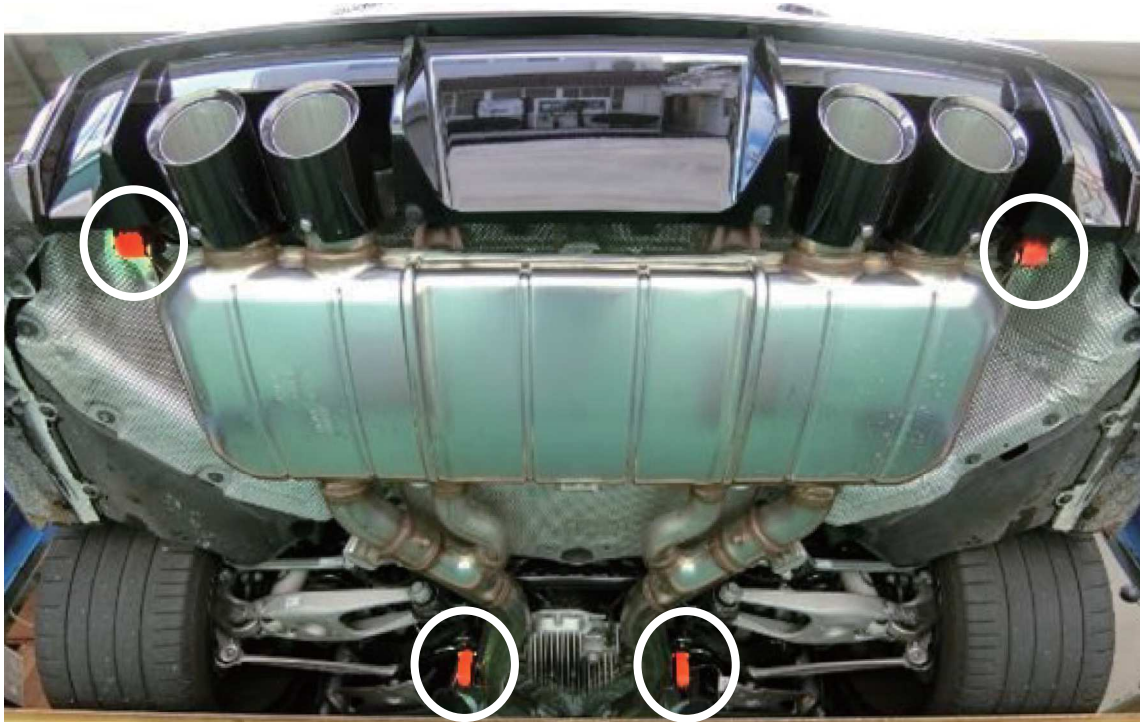


Fig. 4 Stock muffler rubber brackets

(6) Remove four rubber stays and rubber stay brackets and two stock actuators from the removed stock muffler.



## 2. Fitting of stock actuator

(1) Fit the stock actuator to the left and right of #2 mid pipe. (Refer to Fig. 5)

[ Tightening Torque : Stock Actuator Fixing Bolt       $T = 8.0 \text{ N} \cdot \text{m}$  ( $T = 0.9 \text{ kgf} \cdot \text{m}$ ) ]

### NOTE

Reuse the stock actuator fixing bolts removed from the stock muffler.



Fig. 5 Installed with stock actuator (photo shows left #2 mid pipe)

## 3. Tentative fitting of stock rubber stay brackets

(1) Align the two stock rubber stay brackets on the front side with the former mounting points of the vehicle, and tentatively tighten the brackets using the stock nuts. (Refer to Fig. 6)

### NOTE

Reuse the stock nuts removed from the stock muffler.

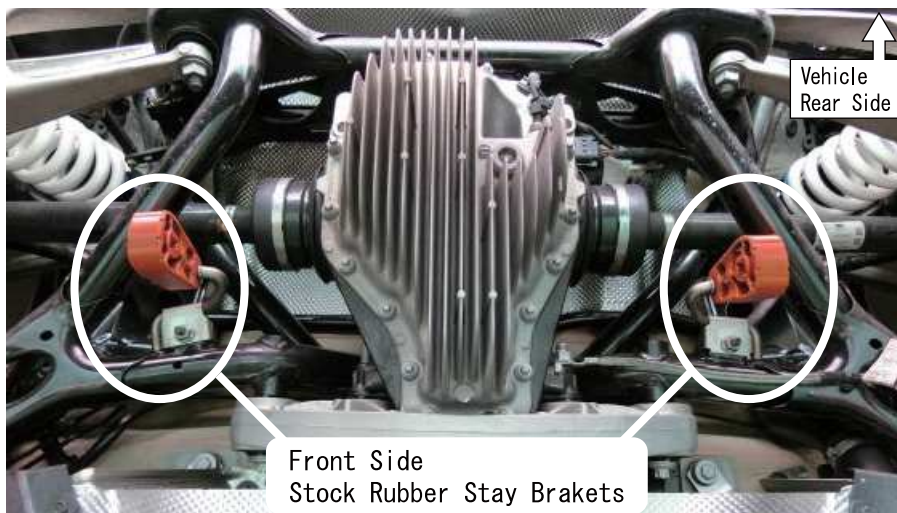


Fig. 6 Mounting points of front side stock rubber stay brackets

(2) Swap the two factory rubber stay brackets on the rear side to the original position of the stock muffler, and place them on the two hooks for hanging the main muffler. (Refet to Fig. 7 and Fig. 8)

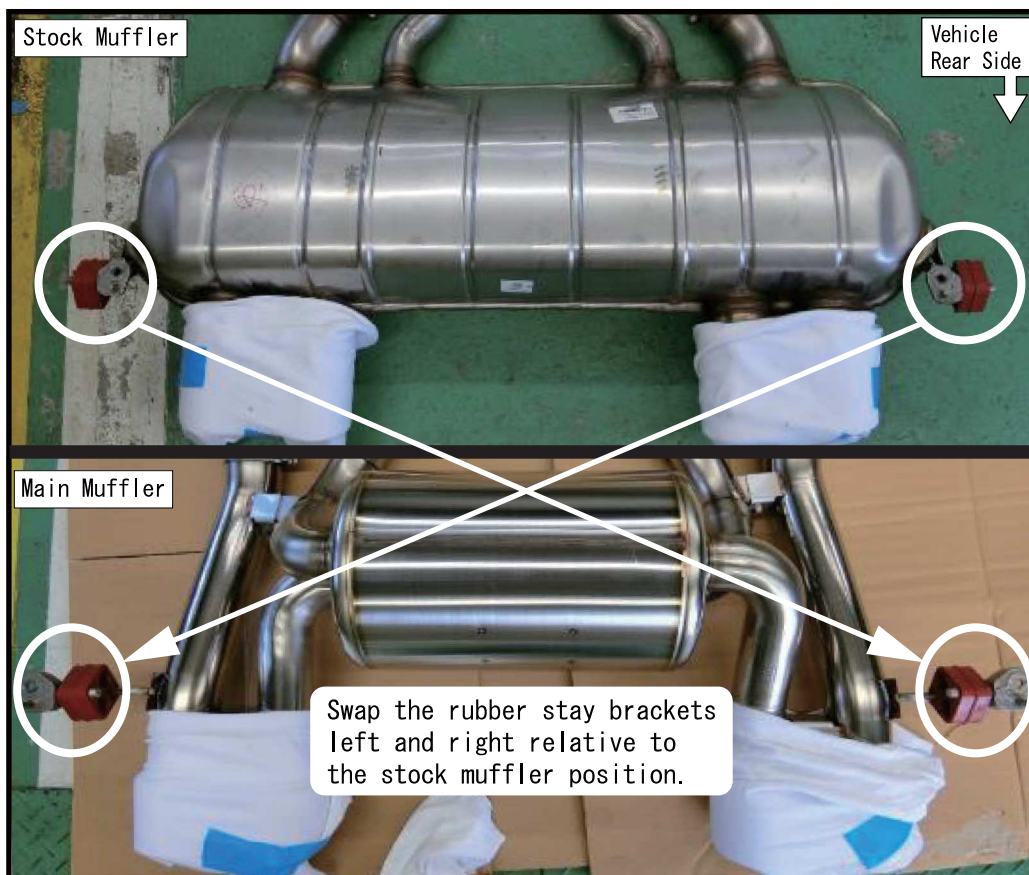


Fig. 7 Installation of rear side stock rubber stay brackets

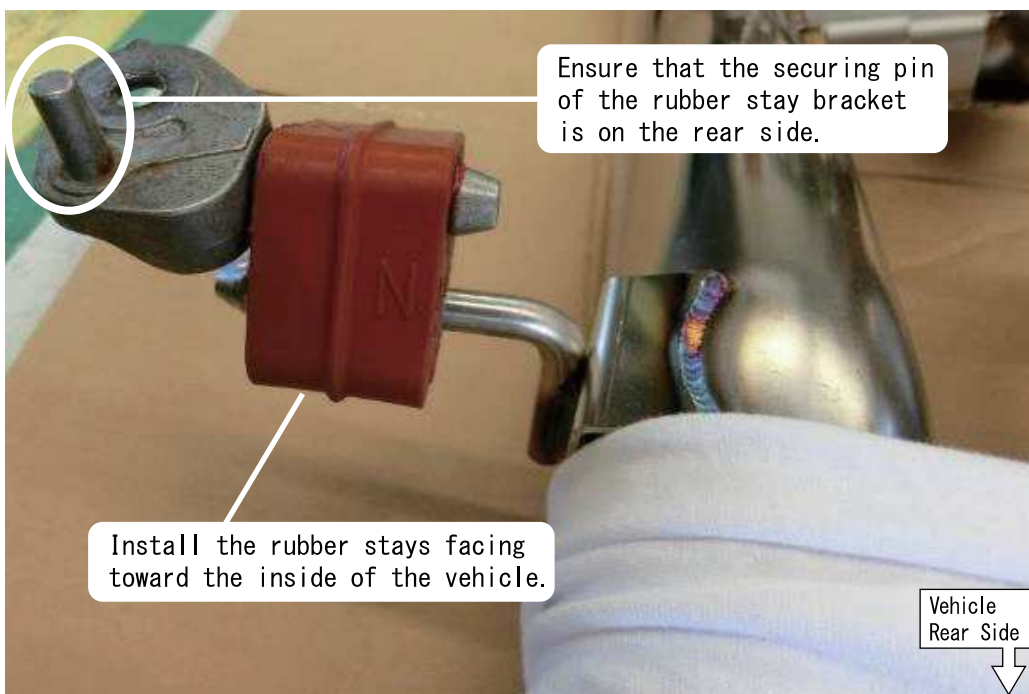


Fig. 8 Installation details of rear side stock rubber stay brackets (photo shows braket on left side of vehicle)



#### 4. Tentative fitting of the #1 Mid Pipe Left

- (1) Align the #1 mid pipe left to the proper position, fit the provided sleeve clamp (dia.70) to the rear left side of the stock muffler, connect the #1 mid pipe left front to the stock muffler, and tentatively mount it.  
(Refer to Fig.9 for assembly orientation).

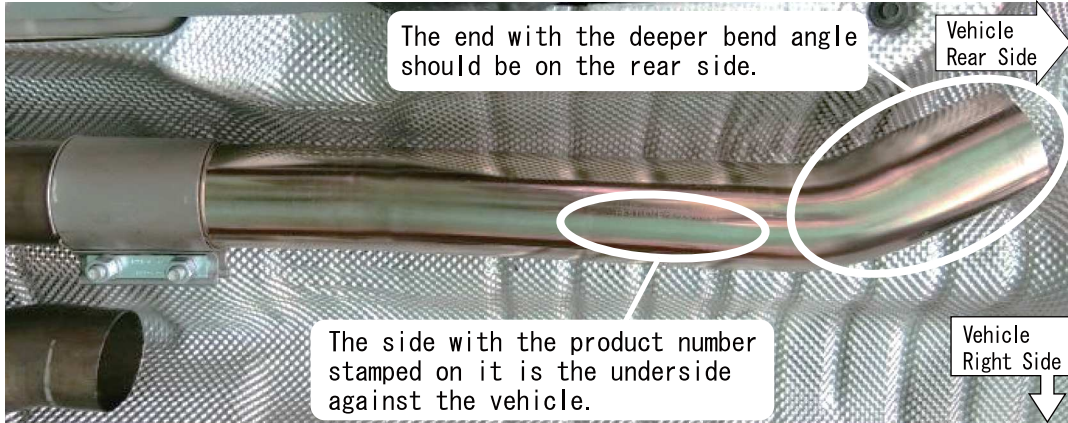


Fig. 9 Assembly orientation of the #1 Mid Pipe Left

<b>NOTE</b>	The stock muffler and the #1 mid pipe left should be inserted into the sleeve clamp at least 40mm each, and the stock muffler and the #1 mid pipe left should come into contact with each other inside the sleeve clamp.
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#### 5. Tentative fitting of the #1 Mid Pipe Right

- (1) Align the #1 mid pipe right to the proper position, fit the provided sleeve clamp (dia.70) to the rear right side of the stock muffler, connect the #1 mid pipe right front to the stock muffler, and tentatively mount it.  
(Refer to Fig.10 for assembly orientation).

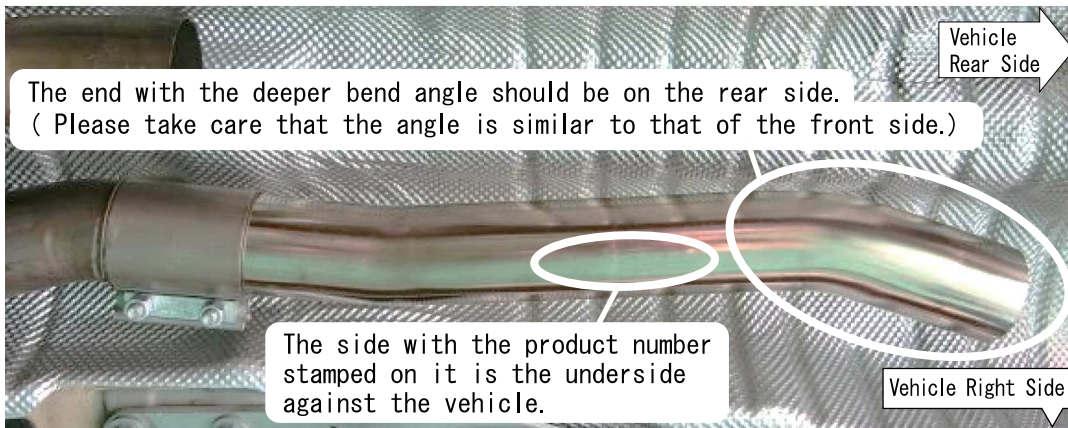


Fig. 10 Assembly orientation of the #1 mid pipe right

<b>NOTE</b>	The stock muffler and the #1 mid pipe right should be inserted into the sleeve clamp at least 40mm each, and the stock muffler and the #1 mid pipe right should come into contact with each other inside the sleeve clamp.
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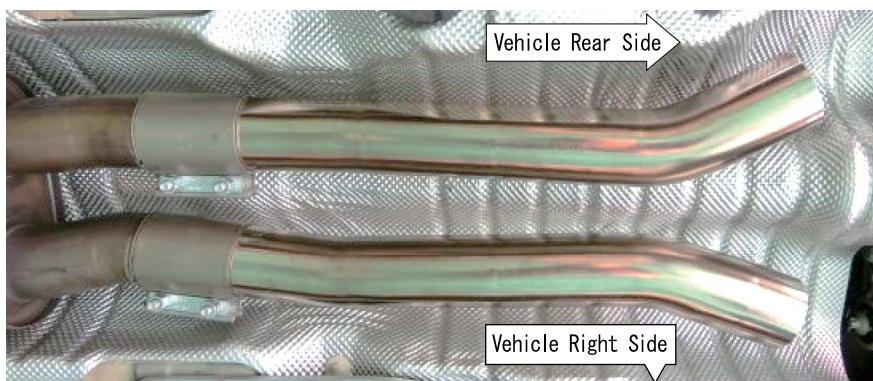


Fig. 11 Right side and left side #1 mid pipe

## 6. Tentative fitting of the #2 Mid Pipe Left

- (1) Align the #2 mid pipe left with the proper position, and place the stock rubber stay on the hanger.
- (2) Fit the provided sleeve clamp (dia. 70) behind the #1 mid pipe left, connect the #1 mid pipe left and the #2 mid pipe left, and tentatively assemble them together.

### NOTE

The #1 mid pipe left and the #2 mid pipe left should be inserted into the sleeve clamp at least 40mm each, and the #1 mid pipe left and the #2 mid pipe left should come into contact with each other inside the sleeve clamp.



Fig. 12 #2 Mid Pipe Left

## 7. Tentative fitting of the #2 Mid Pipe Right

- (1) Align the #2 mid pipe right with the proper position, and place the stock rubber stay on the hanger.
- (2) Fit the provided sleeve clamp (dia. 70) behind the #1 mid pipe right, connect the #1 mid pipe right and the #2 mid pipe right, and tentatively assemble them together.

### NOTE

The #1 mid pipe right and the #2 mid pipe right should be inserted into the sleeve clamp at least 40mm each, and the #1 mid pipe right and the #2 mid pipe right should come into contact with each other inside the sleeve clamp.



Fig. 13 #2 Mid Pipe Right



## 8. Tentative fitting of the Main Muffler

- (1) Fit the provided sleeve clamp (dia. 60) to the inner pipe behind the #2 mid pipe on the both sides and the provided sleeve clamp (dia. 70) to the outer pipe on the both sides.
- (2) Align the main muffler to the proper position, tentatively tighten the two rubber stay brackets attached to the main muffler in step 3 with the stock nuts, loosen the M8 bolts on the bracket on the front side of the main muffler shown in Fig. 15, and align the joints of the #2 mid pipes with the main muffler. Connect the left and right sides of the #2 mid pipes to the four points of the main muffler with the sleeve clamp joints that were previously installed on the each pipes, and tentatively assemble the muffler.

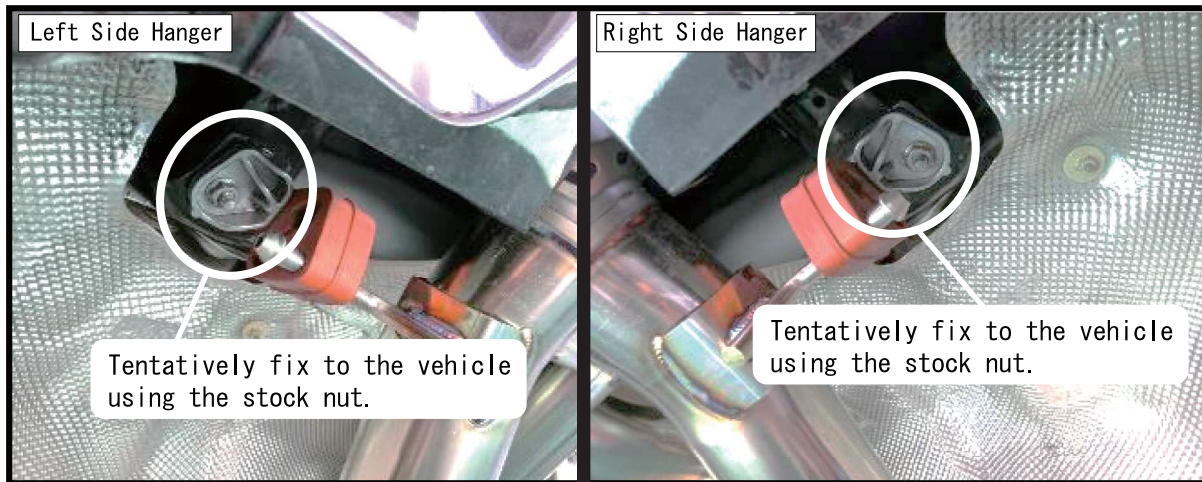


Fig. 14 Main Muffler Brackets

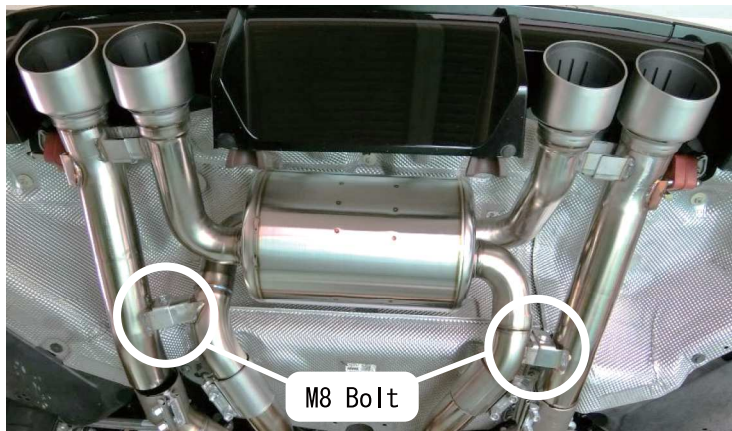


Fig. 15 M8 bolts mounting position on main muffler front bracket



Fig. 16 Detail of main muffler joint

<b>CAUTION</b>	Do not attempt to install the product forcibly without adjusting the position of the #2 mid pipes and main muffler joints if they are not aligned. This may cause damage to the product.
<b>NOTE</b>	<ul style="list-style-type: none"><li>▪ Reuse the stock nuts removed from the stock muffler.</li><li>▪ Both of the #2 mid pipes and main muffler pipes should be inserted into the sleeve clamp at least 40mm each, and the #2 mid pipes and main muffler pipe should come into contact with each other inside the sleeve clamp.</li></ul>


## 9. Assembling the entire unit

- (1) Make sure of the alignments of each pipe and muffler, and clearances with the floor, sub frame, and other surrounding parts of the car, and tighten the temporarily tightened bolts and nuts in order from the front side of the car with the specified torque.

{	Tightening torque	Stock Nuts	$T = 19 \text{ N}\cdot\text{m}$ ( $T = 2.0 \text{ kgf}\cdot\text{m}$ )
		Sleeve Clamp	$T = 45 \text{ N}\cdot\text{m}$ ( $T = 4.5 \text{ kgf}\cdot\text{m}$ )
		M8 bolts on main muffler bracket	$T = 24 \text{ N}\cdot\text{m}$ ( $T = 2.5 \text{ kgf}\cdot\text{m}$ )

- (2) Make sure that all four rubber stays on the right and left sides of the #2 midpipe and on the main muffler hangers are tilted forward 10 degrees toward the front of the vehicle, as shown in Fig 17 and 18.

If the rubber stay is not tilted toward the front of the vehicle, adjust the insertion allowance of each joint to make it tilt toward the front of the vehicle.

 <b>CATION</b>	<p>When the rubber stay is not tilted toward the front of the vehicle, the tail may interfere with the bumper and damage it when the muffler is extended due to thermal expansion caused by exhaust heat during driving.</p>
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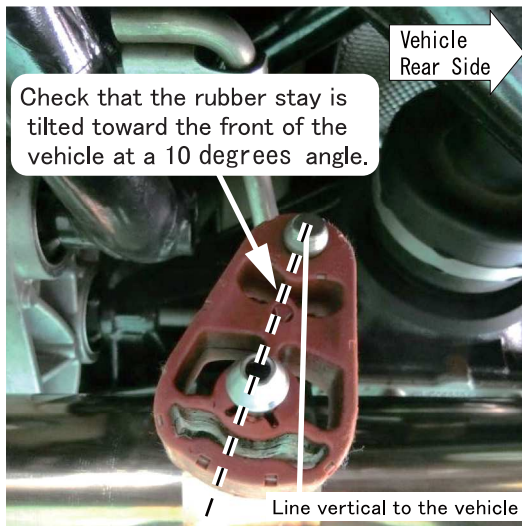


Fig.17 Example of the tilt of the rubber stay on the #2 mid pipe (photo shows the left side #2 mid pipe)

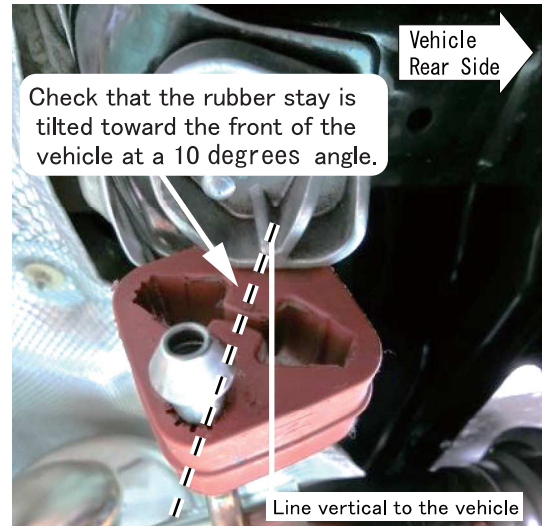



Fig.18 Example of the tilt of the rubber stay on main muffler pipe (photo shows the left side of main muffler.)

- (3) Check the alignment and clearance (approx. 12mm) between the tail pipe and bumper. If the clearance is insufficient, retighten from the beginning. Insufficient clearance may cause abnormal noise or the resin bumper may melt due to heat.
- (4) Install the stock floor panel brace to the vehicle and tighten the bolts to the specified torque.

{	Tightening torque	Stock floor panel brace fixing bolt	$T = 28 \text{ N}\cdot\text{m}$ ( $T = 2.9 \text{ kgf}\cdot\text{m}$ )
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- (5) Check the clearance (approx. 6mm) between the stock floor panel brace and the stock exhaust and the left and right sides of the #1 mid pipes. If the clearance is insufficient, retighten from the beginning. Insufficient clearance may cause abnormal noise or the resin bumper may melt due to heat.
- (6) Make sure to securely connect each of the two stock actuator harness connectors to the stock actuator.

 <b>CATION</b>	<p>If the connector of the factory actuator harness is not securely connected to the stock actuator, improper contact may cause the DTC code to be recorded and the check engine light to turn on.</p>
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## 10. Confirmation of fitment

- (1) After the entire assembly is completed, shake the muffler again by hand to check the clearance of each part.
- (2) Start the engine, run it at approximately 2,500 rpm, and make sure there is no exhaust leakage from any joints or abnormal noises in any parts.
- (3) Restart the engine and once again check each joint to see if there are any exhaust leaks or abnormal noises in each part.
- (4) If any problem is found in (1) through (3), loosen the bolts at each connection, adjust the position, retighten, and repeat the above process until the problem is no longer found.

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