

# **HKS Exhaust System**

## **User & Installation Manual**



**<31008-BF003>**

## Confirm Before Installation

- ★ Make sure that all the parts listed in the Parts List below are included in the kit.
- ★ Be careful when handling this product; avoid dropping or subjecting it to excessive impact. Failure to do so may result in product damage or improper installation.

	Parts List / Hardware	QT.
①	Mid Pipe 1	1
②	Mid Pipe 2	1
③	Main Pipe	1
④	Gasket ( $\phi$ 85)	2
⑤	Bolt (M10)	4
⑥	Nut (M10)	4
⑦	Flat Washer (M10)	8
⑧	Spring Washer (M10)	4
⑨	Sticker	1
⑩	Manual	1

Thank you for purchasing an HKS exhaust system. Please read this User & Installation Manual thoroughly before using this product so that you will understand and use product correctly. Please verify that the contents of this 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 factory 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

### 1. Removal of Stock Exhaust System

- Lift up the vehicle (Use a lift specified automobiles).
- Remove the stock exhaust system in accordance with the vehicle manufacturer's repair manual.

### 2. Temporary Installation of Intermediate Pipe

- Insert the included gaskets onto the stud bolt protruding from the flange in the catalyst section. Install the front flange of the intermediate pipe by placing the pipe in the correct position. Install the nut and temporarily tighten it.
- Slide the rubber hanger over the suspending hook attached to the intermediate pipe. Reuse the stock rubber hanger or replace it with a new one if necessary.

### 3. Temporary Installation of Main Muffler

- Place the main muffler in the correct position and attach the suspension hook on the main muffler to the stock rubber hanger.
- Install the included gaskets between the rear and front flanges of the intermediate pipe. Place the plain washer onto the attached bolt and insert the bolt from the front end while inserting from the opposite side the attached plain washer, spring washer and nut. Temporarily tighten the nut.

### 4. Complete System Installation

- Verify the interrelated positions of the intermediate pipe, main muffler, clearance between the floor of the vehicle and the exhaust, cross member and other peripheral parts and the slippage of the gasket between the flanges. Tighten the bolts and nuts starting in the front of the vehicle in accordance with the designated torque (See the factory service manual for correct torque specifications).
- Verify the position and clearance of the tip and the vehicle's bumper. If they are not correct, retighten them from the beginning. If there is insufficient clearance, this could cause abnormal noise, or the bumper could melt by the heat if the bumper is made of plastic.

### 5. Verifying a Correct Installation

- When the entire system has been completely installed, shake the exhaust system with your hand again to verify the clearance of each section.
- Start and warm up the engine, and rev it up to about 2,500 rpm and check for exhaust leaks from the respective flanges and for abnormal noise or vibration from various sections.
- Test drive the vehicle and inspect the system again for exhaust leaks from the flanges and abnormal noises.
- If any problems are found, recheck the installation process, disassemble and install the system all over again if necessary.



# SUBARU GVB



