

# GTIII TURBINE UNIVERSAL APPLICATION <INSTRUCTION MANUAL>

**Installation must be done by a professional.**  
Read this manual prior to the installation.

Always have access to this manual as well as a factory service manual.

NAME OF PRODUCT	TURBINE UNIVERSAL APPLICATION
PART NUMBER	
TURBINE MODEL	GTIII-4R, GTIII-5R, GTIII-RS

## REVISION OF MANUAL

Rev. Number	Date	Manual Number	Details
3-1.01	2017/06	E04211-K00020-00	1 <sup>st</sup> Edition
3-1.02	2017/10	E04211-K00021-00	Instruction added.

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## NOTICE

This manual assumes that you have and know how to use the tools and equipment necessary to safely perform service operations on your vehicle. This manual assumes that you are familiar with typical automotive systems and basic service and repair procedures. Do not attempt to carry out the operations shown in this manual unless these assumptions are correct. Always have access to a factory repair manual. To avoid injury, follow the safety precautions contained in the factory repair manual.

## ATTENTION

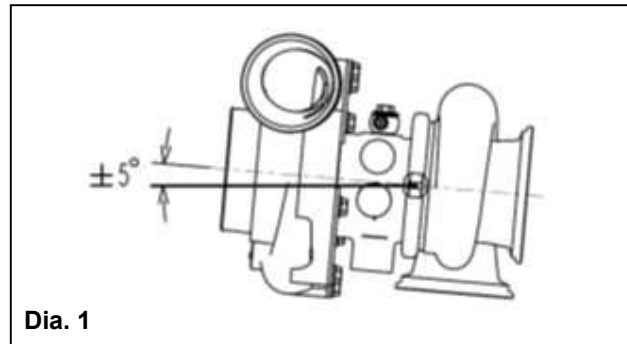
- This manual indicates items you need to pay attention to in order to install this product safely and lists precautions to avoid any possible damage and/or accidents.
- This product is an automobile part. Do not use for any other purposes.
- HKS will not be responsible for any damage caused by incorrect installation and/or use, or use after modification and/or dismantling of this product.
- Handle this product with care. Make sure not drop or give excessive impact. Failure to do so may result in improper installation or malfunction.
- The specifications of this product are subject to change without notice.
- The instructions are subject to change without notice. Make sure to refer to the most recent instructions.

## Precautions before Installation



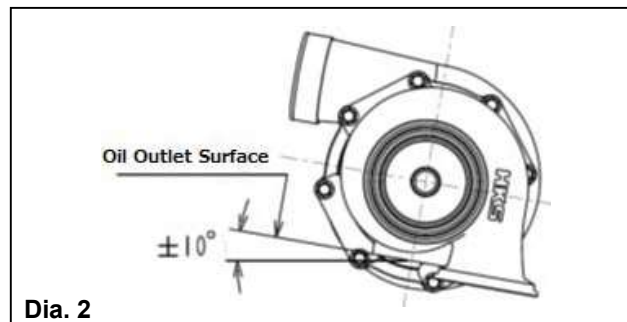
**CAUTION** Failure to follow the precautions described below may cause improper operation of a turbine and/or damage to the engine.

- (1) When installing the turbocharger, the inclination angle toward the turbocharger axial direction must be within  $\pm 5^\circ$  from the horizontal line as shown in Diagram 1.



Dia. 1

- (2) When installing the turbocharger, the inclination angle of the oil outlet must be within  $\pm 10^\circ$  from the horizontal line as shown in Diagram 2.



Dia. 2

- (3) When the turbine housing's direction was changed, assemble the turbocharger by one of the following procedure:

● G-cup Ring (V-Band Cup Ring) Type

Apply anti-seizing lubricant to the nut thread. Tighten the nut to the designated tightening torque. Lightly hit the outer peripheral of the cup ring more than 3 times at 3 points (distance between these 3 points should be the equal.). Retighten the nut to the designated tightening torque.

Tightening Torque: N·m {kgf·m}

M6 Screw: T= 8.3±0.5 {0.85±0.05}

M8 Screw: T=15.7±1.0 {1.60±0.10}

● Crank Plate Type

Apply anti-seizing lubricant to the crank bolt thread. Tighten the bolt to the designated tightening torque.

Tightening Torque: N·m {kgf·m} T= 20.6±2.5 {2.1±0.25}

- (4) When the compressor housing's direction was changed, tighten the clamp bolt to the designated tightening torque.

Tightening Torque: N·m {kgf·m} T= 13.0±0.5 {1.3±0.05}

M6 Screw: T= 7.0±0.5 {0.71±0.05}

M8 Screw: T=13.0±0.5 {1.30±0.10}

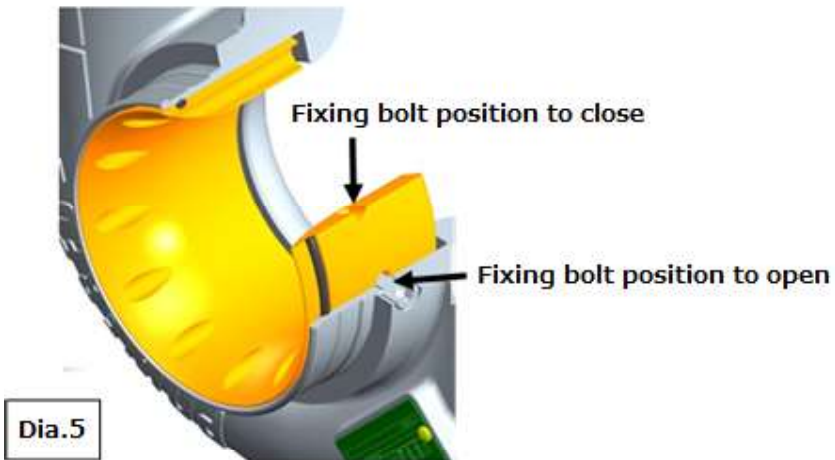
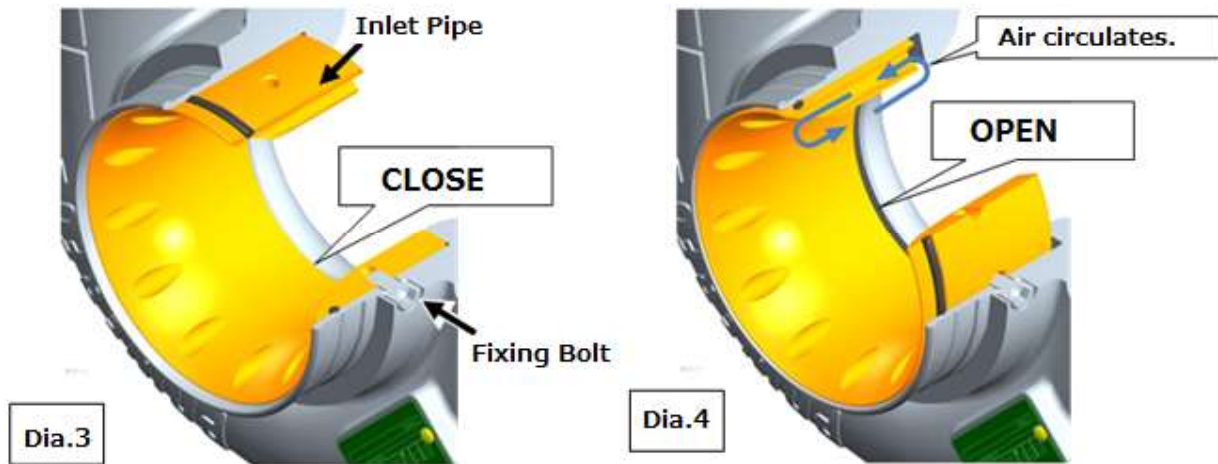
- (5) Before installing the turbocharger, pour some new engine oil into the oil inlet. Spin the wheel by hand to let oil cover the inside of the bearing, and make sure oil flows out from the outlet.
- (6) The oil inlet parts must be the ones without orifices or with 4mm hole diameters.
- (7) The maximum allowable lubrication oil pressure is 490kPa (5kg/cm<sup>2</sup>) except starting an engine. The minimum pressure is 196kPa (2kg/cm<sup>2</sup>) while the rated engine RPM is more than 50%. At low idling, the pressure must be more than 78kPa (0.8 kg/cm<sup>2</sup>). The recommended lubricating oil pressure at the turbocharger inlet is 294 to 343kPa (3-3.5kg/cm<sup>2</sup>).
- (8) When assembling the oil line, do not use a seal tape and/or liquid gasket to prevent damage to the turbocharger assembly.
- (9) The oil hose must be routed away from high temperature areas. Insulate the hose if necessary. Also, secure and/or protect the oil hose so it does not come in contact with any other part of a vehicle by engine vibration.
- (10) Please use the oil outlet pipe as thick as possible. Arrange the pipe so that there is no horizontal and/or upward part, and connect to the position where 5 cm or higher than the oil surface of an oil pan.
- (11) To install water cooling pipes, please make sure the following:
  - A hole in the upper side must be the outlet, and a hole in the lower side must be the inlet.
  - A hose on the inlet side must be routed from the lower side of the turbocharger.
  - A hose on the outlet side must be connected to the place above the turbocharger.
- (12) Make sure the turbocharger must be away from any flammable and heat-sensitive parts in the engine bay. Also, insulate the surrounding parts of the turbocharger.
- (13) Make sure no foreign object remains inside the pipes and/or hoses to be connected to the turbocharger. Make sure to install an air cleaner.
- (14) Properly hold the exhaust outlet pipe to prevent the pipe from applying its weight directly to the turbocharger.
- (15) Make sure to install a boost controller and boost control device.
  - ※ HKS EVC and Boost Controller are recommended to use.
- (16) The flanges and gaskets for piping must be purchased separately. Please contact your dealer for details.

## **After Installation**

- (1) Do not raise the engine RPM right after the engine is started; let it idle approximately for 10 minutes. Make sure air is not leaking.
- (2) SAE standard 10W -40 or higher grade engine oil must be used.
- (3) Do not stop the engine right after the vehicle is stopped; let it idle for a few minutes; then stop the engine. It is recommended to use HKS Turbo Timer.

## Variable Ported Shroud

- (1) The variable ported shroud for GTIII-5R and 4R is closed before shipment. (Dia.3) To operate the ported shroud to reduce surging, loosen two fixing bolts outside the suction of the compressor housing, pull the inlet pipe by 3.0mm, and rotate the pipe to the left by 30°. Tighten the fixing bolts again. (Dia.4 and Dia.5)





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