

ST-R TypeS CAMSHAFT SET SUZUKI GSX-R600 【Part No. 210-568-0201】

- Be sure to read this manual carefully before starting to work.
- While in the installation, keep it at hand and proceed by following the procedure.
- This manual must be retained until the product is scrapped.

This product is designed for the racetrack use ONLY. Do not use this product on the public road. When use this product, confirm race regulation before installation.

! DANGER : Indicates a potential hazard that could result in death, injury or engine breakdown.

! CAUTION : Indicates a potential hazard that could result in motorcycle damage.

REFERENCE : Indicates special information for smooth work.

● Applicable Model

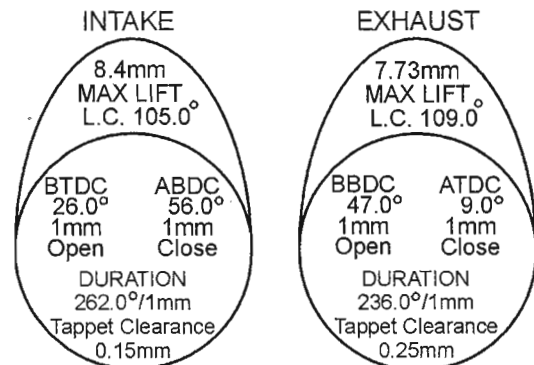
SUZUKI : GSX-R600 K6/K7

! DO NOT use it for any other models.

● KIT Contents

No.	Part No.	Description	Q'ty
1	210-568-0210	ST-R TypeS Intake camshaft	1
2	210-568-0220	ST-R TypeS Exhaust camshaft	1
3	212-567-0010	Camshaft sprocket	2
4	09103-07003-000	Cam sprocket bolt	4
5	221-518-1030	Valve spring seat shim t=0.3mm	8
6	221-518-1050	Valve spring seat shim t=0.5mm	8

● Specification



*1 Above data are the designed numbers only. The actual measured numbers may be slightly different.

*2 The cam lift is the same as the standard.

● Condition of Use

	Valve spring seat shim (Recommended number)	Spring tension / Valve lift
INTAKE	221-518-1050 : Seat shim t = 0.5mm	38.38kgf / 3.97mm
EXHAUST	221-518-1030 : Seat shim t = 0.3mm	39.89kgf / 4.31mm

! CAUTION Measure the valve spring seat shim, and confirm the thickness when installing. This product is designed to be applicable up to 16,000rpm. Use EM Pro and wiring harness to set the maximum rpm.

REFERENCE Refer the table above for the valve spring seat shim size (thickness). If it is possible to measure the valve spring tension, adjust each valve spring tension with the spring seat shims to the specified number.

● Recommended Parts

- Valve cotter set.....[Part No. 222-518-0000]
- Valve retainer set.....[Part No. 223-506-0000]
- Cylinder head gasket.....[Part No. 0000A-E9110-141]
- EM Pro.....[Part No. 490-568-0000]
- Wiring harness.....[Part No. 406-568-0000]

● Recommended Tools

- Timing wheel.....[Part No. 258-000-5150]
- T.D.C.Stopper.....[Part No. 258-567-0030]
- Valve lifter tool.....[Part No. 258-567-0040]

● Necessary Parts

REFERENCE

This kit camshaft is designed with 26mm diameter base circle while stock one is 28 mm, therefore approximately 1.0mm thickness shim is required.

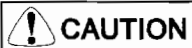
- Tappet shim (Purchase the proper tappet shim from the list when adjusting the tappet clearance.)
- Tappet shim (t=2.00).....[SUZUKI GENUINE Part No. 12892-05C00-200]
- ".....[HONDA GENUINE Part No. 14933-KT7-013]
- Tappet shim (t=2.05).....[SUZUKI GENUINE Part No. 12892-05C00-205]
- ".....[HONDA GENUINE Part No. 14935-KT7-013]
- Tappet shim (t=2.10).....[SUZUKI GENUINE Part No. 12892-05C00-210]
- ".....[HONDA GENUINE Part No. 14937-KT7-013]
- Tappet shim (t=2.15).....[SUZUKI GENUINE Part No. 12892-05C00-215]
- ".....[HONDA GENUINE Part No. 14939-KT7-013]
- Tappet shim (t=2.20).....[SUZUKI GENUINE Part No. 12892-05C00-220]
- ".....[HONDA GENUINE Part No. 14941-KT7-013]
- Tappet shim (t=2.25).....[SUZUKI GENUINE Part No. 12892-05C00-225]
- ".....[HONDA GENUINE Part No. 14943-KT7-013]
- Tappet shim (t=2.30).....[SUZUKI GENUINE Part No. 12892-05C00-230]
- ".....[HONDA GENUINE Part No. 14945-KT7-013]
- Tappet shim (t=2.35).....[SUZUKI GENUINE Part No. 12892-05C00-235]
- ".....[HONDA GENUINE Part No. 14947-KT7-013]
- Tappet shim (t=2.40).....[SUZUKI GENUINE Part No. 12892-05C00-240]
- ".....[HONDA GENUINE Part No. 14949-KT7-013]
- Tappet shim (t=2.45).....[SUZUKI GENUINE Part No. 12892-05C00-245]
- ".....[HONDA GENUINE Part No. 14951-KT7-013]
- Tappet shim (t=2.50).....[SUZUKI GENUINE Part No. 12892-05C00-250]
- ".....[KAWASAKI GENUINE Part No. 92180-0167]
- Tappet shim (t=2.55).....[SUZUKI GENUINE Part No. 12892-05C00-255]
- ".....[KAWASAKI GENUINE Part No. 92180-0169]
- Tappet shim (t=2.60).....[SUZUKI GENUINE Part No. 12892-05C00-260]
- ".....[KAWASAKI GENUINE Part No. 92180-0171]
- Tappet shim (t=2.65).....[SUZUKI GENUINE Part No. 12892-05C00-265]
- ".....[KAWASAKI GENUINE Part No. 92180-0173]
- Tappet shim (t=2.70).....[SUZUKI GENUINE Part No. 12892-05C00-270]
- ".....[KAWASAKI GENUINE Part No. 92180-0175]
- Tappet shim (t=2.75).....[SUZUKI GENUINE Part No. 12892-05C00-275]
- ".....[KAWASAKI GENUINE Part No. 92180-0177]
- Tappet shim (t=2.80).....[SUZUKI GENUINE Part No. 12892-05C00-280]
- ".....[KAWASAKI GENUINE Part No. 92180-0179]
- Tappet shim (t=2.85).....[SUZUKI GENUINE Part No. K9218-00181]
- ".....[KAWASAKI GENUINE Part No. 92180-0181]
- Tappet shim (t=2.90).....[SUZUKI GENUINE Part No. 12892-05C00-290]
- ".....[KAWASAKI GENUINE Part No. 92180-0183]
- Tappet shim (t=2.95).....[SUZUKI GENUINE Part No. K9218-00185]
- ".....[KAWASAKI GENUINE Part No. 92180-0185]
- Tappet shim (t=3.00).....[SUZUKI GENUINE Part No. 12892-05C00-300]
- ".....[KAWASAKI GENUINE Part No. 92180-0187]

Installation Steps

Each parts removal and installation should be done in accordance with the SUZUKI genuine Service Manual.



This product is racing camshaft with adjustable valve cam sprocket. The valve timing must be adjusted when installing.



Be careful not to drop any parts into the crankcase.
Before installation, disassembled parts should be cleaned and dried well.

● Camshaft and Sprocket Installation

- Refer to Fig.1 and adjust the positions of the camshafts and the arrow marks on the cam sprockets.
- Refer to Fig.2 and adjust the camshaft's bolt-hole position so that it comes to the center of cam sprocket bolt-hole.
- Preinstall a cam sprocket bolt.
- Confirm that the opposite camshaft bolt-hole is at the center of the another cam sprocket bolt-hole.
- Tighten preinstalled cam sprocket bolt to prevent any slants from the center.
- Confirm the center of the opposite cam sprocket bolt-hole again and then preinstall the other cam sprocket bolt.
- Tighten both bolts to the specified torque. [Tightening torque : 25N·m (2.5kgf·m)]

Fig.1

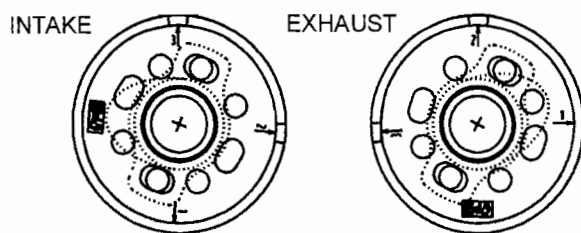
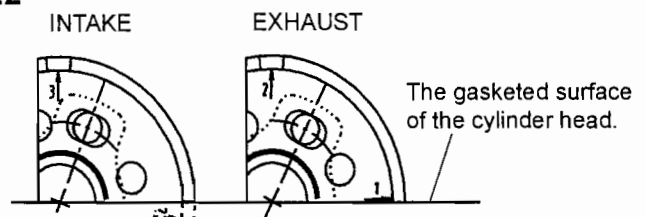


Fig.2



● Inspection

■ Items

- Valve retainers, valve cotters, valve springs, spring seats and tappets for wear or damage.
- Valves and valve guides for looseness, wear or damage.
- Camshaft journal surfaces for wear or damage.

* Items other than above mentioned should be checked in accordance with the SUZUKI genuine service manual.



Parts checking and consumable replacement must be done correctly. If neglect, engine damage could occur.

● Tappet Clearance Adjustment

■ Specification (When cold)

- INTAKE : 0.13 - 0.17mm
- EXHAUST : 0.23 - 0.27mm



The tappet clearance must be adjusted every time camshaft is installed.

REFERENCE

This kit camshaft is designed with 26mm diameter base circle while stock one is 28 mm, therefore approximately 1.0mm thickness shim is required.

● Valve Timing Inspection and Adjustment

■ Intake side valve timing at 1mm of valve lift

- IN Open : BTDC 26.0°
- IN Close : ABDC 56.0°
- Lobe center : 105.0°

■ Exhaust side valve timing at 1mm of valve lift

- EX Open : BBDC 47.0°
- EX Close : ATDC 9.0°
- Lobe center : 109.0°



Thread lock " Thread Lock 1342" [SUZUKI part No.99000-32050] must be applied to the cam sprocket bolts.

Cam sprocket bolt torque specification : 25N·m(2.5kgf·m) must be followed.

● Measuring the Piston-Valve Clearance.

- After the valve timing is measured and adjusted, the piston-valve clearance is measured.

Intake : More than 0.9mm

Exhaust : More than 1.4mm



When the piston-valve clearance is smaller than the number above, adjust the valve timing to have the number. If not satisfied, it may lead the engine breakdown.

(The valve timing may not be adjusted to the recommended number depends on the individual engine's condition.)

Break-in

1. Change the engine oil and pour engine oil to the specified quantity.
Recommended engine oil : Higher than API,SF grade and SAE10W-40 - 15W-50
2. Remove the spark plugs and spinning the engine by starter motor to lubricate the surroundings of the camshafts well.



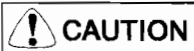
Starter motor must be run intermittently for 2 or 3 seconds. for twice or more.
Continuous run may result in burnout of starter motor.

3. Let it stand for several minutes, and then check the oil level. Add oil if the level is low.
4. Install the spark plugs.
5. Start the engine, check for engine oil leakage and let it warm up the engine until the oil temperature rises sufficiently.
6. For 100km - 200km of running, the engine rpm should be kept below 5,000rpm, and for 200km - 300km of running, the engine rpm should be kept below 6,000rpm.



During the break-in, avoid heavy loadings such as sudden starts and rapid accelerations.

7. When break-in is completed, adjust the tappet clearance and check that there is no abnormal noise. If any abnormal noise are heard, disassemble and inspect the engine again.



When the engine is started to run, warm up must always be done until the oil temperature rises sufficiently even break-in is completed.

Quality control is implemented to all the products. If, however, any failure was found, please notify Yoshimura Japan through the selling dealer. Necessary technical service or replacement will be made. Due to improvement, the specifications and prices of the products are subjected to be changed without notice.

YOSHIMURA JAPAN Co.,Ltd
6748 Nakatsu, Aikawa, Aiko,
Kanagawa 243-0303 Japan
Phone +81-46-286-2929 FAX +81-46-286-1919
E-mail: yj-world@yoshimura-jp.com
URL <http://www.yoshimura-jp.com>