



Instruction Manual for Stroke-Up Crank Kit

Stroke: 54 mm

Item No.	Applicable Models and Frame Nos
0 1 1 0 8 0 3 2	6V Monkey / Gorilla L crank: Z50J-1600008 ~ 1805927
0 1 1 0 8 0 4 2	Monkey : Z50J-2000001 ~ XR50R : AE03-1000001 ~
	Gorilla : Z50J-2500001 ~ CRF50F : AE03-1400001 ~
	Monkey BAJA : Z50J-1700001 ~ XR70R : DE02-1000001 ~
	Monkey R : AB22-1000017 ~ CRF70F : DE02-1700001 ~
	Monkey RT : AB22-1007601 ~

- Thank you for purchasing one of our TAKEGAWA's products. Please strictly follow the following instructions in installing and using the products.
- Before fitting the products, please be sure to check the contents of the kit. Should you have any questions about the products, please kindly contact your dealer.

Please note that, in some cases, the illustrations and photos may vary from the actual hardware.

Please read the following before starting the installation

We do not take any responsibility for any accident or damage whatsoever arising from the use of the products not in conformity with the instructions in the manual.

This kit is designed for exclusive use in the above-mentioned applicable models of motorcycles and frame numbers only. Please take note that this kit cannot be mounted on other types of motorcycles.

Installation of this product requires removal and installation of an engine, and disassembly of a crankcase. Please prepare HONDA's service manual for an above-mentioned applicable vehicle, and work with enough care following the instructions in the service manual. Besides, this instruction manual, as well as HONDA's service manual, is prepared for persons who have acquired basic skill and knowledge in tuning. We recommend those who are technically inexperienced or without right tools to ask a technically-trustworthy specialist shop to do the work.

We shall be held free from any kind of warranty whatsoever of products other than this product if the glitch takes place on the other products than this one after the installation and use of this product.

If you make alterations to the products, we shall be held free from any guarantee of the products.

You are kindly requested not to contact us about the combination of our products with other manufacturers'.

Always use new bolts, nuts, dowel pins and packings. Never reuse severely worn-out or damaged ones.

Use liquid packings at the specified points only, and never use them at unspecified points. Otherwise, the packings may opilate oil passages; it may break the engine in the worst case.

Be sure to always use premium unleaded petrol. And make sure to check what kind of gasoline is remaining in the fuel tank. Whenever regular gasoline is left in the fuel tank, always replace it with high-octane gasoline.

Never use this kit on the point-ignition system motorcycle.

Please be informed that what we can safely say is that the ignition system of this kit is compatible with ours and stock ignition systems, because no data is available with us on the compatibility with other ignition systems. Therefore, please never use other ignition systems, which may cause technical troubles.

Install an oil filter outside.

Install an oil cooler whenever necessary.

Engine oil must be API SF or higher class, such as SAE 10W-40 / 15W-50, which are our recommendations.

The upper limit of the engine revolutions is 12,000 rpm. Please install a tachometer to ensure that you drive at revolutions below 12,000 rpm.

Change the sprocket with the one which meets the output and specifications.

This kit cannot perform on its own.

This kit is only compatible with those engine parts recommended by us. So, please replace the engine parts not recommended by us with those of our recommendations.

The installation of this kit entails crankcase boring process. For the details, please refer to the attached sheet.

~ Features ~

The combined use of this kit with the bore-up kit of our own make will have a remarkable effect, increasing the engine displacement to 124 cc.

The crank shaft is made light in weight via the introduction of the balance cut aimed at reducing wagglng.

Jump-Starting and Sudden Acceleration

Idling, sudden acceleration, and sudden engine braking will put a heavy load on the engine, which please note may result in crank shaft damage and engine breakage in the worst case.

Please be informed that, mainly because of improvement in performance, design changes, and cost increase, the product specifications and prices are subject to change without prior notice.

Please be informed that we shall be held harmless against any claim against us whatsoever arising out of use of the products in racing and the like. This manual should be retained for future reference.



Caution

The following show the envisioned possibility of injuries to human bodies or property damages as a result of disregarding the following cautions.

- Since this kit is designed and developed for driving in closed races, do not use the kit for running on public roads. Always try to drive your motorcycle at a legal speed, abiding by the laws.
- Work only when the engine and the muffler are cool. (Otherwise, you will burn yourself.)
- Prepare right tools for the work, and do the work in the proper and right way.(Otherwise, improper work could cause breakage of parts or injuries to yourself.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque. (Improper torque could cause these parts to get damaged or fall off.)
- As some products and frames have sharp edges or protruding portions, please work with your hands protected. (Otherwise, you will suffer injuries.)
- Before riding, always check every section for slack in parts like screws. If you find slack ones, screw them securely up to the specified torque. (Or improper torque may cause parts to come off.)
- Always use new gasket and packing. In case you continue using these parts, carefully check them for wear or damage, and in case wear or damage is detected, always replace those worn or damaged parts with new ones.

Warning The following show the envisioned possibility of human death or serious injuries to human bodies as a result of disregarding the following cautions.

- Always start the engine in a well-ventilated place, and do not turn the engine on in an airtight place. (Otherwise, you will suffer from carbon monoxide poisoning.)
- When you notice something abnormal with your motorcycle while riding down a road, stop riding immediately and park your motorcycle in a safe place. (Otherwise, the abnormality could lead to an accident.)
- Before doing work, place the motorcycle on level ground to secure it for safety's sake. (Otherwise, your motorcycle could overturn and injure you while you are working.)
- Check or perform maintenance of parts correctly according to the procedures in the instruction manual or a service manual. (Improper checking or maintenance could lead to an accident.)
- If you find damaged parts when checking and performing maintenance of your motorcycle, do not use these parts any longer, and replace them with new ones. The continued use of these damaged parts as they are could lead to an accident.)
- As gasoline is highly flammable, never place it close to fire. Make sure that nothing flammable is near the gasoline. Since vaporized accumulation of gasoline is at high risk of explosion, work in a well-ventilated place.

Cautions before riding

On fuel to use

Whenever regular gasoline is remaining in the fuel tank, always replace it with high-octane gasoline.

On sprocket change

The installation of this kit will increase the power of your vehicle. So use of a stock sprocket will result in severe wears of parts because of the too low gear, not only adversely affecting the engine life, but also breaking the engine in the worst case. Please get your sprocket high-geared.

Engine parts of our recommendation

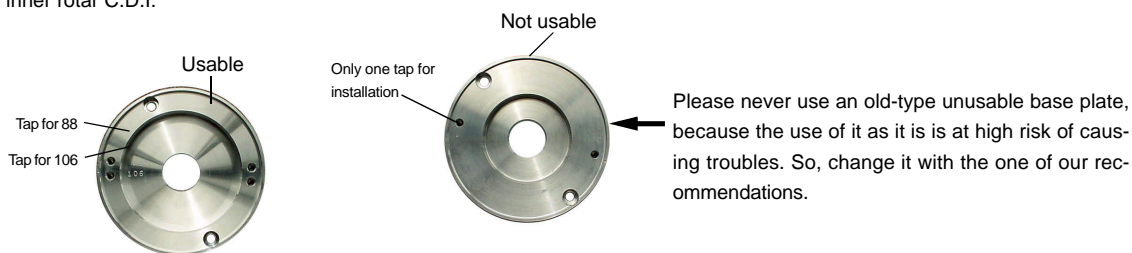
This kit is compatible with the engine parts of our recommendations only. Therefore, please replace the engine parts not recommended by us with those of our recommendations.

0 1 1 0 8 0 4 2 Recommended parts	
Bore-up kit	DOHC bore-up kit
	Super head bore-up kit
	Super head+R bore-up kit
	R Stage+D bore-up kit
	Regular head bore-up kit
Clutch	Dry-type clutch kit
	Special clutch kit
Ignition system	Stock C.D.I.
	Hyper C.D.I.
	C.D.I. magnet kit: 005-02-051

0 1 1 0 8 0 3 2 Recommended parts	
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	Super head+R bore-up kit
	R Stage+D bore-up kit
	Regular head bore-up kit
Clutch	Dry-type clutch kit
	Special clutch kit
Ignition system	C.D.I.magnet kit:005-02-082
	C.D.I.magnet kit:005-02-031

Our products that cannot be used:

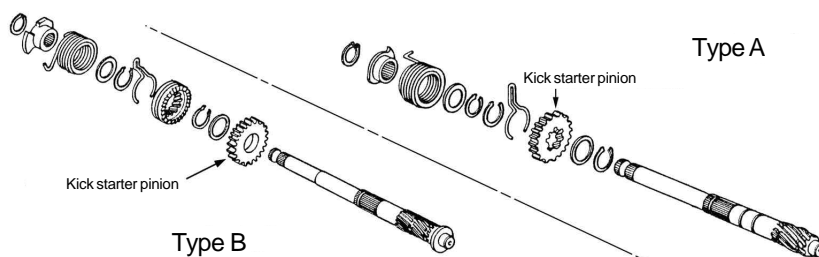
On the use of old-type inner rotor C.D.I.



About the case of using 5-speed transmission

In case you install a 5-speed transmission kit and your kick starter spindle is type A, make sure to change the spindle to type B spindle. This will improve the efficiency in transmitting the torque at the time of kick start and reduce the load on the gear which will lead to the prevention of gear breakage.

It is necessary to change a kick starter pinion as well at the time of changing the kick-starter spindle type B. Change it with the right one with the number of teeth to match the transmission kit. Please take note that the kick starter pinion type A is unusable.



Parts Name	Item No.
Type-B kick starter spindle kit	002-04-001
Type-B kick starter pinion 23T	K-23B
Type-B kick starter pinion 25T	K-25B

The ignition systems with faster ignition timing than our settings are excluded. So please never use ignition systems in combination with other manufacturers', which may cause technical troubles.

Others

Oil cooler:

The installation of this product increases the heat release value of the engine, set off by the increase in power. For a long-time and high load running, we recommend you to install an oil cooler kit which keeps oil at appropriate temperatures and prevents such troubles as oil film shortage at high temperatures.

Thermometer:

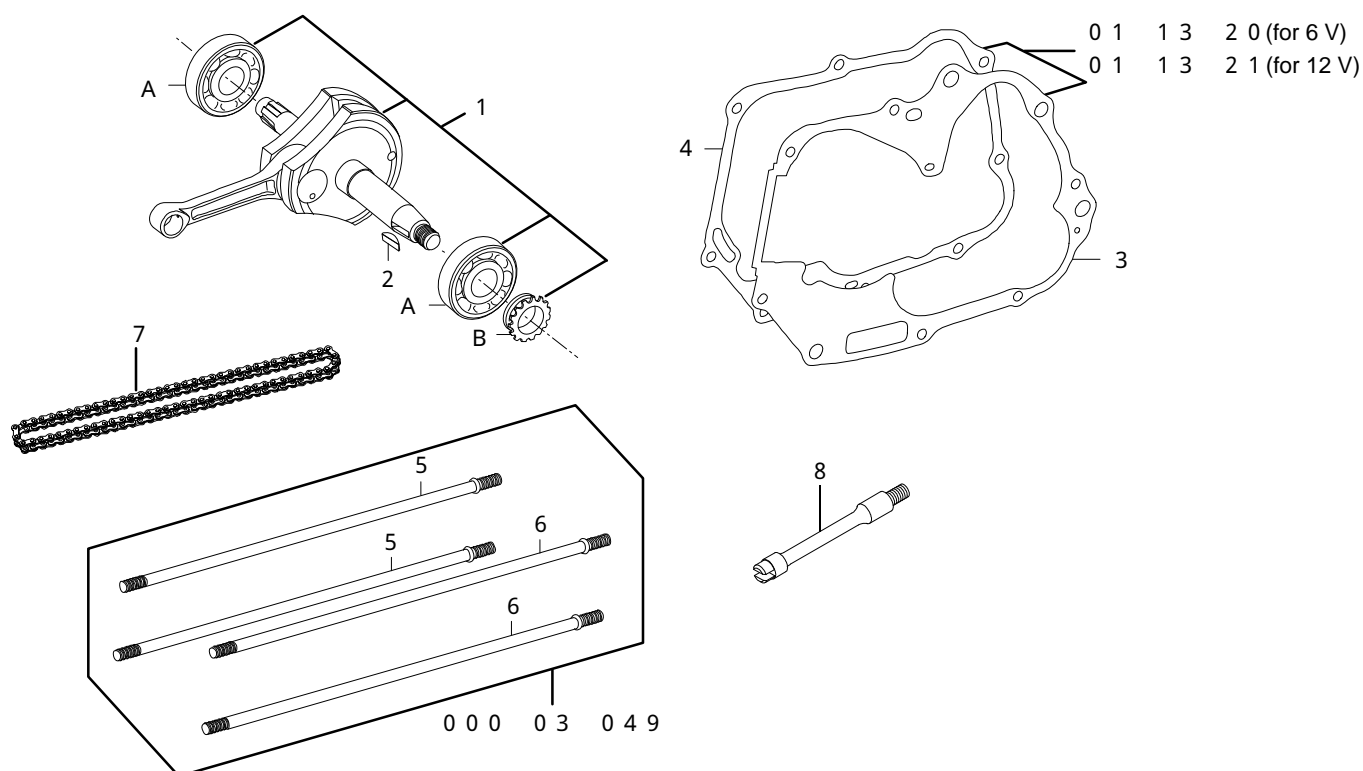
It is advisable to use a thermometer to control the oil temperatures. (007-04-0013)

Number of revolutions

The upper limit of revolutions varies depending on the installed cam shafts, cylinder heads, etc. Please install a revolution counter to make sure that you drive the engine at revolutions below the upper limit, following the instructions for a cam shaft or cylinder head.

Take note that idling and sudden acceleration in the 1st and the 2nd gear particularly tend to exceed the the upper limit. Over revolutions will result in nonsmooth revolutions of the engine, not only adversely affecting the engine life, but also breaking the engine in the worst case.

~ Kit Contents ~



Please order repair parts by indicating the Repair Parts No. listed below. As for the assembled sets, in some cases, we may not be able to accept your orders for the disassembled components of the above-mention assembled unit. In this case, please order them in units of sets instead of the disassembled component parts.

0 1 1 0 8 0 3 2 (for 6 V)

N0.	Parts Name	Qty	Repair Parts No.	Qty
1	Crank shaft C O M P .	1	01-10-0081	1
2	Woodruff key	1	000-10-0006	1
3	Crank case gasket	1	000-13-032	1
4	Right-side crank case gasket	1	11394-035-T00	1
5	Stud bolt A (long)	2	000-03-049	2
6	Stud bolt B (short)	2		2
7	Heavy-duty cam chain (84L)	1	01-14-003	1
8	Cam chain guide spindle	1	14675-035-T00	1

0 1 1 0 8 0 4 2 (for 12 V)

No.	Parts Name	Qty	Repair Parts No.	Qty
1	Crank shaft COMP.	1	01-10-0091	1
2	Woodruff key	1	000-10-0007	1
3	Crank case gasket	1	1191-GB4-T00	1
4	Right-side crank case gasket	1	11394-035-T00	1
5	Stud bolt (A) (long)	2	000-03-049	2
6	Stud bolt (B) (short)	2		2
7	Heavy-duty cam chain (84L)	1	01-14-003	1

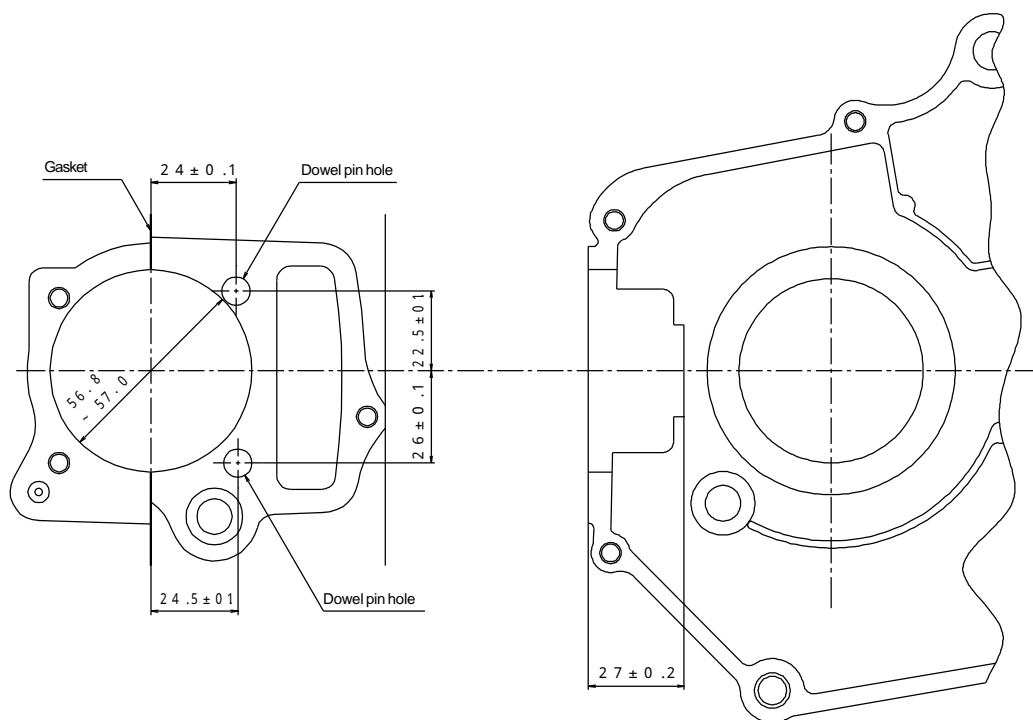
Symbol	Parts Name	Qty	Repair Parts No.	Qty
A	Radial ball bearing	2	TMB304JR2 / 22CS14	1
B	Timing sprocket	1	14311-035-T00	1

Boring of a Crankcase

To those who ask other specialist shop than us to do the work

Joining the cylinders together, process the crankcase little by little until the size is 56.8 ~ 57.0 mm with a crankcase gasket placed in between.

Processing of the crankcase will thin the thickness of wall adjoining dowel pin holes. So the durability of the crankcase will be reduced, resulting in the damage of the crankcase in some cases, which please take note.



Caution

Since crankcase boring thins the wall thickness and reduces hardness, be careful in tightening stud bolts.

Please take note that in some cases the crankcase may get damaged during use. Furthermore, please be informed that we shall assume no liability to users for compensation or damages whatsoever of any kind.

SPECIAL PARTS TAKEGAWA Co.,Ltd.

3-5-16 Nishikiorihigashi Tondabayashi Osaka Japan

TEL : 81-721-25-1357 FAX : 81-721-24-5059

URL : <http://www.takegawa.co.jp>

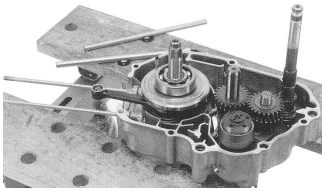
~ Installation Procedures ~

Removal

Do the following work referring to the relative service manual.

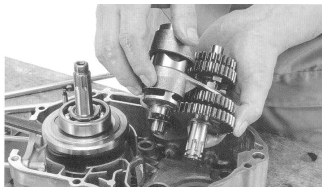
Referring to the service manual, dismount the engine from the frame.

Referring to the service manual, disassemble the engine, detach the stator plate, and then disassemble the crankcase.



Remove the oil pump.

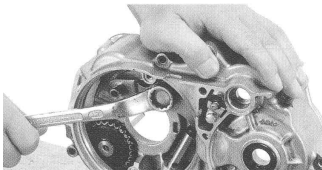
After removing the kick starter spindle, remove the transmission and the gear shift drum as they are.



Remove the crank shaft.



Remove each part on the cam chain tensioner and the guide roller from the crankcase.

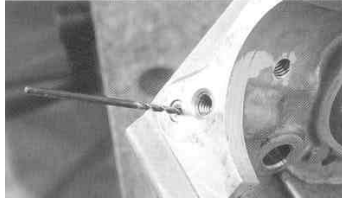


Remove the stud bolt from the crankcase.

Get the boring process done.

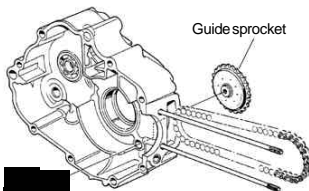
Get the boring process done to the crankcase, referring to the attached sheet.

Enlarge the orifice diameter on the right-side crankcase referring to the instruction manual for Super Oil Pump.



6V vehicle

In the case of a 6V vehicle, change spindles from a cam chain spindle to a spindle of the kit, and install it.



8 Change to a cam chain spindle of the kit.

Installation

Clean the crankcase.

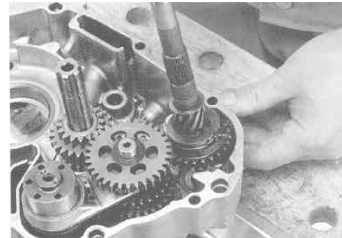
Install the cam chain guide sprocket and the spindle.

Apply engine oil to the bearings in the crankcase.

Install the transmission and the gear shift drum to the left-side crankcase with reference to the instruction manual and the service manual for the transmission.



Install the starter spindle.



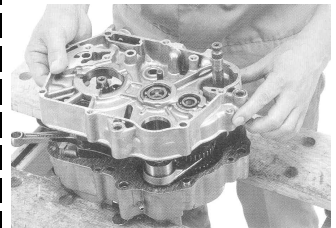
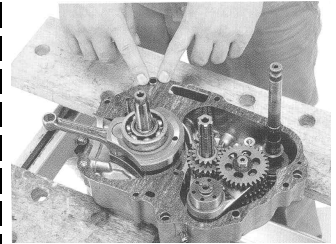
Apply engine oil to the big end of the crank shaft and the bearings.



Attach the crank shaft onto the crankcase, and fix dowel pins into the crankcase.



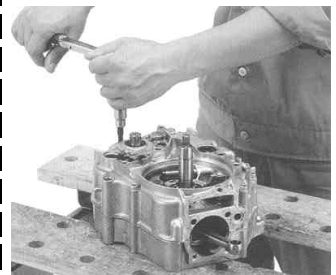
Attach kit's gasket to the crankcase, and install the right side crankcase.



After applying a little Alumi Special to the threaded portion of the crankcase bolts, install the bolts onto the crankcase and tighten them diagonally to the specified torque.

⚠CAUTION: Be sure to tighten to the specified torque.

T=10N · m (1.0kgf · m)



Being careful of the direction of the gear shift drum washer, tighten it to the specified torque with a hex bolt, and attach a rubber plug.

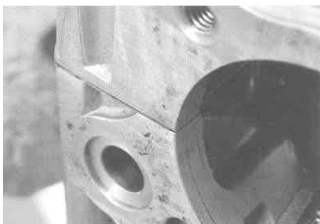
⚠CAUTION: Be sure to tighten to the specified torque.

T=12N · m (1.2kgf · m)



Flatten the surface by cutting off the hole section of the crankcase gasket and the mating surface of the cylinder.

Be careful not to get any gasket chips in the crankcase.



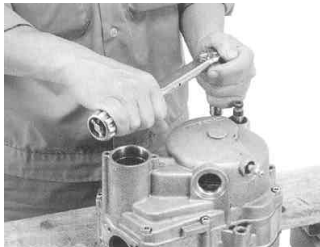
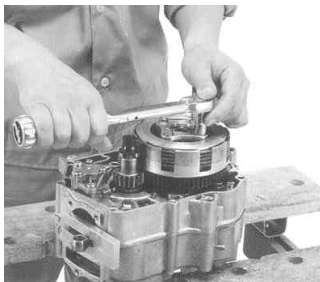
Install the parts on the transmission with reference to the instruction manual and the service manual for the transmission.



Fix the oil filter screen, and install Super Oil Pump referring to the instruction manual.



Install a clutch with reference to the instruction manual for the relative clutch kit.

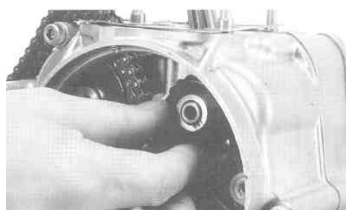


After applying Alumi Special a little to the threaded part of the stud bolts, attach stud bolts to the crankcase, and tighten them to the specified torque. Fix the stud bolt B, the shorter stud bolt, to the clutch side.

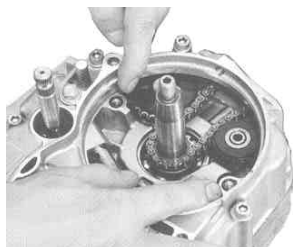
T=10N · m (1.0kgf · m)



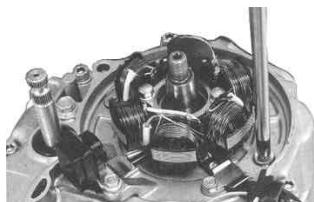
Fit a kit's cam chain in the crank shaft, and install the tensioner roller.



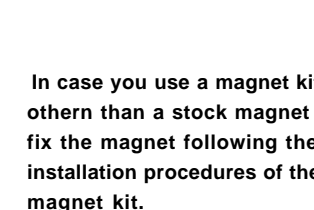
Attach O-rings to the two spots.



Fix a generator plate, and tighten the flat screws.



Fix the woodruff key to the crank shaft.

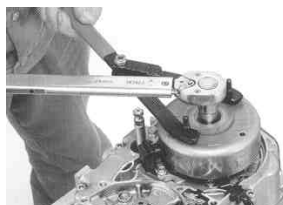


In case you use a magnet kit other than a stock magnet kit, fix the magnet following the installation procedures of the magnet kit.

Degrease the tapers on the flywheel of the crank shaft, and install the flywheel. After applying screw locking agent a little to the washers and flange nuts, tighten them to the specified torque.

⚠CAUTION: Be sure to tighten to the specified torque.

T=44N · m (4.5kgf · m)



Install the cylinder, following the cylinder installation procedures.

Specialized Tools

Con'rod stopper
Item No.: 000-01-01



Lock nut wrench
Item No.: 000-01-021 for 12.7 mm (1/2)

Item No. : 000-01-022 for 19.5 mm (3/8)



Flywheel puller
Item No.: 000-01-031



Universal holder
Item No.: 000-01-1002

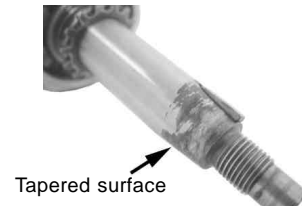


Reference Value List for Crank Shaft Maintenance

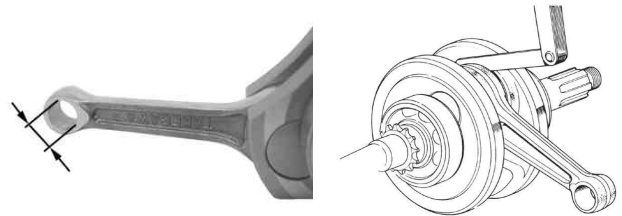
Items	Stock	Service limit	Notes
Internal diameter of con'rod at small end	13.003 ~ 13.012mm	13.03mm	Replace
Clearance between con'rod's small end and a pin	0.003 ~ 0.018mm	0.035mm	Replace
Misalignment on con'rod's big end (longitudinal and transversal direction)	0 ~ 0.012mm	0.05mm	Replace
Side clearance	0.1 ~ 0.35mm	0.6mm	Replace
Free play on the journal bearings (in the direction of shaft)	_____	0.1mm	Replace
(in the direction of bearings)	_____	0.05mm	Replace
Crank shaft deflection	0.03mm	0.1mm	Replace

Inspection of Crank Shaft

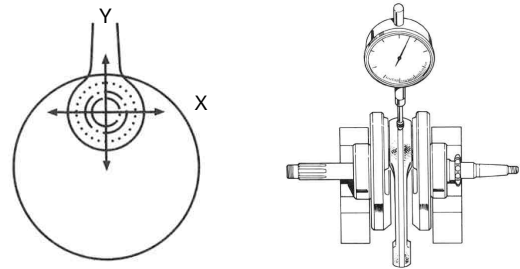
- Check the crank shaft for damages on the flywheel-mounting surface.
If there is a damage, replace the flywheel and the crank shaft.



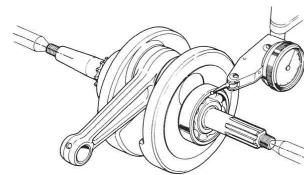
- Measure the internal diameter at the small end of the con'rod.
If larger than 13.03 mm, replace it.
- Measure the clearance at the big end of the con'rod in the axial direction.
If larger than 0.6mm, replace it.



- Measure the misalignment at two points at the big end of the con'rod at right angles to the shaft as shown in the figure on the right.
If larger than 0.05mm, replace it.



- Measure the misalignment on the journal bearing of the crank shaft.
Shaft direction: If larger than 0.10 mm, replace it.
Bearing direction: If larger than 0.05 mm, replace it.



- Measure the deflection of the crank shaft.
If larger than 0.10 mm, replace it.

