

R-Stage Cylinder KIT (88cc) Instruction Manual

((For R-Stage-equipped motorcycles))

Item No.	01-04-7003 (Cylinder kit) 01-02-7002 (Piston kit)
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Applicable models and frame No.:	Monkey (FI) (AB27-1900001 ~) Super Cub 50 (AA01-1700001 ~) Little Cub (AA01-4000001 ~)
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Thank you for purchasing one of our products. Please strictly follow the following instructions in installing and using the kit. Before installing the kit, please be sure to check the kit contents.

Should you have any questions about the kit, please contact your local motorcycle dealer.

© Illustrations and descriptions such as photographs may be different from the present parts, please understand.

⚠ About quick starting and sudden acceleration ⚠

Please note that idling, sudden acceleration, and sudden engine braking will put a heavy load on the engine, and that it may result in crank shaft and engine damages in the worst case.

☆ Features ☆

- Cylinder durability, airtightness, and use an all-aluminum cylinder with excellent heat dissipation and minimizes friction loss subjected to a ceramic composite plated cylinder bore.
- Oil passage taken out of providing a boss, oil cooler kit can be installed specifications.
- The expansion of the M5 tap hole in the oil passage plug bolt, can be mounted on our temperature sensor.
- Soup up to 88cc in bore diameter of 52mm, compression ratio 12.0: 1 high-compression, with improved combustion efficiency.

☆ In order to correctly and safely use ☆

- This product is our R-Stage Cylinder Head kit. It can not be used in this kit alone.
- Prepares the tool or the like at the time of installation, to work with care in accordance with mounting procedure. In addition, this manual and Honda genuine service manual are intended for those who have a basic skills and knowledge. No attachment experience, if it is not ready for tools, it is recommended that you ask the high technical credit specialty stores.
- In this installation and use of the product, even if trouble occurs in other parts, do not do parts warranty other than this product.
- Oil cooler kit or, banjo bolt / banjo of oil taken out requires our specialized products. It can not be combined with third party parts and other vehicles supplies.
- When it is machining like the products, do not covered under warranty.
- Please refrain from inquiries about the product and the combination of other companies.
- Be sure to break-in.
- Calorific value due to output up to be installing this kit will also increase. The long-time high-load operation we recommend the installation of oil cooler kit.
- To reuse some of the bolts, nuts, pins, packing the heavy wear and damage is to use the new one.
- Please be sure to use the unleaded premium gasoline fuel. We have set such a high compression ratio as compared to genuine, fuel should be always use premium gasoline. The use of regular gasoline, it does not influence the performance of an abnormal combustion, also piston is broken there is a possibility of causing a serious failure. Please also note the mounting kit before gasoline remaining in the fuel tank. If regular gasoline remains, be sure replaced with premium gasoline.
- Since this product is a product that was developed for the competition closed course, please do not use public roads. If you want to use public roads, be sure to make a moped registration, please fulfill safety standards of Road Transport Vehicle Act. please try to law-abiding operation.
- Please note. If you use in the race, etc., in any case the claim can not be accepted.



Caution

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

- Always try to drive your motorcycle at legal speed, abiding by the laws.
- Work only when the engine and muffler are cool. (Otherwise, you will get burned.)
- Do the installation with right tools. (Otherwise, breakage of parts or injuries to you may take place.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque. (Otherwise, these parts may get damaged or fall off, resulting in accidents.)
- 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 hardware like screws for slack. If you find slack ones, screw them securely up to the specified torque. (Otherwise, improper tightening may cause parts to come off.)
- Always use new gaskets and packings. And check those parts, to be reused, for wear and damage. If you find worn or damaged parts, replace them with new ones.

SPECIAL PARTS
TAKEGAWA

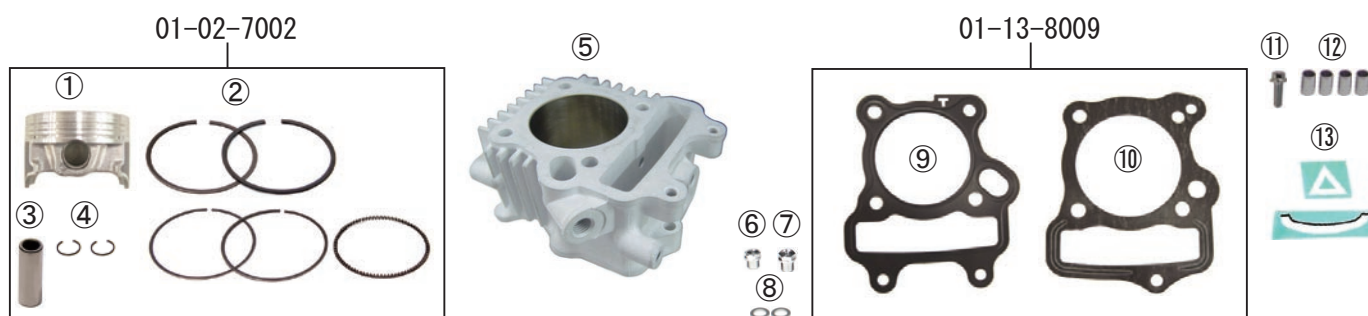
CONTACT Address: 3-5-16 Nishikiorihigashi Tondabayashi Osaka JAPAN
TEL: +81-721-25-1357 FAX: +81-721-24-5059 e-mail: english@takegawa.co.jp URL: [http:// www.takegawa.co.jp](http://www.takegawa.co.jp)
Please contact with your name and country name provided. (Only English please)

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 on the engine in an airtight place.
(Otherwise, you will suffer from carbon monoxide poisoning.)
- When you notice something abnormal with your motorcycle while riding, immediately stop riding and park your motorcycle in a safe place to check what has gone wrong. (Otherwise, the malfunction could lead to accidents.)
- Before doing work, make sure your motorcycle is secure on level ground for safety's sake.
(Otherwise, your motorcycle could overturn and injure you while you are working.)
- Check or carry out maintenance of your motorcycle correctly according to the procedures in the instruction manual or service manual.
(Improper checking or maintenance could lead to accidents.)
- 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 accidents.)
- 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. (Otherwise it may cause a fire.)

© 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.
© This manual should be retained for future reference.

Product content



No.	Part Name	Qty	Repair Part Item No.
1	Piston (Molybdenum coated)	1	13101-IRS-T00R
			13101-IRS-T00Y
			13101-IRS-T00B
2	Piston ring	1	13011-181-T10
3	Piston pin	1	00-01-0091 (With two clips)
4	Piston pin circlip	2	00-01-0003 (6 pcs)
5	Cylinder, 52mm	1	12101-GBJ-T02
6	Oil plug bolt	1	00-07-0072 (With sealing washer)
7	Oil plug bolt with M5 holes	1	00-07-0090 (With sealing washer)
8	Sealing washer, 10mm	2	00-07-0010 (10 pcs)
9	Cylinder head gasket	1	01-13-8009
10	Cylinder gasket	1	
11	Flange bolt, 6x25	1	00-00-0115 (5 pcs)
12	Dowel pin, 8x14	4	00-00-0194 (2 pcs)
13	Mark set	1	

※Please note that in ordering repair parts, be sure to quote the Repair Part Item No. Otherwise, we may not be able to accept your orders.
There are some parts, however, for which we are not in a position to accept your order in just the quantity to be used. In this case, please take them in the quantity packed.

⚠ Caution : Always be sure to tighten parts to the specified torque using a torque wrench.

⚠ Warning: The unskilled or those without proper knowledge are requested not to do the installation work.

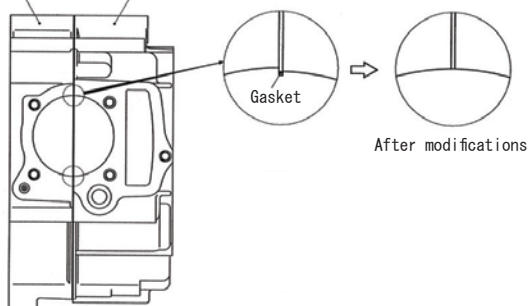
○ Some products involve detachment and installation of an engine and separation of a crankcase, etc. Do the installation work infallibly, following

Honda's genuine parts service manual.

○ Referring to the service manual, detach the engine from the frame and disassemble it.

○ You do not have to give boring process to the crankcase. However, depending on the individual crankcase, there may take place interference of crankcase with a cylinder sleeve. In this case, you are required to modify the crankcase.

Right-side crankcase Left-side crankcase

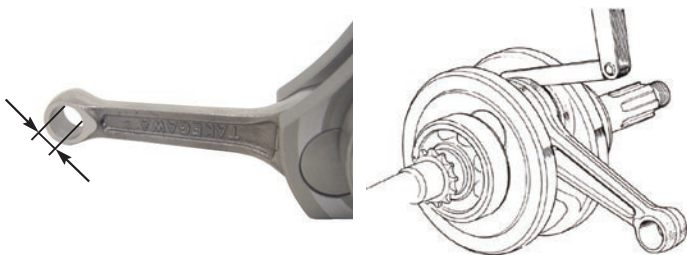


○ Check every part.

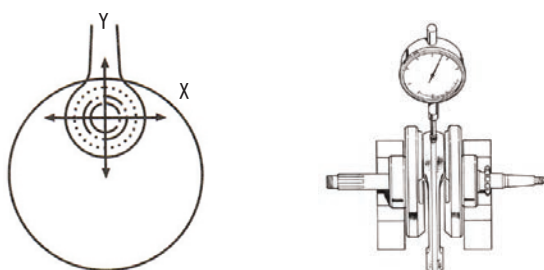
⚠ Caution: Infallibly inspect every part and check consumable parts for damage and wear.

What to check:

- Measure the internal diameter at the small end of the con' rod.
∴ If larger than 13.10 mm, replace it.
- Measure the clearance at the big end of the con' rod in the axial direction.
∴ If larger than 0.45 mm, replace it.



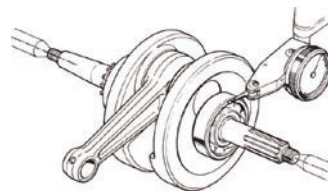
- Measure the misalignment at two points at the big end of the con' rod at right angles to the shaft as shown in the figure on the right.
∴ If larger than 0.012 mm, replace it.



- Measure the misalignment on the journal bearing of the crank shaft.

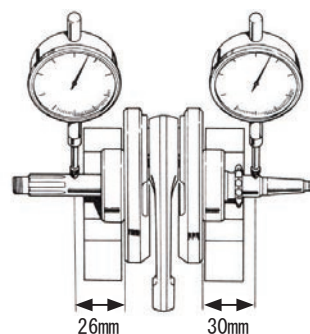
∴ Shaft direction: If larger than 0.10 mm, replace it.

Bearing direction: If larger than 0.05 mm, replace it.



- Measure the deflection of the crank shaft.

∴ If larger than 0.03 mm, replace it.



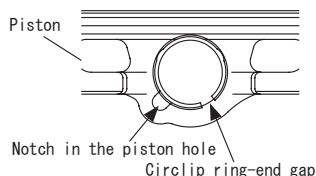
○ Assemble the crankcase referring to the service manual.

1. Assemble and install a piston.

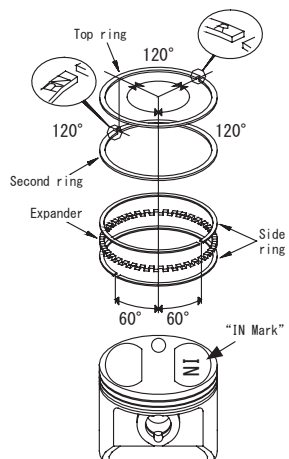
- ◇ Fix a supplied piston pin circlip securely to the grooves for circlip on one side of the piston.
- Be sure to set a circlip so its end gap is not on the notch.
- ◇ Fix the piston pin circlip first on the left side.



- ◇ Attach the piston pin circlip so the ring end gap does not meet the notch on the piston pinhole, and ring end gap should be either on the top or at the bottom of the hole.

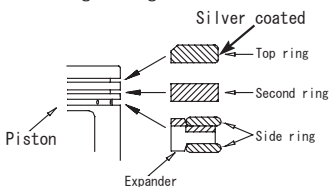


- ◇ Apply engine oil to the piston ring grooves.
- Install the piston rings with the printed side facing upward, aligning the ring-end gaps.
- For details, see the photo below.



The marking side of the top ring and the second ring is to be faced up.

- ※ A ring with a silver-coated side is a top ring.
- Do not make mistakes in choosing the right rings.



Pay attention to the cross section as well !!

- ◇ Air-blow the piston rings and the piston pin, and check for jamming of any foreign material by these parts.
- ◇ Apply engine oil to the ring grooves.



- ◇ Put the expander.



- ◇ Put the lower side rail.



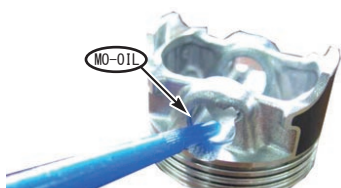
- ◇ Put the upper side rail.



- ◇ Fit the second and top rings.



- ◇ Apply engine oil to the piston.



- ◇ Apply molybdenum solution to the piston pin on the con' rod.



- ◇ Install the piston so the 2 "IN" mark on the piston head is at the upper side or on the intake side.



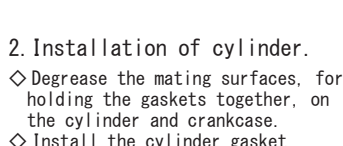
- ◇ Pass the piston pin into con' rod and piston.



- ◇ Fit a supplied piston pin circlip securely to the grooves on circlip.
- ◇ Attach the piston pin circlip so the ring end gap does not meet the notch on the piston pinhole, and ring end gap should be either on the top or at the bottom of the hole.

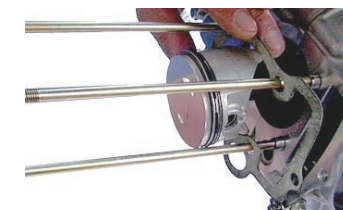


- ◇ Remove the stuffed waste cloth.

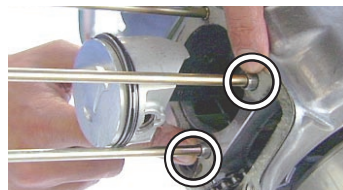


2. Installation of cylinder.

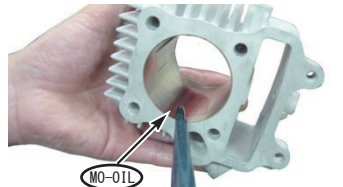
- ◇ Degrease the mating surfaces, for holding the gaskets together, on the cylinder and crankcase.
- ◇ Install the cylinder gasket.



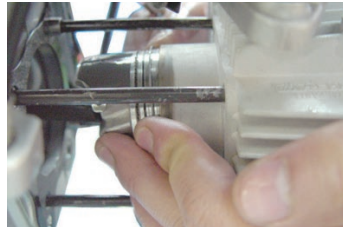
- ◇ Fit the supplied 8x14 dowel pins.



- ◇ Apply engine oil onto the inside of the supplied cylinder and spread the oil evenly with fingers.



- ◇ Fit the cylinder by pressing it with a finger bit by bit, taking care so the piston ring-end gaps do not get out of position.



- ◇ Once the ring has been placed inside the cylinder, route the cam chain through the cylinder, and fix the cylinder into the crankcase.



- ◇ Pulling the cam chain, fix the guide roller.
- ◇ Press in the guide roller so the center of the guide roller and the guide-roller bolt hole on the cylinder just mesh together.



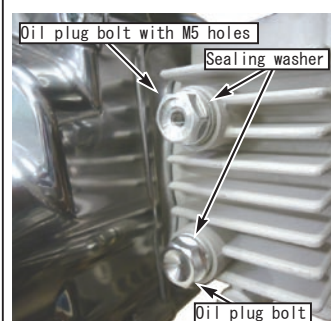
- ◇ Install and tighten a guide roller bolt loosely for now.



- ◇ Install and tighten a supplied M6 x 25 flange bolt loosely for now.



- ◇ The boss two places of the supplied cylinder, attach the oil plug bolt / sealing washer.
- Oil plug bolt with M5 holes, mounted so as to be on the upper side when the engine mounting.
- ※ If you are installing the oil cooler kit, that you follow the instruction manual of the kit.

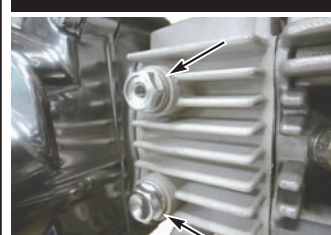


- ◇ Clean the mating surface of cylinder and cylinder head, is attached dowel pin, the cylinder head gasket in the kit to the cylinder.

- ◇ Attach the cylinder head in accordance with the instructions of cylinder head kit.
- ◇ After cylinder head attached, is attached to cylinder, tighten the oil plug bolt specified torque.

⚠ Caution: Apply the specified torque.

Oil plug bolt
Torque : 12N · m (1.2kgf · m)

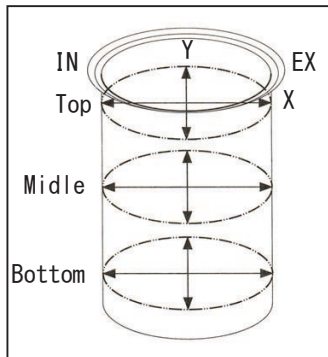


Inspection / Manual

⚠ Warning : The cylinder head manual are intended for people who have the basic skills and knowledge. Do not work no person technology and knowledge.

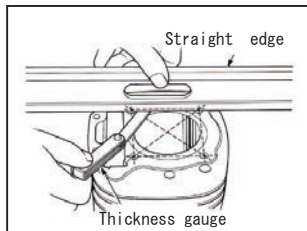
○ Inspection of the cylinde

- Check the wear and damage to the cylinder inner surface.
- The piston pin direction and its perpendicular axis (X-Y direction), the upper middle lower, the cylinder bore six locations were measured and recorded.
Will be inner diameter value is maximum measured value.
∴ Cylinder ϕ 52.05mm or more exchange
- Calculate gap between cylinder and piston to be determined.
∴ Clearance 0.09 or more exchange



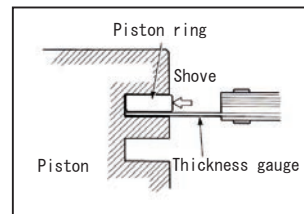
☆ If the cylinder bore exceeds the allowable limit, replace the cylinder and piston in the set.

- Inspect scratches and damage to cylinder top.
- Distortion of cylinder top check a straight edge and a thickness gauge.
∴ Limit of use 0.05mm replace more

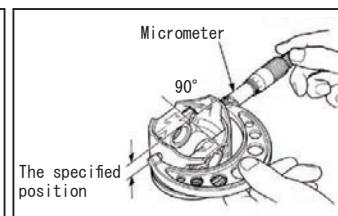
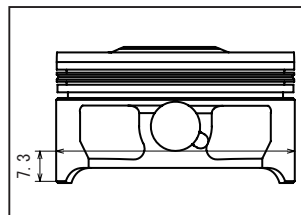


○ Inspection of the piston

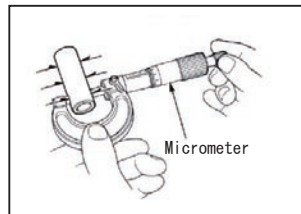
- Remove the dirt of carbon from piston.
- Piston is attached to a piston ring, in a state pushed to ring groove, to measure the clearance between piston ring and groove by feeler gauge.
∴ Topring : 0.09mm replace more
2ND ring : 0.09mm replace more



- Check the trauma of the piston.
- With respect to the piston pin hole, measure the outside diameter of the piston at the specified position from the piston skirt the lower end in the perpendicular direction.

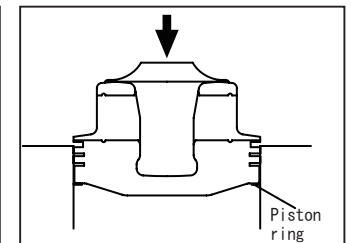


- ∴ Piston exchanged 51.96mm below
- Calculate gap between cylinder and piston to be determined.
∴ Clearance 0.09 or more exchange
- Measure the outside diameter of the piston pin.
∴ 12.98 replace below



○ Inspection of the piston ring

- Install piston ring horizontally at the bottom in piston head, clearance of the end gap is measured by filler gauge.
Topring : 0.50mm replace more
2ND ring : 0.60mm replace more
Oil side rail : 0.90mm replace more



Important : Please firmly carried out the break-in operation. Neglect the break-in operation the piston of the engine seizure or the like of trouble, or piston there is a possibility that increases greater shrinkage piston slapping sound.

[Reference]

Break in 5000rpm or less, about 150 km