

# Hyper S-Stage KIT (88cc) Instruction Manual

This Kit is to bore up the engine displacement to 88 cc, using a standard cylinder head.  
The ceramic-coated cylinder is used.  
Oil lines in this cylinder with oil outlets lead the oil to the outlets.  
Also, set M5 threaded hole in the oil plug bolt, it can be installed in our M5 temperature sensor.

Item No. : 0 1 0 5 5 0 1 3  
Super cub 50 ( FI ) : AA01 - 1700001 ~  
Little cub ( FI ) : AA01 - 4000001 ~

- 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.

## Notice

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

### ⚠ About fuel to use ⚠

This S-Stage Kit is so designed to achieve a higher compression ratio than stock engines. Therefore, high-octane gasoline should always be used. In case regular gasoline is used, abnormal combustion will take place, and you cannot get the high performance of the Kit. Moreover, it is highly likely that the piston will be damaged, leading to a serious failure of a motorcycle. Before installing this kit, make sure that no regular gasoline remains in the fuel tank. In case regular gasoline is remaining in the fuel tank, do replace it with high-octane gasoline.

### ⚠ About the spark plug ⚠

Be sure to replace a spark plug with a CR8HSA (NGK) or U24FSR-U (DENSO).

### ⚠ 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.

### ⚠ Take note of the following points about the F.I. controller ⚠

If you start the engine with the supplied cylinder, piston and camshaft only, it is likely that the engine may get out of order seriously. So, be sure to use the supplied F.I. controller.

## Read all instructions first before starting the installation.

We do not take any responsibility for any accident or damage whatsoever arising from the use of the Kit not in conformity with the instructions in this Instruction Manual. Always try to drive your motorcycle at legal speed, abiding by the laws.

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.

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

Please note that this Kit is designed for exclusive use in the above-mentioned fitting models and frame numbers only and that it cannot be mounted on any other models.

For installation, please prepare tools and work with reference to the installation procedures with enough care. Besides, this instruction manual, as well as a HONDA's genuine parts service manual, is prepared for persons who have acquired basic skills and knowledge. We recommend those who are technically inexperienced or without enough tools to ask a technically-reliable specialist shop for the installation work.

Bolts, nuts, dowel pins and packings will be reused. However, be sure not to use the worn-down or severely-damaged ones, which please do replace with new ones.

This Instruction Manual is prepared mainly for installation on the Cub.

Fuel must always be supreme unleaded high-octane gasoline.

**⚠ CAUTION** The following show the envisioned possibility of injuries to human bodies and 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.

**⚠ WARNING** The following show the envisioned possibility of human death or serious injuries to human bodies as a result of disregarding the following warnings.

- 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.

## Lesson

Bolts and nuts will get loose when turned counterclockwise, and tighten when turned clockwise.

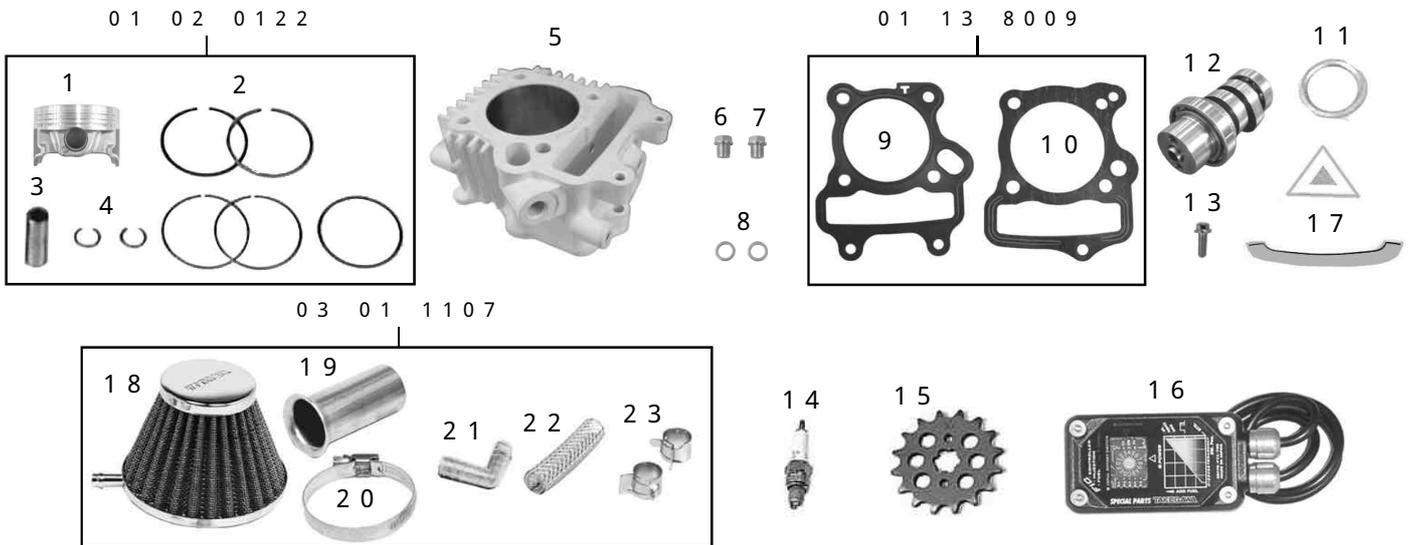
In tightening a screw, first finger tighten it as hard as possible without using a tool. If it stops turning after giving it one or two turns, the screw may be fixed at a slant.

To loosen a screw means turning a tightened screw three or four times to the left, and to remove it means turning it around to the left until it comes off.

To tighten a screw means to screw it up to keep it from getting loose. The numeric value as a guide at which a screw will not break or get loose when tightened is the so-called "torque." If you do not have a torque wrench, please try to tighten a screw as tight as possible to the point where the screw will not break or get loose, though we can not take any responsibility for the breakage. In case you do not use a torque wrench, you need to judge, only by intuition or using experience, the degree of tightening power at which the bolt will break or get loose.

Improper use of tools will result in breakage of a top of a bolt or screw.

Kit includes:

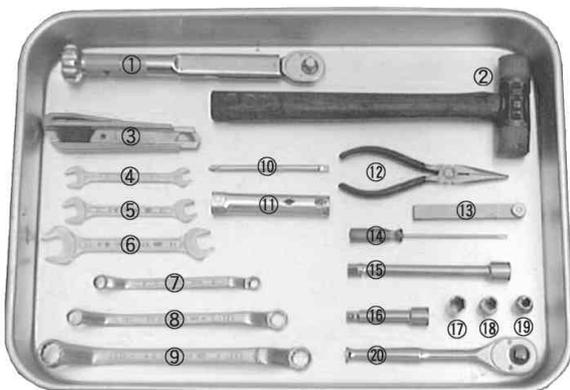


No.	Part Name	Qty	Repair Part Item No.	In packs of	No.	Part Name	Qty	Repair Part Item No.	In packs of
1	Piston	1	13101-GBJ-T01	1	13	Flange bolt, 6x25	1	00-00-0115	4
2	Piston ring	1	13011-181-T10	1	14	Spark plug	1	NGK-CR8HSA	1
3	Piston pin	1	00-01-0091 (with two circlips)	1	15	Driven sprocket (with plate) 16T	1	02-05-051	1
4	Piston pin circlip	2	00-01-0003	6	16	FI Controller (for S-Stage)	1	03-05-0019	1
5	Cylinder, 52 mm	1	12101-GBJ-T02	1	17	Mark set	1		
6	Oil plug bolt	1	00-07-0072 (with Sealing washer)	1	18	Air filter COMP.	1		
7	Oil plug bolt with M5 holes	1	00-07-0090 (with Sealing washer)	1	19	Filter pipe	1	00-00-0280	1
8	Sealing washer, 10 mm	2	00-07-0010	10	20	Clamp band	1	00-00-0014	1
9	Cylinder head gasket	1			21	L-joint, 10 mm	1	00-03-0207	1
10	Cylinder gasket	1	01-13-8009	1set	22	Braided hose, 50 mm	1		
11	Exhaust pipe gasket	1	00-01-0064	2	23	Hose clamp, 13.1	2	00-00-0049	1set
12	Camshaft	1	01-08-0332	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.

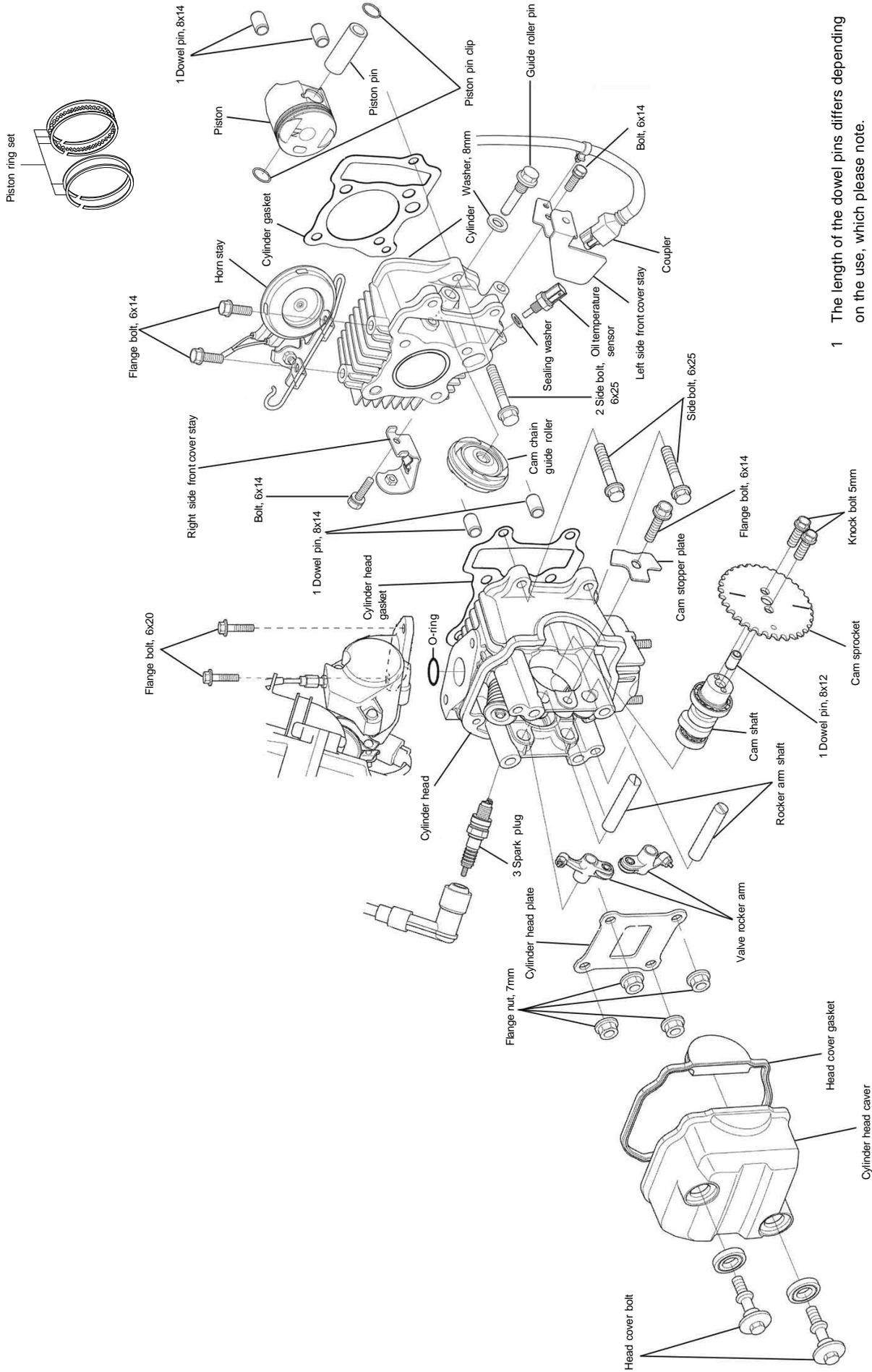
There are some parts, however, for which we are not in a position to accept your order in just the quantity to be used. In this case, please take them in the quantity packed.

Tools to use for the installation

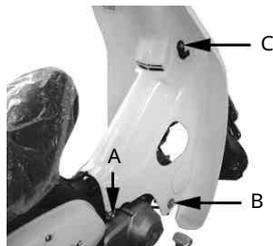


1	Torque wrench	11	Spark plug wrench (in-vehicle tool)
2	Plastic hammer	12	Needle-nose plier
3	Cutter knife	13	Thickness gauge
4	Open-end wrench 8-10	14	Fine-shaft flat tip screwdriver
5	Open-end wrench 12-14	15	Extension (medium)
6	Open-end wrench 14-17	16	Extension (small)
7	Offset box wrench 8-10	17	Socket 14 mm
8	Offset box wrench 12-14	18	Socket 12 mm
9	Offset box wrench 14-17	19	Socket 10 mm
10	Spark plug wrench handle (in-vehicle tool)	20	Ratchet wrench

# Part names



- 1 The length of the dowel pins differs depending on the use, which please note.
- 2 These hardware is not included in the kit or will not be used for the installation of this kit.
- 3 Replace the spark plug with a supplied CR8HSA (NGK) or U24FSR-U (DENSO).

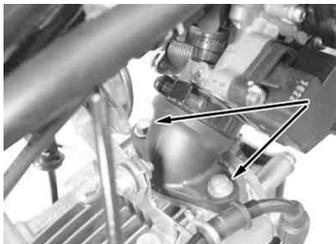


Unfasten a nut A (12mm cap nut), and bolts B and C (10mm bolts), by turning them counterclockwise. And unfasten washers and the like at the same time. Do the same to the left side as well.

Tools:  
A: 12mm socket & Extension (medium)  
B: 10mm socket & Extension (medium)  
C: 10mm socket

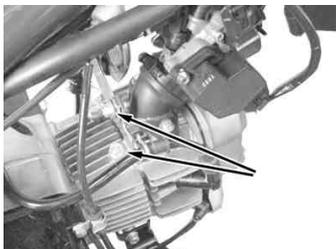
## Removal of standard hardware

### 1 . Remove the inlet pipe.



Remove two bolts by turning them counterclockwise which hold a cylinder head and inlet pipe.

Tool:  
Offset box wrench, 8mm



Remove the horn stay.

Tool:  
Offset box wrench, 10mm

### 2 . Remove the muffer.



Remove two nuts on the exhaust pipe by turning them counterclockwise.

Tool:  
Open-end wrench, 10mm



Detach a muffer from the bike by pulling it outwards. Take care NOT to lose ring-shaped muffer gaskets.

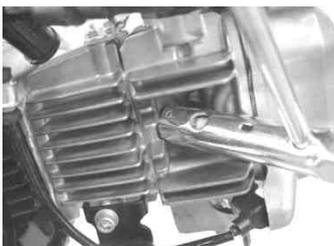
Tool:  
Offset box wrench, 14mm

Little cub

Offset box wrench, 17mm

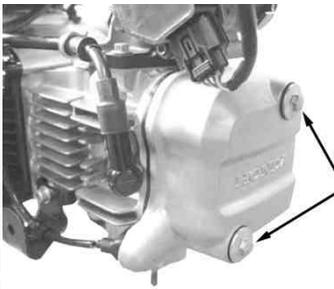


### 3 . Remove a spark plug.



Detach a plug cap from the plug by pulling it out. Be sure to hold the cap in pulling it out. With an in-vehicle tool of a plug wrench, turn the plug counterclockwise to remove it.

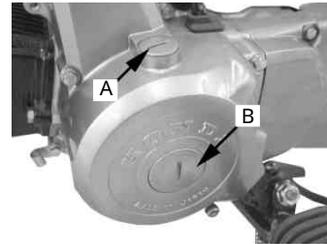
### 4 . Remove a cylinder-head left-side cover.



Unfasten a hex bolt on the cylinder head cover to remove the cover.

Tool:  
Socket, 10mm

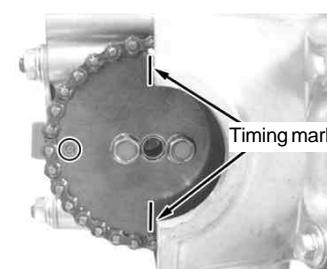
### 5 . Remove a crankcase left-side cover.



Turn both A and B counterclockwise to remove them.

Tool:  
Flat tip screwdriver

### 6 . Remove a cam sprocket.

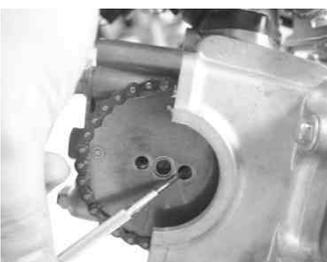


Set the flywheel and cam sprocket so the "T" and "O" marks on them respectively face forward. And set the timing marks to be in contact with the cylinder head surfaces. And turn the flywheel counterclockwise so it meshes with each notch.



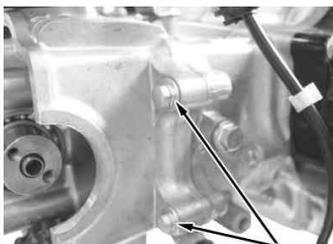
Holding the flywheel, remove two hex bolts on the cam sprocket by turning them counterclockwise.

Tool:  
Offset box wrench, 8mm  
Socket, 14mm & Extension (medium)  
(used for holding the flywheel)



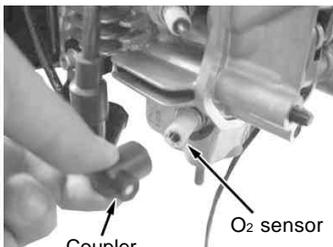
Prize the cam sprocket from the camshaft with a small-sized flat tip screwdriver to remove it. Detach the cam chain from the cam sprocket, and take out the cam sprocket. Detach a dowel pin fixed in the center of the camshaft.

### 7 . Remove a cylinder-head side bolt.

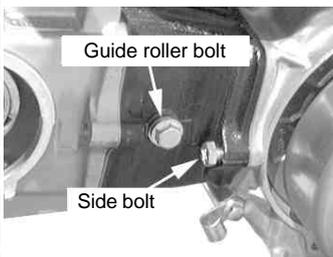


Remove the cylinder-head side bolt, which holds the cylinder head and cylinder, by turning it counterclockwise.

Tool:  
Offset box wrench, 10mm



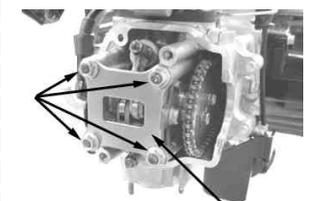
Remove the coupler of the O<sub>2</sub> sensor.



Loosen the guide roller bolt on the cylinder and the side bolt between cylinder and crankcase by turning them counterclockwise.

Tool:  
Open-end wrench, 8mm & or Offset box wrench, 10mm

### 8 . Remove the plate.

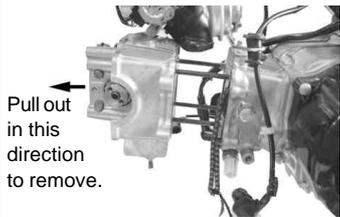


Turn four nuts, which are holding the cylinder head cover, diagonally and counterclockwise in a few steps to remove them.

Remove the cylinder head plate.

Tool:  
Offset box wrench, 10mm

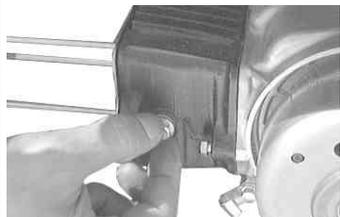
9 . Remove the cylinder head.



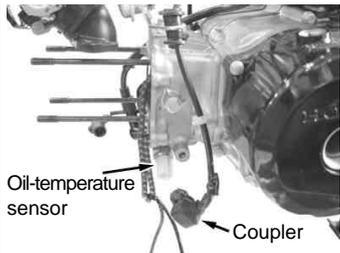
Pull out in this direction to remove.

Remove the cylinder head from the cylinder by pulling the head away from the cylinder. (If it does not come off easily, strike it lightly with a plastic hammer, and it will come off.) Take care NOT to lose two dowel pins as they are reused.

10 . Remove the cylinder.

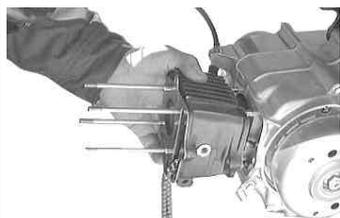


Remove the loosened guide roller bolt and cylinder side bolt by turning them counterclockwise.

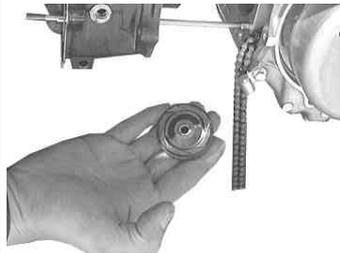


Oil-temperature sensor  
Coupler

Remove the oil temperature sensor by removing its coupler.  
Tool:  
Open-end wrench, 17mm



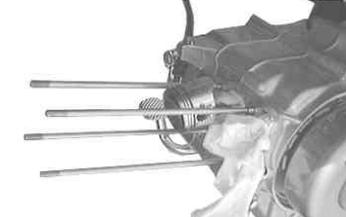
Pull out the cylinder. (If it is hard to pull it out, hit the cylinder lightly with a plastic hammer.)



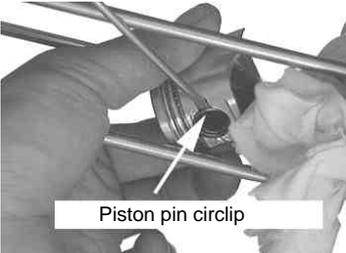
Cylinder gasket

While removing the cylinder, the cam chain guide roller will come out, which please remove.

11 . Remove the piston.



Plug the cylinder hole in the crankcase with a waste cloth so as never to let the dirt, dust or hardware into the cylinder hole and cam chain.



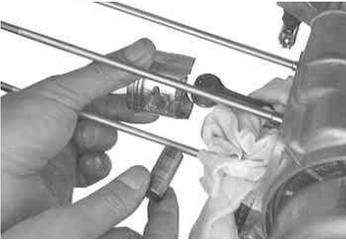
Piston pin circlip

Remove one of the two piston pin circlips. You can remove it by prising it open with a screwdriver tip being placed on the notch.

Tool:  
Fine-shaft flat tip screwdriver

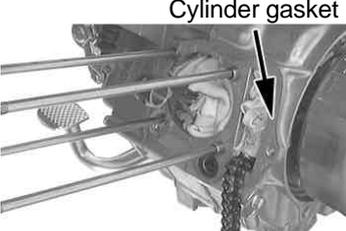


Remove the piston pin in the direction where the piston circlip is not attached. You can easily remove the piston pin by pressing it with a flat tip screwdriver from the direction where a piston pin circlip is attached.



Remove the piston.

12 . Remove a cylinder gasket, rubber packing and dowel pin.



In case you cannot remove all the gaskets completely, rasp or wipe them off with a scraper or something else, exercising great caution not to scratch the crankcase. In case the crankcase center gaskets squeeze out into the cylinder base, cut them off.

⚠Never let any dirt, dust or hardware into the crankcase.

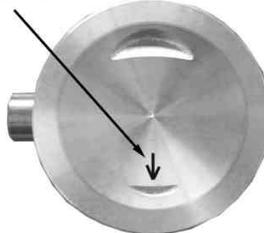
Installation of S-Stage Kit:

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.

Exhaust mark



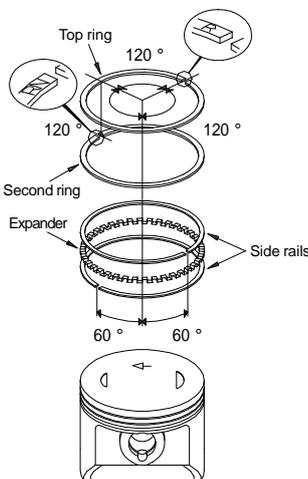
You can rather easily install the piston pin circlip by pressing it with a screwdriver, but taking care not to damage the piston with the screwdriver.

Fix the piston pin circlip first on the left side.

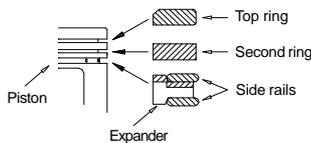
Tool:  
Fine-shaft flat tip screwdriver

Apply engine oil to the piston-ring grooves, and fix piston rings in the order of an oil ring expander, lower oil ring side rail, upper oil ring side rail, second ring, and top ring.

Arrange the positions of piston ring-end gaps so they mesh with each other.



On the top surface of the top ring is stamped "R", and "RN" on the top surface of the second-ring.



Pay attention to the cross section as well !!



Put the oil ring expander.



Put the lower oil ring side rail.



Put the upper oil ring side rail.



Put the second ring.

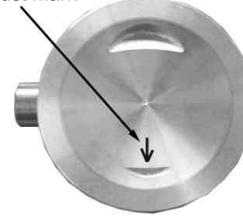


Put the top ring.

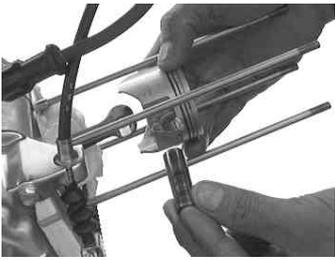


Apply engine oil to the piston pin on the con'rod.

Exhaust mark



Fix the piston so the arrow on the piston head faces downward, or to the exhaust side.



Pass the piston pin into con/rod and piston.  
Fix securely the supplied piston pin circlip to the circlip groove.



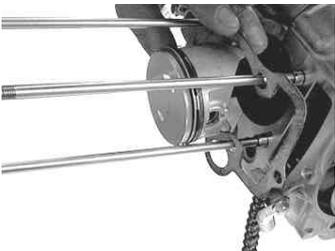
You can rather easily install the piston pin circlip by pressing it with a screwdriver, but taking care not to scratch the piston with the screwdriver.  
Install the circlip so its end-gap is not on the notch. Do the work carefully as, in some cases, the circlip comes off flying while you are pressing it inside.

⚠ So, wear protective eyeglasses lest it should get into your eyes.

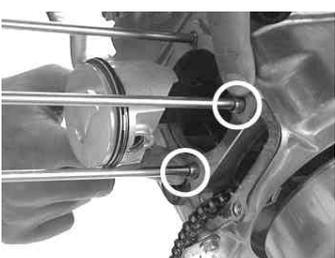
When you are through with the work, remove the waste cloth which was plugged into the hole.

## 2 . Installation of cylinder.

Degrease with thinner the cylinder gasket surfaces on both cylinder and crankcase sides.



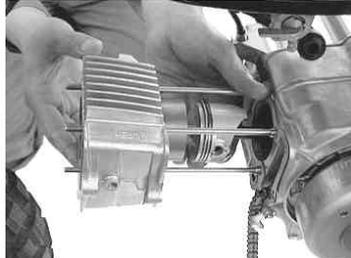
Install the cylinder gasket.



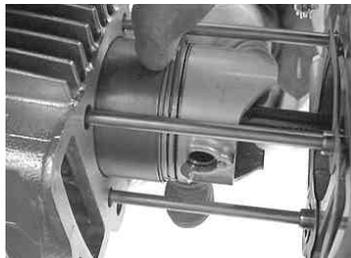
Check if the dowel pin is present.



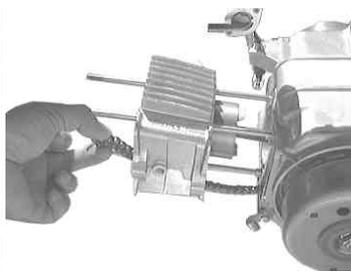
Apply engine oil onto the inside of the supplied cylinder and spread the oil evenly with fingers.



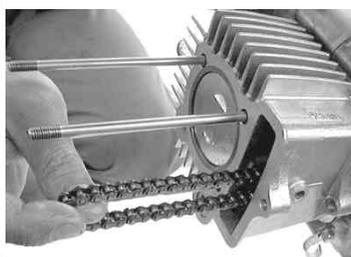
Insert the cylinder.



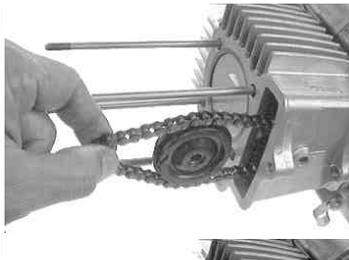
Fit the cylinder by pressing it with a finger bit by bit, taking care so the piston ring-end gaps do not get out of position.



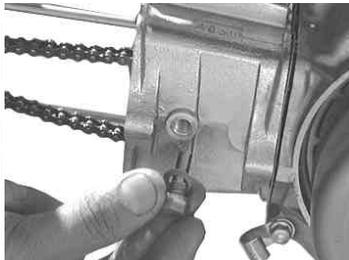
Once the ring has been placed inside the cylinder, route the cam chain through the cylinder, and fix the cylinder into the crankcase.



Pulling the cam chain, fix the guide roller.



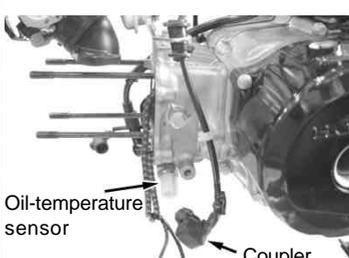
Press in the guide roller so the center of the guide roller and the guide-roller bolt hole on the cylinder just mesh together.



Install the guide roller bolt.  
(Fasten it only finger tight for now at this point.)



Install the supplied flange bolt, M6 x 25.  
(Fasten it only finger tight for now at this point.)



Oil-temperature sensor

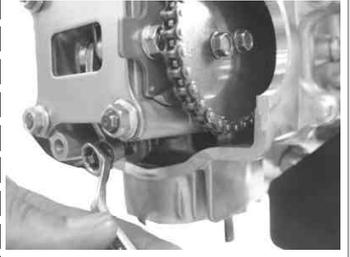
Coupler

Install the oil-temperature sensor, which please tighten to the specified torque.  
After the installation, fix a coupler.

Tool:  
Open-end wrench, 17mm

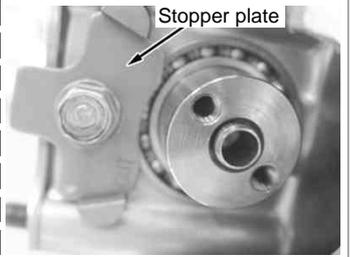
⚠ Caution: Apply the specified torque.  
**Torque: 14.5 N·m (1.5 kgf·m)**

## 3 . Change of camshaft.



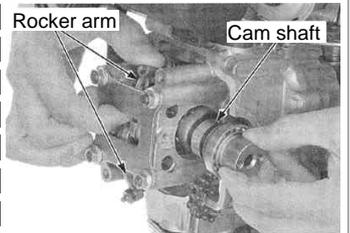
Loosen a tappet adjusting nut of the rocker arm assembled into the cylinder head. And by turning the tappet adjusting screw counterclockwise, detach the tappet adjusting nut together with the tappet adjusting screw at the same time.

Tool:  
Offset box wrench, 9mm



Stopper plate

Remove a stopper plate.



Rocker arm

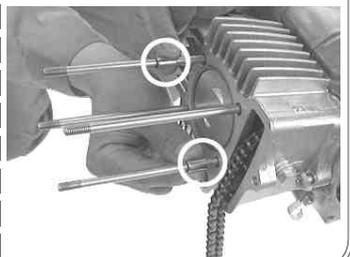
Cam shaft

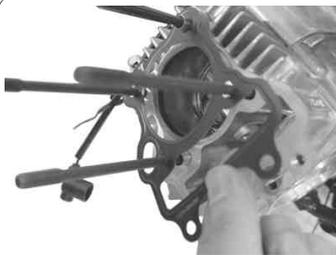
Removing a stock camshaft, and install the supplied camshaft in the reverse order from removal.  
Apply clean engine oil to the camshaft and its bearings. Even if you cannot easily fix the camshaft, fix it manually without striking it with a hammer.  
Attach the dowel pins, originally attached to the stock camshaft, to the supplied camshaft.

⚠ Caution: Apply the specified torque.  
**Torque: 12N·m (1.2 kgf·m)**

## 4 . Installation of cylinder head.

With thinner, degrease the cylinder head surface and upper surface of the cylinder.

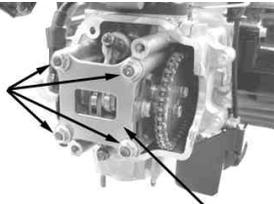




Fix dowel pins to the cylinder, and then head gaskets.



Install the cylinder head, fitting the cam chain and stud bolts in place.



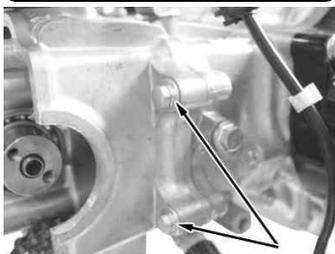
Cylinder head plate

Attach the cylinder head plate and tighten the head nut severally.

(If the torque wrench is not available, tighten them bit by bit securely and diagonally.)

Tool:  
Offset box wrench, 10mm

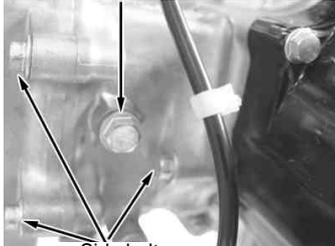
⚠ Caution: Apply the specified torque.  
**Torque: 14N · m (1.4 kgf · m)**



Attach a head side bolt. Fully tighten the guide roller bolts and the cylinder side bolts which were tightened temporarily.

Tool:  
Open-end wrench, 8mm  
Offset box wrench, 10mm

Guide roller bolt



Side bolts

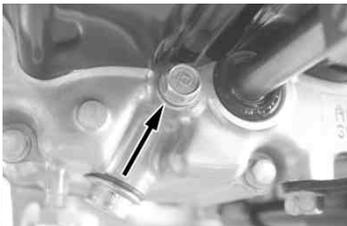
⚠ Caution: Apply the specified torque.  
**Guide roller bolt**  
**Torque: 10N · m (1.0 kgf · m)**  
**Lower and upper side bolts**  
**Torque: 10N · m (1.0 kgf · m)**

### 5 . Installation of cam sprocket.



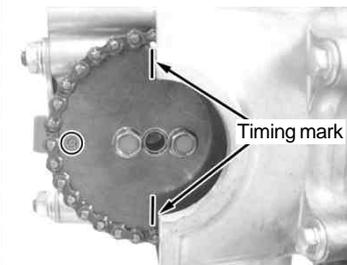
Align the "T" mark on the flywheel with the notch on the crankcase.

Set the shaft so the cam top faces the piston when the cam sprocket bolt hole is turned toward the notch on the cylinder head. This arrangement places the cam shaft at TDC (Top Dead Center) on the compression stroke.



Oil will flow out a little after the bolt is tightened. Wipe off the oil.

Remove a hex bolt next to the change-pedal shaft. As the tensioner will slacken, it will be easy to install the cam chain.



Timing mark

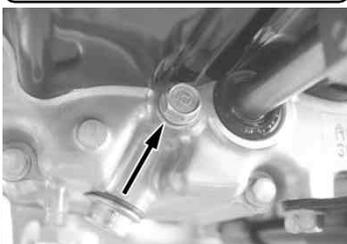
Set the cam sprocket so its "O" mark faces forward. And set the timing marks to be in contact with the cylinder head surfaces. Install the cam chain on the cam sprocket and then onto the cam shaft.



Holding the flywheel, tighten up two cam sprocket bolts.

Tool:  
Offset box wrench, 8mm  
Socket, 14mm & Extension (medium)

⚠ Caution: Apply the specified torque.  
**Torque: 9 N · m (0.9 kgf · m)**

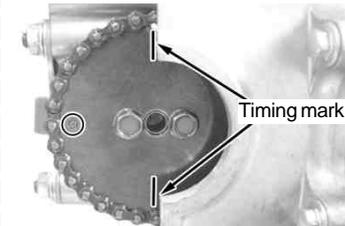


Install the just-removed bolt next to the change pedal shaft, and tighten it up.

Tool:  
Socket, 10mm & Extension (medium)  
Open-end wrench, 10mm

⚠ Caution: Apply the specified torque.  
**Torque: 10 N · m (1.0 kgf · m)**

### 6 . Valve timing adjustment and tappet clearance adjustment.

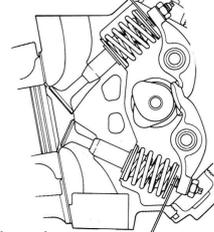


Timing mark



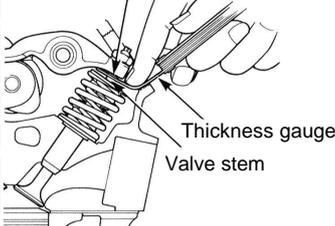
Set the camshaft so its "O" mark faces forward. And set the timing marks to be in contact with the cylinder head surfaces so each notch meshes with other. Though the flywheel will not stop right at the required position because the magnet force repels each other, it is all right if "O" and "T" marks mesh with each other at the same time.

Valve clearance (Intake side)

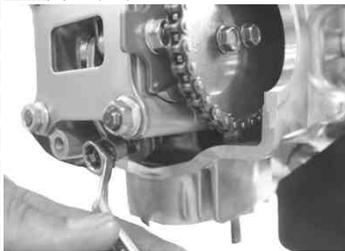


Valve clearance (Exhaust side)

Adjusting screw



Thickness gauge  
Valve stem



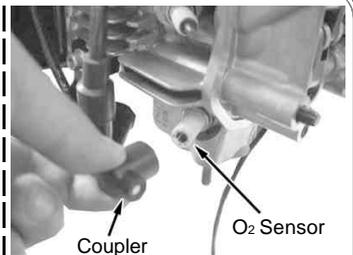
While tightening a rocker arm's tappet adjusting screw, tighten the tappet adjusting nut to the extent that you can pull out a thickness gauge, placed between the tappet adjusting screw and the valve stem end, feeling only a little resistance.

IN: 0.10 mm  
EX: 0.12 mm

Tool:  
Needle-nose plier  
Offset box wrench, 9mm  
Thickness gauge  
Fit together the crankcases with a 14mm box wrench and medium-sized long joint.

After adjusting the tappet, give the flywheel two turns counterclockwise by hand, and then, align the "T" with "O" marks.

Check if there is any change in the tappet clearance. If the clearance has not changed, there is no need to readjust it. However, in case there is a change, readjust the clearance. Repeat this readjustment until you get a right tappet clearance.

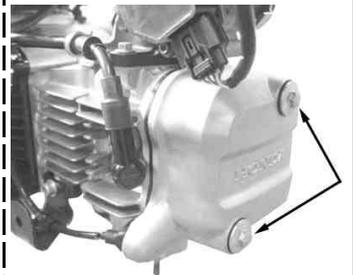


Coupler

O<sub>2</sub> Sensor

Attach an O<sub>2</sub> sensor coupler.

### 7 . Installation of cylinder head cover.



Attach a cylinder-head loover and gasket.

⚠ Caution: Apply the specified torque.  
**Torque: 12N · m (1.2 kgf · m)**

### 8 . Installation of spark plug.



Install the plug with either an in-vehicle tool or spark plug wrench.

Tool:  
Spark plug wrench

⚠ Caution: Apply the specified torque.  
**Torque: 16N · m (1.6 kgf · m)**

Attach a plug cap to the plug.

### 9 . Installation of stock muffler.



In installing the muffler, fit the muffler between brake pedal and step, and then set the flange to be roughly under the exhaust port of the cylinder head.

Squeeze the muffler gaskets into the space between cylinder head and muffler. And install the muffler unit into the pivot shaft. Tighten the nut to hold the muffler unit. (Finger-tighten the nut for the moment.)



Tighten two nuts on the exhaust pipe loosely for now.

Tool:  
Open-end wrench, 10mm



Tighten the nuts to hold the flange and vehicle.  
 Tool:  
 Offset box wrench, 14mm  
 Little cub Offset box wrench, 17mm

**⚠ Caution: Apply the specified torque.**  
**Flange**  
**Torque: 10N · m (1.0 kgf · m)**  
**Vehicle**  
**Torque: 36N · m (3.5 kgf · m)**

Fully tighten the loosely-tightened parts at three locations.

**1 0 . Installation of inlet pipe.**



Attach two bolts which hold the cylinder head and inlet pipe.  
 Tool:  
 Offset box wrench, 8mm

**⚠ Caution: Apply the specified torque.**  
**Torque: 10N · m (1.0 kgf · m)**



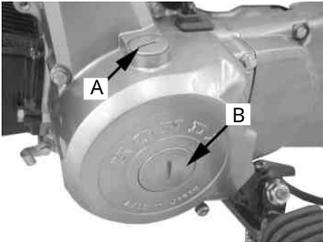
Install a horn stay.  
 Tool:  
 Offset box wrench, 10mm

**⚠ Caution: Apply the specified torque.**  
**Torque: 10N · m (1.0 kgf · m)**

**1 1 . Installation of a hole cap.**

Install three bolts to hold a crankcase left-side cover.  
 Tool:  
 Socket, 8mm & Extension (small)

**⚠ Caution: Apply the specified torque.**  
**Torque: 10N · m (1.0 kgf · m)**



Fix and tighten both A and B.  
 Tool:  
 Flat tip screwdriver

**⚠ Caution: Apply the specified torque.**  
**A : Torque: 1.5 N·m (0.15 kgf·m)**  
**B : Torque: 3 N·m (0.3 kgf·m)**

Attach a change pedal.  
 Tool:  
 Offset box wrench, 10mm

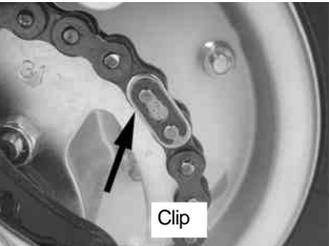
**⚠ Caution: Apply the specified torque.**  
**Torque: 10 N·m (1.0 kgf·m)**

Check bolts for slack which have just been installed up to now on the engine, muffler, inlet pipe and other pieces of hardware.

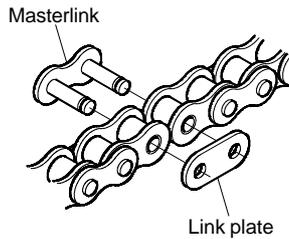
**1 2 . Installation of drive sprocket. (on the engine side)**



Remove the drive sprocket cover, chain cover and steps.



Detach a clip from the drive chain.



Detach a link plate and master link to remove the drive chain.  
 Be sure to stop the engine while you are working.



Unfasten two bolts.  
 Tool:  
 Socket 10mm  
 Extension, (short)



Remove a plate



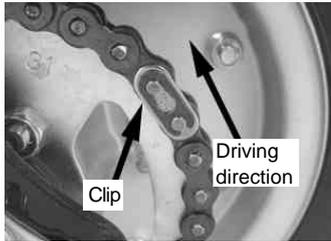
Pull out a stock sprocket from the shaft to detach a chain.



Fit a supplied sprocket into the shaft.



Install a supplied plate, and attach two bolts.  
 Loosen a rear axle nut and chain adjuster nut.  
 Fit the master link from inside to connect the drive



Attach a clip.  
 Be sure to attach the clip with its end-gap in the opposite direction of driving.



Fully tighten the loosely-tightened bolt on the drive sprocket.  
 Reinstall the just-removed drive sprocket cover, chain cover and steps.  
 Tool:  
 Socket, 10mm  
 Extension, (short)

**⚠ Caution: Apply the specified torque.**  
**Torque: 12 N·m (1.2 kgf·m)**

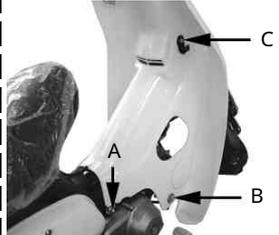
Adjust the drive chain.

**1 3 . Installation of an FI controller.**

Install the controller following the installation procedures for the FI controller.

**1 4 . Installation of leg shield.**

Fit the backside of the leg shield into the frame first and then the front side.



Onto the portion A, tighten a 12mm cap nut, placing a plate in between the nut and leg shield.  
 On to the portion B, tighten a 10mm long bolt, placing a spacer between the rear side of the leg shield and the long bolt.  
 And onto the portion C, tighten a 10mm bolt, placing a washer in between a mounting point and the 10mm bolt. Do the same on the left side.

Tool:  
**A :** Socket, 12mm & Extension (medium)  
**B :** Socket, 10mm & Extension (medium)  
**C :** Socket, 10mm

**⚠ Caution: Apply the specified torque.**  
**A : Torque: 20 N·m (2.0 kgf·m)**  
**B, C : Torque: 10 N·m (1.0 kgf·m)**



A



B



C

## Cautions Before Running

### 1 About fuel:

High-octane gasoline should always be used.

Always replace the gasoline with high-octane gasoline when regular gasoline is remaining in the fuel tank.

### 2 Additional hardware to be installed:

For driving your bike with this kit installed, the following hardware need to be installed additionally. We disclaim all responsibility for any consequential and incidental damages or any other losses arising from the use of the provided products or parts, if your bike is not equipped with these additional hardware.

#### 2 1 Oil pump:

The installation of this kit increases the heat release value of the engine, set off by the increase in power. The installation of Super Oil Pump is essential in order to circulate large amounts of oil and to help cool hardware and to alleviate the burden.

#### Essential Super Oil Pump

Part No.:01-16-0051

#### 2 2 Clutch:

The stock clutch cannot respond to the high engine power, and, therefore, causes clutch slippage, and consequently cannot transmit the engine power fully to the driving side. Therefore, it is necessary to install a heavy duty clutch.

Part No.:02-01-0215 Heavy Duty Centrifugal Clutch Kit

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