

S-Stage Bore Up Kit 88cc SCUT Instruction manual

Product number	01-05-5095 (With camshaft)
	01-05-5098 (Without camshaft)

Thank you very much for purchasing our products.
Thank you so you will comply with the following matters at the time of use. Before installation, please check your always kit contents. If there is a point of notice event, Please contact us the dealer of purchase.

◎ If the description, such as photos or Illustration different with this part.

~ feature ~

- Now kit is available from us which can bore up to 88cc with a normal 55cc cylinder head installed. Thus, with this kit you can enjoy the feeling of a heavy engine. We have developed this kit as a street youth kit which you can assemble as easily as a plastic model and with which you can study the engine structure.

Adaptation model	Monkey & Gorilla	(Z50J-2000001 ~) (AB27-1000001 ~ 1899999)
	Monkey BAJA	all vehicles
	JAZZ	all vehicles
	MAGNA50	all vehicles
	Benly CD50/CL50/50S	(CD50-1500001 ~)
	Dax	(AB26-1000001 ~)
	Super cub 50	(C 50-9000001 ~ 0095210) (C 50-0200001 ~ 0999999) (C 50-2100001 ~ 2299999) (AA01-1000001 ~ 1699999)
	Little cub	(C 50-4300001 ~) (AA01-3000001 ~ 3699999)
	Giorcub	(AF53-1000001 ~)
	XR50R	all vehicles
	GRF50F	(AE03-1400001 ~ 2299999)

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, you cannot get the performance of this Kit. Moreover, it is possible 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). In the case of a non-resistive plug, please replace with CR8HSA (NGK) or U24FS-U (DENSO). Subsequently, choose and use a right spark plug with the right grade, depending on the carburetor set up.

Notice about sprocket

The installation of this Kit will increase the power of your engine. So with the stock sprocket, every hardware will get worn out soon because of too low gear, not only adversely affecting the engine life, but also possibly breaking the engine in the worst case. Therefore, judge the right type of a driven sprocket.

☆ Please read carefully before use ☆

- ◎ 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 the manual.
- ◎ 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 modifications to any product of the kit, we shall be held free from any guarantee of the 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 suitable tools and work with reference to the installation instructions with enough care. Besides, this instruction manual, as well as a service manual, is prepared with those persons in mind who have basic skills and knowledge. Therefore, we recommend those who are technically inexperienced or do not have enough tools to ask a technically-reliable specialist shop for the work.
- ◎ As this Instruction Manual is prepared mainly for installation on the Monkey, so some portions of this Instruction Manual may not apply to installation on other models than the Monkey.
- ◎ Bolts, nuts and dowel pins will be reused. However, be sure not to use the worn-down or severely-damaged ones, which please do replace with new ones.
- ◎ If you use a stock carburetor, do not remove the air cleaner box or air cleaner elements. If you change the carburetor, please do the setting to match various conditions like weather and temperatures. Disregarding these instructions will result in engine troubles and serious accidents.
- ◎ In the case of a motorcycle with an engine starter, in some cases the engine won't start with the engine starter even when the battery is fully charged.
- ◎ The J10RCUB may interfere with the starter motor and cylinder with this product. Check when installing and repair the cylinder if there is interference.

Caution When the handling of ignoring this display, property damage and human shows the assumption of what injury.

- Please drive safely and follow the local traffic law.
- Work only when the engine and exhaust system are cool to avoid burns.
- Prepare appropriate tools and work properly to avoid the breakage of parts or injuries.
- Always use a torque wrench to tighten bolts and nuts securely to the specified torque to avoid these parts getting damaged or loose.
- As some products and frames have sharp edges or protruding portions, work with your hands protected to avoid injuries.
- Before riding, always check such parts as screws for loose. If you find loose ones, screw them securely up to the specified torque to avoid parts coming off.
- Always use new gaskets and seals. About the reused parts, please check carefully for wear or damage and be sure to replace them with new ones if necessary.

Warning When the handling of ignoring this display people died, shows the contents of the serious injury possibility is assumed.

- 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, stop riding immediately and park your motorcycle in a safe place to avoid an accident.
- Before working, place the motorcycle on level ground to stabilize its position for safety to avoid the motorcycle overturning.
- 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 inspecting or performing maintenance of your motorcycle, do not use these parts, and replace them with new ones. (The continued use of these damaged parts 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.)

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>
Please contact with your name and country name provided. (Only English please)

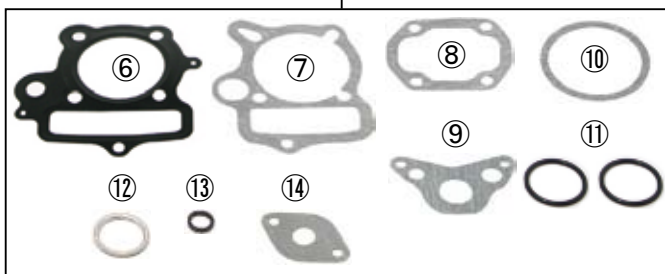
- ◎ Please note. Performance up, the design change, the product and the price in the cost up, etc. are subject to change without notice.
- ◎ Please be informed that we shall be held harmless against any claim against us whatsoever arising out of use of the products in racing and the like.
- ◎ Keep this manual stored until this product is discarded.

Product content

01-02-517:Piston kit



01-13-0608:Gasket kit



Number	Product content	Quantity	Item Number
1	Piston	1	00-01-0014 (with ③ pin)
2	Piston ring	1	01-15-014
3	Piston pin, 13x36	1	00-01-0091 (with ④ clip)
4	Piston pin circlip	2	00-01-0003 (6 pcs)
5	Cylinder	1	01-01-0241H
6	Cylinder head gasket	1	00-00-1147
7	Cylinder gasket	1	00-01-0067 (2 pcs)
8	Head cover gasket	1	00-01-0156 (2 pcs)

Number	Product content	Quantity	Item Number
9	Right-side cover gasket	1	00-01-0157 (2 pcs)
10	Left-side cover gasket	1	00-01-0158 (2 pcs)
11	Tappet cap O-ring	2	00-01-0034 (4 pcs)
12	Exhaust pipe gasket	1	00-01-0064 (2 pcs)
13	Rubber seal	1	00-01-0066 (2 pcs)
14	Inlet pipe gasket	1	00-01-0159 (2 pcs)
15	Camshaft	1	01-08-0009

※ A camshaft of No. 15 is not included in Item No. of 01-05-5098.

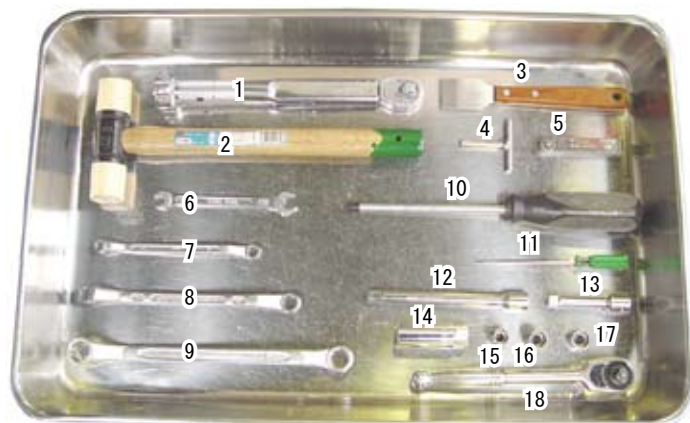
※ Please order in the repair parts are always repair part number. If it is not the part number order, you may not be able to order. Please be forewarned. It should be noted, In the case of parts that can not be separately shipment, please order a set part number.

Before starting the installation

- Before starting the installation, secure your motorcycle firmly on level ground for safety's sake. It is recommended to use the center stand for the Super Cub 50, and the racing stand for the monkey, rather than supporting the vehicle with the built-in side stand. This will ensure your safe work with your motorcycle being firmly secured.
- Do the installation work with the engine turned off and, moreover, work only when the engine and muffler are cool.
- Turn off the fuel cock.
- At the time of removal of hardware like bolts and nuts which are to be reused, clean every hardware by taking off all dirt like the dust and oil on each hardware.
- Don't lose such removed hardware as bolts and nuts, and keep them orderly so you can recall where to fix them later.

About tools

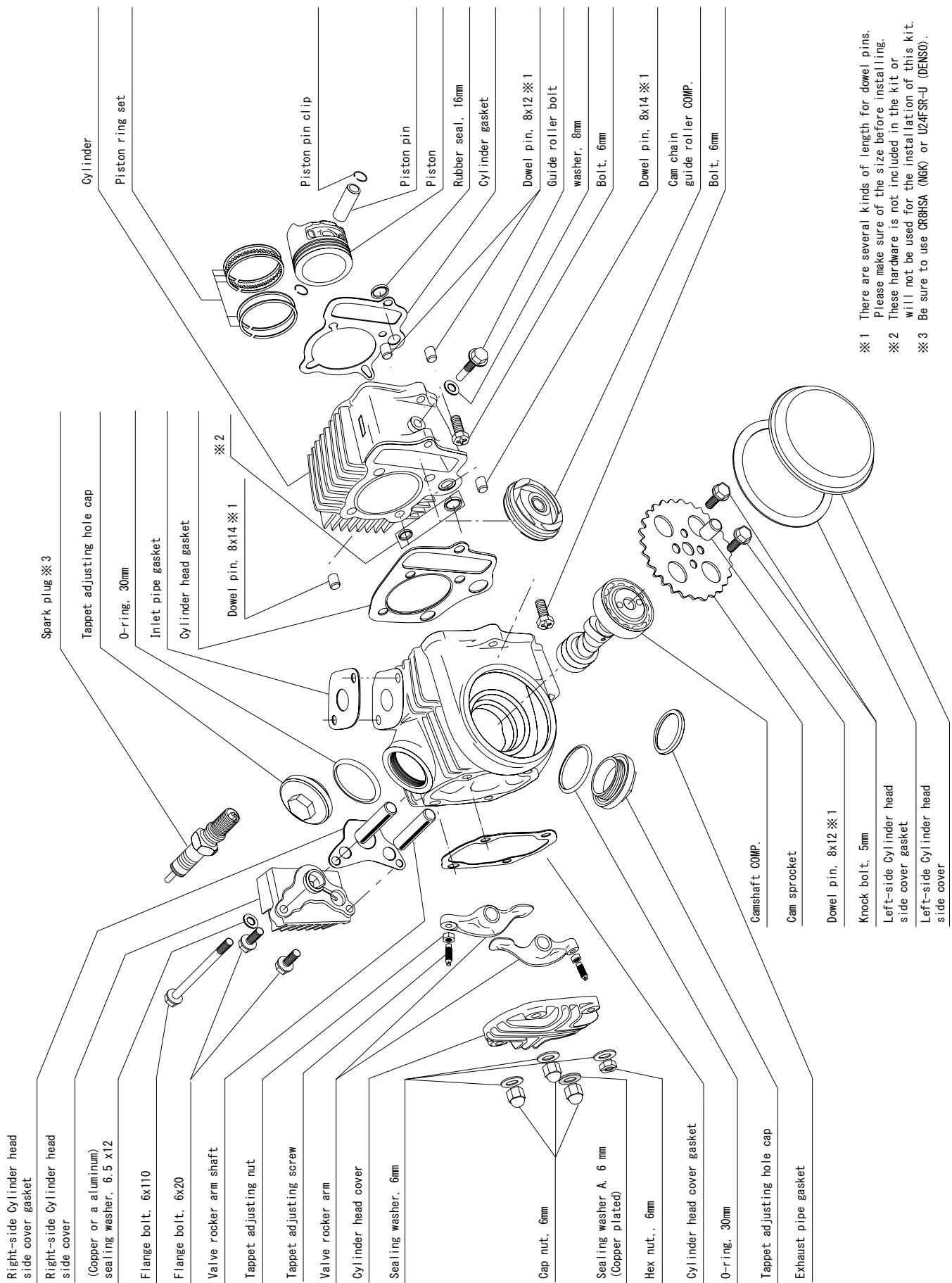
- Incorrect use of right tools may lead to breakage of the top or thread parts of hardware like bolts and nuts.
 - The correct and suitable tools are all the more necessary for those with no experience with installation. At the same time, it is also necessary to experience the right use of the tools. It is advisable, therefore, that if you are not well prepared for the installation, you get in touch with a technically trustworthy dealer for the installation.
 - For your reference, listed below are the tools to be used for the installation of this Kit. Please be advised, however, that the tools may vary depending on the motorcycle models and the model years.
- ※ Even if the names of tools are the same, the tools vary from maker to maker, and the kinds may also differ. On the other hand, even if the tools themselves are the same, the names may differ among makers. And, users may have their own taste. Therefore, make use of the following list just for your reference only.



1	Torque wrench	11	Fine-shaft flat tip screwdriver
2	Plastic hammer	12	Extension, (medium)
3	Scraper	13	Extension, (small)
4	Tappet adjust wrench	14	Spark plug socket, 16mm
5	Thickness gauge	15	Socket, 8mm
6	Open-end wrench, 8-10	16	Socket, 10mm
7	Offset box wrench, 8-9	17	Socket, 12mm
8	Offset box wrench, 10-12	18	Ratchet wrench
9	Offset box wrench, 14-17		Waste cloth
10	Cross tip screwdriver, size 1		Engine oil (only for applying)

About bolts

- Usually, counterclockwise rotation loosens the bolts and nuts, and clockwise rotation tightens them.
- When tightening a screw, at first finger-tighten it as tight as you can, without using a tool.
- To loosen a tightened screw means turning it three or four times counterclockwise, and to remove it means turning it around counterclockwise until it comes off.
- To tighten a screw means to tighten it to keep it from getting loose. However, the bolts may break when overtightened, or may get loose or come off because of the vehicle's vibrations when tightened too loosely. The numeric value as a guide at which a screw will not break or get loose when tightened is the specified torque. And the numeric value varies among the size of the bolts.
- If you do not have a torque wrench, please try to tighten a screw as tight as possible to the extent that the screw will not break or get loose, though we can not take any responsibility for the screw's breakage or getting loose. In case you do not use a torque wrench, you need to judge, only by intuition or using experience, the degree of tightening power with which the screw will break or get loose.



- ※ 1 There are several kinds of length for dowel pins. Please make sure of the size before installing.
- ※ 2 These hardware is not included in the kit or will not be used for the installation of this kit.
- ※ 3 Be sure to use QR8HSA (NGK) or U24F-SR-U (DENSO).

Before riding

① Change of sprocket

◇ The installation of this kit will increase the power of your vehicle. So with the stock sprocket, you will find it uncomfortable to drive your bike because the gear ratio is too low, and will cause severe wears of hardware, not only adversely affecting the engine life, but also possibly breaking the engine in the worst case. Therefore, please replace the drive and driven sprockets to make the gear ratio higher.

※ Please note that a driven sprocket is not included in the kit.

※ Furthermore, the gear ratio of the sprocket changes according to the clutch type and wheel size. The list below is just for your reference because the configuration in the list below needs to be changed according to the driver's weight and purpose of use.

※ When changing the driven sprocket, remove hardware around the rear wheel. Raise the rear wheel off the ground by placing a maintenance stand under the engine for working safely.

Recommended sprocket for use with S-Stage, (With camshaft) (with a driver weighing 65 kg)

Models	Specifications			Recommended Sprocket	
	Rear wheel size	Clutch	Transmission	Drive sprocket (Front)	Driven sprocket (Rear)
12V Monkey and Gorilla	8 inch	Manual	4-speed	16	23
		Heavy-duty special	4-speed	16	25
	10 inch	Manual	4-speed	16	25
		Heavy-duty special	4-speed	16	28
Benly CD50/CL50/50S	17 inch	Manual	4-speed	16	42、43 (Stock)
MAGNA50		Manual	4-speed	16	33
Giorcub	10 inch	Centrifugal	4-speed	16	31
12V Dax	10 inch	Centrifugal	3-speed	16	31
Super cub 50	17 inch	Centrifugal	4-speed	16	42 (Stock)
			3-speed	16	35
Little cub	14 inch	Centrifugal	4-speed	16	41 (Stock)
			3-speed	16	35

◇ When the stock sprocket is changed to the recommended driven sprocket, the drive chain becomes too slack or too short. However, it is impossible to take up the slack of the drive chain just by adjusting the free play. You need to either shorten the chain by cutting it with a chain cutter, or to prepare a new drive chain. Especially, in the case of the Monkey, the length of chain changes according to the length of swing arm.

② About fuel

◇ High-octane gasoline should always be used.

◇ If there remains regular gasoline in the fuel tank, always replace it with high-octane gasoline.

◇ Please use this kit at STD. ignition timing. Please note that we hold no responsibilities for accelerating the ignition timing.

For best performance

① Camshaft

This is the recommended part to install with 01-05-5098 (without a camshaft). Our super sports camshaft can effectively bring out the original performance of the bore up kit.

Recommended Camshaft

Super sports camshaft	(01-08-0009)
Super sports decompression camshaft	(01-08-0069)

② Carburetor

Higher power can be attained through the installation of Big Bore Carburetor Kit suitable for each model of a bike for the best performance of S-Stage.

Recommended Big Bore Carburetor Kit

Models	Carburetor Kit	
Monkey and Gorilla	DENI18	(03-05-0056)
MAGNA50	Big Carburetor	(03-05-0054)
DAX		(03-05-0057)
Super cub・Little cub	PB16 Big Carburetor	(03-05-0116)

③ Muffler

Please install our various kinds of exhaust system for higher power output.

④ 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.

Recommended Oil Pump

Models	Super Oil Pump
Monkey and Gorilla	01-16-0066(with drill bit) 01-16-0065(without drill bit)
Benly CD50/CL50/50S	
MAGNA50	
Giorcub	
DAX	
Super cub・Little cub	

⑤ Oil cooler

As a longtime high-load driving will further increase the heat release value of the engine, 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.

○ For details, please refer to our general catalog or WEB catalog.
<http://www.takegawa.co.jp>

● Removal of the exterior parts

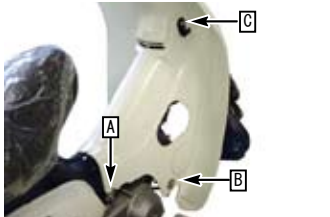
< Monkey >

- ◇ Remove two hex bolts on the reverse side of the front fender.



< Cub >

- ◇ Remove A, B, C cap nuts, bolts, washers, plates, setting collars. Do the same to the left side as well.



- ◇ The leg shield is easy to remove if you first remove the front part of the vehicle and tilt it to the side.



- ◇ For Little Cub, remove the skid plate together with the setting collar by removing the hook part of the step bar.



● Remove the carburetor

< Monkey >

- ◇ Turn off the gasoline cock at the lower left of the gasoline tank.



- ◇ Disconnect the fuel and air hoses.



- ◇ Disconnect the hose on the storage tank in the case of bikes with frame Nos AB27-.



- ◇ Loosen the bolt on the air-cleaner bracket.



- ◇ Remove two bolts holding the cylinder head and inlet pipe.
- ◇ Hang a carburetor assembly onto the turn signal in the front on the left, with the throttle cables connected.



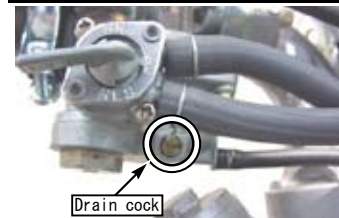
< Cub >

- ◇ Turn off the gasoline cock at the lower left of the carburetor.



- ◇ Open the drain cock and drain the gasoline from the float chamber to the tray.

⚠ Warning: Be careful when handling gasoline.



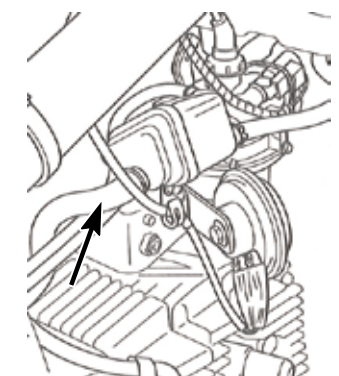
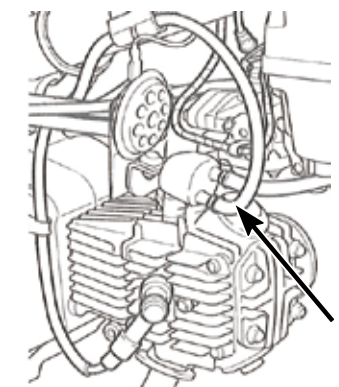
- ◇ Close the drain cock after draining the gasoline.
- ◇ Remove the two screws on the fuel cock and remove the fuel cock.



- ◇ Remove the air vent hose from the frame.



- ◇ Remove the breather hose (chassis No. AA01) which connected to the storage tank.
- ※ Since the format differs depending on the vehicle, refer to the figure below and extract it.



- ◇ Disconnect the two wires of the carburetor heater (when equipped).



- ◇ Disconnect the horn wiring.



- ◇ Remove two bolts holding the cylinder head and inlet pipe.



- ◇ Remove the duct by pulling upward.



- ◇ Remove the air cleaner bolts on both the left and right sides.



- ◇ Remove the belt bundling wires.



- ◇ Remove the carburetor ASSY. attached with throttle cables and choke cables and hang on the front-left turn signal.

● Remove the exhaust system

< Monkey >

- ◇ Remove two nuts on the exhaust pipe.



- ◇ Remove a hex bolt which is holding a muffler.



- ◇ Remove a nut fixed on the reverse side of the muffler.



- ◇ Detach two collars of the flange and then remove the exhaust system from the motorcycle by pulling it outwards.



< Cub >

- ◇ Remove two nuts on the exhaust pipe.



- ◇ Remove the flange nut / washer of the exhaust bracket.



- ◇ Remove the exhaust system by pulling outwards. Do not lose the exhaust pipe gaskets.



● Remove the spark plug

- ◇ Remove the plug cap from the plug by pulling it out. Be sure to hold the cap in pulling it out.
- ◇ Remove the plug with a plug wrench.



● Remove the cam sprocket

- ◇ The left-side cover will become separated when the hex bolt in the middle of the cylinder-head right-side cover is removed. In case the left-side cover cannot be detached by so doing, screw in the hex bolt by a few threads, and strike the bolt head with a hammer lightly. Then the bolt will get separated.



- ◇ Unfasten a hex bolt on the shift pedal and remove the change pedal.



- ◇ Remove three bolts which are holding a crankcase left-side cover.



< For Cub with self starter motor >

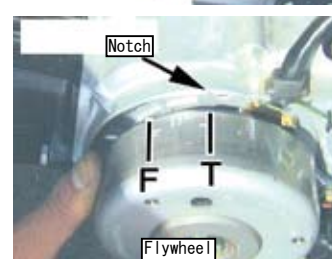
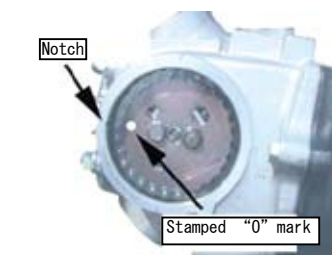
- ◇ Remove the timing hole cap and crankshaft hole cap.



- ◇ Remove two tappet caps.



- ◇ Turn the flywheel counterclockwise so a "T" mark on the flywheel and "0" mark on the cam sprocket align with their own notches.



- ◇ With electric starter models



- ◇ Holding a flywheel, remove two hex bolts on the cam sprocket.



- ◇ With electric starter models



- ◇ Pry the cam sprocket from the camshaft with a small-sized flat tip screwdriver to remove it.
- ◇ Remove the cam sprocket from the cam chain.



- ◇ Detach the dowel pin fixed in the center of the camshaft.

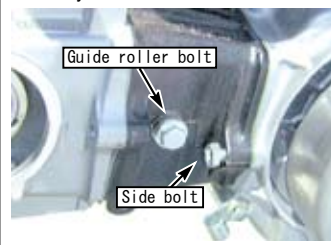


● Remove a cylinder head, cylinder and piston

- ◇ Remove the side bolt on the cylinder head, which is holding the cylinder head and cylinder.



- ◇ Loosen a guide roller bolt on the cylinder and a side bolt between the cylinder and crankcase.



- ◇ Remove four nuts, which are holding the cylinder-head cover, by turning them alternately and diagonally.
- ◇ Remove four washers beneath nuts.



- ◇ Remove the head cover.
(If it does not come off easily, strike it lightly with a plastic hammer, and it will come off.) If some gaskets remain on the cylinder head, wipe them off completely with a scraper.



- ◇ For monkey, air bleeding from the front tires.
(Push the air valve until the bleeding air all.)



- ◇ 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.)



- ◇ For monkey, pushing the front tire rubber. (to make space) then remove the cylinder head.



- ◇ Remove the loosened guide roller bolt and cylinder side bolt.



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



- ◇ While removing the cylinder, the cam chain guide roller will come out.



- ◇ For monkey, pushing the tire rubber. (to make space) then remove the cylinder.



- ◇ 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.



- ◇ 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.



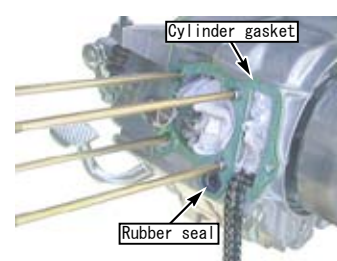
- ◇ Remove the piston pin in the direction where the piston circlip is not attached.
You can easily remove the piston pin by pressing it with a flat tip screwdriver from the direction where a piston pin circlip is attached.



- ◇ Remove the piston.



- ◇ Remove the cylinder gasket and rubber packing.
- ◇ If the gasket does not come off cleanly, use a scraper to remove.
- ◇ If the crankcase center gasket protrudes from the cylinder base surface or the cylinder hole, cut it off.
- ※ Never let any dirt, dust or hardware into the crankcase.

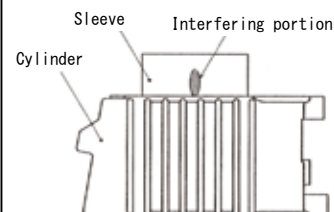


- ◇ Cut off the gasket, if any, squeezing out into the section pointed by a finger as shown in the picture.

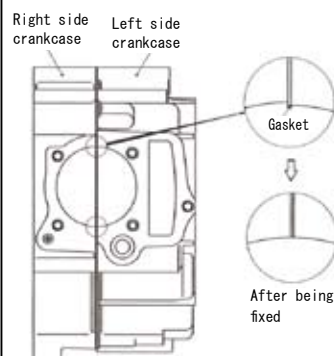


● Check and correcting (if necessary) crankcase interference.

- ◇ Attach two dowel pins to the crankcase and install the cylinder unit to the crankcase. Check for interference between the crankcase and the cylinder sleeve.
- ◇ The following is an example of correction when the left and right crankcase mating parts interfere.



1. Cover the crankcase securely with a waste cloth so the shavings will not get into it.
2. Rasp the higher mating surface of the crankcases till it becomes level with the lower one.

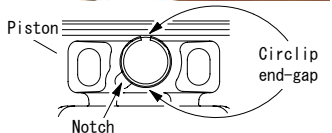


3. After scraping, remove the cloth with enough care so any chip will not get into the case.
 4. After removing the waste cloth, stuff up the crankcase opening with a clean waste cloth.
 5. After the installation of the Kit, idle away the engine for a few minutes, and replace the engine oil with new one without delay.
- And there is nothing more to do.

● Assemble and install a piston

- ◇ Fix a supplied piston pin circlip securely to the grooves for circlip on one side of the piston.

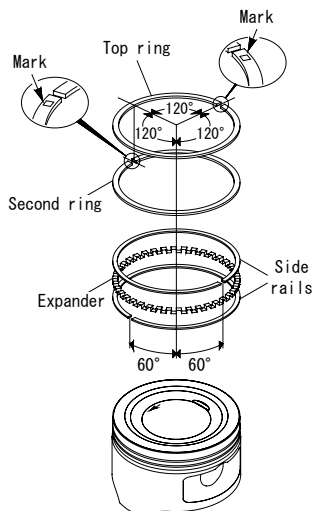
At this time, attach the piston pin clip, do not align the end gap with the piston cut out.



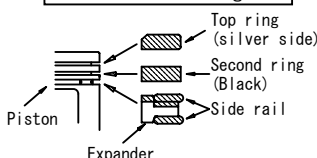
- ◇ You can rather easily install the piston pin circlip by pressing it with a screwdriver, but taking care not to damage the piston with the screwdriver.

- ◇ 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.



Stamped on the top ring and 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.



- ◇ Insert the second ring with the mark side facing up.



- ◇ Insert the top ring with the mark side facing up.



- ◇ Apply engine oil to the piston pin and con' rod, and install the piston pin.



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

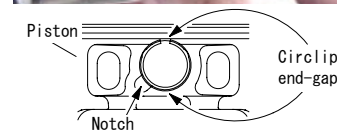


Exhaust side

- ◇ It will also be an easy way of installing the piston to first insert the piston pin about one third into the piston.



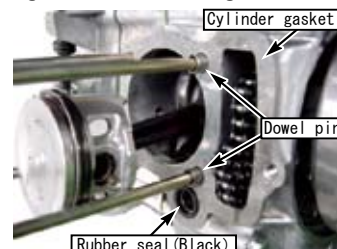
- ◇ Fix securely the supplied piston pin circlip to the circlip groove. At this time, attach the piston pin clip, do not align the end gap with the piston cut out.



- ◇ 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.
- ※ Do the work carefully as, in some cases, the circlip comes off flying while you are pressing it inside.
- ◇ Remove the plugged waste cloth.

● Installation of cylinder

- ◇ Degrease the cylinder and crankcase for base gasket surface with parts cleaner etc.
- ◇ Make sure 2 dowel pins B(L:12 mm) are attached, and install cylinder gasket with 1 o-ring (black).



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



- ◇ Insert the cylinder.



- ◇ Fit in the cylinder, taking care so that the piston ring-end gaps do not get out of position.



- ◇ Once the ring has been placed inside the cylinder, pass 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 sealing washer and guide roller bolt. (Finger-tighten it only for now.)



- ◇ Attach the cylinder side bolt. (Fasten it only finger tight for now at this point.)



● Change of camshaft

- ◇ Loosen the adjust nuts and bolts on the rocker arm installed in the cylinder head. At the time the adjust nuts are loosened, detach the tappet bolts together with nuts.



- ◇ Install the cam-sprocket bolt into the camshaft. The camshaft will come out when you pull it out or strike its head lightly with a plastic hammer. Turning the camshaft, detach it. Do not pull it out by force.



- ◇ Apply clean engine oil to the camshaft and bearing parts.



- ◇ Install the supplied camshaft in the reverse order of removal. Even if you cannot easily fix the camshaft, fix it manually without striking it with a hammer.

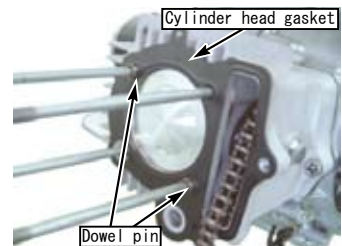


- ◇ Tighten the adjust screw and adjust nut on the rocker arm.



● Installation of cylinder head

- ◇ Degrease the cylinder head surface and upper surface of the cylinder.
- ◇ Attach two dowel pin A (L:14 mm) and cylinder head gasket to the cylinder.



- ◇ In the case of a monkey, push the tire rubber by hand (to make space) and install the cylinder head through the stud bolt.
- ◇ Passing the cam chain through the cylinder head, install the cylinder head.



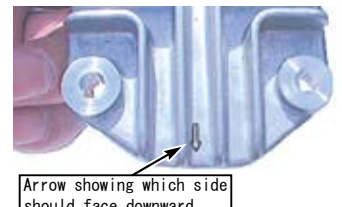
- ◇ Hold the cam chain by sticking the screwdriver through the cam chain into a middle hole on the camshaft so the cam chain will not fall into the cylinder.



- ◇ Attach the cylinder-head cover gaskets and head cover.



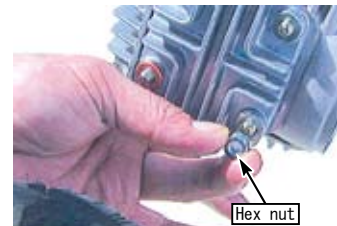
- ◇ The arrow should face downward (Exhaust side).



- ◇ Install the cylinder head with washer. (A copper washer install on the lower left (when looking from the riding position).)



- ◇ Install the head nut. (A hex nut install on the lower right (when looking from the riding position).)



- ◇ Tighten the head nut diagonally in several steps.

⚠ Note: Be sure that you protect specified torque.

Head nut
Torque : 11N · m (1.1kgf · m)



- ◇ Install the side bolts of the cylinder head and tighten the temporarily fixed guide roller bolts and the side bolts of the cylinder.

⚠ Note: Be sure that you protect specified torque.

Guide roller bolt

Torque : 10N · m (1.0kgf · m)

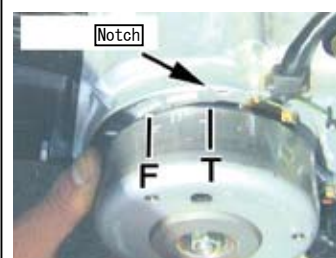
Lower and upper side bolts

Torque : 10N · m (1.0kgf · m)



● Installation of cam sprocket

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



< For Cub with self starter motor >

With electric starter models



- ◇ 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.

※ In installing the optional cam, please refer to its instruction manual.



- ◇ Install the dowel pin to the camshaft.



- ◇ Remove the hex bolt next to the change-pedal shaft. Loosening the tensioner pulling the cam chain makes it easier to install it.



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

- ◇ Attach the cam chain to the camshaft so the "0" mark on the cam sprocket and the notch on the cylinder head mesh together.



- ◇ After installed the cam sprocket, attach the bolt.



- ◇ Holding the flywheel, tighten up two cam sprocket bolts.

⚠ Note: Be sure that you protect specified torque.
Cam sprocket bolt
Torque : $9\text{N} \cdot \text{m}$ (0.9kgf · m)



< For Cub with self starter motor >

With electric starter models



- ◇ Pour a small amount of engine oil into the bolt hole next to the shift pedal shaft (that removed earlier), and install the bolt with sealing washer.

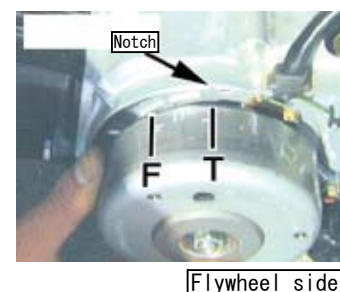
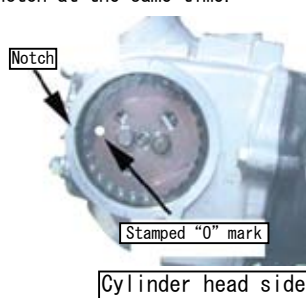
⚠ Note: Be sure that you protect specified torque.

Hex bolt
Torque : $10\text{N} \cdot \text{m}$ (1.0kgf · m)



● Valve timing adjustment and tappet clearance adjustment

- ◇ Turn the flywheel until the "0" mark on the cam shaft and the "T" mark on the flywheel mesh with each notch. Though the flywheel will not stop right at the required position because the magnet force repels each other, it is all right if "0" and "T" marks mesh with each notch at the same time.



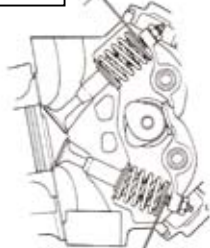
< For Cub with self starter motor >

With electric starter models

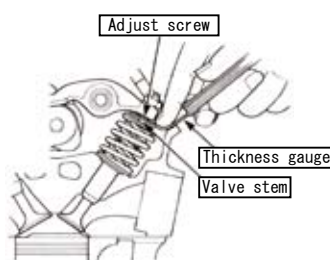


- ◇ Insert a 0.05mm thickness gauge between the adjust screw of the rocker arm and the valve stem end to insert the adjust screw. Tighten the adjust nut so that the thickness gauge can be pulled out with a little resistance. (use 0.07 and 0.03 thickness gauges and adjust so that 0.07 does not enter the gap and 0.03 enters loosely, it will be about 0.05 mm.) Adjust to 0.05 mm for both IN and EX.

Valve clearance
(Intake side)



Valve clearance
(Exhaust side)



- ◇ After adjusting the tappet, turn the flywheel counterclockwise twice by hand, and then, align "T" and "0" marks each other.



- ◇ Check if the valve clearance has changed. If it has changed, readjust it and repeat this process until it matches.



- ◇ Install two tappet caps.

⚠ Note: Be sure that you protect specified torque.

Tappet cap
Torque : $12\text{N} \cdot \text{m}$ (1.2kgf · m)



- ◇ Attach the cylinder-head left-side cover gaskets and left-side cover. (Align the tab on the L side cover with the stopper in the cylinder head.)



- ◇ Tighten the sealing washer and the hexagon bolt (arrow) on the right side of the cylinder head.

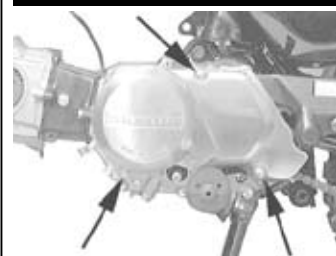
⚠ Note: Be sure that you protect specified torque.
Hex bolt
Torque : $10\text{N} \cdot \text{m}$ (1.0kgf · m)



- ◇ Install three bolts to hold a left side crankcase cover.

⚠ Note: Be sure that you protect specified torque.

Bolt
Torque : $10\text{N} \cdot \text{m}$ (1.0kgf · m)



- ◇ Attach the change pedal.

⚠ Note: Be sure that you protect specified torque.

Change pedal
Torque : $10\text{N} \cdot \text{m}$ (1.0kgf · m)



< For Cub with self starter motor >

- ◇ Remove the timing hole cap and crankshaft hole cap.



● Installation of spark plug

- ◇ Install the plug with a plug wrench.

⚠ Note: Be sure that you protect specified torque.

Plug
Torque : 11N · m (1.1kgf · m)



- ◇ Attach a plug cap to the plug.

● Installation of stock exhaust system

< Monkey >

- ◇ In installing the exhaust system, route the tail pipe inside the rear shock absorber first, and then run the flange close to the exhaust outlet of the cylinder head.



- ◇ Install two flange collars, squeezing the exhaust pipe.



- ◇ Tighten two nuts on the exhaust pipe loosely for now.

⚠ Note: Be sure that you protect specified torque.

Nut
Torque : 10N · m (1.0kgf · m)



- ◇ Attach a nut on the reverse side of the muffler loosely for now.

⚠ Note: Be sure that you protect specified torque.

Nut
Torque : 10N · m (1.0kgf · m)



- ◇ At this point, loosely install a hex bolt which holds the exhaust system.

⚠ Note: Be sure that you protect specified torque.

Hex bolt
Torque : 27N · m (2.7kgf · m)



- ◇ Fully tighten the loosely tightened nuts and bolts at three portions.

< Cub >

- ◇ Fit the exhaust system between the brake pedal and step and set the flange under the exhaust port of cylinder head.

- ◇ Set the exhaust pipe gasket into the space between the cylinder head and exhaust system. Insert the spacer collar and exhaust bracket into the swing arm pivot bolt. Install washer / flange nut. (Fasten it only finger tight for now at this point.)



- ◇ Tighten two nuts on the exhaust pipe loosely for now.



- ◇ Tighten the nuts to hold the flange and vehicle.

- ◇ Fully tighten the loosely tightened nuts and bolts at three portions.

⚠ Note: Be sure that you protect specified torque.

EX pipe nut
Torque : 10N · m (1.0kgf · m)

Bracket
Torque : 36N · m (3.5kgf · m)



● Installation of stock carburetor

< Monkey >

- ◇ In the case of vehicle with frame Nos Z50J-, check that an O-ring is attached to the inlet pipe.



- ◇ Attach two bolts which hold the cylinder head and intake manifold.

⚠ Note: Be sure that you protect specified torque.

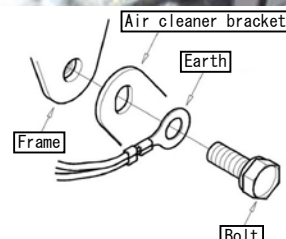
Bolt
Torque : 10N · m (1.0kgf · m)



- ◇ Install a bolt on the air-cleaner bracket, fastening the bolt and earth jointly at the same time. See the figure below)

⚠ Note: Be sure that you protect specified torque.

Bolt
Torque : 10N · m (1.0kgf · m)



- ◇ In the case of vehicle with frame Nos AB27-, install the hose of the storage tank.



- ◇ Attach fuel and air hoses.



- ◇ Turn on the fuel cock.

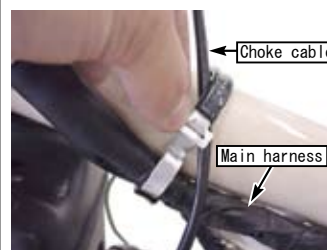


< Cub >

- ◇ Make sure the O-ring is installed on the inlet pipe.



- ◇ Bundle the choke cable and main harness.



◇ Attach the air cleaner to the frame with 2 bolts (left and right).

⚠ Note: Be sure that you protect specified torque.

Bolt
Torque : 10N · m (1.0kgf · m)



◇ Install the duct.



◇ Fasten two bolts of the intake manifold.

⚠ Note: Be sure that you protect specified torque.

Bolt
Torque : 10N · m (1.0kgf · m)



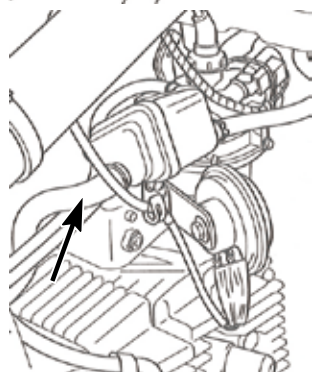
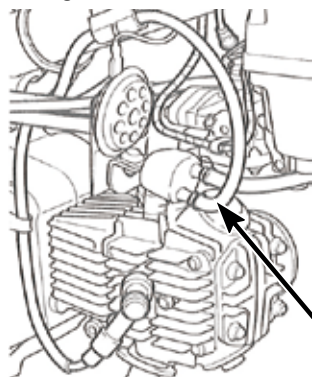
◇ Connect two wires of the carburetor heater (if equipped).



◇ Attach the vent hose into the frame.



◇ Attach the breather hose (for chassis No. AA01) to the storage tank.



◇ Connect the horn wiring.



◇ Install the fuel cock with two screws.



◇ Turn on the fuel cock.



● Installation of exterior parts, etc.

< Monkey >

◇ Fasten two hex bolts on the reverse side of the front fender.

⚠ Note: Be sure that you protect specified torque.

Hex bolt
Torque : 10N · m (1.0kgf · m)



◇ Pump the tire.

⚠ 注意: 必ず規定空気圧を守る事。
空気圧 : 100kPa (1kg/cm²)

< Cub >

◇ For Little Cub, attach the hook of the skid plate to the step bar and set it with the space collar.



◇ The leg shield is easy to install with insert it from the side of the vehicle.

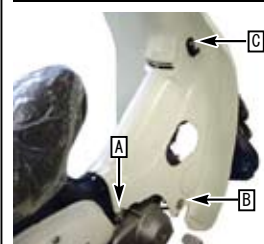


◇ Fit the backside of the leg shield on the frame and then the front side.

- Attach and tighten the plate / washer / M8 cap nut to the A.
- Tighten the M6 long bolt / large diameter washer on the B with the space collar on the back of the leg shield.
- Attach and tighten M6 bolts / washers or hooks to C.
- Do the same on the other side.

⚠ Note: Be sure that you protect specified torque.

A : 20N · m (2.0kgf · m)
B, C : 10N · m (1.0kgf · m)



A



B



C



◇ Check for slack in the bolts and the like fixed all the way from the engine to the suspension.