S-Stage+D Bore Up Kit 106cc SCUT Instruction manual

Product number	01-05-5313

Adaptation model	Monkey & Gorilla	(Z50J-2000001 ～)
		(AB27-1000001 ～)
	CD50	(CD50-1500001 ～)
	CL50	(CL50-4000001 ～)
	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)
Dax	(AB26-1000001 ～)
CRF50F	(AE03-1400001 ～)
XR50R	(AE03-1000001 ～)

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.

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 C8HSA (NGK) or U24FS-U (DENSO). Subsequently, choose and use a right spark plug with the right grade, depending on the carburetor set up.

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.

Important notice about installation of this Kit

A heavy-duty clutch (the one with three friction disks) and heavy-duty oil pump are needed for the installation of this kit.
(Monkey/Gorilla/CD/DAX/CRF50F)
For the installation of this Kit, a heavy-duty centrifugal clutch (with 32 weights) and heavy-duty oil pump are needed.(Cub 50/Little cub)
※We disclaim all responsibility for consequential and incidental damages or any other losses arising from the use of the Kit, if your bike is not equipped with these additional hardware.

☆ 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 this Instruction Manual.
◎ Please drive safely and follow the local traffic law.
◎ 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.
◎ We do not have any information or service data on the combination of our products and other manufacturer’s products.
◎ 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. Besides, this instruction manual, as well as a 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 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 some cases noise coming from the cylinder may sound louder than stock.
◎ This Instruction Manual is prepared mainly for the Monkey. Therefore, this Instruction manual has some contents not to apply to other vehicles.
◎ Always use the supreme unleaded high-octane gasoline.
◎ We recommend to install and use an oil cooler for riding at a high outdoor air temperature.
◎ We highly recommend to upgrade the exhaust system and the carburetor to ensure the potential even though the stock exhaust system and stock carburetor are fine to ride.

～ feature ～

○ The incorporation of a cam shaft with a decompressor mechanism reduces the load on the transmission and kick shaft even on a 106cc engine, made possible, for example,by S-Stage (SCUT) Bore Up Kit, leading to start of engine only with lighter kicking power than before. Cylinder has an oil jet hole, which can lubricate and cool the piston and the connecting rod.

⚠ 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.

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)

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

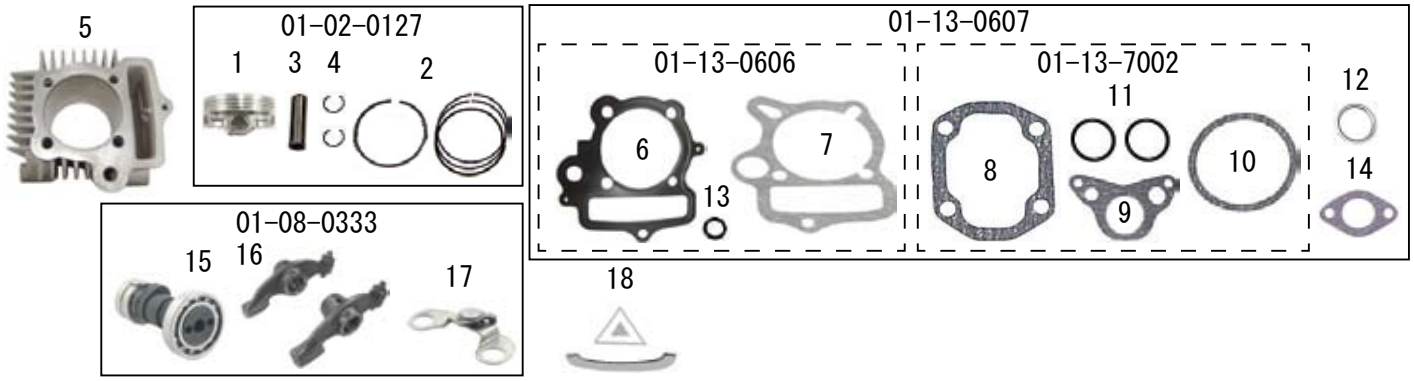
- Always start the engine in a well-ventilated place, and do not turn on the engine in an airtight place. (Otherwise, you will suffer from carbon monoxide poisoning.)
- When you notice something abnormal with your motorcycle, stop riding immediately and park your motorcycle in a safe place to avoid an 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.)

◎ 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.

Lesson

◇ Bolts and nuts will get loose when turned counterclockwise, and tighten when turned clockwise(some exceptions).
◇ At the beginning, hand tighten a screw without using a tool until it stops. If it stops turning after giving it one or two turns, the screw may be fixed improperly.
◇ To loosen a screw means turning a tightened screw three or four times to the counterclockwise, and to remove it means turning it 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.

Product content



Number	Product content	Quantity	Item Number
1	Piston	1	————————
2	Piston ring	1	13012-RAS-T00
3	Piston pin	1	00-01-0091 (with clip)
4	Piston pin circlip	2	00-01-0003 (6 pcs)
5	Cylinder	1	01-01-0220
6	Cylinder head gasket	1	12251-GFL-T10
7	Cylinder gasket	1	00-01-0067 (2 pcs)
8	Head cover gasket	1	01-13-7002 (O-ring 2 pcs)
9	Right-side cover gasket	1	
10	Left-side cover gasket	1	
11	Tappet cap O-ring	2	

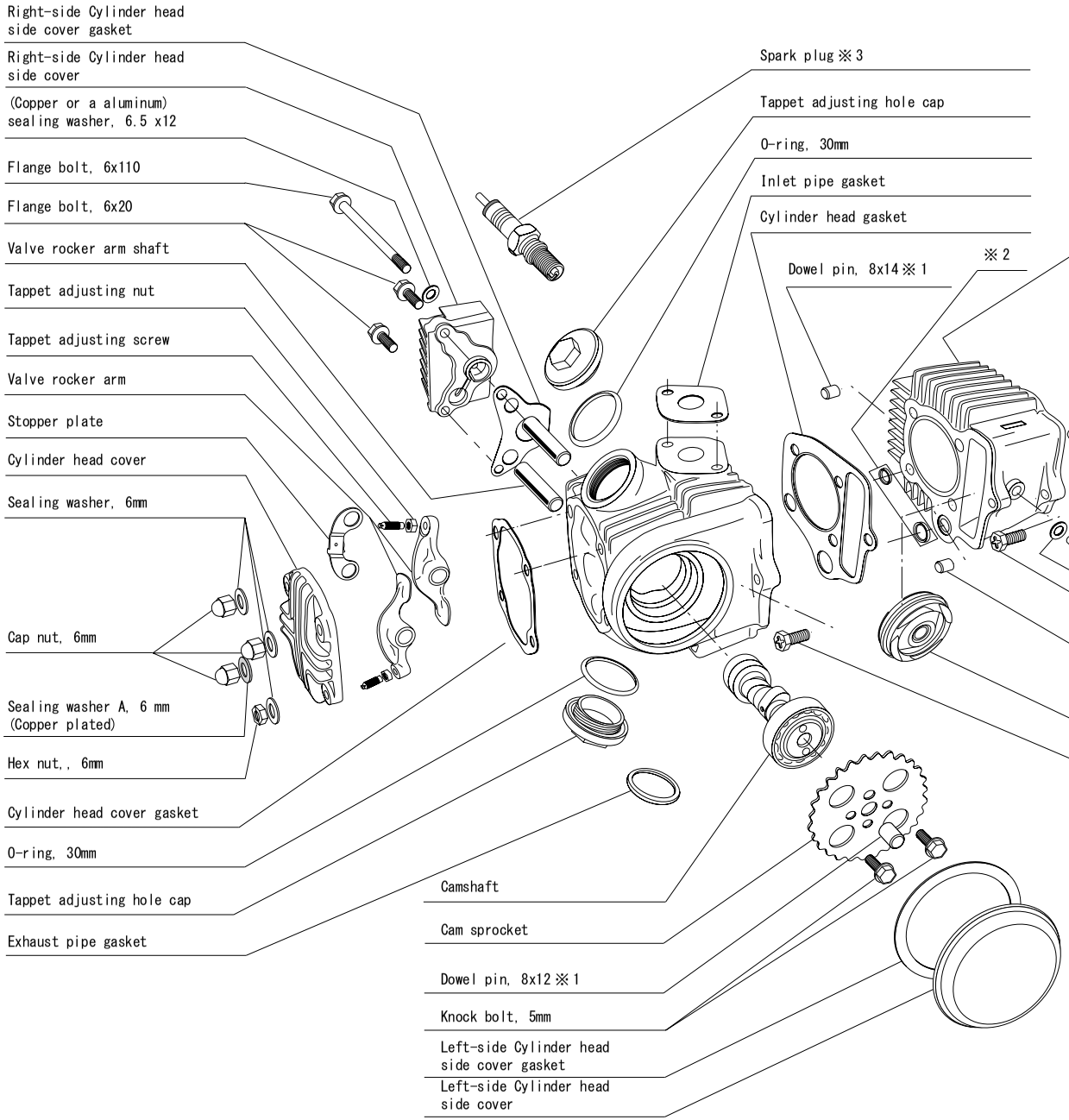
Number	Product content	Quantity	Item Number
12	Exhaust pipe gasket	1	00-01-0064 (2 pcs)
13	Rubber seal	1	00-01-0066 (2 pcs)
14	Inlet pipe gasket	1	91301-181-T01
15	Camshaft COMP.	1	14100-GDH-T02
16	Valve rocker arm ASSY.	1	00-01-1024
17	Stopper plate	1	00-01-0076
18	Mark set	1	TS-001-001

※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.

◇ Tools to use for the installation

1	Torque wrench
2	Plastic hammer
3	Cutter knife
4	Open-end wrench, 8-10
5	Open-end wrench, 12-14
6	Open-end wrench, 14-17
7	Offset box wrench, 8-10
8	Offset box wrench, 12-14
9	Offset box wrench, 14-17
10	Spark plug wrench handle (in-vehicle tool)

11	Spark plug wrench (in-vehicle tool)
12	Needle-nose plier
13	Thickness gauge
14	Fine-shaft flat tip screwdriver
15	Extension (medium)
16	Extension (small)
17	Socket, 14mm
18	Socket, 12mm
19	Socket, 10mm
20	Ratchet wrench



※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 CR8HSA (NGK) or U24FSR-U (DENSO).

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

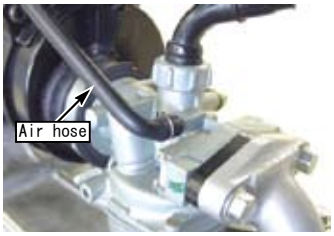
Removal of standard hardware

1. 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-.

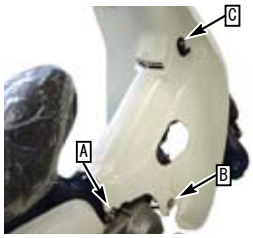
◇ Loosen the bolt on the air-cleaner bracket.

◇ 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)

◇ 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.



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

◇ Remove the fuel cock by turning two screws counterclockwise.

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

◇ Remove the duct by pulling upward.

◇ Remove bolts on both right and left sides of the air cleaner by turning them counterclockwise.

◇ Remove the horn stay.

◇ Remove the belt bundling wires.

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

2. Remove the exhaust system

(Monkey)

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

◇ Remove the nut which holds the exhaust system, by turning it counterclockwise.

◇ Turn a nut, fixed at the reverse side of the exhaust system, counterclockwise to remove it.

◇ 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 by turning them counterclockwise.

◇ Remove the nut which holds the exhaust system, by turning it counterclockwise.

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

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

3. Remove the front fender

(Monkey)

◇ Remove two hex bolts on the reverse side of the front fender by turning them counterclockwise.

4. 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.

◇ With an in-vehicle tool of a plug wrench, turn the plug counterclockwise to remove it.

5. Remove the cylinder-head left-side cover.

◇ 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.

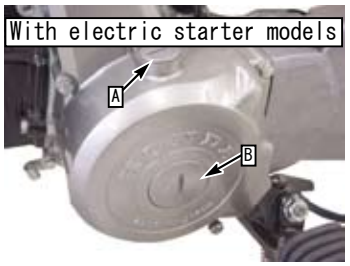
6. Remove the generator cover

◇ Remove the hex bolt on the shift pedal, and turn the shift pedal counterclockwise to remove it.

◇ Turn three bolts counterclockwise which hold the generator cover.

◇ With electric starter models, remove both A and B by turning counterclockwise.

With electric starter models

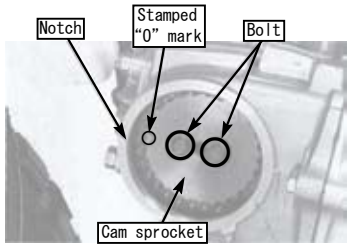


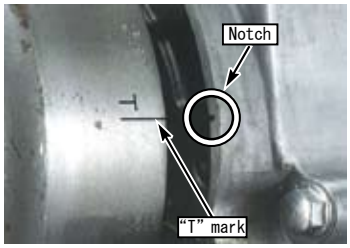
7. Remove two tappet caps

◇ Turn two tappet caps counterclockwise to remove them.

8. Remove the cam sprocket

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





With electric starter models

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

With electric starter models

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

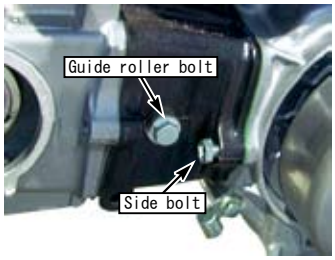
◇ Detach the cam chain from the cam sprocket, and remove the cam sprocket.

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

9. Remove the cylinder-head side bolt

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

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



10. Remove the cylinder head cover

◇ Turn four nuts counterclockwise, which hold the cylinder-head cover, alternately and diagonally to remove them.

◇ 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 or a cutter.

11. Remove the cylinder head

(Monkey)

◇ To make work space, let air out of a front tire. (At the press of the valve with something like a tip of a cross slot screwdriver, the tire will deflate. Continue pressing it till the whoosh of air cannot be heard any longer.)

◇ 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.)

◇ Pressing the front tire, remove the cylinder head. Now you can see the reason why you have let the air out of the tire.

◇ Remove and keep the two dowel pins to reinstall.

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

(Cub)

◇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.)

◇Remove and keep the two dowel pins to reinstall.

12. Remove the cylinder

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

◇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, which please remove.

◇Once the piston has come out, pull out the cylinder forward, holding the tire with a hand.

13. 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.

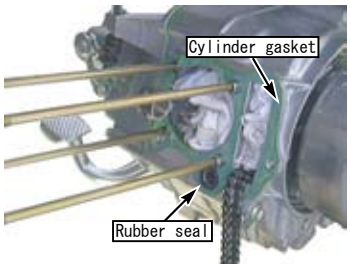
◇Remove one of the two piston pin circlips. You can remove it by prising it open with a screwdriver tip being placed on the notch.

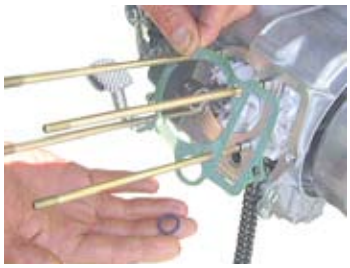
◇Remove the piston pin in the direction where the piston circlip is not attached.
You can easily remove the piston pin by pressing it with a flat tip screwdriver from the direction where a piston pin circlip is attached.

◇Remove the piston.

14. Remove a cylinder gaske rubber seal 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.





15. Installation of clutch and oil pump

※In using this kit are required an oil pump and heavy-duty clutch.

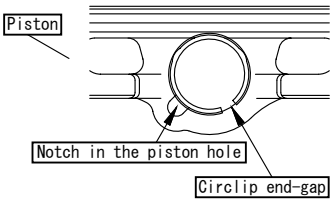
※Installation of the oil pump and the clutch at this stage is quite easy.

Installation of S-Stage Kit

1. Assemble and install a piston

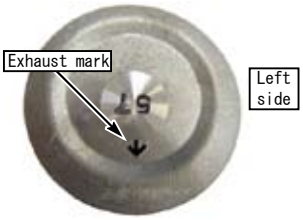
※Arrange the position of a piston pin circlip end-gap not to be on the notch.

◇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.



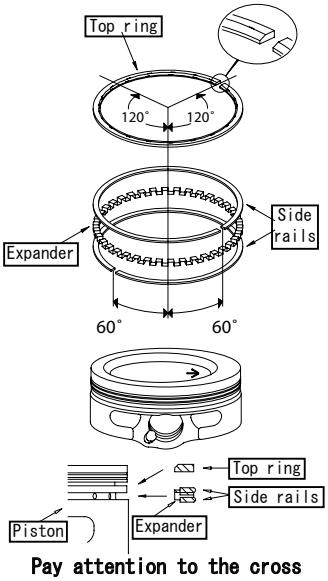
◇You can rather easily install the piston pin circlip bypressing it with a screwdriver, but taking care not to damage the piston with the screwdriver.

◇Fix the piston pin circlip first on the left side.



◇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, and top ring.

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



Pay attention to the cross section as well

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

◇ Put the oil ring expander.

◇ Put the lower oil ring side rail.

◇ Put the upper oil ring side rail.

◇ Put the top ring.

◇ Apply engine oil to the piston pin and to a small end of the con' rod, and install the piston pin.

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

◇ 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. So, wear protective eyeglasses for your eyes.

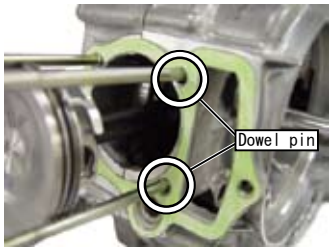
◇ Remove the plugged waste cloth.

2. Installation of cylinder

◇ Degrease the mating surfaces of the cylinder and the crankcase to attach the gasket.

◇ Install the cylinder gaskets and rubber seal.

◇ Check that two dowel pins are present.



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

◇ Insert the cylinder.

◇ Fit in the cylinder, by installing the piston rings one by one with fingers, being careful not to move the piston ring-end gaps out of place.

◇ Once the piston 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.

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

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

3. Change of camshaft

◇ Remove the rocker arm shafts on the stock cylinder head.

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

◇ 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 engine oil to the adjusting bolt and to the rocker arm of the kit, and install them.

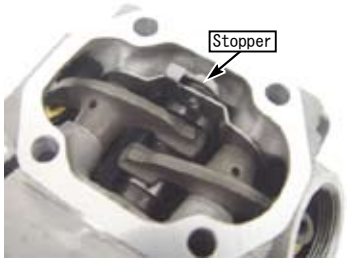
◇ Apply engine oil to bearings at the tip on each side of the special cam shaft.

◇ Apply molybdenum oil to the cam top.

◇ Set the cam shaft on the cylinder head of the kit.

The stopper of the decompression cam is facing up.

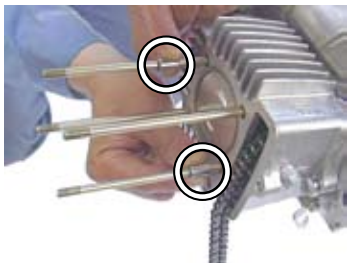
◇ Attach a stopper plate of the kit and rocker arm to the cylinder head, with a stopper on the stopper plate facing to the right of the cylinder head.



◇ Apply molybdenum to the stock rocker arm shaft.
Then align the holes of rocker arm and stpper plate and fix the rocker arm shaft.

4. Installation of cylinder head

◇ Degrease the cylinder head surface and upper surface of the cylinder.
◇ Fix two dowel pins into the cylinder.



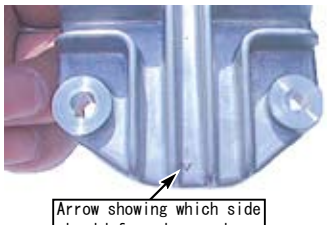
◇ Install the head gaskets.

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

◇ 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.

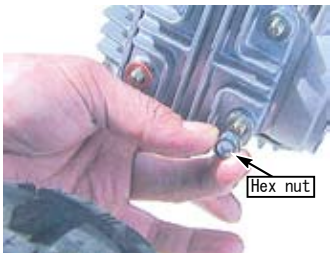
◇ The arrow should face downward.



◇ Attach head-cover washers and nuts.
(With engine viewed from the front, attach the copper washer and three iron washers at the lower left, and hex nut and three cap nuts at the lower right.)

◇ Tighten the head nuts evenly.
(If the torque wrench is not available, tighten them bit by bit securely and diagonally.)

⚠ Note: Be sure that you protect specified torque.
Head nut
Torque : 12N・m (1.2kgf・m)



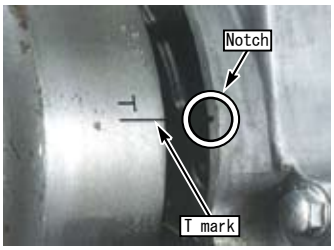
◇ Attach a head side bolt.
Fully tighten the guide roller bolts and the cylinder side bolts which were tightened temporarily.

⚠ 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)

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

5. Installation of cam sprocket

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

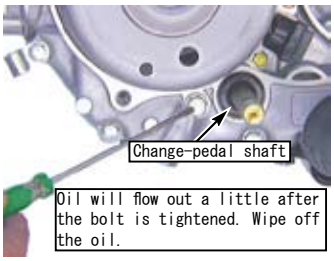


With electric starter models

◇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.

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



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

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

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

⚠ Note: Be sure that you protect specified torque.
Cam sprocket bolt
Torque : 9N・m (0.9kgf・m)

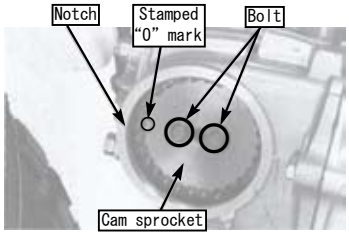
With electric starter models

◇Install the hex bolt which was next to the change pedal and was just removed.

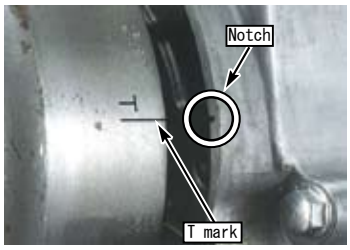
⚠ Note: Be sure that you protect specified torque.
Bolt
Torque : 10N・m (1.0kgf・m)

6. Valve timing adjustment and tappet clearance adjustment

◇Turn the flywheel until the "O" 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 "O" and "T" marks mesh with each notch at the same time.



Cylinder head side

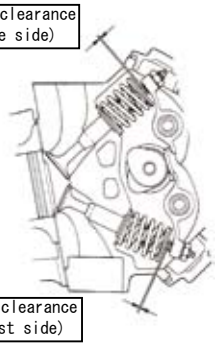


Flywheel side

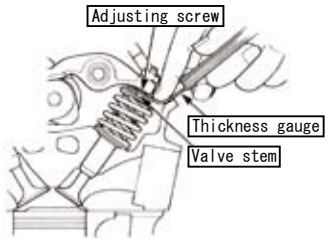
With electric starter models

◇While tightening a rocker arm's tappet adjusting screw, tighten the tappet adjusting nut to the extent that a 0.05mm thickness gauge, placed between the tappet adjusting screw and the valve stem end, can be pulled out with only a little resistance. If you have no idea of the proper resistance in pulling out the 0.05mm thickness gauge, then prepare a 0.07mm and 0.03mm thickness gauges. When the 0.07mm gauge won't go in between the space but the 0.03mm gauge goes in quite loosely, this means that roughly 0.05mm clearance is secured.

Valve clearance (Intake side)



Valve clearance (Exhaust side)



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

※Never rotate the crankshaft clockwise. Otherwise, the decompressor will work, making the valve clearance adjustment impossible.

◇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.

◇Install two tappet caps.

⚠ Note: Be sure that you protect specified torque.
Tappet cap
Torque : 12N・m (1.2kgf・m)

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

7. Installation of cylinder head left-side cover

◇ Attach the cylinder-head left-side cover gaskets and left-side cover.
(Set the anti-rotation stopper of the left side cover to prevent the left-side cover from turning to the right when the bolt is being tightened.)

◇ Tighten up a hex nut at the right side of the cylinderhead.
(The arrow marked nut is the hex nut in the above photo.)

⚠ Note: Be sure that you protect specified torque.
Hex bolt
Torque : 12N・m (1.2kgf・m)

8. Installation of spark plug

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

⚠ Note: Be sure that you protect specified torque.
Plug
Torque : 11N・m (1.1kgf・m)

◇ Attach a plug cap to the plug.

9. Installation of stock exhaust system

◇ 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 : 26N・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 exhasut system. Hand tighten the nut temporarily to fit the exhaust system to the pivot shaft.

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

◇ Tighten the nuts to hold the flange and vehicle.

⚠ Note: Be sure that you protect specified torque.
Flange
Torque : 10N・m (1.0kgf・m)
Vehicle
Torque : 36N・m (3.5kgf・m)

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

10. Installation of stock carburetor

(Monkey)

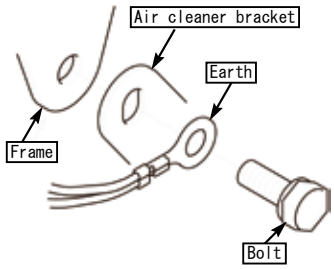
◇ In the case of vehicle with frame Nos Z50J-, check that an O-ring is attached to the inlet pipe.

◇ 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)

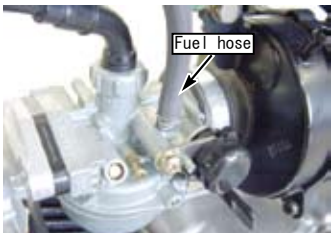
◇ Install a bolt on the air-cleaner bracket, fastening the bolt and earth jointly at the same time.
(See the figure below)

⚠ 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.



■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

(Cub)

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

◇ Bundle the choke cable and main harness.

◇ Mount the air cleaner on the frame with one bolt each on right and left sides.

⚠ 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 wires to the horn.

◇ IInstall the fuel cock with two screws.

◇ Turn on the fuel cock.

11. Installation of generator cover

◇ Install three bolts to hold the generator cover.

⚠ Note: Be sure that you protect specified torque.
Bolt
Torque : 10N・m (1.0kgf・m)

◇ For an electric starter model, tighten both A and B.

⚠ Note: Be sure that you protect specified torque.
A : 2N・m (0.2kgf・m)
B : 3N・m (0.3kgf・m)

With electric starter models

◇ Attach the change pedal.

⚠ Note: Be sure that you protect specified torque.
Change pedal
Torque : 10N・m (1.0kgf・m)

12. Install the front fender

(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.

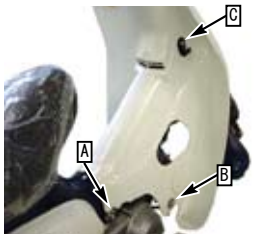
12. Installation of leg shield

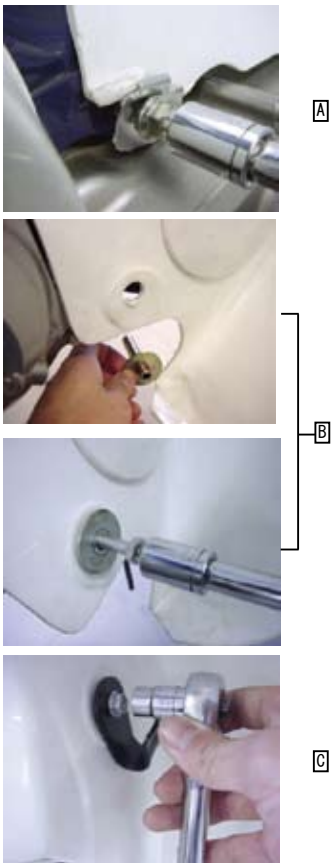
(Cub)

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

◇ At the portion A, tighten the 12mm cap nut, placing the plate in between the nut and leg shield.
At the portion B, tighten the 10mm long bolt, placing the spacer between the rear side of the leg shield and the long bolt.
At the portion C, tighten the 10mm bolt, placing the washer in between a mounting point and the 10mm bolt.
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)





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

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

● Before riding

1 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.

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

Models	Part No.
12V Monkey and Gorilla	01-16-0053 (with drill bit) 01-16-0052 (without drill bit)
Benly CD50/CL50/50S	
12V DAX	
XR50R/CRF50F	
Super cub 50	
Little cub	

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 an essential clutch and heavy-duty clutch, including a special clutch.

Essential clutch

Models	Part No.	
12V Monkey and Gorilla	02-01-0202	(No change in primary reduction gear ratio)
Benly CD50/CL50/50S	02-01-0214	(Primary reduction gear ratio to 18/67 from 16/69)
12V DAX	02-01-0215	Heavy-duty Centrifugal Clutch Kit
	02-01-0511	Kit to change centrifugal clutch to the manual clutch
XR50R/CRF50F	02-01-0512	Kit to change centrifugal clutch to the manual clutch (with clutch and lever only for XR50R / CRF50F)
Super cub 50	02-01-0215	Heavy-duty Centrifugal Clutch Kit
Little cub		

3 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, SCUT (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)
12V DAX	10 inch	Centrifugal	3-speed	16	31
Super cub 50	17 inch	Centrifugal	4-speed	16	42
			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.

■ Mounting procedure ※Please refer to the Genuine Service Manual for detailed mounting methods and specified torques that are not specifically described.

● For best performance

1 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 for S-Stage, SCUT

Models	Part No.
12V Monkey and Gorilla	03-05-320 (PC18)
	03-05-0045 (VM22)
Benly CD50/CL50/50S	03-05-033 (PC20)
12V DAX	03-05-321 (PC18)
	03-05-0047 (VM22)
XR50R/CRF50F	03-05-3244 (PC18)
Super cub 50	03-05-039
Little cub	

2 Muffler

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

3 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 parts catalog or website.
http://www.takegawa.co.jp