



# PC-20 Carburetor Kit Instruction Manual

Item No. : 0 3 - 0 5 - 3 2 0 1 (Carburetor kit)  
: 0 3 - 0 2 - 0 5 2 (Manifold set)  
Applied to : Monkey · Gorilla  
Frame No. : Z50J-1300017 ~  
: AB27-1000001 ~

## For Proper Use and for Safety's sake

Thank you for purchasing our PC-20 Carburetor Kit for Monkey and Gorilla machines. You are required to understand the contents by reading carefully the following instructions before installing and using the products.

Before fitting the products, please be sure to check the contents of the kit. Should you have any questions about the products, please kindly contact your dealer.

These products are designed for the exclusive use in the S-Stage kit for Monkey / Gorilla machines only. Please take note that these products cannot be mounted on stock engines or other types of vehicles.

The throttle valve of vehicles with frame Nos from 1300017 to 1510400 will not open fully when stock throttle housing is used. Therefore, it is necessary to replace it with a high throttle sold separately, or process the throttle pipe (refer to P. 3 for detail).

Also, the centrifugal clutch vehicle with the above frame number can not install the included throttle cable.

Please change to our high throttle sold separately.

In case a stock throttle housing is used in your vehicle, it is also necessary to replace the standard throttle cable with a high-throttle cable included in the kit.

In order to install a high-throttle, you need to remove the stock throttle housing; therefore you cannot use the front brake lever, turn signals, or a horn switch used in the vehicles with frame Nos from Z50J-1300017 to 1510400. In those vehicles with frame Nos Z50J-1600008 or above, you can not use the front brake lever either, so you need to prepare a substitute lever (A power lever 06-08-300 is installable).

Please take note that you cannot run the vehicle with this kit in the rain.

For the vehicles (with frame numbers from AB27-1000001 or above) with a crankcase emission control system, you will additionally need an air filter which is compatible with such a control system (03-01-110 or 03-01-1105).

Carburetor's setting varies according to parts used, natural phenomena, or others. Please adjust the setting based on size of the jet included in the kit. Please note that, in some cases, the illustrations and photos may vary from the actual hardware.

## Features

It is designed for exclusive and easy use for Monkeys / Gorillas of S-Stage Kit. In order for you to use the stock throttle housing, it includes a cable for high-throttle. Installation can be done without processing any parts (there are some exceptional vehicles) with use of a machined skin funnel, a curling funnel, and an air filter.



### CAUTION

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

- Work only when the engine and the muffler are cool (at below 35 degrees C). (Otherwise, you will burn yourself.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque.
- Always use a hose clip to connect the hose firmly to the carburetor.
- Never look into the carburetor's intake pipe without discretion while engine is running. Flames could spurt by the spitting-back of gasoline or backfire.
- Setting of a carburetor varies according to the natural phenomena like the weather, temperatures and barometric pressure, combination of parts used and the vehicle itself. Arrange the setting to match the engine.
- Before riding, always check every section of your vehicle for slack in parts like screws, and oil leak. When you notice something abnormal with your motorcycle while riding down a road, stop riding immediately and park your motorcycle in a safe place to check for abnormalities. Otherwise you may have an accident.



### WARNING

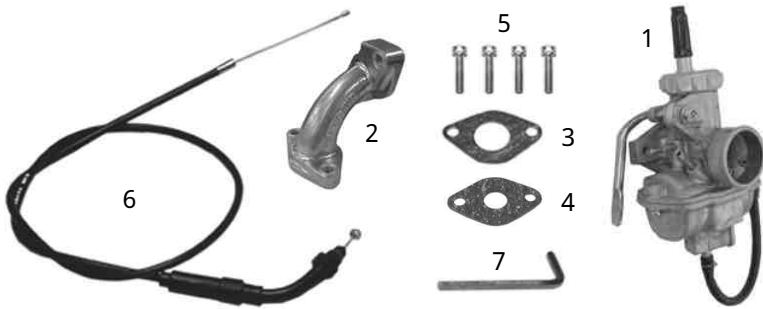
The following show the envisioned possibility of human death or serious injuries to human bodies as a result of disregarding the following cautions.

- Those who are technically unskilled or inexperienced are required not to do the work.  
(Improper installation could lead to riders falling down or accidents as a result of parts breakage.)
- Always drive the engine in a well-ventilated place, and do not switch the engine on in an airtight place.  
(Otherwise, you will suffer from carbon monoxide poisoning.)
- Before doing work, place the motorcycle on level ground to stabilize the position of your motorcycle for safety's sake.  
(Otherwise, your motorcycle could fall down and injure you while you are working.)
- 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 the high risk of explosion, work in a well-ventilated place.

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.

## ~ Kit Contents ~



### Factory Setting of a Carburetor

Main jet	#95
Slow jet	#35
Jet needle	63001
Clip position	4th.
Throttle valve	#20G
Air screw opening	1-1/2 turns

No.	Parts Name	Qty	Repair Part Item No.	In packs of
1	Carburetor assembly (PC20)	1	03-03-02	1
2	Inlet pipe	1	17111-GBO-T00	1
3	Inlet pipe gasket	1	91301-181-T01	1
4	Carburetor gasket	1	16211-GEF-T00	1
5	Socket cap screw, 6X25	4	00-00-0089	10
6	Throttle cable COMP. (710mm)	1	09-02-0071	1
7	Hex wrench, 5mm	1		

means the parts are a part of a manifold set.

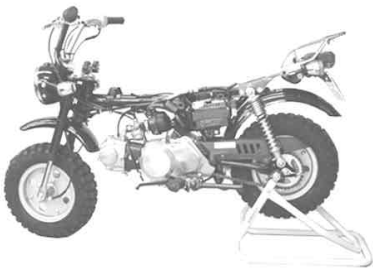
Please note that in ordering repair parts, be sure to quote the Repair Part Item No. Otherwise, we may not be able to accept your orders. There are some parts, however, for which we are not in a position to accept your order in just the quantity to be used. In this case, please take them in the quantity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

## ~ Installation Procedure ~

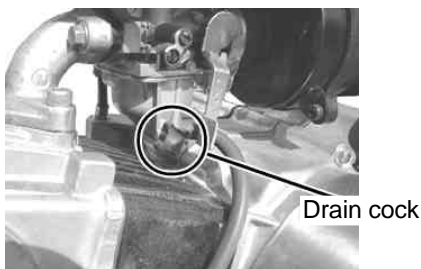
First of all, check the contents of the kit.

### (Preparation for Installation)

- 1 . Remove a side cover and a seat, and drain the gasoline in the fuel tank. Then close the fuel cock, and pull out the fuel hose on the side of a carburetor and the fuel tank.



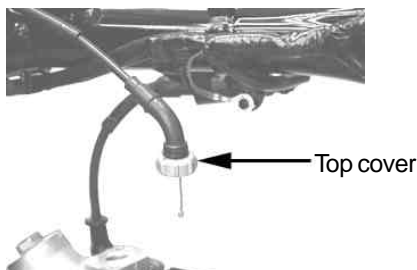
- 2 . After checking that the fuel cock is closed, open carburetor's drain cock to drain the gasoline in the float chamber to a tray.



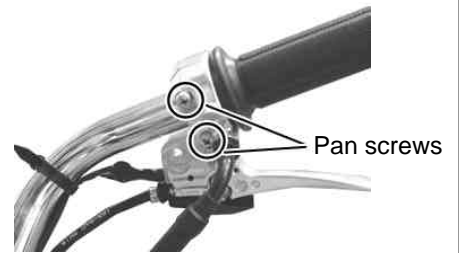
- 3 . Unfasten the inlet pipe fixing bolt(s) and the air cleaner mounting bolt(s), and remove the carburetor with the air cleaner case and the inlet pipe attached. Be careful not to let any foreign material fall into the intake port.



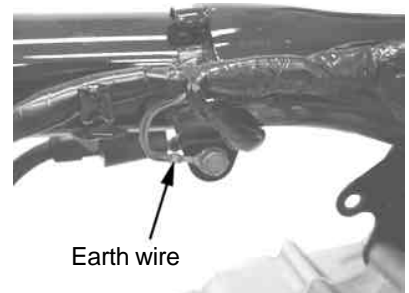
- 4 . Remove the throttle valve from the carburetor, divide the throttle valve and the throttle cable, and take the top cover from the throttle cable.



- 5 . Unscrew pan screws in the throttle housing, and disconnect the throttle cable. Then, wipe off the smear, dirt, dust and old grease. Keep the throttle housing and pan screws for re-use.



- 6 . Fix the earth wire to the frame with an air cleaner mounting bolt.



- 7 . Keep the removed parts in a bag or something else.

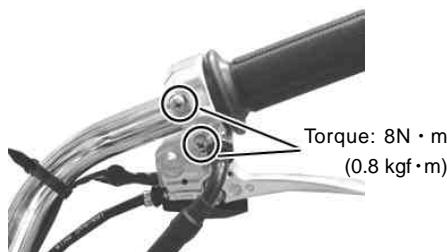
## (Installation)

- 1 . Temporarily tighten the throttle cable in the kit to the under throttle housing, and connect the inner cable to the throttle pipe.



- 2 . Apply grease to the sliding surface on the throttle, and install the throttle housing. Tighten the pan screws.

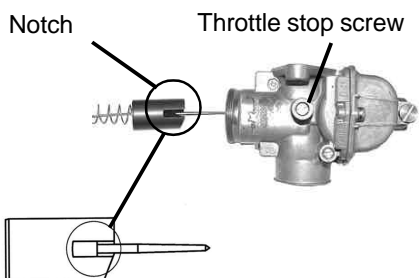
⚠ Caution: Apply the specified torque.  
**Torque: 8N · m (0.8 kgf · m)**



- 3 . Remove the top cover of the carburetor, then the throttle valve spring and the throttle valve. Wire the throttle cable to the carburetor in the same way as a stock cable. Fix the carburetor top to the throttle cable, and install the inner cable to the throttle valve while compressing the throttle valve spring.

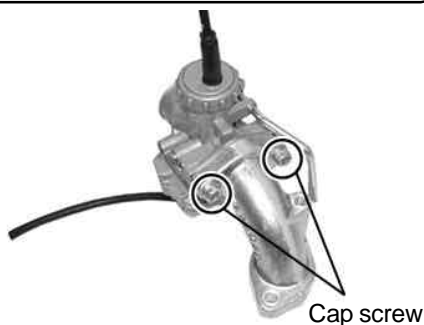


- 4 . Mount the throttle valve to the carburetor aligning the notch on the throttle valve with the throttle stop screw.



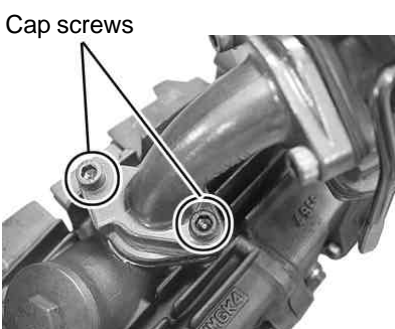
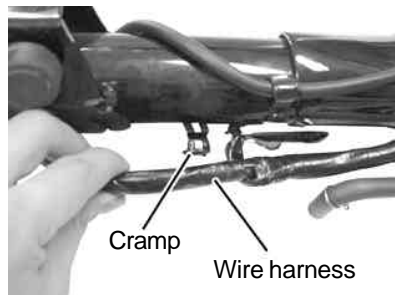
- 5 . Put the carburetor gasket between the carburetor and inlet pipe, and tighten the gasket with 6x25 socket cap screw to the specified torque.

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

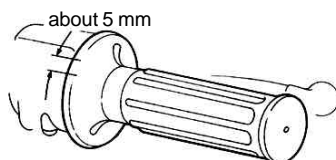


- 6 . Remove the clamp on the wire harness. Fix the wire harness, sliding it so that it will not interfere with the carburetor. Fix the gasket first and then the inlet pipe to the cylinder head. Tighten the 6x25 socket cap screws to the specified torque.

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



- 7 . Adjust the adjuster of a throttle cable so there is approx. 5 mm of free play at the throttle grip. Open up the throttle a few times to check whether it moves smoothly without suddenly stopping, and also to check whether the throttle valve is fully open. Check that there is a little free play at the throttle even when you turn the steering handle all the way to the left and right.



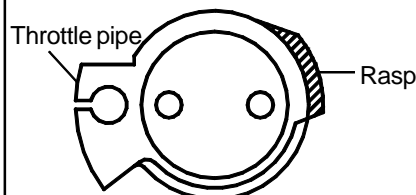
- 8 . Reinstall the fuel tank, and then the seat.
- 9 . Make adjustments of the direction of the fuel cock and the length of the fuel tube, then, insert it into the fuel cock and the carburetor, and fix the tube clip. Open the fuel cock and check for oil leak. (Do not leave the cock open for a long time.)



- 10 . Pull the choke lever to start the engine, and check for any intake gas leak. Gradually push the lever back and warm-up the engine till it starts running smoothly, and push back the choke lever to the end. Adjust the throttle stop screw in case the engine does not run idle after the warming up or runs idle at high speed.
- 11 . Be sure to do setting according to each vehicle in a safe place and with care.

## Processing Throttle Pipe

In case a stock housing is used in the vehicles with frame numbers Z50J-1300017 to 1510400, rasp the shaded part of the throttle valve as indicated in the figure below. As for the vehicles with frame numbers Z50J-1600008 or above, there is no need to process as above.



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# How to Set the Carburetor

- When the carburetor does not match the engine and the engine fails, the engine failures are caused by either too dense or too lean air-fuel mixture.
- The engine failure symptoms for the engine are as follows:

When the air-fuel mixture is too dense:	When the air-fuel mixture is too lean:
<ul style="list-style-type: none"> <li>• The explosion sound with a dull thud continues intermittently.</li> <li>• The engine malfunctions further if you use the choke.</li> <li>• The engine malfunctions when you warm it up.</li> <li>• The engine works well if the cleaner is detached.</li> <li>• The motorcycle belches dense (or, black) exhaust gas.</li> <li>• The plug smolders, getting blackened.</li> </ul>	<ul style="list-style-type: none"> <li>• The engine overheats somewhat.</li> <li>• The engine starts working well if you use the choke.</li> <li>• The engine does not accelerate well. (No smooth acceleration)</li> <li>• Revolutions change, generating weak power.</li> <li>• The plug burns white.</li> </ul>

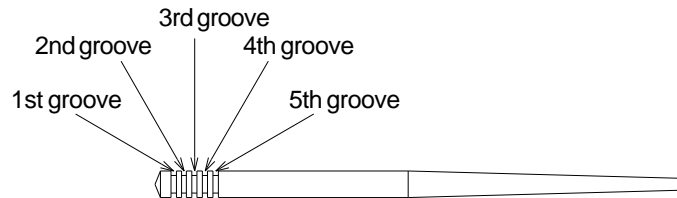
Set the carburetor only after warming up the engine, and then test-drive. And use a plug with the right heat value. Do the setting in the following manner, studying at what throttle opening position the engine starts failing.

## Jet needle (Throttle position at 1/4 - 3/4)

Whether or not the engine revolution is in proportion to the throttle operation

- When the acceleration is not smooth or even, make the air-fuel mixture dense.
- Make the air-fuel mixture lean when the engine revolution goes up heavily and belches black gas.

The mixture ratio at this throttle position can be adjusted by the location of E-ring in the grooves. The air-fuel mixture becomes dense as the location of the E-ring moves down from the 1st to the 5th groove.



## Main jet (The throttle position at 3/4 - 4/4)

The air-fuel mixture ratio at this throttle position can be adjusted by changing the number of the main jet. The larger the main jet numbers, the denser the mixture ratio becomes.

In view of the engine and muffler specifications, select the most appropriate main jet to get the highest revolutions.

## Pilot jet (First of all, please adjust the air screw.)

- In case you have given more than three turns to the air screw to tighten it, use a pilot jet with a small number.
  - If you have tighten the air screw (clockwise) to the full, use a pilot jet with a larger number.
- Check whether you have made a right choice of the pilot jet by seeing if the engine starts up revolving smoothly from the idling to running at slow speed.
- When the engine revolves up unevenly, the pilot jet number is too small. (At idle)
  - When the motorcycle belches black exhaust gas and produces heavy exhaust sound, the pilot jet number is too big. (At idle)
  - After replacing the pilot jet, you need to readjust the airscrew.

## Air screw

The air screw adjusts the air mass flow at the time of engine's revolving at slow speed. (At idling)

- Give the air screw a right turn The air-fuel mixture gets dense.
- Give the air screw a left turn The air-fuel mixture gets lean.

Loosen the tightened air screw back to the 1.5-turn position. And then from this position, give to the airscrew a right or left turn of 1/4 to 1/2 till the engine revolves at the highest speed.

Loosen the idle stop screw till you get the steady idling revolutions. And once again adjust the position of the airscrew to get the highest revolutions.

## On how the barometric pressure, temperatures and humidity affect the setting:

- At highlands or at high altitudes, the barometric pressure and air density go down and the air gets into the carburetor in less amounts. This makes the air-fuel mixture dense which was adjusted at low altitudes.
- Under the weather conditions with very low temperatures, the air density increases, which makes the air-fuel mixture lean.
- Under the rainy and humid weather conditions, the air density decreases, which makes the air-fuel mixture dense.

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This manual should be retained for future reference.