

Big Carburetor Kit (KEIHIN PE24) Instruction Manual

Product number	03-05-0225 (Carburetor kit)
	03-02-0001 (Manifold set)

Adaptation model	Ape 50	(AC16-1000001 ~ 1499999)
	Ape100	(HC07-1000001 ~)
	Ape100 Type D	(HC13-1000001 ~)
	XR 50 Motard	(AD14-1000001 ~)
	XR100 Motard	(HD13-1000001 ~)
	XR 100R	(HE03-2100001 ~)
	CRF100F	(HE03-2400001 ~)
Requirement	Our Super-Head-equipped motorcycle	

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.

☆ 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.
- ⊙ We shall be held free from any kind of warranty whatsoever of products other than this product if the glitch takes place on the other products than this one after the installation and use of this product.
- ⊙ You are kindly requested not to contact us about the combination of our products with other manufacturers' .
- ⊙ This product is designed for exclusive use in the above-mentioned types of motorcycles and frame numbers only. Please take note that this product cannot be mounted on other types of motorcycles.
- ⊙ For the installation of this Kit onto a drum-brake motorcycle, a brake lever & wire set of 06-08-3001 are separately required.
- ⊙ It is advisable to use this Kit together with our optional mudguard.
- ⊙ This Kit is for exclusive use with motorcycles equipped with our Super Head and our PE24 Carburetor Kit.
Do NOT use this Kit on motorcycles equipped with a standard head.
- ⊙ The engine will go wrong if it gets wet. So, refrain from riding your motorcycle in the rain. In addition, when washing your vehicle, be careful not to let the water into the engine via an air filter.
- ⊙ Depending on the natural phenomena like the weather, humidity, temperatures, altitudes and barometric pressure, and specifications of the individual motorcycle and carburetor, the carburetors need re-setting. Be sure to rearrange the setting to match the engine and other conditions of your motorcycle.
For your information, the carburetor is shipped out in a state described on page 2.
- ⊙ This Kit is designed for exclusive use in the closed racing. So, take note that it is prohibited to ride your motorcycle on a public road after the installation of this Kit.
- ⊙ A standard muffler and carburetor interfere with each other on Ape100 with a frame # from HC07-1600001 onwards and on Ape type D with a frame # from HC13-1000001 onwards. This Kit is designed for use only on motorcycles equipped with a full-exhaust muffler.
- ⊙ When a battery is to be used on Ape 100 with a frame # from HC07-1600001 onwards and on Ape type D with a frame # from HC13-1000001 onwards, a battery box and mud guard are required additionally. Moreover, the installation of a Fenderless Kit is needed for running on public roads.
NOTE that a standard fender cannot be installed.

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

- Work only when the engine and the muffler are cool. (Otherwise, you will burn yourself.)
- Prepare right tools for the work, (Otherwise, the installation with improper tools could cause breakage of parts or injuries to yourself.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque.
(Improper torque could cause these parts to get damaged or fall off, resulting in accidents.)
- As some products and frames have sharp edges or protruding portions, please work with your hands protected.
(Otherwise, you will suffer injuries.)
- Before riding, always check every section for slack in parts like screws. If you find slack ones, screw them securely up to the specified torque. (Or improper torque may cause parts to come off.)

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

- When you notice something abnormal with your motorcycle while riding down a road, stop riding immediately and park your motorcycle in a safe place. (Otherwise, the abnormality could lead to accidents.)
- Before doing work, secure the motorcycle on level ground for safety's sake.
(Otherwise, your motorcycle could overturn and injure you while you are working.)
- Check or carry out maintenance of parts correctly according to the procedures in the instruction manual or a service manual.
(Improper checking or maintenance could lead to accidents.)
- If you find damaged parts when checking and performing maintenance, do not use these parts any longer, 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. (It may cause a fire.)
- Plastic bags of product packaging, you can either be stored in a place that is out of reach of children, it should be discarded.
(When the children or wearing, there is a risk of suffocation.)

- ⊙ 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.

SPECIAL PARTS
TAKEGAWA

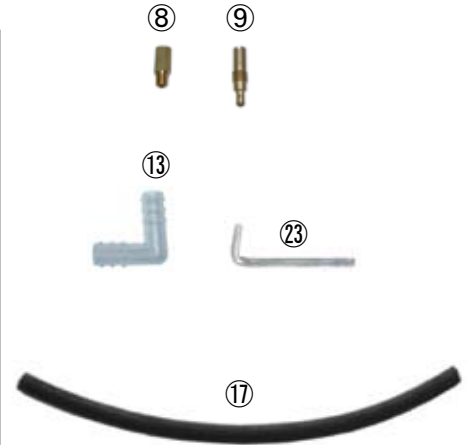
CONTACT Address : 3-5-16 Nishikiorihigashi Tondabayashi Osaka JAPAN
TEL: +81-721-25-1357 FAX: +81-721-24-5059 e-mail: english@takegawa.co.jp URL http://www.takegawa.co.jp
Please contact with your name and country name provided. (Only English please)

Product content



03-02-0001

09-02-0222



Number	Product content	Quantity	Item Number
1	Connecting tube	1	00-03-0415
2	Air filter	1	00-03-0391
3	Air filter stay	1	00-00-1513
4	Flange bolt, 6x16	1	00-00-0134 (4 pcs)
5	Flange U nut, 6mm	1	00-00-0091 (6 pcs)
6	Clamp band (40-60mm)	1	00-00-0038
7	Carburetor ASSY. (PE24)	1	03-03-0074
8	Main jet, #120	1	00-03-0098
9	Slow jet, #40	1	00-03-0170
※ 10	Carburetor insulator	1	00-03-0209
※ 11	Clamp band (30-45mm)	1	00-00-0050
※ 12	Socket cap screw, 6x15 (SUS)	4	00-00-0205 (4 pcs)
13	L-joint, 10mm	1	00-03-0207
※ 14	Inlet pipe	1	00-00-1475
※ 15	Collar	1	00-00-1460
※ 16	O-ring	1	00-03-0206
17	Fuel tube, 200mm	1	00-03-0203 (500mm)
18	Throttle COMP.	1	_____
19	Grip rubber, right	1	_____
20	Grip rubber, left	1	09-02-0002
21	Throttle cable COMP. 710mm	1	09-02-0071
22	Hex wrench, 3mm	1	_____
23	Hex wrench, 5mm	1	_____

Factory preset mode of the carburetor

Main jet	#108
Slow jet	#48
Jet needle	36S
Clip position	3rd groove
Throttle valve cutaway	#3.0
Air screw opening	1-1/2

※ marks indicate the contents of a manifold set.

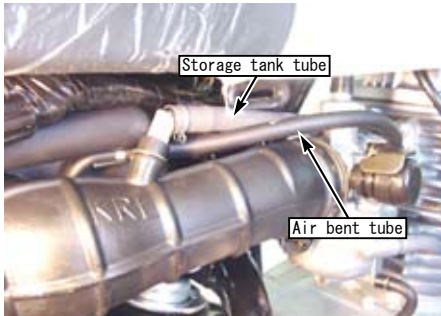
∴ Please order in the repair parts are always repair part number.

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.

Removal of a genuine carburetor

- Unfasten two bolts, and pull the seat to remove it.
- Unfasten a bolt on the right side cover. And unfasten two bosses on the frame to remove the right side cover.
- Remove three bosses on the left side cover from the frame to unfasten the left side cover.
- Detach the storage tank hose and the carburetor air bent tube from the side of an air cleaner case.
- ※ Remove the storage tank hose along with the breather tube joint.



- Loosen a screw on the connecting tube band.



- Remove two case mounting bolts from the left side and one from the right side, all of which are fixing the stock air cleaner case.

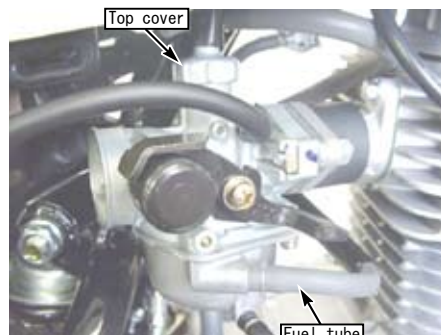


- When a battery is to be used on Ape100 with a frame # from HC07-1600001 onwards or with a frame # from HC13-1000001 onwards, fit the battery, referring to the instructions for the battery box and the relevant Kit.

- Detach a connecting tube from the carburetor, and remove the air cleaner case.
- Apply an adhesive to the connecting tube, and align the holes of an air filter and a bracket, and fit the connecting tube.
- ※ Removing the dirt and oil from the contact surfaces and drying the adhesive on the contact surfaces sufficiently, apply a thin coat of "Honda Bond A" or the equivalent, and fix an air filter prior to the contact surface drying.
- ※ Use the adhesive, referring to its instructions.
- ※ Leave the air filter intact at least two hours after fixing it so the adhesive dries out.



- Close the fuel cock, and open the drain cock on the carburetor. Drain the gasoline in the float chamber to a container.
- Remove a fuel tube from the carburetor. Detach the carburetor top and detach the throttle valve from the carburetor. Disconnect the throttle valve and throttle cable, and pull out the top cover.



- Unfasten the inlet-pipe-mounting bolt, and remove the inlet pipe.
- ※ Be careful not to let any foreign material fall into the intake port.



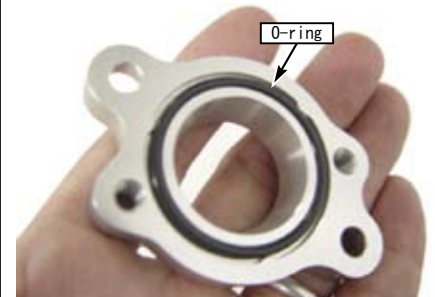
- Unfasten a pan head screw on the throttle housing from the motorcycle.

Installation of the carburetor

- Remove the float chamber from the PE24 carburetor, and replace the main and slow jets with those included in the Kit, and reinstall back the float chamber into its original location.
- Fit a provided O-ring to the grooves on the reverse side of the inlet pipe. And install the inlet pipe with an attached O-ring onto the cylinder head with a socket cap screw and tighten it to the specified torque.

⚠ Note: Be sure that you protect specified torque.

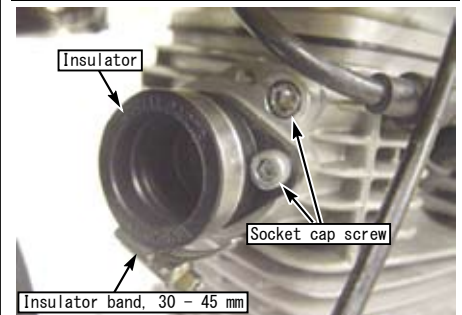
Socket cap screw
Torque : 10N · m (1.0kgf · m)



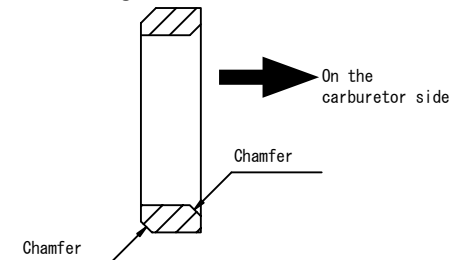
- Attach a provided insulator onto the inlet pipe as assembled above with a socket cap screw and tighten it to the specified torque.

⚠ Note: Be sure that you protect specified torque.

Socket cap screw
Torque : 10N · m (1.0kgf · m)



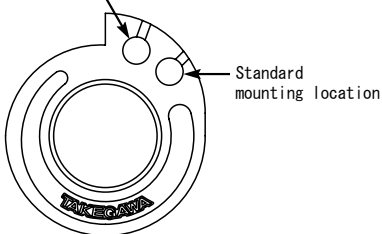
- Attach a (30-45mm) insulator band to the carburetor insulator.
- Attach a provided collar to the opening of the carburetor, referring to the figure.
- ※ The above work is not required in case a connecting tube is not to be installed.



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

- Unfasten a screw on the throttle housing included in the Kit to disassemble the housing.
- Apply grease to the sliding surface of the handle throttle pipe and install the throttle pipe.
- Attach and tighten the throttle cable loosely for now to the lower housing, and connect the cable ends to the throttle pipe.
- ※ Apply grease to the cable ends and to the cable-rolling portion of the pipe.

The inner wire will protrude about 9 mm longer.



- Install the upper housing and tighten a screw.

▲ Note: Be sure that you protect specified torque.

Screw
Torque : 5N · m (0.5kgf · m)

- Remove the dirt and oil on the grip-mounting surface of the steering handle and the throttle pipe and inside the right- and left-hand rubber grips. Apply a thin coat of Honda's genuine Honda Bond A or Cemedine F540 to the handle and throttle pipe, and attach the grip rubber to the handle and the grip-mounting surface, while rotating the grips, before the bonded surfaces get dry.
- Remove the top cover of the carburetor included in the kit, and pull out a spring and throttle valve. And then, pass the inner cable of the throttle cables through the top cover of the carburetor, and then pass the spring. And compressing the spring, attach it to the throttle valve. Aligning a notch on the throttle valve with the throttle stop screw, attach the throttle valve to the carburetor.



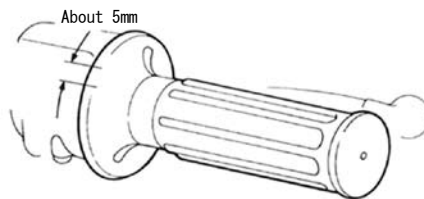
- Fit the carburetor into the insulator and fasten the carburetor with a clamp band.



- Tighten the throttle-cable locking nut.
- ※ NOTE that fastening the locking nut too tight may break the housing.

▲ Note: Be sure that you protect specified torque.
Throttle-cable locking nut
Torque : 8N · m (0.8kgf · m)

- Adjust the free play on a throttle cable by the adjuster so there is approx. 5 mm of free play at the throttle grip.



- Snap the throttle a few times to make sure that the throttle moves smoothly without sticking and that the throttle valve is fully open. And check that the throttle has free play even when a steering handle is turned all the way to the right or to the left.
- Put in a fuel tube and fasten it with a tube clip.

Installation of the air filter and connecting tube

- Fit a (40-60mm) clamp band into the connecting tube, which please install onto the carburetor and tighten it with the clamp band.



- Fit the air-filter bracket onto the mounting hole on the air cleaner case on the right side of the frame, with a 6x16 flange bolt and flange U nut.

▲ Note: Be sure that you protect specified torque.
Flange bolt
Torque : 12N · m (1.2kgf · m)



- Fit a storage tank hose into a connecting tube, and put a tube clip.

※ Tie an air vent tube in a bundle so that it does not get in the way of your riding.
※ When installing onto XR100R or CRF100F, install a vent tube with an L-joint included in the Kit.

- Attach a right and a left side cover, and a seat. Open the fuel cock and check for oil leaks. (Do not leave the cock open for a long time.)
- Pull the choke lever to start the engine. Gradually release the choke lever and warm up the engine till the revolution becomes smooth, and finally let go of the lever so it returns to its original position. In case the engine does not run idle, or idles away at high revolutions after the warm-up, adjust the setting with a throttle stop screw.
- At the safe place and with great care, do the setting to match the specifications of an individual motorcycle.

~ How to perform maintenance ~

It is easy to perform the maintenance of a high flow filter included in the Kit.

And when the element is stained, perform the maintenance as follows:

(Never use chemical products like a standard filter cleaner or filter oil. Otherwise, the element will be likely to deteriorate.)

- Detach it from the motorcycle and remove dusts gathered on the element surface.
- Prepare cleaning liquid out of mild detergent available on the market, diluting it with water, and soak the filter in the cleaning liquid to clean the element.
(Never scrub the element with a hard brush or rub it hard. Otherwise, the element will be damaged.)
- Pour the running tap water into the inside of the element to thoroughly rinse the cleaning liquid out of the element.
- After rinsing off the cleaning liquid, dry the element. Wipe off the moisture on the element with a waste cloth as if to press the cloth against the element, and place it in the airy shade to let it dry naturally.

In case you use compressed air, let the air into the inside of the element with low pressure to blow off the moisture.

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

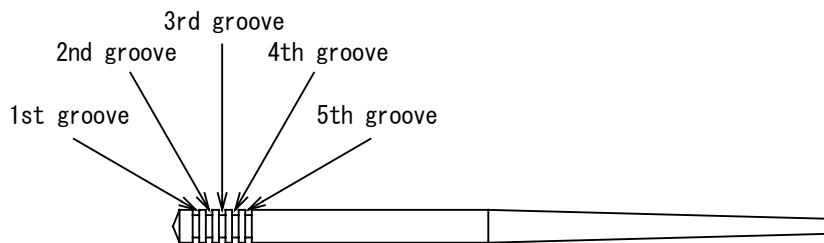
- ※ Set the carburetor only after warming up the engine, and then test-drive. And use a plug with the right heat value.
- ※ Do the setting in the following manner, studying at what throttle opening position the engine starts failing.

○ 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.

○ Slow jet / 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 slow jet / pilot jet with a small number.
 - If you have tighten the air screw (clockwise) to the full, use a slow jet / 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 slow jet / pilot jet number is too small. (At idle)
 - When the motorcycle belches black exhaust gas and produces heavy exhaust sound, the slow jet / pilot jet number is too big. (At idle)
 - After replacing the slow jet / 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.