



KEIHIN PD22 Carburetor Kit Instruction Manual

Item No. : 0 3 0 5 0 0 0 5

Fit : TT-R90 (5HN)

- We are flattered that you have purchased one of our products. Please strictly follow the following instructions in 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.

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

Please do read the following before installation.

We do not take any responsibility for any accident or damage whatsoever arising from the use of the products not in conformity with the instructions in the manual.

We shall be held free from any responsibility or compensation whatsoever for any glitch in the parts other than ours if the glitch takes place after the installation and use of these products.

If you make modifications to the products, we shall be held free from any guarantee of the products.

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

This Kit is designed for exclusive use in the above-mentioned suitable models and that it cannot be mounted on any other models.

When ordering repair parts, please quote Item Nos or reference Nos in the figures in this Manual. Should you have any questions about the repair parts, please contact your local motorcycle dealer.

The air filter included in the Kit is designed to come with a cover to be more weather resistant. However, this does not guarantee the safety of washing with water or running in deep puddles.

When you are washing your motorcycle with a large amount of water, be careful not to let the water into the inside of the engine from the air filter.

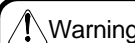
Depending on the natural phenomena like the weather, temperatures, altitudes and barometric pressure, and specifications of the individual motorcycle and carburetor, the carburetors need re-setting. Be sure to rearrange the setting to match the engine and other conditions.

Factory preset mode of the carburetor is as per the description on the next page.



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

- 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.)



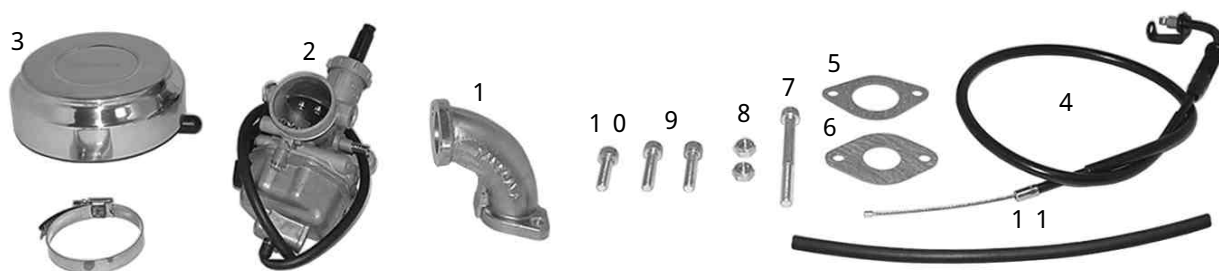
The following show the envisioned possibility of human death or serious injuries to human bodies as a result of disregarding the following cautions.

- 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.)
- Keep plastic bags for packing the products out of children's reach, or discard them.
(If children get them on, there will be a danger of their suffocating.)
- 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.)

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 ~



No.	Part Name	Qty	Repair Part Item No.	in packs of
1	Intake manifold (E-1)	1	_____	_____
2	Carburetor (PD22)	1	03-03-0002	1
3	High flow filter	1	03-01-1138	1
4	Throttle cable	1	_____	_____
5	Carburetor gasket	1	00-00-1456	1
6	Intake manifold gasket	1	_____	_____
7	Socket cap screw, 6x65	1	00-00-0729	5
8	Lock nut, 6 mm	2	00-00-0533	10
9	Socket cap screw, 6x25	2	00-00-0722	5
10	Socket cap screw, 6x20	1	00-00-0721	5
11	Fuel hose	1	00-03-0203	1

Factory preset mode of the carburetor

Main jet	#95
Slow jet	#38
Jet needle	E2051G
Clip position	4th from the top
Throttle valve cut-way	74B
Air screw opening	1-1/4 turns backward

Please order repair parts with the Repair Part Item No. Without the repair part item No., we may not be able to provide the correct parts. Some parts are only available as a set. Please order them with the set number.

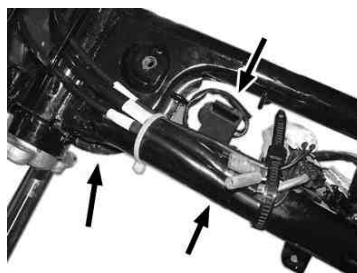
~ Installation Procedures ~

~ Removal of genuine carburetor ~

- 1 . Make sure your bike is secure on a maintenance stand on level and safe ground.
- 2 . Remove both left and right side covers.
- 3 . Close the fuel cock, open the drain cock on the carburetor, and drain the gasoline from the float chamber to a tray.
Then, disconnect the fuel hose from the body.
- 4 . Demount a seat, and remove the fuel tank from the motorcycle.
- 5 . Loosen the clamp which is joining the air cleaner box and carburetor together.
And unfasten a screw holding the air cleaner box, and remove the air cleaner box from the body.
- 6 . Detach a starter plunger lever (or, a choke lever) from the motorcycle.
- 7 . Detach a carburetor top and two heater lead wires from the carburetor.
- 8 . Remove the carburetor and intake manifold from the body.
- 9 . Cover the intake port on the cylinder head with a waste cloth to prevent the dust and foreign objects from getting into it.

Preparation for installing hardware to the body

- 1 . First, write down how the genuine throttle cable is routed.
And then unfasten a screw on the throttle grip cap, and remove the genuine throttle cable from the body.
- 2 . Connect the provided throttle cable to the throttle grip cap, and route it in the same way as the one just written down.
- 3 . As some of the stays fixed to the frame interfere with the supplied carburetor and air cleaner, bend or cut off the interfering stays.
: Either fold back the genuine air cleaner box stay at an angle of 90 degrees or cut it off at the base.
: Either bend the lead guide of a thick wire in the middle of the frame along the frame, or cut it.
: Fold back the thermostat stay upward at an angle of 45 degrees.
- 4 . Secure the heater lead wire so it does not short-circuit with the frame.



~ Installation of Carburetor ~

- 1 . Take off the waste cloth placed on the intake port. And place the intake manifold gaskets between the supplied intake manifold and cylinder head. And fasten the intake manifold onto the cylinder head with 6x65 and 6x20 socket cap screws.

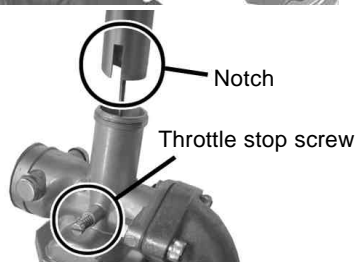
⚠ Caution: Apply the specified torque.

Torque: 7 N · m (0.7 kgf · m)

- 2 . Remove the top cover of the supplied carburetor, and pull out the spring and throttle valves.

First, pass the throttle cable through the cable cap which is made of rubber and attached to the carburetor. Then pass the inner cable through the top cover of the carburetor. Then place the spring, and compressing it, attach it to the throttle valve.

- 3 . Route the throttle cable across the frame. And mesh the notch on the throttle valve with the throttle stop screw to install the throttle valve onto the carburetor.



- 4 . Place the carburetor gaskets in-between the carburetor and intake manifold, and install the carburetor with a 6x25 socket cap screw and a 6mm lock nut.

⚠ Caution: Apply the specified torque.

Torque: 10 N · m (1.0 kgf · m)

- 5 . After installing the carburetor, check that there is space between the carburetor float chamber and cylinder head. If the float chamber is interfering with the cylinder head, first check that the gaskets are certainly installed. Then loosen for now carburetor-holding screws. And holding the carburetor at a location where it does not interfere with the float chamber, tighten up the carburetor-holding screws again.
- 6 . If the rib in the middle of the frame and air filter cover interferes with each other after the installation, then scrape off the portion on the frame which interferes with the filter cover. (Be careful not to scrape off more than needed. So, do the work with the greatest care.)

Adjustment and installation of exterior

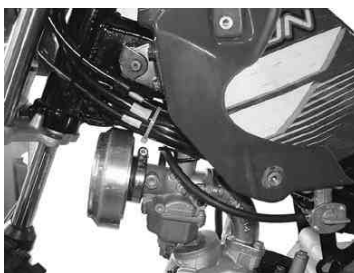
- 1 . With an adjuster, adjust the free play at the throttle grip to be approximately 5 mm. After the adjustment, cover the adjuster with a rubber adjuster cover.



- 2 . Snap the throttle a few times to make sure that the throttle moves smoothly without sticking and that the throttle valve is fully open. Also check that the throttle has free play even when a steering handle is turned all the way to the right or to the left.
- 3 . Reinstall back the fuel tank and seat onto the motorcycle, and fix the throttle cable by passing it through the cable guide on the left side of the tank.



- 4 . Connect the fuel tank and carburetor with the supplied fuel hose. And open the fuel cock to check each section for oil leakage. (Do not leave the cock open for a long time.)



- 5 . Pull the choke lever to start the engine. Gradually push the lever back and warm up the engine till the revolution becomes smooth, and finally push the lever back to its original location. In case, after the warm-up of the engine, your motorcycle does not run idle or the idling engine speed is high, adjust the setting with the throttle stop screw.
- 6 . If you have adjusted the throttle stop screw, check again the free play at the throttle grip.
- 7 . Reinstall back the right and left side covers.
- 8 . Do the setting with great care to meet the individual engine and other conditions in a safe place.

How to perform maintenance of air filter

As the sponge element is used in the supplied filter, the filter is easy to wash. When the element has got dirty, clean the element in the following manner.

(To this product, never apply chemicals like filter cleaner or filter oil sold on the market. If such chemicals are used, the element could deteriorate.)

- 1 . Detach the air filter from the vehicle and remove dust and dirt on the element surface. Work with your hands protected lest you should have your hands cut by the cover edges.
- 2 . 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 the element hard. Otherwise, the element will be damaged.)
- 3 . Let the running tap water into inside of the element to thoroughly rinse the cleaning liquid out of the element.
- 4 . After rinsing off the cleaning liquid, dry the element. And place it in the airy shade to let it dry naturally. In case you use compressed air, let the air into inside of the element with low pressure to blow off the moisture.

SPECIAL PARTS TAKEGAWA Co.,Ltd.

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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"> • 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.

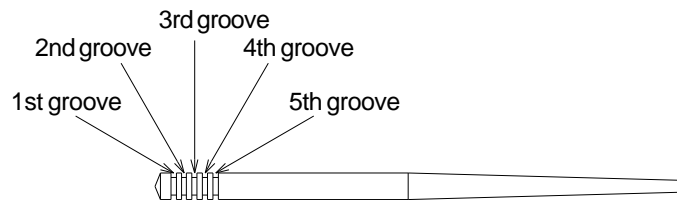
Set the carburetor only after warming up the engine, and then test-drive. And use a plug with the right heat value. Do the setting in the following manner, studying at what throttle opening position the engine starts failing.

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.

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.

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.