



# Instruction Manual for MIKUNI VM26 Carburetor Kit

(For Exclusive use with *Super head+R* )

Item Nos : 0 3 - 0 5 - 3 3 1 6 (Carburetor Kit)

: 0 3 - 0 2 0 6 0 (Manifold set)

Fit : TTR90, but limited to only those equipped with Super Head+R

- Thank you for purchasing one of our TAKEGAWA-made products. Please strictly follow the following instructions in installing and using the Kit.
- Before installing the Kit, please be sure to check the Kit contents. Should you have any questions about the Kit, please contact your local motorcycle dealer.

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

## Read all instructions first before starting the installation

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

Please note that this Kit is designed for exclusive use in TTR90, but limited to only those equipped with our TAKEGAWA's Super Head+R and that this Kit cannot be mounted on any other motorcycle models or motorcycles equipped with a normal Head.

Please do the installation correctly referring to a YAMAHA's genuine service manual for the compatible models as mentioned above.

Do not drive a motorcycle under rainy weather because the motorcycle is likely to easily absorb moisture after the installation of this Kit. Moisture will get into the engine, leading to the troubles with the engine. And cover your motorcycle with a vinyl sheet when washing it not to get the carburetor and air filter wet with water.

Setting of a carburetor must be adjusted depending on the natural phenomena like the weather and temperatures, engine and carburetor. Arrange the setting to match the engine and other conditions. For your information, the carburetor is shipped out in a state described on page 2.

This Kit is intended for closed-course riding purposes only. So you are requested to use this Kit to meet various rules and regulations.

### CAUTION

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

- Work only when the engine and muffler are cool. (Otherwise, you will get burned.)
- Do the installation with right tools. (Otherwise, breakage of parts or injuries to you may take place.)
- Always use a torque wrench to screw bolts and nuts tight and securely to the specified torque. (Otherwise, these parts may 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 hardware like screws for slack. If you find slack ones, screw them securely up to the specified torque. (Otherwise, improper tightening may cause parts to come off.)
- Always use new gaskets and packings. And check those parts, to be reused, for wear and damage. If you find worn or damaged parts, replace them with new ones.
- Never look into the carburetor's intake pipe carelessly when the engine is running. Flames could spurt by the spitting-back of gasoline or backfire, which involves danger.

### WARNING

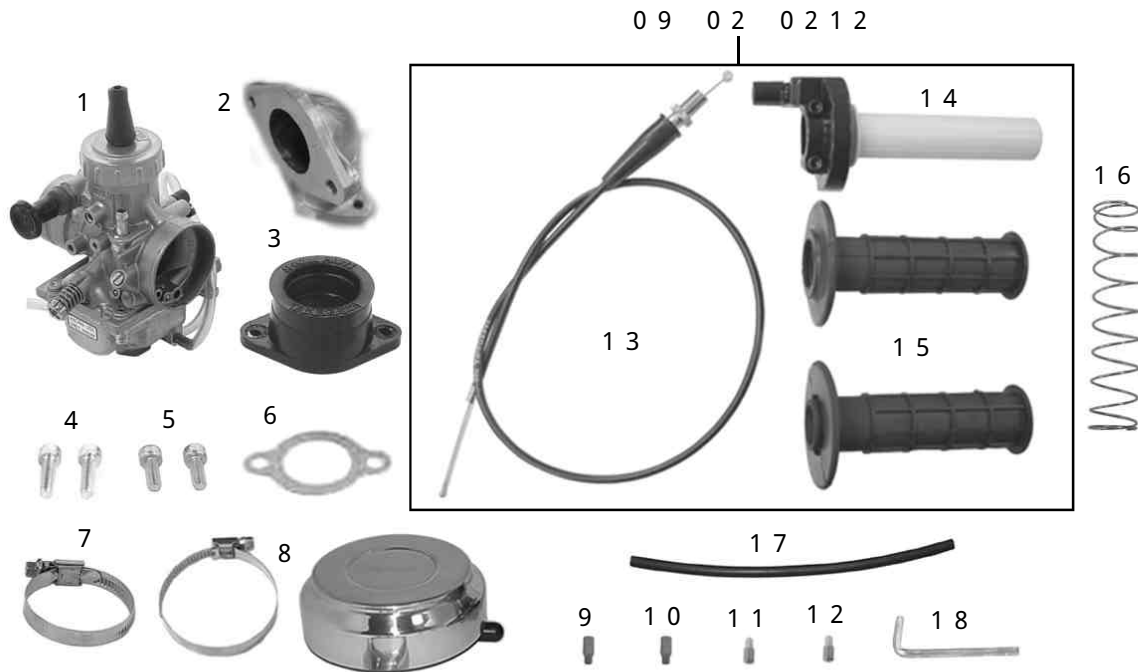
The following show the envisioned possibility of human death or serious injuries to human bodies as a result of disregarding the following warnings.

- 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 unusual with your motorcycle while riding, immediately stop riding and park your motorcycle in a safe place to check what has gone wrong. (Otherwise, the malfunction could lead to accidents.)
- Before doing work, make sure your motorcycle is secure on level ground for safety's sake. (Otherwise, your motorcycle could overturn and injure you while you are working.)
- Carry out inspection and maintenance of your motorcycle correctly according to the instructions and guidelines in the instruction and service manuals. (Improper inspection or maintenance could lead to accidents.)
- If you find damaged parts when inspecting or performing maintenance of your motorcycle, do not use these parts any longer, and replace them with new ones. (The continued use of these damaged parts as they are 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 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 includes:



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.

No.	Part Name	Qty	Repair Part Item No.	in packs of
1	Carburetor assembly	1	03-03-0321	1
2	Inlet pipe	1	17111-YS1-T00	1
3	Insulator	1	16212-165-T00	1
4	Socket cap screws, M6 x 20	2	00-00-0043	10
5	Socket cap screws, M6 x 15	2	00-00-0042	10
6	Inlet pipe gasket	1	00-03-0009	3
7	Norma Torro band	1	00-00-0050	1
8	Air filter	1	03-01-1111	1
9	Main jet, #180	1	00-03-0076	1
10	Main jet, #185	1	00-03-0077	1
11	Pilot jet, #20	1	00-03-0155	1
12	Pilot jet, #17.5	1	00-03-0154	1
13	Throttle cable COMP., 700 mm	1	17910-GEF-T00	1
14	Throttle COMP.	1		
15	Throttle grip set right and left	R / L	09-02-001	R / L
16	Throttle valve spring	1	16022-MVM-T10	1
17	Fuel hose	1	00-03-0203	1
18	Hex' wrench, 5 mm	1		

Items marked with an asterisk ( \* ) show that those parts comprises the Manifold Set.

### Factory preset mode of the carburetor

Main jet	# 190
Slow jet	# 22.5
Jet needle	5E75
Clip position	3rd groove from top
Throttle valve cut-away	# 1.5
Air screw opening	1 ± 1/4 turns

### [ Setting parts ]

Main jet:

#100, #105, #110, #115, #120, #125, #130, #135, #140, #145, #150, #155, #160, #165, #170, #175, #180, #185, #190, #195, #200, #210, #220, #230, #240, #250, #260

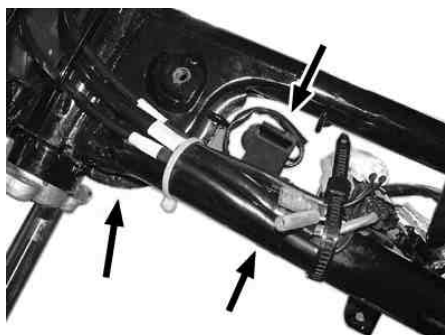
Slow jet:

#10, #12.5, #15, #17.5, #20, #22.5, #25, #27.5, #30

## Installation Instructions

### ~ Removal of genuine carburetor ~

Make sure your bike is secure on a maintenance stand on level and safe ground. Remove both left and right side covers. 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. Demount a seat, and remove the fuel tank from the motorcycle. 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. Detach a starter plunger lever (or, a choke lever) from the motorcycle. Detach a carburetor top and two heater lead wires from the carburetor. Remove the carburetor and intake manifold from the body. Detach a genuine throttle and throttle cable from the body. Install the supplied throttle COMP. and throttle cable to the body. 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 off at the base.
- : Fold back the thermostat stay upward at an angle of 45 degrees.

Secure the heater lead wire so it does not short-circuit with the frame.

### ~ Installation of Carburetor Kit ~

The work hereafter is premised on the assumption that a TAKEGAWA's cylinder head has already been installed onto the motorcycle.

#### 1 . Installation of throttle and throttle cable:

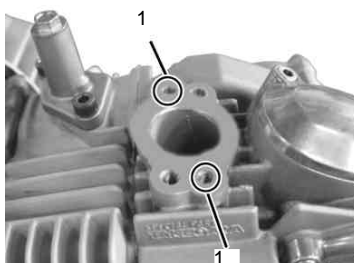
Route the supplied throttle cable along the frame. Pass the supplied throttle cable through the lower throttle housing, and connect the inner cable to the throttle pipe. And attach the throttle housing to the handle with two screws.

Apply grease to the rubbing surface of the throttle pipe, the inner cable end of the throttle cables, and its winding-up portion.

**Torque: 5 N · m (0.5 kgf · m)**

#### 2 . Installation of inlet pipe and carburetor:

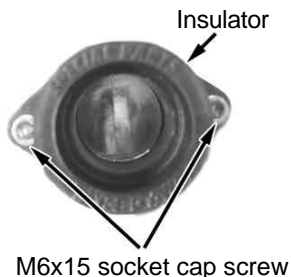
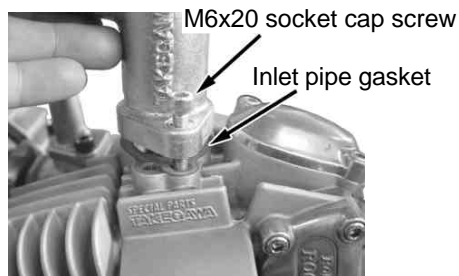
Fit the inlet pipe into a circled portion 1 on the cylinder head.



Put a gasket between the cylinder head and inlet pipe, and attach M6x20 socket cap screws to both portions.

Fix the insulator to the inlet pipe with two M6x15 socket cap screws.

**Torque: 10 N · m (1.0 kgf · m)**



Remove a top cap from the carburetor, and pull out a spring, needle clip retainer and throttle valve.

Install the top cap, spring, and throttle valve to the throttle cable.

Align the notch on the throttle valve in the direction of the throttle stop screw, and then install it to the carburetor.

Insert the carburetor into the insulator, and tighten the insulator band to secure the carburetor.

Adjust the free play at the throttle grip to be about 5 mm by turning an adjuster of the throttle cable. Snap the throttle a few times to check how much the throttle valve opens and closes.

Remove stains and grease on the handle, grip-mounting surface on the throttle pipe, and on the insides of the right and left grip rubbers. Then apply a thin coat of adhesive, 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 joining surfaces get dry.

Attach an air filter, which please secure by tightening a band.

If the air filter interferes with the frame, even if slightly, protect the interfering part on the frame. Dispose of the blow-by gas from the crankcase by yourself.

Connect a fuel hose, and attach a tube clip.

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.

Do the setting with great care to meet the individual engine and other conditions in a safe place.

**SPECIAL PARTS TAKEGAWA** Co.,Ltd.

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## Warning

Please be informed as follows with regard to the supplied MIKUNI VM26 Carburetor: A standard on-road throttle valve spring is incorporated into this VM26 carburetor at the factory.

In connecting the throttle wires, please be sure to replace the spring with the supplied off-road heavy-duty throttle valve spring.

This hard throttle valve spring serves to ease the malfunction triggered by the throttle closure caused by the mud and sand adhering to the throttle, throttle wires, throttle valve and other hardware.

However, please note that this does not go so far as to completely prevent the poor return of the throttle caused by dirt. Therefore, before riding, inspect various parts, and stop riding whenever you feel something abnormal when driving.

**SPECIAL PARTS TAKEGAWA**

# 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>

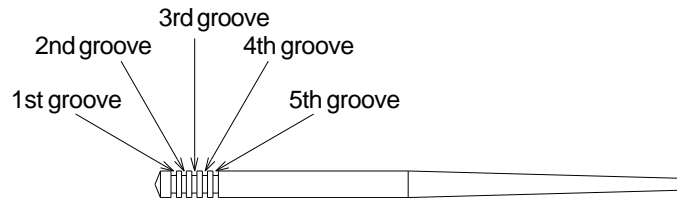
Set the carburetor only after warming up the engine, and then test-drive. And use a plug with the right heat value. Do the setting in the following manner, studying at what throttle opening position the engine starts failing.

## 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.

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.

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