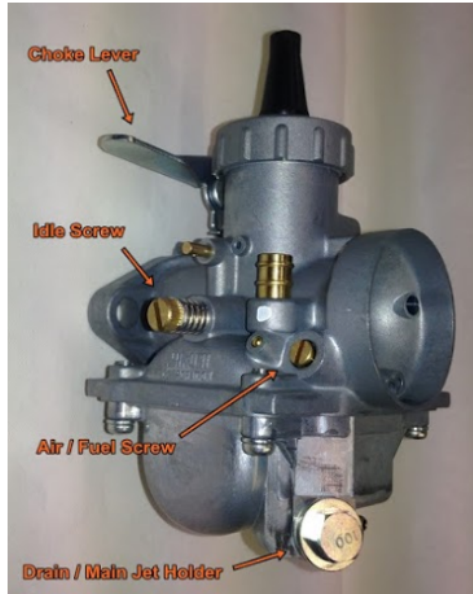


How To: Tuning the Mikuni VM22

Tuning the Mikuni VM22-133 Round Slide Carb



Choke:

The lever near the top of the carb is usually called the "choke lever". Even though it's called a choke, it's really a fuel enrichment circuit that adds extra fuel to make starting easier when the engine is cold. The pivot point on the lever can be set up a couple different ways, but the plunger that the lever activates is the only thing that matters. Just remember that if the plunger is UP, the choke is ON. If the plunger is DOWN, the choke is OFF.

Jets used at different throttle positions:

Zero throttle to 1/4 throttle = Pilot Jet and A/F Mixture Screw.

1/4 to 1/2 throttle = Throttle Valve (aka Slide)

1/2 to 3/4 throttle = Needle

3/4 to Full throttle = Needle + Main Jet

Finding the right Pilot Jet:

Turn the choke on and hit the start button. If the engine won't start, try giving it a little throttle while cranking. This will lean the mixture if the pilot jet is too rich. Once the engine is

running, turn the choke off and turn the idle screw in enough to keep the engine from stalling out.

Let the engine warm up for a couple minutes before trying to tune any more. Once the engine is warm, turn the air/fuel mixture screw clockwise 1/4 turn and see if the engine picks up RPM's. If the RPM's go up, the idle circuit is lean. If the RPM's drop, the idle circuit is rich. Turn the air/fuel mixture screw 1/4 turn in the direction that makes the RPM's go up, then wait about 15 seconds for the engine to respond. Continue turning the screw in increments of 1/4 turn in the direction that makes the RPM's increase (waiting for the engine to respond each time), until the RPM's don't go up any more. Adjust the idle screw during this process to keep the idle low but not in danger of stalling.

Once you have found the spot where the engine neither increases nor decreases RPM's after a 1/4 turn adjustment, you are very close to having the idle adjusted (now comes the really painful part). Stop the engine and check to see how many turns out the air screw is. If the air screw is less than one turn out, you will need to switch the pilot jet to a larger size. If the air screw is turned out more than two full turns, you will need to replace the pilot jet with a smaller size.

When you can reach the highest RPM setting following the procedure above with the air screw turned out between one and two turns, you have the right size pilot jet installed.

Needle Adjustment:

The needle effects how much fuel can enter the carb from about 1/2 to 3/4 throttle. The needle has 5 notches. Starting at the top 1= leanest and 5= Richest. When the needle comes up out of the Needle Jet, it allows more fuel to enter. So, the lower the clip, the more it opens up and the higher the clip the less it opens.

From 1/2 to 3/4 throttle if you are running too rich, move the clip on the needle down a notch. This will make the portion of the needle that shows at the end of the slide appear shorter.

Main Jet:

The best way to find the right main jet is to check your peak RPM while riding. The main jet can limit peak RPM and top speed. If you think your jet size might be holding you back, go up to the next larger jet and record the peak RPM. Keep doing this until the peak RPM decreases and then go back with the jet before it fell off.

Once you have everything running well, do a few plug chops to ensure that you overall mixture isn't too rich or lean.

If your plug is black or wet after a full speed run followed by a quick shutdown you are running rich. Go down one main jet size and test again.

If your plug is white or light grey after a full speed run followed by a quick shutdown you are running lean. Go up one main jet size and test again.

If your plug is light brown and dry, you are tuned. Now go have fun!!!