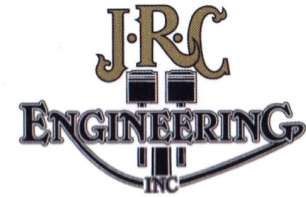
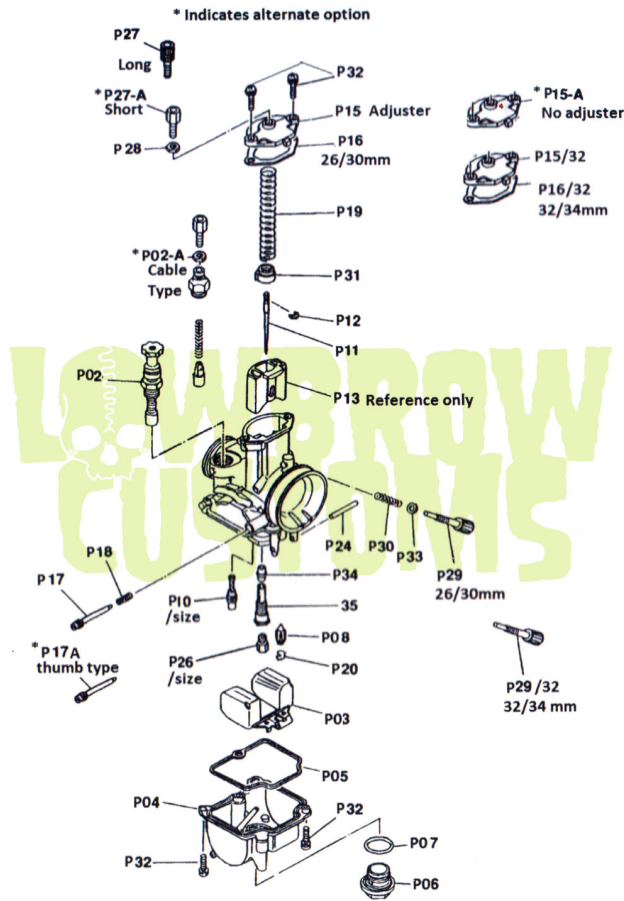


The main jet is very important to your machines overall tuning, but should never be over emphasized at the expense of needle tuning or other facets of your carburetion tuning. When the main jet is Lean the engine will experience detonation or "pinging". Exhaust note will be of a higher, tinier type note. Engine will over heat easy and can be down on horsepower. A moderately lean main jet can cause engine seizures. A severely lean main jet can cause the engine to burn a piston (whole in top). When the main jet is Rich the engine will be a bit flat or lazy at 3/4 to full throttle, giving off a flat, dead sounding exhaust note. When the main jet is severely rich the engine will sputter in the high RPM's and have a lot of trouble making power up top. The safest way to get the main jet setting as near correct as possible is to richen the main jet setting up until the engine begins to lose power and not rev to as high of RPM as before. On a single cylinder machine this will signal that the jetting is beginning to get rich. Depending on your riding application you can lean it down a bit from there or leave it for conditions requiring extra fuel (desert racing, long high speed runs, etc.)



## JRC Carburetor Tuning

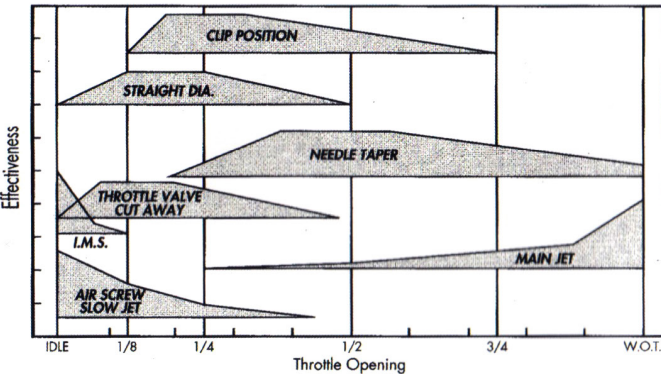
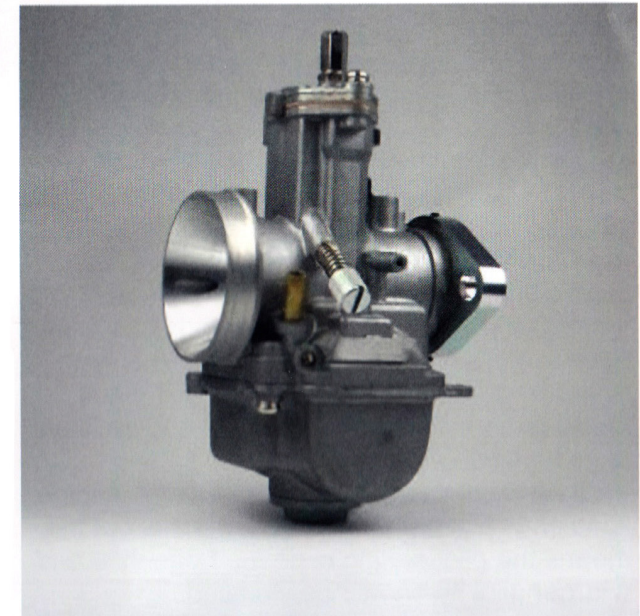
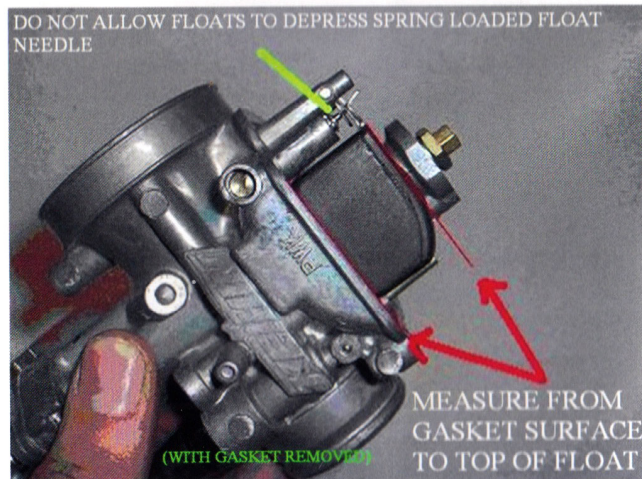
PWK 26, 30, 32, 34

for additional tech support:

800-634-3250

info@jrcengineering.com

Float height 26-34mm PWK 19mm





## JRC Carburetor Tuning

The following information is offered as a guide for a practical interpretation of the workings of JRC SUPERIOR PWK carburetors. Many people are intimidated by carburetor jetting. One of the easiest ways to work through your jetting frustration is to not view jetting as one big mystery. Jetting should be broken down into many small questions, which when thought through with some technical instruction and common sense can be deciphered into the appropriate carburetor settings.

**AIR SCREW:** The air screw is a small (5mm diameter) slotted brass adjustment screw located on the inlet side (air cleaner) of the carburetor. The air screw is a fine-tuning adjustment designed to allow the carburetor to be slightly adjusted for variances in atmospheric conditions. The air screw works with the pilot/slow speed system of the carburetor, mainly affecting the engines initial starting, idling and initial power delivery. Proper adjustment of the air screw can offer direct feedback on the necessary setting required for the pilot jet. The air screw is adjusted in a rather straightforward manner. The ideal procedure for setting the screw in the correct position is to warm up your engine to the proper operating temperature. Then turn the idle up so it is idling about 500 RPM's higher than normal. Next turn the air screw all the way in until it bottoms out, once bottomed out slowly back the screw out a ¼ turn at a time (give the engine 10-15 seconds between each ¼ turn of the screw, to allow the engine to catch up with the adjustments). Continue backing the air screw out until the engine idles at its highest RPM. The preferred setting window is between 1 and 2 turns. If the engine idles at its highest RPM from 0-1 turns out this means the pilot setting is on the Lean side and a larger pilot jet should be installed.

If the engine idles at its highest RPM at over 2 turns out, this means the pilot setting is on the Rich side and a smaller pilot jet should be installed. If you get no RPM fluctuation when adjusting the air screw there is a very realistic chance that there is something clogging the pilot/slow speed system. Clean the circuit with canned carburetor cleaner spray. Carburetor must be disassembled. Use Care when removing float bowl. Do not force the bowl off or the overflow tube in the bowl will be bent. If the air screw adjustment process is unsuccessful and leaves you confused. Set the screw at 1 ½ turns out and consult a professional for further assistance. Once set the pilot jet is not terribly sensitive. You should only be required to adjust the setting when confronted with large changes in altitude of over 2000 ft. If adjusting the pilot jet gives inconsistent feedback, or does unexplainable things.

**PILOT JET:** The pilot jet is a medium size (¾-1") brass jet located inside the float bowl next to the needle jet/main jet location. The pilot jet meters the fuel required for engine starting, idling and the initial throttle opening 0-1/8. A lean pilot jet setting will cause your engine to surge at very low RPM's, bog or cut-out when the throttle is opened quickly and have trouble idling down. A rich pilot setting will result in hard starting, plug fouling at low RPM's, sputtering as the throttle is cracked open. The pilot jet is not difficult to set. With proper air screw adjustment and a close initial setting from your engine tuner, fine-tuning should be painless.

**NEEDLE:** The jet needle is the most important component in determining your carburetors jetting. The needles function has a large effect on the carburetors jetting from ¼ to ¾ throttle. In the following paragraphs we will explain the needles functions and how to adjust them.

**LENGTH:** The needle length is determined by the clip position (grooves at top of needle) setting on the upper portion of the needle. On most needles there are 5 clip positions. The top clip position is referred to as #1 and is the Leanest setting. The clips are referred to in numerical order with the bottom position being #5, the Richest (refer to attached jetting chart illustration). The clip/length setting covers the largest percentage of jetting in your carburetor. With an emphasis at ½ throttle, the clip (length) setting will bleed both up and down to some degree to cover a wide portion of the midrange jetting. When the clip/length setting is Lean the machine will be very zingy sounding. Lean in the midrange will also rob power and cause the machine to run hot and seize easily. When the clip/length setting is Rich the machine will have a lazy feeling in the midrange. Exhaust note will be a little flat sounding. In extreme cases of richness the engine will even sputter or kind of crap out in the midrange. The safest way to set the clip position is to richen up the clip position setting until the machine loses a little power (feels lazy/unresponsive) then lean it back one position. Ideally you like to run the needle setting in either the 3rd or 4th clip position, if possible. The needle clip jetting is especially critical to your machines reliability because on average more time is spent in the midrange than any other part of the throttle. Most machines pull very hard in the midrange, putting quite a load on the engine. This makes a lean condition very detrimental to your reliability.

**MAIN JET:** The main jet affects the jetting in the upper quarter of the throttle position. Coming into play at ¾ throttle on through to full open throttle. Even though most people relate the main jet to their carburetor in general. The main jet is only responsible for the last ¼ of the jetting. The main jet does not effect the jetting for starting and idling. It plays no part on low RPM or mid RPM jetting either.