

# SETTING AN R/C CARBURETOR

**WARNING: SETTING AN R/C CARB WITH A PROPELLER IS EXTREMELY DANGEROUS!!!!!!!!!!**

**USE SAFETY GLASSES AND LONG TOOLS SUCH THAT YOUR HANDS ARE WELL CLEAR OF THE PROPELLER.**

**It is recommended that you return your carb to the factory rather than perform this dangerous activity.**

Start off with both the high speed and low speed open far enough that each is rich. On the JETT, 4 to 5 turns on the high speed, and several turns out past the nut on the low speed.

Install the correct propeller (not too big--see instructions) and set the high speed about 800-1500 rpm off the peak. Reduce the throttle to a position of about 1/3 open. (make sure the engine is off the pipe--you will hear it fall down suddenly at about 1/2 throttle as you reduce the throttle setting)

Slowly screw in the idle needle about 1/4 turn at a time and wait 15 seconds, then 1/4 more, wait, etc.....until the engine sags suddenly and dies, or almost dies. Open the idle needle about 1/4 turn from there. Note the position of the needle.

Set the high speed again to 800 off peak. Repeat this test for a slightly more closed position (about 1/4 open) and note the setting. Repeat for a slightly more open position (3/8 open) from the first and note the setting. Pick the richest setting of the three.

Finally, run the throttle up and down to insure that the engine is running well at all throttle settings, including idle. Note: you have already set the idle--this is not really an idle needle, but a mid range needle.

If this procedure does not work, several things could be wrong:

- 1) **Tank**--this is the most likely problem--improve the foam padding and check for leaks.
- 2) **Plug**--always use a new plug with the hottest range which will hold up and **remember** you blow plugs when you are lean and for few other reasons.
- 3) Too large a **prop**. The engine needs to turn adequate rpm to develop power and not overheat. See your instructions.

**Throttle response.** This is what we are after. The goal is to have both needles as lean as possible without blowing glow plugs. If you want to go slower, pull the throttle back and don't mess with the carb. After you have set the needle valves, preferably on a test stand, and are happy that you have the engine running as good as you can get, the mount it on the airplane and test it again. If there is any change, then look for a problem with the plane. Unless there is something really different, you should see no change between the test stand and airplane on the ground.

Fly. If the engine blow plugs or sounds lean and you are sure that the tank is good (look for bubbles at 1/4 full tank and full throttle) back off the high speed a bit until you get a nice rich crackle and smoke stream at full throttle. The engine should not change until the tank is below 1/4 full. (never fly below 1/4 full!!!!!!) If you still blow plugs, your idle needle may be a bit too lean. Open it up 1/8 turn at a time, but not more than 1/2 turn. You have other problems if you have to open very much.

If no plugs are blowing, but the throttle response is slow, then try setting the high speed slightly leaner. Then the low speed 1/8 leaner. Remember, if you change the low speed more than 1/4 turn leaner you will reach the spot where the engine sags and dies at part throttle. Try a hotter plug like Merlin 2003 VERY HOT sport/stunt glow plugs. Try 5% less nitro. Try a slightly smaller prop.

**Advanced information for tuned systems:** One last thing to look at if you are having trouble blowing plugs, but the carb. Seems to be set ok. You will find a throttle position where the engine is off the pipe (lower rpm) coming up from low throttle and on the pipe (higher rpm) coming down from full throttle. This usually occurs at about 1/2 throttle. Try to locate this throttle setting and set the low end coming off of full throttle (hot). You may find that the setting is slightly richer than achieved when setting coming off of idle. This is especially true with high rpm full tuned pipe systems such as ducted fan installations, and when using aftermarket tuned pipes, but can also occur with the JETT tuned muffler.

**One final note:** if you call me, the first thing i will ask you is have you put the engine on a test stand--please don't waste your and my time until you have. This eliminates most of the problems people have. Test stands are cheap and readily available. Get one! Dj 02-10