

Jett Aerotech – DubJett.com

INSTRUCTIONS SPORT-JETT 40,.46 .50, .56 &.60L

Thank you for ordering the Sport-Jett Engine from Jett Aerotech. We believe that it is the finest, most powerful engine in its class. If you have any questions, or comments please give us a call any time during working hours, 8-5 central time, at 713-680-8113.

FUEL: Any **good** low-nitro fuel with at least 18% oil and 15% nitro will work well. We recommend **Powermaster** because it contains a very good oil package and is made with top-notch chemicals. 15% nitro will give optimum results. More will give extra power, but expect shorter life. A little castor oil is recommended. Zero nitro fuels will require a smaller prop (1" less pitch).

PROP SELECTION: Piped engines are much more sensitive to prop selection than you have been used to; therefore the wrong prop can cause many symptoms which lead you to believe you have other problems. These engines are timed and piped for at least 16500 RPM (15000 for the .60L) If you run a prop that does not turn at least 16500 (15000 for the .60) at peak, you will not get optimum flight performance, and will experience some overheating problems. For example, we have found that a typical 10x6 prop will turn all the way from 15000 to 17000, so a little experimentation is often required. You will find that your transition from idle and mid-range is improved greatly as the engine RPMs are increased. If the engine is slow to pipe up, or falls off too readily, try 500 more ground RPMs.

We have test run and flown the new Bolly 10.5" x 5 and 10.5" x 6 props. They perform well. Try the 10.5 x 5. For the .60L, the APC 11x5 & Bolly 10.6 x 6 seem to be good. The .36 will run best on a 10 x 5 or a 9 x 6.

IN SUMMARY: RPM **RPM RPM!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!**

YOU MUST HAVE A GOOD GLOW PLUG BEFORE ATTEMPTING TO SET YOUR NEEDLE VALVE. We recommend Merlin 2003 HOT sport glow plugs – (Red). Others may perform equally as well.

BREAK-IN: There are many theories on break-in. ABC and AAC pistons and liners need very little. However, your rod and other moving parts need to be well seated before they can perform reliably. Piped engines and specifically piped ABC and AAC engines tend to work against you during break-in. To adequately loosen up an ABC/AAC (which has some interference fit) it must be hot. This means running it fast and hard, but you must do that before you break in the rod--Problem!! This is why almost anything works as well as the next. This is what we do: We run your engine for you and take the first chance. After we start it we heat it up immediately, but not all the way to the peak. We run it very rich for about 30 seconds, then come up to about 15500 and set the idle. It goes back and forth for about 2 minutes as we set the idle, then we test the peak RPMs. If it runs over 15800, 16200, 16500, & 17000 for the .36, .40, .46, and .50 respectively on the 10x6 Master Airscrew and 15% fuel, we send it to you. The .60 L turns the 11 X 5 APC over 15,500.

Expect your engine to be tighter than you are used to. This is not a problem. The engine will loosen up nicely after a few flights. Engines should be broken on a slightly smaller propeller than you normally would run. We recommend a 10x5 or a 9x7. This will help you achieve normal operating RPMs while still rich. Before starting the engine, open the needle about 5 total turns and crank it up. With the throttle fully open, lean the engine in until it is staged on the pipe and running about 15500. If it isn't still slightly rich, change to a smaller prop. The 9x7 Master Airscrew should work fine. Let it run there for 15 to 30 minutes. You should be now ready to fly. (visit www.dubjett.com for more on this subject)

SETTING THE IDLE: DON'T CHANGE THE IDLE UNTIL YOU HAVE RUN THE ENGINE—IT IS ALREADY SET. Your idle setting should be fairly close from the factory, so try it as-is first. Look at the nut holding the throttle arm. The idle needle should be about flush (even) with the end of the nut. If not, this is a good place to start.

Open the throttle and set the high speed to about 500 below peak. (see below) Warm the engine and pull the throttle back. Set the throttle at 1/3 open, i.e. the opening should be about 1/8" (3 mm) wide. Let the engine run and stabilize for 10 seconds. Pinch the fuel line closed. Does the engine speed up and die? If so, it's too rich--turn the idle in (clockwise) 1/4 turn. Repeat, warming at full throttle, pulling back to 1/3 throttle, allowing the engine to stabilize for 10 sec, pinching the tubing until the engine dies within 1-2 seconds. At this point, the carb should be within 1/4 turn of correct. (visit www.dubjett.com for more on this subject)

Open the throttle and warm the engine. Pull the throttle back to idle for a few seconds. Push the throttle slowly to full. If the transition is not smooth, or if the engine stalls (except for a slight pause to pipe up) try 1/8 turn leaner. If the idle is too lean, the engine will not transition past the 1/3 open point without sagging or dying. Continue this procedure, moving only 1/8 turn increments of the idle needle until you have a slow, reliable idle and a rapid transition. Remember, warm the engine before working with the idle and transition settings. Occasionally, someone

gets the idle so lean that the high speed will not work. Open the idle needle and start over if this happens.

Idle problems are almost always caused by one of three things: Bad Plug (get a new one). Wrong setting (go back to the instructions). Leaks. The Jett Carb is easy to set, so if you have trouble something is definitely wrong. If you have problems with the engine suddenly quitting while operating at mid-range, try the K&B idle plug, #4520.

Needle Valve Setting For The First Flight: Before you start, you should have a prop that you are sure is not too big, and a well calibrated tach. Try a 9x7 Master Airscrew or APC. (APC 10 x 6 for the .60L) Start the engine. Leave the battery on and slowly lean the engine in. The engine should stage to 14500 to 15000 quickly while still rich. Slowly continue leaning it in until the engine peaks. You will know the peak when the engine slows down rapidly begins to surge. At this point rapidly open the needle about 1 turn, or until the engine crackles rich. Kill the engine and let it cool. Trying to set the needle after you have taken it past peak is fruitless and can do damage. The pipe will not stage properly and your needle could easily be off by one full turn (lean).

Open the needle 1/2 turn and restart. This time do not lean the engine all the way to the peak--stay about 500 back and let it warm up. Slowly back the needle up to about 700-1000 back of the peak and keep it there for the first flight. Make adjustments slowly from this point. You will be able to run different props without changing the needle but a few degrees. If it takes more, your prop is wrong.

TANK: Hayes type tanks work well for the Sport-Jett, but any good clunk is OK if you have no leaks and keep it clean. **CLEAN YOUR TANK AND EQUIPMENT OFTEN AND USE A FILTER IN YOUR PUMP.** If you mount your engine upright make sure that the needle valve assembly is at least as low as the centerline of the tank (this may be impossible). If not, turn your engine sideways so the engine won't have to draw up hill. **ABOUT 80% OF THE TROUBLE CALLS WE GET ARE ULTIMATELY FOUND TO BE TANK PROBLEMS.**

The engine should run almost a full tank of fuel on the ground without changing RPM significantly. Look for air bubbles in the fuel line while running with 1/3 full tank. You should have no air in the fuel line. The tank must be **perfectly** isolated by thick, dense foam, around all sides, and front and back. Take the time to do this, along with making sure you have new, good tubing in and outside the tank, and above all else, no leaks.

MAINTENANCE: Your engine is designed to last for many hours, but care must be taken to avoid lean runs. A few flights lean will destroy your engine. No amount of castor oil, super oils, etc. will help you then, so avoid even a few seconds of lean running.

Optimum head clearance is .018-.020 in. (.48mm), but if you are experiencing some overheating, or blowing plugs often, you may want to raise your head. (.002 shims can be obtained from the factory.) Carefully add **one** and try it again. Use care in removing and tightening the head. We suggest you have someone help you if you are inexperienced. An improperly torqued head will ruin your piston and liner fit in just a few seconds running.

Use Marvel Air Tool Oil as an after-run oil. You can get it at machine tool supply or at tool stores.

Your muffler has soft, stainless steel screws on purpose. They break when you crash and will do less damage to the engine and muffler. Your muffler is assembled with a special high temp adhesive, so if you need to reassemble it for any reason, return it to the factory, or use "red" Loc-Tite from the auto store. (The red will only work for emergency repairs)

Proper installation of internal engine parts is important, so we recommend you let us do that. If not, we will be glad to assist you in any way.

"Wet front bearings" It is perfectly normal for the engine to blow quite a bit of fuel out the front bearing when running, especially during full throttle. This keeps the front bearing lubricated.

Fuel Consumption: These engines produce power by burning alcohol and nitro methane. These engines do both very well.

We hope you enjoy your new Jett engine. If you have any questions, call us at (713)680-8113. HAPPY FLYING!!!