

KT100 4-Hole WB3 Instructions

For SRS prepared engines

BREAKIN

The break-in fuel should be mixed with 8 oz per gallon of Maxima 927 castor oil or other high quality racing 2-cycle lubricant. Set the carb slightly rich. The engine should be broken in with starting with 2-second bursts of full throttle followed by about 5 seconds of cool down part throttle. Gradually increase the length of the full throttle bursts until full throttle is applied for the whole longest straight after about 15 minutes of run time. The 15-minute break-in should be broken into three 5-minute sessions with a cool down period between each session.

CARB ADJUSTMENT

For racing the carb should be set to about 1.5 - 2-turns on the low speed needle and about 1/8 turn on the high-speed needle. The rich low speed setting may require that the engine is started with 1 turn on the low speed needle and then opened up when underway. For best race performance set the low speed needle as rich as possible while maintaining max acceleration off the turns. Set the idle speed adjustment to maximum throttle opening to allow lubrication to continue to enter the engine when the throttle is closed at the end of a straight away. EGT normally peaks at about 1100 - 1150 degrees F and the CHT peaks about 375 – 400 degrees F during a race. These settings are guidelines and will vary with air density and track conditions.

If the engine slows near the end of a race, richen the low speed needle slightly to cool the engine. This will usually help maintain power in a long race.

CARB REBUILD

The diaphragms in the carb gradually become stiff when exposed to fuel. The stiffness affects the carb's ability to meter correctly. If your carb starts to require a lean setting to keep from flooding and then is too lean at high speeds, installing new diaphragms will usually cure the problem. The diaphragms will be best when new and will usually work

correctly for about two weeks of fuel exposure. If there is any doubt, replace the diaphragms.

When changing diaphragms, do not pull the diaphragm straight off the carb body because it will bend the fulcrum arm and change the pop off setting. Carefully slide the diaphragm out of the small forked fuel inlet fulcrum arm so it will not be damaged.

SPARKPLUG

The Autolite AR51 gapped at .032" - .035" is an excellent plug for 4 hole muffler engines.

TCI MODULE

The TCI (Transistor Controlled Ignition) module controls the ignition system and is mounted external to the engine. It can be mounted to the chain guard or remote from the engine. If it is mounted remotely be sure to connect the ground lead from the engine to the body of the TCI module. The small lead that comes from inside the TCI module connects to the double female connector attached to the engine.

RACE OIL

Maxima 927 castor oil mixed @ 8 oz per gallon of fuel gives excellent lubrication, low deposit formation, and eliminates ring sticking. Other quality oils are Redline Kart racing oil and Amsoil Dominator oil. A name brand 93 octane super unleaded fuel runs well in these engines. Race fuel is recommended and is more consistent and will pass tech.

CLEAN CARBON

The engine is set with combustion chamber volume at about 11.30cc. The legal limit is 11.00cc. Just .002" of carbon buildup on the piston top is 0.1cc. Be sure to remove the head and clean any deposits from the combustion chamber and piston top before any race after which the head cc's will be tech'ed

When you remove the head from your KT100, you can maintain its performance by torquing it in the same sequence used to torque plate hone it. Looking at the head from the top with the exhaust facing you, number the studs 1 thru 6 in a clockwise direction starting with the one on the pto side of the engine. The torqueing sequence is 142536 in a couple of stages to 145 in-lbs.

CLUTCH

Set clutch engagement/lock up to about 8500rpm or slightly below maximum torque rpm. The rpm of maximum torque will vary a few hundred rpm with ambient temp and engine temperature. Max torque tends to occur at a lower rpm on a cool day than on a hot day and a cool engine tends to produce more low rpm torque than a hot engine. So for qualification (3 laps) you may find that the kart qualifies faster with a lower rpm clutch setting than the rpm setting for the race.

Peak rpm will be about 14,600 on a short sprint track and 13,100 on a road race course. These are just guidelines. Set the clutch engagement and gear ratio to that which gives the best lap times.