

How to correctly and easily start your EOS 100 engine

(advice for EOS 100 and EOS 100 Booster same)

If improper treatment and start up procedure will be conducted, the engine does not start easily and as desired. Therefore, we would wish to release this advice to engine owners and agents as follows;

cold engine

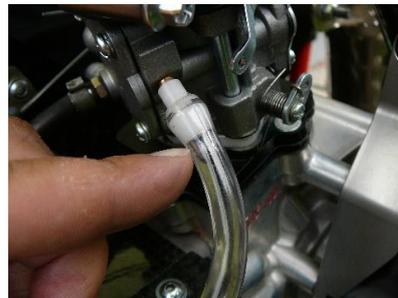
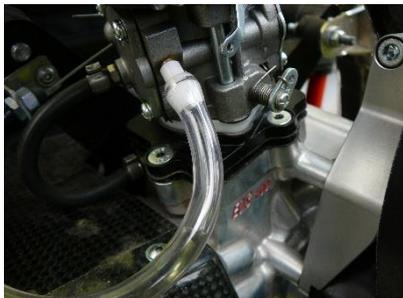
(same procedure for totally new engines for the first run or engines not used since a longer period of time)

Prior start, please proceed the following checks;

- enough fuel in the tank
- air vent of fuel tank open
- fuel filter not blocked with dirt
- all fuel line connections are well tight connected and air tight
- all fuel lines are transparent, at least the last part going into the carburetor so to see the fuel flow (and no air bubbles in fuel)
- remove spark plug and check condition, well clean and in case wet from fuel, well dry it up, install and well place back spark plug cap
- check throttle cable that it is well working and if throttle released, cable allows throttle lever on carburetor to totally go back to idle position
- check for the right setting of the Low Jet Adjuster Screw (see the manual). If you are not sure, bring it back to standard setting.

Step 1

Pump up fuel with hand pump exactly(!) to the point where fuel reaches the inlet nipple on the carburetor. Not any further(!). Do that very gentle and slowly, watching the fuel flow on the transparent fuel line.



Step 2

After that push membrane on carburetor with one finger, gently push in (you can feel a bit of pressure going away).

Step 3
Engage the choke.



Step 4
By not giving any(!) throttle, pull the hand starter one, two to several times until the engine fires up the first time, then stop(!) pulling the starter rope. If engine also starts to run, it will stop immediately again, then do not(!) pull the starter rope again!



Step 5
Disengage the choke.

Step 6
By activating the throttle between 0-20%, pull the hand starter until engine runs. Normally you need only 1-2 pulls for that. When engine runs, keep it running with a little throttle engaged to warm it up a bit.

Once warm, if you stop the engine and wish to re-start it again right away, it should start up again easily with one short starter pull only, with no throttle or little throttle engaged only! Now you can adjust the idle with the Idle Adjuster Screw as any time you move to another place or weather or outside air temperature or humidity changes considerably, there may be need for re-adjustment.

Also check if the engine behavior is right, i.e. when you accelerate the engine it does well as expected, and when you release the throttle that it comes back quick to idle and stays there by keeping the same RPM and does not stop or slowly increases RPM by itself again. As in such cases there is also need to re-adjust the Low Jet Adjuster Screw accordingly (see the manual for instruction).

PLEASE NOTE; a wrong adjusted Low Jet, especially(!) when set to rich will affect the start up and makes you pull many more times or causes the need to engage the throttle much more than it should be!

CAUTION; if you pump fuel into the carburetor and do that to much – mostly(!) it is always to much – then engine gets flooded and in consequence does not start at all or it needs several start pulls plus(!) the need to give half or better full throttle to make the engine start up at all and run.

See the advice later for how to handle a flooded engine.

CAUTION; too much fuel in the carburetor in consequence running into the cylinder, making the start pull more heavy(!) AND making the spark plug wet and stopping it to spark! There may be need to remove spark plug and dry it up and there may be need to do several pulls with removed spark plug and no(!) throttle to get out the mass of fuel from the cylinder. See the advice later for how to handle a flooded engine.

CAUTION; a permanently flooded engine and in consequence a permanently flooded spark plug – fuel goes into the spark plug chamber – kills the spark plug! Fuel when exploding in the spark plug chamber destroys the ceramic sealing inside the pole pin resulting in partly to total failure of the function of the spark plug and replacement becomes necessary!

PLEASE NOTE; one of the major reason a user cannot start the engine is as he is flooding the engine permanently! Better to accept several more start pulls to let the in the carburetor integrated fuel pump do its job and pump the right amount of fuel into the carburetor chambers, rather than doing the wrong job with the fuel hand pump / primer bulb!

REMARK; when a user getting more and more familiar with the engine and getting the right feeling what amount of fuel needs to be pumped into the carburetor – pumping very gently the very right(!) amount – and pressing the membrane of the carburetor right in the right moment, then an even better engine start up can be achieved. In case of uncertainty about this it is strongly recommended to follow the steps as described previously!

warm or hot engine

For the correct start up procedure of a warm or hot engine do not(!) engage the choke! The below described start procedure becomes necessary when a warm or hot engines rests for a while and getting re-used. This procedure is not necessary if a running engine getting stopped and re-started after a very short time, as then it starts with only with 1-2 start pulls without any throttle or only up to 20% throttle engaged.

To start a warm or hot engine please follow the below steps;

Prior start, please proceed the following check;

- see if fuel line, the last part going into the carburetor, is still full of fuel and without air bubbles

Step 1

If necessary – mostly this is never the case - pump up fuel with hand pump exactly(!) to the point where fuel reaches the inlet nipple on the carburetor. Not any further(!). Do that very gentle and slowly, watching the fuel flow on the transparent fuel line.

Step 2

By activating the throttle between 50-100%, pull the hand starter until engine runs. Normally you need only 2-5 pulls for that. When engine starts running, instantly(!) release throttle to let it go back to low RPM or idle RPM.

PLEASE NOTE; a warm or hot engine making the fuel totally dry up inside the cylinder. In consequence the start pull is remarkable heavier as the piston has much more friction!

flooded engine

A flooded engine will not start easily or not at all. Oil will drop out from the exhaust and even leak out of eventually existing small holes of welding seams of the exhaust pipe. Oil comes out of the ball junction on the manifold. After re-start of a previously and strongly flooded engine, heavy smoke comes out of the exhaust even for a long period of time as oil rests in the manifold and in the silencer and it needs to get burned by temperature until gone.

CAUTION; oil drops getting spitted from the exhaust for even quite a long period of time (protect your glider!).

To start a flooded engine, proceed as follows;

Activate the throttle for 100%, do not(!) engage the choke. Pull the starter rope as many times as necessary until the engine starts up. It can be necessary to pull between 5-15 times very powerful, or more, to make the engine run. As soon as the engine starts, go back with the RPM but continue to run the engine with 20-50% throttle until it stops smoking extensively and starts to run again evenly. Then you can go back to idle RPM and it should keep running smooth. Every re-start then should be easy with no throttle or little throttle involved.

Clean exhaust, frame and propeller from oil.

To start a heavily flooded engine, to improve the start up, you may proceed as follows;

- remove the spark plug and clean and dry it up
- pull the starter rope several times with removed spark plug (no throttle)
- re-install spark plug

Activate the throttle for 100%, do not(!) engage the choke. Pull the starter rope as many times as necessary until the engine starts up.

www.eos-engine.com

the engine manual is available as PDF download; EOS 100 engines/EOS 100 or EOS 100 Booster/Technical Data/ => Download Engine Manual

