



Engine Operation Guide



You will need:

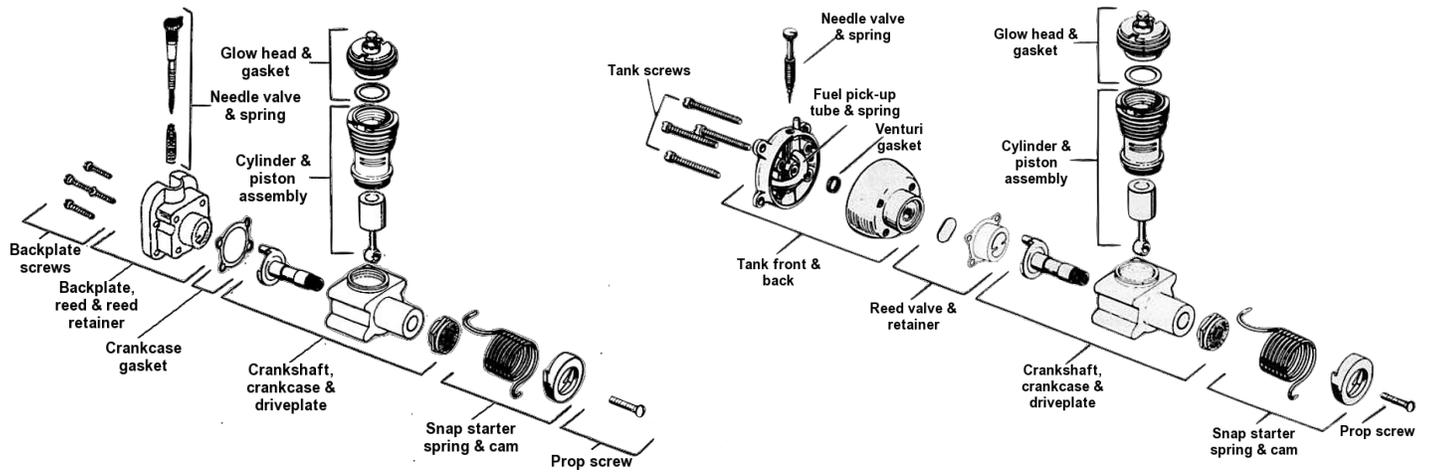
- Small, external fuel tank (unless your engine has an integrated tank)
- Fresh, well charged battery (two 1.5 volt "D" cells with terminals soldered "+" to "+" and "-" to "-" or use a battery box) A 1.5v hobby battery would be fine. **DO NOT use a battery over 1.5 volts**; it will burn out the glow head.
- Glow head clip
- A model airplane fuel consisting of 15-25% nitro (35% for racing) and a minimum of 20% oil (**at least 1/2 of that 20% has to be Castor oil**).
- A propeller with a diameter of 5", 5½" or 6" and a pitch of 3" or 4"
- Propeller screw & washer
- 2 Cox Wrenches

Optional accessories:

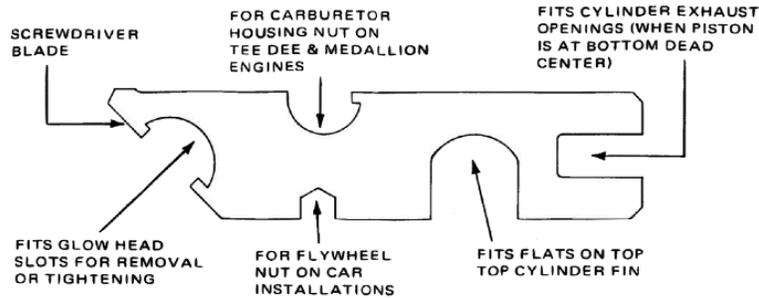
- Spring starter
- After-run oil (CoxLube or similar)
- Starter "chicken" stick or ½A electric starter
(Electric starter not recommended / risk of breaking the conrod)

Starting your engine:

1. Fill the fuel tank with clean fuel. This is self-explanatory and everyone has their own preferred method. If possible, use an inline fuel filter to keep the fuel clean. Keep all fuel equipment clean! If you are using an engine that requires an external tank, you should make sure there is fuel in the fuel line before trying to start the engine. There are several ways to fill the fuel line. One method is blowing lightly into the tank vent until you see fuel flowing through the fuel line.
2. Turn the needle clockwise until it stops. Do not force it! Then, turn the needle 3 full turns counter-clockwise. Once running, you can lean the mixture by turning the needle clockwise.
3. Squirt a few drops of fuel into either the top of the air intake, the carburetor or into the cylinder exhaust port. Close the opening with your finger and flip the prop over a few times.
4. Use a fresh battery and connect the glow head clip to the top of the glow head (see drawing on page two). It is important that you prime the engine before connecting the glow head clip. Priming with the battery attached can cause the fuel to ignite and the prop to kick, potentially wounding your fingers.
5. Turn the engine over by flipping the propeller. If your engine has a spring starter, simply wind the spring one turn clockwise and release. If your engine doesn't have a spring starter, simply flicking the prop over vigorously (from right to left when facing the prop) works as well as anything else. **If the engine fires but does not start**, and there is not an excess of raw fuel flowing out of the exhaust ports, enrich the mixture by turning the needle a quarter turn counter clockwise. Repeat the starting procedure. **If the engine runs but slowly bogs down**, stopping with amounts of fuel appearing around the ports, the mixture is too rich. Lean it out by turning the needle a quarter turn clockwise.
6. Once the engine is running continuously, remove the glow head clip. Play with the needle to adjust the setting to optimal RPM. Turning the needle counter-clockwise allows more fuel to pass through, and the engine will start to run rough or lumpy. You will see copious amounts of fuel and oil flowing out of the exhaust ports. Turning the needle clockwise will lean out the mixture, causing the RPM to increase. However, the RPM will only increase to a point, after which there is not enough fuel in the relation to air being absorbed; and the engine quits. It is a good idea to run the engine a bit on the rich side, as this will promote longer engine life. Also, you don't want to lean out the mixture fully on the ground because, once in the air, the engine tends to lean itself out and may stall if the setting was already very lean on the ground. Turning the needle counter-clockwise ½ turn from full RPM is a good compromise.



HOW TO USE YOUR COX WRENCH



Connect Cox glow head clip wires to a 1½ volt battery or Cox battery box. Attach glow head clip to glow head.



Starting your engine (cont.):

7. Sometimes (if you don't have a spring snap starter) the engine may start backwards. You can either wait for the engine to run out of fuel, turn in the needle valve or you can stop it by pinching the fuel line. Reed valve engines can run in either direction (there will be more crankcase and drive-plate wear from excessive "pusher" use). If you have a pusher engine (usually has a brass drive-plate), you shouldn't have to worry about wear between the crankcase and drive-plate through normal "pusher" use.
8. A brand new engine should be broken in. Simply run the engine for one full fuel tank in a very rich mixture setting. Let the engine cool off and repeat with a slightly leaner mixture (higher RPM). Repeat once more at almost full RPM and you are set to go.

Cox International



www.coxengines.com

1-877-769-1779
(Toll-free from USA & Canada)

(01) 778-412-9111
(International)