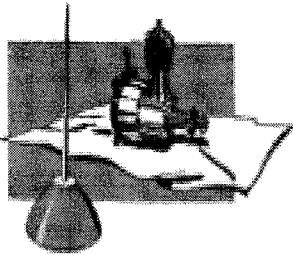


Sooner or later, your engine will need some care and maintenance. Whether you use your engine every day or you just took it out of the box for its first run, you will have to apply the proper care and maintenance to keep it in its best condition. We recommend you read the entire guide for tips and useful information.

## Care & Maintenance Guide



### Recommended Supplies:

- 2 Cox wrenches
- "Xenalube" (or other high-end oil)
- Bottle of 91% Isopropyl alcohol (or fresh glow fuel)
- Several Ziploc bags (or equivalent sandwich bags)
- Jar (or other closeable container)
- Small Phillips head screwdriver
- Small flat head screwdriver
- Roll of paper towels

### Before starting:

If you are **starting a brand new engine** that has never been used before, make sure you have read through the original engine manual or the generic **Engine Operation Guide** available from Cox International ([www.coxengines.ca](http://www.coxengines.ca)) if you do not have the original engine manual. From Cox International is also available a **Fuel Guide** as well as a **Troubleshooting Chart**.

If the engine has been boxed up and unused for a decade or longer, there is a good chance the oil applied at the factory has dried or gummed up. Just place a few drops of fresh fuel in the exhaust port and flip the engine over several times.

Make sure you mount the engine on your model, wood board or other secure test stand. Never hold the engine in your hand or in a vise. Install a propeller of appropriate size; a prop ranging in size of 5x3 to 6x4 should work fine for .049 engines, for instance.

Although some Cox engine manuals state that no break in is necessary, we strongly recommend you do so. Follow regular starting procedures according to your engine manual or the generic **Engine Operation Guide** but run the engine one full tank on a rich mixture. Let the engine cool off and repeat with a slightly leaner mixture. Repeat once more at almost full RPM and your engine is set and ready to be used!

If you are **starting a used engine that was not originally yours** such as one purchased somewhere or given to you by someone else, you may not know how that engine was cared for. Just because the engine is in cosmetically good condition, doesn't mean it is in perfect operating condition. That could be the other way around as well; an engine that looks beat up may run like it's new. Remember, the engine may have been sold by someone who did not know what they had, so expect it to not be exactly as described. Chances are, you didn't get the original engine manual for your engine. You can either use a manual created for your engine or the generic **Engine Operation Guide** from [www.coxengines.ca](http://www.coxengines.ca) where you will also find a link to download most original Cox engine manuals.

## Before starting (cont.)

If you are **starting an engine that has been stored improperly**, such as in the bottom of a dirty toolbox, make sure you carefully disassemble the engine completely and soak it in isopropyl alcohol or fresh fuel for a few hours or overnight. Once you remove it from the solution you soaked it in, use paper towels to wipe all the parts clean. You should not see any specks of dirt on any part of the engine (especially internal parts). Please make note that there is a chance the engine could have some corrosion; corrosion does not wipe off like dirt. A small amount of outer surface corrosion usually doesn't affect the performance of the engine, but if the engine is heavily corroded or corrosion has formed on the inside of the engine, parts may need to be replaced.

If the cylinder or piston appears to have a brown deposit or "varnish" on the inside, you will need to use a very fine (000 grade) steel wool to scour the deposit away. Once the engine is clean, reassemble it and you are ready to go. Please note that you may need to replace the crankcase and venturi gaskets, as they may have been damaged while you were taking the engine apart.

**If the engine is seized or stuck, do not forcefully turn it over!** Forcing anything on these engines could cause serious damage to a point where parts will need to be replaced. To free an engine up, try soaking the entire engine in isopropyl alcohol or fresh fuel for a few hours or overnight. If it is still seized, you may have to heat the cylinder and crankcase with a hairdryer. Once hot, you should be able to slowly turn the engine over. If the engine is then still seized and gummed, there are other issues besides dried oil and more action will be needed to free it up.

## After running your engine

After you are done with your engine, steps need to be taken to ensure quick and easy starting the next time you use it. Make sure you run all the fuel out of the tank or empty the tank before storing. After the last run, oil the engine with "**Xenalube**" (available from [www.coxengines.ca](http://www.coxengines.ca)) or other high-end oil. If the engine is removed from the model or test stand, after oiling, wrap it in a cloth or paper towel and place it in a plastic Ziploc bag. If the engine is still on the model, wipe the engine down, oil it, wrap it in a cloth or paper towel and then place a plastic Ziploc bag over the engine.

If you have had a hard landing; where the engine may have gotten dirt in it, remove the engine, take it apart and soak it in isopropyl alcohol or fresh fuel. After a few hours, wipe the engine down and carefully reassemble it. Remember, running a dirty engine could destroy it in just 2-3 minutes!

If the engine has made contact with water, take it apart, soak it in isopropyl alcohol or fresh fuel, reassemble and then oil the engine. This is very important, especially if the engine has made contact with salt water. Salt water will rust and corrode your engine in a very short amount of time.

**Cox International**



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