

Winterizing

MOTORIZED GARDEN EQUIPMENT

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Nothing is more frustrating than pulling your lawn mower or tiller out of the shed from a long winter's nap and not being able to get it to crank. Small engine repair shops get inundated each spring with hundreds of engines that will not crank—simply because of improper winter storage.

Storage of Small Engines for the Winter

Winterizing your small engine, whether a lawnmower, hedge trimmer, or any other equipment, is essential to assuring it will crank the following spring or anytime you store the equipment for longer than a month. Perhaps the biggest problem that we face in keeping small engines running properly is using fuel that contains ethanol. Ethanol is derived from corn or other sources and is used to extend the current fuel supply. Unfortunately, ethanol attracts and retains water, which can cause corrosion to the tank, carburetor, and engine. Ethanol acts like a solvent and will dislodge varnish and sludge, causing the muck to build up inside the engine. In as short as a couple of weeks, the ethanol in gas will begin to clog the air and fuel jets in our small engine carburetors. Ultimately, this leads to machines that either run poorly or will not crank at all. The worst thing you can do for your small motor, is to leave it stored all winter long with untreated ethanol fuel. This will surely cause headaches in the spring.

Proper Storage Methods

The best way to store most small engines is to empty the excess fuel back into an approved gas container and then run the motor until all of the fuel is burned through the carburetor. If you must store equipment in the winter with ethanol-based fuels, it is imperative that fuel be treated first



with an ethanol fuel stabilizer. These products lengthen the viability of the fuel and should be used every time you put fuel into your motor. They are designed to keep the ethanol stable and from gelling up into the carburetor ports and fuel lines. There are several products on the market, but make sure to choose a product that is designed to stabilize ethanol fuel. Read the product's label for the proper ratio mix with your fuel in your small engine. Fuel stabilizers only work on fresh gas and not stale or old fuel.

Gas containers should be stored in a cool, dry location; ethanol gas will attract moisture. Use an approved container that is self-venting and spill proof. Most stabilizer fuel products will extend the shelf life of your fuel for two to three months. Beyond that period of time, it would be risky to use the stored fuel. Ultimately, it is best to store your motor dry, without fuel, but storing equipment with treated fuel or non-ethanol fuel is far better than with non-treated fuel.

Determining if You Have a Fuel Issue

In order for any engine to run, they require three things: air, fire, and fuel.

- Begin by removing the air breather element from the air breather housing. Replace or clean it if necessary. Provided you have a clean air breather, if your motor will not crank or runs poorly, it is most likely a fuel or fire problem.
- The fire mechanism on a small motor is essentially the flywheel, coil, and spark plug. To see if you have a fire problem and not a fuel problem, check first to see if you have a good spark. A spark plug test tool can be used, or starter fluid can be sprayed in the open choke of the carburetor to see if any spark is present. If a good spark is detected and the motor fires, the problem most likely lies in the fuel system.
- To determine if fuel may be an issue, begin by emptying the gas tank and putting fresh treated fuel in the motor. Try shooting several shots of carburetor cleaner into the carburetor choke while attempting to crank. Detach the fuel line going to the carburetor to see if fuel is flowing from the gas tank.
- If fuel is getting to the carburetor and the motor will still not turn over, more than likely the carburetor may need rebuilding or replacing.

Checklist for Winterizing Tools

By following these steps, your motor will be prepared for long-term storage. It should be ready to fire up and perform the next time it is needed.

1. Empty all fuel from the fuel tank.
2. Crank motor and run all existing fuel out of the carburetor.
3. Remove the spark plug, checking its condition, and replace it if necessary. Remember to check for the proper gap spacing with a feeler gauge before installing.
4. While the spark plug is out, spray a small amount of light lubricating oil into the cylinder through the spark plug hole. Pull the starter cord several times to work the oil up and down the cylinder walls.
5. Remove and inspect the air breather; clean and replace as necessary.
6. With a four-stroke motor, check the engine oil. Replace the oil and the filter, if necessary.
7. Sharpen any blades or tines now before the new season starts.



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