

# EXPLORING EQUIPMENT

## Winterizing Equipment: Off-Season Insurance

By Eli Luster

**E**quipment that will not be used during cold weather months should be adequately prepared for storage to ensure it will be in top condition. Here's a basic, step-by-step guide to giving your equipment the winter protection it needs.

- Change the oil and filters, following the correct procedures for each machine. For gasoline engines, use the gasoline storage stabilizer recommended by the equipment manufacturers. Add the stabilizer and run the engine for a minimum of 10 minutes to make sure the stabilizer gets into the carburetor.

For diesel engines, first change the water separator, which takes the water away from the fuel. Then add the recommended diesel stabilizer and run the engine for 10 minutes.

Varnishing can occur in fuel left in machines without stabilizer. Attempting to run an engine dry is not an effective alternative, as even small pockets of fuel trapped in the machine could cause varnishing problems.

- Wash and thoroughly clean the machine.

- On liquid-cooled engines, check the cooling system rating for the temperature range anticipated for your region. Add anti-freeze protection, even when the equipment will be stored in an unheated building rather than outdoors.

- Remove the spark plugs and place one ounce of clear oil in the cylinders. Install the spark plugs, but don't connect the spark plug wires. Crank the engine five or six times to distribute the oil. Make sure the engine and engine compartment are clean. Paint any scratched or chipped parts of the engine to prevent rust.

- Service the air cleaner.

- Lubricate, grease and oil all moving parts.

- Remove the battery. Clean it. Check the electrolyte level and charge the battery. Then store it in a cool, dry place where it won't freeze. Storing the battery

away from the machine avoids any corrosion.

- Turn the fuel shutoff valve to the "Off" position.

- Repair any worn or damaged parts on the machine. Replace parts as necessary. Tighten any loose hardware.

- Touch up all paint chips. Once corrosion starts, it can spread quickly. By taking care of the small spots now you'll keep up the trade-in value of the machine and improve its overall appearance.

- If cutting units are removed for service, plug all hydraulic lines.

- Thoroughly clean all cutting units.

- Raise cutting units and other machine attachments and lock them in the transport position. If they remain in the ground, it's easier for moisture to accumulate and start corrosion. If the unit can't be started in the spring, it could be moved if attachments are in the transport position. It's also a safety factor.

- Apply multi-purpose lubricant on exposed hydraulic cylinder rods.

- Use spray lubricant to remove rust from rollers and other exposed parts. Wipe clean. Then apply a coating of oil to the cutting reel and bottom blade of the mowing units, and to all exposed bare metal parts of the other attachments. Spray lubricant on the cutting unit rollers. This light coating will serve as a rust preventative.

- Move hydraulic levers back and forth to release pressure.

- Loosen or relax any belts that are easy to loosen. This prevents the deformation that occurs when they stay taut,

in the same position, for long periods.

- Put blocks or support stands under the vehicle to take the weight off the tires and let one-third of the air out of the tires. This prevents flat spotting and the moisture accumulation that can occur when vehicles are stored on rock or limestone.

- Store the vehicle in a dry, protected place. If it's stored outside, place a waterproof cover on it. If possible, use a cover for inside storage also to protect the unit from dust and dirt, from leaks, and from condensation dripping off a roof during temperature changes.

- Mouse-proofing is an important part of storage. Use whatever methods it takes prevent these furry invaders from damaging your machines. Mice will build nests in small, confined, dark areas, including equipment engines. They chew insulation off wires. On air-cooled engines, mouse nests can disturb the air flow the machines rely on for cooling, possibly causing hot spots in the engine. Nests can also block air movement through the air cleaner and carburetor, and may cause rough running or rough idling.

- Because mice are tricky, examine machines in the spring before starting their engines, so that any nests can be removed before damage occurs.

Attention to detail during equipment winterization makes start-up that much easier in the rush of spring. □

*Editor's note: Eli Luster is field service coordinator at the John Deere Lawn & Grounds Care Division's Horicon Works in Horicon, WI.*

### Winterizing for Winter Use

- Clean the battery and battery terminals and check electrolyte levels. Charge the battery.

- Make certain the charging system is operating properly. Winter is hard on batteries. Since days are shorter, machine use cycles are also shorter, and extra battery power is needed for operating lighting systems.

- Follow the manufacturer's recommendations for the proper oil to use for your regional temperatures. A thinner viscosity usually is necessary in colder temperatures.

- Check the cooling system and add anti-freeze protection for the expected temperature levels.