

Chipper-Shredders

Disposing of yard waste can be difficult if your municipality bans leaves, grass clippings and other forms of yard waste from landfills. Leaves and other vegetation used to make up a large portion of landfill trash, so these restrictions increase the useful life of a landfill. But they make disposal of yard waste difficult, especially in areas that also ban burning.

Composting is a viable alternative for leaves and grass clippings, but it does not work well for brush and small limbs. A chipper-shredder is an alternative that works for all of these yard wastes and offers beneficial side effects as well. (For information on composting, see MU Extension publication G6956, *Making and Using Compost*.)

Chipper-shredders reduce brush and small limbs to a size that is easier to handle and that is suitable for composting or for soil covers, which reduce moisture loss and weed growth and add beauty to a landscaped lawn. Shredding leaves and grass clippings also will reduce the time it takes for composted materials to decay.

Chipper-shredders are available in sizes ranging from light-use, electrically powered models to power take-off (PTO) models. Portable units with gasoline engines may be adjusted from shredding leaves to chipping limbs of up to 3 inches in diameter. The speed of processing varies by brand. Gas-powered units work better for chipping limbs but have little advantage over electric ones when shredding leaves. All units work best when the materials are dry. Always consult the unit's user manual for operating instructions and the maximum branch size that can be processed.

Safety precautions

Converting unwanted yard wastes into valuable resources is rewarding and can be done safely when a few precautions are followed.

Hands. A chute on the side of the unit cuts straight or closely trimmed limbs into flakes $\frac{1}{2}$ to $\frac{3}{4}$ inches wide by $\frac{1}{8}$ inch thick. When feeding a limb into the chute, pay particular attention to the pulling force the chipper exerts on the limb. Heavy work gloves can protect your hands if a limb is pulled from your grasp. Gloves also reduce the effects of limb vibration as limbs are fed into the chute.

Leaves to be shredded are stuffed through a top-feed hopper and can be reduced to one-fourth or one-tenth of



Figure 1. Chipper-shredder. (Image courtesy of DR Power Equipment)

their original volume. During leaf shredding, always use the tamper on the unit. The tamper pushes leaves into the shredding chamber and stops short of shredding itself. Never reach into the hopper of a chipper-shredder that is running.

Eyes. Wear eye protection, such as safety goggles, whenever the chipper-shredder is in operation to protect your eyes from flying chips and blowback from the hopper. Also, watch for rocks or other objects that could damage the machinery or cause injury. An object propelled at 6 miles an hour is traveling fast enough to dislodge an eye. Always keep bystanders away during operation.

Hearing. Hearing protection usually is required as well. Noise levels vary depending upon the model and whether it is electric- or gas-powered. For more information, see MU Extension publication G1962, *Noise: The Invisible Hazard*.

Gasoline. Gasoline must be treated with care and respect before, during and after refueling a gasoline engine. Gasoline should be stored in an approved fuel storage can and kept in a cool, well-ventilated area away from open flames. Stop the engine and allow it to cool before refueling. Refuel a safe distance from burning brush piles and

preferably downhill from any flames. Do not smoke during refueling. Return the fuel can to storage immediately after refueling.

Electrical outlet and extension cord. When using an electrically powered appliance outdoors, power should come from an outlet equipped with a ground fault interrupter (GFI). A GFI is designed to immediately stop the electrical current when it senses a short in the system, such as the operator receiving a shock.

Use an extension cord that has a grounded, three-prong plug, which maintains an extra ground in the event of appliance wiring failure. Select the appropriate size cord for the current-demand of the appliance. The longer a cord is, the larger the diameter needed to handle the current load. Using a cord that is too small will cause premature failure of the appliance and the cord.

Guards and shields. As with the operation of any machinery, all guards and shields must be maintained and replaced if damaged.

Clothing. Always wear close-fitting clothing when operating a chipper-shredder. Baggy or loose-fitting clothing can become entangled in the moving parts and cause serious personal injury.

Safety compliance. Chipper-shredders should have a certification symbol of safety compliance from the Outdoor Power Equipment Institute (OPEI) and the American National Standards Institute (ANSI). When selecting a chipper-shredder, check that it comes with this certification.

Safety checklist

When operating a chipper-shredder, take the following precautions:

- Wear eye protection.
 - Wear work gloves.
 - Wear hearing protection.
 - Do not wear baggy or loose clothing.
 - Keep bystanders away.
 - Avoid lengthy electrical cords.
 - Never refuel a hot or running engine.
 - Make sure the chipper-shredder is firmly set on level ground.
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User manual. Before you attempt to use a chipper-shredder, read the user manual from cover to cover and be sure you understand how to operate the unit safely. If you have questions after reading the manual, contact the dealer from whom you purchased the unit.

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