

Wood chipper safety

Introduction

Wood chippers, brush mulchers, tree recycling units, etc. can be very effective, yet are dangerous pieces of equipment. Proper procedures should be followed to ensure that the equipment is operated safely.

This document is intended to assist users and operators in the safe operation of wood chippers and related equipment. Specifically, it recommends prevention steps to minimize the potential for personal injury and property damage. All operators should be familiar with these safety requirements before using the machinery. It is not a replacement for the manufacturer's safety and operating manuals, which each operator has the responsibility to read and understand completely.

Description of the hazard

Self-feeding mobile wood chippers, commonly used during tree trimming operations, consist of a feed mechanism, knives mounted on a rotating chipper disk or drum, and a power plant. Tree branches and trunk sections, which are fed manually into the machine's infeed hopper, are grabbed by the feed mechanism or chipper knives. The chipper disc or drum, rotating between 1,000 and 2,000 RPMs, cuts and propels wood chips through the discharge spout, usually into a chip truck. The housing containing the chipper disc or drum is sectioned and includes a removable hood that allows access to machine parts for maintenance.

According to the Bureau of Labor Statistics, 13 laborers lost their lives from 1992-1998 while working near mobile wood chippers. In eight of the incidents, the victim was caught by the feed mechanism and pulled through the chipper knives. The five other victims were struck by hoods (rotating chipper knife guards) that separated from the machines after being improperly opened or closed while the knives were still rotating. These two scenarios represent the major hazards present during wood chipper operation.

Caught-by hazard: Workers feeding material into "self-feeding" wood chippers are at risk of being fed through the chipper knives if they reach or fall into the infeed hopper or become entangled in braches feeding into the machine.

Struck-by hazard: Workers are at risk of being struck by unlatched, improperly secured, or damaged/improperly maintained hoods that may be thrown from the wood chipper after contacting the rotating chipper knives.

Recommendations for prevention

Pre-inspection and training

- All safety devices and controls, such as emergency shut-off devices, are tested and verified to be functioning properly before the chipper is used.
- Wood chippers need to be inspected each day before startup to look for defects such as broken or missing hood latches and pins or cracked and worn hinges. Broken, damaged or missing machine components should be repaired or replaced before the machine is placed in service.
- Access panels for maintenance and adjustment, including discharge chute and cutter housing, shall be closed and secured prior to starting the engine of brush chippers.
- Workers are trained in safe work procedures, including operating wood chipper safety devices and safety controls. These procedures should be based on the manufacturer's recommendations for each machine.
- Workers should be trained in lock-out/tag-out procedures.

Operation

- At least two workers are in close contact with each other when operating the machine. Single operator work crews should not be allowed.

Wood chipper safety

- Clear the area of all other employees and bystanders.
- Workers must wear close-fitting clothing, gloves without cuffs, trousers without cuffs and skid-resistant foot wear. Clothing should be tucked in. Long hair must be tied back. Watches and jewelry must not be worn.
- Workers should wear hard hats, eye protection and hearing protection.
- Before processing material and unless the manufacturer recommends otherwise, the machine is run at the lowest possible speed while workers listen for noises that might indicate broken or loose machine parts. If unusual noise is detected, the machine should be shut down immediately and evaluated by a competent person. If necessary, the machine should be repaired before being placed into service. Do not use a machine that is not in proper working order; get it fixed!
- The hood covering the chipper knives must be completely closed and latched according to the manufacturer's recommendations, before starting the machine.
- The brush chipper chute shall not be raised while the rotor is running.
- Worker's hands and feet must remain outside the infeed hopper.
- Workers feed brush and limbs into the infeed hopper butt-end first.
- Workers feeding material are positioned at the side of the machine to allow for quick operation of the emergency shut-off device and minimize risk of entanglement of branches. Because of differences among machines, the manufacturer's operating manual should be consulted for guidance. Safe feeding of some disc-type chippers requires the worker to be on the right side.
- Chippers shall be fed from the curbside whenever possible.
- Workers should walk away from the machine a reasonable distance once the mechanism has grabbed the material.
- Workers need to lay short material on top of longer material that is feeding or use a longer branch to push it through the infeed hopper.
- Workers load small raked-up material such as twigs and leaves directly into the chip truck or in trashcans or bags. Do not use the chipper to load these items into the truck!
- Material such as stones, nails sweepings, etc. shall not be fed into brush chippers.
- If the machine jams, shut it down! Workers shall never place hands, arms legs, feet or any other part of the body on the feed table when the chipper is in operation or the rotor is turning.
- Workers need to keep the area around the chipper free of tripping hazards.
- Never leave the machine un-attended while running.
- Brush chippers should be equipped with a locking device on the ignition system to prevent unauthorized start-up and use of the equipment

Machine maintenance and storage

- Brush chipper cutting blades should be kept sharp, properly adjusted and otherwise maintained in accordance with the manufacturer's recommendations.
- Trailer brush chippers detached from trucks should be chocked or otherwise secured.
- Guards, kickback devices, quickstops and swinging baffles- when provided by the manufacturer, shall not be modified or permanently removed from the unit unless there is an official written recall notice or operation manual update issued by the manufacturer.

Wood chipper safety

For more information, log in to the Risk Control Customer Portal at travelers.com/riskcontrol. (Need help? Read our [Registration Quick Guide](#).) You also can contact your Risk Control consultant or email Ask-Risk-Control@travelers.com.



travelers.com

The Travelers Indemnity Company and its property casualty affiliates. One Tower Square, Hartford, CT 06183

The information provided in this document is intended for use as a guideline and is not intended as, nor does it constitute, legal or professional advice. Travelers does not warrant that adherence to, or compliance with, any recommendations, best practices, checklists, or guidelines will result in a particular outcome. In no event will Travelers or any of its subsidiaries or affiliates be liable in tort or in contract to anyone who has access to or uses this information. Travelers does not warrant that the information in this document constitutes a complete and finite list of each and every item or procedure related to the topics or issues referenced herein. Furthermore, federal, state or local laws, regulations, standards or codes may change from time to time and the reader should always refer to the most current requirements. This material does not amend, or otherwise affect, the provisions or coverages of any insurance policy or bond issued by Travelers, nor is it a representation that coverage does or does not exist for any particular claim or loss under any such policy or bond. Coverage depends on the facts and circumstances involved in the claim or loss, all applicable policy or bond provisions, and any applicable law.

© 2008-2012 The Travelers Indemnity Company. All rights reserved. Travelers and the Travelers Umbrella logo are registered trademarks of The Travelers Indemnity Company in the U.S. and other countries. 359