



City Safe

A Guide To Assist In Training
Employees About:

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WOOD CHIPPER SAFETY

Number 19

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Again, that time of year has come when many cities begin cleaning up the various debris left behind by summer and the onset of fall. Years ago, this sort of cleanup left many cities with large amounts of waste that either had to be disposed of at the landfill or burned. Since then, many landfills have imposed restrictions limiting the amount and type of organic material that can be dumped. Today, a wood chipper can turn this once useless waste into reusable mulch. However, because of the force required to turn tree branches into mulch, a wood chipper can be a potentially deadly tool when misused.

According to the Bureau of Labor Statistics (BLS) Census of Fatal Occupational Injuries (CFOI), 11 workers lost their lives during 1992 through 1997 while working near mobile wood chippers. In seven of the incidents, the victim was caught by the feed mechanism and pulled through the chipper knives. The victims in four of the incidents were struck by hoods (guards that cover the rotating chipper knives) that separated from the machines after being improperly opened or closed while knives were still rotating.

During 1998, the National Institute for Occupational Safety and Health (NIOSH) received two additional reports of worker deaths from operating wood chippers. These incidents illustrate the two most common causes of fatal injury: being fed through the chipper knives or being struck by the chipper disc hood. The stories below illustrate just how powerful and destructive a wood chipper can be:

A 28-year-old groundsman died after he was caught and pulled into a wood chipper. The victim and two coworkers, a foreman and a climber, were cleaning up limbs after pruning a tulip poplar behind a townhouse. The coworkers were behind the building gathering loose branches while the victim was in front operating the chipper. The coworkers began dragging brush to the chipper. As the climber approached the chipper, he saw the victim's legs sticking out of the in-feed hopper. Investigators concluded that the victim either fell or reached into the in-feed hopper while feeding short branches. His hands were caught by the feed mechanism, forcing his head and upper torso into the chipper knives.

A 46-year-old laborer at a municipal waste-management facility died after he was struck

by the flying chipper disc hood from an operating brush chipper. He had been feeding material into a chipper that had been converted to a stationary machine. He had shut off the chipper to remove jammed material, but opened the hood before the chipper disc had stopped completely. The rotating disc hit the hood as he opened it and tore it loose from its hinges. The hood struck the victim in the head and chest. He died the next day without regaining consciousness. Investigation showed that the hood hinges had been damaged, allowing excessive side movement as the hood was swung open.

Because there is a high probability that if an accident occurred, it would result in major injury or death, it is essential that a combination of preventative measures be taken to ensure the safety of the operator. Some of these measures include:

- All safety devices and controls, such as emergency shut-off devices, should be tested and confirmed to be in proper working order before the wood chipper is used.
- Read the operators manual and be trained on proper and safe use of the wood chipper.
- Inspect the wood chipper each time before use. Check for defects such as broken or missing hood latches and pins or cracked and worn hinges. Replace any damaged or missing machine parts before use.
- Before starting the wood chipper make sure that the hood that covers the chipper knives is completely closed and latched.
- Never work alone while using a wood chipper. Have someone else there with you at all times during operation.
- Wear protective gear such as a hardhat, eye protection, and hearing protection.
- Wear close fitting, tucked in clothing when operating a wood chipper. You should wear gloves that don't have cuffs, pants without cuffs and slip resistant footwear.
- When you are ready to begin putting materials into the wood chipper run it at the lowest possible speed and have someone else listen for any noise that might indicate broken or loose parts. If an unusual noise is discovered **DO NOT** use the wood chipper. Have a professional check out and/or repair the wood chipper if necessary.



- Keep your hands and feet out of the in-feed hopper.

- Always feed brush and tree limbs butt end first into the hopper of a wood chipper.



- Work from the side of the wood chipper. This will allow you to have quick access to the emergency shut-off. This will also minimize the risk of getting tangled in the branches.

- Move away from the wood chipper once it has grabbed the material intended for shredding.

- Lay the shorter materials on top of the longer materials or use a long branch to push the shorter material through the in-feed hopper.

- Load leaves and small twigs directly into the wood chipper truck, not into the in-feed hopper.

- Keep the area around the wood chipper clear of any tripping hazards.

- Make sure that all internal machine parts have come to a complete stop before opening the hood that is covering the chipper disc or drum of the wood chipper.

This list is in no way comprehensive; always follow the safety guidelines associated with your particular machine. Again, it is extremely important to understand that when accidents happen with wood chippers, the results are usually devastating and sometimes fatal. This is one area where we cannot afford to learn from our mistakes.

Tips on Protecting Workers in Cold Conditions

Unfortunately, the work of cities does not stop when the temperature outside begins to fall. Consequently workers are forced to endure whatever “Mother Nature” dishes out and we all know that in Kansas, that can change from day to day. But once we get into the month of November, the temperatures usually begin to drop significantly. Below are some good tips to remember when working outside during the winter months:

- ✓ Know the factors leading to hypothermia.
 - a) Temperature
 - b) Wind-chill
 - c) Moisture
 - d) Individual physical attributes

- ✓ Dress appropriately (assume conditions will be colder and wetter than when you started)
 - a) Warm hat
 - b) Good gloves
 - c) Layers of insulating clothing
 - d) Extra dry clothing



✓ Avoid caffeine, alcohol, tobacco, and other diuretics, depressants, or stimulants.

✓ Eat a balanced diet, supplemented by carbohydrates throughout the day when working in cold conditions.

✓ Drink plenty of fluids, the body is more efficient at regulating temperature if it is well hydrated. Warm drinks such as broth, herbal tea, or cocoa, also add warmth.

- ✓ Avoid working to exhaustion in cold weather. Cold weather effects the amount of physical work an individual can do, and fatigue will increase the risk of hypothermia.
- ✓ Use extreme care when handling fuels and solvents, especially gasoline, in cold weather. Rapid evaporation has a super cooling effect that can cause instant frostbite.
- ✓ Avoid touching metal objects with bare hands.
- ✓ Avoid wet feet.

✓ Waterproof footwear can cause excessive foot perspiration and wet socks. Bring extra dry socks and change them if feet become wet, and use foot powder to prevent perspiration.



✓ Always keep cold weather emergency supplies in your vehicle during the winter months. Your kit should include blankets, matches or lighters, food, rain gear, and extra clothes.

I'd like to thank all of those from KMIT cities who have welcomed me so warmly during my first two months on the job. Although I still have a lot to learn, I've come a long way since my first day here on September 7th. I look forward to working with everyone in the upcoming year and hope you all have a happy holiday season.

See you down the road,



Mark Morris

We are always looking for new ideas or topics for City Safe. If you have a topic you would like to see covered in an upcoming edition, please contact me at mmorris@lkm.org or by phone at (785) 354-9565. We are also looking for knowledgeable authors who would like to write an article about a timely issue concerning safety in our cities.

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