

## Mowing and Weed Trimmer Safety

*Municipal entities are responsible for maintaining recreation and park areas as well as the grounds surrounding the municipal buildings. Employees are often mowing, weeding and maintaining the properties with lawn mowers, tractors, and weed trimmers. This equipment has the potential to injure operators or bystanders.*

*Additionally, objects propelled by the blades or cords could also injure bystanders and damage nearby property or vehicles.*

*Injuries to equipment operators may be reduced with proper use and maintenance of the equipment, coupled with wearing proper personal protective equipment (PPE).*

*Some of the injuries associated with the operation of lawn tractors and weed trimmers include:*

- *Cuts and scratches to the lower legs.*
- *Dust and debris getting into the eyes.*
- *Hand and forearm lacerations.*
- *Foot injuries and amputations.*
- *Back and shoulder strains.*
- *Fatalities from falls or rollovers of riding mowers.*

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### **Lawn mower and tractor safety tips**

Consider the following safety tips for using lawn mowers and tractors.

#### **Before mowing the lawn**

- Do not mow when anyone, including animals or children, is within range of projectiles the mower may throw.
- Walk through the area to be mowed. Remove objects that could get in the way or be thrown from the mower (toys, tools, sticks, rocks, trash, etc.) before starting the mower<sup>1</sup>.
- Verify that lawn conditions are dry. Not only can wet grass clog up a lawn mower, but wet conditions can cause the ground to become unstable for the mower<sup>1</sup>.
- Plan to mow during the day. Never mow at night when visibility is limited.
- Check the weather forecast. Do not mow during bad weather, such as during thunderstorms.
- Confirm grass deflectors, blade covers and other safety guards are in place.
- Operate mowers while in good physical condition, not while ill or sleepy.
- Match the slope with the mower. If slopes are too steep to mow with a riding lawn mower, use a push mower.
  - With riding lawn mowers, mow vertically up and down the slope, preferably only mowing down the slope and driving (without mowing) back up the slope.
  - With push mowers, mow horizontally across the slope. This may help prevent the operator's feet from sliding under the blades if the mower or operator slips.
  - Rear engine rider mowers are fairly unstable and it is not recommended to use them on slopes, even vertically, due to tip/roll over hazard<sup>1</sup>.

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### **While mowing**

- Do not allow children near the work area, since any kind of accidents can occur if the operator is unaware and may not see those who are attracted to the machine and the mowing activity<sup>1</sup>. Never assume that children will remain where they were last seen<sup>2</sup>.
- Keep an eye out for delivery trucks and other vehicles when crossing parking lots and driveways.
- Arrange the mowing path to avoid propelling objects towards other people or vehicles.
- Keep the discharge chute opening lowered at all times and be sure the area is clear of bystanders before operating. Stop the mower if anyone enters the area.
- Never carry passengers on riding lawn mowers or tractors<sup>2</sup>.
- Push mowers are designed to be pushed forward. Pulling them backward increases the risks of accidental contact with the blade. Occasionally, there may be a need to pull the mower backward while maneuvering, but otherwise try not to mow backwards.
- Do not mow in reverse unless absolutely necessary and look in the direction traveling if mowing in reverse.
- Never insert hands or feet into the mower to remove grass or debris. Even with the motor turned off, the blade remains engaged.
- Use a stick or broom handle (not hands) to remove obstructions.
- If using a bagger, stop the blade before emptying the bag. Stop the engine before reaching into the discharge chute.
- Keep movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to tip/roll over.
- Do not mow near drop-offs, ditches or embankments. The mower could suddenly roll over if a wheel goes over the edge or if the edge caves in.
- Tall grass can hide objects, holes or bumps. Go slowly and use caution when mowing through these areas.
- If the mower strikes an object, stop, turn the mower off and inspect the mower. If it is damaged, do not use it until it has been repaired.
- Turn off the mower and wait for the blades to stop completely before:
  - Crossing gravel paths, roads or other areas.
  - Removing the grass catcher.
  - Unclogging the discharge chute.
  - Walking away from the mower.
- Wait until the mower's engine has cooled before refueling and never smoke while handling gas.
- Do not run any gasoline or diesel engines indoors.
- Shut off the engine and take the keys out if leaving the mower unattended, even briefly.
- When working on a mower, remove the wire from the spark plug to prevent accidental starts. This is especially important while removing the blade. Turning the blade bolt with a wrench can turn the blade drive shaft and crank the engine, causing the mower to start.

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- Wear personal protective equipment including:
  - Work boots or steel-toed footwear to protect feet.
  - Long pants and a long-sleeved shirt to shield the body from thrown objects.
  - Shatter-proof sunglasses or eye goggles to guard eyes against projectiles.
  - Ear plugs or muffs to protect hearing.

### **Weed trimmer safety tips**

Weeds have a tendency to sprout alongside walkways, buildings and fences on the grounds. Few lawn mowers can safely get into these edges and corners as needed to cut these weeds and a weed trimmer may be the best way to reach these spots. Consider the following safety tips for using weed trimmers.

#### **Prepare the site**

- Walk the area to be trimmed before starting.
- Remove debris, sticks, stones, children's toys, etc.
- Clear the area of people and pets and be aware of them while working.

#### **Prepare the weed trimmer**

- Check that guards and shields are in place.
- Verify there is enough nylon line on the spool.
- Fill the gas tank when the engine is cool.
- Let the engine cool down before re-fueling.

#### **When trimming**

- Keep in mind that lawn trimmers also can throw objects at high speed, thus avoid working close to people, vehicles or delicate building structures.
- Never try to fix the head of a weed trimmer when the engine is running. Keep the line short so that it does not extend past the guard on the head of the weed trimmer. A longer line could damage the guard and create additional strain on the engine of the weed trimmer.
- Keep one hand on the handle and one hand on the shaft of the trimmer to provide the greatest amount of control.
- If provided, use a shoulder strap for support to help with the weight and vibration of the weed trimmer. The shoulder straps clip onto trimmer and loops around one of the operator's shoulders to help distribute the weight of the trimmer during use and to help reduce fatigue.
- Keep the throttle in the middle range. Not squeezing hard enough might not give enough power to turn the line fast enough to do the job. Throttling too much may reduce control of the machine and the amount of debris propelled could increase.
- Swing the head of the trimmer with a slow, smooth motion in an arc. Move the trimmer forward and step forward to cover more ground. Look behind and to each side before turning and using the trimmer to be sure obstacles will not be hit.

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- Watch for hidden obstacles, such as wires, fence posts, metal poles, large rocks or bricks; a weed trimmer may bounce back toward the user upon contact, which could cause injury. If an obstacle is noticed, turn off the trimmer, set it down, remove the obstacle and then resume trimming.
- Wear personal protective equipment including:
  - Work boots or steel-toed footwear to protect feet.
  - Long pants and a long-sleeved shirt to shield the body from thrown objects.
  - Shatter-proof sunglasses or eye goggles to guard eyes against projectiles.
  - Ear plugs or muffs to protect hearing.

### **Working outside - Other personal safety precautions**

Working outside involves dealing with the weather and natural conditions. Consider the following additional safety tips while operating tractors and weed trimmers outside.

- If working near a street or road, wear a reflective vest. Be aware of nearby traffic.
- Do not listen to music as it can be a distraction and add to noise exposure, instead wear hearing protection.
- Use sun block and a hat to help protect from the sun.<sup>3</sup>
- Wear bug spray, long pants and long sleeves to protect from ticks and bug bites.<sup>3</sup>
- Drink plenty of water to avoid heat-related illness.<sup>3</sup>
- Know what plants to avoid.
- Be on the lookout for animals and insects (such as snakes, spiders).<sup>3</sup>
- Check for ticks after working outside.<sup>3</sup>
- Notify co-workers and carry an epinephrine autoinjector (EpiPen) if allergic to bee stings.

### **Conclusion**

The key to safe operation of tractors, lawn mowers and weed trimmers relies on a variety of factors including:

- Selecting the proper mower or weed trimmer equipment for the job.
- Surveying the work area to identify obstacles, hazards and people present.
- Inspecting the equipment before use.
- Following the manufacturer's maintenance and safety instructions.
- Using appropriate personal protective equipment.
- Being familiar with the specific equipment design and safe operation.

### *References*

1. Centers for Disease Control and Prevention, NIOSH Workplace Safety and Health Topics, Hazards to Outdoor Workers, <http://www.cdc.gov/niosh/topics/outdoor/>
2. American Academy of Pediatrics, Lawn Mower-related Injuries to children, <http://pediatrics.aappublications.org/content/107/6/1480.full?sid=0808431b-61b8-4dbb-bc38-8caca79e2aa54>.
3. Consumer Product Safety Commission, Power, CPSC Fact Sheet for Power Mowers; [www.cpsc.gov](http://www.cpsc.gov)