



Tailgate Safety Training for Landscaping and Horticultural Services

Agricultural Safety Program, 590 Woody Hayes Drive, Columbus, OH 43210

Small Engine Machine Safety

Objective: Operate small-engine machines, such as push mowers, weed trimmers, and leaf blowers, in a safe manner.

How to Use This Module

Landscaping and horticulture workers may use small-engine machines, such as push mowers, weed trimmers, and leaf blowers, in the course of their work. For this module:

- Read the information below on safe practices for push mowers, weed trimmers, and leaf blowers.
- Find the safety devices on the machines you use.
- Ask your supervisor to demonstrate how to operate machines and perform routine maintenance.
- Discuss how to prevent injuries and what type of clothing, eye and ear protection, and shoes to wear while operating machines.
- Review the important points.
- Take the True/False quiz to check your learning.

Background

You may use small engine machines such as push mowers, weed trimmers, and leaf blowers. You should know how to operate and maintain them in a safe manner. If possible, read the operator's manual. It will contain detailed information on the safe operation and maintenance of the machine. If your employer does not have a manual, ask if one can be ordered from the manufacturer.

Small Engine Safety

- Always check the oil level before starting the engine. Add oil if necessary. Always use the type of oil that is recommended in the operator's manual.
- If the engine requires a mixture of oil and gasoline, be sure to use the proper ratio. Refer to the operator's manual for the correct mixture.
- Never fill the gasoline tank if the engine is hot. Allow it to cool down for several minutes before refueling. Clean up any spilled gasoline before starting the engine.
- Do not smoke while filling the gas tank or operating the machine.
- Store gasoline in an approved, properly labeled container. Use only gasoline approved for the engine.
- Never start the engine in an enclosed space. Always start it in a well-ventilated area. Carbon monoxide or fumes can be dangerous in an enclosed space.

- Never touch the engine muffler while it is hot. The engine muffler can get extremely hot. And it stays hot for some time after the engine is shut off. You could be seriously burned should you accidentally touch it.
- Never perform any kind of adjustment while the engine is running.
- Always disconnect the spark plug before performing maintenance and safety checks on small-engine machines.
- When the machine is not in use, disconnect the spark plug. This safety procedure will lessen the possibility of the machine accidentally starting.
- Allow the machine to cool off before storing in an enclosed space.

General Safety Tips

- Always wear personal protection clothing such as safety goggles with shields, earmuffs or earplugs, leather or cotton gloves, long pants, and rubber-soled work boots or shoes. Do not wear tennis shoes, sandals, or open-toed shoes.
- Remove any loose debris (trash, tree limbs, rocks, etc.) before you start.
- Make sure the area where you will be working is clear of all other workers or bystanders, especially small children and pets. Check the operator's manual for proper clearance of flying debris.
- Never operate a machine while under the influence of alcohol, drugs, or medication.
- Never remove any safety guards or shields. They are there for your protection.

Push Mower Safety

- Start the mower from a firm stance with both feet in a safe position.
- If the mower has a self-propelled mechanism, make sure it is disengaged before you start the engine. If the self-propelled mechanism is in gear, the mower will start to move once the engine has started.
- Never use an electric mower in wet grass. You could receive an electrical shock.
- Never perform any kind of adjustment while the mower is running. For example, if you want to change the height of the wheels, first turn the engine off and disconnect the spark plug. Then reposition the wheels.
- Always push the mower in a forward direction. Never pull the mower toward you. If you slip, your foot could go under the mower deck resulting in a serious injury.
- If the mower deck should become clogged with grass, stop the mower and turn the engine off before clearing the clog. Never touch any part of the mower while operating it except for the handles and throttles.
- If the mower has an attached grass catcher, stop the engine before detaching the grass catcher. Do not let the grass catcher become too full. A full or over-full catcher adds wear and tear on the engine and the mower does not cut as well.
- Perform a safety check before and after each time you use the mower. Check and tighten all loose nuts, bolts, and screws. If the mower has a drive belt, check for frayed or worn sections. Replace the belt if necessary.
- Clean the mower after each use including the underside of the mower deck. Clean the grass catcher, if the mower has one.

Weed Trimmer Safety and Operator Tips

- Keep your hands, face, and feet away from any moving parts. Do not touch the trimmer string while it is rotating.
- If the trimmer should become entangled, stop the engine immediately. Then untangle the trimmer line. Check for damage before restarting the engine.
- Do not overreach. Always be properly balanced. Be alert if the area you are trimming is wet or on a slope.

- Perform a safety check before and after each time you use the trimmer. Check and tighten all loose nuts, bolts, and screws.
- Clean the trimmer after each use.

Leaf Blower Safety and Operator Tips

- Keep your hands, face, and feet away from any moving parts.
- If your working area is dusty, wear a dust mask.
- Do not overreach. Always be properly balanced. Be alert if the area you are trimming is wet or on a slope. Use caution while working on steps.
- Never operate an electric blower if the area is wet.
- Make sure the air intake is always free of debris.
- Perform a safety check before and after each time you use the blower. Check and tighten all loose nuts, bolts, and screws.
- Clean the blower after each use.

Review These Important Points

- Always wear proper clothing and eye and ear protection while operating small machines.
- Make sure the area is clear of other people where you will be working.
- Always keep all safety shields in place.
- Never touch moving parts.
- Never operate a machine while under the influence of alcohol, drugs, or medication.
- Perform a safety and maintenance check before and after each time you use the machine.
- Clean the machine after each use.

About These Modules

The author team for the training modules in the landscape and horticultural tailgate training series includes Dee Jepsen, Program Director, Agricultural Safety and Health, Ohio State University Extension; Michael Wonacott, Research Specialist, Vocational Education; Peter Ling, Greenhouse Specialist; and Thomas Bean, Agricultural Safety Specialist. Modules were developed with funding from the Occupational Safety and Health Administration, U.S. Department of Labor, Grant Number 46E3-HT09.

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Answer Key: 1 = T, 2 = F, 3 = T, 4 = F, 5 = T.

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Name _____

True or False?

- | | | |
|---|---|---|
| 1. Before you start, inspect the area where you will be working for debris. | T | F |
| 2. You can remove a safety shield if it is in your way. | T | F |
| 3. Never touch a moving part. | T | F |
| 4. You can smoke after you have started the machine. | T | F |
| 5. Allow the machine to cool off before storing it in an enclosed space. | T | F |