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Occupational Safety and Health Division
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Unsafe Modification of Mowers for Greenhouse Use

Mowers that have been modified for use in greenhouses may be hazardous. In some N.C. greenhouses, typical walk-behind gas-powered lawn mowers, like the ones you might use to cut a lawn, have been removed from their original wheelbase and then fitted onto a metal carriage.

The carriage and the mower are then attached to a boom. The boom—a long, metal arm that extends the width of a plant bed, 35 feet—is mounted on a rail system and allows a worker to walk down a path in the greenhouse pushing the boom-mounted mowers. The mower is then used to trim the tobacco or sweet potato plants growing in the plant beds.



Modified mower mounted on boom.

The mowers, as manufactured, are equipped with a safety device known as the operator presence control (OPC) located on the handle of the mower. The OPC allows the engine to run when it is squeezed against the mower handle. When you use a mower as it was manufactured and release the OPC safety device on the handle, the mower shuts off.



Toggle switch used to activate modified mower.





New mechanism to activate mower, replacing toggle switch.

Injury in 2014: A farmworker was mowing sweet potato plants in a greenhouse using a modified lawn mower. The mower was modified in that the handle with the OPC safety device had been removed. The handle and safety device had been replaced with a simple toggle switch used to stop and start the machine. At noon on the day of the accident, when it was time to break for lunch, the worker realized that the toggle switch on his machine was broken in the “on” position. The worker asked for help from another employee, who turned the machine off by disconnecting the wires to the toggle switch and touching the wires to the metal on the frame. The mower manual says that the spark plug wire needs to be secured away from the spark plug to prevent accidental starting prior to repair or cleaning. When the worker returned from lunch the mower was still off. The worker began to clean the mower and the blades. The mower started up as he cleaned the blades, amputating three of the employee’s fingers. Since the injury, the employer has developed a safer mechanism for mowing its plant beds and implemented new work rules regarding use of the mowers.





Summary

Lawn mowers with modifications that alter or disable the OPC system or that are not in accordance with manufacturer instructions may be hazardous. Modified mowers may reduce employee safety.

For Growers: Improving the Safety of Your Mowers:

-  Never disable safety mechanisms on machinery.
-  Make sure all guards and safety devices are in place prior to operation.

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-  Train your workers on mower safety and how to properly disable the engine.
-  DO NOT tell your workers to clear out debris from under the mower or blades with their hands.
-  Post signs where mowers will be used informing your workers that it is imperative that they use the machines in a safe manner and that the machine is off before cleaning the mower, blades or bag.
-  Safety signs should be posted in English and in Spanish or a language the employees understand.

Example of a new bilingual notice provided by an employer used to better ensure that their employees are not exposed to hazards associated with moving mower blades while clearing debris.

MANDATORY SPARK PLUG RULE

Follow All Safety Rules.




You Must Disconnect and Secure Wire Away From Spark Plug Before Clearing Debris From Underside of Mower Deck or In the Chute Area Between Mower Deck and Bag. Violation of Mandatory Spark Plug Rule May Result in Termination.

REGLA OBLIGATORIA DE LAS BUJIAS

Siga todas las reglas de seguridad.

Debe desconectar y asegurar el cable de la bujía de encendido a distancia de la bujía antes de despejar los escombros de la parte inferior de la plataforma o en el área de rampa entre la plataforma y la bolsa. Violación de la regla obligatoria de la bujía puede resultar en su terminación.

For Workers: Operating Mowers Safely:

-  Before you do any of the following, make certain the engine is turned off and disable the mower by disconnecting the spark plug wire and placing a cover over the spark plug to prevent startup:
 - ◆ Empty the bag on the mower
 - ◆ Clear out debris from under the mower or the blade
 - ◆ Clean, remove or replace the blade
-  Empty the mower bag when it is full to prevent debris from backing up under the mower deck and the blades of the machine.
-  Training must be provided before you begin this job. Ask questions if you do not understand.

Agricultural Safety and Health Bureau

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Printed 8/15

1,500 copies of this public document were printed at a cost of \$255, or \$.17 per copy.