

Motorized rollers cause serious injuries in Washington orchards

Motorized rollers have caused two amputations and broken bones in three separate incidents in eastern Washington over the past 12 months.

These shop-built devices, usually powered by tractor hydraulics, are used to retrieve long sheets of reflective material spread under fruit trees during the growing season.

What caused these injuries?

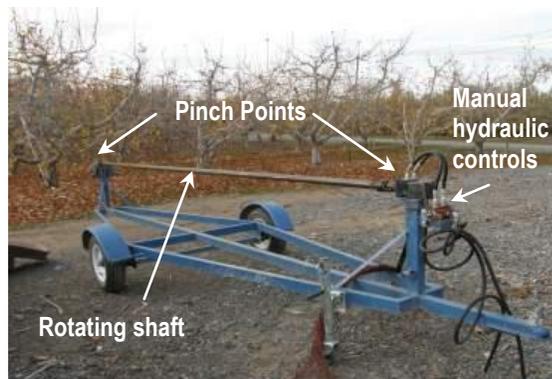
The design of these devices allows operators to place their hands in dangerous proximity to moving parts as they grasp and guide the fabric being pulled onto the rotating shaft.

In all three incidents the employee's hand or clothing was caught and quickly drawn into moving parts. The most dangerous location appears to be at or near the control switch.

- One victim's fingers and arm became entangled in the fabric roll when he reached across the roll to adjust the fabric. Two fingers were amputated during the incident and bones in his wrist and forearm were broken.
- Another victim lost a finger while trying to remove a stray ground tie from the fabric roll. His finger was snared by the tie loop and he was not able to reach the controls with his left hand in time to stop the roller.
- The latest victim was trying to align the fabric onto the roll when his clothing was caught by a bolt on the rotating shaft. The employee's arm was broken as he was pulled into the rotating fabric roll.

How can you protect employees who operate motorized rollers?

- Install proper guarding for the pinch points and other moving parts. For example, install a round guard over the power coupling on the shaft to prevent contact with rotating parts of the power drive system. Safety rules that apply to guarding field equipment are found in WAC 296-307-076.
- Use flat clips to anchor fabric rolls to the rotating shaft instead of metal pins, screwdrivers, and other objects that protrude and can snare clothing.
- Install a positive-pressure control switch (also known as a "dead man's switch") to automatically cut off power when the operator releases it.



This design lacks safety guards.



The area where operators' hands and clothing can get caught by moving mechanical parts is a danger zone.



Round guard for power coupling (u-joint).

- Implement safe work practices or process changes to remove debris, such as twigs and used ground ties, from the fabric before it reaches the motorized roller. To be safe, such methods need to keep employees' hands and clothing away from moving parts.
- Train employees to work safely with motorized rollers before you let them operate such devices. For example, point out the pinch points and demonstrate how to safely remove debris from the fabric before it nears the roller.
- Install appropriate warning decals on the motorized roller.
- Keep bystanders away from the motorized roller.
- Provide a copy of this hazard alert to operators and other employees who work around motorized rollers and post a copy in places where employees congregate.



Other resources

- Rules that address safety guarding of farm field equipment can be found in [WAC 296-307-076](#). To Access these rules, contact your local L & I office or visit <http://www.lni.wa.gov/Safety/Rules/Find/default.htm>
- For free training materials and other resources for various safety topics, visit <http://www.lni.wa.gov/Safety/Topics/AtoZ/default.asp>

How can I get help from Labor & Industries?

The Department of Labor & Industries provides consultations, training, and technical assistance at no cost to employers. Call today to schedule a confidential consultation or go to www.SafetyConsultants.Lni.wa.gov for more information. You may also call 1-800-423-7233 or visit a local L&I office and ask for the Consultation Manager.

Hazard Alert inside

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