

An Unguarded Machine is an Unsafe Machine

Employee exposure to unguarded or inadequately guarded machines is prevalent in many workplaces. Consequently, workers who operate and maintain machinery suffer approximately 18,000 serious injuries, and over 800 deaths per year. Amputation is one of the most severe and crippling types of injuries in the occupational workplace, and often results in permanent disability. In addition to serious injuries and deaths, machine guarding was the [9th most cited OSHA violation for 2014](#).

Listed below are two examples of serious injuries in the workplace, which involved shearing machines. Both examples were provided by OSHA:

- 1. After breaking metal with a mechanical alligator shear, an employee turned the shear off and was picking up debris on the ground when he placed his left hand on the shear and amputated his fingers. The shear's flywheel was not equipped with a clutch or similar device. So, when the shear was off, the jaw continued to operate on stored energy.*
- 2. An employee was cutting material with a 50-inch guillotine shear equipped with two-hand trip buttons to prevent employees from reaching into the blade area. He had taped up one of the buttons and used his knee to trip the other button. With both hands under the blade, he inadvertently hit the free button with his knee. This activated a stroke of the blade which amputated both of his hands just below the wrists.*

Moving machine parts have the potential to cause severe workplace injuries, such as crushed fingers or hands, amputations, burns, or blindness. Safeguards are essential for protecting workers from these preventable injuries. Any machine part, function, or process that may cause injury must be safeguarded. When the operation of a machine or accidental contact injure the operator or others in the vicinity, the hazards must be eliminated or controlled.

As part of the ISRI Safety Stand-down Initiative, the following safety resources are being provided to ISRI members. Please share this information with your frontline employees and managers, and be sure to provide us with feedback.

Resource Material:

- OSHA Fact Sheet on Amputations in the workplace:
https://www.osha.gov/OshDoc/data_General_Facts/amputation-factsheet.pdf
- OSHA Machine Guarding and Training Checklist:
https://www.osha.gov/dte/grant_materials/fy10/sh-20856-10/Machine_Guarding_Checklist.pdf
- OSHA Machine Guarding Resources:
https://www.osha.gov/SLTC/etools/machineguarding/additional_references.html
- You Tube Video on the importance of machine guarding (2 minutes, 26 seconds)
<https://www.youtube.com/watch?v=GnDE4QuWyLU>
- ISRI Safety Point "Machine Guard Missing":
<http://www.isri.org/docs/default-source/safety/machine-guard-missing.pdf?sfvrsn=6>

- ISRI Safety Point: "What's Wrong With this Picture?" [http://www.isri.org/docs/default-source/safety/what's-wrong-with-this-picture-\(wire-rack\).pdf?sfvrsn=8](http://www.isri.org/docs/default-source/safety/what's-wrong-with-this-picture-(wire-rack).pdf?sfvrsn=8)
- You Tube Video on Machine Guarding (13 minutes, 51 seconds):
<https://www.youtube.com/watch?v=hRYhull2A7A>
- Machine Guarding Scenarios Workshop (15 slides, questions and answers included):
<https://www.osha.gov/SLTC/etools/machineguarding/powerpoints/scenarios01.ppt>
- Machine Guarding Quiz (10 questions):
https://www.osha.gov/dte/grant_materials/fy11/sh-22300-11/MachineGuardingQuiz.pdf
- Safeguarding Equipment and Protecting Employees from Amputation:
<https://www.osha.gov/Publications/OSHA3170.pdf>