

Richland County School District One  
Machine Guarding Guidelines

## **Purpose**

Richland County School District One strives for safe work practices, a clear understanding of what is needed to accomplish them and involvement at every level in this program. This program informs all interested persons of the county's intent to comply with the OSHA Standards concerning workplace safety and applies to all work operations where an employee must use machinery and equipment as part of the employee's duties. Please contact the Risk Manager if you have any suggestions for a safe workplace.

This guideline program contains actual OSHA Standards and examples of machinery and equipment which will allow our employees to clearly identify and understand the type of equipment used and the hazards that are associated with such use.

## **Plan Administration**

Risk Management is responsible for developing and maintaining this OSHA program guideline. Employees may review a copy of this guideline. It is located at Risk Management, 621 Bluff Road, Columbia, SC 29201. Suggestions for improving this guideline, are welcomed.

## **Training**

Prior to starting work each new employee should attend a safety and health orientation within their department(s) and will be provided with information and training on machinery, equipment and other potential workplace hazards.

## **Machine Guarding**

Crushed hands and arms, severed fingers and limbs, lacerations and abrasions - the list of possible machinery-related injuries is long and horrifying. Many hazards are created by moving machine parts. Safeguards are essential for protecting workers from preventable injuries.

The purpose of machine guarding is to protect the machine operator and other employees in the work area from hazards created by ingoing nip points, rotating parts, flying chips & sparks. Some examples of this are barrier guards, light curtains, two-hand operating devices etc. **[29 CFR 1910.212(a)(1)]**

## **Some Basic Guidelines**

- Know how to use the machine safely before operating.
- Review the owner's manual. It will provide operating, repairing, lubricating and fuel information.
- Ensure that Warning Decals in place.
- Ensure that machine guards properly placed and in good condition
- All electrical lines should be damage free.
- Air and hydraulic lines should be in good condition and not leaking.
- Check the area around the machines for obstructions and hazards.
- Wear proper personal protective equipment such as gloves, safety glasses, but be careful not to wear gloves around reciprocating or rotating machine parts.
- Long hair should be tied back or tucked under to avoid getting caught in machinery.
- Avoid wearing jewelry.
- Keep machines repaired and properly adjusted.
- Clean up excess lubricants.

- Clearly mark control switches and valves that control machines.
- Check machines for emergency stop switches; they should be located on or near the machine so the machine can be turned off quickly if a malfunction occurs.
- Be aware of nip points.
- Remove fuses with fuse removers, not fingers.
- Do not test the temperatures of gases, liquids, or solids with hands.
- Handle sharp or pointed tools (hatchets, chisels, punches, awls, knives, pitch forks and machine blades carefully).
- Keep grinders tool rests adjusted to 1/8 inch gap or less.
- Keep grinder tongue guard adjusted to ¼ inch gap or less.
- Perform maintenance only when tools or machinery are not in operation.
- If guards are removed to perform maintenance, replace it immediately after servicing.
- Never step across a rotating power shaft.
- Equipment operators should wear close-fitting clothes and slip-resistant footwear.
- Never allow children or untrained employees around machinery and equipment.
- Never reach through or over the top of any machinery.

### Standards and Examples

General Requirements: [**29 CFR 1910.212(a)(2)**]

- ✓ Guards must not create potential hazards and must be attached to the machine where possible.
- ✓ If guards cannot be attached to the machine, attach elsewhere.

### Point of Operation Guarding

The point of operation is the area on a machine where work is performed.

[**29 CFR 1910.212(a)(3)(i)**]

Machines that expose an employee to injury must be guarded. The guarding device must:

- ✓ Be in conformity with any appropriate standards. [**29 CFR 1910.212(a)(3)(ii)**]
- ✓ If specific standards are not available, the machine construction should prevent the operator from having any part of his/her body in the danger zone during the operating cycle. [**29 CFR 1910.212(a)(3)(ii)**]



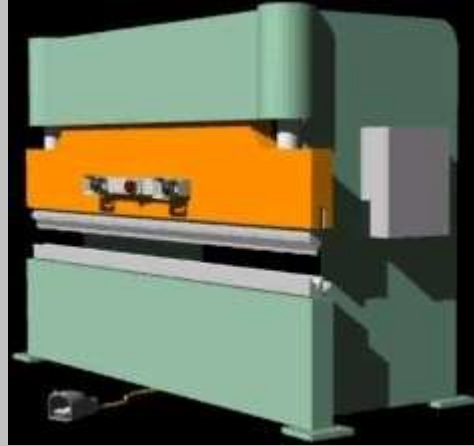
Special hand tools used for placing and removing material from point of operation areas must allow easy handling of the material without the operator placing a hand in the danger zone. Such tools must not replace guards required by this section. [**29 CFR 1910.212(a)(3)(iii)**]

### Additional Guarding

The following is a list of machines that usually require point of operation guarding:

**[29 CFR 1910.212(a)(3)(iv)]**

- Guillotine cutters (a)
- Shears (b)
- Alligator shears (c)
- Power presses (d)
- Milling machines (e)
- Power saws (f)
- Jointers (g)
- Portable power tools (h)
- Forming rolls and calendars (i)



Press Brake

### Barrels, Containers, and Drums

Revolving barrels, containers, and drums must be guarded by an enclosure interlocked with the drive mechanism, so the barrel, gun, or container cannot revolve unless the guard enclosure is in place. **[29 CFR 1910.212(a)(4)]**

### Exposure of Blades

When the periphery of the blades of a fan is less than seven (7) feet above the floor or working level, the blades must be guarded. The guard must not have openings larger than one-half (½) inch.

**[29 CFR 1910.212(a)(5)]**

Running Fan

### Anchoring Fixed Machinery

A machine designed for a fixed location must be securely anchored to prevent walking or moving. [29 CFR 1910.212(b)]

Anchored Machine

### Eye and Face Protection

Eye and face protection must be provided to each employee when exposed to eye or face hazards from flying particles. [**29 CFR 1910.133(a)**]

Safety Goggles

### Lockout/Tagout

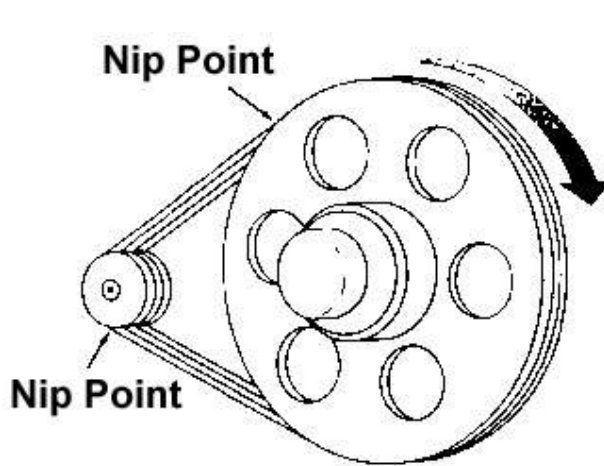
Richland County School District One has established an energy control program consisting of energy control procedures, employee training, and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment, the machine or equipment is isolated from the energy source and rendered inoperative. [**29 CFR 1910.147(c)(1)**]



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**The Point of Operation**

The point where work is performed on the material, such as cutting, shaping, boring, or forming of stock.

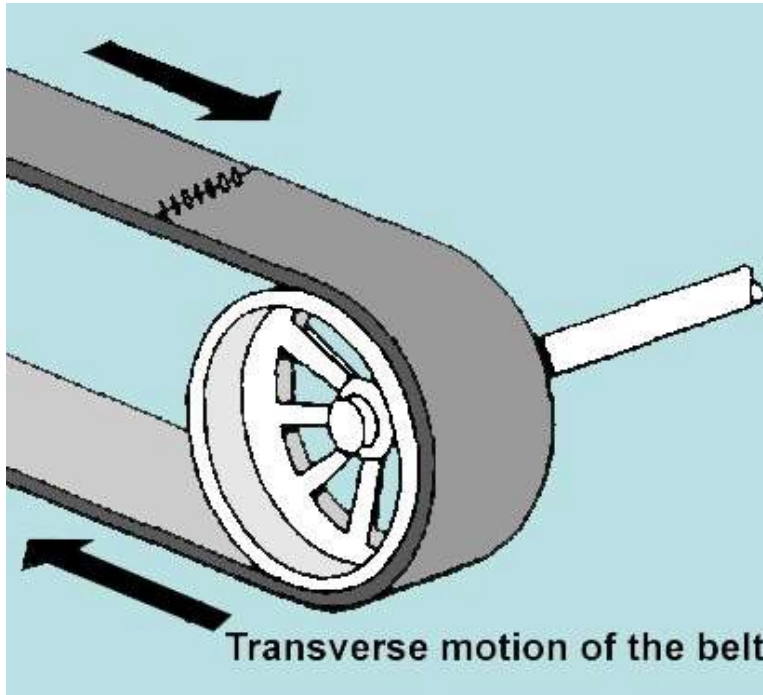


**Belt and Pulley Drive**



**Chain and Sprocket Drive**

## Traverse Motion



Employee could be struck or caught in a pinch or shear point by moving guard

### There Are Four General Types of Guards

Fixed - A fixed guard is a permanent part of the machine.

Interlocked - When this type of guard is opened or removed, the tripping mechanism and/or power automatically shut off or disengage, and the machine cannot cycle or be started until the guard is back in place.

Adjustable - Adjustable guards are useful because they allow flexibility in accommodating various sizes of stock.

Self-Adjusting - The openings of these barriers are determined by the movement of the stock. Self-adjusting guards offer different degrees of protection.

Reviewed 9.10.2021