



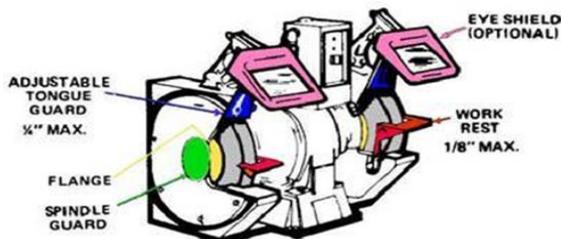
In 2019 OSHA's 'Top 10' list of most frequently cited violations included lack of Machine Guarding. More than 34,000 people sustain a lost-time injury in the workplace annually due to machine accidents.

Some guards can prevent tools and objects from falling into moving machinery that could then become a projectile. By preventing contact with a machine's dangerous moving parts, guards can protect workers from accidentally putting themselves into or near machine hazards that can cut, crush, amputate, and even cause death.

Guards should not create new hazards while they protect employees from the moving machinery parts. Guards should be installed so that they do not impede worker performance.

Employees require training in the machines they use and maintain. The training should be specific to each piece of equipment and cover the potential hazards of the machinery. The purpose, use, maintenance and settings for each guard should be taught. Workers should learn when and how to remove guards safely and how to lock out/ tag out the equipment during maintenance or repair.

Machines and their guards should be inspected periodically to ensure proper functioning. Employees need instructions on how to inspect guards and machines for safety, how to report problems to their supervisor, and how to tag equipment out of service for repair. **Guards should never be removed, bypassed, or temporarily disabled.**



## Which parts of the machine requiring guarding?

**Point of Operation:** Area where machine performs work on material

**Power Transmission Apparatus:** Belts, gears, or any machine components that transmit energy.

**Other Moving Parts:** Any reciprocating, rotating machine parts.

## Types of Mechanical Motion that Must be Guarded

**Pinch Points:** Points at which it is possible to be caught between moving parts.

**Rotating:** Circular motion of parts that can grip clothing or pull body part into point of operation

**Reciprocating:** Motion that may trap or strike an employee between the moving object and a fixed object.

**Traversing:** Movement in straight, continuous line that may strike or catch an employee in a pinch or shear point between a moving and fixed object.

**Cutting:** Sawing, boring, drilling, milling, slicing

**Punching:** When a machine moves a slide (ram) to stamp a sheet of metal or other material.

**Shearing:** Movement of a powered slide or knife during metal trimming or paper cutting

**Bending:** When power is applied to a slide to draw or form metal or other materials.

Resources:

<https://lni.wa.gov/safety-health/safety-training-materials/online-safety-training>

<https://www.osha.gov/Publications/oseha3170.pdf>