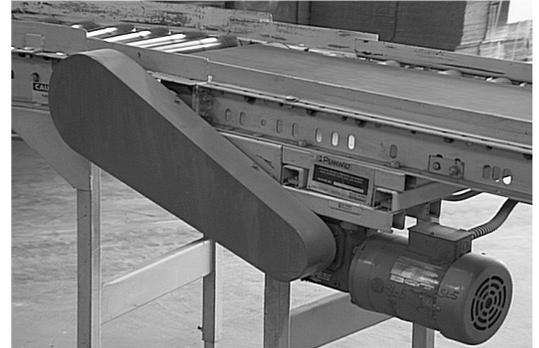


Workers who get caught in machines can suffer crushing injuries, fractures, sprains, strains, tears, lacerations, bruises, amputations, burns, blindness, or death. You can prevent these incidents by using machine guards properly. These shields, devices, or other safety features cover the hazardous areas, functions, or processes of machinery, keeping them from harming operators or others nearby.

Safeguarding requirements vary from machine to machine, depending on physical features and the level of operator involvement needed. The Occupational Safety and Health Administration (OSHA)'s Machinery and Machine Guard standard, 29 CFR 1910 Subpart O, outlines important definitions and requirements that employers must follow to provide a safe workplace.



Mechanical Hazards

These can happen at:

- **Point of operation** – the spot where employees perform work, such as cutting, shaping, boring, or forming stock.
- **Power transmission apparatus** – the components that transmit energy to the part of the machine performing the work. These include flywheels, pulleys, belts, connecting rods, couplings, cams, spindles, chains, cranks, and gears.
- **Other moving parts** – all machine parts that move while it is working. These include auxiliary parts; parts that feed mechanisms; and parts that spin, move, rotate, or move crosswise.

Injury Prevention

To prevent injury from any of these hazards:

- Follow manufacturer instructions.
- Provide mechanical or electrical operating controls on each machine so an operator can cut machine power without leaving the operation point.
- Never remove guards while work is in progress.
- Wear proper clothing and protective gear. Don't wear loose apparel, dangling jewelry, or identification badges.
- Show employees how these safeguards protect them. Machine guards work by:
 - **Preventing contact.** The guard must prevent any part of a worker's body or clothing from making contact with dangerous moving parts.
 - **Securing.** Securely affix machine guards to a machine so they aren't removed or tampered with.
 - **Protecting from falling objects.** A machine guard keeps objects that could become deadly projectiles from falling into moving parts.
 - **Creating no new hazards.** The guard itself must be free of jagged edges, shear points, or other hazards.
 - **Not interfering with work.** Guards must keep workers safe, not stop them from doing their jobs.

Training

Provide hands-on training for machine operators in:

- identifying the hazards of particular machines;
 - how and why machine guards provide protection;
 - who is authorized to remove guards, and when;
 - procedures for what to do if a machine guard is missing, damaged, or does not provide enough protection, including:
 - how to report defective equipment and remove it from use, including lockout/tagout procedures;
 - who is responsible for repairing equipment; and
 - who is authorized to return repaired equipment for use by employees.
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This document was produced by the Division of Workers' Compensation (DWC) and is considered accurate at the time of publication.

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