
Machine Guarding Overview

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Machine Guarding Overview

Machine operators who understand a machine's hazards and how to control them will have a reduced risk of injury. Proper operation of the machine, including the machine guards, can improve productivity as well as safety.

There are five general techniques for safeguarding machine operation, but all guards must be able to prevent contact, must be secured in place or be otherwise tamper-proof, must create no new hazards, should allow for lubrication with the guard still in place and must not interfere with the machine operation.

Types of Safeguarding

Several of the types of safeguarding include:

- Guards – these can be fixed, interlocking, adjustable or self-adjusting. They are a physical barrier to contact with the hazard.
- Devices – these can be presence sensing, pullback, restraint, operational controls or gates. They limit or prevent access to the hazardous area.
- Location or distance – hazards are reduced by locating the machine so that its hazardous areas are not normally accessible.
- Automated feeding and ejection methods – these eliminate some of the operator's exposure to the hazards.
- Miscellaneous aids – shields, feeding-tools, holding devices or awareness barriers also protect operators and people in the area.

The best machine operator knows what the machine does, how the operating controls affect the work, and when maintenance and repairs are needed. Operators who understand machine-specific operating instructions, contribute to having a more efficient operation.

Instructions can also lead to less risk of injury because the instructions explain the machine's operations and how to prevent, or at least recognize, a malfunction. A lack of knowledge and not noticing hazards often lead to injury.

Report a machine that is missing the guard, or has an inoperative guard. It is unsafe to operate the machine until the guard is replaced or repaired. A missing or inoperative guard may need to be replaced or repaired before work can safely proceed.

If unexpected start-up could cause injury, use a lockout/tagout program. Any major repairs or tool changes that would expose workers to the machine's hazards require lockout/tagout.

Employee Training

Although OSHA does not specify training requirements under the machine guarding regulations, the General Duty Clause requires that employers provide a safe work environment. Employees who are knowledgeable about machine hazards are safer workers.

Training Tips

- Review 29 CFR 1910 Subpart O—Machinery and machine guarding.
- Using the handout, review the purpose of machine guards.
- Describe the types of guards used at your facility, in a particular department or in a specific piece of equipment.
- Discuss any injuries or close calls that your machine operators or mechanics have had. Ask the trainees to think of ways to prevent the accident or near miss from being repeated.
- Explain who at the facility should be contacted with reports of missing or damaged guards.
- Refer to the company lockout/tagout program, and when it is required to be used.

For more information see 29 CFR 1910 Subpart O—Machinery and Machine Guarding.

Machine Guarding – Overview Handout

Machine guards are your first line of defense against injuries caused by machine operations. Each machine must have adequate safeguards to protect operators from the machine's hazards.

Having an understanding of how a machine works, and how the guards can protect you, will result in a lesser risk of injury.

Guards

All guards must:

- Prevent contact;
- Be secured in place or otherwise be tamper proof;
- Create no new hazards;
- Allow for lubrication of the machine with the guard still in place; and
- Not interfere with the machine's operation.



Machine guards must be kept in place for the employee's protection.

Types of Safeguarding

- Guards – fixed, interlocking, adjustable or self-adjusting.
- Devices – sensing, pullback, restraint, operational controls or gates.
- Location or distance – locating the machine so that hazardous areas are not normally accessible.
- Automated feeding and ejection methods – eliminate operator exposure to the hazards.
- Miscellaneous aids – shields, feeding-tools, holding devices or awareness barriers.

Employee Responsibility

- You should always report missing, damaged or inoperative guards. It is not safe to operate machinery without properly working guards.
- If a guard is damaged or becomes inoperative while you are working, shut the machine down, and have the guard inspected by a qualified person. The guard may need to be repaired or replaced before work can safely proceed.
- If unexpected machine start-up could cause injury, use the lockout/tagout program.



Machine operators should be trained to use the equipment properly and be aware of any malfunctions. The instructions for the equipment can also lead to less risk of injury because the instructions explain the machine's operations and how to prevent, or at least recognize, a malfunction. A lack of knowledge and not noticing hazards often leads to injury.

Machine Guarding Overview Sign-Off Sheet

The employees of _____ Company Name _____, have taken part in a training session Machine Guarding Overview. The session covered:

- The need for machine guarding.
- The types of guarding.
- How to report missing or damaged guards.

DATE OF TRAINING: _____

FACILITY: _____

EMPLOYEE SIGNATURE

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Supervisor's Signature