



Regulatory Compliance

OSHA Machine Guarding Checklist: Retrofit and Customize Your Guards

Vanessa Jo Roberts | Jan 02, 2020

On the OSHA Top 10 list for more than a decade, machine guarding violations also earn some of the government's heaviest fines. Here's the thing: Injuries resulting from a lack of guards are preventable.

The lack of machine guards continues to be a major safety issue on shop floors—and a costly one.

Here's why: Although "overall workplace injuries have been trending downward, incidences of amputation have risen in manufacturing, *accounting for 57 percent of all U.S. worker amputations*," according to the Occupational Safety and Health Administration.

"One accident can close the doors for a small manufacturer."

Jorge de Leon

Metalworking Specialist, MSC

Machine guarding has held its spot at **No. 9 on the Top 10 list** for the past few years but been a perennial of the OSHA most-cited violations list for more than a decade. And the agency often hands out hefty fines in this category because of the potential harm to workers' limbs and life from repeated exposure to unguarded machines, *sometimes topping the millions of dollars*.

In fact, "one accident can close the doors for a small manufacturer," says MSC Metalworking Specialist Jorge de Leon.

What Is Required to Meet the OSHA Machine Guarding Standard?

The OSHA machine guarding standard, **1910.212**, requires that businesses protect workers from hazards created at point of operation, ingoing nip points, rotating parts, flying chips and sparks—whether running the machine or working nearby.

OSHA Machine Guarding Fines Can Add Up Quickly

The fines for machine guarding violations are known for being hefty.

Here are examples of a few OSHA fines that involved machine guarding violations:

- \$530,392 for ***four safety violations*** for machine guarding and caught-in hazards.
- \$213,411 for ***repeated machine guarding violations*** that resulted in an employee finger amputation.
- \$124,709 for ***lax enforcement of machine guard use*** that led to a worker's death.

But it's not always just fines that businesses must pay. For instance, one company ultimately paid \$1.33 million as the result of an employee being crushed when the company "instructed and ***authorized workers to bypass the manufacturer's barrier guard.***" It paid OSHA a \$435,000 fine, a criminal fine of \$450,000 and the employee's spouse \$450,000.

The cost and difficulty of retrofitting guards will depend on the type of machine, operation and sometimes the age of equipment, says MSC Metalworking Specialist Jorge de Leon.

"But having a safety program is by far less expensive than not having one," de Leon says.

These are six minimum protective measures that you'll want to take to stay compliant with the OSHA machine guarding standard:

- Prevent contact with dangerous moving parts.
- Secure guards to prevent tampering and to withstand normal wear.
- Ensure guards prevent falling objects from coming into contact with moving parts.
- Avoid creating any new hazards by adding the guards.
- Check that guards create no interference to machine use.
- Allow for lubrication without removing the guards.

And don't think that you'll get away with this violation, because it will be easy for OSHA inspectors to spot, de Leon notes: The guards simply aren't there.

Often there are machines sitting on shop floors, particularly older machines, that have no guards

whatsoever, he says. In reality, it matters little whether a machine is old or new, the shop must take the lead in ensuring guards are in place and adjusted properly, de Leon says.

"Even when a machine includes adequate machine guards that meet OSHA's regulatory requirements, those guards must be continually adjusted and inspected to ensure they maintain compliance," explains a post on the ***Southern Metal Fabricators blog***. "Again, that responsibility falls on the purchaser."

As OSHA guidance notes, it's necessary to uniquely craft and fit a guard. To that end, there are many ***guards and kits*** available to provide the ideal protection for the specific machine, job and user.

3 Machine Guarding Tips for Your Shop

"Each year, thousands of workers lose a limb in situations that are largely preventable," ***points out risk control consultant Nick Rosseter***.

Here are three things you can do to keep workers safe and avoid a costly OSHA fine.

Machine Guarding Tip 1: Educate Yourself and Your Workers (for Free)

A chief culprit is lack of awareness and training, de Leon says. Often, he finds that businesses simply do not know what is required.

When he finds the need is educational, de Leon often recommends that metalworking and manufacturing shops tap into ***free OSHA consultation services***.

"Call OSHA yourself and have them help you become compliant," de Leon says. "If you call them, they will come and do a survey and help you get your shop in compliance."

13 Machines OSHA Considers as Amputation Risks

More than half of the machines that the federal government views as potential amputation hazards can be found on metalworking shop floors.

Below are the 13 machines found in manufacturing plants that OSHA identified as creating a risk of amputation. The agency provides specific guidance on machine guarding for each in *this publication*.

- Mechanical power presses.
- Power press brakes.
- Powered and nonpowered conveyors.
- Printing presses.
- Roll-forming and roll-bending machines.
- Shearing machines.
- Food slicers.
- Meat grinders.
- Meat-cutting band saws.
- Drill presses.
- Milling machines.
- Grinding machines.
- Slitters.

The OSHA publication "*Safeguarding Equipment and Protecting Employees from Amputations*" provides extensive details about machines that are most dangerous along with detailed information and graphics about the placement of necessary protective equipment.

What's more, as part of its *National Emphasis Program on Amputations* (NEP), an OSHA compliance safety and health official will assess a shop for nip points, pinch points, shear points, cutting actions and other points of operation that present amputation risks and therefore require guards.

OSHA launched the program in 2015. It recently renewed NEP for five more years, and will be running an *education and awareness program* until March of this year. NEP is currently set to expire in March 2020.

Machine Guarding Tip 2: Be Liberal in Your Use of Hazard Communications

In many cases, areas where workers can potentially be at risk of flying chips or other sharp hazards become more perilous "due to bad signage or no signage indicating dangerous areas," de Leon says.

The lack of *hazard communications* also is on the OSHA Top 10 list, coming in most recently at No. 2—in part because OSHA routinely cites it in tandem with other safety standards violations.

Machine Guarding Tip 3: Name and Train a Lead Guard Team Member

Guards are not "set 'em and forget 'em" safety equipment.

The need for doing spot checks and making regular adjustments is critical, de Leon says. "I've seen people lose fingers and hands due to improper adjustment."

One way to address that is to have a lead person set up and adjust guards. That makes regular checks part of a company's safety program, and it also means that guard adjustments take place routinely and consistently.

What's the chief barrier to machine guarding best practices at your company?

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