

# Toolbox Talk

## Machine Guarding

Working with tools and equipment can be intimidating. It is all too common in construction to hear horror stories of what happened when a tool was used incorrectly. Battle scars, missing and damaged parts, signage and warnings all from jobs gone wrong. A statistic from OSHA estimates that every year 18,000 injuries and 800 deaths occur from unguarded or inadequately protected tools and machinery. Amputations, burns, crushing injuries, and lacerations all that can have permanent disability as the consequence.

In both General Industry or Construction you can find very specific details on what needs to be guarded and how it should be done. Here are a few of the general concepts from the construction standards.

### The Standards

1926.300(a) Condition of tools. All hand and power tools and similar equipment, whether furnished by the employer or the employee, shall be maintained in a safe condition.

1926.300(b2) Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating or moving parts of equipment shall be guarded if such parts are exposed to contact by employees or otherwise create a hazard. Guarding shall meet the requirements as set forth in American National Standards Institute, B15.1-1953 (R1958), Safety Code for Mechanical Power-Transmission Apparatus.

Safeguards must meet these minimum general requirements:

- **Prevent contact** – For the operator and others around them.
- **Secure** – You should not be able to easily remove/tamper with the guard. If it is too easy, people will remove it to make their job “faster” while disregarding safety.
- **Protect from falling objects** – So other items in the vicinity cannot fall on/in and become another hazard.
- **Create no new hazards** – No sharp or jagged edges that could cut the operator.
- **Create no interference** -If it gets in the operators way and becomes a distraction, there’s a good chance it will be removed or tampered with.
- **Allow safe maintenance** – Easy to clear debris/dust out of the way to allow best user experience.

### Training is Necessary

The best tool and equipment guards mean nothing if the people using them do not understand their importance. Training is an imperative part of machine guarding and the safe use of power tools. Your training should be very specific and detailed, and involve hands-on demonstrations (especially for new employees)

1. Talk about the hazards associated with particular machine/tool
2. Discuss the guard itself, how it functions, and what happens when it isn’t there.

3. How to maintain the guard and why (i.e. keeping dust out of the moving parts)
4. How and when guards can be removed, and the time frame to reinstall.
5. What to do if a guard is damaged, missing, or unable to provide adequate protection.

This training should be done anytime there is a new piece of equipment introduced to the workplace. When there is a new employee. Or, retraining for everyone when there has been an injury or near miss from using that item.

### **Where are Safeguards common on a Construction Site**

- Power Saws: Circular, Miter/Chop, Table, Gas Concrete Saw
- Covers on pulley and gears: Mason Mixer, Table Saw, Heavy Equipment Motors
- Grinding/Shaping Tools: Bench grinder, angle grinder, lathe, router, planer

### **Summary**

Guards are meant to keep us safe. Safe from cuts, getting crushed, getting our clothes tangled up in machinery. They should be respected and used properly. As with all of the safety measures we take, training is the key to success.

### *Questions for you*

1. Do you have any older tools or equipment with missing or damaged safety guards?
2. Do you have a training process set up for new employees/equipment?