

Job Name: \_\_\_\_\_ Job Site Location: \_\_\_\_\_

Date: \_\_\_\_\_ Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_ Foreman/Supervisor: \_\_\_\_\_

### Topic 140: Machine Guards

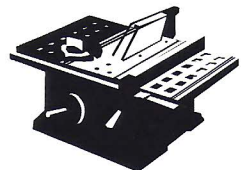
**Introduction:** Guards are used for the protection of personnel on the job and are the only thing protecting body parts from machinery which can cause serious or fatal injury. Guards are an essential component of workplace safety. Machinery and tools should not be used without them in place.



**Description of Guards:** Guards may be sheet, expanded or woven mesh steel. **Wooden guards** may be used in wood manufacturing and chemical industries where chemicals may corrode metal. **All guards must be rigidly braced every 3 ft. or less to a fixed part of the machinery or structure.** **Belt guards** must run the entire length of the belt. **Guardrails must be** at least 42 in. high with a midrail between the top and floor and uprights 8 ft. or less apart. **Guardrail clearance must be** at least 15 in. but not more than 20 in. from the machine. **Toeboards must be** 4 in. or more in height.

**Equipment which require machine guards include, but are not limited to:**

- **Flywheels** when 7 ft. or less above the floor or work platform must be guarded by an enclosure. If the flywheel extends into a pit or within 12 in. of the floor a toeboard and guardrail must be provided.
- **Gears, sprockets, chains, pulleys, cranks, and connecting rods** must all be guarded as described above or by a band guard covering the face of the sprocket or gear and extending inward beyond the root of the teeth on the exposed side or sides.
- **Transmission shafts** must be secured against excessive endwise movement and protected from contact by a stationary casing completely enclosing the shaft, or by a trough enclosing the top, sides, or bottom as location requires.
- **Projecting shaft ends** must present a smooth edge and end and not project more than one half the diameter of the shaft unless guarded. Unused keyways on projecting shafts must be filled or covered.
- **Pulleys, gears, and sprockets** with cracks or pieces broken from the rim must not be used.
- **Belt, rope, and chain drives** must be guarded if less than 7 ft. from the floor or work platform.
- **Belt tighteners** must be of substantial construction and securely fastened. Where suspended counterweights are used and not guarded by location, they must be encased to prevent accidents.
- **Openings for frequent oiling** must have hinged or sliding self closing covers. All oil points not readily accessible must have feed extension tubes if lubrication is to be done while machine is running.
- **Portable saws** with greater than 2 in. blade diameter must have a guard above and below the base plate. The lower retractable guard must not be removed or disabled.
- **Portable belt sanders** must have a guard at each nip point where the belt runs into the pulley.
- **Pneumatic tools** must use a tool retainer if the tool may be ejected without one.
- **Portable grinders** must have a guard positioned between the wheel and operator that allows no more than 180 degrees of exposure of the wheel.
- **Powder actuated tools** must have a shield or guard at least 3 1/2 in. diameter that will not allow any flying particles to escape that might become a hazard at time of firing.



**Conclusion:** Manufacturers provide guards for tools and machinery which should comply with OSHA standards for the safety of the operator and nearby personnel. These guards must never be removed or disabled and should be inspected before each use to ensure they are in good condition and properly secured.

### Worksite Review

Work-Site Hazards and Safety Suggestions: \_\_\_\_\_

Personnel Safety Violations: \_\_\_\_\_

Material Safety Data Sheets Reviewed: \_\_\_\_\_ (Name of Chemical)

**Employee Signatures:**

*(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)*

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

*These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.*