

**SUBJECT:** Tool Safety

**REGULATORY STANDARD:** 29 CFR 1910

**DATE:** May 2000

All mechanical motion is potentially hazardous. Motion hazards such as rotating devices, cutting or shearing blades, and uncontrolled movement of failing parts are examples of motion, and are peculiar to any one machine or job operation. Personnel working within areas where they are exposed to machinery or equipment hazards must be aware of the potential for accidents.

## **General Safety Rules for Powered Tools**

Workers should not wear rings, earrings, bracelets, wristwatches, or necklaces in the vicinity of operating machinery and power tools.

Long full beards, unrestrained long hair, rings, jewelry and loose articles of clothing should not be allowed near machinery as they can become caught in tools or machinery and cause serious personal injury.

Highly combustible garments or coveralls made of material such as nylon should not be worn in or around high temperature equipment. (i.e. boiler operations, welding, and any other work with open flame devices.)

## **Personal Protective Equipment**

- All personnel in areas where machines are operated must wear eye protection.
- Gloves must not be worn when there is a chance of them being caught in machinery.
- Ear plugs or muffs should be used for hearing protection when operating noisy equipment or machinery.
- The Office of Environmental Health and Safety can be contacted to assist supervisors in determining personnel protective equipment needs.

## **Environmental Issues**

Machines or tools designed for fixed locations should be securely fastened to the floor or other suitable foundation to eliminate all movement or "walking." Machines that have the potential for tipping or falling over must be firmly secured.

Machines must never be left unattended with the power ON unless the worker is operating more than one machine in a battery of machines.

**No attempt should be made to clean any part of a machine until the moving parts have come to a complete stop and the proper lockout/tagout procedure is in place, if required.** Chips should not be removed from machinery by hand; hand brushes should be used. Compressed air may be used when reduced to less than 30 psi, and then only with effective chip guarding and personal protective equipment.

While lubricating various moving parts, the operator must not place his/her hands in the point of operation. Brushes, swabs, lubricating rolls, and automatic or manual pressure guns should be used so the operator **does not** place his hands in the hazardous area.

## **Personnel Training**

Employees and students should be trained to safely operate each machine or tool they will be required to use; to recognize potential accident-producing situations; and to know what to do when hazards are discovered. Only people who have been thoroughly trained, or those who are undergoing supervised on-the-job training on the equipment, should be permitted to operate machinery.

## **Maintenance/Repair**

When maintenance or repair is needed, machines must be completely shut down and the control switch(es) locked and tagged in the OFF position. Complete lockout/tagout procedures must be followed. Refer to Montana Tech's Lockout/Tagout Program.

## **Inspections**

All tools should be thoroughly inspected before use. If tools are damaged, they need to be either serviced to proper working condition or they need to be discarded so that no person can make use of that tool.

If a tool or machine is out of service, it must be marked "Do Not Use" to insure the safety of other personnel.

## **Storage**

- All tools should have a designated storage area.
- All tools that are not in use should be properly stored in their designated area.
- All storage areas should be kept clean and orderly so there are no tripping or limited egress hazards.

## **Extension Cords**

Extension cords can only be used for temporary purposes. They can never be used as a permanent or fixed means of wiring. Inspect extension cords before and after every use for cuts, cracks or any other damage. Do not try to repair a damaged extension cord. Always

protect extension cords from physical damage. Extension cords should not be run through holes in walls, ceilings or floors.

- Do not run extension cords through high traffic areas (tripping hazard).
- Use only extension cords with ground fault interrupters (GFI) around wet or damp areas or outside work areas.
- Do not overload an extension cord. Overheating could result if the cord is not big enough for the tool or appliance it powers.
- Always use a three pronged (grounded) extension cord.
- Only use extension cords that have been tested and approved by an independent laboratory (Underwriters Laboratories, UL).
- Cords should never be used to lift a tool. Never jerk the cord out of the socket from a distance away.
- Run cords overhead when practical to avoid trip hazards.

## Portable Power Tool Safety

Use your tool only for the specific task it was designed to do. Read the owner's manual before using your tool. Never use any tool--power or manual--unless you are trained to do so. Inspect before each use and replace or repair if parts are worn or damaged. Inspect screws, nuts, bolts and moveable parts to make sure they are tightened.

Before plugging or unplugging tools, be sure power switch is turned to "OFF." Never disconnect power by pulling or jerking on the cord from a distance away from the outlet--remove the plug from the outlet. Never clean or repair a tool unless power is disconnected. (Repair tools only if you are trained to do so.) **Do not wear rings, jewelry, or loose clothing when operating power tools.** Wear Personal Protective Equipment (PPE), such as face shields, safety goggles, disposable masks, etc. as required.

## Hand Tool Safety

Almost all of us use hand tools--at work and at home. Accidents result from using the wrong tool for the job (or using the right tool incorrectly), failing to wear personal protective equipment, or failing to follow approved safety guidelines. The following **checklist** provides some basic rules for the safe use of hand tools. Take a moment to review this list, and use the tips here whenever you use a hand tool--on or off the job.

### General Rules for Hand Tool Safety

- ✓ Know the purpose of each tool in your toolbox, and use each for the specific task it was designed to do. Never use any tool--hand or power--unless you are trained to do so. Inspect tools before each use and replace or repair if worn or damaged.
- ✓ Clean tools after every use. Keep cutting edges sharp. Never test a cutting edge with your fingers--test on scrap material instead.

- r When working on ladders or scaffolding, be sure that you and your tools are secure. (A falling tool can seriously injure a coworker or bystander.)
- r Carry tools correctly--never put sharp or pointed tools in your pockets. When hand-carrying tools, point cutting edges away from you, toward the ground.
- r Lightly oil metal tools and store in clean, dry place to prevent rust.
- r Wear Personal Protective Equipment (PPE), such as safety goggles, face shields, gloves, and hearing protection as required.
- r Always know how to properly use hand and power tools before starting the job by following operating instructions and using the proper accessories. If you are unfamiliar with how a tool operates or is to be used, get the advice and instruction of your supervisor or instructor.
- r Select the right size tool for the job--don't use cheaters.
- r When possible, pull on a hand tool rather than push since it can slip and cause a serious cut or bruise.
- r Never leave hand tools lying around loose where they may fall on someone below.