

Shop Supervisor: _____

Date Approved: _____

Hand Tools

Hand tools help us easily perform tasks that otherwise would be difficult or impossible. However, they often pose risk of lacerations, contusions, and muscle strain. In addition, users of tools may also be exposed to hazardous airborne contaminants, flying debris, and electrocution, among other risks.



Personal Protective Equipment					
					
Tie Back Hair & Secure Loose Items	Closed Toe Shoes	Eye/Face Protection	Hearing Protection	Gloves	Respiratory Protection
Tie back long hair and secure loose clothing that could get caught in rotating parts. Remove rings and other jewelry.	Appropriate enclosed footwear should be worn.	Wear ANSI Z87.1 compliant safety goggles to protect eyes. Face shields may be necessary to protect from dust, shards, and debris.	Hearing protection should be worn when noise levels are excessive.	Depending on the tool, gloves can either help provide grip and protection or can get caught in rotating parts. Use gloves when appropriate.	Respiratory protection (e.g. dust masks) may be desired or required. Contact EH&S for guidance.

Potential Hazards

Be aware of the following potential hazards when working with portable power tools:

- **Mechanical:** points of operation, pinch points, shear points, power transmission points
- **Operational:** heat, dust/chips/shards, noise, unstable loads/stocks
- **Chemical:** cleaning solvents, lubricants
- **Electrical/Energy Sources:** exposed wiring, malfunctioning or damaged equipment, unexpected start up/shut down

Before Use

- Use the right tool for the job. For example, do not use a screwdriver as a chisel. Do not attempt to modify or adapt a tool to extend its capabilities. Do not try to do heavy work with a small, light tool; do not try to do fine work with large, heavy-duty tools. Use the tool that suits the work.

- Do not eat or drink in work areas.
- Inspect every tool before use and remove damaged or defective tools from service. Do not use tools with defective, broken, or compromised handles, guards, or ancillary parts (e.g. warped, dull, or cracked blades, sprung gripping surfaces, mushroomed heads, etc.). Report any unsafe conditions observed on the tool to the shop supervisor or instructor.
- If the tool you are using produces dusts or fumes, be familiar with how to operate the local exhaust ventilation (LEV) system, if equipped, and turn it on before beginning work. Ensure that the LEV is well maintained to work effectively.
- Never use your hands or fingers to test whether or not a tool is sharp. If the tool is as sharp as it should be, you will cut yourself.
- Always carry tools by their handle. When you carry a tool, hold it so the point or sharp edge is aimed down toward the floor.
- Minimize ancillary hazards in the work space. For example, remove accumulated debris or tools to prevent trips or falls, dry or clean up slippery surfaces, use portable lighting in poorly lit areas, etc. Non-sparking or intrinsically safe tools may be required in the presence of flammable materials, especially vapors.
- Check the [Safety Data Sheet](#) for potential health hazards of specific materials (e.g., western red cedar) and chemicals (e.g., lubricants, solvents). **Additionally, ensure that the stock you are cutting is free of nails, screws, or other metallic objects.**
- Determine whether you will need additional equipment or supports, such as clamps, vices, sawhorses, or stands. Avoid holding the work with one hand while you use the tool with the other hand. Instead, fasten the work down so you will have both hands to use the tool.
- Be cautious when a cutting operation requires locating fingers close to a blade. It is a best practice to keep hands at least 4 inches away from the blade.
- Plan the work so you can keep your balance. Always keep your weight on both feet, and don't overreach.

During Use

- **Concentrate on the task at hand; avoid distractions.** Most injuries occur when the operator is not paying full attention to what they are doing.
- Keep all people not involved with the work at a safe distance away from the area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Never aim a cutting tool toward your hands, arms, or body. Aim the tool away from you and others, whether you are working with it or just holding it.
- Do not lay tools down near the edge of the bench where they could roll off, or where someone could bump into them or trip over them.
- Unguarded, sharp-edged, or pointed tools must not be carried in pockets.
- Use tools only if you understand how to use them correctly and safely. If you are not sure, check with your supervisor or instructor.

After Use

- When you are finished with a tool, return it to its assigned area. Do not leave tools lying around.

- Turn off the LEV, if equipped, and prepare it for the next use.
- Sweep or use a shop vacuum to collect any debris on the floor or other surfaces. Avoid cleaning with compressed air to prevent injury.
- Store stock materials in a neat and secured manner; do not accumulate excess combustibles. Keep aisles and exits clear.
- Wash hands and exposed skin thoroughly after completing work and before leaving the shop area.

Emergency Equipment and Procedures

- Report all incidents to the shop supervisor or instructor, including injuries, equipment damage, and near misses.
- Know the location of the nearest emergency equipment and items, such as the emergency stop/shut-off for the specific machine, eye wash, first aid kit, fire extinguishers, fire alarm pull stations, and emergency exits.



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