Shop Supervisor: _____ ***Date Approved:*** _____

Portable Power Tools

Portable power tools help us easily perform tasks that otherwise would be difficult or impossible. However, they often pose risk of lacerations, contusions, and muscle strain. Power tools in particular pose a higher risk of severe injury because points of contact can transfer a large amount of mechanical energy from the tool to small areas on the body. In addition, users of power 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

Portable Power Tools

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.
- Know the location of start and stop switches or buttons.
- 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, marred or chipped drill bits, checked hoses, frayed cords, sprung gripping surfaces, mushroomed heads, etc.). Report any unsafe conditions observed on the tool to the shop supervisor.
- 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. Always make sure that you have adequate ventilation when using or refueling gasoline-powered tools.
- 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.**
- Ensure that tool guards are in place and recommended personal protective equipment is worn.
    - If adjustments or maintenance (such as adding oil or changing out ancillary parts) are needed, unplug the power before adjusting.
- Determine whether you will need additional equipment or supports, such as clamps, vices, sawhorses, or stands.
- 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.

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.
- Do not carry a tool by the hose or cord, and do not yank on a cord to disconnect the tool from the receptacle. Firmly grasp the plug.
- Avoid accidental starting. Ensure that the tool is in the “off” position before plugging in, and do not hold fingers on the switch button while carrying a plugged-in tool.
- Use portable power tools only with properly placed, adjusted, and functioning guards. In general, the exposed moving parts of power tools need to be safeguarded.
- Keep hoses and cords away from heat, oil, and sharp edges.
- To protect the user from shock and burns, electric tools must have a cord with a grounded plug and be plugged into a grounded receptacle or be double-insulated. Report any tools with non-grounded plugs to the shop supervisor.
- Do not use electric tools in damp or wet locations unless they are approved for that purpose.

- 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.
- When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments from being ejected during tool operation.
- Don't force tools if they get stuck or jammed. Turn off the power, unplug the tool, and attempt to release the mechanism by hand. If you are unsuccessful, alert the shop supervisor.

After Use

- Shut off the power and unplug the tool and ensure that it is ready for the next person to use. Wait for moving parts, such as blades or drill bits, to completely stop on their own; do not attempt to use your hands to stop movement.
- Turn off the LEV, if equipped, and prepare it for the next use.
- Sweep or use a shop vacuum to collect any debris that resulted from cutting 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, 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.

By signing and dating the log below, individuals are certifying that they have been informed and understand this Standard Operating Procedure and agree to abide by its contents.

Name	Signature	Date