

Shop Supervisor: _____

Date Approved: _____

Bench and Pedestal Grinders

A **grinder** is essentially two spindles with wheels (typically buffer or wire wheels) that are attached to either side of a motor. Depending on what you're looking to accomplish and which wheels are attached to the machine, grinders are capable of various functions like cleaning, shaping, sharpening, polishing, or buffing out imperfections on metal items. **Bench grinders** are mounted to a stable, table-top location like a workbench; **pedestal grinders** are a stand-alone version that are mounted to a pedestal that may be bolted to the floor or sit on rubber feet if the machine is heavy enough to remain stable during operation.



Personal Protective Equipment					
					
Tie Back Hair & Secure Loose Items	Closed Toe Shoes	Eye/Face Protection	Hearing Protection	Protective Clothing	No Gloves Advised
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.	Close-fitting or protective clothing, such as an apron, is encouraged.	Gloves can get caught in rotating parts. Follow the "4 inch" rule to keep hands away from harm.

Potential Hazards

Be aware of the following potential hazards when working with bench and/or pedestal grinders:

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

Before Use

- Know the location of start and stop switches or buttons, and keep the grinding area free of tools and other materials.
- Inspect the wheels before turning on the power. Do not use wheels that are chipped or cracked. Ensure both the machine and the surrounding area are free of debris.
- Check the [Safety Data Sheet](#) for potential health hazards of specific materials (e.g., western red cedar, beryllium, chromium) and chemicals (e.g., lubricants, solvents).
- Ensure that machine guards are in place and recommended personal protective equipment is worn.
 - The tool rest must be minimally within $\frac{1}{8}$ (one-eighth) inches of the wheel.
 - The tang at the top of the wheel opening should be located within $\frac{1}{4}$ (one-fourth) inches of the wheel.
 - If adjustments are needed for the tang or work rest, unplug the power (or lockout/tagout if hard-wired) before adjusting.
- Stand to one side of the wheel when turning on the power.

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 the tool rest as close to the grinding wheel as possible without touching it.
- Be cautious when a grinding operation requires locating fingers close to the wheel. It is a best practice to keep hands at least 4 inches away from the wheel.
- Feed the stock into the wheel with light to medium pressure. Do not force the piece.
- Do not use the side of the grinding wheel to shape stock.
- Stand erect in front of the grinder with both legs straight and slightly apart. Avoid stooping or leaning into the machine.

After Use

- Unplug the machine and ensure that it is ready for the next person to use.
- Sweep or use a shop vacuum to collect any debris that resulted from grinding 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.

