

Worksite: _____ Instructor: _____ Date/Time: _____

Topic C138: Bench & Stand Grinders

Introduction: Bench and stand grinders are high speed machines used to quickly remove excess material, polish metal, or shape hard substances to the desired design. These machines are also capable of removing skin from a careless finger, or spraying fragments, dust particles, shrapnel, or debris into eyes, or propelling objects a significant distance with dangerous velocity. Below is a checklist and OSHA requirements for safe operation:

Checklist for Safe operations of Grinders:

- Is the work rest operational and kept adjusted to within 1/8 -inch of the wheel?
- Is the adjustable tongue on the top side of the grinder being used and adjusted to within 1/4-inch of the wheel?
- Do side guards cover the spindle, nut, flange, and 75 percent of the wheel diameter?
- Are bench and pedestal grinders permanently and securely mounted?
- Are face shields always worn when grinding?
- Is hearing protection available if needed?
- Is the maximum RPM rating of each abrasive wheel compatible with the RPM rating of the grinder motor?
- Are fixed or permanently mounted grinders connected to their electrical supply system with metallic conduit or by another permanent wiring method?
- Does each grinder have an individual on/off switch?
- Is each electrically-operated grinder that is not double-insulated effectively grounded?
- Are new abrasive wheels visually inspected and ring tested to ensure wheel is free of cracks or defects before mounting?
- Is cleanliness maintained around grinders?

Requirements for Machine Guarding of Grinders:

Guards must be made of steel or other material with adequate strength and must enclose the wheel sides. It is necessary to maintain clearance between the wheel side and the guard. This clearance should not exceed one-sixteenth inch.

- The safety guard shall cover the spindle end, nut, and flange projections (these parts may be exposed on machines designed as portable saws).
- Grinding machines must be equipped with flanges of the same diameter which are close in flatness and serviceability.
- Work rests must be used to support the work. They must be rigid as well as adjustable to compensate for wheel wear.
- Work rests must be kept adjusted close to the wheel with a maximum opening of one-eighth inch to prevent the work from being jammed between the wheel and the rest, which may cause the wheel to break.
- The work rest must be securely clamped after each adjustment. The adjustment must not be made with the wheel in motion.

Personal Protective Equipment (PPE): The appropriate PPE should be used based on the work being done. These consist of:

- Safety glasses or goggles
- Ear plugs or ear muffs
- Dust mask
- Work gloves

Conclusion: Wire wheels used on bench grinders should have at least an upper wheel cover if cleaning large items such as axes or shovels. A full wheel cover with a tongue guard is required for abrasive wheels, and if doing other types of cleaning or polishing. Wire wheel guard housings should not be equipped with tool rests. Injury records associated with wire brush wheels showed a greater hazard exists with a work rest than without. Follow the guidelines for safe operation of bench and stand grinders.

Employee Attendance: (Names or signatures of personnel who are attending this meeting)

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

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