VOLUME 12, ISSUE 45

NOVEMBER 9, 2025

Weekly Safety Meeting

Safety with Bench Grinders

Almost every maintenance shop has a bench or pedestal grinder. They are most commonly used to shape or sharpen the cutting edges of tools such as chisels or lawn mower blades. These are powerful, useful tools, but they are also potentially dangerous because users take them for granted. Serious injury and even death can result from improper handling, installation, or use of abrasive wheels. Cracked or defective grinding wheels can "explode" while in use.

Grinders use powered rotating attachments to work metal and other materials. Bench grinders are mounted to a bench or tabletop while pedestal grinders are mounted to the floor on a pedestal. With an abrasive, wire brush, or buffing wheel attachment, grinders sharpen tools and shape, clean, or polish metal pieces.

About 3,200 people nationwide received hospital treatment for workshop grinder, buffer, and polisher injuries during 2016. Injuries occurred to hands, fingers, and eyes and included lacerations, contusions, skin abrasions, corneal abrasions, and tissue damage caused by foreign objects becoming lodged in the eye.

Proper Hazard Guarding:

The wheel guard enclosure should cover most of the wheel, the spindle, and the wheel mounting hardware. Some of the wheel must be exposed to allow grinding access, but the maximum access space between the horizontal work rest and the top of the wheel guard opening should be no more than 65 degrees of the wheel.

The horizontal work rest should be adjusted to within 1/8-inch of the wheel. This reduces the risk of wheel breakage caused by an item being jammed between the work rest and the wheel.

The tongue guard is an adjustable safety plate that is attached at the top of the wheel guard enclosure and can be moved closer to the wheel as its diameter decreases from wear. The distance between the tongue guard and the wheel must not exceed ¼-inch in order to minimize exposure to flying fragments in the event of wheel disintegration.

A transparent hinge-mounted face guard should be attached over the exposed wheel surface area to provide additional protection from particles thrown off the rapidly spinning disk.

Personal protective equipment includes safety glasses and a face shield—your face as well as your eyes need protection.

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Pre-Use Activities:

Thoroughly review and understand information provided in the pedestal or bench grinder operator's manual with particular attention given to descriptions of safety procedures.

Before using, always inspect the pedestal or bench grinder for damage or disrepair.

In addition, assure work rests, eye shields, and wheel, tongue, and spindle guards are in place and secured.

Inspect the electrical cord and plug for defects.

Ensure the work bench guard (lower guard) is no more than 1/8'' away from the wheel and the upper guard to be no more than 1/4" away from the wheel.

If a pedestal or bench grinder fails the pre-use inspection, notify your supervisor and remove the grinder from service by attaching a red tag that states "DO NOT USE." Complete red tag with appropriate information.

Operating Precautions:

- Always wear safety goggles or a face shield when using a pedestal or bench grinder.
- Never wear gloves, a tie, loose clothing, a watch, rings, or jewelry when using a pedestal or bench grinder. Tie long hair back or secure under a cap.
- Always use abrasion wheels that are rated consistent with the speed rating of the pedestal or bench grinder.
- Only dress abrasion wheels on the face with a diamond dresser. Never use an abrasion wheel that vibrates.
- The side of the wheel should not be used for grinding unless it is designed for that purpose. Never start the grinder with a work-piece against the abrasion wheel.
- Only apply the work-piece to the face of the abrasion wheel.
- Do not grind magnesium or aluminum. Fire or explosion may occur.
- Keep hands and fingers at least two inches from the rotating abrasion wheel.
- Cool the work-piece by dipping it in water.
- Do not apply coolant water to the abrasion wheel.
- Turn off the pedestal or bench grinder and disconnect the power source prior to making pedestal or bench grinder adjustments or repairs.
- Always clean the pedestal or bench grinder work area upon completion of the grinding task.
- When replacing the grinding wheel, perform a ring/tap test of the wheel to ensure the wheel has no voids in it.

Remember:

Abrasive wheel grinders are great machines, but careless operation can injure your hands, fingers, eyes, and respiratory system. The fact that OSHA finds so many abrasive wheel grinder violations every year should be a warning to all of us. Remember that the most common violations—and serious hazards—are failing to properly adjust the safety guards and the work rests. A wheel that fragments at high speed can cause severe personal injury and possibly death.

WHERE DANGER LINGERS…WATCH YOUR FINGERS!!

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Safety Meeting Sign-In Sheet

Supervisor:	Subject:
Location:	Date:
Conducted By:	Trainer Signature:

Name (print clearly)	Signature	Comments / Safety Concerns / Training Requests