

## Bench and Pedestal Grinders

Many of us have used a bench grinder at one time or another. They are a great tool to have when you need to shape or sharpen tools or materials. While they are useful, they do not come without hazard and frequently they create significant injuries. While many of us may take them for granted, the improper use may result in shrapnel being imbedded in your body, loss of eyesight, and many other injuries. Let's review some of the more common concerns with these devices.

Tools that may move or "walk" when they are operated must be secured. As a result, both pedestal and bench style grinders must be secured to the floor or workbench to prevent movement during usage.

Cracked or broken grinding wheels can explode causing significant injury. To prevent these events, store grinding wheels carefully on racks in dry places, and visually inspect them for warping, chips, cracks or other damage before installation. Discard used wheels once they are approximately 2/3 worn. When selecting a replacement grinding wheel, match the speed rating on the wheel to the speed of the grinder. Prior to installation complete a "ring test" to assist in identifying any hidden cracks or defects. A ring test may be completed by simply tapping lightly with a non-metallic implement like a wooden mallet on the edge of the grinding wheel. If the wheel doesn't have a clear tone and has a dead sound, the wheel should not be used. Follow the manufacturer or American National Standards Institute procedures for completing a ring test.

Proper guarding is one of the most important safety requirements on a grinder. Missing or improperly adjusted guards are common and frequent safety violations. 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 1/4-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 must be worn and includes the use of safety glasses and a face shield. In addition, the user should not wear loose fitting clothing that could become caught in the wheel.

When starting the grinder, do not stand directly in front of the grinding wheel as it may break apart or disintegrates as it reaches full speed. Allow the grinder to reach operating speed and then bring the item to be honed slowly and smoothly into contact with the wheel. Gradual application gives the wheel an opportunity to warm up and lessens the chance of breakage due to thermal stress. Most grinding wheels are designed for face use only. The side of the wheel should not be used for grinding unless it is designed for that purpose.

Before you use the grinder inspect it for possible safety concerns. These devices are useful tools when used and maintained correctly. Don't gamble your future by using unsafe equipment.

### Attendees:

|       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

**Location:**

**Supervisor:**

**Date:**

|       |       |       |
|-------|-------|-------|
| _____ | _____ | _____ |
|-------|-------|-------|

*This safety tip was brought to you by, . . .*