



Bench Grinder Hazards

Instructor Notes: Safety for towing operators isn't limited to behind the wheel or on the side of the road. As discussed in this safety meeting, shop tools can pose serious threats when not used or maintained properly. Use this time to provide bench grinder safety training to your staff to prevent an injury or worse.

One of the most common pieces of shop equipment in a towing company's maintenance garage is the bench grinder. While these machines are incredibly useful they are equally dangerous when not used or maintained properly. Unfortunately, it's clear that some people don't take grinder safety seriously enough when you look at a list of OSHA's most frequently violated standards. Abrasive wheel violations always rank high – right up with hazard communication and lockout/tagout. In one recent year, OSHA found 1,704 violations related to abrasive wheel exposure adjustments, with 1,449 of them serious. That was the eighth most frequent violation for the year with fines ranging from hundreds to thousands of dollars.

What Are You Working With?

For conversation's sake, we're using the term "bench-mounted grinder" even though some are mounted on stand-alone pedestals. There are other grinders such as portable, hand-held styles but since they generally fall under different standards they are not being discussed here. In either case, bench grinders are machines generally used to remove metal from flat and cylindrical surfaces. In some cases grinders are equipped with a wire brush or similar buffing wheel attachments.

What Are the Dangers?

People who regularly use grinders may not be aware of their hazards but keep in mind that while these machines have flat surfaces, they are in fact *cutting* tools. Depending on the equipment, the abrasive wheels can spin at an incredible 3,600 rounds per minute (RPM) and you don't want to make contact with something going that fast.

General Grinder Safety Tips:

- Pedestal grinders should be securely attached to the floor and bench grinders should be securely fastened to a bench to handle grinding operations.
- Always check that an abrasive wheel's RPM rating is consistent with speed of the grinder. It's extremely dangerous to install a wheel rated at 1,750 RPM onto a grinder that spins at 3,600 RPM.
- Always wear eye protection (safety glasses or face shield).
- Ensure all the guards are in place and secure before using a grinder.
- Adjust tool rests to within 1/8-inch of wheels. Never adjust rests while wheels are moving. Work rest height should be on horizontal centerline of the grinder's spindle.
- Maintain 1/4-inch of wheel exposure with a tongue guard (i.e., upper guard).

- Never remove guards from a bench/pedestal grinder. They offer protection in case of wheel failure and protect hands and fingers from injury.
 - Before using a grinder, allow the abrasive wheel to run at operating speed for around 60 seconds. Do not stand directly in front of a grinder when it is first started and do not use a wheel that vibrates or wobbles.
 - Work rests or tools rests should be provided on all machines. The work rest on a bench grinder should be securely fixed and close enough to the grinding wheel to prevent the job from slipping off and should be adjusted as the disc becomes smaller through wear. Never adjust tool rests while the grinder is running.
 - When beginning to grind, bring the object into contact with the grinding wheel slowly and smoothly, avoiding impact or bumping motions. Move the object back and forth across the face of the wheel as this prevents ruts or grooves from forming on the abrasive wheel.
 - Occasionally a new wheel is cracked or flawed and is likely to shatter as soon as it is used. New wheels should be visually checked and given a "ring" test before they are fixed to the spindle. Tap the side of the wheel with a light tool. It should have a clear ring. A dull noise indicates a flaw. Do not use a wheel that has been dropped.
- This list is not all inclusive. For additional grinder safety tips such as wheel replacement instructions, wheel dressing procedures or operating guidance, refer to the grinder's operator's manual. Grinding – do it the safe way, the right way – everyday.



This article is a part of TowSafe, a safety program designed for towing operators. For more information contact April at 407-706-6796.