

Using Grinders Safely

Grinders can be valuable tools for polishing, honing, cutting and buffing. But careless use of these machines can subject your eyes, fingers, hands and arms to serious injury and bring your job to a grinding halt.

The Ring Test

Before an abrasive wheel is mounted, it should be inspected closely and tested to be sure it's free from cracks or defects. A defective grinding wheel can break during use. To test the wheel, suspend it or hold it vertically and tap it 1 or 2 inches from the outer edge and 45 degrees from the vertical center line. Tap a light wheel with a light tool, such as a screwdriver handle, and a heavy one with a mallet. A sound and undamaged wheel will give a clear, metallic tone or "ring." If it sounds cracked or "dead," it could fly apart during use and must not be used.

Inspections

- Inspect grinding machines daily to make sure the side and tongue guards are properly aligned so the wheel doesn't scrape them.
- The tongue guard should be less than a quarter-inch from the wheel.
- Make sure that the glass shield is clean, unscored and in place.
- Make sure that the grinder frame is mounted securely and doesn't vibrate during operation.
- Make sure that the speed is correct for the wheel being used.
- The tool rest should be securely clamped and positioned within an eighth-inch of the wheel, with its height on the horizontal center line of the machine's spindle.
- Never adjust the tool rest while the wheel is running; you could catch a finger between the rest and the wheel, or the rest could bump the wheel and break it.
- The clamp that holds your work should always be tight.



When You Work

- To prevent a wheel from cracking, be sure it fits freely on the spindle.
- The spindle must be tightened enough to hold the wheel in place, but not tight enough to distort the flange.
- Take care to ensure that the spindle wheel doesn't exceed the abrasive wheel specifications. Follow the manufacturer's recommendations.
- Because a wheel might disintegrate or explode during start-up, you should never stand directly in front of the wheel as it accelerates to full operating speed.
- Always wear proper eye protection.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.
- Never remove guards or guard fasteners.
- Never wear gloves when using a polishing or buffing wheel. Gloves can catch in the machine and drag your hand against the wheel.
- Use a jig or fixture to hold small items against the wheel. Never use your bare hand.
- Never grind nonferrous metal such as aluminum and brass. It will adhere to the wheel and expand with heat, raising the potential for the wheel to explode.
- When using a wet grindstone, make sure you're wearing slip-resistant shoes to prevent slips and falls.
- Hold materials with a relaxed grip to prevent vibration-related injury.
- Never touch any moving parts.
- Operate within the manufacturer's recommended speeds.
- Never try to alter the machine or its wheel speed.
- Always immediately smooth out rutted, uneven or rough wheels.