Abrasive wheels, buffers, and scratch brushes

- Guard abrasive tools as completely as possible.
- When grinding, the maximum angular exposure of the periphery and sides should not exceed 180 degrees.
- Always enclose the top portion of the wheel when grinding.
- Use adjustable guards to make the correct adjustment instead of removing the guard.
- Always wear eye protection.
- Keep an abrasive wheel away from water and oil, which might affect its balance.
- Protect the wheel from blows by other tools, and avoid striking the sides of a wheel against other objects or dropping the wheel.
- Hold and use the wheel correctly so that it does not touch the clothes or body.
- Only trained employees should install wheels.

- Guards for wheels must not be removed.
- Wheels should be sound-tested (ring-tested) before being mounted.
- Discard defective wheels immediately.
- Ensure that maximum machine rotation (RPM) does not exceed the rating of the wheel.

Air powered Tools

- Keep hands and clothing away from the working end.
- Follow safety requirements applicable to the tool being used and the nature of the work.
- Inspect and test the tool, air hose, and coupling before each use.
- Use a short chain or hose safety pins to secure all air line couplings.
- Never exceed the manufacturer’s listed air pressure.
- Use pin guards to prevent the pin from being thrown off during operation.

Pneumatic Tools

- Handling heavy jackhammers causes fatigue and strain. Cover jackhammer handles with heavy rubber grips to reduce vibration and fatigue.
- Wear appropriate personal protective equipment, including shoe guards.
- When two jackhammers are in use, work back-to-back to prevent injury from chips.

Always use three safety devices:

1. An automatically closing valve that is actuated by a trigger inside the handle.
2. A retaining spring, or ring that holds the tool in place and prevents it from being fired from the barrel.
3. A rubber-retaining ring that prevents the pin holding the tool in place from being released during operation.

For additional information contact:
Environmental Health and Safety
650-3064,
Environmental Studies 72, Mail Stop 9070

4/2006
**Portable Power Tools**

A portable power tool presents hazards similar to a stationary machine of the same kind. The mobility of power-driven tools means they can easily come in contact with the operator’s body.

- Before making adjustments to power tools, such as changing a bit or blade, make sure the power is off or the unit is unplugged.
- Avoid loose clothing, jewelry, ties, or any dangling objects.
- Tie back long hair that may catch in rotating parts or accessories.
- If it has an electrical cord, constantly stay away from the cord’s location.
- Ensure removable parts are in good condition and securely attached to the power tool before use.
- Unplug tools left unattended.

**Electric Tools**

Electric shock is the chief hazard from electrically powered tools.

- Do not use electric tools in damp or wet locations, or in metal tanks.
- Use only electric tools that are in good repair.

Use only double-insulated electric tools.

Use a Ground Fault Circuit Interrupter (GFCI) if a double-insulated tool is not available.

Use GFCIs in wet environments, confined spaces, and some construction activities.

Avoid loose clothing, jewelry, ties, or any dangling objects.

Tie back long hair that may catch in rotating parts or accessories.

**Circular Saws**

- Use guards as the manufacturer intended.
- Check the guard frequently to be sure that it:
  - Operates freely
  - Encloses the teeth completely when cutting.
  - Encloses the unused portion of the blade when it is cutting.
- Inspect masonry cracks after every use.
- Do not use a circular saw that is too heavy for a worker to easily control.
- Be sure the switch turns the tool on and returns to the off position after release.
- Use sharp blades.
- Use the correct blade for the application, and observe rotation marks on the blade during installation.
- Make sure the blade has the proper size and shape arbor hole.

Check for the speed marked on the blade and that it matches the no-load speed on the saw nameplate.

Secure work with a clamp.

Use both hands for maximum control.

**Belt or Disc Sanders**

- Do not expose sander to liquids.
- Do not use in damp or wet areas.
- When adjusting the tracking of the belt on a portable unit, have the sander supported and positioned to avoid contact with yourself or an adjacent object.
- The work area should be at least 3ft-4ft larger than the length of stock being sanded.
- On stationary sanders, maintain a 1/16-inch maximum clearance between the work table and the sanding disc or belt on all working sides.
- Always support your work piece with the table or backstop.
- Use jigs, clamps, or fixtures to hold your work piece whenever possible.

**Disc Grinders**

- Use portable straight grinders only with high-strength, bonded wheels.
- Equip tuck point grinders (a variation of straight grinders) with re-inforced abrasive discs and the appropriate guard.
- Maintain firm control and balance of the tool, and never over-reach.
- Do not allow the grinding wheel to bend, pinch, or twist in the cut or kickback may result.
- Use angle grinders primarily for the removal of metal or masonry.
- Equip angle grinders with reinforced abrasive discs or wire cup brushes.
- Check for wheel speed, and do not exceed it.
- Always check for cracks.
- Do not use damaged grinding wheels.
- Fragments from grinding wheels can be fire hazards.