

SAFETY SHOOTER

Tools

By Cathy Burkert

Tools are such a common part of our lives that it is difficult to remember that they pose many safety hazards. All tools are manufactured with safety in mind. Tragically, a serious accident often occurs before steps are taken to identify and avoid or eliminate tool-related hazards. Workers should be trained in the proper use of all tools. They must learn to recognize the hazards associated with different types of tools and the safety precautions necessary to prevent those hazards.

Five basic safety rules can help prevent hazards associated with the use of hand and power tools:

1. Keep all tools in good condition with regular maintenance programs;
2. Use the right tool for the job;
3. Examine each tool for damage before use;
4. Operate according to the manufacturer's instructions;
5. Provide and use the right protective equipment; and
6. Communication. Have toolbox talks with employees.

Some common citations given by the Occupational Safety and Health Administration (OSHA) for violations relating to hand and power tools include:

- No guards on the grinder. Common injuries occur while grinding welds and the grinder slips, hitting employees.
- The grinder wheel is not rated for the speed of the grinder. Grinding wheels are rated for a certain speed; and using a faster grinding speed may cause the wheel to explode, which is also true of abrasive blades used to cut concrete.
- No protection for rotating parts. All tools must guard rotating shafts and parts to prevent employee's body parts and clothing from getting caught in them. Most tools come with guards and replacement guards can be obtained from the manufacturer.
- Electric cords frayed or without ground. Ground fault interrupt (GFI) outlets should always be used.

For more detailed information on job-site safety, refer to OSHA at www.osha.gov.

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders. There are several potential dangers associated with the use of pneumatic tools. The most serious is the danger of getting struck by one of the tool's attachments or by some kind of fastener the worker is using with the tool. Eye, face, and ear protection



Use of whip checks with pneumatic tools at each connection point



Do not use electrical tools with frayed cords. This can cause electric shock, resulting in injury and/or death

are required when working with pneumatic tools. Working with tools such as jackhammers and pavement breakers pose the hazards of noise and flying debris. Workers must ensure that pneumatic tools are fastened securely to air hoses to prevent them from becoming disconnected. The use of whip checks, along with a short wire or positive locking device that attaches the air hose to the tool, will serve as an added safeguard. A safety excess flow valve must be installed on air hoses over 1/2 in. (12.7 mm) in diameter to shut off the air supply in case the hose breaks. Compressed air shall not be used to blow down or clean off workers. This could result in an air bubble being forced underneath the skin, with severe medical implications following this event.

Hydraulic power tools operate on fluid that is under pressure to make the tool function properly. The fluid must be fire-resistant and retain its operating characteristics at the most extreme temperatures to which it will be exposed. When using hydraulic power tools, never exceed the manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and any other fittings.

In addition, employees who use such tools should use the appropriate personal protective equipment (PPE) to guard against some of the following tool-related hazards: falling or flying objects, flying chips and particles, splashing liquids,

harmful dusts, toxic fumes, mists, vapors, or gases. Employers and employees have a responsibility to work together to establish safe work procedures. If a hazardous situation is encountered, it should be brought to the immediate attention of the appropriate individual.



Cathy Burkert received her bachelor's degree in business management and started working at American Concrete Restorations, a Chicago-based shotcrete contractor. She joined the laborers apprenticeship program to learn the intricate details of the trade. After 2 years in the program, she began running her own shotcrete crews and shortly after earned the title of Field Office Coordinator. In March 2009, Burkert became the first female American Concrete Institute (ACI) certified nozzleman for wet-mix process, vertical, and overhead. Burkert has been involved with two ASA infrastructure award-winning projects: in 2008, the Abraham Lincoln Memorial Bridge and in 2009, the Dan Ryan Expressway.