



Hand Tool and Power Tool Safety Info Sheet

Tools are such a common part of our everyday lives that it is difficult to remember that they may pose hazards. Everyone has probably suffered a minor scrape, cut, or bruise while using hand or portable powered tools, but they can also cause more serious injuries. Saws can sever a nerve, tendon, or blood vessel. A screwdriver can cause a deep puncture wound. Dropping a heavy tool on your foot could break a bone. Using an electric power tool that is not properly grounded can cause shocks or electrocution. Be aware of the tool's hazards and use appropriate types of protective equipment to help avoid injury.

How can I protect myself?

- Choose tools made from good quality, durable materials. Metal tools must be able to resist bending, cracking, chipping or excessive wear. Keep tools in good condition with regular maintenance.
- Use the tool the way it is designed to be used.**
- Wear the appropriate PPE. Wear eye protection if there is a chance that chips, sparks, or debris could get into your eyes.
- Wear gloves to protect your hands from cuts from sharp tools or material edges.
- Wear proper foot protection when using heavy tools (sledgehammers, power tools).
- Inspect tools before and after each use. Damage or wear to look for includes:
 - cracked or loose handles
 - dull, rounded, or chipped cutting surfaces
 - mushroomed striking surfaces
 - damage to gripping surfaces

Always take care to use the right tool for the job. Sometimes using the wrong tool for the job causes an injury. Sometimes using the right tool, but using it incorrectly is the problem. Not inspecting a tool before you use it can lead to an injury if the tool breaks. Damaged tools don't work very well.

Here is an outline of some common tools and tips for using them correctly:

- Hammers and Mallets:** Nail hammers are designed to drive nails. Mallets have a striking head of plastic, rawhide, or wood and are for striking wood chisels, punches, or dies. Sledgehammers are for striking concrete or stone. You can damage a hammer by using it for the wrong purpose. You can damage other tools by trying to force them by hitting them with a hammer.
- Pliers:** Pliers are designed to grip material so you can bend or pull it. Don't substitute a pliers for a wrench—they can easily slip off of a fastener.
- Cutters:** Use cutters or snips to remove banding wire or strapping. Trying to use a pry bar to snap open banding can cause injuries.
- Wrenches:** When using open-ended wrenches, position yourself so you will be pulling the wrench towards you, with the open end facing you—this lessens the chance of the wrench slipping off of the fastener when you apply force. Use open-ended wrenches for light-duty to medium-duty jobs. Box and socket wrenches should be used when a heavy pull is needed. Because they completely encircle the fastener, they apply even pressure with a minimal chance of slipping. Don't try to increase the torque by hitting the wrench with a hammer or by adding a cheater bar to the wrench's handle—this can break or damage the wrench. If the fastener is too tight, use some penetrating oil to lubricate it.
- Wood Saws:** Use a cross-cut saw to cut across the wood grain and a ripping saw to cut with the grain. Select a saw with coarse teeth for sawing green wood, thick lumber, or for making



- coarse cuts. Use fine-toothed saws for making fine cuts in dry wood.
- Knives: A sharp blade needs less pressure to cut and has less of a chance of getting hung up and slipping. Always move the blade away from yourself as you cut.
 - Screwdrivers: Use the right type and size of tip. Screwdrivers with thicker handles apply more torque, with less effort on your part. Using screwdrivers as pries, can openers, punches, chisels, wedges, etc. can damage them.
 - Non-sparking hand tools: These tools are made from non-ferrous alloys to reduce the chance that using them will create a spark. They need to be used in areas where vapors or dusts create a flammable atmosphere.
 - Electrical power tools:
 - Portable electric power tools must meet OSHA's grounding requirements.
 - Operating controls must be located where the possibility of hazardous accidental operation is minimized.
 - A constant-pressure switch or control is required on hand-held drills; tappers; fastener drivers; grinders with wheels greater than 2 inches in diameter; disc sanders with discs greater than 2 inches in diameter; belt sanders; reciprocating saws; and saber, scroll, and jigsaws with blade shanks greater than 1/4-inch. These tools can have a "lock-on" control if the operator can turn off the tool with a single motion of the same finger(s) that turn it on.
 - A positive "on-off" switch is allowed on other hand-held powered tools (platen sanders, routers, planers, etc.). These tools are also allowed to have a constant-pressure switch or a "lock-on" control.
 - Portable circular saws with a blade diameter greater than 2 inches must have guards above and below the base plate or shoe. When the tool is removed from the work, the lower guard automatically and instantly returns to the covering position.
 - Pneumatic tools: Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders. Pneumatic tools can expose workers to the dangers of getting hit by attachments or a fastener. Safety requirements for pneumatic tools include:
 - Eye protection is required and face protection is recommended for pneumatic tool work.
 - Working with noisy tools such as jackhammers requires proper, effective use of hearing protection.
 - The air hose must be designed for the pressure and intended service.
 - Check to see that a tool is fastened securely to the hose to prevent it from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard.
 - A compressed air gun should never be pointed toward anyone. Users should never "dead-end" it against themselves or anyone else.
 - Hydraulic power tools:
 - The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed.
 - The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.