



SAFE USE OF HAND TOOLS

Introduction:

Hand tools include a wide variety of non-powered devices such as wrenches, pliers, hammers, and screwdrivers. These tools may seem harmless, but they are the cause of many injuries. The following is a summary of safety practices related to hand tools.

General Hazards:

- The two most common hazards associated with the use of hand tools are misuse and improper maintenance.
- Misuse occurs when a hand tool is used for something other than its intended purpose. (An example would be using a screwdriver as a chisel. This may cause the tip to break and strike someone).
- Improper maintenance allows hand tools to deteriorate into an unsafe condition. (Examples would include cracked wooden handles that allow the tool head to fly off or mushroomed heads that can shatter upon impact).
- Specially designed tools may be needed in hazardous environments. (Always use non-sparking tools in the presence of flammable vapors or dusts. Insulated tools with appropriate ratings must be used for electrical work).

Personal Protective Equipment:

- The type of personal protective equipment (PPE) needed when using hand tools depends on the nature of the task. At a minimum, eye protection should always be worn.
- The use of hand protection may also be appropriate to provide protection against cuts, abrasion, and repeated impact.

Wrenches:

- Choose a wrench that properly fits the fastener that is to be turned. Using the correct size reduces the chances of wrench slippage.
- Avoid using a length of pipe or other extension to improve the leverage of a wrench. Manufacturers design wrenches so that the amount of leverage obtained with the handle is the maximum safe application.
- Use socket wrenches for hard-to-reach areas.
- Always try to pull on a wrench (instead of pushing) in case the fastener suddenly loosens.
- Inspect wrenches periodically for damage such as cracking, severe wear, or distortion.

Pliers:

- Do not increase the handle length of pliers to gain more leverage. Use a larger pair of pliers or bolt cutters.
- Do not substitute pliers for a wrench when turning nuts and bolts. Pliers cannot grip these items properly and will slip.
- Never use pliers as a hammer or hammer on the handles. Such abuse is likely to result in cracks or breaks.
- Cut hardened wire only with pliers designed for that purpose.
- Always cut at right angles. Never rock from side to side or bend the wire back and forth against the cutting edges.

Hammers:

- Do not use a hammer if the handle is damaged or loose.
- Never weld, heat, or regrind a hammer head.
- Remove from service any hammer exhibiting signs of excessive wear such as cracks, chips, or a mushroomed head.
- Match the proper type of hammer to the job it is designed to perform.
- Do not strike the surface at an angle. The hammer face should contact the striking surface squarely. Glancing blows made with a hammer often lead to injury.

Screwdrivers:

- Never use a screwdriver as a pry bar, chisel, punch, stirrer, or scraper.
- Always use a screwdriver tip that properly fits the slot of the screw.
- Throw away screwdrivers with broken or worn handles.
- Use magnetic or screw-holding screwdrivers to start fasteners in tight areas.
- Never use pliers on a screwdriver for extra leverage. Only use a wrench on screwdrivers specifically designed to accept them.

Utility Knives/Blades:

- Always use a sharp blade. Dull blades require more force and thus are more likely to slip. Replace the blade when it starts to “tear” instead of cut.
- Never leave a knife unattended with the blade exposed. Consider using a self-retracting knife with a spring-loaded blade. (The blade will retract when pressure on the knife is released).
- Keep your free hand away from the line of the cut.
- Don’t bend or apply side loads to blades by using them to open cans or pry loose objects. Blades are brittle and can snap easily.

October 2006