

HAND AND POWER TOOLS (PWD & Maintenance)

OBJECTIVES

- Staff will learn hand and power tool hazards
- Staff will understand general hand and power tool safety precautions

Hand and power tools are a common part of our everyday lives and are present in every industry and home. These tools help us to easily perform tasks that otherwise would be difficult or impossible. However, these simple tools can be hazardous and have the potential for causing severe injuries when used or maintained improperly.

According to OSHA, employers are responsible for the safe condition of tools and equipment used by employees, but employees have the responsibility for properly using and maintaining tools.

Examples of misuse and defective tool accidents:

- An employee was cutting sheet metal with a knife. The knife slid off the metal and sliced through his glove, amputating two fingers.

(Ask employees what caused the accident. Answer: a knife is not designed to cut metal. Employee used the wrong tool for the job.)

- Employee was using a screwdriver with a rounded head. The business end of the screwdriver slid off the screw and stabbed the employee in the chest.

(Ask employees what caused the accident. Answer: The screwdriver was defective; it should have been taken out of service.)

- Employee was using a skill-saw to cut a 2-by-4. He disabled the blade guard to free his hand. As he cut the 2-by-4, he lacerated his left hand. He underwent tendon repair surgery.

(Ask employees what caused the accident. Answer: Employee should not have disabled the protective guard; removing guard allowed employee to place hand at point of operation.)

HAND TOOLS

Hand tools are non-powered. They include, but not limited to knives, saws, wrenches, hammers, pliers, axes, scissors, and screwdrivers.

As described in the previous examples, the greatest hazards posed by hand tools result from misuse and improper maintenance, such as:

- Using a tool for unintended purpose, e.g., a screwdriver as a chisel.
- Using defective tool, such as a hammer or ax when the handle is loose, splintered, or cracked.
 - Using a chisel, wedge, or screwdriver with mushroomed or rounded head.
 - Dull blades on knives, saws, or scissors.
- Failing to use appropriate personal protective equipment.

POWER TOOLS

Like hand tools, power tools can be hazardous when used improperly or when defective. There are several types of power tools: drills, sanders, circular saws, table saws, ban saws, chain saws, grinders, etc.

Accidents generally occur when employees:

- Are not trained in the proper use of power tools.
- Don't understand the potential hazards or safety precautions for each tool.

The following are general precautions that should be observed when using power tools:

- Never carry a tool by the cord or hose.
- Never yank the cord or hose to disconnect it from the receptacle.
- Keep cords and hoses away from wet surfaces, heat, oil, and sharp edges.
- Disconnect tools when not in use, before servicing, or when changing accessories, such as blades, bits, and cutters.
- All observers should be kept at a safe distance from the work area.
- Secure work with clamps or a vise, freeing both hands to operate tool.
- Avoid accidental starting; the employee should never hold a finger on the switch button while carrying a plugged-in tool.

- Tools should be maintained with care; follow instructions in the user's manual.
- The proper apparel should be worn; loose clothing, ties, or jewelry can become caught in moving parts.
- All power tools that are damaged or defective should be removed from service and tagged.
- Safety guards must never be removed when a tool is being used. Guards should protect the operator from:
 - Point of operation
 - In-running nip points
 - Rotating parts
 - Flying chips and sparks

GENERAL SAFETY PRECAUTIONS

All hazards involved in the use of hand or power tools can be prevented by following five basic safety rules:

- Keep all tools in good condition with regular maintenance
- Use the tool for its intended purpose; right tool for the right job
- Examine each tool for damage or defect before use; if its defective remove it from service
- Operate tool according to manufacture instructions
- Provide and use appropriate personal protective equipment

POLICY

Review all policies and procedures related to power and hand tools.

CLOSING

- *Encourage discussion about this presentation and the need to work safely with hand and power tools.*
- *Upon completion, staff will inspect hand and power tools for appropriateness and defects.*