



Hand Tool Safety Training

Learning Objectives

- ❑ At the end of this session the participant should be able to:
 1. Identify the hazards associated with various types of hand tools
 2. Understand the safety best practices that can prevent accidents and injuries when using hand tools
 3. Know the appropriate personal protective equipment (PPE) that can protect workers against injuries



Introduction

- ❑ Hand tools are used by virtually everyone
- ❑ Hand tools include anything from axes to wrenches
- ❑ Misuse accounts for the majority of accidents and injuries involving hand tools
 - ◆ 7 - 8 percent of all compensable injuries each year in the construction industry
- ❑ Improper maintenance is another leading cause of injuries
- ❑ Even though the tool is powered by human inertia, these injuries often involve severe disabilities



Common Hand Tool Hazards

- ❑ Workers using hand tools may be exposed to a number of potentially serious hazards:
 - ◆ Falling objects
 - ◆ Objects that fly as a result of contact with tools
 - ◆ Objects that are abrasive, or splash
 - ◆ Harmful dusts, fumes, mists, vapors, and gases
 - ◆ Contact with electrical power sources
- ❑ Hazards are usually caused by misuse and improper maintenance



Common Hazards Lead to Serious Injuries

- ❑ The following are typical hand tool injuries and some of the probable causes:
 - ◆ Loss of eye/vision - using a hammer without eye protection
 - ◆ Puncture wounds - using a screwdriver as a pry-bar
 - ◆ Severed fingers, tendons and arteries - using a dull knife requires so much force that your hand may slip down the blade.
 - ◆ Broken bones - using the wrong hammer for the job and smashing a finger.
 - ◆ Contusions - using a small wrench for a big job and bruising a knuckle.



Using a Hammer
Without Eye Protection



Using a Screwdriver
as a Pry-Bar



Sledgehammer
Crushed Thumb

Hazard Prevention: Inspect Tools Before Use

- ❑ All hand tools must be inspected before they are used
- ❑ Never use a tool if its handle has splinters, burrs, cracks, splits or if the head of the tool is loose
- ❑ Never use impact tools such as hammers, chisels, punches or steel stakes that have mushroomed heads.
- ❑ Tag worn, damaged or defective tools "Out of Service" and do not use them



Cracked Handle



Hazard Prevention: Personal Protective Equipment

- ❑ PPE must be used whenever a worker could come into contact with a hazard
 - ◆ With hand tools in a construction site, that means safety glasses, safety shoes, hard hat and gloves all the time!
 - ◆ Most hand tool injuries could be avoided with the proper use of PPE
- ❑ PPE is designed for the work being performed - use the right equipment!
- ❑ PPE must be maintained in good condition, kept clean and properly stored when not in use



Basic Tool Safety Practices

- ❑ Safety is a state of mind. Always think when using a tool:
 - ◆ Is it in good condition?
 - ◆ Is it sized right for the job?
 - ◆ Is it in the proper working condition - sharp, clean, oiled, dressed and not abused?
- ❑ Only use a tool for the job in which it was designed
- ❑ Chisels, screwdrivers or other pointed tools should never be carried in clothing pockets
 - ◆ Always use tool belts designed for carrying tools
- ❑ Never wear sandals, open-toed or canvas shoes when working with tools
- ❑ Avoid loose-fitting clothes that might become entangled in a tool
- ❑ Always remove rings and other jewelry



Basic Tool Safety Practices, continued

- ❑ Make sure your grip and footing are secure when using large tools
- ❑ Never carry tools up ladders - use a hoist or rope
- ❑ Use extra caution when using tools at heights - a falling tool can kill a co-worker or customer
- ❑ Always pass a tool to another person by the handle - never toss it to them
- ❑ Select ergonomic tools for your work task when movements are repetitive and forceful



Safety Best Practice - Knives

- ❑ Only use a knife with a blade that is fully sharpened
- ❑ Always cut in the direction away from your body
- ❑ Never use knives that have broken or loose handles
- ❑ Never use knives as screwdrivers, pry bars, or can openers
- ❑ Never pick up knives by their blades
- ❑ Always carry knives with their tips pointed towards the floor
- ❑ Never carry knives, scissors or other sharp tools in your pockets unless they are first placed in their sheath or holder
- ❑ Never attempt to catch a falling knife
- ❑ Store knives in sheaths after using them



Safety Best Practice - Hammers

- ❑ Never use a hammer if your hands are oily, greasy or wet
- ❑ Always check behind you before swinging a hammer
- ❑ Use a claw hammer for pulling nails.
- ❑ Never strike nails or other objects with the "cheek" of the hammer
- ❑ Do not strike a hardened steel surface, such as a cold chisel, with a claw hammer.
- ❑ Never strike one hammer against another hammer
- ❑ Never use a hammer as a wedge or a pry bar



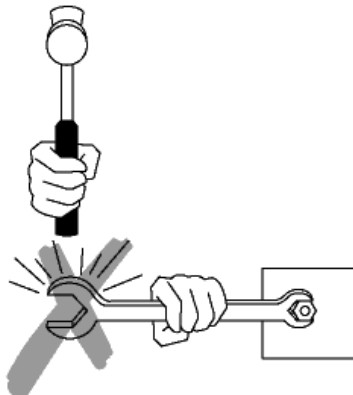
Safety Best Practice - Screwdrivers

- ❑ Never use a screwdriver if your hands are wet, oily or greasy
- ❑ Always match the size and type of screwdriver blade to fit the head of the screw
- ❑ Do not hold the work piece against your body while using a screwdriver
- ❑ Never put your fingers near the blade of the screwdriver when tightening a screw
- ❑ Never use a screwdriver to make a starting hole for screws
- ❑ Never use a screwdriver as a chisel, pry bar or nail puller
- ❑ When performing electrical work, always use an insulated screwdriver
- ❑ Never use a screwdriver to test the charge of a battery



Safety Best Practice - Wrenches

- ❑ Never use wrenches that are bent, cracked or badly chipped or that have loose or broken handles
- ❑ Discard any wrench that has spread or battered jaws, if the handle is bent, or if a wrench has broken or battered points
- ❑ Never slip a pipe over a single head wrench handle for increased leverage.
- ❑ Never use a shim to make a wrench fit
- ❑ Pull on a wrench using a slow, steady pull -- do not use push force on a wrench - losing your balance is more likely if the wrench slips



Safety Best Practice - Pliers

- ❑ Never use pliers that are cracked, broken or sprung
- ❑ Never use pliers as a wrench or a hammer
- ❑ Do not attempt to force pliers by using a hammer on them
- ❑ Never slip a pipe over the handles of pliers to increase leverage
- ❑ When performing electrical work, always use insulated pliers
- ❑ When using the diagonal cutting pliers, shield the loose pieces of cut material from flying into the air by using a cloth or your gloved hand



Safety Best Practice - Snips

- ❑ Never use snips as a hammer, screwdriver or pry bar
- ❑ Always wear safety glasses or safety goggles when using snips to cut materials
- ❑ Always wear your work gloves when cutting materials with snips
- ❑ Keep the blade aligned by tightening the nut and bolt on the snips.
- ❑ Never use straight cut snips to cut curves
- ❑ Always use the locking clip on the snips after you have finished using them - never leave or store snips in the open position



Safety Best Practice - Jacks

- ❑ The manufacturer's rated capacity must be marked on all jacks and all jacks must have a stop indicator
 - ◆ Never exceed the capacity or the stop indicator
- ❑ Jacks should be lubricated and inspected regularly
- ❑ When setting up a jack, ensure:
 - ◆ The base is centered on a firm, level surface
 - ◆ The jack head is placed against a level surface
 - ◆ The lift force is applied evenly
- ❑ Put a block under the base of the jack when the foundation is not firm
- ❑ Place a block between the jack cap and load if the cap might slip
- ❑ Immediately block the load after it is lifted



Summary

- ❑ Only use a tool for the job in which it was designed
- ❑ Always inspect tools before using them
 - ◆ Never use tools that are loose or cracked
 - ◆ Tag worn, damaged or defective tools "Out of Service" and do not use them
- ❑ Always keep tools sharp and in good condition
- ❑ After using a tool, clean it and put it back in its proper place
- ❑ Always wear PPE that is appropriate for the work
- ❑ Never wear loose clothes or jewelry
- ❑ Never work with oily or greasy hands
- ❑ Remember: You are the key controlling influence that can minimize the hazard!

