Hand tools—Pliers and wrenches

Explain dangers

Injuries with hand tools are not often serious, but they can be severe enough to send you to the hospital and make you lose time from work.

Common causes include using the wrong tool, using the right tool improperly, rushing, and lack of training or experience.

Identify controls

ALL TOOLS

- Use tools for their intended purpose. Do not use pliers as wrenches. Do not use wrenches as hammers.
- Wherever possible, do not expose tools to extremes of heat and cold. Metal will lose its temper and get brittle.
- Do not extend the handles of tools with sleeves or cheater bars for more leverage and power.
- Do not confuse cushion grips with insulated handles. Cushion grips are for comfort only. Insulated handles are for electrical shock protection.
- Do not hammer on the handles of wrenches or pliers to gain more force. The tool could bend, break, or fly off and hit you or someone else.

PLIERS

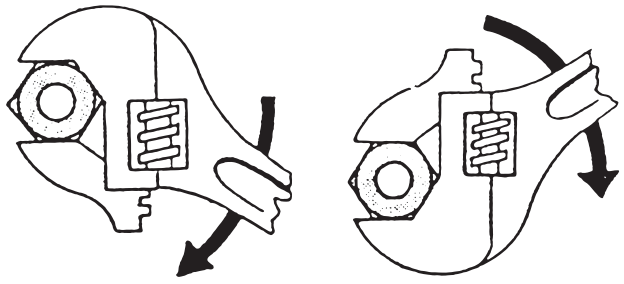
- Use pliers with enough space between the handles to keep the palm and fingers from being pinched.
- Pull on pliers—do not push.
- Oil regularly. All it takes is a drop of oil on the hinge.
- Use pliers that are big enough to do the job with reasonable effort.
- Do not use pliers to turn nuts and bolts. The jaws can slip and damage corners and edges of nuts and bolt heads. Use a proper wrench instead.
- Replace pliers when teeth or cutters are worn—they can slip and cause injury.

WRENCHES

- Inspect a wrench for flaws, damaged parts, or wear, which can cause it to slip and damage fasteners.
- Replace damaged wrenches. Straightening a bent wrench only weakens it.
- Always grip the wrench so it will not cause injury if it slips. But be prepared in case it slips. Make sure your footing is solid, your stance is balanced, and your hands are clear.
- Use penetrating oil to loosen tight nuts and bolts.
- Always pull on a wrench whenever possible—do not push (see image below).
- With adjustable wrenches, put pressure on the permanent jaw, not the movable jaw.
- Use the right wrench for the job. Do not use pipe wrenches on nuts or bolts. Do not use adjustable wrenches on pipe.
- On adjustable wrenches, inspect knurl, jaw, and pin for wear.
- Never overload a wrench by using a pipe extension on the handle or by striking the handle with a hammer. This can weaken the metal of the wrench and cause it to break.

Demonstrate

Review the types of pliers and wrenches used by your crew. Inspect a few for evidence of wear, damage, or misuse.



Correct wrench motion