Power Tools

Power tools make it possible to do many tasks quickly and efficiently. But because they use electricity and have fast-moving parts, you must exercise extra caution when using them.Follow these safety rules when using power tools:

A review of the use of electrically powered tools is in order because of the many accidentscaused by them on a construction project.

What follows is a typical occurrence, taken from the file of a national safety agency: Amechanic was standing on the top of a form, about six feet from floor level, preparing todrill holes with an electric drill. The mechanic had his arm around a metal pole for support. When the drill was turned on, the man received a shock and could not release his grip onthe drill. Another mechanic, working nearby, immediately pulled the plug, cutting off the power. The injured mechanic sustained burns on the neck and both hands.

Assuming the man was standing on a wood form that was off the floor or surface level, hisbody resistance was considerably lessened. The dampness of perspiration plus his placinghis arm around the pole all contributes to the electrical shock.

Grounding portable electric tools is the most efficient way of safeguarding an operator. Ifthere is any defect or short inside the tool, the current is drained from the metal framethrough the ground wire and does not pass through the operator's body.

Ground fault protection in temporary power systems used on construction sites is themodern method of protecting the operator of electrical equipment from the slightestshock. A periodic check of portable electrical equipment, using specialized measuringdevices to determine any possible internal short circuits, is suggested in lieu of ground faultprotectors.

Insulating platforms, rubber mats, and rubber gloves are other means to guard againstelectrical shock.

Generally, all tools should be inspected by their operators frequently for the following obvious malfunctions:

- Defective or broken insulation or cord.
- Improper or poorly made connections to terminals.
- Broken or otherwise defective plugs.
- Loose or broken switches.
- Brushes sparking

Make sure that OSHA regulations for equipment grounding are followed when working with cord-and-plug-connected equipment that requires grounding, including use of groundfault circuit interrupters (GFCI) or an effective equipment grounding conductor programfor all cord sets, receptacles (temporary), and equipment connected by cord and plug.

Power Tool Safety Tips:

- Wear the proper personal protective equipment for the job.
- Before you use it, inspect the tool for broken parts, loose bolts, defective or brokencord insulation, plugs or switches, or improper connections.
- Only use equipment that's in good condition.
- Test the tool before you use it. For example, for a cutting tool, test its sharpness with apiece of wood, not your fingers.
- To prevent shock, make sure your tool is properly grounded and double insulated.
- Keep power cords away from heat, sharp objects and chemicals that could damagetheir insulation.
- Be sure to keep your work area dry.
- Never use electrical equipment when your hands are wet or any part of you is touching water.
- If you must work in a wet area, keep the power cord clear of wet surfaces and use aground fault circuit interrupter (GFCI).
- Keep your work area free of debris.
- Use tools in well-lit areas.
- Never use electric tools where flammable vapors or gases are present.
- Report unsafe conditions such as defective cord insulation, poor connections toterminals, broken switches or plugs, sparking or overheating equipment, and outletswithout GFCIs in damp areas.
- Never cany a power tool by the cord or hose.
- Disconnect tools before changing accessories, such as blades, bits or cutters, and before servicing or inspecting them.
- Secure your work material with clamps or a vise if possible.
- Avoid wearing clothing or jewelry that may become caught in a tool.
- Report equipment as unsafe if it has insulation defects, if it sparks or if you feel anyshock or tingling when using it.
- Start and end from "off." Make sure the power switch is off before plugging inequipment. When you're finished, turn the equipment off before unplugging it toprotect yourself and the next user.
- When you turn off a tool. let it stop completely before putting it down in a safe place.
- Never horseplay around power tools
- .Avoid kinking, cutting or crushing any electrical cord.
- If equipment has a three prong plug, use a three-slot outlet or extension cord.
- Never modify three prongs to fit two slots by removing the third prong. Use an adapterinstead, making sure that the metal grounding piece on the adapter is connected to agrounded object, such as the screw on the receptacle cover plate.
- Avoid overstraining equipment by using it improperly.
- Service equipment regularly and repair or replace it as needed.
- Oay attention to the direction of the tool's rotation. You're responsible for seeing thatno one is in the path of flying objects.
- Use the switch lock only when the tool is in a stand or jig.
- Make sure you have good footing when you're using heavy tools or working at anawkward angle, such as overhead.