

PHYSICS DIVISION

ESH BULLETIN 2004-13

POWER TOOL SAFETY

September 22, 2004

From Stony Brook University

http://ws.cc.stonybrook.edu/facilities/ehs/occupational/hand_power_tool.shtml

Hand and Power Tool Safety

Injuries resulting from misuse of tools or using damaged tools include loss of eyes and vision; puncture wounds from flying chips; severed fingers, tendons, and arteries; broken bones; contusions; infections from puncture wounds; ergonomic stress, as well as many other injuries.

- Employers shall be responsible for the safe condition of tools and equipment used by employees, including tools and equipment furnished by employees.
- Compressed air shall not be used for cleaning purposes except where pressure is reduced to less than 30psi, and then only with safety glasses with side shields.
- Personal protective equipment shall be provided and employees must wear it (e.g. safety glasses, hand and arm protection, hearing protection, etc.)
- Tools must be equipped with appropriate safety switches (type is dependent on blade shank or wheel size).
- Tools and blades must be in a good condition and have the appropriate guarding. Blades of a fan must be guarded when less than 7 feet off the floor and guards must have openings no larger than one-half inch. 1910.212 (a)(5)
- Use the right tool for the job and keep it in a safe place.
- Train employees to select the right tools for each job.
- Before using a tool, the operator shall inspect it to determine that all operating moving parts operate and that is clean.
- Any tool that is malfunctioning shall be immediately removed from service.
- Tools shall be inspected at regular intervals and shall be repaired in accordance with the manufacturers' specification.

References

-
- 29 CFR 1910.212 – Machine Guarding
- 29 CFR 1910.241 - Definitions
- 29 CFR 1910.242 - Hand and Portable Powered Tools and Equipment.
- 29 CFR 1910.243 - Guarding of Portable Powered Tools.
- 29 CFR 1910.244 - Other Portable Tools and Equipment

From the OSHA Construction eTool page at:

http://www.osha.gov/SLTC/etools/construction/electrical_incidents/powertools.html

Power Tool Safety

Because power tools are used so often, workers may be exposed to a variety of hazards. The very tool that makes their job easy and efficient may one day be the cause of a tragic accident. It is good to be reminded of common-sense safety practices.

Tool Safety Tips

- Never carry a tool by the cord.
- Never yank the cord to disconnect it from the receptacle.
- Keep cords away from heat, oil, and sharp edges (including the cutting surface of a power saw or drill).
- Disconnect tools when not in use, before servicing, and when changing accessories such as blades, bits, etc.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Use gloves and appropriate safety footwear when using electric tools.
- Store electric tools in a dry place when not in use.
- Do not use electric tools in damp or wet locations unless they are approved for that purpose.
- Keep work areas well lighted when operating electric tools.
- Ensure that cords from electric tools do not present a tripping hazard.
- Remove all damaged portable electric tools from use and tag them: "Do Not Use."
- Use Double-Insulated Tools.
- Use ground-fault circuit interrupters (GFCIs) for construction or work in wet environments.

Portable Tool Use with Extension Cords

A potential hazard is using extension cords with portable tools. These cords suffer a lot of wear and tear. Often, the damage is only to the insulation, exposing energized conductors. When a person handling the damaged cord contacts the exposed wires while holding a metal tool case or contacting a conductive surface, serious electrical shock can result, causing a fall, physical injury, or death.

Additional Information:

- OSHA Standard: 1926.302(a)
- Electrical Safety: Safety and Health for Electrical Trades. NIOSH Publication No. 2002-123 (2002, January), 88 pages. 1,730 KB PDF version available.