

DuPage County Environmental, Safety, Health & Property Loss Control Program Portable Hand Tools including Electric & Pneumatic

Purpose:

This procedure establishes safety requirements for using powered and non-powered hand tools.

Policy:

The County requires that workers use tools that are appropriate for the task, in a manner that minimizes risk of injury, and complies with applicable regulatory requirements.

Procedure:

Employees shall use only those tools, which are in good condition. The tool used shall be for the purpose for which it was designed. When proper and safe tools are not available workers will contact an immediate supervisor.

General:

- All tools shall be inspected prior to use and tools which develop defects while in use shall be removed from service, tagged, and not used again until deemed to be in good condition.
- All guards and safety features furnished with hand and power tools shall remain in place and must not be removed when in use.
- Assure all appropriate personnel protective clothing is worn, including hearing protection, when necessary.
- Impact tools with mushroomed heads such as chisels, drills, hammers and wedges shall not be used until they have been reconditioned.
- Tools shall not be left lying around where they may cause someone to trip or stumble.
- Tools shall not be thrown from place to place or from person to person.
- Appropriate buckets, etc. firmly attached to hand lines shall be used to raise or lower tools from one elevation to another.
- Tools shall be stored on appropriate tool boards, boxes, racks or compartments when not in use.
- When working on or above gratings, a suitable covering shall be used to cover the grating to prevent tools, or parts from dropping to a lower level where personnel and equipment are present.

The lower danger area should be barricaded or guarded, with appropriate warning signs posted.

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Hand Tools:

Hammers, axes, shovels and similar tools shall not be used if the handles are loose, cracked, or splintered.

- The handles shall be replaced and never repaired with tape or wire.

Open-end and adjustable wrenches with sprung or damaged jaws shall not be used.

Pipe wrenches with dull teeth shall not be used.

- Shims shall not be used to make a wrench fit.
- Pipe or other extensions shall not be used on a wrench handle for added leverage, unless the wrench is specifically designed for such use.

Hammers with metal handles, screwdrivers or knives with metal continuing through the handle, metal rulers, metal tape lines, or tape lines containing metal wires shall not be used or near energized electrical circuits or equipment.

- Insulation on hand tools shall not be depended upon to protect users from an electrical shock.

Hand tools must be inspected for defects by each employee prior to each use.

- Hand tools with loose heads shall be removed from service and repaired.

Employees must allow adequate space between the work being done and other employees when using and swinging picks, shovels, hammers, axes, etc.

Power Tools (Electric and Pneumatic):

No repairs or adjustment shall be made on a power tool (electric or pneumatic) unless the tool is disconnected from its power source.

- If it is necessary to be out of sight of the plug or connection while repairs are being made, attach a tag to the plug or connection

Never operate a power impact tool unless the retainer ring and/or pin is in place and the head is against a solid object.

Damaged or defective tools must be removed from service immediately.

Power tools shall be hoisted or lowered by a hand line, bucket, etc., never by the cord or hose.

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Cords and hoses must be kept out of walkways and off stairs and ladders.

- They must also be secured with care to prevent them from being damaged by other equipment or materials.

Safety switches shall not be bypassed or made inoperable.

All proper guards must be in place at all times.

Electrical Tools:

The non-current carrying metal parts of electric tools such as drills, saws and grinders shall be effectively grounded when connected to a power source, unless:

- The tool is an approved double-insulated type, or;
- The tool is connected to the power supply by means of an isolating transformer or other isolated power supply, such as a 24 volt DC system.

Electric power tools used must be of a double-insulated type, or provided with proper grounding connections.

- The grounding prong on plugs of power tools must not be removed or plugged into adapters not equipped with a grounded connection.

Power tool electric cords and electrical extension cords shall not be used to hoist or lower tools, equipment or supplies.

All power tools shall be examined prior to use to insure general serviceability and the presence of all applicable safety devices.

The electric cord and electric components shall be given an especially thorough Examination covered here:

1. There are no breaks, damage, or cracks exposing energized conductors or circuit parts
2. No missing cover plates
3. Terminations have no stray strands or loose terminals
4. There are no missing, loose, altered or damaged blades, pins or contacts
5. Polarity is correct

Electric tools shall not be used where there is a hazard of flammable vapors, gases or combustible dusts.

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Pneumatic Tools:

Pneumatic tools shall be operated only by competent persons who have been trained in their use.

- Documentation of training shall be available at home base.
- **These tools must never be pointed at another person.**
- Pneumatic power tools not equipped with the proper quick disconnect connections must be secured to the hose, or hose section secured to hose section, with rope, wire, or chain to prevent the hose from becoming accidentally O/S connected from the tool or section of hose.
- Before operating pneumatic equipment, the user should assure themselves that there are no cuts or bulges in the air-supply hose. Also, connections should be checked to ensure that the hose is securely attached to the pneumatic tool.
- Compressed air shall not be used to blow dust or dirt from clothing.
- The safe operating pressure for hoses and tools must not be exceeded.
- Special caution must be taken not to exceed the RPM rating of a grinding disc attached to a pneumatic grinder.
- Compressed air hoses shall not be used for hoisting tools, equipment, or supplies.
- Prior to making adjustments or changing air tools, unless equipped with quick change connectors, the air shall be shut off at the air supply valve ahead of the hose.
- The hose shall be bled at the tool before breaking the connection.
- Metal-reinforced hose shall not be used near energized equipment. When this type hose must be used, proper clearances shall be maintained.
- Compressed air nozzles must be the safety type that limits pressure, and is equipped with relief vents.
- Safety goggles or full face shields must be used when using compressed air to clean or blow off tools, equipment and vehicles.

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Portable Grinders:

- Guards are required on all portable grinders when the diameter of the wheel exceeds 2" (inches) in diameter.
- The abrasive wheel and accessories shall meet or exceed the maximum RPM of the grinder.
- The abrasive wheel shall be closely inspected for damage prior to mounting on the grinder.
- When the grinder is first used at the beginning of the job, it should be brought up to operating speed with the wheel oriented so that any breakage will be deflected away from the user and other personnel.