LP 4.23

Effective:
5/7/2025

Revised:

Policy Owner:
Board of Trustees

Policy Administrator:
VP for Finance and Administration

Affected Parties:
Employees

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Hand and Power Tools

References: OSHA 29 CFR 1910.242

1 Purpose

1.1 This policy establishes a hand and power tool safety program to ensure a safe and healthful working environment and to act as a performance standard for all employees at Lander University.

1.2 This policy outlines essential guidelines and best practices to ensure the safe and effective use of hand and power tools.

2 Scope

2.1 This policy addresses the safe handling and use of hand and power tools at Lander University.

3 Responsibilities

3.1 Safety and Regulatory Compliance Officer

The Safety and Regulatory Compliance Officer has the overall responsibility for administering and maintaining this policy, including:

3.1.1 Ensuring the implementation of the plan across the campus.

3.1.2 Confirming compliance with regulations.

3.2 Facilities Operations Manager

The Facilities Operations Manager is responsible for:

3.2.1 Ensuring that the plan is implemented in their area(s) of responsibility.

3.2.2 Understanding the requirements of the policy.

3.3 Supervisors

Supervisors are responsible for:

3.3.1 Ensuring that they and their employees have and properly use the correct tool(s) for each task.

3.3.2 Following the manufacturer's safety and operating instructions before using hand and power tools.

3.3.3 Attending relevant training, as required.

3.4 Employees

Employees are responsible for:

3.4.1 Ensuring that they have and properly use the correct tool(s) for each task.

3.4.2 Following the manufacturer's safety and operating instructions before using hand and power tools.

3.4.3 Attending relevant training, as required.

4 General

4.1 All tools must be of an approved type and maintained in good condition.

4.2 Only tools belonging to Lander University must be used.

4.3 Tools must be inspected prior to each use and are subject to random inspection at any time.

4.4 When tools are not in use, they must be placed where they will not create a hazard.

4.5 The handles of all tools must be smooth, without sharp edges or splinters, and must be firmly attached to the tool.

4.6 All employees have the authority and responsibility to remove unsafe tools from service.

4.7 Unsafe tools must be tagged with a "DO NOT USE OR OPERATE" tag to prevent their use.

4.8 Employees must always use the proper tool(s) for the job to be performed.

4.9 Makeshift and substitute tools must not be used.

4.10 Cheater bars must not be used.

4.11 Hammers with metal handles, screwdrivers with metal continuing through the handle, and metallic measuring tapes must not be used on or near energized an electrical circuit or equipment.

4.12 Tools must not be thrown from place-to-place or from person-to-person.

4.13 Wrenches with sprung or damaged jaws must not be used.

4.14 Tools with sharp edges must be stored and handled so that they will not cause injury or damage.

4.14.1 Tools with sharp edges must not be carried in pockets unless suitable protectors are in use to protect the edge.

4.15 Wooden handles that are loose, cracked, or splintered must be replaced. Handles must not be taped or lashed with wire.

4.16 Tools must not be left lying around where they may cause a person to trip or stumble.

5 Portable Electric Tools

5.1 Powered tools must be used only within their design and must be operated in accordance with the manufacturer's instructions.

5.2 The use of electric cords for hoisting or lowering tools is not permitted.

5.3 The non-current-carrying metal parts of portable electric tools (e.g., drills, saws, grinders) must be effectively grounded when connected to a power source unless the tool is an approved double-insulated type.

5.4 All powered tools must be examined prior to each use to ensure their general serviceability and the presence of all applicable safety devices.

5.5 All tools must be kept in good repair and must be disconnected from the power source while repairs or adjustments are being made.

6 Pneumatic Tools

6.1 Pneumatic tools must never be pointed at another person.

6.2 Pneumatic power tools must be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected from the air hose.

6.3 Safety clips or retainers must be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from becoming accidentally expelled.

6.4 The manufacturer's stated safe operating pressure for hoses, pipes, valves, filters, and other fittings must not be exceeded.

6.5 The use of hoses for hoisting or lowering tools is not permitted.

6.6 Before adjusting or changing air tools (unless they are equipped with quick-change connectors), the air hose must be shut off and locked out at the air supply valve ahead of the hose. The hose must be bled at the tool before breaking the connection.

6.7 Compressed air tools, while under pressure, must not be left unattended.

6.8 All connections to air tools must be made secure before turning on air pressure.

6.9 Air at the tool must not be turned on until the tool is properly controlled.

6.10 All couplings and clamps on pressurized air hoses must be bridged (pinned) with suitable fasteners.

6.11 Hose and hose connections used for conducting compressed air to utilization equipment must be designed for the pressure and service to which they are subjected.

6.12 Only approved end-fitting clamps are to be used (NOTE: Screw type heater/radiator hose clamps are not acceptable).

6.13 While blowing down a hose, do not point it toward people.

6.14 Power tools are to be operated only by competent persons who have been trained in their proper use.

6.15 If using compressed air to clean surfaces:

6.15.1 The tool nozzle or air hose discharge must not be:

6.15.1.1 Pointed toward people.

6.15.1.2 Allowed to contact a person's body.

6.15.1.3 Allowed to be used on a person to remove dust or debris.

6.15.2 Air pressure must be reduced to less than 30 p.s.i. at the nozzle.

6.15.3 An effective chip guard must be installed at the nozzle.

6.15.4 Appropriate personal protective equipment (PPE) must be used when cleaning with compressed air.

7 Guarding Portable Tools

7.1 Portable tools must be properly guarded, including, but not limited to:

7.1.1 Points of operation.

7.1.2 Nip points.

7.1.3 Rotating parts.

7.1.4 Flying chips or sparks.

7.2 Guards must always be in place and operable while tools are in use.

7.3 Guards may not be manipulated in such a way that would compromise their integrity or compromise the protection for which they are intended.

7.4 Guards must meet the requirements of ANSI B15.1.

7.5 Portable Circular Saws

7.5.1 All portable, power-driven circular saws having a blade diameter greater than two inches must be equipped with guards above and below the base plate or shoe.

7.5.2 The upper guard must cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts.

7.5.3 The lower guard must cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work.

7.5.4 When the tool is withdrawn from the work, the lower guard must automatically and instantly return to the covering position.

7.5.5 All cracked saw blades must be removed from service.

7.6 Switches and Controls

7.6.1 All hand-held powered tools, circular saws, drills, tappers, fastener drivers, horizontal or vertical angle grinders, etc., must be equipped with a constant pressure switch or control, and may have a lock-on control, provided that turn-off can be accomplished by a single motion of the same finger or fingers that turn it on.

7.6.2 All hand-held powered circular saws having a blade diameter greater than two inches (e.g., electric, hydraulic, or pneumatic chain saws) and percussion tools without positive accessory holding means must be equipped with a constant pressure switch or control that will shut off the power when the pressure is released.

7.6.3 The operating control on hand-held power tools must be located so as to minimize the possibility of its accidental operation, if such accidental operation would constitute a hazard to employees.

7.6.4 Grounding of portable electric powered tools must meet the electrical requirements that can be found in the Electrical Safety Program.

7.6.5 All electric power tools must be equipped with a three-prong plug.

7.7 Portable Abrasive Wheels

7.7.1 A safety guard must cover the spindle end, nut, and flange projections of portable abrasive wheels.

7.7.1.1 The safety guard must be mounted to maintain proper alignment with the wheel, and the strength of the fastenings must exceed the strength of the wheel.

7.7.2 Guards must be made of steel or other material with adequate strength.

7.7.3 Portable grinders must be equipped with revolving cup guards which mount behind the wheel and turn with it.

7.7.3.1 Guards must be made of steel or other material with adequate strength and must enclose the wheel sides upward from the back for one-third of the wheel thickness.

7.7.3.2 The clearance must not exceed 1/16 inch. (Adjustments must be made as needed.)

7.7.3.3 Vertical portable grinders, also known as right angle grinders, must have a maximum exposure angle of 180 degrees and the guard must be located between the operator and the wheel during use.

7.7.3.4 Adjustment of the guard must ensure that pieces of an accidentally broken wheel will be deflected away from the operator.

7.8 Safety Guard Exceptions:

7.8.1 Wheels used for internal work while within the work being ground.

7.8.2 Mounted wheels used in portable operations two inches and smaller in diameter.

7.8.3 Safety guards on all operations where the work provides a suitable measure of protection to the operator may be constructed so that the spindle end, nut, and outer flange are exposed.

7.8.3.1 Where the nature of the work is such to entirely cover the side of the wheel, the side covers of the guard may be omitted.

7.8.4 The spindle end, nut, and outer flange may be exposed on portable machines designed for, and used with, type 6, 11, 27, and 28 abrasive wheels, cutting off wheels, and tuck-pointing wheels.

8 Mounting and Inspection of Abrasive Wheels

8.1 Immediately before mounting, all abrasive wheels must be closely inspected and a ring test must be performed to ensure that they have not been damaged in transit, storage, or otherwise. The following must apply:

8.1.1 Ring test is required:

8.1.1.1 “Tap” wheels about 45 degrees on each side of the vertical centerline and about one or two inches from the periphery, then rotate the wheel 45 degrees and repeat the test. A sound and undamaged wheel will give a clear metallic tone; a cracked wheel will produce a dead sound and not a clear “ring.”

8.1.2 The spindle speed of the machine must be checked before mounting of the abrasive wheel to ensure that it does not exceed the maximum operating speed marked on the wheel.

8.1.3 Grinding wheels must fit freely on the spindle and remain free under all grinding conditions.

8.1.4 A controlled clearance between the wheel hole and the machine spindle (or wheel sleeves or adapters) is essential to avoid excessive pressure from mounting and spindle expansion.

8.1.5 The machine spindle must be made to nominal (standard) size plus zero minus .002 inch, and the wheel hole must be made suitably oversized to ensure safety clearance under the conditions of operating heat and pressure.

8.1.6 All contact surfaces of wheels, blotters, and flanges must be flat and free of foreign matter.

8.1.7 When a bushing is used in the wheel hole, it must not exceed the width of the wheel and must not contact the flanges.

9 Personal Protective Equipment (PPE)

9.1 Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects or exposed to harmful dust, fumes, mists, vapors, or gases must be provided with and must use the PPE necessary to protect themselves from the hazard.

9.2 Gloves must not be worn when there is a risk of the gloves becoming caught in the machinery (e.g., as with moving parts).

10 Policy Revision History

- First draft of policy submitted by Finance and Administration on 1/22/2025.
- Reviewed and revised by Policy Coordinator with final approval by Finance and Administration on 4/11/2025.
- Final revisions applied by Policy Coordinator on 4/14/2025.
- Reviewed by Board of Trustees Policy Committee on 4/19/2025.
- Revised and updated by Finance and Administration on 4/23/2025.
- Submitted for full board review by Policy Coordinator on 4/23/2025.
- Approved by Lander University Board of Trustees on 5/6/2025.