

 DEE CRAMER HEATING / COOLING / SHEET METAL <i>Dedicated People. Delivering Quality.</i>	Doc No: TOOLS	
	Initial Issue Date:	1/1/2017
	Revision Date:	6/23/2026
HAND & POWER TOOLS	Revision No.	1.0
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Purpose

The purpose of this program is to provide established requirements for the safe operation of hand and power tools and other portable tools, including proper guarding.

Scope

This program is applicable to all Dee Cramer, Inc. employees while engaged in work at Dee Cramer, Inc. facilities and/or facilities owned by others.

Responsibilities

Supervisors/Managers

- Ensure that all employees using portable tools have been trained and fully understand the operations and maintenance procedures of such tools, including their proper use.
- Provide and train employees with all additional PPE that may be needed for the safe operation of portable tools.
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Employees

- Shall ensure they have and properly use the correct tool for each task.
- Shall follow manufactures safety and operating instructions before using.

Procedure

All tools, shall be of an approved type and maintained in good condition. Tools are subject to inspection at any time. All employees have the authority and responsibility to condemn unsafe tools, regardless of ownership. All tools shall be inspected prior to use.

Any tool which is not in compliance with any applicable requirement of this plan is prohibited and shall either be identified as unsafe by tagging or locking the controls to render them inoperable or shall be physically removed from its place of operation.

Employees shall always use the proper tool for the job to be performed and follow the manufacturers specifications. Makeshift and substitute tools shall not be used.

Ensure to secure all material by mechanical means, never use your body to secure material while operating a tool.

Tools shall not be thrown from place to place or from person to person; tools that must be raised or lowered from one elevation to another shall be placed in tool bags/buckets firmly attached to hand lines. Tools shall never be placed unsecured on elevated places.

When working on or above open grating, a canvas or other suitable covering shall be used to cover the grating to prevent tools or parts from dropping to a lower level where others are present, or the danger area shall be barricaded or guarded.

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Impact tools such as chisels, punches, and drift pins that become mushroomed or cracked shall be dressed, repaired, or replaced before further use.

Tools shall be used only for the purposes for which they have been approved. Tools with sharp edges shall be stored and handled so that they will not cause injury or damage. They shall not be carried in pockets unless suitable protectors are in use to protect the edge. Employees shall maintain appropriate housekeeping when using hand and power tools.

Personal Protective Equipment

Employees are required to wear at a minimum safety glasses, gloves, and work boots when utilizing hand and power tools. Additional PPE shall be determined based on the task and hazards involved. Employees shall be mindful of wearing gloves while operating rotating tools.

Portable Electric Tools

The non-current carrying metal parts of portable electric tools such as drills, saws, and grinders shall be effectively grounded when connected to a power source. The use of electric cords for hoisting or lowering tools shall not be permitted. Electrical tools shall not be used where there is hazard of flammable vapors, gases, or dusts without a valid Hot work Permit. Ground fault circuit interrupters or use of an Assured Grounding Program shall be used with portable electric tools.

Pneumatic Tools

Pneumatic tools shall never be pointed at another person. Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected. Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

Compressed air shall not be used for cleaning purposes, unless reduced to less than 30 psi and then only with effective chip guarding and personal protective equipment. Compressed air shall not be used to blow dust or dirt from clothing.

The manufacturers stated safe operating pressure for hoses, pipes, valves, filters, and other fitting shall not be exceeded.

The use of hoses for hoisting or lowering tools shall not be permitted.

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

All connections to air tools shall be made secure before turning on air pressure. Air at the tool shall not be turned on until the tool is properly controlled. All couplings and clamps on pressurized air hose shall be bridged (pinned) with suitable fasteners.

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

Use only approved end-fitting clamps (screw type heater hose clamps are not acceptable).

Conductive hose should not be used near energized equipment.

Airless spray guns of the type which atomize paints and fluids at high pressures (1,000 pounds or more per square inch) shall be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released.

In lieu of the above, a diffuser nut (which will prevent high pressure), high velocity release (while the nozzle tip is removed), plus a nozzle tip guard (which will prevent the tip from coming into contact with the operator), or other equivalent protection, shall be provided.

Abrasive Blast Cleaning Nozzles

The blast cleaning nozzles shall be equipped with an operating valve, which must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.

Powder Actuated Tools (Tools actuated by an explosive charge)

Only those employees who have been certified in their use shall operate these tools. Explosive charges shall be carried and transported in approved containers. Tools shall not be used in an explosive or flammable atmosphere. Operators and assistants using these tools shall be protected by means of eye, face, and hearing protection.

Tools shall be maintained in good condition and serviced regularly by qualified personnel. The material upon which these tools are to be used shall be examined before work is started to determine its suitability and to eliminate the possibility of hazards to the operator and others. Prior to use, the operator shall ensure that the protective shield is properly attached to the tool.

Tools shall not be loaded until just prior to the intended firing time, nor shall an unattended tool be left loaded. Empty tools are not to be pointed at any workmen.

In case of a misfire, the operator shall hold the tool in the operating position for at least 30 seconds. He shall then try to operate the tool a second time. He shall wait another 30 seconds, holding the tool in the operating position; then he shall proceed to remove the explosive load in strict accordance with the manufacturer's instructions.

A tool shall never be left unattended in a place where it would be available to unauthorized persons.

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Fasteners shall not be driven into very hard or brittle materials including, but not limited to, cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick, or hollow tile. Driving into materials easily penetrated shall be avoided unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.

Hydraulic Power Tools

The manufacturer's safe operating pressures for hoses, valves, pipes, filters, and other fittings shall not be exceeded. All hydraulic tools, which are used on or around energized lines or equipment, shall use non-conducting hoses having adequate strength for the normal operating pressures.

Hydraulic Jacks

Loading and Marking

- The operator shall make sure that the jack used has a sufficient rating to lift and sustain the load.
- The rated load shall be legibly and permanently marked in a prominent location on the jack by casting, stamping, or other suitable means.

Operation and Maintenance

In the absence of a firm foundation, the base of the jack shall be blocked. If there is a possibility of slippage of the cap, a block shall be placed in between the cap and the load.

- The operator shall watch the stop indicator, which shall be kept clean, to determine the limit of travel. The indicated limit shall not be overrun.
- After the load has been raised, it shall be cribbed, blocked, or otherwise secured at once.
- Hydraulic jacks exposed to freezing temperatures shall be supplied with adequate antifreeze liquid.
- All jacks shall be properly lubricated at regular intervals.

Each jack shall be thoroughly inspected before each use. Jacks, which are in unsafe condition, shall be tagged accordingly, and shall not be used until repairs are made.

Guarding Portable Tools

Guards shall be always in place and operable while the tool is in use. The guard may not be manipulated in such a way that will compromise its integrity or compromise the protection in which intended. Guarding shall meet the requirements set forth in ANSI B15.1.

Portable Circular Saws

- All portable, power-driven circular saws having a blade diameter greater than 2 in. shall be equipped with guards above and below the base plate or shoe.

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- The upper guard shall 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.
- The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work.
- When the tool is withdrawn from the work, the lower guard shall automatically and instantly return to covering position.
- All cracked saw blades shall be removed from service.

Switches and Controls

- All handheld powered tools, circular saws, drills, tappers, fastener drivers, horizontal or vertical angle grinders, etc., shall be with a constant pressure switch or control, and may have a lock-on control provided that turnoff can be accomplished by a single motion of the same finger or fingers that turn it on.
- All hand-held powered circular saws having a blade diameter greater than 2 inches, electric, hydraulic, or pneumatic chain saws, and percussion tools without positive accessory holding means shall be equipped with a constant pressure switch or control that will shut off the power when the pressure is released. All hand-held gasoline powered chain saws shall be equipped with a constant pressure throttle control that will shut off the power to the saw chain when the pressure is released.
- The operating control on hand-held power tools shall be so located as to minimize the possibility of its accidental operation if such accidental operation would constitute a hazard to employees.
- Grounding of portable electric powered tools shall meet the electrical requirements that can be found in the Electrical Safety Program. All electric power tools shall be equipped with a three-prong plug

Portable Abrasive Wheels

Mounting and Inspection of Abrasive Wheels

- Immediately before mounting, all wheels shall be closely inspected, and a ring test performed, to make sure they have not been damaged in transit, storage, or otherwise.
- Ring test – “tap” wheels about 45 degrees each side of the vertical centerline and about 1 or 2 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 - If cracked, there will be a dead sound and not a clear “ring.”
- The spindle speed of the machine shall be checked before mounting of the wheel to be certain that it does not exceed the maximum operating speed marked on the wheel.
- Grinding wheels shall fit freely on the spindle and remain free under all grinding conditions.
- A controlled clearance between the wheel hole and the machine spindle (or wheel sleeves or adaptors) is essential to avoid excessive pressure from mounting and spindle expansion.
- The machine spindle shall be made to nominal (standard) size plus zero minus .002 inch, and the wheel hole shall be made suitably oversize to assure safety clearance under the conditions of operating heat and pressure.

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- All contact surfaces of wheels, blotters, and flanges shall be flat and free of foreign matter.
- When a bushing is used in the wheel hole it shall not exceed the width of the wheel and shall not contact the flanges.

Portable Grinders Special

Revolving cup guards which mount behind the wheel and turn with it shall be used. They shall be made of steel or other material with adequate strength and shall enclose the wheel sides upward from the back for one-third of the wheel thickness. It is necessary to maintain clearance between the wheel side and the guard. The clearance shall not exceed one-sixteenth inches.

Vertical portable grinders, also known as right angle grinders, shall have a maximum exposure angle of 180 degrees and the guard shall be located between the operator and the wheel during use. Adjustment of the guard shall ensure that pieces of an accidentally broken wheel will be deflected away from the operator.

All grinders shall be equipped with a handle unless a handle is deemed unnecessary according to manufacturer's specifications. Grinders missing handles shall not be utilized or shall be taken out of service.

Other Portable Grinders

The maximum angular exposure of the grinding wheel periphery and sides for safety guards used on other portable grinding machines shall not exceed 180 degrees and the top half of the wheel shall be always enclosed.

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Management of Change		
Date	Description of Change	Name
6/23/2026	General process flow updates.	Madelyn Nichols