

# Tools-Portable Power and Manual

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## Purpose

This section is intended to provide District expectations and guidance as it relates to the use of hand and portable power tools as outlined in [WAC 296-807 Portable Power Tools](#). Power tools may be pneumatic, gas, or electric powered.

## Applicability

This section is applicable to all employees whose jobs may require the use of hand or portable power tools, including those that are pneumatic, gas, or electric powered.

## Definitions

- *Hand Tool* is a tool held and operated without electricity or other power.
  - Examples of hand tools include, but is not limited to, wrenches, pliers, cutters, striking tools, hammer(s), screwdrivers, vises, clamps, snips, saws, drills, and knives.
- *Pneumatic Tool* is a type of tool driven by compressed air supplied by an air compressor.
  - Examples of pneumatic tools include, but not limited to, buffers, nailing/stapling guns, grinders, drills, jack hammers, chipping hammers, riveting guns, sanders, and wrenches.
- *Powder Actuated Tools* use a small chemical propellant charge to create a controlled explosion similar to a firearm. **Operators should treat powder actuated tools with same caution they would a loaded gun.**
  - Example of a powder actuated tool is a nail gun.
- *Power Tool* is actuated by an additional power source (typically electricity or battery).
  - Examples of power tools include, but not limited to, drills, saws, sanders, angle grinders, and routers.
- *Fuel Powered Tool* is powered by gasoline.
  - Examples of fuel powered tools include, but are not limited to, mowers, trimmers, and chainsaws.

## Responsibilities

### All Employees

Tools should only be used for their intend purpose and in accordance with manufacturer's instructions. [WAC 296-807-14005 Follow the manufacturer's instructions.](#)

Below outlines the District's Safety expectations for use of all hand and portable power tools. Expectations are not intended to supersede any WACs but are meant to be aligned with and/or in addition to.

### Hand Tools

Below expectations are for Hand Tools as outlined in [WAC 296-45-285 Hand, and portable tools](#) and [WAC 296-155-355 Hand tools](#).

- Makeshift and substitute tools must not be used unless they have been approved and meet all requirements.
- When using tools, perform a Job Hazard Analysis (see Job Hazard Analysis section of this manual) to determine appropriate personal protective equipment. (eye, face, hand, head, foot, leg, hearing, etc.)
- Address tool hazards during job briefings/tailboards.
- Hammers with metal handles, screwdrivers with metal continuing through the hand, and metallic measuring tapes must not be used on or near energized electrical circuits or equipment.
- Do not wear loose clothing or jewelry that can be caught in moving parts.
- Use proper body positioning when using tools. Alternate hands or tasks to reduce chronic injuries.
- All tools, regardless of ownership, shall be regularly inspected and of an approved type and maintained in good condition. (Tools are subject to inspection at any time. Managers have the authority and responsibility to condemn unserviceable tools or order them removed from service.)
- Tag and remove defective or damaged tools from use immediately.
- Tools shall not be thrown from place to place or person to person. Tools must be raised or lowered from one elevation to another and shall be placed in tool buckets or firmly attached to hand lines.
- Tools must never be placed unsecured on elevated places.
- As impact tools such as chisels, punches, drift pins, etc., become mushroomed or cracked, they shall be properly dressed, repaired, or replaced before further use.
- Check for dull blades and ensure cutting tools are sharp before using.
- When using knives and other cutting tools, cut resistant gloves are to be worn.

### Pneumatic Tools

Below expectations are specific for Pneumatic Tools as outlined in [WAC 296-155-360\(2\) Power-operated hand tools](#)

- Compressed air and compressed air tools shall be used with caution.
- 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 except when reduced to less than 30 pounds per square inch (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 manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.
- The use of hoses for hoisting or lowering tools shall not be permitted.
- All hoses exceeding ½ inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure or disengagement of a connection.
- 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.
- Eye protection, foot protection, and other protective devices shall be worn when their use could reduce the possibility of injury.
- Pneumatic tools shall be operated only by competent persons who have been trained in their use.
- A pneumatic tool used where it may contact exposed live electrical parts shall have a non-conductive hose and an accumulator to collect moisture.
- Employees shall not use any part of their bodies to locate or attempt to stop an air leak.

### **Powder Actuated Tools**

- Only those employees who are trained and qualified in their operation shall use powder-actuated tools.
- Explosive charges shall be carried and transported in approved containers.
- Operators and assistants using these tools shall be safe-guarded by means of eye protection (safety glasses, safety eye goggles or face shields), a safety hat, and appropriate hearing protection as required.
- Tools shall be maintained in good condition and serviced regularly by qualified persons. The material upon which these tools are to be used shall be examined before work is started for the purpose of determining its suitability and eliminating the possibility of hazard to the operator and others.
- Prior to use, the operator shall ensure that the protective shield is properly attached to the tool.
- Prior to use, the operator shall inspect the tool to determine if it is clean, if moving parts operate freely, and if the barrel is free from obstructions.
- A defective tool shall be tagged and immediately removed from service.
- Powder-actuated tools shall not be used in explosive or flammable atmosphere.
- Tools shall not be loaded until just prior to the intended firing.
- Only cartridges with an explosive charge adequate for the job and with proper penetration shall be used.
- Tools and cartridges shall never be left unattended.
- Tools shall never be pointed at any person.
- In case of a misfire, the operator shall hold the tool in place for 30 seconds. Operator shall then try to operate the tool a second time and then wait another 30 seconds. Misfired cartridges shall be disposed of properly (placed in metal container and returned to supervisor or hazardous waste disposal supervisor).
- Only powder charges, studs, or fasteners specified by the manufacturer for the specific tool shall be used.

*Burndy WEJTAP/Ampac connector Tools*

- Never load the cartridge in the tool until ready to install or remove a connector.
- Never load the tool with anything except the cartridge designed to be used with the tool manufacturer.
- Never load the tool with a cartridge that is too powerful for the designated connector installation or removal.
- Always close and lock the breech chamber BEFORE tightening against the wedge to avoid safety override.
- Always wear appropriate PPE when loading and using the tool.
- Never load with cartridges that show evidence of damage. Cartridges that are cracked, deformed, or show similar damage type must not be used.
- Do not drop or improperly strike the tool. A loaded tool if dropped, may cause the cartridge to fire.
- Never unlatch the breech before backing the tool off the connector.
- Yellow cartridges must not be used for connector removal. Removal cartridge should be one charge smaller than installation cartridge.
- Tool should be cleaned daily to ensure continual safe operation.

### *String Gun*

- String gun should be inspected prior to use for signs of damage, ensure chamber is clear, and barrel is clean and clear of obstructions.
- Use only blank cartridges recommended by manufacturer for string gun applications.
- Use cartridge load with the minimum required charge for the distance to be shot.
- Use only brass projectiles meeting the manufacturer's specifications.
- Bent projectiles shall not be loaded into the barrel. Projectiles should fit loosely in the barrel and must not be jammed or forced in.
- Foreign objects should not be loaded into the muzzle or fired from the gun.
- Projectile shall be loaded into the muzzle with the breech open and chamber empty. Do not load projectile with a live cartridge in the chamber!
- String gun should not be loaded until ready to fire and target zone is clear.
- Use only nylon shot lines. Do not attach heavier rope or lines to projectile.
- Always keep the muzzle pointed in a safe direction.
- Always keep your finger off the trigger until ready to shoot.
- Employees must ensure the target zone is secure and no persons or animals are in the zone. Employees should clear the target zone while the projectile is being fired.
- If gun fails to fire, keep muzzle pointed in a safe direction and wait 1 minute prior to opening the breech and remove the cartridge.
- Always wear eye and ear protection when firing the string gun, or in the vicinity.
- String gun should be cleaned after each use, or if the projectile is not fitting freely into the muzzle.
- All Repairs must be made by a qualified gunsmith.

### Power Tools

Below expectations are specific to Power Tools as outlined in [WAC 296-155-360\(1\) Power-operated hand tools](#) and [WAC 296-807 Portable Power 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 unless:
  - The tool is an approved double-insulated type, or
  - The tool is connected to the power source by means of an isolating transformer or other isolated power supply, such as a 24V dc system.
- All powered tools shall be examined before use to ensure general serviceability and the presence of all applicable safety devices. The electric cord and electric components shall be given an especially thorough examination.
- Powered tools shall be used only within their capability and shall be operated in accordance with the instructions of the manufacturer.
- All tools shall be kept in good repair and shall be disconnected from the power source while repairs are being made.
- Electrical tools shall not be used where there is a hazard of flammable vapors, gases, or dusts.
- Tools connected to a central power supply, including portable and vehicle mounted generators not isolated and not double-insulated), shall be protected by a Ground Fault Interrupter (GFI) or by an "assured grounding system."
- Any cord and plug connected equipment supplied by other than premises wiring shall comply with one of the following:
  - Equipped with a cord containing an equipment grounding conductor connected to the tool frame.
  - Double insulated.
  - Connected to the power supply through an isolating transformer with an ungrounded secondary.
- Batteries contain potentially hazardous chemicals and must be stored and disposed of properly (for more information contact Environmental Affairs team).
  - Use provided battery disposal containers
  - Used gloves when handling leaking batteries and contact Environmental Affairs for fire retardant zipper bags and disposal.

### Fuel Powered Tools

Below expectations are specific to Fuel Powered Tools including lawnmowers as outlined specifically in [WAC 296-807-160 Power lawnmowers](#).

- Employees shall ensure they have the required training for the type of equipment they will be operating and fully understand the use, operating instructions, hazards, and all safety precautions relating to the equipment.
- Only use fuel powered tools in ventilated areas.
- Prevent fire hazards.
- Be careful to handle, store, and transport fuel. Fuels should only be stored or transported in approved container.
- Shut down engine and allow to cool before refueling.
- Ensure fire extinguisher is nearby.
- Employees shall ensure that all applicable guards are in place prior to using power lawn mowers.
- All power lawn mowers shall be equipped with adequate guards which shall remain in place while the mower is in use.
- Prior to adjusting, inspections, or repairs, the employee shall turn off the mower and permit it to come to a complete stop.
- When operating a power mower, the employee shall perform the following:
  - Remove any rocks, pieces of wire, or other foreign objects from the area to be mowed.
  - Avoid placing the body in front of the discharge opening.
  - Mow across the face of a slope or incline. (This may vary depending on the type of equipment. Operators should consult the owner's manual for the equipment they are operating for recommendations).
  - Wear proper protective equipment including, as a minimum, safety glasses or safety goggles, appropriate hearing protection, and proper footwear.

## Resources & Training

Hand and Power Tool Safety and Chainsaw Safety trainings can be assigned to applicable employee's learning plans through Learning Central.

The Tree Trimming section of this manual as well as the Line Clearance/Tree Trimming Standards should be referenced as it relates to chainsaws and other vegetation management tools.

Related WACs have been linked above.