1. PURPOSE. The purpose of this SOP is to outline steps to be followed for the safe use of power tools.

2. SCOPE. Includes procedures for field operations with power tools.

3. RESPONSIBILITIES.


   b. Natural Resource Management Staff: Use power tools in accordance with SOP.

   c. Ensure that risk assessment and safety plans are completed incorporating procedures.

   d. Failure to comply with this SOP may result in disciplinary action.

4. PROCEDURES. Read all manufacturer’s instructions carefully before operating a power tool. The following safety precautions should be observed by all users of power tools:

   a. General Considerations.

      (1) Do not operate power tools when you are fatigued.

      (2) Ensure that power tools are in good working order and have all safety features in place.

   b. This SOP covers the operation of Carpentry Chop saw, Metal Cut Chop Saw, Shop Bench Grinder, Bench Chainsaw Chain Grinder and Cordless Drills.

   c. Protective equipment required varies for the various power tools please refer to the chart below for minimum requirements. Gloves should be worn when handling sharp or hot materials.

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</table>
(1) Use snug-fitting clothing to ensure against entanglement while the machine is in use. Secure long hair, necklaces and remove dangling bracelets to prevent entanglement.

(2) As with all non-office base yard activities closed toed shoes are required.

(3) Ensure electrical safety at all times (no standing water near work areas, extension cords in good condition and properly rated for tool being used etc.).

(4) Ensure work areas are free of slip/trip hazards and obstacles, and bystanders are alerted to hazards (sparks, flying debris, dust etc.)

d. Considerations for Carpentry Chop Saw:

(1) General Process Description

(a) The equipment is used to cut wood, pvc, plastic, and other materials.

(2) Operational Safety Checks

(a) Use the correct cutting disc for the material and type of cut.

(b) Only cut one piece at a time.

(c) Allow the saw blade to obtain maximum speed before making a cut.

(d) Do not hold material in “hand hazard zone.” Keep hands and especially thumbs well clear of line of cut.

(e) Do not cut materials with embedded nails or screws.

(f) If blade breaks or binds, turn the machine off immediately.

(3) Potential Hazards

(a) Material may ‘kick-back’ toward operator during cut

(b) Flying chips and airborne dust

(c) Contact with rotating blade

(d) Eye injuries

(e) Noise

e. Considerations for Metal Cut Chop Saw:

(1) All guards must be in place and operating. If a guard seems slow to return to its
normal position or hangs up, adjust it or repair it immediately. Unplug or lockout power when making repairs.

(2) Hands and fingers must be kept clear of the path in which the blade travels.

(3) Clean the lower guard frequently to help visibility and movement. Unplug before adjusting or cleaning. Use only the recommended RPM and sizes of blades.

(4) Regularly check and tighten the blade and the blade-attachment mechanism.

(5) Prior to installing or changing a blade, be sure to lockout or unplug equipment. Ensure that the blade and its related washers and fasteners are correctly positioned and secured on the saw's arbor.

(6) To avoid losing control or placing hands in the blade path, hold or clamp all material securely against the fence when cutting. Do not perform operations freehand.

(7) Never re-cut small pieces. Long material should be supported at the same height as the saw table.

(8) Never place hands or fingers in the path of the blade or reach in back of the fence.

(9) Use the brake if one is provided. To avoid contact with a coasting blade, do not reach into the cutting area until the blade comes to a full stop.

(10) After completing a cut, release the trigger switch and allow the blade to come to a complete stop, then raise the blade from the piece. If the blade stays in the cutting area after the cutting is complete, injury can result from accidental contact.

f. Considerations for Shop Bench and Hand Grinder:

(1) PRE-OPERATIONAL SAFETY CHECKS

(a) Check workspaces and walkways to ensure no slip/trip hazards are present.

(b) Ensure all guards and safety shields are in position before starting the grinder.

(c) Ensure that the wheels do not touch the work rest and that the gap between wheel and rest is no greater than 1.5mm. Not applicable to hand grinder.

(d) Check that wheels are running true and are not glazed, loaded, or loose.

(e) Locate and ensure you are familiar with the operation of the ON/OFF starter.

(f) Faulty equipment must not be used. Immediately report any suspect machinery.
(2) OPERATIONAL SAFETY CHECKS

(a) Stand to the side of the wheels when starting up.

(b) Let the wheels gain maximum speed before starting to grind.

(c) Do not grind on the side of the wheel.

(d) Small objects must not be held by hand.

(e) Never leave the machine running unattended.

(f) Do not bend down near the machine while it is running.

(g) Never force the work piece against a wheel.

(h) Slowly move the work piece across the face of the wheel in a uniform manner.

(3) HOUSEKEEPING

(a) Switch off the grinder.

(b) Leave the machine in a safe, clean and tidy state.

(4) POTENTIAL HAZARDS

(a) Hot Metal

(b) Sparks

(c) Noise

(d) Sharp edges and burrs

(e) Entanglement

(f) Wheels ‘run on’ after switching off

(g) Eye injuries

(5) FORBIDDEN

(a) Work piece must never be held with gloves, cloth, apron or pliers
(b) Grinding non-ferrous metals

g. Considerations for Bench Chainsaw Grinder:

   (1) General Considerations

   (a) Never use grinding wheel that has been improperly installed as it may crack and disintegrate during operation resulting in severe injury to the operator. A damaged grinding wheel may disintegrate during use due to high speed operation of the unit. This can cause wheel fragments to eject at very high rates of speed.

   (b) Always maintain proper grinding wheel maintenance, check for visible cracks and perform a “ring test.” (A good grinding wheel will sound a clear musical tone when tapped gently with a metal tool like an Allen wrench.)

   (c) Do not force a grinding wheel onto the machine or alter the size of the mounting hole. Do not use a wheel that does not fit exactly.

   (d) Make sure the mounting-flange nut is serviceable and not damaged in any way. If grinding wheel vibration should occur when the grinder is started, or running, remove and inspect the mounting flange and the grinding wheel.

   (e) To avoid possible grinding-wheel failure, always allow a new grinding wheel to run at operating speed for at least one minute before grinding or dressing. Dressing the grinding wheel places the fingers of the operator in close proximity to the grinding wheel. Contact with a rapidly turning wheel may result in injury. Wear gloves. Always work cautiously, maintain a strong grip on the dressing brick, and watch what you are doing at all times. Do not use the side of the grinding wheel for grinding.

   (f) Check and ensure that the machine is properly secured to bench and that work area is free of tools and other objects including other people. Additionally make sure the power supply cable is free from grinding area.

   (g) Never start grinder without the wheel guard in place

   (h) Never use the grinder as a cutter or for grinding objects other than approved saw chains (see instruction manual for approved chains.

   (i) Be sure all safety (and other) devices are in place and in good working condition.

   (j) Always keep handgrips clean and dry.

   (k) It is recommended to clean chain before sharpening it.
(2) During sharpening operation:

(a) Never stop grinding wheel with your hands, even after turning off motor.

(b) Carefully observe grinding wheel making sure the grinder does not oscillate either laterally or transversally, causing any anomalous vibration.

(c) Never advance the chain with your left hand until the grinding wheel has moved entirely outside the working area. To avoid the risk of cutting oneself, to move the chain, grasp it on the link and not the cutting part.

(d) For precise and easy grinding, grind all teeth of the same type (right-hand) before turning the vise from the opposite side to start grinding the left hand teeth.

(3) After operation:

(a) Turn off grinder, turning the switch to “O” before removing chain.

(b) Clean area wiping up metal shavings using rag or swab. Do not use compressed air, this is likely to bring metal dust in positions which cannot be reached, damaging essential components.

(4) Maintenance and Troubleshooting.

(a) Fill the hydraulic circuit with oil periodically.

(b) In case of technical problem, lock-out and tag-out machine and see instruction manual. If unable to fix, contact and authorized service dealer.

(5) Chainsaw Chain Sharpener Considerations.

(a) Follow instruction manual when replacing grinding wheel.

(b) Pay close attention to the location of other people in the work area.

(c) Use caution as the motor head can get very hot with use.

h. Considerations for Cordless Drills:

(1) General Process Description

(a) The equipment is used to drill holes and screws in wood, metal, pvc, plastic, and other materials.

(2) Operational Safety Checks
(a) Remove adjusting keys or wrenches before turning the tool on.

(b) Do not overreach. Keep proper footing and balance at all times. Tie off as needed, particularly if working on a ladder or at any height above 6 ft. Brace drill with other hand to prevent loss of balance from torque.

(c) Do not hold material in “hand hazard zone” including behind fastening area.

(d) Do not drill materials with embedded nails or screws.

(e) Faulty equipment must not be used.

(f) The battery must only be recharged only with the specific charger for the battery.

(g) Only the specifically designed battery can be used with the drill. Monitor charging as faulty batteries or chargers are known to spark and cause fires.

(h) Be sure the switch is in the off position before inserting the battery.

(i) Disconnect battery from tool or place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tools.

(3) Potential Hazards

(a) Material may ‘kick-back’ toward operator while drilling

(b) Flying chips and airborne dust

(c) Contact with rotating objects

(d) Eye injuries

(e) Noise

(f) Entanglement

(g) Wrist/hand injury