HEALTH, SAFETY & ENVIRONMENTAL MANUAL	4.7 Safe Work Program – Hand and Power Tools				
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SAFE WORK PROGRAM

HAND AND POWER TOOLS

Policy

- Only trained and/or experienced employees may use/operate tools or equipment.
- Tools and equipment shall not be modified, and they are to be used only for their designed purpose.
- It shall be the responsibility of the employee to inspect tools and equipment prior to use and to use all tools and equipment in a safe manner.
- Employees observed abusing, altering, modifying, or misusing tools or equipment shall be subject to disciplinary action.
- Employees shall wear all appropriate personal protective equipment while using tools and equipment.
- If a tool or piece of equipment is found to be defective, the tool/equipment shall be tagged, taken out of service, and sent to the equipment shop for evaluation.

Procedures

1. General Tool Safety

Many serious injuries have resulted from the improper use of tools and equipment. Many of these injuries could have been prevented if the procedures were followed.

Inspection and Maintenance

- All tools will be kept in good working condition with no modifications
- The employee using the tool, must inspect it for good condition prior to use
- If the tool needs repair, send it in to the equipment shop for evaluation
- If the tool is lost or missing, notify your supervisor immediately

Selection

- Use the right tool for the task instead of trying to make the wrong one fit.

Use

- Never remove protective guards on a tool.
- When applying force with a tool, remember that it may slip, break. Watch your hands and your balance to avoid injury.
- Select the right protective equipment for the task and use it properly.
- Do not use tools and equipment that you have not been trained or are experienced in using.

Care

- Take proper care of your tools and equipment. Keep them stored where they will not get damaged and will not present a hazard.

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- Check your tools and equipment prior to use for defects, wear, or damage. Immediately remove from service and tag any defective tools.

2. Hand Tool Safety

- Hand tools shall only be used for the purpose for which they are intended.
- All appropriate PPE will be worn while using hand tools.
- Self-retracting utility knives can be used when cutting certain items. They are safer than conventional utility knives or box cutters.
- Wrenches, including adjustable, pipe and socket shall not be used when jaws are sprung to the point of slippage.
- Pipe wrench parts (i.e., jaws) are not to be removed and used for anything other than manufactured use.

Hand tools shall be tagged and removed from service if any of the following defects are present:

- Impact tools, such as hammers, chisels, with visible signs of mushrooming, cracking, or bending.
- Wooden handle tools, such as hammers, picks, shovels, and brooms with visible sign of cracking, loosening, or splintering of the handle.
- Wrenches, such as adjustable, combo and pipe with visible signs of bending, cracking, defective handles, or other defects that impair their strength.

3. Electrical Power Tool Safety

- All appropriate PPE will be worn while using power tools.
- Use only tools that are polarized or double insulated. Make sure the casings of double-insulated tools are not cracked or broken.
- Make sure that tool cords, extension cords, and plugs are in good condition.
- Use only 3-pronged extension cords.
- Make sure that extension cords are the right gauge for the job to prevent overheating, voltage drops, and tool burnout. A 12-gauge extension cord is ideal.
- Always use a Type A ground fault circuit interrupter (GFCI) with portable electric tools used outdoors or in damp or wet locations. GFCI's detect current leaking to ground from a tool or cord and shut off power before damage or injury can occur.
- Do not connect electrical power unless the operating switch is turned off.
- Employees shall avoid loose fitting clothing when operating power tools.
- The power source on tools shall be physically disconnected prior to attempting any repairs or attachment replacement.

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- Protective guards on power tools shall not be removed, altered, or modified.
- Trigger/switch locks on power tools are prohibited.
- Electrical tools shall not be hoisted or carried by their power cords.
- Cords are tripping hazards. Route them to minimize interference in walkways.

A grinding wheel shall be,

a. marked with the maximum speed at which it may be used;
b. checked for defects before mounting;
c. mounted in accordance with the manufacturer's specifications;
d. operated at a speed which does not exceed the manufacturer's recommendations;
e. provided with protective hoods that enclose the wheel as closely as the work will permit;
f. operated only by workers protected by eye/face protection; and
g. stored where it will not be subjected to,
    i. extreme heat or cold, or
    ii. damage from impact.

A work rest for a grinding wheel shall,

a. have a maximum clearance of three millimeters from the grinding wheel;
b. be in a position above the center line of the grinding wheel; and
c. not be adjusted while the grinding wheel is in motion.

Electrical power tools shall be tagged and removed from service if any of the following defects are present:

- Power cord is frayed, cut, or damaged. The use of electrical tape to cover damage to cords **is prohibited**.
- Defective or faulty on/off switches.
- Loose or defective components

4. Air Power Tool Safety

- All hoses exceeding 1/2" inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.
- Chicago fittings shall be pinned.
- Attachments on air tools shall be secured by retainer pins and rings.
- Do not connect the air unless the operating switch is turned off.
- Do not disconnect the tool until the air supply is shut off and air pressure is bled off.
- Air power tools shall not be hoisted or carried by their hoses.
- Hoses are tripping hazards. Route them so as to minimize interference in walkways.

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Air power tools shall be tagged and removed from service if any of the following defects are present:

- Air power tools, such as air power grinders, impact wrenches with visible signs of deformities in the body of the tool, improperly functioning actuator, bent or deformed blades, or any signs of obvious damage to the air supply line fittings.
- Hoses must be visually inspected for cracking, signs of aging, worn or damaged connecting fittings, or any other obvious deformities, such as blistering or bulges.

5. Quick Cut Saws

Quick cut saws are high-powered as compared to similar tools. Hazards include high-speed blade rotation, blade exposure during operation, and exhaust from the internal combustion engine.

The saws also create clouds of dust when dry cutting masonry and showers of hot sparks when cutting metal products, especially steel.

These hazards can result in cuts, kickbacks, exposure to carbon monoxide fumes, exposure to dusts, burns, flying particles hitting the eye, and other injuries from flying material when work is not secured for cutting or when blades fly apart.

Hazard control

- Train operators to use quick-cut saws properly and to wear the right protective equipment such as eye, hearing, and respiratory protection as well as face shields and gloves
- Keep saws in good working condition, equipping them with proper blades or disks, and use them with all guards in place
- Secure work to keep it from shifting during cutting

Care

- Quick-cut saws must be serviced and maintained in accordance with the manufacturers' instructions.
- Cracked, broken, or worn parts must be replaced before the saw is used again.
- Guards and air intakes need to be cleaned regularly and often.
- Abrasive disks must be checked before installation and frequently during use.
- In confined areas, make sure that ventilation is adequate. Gasoline-driven saws release carbon monoxide (CO) gas, which is odourless, colourless, and highly toxic.

Starting and Use

- Use caution when preparing the oil/gasoline mixture and when fuelling the saw
- Check the saw for leaks. Sometimes vibration makes gas lines leak.
- Start the saw in an area clear of people and obstacles. Under no circumstances is anyone to be standing in front of the saw as it starts or while it's running.

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- Put the saw on a smooth hard surface for starting.
- The guard must be properly set for the type of cut beforehand.
- Assume a solid well-balanced stance. Do not wrap the starter cord around your hand—this can cause injury.
- Set one foot on the rear handle, put one hand on the top handle to lift the blade off the surface, and use the other hand to pull the starter cord
- Once the saw is running, release the throttle and make sure the engine drops to idle without the disk or blade moving.
- Run the engine at full throttle and let the disk or blade run freely to make sure it turns on the arbor without wobbling or vibrating.
- The quick-cut saw is a heavy, powerful tool that must be held by hand. Operators need a secure stance with legs apart for balance and support.
- The saw is recommended to be held at a comfortable, balanced location in front of the operator. Grip the saw firmly with one hand on each handle.
- Hold your forward arm straight to keep the saw from kicking back or climbing out of the cut
- Work is to be supported so that the disk or blade will not bind in the cut.

Kickback can happen extremely fast and with tremendous power:

- For cutting, keep the throttle wide open.
- Ease the blade down onto the cut line. Don’t drop or jam the blade down hard.
- Move the saw slowly back and forth in the cut.
- Hold the saw so that disk or blade is at right angles to the work and use only the cutting edge of the disk or blade.
- Never use the side of a disk for cutting. A worn disk will almost certainly shatter and may cause severe injury.