HARVARD
Campus Services
ENVIRONMENTAL HEALTH & SAFETY

Hand and Portable Power Tools Program

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Hand and Portable Power Tools Program
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1.0 INTRODUCTION

This Program will outline Harvard University's requirements for employees while using hand and portable power tools and equipment. This Program also describes the training requirements for employees. Training will help to ensure that both Harvard and its employees will continue to work in a safe and healthful work environment.

2.0 SCOPE AND APPLICATION

This Program covers all persons who are employed by Harvard University and who are designated by their departments to use hand and portable power tools. This program specifically references many types of hand and portable power tools including:

- Hand Tools
- Electric Tools
- Gasoline and mixed fuel Tools
- Hydraulic Tools
- Pneumatic Tools
- Powder-Actuated Fastening Tools

3.0 ROLES AND RESPONSIBILITIES

The University will provide initial and refresher Hand and Portable Power Tool training. Supervisors and employees are required to follow the procedures described in this safety program for hand and power tools. Specific responsibilities are further described below for supervisors, employees, authorized Repair Personnel and EH&S.

3.1 GENERAL RESPONSIBILITIES

3.1.1 SUPERVISOR

Departmental supervisors are responsible for ensuring that

- Training is delivered to employees using this program as well as the product-specific owners/operators manual.
- Employees attend and complete training, training records are produced and retained (see example record on EH&S Machine Shop Safety program page)
- Maintaining Hand and power tools; designating for repair or replacement as needed.
- Modifications or additions which may affect the safe use of tools are not made without the manufacturer's prior written approval.

3.1.2 EMPLOYEES

Only trained, qualified and authorized personnel will be permitted to use hand and power tools. In addition, employees are required to:

- Complete initial and refresher Hand and Portable Power Tool training as outlined in section 7.0.
- Use and maintain tools in a safe manner according to their training
- Report all tool defects to their supervisor.

3.1.3 ENVIRONMENTAL HEALTH AND SAFETY

EH&S is responsible for the following:

- Maintaining and updating the Harvard University Hand and Portable Power Tools Program

3.2 PROGRAM-SPECIFIC RESPONSIBILITIES

3.2.1 AUTHORIZED REPAIR PERSONNEL

Only trained and authorized repair personnel will be permitted to repair and adjust hand and power tools in accordance with manufacturer's specifications.

4.0 GENERAL REQUIREMENTS

4.1 PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

4.1.1 PERSONAL PROTECTIVE EQUIPMENT

Employees that use hand and power tools and are exposed to hazards such as falling, flying, abrasive and splashing objects, or are exposed to harmful dusts, fumes, mists, vapors, or gases must be provided with personal protective equipment necessary to protect them from the hazard.

The following considerations should be evaluated in the selection and use of PPE when using portable power tools:

- Power tools present a greater hazard than hand tools due to the speed and forces at which they operate. There are similarities in PPE used for hand and power tools however, there are also distinct differences.
- Safety glasses or goggles must be worn in order to protect the eyes from projectiles. A face-shield may be used in addition to safety glasses or goggles to provide additional protection. A face-shield will protect the face and neck from hot metal fragments created during such tasks as grinding;
- Cut resistant gloves, while capable of preventing lacerations due to hand tools, will not protect against blades and bits of power tools;

- Safety shoes should also be worn while working with power tools to prevent injury from dropped tools.
- Ear protection may be necessary due to the increased noise levels produced by power tools.
- Respiratory protection might be necessary when workers are exposed to dusts and fumes.

All uses of hand and power tools should be evaluated so that proper PPE can be selected. If you are not sure what PPE to use for a specific job, consult your supervisor or EH&S representative.

4.2 OPERATING REQUIREMENTS

The following contains requirements for the proper use of various types of hand and portable power tools. Most tools have similar hazards, however, if you have any question as to the proper and safe use of a tool, consult the manufacturer's tool manual and/or a supervisor. Do not use a tool if you are unsure how to use it in a safe manner.

4.2.1 HAND TOOLS

Hand tools are non-powered. They include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance.

- Harvard University is responsible for the safe condition of tools and equipment used by its employees but all employees have the responsibility of using and maintaining tools in accordance with the University's Hand and Portable Power Tool Program;
- The cutting action of saw blades, knives or other tools should be directed away from aisle areas and other employees working in close proximity;
- Knives and scissors must be sharp. Dull tools can be more hazardous than sharp ones;
- When working with hand knives, boning knives, draw knives, and scissors, employees should use appropriate personal protective equipment such as wire mesh gloves and wrist guards;
- Floors should be kept clean and dry to prevent accidental slips and falls; and
- Sparks produced by iron or steel hand tools can be a dangerous ignition source. When working around flammable substances, spark resistant tools made from brass, plastic, aluminum, or wood must be used to decrease the risk of a fire or explosion.

4.2.1.1 HAZARDS FROM WORKING WITH HAND TOOLS

The primary hazards encountered when using hand tools include striking or contacting parts of the body with the hand tool or the work piece and projectiles flying off the tool toward the employee. The most common injuries from the use of hand tools are:

- Laceration or cut from a knife blade, saw or other tool with a sharp surface or jagged edge;
- Contusions or bruises from striking parts of the body with the tool; and
- Eye injury due to flying objects dislodged and projected from the hand tool.

These injuries are generally caused by:

- Not wearing appropriate PPE;
- Using the wrong tool for the work to be performed;
- Improper use of the tool;
- Failure to inspect the tool before use;
- Improper storage or transportation of the tool; and
- Defective tools.

Tools that are not in proper working order must be immediately removed from service. Each tool should be inspected for hazardous defects before each use. Common hazardous tool defects include:

- Mushroomed chisel heads;
- Loose hammer heads;
- Dull knives; and
- Bent screwdriver bits.

4.2.2 PORTABLE POWER TOOLS

The following safety rules are common to all power tools. In addition, each type of tool has its own unique hazards which must be taken into account.

- Read the owner's manual to understand the tool's proper applications, limitations, operation and hazards;
- Do not use electric power tools in the proximity of flammable vapors, dusts or construction materials.
- Protect yourself from electric shock by insuring that your tools are properly grounded; use a Ground Fault Circuit Interrupter (GFCI) for corded tools. Always check for hidden wires that may contact bladed tools;
- Avoid using electric power tools in wet environments;
- Select a tool based on the task it is designed for. Only use attachments specifically recommended for your power tool and ensure that they are properly installed;
- Inspect tools for damage including the cord, guards, alignment, binding of components or any condition that would affect the safe operation of the tool. If a tool is damaged or a condition develops while a tool is in use, remove the tool from service and have the tool fixed by an authorized repair person;
- Avoid excessive force trying to make cutting tools cut faster;
- Feed material at the rate at which the tool is designed to accept thus preventing excessive wear and decreased control;

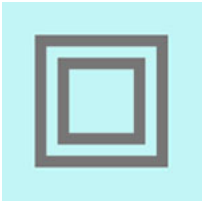
- Keep others away from the work area or provide shields to protect other employees from flying debris;
- Always maintain tool control by keeping a tight grip on a tool.
- Use the tool's side handle, if available, for better control.
- Always maintain your balance and do not overreach;
- Do not operate a power tool if you are under the influence of medications or alcohol or if you are tired or distracted;
- Secure your work in a vise or clamp for increased stability;

4.2.2.1 ELECTRIC TOOLS

The main hazard of electrical tools is electrocution. Electricity can cause burns, shocks and death. The factors that increase the risk of electrocution while using electrical power tools are:

- Faulty power cords;
- Misuse of power cords
- Failure to use a GFCI;
- Improper grounding
- Improperly insulated tools, and
- Working around wet surfaces.

To protect the user from electrocution, tools must either have a three-wire cord or be double insulated. Three-wire cords contain two current carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Whenever an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug. Double insulation is more convenient. The user and the tools are protected by normal insulation on the wires inside and by a housing that cannot conduct electricity to the operator in the event of a malfunction.



Symbol for Double Insulated Devices

The following general practices should be followed when using electric tools:

- Electric tools should be operated within their design limitations;
- Ensure you are wearing the correct PPE.
- Gloves and safety footwear are recommended during use of electric tools; you should always wear eye protection.
- When not in use, tools should be stored in a dry place;
- Electric tools should not be used in damp or wet locations; and
- Work areas should be well lighted.

A Ground Fault Circuit Interrupter (GFCI)-protected receptacle must be used with portable power tools. Always turn the power off before changing accessories. If work must be performed in wet locations, use insulated platforms, rubber mats, or rubber gloves along with a GFCI to minimize the electric shock hazard.
Observe the following precautions when using electrical tools:

Do Not:

- Energize the tool until just before use;
- Get near the moving parts of an electrical tool unless the power is off;
- Lay electrical cords over sharp edges or through doorways or holes in walls;
- Use an electric tool in an area where flammable gases or vapors may be present unless the tool is rated for that application;
- Use any tool that is sparking or appears to have an electrical short;
- Use any tool with a damaged cord or exposed wiring;
- Use electric abrasive tools if the grinding wheel, buffer, or wire brush wobbles or vibrates excessively;
- Use excessive force on saws or drills to cut through hard materials;
- Use any tool unless the blade or bit is securely tightened; and
- Use any tool with the blade guard removed or rendered inoperable.

When using electrical power tools, the following requirements must be met for the tools listed below:

Circular Saws:

OSHA requires that all portable, power-driven circular saws with a blade diameter greater than 2 inches be equipped with:

- A constant pressure switch or control that will shut off the power when the pressure is released; and
- Guards above and below the base plate or shoe. The guard must cover the saw teeth whenever the saw is not in operation.

Portable Belt Sanding Machines:

Belt sanding machines must have guards at each nip point where the sanding belt runs onto a pulley. These guards must prevent the hands or fingers of the operator from coming in contact with the nip points. The unused run of the sanding belt must be guarded against accidental contact.

Vertical Portable Grinders:

- Safety guards used on right-angle head or vertical portable grinders must cover a minimum of 180 degrees of the wheel and be placed between the operator and the wheel during use;

- All wheels must be inspected by the operator to make sure they have not been damaged in transit, storage or otherwise;
- The spindle speed of the machine must be checked before mounting the wheel to be certain that it does not exceed the maximum operating speed marked on the wheel; and
- The grinding wheels must fit freely on the spindle and remain free under all grinding conditions. All contact surfaces of wheels, blotters and flanges must be flat and free of foreign matter. When a bushing is used in the wheel hole, it cannot exceed the width of the wheel and must not contact the flanges.

Note: This section on grinders does not include metal, wood, cloth or paper discs having abrasive surface layers.

4.2.2.2 GASOLINE AND MIXED FUEL TOOLS

Some tools are fuel powered, usually by gasoline. Tools that use gasoline as a power source are dangerous because of the potential for burns, explosion and fire. The most serious hazard with fuel-powered tools comes from fuel vapors that can burn or explode and exhaust emissions that can create a hazardous atmospheric condition.
Observe the following when working with gasoline and other mixed fuel tools:

- The employee must be careful when handling, transporting and storing the gas or fuel. Fuel should be stored and transported in approved flammable liquid containers, according to proper procedures for flammable liquids;
- Before the tank for a fuel-powered tool is refilled, the user must turn off the engine and allow it to cool to prevent the accidental ignition of hazardous vapors; and
- If a fuel-powered tool is used inside a closed area, effective ventilation and/or personal protective equipment is necessary to avoid the inhalation of carbon monoxide and fire extinguishers must be available in the area.

Safety Precautions

When using these types of tools, inspect them for:

- A constant pressure throttle control that will shut off the power when the pressure is released;
- A handle or trigger lock or guard to prevent accidental activation of the tool;
- A tip guard on chain saws;
- A working blade brake;
- Fuel leaks around the gasoline tank or fuel line;
- Mufflers in good condition; and
- Spark plugs and wire connections in good condition.

Restrictions

Gasoline-powered tools may not be used:

- In confined spaces; and
- In tunnels.

Gasoline-powered tools may be used inside buildings only after:

- An industrial hygienist from the EH&S department has checked for proper ventilation; and
- The smoke detectors for the building have been turned off by the building manager.

4.2.2.3 HYDRAULIC TOOLS

The fluid used in hydraulic power tools must be approved and fire-resistant and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters and other fittings must not be exceeded. Hydraulic power tools are typically used for compression, such as work requiring the use of drill presses and jacks. These tools operate under pressure and can cause injury if a hose bursts or develops a pinhole leak. Use the manufacturer-recommended hose that is designed to withstand the pressure being applied. Where physical damage to the hydraulic hose is likely, an armored hose should be used.

Safety Precautions:

When working in areas where lines cross over aisles, the hydraulic lines should be suspended overhead to prevent a tripping hazard. Always inspect the equipment before use. Check to be sure the hydraulic hoses are not kinked.

Safety Precautions for Jacks:

When using jacks, the following requirements must be met:

- The operator must ensure that the jack used has a rating sufficient to lift and sustain the load;
- The rated load must be legibly and permanently marked in a prominent location on the jack by casting, stamping or other suitable means;
- In the absence of a firm foundation, the base of the jack must be blocked. If there is a possibility of slippage of the cap, a block must be placed between the cap and the load;
- The operator must watch the stop indicator in order not to exceed the limit of travel;
- After the load has been raised, it must be cribbed, blocked, or otherwise secured at once;
- Hydraulic jacks exposed to freezing temperatures must be supplied with an adequate antifreeze liquid;
- All jacks must be properly lubricated at regular intervals as recommended by the manufacturer; and

- Each jack must be thoroughly inspected at intervals based on service conditions.

Inspections must be not less frequent than the following;

Condition	Inspect
For constant or intermittent use at one locality	Once every six months
For jacks sent out of shop for special work	Prior to being sent out and upon return
For a jack subjected to abnormal load or shock	Immediately before and immediately after each use.

In addition:

- Repair or replacement parts must be examined for possible defects; and
- Out of order jacks must be tagged accordingly and must not be used until repairs are made.

4.2.2.4 PNEUMATIC TOOLS

Pneumatic tools are powered by compressed air. They include chippers, drills, hammers and sanders. There are several dangers encountered in the use of pneumatic tools which are described below:

- The greatest danger associated with pneumatic tools is being struck by one of the tool's attachments or a fastener. Eye protection is required and face protection is recommended for employees working with pneumatic tools;
- Hearing protection must be worn when operating tools that create decibel levels which exceed the OSHA standard;
- Wear other appropriate PPE per the manufacturer's recommendation.
- When using pneumatic tools, employees must check to see that the tools are fastened securely to the hose by a means that prevents them from becoming disconnected. A short wire or positive locking device attaching the air hose to the tool will serve as an added safeguard;
- A safety clip or retainer must be installed to prevent attachments, such as chisels on a chipping hammer, from being unintentionally shot from the barrel;
- Screens must be set up to protect nearby employees from being struck by flying fragments around chippers, rivet guns, staplers and air drills;
- Compressed air guns should never be pointed toward anyone. The user should never "dead-end" it against him or herself or anyone else;

- Airless spray guns which atomize paints and fluids at high pressures (1,000 psig) must be equipped with automatic or visual manual safety devices which will prevent pulling the trigger until the safety device is manually released;
- If an air hose is more than one-half inch in diameter, a safety excess flow valve must be installed at the source of the air supply to shut off the air automatically in case the hose breaks;
- Heavy jackhammers can cause fatigue and strains to the user; heavy rubber grips reduce these affects by providing a secure handhold; and
- Employees operating a jackhammer must wear safety glasses, hearing protection and safety shoes.
- The air-line hose used must be designed to withstand the pressure being applied.

Observe the following precautions when using pneumatic tools.

Do Not:

- Kink the air hose or subject it to other physical damage;
- Lay the air hose across aisles or walkways;
- Squeeze the trigger on air hammers, impact wrenches or other tools until the tool is in contact with the work;
- Use an air line if it has a leak; and
- Use the air hose for cleaning unless nozzle pressure is kept below 30 (psig) and effective chip protection is in place.

4.2.2.5 POWDER-ACTUATED FASTENING TOOLS

Powder-actuated tools must be operated only by specially trained and licensed employees. There are two types of powder-actuated fastening tools: the low-velocity type and the high-velocity type. Both types use explosives to drive studs, pins, or fasteners into a work surface.
Employees should take the following precautions:

- These tools should not be used in an explosive or flammable atmosphere;
- The tool should not be loaded unless it is to be used immediately. A loaded tool should not be left unattended, especially where it would be available to unauthorized persons;
- Hands should be kept clear of the barrel end;
- To prevent the tool from firing accidentally, two separate motions are required for ignition: 1) bring the tool into position; and 2) pull the trigger;
- The tools must not be able to operate until they are pressed against the work surface with a force of a least five pounds greater than the total weight of the tool;
- Suitable eye, ear and face protection are essential when using an explosive-actuated tool;

- The muzzle end of the tool must have a protective shield or guard centered perpendicularly on the barrel to confine any flying fragments or particles which might otherwise create a hazard when the tool is fired. The tool must be designed so that it will not fire unless it has this kind of safety device;
- All powder-actuated tools must be designed for varying powder charges so that the user can select a powder level necessary to do the work without excessive force; and
- If the tool develops a defect during use, it should be tagged and taken out of service immediately until it is properly repaired.
- Only personnel who have received the manufacturer's training and have been licensed may operate explosive-actuated fastening tools;
- Only tools meeting the design requirements in the American National Standard (ANSI) A10.3-1970 may be purchased. (Compliance with such design requirements is announced by the manufacturer in advertising and catalogs.);
- Tool users and any assistants must wear eye protection during use;
- Operators must inspect each tool before use to assure that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions;
- Operators must assure that only manufacturer-recommended fasteners are used in tools;
- Operators must immediately stop use when a tool defect is noticed;
- Operators must not load tools until just prior to the intended firing time;
- Operators must not point loaded or empty tools at other people;
- In case of a misfire, operators must hold the tool in the operating position for at least 30 seconds before trying to operate the tool a second time. They must wait another 30 seconds, holding the tool in the operating position, then proceed to remove the explosive load in strict accordance with the manufacturer's instructions;
- Fasteners must 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 that are easily penetrated must 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;
- Fasteners must not be driven directly into materials such as brick or concrete closer than 3 inches from the unsupported edge or corner, or into steel surfaces closer than half an inch from the unsupported edge or corner, unless a special guard, fixture, or jig is used;
- When fastening other materials, such as a 2- by 4-inch wood section to a concrete surface, it is permissible to drive a fastener of no greater than 7/32-inch shank diameter not closer than 2 inches from the unsupported edge or corner of the work surface;

- Fasteners must not be driven through existing holes unless a positive guide is used to secure accurate alignment;
- No fastener must be driven into a spalled area caused by an unsatisfactory fastening;
- All tools must be used with the correct shield, guard, or attachment recommended by the manufacturer; and
- The tool must be inspected and repaired in accordance with the manufacturer's specifications.

Note: When using powder-actuated tools to apply fasteners, there are some precautions to consider. Fasteners must not be fired into material which would let them pass through to the other side. The fastener must not be driven into materials like brick or concrete any closer than three inches to an edge or corner. In steel, the fastener must not come any closer than a half inch from a corner or edge. Fasteners must not be driven into very hard or brittle materials which might chip or splatter or make the fastener ricochet.
Because of the danger involved in the operation of powder-actuated fastening tools, OSHA has developed strict requirements for their use.

4.2.3 PERSONAL USE OF UNIVERSITY HAND AND POWER TOOLS

Employees may not use Harvard University hand and portable power tools for personal use.

4.2.4 TRANSPORTING HAND AND POWER TOOLS

When transporting hand and power tools to and from the job site, observe the following safety guidelines:

- Do not carry power tools by their electric cord, airline or hydraulic hose. Tools should be transported in their case if one is provided;
- Do not carry sharp or pointed tools such as knives, scissors, screwdrivers and chisels with the edge or point upward or toward the body. Place all tools in a tool box for transportation if one is available;
- Never carry tools in such a way as to obstruct vision;
- Never give sharp or pointed tools to another employee with the sharp end toward the receiver.
- Never hand an employee a power tool that is in motion or operation; and
- Never throw any tools at or toward another person.

4.3 MAINTENANCE REQUIREMENTS

The following protocol will be followed during the routine maintenance of hand and power tools by authorized repair personnel:

- Conduct repairs to fuel and ignition systems on power tools which could create fire hazards in designated locations;
- Fire suppression or extinguishing media must be present;
- Disconnect or remove any power supply prior to repairing portable powered tools. Disconnecting the power supply will prevent accidental startup of tool while maintenance is being performed;
- Use only replacement parts equivalent to those in the original design;
- Do not alter the tool or parts;
- Do not add any parts not supplied by the manufacturer or delete any parts supplied by the manufacturer;

4.3.1 CARE AND USE

If you are not experienced with a particular tool, always take the time to familiarize yourself with the tool by reading its provided instructions before using it. Standard manufacturer instructions will be suitable for most work applications; however, unusual working conditions (i.e., iced walking surfaces, wet conditions, unique materials etc.) may require additional instructions. Before using tools, check their condition using Appendix A Pre-Use Inspection. Modifications to a tool, which can affect its capacity and safe operation without the manufacturer's prior written approval, are prohibited.

4.3.2 NAMEPLATES AND MARKING

A portable power tool's rating and capacity may be found on a tag fixed to the tool. If no tag is found, report it to a qualified maintenance person or supervisor. These tags contain important information such as laboratory testing, load and operating specifications.

4.3.3 HAND AND POWER TOOL STORAGE

When tools are not in use or will not be used within a short period of time they should be properly stored. Follow the guidelines below when storing tools.

- Store sharp tools in a specially designated cabinet or cupboard, with a blade guard in place;
- Drain gasoline or other flammable fuels from tools if they will be in storage for extended periods of time; and
- Prior to storage, de-energize tools such as removing air pressure, removing loads and de-pressurizing hydraulics.

5.0 INSPECTIONS

The Hand and Power Tools Appendix A Pre-Use Inspection is further discussed and described below:

5.1 OPERATIONAL INSPECTIONS

5.1.1 EMPLOYEE CHECKS AND INSPECTIONS

The user will visually inspect all hand and power tools at the beginning of each shift to ensure that the tools are in safe and usable condition. All damaged and/or defective tools will be immediately reported to the supervisor and/or authorized repair personnel. Only authorized repair personnel will perform maintenance and repairs on hand and portable power tools.

5.1.2 POWER SOURCE INSPECTION

It is important that employees understand the hazards associated with the energy sources of the powered tool they use as noted below.

Energy Source	Hazard Associated
Electricity (including battery and chargers)	Electrocution
Gasoline and mixed fuel	Fire, atmospheric and eye injury
Pneumatic line and compressor (air driven)	Mechanical (Transitional/Rotational)
Hydraulic (jacks)	Crushing
Fuel cell and powdered load (pass load nail gun/ powdered round)	Explosion

5.1.3 HANDLING AND STORAGE POWER SOURCES

Employees must store and handle liquid fuels such as gasoline in accordance with NFPA Flammable and Combustible Liquids Code (NFPA No. 30-2015). Turn off engine or motor before filling fuel tanks.

For Power-Actuated and Pneumatic tools, make sure there are no loaded fasteners in place while changing the load or disconnecting/connecting an air line.

Hydraulic fluid must not be added to jacks or other support tools while they are in use and under stress.

Keep batteries and battery chargers away from heat sources and potentially wet areas. Never throw a battery into a fire. Follow equipment manufacturer's safety tips when handling batteries.

5.2 PHYSICAL INSPECTIONS

5.2.1 INITIAL INSPECTION OF NEW AND RENTED EQUIPMENT

Prior to initial use, all new or newly arrived rental tools will be inspected to ensure compliance with the provisions of this safety program. For new tools, an initial inspection will verify that requirements of the purchase order (or rental agreement) have been met and that the equipment is suitable for its intended use. For any newly purchased or rented tool, make sure the proper PPE is available for use.

5.2.2 INSPECTION AND MAINTENANCE CYCLE

Authorized repair personnel will perform the following maintenance checks:

- Verify on an annual basis that the tool has been inspected and is operating properly and is consistent with manufacturers specifications; and
- Remove equipment from use that is unsafe or not operating within manufacturers' specifications.

6.0 STANDARD DOCUMENTATION

6.1 OPERATION AND MAINTENANCE (O&M) RECORD

An O&M record should be maintained for each portable power tool by the authorized repair personnel and qualified supervisor. The record should contain information necessary to operate, maintain, test, and evaluate the portable power tool. A typical record should contain the following types of documentation, as applicable:

- Manufacturer's operation and maintenance manuals;
- Documentation for replacement parts;
- Documentation from the manufacturer authorizing modifications to the portable power tool;
- Inspection procedures and inspections records (Records of repair, modification, and overhaul).

For portable power tools on rental, ensure that a suitable maintenance and inspection program is established for the duration of the rental period. For rental equipment onsite for 6 months or less, a O&M record is not required.

7.0 TRAINING

Hand and portable power tools is a component of Occupational Safety training.
See the following link for details:
https://www.ehs.harvard.edu/programs/hand-portable-power-tools

Tools and Machinery Training

Subjects Covered

- Basic Electrical
- Lockout-Tagout – Control of Hazardous Energy
- Hand and Portable Power Tools
- Machine Guarding
- Compressed Gas and Compressed Air

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APPENDIX I: